



**NON-PROGRAMMATIC  
CATEGORICAL EXCLUSION**

Project ID No. P041130

Federal Project No. P041130

Route: Interstate 95 Bridges over Lake Marion

County: Orangeburg/Clarendon

Date: September 3, 2024

To: Federal Highway Administration

From: Will McGoldrick, Alternative Delivery Environmental Manager; SCDOT

Description: I-95 Bridges over Lake Marion

**(SEE ATTACHMENT)**

The Department proposes to replace bridges along Interstate 95 over Lake Marion near the county line of Orangeburg and Clarendon counties, South Carolina. The Department's environmental review has determined the effects of this project are as described in the "Programmatic Agreement Between the Federal Highway Administration, South Carolina Division and the South Carolina Department of Transportation Regarding Approval of Actions Classified as Categorical Exclusions for Federal-Aid Highway Projects" dated April 26, 2021, and is in compliance with the required findings reflected below. The project has been assessed for possible effects on the human and natural environment with a determination that no significant environmental impact will occur. The class of action and impact determination documented by this statement would qualify this project as a categorical exclusion under 23 CFR 771.117(c)(26) for modernization of a highway by reconstruction, where the state can assume CE responsibilities but does not require FHWA approval.

Based on an analysis of suitable habitat and observations of the listed species in the project area, the proposed action will have no effect on some and may affect but not likely adversely affect other threatened or endangered species or critical habitats currently listed by the U.S. Fish and Wildlife Service for Orangeburg and Clarendon Counties. Coordination with USFWS occurred and they have concurred with these findings.

The former US 301 remnant bridge was identified as a 4(f) recreational resource under the jurisdiction of the SCDOT. The proposed demolition of the structure would impact the resource. Through coordination with FHWA, impacts to the resource were determined to constitute a de minimis/no adverse use.

The project will impact waters of the U.S. and will therefore require a permit or certification authorization under Section 404 and 401 of the Clean Water Act (CWA).

In accordance with Section 106 of the National Historic Preservation Act, it has been determined that no historic properties would be affected by the proposed undertaking.



9/5/2024

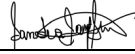
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Will McGoldrick

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McGoldrick  
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South Carolina Department of Transportation

Date



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Federal Highway Administration

# I-95 Bridge Replacements over Lake Marion

Non-Programmatic Categorical Exclusion  
Orangeburg and Clarendon Counties



August 29, 2024  
P041130

Date: 08/29/2024



Project ID: P041130 County: Orangeburg/Clarendon District: District 7 Doc Type: Non-PCE Total # of Commitments: 14

Project Name: I-95 Bridge Replacements over Lake Marion

The Environmental Commitment **Contractor Responsible** measures listed below **are to be included in the contract and must be implemented**. It is the responsibility of the Program Manager to make sure the Environmental Commitment **SCDOT Responsible** measures are adhered to. If there are questions regarding the commitments listed please contact:

**CONTACT NAME:** Brad Reynolds

**PHONE #:** (803)-737-1440

**ENVIRONMENTAL COMMITMENTS FOR THE PROJECT**

**Cultural Resources**

NEPA Doc Ref: Page: 12 Paragraph: 3

Responsibility: CONTRACTOR

The contractor and subcontractors must notify their workers to watch for the presence of any prehistoric or historic remains, including but not limited to arrowheads, pottery, ceramics, flakes, bones, graves, gravestones, or brick concentrations during the construction phase of the project, if any such remains are encountered, the Resident Construction Engineer (RCE) will be immediately notified and all work in the vicinity of the discovered materials and site work shall cease until the SCDOT Archaeologist directs otherwise.

Special Provision

**Water Quality**

NEPA Doc Ref: Page: 13 Paragraph: 3

Responsibility: CONTRACTOR

The contractor will be required to minimize possible water quality impacts through implementation of BMPs, reflecting policies contained in 23 CFR 650B and the Department's Supplemental Specification on Erosion Control Measures (latest edition) and Supplemental Technical Specifications on Seeding (latest edition). Other measures including seeding, silt fences, sediment basins, etc. as appropriate will be implemented during construction to minimize impacts to water quality.

Special Provision

**General Permit**

NEPA Doc Ref: Page: 14 Paragraph: 1

Responsibility: SCDOT

Impacts to jurisdictional waters will be permitted under a Department of the Army Section 404 permit from the U.S. Army Corps of Engineers. Based on preliminary design, it is anticipated that the proposed project would be permitted under SCDOT's General Permit (GP). The required mitigation for this project will be determined through consultation with the USACE and other resource agencies.

Special Provision

Project ID: P041130

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**Floodplains**

NEPA Doc Ref: Page: 16 Paragraph: 2

Responsibility: CONTRACTOR

The Engineer of Record will send a set of final plans and request for floodplain management compliance to the local County Floodplain Administrator.

Special Provision

**Migratory Bird Treaty Act**

NEPA Doc Ref: Page: 21 Paragraph: 1-2

Responsibility: SCDOT

The federal Migratory Bird Treaty Act, 16 USC § 703-711, states that it is unlawful to pursue, hunt, take, capture or kill; attempt to take, capture or kill; possess, offer to or sell, barter, purchase, deliver or cause to be shipped, exported, imported, transported, carried or received any migratory bird, part, nest, egg or product, manufactured or not. The South Carolina Department of Transportation (SCDOT) will comply with the Migratory Bird Treaty Act of 1918 in regard to the avoidance of taking of individual migratory birds and the destruction of their active nests.

The contractor shall notify the Resident Construction Engineer (RCE) at least four (4) weeks prior to construction/demolition/maintenance of bridges and box culverts. The RCE will coordinate with SCDOT Environmental Services Office (ESO), Compliance Division, to determine if there are any active birds using the structure. After this coordination, it will be determined when construction/demolition/maintenance can begin. If a nest is observed that was not discovered after construction/demolition/maintenance has begun, the contractor will cease work and immediately notify the RCE, who will notify the ESO Compliance Division. The ESO Compliance Division will determine the next course of action.

The use of any deterrents by the contractor designed to prevent birds from nesting, shall be approved by the RCE with coordination from the ESO Compliance Division. The cost for any contractor provided deterrents will be provided at no additional cost to SCDOT.

Special Provision

**Non-Standard Commitment**

NEPA Doc Ref: Page: 24 Paragraph: 3

Responsibility: CONTRACTOR

Asbestos Commitment

Due to the presence of asbestos, the existing structures shall be removed and disposed of by the Contractor in accordance with Subsection 202.4.1 and 107.27 of the Standard Specifications. The SCDHEC must be notified prior to destruction or demolition. The SCDHEC's Standards of Performance for Asbestos Projects (R 61-86.1) includes requirements for abatement projects regarding notifications, project design, air sampling and analysis, etc. This includes, but is not limited to, notifications and air quality monitoring.

Special Provision

Project ID: P041130

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**Lead-Based Paint**

NEPA Doc Ref: Page: 24 Paragraph: 5

Responsibility: CONTRACTOR

The existing structures shall be removed and disposed of by the Contractor in accordance with Subsection 202.4.2 of the Standard Specifications. The Contractor's attention is called to the fact that this project may require removal and disposal of structural components containing lead-based paints. Removal and disposal of structural components containing lead-based paints shall comply with all applicable Federal, State, and Local requirements for lead as waste, lead in air, lead in water, lead in soil, and worker health and safety.

Special Provision

**USTs/Hazardous Materials**

NEPA Doc Ref: Page: 25 Paragraph: 6

Responsibility: SCDOT

If avoidance of hazardous materials is not a viable alternative and soils that appear to be contaminated are encountered during construction, the South Carolina Department of Health and Environmental Control (SCDHEC) will be informed. Hazardous materials will be tested and removed and/or treated in accordance with the United States Environmental Protection Agency and the SCDHEC requirements, if necessary.

Special Provision

**Non-Standard Commitment**

NEPA Doc Ref: Page: 15 Paragraph: 1

Responsibility: CONTRACTOR

United States Coast Guard Commitment

The USCG is a federal cooperating agency for this bridge replacement project. Based on initial analysis by FHWA in coordination with SCDOT and the USCG, it was determined that a USCG permit will be required for the project.

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**ENVIRONMENTAL COMMITMENTS FOR THE PROJECT**

**Non-Standard Commitment**

NEPA Doc Ref: Page: 16 Paragraph: 1

Responsibility: SCDOT

Santee Cooper/Federal Energy Regulatory Commission Commitment

A copy of the signed NEPA Categorical Exclusion will be provided to Santee Cooper to complete coordination and satisfy FERC license requirements.

Special Provision

**Non-Standard Commitment**

NEPA Doc Ref: Page: 18-19 Paragraph: 1

Responsibility: CONTRACTOR

National Oceanic and Atmospheric Administration Commitment

Based on initial analysis of the sturgeon population within Lake Marion, conservation measures and BMPs and special conditions are required to be completed by SCDOT and/or the contractor as noted below. • The "Protected Species Construction Conditions" (NOAA Fisheries, Southeast Regional Office) would be followed and have been included as an environmental commitment. • Nylon cushion block to be used for noise abatement. • Blasting for demolition activities is not proposed at this time. If blasting is deemed necessary, the SCDOT will develop a blasting plan for review prior to beginning any demolition activities. This plan would include a marine wildlife watch plan to submit to SCDOT. If explosives are used for demolition, the contractor would be required to hire qualified personnel to evaluate the potential effect on protected species to submit to SCDOT. SCDOT would be responsible for re-initiating consultation with USFWS and NOAA-NMFS. • Use of "slow starts" for pile driving or removal, barge movement, and other vessel movement where activity ramps up slowly in an effort to deter marine species from the work area. • Turbidity curtain would be used to maintain water quality. At no point would curtain completely span the full navigable channel of Lake Marion. Turbidity curtain will not be allowed to block more than 50% of the navigable channel. • Given the potential for temporary siltation and erosion, the contractor would be required to minimize these actions through implementation of construction BMPs, reflecting policies contained in 23 CFR 650B and SCDOT's Supplemental Specifications on Seeding and Erosion Control Measures of August 15, 2001. In addition, no contaminants will be released into the water. SCDOT has emergency spill recommendations to the contractor in the event of an accident. If a leak is evident or a spill occurs, the contractor would be notified and would verify that it is mitigated as soon as practical by authorized personnel. Any unused or contaminated materials would be disposed of in accordance with Federal, State, and local laws. • Equipment and materials would not obstruct or impede passage through more than 50 percent of the waterway of Lake Marion. • The contractor would stop in-water work at night for a minimum of 8 hours; nighttime lane closures along the existing I-95 lanes would be allowed for the delivery of materials. • In partnership with the South Carolina Department of Natural Resources (SCDNR), approved educational signage related to sturgeon will be installed near Lake Marion and adjacent to I-95. The approved signage would include information pertaining to sturgeon as well as the relevant contact information for SCDNR. SCDOT is proposing up to six signs will be placed with two signs located along Bass Drive on the southern terminus and two signs located along State Road 14-230 and two signs at adjacent popular fishing areas at the northern terminus. The proposed general locations are shown in Figures 2 and 3: Proposed SCDNR Educational Signage Locations. • An appropriate NPDES permit would be obtained. • A Stormwater Pollution Prevention Plan would be created.

Special Provision

**Non-Standard Commitment**

NEPA Doc Ref: Page: 20-21 Paragraph: 3

Responsibility: CONTRACTOR

NOAA-NMFS Annual Summary Commitment

SCDOT will submit a brief summary of work annually to NOAA-NMFS. The Contractor shall prepare the annual summary and shall submit a draft to SCDOT 10 months after construction begins. SCDOT will provide the summary to NOAA-NMFS within 12 months after the start of construction. The summary shall include:  
• Start date of construction  
• Project work completed to date or from date of last report  
• Brief description of expected work for upcoming year  
• Representative photo log of work completed areas.

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**ENVIRONMENTAL COMMITMENTS FOR THE PROJECT**

**Non-Standard Commitment**

NEPA Doc Ref: Page: 22 Paragraph: 2

Responsibility: CONTRACTOR

Aquatic and Invasive Species Commitment

The contractor will be required to properly maintain all equipment used within and around Lake Marion. The contractor is required to wash all in-water equipment after use and conduct routine inspections for invasive-aquatic species such as Hydrilla, water hyacinth, and giant salvinia. If these plants are found in or identified around equipment, the contractor must dispose of the invasive plant properly.

Special Provision

**Non-Standard Commitment**

NEPA Doc Ref: Page: 1267 Paragraph: 1

Responsibility: SCDOT

US Fish and Wildlife Commitment

The SCDOT commits to implementing the following conservation measures, or actions, to minimize or compensate for effects to each species:

- Follow SCDOT Best Management Practices during construction.
- Obligations under Section 7 of the Endangered Species Act must be considered if (1) new information reveals impacts associated with this project may affect listed species or critical habitat in a manner not previously considered, (2) the project is subsequently modified in a manner which was not considered in this assessment, or (3) a new species is listed or critical habitat is determined that may be affected by the proposed improvements."

Special Provision

NEPA Doc Ref:

Responsibility:

Special Provision



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Appendix F – FHWA 4(f) Concurrence

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Appendix K – USFWS Biological Assessment

Appendix L – NOAA Biological Assessment

Appendix M – Type III Project Traffic Noise Analysis Memorandum

Appendix N – Farmland Impact Conversion Rating Form

Appendix O – Limited Phase I Environmental Site Assessment

Appendix P – Asbestos and Lead-Based Paint Survey Reports

## Project Description

The South Carolina Department of Transportation (SCDOT) proposes to replace four two-lane bridges along Interstate 95 (I-95) over Lake Marion in Clarendon and Orangeburg Counties. These include the longer northbound (NB) and southbound (SB) bridges and the shorter NB and SB relief bridges. The four bridges are being replaced to address current non-standard design elements and safety concerns. The new bridges will accommodate three lanes in both directions for a total of six future lanes. Additionally, the new southbound bridge would include the construction of a new two-way pedestrian and bicycle facility. The original US 301 pedestrian bridge (re-opened in the Summer 2023 for bicycle and pedestrian traffic) is proposed for demolition.

Demolition of the existing I-95 bridges, the former US 301 bridge, and standalone piers would occur in phases during construction. The main method of demolition would be dismantling in place. Blasting and explosives are not currently approved for demolition.

The new bridges would include two 12-foot travel lanes in both directions. A future travel lane in each direction would be accommodated on the replacement bridges. A 10-foot minimum inside shoulder (shoulders may be wider due to staging requirements) and 12-foot outside shoulder would be provided in each direction. Additionally, there would be a barrier separated 14-foot shared use path (SUP) for pedestrians and bicyclists on the southbound side only, fulfilling an element of the purpose and need of the project. The SUP would also allow for other activities that may include fishing, photography, bird watching, and observing nature.

A 24-inch water line is proposed to be installed in conjunction with the new bridges for the Lake Marion Regional Water Agency (LMRWA), in cooperation with the Santee Cooper utility company. The United States Army Corps of Engineers (USACE) would be the federal agency overseeing the water line installation effort. The water line would be partially federally funded (75% by the USACE) with local funds to offset the remaining cost (25%). Final design would be coordinated with LMRWA, Santee Cooper, the USACE, and the SCDOT.

A project study area (PSA) has been established to encompass all potential impacts of the project (see **Appendix A: Project Location Map**). The PSA encompasses an area approximately 334 acres in size, generally centered on I-95.

## Purpose and Need

### Purpose

The purpose of the project is to maintain connectivity and a safe interstate facility for the traveling public and provide safe access for pedestrians and cyclists over Lake Marion.

## Need

Although, the I-95 bridges are in “fair” condition as of 2022, the National Bridge Inventory’s (NBI) analysis of future condition ratings shows that by 2025 the bridges will be rated as “poor” condition and may require load restrictions. However, due to I-95 being a hurricane evacuation route, providing system linkage yielding high-capacity traffic, as well as being a major trucking route for the transportation of goods along the east coast, closing I-95 would result in substantial impacts to travel. The two nearest crossings over Lake Marion are 20 miles away. The bridges must be replaced while the current structure can still operate safely and functionally to maintain current demand.

The main span and overflow bridges were constructed in 1968. Per NBI data, both the main span bridges currently have several elements in fair condition including the deck, superstructure, and substructure (Table 1).<sup>1</sup>

**Table 1. National Bridge Inventory Data for the Existing Bridges over Lake Marion.\***

Bridge	Bridge Element	Condition
I-95 Main Span Northbound	Deck	Fair
I-95 Main Span Northbound	Superstructure	Fair
I-95 Main Span Northbound	Substructure	Fair
I-95 Main Span Southbound	Deck	Fair
I-95 Main Span Southbound	Superstructure	Satisfactory
I-95 Main Span Southbound	Substructure	Fair

\*Inspection date: October 5, 2023.

The bridge decks do not meet the current design standards for thickness based on design vehicle loads. This results in a bridge deck concrete condition that is lacking in durability. The lack of proper bridge deck thickness results in a high rate of deterioration, especially in this corridor with a high percentage (22%) of heavy trucks. At the current rate of deterioration, a full bridge deck replacement would be needed by 2042. A full deck replacement would require a complete shutdown of one travel direction causing substantial traffic impacts along this corridor.

The lack of refuge to motorists due to narrow shoulders along the approximately one-mile long sections of I-95 NB and SB over open water are another reason the bridges need to be replaced. The major design constraint contributing to crash history is the narrow three to six-foot wide shoulders on the bridges. The narrow shoulders do not allow for vehicle recovery when an incident occurs or space to move a vehicle involved in an incident to a safe location. Between 2015 and 2021 over 75 crashes were attributed to a harmful event where vehicles strayed from the travel lanes and impacted the guardrail face, bridge rail, or median barrier. The three most

<sup>1</sup> <https://infobridge.fhwa.dot.gov/Data>

prevalent crash types were run-off-the-road/collisions with guardrail or median barrier (33%), rear-end crashes (29%), and sideswipe collisions (20%) (See **Appendix B: Traffic Analysis Report**). Other associated crashes included vehicles impacting a stopped vehicle (rear end). No crashes are able to move out of the travel lanes due to the narrow shoulder. This condition can increase the potential for secondary crashes due to congestion surrounding the first crash event. Any crash on the bridge shuts down at least one lane of traffic and emergency vehicles are hindered in accessing the crash scene. It is also impossible to perform deck repairs resulting from accidents without shutting down a lane of interstate traffic, resulting in less safe conditions and slower traffic movement.

Since 2017, there has been no route over Lake Marion in this area for pedestrians and cyclists. The existing US 301 bridge, located just west of the I-95 bridges, was formerly open to non-vehicular traffic, however due to structural deterioration, structural deficiencies, and lack of routine maintenance, the bridge had been closed for all use. In 2023, using \$1.6 million in funds approved by the SC General Assembly, SCDOT completed restorative works to the US 301 bridge for pedestrian and bicycle use. The restorative projects included filling and repairing small sinkholes, clearing vegetation along the bridge and causeway, repairing and painting the steel bridge railings, repairing the concrete spall and expansion joints on the bridge deck and walkway, installing controlled fencing along the causeway, and installing concrete bollards on both ends of the bridge to prohibit vehicular traffic. With the above rehabilitation effort completed, the original US 301 bridge was re-opened to bicyclists and pedestrians on September 28, 2023.

South Carolina roadway users are among those most at-risk for pedestrian and bicycle crashes across the United States.<sup>2</sup> South Carolina ranks fifth in the nation for pedestrian fatalities based on population and from 2009 to 2019, pedestrian fatalities have increased 80% and bicycle fatalities have more than doubled across the state. The SCDOT Pedestrian and Bicycle Safety Action Plan provides a framework for focusing statewide attention on improving conditions for pedestrians and cyclists. Additionally, the SCDOT Complete Streets Policy, Departmental Directive #28, states that the department, “requires and encourages a safe, comfortable, integrated transportation network for all users, regardless of age, ability, income, ethnicity, or mode of transportation.”

### Reasonable Availability of Funding

The funding for this project is referenced in the 2021 - 2027 Statewide Transportation Improvement Program, or STIP, as line item “Bridge Replacement I-95 NB & SB over Lake Marion”, Rank 2016-6. This project is under Program Category: System Upgrade – Interstate

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<sup>2</sup> <https://www.scdot.org/projects/pdf/SC%20Pedestrian%20and%20Bicycle%20Safety%20Action%20Plan.pdf>

specifically, Widening/New Construction and Appropriation of the National Highway Program (NHP) Federal Program.<sup>3</sup> The funding breakdown is shown in Table 2.

**Table 2: STIP, Revision 28, for “Bridge Replacement I-95 NB & SB over Lake Marion”\***

Project	COG/MPO	Program Category	Program	Federal Program	FY 2022 Planned	FY 2023 Planned	FY 2024 Planned	FY 2025 Planned	FY 2026 Planned	FY 2027 Planned	STIP Cost (2021-2027)	Remaining Cost (2028+)
Bridge Replacement I-95 NB & SB over Lake Marion	Lower Savannah, Santee Lynches	System Upgrade - Interstate	Widening/ New Construction	AC	\$4,750 PE							
		System Upgrade - Interstate	Widening/ New Construction	NHP	\$4,750 PE	\$4,750 PE (ACC)					\$9,500	
		Other Allocated Funds	Appropriation	AC			\$257,600 (CON)					
		Other Allocated Funds	Appropriation	OAF			\$64,400 CON	\$64,400 CON (ACC)	\$64,400 CON (ACC)	\$64,400 CON (ACC)	\$257,600	\$64,400

**\*Funding amounts are shown in thousands.**

The total cost of the fiscally constrained preliminary engineering phase included in the STIP is \$9,500,000. Additionally, advance construction conversion (ACC) funds are shown in the STIP as \$4,750,000 for the preliminary engineering phase and \$322,000,000 for the construction phase. ACC allows SCDOT to begin a project as project funding is being developed. The total project design and construction cost is approximately \$322,000,000.

### Evaluations of Alternatives

SCDOT intends to use the design-build delivery method to replace the four bridges. The environmental analysis conducted for this project included an assessment of full replacement of the four bridges over Lake Marion. Environmental studies and/or analysis were completed, including a wetland/stream delineation, cultural resources study, threatened and endangered species biological assessment, Limited Phase I Analysis for hazardous materials, lead/asbestos surveys, environmental justice analysis, and an assessment of potential relocations. This information was used for assessing impacts for the alternative concepts. Concept alternatives included Alternatives A, B, and C.

Alternatives were evaluated to determine the appropriate class of action. For Categorical Exclusions (CE), Bridge replacements can be covered by 23 CFR 771.117 (c)(27) for highway safety

<sup>3</sup> SCDOT, *Statewide Transportation Improvement Program 2021 – 2027*, Revision 30. Accessed March 5, 2024. <https://www.scdot.org/inside/planning-stip.aspx>

or traffic operation improvement projects, where the state can assume CE responsibilities. However, the project must also meet several constraints under 23 CFR 771.117 (e).

Per the *“Programmatic Agreement between FHWA, SC Division, and SCDOT Regarding Approval of Actions Classified as Categorical Exclusions for Federal-Aid Highway Projects”* (April 26, 2021) actions requiring a United States Coast Guard (USCG) bridge permit require the FHWA, in cooperation with the applicant, to conduct appropriate environmental studies to determine if the CE classification is proper.<sup>4</sup> Each alternative would require a USCG bridge permit. Due to this constraint, it was confirmed the appropriate class of action would be a CE with FHWA approval. Appropriate environmental studies have been conducted and this documentation is being submitted to FHWA for approval as a Non-Programmatic CE.

#### Alternatives Considered but Eliminated

Alternative C was originally proposed to replace the existing I-95 bridges over Lake Marion while also rehabilitating the existing southbound bridges for use as a SUP. Alternative C was presented at the Public Involvement Meeting that occurred on June 1, 2023. Following additional analysis, it was determined the cost of rehabilitating and maintaining the existing I-95 southbound bridges would exceed project funding. For this reason, Alternative C was eliminated from further consideration, but was replaced with a modified alternative. Due to this update, Alternative C was reidentified as C1 and the replacement alternative is identified as C2.

#### Reasonable Build Alternatives

Three reasonable build alternatives were analyzed, including Alternatives A, B, and C2. Each of these alternatives would replace the northbound and southbound I-95 bridges over Lake Marion.

Each alternative will have two travel lanes in both directions including outside shoulders with additional space being constructed for a future travel lane in each direction. In addition to the roadway, a SUP for pedestrians and bicyclists will be constructed as well.

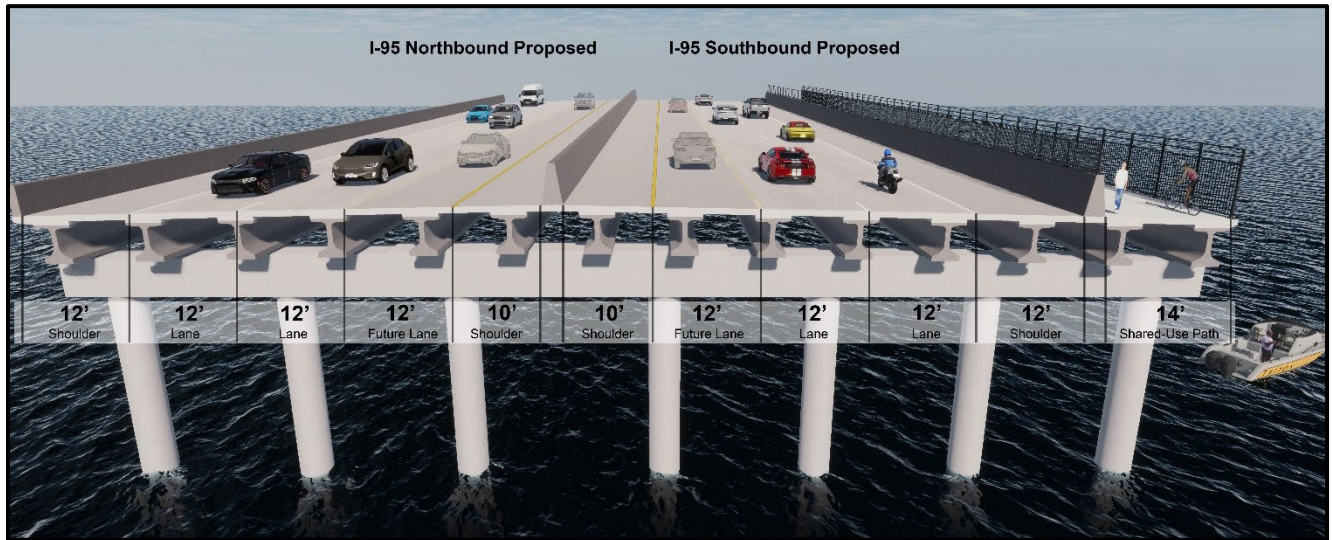
The typical sections for the build alternatives are identical, as shown in Figure 1: Typical Section.

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<sup>4</sup> [https://www.scdot.org/business/pdf/EnvToolShed/NEPA/programmatic\\_CE\\_agreement.pdf](https://www.scdot.org/business/pdf/EnvToolShed/NEPA/programmatic_CE_agreement.pdf)



Figure 1: Typical Section



The three reasonable build alternatives differ in their relative location to the existing bridge alignments (See **Appendix A, Alternatives Figures**). Alternative A would primarily be constructed between the two existing bridges. Alternative B would primarily be constructed just west of existing bridges. Alternative C2 would primarily be constructed just east of the existing bridges. The potential impacts of the three alternatives were assessed, and are summarized in Table 3. Each of the build alternatives (A, B, and C2) would meet the project purpose and need and meets the necessary qualifications for a CE. A preferred alternative has not been identified for this design-build project. Each alternative meets the project's purpose and need and has similar impacts.

Table 3. Alternative Impacts Comparison Summary

	No Build	Alternative A (between current bridges)	Alternative B (west of current bridges)	Alternative C2 (east of current bridges)
<b>Jurisdictional Open Water (acres)+</b>	0	1.0	2.1	1.2
<b>American wood stork, Shortnose sturgeon, Atlantic sturgeon, Bald eagle</b>	No effect	May affect, not likely to adversely affect		
<b>Relocations</b>	0	0	0	0
<b>Section 4(f) Recreation Site</b>	None	De minimis impact (former US 301 bridge removal)	De minimis impact (former US 301 bridge removal)	De minimis impact (former US 301 bridge removal)
<b>Total Cost</b>	\$0	\$322,000,000	\$316,400,000	\$319,400,000

+ The limits used to calculate impacts to WOUS are based on the limits of existing right of way.

## Acquisitions/Displacements

This project would result in no relocations or displacements.

## Public Involvement

A Public Involvement Plan was developed to outline the activities proposed to engage the public (see **Appendix C: Public Involvement**). A website was created by SCDOT describing the proposed project, alternatives, schedule and ongoing project updates.<sup>5</sup> A comment form and contact information were provided for public input. The SCDOT emailed a project summary to the appropriate stakeholders. Postcards announcing the proposed project with a map and link to the website were mailed to property owners, providing notification of a public meeting on June 1, 2023. Interested persons were asked to view the proposed alternatives and provide comments within a 30-day comment period. A total of 315 comments were received including a petition. Comments received pertained to many project aspects including, but not limited to, alternative design options, the former US 301 bridge, pedestrian/cycling access, a noise study, and tolling. Response letters were sent to the commenters and updated project information was posted to the project website. See **Appendix C: Public Involvement** for all public information materials.

## Socioeconomic and Environmental Justice

Executive Order 12898 requires federal agencies to ensure its actions do not result in disproportionately high and adverse effects to minority and low-income communities.<sup>6</sup> The EJ analysis was performed in accordance with E.O. 12898 (*Federal Actions to Address Environmental Justice to Minority and Low-Income Populations*), E.O. 14096 (*Revitalizing Our Nation's Commitment to Environmental Justice for All*), US Department of Transportation (USDOT) Order 5610.2(c) (*Final Order to Address Environmental Justice in Minority Populations and Low-Income Populations*), FHWA EJ Order 6640.23A (*FHWA Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*), and FHWA's *Guidance on Environmental Justice and National Environmental Policy Act (NEPA)*.

Low-income populations were calculated by adding the below poverty population and the near poor population between 100 percent and 149 percent of poverty level as prescribed by the US Health and Human Services poverty guidelines. Socioeconomic data was obtained through the

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<sup>5</sup> <https://i-95-over-lake-marion-scdot.hub.arcgis.com/>

<sup>6</sup> Minority Populations - According to the U.S. Census Bureau, population of people who are not single-race white and not Hispanic. Populations of individuals who are members of the following population groups: American Indian or Alaskan Native; Asian or Pacific Islander; Black, not of Hispanic origin; or Hispanic.

Low-Income - A reference to populations characterized by limited economic resources. The US Office of Management and Budget has designated the Census Bureau's annual poverty measure as the official metric for program planning and analysis. Please click the link and select "EJ 2020 Glossary".pdf. [https://search.epa.gov/epasearch/?querytext=2020+ej+glossary&areaname=&areacontacts=&areasearchurl=&typeofsearch=epa&result\\_template=2col.ftl&site=snapshot2021#/](https://search.epa.gov/epasearch/?querytext=2020+ej+glossary&areaname=&areacontacts=&areasearchurl=&typeofsearch=epa&result_template=2col.ftl&site=snapshot2021#/)



Environmental Protection Agency’s (EPA) Environmental Justice (EJ)-Screening Tool from an area within a one-mile radius of the proposed project. See Table 4 and **Appendix D: EJ Screen Report** for these results.

**Table 4. EPA EJ Screening Tool Results (one-mile buffer including 1,330 residents)**

Identifier	Expanded Study Region	Statewide Average
Minority population	33 %	36 %
Low-income population	40 %	35 %

There are both minority and low-income populations within the EJ study area. The percentages of minority populations are below the statewide average but the low-income populations are higher than the statewide average. This data is used for a general overview of the region, but all potential impacts to any minority or low-income population are considered. However, there are no disproportionate and adverse impacts to an EJ community. The bridges would be replaced near the current alignment, no new right of way is needed, and no detours are required. Benefits and impacts of construction would be experienced by all users. Overall benefits to EJ communities and other users include a safer crossing of Lake Marion, with wider travel lanes and shoulders for emergencies. There would be no impacts to community cohesion, access to community facilities, no disruption of emergency services travel patterns, and minimal temporary impacts to overall travel patterns in the study area. No minority or low-income populations have been identified that would be adversely impacted by the proposed project as determined above. Therefore, in accordance with the provisions of E.O. 12898 and FHWA Order 6640.23A, no further EJ analysis is required.

### Section 106 – Cultural Resources (Archaeological/Historic)

In accordance with 36 CFR 800.4, archival research and coordination with the State Historic Preservation Office (SHPO) was performed to identify and help predict the locations of significant cultural resources in the vicinity of the proposed project. The archaeological and architectural surveys performed were designed to provide the necessary management data to allow for the sites and properties to be evaluated for recommendations of eligibility to the National Register of Historic Places (NRHP).

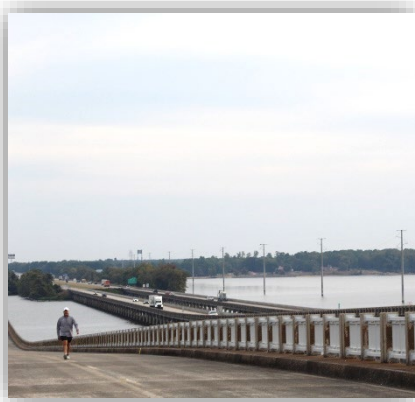
Background research from the South Carolina Institute of Archaeology and Anthropology and the NRHP indicated there are no previously recorded archaeology sites or architectural resources within the Area of Potential Effect. Archaeological and architectural surveys, including an underwater survey, were conducted between January 23, 2023, through February 7, 2023. No new archeological resources were recorded during field surveys. Six architectural resources with seven sub-resources were recorded during the field surveys. All were deemed not eligible for listing in the NRHP under Criteria A, B, or C. No archeological or architectural resources were identified during underwater field surveys. Based on the results of the cultural resources surveys,

no historic resources would be affected by the proposed project. The findings were coordinated with the SHPO and the SHPO concurred with the determination on June 26, 2023. The cultural resources report, associated SHPO concurrence, and THPO concurrence are included in **Appendix E: Cultural Resources**.

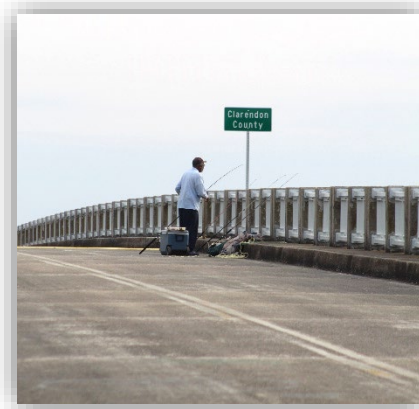
The contractor and subcontractors must notify their workers to watch for the presence of any prehistoric or historic remains, including but not limited to arrowheads, pottery, ceramics, flakes, bones, graves, gravestones, or brick concentrations during the construction phase of the project. If any such remains are encountered, the Resident Construction Engineer (RCE) will be immediately notified and all work in the vicinity of the discovered materials and site work shall cease until the SCDOT Archaeologist directs otherwise.

### Section 4(f)/6(f)

No Section 6(f) properties were identified within the PSA. Thus, no impacts would occur to these properties. During field surveys the former US 301 bridge was identified as Section 4(f) public recreational resource. This bridge is currently open primarily to allow for pedestrian and bicycle traffic.



**Pedestrians on the US 301 Bridge, Fall 2023**



**Fishing on the US 301 Bridge, Fall 2023**

Section 4(f) of the US Department of Transportation Act of 1966 and Federal regulations 23 CFR § 771.135 (49 U.S.C. 303) regulates how publicly owned properties such as parks, recreational lands, wildlife and waterfowl refuges, and historic sites that are on or eligible for the NRHP, are used for transportation projects. The demolition of this bridge would impact this resource and associated uses. In accordance with 4(f) policies, uses are proposed to be replaced at an adjacent location. The SUP on I-95 for cyclists and pedestrians would be opened for use prior to demolition of the US 301 bridge.

Based on the scope of the undertaking; the fact that the undertaking does not adversely affect the function/qualities of the Section 4(f) resource on a permanent or temporary basis; and with

agreement from the official with jurisdiction (SCDOT), the proposed action constitutes a de minimis/no adverse use and the alternatives analysis is considered satisfied. FHWA concurred with these findings on August 28, 2024 and the Section 4(f) *de minimis* form is included in **Appendix F**.

## Water Quality

The most recent SC Department of Environmental Services (SC DES) Basinwide Watershed Water Quality Assessment Report for the Santee River Basin (2013) and the SC Watershed Atlas online mapping tool were reviewed in obtaining general watershed and water quality information. The PSA is located within the Santee River Basin (Hydrologic Unit Code [HUC] 03050111) as designated by the US Geological Survey (USGS). Within the Santee River Basin, the PSA is located in the Santee River/Lake Marion Watershed (USGS HUC 03050111-01) consisting primarily of Lake Marion. Lake Marion is classified as Freshwater (FW) meaning it is a freshwater waterbody suitable for primary and secondary contact recreation and as a source for drinking water supply. Lake Marion is suitable for fishing, industrial and agricultural uses, and the propagation of a balanced indigenous aquatic community of flora and fauna.

The 2020 - 2022 State of South Carolina Integrated Report Part I: Listing of Impaired Waters (SCDHEC, 2022) was reviewed for information pertaining to 303(d) impaired waters and Total Maximum Daily Loads (TMDLs).<sup>7</sup> 303(d) impaired waters are surface waters identified by the SC DES as not meeting water quality standards and having impaired uses. The identification of impaired waters is a requirement of Section 303(d) of the Clean Water Act (CWA). Within the PSA, there is one monitoring station (ST-025) where aquatic life is not supported due to total phosphorous excursions. Lake Marion is a 303(d) listed waterbody for excessive total phosphorous levels for aquatic life uses. The proposed project is not within an approved TMDL. Transportation construction has not been identified as a contributor to phosphorous, therefore, the proposed project would not cause further impairment related to total phosphorous.

As the operator of a large Municipal Separate Storm Sewer System (MS4) and in accordance with the associated permit, the SCDOT requires stormwater control measures, both during construction and post-construction, for projects with land disturbance and/or constructed in the vicinity of 303(d), TMDL, ORW, tidal, and other sensitive waters. The contractor will be required to minimize possible water quality impacts through implementation of BMPs, reflecting policies contained in 23 CFR 650B and the Department's Supplemental Specification on Erosion Control Measures (latest edition) and Supplemental Technical Specifications on Seeding (latest edition).

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<sup>7</sup> [https://scdhec.gov/sites/default/files/media/document/South%20Carolina%202020-2022%20303%28d%29%20List\\_1.pdf](https://scdhec.gov/sites/default/files/media/document/South%20Carolina%202020-2022%20303%28d%29%20List_1.pdf)

Other measures including seeding, silt fences, sediment basins, etc. as appropriate will be implemented during construction to minimize impacts to water quality.

## Wetlands and Streams

Field reviews within the PSA were conducted to identify the presence of potential Waters of the U.S. (WOUS) between September 19, 2022 and April 14th, 2023. The boundaries of jurisdictional waters, including wetlands, were flagged (delineated) in the field at this time. Jurisdictional wetlands were determined using the Routine On-Site Determination Method as defined in the 1987 USACE Wetland Delineation Manual and the appropriate Regional Supplements to the Manual. Jurisdictional streams were determined utilizing the most recent USACE District procedural guidance. Open waters or ponds were determined to be jurisdictional based on the features being located within natural drainageways and/or within areas of mapped hydric soils or relict stream channels as depicted on USGS topographic mapping, the Natural Resources Conservation Service (NRCS) soil survey, or historical aerial imagery.

WOUS delineated within the PSA include one freshwater stream, three freshwater wetlands, and four open water features (Lake Marion and three ponds). These waters were presumed jurisdictional within the submittal of a Preliminary Jurisdictional Determination (PJD) request. The aquatic features were assessed based on the "Revised Definition of Waters of the United States", published on January 18, 2023 and effective March 20, 2023 (33 CFR Part 328). A copy of the Preliminary Jurisdictional Determination (PJD) is included in **Appendix G: Preliminary Jurisdictional Determination**.

## Permitting

### Section 404

Section 404 of the CWA establishes a program to regulate the discharge of dredged or fill material into waters of the WOUS, including wetlands. Activities in WOUS regulated under this program include fill for development, water resource projects (such as dams and levees), infrastructure development (such as highways and airports) and mining projects. Section 404 requires a permit from the USACE before dredged or fill material may be discharged into WOUS, unless the activity is exempt from Section 404 regulation (e.g., certain farming and forestry activities). Based on preliminary design, it is anticipated that the proposed project would be permitted under an SCDOT General Permit, with impacts expected only to jurisdictional open waters (Lake Marion and ponds). Avoidance, minimization, and mitigation measures would be required as part of the permitting process. Compensatory mitigation would be required to offset impacts to WOUS and would be calculated based on impacts from the final design. The required mitigation for this project will be determined through consultation with the USACE and other resource agencies.

### Section 401 Water Quality Certification

In addition to the Section 404 permit, the SC DES must grant, deny, or waive a Water Quality Certification (WQC), in accordance with Section 401 of the CWA. Waters considered by SC DES to be sensitive may also require additional consideration during the 401 WQC process. These include waters that drain to 303(d) listed impaired waters, and waters located with a designated TMDL watershed. While there are no approved TMDLs within the PSA, Lake Marion is a 303(d) listed waterbody. Stormwater treatment measures will be incorporated into the final design.

### Section 402 of the CWA

Section 402 provides for various National Pollutant Discharge Elimination System (NPDES) permits, including stormwater discharges from land disturbing activities. The SC DES administers the NPDES permitting program in SC. To minimize water quality impacts, SCDOT would implement its Erosion and Sediment Control Program during project construction. Erosion and sediment control measures would be included in construction contract specifications. An NPDES permit would be acquired before construction begins. As the operator of a MS4, SCDOT is required to obtain NPDES permit coverage to discharge pollutants into Waters of the State, in accordance with its MS4 Permit.

### State Navigable Waters

Lake Marion is a state navigable waterway of South Carolina. A separate state Construction in Navigable Waters Permit is not required for activities which require another SC DES permit or certification, such as the 401 Water Quality Certification and NPDES permit that will be obtained for this project. The SC DES will review for state Navigable Waters compliance during the 401 certification or NPDES permit review process.

### Section 10 Navigable Waters

Lake Marion is a navigable waterway pursuant to Section 10 of the Rivers and Harbors Act (33 U.S.C. 403). While a separate Section 10 permit is not required, authorization would be coordinated with the USACE during the Section 404 permitting process.

### United States Coast Guard (USCG)

The USCG is a federal cooperating agency for this bridge replacement project (**Appendix H: US Coast Guard Coordination and Navigation Report**). Based on initial analysis by FHWA in coordination with SCDOT and the USCG, it was determined that a USCG permit will be required for the project. In anticipation of needing a permit, a USCG jurisdiction checklist was completed along with a Vessel Survey and Navigation Report including navigation clearance recommendations (**Appendix H**). The proposed minimum horizontal clearance for the main

navigational opening would be 100 feet at the navigable channel. The proposed minimum vertical clearance for the main navigational opening would be 50 feet. Following this coordination, additional clarification was obtained regarding a potential shift of the navigation center line. The shift results from locating new bents to avoid installing them on or in the same location of existing bents. The shift would result in an adjusted center line of the navigational channel but would not affect the navigation depth or opening. Additional information and an exhibit are included in **Appendix I: US Coast Guard Navigational Center Line Shift Coordination.**

### [Santee Cooper/Federal Energy Regulatory Commission \(FERC\)](#)

Santee Cooper obtained their FERC re-licensure in January 2023 with special provisions being conveyed for right-of-way for linear projects, such as the I-95 Bridge Replacements over Lake Marion project. Santee Cooper FERC coordination was conducted confirming the project alternatives are within the original easements as described in the re-licensure. A copy of the signed NEPA Categorical Exclusion will be provided to Santee Cooper to complete coordination as it relates to their FERC license.

### **Floodplains**

Floodplain and floodway protection is required under several federal, state, and local laws, including Executive Order 11988, entitled “Floodplain Management,” which requires federal agencies to avoid making modifications to and supporting development in floodplains wherever practical. Floodplains subject to inundation by the one-percent-annual-chance (100-year) flood event are regulated by the Federal Emergency Management Agency.

Based upon a review of the floodplain mapping FIRM Maps (see **Appendix J: Floodplains**), a substantial portion of the PSA, Lake Marion and the associated branches, are designated as an AE flood zone. AE flood zones are areas that present a 1% annual chance of flooding. The existing bridge on the southern approach and the embankment in the middle of the lake will be raised. These alterations will not negatively affect the floodplain or result in an increase in base flood elevations. The Engineer of Record will send a set of final plans and request for floodplain management compliance to the local County Floodplain Administrator.

### **Threatened and Endangered Species**

Pursuant to Section 7 of the Endangered Species Act (ESA), field surveys were conducted for protected species within the PSA in March, August, and September 2022. Prior to the field surveys, a literature search was conducted for threatened and endangered species that may occur or are known to occur in Clarendon and Orangeburg Counties. These species and the findings are shown in Table 5 and detailed in **Appendix K: USFWS Biological Assessment** and **Appendix L: NOAA-NMFS Biological Assessment.**



**Table 5. Endangered, Threatened, & Protected Species of Clarendon & Orangeburg Counties**

Species	County Location	Status	Biological Conclusion
Canby's dropwort ( <i>Oxypolis canbyi</i> )	Clarendon, Orangeburg	Endangered	No effect
Atlantic sturgeon ( <i>Acipenser oxyrinchus</i> )	Clarendon, Orangeburg	Endangered	May Affect, Not Likely to Adversely Affect
Shortnose sturgeon ( <i>Acipenser brevirostrum</i> )	Clarendon, Orangeburg	Endangered	May Affect, Not Likely to Adversely Affect
American chaffseed ( <i>Schwalbea americana</i> )	Clarendon	Endangered	No effect
Red-cockaded woodpecker ( <i>Picoides borealis</i> )	Clarendon, Orangeburg	Endangered	No effect
+Tricolored bat ( <i>Perimyotis subflavus</i> )	Clarendon, Orangeburg	Proposed endangered	Presumed Conclusion: No effect
American wood stork ( <i>Mycteria americana</i> )	Clarendon, Orangeburg	Threatened	May Affect, Not Likely to Adversely Affect
West Indian Manatee ( <i>Trichechus manatus</i> )	Clarendon, Orangeburg	Threatened	No effect
Monarch Butterfly ( <i>Danaus plexippus</i> )	Clarendon, Orangeburg	Candidate	No effect
Bald eagle ( <i>Haliaeetus leucocephalus</i> )	Clarendon, Orangeburg	BGEPA**	No impact, not likely to disturb

+On September 13, 2022, the USFWS issued a public notice proposing to list the tricolored bat as endangered. The comment period ended on November 14, 2022 and a final decision is forthcoming.

\*\*BGEPA: Federally protected under the Bald and Golden Eagle Protection Act

### USFWS

No federally protected species regulated by the U.S. Fish and Wildlife Service (USFWS) were found during field surveys. Concurrence from the USFWS, dated February 2023, can be found within **Appendix K: USFWS Biological Assessment**. While the bald eagle is no longer protected under Section 7 of the ESA, it is still afforded protection under the Bald and Golden Eagle Protection Act. During surveys in September 2022, 4 bald eagles were identified flying over the PSA. SCDNR's Bald Eagle nest location database was used to identify documented nests in proximity to the corridor, with the closest nest being approximately 1.57 miles away, outside of the 660-foot secondary buffer zone outlined in the National Bald Eagle Management Plan. While there are no active nests within 660 feet or 200 yards, there are 10 active nests within a 10-mile radius of the PSA. The project is not likely to impact the bald eagle.

Should threatened or endangered species protection status change or other project elements change, additional coordination with USFWS may be required.

### NOAA-NMFS

Of the federally protected species located within Clarendon and Orangeburg Counties, two species, shortnose sturgeon and Atlantic sturgeon, are under the purview of National Oceanic and Atmospheric Administration – National Marine Fisheries Service (NOAA-NMFS). Concurrence from the NOAA-NMFS, dated December 8 2023, can be found within **Appendix L: NOAA-NMFS Biological Assessment**. Based on initial analysis of the sturgeon population within Lake Marion, conservation measures and BMPs and special conditions are required to be completed by SCDOT and/or the contractor as noted below.

- The “Protected Species Construction Conditions” (NOAA Fisheries, Southeast Regional Office<sup>8</sup>) would be followed and have been included as an environmental commitment.
- Nylon cushion block to be used for noise abatement.
- Blasting for demolition activities is not proposed at this time. If blasting is deemed necessary, the SCDOT will develop a blasting plan for review prior to beginning any demolition activities. This plan would include a marine wildlife watch plan to submit to SCDOT. If explosives are used for demolition, the contractor would be required to hire qualified personnel to evaluate the potential effect on protected species to submit to SCDOT. SCDOT would be responsible for re-initiating consultation with USFWS and NOAA-NMFS.
- Use of “slow starts” for pile driving or removal, barge movement, and other vessel movement where activity ramps up slowly in an effort to deter marine species from the work area.
- Turbidity curtain would be used to maintain water quality. At no point would curtain completely span the full navigable channel of Lake Marion. Turbidity curtain will not be allowed to block more than 50% of the navigable channel.
- Given the potential for temporary siltation and erosion, the contractor would be required to minimize these actions through implementation of construction BMPs, reflecting policies contained in 23 CFR 650B and SCDOT’s Supplemental Specifications on Seeding and Erosion Control Measures of August 15, 2001. In addition, no contaminants will be released into the water. SCDOT has emergency spill recommendations to the contractor in the event of an accident. If a leak is evident or a spill occurs, the contractor would be notified and would verify that it is mitigated as soon as practical by authorized personnel. Any unused or contaminated materials would be disposed of in accordance with Federal, State, and local laws.
- Equipment and materials would not obstruct or impede passage through more than 50 percent of the waterway of Lake Marion.

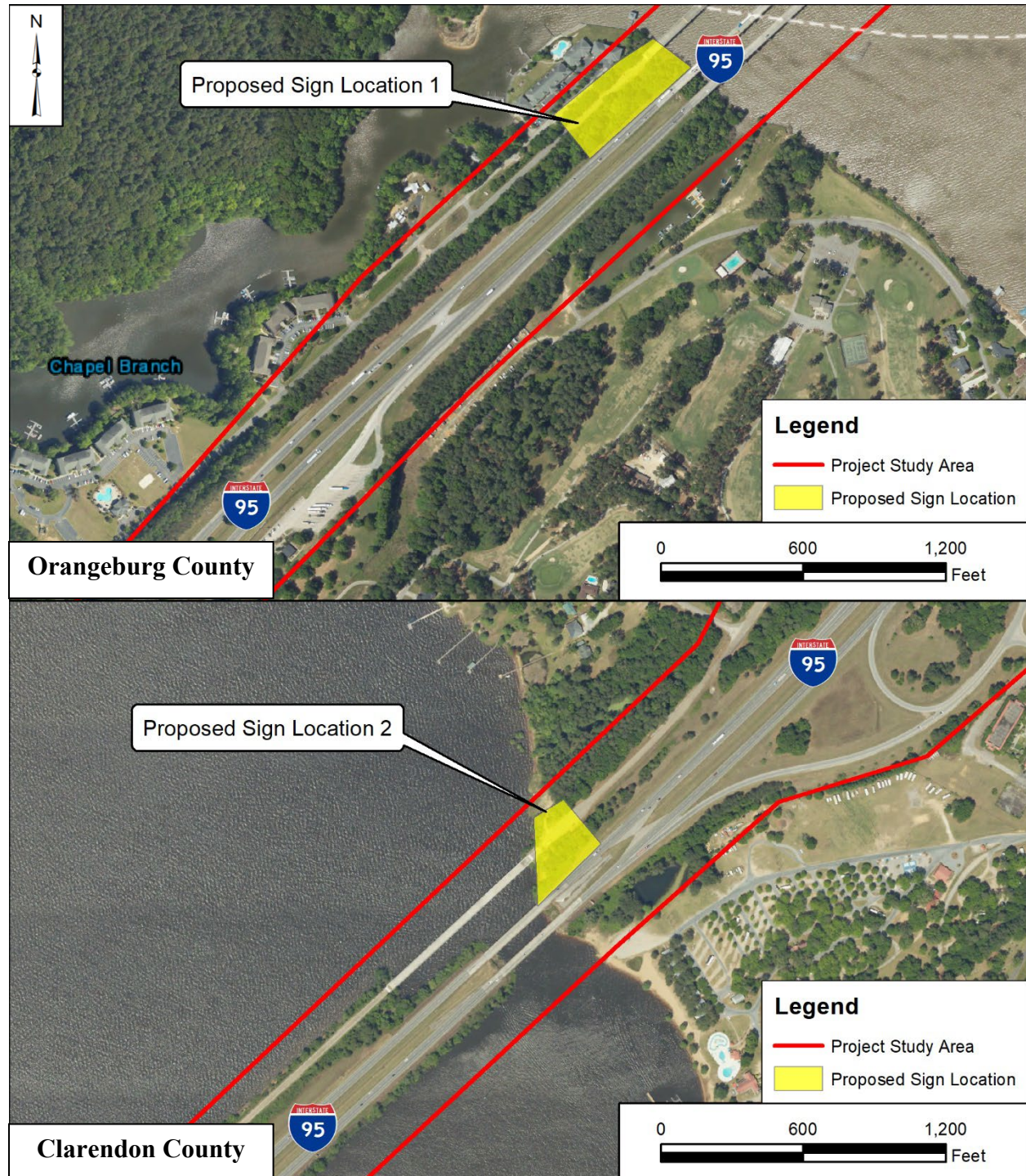
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<sup>8</sup> [https://media.fisheries.noaa.gov/2021-06/Protected\\_Species\\_Construction\\_Conditions\\_1.pdf?null](https://media.fisheries.noaa.gov/2021-06/Protected_Species_Construction_Conditions_1.pdf?null)



- The contractor would stop in-water work at night for a minimum of 8 hours; night-time lane closures along the existing I-95 lanes would be allowed for the delivery of materials.
- In partnership with the South Carolina Department of Natural Resources (SCDNR), approved educational signage related to sturgeon will be installed near Lake Marion and adjacent to I-95. The approved signage would include information pertaining to sturgeon as well as the relevant contact information for SCDNR. SCDOT is proposing up to six signs will be placed with two signs located along Bass Drive on the southern terminus and two signs located along State Road 14-230 and two signs at adjacent popular fishing areas at the northern terminus. The proposed general locations are shown in **Figures 2 and 3: Proposed SCDNR Educational Signage Locations**.
- An appropriate NPDES permit would be obtained.
- A Stormwater Pollution Prevention Plan would be created.

Figure 2: Proposed SCDNR Educational Signage General Locations – Orangeburg and Clarendon Counties



SCDOT will submit a brief summary of work annually to NOAA-NMFS. The Contractor shall prepare the annual summary and shall submit a draft to SCDOT 10 months after construction begins. SCDOT will provide the summary to NOAA-NMFS within 12 months after the start of construction. The summary shall include:

- Start date of construction
- Project work completed to date or from date of last report
- Brief description of expected work for upcoming year
- Representative photo log of work completed areas

Above-water work at night is proposed due to the need for safety-related lane-closures. Should threatened or endangered species protection status change or other project elements change, additional coordination with NOAA-NMFS may be required.

### Migratory Birds

The federal Migratory Bird Treaty Act, 16 USC § 703-711, states that it is unlawful to pursue, hunt, take, capture or kill; attempt to take, capture or kill; possess, offer to or sell, barter, purchase, deliver or cause to be shipped, exported, imported, transported, carried or received any migratory bird, part, nest, egg or product, manufactured or not. The Department will comply with the Migratory Bird Treaty Act of 1918 in regard to the avoidance of taking individual migratory birds and the destruction of their active nests. Ground nests, arboreal nests, and nests built on manufactured structures could occur within the project area. Numerous osprey nests are present in the vicinity of Lake Marion and the PSA. Nests were noted on the high energy transmission powerlines and nesting birds in the surrounding vegetated areas are likely.

The contractor shall notify the RCE at least four weeks prior to construction/demolition/maintenance of bridges and box culverts. The RCE will coordinate with SCDOT Environmental Services Office (ESO), Compliance Division, to determine if there are any active birds using the structure. After this coordination, it will be determined when construction/demolition/maintenance can begin. If a nest is observed that was not discovered after construction/demolition/maintenance has begun, the contractor will cease work and immediately notify the RCE, who will notify the ESO Compliance Division. The ESO Compliance Division will determine the next course of action. The use of any deterrents by the contractor designed to prevent birds from nesting, shall be approved by the RCE with coordination from the ESO Compliance Division. The cost for any contractor provided deterrents will be provided at no additional cost to SCDOT.



### Aquatic and Invasive Weeds in Lake Marion

Within Lake Marion, multiple aquatic-invasive species have been identified including but not limited to Hydrilla (highest priority species of concern), water hyacinth, and giant salvinia. There has been an unprecedented growth rate of these species within Lake Marion because of the lack of natural consumers to combat their spread. These species are the top species of concern and efforts to reduce and control by SCDNR and Santee Cooper are currently underway.

The contractor will be required to properly maintain all equipment used within and around Lake Marion. The contractor is required to wash or rinse all in-water equipment before it is used in Lake Marion. If Hydrilla, water hyacinth, or giant salvinia plants are found in or identified around equipment, the contractor must dispose of the invasive plant outside of aquatic areas.



### Noise

The SCDOT Traffic Noise Abatement Policy (February 24, 2023) applies to all Type I FHWA projects that receive Federal-aid funds or are subject to FHWA approval. After reviewing the project design alternatives, it was determined that traffic noise sources would not be moved substantially closer to sensitive noise receptors and the conditions of a Type I project would not be met. Therefore, the I-95 over Lake Marion Bridge Replacements Project qualifies as a Type III project and does not require a full traffic noise analysis (See **Appendix M: Type III Project Traffic Noise Analysis Memorandum.**)

### Air Quality / Mobile Source Air Toxins (MSATS)

Clarendon and Orangeburg Counties are in attainment areas for National Ambient Air Quality Standards (NAAQS). As a result, both Clarendon and Orangeburg Counties meet or exceed the standards established by the EPA for criteria pollutants and air quality.

This project would not result in changes in traffic volumes, vehicle mix, basic project location, or any other factor that would cause a meaningful increase in mobile source air toxic (MSAT) impacts of the project from that of the no-build alternative. As such, this project has been determined to generate minimal air quality impacts for Clean Air Act criteria pollutants and has not been linked with any special MSAT concerns.

Moreover, EPA regulations for vehicle engines and fuels will cause overall MSAT emissions to decline significantly over the next several decades. Based on regulations now in effect, an analysis of national trends with EPA's MOVES3 model forecasts a combined reduction of over 76 percent in the total annual emissions rate for the priority MSAT from 2020 to 2060 while vehicle-miles of travel are projected to increase by 31 percent (Updated Interim Guidance on Mobile Source Air Toxic Analysis in NEPA Documents, Federal Highway Administration, January 18, 2023). This will both reduce the background level of MSAT as well as the possibility of even minor MSAT emissions from this project.

## Land Use

The PSA consists primarily of developed residential/ commercial areas, recreational areas, and open water areas. The proposed project would result in WOUS open water impacts and may modify existing land use but is not likely to change the timing or density of potential development in the area. The project is not in conflict with a known plan, existing land use, or zoning regulations.<sup>9</sup>

## Farmlands

The Farmland Protection Policy Act (FPPA) of 1981 requires evaluation of farmland conversions to nonagricultural uses. Of the approximately 334-acre PSA, 1.0 acre is designated as farmland of statewide importance. Soils designated as prime farmland within and adjacent to the PSA are maintained grass medians. There are no existing farmed areas within the PSA.

In accordance with the FPPA, a Farmland Impact Conversion Rating Form for Corridor Type Projects (NRCS-CPA-106) was completed. Sites receiving scores less than 160 are given minimal consideration for protection. The proposed project received a Total Corridor Assessment score of 130. Since this Total Corridor Assessment score is under the 160-point threshold described above, neither consideration of alternative sites nor additional studies is required under the FPPA. The Farmland Impact Conversion Rating Form is located in **Appendix N: Farmland Conversion Impact Rating Form**.

## Hazardous Materials

A Limited Phase I Environmental Site Assessment (ESA) for the proposed project was completed in December 2023 in general accordance with ASTM E 1527-13, Standard Practice for ESAs. The purpose of the ESA is to identify Recognized Environmental Conditions (RECs) and Controlled Recognized Environmental Conditions (CRECs). Evidence of gas station and industrial use was

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<sup>9</sup> [https://www.santeelynychescog.org/sites/default/files/uploads/slrkog\\_tip\\_fy\\_21-27\\_as\\_adopted\\_5-4-2020\\_revision\\_11\\_4-25-2023.pdf](https://www.santeelynychescog.org/sites/default/files/uploads/slrkog_tip_fy_21-27_as_adopted_5-4-2020_revision_11_4-25-2023.pdf)  
[https://static1.squarespace.com/static/57e557e0bebafb38f5b22bad/t/63e50d3a5b20c3033c79d742/1675955518894/LSCOG\\_TIP\\_2021-2027+Rev.pdf](https://static1.squarespace.com/static/57e557e0bebafb38f5b22bad/t/63e50d3a5b20c3033c79d742/1675955518894/LSCOG_TIP_2021-2027+Rev.pdf)

noted within or adjacent to the PSA during the field reconnaissance and on aerial photographs. Based on regulatory and historic information, two sites, both are RECs, were identified within construction limits, the Santee Cooper Waste Treatment Plant and the Palmetto Shores RV Resort. For more information regarding the sites and contaminants see **Appendix O: Limited Phase I ESA**.

On August 18, 2023, asbestos and lead-based paint reports were completed for the seven structures within the PSA: I-95 NB & SB bridges, I-95 NB & SB overflow bridge, the bridge remnants west of the US 301 bridge, US 301 bridge, and US 301 overflow bridge (see **Appendix P: Asbestos and Lead-Based Paint Survey Reports**). Table 6 summarizes structures having evidence of asbestos and/or lead as identified during surveys.

**Table 6. Asbestos and Lead-Based Paint Findings**

Structure	Asbestos	Lead-Based Paint
I-95 NB Bridge	✓	✓
I-95 NB Bridge Overflow	-	-
I-95 SB Bridge	✓	✓
I-95 SB Bridge Overflow	-	-
US 301 Bridge	-	✓
US 301 Overflow	-	✓
Bridge Remnants	-	-

Asbestos was found on the I-95 NB and SB bridges. Due to the presence of asbestos, the existing structures shall be removed and disposed of by the Contractor in accordance with Subsection 202.4.1, 202.4.2, and 107.27 (Hazardous and/or Toxic Waste) of the SCDOT Standard Specifications. The SC DES must be notified if any suspect ACM is discovered. The SC DES' Standards of Performance for Asbestos Projects (R 61-86.1) includes requirements for abatement projects regarding notifications, project design, air sampling and analysis, etc. This includes, but is not limited to, notifications and air quality monitoring.

Lead-based paint was found on four structures including the I-95 NB & SB bridges, US 301 bridge, and the US 301 overflow bridge. Recommendations for proceeding include that in the event that any suspect painted materials, including those not addressed in this survey, are encountered, the materials should be presumed coated with lead paint until laboratory analysis can be conducted.

The existing structures shall be removed and disposed of by the Contractor in accordance with Subsection 202.4.2 of the Standard Specifications. The Contractor's attention is called to the fact that this project may require removal and disposal of structural components containing lead-based paints. Removal and disposal of structural components containing lead-based paints shall

comply with all applicable Federal, State, and Local requirements for lead as waste, lead in air, lead in water, lead in soil, and worker health and safety.

It is SCDOT's practice to avoid the acquisition of hazardous waste materials, if at all possible. If avoidance of hazardous materials is not a viable alternative and soils that appear to be contaminated are encountered during construction, SC DES will be informed. Hazardous materials will be tested and removed and/or treated in accordance with the EPA and SC DES requirements, if necessary.

## **Appendices**

Appendix A – Project Location Map, Alternatives Figures

Appendix B – Traffic Analysis Report

Appendix C – Public Involvement

Appendix D – EJ Screen Report

Appendix E – SHPO Concurrence and Cultural Resources Report

Appendix F – FHWA 4(f) Concurrence

Appendix G – Preliminary Jurisdictional Determination

Appendix H – US Coast Guard Coordination and Navigation Report

Appendix I – US Coast Guard Navigational Center Line Shift Coordination

Appendix J – Floodplain Map and Checklist

Appendix K – USFWS Biological Assessment

Appendix L – NOAA Biological Assessment

Appendix M – Type III Project Traffic Noise Analysis Memorandum

Appendix N – Farmland Impact Conversion Rating Form

Appendix O – Limited Phase I Environmental Site Assessment

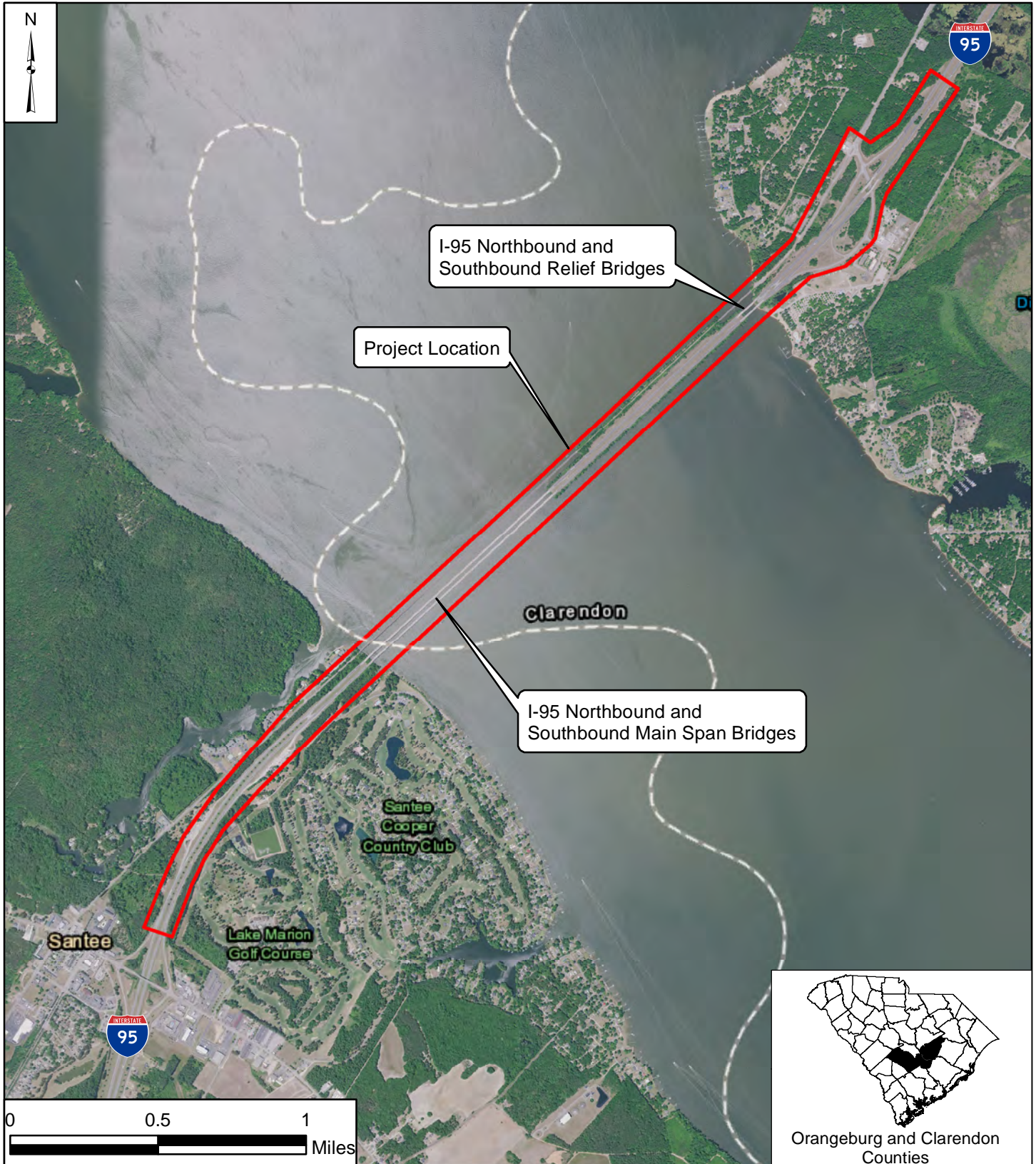
Appendix P – Asbestos and Lead-Based Paint Survey Reports



## **Appendix A**

### **Figure 1: Project Location Map**

### **Figures 2-5: Alternative Alignments**



I-95 over Lake Marion Bridge Replacements Design Build  
Orangeburg and Clarendon Counties



Legend

 Project Study Area

Drawn By: JLS

SCDOT P041130

February 2023

Project Location Map





← To Santee

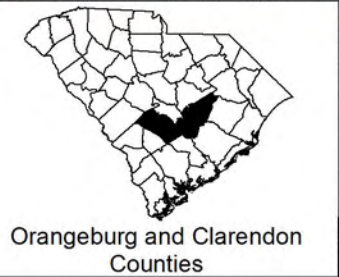
To Summerton →

Alternative B  
Alternative A  
Alternative C

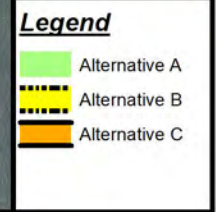
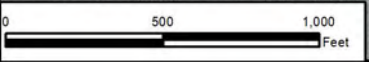
Main Lake Marion Channel

Relief Bridges

Lake Marion



Orangeburg and Clarendon  
Counties





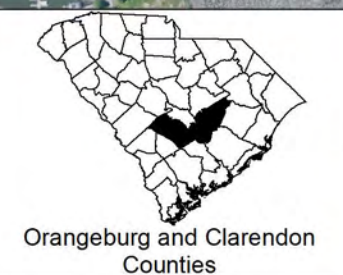
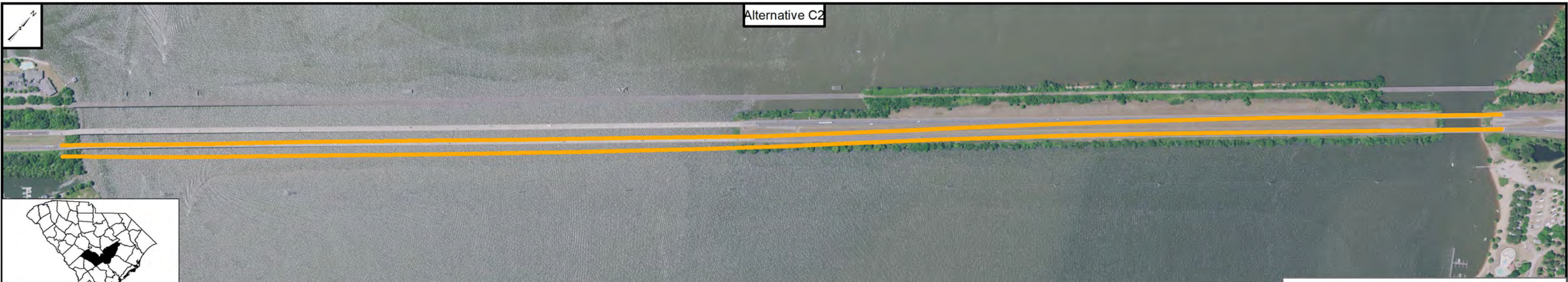
Alternative A



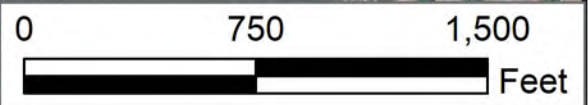
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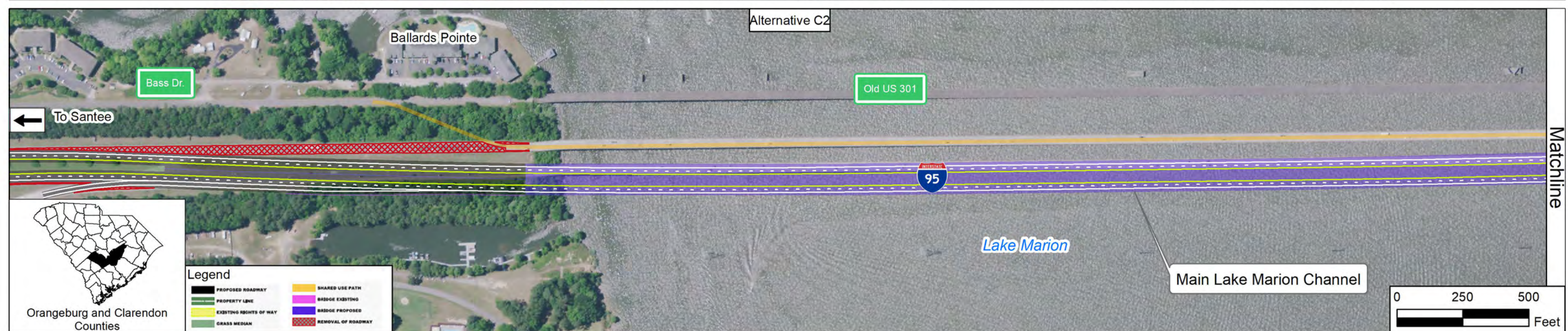
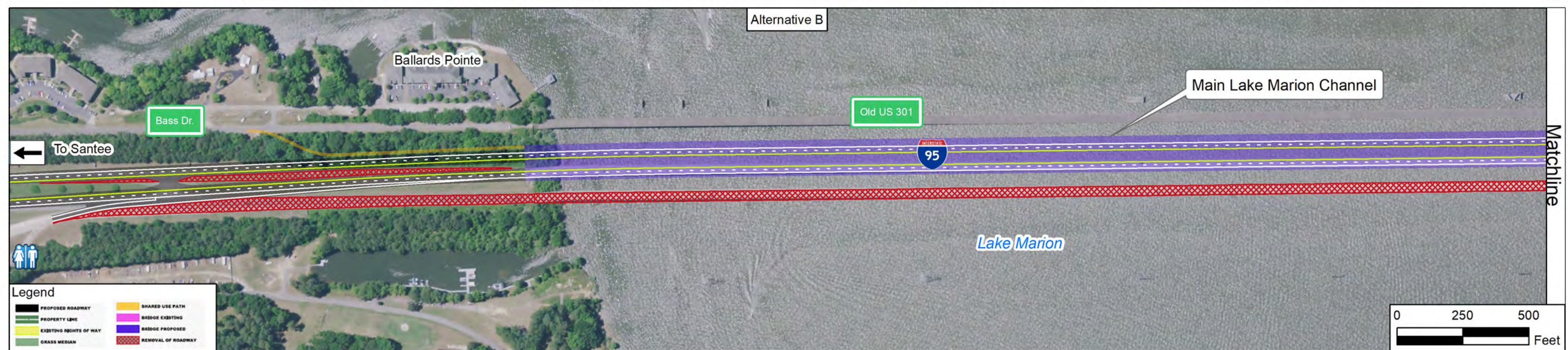
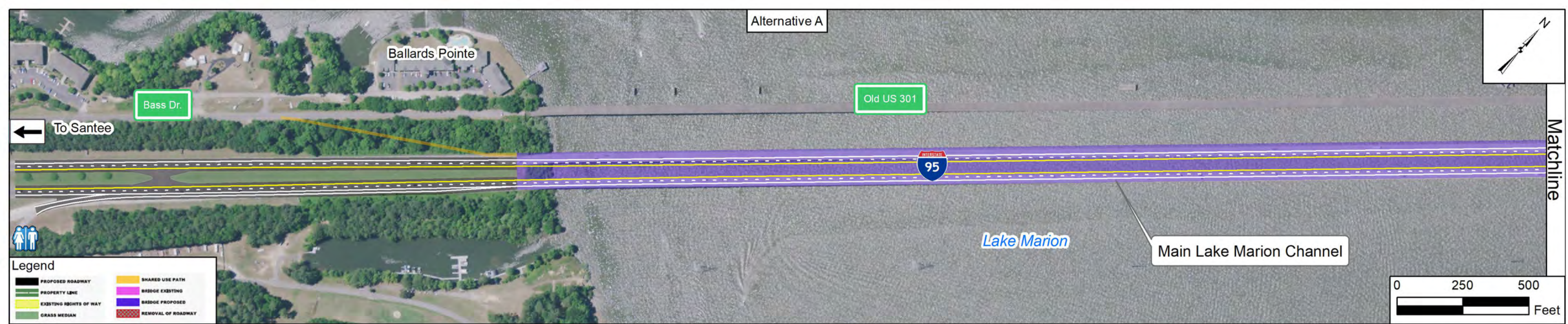
Alternative C2



Orangeburg and Clarendon Counties









Alternative A



Main Lake Marion Channel

Old US 301

To Summerton →

Matchline

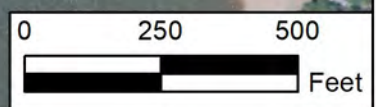


Relief Bridges

Lake Marion

Legend

PROPOSED ROADWAY	SHARED USE PATH
PROPERTY LINE	BRIDGE EXISTING
EXISTING RIGHTS OF WAY	BRIDGE PROPOSED
GRASS MEDIAN	REMOVAL OF ROADWAY



Alternative B

Main Lake Marion Channel

Old US 301

To Summerton →

Matchline

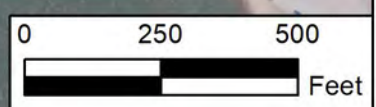


Relief Bridges

Lake Marion

Legend

PROPOSED ROADWAY	SHARED USE PATH
PROPERTY LINE	BRIDGE EXISTING
EXISTING RIGHTS OF WAY	BRIDGE PROPOSED
GRASS MEDIAN	REMOVAL OF ROADWAY



Alternative C2

Main Lake Marion Channel

Old US 301

To Summerton →

Matchline



Relief Bridges

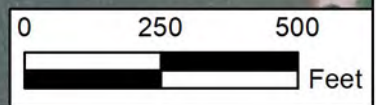
Lake Marion



Orangeburg and Clarendon Counties

Legend

PROPOSED ROADWAY	SHARED USE PATH
PROPERTY LINE	BRIDGE EXISTING
EXISTING RIGHTS OF WAY	BRIDGE PROPOSED
GRASS MEDIAN	REMOVAL OF ROADWAY





# **Appendix B**

## **Traffic Analysis Report**





**I-95 Over Lake Marion Bridge  
Replacements – Traffic Analysis**

**August 2023**

**TRANSYSTEMS**

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## Project Background

### Introduction

The I-95 Bridge Replacement project over Lake Marion proposes to replace the existing two-lane bridges NB and SB over Lake Marion with new bridges using a similar typical section for vehicular traffic (two lanes in each direction, NB and SB). TranSystems was contracted by SCDOT to analyze the proposed typical section to determine whether two lanes in either direction is sufficient to accommodate future traffic volumes, and whether other modifications to the proposed design would be necessary to accommodate intersection and freeway operations within the study area. Study analysis years are existing year 2023, opening year 2029, and design year 2045.

### Study Area

The study area extends along I-95 from Old Number 6 Highway (SC 6) at approximate milepost 98 in Santee, SC to Buff Boulevard at approximate milepost 108 near Summerton, SC. In addition to the I-95 corridor, some segments and intersections of state and local streets are also included in the study. These include Old Number 6 Highway (SC6) from the intersection of Bass Drive to the intersection of Mall Street; US 301 from the intersection with US Highway 15/St. Paul Road to the intersection with SR-14-400 and the intersection of SR-14-400 and Gordon Road/Dingle Pond Road; the intersection of US Highway 15 and Liberty Hill Road in St. Paul, SC; and Buff Boulevard from the intersection with US Highway 15/US 301/Wells Road to the I-95 ramp terminus intersections. Figures 1 through 5 illustrate the extents of the study area.



**Figure 1 – Study Area Limits along I-95**



Figure 2 – Old Highway Number 6 Analysis Area



Figure 3 – US 301, SR-14-400, and Gordon Road Analysis Area





Figure 4 – US 301 and Liberty Hill Road Analysis Area



Figure 5 – Buff Boulevard Analysis Area

## Existing Conditions

### Crash Analysis

A crash analysis was performed by Haselden & Associates, and is attached to this study as **Appendix A**. The study found that the three most prevalent crash types were run-off-the-road/collisions with guardrail or median barrier (33%), rear-end (29%), and sideswipes (20%). The location with the highest crash density was the I-95 NB Rest Stop entrance and exit area just south of Lake Marion. Driving too fast for conditions and improper lane use/change were the most often cited probable causes of the collisions.

## Existing Conditions Capacity Analysis

### Existing Traffic Volumes

Continuous vehicle classification counts were taken at the following locations January 24-30, 2023:

- NB and SB on the I-95 Bridge over Lake Marion
- Old Highway Number 6 east of the NB ramp intersection with I-95
- I-95 NB rest area Exit Ramp
- I-95 SB rest area Entrance Ramp

AM, mid-day, and PM peak intersection turning movement counts were taken at the following locations on Tuesday, January 24, 2023:

- Old Highway Number 6 and Bass Drive
- Old Highway Number 6 and Bradford Boulevard
- Old Highway Number 6 and Britain Street
- Old Highway Number 6 and I-95 SB Ramps
- Old Highway Number 6 and I-95 NB Ramps
- Old Highway Number 6 and Mall Street
- US 301 and St Paul Road
- US 301 and I-95 SB Ramps
- US 301 and I-95 NB Ramps
- SR-14-400 and Gordon Road/Dingle Pond Road
- US 301/St Paul Road and Liberty Hill Road
- Buff Boulevard and Wells Road
- Buff Boulevard and I-95 SB Ramps
- Buff Boulevard and I-95 NB Ramps

To be conservative in the analysis, peak hour volumes were used on a per intersection basis, rather than adjusting for study-area-wide peak periods. Balancing and smoothing was therefore not performed between adjacent intersections. Heavy vehicle percentages were also taken directly from the peak periods as observed in the traffic counts. Traffic count information is provided in **Appendix B**. Traffic figures with the existing and projected future traffic volumes are provided in **Appendix C**.

## Existing Freeway Analysis

HCS 2022 was utilized to analyze the I-95 corridor in the NB and SB directions. The analysis showed LOS A and B for all segments along I-95 in both the NB and SB direction. The ramp merge and diverge analysis showed acceptable levels of service (LOS) for all peak periods (AM, Midday, and PM): LOS C or better. Summary tables 1 and 2 below illustrate the LOS for each direction of travel in each peak period.

*Table 1 Existing 2023 NB I-95 Operational Results*

<b><u>Location</u></b>	<b><u>LOS (Density in pc/mi/ln)</u></b>		
	<b>AM Peak</b>	<b>Midday Peak</b>	<b>PM Peak</b>
<i>NB S of Old Hwy 6</i>	A (7.6)	B (12.2)	B (11.9)
<i>NB Hwy 6 Exit Ramp</i>	A (9.1)	B (13.9)	B (13.1)
<i>NB Hwy 6 Entrance Ramp</i>	A (7.8)	B (12.2)	B (12.1)
<i>NB Rest Stop Exit Ramp</i>	B (10.1)	B (14.6)	B (14.9)
<i>NB Rest Stop Entrance Ramp</i>	A (8.1)	B (12.4)	A (7.8)
<i>NB S of US 15</i>	A (8.3)	B (12.8)	B (12.8)
<i>NB US 15 Exit Ramp</i>	B (9.8)	B (14.5)	B (13.1)
<i>NB US 15 Entrance Ramp</i>	A (7.6)	B (11.8)	B (10.8)
<i>NB S of Buff Blvd</i>	A (7.7)	B (12.1)	A (11.0)
<i>NB Buff Blvd Exit Ramp</i>	A (8.5)	B (13.4)	B (11.5)
<i>NB Buff Blvd Entrance Ramp</i>	A (7.0)	B (11.3)	A (9.6)
<i>NB N of Buff Blvd</i>	A (7.2)	B (1.5)	A (9.7)

*Table 2 Existing 2023 SB I-95 Operational Results*

<b><u>Location</u></b>	<b><u>LOS (Density in pc/mi/ln)</u></b>		
	<b>AM Peak</b>	<b>Midday Peak</b>	<b>PM Peak</b>
<i>SB N of Buff Blvd</i>	A (7.8)	B (12.3)	A (9.3)
<i>SB Buff Blvd Exit Ramp</i>	A (9.3)	B (14.0)	B (11.1)
<i>SB Buff Blvd Entrance Ramp</i>	A (8.8)	B (12.4)	B (10.3)
<i>SB S of Buff Blvd</i>	A (8.9)	B (12.6)	A (10.1)
<i>SB US 15 Exit Ramp</i>	B (11.3)	B (15.0)	B (11.7)
<i>SB US 15 Entrance Ramp</i>	A (9.9)	B (13.0)	B (10.9)
<i>SB S of US 15</i>	A (10.1)	B (13.3)	B (11.1)
<i>SB Rest Stop Exit Ramp</i>	B (12.2)	B (15.1)	B (13.4)
<i>SB Weave b/t Rest Stop &amp; Hwy 6</i>	A (6.9)	A (8.5)	A (7.5)
<i>SB Hwy 6 Exit Ramp</i>	A (9.1)	B (12.2)	A (9.8)
<i>SB S of Old Hwy 6</i>	A (9.3)	B (12.6)	A (9.8)



### Existing Intersection Analysis

Synchro 11 was used to complete the analysis of I-95 ramp termini and local street intersections.

For the intersection of US 301/Bufv Boulevard/Wells Road, neither HCS nor Synchro can analyze an unsignalized intersection with 6 approaches. Due to the low approach volumes from the traffic counts on the Wells Road approach legs to the intersection, this location was analyzed with those legs omitted from Synchro modeling. Turning movements onto or from the Wells Road approaches were added to other legs of the intersection to simulate the turning movements from the omitted legs.



**Figure 6 – Intersection of US 301 with Buff Boulevard, Wells Road, and the Deluxe Inn Driveway**

The analysis showed that all intersections performed with a level of service (LOS) of C or better in all peak periods, as illustrated in Tables 3 and 4. Detailed HCS and Synchro analysis output is provided in **Appendix D**.

*Table 3 Existing 2023 Signalized Intersection Operational Results*

<b>Location</b>	<b>AM Peak</b>		<b>Midday Peak</b>		<b>PM Peak</b>	
	LOS (delay in s)	95 <sup>th</sup> %ile Queue (ft)	LOS (delay in s)	95 <sup>th</sup> %ile Queue (ft)	LOS (delay in s)	95 <sup>th</sup> %ile Queue (ft)
<i>Hwy 6 &amp; Bass Dr Intersection</i>	B (16.5)	--	B (15.7)	--	B (16.8)	--
<i>Worst Performing Approach</i>	WB: C (24.5)	--	WB: C (24.5)	--	WB: C (27.2)	--
<i>Worst Perform. Movement</i>	WB LT: C (23.5)	92'	WB LT: C (30.7)	102'	WB LT: D (35.2)	108'
<i>Hwy 6 &amp; I-95 SB Intersection</i>	B (14.3)	--	B (19.0)	--	B (20.0)	--
<i>Worst Performing Approach</i>	EB: C (23.5)	--	EB: C (30.7)	--	EB: C (31.1)	--
<i>Worst Perform. Movement</i>	EB T/R: C (23.5)	157'	EB T/R: C (30.7)	270'	EB T/R: C (31.1)	345'
<i>Hwy 6 &amp; I-95 NB Intersection</i>	B (16.8)	--	B (20.0)	--	C (20.3)	--
<i>Worst Performing Approach</i>	WB: C (24.3)	--	WB: C (29.8)	--	WB: C (32.9)	--
<i>Worst Perform. Movement</i>	WB T/R: C (24.3)	170'	WB T/R: C (29.8)	251'	WB T/R: C (32.9)	268'

*Table 4 Existing 2023 Unsignalized Intersection Operational Results*

<b>Location</b>	<b>AM Peak</b>			<b>Midday Peak</b>			<b>PM Peak</b>		
	Inters. LOS (delay s)	Highest Movem't LOS (delay s)	Highest 95 <sup>th</sup> %ile Queue (ft)	Inters. LOS (delay s)	Highest Movem't LOS (delay s)	Highest 95 <sup>th</sup> %ile Queue (ft)	Inters. LOS (delay s)	Highest Movem't LOS (delay s)	Highest 95 <sup>th</sup> %ile Queue (ft)
<i>Hwy 6 &amp; Bradford Blvd</i>	A (1.1)	NB LT: C (15.3)	NB RT: 4'	A (1.2)	NB LT: C (20.0)	NB RT: 4'	A (0.8)	NB LT: C (18.8)	NB LT: 4'
<i>Hwy 6 &amp; Britain St</i>	A (1.1)	SB LTR: B (13.1)	SB LTR: 6'	A (1.4)	SB LTR: C (16.0)	SB LTR: 8'	A (1.6)	SB LTR: C (20.5)	SB LTR: 15'
<i>Hwy 6 &amp; Mall St</i>	A (1.4)	NB LTR: B (13.4)	SB LTR: 7'	A (1.4)	NB LTR: C (17.5)	SB LTR: 7'	A (1.4)	NB LTR: C (20.1)	SB LTR: 10'
<i>US 301 &amp; St Paul Rd</i>	A (7.4)	SB LTR: B (10.6)	NB RT: 5'	A (7.5)	NB T/L: B (10.1)	NB RT: 4'	A (8.2)	SB LTR: B (10.5)	NB RT: 10'
<i>US 301 &amp; I-95 SB Ramps</i>	A (2.5)	SW LTR: A (9.8)	NB LT: 3'	A (3.0)	SW LTR: A (9.4)	NB LT: 3'	A (2.2)	SW LTR: B (10.6)	NB LT: 3'
<i>US 301 &amp; I-95 NB Ramps</i>	A (4.4)	WB L/R: A (9.1)	WB L/R: 7'	A (4.3)	WB L/R: A (9.0)	WB L/R: 6'	A (2.9)	WB L/R: A (9.6)	WB L/R: 7'
<i>SR-14-400 &amp; Gordon Rd</i>	A (4.0)	EB L/R: A (8.9)	EB L/R: 3'	A (5.9)	EB L/R: A (9.2)	EB L/R: 7'	A (6.9)	EB L/R: A (9.3)	EB L/R: 9'
<i>US 301 &amp; Liberty Hill Rd</i>	A (4.9)	NB LTR: A (10.0)	SB LTR: 5'	A (4.2)	NB LTR: A (9.3)	SB LTR: 3'	A (4.5)	NB LTR: A (9.8)	SB LTR: 4'
<i>US 301 &amp; Buff Blvd</i>	A (6.3)	SB LTR: B (11.9)	NB RT: 7'	A (6.2)	SB LTR: B (11.7)	NB RT: 8'	A (6.2)	SB LTR: B (14.7)	NB RT: 13'
<i>Buff Blvd &amp; I-95 SB Ramps</i>	A (2.1)	WB LTR: A (9.7)	WB LTR: 10'	A (2.3)	WB LTR: A (9.9)	WB LTR: 10'	A (2.1)	WB LTR: A (9.8)	WB LTR: 9'
<i>Buff Blvd &amp; I-95 NB Ramps</i>	A (6.3)	EB LTR: B (12.0)	EB LTR: 21'	A (6.2)	EB LTR: B (11.5)	EB LTR: 18'	A (7.8)	EB LTR: B (12.7)	EB LTR: 35'

## Future Conditions

### Future Conditions Capacity Analyses

The HCS and Synchro analyses were repeated using traffic volumes projected for the 2025 construction year, the 2029 opening year, and the 2045 design year. Traffic volumes for the I-95 mainline were grown from the existing year counts using a 2% growth rate. This growth rate was estimated for the I-95 mainline based on an analysis of the available ADT volumes from 2015 through 2022 within the study area. Volume records from 2020 were excluded from this analysis due to the unusually low traffic volumes that year as a result of the COVID pandemic. A separate analysis of the local streets and ramp intersections showed an approximate overall negative growth rate. A positive growth rate of 1% was therefore assumed for the local street intersection analyses in Synchro and for the ramp demand volumes in the HCS analysis. The traffic growth calculations are provided in **Appendix E**. Traffic volume figures with the future traffic volumes are provided in **Appendix C**.

### Future Conditions Freeway Analyses

The HCS freeway analysis of the 2029 opening year and 2045 design year continued to show acceptable levels of service for all peak periods: LOS C or better, as illustrated in Tables 5 and 6 below.

*Table 5 Opening Year 2029 and Design Year NB I-95 Operational Results*

<u>Location</u>	<u>LOS (Density in pc/mi/ln)</u>					
	<b>2029 AM</b>	<b>2045 AM</b>	<b>2029 MID</b>	<b>2045 MID</b>	<b>2029 PM</b>	<b>2045 PM</b>
<i>NB S of Old Hwy 6</i>	A (8.5)	B (11.1)	B (13.7)	B (17.7)	B (13.5)	B (17.4)
<i>NB Hwy 6 Exit Ramp</i>	A (9.9)	B (12.4)	B (15.4)	B (19.4)	B (14.7)	B (18.5)
<i>NB Hwy 6 Entrance Ramp</i>	A (8.6)	B (11.1)	B (13.6)	B (17.4)	B (13.6)	B (17.3)
<i>NB Rest Stop Exit Ramp</i>	B (11.0)	B (13.6)	B (16.0)	B (20.0)	B (16.5)	C (20.5)
<i>NB Rest Stop Entrance Ramp</i>	A (9.0)	B (11.5)	B (13.8)	B (17.6)	B (13.9)	B (17.8)
<i>NB S of US 15</i>	A (9.2)	B (11.9)	B (14.3)	C (18.4)	B (14.4)	C (18.5)
<i>NB US 15 Exit Ramp</i>	B (10.7)	B (13.3)	B (16.0)	C (20.1)	B (15.0)	B (18.9)
<i>NB US 15 Entrance Ramp</i>	A (8.4)	B (10.8)	B (11.8)	B (16.9)	B (12.2)	B (15.8)
<i>NB S of Buff Blvd</i>	A (8.6)	B (11.2)	B (13.5)	B (17.5)	B (12.5)	B (16.3)
<i>NB Buff Blvd Exit Ramp</i>	A (9.3)	B (11.7)	B (14.9)	B (18.7)	B (12.9)	B (16.5)
<i>NB Buff Blvd Entrance Ramp</i>	A (7.8)	B (10.1)	B (12.6)	B (16.3)	B (10.9)	B (14.3)
<i>NB N of Buff Blvd</i>	A (8.0)	A (10.5)	B (13.0)	B (16.8)	B (11.2)	B (14.8)

*Table 6 Opening Year 2029 and Design Year 2045 SB I-95 Operational Results*

<b>Location</b>	<b>LOS (Density in pc/mi/ln)</b>					
	<b>2029 AM</b>	<b>2045 AM</b>	<b>2029 MID</b>	<b>2045 MID</b>	<b>2029 PM</b>	<b>2045 PM</b>
<i>SB N of Buff Blvd</i>	A (8.8)	A (10.7)	B (13.8)	B (17.8)	A (10.5)	B (13.8)
<i>SB Buff Blvd Exit Ramp</i>	B (10.3)	B (12.1)	B (15.6)	B (19.5)	B (12.3)	B (15.6)
<i>SB Buff Blvd Entrance Ramp</i>	A (9.8)	B (11.7)	B (13.7)	B (17.6)	B (11.5)	B (14.8)
<i>SB S of Buff Blvd</i>	A (9.9)	B (13.0)	B (14.2)	C (18.2)	B (11.2)	B (14.7)
<i>SB US 15 Exit Ramp</i>	B (12.5)	B (15.6)	B (16.7)	C (20.9)	B (13.9)	B (17.4)
<i>SB US 15 Entrance Ramp</i>	B (11.0)	B (14.1)	B (14.5)	B (18.5)	B (12.1)	B (15.5)
<i>SB S of US 15</i>	B (11.3)	B (14.6)	B (15.0)	C (19.3)	B (12.3)	B (15.9)
<i>SB Rest Stop Exit Ramp</i>	B (13.4)	B (16.6)	B (16.8)	C (20.9)	B (14.7)	B (18.3)
<i>SB Weave b/t Rest Stop &amp; Hwy 6</i>	A (7.7)	A (9.9)	A (9.6)	B (12.4)	A (8.3)	B (10.8)
<i>SB Hwy 6 Exit Ramp</i>	B (10.1)	B (13.1)	B (13.8)	B (17.6)	B (10.9)	B (14.1)
<i>SB S of Old Hwy 6</i>	A (10.4)	B (13.6)	B (14.2)	C (18.4)	A (11.0)	B (14.4)

## Future Conditions Intersection Analyses

The Synchro analysis of the local streets and ramp terminus intersections in the 2029 opening year and 2045 design year showed similar results to the 2023 existing conditions analyses. The LOS for all local street and ramp intersections was shown to be LOS C or better in all peak periods in all analysis years. All approaches and movements were shown to be LOS D or better in all peak periods in all analysis years, as illustrated below in Tables 7 through 10. Detailed HCS and Synchro analysis output is provided in **Appendix D**.

*Table 7 Opening Year 2029 Signalized Intersection Operational Results*

<b>Location</b>	<b>AM Peak</b>		<b>Midday Peak</b>		<b>PM Peak</b>	
	LOS (delay in s)	95 <sup>th</sup> %ile Queue (ft)	LOS (delay in s)	95 <sup>th</sup> %ile Queue (ft)	LOS (delay in s)	95 <sup>th</sup> %ile Queue (ft)
<i>Hwy 6 &amp; Bass Dr Intersection</i>	B (16.8)	--	B (16.2)	--	B (17.8)	--
<i>Worst Performing Approach</i>	WB: C (25.0)	--	WB: C (25.5)	--	WB: C (29.5)	--
<i>Worst Perform. Movement</i>	WB LT: C (30.5)	98'	WB LT: C (32.7)	110'	WB LT: D (40.0)	134'
<i>Hwy 6 &amp; I-95 SB Intersection</i>	B (14.6)	--	B (20.0)	--	C (21.1)	--
<i>Worst Performing Approach</i>	EB: C (24.3)	--	EB: C (32.8)	--	EB: C (33.5)	--
<i>Worst Perform. Movement</i>	EB T/R: C (24.3)	168'	EB T/R: C (32.8)	294'	EB T/R: C (33.5)	374'
<i>Hwy 6 &amp; I-95 NB Intersection</i>	B (17.5)	--	C (21.1)	--	C (21.5)	--
<i>Worst Performing Approach</i>	WB: C (25.6)	--	WB: C (32.1)	--	WB: D (35.3)	--
<i>Worst Perform. Movement</i>	WB T/R: C (25.6)	182'	WB T/R: C (32.1)	274'	WB T/R: D (35.3)	293'

*Table 8 Design Year 2045 Signalized Intersection Operational Results*

<b>Location</b>	<b>AM Peak</b>		<b>Midday Peak</b>		<b>PM Peak</b>	
	LOS (delay in s)	95 <sup>th</sup> %ile Queue (ft)	LOS (delay in s)	95 <sup>th</sup> %ile Queue (ft)	LOS (delay in s)	95 <sup>th</sup> %ile Queue (ft)
<i>Hwy 6 &amp; Bass Dr Intersection</i>	B (18.3)	--	B (18.6)	--	C (20.4)	--
<i>Worst Performing Approach</i>	WB: C (27.6)	--	WB: C (31.2)	--	WB: D (36.4)	--
<i>Worst Perform. Movement</i>	WB LT: D (35.5)	115'	WB LT: C (44.0)	156'	WB LT: D (54.4)	172'
<i>Hwy 6 &amp; I-95 SB Intersection</i>	B (15.9)	--	C (23.0)	--	C (29.4)	--
<i>Worst Performing Approach</i>	EB: C (27.2)	--	EB: D (39.1)	--	EB: D (50.4)	--
<i>Worst Perform. Movement</i>	EB T/R: C (27.2)	224'	EB T/R: D (39.1)	359'	EB T/R: D (50.4)	451'
<i>Hwy 6 &amp; I-95 NB Intersection</i>	B (19.3)	--	C (24.0)	--	C (26.4)	--
<i>Worst Performing Approach</i>	WB: C (29.2)	--	WB: D (37.6)	--	WB: D (45.8)	--
<i>Worst Perform. Movement</i>	WB T/R: C (29.2)	249'	WB T/R: D (37.6)	337'	WB T/R: D (45.8)	358'

*Table 9 Opening Year 2029 Unsignalized Intersection Operational Results*

<b>Location</b>	<b>AM Peak</b>			<b>Midday Peak</b>			<b>PM Peak</b>		
	Inters. LOS (delay s)	Highest Movem't LOS (delay s)	Highest 95 <sup>th</sup> %ile Queue (ft)	Inters. LOS (delay s)	Highest Movem't LOS (delay s)	Highest 95 <sup>th</sup> %ile Queue (ft)	Inters. LOS (delay s)	Highest Movem't LOS (delay s)	Highest 95 <sup>th</sup> %ile Queue (ft)
<i>Hwy 6 &amp; Bradford Blvd</i>	A (1.1)	NB LT: C (16.0)	NB RT: 4'	A (1.3)	NB LT: C (21.6)	NB RT: 4'	A (0.8)	NB LT: C (19.6)	NB LT: 5'
<i>Hwy 6 &amp; Britain St</i>	A (1.2)	SB LTR: B (13.8)	SB LTR: 6'	A (1.4)	SB LTR: C (17.1)	SB LTR: 10'	A (1.7)	SB LTR: C (23.0)	SB LTR: 19'
<i>Hwy 6 &amp; Mall St</i>	A (1.5)	NB LTR: B (14.3)	SB LTR: 7'	A (1.5)	NB LTR: C (18.7)	SB LTR: 8'	A (1.4)	NB LTR: C (22.2)	SB LTR: 11'
<i>US 301 &amp; St Paul Rd</i>	A (7.4)	SB LTR: B (10.8)	NB RT: 5'	A (7.4)	NB T/L: B (10.2)	NB RT: 4'	A (8.2)	SB LTR: B (10.6)	NB RT: 10'
<i>US 301 &amp; I-95 SB Ramps</i>	A (2.4)	SW LTR: A (9.9)	NB LT: 4'	A (3.0)	SW LTR: A (9.4)	NB LT: 3'	A (2.2)	SW LTR: B (10.8)	NB LT: 3'
<i>US 301 &amp; I-95 NB Ramps</i>	A (4.4)	WB L/R: A (9.2)	WB L/R: 7'	A (4.3)	WB L/R: A (9.1)	WB L/R: 6'	A (2.9)	WB L/R: A (9.7)	WB L/R: 8'
<i>SR-14-400 &amp; Gordon Rd</i>	A (4.0)	EB L/R: A (8.9)	EB L/R: 3'	A (5.9)	EB L/R: A (9.2)	EB L/R: 7'	A (7.0)	EB L/R: A (9.3)	EB L/R: 10'
<i>US 301 &amp; Liberty Hill Rd</i>	A (4.9)	NB LTR: B (10.1)	SB LTR: 5'	A (4.1)	NB LTR: A (9.4)	SB LTR: 3'	A (4.5)	NB LTR: A (10.0)	SB LTR: 4'
<i>US 301 &amp; Buff Blvd</i>	A (6.3)	SB LTR: B (12.2)	NB RT: 7'	A (6.3)	SB LTR: B (11.8)	NB RT: 8'	A (6.3)	SB LTR: C (15.4)	NB RT: 14'
<i>Buff Blvd &amp; I-95 SB Ramps</i>	A (2.2)	WB LTR: A (9.8)	WB LTR: 11'	A (2.4)	WB LTR: A (10.0)	WB LTR: 10'	A (2.1)	WB LTR: A (10.0)	WB LTR: 10'
<i>Buff Blvd &amp; I-95 NB Ramps</i>	A (6.5)	EB LTR: B (12.3)	EB LTR: 23'	A (6.4)	EB LTR: B (11.8)	EB LTR: 20'	A (8.0)	EB LTR: B (13.2)	EB LTR: 39'



*Table 10 Design Year 2045 Unsignalized Intersection Operational Results*

Location	AM Peak			Midday Peak			PM Peak		
	Inters. LOS (delay s)	Highest Movem't LOS (delay s)	Highest 95 <sup>th</sup> %ile Queue (ft)	Inters. LOS (delay s)	Highest Movem't LOS (delay s)	Highest 95 <sup>th</sup> %ile Queue (ft)	Inters. LOS (delay s)	Highest Movem't LOS (delay s)	Highest 95 <sup>th</sup> %ile Queue (ft)
<i>Hwy 6 &amp; Bradford Blvd</i>	A (1.2)	NB LT: C (18.1)	NB RT: 5'	A (1.4)	NB LT: D (27.1)	NB LT: 7'	A (0.9)	NB LT: C (22.2)	NB LT: 6'
<i>Hwy 6 &amp; Britain St</i>	A (1.3)	SB LTR: C (15.5)	SB LTR: 9'	A (1.7)	SB LTR: C (21.5)	SB LTR: 15'	A (2.3)	SB LTR: D (32.9)	SB LTR: 32'
<i>Hwy 6 &amp; Mall St</i>	A (1.6)	NB LTR: C (15.3)	SB LTR: 9'	A (1.7)	NB LTR: C (23.0)	SB LTR: 11'	A (1.8)	NB LTR: D (29.2)	SB LTR: 18'
<i>US 301 &amp; St Paul Rd</i>	A (7.5)	SB LTR: B (11.1)	NB RT: 6'	A (7.5)	NB T/L: B (10.3)	NB RT: 5'	A (8.3)	SB LTR: B (11.1)	NB RT: 12'
<i>US 301 &amp; I-95 SB Ramps</i>	A (2.5)	SW LTR: B (10.2)	NB LT: 4'	A (3.0)	SW LTR: A (9.6)	NB LT: 3'	A (2.3)	SW LTR: B (11.2)	NB LT: 4'
<i>US 301 &amp; I-95 NB Ramps</i>	A (4.5)	WB L/R: A (9.3)	WB L/R: 9'	A (4.4)	WB L/R: A (9.2)	WB L/R: 8'	A (3.0)	WB L/R: B (10.0)	WB L/R: 9'
<i>SR-14-400 &amp; Gordon Rd</i>	A (4.0)	EB L/R: A (9.0)	EB L/R: 3'	A (6.0)	EB L/R: A (9.4)	EB L/R: 8'	A (7.1)	EB L/R: A (9.5)	EB L/R: 12'
<i>US 301 &amp; Liberty Hill Rd</i>	A (4.9)	NB LTR: B (10.1)	SB LTR: 6'	A (4.2)	NB LTR: A (9.5)	SB LTR: 4'	A (4.6)	NB LTR: B (10.1)	SB LTR: 5'
<i>US 301 &amp; Buff Blvd</i>	A (6.4)	SB LTR: B (13.0)	NB RT: 8'	A (6.4)	SB LTR: B (12.7)	NB RT: 10'	A (6.5)	SB LTR: C (17.6)	NB RT: 17'
<i>Buff Blvd &amp; I-95 SB Ramps</i>	A (2.2)	WB LTR: A (10.1)	WB LTR: 13'	A (2.4)	WB LTR: B (10.2)	WB LTR: 13'	A (2.1)	WB LTR: B (10.2)	WB LTR: 12'
<i>Buff Blvd &amp; I-95 NB Ramps</i>	A (6.9)	EB LTR: B (13.4)	EB LTR: 30'	A (6.7)	EB LTR: B (12.6)	EB LTR: 25'	A (8.9)	EB LTR: B (14.9)	EB LTR: 54'

## Conclusions

Based on the results of the HCS freeway analyses and the Synchro analysis of local street and ramp terminus intersections, the proposed two-lane sections for the NB and SB bridge decks should be adequate to support the projected design year traffic with acceptable levels of service provided in all peak periods. No additional or supplemental design changes are recommended at this time to improve the traffic operations within the study area.

# Appendix A

*PREPARED FOR:*

Pat Smeeton, P.E. | Asst. Vice President/GA Planning & Traffic Lead

**TRANSYSTEMS**

# **I-95 over Lake Marion Bridge Replacements Clarendon & Orangeburg Counties – P041130**

## **Crash Data Analysis**

June 20, 2023

*PREPARED BY:*

**ELIZABETH H. CARPENTER, PE  
PRESIDENT**



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## Executive Summary

The South Carolina Department of Transportation (SCDOT) is proposing a I-95 bridge replacement over Lake Marion in Clarendon and Orangeburg counties. For the study, historic crash data from the last eight years was reviewed for the entirety of the proposed bridge replacement along I-95 from mile point 98.5 to 102.3 northbound and southbound.

The 283 crashes were reviewed to identify hot spot locations and trends.

A majority of the crashes were classified as property damage only; however, 19% were classified as possible injuries, 2% as serious injury and 7 fatalities.

The most common crash type along I-95 was run the road with 92 total crashes (33%). Rear-end collisions (29%), sideswipes (20%), and angle (9%) were the next most common crash types. The least common were collision animal (2%), other and pedestrian.

Study area hot spots are listed below:

- I-95 Northbound at the Rest Stop on and off ramp, 46 of the 283 crashes occurred at this location. Most of the manner of collisions were side swipe and rear end. Two of the crashes were serious injury.
- I-95 Northbound around mile point 100.5 just over the bridge, 18 of the 283 crashes occurred at this location. Most of the manner of collisions were rear end and fix object. One of the crashes was a fatality.
- I-95 Southbound around mile point 101.5 driving onto the bridge, 22 of the 283 crashes occurred at this location. Most of the manner of collisions were side swipe and fix object. One of the crashes was a fatality.

## Introduction

**Figure 1** shows the project limits of the crash data review. As stated previously, SCDOT is proposing to replace the bridge over Lake Marion on I-95 in Clarendon and Orangeburg Counties. For the corridor, historic crash data from the last eight years, from January 2015 through December 2022, was reviewed for the project study area. Data included crashes occurring on I-95 from mile point 98.5 to 102.3.





## DATA COLLECTION

Crash data was provided for the project study area by SCDOT Safety Office staff for the eight year period from January 2015 through December 2022. Location, manner of collision, and severity were noted for crash locations on the entirety of the proposed bridge replacement along I-95 from mile point 98.5 to 102.3.

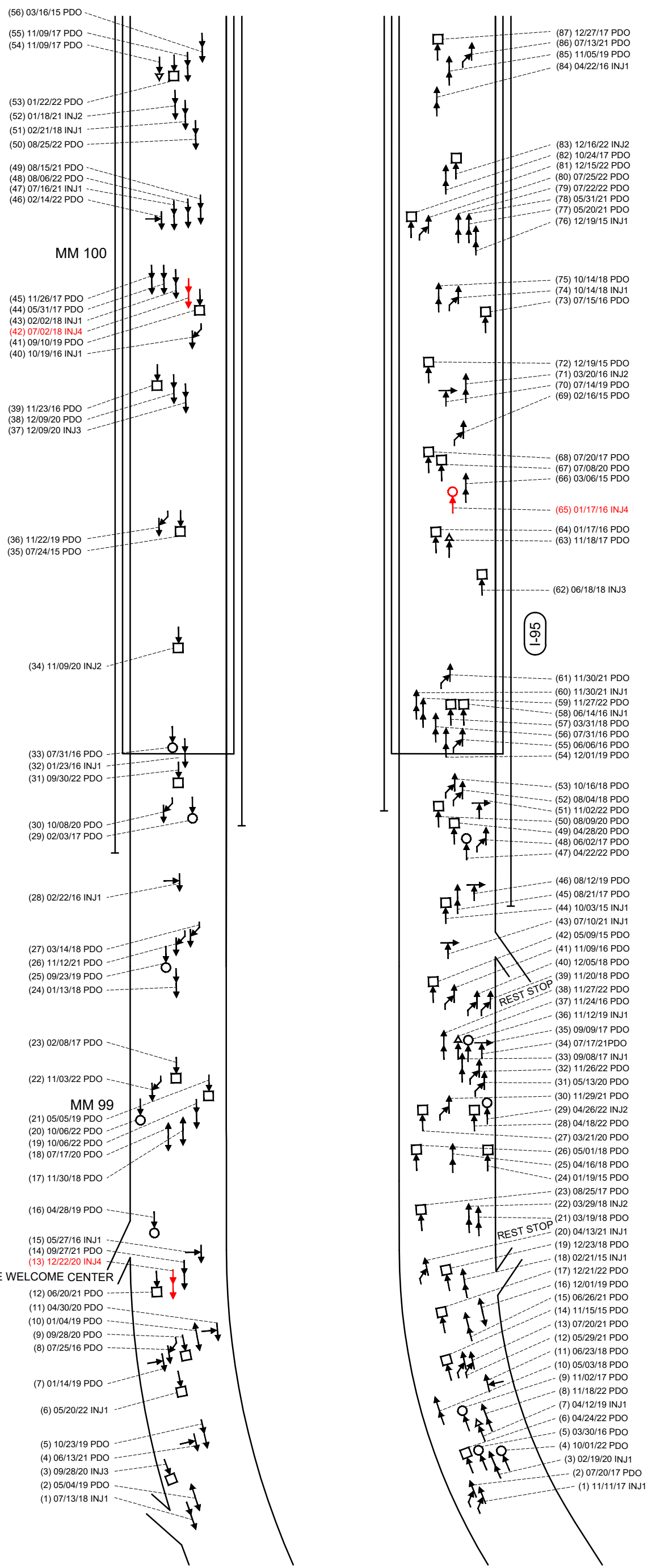
The following list shows the manner of collision classification:

- Not a Collision with a Motor Vehicle
- Non-Collision (run off road, rollover/overturn, jackknife, etc.)
- Collision with Object Not Fixed (animal, pedestrian, etc.)
- Collision with Fixed Object (guardrail, median, ditch, sign, tree, etc.)
- Rear End
- Head-on
- Rear-to-Rear (vehicle backing into the rear of another vehicle)
- Angle
- Sideswipe, Same Direction
- Sideswipe, Opposite Direction

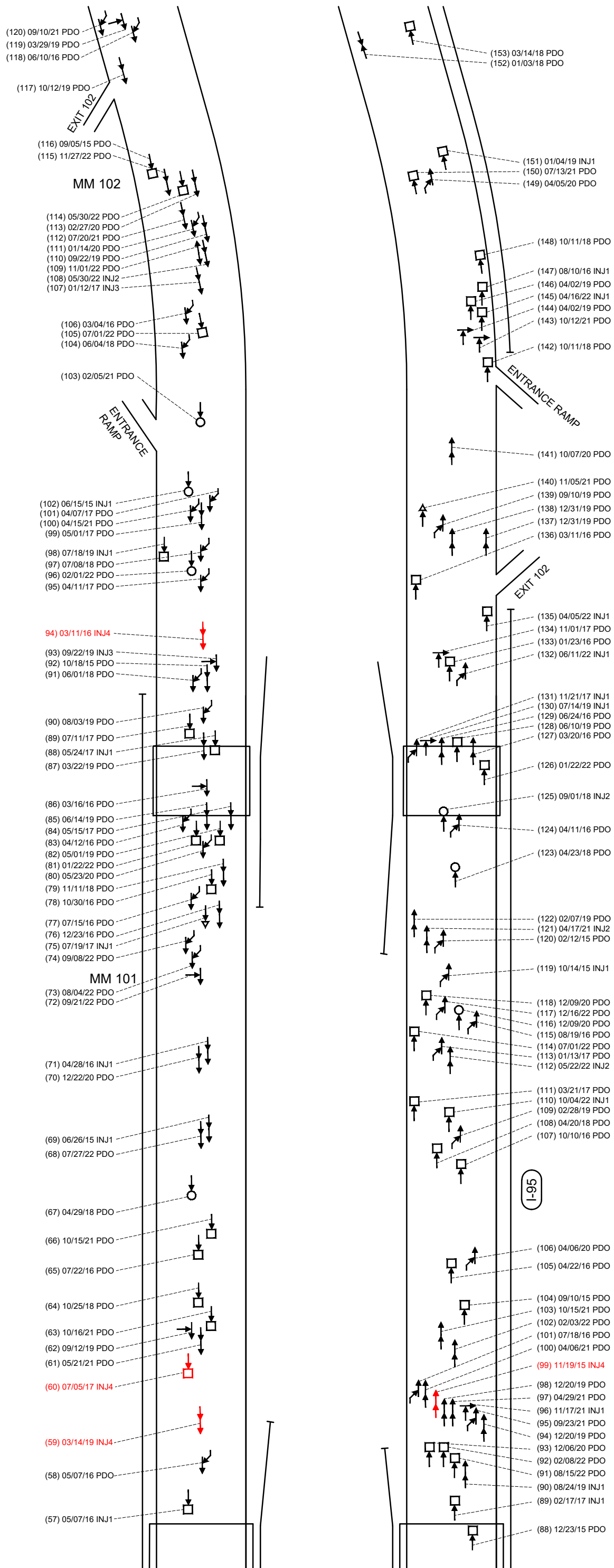
Injury Status is broken into five categories: property damage only (PDO) and INJ1 – INJ4, with INJ1 being the least severe and INJ4 as fatalities. The following is a description of the injury status codes:

- PDO – Property Damage Only
- INJ1 – Possible
- INJ2 – Non-Incapacitating
- INJ3 – Incapacitating
- INJ4 – Fatal

There were 283 crashes on I-95 reviewed. The SCDOT separated the crashes into a northbound (153 total crashes) report and a southbound (120 total crashes) report, a summary table of the raw data is provided in the **Appendix**. The crash data was mapped according to type and location and are shown on **Figure 2** (mile point 98.5 to 100.25) and **Figure 3** (mile point 100.25 to 102.3). The figures also provide a breakdown of the manner of collision (rear end, head-on, sideswipe, etc.) and the injury status (PDO, injury, or fatality (INJ4)) for each crash.



Interstate Crashes Legend	
(x)	Crash Identification Number
XX/XX/XXXX	Date of Crash
Manner of Collision	
	Not Collision with Motor Vehicle in Transport (Non-Collision)
	Not Collision with Motor Vehicle in Transport (Collision with Object Not Fixed)
	Not Collision with Motor Vehicle in Transport (Collision with Fixed Object)
	Rear End
	Head-On
	Rear-to-Rear
	Angle
	Sideswipe, Same Direction
	Sideswipe Opposite Direction
	Unknown
Injury Status	
PDO	- Property Damage Only
INJ1	- Possible Injury
INJ2	- Non-Incapacitating Injury
INJ3	- Incapacitating
INJ4	- Fatal



Interstate Crashes Legend	
(x)	Crash Identification Number
XX/XX/XXXX	Date of Crash
Manner of Collision	
	Not Collision with Motor Vehicle in Transport (Non-Collision)
	Not Collision with Motor Vehicle in Transport (Collision with Object Not Fixed)
	Not Collision with Motor Vehicle in Transport (Collision with Fixed Object)
	Rear End
	Head-On
	Rear-to-Rear
	Angle
	Sideswipe, Same Direction
	Sideswipe Opposite Direction
	Unknown
Injury Status	
PDO	- Property Damage Only
INJ1	- Possible Injury
INJ2	- Non-Incapacitating Injury
INJ3	- Incapacitating
INJ4	- Fatal

## CRASH ANALYSIS & HOT SPOTS

There were 283 total crashes, 153 northbound and 120 southbound, used for this analysis. A majority of the crashes were classified as property damage only; however, 18% were classified as possible injuries, 2% as serious injuries and 7 total fatalities (these are shown in red on the Figures 2 & 3).

The most common crash type along I-95 was run off the road comprising 92 of the 283 total crashes (33%). Rear-end collisions (29%) and sideswipes, same direction, (20%) were the next most common crash types. The least common was collision with a pedestrian (2 total).

Study area hot spots are listed below:

- I-95 Northbound at the Rest Stop on and off ramp 46 of the 283 crashes occurred at this location. Most of the manner of collisions were side swipe and rear end. Two of the crashes were serious injury.
- I-95 Northbound around mile point 100.5 just over the bridge 18 of the 283 crashes occurred at this location. Most of the manner of collisions were rear end and fix object. One of the crashes was a fatality.
- I-95 Southbound around mile point 101.5 driving onto the bridge 22 of the 283 crashes occurred at this location. Most of the manner of collisions were side swipe and fix object. One of the crashes was a fatality.

The 7 total fatality locations are shown in red on **Figures 2 and 3**. **Table 1** gives more detail on the fatality including year, mile point, direction on I-95, day or night, roadway conditions, probable cause and harmful event. There are no trends in location for the listed fatalities. The majority are rear end crashes southbound on I-95. One includes a Pedestrian on the roadway.

Date	Mile point	Direction	light	SFC	MAC	Probable Cause	Harmful Event
12/22/2020	98.79	SB	day	dry	RE	Medical Related	Motor Unit (In Transport)
7/16/2021	99.91	SB	day	dry	RE	Driving too Fast for Conditions	Motor Unit (Stopped)
3/14/2019	100.47	SB	night	dry	RE	Other Improper Action	Motor Unit (In Transport)
5/21/2021	100.57	SB	day	dry	RE	Driving too Fast for Conditions	Motor Unit (In Transport)
3/11/2016	101.44	SB	night	dry	RE	Too Fast for Conditions	Motor Unit (In Transport)
1/17/2016	99.72	NB	night	dry	Angle	Obstruction in the way	Pedestrian
11/19/2015	100.47	NB	day	day	RE	Driving too Fast for Conditions	Motor Unit (Stopped)

Appendix  
SCDOT Crash Data

Clarendon & Orangeburg I-95 MP 98.5 to 102.3  
 CLARENDON/ORANGEBURG  
 I- 95 (INTERSTATE 95)  
 MP 98.5 to 102.3 (NB)

AADT: 40100  
 Functional Class: Rural - Principal Arterial - Interstate  
 01/01/2015 through 12/31/2022

### Crashes by Injury Class

Fatal Crashes:	2
Serious Injury Crashes:	1
Other Injury Crashes:	33
PDO Crashes:	117

Total: 153

### Crashes by Manner of Collision

Rear End:	41
Angle:	13
Sideswipe:	34
Head On:	1
Run off Road:	58
Animal:	2
Bicycle:	0
Pedestrian:	2
Other:	2

Total: 153

### Special Contributing Factors

Night:	57
Day:	96
Not Reported:	0
Wet:	30
Dry:	123
Not Reported:	0



Clarendon & Orangeburg I-95 MP 98.5 to 102.3  
 CLARENDON/ORANGEBURG  
 I-95 (INTERSTATE 95)  
 MP 98.5 to 102.3 (NB)

AADT: 40100  
 Functional Class: Rural - Principal Arterial - Interstate  
 01/01/2015 through 12/31/2022

### Statistics

Fatal Crashes:	2
Fatal Injuries:	2
Serious Crashes:	1
Serious Injuries:	1
Other Injury Crashes:	33
Other Injuries:	74
Property Damage Crashes:	117
Total Crashes:	153

### Crash Location

Intersections:	2
Midblock Crashes:	151
Urban Crashes:	0
Rural Crashes:	153
MPO Crashes:	0
COG Crashes:	153

### Manner of Collision

Angle:	13
Backed Into:	1
Head On:	1
Non Collision:	62
Rear End:	41
Rear To Rear:	0
Sideswipe, Opposite Direction:	2
Sideswipe, Same Direction:	32
Unknown:	1

### Junction Type

Crossover:	1
Driveway:	0
Five Or More Points:	0
Four Way Intersection:	0
Non-Junction:	152
Railway Grade Crossing:	0
Shared Use Path Or Trails:	0
T-Intersection:	0
Traffic Circle:	0
Not Reported:	0
Unknown:	0
Y-Intersection:	0

### Number of Units

1:	55
2:	84
3:	11
4+:	3

### Crashes Involving

Pedestrians:	3
Bicycles:	0
Motorcycles:	1
Truck Tractors:	37
Fixed Objects:	63
Workzones:	0

### Road Conditions

Dry:	123
Wet:	27
Snow:	1
Slush:	1
Ice:	1
Contaminate:	0
Water (standing):	0
Other:	0
Not Reported:	0

### Light Conditions

Day:	96
Dawn:	5
Dusk:	8
Dark (Unspecified Lighting):	1
Dark (Street Lamp):	5
Dark (Street Lamp Not Lit):	0
Dark (No Lights):	38
Not Reported:	0

### Weather Conditions

Blowing Sand, Oil, Dirt, Or Snow:	0
Clear:	121
Cloudy:	6
Fog, Smoke, Smog:	0
Rain:	24
Severe Crosswinds:	0
Sleet/Hail:	1
Snow:	1
Not Reported:	0
Unknown:	0

### Traffic Control Type

### Crash Harmful Event

Tree:	1
Utility Pole:	0
Other (Post, Pole, Support, ..):	0
Light/Luminance Support:	0
Overhead Sign Support:	0
Culvert:	0
Ditch:	4
Equipment:	0
Curb:	0
Embankment:	0
Guardrail End:	3
Fence:	1
Mail Box:	0
Highway Traffic Sign Post:	3
Guardrail Face:	26
Bridge Overhead Structure:	0
Bridge Parapet End:	0
Bridge Pier or Abutment:	0
Bridge Rail:	8
Impact Attenuator/Crash Cushion:	0
Median Barrier:	16
Other (Wall, Building, Tunnel, etc.):	1
Work Zone Maintenance Equip:	0
Other (fixed):	2
Unknown (fixed):	0
Animal (Deer Only):	2
Animal (all other):	0
Motor Unit (Stopped):	5
Motor Unit (Other Roadway):	0
Motor Unit (Parked):	8
Railway Unit:	0
Work Zone Maintenance Equip:	0
Other Movable Object:	2
Unknown Movable Object:	2
Cross Median/Center:	4
Spill (2-wheeled Units):	1
Ran off Road Left:	1
Ran off Road Right:	1
Overturn/Rollover:	0
Immersion:	0
Cargo/Equipment Loss or Shift:	0
Downhill Runaway:	0
Equipment Failure:	0
Fire/Explosion:	0
Jackknife:	0
Separation of Units:	0
Other - non Collision:	1
Unknown - non Collision:	0
Motor Unit (In Transport):	58
Undetermined:	0

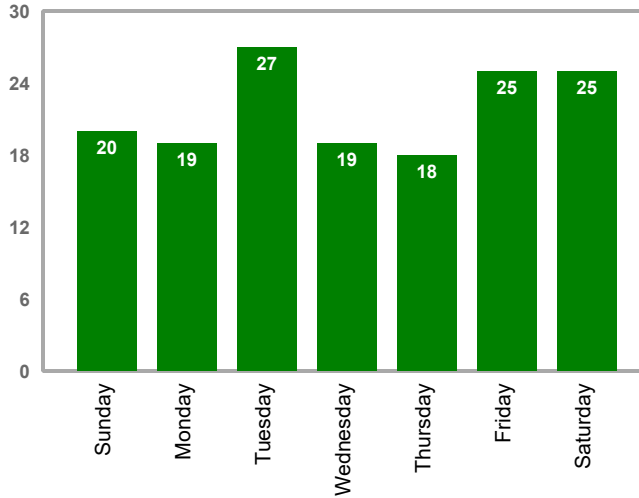
Clarendon & Orangeburg I-95 MP 98.5 to 102.3  
 CLARENDON/ORANGEBURG  
 I- 95 (INTERSTATE 95)  
 MP 98.5 to 102.3 (NB)

AADT: 40100  
 Functional Class: Rural - Principal Arterial - Interstate  
 01/01/2015 through 12/31/2022

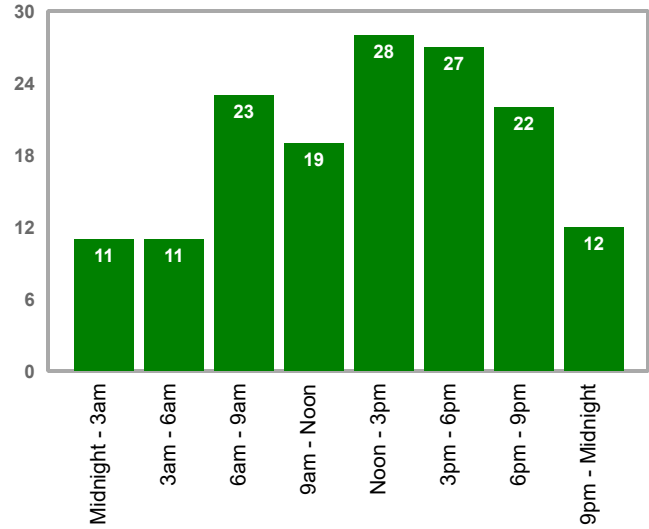
### Yearly Comparison

Year	2015	2016	2017	2018	2019	2020	2021	2022	Total
Rear End	4	5	3	5	8	2	8	6	41
Angle	0	1	2	1	4	0	4	1	13
Sideswipe	3	5	5	5	2	3	7	4	34
Head On	0	0	0	1	0	0	0	0	1
Run Off Road	7	10	6	10	3	7	2	13	58
Animal	0	0	1	0	0	0	0	1	2
Bicycle	0	0	0	0	0	0	0	0	0
Pedestrian	0	0	0	0	1	0	0	1	2
Other	0	0	0	0	2	0	0	0	2
	<b>14</b>	<b>21</b>	<b>17</b>	<b>22</b>	<b>20</b>	<b>12</b>	<b>21</b>	<b>26</b>	<b>153</b>

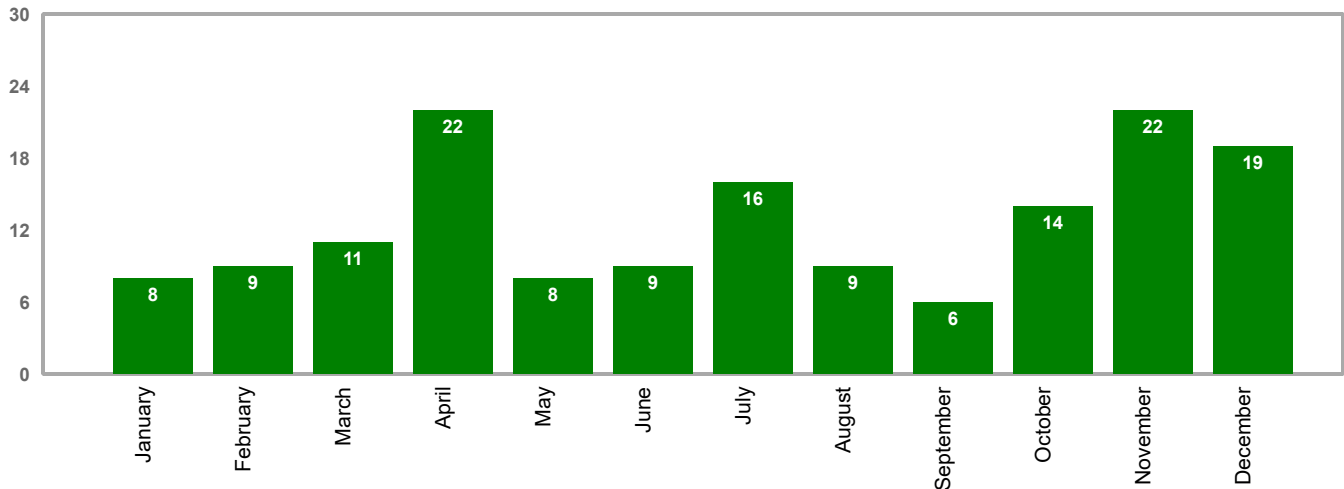
### Day of the Week



### Time of Day



### Month of Year



Clarendon & Orangeburg I-95 MP 98.5 to 102.3  
 CLARENDON/ORANGEBURG  
 I-95 (INTERSTATE 95)  
 MP 98.5 to 102.3 (NB)

AADT: 40100  
 Functional Class: Rural - Principal Arterial - Interstate  
 01/01/2015 through 12/31/2022

**Total Crashes: 153 Fatal Crashes: 2 Serious Inj Crashes: 1 Other Inj Crashes: 33 PDO Crashes: 117 Light: 96 Dark: 57 Dry: 123 Wet: 27**

OBS	Crash #	Date	Main	MP	Base	Second	BDO	Max Inj	Light	SFC	MAC	Probable Cause	Harmful Event
1	17659690	11/11/17	I-95	98.51	SC 6	Unknown	7	1	night	dry	SS	Improper Lane use/change	Median Barrier
2	17603662	07/20/17	I-95	98.52	SC 6	Unknown	9	0	day	dry	SS	Improper Lane use/change	Cross Median/Center
3	20206154	02/19/20	I-95	98.55	SC 6	Unknown	43	1	day	wet	RE	Unknown	Motor Unit (In Transpo
4	22270326	10/01/22	I-95	98.55	SC 6	Unknown	44	0	night	wet	none	Animal in Road	Animal (Deer Only)
5	16537012	03/30/16	I-95	98.56	SC 6	Unknown	100	0	night	dry	none	Cargo	Unknown Movable Object
6	22234285	04/24/22	I-95	98.56	SC 6	Unknown	50	0	night	dry	none	Driving too Fast for Con	Median Barrier
7	19568817	04/12/19	I-95	98.58	SC 6	Unknown	15	1	day	wet	UNK	Improper Lane use/change	Other - non Collision
8	22293066	11/18/22	I-95	98.59	SC 6	Unknown	48	0	day	dry	RE	Driving too Fast for Con	Motor Unit (In Transpo
9	17650095	11/02/17	I-95	98.6	SC 6	Unknown	33	0	night	dry	none	Animal in Road	Animal (Deer Only)
10	18562985	05/03/18	I-95	98.62	SC 6	Unknown	80	0	day	dry	RE	Driving too Fast for Con	Median Barrier
11	18589700	06/23/18	I-95	98.62	SC 6	Unknown	10	0	day	dry	Angle	Driving too Fast for Con	Motor Unit (In Transpo
12	21241793	05/29/21	I-95	98.66	SC 6	Unknown	10	0	day	dry	SS	Improper Lane use/change	Motor Unit (In Transpo
13	21259640	07/20/21	I-95	98.66	SC 6	Unknown	9	0	day	wet	SS	Improper Lane use/change	Motor Unit (In Transpo
14	15630330	11/15/15	I-95	98.66	SC 6	Unknown	3	0	day	dry	none	Driving too Fast for Con	Median Barrier
15	21251822	06/26/21	I-95	98.69	SC 6	Unknown	60	0	day	dry	RE	Driving too Fast for Con	Motor Unit (In Transpo
16	19686505	12/01/19	I-95	98.73	SC 6	Unknown	10	0	day	dry	BI	Unknown	Motor Unit (In Transpo
17	22298867	12/21/22	I-95	98.73	SC 6	Unknown	65	0	night	wet	none	Tires/Wheel	Median Barrier
18	15518079	02/21/15	I-95	98.8	SC 6	Unknown	4	1	day	dry	RE	Driving too Fast for Con	Motor Unit (In Transpo
19	18690761	12/23/18	I-95	98.91	SC 6	Unknown	30	0	night	dry	none	Tires/Wheel	Guardrail Face
20	21231553	04/13/21	I-95	98.94	SC 6	Unknown	50	1	day	dry	SS	Improper Lane use/change	Motor Unit (In Transpo
21	18536510	03/19/18	I-95	98.95	SC 6	Unknown	45	0	day	dry	RE	Driving too Fast for Con	Motor Unit (Parked)
22	18545012	03/29/18	I-95	98.95	SC 6	Unknown	45	2	night	dry	RE	Driving too Fast for Con	Highway Traffic Sign P
23	17617702	08/25/17	I-95	98.95	SC 6	Unknown	30	0	day	dry	none	Tires/Wheel	Median Barrier
24	15506285	01/19/15	I-95	98.97	SC 6	Unknown	3	0	night	dry	none	Driving too Fast for Con	Highway Traffic Sign P
25	18550614	04/16/18	I-95	98.97	SC 6	Unknown	50	0	night	dry	RE	Driving too Fast for Con	Motor Unit (In Transpo
26	18559894	05/01/18	I-95	98.97	SC 6	Unknown	100	0	night	dry	none	Tires/Wheel	Median Barrier
27	20220473	03/21/20	I-95	99	SC 6	Unknown	200	0	day	dry	none	Driving too Fast for Con	Highway Traffic Sign P
28	22230900	04/18/22	I-95	99	SC 6	Unknown	230	0	day	wet	none	Driving too Fast for Con	Bridge Rail
29	22232346	04/26/22	I-95	99	SC 6	Unknown	80	2	night	dry	none	Other Improper Action	Pedestrian
30	21455539	11/29/21	I-95	99	SC 6	Unknown	10	0	day	dry	SS	Improper Lane use/change	Motor Unit (In Transpo
31	20227838	05/13/20	I-95	99.01	SC 6	Unknown	99	0	day	dry	SS	Improper Lane use/change	Motor Unit (In Transpo
32	22293708	11/26/22	I-95	99.02	SC 6	Unknown	100	0	day	dry	SS	Improper Lane use/change	Motor Unit (In Transpo
33	17620568	09/08/17	I-95	99.03	SC 6	Unknown	100	1	day	dry	RE	Driving too Fast for Con	Motor Unit (Stopped)
34	21259744	07/17/21	I-95	99.06	SC 6	Unknown	100	0	day	dry	Angle	Other Improper Action	Motor Unit (Parked)
35	17637232	09/09/17	I-95	99.06	SC 6	Unknown	154	0	night	dry	Angle	Other Improper Action	Motor Unit (Stopped)
36	19665218	11/12/19	I-95	99.06	SC 6	Unknown	60	1	day	wet	none	Failure to Yield RoW	Pedestrian
37	16665719	11/24/16	I-95	99.06	SC 6	Unknown	50	0	day	dry	none	Driving too Fast for Con	Ditch
38	22287236	11/27/22	I-95	99.07	SC 6	Unknown	50	0	day	dry	RE	Following too Closely	Motor Unit (In Transpo
39	18673139	11/20/18	I-95	99.09	SC 6	Unknown	3	0	day	dry	SS	Other Improper Action	Motor Unit (Parked)
40	18690725	12/05/18	I-95	99.09	SC 6	Unknown	50	0	day	dry	SS	Other Improper Action	Motor Unit (In Transpo

Clarendon & Orangeburg I-95 MP 98.5 to 102.3  
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OBS	Crash #	Date	Main	MP	Base	Second	BDO	Max Inj	Light	SFC	MAC	Probable Cause	Harmful Event
41	16654541	11/09/16	I-95	99.12	SC 6	Unknown	21	0	day	dry	SS	Improper Turn	Motor Unit (Parked)
42	15547350	05/09/15	I-95	99.14	SC 6	Unknown	80	0	night	dry	none	Driving too Fast for Con	Median Barrier
43	21257832	07/10/21	I-95	99.19	SC 6	Unknown	120	1	day	dry	Angle	Improper Turn	Median Barrier
44	15609587	10/03/15	I-95	99.2	SC 6	Unknown	3	1	night	wet	none	Under the Influence	Guardrail Face
45	17607828	08/21/17	I-95	99.24	SC 6	Unknown	25	0	day	dry	RE	Distracted/Inattention	Motor Unit (In Transpo
46	19617541	08/12/19	I-95	99.25	SC 6	Unknown	100	0	night	dry	Angle	Failure to Yield RoW	Motor Unit (In Transpo
47	22230558	04/22/22	I-95	99.32	SC 6	Unknown	200	0	day	dry	none	Debris	Other Movable Object
48	17568997	06/02/17	I-95	99.33	SC 6	Unknown	100	0	day	dry	SS	Improper Lane use/change	Motor Unit (In Transpo
49	20227902	04/28/20	I-95	99.36	SC 6	Unknown	78	0	day	dry	none	Tires/Wheel	Other (fixed)
50	20259074	08/09/20	I-95	99.37	SC 6	Unknown	140	0	day	dry	none	Driving too Fast for Con	Guardrail End
51	22285893	11/02/22	I-95	99.37	SC 6	Unknown	139	0	day	dry	Angle	Improper Lane use/change	Motor Unit (In Transpo
52	18609351	08/04/18	I-95	99.38	SC 6	Unknown	70	0	night	dry	SS	Improper Lane use/change	Motor Unit (In Transpo
53	18650791	10/16/18	I-95	99.39	SC 6	Unknown	200	0	day	dry	SS	Tires/Wheel	Motor Unit (In Transpo
54	19686216	12/01/19	I-95	99.41	SC 6	Unknown	50	0	day	dry	RE	Driving too Fast for Con	Motor Unit (Stopped)
55	16568775	06/06/16	I-95	99.44	SC 6	Unknown	20	0	day	wet	SS	Improper Lane use/change	Motor Unit (In Transpo
56	16594411	07/31/16	I-95	99.45	SC 6	Unknown	50	0	night	dry	RE	Driving too Fast for Con	Motor Unit (In Transpo
57	18540335	03/31/18	I-95	99.48	SC 6	Unknown	100	0	day	dry	none	Improper Lane use/change	Median Barrier
58	16572541	06/14/16	I-95	99.48	SC 6	Unknown	50	1	day	wet	none	Tires/Wheel	Median Barrier
59	22297018	11/27/22	I-95	99.48	SC 6	Unknown	100	0	day	dry	RE	Driving too Fast for Con	Motor Unit (In Transpo
60	21457003	11/30/21	I-95	99.49	SC 6	Unknown	50	1	day	dry	RE	Driving too Fast for Con	Motor Unit (In Transpo
61	21455778	11/30/21	I-95	99.5	SC 6	Unknown	100	0	day	dry	SS	Unknown	Motor Unit (In Transpo
62	18587248	06/18/18	I-95	99.62	SC 6	Unknown	150	3	day	dry	none	Under the Influence	Bridge Rail
63	17668770	11/18/17	I-95	99.69	US 15	Unknown	180	0	night	dry	none	Medical Related	Guardrail Face
64	16505352	01/17/16	I-95	99.7	US 15	Unknown	250	0	night	dry	none	Driving too Fast for Con	Bridge Rail
65	16505136	01/17/16	I-95	99.72	US 15	Unknown	275	4	night	dry	Angle	Obstruction in Roadway	Pedestrian
66	15522104	03/06/15	I-95	99.74	US 15	Unknown	250	0	day	dry	RE	Driving too Fast for Con	Motor Unit (Stopped)
67	20243903	07/08/20	I-95	99.75	US 15	Unknown	200	0	night	dry	none	Tires/Wheel	Guardrail Face
68	17594656	07/20/17	I-95	99.76	US 15	Unknown	190	0	night	dry	none	Driving too Fast for Con	Guardrail Face
69	15513643	02/16/15	I-95	99.78	US 15	Unknown	153	0	day	dry	SS	Improper Lane use/change	Motor Unit (In Transpo
70	19607201	07/14/19	I-95	99.85	US 15	Unknown	213	0	night	dry	Angle	Following too Closely	Motor Unit (In Transpo
71	16532512	03/20/16	I-95	99.87	US 15	Unknown	185	2	night	dry	RE	Fuel System	Motor Unit (Parked)
72	15647358	12/19/15	I-95	99.88	US 15	Unknown	200	0	night	dry	none	Other (roadway)	Guardrail Face
73	16587260	07/15/16	I-95	99.9	US 15	Unknown	25	0	day	wet	none	Improper Lane use/change	Guardrail Face
74	18645380	10/14/18	I-95	99.99	US 15	Unknown	5	1	day	dry	SS	Improper Lane use/change	Motor Unit (In Transpo
75	18645254	10/14/18	I-95	99.99	US 15	Unknown	100	0	day	dry	RE	Driving too Fast for Con	Motor Unit (In Transpo
76	15647361	12/19/15	I-95	100.05	US 15	Unknown	178	1	night	dry	RE	Driving too Fast for Con	Bridge Rail
77	21239761	05/20/21	I-95	100.06	US 15	Unknown	218	0	day	dry	RE	Driving too Fast for Con	Motor Unit (In Transpo
78	21245147	05/31/21	I-95	100.06	US 15	Unknown	217	0	night	dry	RE	Under the Influence	Motor Unit (In Transpo
79	22259293	07/22/22	I-95	100.06	US 15	Unknown	223	0	day	dry	RE	Driving too Fast for Con	Motor Unit (In Transpo
80	22259294	07/25/22	I-95	100.06	US 15	Unknown	223	0	day	dry	SS	Improper Lane use/change	Motor Unit (In Transpo

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81	22297023	12/15/22	I-95	100.06	US 15	Unknown	150	0	night	wet	none	Under the Influence	Guardrail Face
82	17647607	10/24/17	I-95	100.09	US 15	Unknown	50	0	night	dry	RE	Driving too Fast for Con	Motor Unit (In Transpo
83	22307014	12/16/22	I-95	100.11	US 15	Unknown	662	2	day	dry	none	Tires/Wheel	Guardrail End
84	16555087	04/22/16	I-95	100.19	US 15	Unknown	100	1	night	wet	RE	Driving too Fast for Con	Motor Unit (In Transpo
85	19665179	11/05/19	I-95	100.2	US 15	Unknown	19	0	night	dry	RE	Driving too Fast for Con	Motor Unit (Parked)
86	21256762	07/13/21	I-95	100.23	US 15	Unknown	200	0	day	dry	SS	Driving too Fast for Con	Guardrail Face
87	17677827	12/27/17	I-95	100.26	US 15	Unknown	200	0	night	dry	none	Driving too Fast for Con	Guardrail Face
88	15648127	12/23/15	I-95	100.3	US 15	Unknown	200	0	day	dry	none	Driving too Fast for Con	Guardrail Face
89	17519102	02/17/17	I-95	100.37	US 15	Unknown	150	1	night	dry	none	Driving too Fast for Con	Guardrail Face
90	19622831	08/24/19	I-95	100.39	US 15	Unknown	200	1	night	dry	RE	Driving too Fast for Con	Motor Unit (In Transpo
91	22260869	08/15/22	I-95	100.4	US 15	Unknown	200	0	day	dry	none	Debris	Other (fixed)
92	22212662	02/08/22	I-95	100.43	US 15	Unknown	176	0	night	dry	none	Improper Lane use/change	Guardrail End
93	20347060	12/06/20	I-95	100.43	US 15	Unknown	100	0	night	dry	none	Driving too Fast for Con	Bridge Rail
94	19686290	12/20/19	I-95	100.44	US 15	Unknown	200	0	day	dry	RE	Driving too Fast for Con	Motor Unit (In Transpo
95	21279224	09/23/21	I-95	100.45	US 15	Unknown	267	0	night	wet	SS	Improper Lane use/change	Motor Unit (In Transpo
96	21294211	11/17/21	I-95	100.45	US 15	Unknown	200	1	day	dry	Angle	Tires/Wheel	Other (Wall, Building,
97	21229510	04/29/21	I-95	100.46	US 15	Unknown	100	0	day	dry	RE	Following too Closely	Median Barrier
98	19679633	12/20/19	I-95	100.46	US 15	Unknown	200	0	day	dry	RE	Driving too Fast for Con	Motor Unit (In Transpo
99	15639059	11/19/15	I-95	100.47	US 15	Unknown	190	4	day	dry	RE	Driving too Fast for Con	Motor Unit (Stopped)
100	21227797	04/06/21	I-95	100.48	US 15	Unknown	300	0	night	dry	RE	Improper Lane use/change	Motor Unit (In Transpo
101	16587782	07/18/16	I-95	100.48	US 15	Unknown	130	0	day	dry	SS	Unknown (vehicle defect)	Motor Unit (Parked)
102	22212243	02/03/22	I-95	100.53	US 15	Unknown	163	0	day	dry	RE	Driving too Fast for Con	Motor Unit (In Transpo
103	21286562	10/15/21	I-95	100.57	US 15	Unknown	200	0	night	dry	RE	Driving too Fast for Con	Motor Unit (In Transpo
104	15604639	09/10/15	I-95	100.59	US 15	Unknown	110	0	night	wet	none	Driving too Fast for Con	Guardrail Face
105	16543674	04/22/16	I-95	100.62	US 15	Unknown	80	0	day	wet	none	Driving too Fast for Con	Guardrail Face
106	20225351	04/06/20	I-95	100.64	US 15	Unknown	20	0	day	dry	SS	Driving too Fast for Con	Motor Unit (In Transpo
107	16631773	10/10/16	I-95	100.76	US 15	Unknown	150	0	day	dry	none	Driving too Fast for Con	Guardrail Face
108	18553344	04/20/18	I-95	100.78	US 15	Unknown	110	0	night	dry	none	Under the Influence	Median Barrier
109	19526257	02/28/19	I-95	100.79	US 15	Unknown	176	0	day	dry	SS	Improper Lane use/change	Motor Unit (In Transpo
110	22271457	10/04/22	I-95	100.81	US 15	Unknown	100	1	day	dry	none	Driving too Fast for Con	Fence
111	17536774	03/21/17	I-95	100.83	US 15	Unknown	200	0	day	dry	none	Driving too Fast for Con	Ditch
112	22226907	05/22/22	I-95	100.89	US 15	Unknown	50	2	night	dry	RE	Driving too Fast for Con	Motor Unit (In Transpo
113	17507586	01/13/17	I-95	100.9	US 15	Unknown	300	0	night	dry	SS	Improper Lane use/change	Motor Unit (In Transpo
114	22252641	07/01/22	I-95	100.91	US 15	Unknown	50	0	day	wet	none	Driving too Fast for Con	Ditch
115	16609152	08/19/16	I-95	100.93	US 15	Unknown	150	0	night	wet	SS	Driving too Fast for Con	Bridge Rail
116	20341905	12/09/20	I-95	100.93	US 15	Unknown	100	0	night	dry	none	Debris	Unknown Movable Object
117	22307015	12/16/22	I-95	100.96	US 15	Unknown	557	0	day	dry	SS	Other Improper Action	Motor Unit (In Transpo
118	20343365	12/09/20	I-95	100.98	US 15	Unknown	100	0	day	dry	none	Debris	Median Barrier
119	15619404	10/14/15	I-95	101.01	US 15	Unknown	100	1	night	dry	SS	Improper Lane use/change	Cross Median/Center
120	15513092	02/12/15	I-95	101.06	US 15	Unknown	25	0	day	dry	SS	Improper Lane use/change	Cross Median/Center

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121	21229969	04/17/21	I- 95	101.06	US 15	Unknown	112	2	day	dry	RE	Driving too Fast for Con	Motor Unit (In Transpo
122	19518331	02/07/19	I- 95	101.09	US 15	Unknown	50	0	day	dry	RE	Driving too Fast for Con	Guardrail Face
123	18557611	04/23/18	I- 95	101.15	US 15	Unknown	100	0	day	wet	none	Debris	Other Movable Object
124	16543340	04/11/16	I- 95	101.21	US 15	Unknown	100	0	day	dry	SS	Improper Lane use/change	Motor Unit (In Transpo
125	18625754	09/01/18	I- 95	101.22	US 15	Unknown	25	2	day	dry	none	Tires/Wheel	Spill (2-wheeled Units)
126	22208617	01/22/22	I- 95	101.27	US 15	Unknown	200	0	night	wet	none	Driving too Fast for Con	Bridge Rail
127	16543300	03/20/16	I- 95	101.31	US 15	Unknown	2	0	day	wet	RE	Improper Lane use/change	Motor Unit (In Transpo
128	19583542	06/10/19	I- 95	101.31	US 15	Unknown	88	0	day	wet	none	Driving too Fast for Con	Guardrail Face
129	16581047	06/24/16	I- 95	101.31	US 15	Unknown	6	0	night	dry	RE	Driving too Fast for Con	Motor Unit (In Transpo
130	19608017	07/14/19	I- 95	101.31	US 15	Unknown	300	1	day	dry	Angle	Driving too Fast for Con	Guardrail Face
131	17660078	11/21/17	I- 95	101.31	US 15	Unknown	1	1	day	dry	SS	Driving too Fast for Con	Guardrail Face
132	22243980	06/11/22	I- 95	101.4	US 15	Unknown	200	1	day	dry	SS	Improper Lane use/change	Motor Unit (In Transpo
133	16519388	01/23/16	I- 95	101.42	US 15	Unknown	100	0	day	wet	none	Driving too Fast for Con	Bridge Rail
134	17649620	11/01/17	I- 95	101.43	US 15	Unknown	100	0	night	dry	Angle	Improper Lane use/change	Motor Unit (In Transpo
135	22225790	04/05/22	I- 95	101.49	US 15	Unknown	200	1	day	dry	none	Driving too Fast for Con	Tree
136	16526598	03/11/16	I- 95	101.52	US 15	Unknown	10	0	night	dry	none	Driving too Fast for Con	Median Barrier
137	19010500	12/31/19	I- 95	101.55	US 15	Unknown	0	0	night	dry	RE	Brakes	Ran off Road Right
138	19011071	12/31/19	I- 95	101.55	US 15	Unknown	0	0	night	dry	RE	Tires/Wheel	Motor Unit (In Transpo
139	19628705	09/10/19	I- 95	101.57	US 15	Unknown	100	0	day	dry	SS	Improper Lane use/change	Motor Unit (In Transpo
140	21290370	11/05/21	I- 95	101.59	US 15	Unknown	20	0	day	dry	none	Driving too Fast for Con	Ran off Road Left
141	20273076	10/07/20	I- 95	101.7	US 15	Unknown	95	0	day	dry	RE	Improper Lane use/change	Motor Unit (In Transpo
142	18649784	10/11/18	I- 95	101.77	US 15	Unknown	10	0	day	wet	none	Weather Condition	Guardrail Face
143	21285404	10/12/21	I- 95	101.79	US 15	Unknown	14	0	day	dry	Angle	Other Improper Action	Motor Unit (Parked)
144	19544297	04/02/19	I- 95	101.8	US 15	Unknown	200	0	day	wet	Angle	Driving too Fast for Con	Guardrail Face
145	22222003	04/16/22	I- 95	101.82	US 15	Unknown	50	1	night	dry	none	Fatigued/Asleep	Guardrail Face
146	19544288	04/02/19	I- 95	101.84	US 15	Unknown	200	0	night	wet	none	Driving too Fast for Con	Guardrail Face
147	16605063	08/10/16	I- 95	101.85	US 15	Unknown	1	1	day	wet	none	Driving too Fast for Con	Guardrail Face
148	18645226	10/11/18	I- 95	101.9	US 15	S- 373	4	0	night	wet	none	Driving too Fast for Con	Guardrail Face
149	20214573	04/05/20	I- 95	102	US 15	S- 373	429	0	day	dry	SS	Improper Lane use/change	Motor Unit (In Transpo
150	21256275	07/13/21	I- 95	102	US 15	S- 373	130	0	day	dry	none	Driving too Fast for Con	Median Barrier
151	19504365	01/04/19	I- 95	102.08	US 15	S- 373	150	1	day	wet	none	Driving too Fast for Con	Guardrail Face
152	18502701	01/03/18	I- 95	102.28	US 15	S- 373	63	0	day	wet	HO	Driving too Fast for Con	Cross Median/Center
153	18529252	03/14/18	I- 95	102.28	US 15	S- 373	75	0	night	dry	none	Tires/Wheel	Ditch



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 CLARENDON/ORANGEBURG  
 I- 95 (INTERSTATE 95)  
 MP 98.5 to 102.3 (SB)

AADT: 40100  
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 01/01/2015 through 12/31/2022

### Crashes by Injury Class

Fatal Crashes:	5
Serious Injury Crashes:	4
Other Injury Crashes:	19
PDO Crashes:	92

Total:	120
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### Crashes by Manner of Collision

Rear End:	42
Angle:	12
Sideswipe:	24
Head On:	0
Run off Road:	34
Animal:	3
Bicycle:	0
Pedestrian:	0
Other:	5

Total:	120
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### Special Contributing Factors

Night:	47
Day:	73
Not Reported:	0
Wet:	19
Dry:	101
Not Reported:	0

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### Statistics

Fatal Crashes:	5
Fatal Injuries:	5
Serious Crashes:	4
Serious Injuries:	5
Other Injury Crashes:	19
Other Injuries:	36
Property Damage Crashes:	92
Total Crashes:	120

### Crash Location

Intersections:	4
Midblock Crashes:	116
Urban Crashes:	0
Rural Crashes:	120
MPO Crashes:	0
COG Crashes:	120

### Manner of Collision

Angle:	12
Backed Into:	5
Head On:	0
Non Collision:	37
Rear End:	42
Rear To Rear:	0
Sideswipe, Opposite Direction:	0
Sideswipe, Same Direction:	24
Unknown:	0

### Junction Type

Crossover:	2
Driveway:	0
Five Or More Points:	1
Four Way Intersection:	0
Non-Junction:	114
Railway Grade Crossing:	0
Shared Use Path Or Trails:	0
T-Intersection:	0
Traffic Circle:	0
Not Reported:	0
Unknown:	0
Y-Intersection:	3

### Number of Units

1:	31
2:	78
3:	6
4+:	5

### Crashes Involving

Pedestrians:	0
Bicycles:	0
Motorcycles:	1
Truck Tractors:	42
Fixed Objects:	38
Workzones:	3

### Road Conditions

Dry:	101
Wet:	16
Snow:	0
Slush:	1
Ice:	2
Contaminate:	0
Water (standing):	0
Other:	0
Not Reported:	0

### Light Conditions

Day:	73
Dawn:	3
Dusk:	4
Dark (Unspecified Lighting):	0
Dark (Street Lamp):	4
Dark (Street Lamp Not Lit):	4
Dark (No Lights):	32
Not Reported:	0

### Weather Conditions

Blowing Sand, Oil, Dirt, Or Snow:	0
Clear:	97
Cloudy:	5
Fog, Smoke, Smog:	1
Rain:	14
Severe Crosswinds:	0
Sleet/Hail:	1
Snow:	2
Not Reported:	0
Unknown:	0

### Traffic Control Type

### Crash Harmful Event

Tree:	7
Utility Pole:	0
Other (Post, Pole, Support, ..):	1
Light/Luminance Support:	0
Overhead Sign Support:	0
Culvert:	0
Ditch:	0
Equipment:	0
Curb:	1
Embankment:	0
Guardrail End:	0
Fence:	0
Mail Box:	0
Highway Traffic Sign Post:	0
Guardrail Face:	14
Bridge Overhead Structure:	0
Bridge Parapet End:	0
Bridge Pier or Abutment:	0
Bridge Rail:	7
Impact Attenuator/Crash Cushion:	0
Median Barrier:	8
Other (Wall, Building, Tunnel, etc.):	0
Work Zone Maintenance Equip:	0
Other (fixed):	1
Unknown (fixed):	0
Animal (Deer Only):	2
Animal (all other):	1
Motor Unit (Stopped):	20
Motor Unit (Other Roadway):	0
Motor Unit (Parked):	7
Railway Unit:	0
Work Zone Maintenance Equip:	0
Other Movable Object:	4
Unknown Movable Object:	0
Cross Median/Center:	0
Spill (2-wheeled Units):	0
Ran off Road Left:	1
Ran off Road Right:	1
Overturn/Rollover:	0
Immersion:	0
Cargo/Equipment Loss or Shift:	0
Downhill Runaway:	0
Equipment Failure:	0
Fire/Explosion:	0
Jackknife:	0
Separation of Units:	0
Other - non Collision:	0
Unknown - non Collision:	0
Motor Unit (In Transport):	45
Undetermined:	0

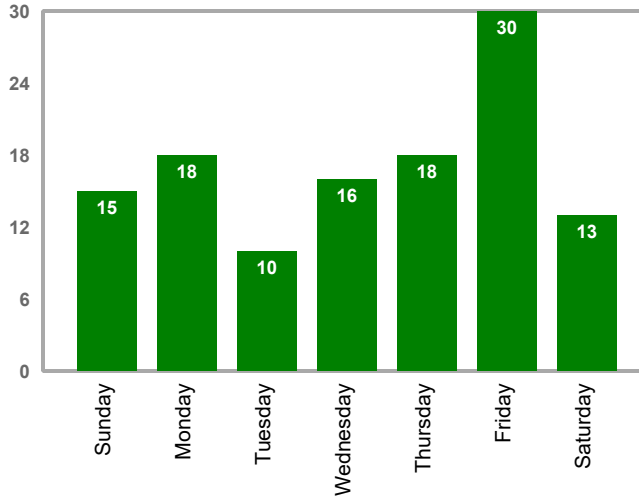
Clarendon & Orangeburg I-95 MP 98.5 to 102.3  
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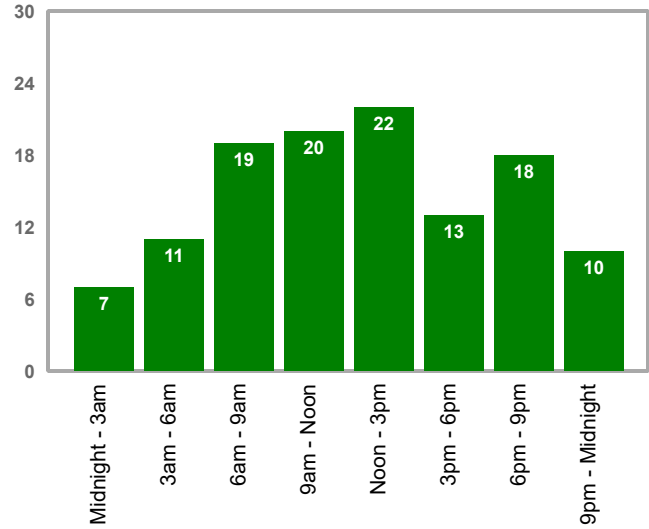
### Yearly Comparison

Year	2015	2016	2017	2018	2019	2020	2021	2022	Total
Rear End	3	4	6	6	6	5	6	6	42
Angle	0	3	0	0	4	1	1	3	12
Sideswipe	0	7	3	4	2	2	3	3	24
Head On	0	0	0	0	0	0	0	0	0
Run Off Road	3	5	6	2	4	3	4	7	34
Animal	0	0	0	0	2	1	0	0	3
Bicycle	0	0	0	0	0	0	0	0	0
Pedestrian	0	0	0	0	0	0	0	0	0
Other	0	0	0	1	2	1	0	1	5
	<b>6</b>	<b>19</b>	<b>15</b>	<b>13</b>	<b>20</b>	<b>13</b>	<b>14</b>	<b>20</b>	<b>120</b>

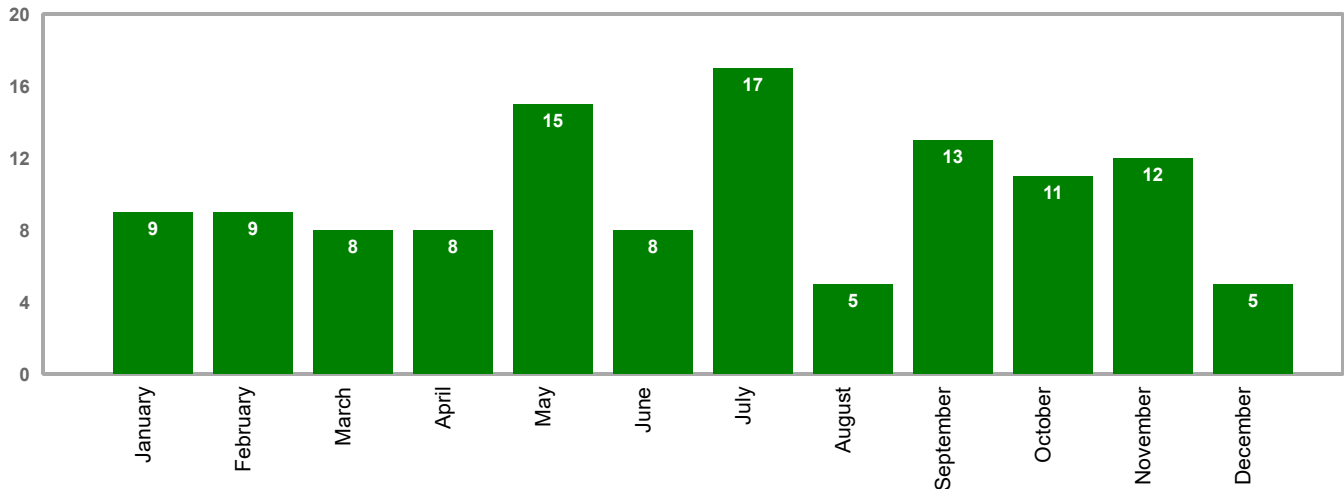
### Day of the Week



### Time of Day



### Month of Year



Clarendon & Orangeburg I-95 MP 98.5 to 102.3  
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OBS	Crash #	Date	Main	MP	Base	Second	BDO	Max Inj	Light	SFC	MAC	Probable Cause	Harmful Event
1	18616501	07/13/18	I-95	98.51	SC 6	Unknown	10	1	day	dry	RE	Driving too Fast for Con	Bridge Rail
2	19654018	05/04/19	I-95	98.52	SC 6	Unknown	10	0	day	wet	BI	Other Improper Action	Motor Unit (Stopped)
3	20256483	09/28/20	I-95	98.59	SC 6	Unknown	14	3	night	dry	none	Under the Influence	Tree
4	21249216	06/13/21	I-95	98.62	SC 6	Unknown	52	0	day	dry	Angle	Improper Lane use/change	Motor Unit (In Transpo
5	19667992	10/23/19	I-95	98.63	SC 6	Unknown	36	0	night	dry	RE	Driving too Fast for Con	Motor Unit (In Transpo
6	22239742	05/20/22	I-95	98.68	SC 6	Unknown	30	1	night	dry	none	Under the Influence	Tree
7	19512965	01/14/19	I-95	98.7	SC 6	Unknown	2	0	night	dry	Angle	Other Improper Action	Motor Unit (Parked)
8	16599869	07/25/16	I-95	98.71	SC 6	Unknown	5	0	day	dry	SS	Unknown	Motor Unit (Parked)
9	20293052	09/28/20	I-95	98.71	SC 6	Unknown	50	0	day	wet	none	Ran off Road	Median Barrier
10	19506609	01/04/19	I-95	98.72	SC 6	Unknown	26	0	day	wet	BI	Other Improper Action	Motor Unit (Stopped)
11	20232073	04/30/20	I-95	98.72	SC 6	Unknown	64	0	night	dry	Angle	Unknown	Motor Unit (Stopped)
12	21251297	06/20/21	I-95	98.79	SC 6	Unknown	100	0	day	dry	none	Unknown	Tree
13	20346128	12/22/20	I-95	98.79	SC 6	Unknown	6	4	day	dry	RE	Medical Related	Motor Unit (In Transpo
14	21279161	09/27/21	I-95	98.81	SC 6	Unknown	75	0	day	dry	RE	Driving too Fast for Con	Motor Unit (Parked)
15	16564439	05/27/16	I-95	98.84	SC 6	Unknown	10	1	day	dry	Angle	Driving too Fast for Con	Motor Unit (Stopped)
16	19654016	04/28/19	I-95	98.87	SC 6	Unknown	10	0	day	dry	none	Animal in Road	Animal (all other)
17	18690723	11/30/18	I-95	98.98	SC 6	Unknown	3	0	day	dry	BI	Other Improper Action	Motor Unit (Parked)
18	20251368	07/17/20	I-95	98.99	SC 6	Unknown	50	0	night	dry	BI	Other Improper Action	Motor Unit (Parked)
19	22278853	10/06/22	I-95	99.02	SC 6	Unknown	50	0	night	dry	RE	Driving too Fast for Con	Motor Unit (In Transpo
20	22277365	10/06/22	I-95	99.02	SC 6	Unknown	530	0	night	dry	none	Debris	Other Movable Object
21	19569008	05/05/19	I-95	99.05	SC 6	Unknown	100	0	day	dry	none	Driving too Fast for Con	Median Barrier
22	22287334	11/03/22	I-95	99.05	SC 6	Unknown	104	0	night	dry	SS	Improper Lane use/change	Motor Unit (Parked)
23	17522599	02/08/17	I-95	99.07	SC 6	Unknown	200	0	night	wet	none	Driving too Fast for Con	Guardrail Face
24	18505607	01/13/18	I-95	99.13	SC 6	Unknown	25	0	day	dry	RE	Driving too Fast for Con	Motor Unit (In Transpo
25	19634826	09/23/19	I-95	99.14	SC 6	Unknown	35	0	night	dry	none	Animal in Road	Animal (Deer Only)
26	21294938	11/12/21	I-95	99.17	SC 6	Unknown	119	0	day	dry	SS	Unknown	Tree
27	18534635	03/14/18	I-95	99.18	SC 6	Unknown	100	0	night	dry	SS	Improper Lane use/change	Motor Unit (In Transpo
28	16519654	02/22/16	I-95	99.26	SC 6	Unknown	3	1	day	wet	Angle	Driving too Fast for Con	Tree
29	17512813	02/03/17	I-95	99.37	SC 6	Unknown	100	0	day	dry	SS	Improper Lane use/change	Motor Unit (In Transpo
30	20259556	10/08/20	I-95	99.37	SC 6	Unknown	40	0	night	dry	none	Animal in Road	Animal (Deer Only)
31	22281441	09/30/22	I-95	99.41	SC 6	Unknown	145	0	day	wet	none	Driving too Fast for Con	Median Barrier
32	16509135	01/23/16	I-95	99.43	SC 6	Unknown	100	1	day	wet	RE	Driving too Fast for Con	Bridge Rail
33	16594412	07/31/16	I-95	99.45	SC 6	Unknown	50	0	night	dry	none	Debris	Median Barrier
34	20337526	11/09/20	I-95	99.57	SC 6	Unknown	60	2	day	dry	none	Driving too Fast for Con	Guardrail Face
35	15579473	07/24/15	I-95	99.69	US 15	Unknown	110	0	day	dry	none	Improper Lane use/change	Curb
36	19669775	11/22/19	I-95	99.69	US 15	Unknown	100	0	day	dry	SS	Improper Lane use/change	Motor Unit (In Transpo
37	20336455	12/09/20	I-95	99.81	US 15	Unknown	200	3	night	dry	RE	Driving too Fast for Con	Motor Unit (In Transpo
38	20335174	12/09/20	I-95	99.83	US 15	Unknown	200	0	night	dry	RE	Lights	Motor Unit (Stopped)
39	16657929	11/23/16	I-95	99.84	US 15	Unknown	100	0	night	dry	none	Driving too Fast for Con	Bridge Rail
40	16634443	10/19/16	I-95	99.89	US 15	Unknown	135	1	day	dry	SS	Improper Lane use/change	Motor Unit (In Transpo

Clarendon & Orangeburg I-95 MP 98.5 to 102.3  
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OBS	Crash #	Date	Main	MP	Base	Second	BDO	Max Inj	Light	SFC	MAC	Probable Cause	Harmful Event
41	19628188	09/10/19	I-95	99.9	US 15	Unknown	100	0	day	dry	none	Improper Lane use/change	Other (fixed)
42	18592537	07/02/18	I-95	99.91	US 15	Unknown	212	4	night	dry	RE	Driving too Fast for Con	Motor Unit (Parked)
43	18512134	02/02/18	I-95	99.95	US 15	Unknown	200	1	night	dry	RE	Driving too Fast for Con	Motor Unit (Stopped)
44	17570812	05/31/17	I-95	99.97	US 15	Unknown	200	0	night	dry	RE	Driving too Fast for Con	Guardrail Face
45	17663755	11/26/17	I-95	99.97	US 15	Unknown	200	0	day	dry	RE	Driving too Fast for Con	Motor Unit (Stopped)
46	22212246	02/14/22	I-95	100.08	US 15	Unknown	222	0	day	dry	Angle	Other Improper Action	Motor Unit (Stopped)
47	21259250	07/16/21	I-95	100.08	US 15	Unknown	150	1	day	dry	RE	Driving too Fast for Con	Bridge Rail
48	22262964	08/06/22	I-95	100.08	US 15	Unknown	100	0	day	dry	RE	Driving too Fast for Con	Motor Unit (Stopped)
49	21260066	08/15/21	I-95	100.08	US 15	Unknown	20	0	day	wet	RE	Driving too Fast for Con	Motor Unit (In Transpo
50	22266953	08/25/22	I-95	100.1	US 15	Unknown	200	0	day	dry	RE	Driving too Fast for Con	Motor Unit (In Transpo
51	18521547	02/21/18	I-95	100.11	US 15	Unknown	150	1	night	dry	RE	Driving too Fast for Con	Motor Unit (Stopped)
52	21201838	01/18/21	I-95	100.13	US 15	Unknown	216	2	night	dry	RE	Other Improper Action	Bridge Rail
53	22203760	01/22/22	I-95	100.19	US 15	Unknown	50	0	night	wet	none	Driving too Fast for Con	Guardrail Face
54	17651531	11/09/17	I-95	100.19	US 15	Unknown	129	0	day	wet	none	Medical Related	Ran off Road Left
55	17651532	11/09/17	I-95	100.19	US 15	Unknown	129	0	day	wet	RE	Other Improper Action	Motor Unit (In Transpo
56	15530227	03/16/15	I-95	100.21	US 15	Unknown	150	0	day	dry	RE	Other Improper Action	Motor Unit (Stopped)
57	16561358	05/07/16	I-95	100.32	US 15	Unknown	300	1	day	dry	none	Truck Coupling	Bridge Rail
58	16564718	05/07/16	I-95	100.38	US 15	Unknown	150	0	day	dry	SS	Improper Lane use/change	Motor Unit (In Transpo
59	19549236	03/14/19	I-95	100.47	US 15	Unknown	198	4	night	dry	RE	Other Improper Action	Motor Unit (In Transpo
60	17583986	07/05/17	I-95	100.51	US 15	Unknown	150	4	day	dry	none	Driving too Fast for Con	Guardrail Face
61	21239253	05/21/21	I-95	100.57	US 15	Unknown	100	0	day	dry	RE	Driving too Fast for Con	Motor Unit (In Transpo
62	19631487	09/12/19	I-95	100.58	US 15	Unknown	200	0	day	dry	Angle	Improper Lane use/change	Motor Unit (Stopped)
63	21272559	10/16/21	I-95	100.59	US 15	Unknown	180	0	night	dry	none	Driving too Fast for Con	Guardrail Face
64	18649758	10/25/18	I-95	100.62	US 15	Unknown	174	0	day	dry	none	Driving too Fast for Con	Tree
65	16592872	07/22/16	I-95	100.66	US 15	Unknown	200	0	night	dry	none	Driving too Fast for Con	Bridge Rail
66	21286564	10/15/21	I-95	100.69	US 15	Unknown	800	0	night	dry	none	Driving too Fast for Con	Guardrail Face
67	18561346	04/29/18	I-95	100.74	US 15	Unknown	45	0	day	dry	none	Tires/Wheel	Other Movable Object
68	22259506	07/27/22	I-95	100.79	US 15	Unknown	100	0	day	dry	RE	Driving too Fast for Con	Motor Unit (In Transpo
69	15566637	06/26/15	I-95	100.8	US 15	Unknown	10	1	night	dry	RE	Driving too Fast for Con	Motor Unit (In Transpo
70	20270417	12/22/20	I-95	100.94	US 15	Unknown	100	0	night	dry	RE	Driving too Fast for Con	Motor Unit (In Transpo
71	16561352	04/28/16	I-95	100.96	US 15	Unknown	100	1	night	dry	RE	Improper Lane use/change	Motor Unit (In Transpo
72	22260599	09/21/22	I-95	101.01	US 15	Unknown	100	0	day	dry	Angle	Improper Lane use/change	Motor Unit (In Transpo
73	22300892	08/04/22	I-95	101.02	US 15	Unknown	548	0	day	wet	SS	Improper Lane use/change	Motor Unit (In Transpo
74	22267709	09/08/22	I-95	101.04	US 15	Unknown	98	0	day	dry	SS	Improper Lane use/change	Motor Unit (In Transpo
75	17591269	07/19/17	I-95	101.09	US 15	Unknown	100	1	day	dry	none	Improper Lane use/change	Ran off Road Right
76	16666964	12/23/16	I-95	101.09	US 15	Unknown	50	0	day	dry	RE	Other Improper Action	Motor Unit (Stopped)
77	16591121	07/15/16	I-95	101.1	US 15	Unknown	75	0	day	wet	SS	Driving too Fast for Con	Motor Unit (In Transpo
78	16639311	10/30/16	I-95	101.11	US 15	Unknown	100	0	night	dry	none	Driving too Fast for Con	Median Barrier
79	18659879	11/11/18	I-95	101.12	US 15	Unknown	200	0	day	dry	RE	Power Plant	Motor Unit (In Transpo
80	20242132	05/23/20	I-95	101.16	US 15	Unknown	100	0	night	wet	SS	Driving too Fast for Con	Motor Unit (Stopped)

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81	22205500	01/22/22	I- 95	101.17	US 15	Unknown	100	0	night	wet	none	Driving too Fast for Con	Guardrail Face
82	19560628	05/01/19	I- 95	101.17	US 15	Unknown	50	0	night	dry	none	Tires/Wheel	Median Barrier
83	16546394	04/12/16	I- 95	101.18	US 15	Unknown	200	0	day	wet	SS	Unknown	Motor Unit (In Transpo
84	17560849	05/15/17	I- 95	101.18	US 15	Unknown	100	0	night	dry	RE	Other Improper Action	Motor Unit (Stopped)
85	19595176	06/14/19	I- 95	101.18	US 15	Unknown	300	0	day	dry	RE	Driving too Fast for Con	Motor Unit (In Transpo
86	16529731	03/16/16	I- 95	101.21	US 15	Unknown	8	0	day	dry	Angle	Improper Lane use/change	Motor Unit (In Transpo
87	19538100	03/22/19	I- 95	101.31	US 15	Unknown	100	0	day	dry	RE	Driving too Fast for Con	Motor Unit (Stopped)
88	17567451	05/24/17	I- 95	101.31	US 15	Unknown	100	1	night	wet	none	Under the Influence	Guardrail Face
89	17586766	07/11/17	I- 95	101.35	US 15	Unknown	50	0	day	dry	none	Glare	Guardrail Face
90	19610872	08/03/19	I- 95	101.37	US 15	Unknown	20	0	day	dry	SS	Improper Lane use/change	Motor Unit (In Transpo
91	18572217	06/01/18	I- 95	101.41	US 15	Unknown	90	0	day	dry	SS	Improper Lane use/change	Motor Unit (In Transpo
92	15626842	10/18/15	I- 95	101.41	US 15	Unknown	100	0	day	dry	RE	Driving too Fast for Con	Motor Unit (Stopped)
93	19644283	09/22/19	I- 95	101.42	US 15	Unknown	33	3	day	dry	Angle	Improper Lane use/change	Guardrail Face
94	16534543	03/11/16	I- 95	101.44	US 15	Unknown	15	4	night	dry	RE	Driving too Fast for Con	Motor Unit (In Transpo
95	17544196	04/11/17	I- 95	101.5	US 15	Unknown	50	0	day	dry	SS	Improper Lane use/change	Motor Unit (In Transpo
96	22212242	02/01/22	I- 95	101.52	US 15	Unknown	42	0	day	dry	Angle	Cargo	Other Movable Object
97	18594255	07/08/18	I- 95	101.54	US 15	Unknown	100	0	day	dry	SS	Improper Lane use/change	Motor Unit (In Transpo
98	19608020	07/18/19	I- 95	101.54	US 15	Unknown	100	1	day	dry	none	Driving too Fast for Con	Other (Post, Pole, Sup
99	17557026	05/01/17	I- 95	101.58	US 15	Unknown	50	0	day	dry	RE	Driving too Fast for Con	Motor Unit (Stopped)
100	21231716	04/15/21	I- 95	101.59	US 15	Unknown	200	0	day	dry	SS	Improper Lane use/change	Motor Unit (In Transpo
101	17540742	04/07/17	I- 95	101.6	US 15	Unknown	1	0	night	dry	SS	Improper Lane use/change	Motor Unit (In Transpo
102	15561603	06/15/15	I- 95	101.61	US 15	Unknown	35	1	day	dry	none	Obstruction in Roadway	Other Movable Object
103	21202208	02/05/21	I- 95	101.7	US 15	Unknown	12	0	night	dry	none	Debris	Median Barrier
104	18574828	06/04/18	I- 95	101.79	US 15	Unknown	7	0	day	dry	SS	Improper Lane use/change	Motor Unit (In Transpo
105	22252579	07/01/22	I- 95	101.81	US 15	Unknown	200	0	day	wet	none	Driving too Fast for Con	Guardrail Face
106	16529636	03/04/16	I- 95	101.85	US 15	Unknown	1	0	night	dry	SS	Improper Lane use/change	Motor Unit (In Transpo
107	17503298	01/12/17	I- 95	101.88	US 15	Unknown	1	3	day	dry	RE	Driving too Fast for Con	Guardrail Face
108	22239200	05/30/22	I- 95	101.93	US 15	S- 373	0	2	night	dry	RE	Driving too Fast for Con	Motor Unit (In Transpo
109	22285307	11/01/22	I- 95	101.93	US 15	S- 373	50	0	day	dry	BI	Other Improper Action	Motor Unit (Stopped)
110	19631578	09/22/19	I- 95	101.97	US 15	S- 373	12	0	day	dry	RE	Driving too Fast for Con	Motor Unit (In Transpo
111	20215986	01/14/20	I- 95	101.98	US 15	S- 373	50	0	night	dry	SS	Improper Lane use/change	Motor Unit (In Transpo
112	21253582	07/20/21	I- 95	101.99	US 15	S- 373	30	0	day	dry	RE	Driving too Fast for Con	Motor Unit (In Transpo
113	20222419	02/27/20	I- 95	102.02	US 15	S- 373	89	0	night	dry	RE	Failure to Yield RoW	Motor Unit (In Transpo
114	22235989	05/30/22	I- 95	102.02	US 15	S- 373	20	0	night	dry	none	Driving too Fast for Con	Guardrail Face
115	22278637	11/27/22	I- 95	102.02	US 15	S- 373	20	0	day	dry	RE	Other Improper Action	Motor Unit (Stopped)
116	15595681	09/05/15	I- 95	102.06	US 15	S- 373	24	0	night	wet	none	Driving too Fast for Con	Median Barrier
117	19642274	10/12/19	I- 95	102.19	US 15	S- 373	220	0	night	dry	RE	Driving too Fast for Con	Tree
118	16566826	06/10/16	I- 95	102.23	US 15	S- 373	45	0	night	dry	SS	Tires/Wheel	Motor Unit (In Transpo
119	19539963	03/29/19	I- 95	102.3	US 15	S- 373	400	0	day	dry	Angle	Improper Lane use/change	Motor Unit (In Transpo
120	21272203	09/10/21	I- 95	102.3	US 15	S- 373	100	0	day	dry	SS	Improper Lane use/change	Motor Unit (In Transpo



Clarendon & Orangeburg I-95 MP 98.5 to 102.3  
 CLARENDON/ORANGEBURG  
 I-95 (INTERSTATE 95)  
 MP 98.5 to 102.3 (SB)

AADT: 40100  
 Functional Class: Rural - Principal Arterial - Interstate  
 01/01/2015 through 12/31/2022

**Total Crashes: 120 Fatal Crashes: 5 Serious Inj Crashes: 4 Other Inj Crashes: 19 PDO Crashes: 92 Light: 73 Dark: 47 Dry: 101 Wet: 16**

OBS	Crash #	Date	Main	MP	Base	Second	BDO	Max Inj	Light	SFC	MAC	Probable Cause	Harmful Event
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# Appendix B



# All Traffic Data Services

## 1 - I-95 BRIDGE OVER LAKE MARION

NB	Time	Lights	Mediums	Trucks	Total
	1/24/2023	22	0	16	38
	1/24/2023 12:15:00 AM	30	1	25	56
	1/24/2023 12:30:00 AM	28	0	21	49
	1/24/2023 12:45:00 AM	24	1	18	43
	Hour	104	2	80	186
	1/24/2023 1:00:00 AM	27	4	21	52
	1/24/2023 1:15:00 AM	29	2	15	46
	1/24/2023 1:30:00 AM	17	1	18	36
	1/24/2023 1:45:00 AM	24	0	27	51
	Hour	97	7	81	185
	1/24/2023 2:00:00 AM	25	0	22	47
	1/24/2023 2:15:00 AM	23	1	17	41
	1/24/2023 2:30:00 AM	16	1	17	34
	1/24/2023 2:45:00 AM	8	0	20	28
	Hour	72	2	76	150
	1/24/2023 3:00:00 AM	15	1	15	31
	1/24/2023 3:15:00 AM	8	0	24	32
	1/24/2023 3:30:00 AM	21	0	25	46
	1/24/2023 3:45:00 AM	17	0	23	40
	Hour	61	1	87	149
	1/24/2023 4:00:00 AM	29	0	24	53
	1/24/2023 4:15:00 AM	27	1	29	57
	1/24/2023 4:30:00 AM	31	0	29	60
	1/24/2023 4:45:00 AM	30	1	20	51
	Hour	117	2	102	221
	1/24/2023 5:00:00 AM	21	1	29	51
	1/24/2023 5:15:00 AM	29	0	30	59
	1/24/2023 5:30:00 AM	49	1	30	80
	1/24/2023 5:45:00 AM	51	3	35	89
	Hour	150	5	124	279
	1/24/2023 6:00:00 AM	58	2	31	91
	1/24/2023 6:15:00 AM	71	4	30	105
	1/24/2023 6:30:00 AM	81	1	39	121
	1/24/2023 6:45:00 AM	76	5	52	133
	Hour	286	12	152	450
	1/24/2023 7:00:00 AM	89	4	50	143
	1/24/2023 7:15:00 AM	84	5	63	152
	1/24/2023 7:30:00 AM	131	5	46	182
	1/24/2023 7:45:00 AM	107	5	44	156
	Hour	411	19	203	633
	1/24/2023 8:00:00 AM	135	3	43	181
	1/24/2023 8:15:00 AM	131	5	73	209
	1/24/2023 8:30:00 AM	119	3	55	177
	1/24/2023 8:45:00 AM	138	9	58	205
	Hour	523	20	229	772
	1/24/2023 9:00:00 AM	139	6	52	197
	1/24/2023 9:15:00 AM	147	4	62	213
	1/24/2023 9:30:00 AM	120	6	54	180
	1/24/2023 9:45:00 AM	144	8	62	214
	Hour	550	24	230	804
	1/24/2023 10:00:00 AM	117	5	65	187
	1/24/2023 10:15:00 AM	167	13	68	248
	1/24/2023 10:30:00 AM	161	9	65	235
	1/24/2023 10:45:00 AM	161	11	62	234
	Hour	606	38	260	904
	1/24/2023 11:00:00 AM	148	5	75	228
	1/24/2023 11:15:00 AM	168	7	77	252
	1/24/2023 11:30:00 AM	143	8	63	214
	1/24/2023 11:45:00 AM	140	6	68	214
	Hour	599	26	283	908
	Grand Total	3,576	158	1,907	5,641
	Percentage	63.4%	2.8%	33.8%	



# All Traffic Data Services

## 1 - I-95 BRIDGE OVER LAKE MARION

NB	Time	Lights	Mediums	Trucks	Total
	1/24/2023 12:00:00 PM	159	4	78	241
	1/24/2023 12:15:00 PM	156	13	88	257
	1/24/2023 12:30:00 PM	181	4	73	258
	1/24/2023 12:45:00 PM	163	3	78	244
	Hour	659	24	317	1000
	1/24/2023 1:00:00 PM	159	5	89	253
	1/24/2023 1:15:00 PM	198	5	68	271
	1/24/2023 1:30:00 PM	176	9	78	263
	1/24/2023 1:45:00 PM	186	7	74	267
	Hour	719	26	309	1054
	1/24/2023 2:00:00 PM	184	12	68	264
	1/24/2023 2:15:00 PM	210	9	68	287
	1/24/2023 2:30:00 PM	171	6	62	239
	1/24/2023 2:45:00 PM	198	7	80	285
	Hour	763	34	278	1075
	1/24/2023 3:00:00 PM	186	8	72	266
	1/24/2023 3:15:00 PM	189	5	69	263
	1/24/2023 3:30:00 PM	233	8	69	310
	1/24/2023 3:45:00 PM	231	9	78	318
	Hour	839	30	288	1157
	1/24/2023 4:00:00 PM	195	3	59	257
	1/24/2023 4:15:00 PM	202	6	66	274
	1/24/2023 4:30:00 PM	197	6	70	273
	1/24/2023 4:45:00 PM	219	3	52	274
	Hour	813	18	247	1078
	1/24/2023 5:00:00 PM	224	14	49	287
	1/24/2023 5:15:00 PM	206	7	57	270
	1/24/2023 5:30:00 PM	177	8	61	246
	1/24/2023 5:45:00 PM	182	9	73	264
	Hour	789	38	240	1067
	1/24/2023 6:00:00 PM	178	6	70	254
	1/24/2023 6:15:00 PM	185	7	48	240
	1/24/2023 6:30:00 PM	131	2	38	171
	1/24/2023 6:45:00 PM	116	2	40	158
	Hour	610	17	196	823
	1/24/2023 7:00:00 PM	118	2	55	175
	1/24/2023 7:15:00 PM	93	3	46	142
	1/24/2023 7:30:00 PM	88	5	28	121
	1/24/2023 7:45:00 PM	87	3	39	129
	Hour	386	13	168	567
	1/24/2023 8:00:00 PM	89	2	41	132
	1/24/2023 8:15:00 PM	90	3	29	122
	1/24/2023 8:30:00 PM	70	4	44	118
	1/24/2023 8:45:00 PM	71	3	49	123
	Hour	320	12	163	495
	1/24/2023 9:00:00 PM	72	2	51	125
	1/24/2023 9:15:00 PM	55	1	31	87
	1/24/2023 9:30:00 PM	42	1	30	73
	1/24/2023 9:45:00 PM	45	3	32	80
	Hour	214	7	144	365
	1/24/2023 10:00:00 PM	42	1	37	80
	1/24/2023 10:15:00 PM	50	3	31	84
	1/24/2023 10:30:00 PM	39	2	20	61
	1/24/2023 10:45:00 PM	32	2	30	64
	Hour	163	8	118	289
	1/24/2023 11:00:00 PM	41	1	20	62
	1/24/2023 11:15:00 PM	29	1	19	49
	1/24/2023 11:30:00 PM	26	1	25	52
	1/24/2023 11:45:00 PM	24	2	16	42
	Hour	120	5	80	205
	Grand Total	6,395	232	2,548	9,175
	Percentage	69.7%	2.5%	27.8%	



# All Traffic Data Services

## 1 - I-95 BRIDGE OVER LAKE MARION

NB	Time	Lights	Mediums	Trucks	Total
	1/25/2023	17	0	20	37
	1/25/2023 12:15:00 AM	31	1	25	57
	1/25/2023 12:30:00 AM	16	0	25	41
	1/25/2023 12:45:00 AM	16	1	18	35
	Hour	80	2	88	170
	1/25/2023 1:00:00 AM	11	1	18	30
	1/25/2023 1:15:00 AM	22	1	13	36
	1/25/2023 1:30:00 AM	19	2	15	36
	1/25/2023 1:45:00 AM	19	0	24	43
	Hour	71	4	70	145
	1/25/2023 2:00:00 AM	12	1	18	31
	1/25/2023 2:15:00 AM	15	0	20	35
	1/25/2023 2:30:00 AM	21	0	12	33
	1/25/2023 2:45:00 AM	15	1	18	34
	Hour	63	2	68	133
	1/25/2023 3:00:00 AM	20	0	14	34
	1/25/2023 3:15:00 AM	21	0	20	41
	1/25/2023 3:30:00 AM	11	0	17	28
	1/25/2023 3:45:00 AM	28	0	24	52
	Hour	80	0	75	155
	1/25/2023 4:00:00 AM	27	2	26	55
	1/25/2023 4:15:00 AM	18	2	34	54
	1/25/2023 4:30:00 AM	21	0	35	56
	1/25/2023 4:45:00 AM	20	0	37	57
	Hour	86	4	132	222
	1/25/2023 5:00:00 AM	25	2	29	56
	1/25/2023 5:15:00 AM	38	3	30	71
	1/25/2023 5:30:00 AM	48	2	29	79
	1/25/2023 5:45:00 AM	49	1	34	84
	Hour	160	8	122	290
	1/25/2023 6:00:00 AM	58	0	30	88
	1/25/2023 6:15:00 AM	76	3	29	108
	1/25/2023 6:30:00 AM	65	3	38	106
	1/25/2023 6:45:00 AM	68	4	23	95
	Hour	267	10	120	397
	1/25/2023 7:00:00 AM	95	1	49	145
	1/25/2023 7:15:00 AM	102	1	40	143
	1/25/2023 7:30:00 AM	126	3	45	174
	1/25/2023 7:45:00 AM	102	14	46	162
	Hour	425	19	180	624
	1/25/2023 8:00:00 AM	97	3	47	147
	1/25/2023 8:15:00 AM	88	5	44	137
	1/25/2023 8:30:00 AM	121	9	51	181
	1/25/2023 8:45:00 AM	106	6	48	160
	Hour	412	23	190	625
	1/25/2023 9:00:00 AM	106	8	58	172
	1/25/2023 9:15:00 AM	118	9	61	188
	1/25/2023 9:30:00 AM	130	8	61	199
	1/25/2023 9:45:00 AM	118	12	68	198
	Hour	472	37	248	757
	1/25/2023 10:00:00 AM	127	8	64	199
	1/25/2023 10:15:00 AM	133	7	60	200
	1/25/2023 10:30:00 AM	144	7	55	206
	1/25/2023 10:45:00 AM	139	9	59	207
	Hour	543	31	238	812
	1/25/2023 11:00:00 AM	153	9	63	225
	1/25/2023 11:15:00 AM	158	10	85	253
	1/25/2023 11:30:00 AM	151	16	66	233
	1/25/2023 11:45:00 AM	143	7	67	217
	Hour	605	42	281	928
	Grand Total	3,264	182	1,812	5,258
	Percentage	62.1%	3.5%	34.5%	



# All Traffic Data Services

## 1 - I-95 BRIDGE OVER LAKE MARION

NB	Time	Lights	Mediums	Trucks	Total
	1/25/2023 12:00:00 PM	132	6	58	196
	1/25/2023 12:15:00 PM	145	6	73	224
	1/25/2023 12:30:00 PM	161	4	77	242
	1/25/2023 12:45:00 PM	187	8	59	254
	Hour	625	24	267	916
	1/25/2023 1:00:00 PM	164	6	68	238
	1/25/2023 1:15:00 PM	172	7	66	245
	1/25/2023 1:30:00 PM	177	5	78	260
	1/25/2023 1:45:00 PM	160	7	61	228
	Hour	673	25	273	971
	1/25/2023 2:00:00 PM	162	5	65	232
	1/25/2023 2:15:00 PM	189	6	76	271
	1/25/2023 2:30:00 PM	172	11	60	243
	1/25/2023 2:45:00 PM	163	9	59	231
	Hour	686	31	260	977
	1/25/2023 3:00:00 PM	180	2	71	253
	1/25/2023 3:15:00 PM	176	3	62	241
	1/25/2023 3:30:00 PM	187	5	50	242
	1/25/2023 3:45:00 PM	179	6	53	238
	Hour	722	16	236	974
	1/25/2023 4:00:00 PM	164	4	71	239
	1/25/2023 4:15:00 PM	166	8	57	231
	1/25/2023 4:30:00 PM	158	4	65	227
	1/25/2023 4:45:00 PM	181	8	53	242
	Hour	669	24	246	939
	1/25/2023 5:00:00 PM	194	4	70	268
	1/25/2023 5:15:00 PM	172	5	39	216
	1/25/2023 5:30:00 PM	186	8	54	248
	1/25/2023 5:45:00 PM	161	8	54	223
	Hour	713	25	217	955
	1/25/2023 6:00:00 PM	154	7	41	202
	1/25/2023 6:15:00 PM	122	5	46	173
	1/25/2023 6:30:00 PM	99	4	60	163
	1/25/2023 6:45:00 PM	98	4	38	140
	Hour	473	20	185	678
	1/25/2023 7:00:00 PM	91	5	44	140
	1/25/2023 7:15:00 PM	83	5	41	129
	1/25/2023 7:30:00 PM	63	2	33	98
	1/25/2023 7:45:00 PM	70	3	33	106
	Hour	307	15	151	473
	1/25/2023 8:00:00 PM	87	2	42	131
	1/25/2023 8:15:00 PM	55	4	25	84
	1/25/2023 8:30:00 PM	53	2	30	85
	1/25/2023 8:45:00 PM	60	3	42	105
	Hour	255	11	139	405
	1/25/2023 9:00:00 PM	42	3	37	82
	1/25/2023 9:15:00 PM	39	2	29	70
	1/25/2023 9:30:00 PM	61	3	13	77
	1/25/2023 9:45:00 PM	50	2	19	71
	Hour	192	10	98	300
	1/25/2023 10:00:00 PM	59	1	35	95
	1/25/2023 10:15:00 PM	34	0	21	55
	1/25/2023 10:30:00 PM	37	0	25	62
	1/25/2023 10:45:00 PM	46	1	25	72
	Hour	176	2	106	284
	1/25/2023 11:00:00 PM	33	0	20	53
	1/25/2023 11:15:00 PM	26	0	19	45
	1/25/2023 11:30:00 PM	36	1	23	60
	1/25/2023 11:45:00 PM	28	1	18	47
	Hour	123	2	80	205
	Grand Total	5,614	205	2,258	8,077
	Percentage	69.5%	2.5%	28.0%	





# All Traffic Data Services

## 1 - I-95 BRIDGE OVER LAKE MARION

NB	Time	Lights	Mediums	Trucks	Total
	1/26/2023	20	0	18	38
	1/26/2023 12:15:00 AM	19	4	18	41
	1/26/2023 12:30:00 AM	28	1	16	45
	1/26/2023 12:45:00 AM	17	0	16	33
	Hour	84	5	68	157
	1/26/2023 1:00:00 AM	16	1	26	43
	1/26/2023 1:15:00 AM	16	1	12	29
	1/26/2023 1:30:00 AM	21	1	21	43
	1/26/2023 1:45:00 AM	12	3	17	32
	Hour	65	6	76	147
	1/26/2023 2:00:00 AM	17	0	10	27
	1/26/2023 2:15:00 AM	20	0	18	38
	1/26/2023 2:30:00 AM	16	0	19	35
	1/26/2023 2:45:00 AM	20	0	21	41
	Hour	73	0	68	141
	1/26/2023 3:00:00 AM	18	1	15	34
	1/26/2023 3:15:00 AM	12	1	23	36
	1/26/2023 3:30:00 AM	12	0	22	34
	1/26/2023 3:45:00 AM	18	1	18	37
	Hour	60	3	78	141
	1/26/2023 4:00:00 AM	20	2	24	46
	1/26/2023 4:15:00 AM	22	2	25	49
	1/26/2023 4:30:00 AM	22	3	25	50
	1/26/2023 4:45:00 AM	40	0	31	71
	Hour	104	7	105	216
	1/26/2023 5:00:00 AM	38	1	34	73
	1/26/2023 5:15:00 AM	24	2	29	55
	1/26/2023 5:30:00 AM	49	6	33	88
	1/26/2023 5:45:00 AM	59	3	30	92
	Hour	170	12	126	308
	1/26/2023 6:00:00 AM	65	4	34	103
	1/26/2023 6:15:00 AM	80	4	31	115
	1/26/2023 6:30:00 AM	81	3	34	118
	1/26/2023 6:45:00 AM	90	3	34	127
	Hour	316	14	133	463
	1/26/2023 7:00:00 AM	99	8	37	144
	1/26/2023 7:15:00 AM	104	2	49	155
	1/26/2023 7:30:00 AM	145	8	49	202
	1/26/2023 7:45:00 AM	116	5	53	174
	Hour	464	23	188	675
	1/26/2023 8:00:00 AM	146	5	45	196
	1/26/2023 8:15:00 AM	109	5	43	157
	1/26/2023 8:30:00 AM	136	1	55	192
	1/26/2023 8:45:00 AM	162	4	55	221
	Hour	553	15	198	766
	1/26/2023 9:00:00 AM	148	7	66	221
	1/26/2023 9:15:00 AM	173	7	41	221
	1/26/2023 9:30:00 AM	158	4	57	219
	1/26/2023 9:45:00 AM	187	4	69	260
	Hour	666	22	233	921
	1/26/2023 10:00:00 AM	141	3	75	219
	1/26/2023 10:15:00 AM	166	9	74	249
	1/26/2023 10:30:00 AM	190	6	73	269
	1/26/2023 10:45:00 AM	179	4	68	251
	Hour	676	22	290	988
	1/26/2023 11:00:00 AM	149	6	61	216
	1/26/2023 11:15:00 AM	176	5	65	246
	1/26/2023 11:30:00 AM	204	8	67	279
	1/26/2023 11:45:00 AM	211	9	62	282
	Hour	740	28	255	1023
	Grand Total	3,971	157	1,818	5,946
	Percentage	66.8%	2.6%	30.6%	



# All Traffic Data Services

## 1 - I-95 BRIDGE OVER LAKE MARION

NB	Time	Lights	Mediums	Trucks	Total
	1/26/2023 12:00:00 PM	190	6	67	263
	1/26/2023 12:15:00 PM	197	5	53	255
	1/26/2023 12:30:00 PM	201	8	75	284
	1/26/2023 12:45:00 PM	192	12	74	278
	Hour	780	31	269	1080
	1/26/2023 1:00:00 PM	216	5	52	273
	1/26/2023 1:15:00 PM	221	4	65	290
	1/26/2023 1:30:00 PM	217	14	61	292
	1/26/2023 1:45:00 PM	223	8	68	299
	Hour	877	31	246	1154
	1/26/2023 2:00:00 PM	212	5	60	277
	1/26/2023 2:15:00 PM	208	7	58	273
	1/26/2023 2:30:00 PM	221	7	65	293
	1/26/2023 2:45:00 PM	223	9	58	290
	Hour	864	28	241	1133
	1/26/2023 3:00:00 PM	212	6	68	286
	1/26/2023 3:15:00 PM	181	5	49	235
	1/26/2023 3:30:00 PM	207	2	38	247
	1/26/2023 3:45:00 PM	261	9	59	329
	Hour	861	22	214	1097
	1/26/2023 4:00:00 PM	220	10	74	304
	1/26/2023 4:15:00 PM	250	4	59	313
	1/26/2023 4:30:00 PM	256	11	50	317
	1/26/2023 4:45:00 PM	252	2	54	308
	Hour	978	27	237	1242
	1/26/2023 5:00:00 PM	257	4	30	291
	1/26/2023 5:15:00 PM	268	2	53	323
	1/26/2023 5:30:00 PM	212	8	49	269
	1/26/2023 5:45:00 PM	227	7	49	283
	Hour	964	21	181	1166
	1/26/2023 6:00:00 PM	205	7	30	242
	1/26/2023 6:15:00 PM	135	2	38	175
	1/26/2023 6:30:00 PM	179	5	32	216
	1/26/2023 6:45:00 PM	149	5	32	186
	Hour	668	19	132	819
	1/26/2023 7:00:00 PM	152	3	45	200
	1/26/2023 7:15:00 PM	98	4	40	142
	1/26/2023 7:30:00 PM	160	4	49	213
	1/26/2023 7:45:00 PM	150	6	78	234
	Hour	560	17	212	789
	1/26/2023 8:00:00 PM	177	5	66	248
	1/26/2023 8:15:00 PM	131	2	47	180
	1/26/2023 8:30:00 PM	92	0	36	128
	1/26/2023 8:45:00 PM	90	1	42	133
	Hour	490	8	191	689
	1/26/2023 9:00:00 PM	62	2	35	99
	1/26/2023 9:15:00 PM	61	2	27	90
	1/26/2023 9:30:00 PM	62	0	20	82
	1/26/2023 9:45:00 PM	73	0	22	95
	Hour	258	4	104	366
	1/26/2023 10:00:00 PM	56	0	25	81
	1/26/2023 10:15:00 PM	60	2	23	85
	1/26/2023 10:30:00 PM	70	2	16	88
	1/26/2023 10:45:00 PM	52	0	18	70
	Hour	238	4	82	324
	1/26/2023 11:00:00 PM	47	0	15	62
	1/26/2023 11:15:00 PM	37	3	31	71
	1/26/2023 11:30:00 PM	33	2	17	52
	1/26/2023 11:45:00 PM	42	0	15	57
	Hour	159	5	78	242
	Grand Total	7,697	217	2,187	10,101
	Percentage	76.2%	2.1%	21.7%	



# All Traffic Data Services

## 1 - I-95 BRIDGE OVER LAKE MARION

NB	Time	Lights	Mediums	Trucks	Total
	1/27/2023	42	1	13	56
	1/27/2023 12:15:00 AM	33	3	15	51
	1/27/2023 12:30:00 AM	29	3	21	53
	1/27/2023 12:45:00 AM	30	3	16	49
	Hour	134	10	65	209
	1/27/2023 1:00:00 AM	22	1	14	37
	1/27/2023 1:15:00 AM	27	1	22	50
	1/27/2023 1:30:00 AM	20	0	13	33
	1/27/2023 1:45:00 AM	23	4	17	44
	Hour	92	6	66	164
	1/27/2023 2:00:00 AM	21	1	15	37
	1/27/2023 2:15:00 AM	33	4	15	52
	1/27/2023 2:30:00 AM	21	3	12	36
	1/27/2023 2:45:00 AM	26	1	9	36
	Hour	101	9	51	161
	1/27/2023 3:00:00 AM	17	1	13	31
	1/27/2023 3:15:00 AM	25	2	15	42
	1/27/2023 3:30:00 AM	23	0	17	40
	1/27/2023 3:45:00 AM	28	0	19	47
	Hour	93	3	64	160
	1/27/2023 4:00:00 AM	26	3	23	52
	1/27/2023 4:15:00 AM	40	2	27	69
	1/27/2023 4:30:00 AM	33	1	21	55
	1/27/2023 4:45:00 AM	34	3	30	67
	Hour	133	9	101	243
	1/27/2023 5:00:00 AM	41	4	27	72
	1/27/2023 5:15:00 AM	47	1	25	73
	1/27/2023 5:30:00 AM	49	2	24	75
	1/27/2023 5:45:00 AM	59	2	32	93
	Hour	196	9	108	313
	1/27/2023 6:00:00 AM	64	5	32	101
	1/27/2023 6:15:00 AM	72	1	33	106
	1/27/2023 6:30:00 AM	63	2	44	109
	1/27/2023 6:45:00 AM	80	2	30	112
	Hour	279	10	139	428
	1/27/2023 7:00:00 AM	111	0	40	151
	1/27/2023 7:15:00 AM	110	1	42	153
	1/27/2023 7:30:00 AM	122	5	41	168
	1/27/2023 7:45:00 AM	135	3	45	183
	Hour	478	9	168	655
	1/27/2023 8:00:00 AM	139	2	50	191
	1/27/2023 8:15:00 AM	121	12	41	174
	1/27/2023 8:30:00 AM	132	10	47	189
	1/27/2023 8:45:00 AM	143	6	45	194
	Hour	535	30	183	748
	1/27/2023 9:00:00 AM	171	12	57	240
	1/27/2023 9:15:00 AM	158	4	52	214
	1/27/2023 9:30:00 AM	175	7	40	222
	1/27/2023 9:45:00 AM	158	3	60	221
	Hour	662	26	209	897
	1/27/2023 10:00:00 AM	207	6	54	267
	1/27/2023 10:15:00 AM	231	9	62	302
	1/27/2023 10:30:00 AM	230	5	61	296
	1/27/2023 10:45:00 AM	199	3	48	250
	Hour	867	23	225	1115
	1/27/2023 11:00:00 AM	229	6	54	289
	1/27/2023 11:15:00 AM	237	7	59	303
	1/27/2023 11:30:00 AM	221	4	61	286
	1/27/2023 11:45:00 AM	246	8	56	310
	Hour	933	25	230	1188
	Grand Total	4,503	169	1,609	6,281
	Percentage	71.7%	2.7%	25.6%	



# All Traffic Data Services

## 1 - I-95 BRIDGE OVER LAKE MARION

NB	Time	Lights	Mediums	Trucks	Total
	1/27/2023 12:00:00 PM	220	8	56	284
	1/27/2023 12:15:00 PM	245	7	61	313
	1/27/2023 12:30:00 PM	267	6	47	320
	1/27/2023 12:45:00 PM	256	8	45	309
	Hour	988	29	209	1226
	1/27/2023 1:00:00 PM	282	8	60	350
	1/27/2023 1:15:00 PM	280	3	52	335
	1/27/2023 1:30:00 PM	284	8	58	350
	1/27/2023 1:45:00 PM	320	8	54	382
	Hour	1166	27	224	1417
	1/27/2023 2:00:00 PM	294	11	48	353
	1/27/2023 2:15:00 PM	323	6	66	395
	1/27/2023 2:30:00 PM	326	5	52	383
	1/27/2023 2:45:00 PM	359	8	54	421
	Hour	1302	30	220	1552
	1/27/2023 3:00:00 PM	321	10	60	391
	1/27/2023 3:15:00 PM	293	9	49	351
	1/27/2023 3:30:00 PM	331	5	72	408
	1/27/2023 3:45:00 PM	340	6	54	400
	Hour	1285	30	235	1550
	1/27/2023 4:00:00 PM	341	8	50	399
	1/27/2023 4:15:00 PM	342	7	52	401
	1/27/2023 4:30:00 PM	281	11	48	340
	1/27/2023 4:45:00 PM	300	7	37	344
	Hour	1264	33	187	1484
	1/27/2023 5:00:00 PM	371	13	49	433
	1/27/2023 5:15:00 PM	332	5	53	390
	1/27/2023 5:30:00 PM	295	3	63	361
	1/27/2023 5:45:00 PM	303	5	51	359
	Hour	1301	26	216	1543
	1/27/2023 6:00:00 PM	285	7	36	328
	1/27/2023 6:15:00 PM	270	7	40	317
	1/27/2023 6:30:00 PM	217	5	33	255
	1/27/2023 6:45:00 PM	231	9	35	275
	Hour	1003	28	144	1175
	1/27/2023 7:00:00 PM	182	6	34	222
	1/27/2023 7:15:00 PM	206	2	34	242
	1/27/2023 7:30:00 PM	183	8	30	221
	1/27/2023 7:45:00 PM	136	2	26	164
	Hour	707	18	124	849
	1/27/2023 8:00:00 PM	136	4	28	168
	1/27/2023 8:15:00 PM	155	3	27	185
	1/27/2023 8:30:00 PM	148	3	25	176
	1/27/2023 8:45:00 PM	113	1	25	139
	Hour	552	11	105	668
	1/27/2023 9:00:00 PM	108	3	26	137
	1/27/2023 9:15:00 PM	98	2	26	126
	1/27/2023 9:30:00 PM	90	3	27	120
	1/27/2023 9:45:00 PM	84	0	20	104
	Hour	380	8	99	487
	1/27/2023 10:00:00 PM	89	1	23	113
	1/27/2023 10:15:00 PM	78	1	22	101
	1/27/2023 10:30:00 PM	62	2	19	83
	1/27/2023 10:45:00 PM	71	4	20	95
	Hour	300	8	84	392
	1/27/2023 11:00:00 PM	59	1	16	76
	1/27/2023 11:15:00 PM	64	1	15	80
	1/27/2023 11:30:00 PM	51	4	12	67
	1/27/2023 11:45:00 PM	58	0	23	81
	Hour	232	6	66	304
	Grand Total	10,480	254	1,913	12,647
	Percentage	82.9%	2.0%	15.1%	



# All Traffic Data Services

## 1 - I-95 BRIDGE OVER LAKE MARION

NB	Time	Lights	Mediums	Trucks	Total
	1/28/2023	65	1	19	85
	1/28/2023 12:15:00 AM	43	0	14	57
	1/28/2023 12:30:00 AM	58	0	15	73
	1/28/2023 12:45:00 AM	45	0	10	55
	Hour	211	1	58	270
	1/28/2023 1:00:00 AM	38	4	12	54
	1/28/2023 1:15:00 AM	29	0	7	36
	1/28/2023 1:30:00 AM	34	1	21	56
	1/28/2023 1:45:00 AM	29	1	8	38
	Hour	130	6	48	184
	1/28/2023 2:00:00 AM	35	3	12	50
	1/28/2023 2:15:00 AM	33	0	12	45
	1/28/2023 2:30:00 AM	38	1	14	53
	1/28/2023 2:45:00 AM	32	1	13	46
	Hour	138	5	51	194
	1/28/2023 3:00:00 AM	27	0	5	32
	1/28/2023 3:15:00 AM	22	3	14	39
	1/28/2023 3:30:00 AM	23	1	12	36
	1/28/2023 3:45:00 AM	39	2	12	53
	Hour	111	6	43	160
	1/28/2023 4:00:00 AM	30	1	16	47
	1/28/2023 4:15:00 AM	36	0	16	52
	1/28/2023 4:30:00 AM	43	0	15	58
	1/28/2023 4:45:00 AM	42	0	14	56
	Hour	151	1	61	213
	1/28/2023 5:00:00 AM	42	0	9	51
	1/28/2023 5:15:00 AM	41	1	21	63
	1/28/2023 5:30:00 AM	52	0	14	66
	1/28/2023 5:45:00 AM	44	1	15	60
	Hour	179	2	59	240
	1/28/2023 6:00:00 AM	42	0	12	54
	1/28/2023 6:15:00 AM	66	2	17	85
	1/28/2023 6:30:00 AM	68	2	30	100
	1/28/2023 6:45:00 AM	76	1	17	94
	Hour	252	5	76	333
	1/28/2023 7:00:00 AM	98	4	20	122
	1/28/2023 7:15:00 AM	83	3	11	97
	1/28/2023 7:30:00 AM	105	2	18	125
	1/28/2023 7:45:00 AM	114	1	18	133
	Hour	400	10	67	477
	1/28/2023 8:00:00 AM	126	2	13	141
	1/28/2023 8:15:00 AM	134	2	22	158
	1/28/2023 8:30:00 AM	162	4	19	185
	1/28/2023 8:45:00 AM	167	0	21	188
	Hour	589	8	75	672
	1/28/2023 9:00:00 AM	187	4	39	230
	1/28/2023 9:15:00 AM	187	6	39	232
	1/28/2023 9:30:00 AM	203	3	36	242
	1/28/2023 9:45:00 AM	200	8	44	252
	Hour	777	21	158	956
	1/28/2023 10:00:00 AM	261	4	33	298
	1/28/2023 10:15:00 AM	270	5	40	315
	1/28/2023 10:30:00 AM	210	4	32	246
	1/28/2023 10:45:00 AM	267	5	36	308
	Hour	1008	18	141	1167
	1/28/2023 11:00:00 AM	387	6	47	440
	1/28/2023 11:15:00 AM	282	5	39	326
	1/28/2023 11:30:00 AM	262	2	40	304
	1/28/2023 11:45:00 AM	276	4	36	316
	Hour	1207	17	162	1386
	Grand Total	5,153	100	999	6,252
	Percentage	82.4%	1.6%	16.0%	



# All Traffic Data Services

## 1 - I-95 BRIDGE OVER LAKE MARION

NB	Time	Lights	Mediums	Trucks	Total
	1/28/2023 12:00:00 PM	270	9	42	321
	1/28/2023 12:15:00 PM	289	6	37	332
	1/28/2023 12:30:00 PM	267	5	38	310
	1/28/2023 12:45:00 PM	279	6	35	320
	Hour	1105	26	152	1283
	1/28/2023 1:00:00 PM	258	7	30	295
	1/28/2023 1:15:00 PM	290	4	44	338
	1/28/2023 1:30:00 PM	322	5	46	373
	1/28/2023 1:45:00 PM	261	5	30	296
	Hour	1131	21	150	1302
	1/28/2023 2:00:00 PM	290	4	41	335
	1/28/2023 2:15:00 PM	310	8	39	357
	1/28/2023 2:30:00 PM	303	4	36	343
	1/28/2023 2:45:00 PM	289	7	50	346
	Hour	1192	23	166	1381
	1/28/2023 3:00:00 PM	314	6	23	343
	1/28/2023 3:15:00 PM	293	4	34	331
	1/28/2023 3:30:00 PM	289	5	37	331
	1/28/2023 3:45:00 PM	278	5	22	305
	Hour	1174	20	116	1310
	1/28/2023 4:00:00 PM	274	5	35	314
	1/28/2023 4:15:00 PM	272	3	18	293
	1/28/2023 4:30:00 PM	282	5	28	315
	1/28/2023 4:45:00 PM	267	5	24	296
	Hour	1095	18	105	1218
	1/28/2023 5:00:00 PM	233	3	27	263
	1/28/2023 5:15:00 PM	228	4	30	262
	1/28/2023 5:30:00 PM	243	3	26	272
	1/28/2023 5:45:00 PM	243	6	20	269
	Hour	947	16	103	1066
	1/28/2023 6:00:00 PM	197	8	22	227
	1/28/2023 6:15:00 PM	203	2	21	226
	1/28/2023 6:30:00 PM	194	2	22	218
	1/28/2023 6:45:00 PM	167	6	27	200
	Hour	761	18	92	871
	1/28/2023 7:00:00 PM	183	3	21	207
	1/28/2023 7:15:00 PM	146	1	23	170
	1/28/2023 7:30:00 PM	147	5	16	168
	1/28/2023 7:45:00 PM	118	2	31	151
	Hour	594	11	91	696
	1/28/2023 8:00:00 PM	123	1	19	143
	1/28/2023 8:15:00 PM	120	2	13	135
	1/28/2023 8:30:00 PM	122	1	17	140
	1/28/2023 8:45:00 PM	103	2	17	122
	Hour	468	6	66	540
	1/28/2023 9:00:00 PM	96	2	20	118
	1/28/2023 9:15:00 PM	106	1	18	125
	1/28/2023 9:30:00 PM	85	1	20	106
	1/28/2023 9:45:00 PM	69	1	13	83
	Hour	356	5	71	432
	1/28/2023 10:00:00 PM	85	2	20	107
	1/28/2023 10:15:00 PM	67	2	19	88
	1/28/2023 10:30:00 PM	66	0	14	80
	1/28/2023 10:45:00 PM	45	1	11	57
	Hour	263	5	64	332
	1/28/2023 11:00:00 PM	58	2	23	83
	1/28/2023 11:15:00 PM	53	1	12	66
	1/28/2023 11:30:00 PM	44	1	8	53
	1/28/2023 11:45:00 PM	50	2	11	63
	Hour	205	6	54	265
	Grand Total	9,291	175	1,230	10,696
	Percentage	86.9%	1.6%	11.5%	





# All Traffic Data Services

## 1 - I-95 BRIDGE OVER LAKE MARION

NB	Time	Lights	Mediums	Trucks	Total
	1/29/2023	42	1	6	49
	1/29/2023 12:15:00 AM	28	1	6	35
	1/29/2023 12:30:00 AM	40	1	10	51
	1/29/2023 12:45:00 AM	50	5	10	65
	Hour	160	8	32	200
	1/29/2023 1:00:00 AM	41	2	9	52
	1/29/2023 1:15:00 AM	31	1	8	40
	1/29/2023 1:30:00 AM	27	0	5	32
	1/29/2023 1:45:00 AM	33	1	4	38
	Hour	132	4	26	162
	1/29/2023 2:00:00 AM	34	3	5	42
	1/29/2023 2:15:00 AM	28	0	5	33
	1/29/2023 2:30:00 AM	27	0	10	37
	1/29/2023 2:45:00 AM	25	9	9	43
	Hour	114	12	29	155
	1/29/2023 3:00:00 AM	21	0	3	24
	1/29/2023 3:15:00 AM	21	2	2	25
	1/29/2023 3:30:00 AM	25	1	8	34
	1/29/2023 3:45:00 AM	28	1	8	37
	Hour	95	4	21	120
	1/29/2023 4:00:00 AM	19	0	11	30
	1/29/2023 4:15:00 AM	19	0	12	31
	1/29/2023 4:30:00 AM	36	1	5	42
	1/29/2023 4:45:00 AM	32	0	6	38
	Hour	106	1	34	141
	1/29/2023 5:00:00 AM	27	0	8	35
	1/29/2023 5:15:00 AM	48	0	7	55
	1/29/2023 5:30:00 AM	47	2	10	59
	1/29/2023 5:45:00 AM	38	0	14	52
	Hour	160	2	39	201
	1/29/2023 6:00:00 AM	49	0	9	58
	1/29/2023 6:15:00 AM	43	1	10	54
	1/29/2023 6:30:00 AM	59	0	8	67
	1/29/2023 6:45:00 AM	63	1	10	74
	Hour	214	2	37	253
	1/29/2023 7:00:00 AM	54	2	5	61
	1/29/2023 7:15:00 AM	73	0	10	83
	1/29/2023 7:30:00 AM	90	0	13	103
	1/29/2023 7:45:00 AM	88	1	16	105
	Hour	305	3	44	352
	1/29/2023 8:00:00 AM	105	1	15	121
	1/29/2023 8:15:00 AM	139	2	22	163
	1/29/2023 8:30:00 AM	138	0	21	159
	1/29/2023 8:45:00 AM	157	4	18	179
	Hour	539	7	76	622
	1/29/2023 9:00:00 AM	146	1	19	166
	1/29/2023 9:15:00 AM	208	1	24	233
	1/29/2023 9:30:00 AM	204	4	23	231
	1/29/2023 9:45:00 AM	217	3	29	249
	Hour	775	9	95	879
	1/29/2023 10:00:00 AM	214	4	28	246
	1/29/2023 10:15:00 AM	237	4	20	261
	1/29/2023 10:30:00 AM	261	3	22	286
	1/29/2023 10:45:00 AM	263	6	30	299
	Hour	975	17	100	1092
	1/29/2023 11:00:00 AM	287	2	14	303
	1/29/2023 11:15:00 AM	326	1	20	347
	1/29/2023 11:30:00 AM	309	3	24	336
	1/29/2023 11:45:00 AM	295	6	31	332
	Hour	1217	12	89	1318
	Grand Total	4,792	81	622	5,495
	Percentage	87.2%	1.5%	11.3%	



# All Traffic Data Services

## 1 - I-95 BRIDGE OVER LAKE MARION

NB	Time	Lights	Mediums	Trucks	Total
	1/29/2023 12:00:00 PM	319	4	29	352
	1/29/2023 12:15:00 PM	329	2	26	357
	1/29/2023 12:30:00 PM	317	3	34	354
	1/29/2023 12:45:00 PM	319	3	13	335
	Hour	1284	12	102	1398
	1/29/2023 1:00:00 PM	346	6	21	373
	1/29/2023 1:15:00 PM	382	3	23	408
	1/29/2023 1:30:00 PM	349	3	21	373
	1/29/2023 1:45:00 PM	365	1	19	385
	Hour	1442	13	84	1539
	1/29/2023 2:00:00 PM	356	8	16	380
	1/29/2023 2:15:00 PM	367	5	26	398
	1/29/2023 2:30:00 PM	327	4	18	349
	1/29/2023 2:45:00 PM	338	6	33	377
	Hour	1388	23	93	1504
	1/29/2023 3:00:00 PM	288	7	27	322
	1/29/2023 3:15:00 PM	314	5	30	349
	1/29/2023 3:30:00 PM	301	3	30	334
	1/29/2023 3:45:00 PM	337	2	32	371
	Hour	1240	17	119	1376
	1/29/2023 4:00:00 PM	276	5	25	306
	1/29/2023 4:15:00 PM	272	3	26	301
	1/29/2023 4:30:00 PM	291	3	22	316
	1/29/2023 4:45:00 PM	284	1	28	313
	Hour	1123	12	101	1236
	1/29/2023 5:00:00 PM	259	4	18	281
	1/29/2023 5:15:00 PM	237	6	24	267
	1/29/2023 5:30:00 PM	242	1	24	267
	1/29/2023 5:45:00 PM	190	3	16	209
	Hour	928	14	82	1024
	1/29/2023 6:00:00 PM	168	5	13	186
	1/29/2023 6:15:00 PM	155	1	16	172
	1/29/2023 6:30:00 PM	162	1	15	178
	1/29/2023 6:45:00 PM	178	2	31	211
	Hour	663	9	75	747
	1/29/2023 7:00:00 PM	153	2	19	174
	1/29/2023 7:15:00 PM	166	1	9	176
	1/29/2023 7:30:00 PM	140	2	19	161
	1/29/2023 7:45:00 PM	200	2	26	228
	Hour	659	7	73	739
	1/29/2023 8:00:00 PM	148	4	10	162
	1/29/2023 8:15:00 PM	151	5	16	172
	1/29/2023 8:30:00 PM	128	1	8	137
	1/29/2023 8:45:00 PM	86	3	22	111
	Hour	513	13	56	582
	1/29/2023 9:00:00 PM	78	1	12	91
	1/29/2023 9:15:00 PM	101	3	20	124
	1/29/2023 9:30:00 PM	86	2	24	112
	1/29/2023 9:45:00 PM	85	0	9	94
	Hour	350	6	65	421
	1/29/2023 10:00:00 PM	75	2	5	82
	1/29/2023 10:15:00 PM	58	2	9	69
	1/29/2023 10:30:00 PM	68	1	13	82
	1/29/2023 10:45:00 PM	53	2	9	64
	Hour	254	7	36	297
	1/29/2023 11:00:00 PM	61	2	8	71
	1/29/2023 11:15:00 PM	45	1	11	57
	1/29/2023 11:30:00 PM	54	0	6	60
	1/29/2023 11:45:00 PM	36	2	8	46
	Hour	196	5	33	234
	Grand Total	10,040	138	919	11,097
	Percentage	90.5%	1.2%	8.3%	



# All Traffic Data Services

## 1 - I-95 BRIDGE OVER LAKE MARION

NB	Time	Lights	Mediums	Trucks	Total
	1/30/2023	38	2	13	53
	1/30/2023 12:15:00 AM	38	1	4	43
	1/30/2023 12:30:00 AM	20	0	11	31
	1/30/2023 12:45:00 AM	39	1	6	46
	Hour	135	4	34	173
	1/30/2023 1:00:00 AM	26	0	6	32
	1/30/2023 1:15:00 AM	31	1	7	39
	1/30/2023 1:30:00 AM	23	2	4	29
	1/30/2023 1:45:00 AM	27	2	10	39
	Hour	107	5	27	139
	1/30/2023 2:00:00 AM	21	0	5	26
	1/30/2023 2:15:00 AM	23	1	7	31
	1/30/2023 2:30:00 AM	26	0	8	34
	1/30/2023 2:45:00 AM	23	2	4	29
	Hour	93	3	24	120
	1/30/2023 3:00:00 AM	25	1	8	34
	1/30/2023 3:15:00 AM	16	1	12	29
	1/30/2023 3:30:00 AM	22	1	13	36
	1/30/2023 3:45:00 AM	17	0	8	25
	Hour	80	3	41	124
	1/30/2023 4:00:00 AM	34	0	27	61
	1/30/2023 4:15:00 AM	27	0	13	40
	1/30/2023 4:30:00 AM	27	2	12	41
	1/30/2023 4:45:00 AM	26	1	19	46
	Hour	114	3	71	188
	1/30/2023 5:00:00 AM	35	2	16	53
	1/30/2023 5:15:00 AM	42	0	14	56
	1/30/2023 5:30:00 AM	49	1	18	68
	1/30/2023 5:45:00 AM	77	3	24	104
	Hour	203	6	72	281
	1/30/2023 6:00:00 AM	78	2	31	111
	1/30/2023 6:15:00 AM	75	3	22	100
	1/30/2023 6:30:00 AM	73	2	27	102
	1/30/2023 6:45:00 AM	86	1	30	117
	Hour	312	8	110	430
	1/30/2023 7:00:00 AM	113	1	27	141
	1/30/2023 7:15:00 AM	133	3	23	159
	1/30/2023 7:30:00 AM	129	1	29	159
	1/30/2023 7:45:00 AM	116	4	30	150
	Hour	491	9	109	609
	1/30/2023 8:00:00 AM	135	1	32	168
	1/30/2023 8:15:00 AM	138	6	32	176
	1/30/2023 8:30:00 AM	140	4	22	166
	1/30/2023 8:45:00 AM	165	9	36	210
	Hour	578	20	122	720
	1/30/2023 9:00:00 AM	178	5	37	220
	1/30/2023 9:15:00 AM	200	3	35	238
	1/30/2023 9:30:00 AM	195	6	46	247
	1/30/2023 9:45:00 AM	198	4	46	248
	Hour	771	18	164	953
	1/30/2023 10:00:00 AM	218	6	44	268
	1/30/2023 10:15:00 AM	215	7	43	265
	1/30/2023 10:30:00 AM	220	6	51	277
	1/30/2023 10:45:00 AM	218	8	41	267
	Hour	871	27	179	1077
	1/30/2023 11:00:00 AM	237	5	59	301
	1/30/2023 11:15:00 AM	248	9	39	296
	1/30/2023 11:30:00 AM	222	4	49	275
	1/30/2023 11:45:00 AM	230	9	49	288
	Hour	937	27	196	1160
	Grand Total	4,692	133	1,149	5,974
	Percentage	78.5%	2.2%	19.2%	



# All Traffic Data Services

## 1 - I-95 BRIDGE OVER LAKE MARION

NB	Time	Lights	Mediums	Trucks	Total
	1/30/2023 12:00:00 PM	211	7	33	251
	1/30/2023 12:15:00 PM	217	6	51	274
	1/30/2023 12:30:00 PM	237	8	63	308
	1/30/2023 12:45:00 PM	218	17	55	290
	Hour	883	38	202	1123
	1/30/2023 1:00:00 PM	225	7	58	290
	1/30/2023 1:15:00 PM	209	7	52	268
	1/30/2023 1:30:00 PM	241	4	66	311
	1/30/2023 1:45:00 PM	236	7	53	296
	Hour	911	25	229	1165
	1/30/2023 2:00:00 PM	260	9	58	327
	1/30/2023 2:15:00 PM	243	7	50	300
	1/30/2023 2:30:00 PM	212	7	56	275
	1/30/2023 2:45:00 PM	246	7	57	310
	Hour	961	30	221	1212
	1/30/2023 3:00:00 PM	236	8	45	289
	1/30/2023 3:15:00 PM	231	9	60	300
	1/30/2023 3:30:00 PM	258	3	58	319
	1/30/2023 3:45:00 PM	245	7	39	291
	Hour	970	27	202	1199
	1/30/2023 4:00:00 PM	256	7	41	304
	1/30/2023 4:15:00 PM	230	6	44	280
	1/30/2023 4:30:00 PM	227	10	71	308
	1/30/2023 4:45:00 PM	223	9	62	294
	Hour	936	32	218	1186
	1/30/2023 5:00:00 PM	201	5	50	256
	1/30/2023 5:15:00 PM	243	6	50	299
	1/30/2023 5:30:00 PM	198	9	52	259
	1/30/2023 5:45:00 PM	177	9	43	229
	Hour	819	29	195	1043
	1/30/2023 6:00:00 PM	168	11	45	224
	1/30/2023 6:15:00 PM	178	5	49	232
	1/30/2023 6:30:00 PM	140	5	39	184
	1/30/2023 6:45:00 PM	120	6	36	162
	Hour	606	27	169	802
	1/30/2023 7:00:00 PM	130	1	29	160
	1/30/2023 7:15:00 PM	105	3	32	140
	1/30/2023 7:30:00 PM	95	7	22	124
	1/30/2023 7:45:00 PM	91	4	23	118
	Hour	421	15	106	542
	1/30/2023 8:00:00 PM	74	6	36	116
	1/30/2023 8:15:00 PM	94	6	22	122
	1/30/2023 8:30:00 PM	86	2	33	121
	1/30/2023 8:45:00 PM	82	3	25	110
	Hour	336	17	116	469
	1/30/2023 9:00:00 PM	65	6	32	103
	1/30/2023 9:15:00 PM	60	1	31	92
	1/30/2023 9:30:00 PM	59	7	22	88
	1/30/2023 9:45:00 PM	57	8	25	90
	Hour	241	22	110	373
	1/30/2023 10:00:00 PM	42	3	27	72
	1/30/2023 10:15:00 PM	47	1	26	74
	1/30/2023 10:30:00 PM	61	2	24	87
	1/30/2023 10:45:00 PM	50	1	27	78
	Hour	200	7	104	311
	1/30/2023 11:00:00 PM	42	2	23	67
	1/30/2023 11:15:00 PM	46	0	23	69
	1/30/2023 11:30:00 PM	35	0	24	59
	1/30/2023 11:45:00 PM	32	0	20	52
	Hour	155	2	90	247
	Grand Total	7,439	271	1,962	9,672
	Percentage	76.9%	2.8%	20.3%	
	Total	86,907	2,472	22,933	112,312
	Percentage	77.4%	2.2%	20.4%	



# All Traffic Data Services

## 1 - I-95 BRIDGE OVER LAKE MARION

SB	Time	Lights	Mediums	Trucks	Total
	1/24/2023	34	0	25	59
	1/24/2023 12:15:00 AM	33	0	27	60
	1/24/2023 12:30:00 AM	29	1	32	62
	1/24/2023 12:45:00 AM	20	1	32	53
	Hour	116	2	116	234
	1/24/2023 1:00:00 AM	13	1	19	33
	1/24/2023 1:15:00 AM	19	0	14	33
	1/24/2023 1:30:00 AM	17	1	21	39
	1/24/2023 1:45:00 AM	19	1	26	46
	Hour	68	3	80	151
	1/24/2023 2:00:00 AM	18	0	22	40
	1/24/2023 2:15:00 AM	19	0	22	41
	1/24/2023 2:30:00 AM	14	0	14	28
	1/24/2023 2:45:00 AM	17	1	26	44
	Hour	68	1	84	153
	1/24/2023 3:00:00 AM	27	1	27	55
	1/24/2023 3:15:00 AM	31	0	23	54
	1/24/2023 3:30:00 AM	11	2	23	36
	1/24/2023 3:45:00 AM	22	3	22	47
	Hour	91	6	95	192
	1/24/2023 4:00:00 AM	28	1	27	56
	1/24/2023 4:15:00 AM	41	0	36	77
	1/24/2023 4:30:00 AM	28	2	28	58
	1/24/2023 4:45:00 AM	53	2	37	92
	Hour	150	5	128	283
	1/24/2023 5:00:00 AM	49	1	35	85
	1/24/2023 5:15:00 AM	64	3	35	102
	1/24/2023 5:30:00 AM	78	2	49	129
	1/24/2023 5:45:00 AM	99	3	42	144
	Hour	290	9	161	460
	1/24/2023 6:00:00 AM	109	3	44	156
	1/24/2023 6:15:00 AM	108	2	40	150
	1/24/2023 6:30:00 AM	108	5	39	152
	1/24/2023 6:45:00 AM	116	2	46	164
	Hour	441	12	169	622
	1/24/2023 7:00:00 AM	104	8	53	165
	1/24/2023 7:15:00 AM	123	3	35	161
	1/24/2023 7:30:00 AM	161	4	54	219
	1/24/2023 7:45:00 AM	151	5	50	206
	Hour	539	20	192	751
	1/24/2023 8:00:00 AM	184	11	61	256
	1/24/2023 8:15:00 AM	153	5	46	204
	1/24/2023 8:30:00 AM	166	7	56	229
	1/24/2023 8:45:00 AM	161	6	58	225
	Hour	664	29	221	914
	1/24/2023 9:00:00 AM	162	8	80	250
	1/24/2023 9:15:00 AM	157	6	73	236
	1/24/2023 9:30:00 AM	180	15	58	253
	1/24/2023 9:45:00 AM	191	7	63	261
	Hour	690	36	274	1000
	1/24/2023 10:00:00 AM	192	9	54	255
	1/24/2023 10:15:00 AM	142	10	61	213
	1/24/2023 10:30:00 AM	160	5	63	228
	1/24/2023 10:45:00 AM	175	12	59	246
	Hour	669	36	237	942
	1/24/2023 11:00:00 AM	169	10	66	245
	1/24/2023 11:15:00 AM	163	5	71	239
	1/24/2023 11:30:00 AM	185	6	67	258
	1/24/2023 11:45:00 AM	166	6	70	242
	Hour	683	27	274	984
	Grand Total	4,469	186	2,031	6,686
	Percentage	66.8%	2.8%	30.4%	



# All Traffic Data Services

## 1 - I-95 BRIDGE OVER LAKE MARION

SB	Time	Lights	Mediums	Trucks	Total
	1/24/2023 12:00:00 PM	161	5	59	225
	1/24/2023 12:15:00 PM	180	7	63	250
	1/24/2023 12:30:00 PM	188	4	70	262
	1/24/2023 12:45:00 PM	186	9	67	262
	Hour	715	25	259	999
	1/24/2023 1:00:00 PM	158	10	66	234
	1/24/2023 1:15:00 PM	186	5	79	270
	1/24/2023 1:30:00 PM	178	12	81	271
	1/24/2023 1:45:00 PM	109	7	77	193
	Hour	631	34	303	968
	1/24/2023 2:00:00 PM	186	4	70	260
	1/24/2023 2:15:00 PM	172	11	73	256
	1/24/2023 2:30:00 PM	198	5	79	282
	1/24/2023 2:45:00 PM	190	5	75	270
	Hour	746	25	297	1068
	1/24/2023 3:00:00 PM	198	4	57	259
	1/24/2023 3:15:00 PM	179	10	54	243
	1/24/2023 3:30:00 PM	175	5	60	240
	1/24/2023 3:45:00 PM	210	7	64	281
	Hour	762	26	235	1023
	1/24/2023 4:00:00 PM	188	3	49	240
	1/24/2023 4:15:00 PM	157	4	68	229
	1/24/2023 4:30:00 PM	165	15	56	236
	1/24/2023 4:45:00 PM	147	3	67	217
	Hour	657	25	240	922
	1/24/2023 5:00:00 PM	161	4	45	210
	1/24/2023 5:15:00 PM	185	4	57	246
	1/24/2023 5:30:00 PM	169	3	58	230
	1/24/2023 5:45:00 PM	187	5	55	247
	Hour	702	16	215	933
	1/24/2023 6:00:00 PM	165	5	45	215
	1/24/2023 6:15:00 PM	143	2	50	195
	1/24/2023 6:30:00 PM	123	2	54	179
	1/24/2023 6:45:00 PM	133	3	49	185
	Hour	564	12	198	774
	1/24/2023 7:00:00 PM	110	7	47	164
	1/24/2023 7:15:00 PM	106	6	39	151
	1/24/2023 7:30:00 PM	89	1	38	128
	1/24/2023 7:45:00 PM	72	1	44	117
	Hour	377	15	168	560
	1/24/2023 8:00:00 PM	99	3	49	151
	1/24/2023 8:15:00 PM	91	2	40	133
	1/24/2023 8:30:00 PM	79	1	37	117
	1/24/2023 8:45:00 PM	61	5	31	97
	Hour	330	11	157	498
	1/24/2023 9:00:00 PM	62	1	24	87
	1/24/2023 9:15:00 PM	52	3	21	76
	1/24/2023 9:30:00 PM	25	1	9	35
	1/24/2023 9:45:00 PM	55	1	10	66
	Hour	194	6	64	264
	1/24/2023 10:00:00 PM	73	1	49	123
	1/24/2023 10:15:00 PM	37	0	33	70
	1/24/2023 10:30:00 PM	26	0	9	35
	1/24/2023 10:45:00 PM	55	1	30	86
	Hour	191	2	121	314
	1/24/2023 11:00:00 PM	52	1	52	105
	1/24/2023 11:15:00 PM	17	0	10	27
	1/24/2023 11:30:00 PM	49	0	39	88
	1/24/2023 11:45:00 PM	30	2	29	61
	Hour	148	3	130	281
	Grand Total	6,017	200	2,387	8,604
	Percentage	69.9%	2.3%	27.7%	





# All Traffic Data Services

## 1 - I-95 BRIDGE OVER LAKE MARION

SB	Time	Lights	Mediums	Trucks	Total
	1/25/2023	16	1	10	27
	1/25/2023 12:15:00 AM	21	0	38	59
	1/25/2023 12:30:00 AM	29	1	29	59
	1/25/2023 12:45:00 AM	16	0	21	37
	Hour	82	2	98	182
	1/25/2023 1:00:00 AM	10	0	6	16
	1/25/2023 1:15:00 AM	6	0	1	7
	1/25/2023 1:30:00 AM	32	0	23	55
	1/25/2023 1:45:00 AM	23	1	36	60
	Hour	71	1	66	138
	1/25/2023 2:00:00 AM	16	1	12	29
	1/25/2023 2:15:00 AM	33	1	25	59
	1/25/2023 2:30:00 AM	28	0	23	51
	1/25/2023 2:45:00 AM	25	0	21	46
	Hour	102	2	81	185
	1/25/2023 3:00:00 AM	24	1	22	47
	1/25/2023 3:15:00 AM	36	0	25	61
	1/25/2023 3:30:00 AM	21	1	33	55
	1/25/2023 3:45:00 AM	31	2	12	45
	Hour	112	4	92	208
	1/25/2023 4:00:00 AM	27	0	36	63
	1/25/2023 4:15:00 AM	33	1	31	65
	1/25/2023 4:30:00 AM	39	1	38	78
	1/25/2023 4:45:00 AM	48	1	35	84
	Hour	147	3	140	290
	1/25/2023 5:00:00 AM	51	3	30	84
	1/25/2023 5:15:00 AM	80	0	37	117
	1/25/2023 5:30:00 AM	79	1	32	112
	1/25/2023 5:45:00 AM	102	6	33	141
	Hour	312	10	132	454
	1/25/2023 6:00:00 AM	105	6	40	151
	1/25/2023 6:15:00 AM	106	1	43	150
	1/25/2023 6:30:00 AM	100	4	53	157
	1/25/2023 6:45:00 AM	126	3	52	181
	Hour	437	14	188	639
	1/25/2023 7:00:00 AM	119	7	49	175
	1/25/2023 7:15:00 AM	127	7	46	180
	1/25/2023 7:30:00 AM	156	5	41	202
	1/25/2023 7:45:00 AM	177	6	43	226
	Hour	579	25	179	783
	1/25/2023 8:00:00 AM	184	9	40	233
	1/25/2023 8:15:00 AM	166	9	56	231
	1/25/2023 8:30:00 AM	173	8	52	233
	1/25/2023 8:45:00 AM	168	9	65	242
	Hour	691	35	213	939
	1/25/2023 9:00:00 AM	182	9	41	232
	1/25/2023 9:15:00 AM	169	9	56	234
	1/25/2023 9:30:00 AM	166	7	51	224
	1/25/2023 9:45:00 AM	164	7	67	238
	Hour	681	32	215	928
	1/25/2023 10:00:00 AM	186	6	68	260
	1/25/2023 10:15:00 AM	201	13	66	280
	1/25/2023 10:30:00 AM	188	9	73	270
	1/25/2023 10:45:00 AM	176	6	62	244
	Hour	751	34	269	1054
	1/25/2023 11:00:00 AM	188	9	62	259
	1/25/2023 11:15:00 AM	168	8	66	242
	1/25/2023 11:30:00 AM	160	7	46	213
	1/25/2023 11:45:00 AM	177	6	60	243
	Hour	693	30	234	957
	Grand Total	4,658	192	1,907	6,757
	Percentage	68.9%	2.8%	28.2%	



# All Traffic Data Services

## 1 - I-95 BRIDGE OVER LAKE MARION

SB	Time	Lights	Mediums	Trucks	Total
	1/25/2023 12:00:00 PM	180	6	56	242
	1/25/2023 12:15:00 PM	174	5	64	243
	1/25/2023 12:30:00 PM	183	8	66	257
	1/25/2023 12:45:00 PM	159	9	75	243
	Hour	696	28	261	985
	1/25/2023 1:00:00 PM	154	8	68	230
	1/25/2023 1:15:00 PM	163	12	70	245
	1/25/2023 1:30:00 PM	201	6	58	265
	1/25/2023 1:45:00 PM	179	5	67	251
	Hour	697	31	263	991
	1/25/2023 2:00:00 PM	193	6	74	273
	1/25/2023 2:15:00 PM	193	6	58	257
	1/25/2023 2:30:00 PM	209	7	59	275
	1/25/2023 2:45:00 PM	196	5	64	265
	Hour	791	24	255	1070
	1/25/2023 3:00:00 PM	223	7	57	287
	1/25/2023 3:15:00 PM	189	7	67	263
	1/25/2023 3:30:00 PM	208	3	62	273
	1/25/2023 3:45:00 PM	193	3	59	255
	Hour	813	20	245	1078
	1/25/2023 4:00:00 PM	196	1	54	251
	1/25/2023 4:15:00 PM	177	6	56	239
	1/25/2023 4:30:00 PM	180	0	50	230
	1/25/2023 4:45:00 PM	160	4	43	207
	Hour	713	11	203	927
	1/25/2023 5:00:00 PM	142	7	52	201
	1/25/2023 5:15:00 PM	170	4	51	225
	1/25/2023 5:30:00 PM	167	0	46	213
	1/25/2023 5:45:00 PM	134	4	49	187
	Hour	613	15	198	826
	1/25/2023 6:00:00 PM	144	1	49	194
	1/25/2023 6:15:00 PM	138	2	50	190
	1/25/2023 6:30:00 PM	124	1	43	168
	1/25/2023 6:45:00 PM	98	1	50	149
	Hour	504	5	192	701
	1/25/2023 7:00:00 PM	104	3	42	149
	1/25/2023 7:15:00 PM	108	2	59	169
	1/25/2023 7:30:00 PM	115	3	46	164
	1/25/2023 7:45:00 PM	80	2	50	132
	Hour	407	10	197	614
	1/25/2023 8:00:00 PM	71	0	44	115
	1/25/2023 8:15:00 PM	72	3	44	119
	1/25/2023 8:30:00 PM	67	2	33	102
	1/25/2023 8:45:00 PM	57	2	40	99
	Hour	267	7	161	435
	1/25/2023 9:00:00 PM	73	1	28	102
	1/25/2023 9:15:00 PM	73	1	38	112
	1/25/2023 9:30:00 PM	62	2	31	95
	1/25/2023 9:45:00 PM	60	3	22	85
	Hour	268	7	119	394
	1/25/2023 10:00:00 PM	46	2	30	78
	1/25/2023 10:15:00 PM	40	1	30	71
	1/25/2023 10:30:00 PM	58	1	22	81
	1/25/2023 10:45:00 PM	41	0	25	66
	Hour	185	4	107	296
	1/25/2023 11:00:00 PM	29	0	28	57
	1/25/2023 11:15:00 PM	36	0	15	51
	1/25/2023 11:30:00 PM	28	1	19	48
	1/25/2023 11:45:00 PM	42	0	18	60
	Hour	135	1	80	216
	Grand Total	6,089	163	2,281	8,533
	Percentage	71.4%	1.9%	26.7%	



# All Traffic Data Services

## 1 - I-95 BRIDGE OVER LAKE MARION

SB	Time	Lights	Mediums	Trucks	Total
	1/26/2023	19	2	25	46
	1/26/2023 12:15:00 AM	32	2	18	52
	1/26/2023 12:30:00 AM	23	3	18	44
	1/26/2023 12:45:00 AM	30	2	27	59
	Hour	104	9	88	201
	1/26/2023 1:00:00 AM	21	0	14	35
	1/26/2023 1:15:00 AM	25	1	21	47
	1/26/2023 1:30:00 AM	21	0	25	46
	1/26/2023 1:45:00 AM	22	1	20	43
	Hour	89	2	80	171
	1/26/2023 2:00:00 AM	23	0	30	53
	1/26/2023 2:15:00 AM	22	0	19	41
	1/26/2023 2:30:00 AM	40	0	13	53
	1/26/2023 2:45:00 AM	21	1	24	46
	Hour	106	1	86	193
	1/26/2023 3:00:00 AM	25	2	26	53
	1/26/2023 3:15:00 AM	32	0	25	57
	1/26/2023 3:30:00 AM	24	0	26	50
	1/26/2023 3:45:00 AM	29	0	34	63
	Hour	110	2	111	223
	1/26/2023 4:00:00 AM	33	3	30	66
	1/26/2023 4:15:00 AM	34	0	39	73
	1/26/2023 4:30:00 AM	57	2	23	82
	1/26/2023 4:45:00 AM	48	2	42	92
	Hour	172	7	134	313
	1/26/2023 5:00:00 AM	52	1	43	96
	1/26/2023 5:15:00 AM	76	1	41	118
	1/26/2023 5:30:00 AM	82	3	38	123
	1/26/2023 5:45:00 AM	93	1	43	137
	Hour	303	6	165	474
	1/26/2023 6:00:00 AM	107	0	48	155
	1/26/2023 6:15:00 AM	109	2	46	157
	1/26/2023 6:30:00 AM	112	1	50	163
	1/26/2023 6:45:00 AM	133	4	48	185
	Hour	461	7	192	660
	1/26/2023 7:00:00 AM	121	2	71	194
	1/26/2023 7:15:00 AM	144	6	54	204
	1/26/2023 7:30:00 AM	146	9	46	201
	1/26/2023 7:45:00 AM	178	6	40	224
	Hour	589	23	211	823
	1/26/2023 8:00:00 AM	182	4	53	239
	1/26/2023 8:15:00 AM	183	6	72	261
	1/26/2023 8:30:00 AM	186	9	69	264
	1/26/2023 8:45:00 AM	219	7	51	277
	Hour	770	26	245	1041
	1/26/2023 9:00:00 AM	204	4	56	264
	1/26/2023 9:15:00 AM	200	5	74	279
	1/26/2023 9:30:00 AM	213	4	65	282
	1/26/2023 9:45:00 AM	202	4	65	271
	Hour	819	17	260	1096
	1/26/2023 10:00:00 AM	196	1	58	255
	1/26/2023 10:15:00 AM	200	5	62	267
	1/26/2023 10:30:00 AM	217	6	60	283
	1/26/2023 10:45:00 AM	224	11	60	295
	Hour	837	23	240	1100
	1/26/2023 11:00:00 AM	221	2	71	294
	1/26/2023 11:15:00 AM	264	2	66	332
	1/26/2023 11:30:00 AM	280	4	55	339
	1/26/2023 11:45:00 AM	251	6	75	332
	Hour	1016	14	267	1297
	Grand Total	5,376	137	2,079	7,592
	Percentage	70.8%	1.8%	27.4%	



# All Traffic Data Services

## 1 - I-95 BRIDGE OVER LAKE MARION

SB	Time	Lights	Mediums	Trucks	Total
	1/26/2023 12:00:00 PM	219	6	67	292
	1/26/2023 12:15:00 PM	235	12	66	313
	1/26/2023 12:30:00 PM	252	6	80	338
	1/26/2023 12:45:00 PM	232	10	69	311
	Hour	938	34	282	1254
	1/26/2023 1:00:00 PM	200	6	66	272
	1/26/2023 1:15:00 PM	209	6	60	275
	1/26/2023 1:30:00 PM	250	8	79	337
	1/26/2023 1:45:00 PM	204	5	67	276
	Hour	863	25	272	1160
	1/26/2023 2:00:00 PM	241	5	84	330
	1/26/2023 2:15:00 PM	262	7	64	333
	1/26/2023 2:30:00 PM	228	8	70	306
	1/26/2023 2:45:00 PM	238	3	64	305
	Hour	969	23	282	1274
	1/26/2023 3:00:00 PM	287	4	56	347
	1/26/2023 3:15:00 PM	260	6	77	343
	1/26/2023 3:30:00 PM	253	2	59	314
	1/26/2023 3:45:00 PM	243	11	55	309
	Hour	1043	23	247	1313
	1/26/2023 4:00:00 PM	243	6	57	306
	1/26/2023 4:15:00 PM	239	12	45	296
	1/26/2023 4:30:00 PM	240	8	62	310
	1/26/2023 4:45:00 PM	230	6	70	306
	Hour	952	32	234	1218
	1/26/2023 5:00:00 PM	233	9	44	286
	1/26/2023 5:15:00 PM	274	4	54	332
	1/26/2023 5:30:00 PM	233	5	51	289
	1/26/2023 5:45:00 PM	242	4	38	284
	Hour	982	22	187	1191
	1/26/2023 6:00:00 PM	233	6	50	289
	1/26/2023 6:15:00 PM	206	3	58	267
	1/26/2023 6:30:00 PM	188	4	45	237
	1/26/2023 6:45:00 PM	117	7	40	164
	Hour	744	20	193	957
	1/26/2023 7:00:00 PM	146	5	44	195
	1/26/2023 7:15:00 PM	146	2	42	190
	1/26/2023 7:30:00 PM	140	5	48	193
	1/26/2023 7:45:00 PM	110	7	41	158
	Hour	542	19	175	736
	1/26/2023 8:00:00 PM	129	4	32	165
	1/26/2023 8:15:00 PM	124	2	32	158
	1/26/2023 8:30:00 PM	105	2	36	143
	1/26/2023 8:45:00 PM	99	1	34	134
	Hour	457	9	134	600
	1/26/2023 9:00:00 PM	105	5	35	145
	1/26/2023 9:15:00 PM	83	3	51	137
	1/26/2023 9:30:00 PM	87	4	21	112
	1/26/2023 9:45:00 PM	80	4	30	114
	Hour	355	16	137	508
	1/26/2023 10:00:00 PM	54	4	19	77
	1/26/2023 10:15:00 PM	58	3	26	87
	1/26/2023 10:30:00 PM	71	0	11	82
	1/26/2023 10:45:00 PM	47	0	19	66
	Hour	230	7	75	312
	1/26/2023 11:00:00 PM	47	1	20	68
	1/26/2023 11:15:00 PM	50	4	22	76
	1/26/2023 11:30:00 PM	33	3	26	62
	1/26/2023 11:45:00 PM	43	1	19	63
	Hour	173	9	87	269
	Grand Total	8,248	239	2,305	10,792
	Percentage	76.4%	2.2%	21.4%	



# All Traffic Data Services

## 1 - I-95 BRIDGE OVER LAKE MARION

SB	Time	Lights	Mediums	Trucks	Total
	1/27/2023	46	0	12	58
	1/27/2023 12:15:00 AM	47	1	12	60
	1/27/2023 12:30:00 AM	43	2	13	58
	1/27/2023 12:45:00 AM	32	0	22	54
	Hour	168	3	59	230
	1/27/2023 1:00:00 AM	42	0	12	54
	1/27/2023 1:15:00 AM	28	3	18	49
	1/27/2023 1:30:00 AM	42	2	24	68
	1/27/2023 1:45:00 AM	33	1	13	47
	Hour	145	6	67	218
	1/27/2023 2:00:00 AM	25	1	14	40
	1/27/2023 2:15:00 AM	29	1	21	51
	1/27/2023 2:30:00 AM	32	3	18	53
	1/27/2023 2:45:00 AM	31	1	24	56
	Hour	117	6	77	200
	1/27/2023 3:00:00 AM	34	4	24	62
	1/27/2023 3:15:00 AM	27	2	19	48
	1/27/2023 3:30:00 AM	36	0	25	61
	1/27/2023 3:45:00 AM	44	3	18	65
	Hour	141	9	86	236
	1/27/2023 4:00:00 AM	42	2	29	73
	1/27/2023 4:15:00 AM	39	3	26	68
	1/27/2023 4:30:00 AM	67	0	31	98
	1/27/2023 4:45:00 AM	51	4	35	90
	Hour	199	9	121	329
	1/27/2023 5:00:00 AM	58	4	34	96
	1/27/2023 5:15:00 AM	78	3	42	123
	1/27/2023 5:30:00 AM	81	2	26	109
	1/27/2023 5:45:00 AM	93	2	34	129
	Hour	310	11	136	457
	1/27/2023 6:00:00 AM	110	0	37	147
	1/27/2023 6:15:00 AM	133	8	25	166
	1/27/2023 6:30:00 AM	123	0	27	150
	1/27/2023 6:45:00 AM	105	2	22	129
	Hour	471	10	111	592
	1/27/2023 7:00:00 AM	151	3	51	205
	1/27/2023 7:15:00 AM	149	3	40	192
	1/27/2023 7:30:00 AM	153	9	36	198
	1/27/2023 7:45:00 AM	144	3	36	183
	Hour	597	18	163	778
	1/27/2023 8:00:00 AM	173	4	40	217
	1/27/2023 8:15:00 AM	152	13	45	210
	1/27/2023 8:30:00 AM	188	5	51	244
	1/27/2023 8:45:00 AM	217	5	52	274
	Hour	730	27	188	945
	1/27/2023 9:00:00 AM	223	3	55	281
	1/27/2023 9:15:00 AM	198	4	51	253
	1/27/2023 9:30:00 AM	214	5	50	269
	1/27/2023 9:45:00 AM	230	8	43	281
	Hour	865	20	199	1084
	1/27/2023 10:00:00 AM	224	6	43	273
	1/27/2023 10:15:00 AM	227	1	43	271
	1/27/2023 10:30:00 AM	268	9	56	333
	1/27/2023 10:45:00 AM	265	2	34	301
	Hour	984	18	176	1178
	1/27/2023 11:00:00 AM	296	4	43	343
	1/27/2023 11:15:00 AM	256	3	58	317
	1/27/2023 11:30:00 AM	318	6	48	372
	1/27/2023 11:45:00 AM	276	8	52	336
	Hour	1146	21	201	1368
	Grand Total	5,873	158	1,584	7,615
	Percentage	77.1%	2.1%	20.8%	



# All Traffic Data Services

## 1 - I-95 BRIDGE OVER LAKE MARION

SB	Time	Lights	Mediums	Trucks	Total
	1/27/2023 12:00:00 PM	328	7	68	403
	1/27/2023 12:15:00 PM	339	6	55	400
	1/27/2023 12:30:00 PM	314	7	49	370
	1/27/2023 12:45:00 PM	300	3	52	355
	Hour	1281	23	224	1528
	1/27/2023 1:00:00 PM	291	6	48	345
	1/27/2023 1:15:00 PM	280	9	59	348
	1/27/2023 1:30:00 PM	318	8	48	374
	1/27/2023 1:45:00 PM	298	7	50	355
	Hour	1187	30	205	1422
	1/27/2023 2:00:00 PM	321	8	51	380
	1/27/2023 2:15:00 PM	362	9	52	423
	1/27/2023 2:30:00 PM	332	8	40	380
	1/27/2023 2:45:00 PM	362	12	52	426
	Hour	1377	37	195	1609
	1/27/2023 3:00:00 PM	300	3	47	350
	1/27/2023 3:15:00 PM	358	4	41	403
	1/27/2023 3:30:00 PM	327	5	54	386
	1/27/2023 3:45:00 PM	342	7	48	397
	Hour	1327	19	190	1536
	1/27/2023 4:00:00 PM	338	3	42	383
	1/27/2023 4:15:00 PM	305	5	38	348
	1/27/2023 4:30:00 PM	332	6	43	381
	1/27/2023 4:45:00 PM	274	4	27	305
	Hour	1249	18	150	1417
	1/27/2023 5:00:00 PM	265	7	28	300
	1/27/2023 5:15:00 PM	288	3	30	321
	1/27/2023 5:30:00 PM	287	4	40	331
	1/27/2023 5:45:00 PM	273	4	36	313
	Hour	1113	18	134	1265
	1/27/2023 6:00:00 PM	250	4	23	277
	1/27/2023 6:15:00 PM	222	3	25	250
	1/27/2023 6:30:00 PM	210	6	26	242
	1/27/2023 6:45:00 PM	200	1	31	232
	Hour	882	14	105	1001
	1/27/2023 7:00:00 PM	178	4	27	209
	1/27/2023 7:15:00 PM	178	0	33	211
	1/27/2023 7:30:00 PM	197	0	24	221
	1/27/2023 7:45:00 PM	187	1	18	206
	Hour	740	5	102	847
	1/27/2023 8:00:00 PM	156	4	19	179
	1/27/2023 8:15:00 PM	135	0	35	170
	1/27/2023 8:30:00 PM	112	2	31	145
	1/27/2023 8:45:00 PM	111	4	22	137
	Hour	514	10	107	631
	1/27/2023 9:00:00 PM	117	3	28	148
	1/27/2023 9:15:00 PM	114	4	26	144
	1/27/2023 9:30:00 PM	110	1	19	130
	1/27/2023 9:45:00 PM	104	3	15	122
	Hour	445	11	88	544
	1/27/2023 10:00:00 PM	103	3	21	127
	1/27/2023 10:15:00 PM	87	2	15	104
	1/27/2023 10:30:00 PM	82	0	10	92
	1/27/2023 10:45:00 PM	58	3	13	74
	Hour	330	8	59	397
	1/27/2023 11:00:00 PM	73	3	16	92
	1/27/2023 11:15:00 PM	50	1	16	67
	1/27/2023 11:30:00 PM	58	0	16	74
	1/27/2023 11:45:00 PM	43	1	13	57
	Hour	224	5	61	290
	Grand Total	10,669	198	1,620	12,487
	Percentage	85.4%	1.6%	13.0%	



# All Traffic Data Services

## 1 - I-95 BRIDGE OVER LAKE MARION

SB	Time	Lights	Mediums	Trucks	Total
	1/28/2023	48	2	16	66
	1/28/2023 12:15:00 AM	49	4	8	61
	1/28/2023 12:30:00 AM	41	4	11	56
	1/28/2023 12:45:00 AM	39	2	16	57
	Hour	177	12	51	240
	1/28/2023 1:00:00 AM	49	3	8	60
	1/28/2023 1:15:00 AM	28	4	9	41
	1/28/2023 1:30:00 AM	38	0	13	51
	1/28/2023 1:45:00 AM	34	2	16	52
	Hour	149	9	46	204
	1/28/2023 2:00:00 AM	35	0	14	49
	1/28/2023 2:15:00 AM	26	1	4	31
	1/28/2023 2:30:00 AM	41	2	10	53
	1/28/2023 2:45:00 AM	37	1	12	50
	Hour	139	4	40	183
	1/28/2023 3:00:00 AM	37	1	10	48
	1/28/2023 3:15:00 AM	37	0	8	45
	1/28/2023 3:30:00 AM	39	0	17	56
	1/28/2023 3:45:00 AM	24	3	10	37
	Hour	137	4	45	186
	1/28/2023 4:00:00 AM	21	2	10	33
	1/28/2023 4:15:00 AM	35	2	14	51
	1/28/2023 4:30:00 AM	43	0	10	53
	1/28/2023 4:45:00 AM	37	2	14	53
	Hour	136	6	48	190
	1/28/2023 5:00:00 AM	43	4	15	62
	1/28/2023 5:15:00 AM	53	3	18	74
	1/28/2023 5:30:00 AM	55	1	19	75
	1/28/2023 5:45:00 AM	71	5	16	92
	Hour	222	13	68	303
	1/28/2023 6:00:00 AM	66	3	14	83
	1/28/2023 6:15:00 AM	46	3	28	77
	1/28/2023 6:30:00 AM	62	1	20	83
	1/28/2023 6:45:00 AM	78	1	17	96
	Hour	252	8	79	339
	1/28/2023 7:00:00 AM	88	3	19	110
	1/28/2023 7:15:00 AM	125	1	22	148
	1/28/2023 7:30:00 AM	126	3	19	148
	1/28/2023 7:45:00 AM	118	2	30	150
	Hour	457	9	90	556
	1/28/2023 8:00:00 AM	140	3	20	163
	1/28/2023 8:15:00 AM	133	6	22	161
	1/28/2023 8:30:00 AM	198	6	24	228
	1/28/2023 8:45:00 AM	218	1	25	244
	Hour	689	16	91	796
	1/28/2023 9:00:00 AM	248	1	25	274
	1/28/2023 9:15:00 AM	252	5	26	283
	1/28/2023 9:30:00 AM	237	5	31	273
	1/28/2023 9:45:00 AM	262	3	33	298
	Hour	999	14	115	1128
	1/28/2023 10:00:00 AM	246	1	33	280
	1/28/2023 10:15:00 AM	282	5	35	322
	1/28/2023 10:30:00 AM	285	5	39	329
	1/28/2023 10:45:00 AM	304	4	27	335
	Hour	1117	15	134	1266
	1/28/2023 11:00:00 AM	297	8	38	343
	1/28/2023 11:15:00 AM	307	3	51	361
	1/28/2023 11:30:00 AM	301	6	37	344
	1/28/2023 11:45:00 AM	266	5	26	297
	Hour	1171	22	152	1345
	Grand Total	5,645	132	959	6,736
	Percentage	83.8%	2.0%	14.2%	





# All Traffic Data Services

## 1 - I-95 BRIDGE OVER LAKE MARION

SB	Time	Lights	Mediums	Trucks	Total
	1/28/2023 12:00:00 PM	308	7	36	351
	1/28/2023 12:15:00 PM	313	6	37	356
	1/28/2023 12:30:00 PM	303	5	40	348
	1/28/2023 12:45:00 PM	298	3	28	329
	Hour	1222	21	141	1384
	1/28/2023 1:00:00 PM	290	4	36	330
	1/28/2023 1:15:00 PM	279	4	56	339
	1/28/2023 1:30:00 PM	330	6	34	370
	1/28/2023 1:45:00 PM	299	6	44	349
	Hour	1198	20	170	1388
	1/28/2023 2:00:00 PM	316	1	41	358
	1/28/2023 2:15:00 PM	314	4	41	359
	1/28/2023 2:30:00 PM	315	4	41	360
	1/28/2023 2:45:00 PM	303	3	30	336
	Hour	1248	12	153	1413
	1/28/2023 3:00:00 PM	265	5	39	309
	1/28/2023 3:15:00 PM	256	6	35	297
	1/28/2023 3:30:00 PM	305	3	33	341
	1/28/2023 3:45:00 PM	270	1	37	308
	Hour	1096	15	144	1255
	1/28/2023 4:00:00 PM	277	11	34	322
	1/28/2023 4:15:00 PM	287	8	34	329
	1/28/2023 4:30:00 PM	243	6	34	283
	1/28/2023 4:45:00 PM	288	3	34	325
	Hour	1095	28	136	1259
	1/28/2023 5:00:00 PM	250	1	22	273
	1/28/2023 5:15:00 PM	359	5	30	394
	1/28/2023 5:30:00 PM	237	3	31	271
	1/28/2023 5:45:00 PM	229	4	32	265
	Hour	1075	13	115	1203
	1/28/2023 6:00:00 PM	199	8	41	248
	1/28/2023 6:15:00 PM	179	6	14	199
	1/28/2023 6:30:00 PM	183	4	31	218
	1/28/2023 6:45:00 PM	168	1	22	191
	Hour	729	19	108	856
	1/28/2023 7:00:00 PM	169	3	21	193
	1/28/2023 7:15:00 PM	132	3	28	163
	1/28/2023 7:30:00 PM	126	2	14	142
	1/28/2023 7:45:00 PM	159	4	20	183
	Hour	586	12	83	681
	1/28/2023 8:00:00 PM	133	1	27	161
	1/28/2023 8:15:00 PM	130	4	22	156
	1/28/2023 8:30:00 PM	98	1	27	126
	1/28/2023 8:45:00 PM	113	3	26	142
	Hour	474	9	102	585
	1/28/2023 9:00:00 PM	88	5	21	114
	1/28/2023 9:15:00 PM	91	5	16	112
	1/28/2023 9:30:00 PM	71	3	14	88
	1/28/2023 9:45:00 PM	79	2	13	94
	Hour	329	15	64	408
	1/28/2023 10:00:00 PM	58	2	18	78
	1/28/2023 10:15:00 PM	66	2	10	78
	1/28/2023 10:30:00 PM	76	0	14	90
	1/28/2023 10:45:00 PM	81	4	15	100
	Hour	281	8	57	346
	1/28/2023 11:00:00 PM	67	5	9	81
	1/28/2023 11:15:00 PM	61	2	13	76
	1/28/2023 11:30:00 PM	48	1	12	61
	1/28/2023 11:45:00 PM	45	0	9	54
	Hour	221	8	43	272
	Grand Total	9,554	180	1,316	11,050
	Percentage	86.5%	1.6%	11.9%	



# All Traffic Data Services

## 1 - I-95 BRIDGE OVER LAKE MARION

SB	Time	Lights	Mediums	Trucks	Total
	1/29/2023	47	1	7	55
	1/29/2023 12:15:00 AM	36	0	5	41
	1/29/2023 12:30:00 AM	28	0	11	39
	1/29/2023 12:45:00 AM	49	0	4	53
	Hour	160	1	27	188
	1/29/2023 1:00:00 AM	33	0	7	40
	1/29/2023 1:15:00 AM	31	1	10	42
	1/29/2023 1:30:00 AM	28	1	5	34
	1/29/2023 1:45:00 AM	32	1	10	43
	Hour	124	3	32	159
	1/29/2023 2:00:00 AM	20	2	7	29
	1/29/2023 2:15:00 AM	27	1	5	33
	1/29/2023 2:30:00 AM	30	0	8	38
	1/29/2023 2:45:00 AM	31	0	8	39
	Hour	108	3	28	139
	1/29/2023 3:00:00 AM	28	1	12	41
	1/29/2023 3:15:00 AM	26	1	11	38
	1/29/2023 3:30:00 AM	23	2	8	33
	1/29/2023 3:45:00 AM	21	0	6	27
	Hour	98	4	37	139
	1/29/2023 4:00:00 AM	17	0	8	25
	1/29/2023 4:15:00 AM	29	1	4	34
	1/29/2023 4:30:00 AM	30	0	8	38
	1/29/2023 4:45:00 AM	31	2	15	48
	Hour	107	3	35	145
	1/29/2023 5:00:00 AM	37	0	12	49
	1/29/2023 5:15:00 AM	36	2	9	47
	1/29/2023 5:30:00 AM	52	0	10	62
	1/29/2023 5:45:00 AM	43	2	19	64
	Hour	168	4	50	222
	1/29/2023 6:00:00 AM	50	0	7	57
	1/29/2023 6:15:00 AM	46	1	9	56
	1/29/2023 6:30:00 AM	69	0	13	82
	1/29/2023 6:45:00 AM	69	1	18	88
	Hour	234	2	47	283
	1/29/2023 7:00:00 AM	66	4	16	86
	1/29/2023 7:15:00 AM	104	2	18	124
	1/29/2023 7:30:00 AM	91	0	13	104
	1/29/2023 7:45:00 AM	130	0	19	149
	Hour	391	6	66	463
	1/29/2023 8:00:00 AM	143	0	29	172
	1/29/2023 8:15:00 AM	123	4	28	155
	1/29/2023 8:30:00 AM	173	3	23	199
	1/29/2023 8:45:00 AM	186	3	21	210
	Hour	625	10	101	736
	1/29/2023 9:00:00 AM	219	2	31	252
	1/29/2023 9:15:00 AM	188	3	26	217
	1/29/2023 9:30:00 AM	214	2	28	244
	1/29/2023 9:45:00 AM	248	4	26	278
	Hour	869	11	111	991
	1/29/2023 10:00:00 AM	259	6	32	297
	1/29/2023 10:15:00 AM	295	2	33	330
	1/29/2023 10:30:00 AM	248	3	30	281
	1/29/2023 10:45:00 AM	269	3	34	306
	Hour	1071	14	129	1214
	1/29/2023 11:00:00 AM	275	2	43	320
	1/29/2023 11:15:00 AM	302	8	32	342
	1/29/2023 11:30:00 AM	315	4	44	363
	1/29/2023 11:45:00 AM	317	6	42	365
	Hour	1209	20	161	1390
	Grand Total	5,164	81	824	6,069
	Percentage	85.1%	1.3%	13.6%	



# All Traffic Data Services

## 1 - I-95 BRIDGE OVER LAKE MARION

SB	Time	Lights	Mediums	Trucks	Total
	1/29/2023 12:00:00 PM	307	6	45	358
	1/29/2023 12:15:00 PM	336	4	31	371
	1/29/2023 12:30:00 PM	324	6	46	376
	1/29/2023 12:45:00 PM	301	4	50	355
	Hour	1268	20	172	1460
	1/29/2023 1:00:00 PM	320	4	35	359
	1/29/2023 1:15:00 PM	313	5	46	364
	1/29/2023 1:30:00 PM	373	8	42	423
	1/29/2023 1:45:00 PM	358	2	38	398
	Hour	1364	19	161	1544
	1/29/2023 2:00:00 PM	349	6	40	395
	1/29/2023 2:15:00 PM	347	1	37	385
	1/29/2023 2:30:00 PM	374	6	38	418
	1/29/2023 2:45:00 PM	366	6	35	407
	Hour	1436	19	150	1605
	1/29/2023 3:00:00 PM	373	2	27	402
	1/29/2023 3:15:00 PM	381	4	38	423
	1/29/2023 3:30:00 PM	347	2	30	379
	1/29/2023 3:45:00 PM	317	7	38	362
	Hour	1418	15	133	1566
	1/29/2023 4:00:00 PM	348	6	22	376
	1/29/2023 4:15:00 PM	298	5	25	328
	1/29/2023 4:30:00 PM	389	3	38	430
	1/29/2023 4:45:00 PM	289	5	29	323
	Hour	1324	19	114	1457
	1/29/2023 5:00:00 PM	277	4	28	309
	1/29/2023 5:15:00 PM	282	6	25	313
	1/29/2023 5:30:00 PM	276	5	31	312
	1/29/2023 5:45:00 PM	216	1	19	236
	Hour	1051	16	103	1170
	1/29/2023 6:00:00 PM	215	0	26	241
	1/29/2023 6:15:00 PM	167	5	27	199
	1/29/2023 6:30:00 PM	191	3	25	219
	1/29/2023 6:45:00 PM	160	4	28	192
	Hour	733	12	106	851
	1/29/2023 7:00:00 PM	135	4	20	159
	1/29/2023 7:15:00 PM	165	1	22	188
	1/29/2023 7:30:00 PM	121	1	16	138
	1/29/2023 7:45:00 PM	141	1	18	160
	Hour	562	7	76	645
	1/29/2023 8:00:00 PM	129	0	18	147
	1/29/2023 8:15:00 PM	105	1	17	123
	1/29/2023 8:30:00 PM	103	3	24	130
	1/29/2023 8:45:00 PM	87	2	20	109
	Hour	424	6	79	509
	1/29/2023 9:00:00 PM	81	0	22	103
	1/29/2023 9:15:00 PM	83	5	18	106
	1/29/2023 9:30:00 PM	84	1	11	96
	1/29/2023 9:45:00 PM	83	1	7	91
	Hour	331	7	58	396
	1/29/2023 10:00:00 PM	63	0	12	75
	1/29/2023 10:15:00 PM	49	0	18	67
	1/29/2023 10:30:00 PM	58	2	15	75
	1/29/2023 10:45:00 PM	62	1	12	75
	Hour	232	3	57	292
	1/29/2023 11:00:00 PM	45	5	9	59
	1/29/2023 11:15:00 PM	39	1	16	56
	1/29/2023 11:30:00 PM	45	0	10	55
	1/29/2023 11:45:00 PM	40	1	11	52
	Hour	169	7	46	222
	Grand Total	10,312	150	1,255	11,717
	Percentage	88.0%	1.3%	10.7%	



# All Traffic Data Services

## 1 - I-95 BRIDGE OVER LAKE MARION

SB	Time	Lights	Mediums	Trucks	Total
	1/30/2023	50	1	6	57
	1/30/2023 12:15:00 AM	34	2	8	44
	1/30/2023 12:30:00 AM	30	2	17	49
	1/30/2023 12:45:00 AM	15	1	13	29
	Hour	129	6	44	179
	1/30/2023 1:00:00 AM	31	2	12	45
	1/30/2023 1:15:00 AM	18	2	11	31
	1/30/2023 1:30:00 AM	22	0	10	32
	1/30/2023 1:45:00 AM	38	0	14	52
	Hour	109	4	47	160
	1/30/2023 2:00:00 AM	25	2	9	36
	1/30/2023 2:15:00 AM	20	1	13	34
	1/30/2023 2:30:00 AM	29	2	19	50
	1/30/2023 2:45:00 AM	23	1	18	42
	Hour	97	6	59	162
	1/30/2023 3:00:00 AM	22	1	17	40
	1/30/2023 3:15:00 AM	26	0	7	33
	1/30/2023 3:30:00 AM	25	2	11	38
	1/30/2023 3:45:00 AM	27	3	17	47
	Hour	100	6	52	158
	1/30/2023 4:00:00 AM	30	3	22	55
	1/30/2023 4:15:00 AM	51	5	19	75
	1/30/2023 4:30:00 AM	39	3	22	64
	1/30/2023 4:45:00 AM	46	7	27	80
	Hour	166	18	90	274
	1/30/2023 5:00:00 AM	73	4	26	103
	1/30/2023 5:15:00 AM	85	5	22	112
	1/30/2023 5:30:00 AM	78	6	26	110
	1/30/2023 5:45:00 AM	106	5	23	134
	Hour	342	20	97	459
	1/30/2023 6:00:00 AM	103	6	34	143
	1/30/2023 6:15:00 AM	115	2	33	150
	1/30/2023 6:30:00 AM	104	5	31	140
	1/30/2023 6:45:00 AM	103	3	37	143
	Hour	425	16	135	576
	1/30/2023 7:00:00 AM	124	0	17	141
	1/30/2023 7:15:00 AM	155	5	30	190
	1/30/2023 7:30:00 AM	149	6	33	188
	1/30/2023 7:45:00 AM	201	5	25	231
	Hour	629	16	105	750
	1/30/2023 8:00:00 AM	183	4	43	230
	1/30/2023 8:15:00 AM	203	0	42	245
	1/30/2023 8:30:00 AM	219	4	35	258
	1/30/2023 8:45:00 AM	172	3	46	221
	Hour	777	11	166	954
	1/30/2023 9:00:00 AM	199	8	46	253
	1/30/2023 9:15:00 AM	226	4	50	280
	1/30/2023 9:30:00 AM	230	9	54	293
	1/30/2023 9:45:00 AM	225	7	41	273
	Hour	880	28	191	1099
	1/30/2023 10:00:00 AM	248	6	52	306
	1/30/2023 10:15:00 AM	225	13	42	280
	1/30/2023 10:30:00 AM	259	7	42	308
	1/30/2023 10:45:00 AM	289	10	37	336
	Hour	1021	36	173	1230
	1/30/2023 11:00:00 AM	304	8	52	364
	1/30/2023 11:15:00 AM	293	9	63	365
	1/30/2023 11:30:00 AM	260	11	55	326
	1/30/2023 11:45:00 AM	254	7	49	310
	Hour	1111	35	219	1365
	Grand Total	5,786	202	1,378	7,366
	Percentage	78.6%	2.7%	18.7%	



# All Traffic Data Services

## 1 - I-95 BRIDGE OVER LAKE MARION

SB	Time	Lights	Mediums	Trucks	Total
	1/30/2023 12:00:00 PM	246	13	57	316
	1/30/2023 12:15:00 PM	245	6	64	315
	1/30/2023 12:30:00 PM	284	12	60	356
	1/30/2023 12:45:00 PM	271	5	53	329
	Hour	1046	36	234	1316
	1/30/2023 1:00:00 PM	248	5	47	300
	1/30/2023 1:15:00 PM	274	6	64	344
	1/30/2023 1:30:00 PM	233	3	44	280
	1/30/2023 1:45:00 PM	274	5	57	336
	Hour	1029	19	212	1260
	1/30/2023 2:00:00 PM	281	11	54	346
	1/30/2023 2:15:00 PM	258	8	40	306
	1/30/2023 2:30:00 PM	274	7	51	332
	1/30/2023 2:45:00 PM	254	7	61	322
	Hour	1067	33	206	1306
	1/30/2023 3:00:00 PM	261	5	53	319
	1/30/2023 3:15:00 PM	275	7	45	327
	1/30/2023 3:30:00 PM	259	6	53	318
	1/30/2023 3:45:00 PM	248	7	34	289
	Hour	1043	25	185	1253
	1/30/2023 4:00:00 PM	232	5	57	294
	1/30/2023 4:15:00 PM	235	2	43	280
	1/30/2023 4:30:00 PM	217	6	35	258
	1/30/2023 4:45:00 PM	189	5	49	243
	Hour	873	18	184	1075
	1/30/2023 5:00:00 PM	226	1	47	274
	1/30/2023 5:15:00 PM	234	4	47	285
	1/30/2023 5:30:00 PM	180	7	47	234
	1/30/2023 5:45:00 PM	185	7	55	247
	Hour	825	19	196	1040
	1/30/2023 6:00:00 PM	168	12	43	223
	1/30/2023 6:15:00 PM	123	2	32	157
	1/30/2023 6:30:00 PM	118	5	40	163
	1/30/2023 6:45:00 PM	117	1	29	147
	Hour	526	20	144	690
	1/30/2023 7:00:00 PM	114	2	25	141
	1/30/2023 7:15:00 PM	84	3	23	110
	1/30/2023 7:30:00 PM	90	5	25	120
	1/30/2023 7:45:00 PM	89	7	27	123
	Hour	377	17	100	494
	1/30/2023 8:00:00 PM	71	1	37	109
	1/30/2023 8:15:00 PM	64	6	25	95
	1/30/2023 8:30:00 PM	68	2	27	97
	1/30/2023 8:45:00 PM	51	3	25	79
	Hour	254	12	114	380
	1/30/2023 9:00:00 PM	58	1	15	74
	1/30/2023 9:15:00 PM	50	4	19	73
	1/30/2023 9:30:00 PM	49	2	26	77
	1/30/2023 9:45:00 PM	42	2	20	64
	Hour	199	9	80	288
	1/30/2023 10:00:00 PM	52	0	22	74
	1/30/2023 10:15:00 PM	54	4	16	74
	1/30/2023 10:30:00 PM	54	2	16	72
	1/30/2023 10:45:00 PM	31	1	20	52
	Hour	191	7	74	272
	1/30/2023 11:00:00 PM	40	2	23	65
	1/30/2023 11:15:00 PM	30	3	23	56
	1/30/2023 11:30:00 PM	25	1	16	42
	1/30/2023 11:45:00 PM	20	4	18	42
	Hour	115	10	80	205
	Grand Total	7,545	225	1,809	9,579
	Percentage	78.8%	2.3%	18.9%	
	Total	95,405	2,443	23,735	121,583
	Percentage	78.5%	2.0%	19.5%	



# All Traffic Data Services

## 2 - OLD NUMBER SIX HWY E.O I-95 RAMPS

EB	Time	Lights	Mediums	Trucks	Total
	1/24/2023	2	0	0	2
	1/24/2023 12:15:00 AM	3	0	0	3
	1/24/2023 12:30:00 AM	3	1	0	4
	1/24/2023 12:45:00 AM	4	0	0	4
	Hour	12	1	0	13
	1/24/2023 1:00:00 AM	4	0	0	4
	1/24/2023 1:15:00 AM	4	0	0	4
	1/24/2023 1:30:00 AM	9	0	0	9
	1/24/2023 1:45:00 AM	3	0	0	3
	Hour	20	0	0	20
	1/24/2023 2:00:00 AM	1	0	1	2
	1/24/2023 2:15:00 AM	3	1	0	4
	1/24/2023 2:30:00 AM	2	1	0	3
	1/24/2023 2:45:00 AM	1	0	0	1
	Hour	7	2	1	10
	1/24/2023 3:00:00 AM	3	0	0	3
	1/24/2023 3:15:00 AM	4	0	0	4
	1/24/2023 3:30:00 AM	4	0	0	4
	1/24/2023 3:45:00 AM	5	0	0	5
	Hour	16	0	0	16
	1/24/2023 4:00:00 AM	1	0	0	1
	1/24/2023 4:15:00 AM	5	0	3	8
	1/24/2023 4:30:00 AM	9	0	1	10
	1/24/2023 4:45:00 AM	9	1	0	10
	Hour	24	1	4	29
	1/24/2023 5:00:00 AM	9	1	1	11
	1/24/2023 5:15:00 AM	9	0	2	11
	1/24/2023 5:30:00 AM	19	0	3	22
	1/24/2023 5:45:00 AM	30	0	0	30
	Hour	67	1	6	74
	1/24/2023 6:00:00 AM	40	2	1	43
	1/24/2023 6:15:00 AM	26	3	0	29
	1/24/2023 6:30:00 AM	28	0	0	28
	1/24/2023 6:45:00 AM	43	1	3	47
	Hour	137	6	4	147
	1/24/2023 7:00:00 AM	41	1	1	43
	1/24/2023 7:15:00 AM	50	1	1	52
	1/24/2023 7:30:00 AM	53	1	0	54
	1/24/2023 7:45:00 AM	63	1	0	64
	Hour	207	4	2	213
	1/24/2023 8:00:00 AM	78	1	3	82
	1/24/2023 8:15:00 AM	59	1	1	61
	1/24/2023 8:30:00 AM	69	0	0	69
	1/24/2023 8:45:00 AM	68	1	0	69
	Hour	274	3	4	281
	1/24/2023 9:00:00 AM	55	0	1	56
	1/24/2023 9:15:00 AM	45	1	0	46
	1/24/2023 9:30:00 AM	56	1	2	59
	1/24/2023 9:45:00 AM	70	3	1	74
	Hour	226	5	4	235
	1/24/2023 10:00:00 AM	76	0	2	78
	1/24/2023 10:15:00 AM	60	1	1	62
	1/24/2023 10:30:00 AM	75	3	1	79
	1/24/2023 10:45:00 AM	78	1	1	80
	Hour	289	5	5	299
	1/24/2023 11:00:00 AM	77	1	1	79
	1/24/2023 11:15:00 AM	82	1	2	85
	1/24/2023 11:30:00 AM	79	1	1	81
	1/24/2023 11:45:00 AM	77	1	2	80
	Hour	315	4	6	325
	Grand Total	1,594	32	36	1,662
	Percentage	95.9%	1.9%	2.2%	



# All Traffic Data Services

## 2 - OLD NUMBER SIX HWY E.O I-95 RAMPS

EB	Time	Lights	Mediums	Trucks	Total
	1/24/2023 12:00:00 PM	81	1	1	83
	1/24/2023 12:15:00 PM	78	3	2	83
	1/24/2023 12:30:00 PM	90	2	3	95
	1/24/2023 12:45:00 PM	87	3	3	93
	Hour	336	9	9	354
	1/24/2023 1:00:00 PM	92	0	2	94
	1/24/2023 1:15:00 PM	80	2	3	85
	1/24/2023 1:30:00 PM	80	1	2	83
	1/24/2023 1:45:00 PM	92	1	1	94
	Hour	344	4	8	356
	1/24/2023 2:00:00 PM	94	2	0	96
	1/24/2023 2:15:00 PM	90	2	0	92
	1/24/2023 2:30:00 PM	75	1	2	78
	1/24/2023 2:45:00 PM	86	2	0	88
	Hour	345	7	2	354
	1/24/2023 3:00:00 PM	83	0	3	86
	1/24/2023 3:15:00 PM	100	1	0	101
	1/24/2023 3:30:00 PM	102	1	1	104
	1/24/2023 3:45:00 PM	105	2	1	108
	Hour	390	4	5	399
	1/24/2023 4:00:00 PM	108	4	1	113
	1/24/2023 4:15:00 PM	130	0	0	130
	1/24/2023 4:30:00 PM	97	2	0	99
	1/24/2023 4:45:00 PM	89	0	0	89
	Hour	424	6	1	431
	1/24/2023 5:00:00 PM	115	2	1	118
	1/24/2023 5:15:00 PM	130	3	0	133
	1/24/2023 5:30:00 PM	120	0	3	123
	1/24/2023 5:45:00 PM	129	1	1	131
	Hour	494	6	5	505
	1/24/2023 6:00:00 PM	117	0	0	117
	1/24/2023 6:15:00 PM	92	2	0	94
	1/24/2023 6:30:00 PM	87	1	1	89
	1/24/2023 6:45:00 PM	77	2	1	80
	Hour	373	5	2	380
	1/24/2023 7:00:00 PM	68	0	0	68
	1/24/2023 7:15:00 PM	53	0	0	53
	1/24/2023 7:30:00 PM	48	0	0	48
	1/24/2023 7:45:00 PM	49	0	0	49
	Hour	218	0	0	218
	1/24/2023 8:00:00 PM	60	0	0	60
	1/24/2023 8:15:00 PM	37	2	0	39
	1/24/2023 8:30:00 PM	37	0	0	37
	1/24/2023 8:45:00 PM	29	0	0	29
	Hour	163	2	0	165
	1/24/2023 9:00:00 PM	36	0	0	36
	1/24/2023 9:15:00 PM	32	3	0	35
	1/24/2023 9:30:00 PM	21	1	0	22
	1/24/2023 9:45:00 PM	20	0	1	21
	Hour	109	4	1	114
	1/24/2023 10:00:00 PM	22	0	0	22
	1/24/2023 10:15:00 PM	15	0	0	15
	1/24/2023 10:30:00 PM	16	0	0	16
	1/24/2023 10:45:00 PM	12	1	0	13
	Hour	65	1	0	66
	1/24/2023 11:00:00 PM	9	0	0	9
	1/24/2023 11:15:00 PM	10	0	1	11
	1/24/2023 11:30:00 PM	10	0	0	10
	1/24/2023 11:45:00 PM	14	0	1	15
	Hour	43	0	2	45
	Grand Total	3,304	48	35	3,387
	Percentage	97.5%	1.4%	1.0%	





# All Traffic Data Services

## 2 - OLD NUMBER SIX HWY E.O I-95 RAMPS

EB	Time	Lights	Mediums	Trucks	Total
	1/25/2023	6	0	0	6
	1/25/2023 12:15:00 AM	10	0	0	10
	1/25/2023 12:30:00 AM	3	0	0	3
	1/25/2023 12:45:00 AM	7	0	0	7
	Hour	26	0	0	26
	1/25/2023 1:00:00 AM	4	0	0	4
	1/25/2023 1:15:00 AM	0	0	0	0
	1/25/2023 1:30:00 AM	5	0	1	6
	1/25/2023 1:45:00 AM	2	0	0	2
	Hour	11	0	1	12
	1/25/2023 2:00:00 AM	2	0	1	3
	1/25/2023 2:15:00 AM	4	0	0	4
	1/25/2023 2:30:00 AM	5	0	0	5
	1/25/2023 2:45:00 AM	5	0	0	5
	Hour	16	0	1	17
	1/25/2023 3:00:00 AM	6	0	1	7
	1/25/2023 3:15:00 AM	3	0	2	5
	1/25/2023 3:30:00 AM	2	0	1	3
	1/25/2023 3:45:00 AM	5	0	1	6
	Hour	16	0	5	21
	1/25/2023 4:00:00 AM	3	0	0	3
	1/25/2023 4:15:00 AM	4	0	1	5
	1/25/2023 4:30:00 AM	8	0	2	10
	1/25/2023 4:45:00 AM	6	0	1	7
	Hour	21	0	4	25
	1/25/2023 5:00:00 AM	16	0	1	17
	1/25/2023 5:15:00 AM	18	0	0	18
	1/25/2023 5:30:00 AM	17	1	0	18
	1/25/2023 5:45:00 AM	24	2	2	28
	Hour	75	3	3	81
	1/25/2023 6:00:00 AM	37	2	1	40
	1/25/2023 6:15:00 AM	21	2	0	23
	1/25/2023 6:30:00 AM	28	0	0	28
	1/25/2023 6:45:00 AM	35	2	0	37
	Hour	121	6	1	128
	1/25/2023 7:00:00 AM	34	0	0	34
	1/25/2023 7:15:00 AM	47	1	4	52
	1/25/2023 7:30:00 AM	69	1	0	70
	1/25/2023 7:45:00 AM	60	1	1	62
	Hour	210	3	5	218
	1/25/2023 8:00:00 AM	64	1	1	66
	1/25/2023 8:15:00 AM	53	0	0	53
	1/25/2023 8:30:00 AM	70	3	1	74
	1/25/2023 8:45:00 AM	58	1	6	65
	Hour	245	5	8	258
	1/25/2023 9:00:00 AM	67	2	1	70
	1/25/2023 9:15:00 AM	70	3	0	73
	1/25/2023 9:30:00 AM	63	1	2	66
	1/25/2023 9:45:00 AM	65	0	2	67
	Hour	265	6	5	276
	1/25/2023 10:00:00 AM	76	1	0	77
	1/25/2023 10:15:00 AM	53	0	4	57
	1/25/2023 10:30:00 AM	62	2	1	65
	1/25/2023 10:45:00 AM	75	2	1	78
	Hour	266	5	6	277
	1/25/2023 11:00:00 AM	60	3	0	63
	1/25/2023 11:15:00 AM	76	1	3	80
	1/25/2023 11:30:00 AM	75	0	2	77
	1/25/2023 11:45:00 AM	76	1	1	78
	Hour	287	5	6	298
	Grand Total	1,559	33	45	1,637
	Percentage	95.2%	2.0%	2.7%	



# All Traffic Data Services

## 2 - OLD NUMBER SIX HWY E.O I-95 RAMPS

EB	Time	Lights	Mediums	Trucks	Total
	1/25/2023 12:00:00 PM	78	1	1	80
	1/25/2023 12:15:00 PM	83	2	0	85
	1/25/2023 12:30:00 PM	71	2	3	76
	1/25/2023 12:45:00 PM	68	0	1	69
	Hour	300	5	5	310
	1/25/2023 1:00:00 PM	66	0	0	66
	1/25/2023 1:15:00 PM	83	2	3	88
	1/25/2023 1:30:00 PM	65	2	1	68
	1/25/2023 1:45:00 PM	75	0	0	75
	Hour	289	4	4	297
	1/25/2023 2:00:00 PM	71	0	0	71
	1/25/2023 2:15:00 PM	87	1	1	89
	1/25/2023 2:30:00 PM	81	2	1	84
	1/25/2023 2:45:00 PM	82	4	0	86
	Hour	321	7	2	330
	1/25/2023 3:00:00 PM	90	1	1	92
	1/25/2023 3:15:00 PM	81	1	1	83
	1/25/2023 3:30:00 PM	92	3	1	96
	1/25/2023 3:45:00 PM	109	1	0	110
	Hour	372	6	3	381
	1/25/2023 4:00:00 PM	98	2	0	100
	1/25/2023 4:15:00 PM	90	1	0	91
	1/25/2023 4:30:00 PM	97	0	1	98
	1/25/2023 4:45:00 PM	87	0	1	88
	Hour	372	3	2	377
	1/25/2023 5:00:00 PM	107	1	2	110
	1/25/2023 5:15:00 PM	91	2	1	94
	1/25/2023 5:30:00 PM	85	1	1	87
	1/25/2023 5:45:00 PM	81	2	0	83
	Hour	364	6	4	374
	1/25/2023 6:00:00 PM	70	0	2	72
	1/25/2023 6:15:00 PM	77	0	0	77
	1/25/2023 6:30:00 PM	62	0	1	63
	1/25/2023 6:45:00 PM	50	0	0	50
	Hour	259	0	3	262
	1/25/2023 7:00:00 PM	60	0	1	61
	1/25/2023 7:15:00 PM	52	2	1	55
	1/25/2023 7:30:00 PM	52	2	1	55
	1/25/2023 7:45:00 PM	45	0	1	46
	Hour	209	4	4	217
	1/25/2023 8:00:00 PM	49	0	0	49
	1/25/2023 8:15:00 PM	39	0	0	39
	1/25/2023 8:30:00 PM	35	0	0	35
	1/25/2023 8:45:00 PM	36	0	0	36
	Hour	159	0	0	159
	1/25/2023 9:00:00 PM	29	0	0	29
	1/25/2023 9:15:00 PM	25	0	0	25
	1/25/2023 9:30:00 PM	28	0	0	28
	1/25/2023 9:45:00 PM	26	0	0	26
	Hour	108	0	0	108
	1/25/2023 10:00:00 PM	0	0	0	0
	1/25/2023 10:15:00 PM	0	0	0	0
	1/25/2023 10:30:00 PM	0	0	0	0
	1/25/2023 10:45:00 PM	0	0	0	0
	Hour	0	0	0	0
	1/25/2023 11:00:00 PM	17	3	0	20
	1/25/2023 11:15:00 PM	14	0	0	14
	1/25/2023 11:30:00 PM	8	0	1	9
	1/25/2023 11:45:00 PM	8	0	0	8
	Hour	47	3	1	51
	Grand Total	2,800	38	28	2,866
	Percentage	97.7%	1.3%	1.0%	



# All Traffic Data Services

## 2 - OLD NUMBER SIX HWY E.O I-95 RAMPS

EB	Time	Lights	Mediums	Trucks	Total
	1/26/2023	12	0	1	13
	1/26/2023 12:15:00 AM	3	0	0	3
	1/26/2023 12:30:00 AM	3	1	0	4
	1/26/2023 12:45:00 AM	8	3	0	11
	Hour	26	4	1	31
	1/26/2023 1:00:00 AM	3	0	0	3
	1/26/2023 1:15:00 AM	2	0	0	2
	1/26/2023 1:30:00 AM	8	0	0	8
	1/26/2023 1:45:00 AM	6	0	0	6
	Hour	19	0	0	19
	1/26/2023 2:00:00 AM	5	0	0	5
	1/26/2023 2:15:00 AM	2	0	0	2
	1/26/2023 2:30:00 AM	2	1	0	3
	1/26/2023 2:45:00 AM	4	0	0	4
	Hour	13	1	0	14
	1/26/2023 3:00:00 AM	1	3	0	4
	1/26/2023 3:15:00 AM	4	0	1	5
	1/26/2023 3:30:00 AM	3	0	0	3
	1/26/2023 3:45:00 AM	3	0	1	4
	Hour	11	3	2	16
	1/26/2023 4:00:00 AM	3	0	0	3
	1/26/2023 4:15:00 AM	4	0	0	4
	1/26/2023 4:30:00 AM	6	1	1	8
	1/26/2023 4:45:00 AM	12	0	1	13
	Hour	25	1	2	28
	1/26/2023 5:00:00 AM	12	0	0	12
	1/26/2023 5:15:00 AM	17	0	1	18
	1/26/2023 5:30:00 AM	23	1	2	26
	1/26/2023 5:45:00 AM	35	1	1	37
	Hour	87	2	4	93
	1/26/2023 6:00:00 AM	28	2	2	32
	1/26/2023 6:15:00 AM	28	2	0	30
	1/26/2023 6:30:00 AM	37	1	2	40
	1/26/2023 6:45:00 AM	50	1	3	54
	Hour	143	6	7	156
	1/26/2023 7:00:00 AM	37	1	1	39
	1/26/2023 7:15:00 AM	49	1	1	51
	1/26/2023 7:30:00 AM	49	1	1	51
	1/26/2023 7:45:00 AM	69	1	2	72
	Hour	204	4	5	213
	1/26/2023 8:00:00 AM	81	0	1	82
	1/26/2023 8:15:00 AM	65	0	1	66
	1/26/2023 8:30:00 AM	83	3	3	89
	1/26/2023 8:45:00 AM	53	1	1	55
	Hour	282	4	6	292
	1/26/2023 9:00:00 AM	73	1	1	75
	1/26/2023 9:15:00 AM	63	1	0	64
	1/26/2023 9:30:00 AM	93	0	0	93
	1/26/2023 9:45:00 AM	60	2	1	63
	Hour	289	4	2	295
	1/26/2023 10:00:00 AM	66	1	3	70
	1/26/2023 10:15:00 AM	60	1	1	62
	1/26/2023 10:30:00 AM	69	2	1	72
	1/26/2023 10:45:00 AM	87	2	1	90
	Hour	282	6	6	294
	1/26/2023 11:00:00 AM	86	0	1	87
	1/26/2023 11:15:00 AM	108	1	2	111
	1/26/2023 11:30:00 AM	100	1	0	101
	1/26/2023 11:45:00 AM	100	1	2	103
	Hour	394	3	5	402
	Grand Total	1,775	38	40	1,853
	Percentage	95.8%	2.1%	2.2%	



# All Traffic Data Services

## 2 - OLD NUMBER SIX HWY E.O I-95 RAMPS

EB	Time	Lights	Mediums	Trucks	Total
	1/26/2023 12:00:00 PM	106	3	2	111
	1/26/2023 12:15:00 PM	111	0	0	111
	1/26/2023 12:30:00 PM	107	0	0	107
	1/26/2023 12:45:00 PM	96	1	0	97
	Hour	420	4	2	426
	1/26/2023 1:00:00 PM	92	3	0	95
	1/26/2023 1:15:00 PM	82	0	1	83
	1/26/2023 1:30:00 PM	81	1	2	84
	1/26/2023 1:45:00 PM	93	1	3	97
	Hour	348	5	6	359
	1/26/2023 2:00:00 PM	81	1	1	83
	1/26/2023 2:15:00 PM	104	0	0	104
	1/26/2023 2:30:00 PM	93	0	1	94
	1/26/2023 2:45:00 PM	111	1	1	113
	Hour	389	2	3	394
	1/26/2023 3:00:00 PM	118	2	1	121
	1/26/2023 3:15:00 PM	109	2	1	112
	1/26/2023 3:30:00 PM	98	0	0	98
	1/26/2023 3:45:00 PM	114	2	0	116
	Hour	439	6	2	447
	1/26/2023 4:00:00 PM	129	1	0	130
	1/26/2023 4:15:00 PM	116	2	0	118
	1/26/2023 4:30:00 PM	139	1	0	140
	1/26/2023 4:45:00 PM	107	1	1	109
	Hour	491	5	1	497
	1/26/2023 5:00:00 PM	136	0	2	138
	1/26/2023 5:15:00 PM	123	1	2	126
	1/26/2023 5:30:00 PM	121	0	0	121
	1/26/2023 5:45:00 PM	123	2	0	125
	Hour	503	3	4	510
	1/26/2023 6:00:00 PM	112	0	0	112
	1/26/2023 6:15:00 PM	96	0	0	96
	1/26/2023 6:30:00 PM	100	1	1	102
	1/26/2023 6:45:00 PM	76	1	0	77
	Hour	384	2	1	387
	1/26/2023 7:00:00 PM	67	2	0	69
	1/26/2023 7:15:00 PM	60	1	2	63
	1/26/2023 7:30:00 PM	58	0	0	58
	1/26/2023 7:45:00 PM	48	1	0	49
	Hour	233	4	2	239
	1/26/2023 8:00:00 PM	74	0	0	74
	1/26/2023 8:15:00 PM	55	1	0	56
	1/26/2023 8:30:00 PM	53	1	1	55
	1/26/2023 8:45:00 PM	39	3	1	43
	Hour	221	5	2	228
	1/26/2023 9:00:00 PM	32	2	0	34
	1/26/2023 9:15:00 PM	41	0	0	41
	1/26/2023 9:30:00 PM	16	0	0	16
	1/26/2023 9:45:00 PM	26	0	1	27
	Hour	115	2	1	118
	1/26/2023 10:00:00 PM	20	0	0	20
	1/26/2023 10:15:00 PM	22	0	0	22
	1/26/2023 10:30:00 PM	20	0	0	20
	1/26/2023 10:45:00 PM	17	0	0	17
	Hour	79	0	0	79
	1/26/2023 11:00:00 PM	5	0	0	5
	1/26/2023 11:15:00 PM	19	0	0	19
	1/26/2023 11:30:00 PM	11	0	0	11
	1/26/2023 11:45:00 PM	4	0	0	4
	Hour	39	0	0	39
	Grand Total	3,661	38	24	3,723
	Percentage	98.3%	1.0%	0.6%	



# All Traffic Data Services

## 2 - OLD NUMBER SIX HWY E.O I-95 RAMPS

EB	Time	Lights	Mediums	Trucks	Total
	1/27/2023	7	0	0	7
	1/27/2023 12:15:00 AM	2	0	0	2
	1/27/2023 12:30:00 AM	9	0	0	9
	1/27/2023 12:45:00 AM	7	1	0	8
	Hour	25	1	0	26
	1/27/2023 1:00:00 AM	5	0	0	5
	1/27/2023 1:15:00 AM	8	0	0	8
	1/27/2023 1:30:00 AM	2	0	0	2
	1/27/2023 1:45:00 AM	2	0	0	2
	Hour	17	0	0	17
	1/27/2023 2:00:00 AM	1	0	0	1
	1/27/2023 2:15:00 AM	4	0	0	4
	1/27/2023 2:30:00 AM	2	0	1	3
	1/27/2023 2:45:00 AM	4	0	0	4
	Hour	11	0	1	12
	1/27/2023 3:00:00 AM	5	0	1	6
	1/27/2023 3:15:00 AM	5	0	3	8
	1/27/2023 3:30:00 AM	8	0	1	9
	1/27/2023 3:45:00 AM	6	0	0	6
	Hour	24	0	5	29
	1/27/2023 4:00:00 AM	4	0	0	4
	1/27/2023 4:15:00 AM	6	1	1	8
	1/27/2023 4:30:00 AM	11	0	3	14
	1/27/2023 4:45:00 AM	8	0	0	8
	Hour	29	1	4	34
	1/27/2023 5:00:00 AM	15	1	1	17
	1/27/2023 5:15:00 AM	20	1	0	21
	1/27/2023 5:30:00 AM	22	1	2	25
	1/27/2023 5:45:00 AM	29	1	1	31
	Hour	86	4	4	94
	1/27/2023 6:00:00 AM	29	1	0	30
	1/27/2023 6:15:00 AM	25	6	0	31
	1/27/2023 6:30:00 AM	22	0	3	25
	1/27/2023 6:45:00 AM	46	0	1	47
	Hour	122	7	4	133
	1/27/2023 7:00:00 AM	35	0	2	37
	1/27/2023 7:15:00 AM	54	2	1	57
	1/27/2023 7:30:00 AM	71	3	1	75
	1/27/2023 7:45:00 AM	55	0	0	55
	Hour	215	5	4	224
	1/27/2023 8:00:00 AM	64	1	3	68
	1/27/2023 8:15:00 AM	67	0	3	70
	1/27/2023 8:30:00 AM	79	1	3	83
	1/27/2023 8:45:00 AM	72	0	0	72
	Hour	282	2	9	293
	1/27/2023 9:00:00 AM	74	1	0	75
	1/27/2023 9:15:00 AM	71	1	4	76
	1/27/2023 9:30:00 AM	68	0	1	69
	1/27/2023 9:45:00 AM	71	1	2	74
	Hour	284	3	7	294
	1/27/2023 10:00:00 AM	74	3	1	78
	1/27/2023 10:15:00 AM	67	2	3	72
	1/27/2023 10:30:00 AM	85	2	0	87
	1/27/2023 10:45:00 AM	95	2	5	102
	Hour	321	9	9	339
	1/27/2023 11:00:00 AM	105	1	1	107
	1/27/2023 11:15:00 AM	74	1	3	78
	1/27/2023 11:30:00 AM	102	0	1	103
	1/27/2023 11:45:00 AM	112	1	1	114
	Hour	393	3	6	402
	Grand Total	1,809	35	53	1,897
	Percentage	95.4%	1.8%	2.8%	



# All Traffic Data Services

## 2 - OLD NUMBER SIX HWY E.O I-95 RAMPS

EB	Time	Lights	Mediums	Trucks	Total
	1/27/2023 12:00:00 PM	83	0	1	84
	1/27/2023 12:15:00 PM	113	0	2	115
	1/27/2023 12:30:00 PM	125	3	1	129
	1/27/2023 12:45:00 PM	110	1	3	114
	Hour	431	4	7	442
	1/27/2023 1:00:00 PM	132	4	1	137
	1/27/2023 1:15:00 PM	107	0	0	107
	1/27/2023 1:30:00 PM	110	2	2	114
	1/27/2023 1:45:00 PM	135	6	1	142
	Hour	484	12	4	500
	1/27/2023 2:00:00 PM	115	2	1	118
	1/27/2023 2:15:00 PM	109	0	4	113
	1/27/2023 2:30:00 PM	108	1	2	111
	1/27/2023 2:45:00 PM	106	7	3	116
	Hour	438	10	10	458
	1/27/2023 3:00:00 PM	105	2	0	107
	1/27/2023 3:15:00 PM	132	0	3	135
	1/27/2023 3:30:00 PM	115	3	1	119
	1/27/2023 3:45:00 PM	143	2	0	145
	Hour	495	7	4	506
	1/27/2023 4:00:00 PM	163	3	0	166
	1/27/2023 4:15:00 PM	142	2	1	145
	1/27/2023 4:30:00 PM	142	1	1	144
	1/27/2023 4:45:00 PM	138	0	2	140
	Hour	585	6	4	595
	1/27/2023 5:00:00 PM	167	0	1	168
	1/27/2023 5:15:00 PM	133	1	1	135
	1/27/2023 5:30:00 PM	135	0	0	135
	1/27/2023 5:45:00 PM	139	0	0	139
	Hour	574	1	2	577
	1/27/2023 6:00:00 PM	116	0	0	116
	1/27/2023 6:15:00 PM	114	1	0	115
	1/27/2023 6:30:00 PM	112	2	0	114
	1/27/2023 6:45:00 PM	105	0	0	105
	Hour	447	3	0	450
	1/27/2023 7:00:00 PM	62	0	0	62
	1/27/2023 7:15:00 PM	87	3	1	91
	1/27/2023 7:30:00 PM	103	0	0	103
	1/27/2023 7:45:00 PM	74	1	0	75
	Hour	326	4	1	331
	1/27/2023 8:00:00 PM	69	0	0	69
	1/27/2023 8:15:00 PM	58	2	1	61
	1/27/2023 8:30:00 PM	51	2	0	53
	1/27/2023 8:45:00 PM	57	0	1	58
	Hour	235	4	2	241
	1/27/2023 9:00:00 PM	45	0	1	46
	1/27/2023 9:15:00 PM	51	2	0	53
	1/27/2023 9:30:00 PM	77	0	0	77
	1/27/2023 9:45:00 PM	56	1	1	58
	Hour	229	3	2	234
	1/27/2023 10:00:00 PM	60	0	0	60
	1/27/2023 10:15:00 PM	39	0	0	39
	1/27/2023 10:30:00 PM	40	0	0	40
	1/27/2023 10:45:00 PM	22	0	0	22
	Hour	161	0	0	161
	1/27/2023 11:00:00 PM	29	0	0	29
	1/27/2023 11:15:00 PM	21	0	0	21
	1/27/2023 11:30:00 PM	20	0	1	21
	1/27/2023 11:45:00 PM	10	0	0	10
	Hour	80	0	1	81
	Grand Total	4,485	54	37	4,576
	Percentage	98.0%	1.2%	0.8%	



# All Traffic Data Services

## 2 - OLD NUMBER SIX HWY E.O I-95 RAMPS

EB	Time	Lights	Mediums	Trucks	Total
	1/28/2023	14	0	1	15
	1/28/2023 12:15:00 AM	29	2	1	32
	1/28/2023 12:30:00 AM	16	0	0	16
	1/28/2023 12:45:00 AM	9	0	0	9
	Hour	68	2	2	72
	1/28/2023 1:00:00 AM	14	0	0	14
	1/28/2023 1:15:00 AM	13	0	0	13
	1/28/2023 1:30:00 AM	11	0	0	11
	1/28/2023 1:45:00 AM	21	0	0	21
	Hour	59	0	0	59
	1/28/2023 2:00:00 AM	10	1	0	11
	1/28/2023 2:15:00 AM	3	0	0	3
	1/28/2023 2:30:00 AM	8	0	0	8
	1/28/2023 2:45:00 AM	5	0	0	5
	Hour	26	1	0	27
	1/28/2023 3:00:00 AM	10	0	0	10
	1/28/2023 3:15:00 AM	8	0	0	8
	1/28/2023 3:30:00 AM	6	0	0	6
	1/28/2023 3:45:00 AM	2	0	0	2
	Hour	26	0	0	26
	1/28/2023 4:00:00 AM	6	0	0	6
	1/28/2023 4:15:00 AM	9	0	0	9
	1/28/2023 4:30:00 AM	9	0	0	9
	1/28/2023 4:45:00 AM	12	0	0	12
	Hour	36	0	0	36
	1/28/2023 5:00:00 AM	19	0	0	19
	1/28/2023 5:15:00 AM	12	1	0	13
	1/28/2023 5:30:00 AM	12	0	0	12
	1/28/2023 5:45:00 AM	12	0	0	12
	Hour	55	1	0	56
	1/28/2023 6:00:00 AM	12	0	0	12
	1/28/2023 6:15:00 AM	27	0	0	27
	1/28/2023 6:30:00 AM	18	1	0	19
	1/28/2023 6:45:00 AM	21	1	0	22
	Hour	78	2	0	80
	1/28/2023 7:00:00 AM	26	0	3	29
	1/28/2023 7:15:00 AM	33	0	0	33
	1/28/2023 7:30:00 AM	34	1	0	35
	1/28/2023 7:45:00 AM	47	0	1	48
	Hour	140	1	4	145
	1/28/2023 8:00:00 AM	44	0	0	44
	1/28/2023 8:15:00 AM	50	3	3	56
	1/28/2023 8:30:00 AM	60	0	1	61
	1/28/2023 8:45:00 AM	68	0	0	68
	Hour	222	3	4	229
	1/28/2023 9:00:00 AM	84	1	0	85
	1/28/2023 9:15:00 AM	80	1	1	82
	1/28/2023 9:30:00 AM	75	0	0	75
	1/28/2023 9:45:00 AM	88	0	0	88
	Hour	327	2	1	330
	1/28/2023 10:00:00 AM	74	0	0	74
	1/28/2023 10:15:00 AM	82	1	1	84
	1/28/2023 10:30:00 AM	86	2	0	88
	1/28/2023 10:45:00 AM	104	1	0	105
	Hour	346	4	1	351
	1/28/2023 11:00:00 AM	97	1	0	98
	1/28/2023 11:15:00 AM	94	1	0	95
	1/28/2023 11:30:00 AM	104	1	0	105
	1/28/2023 11:45:00 AM	109	1	0	110
	Hour	404	4	0	408
	Grand Total	1,787	20	12	1,819
	Percentage	98.2%	1.1%	0.7%	





# All Traffic Data Services

## 2 - OLD NUMBER SIX HWY E.O I-95 RAMPS

EB	Time	Lights	Mediums	Trucks	Total
	1/28/2023 12:00:00 PM	123	1	0	124
	1/28/2023 12:15:00 PM	138	1	0	139
	1/28/2023 12:30:00 PM	111	1	0	112
	1/28/2023 12:45:00 PM	111	1	0	112
	Hour	483	4	0	487
	1/28/2023 1:00:00 PM	124	2	1	127
	1/28/2023 1:15:00 PM	99	1	0	100
	1/28/2023 1:30:00 PM	123	2	0	125
	1/28/2023 1:45:00 PM	116	1	0	117
	Hour	462	6	1	469
	1/28/2023 2:00:00 PM	103	1	1	105
	1/28/2023 2:15:00 PM	125	1	1	127
	1/28/2023 2:30:00 PM	108	1	0	109
	1/28/2023 2:45:00 PM	120	0	0	120
	Hour	456	3	2	461
	1/28/2023 3:00:00 PM	107	1	0	108
	1/28/2023 3:15:00 PM	124	2	0	126
	1/28/2023 3:30:00 PM	91	1	1	93
	1/28/2023 3:45:00 PM	137	0	0	137
	Hour	459	4	1	464
	1/28/2023 4:00:00 PM	101	0	0	101
	1/28/2023 4:15:00 PM	129	2	1	132
	1/28/2023 4:30:00 PM	110	1	0	111
	1/28/2023 4:45:00 PM	131	1	0	132
	Hour	471	4	1	476
	1/28/2023 5:00:00 PM	129	0	0	129
	1/28/2023 5:15:00 PM	108	0	0	108
	1/28/2023 5:30:00 PM	111	0	0	111
	1/28/2023 5:45:00 PM	122	1	0	123
	Hour	470	1	0	471
	1/28/2023 6:00:00 PM	115	0	0	115
	1/28/2023 6:15:00 PM	110	1	0	111
	1/28/2023 6:30:00 PM	111	0	0	111
	1/28/2023 6:45:00 PM	93	0	1	94
	Hour	429	1	1	431
	1/28/2023 7:00:00 PM	97	1	0	98
	1/28/2023 7:15:00 PM	72	1	0	73
	1/28/2023 7:30:00 PM	52	0	0	52
	1/28/2023 7:45:00 PM	69	1	0	70
	Hour	290	3	0	293
	1/28/2023 8:00:00 PM	73	0	0	73
	1/28/2023 8:15:00 PM	71	0	0	71
	1/28/2023 8:30:00 PM	57	1	0	58
	1/28/2023 8:45:00 PM	43	1	0	44
	Hour	244	2	0	246
	1/28/2023 9:00:00 PM	39	0	1	40
	1/28/2023 9:15:00 PM	48	0	0	48
	1/28/2023 9:30:00 PM	39	1	0	40
	1/28/2023 9:45:00 PM	29	0	0	29
	Hour	155	1	1	157
	1/28/2023 10:00:00 PM	36	0	0	36
	1/28/2023 10:15:00 PM	27	0	0	27
	1/28/2023 10:30:00 PM	29	0	0	29
	1/28/2023 10:45:00 PM	27	1	0	28
	Hour	119	1	0	120
	1/28/2023 11:00:00 PM	21	0	0	21
	1/28/2023 11:15:00 PM	19	0	0	19
	1/28/2023 11:30:00 PM	19	1	0	20
	1/28/2023 11:45:00 PM	18	0	0	18
	Hour	77	1	0	78
	Grand Total	4,115	31	7	4,153
	Percentage	99.1%	0.7%	0.2%	



# All Traffic Data Services

## 2 - OLD NUMBER SIX HWY E.O I-95 RAMPS

EB	Time	Lights	Mediums	Trucks	Total
	1/29/2023	13	0	0	13
	1/29/2023 12:15:00 AM	11	0	0	11
	1/29/2023 12:30:00 AM	13	1	0	14
	1/29/2023 12:45:00 AM	9	0	0	9
	Hour	46	1	0	47
	1/29/2023 1:00:00 AM	10	0	0	10
	1/29/2023 1:15:00 AM	6	0	0	6
	1/29/2023 1:30:00 AM	12	0	0	12
	1/29/2023 1:45:00 AM	11	1	0	12
	Hour	39	1	0	40
	1/29/2023 2:00:00 AM	6	0	0	6
	1/29/2023 2:15:00 AM	14	1	0	15
	1/29/2023 2:30:00 AM	9	0	0	9
	1/29/2023 2:45:00 AM	14	0	0	14
	Hour	43	1	0	44
	1/29/2023 3:00:00 AM	2	0	1	3
	1/29/2023 3:15:00 AM	6	0	0	6
	1/29/2023 3:30:00 AM	9	0	1	10
	1/29/2023 3:45:00 AM	5	0	0	5
	Hour	22	0	2	24
	1/29/2023 4:00:00 AM	7	0	0	7
	1/29/2023 4:15:00 AM	7	0	0	7
	1/29/2023 4:30:00 AM	9	0	0	9
	1/29/2023 4:45:00 AM	12	0	0	12
	Hour	35	0	0	35
	1/29/2023 5:00:00 AM	5	0	0	5
	1/29/2023 5:15:00 AM	4	0	0	4
	1/29/2023 5:30:00 AM	12	0	0	12
	1/29/2023 5:45:00 AM	10	0	0	10
	Hour	31	0	0	31
	1/29/2023 6:00:00 AM	11	0	0	11
	1/29/2023 6:15:00 AM	15	0	1	16
	1/29/2023 6:30:00 AM	13	0	0	13
	1/29/2023 6:45:00 AM	22	1	0	23
	Hour	61	1	1	63
	1/29/2023 7:00:00 AM	19	0	0	19
	1/29/2023 7:15:00 AM	20	1	0	21
	1/29/2023 7:30:00 AM	35	0	0	35
	1/29/2023 7:45:00 AM	47	0	0	47
	Hour	121	1	0	122
	1/29/2023 8:00:00 AM	51	0	0	51
	1/29/2023 8:15:00 AM	52	0	0	52
	1/29/2023 8:30:00 AM	43	0	0	43
	1/29/2023 8:45:00 AM	62	0	0	62
	Hour	208	0	0	208
	1/29/2023 9:00:00 AM	72	0	2	74
	1/29/2023 9:15:00 AM	58	1	0	59
	1/29/2023 9:30:00 AM	78	0	0	78
	1/29/2023 9:45:00 AM	79	1	0	80
	Hour	287	2	2	291
	1/29/2023 10:00:00 AM	77	0	0	77
	1/29/2023 10:15:00 AM	71	0	0	71
	1/29/2023 10:30:00 AM	75	1	1	77
	1/29/2023 10:45:00 AM	87	2	1	90
	Hour	310	3	2	315
	1/29/2023 11:00:00 AM	92	0	0	92
	1/29/2023 11:15:00 AM	80	2	1	83
	1/29/2023 11:30:00 AM	106	0	0	106
	1/29/2023 11:45:00 AM	104	0	1	105
	Hour	382	2	2	386
	Grand Total	1,585	12	9	1,606
	Percentage	98.7%	0.7%	0.6%	



# All Traffic Data Services

## 2 - OLD NUMBER SIX HWY E.O I-95 RAMPS

EB	Time	Lights	Mediums	Trucks	Total
	1/29/2023 12:00:00 PM	139	1	0	140
	1/29/2023 12:15:00 PM	126	1	0	127
	1/29/2023 12:30:00 PM	141	0	1	142
	1/29/2023 12:45:00 PM	118	2	0	120
	Hour	524	4	1	529
	1/29/2023 1:00:00 PM	106	0	2	108
	1/29/2023 1:15:00 PM	137	0	1	138
	1/29/2023 1:30:00 PM	103	0	0	103
	1/29/2023 1:45:00 PM	101	0	0	101
	Hour	447	0	3	450
	1/29/2023 2:00:00 PM	135	0	0	135
	1/29/2023 2:15:00 PM	119	0	0	119
	1/29/2023 2:30:00 PM	114	0	0	114
	1/29/2023 2:45:00 PM	114	1	1	116
	Hour	482	1	1	484
	1/29/2023 3:00:00 PM	85	0	2	87
	1/29/2023 3:15:00 PM	95	0	0	95
	1/29/2023 3:30:00 PM	92	2	0	94
	1/29/2023 3:45:00 PM	104	2	0	106
	Hour	376	4	2	382
	1/29/2023 4:00:00 PM	94	0	0	94
	1/29/2023 4:15:00 PM	74	0	0	74
	1/29/2023 4:30:00 PM	93	0	0	93
	1/29/2023 4:45:00 PM	84	0	0	84
	Hour	345	0	0	345
	1/29/2023 5:00:00 PM	77	0	0	77
	1/29/2023 5:15:00 PM	85	0	0	85
	1/29/2023 5:30:00 PM	81	1	0	82
	1/29/2023 5:45:00 PM	78	1	0	79
	Hour	321	2	0	323
	1/29/2023 6:00:00 PM	81	0	0	81
	1/29/2023 6:15:00 PM	54	1	0	55
	1/29/2023 6:30:00 PM	63	1	0	64
	1/29/2023 6:45:00 PM	55	0	0	55
	Hour	253	2	0	255
	1/29/2023 7:00:00 PM	62	0	0	62
	1/29/2023 7:15:00 PM	51	0	0	51
	1/29/2023 7:30:00 PM	44	0	0	44
	1/29/2023 7:45:00 PM	56	0	0	56
	Hour	213	0	0	213
	1/29/2023 8:00:00 PM	48	1	1	50
	1/29/2023 8:15:00 PM	44	0	1	45
	1/29/2023 8:30:00 PM	26	0	0	26
	1/29/2023 8:45:00 PM	35	0	0	35
	Hour	153	1	2	156
	1/29/2023 9:00:00 PM	32	0	0	32
	1/29/2023 9:15:00 PM	28	0	0	28
	1/29/2023 9:30:00 PM	19	0	0	19
	1/29/2023 9:45:00 PM	18	0	0	18
	Hour	97	0	0	97
	1/29/2023 10:00:00 PM	21	0	0	21
	1/29/2023 10:15:00 PM	14	0	0	14
	1/29/2023 10:30:00 PM	12	0	0	12
	1/29/2023 10:45:00 PM	19	0	0	19
	Hour	66	0	0	66
	1/29/2023 11:00:00 PM	17	1	0	18
	1/29/2023 11:15:00 PM	12	0	0	12
	1/29/2023 11:30:00 PM	11	0	0	11
	1/29/2023 11:45:00 PM	11	0	1	12
	Hour	51	1	1	53
	Grand Total	3,328	15	10	3,353
	Percentage	99.3%	0.4%	0.3%	



# All Traffic Data Services

## 2 - OLD NUMBER SIX HWY E.O I-95 RAMPS

EB	Time	Lights	Mediums	Trucks	Total
	1/30/2023	9	0	0	9
	1/30/2023 12:15:00 AM	2	0	0	2
	1/30/2023 12:30:00 AM	8	0	0	8
	1/30/2023 12:45:00 AM	3	0	0	3
	Hour	22	0	0	22
	1/30/2023 1:00:00 AM	2	0	0	2
	1/30/2023 1:15:00 AM	5	0	0	5
	1/30/2023 1:30:00 AM	7	0	0	7
	1/30/2023 1:45:00 AM	2	0	0	2
	Hour	16	0	0	16
	1/30/2023 2:00:00 AM	6	1	0	7
	1/30/2023 2:15:00 AM	2	0	0	2
	1/30/2023 2:30:00 AM	0	0	1	1
	1/30/2023 2:45:00 AM	3	0	1	4
	Hour	11	1	2	14
	1/30/2023 3:00:00 AM	4	0	0	4
	1/30/2023 3:15:00 AM	5	0	0	5
	1/30/2023 3:30:00 AM	6	0	1	7
	1/30/2023 3:45:00 AM	0	0	0	0
	Hour	15	0	1	16
	1/30/2023 4:00:00 AM	3	0	0	3
	1/30/2023 4:15:00 AM	4	0	0	4
	1/30/2023 4:30:00 AM	5	0	2	7
	1/30/2023 4:45:00 AM	5	0	0	5
	Hour	17	0	2	19
	1/30/2023 5:00:00 AM	12	0	0	12
	1/30/2023 5:15:00 AM	7	1	1	9
	1/30/2023 5:30:00 AM	18	2	0	20
	1/30/2023 5:45:00 AM	24	0	2	26
	Hour	61	3	3	67
	1/30/2023 6:00:00 AM	36	4	1	41
	1/30/2023 6:15:00 AM	23	2	0	25
	1/30/2023 6:30:00 AM	28	0	1	29
	1/30/2023 6:45:00 AM	30	1	0	31
	Hour	117	7	2	126
	1/30/2023 7:00:00 AM	34	1	3	38
	1/30/2023 7:15:00 AM	32	1	2	35
	1/30/2023 7:30:00 AM	59	1	1	61
	1/30/2023 7:45:00 AM	64	1	0	65
	Hour	189	4	6	199
	1/30/2023 8:00:00 AM	76	0	0	76
	1/30/2023 8:15:00 AM	65	0	1	66
	1/30/2023 8:30:00 AM	77	1	1	79
	1/30/2023 8:45:00 AM	59	0	0	59
	Hour	277	1	2	280
	1/30/2023 9:00:00 AM	72	1	4	77
	1/30/2023 9:15:00 AM	63	1	2	66
	1/30/2023 9:30:00 AM	61	1	2	64
	1/30/2023 9:45:00 AM	88	1	2	91
	Hour	284	4	10	298
	1/30/2023 10:00:00 AM	70	0	2	72
	1/30/2023 10:15:00 AM	50	1	3	54
	1/30/2023 10:30:00 AM	66	2	1	69
	1/30/2023 10:45:00 AM	69	3	2	74
	Hour	255	6	8	269
	1/30/2023 11:00:00 AM	94	1	1	96
	1/30/2023 11:15:00 AM	75	0	0	75
	1/30/2023 11:30:00 AM	82	1	3	86
	1/30/2023 11:45:00 AM	93	2	1	96
	Hour	344	4	5	353
	Grand Total	1,608	30	41	1,679
	Percentage	95.8%	1.8%	2.4%	



# All Traffic Data Services

## 2 - OLD NUMBER SIX HWY E.O I-95 RAMPS

EB	Time	Lights	Mediums	Trucks	Total
	1/30/2023 12:00:00 PM	82	3	2	87
	1/30/2023 12:15:00 PM	100	2	1	103
	1/30/2023 12:30:00 PM	103	1	0	104
	1/30/2023 12:45:00 PM	101	0	3	104
	Hour	386	6	6	398
	1/30/2023 1:00:00 PM	84	4	2	90
	1/30/2023 1:15:00 PM	70	3	2	75
	1/30/2023 1:30:00 PM	77	2	1	80
	1/30/2023 1:45:00 PM	81	1	2	84
	Hour	312	10	7	329
	1/30/2023 2:00:00 PM	95	0	1	96
	1/30/2023 2:15:00 PM	75	1	0	76
	1/30/2023 2:30:00 PM	103	1	1	105
	1/30/2023 2:45:00 PM	85	1	0	86
	Hour	358	3	2	363
	1/30/2023 3:00:00 PM	82	0	1	83
	1/30/2023 3:15:00 PM	108	1	2	111
	1/30/2023 3:30:00 PM	83	1	0	84
	1/30/2023 3:45:00 PM	134	3	1	138
	Hour	407	5	4	416
	1/30/2023 4:00:00 PM	112	3	2	117
	1/30/2023 4:15:00 PM	116	0	3	119
	1/30/2023 4:30:00 PM	96	4	1	101
	1/30/2023 4:45:00 PM	104	0	1	105
	Hour	428	7	7	442
	1/30/2023 5:00:00 PM	113	1	3	117
	1/30/2023 5:15:00 PM	131	1	0	132
	1/30/2023 5:30:00 PM	123	2	0	125
	1/30/2023 5:45:00 PM	103	2	1	106
	Hour	470	6	4	480
	1/30/2023 6:00:00 PM	114	0	0	114
	1/30/2023 6:15:00 PM	109	0	1	110
	1/30/2023 6:30:00 PM	93	0	1	94
	1/30/2023 6:45:00 PM	88	0	0	88
	Hour	404	0	2	406
	1/30/2023 7:00:00 PM	71	0	1	72
	1/30/2023 7:15:00 PM	55	1	1	57
	1/30/2023 7:30:00 PM	40	2	0	42
	1/30/2023 7:45:00 PM	41	0	0	41
	Hour	207	3	2	212
	1/30/2023 8:00:00 PM	52	0	0	52
	1/30/2023 8:15:00 PM	50	0	0	50
	1/30/2023 8:30:00 PM	39	0	0	39
	1/30/2023 8:45:00 PM	24	0	1	25
	Hour	165	0	1	166
	1/30/2023 9:00:00 PM	34	0	0	34
	1/30/2023 9:15:00 PM	25	0	1	26
	1/30/2023 9:30:00 PM	22	1	0	23
	1/30/2023 9:45:00 PM	13	0	1	14
	Hour	94	1	2	97
	1/30/2023 10:00:00 PM	21	0	0	21
	1/30/2023 10:15:00 PM	27	0	0	27
	1/30/2023 10:30:00 PM	20	0	0	20
	1/30/2023 10:45:00 PM	12	0	0	12
	Hour	80	0	0	80
	1/30/2023 11:00:00 PM	11	1	0	12
	1/30/2023 11:15:00 PM	18	0	0	18
	1/30/2023 11:30:00 PM	8	0	0	8
	1/30/2023 11:45:00 PM	6	0	0	6
	Hour	43	1	0	44
	Grand Total	3,354	42	37	3,433
	Percentage	97.7%	1.2%	1.1%	
	Total	36,764	466	414	37,644
	Percentage	97.7%	1.2%	1.1%	





# All Traffic Data Services

## 2 - OLD NUMBER SIX HWY E.O I-95 RAMPS

WB	Time	Lights	Mediums	Trucks	Total
	1/24/2023	7	0	0	7
	1/24/2023 12:15:00 AM	3	0	0	3
	1/24/2023 12:30:00 AM	2	0	0	2
	1/24/2023 12:45:00 AM	4	0	0	4
	Hour	16	0	0	16
	1/24/2023 1:00:00 AM	4	0	0	4
	1/24/2023 1:15:00 AM	4	0	0	4
	1/24/2023 1:30:00 AM	5	0	0	5
	1/24/2023 1:45:00 AM	6	0	0	6
	Hour	19	0	0	19
	1/24/2023 2:00:00 AM	2	0	1	3
	1/24/2023 2:15:00 AM	4	0	0	4
	1/24/2023 2:30:00 AM	4	0	0	4
	1/24/2023 2:45:00 AM	1	0	0	1
	Hour	11	0	1	12
	1/24/2023 3:00:00 AM	3	0	0	3
	1/24/2023 3:15:00 AM	5	0	1	6
	1/24/2023 3:30:00 AM	2	0	1	3
	1/24/2023 3:45:00 AM	3	0	2	5
	Hour	13	0	4	17
	1/24/2023 4:00:00 AM	2	0	2	4
	1/24/2023 4:15:00 AM	12	0	1	13
	1/24/2023 4:30:00 AM	8	0	2	10
	1/24/2023 4:45:00 AM	8	0	0	8
	Hour	30	0	5	35
	1/24/2023 5:00:00 AM	13	1	0	14
	1/24/2023 5:15:00 AM	14	0	0	14
	1/24/2023 5:30:00 AM	30	0	0	30
	1/24/2023 5:45:00 AM	18	0	2	20
	Hour	75	1	2	78
	1/24/2023 6:00:00 AM	29	0	0	29
	1/24/2023 6:15:00 AM	37	0	1	38
	1/24/2023 6:30:00 AM	52	0	1	53
	1/24/2023 6:45:00 AM	38	3	2	43
	Hour	156	3	4	163
	1/24/2023 7:00:00 AM	46	0	2	48
	1/24/2023 7:15:00 AM	67	3	3	73
	1/24/2023 7:30:00 AM	80	1	3	84
	1/24/2023 7:45:00 AM	80	0	0	80
	Hour	273	4	8	285
	1/24/2023 8:00:00 AM	76	2	1	79
	1/24/2023 8:15:00 AM	73	2	1	76
	1/24/2023 8:30:00 AM	66	3	0	69
	1/24/2023 8:45:00 AM	82	2	1	85
	Hour	297	9	3	309
	1/24/2023 9:00:00 AM	69	0	1	70
	1/24/2023 9:15:00 AM	71	0	0	71
	1/24/2023 9:30:00 AM	56	0	2	58
	1/24/2023 9:45:00 AM	62	3	1	66
	Hour	258	3	4	265
	1/24/2023 10:00:00 AM	65	1	1	67
	1/24/2023 10:15:00 AM	74	0	2	76
	1/24/2023 10:30:00 AM	60	1	1	62
	1/24/2023 10:45:00 AM	74	2	0	76
	Hour	273	4	4	281
	1/24/2023 11:00:00 AM	62	0	1	63
	1/24/2023 11:15:00 AM	92	4	1	97
	1/24/2023 11:30:00 AM	79	1	1	81
	1/24/2023 11:45:00 AM	75	0	2	77
	Hour	308	5	5	318
	Grand Total	1,729	29	40	1,798
	Percentage	96.2%	1.6%	2.2%	



# All Traffic Data Services

## 2 - OLD NUMBER SIX HWY E.O I-95 RAMPS

WB	Time	Lights	Mediums	Trucks	Total
	1/24/2023 12:00:00 PM	94	0	1	95
	1/24/2023 12:15:00 PM	96	5	2	103
	1/24/2023 12:30:00 PM	80	1	0	81
	1/24/2023 12:45:00 PM	100	2	2	104
	Hour	370	8	5	383
	1/24/2023 1:00:00 PM	79	3	4	86
	1/24/2023 1:15:00 PM	78	0	1	79
	1/24/2023 1:30:00 PM	79	1	3	83
	1/24/2023 1:45:00 PM	87	4	2	93
	Hour	323	8	10	341
	1/24/2023 2:00:00 PM	100	0	0	100
	1/24/2023 2:15:00 PM	90	1	1	92
	1/24/2023 2:30:00 PM	71	0	4	75
	1/24/2023 2:45:00 PM	96	1	0	97
	Hour	357	2	5	364
	1/24/2023 3:00:00 PM	101	1	2	104
	1/24/2023 3:15:00 PM	88	0	3	91
	1/24/2023 3:30:00 PM	101	1	6	108
	1/24/2023 3:45:00 PM	83	1	3	87
	Hour	373	3	14	390
	1/24/2023 4:00:00 PM	100	2	0	102
	1/24/2023 4:15:00 PM	89	0	1	90
	1/24/2023 4:30:00 PM	91	0	2	93
	1/24/2023 4:45:00 PM	94	1	2	97
	Hour	374	3	5	382
	1/24/2023 5:00:00 PM	98	0	1	99
	1/24/2023 5:15:00 PM	97	3	1	101
	1/24/2023 5:30:00 PM	99	1	1	101
	1/24/2023 5:45:00 PM	99	3	0	102
	Hour	393	7	3	403
	1/24/2023 6:00:00 PM	106	0	0	106
	1/24/2023 6:15:00 PM	76	0	0	76
	1/24/2023 6:30:00 PM	70	2	0	72
	1/24/2023 6:45:00 PM	74	1	0	75
	Hour	326	3	0	329
	1/24/2023 7:00:00 PM	71	0	0	71
	1/24/2023 7:15:00 PM	48	0	1	49
	1/24/2023 7:30:00 PM	46	1	0	47
	1/24/2023 7:45:00 PM	44	0	0	44
	Hour	209	1	1	211
	1/24/2023 8:00:00 PM	47	0	0	47
	1/24/2023 8:15:00 PM	45	0	0	45
	1/24/2023 8:30:00 PM	36	0	0	36
	1/24/2023 8:45:00 PM	28	0	0	28
	Hour	156	0	0	156
	1/24/2023 9:00:00 PM	26	0	0	26
	1/24/2023 9:15:00 PM	22	2	1	25
	1/24/2023 9:30:00 PM	15	0	0	15
	1/24/2023 9:45:00 PM	17	0	0	17
	Hour	80	2	1	83
	1/24/2023 10:00:00 PM	23	0	1	24
	1/24/2023 10:15:00 PM	19	0	0	19
	1/24/2023 10:30:00 PM	13	0	0	13
	1/24/2023 10:45:00 PM	16	0	0	16
	Hour	71	0	1	72
	1/24/2023 11:00:00 PM	11	0	0	11
	1/24/2023 11:15:00 PM	13	0	0	13
	1/24/2023 11:30:00 PM	7	0	0	7
	1/24/2023 11:45:00 PM	6	0	0	6
	Hour	37	0	0	37
	Grand Total	3,069	37	45	3,151
	Percentage	97.4%	1.2%	1.4%	



# All Traffic Data Services

## 2 - OLD NUMBER SIX HWY E.O I-95 RAMPS

WB	Time	Lights	Mediums	Trucks	Total
	1/25/2023	5	0	0	5
	1/25/2023 12:15:00 AM	6	0	0	6
	1/25/2023 12:30:00 AM	8	0	0	8
	1/25/2023 12:45:00 AM	2	0	2	4
	Hour	21	0	2	23
	1/25/2023 1:00:00 AM	4	0	0	4
	1/25/2023 1:15:00 AM	0	0	0	0
	1/25/2023 1:30:00 AM	2	0	0	2
	1/25/2023 1:45:00 AM	0	0	0	0
	Hour	6	0	0	6
	1/25/2023 2:00:00 AM	1	0	0	1
	1/25/2023 2:15:00 AM	3	0	0	3
	1/25/2023 2:30:00 AM	3	0	0	3
	1/25/2023 2:45:00 AM	4	0	0	4
	Hour	11	0	0	11
	1/25/2023 3:00:00 AM	4	0	0	4
	1/25/2023 3:15:00 AM	5	0	0	5
	1/25/2023 3:30:00 AM	2	0	1	3
	1/25/2023 3:45:00 AM	6	0	0	6
	Hour	17	0	1	18
	1/25/2023 4:00:00 AM	8	0	1	9
	1/25/2023 4:15:00 AM	7	0	1	8
	1/25/2023 4:30:00 AM	5	1	0	6
	1/25/2023 4:45:00 AM	5	0	0	5
	Hour	25	1	2	28
	1/25/2023 5:00:00 AM	14	0	0	14
	1/25/2023 5:15:00 AM	23	0	0	23
	1/25/2023 5:30:00 AM	25	0	1	26
	1/25/2023 5:45:00 AM	31	0	3	34
	Hour	93	0	4	97
	1/25/2023 6:00:00 AM	37	0	1	38
	1/25/2023 6:15:00 AM	41	1	2	44
	1/25/2023 6:30:00 AM	43	1	2	46
	1/25/2023 6:45:00 AM	38	0	0	38
	Hour	159	2	5	166
	1/25/2023 7:00:00 AM	56	1	0	57
	1/25/2023 7:15:00 AM	75	2	2	79
	1/25/2023 7:30:00 AM	82	2	2	86
	1/25/2023 7:45:00 AM	82	2	1	85
	Hour	295	7	5	307
	1/25/2023 8:00:00 AM	79	3	0	82
	1/25/2023 8:15:00 AM	53	2	1	56
	1/25/2023 8:30:00 AM	70	4	0	74
	1/25/2023 8:45:00 AM	85	0	2	87
	Hour	287	9	3	299
	1/25/2023 9:00:00 AM	72	1	1	74
	1/25/2023 9:15:00 AM	68	2	2	72
	1/25/2023 9:30:00 AM	57	1	1	59
	1/25/2023 9:45:00 AM	72	4	3	79
	Hour	269	8	7	284
	1/25/2023 10:00:00 AM	72	2	1	75
	1/25/2023 10:15:00 AM	74	0	2	76
	1/25/2023 10:30:00 AM	52	0	0	52
	1/25/2023 10:45:00 AM	74	1	4	79
	Hour	272	3	7	282
	1/25/2023 11:00:00 AM	92	1	3	96
	1/25/2023 11:15:00 AM	72	2	3	77
	1/25/2023 11:30:00 AM	77	1	1	79
	1/25/2023 11:45:00 AM	98	3	2	103
	Hour	339	7	9	355
	Grand Total	1,794	37	45	1,876
	Percentage	95.6%	2.0%	2.4%	



# All Traffic Data Services

## 2 - OLD NUMBER SIX HWY E.O I-95 RAMPS

WB	Time	Lights	Mediums	Trucks	Total
	1/25/2023 12:00:00 PM	93	1	0	94
	1/25/2023 12:15:00 PM	90	3	1	94
	1/25/2023 12:30:00 PM	74	2	1	77
	1/25/2023 12:45:00 PM	71	1	3	75
	Hour	328	7	5	340
	1/25/2023 1:00:00 PM	65	1	1	67
	1/25/2023 1:15:00 PM	82	0	3	85
	1/25/2023 1:30:00 PM	78	2	2	82
	1/25/2023 1:45:00 PM	70	2	1	73
	Hour	295	5	7	307
	1/25/2023 2:00:00 PM	72	1	3	76
	1/25/2023 2:15:00 PM	84	0	3	87
	1/25/2023 2:30:00 PM	100	1	2	103
	1/25/2023 2:45:00 PM	85	3	2	90
	Hour	341	5	10	356
	1/25/2023 3:00:00 PM	69	2	1	72
	1/25/2023 3:15:00 PM	88	2	4	94
	1/25/2023 3:30:00 PM	69	0	1	70
	1/25/2023 3:45:00 PM	74	2	2	78
	Hour	300	6	8	314
	1/25/2023 4:00:00 PM	76	0	1	77
	1/25/2023 4:15:00 PM	87	2	3	92
	1/25/2023 4:30:00 PM	82	2	3	87
	1/25/2023 4:45:00 PM	72	0	1	73
	Hour	317	4	8	329
	1/25/2023 5:00:00 PM	104	1	0	105
	1/25/2023 5:15:00 PM	80	2	0	82
	1/25/2023 5:30:00 PM	72	0	0	72
	1/25/2023 5:45:00 PM	61	3	1	65
	Hour	317	6	1	324
	1/25/2023 6:00:00 PM	74	1	0	75
	1/25/2023 6:15:00 PM	76	0	0	76
	1/25/2023 6:30:00 PM	50	0	1	51
	1/25/2023 6:45:00 PM	51	0	0	51
	Hour	251	1	1	253
	1/25/2023 7:00:00 PM	52	1	0	53
	1/25/2023 7:15:00 PM	53	1	0	54
	1/25/2023 7:30:00 PM	43	0	0	43
	1/25/2023 7:45:00 PM	38	2	0	40
	Hour	186	4	0	190
	1/25/2023 8:00:00 PM	38	0	0	38
	1/25/2023 8:15:00 PM	35	0	0	35
	1/25/2023 8:30:00 PM	32	0	0	32
	1/25/2023 8:45:00 PM	39	0	0	39
	Hour	144	0	0	144
	1/25/2023 9:00:00 PM	29	0	0	29
	1/25/2023 9:15:00 PM	31	0	0	31
	1/25/2023 9:30:00 PM	28	0	0	28
	1/25/2023 9:45:00 PM	19	0	0	19
	Hour	107	0	0	107
	1/25/2023 10:00:00 PM	0	0	0	0
	1/25/2023 10:15:00 PM	0	0	0	0
	1/25/2023 10:30:00 PM	0	0	0	0
	1/25/2023 10:45:00 PM	0	0	0	0
	Hour	0	0	0	0
	1/25/2023 11:00:00 PM	11	0	0	11
	1/25/2023 11:15:00 PM	16	0	0	16
	1/25/2023 11:30:00 PM	12	3	0	15
	1/25/2023 11:45:00 PM	9	0	1	10
	Hour	48	3	1	52
	Grand Total	2,634	41	41	2,716
	Percentage	97.0%	1.5%	1.5%	



# All Traffic Data Services

## 2 - OLD NUMBER SIX HWY E.O I-95 RAMPS

WB	Time	Lights	Mediums	Trucks	Total
	1/26/2023	7	0	0	7
	1/26/2023 12:15:00 AM	3	0	0	3
	1/26/2023 12:30:00 AM	2	0	0	2
	1/26/2023 12:45:00 AM	2	0	0	2
	Hour	14	0	0	14
	1/26/2023 1:00:00 AM	6	0	0	6
	1/26/2023 1:15:00 AM	4	3	0	7
	1/26/2023 1:30:00 AM	3	0	0	3
	1/26/2023 1:45:00 AM	4	0	0	4
	Hour	17	3	0	20
	1/26/2023 2:00:00 AM	4	0	0	4
	1/26/2023 2:15:00 AM	7	0	0	7
	1/26/2023 2:30:00 AM	6	0	0	6
	1/26/2023 2:45:00 AM	3	0	0	3
	Hour	20	0	0	20
	1/26/2023 3:00:00 AM	3	0	0	3
	1/26/2023 3:15:00 AM	3	0	0	3
	1/26/2023 3:30:00 AM	6	3	1	10
	1/26/2023 3:45:00 AM	7	0	1	8
	Hour	19	3	2	24
	1/26/2023 4:00:00 AM	0	0	0	0
	1/26/2023 4:15:00 AM	10	0	1	11
	1/26/2023 4:30:00 AM	5	0	0	5
	1/26/2023 4:45:00 AM	8	0	0	8
	Hour	23	0	1	24
	1/26/2023 5:00:00 AM	10	1	0	11
	1/26/2023 5:15:00 AM	24	0	2	26
	1/26/2023 5:30:00 AM	32	0	0	32
	1/26/2023 5:45:00 AM	32	1	1	34
	Hour	98	2	3	103
	1/26/2023 6:00:00 AM	27	1	1	29
	1/26/2023 6:15:00 AM	48	2	0	50
	1/26/2023 6:30:00 AM	64	1	1	66
	1/26/2023 6:45:00 AM	53	0	0	53
	Hour	192	4	2	198
	1/26/2023 7:00:00 AM	35	1	4	40
	1/26/2023 7:15:00 AM	74	3	0	77
	1/26/2023 7:30:00 AM	84	1	3	88
	1/26/2023 7:45:00 AM	79	2	1	82
	Hour	272	7	8	287
	1/26/2023 8:00:00 AM	78	3	1	82
	1/26/2023 8:15:00 AM	76	2	1	79
	1/26/2023 8:30:00 AM	92	0	1	93
	1/26/2023 8:45:00 AM	89	0	1	90
	Hour	335	5	4	344
	1/26/2023 9:00:00 AM	67	1	0	68
	1/26/2023 9:15:00 AM	69	3	1	73
	1/26/2023 9:30:00 AM	76	2	4	82
	1/26/2023 9:45:00 AM	74	0	1	75
	Hour	286	6	6	298
	1/26/2023 10:00:00 AM	87	4	0	91
	1/26/2023 10:15:00 AM	68	1	1	70
	1/26/2023 10:30:00 AM	66	2	0	68
	1/26/2023 10:45:00 AM	89	0	0	89
	Hour	310	7	1	318
	1/26/2023 11:00:00 AM	78	1	4	83
	1/26/2023 11:15:00 AM	98	1	2	101
	1/26/2023 11:30:00 AM	98	0	2	100
	1/26/2023 11:45:00 AM	101	0	3	104
	Hour	375	2	11	388
	Grand Total	1,961	39	38	2,038
	Percentage	96.2%	1.9%	1.9%	





# All Traffic Data Services

## 2 - OLD NUMBER SIX HWY E.O I-95 RAMPS

WB	Time	Lights	Mediums	Trucks	Total
	1/26/2023 12:00:00 PM	99	1	2	102
	1/26/2023 12:15:00 PM	99	3	3	105
	1/26/2023 12:30:00 PM	100	1	9	110
	1/26/2023 12:45:00 PM	92	4	3	99
	Hour	390	9	17	416
	1/26/2023 1:00:00 PM	90	2	1	93
	1/26/2023 1:15:00 PM	86	0	1	87
	1/26/2023 1:30:00 PM	78	2	1	81
	1/26/2023 1:45:00 PM	93	1	0	94
	Hour	347	5	3	355
	1/26/2023 2:00:00 PM	111	1	1	113
	1/26/2023 2:15:00 PM	89	1	4	94
	1/26/2023 2:30:00 PM	97	1	2	100
	1/26/2023 2:45:00 PM	121	2	3	126
	Hour	418	5	10	433
	1/26/2023 3:00:00 PM	94	1	1	96
	1/26/2023 3:15:00 PM	111	1	1	113
	1/26/2023 3:30:00 PM	94	0	0	94
	1/26/2023 3:45:00 PM	106	1	2	109
	Hour	405	3	4	412
	1/26/2023 4:00:00 PM	113	1	2	116
	1/26/2023 4:15:00 PM	113	0	1	114
	1/26/2023 4:30:00 PM	105	2	1	108
	1/26/2023 4:45:00 PM	115	0	0	115
	Hour	446	3	4	453
	1/26/2023 5:00:00 PM	106	0	0	106
	1/26/2023 5:15:00 PM	100	1	1	102
	1/26/2023 5:30:00 PM	111	0	0	111
	1/26/2023 5:45:00 PM	100	0	0	100
	Hour	417	1	1	419
	1/26/2023 6:00:00 PM	109	2	1	112
	1/26/2023 6:15:00 PM	78	1	1	80
	1/26/2023 6:30:00 PM	79	0	0	79
	1/26/2023 6:45:00 PM	64	1	0	65
	Hour	330	4	2	336
	1/26/2023 7:00:00 PM	73	1	0	74
	1/26/2023 7:15:00 PM	42	1	1	44
	1/26/2023 7:30:00 PM	48	0	0	48
	1/26/2023 7:45:00 PM	45	1	0	46
	Hour	208	3	1	212
	1/26/2023 8:00:00 PM	44	1	0	45
	1/26/2023 8:15:00 PM	43	3	0	46
	1/26/2023 8:30:00 PM	29	0	0	29
	1/26/2023 8:45:00 PM	38	1	1	40
	Hour	154	5	1	160
	1/26/2023 9:00:00 PM	35	4	0	39
	1/26/2023 9:15:00 PM	22	0	0	22
	1/26/2023 9:30:00 PM	23	1	0	24
	1/26/2023 9:45:00 PM	37	0	0	37
	Hour	117	5	0	122
	1/26/2023 10:00:00 PM	26	0	0	26
	1/26/2023 10:15:00 PM	24	0	0	24
	1/26/2023 10:30:00 PM	15	0	0	15
	1/26/2023 10:45:00 PM	14	1	0	15
	Hour	79	1	0	80
	1/26/2023 11:00:00 PM	17	0	0	17
	1/26/2023 11:15:00 PM	17	1	0	18
	1/26/2023 11:30:00 PM	6	1	1	8
	1/26/2023 11:45:00 PM	6	0	0	6
	Hour	46	2	1	49
	Grand Total	3,357	46	44	3,447
	Percentage	97.4%	1.3%	1.3%	



# All Traffic Data Services

## 2 - OLD NUMBER SIX HWY E.O I-95 RAMPS

WB	Time	Lights	Mediums	Trucks	Total
	1/27/2023	5	0	0	5
	1/27/2023 12:15:00 AM	6	0	1	7
	1/27/2023 12:30:00 AM	7	0	0	7
	1/27/2023 12:45:00 AM	10	0	1	11
	Hour	28	0	2	30
	1/27/2023 1:00:00 AM	2	0	0	2
	1/27/2023 1:15:00 AM	5	0	1	6
	1/27/2023 1:30:00 AM	3	0	0	3
	1/27/2023 1:45:00 AM	3	0	1	4
	Hour	13	0	2	15
	1/27/2023 2:00:00 AM	2	0	0	2
	1/27/2023 2:15:00 AM	1	0	0	1
	1/27/2023 2:30:00 AM	2	0	0	2
	1/27/2023 2:45:00 AM	2	0	0	2
	Hour	7	0	0	7
	1/27/2023 3:00:00 AM	5	0	1	6
	1/27/2023 3:15:00 AM	4	0	0	4
	1/27/2023 3:30:00 AM	4	0	0	4
	1/27/2023 3:45:00 AM	8	0	1	9
	Hour	21	0	2	23
	1/27/2023 4:00:00 AM	8	0	1	9
	1/27/2023 4:15:00 AM	8	0	0	8
	1/27/2023 4:30:00 AM	11	0	0	11
	1/27/2023 4:45:00 AM	10	0	3	13
	Hour	37	0	4	41
	1/27/2023 5:00:00 AM	17	0	1	18
	1/27/2023 5:15:00 AM	17	1	0	18
	1/27/2023 5:30:00 AM	23	0	0	23
	1/27/2023 5:45:00 AM	30	0	0	30
	Hour	87	1	1	89
	1/27/2023 6:00:00 AM	34	0	1	35
	1/27/2023 6:15:00 AM	38	1	0	39
	1/27/2023 6:30:00 AM	40	2	2	44
	1/27/2023 6:45:00 AM	41	1	4	46
	Hour	153	4	7	164
	1/27/2023 7:00:00 AM	57	0	0	57
	1/27/2023 7:15:00 AM	66	3	0	69
	1/27/2023 7:30:00 AM	89	4	0	93
	1/27/2023 7:45:00 AM	74	2	1	77
	Hour	286	9	1	296
	1/27/2023 8:00:00 AM	82	2	1	85
	1/27/2023 8:15:00 AM	75	2	1	78
	1/27/2023 8:30:00 AM	77	0	2	79
	1/27/2023 8:45:00 AM	99	1	1	101
	Hour	333	5	5	343
	1/27/2023 9:00:00 AM	100	0	5	105
	1/27/2023 9:15:00 AM	88	2	0	90
	1/27/2023 9:30:00 AM	76	1	3	80
	1/27/2023 9:45:00 AM	67	2	2	71
	Hour	331	5	10	346
	1/27/2023 10:00:00 AM	80	2	5	87
	1/27/2023 10:15:00 AM	82	2	6	90
	1/27/2023 10:30:00 AM	81	1	4	86
	1/27/2023 10:45:00 AM	96	3	2	101
	Hour	339	8	17	364
	1/27/2023 11:00:00 AM	122	0	1	123
	1/27/2023 11:15:00 AM	85	0	2	87
	1/27/2023 11:30:00 AM	107	2	2	111
	1/27/2023 11:45:00 AM	116	0	5	121
	Hour	430	2	10	442
	Grand Total	2,065	34	61	2,160
	Percentage	95.6%	1.6%	2.8%	



# All Traffic Data Services

## 2 - OLD NUMBER SIX HWY E.O I-95 RAMPS

WB	Time	Lights	Mediums	Trucks	Total
	1/27/2023 12:00:00 PM	120	1	0	121
	1/27/2023 12:15:00 PM	112	0	3	115
	1/27/2023 12:30:00 PM	99	1	2	102
	1/27/2023 12:45:00 PM	108	1	0	109
	Hour	439	3	5	447
	1/27/2023 1:00:00 PM	109	0	2	111
	1/27/2023 1:15:00 PM	118	0	1	119
	1/27/2023 1:30:00 PM	102	1	1	104
	1/27/2023 1:45:00 PM	115	2	1	118
	Hour	444	3	5	452
	1/27/2023 2:00:00 PM	105	1	0	106
	1/27/2023 2:15:00 PM	120	2	1	123
	1/27/2023 2:30:00 PM	96	0	3	99
	1/27/2023 2:45:00 PM	114	3	1	118
	Hour	435	6	5	446
	1/27/2023 3:00:00 PM	130	2	2	134
	1/27/2023 3:15:00 PM	105	2	1	108
	1/27/2023 3:30:00 PM	124	3	1	128
	1/27/2023 3:45:00 PM	112	1	0	113
	Hour	471	8	4	483
	1/27/2023 4:00:00 PM	132	4	1	137
	1/27/2023 4:15:00 PM	129	1	3	133
	1/27/2023 4:30:00 PM	128	2	2	132
	1/27/2023 4:45:00 PM	110	4	3	117
	Hour	499	11	9	519
	1/27/2023 5:00:00 PM	111	2	2	115
	1/27/2023 5:15:00 PM	123	1	0	124
	1/27/2023 5:30:00 PM	125	2	0	127
	1/27/2023 5:45:00 PM	108	0	1	109
	Hour	467	5	3	475
	1/27/2023 6:00:00 PM	102	1	0	103
	1/27/2023 6:15:00 PM	83	0	0	83
	1/27/2023 6:30:00 PM	89	0	1	90
	1/27/2023 6:45:00 PM	96	0	0	96
	Hour	370	1	1	372
	1/27/2023 7:00:00 PM	105	0	0	105
	1/27/2023 7:15:00 PM	59	2	0	61
	1/27/2023 7:30:00 PM	79	1	0	80
	1/27/2023 7:45:00 PM	74	1	1	76
	Hour	317	4	1	322
	1/27/2023 8:00:00 PM	63	1	1	65
	1/27/2023 8:15:00 PM	70	0	0	70
	1/27/2023 8:30:00 PM	48	1	0	49
	1/27/2023 8:45:00 PM	40	0	0	40
	Hour	221	2	1	224
	1/27/2023 9:00:00 PM	47	0	0	47
	1/27/2023 9:15:00 PM	40	0	1	41
	1/27/2023 9:30:00 PM	58	3	0	61
	1/27/2023 9:45:00 PM	55	0	0	55
	Hour	200	3	1	204
	1/27/2023 10:00:00 PM	55	1	0	56
	1/27/2023 10:15:00 PM	57	0	1	58
	1/27/2023 10:30:00 PM	25	0	1	26
	1/27/2023 10:45:00 PM	33	0	0	33
	Hour	170	1	2	173
	1/27/2023 11:00:00 PM	23	0	0	23
	1/27/2023 11:15:00 PM	29	1	0	30
	1/27/2023 11:30:00 PM	11	0	0	11
	1/27/2023 11:45:00 PM	19	0	1	20
	Hour	82	1	1	84
	Grand Total	4,115	48	38	4,201
	Percentage	98.0%	1.1%	0.9%	



# All Traffic Data Services

## 2 - OLD NUMBER SIX HWY E.O I-95 RAMPS

WB	Time	Lights	Mediums	Trucks	Total
	1/28/2023	16	0	0	16
	1/28/2023 12:15:00 AM	18	0	0	18
	1/28/2023 12:30:00 AM	15	1	0	16
	1/28/2023 12:45:00 AM	14	0	0	14
	Hour	63	1	0	64
	1/28/2023 1:00:00 AM	10	0	0	10
	1/28/2023 1:15:00 AM	14	0	0	14
	1/28/2023 1:30:00 AM	10	0	0	10
	1/28/2023 1:45:00 AM	7	1	0	8
	Hour	41	1	0	42
	1/28/2023 2:00:00 AM	12	0	0	12
	1/28/2023 2:15:00 AM	4	0	0	4
	1/28/2023 2:30:00 AM	8	1	0	9
	1/28/2023 2:45:00 AM	6	0	0	6
	Hour	30	1	0	31
	1/28/2023 3:00:00 AM	9	0	0	9
	1/28/2023 3:15:00 AM	4	0	0	4
	1/28/2023 3:30:00 AM	6	0	0	6
	1/28/2023 3:45:00 AM	4	0	0	4
	Hour	23	0	0	23
	1/28/2023 4:00:00 AM	10	0	0	10
	1/28/2023 4:15:00 AM	9	0	1	10
	1/28/2023 4:30:00 AM	8	0	0	8
	1/28/2023 4:45:00 AM	13	0	0	13
	Hour	40	0	1	41
	1/28/2023 5:00:00 AM	16	0	1	17
	1/28/2023 5:15:00 AM	12	0	0	12
	1/28/2023 5:30:00 AM	18	0	0	18
	1/28/2023 5:45:00 AM	17	0	0	17
	Hour	63	0	1	64
	1/28/2023 6:00:00 AM	17	0	0	17
	1/28/2023 6:15:00 AM	26	0	0	26
	1/28/2023 6:30:00 AM	35	1	0	36
	1/28/2023 6:45:00 AM	27	0	1	28
	Hour	105	1	1	107
	1/28/2023 7:00:00 AM	42	1	0	43
	1/28/2023 7:15:00 AM	38	1	2	41
	1/28/2023 7:30:00 AM	47	0	0	47
	1/28/2023 7:45:00 AM	72	0	1	73
	Hour	199	2	3	204
	1/28/2023 8:00:00 AM	53	1	0	54
	1/28/2023 8:15:00 AM	71	0	1	72
	1/28/2023 8:30:00 AM	69	0	0	69
	1/28/2023 8:45:00 AM	94	1	1	96
	Hour	287	2	2	291
	1/28/2023 9:00:00 AM	89	2	0	91
	1/28/2023 9:15:00 AM	90	0	1	91
	1/28/2023 9:30:00 AM	91	3	0	94
	1/28/2023 9:45:00 AM	97	1	1	99
	Hour	367	6	2	375
	1/28/2023 10:00:00 AM	87	0	0	87
	1/28/2023 10:15:00 AM	77	3	0	80
	1/28/2023 10:30:00 AM	80	0	0	80
	1/28/2023 10:45:00 AM	96	2	1	99
	Hour	340	5	1	346
	1/28/2023 11:00:00 AM	103	1	0	104
	1/28/2023 11:15:00 AM	102	0	0	102
	1/28/2023 11:30:00 AM	108	1	1	110
	1/28/2023 11:45:00 AM	113	2	0	115
	Hour	426	4	1	431
	Grand Total	1,984	23	12	2,019
	Percentage	98.3%	1.1%	0.6%	



# All Traffic Data Services

## 2 - OLD NUMBER SIX HWY E.O I-95 RAMPS

WB	Time	Lights	Mediums	Trucks	Total
	1/28/2023 12:00:00 PM	117	1	0	118
	1/28/2023 12:15:00 PM	106	1	0	107
	1/28/2023 12:30:00 PM	103	0	0	103
	1/28/2023 12:45:00 PM	116	1	0	117
	Hour	442	3	0	445
	1/28/2023 1:00:00 PM	123	0	0	123
	1/28/2023 1:15:00 PM	111	2	0	113
	1/28/2023 1:30:00 PM	108	0	0	108
	1/28/2023 1:45:00 PM	98	0	1	99
	Hour	440	2	1	443
	1/28/2023 2:00:00 PM	134	1	1	136
	1/28/2023 2:15:00 PM	100	1	0	101
	1/28/2023 2:30:00 PM	98	0	0	98
	1/28/2023 2:45:00 PM	109	0	0	109
	Hour	441	2	1	444
	1/28/2023 3:00:00 PM	119	0	0	119
	1/28/2023 3:15:00 PM	113	3	1	117
	1/28/2023 3:30:00 PM	118	0	0	118
	1/28/2023 3:45:00 PM	125	0	0	125
	Hour	475	3	1	479
	1/28/2023 4:00:00 PM	140	0	0	140
	1/28/2023 4:15:00 PM	113	1	0	114
	1/28/2023 4:30:00 PM	120	0	1	121
	1/28/2023 4:45:00 PM	95	1	0	96
	Hour	468	2	1	471
	1/28/2023 5:00:00 PM	87	1	0	88
	1/28/2023 5:15:00 PM	107	1	0	108
	1/28/2023 5:30:00 PM	110	1	0	111
	1/28/2023 5:45:00 PM	108	1	0	109
	Hour	412	4	0	416
	1/28/2023 6:00:00 PM	95	0	0	95
	1/28/2023 6:15:00 PM	92	0	0	92
	1/28/2023 6:30:00 PM	112	0	0	112
	1/28/2023 6:45:00 PM	74	0	0	74
	Hour	373	0	0	373
	1/28/2023 7:00:00 PM	74	1	0	75
	1/28/2023 7:15:00 PM	64	1	0	65
	1/28/2023 7:30:00 PM	63	0	0	63
	1/28/2023 7:45:00 PM	63	1	0	64
	Hour	264	3	0	267
	1/28/2023 8:00:00 PM	48	0	0	48
	1/28/2023 8:15:00 PM	63	0	0	63
	1/28/2023 8:30:00 PM	54	0	0	54
	1/28/2023 8:45:00 PM	60	0	0	60
	Hour	225	0	0	225
	1/28/2023 9:00:00 PM	52	0	0	52
	1/28/2023 9:15:00 PM	52	0	0	52
	1/28/2023 9:30:00 PM	32	0	0	32
	1/28/2023 9:45:00 PM	33	0	0	33
	Hour	169	0	0	169
	1/28/2023 10:00:00 PM	33	1	0	34
	1/28/2023 10:15:00 PM	31	0	0	31
	1/28/2023 10:30:00 PM	25	0	0	25
	1/28/2023 10:45:00 PM	26	1	0	27
	Hour	115	2	0	117
	1/28/2023 11:00:00 PM	17	0	0	17
	1/28/2023 11:15:00 PM	19	1	0	20
	1/28/2023 11:30:00 PM	21	0	0	21
	1/28/2023 11:45:00 PM	20	1	0	21
	Hour	77	2	0	79
	Grand Total	3,901	23	4	3,928
	Percentage	99.3%	0.6%	0.1%	





# All Traffic Data Services

## 2 - OLD NUMBER SIX HWY E.O I-95 RAMPS

WB	Time	Lights	Mediums	Trucks	Total
	1/29/2023	11	0	0	11
	1/29/2023 12:15:00 AM	11	0	0	11
	1/29/2023 12:30:00 AM	15	0	0	15
	1/29/2023 12:45:00 AM	14	0	0	14
	Hour	51	0	0	51
	1/29/2023 1:00:00 AM	6	0	0	6
	1/29/2023 1:15:00 AM	6	0	0	6
	1/29/2023 1:30:00 AM	10	0	0	10
	1/29/2023 1:45:00 AM	14	2	0	16
	Hour	36	2	0	38
	1/29/2023 2:00:00 AM	11	0	0	11
	1/29/2023 2:15:00 AM	8	0	0	8
	1/29/2023 2:30:00 AM	6	1	0	7
	1/29/2023 2:45:00 AM	10	0	0	10
	Hour	35	1	0	36
	1/29/2023 3:00:00 AM	2	0	0	2
	1/29/2023 3:15:00 AM	5	1	0	6
	1/29/2023 3:30:00 AM	6	0	0	6
	1/29/2023 3:45:00 AM	5	0	0	5
	Hour	18	1	0	19
	1/29/2023 4:00:00 AM	1	0	0	1
	1/29/2023 4:15:00 AM	10	0	0	10
	1/29/2023 4:30:00 AM	10	0	0	10
	1/29/2023 4:45:00 AM	8	0	0	8
	Hour	29	0	0	29
	1/29/2023 5:00:00 AM	7	1	0	8
	1/29/2023 5:15:00 AM	13	0	0	13
	1/29/2023 5:30:00 AM	16	1	0	17
	1/29/2023 5:45:00 AM	20	0	0	20
	Hour	56	2	0	58
	1/29/2023 6:00:00 AM	27	0	0	27
	1/29/2023 6:15:00 AM	16	0	0	16
	1/29/2023 6:30:00 AM	22	0	0	22
	1/29/2023 6:45:00 AM	17	1	0	18
	Hour	82	1	0	83
	1/29/2023 7:00:00 AM	29	0	1	30
	1/29/2023 7:15:00 AM	44	0	0	44
	1/29/2023 7:30:00 AM	51	0	0	51
	1/29/2023 7:45:00 AM	50	0	0	50
	Hour	174	0	1	175
	1/29/2023 8:00:00 AM	59	1	0	60
	1/29/2023 8:15:00 AM	59	0	0	59
	1/29/2023 8:30:00 AM	65	1	0	66
	1/29/2023 8:45:00 AM	79	0	0	79
	Hour	262	2	0	264
	1/29/2023 9:00:00 AM	60	0	0	60
	1/29/2023 9:15:00 AM	83	0	0	83
	1/29/2023 9:30:00 AM	94	0	0	94
	1/29/2023 9:45:00 AM	75	0	0	75
	Hour	312	0	0	312
	1/29/2023 10:00:00 AM	71	1	1	73
	1/29/2023 10:15:00 AM	97	0	1	98
	1/29/2023 10:30:00 AM	82	0	1	83
	1/29/2023 10:45:00 AM	88	3	2	93
	Hour	338	4	5	347
	1/29/2023 11:00:00 AM	87	0	1	88
	1/29/2023 11:15:00 AM	84	1	0	85
	1/29/2023 11:30:00 AM	109	1	0	110
	1/29/2023 11:45:00 AM	138	1	0	139
	Hour	418	3	1	422
	Grand Total	1,811	16	7	1,834
	Percentage	98.7%	0.9%	0.4%	



# All Traffic Data Services

## 2 - OLD NUMBER SIX HWY E.O I-95 RAMPS

WB	Time	Lights	Mediums	Trucks	Total
	1/29/2023 12:00:00 PM	113	0	0	113
	1/29/2023 12:15:00 PM	105	0	0	105
	1/29/2023 12:30:00 PM	112	1	1	114
	1/29/2023 12:45:00 PM	128	0	0	128
	Hour	458	1	1	460
	1/29/2023 1:00:00 PM	112	0	2	114
	1/29/2023 1:15:00 PM	146	1	0	147
	1/29/2023 1:30:00 PM	109	0	0	109
	1/29/2023 1:45:00 PM	120	0	0	120
	Hour	487	1	2	490
	1/29/2023 2:00:00 PM	101	1	0	102
	1/29/2023 2:15:00 PM	129	0	1	130
	1/29/2023 2:30:00 PM	102	0	0	102
	1/29/2023 2:45:00 PM	105	0	0	105
	Hour	437	1	1	439
	1/29/2023 3:00:00 PM	100	1	0	101
	1/29/2023 3:15:00 PM	111	0	1	112
	1/29/2023 3:30:00 PM	95	0	1	96
	1/29/2023 3:45:00 PM	78	1	0	79
	Hour	384	2	2	388
	1/29/2023 4:00:00 PM	85	0	1	86
	1/29/2023 4:15:00 PM	66	0	0	66
	1/29/2023 4:30:00 PM	94	1	0	95
	1/29/2023 4:45:00 PM	101	0	0	101
	Hour	346	1	1	348
	1/29/2023 5:00:00 PM	81	0	0	81
	1/29/2023 5:15:00 PM	79	0	0	79
	1/29/2023 5:30:00 PM	71	0	1	72
	1/29/2023 5:45:00 PM	63	0	0	63
	Hour	294	0	1	295
	1/29/2023 6:00:00 PM	77	0	0	77
	1/29/2023 6:15:00 PM	60	0	1	61
	1/29/2023 6:30:00 PM	58	3	0	61
	1/29/2023 6:45:00 PM	63	0	0	63
	Hour	258	3	1	262
	1/29/2023 7:00:00 PM	46	0	0	46
	1/29/2023 7:15:00 PM	47	0	0	47
	1/29/2023 7:30:00 PM	43	0	0	43
	1/29/2023 7:45:00 PM	44	0	0	44
	Hour	180	0	0	180
	1/29/2023 8:00:00 PM	36	0	0	36
	1/29/2023 8:15:00 PM	37	0	1	38
	1/29/2023 8:30:00 PM	23	1	0	24
	1/29/2023 8:45:00 PM	33	0	0	33
	Hour	129	1	1	131
	1/29/2023 9:00:00 PM	25	0	0	25
	1/29/2023 9:15:00 PM	28	0	0	28
	1/29/2023 9:30:00 PM	19	0	0	19
	1/29/2023 9:45:00 PM	16	0	0	16
	Hour	88	0	0	88
	1/29/2023 10:00:00 PM	18	0	0	18
	1/29/2023 10:15:00 PM	22	0	0	22
	1/29/2023 10:30:00 PM	15	1	1	17
	1/29/2023 10:45:00 PM	14	0	0	14
	Hour	69	1	1	71
	1/29/2023 11:00:00 PM	15	0	0	15
	1/29/2023 11:15:00 PM	9	0	0	9
	1/29/2023 11:30:00 PM	10	0	0	10
	1/29/2023 11:45:00 PM	8	0	0	8
	Hour	42	0	0	42
	Grand Total	3,172	11	11	3,194
	Percentage	99.3%	0.3%	0.3%	



# All Traffic Data Services

## 2 - OLD NUMBER SIX HWY E.O I-95 RAMPS

WB	Time	Lights	Mediums	Trucks	Total
	1/30/2023	7	0	1	8
	1/30/2023 12:15:00 AM	6	0	0	6
	1/30/2023 12:30:00 AM	6	0	0	6
	1/30/2023 12:45:00 AM	4	0	0	4
	Hour	23	0	1	24
	1/30/2023 1:00:00 AM	4	0	0	4
	1/30/2023 1:15:00 AM	6	0	1	7
	1/30/2023 1:30:00 AM	3	0	0	3
	1/30/2023 1:45:00 AM	1	0	0	1
	Hour	14	0	1	15
	1/30/2023 2:00:00 AM	3	0	0	3
	1/30/2023 2:15:00 AM	2	0	0	2
	1/30/2023 2:30:00 AM	3	1	0	4
	1/30/2023 2:45:00 AM	9	0	0	9
	Hour	17	1	0	18
	1/30/2023 3:00:00 AM	3	0	0	3
	1/30/2023 3:15:00 AM	5	0	0	5
	1/30/2023 3:30:00 AM	7	0	2	9
	1/30/2023 3:45:00 AM	4	0	0	4
	Hour	19	0	2	21
	1/30/2023 4:00:00 AM	10	0	0	10
	1/30/2023 4:15:00 AM	7	0	0	7
	1/30/2023 4:30:00 AM	2	0	0	2
	1/30/2023 4:45:00 AM	8	0	0	8
	Hour	27	0	0	27
	1/30/2023 5:00:00 AM	12	0	0	12
	1/30/2023 5:15:00 AM	20	2	0	22
	1/30/2023 5:30:00 AM	17	0	1	18
	1/30/2023 5:45:00 AM	24	1	1	26
	Hour	73	3	2	78
	1/30/2023 6:00:00 AM	31	0	0	31
	1/30/2023 6:15:00 AM	33	2	1	36
	1/30/2023 6:30:00 AM	40	0	2	42
	1/30/2023 6:45:00 AM	51	1	3	55
	Hour	155	3	6	164
	1/30/2023 7:00:00 AM	52	2	1	55
	1/30/2023 7:15:00 AM	71	1	0	72
	1/30/2023 7:30:00 AM	81	1	1	83
	1/30/2023 7:45:00 AM	78	3	1	82
	Hour	282	7	3	292
	1/30/2023 8:00:00 AM	68	3	2	73
	1/30/2023 8:15:00 AM	84	2	0	86
	1/30/2023 8:30:00 AM	81	1	0	82
	1/30/2023 8:45:00 AM	93	1	0	94
	Hour	326	7	2	335
	1/30/2023 9:00:00 AM	81	2	0	83
	1/30/2023 9:15:00 AM	78	0	3	81
	1/30/2023 9:30:00 AM	78	1	2	81
	1/30/2023 9:45:00 AM	91	0	4	95
	Hour	328	3	9	340
	1/30/2023 10:00:00 AM	71	1	1	73
	1/30/2023 10:15:00 AM	68	2	1	71
	1/30/2023 10:30:00 AM	67	0	2	69
	1/30/2023 10:45:00 AM	84	2	1	87
	Hour	290	5	5	300
	1/30/2023 11:00:00 AM	80	0	0	80
	1/30/2023 11:15:00 AM	78	2	3	83
	1/30/2023 11:30:00 AM	85	0	2	87
	1/30/2023 11:45:00 AM	86	0	5	91
	Hour	329	2	10	341
	Grand Total	1,883	31	41	1,955
	Percentage	96.3%	1.6%	2.1%	



# All Traffic Data Services

## 2 - OLD NUMBER SIX HWY E.O I-95 RAMPS

WB	Time	Lights	Mediums	Trucks	Total
	1/30/2023 12:00:00 PM	78	3	0	81
	1/30/2023 12:15:00 PM	99	3	4	106
	1/30/2023 12:30:00 PM	106	3	1	110
	1/30/2023 12:45:00 PM	100	2	0	102
	Hour	383	11	5	399
	1/30/2023 1:00:00 PM	87	1	4	92
	1/30/2023 1:15:00 PM	82	0	1	83
	1/30/2023 1:30:00 PM	89	6	1	96
	1/30/2023 1:45:00 PM	92	1	1	94
	Hour	350	8	7	365
	1/30/2023 2:00:00 PM	83	3	2	88
	1/30/2023 2:15:00 PM	83	0	3	86
	1/30/2023 2:30:00 PM	77	0	2	79
	1/30/2023 2:45:00 PM	96	1	2	99
	Hour	339	4	9	352
	1/30/2023 3:00:00 PM	85	0	2	87
	1/30/2023 3:15:00 PM	86	1	1	88
	1/30/2023 3:30:00 PM	96	1	2	99
	1/30/2023 3:45:00 PM	106	1	0	107
	Hour	373	3	5	381
	1/30/2023 4:00:00 PM	85	2	0	87
	1/30/2023 4:15:00 PM	86	1	1	88
	1/30/2023 4:30:00 PM	101	1	2	104
	1/30/2023 4:45:00 PM	93	1	1	95
	Hour	365	5	4	374
	1/30/2023 5:00:00 PM	108	1	1	110
	1/30/2023 5:15:00 PM	92	3	1	96
	1/30/2023 5:30:00 PM	96	1	1	98
	1/30/2023 5:45:00 PM	94	1	2	97
	Hour	390	6	5	401
	1/30/2023 6:00:00 PM	105	2	2	109
	1/30/2023 6:15:00 PM	88	1	0	89
	1/30/2023 6:30:00 PM	73	1	0	74
	1/30/2023 6:45:00 PM	63	0	0	63
	Hour	329	4	2	335
	1/30/2023 7:00:00 PM	52	0	0	52
	1/30/2023 7:15:00 PM	47	0	1	48
	1/30/2023 7:30:00 PM	44	0	1	45
	1/30/2023 7:45:00 PM	44	0	0	44
	Hour	187	0	2	189
	1/30/2023 8:00:00 PM	35	0	0	35
	1/30/2023 8:15:00 PM	46	0	0	46
	1/30/2023 8:30:00 PM	39	0	0	39
	1/30/2023 8:45:00 PM	26	0	0	26
	Hour	146	0	0	146
	1/30/2023 9:00:00 PM	23	1	1	25
	1/30/2023 9:15:00 PM	26	0	0	26
	1/30/2023 9:30:00 PM	17	0	1	18
	1/30/2023 9:45:00 PM	24	1	0	25
	Hour	90	2	2	94
	1/30/2023 10:00:00 PM	19	0	0	19
	1/30/2023 10:15:00 PM	25	0	0	25
	1/30/2023 10:30:00 PM	12	0	0	12
	1/30/2023 10:45:00 PM	15	0	0	15
	Hour	71	0	0	71
	1/30/2023 11:00:00 PM	8	0	0	8
	1/30/2023 11:15:00 PM	6	0	0	6
	1/30/2023 11:30:00 PM	8	0	0	8
	1/30/2023 11:45:00 PM	5	0	0	5
	Hour	27	0	0	27
	Grand Total	3,050	43	41	3,134
	Percentage	97.3%	1.4%	1.3%	
	Total	36,525	458	468	37,451
	Percentage	97.5%	1.2%	1.2%	



# All Traffic Data Services

3 - US 301 W.O I-95 SB RAMPS

EB	Time	Lights	Mediums	Trucks	Total
	1/24/2023	1	0	1	2
	1/24/2023 12:15:00 AM	4	0	0	4
	1/24/2023 12:30:00 AM	1	0	0	1
	1/24/2023 12:45:00 AM	2	0	1	3
	Hour	8	0	2	10
	1/24/2023 1:00:00 AM	0	0	0	0
	1/24/2023 1:15:00 AM	1	0	0	1
	1/24/2023 1:30:00 AM	1	0	0	1
	1/24/2023 1:45:00 AM	2	0	1	3
	Hour	4	0	1	5
	1/24/2023 2:00:00 AM	1	0	2	3
	1/24/2023 2:15:00 AM	0	0	1	1
	1/24/2023 2:30:00 AM	1	0	0	1
	1/24/2023 2:45:00 AM	0	0	0	0
	Hour	2	0	3	5
	1/24/2023 3:00:00 AM	1	0	2	3
	1/24/2023 3:15:00 AM	0	0	0	0
	1/24/2023 3:30:00 AM	0	0	0	0
	1/24/2023 3:45:00 AM	0	0	0	0
	Hour	1	0	2	3
	1/24/2023 4:00:00 AM	3	0	0	3
	1/24/2023 4:15:00 AM	0	0	0	0
	1/24/2023 4:30:00 AM	3	0	1	4
	1/24/2023 4:45:00 AM	5	0	0	5
	Hour	11	0	1	12
	1/24/2023 5:00:00 AM	3	0	1	4
	1/24/2023 5:15:00 AM	2	0	0	2
	1/24/2023 5:30:00 AM	6	1	0	7
	1/24/2023 5:45:00 AM	7	0	0	7
	Hour	18	1	1	20
	1/24/2023 6:00:00 AM	3	0	0	3
	1/24/2023 6:15:00 AM	7	0	0	7
	1/24/2023 6:30:00 AM	11	0	1	12
	1/24/2023 6:45:00 AM	1	0	2	3
	Hour	22	0	3	25
	1/24/2023 7:00:00 AM	11	0	0	11
	1/24/2023 7:15:00 AM	9	2	1	12
	1/24/2023 7:30:00 AM	11	1	0	12
	1/24/2023 7:45:00 AM	7	1	1	9
	Hour	38	4	2	44
	1/24/2023 8:00:00 AM	15	0	3	18
	1/24/2023 8:15:00 AM	11	0	1	12
	1/24/2023 8:30:00 AM	9	0	2	11
	1/24/2023 8:45:00 AM	12	2	1	15
	Hour	47	2	7	56
	1/24/2023 9:00:00 AM	7	0	1	8
	1/24/2023 9:15:00 AM	9	1	0	10
	1/24/2023 9:30:00 AM	6	0	2	8
	1/24/2023 9:45:00 AM	10	3	3	16
	Hour	32	4	6	42
	1/24/2023 10:00:00 AM	13	2	2	17
	1/24/2023 10:15:00 AM	6	2	1	9
	1/24/2023 10:30:00 AM	14	1	0	15
	1/24/2023 10:45:00 AM	14	1	1	16
	Hour	47	6	4	57
	1/24/2023 11:00:00 AM	12	2	2	16
	1/24/2023 11:15:00 AM	14	2	1	17
	1/24/2023 11:30:00 AM	11	0	2	13
	1/24/2023 11:45:00 AM	11	2	2	15
	Hour	48	6	7	61
	Grand Total	278	23	39	340
	Percentage	81.8%	6.8%	11.5%	





# All Traffic Data Services

## 3 - US 301 W.O I-95 SB RAMPS

EB	Time	Lights	Mediums	Trucks	Total
	1/24/2023 12:00:00 PM	11	0	1	12
	1/24/2023 12:15:00 PM	13	0	2	15
	1/24/2023 12:30:00 PM	10	2	2	14
	1/24/2023 12:45:00 PM	15	1	1	17
	Hour	49	3	6	58
	1/24/2023 1:00:00 PM	7	0	3	10
	1/24/2023 1:15:00 PM	19	0	1	20
	1/24/2023 1:30:00 PM	15	0	1	16
	1/24/2023 1:45:00 PM	17	1	1	19
	Hour	58	1	6	65
	1/24/2023 2:00:00 PM	20	0	2	22
	1/24/2023 2:15:00 PM	23	0	2	25
	1/24/2023 2:30:00 PM	17	1	2	20
	1/24/2023 2:45:00 PM	21	2	1	24
	Hour	81	3	7	91
	1/24/2023 3:00:00 PM	31	0	3	34
	1/24/2023 3:15:00 PM	15	0	3	18
	1/24/2023 3:30:00 PM	28	2	2	32
	1/24/2023 3:45:00 PM	33	0	1	34
	Hour	107	2	9	118
	1/24/2023 4:00:00 PM	17	2	2	21
	1/24/2023 4:15:00 PM	28	3	1	32
	1/24/2023 4:30:00 PM	20	1	2	23
	1/24/2023 4:45:00 PM	33	0	1	34
	Hour	98	6	6	110
	1/24/2023 5:00:00 PM	35	1	5	41
	1/24/2023 5:15:00 PM	30	1	2	33
	1/24/2023 5:30:00 PM	14	1	1	16
	1/24/2023 5:45:00 PM	21	0	2	23
	Hour	100	3	10	113
	1/24/2023 6:00:00 PM	21	4	0	25
	1/24/2023 6:15:00 PM	27	0	3	30
	1/24/2023 6:30:00 PM	11	0	1	12
	1/24/2023 6:45:00 PM	15	0	1	16
	Hour	74	4	5	83
	1/24/2023 7:00:00 PM	12	0	0	12
	1/24/2023 7:15:00 PM	11	0	0	11
	1/24/2023 7:30:00 PM	9	1	0	10
	1/24/2023 7:45:00 PM	9	0	1	10
	Hour	41	1	1	43
	1/24/2023 8:00:00 PM	11	0	1	12
	1/24/2023 8:15:00 PM	5	0	0	5
	1/24/2023 8:30:00 PM	4	0	1	5
	1/24/2023 8:45:00 PM	3	0	0	3
	Hour	23	0	2	25
	1/24/2023 9:00:00 PM	4	0	0	4
	1/24/2023 9:15:00 PM	4	0	0	4
	1/24/2023 9:30:00 PM	6	0	0	6
	1/24/2023 9:45:00 PM	1	0	0	1
	Hour	15	0	0	15
	1/24/2023 10:00:00 PM	3	0	0	3
	1/24/2023 10:15:00 PM	6	0	0	6
	1/24/2023 10:30:00 PM	2	0	0	2
	1/24/2023 10:45:00 PM	2	0	0	2
	Hour	13	0	0	13
	1/24/2023 11:00:00 PM	6	0	0	6
	1/24/2023 11:15:00 PM	0	0	0	0
	1/24/2023 11:30:00 PM	2	0	1	3
	1/24/2023 11:45:00 PM	2	0	0	2
	Hour	10	0	1	11
	Grand Total	669	23	53	745
	Percentage	89.8%	3.1%	7.1%	



# All Traffic Data Services

## 3 - US 301 W.O I-95 SB RAMPS

EB	Time	Lights	Mediums	Trucks	Total
	1/25/2023	1	0	1	2
	1/25/2023 12:15:00 AM	3	0	0	3
	1/25/2023 12:30:00 AM	3	0	0	3
	1/25/2023 12:45:00 AM	0	0	0	0
	Hour	7	0	1	8
	1/25/2023 1:00:00 AM	0	0	0	0
	1/25/2023 1:15:00 AM	2	0	1	3
	1/25/2023 1:30:00 AM	1	0	0	1
	1/25/2023 1:45:00 AM	0	0	1	1
	Hour	3	0	2	5
	1/25/2023 2:00:00 AM	0	0	1	1
	1/25/2023 2:15:00 AM	1	0	1	2
	1/25/2023 2:30:00 AM	0	0	1	1
	1/25/2023 2:45:00 AM	0	0	0	0
	Hour	1	0	3	4
	1/25/2023 3:00:00 AM	1	0	0	1
	1/25/2023 3:15:00 AM	2	0	0	2
	1/25/2023 3:30:00 AM	4	0	1	5
	1/25/2023 3:45:00 AM	1	0	0	1
	Hour	8	0	1	9
	1/25/2023 4:00:00 AM	3	0	1	4
	1/25/2023 4:15:00 AM	1	0	0	1
	1/25/2023 4:30:00 AM	2	0	0	2
	1/25/2023 4:45:00 AM	4	0	0	4
	Hour	10	0	1	11
	1/25/2023 5:00:00 AM	5	0	0	5
	1/25/2023 5:15:00 AM	12	0	0	12
	1/25/2023 5:30:00 AM	6	1	1	8
	1/25/2023 5:45:00 AM	7	0	0	7
	Hour	30	1	1	32
	1/25/2023 6:00:00 AM	9	0	1	10
	1/25/2023 6:15:00 AM	4	0	0	4
	1/25/2023 6:30:00 AM	7	0	0	7
	1/25/2023 6:45:00 AM	4	0	1	5
	Hour	24	0	2	26
	1/25/2023 7:00:00 AM	8	0	1	9
	1/25/2023 7:15:00 AM	10	1	3	14
	1/25/2023 7:30:00 AM	14	0	2	16
	1/25/2023 7:45:00 AM	12	0	1	13
	Hour	44	1	7	52
	1/25/2023 8:00:00 AM	11	1	1	13
	1/25/2023 8:15:00 AM	14	0	0	14
	1/25/2023 8:30:00 AM	10	0	1	11
	1/25/2023 8:45:00 AM	10	0	5	15
	Hour	45	1	7	53
	1/25/2023 9:00:00 AM	12	1	4	17
	1/25/2023 9:15:00 AM	9	1	3	13
	1/25/2023 9:30:00 AM	8	1	1	10
	1/25/2023 9:45:00 AM	10	1	0	11
	Hour	39	4	8	51
	1/25/2023 10:00:00 AM	7	0	0	7
	1/25/2023 10:15:00 AM	11	0	0	11
	1/25/2023 10:30:00 AM	14	0	2	16
	1/25/2023 10:45:00 AM	14	1	1	16
	Hour	46	1	3	50
	1/25/2023 11:00:00 AM	8	0	2	10
	1/25/2023 11:15:00 AM	11	0	3	14
	1/25/2023 11:30:00 AM	14	1	1	16
	1/25/2023 11:45:00 AM	16	1	2	19
	Hour	49	2	8	59
	Grand Total	306	10	44	360
	Percentage	85.0%	2.8%	12.2%	



# All Traffic Data Services

## 3 - US 301 W.O I-95 SB RAMPS

EB	Time	Lights	Mediums	Trucks	Total
	1/25/2023 12:00:00 PM	18	0	5	23
	1/25/2023 12:15:00 PM	15	1	3	19
	1/25/2023 12:30:00 PM	13	0	0	13
	1/25/2023 12:45:00 PM	12	1	2	15
	Hour	58	2	10	70
	1/25/2023 1:00:00 PM	10	0	1	11
	1/25/2023 1:15:00 PM	17	1	4	22
	1/25/2023 1:30:00 PM	17	1	5	23
	1/25/2023 1:45:00 PM	16	0	0	16
	Hour	60	2	10	72
	1/25/2023 2:00:00 PM	16	0	3	19
	1/25/2023 2:15:00 PM	23	2	2	27
	1/25/2023 2:30:00 PM	13	0	1	14
	1/25/2023 2:45:00 PM	18	1	1	20
	Hour	70	3	7	80
	1/25/2023 3:00:00 PM	21	1	1	23
	1/25/2023 3:15:00 PM	27	0	0	27
	1/25/2023 3:30:00 PM	18	0	1	19
	1/25/2023 3:45:00 PM	13	1	0	14
	Hour	79	2	2	83
	1/25/2023 4:00:00 PM	15	1	4	20
	1/25/2023 4:15:00 PM	17	0	1	18
	1/25/2023 4:30:00 PM	15	1	2	18
	1/25/2023 4:45:00 PM	28	1	2	31
	Hour	75	3	9	87
	1/25/2023 5:00:00 PM	30	1	3	34
	1/25/2023 5:15:00 PM	31	0	1	32
	1/25/2023 5:30:00 PM	27	2	3	32
	1/25/2023 5:45:00 PM	25	0	0	25
	Hour	113	3	7	123
	1/25/2023 6:00:00 PM	26	1	1	28
	1/25/2023 6:15:00 PM	23	0	1	24
	1/25/2023 6:30:00 PM	10	0	0	10
	1/25/2023 6:45:00 PM	8	0	0	8
	Hour	67	1	2	70
	1/25/2023 7:00:00 PM	9	1	1	11
	1/25/2023 7:15:00 PM	12	0	0	12
	1/25/2023 7:30:00 PM	3	1	0	4
	1/25/2023 7:45:00 PM	9	0	2	11
	Hour	33	2	3	38
	1/25/2023 8:00:00 PM	7	1	1	9
	1/25/2023 8:15:00 PM	5	0	1	6
	1/25/2023 8:30:00 PM	1	0	2	3
	1/25/2023 8:45:00 PM	2	0	0	2
	Hour	15	1	4	20
	1/25/2023 9:00:00 PM	7	0	1	8
	1/25/2023 9:15:00 PM	6	0	0	6
	1/25/2023 9:30:00 PM	8	0	0	8
	1/25/2023 9:45:00 PM	4	0	0	4
	Hour	25	0	1	26
	1/25/2023 10:00:00 PM	5	0	0	5
	1/25/2023 10:15:00 PM	6	0	0	6
	1/25/2023 10:30:00 PM	5	0	0	5
	1/25/2023 10:45:00 PM	6	0	1	7
	Hour	22	0	1	23
	1/25/2023 11:00:00 PM	1	0	0	1
	1/25/2023 11:15:00 PM	2	0	1	3
	1/25/2023 11:30:00 PM	2	0	0	2
	1/25/2023 11:45:00 PM	0	0	1	1
	Hour	5	0	2	7
	Grand Total	622	19	58	699
	Percentage	89.0%	2.7%	8.3%	



# All Traffic Data Services

## 3 - US 301 W.O I-95 SB RAMPS

EB	Time	Lights	Mediums	Trucks	Total
	1/26/2023	4	0	0	4
	1/26/2023 12:15:00 AM	1	0	0	1
	1/26/2023 12:30:00 AM	1	0	1	2
	1/26/2023 12:45:00 AM	0	0	0	0
	Hour	6	0	1	7
	1/26/2023 1:00:00 AM	0	0	0	0
	1/26/2023 1:15:00 AM	1	0	0	1
	1/26/2023 1:30:00 AM	0	0	2	2
	1/26/2023 1:45:00 AM	0	0	1	1
	Hour	1	0	3	4
	1/26/2023 2:00:00 AM	2	0	0	2
	1/26/2023 2:15:00 AM	1	0	0	1
	1/26/2023 2:30:00 AM	2	0	0	2
	1/26/2023 2:45:00 AM	2	0	0	2
	Hour	7	0	0	7
	1/26/2023 3:00:00 AM	0	0	1	1
	1/26/2023 3:15:00 AM	0	0	0	0
	1/26/2023 3:30:00 AM	1	0	0	1
	1/26/2023 3:45:00 AM	1	0	1	2
	Hour	2	0	2	4
	1/26/2023 4:00:00 AM	2	0	0	2
	1/26/2023 4:15:00 AM	3	0	0	3
	1/26/2023 4:30:00 AM	3	0	0	3
	1/26/2023 4:45:00 AM	3	0	0	3
	Hour	11	0	0	11
	1/26/2023 5:00:00 AM	6	0	0	6
	1/26/2023 5:15:00 AM	9	0	0	9
	1/26/2023 5:30:00 AM	2	0	1	3
	1/26/2023 5:45:00 AM	9	0	0	9
	Hour	26	0	1	27
	1/26/2023 6:00:00 AM	6	0	2	8
	1/26/2023 6:15:00 AM	4	1	0	5
	1/26/2023 6:30:00 AM	15	0	0	15
	1/26/2023 6:45:00 AM	13	0	1	14
	Hour	38	1	3	42
	1/26/2023 7:00:00 AM	9	0	1	10
	1/26/2023 7:15:00 AM	7	2	2	11
	1/26/2023 7:30:00 AM	11	1	1	13
	1/26/2023 7:45:00 AM	14	0	0	14
	Hour	41	3	4	48
	1/26/2023 8:00:00 AM	15	1	1	17
	1/26/2023 8:15:00 AM	11	1	1	13
	1/26/2023 8:30:00 AM	8	0	2	10
	1/26/2023 8:45:00 AM	13	0	0	13
	Hour	47	2	4	53
	1/26/2023 9:00:00 AM	8	0	1	9
	1/26/2023 9:15:00 AM	12	1	2	15
	1/26/2023 9:30:00 AM	8	0	1	9
	1/26/2023 9:45:00 AM	9	1	2	12
	Hour	37	2	6	45
	1/26/2023 10:00:00 AM	13	0	2	15
	1/26/2023 10:15:00 AM	13	0	0	13
	1/26/2023 10:30:00 AM	13	2	2	17
	1/26/2023 10:45:00 AM	10	0	4	14
	Hour	49	2	8	59
	1/26/2023 11:00:00 AM	14	0	3	17
	1/26/2023 11:15:00 AM	14	2	0	16
	1/26/2023 11:30:00 AM	14	2	1	17
	1/26/2023 11:45:00 AM	18	0	3	21
	Hour	60	4	7	71
	Grand Total	325	14	39	378
	Percentage	86.0%	3.7%	10.3%	



# All Traffic Data Services

## 3 - US 301 W.O I-95 SB RAMPS

EB	Time	Lights	Mediums	Trucks	Total
	1/26/2023 12:00:00 PM	12	0	5	17
	1/26/2023 12:15:00 PM	19	1	1	21
	1/26/2023 12:30:00 PM	7	2	2	11
	1/26/2023 12:45:00 PM	15	2	1	18
	Hour	53	5	9	67
	1/26/2023 1:00:00 PM	11	2	0	13
	1/26/2023 1:15:00 PM	16	0	1	17
	1/26/2023 1:30:00 PM	24	2	3	29
	1/26/2023 1:45:00 PM	20	0	1	21
	Hour	71	4	5	80
	1/26/2023 2:00:00 PM	15	0	2	17
	1/26/2023 2:15:00 PM	17	0	2	19
	1/26/2023 2:30:00 PM	23	0	2	25
	1/26/2023 2:45:00 PM	19	1	3	23
	Hour	74	1	9	84
	1/26/2023 3:00:00 PM	16	0	4	20
	1/26/2023 3:15:00 PM	19	0	0	19
	1/26/2023 3:30:00 PM	21	0	2	23
	1/26/2023 3:45:00 PM	26	1	6	33
	Hour	82	1	12	95
	1/26/2023 4:00:00 PM	25	0	1	26
	1/26/2023 4:15:00 PM	29	0	2	31
	1/26/2023 4:30:00 PM	22	1	6	29
	1/26/2023 4:45:00 PM	26	1	1	28
	Hour	102	2	10	114
	1/26/2023 5:00:00 PM	33	1	1	35
	1/26/2023 5:15:00 PM	36	0	0	36
	1/26/2023 5:30:00 PM	32	0	2	34
	1/26/2023 5:45:00 PM	26	2	1	29
	Hour	127	3	4	134
	1/26/2023 6:00:00 PM	29	0	0	29
	1/26/2023 6:15:00 PM	11	0	1	12
	1/26/2023 6:30:00 PM	14	0	1	15
	1/26/2023 6:45:00 PM	19	0	0	19
	Hour	73	0	2	75
	1/26/2023 7:00:00 PM	9	0	1	10
	1/26/2023 7:15:00 PM	8	0	0	8
	1/26/2023 7:30:00 PM	5	1	1	7
	1/26/2023 7:45:00 PM	10	0	0	10
	Hour	32	1	2	35
	1/26/2023 8:00:00 PM	5	0	1	6
	1/26/2023 8:15:00 PM	11	0	0	11
	1/26/2023 8:30:00 PM	8	0	0	8
	1/26/2023 8:45:00 PM	2	0	0	2
	Hour	26	0	1	27
	1/26/2023 9:00:00 PM	4	0	0	4
	1/26/2023 9:15:00 PM	9	0	0	9
	1/26/2023 9:30:00 PM	3	0	0	3
	1/26/2023 9:45:00 PM	8	0	2	10
	Hour	24	0	2	26
	1/26/2023 10:00:00 PM	6	0	1	7
	1/26/2023 10:15:00 PM	5	0	0	5
	1/26/2023 10:30:00 PM	3	0	1	4
	1/26/2023 10:45:00 PM	2	0	1	3
	Hour	16	0	3	19
	1/26/2023 11:00:00 PM	5	1	1	7
	1/26/2023 11:15:00 PM	2	0	0	2
	1/26/2023 11:30:00 PM	5	0	0	5
	1/26/2023 11:45:00 PM	3	0	0	3
	Hour	15	1	1	17
	Grand Total	695	18	60	773
	Percentage	89.9%	2.3%	7.8%	





# All Traffic Data Services

3 - US 301 W.O I-95 SB RAMPS

EB	Time	Lights	Mediums	Trucks	Total
	1/27/2023	3	0	0	3
	1/27/2023 12:15:00 AM	2	0	1	3
	1/27/2023 12:30:00 AM	3	0	0	3
	1/27/2023 12:45:00 AM	1	0	1	2
	Hour	9	0	2	11
	1/27/2023 1:00:00 AM	1	0	0	1
	1/27/2023 1:15:00 AM	2	0	0	2
	1/27/2023 1:30:00 AM	1	0	0	1
	1/27/2023 1:45:00 AM	2	0	1	3
	Hour	6	0	1	7
	1/27/2023 2:00:00 AM	1	0	0	1
	1/27/2023 2:15:00 AM	2	0	0	2
	1/27/2023 2:30:00 AM	1	0	0	1
	1/27/2023 2:45:00 AM	2	0	1	3
	Hour	6	0	1	7
	1/27/2023 3:00:00 AM	1	0	0	1
	1/27/2023 3:15:00 AM	0	0	0	0
	1/27/2023 3:30:00 AM	2	0	0	2
	1/27/2023 3:45:00 AM	2	0	1	3
	Hour	5	0	1	6
	1/27/2023 4:00:00 AM	0	0	1	1
	1/27/2023 4:15:00 AM	5	0	0	5
	1/27/2023 4:30:00 AM	5	0	0	5
	1/27/2023 4:45:00 AM	4	0	0	4
	Hour	14	0	1	15
	1/27/2023 5:00:00 AM	5	1	0	6
	1/27/2023 5:15:00 AM	15	0	0	15
	1/27/2023 5:30:00 AM	9	0	0	9
	1/27/2023 5:45:00 AM	6	0	0	6
	Hour	35	1	0	36
	1/27/2023 6:00:00 AM	7	0	3	10
	1/27/2023 6:15:00 AM	8	0	1	9
	1/27/2023 6:30:00 AM	8	0	2	10
	1/27/2023 6:45:00 AM	9	1	0	10
	Hour	32	1	6	39
	1/27/2023 7:00:00 AM	5	1	1	7
	1/27/2023 7:15:00 AM	6	0	3	9
	1/27/2023 7:30:00 AM	4	1	2	7
	1/27/2023 7:45:00 AM	11	0	2	13
	Hour	26	2	8	36
	1/27/2023 8:00:00 AM	7	1	1	9
	1/27/2023 8:15:00 AM	12	0	1	13
	1/27/2023 8:30:00 AM	12	1	4	17
	1/27/2023 8:45:00 AM	11	0	1	12
	Hour	42	2	7	51
	1/27/2023 9:00:00 AM	11	0	1	12
	1/27/2023 9:15:00 AM	15	0	1	16
	1/27/2023 9:30:00 AM	20	0	1	21
	1/27/2023 9:45:00 AM	15	0	1	16
	Hour	61	0	4	65
	1/27/2023 10:00:00 AM	14	0	3	17
	1/27/2023 10:15:00 AM	14	2	2	18
	1/27/2023 10:30:00 AM	23	0	1	24
	1/27/2023 10:45:00 AM	17	1	0	18
	Hour	68	3	6	77
	1/27/2023 11:00:00 AM	21	1	3	25
	1/27/2023 11:15:00 AM	27	0	1	28
	1/27/2023 11:30:00 AM	22	0	1	23
	1/27/2023 11:45:00 AM	14	0	1	15
	Hour	84	1	6	91
	Grand Total	388	10	43	441
	Percentage	88.0%	2.3%	9.8%	



# All Traffic Data Services

## 3 - US 301 W.O I-95 SB RAMPS

EB	Time	Lights	Mediums	Trucks	Total
	1/27/2023 12:00:00 PM	16	1	0	17
	1/27/2023 12:15:00 PM	14	1	4	19
	1/27/2023 12:30:00 PM	22	0	1	23
	1/27/2023 12:45:00 PM	12	3	2	17
	Hour	64	5	7	76
	1/27/2023 1:00:00 PM	24	0	0	24
	1/27/2023 1:15:00 PM	23	0	2	25
	1/27/2023 1:30:00 PM	24	1	4	29
	1/27/2023 1:45:00 PM	21	1	2	24
	Hour	92	2	8	102
	1/27/2023 2:00:00 PM	29	0	1	30
	1/27/2023 2:15:00 PM	24	1	4	29
	1/27/2023 2:30:00 PM	31	0	1	32
	1/27/2023 2:45:00 PM	22	2	1	25
	Hour	106	3	7	116
	1/27/2023 3:00:00 PM	23	0	4	27
	1/27/2023 3:15:00 PM	29	2	1	32
	1/27/2023 3:30:00 PM	24	1	3	28
	1/27/2023 3:45:00 PM	30	1	1	32
	Hour	106	4	9	119
	1/27/2023 4:00:00 PM	35	2	2	39
	1/27/2023 4:15:00 PM	37	0	0	37
	1/27/2023 4:30:00 PM	24	0	1	25
	1/27/2023 4:45:00 PM	29	1	0	30
	Hour	125	3	3	131
	1/27/2023 5:00:00 PM	36	3	2	41
	1/27/2023 5:15:00 PM	21	0	3	24
	1/27/2023 5:30:00 PM	23	0	1	24
	1/27/2023 5:45:00 PM	26	0	2	28
	Hour	106	3	8	117
	1/27/2023 6:00:00 PM	30	1	2	33
	1/27/2023 6:15:00 PM	22	0	1	23
	1/27/2023 6:30:00 PM	19	0	0	19
	1/27/2023 6:45:00 PM	13	0	0	13
	Hour	84	1	3	88
	1/27/2023 7:00:00 PM	18	0	0	18
	1/27/2023 7:15:00 PM	20	0	0	20
	1/27/2023 7:30:00 PM	7	1	0	8
	1/27/2023 7:45:00 PM	15	0	0	15
	Hour	60	1	0	61
	1/27/2023 8:00:00 PM	14	0	1	15
	1/27/2023 8:15:00 PM	7	0	0	7
	1/27/2023 8:30:00 PM	12	1	0	13
	1/27/2023 8:45:00 PM	10	0	0	10
	Hour	43	1	1	45
	1/27/2023 9:00:00 PM	8	0	0	8
	1/27/2023 9:15:00 PM	7	0	1	8
	1/27/2023 9:30:00 PM	10	0	0	10
	1/27/2023 9:45:00 PM	9	0	0	9
	Hour	34	0	1	35
	1/27/2023 10:00:00 PM	7	0	0	7
	1/27/2023 10:15:00 PM	11	0	0	11
	1/27/2023 10:30:00 PM	4	0	0	4
	1/27/2023 10:45:00 PM	7	0	0	7
	Hour	29	0	0	29
	1/27/2023 11:00:00 PM	2	0	0	2
	1/27/2023 11:15:00 PM	8	0	0	8
	1/27/2023 11:30:00 PM	6	0	0	6
	1/27/2023 11:45:00 PM	4	0	0	4
	Hour	20	0	0	20
	Grand Total	869	23	47	939
	Percentage	92.5%	2.4%	5.0%	



# All Traffic Data Services

## 3 - US 301 W.O I-95 SB RAMPS

EB	Time	Lights	Mediums	Trucks	Total
	1/28/2023	6	0	0	6
	1/28/2023 12:15:00 AM	3	0	0	3
	1/28/2023 12:30:00 AM	3	0	0	3
	1/28/2023 12:45:00 AM	5	0	0	5
	Hour	17	0	0	17
	1/28/2023 1:00:00 AM	2	0	1	3
	1/28/2023 1:15:00 AM	6	0	0	6
	1/28/2023 1:30:00 AM	1	0	0	1
	1/28/2023 1:45:00 AM	5	0	0	5
	Hour	14	0	1	15
	1/28/2023 2:00:00 AM	2	0	0	2
	1/28/2023 2:15:00 AM	0	0	0	0
	1/28/2023 2:30:00 AM	5	0	0	5
	1/28/2023 2:45:00 AM	3	0	0	3
	Hour	10	0	0	10
	1/28/2023 3:00:00 AM	1	0	0	1
	1/28/2023 3:15:00 AM	2	0	0	2
	1/28/2023 3:30:00 AM	1	0	0	1
	1/28/2023 3:45:00 AM	10	0	0	10
	Hour	14	0	0	14
	1/28/2023 4:00:00 AM	6	0	0	6
	1/28/2023 4:15:00 AM	8	0	1	9
	1/28/2023 4:30:00 AM	7	0	0	7
	1/28/2023 4:45:00 AM	6	0	0	6
	Hour	27	0	1	28
	1/28/2023 5:00:00 AM	9	0	0	9
	1/28/2023 5:15:00 AM	12	0	0	12
	1/28/2023 5:30:00 AM	20	0	0	20
	1/28/2023 5:45:00 AM	12	0	0	12
	Hour	53	0	0	53
	1/28/2023 6:00:00 AM	7	0	0	7
	1/28/2023 6:15:00 AM	6	1	0	7
	1/28/2023 6:30:00 AM	5	0	0	5
	1/28/2023 6:45:00 AM	4	0	0	4
	Hour	22	1	0	23
	1/28/2023 7:00:00 AM	2	0	0	2
	1/28/2023 7:15:00 AM	4	0	0	4
	1/28/2023 7:30:00 AM	6	0	0	6
	1/28/2023 7:45:00 AM	12	0	0	12
	Hour	24	0	0	24
	1/28/2023 8:00:00 AM	7	0	0	7
	1/28/2023 8:15:00 AM	8	0	0	8
	1/28/2023 8:30:00 AM	11	0	0	11
	1/28/2023 8:45:00 AM	11	0	1	12
	Hour	37	0	1	38
	1/28/2023 9:00:00 AM	19	0	1	20
	1/28/2023 9:15:00 AM	11	0	0	11
	1/28/2023 9:30:00 AM	18	0	1	19
	1/28/2023 9:45:00 AM	15	0	0	15
	Hour	63	0	2	65
	1/28/2023 10:00:00 AM	16	0	0	16
	1/28/2023 10:15:00 AM	18	0	1	19
	1/28/2023 10:30:00 AM	19	0	1	20
	1/28/2023 10:45:00 AM	21	0	1	22
	Hour	74	0	3	77
	1/28/2023 11:00:00 AM	24	0	1	25
	1/28/2023 11:15:00 AM	29	1	0	30
	1/28/2023 11:30:00 AM	25	0	1	26
	1/28/2023 11:45:00 AM	19	0	0	19
	Hour	97	1	2	100
	Grand Total	452	2	10	464
	Percentage	97.4%	0.4%	2.2%	



# All Traffic Data Services

## 3 - US 301 W.O I-95 SB RAMPS

EB	Time	Lights	Mediums	Trucks	Total
	1/28/2023 12:00:00 PM	23	0	0	23
	1/28/2023 12:15:00 PM	14	0	0	14
	1/28/2023 12:30:00 PM	24	0	0	24
	1/28/2023 12:45:00 PM	28	0	0	28
	Hour	89	0	0	89
	1/28/2023 1:00:00 PM	20	0	0	20
	1/28/2023 1:15:00 PM	14	0	0	14
	1/28/2023 1:30:00 PM	20	0	1	21
	1/28/2023 1:45:00 PM	24	1	1	26
	Hour	78	1	2	81
	1/28/2023 2:00:00 PM	21	0	0	21
	1/28/2023 2:15:00 PM	25	0	0	25
	1/28/2023 2:30:00 PM	27	0	0	27
	1/28/2023 2:45:00 PM	27	0	0	27
	Hour	100	0	0	100
	1/28/2023 3:00:00 PM	28	0	0	28
	1/28/2023 3:15:00 PM	29	0	2	31
	1/28/2023 3:30:00 PM	17	0	2	19
	1/28/2023 3:45:00 PM	14	0	0	14
	Hour	88	0	4	92
	1/28/2023 4:00:00 PM	12	0	0	12
	1/28/2023 4:15:00 PM	28	0	0	28
	1/28/2023 4:30:00 PM	19	0	0	19
	1/28/2023 4:45:00 PM	20	0	0	20
	Hour	79	0	0	79
	1/28/2023 5:00:00 PM	21	0	0	21
	1/28/2023 5:15:00 PM	18	0	0	18
	1/28/2023 5:30:00 PM	20	0	0	20
	1/28/2023 5:45:00 PM	26	0	0	26
	Hour	85	0	0	85
	1/28/2023 6:00:00 PM	12	0	0	12
	1/28/2023 6:15:00 PM	19	0	0	19
	1/28/2023 6:30:00 PM	17	0	0	17
	1/28/2023 6:45:00 PM	17	0	0	17
	Hour	65	0	0	65
	1/28/2023 7:00:00 PM	18	0	0	18
	1/28/2023 7:15:00 PM	12	0	1	13
	1/28/2023 7:30:00 PM	15	1	0	16
	1/28/2023 7:45:00 PM	8	0	0	8
	Hour	53	1	1	55
	1/28/2023 8:00:00 PM	8	0	0	8
	1/28/2023 8:15:00 PM	11	0	0	11
	1/28/2023 8:30:00 PM	11	0	0	11
	1/28/2023 8:45:00 PM	5	0	0	5
	Hour	35	0	0	35
	1/28/2023 9:00:00 PM	17	1	0	18
	1/28/2023 9:15:00 PM	7	0	0	7
	1/28/2023 9:30:00 PM	6	0	0	6
	1/28/2023 9:45:00 PM	3	0	0	3
	Hour	33	1	0	34
	1/28/2023 10:00:00 PM	8	0	0	8
	1/28/2023 10:15:00 PM	2	0	0	2
	1/28/2023 10:30:00 PM	4	0	0	4
	1/28/2023 10:45:00 PM	4	0	0	4
	Hour	18	0	0	18
	1/28/2023 11:00:00 PM	3	0	0	3
	1/28/2023 11:15:00 PM	3	0	0	3
	1/28/2023 11:30:00 PM	4	0	0	4
	1/28/2023 11:45:00 PM	4	0	0	4
	Hour	14	0	0	14
	Grand Total	737	3	7	747
	Percentage	98.7%	0.4%	0.9%	



# All Traffic Data Services

## 3 - US 301 W.O I-95 SB RAMPS

EB	Time	Lights	Mediums	Trucks	Total
	1/29/2023	1	0	0	1
	1/29/2023 12:15:00 AM	6	0	0	6
	1/29/2023 12:30:00 AM	4	0	0	4
	1/29/2023 12:45:00 AM	4	0	0	4
	Hour	15	0	0	15
	1/29/2023 1:00:00 AM	6	0	0	6
	1/29/2023 1:15:00 AM	2	0	1	3
	1/29/2023 1:30:00 AM	1	0	0	1
	1/29/2023 1:45:00 AM	0	0	0	0
	Hour	9	0	1	10
	1/29/2023 2:00:00 AM	2	0	0	2
	1/29/2023 2:15:00 AM	1	0	0	1
	1/29/2023 2:30:00 AM	0	0	0	0
	1/29/2023 2:45:00 AM	3	0	0	3
	Hour	6	0	0	6
	1/29/2023 3:00:00 AM	1	0	0	1
	1/29/2023 3:15:00 AM	1	0	0	1
	1/29/2023 3:30:00 AM	2	0	1	3
	1/29/2023 3:45:00 AM	3	0	1	4
	Hour	7	0	2	9
	1/29/2023 4:00:00 AM	1	0	1	2
	1/29/2023 4:15:00 AM	1	0	2	3
	1/29/2023 4:30:00 AM	2	0	0	2
	1/29/2023 4:45:00 AM	0	0	0	0
	Hour	4	0	3	7
	1/29/2023 5:00:00 AM	4	0	0	4
	1/29/2023 5:15:00 AM	5	0	0	5
	1/29/2023 5:30:00 AM	6	0	0	6
	1/29/2023 5:45:00 AM	4	0	0	4
	Hour	19	0	0	19
	1/29/2023 6:00:00 AM	4	0	0	4
	1/29/2023 6:15:00 AM	1	0	0	1
	1/29/2023 6:30:00 AM	4	0	0	4
	1/29/2023 6:45:00 AM	5	0	0	5
	Hour	14	0	0	14
	1/29/2023 7:00:00 AM	3	1	0	4
	1/29/2023 7:15:00 AM	2	0	0	2
	1/29/2023 7:30:00 AM	2	0	0	2
	1/29/2023 7:45:00 AM	6	0	0	6
	Hour	13	1	0	14
	1/29/2023 8:00:00 AM	8	0	1	9
	1/29/2023 8:15:00 AM	7	0	1	8
	1/29/2023 8:30:00 AM	7	0	0	7
	1/29/2023 8:45:00 AM	8	0	1	9
	Hour	30	0	3	33
	1/29/2023 9:00:00 AM	4	0	0	4
	1/29/2023 9:15:00 AM	9	0	0	9
	1/29/2023 9:30:00 AM	10	0	1	11
	1/29/2023 9:45:00 AM	12	0	1	13
	Hour	35	0	2	37
	1/29/2023 10:00:00 AM	14	0	0	14
	1/29/2023 10:15:00 AM	6	0	0	6
	1/29/2023 10:30:00 AM	16	0	1	17
	1/29/2023 10:45:00 AM	16	0	0	16
	Hour	52	0	1	53
	1/29/2023 11:00:00 AM	19	0	0	19
	1/29/2023 11:15:00 AM	15	0	0	15
	1/29/2023 11:30:00 AM	15	0	1	16
	1/29/2023 11:45:00 AM	19	0	0	19
	Hour	68	0	1	69
	Grand Total	272	1	13	286
	Percentage	95.1%	0.3%	4.5%	





# All Traffic Data Services

## 3 - US 301 W.O I-95 SB RAMPS

EB	Time	Lights	Mediums	Trucks	Total
	1/29/2023 12:00:00 PM	19	0	0	19
	1/29/2023 12:15:00 PM	15	0	1	16
	1/29/2023 12:30:00 PM	23	0	0	23
	1/29/2023 12:45:00 PM	16	0	2	18
	Hour	73	0	3	76
	1/29/2023 1:00:00 PM	17	0	0	17
	1/29/2023 1:15:00 PM	26	0	0	26
	1/29/2023 1:30:00 PM	15	0	0	15
	1/29/2023 1:45:00 PM	20	0	1	21
	Hour	78	0	1	79
	1/29/2023 2:00:00 PM	26	0	0	26
	1/29/2023 2:15:00 PM	26	0	0	26
	1/29/2023 2:30:00 PM	16	0	0	16
	1/29/2023 2:45:00 PM	25	0	0	25
	Hour	93	0	0	93
	1/29/2023 3:00:00 PM	18	0	0	18
	1/29/2023 3:15:00 PM	32	0	0	32
	1/29/2023 3:30:00 PM	13	0	0	13
	1/29/2023 3:45:00 PM	25	0	0	25
	Hour	88	0	0	88
	1/29/2023 4:00:00 PM	18	1	0	19
	1/29/2023 4:15:00 PM	16	0	0	16
	1/29/2023 4:30:00 PM	19	0	1	20
	1/29/2023 4:45:00 PM	18	0	0	18
	Hour	71	1	1	73
	1/29/2023 5:00:00 PM	13	0	0	13
	1/29/2023 5:15:00 PM	22	0	0	22
	1/29/2023 5:30:00 PM	16	0	0	16
	1/29/2023 5:45:00 PM	15	0	0	15
	Hour	66	0	0	66
	1/29/2023 6:00:00 PM	9	0	0	9
	1/29/2023 6:15:00 PM	14	0	0	14
	1/29/2023 6:30:00 PM	11	0	0	11
	1/29/2023 6:45:00 PM	16	0	0	16
	Hour	50	0	0	50
	1/29/2023 7:00:00 PM	12	0	0	12
	1/29/2023 7:15:00 PM	15	0	0	15
	1/29/2023 7:30:00 PM	9	0	0	9
	1/29/2023 7:45:00 PM	4	0	0	4
	Hour	40	0	0	40
	1/29/2023 8:00:00 PM	7	0	1	8
	1/29/2023 8:15:00 PM	6	0	0	6
	1/29/2023 8:30:00 PM	8	0	0	8
	1/29/2023 8:45:00 PM	11	0	0	11
	Hour	32	0	1	33
	1/29/2023 9:00:00 PM	4	0	0	4
	1/29/2023 9:15:00 PM	0	0	0	0
	1/29/2023 9:30:00 PM	8	0	0	8
	1/29/2023 9:45:00 PM	2	1	0	3
	Hour	14	1	0	15
	1/29/2023 10:00:00 PM	3	0	0	3
	1/29/2023 10:15:00 PM	3	0	0	3
	1/29/2023 10:30:00 PM	3	0	1	4
	1/29/2023 10:45:00 PM	2	0	0	2
	Hour	11	0	1	12
	1/29/2023 11:00:00 PM	6	0	0	6
	1/29/2023 11:15:00 PM	4	0	0	4
	1/29/2023 11:30:00 PM	3	0	0	3
	1/29/2023 11:45:00 PM	3	0	0	3
	Hour	16	0	0	16
	Grand Total	632	2	7	641
	Percentage	98.6%	0.3%	1.1%	



# All Traffic Data Services

## 3 - US 301 W.O I-95 SB RAMPS

EB	Time	Lights	Mediums	Trucks	Total
	1/30/2023	1	0	0	1
	1/30/2023 12:15:00 AM	4	1	0	5
	1/30/2023 12:30:00 AM	3	1	0	4
	1/30/2023 12:45:00 AM	0	0	0	0
	Hour	8	2	0	10
	1/30/2023 1:00:00 AM	0	0	0	0
	1/30/2023 1:15:00 AM	3	0	0	3
	1/30/2023 1:30:00 AM	0	0	0	0
	1/30/2023 1:45:00 AM	0	0	1	1
	Hour	3	0	1	4
	1/30/2023 2:00:00 AM	2	0	0	2
	1/30/2023 2:15:00 AM	0	0	0	0
	1/30/2023 2:30:00 AM	0	0	0	0
	1/30/2023 2:45:00 AM	2	0	0	2
	Hour	4	0	0	4
	1/30/2023 3:00:00 AM	0	0	1	1
	1/30/2023 3:15:00 AM	0	0	0	0
	1/30/2023 3:30:00 AM	1	0	0	1
	1/30/2023 3:45:00 AM	0	0	0	0
	Hour	1	0	1	2
	1/30/2023 4:00:00 AM	1	0	0	1
	1/30/2023 4:15:00 AM	1	0	0	1
	1/30/2023 4:30:00 AM	2	0	0	2
	1/30/2023 4:45:00 AM	2	0	0	2
	Hour	6	0	0	6
	1/30/2023 5:00:00 AM	5	0	0	5
	1/30/2023 5:15:00 AM	4	0	1	5
	1/30/2023 5:30:00 AM	6	0	0	6
	1/30/2023 5:45:00 AM	9	1	1	11
	Hour	24	1	2	27
	1/30/2023 6:00:00 AM	12	0	0	12
	1/30/2023 6:15:00 AM	8	0	0	8
	1/30/2023 6:30:00 AM	10	0	0	10
	1/30/2023 6:45:00 AM	2	0	1	3
	Hour	32	0	1	33
	1/30/2023 7:00:00 AM	11	0	0	11
	1/30/2023 7:15:00 AM	10	2	0	12
	1/30/2023 7:30:00 AM	6	0	3	9
	1/30/2023 7:45:00 AM	5	0	1	6
	Hour	32	2	4	38
	1/30/2023 8:00:00 AM	10	0	2	12
	1/30/2023 8:15:00 AM	18	0	1	19
	1/30/2023 8:30:00 AM	8	0	1	9
	1/30/2023 8:45:00 AM	11	0	2	13
	Hour	47	0	6	53
	1/30/2023 9:00:00 AM	10	0	4	14
	1/30/2023 9:15:00 AM	16	0	3	19
	1/30/2023 9:30:00 AM	6	0	1	7
	1/30/2023 9:45:00 AM	11	1	4	16
	Hour	43	1	12	56
	1/30/2023 10:00:00 AM	12	0	1	13
	1/30/2023 10:15:00 AM	14	0	0	14
	1/30/2023 10:30:00 AM	9	1	0	10
	1/30/2023 10:45:00 AM	21	0	0	21
	Hour	56	1	1	58
	1/30/2023 11:00:00 AM	17	0	1	18
	1/30/2023 11:15:00 AM	15	0	2	17
	1/30/2023 11:30:00 AM	13	0	3	16
	1/30/2023 11:45:00 AM	9	0	2	11
	Hour	54	0	8	62
	Grand Total	310	7	36	353
	Percentage	87.8%	2.0%	10.2%	



# All Traffic Data Services

## 3 - US 301 W.O I-95 SB RAMPS

EB	Time	Lights	Mediums	Trucks	Total
	1/30/2023 12:00:00 PM	16	0	1	17
	1/30/2023 12:15:00 PM	12	0	4	16
	1/30/2023 12:30:00 PM	8	1	1	10
	1/30/2023 12:45:00 PM	17	1	3	21
	Hour	53	2	9	64
	1/30/2023 1:00:00 PM	14	0	1	15
	1/30/2023 1:15:00 PM	17	0	2	19
	1/30/2023 1:30:00 PM	21	2	6	29
	1/30/2023 1:45:00 PM	22	1	3	26
	Hour	74	3	12	89
	1/30/2023 2:00:00 PM	18	0	0	18
	1/30/2023 2:15:00 PM	16	0	5	21
	1/30/2023 2:30:00 PM	16	0	1	17
	1/30/2023 2:45:00 PM	19	3	3	25
	Hour	69	3	9	81
	1/30/2023 3:00:00 PM	26	1	2	29
	1/30/2023 3:15:00 PM	14	0	3	17
	1/30/2023 3:30:00 PM	24	0	1	25
	1/30/2023 3:45:00 PM	22	0	2	24
	Hour	86	1	8	95
	1/30/2023 4:00:00 PM	13	0	0	13
	1/30/2023 4:15:00 PM	23	0	2	25
	1/30/2023 4:30:00 PM	25	1	5	31
	1/30/2023 4:45:00 PM	39	2	0	41
	Hour	100	3	7	110
	1/30/2023 5:00:00 PM	30	0	0	30
	1/30/2023 5:15:00 PM	21	0	2	23
	1/30/2023 5:30:00 PM	28	0	3	31
	1/30/2023 5:45:00 PM	27	2	2	31
	Hour	106	2	7	115
	1/30/2023 6:00:00 PM	19	0	0	19
	1/30/2023 6:15:00 PM	25	0	2	27
	1/30/2023 6:30:00 PM	12	1	0	13
	1/30/2023 6:45:00 PM	8	0	0	8
	Hour	64	1	2	67
	1/30/2023 7:00:00 PM	15	0	0	15
	1/30/2023 7:15:00 PM	11	0	0	11
	1/30/2023 7:30:00 PM	6	0	2	8
	1/30/2023 7:45:00 PM	4	0	0	4
	Hour	36	0	2	38
	1/30/2023 8:00:00 PM	2	0	0	2
	1/30/2023 8:15:00 PM	8	1	0	9
	1/30/2023 8:30:00 PM	7	0	0	7
	1/30/2023 8:45:00 PM	9	0	0	9
	Hour	26	1	0	27
	1/30/2023 9:00:00 PM	6	0	1	7
	1/30/2023 9:15:00 PM	8	0	0	8
	1/30/2023 9:30:00 PM	3	0	0	3
	1/30/2023 9:45:00 PM	10	0	0	10
	Hour	27	0	1	28
	1/30/2023 10:00:00 PM	1	0	0	1
	1/30/2023 10:15:00 PM	9	0	0	9
	1/30/2023 10:30:00 PM	8	0	0	8
	1/30/2023 10:45:00 PM	2	0	0	2
	Hour	20	0	0	20
	1/30/2023 11:00:00 PM	5	0	0	5
	1/30/2023 11:15:00 PM	3	0	0	3
	1/30/2023 11:30:00 PM	1	0	0	1
	1/30/2023 11:45:00 PM	2	0	0	2
	Hour	11	0	0	11
	Grand Total	672	16	57	745
	Percentage	90.2%	2.1%	7.7%	
	Total	7,227	171	513	7,911
	Percentage	91.4%	2.2%	6.5%	



# All Traffic Data Services

## 3 - US 301 W.O I-95 SB RAMPS

WB	Time	Lights	Mediums	Trucks	Total
	1/24/2023	0	0	0	0
	1/24/2023 12:15:00 AM	2	0	0	2
	1/24/2023 12:30:00 AM	1	0	0	1
	1/24/2023 12:45:00 AM	2	0	1	3
	Hour	5	0	1	6
	1/24/2023 1:00:00 AM	0	0	1	1
	1/24/2023 1:15:00 AM	2	0	0	2
	1/24/2023 1:30:00 AM	0	0	0	0
	1/24/2023 1:45:00 AM	1	0	1	2
	Hour	3	0	2	5
	1/24/2023 2:00:00 AM	3	0	0	3
	1/24/2023 2:15:00 AM	1	0	1	2
	1/24/2023 2:30:00 AM	1	0	0	1
	1/24/2023 2:45:00 AM	0	0	0	0
	Hour	5	0	1	6
	1/24/2023 3:00:00 AM	0	0	0	0
	1/24/2023 3:15:00 AM	2	0	1	3
	1/24/2023 3:30:00 AM	1	0	1	2
	1/24/2023 3:45:00 AM	0	0	0	0
	Hour	3	0	2	5
	1/24/2023 4:00:00 AM	5	0	1	6
	1/24/2023 4:15:00 AM	3	0	1	4
	1/24/2023 4:30:00 AM	4	1	0	5
	1/24/2023 4:45:00 AM	8	0	2	10
	Hour	20	1	4	25
	1/24/2023 5:00:00 AM	13	0	2	15
	1/24/2023 5:15:00 AM	6	0	3	9
	1/24/2023 5:30:00 AM	13	0	1	14
	1/24/2023 5:45:00 AM	8	0	0	8
	Hour	40	0	6	46
	1/24/2023 6:00:00 AM	13	0	1	14
	1/24/2023 6:15:00 AM	12	1	1	14
	1/24/2023 6:30:00 AM	14	4	0	18
	1/24/2023 6:45:00 AM	18	0	1	19
	Hour	57	5	3	65
	1/24/2023 7:00:00 AM	12	0	1	13
	1/24/2023 7:15:00 AM	12	0	0	12
	1/24/2023 7:30:00 AM	19	1	2	22
	1/24/2023 7:45:00 AM	21	1	0	22
	Hour	64	2	3	69
	1/24/2023 8:00:00 AM	26	2	0	28
	1/24/2023 8:15:00 AM	11	1	0	12
	1/24/2023 8:30:00 AM	19	0	1	20
	1/24/2023 8:45:00 AM	18	1	3	22
	Hour	74	4	4	82
	1/24/2023 9:00:00 AM	16	1	1	18
	1/24/2023 9:15:00 AM	16	1	2	19
	1/24/2023 9:30:00 AM	11	1	2	14
	1/24/2023 9:45:00 AM	13	0	1	14
	Hour	56	3	6	65
	1/24/2023 10:00:00 AM	13	1	2	16
	1/24/2023 10:15:00 AM	14	1	0	15
	1/24/2023 10:30:00 AM	10	0	2	12
	1/24/2023 10:45:00 AM	12	1	0	13
	Hour	49	3	4	56
	1/24/2023 11:00:00 AM	7	0	1	8
	1/24/2023 11:15:00 AM	12	1	2	15
	1/24/2023 11:30:00 AM	10	0	0	10
	1/24/2023 11:45:00 AM	15	0	1	16
	Hour	44	1	4	49
	Grand Total	420	19	40	479
	Percentage	87.7%	4.0%	8.4%	



# All Traffic Data Services

## 3 - US 301 W.O I-95 SB RAMPS

WB	Time	Lights	Mediums	Trucks	Total
	1/24/2023 12:00:00 PM	14	1	0	15
	1/24/2023 12:15:00 PM	12	1	0	13
	1/24/2023 12:30:00 PM	14	1	2	17
	1/24/2023 12:45:00 PM	15	2	2	19
	Hour	55	5	4	64
	1/24/2023 1:00:00 PM	15	1	1	17
	1/24/2023 1:15:00 PM	12	1	1	14
	1/24/2023 1:30:00 PM	15	0	1	16
	1/24/2023 1:45:00 PM	16	1	2	19
	Hour	58	3	5	66
	1/24/2023 2:00:00 PM	20	0	0	20
	1/24/2023 2:15:00 PM	14	0	0	14
	1/24/2023 2:30:00 PM	17	0	0	17
	1/24/2023 2:45:00 PM	20	0	0	20
	Hour	71	0	0	71
	1/24/2023 3:00:00 PM	18	0	0	18
	1/24/2023 3:15:00 PM	12	1	0	13
	1/24/2023 3:30:00 PM	11	0	0	11
	1/24/2023 3:45:00 PM	25	1	0	26
	Hour	66	2	0	68
	1/24/2023 4:00:00 PM	19	0	0	19
	1/24/2023 4:15:00 PM	18	0	1	19
	1/24/2023 4:30:00 PM	15	1	0	16
	1/24/2023 4:45:00 PM	20	0	0	20
	Hour	72	1	1	74
	1/24/2023 5:00:00 PM	21	0	0	21
	1/24/2023 5:15:00 PM	17	0	0	17
	1/24/2023 5:30:00 PM	16	0	0	16
	1/24/2023 5:45:00 PM	8	0	0	8
	Hour	62	0	0	62
	1/24/2023 6:00:00 PM	18	4	0	22
	1/24/2023 6:15:00 PM	9	0	0	9
	1/24/2023 6:30:00 PM	7	0	0	7
	1/24/2023 6:45:00 PM	11	0	0	11
	Hour	45	4	0	49
	1/24/2023 7:00:00 PM	4	1	0	5
	1/24/2023 7:15:00 PM	7	0	0	7
	1/24/2023 7:30:00 PM	7	0	1	8
	1/24/2023 7:45:00 PM	4	0	0	4
	Hour	22	1	1	24
	1/24/2023 8:00:00 PM	5	0	0	5
	1/24/2023 8:15:00 PM	2	0	0	2
	1/24/2023 8:30:00 PM	4	0	0	4
	1/24/2023 8:45:00 PM	4	0	0	4
	Hour	15	0	0	15
	1/24/2023 9:00:00 PM	3	0	1	4
	1/24/2023 9:15:00 PM	3	0	0	3
	1/24/2023 9:30:00 PM	1	0	1	2
	1/24/2023 9:45:00 PM	3	0	0	3
	Hour	10	0	2	12
	1/24/2023 10:00:00 PM	4	0	0	4
	1/24/2023 10:15:00 PM	1	0	1	2
	1/24/2023 10:30:00 PM	2	0	0	2
	1/24/2023 10:45:00 PM	0	0	0	0
	Hour	7	0	1	8
	1/24/2023 11:00:00 PM	4	0	0	4
	1/24/2023 11:15:00 PM	1	0	1	2
	1/24/2023 11:30:00 PM	3	0	1	4
	1/24/2023 11:45:00 PM	2	0	1	3
	Hour	10	0	3	13
	Grand Total	493	16	17	526
	Percentage	93.7%	3.0%	3.2%	



# All Traffic Data Services

## 3 - US 301 W.O I-95 SB RAMPS

WB	Time	Lights	Mediums	Trucks	Total
	1/25/2023	2	0	0	2
	1/25/2023 12:15:00 AM	2	0	0	2
	1/25/2023 12:30:00 AM	0	0	0	0
	1/25/2023 12:45:00 AM	1	0	0	1
	Hour	5	0	0	5
	1/25/2023 1:00:00 AM	1	0	0	1
	1/25/2023 1:15:00 AM	1	0	0	1
	1/25/2023 1:30:00 AM	1	0	0	1
	1/25/2023 1:45:00 AM	0	0	0	0
	Hour	3	0	0	3
	1/25/2023 2:00:00 AM	1	0	0	1
	1/25/2023 2:15:00 AM	0	0	1	1
	1/25/2023 2:30:00 AM	2	0	0	2
	1/25/2023 2:45:00 AM	0	0	0	0
	Hour	3	0	1	4
	1/25/2023 3:00:00 AM	1	0	1	2
	1/25/2023 3:15:00 AM	3	0	2	5
	1/25/2023 3:30:00 AM	3	0	0	3
	1/25/2023 3:45:00 AM	3	0	0	3
	Hour	10	0	3	13
	1/25/2023 4:00:00 AM	3	0	1	4
	1/25/2023 4:15:00 AM	7	0	1	8
	1/25/2023 4:30:00 AM	5	0	4	9
	1/25/2023 4:45:00 AM	7	0	3	10
	Hour	22	0	9	31
	1/25/2023 5:00:00 AM	7	0	1	8
	1/25/2023 5:15:00 AM	10	0	3	13
	1/25/2023 5:30:00 AM	15	0	2	17
	1/25/2023 5:45:00 AM	9	3	2	14
	Hour	41	3	8	52
	1/25/2023 6:00:00 AM	8	0	0	8
	1/25/2023 6:15:00 AM	12	0	1	13
	1/25/2023 6:30:00 AM	13	0	0	13
	1/25/2023 6:45:00 AM	12	0	1	13
	Hour	45	0	2	47
	1/25/2023 7:00:00 AM	14	1	1	16
	1/25/2023 7:15:00 AM	16	0	0	16
	1/25/2023 7:30:00 AM	17	0	0	17
	1/25/2023 7:45:00 AM	18	1	0	19
	Hour	65	2	1	68
	1/25/2023 8:00:00 AM	17	1	0	18
	1/25/2023 8:15:00 AM	11	0	0	11
	1/25/2023 8:30:00 AM	16	0	1	17
	1/25/2023 8:45:00 AM	23	0	3	26
	Hour	67	1	4	72
	1/25/2023 9:00:00 AM	25	1	1	27
	1/25/2023 9:15:00 AM	17	1	3	21
	1/25/2023 9:30:00 AM	10	0	2	12
	1/25/2023 9:45:00 AM	25	0	3	28
	Hour	77	2	9	88
	1/25/2023 10:00:00 AM	13	0	0	13
	1/25/2023 10:15:00 AM	10	0	1	11
	1/25/2023 10:30:00 AM	13	2	1	16
	1/25/2023 10:45:00 AM	19	0	1	20
	Hour	55	2	3	60
	1/25/2023 11:00:00 AM	18	0	0	18
	1/25/2023 11:15:00 AM	11	1	1	13
	1/25/2023 11:30:00 AM	13	0	0	13
	1/25/2023 11:45:00 AM	17	0	1	18
	Hour	59	1	2	62
	Grand Total	452	11	42	505
	Percentage	89.5%	2.2%	8.3%	





# All Traffic Data Services

## 3 - US 301 W.O I-95 SB RAMPS

WB	Time	Lights	Mediums	Trucks	Total
	1/25/2023 12:00:00 PM	13	0	0	13
	1/25/2023 12:15:00 PM	23	0	0	23
	1/25/2023 12:30:00 PM	13	0	0	13
	1/25/2023 12:45:00 PM	14	1	1	16
	Hour	63	1	1	65
	1/25/2023 1:00:00 PM	10	1	3	14
	1/25/2023 1:15:00 PM	13	0	0	13
	1/25/2023 1:30:00 PM	12	0	1	13
	1/25/2023 1:45:00 PM	15	1	2	18
	Hour	50	2	6	58
	1/25/2023 2:00:00 PM	9	0	0	9
	1/25/2023 2:15:00 PM	11	0	1	12
	1/25/2023 2:30:00 PM	15	1	1	17
	1/25/2023 2:45:00 PM	18	0	0	18
	Hour	53	1	2	56
	1/25/2023 3:00:00 PM	19	1	0	20
	1/25/2023 3:15:00 PM	18	0	0	18
	1/25/2023 3:30:00 PM	16	0	1	17
	1/25/2023 3:45:00 PM	16	1	0	17
	Hour	69	2	1	72
	1/25/2023 4:00:00 PM	10	0	0	10
	1/25/2023 4:15:00 PM	9	0	1	10
	1/25/2023 4:30:00 PM	21	1	1	23
	1/25/2023 4:45:00 PM	17	0	1	18
	Hour	57	1	3	61
	1/25/2023 5:00:00 PM	14	0	1	15
	1/25/2023 5:15:00 PM	18	0	1	19
	1/25/2023 5:30:00 PM	14	0	0	14
	1/25/2023 5:45:00 PM	15	0	1	16
	Hour	61	0	3	64
	1/25/2023 6:00:00 PM	9	0	0	9
	1/25/2023 6:15:00 PM	11	0	0	11
	1/25/2023 6:30:00 PM	10	0	1	11
	1/25/2023 6:45:00 PM	12	0	0	12
	Hour	42	0	1	43
	1/25/2023 7:00:00 PM	5	0	1	6
	1/25/2023 7:15:00 PM	4	0	1	5
	1/25/2023 7:30:00 PM	8	0	0	8
	1/25/2023 7:45:00 PM	5	0	0	5
	Hour	22	0	2	24
	1/25/2023 8:00:00 PM	4	0	0	4
	1/25/2023 8:15:00 PM	2	0	1	3
	1/25/2023 8:30:00 PM	7	0	0	7
	1/25/2023 8:45:00 PM	9	0	0	9
	Hour	22	0	1	23
	1/25/2023 9:00:00 PM	3	0	1	4
	1/25/2023 9:15:00 PM	5	0	0	5
	1/25/2023 9:30:00 PM	4	0	0	4
	1/25/2023 9:45:00 PM	1	0	0	1
	Hour	13	0	1	14
	1/25/2023 10:00:00 PM	3	0	1	4
	1/25/2023 10:15:00 PM	5	0	0	5
	1/25/2023 10:30:00 PM	4	0	0	4
	1/25/2023 10:45:00 PM	6	0	0	6
	Hour	18	0	1	19
	1/25/2023 11:00:00 PM	1	0	0	1
	1/25/2023 11:15:00 PM	2	0	0	2
	1/25/2023 11:30:00 PM	2	0	1	3
	1/25/2023 11:45:00 PM	1	0	0	1
	Hour	6	0	1	7
	Grand Total	476	7	23	506
	Percentage	94.1%	1.4%	4.5%	



# All Traffic Data Services

## 3 - US 301 W.O I-95 SB RAMPS

WB	Time	Lights	Mediums	Trucks	Total
	1/26/2023	2	0	0	2
	1/26/2023 12:15:00 AM	1	0	1	2
	1/26/2023 12:30:00 AM	1	0	0	1
	1/26/2023 12:45:00 AM	1	0	0	1
	Hour	5	0	1	6
	1/26/2023 1:00:00 AM	1	1	0	2
	1/26/2023 1:15:00 AM	0	0	0	0
	1/26/2023 1:30:00 AM	2	0	0	2
	1/26/2023 1:45:00 AM	2	0	1	3
	Hour	5	1	1	7
	1/26/2023 2:00:00 AM	1	0	1	2
	1/26/2023 2:15:00 AM	3	0	0	3
	1/26/2023 2:30:00 AM	3	0	1	4
	1/26/2023 2:45:00 AM	0	0	0	0
	Hour	7	0	2	9
	1/26/2023 3:00:00 AM	1	0	1	2
	1/26/2023 3:15:00 AM	2	0	0	2
	1/26/2023 3:30:00 AM	2	0	0	2
	1/26/2023 3:45:00 AM	0	0	0	0
	Hour	5	0	1	6
	1/26/2023 4:00:00 AM	2	0	1	3
	1/26/2023 4:15:00 AM	1	0	1	2
	1/26/2023 4:30:00 AM	8	0	1	9
	1/26/2023 4:45:00 AM	4	0	1	5
	Hour	15	0	4	19
	1/26/2023 5:00:00 AM	7	0	0	7
	1/26/2023 5:15:00 AM	13	0	1	14
	1/26/2023 5:30:00 AM	14	0	2	16
	1/26/2023 5:45:00 AM	9	0	0	9
	Hour	43	0	3	46
	1/26/2023 6:00:00 AM	9	1	0	10
	1/26/2023 6:15:00 AM	11	0	1	12
	1/26/2023 6:30:00 AM	24	0	0	24
	1/26/2023 6:45:00 AM	9	0	0	9
	Hour	53	1	1	55
	1/26/2023 7:00:00 AM	10	0	0	10
	1/26/2023 7:15:00 AM	16	1	0	17
	1/26/2023 7:30:00 AM	14	0	2	16
	1/26/2023 7:45:00 AM	24	1	0	25
	Hour	64	2	2	68
	1/26/2023 8:00:00 AM	22	2	0	24
	1/26/2023 8:15:00 AM	21	3	1	25
	1/26/2023 8:30:00 AM	18	0	0	18
	1/26/2023 8:45:00 AM	17	1	2	20
	Hour	78	6	3	87
	1/26/2023 9:00:00 AM	13	0	2	15
	1/26/2023 9:15:00 AM	18	0	2	20
	1/26/2023 9:30:00 AM	19	1	4	24
	1/26/2023 9:45:00 AM	16	0	2	18
	Hour	66	1	10	77
	1/26/2023 10:00:00 AM	15	2	1	18
	1/26/2023 10:15:00 AM	22	0	0	22
	1/26/2023 10:30:00 AM	13	0	1	14
	1/26/2023 10:45:00 AM	21	1	1	23
	Hour	71	3	3	77
	1/26/2023 11:00:00 AM	12	2	2	16
	1/26/2023 11:15:00 AM	17	2	1	20
	1/26/2023 11:30:00 AM	21	1	2	24
	1/26/2023 11:45:00 AM	26	1	3	30
	Hour	76	6	8	90
	Grand Total	488	20	39	547
	Percentage	89.2%	3.7%	7.1%	



# All Traffic Data Services

## 3 - US 301 W.O I-95 SB RAMPS

WB	Time	Lights	Mediums	Trucks	Total
	1/26/2023 12:00:00 PM	14	0	2	16
	1/26/2023 12:15:00 PM	17	1	0	18
	1/26/2023 12:30:00 PM	14	0	1	15
	1/26/2023 12:45:00 PM	20	0	1	21
	Hour	65	1	4	70
	1/26/2023 1:00:00 PM	5	0	1	6
	1/26/2023 1:15:00 PM	16	2	0	18
	1/26/2023 1:30:00 PM	16	1	5	22
	1/26/2023 1:45:00 PM	16	0	1	17
	Hour	53	3	7	63
	1/26/2023 2:00:00 PM	9	2	0	11
	1/26/2023 2:15:00 PM	21	0	0	21
	1/26/2023 2:30:00 PM	17	0	1	18
	1/26/2023 2:45:00 PM	16	2	2	20
	Hour	63	4	3	70
	1/26/2023 3:00:00 PM	9	0	0	9
	1/26/2023 3:15:00 PM	12	1	0	13
	1/26/2023 3:30:00 PM	10	1	0	11
	1/26/2023 3:45:00 PM	26	1	2	29
	Hour	57	3	2	62
	1/26/2023 4:00:00 PM	12	0	1	13
	1/26/2023 4:15:00 PM	15	0	1	16
	1/26/2023 4:30:00 PM	11	1	0	12
	1/26/2023 4:45:00 PM	20	1	0	21
	Hour	58	2	2	62
	1/26/2023 5:00:00 PM	20	0	0	20
	1/26/2023 5:15:00 PM	24	0	2	26
	1/26/2023 5:30:00 PM	24	0	1	25
	1/26/2023 5:45:00 PM	22	0	0	22
	Hour	90	0	3	93
	1/26/2023 6:00:00 PM	19	0	0	19
	1/26/2023 6:15:00 PM	12	0	0	12
	1/26/2023 6:30:00 PM	17	0	0	17
	1/26/2023 6:45:00 PM	13	0	2	15
	Hour	61	0	2	63
	1/26/2023 7:00:00 PM	10	0	0	10
	1/26/2023 7:15:00 PM	7	0	1	8
	1/26/2023 7:30:00 PM	8	0	0	8
	1/26/2023 7:45:00 PM	5	0	0	5
	Hour	30	0	1	31
	1/26/2023 8:00:00 PM	6	0	0	6
	1/26/2023 8:15:00 PM	4	0	1	5
	1/26/2023 8:30:00 PM	4	0	0	4
	1/26/2023 8:45:00 PM	3	0	0	3
	Hour	17	0	1	18
	1/26/2023 9:00:00 PM	3	0	0	3
	1/26/2023 9:15:00 PM	6	0	1	7
	1/26/2023 9:30:00 PM	9	0	0	9
	1/26/2023 9:45:00 PM	2	0	0	2
	Hour	20	0	1	21
	1/26/2023 10:00:00 PM	1	0	0	1
	1/26/2023 10:15:00 PM	3	0	0	3
	1/26/2023 10:30:00 PM	3	0	0	3
	1/26/2023 10:45:00 PM	1	0	0	1
	Hour	8	0	0	8
	1/26/2023 11:00:00 PM	3	0	0	3
	1/26/2023 11:15:00 PM	4	0	1	5
	1/26/2023 11:30:00 PM	2	0	0	2
	1/26/2023 11:45:00 PM	1	0	0	1
	Hour	10	0	1	11
	Grand Total	532	13	27	572
	Percentage	93.0%	2.3%	4.7%	



# All Traffic Data Services

## 3 - US 301 W.O I-95 SB RAMPS

WB	Time	Lights	Mediums	Trucks	Total
	1/27/2023	2	0	0	2
	1/27/2023 12:15:00 AM	2	0	1	3
	1/27/2023 12:30:00 AM	1	0	0	1
	1/27/2023 12:45:00 AM	1	0	0	1
	Hour	6	0	1	7
	1/27/2023 1:00:00 AM	1	0	0	1
	1/27/2023 1:15:00 AM	0	0	0	0
	1/27/2023 1:30:00 AM	0	0	0	0
	1/27/2023 1:45:00 AM	1	0	1	2
	Hour	2	0	1	3
	1/27/2023 2:00:00 AM	1	0	0	1
	1/27/2023 2:15:00 AM	1	0	0	1
	1/27/2023 2:30:00 AM	3	1	1	5
	1/27/2023 2:45:00 AM	3	0	0	3
	Hour	8	1	1	10
	1/27/2023 3:00:00 AM	1	0	0	1
	1/27/2023 3:15:00 AM	2	0	2	4
	1/27/2023 3:30:00 AM	2	0	0	2
	1/27/2023 3:45:00 AM	4	0	1	5
	Hour	9	0	3	12
	1/27/2023 4:00:00 AM	2	0	0	2
	1/27/2023 4:15:00 AM	2	0	2	4
	1/27/2023 4:30:00 AM	7	0	1	8
	1/27/2023 4:45:00 AM	9	0	0	9
	Hour	20	0	3	23
	1/27/2023 5:00:00 AM	6	0	0	6
	1/27/2023 5:15:00 AM	11	1	2	14
	1/27/2023 5:30:00 AM	16	0	1	17
	1/27/2023 5:45:00 AM	7	0	0	7
	Hour	40	1	3	44
	1/27/2023 6:00:00 AM	11	0	1	12
	1/27/2023 6:15:00 AM	17	0	0	17
	1/27/2023 6:30:00 AM	16	0	0	16
	1/27/2023 6:45:00 AM	14	0	0	14
	Hour	58	0	1	59
	1/27/2023 7:00:00 AM	12	0	0	12
	1/27/2023 7:15:00 AM	14	0	0	14
	1/27/2023 7:30:00 AM	18	1	1	20
	1/27/2023 7:45:00 AM	19	1	0	20
	Hour	63	2	1	66
	1/27/2023 8:00:00 AM	16	0	1	17
	1/27/2023 8:15:00 AM	19	0	1	20
	1/27/2023 8:30:00 AM	28	0	4	32
	1/27/2023 8:45:00 AM	16	0	3	19
	Hour	79	0	9	88
	1/27/2023 9:00:00 AM	22	0	3	25
	1/27/2023 9:15:00 AM	24	0	1	25
	1/27/2023 9:30:00 AM	22	0	3	25
	1/27/2023 9:45:00 AM	20	0	0	20
	Hour	88	0	7	95
	1/27/2023 10:00:00 AM	17	0	3	20
	1/27/2023 10:15:00 AM	22	2	2	26
	1/27/2023 10:30:00 AM	14	0	0	14
	1/27/2023 10:45:00 AM	15	0	2	17
	Hour	68	2	7	77
	1/27/2023 11:00:00 AM	23	0	0	23
	1/27/2023 11:15:00 AM	20	0	1	21
	1/27/2023 11:30:00 AM	24	0	1	25
	1/27/2023 11:45:00 AM	18	1	1	20
	Hour	85	1	3	89
	Grand Total	526	7	40	573
	Percentage	91.8%	1.2%	7.0%	



# All Traffic Data Services

## 3 - US 301 W.O I-95 SB RAMPS

WB	Time	Lights	Mediums	Trucks	Total
	1/27/2023 12:00:00 PM	20	1	1	22
	1/27/2023 12:15:00 PM	34	1	0	35
	1/27/2023 12:30:00 PM	22	2	1	25
	1/27/2023 12:45:00 PM	30	0	0	30
	Hour	106	4	2	112
	1/27/2023 1:00:00 PM	23	1	0	24
	1/27/2023 1:15:00 PM	16	0	2	18
	1/27/2023 1:30:00 PM	23	0	2	25
	1/27/2023 1:45:00 PM	23	1	1	25
	Hour	85	2	5	92
	1/27/2023 2:00:00 PM	26	0	1	27
	1/27/2023 2:15:00 PM	26	0	0	26
	1/27/2023 2:30:00 PM	25	0	1	26
	1/27/2023 2:45:00 PM	25	1	1	27
	Hour	102	1	3	106
	1/27/2023 3:00:00 PM	16	1	2	19
	1/27/2023 3:15:00 PM	37	0	0	37
	1/27/2023 3:30:00 PM	22	1	1	24
	1/27/2023 3:45:00 PM	24	1	4	29
	Hour	99	3	7	109
	1/27/2023 4:00:00 PM	18	0	1	19
	1/27/2023 4:15:00 PM	23	0	0	23
	1/27/2023 4:30:00 PM	25	0	0	25
	1/27/2023 4:45:00 PM	24	1	0	25
	Hour	90	1	1	92
	1/27/2023 5:00:00 PM	23	0	0	23
	1/27/2023 5:15:00 PM	23	0	0	23
	1/27/2023 5:30:00 PM	24	1	0	25
	1/27/2023 5:45:00 PM	20	0	1	21
	Hour	90	1	1	92
	1/27/2023 6:00:00 PM	9	0	0	9
	1/27/2023 6:15:00 PM	17	0	0	17
	1/27/2023 6:30:00 PM	20	0	0	20
	1/27/2023 6:45:00 PM	17	0	0	17
	Hour	63	0	0	63
	1/27/2023 7:00:00 PM	13	0	0	13
	1/27/2023 7:15:00 PM	9	0	0	9
	1/27/2023 7:30:00 PM	6	0	0	6
	1/27/2023 7:45:00 PM	5	0	0	5
	Hour	33	0	0	33
	1/27/2023 8:00:00 PM	6	0	0	6
	1/27/2023 8:15:00 PM	6	0	0	6
	1/27/2023 8:30:00 PM	4	0	0	4
	1/27/2023 8:45:00 PM	3	1	0	4
	Hour	19	1	0	20
	1/27/2023 9:00:00 PM	2	0	0	2
	1/27/2023 9:15:00 PM	8	0	0	8
	1/27/2023 9:30:00 PM	8	0	0	8
	1/27/2023 9:45:00 PM	5	0	0	5
	Hour	23	0	0	23
	1/27/2023 10:00:00 PM	8	0	0	8
	1/27/2023 10:15:00 PM	3	0	0	3
	1/27/2023 10:30:00 PM	7	0	0	7
	1/27/2023 10:45:00 PM	1	0	0	1
	Hour	19	0	0	19
	1/27/2023 11:00:00 PM	9	0	0	9
	1/27/2023 11:15:00 PM	3	0	0	3
	1/27/2023 11:30:00 PM	5	0	0	5
	1/27/2023 11:45:00 PM	0	0	0	0
	Hour	17	0	0	17
	Grand Total	746	13	19	778
	Percentage	95.9%	1.7%	2.4%	



# All Traffic Data Services

## 3 - US 301 W.O I-95 SB RAMPS

WB	Time	Lights	Mediums	Trucks	Total
	1/28/2023	2	0	0	2
	1/28/2023 12:15:00 AM	1	0	0	1
	1/28/2023 12:30:00 AM	2	0	1	3
	1/28/2023 12:45:00 AM	1	0	0	1
	Hour	6	0	1	7
	1/28/2023 1:00:00 AM	1	0	0	1
	1/28/2023 1:15:00 AM	5	0	0	5
	1/28/2023 1:30:00 AM	1	0	0	1
	1/28/2023 1:45:00 AM	0	0	0	0
	Hour	7	0	0	7
	1/28/2023 2:00:00 AM	1	0	0	1
	1/28/2023 2:15:00 AM	2	0	0	2
	1/28/2023 2:30:00 AM	2	0	0	2
	1/28/2023 2:45:00 AM	2	0	0	2
	Hour	7	0	0	7
	1/28/2023 3:00:00 AM	1	0	0	1
	1/28/2023 3:15:00 AM	1	0	0	1
	1/28/2023 3:30:00 AM	0	0	0	0
	1/28/2023 3:45:00 AM	1	0	0	1
	Hour	3	0	0	3
	1/28/2023 4:00:00 AM	4	0	0	4
	1/28/2023 4:15:00 AM	2	0	0	2
	1/28/2023 4:30:00 AM	8	0	0	8
	1/28/2023 4:45:00 AM	2	0	0	2
	Hour	16	0	0	16
	1/28/2023 5:00:00 AM	7	0	0	7
	1/28/2023 5:15:00 AM	5	0	0	5
	1/28/2023 5:30:00 AM	6	0	0	6
	1/28/2023 5:45:00 AM	7	0	0	7
	Hour	25	0	0	25
	1/28/2023 6:00:00 AM	5	0	0	5
	1/28/2023 6:15:00 AM	4	0	1	5
	1/28/2023 6:30:00 AM	4	0	0	4
	1/28/2023 6:45:00 AM	7	0	0	7
	Hour	20	0	1	21
	1/28/2023 7:00:00 AM	10	1	0	11
	1/28/2023 7:15:00 AM	8	0	2	10
	1/28/2023 7:30:00 AM	9	0	0	9
	1/28/2023 7:45:00 AM	7	0	0	7
	Hour	34	1	2	37
	1/28/2023 8:00:00 AM	14	0	1	15
	1/28/2023 8:15:00 AM	8	0	0	8
	1/28/2023 8:30:00 AM	22	0	1	23
	1/28/2023 8:45:00 AM	21	0	0	21
	Hour	65	0	2	67
	1/28/2023 9:00:00 AM	23	0	1	24
	1/28/2023 9:15:00 AM	27	0	0	27
	1/28/2023 9:30:00 AM	30	0	0	30
	1/28/2023 9:45:00 AM	19	1	0	20
	Hour	99	1	1	101
	1/28/2023 10:00:00 AM	12	0	0	12
	1/28/2023 10:15:00 AM	27	0	1	28
	1/28/2023 10:30:00 AM	24	0	0	24
	1/28/2023 10:45:00 AM	35	0	1	36
	Hour	98	0	2	100
	1/28/2023 11:00:00 AM	35	0	0	35
	1/28/2023 11:15:00 AM	25	0	0	25
	1/28/2023 11:30:00 AM	34	0	0	34
	1/28/2023 11:45:00 AM	27	0	0	27
	Hour	121	0	0	121
	Grand Total	501	2	9	512
	Percentage	97.9%	0.4%	1.8%	





# All Traffic Data Services

## 3 - US 301 W.O I-95 SB RAMPS

WB	Time	Lights	Mediums	Trucks	Total
	1/28/2023 12:00:00 PM	29	0	0	29
	1/28/2023 12:15:00 PM	30	0	1	31
	1/28/2023 12:30:00 PM	22	0	0	22
	1/28/2023 12:45:00 PM	30	0	1	31
	Hour	111	0	2	113
	1/28/2023 1:00:00 PM	23	0	0	23
	1/28/2023 1:15:00 PM	24	0	0	24
	1/28/2023 1:30:00 PM	22	0	0	22
	1/28/2023 1:45:00 PM	21	0	0	21
	Hour	90	0	0	90
	1/28/2023 2:00:00 PM	18	0	0	18
	1/28/2023 2:15:00 PM	16	0	1	17
	1/28/2023 2:30:00 PM	27	0	0	27
	1/28/2023 2:45:00 PM	30	0	0	30
	Hour	91	0	1	92
	1/28/2023 3:00:00 PM	22	0	0	22
	1/28/2023 3:15:00 PM	18	0	0	18
	1/28/2023 3:30:00 PM	25	0	0	25
	1/28/2023 3:45:00 PM	16	0	0	16
	Hour	81	0	0	81
	1/28/2023 4:00:00 PM	22	0	0	22
	1/28/2023 4:15:00 PM	19	0	0	19
	1/28/2023 4:30:00 PM	14	0	0	14
	1/28/2023 4:45:00 PM	21	0	0	21
	Hour	76	0	0	76
	1/28/2023 5:00:00 PM	21	0	0	21
	1/28/2023 5:15:00 PM	26	0	1	27
	1/28/2023 5:30:00 PM	21	0	0	21
	1/28/2023 5:45:00 PM	24	0	0	24
	Hour	92	0	1	93
	1/28/2023 6:00:00 PM	14	0	0	14
	1/28/2023 6:15:00 PM	19	0	0	19
	1/28/2023 6:30:00 PM	14	0	0	14
	1/28/2023 6:45:00 PM	10	0	0	10
	Hour	57	0	0	57
	1/28/2023 7:00:00 PM	9	0	0	9
	1/28/2023 7:15:00 PM	7	0	1	8
	1/28/2023 7:30:00 PM	11	0	0	11
	1/28/2023 7:45:00 PM	9	0	1	10
	Hour	36	0	2	38
	1/28/2023 8:00:00 PM	8	0	0	8
	1/28/2023 8:15:00 PM	15	0	0	15
	1/28/2023 8:30:00 PM	11	0	0	11
	1/28/2023 8:45:00 PM	8	0	0	8
	Hour	42	0	0	42
	1/28/2023 9:00:00 PM	6	0	0	6
	1/28/2023 9:15:00 PM	6	1	0	7
	1/28/2023 9:30:00 PM	3	0	0	3
	1/28/2023 9:45:00 PM	2	0	0	2
	Hour	17	1	0	18
	1/28/2023 10:00:00 PM	1	0	0	1
	1/28/2023 10:15:00 PM	4	0	0	4
	1/28/2023 10:30:00 PM	4	0	0	4
	1/28/2023 10:45:00 PM	1	0	0	1
	Hour	10	0	0	10
	1/28/2023 11:00:00 PM	6	0	0	6
	1/28/2023 11:15:00 PM	3	0	0	3
	1/28/2023 11:30:00 PM	2	0	0	2
	1/28/2023 11:45:00 PM	5	0	0	5
	Hour	16	0	0	16
	Grand Total	719	1	6	726
	Percentage	99.0%	0.1%	0.8%	



# All Traffic Data Services

## 3 - US 301 W.O I-95 SB RAMPS

WB	Time	Lights	Mediums	Trucks	Total
	1/29/2023	3	0	0	3
	1/29/2023 12:15:00 AM	1	0	0	1
	1/29/2023 12:30:00 AM	0	0	0	0
	1/29/2023 12:45:00 AM	4	0	0	4
	Hour	8	0	0	8
	1/29/2023 1:00:00 AM	1	0	0	1
	1/29/2023 1:15:00 AM	1	0	1	2
	1/29/2023 1:30:00 AM	0	0	0	0
	1/29/2023 1:45:00 AM	1	0	0	1
	Hour	3	0	1	4
	1/29/2023 2:00:00 AM	0	0	0	0
	1/29/2023 2:15:00 AM	2	0	0	2
	1/29/2023 2:30:00 AM	0	0	0	0
	1/29/2023 2:45:00 AM	1	0	0	1
	Hour	3	0	0	3
	1/29/2023 3:00:00 AM	0	0	0	0
	1/29/2023 3:15:00 AM	0	0	0	0
	1/29/2023 3:30:00 AM	2	0	0	2
	1/29/2023 3:45:00 AM	2	0	0	2
	Hour	4	0	0	4
	1/29/2023 4:00:00 AM	0	0	0	0
	1/29/2023 4:15:00 AM	0	0	0	0
	1/29/2023 4:30:00 AM	2	0	1	3
	1/29/2023 4:45:00 AM	1	0	0	1
	Hour	3	0	1	4
	1/29/2023 5:00:00 AM	3	0	0	3
	1/29/2023 5:15:00 AM	4	0	0	4
	1/29/2023 5:30:00 AM	8	0	0	8
	1/29/2023 5:45:00 AM	2	0	0	2
	Hour	17	0	0	17
	1/29/2023 6:00:00 AM	3	0	0	3
	1/29/2023 6:15:00 AM	3	0	0	3
	1/29/2023 6:30:00 AM	3	0	1	4
	1/29/2023 6:45:00 AM	3	0	0	3
	Hour	12	0	1	13
	1/29/2023 7:00:00 AM	4	0	0	4
	1/29/2023 7:15:00 AM	4	0	0	4
	1/29/2023 7:30:00 AM	7	0	0	7
	1/29/2023 7:45:00 AM	8	0	0	8
	Hour	23	0	0	23
	1/29/2023 8:00:00 AM	8	0	0	8
	1/29/2023 8:15:00 AM	6	0	0	6
	1/29/2023 8:30:00 AM	7	0	0	7
	1/29/2023 8:45:00 AM	17	0	0	17
	Hour	38	0	0	38
	1/29/2023 9:00:00 AM	8	0	0	8
	1/29/2023 9:15:00 AM	9	0	0	9
	1/29/2023 9:30:00 AM	18	0	0	18
	1/29/2023 9:45:00 AM	16	0	0	16
	Hour	51	0	0	51
	1/29/2023 10:00:00 AM	14	0	1	15
	1/29/2023 10:15:00 AM	19	0	0	19
	1/29/2023 10:30:00 AM	13	1	0	14
	1/29/2023 10:45:00 AM	16	0	0	16
	Hour	62	1	1	64
	1/29/2023 11:00:00 AM	18	0	0	18
	1/29/2023 11:15:00 AM	16	0	0	16
	1/29/2023 11:30:00 AM	24	0	0	24
	1/29/2023 11:45:00 AM	20	0	0	20
	Hour	78	0	0	78
	Grand Total	302	1	4	307
	Percentage	98.4%	0.3%	1.3%	



# All Traffic Data Services

## 3 - US 301 W.O I-95 SB RAMPS

WB	Time	Lights	Mediums	Trucks	Total
	1/29/2023 12:00:00 PM	19	0	0	19
	1/29/2023 12:15:00 PM	27	0	0	27
	1/29/2023 12:30:00 PM	24	0	1	25
	1/29/2023 12:45:00 PM	19	0	0	19
	Hour	89	0	1	90
	1/29/2023 1:00:00 PM	16	0	0	16
	1/29/2023 1:15:00 PM	16	0	0	16
	1/29/2023 1:30:00 PM	23	1	0	24
	1/29/2023 1:45:00 PM	16	0	1	17
	Hour	71	1	1	73
	1/29/2023 2:00:00 PM	18	0	1	19
	1/29/2023 2:15:00 PM	15	0	0	15
	1/29/2023 2:30:00 PM	30	0	1	31
	1/29/2023 2:45:00 PM	19	0	1	20
	Hour	82	0	3	85
	1/29/2023 3:00:00 PM	20	0	0	20
	1/29/2023 3:15:00 PM	21	0	0	21
	1/29/2023 3:30:00 PM	17	0	0	17
	1/29/2023 3:45:00 PM	18	0	0	18
	Hour	76	0	0	76
	1/29/2023 4:00:00 PM	12	0	0	12
	1/29/2023 4:15:00 PM	16	0	0	16
	1/29/2023 4:30:00 PM	22	0	0	22
	1/29/2023 4:45:00 PM	21	0	1	22
	Hour	71	0	1	72
	1/29/2023 5:00:00 PM	14	0	0	14
	1/29/2023 5:15:00 PM	17	0	0	17
	1/29/2023 5:30:00 PM	18	0	1	19
	1/29/2023 5:45:00 PM	15	0	0	15
	Hour	64	0	1	65
	1/29/2023 6:00:00 PM	7	0	0	7
	1/29/2023 6:15:00 PM	11	0	0	11
	1/29/2023 6:30:00 PM	11	0	0	11
	1/29/2023 6:45:00 PM	9	0	0	9
	Hour	38	0	0	38
	1/29/2023 7:00:00 PM	12	0	0	12
	1/29/2023 7:15:00 PM	13	0	0	13
	1/29/2023 7:30:00 PM	7	0	0	7
	1/29/2023 7:45:00 PM	4	0	0	4
	Hour	36	0	0	36
	1/29/2023 8:00:00 PM	5	0	0	5
	1/29/2023 8:15:00 PM	2	1	0	3
	1/29/2023 8:30:00 PM	6	0	0	6
	1/29/2023 8:45:00 PM	3	0	0	3
	Hour	16	1	0	17
	1/29/2023 9:00:00 PM	10	0	0	10
	1/29/2023 9:15:00 PM	5	0	0	5
	1/29/2023 9:30:00 PM	5	0	0	5
	1/29/2023 9:45:00 PM	5	0	0	5
	Hour	25	0	0	25
	1/29/2023 10:00:00 PM	3	0	0	3
	1/29/2023 10:15:00 PM	4	0	1	5
	1/29/2023 10:30:00 PM	2	0	0	2
	1/29/2023 10:45:00 PM	2	0	0	2
	Hour	11	0	1	12
	1/29/2023 11:00:00 PM	3	0	0	3
	1/29/2023 11:15:00 PM	1	0	1	2
	1/29/2023 11:30:00 PM	2	1	0	3
	1/29/2023 11:45:00 PM	0	0	0	0
	Hour	6	1	1	8
	Grand Total	585	3	9	597
	Percentage	98.0%	0.5%	1.5%	



# All Traffic Data Services

## 3 - US 301 W.O I-95 SB RAMPS

WB	Time	Lights	Mediums	Trucks	Total
	1/30/2023	3	0	0	3
	1/30/2023 12:15:00 AM	2	0	0	2
	1/30/2023 12:30:00 AM	2	0	0	2
	1/30/2023 12:45:00 AM	0	0	1	1
	Hour	7	0	1	8
	1/30/2023 1:00:00 AM	0	0	0	0
	1/30/2023 1:15:00 AM	0	1	0	1
	1/30/2023 1:30:00 AM	1	0	0	1
	1/30/2023 1:45:00 AM	1	0	0	1
	Hour	2	1	0	3
	1/30/2023 2:00:00 AM	2	0	0	2
	1/30/2023 2:15:00 AM	1	0	0	1
	1/30/2023 2:30:00 AM	0	0	0	0
	1/30/2023 2:45:00 AM	1	0	0	1
	Hour	4	0	0	4
	1/30/2023 3:00:00 AM	0	0	0	0
	1/30/2023 3:15:00 AM	1	0	1	2
	1/30/2023 3:30:00 AM	5	0	0	5
	1/30/2023 3:45:00 AM	3	0	0	3
	Hour	9	0	1	10
	1/30/2023 4:00:00 AM	4	0	1	5
	1/30/2023 4:15:00 AM	5	0	1	6
	1/30/2023 4:30:00 AM	6	0	3	9
	1/30/2023 4:45:00 AM	9	0	1	10
	Hour	24	0	6	30
	1/30/2023 5:00:00 AM	12	1	1	14
	1/30/2023 5:15:00 AM	6	0	0	6
	1/30/2023 5:30:00 AM	10	0	1	11
	1/30/2023 5:45:00 AM	5	1	0	6
	Hour	33	2	2	37
	1/30/2023 6:00:00 AM	5	0	0	5
	1/30/2023 6:15:00 AM	11	0	0	11
	1/30/2023 6:30:00 AM	18	0	0	18
	1/30/2023 6:45:00 AM	9	0	1	10
	Hour	43	0	1	44
	1/30/2023 7:00:00 AM	15	1	1	17
	1/30/2023 7:15:00 AM	12	1	1	14
	1/30/2023 7:30:00 AM	22	0	0	22
	1/30/2023 7:45:00 AM	22	1	0	23
	Hour	71	3	2	76
	1/30/2023 8:00:00 AM	19	0	1	20
	1/30/2023 8:15:00 AM	22	0	1	23
	1/30/2023 8:30:00 AM	22	0	3	25
	1/30/2023 8:45:00 AM	10	0	0	10
	Hour	73	0	5	78
	1/30/2023 9:00:00 AM	17	1	3	21
	1/30/2023 9:15:00 AM	13	0	1	14
	1/30/2023 9:30:00 AM	16	0	1	17
	1/30/2023 9:45:00 AM	10	0	2	12
	Hour	56	1	7	64
	1/30/2023 10:00:00 AM	9	1	3	13
	1/30/2023 10:15:00 AM	19	1	2	22
	1/30/2023 10:30:00 AM	11	0	4	15
	1/30/2023 10:45:00 AM	20	1	2	23
	Hour	59	3	11	73
	1/30/2023 11:00:00 AM	16	0	0	16
	1/30/2023 11:15:00 AM	14	0	0	14
	1/30/2023 11:30:00 AM	21	0	0	21
	1/30/2023 11:45:00 AM	15	1	2	18
	Hour	66	1	2	69
	Grand Total	447	11	38	496
	Percentage	90.1%	2.2%	7.7%	



# All Traffic Data Services

## 3 - US 301 W.O I-95 SB RAMPS

WB	Time	Lights	Mediums	Trucks	Total
	1/30/2023 12:00:00 PM	18	3	1	22
	1/30/2023 12:15:00 PM	7	1	0	8
	1/30/2023 12:30:00 PM	17	1	2	20
	1/30/2023 12:45:00 PM	11	0	2	13
	Hour	53	5	5	63
	1/30/2023 1:00:00 PM	16	0	1	17
	1/30/2023 1:15:00 PM	12	0	1	13
	1/30/2023 1:30:00 PM	11	0	2	13
	1/30/2023 1:45:00 PM	20	0	1	21
	Hour	59	0	5	64
	1/30/2023 2:00:00 PM	9	0	0	9
	1/30/2023 2:15:00 PM	18	1	1	20
	1/30/2023 2:30:00 PM	14	0	1	15
	1/30/2023 2:45:00 PM	12	1	0	13
	Hour	53	2	2	57
	1/30/2023 3:00:00 PM	18	0	2	20
	1/30/2023 3:15:00 PM	9	0	3	12
	1/30/2023 3:30:00 PM	20	0	0	20
	1/30/2023 3:45:00 PM	19	1	1	21
	Hour	66	1	6	73
	1/30/2023 4:00:00 PM	17	0	0	17
	1/30/2023 4:15:00 PM	12	0	1	13
	1/30/2023 4:30:00 PM	21	1	1	23
	1/30/2023 4:45:00 PM	21	0	0	21
	Hour	71	1	2	74
	1/30/2023 5:00:00 PM	26	1	0	27
	1/30/2023 5:15:00 PM	26	0	1	27
	1/30/2023 5:30:00 PM	12	0	0	12
	1/30/2023 5:45:00 PM	21	0	0	21
	Hour	85	1	1	87
	1/30/2023 6:00:00 PM	11	0	0	11
	1/30/2023 6:15:00 PM	11	0	0	11
	1/30/2023 6:30:00 PM	7	0	0	7
	1/30/2023 6:45:00 PM	12	0	0	12
	Hour	41	0	0	41
	1/30/2023 7:00:00 PM	13	0	0	13
	1/30/2023 7:15:00 PM	12	0	0	12
	1/30/2023 7:30:00 PM	4	0	1	5
	1/30/2023 7:45:00 PM	0	0	0	0
	Hour	29	0	1	30
	1/30/2023 8:00:00 PM	1	0	0	1
	1/30/2023 8:15:00 PM	2	0	0	2
	1/30/2023 8:30:00 PM	1	0	0	1
	1/30/2023 8:45:00 PM	6	0	0	6
	Hour	10	0	0	10
	1/30/2023 9:00:00 PM	2	0	0	2
	1/30/2023 9:15:00 PM	7	0	1	8
	1/30/2023 9:30:00 PM	8	0	0	8
	1/30/2023 9:45:00 PM	3	0	0	3
	Hour	20	0	1	21
	1/30/2023 10:00:00 PM	2	0	0	2
	1/30/2023 10:15:00 PM	8	0	1	9
	1/30/2023 10:30:00 PM	3	0	0	3
	1/30/2023 10:45:00 PM	1	0	1	2
	Hour	14	0	2	16
	1/30/2023 11:00:00 PM	2	0	0	2
	1/30/2023 11:15:00 PM	1	0	0	1
	1/30/2023 11:30:00 PM	1	0	1	2
	1/30/2023 11:45:00 PM	2	0	0	2
	Hour	6	0	1	7
	Grand Total	507	10	26	543
	Percentage	93.4%	1.8%	4.8%	
	Total	7,194	134	339	7,667
	Percentage	93.8%	1.7%	4.4%	



# All Traffic Data Services

## 4 - I-95 NB REST AREA EXIT

NB	Time	Lights	Mediums	Trucks	Total
	1/24/2023	0	1	0	1
	1/24/2023 12:15:00 AM	1	0	0	1
	1/24/2023 12:30:00 AM	1	0	0	1
	1/24/2023 12:45:00 AM	3	1	0	4
	Hour	5	2	0	7
	1/24/2023 1:00:00 AM	2	0	3	5
	1/24/2023 1:15:00 AM	2	0	1	3
	1/24/2023 1:30:00 AM	3	0	4	7
	1/24/2023 1:45:00 AM	1	0	3	4
	Hour	8	0	11	19
	1/24/2023 2:00:00 AM	4	0	1	5
	1/24/2023 2:15:00 AM	3	0	0	3
	1/24/2023 2:30:00 AM	1	0	0	1
	1/24/2023 2:45:00 AM	0	0	1	1
	Hour	8	0	2	10
	1/24/2023 3:00:00 AM	2	0	0	2
	1/24/2023 3:15:00 AM	1	0	2	3
	1/24/2023 3:30:00 AM	0	0	0	0
	1/24/2023 3:45:00 AM	2	0	1	3
	Hour	5	0	3	8
	1/24/2023 4:00:00 AM	1	0	0	1
	1/24/2023 4:15:00 AM	3	0	3	6
	1/24/2023 4:30:00 AM	4	0	3	7
	1/24/2023 4:45:00 AM	3	0	0	3
	Hour	11	0	6	17
	1/24/2023 5:00:00 AM	0	0	1	1
	1/24/2023 5:15:00 AM	2	0	1	3
	1/24/2023 5:30:00 AM	3	0	2	5
	1/24/2023 5:45:00 AM	2	0	2	4
	Hour	7	0	6	13
	1/24/2023 6:00:00 AM	2	0	3	5
	1/24/2023 6:15:00 AM	2	0	3	5
	1/24/2023 6:30:00 AM	7	0	5	12
	1/24/2023 6:45:00 AM	6	0	3	9
	Hour	17	0	14	31
	1/24/2023 7:00:00 AM	1	0	1	2
	1/24/2023 7:15:00 AM	3	1	5	9
	1/24/2023 7:30:00 AM	6	0	1	7
	1/24/2023 7:45:00 AM	5	0	1	6
	Hour	15	1	8	24
	1/24/2023 8:00:00 AM	7	0	7	14
	1/24/2023 8:15:00 AM	8	0	2	10
	1/24/2023 8:30:00 AM	6	1	1	8
	1/24/2023 8:45:00 AM	4	0	3	7
	Hour	25	1	13	39
	1/24/2023 9:00:00 AM	5	0	0	5
	1/24/2023 9:15:00 AM	3	0	7	10
	1/24/2023 9:30:00 AM	7	1	1	9
	1/24/2023 9:45:00 AM	15	1	3	19
	Hour	30	2	11	43
	1/24/2023 10:00:00 AM	5	0	1	6
	1/24/2023 10:15:00 AM	12	2	4	18
	1/24/2023 10:30:00 AM	12	0	2	14
	1/24/2023 10:45:00 AM	13	1	3	17
	Hour	42	3	10	55
	1/24/2023 11:00:00 AM	9	0	6	15
	1/24/2023 11:15:00 AM	16	1	2	19
	1/24/2023 11:30:00 AM	5	0	5	10
	1/24/2023 11:45:00 AM	8	0	3	11
	Hour	38	1	16	55
	Grand Total	211	10	100	321
	Percentage	65.7%	3.1%	31.2%	





# All Traffic Data Services

## 4 - I-95 NB REST AREA EXIT

NB	Time	Lights	Mediums	Trucks	Total
	1/24/2023 12:00:00 PM	16	2	1	19
	1/24/2023 12:15:00 PM	11	1	6	18
	1/24/2023 12:30:00 PM	20	2	4	26
	1/24/2023 12:45:00 PM	11	0	4	15
	Hour	58	5	15	78
	1/24/2023 1:00:00 PM	13	0	2	15
	1/24/2023 1:15:00 PM	17	0	3	20
	1/24/2023 1:30:00 PM	17	0	7	24
	1/24/2023 1:45:00 PM	8	0	2	10
	Hour	55	0	14	69
	1/24/2023 2:00:00 PM	15	1	6	22
	1/24/2023 2:15:00 PM	11	1	3	15
	1/24/2023 2:30:00 PM	13	0	3	16
	1/24/2023 2:45:00 PM	10	1	5	16
	Hour	49	3	17	69
	1/24/2023 3:00:00 PM	9	0	1	10
	1/24/2023 3:15:00 PM	6	1	3	10
	1/24/2023 3:30:00 PM	11	0	3	14
	1/24/2023 3:45:00 PM	13	0	3	16
	Hour	39	1	10	50
	1/24/2023 4:00:00 PM	8	0	1	9
	1/24/2023 4:15:00 PM	8	0	4	12
	1/24/2023 4:30:00 PM	6	0	4	10
	1/24/2023 4:45:00 PM	12	0	1	13
	Hour	34	0	10	44
	1/24/2023 5:00:00 PM	10	0	4	14
	1/24/2023 5:15:00 PM	8	0	4	12
	1/24/2023 5:30:00 PM	6	0	1	7
	1/24/2023 5:45:00 PM	8	0	5	13
	Hour	32	0	14	46
	1/24/2023 6:00:00 PM	9	0	1	10
	1/24/2023 6:15:00 PM	7	1	2	10
	1/24/2023 6:30:00 PM	8	0	2	10
	1/24/2023 6:45:00 PM	7	0	4	11
	Hour	31	1	9	41
	1/24/2023 7:00:00 PM	1	1	1	3
	1/24/2023 7:15:00 PM	2	0	2	4
	1/24/2023 7:30:00 PM	3	0	0	3
	1/24/2023 7:45:00 PM	3	2	2	7
	Hour	9	3	5	17
	1/24/2023 8:00:00 PM	4	0	1	5
	1/24/2023 8:15:00 PM	6	1	0	7
	1/24/2023 8:30:00 PM	5	0	1	6
	1/24/2023 8:45:00 PM	4	0	1	5
	Hour	19	1	3	23
	1/24/2023 9:00:00 PM	2	1	4	7
	1/24/2023 9:15:00 PM	2	0	1	3
	1/24/2023 9:30:00 PM	0	0	2	2
	1/24/2023 9:45:00 PM	2	0	1	3
	Hour	6	1	8	15
	1/24/2023 10:00:00 PM	1	1	0	2
	1/24/2023 10:15:00 PM	1	0	0	1
	1/24/2023 10:30:00 PM	4	0	1	5
	1/24/2023 10:45:00 PM	1	0	2	3
	Hour	7	1	3	11
	1/24/2023 11:00:00 PM	2	0	0	2
	1/24/2023 11:15:00 PM	0	0	3	3
	1/24/2023 11:30:00 PM	1	0	1	2
	1/24/2023 11:45:00 PM	0	1	0	1
	Hour	3	1	4	8
	Grand Total	342	17	112	471
	Percentage	72.6%	3.6%	23.8%	



# All Traffic Data Services

## 4 - I-95 NB REST AREA EXIT

NB	Time	Lights	Mediums	Trucks	Total
	1/25/2023	1	0	1	2
	1/25/2023 12:15:00 AM	1	0	1	2
	1/25/2023 12:30:00 AM	2	0	2	4
	1/25/2023 12:45:00 AM	1	0	1	2
	Hour	5	0	5	10
	1/25/2023 1:00:00 AM	3	0	1	4
	1/25/2023 1:15:00 AM	4	0	0	4
	1/25/2023 1:30:00 AM	0	0	2	2
	1/25/2023 1:45:00 AM	0	0	0	0
	Hour	7	0	3	10
	1/25/2023 2:00:00 AM	2	0	1	3
	1/25/2023 2:15:00 AM	1	0	2	3
	1/25/2023 2:30:00 AM	0	0	0	0
	1/25/2023 2:45:00 AM	4	0	2	6
	Hour	7	0	5	12
	1/25/2023 3:00:00 AM	1	0	1	2
	1/25/2023 3:15:00 AM	2	0	4	6
	1/25/2023 3:30:00 AM	0	0	0	0
	1/25/2023 3:45:00 AM	2	0	0	2
	Hour	5	0	5	10
	1/25/2023 4:00:00 AM	1	0	2	3
	1/25/2023 4:15:00 AM	1	0	2	3
	1/25/2023 4:30:00 AM	2	0	3	5
	1/25/2023 4:45:00 AM	1	0	0	1
	Hour	5	0	7	12
	1/25/2023 5:00:00 AM	1	0	1	2
	1/25/2023 5:15:00 AM	0	1	1	2
	1/25/2023 5:30:00 AM	0	0	0	0
	1/25/2023 5:45:00 AM	1	0	3	4
	Hour	2	1	5	8
	1/25/2023 6:00:00 AM	1	0	3	4
	1/25/2023 6:15:00 AM	2	0	1	3
	1/25/2023 6:30:00 AM	3	0	3	6
	1/25/2023 6:45:00 AM	2	0	2	4
	Hour	8	0	9	17
	1/25/2023 7:00:00 AM	4	0	1	5
	1/25/2023 7:15:00 AM	4	0	3	7
	1/25/2023 7:30:00 AM	4	0	4	8
	1/25/2023 7:45:00 AM	2	0	0	2
	Hour	14	0	8	22
	1/25/2023 8:00:00 AM	4	0	4	8
	1/25/2023 8:15:00 AM	5	1	2	8
	1/25/2023 8:30:00 AM	6	0	2	8
	1/25/2023 8:45:00 AM	4	0	4	8
	Hour	19	1	12	32
	1/25/2023 9:00:00 AM	3	0	2	5
	1/25/2023 9:15:00 AM	7	0	4	11
	1/25/2023 9:30:00 AM	7	0	9	16
	1/25/2023 9:45:00 AM	9	1	3	13
	Hour	26	1	18	45
	1/25/2023 10:00:00 AM	11	0	7	18
	1/25/2023 10:15:00 AM	8	0	1	9
	1/25/2023 10:30:00 AM	10	0	3	13
	1/25/2023 10:45:00 AM	9	0	0	9
	Hour	38	0	11	49
	1/25/2023 11:00:00 AM	5	1	2	8
	1/25/2023 11:15:00 AM	8	1	3	12
	1/25/2023 11:30:00 AM	7	1	3	11
	1/25/2023 11:45:00 AM	11	0	4	15
	Hour	31	3	12	46
	Grand Total	167	6	100	273
	Percentage	61.2%	2.2%	36.6%	



# All Traffic Data Services

## 4 - I-95 NB REST AREA EXIT

NB	Time	Lights	Mediums	Trucks	Total
	1/25/2023 12:00:00 PM	12	0	4	16
	1/25/2023 12:15:00 PM	7	2	1	10
	1/25/2023 12:30:00 PM	12	0	6	18
	1/25/2023 12:45:00 PM	10	0	4	14
	Hour	41	2	15	58
	1/25/2023 1:00:00 PM	15	0	4	19
	1/25/2023 1:15:00 PM	12	1	2	15
	1/25/2023 1:30:00 PM	13	1	5	19
	1/25/2023 1:45:00 PM	13	0	4	17
	Hour	53	2	15	70
	1/25/2023 2:00:00 PM	6	0	3	9
	1/25/2023 2:15:00 PM	11	0	3	14
	1/25/2023 2:30:00 PM	12	0	4	16
	1/25/2023 2:45:00 PM	7	1	4	12
	Hour	36	1	14	51
	1/25/2023 3:00:00 PM	12	0	6	18
	1/25/2023 3:15:00 PM	9	0	2	11
	1/25/2023 3:30:00 PM	7	0	3	10
	1/25/2023 3:45:00 PM	10	1	1	12
	Hour	38	1	12	51
	1/25/2023 4:00:00 PM	6	0	8	14
	1/25/2023 4:15:00 PM	8	1	3	12
	1/25/2023 4:30:00 PM	7	1	3	11
	1/25/2023 4:45:00 PM	1	0	3	4
	Hour	22	2	17	41
	1/25/2023 5:00:00 PM	5	1	3	9
	1/25/2023 5:15:00 PM	4	0	1	5
	1/25/2023 5:30:00 PM	8	1	6	15
	1/25/2023 5:45:00 PM	6	0	3	9
	Hour	23	2	13	38
	1/25/2023 6:00:00 PM	4	0	3	7
	1/25/2023 6:15:00 PM	4	0	1	5
	1/25/2023 6:30:00 PM	2	0	3	5
	1/25/2023 6:45:00 PM	3	1	1	5
	Hour	13	1	8	22
	1/25/2023 7:00:00 PM	5	0	4	9
	1/25/2023 7:15:00 PM	1	0	1	2
	1/25/2023 7:30:00 PM	3	0	1	4
	1/25/2023 7:45:00 PM	1	0	2	3
	Hour	10	0	8	18
	1/25/2023 8:00:00 PM	3	1	0	4
	1/25/2023 8:15:00 PM	3	0	0	3
	1/25/2023 8:30:00 PM	5	0	1	6
	1/25/2023 8:45:00 PM	1	0	1	2
	Hour	12	1	2	15
	1/25/2023 9:00:00 PM	2	0	2	4
	1/25/2023 9:15:00 PM	4	0	2	6
	1/25/2023 9:30:00 PM	1	0	1	2
	1/25/2023 9:45:00 PM	0	0	1	1
	Hour	7	0	6	13
	1/25/2023 10:00:00 PM	2	0	1	3
	1/25/2023 10:15:00 PM	1	0	1	2
	1/25/2023 10:30:00 PM	2	0	0	2
	1/25/2023 10:45:00 PM	3	0	3	6
	Hour	8	0	5	13
	1/25/2023 11:00:00 PM	0	0	1	1
	1/25/2023 11:15:00 PM	1	0	1	2
	1/25/2023 11:30:00 PM	2	0	1	3
	1/25/2023 11:45:00 PM	2	0	2	4
	Hour	5	0	5	10
	Grand Total	268	12	120	400
	Percentage	67.0%	3.0%	30.0%	



# All Traffic Data Services

## 4 - I-95 NB REST AREA EXIT

NB	Time	Lights	Mediums	Trucks	Total
	1/26/2023	0	0	3	3
	1/26/2023 12:15:00 AM	1	1	1	3
	1/26/2023 12:30:00 AM	2	0	1	3
	1/26/2023 12:45:00 AM	2	0	0	2
	Hour	5	1	5	11
	1/26/2023 1:00:00 AM	1	0	1	2
	1/26/2023 1:15:00 AM	0	0	2	2
	1/26/2023 1:30:00 AM	1	0	0	1
	1/26/2023 1:45:00 AM	1	0	1	2
	Hour	3	0	4	7
	1/26/2023 2:00:00 AM	0	0	1	1
	1/26/2023 2:15:00 AM	1	0	1	2
	1/26/2023 2:30:00 AM	4	0	1	5
	1/26/2023 2:45:00 AM	2	0	0	2
	Hour	7	0	3	10
	1/26/2023 3:00:00 AM	0	0	1	1
	1/26/2023 3:15:00 AM	1	0	0	1
	1/26/2023 3:30:00 AM	1	0	0	1
	1/26/2023 3:45:00 AM	5	0	0	5
	Hour	7	0	1	8
	1/26/2023 4:00:00 AM	0	0	1	1
	1/26/2023 4:15:00 AM	4	0	1	5
	1/26/2023 4:30:00 AM	5	1	1	7
	1/26/2023 4:45:00 AM	5	0	1	6
	Hour	14	1	4	19
	1/26/2023 5:00:00 AM	6	0	2	8
	1/26/2023 5:15:00 AM	2	0	0	2
	1/26/2023 5:30:00 AM	3	1	2	6
	1/26/2023 5:45:00 AM	2	0	0	2
	Hour	13	1	4	18
	1/26/2023 6:00:00 AM	3	0	1	4
	1/26/2023 6:15:00 AM	1	0	4	5
	1/26/2023 6:30:00 AM	2	1	3	6
	1/26/2023 6:45:00 AM	9	0	4	13
	Hour	15	1	12	28
	1/26/2023 7:00:00 AM	6	0	3	9
	1/26/2023 7:15:00 AM	4	0	5	9
	1/26/2023 7:30:00 AM	4	0	2	6
	1/26/2023 7:45:00 AM	3	0	4	7
	Hour	17	0	14	31
	1/26/2023 8:00:00 AM	8	1	5	14
	1/26/2023 8:15:00 AM	6	0	0	6
	1/26/2023 8:30:00 AM	11	0	3	14
	1/26/2023 8:45:00 AM	11	0	5	16
	Hour	36	1	13	50
	1/26/2023 9:00:00 AM	10	0	2	12
	1/26/2023 9:15:00 AM	6	0	2	8
	1/26/2023 9:30:00 AM	9	1	6	16
	1/26/2023 9:45:00 AM	10	0	3	13
	Hour	35	1	13	49
	1/26/2023 10:00:00 AM	14	1	8	23
	1/26/2023 10:15:00 AM	10	0	1	11
	1/26/2023 10:30:00 AM	14	0	1	15
	1/26/2023 10:45:00 AM	13	0	3	16
	Hour	51	1	13	65
	1/26/2023 11:00:00 AM	10	0	1	11
	1/26/2023 11:15:00 AM	12	0	4	16
	1/26/2023 11:30:00 AM	18	1	3	22
	1/26/2023 11:45:00 AM	19	1	1	21
	Hour	59	2	9	70
	Grand Total	262	9	95	366
	Percentage	71.6%	2.5%	26.0%	



# All Traffic Data Services

## 4 - I-95 NB REST AREA EXIT

NB	Time	Lights	Mediums	Trucks	Total
	1/26/2023 12:00:00 PM	11	0	1	12
	1/26/2023 12:15:00 PM	13	0	1	14
	1/26/2023 12:30:00 PM	10	3	1	14
	1/26/2023 12:45:00 PM	25	2	4	31
	Hour	59	5	7	71
	1/26/2023 1:00:00 PM	6	0	1	7
	1/26/2023 1:15:00 PM	19	1	1	21
	1/26/2023 1:30:00 PM	11	1	1	13
	1/26/2023 1:45:00 PM	13	0	2	15
	Hour	49	2	5	56
	1/26/2023 2:00:00 PM	16	0	5	21
	1/26/2023 2:15:00 PM	15	1	3	19
	1/26/2023 2:30:00 PM	9	0	3	12
	1/26/2023 2:45:00 PM	14	0	4	18
	Hour	54	1	15	70
	1/26/2023 3:00:00 PM	12	0	5	17
	1/26/2023 3:15:00 PM	11	0	1	12
	1/26/2023 3:30:00 PM	8	0	1	9
	1/26/2023 3:45:00 PM	13	0	5	18
	Hour	44	0	12	56
	1/26/2023 4:00:00 PM	9	0	1	10
	1/26/2023 4:15:00 PM	8	0	2	10
	1/26/2023 4:30:00 PM	14	0	1	15
	1/26/2023 4:45:00 PM	7	0	6	13
	Hour	38	0	10	48
	1/26/2023 5:00:00 PM	9	0	1	10
	1/26/2023 5:15:00 PM	16	0	3	19
	1/26/2023 5:30:00 PM	12	0	2	14
	1/26/2023 5:45:00 PM	3	0	0	3
	Hour	40	0	6	46
	1/26/2023 6:00:00 PM	10	1	0	11
	1/26/2023 6:15:00 PM	5	0	2	7
	1/26/2023 6:30:00 PM	7	0	1	8
	1/26/2023 6:45:00 PM	10	0	1	11
	Hour	32	1	4	37
	1/26/2023 7:00:00 PM	3	0	2	5
	1/26/2023 7:15:00 PM	2	0	1	3
	1/26/2023 7:30:00 PM	2	0	1	3
	1/26/2023 7:45:00 PM	6	1	5	12
	Hour	13	1	9	23
	1/26/2023 8:00:00 PM	3	1	6	10
	1/26/2023 8:15:00 PM	0	0	1	1
	1/26/2023 8:30:00 PM	5	0	2	7
	1/26/2023 8:45:00 PM	0	0	1	1
	Hour	8	1	10	19
	1/26/2023 9:00:00 PM	3	0	0	3
	1/26/2023 9:15:00 PM	6	0	1	7
	1/26/2023 9:30:00 PM	2	0	0	2
	1/26/2023 9:45:00 PM	6	0	2	8
	Hour	17	0	3	20
	1/26/2023 10:00:00 PM	1	1	0	2
	1/26/2023 10:15:00 PM	3	0	1	4
	1/26/2023 10:30:00 PM	2	0	2	4
	1/26/2023 10:45:00 PM	4	0	1	5
	Hour	10	1	4	15
	1/26/2023 11:00:00 PM	3	0	0	3
	1/26/2023 11:15:00 PM	2	0	1	3
	1/26/2023 11:30:00 PM	1	0	1	2
	1/26/2023 11:45:00 PM	4	0	0	4
	Hour	10	0	2	12
	Grand Total	374	12	87	473
	Percentage	79.1%	2.5%	18.4%	



# All Traffic Data Services

## 4 - I-95 NB REST AREA EXIT

NB	Time	Lights	Mediums	Trucks	Total
	1/27/2023	0	0	0	0
	1/27/2023 12:15:00 AM	1	0	1	2
	1/27/2023 12:30:00 AM	4	0	2	6
	1/27/2023 12:45:00 AM	3	0	0	3
	Hour	8	0	3	11
	1/27/2023 1:00:00 AM	1	0	1	2
	1/27/2023 1:15:00 AM	0	0	1	1
	1/27/2023 1:30:00 AM	1	0	0	1
	1/27/2023 1:45:00 AM	2	0	0	2
	Hour	4	0	2	6
	1/27/2023 2:00:00 AM	2	1	0	3
	1/27/2023 2:15:00 AM	1	0	0	1
	1/27/2023 2:30:00 AM	0	0	0	0
	1/27/2023 2:45:00 AM	1	1	1	3
	Hour	4	2	1	7
	1/27/2023 3:00:00 AM	1	0	1	2
	1/27/2023 3:15:00 AM	2	0	1	3
	1/27/2023 3:30:00 AM	1	0	2	3
	1/27/2023 3:45:00 AM	0	0	0	0
	Hour	4	0	4	8
	1/27/2023 4:00:00 AM	1	0	3	4
	1/27/2023 4:15:00 AM	0	0	0	0
	1/27/2023 4:30:00 AM	3	0	2	5
	1/27/2023 4:45:00 AM	2	0	3	5
	Hour	6	0	8	14
	1/27/2023 5:00:00 AM	2	1	2	5
	1/27/2023 5:15:00 AM	2	0	3	5
	1/27/2023 5:30:00 AM	3	0	0	3
	1/27/2023 5:45:00 AM	5	1	2	8
	Hour	12	2	7	21
	1/27/2023 6:00:00 AM	2	1	1	4
	1/27/2023 6:15:00 AM	6	0	2	8
	1/27/2023 6:30:00 AM	3	0	3	6
	1/27/2023 6:45:00 AM	8	1	2	11
	Hour	19	2	8	29
	1/27/2023 7:00:00 AM	7	0	1	8
	1/27/2023 7:15:00 AM	8	0	4	12
	1/27/2023 7:30:00 AM	6	0	1	7
	1/27/2023 7:45:00 AM	6	1	3	10
	Hour	27	1	9	37
	1/27/2023 8:00:00 AM	5	0	8	13
	1/27/2023 8:15:00 AM	4	0	2	6
	1/27/2023 8:30:00 AM	4	0	4	8
	1/27/2023 8:45:00 AM	7	0	2	9
	Hour	20	0	16	36
	1/27/2023 9:00:00 AM	7	0	2	9
	1/27/2023 9:15:00 AM	6	1	2	9
	1/27/2023 9:30:00 AM	10	1	1	12
	1/27/2023 9:45:00 AM	10	0	2	12
	Hour	33	2	7	42
	1/27/2023 10:00:00 AM	10	0	0	10
	1/27/2023 10:15:00 AM	12	1	2	15
	1/27/2023 10:30:00 AM	16	0	8	24
	1/27/2023 10:45:00 AM	13	0	2	15
	Hour	51	1	12	64
	1/27/2023 11:00:00 AM	20	2	2	24
	1/27/2023 11:15:00 AM	23	0	6	29
	1/27/2023 11:30:00 AM	12	1	4	17
	1/27/2023 11:45:00 AM	12	1	1	14
	Hour	67	4	13	84
	Grand Total	255	14	90	359
	Percentage	71.0%	3.9%	25.1%	





# All Traffic Data Services

## 4 - I-95 NB REST AREA EXIT

NB	Time	Lights	Mediums	Trucks	Total
	1/27/2023 12:00:00 PM	14	1	2	17
	1/27/2023 12:15:00 PM	20	1	2	23
	1/27/2023 12:30:00 PM	21	0	1	22
	1/27/2023 12:45:00 PM	21	0	1	22
	Hour	76	2	6	84
	1/27/2023 1:00:00 PM	15	1	2	18
	1/27/2023 1:15:00 PM	19	0	3	22
	1/27/2023 1:30:00 PM	13	0	3	16
	1/27/2023 1:45:00 PM	20	0	3	23
	Hour	67	1	11	79
	1/27/2023 2:00:00 PM	17	1	1	19
	1/27/2023 2:15:00 PM	16	0	3	19
	1/27/2023 2:30:00 PM	17	0	3	20
	1/27/2023 2:45:00 PM	19	1	3	23
	Hour	69	2	10	81
	1/27/2023 3:00:00 PM	13	0	1	14
	1/27/2023 3:15:00 PM	17	0	1	18
	1/27/2023 3:30:00 PM	14	0	3	17
	1/27/2023 3:45:00 PM	12	1	3	16
	Hour	56	1	8	65
	1/27/2023 4:00:00 PM	14	0	4	18
	1/27/2023 4:15:00 PM	16	0	2	18
	1/27/2023 4:30:00 PM	14	1	3	18
	1/27/2023 4:45:00 PM	13	1	2	16
	Hour	57	2	11	70
	1/27/2023 5:00:00 PM	12	0	1	13
	1/27/2023 5:15:00 PM	10	1	4	15
	1/27/2023 5:30:00 PM	10	1	2	13
	1/27/2023 5:45:00 PM	7	0	0	7
	Hour	39	2	7	48
	1/27/2023 6:00:00 PM	7	0	0	7
	1/27/2023 6:15:00 PM	8	0	3	11
	1/27/2023 6:30:00 PM	12	0	1	13
	1/27/2023 6:45:00 PM	14	0	3	17
	Hour	41	0	7	48
	1/27/2023 7:00:00 PM	7	0	2	9
	1/27/2023 7:15:00 PM	6	0	2	8
	1/27/2023 7:30:00 PM	9	0	0	9
	1/27/2023 7:45:00 PM	2	0	0	2
	Hour	24	0	4	28
	1/27/2023 8:00:00 PM	9	1	1	11
	1/27/2023 8:15:00 PM	4	0	3	7
	1/27/2023 8:30:00 PM	7	1	0	8
	1/27/2023 8:45:00 PM	5	0	0	5
	Hour	25	2	4	31
	1/27/2023 9:00:00 PM	3	0	2	5
	1/27/2023 9:15:00 PM	3	0	3	6
	1/27/2023 9:30:00 PM	3	0	1	4
	1/27/2023 9:45:00 PM	2	0	1	3
	Hour	11	0	7	18
	1/27/2023 10:00:00 PM	2	0	0	2
	1/27/2023 10:15:00 PM	6	0	0	6
	1/27/2023 10:30:00 PM	1	0	0	1
	1/27/2023 10:45:00 PM	6	0	0	6
	Hour	15	0	0	15
	1/27/2023 11:00:00 PM	3	0	0	3
	1/27/2023 11:15:00 PM	4	0	0	4
	1/27/2023 11:30:00 PM	4	0	0	4
	1/27/2023 11:45:00 PM	1	0	2	3
	Hour	12	0	2	14
	Grand Total	492	12	77	581
	Percentage	84.7%	2.1%	13.3%	



# All Traffic Data Services

## 4 - I-95 NB REST AREA EXIT

NB	Time	Lights	Mediums	Trucks	Total
	1/28/2023	3	0	0	3
	1/28/2023 12:15:00 AM	3	0	1	4
	1/28/2023 12:30:00 AM	3	0	0	3
	1/28/2023 12:45:00 AM	2	0	1	3
	Hour	11	0	2	13
	1/28/2023 1:00:00 AM	3	1	0	4
	1/28/2023 1:15:00 AM	0	0	1	1
	1/28/2023 1:30:00 AM	1	0	0	1
	1/28/2023 1:45:00 AM	3	0	0	3
	Hour	7	1	1	9
	1/28/2023 2:00:00 AM	3	0	0	3
	1/28/2023 2:15:00 AM	0	0	0	0
	1/28/2023 2:30:00 AM	2	0	2	4
	1/28/2023 2:45:00 AM	2	0	1	3
	Hour	7	0	3	10
	1/28/2023 3:00:00 AM	2	0	0	2
	1/28/2023 3:15:00 AM	3	1	1	5
	1/28/2023 3:30:00 AM	2	0	2	4
	1/28/2023 3:45:00 AM	4	0	2	6
	Hour	11	1	5	17
	1/28/2023 4:00:00 AM	0	0	1	1
	1/28/2023 4:15:00 AM	2	0	1	3
	1/28/2023 4:30:00 AM	2	0	2	4
	1/28/2023 4:45:00 AM	3	0	0	3
	Hour	7	0	4	11
	1/28/2023 5:00:00 AM	1	0	0	1
	1/28/2023 5:15:00 AM	6	0	2	8
	1/28/2023 5:30:00 AM	3	0	0	3
	1/28/2023 5:45:00 AM	3	0	2	5
	Hour	13	0	4	17
	1/28/2023 6:00:00 AM	2	1	1	4
	1/28/2023 6:15:00 AM	7	0	1	8
	1/28/2023 6:30:00 AM	1	0	1	2
	1/28/2023 6:45:00 AM	2	0	2	4
	Hour	12	1	5	18
	1/28/2023 7:00:00 AM	3	0	1	4
	1/28/2023 7:15:00 AM	6	1	1	8
	1/28/2023 7:30:00 AM	6	0	2	8
	1/28/2023 7:45:00 AM	5	0	2	7
	Hour	20	1	6	27
	1/28/2023 8:00:00 AM	4	0	0	4
	1/28/2023 8:15:00 AM	9	0	1	10
	1/28/2023 8:30:00 AM	8	0	2	10
	1/28/2023 8:45:00 AM	6	0	2	8
	Hour	27	0	5	32
	1/28/2023 9:00:00 AM	6	0	1	7
	1/28/2023 9:15:00 AM	13	0	7	20
	1/28/2023 9:30:00 AM	15	0	1	16
	1/28/2023 9:45:00 AM	14	0	4	18
	Hour	48	0	13	61
	1/28/2023 10:00:00 AM	12	0	2	14
	1/28/2023 10:15:00 AM	14	0	3	17
	1/28/2023 10:30:00 AM	15	0	1	16
	1/28/2023 10:45:00 AM	20	1	2	23
	Hour	61	1	8	70
	1/28/2023 11:00:00 AM	18	0	4	22
	1/28/2023 11:15:00 AM	15	0	0	15
	1/28/2023 11:30:00 AM	15	0	0	15
	1/28/2023 11:45:00 AM	17	0	1	18
	Hour	65	0	5	70
	Grand Total	289	5	61	355
	Percentage	81.4%	1.4%	17.2%	



# All Traffic Data Services

## 4 - I-95 NB REST AREA EXIT

NB	Time	Lights	Mediums	Trucks	Total
	1/28/2023 12:00:00 PM	23	0	1	24
	1/28/2023 12:15:00 PM	21	0	4	25
	1/28/2023 12:30:00 PM	16	1	1	18
	1/28/2023 12:45:00 PM	18	1	2	21
	Hour	78	2	8	88
	1/28/2023 1:00:00 PM	13	0	3	16
	1/28/2023 1:15:00 PM	19	0	0	19
	1/28/2023 1:30:00 PM	19	0	3	22
	1/28/2023 1:45:00 PM	12	0	2	14
	Hour	63	0	8	71
	1/28/2023 2:00:00 PM	15	0	3	18
	1/28/2023 2:15:00 PM	16	0	2	18
	1/28/2023 2:30:00 PM	15	1	2	18
	1/28/2023 2:45:00 PM	13	0	6	19
	Hour	59	1	13	73
	1/28/2023 3:00:00 PM	11	0	2	13
	1/28/2023 3:15:00 PM	12	0	3	15
	1/28/2023 3:30:00 PM	12	0	1	13
	1/28/2023 3:45:00 PM	24	1	2	27
	Hour	59	1	8	68
	1/28/2023 4:00:00 PM	14	0	3	17
	1/28/2023 4:15:00 PM	17	0	0	17
	1/28/2023 4:30:00 PM	14	0	1	15
	1/28/2023 4:45:00 PM	12	0	1	13
	Hour	57	0	5	62
	1/28/2023 5:00:00 PM	4	0	2	6
	1/28/2023 5:15:00 PM	19	0	1	20
	1/28/2023 5:30:00 PM	14	0	1	15
	1/28/2023 5:45:00 PM	10	1	0	11
	Hour	47	1	4	52
	1/28/2023 6:00:00 PM	6	0	3	9
	1/28/2023 6:15:00 PM	8	0	2	10
	1/28/2023 6:30:00 PM	9	0	1	10
	1/28/2023 6:45:00 PM	5	0	0	5
	Hour	28	0	6	34
	1/28/2023 7:00:00 PM	5	0	1	6
	1/28/2023 7:15:00 PM	4	0	1	5
	1/28/2023 7:30:00 PM	8	0	1	9
	1/28/2023 7:45:00 PM	7	0	3	10
	Hour	24	0	6	30
	1/28/2023 8:00:00 PM	5	0	2	7
	1/28/2023 8:15:00 PM	5	0	0	5
	1/28/2023 8:30:00 PM	6	0	1	7
	1/28/2023 8:45:00 PM	1	0	0	1
	Hour	17	0	3	20
	1/28/2023 9:00:00 PM	4	0	1	5
	1/28/2023 9:15:00 PM	5	0	0	5
	1/28/2023 9:30:00 PM	3	1	3	7
	1/28/2023 9:45:00 PM	2	0	0	2
	Hour	14	1	4	19
	1/28/2023 10:00:00 PM	3	0	0	3
	1/28/2023 10:15:00 PM	1	0	1	2
	1/28/2023 10:30:00 PM	1	0	0	1
	1/28/2023 10:45:00 PM	1	1	0	2
	Hour	6	1	1	8
	1/28/2023 11:00:00 PM	4	0	0	4
	1/28/2023 11:15:00 PM	4	0	0	4
	1/28/2023 11:30:00 PM	1	0	0	1
	1/28/2023 11:45:00 PM	2	0	1	3
	Hour	11	0	1	12
	Grand Total	463	7	67	537
	Percentage	86.2%	1.3%	12.5%	



# All Traffic Data Services

## 4 - I-95 NB REST AREA EXIT

NB	Time	Lights	Mediums	Trucks	Total
	1/29/2023	2	0	1	3
	1/29/2023 12:15:00 AM	2	0	1	3
	1/29/2023 12:30:00 AM	2	0	1	3
	1/29/2023 12:45:00 AM	2	0	0	2
	Hour	8	0	3	11
	1/29/2023 1:00:00 AM	2	0	1	3
	1/29/2023 1:15:00 AM	1	0	0	1
	1/29/2023 1:30:00 AM	2	0	0	2
	1/29/2023 1:45:00 AM	5	0	0	5
	Hour	10	0	1	11
	1/29/2023 2:00:00 AM	5	0	1	6
	1/29/2023 2:15:00 AM	1	0	1	2
	1/29/2023 2:30:00 AM	2	0	0	2
	1/29/2023 2:45:00 AM	2	0	0	2
	Hour	10	0	2	12
	1/29/2023 3:00:00 AM	2	0	0	2
	1/29/2023 3:15:00 AM	2	0	1	3
	1/29/2023 3:30:00 AM	0	0	1	1
	1/29/2023 3:45:00 AM	3	0	0	3
	Hour	7	0	2	9
	1/29/2023 4:00:00 AM	2	0	0	2
	1/29/2023 4:15:00 AM	2	0	1	3
	1/29/2023 4:30:00 AM	4	0	1	5
	1/29/2023 4:45:00 AM	3	0	0	3
	Hour	11	0	2	13
	1/29/2023 5:00:00 AM	2	0	1	3
	1/29/2023 5:15:00 AM	2	0	1	3
	1/29/2023 5:30:00 AM	4	0	1	5
	1/29/2023 5:45:00 AM	2	0	1	3
	Hour	10	0	4	14
	1/29/2023 6:00:00 AM	9	0	1	10
	1/29/2023 6:15:00 AM	2	1	0	3
	1/29/2023 6:30:00 AM	4	1	0	5
	1/29/2023 6:45:00 AM	5	0	0	5
	Hour	20	2	1	23
	1/29/2023 7:00:00 AM	1	0	1	2
	1/29/2023 7:15:00 AM	2	0	1	3
	1/29/2023 7:30:00 AM	6	0	2	8
	1/29/2023 7:45:00 AM	7	0	1	8
	Hour	16	0	5	21
	1/29/2023 8:00:00 AM	11	1	2	14
	1/29/2023 8:15:00 AM	6	0	0	6
	1/29/2023 8:30:00 AM	7	1	0	8
	1/29/2023 8:45:00 AM	6	0	2	8
	Hour	30	2	4	36
	1/29/2023 9:00:00 AM	14	0	4	18
	1/29/2023 9:15:00 AM	5	0	2	7
	1/29/2023 9:30:00 AM	13	0	0	13
	1/29/2023 9:45:00 AM	13	0	1	14
	Hour	45	0	7	52
	1/29/2023 10:00:00 AM	16	1	2	19
	1/29/2023 10:15:00 AM	15	1	2	18
	1/29/2023 10:30:00 AM	16	0	0	16
	1/29/2023 10:45:00 AM	17	0	1	18
	Hour	64	2	5	71
	1/29/2023 11:00:00 AM	14	0	3	17
	1/29/2023 11:15:00 AM	21	0	0	21
	1/29/2023 11:30:00 AM	17	0	2	19
	1/29/2023 11:45:00 AM	23	0	3	26
	Hour	75	0	8	83
	Grand Total	306	6	44	356
	Percentage	86.0%	1.7%	12.4%	



# All Traffic Data Services

## 4 - I-95 NB REST AREA EXIT

NB	Time	Lights	Mediums	Trucks	Total
	1/29/2023 12:00:00 PM	16	1	1	18
	1/29/2023 12:15:00 PM	23	0	3	26
	1/29/2023 12:30:00 PM	22	0	2	24
	1/29/2023 12:45:00 PM	9	2	2	13
	Hour	70	3	8	81
	1/29/2023 1:00:00 PM	16	0	1	17
	1/29/2023 1:15:00 PM	21	1	2	24
	1/29/2023 1:30:00 PM	27	1	4	32
	1/29/2023 1:45:00 PM	30	0	1	31
	Hour	94	2	8	104
	1/29/2023 2:00:00 PM	24	1	0	25
	1/29/2023 2:15:00 PM	13	0	2	15
	1/29/2023 2:30:00 PM	13	0	2	15
	1/29/2023 2:45:00 PM	15	0	4	19
	Hour	65	1	8	74
	1/29/2023 3:00:00 PM	14	0	4	18
	1/29/2023 3:15:00 PM	12	0	0	12
	1/29/2023 3:30:00 PM	17	0	3	20
	1/29/2023 3:45:00 PM	13	0	1	14
	Hour	56	0	8	64
	1/29/2023 4:00:00 PM	12	0	0	12
	1/29/2023 4:15:00 PM	10	0	1	11
	1/29/2023 4:30:00 PM	15	1	2	18
	1/29/2023 4:45:00 PM	8	0	1	9
	Hour	45	1	4	50
	1/29/2023 5:00:00 PM	10	1	2	13
	1/29/2023 5:15:00 PM	12	0	4	16
	1/29/2023 5:30:00 PM	12	0	1	13
	1/29/2023 5:45:00 PM	2	0	1	3
	Hour	36	1	8	45
	1/29/2023 6:00:00 PM	7	1	0	8
	1/29/2023 6:15:00 PM	9	0	0	9
	1/29/2023 6:30:00 PM	8	0	1	9
	1/29/2023 6:45:00 PM	12	1	0	13
	Hour	36	2	1	39
	1/29/2023 7:00:00 PM	12	0	1	13
	1/29/2023 7:15:00 PM	7	0	1	8
	1/29/2023 7:30:00 PM	5	0	0	5
	1/29/2023 7:45:00 PM	10	0	2	12
	Hour	34	0	4	38
	1/29/2023 8:00:00 PM	10	0	1	11
	1/29/2023 8:15:00 PM	6	0	1	7
	1/29/2023 8:30:00 PM	5	0	1	6
	1/29/2023 8:45:00 PM	4	0	1	5
	Hour	25	0	4	29
	1/29/2023 9:00:00 PM	3	0	0	3
	1/29/2023 9:15:00 PM	2	0	2	4
	1/29/2023 9:30:00 PM	2	0	1	3
	1/29/2023 9:45:00 PM	2	0	1	3
	Hour	9	0	4	13
	1/29/2023 10:00:00 PM	1	0	0	1
	1/29/2023 10:15:00 PM	3	0	0	3
	1/29/2023 10:30:00 PM	1	0	1	2
	1/29/2023 10:45:00 PM	1	0	0	1
	Hour	6	0	1	7
	1/29/2023 11:00:00 PM	2	0	1	3
	1/29/2023 11:15:00 PM	1	0	0	1
	1/29/2023 11:30:00 PM	1	0	0	1
	1/29/2023 11:45:00 PM	0	0	0	0
	Hour	4	0	1	5
	Grand Total	480	10	59	549
	Percentage	87.4%	1.8%	10.7%	



# All Traffic Data Services

## 4 - I-95 NB REST AREA EXIT

NB	Time	Lights	Mediums	Trucks	Total
	1/30/2023	1	0	0	1
	1/30/2023 12:15:00 AM	5	0	0	5
	1/30/2023 12:30:00 AM	0	0	0	0
	1/30/2023 12:45:00 AM	1	0	1	2
	Hour	7	0	1	8
	1/30/2023 1:00:00 AM	0	0	0	0
	1/30/2023 1:15:00 AM	1	0	0	1
	1/30/2023 1:30:00 AM	1	0	0	1
	1/30/2023 1:45:00 AM	2	0	0	2
	Hour	4	0	0	4
	1/30/2023 2:00:00 AM	0	0	0	0
	1/30/2023 2:15:00 AM	0	0	0	0
	1/30/2023 2:30:00 AM	4	0	2	6
	1/30/2023 2:45:00 AM	3	2	0	5
	Hour	7	2	2	11
	1/30/2023 3:00:00 AM	0	0	1	1
	1/30/2023 3:15:00 AM	0	0	1	1
	1/30/2023 3:30:00 AM	1	0	0	1
	1/30/2023 3:45:00 AM	3	0	1	4
	Hour	4	0	3	7
	1/30/2023 4:00:00 AM	1	1	0	2
	1/30/2023 4:15:00 AM	0	0	1	1
	1/30/2023 4:30:00 AM	2	0	1	3
	1/30/2023 4:45:00 AM	1	0	0	1
	Hour	4	1	2	7
	1/30/2023 5:00:00 AM	2	0	1	3
	1/30/2023 5:15:00 AM	6	0	2	8
	1/30/2023 5:30:00 AM	3	1	2	6
	1/30/2023 5:45:00 AM	1	1	2	4
	Hour	12	2	7	21
	1/30/2023 6:00:00 AM	1	0	1	2
	1/30/2023 6:15:00 AM	1	0	1	2
	1/30/2023 6:30:00 AM	7	0	1	8
	1/30/2023 6:45:00 AM	10	0	1	11
	Hour	19	0	4	23
	1/30/2023 7:00:00 AM	6	0	2	8
	1/30/2023 7:15:00 AM	2	0	0	2
	1/30/2023 7:30:00 AM	9	0	2	11
	1/30/2023 7:45:00 AM	6	0	2	8
	Hour	23	0	6	29
	1/30/2023 8:00:00 AM	13	0	3	16
	1/30/2023 8:15:00 AM	8	2	4	14
	1/30/2023 8:30:00 AM	5	0	1	6
	1/30/2023 8:45:00 AM	4	1	1	6
	Hour	30	3	9	42
	1/30/2023 9:00:00 AM	8	1	2	11
	1/30/2023 9:15:00 AM	8	1	2	11
	1/30/2023 9:30:00 AM	10	1	4	15
	1/30/2023 9:45:00 AM	15	0	4	19
	Hour	41	3	12	56
	1/30/2023 10:00:00 AM	17	0	2	19
	1/30/2023 10:15:00 AM	17	0	3	20
	1/30/2023 10:30:00 AM	27	1	5	33
	1/30/2023 10:45:00 AM	13	0	0	13
	Hour	74	1	10	85
	1/30/2023 11:00:00 AM	18	0	1	19
	1/30/2023 11:15:00 AM	20	0	1	21
	1/30/2023 11:30:00 AM	12	0	3	15
	1/30/2023 11:45:00 AM	20	1	0	21
	Hour	70	1	5	76
	Grand Total	295	13	61	369
	Percentage	79.9%	3.5%	16.5%	





# All Traffic Data Services

## 4 - I-95 NB REST AREA EXIT

NB	Time	Lights	Mediums	Trucks	Total
	1/30/2023 12:00:00 PM	16	2	1	19
	1/30/2023 12:15:00 PM	12	0	6	18
	1/30/2023 12:30:00 PM	13	0	1	14
	1/30/2023 12:45:00 PM	16	0	7	23
	Hour	57	2	15	74
	1/30/2023 1:00:00 PM	13	0	3	16
	1/30/2023 1:15:00 PM	13	1	4	18
	1/30/2023 1:30:00 PM	17	0	1	18
	1/30/2023 1:45:00 PM	13	0	2	15
	Hour	56	1	10	67
	1/30/2023 2:00:00 PM	13	0	4	17
	1/30/2023 2:15:00 PM	16	0	4	20
	1/30/2023 2:30:00 PM	16	0	2	18
	1/30/2023 2:45:00 PM	20	0	0	20
	Hour	65	0	10	75
	1/30/2023 3:00:00 PM	15	0	3	18
	1/30/2023 3:15:00 PM	13	1	1	15
	1/30/2023 3:30:00 PM	19	0	2	21
	1/30/2023 3:45:00 PM	11	0	1	12
	Hour	58	1	7	66
	1/30/2023 4:00:00 PM	11	0	0	11
	1/30/2023 4:15:00 PM	13	0	5	18
	1/30/2023 4:30:00 PM	10	0	0	10
	1/30/2023 4:45:00 PM	10	1	1	12
	Hour	44	1	6	51
	1/30/2023 5:00:00 PM	8	0	2	10
	1/30/2023 5:15:00 PM	13	0	2	15
	1/30/2023 5:30:00 PM	7	2	4	13
	1/30/2023 5:45:00 PM	5	0	2	7
	Hour	33	2	10	45
	1/30/2023 6:00:00 PM	5	1	1	7
	1/30/2023 6:15:00 PM	3	0	2	5
	1/30/2023 6:30:00 PM	5	0	1	6
	1/30/2023 6:45:00 PM	3	0	1	4
	Hour	16	1	5	22
	1/30/2023 7:00:00 PM	6	1	5	12
	1/30/2023 7:15:00 PM	7	0	1	8
	1/30/2023 7:30:00 PM	2	0	2	4
	1/30/2023 7:45:00 PM	5	0	1	6
	Hour	20	1	9	30
	1/30/2023 8:00:00 PM	3	0	0	3
	1/30/2023 8:15:00 PM	2	0	0	2
	1/30/2023 8:30:00 PM	4	0	1	5
	1/30/2023 8:45:00 PM	3	0	1	4
	Hour	12	0	2	14
	1/30/2023 9:00:00 PM	0	0	2	2
	1/30/2023 9:15:00 PM	2	0	1	3
	1/30/2023 9:30:00 PM	1	0	0	1
	1/30/2023 9:45:00 PM	1	0	2	3
	Hour	4	0	5	9
	1/30/2023 10:00:00 PM	3	0	1	4
	1/30/2023 10:15:00 PM	0	0	2	2
	1/30/2023 10:30:00 PM	2	0	0	2
	1/30/2023 10:45:00 PM	5	0	1	6
	Hour	10	0	4	14
	1/30/2023 11:00:00 PM	3	0	3	6
	1/30/2023 11:15:00 PM	2	0	3	5
	1/30/2023 11:30:00 PM	0	0	1	1
	1/30/2023 11:45:00 PM	3	0	4	7
	Hour	8	0	11	19
	Grand Total	383	9	94	486
	Percentage	78.8%	1.9%	19.3%	
	Total	4,587	142	1,167	5,896
	Percentage	77.8%	2.4%	19.8%	



# All Traffic Data Services

## 5 - I-95 SB REST AREA ENTRANCE

SB	Time	Lights	Mediums	Trucks	Total
	1/24/2023	2	0	1	3
	1/24/2023 12:15:00 AM	2	1	1	4
	1/24/2023 12:30:00 AM	5	0	1	6
	1/24/2023 12:45:00 AM	4	0	3	7
	Hour	13	1	6	20
	1/24/2023 1:00:00 AM	1	0	1	2
	1/24/2023 1:15:00 AM	3	0	1	4
	1/24/2023 1:30:00 AM	1	0	1	2
	1/24/2023 1:45:00 AM	2	0	1	3
	Hour	7	0	4	11
	1/24/2023 2:00:00 AM	1	0	1	2
	1/24/2023 2:15:00 AM	0	0	3	3
	1/24/2023 2:30:00 AM	0	0	2	2
	1/24/2023 2:45:00 AM	1	1	0	2
	Hour	2	1	6	9
	1/24/2023 3:00:00 AM	3	0	0	3
	1/24/2023 3:15:00 AM	0	0	1	1
	1/24/2023 3:30:00 AM	0	0	0	0
	1/24/2023 3:45:00 AM	2	0	0	2
	Hour	5	0	1	6
	1/24/2023 4:00:00 AM	2	0	1	3
	1/24/2023 4:15:00 AM	3	0	0	3
	1/24/2023 4:30:00 AM	0	0	2	2
	1/24/2023 4:45:00 AM	1	0	1	2
	Hour	6	0	4	10
	1/24/2023 5:00:00 AM	2	0	0	2
	1/24/2023 5:15:00 AM	2	1	1	4
	1/24/2023 5:30:00 AM	1	1	2	4
	1/24/2023 5:45:00 AM	3	0	2	5
	Hour	8	2	5	15
	1/24/2023 6:00:00 AM	4	0	0	4
	1/24/2023 6:15:00 AM	4	1	0	5
	1/24/2023 6:30:00 AM	4	0	2	6
	1/24/2023 6:45:00 AM	4	0	0	4
	Hour	16	1	2	19
	1/24/2023 7:00:00 AM	6	0	3	9
	1/24/2023 7:15:00 AM	3	1	2	6
	1/24/2023 7:30:00 AM	2	0	0	2
	1/24/2023 7:45:00 AM	3	0	0	3
	Hour	14	1	5	20
	1/24/2023 8:00:00 AM	8	0	2	10
	1/24/2023 8:15:00 AM	7	0	1	8
	1/24/2023 8:30:00 AM	10	1	5	16
	1/24/2023 8:45:00 AM	15	0	2	17
	Hour	40	1	10	51
	1/24/2023 9:00:00 AM	13	1	3	17
	1/24/2023 9:15:00 AM	11	1	6	18
	1/24/2023 9:30:00 AM	12	0	4	16
	1/24/2023 9:45:00 AM	14	0	2	16
	Hour	50	2	15	67
	1/24/2023 10:00:00 AM	16	0	3	19
	1/24/2023 10:15:00 AM	13	0	4	17
	1/24/2023 10:30:00 AM	16	1	5	22
	1/24/2023 10:45:00 AM	22	0	3	25
	Hour	67	1	15	83
	1/24/2023 11:00:00 AM	12	1	4	17
	1/24/2023 11:15:00 AM	14	1	5	20
	1/24/2023 11:30:00 AM	17	0	6	23
	1/24/2023 11:45:00 AM	7	0	3	10
	Hour	50	2	18	70
	Grand Total	278	12	91	381
	Percentage	73.0%	3.1%	23.9%	



# All Traffic Data Services

## 5 - I-95 SB REST AREA ENTRANCE

SB	Time	Lights	Mediums	Trucks	Total
	1/24/2023 12:00:00 PM	12	0	3	15
	1/24/2023 12:15:00 PM	15	0	3	18
	1/24/2023 12:30:00 PM	10	1	3	14
	1/24/2023 12:45:00 PM	9	2	5	16
	Hour	46	3	14	63
	1/24/2023 1:00:00 PM	14	1	3	18
	1/24/2023 1:15:00 PM	14	0	4	18
	1/24/2023 1:30:00 PM	10	1	4	15
	1/24/2023 1:45:00 PM	11	0	2	13
	Hour	49	2	13	64
	1/24/2023 2:00:00 PM	11	0	1	12
	1/24/2023 2:15:00 PM	8	0	3	11
	1/24/2023 2:30:00 PM	8	0	2	10
	1/24/2023 2:45:00 PM	10	0	1	11
	Hour	37	0	7	44
	1/24/2023 3:00:00 PM	7	1	1	9
	1/24/2023 3:15:00 PM	8	1	2	11
	1/24/2023 3:30:00 PM	10	0	1	11
	1/24/2023 3:45:00 PM	14	0	0	14
	Hour	39	2	4	45
	1/24/2023 4:00:00 PM	7	0	2	9
	1/24/2023 4:15:00 PM	9	1	2	12
	1/24/2023 4:30:00 PM	8	2	0	10
	1/24/2023 4:45:00 PM	6	2	4	12
	Hour	30	5	8	43
	1/24/2023 5:00:00 PM	4	0	1	5
	1/24/2023 5:15:00 PM	11	0	2	13
	1/24/2023 5:30:00 PM	13	1	1	15
	1/24/2023 5:45:00 PM	4	0	2	6
	Hour	32	1	6	39
	1/24/2023 6:00:00 PM	7	0	3	10
	1/24/2023 6:15:00 PM	6	0	4	10
	1/24/2023 6:30:00 PM	4	0	2	6
	1/24/2023 6:45:00 PM	2	0	0	2
	Hour	19	0	9	28
	1/24/2023 7:00:00 PM	6	0	1	7
	1/24/2023 7:15:00 PM	6	0	3	9
	1/24/2023 7:30:00 PM	6	0	0	6
	1/24/2023 7:45:00 PM	1	0	3	4
	Hour	19	0	7	26
	1/24/2023 8:00:00 PM	1	0	2	3
	1/24/2023 8:15:00 PM	2	0	0	2
	1/24/2023 8:30:00 PM	7	0	0	7
	1/24/2023 8:45:00 PM	3	0	0	3
	Hour	13	0	2	15
	1/24/2023 9:00:00 PM	0	0	0	0
	1/24/2023 9:15:00 PM	2	0	1	3
	1/24/2023 9:30:00 PM	2	0	2	4
	1/24/2023 9:45:00 PM	2	0	0	2
	Hour	6	0	3	9
	1/24/2023 10:00:00 PM	3	0	3	6
	1/24/2023 10:15:00 PM	1	0	1	2
	1/24/2023 10:30:00 PM	2	0	0	2
	1/24/2023 10:45:00 PM	1	0	3	4
	Hour	7	0	7	14
	1/24/2023 11:00:00 PM	1	0	4	5
	1/24/2023 11:15:00 PM	4	0	0	4
	1/24/2023 11:30:00 PM	4	0	1	5
	1/24/2023 11:45:00 PM	1	0	4	5
	Hour	10	0	9	19
	Grand Total	307	13	89	409
	Percentage	75.1%	3.2%	21.8%	



# All Traffic Data Services

## 5 - I-95 SB REST AREA ENTRANCE

SB	Time	Lights	Mediums	Trucks	Total
	1/25/2023	0	1	1	2
	1/25/2023 12:15:00 AM	6	0	4	10
	1/25/2023 12:30:00 AM	2	0	1	3
	1/25/2023 12:45:00 AM	2	0	1	3
	Hour	10	1	7	18
	1/25/2023 1:00:00 AM	0	0	1	1
	1/25/2023 1:15:00 AM	2	0	0	2
	1/25/2023 1:30:00 AM	1	0	1	2
	1/25/2023 1:45:00 AM	0	0	5	5
	Hour	3	0	7	10
	1/25/2023 2:00:00 AM	0	0	1	1
	1/25/2023 2:15:00 AM	4	0	2	6
	1/25/2023 2:30:00 AM	1	0	0	1
	1/25/2023 2:45:00 AM	2	0	2	4
	Hour	7	0	5	12
	1/25/2023 3:00:00 AM	3	0	1	4
	1/25/2023 3:15:00 AM	5	0	3	8
	1/25/2023 3:30:00 AM	1	0	1	2
	1/25/2023 3:45:00 AM	0	0	0	0
	Hour	9	0	5	14
	1/25/2023 4:00:00 AM	1	0	0	1
	1/25/2023 4:15:00 AM	0	0	0	0
	1/25/2023 4:30:00 AM	0	0	1	1
	1/25/2023 4:45:00 AM	2	0	2	4
	Hour	3	0	3	6
	1/25/2023 5:00:00 AM	1	0	1	2
	1/25/2023 5:15:00 AM	0	0	0	0
	1/25/2023 5:30:00 AM	1	0	3	4
	1/25/2023 5:45:00 AM	2	0	0	2
	Hour	4	0	4	8
	1/25/2023 6:00:00 AM	1	1	1	3
	1/25/2023 6:15:00 AM	3	0	0	3
	1/25/2023 6:30:00 AM	1	0	0	1
	1/25/2023 6:45:00 AM	3	0	5	8
	Hour	8	1	6	15
	1/25/2023 7:00:00 AM	4	1	2	7
	1/25/2023 7:15:00 AM	5	0	0	5
	1/25/2023 7:30:00 AM	3	0	1	4
	1/25/2023 7:45:00 AM	7	0	2	9
	Hour	19	1	5	25
	1/25/2023 8:00:00 AM	4	0	4	8
	1/25/2023 8:15:00 AM	10	1	2	13
	1/25/2023 8:30:00 AM	7	0	0	7
	1/25/2023 8:45:00 AM	8	1	5	14
	Hour	29	2	11	42
	1/25/2023 9:00:00 AM	7	0	4	11
	1/25/2023 9:15:00 AM	9	0	1	10
	1/25/2023 9:30:00 AM	16	1	2	19
	1/25/2023 9:45:00 AM	11	0	1	12
	Hour	43	1	8	52
	1/25/2023 10:00:00 AM	16	0	2	18
	1/25/2023 10:15:00 AM	17	0	5	22
	1/25/2023 10:30:00 AM	15	1	2	18
	1/25/2023 10:45:00 AM	22	0	4	26
	Hour	70	1	13	84
	1/25/2023 11:00:00 AM	15	1	3	19
	1/25/2023 11:15:00 AM	10	0	2	12
	1/25/2023 11:30:00 AM	14	1	1	16
	1/25/2023 11:45:00 AM	7	0	2	9
	Hour	46	2	8	56
	Grand Total	251	9	82	342
	Percentage	73.4%	2.6%	24.0%	



# All Traffic Data Services

## 5 - I-95 SB REST AREA ENTRANCE

SB	Time	Lights	Mediums	Trucks	Total
	1/25/2023 12:00:00 PM	9	0	4	13
	1/25/2023 12:15:00 PM	10	0	1	11
	1/25/2023 12:30:00 PM	13	1	1	15
	1/25/2023 12:45:00 PM	12	0	7	19
	Hour	44	1	13	58
	1/25/2023 1:00:00 PM	4	0	5	9
	1/25/2023 1:15:00 PM	13	0	3	16
	1/25/2023 1:30:00 PM	16	2	4	22
	1/25/2023 1:45:00 PM	8	0	1	9
	Hour	41	2	13	56
	1/25/2023 2:00:00 PM	11	0	6	17
	1/25/2023 2:15:00 PM	17	0	1	18
	1/25/2023 2:30:00 PM	12	0	3	15
	1/25/2023 2:45:00 PM	8	0	0	8
	Hour	48	0	10	58
	1/25/2023 3:00:00 PM	11	0	3	14
	1/25/2023 3:15:00 PM	10	0	3	13
	1/25/2023 3:30:00 PM	11	0	6	17
	1/25/2023 3:45:00 PM	9	0	1	10
	Hour	41	0	13	54
	1/25/2023 4:00:00 PM	3	0	4	7
	1/25/2023 4:15:00 PM	9	1	5	15
	1/25/2023 4:30:00 PM	11	0	2	13
	1/25/2023 4:45:00 PM	7	1	2	10
	Hour	30	2	13	45
	1/25/2023 5:00:00 PM	8	1	2	11
	1/25/2023 5:15:00 PM	7	0	2	9
	1/25/2023 5:30:00 PM	4	0	4	8
	1/25/2023 5:45:00 PM	6	0	2	8
	Hour	25	1	10	36
	1/25/2023 6:00:00 PM	5	1	1	7
	1/25/2023 6:15:00 PM	5	1	1	7
	1/25/2023 6:30:00 PM	4	1	1	6
	1/25/2023 6:45:00 PM	11	0	2	13
	Hour	25	3	5	33
	1/25/2023 7:00:00 PM	4	0	2	6
	1/25/2023 7:15:00 PM	6	0	3	9
	1/25/2023 7:30:00 PM	4	0	2	6
	1/25/2023 7:45:00 PM	0	0	3	3
	Hour	14	0	10	24
	1/25/2023 8:00:00 PM	2	0	1	3
	1/25/2023 8:15:00 PM	2	1	3	6
	1/25/2023 8:30:00 PM	2	0	3	5
	1/25/2023 8:45:00 PM	1	0	0	1
	Hour	7	1	7	15
	1/25/2023 9:00:00 PM	3	0	4	7
	1/25/2023 9:15:00 PM	2	0	0	2
	1/25/2023 9:30:00 PM	4	0	0	4
	1/25/2023 9:45:00 PM	2	0	1	3
	Hour	11	0	5	16
	1/25/2023 10:00:00 PM	4	0	1	5
	1/25/2023 10:15:00 PM	2	0	5	7
	1/25/2023 10:30:00 PM	1	0	2	3
	1/25/2023 10:45:00 PM	1	0	2	3
	Hour	8	0	10	18
	1/25/2023 11:00:00 PM	2	0	1	3
	1/25/2023 11:15:00 PM	2	0	0	2
	1/25/2023 11:30:00 PM	2	0	1	3
	1/25/2023 11:45:00 PM	1	0	0	1
	Hour	7	0	2	9
	Grand Total	301	10	111	422
	Percentage	71.3%	2.4%	26.3%	



# All Traffic Data Services

## 5 - I-95 SB REST AREA ENTRANCE

SB	Time	Lights	Mediums	Trucks	Total
	1/26/2023	3	1	1	5
	1/26/2023 12:15:00 AM	2	0	0	2
	1/26/2023 12:30:00 AM	1	0	1	2
	1/26/2023 12:45:00 AM	1	0	2	3
	Hour	7	1	4	12
	1/26/2023 1:00:00 AM	4	0	1	5
	1/26/2023 1:15:00 AM	6	0	1	7
	1/26/2023 1:30:00 AM	2	0	1	3
	1/26/2023 1:45:00 AM	4	0	2	6
	Hour	16	0	5	21
	1/26/2023 2:00:00 AM	3	0	0	3
	1/26/2023 2:15:00 AM	0	0	0	0
	1/26/2023 2:30:00 AM	1	0	1	2
	1/26/2023 2:45:00 AM	2	0	2	4
	Hour	6	0	3	9
	1/26/2023 3:00:00 AM	2	0	0	2
	1/26/2023 3:15:00 AM	5	0	0	5
	1/26/2023 3:30:00 AM	1	0	0	1
	1/26/2023 3:45:00 AM	3	0	0	3
	Hour	11	0	0	11
	1/26/2023 4:00:00 AM	2	0	0	2
	1/26/2023 4:15:00 AM	2	1	2	5
	1/26/2023 4:30:00 AM	1	0	1	2
	1/26/2023 4:45:00 AM	1	1	2	4
	Hour	6	2	5	13
	1/26/2023 5:00:00 AM	2	0	1	3
	1/26/2023 5:15:00 AM	5	0	1	6
	1/26/2023 5:30:00 AM	0	1	0	1
	1/26/2023 5:45:00 AM	3	0	1	4
	Hour	10	1	3	14
	1/26/2023 6:00:00 AM	4	0	0	4
	1/26/2023 6:15:00 AM	3	1	2	6
	1/26/2023 6:30:00 AM	4	1	5	10
	1/26/2023 6:45:00 AM	4	0	3	7
	Hour	15	2	10	27
	1/26/2023 7:00:00 AM	2	0	2	4
	1/26/2023 7:15:00 AM	3	0	2	5
	1/26/2023 7:30:00 AM	5	2	2	9
	1/26/2023 7:45:00 AM	7	0	3	10
	Hour	17	2	9	28
	1/26/2023 8:00:00 AM	6	0	4	10
	1/26/2023 8:15:00 AM	8	1	6	15
	1/26/2023 8:30:00 AM	6	0	1	7
	1/26/2023 8:45:00 AM	12	1	1	14
	Hour	32	2	12	46
	1/26/2023 9:00:00 AM	12	0	3	15
	1/26/2023 9:15:00 AM	13	0	3	16
	1/26/2023 9:30:00 AM	18	0	3	21
	1/26/2023 9:45:00 AM	16	0	2	18
	Hour	59	0	11	70
	1/26/2023 10:00:00 AM	13	0	2	15
	1/26/2023 10:15:00 AM	8	0	0	8
	1/26/2023 10:30:00 AM	24	0	1	25
	1/26/2023 10:45:00 AM	17	1	6	24
	Hour	62	1	9	72
	1/26/2023 11:00:00 AM	16	0	0	16
	1/26/2023 11:15:00 AM	21	0	3	24
	1/26/2023 11:30:00 AM	27	0	1	28
	1/26/2023 11:45:00 AM	16	0	2	18
	Hour	80	0	6	86
	Grand Total	321	11	77	409
	Percentage	78.5%	2.7%	18.8%	





# All Traffic Data Services

## 5 - I-95 SB REST AREA ENTRANCE

SB	Time	Lights	Mediums	Trucks	Total
	1/26/2023 12:00:00 PM	10	0	2	12
	1/26/2023 12:15:00 PM	15	0	4	19
	1/26/2023 12:30:00 PM	11	0	4	15
	1/26/2023 12:45:00 PM	18	1	0	19
	Hour	54	1	10	65
	1/26/2023 1:00:00 PM	10	0	6	16
	1/26/2023 1:15:00 PM	13	0	2	15
	1/26/2023 1:30:00 PM	14	0	6	20
	1/26/2023 1:45:00 PM	20	1	2	23
	Hour	57	1	16	74
	1/26/2023 2:00:00 PM	19	1	3	23
	1/26/2023 2:15:00 PM	19	0	2	21
	1/26/2023 2:30:00 PM	13	1	2	16
	1/26/2023 2:45:00 PM	10	0	2	12
	Hour	61	2	9	72
	1/26/2023 3:00:00 PM	14	0	2	16
	1/26/2023 3:15:00 PM	16	0	2	18
	1/26/2023 3:30:00 PM	10	0	1	11
	1/26/2023 3:45:00 PM	14	1	1	16
	Hour	54	1	6	61
	1/26/2023 4:00:00 PM	9	0	2	11
	1/26/2023 4:15:00 PM	15	0	2	17
	1/26/2023 4:30:00 PM	12	1	4	17
	1/26/2023 4:45:00 PM	10	0	1	11
	Hour	46	1	9	56
	1/26/2023 5:00:00 PM	9	0	0	9
	1/26/2023 5:15:00 PM	8	1	3	12
	1/26/2023 5:30:00 PM	4	0	0	4
	1/26/2023 5:45:00 PM	13	0	2	15
	Hour	34	1	5	40
	1/26/2023 6:00:00 PM	9	0	2	11
	1/26/2023 6:15:00 PM	7	0	5	12
	1/26/2023 6:30:00 PM	7	1	5	13
	1/26/2023 6:45:00 PM	4	1	1	6
	Hour	27	2	13	42
	1/26/2023 7:00:00 PM	6	0	4	10
	1/26/2023 7:15:00 PM	9	0	4	13
	1/26/2023 7:30:00 PM	1	0	1	2
	1/26/2023 7:45:00 PM	2	1	4	7
	Hour	18	1	13	32
	1/26/2023 8:00:00 PM	8	0	3	11
	1/26/2023 8:15:00 PM	7	1	2	10
	1/26/2023 8:30:00 PM	13	0	1	14
	1/26/2023 8:45:00 PM	5	0	1	6
	Hour	33	1	7	41
	1/26/2023 9:00:00 PM	0	0	0	0
	1/26/2023 9:15:00 PM	0	0	0	0
	1/26/2023 9:30:00 PM	0	0	0	0
	1/26/2023 9:45:00 PM	0	0	0	0
	Hour	0	0	0	0
	1/26/2023 10:00:00 PM	1	0	1	2
	1/26/2023 10:15:00 PM	2	0	2	4
	1/26/2023 10:30:00 PM	1	1	1	3
	1/26/2023 10:45:00 PM	1	0	1	2
	Hour	5	1	5	11
	1/26/2023 11:00:00 PM	3	0	2	5
	1/26/2023 11:15:00 PM	2	0	2	4
	1/26/2023 11:30:00 PM	1	1	3	5
	1/26/2023 11:45:00 PM	5	1	2	8
	Hour	11	2	9	22
	Grand Total	400	14	102	516
	Percentage	77.5%	2.7%	19.8%	



# All Traffic Data Services

## 5 - I-95 SB REST AREA ENTRANCE

SB	Time	Lights	Mediums	Trucks	Total
	1/27/2023	3	0	1	4
	1/27/2023 12:15:00 AM	4	0	3	7
	1/27/2023 12:30:00 AM	4	0	1	5
	1/27/2023 12:45:00 AM	1	0	2	3
	Hour	12	0	7	19
	1/27/2023 1:00:00 AM	1	0	0	1
	1/27/2023 1:15:00 AM	1	0	0	1
	1/27/2023 1:30:00 AM	1	0	1	2
	1/27/2023 1:45:00 AM	5	0	1	6
	Hour	8	0	2	10
	1/27/2023 2:00:00 AM	4	1	1	6
	1/27/2023 2:15:00 AM	4	0	2	6
	1/27/2023 2:30:00 AM	0	0	0	0
	1/27/2023 2:45:00 AM	2	1	3	6
	Hour	10	2	6	18
	1/27/2023 3:00:00 AM	1	0	0	1
	1/27/2023 3:15:00 AM	0	1	0	1
	1/27/2023 3:30:00 AM	0	0	0	0
	1/27/2023 3:45:00 AM	2	0	0	2
	Hour	3	1	0	4
	1/27/2023 4:00:00 AM	2	0	0	2
	1/27/2023 4:15:00 AM	3	0	0	3
	1/27/2023 4:30:00 AM	1	0	1	2
	1/27/2023 4:45:00 AM	2	0	2	4
	Hour	8	0	3	11
	1/27/2023 5:00:00 AM	4	0	3	7
	1/27/2023 5:15:00 AM	2	0	2	4
	1/27/2023 5:30:00 AM	3	0	1	4
	1/27/2023 5:45:00 AM	5	1	0	6
	Hour	14	1	6	21
	1/27/2023 6:00:00 AM	7	0	1	8
	1/27/2023 6:15:00 AM	3	3	5	11
	1/27/2023 6:30:00 AM	3	0	3	6
	1/27/2023 6:45:00 AM	3	0	0	3
	Hour	16	3	9	28
	1/27/2023 7:00:00 AM	7	0	4	11
	1/27/2023 7:15:00 AM	6	0	1	7
	1/27/2023 7:30:00 AM	10	1	3	14
	1/27/2023 7:45:00 AM	4	0	1	5
	Hour	27	1	9	37
	1/27/2023 8:00:00 AM	8	0	2	10
	1/27/2023 8:15:00 AM	10	0	1	11
	1/27/2023 8:30:00 AM	17	0	1	18
	1/27/2023 8:45:00 AM	7	0	2	9
	Hour	42	0	6	48
	1/27/2023 9:00:00 AM	12	0	2	14
	1/27/2023 9:15:00 AM	12	0	1	13
	1/27/2023 9:30:00 AM	20	1	2	23
	1/27/2023 9:45:00 AM	18	0	1	19
	Hour	62	1	6	69
	1/27/2023 10:00:00 AM	14	0	2	16
	1/27/2023 10:15:00 AM	19	0	2	21
	1/27/2023 10:30:00 AM	15	1	0	16
	1/27/2023 10:45:00 AM	18	0	1	19
	Hour	66	1	5	72
	1/27/2023 11:00:00 AM	10	1	1	12
	1/27/2023 11:15:00 AM	22	1	3	26
	1/27/2023 11:30:00 AM	17	0	2	19
	1/27/2023 11:45:00 AM	17	0	3	20
	Hour	66	2	9	77
	Grand Total	334	12	68	414
	Percentage	80.7%	2.9%	16.4%	



# All Traffic Data Services

## 5 - I-95 SB REST AREA ENTRANCE

SB	Time	Lights	Mediums	Trucks	Total
	1/27/2023 12:00:00 PM	16	0	3	19
	1/27/2023 12:15:00 PM	25	0	3	28
	1/27/2023 12:30:00 PM	27	0	1	28
	1/27/2023 12:45:00 PM	16	1	3	20
	Hour	84	1	10	95
	1/27/2023 1:00:00 PM	25	0	1	26
	1/27/2023 1:15:00 PM	12	0	2	14
	1/27/2023 1:30:00 PM	19	2	4	25
	1/27/2023 1:45:00 PM	13	0	0	13
	Hour	69	2	7	78
	1/27/2023 2:00:00 PM	19	0	3	22
	1/27/2023 2:15:00 PM	30	1	3	34
	1/27/2023 2:30:00 PM	17	0	0	17
	1/27/2023 2:45:00 PM	10	0	2	12
	Hour	76	1	8	85
	1/27/2023 3:00:00 PM	21	0	2	23
	1/27/2023 3:15:00 PM	21	2	1	24
	1/27/2023 3:30:00 PM	20	0	1	21
	1/27/2023 3:45:00 PM	25	1	3	29
	Hour	87	3	7	97
	1/27/2023 4:00:00 PM	17	0	1	18
	1/27/2023 4:15:00 PM	12	0	0	12
	1/27/2023 4:30:00 PM	9	0	1	10
	1/27/2023 4:45:00 PM	18	0	1	19
	Hour	56	0	3	59
	1/27/2023 5:00:00 PM	5	1	1	7
	1/27/2023 5:15:00 PM	7	0	1	8
	1/27/2023 5:30:00 PM	7	0	1	8
	1/27/2023 5:45:00 PM	10	0	2	12
	Hour	29	1	5	35
	1/27/2023 6:00:00 PM	11	1	2	14
	1/27/2023 6:15:00 PM	9	0	0	9
	1/27/2023 6:30:00 PM	10	0	3	13
	1/27/2023 6:45:00 PM	8	0	3	11
	Hour	38	1	8	47
	1/27/2023 7:00:00 PM	14	0	1	15
	1/27/2023 7:15:00 PM	12	0	3	15
	1/27/2023 7:30:00 PM	10	0	1	11
	1/27/2023 7:45:00 PM	4	0	0	4
	Hour	40	0	5	45
	1/27/2023 8:00:00 PM	8	0	1	9
	1/27/2023 8:15:00 PM	4	0	0	4
	1/27/2023 8:30:00 PM	4	0	0	4
	1/27/2023 8:45:00 PM	3	0	2	5
	Hour	19	0	3	22
	1/27/2023 9:00:00 PM	3	0	0	3
	1/27/2023 9:15:00 PM	7	0	0	7
	1/27/2023 9:30:00 PM	4	0	2	6
	1/27/2023 9:45:00 PM	7	0	1	8
	Hour	21	0	3	24
	1/27/2023 10:00:00 PM	3	0	0	3
	1/27/2023 10:15:00 PM	5	0	1	6
	1/27/2023 10:30:00 PM	3	0	1	4
	1/27/2023 10:45:00 PM	2	0	1	3
	Hour	13	0	3	16
	1/27/2023 11:00:00 PM	3	1	1	5
	1/27/2023 11:15:00 PM	0	0	0	0
	1/27/2023 11:30:00 PM	2	0	0	2
	1/27/2023 11:45:00 PM	4	0	1	5
	Hour	9	1	2	12
	Grand Total	541	10	64	615
	Percentage	88.0%	1.6%	10.4%	



# All Traffic Data Services

## 5 - I-95 SB REST AREA ENTRANCE

SB	Time	Lights	Mediums	Trucks	Total
	1/28/2023	3	0	1	4
	1/28/2023 12:15:00 AM	1	0	0	1
	1/28/2023 12:30:00 AM	1	0	0	1
	1/28/2023 12:45:00 AM	2	0	2	4
	Hour	7	0	3	10
	1/28/2023 1:00:00 AM	4	0	3	7
	1/28/2023 1:15:00 AM	1	0	0	1
	1/28/2023 1:30:00 AM	1	0	1	2
	1/28/2023 1:45:00 AM	6	0	0	6
	Hour	12	0	4	16
	1/28/2023 2:00:00 AM	3	0	0	3
	1/28/2023 2:15:00 AM	1	0	0	1
	1/28/2023 2:30:00 AM	5	0	1	6
	1/28/2023 2:45:00 AM	1	0	3	4
	Hour	10	0	4	14
	1/28/2023 3:00:00 AM	2	0	1	3
	1/28/2023 3:15:00 AM	6	0	2	8
	1/28/2023 3:30:00 AM	2	0	0	2
	1/28/2023 3:45:00 AM	2	0	1	3
	Hour	12	0	4	16
	1/28/2023 4:00:00 AM	3	0	0	3
	1/28/2023 4:15:00 AM	2	0	0	2
	1/28/2023 4:30:00 AM	2	0	0	2
	1/28/2023 4:45:00 AM	1	0	0	1
	Hour	8	0	0	8
	1/28/2023 5:00:00 AM	2	0	1	3
	1/28/2023 5:15:00 AM	4	1	1	6
	1/28/2023 5:30:00 AM	2	0	5	7
	1/28/2023 5:45:00 AM	3	0	1	4
	Hour	11	1	8	20
	1/28/2023 6:00:00 AM	1	0	0	1
	1/28/2023 6:15:00 AM	1	0	2	3
	1/28/2023 6:30:00 AM	5	0	1	6
	1/28/2023 6:45:00 AM	4	0	1	5
	Hour	11	0	4	15
	1/28/2023 7:00:00 AM	5	0	0	5
	1/28/2023 7:15:00 AM	6	0	0	6
	1/28/2023 7:30:00 AM	5	0	0	5
	1/28/2023 7:45:00 AM	4	0	5	9
	Hour	20	0	5	25
	1/28/2023 8:00:00 AM	6	0	0	6
	1/28/2023 8:15:00 AM	7	0	1	8
	1/28/2023 8:30:00 AM	14	0	0	14
	1/28/2023 8:45:00 AM	12	0	1	13
	Hour	39	0	2	41
	1/28/2023 9:00:00 AM	25	0	0	25
	1/28/2023 9:15:00 AM	15	0	1	16
	1/28/2023 9:30:00 AM	15	0	2	17
	1/28/2023 9:45:00 AM	19	0	1	20
	Hour	74	0	4	78
	1/28/2023 10:00:00 AM	15	0	0	15
	1/28/2023 10:15:00 AM	18	0	2	20
	1/28/2023 10:30:00 AM	15	0	1	16
	1/28/2023 10:45:00 AM	17	1	1	19
	Hour	65	1	4	70
	1/28/2023 11:00:00 AM	23	0	0	23
	1/28/2023 11:15:00 AM	15	1	3	19
	1/28/2023 11:30:00 AM	14	0	2	16
	1/28/2023 11:45:00 AM	14	1	2	17
	Hour	66	2	7	75
	Grand Total	335	4	49	388
	Percentage	86.3%	1.0%	12.6%	



# All Traffic Data Services

## 5 - I-95 SB REST AREA ENTRANCE

SB	Time	Lights	Mediums	Trucks	Total
	1/28/2023 12:00:00 PM	29	0	2	31
	1/28/2023 12:15:00 PM	25	0	2	27
	1/28/2023 12:30:00 PM	22	0	1	23
	1/28/2023 12:45:00 PM	19	0	1	20
	Hour	95	0	6	101
	1/28/2023 1:00:00 PM	16	0	1	17
	1/28/2023 1:15:00 PM	20	0	5	25
	1/28/2023 1:30:00 PM	18	0	4	22
	1/28/2023 1:45:00 PM	10	0	3	13
	Hour	64	0	13	77
	1/28/2023 2:00:00 PM	22	0	0	22
	1/28/2023 2:15:00 PM	15	0	0	15
	1/28/2023 2:30:00 PM	12	0	3	15
	1/28/2023 2:45:00 PM	17	0	1	18
	Hour	66	0	4	70
	1/28/2023 3:00:00 PM	22	0	1	23
	1/28/2023 3:15:00 PM	18	0	2	20
	1/28/2023 3:30:00 PM	16	0	1	17
	1/28/2023 3:45:00 PM	8	0	1	9
	Hour	64	0	5	69
	1/28/2023 4:00:00 PM	15	0	1	16
	1/28/2023 4:15:00 PM	11	0	1	12
	1/28/2023 4:30:00 PM	21	1	2	24
	1/28/2023 4:45:00 PM	24	1	3	28
	Hour	71	2	7	80
	1/28/2023 5:00:00 PM	6	1	1	8
	1/28/2023 5:15:00 PM	10	0	2	12
	1/28/2023 5:30:00 PM	10	0	0	10
	1/28/2023 5:45:00 PM	10	2	1	13
	Hour	36	3	4	43
	1/28/2023 6:00:00 PM	9	1	1	11
	1/28/2023 6:15:00 PM	4	0	0	4
	1/28/2023 6:30:00 PM	5	1	0	6
	1/28/2023 6:45:00 PM	7	0	1	8
	Hour	25	2	2	29
	1/28/2023 7:00:00 PM	5	0	1	6
	1/28/2023 7:15:00 PM	2	0	2	4
	1/28/2023 7:30:00 PM	8	0	0	8
	1/28/2023 7:45:00 PM	1	0	0	1
	Hour	16	0	3	19
	1/28/2023 8:00:00 PM	5	0	2	7
	1/28/2023 8:15:00 PM	6	0	0	6
	1/28/2023 8:30:00 PM	4	0	2	6
	1/28/2023 8:45:00 PM	5	0	0	5
	Hour	20	0	4	24
	1/28/2023 9:00:00 PM	2	0	2	4
	1/28/2023 9:15:00 PM	5	0	1	6
	1/28/2023 9:30:00 PM	2	0	1	3
	1/28/2023 9:45:00 PM	3	0	1	4
	Hour	12	0	5	17
	1/28/2023 10:00:00 PM	2	0	2	4
	1/28/2023 10:15:00 PM	1	0	1	2
	1/28/2023 10:30:00 PM	1	0	3	4
	1/28/2023 10:45:00 PM	1	0	2	3
	Hour	5	0	8	13
	1/28/2023 11:00:00 PM	2	0	2	4
	1/28/2023 11:15:00 PM	1	0	2	3
	1/28/2023 11:30:00 PM	4	0	0	4
	1/28/2023 11:45:00 PM	9	0	1	10
	Hour	16	0	5	21
	Grand Total	490	7	66	563
	Percentage	87.0%	1.2%	11.7%	



# All Traffic Data Services

## 5 - I-95 SB REST AREA ENTRANCE

SB	Time	Lights	Mediums	Trucks	Total
	1/29/2023	2	0	0	2
	1/29/2023 12:15:00 AM	3	0	0	3
	1/29/2023 12:30:00 AM	3	0	0	3
	1/29/2023 12:45:00 AM	2	0	0	2
	Hour	10	0	0	10
	1/29/2023 1:00:00 AM	3	1	0	4
	1/29/2023 1:15:00 AM	1	0	0	1
	1/29/2023 1:30:00 AM	3	0	0	3
	1/29/2023 1:45:00 AM	2	0	1	3
	Hour	9	1	1	11
	1/29/2023 2:00:00 AM	1	0	1	2
	1/29/2023 2:15:00 AM	1	0	0	1
	1/29/2023 2:30:00 AM	1	0	0	1
	1/29/2023 2:45:00 AM	3	0	0	3
	Hour	6	0	1	7
	1/29/2023 3:00:00 AM	6	1	0	7
	1/29/2023 3:15:00 AM	3	0	0	3
	1/29/2023 3:30:00 AM	4	0	0	4
	1/29/2023 3:45:00 AM	3	0	0	3
	Hour	16	1	0	17
	1/29/2023 4:00:00 AM	2	0	1	3
	1/29/2023 4:15:00 AM	5	0	0	5
	1/29/2023 4:30:00 AM	1	0	0	1
	1/29/2023 4:45:00 AM	3	0	1	4
	Hour	11	0	2	13
	1/29/2023 5:00:00 AM	1	0	2	3
	1/29/2023 5:15:00 AM	0	1	0	1
	1/29/2023 5:30:00 AM	0	0	2	2
	1/29/2023 5:45:00 AM	4	0	1	5
	Hour	5	1	5	11
	1/29/2023 6:00:00 AM	4	0	0	4
	1/29/2023 6:15:00 AM	3	0	0	3
	1/29/2023 6:30:00 AM	5	0	0	5
	1/29/2023 6:45:00 AM	5	0	2	7
	Hour	17	0	2	19
	1/29/2023 7:00:00 AM	1	1	0	2
	1/29/2023 7:15:00 AM	8	0	0	8
	1/29/2023 7:30:00 AM	3	0	0	3
	1/29/2023 7:45:00 AM	2	0	0	2
	Hour	14	1	0	15
	1/29/2023 8:00:00 AM	9	0	1	10
	1/29/2023 8:15:00 AM	12	0	3	15
	1/29/2023 8:30:00 AM	11	0	1	12
	1/29/2023 8:45:00 AM	14	0	2	16
	Hour	46	0	7	53
	1/29/2023 9:00:00 AM	14	0	1	15
	1/29/2023 9:15:00 AM	13	0	0	13
	1/29/2023 9:30:00 AM	9	0	0	9
	1/29/2023 9:45:00 AM	14	0	2	16
	Hour	50	0	3	53
	1/29/2023 10:00:00 AM	19	1	4	24
	1/29/2023 10:15:00 AM	21	0	2	23
	1/29/2023 10:30:00 AM	19	0	2	21
	1/29/2023 10:45:00 AM	18	0	2	20
	Hour	77	1	10	88
	1/29/2023 11:00:00 AM	21	1	6	28
	1/29/2023 11:15:00 AM	22	1	3	26
	1/29/2023 11:30:00 AM	24	1	1	26
	1/29/2023 11:45:00 AM	25	0	1	26
	Hour	92	3	11	106
	Grand Total	353	8	42	403
	Percentage	87.6%	2.0%	10.4%	





# All Traffic Data Services

## 5 - I-95 SB REST AREA ENTRANCE

SB	Time	Lights	Mediums	Trucks	Total
	1/29/2023 12:00:00 PM	25	0	2	27
	1/29/2023 12:15:00 PM	20	1	1	22
	1/29/2023 12:30:00 PM	16	0	2	18
	1/29/2023 12:45:00 PM	16	0	2	18
	Hour	77	1	7	85
	1/29/2023 1:00:00 PM	20	0	2	22
	1/29/2023 1:15:00 PM	27	1	2	30
	1/29/2023 1:30:00 PM	15	1	2	18
	1/29/2023 1:45:00 PM	22	1	0	23
	Hour	84	3	6	93
	1/29/2023 2:00:00 PM	12	0	1	13
	1/29/2023 2:15:00 PM	19	1	2	22
	1/29/2023 2:30:00 PM	30	0	3	33
	1/29/2023 2:45:00 PM	15	0	2	17
	Hour	76	1	8	85
	1/29/2023 3:00:00 PM	19	0	2	21
	1/29/2023 3:15:00 PM	23	0	1	24
	1/29/2023 3:30:00 PM	17	0	4	21
	1/29/2023 3:45:00 PM	16	1	2	19
	Hour	75	1	9	85
	1/29/2023 4:00:00 PM	12	0	0	12
	1/29/2023 4:15:00 PM	9	0	1	10
	1/29/2023 4:30:00 PM	9	0	3	12
	1/29/2023 4:45:00 PM	5	0	1	6
	Hour	35	0	5	40
	1/29/2023 5:00:00 PM	6	0	1	7
	1/29/2023 5:15:00 PM	12	0	1	13
	1/29/2023 5:30:00 PM	10	0	0	10
	1/29/2023 5:45:00 PM	6	0	1	7
	Hour	34	0	3	37
	1/29/2023 6:00:00 PM	5	0	1	6
	1/29/2023 6:15:00 PM	10	0	4	14
	1/29/2023 6:30:00 PM	6	0	0	6
	1/29/2023 6:45:00 PM	6	0	0	6
	Hour	27	0	5	32
	1/29/2023 7:00:00 PM	5	0	3	8
	1/29/2023 7:15:00 PM	3	0	1	4
	1/29/2023 7:30:00 PM	6	0	0	6
	1/29/2023 7:45:00 PM	7	0	0	7
	Hour	21	0	4	25
	1/29/2023 8:00:00 PM	4	0	0	4
	1/29/2023 8:15:00 PM	5	0	1	6
	1/29/2023 8:30:00 PM	0	0	2	2
	1/29/2023 8:45:00 PM	3	0	2	5
	Hour	12	0	5	17
	1/29/2023 9:00:00 PM	7	2	2	11
	1/29/2023 9:15:00 PM	3	0	0	3
	1/29/2023 9:30:00 PM	4	0	2	6
	1/29/2023 9:45:00 PM	1	0	0	1
	Hour	15	2	4	21
	1/29/2023 10:00:00 PM	0	0	0	0
	1/29/2023 10:15:00 PM	2	0	2	4
	1/29/2023 10:30:00 PM	4	0	0	4
	1/29/2023 10:45:00 PM	2	0	0	2
	Hour	8	0	2	10
	1/29/2023 11:00:00 PM	1	0	0	1
	1/29/2023 11:15:00 PM	2	0	0	2
	1/29/2023 11:30:00 PM	4	0	1	5
	1/29/2023 11:45:00 PM	4	0	1	5
	Hour	11	0	2	13
	Grand Total	475	8	60	543
	Percentage	87.5%	1.5%	11.0%	



# All Traffic Data Services

## 5 - I-95 SB REST AREA ENTRANCE

SB	Time	Lights	Mediums	Trucks	Total
	1/30/2023	4	0	0	4
	1/30/2023 12:15:00 AM	0	0	0	0
	1/30/2023 12:30:00 AM	0	0	1	1
	1/30/2023 12:45:00 AM	0	0	3	3
	Hour	4	0	4	8
	1/30/2023 1:00:00 AM	2	0	1	3
	1/30/2023 1:15:00 AM	4	0	0	4
	1/30/2023 1:30:00 AM	1	0	1	2
	1/30/2023 1:45:00 AM	5	0	0	5
	Hour	12	0	2	14
	1/30/2023 2:00:00 AM	1	0	0	1
	1/30/2023 2:15:00 AM	2	0	0	2
	1/30/2023 2:30:00 AM	4	0	0	4
	1/30/2023 2:45:00 AM	2	0	1	3
	Hour	9	0	1	10
	1/30/2023 3:00:00 AM	0	0	1	1
	1/30/2023 3:15:00 AM	0	0	0	0
	1/30/2023 3:30:00 AM	1	0	0	1
	1/30/2023 3:45:00 AM	2	0	0	2
	Hour	3	0	1	4
	1/30/2023 4:00:00 AM	4	0	1	5
	1/30/2023 4:15:00 AM	5	0	0	5
	1/30/2023 4:30:00 AM	1	0	0	1
	1/30/2023 4:45:00 AM	1	0	0	1
	Hour	11	0	1	12
	1/30/2023 5:00:00 AM	1	0	1	2
	1/30/2023 5:15:00 AM	2	0	1	3
	1/30/2023 5:30:00 AM	3	0	0	3
	1/30/2023 5:45:00 AM	3	0	2	5
	Hour	9	0	4	13
	1/30/2023 6:00:00 AM	2	0	2	4
	1/30/2023 6:15:00 AM	4	1	2	7
	1/30/2023 6:30:00 AM	5	0	1	6
	1/30/2023 6:45:00 AM	3	0	2	5
	Hour	14	1	7	22
	1/30/2023 7:00:00 AM	1	0	1	2
	1/30/2023 7:15:00 AM	6	0	3	9
	1/30/2023 7:30:00 AM	8	0	1	9
	1/30/2023 7:45:00 AM	11	0	2	13
	Hour	26	0	7	33
	1/30/2023 8:00:00 AM	5	0	3	8
	1/30/2023 8:15:00 AM	13	0	1	14
	1/30/2023 8:30:00 AM	17	0	0	17
	1/30/2023 8:45:00 AM	12	0	3	15
	Hour	47	0	7	54
	1/30/2023 9:00:00 AM	8	0	3	11
	1/30/2023 9:15:00 AM	22	0	4	26
	1/30/2023 9:30:00 AM	16	0	3	19
	1/30/2023 9:45:00 AM	20	0	4	24
	Hour	66	0	14	80
	1/30/2023 10:00:00 AM	29	0	2	31
	1/30/2023 10:15:00 AM	20	0	1	21
	1/30/2023 10:30:00 AM	20	1	1	22
	1/30/2023 10:45:00 AM	22	0	1	23
	Hour	91	1	5	97
	1/30/2023 11:00:00 AM	31	0	3	34
	1/30/2023 11:15:00 AM	26	0	4	30
	1/30/2023 11:30:00 AM	21	1	2	24
	1/30/2023 11:45:00 AM	15	0	3	18
	Hour	93	1	12	106
	Grand Total	385	3	65	453
	Percentage	85.0%	0.7%	14.3%	



# All Traffic Data Services

## 5 - I-95 SB REST AREA ENTRANCE

SB	Time	Lights	Mediums	Trucks	Total
	1/30/2023 12:00:00 PM	21	0	3	24
	1/30/2023 12:15:00 PM	28	1	1	30
	1/30/2023 12:30:00 PM	15	0	4	19
	1/30/2023 12:45:00 PM	19	0	3	22
	Hour	83	1	11	95
	1/30/2023 1:00:00 PM	23	0	5	28
	1/30/2023 1:15:00 PM	31	0	2	33
	1/30/2023 1:30:00 PM	14	0	2	16
	1/30/2023 1:45:00 PM	17	1	0	18
	Hour	85	1	9	95
	1/30/2023 2:00:00 PM	20	0	0	20
	1/30/2023 2:15:00 PM	16	0	0	16
	1/30/2023 2:30:00 PM	13	1	3	17
	1/30/2023 2:45:00 PM	10	0	0	10
	Hour	59	1	3	63
	1/30/2023 3:00:00 PM	20	0	4	24
	1/30/2023 3:15:00 PM	16	1	3	20
	1/30/2023 3:30:00 PM	12	1	1	14
	1/30/2023 3:45:00 PM	11	0	2	13
	Hour	59	2	10	71
	1/30/2023 4:00:00 PM	11	0	2	13
	1/30/2023 4:15:00 PM	14	0	0	14
	1/30/2023 4:30:00 PM	10	1	1	12
	1/30/2023 4:45:00 PM	13	0	0	13
	Hour	48	1	3	52
	1/30/2023 5:00:00 PM	6	0	2	8
	1/30/2023 5:15:00 PM	5	1	0	6
	1/30/2023 5:30:00 PM	10	0	1	11
	1/30/2023 5:45:00 PM	2	0	3	5
	Hour	23	1	6	30
	1/30/2023 6:00:00 PM	7	1	3	11
	1/30/2023 6:15:00 PM	3	2	2	7
	1/30/2023 6:30:00 PM	5	0	2	7
	1/30/2023 6:45:00 PM	5	0	4	9
	Hour	20	3	11	34
	1/30/2023 7:00:00 PM	6	1	2	9
	1/30/2023 7:15:00 PM	3	0	2	5
	1/30/2023 7:30:00 PM	3	0	2	5
	1/30/2023 7:45:00 PM	1	1	2	4
	Hour	13	2	8	23
	1/30/2023 8:00:00 PM	2	0	1	3
	1/30/2023 8:15:00 PM	3	0	2	5
	1/30/2023 8:30:00 PM	7	0	2	9
	1/30/2023 8:45:00 PM	2	0	2	4
	Hour	14	0	7	21
	1/30/2023 9:00:00 PM	5	0	1	6
	1/30/2023 9:15:00 PM	2	0	0	2
	1/30/2023 9:30:00 PM	0	0	3	3
	1/30/2023 9:45:00 PM	1	0	0	1
	Hour	8	0	4	12
	1/30/2023 10:00:00 PM	2	0	0	2
	1/30/2023 10:15:00 PM	7	0	3	10
	1/30/2023 10:30:00 PM	1	0	0	1
	1/30/2023 10:45:00 PM	0	0	1	1
	Hour	10	0	4	14
	1/30/2023 11:00:00 PM	5	0	2	7
	1/30/2023 11:15:00 PM	2	0	1	3
	1/30/2023 11:30:00 PM	0	0	2	2
	1/30/2023 11:45:00 PM	1	0	2	3
	Hour	8	0	7	15
	Grand Total	430	12	83	525
	Percentage	81.9%	2.3%	15.8%	
	Total	5,201	133	1,049	6,383
	Percentage	81.5%	2.1%	16.4%	



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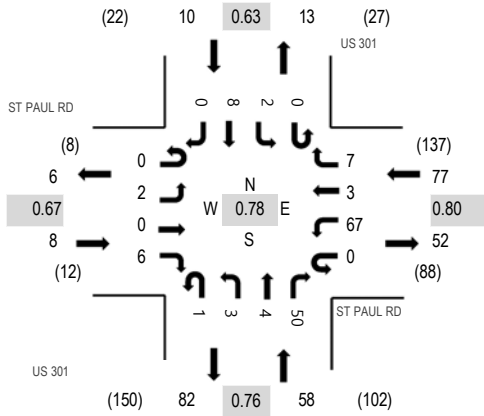
Location: 1 US 301 & ST PAUL RD AM

Date: Tuesday, January 24, 2023

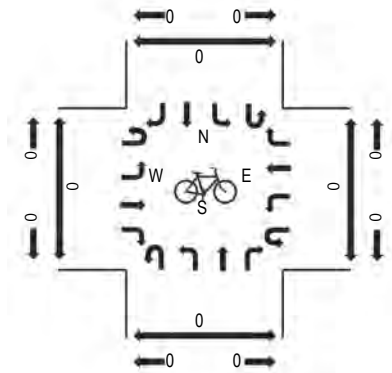
Peak Hour: 08:00 AM - 09:00 AM

Peak 15-Minutes: 08:00 AM - 08:15 AM

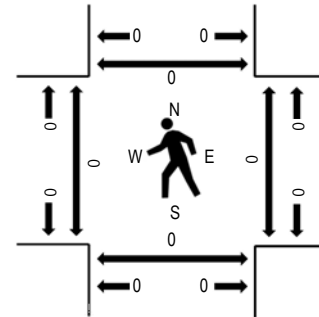
### Peak Hour - Motorized Vehicles



### Peak Hour - Bicycles



### Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

### Traffic Counts - Motorized Vehicles

Interval Start Time	ST PAUL RD Eastbound				ST PAUL RD Westbound				US 301 Northbound				US 301 Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
7:00 AM	0	0	0	1	0	10	0	2	0	0	0	11	0	0	0	0	24	120	0	0	0	0
7:15 AM	0	0	0	0	0	9	0	1	0	1	2	9	0	0	2	0	24	145	0	0	0	0
7:30 AM	0	0	1	1	0	19	0	1	0	1	5	7	0	3	3	0	41	146	0	0	0	0
7:45 AM	0	0	0	1	0	18	0	0	0	0	3	5	0	0	4	0	31	142	0	0	0	0
8:00 AM	0	1	0	2	0	23	0	1	0	1	1	17	0	1	2	0	49	153	0	0	0	0
8:15 AM	0	0	0	1	0	10	0	0	1	1	1	10	0	1	0	0	25		0	0	0	0
8:30 AM	0	0	0	3	0	18	1	2	0	0	2	9	0	0	2	0	37		0	0	0	0
8:45 AM	0	1	0	0	0	16	2	4	0	1	0	14	0	0	4	0	42		0	0	0	0

### Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0	0	4	0	0	0	0	0	6	0	0	0	0	10
Lights	0	2	0	6	0	60	3	7	1	3	4	41	0	2	8	0	137
Mediums	0	0	0	0	0	3	0	0	0	0	0	3	0	0	0	0	6
Total	0	2	0	6	0	67	3	7	1	3	4	50	0	2	8	0	153

### Heavy Vehicle Percentage and Peak Hour Factor

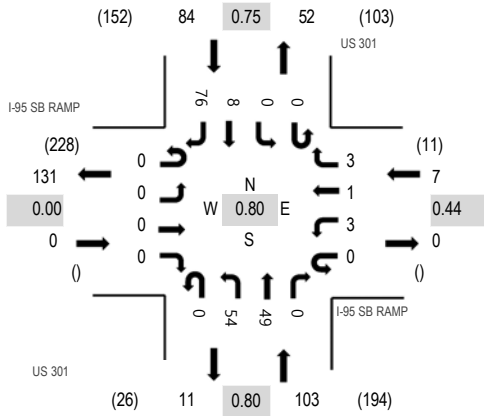
	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Heavy Vehicle %	0.0%				9.1%				15.5%				0.0%				10.5%
Heavy Vehicle %	0.0%	0.0%	0.0%	0.0%	0.0%	10.4%	0.0%	0.0%	0.0%	0.0%	0.0%	18.0%	0.0%	0.0%	0.0%	0.0%	10.5%
Peak Hour Factor	0.67				0.80				0.76				0.63				0.78
Peak Hour Factor	0.00	0.50	0.25	0.58	0.00	0.76	0.38	0.44	0.25	0.75	0.55	0.74	0.00	0.42	0.69	0.00	0.78



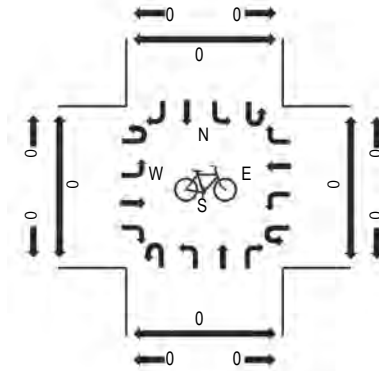
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**Location:** 2 US 301 & I-95 SB RAMP AM  
**Date:** Tuesday, January 24, 2023  
**Peak Hour:** 07:15 AM - 08:15 AM  
**Peak 15-Minutes:** 08:00 AM - 08:15 AM

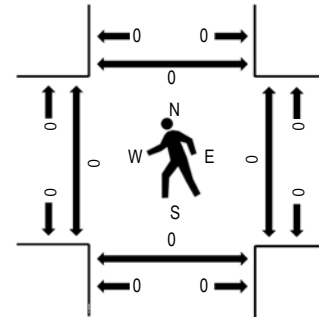
### Peak Hour - Motorized Vehicles



### Peak Hour - Bicycles



### Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

### Traffic Counts - Motorized Vehicles

Interval Start Time	I-95 SB RAMP Eastbound				I-95 SB RAMP Westbound				US 301 Northbound			US 301 Southbound				Total	Rolling Hour	Pedestrian Crossings				
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru			Right	West	East	South	North
7:00 AM	0	0	0	0	0	0	0	0	0	12	13	0	0	0	1	12	38	171	0	0	0	0
7:15 AM	0	0	0	0	0	0	1	0	0	16	13	0	0	0	1	11	42	194	0	0	0	0
7:30 AM	0	0	0	0	0	1	0	3	0	14	9	0	0	0	1	21	49	183	0	0	0	0
7:45 AM	0	0	0	0	0	1	0	0	0	11	8	0	0	0	3	19	42	176	0	0	0	0
8:00 AM	0	0	0	0	0	1	0	0	0	13	19	0	0	0	3	25	61	186	0	0	0	0
8:15 AM	0	0	0	0	0	1	0	0	0	6	12	0	0	0	2	10	31		0	0	0	0
8:30 AM	0	0	0	0	0	1	0	0	0	9	11	0	0	0	6	15	42		0	0	0	0
8:45 AM	0	0	0	0	0	1	0	1	0	14	14	0	0	0	3	19	52		0	0	0	0

### Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0	0	0	0	0	0	3	5	0	0	0	0	2	10
Lights	0	0	0	0	0	3	1	2	0	50	41	0	0	0	7	71	175
Mediums	0	0	0	0	0	0	0	1	0	1	3	0	0	0	1	3	9
Total	0	0	0	0	0	3	1	3	0	54	49	0	0	0	8	76	194

### Heavy Vehicle Percentage and Peak Hour Factor

	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Heavy Vehicle %	0.0%				14.3%				11.7%				7.1%				9.8%
Heavy Vehicle %	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	33.3%	0.0%	7.4%	16.3%	0.0%	0.0%	0.0%	12.5%	6.6%	9.8%
Peak Hour Factor	0.00				0.44				0.80				0.75				0.80
Peak Hour Factor	0.00	0.00	0.00	0.00	0.00	1.00	0.25	0.25	0.00	0.84	0.74	0.00	0.00	0.00	0.58	0.76	0.80



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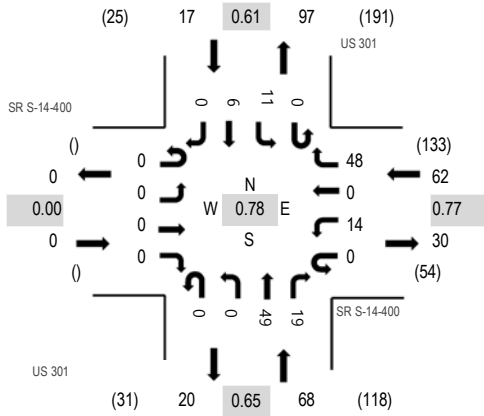
Location: 3 US 301 & SR S-14-400 AM

Date: Tuesday, January 24, 2023

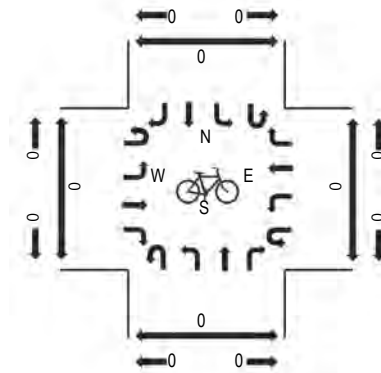
Peak Hour: 08:00 AM - 09:00 AM

Peak 15-Minutes: 08:00 AM - 08:15 AM

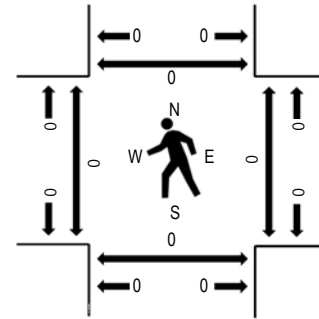
### Peak Hour - Motorized Vehicles



### Peak Hour - Bicycles



### Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

### Traffic Counts - Motorized Vehicles

Interval Start Time	SR S-14-400 Eastbound				SR S-14-400 Westbound				US 301 Northbound				US 301 Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
7:00 AM	0	0	0	0	0	3	0	15	0	0	13	3	0	1	0	0	35	129	0	0	0	0
7:15 AM	0	0	0	0	0	3	0	20	0	0	6	5	0	1	0	0	35	141	0	0	0	0
7:30 AM	0	0	0	0	0	2	0	15	0	0	7	6	0	1	1	0	32	134	0	0	0	0
7:45 AM	0	0	0	0	0	1	0	12	0	0	6	4	0	3	1	0	27	139	0	0	0	0
<b>8:00 AM</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>5</b>	<b>0</b>	<b>13</b>	<b>0</b>	<b>0</b>	<b>20</b>	<b>6</b>	<b>0</b>	<b>2</b>	<b>1</b>	<b>0</b>	<b>47</b>	<b>147</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
8:15 AM	0	0	0	0	0	3	0	6	0	0	11	5	0	3	0	0	28		0	0	0	0
8:30 AM	0	0	0	0	0	6	0	15	0	0	6	3	0	3	4	0	37		0	0	0	0
8:45 AM	0	0	0	0	0	0	0	14	0	0	12	5	0	3	1	0	35		0	0	0	0

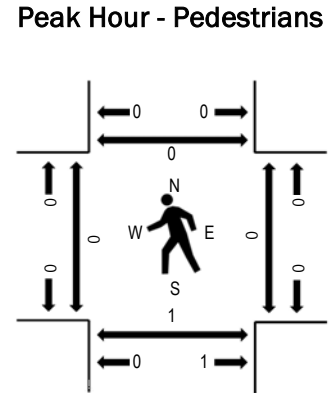
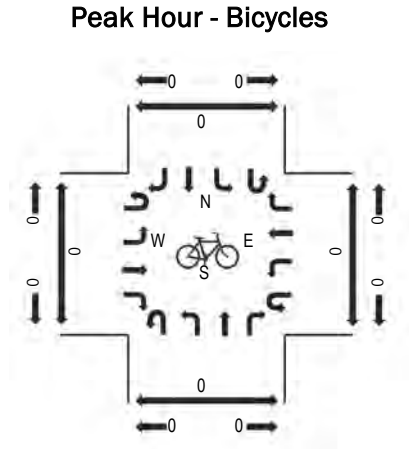
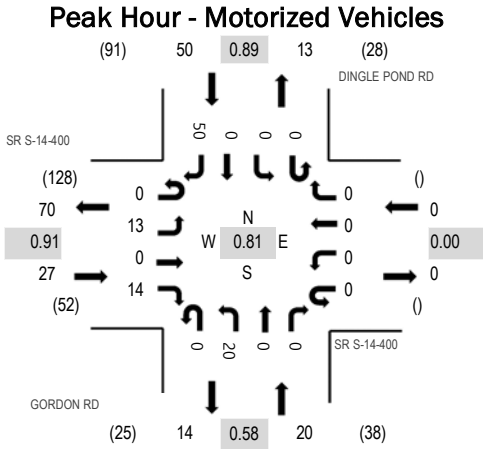
### Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	7
Lights	0	0	0	0	0	13	0	48	0	0	41	19	0	11	6	0	138
Mediums	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	2
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>14</b>	<b>0</b>	<b>48</b>	<b>0</b>	<b>0</b>	<b>49</b>	<b>19</b>	<b>0</b>	<b>11</b>	<b>6</b>	<b>0</b>	<b>147</b>

### Heavy Vehicle Percentage and Peak Hour Factor

	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Heavy Vehicle %	0.0%				1.6%				11.8%				0.0%				6.1%
Heavy Vehicle %	0.0%	0.0%	0.0%	0.0%	0.0%	7.1%	0.0%	0.0%	0.0%	0.0%	16.3%	0.0%	0.0%	0.0%	0.0%	0.0%	6.1%
Peak Hour Factor	0.00				0.77				0.65				0.61				0.78
Peak Hour Factor	0.00	0.00	0.00	0.00	0.00	0.63	0.00	0.78	0.00	0.00	0.61	0.88	0.00	0.92	0.38	0.00	0.78





Note: Total study counts contained in parentheses.

### Traffic Counts - Motorized Vehicles

Interval Start Time	SR S-14-400 Eastbound				SR S-14-400 Westbound				GORDON RD Northbound				DINGLE POND RD Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
7:00 AM	0	2	0	2	0	0	0	0	0	6	0	0	0	0	1	10	21	94	0	0	0	0
7:15 AM	0	2	0	4	0	0	0	0	0	10	0	0	0	0	0	14	30	97	0	0	0	0
7:30 AM	0	5	0	3	0	0	0	0	0	5	0	0	0	0	0	10	23	87	0	0	1	0
7:45 AM	0	2	0	4	0	0	0	0	0	2	0	0	0	0	0	12	20	88	0	0	0	0
8:00 AM	0	4	0	3	0	0	0	0	0	3	0	0	0	0	0	14	24	87	0	0	0	0
8:15 AM	0	5	0	3	0	0	0	0	0	4	0	0	0	0	0	8	20		0	0	0	0
8:30 AM	0	3	0	3	0	0	0	0	0	4	0	0	0	0	0	14	24		0	0	0	0
8:45 AM	0	5	0	2	0	0	0	0	0	4	0	0	0	0	0	8	19		0	0	0	0

### Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2
Lights	0	13	0	13	0	0	0	0	0	16	0	0	0	0	0	49	91
Mediums	0	0	0	1	0	0	0	0	0	2	0	0	0	0	0	1	4
Total	0	13	0	14	0	0	0	0	0	20	0	0	0	0	0	50	97

### Heavy Vehicle Percentage and Peak Hour Factor

	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Heavy Vehicle %		3.7%				0.0%				20.0%				2.0%			6.2%
Heavy Vehicle %	0.0%	0.0%	0.0%	7.1%	0.0%	0.0%	0.0%	0.0%	0.0%	20.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.0%	6.2%
Peak Hour Factor		0.91				0.00				0.58				0.89			0.81
Peak Hour Factor	0.00	0.85	0.00	0.88	0.00	0.00	0.00	0.00	0.00	0.58	0.00	0.00	0.00	0.00	0.25	0.89	0.81

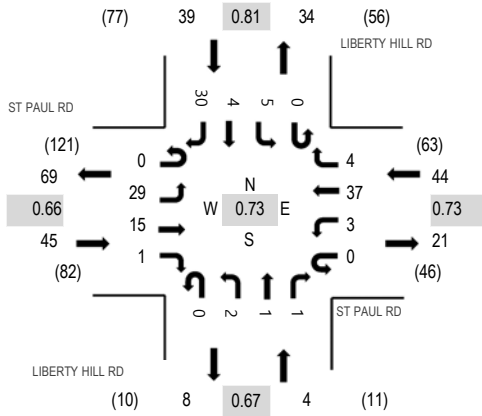
Location: 5 LIBERTY HILL RD & ST PAUL RD AM

Date: Tuesday, January 24, 2023

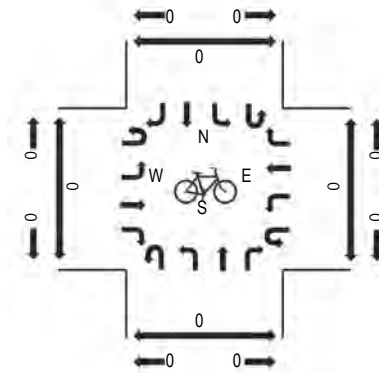
Peak Hour: 08:00 AM - 09:00 AM

Peak 15-Minutes: 08:45 AM - 09:00 AM

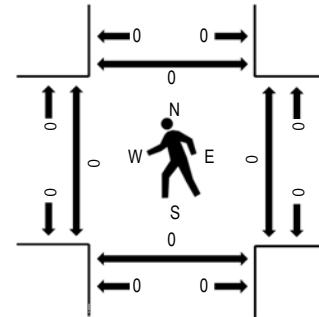
### Peak Hour - Motorized Vehicles



### Peak Hour - Bicycles



### Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

### Traffic Counts - Motorized Vehicles

Interval Start Time	ST PAUL RD Eastbound				ST PAUL RD Westbound				LIBERTY HILL RD Northbound				LIBERTY HILL RD Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
7:00 AM	0	7	4	0	0	0	1	0	0	0	0	0	0	0	0	9	21	101	0	0	0	0
7:15 AM	0	5	6	1	0	0	6	0	0	0	1	2	0	1	0	6	28	109	0	0	0	0
7:30 AM	0	4	4	0	0	0	3	0	0	0	0	3	0	0	0	10	24	116	0	0	0	0
7:45 AM	0	3	3	0	0	1	6	2	0	1	0	0	0	2	0	10	28	115	0	0	0	0
8:00 AM	0	5	4	0	0	0	8	1	0	0	0	1	0	1	0	9	29	132	0	0	0	0
8:15 AM	0	9	5	1	0	1	10	0	0	1	1	0	0	1	1	5	35		0	0	0	0
8:30 AM	0	4	0	0	0	0	7	2	0	0	0	0	0	2	2	6	23		0	0	0	0
8:45 AM	0	11	6	0	0	2	12	1	0	1	0	0	0	1	1	10	45		0	0	0	0

### Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	2	5	0	0	0	2	0	0	0	0	0	0	0	0	3	12
Lights	0	25	10	1	0	3	31	4	0	2	1	1	0	5	4	27	114
Mediums	0	2	0	0	0	0	4	0	0	0	0	0	0	0	0	0	6
Total	0	29	15	1	0	3	37	4	0	2	1	1	0	5	4	30	132

### Heavy Vehicle Percentage and Peak Hour Factor

	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Heavy Vehicle %		20.0%				13.6%				0.0%				7.7%			13.6%
Heavy Vehicle %	0.0%	13.8%	33.3%	0.0%	0.0%	0.0%	16.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	10.0%	13.6%
Peak Hour Factor		0.66				0.73				0.67				0.81			0.73
Peak Hour Factor	0.00	0.66	0.71	0.25	0.00	0.38	0.77	0.63	0.00	0.50	0.25	0.50	0.00	0.75	0.50	0.88	0.73



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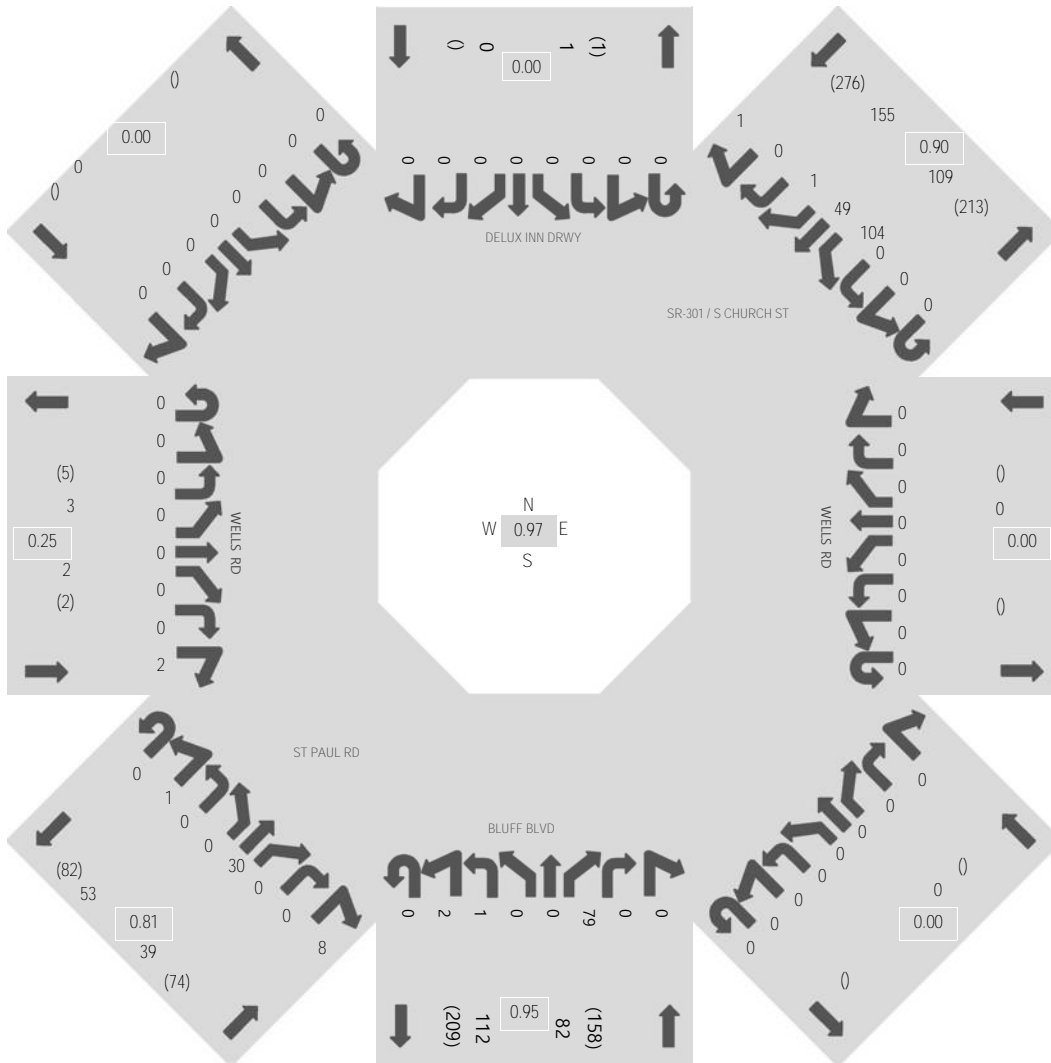
Location: 6 BLUFF BLVD & WELLS RD AM

Date: Tuesday, January 24, 2023

Peak Hour: 08:00 AM - 09:00 AM

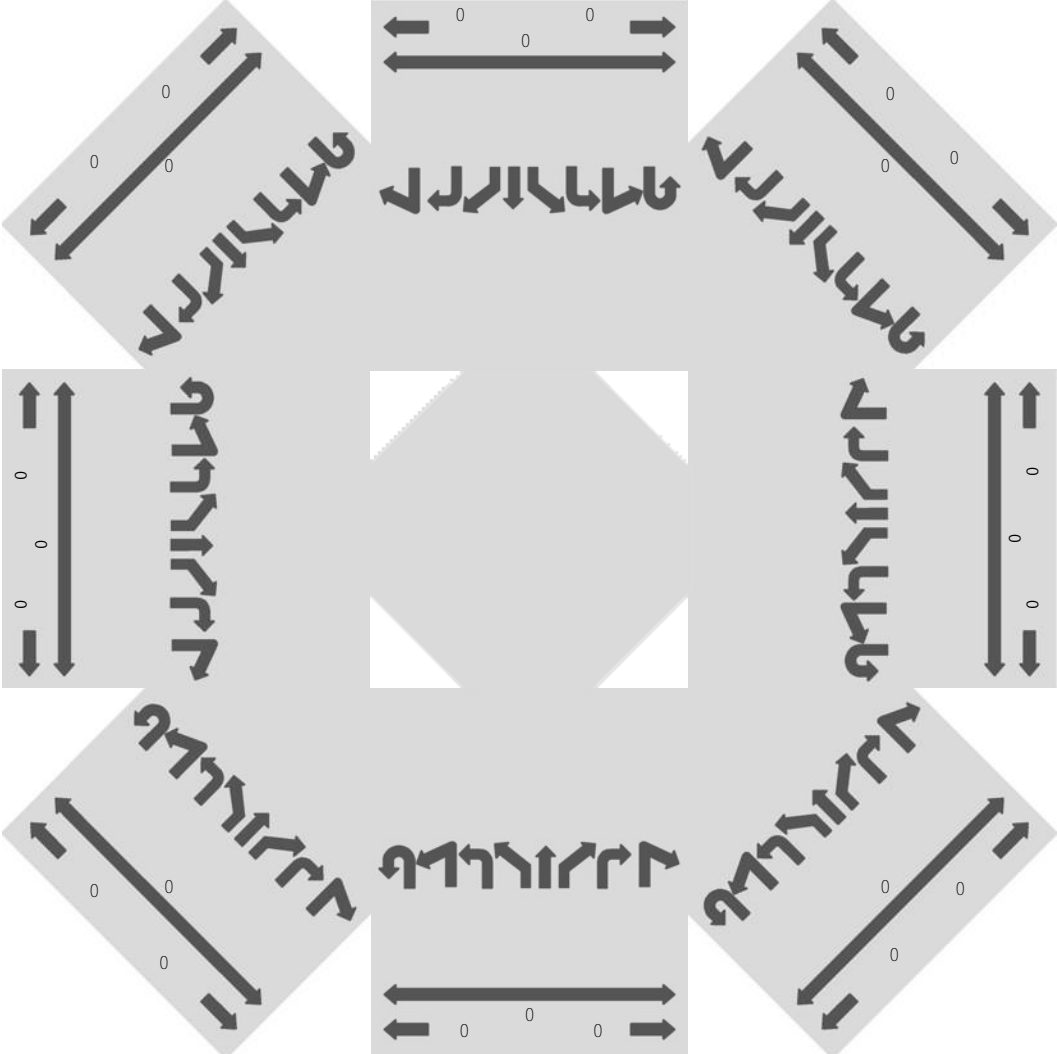
Peak 15-Minutes: 08:15 AM - 08:30 AM

### Peak Hour - Motorized Vehicles

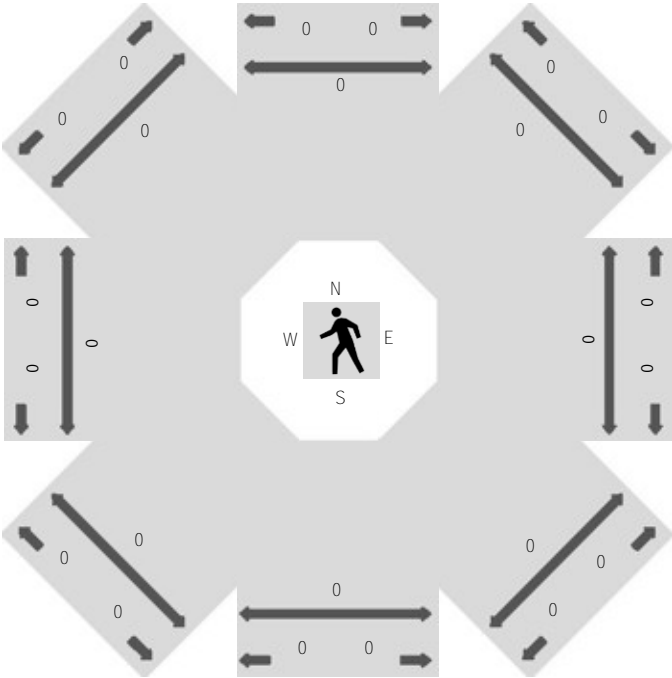


Note: Total study counts contained in parentheses.

Peak Hour - Bicycles



Peak Hour - Pedestrians



# Traffic Counts - Motorized Vehicles

Interval Start Time	Westbound								Northwestbound								Northbound								Northeastbound							
	U	HL	L	BL	T	BR	R	HR	U	HL	L	BL	T	BR	R	HR	U	HL	L	BL	T	BR	R	HR	U	HL	L	BL	T	BR	R	HR
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11	0	0	0	0	0	6	0	0	2	
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22	0	0	0	0	0	9	0	0	1	
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	22	0	0	0	0	0	12	0	0	0	
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	18	0	0	0	0	0	4	0	0	1	
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21	0	0	0	0	0	8	0	0	2	
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	22	0	0	0	0	0	9	0	0	3	
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	17	0	0	0	0	0	7	0	0	0	
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	19	0	0	0	1	0	6	0	0	3	
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	2	0	0	152	0	0	0	1	0	0	61	0	0	12
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	0	0	79	0	0	0	1	0	0	30	0	0	8

Interval Start Time	Eastbound								Southeastbound								Southbound								Southwestbound								Total	Rolling Hour
	U	HL	L	BL	T	BR	R	HR	U	HL	L	BL	T	BR	R	HR	U	HL	L	BL	T	BR	R	HR	U	HL	L	BL	T	BR	R	HR		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15	3	0	0	0	37	232	
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20	8	0	0	0	60	261
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	31	4	1	0	0	71	273
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	27	12	0	0	0	64	272
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	25	10	0	0	0	66	278
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	27	10	0	0	0	72	
8:30 AM	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	26	15	1	0	1	70	
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	26	14	0	0	0	70	
Count Total	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	197	76	2	0	1	510	
Peak Hour	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	104	49	1	0	1	278	

# Peak Rolling Hour Flow Rates

Vehicle Type	Westbound								Northwestbound								Northbound								Northeastbound							
	U	HL	L	BL	T	BR	R	HR	U	HL	L	BL	T	BR	R	HR	U	HL	L	BL	T	BR	R	HR	U	HL	L	BL	T	BR	R	HR
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	3	0	0	1
Lights	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	0	0	64	0	0	0	1	0	0	26	0	0	7
Mediums	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	0	0	79	0	0	0	1	0	0	30	0	0	8

Vehicle Type	Eastbound								Southeastbound								Southbound								Southwestbound								Total	
	U	HL	L	BL	T	BR	R	HR	U	HL	L	BL	T	BR	R	HR	U	HL	L	BL	T	BR	R	HR	U	HL	L	BL	T	BR	R	HR		
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12	2	0	0	0	32
Lights	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	85	43	1	0	1	233
Mediums	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	4	0	0	0	13
Count Total	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	104	49	1	0	1	278



# Heavy Vehicle Percentage and Peak Hour Factor

	Westbound								Northwestbound								Northbound								Northeastbound								Total
	U	HL	L	BL	T	BR	R	HR	U	HL	L	BL	T	BR	R	HR	U	HL	L	BL	T	BR	R	HR	U	HL	L	BL	T	BR	R	HR	
HV%	0.0%								0.0%								18.3%								12.8%								
HV%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	19.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	13.3%	0.0%	0.0%	12.5%	16.2%
PHF	0.00								0.00								0.95								0.81								
PHF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.50	0.50	0.00	0.00	0.94	0.00	0.00	0.00	0.25	0.00	0.00	0.69	0.00	0.00	0.67	0.97	
	Eastbound								Southeastbound								Southbound								Southwestbound								Total
	U	HL	L	BL	T	BR	R	HR	U	HL	L	BL	T	BR	R	HR	U	HL	L	BL	T	BR	R	HR	U	HL	L	BL	T	BR	R	HR	
HV%	0.0%								0.0%								0.0%								16.1%								16.2%
HV%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	18.3%	12.2%	0.0%	0.0%	0.0%	16.2%	
PHF	0.25								0.00								0.00								0.90								0.97
PHF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.89	0.82	0.25	0.00	0.25	0.97	



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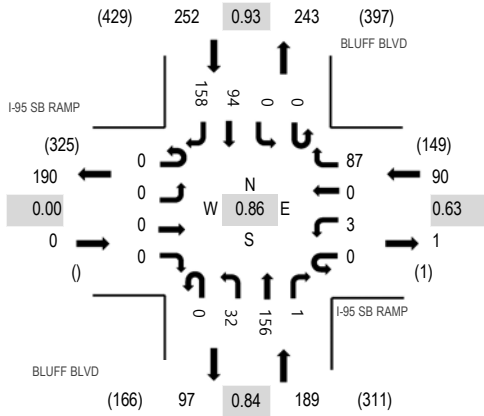
Location: 7 BLUFF BLVD & I-95 SB RAMP AM

Date: Tuesday, January 24, 2023

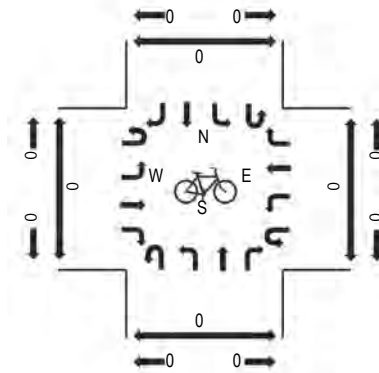
Peak Hour: 07:30 AM - 08:30 AM

Peak 15-Minutes: 07:45 AM - 08:00 AM

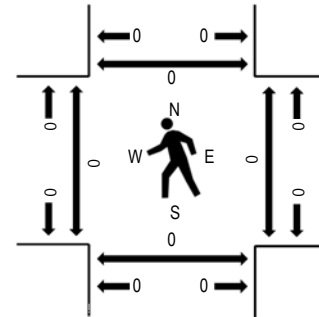
### Peak Hour - Motorized Vehicles



### Peak Hour - Bicycles



### Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

### Traffic Counts - Motorized Vehicles

Interval Start Time	I-95 SB RAMP Eastbound				I-95 SB RAMP Westbound				BLUFF BLVD Northbound				BLUFF BLVD Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
7:00 AM	0	0	0	0	0	1	0	16	0	9	17	0	0	0	11	27	81	471	0	0	0	0
7:15 AM	0	0	0	0	0	2	0	9	0	5	33	0	0	0	15	29	93	502	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	26	0	9	46	1	0	0	20	41	143	531	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	36	0	10	44	0	0	0	22	42	154	470	0	0	0	0
8:00 AM	0	0	0	0	0	1	0	10	0	5	28	0	0	0	24	44	112	418	0	0	0	0
8:15 AM	0	0	0	0	0	2	0	15	0	8	38	0	0	0	28	31	122		0	0	0	0
8:30 AM	0	0	0	0	0	1	0	12	0	5	23	0	0	0	14	27	82		0	0	0	0
8:45 AM	0	0	0	0	0	1	1	16	0	2	28	0	0	0	24	30	102		1	0	0	0

### Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0	0	0	0	22	0	0	29	0	0	0	22	40	113
Lights	0	0	0	0	0	3	0	65	0	32	123	1	0	0	72	113	409
Mediums	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	5	9
Total	0	0	0	0	0	3	0	87	0	32	156	1	0	0	94	158	531

### Heavy Vehicle Percentage and Peak Hour Factor

	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Heavy Vehicle %	0.0%				24.4%				17.5%				26.6%				23.0%
Heavy Vehicle %	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	25.3%	0.0%	0.0%	21.2%	0.0%	0.0%	0.0%	23.4%	28.5%	23.0%
Peak Hour Factor	0.00				0.63				0.84				0.93				0.86
Peak Hour Factor	0.00	0.00	0.00	0.00	0.00	0.63	0.25	0.60	0.00	0.83	0.85	0.25	0.00	0.00	0.84	0.90	0.86





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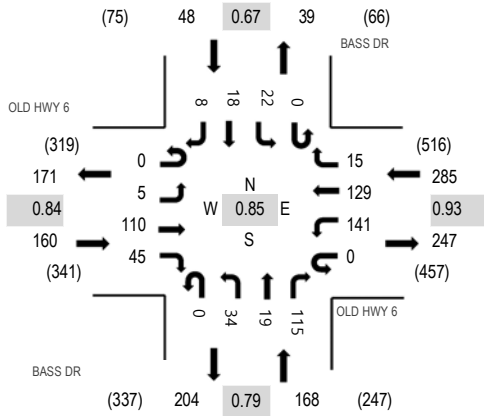
Location: 9 BASS DR & OLD HWY 6 AM

Date: Tuesday, January 24, 2023

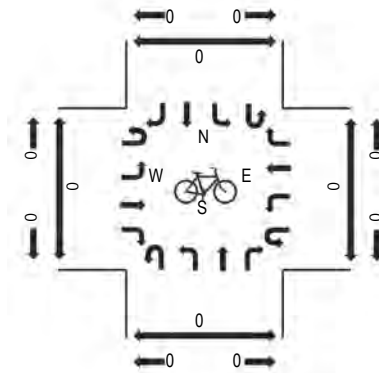
Peak Hour: 08:00 AM - 09:00 AM

Peak 15-Minutes: 08:45 AM - 09:00 AM

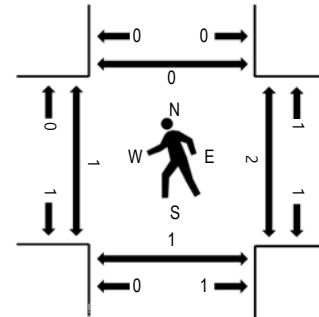
### Peak Hour - Motorized Vehicles



### Peak Hour - Bicycles



### Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

### Traffic Counts - Motorized Vehicles

Interval Start Time	OLD HWY 6 Eastbound				OLD HWY 6 Westbound				BASS DR Northbound				BASS DR Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
7:00 AM	0	3	37	3	0	17	28	0	0	2	2	6	0	2	2	0	102	518	0	0	0	0
7:15 AM	0	0	32	8	0	18	39	2	0	3	1	14	0	6	3	0	126	571	0	1	0	0
7:30 AM	0	1	45	8	0	23	27	3	0	5	5	8	0	2	4	1	132	601	0	0	0	0
7:45 AM	0	3	29	12	0	33	39	2	0	3	5	25	0	4	2	1	158	625	0	0	0	0
8:00 AM	0	1	23	8	0	29	31	6	0	15	7	21	0	8	4	2	155	661	0	0	0	0
8:15 AM	0	0	25	10	0	42	32	3	0	3	3	20	0	6	7	5	156		1	0	1	0
8:30 AM	0	0	27	11	0	34	27	4	0	6	4	36	0	2	5	0	156		0	2	0	0
8:45 AM	0	4	35	16	0	36	39	2	0	10	5	38	0	6	2	1	194		0	0	0	0

### Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	9	0	0	0	8	0	0	0	0	1	0	0	0	0	18
Lights	0	5	100	45	0	138	119	14	0	34	19	113	0	21	18	8	634
Mediums	0	0	1	0	0	3	2	1	0	0	0	1	0	1	0	0	9
Total	0	5	110	45	0	141	129	15	0	34	19	115	0	22	18	8	661

### Heavy Vehicle Percentage and Peak Hour Factor

	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Heavy Vehicle %	6.3%				4.9%				1.2%				2.1%				4.1%
Heavy Vehicle %	0.0%	0.0%	9.1%	0.0%	0.0%	2.1%	7.8%	6.7%	0.0%	0.0%	0.0%	1.7%	0.0%	4.5%	0.0%	0.0%	4.1%
Peak Hour Factor	0.84				0.93				0.79				0.67				0.85
Peak Hour Factor	0.00	0.58	0.79	0.70	0.00	0.84	0.87	0.63	0.00	0.57	0.71	0.76	0.00	0.69	0.64	0.45	0.85



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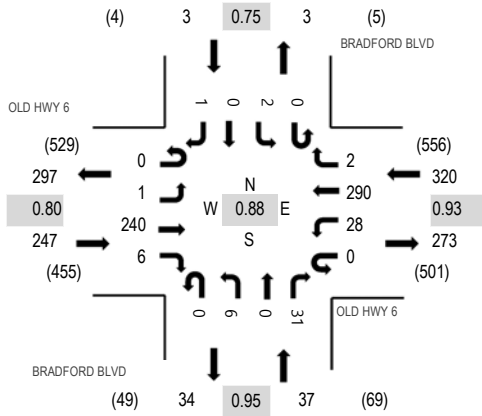
Location: 10 BRADFORD BLVD & OLD HWY 6 AM

Date: Tuesday, January 24, 2023

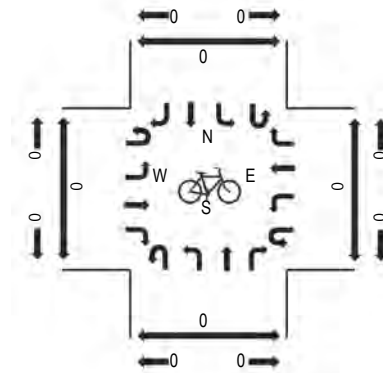
Peak Hour: 08:00 AM - 09:00 AM

Peak 15-Minutes: 08:45 AM - 09:00 AM

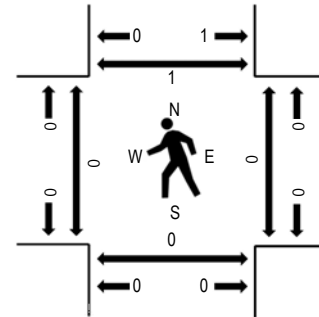
### Peak Hour - Motorized Vehicles



### Peak Hour - Bicycles



### Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

### Traffic Counts - Motorized Vehicles

Interval Start Time	OLD HWY 6 Eastbound				OLD HWY 6 Westbound				BRADFORD BLVD Northbound				BRADFORD BLVD Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
7:00 AM	0	0	46	1	0	1	39	0	0	4	0	6	0	0	0	0	97	477	0	0	0	0
7:15 AM	0	0	51	0	0	2	57	0	0	4	0	5	0	0	1	0	120	521	0	0	0	0
7:30 AM	0	0	55	1	0	3	49	1	0	1	0	3	0	0	0	0	113	541	0	0	0	0
7:45 AM	0	0	54	0	0	6	77	1	0	1	0	8	0	0	0	0	147	582	0	0	0	0
8:00 AM	0	1	55	0	0	9	65	0	0	1	0	9	0	0	0	1	141	607	0	0	0	0
8:15 AM	0	0	47	1	0	3	78	1	0	3	0	7	0	0	0	0	140		0	0	0	0
8:30 AM	0	0	64	2	0	6	71	1	0	1	0	8	0	1	0	0	154		0	0	0	1
8:45 AM	0	0	74	3	0	10	76	0	0	1	0	7	0	1	0	0	172		0	0	0	0

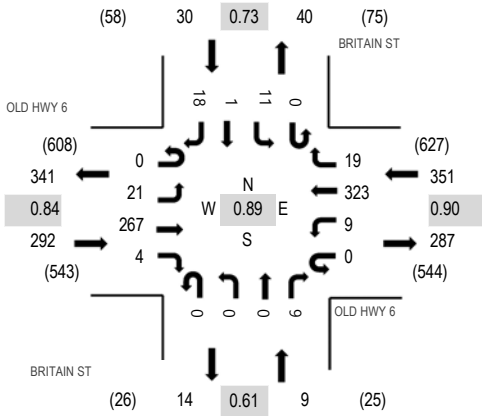
### Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	11	0	0	0	8	0	0	0	0	0	0	0	0	0	19
Lights	0	1	227	6	0	28	276	2	0	5	0	31	0	2	0	1	579
Mediums	0	0	2	0	0	0	6	0	0	1	0	0	0	0	0	0	9
Total	0	1	240	6	0	28	290	2	0	6	0	31	0	2	0	1	607

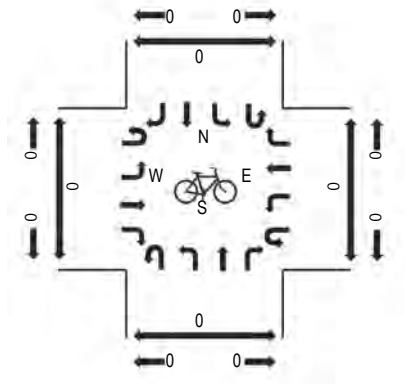
### Heavy Vehicle Percentage and Peak Hour Factor

	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Heavy Vehicle %	5.3%				4.4%				2.7%				0.0%				4.6%
Heavy Vehicle %	0.0%	0.0%	5.4%	0.0%	0.0%	0.0%	4.8%	0.0%	0.0%	16.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	4.6%
Peak Hour Factor	0.80				0.93				0.95				0.75				0.88
Peak Hour Factor	0.00	0.25	0.81	0.50	0.00	0.70	0.93	0.75	0.00	0.63	0.00	0.89	0.00	0.50	0.25	0.25	0.88

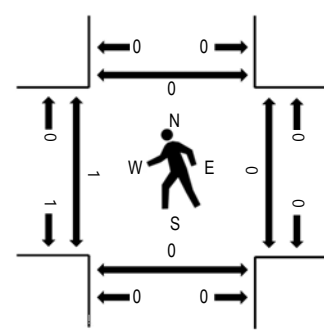
### Peak Hour - Motorized Vehicles



### Peak Hour - Bicycles



### Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

### Traffic Counts - Motorized Vehicles

Interval Start Time	OLD HWY 6 Eastbound				OLD HWY 6 Westbound				BRITAIN ST Northbound				BRITAIN ST Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
7:00 AM	0	0	49	0	0	0	39	1	0	0	1	1	0	2	0	1	94	571	0	0	0	0
7:15 AM	0	6	60	1	0	0	59	5	0	0	0	7	0	2	0	3	143	632	0	0	0	0
7:30 AM	0	3	56	3	0	4	65	9	0	0	0	1	0	3	0	5	149	646	0	0	0	0
7:45 AM	0	4	68	1	0	3	85	6	0	2	0	4	0	4	0	8	185	675	0	0	0	0
8:00 AM	0	4	64	0	0	2	75	2	0	0	0	3	0	5	0	0	155	682	0	0	0	0
8:15 AM	0	3	48	2	0	0	81	10	0	0	0	0	0	3	1	9	157		0	0	0	0
8:30 AM	0	9	74	1	0	2	79	3	0	0	0	3	0	2	0	5	178		1	0	0	0
8:45 AM	0	5	81	1	0	5	88	4	0	0	0	3	0	1	0	4	192		0	0	0	0

### Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	10	0	0	1	8	0	0	0	0	0	0	0	0	0	19
Lights	0	21	255	3	0	8	310	18	0	0	0	8	0	11	1	18	653
Mediums	0	0	2	1	0	0	5	1	0	0	0	1	0	0	0	0	10
Total	0	21	267	4	0	9	323	19	0	0	0	9	0	11	1	18	682

### Heavy Vehicle Percentage and Peak Hour Factor

	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Heavy Vehicle %																	4.3%
Heavy Vehicle %	0.0%	0.0%	4.5%	25.0%	0.0%	11.1%	4.0%	5.3%	0.0%	0.0%	0.0%	11.1%	0.0%	0.0%	0.0%	0.0%	4.3%
Peak Hour Factor																	0.89
Peak Hour Factor	0.00	0.58	0.82	0.50	0.00	0.45	0.92	0.68	0.00	0.25	0.25	0.54	0.00	0.75	0.25	0.61	0.89







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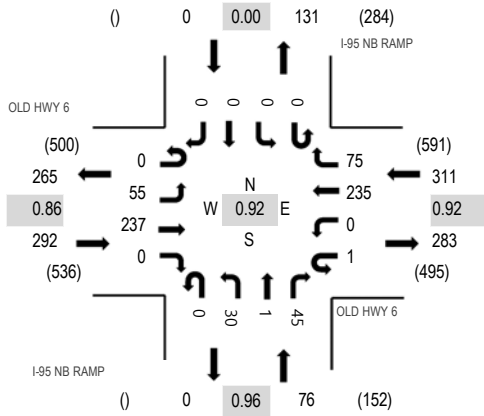
Location: 13 I-95 NB RAMP & OLD HWY 6 AM

Date: Tuesday, January 24, 2023

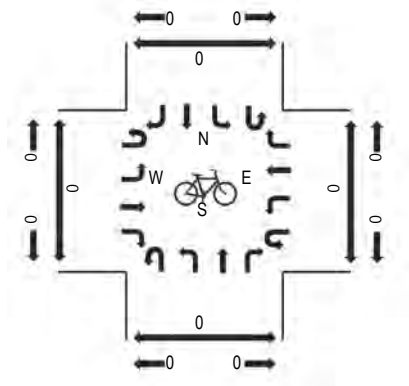
Peak Hour: 08:00 AM - 09:00 AM

Peak 15-Minutes: 08:00 AM - 08:15 AM

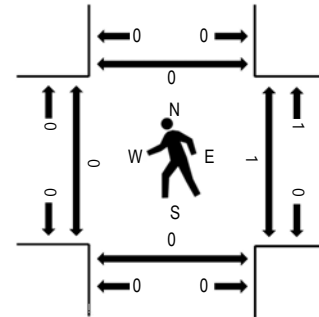
### Peak Hour - Motorized Vehicles



### Peak Hour - Bicycles



### Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

### Traffic Counts - Motorized Vehicles

Interval Start Time	OLD HWY 6 Eastbound				OLD HWY 6 Westbound				I-95 NB RAMP Northbound				I-95 NB RAMP Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
7:00 AM	0	15	36	0	0	0	36	10	0	5	0	8	0	0	0	0	110	600	0	0	0	0
7:15 AM	0	25	35	0	0	0	53	19	0	6	0	15	0	0	0	0	153	675	0	0	0	0
7:30 AM	0	19	43	0	0	0	62	25	0	8	0	13	0	0	0	0	170	677	0	0	0	0
7:45 AM	0	19	52	0	0	0	54	21	0	11	0	10	0	0	0	0	167	665	0	0	0	0
8:00 AM	0	16	69	0	1	0	58	23	0	5	1	12	0	0	0	0	185	679	0	0	0	0
8:15 AM	0	9	52	0	0	0	63	13	0	7	0	11	0	0	0	0	155		0	0	0	0
8:30 AM	0	14	55	0	0	0	55	15	0	6	0	13	0	0	0	0	158		0	0	0	0
8:45 AM	0	16	61	0	0	0	59	24	0	12	0	9	0	0	0	0	181		0	1	0	0

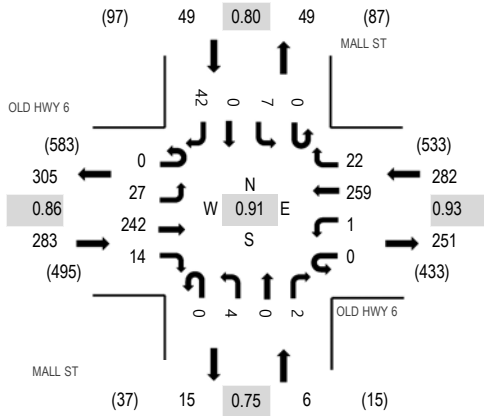
### Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	5	3	0	0	0	1	3	0	4	0	1	0	0	0	0	17
Lights	0	50	232	0	1	0	229	69	0	26	1	43	0	0	0	0	651
Mediums	0	0	2	0	0	0	5	3	0	0	0	1	0	0	0	0	11
Total	0	55	237	0	1	0	235	75	0	30	1	45	0	0	0	0	679

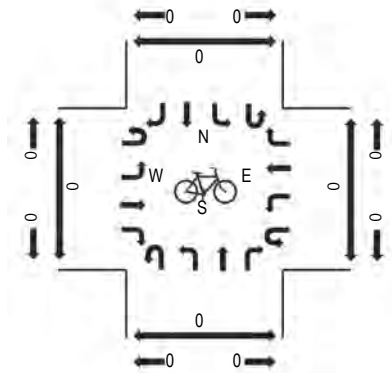
### Heavy Vehicle Percentage and Peak Hour Factor

	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Heavy Vehicle %		3.4%				3.9%				7.9%				0.0%			4.1%
Heavy Vehicle %	0.0%	9.1%	2.1%	0.0%	0.0%	0.0%	2.6%	8.0%	0.0%	13.3%	0.0%	4.4%	0.0%	0.0%	0.0%	0.0%	4.1%
Peak Hour Factor		0.86				0.92				0.96				0.00			0.92
Peak Hour Factor	0.00	0.79	0.86	0.00	0.25	0.00	0.94	0.88	0.00	0.70	0.25	0.83	0.00	0.00	0.00	0.00	0.92

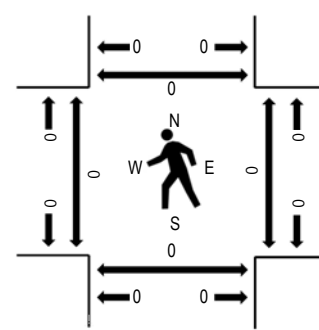
### Peak Hour - Motorized Vehicles



### Peak Hour - Bicycles



### Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

### Traffic Counts - Motorized Vehicles

Interval Start Time	OLD HWY 6 Eastbound				OLD HWY 6 Westbound				MALL ST Northbound				MALL ST Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
7:00 AM	0	4	36	2	0	1	31	4	0	0	0	0	0	1	1	7	87	520	0	0	0	0
7:15 AM	0	7	39	6	0	1	60	5	0	2	0	0	0	2	0	14	136	603	0	0	0	0
7:30 AM	0	6	41	7	0	1	70	7	0	2	0	2	0	3	0	12	151	606	0	0	0	0
7:45 AM	0	3	58	3	0	0	70	1	0	2	1	0	0	0	0	8	146	605	0	0	0	0
8:00 AM	0	9	70	3	0	0	70	4	0	1	0	1	0	2	0	10	170	620	0	0	0	0
8:15 AM	0	5	52	6	0	1	57	4	0	2	0	1	0	1	0	10	139		0	0	0	0
8:30 AM	0	5	59	4	0	0	61	9	0	0	0	0	0	3	0	9	150		0	0	0	0
8:45 AM	0	8	61	1	0	0	71	5	0	1	0	0	0	1	0	13	161		0	0	0	0

### Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	4	0	0	0	4	0	0	0	0	0	0	0	0	0	8
Lights	0	27	235	14	0	1	248	22	0	3	0	2	0	7	0	42	601
Mediums	0	0	3	0	0	0	7	0	0	1	0	0	0	0	0	0	11
Total	0	27	242	14	0	1	259	22	0	4	0	2	0	7	0	42	620

### Heavy Vehicle Percentage and Peak Hour Factor

	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Heavy Vehicle %	2.5%				3.9%				16.7%				0.0%				3.1%
Heavy Vehicle %	0.0%	0.0%	2.9%	0.0%	0.0%	0.0%	4.2%	0.0%	0.0%	25.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.1%
Peak Hour Factor	0.86				0.93				0.75				0.80				0.91
Peak Hour Factor	0.00	0.75	0.86	0.68	0.00	0.75	0.96	0.61	0.00	0.88	0.25	0.50	0.00	0.58	0.25	0.79	0.91



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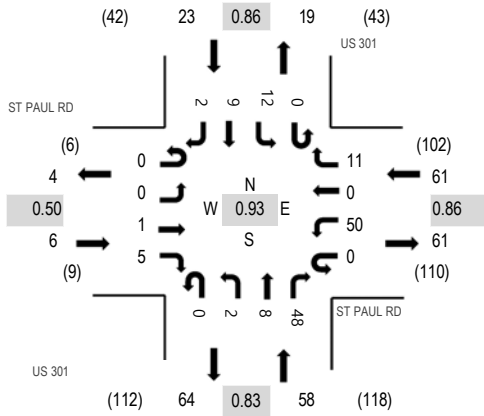
Location: 1 US 301 & ST PAUL RD Noon

Date: Tuesday, January 24, 2023

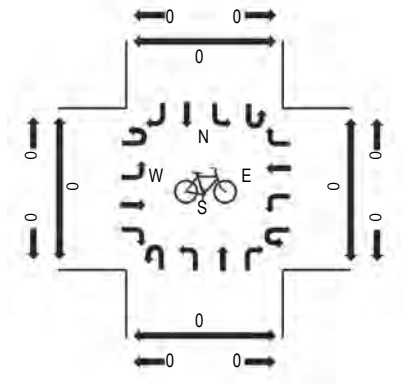
Peak Hour: 12:00 PM - 01:00 PM

Peak 15-Minutes: 12:45 PM - 01:00 PM

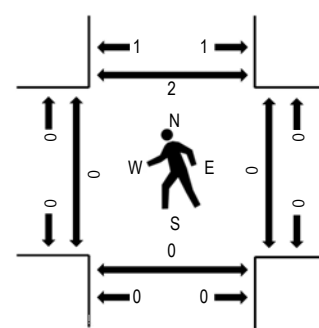
### Peak Hour - Motorized Vehicles



### Peak Hour - Bicycles



### Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

### Traffic Counts - Motorized Vehicles

Interval Start Time	ST PAUL RD Eastbound				ST PAUL RD Westbound				US 301 Northbound				US 301 Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
11:00 AM	0	0	0	0	1	5	0	1	1	1	4	9	0	1	2	0	25	123	0	0	0	0
11:15 AM	0	0	0	1	0	8	0	2	1	0	3	14	0	1	4	0	34	134	0	0	0	0
11:30 AM	0	0	1	0	0	8	0	2	0	0	5	7	1	2	2	1	29	139	0	0	0	0
11:45 AM	0	1	0	0	1	11	0	2	0	0	3	12	0	0	5	0	35	143	0	0	0	0
12:00 PM	0	0	0	1	0	11	0	3	0	2	3	9	0	2	3	2	36	148	0	0	0	0
12:15 PM	0	0	1	1	0	14	0	4	0	0	0	13	0	6	0	0	39		0	0	0	0
12:30 PM	0	0	0	0	0	14	0	2	0	0	3	11	0	1	2	0	33		0	0	0	0
12:45 PM	0	0	0	3	0	11	0	2	0	0	2	15	0	3	4	0	40		0	0	0	2

### Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0	0	4	0	1	0	0	0	6	0	1	0	0	12
Lights	0	0	1	5	0	42	0	10	0	2	7	40	0	9	8	2	126
Mediums	0	0	0	0	0	4	0	0	0	0	1	2	0	2	1	0	10
Total	0	0	1	5	0	50	0	11	0	2	8	48	0	12	9	2	148

### Heavy Vehicle Percentage and Peak Hour Factor

	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Heavy Vehicle %	0.0%				14.8%				15.5%				17.4%				14.9%
Heavy Vehicle %	0.0%	0.0%	0.0%	0.0%	0.0%	16.0%	0.0%	9.1%	0.0%	0.0%	12.5%	16.7%	0.0%	25.0%	11.1%	0.0%	14.9%
Peak Hour Factor	0.50				0.86				0.83				0.86				0.93
Peak Hour Factor	0.00	0.25	0.50	0.42	0.50	0.89	0.00	0.69	0.50	0.25	0.75	0.80	0.25	0.50	0.70	0.38	0.93



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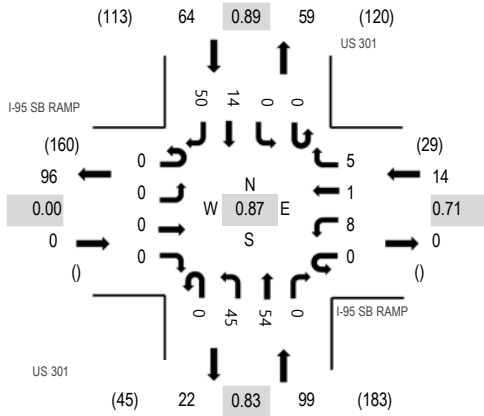
Location: 2 US 301 & I-95 SB RAMP Noon

Date: Tuesday, January 24, 2023

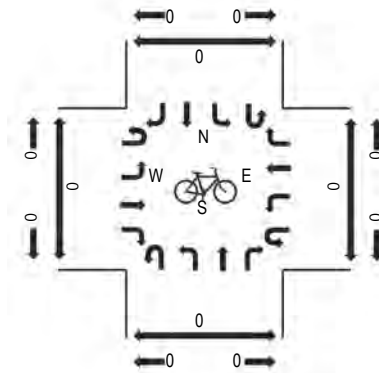
Peak Hour: 12:00 PM - 01:00 PM

Peak 15-Minutes: 12:45 PM - 01:00 PM

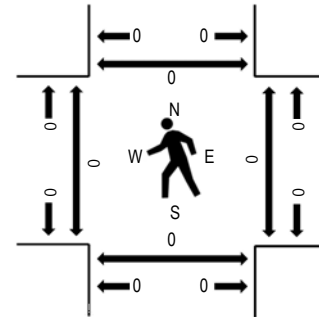
### Peak Hour - Motorized Vehicles



### Peak Hour - Bicycles



### Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

### Traffic Counts - Motorized Vehicles

Interval Start Time	I-95 SB RAMP Eastbound				I-95 SB RAMP Westbound				US 301 Northbound				US 301 Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
11:00 AM	0	0	0	0	0	2	1	2	0	7	14	0	0	0	1	7	34	148	0	0	0	0
11:15 AM	0	0	0	0	0	1	0	1	0	8	17	0	0	0	4	11	42	154	0	0	0	0
11:30 AM	0	0	0	0	0	1	0	1	0	5	11	0	0	0	3	7	28	150	0	0	0	0
11:45 AM	0	0	0	0	0	5	0	1	0	8	14	0	0	0	6	10	44	170	0	0	0	0
12:00 PM	0	0	0	0	0	2	0	1	0	9	13	0	0	0	2	13	40	177	0	0	0	0
12:15 PM	0	0	0	0	0	3	1	0	0	6	13	0	0	0	2	13	38		0	0	0	0
12:30 PM	0	0	0	0	0	1	0	3	0	17	11	0	0	0	4	12	48		0	0	0	0
12:45 PM	0	0	0	0	0	2	0	1	0	13	17	0	0	0	6	12	51		0	0	0	0

### Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0	0	1	0	0	0	0	7	0	0	0	1	3	12
Lights	0	0	0	0	0	7	1	4	0	44	45	0	0	0	13	43	157
Mediums	0	0	0	0	0	0	0	1	0	1	2	0	0	0	0	4	8
Total	0	0	0	0	0	8	1	5	0	45	54	0	0	0	14	50	177

### Heavy Vehicle Percentage and Peak Hour Factor

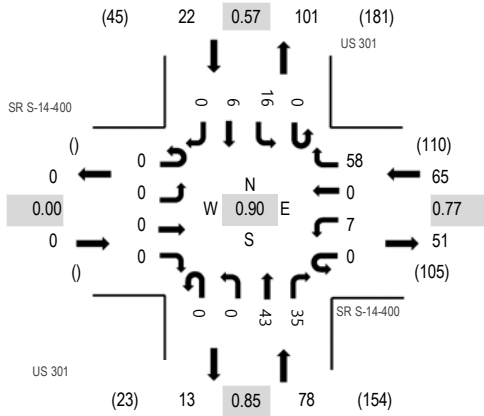
	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Heavy Vehicle %	0.0%				14.3%				10.1%				12.5%				11.3%
Heavy Vehicle %	0.0%	0.0%	0.0%	0.0%	0.0%	12.5%	0.0%	20.0%	0.0%	2.2%	16.7%	0.0%	0.0%	0.0%	7.1%	14.0%	11.3%
Peak Hour Factor	0.00				0.71				0.83				0.89				0.87
Peak Hour Factor	0.00	0.00	0.00	0.00	0.00	0.55	0.25	0.42	0.00	0.66	0.82	0.00	0.00	0.00	0.63	0.96	0.87



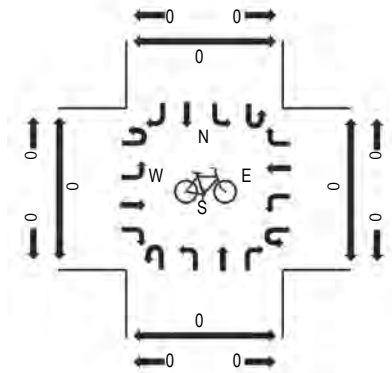
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**Location:** 3 US 301 & SR S-14-400 Noon  
**Date:** Tuesday, January 24, 2023  
**Peak Hour:** 12:00 PM - 01:00 PM  
**Peak 15-Minutes:** 12:45 PM - 01:00 PM

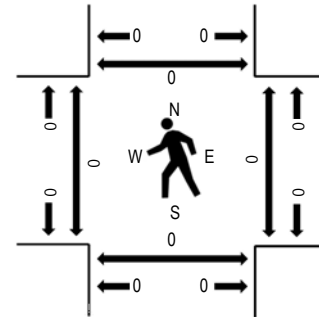
### Peak Hour - Motorized Vehicles



### Peak Hour - Bicycles



### Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

### Traffic Counts - Motorized Vehicles

Interval Start Time	SR S-14-400 Eastbound				SR S-14-400 Westbound				US 301 Northbound				US 301 Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
11:00 AM	0	0	0	0	0	1	0	10	0	0	11	4	0	3	0	0	29	144	0	0	0	0
11:15 AM	0	0	0	0	0	1	0	12	0	0	13	11	0	4	1	0	42	155	0	0	0	0
11:30 AM	0	0	0	0	0	1	0	7	0	0	7	9	0	4	0	0	28	150	0	0	0	0
11:45 AM	0	0	0	0	0	5	0	8	0	0	12	9	0	10	1	0	45	164	0	0	0	0
12:00 PM	0	0	0	0	0	2	0	13	0	0	10	11	0	3	1	0	40	165	0	0	0	0
12:15 PM	0	0	0	0	0	3	0	6	0	0	13	10	0	3	2	0	37		0	0	0	0
12:30 PM	0	0	0	0	0	1	0	20	0	0	7	9	0	4	1	0	42		0	0	0	0
12:45 PM	0	0	0	0	0	1	0	19	0	0	13	5	0	6	2	0	46		0	0	0	0

### Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	7	1	0	0	1	0	9
Lights	0	0	0	0	0	7	0	57	0	0	34	34	0	16	5	0	153
Mediums	0	0	0	0	0	0	0	1	0	0	2	0	0	0	0	0	3
Total	0	0	0	0	0	7	0	58	0	0	43	35	0	16	6	0	165

### Heavy Vehicle Percentage and Peak Hour Factor

	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Heavy Vehicle %	0.0%				1.5%				12.8%				4.5%				7.3%
Heavy Vehicle %	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.7%	0.0%	0.0%	20.9%	2.9%	0.0%	0.0%	16.7%	0.0%	7.3%
Peak Hour Factor	0.00				0.77				0.85				0.57				0.90
Peak Hour Factor	0.00	0.00	0.00	0.00	0.00	0.55	0.00	0.73	0.00	0.00	0.83	0.91	0.00	0.53	0.75	0.00	0.90





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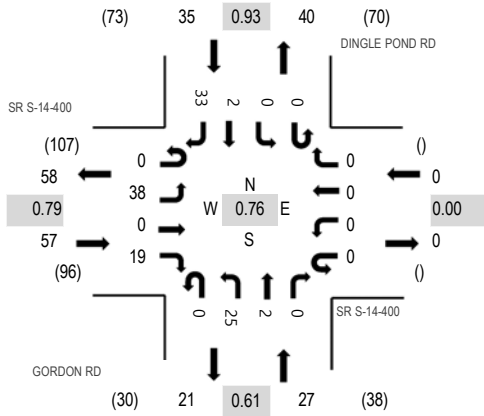
Location: 4 GORDON RD & SR S-14-400 Noon

Date: Tuesday, January 24, 2023

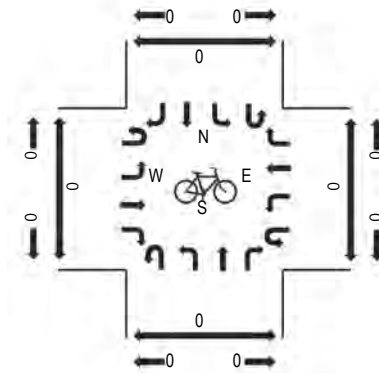
Peak Hour: 11:45 AM - 12:45 PM

Peak 15-Minutes: 12:30 PM - 12:45 PM

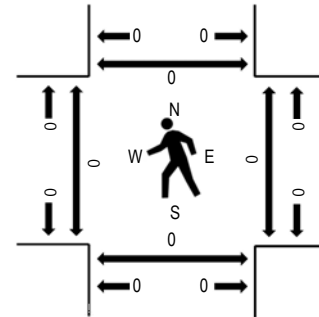
### Peak Hour - Motorized Vehicles



### Peak Hour - Bicycles



### Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

### Traffic Counts - Motorized Vehicles

Interval Start Time	SR S-14-400 Eastbound				SR S-14-400 Westbound				GORDON RD Northbound				DINGLE POND RD Southbound				Total	Rolling Hour	Pedestrian Crossings				
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North	
11:00 AM	0	3	0	1	0	0	0	0	0	2	0	0	0	0	0	0	9	15	93	0	0	0	0
11:15 AM	0	11	0	4	0	0	0	0	0	4	0	0	0	0	0	0	10	29	105	0	0	0	0
11:30 AM	0	8	0	0	0	0	0	0	0	1	0	0	0	0	0	0	9	18	98	0	0	0	0
11:45 AM	0	11	0	7	0	0	0	0	0	3	1	0	0	0	0	0	9	31	119	0	0	0	0
12:00 PM	0	11	0	3	0	0	0	0	0	5	0	0	0	0	0	0	8	27	114	0	0	0	0
12:15 PM	0	6	0	2	0	0	0	0	0	7	0	0	0	0	2	5	22	22	0	0	0	0	
12:30 PM	0	10	0	7	0	0	0	0	0	10	1	0	0	0	0	11	39	39	0	0	0	0	
12:45 PM	0	8	0	4	0	0	0	0	0	4	0	0	0	0	0	10	26	26	0	0	0	0	

### Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Lights	0	37	0	19	0	0	0	0	0	25	1	0	0	0	2	33	117
Mediums	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
Total	0	38	0	19	0	0	0	0	0	25	2	0	0	0	2	33	119

### Heavy Vehicle Percentage and Peak Hour Factor

	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Heavy Vehicle %	1.8%				0.0%				3.7%				0.0%				1.7%
Heavy Vehicle %	0.0%	2.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	50.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.7%
Peak Hour Factor	0.79				0.00				0.61				0.93				0.76
Peak Hour Factor	0.00	0.93	0.00	0.68	0.00	0.00	0.00	0.00	0.00	0.65	0.50	0.00	0.00	0.00	0.25	0.93	0.76



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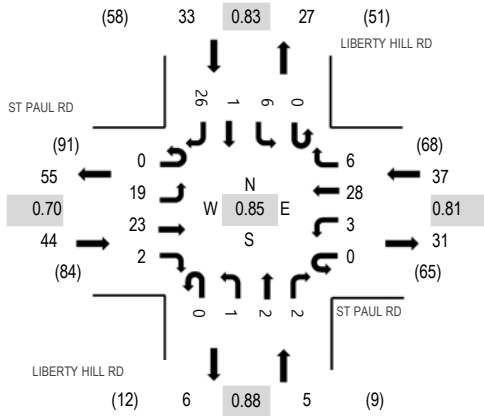
Location: 5 LIBERTY HILL RD & ST PAUL RD Noon

Date: Tuesday, January 24, 2023

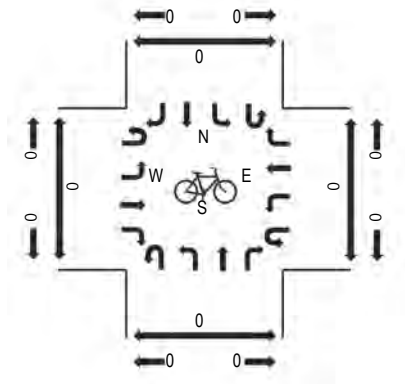
Peak Hour: 11:45 AM - 12:45 PM

Peak 15-Minutes: 12:15 PM - 12:30 PM

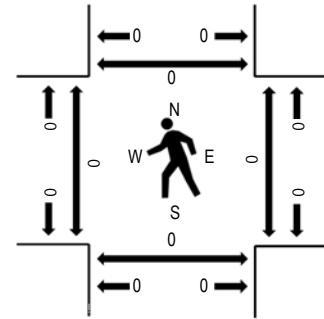
### Peak Hour - Motorized Vehicles



### Peak Hour - Bicycles



### Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

### Traffic Counts - Motorized Vehicles

Interval Start Time	ST PAUL RD Eastbound				ST PAUL RD Westbound				LIBERTY HILL RD Northbound				LIBERTY HILL RD Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
11:00 AM	0	3	4	1	0	0	3	1	0	0	0	1	0	2	0	3	18	101	0	0	0	0
11:15 AM	0	4	5	1	0	1	6	1	0	0	0	0	0	4	0	5	27	110	0	0	0	0
11:30 AM	0	4	7	0	0	0	4	6	0	0	0	2	0	2	0	3	28	118	0	0	0	0
11:45 AM	0	5	6	0	0	1	6	0	0	0	1	0	0	0	0	9	28	119	0	0	0	0
12:00 PM	0	3	3	1	0	0	5	3	0	0	1	1	0	2	1	7	27	118	0	0	0	0
12:15 PM	0	7	9	0	0	2	6	2	0	1	0	1	0	2	0	5	35		0	0	0	0
12:30 PM	0	4	5	1	0	0	11	1	0	0	0	0	0	2	0	5	29		0	0	0	0
12:45 PM	0	4	6	1	0	1	7	1	0	1	0	0	0	1	1	4	27		0	0	0	0

### Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	5	4	0	0	0	2	0	0	0	0	0	0	0	0	1	12
Lights	0	14	17	2	0	3	24	6	0	0	1	2	0	6	1	24	100
Mediums	0	0	2	0	0	0	2	0	0	1	1	0	0	0	0	1	7
Total	0	19	23	2	0	3	28	6	0	1	2	2	0	6	1	26	119

### Heavy Vehicle Percentage and Peak Hour Factor

	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Heavy Vehicle %	25.0%				10.8%				40.0%				6.1%				16.0%
Heavy Vehicle %	0.0%	26.3%	26.1%	0.0%	0.0%	0.0%	14.3%	0.0%	0.0%	100.0%	50.0%	0.0%	0.0%	0.0%	0.0%	7.7%	16.0%
Peak Hour Factor	0.70				0.81				0.88				0.83				0.85
Peak Hour Factor	0.00	0.68	0.69	0.75	0.00	0.38	0.66	0.46	0.00	0.50	0.50	0.50	0.00	0.50	0.50	0.72	0.85



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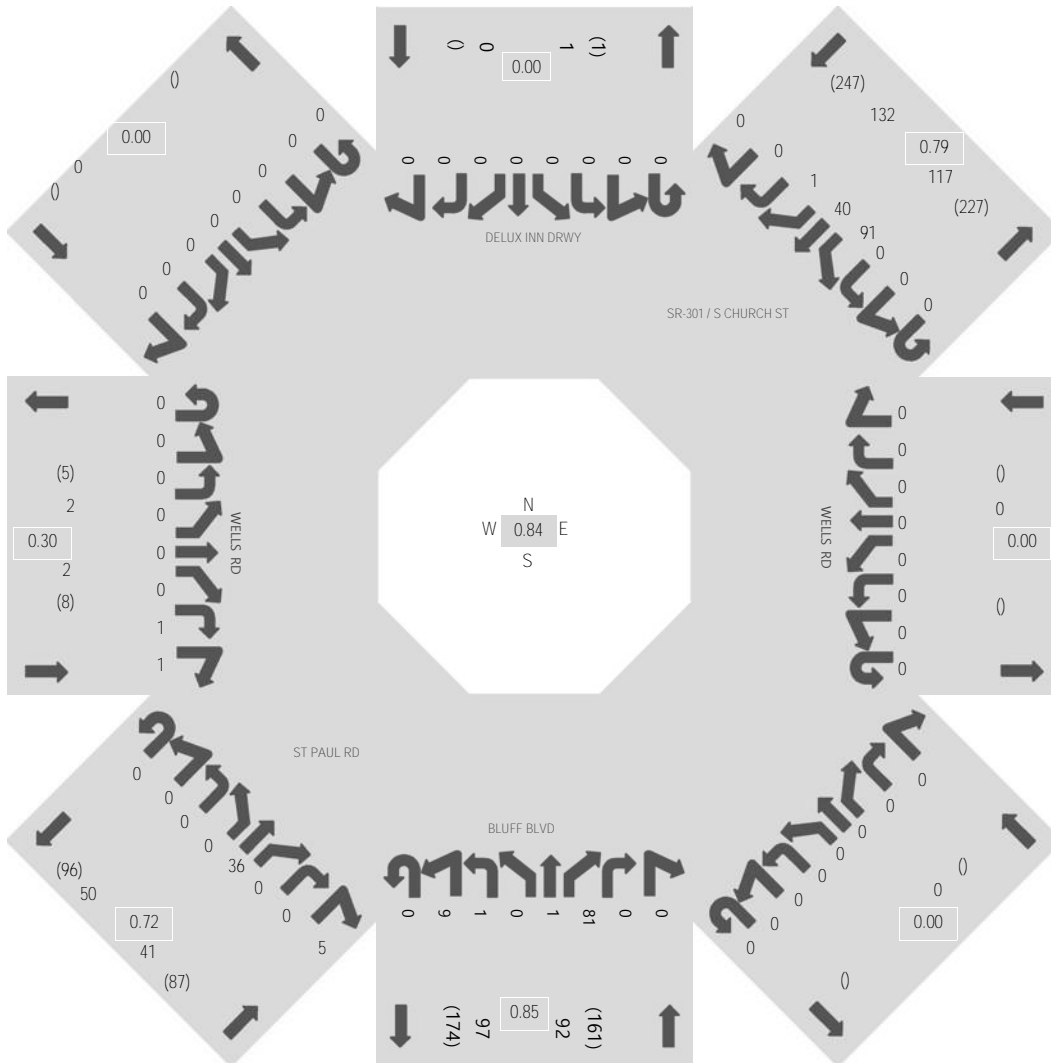
Location: 6 BLUFF BLVD & WELLS RD Noon

Date: Tuesday, January 24, 2023

Peak Hour: 12:00 PM - 01:00 PM

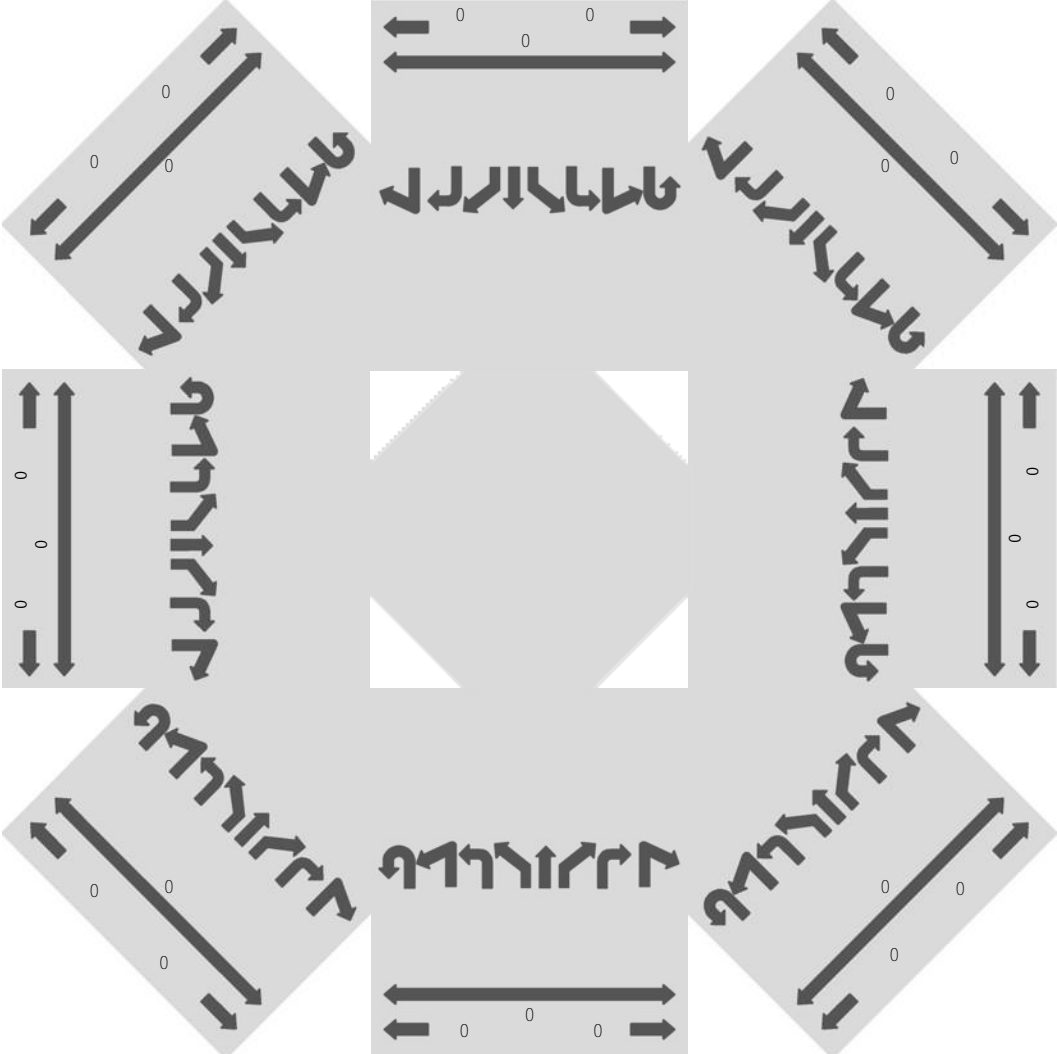
Peak 15-Minutes: 12:45 PM - 01:00 PM

Peak Hour - Motorized Vehicles

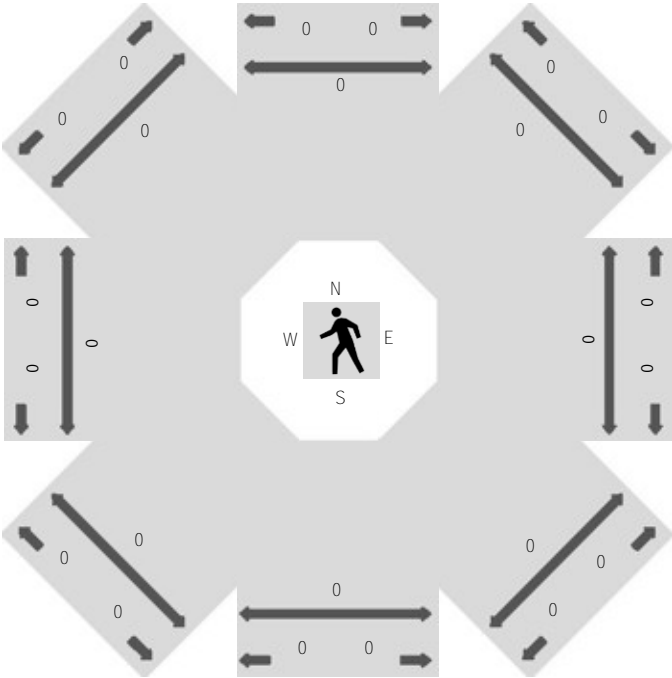


Note: Total study counts contained in parentheses.

Peak Hour - Bicycles



Peak Hour - Pedestrians



## Traffic Counts - Motorized Vehicles

Interval Start Time	Westbound								Northwestbound								Northbound								Northeastbound							
	U	HL	L	BL	T	BR	R	HR	U	HL	L	BL	T	BR	R	HR	U	HL	L	BL	T	BR	R	HR	U	HL	L	BL	T	BR	R	HR
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15	0	0	0	0	7	0	0	2		
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	16	0	0	0	1	0	0	11	0	0	1
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18	0	0	0	0	15	0	0	1		
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19	0	0	0	0	8	0	0	0		
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	0	0	24	0	0	0	0	6	0	0	0		
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	18	0	0	0	0	11	0	0	2		
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	17	0	0	0	0	11	0	0	0		
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	22	0	0	0	0	8	0	0	3		
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	1	0	1	149	0	0	0	1	0	0	77	0	0	9
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	1	0	1	81	0	0	0	0	0	36	0	0	5	

Interval Start Time	Eastbound								Southeastbound								Southbound								Southwestbound								Total	Rolling Hour
	U	HL	L	BL	T	BR	R	HR	U	HL	L	BL	T	BR	R	HR	U	HL	L	BL	T	BR	R	HR	U	HL	L	BL	T	BR	R	HR		
11:00 AM	0	0	0	1	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	10	0	0	0	46	236	
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21	9	1	0	0	61	255	
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19	15	1	0	0	69	258		
11:45 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23	9	0	0	0	60	248		
12:00 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21	9	1	0	0	65	267		
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21	8	0	0	0	64			
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19	11	0	0	0	59			
12:45 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	30	12	0	0	0	79			
Count Total	0	0	0	1	0	0	4	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	161	83	3	0	0	503	
Peak Hour	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	91	40	1	0	0	267	

# Peak Rolling Hour Flow Rates

Vehicle Type	Westbound								Northwestbound								Northbound								Northeastbound							
	U	HL	L	BL	T	BR	R	HR	U	HL	L	BL	T	BR	R	HR	U	HL	L	BL	T	BR	R	HR	U	HL	L	BL	T	BR	R	HR
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	7	0	0	0	0	0	0	3	0	0	0
Lights	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	1	0	1	73	0	0	0	0	0	0	31	0	0	5
Mediums	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	2	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	1	0	1	81	0	0	0	0	0	0	36	0	0	5

Vehicle Type	Eastbound								Southeastbound								Southbound								Southwestbound								Total
	U	HL	L	BL	T	BR	R	HR	U	HL	L	BL	T	BR	R	HR	U	HL	L	BL	T	BR	R	HR	U	HL	L	BL	T	BR	R	HR	
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	2	0	0	18
Lights	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	85	35	1	0	242
Mediums	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3	0	0	7
Count Total	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	91	40	1	0	267



# Heavy Vehicle Percentage and Peak Hour Factor

	Westbound								Northwestbound								Northbound								Northeastbound								Total
	U	HL	L	BL	T	BR	R	HR	U	HL	L	BL	T	BR	R	HR	U	HL	L	BL	T	BR	R	HR	U	HL	L	BL	T	BR	R	HR	
HV%	0.0%								0.0%								9.8%								12.2%								
HV%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	11.1%	0.0%	0.0%	0.0%	9.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	13.9%	0.0%	0.0%	0.0%	9.4%
PHF	0.00								0.00								0.85								0.72								
PHF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.56	0.25	0.00	0.25	0.84	0.00	0.00	0.00	0.25	0.00	0.00	0.68	0.00	0.00	0.42	0.84	
	Eastbound								Southeastbound								Southbound								Southwestbound								Total
	U	HL	L	BL	T	BR	R	HR	U	HL	L	BL	T	BR	R	HR	U	HL	L	BL	T	BR	R	HR	U	HL	L	BL	T	BR	R	HR	
HV%	0.0%								0.0%								0.0%								8.3%								9.4%
HV%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	6.6%	12.5%	0.0%	0.0%	0.0%	9.4%	
PHF	0.30								0.00								0.00								0.79								0.84
PHF	0.00	0.00	0.00	0.25	0.00	0.00	0.38	0.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.76	0.72	0.75	0.00	0.00	0.84	



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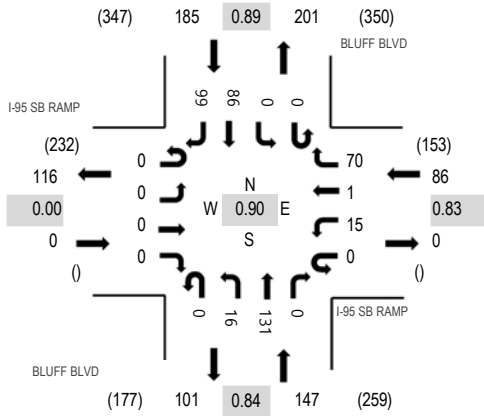
Location: 7 BLUFF BLVD & I-95 SB RAMP Noon

Date: Tuesday, January 24, 2023

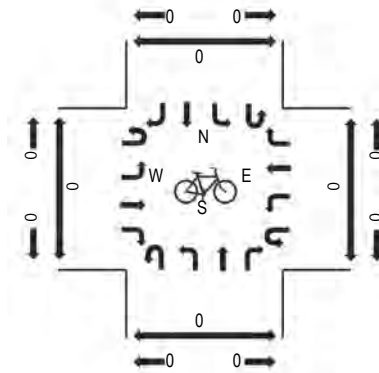
Peak Hour: 12:00 PM - 01:00 PM

Peak 15-Minutes: 12:45 PM - 01:00 PM

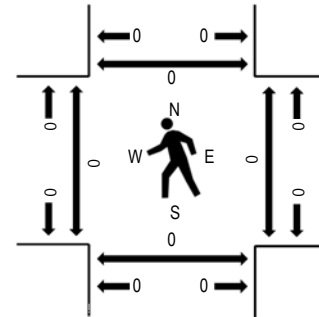
### Peak Hour - Motorized Vehicles



### Peak Hour - Bicycles



### Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

### Traffic Counts - Motorized Vehicles

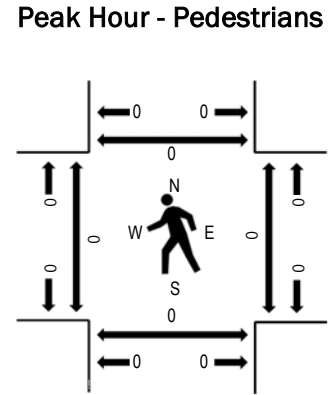
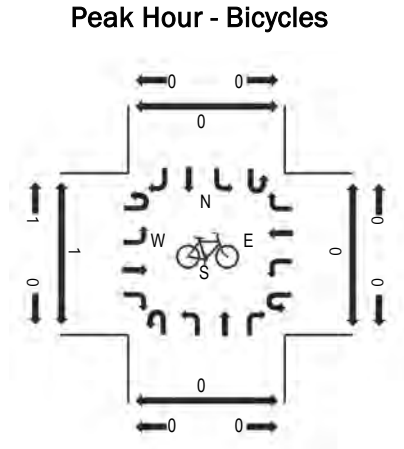
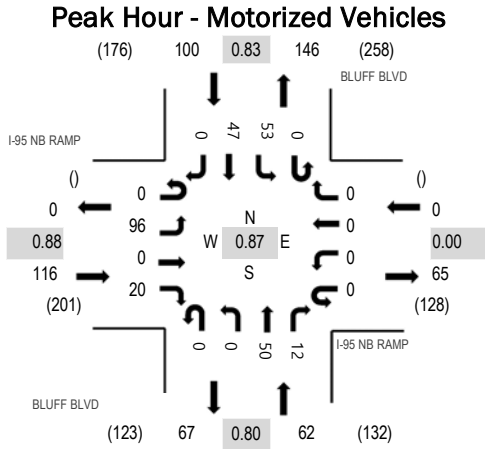
Interval Start Time	I-95 SB RAMP Eastbound				I-95 SB RAMP Westbound				BLUFF BLVD Northbound				BLUFF BLVD Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
11:00 AM	0	0	0	0	0	2	0	17	0	6	21	0	0	0	13	19	78	341	0	0	0	0
11:15 AM	0	0	0	0	0	3	0	19	0	2	27	0	0	0	16	24	91	364	0	0	0	0
11:30 AM	0	0	0	0	0	2	0	11	0	8	22	0	0	0	20	28	91	375	0	0	0	0
11:45 AM	0	0	0	0	0	2	0	11	0	5	21	0	0	0	18	24	81	383	0	0	0	0
12:00 PM	0	0	0	0	0	2	0	20	0	3	37	0	0	0	14	25	101	418	0	0	0	0
12:15 PM	0	0	0	0	0	6	1	19	0	4	27	0	0	0	16	29	102		0	0	0	0
12:30 PM	0	0	0	0	0	5	0	13	0	4	28	0	0	0	26	23	99		0	0	0	0
12:45 PM	0	0	0	0	0	2	0	18	0	5	39	0	0	0	30	22	116		0	0	0	0

### Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0	0	0	1	27	0	0	33	0	0	0	21	24	106
Lights	0	0	0	0	0	15	0	41	0	16	96	0	0	0	64	73	305
Mediums	0	0	0	0	0	0	0	2	0	0	2	0	0	0	1	2	7
Total	0	0	0	0	0	15	1	70	0	16	131	0	0	0	86	99	418

### Heavy Vehicle Percentage and Peak Hour Factor

	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Heavy Vehicle %	0.0%				34.9%				23.8%				25.9%				27.0%
Heavy Vehicle %	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	41.4%	0.0%	0.0%	26.7%	0.0%	0.0%	0.0%	25.6%	26.3%	27.0%
Peak Hour Factor	0.00				0.83				0.84				0.89				0.90
Peak Hour Factor	0.00	0.00	0.00	0.00	0.00	0.63	0.25	0.88	0.00	0.66	0.84	0.00	0.00	0.00	0.72	0.91	0.90



Note: Total study counts contained in parentheses.

### Traffic Counts - Motorized Vehicles

Interval Start Time	I-95 NB RAMP Eastbound				I-95 NB RAMP Westbound				BLUFF BLVD Northbound				BLUFF BLVD Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
11:00 AM	0	16	0	6	0	0	0	0	0	0	13	5	0	9	6	0	55	231	0	0	0	0
11:15 AM	0	19	0	4	0	0	0	0	0	0	7	7	0	10	8	0	55	240	0	0	0	0
11:30 AM	0	16	0	4	0	0	0	0	0	0	13	3	0	11	11	0	58	252	0	0	0	0
11:45 AM	0	12	1	7	0	0	0	0	0	0	16	6	0	11	10	0	63	274	0	0	0	0
12:00 PM	0	24	0	7	0	0	0	0	0	0	12	1	0	9	11	0	64	278	0	0	0	0
12:15 PM	0	26	0	6	0	0	0	0	0	0	9	4	0	12	10	0	67		0	0	0	0
12:30 PM	0	28	0	5	0	0	0	0	0	0	11	6	0	11	19	0	80		0	0	0	0
12:45 PM	0	18	0	2	0	0	0	0	0	0	18	1	0	21	7	0	67		0	0	0	0

### Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	34	0	2	0	0	0	0	0	0	0	0	0	22	0	0	58
Lights	0	61	0	17	0	0	0	0	0	0	49	11	0	30	47	0	215
Mediums	0	1	0	1	0	0	0	0	0	0	1	1	0	1	0	0	5
Total	0	96	0	20	0	0	0	0	0	0	50	12	0	53	47	0	278

### Heavy Vehicle Percentage and Peak Hour Factor

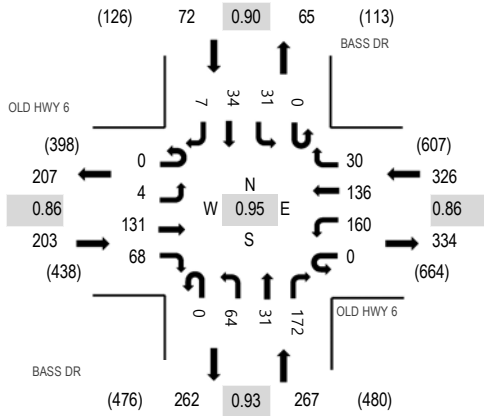
	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Heavy Vehicle %		32.8%			0.0%				3.2%					23.0%			22.7%
Heavy Vehicle %	0.0%	36.5%	0.0%	15.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.0%	8.3%	0.0%	43.4%	0.0%	0.0%	22.7%
Peak Hour Factor		0.88			0.00				0.80					0.83			0.87
Peak Hour Factor	0.00	0.86	0.25	0.89	0.00	0.00	0.00	0.00	0.00	0.00	0.69	0.75	0.00	0.63	0.66	0.00	0.87



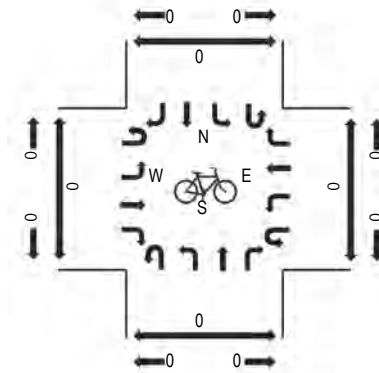
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**Location:** 9 BASS DR & OLD HWY 6 Noon  
**Date:** Tuesday, January 24, 2023  
**Peak Hour:** 12:00 PM - 01:00 PM  
**Peak 15-Minutes:** 12:45 PM - 01:00 PM

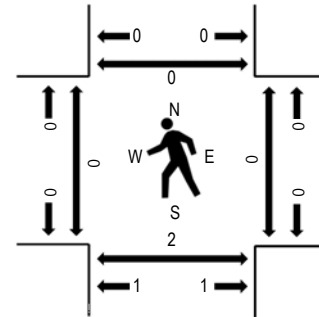
### Peak Hour - Motorized Vehicles



### Peak Hour - Bicycles



### Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

### Traffic Counts - Motorized Vehicles

Interval Start Time	OLD HWY 6 Eastbound				OLD HWY 6 Westbound				BASS DR Northbound				BASS DR Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
11:00 AM	0	2	39	11	0	33	33	4	0	15	6	43	0	6	8	2	202	783	0	0	0	0
11:15 AM	0	4	45	19	0	32	41	8	0	12	4	38	0	5	5	1	214	790	0	0	0	0
11:30 AM	0	1	35	16	0	27	32	4	0	11	4	36	0	8	3	1	178	802	0	0	0	0
11:45 AM	0	3	36	24	0	29	35	3	0	6	5	33	0	6	7	2	189	829	0	0	0	0
12:00 PM	0	2	26	20	0	33	27	9	0	20	7	45	0	10	8	2	209	868	0	0	0	0
12:15 PM	0	2	40	19	0	34	46	2	0	14	7	46	0	7	8	1	226		0	0	0	0
12:30 PM	0	0	32	13	0	45	30	5	0	17	9	38	0	8	7	1	205		0	0	1	0
12:45 PM	0	0	33	16	0	48	33	14	0	13	8	43	0	6	11	3	228		0	0	1	0

### Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	10	1	0	3	11	0	0	0	0	2	0	0	0	0	27
Lights	0	4	116	65	0	156	119	29	0	64	31	169	0	30	34	7	824
Mediums	0	0	5	2	0	1	6	1	0	0	0	1	0	1	0	0	17
Total	0	4	131	68	0	160	136	30	0	64	31	172	0	31	34	7	868

### Heavy Vehicle Percentage and Peak Hour Factor

	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Heavy Vehicle %	8.9%				6.7%				1.1%				1.4%				5.1%
Heavy Vehicle %	0.0%	0.0%	11.5%	4.4%	0.0%	2.5%	12.5%	3.3%	0.0%	0.0%	0.0%	1.7%	0.0%	3.2%	0.0%	0.0%	5.1%
Peak Hour Factor	0.86				0.86				0.93				0.90				0.95
Peak Hour Factor	0.00	0.63	0.86	0.82	0.00	0.83	0.86	0.54	0.00	0.80	0.86	0.93	0.00	0.78	0.77	0.58	0.95



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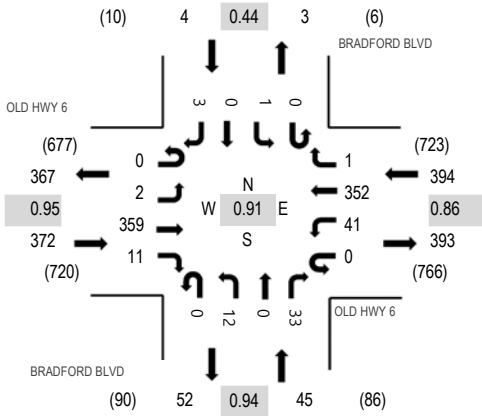
Location: 10 BRADFORD BLVD & OLD HWY 6 Noon

Date: Tuesday, January 24, 2023

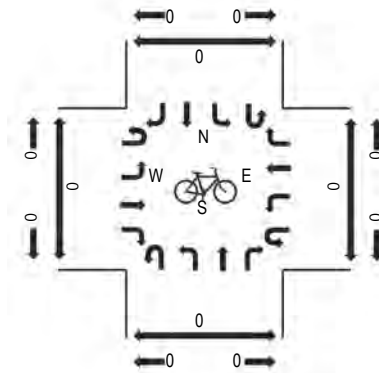
Peak Hour: 12:00 PM - 01:00 PM

Peak 15-Minutes: 12:45 PM - 01:00 PM

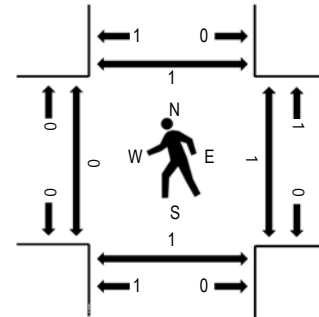
### Peak Hour - Motorized Vehicles



### Peak Hour - Bicycles



### Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

### Traffic Counts - Motorized Vehicles

Interval Start Time	OLD HWY 6 Eastbound				OLD HWY 6 Westbound				BRADFORD BLVD Northbound				BRADFORD BLVD Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
11:00 AM	0	0	93	3	0	8	71	0	0	3	0	5	0	0	0	0	183	724	0	0	0	0
11:15 AM	0	0	85	2	0	10	81	0	0	1	0	16	0	1	1	0	197	736	0	0	0	0
11:30 AM	0	2	86	0	0	5	73	0	0	2	0	5	0	3	0	1	177	743	0	0	0	0
11:45 AM	0	1	73	3	0	6	75	0	0	3	0	6	0	0	0	0	167	758	0	0	0	0
12:00 PM	0	0	84	4	0	12	83	0	0	3	0	8	0	0	0	1	195	815	0	0	0	0
12:15 PM	0	1	94	3	0	10	84	0	0	4	0	6	0	1	0	1	204		0	0	0	0
12:30 PM	0	1	86	2	0	10	80	0	0	3	0	9	0	0	0	1	192		0	1	0	1
12:45 PM	0	0	95	2	0	9	105	1	0	2	0	10	0	0	0	0	224		0	0	1	0

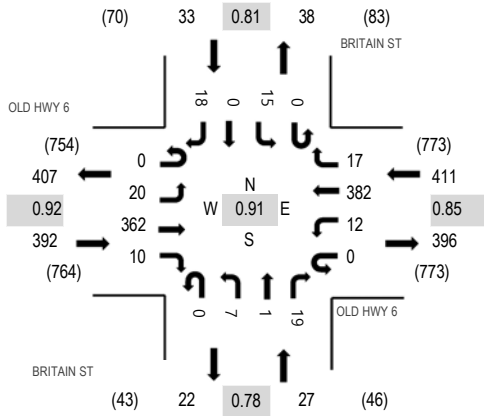
### Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	13	0	0	0	13	0	0	0	0	0	0	0	0	0	26
Lights	0	2	339	11	0	40	332	1	0	11	0	32	0	1	0	3	772
Mediums	0	0	7	0	0	1	7	0	0	1	0	1	0	0	0	0	17
Total	0	2	359	11	0	41	352	1	0	12	0	33	0	1	0	3	815

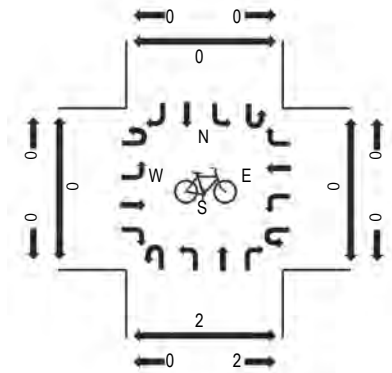
### Heavy Vehicle Percentage and Peak Hour Factor

	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Heavy Vehicle %	5.4%				5.3%				4.4%				0.0%				5.3%
Heavy Vehicle %	0.0%	0.0%	5.6%	0.0%	0.0%	2.4%	5.7%	0.0%	0.0%	8.3%	0.0%	3.0%	0.0%	0.0%	0.0%	0.0%	5.3%
Peak Hour Factor	0.95				0.86				0.94				0.44				0.91
Peak Hour Factor	0.00	0.50	0.94	0.75	0.00	0.85	0.84	0.25	0.00	0.81	0.00	0.55	0.00	0.33	0.25	0.75	0.91

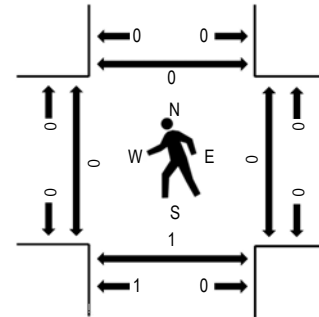
### Peak Hour - Motorized Vehicles



### Peak Hour - Bicycles



### Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

### Traffic Counts - Motorized Vehicles

Interval Start Time	OLD HWY 6 Eastbound				OLD HWY 6 Westbound				BRITAIN ST Northbound				BRITAIN ST Southbound				Total	Rolling Hour	Pedestrian Crossings				
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North	
11:00 AM	0	4	87	0	0	0	1	81	4	0	1	0	2	0	4	0	4	188	790	0	0	0	0
11:15 AM	0	6	93	2	0	5	83	6	0	0	1	6	0	3	0	6	211	801	0	0	0	0	
11:30 AM	0	9	85	1	0	2	77	6	0	2	0	4	0	7	0	5	198	799	0	0	1	0	
11:45 AM	0	2	81	2	0	8	82	7	0	0	0	3	0	2	0	6	193	820	0	0	0	0	
12:00 PM	0	4	80	6	0	1	88	2	0	2	0	6	0	4	0	6	199	863	0	0	0	0	
12:15 PM	0	7	86	1	0	5	91	6	0	3	1	5	0	3	0	1	209		0	0	1	0	
12:30 PM	0	5	94	3	0	4	90	3	0	1	0	7	0	4	0	8	219		0	0	0	0	
12:45 PM	0	4	102	0	0	2	113	6	0	1	0	1	0	4	0	3	236		0	0	0	0	

### Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	13	0	0	0	13	0	0	0	1	1	0	1	0	0	29
Lights	0	20	341	10	0	12	359	17	0	7	0	18	0	14	0	18	816
Mediums	0	0	8	0	0	0	10	0	0	0	0	0	0	0	0	0	18
Total	0	20	362	10	0	12	382	17	0	7	1	19	0	15	0	18	863

### Heavy Vehicle Percentage and Peak Hour Factor

	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Heavy Vehicle %	5.4%				5.6%				7.4%				3.0%				5.4%
Heavy Vehicle %	0.0%	0.0%	5.8%	0.0%	0.0%	0.0%	6.0%	0.0%	0.0%	0.0%	100.0%	5.3%	0.0%	6.7%	0.0%	0.0%	5.4%
Peak Hour Factor	0.92				0.85				0.78				0.81				0.91
Peak Hour Factor	0.00	0.61	0.89	0.50	0.00	0.56	0.85	0.82	0.00	0.58	0.25	0.75	0.00	0.57	0.00	0.96	0.91



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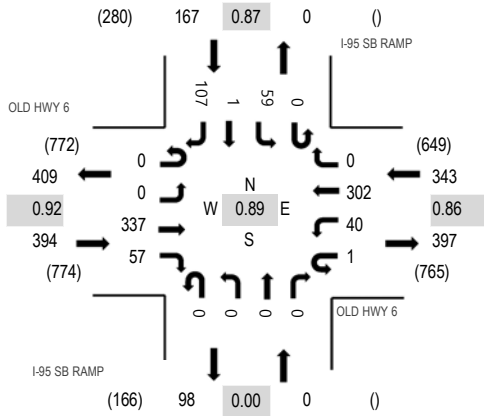
Location: 12 I-95 SB RAMP & OLD HWY 6 Noon

Date: Tuesday, January 24, 2023

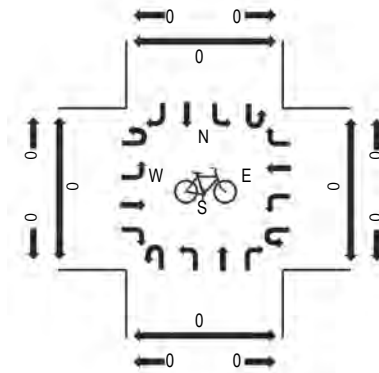
Peak Hour: 12:00 PM - 01:00 PM

Peak 15-Minutes: 12:45 PM - 01:00 PM

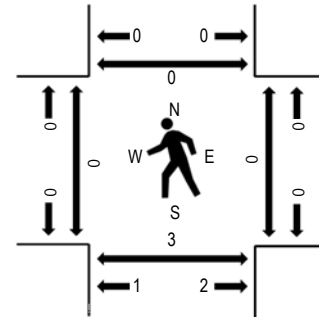
### Peak Hour - Motorized Vehicles



### Peak Hour - Bicycles



### Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

### Traffic Counts - Motorized Vehicles

Interval Start Time	OLD HWY 6 Eastbound				OLD HWY 6 Westbound				I-95 SB RAMP Northbound				I-95 SB RAMP Southbound				Total	Rolling Hour	Pedestrian Crossings				
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North	
11:00 AM	0	0	85	11	0	6	62	0	0	0	0	0	0	0	7	0	24	195	799	0	0	0	0
11:15 AM	0	0	91	12	0	9	76	0	0	0	0	0	0	9	0	18	215	802	0	0	0	0	
11:30 AM	0	0	87	10	0	9	67	0	0	0	0	0	0	6	0	18	197	807	0	0	0	0	
11:45 AM	0	0	75	9	0	2	75	0	0	0	0	0	0	8	0	23	192	841	0	0	0	0	
12:00 PM	0	0	75	13	0	10	61	0	0	0	0	0	0	10	0	29	198	904	0	0	0	0	
12:15 PM	0	0	84	12	0	11	81	0	0	0	0	0	0	12	0	20	220		0	0	1	0	
12:30 PM	0	0	86	17	0	8	72	0	0	0	0	0	0	22	1	25	231		0	0	2	0	
12:45 PM	0	0	92	15	1	11	88	0	0	0	0	0	0	15	0	33	255		0	0	0	0	

### Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	13	2	0	3	2	0	0	0	0	0	0	4	1	11	36
Lights	0	0	315	55	1	35	295	0	0	0	0	0	0	54	0	93	848
Mediums	0	0	9	0	0	2	5	0	0	0	0	0	0	1	0	3	20
Total	0	0	337	57	1	40	302	0	0	0	0	0	0	59	1	107	904

### Heavy Vehicle Percentage and Peak Hour Factor

	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Heavy Vehicle %	6.1%				3.5%				0.0%				12.0%				6.2%
Heavy Vehicle %	0.0%	0.0%	6.5%	3.5%	0.0%	12.5%	2.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	8.5%	100.0%	13.1%	6.2%
Peak Hour Factor	0.92				0.86				0.00				0.87				0.89
Peak Hour Factor	0.00	0.00	0.93	0.84	0.25	0.91	0.86	0.00	0.00	0.00	0.00	0.00	0.00	0.67	0.25	0.81	0.89





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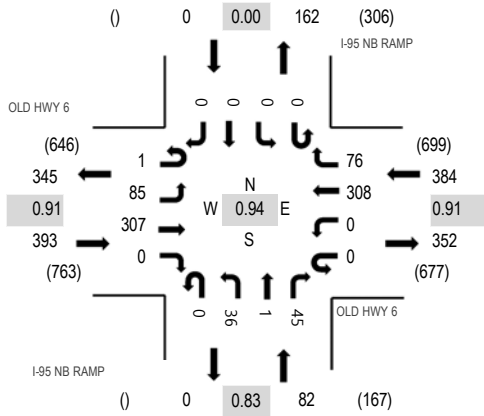
Location: 13 I-95 NB RAMP & OLD HWY 6 Noon

Date: Tuesday, January 24, 2023

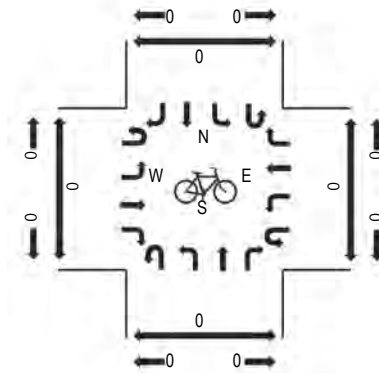
Peak Hour: 12:00 PM - 01:00 PM

Peak 15-Minutes: 12:45 PM - 01:00 PM

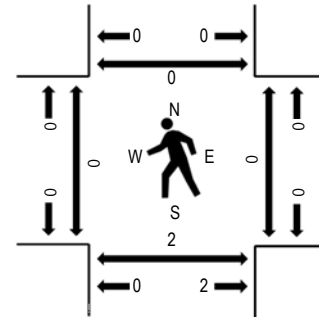
### Peak Hour - Motorized Vehicles



### Peak Hour - Bicycles



### Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

### Traffic Counts - Motorized Vehicles

Interval Start Time	OLD HWY 6 Eastbound				OLD HWY 6 Westbound				I-95 NB RAMP Northbound				I-95 NB RAMP Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
11:00 AM	1	22	68	0	0	0	56	9	0	10	0	11	0	0	0	0	177	770	0	0	0	0
11:15 AM	0	21	76	0	0	0	78	19	0	9	0	8	0	0	0	0	211	796	0	0	0	0
11:30 AM	0	23	73	0	0	0	68	10	0	8	0	10	0	0	0	0	192	803	0	0	0	0
11:45 AM	0	22	64	0	0	0	57	18	0	14	0	15	0	0	0	0	190	820	0	0	0	0
12:00 PM	0	15	67	0	0	0	70	26	0	4	0	21	0	0	0	0	203	859	0	0	0	0
12:15 PM	0	26	73	0	0	0	83	20	0	11	1	4	0	0	0	0	218		0	0	0	0
12:30 PM	0	21	83	0	0	0	64	15	0	15	0	11	0	0	0	0	209		0	0	2	0
12:45 PM	1	23	84	0	0	0	91	15	0	6	0	9	0	0	0	0	229		0	0	0	0

### Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	8	9	0	0	0	3	2	0	3	1	0	0	0	0	0	26
Lights	1	76	290	0	0	0	298	72	0	32	0	44	0	0	0	0	813
Mediums	0	1	8	0	0	0	7	2	0	1	0	1	0	0	0	0	20
Total	1	85	307	0	0	0	308	76	0	36	1	45	0	0	0	0	859

### Heavy Vehicle Percentage and Peak Hour Factor

	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Heavy Vehicle %		6.6%				3.6%				7.3%				0.0%			5.4%
Heavy Vehicle %	0.0%	10.6%	5.5%	0.0%	0.0%	0.0%	3.2%	5.3%	0.0%	11.1%	100.0%	2.2%	0.0%	0.0%	0.0%	0.0%	5.4%
Peak Hour Factor		0.91				0.91				0.83				0.00			0.94
Peak Hour Factor	0.25	0.96	0.91	0.00	0.00	0.00	0.85	0.76	0.00	0.73	0.25	0.64	0.00	0.00	0.00	0.00	0.94



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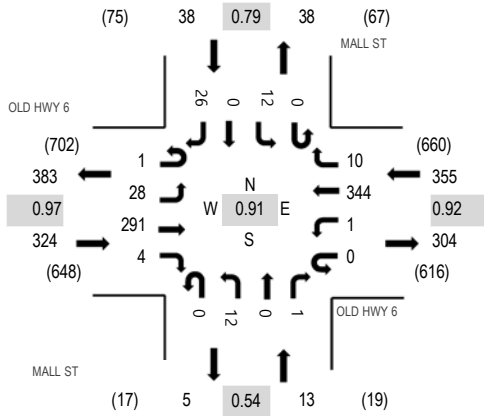
Location: 14 MALL ST & OLD HWY 6 Noon

Date: Tuesday, January 24, 2023

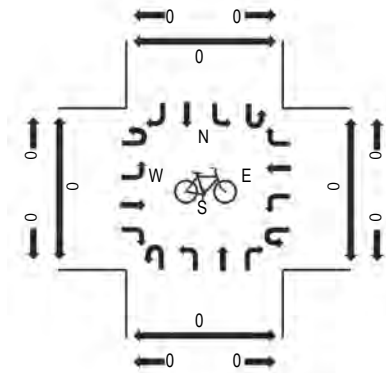
Peak Hour: 12:00 PM - 01:00 PM

Peak 15-Minutes: 12:45 PM - 01:00 PM

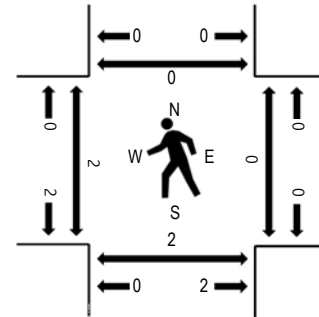
### Peak Hour - Motorized Vehicles



### Peak Hour - Bicycles



### Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

### Traffic Counts - Motorized Vehicles

Interval Start Time	OLD HWY 6 Eastbound				OLD HWY 6 Westbound				MALL ST Northbound				MALL ST Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
11:00 AM	1	6	68	4	0	1	57	2	0	0	0	0	0	2	0	5	146	672	0	0	0	0
11:15 AM	0	4	81	0	0	1	93	4	1	1	0	1	0	3	0	6	195	710	0	0	0	0
11:30 AM	0	3	75	3	0	0	71	5	0	1	1	1	0	5	1	8	174	708	0	0	0	0
11:45 AM	0	4	74	1	0	0	71	0	0	0	0	0	0	2	0	5	157	686	0	3	0	0
12:00 PM	0	8	75	2	0	0	85	2	0	1	0	0	0	2	0	9	184	730	0	0	0	0
12:15 PM	0	7	74	0	0	1	90	5	0	3	0	1	0	2	0	10	193		0	0	0	0
12:30 PM	1	7	56	1	0	0	76	1	0	2	0	0	0	6	0	2	152		0	0	0	0
12:45 PM	0	6	86	1	0	0	93	2	0	6	0	0	0	2	0	5	201		2	0	2	0

### Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	6	3	0	0	3	0	0	2	0	0	0	0	0	0	14
Lights	1	28	277	1	0	1	334	10	0	9	0	1	0	12	0	26	700
Mediums	0	0	8	0	0	0	7	0	0	1	0	0	0	0	0	0	16
Total	1	28	291	4	0	1	344	10	0	12	0	1	0	12	0	26	730

### Heavy Vehicle Percentage and Peak Hour Factor

	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Heavy Vehicle %	5.2%				2.8%				23.1%				0.0%				4.1%
Heavy Vehicle %	0.0%	0.0%	4.8%	75.0%	0.0%	0.0%	2.9%	0.0%	0.0%	25.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	4.1%
Peak Hour Factor	0.97				0.92				0.54				0.79				0.91
Peak Hour Factor	0.25	0.88	0.94	0.50	0.00	0.50	0.92	0.60	0.25	0.50	0.25	0.50	0.00	0.50	0.25	0.80	0.91



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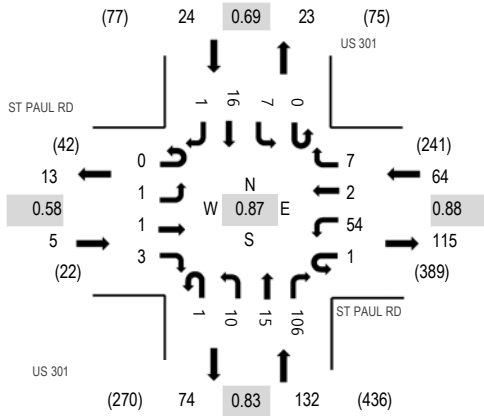
Location: 1 US 301 & ST PAUL RD PM

Date: Tuesday, January 24, 2023

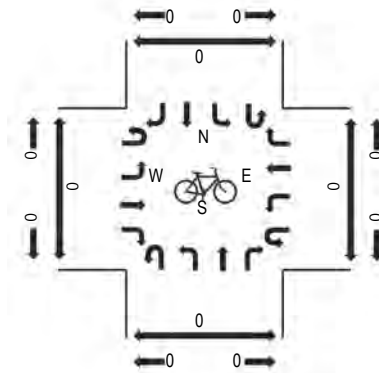
Peak Hour: 04:30 PM - 05:30 PM

Peak 15-Minutes: 05:00 PM - 05:15 PM

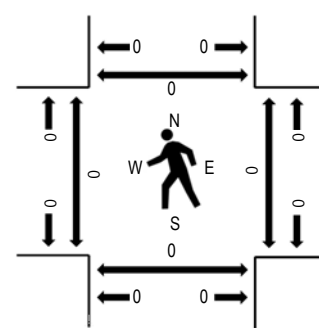
### Peak Hour - Motorized Vehicles



### Peak Hour - Bicycles



### Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

### Traffic Counts - Motorized Vehicles

Interval Start Time	ST PAUL RD Eastbound				ST PAUL RD Westbound				US 301 Northbound				US 301 Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
2:00 PM	0	0	0	1	0	14	0	1	0	1	0	21	0	0	3	1	42	181	0	0	0	0
2:15 PM	0	0	0	1	0	10	0	3	0	3	4	19	0	1	2	1	44	195	0	0	0	0
2:30 PM	0	0	0	2	0	13	0	4	0	2	1	16	0	2	3	0	43	186	0	0	0	0
2:45 PM	0	0	0	1	0	15	1	3	0	2	1	21	0	4	4	0	52	187	0	0	0	0
3:00 PM	0	0	1	1	0	14	0	1	0	3	4	27	0	3	1	1	56	200	2	0	0	0
3:15 PM	0	0	0	1	0	11	0	1	0	1	1	17	0	0	2	1	35	186	0	0	0	0
3:30 PM	0	1	0	0	1	9	0	0	0	1	6	24	0	1	1	0	44	206	2	0	0	0
3:45 PM	0	0	0	3	0	16	1	0	1	1	5	32	0	1	5	0	65	203	0	0	0	0
4:00 PM	0	1	0	1	0	16	0	0	0	2	0	19	0	0	3	0	42	200	0	0	0	0
4:15 PM	0	0	0	0	0	13	0	3	0	1	4	26	0	3	5	0	55	223	0	0	0	0
4:30 PM	0	0	1	1	0	12	0	1	0	2	2	19	0	0	3	0	41	225	0	0	0	0
4:45 PM	0	0	0	1	0	13	1	3	1	2	6	26	0	4	5	0	62	221	0	0	0	0
5:00 PM	0	0	0	1	1	17	0	1	0	3	4	33	0	1	3	1	65	195	0	0	0	0
5:15 PM	0	1	0	0	0	12	1	2	0	3	3	28	0	2	5	0	57		0	0	0	0
5:30 PM	0	0	2	1	0	14	1	1	0	3	1	12	0	1	1	0	37		0	0	0	0
5:45 PM	0	0	0	0	0	8	1	2	0	1	4	17	0	3	0	0	36		0	0	0	0

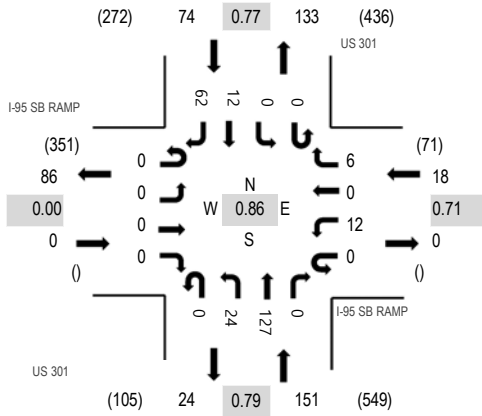
### Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	10	0	0	0	0	10
Lights	0	1	1	3	1	54	2	7	1	10	15	93	0	7	15	1	211
Mediums	0	0	0	0	0	0	0	0	0	0	0	3	0	0	1	0	4
Total	0	1	1	3	1	54	2	7	1	10	15	106	0	7	16	1	225

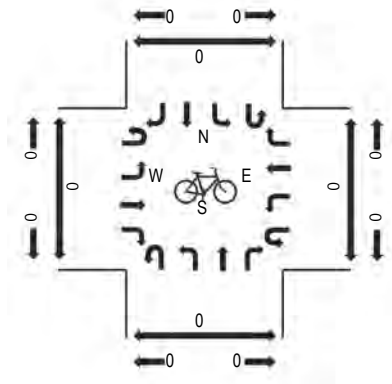
### Heavy Vehicle Percentage and Peak Hour Factor

	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Heavy Vehicle %												9.8%					6.2%
Heavy Vehicle %	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	12.3%	0.0%	0.0%	6.3%	0.0%	6.2%
Peak Hour Factor												0.83					0.87
Peak Hour Factor	0.00	0.50	0.25	0.42	0.25	0.89	0.75	0.69	0.25	0.92	0.67	0.80	0.00	0.63	0.80	0.50	0.87

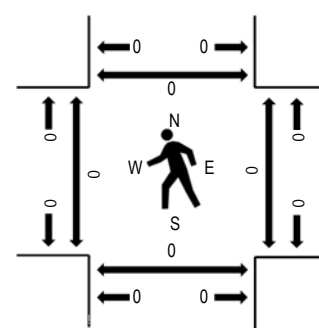
### Peak Hour - Motorized Vehicles



### Peak Hour - Bicycles



### Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

### Traffic Counts - Motorized Vehicles

Interval Start Time	I-95 SB RAMP Eastbound				I-95 SB RAMP Westbound				US 301 Northbound				US 301 Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
2:00 PM	0	0	0	0	0	3	2	0	0	7	22	0	0	0	3	16	53	214	0	0	0	0
2:15 PM	0	0	0	0	0	5	0	2	0	12	24	0	0	0	2	11	56	226	0	0	0	0
2:30 PM	0	0	0	0	0	1	0	2	0	7	17	0	0	0	4	14	45	214	0	0	0	0
2:45 PM	0	0	0	0	0	4	0	1	0	10	25	0	0	0	5	15	60	221	0	0	0	0
3:00 PM	0	0	0	0	0	2	0	1	0	14	32	0	0	0	4	12	65	241	1	0	0	0
3:15 PM	0	0	0	0	0	2	0	2	0	10	17	0	0	0	3	10	44	225	0	1	0	0
3:30 PM	0	0	0	0	0	4	1	2	0	6	28	0	0	0	2	9	52	239	1	1	0	0
3:45 PM	0	0	0	0	0	1	0	3	0	15	35	0	0	0	11	15	80	233	0	0	0	0
4:00 PM	0	0	0	0	0	1	0	0	0	7	21	0	0	0	6	14	49	217	0	0	0	0
4:15 PM	0	0	0	0	0	1	0	4	0	9	26	0	0	0	7	11	58	239	0	0	0	0
4:30 PM	0	0	0	0	0	2	0	0	0	4	24	0	0	0	1	15	46	243	0	0	0	0
4:45 PM	0	0	0	0	0	4	0	2	0	5	33	0	0	0	7	13	64	242	0	0	0	0
5:00 PM	0	0	0	0	0	2	0	3	0	8	37	0	0	0	2	19	71	220	0	0	0	0
5:15 PM	0	0	0	0	0	4	0	1	0	7	33	0	0	0	2	15	62		0	0	0	0
5:30 PM	0	0	0	0	0	2	0	0	0	11	16	0	0	0	3	13	45		0	0	0	0
5:45 PM	0	0	0	0	0	4	0	3	0	7	20	0	0	0	1	7	42		0	0	0	0

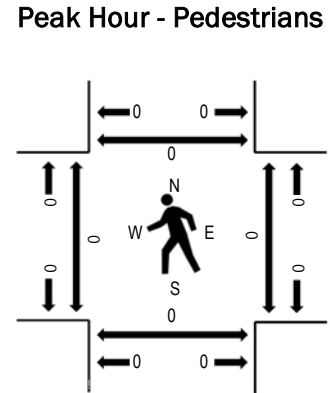
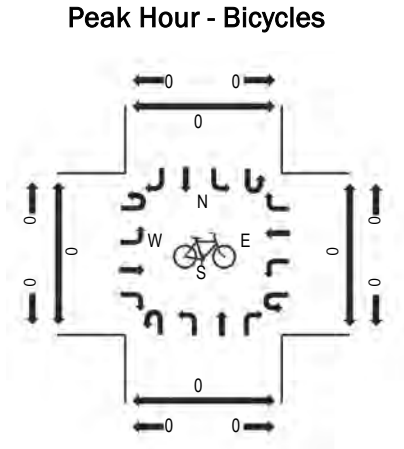
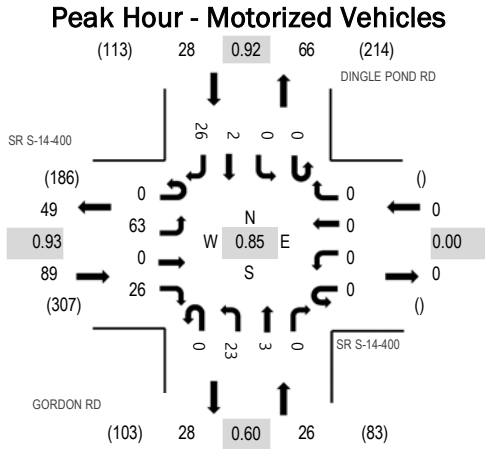
### Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	10	0	0	0	0	0	10
Lights	0	0	0	0	0	12	0	6	0	24	114	0	0	0	12	61	229
Mediums	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	1	4
Total	0	0	0	0	0	12	0	6	0	24	127	0	0	0	12	62	243

### Heavy Vehicle Percentage and Peak Hour Factor

	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Heavy Vehicle %											8.6%					1.4%	5.8%
Heavy Vehicle %	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	10.2%	0.0%	0.0%	0.0%	0.0%	1.6%	5.8%
Peak Hour Factor						0.71				0.79					0.77		0.86
Peak Hour Factor	0.00	0.00	0.00	0.00	0.00	0.65	0.25	0.56	0.00	0.75	0.86	0.00	0.00	0.00	0.59	0.82	0.86





Note: Total study counts contained in parentheses.

### Traffic Counts - Motorized Vehicles

Interval Start Time	SR S-14-400 Eastbound				SR S-14-400 Westbound				GORDON RD Northbound				DINGLE POND RD Southbound				Total	Rolling Hour	Pedestrian Crossings				
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North	
2:00 PM	0	6	0	7	0	0	0	0	0	3	0	0	0	0	0	1	7	24	111	0	0	0	0
2:15 PM	0	10	0	3	0	0	0	0	0	7	0	0	0	0	0	0	9	29	115	0	0	0	0
2:30 PM	0	16	0	1	0	0	0	0	0	4	0	0	0	0	0	0	8	29	119	0	0	0	0
2:45 PM	0	13	0	4	0	0	0	0	0	4	0	0	0	0	0	0	8	29	123	0	0	0	0
3:00 PM	0	8	0	6	0	0	0	0	0	6	0	0	0	0	0	0	8	28	136	0	0	0	0
3:15 PM	0	10	0	10	0	0	0	0	0	4	0	0	0	0	0	0	9	33	141	0	0	0	0
3:30 PM	0	16	0	6	0	0	0	0	0	3	0	0	0	0	0	1	7	33	143	0	0	0	0
3:45 PM	0	14	0	8	0	0	0	0	0	9	3	0	0	0	0	0	8	42	141	0	0	0	0
4:00 PM	0	20	0	4	0	0	0	0	0	4	0	0	0	0	0	0	5	33	130	0	0	0	0
4:15 PM	0	13	0	8	0	0	0	0	0	7	0	0	0	0	0	1	6	35	120	0	0	0	0
4:30 PM	0	17	0	5	0	0	0	0	0	5	1	0	0	0	0	0	3	31	120	0	0	0	0
4:45 PM	0	14	0	7	0	0	0	0	0	3	1	0	0	0	0	0	6	31	123	0	0	0	0
5:00 PM	0	10	0	5	0	0	0	0	0	4	0	0	0	0	0	0	4	23	126	0	0	0	0
5:15 PM	0	11	0	9	0	0	0	0	0	8	0	0	0	0	0	0	7	35		0	0	0	0
5:30 PM	0	11	0	11	0	0	0	0	0	2	1	0	0	0	0	0	9	34		0	0	0	0
5:45 PM	0	19	0	5	0	0	0	0	0	4	0	0	0	0	0	1	5	34		0	0	0	0

### Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total	
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
Articulated Trucks	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Lights	0	61	0	24	0	0	0	0	0	23	2	0	0	0	2	25	137	
Mediums	0	1	0	1	0	0	0	0	0	0	1	0	0	0	0	1	4	
Total	0	63	0	26	0	0	0	0	0	23	3	0	0	0	2	26	143	

### Heavy Vehicle Percentage and Peak Hour Factor

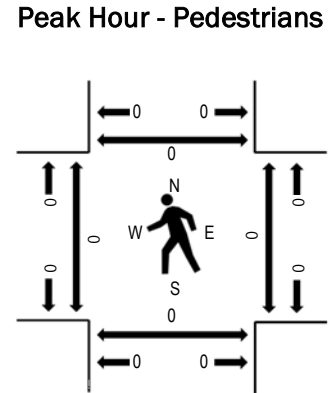
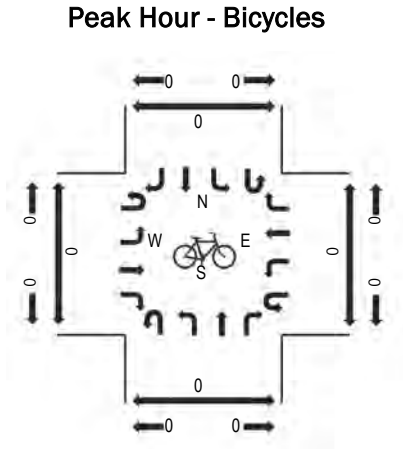
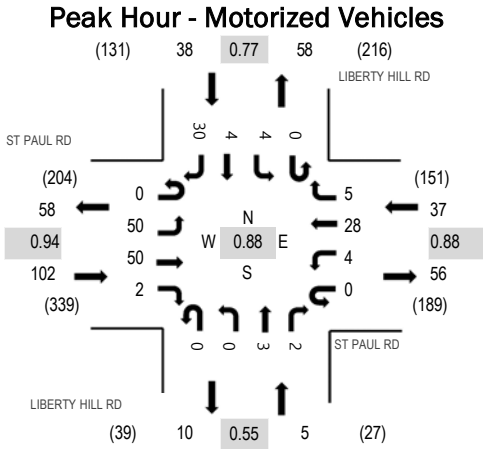
	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Heavy Vehicle %		4.5%			0.0%				3.8%				3.6%			4.2%	
Heavy Vehicle %	0.0%	3.2%	0.0%	7.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	33.3%	0.0%	0.0%	0.0%	0.0%	3.8%	4.2%
Peak Hour Factor		0.93			0.00				0.60				0.92			0.85	
Peak Hour Factor	0.00	0.80	0.00	0.73	0.00	0.00	0.00	0.00	0.00	0.69	0.33	0.00	0.00	0.00	0.50	0.92	0.85

Location: 5 LIBERTY HILL RD & ST PAUL RD PM

Date: Tuesday, January 24, 2023

Peak Hour: 03:30 PM - 04:30 PM

Peak 15-Minutes: 04:00 PM - 04:15 PM



Note: Total study counts contained in parentheses.

### Traffic Counts - Motorized Vehicles

Interval Start Time	ST PAUL RD Eastbound				ST PAUL RD Westbound				LIBERTY HILL RD Northbound				LIBERTY HILL RD Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
2:00 PM	0	8	9	1	0	0	7	2	0	0	0	0	0	0	2	1	30	135	0	0	0	0
2:15 PM	0	6	7	0	0	1	5	0	0	1	0	2	0	0	0	10	32	149	0	0	0	1
2:30 PM	0	12	5	0	0	1	5	3	0	1	0	1	0	1	0	3	32	153	0	0	0	1
2:45 PM	0	9	8	1	0	1	10	5	0	1	0	0	0	1	0	5	41	164	0	0	0	0
3:00 PM	0	7	15	1	0	2	4	3	0	2	2	1	0	2	0	5	44	168	0	0	0	0
3:15 PM	0	12	6	1	0	1	2	3	0	0	2	0	0	4	0	5	36	176	0	0	0	0
3:30 PM	0	15	10	0	0	1	7	1	0	0	0	1	0	0	1	7	43	182	0	0	0	0
3:45 PM	0	12	13	0	0	1	8	2	0	0	1	0	0	1	2	5	45	177	0	0	0	0
4:00 PM	0	11	15	1	0	2	9	1	0	0	0	0	0	2	0	11	52	166	0	0	0	0
4:15 PM	0	12	12	1	0	0	4	1	0	0	2	1	0	1	1	7	42	163	0	0	0	0
4:30 PM	0	9	8	0	0	4	5	3	0	1	0	0	0	1	1	6	38	181	0	0	0	0
4:45 PM	0	12	7	1	0	1	6	1	0	0	0	0	0	0	1	5	34	178	0	0	0	0
5:00 PM	0	14	13	0	1	1	8	2	0	0	0	0	0	2	0	8	49	179	1	0	0	0
5:15 PM	0	16	14	1	0	0	7	3	0	1	0	5	1	3	1	8	60		0	0	0	0
5:30 PM	0	9	9	1	0	1	7	2	0	0	0	1	0	0	1	4	35		0	0	0	0
5:45 PM	0	9	5	1	0	0	5	2	0	0	1	0	0	2	2	8	35		0	0	0	0

### Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	5	0	0	0	1	0	0	0	0	0	0	0	0	0	6
Lights	0	47	42	2	0	4	27	5	0	0	3	1	0	4	4	30	169
Mediums	0	3	3	0	0	0	0	0	0	0	0	1	0	0	0	0	7
Total	0	50	50	2	0	4	28	5	0	0	3	2	0	4	4	30	182

### Heavy Vehicle Percentage and Peak Hour Factor

	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Heavy Vehicle %		10.8%			2.7%				20.0%				0.0%			7.1%	
Heavy Vehicle %	0.0%	6.0%	16.0%	0.0%	0.0%	0.0%	3.6%	0.0%	0.0%	0.0%	50.0%	0.0%	0.0%	0.0%	0.0%	7.1%	
Peak Hour Factor		0.94			0.88				0.55				0.77			0.88	
Peak Hour Factor	0.00	0.80	0.83	0.75	0.25	0.44	0.78	0.70	0.00	0.63	0.63	0.30	0.25	0.50	0.50	0.68	0.88





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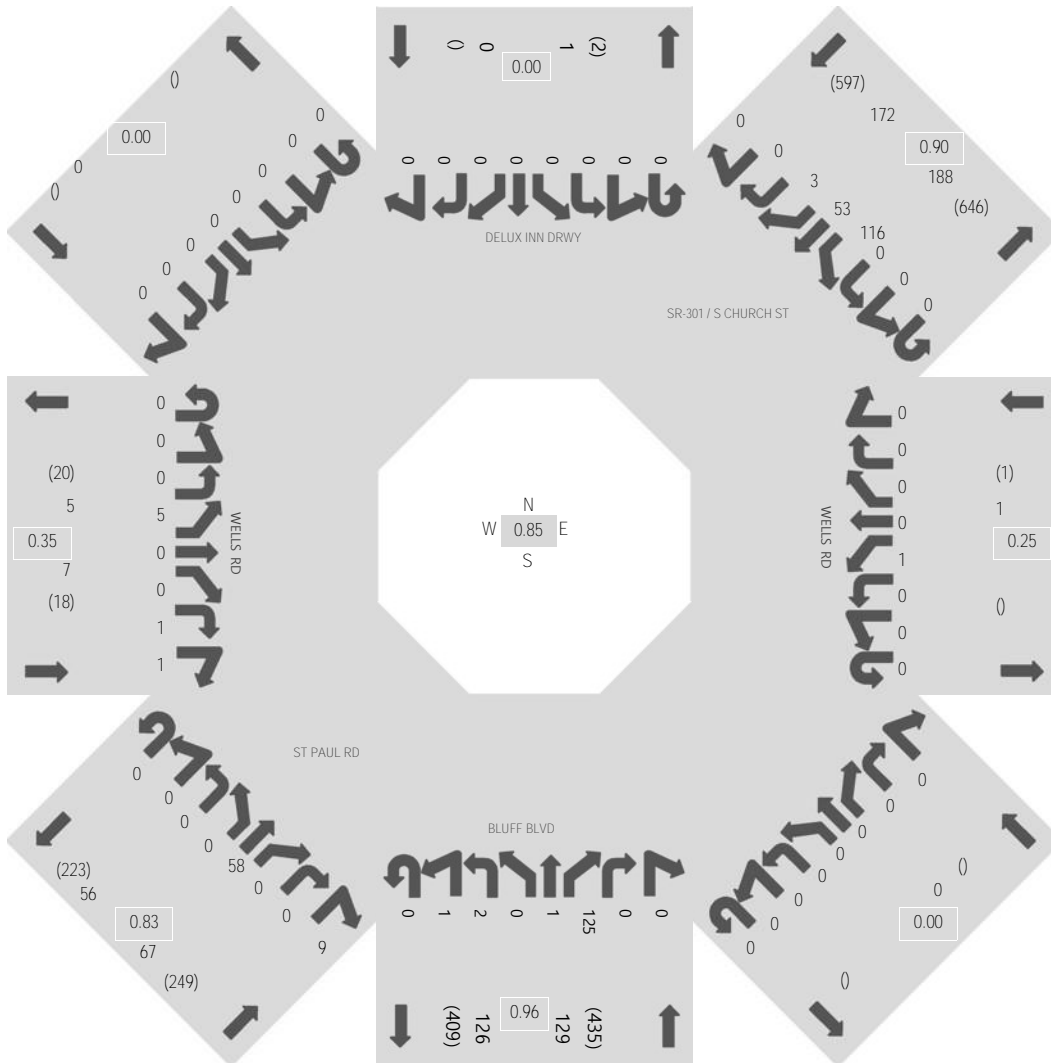
Location: 6 BLUFF BLVD & WELLS RD PM

Date: Tuesday, January 24, 2023

Peak Hour: 04:00 PM - 05:00 PM

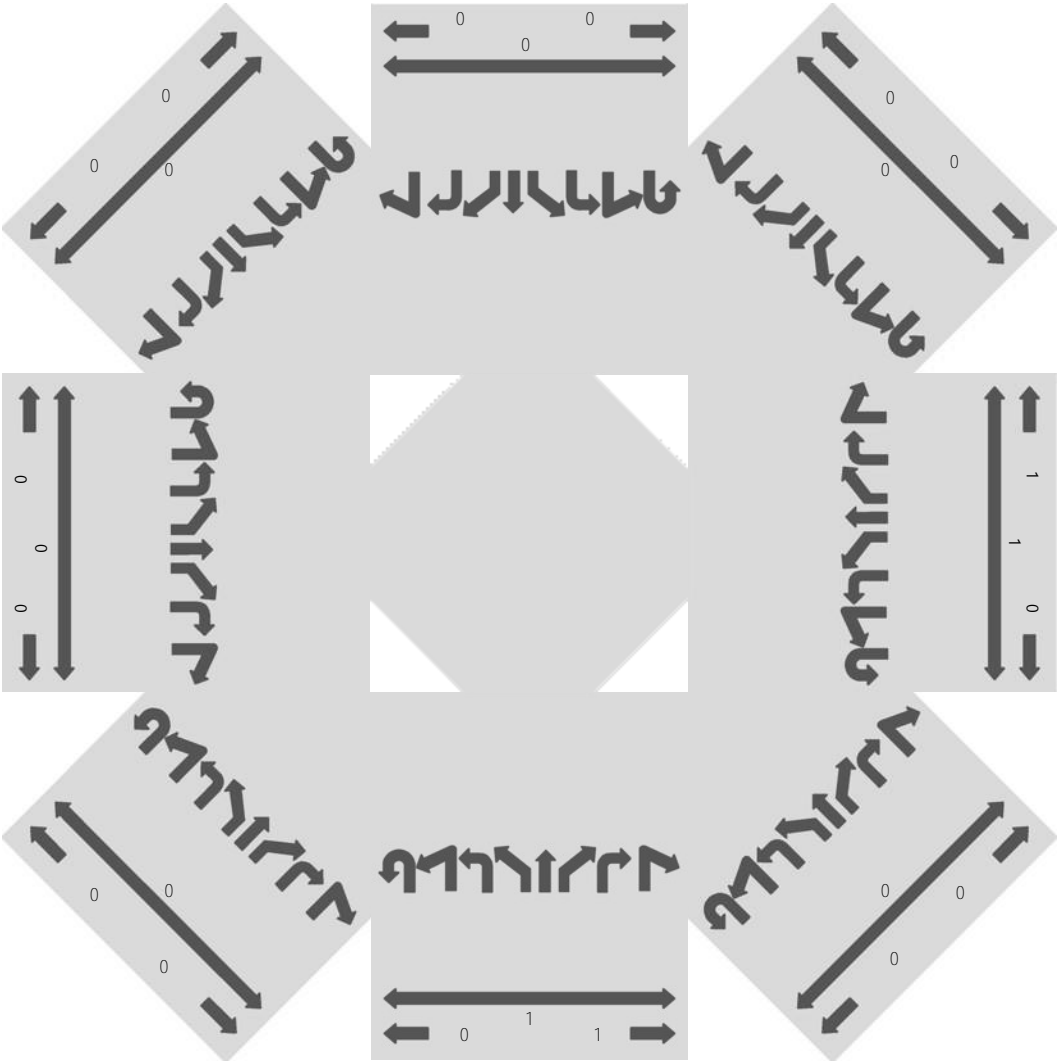
Peak 15-Minutes: 04:00 PM - 04:15 PM

### Peak Hour - Motorized Vehicles

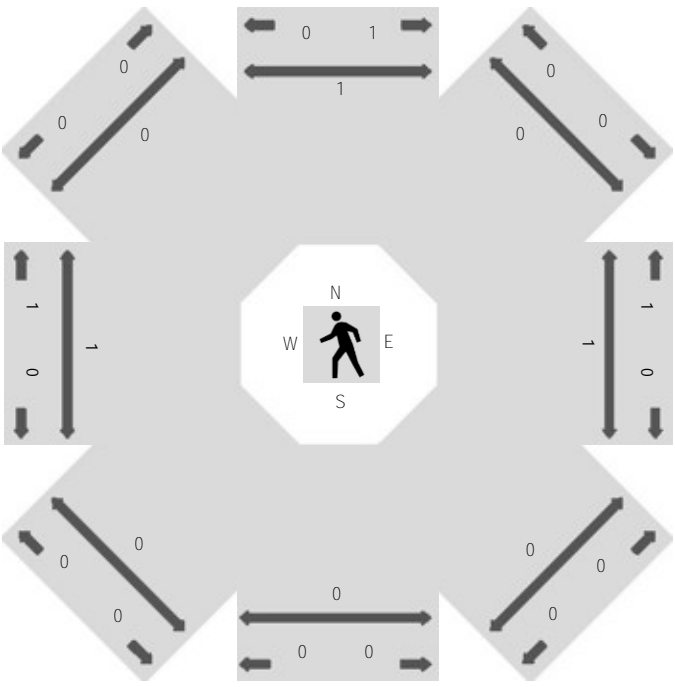


Note: Total study counts contained in parentheses.

Peak Hour - Bicycles



Peak Hour - Pedestrians



# Traffic Counts - Motorized Vehicles

Interval Start Time	Westbound								Northwestbound								Northbound								Northeastbound							
	U	HL	L	BL	T	BR	R	HR	U	HL	L	BL	T	BR	R	HR	U	HL	L	BL	T	BR	R	HR	U	HL	L	BL	T	BR	R	HR
2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	28	0	0	0	0	9	0	0	1		
2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16	0	0	0	3	0	0	12	0	0	1
2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	20	0	0	0	0	7	0	0	2		
2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	17	0	0	0	1	0	0	6	0	0	0
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	28	0	0	0	0	16	0	0	0		
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	19	0	0	0	0	14	0	0	2		
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24	0	0	0	0	14	0	0	0		
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	21	0	0	0	1	0	0	16	0	0	0
4:00 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	34	0	0	0	0	21	0	0	5		
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	30	0	0	0	0	13	0	0	1			
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	30	0	0	0	0	11	0	0	1			
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	0	31	0	0	0	0	13	0	0	2		
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	34	0	0	0	0	22	0	0	1		
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	33	0	0	0	0	18	0	0	1		
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	23	0	0	0	1	15	0	0	2		
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	30	0	0	0	0	13	0	0	3		
Count Total	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	8	7	0	1	418	0	0	0	6	0	1	220	0	0	22
Peak Hour	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	1	125	0	0	0	0	0	0	58	0	0	9

Interval Start Time	Eastbound								Southeastbound								Southbound								Southwestbound								Total	Rolling Hour
	U	HL	L	BL	T	BR	R	HR	U	HL	L	BL	T	BR	R	HR	U	HL	L	BL	T	BR	R	HR	U	HL	L	BL	T	BR	R	HR		
2:00 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	11	1	0	0	66	265	
2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	27	7	1	0	0	67	268	
2:30 PM	0	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19	14	0	0	0	66	276		
2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	25	15	1	0	0	66	290		
3:00 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11	10	0	0	0	69	303		
3:15 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	26	12	0	0	0	75	345		
3:30 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24	17	0	0	0	80	355		
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	26	13	0	0	0	79	366		
4:00 PM	0	0	0	3	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	31	14	0	0	0	111	376		
4:15 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	26	10	3	0	0	85	372		
4:30 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	33	15	0	0	0	91	371		
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	26	14	0	0	0	89	364		
5:00 PM	0	0	0	1	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	32	14	0	0	0	107	356		
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15	15	0	0	0	84			
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	28	14	0	0	0	84			
5:45 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19	13	1	0	0	81			
Count Total	0	0	0	8	0	0	4	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	382	208	7	0	0	1,300			
Peak Hour	0	0	0	5	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	116	53	3	0	0	376			

# Peak Rolling Hour Flow Rates

Vehicle Type	Westbound								Northwestbound								Northbound								Northeastbound							
	U	HL	L	BL	T	BR	R	HR	U	HL	L	BL	T	BR	R	HR	U	HL	L	BL	T	BR	R	HR	U	HL	L	BL	T	BR	R	HR
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	3	0	0	0
Lights	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	1	120	0	0	0	0	0	0	52	0	0	9
Mediums	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0
Count Total	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	1	125	0	0	0	0	0	0	58	0	0	9

Vehicle Type	Eastbound								Southeastbound								Southbound								Southwestbound								Total
	U	HL	L	BL	T	BR	R	HR	U	HL	L	BL	T	BR	R	HR	U	HL	L	BL	T	BR	R	HR	U	HL	L	BL	T	BR	R	HR	
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	1	0	0	12
Lights	0	0	0	5	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	113	51	3	0	360
Mediums	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	4
Count Total	0	0	0	5	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	116	53	3	0	376

# Heavy Vehicle Percentage and Peak Hour Factor

	Westbound								Northwestbound								Northbound								Northeastbound								Total
	U	HL	L	BL	T	BR	R	HR	U	HL	L	BL	T	BR	R	HR	U	HL	L	BL	T	BR	R	HR	U	HL	L	BL	T	BR	R	HR	
HV%	0.0%								0.0%								3.9%								9.0%								
HV%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	4.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	10.3%	0.0%	0.0%	0.0%	4.3%
PHF	0.25								0.00								0.96								0.83								
PHF	0.00	0.00	0.00	0.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.25	0.75	0.50	0.00	0.25	0.94	0.00	0.00	0.00	0.33	0.00	0.25	0.77	0.00	0.00	0.45	0.85	
	Eastbound								Southeastbound								Southbound								Southwestbound								Total
	U	HL	L	BL	T	BR	R	HR	U	HL	L	BL	T	BR	R	HR	U	HL	L	BL	T	BR	R	HR	U	HL	L	BL	T	BR	R	HR	
HV%	0.0%								0.0%								0.0%								2.9%								4.3%
HV%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.6%	3.8%	0.0%	0.0%	0.0%	4.3%	
PHF	0.35								0.00								0.00								0.90								0.85
PHF	0.00	0.00	0.00	0.42	0.00	0.00	0.75	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.89	0.97	0.25	0.00	0.00	0.85	



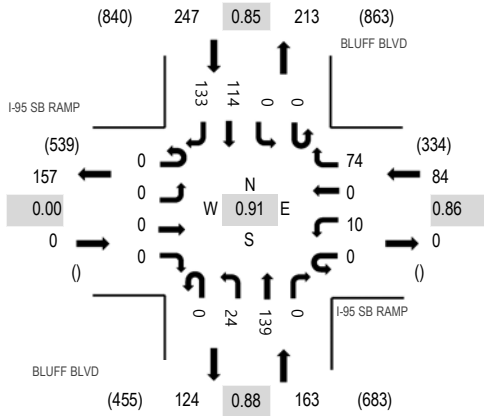
Location: 7 BLUFF BLVD & I-95 SB RAMP PM

Date: Tuesday, January 24, 2023

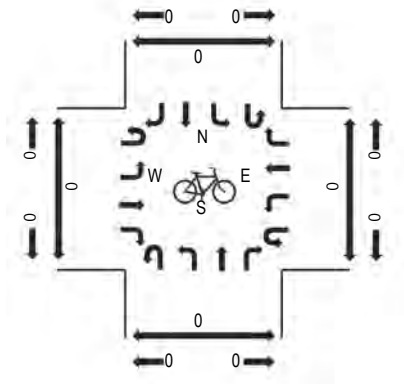
Peak Hour: 02:00 PM - 03:00 PM

Peak 15-Minutes: 02:15 PM - 02:30 PM

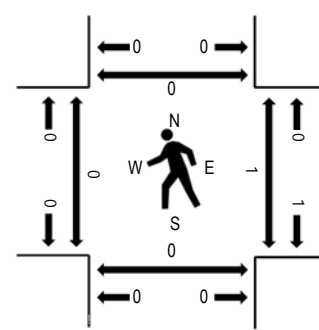
### Peak Hour - Motorized Vehicles



### Peak Hour - Bicycles



### Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

### Traffic Counts - Motorized Vehicles

Interval Start Time	I-95 SB RAMP Eastbound				I-95 SB RAMP Westbound				BLUFF BLVD Northbound				BLUFF BLVD Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
2:00 PM	0	0	0	0	0	3	0	20	0	6	40	0	0	0	22	30	121	494	0	0	0	0
2:15 PM	0	0	0	0	0	1	0	25	0	3	39	0	0	0	32	35	135	476	0	0	0	0
2:30 PM	0	0	0	0	0	1	0	16	0	7	30	0	0	0	35	38	127	450	0	1	0	0
2:45 PM	0	0	0	0	0	5	0	13	0	8	30	0	0	0	25	30	111	421	0	0	0	0
3:00 PM	0	0	0	0	0	4	0	20	0	5	24	0	0	0	26	24	103	409	0	0	0	0
3:15 PM	0	0	0	0	0	4	0	13	0	6	34	0	0	0	20	32	109	429	0	0	0	0
3:30 PM	0	0	0	0	0	3	0	16	0	5	35	0	0	0	19	20	98	439	0	0	0	0
3:45 PM	0	0	0	0	0	6	0	13	0	5	39	0	0	0	12	24	99	459	0	0	0	0
4:00 PM	0	0	0	0	0	2	0	13	0	9	43	0	0	0	32	24	123	474	0	0	0	0
4:15 PM	0	0	0	0	0	6	0	17	0	9	27	0	0	0	27	33	119	490	0	0	0	0
4:30 PM	0	0	0	0	0	1	0	20	0	1	41	0	0	0	26	29	118	470	0	1	0	0
4:45 PM	0	0	0	0	0	1	0	18	0	6	38	0	0	0	23	28	114	463	0	0	0	0
5:00 PM	0	0	0	0	0	4	2	21	0	7	48	0	0	0	26	31	139	480	0	0	0	0
5:15 PM	0	0	0	0	0	6	0	17	0	3	39	0	0	0	16	18	99		0	0	0	0
5:30 PM	0	0	0	0	0	5	0	13	0	5	39	0	0	0	22	27	111		0	0	0	0
5:45 PM	0	0	0	0	0	5	0	20	0	10	42	0	0	0	35	19	131		0	0	0	0

### Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0	0	0	0	29	0	2	35	0	0	0	25	36	127
Lights	0	0	0	0	0	10	0	43	0	22	96	0	0	0	83	94	348
Mediums	0	0	0	0	0	0	0	2	0	0	8	0	0	0	6	3	19
Total	0	0	0	0	0	10	0	74	0	24	139	0	0	0	114	133	494

### Heavy Vehicle Percentage and Peak Hour Factor

	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Heavy Vehicle %	0.0%				36.9%				27.6%				28.3%				29.6%
Heavy Vehicle %	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	41.9%	0.0%	8.3%	30.9%	0.0%	0.0%	0.0%	27.2%	29.3%	29.6%
Peak Hour Factor	0.00				0.86				0.88				0.85				0.91
Peak Hour Factor	0.00	0.00	0.00	0.00	0.00	0.83	0.25	0.90	0.00	0.78	0.88	0.00	0.00	0.00	0.84	0.88	0.91



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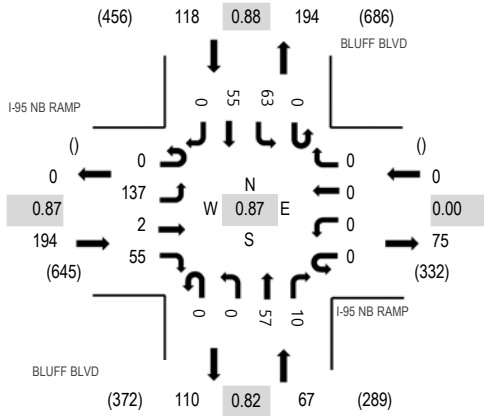
Location: 8 BLUFF BLVD & I-95 NB RAMP PM

Date: Tuesday, January 24, 2023

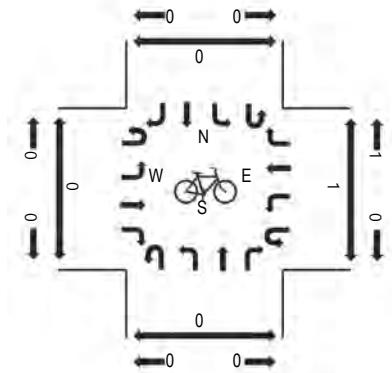
Peak Hour: 05:00 PM - 06:00 PM

Peak 15-Minutes: 05:45 PM - 06:00 PM

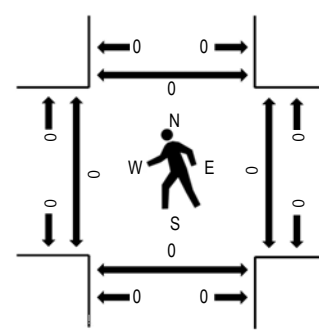
### Peak Hour - Motorized Vehicles



### Peak Hour - Bicycles



### Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

### Traffic Counts - Motorized Vehicles

Interval Start Time	I-95 NB RAMP Eastbound				I-95 NB RAMP Westbound				BLUFF BLVD Northbound				BLUFF BLVD Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
2:00 PM	0	33	0	6	0	0	0	0	0	0	13	8	0	13	11	0	84	355	0	0	0	0
2:15 PM	0	33	1	6	0	0	0	0	0	0	10	9	0	23	12	0	94	343	0	0	0	0
2:30 PM	0	27	0	9	0	0	0	0	0	0	12	2	0	24	12	0	86	330	0	0	0	0
2:45 PM	0	20	0	16	0	0	0	0	0	0	16	9	0	15	15	0	91	318	0	2	0	0
3:00 PM	0	20	1	10	0	0	0	0	0	0	11	4	0	15	11	0	72	300	0	0	0	0
3:15 PM	0	26	1	9	0	0	0	0	0	0	12	6	0	14	13	0	81	332	0	0	0	0
3:30 PM	0	20	0	8	0	0	0	0	0	0	22	2	0	8	14	0	74	331	0	0	0	0
3:45 PM	0	29	0	10	0	0	0	0	0	0	13	2	0	8	11	0	73	348	0	0	0	0
4:00 PM	0	39	2	8	0	0	0	0	0	0	14	7	0	19	15	0	104	356	0	0	0	0
4:15 PM	0	24	0	10	0	0	0	0	0	0	11	3	0	16	16	0	80	357	0	0	0	0
4:30 PM	0	33	2	15	0	0	0	0	0	0	11	4	0	18	8	0	91	359	0	1	0	0
4:45 PM	0	27	0	6	0	0	0	0	0	0	16	5	0	16	11	0	81	351	0	0	0	0
5:00 PM	0	38	1	17	0	0	0	0	0	0	18	2	0	18	11	0	105	379	0	0	0	0
5:15 PM	0	33	0	15	0	0	0	0	0	0	9	1	0	13	11	0	82		0	0	0	0
5:30 PM	0	30	1	8	0	0	0	0	0	0	14	4	0	14	12	0	83		0	0	0	0
5:45 PM	0	36	0	15	0	0	0	0	0	0	16	3	0	18	21	0	109		0	0	0	0

### Peak Rolling Hour Flow Rates

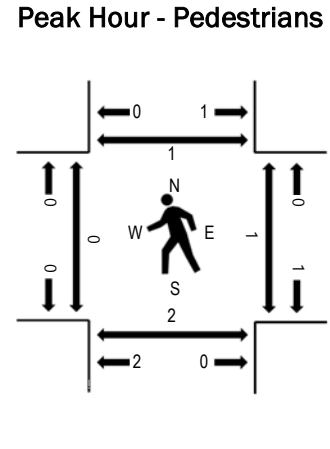
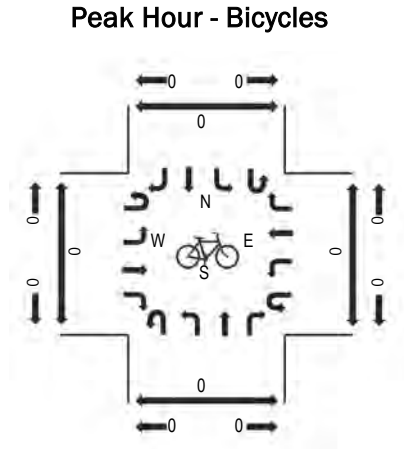
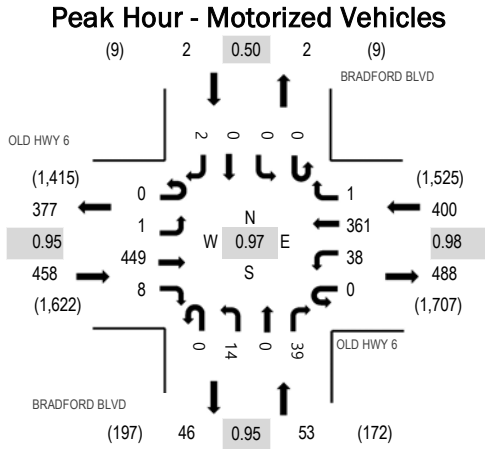
Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	33	1	2	0	0	0	0	0	0	1	0	0	20	0	0	57
Lights	0	100	1	53	0	0	0	0	0	0	56	10	0	42	54	0	316
Mediums	0	4	0	0	0	0	0	0	0	0	0	0	0	1	1	0	6
Total	0	137	2	55	0	0	0	0	0	0	57	10	0	63	55	0	379

### Heavy Vehicle Percentage and Peak Hour Factor

	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Heavy Vehicle %		20.6%			0.0%				1.5%				18.6%			16.6%	
Heavy Vehicle %	0.0%	27.0%	50.0%	3.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.8%	0.0%	0.0%	33.3%	1.8%	0.0%	16.6%
Peak Hour Factor		0.87			0.00				0.82				0.88			0.87	
Peak Hour Factor	0.00	0.90	0.50	0.81	0.00	0.00	0.00	0.00	0.00	0.00	0.69	0.78	0.00	0.80	0.88	0.00	0.87







Note: Total study counts contained in parentheses.

### Traffic Counts - Motorized Vehicles

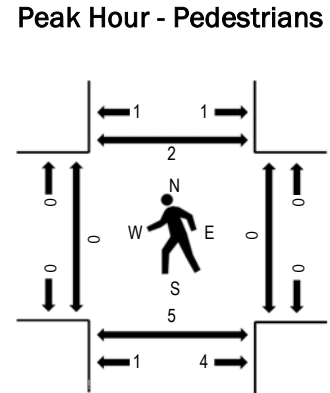
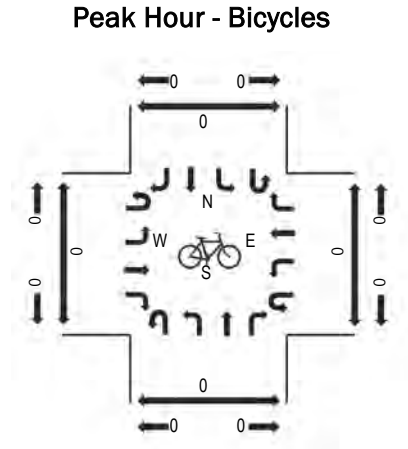
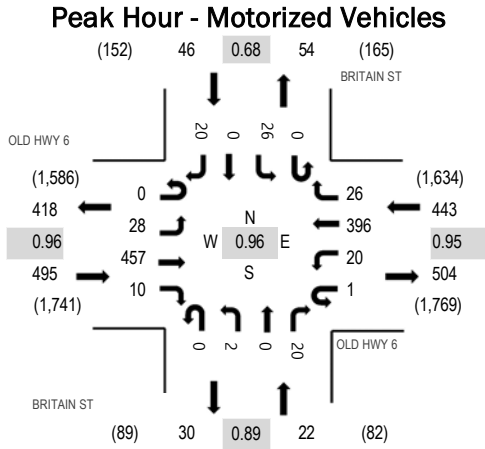
Interval Start Time	OLD HWY 6 Eastbound				OLD HWY 6 Westbound				BRADFORD BLVD Northbound				BRADFORD BLVD Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
2:00 PM	0	0	104	2	0	7	85	0	0	1	0	6	0	0	0	0	205	797	0	0	1	0
2:15 PM	0	1	106	4	0	13	65	1	0	5	0	7	0	0	0	2	204	793	0	0	0	0
2:30 PM	0	0	63	3	0	7	80	0	0	4	0	9	0	1	0	0	167	779	0	0	1	0
2:45 PM	0	0	98	1	0	13	100	1	0	2	0	6	0	0	0	0	221	812	0	0	0	0
3:00 PM	0	0	85	5	0	13	90	1	0	0	1	5	0	0	1	0	201	809	0	0	0	0
3:15 PM	0	0	85	3	0	9	78	0	0	3	0	12	0	0	0	0	190	833	0	0	0	0
3:30 PM	0	0	98	0	0	9	84	0	0	0	0	9	0	0	0	0	200	839	0	0	0	0
3:45 PM	0	1	103	6	0	11	90	0	0	2	0	5	0	0	0	0	218	838	0	0	0	0
4:00 PM	0	0	107	2	0	11	90	0	0	3	0	11	0	1	0	0	225	809	0	0	0	1
4:15 PM	0	1	92	5	0	5	84	0	0	0	0	9	0	0	0	0	196	814	0	0	0	0
4:30 PM	0	0	94	2	0	5	89	0	0	2	0	6	0	0	0	1	199	853	0	0	0	0
4:45 PM	0	0	89	4	0	10	74	0	0	3	0	8	0	0	0	1	189	874	0	0	0	0
5:00 PM	0	0	116	2	0	7	91	1	0	3	0	9	0	0	0	1	230	913	0	1	1	0
5:15 PM	0	0	121	0	0	8	92	0	0	3	0	11	0	0	0	0	235		0	0	1	1
5:30 PM	0	0	99	4	0	10	92	0	0	3	0	11	0	0	0	1	220		0	0	0	0
5:45 PM	0	1	113	2	0	13	86	0	0	5	0	8	0	0	0	0	228		0	0	0	0

### Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	9	0	0	0	8	0	0	0	0	0	0	0	0	0	17
Lights	0	1	436	8	0	36	350	1	0	14	0	39	0	0	0	2	887
Mediums	0	0	4	0	0	2	3	0	0	0	0	0	0	0	0	0	9
Total	0	1	449	8	0	38	361	1	0	14	0	39	0	0	0	2	913

### Heavy Vehicle Percentage and Peak Hour Factor

	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Heavy Vehicle %		2.8%				3.3%				0.0%				0.0%		2.8%	
Heavy Vehicle %	0.0%	0.0%	2.9%	0.0%	0.0%	5.3%	3.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.8%	
Peak Hour Factor		0.95				0.98				0.95				0.50		0.97	
Peak Hour Factor	0.00	0.50	0.93	0.63	0.00	0.88	0.98	0.75	0.00	0.70	0.25	0.89	0.00	0.25	0.25	0.75	0.97



Note: Total study counts contained in parentheses.

### Traffic Counts - Motorized Vehicles

Interval Start Time	OLD HWY 6 Eastbound				OLD HWY 6 Westbound				BRITAIN ST Northbound				BRITAIN ST Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
2:00 PM	0	6	105	2	0	3	94	3	0	0	0	4	0	4	0	3	224	862	0	0	0	0
2:15 PM	0	9	112	3	0	2	83	3	0	0	1	2	0	6	0	4	225	848	0	0	0	0
2:30 PM	0	6	66	1	0	2	84	6	0	0	0	5	0	6	0	5	181	831	0	0	0	0
2:45 PM	0	12	96	1	0	1	103	5	0	1	0	4	0	4	0	5	232	868	0	0	1	0
3:00 PM	0	2	89	0	0	2	99	0	0	0	1	2	0	3	0	12	210	878	0	0	1	0
3:15 PM	0	2	94	1	0	7	85	5	0	2	0	5	0	2	0	5	208	902	0	0	0	0
3:30 PM	0	5	97	1	0	5	88	6	0	0	1	5	0	3	0	7	218	900	0	0	0	0
3:45 PM	0	2	113	2	0	7	100	2	0	1	0	5	0	4	0	6	242	887	0	0	0	0
4:00 PM	0	4	113	2	0	0	102	0	0	0	1	5	0	4	0	3	234	863	0	0	0	2
4:15 PM	0	1	101	3	0	2	88	4	0	0	0	2	0	3	0	2	206	871	1	0	0	0
4:30 PM	0	7	88	0	0	3	89	4	0	1	0	7	0	3	0	3	205	926	0	0	0	0
4:45 PM	0	3	93	4	0	5	89	10	0	0	0	5	0	5	0	4	218	961	0	0	0	0
5:00 PM	0	6	122	1	0	4	96	5	0	0	0	2	0	2	0	4	242	1,006	0	0	2	1
5:15 PM	0	7	115	4	0	6	97	7	0	2	0	6	0	10	0	7	261		0	0	1	1
5:30 PM	0	9	104	3	0	4	101	6	0	0	0	6	0	6	0	1	240		0	0	0	0
5:45 PM	0	6	116	2	1	6	102	8	0	0	0	6	0	8	0	8	263		0	0	2	0

### Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	9	0	0	0	8	0	0	0	0	0	0	0	0	0	17
Lights	0	28	444	10	1	20	383	26	0	2	0	20	0	26	0	19	979
Mediums	0	0	4	0	0	0	5	0	0	0	0	0	0	0	0	1	10
Total	0	28	457	10	1	20	396	26	0	2	0	20	0	26	0	20	1,006

### Heavy Vehicle Percentage and Peak Hour Factor

	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Heavy Vehicle %																	
Heavy Vehicle %	0.0%	0.0%	2.8%	0.0%	0.0%	0.0%	3.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	5.0%	2.7%
Peak Hour Factor																	
Peak Hour Factor	0.00	0.69	0.94	0.75	0.25	0.75	0.97	0.70	0.00	0.38	0.50	0.71	0.00	0.65	0.00	0.63	0.96



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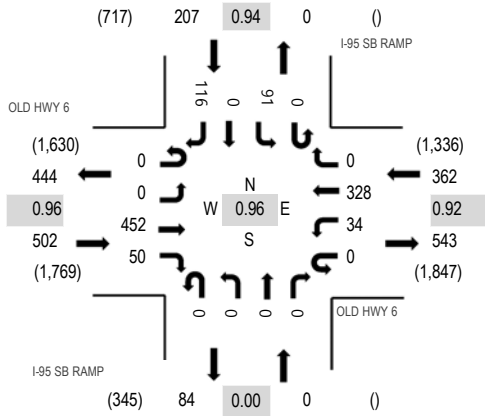
Location: 12 I-95 SB RAMP & OLD HWY 6 PM

Date: Tuesday, January 24, 2023

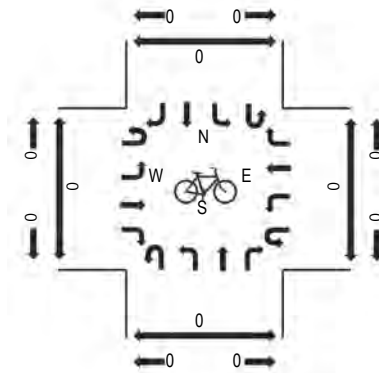
Peak Hour: 05:00 PM - 06:00 PM

Peak 15-Minutes: 05:45 PM - 06:00 PM

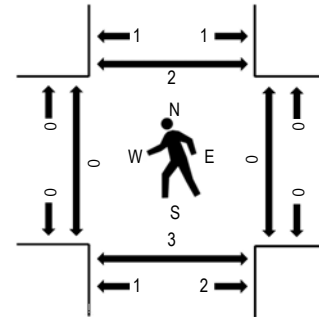
**Peak Hour - Motorized Vehicles**



**Peak Hour - Bicycles**



**Peak Hour - Pedestrians**



Note: Total study counts contained in parentheses.

**Traffic Counts - Motorized Vehicles**

Interval Start Time	OLD HWY 6 Eastbound				OLD HWY 6 Westbound				I-95 SB RAMP Northbound				I-95 SB RAMP Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
2:00 PM	0	0	99	14	0	8	71	0	0	0	0	0	0	18	0	28	238	894	0	0	0	0
2:15 PM	0	0	101	18	0	14	63	0	0	0	0	0	0	9	0	25	230	873	0	0	0	0
2:30 PM	0	0	62	15	0	7	56	0	0	0	0	0	0	16	0	37	193	859	0	0	0	0
2:45 PM	0	0	87	17	0	5	77	0	0	0	0	0	0	10	0	37	233	895	0	7	1	0
3:00 PM	0	0	86	14	0	8	73	0	0	0	0	0	0	14	0	22	217	912	0	1	1	0
3:15 PM	0	0	93	9	0	2	68	0	0	0	0	0	0	16	0	28	216	943	0	0	0	0
3:30 PM	0	0	93	11	0	12	73	0	0	0	0	0	0	16	0	24	229	974	0	0	0	0
3:45 PM	0	0	112	7	0	6	80	0	0	0	0	0	0	17	0	28	250	969	0	0	0	0
4:00 PM	0	0	113	6	0	15	76	0	0	0	0	0	0	12	0	26	248	945	0	0	0	0
4:15 PM	0	0	99	14	0	13	69	0	0	0	0	0	0	27	0	25	247	961	0	0	0	0
4:30 PM	0	0	90	8	0	16	75	0	0	0	0	0	0	15	0	20	224	984	0	0	0	0
4:45 PM	0	0	88	11	0	11	76	0	0	0	0	0	0	11	0	29	226	1,017	0	0	0	0
5:00 PM	0	0	115	11	0	13	70	0	0	0	0	0	0	19	0	36	264	1,071	0	0	2	1
5:15 PM	0	0	113	18	0	7	82	0	0	0	0	0	0	24	0	26	270		0	0	1	1
5:30 PM	0	0	103	13	0	6	86	0	0	0	0	0	0	24	0	25	257		0	0	0	0
5:45 PM	0	0	121	8	0	8	90	0	0	0	0	0	0	24	0	29	280		0	0	0	0

**Peak Rolling Hour Flow Rates**

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	4	5	0	0	4	0	0	0	0	0	0	3	0	5	21
Lights	0	0	444	45	0	33	319	0	0	0	0	0	0	87	0	111	1,039
Mediums	0	0	4	0	0	1	5	0	0	0	0	0	0	1	0	0	11
Total	0	0	452	50	0	34	328	0	0	0	0	0	0	91	0	116	1,071

**Heavy Vehicle Percentage and Peak Hour Factor**

	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Heavy Vehicle %																	
Heavy Vehicle %	0.0%	0.0%	1.8%	10.0%	0.0%	2.9%	2.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	4.4%	0.0%	4.3%	3.0%
Peak Hour Factor																	
Peak Hour Factor	0.96				0.92				0.00					0.94			0.96
Peak Hour Factor	0.00	0.00	0.93	0.89	0.00	0.86	0.91	0.00	0.00	0.00	0.00	0.00	0.00	0.95	0.00	0.86	0.96



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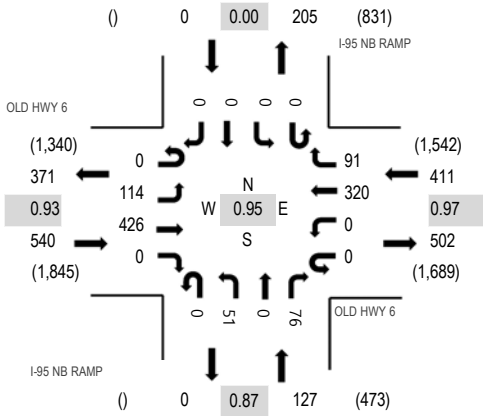
Location: 13 I-95 NB RAMP & OLD HWY 6 PM

Date: Tuesday, January 24, 2023

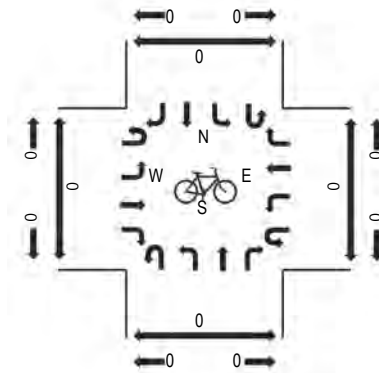
Peak Hour: 05:00 PM - 06:00 PM

Peak 15-Minutes: 05:45 PM - 06:00 PM

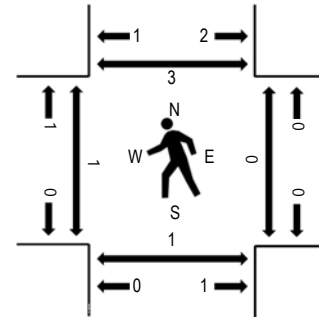
### Peak Hour - Motorized Vehicles



### Peak Hour - Bicycles



### Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

### Traffic Counts - Motorized Vehicles

Interval Start Time	OLD HWY 6 Eastbound				OLD HWY 6 Westbound				I-95 NB RAMP Northbound				I-95 NB RAMP Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
2:00 PM	0	33	84	0	0	0	74	26	0	6	0	14	0	0	0	0	237	844	0	0	0	0
2:15 PM	0	35	80	0	0	0	71	19	0	4	0	10	0	0	0	0	219	839	0	0	0	1
2:30 PM	0	17	61	0	1	0	55	17	0	4	0	16	0	0	0	0	171	849	0	0	0	0
2:45 PM	0	23	71	0	0	0	75	23	0	8	0	17	0	0	0	0	217	928	0	0	0	1
3:00 PM	0	37	63	0	0	0	72	29	0	8	0	23	0	0	0	0	232	956	0	0	1	0
3:15 PM	0	22	83	0	0	0	56	34	0	14	0	20	0	0	0	0	229	993	0	0	0	0
3:30 PM	0	26	88	0	0	0	77	33	0	10	0	16	0	0	0	0	250	1,018	0	0	0	0
3:45 PM	0	33	91	0	0	0	66	21	0	18	0	16	0	0	0	0	245	1,000	0	0	0	0
4:00 PM	0	35	93	0	0	0	77	23	0	15	0	26	0	0	0	0	269	982	0	0	0	0
4:15 PM	0	27	102	0	0	0	75	16	0	8	0	26	0	0	0	0	254	979	0	0	0	0
4:30 PM	0	25	80	0	0	0	73	20	0	17	0	17	0	0	0	0	232	992	0	0	0	0
4:45 PM	0	23	73	0	0	0	69	29	0	17	0	16	0	0	0	0	227	1,021	0	0	1	0
5:00 PM	0	34	100	0	0	0	78	23	0	11	0	20	0	0	0	0	266	1,078	0	0	0	1
5:15 PM	0	25	114	0	0	0	77	26	0	10	0	15	0	0	0	0	267		1	0	0	1
5:30 PM	0	20	102	0	0	0	77	24	0	16	0	22	0	0	0	0	261		0	0	1	1
5:45 PM	0	35	110	0	0	0	88	18	0	14	0	19	0	0	0	0	284		0	0	0	0

### Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	3	4	0	0	0	0	3	0	4	0	1	0	0	0	0	15
Lights	0	109	420	0	0	0	316	85	0	45	0	73	0	0	0	0	1,048
Mediums	0	2	2	0	0	0	4	3	0	2	0	2	0	0	0	0	15
Total	0	114	426	0	0	0	320	91	0	51	0	76	0	0	0	0	1,078

### Heavy Vehicle Percentage and Peak Hour Factor

	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Heavy Vehicle %		2.0%				2.4%				7.1%				0.0%			2.8%
Heavy Vehicle %	0.0%	4.4%	1.4%	0.0%	0.0%	0.0%	1.3%	6.6%	0.0%	11.8%	0.0%	3.9%	0.0%	0.0%	0.0%	0.0%	2.8%
Peak Hour Factor		0.93				0.97				0.87				0.00			0.95
Peak Hour Factor	0.00	0.86	0.93	0.00	0.25	0.00	0.91	0.88	0.00	0.81	0.00	0.82	0.00	0.00	0.00	0.00	0.95



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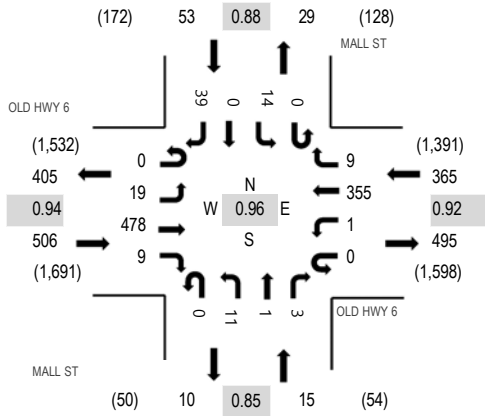
Location: 14 MALL ST & OLD HWY 6 PM

Date: Tuesday, January 24, 2023

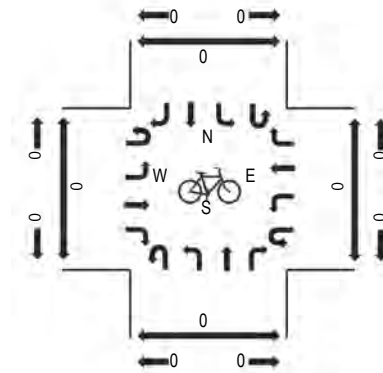
Peak Hour: 05:00 PM - 06:00 PM

Peak 15-Minutes: 05:15 PM - 05:30 PM

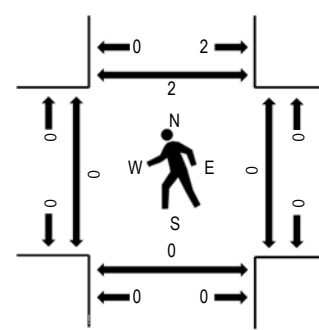
### Peak Hour - Motorized Vehicles



### Peak Hour - Bicycles



### Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

### Traffic Counts - Motorized Vehicles

Interval Start Time	OLD HWY 6 Eastbound				OLD HWY 6 Westbound				MALL ST Northbound				MALL ST Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
2:00 PM	0	10	87	0	0	0	86	0	0	3	0	2	0	0	0	10	198	733	0	0	0	0
2:15 PM	0	5	83	2	0	1	78	0	0	2	0	0	0	0	0	13	184	725	0	0	0	1
2:30 PM	0	2	75	1	0	0	68	2	0	1	0	1	0	1	0	3	154	737	0	0	0	0
2:45 PM	0	10	78	0	0	2	90	3	0	4	0	0	0	3	1	6	197	807	0	0	0	0
3:00 PM	0	5	76	4	0	0	91	1	0	1	0	0	0	1	0	11	190	806	1	0	1	0
3:15 PM	0	13	84	4	0	1	75	3	0	3	0	0	0	0	0	13	196	837	0	0	0	0
3:30 PM	0	6	97	2	0	0	95	5	0	4	0	1	0	2	0	12	224	859	0	0	0	0
3:45 PM	0	4	102	3	0	0	78	1	0	0	0	0	0	2	0	6	196	830	0	0	0	1
4:00 PM	0	7	100	7	0	0	93	2	0	2	0	3	0	0	0	7	221	830	0	0	0	0
4:15 PM	0	5	121	4	0	0	78	1	0	2	0	0	0	1	0	6	218	831	0	0	0	0
4:30 PM	0	6	90	3	0	0	76	4	0	5	0	0	0	2	1	8	195	857	0	0	0	0
4:45 PM	0	2	85	2	0	2	88	2	0	1	0	4	0	2	0	8	196	892	1	0	1	1
5:00 PM	0	6	111	1	0	0	85	3	0	3	0	1	0	3	0	9	222	939	0	0	0	0
5:15 PM	0	4	130	1	0	0	90	2	0	3	0	0	0	4	0	10	244		0	0	0	1
5:30 PM	0	6	113	3	0	0	91	1	0	3	0	1	0	6	0	6	230		0	0	0	1
5:45 PM	0	3	124	4	0	1	89	3	0	2	1	1	0	1	0	14	243		0	0	0	0

### Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	4	1	0	0	3	0	0	0	0	0	0	0	0	0	8
Lights	0	19	468	8	0	1	345	9	0	11	1	3	0	14	0	39	918
Mediums	0	0	6	0	0	0	7	0	0	0	0	0	0	0	0	0	13
Total	0	19	478	9	0	1	355	9	0	11	1	3	0	14	0	39	939

### Heavy Vehicle Percentage and Peak Hour Factor

	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Heavy Vehicle %		2.2%			2.7%				0.0%				0.0%				2.2%
Heavy Vehicle %	0.0%	0.0%	2.1%	11.1%	0.0%	0.0%	2.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.2%
Peak Hour Factor		0.94			0.92				0.85				0.88				0.96
Peak Hour Factor	0.00	0.65	0.92	0.61	0.00	0.38	0.98	0.60	0.00	0.60	0.25	0.44	0.00	0.63	0.25	0.81	0.96

# Appendix C





AM  
{MID}  
(PM)

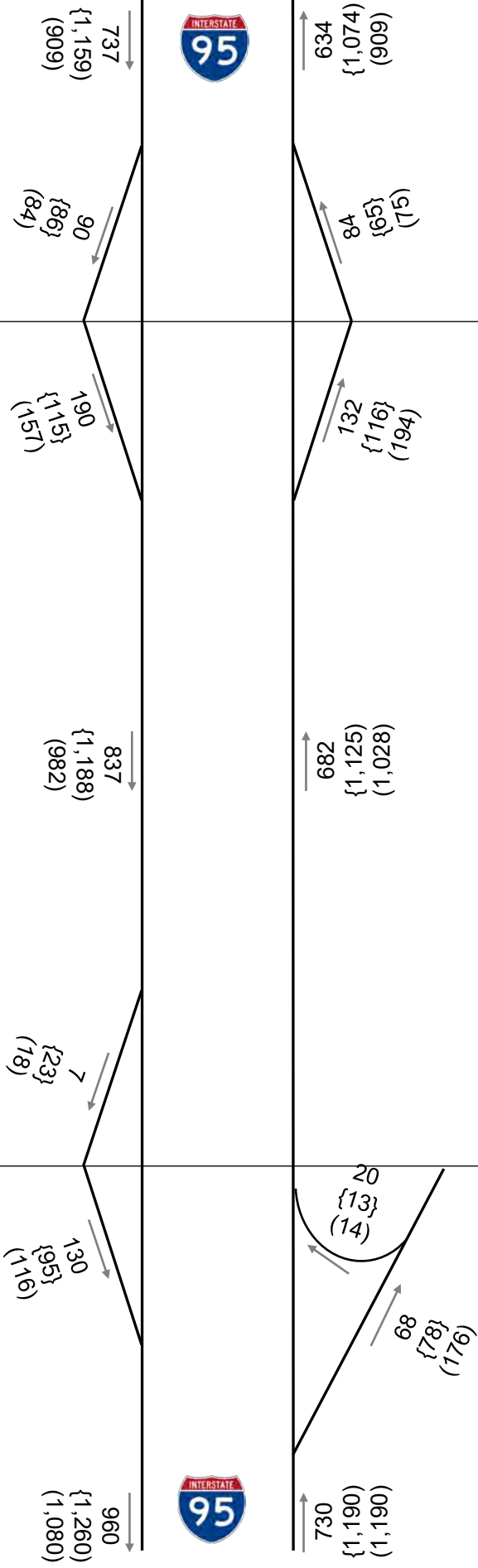
Existing  
2023 I-95  
Volumes

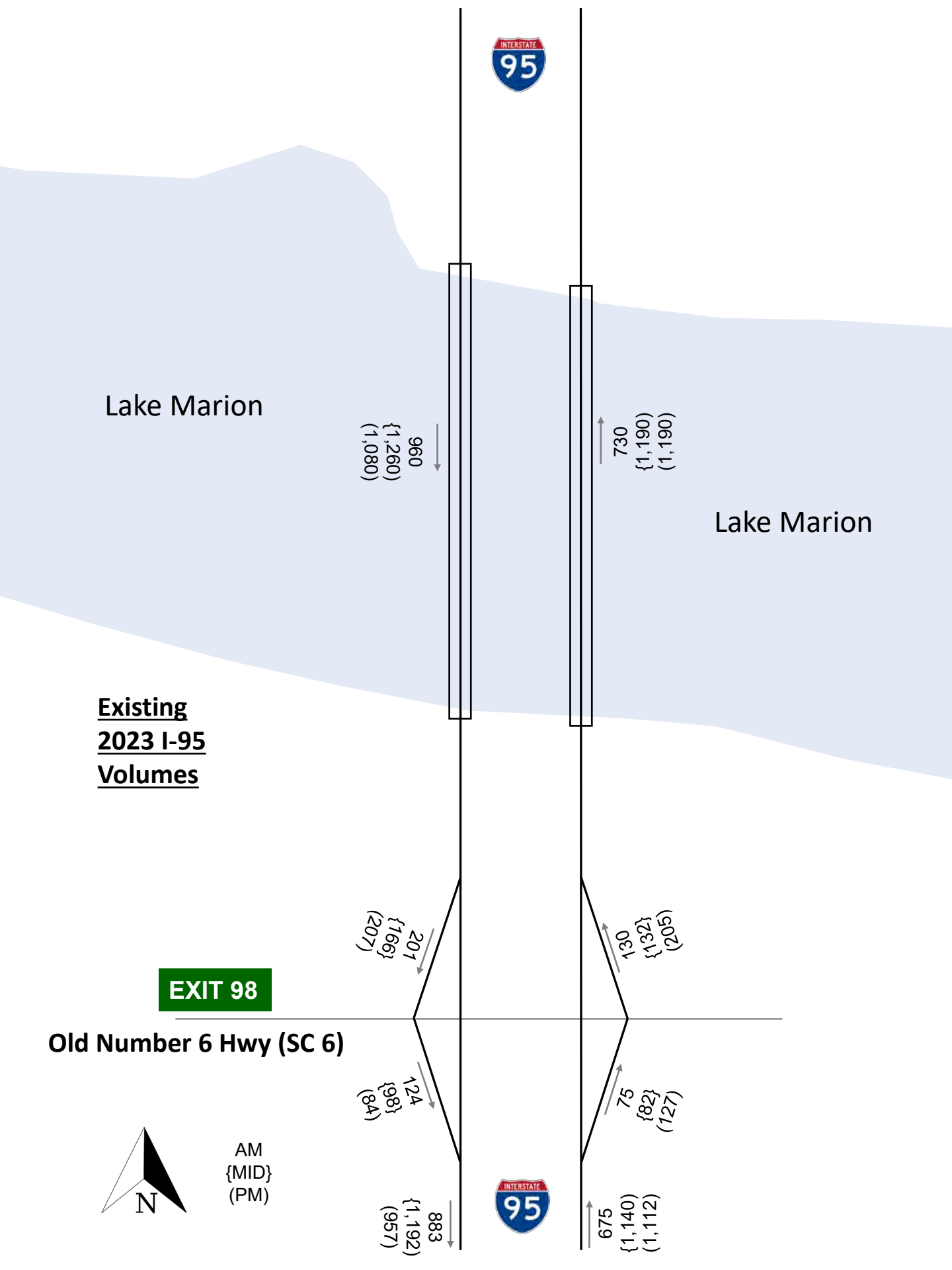
**EXIT 108**

**Buff Blvd**

**EXIT 102**

**US 15**







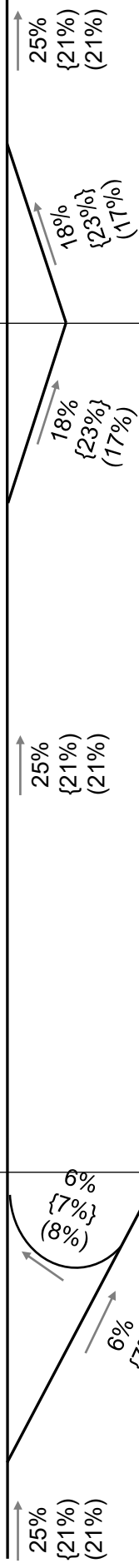
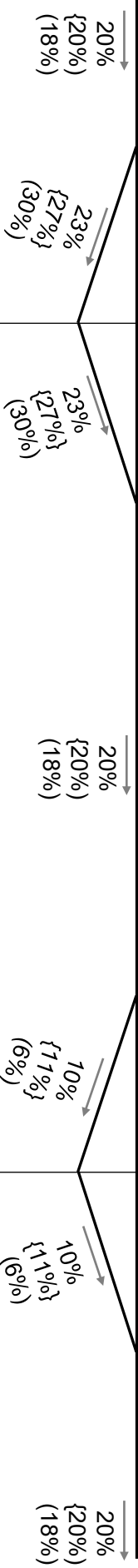
### I-95 Truck Percentages

**EXIT 108**

**Buff Blvd**

**EXIT 102**

**US 15**





Lake Marion

Lake Marion

**I-95 Truck Percentages**

**EXIT 98**

**Old Number 6 Hwy (SC 6)**



20%  
{20%}  
(18%)

25%  
{21%}  
(21%)

4%  
{6%}  
(3%)

4%  
{5%}  
(3%)

4%  
{6%}  
(3%)

4%  
{5%}  
(3%)

20%  
{20%}  
(18%)



25%  
{21%}  
(21%)



AM  
{MID}  
(PM)

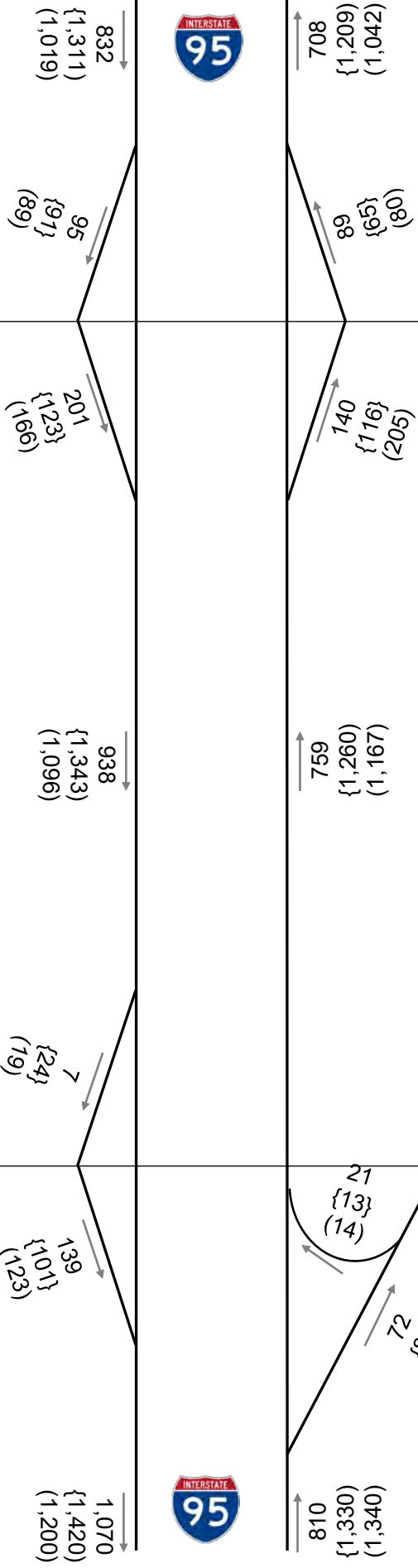
Opening Year  
**2029**  
I-95 Volumes

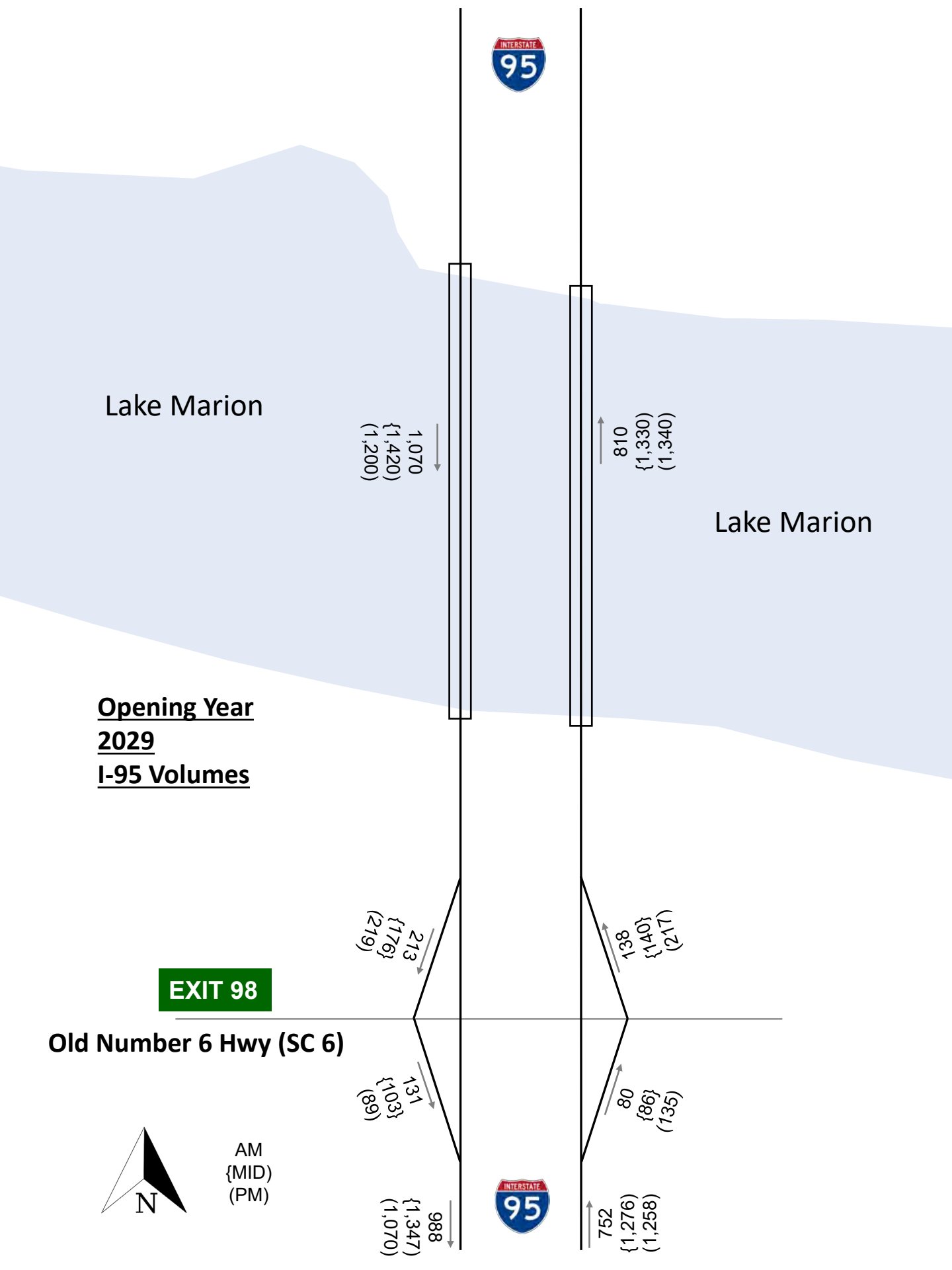
**EXIT 108**

**Buff Blvd**

**EXIT 102**

**US 15**





Lake Marion

Lake Marion

**Opening Year**  
**2029**  
**I-95 Volumes**

**EXIT 98**

**Old Number 6 Hwy (SC 6)**



AM  
 {MID}  
 (PM)

1,070  
 {1,420}  
 (1,200)

810  
 {1,330}  
 (1,340)

213  
 {176}  
 (219)

138  
 {140}  
 (217)

131  
 {103}  
 (89)

80  
 {86}  
 (135)

988  
 {1,347}  
 (1,070)

752  
 {1,276}  
 (1,258)





AM  
{MID}  
(PM)

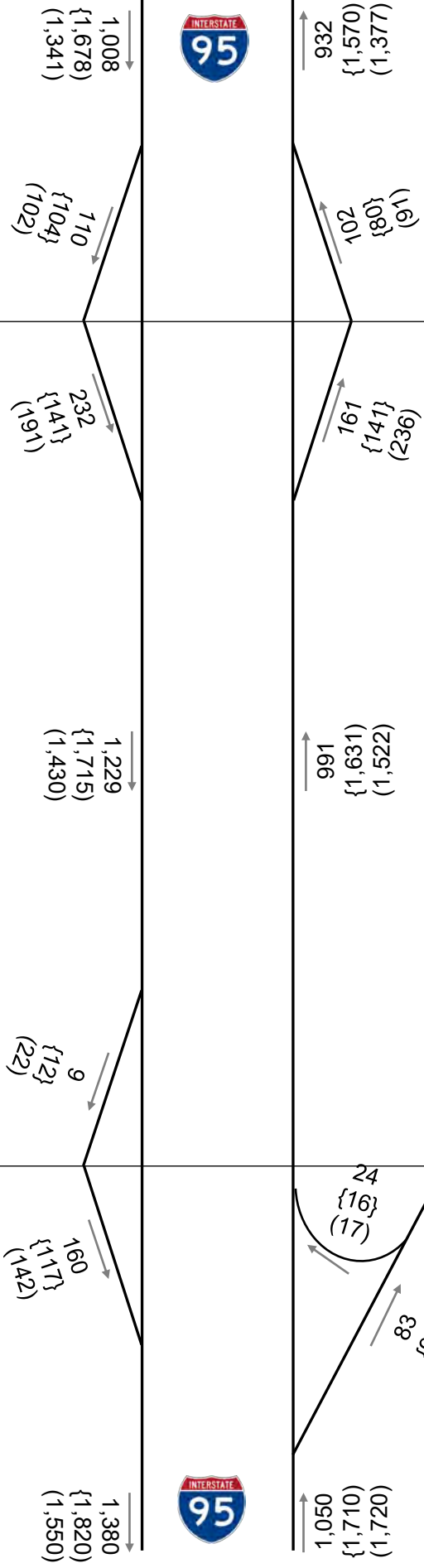
Design Year  
**2045**  
I-95 Volumes

**EXIT 108**

**Buff Blvd**

**EXIT 102**

**US 15**



1,008  
{1,678}  
(1,341)

110  
{104}  
(102)

232  
{141}  
(191)

1,229  
{1,715}  
(1,430)

9  
{12}  
(22)

160  
{117}  
(142)

1,380  
{1,820}  
(1,550)



932  
{1,570}  
(1,377)

102  
{80}  
(91)

161  
{141}  
(236)

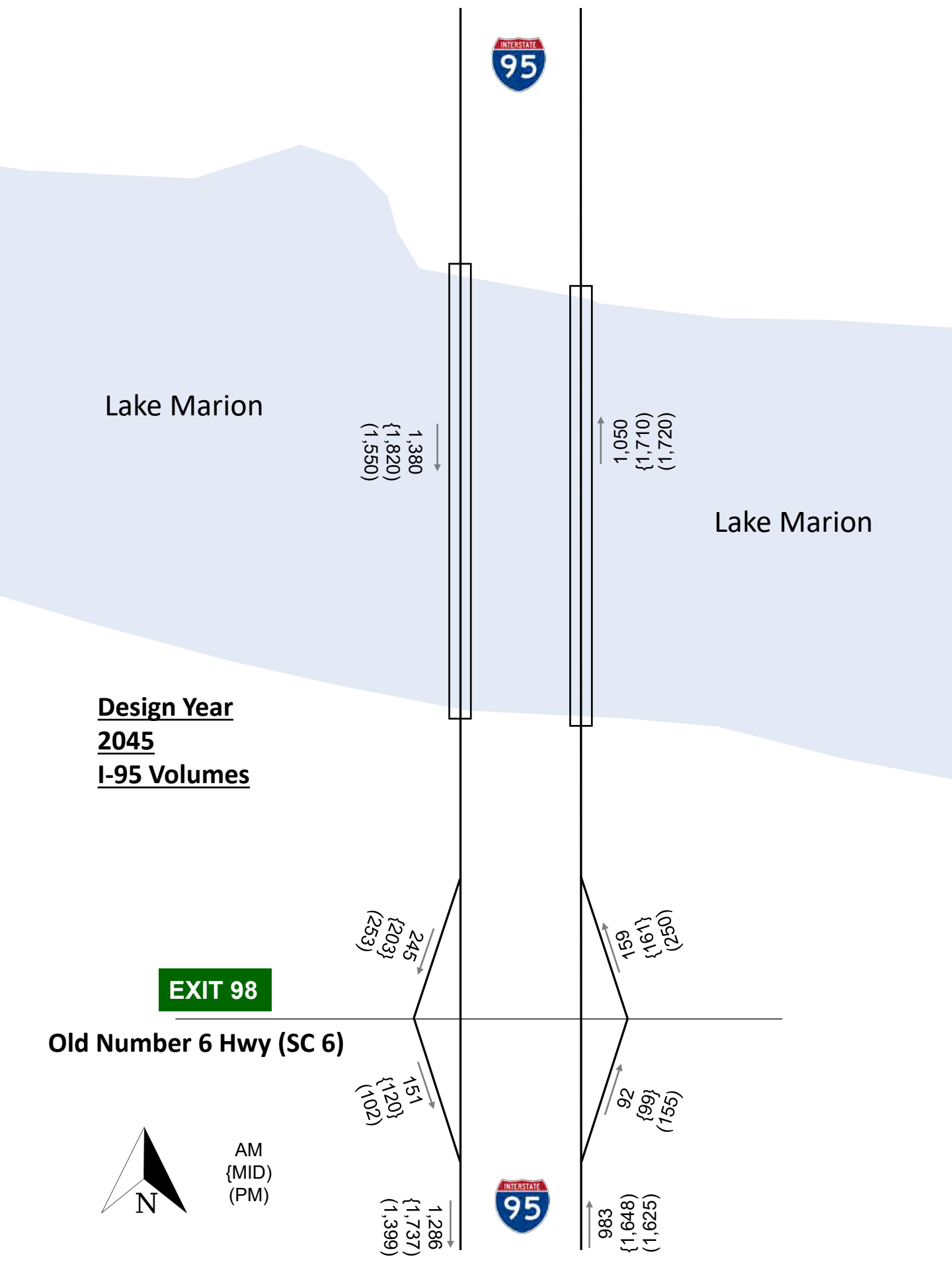
991  
{1,631}  
(1,522)

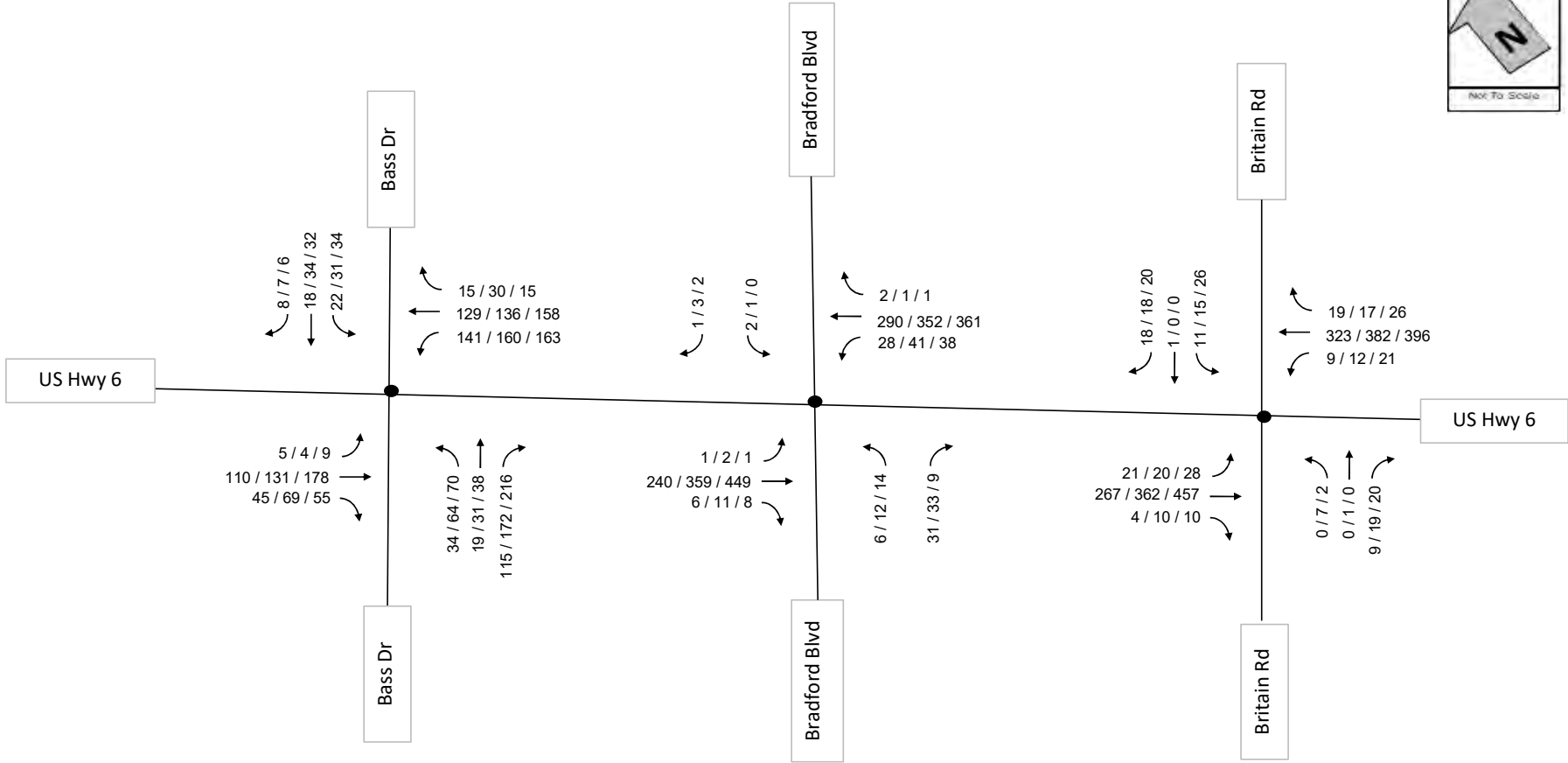
24  
{16}  
(17)

83  
{95}  
(215)

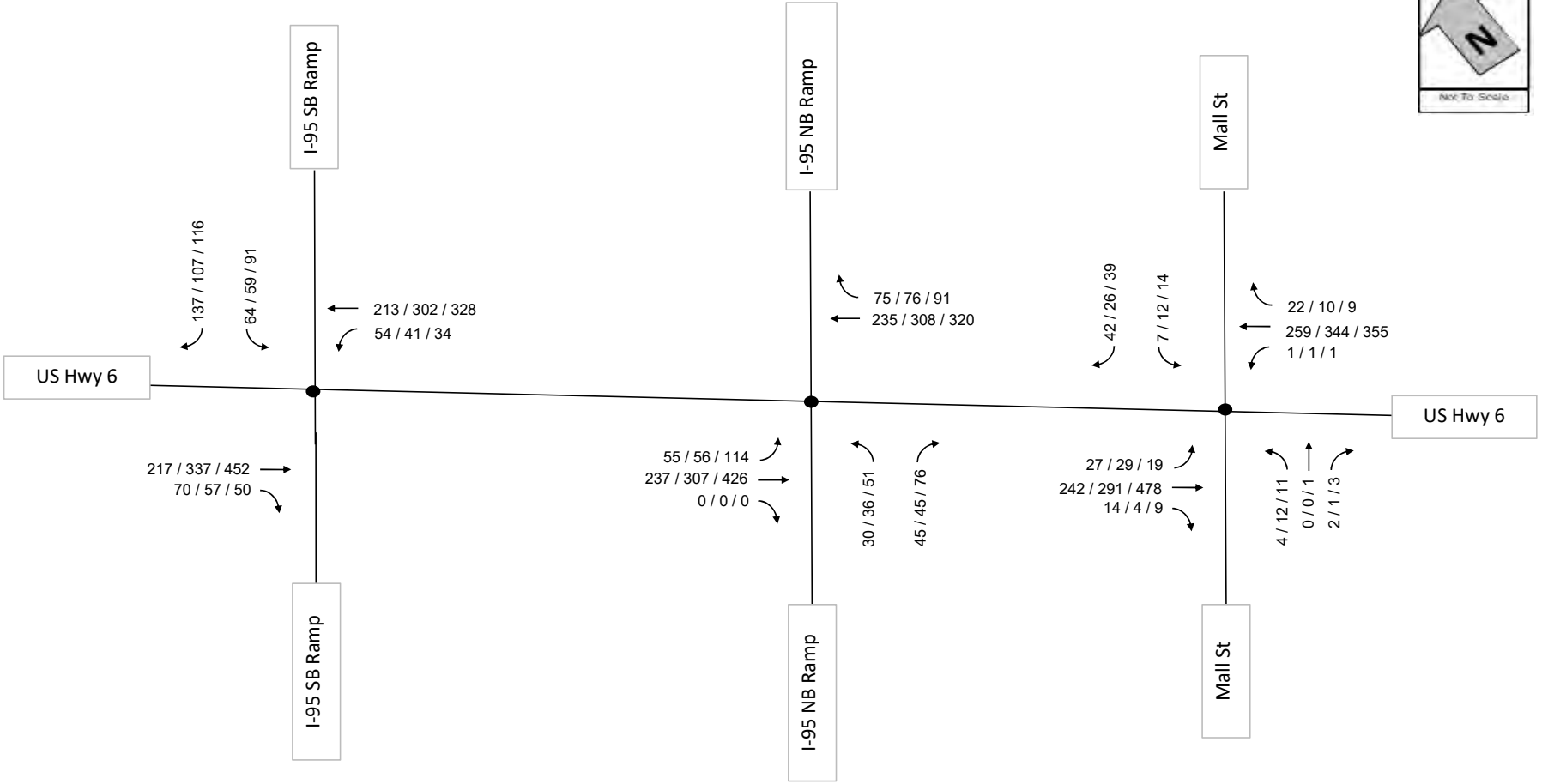
1,050  
{1,710}  
(1,720)



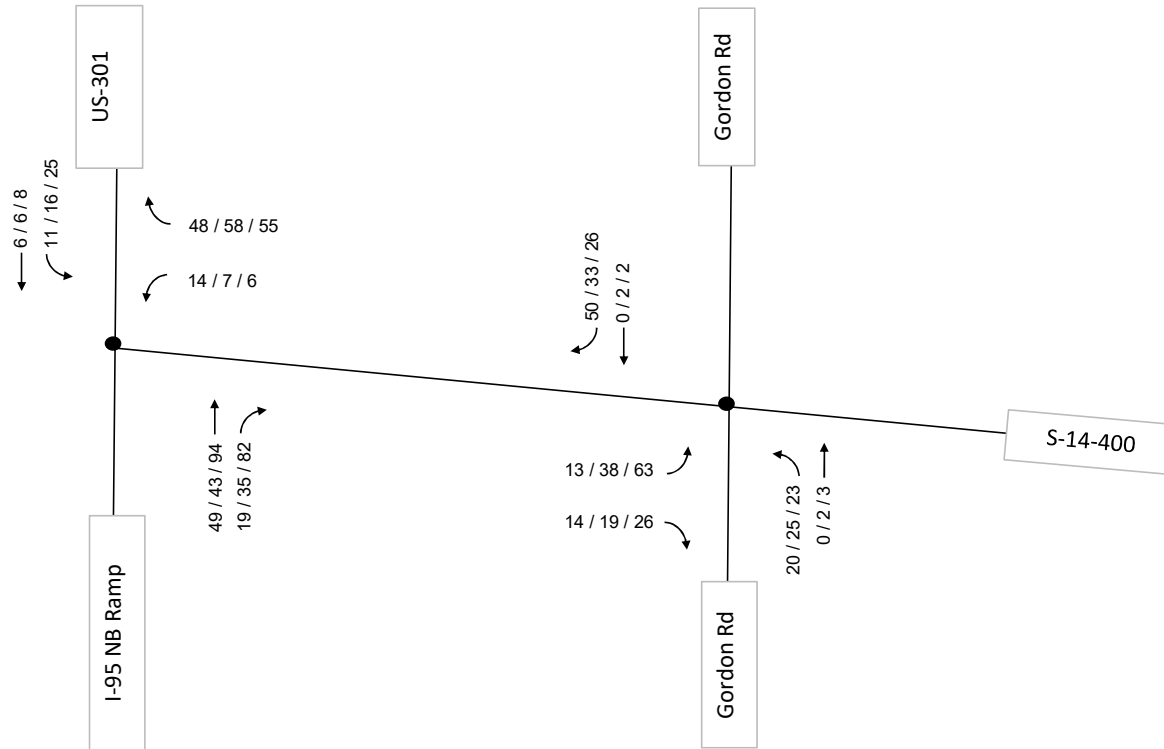




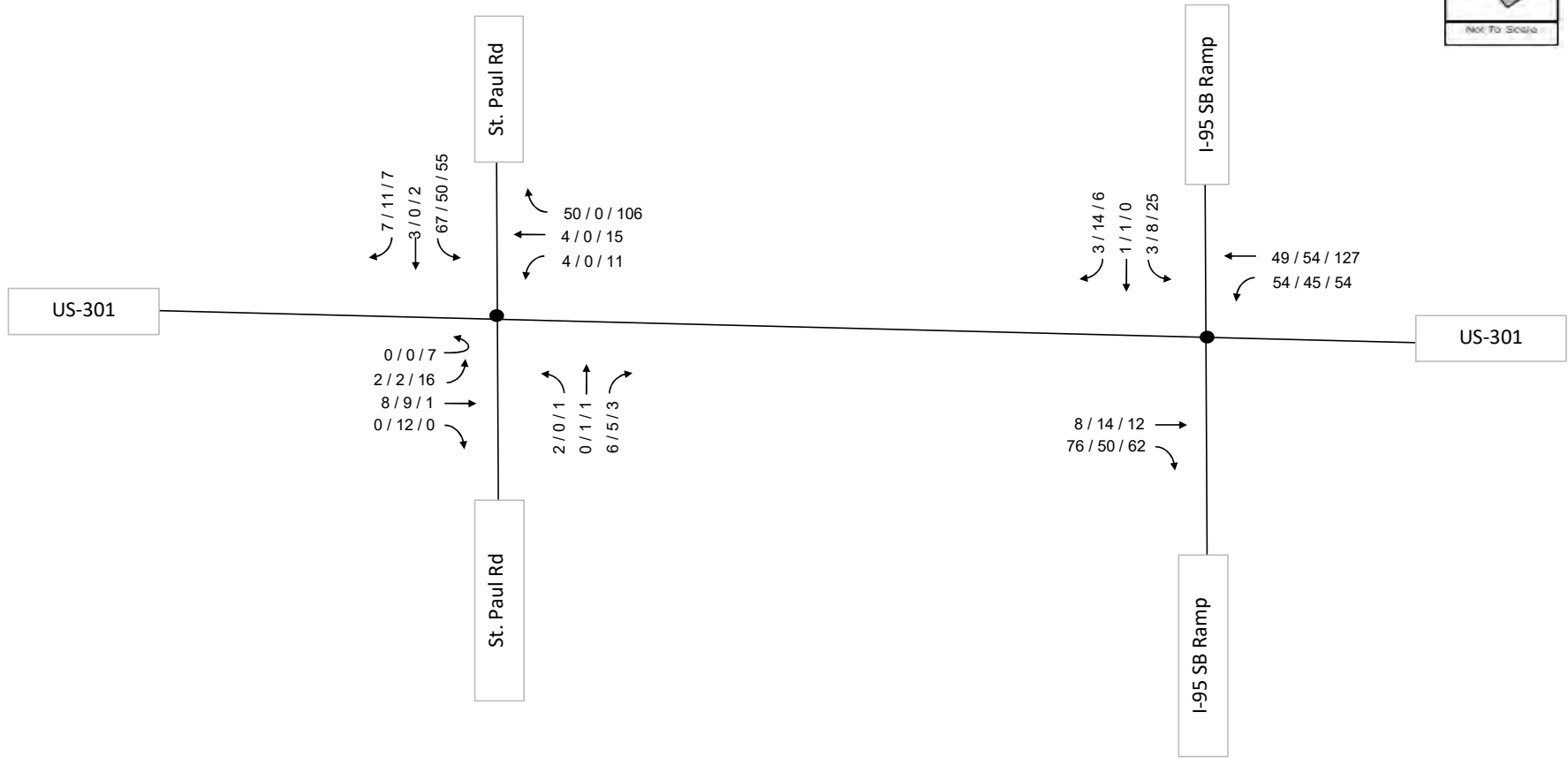
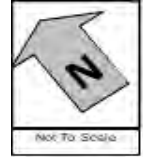
	<b>Legend</b> = Traffic Volume Direction 00 / 00 / 00 = AM/Mid/PM Peak Hour Volumes	<b>I-95 over Lake Marion</b>	
		2023 Existing Year Traffic Volumes	



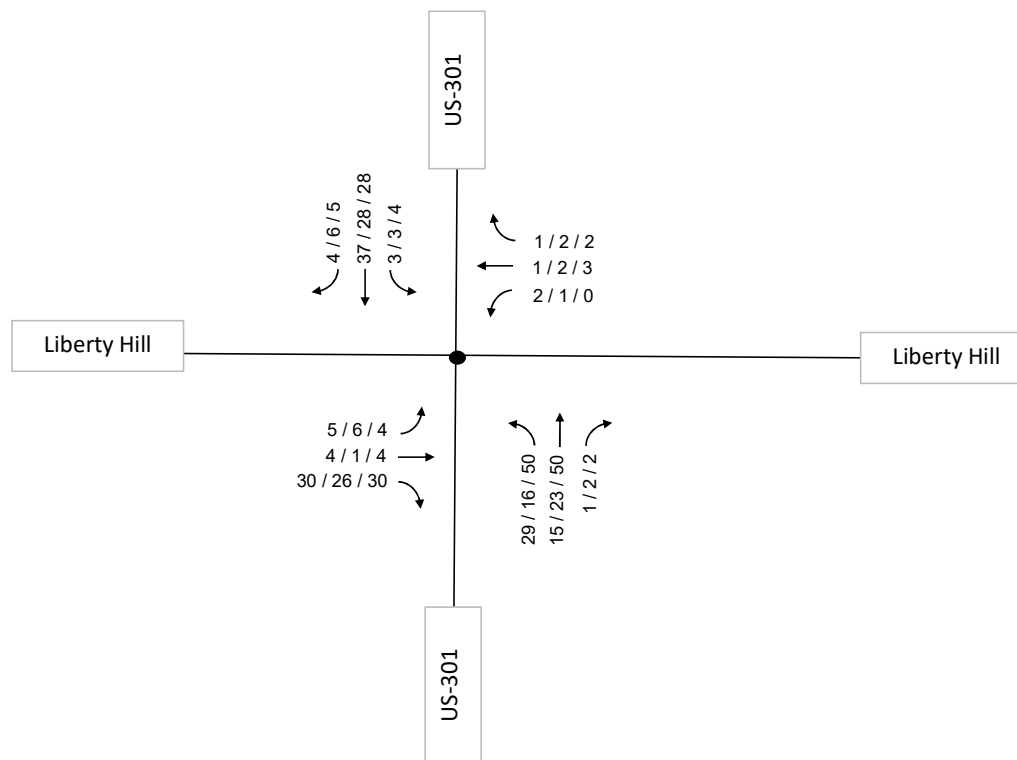
	<b>Legend</b> = Traffic Volume Direction 00 / 00 / 00 = AM/Mid/PM Peak Hour Volumes	<b>I-95 over Lake Marion</b>	
		2023 Existing Year Traffic Volumes	



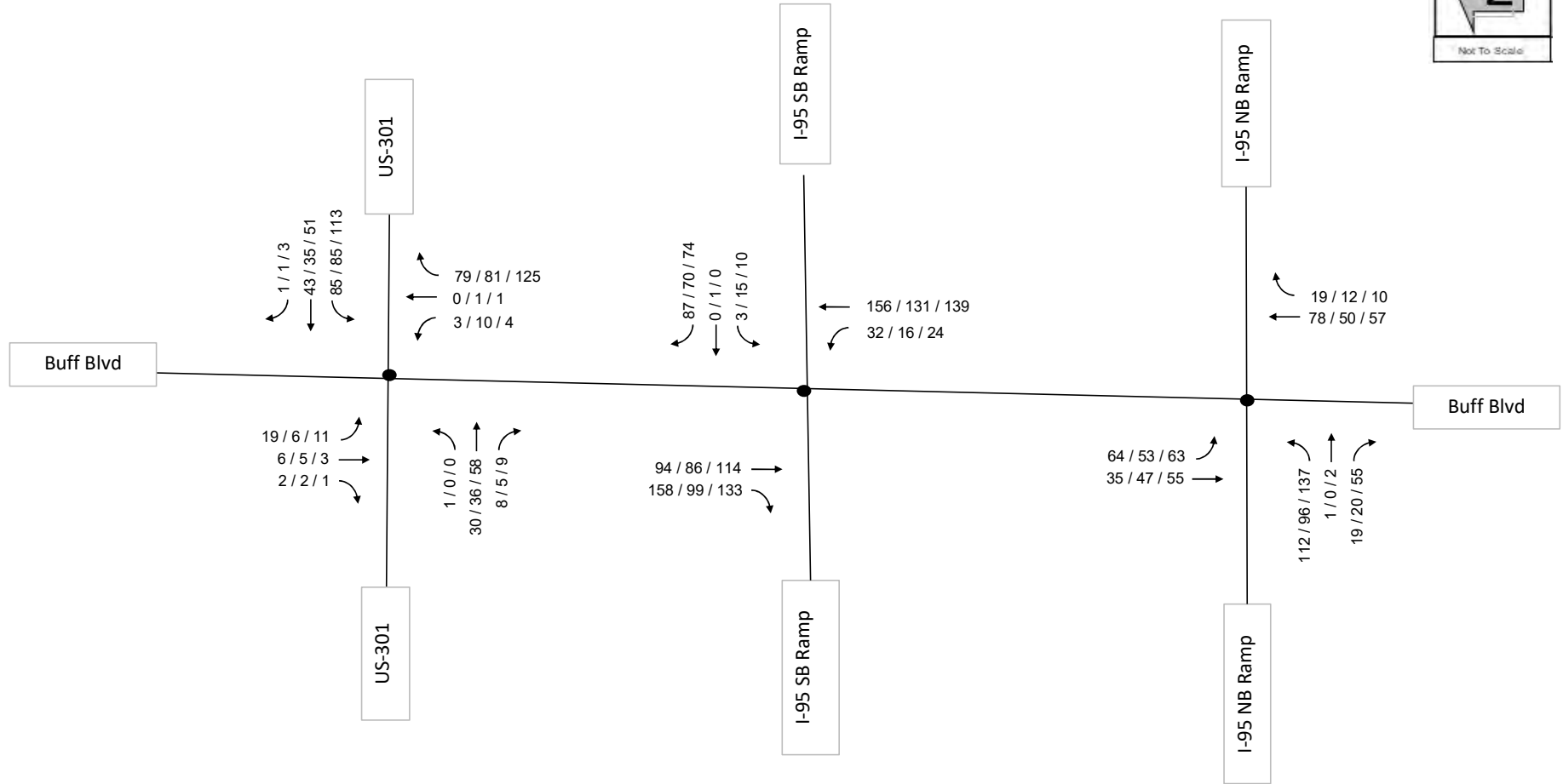
	<b>Legend</b> = Traffic Volume Direction 00 / 00 / 00 = AM/Mid/PM Peak Hour Volumes	<b>I-95 over Lake Marion</b>	
		2023 Existing Year Traffic Volumes	



	<b>Legend</b> = Traffic Volume Direction 00 / 00 / 00 = AM/Mid/PM Peak Hour Volumes	<b>I-95 over Lake Marion</b>	
		2023 Existing Year Traffic Volumes	

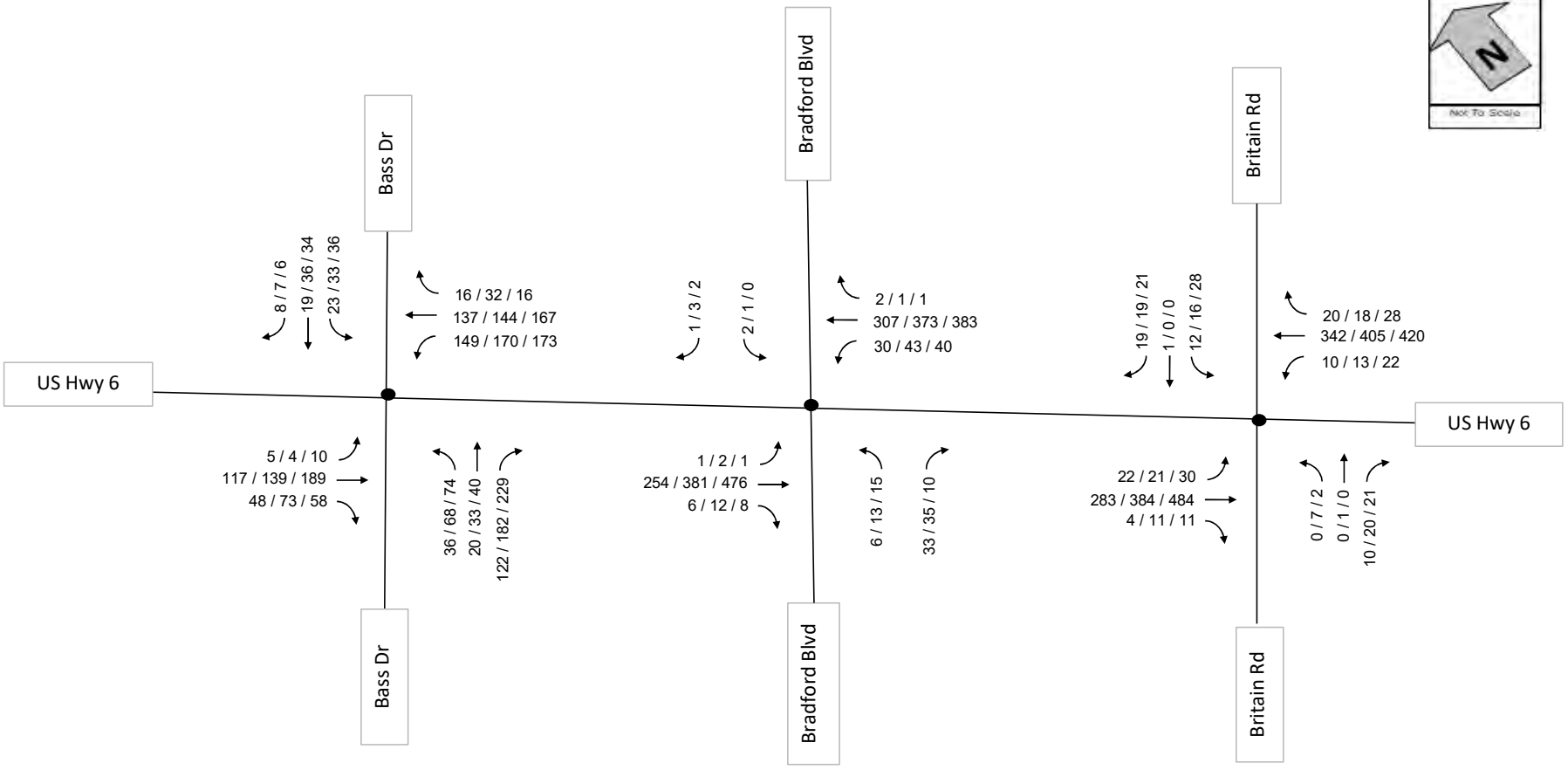


	<b>Legend</b> = Traffic Volume Direction 00 / 00 / 00 = AM/Mid/PM Peak Hour Volumes	<b>I-95 over Lake Marion</b>	
		2023 Existing Year Traffic Volumes	

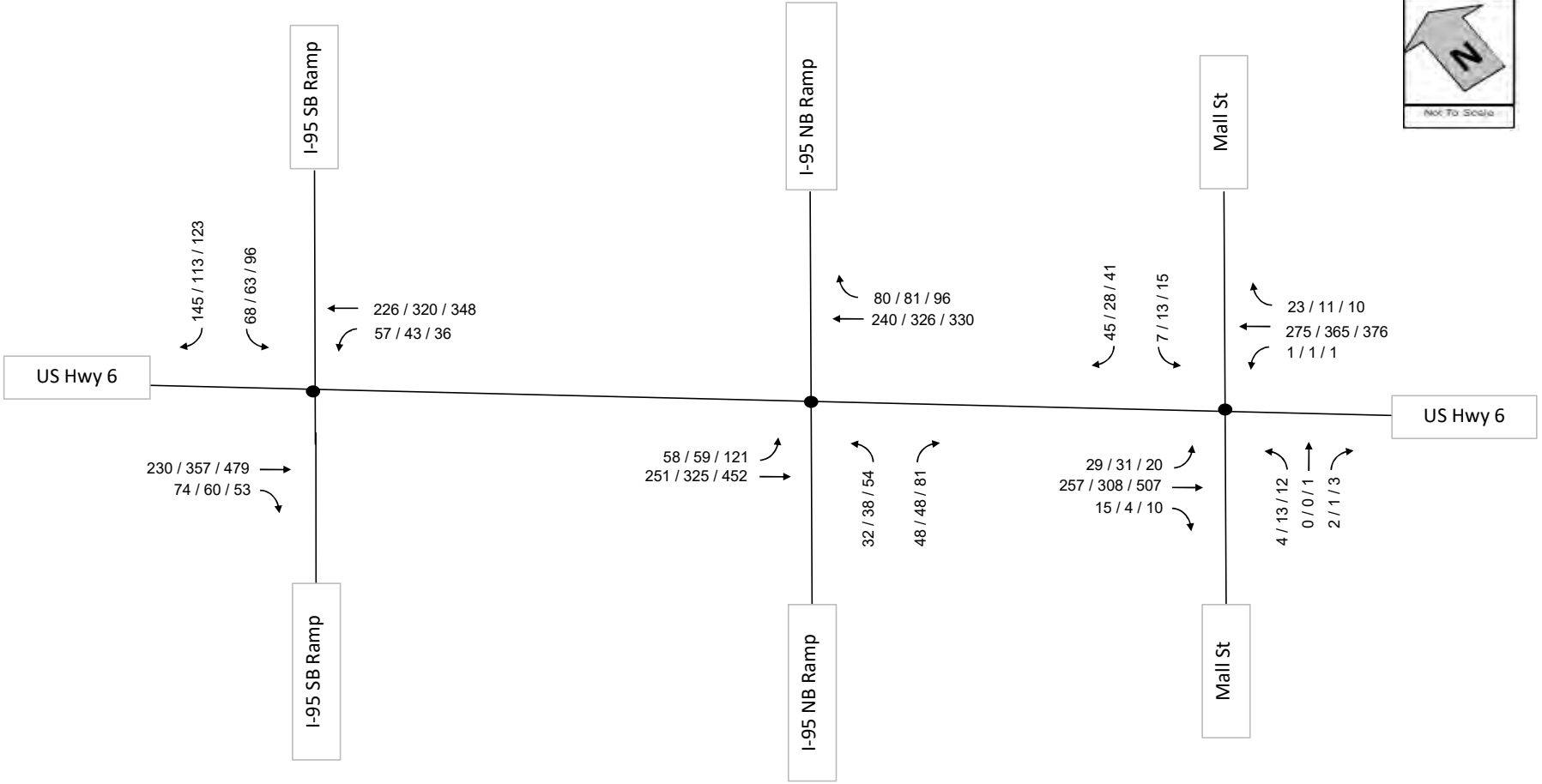


	<b>Legend</b> = Traffic Volume Direction 00 / 00 / 00 = AM/Mid/PM Peak Hour Volumes	<b>I-95 over Lake Marion</b>	
		2023 Existing Year Traffic Volumes	

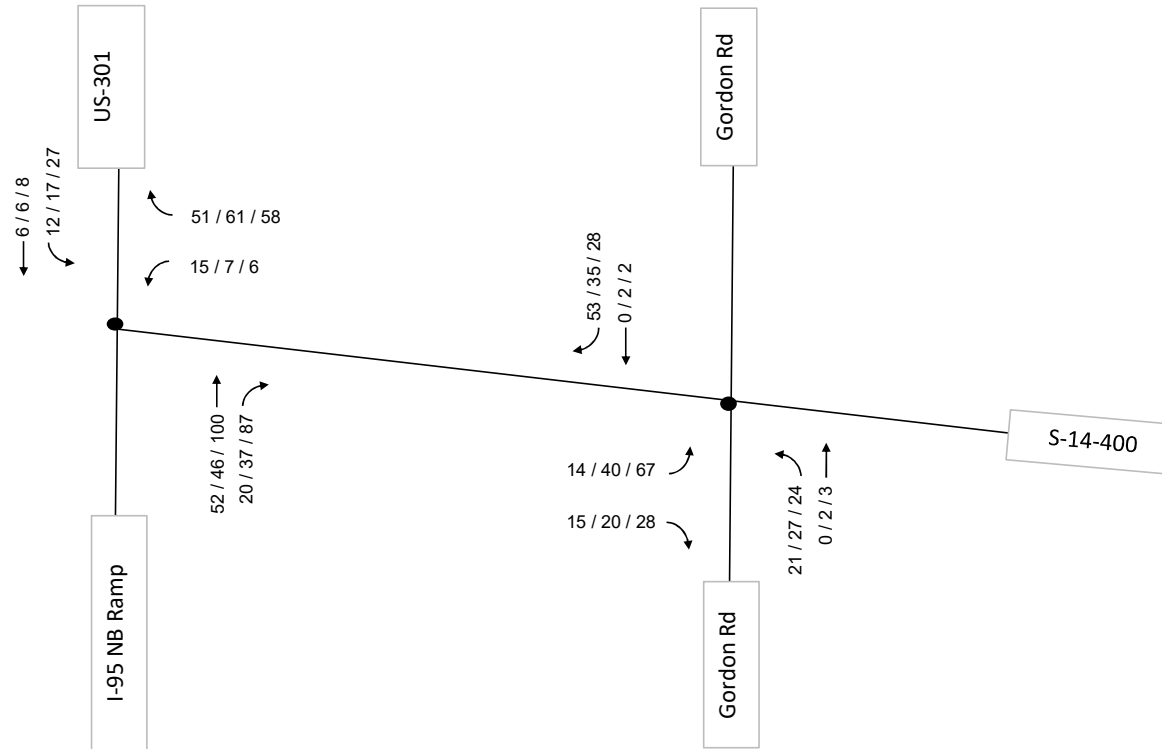




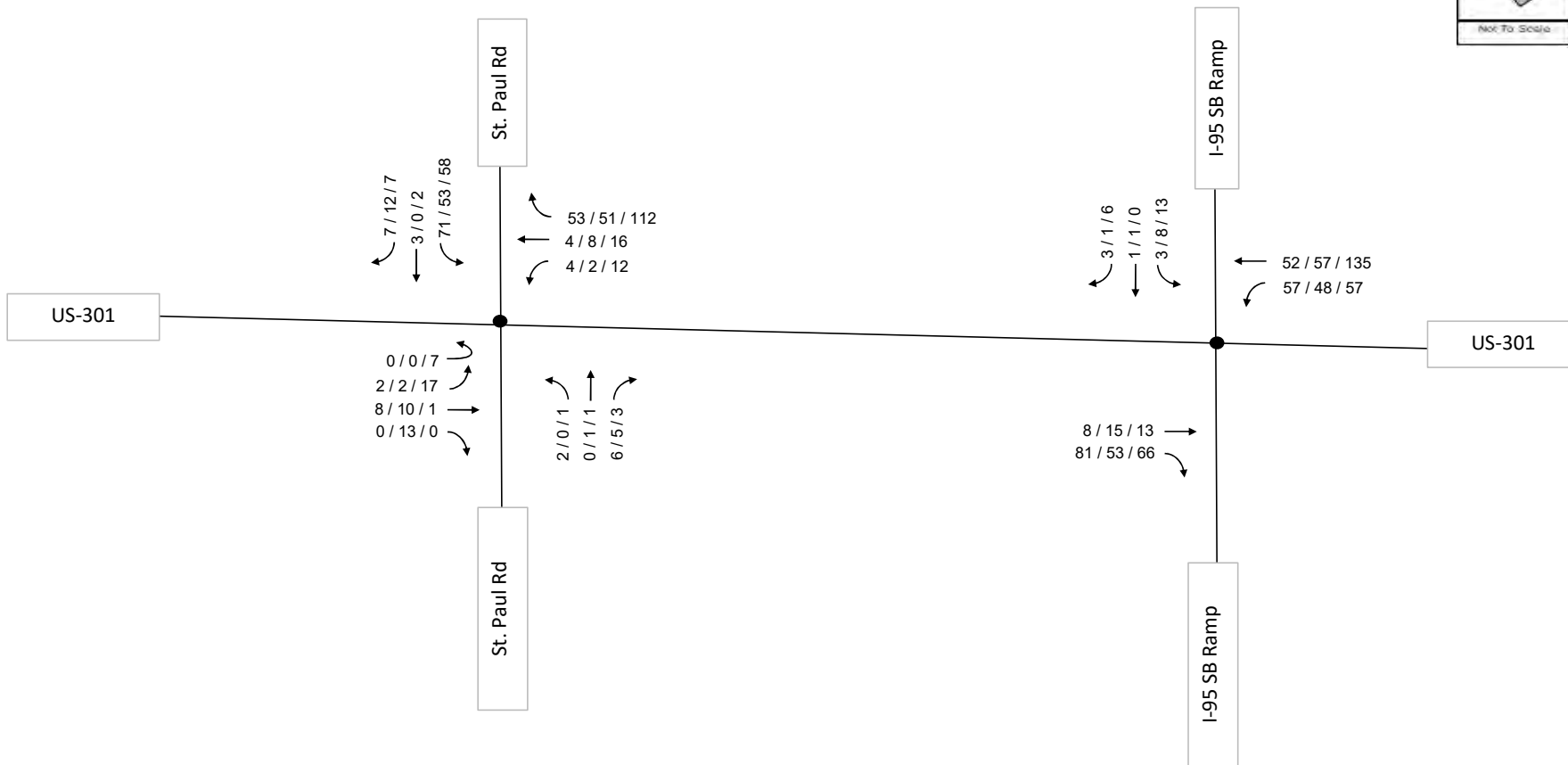
	<b>Legend</b> = Traffic Volume Direction 00 / 00 / 00 = AM/Mid/PM Peak Hour Volumes	<b>I-95 over Lake Marion</b>	
		2029 Opening Year Traffic Volumes	



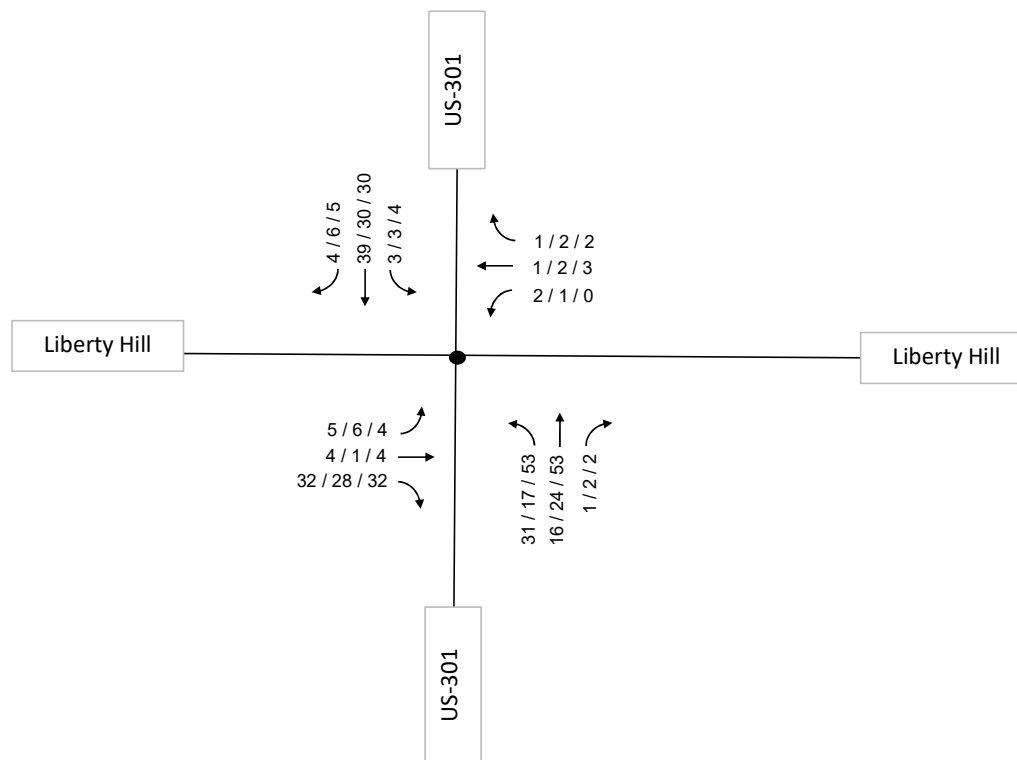
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		2029 Opening Year Traffic Volumes	



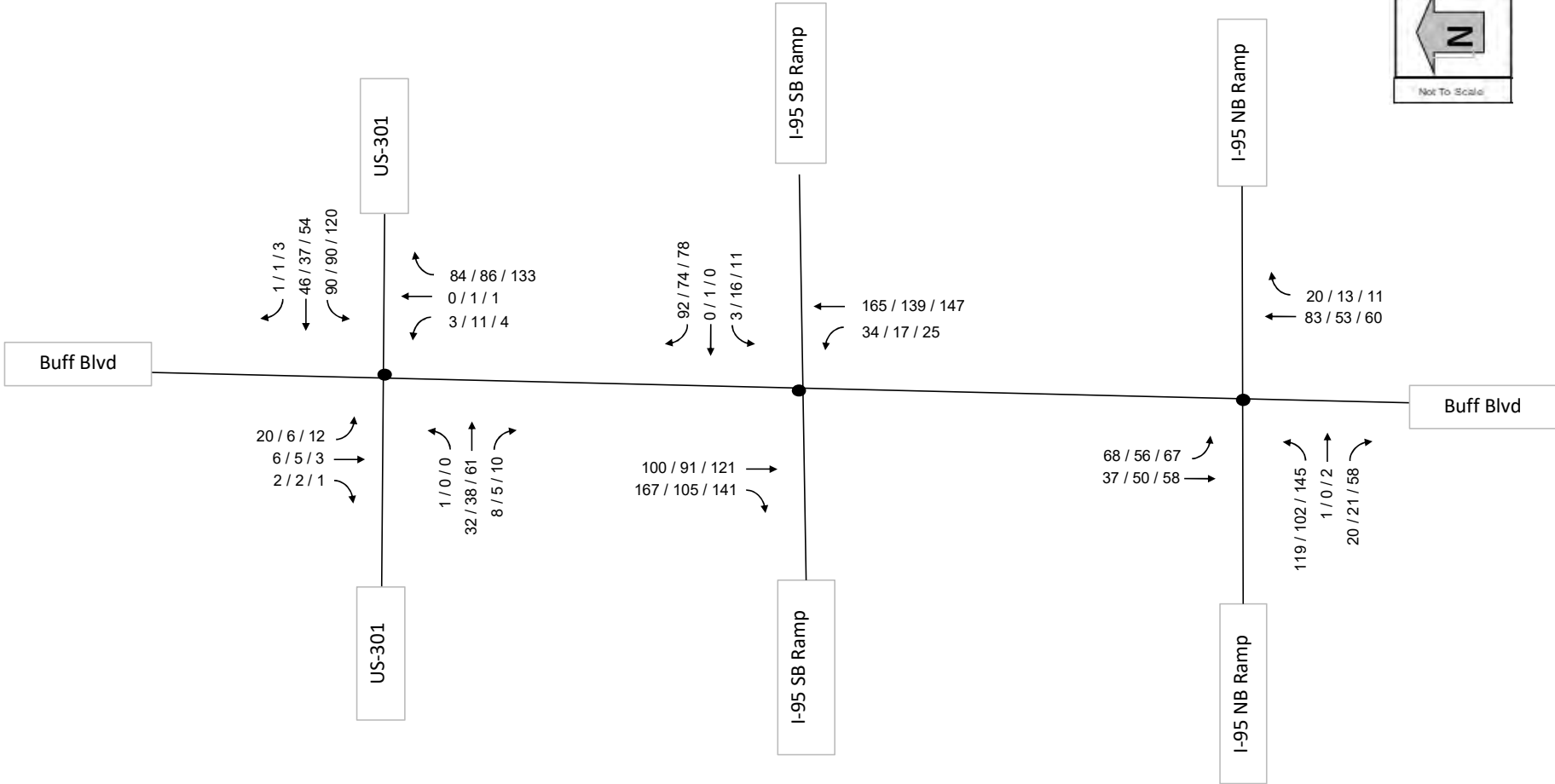
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		2029 Opening Year Traffic Volumes	



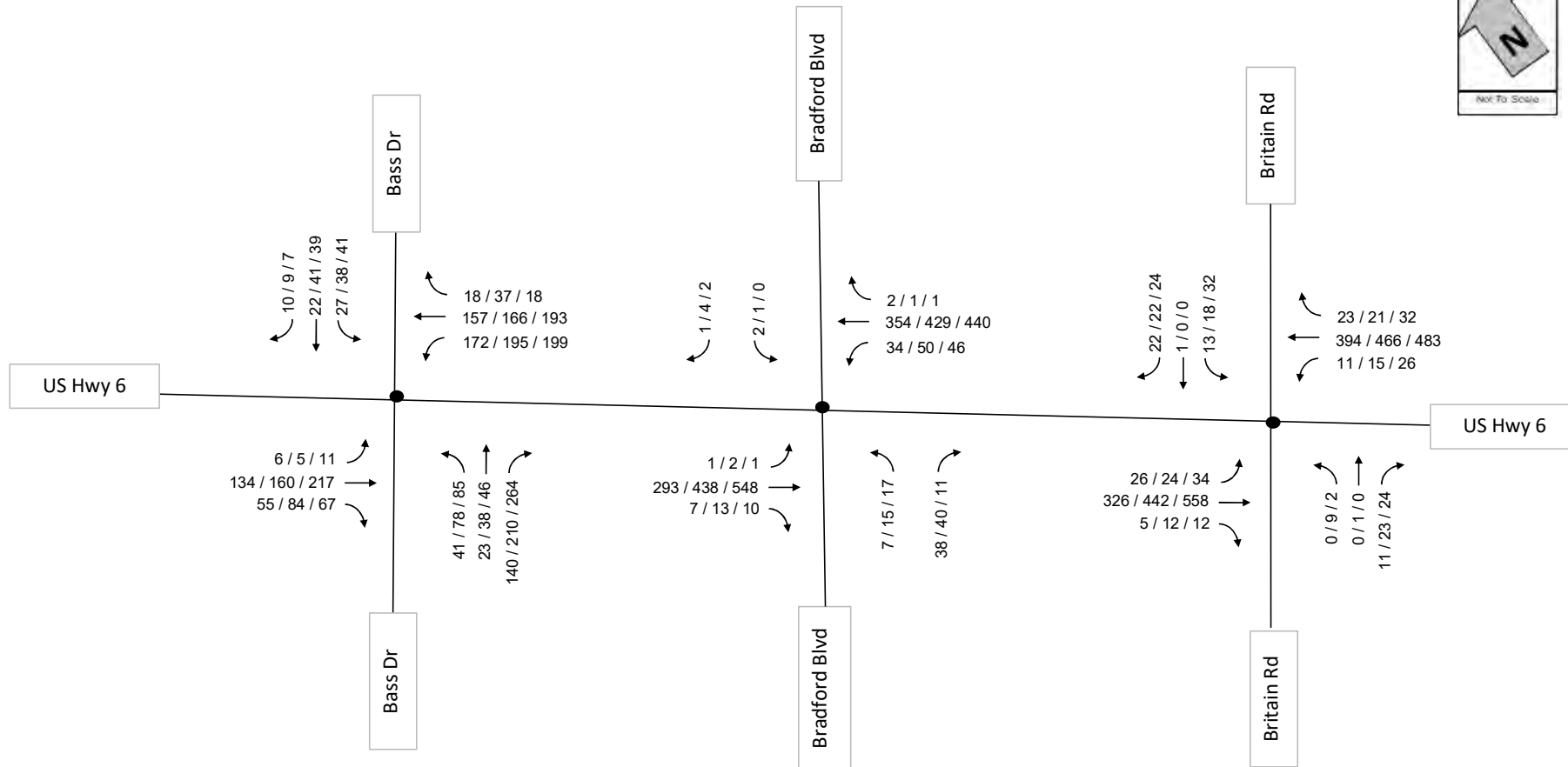
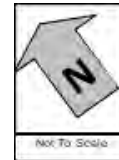
	<b>Legend</b> = Traffic Volume Direction 00 / 00 / 00 = AM/Mid/PM Peak Hour Volumes	<b>I-95 over Lake Marion</b>	
		2029 Opening Year Traffic Volumes	



	<b>Legend</b> = Traffic Volume Direction 00 / 00 / 00 = AM/Mid/PM Peak Hour Volumes	<b>I-95 over Lake Marion</b>	
		2029 Opening Year Traffic Volumes	

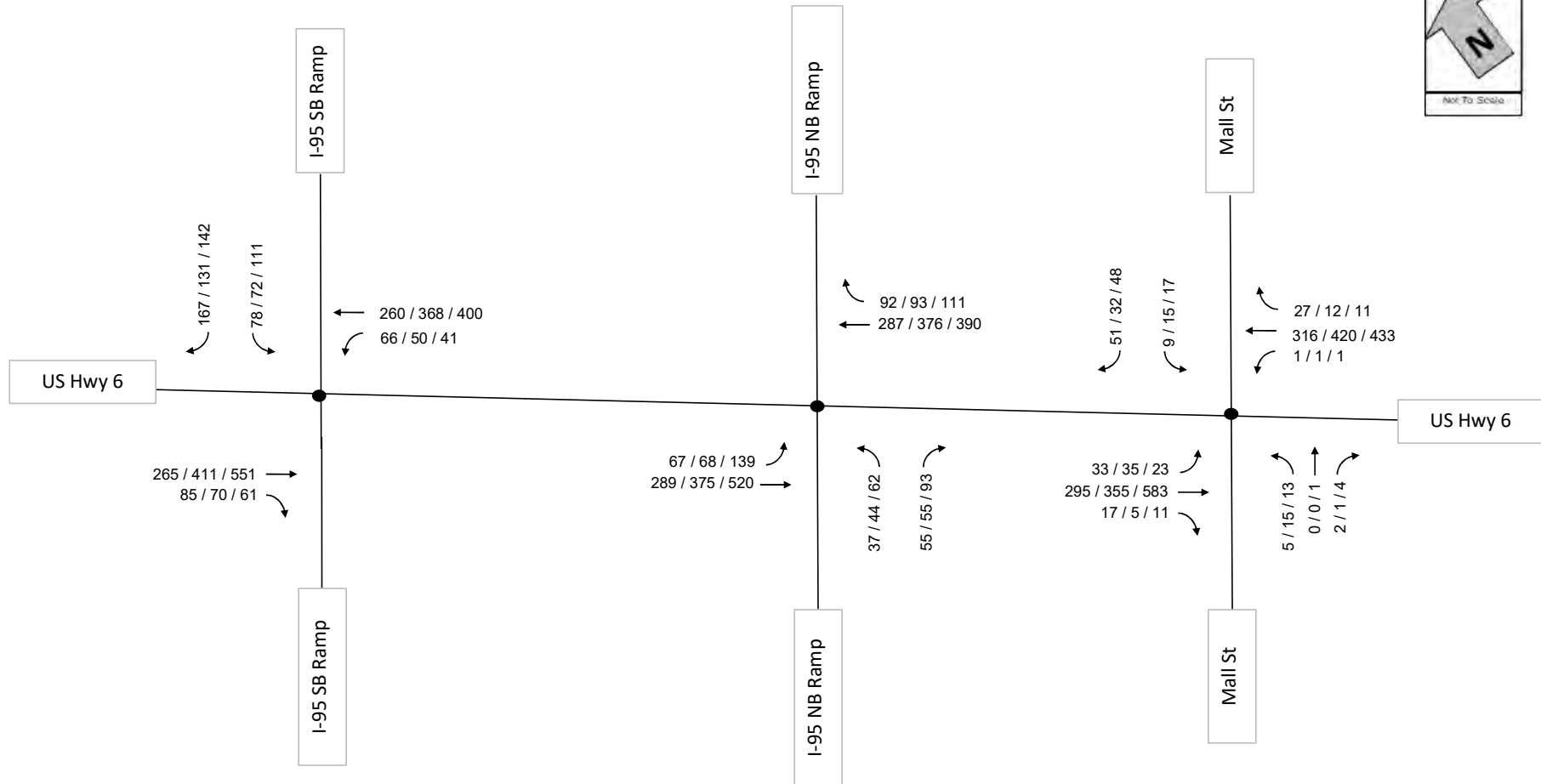
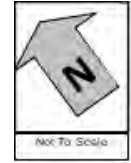


	<p><b>Legend</b></p> <p>↔ = Traffic Volume Direction</p> <p>00 / 00 / 00 = AM / Mid / PM Peak Hour Volumes</p>		<p><b>I-95 over Lake Marion</b></p>	
			<p>2029 Opening Year Traffic Volumes</p>	

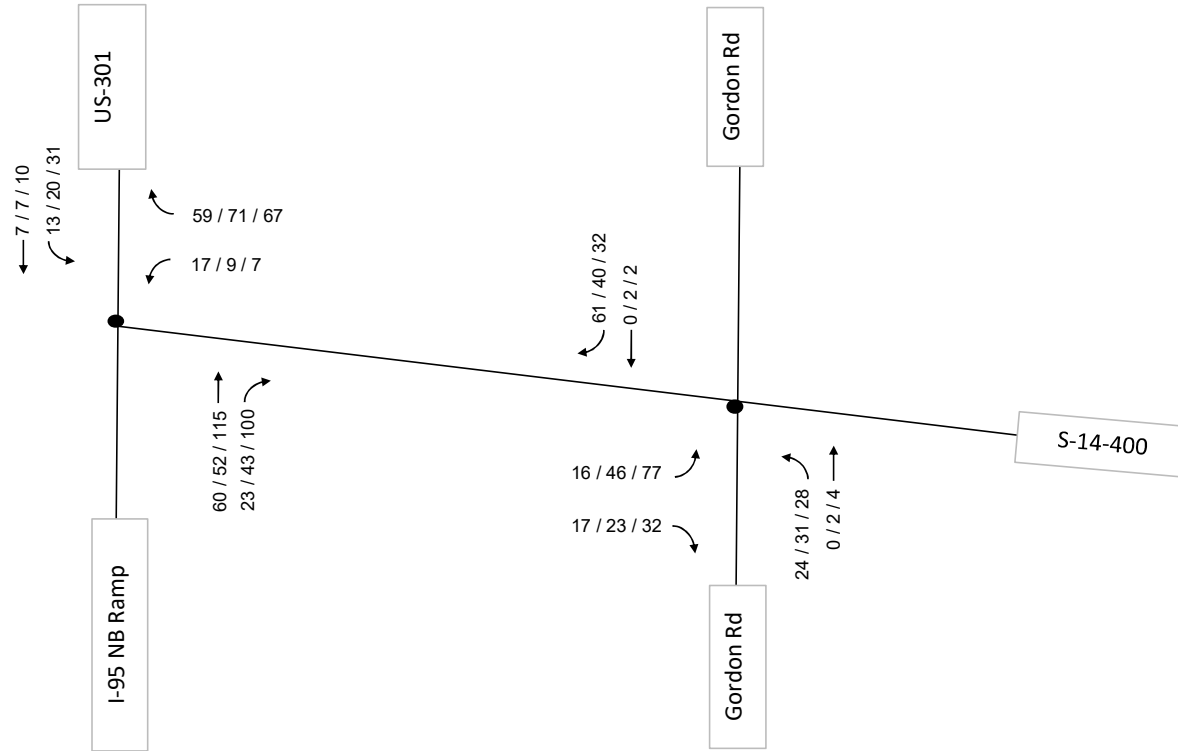


	<b>Legend</b> = Traffic Volume Direction 00 / 00 / 00 = AM/Mid/PM Peak Hour Volumes	<b>I-95 over Lake Marion</b>	
		2045 Design Year Traffic Volumes	

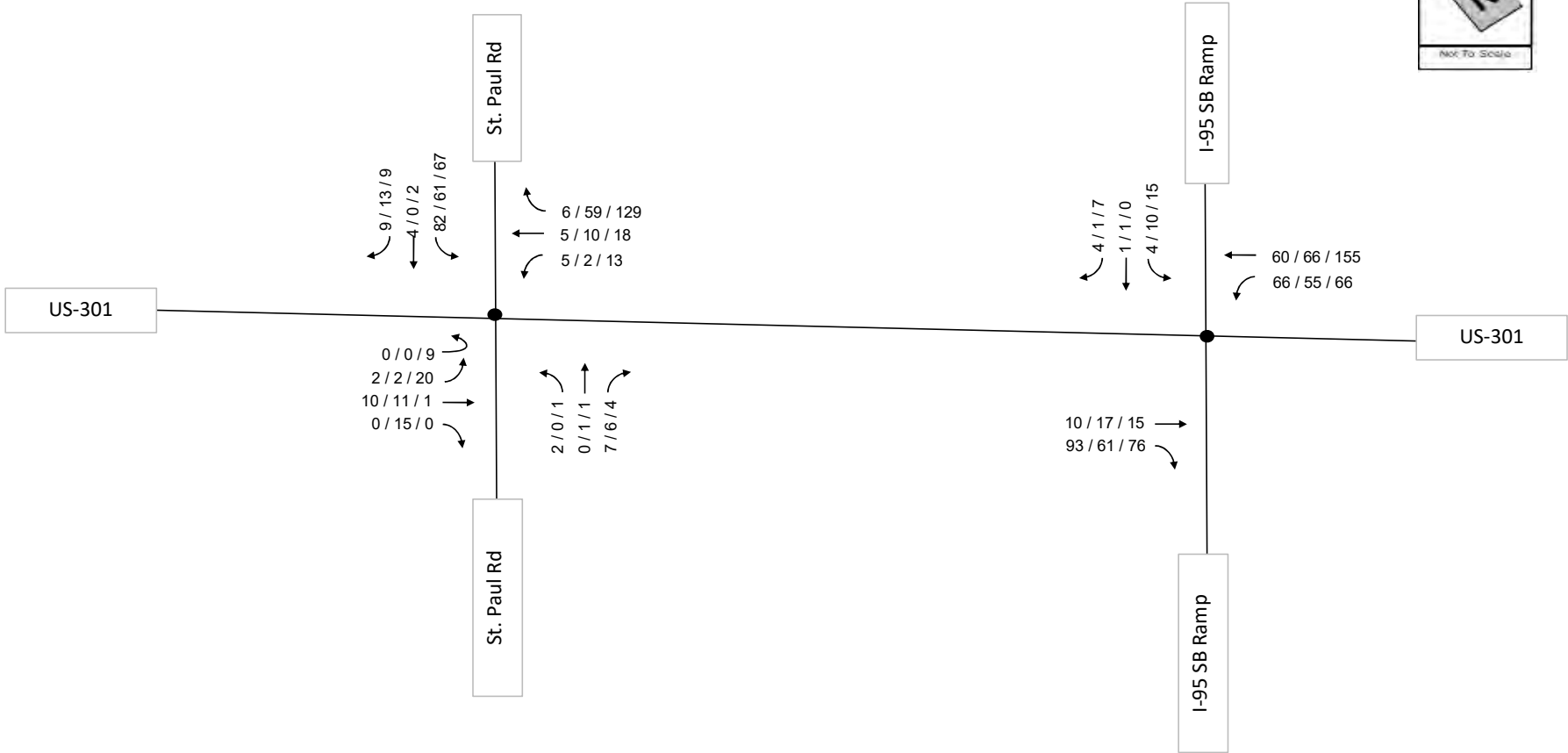




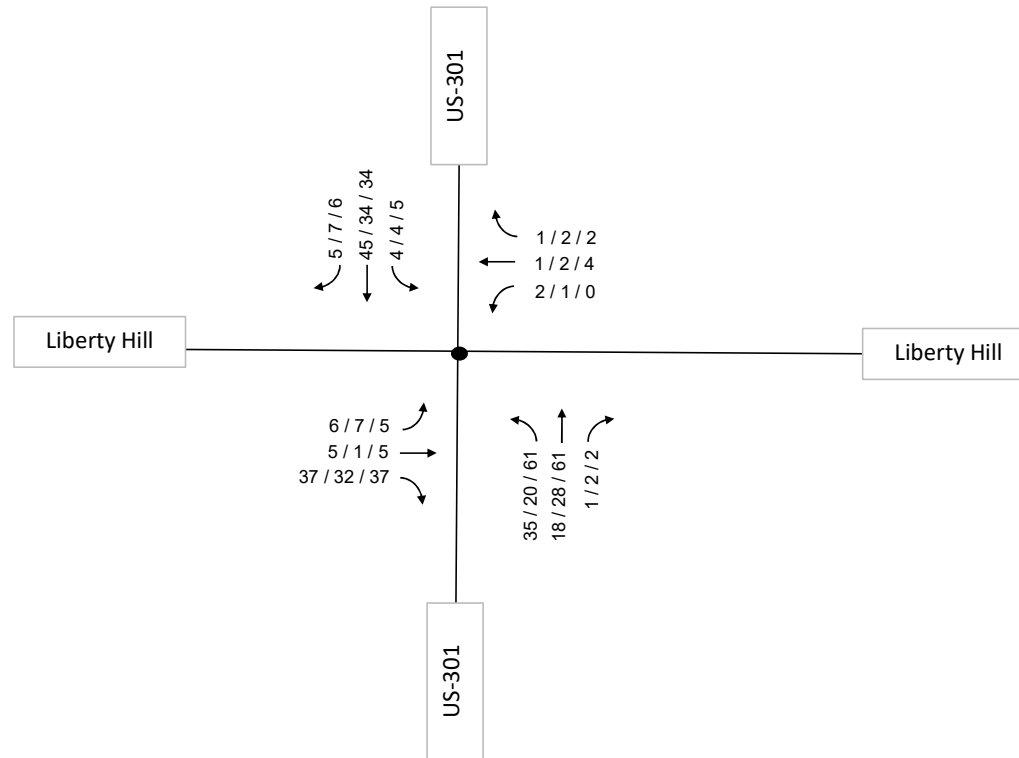
	<p><b>Legend</b></p> <p>↷ = Traffic Volume Direction</p> <p>00 / 00 / 00 = AM/Mid/PM Peak Hour Volumes</p>	<p><b>I-95 over Lake Marion</b></p>	
		<p>2045 Design Year Traffic Volumes</p>	



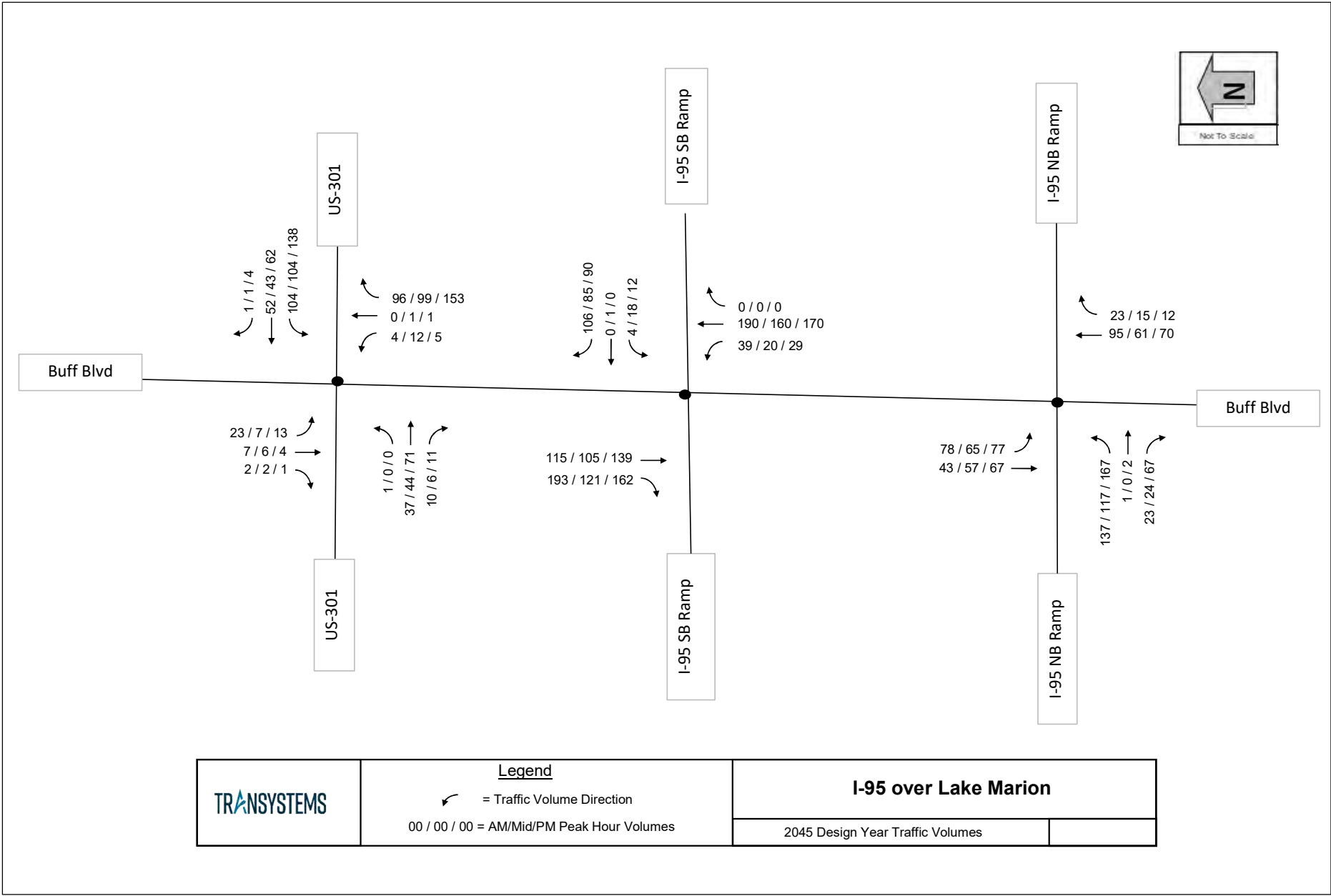
	<p><b>Legend</b></p> <p>↔ = Traffic Volume Direction</p> <p>00 / 00 / 00 = AM/Mid/PM Peak Hour Volumes</p>		<p><b>I-95 over Lake Marion</b></p>	
			<p>2045 Design Year Traffic Volumes</p>	



	<b>Legend</b> = Traffic Volume Direction 00 / 00 / 00 = AM/Mid/PM Peak Hour Volumes	<b>I-95 over Lake Marion</b>	
		2045 Design Year Traffic Volumes	



<b>TRANSYSTEMS</b>	<u>Legend</u>	<b>I-95 over Lake Marion</b>	
	= Traffic Volume Direction 00 / 00 / 00 = AM/Mid/PM Peak Hour Volumes	2045 Design Year Traffic Volumes	



# Appendix D

# Existing AM

TRANSYSTEMS



# HCS Freeway Diverge Report

## Project Information

Analyst	Transystems	Date	8/9/2023
Agency	SCDOT	Analysis Year	Existing (2023)
Jurisdiction		Time Analyzed	AM
Project Description	I-95 NB Exit to Hwy 6	Units	U.S. Customary

## Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	70.5	45.0
Segment Length (L) / Deceleration Length (LD), ft	1500	225
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

## Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	1.000	1.000
Capacity Adj. Factor for CAVs, CAFCAV	1.000	-

## Demand and Capacity

Demand Volume (Vi), veh/h	600	75
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	25.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.800	0.962
Flow Rate (vi), pc/h	798	83
Capacity (cmd), pc/h	4800	2100
Adjusted Capacity (cmd), pc/h	4800	2100
Volume-to-Capacity Ratio (v/c)	0.17	0.04

## Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (No), ln	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (DS)	0.305
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influence Area Speed (SR), mi/h	61.8
Prop. Freeway Vehicles in Lane 1 and 2 (PFD)	1.000	Outer Lanes Freeway Speed (SO), mi/h	77.3
Flow in Lanes 1 and 2 (v12), pc/h	798	Ramp Junction Speed (S), mi/h	61.8

Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	6.5
Level of Service (LOS)	A	Density in Ramp Influence Area (DR), pc/mi/ln	9.1

# HCS Freeway Merge Report

## Project Information

Analyst	TranSystems	Date	3/16/2023
Agency	SCDOT	Analysis Year	Existing 2023
Jurisdiction		Time Analyzed	AM
Project Description	I-95 NB On Ramp from Hwy 6	Units	U.S. Customary

## Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	70.5	45.0
Segment Length (L) / Acceleration Length (LA), ft	955	800
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

## Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAFCAV	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

## Demand and Capacity

Demand Volume (Vi), veh/h	600	130
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	25.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.800	0.962
Flow Rate (vi), pc/h	798	144
Capacity (cmd), pc/h	4800	2100
Adjusted Capacity (cmd), pc/h	4800	2100
Volume-to-Capacity Ratio (v/c)	0.20	0.07

## Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (No), ln	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (MS)	0.259
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	63.1
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	1.000	Outer Lanes Freeway Speed (SO), mi/h	70.5
Flow in Lanes 1 and 2 (v12), pc/h	798	Ramp Junction Speed (S), mi/h	63.1

Flow Entering Ramp-Infl. Area (vR12), pc/h	942	Average Density (D), pc/mi/ln	7.5
Level of Service (LOS)	A	Density in Ramp Influence Area (DR), pc/mi/ln	7.8

# HCS Freeway Diverge Report

## Project Information

Analyst	Transystems	Date	3/16/2023
Agency	SCDOT	Analysis Year	Existing (2023)
Jurisdiction		Time Analyzed	AM
Project Description	I-95 NB Exit to NB Rest Stop	Units	U.S. Customary

## Geometric Data

	Freeway	Ramp
Number of Lanes (N), In	2	1
Free-Flow Speed (FFS), mi/h	70.5	45.0
Segment Length (L) / Deceleration Length (LD), ft	955	225
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

## Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	1.000	1.000
Capacity Adj. Factor for CAVs, CAFCAV	1.000	-

## Demand and Capacity

Demand Volume (Vi), veh/h	690	40
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	25.00	43.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.800	0.699
Flow Rate (vi), pc/h	918	61
Capacity (cmd), pc/h	4800	2100
Adjusted Capacity (cmd), pc/h	4800	2100
Volume-to-Capacity Ratio (v/c)	0.19	0.03

## Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (No), In	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (DS)	0.303
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influence Area Speed (SR), mi/h	61.9
Prop. Freeway Vehicles in Lane 1 and 2 (PFD)	1.000	Outer Lanes Freeway Speed (SO), mi/h	77.3
Flow in Lanes 1 and 2 (v12), pc/h	918	Ramp Junction Speed (S), mi/h	61.9

Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	7.4
Level of Service (LOS)	B	Density in Ramp Influence Area (DR), pc/mi/ln	10.1

# HCS Freeway Merge Report

## Project Information

Analyst	TranSystems	Date	8/10/2023
Agency	SCDOT	Analysis Year	Existing (2023)
Jurisdiction		Time Analyzed	AM
Project Description	I-95 NB On Ramp from NB Rest Stop	Units	U.S. Customary

## Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	70.5	45.0
Segment Length (L) / Acceleration Length (LA), ft	1500	800
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

## Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAFCAV	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

## Demand and Capacity

Demand Volume (Vi), veh/h	690	40
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	25.00	43.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.800	0.699
Flow Rate (vi), pc/h	918	61
Capacity (cmd), pc/h	4800	2100
Adjusted Capacity (cmd), pc/h	4800	2100
Volume-to-Capacity Ratio (v/c)	0.20	0.03

## Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (NO), ln	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (MS)	0.259
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	63.1
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	1.000	Outer Lanes Freeway Speed (SO), mi/h	70.5
Flow in Lanes 1 and 2 (v12), pc/h	918	Ramp Junction Speed (S), mi/h	63.1



Flow Entering Ramp-Infl. Area (vR12), pc/h	979	Average Density (D), pc/mi/ln	7.8
Level of Service (LOS)	A	Density in Ramp Influence Area (DR), pc/mi/ln	8.1

# HCS Freeway Diverge Report

## Project Information

Analyst	Transystems	Date	8/9/2023
Agency	SCDOT	Analysis Year	Existing (2023)
Jurisdiction		Time Analyzed	AM
Project Description	I-95 NB Exit to US 15	Units	U.S. Customary

## Geometric Data

	Freeway	Ramp
Number of Lanes (N), In	2	1
Free-Flow Speed (FFS), mi/h	70.5	45.0
Segment Length (L) / Deceleration Length (LD), ft	1500	225
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

## Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	1.000	1.000
Capacity Adj. Factor for CAVs, CAFCAV	1.000	-

## Demand and Capacity

Demand Volume (Vi), veh/h	662	68
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	25.00	6.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.800	0.943
Flow Rate (vi), pc/h	880	77
Capacity (cmd), pc/h	4800	2100
Adjusted Capacity (cmd), pc/h	4800	2100
Volume-to-Capacity Ratio (v/c)	0.18	0.04

## Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (No), In	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (Ds)	0.305
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influence Area Speed (SR), mi/h	61.8
Prop. Freeway Vehicles in Lane 1 and 2 (PFD)	1.000	Outer Lanes Freeway Speed (SO), mi/h	77.3
Flow in Lanes 1 and 2 (v12), pc/h	880	Ramp Junction Speed (S), mi/h	61.8

Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	7.1
Level of Service (LOS)	A	Density in Ramp Influence Area (DR), pc/mi/ln	9.8

# HCS Freeway Merge Report

## Project Information

Analyst	TranSystems	Date	3/16/2023
Agency	SCDOT	Analysis Year	Existing 2023
Jurisdiction		Time Analyzed	AM
Project Description	I-95 NB On Ramp from US 15	Units	U.S. Customary

## Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	70.5	45.0
Segment Length (L) / Acceleration Length (LA), ft	1500	800
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

## Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAFCAV	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

## Demand and Capacity

Demand Volume (Vi), veh/h	662	20
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	25.00	6.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.800	0.943
Flow Rate (vi), pc/h	880	23
Capacity (cmd), pc/h	4800	2100
Adjusted Capacity (cmd), pc/h	4800	2100
Volume-to-Capacity Ratio (v/c)	0.19	0.01

## Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (No), ln	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (MS)	0.259
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	63.1
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	1.000	Outer Lanes Freeway Speed (SO), mi/h	70.5
Flow in Lanes 1 and 2 (v12), pc/h	880	Ramp Junction Speed (S), mi/h	63.1

Flow Entering Ramp-Infl. Area (vR12), pc/h	903	Average Density (D), pc/mi/ln	7.2
Level of Service (LOS)	A	Density in Ramp Influence Area (DR), pc/mi/ln	7.6

### Design Analysis Table

Freeway Lanes, ln	2	2	3	3	4	4	5	5
Ramp Lanes, ln	1	2	1	2	1	2	1	2
Density, pc/mi/ln	7.2	7.0	4.6	4.5	3.4	3.3	2.1	2.1
LOS	A	A	A	A	A	A	A	A

# HCS Freeway Diverge Report

## Project Information

Analyst	Transystems	Date	8/9/2023
Agency	SCDOT	Analysis Year	Existing 2023
Jurisdiction		Time Analyzed	AM
Project Description	I-95 NB Exit to Buff Blvd	Units	U.S. Customary

## Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	70.5	45.0
Segment Length (L) / Deceleration Length (LD), ft	1500	225
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

## Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	1.000	1.000
Capacity Adj. Factor for CAVs, CAFCAV	1.000	-

## Demand and Capacity

Demand Volume (Vi), veh/h	550	132
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	25.00	18.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.800	0.847
Flow Rate (vi), pc/h	731	166
Capacity (cmd), pc/h	4800	2100
Adjusted Capacity (cmd), pc/h	4800	2100
Volume-to-Capacity Ratio (v/c)	0.15	0.08

## Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (No), ln	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (DS)	0.313
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influence Area Speed (SR), mi/h	61.6
Prop. Freeway Vehicles in Lane 1 and 2 (PFD)	1.000	Outer Lanes Freeway Speed (SO), mi/h	77.3
Flow in Lanes 1 and 2 (v12), pc/h	731	Ramp Junction Speed (S), mi/h	61.6

Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	5.9
Level of Service (LOS)	A	Density in Ramp Influence Area (DR), pc/mi/ln	8.5



# HCS Freeway Merge Report

## Project Information

Analyst	TranSystems	Date	8/9/2023
Agency	SCDOT	Analysis Year	Existing 2023
Jurisdiction		Time Analyzed	AM
Project Description	I-95 NB On Ramp from Buff Blvd	Units	U.S. Customary

## Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	70.5	45.0
Segment Length (L) / Acceleration Length (LA), ft	1500	800
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

## Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAFCAV	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

## Demand and Capacity

Demand Volume (Vi), veh/h	550	84
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	25.00	18.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.800	0.847
Flow Rate (vi), pc/h	731	106
Capacity (cmd), pc/h	4800	2100
Adjusted Capacity (cmd), pc/h	4800	2100
Volume-to-Capacity Ratio (v/c)	0.17	0.05

## Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (No), ln	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (MS)	0.258
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	63.1
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	1.000	Outer Lanes Freeway Speed (SO), mi/h	70.5
Flow in Lanes 1 and 2 (v12), pc/h	731	Ramp Junction Speed (S), mi/h	63.1

Flow Entering Ramp-Infl. Area (vR12), pc/h	837	Average Density (D), pc/mi/ln	6.6
Level of Service (LOS)	A	Density in Ramp Influence Area (DR), pc/mi/ln	7.0

### Design Analysis Table

Freeway Lanes, ln	2	2	3	3	4	4	5	5
Ramp Lanes, ln	1	2	1	2	1	2	1	2
Density, pc/mi/ln	6.6	6.4	4.3	4.2	3.1	3.1	2.0	2.0
LOS	A	A	A	A	A	A	A	A

# HCS Freeway Diverge Report

## Project Information

Analyst	Transystems	Date	8/10/2023
Agency	SCDOT	Analysis Year	Existing 2023
Jurisdiction		Time Analyzed	AM
Project Description	I-95 SB Exit to Buff Blvd	Units	U.S. Customary

## Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	70.5	45.0
Segment Length (L) / Deceleration Length (LD), ft	1500	225
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

## Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	1.000	1.000
Capacity Adj. Factor for CAVs, CAFCAV	1.000	-

## Demand and Capacity

Demand Volume (Vi), veh/h	647	90
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	20.00	23.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.833	0.813
Flow Rate (vi), pc/h	826	118
Capacity (cmd), pc/h	4800	2100
Adjusted Capacity (cmd), pc/h	4800	2100
Volume-to-Capacity Ratio (v/c)	0.17	0.06

## Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (No), ln	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (DS)	0.309
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influence Area Speed (SR), mi/h	61.7
Prop. Freeway Vehicles in Lane 1 and 2 (PFD)	1.000	Outer Lanes Freeway Speed (SO), mi/h	77.3
Flow in Lanes 1 and 2 (v12), pc/h	826	Ramp Junction Speed (S), mi/h	61.7

Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	6.7
Level of Service (LOS)	A	Density in Ramp Influence Area (DR), pc/mi/ln	9.3

# HCS Freeway Merge Report

## Project Information

Analyst	TranSystems	Date	8/9/2023
Agency	SCDOT	Analysis Year	Existing 2023
Jurisdiction		Time Analyzed	AM
Project Description	I-95 SB On Ramp from Buff Blvd	Units	U.S. Customary

## Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	70.5	45.0
Segment Length (L) / Acceleration Length (LA), ft	1500	800
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

## Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAFCAV	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

## Demand and Capacity

Demand Volume (Vi), veh/h	647	190
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	20.00	23.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.833	0.813
Flow Rate (vi), pc/h	826	249
Capacity (cmd), pc/h	4800	2100
Adjusted Capacity (cmd), pc/h	4800	2100
Volume-to-Capacity Ratio (v/c)	0.22	0.12

## Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (No), ln	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (MS)	0.260
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	63.1
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	1.000	Outer Lanes Freeway Speed (SO), mi/h	70.5
Flow in Lanes 1 and 2 (v12), pc/h	826	Ramp Junction Speed (S), mi/h	63.1

Flow Entering Ramp-Infl. Area (vR12), pc/h	1075	Average Density (D), pc/mi/ln	8.5
Level of Service (LOS)	A	Density in Ramp Influence Area (DR), pc/mi/ln	8.8

### Design Analysis Table

Freeway Lanes, ln	2	2	3	3	4	4	5	5
Ramp Lanes, ln	1	2	1	2	1	2	1	2
Density, pc/mi/ln	8.5	8.3	5.5	5.4	4.0	4.0	2.7	2.7
LOS	A	A	A	A	A	A	A	A

# HCS Freeway Diverge Report

## Project Information

Analyst	Transystems	Date	8/9/2023
Agency	SCDOT	Analysis Year	Existing 2023
Jurisdiction		Time Analyzed	AM
Project Description	I-95 SB Exit to US 15	Units	U.S. Customary

## Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	70.5	45.0
Segment Length (L) / Deceleration Length (LD), ft	1500	225
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

## Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	1.000	1.000
Capacity Adj. Factor for CAVs, CAFCAV	1.000	-

## Demand and Capacity

Demand Volume (Vi), veh/h	830	7
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	20.00	10.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.833	0.909
Flow Rate (vi), pc/h	1060	8
Capacity (cmd), pc/h	4800	2100
Adjusted Capacity (cmd), pc/h	4800	2100
Volume-to-Capacity Ratio (v/c)	0.22	0.00

## Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (No), ln	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (DS)	0.299
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influence Area Speed (SR), mi/h	62.0
Prop. Freeway Vehicles in Lane 1 and 2 (PFD)	1.000	Outer Lanes Freeway Speed (SO), mi/h	77.3
Flow in Lanes 1 and 2 (v12), pc/h	1060	Ramp Junction Speed (S), mi/h	62.0

Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	8.5
Level of Service (LOS)	B	Density in Ramp Influence Area (DR), pc/mi/ln	11.3



# HCS Freeway Merge Report

## Project Information

Analyst	TranSystems	Date	3/16/2023
Agency	SCDOT	Analysis Year	Existing 2023
Jurisdiction		Time Analyzed	AM
Project Description	I-95 SB On Ramp from US 15	Units	U.S. Customary

## Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	70.5	45.0
Segment Length (L) / Acceleration Length (LA), ft	1500	800
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

## Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAFCAV	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

## Demand and Capacity

Demand Volume (Vi), veh/h	830	130
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	20.00	10.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.833	0.909
Flow Rate (vi), pc/h	1060	152
Capacity (cmd), pc/h	4800	2100
Adjusted Capacity (cmd), pc/h	4800	2100
Volume-to-Capacity Ratio (v/c)	0.25	0.07

## Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (No), ln	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (MS)	0.262
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	63.0
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	1.000	Outer Lanes Freeway Speed (SO), mi/h	70.5
Flow in Lanes 1 and 2 (v12), pc/h	1060	Ramp Junction Speed (S), mi/h	63.0

Flow Entering Ramp-Infl. Area (vR12), pc/h	1212	Average Density (D), pc/mi/ln	9.6
Level of Service (LOS)	A	Density in Ramp Influence Area (DR), pc/mi/ln	9.9

### Design Analysis Table

Freeway Lanes, ln	2	2	3	3	4	4	5	5
Ramp Lanes, ln	1	2	1	2	1	2	1	2
Density, pc/mi/ln	9.6	9.4	6.2	6.0	4.5	4.5	2.9	2.9
LOS	A	A	A	A	A	A	A	A

# HCS Freeway Diverge Report

## Project Information

Analyst	Transystems	Date	8/10/2023
Agency	SCDOT	Analysis Year	Existing 2023
Jurisdiction		Time Analyzed	AM
Project Description	I-95 SB Exit to SB Rest Stop	Units	U.S. Customary

## Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	70.5	45.0
Segment Length (L) / Deceleration Length (LD), ft	1500	225
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

## Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	1.000	1.000
Capacity Adj. Factor for CAVs, CAFCAV	1.000	-

## Demand and Capacity

Demand Volume (Vi), veh/h	912	48
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	20.00	37.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.833	0.730
Flow Rate (vi), pc/h	1165	70
Capacity (cmd), pc/h	4800	2100
Adjusted Capacity (cmd), pc/h	4800	2100
Volume-to-Capacity Ratio (v/c)	0.24	0.03

## Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (No), ln	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (DS)	0.304
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influence Area Speed (SR), mi/h	61.8
Prop. Freeway Vehicles in Lane 1 and 2 (PFD)	1.000	Outer Lanes Freeway Speed (SO), mi/h	77.3
Flow in Lanes 1 and 2 (v12), pc/h	1165	Ramp Junction Speed (S), mi/h	61.8

Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	9.4
Level of Service (LOS)	B	Density in Ramp Influence Area (DR), pc/mi/ln	12.2

# HCS Freeway Weaving Report

## Project Information

Analyst	TranSystems	Date	8/10/2023
Agency	SCDOT	Analysis Year	Existing (2023)
Jurisdiction		Time Analyzed	AM
Project Description	I-95 SB Weave bt SB Rest Stop and Hwy 6	Units	U.S. Customary

## Geometric Data

Number of Lanes (N), ln	3	Segment Type	Freeway
Segment Length (Ls), ft	775	Number of Maneuver Lanes (NWL), ln	2
Weaving Configuration	One-Sided	Ramp-to-Freeway Lane Changes (LCRF), lc	1
Terrain Type	Level	Freeway-to-Ramp Lane Changes (LCFR), lc	1
Percent Grade, %	-	Ramp-to-Ramp Lane Changes (LCRR), lc	0
Interchange Density (ID), int/mi	0.80	Cross Weaving Managed Lane	No

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor for CAVs, CAFCAV	1.000
Proportion of CAVs in Traffic Stream	0	Final Capacity Adjustment Factor (CAF)	1.000

## Demand and Capacity

	FF	RF	RR	FR
Demand Volume (Vi), veh/h	912	48	0	201
Peak Hour Factor (PHF)	0.94	0.94	0.94	0.94
Total Trucks, %	20.00	37.00	0.00	4.00
Heavy Vehicle Adjustment Factor (fHV)	0.833	0.730	1.000	0.962
Flow Rate (vi), pc/h	1165	70	0	222
Weaving Flow Rate (vw), pc/h	292	Ideal Conditions Capacity (ciFL), pc/h/ln		2400
Non-Weaving Flow Rate (vNW), pc/h	1165	Density-Based Capacity (ciWL × N × fHV), veh/h		5371
Total Flow Rate (v), pc/h	1457	Demand Flow-Based Capacity (ciW × fHV), veh/h		10173
Volume Ratio (VR)	0.200	Weaving Area Capacity (cw), veh/h		5371
Minimum Lane Change Rate (LCMIN), lc/h	292	Adjusted Weaving Area Capacity (cWA), veh/h		5371
Maximum Weaving Length (LMAX), ft	4536	Demand-to-Capacity Ratio (v/c)		0.23

## Speed and Density

Non-Weaving Vehicle Index (INW)	72	Average Weaving Speed (SW), mi/h	67.1
Non-Weaving Lane Change Rate (LCNW), lc/h	82	Average Non-Weaving Speed (SNW), mi/h	71.0
Weaving Lane Change Rate (LCW), lc/h	414	Average Speed (S), mi/h	70.2
Weaving Lane Change Rate (LCAII), lc/h	496	Density (D), pc/mi/ln	6.9
Weaving Intensity Factor (W)	0.159	Level of Service (LOS)	A

# HCS Freeway Merge Report

## Project Information

Analyst	TranSystems	Date	3/16/2023
Agency	SCDOT	Analysis Year	Existing 2023
Jurisdiction		Time Analyzed	AM
Project Description	I-95 SB On Ramp from Hwy 6	Units	U.S. Customary

## Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	70.5	45.0
Segment Length (L) / Acceleration Length (LA), ft	1500	800
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

## Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAFCAV	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

## Demand and Capacity

Demand Volume (Vi), veh/h	759	124
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	20.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.833	0.962
Flow Rate (vi), pc/h	969	137
Capacity (cmd), pc/h	4800	2100
Adjusted Capacity (cmd), pc/h	4800	2100
Volume-to-Capacity Ratio (v/c)	0.23	0.07

## Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (No), ln	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (MS)	0.261
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	63.1
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	1.000	Outer Lanes Freeway Speed (SO), mi/h	70.5
Flow in Lanes 1 and 2 (v12), pc/h	969	Ramp Junction Speed (S), mi/h	63.1

Flow Entering Ramp-Infl. Area (vR12), pc/h	1106	Average Density (D), pc/mi/ln	8.8
Level of Service (LOS)	A	Density in Ramp Influence Area (DR), pc/mi/ln	9.1

# HCS Basic Freeway Report

## Project Information

Analyst	Transystems	Date	8/9/2023
Agency	SCDOT	Analysis Year	Existing (2023)
Jurisdiction		Time Analyzed	AM
Project Description	I-95 NB south of Hwy 6	Units	U.S. Customary

## Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Rolling
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.0	Total Ramp Density (TRD), ramps/mi	1.50
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.5
Right-Side Lateral Clearance, ft	10		

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	1.000
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAFCAV	1.000

## Demand and Capacity

Demand Volume (V), veh/h	675	Heavy Vehicle Adjustment Factor (fhv)	0.667
Peak Hour Factor (PHF)	0.94	Flow Rate (vp), pc/h/ln	538
Total Trucks, %	25.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.22
Passenger Car Equivalent (ET)	3.00		

## Speed and Density

Lane Width Adjustment (fLW)	0.0	Average Speed (S), mi/h	70.5
Right-Side Lateral Clearance Adj. (fRLC)	0.0	Density (D), pc/mi/ln	7.6
Total Ramp Density Adjustment	4.5	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFSadj), mi/h	70.5		



# HCS Basic Freeway Report

## Project Information

Analyst	Transystems	Date	8/9/2023
Agency	SCDOT	Analysis Year	Existing (2023)
Jurisdiction		Time Analyzed	AM
Project Description	I-95 NB south of US 15	Units	U.S. Customary

## Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Rolling
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.0	Total Ramp Density (TRD), ramps/mi	1.50
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.5
Right-Side Lateral Clearance, ft	10		

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	1.000
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAFCAV	1.000

## Demand and Capacity

Demand Volume (V), veh/h	730	Heavy Vehicle Adjustment Factor (fhv)	0.667
Peak Hour Factor (PHF)	0.94	Flow Rate (vp), pc/h/ln	582
Total Trucks, %	25.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.24
Passenger Car Equivalent (ET)	3.00		

## Speed and Density

Lane Width Adjustment (fLW)	0.0	Average Speed (S), mi/h	70.5
Right-Side Lateral Clearance Adj. (fRLC)	0.0	Density (D), pc/mi/ln	8.3
Total Ramp Density Adjustment	4.5	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFSadj), mi/h	70.5		

# HCS Basic Freeway Report

## Project Information

Analyst	Transystems	Date	8/9/2023
Agency	SCDOT	Analysis Year	Existing (2023)
Jurisdiction		Time Analyzed	AM
Project Description	I-95 NB south of Buff Blvd	Units	U.S. Customary

## Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Rolling
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.0	Total Ramp Density (TRD), ramps/mi	1.50
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.5
Right-Side Lateral Clearance, ft	10		

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	1.000
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAFCAV	1.000

## Demand and Capacity

Demand Volume (V), veh/h	682	Heavy Vehicle Adjustment Factor (fhv)	0.667
Peak Hour Factor (PHF)	0.94	Flow Rate (vp), pc/h/ln	544
Total Trucks, %	25.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.23
Passenger Car Equivalent (ET)	3.00		

## Speed and Density

Lane Width Adjustment (fLW)	0.0	Average Speed (S), mi/h	70.5
Right-Side Lateral Clearance Adj. (fRLC)	0.0	Density (D), pc/mi/ln	7.7
Total Ramp Density Adjustment	4.5	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFSadj), mi/h	70.5		

# HCS Basic Freeway Report

## Project Information

Analyst	Transystems	Date	8/9/2023
Agency	SCDOT	Analysis Year	Existing (2023)
Jurisdiction		Time Analyzed	AM
Project Description	I-95 NB north of Buff Blvd	Units	U.S. Customary

## Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Rolling
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.0	Total Ramp Density (TRD), ramps/mi	1.50
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.5
Right-Side Lateral Clearance, ft	10		

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	1.000
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAFCAV	1.000

## Demand and Capacity

Demand Volume (V), veh/h	634	Heavy Vehicle Adjustment Factor (fhv)	0.667
Peak Hour Factor (PHF)	0.94	Flow Rate (vp), pc/h/ln	506
Total Trucks, %	25.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.21
Passenger Car Equivalent (ET)	3.00		

## Speed and Density

Lane Width Adjustment (fLW)	0.0	Average Speed (S), mi/h	70.5
Right-Side Lateral Clearance Adj. (fRLC)	0.0	Density (D), pc/mi/ln	7.2
Total Ramp Density Adjustment	4.5	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFSadj), mi/h	70.5		

# HCS Basic Freeway Report

## Project Information

Analyst	Transystems	Date	8/9/2023
Agency	SCDOT	Analysis Year	Existing (2023)
Jurisdiction		Time Analyzed	AM
Project Description	I-95 SB north of Buff Blvd	Units	U.S. Customary

## Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Rolling
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.0	Total Ramp Density (TRD), ramps/mi	1.50
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.5
Right-Side Lateral Clearance, ft	10		

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	1.000
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAFCAV	1.000

## Demand and Capacity

Demand Volume (V), veh/h	737	Heavy Vehicle Adjustment Factor (fhv)	0.714
Peak Hour Factor (PHF)	0.94	Flow Rate (vp), pc/h/ln	549
Total Trucks, %	20.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.23
Passenger Car Equivalent (ET)	3.00		

## Speed and Density

Lane Width Adjustment (fLW)	0.0	Average Speed (S), mi/h	70.5
Right-Side Lateral Clearance Adj. (fRLC)	0.0	Density (D), pc/mi/ln	7.8
Total Ramp Density Adjustment	4.5	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFSadj), mi/h	70.5		

# HCS Basic Freeway Report

## Project Information

Analyst	Transystems	Date	8/9/2023
Agency	SCDOT	Analysis Year	Existing (2023)
Jurisdiction		Time Analyzed	AM
Project Description	I-95 SB south of Buff Blvd	Units	U.S. Customary

## Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Rolling
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.0	Total Ramp Density (TRD), ramps/mi	1.50
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.5
Right-Side Lateral Clearance, ft	10		

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	1.000
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAFCAV	1.000

## Demand and Capacity

Demand Volume (V), veh/h	837	Heavy Vehicle Adjustment Factor (fhv)	0.714
Peak Hour Factor (PHF)	0.94	Flow Rate (vp), pc/h/ln	624
Total Trucks, %	20.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.26
Passenger Car Equivalent (ET)	3.00		

## Speed and Density

Lane Width Adjustment (fLW)	0.0	Average Speed (S), mi/h	70.5
Right-Side Lateral Clearance Adj. (fRLC)	0.0	Density (D), pc/mi/ln	8.9
Total Ramp Density Adjustment	4.5	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFSadj), mi/h	70.5		

# HCS Basic Freeway Report

## Project Information

Analyst	Transystems	Date	8/9/2023
Agency	SCDOT	Analysis Year	Existing (2023)
Jurisdiction		Time Analyzed	AM
Project Description	I-95 SB south of US 15	Units	U.S. Customary

## Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Rolling
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.0	Total Ramp Density (TRD), ramps/mi	1.50
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.5
Right-Side Lateral Clearance, ft	10		

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	1.000
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAFCAV	1.000

## Demand and Capacity

Demand Volume (V), veh/h	960	Heavy Vehicle Adjustment Factor (fhv)	0.714
Peak Hour Factor (PHF)	0.94	Flow Rate (vp), pc/h/ln	715
Total Trucks, %	20.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.30
Passenger Car Equivalent (ET)	3.00		

## Speed and Density

Lane Width Adjustment (fLW)	0.0	Average Speed (S), mi/h	70.5
Right-Side Lateral Clearance Adj. (fRLC)	0.0	Density (D), pc/mi/ln	10.1
Total Ramp Density Adjustment	4.5	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFSadj), mi/h	70.5		

# HCS Basic Freeway Report

## Project Information

Analyst	Transystems	Date	8/8/2023
Agency	SCDOT	Analysis Year	Existing (2023)
Jurisdiction		Time Analyzed	AM
Project Description	I-95 SB south of Hwy 6	Units	U.S. Customary

## Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Rolling
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.0	Total Ramp Density (TRD), ramps/mi	1.50
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.5
Right-Side Lateral Clearance, ft	10		

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	1.000
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAFCAV	1.000

## Demand and Capacity

Demand Volume (V), veh/h	883	Heavy Vehicle Adjustment Factor (fhv)	0.714
Peak Hour Factor (PHF)	0.94	Flow Rate (vp), pc/h/ln	658
Total Trucks, %	20.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.27
Passenger Car Equivalent (ET)	3.00		

## Speed and Density

Lane Width Adjustment (fLW)	0.0	Average Speed (S), mi/h	70.5
Right-Side Lateral Clearance Adj. (fRLC)	0.0	Density (D), pc/mi/ln	9.3
Total Ramp Density Adjustment	4.5	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFSadj), mi/h	70.5		

# Lanes, Volumes, Timings

## 24: Hwy 6 & I-95 SB Ramp

08/09/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SWL2	SWL	SWR
Lane Configurations											
Traffic Volume (vph)	0	217	70	54	213	0	0	0	64	0	137
Future Volume (vph)	0	217	70	54	213	0	0	0	64	0	137
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		75	175		0	0	0		0	150
Storage Lanes	0		0	1		0	0	0		1	1
Taper Length (ft)	25			25			25			25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.967									0.850
Flt Protected				0.950					0.950		
Satd. Flow (prot)	0	1767	0	1736	1827	0	0	0	1736	0	1553
Flt Permitted				0.314					0.950		
Satd. Flow (perm)	0	1767	0	574	1827	0	0	0	1736	0	1553
Right Turn on Red			Yes			Yes					Yes
Satd. Flow (RTOR)		28									587
Link Speed (mph)		30			30			30			30
Link Distance (ft)		221			1070			658			713
Travel Time (s)		5.0			24.3			15.0			16.2
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Adj. Flow (vph)	0	238	77	59	234	0	0	0	70	0	151
Shared Lane Traffic (%)											
Lane Group Flow (vph)	0	315	0	59	234	0	0	0	70	0	151
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			12
Link Offset(ft)		0			0			0			0
Crosswalk Width(ft)		16			16			16			16
Two way Left Turn Lane											
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15	9	15	15	9
Number of Detectors		2			1	2			1		1
Detector Template		Thru			Left	Thru			Left		Right
Leading Detector (ft)		100			20	100			20		20
Trailing Detector (ft)		0			0	0			0		0
Detector 1 Position(ft)		0			0	0			0		0
Detector 1 Size(ft)		6			20	6			20		20
Detector 1 Type		Cl+Ex			Cl+Ex	Cl+Ex			Cl+Ex		Cl+Ex
Detector 1 Channel											
Detector 1 Extend (s)		0.0			0.0	0.0			0.0		0.0
Detector 1 Queue (s)		0.0			0.0	0.0			0.0		0.0
Detector 1 Delay (s)		0.0			0.0	0.0			0.0		0.0
Detector 2 Position(ft)		94			94						
Detector 2 Size(ft)		6			6						
Detector 2 Type		Cl+Ex			Cl+Ex						
Detector 2 Channel											
Detector 2 Extend (s)		0.0			0.0						
Turn Type		NA			pm+pt	NA			Perm		Perm
Protected Phases		4			3	8					



**Lanes, Volumes, Timings**  
**24: Hwy 6 & I-95 SB Ramp**

08/09/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SWL2	SWL	SWR
Permitted Phases				8					6		6
Detector Phase		4		3	8				6		6
Switch Phase											
Minimum Initial (s)		5.0		5.0	5.0				5.0		5.0
Minimum Split (s)		24.0		11.0	24.0				24.0		24.0
Total Split (s)		24.0		11.0	35.0				25.0		25.0
Total Split (%)		40.0%		18.3%	58.3%				41.7%		41.7%
Maximum Green (s)		18.0		5.0	29.0				19.0		19.0
Yellow Time (s)		4.0		4.0	4.0				4.0		4.0
All-Red Time (s)		2.0		2.0	2.0				2.0		2.0
Lost Time Adjust (s)		0.0		0.0	0.0				0.0		0.0
Total Lost Time (s)		6.0		6.0	6.0				6.0		6.0
Lead/Lag		Lag		Lead							
Lead-Lag Optimize?		Yes		Yes							
Vehicle Extension (s)		3.0		3.0	3.0				3.0		3.0
Recall Mode		None		None	None				Max		Max
Walk Time (s)		7.0			7.0				7.0		7.0
Flash Dont Walk (s)		11.0			11.0				11.0		11.0
Pedestrian Calls (#/hr)		0			0				0		0
Act Effect Green (s)		13.1		18.9	18.9				19.7		19.7
Actuated g/C Ratio		0.26		0.37	0.37				0.39		0.39
v/c Ratio		0.66		0.18	0.35				0.10		0.16
Control Delay		23.5		10.1	11.8				14.1		0.4
Queue Delay		0.0		0.0	0.0				0.0		0.0
Total Delay		23.5		10.1	11.8				14.1		0.4
LOS		C		B	B				B		A
Approach Delay		23.5			11.5					4.7	
Approach LOS		C			B					A	
Queue Length 50th (ft)		86		11	47				16		0
Queue Length 95th (ft)		157		27	85				43		0
Internal Link Dist (ft)		141			990		578			633	
Turn Bay Length (ft)				175							150
Base Capacity (vph)		663		330	1075				669		959
Starvation Cap Reductn		0		0	0				0		0
Spillback Cap Reductn		0		0	0				0		0
Storage Cap Reductn		0		0	0				0		0
Reduced v/c Ratio		0.48		0.18	0.22				0.10		0.16

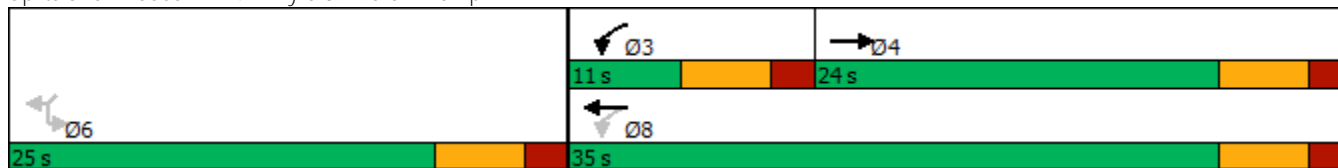
Intersection Summary	
Area Type:	Other
Cycle Length:	60
Actuated Cycle Length:	51
Natural Cycle:	60
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.66
Intersection Signal Delay:	14.3
Intersection LOS:	B
Intersection Capacity Utilization:	31.1%
ICU Level of Service:	A
Analysis Period (min):	15

# Lanes, Volumes, Timings

## 24: Hwy 6 & I-95 SB Ramp

08/09/2023

Splits and Phases: 24: Hwy 6 & I-95 SB Ramp



# Lanes, Volumes, Timings

## 27: Bass Dr & Hwy 6

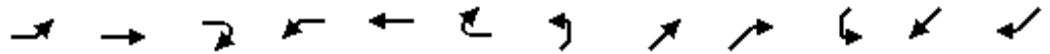
08/09/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	5	110	45	141	129	15	34	19	115	22	18	8
Future Volume (vph)	5	110	45	141	129	15	34	19	115	22	18	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	120		0	170		0	175		0	120		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.956			0.984			0.871			0.955	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1752	1763	0	1752	1815	0	1752	1607	0	1752	1762	0
Flt Permitted	0.650			0.643			0.603			0.657		
Satd. Flow (perm)	1199	1763	0	1186	1815	0	1112	1607	0	1212	1762	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		35			10			135			9	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		638			518			530			613	
Travel Time (s)		14.5			11.8			12.0			13.9	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	6	129	53	166	152	18	40	22	135	26	21	9
Shared Lane Traffic (%)												
Lane Group Flow (vph)	6	182	0	166	170	0	40	157	0	26	30	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8		5	2			6	

**Lanes, Volumes, Timings**  
**27: Bass Dr & Hwy 6**

08/09/2023



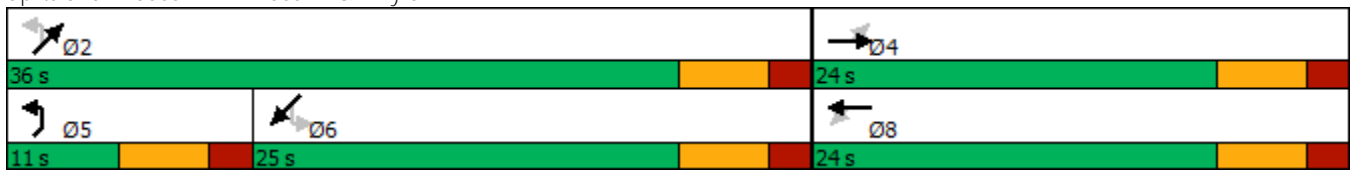
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	24.0	24.0		24.0	24.0		11.0	24.0		24.0	24.0	
Total Split (s)	24.0	24.0		24.0	24.0		11.0	36.0		25.0	25.0	
Total Split (%)	40.0%	40.0%		40.0%	40.0%		18.3%	60.0%		41.7%	41.7%	
Maximum Green (s)	18.0	18.0		18.0	18.0		5.0	30.0		19.0	19.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Max		Max	Max	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0			11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0			0		0	0	
Act Effct Green (s)	12.6	12.6		12.6	12.6		31.0	31.0		26.9	26.9	
Actuated g/C Ratio	0.23	0.23		0.23	0.23		0.56	0.56		0.48	0.48	
v/c Ratio	0.02	0.43		0.62	0.41		0.06	0.16		0.04	0.04	
Control Delay	15.4	17.3		29.5	19.5		7.2	2.8		12.8	10.5	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	15.4	17.3		29.5	19.5		7.2	2.8		12.8	10.5	
LOS	B	B		C	B		A	A		B	B	
Approach Delay		17.2			24.5			3.7			11.5	
Approach LOS		B			C			A			B	
Queue Length 50th (ft)	2	40		48	44		5	3		4	3	
Queue Length 95th (ft)	8	79		92	81		18	24		20	19	
Internal Link Dist (ft)		558			438			450			533	
Turn Bay Length (ft)	120			170			175			120		
Base Capacity (vph)	388	595		384	595		678	956		585	855	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.02	0.31		0.43	0.29		0.06	0.16		0.04	0.04	

Intersection Summary	
Area Type:	Other
Cycle Length:	60
Actuated Cycle Length:	55.6
Natural Cycle:	60
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.62
Intersection Signal Delay:	16.5
Intersection LOS:	B
Intersection Capacity Utilization:	48.6%
ICU Level of Service:	A
Analysis Period (min):	15

Lanes, Volumes, Timings  
 27: Bass Dr & Hwy 6

08/09/2023






















Splits and Phases: 27: Bass Dr & Hwy 6



# Lanes, Volumes, Timings

## 30: Bradford & Hwy 6

08/09/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	240	6	28	290	2	6	0	31	2	0	1
Future Volume (vph)	1	240	6	28	290	2	6	0	31	2	0	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	120		0	120		0	0		0	0		0
Storage Lanes	1		0	1		0	1		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.996			0.999				0.850			0.955
Flt Protected	0.950			0.950			0.950					0.968
Satd. Flow (prot)	1719	1802	0	1719	1808	0	1719	1810	1538	0	1673	0
Flt Permitted	0.950			0.950			0.950					0.968
Satd. Flow (perm)	1719	1802	0	1719	1808	0	1719	1810	1538	0	1673	0
Link Speed (mph)		30			30			30				30
Link Distance (ft)		518			385			504				268
Travel Time (s)		11.8			8.8			11.5				6.1
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	1	273	7	32	330	2	7	0	35	2	0	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	1	280	0	32	332	0	7	0	35	0	3	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

### Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	32.1%
Analysis Period (min)	15
	ICU Level of Service A

Lanes, Volumes, Timings  
 33: I-95 BNB Ramp & Hwy 6

08/09/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SBL	SBR	NEL2	NEL	NER
Lane Configurations											
Traffic Volume (vph)	55	237	0	0	235	75	0	0	30	0	45
Future Volume (vph)	55	237	0	0	235	75	0	0	30	0	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	0		0	0	0		0	0
Storage Lanes	1		0	0		0	0	0		1	1
Taper Length (ft)	25			25			25			25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.967						0.850
Flt Protected	0.950								0.950		
Satd. Flow (prot)	1736	1827	0	0	1767	0	0	0	1736	0	1553
Flt Permitted	0.295								0.950		
Satd. Flow (perm)	539	1827	0	0	1767	0	0	0	1736	0	1553
Right Turn on Red			Yes			Yes					Yes
Satd. Flow (RTOR)					28						550
Link Speed (mph)		30			30		30			30	
Link Distance (ft)		1070			197		602			707	
Travel Time (s)		24.3			4.5		13.7			16.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Adj. Flow (vph)	60	258	0	0	255	82	0	0	33	0	49
Shared Lane Traffic (%)											
Lane Group Flow (vph)	60	258	0	0	337	0	0	0	33	0	49
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Right	Left	Left	Right
Median Width(ft)		12			12		0			12	
Link Offset(ft)		0			0		0			0	
Crosswalk Width(ft)		16			16		16			16	
Two way Left Turn Lane											
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15	9	15	15	9
Number of Detectors	1	2			2				1		1
Detector Template	Left	Thru			Thru				Left		Right
Leading Detector (ft)	20	100			100				20		20
Trailing Detector (ft)	0	0			0				0		0
Detector 1 Position(ft)	0	0			0				0		0
Detector 1 Size(ft)	20	6			6				20		20
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex				Cl+Ex		Cl+Ex
Detector 1 Channel											
Detector 1 Extend (s)	0.0	0.0			0.0				0.0		0.0
Detector 1 Queue (s)	0.0	0.0			0.0				0.0		0.0
Detector 1 Delay (s)	0.0	0.0			0.0				0.0		0.0
Detector 2 Position(ft)		94			94						
Detector 2 Size(ft)		6			6						
Detector 2 Type		Cl+Ex			Cl+Ex						
Detector 2 Channel											
Detector 2 Extend (s)		0.0			0.0						
Turn Type	pm+pt	NA			NA				Perm		Perm
Protected Phases	7	4			8						

# Lanes, Volumes, Timings

## 33: I-95 BNB Ramp & Hwy 6

08/09/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SBL	SBR	NEL2	NEL	NER	
Permitted Phases	4								2	2		
Detector Phase	7	4							2	2		
Switch Phase												
Minimum Initial (s)	5.0	5.0							5.0	5.0		
Minimum Split (s)	11.0	24.0							24.0	24.0		
Total Split (s)	11.0	35.0							25.0	25.0		
Total Split (%)	18.3%	58.3%							41.7%	41.7%		
Maximum Green (s)	5.0	29.0							19.0	19.0		
Yellow Time (s)	4.0	4.0							4.0	4.0		
All-Red Time (s)	2.0	2.0							2.0	2.0		
Lost Time Adjust (s)	0.0	0.0							0.0	0.0		
Total Lost Time (s)	6.0	6.0							6.0	6.0		
Lead/Lag	Lead				Lag							
Lead-Lag Optimize?	Yes				Yes							
Vehicle Extension (s)	3.0	3.0							3.0	3.0		
Recall Mode	None	None							Max	Max		
Walk Time (s)	7.0								7.0	7.0		
Flash Dont Walk (s)	11.0								11.0	11.0		
Pedestrian Calls (#/hr)	0								0	0		
Act Effct Green (s)	19.5	19.5							19.7	19.7		
Actuated g/C Ratio	0.38	0.38							0.38	0.38		
v/c Ratio	0.19	0.37							0.05	0.05		
Control Delay	10.1	12.1							14.2	0.1		
Queue Delay	0.0	0.0							0.0	0.0		
Total Delay	10.1	12.1							14.2	0.1		
LOS	B	B							B	A		
Approach Delay	11.7								5.8			
Approach LOS	B								A			
Queue Length 50th (ft)	11	52							8	0		
Queue Length 95th (ft)	27	94							24	0		
Internal Link Dist (ft)	990						522		627			
Turn Bay Length (ft)	200											
Base Capacity (vph)	323	1064							662	932		
Starvation Cap Reductn	0	0							0	0		
Spillback Cap Reductn	0	0							0	0		
Storage Cap Reductn	0	0							0	0		
Reduced v/c Ratio	0.19	0.24							0.05	0.05		

Intersection Summary	
Area Type:	Other
Cycle Length:	60
Actuated Cycle Length:	51.6
Natural Cycle:	60
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.69
Intersection Signal Delay:	16.8
Intersection LOS:	B
Intersection Capacity Utilization:	31.1%
ICU Level of Service:	A
Analysis Period (min):	15

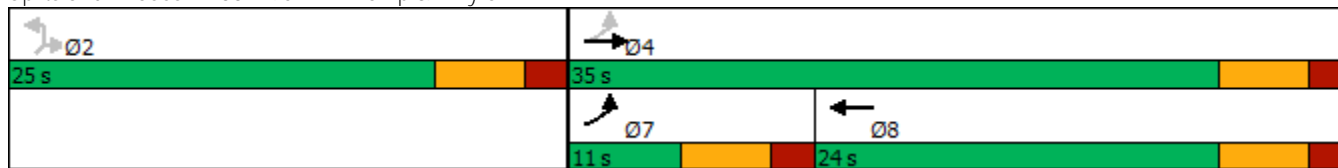


# Lanes, Volumes, Timings

## 33: I-95 BNB Ramp & Hwy 6

08/09/2023

Splits and Phases: 33: I-95 BNB Ramp & Hwy 6



# Lanes, Volumes, Timings

## 36: Britain & Hwy 6

08/09/2023























Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↗		↖	↗			↕			↕	
Traffic Volume (vph)	21	267	4	9	323	19	0	0	9	11	1	18
Future Volume (vph)	21	267	4	9	323	19	0	0	9	11	1	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	50		0	0		0	0		0
Storage Lanes	0		0	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.998			0.992			0.865				0.918
Flt Protected		0.996		0.950								0.982
Satd. Flow (prot)	0	1816	0	1736	1812	0	0	1580	0	0	1647	0
Flt Permitted		0.996		0.950								0.982
Satd. Flow (perm)	0	1816	0	1736	1812	0	0	1580	0	0	1647	0
Link Speed (mph)		30			30			30				30
Link Distance (ft)		385			221			341				104
Travel Time (s)		8.8			5.0			7.8				2.4
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Adj. Flow (vph)	24	300	4	10	363	21	0	0	10	12	1	20
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	328	0	10	384	0	0	10	0	0	33	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0				0
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop				Stop

### Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	46.7%
Analysis Period (min)	15
	ICU Level of Service A

Lanes, Volumes, Timings  
42: St Paul Rd & US 301/Gas Station

08/09/2023

												
Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	4	4	50	2	8	0	2	0	6	67	3	7
Future Volume (vph)	4	4	50	2	8	0	2	0	6	67	3	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	1.00	0.95	0.95
Frt			0.850					0.891			0.896	
Flt Protected		0.976			0.989			0.987		0.950		
Satd. Flow (prot)	0	1686	1468	0	1708	0	0	2886	0	1641	2941	0
Flt Permitted		0.976			0.989			0.987		0.950		
Satd. Flow (perm)	0	1686	1468	0	1708	0	0	2886	0	1641	2941	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		420			211			822			934	
Travel Time (s)		9.5			4.8			18.7			21.2	
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Adj. Flow (vph)	5	5	64	3	10	0	3	0	8	86	4	9
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	10	64	0	13	0	0	11	0	86	13	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	
<b>Intersection Summary</b>												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	20.4%						ICU Level of Service A					
Analysis Period (min)	15											

# Lanes, Volumes, Timings

## 44: US 301 & I-95 SB Ramp

08/09/2023



Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↔↑			↓↔						↔↔	
Traffic Volume (vph)	54	49	0	0	8	76	0	0	0	3	1	3
Future Volume (vph)	54	49	0	0	8	76	0	0	0	3	1	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.878						0.940	
Flt Protected		0.974									0.978	
Satd. Flow (prot)	0	3196	0	0	1517	0	0	0	0	0	1588	0
Flt Permitted		0.974									0.978	
Satd. Flow (perm)	0	3196	0	0	1517	0	0	0	0	0	1588	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		341			420			593			580	
Travel Time (s)		7.8			9.5			13.5			13.2	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Adj. Flow (vph)	68	61	0	0	10	95	0	0	0	4	1	4
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	129	0	0	105	0	0	0	0	0	9	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

### Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	19.7%
ICU Level of Service	A
Analysis Period (min)	15

Lanes, Volumes, Timings  
 47: I-95 NB Ramp/US 301 & S-14-400

08/09/2023



Lane Group	WBL	WBR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Volume (vph)	14	48	49	19	11	6
Future Volume (vph)	14	48	49	19	11	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.895		0.963			
Flt Protected	0.989					0.969
Satd. Flow (prot)	1587	0	1726	0	0	1737
Flt Permitted	0.989					0.969
Satd. Flow (perm)	1587	0	1726	0	0	1737
Link Speed (mph)	30		30			30
Link Distance (ft)	708		346			378
Travel Time (s)	16.1		7.9			8.6
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78
Heavy Vehicles (%)	6%	6%	6%	6%	6%	6%
Adj. Flow (vph)	18	62	63	24	14	8
Shared Lane Traffic (%)						
Lane Group Flow (vph)	80	0	87	0	0	22
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	18.0%
Analysis Period (min)	15
	ICU Level of Service A

**Lanes, Volumes, Timings**  
**49: Gordon Rd & S-14-400**

08/09/2023




















Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	13	14	20	0	0	50
Future Volume (vph)	13	14	20	0	0	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.930			0.865		
Flt Protected	0.976			0.950		
Satd. Flow (prot)	1627	0	0	1703	1550	0
Flt Permitted	0.976			0.950		
Satd. Flow (perm)	1627	0	0	1703	1550	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	708			417	425	
Travel Time (s)	16.1			9.5	9.7	
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81
Heavy Vehicles (%)	6%	6%	6%	6%	6%	6%
Adj. Flow (vph)	16	17	25	0	0	62
Shared Lane Traffic (%)						
Lane Group Flow (vph)	33	0	0	25	62	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	17.8% ICU Level of Service A
Analysis Period (min)	15

Lanes, Volumes, Timings  
 54: US 301 & Buff Blvd/Hotel

















08/09/2023

												
Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	3	0	79	19	6	2	1	30	8	85	43	1
Future Volume (vph)	3	0	79	19	6	2	1	30	8	85	43	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.990			0.973			0.999	
Flt Protected		0.950			0.966			0.999			0.968	
Satd. Flow (prot)	0	1556	1392	0	1566	0	0	1592	0	0	1584	0
Flt Permitted		0.950			0.966			0.999			0.968	
Satd. Flow (perm)	0	1556	1392	0	1566	0	0	1592	0	0	1584	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		3372			202			760			626	
Travel Time (s)		76.6			4.6			17.3			14.2	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%
Adj. Flow (vph)	3	0	81	20	6	2	1	31	8	88	44	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	3	81	0	28	0	0	40	0	0	133	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	
<b>Intersection Summary</b>												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	28.5%						ICU Level of Service A					
Analysis Period (min)	15											

# Lanes, Volumes, Timings

## 55: Buff Blvd

08/09/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	112	1	19	0	0	0	0	78	19	64	35	0
Future Volume (vph)	112	1	19	0	0	0	0	78	19	64	35	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	150		0
Storage Lanes	0		0	0		0	0		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.980						0.973				
Flt Protected		0.959								0.950		
Satd. Flow (prot)	0	1513	0	0	0	0	0	1567	0	1530	1610	0
Flt Permitted		0.959								0.950		
Satd. Flow (perm)	0	1513	0	0	0	0	0	1567	0	1530	1610	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		596			536			930			1070	
Travel Time (s)		13.5			12.2			21.1			24.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	18%	18%	18%	2%	2%	2%	18%	18%	18%	18%	18%	18%
Adj. Flow (vph)	122	1	21	0	0	0	0	85	21	70	38	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	144	0	0	0	0	0	106	0	70	38	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	
<b>Intersection Summary</b>												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	24.3%						ICU Level of Service A					
Analysis Period (min)	15											



**Lanes, Volumes, Timings**  
**58: Buff Blvd & I-95 SB Ramp**

08/09/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↔			↕			↕	
Traffic Volume (vph)	0	0	0	3	0	87	32	156	0	0	94	158
Future Volume (vph)	0	0	0	3	0	87	32	156	0	0	94	158
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.95	0.95
Frt					0.869						0.906	
Flt Protected					0.999			0.992				
Satd. Flow (prot)	0	0	0	0	1341	0	0	2911	0	0	2659	0
Flt Permitted					0.999			0.992				
Satd. Flow (perm)	0	0	0	0	1341	0	0	2911	0	0	2659	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		723			820			1070			3372	
Travel Time (s)		16.4			18.6			24.3			76.6	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles (%)	23%	23%	23%	23%	23%	23%	23%	23%	23%	23%	23%	23%
Adj. Flow (vph)	0	0	0	3	0	101	37	181	0	0	109	184
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	104	0	0	218	0	0	293	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

**Intersection Summary**

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	28.5%
ICU Level of Service	A
Analysis Period (min)	15

Lanes, Volumes, Timings  
66: US 301 & Liberty Hill

08/09/2023



Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	2	1	1	5	4	30	29	15	1	3	37	4
Future Volume (vph)	2	1	1	5	4	30	29	15	1	3	37	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.973			0.896			0.998			0.989	
Flt Protected		0.971			0.993			0.969			0.997	
Satd. Flow (prot)	0	1575	0	0	1483	0	0	1612	0	0	1643	0
Flt Permitted		0.971			0.993			0.969			0.997	
Satd. Flow (perm)	0	1575	0	0	1483	0	0	1612	0	0	1643	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		717			491			738			807	
Travel Time (s)		16.3			11.2			16.8			18.3	
Peak Hour Factor	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73
Heavy Vehicles (%)	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%
Adj. Flow (vph)	3	1	1	7	5	41	40	21	1	4	51	5
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	5	0	0	53	0	0	62	0	0	60	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

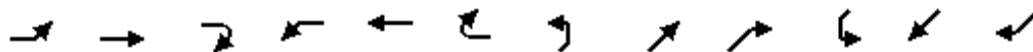
Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	19.1%
ICU Level of Service	A
Analysis Period (min)	15

# Lanes, Volumes, Timings

## 71: Mall St & Hwy 6

08/09/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	27	242	14	1	259	22	4	0	2	7	0	42
Future Volume (vph)	27	242	14	1	259	22	4	0	2	7	0	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.993			0.988			0.955			0.885	
Flt Protected		0.995		0.950				0.968			0.993	
Satd. Flow (prot)	0	1823	0	1752	1823	0	0	1705	0	0	1621	0
Flt Permitted		0.995		0.950				0.968			0.993	
Satd. Flow (perm)	0	1823	0	1752	1823	0	0	1705	0	0	1621	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		197			931			214			176	
Travel Time (s)		4.5			21.2			4.9			4.0	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	30	266	15	1	285	24	4	0	2	8	0	46
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	311	0	1	309	0	0	6	0	0	54	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

### Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	43.4%
ICU Level of Service	A
Analysis Period (min)	15

# Existing Midday

TRANSYSTEMS

# HCS Freeway Diverge Report

## Project Information

Analyst	Transystems	Date	8/10/2023
Agency	SCDOT	Analysis Year	Existing (2023)
Jurisdiction		Time Analyzed	Mid
Project Description	I-95 NB Exit to Hwy 6	Units	U.S. Customary

## Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	70.5	45.0
Segment Length (L) / Deceleration Length (LD), ft	1500	225
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

## Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	1.000	1.000
Capacity Adj. Factor for CAVs, CAFCAV	1.000	-

## Demand and Capacity

Demand Volume (Vi), veh/h	1058	82
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	21.00	5.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.826	0.952
Flow Rate (vi), pc/h	1363	92
Capacity (cmd), pc/h	4800	2100
Adjusted Capacity (cmd), pc/h	4800	2100
Volume-to-Capacity Ratio (v/c)	0.28	0.04

## Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (No), ln	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (DS)	0.306
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influence Area Speed (SR), mi/h	61.8
Prop. Freeway Vehicles in Lane 1 and 2 (PFD)	1.000	Outer Lanes Freeway Speed (SO), mi/h	77.3
Flow in Lanes 1 and 2 (v12), pc/h	1363	Ramp Junction Speed (S), mi/h	61.8

Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	11.0
Level of Service (LOS)	B	Density in Ramp Influence Area (DR), pc/mi/ln	13.9

# HCS Freeway Merge Report

## Project Information

Analyst	TranSystems	Date	8/10/2023
Agency	SCDOT	Analysis Year	Existing 2023
Jurisdiction		Time Analyzed	Mid
Project Description	I-95 NB On Ramp from Hwy 6	Units	U.S. Customary

## Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	70.5	45.0
Segment Length (L) / Acceleration Length (LA), ft	955	800
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

## Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAFCAV	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

## Demand and Capacity

Demand Volume (Vi), veh/h	1058	132
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	21.00	5.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.826	0.952
Flow Rate (vi), pc/h	1363	148
Capacity (cmd), pc/h	4800	2100
Adjusted Capacity (cmd), pc/h	4800	2100
Volume-to-Capacity Ratio (v/c)	0.31	0.07

## Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (No), ln	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (MS)	0.267
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	62.9
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	1.000	Outer Lanes Freeway Speed (SO), mi/h	70.5
Flow in Lanes 1 and 2 (v12), pc/h	1363	Ramp Junction Speed (S), mi/h	62.9

Flow Entering Ramp-Infl. Area (vR12), pc/h	1511	Average Density (D), pc/mi/ln	12.0
Level of Service (LOS)	B	Density in Ramp Influence Area (DR), pc/mi/ln	12.2



# HCS Freeway Diverge Report

## Project Information

Analyst	Transystems	Date	8/10/2023
Agency	SCDOT	Analysis Year	Existing (2023)
Jurisdiction		Time Analyzed	Mid
Project Description	I-95 NB Exit to NB Rest Stop	Units	U.S. Customary

## Geometric Data

	Freeway	Ramp
Number of Lanes (N), In	2	1
Free-Flow Speed (FFS), mi/h	70.5	45.0
Segment Length (L) / Deceleration Length (LD), ft	955	225
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

## Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	1.000	1.000
Capacity Adj. Factor for CAVs, CAFCAV	1.000	-

## Demand and Capacity

Demand Volume (Vi), veh/h	1116	74
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	21.00	14.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.826	0.877
Flow Rate (vi), pc/h	1437	90
Capacity (cmd), pc/h	4800	2100
Adjusted Capacity (cmd), pc/h	4800	2100
Volume-to-Capacity Ratio (v/c)	0.30	0.04

## Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (No), In	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (DS)	0.306
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influence Area Speed (SR), mi/h	61.8
Prop. Freeway Vehicles in Lane 1 and 2 (PFD)	1.000	Outer Lanes Freeway Speed (SO), mi/h	77.3
Flow in Lanes 1 and 2 (v12), pc/h	1437	Ramp Junction Speed (S), mi/h	61.8

Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	11.6
Level of Service (LOS)	B	Density in Ramp Influence Area (DR), pc/mi/ln	14.6

# HCS Freeway Merge Report

## Project Information

Analyst	TranSystems	Date	8/10/2023
Agency	SCDOT	Analysis Year	Existing (2023)
Jurisdiction		Time Analyzed	Mid
Project Description	I-95 NB On Ramp from NB Rest Stop	Units	U.S. Customary

## Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	70.5	45.0
Segment Length (L) / Acceleration Length (LA), ft	1500	800
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

## Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAFCAV	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

## Demand and Capacity

Demand Volume (Vi), veh/h	1116	74
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	21.00	14.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.826	0.877
Flow Rate (vi), pc/h	1437	90
Capacity (cmd), pc/h	4800	2100
Adjusted Capacity (cmd), pc/h	4800	2100
Volume-to-Capacity Ratio (v/c)	0.32	0.04

## Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (NO), ln	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (MS)	0.267
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	62.9
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	1.000	Outer Lanes Freeway Speed (SO), mi/h	70.5
Flow in Lanes 1 and 2 (v12), pc/h	1437	Ramp Junction Speed (S), mi/h	62.9

Flow Entering Ramp-Infl. Area (vR12), pc/h	1527	Average Density (D), pc/mi/ln	12.1
Level of Service (LOS)	B	Density in Ramp Influence Area (DR), pc/mi/ln	12.4

# HCS Freeway Diverge Report

## Project Information

Analyst	Transystems	Date	8/9/2023
Agency	SCDOT	Analysis Year	Existing (2023)
Jurisdiction		Time Analyzed	Mid
Project Description	I-95 NB Exit to US 15	Units	U.S. Customary

## Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	70.5	45.0
Segment Length (L) / Deceleration Length (LD), ft	1500	225
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

## Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	1.000	1.000
Capacity Adj. Factor for CAVs, CAF <sub>CAV</sub>	1.000	-

## Demand and Capacity

Demand Volume (V), veh/h	1112	78
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	21.00	7.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f <sub>HV</sub> )	0.826	0.935
Flow Rate (v), pc/h	1432	89
Capacity (c <sub>md</sub> ), pc/h	4800	2100
Adjusted Capacity (c <sub>adj</sub> ), pc/h	4800	2100
Volume-to-Capacity Ratio (v/c)	0.30	0.04

## Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (NO), ln	0
Distance to Upstream Ramp (L <sub>UP</sub> ), ft	-	Speed Index (DS)	0.306
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (v <sub>OA</sub> ), pc/h/ln	-
Distance to Downstream Ramp (L <sub>DOWN</sub> ), ft	-	Off-Ramp Influence Area Speed (SR), mi/h	61.8
Prop. Freeway Vehicles in Lane 1 and 2 (PFD)	1.000	Outer Lanes Freeway Speed (S <sub>O</sub> ), mi/h	77.3
Flow in Lanes 1 and 2 (v <sub>12</sub> ), pc/h	1432	Ramp Junction Speed (S), mi/h	61.8
Flow Entering Ramp-Infl. Area (v <sub>R12</sub> ), pc/h	-	Average Density (D), pc/mi/ln	11.6
Level of Service (LOS)	B	Density in Ramp Influence Area (D <sub>R</sub> ), pc/mi/ln	14.5

# HCS Freeway Merge Report

## Project Information

Analyst	TranSystems	Date	8/10/2023
Agency	SCDOT	Analysis Year	Existing 2023
Jurisdiction		Time Analyzed	Mid
Project Description	I-95 NB On Ramp from US 15	Units	U.S. Customary

## Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	70.5	45.0
Segment Length (L) / Acceleration Length (LA), ft	1500	800
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

## Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAFCAV	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

## Demand and Capacity

Demand Volume (Vi), veh/h	1112	13
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	21.00	7.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.826	0.935
Flow Rate (vi), pc/h	1432	15
Capacity (cmd), pc/h	4800	2100
Adjusted Capacity (cmd), pc/h	4800	2100
Volume-to-Capacity Ratio (v/c)	0.30	0.01

## Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (No), ln	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (MS)	0.266
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	62.9
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	1.000	Outer Lanes Freeway Speed (SO), mi/h	70.5
Flow in Lanes 1 and 2 (v12), pc/h	1432	Ramp Junction Speed (S), mi/h	62.9

Flow Entering Ramp-Infl. Area (vR12), pc/h	1447	Average Density (D), pc/mi/ln	11.5
Level of Service (LOS)	B	Density in Ramp Influence Area (DR), pc/mi/ln	11.8

### Design Analysis Table

Freeway Lanes, ln	2	2	3	3	4	4	5	5
Ramp Lanes, ln	1	2	1	2	1	2	1	2
Density, pc/mi/ln	11.5	11.2	7.3	7.2	5.4	5.3	3.4	3.3
LOS	B	A	A	A	A	A	A	A

# HCS Freeway Diverge Report

## Project Information

Analyst	Transystems	Date	8/10/2023
Agency	SCDOT	Analysis Year	Existing (2023)
Jurisdiction		Time Analyzed	Mid
Project Description	I-95 NB Exit to Buff Blvd	Units	U.S. Customary

## Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	70.5	45.0
Segment Length (L) / Deceleration Length (LD), ft	1500	225
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

## Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	1.000	1.000
Capacity Adj. Factor for CAVs, CAFCAV	1.000	-

## Demand and Capacity

Demand Volume (Vi), veh/h	1009	116
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	21.00	23.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.826	0.813
Flow Rate (vi), pc/h	1300	152
Capacity (cmd), pc/h	4800	2100
Adjusted Capacity (cmd), pc/h	4800	2100
Volume-to-Capacity Ratio (v/c)	0.27	0.07

## Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (No), ln	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (DS)	0.312
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influence Area Speed (SR), mi/h	61.6
Prop. Freeway Vehicles in Lane 1 and 2 (PFD)	1.000	Outer Lanes Freeway Speed (SO), mi/h	77.3
Flow in Lanes 1 and 2 (v12), pc/h	1300	Ramp Junction Speed (S), mi/h	61.6



Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	10.6
Level of Service (LOS)	B	Density in Ramp Influence Area (DR), pc/mi/ln	13.4

# HCS Freeway Merge Report

## Project Information

Analyst	TranSystems	Date	8/10/2023
Agency	SCDOT	Analysis Year	Existing 2023
Jurisdiction		Time Analyzed	Mid
Project Description	I-95 NB On Ramp from Buff Blvd	Units	U.S. Customary

## Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	70.5	45.0
Segment Length (L) / Acceleration Length (LA), ft	1500	800
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

## Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAFCAV	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

## Demand and Capacity

Demand Volume (Vi), veh/h	1009	65
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	21.00	23.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.826	0.813
Flow Rate (vi), pc/h	1300	85
Capacity (cmd), pc/h	4800	2100
Adjusted Capacity (cmd), pc/h	4800	2100
Volume-to-Capacity Ratio (v/c)	0.29	0.04

## Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (No), ln	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (MS)	0.265
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	62.9
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	1.000	Outer Lanes Freeway Speed (SO), mi/h	70.5
Flow in Lanes 1 and 2 (v12), pc/h	1300	Ramp Junction Speed (S), mi/h	62.9

Flow Entering Ramp-Infl. Area (vR12), pc/h	1385	Average Density (D), pc/mi/ln	11.0
Level of Service (LOS)	B	Density in Ramp Influence Area (DR), pc/mi/ln	11.3

### Design Analysis Table

Freeway Lanes, ln	2	2	3	3	4	4	5	5
Ramp Lanes, ln	1	2	1	2	1	2	1	2
Density, pc/mi/ln	11.0	10.7	7.0	6.9	5.2	5.1	3.3	3.2
LOS	B	A	A	A	A	A	A	A

# HCS Freeway Diverge Report

## Project Information

Analyst	Transystems	Date	8/10/2023
Agency	SCDOT	Analysis Year	Existing 2023
Jurisdiction		Time Analyzed	Mid
Project Description	I-95 SB Exit to Buff Blvd	Units	U.S. Customary

## Geometric Data

	Freeway	Ramp
Number of Lanes (N), In	2	1
Free-Flow Speed (FFS), mi/h	70.5	45.0
Segment Length (L) / Deceleration Length (LD), ft	1500	225
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

## Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	1.000	1.000
Capacity Adj. Factor for CAVs, CAFCAV	1.000	-

## Demand and Capacity

Demand Volume (Vi), veh/h	1073	86
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	20.00	27.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.833	0.787
Flow Rate (vi), pc/h	1370	116
Capacity (cmd), pc/h	4800	2100
Adjusted Capacity (cmd), pc/h	4800	2100
Volume-to-Capacity Ratio (v/c)	0.29	0.06

## Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (No), In	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (DS)	0.308
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influence Area Speed (SR), mi/h	61.7
Prop. Freeway Vehicles in Lane 1 and 2 (PFD)	1.000	Outer Lanes Freeway Speed (SO), mi/h	77.3
Flow in Lanes 1 and 2 (v12), pc/h	1370	Ramp Junction Speed (S), mi/h	61.7

Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	11.1
Level of Service (LOS)	B	Density in Ramp Influence Area (DR), pc/mi/ln	14.0

# HCS Freeway Merge Report

## Project Information

Analyst	TranSystems	Date	8/9/2023
Agency	SCDOT	Analysis Year	Existing 2023
Jurisdiction		Time Analyzed	Mid
Project Description	I-95 SB On Ramp from Buff Blvd	Units	U.S. Customary

## Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	70.5	45.0
Segment Length (L) / Acceleration Length (LA), ft	1500	800
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

## Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAFCAV	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

## Demand and Capacity

Demand Volume (Vi), veh/h	1073	115
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	20.00	27.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.833	0.787
Flow Rate (vi), pc/h	1370	155
Capacity (cmd), pc/h	4800	2100
Adjusted Capacity (cmd), pc/h	4800	2100
Volume-to-Capacity Ratio (v/c)	0.32	0.07

## Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (No), ln	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (MS)	0.267
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	62.9
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	1.000	Outer Lanes Freeway Speed (SO), mi/h	70.5
Flow in Lanes 1 and 2 (v12), pc/h	1370	Ramp Junction Speed (S), mi/h	62.9

Flow Entering Ramp-Infl. Area (vR12), pc/h	1525	Average Density (D), pc/mi/ln	12.1
Level of Service (LOS)	B	Density in Ramp Influence Area (DR), pc/mi/ln	12.4

### Design Analysis Table

Freeway Lanes, ln	2	2	3	3	4	4	5	5
Ramp Lanes, ln	1	2	1	2	1	2	1	2
Density, pc/mi/ln	12.1	11.8	7.8	7.6	5.7	5.6	3.7	3.6
LOS	B	A	A	A	A	A	A	A

# HCS Freeway Diverge Report

## Project Information

Analyst	Transystems	Date	8/10/2023
Agency	SCDOT	Analysis Year	Existing 2023
Jurisdiction		Time Analyzed	Mid
Project Description	I-95 SB Exit to US 15	Units	U.S. Customary

## Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	70.5	45.0
Segment Length (L) / Deceleration Length (LD), ft	1500	225
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

## Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	1.000	1.000
Capacity Adj. Factor for CAVs, CAFCAV	1.000	-

## Demand and Capacity

Demand Volume (Vi), veh/h	1165	23
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	20.00	11.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.833	0.901
Flow Rate (vi), pc/h	1488	27
Capacity (cmd), pc/h	4800	2100
Adjusted Capacity (cmd), pc/h	4800	2100
Volume-to-Capacity Ratio (v/c)	0.31	0.01

## Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (No), ln	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (DS)	0.300
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influence Area Speed (SR), mi/h	62.0
Prop. Freeway Vehicles in Lane 1 and 2 (PFD)	1.000	Outer Lanes Freeway Speed (SO), mi/h	77.3
Flow in Lanes 1 and 2 (v12), pc/h	1488	Ramp Junction Speed (S), mi/h	62.0



Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	12.0
Level of Service (LOS)	B	Density in Ramp Influence Area (DR), pc/mi/ln	15.0

# HCS Freeway Merge Report

## Project Information

Analyst	TranSystems	Date	8/10/2023
Agency	SCDOT	Analysis Year	Existing 2023
Jurisdiction		Time Analyzed	Mid
Project Description	I-95 SB On Ramp from US 15	Units	U.S. Customary

## Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	70.5	45.0
Segment Length (L) / Acceleration Length (LA), ft	1500	800
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

## Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAFCAV	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

## Demand and Capacity

Demand Volume (Vi), veh/h	1165	95
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	20.00	11.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.833	0.901
Flow Rate (vi), pc/h	1488	112
Capacity (cmd), pc/h	4800	2100
Adjusted Capacity (cmd), pc/h	4800	2100
Volume-to-Capacity Ratio (v/c)	0.33	0.05

## Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (No), ln	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (MS)	0.268
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	62.9
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	1.000	Outer Lanes Freeway Speed (SO), mi/h	70.5
Flow in Lanes 1 and 2 (v12), pc/h	1488	Ramp Junction Speed (S), mi/h	62.9

Flow Entering Ramp-Infl. Area (vR12), pc/h	1600	Average Density (D), pc/mi/ln	12.7
Level of Service (LOS)	B	Density in Ramp Influence Area (DR), pc/mi/ln	13.0

### Design Analysis Table

Freeway Lanes, ln	2	2	3	3	4	4	5	5
Ramp Lanes, ln	1	2	1	2	1	2	1	2
Density, pc/mi/ln	12.7	12.4	8.1	8.0	6.0	5.9	3.8	3.7
LOS	B	A	A	A	A	A	A	A

# HCS Freeway Diverge Report

## Project Information

Analyst	Transystems	Date	8/10/2023
Agency	SCDOT	Analysis Year	Existing 2023
Jurisdiction		Time Analyzed	Mid
Project Description	I-95 SB Exit to SB Rest Stop	Units	U.S. Customary

## Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	70.5	45.0
Segment Length (L) / Deceleration Length (LD), ft	1500	225
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

## Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	1.000	1.000
Capacity Adj. Factor for CAVs, CAFCAV	1.000	-

## Demand and Capacity

Demand Volume (Vi), veh/h	1174	86
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	20.00	6.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.833	0.943
Flow Rate (vi), pc/h	1499	97
Capacity (cmd), pc/h	4800	2100
Adjusted Capacity (cmd), pc/h	4800	2100
Volume-to-Capacity Ratio (v/c)	0.31	0.05

## Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (No), ln	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (DS)	0.307
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influence Area Speed (SR), mi/h	61.8
Prop. Freeway Vehicles in Lane 1 and 2 (PFD)	1.000	Outer Lanes Freeway Speed (SO), mi/h	77.3
Flow in Lanes 1 and 2 (v12), pc/h	1499	Ramp Junction Speed (S), mi/h	61.8

Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	12.1
Level of Service (LOS)	B	Density in Ramp Influence Area (DR), pc/mi/ln	15.1

# HCS Freeway Weaving Report

## Project Information

Analyst	TranSystems	Date	8/10/2023
Agency	SCDOT	Analysis Year	Existing (2023)
Jurisdiction		Time Analyzed	Mid
Project Description	I-95 SB Weave bt SB Rest Stop and Hwy 6	Units	U.S. Customary

## Geometric Data

Number of Lanes (N), ln	3	Segment Type	Freeway
Segment Length (Ls), ft	775	Number of Maneuver Lanes (NWL), ln	2
Weaving Configuration	One-Sided	Ramp-to-Freeway Lane Changes (LCRF), lc	1
Terrain Type	Level	Freeway-to-Ramp Lane Changes (LCFR), lc	1
Percent Grade, %	-	Ramp-to-Ramp Lane Changes (LCRR), lc	0
Interchange Density (ID), int/mi	0.80	Cross Weaving Managed Lane	No

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor for CAVs, CAFCAV	1.000
Proportion of CAVs in Traffic Stream	0	Final Capacity Adjustment Factor (CAF)	1.000

## Demand and Capacity

	FF	RF	RR	FR
Demand Volume (Vi), veh/h	1174	86	0	166
Peak Hour Factor (PHF)	0.94	0.94	0.94	0.94
Total Trucks, %	20.00	5.00	0.00	6.00
Heavy Vehicle Adjustment Factor (fHV)	0.833	0.952	1.000	0.943
Flow Rate (vi), pc/h	1499	96	0	187
Weaving Flow Rate (vw), pc/h	283	Ideal Conditions Capacity (ciFL), pc/h/ln		2400
Non-Weaving Flow Rate (vNW), pc/h	1499	Density-Based Capacity (ciWL × N × fHV), veh/h		5473
Total Flow Rate (v), pc/h	1782	Demand Flow-Based Capacity (ciW × fHV), veh/h		12845
Volume Ratio (VR)	0.159	Weaving Area Capacity (cw), veh/h		5473
Minimum Lane Change Rate (LCMIN), lc/h	283	Adjusted Weaving Area Capacity (cWA), veh/h		5473
Maximum Weaving Length (LMAX), ft	4121	Demand-to-Capacity Ratio (v/c)		0.28

## Speed and Density

Non-Weaving Vehicle Index (INW)	93	Average Weaving Speed (SW), mi/h	66.4
Non-Weaving Lane Change Rate (LCNW), lc/h	151	Average Non-Weaving Speed (SNW), mi/h	70.5
Weaving Lane Change Rate (LCW), lc/h	405	Average Speed (S), mi/h	69.8
Weaving Lane Change Rate (LCAII), lc/h	556	Density (D), pc/mi/ln	8.5
Weaving Intensity Factor (W)	0.174	Level of Service (LOS)	A

# HCS Freeway Merge Report

## Project Information

Analyst	TranSystems	Date	8/10/2023
Agency	SCDOT	Analysis Year	Existing 2023
Jurisdiction		Time Analyzed	Mid
Project Description	I-95 SB On Ramp from Hwy 6	Units	U.S. Customary

## Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	70.5	45.0
Segment Length (L) / Acceleration Length (LA), ft	1500	800
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

## Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAFCAV	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

## Demand and Capacity

Demand Volume (Vi), veh/h	1094	98
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	20.00	6.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.833	0.943
Flow Rate (vi), pc/h	1397	111
Capacity (cmd), pc/h	4800	2100
Adjusted Capacity (cmd), pc/h	4800	2100
Volume-to-Capacity Ratio (v/c)	0.31	0.05

## Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (No), ln	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (MS)	0.267
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	62.9
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	1.000	Outer Lanes Freeway Speed (SO), mi/h	70.5
Flow in Lanes 1 and 2 (v12), pc/h	1397	Ramp Junction Speed (S), mi/h	62.9

Flow Entering Ramp-Infl. Area (vR12), pc/h	1508	Average Density (D), pc/mi/ln	12.0
Level of Service (LOS)	B	Density in Ramp Influence Area (DR), pc/mi/ln	12.2



# HCS Basic Freeway Report

## Project Information

Analyst	Transystems	Date	8/9/2023
Agency	SCDOT	Analysis Year	Existing (2023)
Jurisdiction		Time Analyzed	Mid
Project Description	I-95 NB south of Hwy 6	Units	U.S. Customary

## Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Rolling
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.0	Total Ramp Density (TRD), ramps/mi	1.50
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.5
Right-Side Lateral Clearance, ft	10		

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	1.000
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAFCAV	1.000

## Demand and Capacity

Demand Volume (V), veh/h	1140	Heavy Vehicle Adjustment Factor (fhv)	0.704
Peak Hour Factor (PHF)	0.94	Flow Rate (vp), pc/h/ln	862
Total Trucks, %	21.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.36
Passenger Car Equivalent (ET)	3.00		

## Speed and Density

Lane Width Adjustment (fLW)	0.0	Average Speed (S), mi/h	70.5
Right-Side Lateral Clearance Adj. (fRLC)	0.0	Density (D), pc/mi/ln	12.2
Total Ramp Density Adjustment	4.5	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFSadj), mi/h	70.5		

# HCS Basic Freeway Report

## Project Information

Analyst	Transystems	Date	8/9/2023
Agency	SCDOT	Analysis Year	Existing (2023)
Jurisdiction		Time Analyzed	Mid
Project Description	I-95 NB south of US 15	Units	U.S. Customary

## Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Rolling
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.0	Total Ramp Density (TRD), ramps/mi	1.50
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.5
Right-Side Lateral Clearance, ft	10		

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	1.000
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAFCAV	1.000

## Demand and Capacity

Demand Volume (V), veh/h	1190	Heavy Vehicle Adjustment Factor (fhv)	0.704
Peak Hour Factor (PHF)	0.94	Flow Rate (vp), pc/h/ln	899
Total Trucks, %	21.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.37
Passenger Car Equivalent (ET)	3.00		

## Speed and Density

Lane Width Adjustment (fLW)	0.0	Average Speed (S), mi/h	70.5
Right-Side Lateral Clearance Adj. (fRLC)	0.0	Density (D), pc/mi/ln	12.8
Total Ramp Density Adjustment	4.5	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFSadj), mi/h	70.5		

# HCS Basic Freeway Report

## Project Information

Analyst	Transystems	Date	8/9/2023
Agency	SCDOT	Analysis Year	Existing (2023)
Jurisdiction		Time Analyzed	Mid
Project Description	I-95 NB south of Buff Blvd	Units	U.S. Customary

## Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Rolling
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.0	Total Ramp Density (TRD), ramps/mi	1.50
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.5
Right-Side Lateral Clearance, ft	10		

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	1.000
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAFCAV	1.000

## Demand and Capacity

Demand Volume (V), veh/h	1125	Heavy Vehicle Adjustment Factor (fhv)	0.704
Peak Hour Factor (PHF)	0.94	Flow Rate (vp), pc/h/ln	850
Total Trucks, %	21.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.35
Passenger Car Equivalent (ET)	3.00		

## Speed and Density

Lane Width Adjustment (fLW)	0.0	Average Speed (S), mi/h	70.5
Right-Side Lateral Clearance Adj. (fRLC)	0.0	Density (D), pc/mi/ln	12.1
Total Ramp Density Adjustment	4.5	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFSadj), mi/h	70.5		

# HCS Basic Freeway Report

## Project Information

Analyst	Transystems	Date	8/9/2023
Agency	SCDOT	Analysis Year	Existing (2023)
Jurisdiction		Time Analyzed	Mid
Project Description	I-95 NB north of Buff Blvd	Units	U.S. Customary

## Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Rolling
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.0	Total Ramp Density (TRD), ramps/mi	1.50
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.5
Right-Side Lateral Clearance, ft	10		

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	1.000
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAFCAV	1.000

## Demand and Capacity

Demand Volume (V), veh/h	1074	Heavy Vehicle Adjustment Factor (fhv)	0.704
Peak Hour Factor (PHF)	0.94	Flow Rate (vp), pc/h/ln	812
Total Trucks, %	21.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.34
Passenger Car Equivalent (ET)	3.00		

## Speed and Density

Lane Width Adjustment (fLW)	0.0	Average Speed (S), mi/h	70.5
Right-Side Lateral Clearance Adj. (fRLC)	0.0	Density (D), pc/mi/ln	11.5
Total Ramp Density Adjustment	4.5	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFSadj), mi/h	70.5		

# HCS Basic Freeway Report

## Project Information

Analyst	Transystems	Date	8/9/2023
Agency	SCDOT	Analysis Year	Existing (2023)
Jurisdiction		Time Analyzed	Mid
Project Description	I-95 SB north of Buff Blvd	Units	U.S. Customary

## Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Rolling
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.0	Total Ramp Density (TRD), ramps/mi	1.50
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.5
Right-Side Lateral Clearance, ft	10		

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	1.000
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAFCAV	1.000

## Demand and Capacity

Demand Volume (V), veh/h	1159	Heavy Vehicle Adjustment Factor (fhv)	0.714
Peak Hour Factor (PHF)	0.94	Flow Rate (vp), pc/h/ln	864
Total Trucks, %	20.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.36
Passenger Car Equivalent (ET)	3.00		

## Speed and Density

Lane Width Adjustment (fLW)	0.0	Average Speed (S), mi/h	70.5
Right-Side Lateral Clearance Adj. (fRLC)	0.0	Density (D), pc/mi/ln	12.3
Total Ramp Density Adjustment	4.5	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFSadj), mi/h	70.5		

# HCS Basic Freeway Report

## Project Information

Analyst	Transystems	Date	8/9/2023
Agency	SCDOT	Analysis Year	Existing (2023)
Jurisdiction		Time Analyzed	Mid
Project Description	I-95 SB south of Buff Blvd	Units	U.S. Customary

## Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Rolling
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.0	Total Ramp Density (TRD), ramps/mi	1.50
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.5
Right-Side Lateral Clearance, ft	10		

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	1.000
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAFCAV	1.000

## Demand and Capacity

Demand Volume (V), veh/h	1188	Heavy Vehicle Adjustment Factor (fhv)	0.714
Peak Hour Factor (PHF)	0.94	Flow Rate (vp), pc/h/ln	885
Total Trucks, %	20.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.37
Passenger Car Equivalent (ET)	3.00		

## Speed and Density

Lane Width Adjustment (fLW)	0.0	Average Speed (S), mi/h	70.5
Right-Side Lateral Clearance Adj. (fRLC)	0.0	Density (D), pc/mi/ln	12.6
Total Ramp Density Adjustment	4.5	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFSadj), mi/h	70.5		

# HCS Basic Freeway Report

## Project Information

Analyst	Transystems	Date	8/9/2023
Agency	SCDOT	Analysis Year	Existing (2023)
Jurisdiction		Time Analyzed	Mid
Project Description	I-95 SB south of US 15	Units	U.S. Customary

## Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Rolling
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.0	Total Ramp Density (TRD), ramps/mi	1.50
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.5
Right-Side Lateral Clearance, ft	10		

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	1.000
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAFCAV	1.000

## Demand and Capacity

Demand Volume (V), veh/h	1260	Heavy Vehicle Adjustment Factor (fhv)	0.714
Peak Hour Factor (PHF)	0.94	Flow Rate (vp), pc/h/ln	938
Total Trucks, %	20.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.39
Passenger Car Equivalent (ET)	3.00		

## Speed and Density

Lane Width Adjustment (fLW)	0.0	Average Speed (S), mi/h	70.5
Right-Side Lateral Clearance Adj. (fRLC)	0.0	Density (D), pc/mi/ln	13.3
Total Ramp Density Adjustment	4.5	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFSadj), mi/h	70.5		

# HCS Basic Freeway Report

## Project Information

Analyst	Transystems	Date	8/9/2023
Agency	SCDOT	Analysis Year	Existing (2023)
Jurisdiction		Time Analyzed	Mid
Project Description	I-95 SB south of Hwy 6	Units	U.S. Customary

## Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Rolling
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.0	Total Ramp Density (TRD), ramps/mi	1.50
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.5
Right-Side Lateral Clearance, ft	10		

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	1.000
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAFCAV	1.000

## Demand and Capacity

Demand Volume (V), veh/h	1192	Heavy Vehicle Adjustment Factor (fhv)	0.714
Peak Hour Factor (PHF)	0.94	Flow Rate (vp), pc/h/ln	888
Total Trucks, %	20.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.37
Passenger Car Equivalent (ET)	3.00		

## Speed and Density

Lane Width Adjustment (fLW)	0.0	Average Speed (S), mi/h	70.5
Right-Side Lateral Clearance Adj. (fRLC)	0.0	Density (D), pc/mi/ln	12.6
Total Ramp Density Adjustment	4.5	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFSadj), mi/h	70.5		



# Lanes, Volumes, Timings

## 24: Hwy 6 & I-95 SB Ramp

08/09/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SWL2	SWL	SWR
Lane Configurations											
Traffic Volume (vph)	0	337	57	41	302	0	0	0	59	0	107
Future Volume (vph)	0	337	57	41	302	0	0	0	59	0	107
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		75	175		0	0	0		0	150
Storage Lanes	0		0	1		0	0	0		1	1
Taper Length (ft)	25			25			25			25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.980									0.850
Flt Protected				0.950					0.950		
Satd. Flow (prot)	0	1757	0	1703	1792	0	0	0	1703	0	1524
Flt Permitted				0.217					0.950		
Satd. Flow (perm)	0	1757	0	389	1792	0	0	0	1703	0	1524
Right Turn on Red			Yes			Yes					Yes
Satd. Flow (RTOR)		15									456
Link Speed (mph)		30			30		30			30	
Link Distance (ft)		221			1070		658			713	
Travel Time (s)		5.0			24.3		15.0			16.2	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%
Adj. Flow (vph)	0	379	64	46	339	0	0	0	66	0	120
Shared Lane Traffic (%)											
Lane Group Flow (vph)	0	443	0	46	339	0	0	0	66	0	120
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Right	Left	Left	Right
Median Width(ft)		12			12		0			12	
Link Offset(ft)		0			0		0			0	
Crosswalk Width(ft)		16			16		16			16	
Two way Left Turn Lane											
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15	9	15	15	9
Number of Detectors		2			1	2			1		1
Detector Template		Thru			Left	Thru			Left		Right
Leading Detector (ft)		100			20	100			20		20
Trailing Detector (ft)		0			0	0			0		0
Detector 1 Position(ft)		0			0	0			0		0
Detector 1 Size(ft)		6			20	6			20		20
Detector 1 Type		Cl+Ex			Cl+Ex	Cl+Ex			Cl+Ex		Cl+Ex
Detector 1 Channel											
Detector 1 Extend (s)		0.0			0.0	0.0			0.0		0.0
Detector 1 Queue (s)		0.0			0.0	0.0			0.0		0.0
Detector 1 Delay (s)		0.0			0.0	0.0			0.0		0.0
Detector 2 Position(ft)		94			94						
Detector 2 Size(ft)		6			6						
Detector 2 Type		Cl+Ex			Cl+Ex						
Detector 2 Channel											
Detector 2 Extend (s)		0.0			0.0						
Turn Type		NA			pm+pt	NA			Prot		Perm
Protected Phases		4			3	8			1		

# Lanes, Volumes, Timings

## 24: Hwy 6 & I-95 SB Ramp

08/09/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SWL2	SWL	SWR
Permitted Phases				8							6
Detector Phase		4		3	8				1		6
Switch Phase											
Minimum Initial (s)		5.0		5.0	5.0				5.0		5.0
Minimum Split (s)		24.0		11.0	24.0				9.5		24.0
Total Split (s)		25.0		11.0	36.0				24.0		24.0
Total Split (%)		41.7%		18.3%	60.0%				40.0%		40.0%
Maximum Green (s)		19.0		5.0	30.0				19.5		18.0
Yellow Time (s)		4.0		4.0	4.0				3.5		4.0
All-Red Time (s)		2.0		2.0	2.0				1.0		2.0
Lost Time Adjust (s)		0.0		0.0	0.0				0.0		0.0
Total Lost Time (s)		6.0		6.0	6.0				4.5		6.0
Lead/Lag		Lag		Lead							
Lead-Lag Optimize?		Yes		Yes							
Vehicle Extension (s)		3.0		3.0	3.0				3.0		3.0
Recall Mode		None		None	None				None		Max
Walk Time (s)		7.0			7.0						7.0
Flash Dont Walk (s)		11.0			11.0						11.0
Pedestrian Calls (#/hr)		0			0						0
Act Effect Green (s)		16.4		22.2	22.2				13.3		18.5
Actuated g/C Ratio		0.31		0.42	0.42				0.25		0.35
v/c Ratio		0.80		0.16	0.45				0.15		0.14
Control Delay		30.7		9.2	12.3				15.6		0.4
Queue Delay		0.0		0.0	0.0				0.0		0.0
Total Delay		30.7		9.2	12.3				15.6		0.4
LOS		C		A	B				B		A
Approach Delay		30.7			12.0					5.8	
Approach LOS		C			B					A	
Queue Length 50th (ft)		138		8	70				17		0
Queue Length 95th (ft)		#270		21	119				40		0
Internal Link Dist (ft)		141			990		578			633	
Turn Bay Length (ft)				175							150
Base Capacity (vph)		656		290	1042				643		828
Starvation Cap Reductn		0		0	0				0		0
Spillback Cap Reductn		0		0	0				0		0
Storage Cap Reductn		0		0	0				0		0
Reduced v/c Ratio		0.68		0.16	0.33				0.10		0.14

**Intersection Summary**

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 53.1

Natural Cycle: 60

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.80

Intersection Signal Delay: 19.0      Intersection LOS: B

Intersection Capacity Utilization 35.4%      ICU Level of Service A

Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

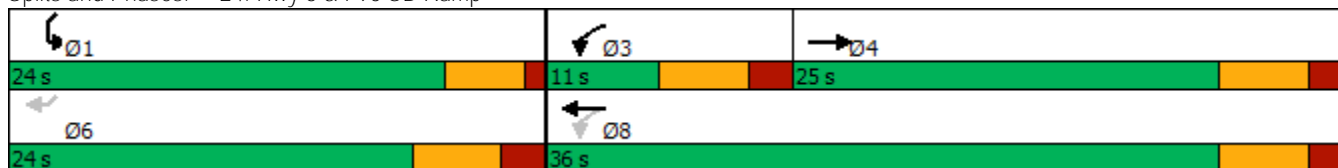
# Lanes, Volumes, Timings

## 24: Hwy 6 & I-95 SB Ramp

08/09/2023

Queue shown is maximum after two cycles.

Splits and Phases: 24: Hwy 6 & I-95 SB Ramp



# Lanes, Volumes, Timings

## 27: Bass Dr & Hwy 6

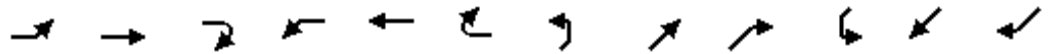
08/09/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	4	131	69	160	136	30	64	31	172	31	34	7
Future Volume (vph)	4	131	69	160	136	30	64	31	172	31	34	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	120		0	170		0	175		0	120		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.948			0.973			0.873			0.976	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1719	1715	0	1719	1761	0	1719	1580	0	1752	1766	0
Flt Permitted	0.647			0.626			0.584			0.624		
Satd. Flow (perm)	1171	1715	0	1133	1761	0	1057	1580	0	1151	1766	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		45			19			181				7
Link Speed (mph)		30			30			30				30
Link Distance (ft)		638			518			530				613
Travel Time (s)		14.5			11.8			12.0				13.9
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	5%	5%	5%	3%	5%	5%
Adj. Flow (vph)	4	138	73	168	143	32	67	33	181	33	36	7
Shared Lane Traffic (%)												
Lane Group Flow (vph)	4	211	0	168	175	0	67	214	0	33	43	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8		5	2			6	

**Lanes, Volumes, Timings**  
**27: Bass Dr & Hwy 6**

08/09/2023



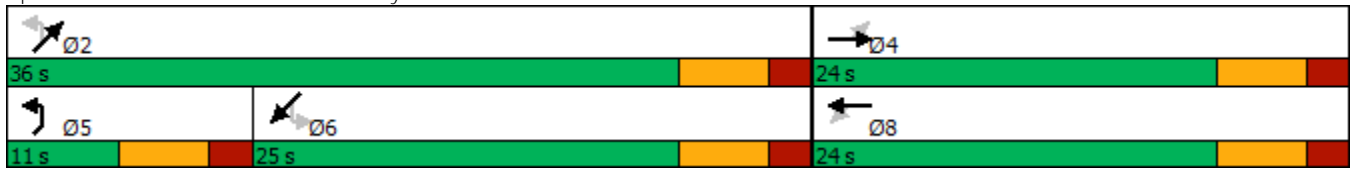
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	24.0	24.0		24.0	24.0		11.0	24.0		24.0	24.0	
Total Split (s)	24.0	24.0		24.0	24.0		11.0	36.0		25.0	25.0	
Total Split (%)	40.0%	40.0%		40.0%	40.0%		18.3%	60.0%		41.7%	41.7%	
Maximum Green (s)	18.0	18.0		18.0	18.0		5.0	30.0		19.0	19.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Max		Max	Max	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0			11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0			0		0	0	
Act Effect Green (s)	12.8	12.8		12.8	12.8		30.5	30.5		24.1	24.1	
Actuated g/C Ratio	0.23	0.23		0.23	0.23		0.55	0.55		0.44	0.44	
v/c Ratio	0.01	0.49		0.64	0.41		0.10	0.23		0.07	0.06	
Control Delay	15.2	17.9		30.7	18.6		7.5	2.8		14.1	12.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	15.2	17.9		30.7	18.6		7.5	2.8		14.1	12.2	
LOS	B	B		C	B		A	A		B	B	
Approach Delay		17.8			24.5			3.9			13.0	
Approach LOS		B			C			A			B	
Queue Length 50th (ft)	1	46		49	43		9	5		7	8	
Queue Length 95th (ft)	7	96		102	87		28	34		25	28	
Internal Link Dist (ft)		558			438			450			533	
Turn Bay Length (ft)	120			170			175			120		
Base Capacity (vph)	382	590		369	587		642	951		502	775	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.01	0.36		0.46	0.30		0.10	0.23		0.07	0.06	

Intersection Summary	
Area Type:	Other
Cycle Length:	60
Actuated Cycle Length:	55.3
Natural Cycle:	60
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.64
Intersection Signal Delay:	15.7
Intersection Capacity Utilization:	56.4%
Analysis Period (min):	15
Intersection LOS:	B
ICU Level of Service:	B

Lanes, Volumes, Timings  
27: Bass Dr & Hwy 6

08/09/2023

Splits and Phases: 27: Bass Dr & Hwy 6



**Lanes, Volumes, Timings**  
**30: Bradford & Hwy 6**

08/09/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	359	11	41	352	1	12	0	33	1	0	3
Future Volume (vph)	2	359	11	41	352	1	12	0	33	1	0	3
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	120		0	120		0	0		0	0		0
Storage Lanes	1		0	1		0	1		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.996							0.850		0.899	
Flt Protected	0.950			0.950			0.950				0.988	
Satd. Flow (prot)	1685	1802	0	1719	1810	0	1719	1810	1538	0	1607	0
Flt Permitted	0.950			0.950			0.950				0.988	
Satd. Flow (perm)	1685	1802	0	1719	1810	0	1719	1810	1538	0	1607	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		518			385			504			268	
Travel Time (s)		11.8			8.8			11.5			6.1	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Bus Blockages (#/hr)	5	0	0	0	0	0	0	0	0	0	0	0
Adj. Flow (vph)	2	395	12	45	387	1	13	0	36	1	0	3
Shared Lane Traffic (%)												
Lane Group Flow (vph)	2	407	0	45	388	0	13	0	36	0	4	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.03	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary	
Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	36.2%
ICU Level of Service	A
Analysis Period (min)	15

Lanes, Volumes, Timings  
 33: I-95 BNB Ramp & Hwy 6

08/09/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SBL	SBR	NEL2	NEL	NER
Lane Configurations											
Traffic Volume (vph)	56	307	0	0	308	76	0	0	36	0	45
Future Volume (vph)	56	307	0	0	308	76	0	0	36	0	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	0		0	0	0		0	0
Storage Lanes	1		0	0		0	0	0		1	1
Taper Length (ft)	25			25			25			25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.973						0.850
Flt Protected	0.950								0.950		
Satd. Flow (prot)	1719	1810	0	0	1761	0	0	0	1719	0	1538
Flt Permitted	0.234								0.950		
Satd. Flow (perm)	423	1810	0	0	1761	0	0	0	1719	0	1538
Right Turn on Red			Yes			Yes					Yes
Satd. Flow (RTOR)					21						456
Link Speed (mph)		30			30		30			30	
Link Distance (ft)		1070			197		602			707	
Travel Time (s)		24.3			4.5		13.7			16.1	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	60	327	0	0	328	81	0	0	38	0	48
Shared Lane Traffic (%)											
Lane Group Flow (vph)	60	327	0	0	409	0	0	0	38	0	48
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Right	Left	Left	Right
Median Width(ft)		12			12		0			12	
Link Offset(ft)		0			0		0			0	
Crosswalk Width(ft)		16			16		16			16	
Two way Left Turn Lane											
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15	9	15	15	9
Number of Detectors	1	2			2				1		1
Detector Template	Left	Thru			Thru				Left		Right
Leading Detector (ft)	20	100			100				20		20
Trailing Detector (ft)	0	0			0				0		0
Detector 1 Position(ft)	0	0			0				0		0
Detector 1 Size(ft)	20	6			6				20		20
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex				Cl+Ex		Cl+Ex
Detector 1 Channel											
Detector 1 Extend (s)	0.0	0.0			0.0				0.0		0.0
Detector 1 Queue (s)	0.0	0.0			0.0				0.0		0.0
Detector 1 Delay (s)	0.0	0.0			0.0				0.0		0.0
Detector 2 Position(ft)		94			94						
Detector 2 Size(ft)		6			6						
Detector 2 Type		Cl+Ex			Cl+Ex						
Detector 2 Channel											
Detector 2 Extend (s)		0.0			0.0						
Turn Type	pm+pt	NA			NA				Perm		Perm
Protected Phases	7	4			8						



# Lanes, Volumes, Timings

## 33: I-95 BNB Ramp & Hwy 6

08/09/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SBL	SBR	NEL2	NEL	NER	
Permitted Phases	4								2	2		
Detector Phase	7	4							2	2		
Switch Phase												
Minimum Initial (s)	5.0	5.0							5.0	5.0		
Minimum Split (s)	11.0	24.0							24.0	24.0		
Total Split (s)	11.0	35.0							25.0	25.0		
Total Split (%)	18.3%	58.3%							41.7%	41.7%		
Maximum Green (s)	5.0	29.0							19.0	19.0		
Yellow Time (s)	4.0	4.0							4.0	4.0		
All-Red Time (s)	2.0	2.0							2.0	2.0		
Lost Time Adjust (s)	0.0	0.0							0.0	0.0		
Total Lost Time (s)	6.0	6.0							6.0	6.0		
Lead/Lag	Lead								Lag			
Lead-Lag Optimize?	Yes								Yes			
Vehicle Extension (s)	3.0	3.0							3.0	3.0		
Recall Mode	None	None							Max	Max		
Walk Time (s)	7.0								7.0	7.0		
Flash Dont Walk (s)	11.0								11.0	11.0		
Pedestrian Calls (#/hr)	0								0	0		
Act Effct Green (s)	21.2	21.2							19.6	19.6		
Actuated g/C Ratio	0.40	0.40							0.37	0.37		
v/c Ratio	0.20	0.45							0.06	0.06		
Control Delay	10.3	13.0							14.5	0.1		
Queue Delay	0.0	0.0							0.0	0.0		
Total Delay	10.3	13.0							14.5	0.1		
LOS	B	B							B	A		
Approach Delay	12.6								6.5			
Approach LOS	B								A			
Queue Length 50th (ft)	11	69							10	0		
Queue Length 95th (ft)	27	120							27	0		
Internal Link Dist (ft)	990						522		627			
Turn Bay Length (ft)	200											
Base Capacity (vph)	294	1017							633	854		
Starvation Cap Reductn	0	0							0	0		
Spillback Cap Reductn	0	0							0	0		
Storage Cap Reductn	0	0							0	0		
Reduced v/c Ratio	0.20	0.32							0.06	0.06		

**Intersection Summary**

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 53.1

Natural Cycle: 60

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.78

Intersection Signal Delay: 20.0      Intersection LOS: B

Intersection Capacity Utilization 35.4%      ICU Level of Service A

Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

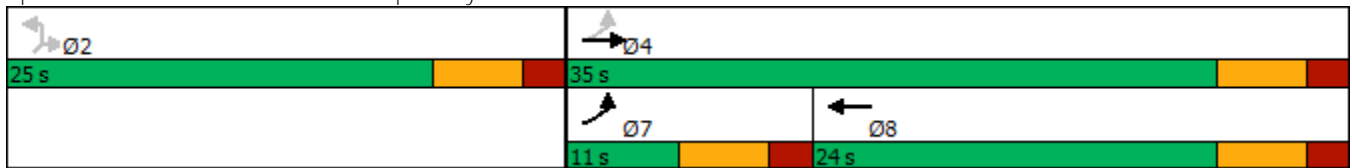
# Lanes, Volumes, Timings

## 33: I-95 BNB Ramp & Hwy 6

08/09/2023




















Queue shown is maximum after two cycles.

Splits and Phases: 33: I-95 BNB Ramp & Hwy 6






















Lanes, Volumes, Timings  
36: Britain & Hwy 6

08/09/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	362	10	12	382	17	7	1	19	15	0	18
Future Volume (vph)	20	362	10	12	382	17	7	1	19	15	0	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	50		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.996			0.994			0.905			0.925	
Flt Protected	0.950			0.950				0.987			0.978	
Satd. Flow (prot)	1719	1802	0	1719	1799	0	0	1616	0	0	1637	0
Flt Permitted	0.950			0.950				0.987			0.978	
Satd. Flow (perm)	1719	1802	0	1719	1799	0	0	1616	0	0	1637	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		385			221			341			104	
Travel Time (s)		8.8			5.0			7.8			2.4	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	1	0	0
Adj. Flow (vph)	22	398	11	13	420	19	8	1	21	16	0	20
Shared Lane Traffic (%)												
Lane Group Flow (vph)	22	409	0	13	439	0	0	30	0	0	36	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	
<b>Intersection Summary</b>												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	31.1%						ICU Level of Service A					
Analysis Period (min)	15											

Lanes, Volumes, Timings  
 42: St Paul Rd & US 301/Gas Station

08/09/2023

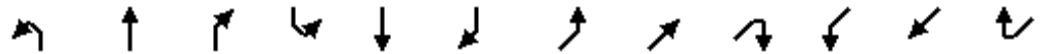
												
Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	2	8	48	2	9	12	0	1	5	50	0	11
Future Volume (vph)	2	8	48	2	9	12	0	1	5	50	0	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	1.00	0.95	0.95
Frt			0.850		0.930			0.875			0.850	
Flt Protected		0.991			0.996					0.950		
Satd. Flow (prot)	0	1637	1404	0	1530	0	0	2747	0	1570	2668	0
Flt Permitted		0.991			0.996					0.950		
Satd. Flow (perm)	0	1637	1404	0	1530	0	0	2747	0	1570	2668	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		420			204			822			934	
Travel Time (s)		9.5			4.6			18.7			21.2	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Adj. Flow (vph)	2	9	52	2	10	13	0	1	5	54	0	12
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	11	52	0	25	0	0	6	0	54	12	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	20.0%
Analysis Period (min)	15
	ICU Level of Service A

Lanes, Volumes, Timings  
44: US 301 & I-95 SB Ramp

08/09/2023



Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↔↑			↓↔						↔↓	
Traffic Volume (vph)	45	54	0	0	14	50	0	0	0	8	1	14
Future Volume (vph)	45	54	0	0	14	50	0	0	0	8	1	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt					0.895						0.917	
Flt Protected		0.978									0.983	
Satd. Flow (prot)	0	3181	0	0	1532	0	0	0	0	0	1543	0
Flt Permitted		0.978									0.983	
Satd. Flow (perm)	0	3181	0	0	1532	0	0	0	0	0	1543	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		341			420			593			580	
Travel Time (s)		7.8			9.5			13.5			13.2	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%
Adj. Flow (vph)	52	62	0	0	16	57	0	0	0	9	1	16
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	114	0	0	73	0	0	0	0	0	26	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	19.2%
ICU Level of Service	A
Analysis Period (min)	15

Lanes, Volumes, Timings  
 47: I-95 NB Ramp/US 301 & S-14-400

08/09/2023



Lane Group	WBL	WBR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Volume (vph)	7	58	43	35	16	6
Future Volume (vph)	7	58	43	35	16	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.880		0.939			
Flt Protected	0.994					0.965
Satd. Flow (prot)	1553	0	1667	0	0	1714
Flt Permitted	0.994					0.965
Satd. Flow (perm)	1553	0	1667	0	0	1714
Link Speed (mph)	30		30			30
Link Distance (ft)	708		346			378
Travel Time (s)	16.1		7.9			8.6
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	7%	7%	7%	7%	7%	7%
Adj. Flow (vph)	8	64	48	39	18	7
Shared Lane Traffic (%)						
Lane Group Flow (vph)	72	0	87	0	0	25
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	18.5%
Analysis Period (min)	15
	ICU Level of Service A

Lanes, Volumes, Timings  
49: Gordon Rd & S-14-400

08/09/2023





















Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	38	19	25	2	2	33
Future Volume (vph)	38	19	25	2	2	33
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.955			0.874		
Flt Protected	0.968			0.956		
Satd. Flow (prot)	1722	0	0	1781	1628	0
Flt Permitted	0.968			0.956		
Satd. Flow (perm)	1722	0	0	1781	1628	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	708			417	425	
Travel Time (s)	16.1			9.5	9.7	
Peak Hour Factor	0.76	0.76	0.76	0.76	0.76	0.76
Adj. Flow (vph)	50	25	33	3	3	43
Shared Lane Traffic (%)						
Lane Group Flow (vph)	75	0	0	36	46	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	18.2%
Analysis Period (min)	15
	ICU Level of Service A

Lanes, Volumes, Timings  
54: US 301 & Buff Blvd/Hotel

08/09/2023

												
Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	10	1	81	6	5	2	0	36	5	85	35	1
Future Volume (vph)	10	1	81	6	5	2	0	36	5	85	35	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr <sub>t</sub>			0.850		0.982			0.983				0.999
Fl <sub>t</sub> Protected		0.956			0.977							0.966
Satd. Flow (prot)	0	1666	1482	0	1672	0	0	1713	0	0	1682	0
Fl <sub>t</sub> Permitted		0.956			0.977							0.966
Satd. Flow (perm)	0	1666	1482	0	1672	0	0	1713	0	0	1682	0
Link Speed (mph)		30			30			30				30
Link Distance (ft)		3372			202			760				626
Travel Time (s)		76.6			4.6			17.3				14.2
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles (%)	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%
Adj. Flow (vph)	12	1	96	7	6	2	0	43	6	101	42	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	13	96	0	15	0	0	49	0	0	144	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0				0
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free				Free
<b>Intersection Summary</b>												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	25.8%						ICU Level of Service A					
Analysis Period (min)	15											



# Lanes, Volumes, Timings

## 55: Buff Blvd

08/09/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	96	0	20	0	0	0	0	50	12	53	47	0
Future Volume (vph)	96	0	20	0	0	0	0	50	12	53	47	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	150		0
Storage Lanes	0		0	0		0	0		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.977						0.973				
Flt Protected		0.960								0.950		
Satd. Flow (prot)	0	1449	0	0	0	0	0	1503	0	1467	1545	0
Flt Permitted		0.960								0.950		
Satd. Flow (perm)	0	1449	0	0	0	0	0	1503	0	1467	1545	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		596			536			930			1070	
Travel Time (s)		13.5			12.2			21.1			24.3	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	23%	23%	23%	23%	23%	23%	23%	23%	23%	23%	23%	23%
Adj. Flow (vph)	110	0	23	0	0	0	0	57	14	61	54	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	133	0	0	0	0	0	71	0	61	54	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

### Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	22.8%
ICU Level of Service	A
Analysis Period (min)	15

**Lanes, Volumes, Timings**  
**58: Buff Blvd & I-95 SB Ramp**

08/09/2023



















Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↕			↕			↕	
Traffic Volume (vph)	0	0	0	15	1	70	16	131	0	0	86	99
Future Volume (vph)	0	0	0	15	1	70	16	131	0	0	86	99
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.95	0.95
Fr <sub>t</sub>					0.890						0.920	
Fl <sub>t</sub> Protected					0.991			0.995				
Satd. Flow (prot)	0	0	0	0	1320	0	0	2828	0	0	2615	0
Fl <sub>t</sub> Permitted					0.991			0.995				
Satd. Flow (perm)	0	0	0	0	1320	0	0	2828	0	0	2615	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		723			820			1070			3372	
Travel Time (s)		16.4			18.6			24.3			76.6	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	27%	27%	27%	27%	27%	27%	27%	27%	27%	27%	27%	27%
Adj. Flow (vph)	0	0	0	17	1	78	18	146	0	0	96	110
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	96	0	0	164	0	0	206	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

**Intersection Summary**

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	24.8%
ICU Level of Service	A
Analysis Period (min)	15

Lanes, Volumes, Timings  
66: US 301 & Liberty Hill

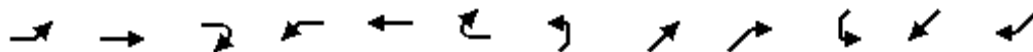
08/09/2023

												
Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	1	2	2	6	1	26	16	23	2	3	28	6
Future Volume (vph)	1	2	2	6	1	26	16	23	2	3	28	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.946			0.893			0.994			0.979	
Flt Protected		0.990			0.991			0.981			0.995	
Satd. Flow (prot)	0	1534	0	0	1450	0	0	1597	0	0	1596	0
Flt Permitted		0.990			0.991			0.981			0.995	
Satd. Flow (perm)	0	1534	0	0	1450	0	0	1597	0	0	1596	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		717			491			738			807	
Travel Time (s)		16.3			11.2			16.8			18.3	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%
Adj. Flow (vph)	1	2	2	7	1	31	19	27	2	4	33	7
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	5	0	0	39	0	0	48	0	0	44	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	
<b>Intersection Summary</b>												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	16.6%					ICU Level of Service A						
Analysis Period (min)	15											

# Lanes, Volumes, Timings

## 71: Mall St & Hwy 6

08/09/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕		↕	↑			↕			↕	
Traffic Volume (vph)	29	291	4	1	344	10	12	0	1	12	0	26
Future Volume (vph)	29	291	4	1	344	10	12	0	1	12	0	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.998			0.996			0.990			0.907	
Flt Protected		0.996		0.950				0.956			0.985	
Satd. Flow (prot)	0	1816	0	1736	1820	0	0	1729	0	0	1632	0
Flt Permitted		0.996		0.950				0.956			0.985	
Satd. Flow (perm)	0	1816	0	1736	1820	0	0	1729	0	0	1632	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		197			931			214			176	
Travel Time (s)		4.5			21.2			4.9			4.0	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Adj. Flow (vph)	32	320	4	1	378	11	13	0	1	13	0	29
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	356	0	1	389	0	0	14	0	0	42	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

### Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 49.2% ICU Level of Service A

Analysis Period (min) 15

# Existing PM

# HCS Freeway Diverge Report

## Project Information

Analyst	Transystems	Date	8/10/2023
Agency	SCDOT	Analysis Year	Existing (2023)
Jurisdiction		Time Analyzed	PM
Project Description	I-95 NB Exit to Hwy 6	Units	U.S. Customary

## Geometric Data

	Freeway	Ramp
Number of Lanes (N), In	2	1
Free-Flow Speed (FFS), mi/h	70.5	45.0
Segment Length (L) / Deceleration Length (LD), ft	1500	225
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

## Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	1.000	1.000
Capacity Adj. Factor for CAVs, CAFCAV	1.000	-

## Demand and Capacity

Demand Volume (Vi), veh/h	985	127
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	21.00	3.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.826	0.971
Flow Rate (vi), pc/h	1269	139
Capacity (cmd), pc/h	4800	2100
Adjusted Capacity (cmd), pc/h	4800	2100
Volume-to-Capacity Ratio (v/c)	0.26	0.07

## Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (No), In	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (DS)	0.311
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influence Area Speed (SR), mi/h	61.6
Prop. Freeway Vehicles in Lane 1 and 2 (PFD)	1.000	Outer Lanes Freeway Speed (SO), mi/h	77.3
Flow in Lanes 1 and 2 (v12), pc/h	1269	Ramp Junction Speed (S), mi/h	61.6

Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	10.3
Level of Service (LOS)	B	Density in Ramp Influence Area (DR), pc/mi/ln	13.1

# HCS Freeway Merge Report

## Project Information

Analyst	TranSystems	Date	8/10/2023
Agency	SCDOT	Analysis Year	Existing 2023
Jurisdiction		Time Analyzed	PM
Project Description	I-95 NB On Ramp from Hwy 6	Units	U.S. Customary

## Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	70.5	45.0
Segment Length (L) / Acceleration Length (LA), ft	955	800
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

## Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAFCAV	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

## Demand and Capacity

Demand Volume (Vi), veh/h	985	205
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	21.00	3.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.826	0.971
Flow Rate (vi), pc/h	1269	225
Capacity (cmd), pc/h	4800	2100
Adjusted Capacity (cmd), pc/h	4800	2100
Volume-to-Capacity Ratio (v/c)	0.31	0.11

## Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (No), ln	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (MS)	0.266
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	62.9
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	1.000	Outer Lanes Freeway Speed (SO), mi/h	70.5
Flow in Lanes 1 and 2 (v12), pc/h	1269	Ramp Junction Speed (S), mi/h	62.9



Flow Entering Ramp-Infl. Area (vR12), pc/h	1494	Average Density (D), pc/mi/ln	11.9
Level of Service (LOS)	B	Density in Ramp Influence Area (DR), pc/mi/ln	12.1

# HCS Freeway Diverge Report

## Project Information

Analyst	Transystems	Date	8/10/2023
Agency	SCDOT	Analysis Year	Existing (2023)
Jurisdiction		Time Analyzed	PM
Project Description	I-95 NB Exit to NB Rest Stop	Units	U.S. Customary

## Geometric Data

	Freeway	Ramp
Number of Lanes (N), In	2	1
Free-Flow Speed (FFS), mi/h	70.5	45.0
Segment Length (L) / Deceleration Length (LD), ft	955	225
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

## Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	1.000	1.000
Capacity Adj. Factor for CAVs, CAF <sub>CAV</sub>	1.000	-

## Demand and Capacity

Demand Volume (V), veh/h	1141	49
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	21.00	18.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f <sub>HV</sub> )	0.826	0.847
Flow Rate (v), pc/h	1470	62
Capacity (c <sub>md</sub> ), pc/h	4800	2100
Adjusted Capacity (c <sub>md</sub> ), pc/h	4800	2100
Volume-to-Capacity Ratio (v/c)	0.31	0.03

## Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (N <sub>O</sub> ), In	0
Distance to Upstream Ramp (L <sub>UP</sub> ), ft	-	Speed Index (D <sub>s</sub> )	0.304
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (v <sub>OA</sub> ), pc/h/ln	-
Distance to Downstream Ramp (L <sub>DOWN</sub> ), ft	-	Off-Ramp Influence Area Speed (S <sub>R</sub> ), mi/h	61.8
Prop. Freeway Vehicles in Lane 1 and 2 (P <sub>FD</sub> )	1.000	Outer Lanes Freeway Speed (S <sub>O</sub> ), mi/h	77.3
Flow in Lanes 1 and 2 (v <sub>12</sub> ), pc/h	1470	Ramp Junction Speed (S), mi/h	61.8
Flow Entering Ramp-Infl. Area (v <sub>R12</sub> ), pc/h	-	Average Density (D), pc/mi/ln	11.9
Level of Service (LOS)	B	Density in Ramp Influence Area (D <sub>R</sub> ), pc/mi/ln	14.9

# HCS Freeway Merge Report

## Project Information

Analyst	TranSystems	Date	8/10/2023
Agency	SCDOT	Analysis Year	Existing (2023)
Jurisdiction		Time Analyzed	Mid
Project Description	I-95 NB On Ramp from NB Rest Stop	Units	U.S. Customary

## Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	70.5	45.0
Segment Length (L) / Acceleration Length (LA), ft	1500	800
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

## Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAFCAV	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

## Demand and Capacity

Demand Volume (Vi), veh/h	681	49
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	21.00	18.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.826	0.847
Flow Rate (vi), pc/h	877	62
Capacity (cmd), pc/h	4800	2100
Adjusted Capacity (cmd), pc/h	4800	2100
Volume-to-Capacity Ratio (v/c)	0.20	0.03

## Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (NO), ln	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (MS)	0.259
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	63.1
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	1.000	Outer Lanes Freeway Speed (SO), mi/h	70.5
Flow in Lanes 1 and 2 (v12), pc/h	877	Ramp Junction Speed (S), mi/h	63.1

Flow Entering Ramp-Infl. Area (vR12), pc/h	939	Average Density (D), pc/mi/ln	7.4
Level of Service (LOS)	A	Density in Ramp Influence Area (DR), pc/mi/ln	7.8

# HCS Freeway Diverge Report

## Project Information

Analyst	Transystems	Date	8/9/2023
Agency	SCDOT	Analysis Year	Existing (2023)
Jurisdiction		Time Analyzed	PM
Project Description	I-95 NB Exit to US 15	Units	U.S. Customary

## Geometric Data

	Freeway	Ramp
Number of Lanes (N), In	2	1
Free-Flow Speed (FFS), mi/h	70.5	45.0
Segment Length (L) / Deceleration Length (LD), ft	1500	225
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

## Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	1.000	1.000
Capacity Adj. Factor for CAVs, CAF <sub>CAV</sub>	1.000	-

## Demand and Capacity

Demand Volume (V <sub>d</sub> ), veh/h	985	176
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	21.00	8.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f <sub>HV</sub> )	0.826	0.926
Flow Rate (v <sub>i</sub> ), pc/h	1269	202
Capacity (c <sub>md</sub> ), pc/h	4800	2100
Adjusted Capacity (c <sub>md</sub> ), pc/h	4800	2100
Volume-to-Capacity Ratio (v/c)	0.26	0.10

## Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (N <sub>O</sub> ), In	0
Distance to Upstream Ramp (L <sub>UP</sub> ), ft	-	Speed Index (DS)	0.316
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (v <sub>OA</sub> ), pc/h/ln	-
Distance to Downstream Ramp (L <sub>DOWN</sub> ), ft	-	Off-Ramp Influence Area Speed (S <sub>R</sub> ), mi/h	61.5
Prop. Freeway Vehicles in Lane 1 and 2 (P <sub>FD</sub> )	1.000	Outer Lanes Freeway Speed (S <sub>O</sub> ), mi/h	77.3
Flow in Lanes 1 and 2 (v <sub>12</sub> ), pc/h	1269	Ramp Junction Speed (S), mi/h	61.5
Flow Entering Ramp-Infl. Area (v <sub>R12</sub> ), pc/h	-	Average Density (D), pc/mi/ln	10.3
Level of Service (LOS)	B	Density in Ramp Influence Area (D <sub>R</sub> ), pc/mi/ln	13.1



# HCS Freeway Merge Report

## Project Information

Analyst	TranSystems	Date	8/10/2023
Agency	SCDOT	Analysis Year	Existing 2023
Jurisdiction		Time Analyzed	PM
Project Description	I-95 NB On Ramp from US 15	Units	U.S. Customary

## Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	70.5	45.0
Segment Length (L) / Acceleration Length (LA), ft	1500	800
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

## Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAFCAV	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

## Demand and Capacity

Demand Volume (Vi), veh/h	1014	14
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	21.00	8.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.826	0.926
Flow Rate (vi), pc/h	1306	16
Capacity (cmd), pc/h	4800	2100
Adjusted Capacity (cmd), pc/h	4800	2100
Volume-to-Capacity Ratio (v/c)	0.28	0.01

## Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (No), ln	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (MS)	0.264
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	63.0
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	1.000	Outer Lanes Freeway Speed (SO), mi/h	70.5
Flow in Lanes 1 and 2 (v12), pc/h	1306	Ramp Junction Speed (S), mi/h	63.0

Flow Entering Ramp-Infl. Area (vR12), pc/h	1322	Average Density (D), pc/mi/ln	10.5
Level of Service (LOS)	B	Density in Ramp Influence Area (DR), pc/mi/ln	10.8

### Design Analysis Table

Freeway Lanes, ln	2	2	3	3	4	4	5	5
Ramp Lanes, ln	1	2	1	2	1	2	1	2
Density, pc/mi/ln	10.5	10.2	6.7	6.6	4.9	4.8	3.1	3.0
LOS	B	A	A	A	A	A	A	A

# HCS Freeway Diverge Report

## Project Information

Analyst	Transystems	Date	8/10/2023
Agency	SCDOT	Analysis Year	Existing (2023)
Jurisdiction		Time Analyzed	PM
Project Description	I-95 NB Exit to Buff Blvd	Units	U.S. Customary

## Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	70.5	45.0
Segment Length (L) / Deceleration Length (LD), ft	1500	225
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

## Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	1.000	1.000
Capacity Adj. Factor for CAVs, CAFCAV	1.000	-

## Demand and Capacity

Demand Volume (Vi), veh/h	834	194
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	21.00	17.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.826	0.855
Flow Rate (vi), pc/h	1074	241
Capacity (cmd), pc/h	4800	2100
Adjusted Capacity (cmd), pc/h	4800	2100
Volume-to-Capacity Ratio (v/c)	0.22	0.11

## Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (No), ln	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (DS)	0.320
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influence Area Speed (SR), mi/h	61.4
Prop. Freeway Vehicles in Lane 1 and 2 (PFD)	1.000	Outer Lanes Freeway Speed (SO), mi/h	77.3
Flow in Lanes 1 and 2 (v12), pc/h	1074	Ramp Junction Speed (S), mi/h	61.4



Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	8.7
Level of Service (LOS)	B	Density in Ramp Influence Area (DR), pc/mi/ln	11.5

# HCS Freeway Merge Report

## Project Information

Analyst	TranSystems	Date	8/10/2023
Agency	SCDOT	Analysis Year	Existing 2023
Jurisdiction		Time Analyzed	PM
Project Description	I-95 NB On Ramp from Buff Blvd	Units	U.S. Customary

## Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	70.5	45.0
Segment Length (L) / Acceleration Length (LA), ft	1500	800
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

## Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAFCAV	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

## Demand and Capacity

Demand Volume (Vi), veh/h	834	75
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	21.00	17.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.826	0.855
Flow Rate (vi), pc/h	1074	93
Capacity (cmd), pc/h	4800	2100
Adjusted Capacity (cmd), pc/h	4800	2100
Volume-to-Capacity Ratio (v/c)	0.24	0.04

## Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (No), ln	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (MS)	0.262
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	63.0
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	1.000	Outer Lanes Freeway Speed (SO), mi/h	70.5
Flow in Lanes 1 and 2 (v12), pc/h	1074	Ramp Junction Speed (S), mi/h	63.0

Flow Entering Ramp-Infl. Area (vR12), pc/h	1167	Average Density (D), pc/mi/ln	9.3
Level of Service (LOS)	A	Density in Ramp Influence Area (DR), pc/mi/ln	9.6

### Design Analysis Table

Freeway Lanes, ln	2	2	3	3	4	4	5	5
Ramp Lanes, ln	1	2	1	2	1	2	1	2
Density, pc/mi/ln	9.3	9.0	5.9	5.8	4.4	4.3	2.8	2.7
LOS	A	A	A	A	A	A	A	A

# HCS Freeway Diverge Report

## Project Information

Analyst	Transystems	Date	8/10/2023
Agency	SCDOT	Analysis Year	Existing 2023
Jurisdiction		Time Analyzed	PM
Project Description	I-95 SB Exit to Buff Blvd	Units	U.S. Customary

## Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	70.5	45.0
Segment Length (L) / Deceleration Length (LD), ft	1500	225
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

## Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	1.000	1.000
Capacity Adj. Factor for CAVs, CAFCAV	1.000	-

## Demand and Capacity

Demand Volume (Vi), veh/h	825	84
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	18.00	30.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.847	0.769
Flow Rate (vi), pc/h	1036	116
Capacity (cmd), pc/h	4800	2100
Adjusted Capacity (cmd), pc/h	4800	2100
Volume-to-Capacity Ratio (v/c)	0.22	0.06

## Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (No), ln	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (DS)	0.308
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influence Area Speed (SR), mi/h	61.7
Prop. Freeway Vehicles in Lane 1 and 2 (PFD)	1.000	Outer Lanes Freeway Speed (SO), mi/h	77.3
Flow in Lanes 1 and 2 (v12), pc/h	1036	Ramp Junction Speed (S), mi/h	61.7

Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	8.4
Level of Service (LOS)	B	Density in Ramp Influence Area (DR), pc/mi/ln	11.1

# HCS Freeway Merge Report

## Project Information

Analyst	TranSystems	Date	8/9/2023
Agency	SCDOT	Analysis Year	Existing 2023
Jurisdiction		Time Analyzed	PM
Project Description	I-95 SB On Ramp from Buff Blvd	Units	U.S. Customary

## Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	70.5	45.0
Segment Length (L) / Acceleration Length (LA), ft	1500	800
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

## Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAFCAV	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

## Demand and Capacity

Demand Volume (Vi), veh/h	825	157
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	20.00	30.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.833	0.769
Flow Rate (vi), pc/h	1054	217
Capacity (cmd), pc/h	4800	2100
Adjusted Capacity (cmd), pc/h	4800	2100
Volume-to-Capacity Ratio (v/c)	0.26	0.10

## Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (No), ln	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (MS)	0.263
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	63.0
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	1.000	Outer Lanes Freeway Speed (SO), mi/h	70.5
Flow in Lanes 1 and 2 (v12), pc/h	1054	Ramp Junction Speed (S), mi/h	63.0

Flow Entering Ramp-Infl. Area (vR12), pc/h	1271	Average Density (D), pc/mi/ln	10.1
Level of Service (LOS)	B	Density in Ramp Influence Area (DR), pc/mi/ln	10.3

### Design Analysis Table

Freeway Lanes, ln	2	2	3	3	4	4	5	5
Ramp Lanes, ln	1	2	1	2	1	2	1	2
Density, pc/mi/ln	10.1	9.8	6.5	6.3	4.8	4.7	3.1	3.1
LOS	B	A	A	A	A	A	A	A

# HCS Freeway Diverge Report

## Project Information

Analyst	Transystems	Date	8/10/2023
Agency	SCDOT	Analysis Year	Existing 2023
Jurisdiction		Time Analyzed	Mid
Project Description	I-95 SB Exit to US 15	Units	U.S. Customary

## Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	70.5	45.0
Segment Length (L) / Deceleration Length (LD), ft	1500	225
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

## Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	1.000	1.000
Capacity Adj. Factor for CAVs, CAFCAV	1.000	-

## Demand and Capacity

Demand Volume (Vi), veh/h	873	207
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	18.00	6.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.847	0.943
Flow Rate (vi), pc/h	1096	234
Capacity (cmd), pc/h	4800	2100
Adjusted Capacity (cmd), pc/h	4800	2100
Volume-to-Capacity Ratio (v/c)	0.23	0.11

## Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (No), ln	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (DS)	0.319
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influence Area Speed (SR), mi/h	61.4
Prop. Freeway Vehicles in Lane 1 and 2 (PFD)	1.000	Outer Lanes Freeway Speed (SO), mi/h	77.3
Flow in Lanes 1 and 2 (v12), pc/h	1096	Ramp Junction Speed (S), mi/h	61.4



Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	8.9
Level of Service (LOS)	B	Density in Ramp Influence Area (DR), pc/mi/ln	11.7

# HCS Freeway Merge Report

## Project Information

Analyst	TranSystems	Date	8/10/2023
Agency	SCDOT	Analysis Year	Existing 2023
Jurisdiction		Time Analyzed	PM
Project Description	I-95 SB On Ramp from US 15	Units	U.S. Customary

## Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	70.5	45.0
Segment Length (L) / Acceleration Length (LA), ft	1500	800
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

## Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAFCAV	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

## Demand and Capacity

Demand Volume (Vi), veh/h	964	116
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	18.00	6.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.847	0.943
Flow Rate (vi), pc/h	1211	131
Capacity (cmd), pc/h	4800	2100
Adjusted Capacity (cmd), pc/h	4800	2100
Volume-to-Capacity Ratio (v/c)	0.28	0.06

## Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (No), ln	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (MS)	0.264
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	63.0
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	1.000	Outer Lanes Freeway Speed (SO), mi/h	70.5
Flow in Lanes 1 and 2 (v12), pc/h	1211	Ramp Junction Speed (S), mi/h	63.0

Flow Entering Ramp-Infl. Area (vR12), pc/h	1342	Average Density (D), pc/mi/ln	10.7
Level of Service (LOS)	B	Density in Ramp Influence Area (DR), pc/mi/ln	10.9

### Design Analysis Table

Freeway Lanes, ln	2	2	3	3	4	4	5	5
Ramp Lanes, ln	1	2	1	2	1	2	1	2
Density, pc/mi/ln	10.7	10.4	6.8	6.7	5.0	4.9	3.2	3.2
LOS	B	A	A	A	A	A	A	A

# HCS Freeway Diverge Report

## Project Information

Analyst	Transystems	Date	8/10/2023
Agency	SCDOT	Analysis Year	Existing 2023
Jurisdiction		Time Analyzed	PM
Project Description	I-95 SB Exit to SB Rest Stop	Units	U.S. Customary

## Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	70.5	45.0
Segment Length (L) / Deceleration Length (LD), ft	1500	225
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

## Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	1.000	1.000
Capacity Adj. Factor for CAVs, CAFCAV	1.000	-

## Demand and Capacity

Demand Volume (Vi), veh/h	1037	43
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	18.00	14.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.847	0.877
Flow Rate (vi), pc/h	1302	52
Capacity (cmd), pc/h	4800	2100
Adjusted Capacity (cmd), pc/h	4800	2100
Volume-to-Capacity Ratio (v/c)	0.27	0.02

## Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (No), ln	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (DS)	0.303
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influence Area Speed (SR), mi/h	61.9
Prop. Freeway Vehicles in Lane 1 and 2 (PFD)	1.000	Outer Lanes Freeway Speed (SO), mi/h	77.3
Flow in Lanes 1 and 2 (v12), pc/h	1302	Ramp Junction Speed (S), mi/h	61.9

Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	10.5
Level of Service (LOS)	B	Density in Ramp Influence Area (DR), pc/mi/ln	13.4

# HCS Freeway Weaving Report

## Project Information

Analyst	TranSystems	Date	8/10/2023
Agency	SCDOT	Analysis Year	Existing (2023)
Jurisdiction		Time Analyzed	PM
Project Description	I-95 SB Weave bt SB Rest Stop and Hwy 6	Units	U.S. Customary

## Geometric Data

Number of Lanes (N), ln	3	Segment Type	Freeway
Segment Length (Ls), ft	775	Number of Maneuver Lanes (NWL), ln	2
Weaving Configuration	One-Sided	Ramp-to-Freeway Lane Changes (LCRF), lc	1
Terrain Type	Level	Freeway-to-Ramp Lane Changes (LCFR), lc	1
Percent Grade, %	-	Ramp-to-Ramp Lane Changes (LCRR), lc	0
Interchange Density (ID), int/mi	0.80	Cross Weaving Managed Lane	No

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor for CAVs, CAFCAV	1.000
Proportion of CAVs in Traffic Stream	0	Final Capacity Adjustment Factor (CAF)	1.000

## Demand and Capacity

	FF	RF	RR	FR
Demand Volume (Vi), veh/h	1037	43	0	207
Peak Hour Factor (PHF)	0.94	0.94	0.94	0.94
Total Trucks, %	18.00	14.00	0.00	3.00
Heavy Vehicle Adjustment Factor (fHV)	0.847	0.877	1.000	0.971
Flow Rate (vi), pc/h	1302	52	0	227
Weaving Flow Rate (vw), pc/h	279	Ideal Conditions Capacity (ciFL), pc/h/ln		2400
Non-Weaving Flow Rate (vNW), pc/h	1302	Density-Based Capacity (ciWL × N × fHV), veh/h		5535
Total Flow Rate (v), pc/h	1581	Demand Flow-Based Capacity (ciW × fHV), veh/h		11806
Volume Ratio (VR)	0.176	Weaving Area Capacity (cw), veh/h		5535
Minimum Lane Change Rate (LCMIN), lc/h	279	Adjusted Weaving Area Capacity (cWA), veh/h		5535
Maximum Weaving Length (LMAX), ft	4292	Demand-to-Capacity Ratio (v/c)		0.25

## Speed and Density

Non-Weaving Vehicle Index (INW)	81	Average Weaving Speed (SW), mi/h	66.9
Non-Weaving Lane Change Rate (LCNW), lc/h	110	Average Non-Weaving Speed (SNW), mi/h	70.9
Weaving Lane Change Rate (LCW), lc/h	401	Average Speed (S), mi/h	70.2
Weaving Lane Change Rate (LCAII), lc/h	511	Density (D), pc/mi/ln	7.5
Weaving Intensity Factor (W)	0.163	Level of Service (LOS)	A

# HCS Freeway Merge Report

## Project Information

Analyst	TranSystems	Date	8/10/2023
Agency	SCDOT	Analysis Year	Existing 2023
Jurisdiction		Time Analyzed	PM
Project Description	I-95 SB On Ramp from Hwy 6	Units	U.S. Customary

## Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	70.5	45.0
Segment Length (L) / Acceleration Length (LA), ft	1500	800
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

## Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAFCAV	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

## Demand and Capacity

Demand Volume (Vi), veh/h	873	84
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	18.00	3.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.847	0.971
Flow Rate (vi), pc/h	1096	92
Capacity (cmd), pc/h	4800	2100
Adjusted Capacity (cmd), pc/h	4800	2100
Volume-to-Capacity Ratio (v/c)	0.25	0.04

## Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (No), ln	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (MS)	0.262
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	63.0
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	1.000	Outer Lanes Freeway Speed (SO), mi/h	70.5
Flow in Lanes 1 and 2 (v12), pc/h	1096	Ramp Junction Speed (S), mi/h	63.0

Flow Entering Ramp-Infl. Area (vR12), pc/h	1188	Average Density (D), pc/mi/ln	9.4
Level of Service (LOS)	A	Density in Ramp Influence Area (DR), pc/mi/ln	9.8



# HCS Basic Freeway Report

## Project Information

Analyst	Transystems	Date	8/9/2023
Agency	SCDOT	Analysis Year	Existing (2023)
Jurisdiction		Time Analyzed	PM
Project Description	I-95 NB south of Hwy 6	Units	U.S. Customary

## Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Rolling
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.0	Total Ramp Density (TRD), ramps/mi	1.50
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.5
Right-Side Lateral Clearance, ft	10		

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	1.000
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAFCAV	1.000

## Demand and Capacity

Demand Volume (V), veh/h	1112	Heavy Vehicle Adjustment Factor (fhv)	0.704
Peak Hour Factor (PHF)	0.94	Flow Rate (vp), pc/h/ln	840
Total Trucks, %	21.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.35
Passenger Car Equivalent (ET)	3.00		

## Speed and Density

Lane Width Adjustment (fLW)	0.0	Average Speed (S), mi/h	70.5
Right-Side Lateral Clearance Adj. (fRLC)	0.0	Density (D), pc/mi/ln	11.9
Total Ramp Density Adjustment	4.5	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFSadj), mi/h	70.5		

# HCS Basic Freeway Report

## Project Information

Analyst	Transystems	Date	8/9/2023
Agency	SCDOT	Analysis Year	Existing (2023)
Jurisdiction		Time Analyzed	PM
Project Description	I-95 NB south of US 15	Units	U.S. Customary

## Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Rolling
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.0	Total Ramp Density (TRD), ramps/mi	1.50
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.5
Right-Side Lateral Clearance, ft	10		

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	1.000
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAFCAV	1.000

## Demand and Capacity

Demand Volume (V), veh/h	1190	Heavy Vehicle Adjustment Factor (fhv)	0.704
Peak Hour Factor (PHF)	0.94	Flow Rate (vp), pc/h/ln	899
Total Trucks, %	21.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.37
Passenger Car Equivalent (ET)	3.00		

## Speed and Density

Lane Width Adjustment (fLW)	0.0	Average Speed (S), mi/h	70.5
Right-Side Lateral Clearance Adj. (fRLC)	0.0	Density (D), pc/mi/ln	12.8
Total Ramp Density Adjustment	4.5	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFSadj), mi/h	70.5		

# HCS Basic Freeway Report

## Project Information

Analyst	Transystems	Date	8/9/2023
Agency	SCDOT	Analysis Year	Existing (2023)
Jurisdiction		Time Analyzed	PM
Project Description	I-95 NB south of Buff Blvd	Units	U.S. Customary

## Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Rolling
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.0	Total Ramp Density (TRD), ramps/mi	1.50
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.5
Right-Side Lateral Clearance, ft	10		

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	1.000
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAFCAV	1.000

## Demand and Capacity

Demand Volume (V), veh/h	1028	Heavy Vehicle Adjustment Factor (fhv)	0.704
Peak Hour Factor (PHF)	0.94	Flow Rate (vp), pc/h/ln	776
Total Trucks, %	21.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.32
Passenger Car Equivalent (ET)	3.00		

## Speed and Density

Lane Width Adjustment (fLW)	0.0	Average Speed (S), mi/h	70.5
Right-Side Lateral Clearance Adj. (fRLC)	0.0	Density (D), pc/mi/ln	11.0
Total Ramp Density Adjustment	4.5	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFSadj), mi/h	70.5		

# HCS Basic Freeway Report

## Project Information

Analyst	Transystems	Date	8/9/2023
Agency	SCDOT	Analysis Year	Existing (2023)
Jurisdiction		Time Analyzed	PM
Project Description	I-95 NB north of Buff Blvd	Units	U.S. Customary

## Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Rolling
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.0	Total Ramp Density (TRD), ramps/mi	1.50
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.5
Right-Side Lateral Clearance, ft	10		

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	1.000
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAFCAV	1.000

## Demand and Capacity

Demand Volume (V), veh/h	909	Heavy Vehicle Adjustment Factor (fhv)	0.704
Peak Hour Factor (PHF)	0.94	Flow Rate (vp), pc/h/ln	687
Total Trucks, %	21.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.29
Passenger Car Equivalent (ET)	3.00		

## Speed and Density

Lane Width Adjustment (fLW)	0.0	Average Speed (S), mi/h	70.5
Right-Side Lateral Clearance Adj. (fRLC)	0.0	Density (D), pc/mi/ln	9.7
Total Ramp Density Adjustment	4.5	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFSadj), mi/h	70.5		

# HCS Basic Freeway Report

## Project Information

Analyst	Transystems	Date	8/9/2023
Agency	SCDOT	Analysis Year	Existing (2023)
Jurisdiction		Time Analyzed	PM
Project Description	I-95 SB north of Buff Blvd	Units	U.S. Customary

## Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Rolling
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.0	Total Ramp Density (TRD), ramps/mi	1.50
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.5
Right-Side Lateral Clearance, ft	10		

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	1.000
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAFCAV	1.000

## Demand and Capacity

Demand Volume (V), veh/h	909	Heavy Vehicle Adjustment Factor (fhv)	0.735
Peak Hour Factor (PHF)	0.94	Flow Rate (vp), pc/h/ln	658
Total Trucks, %	18.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.27
Passenger Car Equivalent (ET)	3.00		

## Speed and Density

Lane Width Adjustment (fLW)	0.0	Average Speed (S), mi/h	70.5
Right-Side Lateral Clearance Adj. (fRLC)	0.0	Density (D), pc/mi/ln	9.3
Total Ramp Density Adjustment	4.5	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFSadj), mi/h	70.5		

# HCS Basic Freeway Report

## Project Information

Analyst	Transystems	Date	8/9/2023
Agency	SCDOT	Analysis Year	Existing (2023)
Jurisdiction		Time Analyzed	PM
Project Description	I-95 SB south of Buff Blvd	Units	U.S. Customary

## Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Rolling
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.0	Total Ramp Density (TRD), ramps/mi	1.50
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.5
Right-Side Lateral Clearance, ft	10		

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	1.000
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAFCAV	1.000

## Demand and Capacity

Demand Volume (V), veh/h	982	Heavy Vehicle Adjustment Factor (fhv)	0.735
Peak Hour Factor (PHF)	0.94	Flow Rate (vp), pc/h/ln	710
Total Trucks, %	18.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.30
Passenger Car Equivalent (ET)	3.00		

## Speed and Density

Lane Width Adjustment (fLW)	0.0	Average Speed (S), mi/h	70.5
Right-Side Lateral Clearance Adj. (fRLC)	0.0	Density (D), pc/mi/ln	10.1
Total Ramp Density Adjustment	4.5	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFSadj), mi/h	70.5		

# HCS Basic Freeway Report

## Project Information

Analyst	Transystems	Date	8/9/2023
Agency	SCDOT	Analysis Year	Existing (2023)
Jurisdiction		Time Analyzed	PM
Project Description	I-95 SB south of US 15	Units	U.S. Customary

## Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Rolling
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.0	Total Ramp Density (TRD), ramps/mi	1.50
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.5
Right-Side Lateral Clearance, ft	10		

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	1.000
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAFCAV	1.000

## Demand and Capacity

Demand Volume (V), veh/h	1080	Heavy Vehicle Adjustment Factor (fhv)	0.735
Peak Hour Factor (PHF)	0.94	Flow Rate (vp), pc/h/ln	782
Total Trucks, %	18.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.33
Passenger Car Equivalent (ET)	3.00		

## Speed and Density

Lane Width Adjustment (fLW)	0.0	Average Speed (S), mi/h	70.5
Right-Side Lateral Clearance Adj. (fRLC)	0.0	Density (D), pc/mi/ln	11.1
Total Ramp Density Adjustment	4.5	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFSadj), mi/h	70.5		

# HCS Basic Freeway Report

## Project Information

Analyst	Transystems	Date	8/9/2023
Agency	SCDOT	Analysis Year	Existing (2023)
Jurisdiction		Time Analyzed	PM
Project Description	I-95 SB south of Hwy 6	Units	U.S. Customary

## Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Rolling
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.0	Total Ramp Density (TRD), ramps/mi	1.50
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.5
Right-Side Lateral Clearance, ft	10		

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	1.000
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAFCAV	1.000

## Demand and Capacity

Demand Volume (V), veh/h	957	Heavy Vehicle Adjustment Factor (fhv)	0.735
Peak Hour Factor (PHF)	0.94	Flow Rate (vp), pc/h/ln	692
Total Trucks, %	18.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.29
Passenger Car Equivalent (ET)	3.00		

## Speed and Density

Lane Width Adjustment (fLW)	0.0	Average Speed (S), mi/h	70.5
Right-Side Lateral Clearance Adj. (fRLC)	0.0	Density (D), pc/mi/ln	9.8
Total Ramp Density Adjustment	4.5	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFSadj), mi/h	70.5		



# Lanes, Volumes, Timings

## 24: Hwy 6 & I-95 SB Ramp

08/09/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SWL2	SWL	SWR
Lane Configurations											
Traffic Volume (vph)	0	452	50	34	328	0	0	0	91	0	116
Future Volume (vph)	0	452	50	34	328	0	0	0	91	0	116
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		75	175		0	0	0		0	150
Storage Lanes	0		0	1		0	0	0		1	1
Taper Length (ft)	25			25			25			25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.987									0.850
Flt Protected				0.950					0.950		
Satd. Flow (prot)	0	1821	0	1752	1845	0	0	0	1752	0	1568
Flt Permitted				0.167					0.950		
Satd. Flow (perm)	0	1821	0	308	1845	0	0	0	1752	0	1568
Right Turn on Red			Yes			Yes					Yes
Satd. Flow (RTOR)		10									452
Link Speed (mph)		30			30			30			30
Link Distance (ft)		221			1070			658			713
Travel Time (s)		5.0			24.3			15.0			16.2
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	0	471	52	35	342	0	0	0	95	0	121
Shared Lane Traffic (%)											
Lane Group Flow (vph)	0	523	0	35	342	0	0	0	95	0	121
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			12
Link Offset(ft)		0			0			0			0
Crosswalk Width(ft)		16			16			16			16
Two way Left Turn Lane											
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15	9	15	15	9
Number of Detectors		2			1	2			1		1
Detector Template		Thru			Left	Thru			Left		Right
Leading Detector (ft)		100			20	100			20		20
Trailing Detector (ft)		0			0	0			0		0
Detector 1 Position(ft)		0			0	0			0		0
Detector 1 Size(ft)		6			20	6			20		20
Detector 1 Type		Cl+Ex			Cl+Ex	Cl+Ex			Cl+Ex		Cl+Ex
Detector 1 Channel											
Detector 1 Extend (s)		0.0			0.0	0.0			0.0		0.0
Detector 1 Queue (s)		0.0			0.0	0.0			0.0		0.0
Detector 1 Delay (s)		0.0			0.0	0.0			0.0		0.0
Detector 2 Position(ft)		94			94						
Detector 2 Size(ft)		6			6						
Detector 2 Type		Cl+Ex			Cl+Ex						
Detector 2 Channel											
Detector 2 Extend (s)		0.0			0.0						
Turn Type		NA			pm+pt	NA			Perm		Perm
Protected Phases		4			3	8					

**Lanes, Volumes, Timings**  
**24: Hwy 6 & I-95 SB Ramp**

08/09/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SWL2	SWL	SWR
Permitted Phases				8					6		6
Detector Phase		4		3	8				6		6
Switch Phase											
Minimum Initial (s)		5.0		5.0	5.0				5.0		5.0
Minimum Split (s)		24.0		11.0	24.0				24.0		24.0
Total Split (s)		25.0		11.0	36.0				24.0		24.0
Total Split (%)		41.7%		18.3%	60.0%				40.0%		40.0%
Maximum Green (s)		19.0		5.0	30.0				18.0		18.0
Yellow Time (s)		4.0		4.0	4.0				4.0		4.0
All-Red Time (s)		2.0		2.0	2.0				2.0		2.0
Lost Time Adjust (s)		0.0		0.0	0.0				0.0		0.0
Total Lost Time (s)		6.0		6.0	6.0				6.0		6.0
Lead/Lag		Lag		Lead							
Lead-Lag Optimize?		Yes		Yes							
Vehicle Extension (s)		3.0		3.0	3.0				3.0		3.0
Recall Mode		None		None	None				Max		Max
Walk Time (s)		7.0			7.0				7.0		7.0
Flash Dont Walk (s)		11.0			11.0				11.0		11.0
Pedestrian Calls (#/hr)		0			0				0		0
Act Effct Green (s)		18.0		21.9	21.9				18.3		18.3
Actuated g/C Ratio		0.34		0.42	0.42				0.35		0.35
v/c Ratio		0.82		0.13	0.44				0.16		0.14
Control Delay		31.1		9.2	12.4				14.9		0.4
Queue Delay		0.0		0.0	0.0				0.0		0.0
Total Delay		31.1		9.2	12.4				14.9		0.4
LOS		C		A	B				B		A
Approach Delay		31.1			12.1					6.8	
Approach LOS		C			B					A	
Queue Length 50th (ft)		119		6	70				17		0
Queue Length 95th (ft)		#345		18	121				56		0
Internal Link Dist (ft)		141			990		578			633	
Turn Bay Length (ft)				175							150
Base Capacity (vph)		677		268	1073				611		841
Starvation Cap Reductn		0		0	0				0		0
Spillback Cap Reductn		0		0	0				0		0
Storage Cap Reductn		0		0	0				0		0
Reduced v/c Ratio		0.77		0.13	0.32				0.16		0.14

**Intersection Summary**

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 52.3

Natural Cycle: 60

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.82

Intersection Signal Delay: 20.0      Intersection LOS: B

Intersection Capacity Utilization 41.0%      ICU Level of Service A

Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

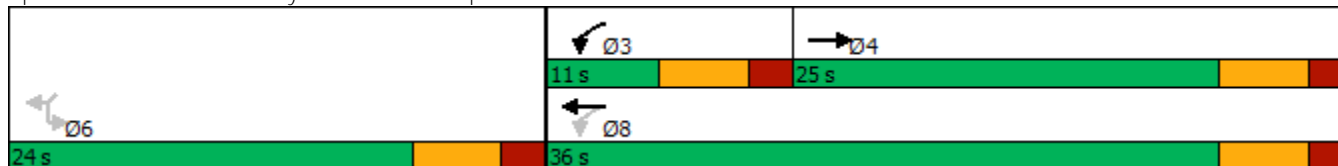
# Lanes, Volumes, Timings

## 24: Hwy 6 & I-95 SB Ramp

08/09/2023

Queue shown is maximum after two cycles.

Splits and Phases: 24: Hwy 6 & I-95 SB Ramp



# Lanes, Volumes, Timings

## 27: Bass Dr & Hwy 6

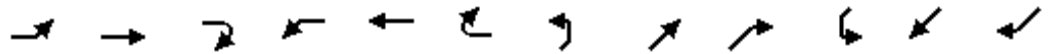
08/09/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	9	178	55	163	158	15	70	38	216	34	32	6
Future Volume (vph)	9	178	55	163	158	15	70	38	216	34	32	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	120		0	170		0	175		0	120		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.964			0.987			0.872			0.977	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1752	1778	0	1752	1821	0	1752	1609	0	1752	1802	0
Flt Permitted	0.643			0.558			0.584			0.595		
Satd. Flow (perm)	1186	1778	0	1029	1821	0	1077	1609	0	1098	1802	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		27			8			227			6	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		638			518			530			613	
Travel Time (s)		14.5			11.8			12.0			13.9	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	9	187	58	172	166	16	74	40	227	36	34	6
Shared Lane Traffic (%)												
Lane Group Flow (vph)	9	245	0	172	182	0	74	267	0	36	40	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8		5	2			6	

**Lanes, Volumes, Timings**  
**27: Bass Dr & Hwy 6**

08/09/2023



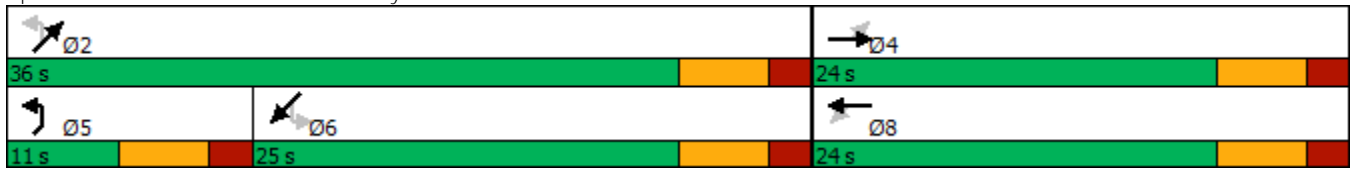
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	24.0	24.0		24.0	24.0		11.0	24.0		24.0	24.0	
Total Split (s)	24.0	24.0		24.0	24.0		11.0	36.0		25.0	25.0	
Total Split (%)	40.0%	40.0%		40.0%	40.0%		18.3%	60.0%		41.7%	41.7%	
Maximum Green (s)	18.0	18.0		18.0	18.0		5.0	30.0		19.0	19.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Max		Max	Max	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0			11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0			0		0	0	
Act Effect Green (s)	13.2	13.2		13.2	13.2		30.1	30.1		23.9	23.9	
Actuated g/C Ratio	0.24	0.24		0.24	0.24		0.54	0.54		0.43	0.43	
v/c Ratio	0.03	0.55		0.70	0.41		0.11	0.27		0.08	0.05	
Control Delay	15.4	21.0		35.2	19.6		7.7	2.9		14.4	12.4	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	15.4	21.0		35.2	19.6		7.7	2.9		14.4	12.4	
LOS	B	C		D	B		A	A		B	B	
Approach Delay		20.8			27.2			3.9			13.4	
Approach LOS		C			C			A			B	
Queue Length 50th (ft)	2	62		52	48		11	6		8	8	
Queue Length 95th (ft)	11	119		108	94		31	38		27	27	
Internal Link Dist (ft)		558			438			450			533	
Turn Bay Length (ft)	120			170			175			120		
Base Capacity (vph)	386	598		335	599		647	978		472	779	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.02	0.41		0.51	0.30		0.11	0.27		0.08	0.05	

Intersection Summary	
Area Type:	Other
Cycle Length:	60
Actuated Cycle Length:	55.4
Natural Cycle:	60
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.70
Intersection Signal Delay:	16.8
Intersection LOS:	B
Intersection Capacity Utilization:	61.2%
ICU Level of Service:	B
Analysis Period (min):	15

Lanes, Volumes, Timings  
 27: Bass Dr & Hwy 6






















08/09/2023

Splits and Phases: 27: Bass Dr & Hwy 6



Lanes, Volumes, Timings  
30: Bradford & Hwy 6

08/09/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	449	8	38	361	1	14	0	9	0	0	2
Future Volume (vph)	1	449	8	38	361	1	14	0	9	0	0	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	120		0	120		0	0		0	0		0
Storage Lanes	1		0	1		0	1		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.997							0.850		0.865	
Flt Protected	0.950			0.950			0.950					
Satd. Flow (prot)	1752	1839	0	1752	1845	0	1752	1845	1568	0	1596	0
Flt Permitted	0.950			0.950			0.950					
Satd. Flow (perm)	1752	1839	0	1752	1845	0	1752	1845	1568	0	1596	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		518			385			504			268	
Travel Time (s)		11.8			8.8			11.5			6.1	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	1	463	8	39	372	1	14	0	9	0	0	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	1	471	0	39	373	0	14	0	9	0	2	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	
<b>Intersection Summary</b>												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	44.9%						ICU Level of Service A					
Analysis Period (min)	15											

Lanes, Volumes, Timings  
33: I-95 BNB Ramp & Hwy 6

08/09/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SBL	SBR	NEL2	NEL	NER
Lane Configurations											
Traffic Volume (vph)	114	426	0	0	320	91	0	0	51	0	76
Future Volume (vph)	114	426	0	0	320	91	0	0	51	0	76
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	0		0	0	0		0	0
Storage Lanes	1		0	0		0	0	0		1	1
Taper Length (ft)	25			25			25			25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.970						0.850
Flt Protected	0.950								0.950		
Satd. Flow (prot)	1752	1845	0	0	1789	0	0	0	1752	0	1568
Flt Permitted	0.209								0.950		
Satd. Flow (perm)	386	1845	0	0	1789	0	0	0	1752	0	1568
Right Turn on Red			Yes			Yes					Yes
Satd. Flow (RTOR)					24						328
Link Speed (mph)		30			30		30			30	
Link Distance (ft)		1070			197		602			707	
Travel Time (s)		24.3			4.5		13.7			16.1	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	120	448	0	0	337	96	0	0	54	0	80
Shared Lane Traffic (%)											
Lane Group Flow (vph)	120	448	0	0	433	0	0	0	54	0	80
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Right	Left	Left	Right
Median Width(ft)		12			12		0			12	
Link Offset(ft)		0			0		0			0	
Crosswalk Width(ft)		16			16		16			16	
Two way Left Turn Lane											
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15	9	15	15	9
Number of Detectors	1	2			2				1		1
Detector Template	Left	Thru			Thru				Left		Right
Leading Detector (ft)	20	100			100				20		20
Trailing Detector (ft)	0	0			0				0		0
Detector 1 Position(ft)	0	0			0				0		0
Detector 1 Size(ft)	20	6			6				20		20
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex				Cl+Ex		Cl+Ex
Detector 1 Channel											
Detector 1 Extend (s)	0.0	0.0			0.0				0.0		0.0
Detector 1 Queue (s)	0.0	0.0			0.0				0.0		0.0
Detector 1 Delay (s)	0.0	0.0			0.0				0.0		0.0
Detector 2 Position(ft)		94			94						
Detector 2 Size(ft)		6			6						
Detector 2 Type		Cl+Ex			Cl+Ex						
Detector 2 Channel											
Detector 2 Extend (s)		0.0			0.0						
Turn Type	pm+pt	NA			NA				Perm		Perm
Protected Phases	7	4			8						



# Lanes, Volumes, Timings

## 33: I-95 BNB Ramp & Hwy 6

08/09/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SBL	SBR	NEL2	NEL	NER	
Permitted Phases	4								2	2		
Detector Phase	7	4							2	2		
Switch Phase												
Minimum Initial (s)	5.0	5.0							5.0	5.0		
Minimum Split (s)	11.0	24.0							24.0	24.0		
Total Split (s)	11.0	35.0							25.0	25.0		
Total Split (%)	18.3%	58.3%							41.7%	41.7%		
Maximum Green (s)	5.0	29.0							19.0	19.0		
Yellow Time (s)	4.0	4.0							4.0	4.0		
All-Red Time (s)	2.0	2.0							2.0	2.0		
Lost Time Adjust (s)	0.0	0.0							0.0	0.0		
Total Lost Time (s)	6.0	6.0							6.0	6.0		
Lead/Lag	Lead				Lag							
Lead-Lag Optimize?	Yes				Yes							
Vehicle Extension (s)	3.0	3.0							3.0	3.0		
Recall Mode	None	None							Max	Max		
Walk Time (s)	7.0								7.0	7.0		
Flash Dont Walk (s)	11.0								11.0	11.0		
Pedestrian Calls (#/hr)	0								0	0		
Act Effct Green (s)	24.3	24.3							19.4	19.4		
Actuated g/C Ratio	0.43	0.43							0.35	0.35		
v/c Ratio	0.41	0.56							0.09	0.11		
Control Delay	13.1	14.2							15.0	0.3		
Queue Delay	0.0	0.0							0.0	0.0		
Total Delay	13.1	14.2							15.0	0.3		
LOS	B	B							B	A		
Approach Delay	14.0								6.2			
Approach LOS	B								A			
Queue Length 50th (ft)	22	103							14	0		
Queue Length 95th (ft)	47	173							35	0		
Internal Link Dist (ft)	990						522		627			
Turn Bay Length (ft)	200											
Base Capacity (vph)	292	975							606	757		
Starvation Cap Reductn	0	0							0	0		
Spillback Cap Reductn	0	0							0	0		
Storage Cap Reductn	0	0							0	0		
Reduced v/c Ratio	0.41	0.46							0.09	0.11		

### Intersection Summary

Area Type: Other  
 Cycle Length: 60  
 Actuated Cycle Length: 56  
 Natural Cycle: 60  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 0.82  
 Intersection Signal Delay: 20.3  
 Intersection Capacity Utilization 41.0%  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.

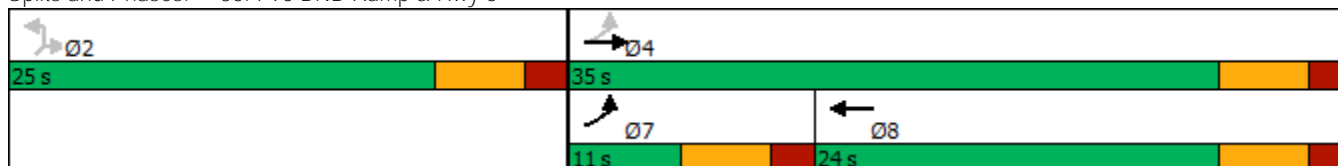
# Lanes, Volumes, Timings

## 33: I-95 BNB Ramp & Hwy 6

08/09/2023

Queue shown is maximum after two cycles.

Splits and Phases: 33: I-95 BNB Ramp & Hwy 6



# Lanes, Volumes, Timings

## 36: Britain & Hwy 6

08/09/2023






















Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	28	457	10	21	396	26	2	0	20	26	0	20
Future Volume (vph)	28	457	10	21	396	26	2	0	20	26	0	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	50		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.997			0.991			0.877				0.941
Flt Protected	0.950			0.950				0.996				0.973
Satd. Flow (prot)	1752	1839	0	1752	1812	0	0	1611	0	0	1689	0
Flt Permitted	0.950			0.950				0.996				0.973
Satd. Flow (perm)	1752	1839	0	1752	1812	0	0	1611	0	0	1689	0
Link Speed (mph)		30			30			30				30
Link Distance (ft)		385			221			341				104
Travel Time (s)		8.8			5.0			7.8				2.4
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	3%	3%	3%	3%	4%	3%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	29	476	10	22	413	27	2	0	21	27	0	21
Shared Lane Traffic (%)												
Lane Group Flow (vph)	29	486	0	22	440	0	0	23	0	0	48	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			0				0
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop				Stop

### Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	40.7%
Analysis Period (min)	15
	ICU Level of Service A

Lanes, Volumes, Timings  
42: St Paul Rd & US 301/Gas Station

08/09/2023

												
Lane Group	NBL	NBT	NBR	SBU	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT
Lane Configurations												
Traffic Volume (vph)	11	15	106	7	16	1	0	1	1	3	55	2
Future Volume (vph)	11	15	106	7	16	1	0	1	1	3	55	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	1.00	0.95
Frt			0.850						0.910			0.880
Flt Protected		0.979				0.954			0.990		0.950	
Satd. Flow (prot)	0	1755	1524	0	0	1710	0	0	3068	0	1703	2909
Flt Permitted		0.979				0.954			0.990		0.950	
Satd. Flow (perm)	0	1755	1524	0	0	1710	0	0	3068	0	1703	2909
Link Speed (mph)		30				30			30			30
Link Distance (ft)		420				197			822			934
Travel Time (s)		9.5				4.5			18.7			21.2
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%
Bus Blockages (#/hr)	0	0	0	6	0	0	0	0	0	0	0	0
Adj. Flow (vph)	13	17	122	8	18	1	0	1	1	3	63	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	30	122	0	0	27	0	0	5	0	63	10
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	R NA	Left	Left	Right	Left	Left	Right	Left	Left
Median Width(ft)		0				0			12			12
Link Offset(ft)		0				0			0			0
Crosswalk Width(ft)		16				16			16			16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	9	15		9	15		9	15	
Sign Control		Stop				Stop			Free			Free
<b>Intersection Summary</b>												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	24.4%					ICU Level of Service A						
Analysis Period (min)	15											

**Lanes, Volumes, Timings**  
**42: St Paul Rd & US 301/Gas Station**

08/09/2023



Lane Group	SWR
Lane Configurations	
Traffic Volume (vph)	7
Future Volume (vph)	7
Ideal Flow (vphpl)	1900
Lane Util. Factor	0.95
Frt	
Flt Protected	
Satd. Flow (prot)	0
Flt Permitted	
Satd. Flow (perm)	0
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	0.87
Heavy Vehicles (%)	10%
Bus Blockages (#/hr)	0
Adj. Flow (vph)	8
Shared Lane Traffic (%)	
Lane Group Flow (vph)	0
Enter Blocked Intersection	No
Lane Alignment	Right
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	1.00
Turning Speed (mph)	9
Sign Control	
Intersection Summary	

Lanes, Volumes, Timings  
44: US 301 & I-95 SB Ramp

08/09/2023



Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↔↔			↔						↔↔	
Traffic Volume (vph)	54	127	0	0	12	62	0	0	0	12	0	6
Future Volume (vph)	54	127	0	0	12	62	0	0	0	12	0	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr <sub>t</sub>					0.887						0.955	
Fl <sub>t</sub> Protected		0.985									0.968	
Satd. Flow (prot)	0	3355	0	0	1590	0	0	0	0	0	1657	0
Fl <sub>t</sub> Permitted		0.985									0.968	
Satd. Flow (perm)	0	3355	0	0	1590	0	0	0	0	0	1657	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		341			420			593			580	
Travel Time (s)		7.8			9.5			13.5			13.2	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles (%)	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%
Adj. Flow (vph)	63	148	0	0	14	72	0	0	0	14	0	7
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	211	0	0	86	0	0	0	0	0	21	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	19.7%
ICU Level of Service	A
Analysis Period (min)	15

Lanes, Volumes, Timings  
 47: I-95 NB Ramp/US 301 & S-14-400

08/09/2023



Lane Group	WBL	WBR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Volume (vph)	6	55	94	82	25	8
Future Volume (vph)	6	55	94	82	25	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.878		0.937			
Flt Protected	0.995					0.964
Satd. Flow (prot)	1537	0	1648	0	0	1696
Flt Permitted	0.995					0.964
Satd. Flow (perm)	1537	0	1648	0	0	1696
Link Speed (mph)	30		30			30
Link Distance (ft)	708		346			378
Travel Time (s)	16.1		7.9			8.6
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83
Heavy Vehicles (%)	8%	8%	8%	8%	8%	8%
Adj. Flow (vph)	7	66	113	99	30	10
Shared Lane Traffic (%)						
Lane Group Flow (vph)	73	0	212	0	0	40
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	27.0%
Analysis Period (min)	15
	ICU Level of Service A

Lanes, Volumes, Timings  
49: Gordon Rd & S-14-400

08/09/2023



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	63	26	23	3	2	26
Future Volume (vph)	63	26	23	3	2	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.960			0.873		
Flt Protected	0.966			0.958		
Satd. Flow (prot)	1694	0	0	1750	1595	0
Flt Permitted	0.966			0.958		
Satd. Flow (perm)	1694	0	0	1750	1595	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	708			417	425	
Travel Time (s)	16.1			9.5	9.7	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%
Adj. Flow (vph)	74	31	27	4	2	31
Shared Lane Traffic (%)						
Lane Group Flow (vph)	105	0	0	31	33	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	


















Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	19.8%
Analysis Period (min)	15
	ICU Level of Service A



Lanes, Volumes, Timings  
54: US 301 & Buff Blvd/Hotel

08/09/2023

												
Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	4	1	125	11	3	1	0	58	9	113	51	3
Future Volume (vph)	4	1	125	11	3	1	0	58	9	113	51	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.992			0.981			0.997	
Flt Protected		0.960			0.965						0.967	
Satd. Flow (prot)	0	1754	1553	0	1749	0	0	1792	0	0	1761	0
Flt Permitted		0.960			0.965						0.967	
Satd. Flow (perm)	0	1754	1553	0	1749	0	0	1792	0	0	1761	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		3372			202			760			626	
Travel Time (s)		76.6			4.6			17.3			14.2	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Adj. Flow (vph)	5	1	147	13	4	1	0	68	11	133	60	4
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	6	147	0	18	0	0	79	0	0	197	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	
<b>Intersection Summary</b>												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	29.9%						ICU Level of Service A					
Analysis Period (min)	15											

# Lanes, Volumes, Timings

## 55: Buff Blvd

08/09/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	137	2	55	0	0	0	0	57	10	63	55	0
Future Volume (vph)	137	2	55	0	0	0	0	57	10	63	55	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	150		0
Storage Lanes	0		0	0		0	0		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.962						0.981				
Flt Protected		0.966								0.950		
Satd. Flow (prot)	0	1509	0	0	0	0	0	1593	0	1543	1624	0
Flt Permitted		0.966								0.950		
Satd. Flow (perm)	0	1509	0	0	0	0	0	1593	0	1543	1624	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		596			536			930			1070	
Travel Time (s)		13.5			12.2			21.1			24.3	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	17%	17%	17%	17%	17%	17%	17%	17%	17%	17%	17%	17%
Adj. Flow (vph)	157	2	63	0	0	0	0	66	11	72	63	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	222	0	0	0	0	0	77	0	72	63	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

### Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	27.9%
Analysis Period (min)	15
	ICU Level of Service A

Lanes, Volumes, Timings  
58: Buff Blvd & I-95 SB Ramp

08/09/2023



















Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↔			↔			↔	
Traffic Volume (vph)	0	0	0	10	0	74	24	139	0	0	114	133
Future Volume (vph)	0	0	0	10	0	74	24	139	0	0	114	133
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.95	0.95
Frt					0.881						0.919	
Flt Protected					0.994			0.993				
Satd. Flow (prot)	0	0	0	0	1280	0	0	2757	0	0	2552	0
Flt Permitted					0.994			0.993				
Satd. Flow (perm)	0	0	0	0	1280	0	0	2757	0	0	2552	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		723			820			1070			3372	
Travel Time (s)		16.4			18.6			24.3			76.6	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%
Adj. Flow (vph)	0	0	0	11	0	81	26	153	0	0	125	146
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	92	0	0	179	0	0	271	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	27.1%
ICU Level of Service	A
Analysis Period (min)	15

Lanes, Volumes, Timings  
66: US 301 & Liberty Hill

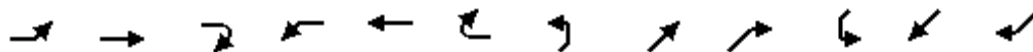
08/09/2023

												
Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	0	3	2	4	4	30	50	50	2	4	28	5
Future Volume (vph)	0	3	2	4	4	30	50	50	2	4	28	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr <sub>t</sub>		0.946			0.896			0.998			0.981	
Fl <sub>t</sub> Protected					0.994			0.976			0.994	
Satd. Flow (prot)	0	1680	0	0	1581	0	0	1730	0	0	1732	0
Fl <sub>t</sub> Permitted					0.994			0.976			0.994	
Satd. Flow (perm)	0	1680	0	0	1581	0	0	1730	0	0	1732	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		717			491			738			807	
Travel Time (s)		16.3			11.2			16.8			18.3	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%
Adj. Flow (vph)	0	3	2	5	5	34	57	57	2	5	32	6
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	5	0	0	44	0	0	116	0	0	43	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	
<b>Intersection Summary</b>												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	24.7%					ICU Level of Service A						
Analysis Period (min)	15											

# Lanes, Volumes, Timings

## 71: Mall St & Hwy 6

08/09/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	19	478	9	1	355	9	11	1	3	14	0	39
Future Volume (vph)	19	478	9	1	355	9	11	1	3	14	0	39
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.998			0.996			0.973			0.901	
Flt Protected		0.998		0.950				0.965			0.987	
Satd. Flow (prot)	0	1855	0	1770	1855	0	0	1749	0	0	1657	0
Flt Permitted		0.998		0.950				0.965			0.987	
Satd. Flow (perm)	0	1855	0	1770	1855	0	0	1749	0	0	1657	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		197			931			214			176	
Travel Time (s)		4.5			21.2			4.9			4.0	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	20	498	9	1	370	9	11	1	3	15	0	41
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	527	0	1	379	0	0	15	0	0	56	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

### Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	51.1%
Analysis Period (min)	15
	ICU Level of Service A

**Year 2029 AM**

**TRANSYSTEMS**

# HCS Freeway Diverge Report

## Project Information

Analyst	Transystems	Date	8/9/2023
Agency	SCDOT	Analysis Year	Opening (2029)
Jurisdiction		Time Analyzed	AM
Project Description	I-95 NB Exit to Hwy 6	Units	U.S. Customary

## Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	70.5	45.0
Segment Length (L) / Deceleration Length (LD), ft	1500	225
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

## Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	1.000	1.000
Capacity Adj. Factor for CAVs, CAFCAV	1.000	-

## Demand and Capacity

Demand Volume (Vi), veh/h	672	80
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	25.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.800	0.962
Flow Rate (vi), pc/h	894	88
Capacity (cmd), pc/h	4800	2100
Adjusted Capacity (cmd), pc/h	4800	2100
Volume-to-Capacity Ratio (v/c)	0.19	0.04

## Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (No), ln	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (DS)	0.306
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influence Area Speed (SR), mi/h	61.8
Prop. Freeway Vehicles in Lane 1 and 2 (PFD)	1.000	Outer Lanes Freeway Speed (SO), mi/h	77.3
Flow in Lanes 1 and 2 (v12), pc/h	894	Ramp Junction Speed (S), mi/h	61.8

Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	7.2
Level of Service (LOS)	A	Density in Ramp Influence Area (DR), pc/mi/ln	9.9



# HCS Freeway Merge Report

## Project Information

Analyst	TranSystems	Date	3/16/2023
Agency	SCDOT	Analysis Year	Opening (2029)
Jurisdiction		Time Analyzed	AM
Project Description	I-95 NB On Ramp from Hwy 6	Units	U.S. Customary

## Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	70.5	45.0
Segment Length (L) / Acceleration Length (LA), ft	955	800
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

## Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAFCAV	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

## Demand and Capacity

Demand Volume (Vi), veh/h	672	138
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	25.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.800	0.962
Flow Rate (vi), pc/h	894	153
Capacity (cmd), pc/h	4800	2100
Adjusted Capacity (cmd), pc/h	4800	2100
Volume-to-Capacity Ratio (v/c)	0.22	0.07

## Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (No), ln	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (MS)	0.260
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	63.1
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	1.000	Outer Lanes Freeway Speed (SO), mi/h	70.5
Flow in Lanes 1 and 2 (v12), pc/h	894	Ramp Junction Speed (S), mi/h	63.1

Flow Entering Ramp-Infl. Area (vR12), pc/h	1047	Average Density (D), pc/mi/ln	8.3
Level of Service (LOS)	A	Density in Ramp Influence Area (DR), pc/mi/ln	8.6

# HCS Freeway Diverge Report

## Project Information

Analyst	Transystems	Date	8/10/2023
Agency	SCDOT	Analysis Year	Opening (2029)
Jurisdiction		Time Analyzed	AM
Project Description	I-95 NB Exit to NB Rest Stop	Units	U.S. Customary

## Geometric Data

	Freeway	Ramp
Number of Lanes (N), In	2	1
Free-Flow Speed (FFS), mi/h	70.5	45.0
Segment Length (L) / Deceleration Length (LD), ft	955	225
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

## Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	1.000	1.000
Capacity Adj. Factor for CAVs, CAFCAV	1.000	-

## Demand and Capacity

Demand Volume (Vi), veh/h	765	45
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	25.00	43.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.800	0.699
Flow Rate (vi), pc/h	1017	68
Capacity (cmd), pc/h	4800	2100
Adjusted Capacity (cmd), pc/h	4800	2100
Volume-to-Capacity Ratio (v/c)	0.21	0.03

## Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (No), In	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (DS)	0.304
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influence Area Speed (SR), mi/h	61.8
Prop. Freeway Vehicles in Lane 1 and 2 (PFD)	1.000	Outer Lanes Freeway Speed (SO), mi/h	77.3
Flow in Lanes 1 and 2 (v12), pc/h	1017	Ramp Junction Speed (S), mi/h	61.8

Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	8.2
Level of Service (LOS)	B	Density in Ramp Influence Area (DR), pc/mi/ln	11.0

# HCS Freeway Merge Report

## Project Information

Analyst	TranSystems	Date	8/10/2023
Agency	SCDOT	Analysis Year	Opening (2029)
Jurisdiction		Time Analyzed	AM
Project Description	I-95 NB On Ramp from NB Rest Stop	Units	U.S. Customary

## Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	70.5	45.0
Segment Length (L) / Acceleration Length (LA), ft	1500	800
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

## Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAFCAV	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

## Demand and Capacity

Demand Volume (Vi), veh/h	765	45
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	25.00	43.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.800	0.699
Flow Rate (vi), pc/h	1017	68
Capacity (cmd), pc/h	4800	2100
Adjusted Capacity (cmd), pc/h	4800	2100
Volume-to-Capacity Ratio (v/c)	0.23	0.03

## Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (NO), ln	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (MS)	0.261
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	63.1
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	1.000	Outer Lanes Freeway Speed (SO), mi/h	70.5
Flow in Lanes 1 and 2 (v12), pc/h	1017	Ramp Junction Speed (S), mi/h	63.1

Flow Entering Ramp-Infl. Area (vR12), pc/h	1085	Average Density (D), pc/mi/ln	8.6
Level of Service (LOS)	A	Density in Ramp Influence Area (DR), pc/mi/ln	9.0

# HCS Freeway Diverge Report

## Project Information

Analyst	Transystems	Date	8/9/2023
Agency	SCDOT	Analysis Year	Opening (2029)
Jurisdiction		Time Analyzed	AM
Project Description	I-95 NB Exit to US 15	Units	U.S. Customary

## Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	70.5	45.0
Segment Length (L) / Deceleration Length (LD), ft	1500	225
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

## Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	1.000	1.000
Capacity Adj. Factor for CAVs, CAFCAV	1.000	-

## Demand and Capacity

Demand Volume (Vi), veh/h	738	72
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	25.00	6.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.800	0.943
Flow Rate (vi), pc/h	981	81
Capacity (cmd), pc/h	4800	2100
Adjusted Capacity (cmd), pc/h	4800	2100
Volume-to-Capacity Ratio (v/c)	0.20	0.04

## Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (No), ln	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (DS)	0.305
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influence Area Speed (SR), mi/h	61.8
Prop. Freeway Vehicles in Lane 1 and 2 (PFD)	1.000	Outer Lanes Freeway Speed (SO), mi/h	77.3
Flow in Lanes 1 and 2 (v12), pc/h	981	Ramp Junction Speed (S), mi/h	61.8

Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	7.9
Level of Service (LOS)	B	Density in Ramp Influence Area (DR), pc/mi/ln	10.7



# HCS Freeway Merge Report

## Project Information

Analyst	TranSystems	Date	8/10/2023
Agency	SCDOT	Analysis Year	Opening (2029)
Jurisdiction		Time Analyzed	AM
Project Description	I-95 NB On Ramp from US 15	Units	U.S. Customary

## Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	70.5	45.0
Segment Length (L) / Acceleration Length (LA), ft	1500	800
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

## Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAFCAV	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

## Demand and Capacity

Demand Volume (Vi), veh/h	738	21
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	25.00	6.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.800	0.943
Flow Rate (vi), pc/h	981	24
Capacity (cmd), pc/h	4800	2100
Adjusted Capacity (cmd), pc/h	4800	2100
Volume-to-Capacity Ratio (v/c)	0.21	0.01

## Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (No), ln	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (MS)	0.260
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	63.1
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	1.000	Outer Lanes Freeway Speed (SO), mi/h	70.5
Flow in Lanes 1 and 2 (v12), pc/h	981	Ramp Junction Speed (S), mi/h	63.1

Flow Entering Ramp-Infl. Area (vR12), pc/h	1005	Average Density (D), pc/mi/ln	8.0
Level of Service (LOS)	A	Density in Ramp Influence Area (DR), pc/mi/ln	8.4

**Design Analysis Table**

Freeway Lanes, ln	2	2	3	3	4	4	5	5
Ramp Lanes, ln	1	2	1	2	1	2	1	2
Density, pc/mi/ln	8.0	7.7	5.1	5.0	3.7	3.7	2.3	2.3
LOS	A	A	A	A	A	A	A	A

# HCS Freeway Diverge Report

## Project Information

Analyst	Transystems	Date	8/9/2023
Agency	SCDOT	Analysis Year	Opening (2029)
Jurisdiction		Time Analyzed	AM
Project Description	I-95 NB Exit to Buff Blvd	Units	U.S. Customary

## Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	70.5	45.0
Segment Length (L) / Deceleration Length (LD), ft	1500	225
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

## Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	1.000	1.000
Capacity Adj. Factor for CAVs, CAFCAV	1.000	-

## Demand and Capacity

Demand Volume (Vi), veh/h	619	140
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	25.00	18.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.800	0.847
Flow Rate (vi), pc/h	823	176
Capacity (cmd), pc/h	4800	2100
Adjusted Capacity (cmd), pc/h	4800	2100
Volume-to-Capacity Ratio (v/c)	0.17	0.08

## Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (No), ln	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (DS)	0.314
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influence Area Speed (SR), mi/h	61.6
Prop. Freeway Vehicles in Lane 1 and 2 (PFD)	1.000	Outer Lanes Freeway Speed (SO), mi/h	77.3
Flow in Lanes 1 and 2 (v12), pc/h	823	Ramp Junction Speed (S), mi/h	61.6

Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	6.7
Level of Service (LOS)	A	Density in Ramp Influence Area (DR), pc/mi/ln	9.3

# HCS Freeway Merge Report

## Project Information

Analyst	TranSystems	Date	8/9/2023
Agency	SCDOT	Analysis Year	Opening (2029)
Jurisdiction		Time Analyzed	AM
Project Description	I-95 NB On Ramp from Buff Blvd	Units	U.S. Customary

## Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	70.5	45.0
Segment Length (L) / Acceleration Length (LA), ft	1500	800
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

## Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAFCAV	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

## Demand and Capacity

Demand Volume (Vi), veh/h	619	89
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	25.00	18.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.800	0.847
Flow Rate (vi), pc/h	823	112
Capacity (cmd), pc/h	4800	2100
Adjusted Capacity (cmd), pc/h	4800	2100
Volume-to-Capacity Ratio (v/c)	0.19	0.05

## Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (No), ln	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (MS)	0.259
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	63.1
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	1.000	Outer Lanes Freeway Speed (SO), mi/h	70.5
Flow in Lanes 1 and 2 (v12), pc/h	823	Ramp Junction Speed (S), mi/h	63.1

Flow Entering Ramp-Infl. Area (vR12), pc/h	935	Average Density (D), pc/mi/ln	7.4
Level of Service (LOS)	A	Density in Ramp Influence Area (DR), pc/mi/ln	7.8

### Design Analysis Table

Freeway Lanes, ln	2	2	3	3	4	4	5	5
Ramp Lanes, ln	1	2	1	2	1	2	1	2
Density, pc/mi/ln	7.4	7.2	4.8	4.7	3.5	3.4	2.3	2.2
LOS	A	A	A	A	A	A	A	A

# HCS Freeway Diverge Report

## Project Information

Analyst	Transystems	Date	8/10/2023
Agency	SCDOT	Analysis Year	Opening (2029)
Jurisdiction		Time Analyzed	AM
Project Description	I-95 SB Exit to Buff Blvd	Units	U.S. Customary

## Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	70.5	45.0
Segment Length (L) / Deceleration Length (LD), ft	1500	225
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

## Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	1.000	1.000
Capacity Adj. Factor for CAVs, CAFCAV	1.000	-

## Demand and Capacity

Demand Volume (Vi), veh/h	737	95
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	20.00	23.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.833	0.813
Flow Rate (vi), pc/h	941	124
Capacity (cmd), pc/h	4800	2100
Adjusted Capacity (cmd), pc/h	4800	2100
Volume-to-Capacity Ratio (v/c)	0.20	0.06

## Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (No), ln	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (DS)	0.309
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influence Area Speed (SR), mi/h	61.7
Prop. Freeway Vehicles in Lane 1 and 2 (PFD)	1.000	Outer Lanes Freeway Speed (SO), mi/h	77.3
Flow in Lanes 1 and 2 (v12), pc/h	941	Ramp Junction Speed (S), mi/h	61.7

Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	7.6
Level of Service (LOS)	B	Density in Ramp Influence Area (DR), pc/mi/ln	10.3



# HCS Freeway Merge Report

## Project Information

Analyst	TranSystems	Date	8/9/2023
Agency	SCDOT	Analysis Year	Opening (2029)
Jurisdiction		Time Analyzed	AM
Project Description	I-95 SB On Ramp from Buff Blvd	Units	U.S. Customary

## Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	70.5	45.0
Segment Length (L) / Acceleration Length (LA), ft	1500	800
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

## Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAFCAV	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

## Demand and Capacity

Demand Volume (Vi), veh/h	737	201
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	20.00	23.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.833	0.813
Flow Rate (vi), pc/h	941	263
Capacity (cmd), pc/h	4800	2100
Adjusted Capacity (cmd), pc/h	4800	2100
Volume-to-Capacity Ratio (v/c)	0.25	0.13

## Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (No), ln	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (MS)	0.262
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	63.0
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	1.000	Outer Lanes Freeway Speed (SO), mi/h	70.5
Flow in Lanes 1 and 2 (v12), pc/h	941	Ramp Junction Speed (S), mi/h	63.0

Flow Entering Ramp-Infl. Area (vR12), pc/h	1204	Average Density (D), pc/mi/ln	9.6
Level of Service (LOS)	A	Density in Ramp Influence Area (DR), pc/mi/ln	9.8

### Design Analysis Table

Freeway Lanes, ln	2	2	3	3	4	4	5	5
Ramp Lanes, ln	1	2	1	2	1	2	1	2
Density, pc/mi/ln	9.6	9.3	6.2	6.0	4.5	4.5	3.0	3.0
LOS	A	A	A	A	A	A	A	A

# HCS Freeway Diverge Report

## Project Information

Analyst	Transystems	Date	8/9/2023
Agency	SCDOT	Analysis Year	Opening (2029)
Jurisdiction		Time Analyzed	AM
Project Description	I-95 SB Exit to US 15	Units	U.S. Customary

## Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	70.5	45.0
Segment Length (L) / Deceleration Length (LD), ft	1500	225
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

## Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	1.000	1.000
Capacity Adj. Factor for CAVs, CAFCAV	1.000	-

## Demand and Capacity

Demand Volume (Vi), veh/h	931	7
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	20.00	10.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.833	0.909
Flow Rate (vi), pc/h	1189	8
Capacity (cmd), pc/h	4800	2100
Adjusted Capacity (cmd), pc/h	4800	2100
Volume-to-Capacity Ratio (v/c)	0.25	0.00

## Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (No), ln	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (DS)	0.299
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influence Area Speed (SR), mi/h	62.0
Prop. Freeway Vehicles in Lane 1 and 2 (PFD)	1.000	Outer Lanes Freeway Speed (SO), mi/h	77.3
Flow in Lanes 1 and 2 (v12), pc/h	1189	Ramp Junction Speed (S), mi/h	62.0

Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	9.6
Level of Service (LOS)	B	Density in Ramp Influence Area (DR), pc/mi/ln	12.5

# HCS Freeway Merge Report

## Project Information

Analyst	TranSystems	Date	8/10/2023
Agency	SCDOT	Analysis Year	Opening (2029)
Jurisdiction		Time Analyzed	AM
Project Description	I-95 SB On Ramp from US 15	Units	U.S. Customary

## Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	70.5	45.0
Segment Length (L) / Acceleration Length (LA), ft	1500	800
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

## Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAFCAV	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

## Demand and Capacity

Demand Volume (Vi), veh/h	931	139
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	20.00	10.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.833	0.909
Flow Rate (vi), pc/h	1189	163
Capacity (cmd), pc/h	4800	2100
Adjusted Capacity (cmd), pc/h	4800	2100
Volume-to-Capacity Ratio (v/c)	0.28	0.08

## Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (No), ln	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (MS)	0.264
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	63.0
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	1.000	Outer Lanes Freeway Speed (SO), mi/h	70.5
Flow in Lanes 1 and 2 (v12), pc/h	1189	Ramp Junction Speed (S), mi/h	63.0

Flow Entering Ramp-Infl. Area (vR12), pc/h	1352	Average Density (D), pc/mi/ln	10.7
Level of Service (LOS)	B	Density in Ramp Influence Area (DR), pc/mi/ln	11.0

### Design Analysis Table

Freeway Lanes, ln	2	2	3	3	4	4	5	5
Ramp Lanes, ln	1	2	1	2	1	2	1	2
Density, pc/mi/ln	10.7	10.4	6.9	6.7	5.1	5.0	3.3	3.2
LOS	B	A	A	A	A	A	A	A

# HCS Freeway Diverge Report

## Project Information

Analyst	Transystems	Date	8/10/2023
Agency	SCDOT	Analysis Year	Opening (2029)
Jurisdiction		Time Analyzed	AM
Project Description	I-95 SB Exit to SB Rest Stop	Units	U.S. Customary

## Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	70.5	45.0
Segment Length (L) / Deceleration Length (LD), ft	1500	225
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

## Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	1.000	1.000
Capacity Adj. Factor for CAVs, CAFCAV	1.000	-

## Demand and Capacity

Demand Volume (Vi), veh/h	1016	54
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	20.00	37.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.833	0.730
Flow Rate (vi), pc/h	1298	79
Capacity (cmd), pc/h	4800	2100
Adjusted Capacity (cmd), pc/h	4800	2100
Volume-to-Capacity Ratio (v/c)	0.27	0.04

## Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (No), ln	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (DS)	0.305
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influence Area Speed (SR), mi/h	61.8
Prop. Freeway Vehicles in Lane 1 and 2 (PFD)	1.000	Outer Lanes Freeway Speed (SO), mi/h	77.3
Flow in Lanes 1 and 2 (v12), pc/h	1298	Ramp Junction Speed (S), mi/h	61.8

Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	10.5
Level of Service (LOS)	B	Density in Ramp Influence Area (DR), pc/mi/ln	13.4



# HCS Freeway Weaving Report

## Project Information

Analyst	TranSystems	Date	8/10/2023
Agency	SCDOT	Analysis Year	Opening (2029)
Jurisdiction		Time Analyzed	AM
Project Description	I-95 SB Weave bt SB Rest Stop and Hwy 6	Units	U.S. Customary

## Geometric Data

Number of Lanes (N), ln	3	Segment Type	Freeway
Segment Length (Ls), ft	775	Number of Maneuver Lanes (NWL), ln	2
Weaving Configuration	One-Sided	Ramp-to-Freeway Lane Changes (LCRF), lc	1
Terrain Type	Level	Freeway-to-Ramp Lane Changes (LCFR), lc	1
Percent Grade, %	-	Ramp-to-Ramp Lane Changes (LCRR), lc	0
Interchange Density (ID), int/mi	0.80	Cross Weaving Managed Lane	No

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor for CAVs, CAFCAV	1.000
Proportion of CAVs in Traffic Stream	0	Final Capacity Adjustment Factor (CAF)	1.000

## Demand and Capacity

	FF	RF	RR	FR
Demand Volume (Vi), veh/h	1016	54	0	213
Peak Hour Factor (PHF)	0.94	0.94	0.94	0.94
Total Trucks, %	20.00	37.00	0.00	4.00
Heavy Vehicle Adjustment Factor (fHV)	0.833	0.730	1.000	0.962
Flow Rate (vi), pc/h	1298	79	0	236
Weaving Flow Rate (vw), pc/h	315	Ideal Conditions Capacity (ciFL), pc/h/ln		2400
Non-Weaving Flow Rate (vNW), pc/h	1298	Density-Based Capacity (ciWL × N × fHV), veh/h		5376
Total Flow Rate (v), pc/h	1613	Demand Flow-Based Capacity (ciW × fHV), veh/h		10422
Volume Ratio (VR)	0.195	Weaving Area Capacity (cW), veh/h		5376
Minimum Lane Change Rate (LCMIN), lc/h	315	Adjusted Weaving Area Capacity (cWA), veh/h		5376
Maximum Weaving Length (LMAX), ft	4485	Demand-to-Capacity Ratio (v/c)		0.25

## Speed and Density

Non-Weaving Vehicle Index (INW)	80	Average Weaving Speed (SW), mi/h	66.5
Non-Weaving Lane Change Rate (LCNW), lc/h	110	Average Non-Weaving Speed (SNW), mi/h	70.6
Weaving Lane Change Rate (LCW), lc/h	437	Average Speed (S), mi/h	69.8
Weaving Lane Change Rate (LCAII), lc/h	547	Density (D), pc/mi/ln	7.7
Weaving Intensity Factor (W)	0.172	Level of Service (LOS)	A

# HCS Freeway Merge Report

## Project Information

Analyst	TranSystems	Date	8/10/2023
Agency	SCDOT	Analysis Year	Opening (2029)
Jurisdiction		Time Analyzed	AM
Project Description	I-95 SB On Ramp from Hwy 6	Units	U.S. Customary

## Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	70.5	45.0
Segment Length (L) / Acceleration Length (LA), ft	1500	800
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

## Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAFCAV	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

## Demand and Capacity

Demand Volume (Vi), veh/h	857	131
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	20.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.833	0.962
Flow Rate (vi), pc/h	1094	145
Capacity (cmd), pc/h	4800	2100
Adjusted Capacity (cmd), pc/h	4800	2100
Volume-to-Capacity Ratio (v/c)	0.26	0.07

## Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (No), ln	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (MS)	0.262
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	63.0
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	1.000	Outer Lanes Freeway Speed (SO), mi/h	70.5
Flow in Lanes 1 and 2 (v12), pc/h	1094	Ramp Junction Speed (S), mi/h	63.0

Flow Entering Ramp-Infl. Area (vR12), pc/h	1239	Average Density (D), pc/mi/ln	9.8
Level of Service (LOS)	B	Density in Ramp Influence Area (DR), pc/mi/ln	10.1

# HCS Basic Freeway Report

## Project Information

Analyst	Transystems	Date	8/9/2023
Agency	SCDOT	Analysis Year	Opening (2029)
Jurisdiction		Time Analyzed	AM
Project Description	I-95 NB south of Hwy 6	Units	U.S. Customary

## Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Rolling
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.0	Total Ramp Density (TRD), ramps/mi	1.50
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.5
Right-Side Lateral Clearance, ft	10		

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	1.000
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAFCAV	1.000

## Demand and Capacity

Demand Volume (V), veh/h	752	Heavy Vehicle Adjustment Factor (fhv)	0.667
Peak Hour Factor (PHF)	0.94	Flow Rate (vp), pc/h/ln	600
Total Trucks, %	25.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.25
Passenger Car Equivalent (ET)	3.00		

## Speed and Density

Lane Width Adjustment (fLW)	0.0	Average Speed (S), mi/h	70.5
Right-Side Lateral Clearance Adj. (fRLC)	0.0	Density (D), pc/mi/ln	8.5
Total Ramp Density Adjustment	4.5	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFSadj), mi/h	70.5		

# HCS Basic Freeway Report

## Project Information

Analyst	Transystems	Date	8/9/2023
Agency	SCDOT	Analysis Year	Opening (2029)
Jurisdiction		Time Analyzed	AM
Project Description	I-95 NB south of US 15	Units	U.S. Customary

## Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Rolling
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.0	Total Ramp Density (TRD), ramps/mi	1.50
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.5
Right-Side Lateral Clearance, ft	10		

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	1.000
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAFCAV	1.000

## Demand and Capacity

Demand Volume (V), veh/h	810	Heavy Vehicle Adjustment Factor (fhv)	0.667
Peak Hour Factor (PHF)	0.94	Flow Rate (vp), pc/h/ln	646
Total Trucks, %	25.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.27
Passenger Car Equivalent (ET)	3.00		

## Speed and Density

Lane Width Adjustment (fLW)	0.0	Average Speed (S), mi/h	70.5
Right-Side Lateral Clearance Adj. (fRLC)	0.0	Density (D), pc/mi/ln	9.2
Total Ramp Density Adjustment	4.5	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFSadj), mi/h	70.5		

# HCS Basic Freeway Report

## Project Information

Analyst	Transystems	Date	8/9/2023
Agency	SCDOT	Analysis Year	Opening (2029)
Jurisdiction		Time Analyzed	AM
Project Description	I-95 NB south of Buff Blvd	Units	U.S. Customary

## Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Rolling
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.0	Total Ramp Density (TRD), ramps/mi	1.50
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.5
Right-Side Lateral Clearance, ft	10		

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	1.000
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAFCAV	1.000

## Demand and Capacity

Demand Volume (V), veh/h	759	Heavy Vehicle Adjustment Factor (fhv)	0.667
Peak Hour Factor (PHF)	0.94	Flow Rate (vp), pc/h/ln	606
Total Trucks, %	25.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.25
Passenger Car Equivalent (ET)	3.00		

## Speed and Density

Lane Width Adjustment (fLW)	0.0	Average Speed (S), mi/h	70.5
Right-Side Lateral Clearance Adj. (fRLC)	0.0	Density (D), pc/mi/ln	8.6
Total Ramp Density Adjustment	4.5	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFSadj), mi/h	70.5		

# HCS Basic Freeway Report

## Project Information

Analyst	Transystems	Date	8/9/2023
Agency	SCDOT	Analysis Year	Opening (2029)
Jurisdiction		Time Analyzed	AM
Project Description	I-95 NB north of Buff Blvd	Units	U.S. Customary

## Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Rolling
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.0	Total Ramp Density (TRD), ramps/mi	1.50
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.5
Right-Side Lateral Clearance, ft	10		

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	1.000
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAFCAV	1.000

## Demand and Capacity

Demand Volume (V), veh/h	708	Heavy Vehicle Adjustment Factor (fhv)	0.667
Peak Hour Factor (PHF)	0.94	Flow Rate (vp), pc/h/ln	564
Total Trucks, %	25.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.24
Passenger Car Equivalent (ET)	3.00		

## Speed and Density

Lane Width Adjustment (fLW)	0.0	Average Speed (S), mi/h	70.5
Right-Side Lateral Clearance Adj. (fRLC)	0.0	Density (D), pc/mi/ln	8.0
Total Ramp Density Adjustment	4.5	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFSadj), mi/h	70.5		

# HCS Basic Freeway Report

## Project Information

Analyst	Transystems	Date	8/9/2023
Agency	SCDOT	Analysis Year	Opening (2029)
Jurisdiction		Time Analyzed	AM
Project Description	I-95 SB north of Buff Blvd	Units	U.S. Customary

## Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Rolling
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.0	Total Ramp Density (TRD), ramps/mi	1.50
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.5
Right-Side Lateral Clearance, ft	10		

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	1.000
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAFCAV	1.000

## Demand and Capacity

Demand Volume (V), veh/h	832	Heavy Vehicle Adjustment Factor (fhv)	0.714
Peak Hour Factor (PHF)	0.94	Flow Rate (vp), pc/h/ln	620
Total Trucks, %	20.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.26
Passenger Car Equivalent (ET)	3.00		

## Speed and Density

Lane Width Adjustment (fLW)	0.0	Average Speed (S), mi/h	70.5
Right-Side Lateral Clearance Adj. (fRLC)	0.0	Density (D), pc/mi/ln	8.8
Total Ramp Density Adjustment	4.5	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFSadj), mi/h	70.5		



# HCS Basic Freeway Report

## Project Information

Analyst	Transystems	Date	8/9/2023
Agency	SCDOT	Analysis Year	Opening (2029)
Jurisdiction		Time Analyzed	AM
Project Description	I-95 SB south of Buff Blvd	Units	U.S. Customary

## Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Rolling
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.0	Total Ramp Density (TRD), ramps/mi	1.50
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.5
Right-Side Lateral Clearance, ft	10		

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	1.000
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAFCAV	1.000

## Demand and Capacity

Demand Volume (V), veh/h	938	Heavy Vehicle Adjustment Factor (fhv)	0.714
Peak Hour Factor (PHF)	0.94	Flow Rate (vp), pc/h/ln	699
Total Trucks, %	20.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.29
Passenger Car Equivalent (ET)	3.00		

## Speed and Density

Lane Width Adjustment (fLW)	0.0	Average Speed (S), mi/h	70.5
Right-Side Lateral Clearance Adj. (fRLC)	0.0	Density (D), pc/mi/ln	9.9
Total Ramp Density Adjustment	4.5	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFSadj), mi/h	70.5		

# HCS Basic Freeway Report

## Project Information

Analyst	Transystems	Date	8/9/2023
Agency	SCDOT	Analysis Year	Opening (2029)
Jurisdiction		Time Analyzed	AM
Project Description	I-95 SB south of US 15	Units	U.S. Customary

## Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Rolling
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.0	Total Ramp Density (TRD), ramps/mi	1.50
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.5
Right-Side Lateral Clearance, ft	10		

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	1.000
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAFCAV	1.000

## Demand and Capacity

Demand Volume (V), veh/h	1070	Heavy Vehicle Adjustment Factor (fhv)	0.714
Peak Hour Factor (PHF)	0.94	Flow Rate (vp), pc/h/ln	797
Total Trucks, %	20.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.33
Passenger Car Equivalent (ET)	3.00		

## Speed and Density

Lane Width Adjustment (fLW)	0.0	Average Speed (S), mi/h	70.5
Right-Side Lateral Clearance Adj. (fRLC)	0.0	Density (D), pc/mi/ln	11.3
Total Ramp Density Adjustment	4.5	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFSadj), mi/h	70.5		

# HCS Basic Freeway Report

## Project Information

Analyst	Transystems	Date	8/9/2023
Agency	SCDOT	Analysis Year	Opening (2029)
Jurisdiction		Time Analyzed	AM
Project Description	I-95 SB south of Hwy 6	Units	U.S. Customary

## Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Rolling
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.0	Total Ramp Density (TRD), ramps/mi	1.50
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.5
Right-Side Lateral Clearance, ft	10		

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	1.000
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAFCAV	1.000

## Demand and Capacity

Demand Volume (V), veh/h	988	Heavy Vehicle Adjustment Factor (fhv)	0.714
Peak Hour Factor (PHF)	0.94	Flow Rate (vp), pc/h/ln	736
Total Trucks, %	20.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.31
Passenger Car Equivalent (ET)	3.00		

## Speed and Density

Lane Width Adjustment (fLW)	0.0	Average Speed (S), mi/h	70.5
Right-Side Lateral Clearance Adj. (fRLC)	0.0	Density (D), pc/mi/ln	10.4
Total Ramp Density Adjustment	4.5	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFSadj), mi/h	70.5		

Lanes, Volumes, Timings  
24: Hwy 6 & I-95 SB Ramp

08/09/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SWL2	SWL	SWR
Lane Configurations											
Traffic Volume (vph)	0	217	70	54	213	0	0	0	64	0	137
Future Volume (vph)	0	217	70	54	213	0	0	0	64	0	137
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		75	175		0	0	0		0	150
Storage Lanes	0		0	1		0	0	0		1	1
Taper Length (ft)	25			25			25			25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.967									0.850
Flt Protected				0.950					0.950		
Satd. Flow (prot)	0	1767	0	1736	1827	0	0	0	1736	0	1553
Flt Permitted				0.296					0.950		
Satd. Flow (perm)	0	1767	0	541	1827	0	0	0	1736	0	1553
Right Turn on Red			Yes			Yes					Yes
Satd. Flow (RTOR)		28									565
Link Speed (mph)		30			30			30			30
Link Distance (ft)		221			1070			658			713
Travel Time (s)		5.0			24.3			15.0			16.2
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Growth Factor	106%	106%	106%	106%	106%	106%	106%	106%	106%	106%	106%
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Adj. Flow (vph)	0	253	82	63	248	0	0	0	75	0	160
Shared Lane Traffic (%)											
Lane Group Flow (vph)	0	335	0	63	248	0	0	0	75	0	160
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			12
Link Offset(ft)		0			0			0			0
Crosswalk Width(ft)		16			16			16			16
Two way Left Turn Lane											
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15	9	15	15	9
Number of Detectors		2		1	2				1		1
Detector Template		Thru		Left	Thru				Left		Right
Leading Detector (ft)		100		20	100				20		20
Trailing Detector (ft)		0		0	0				0		0
Detector 1 Position(ft)		0		0	0				0		0
Detector 1 Size(ft)		6		20	6				20		20
Detector 1 Type		Cl+Ex		Cl+Ex	Cl+Ex				Cl+Ex		Cl+Ex
Detector 1 Channel											
Detector 1 Extend (s)		0.0		0.0	0.0				0.0		0.0
Detector 1 Queue (s)		0.0		0.0	0.0				0.0		0.0
Detector 1 Delay (s)		0.0		0.0	0.0				0.0		0.0
Detector 2 Position(ft)		94			94						
Detector 2 Size(ft)		6			6						
Detector 2 Type		Cl+Ex			Cl+Ex						
Detector 2 Channel											
Detector 2 Extend (s)		0.0			0.0						
Turn Type		NA		pm+pt	NA				Perm		Perm

# Lanes, Volumes, Timings

## 24: Hwy 6 & I-95 SB Ramp

08/09/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SWL2	SWL	SWR
Protected Phases		4		3	8						
Permitted Phases				8					6		6
Detector Phase		4		3	8				6		6
Switch Phase											
Minimum Initial (s)		5.0		5.0	5.0				5.0		5.0
Minimum Split (s)		24.0		11.0	24.0				24.0		24.0
Total Split (s)		24.0		11.0	35.0				25.0		25.0
Total Split (%)		40.0%		18.3%	58.3%				41.7%		41.7%
Maximum Green (s)		18.0		5.0	29.0				19.0		19.0
Yellow Time (s)		4.0		4.0	4.0				4.0		4.0
All-Red Time (s)		2.0		2.0	2.0				2.0		2.0
Lost Time Adjust (s)		0.0		0.0	0.0				0.0		0.0
Total Lost Time (s)		6.0		6.0	6.0				6.0		6.0
Lead/Lag		Lag		Lead							
Lead-Lag Optimize?		Yes		Yes							
Vehicle Extension (s)		3.0		3.0	3.0				3.0		3.0
Recall Mode		None		None	None				Max		Max
Walk Time (s)		7.0			7.0				7.0		7.0
Flash Dont Walk (s)		11.0			11.0				11.0		11.0
Pedestrian Calls (#/hr)		0			0				0		0
Act Effect Green (s)		13.6		19.4	19.4				19.7		19.7
Actuated g/C Ratio		0.26		0.38	0.38				0.38		0.38
v/c Ratio		0.69		0.20	0.36				0.11		0.17
Control Delay		24.3		10.2	11.9				14.4		0.4
Queue Delay		0.0		0.0	0.0				0.0		0.0
Total Delay		24.3		10.2	11.9				14.4		0.4
LOS		C		B	B				B		A
Approach Delay		24.3			11.6					4.9	
Approach LOS		C			B					A	
Queue Length 50th (ft)		93		11	50				17		0
Queue Length 95th (ft)		168		28	90				45		0
Internal Link Dist (ft)		141			990		578			633	
Turn Bay Length (ft)				175							150
Base Capacity (vph)		657		323	1065				663		942
Starvation Cap Reductn		0		0	0				0		0
Spillback Cap Reductn		0		0	0				0		0
Storage Cap Reductn		0		0	0				0		0
Reduced v/c Ratio		0.51		0.20	0.23				0.11		0.17

### Intersection Summary

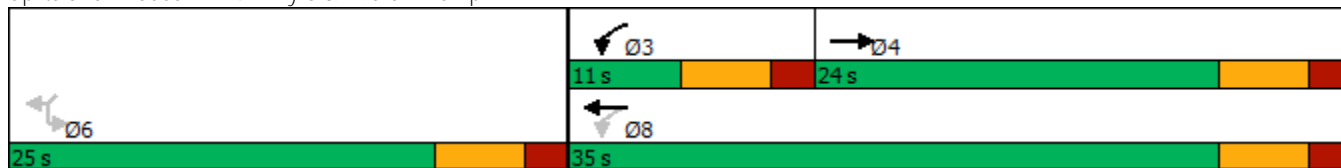
Area Type:	Other
Cycle Length:	60
Actuated Cycle Length:	51.5
Natural Cycle:	60
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.69
Intersection Signal Delay:	14.6
Intersection LOS:	B
Intersection Capacity Utilization:	32.1%
ICU Level of Service:	A
Analysis Period (min):	15

# Lanes, Volumes, Timings

## 24: Hwy 6 & I-95 SB Ramp

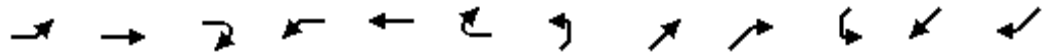
08/09/2023

Splits and Phases: 24: Hwy 6 & I-95 SB Ramp



Lanes, Volumes, Timings  
27: Bass Dr & Hwy 6

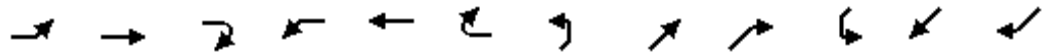
08/09/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	5	110	45	141	129	15	34	19	115	22	18	8
Future Volume (vph)	5	110	45	141	129	15	34	19	115	22	18	8
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	120		0	170		0	175		0	120		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.956			0.984			0.872			0.953	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1752	1763	0	1752	1815	0	1752	1609	0	1752	1758	0
Flt Permitted	0.644			0.636			0.600			0.651		
Satd. Flow (perm)	1188	1763	0	1173	1815	0	1107	1609	0	1201	1758	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		35			10			143			10	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		638			518			530			613	
Travel Time (s)		14.5			11.8			12.0			13.9	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Growth Factor	106%	106%	106%	106%	106%	106%	106%	106%	106%	106%	106%	106%
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	6	137	56	176	161	19	42	24	143	27	22	10
Shared Lane Traffic (%)												
Lane Group Flow (vph)	6	193	0	176	180	0	42	167	0	27	32	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		Perm	NA	

**Lanes, Volumes, Timings**  
**27: Bass Dr & Hwy 6**

08/09/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Protected Phases		4			8		5	2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	24.0	24.0		24.0	24.0		11.0	24.0		24.0	24.0	
Total Split (s)	24.0	24.0		24.0	24.0		11.0	36.0		25.0	25.0	
Total Split (%)	40.0%	40.0%		40.0%	40.0%		18.3%	60.0%		41.7%	41.7%	
Maximum Green (s)	18.0	18.0		18.0	18.0		5.0	30.0		19.0	19.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Max		Max	Max	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0			11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0			0		0	0	
Act Effect Green (s)	12.9	12.9		12.9	12.9		30.6	30.6		26.4	26.4	
Actuated g/C Ratio	0.23	0.23		0.23	0.23		0.55	0.55		0.48	0.48	
v/c Ratio	0.02	0.44		0.65	0.42		0.06	0.18		0.05	0.04	
Control Delay	15.4	17.6		30.5	19.6		7.3	2.8		13.0	10.4	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	15.4	17.6		30.5	19.6		7.3	2.8		13.0	10.4	
LOS	B	B		C	B		A	A		B	B	
Approach Delay		17.5			25.0			3.7			11.6	
Approach LOS		B			C			A			B	
Queue Length 50th (ft)	2	43		52	47		6	3		4	3	
Queue Length 95th (ft)	8	84		98	86		19	25		21	20	
Internal Link Dist (ft)		558			438			450			533	
Turn Bay Length (ft)	120			170			175			120		
Base Capacity (vph)	386	596		381	596		667	950		571	842	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.02	0.32		0.46	0.30		0.06	0.18		0.05	0.04	

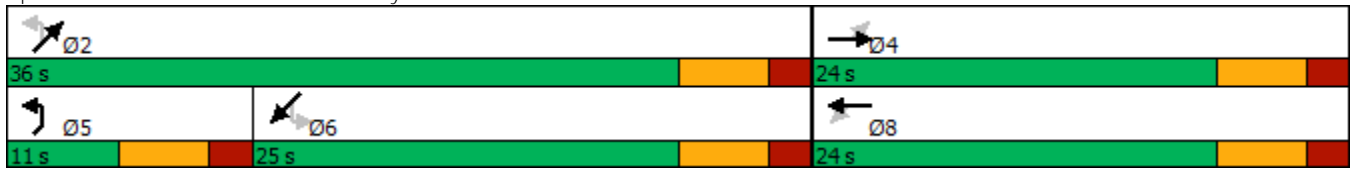
Intersection Summary	
Area Type:	Other
Cycle Length:	60
Actuated Cycle Length:	55.5
Natural Cycle:	60
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.65
Intersection Signal Delay:	16.8
Intersection LOS:	B
Intersection Capacity Utilization:	50.1%
ICU Level of Service:	A
Analysis Period (min):	15



Lanes, Volumes, Timings  
 27: Bass Dr & Hwy 6

08/09/2023

Splits and Phases: 27: Bass Dr & Hwy 6



Lanes, Volumes, Timings  
30: Bradford & Hwy 6

08/09/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	240	6	28	290	2	6	0	31	2	0	1
Future Volume (vph)	1	240	6	28	290	2	6	0	31	2	0	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	120		0	120		0	0		0	0		0
Storage Lanes	1		0	1		0	1		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.996			0.999				0.850			0.955
Flt Protected	0.950			0.950			0.950					0.968
Satd. Flow (prot)	1719	1802	0	1719	1808	0	1719	1810	1538	0	1673	0
Flt Permitted	0.950			0.950			0.950					0.968
Satd. Flow (perm)	1719	1802	0	1719	1808	0	1719	1810	1538	0	1673	0
Link Speed (mph)		30			30			30				30
Link Distance (ft)		518			385			504				268
Travel Time (s)		11.8			8.8			11.5				6.1
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Growth Factor	106%	106%	106%	106%	106%	106%	106%	106%	106%	106%	106%	106%
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	1	289	7	34	349	2	7	0	37	2	0	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	1	296	0	34	351	0	7	0	37	0	3	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop				Stop

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	33.0%
ICU Level of Service	A
Analysis Period (min)	15

# Lanes, Volumes, Timings

## 33: I-95 BNB Ramp & Hwy 6

08/09/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SBL	SBR	NEL2	NEL	NER
Lane Configurations											
Traffic Volume (vph)	55	237	0	0	235	75	0	0	30	0	45
Future Volume (vph)	55	237	0	0	235	75	0	0	30	0	45
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	0		0	0	0		0	0
Storage Lanes	1		0	0		0	0	0		1	1
Taper Length (ft)	25			25			25			25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.967						0.850
Flt Protected	0.950								0.950		
Satd. Flow (prot)	1736	1827	0	0	1767	0	0	0	1736	0	1553
Flt Permitted	0.275								0.950		
Satd. Flow (perm)	502	1827	0	0	1767	0	0	0	1736	0	1553
Right Turn on Red			Yes			Yes					Yes
Satd. Flow (RTOR)					27						528
Link Speed (mph)		30			30		30			30	
Link Distance (ft)		1070			197		602			707	
Travel Time (s)		24.3			4.5		13.7			16.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	106%	106%	106%	106%	106%	106%	106%	106%	106%	106%	106%
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Adj. Flow (vph)	63	273	0	0	271	86	0	0	35	0	52
Shared Lane Traffic (%)											
Lane Group Flow (vph)	63	273	0	0	357	0	0	0	35	0	52
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Right	Left	Left	Right
Median Width(ft)		12			12		0			12	
Link Offset(ft)		0			0		0			0	
Crosswalk Width(ft)		16			16		16			16	
Two way Left Turn Lane											
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15	9	15	15	9
Number of Detectors	1	2			2				1		1
Detector Template	Left	Thru			Thru				Left		Right
Leading Detector (ft)	20	100			100				20		20
Trailing Detector (ft)	0	0			0				0		0
Detector 1 Position(ft)	0	0			0				0		0
Detector 1 Size(ft)	20	6			6				20		20
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex				Cl+Ex		Cl+Ex
Detector 1 Channel											
Detector 1 Extend (s)	0.0	0.0			0.0				0.0		0.0
Detector 1 Queue (s)	0.0	0.0			0.0				0.0		0.0
Detector 1 Delay (s)	0.0	0.0			0.0				0.0		0.0
Detector 2 Position(ft)		94			94						
Detector 2 Size(ft)		6			6						
Detector 2 Type		Cl+Ex			Cl+Ex						
Detector 2 Channel											
Detector 2 Extend (s)		0.0			0.0						
Turn Type	pm+pt	NA			NA				Perm		Perm

# Lanes, Volumes, Timings

## 33: I-95 BNB Ramp & Hwy 6

08/09/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SBL	SBR	NEL2	NEL	NER
Protected Phases	7	4			8						
Permitted Phases	4								2		2
Detector Phase	7	4			8				2		2
Switch Phase											
Minimum Initial (s)	5.0	5.0			5.0				5.0		5.0
Minimum Split (s)	11.0	24.0			24.0				24.0		24.0
Total Split (s)	11.0	35.0			24.0				25.0		25.0
Total Split (%)	18.3%	58.3%			40.0%				41.7%		41.7%
Maximum Green (s)	5.0	29.0			18.0				19.0		19.0
Yellow Time (s)	4.0	4.0			4.0				4.0		4.0
All-Red Time (s)	2.0	2.0			2.0				2.0		2.0
Lost Time Adjust (s)	0.0	0.0			0.0				0.0		0.0
Total Lost Time (s)	6.0	6.0			6.0				6.0		6.0
Lead/Lag	Lead				Lag						
Lead-Lag Optimize?	Yes				Yes						
Vehicle Extension (s)	3.0	3.0			3.0				3.0		3.0
Recall Mode	None	None			None				Max		Max
Walk Time (s)		7.0			7.0				7.0		7.0
Flash Dont Walk (s)		11.0			11.0				11.0		11.0
Pedestrian Calls (#/hr)		0			0				0		0
Act Effct Green (s)	19.8	19.8			14.0				19.7		19.7
Actuated g/C Ratio	0.38	0.38			0.27				0.38		0.38
v/c Ratio	0.20	0.39			0.72				0.05		0.06
Control Delay	10.3	12.3			25.6				14.3		0.1
Queue Delay	0.0	0.0			0.0				0.0		0.0
Total Delay	10.3	12.3			25.6				14.3		0.1
LOS	B	B			C				B		A
Approach Delay		11.9			25.6					5.8	
Approach LOS		B			C					A	
Queue Length 50th (ft)	11	56			102				8		0
Queue Length 95th (ft)	28	99			182				26		0
Internal Link Dist (ft)		990			117		522			627	
Turn Bay Length (ft)	200										
Base Capacity (vph)	314	1057			651				657		916
Starvation Cap Reductn	0	0			0				0		0
Spillback Cap Reductn	0	0			0				0		0
Storage Cap Reductn	0	0			0				0		0
Reduced v/c Ratio	0.20	0.26			0.55				0.05		0.06

### Intersection Summary

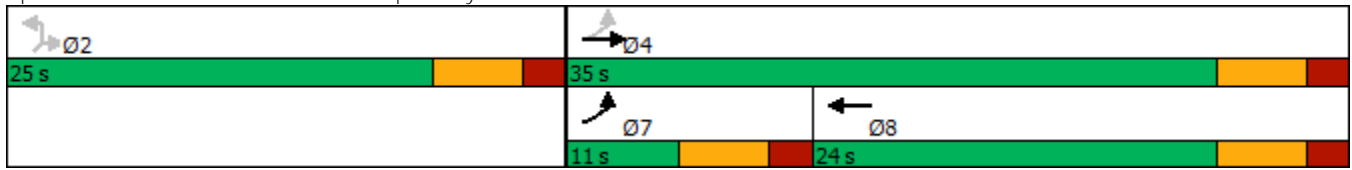
Area Type:	Other
Cycle Length:	60
Actuated Cycle Length:	51.9
Natural Cycle:	60
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.72
Intersection Signal Delay:	17.5
Intersection LOS:	B
Intersection Capacity Utilization:	32.1%
ICU Level of Service:	A
Analysis Period (min):	15

# Lanes, Volumes, Timings

## 33: I-95 BNB Ramp & Hwy 6

08/09/2023

Splits and Phases: 33: I-95 BNB Ramp & Hwy 6



# Lanes, Volumes, Timings

## 36: Britain & Hwy 6

08/09/2023






















Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↻		↻	↻			↻			↻	
Traffic Volume (vph)	21	267	4	9	323	19	0	0	9	11	1	18
Future Volume (vph)	21	267	4	9	323	19	0	0	9	11	1	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	50		0	0		0	0		0
Storage Lanes	0		0	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.998			0.992			0.865				0.919
Flt Protected		0.996		0.950								0.982
Satd. Flow (prot)	0	1816	0	1736	1812	0	0	1580	0	0	1649	0
Flt Permitted		0.996		0.950								0.982
Satd. Flow (perm)	0	1816	0	1736	1812	0	0	1580	0	0	1649	0
Link Speed (mph)		30			30			30				30
Link Distance (ft)		385			221			341				104
Travel Time (s)		8.8			5.0			7.8				2.4
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Growth Factor	106%	106%	106%	106%	106%	106%	106%	106%	106%	106%	106%	106%
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Adj. Flow (vph)	25	318	5	11	385	23	0	0	11	13	1	21
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	348	0	11	408	0	0	11	0	0	35	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0				0
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop				Stop

### Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	48.7%
ICU Level of Service	A
Analysis Period (min)	15

Lanes, Volumes, Timings  
42: St Paul Rd & US 301/Gas Station

08/09/2023

												
Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	4	4	50	2	8	0	2	0	6	67	3	7
Future Volume (vph)	4	4	50	2	8	0	2	0	6	67	3	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	1.00	0.95	0.95
Frt			0.850					0.891			0.893	
Flt Protected		0.976			0.989			0.987		0.950		
Satd. Flow (prot)	0	1686	1468	0	1708	0	0	2886	0	1641	2931	0
Flt Permitted		0.976			0.989			0.987		0.950		
Satd. Flow (perm)	0	1686	1468	0	1708	0	0	2886	0	1641	2931	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		420			211			822			934	
Travel Time (s)		9.5			4.8			18.7			21.2	
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Growth Factor	106%	106%	106%	106%	106%	106%	106%	106%	106%	106%	106%	106%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Adj. Flow (vph)	5	5	68	3	11	0	3	0	8	91	4	10
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	10	68	0	14	0	0	11	0	91	14	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	
<b>Intersection Summary</b>												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	20.6%						ICU Level of Service A					
Analysis Period (min)	15											

Lanes, Volumes, Timings  
44: US 301 & I-95 SB Ramp

08/09/2023



Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↔↑			↔↓						↔↓	
Traffic Volume (vph)	54	49	0	0	8	76	0	0	0	3	1	3
Future Volume (vph)	54	49	0	0	8	76	0	0	0	3	1	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr t					0.878						0.940	
Flt Protected		0.974									0.978	
Satd. Flow (prot)	0	3196	0	0	1517	0	0	0	0	0	1588	0
Flt Permitted		0.974									0.978	
Satd. Flow (perm)	0	3196	0	0	1517	0	0	0	0	0	1588	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		341			420			593			580	
Travel Time (s)		7.8			9.5			13.5			13.2	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Growth Factor	106%	106%	106%	106%	106%	106%	106%	106%	106%	106%	106%	106%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Adj. Flow (vph)	72	65	0	0	11	101	0	0	0	4	1	4
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	137	0	0	112	0	0	0	0	0	9	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	19.8%					ICU Level of Service A						
Analysis Period (min)	15											



Lanes, Volumes, Timings  
 47: I-95 NB Ramp/US 301 & S-14-400

08/09/2023



Lane Group	WBL	WBR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Volume (vph)	14	48	49	19	11	6
Future Volume (vph)	14	48	49	19	11	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.896		0.962			
Flt Protected	0.989					0.968
Satd. Flow (prot)	1588	0	1724	0	0	1735
Flt Permitted	0.989					0.968
Satd. Flow (perm)	1588	0	1724	0	0	1735
Link Speed (mph)	30		30			30
Link Distance (ft)	708		346			378
Travel Time (s)	16.1		7.9			8.6
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78
Growth Factor	106%	106%	106%	106%	106%	106%
Heavy Vehicles (%)	6%	6%	6%	6%	6%	6%
Adj. Flow (vph)	19	65	67	26	15	8
Shared Lane Traffic (%)						
Lane Group Flow (vph)	84	0	93	0	0	23
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	18.3%
Analysis Period (min)	15
	ICU Level of Service A

Lanes, Volumes, Timings  
49: Gordon Rd & S-14-400

08/09/2023




















Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	13	14	20	0	0	50
Future Volume (vph)	13	14	20	0	0	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Fr <sub>t</sub>	0.931			0.865		
Fl <sub>t</sub> Protected	0.976			0.950		
Satd. Flow (prot)	1629	0	0	1703	1550	0
Fl <sub>t</sub> Permitted	0.976			0.950		
Satd. Flow (perm)	1629	0	0	1703	1550	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	708			417	425	
Travel Time (s)	16.1			9.5	9.7	
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81
Growth Factor	106%	106%	106%	106%	106%	106%
Heavy Vehicles (%)	6%	6%	6%	6%	6%	6%
Adj. Flow (vph)	17	18	26	0	0	65
Shared Lane Traffic (%)						
Lane Group Flow (vph)	35	0	0	26	65	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	17.8%
Analysis Period (min)	15
	ICU Level of Service A

Lanes, Volumes, Timings  
54: US 301 & Buff Blvd/Hotel

08/09/2023

												
Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	3	0	79	19	6	2	1	30	8	85	43	1
Future Volume (vph)	3	0	79	19	6	2	1	30	8	85	43	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr <sub>t</sub>			0.850		0.991			0.972			0.999	
Fl <sub>t</sub> Protected		0.950			0.966			0.999			0.968	
Satd. Flow (prot)	0	1556	1392	0	1568	0	0	1590	0	0	1584	0
Fl <sub>t</sub> Permitted		0.950			0.966			0.999			0.968	
Satd. Flow (perm)	0	1556	1392	0	1568	0	0	1590	0	0	1584	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		3372			202			760			626	
Travel Time (s)		76.6			4.6			17.3			14.2	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Growth Factor	106%	106%	106%	106%	106%	106%	106%	106%	106%	106%	106%	106%
Heavy Vehicles (%)	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%
Adj. Flow (vph)	3	0	86	21	7	2	1	33	9	93	47	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	3	86	0	30	0	0	43	0	0	141	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	
<b>Intersection Summary</b>												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	29.0%						ICU Level of Service A					
Analysis Period (min)	15											

# Lanes, Volumes, Timings

## 55: Buff Blvd

08/09/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕						↕		↕	↕	
Traffic Volume (vph)	112	1	19	0	0	0	0	78	19	64	35	0
Future Volume (vph)	112	1	19	0	0	0	0	78	19	64	35	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	150		0
Storage Lanes	0		0	0		0	0		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.980						0.973				
Flt Protected		0.959								0.950		
Satd. Flow (prot)	0	1513	0	0	0	0	0	1567	0	1530	1610	0
Flt Permitted		0.959								0.950		
Satd. Flow (perm)	0	1513	0	0	0	0	0	1567	0	1530	1610	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		596			536			930			1070	
Travel Time (s)		13.5			12.2			21.1			24.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	106%	106%	106%	106%	106%	106%	106%	106%	106%	106%	106%	106%
Heavy Vehicles (%)	18%	18%	18%	2%	2%	2%	18%	18%	18%	18%	18%	18%
Adj. Flow (vph)	129	1	22	0	0	0	0	90	22	74	40	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	152	0	0	0	0	0	112	0	74	40	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

### Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	25.0%
ICU Level of Service	A
Analysis Period (min)	15

**Lanes, Volumes, Timings**  
**58: Buff Blvd & I-95 SB Ramp**

08/09/2023



















Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↕			↕			↕	
Traffic Volume (vph)	0	0	0	3	0	87	32	156	0	0	94	158
Future Volume (vph)	0	0	0	3	0	87	32	156	0	0	94	158
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.95	0.95
Frt					0.870						0.906	
Flt Protected					0.998			0.992				
Satd. Flow (prot)	0	0	0	0	1341	0	0	2911	0	0	2659	0
Flt Permitted					0.998			0.992				
Satd. Flow (perm)	0	0	0	0	1341	0	0	2911	0	0	2659	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		723			820			1070			3372	
Travel Time (s)		16.4			18.6			24.3			76.6	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Growth Factor	106%	106%	106%	106%	106%	106%	106%	106%	106%	106%	106%	106%
Heavy Vehicles (%)	23%	23%	23%	23%	23%	23%	23%	23%	23%	23%	23%	23%
Adj. Flow (vph)	0	0	0	4	0	107	39	192	0	0	116	195
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	111	0	0	231	0	0	311	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	29.6%					ICU Level of Service A						
Analysis Period (min)	15											

Lanes, Volumes, Timings  
66: US 301 & Liberty Hill

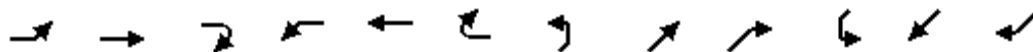
08/09/2023

												
Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	2	1	1	5	4	30	29	15	1	3	37	4
Future Volume (vph)	2	1	1	5	4	30	29	15	1	3	37	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.973			0.896			0.998			0.987	
Flt Protected		0.971			0.994			0.969			0.997	
Satd. Flow (prot)	0	1575	0	0	1484	0	0	1612	0	0	1640	0
Flt Permitted		0.971			0.994			0.969			0.997	
Satd. Flow (perm)	0	1575	0	0	1484	0	0	1612	0	0	1640	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		717			491			738			807	
Travel Time (s)		16.3			11.2			16.8			18.3	
Peak Hour Factor	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73
Growth Factor	106%	106%	106%	106%	106%	106%	106%	106%	106%	106%	106%	106%
Heavy Vehicles (%)	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%
Adj. Flow (vph)	3	1	1	7	6	44	42	22	1	4	54	6
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	5	0	0	57	0	0	65	0	0	64	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	
<b>Intersection Summary</b>												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	19.3%					ICU Level of Service A						
Analysis Period (min)	15											

# Lanes, Volumes, Timings

## 71: Mall St & Hwy 6

08/09/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕		↕	↑			↕			↕	
Traffic Volume (vph)	27	242	14	1	259	22	4	0	2	7	0	42
Future Volume (vph)	27	242	14	1	259	22	4	0	2	7	0	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.993			0.988			0.961			0.884	
Flt Protected		0.995		0.950				0.966			0.993	
Satd. Flow (prot)	0	1823	0	1752	1823	0	0	1712	0	0	1619	0
Flt Permitted		0.995		0.950				0.966			0.993	
Satd. Flow (perm)	0	1823	0	1752	1823	0	0	1712	0	0	1619	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		197			931			214			176	
Travel Time (s)		4.5			21.2			4.9			4.0	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Growth Factor	106%	106%	106%	106%	106%	106%	106%	106%	106%	106%	106%	106%
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	31	282	16	1	302	26	5	0	2	8	0	49
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	329	0	1	328	0	0	7	0	0	57	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

### Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	45.2%
Analysis Period (min)	15
	ICU Level of Service A

# Year 2029 Midday

TRANSYSTEMS



# HCS Freeway Diverge Report

## Project Information

Analyst	Transystems	Date	8/10/2023
Agency	SCDOT	Analysis Year	Opening (2029)
Jurisdiction		Time Analyzed	Mid
Project Description	I-95 NB Exit to Hwy 6	Units	U.S. Customary

## Geometric Data

	Freeway	Ramp
Number of Lanes (N), In	2	1
Free-Flow Speed (FFS), mi/h	70.5	45.0
Segment Length (L) / Deceleration Length (LD), ft	1500	225
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

## Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	1.000	1.000
Capacity Adj. Factor for CAVs, CAFCAV	1.000	-

## Demand and Capacity

Demand Volume (Vi), veh/h	1190	86
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	21.00	5.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.826	0.952
Flow Rate (vi), pc/h	1533	96
Capacity (cmd), pc/h	4800	2100
Adjusted Capacity (cmd), pc/h	4800	2100
Volume-to-Capacity Ratio (v/c)	0.32	0.05

## Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (No), In	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (DS)	0.307
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influence Area Speed (SR), mi/h	61.8
Prop. Freeway Vehicles in Lane 1 and 2 (PFD)	1.000	Outer Lanes Freeway Speed (SO), mi/h	77.3
Flow in Lanes 1 and 2 (v12), pc/h	1533	Ramp Junction Speed (S), mi/h	61.8

Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	12.4
Level of Service (LOS)	B	Density in Ramp Influence Area (DR), pc/mi/ln	15.4

# HCS Freeway Merge Report

## Project Information

Analyst	TranSystems	Date	8/10/2023
Agency	SCDOT	Analysis Year	Opening (2029)
Jurisdiction		Time Analyzed	Mid
Project Description	I-95 NB On Ramp from Hwy 6	Units	U.S. Customary

## Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	70.5	45.0
Segment Length (L) / Acceleration Length (LA), ft	955	800
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

## Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAFCAV	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

## Demand and Capacity

Demand Volume (Vi), veh/h	1190	140
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	21.00	5.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.826	0.952
Flow Rate (vi), pc/h	1533	156
Capacity (cmd), pc/h	4800	2100
Adjusted Capacity (cmd), pc/h	4800	2100
Volume-to-Capacity Ratio (v/c)	0.35	0.07

## Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (No), ln	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (MS)	0.270
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	62.8
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	1.000	Outer Lanes Freeway Speed (SO), mi/h	70.5
Flow in Lanes 1 and 2 (v12), pc/h	1533	Ramp Junction Speed (S), mi/h	62.8

Flow Entering Ramp-Infl. Area (vR12), pc/h	1689	Average Density (D), pc/mi/ln	13.4
Level of Service (LOS)	B	Density in Ramp Influence Area (DR), pc/mi/ln	13.6

# HCS Freeway Diverge Report

## Project Information

Analyst	Transystems	Date	8/10/2023
Agency	SCDOT	Analysis Year	Opening (2029)
Jurisdiction		Time Analyzed	Mid
Project Description	I-95 NB Exit to NB Rest Stop	Units	U.S. Customary

## Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	70.5	45.0
Segment Length (L) / Deceleration Length (LD), ft	955	225
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

## Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	1.000	1.000
Capacity Adj. Factor for CAVs, CAFCAV	1.000	-

## Demand and Capacity

Demand Volume (Vi), veh/h	1247	83
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	21.00	14.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.826	0.877
Flow Rate (vi), pc/h	1606	101
Capacity (cmd), pc/h	4800	2100
Adjusted Capacity (cmd), pc/h	4800	2100
Volume-to-Capacity Ratio (v/c)	0.33	0.05

## Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (No), ln	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (DS)	0.307
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influence Area Speed (SR), mi/h	61.8
Prop. Freeway Vehicles in Lane 1 and 2 (PFD)	1.000	Outer Lanes Freeway Speed (SO), mi/h	77.3
Flow in Lanes 1 and 2 (v12), pc/h	1606	Ramp Junction Speed (S), mi/h	61.8

Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	13.0
Level of Service (LOS)	B	Density in Ramp Influence Area (DR), pc/mi/ln	16.0

# HCS Freeway Merge Report

## Project Information

Analyst	TranSystems	Date	8/10/2023
Agency	SCDOT	Analysis Year	Opening (2029)
Jurisdiction		Time Analyzed	Mid
Project Description	I-95 NB On Ramp from NB Rest Stop	Units	U.S. Customary

## Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	70.5	45.0
Segment Length (L) / Acceleration Length (LA), ft	1500	800
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

## Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAFCAV	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

## Demand and Capacity

Demand Volume (Vi), veh/h	1247	83
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	21.00	14.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.826	0.877
Flow Rate (vi), pc/h	1606	101
Capacity (cmd), pc/h	4800	2100
Adjusted Capacity (cmd), pc/h	4800	2100
Volume-to-Capacity Ratio (v/c)	0.36	0.05

## Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (NO), ln	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (MS)	0.270
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	62.8
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	1.000	Outer Lanes Freeway Speed (SO), mi/h	70.5
Flow in Lanes 1 and 2 (v12), pc/h	1606	Ramp Junction Speed (S), mi/h	62.8

Flow Entering Ramp-Infl. Area (vR12), pc/h	1707	Average Density (D), pc/mi/ln	13.6
Level of Service (LOS)	B	Density in Ramp Influence Area (DR), pc/mi/ln	13.8



# HCS Freeway Diverge Report

## Project Information

Analyst	Transystems	Date	8/9/2023
Agency	SCDOT	Analysis Year	Opening (2029)
Jurisdiction		Time Analyzed	Mid
Project Description	I-95 NB Exit to US 15	Units	U.S. Customary

## Geometric Data

	Freeway	Ramp
Number of Lanes (N), In	2	1
Free-Flow Speed (FFS), mi/h	70.5	45.0
Segment Length (L) / Deceleration Length (LD), ft	1500	225
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

## Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	1.000	1.000
Capacity Adj. Factor for CAVs, CAFCAV	1.000	-

## Demand and Capacity

Demand Volume (Vi), veh/h	1247	83
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	21.00	7.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.826	0.935
Flow Rate (vi), pc/h	1606	94
Capacity (cmd), pc/h	4800	2100
Adjusted Capacity (cmd), pc/h	4800	2100
Volume-to-Capacity Ratio (v/c)	0.33	0.04

## Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (No), In	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (DS)	0.306
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influence Area Speed (SR), mi/h	61.8
Prop. Freeway Vehicles in Lane 1 and 2 (PFD)	1.000	Outer Lanes Freeway Speed (SO), mi/h	77.3
Flow in Lanes 1 and 2 (v12), pc/h	1606	Ramp Junction Speed (S), mi/h	61.8

Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	13.0
Level of Service (LOS)	B	Density in Ramp Influence Area (DR), pc/mi/ln	16.0

# HCS Freeway Merge Report

## Project Information

Analyst	TranSystems	Date	8/10/2023
Agency	SCDOT	Analysis Year	Opening (2029)
Jurisdiction		Time Analyzed	Mid
Project Description	I-95 NB On Ramp from US 15	Units	U.S. Customary

## Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	70.5	45.0
Segment Length (L) / Acceleration Length (LA), ft	1500	800
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

## Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAFCAV	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

## Demand and Capacity

Demand Volume (Vi), veh/h	1112	13
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	21.00	7.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.826	0.935
Flow Rate (vi), pc/h	1432	15
Capacity (cmd), pc/h	4800	2100
Adjusted Capacity (cmd), pc/h	4800	2100
Volume-to-Capacity Ratio (v/c)	0.30	0.01

## Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (No), ln	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (MS)	0.266
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	62.9
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	1.000	Outer Lanes Freeway Speed (SO), mi/h	70.5
Flow in Lanes 1 and 2 (v12), pc/h	1432	Ramp Junction Speed (S), mi/h	62.9

Flow Entering Ramp-Infl. Area (vR12), pc/h	1447	Average Density (D), pc/mi/ln	11.5
Level of Service (LOS)	B	Density in Ramp Influence Area (DR), pc/mi/ln	11.8

### Design Analysis Table

Freeway Lanes, ln	2	2	3	3	4	4	5	5
Ramp Lanes, ln	1	2	1	2	1	2	1	2
Density, pc/mi/ln	11.5	11.2	7.3	7.2	5.4	5.3	3.4	3.3
LOS	B	A	A	A	A	A	A	A

# HCS Freeway Diverge Report

## Project Information

Analyst	Transystems	Date	8/10/2023
Agency	SCDOT	Analysis Year	Opening (2029)
Jurisdiction		Time Analyzed	Mid
Project Description	I-95 NB Exit to Buff Blvd	Units	U.S. Customary

## Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	70.5	45.0
Segment Length (L) / Deceleration Length (LD), ft	1500	225
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

## Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	1.000	1.000
Capacity Adj. Factor for CAVs, CAFCAV	1.000	-

## Demand and Capacity

Demand Volume (Vi), veh/h	1144	116
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	21.00	23.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.826	0.813
Flow Rate (vi), pc/h	1473	152
Capacity (cmd), pc/h	4800	2100
Adjusted Capacity (cmd), pc/h	4800	2100
Volume-to-Capacity Ratio (v/c)	0.31	0.07

## Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (No), ln	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (DS)	0.312
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influence Area Speed (SR), mi/h	61.6
Prop. Freeway Vehicles in Lane 1 and 2 (PFD)	1.000	Outer Lanes Freeway Speed (SO), mi/h	77.3
Flow in Lanes 1 and 2 (v12), pc/h	1473	Ramp Junction Speed (S), mi/h	61.6

Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	12.0
Level of Service (LOS)	B	Density in Ramp Influence Area (DR), pc/mi/ln	14.9

# HCS Freeway Merge Report

## Project Information

Analyst	TranSystems	Date	8/10/2023
Agency	SCDOT	Analysis Year	Opening (2029)
Jurisdiction		Time Analyzed	Mid
Project Description	I-95 NB On Ramp from Buff Blvd	Units	U.S. Customary

## Geometric Data

	Freeway	Ramp
Number of Lanes (N), In	2	1
Free-Flow Speed (FFS), mi/h	70.5	45.0
Segment Length (L) / Acceleration Length (LA), ft	1500	800
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

## Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAFCAV	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

## Demand and Capacity

Demand Volume (Vi), veh/h	1144	65
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	21.00	23.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.826	0.813
Flow Rate (vi), pc/h	1473	85
Capacity (cmd), pc/h	4800	2100
Adjusted Capacity (cmd), pc/h	4800	2100
Volume-to-Capacity Ratio (v/c)	0.32	0.04

## Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (No), In	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (MS)	0.268
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	62.9
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	1.000	Outer Lanes Freeway Speed (SO), mi/h	70.5
Flow in Lanes 1 and 2 (v12), pc/h	1473	Ramp Junction Speed (S), mi/h	62.9

Flow Entering Ramp-Infl. Area (vR12), pc/h	1558	Average Density (D), pc/mi/ln	12.4
Level of Service (LOS)	B	Density in Ramp Influence Area (DR), pc/mi/ln	12.6

### Design Analysis Table

Freeway Lanes, ln	2	2	3	3	4	4	5	5
Ramp Lanes, ln	1	2	1	2	1	2	1	2
Density, pc/mi/ln	12.4	12.0	7.9	7.8	5.8	5.7	3.7	3.6
LOS	B	A	A	A	A	A	A	A



# HCS Freeway Diverge Report

## Project Information

Analyst	Transystems	Date	8/10/2023
Agency	SCDOT	Analysis Year	Opening (2029)
Jurisdiction		Time Analyzed	Mid
Project Description	I-95 SB Exit to Buff Blvd	Units	U.S. Customary

## Geometric Data

	Freeway	Ramp
Number of Lanes (N), In	2	1
Free-Flow Speed (FFS), mi/h	70.5	45.0
Segment Length (L) / Deceleration Length (LD), ft	1500	225
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

## Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	1.000	1.000
Capacity Adj. Factor for CAVs, CAFCAV	1.000	-

## Demand and Capacity

Demand Volume (Vi), veh/h	1220	91
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	20.00	27.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.833	0.787
Flow Rate (vi), pc/h	1558	123
Capacity (cmd), pc/h	4800	2100
Adjusted Capacity (cmd), pc/h	4800	2100
Volume-to-Capacity Ratio (v/c)	0.32	0.06

## Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (No), In	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (DS)	0.309
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influence Area Speed (SR), mi/h	61.7
Prop. Freeway Vehicles in Lane 1 and 2 (PFD)	1.000	Outer Lanes Freeway Speed (SO), mi/h	77.3
Flow in Lanes 1 and 2 (v12), pc/h	1558	Ramp Junction Speed (S), mi/h	61.7

Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	12.6
Level of Service (LOS)	B	Density in Ramp Influence Area (DR), pc/mi/ln	15.6

# HCS Freeway Merge Report

## Project Information

Analyst	TranSystems	Date	8/9/2023
Agency	SCDOT	Analysis Year	Opening (2029)
Jurisdiction		Time Analyzed	Mid
Project Description	I-95 SB On Ramp from Buff Blvd	Units	U.S. Customary

## Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	70.5	45.0
Segment Length (L) / Acceleration Length (LA), ft	1500	800
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

## Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAFCAV	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

## Demand and Capacity

Demand Volume (Vi), veh/h	1200	123
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	20.00	27.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.833	0.787
Flow Rate (vi), pc/h	1533	166
Capacity (cmd), pc/h	4800	2100
Adjusted Capacity (cmd), pc/h	4800	2100
Volume-to-Capacity Ratio (v/c)	0.35	0.08

## Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (No), ln	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (MS)	0.270
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	62.8
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	1.000	Outer Lanes Freeway Speed (SO), mi/h	70.5
Flow in Lanes 1 and 2 (v12), pc/h	1533	Ramp Junction Speed (S), mi/h	62.8

Flow Entering Ramp-Infl. Area (vR12), pc/h	1699	Average Density (D), pc/mi/ln	13.5
Level of Service (LOS)	B	Density in Ramp Influence Area (DR), pc/mi/ln	13.7

**Design Analysis Table**

Freeway Lanes, ln	2	2	3	3	4	4	5	5
Ramp Lanes, ln	1	2	1	2	1	2	1	2
Density, pc/mi/ln	13.5	13.2	8.6	8.5	6.3	6.3	4.1	4.0
LOS	B	A	A	A	A	A	A	A

# HCS Freeway Diverge Report

## Project Information

Analyst	Transystems	Date	8/10/2023
Agency	SCDOT	Analysis Year	Opening (2029)
Jurisdiction		Time Analyzed	Mid
Project Description	I-95 SB Exit to US 15	Units	U.S. Customary

## Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	70.5	45.0
Segment Length (L) / Deceleration Length (LD), ft	1500	225
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

## Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	1.000	1.000
Capacity Adj. Factor for CAVs, CAFCAV	1.000	-

## Demand and Capacity

Demand Volume (Vi), veh/h	1319	24
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	20.00	11.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.833	0.901
Flow Rate (vi), pc/h	1685	28
Capacity (cmd), pc/h	4800	2100
Adjusted Capacity (cmd), pc/h	4800	2100
Volume-to-Capacity Ratio (v/c)	0.35	0.01

## Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (No), ln	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (DS)	0.301
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influence Area Speed (SR), mi/h	61.9
Prop. Freeway Vehicles in Lane 1 and 2 (PFD)	1.000	Outer Lanes Freeway Speed (SO), mi/h	77.3
Flow in Lanes 1 and 2 (v12), pc/h	1685	Ramp Junction Speed (S), mi/h	61.9

Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	13.6
Level of Service (LOS)	B	Density in Ramp Influence Area (DR), pc/mi/ln	16.7

# HCS Freeway Merge Report

## Project Information

Analyst	TranSystems	Date	8/10/2023
Agency	SCDOT	Analysis Year	Opening (2029)
Jurisdiction		Time Analyzed	Mid
Project Description	I-95 SB On Ramp from US 15	Units	U.S. Customary

## Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	70.5	45.0
Segment Length (L) / Acceleration Length (LA), ft	1500	800
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

## Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAFCAV	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

## Demand and Capacity

Demand Volume (Vi), veh/h	1319	101
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	20.00	11.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.833	0.901
Flow Rate (vi), pc/h	1685	119
Capacity (cmd), pc/h	4800	2100
Adjusted Capacity (cmd), pc/h	4800	2100
Volume-to-Capacity Ratio (v/c)	0.38	0.06

## Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (No), ln	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (MS)	0.273
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	62.7
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	1.000	Outer Lanes Freeway Speed (SO), mi/h	70.5
Flow in Lanes 1 and 2 (v12), pc/h	1685	Ramp Junction Speed (S), mi/h	62.7

Flow Entering Ramp-Infl. Area (vR12), pc/h	1804	Average Density (D), pc/mi/ln	14.4
Level of Service (LOS)	B	Density in Ramp Influence Area (DR), pc/mi/ln	14.5

### Design Analysis Table

Freeway Lanes, ln	2	2	3	3	4	4	5	5
Ramp Lanes, ln	1	2	1	2	1	2	1	2
Density, pc/mi/ln	14.4	14.0	9.2	9.0	6.7	6.6	4.3	4.2
LOS	B	B	A	A	A	A	A	A



# HCS Freeway Diverge Report

## Project Information

Analyst	Transystems	Date	8/10/2023
Agency	SCDOT	Analysis Year	Opening (2029)
Jurisdiction		Time Analyzed	Mid
Project Description	I-95 SB Exit to SB Rest Stop	Units	U.S. Customary

## Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	70.5	45.0
Segment Length (L) / Deceleration Length (LD), ft	1500	225
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

## Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	1.000	1.000
Capacity Adj. Factor for CAVs, CAFCAV	1.000	-

## Demand and Capacity

Demand Volume (Vi), veh/h	1324	96
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	20.00	6.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.833	0.943
Flow Rate (vi), pc/h	1691	108
Capacity (cmd), pc/h	4800	2100
Adjusted Capacity (cmd), pc/h	4800	2100
Volume-to-Capacity Ratio (v/c)	0.35	0.05

## Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (No), ln	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (DS)	0.308
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influence Area Speed (SR), mi/h	61.7
Prop. Freeway Vehicles in Lane 1 and 2 (PFD)	1.000	Outer Lanes Freeway Speed (SO), mi/h	77.3
Flow in Lanes 1 and 2 (v12), pc/h	1691	Ramp Junction Speed (S), mi/h	61.7

Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	13.7
Level of Service (LOS)	B	Density in Ramp Influence Area (DR), pc/mi/ln	16.8

# HCS Freeway Weaving Report

## Project Information

Analyst	TranSystems	Date	8/10/2023
Agency	SCDOT	Analysis Year	Opening (2029)
Jurisdiction		Time Analyzed	Mid
Project Description	I-95 SB Weave bt SB Rest Stop and Hwy 6	Units	U.S. Customary

## Geometric Data

Number of Lanes (N), ln	3	Segment Type	Freeway
Segment Length (Ls), ft	775	Number of Maneuver Lanes (NWL), ln	2
Weaving Configuration	One-Sided	Ramp-to-Freeway Lane Changes (LCRF), lc	1
Terrain Type	Level	Freeway-to-Ramp Lane Changes (LCFR), lc	1
Percent Grade, %	-	Ramp-to-Ramp Lane Changes (LCRR), lc	0
Interchange Density (ID), int/mi	0.80	Cross Weaving Managed Lane	No

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor for CAVs, CAFCAV	1.000
Proportion of CAVs in Traffic Stream	0	Final Capacity Adjustment Factor (CAF)	1.000

## Demand and Capacity

	FF	RF	RR	FR
Demand Volume (Vi), veh/h	1324	96	0	176
Peak Hour Factor (PHF)	0.94	0.94	0.94	0.94
Total Trucks, %	20.00	5.00	0.00	6.00
Heavy Vehicle Adjustment Factor (fHV)	0.833	0.952	1.000	0.943
Flow Rate (vi), pc/h	1691	107	0	199
Weaving Flow Rate (vw), pc/h	306	Ideal Conditions Capacity (ciFL), pc/h/ln		2400
Non-Weaving Flow Rate (vNW), pc/h	1691	Density-Based Capacity (ciWL × N × fHV), veh/h		5482
Total Flow Rate (v), pc/h	1997	Demand Flow-Based Capacity (ciW × fHV), veh/h		13339
Volume Ratio (VR)	0.153	Weaving Area Capacity (cw), veh/h		5482
Minimum Lane Change Rate (LCMIN), lc/h	306	Adjusted Weaving Area Capacity (cWA), veh/h		5482
Maximum Weaving Length (LMAX), ft	4061	Demand-to-Capacity Ratio (v/c)		0.31

## Speed and Density

Non-Weaving Vehicle Index (INW)	105	Average Weaving Speed (SW), mi/h	65.8
Non-Weaving Lane Change Rate (LCNW), lc/h	191	Average Non-Weaving Speed (SNW), mi/h	70.0
Weaving Lane Change Rate (LCW), lc/h	428	Average Speed (S), mi/h	69.3
Weaving Lane Change Rate (LCAII), lc/h	619	Density (D), pc/mi/ln	9.6
Weaving Intensity Factor (W)	0.189	Level of Service (LOS)	A

# HCS Freeway Merge Report

## Project Information

Analyst	TranSystems	Date	8/10/2023
Agency	SCDOT	Analysis Year	Opening (2029)
Jurisdiction		Time Analyzed	Mid
Project Description	I-95 SB On Ramp from Hwy 6	Units	U.S. Customary

## Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	70.5	45.0
Segment Length (L) / Acceleration Length (LA), ft	1500	800
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

## Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAFCAV	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

## Demand and Capacity

Demand Volume (Vi), veh/h	1244	103
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	20.00	6.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.833	0.943
Flow Rate (vi), pc/h	1589	116
Capacity (cmd), pc/h	4800	2100
Adjusted Capacity (cmd), pc/h	4800	2100
Volume-to-Capacity Ratio (v/c)	0.36	0.06

## Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (No), ln	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (MS)	0.270
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	62.8
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	1.000	Outer Lanes Freeway Speed (SO), mi/h	70.5
Flow in Lanes 1 and 2 (v12), pc/h	1589	Ramp Junction Speed (S), mi/h	62.8

Flow Entering Ramp-Infl. Area (vR12), pc/h	1705	Average Density (D), pc/mi/ln	13.6
Level of Service (LOS)	B	Density in Ramp Influence Area (DR), pc/mi/ln	13.8

# HCS Basic Freeway Report

## Project Information

Analyst	Transystems	Date	8/9/2023
Agency	SCDOT	Analysis Year	Opening (2029)
Jurisdiction		Time Analyzed	Mid
Project Description	I-95 NB south of Hwy 6	Units	U.S. Customary

## Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Rolling
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.0	Total Ramp Density (TRD), ramps/mi	1.50
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.5
Right-Side Lateral Clearance, ft	10		

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	1.000
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAFCAV	1.000

## Demand and Capacity

Demand Volume (V), veh/h	1276	Heavy Vehicle Adjustment Factor (fhv)	0.704
Peak Hour Factor (PHF)	0.94	Flow Rate (vp), pc/h/ln	964
Total Trucks, %	21.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.40
Passenger Car Equivalent (ET)	3.00		

## Speed and Density

Lane Width Adjustment (fLW)	0.0	Average Speed (S), mi/h	70.5
Right-Side Lateral Clearance Adj. (fRLC)	0.0	Density (D), pc/mi/ln	13.7
Total Ramp Density Adjustment	4.5	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFSadj), mi/h	70.5		

# HCS Basic Freeway Report

## Project Information

Analyst	Transystems	Date	8/9/2023
Agency	SCDOT	Analysis Year	Opening (2029)
Jurisdiction		Time Analyzed	Mid
Project Description	I-95 NB south of US 15	Units	U.S. Customary

## Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Rolling
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.0	Total Ramp Density (TRD), ramps/mi	1.50
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.5
Right-Side Lateral Clearance, ft	10		

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	1.000
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAFCAV	1.000

## Demand and Capacity

Demand Volume (V), veh/h	1330	Heavy Vehicle Adjustment Factor (fhv)	0.704
Peak Hour Factor (PHF)	0.94	Flow Rate (vp), pc/h/ln	1005
Total Trucks, %	21.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.42
Passenger Car Equivalent (ET)	3.00		

## Speed and Density

Lane Width Adjustment (fLW)	0.0	Average Speed (S), mi/h	70.5
Right-Side Lateral Clearance Adj. (fRLC)	0.0	Density (D), pc/mi/ln	14.3
Total Ramp Density Adjustment	4.5	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFSadj), mi/h	70.5		

# HCS Basic Freeway Report

## Project Information

Analyst	Transystems	Date	8/9/2023
Agency	SCDOT	Analysis Year	Opening (2029)
Jurisdiction		Time Analyzed	Mid
Project Description	I-95 NB south of Buff Blvd	Units	U.S. Customary

## Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Rolling
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.0	Total Ramp Density (TRD), ramps/mi	1.50
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.5
Right-Side Lateral Clearance, ft	10		

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	1.000
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAFCAV	1.000

## Demand and Capacity

Demand Volume (V), veh/h	1260	Heavy Vehicle Adjustment Factor (fhv)	0.704
Peak Hour Factor (PHF)	0.94	Flow Rate (vp), pc/h/ln	952
Total Trucks, %	21.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.40
Passenger Car Equivalent (ET)	3.00		

## Speed and Density

Lane Width Adjustment (fLW)	0.0	Average Speed (S), mi/h	70.5
Right-Side Lateral Clearance Adj. (fRLC)	0.0	Density (D), pc/mi/ln	13.5
Total Ramp Density Adjustment	4.5	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFSadj), mi/h	70.5		



# HCS Basic Freeway Report

## Project Information

Analyst	Transystems	Date	8/9/2023
Agency	SCDOT	Analysis Year	Opening (2029)
Jurisdiction		Time Analyzed	Mid
Project Description	I-95 NB north of Buff Blvd	Units	U.S. Customary

## Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Rolling
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.0	Total Ramp Density (TRD), ramps/mi	1.50
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.5
Right-Side Lateral Clearance, ft	10		

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	1.000
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAFCAV	1.000

## Demand and Capacity

Demand Volume (V), veh/h	1209	Heavy Vehicle Adjustment Factor (fhv)	0.704
Peak Hour Factor (PHF)	0.94	Flow Rate (vp), pc/h/ln	914
Total Trucks, %	21.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.38
Passenger Car Equivalent (ET)	3.00		

## Speed and Density

Lane Width Adjustment (fLW)	0.0	Average Speed (S), mi/h	70.5
Right-Side Lateral Clearance Adj. (fRLC)	0.0	Density (D), pc/mi/ln	13.0
Total Ramp Density Adjustment	4.5	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFSadj), mi/h	70.5		

# HCS Basic Freeway Report

## Project Information

Analyst	Transystems	Date	8/9/2023
Agency	SCDOT	Analysis Year	Opening (2029)
Jurisdiction		Time Analyzed	Mid
Project Description	I-95 SB north of Buff Blvd	Units	U.S. Customary

## Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Rolling
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.0	Total Ramp Density (TRD), ramps/mi	1.50
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.5
Right-Side Lateral Clearance, ft	10		

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	1.000
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAFCAV	1.000

## Demand and Capacity

Demand Volume (V), veh/h	1311	Heavy Vehicle Adjustment Factor (fhv)	0.714
Peak Hour Factor (PHF)	0.94	Flow Rate (vp), pc/h/ln	976
Total Trucks, %	20.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.41
Passenger Car Equivalent (ET)	3.00		

## Speed and Density

Lane Width Adjustment (fLW)	0.0	Average Speed (S), mi/h	70.5
Right-Side Lateral Clearance Adj. (fRLC)	0.0	Density (D), pc/mi/ln	13.8
Total Ramp Density Adjustment	4.5	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFSadj), mi/h	70.5		

# HCS Basic Freeway Report

## Project Information

Analyst	Transystems	Date	8/9/2023
Agency	SCDOT	Analysis Year	Opening (2029)
Jurisdiction		Time Analyzed	Mid
Project Description	I-95 SB south of Buff Blvd	Units	U.S. Customary

## Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Rolling
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.0	Total Ramp Density (TRD), ramps/mi	1.50
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.5
Right-Side Lateral Clearance, ft	10		

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	1.000
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAFCAV	1.000

## Demand and Capacity

Demand Volume (V), veh/h	1343	Heavy Vehicle Adjustment Factor (fhv)	0.714
Peak Hour Factor (PHF)	0.94	Flow Rate (vp), pc/h/ln	1000
Total Trucks, %	20.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.42
Passenger Car Equivalent (ET)	3.00		

## Speed and Density

Lane Width Adjustment (fLW)	0.0	Average Speed (S), mi/h	70.5
Right-Side Lateral Clearance Adj. (fRLC)	0.0	Density (D), pc/mi/ln	14.2
Total Ramp Density Adjustment	4.5	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFSadj), mi/h	70.5		

# HCS Basic Freeway Report

## Project Information

Analyst	Transystems	Date	8/9/2023
Agency	SCDOT	Analysis Year	Opening (2029)
Jurisdiction		Time Analyzed	Mid
Project Description	I-95 SB south of US 15	Units	U.S. Customary

## Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Rolling
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.0	Total Ramp Density (TRD), ramps/mi	1.50
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.5
Right-Side Lateral Clearance, ft	10		

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	1.000
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAFCAV	1.000

## Demand and Capacity

Demand Volume (V), veh/h	1420	Heavy Vehicle Adjustment Factor (fhv)	0.714
Peak Hour Factor (PHF)	0.94	Flow Rate (vp), pc/h/ln	1058
Total Trucks, %	20.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.44
Passenger Car Equivalent (ET)	3.00		

## Speed and Density

Lane Width Adjustment (fLW)	0.0	Average Speed (S), mi/h	70.5
Right-Side Lateral Clearance Adj. (fRLC)	0.0	Density (D), pc/mi/ln	15.0
Total Ramp Density Adjustment	4.5	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFSadj), mi/h	70.5		

# HCS Basic Freeway Report

## Project Information

Analyst	Transystems	Date	8/9/2023
Agency	SCDOT	Analysis Year	Opening (2029)
Jurisdiction		Time Analyzed	Mid
Project Description	I-95 SB south of Hwy 6	Units	U.S. Customary

## Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Rolling
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.0	Total Ramp Density (TRD), ramps/mi	1.50
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.5
Right-Side Lateral Clearance, ft	10		

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	1.000
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAFCAV	1.000

## Demand and Capacity

Demand Volume (V), veh/h	1347	Heavy Vehicle Adjustment Factor (fhv)	0.714
Peak Hour Factor (PHF)	0.94	Flow Rate (vp), pc/h/ln	1004
Total Trucks, %	20.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.42
Passenger Car Equivalent (ET)	3.00		

## Speed and Density

Lane Width Adjustment (fLW)	0.0	Average Speed (S), mi/h	70.5
Right-Side Lateral Clearance Adj. (fRLC)	0.0	Density (D), pc/mi/ln	14.2
Total Ramp Density Adjustment	4.5	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFSadj), mi/h	70.5		

Lanes, Volumes, Timings  
24: Hwy 6 & I-95 SB Ramp

08/10/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SWL2	SWL	SWR
Lane Configurations		↗		↖	↖				↖		↖
Traffic Volume (vph)	0	337	57	41	302	0	0	0	59	0	107
Future Volume (vph)	0	337	57	41	302	0	0	0	59	0	107
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		75	175		0	0	0		0	150
Storage Lanes	0		0	1		0	0	0		1	1
Taper Length (ft)	25			25			25			25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.980									0.850
Flt Protected				0.950					0.950		
Satd. Flow (prot)	0	1757	0	1703	1792	0	0	0	1703	0	1524
Flt Permitted				0.197					0.950		
Satd. Flow (perm)	0	1757	0	353	1792	0	0	0	1703	0	1524
Right Turn on Red			Yes			Yes					Yes
Satd. Flow (RTOR)		15									431
Link Speed (mph)		30			30		30			30	
Link Distance (ft)		221			1070		658			713	
Travel Time (s)		5.0			24.3		15.0			16.2	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Growth Factor	106%	106%	106%	106%	106%	106%	106%	106%	106%	106%	106%
Heavy Vehicles (%)	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%
Adj. Flow (vph)	0	401	68	49	360	0	0	0	70	0	127
Shared Lane Traffic (%)											
Lane Group Flow (vph)	0	469	0	49	360	0	0	0	70	0	127
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Right	Left	Left	Right
Median Width(ft)		12			12		0			12	
Link Offset(ft)		0			0		0			0	
Crosswalk Width(ft)		16			16		16			16	
Two way Left Turn Lane											
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15	9	15	15	9
Number of Detectors		2		1	2				1		1
Detector Template		Thru		Left	Thru				Left		Right
Leading Detector (ft)		100		20	100				20		20
Trailing Detector (ft)		0		0	0				0		0
Detector 1 Position(ft)		0		0	0				0		0
Detector 1 Size(ft)		6		20	6				20		20
Detector 1 Type		Cl+Ex		Cl+Ex	Cl+Ex				Cl+Ex		Cl+Ex
Detector 1 Channel											
Detector 1 Extend (s)		0.0		0.0	0.0				0.0		0.0
Detector 1 Queue (s)		0.0		0.0	0.0				0.0		0.0
Detector 1 Delay (s)		0.0		0.0	0.0				0.0		0.0
Detector 2 Position(ft)		94			94						
Detector 2 Size(ft)		6			6						
Detector 2 Type		Cl+Ex			Cl+Ex						
Detector 2 Channel											
Detector 2 Extend (s)		0.0			0.0						
Turn Type		NA		pm+pt	NA				Perm		Perm

# Lanes, Volumes, Timings

## 24: Hwy 6 & I-95 SB Ramp

08/10/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SWL2	SWL	SWR
Protected Phases		4		3	8						
Permitted Phases				8					6		6
Detector Phase		4		3	8				6		6
Switch Phase											
Minimum Initial (s)		5.0		5.0	5.0				5.0		5.0
Minimum Split (s)		24.0		11.0	24.0				24.0		24.0
Total Split (s)		25.0		11.0	36.0				24.0		24.0
Total Split (%)		41.7%		18.3%	60.0%				40.0%		40.0%
Maximum Green (s)		19.0		5.0	30.0				18.0		18.0
Yellow Time (s)		4.0		4.0	4.0				4.0		4.0
All-Red Time (s)		2.0		2.0	2.0				2.0		2.0
Lost Time Adjust (s)		0.0		0.0	0.0				0.0		0.0
Total Lost Time (s)		6.0		6.0	6.0				6.0		6.0
Lead/Lag		Lag		Lead							
Lead-Lag Optimize?		Yes		Yes							
Vehicle Extension (s)		3.0		3.0	3.0				3.0		3.0
Recall Mode		None		None	None				Max		Max
Walk Time (s)		7.0			7.0				7.0		7.0
Flash Dont Walk (s)		11.0			11.0				11.0		11.0
Pedestrian Calls (#/hr)		0			0				0		0
Act Effect Green (s)		16.9		22.8	22.8				18.5		18.5
Actuated g/C Ratio		0.32		0.43	0.43				0.35		0.35
v/c Ratio		0.83		0.18	0.47				0.12		0.16
Control Delay		32.8		9.4	12.5				15.6		0.4
Queue Delay		0.0		0.0	0.0				0.0		0.0
Total Delay		32.8		9.4	12.5				15.6		0.4
LOS		C		A	B				B		A
Approach Delay		32.8			12.2					5.8	
Approach LOS		C			B					A	
Queue Length 50th (ft)		150		8	75				18		0
Queue Length 95th (ft)		#294		22	128				44		0
Internal Link Dist (ft)		141			990		578			633	
Turn Bay Length (ft)				175							150
Base Capacity (vph)		648		279	1028				586		807
Starvation Cap Reductn		0		0	0				0		0
Spillback Cap Reductn		0		0	0				0		0
Storage Cap Reductn		0		0	0				0		0
Reduced v/c Ratio		0.72		0.18	0.35				0.12		0.16

### Intersection Summary

Area Type:	Other
Cycle Length:	60
Actuated Cycle Length:	53.6
Natural Cycle:	60
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.83
Intersection Signal Delay:	20.0
Intersection LOS:	B
Intersection Capacity Utilization:	36.6%
ICU Level of Service:	A
Analysis Period (min):	15

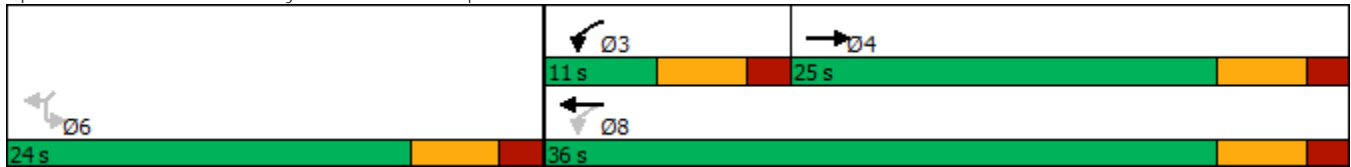
# Lanes, Volumes, Timings

## 24: Hwy 6 & I-95 SB Ramp

08/10/2023

# 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

Splits and Phases: 24: Hwy 6 & I-95 SB Ramp





# Lanes, Volumes, Timings

## 27: Bass Dr & Hwy 6

08/10/2023

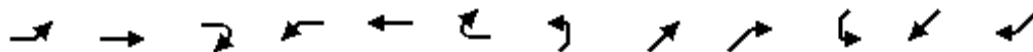


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	4	131	69	160	136	30	64	31	172	31	34	7
Future Volume (vph)	4	131	69	160	136	30	64	31	172	31	34	7
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	120		0	170		0	175		0	120		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.948			0.973			0.873			0.974	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1719	1715	0	1719	1761	0	1719	1580	0	1752	1762	0
Flt Permitted	0.641			0.604			0.581			0.617		
Satd. Flow (perm)	1160	1715	0	1093	1761	0	1051	1580	0	1138	1762	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		45			19			192				8
Link Speed (mph)		30			30			30				30
Link Distance (ft)		638			518			530				613
Travel Time (s)		14.5			11.8			12.0				13.9
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	106%	106%	106%	106%	106%	106%	106%	106%	106%	106%	106%	106%
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	5%	5%	5%	3%	5%	5%
Adj. Flow (vph)	4	146	77	179	152	33	71	35	192	35	38	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	4	223	0	179	185	0	71	227	0	35	46	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		Perm	NA	

# Lanes, Volumes, Timings

## 27: Bass Dr & Hwy 6

08/10/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Protected Phases		4			8		5	2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	24.0	24.0		24.0	24.0		11.0	24.0		24.0	24.0	
Total Split (s)	24.0	24.0		24.0	24.0		11.0	36.0		25.0	25.0	
Total Split (%)	40.0%	40.0%		40.0%	40.0%		18.3%	60.0%		41.7%	41.7%	
Maximum Green (s)	18.0	18.0		18.0	18.0		5.0	30.0		19.0	19.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Max		Max	Max	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0			11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0			0		0	0	
Act Effect Green (s)	13.4	13.4		13.4	13.4		30.2	30.2		23.9	23.9	
Actuated g/C Ratio	0.24	0.24		0.24	0.24		0.54	0.54		0.43	0.43	
v/c Ratio	0.01	0.50		0.68	0.42		0.11	0.24		0.07	0.06	
Control Delay	15.0	18.0		32.7	18.6		7.8	2.9		14.4	12.3	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	15.0	18.0		32.7	18.6		7.8	2.9		14.4	12.3	
LOS	B	B		C	B		A	A		B	B	
Approach Delay		18.0			25.5			4.1			13.2	
Approach LOS		B			C			A			B	
Queue Length 50th (ft)	1	50		54	46		10	5		8	8	
Queue Length 95th (ft)	7	102		110	92		29	35		26	29	
Internal Link Dist (ft)		558			438			450			533	
Turn Bay Length (ft)	120			170			175			120		
Base Capacity (vph)	377	588		355	585		629	944		488	761	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.01	0.38		0.50	0.32		0.11	0.24		0.07	0.06	

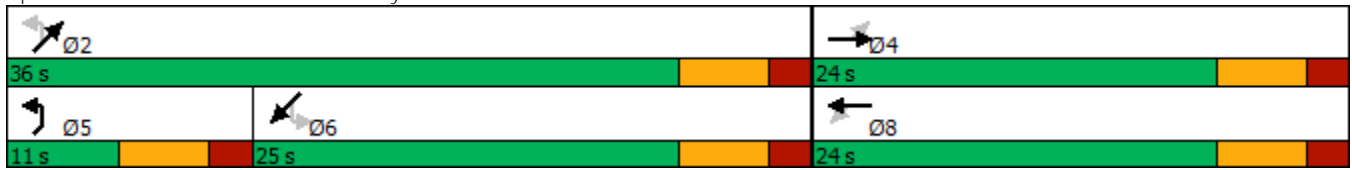
### Intersection Summary

Area Type:	Other
Cycle Length:	60
Actuated Cycle Length:	55.7
Natural Cycle:	60
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.68
Intersection Signal Delay:	16.2
Intersection LOS:	B
Intersection Capacity Utilization:	58.3%
ICU Level of Service:	B
Analysis Period (min):	15

Lanes, Volumes, Timings  
 27: Bass Dr & Hwy 6

08/10/2023

Splits and Phases: 27: Bass Dr & Hwy 6



# Lanes, Volumes, Timings

## 30: Bradford & Hwy 6

08/10/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	359	11	41	352	1	12	0	33	1	0	3
Future Volume (vph)	2	359	11	41	352	1	12	0	33	1	0	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	120		0	120		0	0		0	0		0
Storage Lanes	1		0	1		0	1		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.995							0.850		0.899	
Flt Protected	0.950			0.950			0.950				0.988	
Satd. Flow (prot)	1685	1800	0	1719	1810	0	1719	1810	1538	0	1607	0
Flt Permitted	0.950			0.950			0.950				0.988	
Satd. Flow (perm)	1685	1800	0	1719	1810	0	1719	1810	1538	0	1607	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		518			385			504			268	
Travel Time (s)		11.8			8.8			11.5			6.1	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Growth Factor	106%	106%	106%	106%	106%	106%	106%	106%	106%	106%	106%	106%
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Bus Blockages (#/hr)	5	0	0	0	0	0	0	0	0	0	0	0
Adj. Flow (vph)	2	418	13	48	410	1	14	0	38	1	0	3
Shared Lane Traffic (%)												
Lane Group Flow (vph)	2	431	0	48	411	0	14	0	38	0	4	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.03	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary	
Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	37.4%
Analysis Period (min)	15
	ICU Level of Service A

Lanes, Volumes, Timings  
 33: I-95 BNB Ramp & Hwy 6

08/10/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SBL	SBR	NEL2	NEL	NER
Lane Configurations											
Traffic Volume (vph)	56	307	0	0	308	76	0	0	36	0	45
Future Volume (vph)	56	307	0	0	308	76	0	0	36	0	45
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	0		0	0	0		0	0
Storage Lanes	1		0	0		0	0	0		1	1
Taper Length (ft)	25			25			25			25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.973						0.850
Flt Protected	0.950								0.950		
Satd. Flow (prot)	1719	1810	0	0	1761	0	0	0	1719	0	1538
Flt Permitted	0.212								0.950		
Satd. Flow (perm)	384	1810	0	0	1761	0	0	0	1719	0	1538
Right Turn on Red			Yes			Yes					Yes
Satd. Flow (RTOR)					21						433
Link Speed (mph)		30			30		30			30	
Link Distance (ft)		1070			197		602			707	
Travel Time (s)		24.3			4.5		13.7			16.1	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Growth Factor	106%	106%	106%	106%	106%	106%	106%	106%	106%	106%	106%
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	63	346	0	0	347	86	0	0	41	0	51
Shared Lane Traffic (%)											
Lane Group Flow (vph)	63	346	0	0	433	0	0	0	41	0	51
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Right	Left	Left	Right
Median Width(ft)		12			12		0			12	
Link Offset(ft)		0			0		0			0	
Crosswalk Width(ft)		16			16		16			16	
Two way Left Turn Lane											
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15	9	15	15	9
Number of Detectors	1	2			2				1		1
Detector Template	Left	Thru			Thru				Left		Right
Leading Detector (ft)	20	100			100				20		20
Trailing Detector (ft)	0	0			0				0		0
Detector 1 Position(ft)	0	0			0				0		0
Detector 1 Size(ft)	20	6			6				20		20
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex				Cl+Ex		Cl+Ex
Detector 1 Channel											
Detector 1 Extend (s)	0.0	0.0			0.0				0.0		0.0
Detector 1 Queue (s)	0.0	0.0			0.0				0.0		0.0
Detector 1 Delay (s)	0.0	0.0			0.0				0.0		0.0
Detector 2 Position(ft)		94			94						
Detector 2 Size(ft)		6			6						
Detector 2 Type		Cl+Ex			Cl+Ex						
Detector 2 Channel											
Detector 2 Extend (s)		0.0			0.0						
Turn Type	pm+pt	NA			NA				Perm		Perm

Lanes, Volumes, Timings  
 33: I-95 BNB Ramp & Hwy 6

08/10/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SBL	SBR	NEL2	NEL	NER
Protected Phases	7	4			8						
Permitted Phases	4								2		2
Detector Phase	7	4			8				2		2
Switch Phase											
Minimum Initial (s)	5.0	5.0			5.0				5.0		5.0
Minimum Split (s)	11.0	24.0			24.0				24.0		24.0
Total Split (s)	11.0	35.0			24.0				25.0		25.0
Total Split (%)	18.3%	58.3%			40.0%				41.7%		41.7%
Maximum Green (s)	5.0	29.0			18.0				19.0		19.0
Yellow Time (s)	4.0	4.0			4.0				4.0		4.0
All-Red Time (s)	2.0	2.0			2.0				2.0		2.0
Lost Time Adjust (s)	0.0	0.0			0.0				0.0		0.0
Total Lost Time (s)	6.0	6.0			6.0				6.0		6.0
Lead/Lag	Lead				Lag						
Lead-Lag Optimize?	Yes				Yes						
Vehicle Extension (s)	3.0	3.0			3.0				3.0		3.0
Recall Mode	None	None			None				Max		Max
Walk Time (s)		7.0			7.0				7.0		7.0
Flash Dont Walk (s)		11.0			11.0				11.0		11.0
Pedestrian Calls (#/hr)		0			0				0		0
Act Effct Green (s)	21.6	21.6			15.7				19.5		19.5
Actuated g/C Ratio	0.40	0.40			0.29				0.37		0.37
v/c Ratio	0.22	0.47			0.81				0.07		0.06
Control Delay	10.5	13.2			32.1				14.5		0.1
Queue Delay	0.0	0.0			0.0				0.0		0.0
Total Delay	10.5	13.2			32.1				14.5		0.1
LOS	B	B			C				B		A
Approach Delay		12.8			32.1					6.6	
Approach LOS		B			C					A	
Queue Length 50th (ft)	11	74			136				10		0
Queue Length 95th (ft)	28	129			#274				29		0
Internal Link Dist (ft)		990			117		522			627	
Turn Bay Length (ft)	200										
Base Capacity (vph)	283	1007			622				627		835
Starvation Cap Reductn	0	0			0				0		0
Spillback Cap Reductn	0	0			0				0		0
Storage Cap Reductn	0	0			0				0		0
Reduced v/c Ratio	0.22	0.34			0.70				0.07		0.06

Intersection Summary	
Area Type:	Other
Cycle Length:	60
Actuated Cycle Length:	53.4
Natural Cycle:	60
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.81
Intersection Signal Delay:	21.1
Intersection LOS:	C
Intersection Capacity Utilization:	36.6%
ICU Level of Service:	A
Analysis Period (min):	15

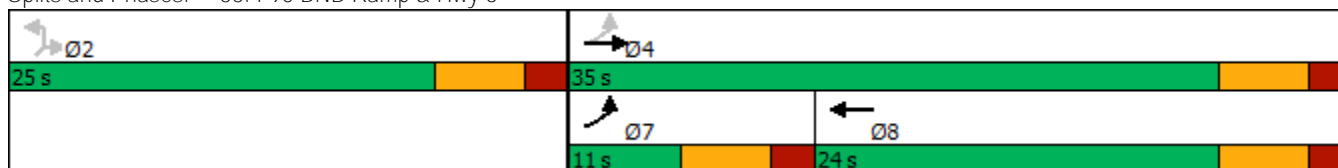
# Lanes, Volumes, Timings

## 33: I-95 BNB Ramp & Hwy 6

08/10/2023

# 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.

Splits and Phases: 33: I-95 BNB Ramp & Hwy 6



# Lanes, Volumes, Timings

## 36: Britain & Hwy 6

08/10/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	362	10	12	382	17	7	1	19	15	0	18
Future Volume (vph)	20	362	10	12	382	17	7	1	19	15	0	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	50		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.996			0.994			0.904			0.925	
Flt Protected	0.950			0.950				0.987			0.978	
Satd. Flow (prot)	1719	1802	0	1719	1799	0	0	1615	0	0	1637	0
Flt Permitted	0.950			0.950				0.987			0.978	
Satd. Flow (perm)	1719	1802	0	1719	1799	0	0	1615	0	0	1637	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		385			221			341			104	
Travel Time (s)		8.8			5.0			7.8			2.4	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Growth Factor	106%	106%	106%	106%	106%	106%	106%	106%	106%	106%	106%	106%
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	1	0	0
Adj. Flow (vph)	23	422	12	14	445	20	8	1	22	17	0	21
Shared Lane Traffic (%)												
Lane Group Flow (vph)	23	434	0	14	465	0	0	31	0	0	38	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	




















### Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	32.6%
Analysis Period (min)	15
	ICU Level of Service A



Lanes, Volumes, Timings  
42: St Paul Rd & US 301/Gas Station

08/10/2023

												
Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	2	8	48	2	9	12	0	1	5	50	0	11
Future Volume (vph)	2	8	48	2	9	12	0	1	5	50	0	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	1.00	0.95	0.95
Frt			0.850		0.927			0.871				0.850
Flt Protected		0.991			0.996					0.950		
Satd. Flow (prot)	0	1637	1404	0	1525	0	0	2734	0	1570	2668	0
Flt Permitted		0.991			0.996					0.950		
Satd. Flow (perm)	0	1637	1404	0	1525	0	0	2734	0	1570	2668	0
Link Speed (mph)		30			30			30				30
Link Distance (ft)		420			204			822				934
Travel Time (s)		9.5			4.6			18.7				21.2
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Growth Factor	106%	106%	106%	106%	106%	106%	106%	106%	106%	106%	106%	106%
Heavy Vehicles (%)	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Adj. Flow (vph)	2	9	55	2	10	14	0	1	6	57	0	13
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	11	55	0	26	0	0	7	0	57	13	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free				Free
<b>Intersection Summary</b>												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	20.0%						ICU Level of Service A					
Analysis Period (min)	15											

Lanes, Volumes, Timings  
44: US 301 & I-95 SB Ramp

08/10/2023



Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↔↑			↑↔						↔↑	
Traffic Volume (vph)	45	54	0	0	14	50	0	0	0	8	1	14
Future Volume (vph)	45	54	0	0	14	50	0	0	0	8	1	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr <sub>t</sub>					0.894						0.918	
Fl <sub>t</sub> Protected		0.978									0.982	
Satd. Flow (prot)	0	3181	0	0	1530	0	0	0	0	0	1543	0
Fl <sub>t</sub> Permitted		0.978									0.982	
Satd. Flow (perm)	0	3181	0	0	1530	0	0	0	0	0	1543	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		341			420			593			580	
Travel Time (s)		7.8			9.5			13.5			13.2	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Growth Factor	106%	106%	106%	106%	106%	106%	106%	106%	106%	106%	106%	106%
Heavy Vehicles (%)	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%
Adj. Flow (vph)	55	66	0	0	17	61	0	0	0	10	1	17
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	121	0	0	78	0	0	0	0	0	28	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	19.3%
Analysis Period (min)	15
	ICU Level of Service A

Lanes, Volumes, Timings  
 47: I-95 NB Ramp/US 301 & S-14-400

08/10/2023



Lane Group	WBL	WBR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Volume (vph)	7	58	43	35	16	6
Future Volume (vph)	7	58	43	35	16	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.879		0.940			
Flt Protected	0.995					0.965
Satd. Flow (prot)	1553	0	1669	0	0	1714
Flt Permitted	0.995					0.965
Satd. Flow (perm)	1553	0	1669	0	0	1714
Link Speed (mph)	30		30			30
Link Distance (ft)	708		346			378
Travel Time (s)	16.1		7.9			8.6
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	106%	106%	106%	106%	106%	106%
Heavy Vehicles (%)	7%	7%	7%	7%	7%	7%
Adj. Flow (vph)	8	68	51	41	19	7
Shared Lane Traffic (%)						
Lane Group Flow (vph)	76	0	92	0	0	26
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	18.8%
Analysis Period (min)	15
	ICU Level of Service A

Lanes, Volumes, Timings  
49: Gordon Rd & S-14-400

08/10/2023





















Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	38	19	25	2	2	33
Future Volume (vph)	38	19	25	2	2	33
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.954				0.873	
Flt Protected	0.968			0.956		
Satd. Flow (prot)	1720	0	0	1781	1626	0
Flt Permitted	0.968			0.956		
Satd. Flow (perm)	1720	0	0	1781	1626	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	708			417	425	
Travel Time (s)	16.1			9.5	9.7	
Peak Hour Factor	0.76	0.76	0.76	0.76	0.76	0.76
Growth Factor	106%	106%	106%	106%	106%	106%
Adj. Flow (vph)	53	27	35	3	3	46
Shared Lane Traffic (%)						
Lane Group Flow (vph)	80	0	0	38	49	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	18.4%
Analysis Period (min)	15
	ICU Level of Service A

Lanes, Volumes, Timings  
 54: US 301 & Buff Blvd/Hotel

08/10/2023

												
Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	10	1	81	6	5	2	0	36	5	85	35	1
Future Volume (vph)	10	1	81	6	5	2	0	36	5	85	35	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr <sub>t</sub>			0.850		0.976			0.984			0.999	
Fl <sub>t</sub> Protected		0.956			0.977						0.966	
Satd. Flow (prot)	0	1666	1482	0	1662	0	0	1715	0	0	1682	0
Fl <sub>t</sub> Permitted		0.956			0.977						0.966	
Satd. Flow (perm)	0	1666	1482	0	1662	0	0	1715	0	0	1682	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		3372			202			760			626	
Travel Time (s)		76.6			4.6			17.3			14.2	
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Growth Factor	106%	106%	106%	106%	106%	106%	106%	106%	106%	106%	106%	106%
Heavy Vehicles (%)	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%
Adj. Flow (vph)	13	1	102	8	6	3	0	45	6	107	44	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	14	102	0	17	0	0	51	0	0	152	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	
<b>Intersection Summary</b>												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	26.5%						ICU Level of Service A					
Analysis Period (min)	15											

# Lanes, Volumes, Timings

## 55: Buff Blvd

08/10/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕						↕		↕	↕	
Traffic Volume (vph)	96	0	20	0	0	0	0	50	12	53	47	0
Future Volume (vph)	96	0	20	0	0	0	0	50	12	53	47	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	150		0
Storage Lanes	0		0	0		0	0		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.977						0.973				
Flt Protected		0.960								0.950		
Satd. Flow (prot)	0	1449	0	0	0	0	0	1503	0	1467	1545	0
Flt Permitted		0.960								0.950		
Satd. Flow (perm)	0	1449	0	0	0	0	0	1503	0	1467	1545	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		596			536			930			1070	
Travel Time (s)		13.5			12.2			21.1			24.3	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Growth Factor	106%	106%	106%	106%	106%	106%	106%	106%	106%	106%	106%	106%
Heavy Vehicles (%)	23%	23%	23%	23%	23%	23%	23%	23%	23%	23%	23%	23%
Adj. Flow (vph)	117	0	24	0	0	0	0	61	15	65	57	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	141	0	0	0	0	0	76	0	65	57	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

### Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	23.4%
ICU Level of Service	A
Analysis Period (min)	15

# Lanes, Volumes, Timings

## 58: Buff Blvd & I-95 SB Ramp

08/10/2023



















Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↔			↕			↕	
Traffic Volume (vph)	0	0	0	15	1	70	16	131	0	0	86	99
Future Volume (vph)	0	0	0	15	1	70	16	131	0	0	86	99
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.95	0.95
Frt					0.890						0.919	
Flt Protected					0.991			0.995				
Satd. Flow (prot)	0	0	0	0	1320	0	0	2828	0	0	2612	0
Flt Permitted					0.991			0.995				
Satd. Flow (perm)	0	0	0	0	1320	0	0	2828	0	0	2612	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		723			820			1070			3372	
Travel Time (s)		16.4			18.6			24.3			76.6	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	106%	106%	106%	106%	106%	106%	106%	106%	106%	106%	106%	106%
Heavy Vehicles (%)	27%	27%	27%	27%	27%	27%	27%	27%	27%	27%	27%	27%
Adj. Flow (vph)	0	0	0	18	1	82	19	154	0	0	101	117
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	101	0	0	173	0	0	218	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	25.7%
ICU Level of Service	A
Analysis Period (min)	15

Lanes, Volumes, Timings  
66: US 301 & Liberty Hill

08/10/2023

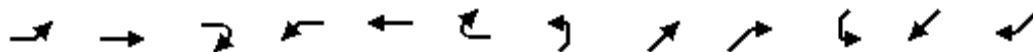
												
Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	1	2	2	6	1	26	16	23	2	3	28	6
Future Volume (vph)	1	2	2	6	1	26	16	23	2	3	28	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.946			0.892			0.995			0.979	
Flt Protected		0.990			0.991			0.981			0.996	
Satd. Flow (prot)	0	1534	0	0	1448	0	0	1599	0	0	1597	0
Flt Permitted		0.990			0.991			0.981			0.996	
Satd. Flow (perm)	0	1534	0	0	1448	0	0	1599	0	0	1597	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		717			491			738			807	
Travel Time (s)		16.3			11.2			16.8			18.3	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Growth Factor	106%	106%	106%	106%	106%	106%	106%	106%	106%	106%	106%	106%
Heavy Vehicles (%)	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%
Adj. Flow (vph)	1	2	2	7	1	32	20	29	2	4	35	7
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	5	0	0	40	0	0	51	0	0	46	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	
<b>Intersection Summary</b>												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	16.9%					ICU Level of Service A						
Analysis Period (min)	15											



# Lanes, Volumes, Timings

## 71: Mall St & Hwy 6

08/10/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕		↕	↑			↕			↕	
Traffic Volume (vph)	29	291	4	1	344	10	12	0	1	12	0	26
Future Volume (vph)	29	291	4	1	344	10	12	0	1	12	0	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr <sub>t</sub>		0.998			0.996			0.991			0.908	
Fl <sub>t</sub> Protected		0.996		0.950				0.955			0.984	
Satd. Flow (prot)	0	1816	0	1736	1820	0	0	1729	0	0	1632	0
Fl <sub>t</sub> Permitted		0.996		0.950				0.955			0.984	
Satd. Flow (perm)	0	1816	0	1736	1820	0	0	1729	0	0	1632	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		197			931			214			176	
Travel Time (s)		4.5			21.2			4.9			4.0	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Growth Factor	106%	106%	106%	106%	106%	106%	106%	106%	106%	106%	106%	106%
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Adj. Flow (vph)	34	339	5	1	401	12	14	0	1	14	0	30
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	378	0	1	413	0	0	15	0	0	44	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

### Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	51.4%
ICU Level of Service	A
Analysis Period (min)	15

**Year 2029 PM**

**TRANSYSTEMS**

# HCS Freeway Diverge Report

## Project Information

Analyst	Transystems	Date	8/10/2023
Agency	SCDOT	Analysis Year	Opening (2029)
Jurisdiction		Time Analyzed	PM
Project Description	I-95 NB Exit to Hwy 6	Units	U.S. Customary

## Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	70.5	45.0
Segment Length (L) / Deceleration Length (LD), ft	1500	225
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

## Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	1.000	1.000
Capacity Adj. Factor for CAVs, CAFCAV	1.000	-

## Demand and Capacity

Demand Volume (Vi), veh/h	1123	135
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	21.00	3.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.826	0.971
Flow Rate (vi), pc/h	1446	148
Capacity (cmd), pc/h	4800	2100
Adjusted Capacity (cmd), pc/h	4800	2100
Volume-to-Capacity Ratio (v/c)	0.30	0.07

## Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (No), ln	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (DS)	0.311
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influence Area Speed (SR), mi/h	61.6
Prop. Freeway Vehicles in Lane 1 and 2 (PFD)	1.000	Outer Lanes Freeway Speed (SO), mi/h	77.3
Flow in Lanes 1 and 2 (v12), pc/h	1446	Ramp Junction Speed (S), mi/h	61.6

Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	11.7
Level of Service (LOS)	B	Density in Ramp Influence Area (DR), pc/mi/ln	14.7

# HCS Freeway Merge Report

## Project Information

Analyst	TranSystems	Date	8/10/2023
Agency	SCDOT	Analysis Year	Opening (2029)
Jurisdiction		Time Analyzed	PM
Project Description	I-95 NB On Ramp from Hwy 6	Units	U.S. Customary

## Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	70.5	45.0
Segment Length (L) / Acceleration Length (LA), ft	955	800
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

## Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAFCAV	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

## Demand and Capacity

Demand Volume (Vi), veh/h	1123	217
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	21.00	3.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.826	0.971
Flow Rate (vi), pc/h	1446	238
Capacity (cmd), pc/h	4800	2100
Adjusted Capacity (cmd), pc/h	4800	2100
Volume-to-Capacity Ratio (v/c)	0.35	0.11

## Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (No), ln	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (MS)	0.270
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	62.8
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	1.000	Outer Lanes Freeway Speed (SO), mi/h	70.5
Flow in Lanes 1 and 2 (v12), pc/h	1446	Ramp Junction Speed (S), mi/h	62.8

Flow Entering Ramp-Infl. Area (vR12), pc/h	1684	Average Density (D), pc/mi/ln	13.4
Level of Service (LOS)	B	Density in Ramp Influence Area (DR), pc/mi/ln	13.6

# HCS Freeway Diverge Report

## Project Information

Analyst	Transystems	Date	8/10/2023
Agency	SCDOT	Analysis Year	Opening (2029)
Jurisdiction		Time Analyzed	PM
Project Description	I-95 NB Exit to NB Rest Stop	Units	U.S. Customary

## Geometric Data

	Freeway	Ramp
Number of Lanes (N), In	2	1
Free-Flow Speed (FFS), mi/h	70.5	45.0
Segment Length (L) / Deceleration Length (LD), ft	955	225
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

## Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	1.000	1.000
Capacity Adj. Factor for CAVs, CAFCAV	1.000	-

## Demand and Capacity

Demand Volume (Vi), veh/h	1285	55
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	21.00	18.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.826	0.847
Flow Rate (vi), pc/h	1655	69
Capacity (cmd), pc/h	4800	2100
Adjusted Capacity (cmd), pc/h	4800	2100
Volume-to-Capacity Ratio (v/c)	0.34	0.03

## Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (No), In	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (DS)	0.304
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influence Area Speed (SR), mi/h	61.8
Prop. Freeway Vehicles in Lane 1 and 2 (PFD)	1.000	Outer Lanes Freeway Speed (SO), mi/h	77.3
Flow in Lanes 1 and 2 (v12), pc/h	1655	Ramp Junction Speed (S), mi/h	61.8

Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	13.4
Level of Service (LOS)	B	Density in Ramp Influence Area (DR), pc/mi/ln	16.5



# HCS Freeway Merge Report

## Project Information

Analyst	TranSystems	Date	8/10/2023
Agency	SCDOT	Analysis Year	Opening (2029)
Jurisdiction		Time Analyzed	Mid
Project Description	I-95 NB On Ramp from NB Rest Stop	Units	U.S. Customary

## Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	70.5	45.0
Segment Length (L) / Acceleration Length (LA), ft	1500	800
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

## Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAFCAV	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

## Demand and Capacity

Demand Volume (Vi), veh/h	1285	55
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	21.00	18.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.826	0.847
Flow Rate (vi), pc/h	1655	69
Capacity (cmd), pc/h	4800	2100
Adjusted Capacity (cmd), pc/h	4800	2100
Volume-to-Capacity Ratio (v/c)	0.36	0.03

## Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (NO), ln	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (MS)	0.271
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	62.8
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	1.000	Outer Lanes Freeway Speed (SO), mi/h	70.5
Flow in Lanes 1 and 2 (v12), pc/h	1655	Ramp Junction Speed (S), mi/h	62.8

Flow Entering Ramp-Infl. Area (vR12), pc/h	1724	Average Density (D), pc/mi/ln	13.7
Level of Service (LOS)	B	Density in Ramp Influence Area (DR), pc/mi/ln	13.9

# HCS Freeway Diverge Report

## Project Information

Analyst	Transystems	Date	8/9/2023
Agency	SCDOT	Analysis Year	Opening (2029)
Jurisdiction		Time Analyzed	PM
Project Description	I-95 NB Exit to US 15	Units	U.S. Customary

## Geometric Data

	Freeway	Ramp
Number of Lanes (N), In	2	1
Free-Flow Speed (FFS), mi/h	70.5	45.0
Segment Length (L) / Deceleration Length (LD), ft	1500	225
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

## Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	1.000	1.000
Capacity Adj. Factor for CAVs, CAFCAV	1.000	-

## Demand and Capacity

Demand Volume (Vi), veh/h	1153	187
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	21.00	8.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.826	0.926
Flow Rate (vi), pc/h	1485	215
Capacity (cmd), pc/h	4800	2100
Adjusted Capacity (cmd), pc/h	4800	2100
Volume-to-Capacity Ratio (v/c)	0.31	0.10

## Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (No), In	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (Ds)	0.317
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influence Area Speed (SR), mi/h	61.5
Prop. Freeway Vehicles in Lane 1 and 2 (PFD)	1.000	Outer Lanes Freeway Speed (So), mi/h	77.3
Flow in Lanes 1 and 2 (v12), pc/h	1485	Ramp Junction Speed (S), mi/h	61.5

Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	12.1
Level of Service (LOS)	B	Density in Ramp Influence Area (DR), pc/mi/ln	15.0

# HCS Freeway Merge Report

## Project Information

Analyst	TranSystems	Date	8/10/2023
Agency	SCDOT	Analysis Year	Opening (2029)
Jurisdiction		Time Analyzed	PM
Project Description	I-95 NB On Ramp from US 15	Units	U.S. Customary

## Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	70.5	45.0
Segment Length (L) / Acceleration Length (LA), ft	1500	800
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

## Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAFCAV	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

## Demand and Capacity

Demand Volume (Vi), veh/h	1153	14
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	21.00	8.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.826	0.926
Flow Rate (vi), pc/h	1485	16
Capacity (cmd), pc/h	4800	2100
Adjusted Capacity (cmd), pc/h	4800	2100
Volume-to-Capacity Ratio (v/c)	0.31	0.01

## Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (No), ln	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (MS)	0.266
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	62.9
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	1.000	Outer Lanes Freeway Speed (SO), mi/h	70.5
Flow in Lanes 1 and 2 (v12), pc/h	1485	Ramp Junction Speed (S), mi/h	62.9

Flow Entering Ramp-Infl. Area (vR12), pc/h	1501	Average Density (D), pc/mi/ln	11.9
Level of Service (LOS)	B	Density in Ramp Influence Area (DR), pc/mi/ln	12.2

### Design Analysis Table

Freeway Lanes, ln	2	2	3	3	4	4	5	5
Ramp Lanes, ln	1	2	1	2	1	2	1	2
Density, pc/mi/ln	11.9	11.6	7.6	7.5	5.6	5.5	3.5	3.4
LOS	B	A	A	A	A	A	A	A

# HCS Freeway Diverge Report

## Project Information

Analyst	Transystems	Date	8/10/2023
Agency	SCDOT	Analysis Year	Opening (2029)
Jurisdiction		Time Analyzed	PM
Project Description	I-95 NB Exit to Buff Blvd	Units	U.S. Customary

## Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	70.5	45.0
Segment Length (L) / Deceleration Length (LD), ft	1500	225
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

## Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	1.000	1.000
Capacity Adj. Factor for CAVs, CAFCAV	1.000	-

## Demand and Capacity

Demand Volume (Vi), veh/h	962	205
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	21.00	17.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.826	0.855
Flow Rate (vi), pc/h	1239	255
Capacity (cmd), pc/h	4800	2100
Adjusted Capacity (cmd), pc/h	4800	2100
Volume-to-Capacity Ratio (v/c)	0.26	0.12

## Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (No), ln	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (DS)	0.321
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influence Area Speed (SR), mi/h	61.4
Prop. Freeway Vehicles in Lane 1 and 2 (PFD)	1.000	Outer Lanes Freeway Speed (SO), mi/h	77.3
Flow in Lanes 1 and 2 (v12), pc/h	1239	Ramp Junction Speed (S), mi/h	61.4

Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	10.1
Level of Service (LOS)	B	Density in Ramp Influence Area (DR), pc/mi/ln	12.9



# HCS Freeway Merge Report

## Project Information

Analyst	TranSystems	Date	8/10/2023
Agency	SCDOT	Analysis Year	Opening (2029)
Jurisdiction		Time Analyzed	PM
Project Description	I-95 NB On Ramp from Buff Blvd	Units	U.S. Customary

## Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	70.5	45.0
Segment Length (L) / Acceleration Length (LA), ft	1500	800
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

## Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAFCAV	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

## Demand and Capacity

Demand Volume (Vi), veh/h	962	80
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	21.00	17.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.826	0.855
Flow Rate (vi), pc/h	1239	100
Capacity (cmd), pc/h	4800	2100
Adjusted Capacity (cmd), pc/h	4800	2100
Volume-to-Capacity Ratio (v/c)	0.28	0.05

## Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (No), ln	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (MS)	0.264
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	63.0
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	1.000	Outer Lanes Freeway Speed (SO), mi/h	70.5
Flow in Lanes 1 and 2 (v12), pc/h	1239	Ramp Junction Speed (S), mi/h	63.0

Flow Entering Ramp-Infl. Area (vR12), pc/h	1339	Average Density (D), pc/mi/ln	10.6
Level of Service (LOS)	B	Density in Ramp Influence Area (DR), pc/mi/ln	10.9

### Design Analysis Table

Freeway Lanes, ln	2	2	3	3	4	4	5	5
Ramp Lanes, ln	1	2	1	2	1	2	1	2
Density, pc/mi/ln	10.6	10.3	6.8	6.7	5.0	4.9	3.2	3.1
LOS	B	A	A	A	A	A	A	A

# HCS Freeway Diverge Report

## Project Information

Analyst	Transystems	Date	8/10/2023
Agency	SCDOT	Analysis Year	Opening (2029)
Jurisdiction		Time Analyzed	PM
Project Description	I-95 SB Exit to Buff Blvd	Units	U.S. Customary

## Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	70.5	45.0
Segment Length (L) / Deceleration Length (LD), ft	1500	225
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

## Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	1.000	1.000
Capacity Adj. Factor for CAVs, CAFCAV	1.000	-

## Demand and Capacity

Demand Volume (Vi), veh/h	930	89
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	18.00	30.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.847	0.769
Flow Rate (vi), pc/h	1168	123
Capacity (cmd), pc/h	4800	2100
Adjusted Capacity (cmd), pc/h	4800	2100
Volume-to-Capacity Ratio (v/c)	0.24	0.06

## Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (No), ln	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (DS)	0.309
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influence Area Speed (SR), mi/h	61.7
Prop. Freeway Vehicles in Lane 1 and 2 (PFD)	1.000	Outer Lanes Freeway Speed (SO), mi/h	77.3
Flow in Lanes 1 and 2 (v12), pc/h	1168	Ramp Junction Speed (S), mi/h	61.7

Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	9.5
Level of Service (LOS)	B	Density in Ramp Influence Area (DR), pc/mi/ln	12.3

# HCS Freeway Merge Report

## Project Information

Analyst	TranSystems	Date	8/9/2023
Agency	SCDOT	Analysis Year	Opening (2029)
Jurisdiction		Time Analyzed	PM
Project Description	I-95 SB On Ramp from Buff Blvd	Units	U.S. Customary

## Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	70.5	45.0
Segment Length (L) / Acceleration Length (LA), ft	1500	800
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

## Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAFCAV	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

## Demand and Capacity

Demand Volume (Vi), veh/h	930	166
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	20.00	30.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.833	0.769
Flow Rate (vi), pc/h	1188	230
Capacity (cmd), pc/h	4800	2100
Adjusted Capacity (cmd), pc/h	4800	2100
Volume-to-Capacity Ratio (v/c)	0.30	0.11

## Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (No), ln	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (MS)	0.265
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	62.9
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	1.000	Outer Lanes Freeway Speed (SO), mi/h	70.5
Flow in Lanes 1 and 2 (v12), pc/h	1188	Ramp Junction Speed (S), mi/h	62.9

Flow Entering Ramp-Infl. Area (vR12), pc/h	1418	Average Density (D), pc/mi/ln	11.3
Level of Service (LOS)	B	Density in Ramp Influence Area (DR), pc/mi/ln	11.5

### Design Analysis Table

Freeway Lanes, ln	2	2	3	3	4	4	5	5
Ramp Lanes, ln	1	2	1	2	1	2	1	2
Density, pc/mi/ln	11.3	11.0	7.2	7.1	5.3	5.2	3.5	3.4
LOS	B	A	A	A	A	A	A	A

# HCS Freeway Diverge Report

## Project Information

Analyst	Transystems	Date	8/10/2023
Agency	SCDOT	Analysis Year	Opening (2029)
Jurisdiction		Time Analyzed	Mid
Project Description	I-95 SB Exit to US 15	Units	U.S. Customary

## Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	70.5	45.0
Segment Length (L) / Deceleration Length (LD), ft	1500	225
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

## Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	1.000	1.000
Capacity Adj. Factor for CAVs, CAFCAV	1.000	-

## Demand and Capacity

Demand Volume (Vi), veh/h	1077	19
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	18.00	6.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.847	0.943
Flow Rate (vi), pc/h	1353	21
Capacity (cmd), pc/h	4800	2100
Adjusted Capacity (cmd), pc/h	4800	2100
Volume-to-Capacity Ratio (v/c)	0.28	0.01

## Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (No), ln	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (DS)	0.300
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influence Area Speed (SR), mi/h	62.0
Prop. Freeway Vehicles in Lane 1 and 2 (PFD)	1.000	Outer Lanes Freeway Speed (SO), mi/h	77.3
Flow in Lanes 1 and 2 (v12), pc/h	1353	Ramp Junction Speed (S), mi/h	62.0

Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	10.9
Level of Service (LOS)	B	Density in Ramp Influence Area (DR), pc/mi/ln	13.9



# HCS Freeway Merge Report

## Project Information

Analyst	TranSystems	Date	8/10/2023
Agency	SCDOT	Analysis Year	Opening (2029)
Jurisdiction		Time Analyzed	PM
Project Description	I-95 SB On Ramp from US 15	Units	U.S. Customary

## Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	70.5	45.0
Segment Length (L) / Acceleration Length (LA), ft	1500	800
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

## Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAFCAV	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

## Demand and Capacity

Demand Volume (Vi), veh/h	1077	123
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	18.00	6.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.847	0.943
Flow Rate (vi), pc/h	1353	139
Capacity (cmd), pc/h	4800	2100
Adjusted Capacity (cmd), pc/h	4800	2100
Volume-to-Capacity Ratio (v/c)	0.31	0.07

## Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (No), ln	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (MS)	0.266
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	62.9
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	1.000	Outer Lanes Freeway Speed (SO), mi/h	70.5
Flow in Lanes 1 and 2 (v12), pc/h	1353	Ramp Junction Speed (S), mi/h	62.9

Flow Entering Ramp-Infl. Area (vR12), pc/h	1492	Average Density (D), pc/mi/ln	11.9
Level of Service (LOS)	B	Density in Ramp Influence Area (DR), pc/mi/ln	12.1

### Design Analysis Table

Freeway Lanes, ln	2	2	3	3	4	4	5	5
Ramp Lanes, ln	1	2	1	2	1	2	1	2
Density, pc/mi/ln	11.9	11.5	7.6	7.4	5.6	5.5	3.6	3.5
LOS	B	A	A	A	A	A	A	A

# HCS Freeway Diverge Report

## Project Information

Analyst	Transystems	Date	8/10/2023
Agency	SCDOT	Analysis Year	Opening (2029)
Jurisdiction		Time Analyzed	PM
Project Description	I-95 SB Exit to SB Rest Stop	Units	U.S. Customary

## Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	70.5	45.0
Segment Length (L) / Deceleration Length (LD), ft	1500	225
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

## Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	1.000	1.000
Capacity Adj. Factor for CAVs, CAFCAV	1.000	-

## Demand and Capacity

Demand Volume (Vi), veh/h	1152	48
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	18.00	14.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.847	0.877
Flow Rate (vi), pc/h	1447	58
Capacity (cmd), pc/h	4800	2100
Adjusted Capacity (cmd), pc/h	4800	2100
Volume-to-Capacity Ratio (v/c)	0.30	0.03

## Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (No), ln	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (DS)	0.303
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influence Area Speed (SR), mi/h	61.9
Prop. Freeway Vehicles in Lane 1 and 2 (PFD)	1.000	Outer Lanes Freeway Speed (SO), mi/h	77.3
Flow in Lanes 1 and 2 (v12), pc/h	1447	Ramp Junction Speed (S), mi/h	61.9

Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	11.7
Level of Service (LOS)	B	Density in Ramp Influence Area (DR), pc/mi/ln	14.7

# HCS Freeway Weaving Report

## Project Information

Analyst	TranSystems	Date	8/10/2023
Agency	SCDOT	Analysis Year	Opening (2029)
Jurisdiction		Time Analyzed	PM
Project Description	I-95 SB Weave bt SB Rest Stop and Hwy 6	Units	U.S. Customary

## Geometric Data

Number of Lanes (N), ln	3	Segment Type	Freeway
Segment Length (Ls), ft	775	Number of Maneuver Lanes (NWL), ln	2
Weaving Configuration	One-Sided	Ramp-to-Freeway Lane Changes (LCRF), lc	1
Terrain Type	Level	Freeway-to-Ramp Lane Changes (LCFR), lc	1
Percent Grade, %	-	Ramp-to-Ramp Lane Changes (LCRR), lc	0
Interchange Density (ID), int/mi	0.80	Cross Weaving Managed Lane	No

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor for CAVs, CAFCAV	1.000
Proportion of CAVs in Traffic Stream	0	Final Capacity Adjustment Factor (CAF)	1.000

## Demand and Capacity

	FF	RF	RR	FR
Demand Volume (Vi), veh/h	1152	48	0	219
Peak Hour Factor (PHF)	0.94	0.94	0.94	0.94
Total Trucks, %	18.00	14.00	0.00	3.00
Heavy Vehicle Adjustment Factor (fHV)	0.847	0.877	1.000	0.971
Flow Rate (vi), pc/h	1447	58	0	240
Weaving Flow Rate (vw), pc/h	298	Ideal Conditions Capacity (ciFL), pc/h/ln		2400
Non-Weaving Flow Rate (vNW), pc/h	1447	Density-Based Capacity (ciWL × N × fHV), veh/h		5541
Total Flow Rate (v), pc/h	1745	Demand Flow-Based Capacity (ciW × fHV), veh/h		12141
Volume Ratio (VR)	0.171	Weaving Area Capacity (cw), veh/h		5541
Minimum Lane Change Rate (LCMIN), lc/h	298	Adjusted Weaving Area Capacity (cWA), veh/h		5541
Maximum Weaving Length (LMAX), ft	4242	Demand-to-Capacity Ratio (v/c)		0.27

## Speed and Density

Non-Weaving Vehicle Index (INW)	90	Average Weaving Speed (SW), mi/h	66.4
Non-Weaving Lane Change Rate (LCNW), lc/h	140	Average Non-Weaving Speed (SNW), mi/h	70.5
Weaving Lane Change Rate (LCW), lc/h	420	Average Speed (S), mi/h	69.8
Weaving Lane Change Rate (LCAII), lc/h	560	Density (D), pc/mi/ln	8.3
Weaving Intensity Factor (W)	0.175	Level of Service (LOS)	A

# HCS Freeway Merge Report

## Project Information

Analyst	TranSystems	Date	8/10/2023
Agency	SCDOT	Analysis Year	Opening (2029)
Jurisdiction		Time Analyzed	PM
Project Description	I-95 SB On Ramp from Hwy 6	Units	U.S. Customary

## Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	70.5	45.0
Segment Length (L) / Acceleration Length (LA), ft	1500	800
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

## Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAFCAV	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

## Demand and Capacity

Demand Volume (Vi), veh/h	981	89
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	18.00	3.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.847	0.971
Flow Rate (vi), pc/h	1232	98
Capacity (cmd), pc/h	4800	2100
Adjusted Capacity (cmd), pc/h	4800	2100
Volume-to-Capacity Ratio (v/c)	0.28	0.05

## Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (No), ln	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (MS)	0.264
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	63.0
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	1.000	Outer Lanes Freeway Speed (SO), mi/h	70.5
Flow in Lanes 1 and 2 (v12), pc/h	1232	Ramp Junction Speed (S), mi/h	63.0

Flow Entering Ramp-Infl. Area (vR12), pc/h	1330	Average Density (D), pc/mi/ln	10.6
Level of Service (LOS)	B	Density in Ramp Influence Area (DR), pc/mi/ln	10.9

# HCS Basic Freeway Report

## Project Information

Analyst	Transystems	Date	8/9/2023
Agency	SCDOT	Analysis Year	Opening (2029)
Jurisdiction		Time Analyzed	PM
Project Description	I-95 NB south of Hwy 6	Units	U.S. Customary

## Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Rolling
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.0	Total Ramp Density (TRD), ramps/mi	1.50
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.5
Right-Side Lateral Clearance, ft	10		

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	1.000
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAFCAV	1.000

## Demand and Capacity

Demand Volume (V), veh/h	1258	Heavy Vehicle Adjustment Factor (fhv)	0.704
Peak Hour Factor (PHF)	0.94	Flow Rate (vp), pc/h/ln	950
Total Trucks, %	21.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.40
Passenger Car Equivalent (ET)	3.00		

## Speed and Density

Lane Width Adjustment (fLW)	0.0	Average Speed (S), mi/h	70.5
Right-Side Lateral Clearance Adj. (fRLC)	0.0	Density (D), pc/mi/ln	13.5
Total Ramp Density Adjustment	4.5	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFSadj), mi/h	70.5		



# HCS Basic Freeway Report

## Project Information

Analyst	Transystems	Date	8/9/2023
Agency	SCDOT	Analysis Year	Opening (2029)
Jurisdiction		Time Analyzed	PM
Project Description	I-95 NB south of US 15	Units	U.S. Customary

## Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Rolling
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.0	Total Ramp Density (TRD), ramps/mi	1.50
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.5
Right-Side Lateral Clearance, ft	10		

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	1.000
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAFCAV	1.000

## Demand and Capacity

Demand Volume (V), veh/h	1340	Heavy Vehicle Adjustment Factor (fHV)	0.704
Peak Hour Factor (PHF)	0.94	Flow Rate (v <sub>p</sub> ), pc/h/ln	1012
Total Trucks, %	21.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c <sub>adj</sub> ), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.42
Passenger Car Equivalent (ET)	3.00		

## Speed and Density

Lane Width Adjustment (fLW)	0.0	Average Speed (S), mi/h	70.5
Right-Side Lateral Clearance Adj. (fRLC)	0.0	Density (D), pc/mi/ln	14.4
Total Ramp Density Adjustment	4.5	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS <sub>adj</sub> ), mi/h	70.5		

# HCS Basic Freeway Report

## Project Information

Analyst	Transystems	Date	8/9/2023
Agency	SCDOT	Analysis Year	Opening (2029)
Jurisdiction		Time Analyzed	PM
Project Description	I-95 NB south of Buff Blvd	Units	U.S. Customary

## Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Rolling
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.0	Total Ramp Density (TRD), ramps/mi	1.50
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.5
Right-Side Lateral Clearance, ft	10		

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	1.000
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAFCAV	1.000

## Demand and Capacity

Demand Volume (V), veh/h	1167	Heavy Vehicle Adjustment Factor (fhv)	0.704
Peak Hour Factor (PHF)	0.94	Flow Rate (vp), pc/h/ln	882
Total Trucks, %	21.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.37
Passenger Car Equivalent (ET)	3.00		

## Speed and Density

Lane Width Adjustment (fLW)	0.0	Average Speed (S), mi/h	70.5
Right-Side Lateral Clearance Adj. (fRLC)	0.0	Density (D), pc/mi/ln	12.5
Total Ramp Density Adjustment	4.5	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFSadj), mi/h	70.5		

# HCS Basic Freeway Report

## Project Information

Analyst	Transystems	Date	8/9/2023
Agency	SCDOT	Analysis Year	Opening (2029)
Jurisdiction		Time Analyzed	PM
Project Description	I-95 NB north of Buff Blvd	Units	U.S. Customary

## Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Rolling
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.0	Total Ramp Density (TRD), ramps/mi	1.50
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.5
Right-Side Lateral Clearance, ft	10		

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	1.000
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAFCAV	1.000

## Demand and Capacity

Demand Volume (V), veh/h	1042	Heavy Vehicle Adjustment Factor (fhv)	0.704
Peak Hour Factor (PHF)	0.94	Flow Rate (vp), pc/h/ln	788
Total Trucks, %	21.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.33
Passenger Car Equivalent (ET)	3.00		

## Speed and Density

Lane Width Adjustment (fLW)	0.0	Average Speed (S), mi/h	70.5
Right-Side Lateral Clearance Adj. (fRLC)	0.0	Density (D), pc/mi/ln	11.2
Total Ramp Density Adjustment	4.5	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFSadj), mi/h	70.5		

# HCS Basic Freeway Report

## Project Information

Analyst	Transystems	Date	8/9/2023
Agency	SCDOT	Analysis Year	Opening (2029)
Jurisdiction		Time Analyzed	PM
Project Description	I-95 SB north of Buff Blvd	Units	U.S. Customary

## Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Rolling
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.0	Total Ramp Density (TRD), ramps/mi	1.50
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.5
Right-Side Lateral Clearance, ft	10		

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	1.000
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAFCAV	1.000

## Demand and Capacity

Demand Volume (V), veh/h	1019	Heavy Vehicle Adjustment Factor (fhv)	0.735
Peak Hour Factor (PHF)	0.94	Flow Rate (vp), pc/h/ln	738
Total Trucks, %	18.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.31
Passenger Car Equivalent (ET)	3.00		

## Speed and Density

Lane Width Adjustment (fLW)	0.0	Average Speed (S), mi/h	70.5
Right-Side Lateral Clearance Adj. (fRLC)	0.0	Density (D), pc/mi/ln	10.5
Total Ramp Density Adjustment	4.5	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFSadj), mi/h	70.5		

# HCS Basic Freeway Report

## Project Information

Analyst	Transystems	Date	8/9/2023
Agency	SCDOT	Analysis Year	Opening (2029)
Jurisdiction		Time Analyzed	PM
Project Description	I-95 SB south of Buff Blvd	Units	U.S. Customary

## Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Rolling
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.0	Total Ramp Density (TRD), ramps/mi	1.50
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.5
Right-Side Lateral Clearance, ft	10		

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	1.000
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAFCAV	1.000

## Demand and Capacity

Demand Volume (V), veh/h	1096	Heavy Vehicle Adjustment Factor (fhv)	0.735
Peak Hour Factor (PHF)	0.94	Flow Rate (vp), pc/h/ln	793
Total Trucks, %	18.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.33
Passenger Car Equivalent (ET)	3.00		

## Speed and Density

Lane Width Adjustment (fLW)	0.0	Average Speed (S), mi/h	70.5
Right-Side Lateral Clearance Adj. (fRLC)	0.0	Density (D), pc/mi/ln	11.2
Total Ramp Density Adjustment	4.5	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFSadj), mi/h	70.5		

# HCS Basic Freeway Report

## Project Information

Analyst	Transystems	Date	8/9/2023
Agency	SCDOT	Analysis Year	Opening (2029)
Jurisdiction		Time Analyzed	PM
Project Description	I-95 SB south of US 15	Units	U.S. Customary

## Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Rolling
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.0	Total Ramp Density (TRD), ramps/mi	1.50
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.5
Right-Side Lateral Clearance, ft	10		

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	1.000
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAFCAV	1.000

## Demand and Capacity

Demand Volume (V), veh/h	1200	Heavy Vehicle Adjustment Factor (fhv)	0.735
Peak Hour Factor (PHF)	0.94	Flow Rate (vp), pc/h/ln	868
Total Trucks, %	18.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.36
Passenger Car Equivalent (ET)	3.00		

## Speed and Density

Lane Width Adjustment (fLW)	0.0	Average Speed (S), mi/h	70.5
Right-Side Lateral Clearance Adj. (fRLC)	0.0	Density (D), pc/mi/ln	12.3
Total Ramp Density Adjustment	4.5	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFSadj), mi/h	70.5		

# HCS Basic Freeway Report

## Project Information

Analyst	Transystems	Date	8/9/2023
Agency	SCDOT	Analysis Year	Opening (2029)
Jurisdiction		Time Analyzed	PM
Project Description	I-95 SB south of Hwy 6	Units	U.S. Customary

## Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Rolling
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.0	Total Ramp Density (TRD), ramps/mi	1.50
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.5
Right-Side Lateral Clearance, ft	10		

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	1.000
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAFCAV	1.000

## Demand and Capacity

Demand Volume (V), veh/h	1070	Heavy Vehicle Adjustment Factor (fhv)	0.735
Peak Hour Factor (PHF)	0.94	Flow Rate (vp), pc/h/ln	774
Total Trucks, %	18.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.32
Passenger Car Equivalent (ET)	3.00		

## Speed and Density

Lane Width Adjustment (fLW)	0.0	Average Speed (S), mi/h	70.5
Right-Side Lateral Clearance Adj. (fRLC)	0.0	Density (D), pc/mi/ln	11.0
Total Ramp Density Adjustment	4.5	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFSadj), mi/h	70.5		

# Lanes, Volumes, Timings

## 24: Hwy 6 & I-95 SB Ramp

08/09/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SWL2	SWL	SWR
Lane Configurations											
Traffic Volume (vph)	0	452	50	34	328	0	0	0	91	0	116
Future Volume (vph)	0	452	50	34	328	0	0	0	91	0	116
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		75	175		0	0	0		0	150
Storage Lanes	0		0	1		0	0	0		1	1
Taper Length (ft)	25			25			25			25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.987									0.850
Flt Protected				0.950					0.950		
Satd. Flow (prot)	0	1821	0	1752	1845	0	0	0	1752	0	1568
Flt Permitted				0.161					0.950		
Satd. Flow (perm)	0	1821	0	297	1845	0	0	0	1752	0	1568
Right Turn on Red			Yes			Yes					Yes
Satd. Flow (RTOR)		10									429
Link Speed (mph)		30			30		30			30	
Link Distance (ft)		221			1070		658			713	
Travel Time (s)		5.0			24.3		15.0			16.2	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Growth Factor	106%	106%	106%	106%	106%	106%	106%	106%	106%	106%	106%
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	0	499	55	38	362	0	0	0	100	0	128
Shared Lane Traffic (%)											
Lane Group Flow (vph)	0	554	0	38	362	0	0	0	100	0	128
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Right	Left	Left	Right
Median Width(ft)		12			12		0			12	
Link Offset(ft)		0			0		0			0	
Crosswalk Width(ft)		16			16		16			16	
Two way Left Turn Lane											
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15	9	15	15	9
Number of Detectors		2		1	2				1		1
Detector Template		Thru		Left	Thru				Left		Right
Leading Detector (ft)		100		20	100				20		20
Trailing Detector (ft)		0		0	0				0		0
Detector 1 Position(ft)		0		0	0				0		0
Detector 1 Size(ft)		6		20	6				20		20
Detector 1 Type		Cl+Ex		Cl+Ex	Cl+Ex				Cl+Ex		Cl+Ex
Detector 1 Channel											
Detector 1 Extend (s)		0.0		0.0	0.0				0.0		0.0
Detector 1 Queue (s)		0.0		0.0	0.0				0.0		0.0
Detector 1 Delay (s)		0.0		0.0	0.0				0.0		0.0
Detector 2 Position(ft)		94			94						
Detector 2 Size(ft)		6			6						
Detector 2 Type		Cl+Ex			Cl+Ex						
Detector 2 Channel											
Detector 2 Extend (s)		0.0			0.0						
Turn Type		NA		pm+pt	NA				Perm		Perm



# Lanes, Volumes, Timings

## 24: Hwy 6 & I-95 SB Ramp

08/09/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SWL2	SWL	SWR
Protected Phases		4		3	8						
Permitted Phases				8					6		6
Detector Phase		4		3	8				6		6
Switch Phase											
Minimum Initial (s)		5.0		5.0	5.0				5.0		5.0
Minimum Split (s)		24.0		11.0	24.0				24.0		24.0
Total Split (s)		25.0		11.0	36.0				24.0		24.0
Total Split (%)		41.7%		18.3%	60.0%				40.0%		40.0%
Maximum Green (s)		19.0		5.0	30.0				18.0		18.0
Yellow Time (s)		4.0		4.0	4.0				4.0		4.0
All-Red Time (s)		2.0		2.0	2.0				2.0		2.0
Lost Time Adjust (s)		0.0		0.0	0.0				0.0		0.0
Total Lost Time (s)		6.0		6.0	6.0				6.0		6.0
Lead/Lag		Lag		Lead							
Lead-Lag Optimize?		Yes		Yes							
Vehicle Extension (s)		3.0		3.0	3.0				3.0		3.0
Recall Mode		None		None	None				Max		Max
Walk Time (s)		7.0			7.0				7.0		7.0
Flash Dont Walk (s)		11.0			11.0				11.0		11.0
Pedestrian Calls (#/hr)		0			0				0		0
Act Effect Green (s)		18.8		22.7	22.7				18.2		18.2
Actuated g/C Ratio		0.35		0.43	0.43				0.34		0.34
v/c Ratio		0.85		0.14	0.46				0.17		0.16
Control Delay		33.5		9.3	12.5				15.0		0.4
Queue Delay		0.0		0.0	0.0				0.0		0.0
Total Delay		33.5		9.3	12.5				15.0		0.4
LOS		C		A	B				B		A
Approach Delay		33.5			12.2					6.8	
Approach LOS		C			B					A	
Queue Length 50th (ft)		130		7	75				18		0
Queue Length 95th (ft)		#374		19	129				58		0
Internal Link Dist (ft)		141			990		578			633	
Turn Bay Length (ft)				175							150
Base Capacity (vph)		666		265	1056				601		820
Starvation Cap Reductn		0		0	0				0		0
Spillback Cap Reductn		0		0	0				0		0
Storage Cap Reductn		0		0	0				0		0
Reduced v/c Ratio		0.83		0.14	0.34				0.17		0.16

### Intersection Summary

Area Type:	Other
Cycle Length:	60
Actuated Cycle Length:	53
Natural Cycle:	60
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.85
Intersection Signal Delay:	21.1
Intersection LOS:	C
Intersection Capacity Utilization:	42.6%
ICU Level of Service:	A
Analysis Period (min):	15

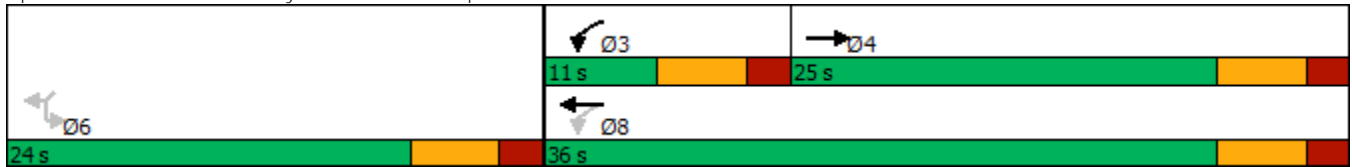
# Lanes, Volumes, Timings

## 24: Hwy 6 & I-95 SB Ramp

08/09/2023

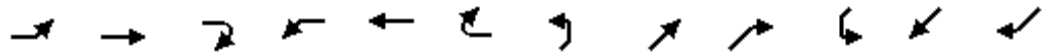
# 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.

Splits and Phases: 24: Hwy 6 & I-95 SB Ramp



Lanes, Volumes, Timings  
27: Bass Dr & Hwy 6

08/09/2023

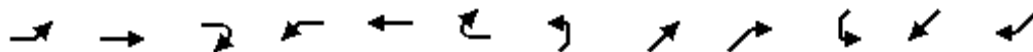


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	9	178	55	163	158	15	70	38	216	34	32	6
Future Volume (vph)	9	178	55	163	158	15	70	38	216	34	32	6
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	120		0	170		0	175		0	120		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.965			0.987			0.872			0.976	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1752	1780	0	1752	1821	0	1752	1609	0	1752	1800	0
Flt Permitted	0.636			0.531			0.583			0.586		
Satd. Flow (perm)	1173	1780	0	980	1821	0	1075	1609	0	1081	1800	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		26			8			241			7	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		638			518			530			613	
Travel Time (s)		14.5			11.8			12.0			13.9	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	106%	106%	106%	106%	106%	106%	106%	106%	106%	106%	106%	106%
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	10	199	61	182	176	17	78	42	241	38	36	7
Shared Lane Traffic (%)												
Lane Group Flow (vph)	10	260	0	182	193	0	78	283	0	38	43	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		Perm	NA	

# Lanes, Volumes, Timings

## 27: Bass Dr & Hwy 6

08/09/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Protected Phases		4			8		5	2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	24.0	24.0		24.0	24.0		11.0	24.0		24.0	24.0	
Total Split (s)	24.0	24.0		24.0	24.0		11.0	36.0		25.0	25.0	
Total Split (%)	40.0%	40.0%		40.0%	40.0%		18.3%	60.0%		41.7%	41.7%	
Maximum Green (s)	18.0	18.0		18.0	18.0		5.0	30.0		19.0	19.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Max		Max	Max	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0			11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0			0		0	0	
Act Effect Green (s)	13.9	13.9		13.9	13.9		30.2	30.2		23.9	23.9	
Actuated g/C Ratio	0.25	0.25		0.25	0.25		0.54	0.54		0.43	0.43	
v/c Ratio	0.03	0.57		0.75	0.42		0.12	0.29		0.08	0.06	
Control Delay	15.4	21.4		40.0	19.6		8.0	2.9		14.6	12.5	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	15.4	21.4		40.0	19.6		8.0	2.9		14.6	12.5	
LOS	B	C		D	B		A	A		B	B	
Approach Delay		21.2			29.5			4.0			13.5	
Approach LOS		C			C			A			B	
Queue Length 50th (ft)	3	67		56	52		12	6		9	8	
Queue Length 95th (ft)	12	127		#134	99		32	39		28	28	
Internal Link Dist (ft)		558			438			450			533	
Turn Bay Length (ft)	120			170			175			120		
Base Capacity (vph)	378	591		316	592		638	976		460	770	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.03	0.44		0.58	0.33		0.12	0.29		0.08	0.06	

### Intersection Summary

Area Type:	Other
Cycle Length:	60
Actuated Cycle Length:	56.1
Natural Cycle:	60
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.75
Intersection Signal Delay:	17.8
Intersection LOS:	B
Intersection Capacity Utilization:	63.5%
ICU Level of Service:	B
Analysis Period (min):	15

# Lanes, Volumes, Timings

## 27: Bass Dr & Hwy 6

08/09/2023

# 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

Splits and Phases: 27: Bass Dr & Hwy 6



**Lanes, Volumes, Timings**  
**30: Bradford & Hwy 6**

08/09/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	449	8	38	361	1	14	0	9	0	0	2
Future Volume (vph)	1	449	8	38	361	1	14	0	9	0	0	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	120		0	120		0	0		0	0		0
Storage Lanes	1		0	1		0	1		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.997							0.850		0.865	
Flt Protected	0.950			0.950			0.950					
Satd. Flow (prot)	1752	1839	0	1752	1845	0	1752	1845	1568	0	1596	0
Flt Permitted	0.950			0.950			0.950					
Satd. Flow (perm)	1752	1839	0	1752	1845	0	1752	1845	1568	0	1596	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		518			385			504			268	
Travel Time (s)		11.8			8.8			11.5			6.1	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Growth Factor	106%	106%	106%	106%	106%	106%	106%	106%	106%	106%	106%	106%
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	1	491	9	42	394	1	15	0	10	0	0	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	1	500	0	42	395	0	15	0	10	0	2	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary	
Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	46.4%
ICU Level of Service	A
Analysis Period (min)	15

# Lanes, Volumes, Timings

## 33: I-95 BNB Ramp & Hwy 6

08/09/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SBL	SBR	NEL2	NEL	NER
Lane Configurations											
Traffic Volume (vph)	114	426	0	0	320	91	0	0	51	0	76
Future Volume (vph)	114	426	0	0	320	91	0	0	51	0	76
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	0		0	0	0		0	0
Storage Lanes	1		0	0		0	0	0		1	1
Taper Length (ft)	25			25			25			25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.970						0.850
Flt Protected	0.950								0.950		
Satd. Flow (prot)	1752	1845	0	0	1789	0	0	0	1752	0	1568
Flt Permitted	0.189								0.950		
Satd. Flow (perm)	349	1845	0	0	1789	0	0	0	1752	0	1568
Right Turn on Red			Yes			Yes					Yes
Satd. Flow (RTOR)					24						304
Link Speed (mph)		30			30		30			30	
Link Distance (ft)		1070			197		602			707	
Travel Time (s)		24.3			4.5		13.7			16.1	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	106%	106%	106%	106%	106%	106%	106%	106%	106%	106%	106%
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	127	475	0	0	357	102	0	0	57	0	85
Shared Lane Traffic (%)											
Lane Group Flow (vph)	127	475	0	0	459	0	0	0	57	0	85
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Right	Left	Left	Right
Median Width(ft)		12			12		0			12	
Link Offset(ft)		0			0		0			0	
Crosswalk Width(ft)		16			16		16			16	
Two way Left Turn Lane											
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15	9	15	15	9
Number of Detectors	1	2			2				1		1
Detector Template	Left	Thru			Thru				Left		Right
Leading Detector (ft)	20	100			100				20		20
Trailing Detector (ft)	0	0			0				0		0
Detector 1 Position(ft)	0	0			0				0		0
Detector 1 Size(ft)	20	6			6				20		20
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex				Cl+Ex		Cl+Ex
Detector 1 Channel											
Detector 1 Extend (s)	0.0	0.0			0.0				0.0		0.0
Detector 1 Queue (s)	0.0	0.0			0.0				0.0		0.0
Detector 1 Delay (s)	0.0	0.0			0.0				0.0		0.0
Detector 2 Position(ft)		94			94						
Detector 2 Size(ft)		6			6						
Detector 2 Type		Cl+Ex			Cl+Ex						
Detector 2 Channel											
Detector 2 Extend (s)		0.0			0.0						
Turn Type	pm+pt	NA			NA				Perm		Perm

Lanes, Volumes, Timings  
 33: I-95 BNB Ramp & Hwy 6

08/09/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SBL	SBR	NEL2	NEL	NER
Protected Phases	7	4			8						
Permitted Phases	4								2		2
Detector Phase	7	4			8				2		2
Switch Phase											
Minimum Initial (s)	5.0	5.0			5.0				5.0		5.0
Minimum Split (s)	11.0	24.0			24.0				24.0		24.0
Total Split (s)	11.0	35.0			24.0				25.0		25.0
Total Split (%)	18.3%	58.3%			40.0%				41.7%		41.7%
Maximum Green (s)	5.0	29.0			18.0				19.0		19.0
Yellow Time (s)	4.0	4.0			4.0				4.0		4.0
All-Red Time (s)	2.0	2.0			2.0				2.0		2.0
Lost Time Adjust (s)	0.0	0.0			0.0				0.0		0.0
Total Lost Time (s)	6.0	6.0			6.0				6.0		6.0
Lead/Lag	Lead				Lag						
Lead-Lag Optimize?	Yes				Yes						
Vehicle Extension (s)	3.0	3.0			3.0				3.0		3.0
Recall Mode	None	None			None				Max		Max
Walk Time (s)		7.0			7.0				7.0		7.0
Flash Dont Walk (s)		11.0			11.0				11.0		11.0
Pedestrian Calls (#/hr)		0			0				0		0
Act Effct Green (s)	24.9	24.9			16.7				19.3		19.3
Actuated g/C Ratio	0.44	0.44			0.30				0.34		0.34
v/c Ratio	0.45	0.58			0.84				0.10		0.12
Control Delay	14.1	14.7			35.3				15.1		0.3
Queue Delay	0.0	0.0			0.0				0.0		0.0
Total Delay	14.1	14.7			35.3				15.1		0.3
LOS	B	B			D				B		A
Approach Delay		14.6			35.3					6.3	
Approach LOS		B			D					A	
Queue Length 50th (ft)	24	111			145				14		0
Queue Length 95th (ft)	49	186			#293				36		0
Internal Link Dist (ft)		990			117		522			627	
Turn Bay Length (ft)	200										
Base Capacity (vph)	280	963			596				599		736
Starvation Cap Reductn	0	0			0				0		0
Spillback Cap Reductn	0	0			0				0		0
Storage Cap Reductn	0	0			0				0		0
Reduced v/c Ratio	0.45	0.49			0.77				0.10		0.12

Intersection Summary	
Area Type:	Other
Cycle Length:	60
Actuated Cycle Length:	56.5
Natural Cycle:	60
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.84
Intersection Signal Delay:	21.5
Intersection LOS:	C
Intersection Capacity Utilization:	42.6%
ICU Level of Service:	A
Analysis Period (min):	15



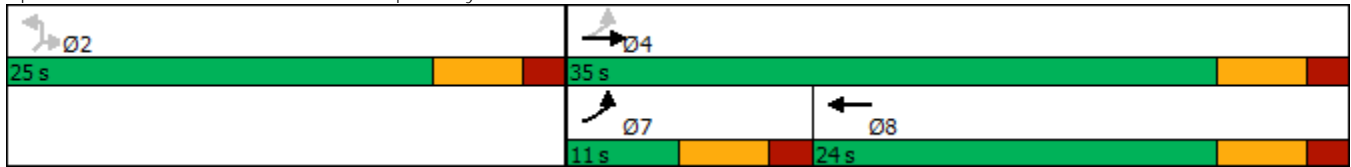
# Lanes, Volumes, Timings

## 33: I-95 BNB Ramp & Hwy 6

08/09/2023

# 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

Splits and Phases: 33: I-95 BNB Ramp & Hwy 6



# Lanes, Volumes, Timings

## 36: Britain & Hwy 6

08/09/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	28	457	10	21	396	26	2	0	20	26	0	20
Future Volume (vph)	28	457	10	21	396	26	2	0	20	26	0	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	50		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.997			0.991			0.876				0.942
Flt Protected	0.950			0.950				0.996				0.972
Satd. Flow (prot)	1752	1839	0	1752	1812	0	0	1609	0	0	1689	0
Flt Permitted	0.950			0.950				0.996				0.972
Satd. Flow (perm)	1752	1839	0	1752	1812	0	0	1609	0	0	1689	0
Link Speed (mph)		30			30			30				30
Link Distance (ft)		385			221			341				104
Travel Time (s)		8.8			5.0			7.8				2.4
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Growth Factor	106%	106%	106%	106%	106%	106%	106%	106%	106%	106%	106%	106%
Heavy Vehicles (%)	3%	3%	3%	3%	4%	3%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	31	505	11	23	437	29	2	0	22	29	0	22
Shared Lane Traffic (%)												
Lane Group Flow (vph)	31	516	0	23	466	0	0	24	0	0	51	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			0				0
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop				Stop

Intersection Summary	
Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	42.3%
ICU Level of Service	A
Analysis Period (min)	15

Lanes, Volumes, Timings  
42: St Paul Rd & US 301/Gas Station

08/09/2023



Lane Group	NBL	NBT	NBR	SBU	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT
Lane Configurations		↕	↗			↕			↕↗		↗	↕↗
Traffic Volume (vph)	11	15	106	7	16	1	0	1	1	3	55	2
Future Volume (vph)	11	15	106	7	16	1	0	1	1	3	55	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	1.00	0.95
Frt			0.850						0.900			0.877
Flt Protected		0.979				0.954			0.992		0.950	
Satd. Flow (prot)	0	1755	1524	0	0	1710	0	0	3041	0	1703	2897
Flt Permitted		0.979				0.954			0.992		0.950	
Satd. Flow (perm)	0	1755	1524	0	0	1710	0	0	3041	0	1703	2897
Link Speed (mph)		30				30			30			30
Link Distance (ft)		420				197			822			934
Travel Time (s)		9.5				4.5			18.7			21.2
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Growth Factor	106%	106%	106%	106%	106%	106%	106%	106%	106%	106%	106%	106%
Heavy Vehicles (%)	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%
Bus Blockages (#/hr)	0	0	0	6	0	0	0	0	0	0	0	0
Adj. Flow (vph)	13	18	129	9	19	1	0	1	1	4	67	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	31	129	0	0	29	0	0	6	0	67	11
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	R NA	Left	Left	Right	Left	Left	Right	Left	Left
Median Width(ft)		0				0			12			12
Link Offset(ft)		0				0			0			0
Crosswalk Width(ft)		16				16			16			16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	9	15		9	15		9	15	
Sign Control		Stop				Stop			Free			Free

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	24.6%
ICU Level of Service	A
Analysis Period (min)	15

**Lanes, Volumes, Timings**  
**42: St Paul Rd & US 301/Gas Station**

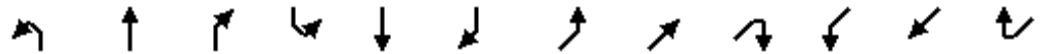
08/09/2023



Lane Group	SWR
Lane Configurations	
Traffic Volume (vph)	7
Future Volume (vph)	7
Ideal Flow (vphpl)	1900
Lane Util. Factor	0.95
Frt	
Flt Protected	
Satd. Flow (prot)	0
Flt Permitted	
Satd. Flow (perm)	0
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	0.87
Growth Factor	106%
Heavy Vehicles (%)	10%
Bus Blockages (#/hr)	0
Adj. Flow (vph)	9
Shared Lane Traffic (%)	
Lane Group Flow (vph)	0
Enter Blocked Intersection	No
Lane Alignment	Right
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	1.00
Turning Speed (mph)	9
Sign Control	
Intersection Summary	

Lanes, Volumes, Timings  
44: US 301 & I-95 SB Ramp

08/09/2023



Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕↕			↕						↕↕	
Traffic Volume (vph)	54	127	0	0	12	62	0	0	0	12	0	6
Future Volume (vph)	54	127	0	0	12	62	0	0	0	12	0	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr <sub>t</sub>					0.887						0.957	
Fl <sub>t</sub> Protected		0.985									0.967	
Satd. Flow (prot)	0	3355	0	0	1590	0	0	0	0	0	1659	0
Fl <sub>t</sub> Permitted		0.985									0.967	
Satd. Flow (perm)	0	3355	0	0	1590	0	0	0	0	0	1659	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		341			420			593			580	
Travel Time (s)		7.8			9.5			13.5			13.2	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Growth Factor	106%	106%	106%	106%	106%	106%	106%	106%	106%	106%	106%	106%
Heavy Vehicles (%)	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%
Adj. Flow (vph)	67	157	0	0	15	76	0	0	0	15	0	7
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	224	0	0	91	0	0	0	0	0	22	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary		
Area Type:	Other	
Control Type:	Unsignalized	
Intersection Capacity Utilization	19.8%	ICU Level of Service A
Analysis Period (min)	15	

Lanes, Volumes, Timings  
 47: I-95 NB Ramp/US 301 & S-14-400

08/09/2023



Lane Group	WBL	WBR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Volume (vph)	6	55	94	82	25	8
Future Volume (vph)	6	55	94	82	25	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.879		0.937			
Flt Protected	0.995					0.963
Satd. Flow (prot)	1539	0	1648	0	0	1694
Flt Permitted	0.995					0.963
Satd. Flow (perm)	1539	0	1648	0	0	1694
Link Speed (mph)	30		30			30
Link Distance (ft)	708		346			378
Travel Time (s)	16.1		7.9			8.6
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83
Growth Factor	106%	106%	106%	106%	106%	106%
Heavy Vehicles (%)	8%	8%	8%	8%	8%	8%
Adj. Flow (vph)	8	70	120	105	32	10
Shared Lane Traffic (%)						
Lane Group Flow (vph)	78	0	225	0	0	42
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	27.8%
Analysis Period (min)	15
	ICU Level of Service A

**Lanes, Volumes, Timings**  
**49: Gordon Rd & S-14-400**

08/09/2023




















Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	63	26	23	3	2	26
Future Volume (vph)	63	26	23	3	2	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.961			0.873		
Flt Protected	0.966			0.958		
Satd. Flow (prot)	1696	0	0	1750	1595	0
Flt Permitted	0.966			0.958		
Satd. Flow (perm)	1696	0	0	1750	1595	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	708			417	425	
Travel Time (s)	16.1			9.5	9.7	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Growth Factor	106%	106%	106%	106%	106%	106%
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%
Adj. Flow (vph)	79	32	29	4	2	32
Shared Lane Traffic (%)						
Lane Group Flow (vph)	111	0	0	33	34	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	20.2% ICU Level of Service A
Analysis Period (min)	15

Lanes, Volumes, Timings  
54: US 301 & Buff Blvd/Hotel

08/09/2023

												
Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	4	1	125	11	3	1	0	58	9	113	51	3
Future Volume (vph)	4	1	125	11	3	1	0	58	9	113	51	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr <sub>t</sub>			0.850		0.993			0.982			0.997	
Fl <sub>t</sub> Protected		0.960			0.964						0.967	
Satd. Flow (prot)	0	1754	1553	0	1749	0	0	1794	0	0	1761	0
Fl <sub>t</sub> Permitted		0.960			0.964						0.967	
Satd. Flow (perm)	0	1754	1553	0	1749	0	0	1794	0	0	1761	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		3372			202			760			626	
Travel Time (s)		76.6			4.6			17.3			14.2	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Growth Factor	106%	106%	106%	106%	106%	106%	106%	106%	106%	106%	106%	106%
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Adj. Flow (vph)	5	1	156	14	4	1	0	72	11	141	64	4
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	6	156	0	19	0	0	83	0	0	209	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	
<b>Intersection Summary</b>												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	30.5%					ICU Level of Service A						
Analysis Period (min)	15											



# Lanes, Volumes, Timings

## 55: Buff Blvd

08/09/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	137	2	55	0	0	0	0	57	10	63	55	0
Future Volume (vph)	137	2	55	0	0	0	0	57	10	63	55	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	150		0
Storage Lanes	0		0	0		0	0		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.962						0.980				
Flt Protected		0.966								0.950		
Satd. Flow (prot)	0	1509	0	0	0	0	0	1591	0	1543	1624	0
Flt Permitted		0.966								0.950		
Satd. Flow (perm)	0	1509	0	0	0	0	0	1591	0	1543	1624	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		596			536			930			1070	
Travel Time (s)		13.5			12.2			21.1			24.3	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Growth Factor	106%	106%	106%	106%	106%	106%	106%	106%	106%	106%	106%	106%
Heavy Vehicles (%)	17%	17%	17%	17%	17%	17%	17%	17%	17%	17%	17%	17%
Adj. Flow (vph)	167	2	67	0	0	0	0	69	12	77	67	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	236	0	0	0	0	0	81	0	77	67	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

### Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	28.8%
ICU Level of Service	A
Analysis Period (min)	15

# Lanes, Volumes, Timings

## 58: Buff Blvd & I-95 SB Ramp

08/09/2023



















Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↕			↕			↕	
Traffic Volume (vph)	0	0	0	10	0	74	24	139	0	0	114	133
Future Volume (vph)	0	0	0	10	0	74	24	139	0	0	114	133
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.95	0.95
Frt					0.882						0.919	
Flt Protected					0.994			0.993				
Satd. Flow (prot)	0	0	0	0	1281	0	0	2757	0	0	2552	0
Flt Permitted					0.994			0.993				
Satd. Flow (perm)	0	0	0	0	1281	0	0	2757	0	0	2552	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		723			820			1070			3372	
Travel Time (s)		16.4			18.6			24.3			76.6	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Growth Factor	106%	106%	106%	106%	106%	106%	106%	106%	106%	106%	106%	106%
Heavy Vehicles (%)	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%
Adj. Flow (vph)	0	0	0	12	0	86	28	162	0	0	133	155
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	98	0	0	190	0	0	288	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

### Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	28.1%
Analysis Period (min)	15
	ICU Level of Service A

Lanes, Volumes, Timings  
66: US 301 & Liberty Hill

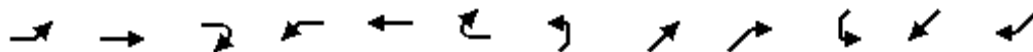
08/09/2023

												
Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	0	3	2	4	4	30	50	50	2	4	28	5
Future Volume (vph)	0	3	2	4	4	30	50	50	2	4	28	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr <sub>t</sub>		0.955			0.894			0.998			0.982	
Fl <sub>t</sub> Protected					0.995			0.976			0.994	
Satd. Flow (prot)	0	1696	0	0	1580	0	0	1730	0	0	1733	0
Fl <sub>t</sub> Permitted					0.995			0.976			0.994	
Satd. Flow (perm)	0	1696	0	0	1580	0	0	1730	0	0	1733	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		717			491			738			807	
Travel Time (s)		16.3			11.2			16.8			18.3	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Growth Factor	106%	106%	106%	106%	106%	106%	106%	106%	106%	106%	106%	106%
Heavy Vehicles (%)	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%
Adj. Flow (vph)	0	4	2	5	5	36	60	60	2	5	34	6
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	6	0	0	46	0	0	122	0	0	45	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	
<b>Intersection Summary</b>												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	25.4%					ICU Level of Service A						
Analysis Period (min)	15											

# Lanes, Volumes, Timings

## 71: Mall St & Hwy 6

08/09/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	19	478	9	1	355	9	11	1	3	14	0	39
Future Volume (vph)	19	478	9	1	355	9	11	1	3	14	0	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.998			0.996			0.975			0.900	
Flt Protected		0.998		0.950				0.964			0.987	
Satd. Flow (prot)	0	1855	0	1770	1855	0	0	1751	0	0	1655	0
Flt Permitted		0.998		0.950				0.964			0.987	
Satd. Flow (perm)	0	1855	0	1770	1855	0	0	1751	0	0	1655	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		197			931			214			176	
Travel Time (s)		4.5			21.2			4.9			4.0	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Growth Factor	106%	106%	106%	106%	106%	106%	106%	106%	106%	106%	106%	106%
Adj. Flow (vph)	21	528	10	1	392	10	12	1	3	15	0	43
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	559	0	1	402	0	0	16	0	0	58	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

### Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 53.6% ICU Level of Service A

Analysis Period (min) 15

**Year 2045 AM**

**TRANSYSTEMS**

# HCS Freeway Diverge Report

## Project Information

Analyst	Transystems	Date	8/9/2023
Agency	SCDOT	Analysis Year	Design (2045)
Jurisdiction		Time Analyzed	AM
Project Description	I-95 NB Exit to Hwy 6	Units	U.S. Customary

## Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	70.5	45.0
Segment Length (L) / Deceleration Length (LD), ft	1500	225
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

## Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	1.000	1.000
Capacity Adj. Factor for CAVs, CAFCAV	1.000	-

## Demand and Capacity

Demand Volume (Vi), veh/h	891	92
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	25.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.800	0.962
Flow Rate (vi), pc/h	1185	102
Capacity (cmd), pc/h	4800	2100
Adjusted Capacity (cmd), pc/h	4800	2100
Volume-to-Capacity Ratio (v/c)	0.25	0.05

## Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (No), ln	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (DS)	0.307
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influence Area Speed (SR), mi/h	61.8
Prop. Freeway Vehicles in Lane 1 and 2 (PFD)	1.000	Outer Lanes Freeway Speed (SO), mi/h	77.3
Flow in Lanes 1 and 2 (v12), pc/h	1185	Ramp Junction Speed (S), mi/h	61.8

Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	9.6
Level of Service (LOS)	B	Density in Ramp Influence Area (DR), pc/mi/ln	12.4

# HCS Freeway Merge Report

## Project Information

Analyst	TranSystems	Date	8/9/2023
Agency	SCDOT	Analysis Year	Design 2045
Jurisdiction		Time Analyzed	AM
Project Description	I-95 NB On Ramp from Hwy 6	Units	U.S. Customary

## Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	70.5	45.0
Segment Length (L) / Acceleration Length (LA), ft	955	800
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

## Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAFCAV	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

## Demand and Capacity

Demand Volume (Vi), veh/h	891	159
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	25.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.800	0.962
Flow Rate (vi), pc/h	1185	176
Capacity (cmd), pc/h	4800	2100
Adjusted Capacity (cmd), pc/h	4800	2100
Volume-to-Capacity Ratio (v/c)	0.28	0.08

## Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (No), ln	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (MS)	0.264
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	63.0
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	1.000	Outer Lanes Freeway Speed (SO), mi/h	70.5
Flow in Lanes 1 and 2 (v12), pc/h	1185	Ramp Junction Speed (S), mi/h	63.0



Flow Entering Ramp-Infl. Area (vR12), pc/h	1361	Average Density (D), pc/mi/ln	10.8
Level of Service (LOS)	B	Density in Ramp Influence Area (DR), pc/mi/ln	11.1

# HCS Freeway Diverge Report

## Project Information

Analyst	Transystems	Date	8/10/2023
Agency	SCDOT	Analysis Year	Design (2045)
Jurisdiction		Time Analyzed	AM
Project Description	I-95 NB Exit to NB Rest Stop	Units	U.S. Customary

## Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	70.5	45.0
Segment Length (L) / Deceleration Length (LD), ft	955	225
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

## Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	1.000	1.000
Capacity Adj. Factor for CAVs, CAFCAV	1.000	-

## Demand and Capacity

Demand Volume (Vi), veh/h	993	57
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	25.00	43.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.800	0.699
Flow Rate (vi), pc/h	1320	87
Capacity (cmd), pc/h	4800	2100
Adjusted Capacity (cmd), pc/h	4800	2100
Volume-to-Capacity Ratio (v/c)	0.28	0.04

## Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (No), ln	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (DS)	0.306
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influence Area Speed (SR), mi/h	61.8
Prop. Freeway Vehicles in Lane 1 and 2 (PFD)	1.000	Outer Lanes Freeway Speed (SO), mi/h	77.3
Flow in Lanes 1 and 2 (v12), pc/h	1320	Ramp Junction Speed (S), mi/h	61.8

Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	10.7
Level of Service (LOS)	B	Density in Ramp Influence Area (DR), pc/mi/ln	13.6

# HCS Freeway Merge Report

## Project Information

Analyst	TranSystems	Date	8/10/2023
Agency	SCDOT	Analysis Year	Design 2045
Jurisdiction		Time Analyzed	AM
Project Description	I-95 NB On Ramp from NB Rest Stop	Units	U.S. Customary

## Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	70.5	45.0
Segment Length (L) / Acceleration Length (LA), ft	1500	800
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

## Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAFCAV	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

## Demand and Capacity

Demand Volume (Vi), veh/h	993	57
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	25.00	43.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.800	0.699
Flow Rate (vi), pc/h	1320	87
Capacity (cmd), pc/h	4800	2100
Adjusted Capacity (cmd), pc/h	4800	2100
Volume-to-Capacity Ratio (v/c)	0.29	0.04

## Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (NO), ln	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (MS)	0.265
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	62.9
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	1.000	Outer Lanes Freeway Speed (SO), mi/h	70.5
Flow in Lanes 1 and 2 (v12), pc/h	1320	Ramp Junction Speed (S), mi/h	62.9

Flow Entering Ramp-Infl. Area (vR12), pc/h	1407	Average Density (D), pc/mi/ln	11.2
Level of Service (LOS)	B	Density in Ramp Influence Area (DR), pc/mi/ln	11.5

# HCS Freeway Diverge Report

## Project Information

Analyst	Transystems	Date	8/9/2023
Agency	SCDOT	Analysis Year	Design (2045)
Jurisdiction		Time Analyzed	AM
Project Description	I-95 NB Exit to US 15	Units	U.S. Customary

## Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	70.5	45.0
Segment Length (L) / Deceleration Length (LD), ft	1500	225
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

## Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	1.000	1.000
Capacity Adj. Factor for CAVs, CAFCAV	1.000	-

## Demand and Capacity

Demand Volume (Vi), veh/h	967	83
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	25.00	6.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.800	0.943
Flow Rate (vi), pc/h	1286	94
Capacity (cmd), pc/h	4800	2100
Adjusted Capacity (cmd), pc/h	4800	2100
Volume-to-Capacity Ratio (v/c)	0.27	0.04

## Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (No), ln	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (DS)	0.306
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influence Area Speed (SR), mi/h	61.8
Prop. Freeway Vehicles in Lane 1 and 2 (PFD)	1.000	Outer Lanes Freeway Speed (SO), mi/h	77.3
Flow in Lanes 1 and 2 (v12), pc/h	1286	Ramp Junction Speed (S), mi/h	61.8

Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	10.4
Level of Service (LOS)	B	Density in Ramp Influence Area (DR), pc/mi/ln	13.3

# HCS Freeway Merge Report

## Project Information

Analyst	TranSystems	Date	8/9/2023
Agency	SCDOT	Analysis Year	Design 2045
Jurisdiction		Time Analyzed	AM
Project Description	I-95 NB On Ramp from US 15	Units	U.S. Customary

## Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	70.5	45.0
Segment Length (L) / Acceleration Length (LA), ft	1500	800
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

## Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAFCAV	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

## Demand and Capacity

Demand Volume (Vi), veh/h	967	24
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	25.00	6.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.800	0.943
Flow Rate (vi), pc/h	1286	27
Capacity (cmd), pc/h	4800	2100
Adjusted Capacity (cmd), pc/h	4800	2100
Volume-to-Capacity Ratio (v/c)	0.27	0.01

## Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (No), ln	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (MS)	0.263
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	63.0
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	1.000	Outer Lanes Freeway Speed (SO), mi/h	70.5
Flow in Lanes 1 and 2 (v12), pc/h	1286	Ramp Junction Speed (S), mi/h	63.0



Flow Entering Ramp-Infl. Area (vR12), pc/h	1313	Average Density (D), pc/mi/ln	10.4
Level of Service (LOS)	B	Density in Ramp Influence Area (DR), pc/mi/ln	10.8

### Design Analysis Table

Freeway Lanes, ln	2	2	3	3	4	4	5	5
Ramp Lanes, ln	1	2	1	2	1	2	1	2
Density, pc/mi/ln	10.4	10.1	6.7	6.5	4.9	4.8	3.1	3.0
LOS	B	A	A	A	A	A	A	A

# HCS Freeway Diverge Report

## Project Information

Analyst	Transystems	Date	8/9/2023
Agency	SCDOT	Analysis Year	Design 2045
Jurisdiction		Time Analyzed	AM
Project Description	I-95 NB Exit to Buff Blvd	Units	U.S. Customary

## Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	70.5	45.0
Segment Length (L) / Deceleration Length (LD), ft	1500	225
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

## Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	1.000	1.000
Capacity Adj. Factor for CAVs, CAFCAV	1.000	-

## Demand and Capacity

Demand Volume (Vi), veh/h	830	161
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	25.00	18.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.800	0.847
Flow Rate (vi), pc/h	1104	202
Capacity (cmd), pc/h	4800	2100
Adjusted Capacity (cmd), pc/h	4800	2100
Volume-to-Capacity Ratio (v/c)	0.23	0.10

## Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (No), ln	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (DS)	0.316
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influence Area Speed (SR), mi/h	61.5
Prop. Freeway Vehicles in Lane 1 and 2 (PFD)	1.000	Outer Lanes Freeway Speed (SO), mi/h	77.3
Flow in Lanes 1 and 2 (v12), pc/h	1104	Ramp Junction Speed (S), mi/h	61.5

Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	9.0
Level of Service (LOS)	B	Density in Ramp Influence Area (DR), pc/mi/ln	11.7

# HCS Freeway Merge Report

## Project Information

Analyst	TranSystems	Date	8/9/2023
Agency	SCDOT	Analysis Year	Design (2045)
Jurisdiction		Time Analyzed	AM
Project Description	I-95 NB On Ramp from Buff Blvd	Units	U.S. Customary

## Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	70.5	45.0
Segment Length (L) / Acceleration Length (LA), ft	1500	800
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

## Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAFCAV	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

## Demand and Capacity

Demand Volume (Vi), veh/h	830	102
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	25.00	18.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.800	0.847
Flow Rate (vi), pc/h	1104	128
Capacity (cmd), pc/h	4800	2100
Adjusted Capacity (cmd), pc/h	4800	2100
Volume-to-Capacity Ratio (v/c)	0.26	0.06

## Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (No), ln	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (MS)	0.262
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	63.0
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	1.000	Outer Lanes Freeway Speed (SO), mi/h	70.5
Flow in Lanes 1 and 2 (v12), pc/h	1104	Ramp Junction Speed (S), mi/h	63.0

Flow Entering Ramp-Infl. Area (vR12), pc/h	1232	Average Density (D), pc/mi/ln	9.8
Level of Service (LOS)	B	Density in Ramp Influence Area (DR), pc/mi/ln	10.1

# HCS Freeway Diverge Report

## Project Information

Analyst	Transystems	Date	8/10/2023
Agency	SCDOT	Analysis Year	Design (2045)
Jurisdiction		Time Analyzed	AM
Project Description	I-95 SB Exit to Buff Blvd	Units	U.S. Customary

## Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	70.5	45.0
Segment Length (L) / Deceleration Length (LD), ft	1500	225
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

## Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	1.000	1.000
Capacity Adj. Factor for CAVs, CAFCAV	1.000	-

## Demand and Capacity

Demand Volume (Vi), veh/h	898	110
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	20.00	23.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.833	0.813
Flow Rate (vi), pc/h	1147	144
Capacity (cmd), pc/h	4800	2100
Adjusted Capacity (cmd), pc/h	4800	2100
Volume-to-Capacity Ratio (v/c)	0.24	0.07

## Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (No), ln	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (DS)	0.311
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influence Area Speed (SR), mi/h	61.6
Prop. Freeway Vehicles in Lane 1 and 2 (PFD)	1.000	Outer Lanes Freeway Speed (SO), mi/h	77.3
Flow in Lanes 1 and 2 (v12), pc/h	1147	Ramp Junction Speed (S), mi/h	61.6

Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	9.3
Level of Service (LOS)	B	Density in Ramp Influence Area (DR), pc/mi/ln	12.1

# HCS Freeway Merge Report

## Project Information

Analyst	TranSystems	Date	8/9/2023
Agency	SCDOT	Analysis Year	Design 2045
Jurisdiction		Time Analyzed	AM
Project Description	I-95 SB On Ramp from Buff Blvd	Units	U.S. Customary

## Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	70.5	45.0
Segment Length (L) / Acceleration Length (LA), ft	1500	800
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

## Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAFCAV	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

## Demand and Capacity

Demand Volume (Vi), veh/h	898	232
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	20.00	23.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.833	0.813
Flow Rate (vi), pc/h	1147	304
Capacity (cmd), pc/h	4800	2100
Adjusted Capacity (cmd), pc/h	4800	2100
Volume-to-Capacity Ratio (v/c)	0.30	0.14

## Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (No), ln	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (MS)	0.266
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	62.9
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	1.000	Outer Lanes Freeway Speed (SO), mi/h	70.5
Flow in Lanes 1 and 2 (v12), pc/h	1147	Ramp Junction Speed (S), mi/h	62.9



Flow Entering Ramp-Infl. Area (vR12), pc/h	1451	Average Density (D), pc/mi/ln	11.5
Level of Service (LOS)	B	Density in Ramp Influence Area (DR), pc/mi/ln	11.7

### Design Analysis Table

Freeway Lanes, ln	2	2	3	3	4	4	5	5
Ramp Lanes, ln	1	2	1	2	1	2	1	2
Density, pc/mi/ln	11.5	11.2	7.4	7.3	5.5	5.4	3.6	3.6
LOS	B	A	A	A	A	A	A	A

# HCS Freeway Diverge Report

## Project Information

Analyst	Transystems	Date	8/9/2023
Agency	SCDOT	Analysis Year	Design 2045
Jurisdiction		Time Analyzed	AM
Project Description	I-95 SB Exit to US 15	Units	U.S. Customary

## Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	70.5	45.0
Segment Length (L) / Deceleration Length (LD), ft	1500	225
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

## Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	1.000	1.000
Capacity Adj. Factor for CAVs, CAFCAV	1.000	-

## Demand and Capacity

Demand Volume (Vi), veh/h	1220	9
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	20.00	10.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.833	0.909
Flow Rate (vi), pc/h	1558	11
Capacity (cmd), pc/h	4800	2100
Adjusted Capacity (cmd), pc/h	4800	2100
Volume-to-Capacity Ratio (v/c)	0.32	0.01

## Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (No), ln	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (DS)	0.299
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influence Area Speed (SR), mi/h	62.0
Prop. Freeway Vehicles in Lane 1 and 2 (PFD)	1.000	Outer Lanes Freeway Speed (SO), mi/h	77.3
Flow in Lanes 1 and 2 (v12), pc/h	1558	Ramp Junction Speed (S), mi/h	62.0

Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	12.6
Level of Service (LOS)	B	Density in Ramp Influence Area (DR), pc/mi/ln	15.6

# HCS Freeway Merge Report

## Project Information

Analyst	TranSystems	Date	8/9/2023
Agency	SCDOT	Analysis Year	Design 2045
Jurisdiction		Time Analyzed	AM
Project Description	I-95 SB On Ramp from US 15	Units	U.S. Customary

## Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	70.5	45.0
Segment Length (L) / Acceleration Length (LA), ft	1500	800
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

## Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAFCAV	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

## Demand and Capacity

Demand Volume (Vi), veh/h	1220	160
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	20.00	10.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.833	0.909
Flow Rate (vi), pc/h	1558	187
Capacity (cmd), pc/h	4800	2100
Adjusted Capacity (cmd), pc/h	4800	2100
Volume-to-Capacity Ratio (v/c)	0.36	0.09

## Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (No), ln	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (MS)	0.271
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	62.8
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	1.000	Outer Lanes Freeway Speed (SO), mi/h	70.5
Flow in Lanes 1 and 2 (v12), pc/h	1558	Ramp Junction Speed (S), mi/h	62.8

Flow Entering Ramp-Infl. Area (vR12), pc/h	1745	Average Density (D), pc/mi/ln	13.9
Level of Service (LOS)	B	Density in Ramp Influence Area (DR), pc/mi/ln	14.1

### Design Analysis Table

Freeway Lanes, ln	2	2	3	3	4	4	5	5
Ramp Lanes, ln	1	2	1	2	1	2	1	2
Density, pc/mi/ln	13.9	13.5	8.9	8.7	6.5	6.4	4.2	4.1
LOS	B	A	A	A	A	A	A	A

# HCS Freeway Diverge Report

## Project Information

Analyst	Transystems	Date	8/10/2023
Agency	SCDOT	Analysis Year	Design 2045
Jurisdiction		Time Analyzed	AM
Project Description	I-95 SB Exit to SB Rest Stop	Units	U.S. Customary

## Geometric Data

	Freeway	Ramp
Number of Lanes (N), In	2	1
Free-Flow Speed (FFS), mi/h	70.5	45.0
Segment Length (L) / Deceleration Length (LD), ft	1500	225
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

## Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	1.000	1.000
Capacity Adj. Factor for CAVs, CAFCAV	1.000	-

## Demand and Capacity

Demand Volume (Vi), veh/h	1311	69
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	20.00	37.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.833	0.730
Flow Rate (vi), pc/h	1674	101
Capacity (cmd), pc/h	4800	2100
Adjusted Capacity (cmd), pc/h	4800	2100
Volume-to-Capacity Ratio (v/c)	0.35	0.05

## Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (No), In	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (DS)	0.307
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influence Area Speed (SR), mi/h	61.8
Prop. Freeway Vehicles in Lane 1 and 2 (PFD)	1.000	Outer Lanes Freeway Speed (SO), mi/h	77.3
Flow in Lanes 1 and 2 (v12), pc/h	1674	Ramp Junction Speed (S), mi/h	61.8

Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	13.5
Level of Service (LOS)	B	Density in Ramp Influence Area (DR), pc/mi/ln	16.6

# HCS Freeway Weaving Report

## Project Information

Analyst	TranSystems	Date	8/10/2023
Agency	SCDOT	Analysis Year	Design (2045)
Jurisdiction		Time Analyzed	AM
Project Description	I-95 SB Weave bt SB Rest Stop and Hwy 6	Units	U.S. Customary

## Geometric Data

Number of Lanes (N), ln	3	Segment Type	Freeway
Segment Length (Ls), ft	775	Number of Maneuver Lanes (NWL), ln	2
Weaving Configuration	One-Sided	Ramp-to-Freeway Lane Changes (LCRF), lc	1
Terrain Type	Level	Freeway-to-Ramp Lane Changes (LCFR), lc	1
Percent Grade, %	-	Ramp-to-Ramp Lane Changes (LCRR), lc	0
Interchange Density (ID), int/mi	0.80	Cross Weaving Managed Lane	No

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor for CAVs, CAFCAV	1.000
Proportion of CAVs in Traffic Stream	0	Final Capacity Adjustment Factor (CAF)	1.000

## Demand and Capacity

	FF	RF	RR	FR
Demand Volume (Vi), veh/h	1311	69	0	245
Peak Hour Factor (PHF)	0.94	0.94	0.94	0.94
Total Trucks, %	20.00	37.00	0.00	4.00
Heavy Vehicle Adjustment Factor (fHV)	0.833	0.730	1.000	0.962
Flow Rate (vi), pc/h	1674	101	0	271
Weaving Flow Rate (vw), pc/h	372	Ideal Conditions Capacity (ciFL), pc/h/ln		2400
Non-Weaving Flow Rate (vNW), pc/h	1674	Density-Based Capacity (ciWL × N × fHV), veh/h		5390
Total Flow Rate (v), pc/h	2046	Demand Flow-Based Capacity (ciW × fHV), veh/h		11143
Volume Ratio (VR)	0.182	Weaving Area Capacity (cw), veh/h		5390
Minimum Lane Change Rate (LCMIN), lc/h	372	Adjusted Weaving Area Capacity (cWA), veh/h		5390
Maximum Weaving Length (LMAX), ft	4353	Demand-to-Capacity Ratio (v/c)		0.32

## Speed and Density

Non-Weaving Vehicle Index (INW)	104	Average Weaving Speed (SW), mi/h	65.2
Non-Weaving Lane Change Rate (LCNW), lc/h	187	Average Non-Weaving Speed (SNW), mi/h	69.4
Weaving Lane Change Rate (LCW), lc/h	494	Average Speed (S), mi/h	68.6
Weaving Lane Change Rate (LCAII), lc/h	681	Density (D), pc/mi/ln	9.9
Weaving Intensity Factor (W)	0.204	Level of Service (LOS)	A



# HCS Freeway Merge Report

## Project Information

Analyst	TranSystems	Date	8/9/2023
Agency	SCDOT	Analysis Year	Design 2045
Jurisdiction		Time Analyzed	AM
Project Description	I-95 SB On Ramp from Hwy 6	Units	U.S. Customary

## Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	70.5	45.0
Segment Length (L) / Acceleration Length (LA), ft	1500	800
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

## Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAFCAV	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

## Demand and Capacity

Demand Volume (Vi), veh/h	1135	151
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	20.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.833	0.962
Flow Rate (vi), pc/h	1450	167
Capacity (cmd), pc/h	4800	2100
Adjusted Capacity (cmd), pc/h	4800	2100
Volume-to-Capacity Ratio (v/c)	0.34	0.08

## Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (NO), ln	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (MS)	0.269
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	62.8
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	1.000	Outer Lanes Freeway Speed (SO), mi/h	70.5
Flow in Lanes 1 and 2 (v12), pc/h	1450	Ramp Junction Speed (S), mi/h	62.8

Flow Entering Ramp-Infl. Area (vR12), pc/h	1617	Average Density (D), pc/mi/ln	12.9
Level of Service (LOS)	B	Density in Ramp Influence Area (DR), pc/mi/ln	13.1

# HCS Basic Freeway Report

## Project Information

Analyst	Transystems	Date	8/9/2023
Agency	SCDOT	Analysis Year	Design (2045)
Jurisdiction		Time Analyzed	AM
Project Description	I-95 NB south of Hwy 6	Units	U.S. Customary

## Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Rolling
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.0	Total Ramp Density (TRD), ramps/mi	1.50
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.5
Right-Side Lateral Clearance, ft	10		

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	1.000
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAFCAV	1.000

## Demand and Capacity

Demand Volume (V), veh/h	983	Heavy Vehicle Adjustment Factor (fhv)	0.667
Peak Hour Factor (PHF)	0.94	Flow Rate (vp), pc/h/ln	784
Total Trucks, %	25.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.33
Passenger Car Equivalent (ET)	3.00		

## Speed and Density

Lane Width Adjustment (fLW)	0.0	Average Speed (S), mi/h	70.5
Right-Side Lateral Clearance Adj. (fRLC)	0.0	Density (D), pc/mi/ln	11.1
Total Ramp Density Adjustment	4.5	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFSadj), mi/h	70.5		

# HCS Basic Freeway Report

## Project Information

Analyst	Transystems	Date	8/9/2023
Agency	SCDOT	Analysis Year	Design (2045)
Jurisdiction		Time Analyzed	AM
Project Description	I-95 NB south of US 15	Units	U.S. Customary

## Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Rolling
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.0	Total Ramp Density (TRD), ramps/mi	1.50
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.5
Right-Side Lateral Clearance, ft	10		

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	1.000
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAFCAV	1.000

## Demand and Capacity

Demand Volume (V), veh/h	1050	Heavy Vehicle Adjustment Factor (fhv)	0.667
Peak Hour Factor (PHF)	0.94	Flow Rate (vp), pc/h/ln	838
Total Trucks, %	25.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.35
Passenger Car Equivalent (ET)	3.00		

## Speed and Density

Lane Width Adjustment (fLW)	0.0	Average Speed (S), mi/h	70.5
Right-Side Lateral Clearance Adj. (fRLC)	0.0	Density (D), pc/mi/ln	11.9
Total Ramp Density Adjustment	4.5	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFSadj), mi/h	70.5		

# HCS Basic Freeway Report

## Project Information

Analyst	Transystems	Date	8/9/2023
Agency	SCDOT	Analysis Year	Design (2045)
Jurisdiction		Time Analyzed	AM
Project Description	I-95 NB south of Buff Blvd	Units	U.S. Customary

## Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Rolling
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.0	Total Ramp Density (TRD), ramps/mi	1.50
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.5
Right-Side Lateral Clearance, ft	10		

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	1.000
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAFCAV	1.000

## Demand and Capacity

Demand Volume (V), veh/h	991	Heavy Vehicle Adjustment Factor (fhv)	0.667
Peak Hour Factor (PHF)	0.94	Flow Rate (vp), pc/h/ln	790
Total Trucks, %	25.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.33
Passenger Car Equivalent (ET)	3.00		

## Speed and Density

Lane Width Adjustment (fLW)	0.0	Average Speed (S), mi/h	70.5
Right-Side Lateral Clearance Adj. (fRLC)	0.0	Density (D), pc/mi/ln	11.2
Total Ramp Density Adjustment	4.5	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFSadj), mi/h	70.5		

# HCS Basic Freeway Report

## Project Information

Analyst	Transystems	Date	8/9/2023
Agency	SCDOT	Analysis Year	Design (2045)
Jurisdiction		Time Analyzed	AM
Project Description	I-95 NB north of Buff Blvd	Units	U.S. Customary

## Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Rolling
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.0	Total Ramp Density (TRD), ramps/mi	1.50
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.5
Right-Side Lateral Clearance, ft	10		

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	1.000
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAFCAV	1.000

## Demand and Capacity

Demand Volume (V), veh/h	932	Heavy Vehicle Adjustment Factor (fhv)	0.667
Peak Hour Factor (PHF)	0.94	Flow Rate (vp), pc/h/ln	743
Total Trucks, %	25.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.31
Passenger Car Equivalent (ET)	3.00		

## Speed and Density

Lane Width Adjustment (fLW)	0.0	Average Speed (S), mi/h	70.5
Right-Side Lateral Clearance Adj. (fRLC)	0.0	Density (D), pc/mi/ln	10.5
Total Ramp Density Adjustment	4.5	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFSadj), mi/h	70.5		

# HCS Basic Freeway Report

## Project Information

Analyst	Transystems	Date	8/9/2023
Agency	SCDOT	Analysis Year	Design (2045)
Jurisdiction		Time Analyzed	AM
Project Description	I-95 SB north of Buff Blvd	Units	U.S. Customary

## Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Rolling
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.0	Total Ramp Density (TRD), ramps/mi	1.50
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.5
Right-Side Lateral Clearance, ft	10		

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	1.000
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAFCAV	1.000

## Demand and Capacity

Demand Volume (V), veh/h	1008	Heavy Vehicle Adjustment Factor (fhv)	0.714
Peak Hour Factor (PHF)	0.94	Flow Rate (vp), pc/h/ln	751
Total Trucks, %	20.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.31
Passenger Car Equivalent (ET)	3.00		

## Speed and Density

Lane Width Adjustment (fLW)	0.0	Average Speed (S), mi/h	70.5
Right-Side Lateral Clearance Adj. (fRLC)	0.0	Density (D), pc/mi/ln	10.7
Total Ramp Density Adjustment	4.5	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFSadj), mi/h	70.5		

# HCS Basic Freeway Report

## Project Information

Analyst	Transystems	Date	8/9/2023
Agency	SCDOT	Analysis Year	Design (2045)
Jurisdiction		Time Analyzed	AM
Project Description	I-95 SB south of Buff Blvd	Units	U.S. Customary

## Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Rolling
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.0	Total Ramp Density (TRD), ramps/mi	1.50
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.5
Right-Side Lateral Clearance, ft	10		

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	1.000
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAFCAV	1.000

## Demand and Capacity

Demand Volume (V), veh/h	1229	Heavy Vehicle Adjustment Factor (fhv)	0.714
Peak Hour Factor (PHF)	0.94	Flow Rate (vp), pc/h/ln	916
Total Trucks, %	20.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.38
Passenger Car Equivalent (ET)	3.00		

## Speed and Density

Lane Width Adjustment (fLW)	0.0	Average Speed (S), mi/h	70.5
Right-Side Lateral Clearance Adj. (fRLC)	0.0	Density (D), pc/mi/ln	13.0
Total Ramp Density Adjustment	4.5	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFSadj), mi/h	70.5		



# HCS Basic Freeway Report

## Project Information

Analyst	Transystems	Date	8/9/2023
Agency	SCDOT	Analysis Year	Design (2045)
Jurisdiction		Time Analyzed	AM
Project Description	I-95 SB south of US 15	Units	U.S. Customary

## Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Rolling
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.0	Total Ramp Density (TRD), ramps/mi	1.50
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.5
Right-Side Lateral Clearance, ft	10		

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	1.000
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAFCAV	1.000

## Demand and Capacity

Demand Volume (V), veh/h	1380	Heavy Vehicle Adjustment Factor (fhv)	0.714
Peak Hour Factor (PHF)	0.94	Flow Rate (vp), pc/h/ln	1028
Total Trucks, %	20.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.43
Passenger Car Equivalent (ET)	3.00		

## Speed and Density

Lane Width Adjustment (fLW)	0.0	Average Speed (S), mi/h	70.5
Right-Side Lateral Clearance Adj. (fRLC)	0.0	Density (D), pc/mi/ln	14.6
Total Ramp Density Adjustment	4.5	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFSadj), mi/h	70.5		

# HCS Basic Freeway Report

## Project Information

Analyst	Transystems	Date	8/9/2023
Agency	SCDOT	Analysis Year	Design (2045)
Jurisdiction		Time Analyzed	AM
Project Description	I-95 SB south of Hwy 6	Units	U.S. Customary

## Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Rolling
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.0	Total Ramp Density (TRD), ramps/mi	1.50
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.5
Right-Side Lateral Clearance, ft	10		

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	1.000
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAFCAV	1.000

## Demand and Capacity

Demand Volume (V), veh/h	1286	Heavy Vehicle Adjustment Factor (fhv)	0.714
Peak Hour Factor (PHF)	0.94	Flow Rate (vp), pc/h/ln	958
Total Trucks, %	20.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.40
Passenger Car Equivalent (ET)	3.00		

## Speed and Density

Lane Width Adjustment (fLW)	0.0	Average Speed (S), mi/h	70.5
Right-Side Lateral Clearance Adj. (fRLC)	0.0	Density (D), pc/mi/ln	13.6
Total Ramp Density Adjustment	4.5	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFSadj), mi/h	70.5		

Lanes, Volumes, Timings  
24: Hwy 6 & I-95 SB Ramp

08/09/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SWL2	SWL	SWR
Lane Configurations											
Traffic Volume (vph)	0	217	70	54	213	0	0	0	64	0	137
Future Volume (vph)	0	217	70	54	213	0	0	0	64	0	137
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		75	175		0	0	0		0	150
Storage Lanes	0		0	1		0	0	0		1	1
Taper Length (ft)	25			25			25			25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.967									0.850
Flt Protected				0.950					0.950		
Satd. Flow (prot)	0	1767	0	1736	1827	0	0	0	1736	0	1553
Flt Permitted				0.252					0.950		
Satd. Flow (perm)	0	1767	0	460	1827	0	0	0	1736	0	1553
Right Turn on Red			Yes			Yes					Yes
Satd. Flow (RTOR)		28									510
Link Speed (mph)		30			30			30			30
Link Distance (ft)		221			1070			658			713
Travel Time (s)		5.0			24.3			15.0			16.2
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Growth Factor	122%	122%	122%	122%	122%	122%	122%	122%	122%	122%	122%
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Adj. Flow (vph)	0	291	94	72	286	0	0	0	86	0	184
Shared Lane Traffic (%)											
Lane Group Flow (vph)	0	385	0	72	286	0	0	0	86	0	184
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			12
Link Offset(ft)		0			0			0			0
Crosswalk Width(ft)		16			16			16			16
Two way Left Turn Lane											
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15	9	15	15	9
Number of Detectors		2		1	2				1		1
Detector Template		Thru		Left	Thru				Left		Right
Leading Detector (ft)		100		20	100				20		20
Trailing Detector (ft)		0		0	0				0		0
Detector 1 Position(ft)		0		0	0				0		0
Detector 1 Size(ft)		6		20	6				20		20
Detector 1 Type		Cl+Ex		Cl+Ex	Cl+Ex				Cl+Ex		Cl+Ex
Detector 1 Channel											
Detector 1 Extend (s)		0.0		0.0	0.0				0.0		0.0
Detector 1 Queue (s)		0.0		0.0	0.0				0.0		0.0
Detector 1 Delay (s)		0.0		0.0	0.0				0.0		0.0
Detector 2 Position(ft)		94			94						
Detector 2 Size(ft)		6			6						
Detector 2 Type		Cl+Ex			Cl+Ex						
Detector 2 Channel											
Detector 2 Extend (s)		0.0			0.0						
Turn Type		NA		pm+pt	NA				Perm		Perm

# Lanes, Volumes, Timings

## 24: Hwy 6 & I-95 SB Ramp

08/09/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SWL2	SWL	SWR
Protected Phases		4		3	8						
Permitted Phases				8					6		6
Detector Phase		4		3	8				6		6
Switch Phase											
Minimum Initial (s)		5.0		5.0	5.0				5.0		5.0
Minimum Split (s)		24.0		11.0	24.0				24.0		24.0
Total Split (s)		24.0		11.0	35.0				25.0		25.0
Total Split (%)		40.0%		18.3%	58.3%				41.7%		41.7%
Maximum Green (s)		18.0		5.0	29.0				19.0		19.0
Yellow Time (s)		4.0		4.0	4.0				4.0		4.0
All-Red Time (s)		2.0		2.0	2.0				2.0		2.0
Lost Time Adjust (s)		0.0		0.0	0.0				0.0		0.0
Total Lost Time (s)		6.0		6.0	6.0				6.0		6.0
Lead/Lag		Lag		Lead							
Lead-Lag Optimize?		Yes		Yes							
Vehicle Extension (s)		3.0		3.0	3.0				3.0		3.0
Recall Mode		None		None	None				Max		Max
Walk Time (s)		7.0			7.0				7.0		7.0
Flash Dont Walk (s)		11.0			11.0				11.0		11.0
Pedestrian Calls (#/hr)		0			0				0		0
Act Effect Green (s)		14.7		20.5	20.5				19.6		19.6
Actuated g/C Ratio		0.28		0.39	0.39				0.37		0.37
v/c Ratio		0.75		0.24	0.40				0.13		0.20
Control Delay		27.2		10.7	12.3				14.8		0.5
Queue Delay		0.0		0.0	0.0				0.0		0.0
Total Delay		27.2		10.7	12.3				14.8		0.5
LOS		C		B	B				B		A
Approach Delay		27.2			12.0					5.1	
Approach LOS		C			B					A	
Queue Length 50th (ft)		113		13	59				22		0
Queue Length 95th (ft)		#224		31	104				50		0
Internal Link Dist (ft)		141			990		578			633	
Turn Bay Length (ft)				175							150
Base Capacity (vph)		643		305	1041				648		899
Starvation Cap Reductn		0		0	0				0		0
Spillback Cap Reductn		0		0	0				0		0
Storage Cap Reductn		0		0	0				0		0
Reduced v/c Ratio		0.60		0.24	0.27				0.13		0.20

### Intersection Summary

Area Type:	Other
Cycle Length:	60
Actuated Cycle Length:	52.5
Natural Cycle:	60
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.75
Intersection Signal Delay:	15.9
Intersection LOS:	B
Intersection Capacity Utilization:	34.8%
ICU Level of Service:	A
Analysis Period (min):	15

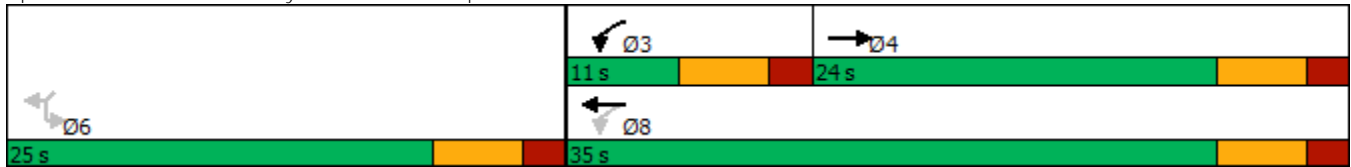
# Lanes, Volumes, Timings

## 24: Hwy 6 & I-95 SB Ramp

08/09/2023

# 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

Splits and Phases: 24: Hwy 6 & I-95 SB Ramp



# Lanes, Volumes, Timings

## 27: Bass Dr & Hwy 6

08/09/2023

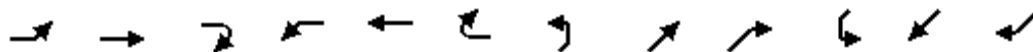


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	5	110	45	141	129	15	34	19	115	22	18	8
Future Volume (vph)	5	110	45	141	129	15	34	19	115	22	18	8
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	120		0	170		0	175		0	120		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.956			0.984			0.871			0.955	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1752	1763	0	1752	1815	0	1752	1607	0	1752	1762	0
Flt Permitted	0.628			0.604			0.586			0.637		
Satd. Flow (perm)	1158	1763	0	1114	1815	0	1081	1607	0	1175	1762	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		35			10			165			11	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		638			518			530			613	
Travel Time (s)		14.5			11.8			12.0			13.9	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Growth Factor	122%	122%	122%	122%	122%	122%	122%	122%	122%	122%	122%	122%
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	7	158	65	202	185	22	49	27	165	32	26	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	7	223	0	202	207	0	49	192	0	32	37	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		Perm	NA	

# Lanes, Volumes, Timings

## 27: Bass Dr & Hwy 6

08/09/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Protected Phases		4			8		5	2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	24.0	24.0		24.0	24.0		11.0	24.0		24.0	24.0	
Total Split (s)	24.0	24.0		24.0	24.0		11.0	36.0		25.0	25.0	
Total Split (%)	40.0%	40.0%		40.0%	40.0%		18.3%	60.0%		41.7%	41.7%	
Maximum Green (s)	18.0	18.0		18.0	18.0		5.0	30.0		19.0	19.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Max		Max	Max	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0			11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0			0		0	0	
Act Effect Green (s)	14.0	14.0		14.0	14.0		30.2	30.2		23.9	23.9	
Actuated g/C Ratio	0.25	0.25		0.25	0.25		0.54	0.54		0.43	0.43	
v/c Ratio	0.02	0.48		0.73	0.45		0.08	0.20		0.06	0.05	
Control Delay	15.3	18.4		35.5	19.9		7.7	2.9		14.4	11.4	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	15.3	18.4		35.5	19.9		7.7	2.9		14.4	11.4	
LOS	B	B		D	B		A	A		B	B	
Approach Delay		18.3			27.6			3.8			12.8	
Approach LOS		B			C			A			B	
Queue Length 50th (ft)	2	53		62	55		7	4		7	6	
Queue Length 95th (ft)	9	97		115	98		21	27		23	22	
Internal Link Dist (ft)		558			438			450			533	
Turn Bay Length (ft)	120			170			175			120		
Base Capacity (vph)	372	591		358	591		639	938		499	754	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.02	0.38		0.56	0.35		0.08	0.20		0.06	0.05	

### Intersection Summary

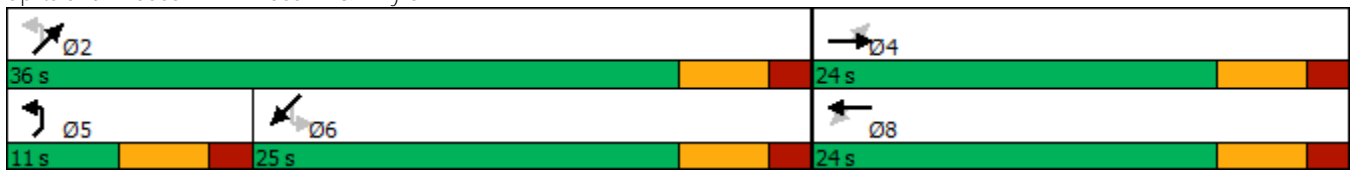
Area Type:	Other
Cycle Length:	60
Actuated Cycle Length:	56.2
Natural Cycle:	60
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.73
Intersection Signal Delay:	18.3
Intersection LOS:	B
Intersection Capacity Utilization:	54.0%
ICU Level of Service:	A
Analysis Period (min):	15

# Lanes, Volumes, Timings

## 27: Bass Dr & Hwy 6

08/09/2023

Splits and Phases: 27: Bass Dr & Hwy 6





# Lanes, Volumes, Timings

## 30: Bradford & Hwy 6

08/09/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	240	6	28	290	2	6	0	31	2	0	1
Future Volume (vph)	1	240	6	28	290	2	6	0	31	2	0	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	120		0	120		0	0		0	0		0
Storage Lanes	1		0	1		0	1		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.996			0.999				0.850		0.966	
Flt Protected	0.950			0.950			0.950				0.964	
Satd. Flow (prot)	1719	1802	0	1719	1808	0	1719	1810	1538	0	1685	0
Flt Permitted	0.950			0.950			0.950				0.964	
Satd. Flow (perm)	1719	1802	0	1719	1808	0	1719	1810	1538	0	1685	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		518			385			504			268	
Travel Time (s)		11.8			8.8			11.5			6.1	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Growth Factor	122%	122%	122%	122%	122%	122%	122%	122%	122%	122%	122%	122%
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	1	333	8	39	402	3	8	0	43	3	0	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	1	341	0	39	405	0	8	0	43	0	4	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

### Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	35.4%
ICU Level of Service	A
Analysis Period (min)	15

Lanes, Volumes, Timings  
 33: I-95 BNB Ramp & Hwy 6

08/09/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SBL	SBR	NEL2	NEL	NER
Lane Configurations											
Traffic Volume (vph)	55	237	0	0	235	75	0	0	30	0	45
Future Volume (vph)	55	237	0	0	235	75	0	0	30	0	45
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	0		0	0	0		0	0
Storage Lanes	1		0	0		0	0	0		1	1
Taper Length (ft)	25			25			25			25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.967						0.850
Flt Protected	0.950								0.950		
Satd. Flow (prot)	1736	1827	0	0	1767	0	0	0	1736	0	1553
Flt Permitted	0.229								0.950		
Satd. Flow (perm)	418	1827	0	0	1767	0	0	0	1736	0	1553
Right Turn on Red			Yes			Yes					Yes
Satd. Flow (RTOR)					27						473
Link Speed (mph)		30			30		30			30	
Link Distance (ft)		1070			197		602			707	
Travel Time (s)		24.3			4.5		13.7			16.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	122%	122%	122%	122%	122%	122%	122%	122%	122%	122%	122%
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Adj. Flow (vph)	73	314	0	0	312	99	0	0	40	0	60
Shared Lane Traffic (%)											
Lane Group Flow (vph)	73	314	0	0	411	0	0	0	40	0	60
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Right	Left	Left	Right
Median Width(ft)		12			12		0			12	
Link Offset(ft)		0			0		0			0	
Crosswalk Width(ft)		16			16		16			16	
Two way Left Turn Lane											
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15	9	15	15	9
Number of Detectors	1	2			2				1		1
Detector Template	Left	Thru			Thru				Left		Right
Leading Detector (ft)	20	100			100				20		20
Trailing Detector (ft)	0	0			0				0		0
Detector 1 Position(ft)	0	0			0				0		0
Detector 1 Size(ft)	20	6			6				20		20
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex				Cl+Ex		Cl+Ex
Detector 1 Channel											
Detector 1 Extend (s)	0.0	0.0			0.0				0.0		0.0
Detector 1 Queue (s)	0.0	0.0			0.0				0.0		0.0
Detector 1 Delay (s)	0.0	0.0			0.0				0.0		0.0
Detector 2 Position(ft)		94			94						
Detector 2 Size(ft)		6			6						
Detector 2 Type		Cl+Ex			Cl+Ex						
Detector 2 Channel											
Detector 2 Extend (s)		0.0			0.0						
Turn Type	pm+pt	NA			NA				Perm		Perm

**Lanes, Volumes, Timings**  
**33: I-95 BNB Ramp & Hwy 6**

08/09/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SBL	SBR	NEL2	NEL	NER
Protected Phases	7	4			8						
Permitted Phases	4								2		2
Detector Phase	7	4			8				2		2
Switch Phase											
Minimum Initial (s)	5.0	5.0			5.0				5.0		5.0
Minimum Split (s)	11.0	24.0			24.0				24.0		24.0
Total Split (s)	11.0	35.0			24.0				25.0		25.0
Total Split (%)	18.3%	58.3%			40.0%				41.7%		41.7%
Maximum Green (s)	5.0	29.0			18.0				19.0		19.0
Yellow Time (s)	4.0	4.0			4.0				4.0		4.0
All-Red Time (s)	2.0	2.0			2.0				2.0		2.0
Lost Time Adjust (s)	0.0	0.0			0.0				0.0		0.0
Total Lost Time (s)	6.0	6.0			6.0				6.0		6.0
Lead/Lag	Lead				Lag						
Lead-Lag Optimize?	Yes				Yes						
Vehicle Extension (s)	3.0	3.0			3.0				3.0		3.0
Recall Mode	None	None			None				Max		Max
Walk Time (s)		7.0			7.0				7.0		7.0
Flash Dont Walk (s)		11.0			11.0				11.0		11.0
Pedestrian Calls (#/hr)		0			0				0		0
Act Effct Green (s)	21.1	21.1			15.3				19.5		19.5
Actuated g/C Ratio	0.40	0.40			0.29				0.37		0.37
v/c Ratio	0.25	0.43			0.78				0.06		0.07
Control Delay	10.9	12.7			29.2				14.5		0.1
Queue Delay	0.0	0.0			0.0				0.0		0.0
Total Delay	10.9	12.7			29.2				14.5		0.1
LOS	B	B			C				B		A
Approach Delay		12.3			29.2					5.9	
Approach LOS		B			C					A	
Queue Length 50th (ft)	13	66			124				10		0
Queue Length 95th (ft)	32	115			#249				28		0
Internal Link Dist (ft)		990			117		522			627	
Turn Bay Length (ft)	200										
Base Capacity (vph)	294	1028			635				640		871
Starvation Cap Reductn	0	0			0				0		0
Spillback Cap Reductn	0	0			0				0		0
Storage Cap Reductn	0	0			0				0		0
Reduced v/c Ratio	0.25	0.31			0.65				0.06		0.07

Intersection Summary	
Area Type:	Other
Cycle Length:	60
Actuated Cycle Length:	53
Natural Cycle:	60
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.78
Intersection Signal Delay:	19.3
Intersection LOS:	B
Intersection Capacity Utilization:	34.8%
ICU Level of Service:	A
Analysis Period (min):	15

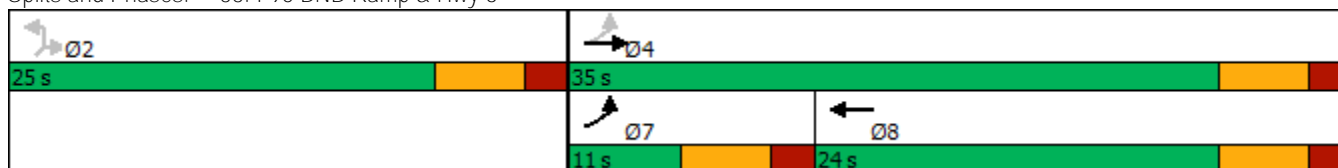
# Lanes, Volumes, Timings

## 33: I-95 BNB Ramp & Hwy 6

08/09/2023

# 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

Splits and Phases: 33: I-95 BNB Ramp & Hwy 6



# Lanes, Volumes, Timings

## 36: Britain & Hwy 6

08/09/2023






















Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↻		↻	↻			↻			↻	
Traffic Volume (vph)	21	267	4	9	323	19	0	0	9	11	1	18
Future Volume (vph)	21	267	4	9	323	19	0	0	9	11	1	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	50		0	0		0	0		0
Storage Lanes	0		0	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.998			0.992			0.865				0.918
Flt Protected		0.996		0.950								0.982
Satd. Flow (prot)	0	1816	0	1736	1812	0	0	1580	0	0	1647	0
Flt Permitted		0.996		0.950								0.982
Satd. Flow (perm)	0	1816	0	1736	1812	0	0	1580	0	0	1647	0
Link Speed (mph)		30			30			30				30
Link Distance (ft)		385			221			341				104
Travel Time (s)		8.8			5.0			7.8				2.4
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Growth Factor	122%	122%	122%	122%	122%	122%	122%	122%	122%	122%	122%	122%
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Adj. Flow (vph)	29	366	5	12	443	26	0	0	12	15	1	25
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	400	0	12	469	0	0	12	0	0	41	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0				0
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop				Stop

### Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	54.1%
ICU Level of Service	A
Analysis Period (min)	15

Lanes, Volumes, Timings  
42: St Paul Rd & US 301/Gas Station

08/09/2023

												
Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	4	4	50	2	8	0	2	0	6	67	3	7
Future Volume (vph)	4	4	50	2	8	0	2	0	6	67	3	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	1.00	0.95	0.95
Frt			0.850					0.887			0.897	
Flt Protected		0.976			0.991			0.988		0.950		
Satd. Flow (prot)	0	1686	1468	0	1712	0	0	2876	0	1641	2944	0
Flt Permitted		0.976			0.991			0.988		0.950		
Satd. Flow (perm)	0	1686	1468	0	1712	0	0	2876	0	1641	2944	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		420			211			822			934	
Travel Time (s)		9.5			4.8			18.7			21.2	
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Growth Factor	122%	122%	122%	122%	122%	122%	122%	122%	122%	122%	122%	122%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Adj. Flow (vph)	6	6	78	3	13	0	3	0	9	105	5	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	12	78	0	16	0	0	12	0	105	16	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	
<b>Intersection Summary</b>												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	21.2%						ICU Level of Service A					
Analysis Period (min)	15											

Lanes, Volumes, Timings  
44: US 301 & I-95 SB Ramp

08/09/2023



Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↔↑			↑↔						↔↑	
Traffic Volume (vph)	54	49	0	0	8	76	0	0	0	3	1	3
Future Volume (vph)	54	49	0	0	8	76	0	0	0	3	1	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr <sub>t</sub>					0.878						0.944	
Fl <sub>t</sub> Protected		0.975									0.980	
Satd. Flow (prot)	0	3200	0	0	1517	0	0	0	0	0	1598	0
Fl <sub>t</sub> Permitted		0.975									0.980	
Satd. Flow (perm)	0	3200	0	0	1517	0	0	0	0	0	1598	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		341			420			593			580	
Travel Time (s)		7.8			9.5			13.5			13.2	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Growth Factor	122%	122%	122%	122%	122%	122%	122%	122%	122%	122%	122%	122%
Heavy Vehicles (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Adj. Flow (vph)	82	75	0	0	12	116	0	0	0	5	2	5
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	157	0	0	128	0	0	0	0	0	12	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	20.3%					ICU Level of Service A						
Analysis Period (min)	15											

Lanes, Volumes, Timings  
 47: I-95 NB Ramp/US 301 & S-14-400

08/09/2023



Lane Group	WBL	WBR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Volume (vph)	14	48	49	19	11	6
Future Volume (vph)	14	48	49	19	11	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.896		0.962			
Flt Protected	0.989					0.968
Satd. Flow (prot)	1588	0	1724	0	0	1735
Flt Permitted	0.989					0.968
Satd. Flow (perm)	1588	0	1724	0	0	1735
Link Speed (mph)	30		30			30
Link Distance (ft)	708		346			378
Travel Time (s)	16.1		7.9			8.6
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78
Growth Factor	122%	122%	122%	122%	122%	122%
Heavy Vehicles (%)	6%	6%	6%	6%	6%	6%
Adj. Flow (vph)	22	75	77	30	17	9
Shared Lane Traffic (%)						
Lane Group Flow (vph)	97	0	107	0	0	26
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	19.0%
Analysis Period (min)	15
	ICU Level of Service A



**Lanes, Volumes, Timings**  
**49: Gordon Rd & S-14-400**

08/09/2023




















Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	13	14	20	0	0	50
Future Volume (vph)	13	14	20	0	0	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Fr <sub>t</sub>	0.931			0.865		
Fl <sub>t</sub> Protected	0.976			0.950		
Satd. Flow (prot)	1629	0	0	1703	1550	0
Fl <sub>t</sub> Permitted	0.976			0.950		
Satd. Flow (perm)	1629	0	0	1703	1550	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	708			417	425	
Travel Time (s)	16.1			9.5	9.7	
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81
Growth Factor	122%	122%	122%	122%	122%	122%
Heavy Vehicles (%)	6%	6%	6%	6%	6%	6%
Adj. Flow (vph)	20	21	30	0	0	75
Shared Lane Traffic (%)						
Lane Group Flow (vph)	41	0	0	30	75	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

**Intersection Summary**

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	18.0%
Analysis Period (min)	15
	ICU Level of Service A

Lanes, Volumes, Timings  
54: US 301 & Buff Blvd/Hotel

08/09/2023

												
Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	3	0	79	19	6	2	1	30	8	85	43	1
Future Volume (vph)	3	0	79	19	6	2	1	30	8	85	43	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.988			0.972			0.999	
Flt Protected		0.950			0.967			0.999			0.968	
Satd. Flow (prot)	0	1556	1392	0	1565	0	0	1590	0	0	1584	0
Flt Permitted		0.950			0.967			0.999			0.968	
Satd. Flow (perm)	0	1556	1392	0	1565	0	0	1590	0	0	1584	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		3372			202			760			626	
Travel Time (s)		76.6			4.6			17.3			14.2	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Growth Factor	122%	122%	122%	122%	122%	122%	122%	122%	122%	122%	122%	122%
Heavy Vehicles (%)	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%
Adj. Flow (vph)	4	0	99	24	8	3	1	38	10	107	54	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	4	99	0	35	0	0	49	0	0	162	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	
<b>Intersection Summary</b>												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	30.4%					ICU Level of Service A						
Analysis Period (min)	15											

# Lanes, Volumes, Timings

## 55: Buff Blvd

08/09/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕						↕		↕	↕	
Traffic Volume (vph)	112	1	19	0	0	0	0	78	19	64	35	0
Future Volume (vph)	112	1	19	0	0	0	0	78	19	64	35	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	150		0
Storage Lanes	0		0	0		0	0		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.981						0.974				
Flt Protected		0.959								0.950		
Satd. Flow (prot)	0	1515	0	0	0	0	0	1568	0	1530	1610	0
Flt Permitted		0.959								0.950		
Satd. Flow (perm)	0	1515	0	0	0	0	0	1568	0	1530	1610	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		596			536			930			1070	
Travel Time (s)		13.5			12.2			21.1			24.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	122%	122%	122%	122%	122%	122%	122%	122%	122%	122%	122%	122%
Heavy Vehicles (%)	18%	18%	18%	2%	2%	2%	18%	18%	18%	18%	18%	18%
Adj. Flow (vph)	149	1	25	0	0	0	0	103	25	85	46	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	175	0	0	0	0	0	128	0	85	46	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

### Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	26.7%
ICU Level of Service	A
Analysis Period (min)	15

# Lanes, Volumes, Timings

## 58: Buff Blvd & I-95 SB Ramp

08/09/2023



















Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↔			↕			↕	
Traffic Volume (vph)	0	0	0	3	0	87	32	156	0	0	94	158
Future Volume (vph)	0	0	0	3	0	87	32	156	0	0	94	158
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.95	0.95
Frt					0.869						0.906	
Flt Protected					0.998			0.992				
Satd. Flow (prot)	0	0	0	0	1340	0	0	2911	0	0	2659	0
Flt Permitted					0.998			0.992				
Satd. Flow (perm)	0	0	0	0	1340	0	0	2911	0	0	2659	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		723			820			1070			3372	
Travel Time (s)		16.4			18.6			24.3			76.6	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Growth Factor	122%	122%	122%	122%	122%	122%	122%	122%	122%	122%	122%	122%
Heavy Vehicles (%)	23%	23%	23%	23%	23%	23%	23%	23%	23%	23%	23%	23%
Adj. Flow (vph)	0	0	0	4	0	123	45	221	0	0	133	224
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	127	0	0	266	0	0	357	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

### Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	32.5%
Analysis Period (min)	15
	ICU Level of Service A

Lanes, Volumes, Timings  
66: US 301 & Liberty Hill

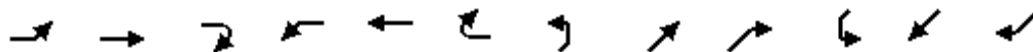
08/09/2023

												
Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	2	1	1	5	4	30	29	15	1	3	37	4
Future Volume (vph)	2	1	1	5	4	30	29	15	1	3	37	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.961			0.896			0.996			0.987	
Flt Protected		0.979			0.994			0.969			0.997	
Satd. Flow (prot)	0	1568	0	0	1484	0	0	1609	0	0	1640	0
Flt Permitted		0.979			0.994			0.969			0.997	
Satd. Flow (perm)	0	1568	0	0	1484	0	0	1609	0	0	1640	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		717			491			738			807	
Travel Time (s)		16.3			11.2			16.8			18.3	
Peak Hour Factor	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73
Growth Factor	122%	122%	122%	122%	122%	122%	122%	122%	122%	122%	122%	122%
Heavy Vehicles (%)	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%
Adj. Flow (vph)	3	2	2	8	7	50	48	25	2	5	62	7
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	7	0	0	65	0	0	75	0	0	74	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	
<b>Intersection Summary</b>												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	19.7%					ICU Level of Service A						
Analysis Period (min)	15											

# Lanes, Volumes, Timings

## 71: Mall St & Hwy 6

08/09/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕		↕	↑			↕			↕	
Traffic Volume (vph)	27	242	14	1	259	22	4	0	2	7	0	42
Future Volume (vph)	27	242	14	1	259	22	4	0	2	7	0	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr <sub>t</sub>		0.993			0.988			0.949			0.884	
Fl <sub>t</sub> Protected		0.995		0.950				0.970			0.993	
Satd. Flow (prot)	0	1823	0	1752	1823	0	0	1698	0	0	1619	0
Fl <sub>t</sub> Permitted		0.995		0.950				0.970			0.993	
Satd. Flow (perm)	0	1823	0	1752	1823	0	0	1698	0	0	1619	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		197			931			214			176	
Travel Time (s)		4.5			21.2			4.9			4.0	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Growth Factor	122%	122%	122%	122%	122%	122%	122%	122%	122%	122%	122%	122%
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	36	324	19	1	347	29	5	0	3	9	0	56
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	379	0	1	376	0	0	8	0	0	65	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

### Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	50.2%
Analysis Period (min)	15
	ICU Level of Service A

# Year 2045 Midday

TRANSYSTEMS

# HCS Freeway Diverge Report

## Project Information

Analyst	Transystems	Date	8/10/2023
Agency	SCDOT	Analysis Year	Design (2045)
Jurisdiction		Time Analyzed	Mid
Project Description	I-95 NB Exit to Hwy 6	Units	U.S. Customary

## Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	70.5	45.0
Segment Length (L) / Deceleration Length (LD), ft	1500	225
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

## Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	1.000	1.000
Capacity Adj. Factor for CAVs, CAFCAV	1.000	-

## Demand and Capacity

Demand Volume (Vi), veh/h	1549	99
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	21.00	5.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.826	0.952
Flow Rate (vi), pc/h	1995	111
Capacity (cmd), pc/h	4800	2100
Adjusted Capacity (cmd), pc/h	4800	2100
Volume-to-Capacity Ratio (v/c)	0.42	0.05

## Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (No), ln	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (DS)	0.308
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influence Area Speed (SR), mi/h	61.7
Prop. Freeway Vehicles in Lane 1 and 2 (PFD)	1.000	Outer Lanes Freeway Speed (SO), mi/h	77.3
Flow in Lanes 1 and 2 (v12), pc/h	1995	Ramp Junction Speed (S), mi/h	61.7



Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	16.2
Level of Service (LOS)	B	Density in Ramp Influence Area (DR), pc/mi/ln	19.4

# HCS Freeway Merge Report

## Project Information

Analyst	TranSystems	Date	8/10/2023
Agency	SCDOT	Analysis Year	Design (2045)
Jurisdiction		Time Analyzed	Mid
Project Description	I-95 NB On Ramp from Hwy 6	Units	U.S. Customary

## Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	70.5	45.0
Segment Length (L) / Acceleration Length (LA), ft	955	800
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

## Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAFCAV	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

## Demand and Capacity

Demand Volume (Vi), veh/h	1549	161
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	21.00	5.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.826	0.952
Flow Rate (vi), pc/h	1995	180
Capacity (cmd), pc/h	4800	2100
Adjusted Capacity (cmd), pc/h	4800	2100
Volume-to-Capacity Ratio (v/c)	0.45	0.09

## Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (No), ln	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (MS)	0.283
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	62.4
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	1.000	Outer Lanes Freeway Speed (SO), mi/h	70.5
Flow in Lanes 1 and 2 (v12), pc/h	1995	Ramp Junction Speed (S), mi/h	62.4

Flow Entering Ramp-Infl. Area (vR12), pc/h	2175	Average Density (D), pc/mi/ln	17.4
Level of Service (LOS)	B	Density in Ramp Influence Area (DR), pc/mi/ln	17.4

# HCS Freeway Diverge Report

## Project Information

Analyst	Transystems	Date	8/10/2023
Agency	SCDOT	Analysis Year	Design (2045)
Jurisdiction		Time Analyzed	Mid
Project Description	I-95 NB Exit to NB Rest Stop	Units	U.S. Customary

## Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	70.5	45.0
Segment Length (L) / Deceleration Length (LD), ft	955	225
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

## Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	1.000	1.000
Capacity Adj. Factor for CAVs, CAFCAV	1.000	-

## Demand and Capacity

Demand Volume (Vi), veh/h	1603	107
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	21.00	14.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.826	0.877
Flow Rate (vi), pc/h	2065	130
Capacity (cmd), pc/h	4800	2100
Adjusted Capacity (cmd), pc/h	4800	2100
Volume-to-Capacity Ratio (v/c)	0.43	0.06

## Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (No), ln	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (DS)	0.310
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influence Area Speed (SR), mi/h	61.7
Prop. Freeway Vehicles in Lane 1 and 2 (PFD)	1.000	Outer Lanes Freeway Speed (SO), mi/h	77.3
Flow in Lanes 1 and 2 (v12), pc/h	2065	Ramp Junction Speed (S), mi/h	61.7

Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	16.7
Level of Service (LOS)	B	Density in Ramp Influence Area (DR), pc/mi/ln	20.0

# HCS Freeway Merge Report

## Project Information

Analyst	TranSystems	Date	8/10/2023
Agency	SCDOT	Analysis Year	Design (2045)
Jurisdiction		Time Analyzed	Mid
Project Description	I-95 NB On Ramp from NB Rest Stop	Units	U.S. Customary

## Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	70.5	45.0
Segment Length (L) / Acceleration Length (LA), ft	1500	800
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

## Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAFCAV	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

## Demand and Capacity

Demand Volume (Vi), veh/h	1603	107
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	21.00	14.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.826	0.877
Flow Rate (vi), pc/h	2065	130
Capacity (cmd), pc/h	4800	2100
Adjusted Capacity (cmd), pc/h	4800	2100
Volume-to-Capacity Ratio (v/c)	0.46	0.06

## Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (NO), ln	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (MS)	0.284
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	62.4
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	1.000	Outer Lanes Freeway Speed (SO), mi/h	70.5
Flow in Lanes 1 and 2 (v12), pc/h	2065	Ramp Junction Speed (S), mi/h	62.4

Flow Entering Ramp-Infl. Area (vR12), pc/h	2195	Average Density (D), pc/mi/ln	17.6
Level of Service (LOS)	B	Density in Ramp Influence Area (DR), pc/mi/ln	17.6

# HCS Freeway Diverge Report

## Project Information

Analyst	Transystems	Date	8/9/2023
Agency	SCDOT	Analysis Year	Design (2045)
Jurisdiction		Time Analyzed	Mid
Project Description	I-95 NB Exit to US 15	Units	U.S. Customary

## Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	70.5	45.0
Segment Length (L) / Deceleration Length (LD), ft	1500	225
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

## Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	1.000	1.000
Capacity Adj. Factor for CAVs, CAFCAV	1.000	-

## Demand and Capacity

Demand Volume (Vi), veh/h	1615	95
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	21.00	7.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.826	0.935
Flow Rate (vi), pc/h	2080	108
Capacity (cmd), pc/h	4800	2100
Adjusted Capacity (cmd), pc/h	4800	2100
Volume-to-Capacity Ratio (v/c)	0.43	0.05

## Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (No), ln	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (DS)	0.308
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influence Area Speed (SR), mi/h	61.7
Prop. Freeway Vehicles in Lane 1 and 2 (PFD)	1.000	Outer Lanes Freeway Speed (SO), mi/h	77.3
Flow in Lanes 1 and 2 (v12), pc/h	2080	Ramp Junction Speed (S), mi/h	61.7



Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	16.9
Level of Service (LOS)	C	Density in Ramp Influence Area (DR), pc/mi/ln	20.1

# HCS Freeway Merge Report

## Project Information

Analyst	TranSystems	Date	8/10/2023
Agency	SCDOT	Analysis Year	Design (2045)
Jurisdiction		Time Analyzed	Mid
Project Description	I-95 NB On Ramp from US 15	Units	U.S. Customary

## Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	70.5	45.0
Segment Length (L) / Acceleration Length (LA), ft	1500	800
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

## Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAFCAV	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

## Demand and Capacity

Demand Volume (Vi), veh/h	1615	16
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	21.00	7.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.826	0.935
Flow Rate (vi), pc/h	2080	18
Capacity (cmd), pc/h	4800	2100
Adjusted Capacity (cmd), pc/h	4800	2100
Volume-to-Capacity Ratio (v/c)	0.44	0.01

## Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (No), ln	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (MS)	0.281
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	62.5
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	1.000	Outer Lanes Freeway Speed (SO), mi/h	70.5
Flow in Lanes 1 and 2 (v12), pc/h	2080	Ramp Junction Speed (S), mi/h	62.5

Flow Entering Ramp-Infl. Area (vR12), pc/h	2098	Average Density (D), pc/mi/ln	16.8
Level of Service (LOS)	B	Density in Ramp Influence Area (DR), pc/mi/ln	16.9

### Design Analysis Table

Freeway Lanes, ln	2	2	3	3	4	4	5	5
Ramp Lanes, ln	1	2	1	2	1	2	1	2
Density, pc/mi/ln	16.8	16.3	10.7	10.5	7.8	7.7	4.9	4.8
LOS	B	B	B	A	A	A	A	A

# HCS Freeway Diverge Report

## Project Information

Analyst	Transystems	Date	8/10/2023
Agency	SCDOT	Analysis Year	Design (2045)
Jurisdiction		Time Analyzed	Mid
Project Description	I-95 NB Exit to Buff Blvd	Units	U.S. Customary

## Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	70.5	45.0
Segment Length (L) / Deceleration Length (LD), ft	1500	225
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

## Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	1.000	1.000
Capacity Adj. Factor for CAVs, CAFCAV	1.000	-

## Demand and Capacity

Demand Volume (Vi), veh/h	1490	141
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	21.00	23.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.826	0.813
Flow Rate (vi), pc/h	1919	185
Capacity (cmd), pc/h	4800	2100
Adjusted Capacity (cmd), pc/h	4800	2100
Volume-to-Capacity Ratio (v/c)	0.40	0.09

## Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (No), ln	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (DS)	0.315
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influence Area Speed (SR), mi/h	61.5
Prop. Freeway Vehicles in Lane 1 and 2 (PFD)	1.000	Outer Lanes Freeway Speed (SO), mi/h	77.3
Flow in Lanes 1 and 2 (v12), pc/h	1919	Ramp Junction Speed (S), mi/h	61.5

Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	15.6
Level of Service (LOS)	B	Density in Ramp Influence Area (DR), pc/mi/ln	18.7

# HCS Freeway Merge Report

## Project Information

Analyst	TranSystems	Date	8/10/2023
Agency	SCDOT	Analysis Year	Design 2045
Jurisdiction		Time Analyzed	Mid
Project Description	I-95 NB On Ramp from Buff Blvd	Units	U.S. Customary

## Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	70.5	45.0
Segment Length (L) / Acceleration Length (LA), ft	1500	800
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

## Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAFCAV	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

## Demand and Capacity

Demand Volume (Vi), veh/h	1490	80
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	21.00	23.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.826	0.813
Flow Rate (vi), pc/h	1919	105
Capacity (cmd), pc/h	4800	2100
Adjusted Capacity (cmd), pc/h	4800	2100
Volume-to-Capacity Ratio (v/c)	0.42	0.05

## Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (No), ln	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (MS)	0.279
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	62.5
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	1.000	Outer Lanes Freeway Speed (SO), mi/h	70.5
Flow in Lanes 1 and 2 (v12), pc/h	1919	Ramp Junction Speed (S), mi/h	62.5

Flow Entering Ramp-Infl. Area (vR12), pc/h	2024	Average Density (D), pc/mi/ln	16.2
Level of Service (LOS)	B	Density in Ramp Influence Area (DR), pc/mi/ln	16.3

### Design Analysis Table

Freeway Lanes, ln	2	2	3	3	4	4	5	5
Ramp Lanes, ln	1	2	1	2	1	2	1	2
Density, pc/mi/ln	16.2	15.7	10.3	10.1	7.6	7.5	4.8	4.7
LOS	B	B	B	A	A	A	A	A

# HCS Freeway Diverge Report

## Project Information

Analyst	Transystems	Date	8/10/2023
Agency	SCDOT	Analysis Year	Design 2045
Jurisdiction		Time Analyzed	Mid
Project Description	I-95 SB Exit to Buff Blvd	Units	U.S. Customary

## Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	70.5	45.0
Segment Length (L) / Deceleration Length (LD), ft	1500	225
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

## Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	1.000	1.000
Capacity Adj. Factor for CAVs, CAFCAV	1.000	-

## Demand and Capacity

Demand Volume (Vi), veh/h	1574	104
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	20.00	27.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.833	0.787
Flow Rate (vi), pc/h	2010	141
Capacity (cmd), pc/h	4800	2100
Adjusted Capacity (cmd), pc/h	4800	2100
Volume-to-Capacity Ratio (v/c)	0.42	0.07

## Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (No), ln	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (DS)	0.311
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influence Area Speed (SR), mi/h	61.6
Prop. Freeway Vehicles in Lane 1 and 2 (PFD)	1.000	Outer Lanes Freeway Speed (SO), mi/h	77.3
Flow in Lanes 1 and 2 (v12), pc/h	2010	Ramp Junction Speed (S), mi/h	61.6



Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	16.3
Level of Service (LOS)	B	Density in Ramp Influence Area (DR), pc/mi/ln	19.5

# HCS Freeway Merge Report

## Project Information

Analyst	TranSystems	Date	8/9/2023
Agency	SCDOT	Analysis Year	Design (2045)
Jurisdiction		Time Analyzed	Mid
Project Description	I-95 SB On Ramp from Buff Blvd	Units	U.S. Customary

## Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	70.5	45.0
Segment Length (L) / Acceleration Length (LA), ft	1500	800
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

## Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAFCAV	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

## Demand and Capacity

Demand Volume (Vi), veh/h	1574	141
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	20.00	27.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.833	0.787
Flow Rate (vi), pc/h	2010	191
Capacity (cmd), pc/h	4800	2100
Adjusted Capacity (cmd), pc/h	4800	2100
Volume-to-Capacity Ratio (v/c)	0.46	0.09

## Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (No), ln	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (MS)	0.284
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	62.4
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	1.000	Outer Lanes Freeway Speed (SO), mi/h	70.5
Flow in Lanes 1 and 2 (v12), pc/h	2010	Ramp Junction Speed (S), mi/h	62.4

Flow Entering Ramp-Infl. Area (vR12), pc/h	2201	Average Density (D), pc/mi/ln	17.6
Level of Service (LOS)	B	Density in Ramp Influence Area (DR), pc/mi/ln	17.6

### Design Analysis Table

Freeway Lanes, ln	2	2	3	3	4	4	5	5
Ramp Lanes, ln	1	2	1	2	1	2	1	2
Density, pc/mi/ln	17.6	17.1	11.3	11.0	8.2	8.1	5.3	5.2
LOS	B	B	B	A	A	A	A	A

# HCS Freeway Diverge Report

## Project Information

Analyst	Transystems	Date	8/10/2023
Agency	SCDOT	Analysis Year	Design (2045)
Jurisdiction		Time Analyzed	Mid
Project Description	I-95 SB Exit to US 15	Units	U.S. Customary

## Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	70.5	45.0
Segment Length (L) / Deceleration Length (LD), ft	1500	225
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

## Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	1.000	1.000
Capacity Adj. Factor for CAVs, CAFCAV	1.000	-

## Demand and Capacity

Demand Volume (Vi), veh/h	1703	12
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	20.00	11.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.833	0.901
Flow Rate (vi), pc/h	2175	14
Capacity (cmd), pc/h	4800	2100
Adjusted Capacity (cmd), pc/h	4800	2100
Volume-to-Capacity Ratio (v/c)	0.45	0.01

## Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (No), ln	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (DS)	0.299
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influence Area Speed (SR), mi/h	62.0
Prop. Freeway Vehicles in Lane 1 and 2 (PFD)	1.000	Outer Lanes Freeway Speed (SO), mi/h	77.3
Flow in Lanes 1 and 2 (v12), pc/h	2175	Ramp Junction Speed (S), mi/h	62.0

Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	17.5
Level of Service (LOS)	C	Density in Ramp Influence Area (DR), pc/mi/ln	20.9

# HCS Freeway Merge Report

## Project Information

Analyst	TranSystems	Date	8/10/2023
Agency	SCDOT	Analysis Year	Design 2045
Jurisdiction		Time Analyzed	Mid
Project Description	I-95 SB On Ramp from US 15	Units	U.S. Customary

## Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	70.5	45.0
Segment Length (L) / Acceleration Length (LA), ft	1500	800
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

## Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAFCAV	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

## Demand and Capacity

Demand Volume (Vi), veh/h	1703	117
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	20.00	11.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.833	0.901
Flow Rate (vi), pc/h	2175	138
Capacity (cmd), pc/h	4800	2100
Adjusted Capacity (cmd), pc/h	4800	2100
Volume-to-Capacity Ratio (v/c)	0.48	0.07

## Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (No), ln	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (MS)	0.288
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	62.3
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	1.000	Outer Lanes Freeway Speed (SO), mi/h	70.5
Flow in Lanes 1 and 2 (v12), pc/h	2175	Ramp Junction Speed (S), mi/h	62.3

Flow Entering Ramp-Infl. Area (vR12), pc/h	2313	Average Density (D), pc/mi/ln	18.6
Level of Service (LOS)	B	Density in Ramp Influence Area (DR), pc/mi/ln	18.5

### Design Analysis Table

Freeway Lanes, ln	2	2	3	3	4	4	5	5
Ramp Lanes, ln	1	2	1	2	1	2	1	2
Density, pc/mi/ln	18.6	18.0	11.8	11.6	8.7	8.5	5.5	5.4
LOS	B	B	B	A	A	A	A	A

# HCS Freeway Diverge Report

## Project Information

Analyst	Transystems	Date	8/10/2023
Agency	SCDOT	Analysis Year	Design (2045)
Jurisdiction		Time Analyzed	Mid
Project Description	I-95 SB Exit to SB Rest Stop	Units	U.S. Customary

## Geometric Data

	Freeway	Ramp
Number of Lanes (N), In	2	1
Free-Flow Speed (FFS), mi/h	70.5	45.0
Segment Length (L) / Deceleration Length (LD), ft	1500	225
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

## Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	1.000	1.000
Capacity Adj. Factor for CAVs, CAFCAV	1.000	-

## Demand and Capacity

Demand Volume (Vi), veh/h	1696	124
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	20.00	6.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.833	0.943
Flow Rate (vi), pc/h	2166	140
Capacity (cmd), pc/h	4800	2100
Adjusted Capacity (cmd), pc/h	4800	2100
Volume-to-Capacity Ratio (v/c)	0.45	0.07

## Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (No), In	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (DS)	0.311
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influence Area Speed (SR), mi/h	61.6
Prop. Freeway Vehicles in Lane 1 and 2 (PFD)	1.000	Outer Lanes Freeway Speed (SO), mi/h	77.3
Flow in Lanes 1 and 2 (v12), pc/h	2166	Ramp Junction Speed (S), mi/h	61.6



Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	17.6
Level of Service (LOS)	C	Density in Ramp Influence Area (DR), pc/mi/ln	20.9

# HCS Freeway Weaving Report

## Project Information

Analyst	TranSystems	Date	8/10/2023
Agency	SCDOT	Analysis Year	Design 2045
Jurisdiction		Time Analyzed	Mid
Project Description	I-95 SB Weave bt SB Rest Stop and Hwy 6	Units	U.S. Customary

## Geometric Data

Number of Lanes (N), ln	3	Segment Type	Freeway
Segment Length (Ls), ft	775	Number of Maneuver Lanes (NWL), ln	2
Weaving Configuration	One-Sided	Ramp-to-Freeway Lane Changes (LCRF), lc	1
Terrain Type	Level	Freeway-to-Ramp Lane Changes (LCFR), lc	1
Percent Grade, %	-	Ramp-to-Ramp Lane Changes (LCRR), lc	0
Interchange Density (ID), int/mi	0.80	Cross Weaving Managed Lane	No

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor for CAVs, CAFCAV	1.000
Proportion of CAVs in Traffic Stream	0	Final Capacity Adjustment Factor (CAF)	1.000

## Demand and Capacity

	FF	RF	RR	FR
Demand Volume (Vi), veh/h	1696	124	0	203
Peak Hour Factor (PHF)	0.94	0.94	0.94	0.94
Total Trucks, %	20.00	5.00	0.00	6.00
Heavy Vehicle Adjustment Factor (fHV)	0.833	0.952	1.000	0.943
Flow Rate (vi), pc/h	2166	139	0	229
Weaving Flow Rate (vw), pc/h	368	Ideal Conditions Capacity (ciFL), pc/h/ln		2400
Non-Weaving Flow Rate (vNW), pc/h	2166	Density-Based Capacity (ciWL × N × fHV), veh/h		5492
Total Flow Rate (v), pc/h	2534	Demand Flow-Based Capacity (ciW × fHV), veh/h		14060
Volume Ratio (VR)	0.145	Weaving Area Capacity (cw), veh/h		5492
Minimum Lane Change Rate (LCMIN), lc/h	368	Adjusted Weaving Area Capacity (cWA), veh/h		5492
Maximum Weaving Length (LMAX), ft	3982	Demand-to-Capacity Ratio (v/c)		0.39

## Speed and Density

Non-Weaving Vehicle Index (INW)	134	Average Weaving Speed (SW), mi/h	64.2
Non-Weaving Lane Change Rate (LCNW), lc/h	288	Average Non-Weaving Speed (SNW), mi/h	68.7
Weaving Lane Change Rate (LCW), lc/h	490	Average Speed (S), mi/h	68.0
Weaving Lane Change Rate (LCAII), lc/h	778	Density (D), pc/mi/ln	12.4
Weaving Intensity Factor (W)	0.227	Level of Service (LOS)	B

# HCS Freeway Merge Report

## Project Information

Analyst	TranSystems	Date	8/10/2023
Agency	SCDOT	Analysis Year	Design 2045
Jurisdiction		Time Analyzed	Mid
Project Description	I-95 SB On Ramp from Hwy 6	Units	U.S. Customary

## Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	70.5	45.0
Segment Length (L) / Acceleration Length (LA), ft	1500	800
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

## Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAFCAV	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

## Demand and Capacity

Demand Volume (Vi), veh/h	1617	120
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	20.00	6.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.833	0.943
Flow Rate (vi), pc/h	2065	135
Capacity (cmd), pc/h	4800	2100
Adjusted Capacity (cmd), pc/h	4800	2100
Volume-to-Capacity Ratio (v/c)	0.46	0.06

## Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (No), ln	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (MS)	0.284
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	62.4
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	1.000	Outer Lanes Freeway Speed (SO), mi/h	70.5
Flow in Lanes 1 and 2 (v12), pc/h	2065	Ramp Junction Speed (S), mi/h	62.4

Flow Entering Ramp-Infl. Area (vR12), pc/h	2200	Average Density (D), pc/mi/ln	17.6
Level of Service (LOS)	B	Density in Ramp Influence Area (DR), pc/mi/ln	17.6

# HCS Basic Freeway Report

## Project Information

Analyst	Transystems	Date	8/9/2023
Agency	SCDOT	Analysis Year	Design (2045)
Jurisdiction		Time Analyzed	Mid
Project Description	I-95 NB south of Hwy 6	Units	U.S. Customary

## Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Rolling
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.0	Total Ramp Density (TRD), ramps/mi	1.50
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.5
Right-Side Lateral Clearance, ft	10		

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	1.000
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAFCAV	1.000

## Demand and Capacity

Demand Volume (V), veh/h	1648	Heavy Vehicle Adjustment Factor (fhv)	0.704
Peak Hour Factor (PHF)	0.94	Flow Rate (vp), pc/h/ln	1245
Total Trucks, %	21.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.52
Passenger Car Equivalent (ET)	3.00		

## Speed and Density

Lane Width Adjustment (fLW)	0.0	Average Speed (S), mi/h	70.5
Right-Side Lateral Clearance Adj. (fRLC)	0.0	Density (D), pc/mi/ln	17.7
Total Ramp Density Adjustment	4.5	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFSadj), mi/h	70.5		

# HCS Basic Freeway Report

## Project Information

Analyst	Transystems	Date	8/9/2023
Agency	SCDOT	Analysis Year	Design (2045)
Jurisdiction		Time Analyzed	Mid
Project Description	I-95 NB south of US 15	Units	U.S. Customary

## Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Rolling
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.0	Total Ramp Density (TRD), ramps/mi	1.50
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.5
Right-Side Lateral Clearance, ft	10		

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	1.000
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAFCAV	1.000

## Demand and Capacity

Demand Volume (V), veh/h	1710	Heavy Vehicle Adjustment Factor (fhv)	0.704
Peak Hour Factor (PHF)	0.94	Flow Rate (vp), pc/h/ln	1292
Total Trucks, %	21.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.54
Passenger Car Equivalent (ET)	3.00		

## Speed and Density

Lane Width Adjustment (fLW)	0.0	Average Speed (S), mi/h	70.4
Right-Side Lateral Clearance Adj. (fRLC)	0.0	Density (D), pc/mi/ln	18.4
Total Ramp Density Adjustment	4.5	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFSadj), mi/h	70.5		

# HCS Basic Freeway Report

## Project Information

Analyst	Transystems	Date	8/9/2023
Agency	SCDOT	Analysis Year	Design (2045)
Jurisdiction		Time Analyzed	Mid
Project Description	I-95 NB south of Buff Blvd	Units	U.S. Customary

## Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Rolling
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.0	Total Ramp Density (TRD), ramps/mi	1.50
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.5
Right-Side Lateral Clearance, ft	10		

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	1.000
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAFCAV	1.000

## Demand and Capacity

Demand Volume (V), veh/h	1631	Heavy Vehicle Adjustment Factor (fhv)	0.704
Peak Hour Factor (PHF)	0.94	Flow Rate (vp), pc/h/ln	1232
Total Trucks, %	21.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.51
Passenger Car Equivalent (ET)	3.00		

## Speed and Density

Lane Width Adjustment (fLW)	0.0	Average Speed (S), mi/h	70.5
Right-Side Lateral Clearance Adj. (fRLC)	0.0	Density (D), pc/mi/ln	17.5
Total Ramp Density Adjustment	4.5	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFSadj), mi/h	70.5		

# HCS Basic Freeway Report

## Project Information

Analyst	Transystems	Date	8/9/2023
Agency	SCDOT	Analysis Year	Design (2045)
Jurisdiction		Time Analyzed	Mid
Project Description	I-95 NB north of Buff Blvd	Units	U.S. Customary

## Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Rolling
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.0	Total Ramp Density (TRD), ramps/mi	1.50
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.5
Right-Side Lateral Clearance, ft	10		

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	1.000
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAFCAV	1.000

## Demand and Capacity

Demand Volume (V), veh/h	1570	Heavy Vehicle Adjustment Factor (fhv)	0.704
Peak Hour Factor (PHF)	0.94	Flow Rate (vp), pc/h/ln	1186
Total Trucks, %	21.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.49
Passenger Car Equivalent (ET)	3.00		

## Speed and Density

Lane Width Adjustment (fLW)	0.0	Average Speed (S), mi/h	70.5
Right-Side Lateral Clearance Adj. (fRLC)	0.0	Density (D), pc/mi/ln	16.8
Total Ramp Density Adjustment	4.5	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFSadj), mi/h	70.5		



# HCS Basic Freeway Report

## Project Information

Analyst	Transystems	Date	8/9/2023
Agency	SCDOT	Analysis Year	Design (2045)
Jurisdiction		Time Analyzed	Mid
Project Description	I-95 SB north of Buff Blvd	Units	U.S. Customary

## Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Rolling
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.0	Total Ramp Density (TRD), ramps/mi	1.50
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.5
Right-Side Lateral Clearance, ft	10		

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	1.000
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAFCAV	1.000

## Demand and Capacity

Demand Volume (V), veh/h	1678	Heavy Vehicle Adjustment Factor (fhv)	0.714
Peak Hour Factor (PHF)	0.94	Flow Rate (vp), pc/h/ln	1250
Total Trucks, %	20.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.52
Passenger Car Equivalent (ET)	3.00		

## Speed and Density

Lane Width Adjustment (fLW)	0.0	Average Speed (S), mi/h	70.4
Right-Side Lateral Clearance Adj. (fRLC)	0.0	Density (D), pc/mi/ln	17.8
Total Ramp Density Adjustment	4.5	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFSadj), mi/h	70.5		

# HCS Basic Freeway Report

## Project Information

Analyst	Transystems	Date	8/9/2023
Agency	SCDOT	Analysis Year	Design (2045)
Jurisdiction		Time Analyzed	Mid
Project Description	I-95 SB south of Buff Blvd	Units	U.S. Customary

## Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Rolling
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.0	Total Ramp Density (TRD), ramps/mi	1.50
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.5
Right-Side Lateral Clearance, ft	10		

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	1.000
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAFCAV	1.000

## Demand and Capacity

Demand Volume (V), veh/h	1715	Heavy Vehicle Adjustment Factor (fhv)	0.714
Peak Hour Factor (PHF)	0.94	Flow Rate (vp), pc/h/ln	1278
Total Trucks, %	20.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.53
Passenger Car Equivalent (ET)	3.00		

## Speed and Density

Lane Width Adjustment (fLW)	0.0	Average Speed (S), mi/h	70.4
Right-Side Lateral Clearance Adj. (fRLC)	0.0	Density (D), pc/mi/ln	18.2
Total Ramp Density Adjustment	4.5	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFSadj), mi/h	70.5		

# HCS Basic Freeway Report

## Project Information

Analyst	Transystems	Date	8/9/2023
Agency	SCDOT	Analysis Year	Design (2045)
Jurisdiction		Time Analyzed	Mid
Project Description	I-95 SB south of US 15	Units	U.S. Customary

## Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Rolling
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.0	Total Ramp Density (TRD), ramps/mi	1.50
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.5
Right-Side Lateral Clearance, ft	10		

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	1.000
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAFCAV	1.000

## Demand and Capacity

Demand Volume (V), veh/h	1820	Heavy Vehicle Adjustment Factor (fhv)	0.714
Peak Hour Factor (PHF)	0.94	Flow Rate (vp), pc/h/ln	1356
Total Trucks, %	20.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.57
Passenger Car Equivalent (ET)	3.00		

## Speed and Density

Lane Width Adjustment (fLW)	0.0	Average Speed (S), mi/h	70.1
Right-Side Lateral Clearance Adj. (fRLC)	0.0	Density (D), pc/mi/ln	19.3
Total Ramp Density Adjustment	4.5	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFSadj), mi/h	70.5		

# HCS Basic Freeway Report

## Project Information

Analyst	Transystems	Date	8/9/2023
Agency	SCDOT	Analysis Year	Design (2045)
Jurisdiction		Time Analyzed	Mid
Project Description	I-95 SB south of Hwy 6	Units	U.S. Customary

## Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Rolling
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.0	Total Ramp Density (TRD), ramps/mi	1.50
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.5
Right-Side Lateral Clearance, ft	10		

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	1.000
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAFCAV	1.000

## Demand and Capacity

Demand Volume (V), veh/h	1737	Heavy Vehicle Adjustment Factor (fhv)	0.714
Peak Hour Factor (PHF)	0.94	Flow Rate (vp), pc/h/ln	1294
Total Trucks, %	20.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.54
Passenger Car Equivalent (ET)	3.00		

## Speed and Density

Lane Width Adjustment (fLW)	0.0	Average Speed (S), mi/h	70.4
Right-Side Lateral Clearance Adj. (fRLC)	0.0	Density (D), pc/mi/ln	18.4
Total Ramp Density Adjustment	4.5	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFSadj), mi/h	70.5		

Lanes, Volumes, Timings  
24: Hwy 6 & I-95 SB Ramp

08/09/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SWL2	SWL	SWR
Lane Configurations											
Traffic Volume (vph)	0	337	57	41	302	0	0	0	59	0	107
Future Volume (vph)	0	337	57	41	302	0	0	0	59	0	107
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		75	175		0	0	0		0	150
Storage Lanes	0		0	1		0	0	0		1	1
Taper Length (ft)	25			25			25			25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.980									0.850
Flt Protected				0.950					0.950		
Satd. Flow (prot)	0	1757	0	1703	1792	0	0	0	1703	0	1524
Flt Permitted				0.161					0.950		
Satd. Flow (perm)	0	1757	0	289	1792	0	0	0	1703	0	1524
Right Turn on Red			Yes			Yes					Yes
Satd. Flow (RTOR)		15									374
Link Speed (mph)		30			30			30			30
Link Distance (ft)		221			1070			658			713
Travel Time (s)		5.0			24.3			15.0			16.2
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Growth Factor	122%	122%	122%	122%	122%	122%	122%	122%	122%	122%	122%
Heavy Vehicles (%)	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%
Adj. Flow (vph)	0	462	78	56	414	0	0	0	81	0	147
Shared Lane Traffic (%)											
Lane Group Flow (vph)	0	540	0	56	414	0	0	0	81	0	147
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			12
Link Offset(ft)		0			0			0			0
Crosswalk Width(ft)		16			16			16			16
Two way Left Turn Lane											
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15	9	15	15	9
Number of Detectors		2		1	2				1		1
Detector Template		Thru		Left	Thru				Left		Right
Leading Detector (ft)		100		20	100				20		20
Trailing Detector (ft)		0		0	0				0		0
Detector 1 Position(ft)		0		0	0				0		0
Detector 1 Size(ft)		6		20	6				20		20
Detector 1 Type		Cl+Ex		Cl+Ex	Cl+Ex				Cl+Ex		Cl+Ex
Detector 1 Channel											
Detector 1 Extend (s)		0.0		0.0	0.0				0.0		0.0
Detector 1 Queue (s)		0.0		0.0	0.0				0.0		0.0
Detector 1 Delay (s)		0.0		0.0	0.0				0.0		0.0
Detector 2 Position(ft)		94			94						
Detector 2 Size(ft)		6			6						
Detector 2 Type		Cl+Ex			Cl+Ex						
Detector 2 Channel											
Detector 2 Extend (s)		0.0			0.0						
Turn Type		NA		pm+pt	NA				Perm		Perm

# Lanes, Volumes, Timings

## 24: Hwy 6 & I-95 SB Ramp

08/09/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SWL2	SWL	SWR
Protected Phases		4		3	8						
Permitted Phases				8					6		6
Detector Phase		4		3	8				6		6
Switch Phase											
Minimum Initial (s)		5.0		5.0	5.0				5.0		5.0
Minimum Split (s)		24.0		11.0	24.0				24.0		24.0
Total Split (s)		25.0		11.0	36.0				24.0		24.0
Total Split (%)		41.7%		18.3%	60.0%				40.0%		40.0%
Maximum Green (s)		19.0		5.0	30.0				18.0		18.0
Yellow Time (s)		4.0		4.0	4.0				4.0		4.0
All-Red Time (s)		2.0		2.0	2.0				2.0		2.0
Lost Time Adjust (s)		0.0		0.0	0.0				0.0		0.0
Total Lost Time (s)		6.0		6.0	6.0				6.0		6.0
Lead/Lag		Lag		Lead							
Lead-Lag Optimize?		Yes		Yes							
Vehicle Extension (s)		3.0		3.0	3.0				3.0		3.0
Recall Mode		None		None	None				Max		Max
Walk Time (s)		7.0			7.0				7.0		7.0
Flash Dont Walk (s)		11.0			11.0				11.0		11.0
Pedestrian Calls (#/hr)		0			0				0		0
Act Effect Green (s)		18.8		24.9	24.9				18.2		18.2
Actuated g/C Ratio		0.34		0.45	0.45				0.33		0.33
v/c Ratio		0.89		0.22	0.51				0.14		0.20
Control Delay		39.1		10.0	13.0				15.9		0.6
Queue Delay		0.0		0.0	0.0				0.0		0.0
Total Delay		39.1		10.0	13.0				15.9		0.6
LOS		D		A	B				B		A
Approach Delay		39.1			12.7					6.0	
Approach LOS		D			B					A	
Queue Length 50th (ft)		183		10	90				21		0
Queue Length 95th (ft)		#359		24	150				48		0
Internal Link Dist (ft)		141			990		578			633	
Turn Bay Length (ft)				175							150
Base Capacity (vph)		620		259	984				561		753
Starvation Cap Reductn		0		0	0				0		0
Spillback Cap Reductn		0		0	0				0		0
Storage Cap Reductn		0		0	0				0		0
Reduced v/c Ratio		0.87		0.22	0.42				0.14		0.20

### Intersection Summary

Area Type:	Other
Cycle Length:	60
Actuated Cycle Length:	55.3
Natural Cycle:	60
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.89
Intersection Signal Delay:	23.0
Intersection LOS:	C
Intersection Capacity Utilization:	40.0%
ICU Level of Service:	A
Analysis Period (min):	15

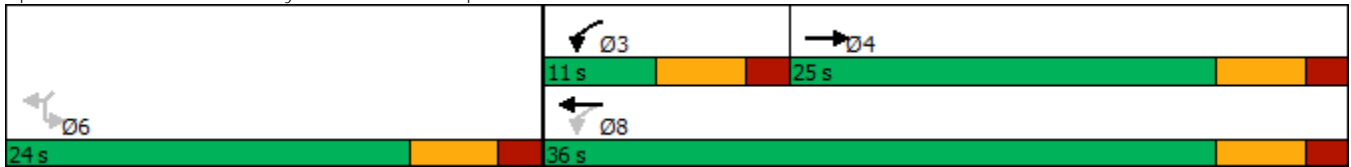
# Lanes, Volumes, Timings

## 24: Hwy 6 & I-95 SB Ramp

08/09/2023

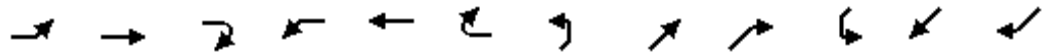
# 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

Splits and Phases: 24: Hwy 6 & I-95 SB Ramp



Lanes, Volumes, Timings  
27: Bass Dr & Hwy 6

08/09/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	4	131	69	160	136	30	64	31	172	31	34	7
Future Volume (vph)	4	131	69	160	136	30	64	31	172	31	34	7
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	120		0	170		0	175		0	120		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.948			0.973			0.873			0.975	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1719	1715	0	1719	1761	0	1719	1580	0	1752	1764	0
Flt Permitted	0.623			0.542			0.577			0.598		
Satd. Flow (perm)	1127	1715	0	981	1761	0	1044	1580	0	1103	1764	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		45			19			221			9	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		638			518			530			613	
Travel Time (s)		14.5			11.8			12.0			13.9	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	122%	122%	122%	122%	122%	122%	122%	122%	122%	122%	122%	122%
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	5%	5%	5%	3%	5%	5%
Adj. Flow (vph)	5	168	89	205	175	39	82	40	221	40	44	9
Shared Lane Traffic (%)												
Lane Group Flow (vph)	5	257	0	205	214	0	82	261	0	40	53	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		Perm	NA	



# Lanes, Volumes, Timings

## 27: Bass Dr & Hwy 6

08/09/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Protected Phases		4			8		5	2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	24.0	24.0		24.0	24.0		11.0	24.0		24.0	24.0	
Total Split (s)	24.0	24.0		24.0	24.0		11.0	36.0		25.0	25.0	
Total Split (%)	40.0%	40.0%		40.0%	40.0%		18.3%	60.0%		41.7%	41.7%	
Maximum Green (s)	18.0	18.0		18.0	18.0		5.0	30.0		19.0	19.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Max		Max	Max	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0			11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0			0		0	0	
Act Effect Green (s)	15.0	15.0		15.0	15.0		30.1	30.1		23.8	23.8	
Actuated g/C Ratio	0.26	0.26		0.26	0.26		0.53	0.53		0.42	0.42	
v/c Ratio	0.02	0.53		0.80	0.45		0.13	0.28		0.09	0.07	
Control Delay	15.0	18.9		44.0	19.0		8.3	3.0		14.9	12.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	15.0	18.9		44.0	19.0		8.3	3.0		14.9	12.6	
LOS	B	B		D	B		A	A		B	B	
Approach Delay		18.8			31.2			4.3			13.6	
Approach LOS		B			C			A			B	
Queue Length 50th (ft)	1	61		65	55		14	7		10	11	
Queue Length 95th (ft)	8	120		#156	106		33	38		29	32	
Internal Link Dist (ft)		558			438			450			533	
Turn Bay Length (ft)	120			170			175			120		
Base Capacity (vph)	356	572		310	569		609	936		459	739	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.01	0.45		0.66	0.38		0.13	0.28		0.09	0.07	

### Intersection Summary

Area Type:	Other
Cycle Length:	60
Actuated Cycle Length:	57.2
Natural Cycle:	60
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.80
Intersection Signal Delay:	18.6
Intersection LOS:	B
Intersection Capacity Utilization:	63.5%
ICU Level of Service:	B
Analysis Period (min):	15

# Lanes, Volumes, Timings

## 27: Bass Dr & Hwy 6

08/09/2023

# 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.

Splits and Phases: 27: Bass Dr & Hwy 6



**Lanes, Volumes, Timings**  
**30: Bradford & Hwy 6**

08/09/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	359	11	41	352	1	12	0	33	1	0	3
Future Volume (vph)	2	359	11	41	352	1	12	0	33	1	0	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	120		0	120		0	0		0	0		0
Storage Lanes	1		0	1		0	1		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.995							0.850		0.892	
Flt Protected	0.950			0.950			0.950				0.990	
Satd. Flow (prot)	1685	1800	0	1719	1810	0	1719	1810	1538	0	1598	0
Flt Permitted	0.950			0.950			0.950				0.990	
Satd. Flow (perm)	1685	1800	0	1719	1810	0	1719	1810	1538	0	1598	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		518			385			504			268	
Travel Time (s)		11.8			8.8			11.5			6.1	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Growth Factor	122%	122%	122%	122%	122%	122%	122%	122%	122%	122%	122%	122%
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Bus Blockages (#/hr)	5	0	0	0	0	0	0	0	0	0	0	0
Adj. Flow (vph)	3	481	15	55	472	1	16	0	44	1	0	4
Shared Lane Traffic (%)												
Lane Group Flow (vph)	3	496	0	55	473	0	16	0	44	0	5	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.03	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

**Intersection Summary**  
Area Type: Other  
Control Type: Unsignalized  
Intersection Capacity Utilization 40.5%      ICU Level of Service A  
Analysis Period (min) 15

# Lanes, Volumes, Timings

## 33: I-95 BNB Ramp & Hwy 6

08/09/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SBL	SBR	NEL2	NEL	NER
Lane Configurations											
Traffic Volume (vph)	56	307	0	0	308	76	0	0	36	0	45
Future Volume (vph)	56	307	0	0	308	76	0	0	36	0	45
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	0		0	0	0		0	0
Storage Lanes	1		0	0		0	0	0		1	1
Taper Length (ft)	25			25			25			25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.973						0.850
Flt Protected	0.950								0.950		
Satd. Flow (prot)	1719	1810	0	0	1761	0	0	0	1719	0	1538
Flt Permitted	0.170								0.950		
Satd. Flow (perm)	308	1810	0	0	1761	0	0	0	1719	0	1538
Right Turn on Red			Yes			Yes					Yes
Satd. Flow (RTOR)					21						376
Link Speed (mph)		30			30		30			30	
Link Distance (ft)		1070			197		602			707	
Travel Time (s)		24.3			4.5		13.7			16.1	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Growth Factor	122%	122%	122%	122%	122%	122%	122%	122%	122%	122%	122%
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	73	398	0	0	400	99	0	0	47	0	58
Shared Lane Traffic (%)											
Lane Group Flow (vph)	73	398	0	0	499	0	0	0	47	0	58
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Right	Left	Left	Right
Median Width(ft)		12			12		0			12	
Link Offset(ft)		0			0		0			0	
Crosswalk Width(ft)		16			16		16			16	
Two way Left Turn Lane											
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15	9	15	15	9
Number of Detectors	1	2			2				1		1
Detector Template	Left	Thru			Thru				Left		Right
Leading Detector (ft)	20	100			100				20		20
Trailing Detector (ft)	0	0			0				0		0
Detector 1 Position(ft)	0	0			0				0		0
Detector 1 Size(ft)	20	6			6				20		20
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex				Cl+Ex		Cl+Ex
Detector 1 Channel											
Detector 1 Extend (s)	0.0	0.0			0.0				0.0		0.0
Detector 1 Queue (s)	0.0	0.0			0.0				0.0		0.0
Detector 1 Delay (s)	0.0	0.0			0.0				0.0		0.0
Detector 2 Position(ft)		94			94						
Detector 2 Size(ft)		6			6						
Detector 2 Type		Cl+Ex			Cl+Ex						
Detector 2 Channel											
Detector 2 Extend (s)		0.0			0.0						
Turn Type	pm+pt	NA			NA				Perm		Perm

Lanes, Volumes, Timings  
33: I-95 BNB Ramp & Hwy 6

08/09/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SBL	SBR	NEL2	NEL	NER
Protected Phases	7	4			8						
Permitted Phases	4								2		2
Detector Phase	7	4			8				2		2
Switch Phase											
Minimum Initial (s)	5.0	5.0			5.0				5.0		5.0
Minimum Split (s)	11.0	24.0			24.0				24.0		24.0
Total Split (s)	11.0	35.0			24.0				25.0		25.0
Total Split (%)	18.3%	58.3%			40.0%				41.7%		41.7%
Maximum Green (s)	5.0	29.0			18.0				19.0		19.0
Yellow Time (s)	4.0	4.0			4.0				4.0		4.0
All-Red Time (s)	2.0	2.0			2.0				2.0		2.0
Lost Time Adjust (s)	0.0	0.0			0.0				0.0		0.0
Total Lost Time (s)	6.0	6.0			6.0				6.0		6.0
Lead/Lag	Lead				Lag						
Lead-Lag Optimize?	Yes				Yes						
Vehicle Extension (s)	3.0	3.0			3.0				3.0		3.0
Recall Mode	None	None			None				Max		Max
Walk Time (s)		7.0			7.0				7.0		7.0
Flash Dont Walk (s)		11.0			11.0				11.0		11.0
Pedestrian Calls (#/hr)		0			0				0		0
Act Effct Green (s)	23.6	23.6			17.5				19.3		19.3
Actuated g/C Ratio	0.43	0.43			0.32				0.35		0.35
v/c Ratio	0.28	0.51			0.87				0.08		0.07
Control Delay	11.4	13.7			37.6				14.7		0.2
Queue Delay	0.0	0.0			0.0				0.0		0.0
Total Delay	11.4	13.7			37.6				14.7		0.2
LOS	B	B			D				B		A
Approach Delay		13.3			37.6					6.7	
Approach LOS		B			D					A	
Queue Length 50th (ft)	13	89			166				12		0
Queue Length 95th (ft)	32	151			#337				32		0
Internal Link Dist (ft)		990			117		522			627	
Turn Bay Length (ft)	200										
Base Capacity (vph)	262	967			598				602		782
Starvation Cap Reductn	0	0			0				0		0
Spillback Cap Reductn	0	0			0				0		0
Storage Cap Reductn	0	0			0				0		0
Reduced v/c Ratio	0.28	0.41			0.83				0.08		0.07

Intersection Summary

Area Type:	Other
Cycle Length:	60
Actuated Cycle Length:	55
Natural Cycle:	60
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.87
Intersection Signal Delay:	24.0
Intersection LOS:	C
Intersection Capacity Utilization:	40.0%
ICU Level of Service:	A
Analysis Period (min):	15

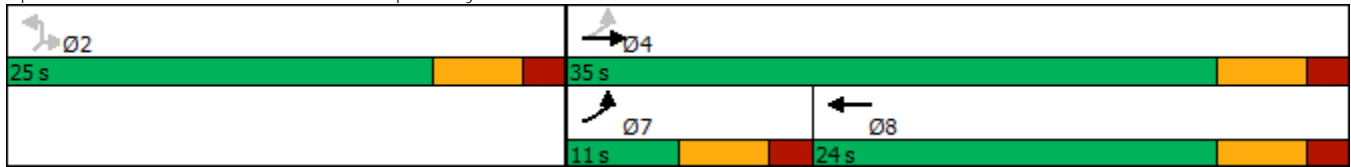
# Lanes, Volumes, Timings

## 33: I-95 BNB Ramp & Hwy 6

08/09/2023

# 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

Splits and Phases: 33: I-95 BNB Ramp & Hwy 6



# Lanes, Volumes, Timings

## 36: Britain & Hwy 6

08/09/2023























Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	362	10	12	382	17	7	1	19	15	0	18
Future Volume (vph)	20	362	10	12	382	17	7	1	19	15	0	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	50		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.996			0.994			0.904			0.926	
Flt Protected	0.950			0.950				0.987			0.978	
Satd. Flow (prot)	1719	1802	0	1719	1799	0	0	1615	0	0	1639	0
Flt Permitted	0.950			0.950				0.987			0.978	
Satd. Flow (perm)	1719	1802	0	1719	1799	0	0	1615	0	0	1639	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		385			221			341			104	
Travel Time (s)		8.8			5.0			7.8			2.4	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Growth Factor	122%	122%	122%	122%	122%	122%	122%	122%	122%	122%	122%	122%
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	1	0	0
Adj. Flow (vph)	27	485	13	16	512	23	9	1	25	20	0	24
Shared Lane Traffic (%)												
Lane Group Flow (vph)	27	498	0	16	535	0	0	35	0	0	44	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

### Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	36.5%
Analysis Period (min)	15
	ICU Level of Service A

Lanes, Volumes, Timings  
42: St Paul Rd & US 301/Gas Station

08/09/2023

												
Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	2	8	48	2	9	12	0	1	5	50	0	11
Future Volume (vph)	2	8	48	2	9	12	0	1	5	50	0	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	1.00	0.95	0.95
Frt			0.850		0.930			0.869			0.850	
Flt Protected		0.989			0.995					0.950		
Satd. Flow (prot)	0	1634	1404	0	1529	0	0	2728	0	1570	2668	0
Flt Permitted		0.989			0.995					0.950		
Satd. Flow (perm)	0	1634	1404	0	1529	0	0	2728	0	1570	2668	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		420			204			822			934	
Travel Time (s)		9.5			4.6			18.7			21.2	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Growth Factor	122%	122%	122%	122%	122%	122%	122%	122%	122%	122%	122%	122%
Heavy Vehicles (%)	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Adj. Flow (vph)	3	10	63	3	12	16	0	1	7	66	0	14
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	13	63	0	31	0	0	8	0	66	14	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	
<b>Intersection Summary</b>												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	20.4%						ICU Level of Service A					
Analysis Period (min)	15											



Lanes, Volumes, Timings  
44: US 301 & I-95 SB Ramp

08/09/2023



Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↔↑			↑↔						↔↑	
Traffic Volume (vph)	45	54	0	0	14	50	0	0	0	8	1	14
Future Volume (vph)	45	54	0	0	14	50	0	0	0	8	1	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr <sub>t</sub>					0.895						0.916	
Fl <sub>t</sub> Protected		0.978									0.983	
Satd. Flow (prot)	0	3181	0	0	1532	0	0	0	0	0	1541	0
Fl <sub>t</sub> Permitted		0.978									0.983	
Satd. Flow (perm)	0	3181	0	0	1532	0	0	0	0	0	1541	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		341			420			593			580	
Travel Time (s)		7.8			9.5			13.5			13.2	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Growth Factor	122%	122%	122%	122%	122%	122%	122%	122%	122%	122%	122%	122%
Heavy Vehicles (%)	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%
Adj. Flow (vph)	63	76	0	0	20	70	0	0	0	11	1	20
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	139	0	0	90	0	0	0	0	0	32	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary	
Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	19.7%
Analysis Period (min)	15
	ICU Level of Service A

Lanes, Volumes, Timings  
 47: I-95 NB Ramp/US 301 & S-14-400

08/09/2023



Lane Group	WBL	WBR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Volume (vph)	7	58	43	35	16	6
Future Volume (vph)	7	58	43	35	16	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.879		0.940			
Flt Protected	0.995					0.965
Satd. Flow (prot)	1553	0	1669	0	0	1714
Flt Permitted	0.995					0.965
Satd. Flow (perm)	1553	0	1669	0	0	1714
Link Speed (mph)	30		30			30
Link Distance (ft)	708		346			378
Travel Time (s)	16.1		7.9			8.6
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	122%	122%	122%	122%	122%	122%
Heavy Vehicles (%)	7%	7%	7%	7%	7%	7%
Adj. Flow (vph)	9	79	58	47	22	8
Shared Lane Traffic (%)						
Lane Group Flow (vph)	88	0	105	0	0	30
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	19.6%
Analysis Period (min)	15
	ICU Level of Service A

Lanes, Volumes, Timings  
49: Gordon Rd & S-14-400

08/09/2023





















Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	38	19	25	2	2	33
Future Volume (vph)	38	19	25	2	2	33
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.955				0.872	
Flt Protected	0.968			0.956		
Satd. Flow (prot)	1722	0	0	1781	1624	0
Flt Permitted	0.968			0.956		
Satd. Flow (perm)	1722	0	0	1781	1624	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	708			417	425	
Travel Time (s)	16.1			9.5	9.7	
Peak Hour Factor	0.76	0.76	0.76	0.76	0.76	0.76
Growth Factor	122%	122%	122%	122%	122%	122%
Adj. Flow (vph)	61	31	40	3	3	53
Shared Lane Traffic (%)						
Lane Group Flow (vph)	92	0	0	43	56	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	19.1% ICU Level of Service A
Analysis Period (min)	15

Lanes, Volumes, Timings  
54: US 301 & Buff Blvd/Hotel

08/09/2023

												
Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	10	1	81	6	5	2	0	36	5	85	35	1
Future Volume (vph)	10	1	81	6	5	2	0	36	5	85	35	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.979			0.984				0.999
Flt Protected		0.955			0.977							0.966
Satd. Flow (prot)	0	1665	1482	0	1667	0	0	1715	0	0	1682	0
Flt Permitted		0.955			0.977							0.966
Satd. Flow (perm)	0	1665	1482	0	1667	0	0	1715	0	0	1682	0
Link Speed (mph)		30			30			30				30
Link Distance (ft)		3372			202			760				626
Travel Time (s)		76.6			4.6			17.3				14.2
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Growth Factor	122%	122%	122%	122%	122%	122%	122%	122%	122%	122%	122%	122%
Heavy Vehicles (%)	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%	9%
Adj. Flow (vph)	15	1	118	9	7	3	0	52	7	123	51	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	16	118	0	19	0	0	59	0	0	175	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free				Free
<b>Intersection Summary</b>												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	28.5%						ICU Level of Service A					
Analysis Period (min)	15											

# Lanes, Volumes, Timings

## 55: Buff Blvd

08/09/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕						↕		↕	↕	
Traffic Volume (vph)	96	0	20	0	0	0	0	50	12	53	47	0
Future Volume (vph)	96	0	20	0	0	0	0	50	12	53	47	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	150		0
Storage Lanes	0		0	0		0	0		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.977						0.974				
Flt Protected		0.960								0.950		
Satd. Flow (prot)	0	1449	0	0	0	0	0	1505	0	1467	1545	0
Flt Permitted		0.960								0.950		
Satd. Flow (perm)	0	1449	0	0	0	0	0	1505	0	1467	1545	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		596			536			930			1070	
Travel Time (s)		13.5			12.2			21.1			24.3	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Growth Factor	122%	122%	122%	122%	122%	122%	122%	122%	122%	122%	122%	122%
Heavy Vehicles (%)	23%	23%	23%	23%	23%	23%	23%	23%	23%	23%	23%	23%
Adj. Flow (vph)	135	0	28	0	0	0	0	70	17	74	66	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	163	0	0	0	0	0	87	0	74	66	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

### Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	24.9%
ICU Level of Service	A
Analysis Period (min)	15

Lanes, Volumes, Timings  
58: Buff Blvd & I-95 SB Ramp

08/09/2023



















Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↕			↕			↕	
Traffic Volume (vph)	0	0	0	15	1	70	16	131	0	0	86	99
Future Volume (vph)	0	0	0	15	1	70	16	131	0	0	86	99
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.95	0.95
Frt					0.889						0.920	
Flt Protected					0.991			0.995				
Satd. Flow (prot)	0	0	0	0	1318	0	0	2828	0	0	2615	0
Flt Permitted					0.991			0.995				
Satd. Flow (perm)	0	0	0	0	1318	0	0	2828	0	0	2615	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		723			820			1070			3372	
Travel Time (s)		16.4			18.6			24.3			76.6	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	122%	122%	122%	122%	122%	122%	122%	122%	122%	122%	122%	122%
Heavy Vehicles (%)	27%	27%	27%	27%	27%	27%	27%	27%	27%	27%	27%	27%
Adj. Flow (vph)	0	0	0	20	1	95	22	178	0	0	117	134
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	116	0	0	200	0	0	251	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	28.1%					ICU Level of Service A						
Analysis Period (min)	15											

Lanes, Volumes, Timings  
66: US 301 & Liberty Hill

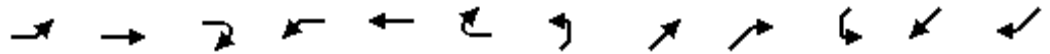
08/09/2023

												
Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	1	2	2	6	1	26	16	23	2	3	28	6
Future Volume (vph)	1	2	2	6	1	26	16	23	2	3	28	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.942			0.894			0.993			0.977	
Flt Protected		0.993			0.991			0.981			0.996	
Satd. Flow (prot)	0	1532	0	0	1451	0	0	1596	0	0	1594	0
Flt Permitted		0.993			0.991			0.981			0.996	
Satd. Flow (perm)	0	1532	0	0	1451	0	0	1596	0	0	1594	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		717			491			738			807	
Travel Time (s)		16.3			11.2			16.8			18.3	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Growth Factor	122%	122%	122%	122%	122%	122%	122%	122%	122%	122%	122%	122%
Heavy Vehicles (%)	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%
Adj. Flow (vph)	1	3	3	9	1	37	23	33	3	4	40	9
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	7	0	0	47	0	0	59	0	0	53	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	
<b>Intersection Summary</b>												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	18.0%					ICU Level of Service A						
Analysis Period (min)	15											

# Lanes, Volumes, Timings

## 71: Mall St & Hwy 6

08/09/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕		↕	↑			↕			↕	
Traffic Volume (vph)	29	291	4	1	344	10	12	0	1	12	0	26
Future Volume (vph)	29	291	4	1	344	10	12	0	1	12	0	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.998			0.996			0.992			0.907	
Flt Protected		0.996		0.950				0.955			0.985	
Satd. Flow (prot)	0	1816	0	1736	1820	0	0	1731	0	0	1632	0
Flt Permitted		0.996		0.950				0.955			0.985	
Satd. Flow (perm)	0	1816	0	1736	1820	0	0	1731	0	0	1632	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		197			931			214			176	
Travel Time (s)		4.5			21.2			4.9			4.0	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Growth Factor	122%	122%	122%	122%	122%	122%	122%	122%	122%	122%	122%	122%
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Adj. Flow (vph)	39	390	5	1	461	13	16	0	1	16	0	35
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	434	0	1	474	0	0	17	0	0	51	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

### Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	57.1%
Analysis Period (min)	15
	ICU Level of Service B



**Year 2045 PM**

**TRANSYSTEMS**

# HCS Freeway Diverge Report

## Project Information

Analyst	Transystems	Date	8/10/2023
Agency	SCDOT	Analysis Year	Design (2045)
Jurisdiction		Time Analyzed	PM
Project Description	I-95 NB Exit to Hwy 6	Units	U.S. Customary

## Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	70.5	45.0
Segment Length (L) / Deceleration Length (LD), ft	1500	225
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

## Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	1.000	1.000
Capacity Adj. Factor for CAVs, CAFCAV	1.000	-

## Demand and Capacity

Demand Volume (Vi), veh/h	1470	155
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	21.00	3.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.826	0.971
Flow Rate (vi), pc/h	1893	170
Capacity (cmd), pc/h	4800	2100
Adjusted Capacity (cmd), pc/h	4800	2100
Volume-to-Capacity Ratio (v/c)	0.39	0.08

## Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (No), ln	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (DS)	0.313
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influence Area Speed (SR), mi/h	61.6
Prop. Freeway Vehicles in Lane 1 and 2 (PFD)	1.000	Outer Lanes Freeway Speed (SO), mi/h	77.3
Flow in Lanes 1 and 2 (v12), pc/h	1893	Ramp Junction Speed (S), mi/h	61.6

Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	15.4
Level of Service (LOS)	B	Density in Ramp Influence Area (DR), pc/mi/ln	18.5

# HCS Freeway Merge Report

## Project Information

Analyst	TranSystems	Date	8/10/2023
Agency	SCDOT	Analysis Year	Design (2045)
Jurisdiction		Time Analyzed	PM
Project Description	I-95 NB On Ramp from Hwy 6	Units	U.S. Customary

## Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	70.5	45.0
Segment Length (L) / Acceleration Length (LA), ft	955	800
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

## Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAFCAV	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

## Demand and Capacity

Demand Volume (Vi), veh/h	1470	250
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	21.00	3.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.826	0.971
Flow Rate (vi), pc/h	1893	274
Capacity (cmd), pc/h	4800	2100
Adjusted Capacity (cmd), pc/h	4800	2100
Volume-to-Capacity Ratio (v/c)	0.45	0.13

## Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (No), ln	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (MS)	0.283
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	62.4
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	1.000	Outer Lanes Freeway Speed (SO), mi/h	70.5
Flow in Lanes 1 and 2 (v12), pc/h	1893	Ramp Junction Speed (S), mi/h	62.4

Flow Entering Ramp-Infl. Area (vR12), pc/h	2167	Average Density (D), pc/mi/ln	17.4
Level of Service (LOS)	B	Density in Ramp Influence Area (DR), pc/mi/ln	17.3

# HCS Freeway Diverge Report

## Project Information

Analyst	Transystems	Date	8/10/2023
Agency	SCDOT	Analysis Year	Design (2045)
Jurisdiction		Time Analyzed	PM
Project Description	I-95 NB Exit to NB Rest Stop	Units	U.S. Customary

## Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	70.5	45.0
Segment Length (L) / Deceleration Length (LD), ft	955	225
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

## Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	1.000	1.000
Capacity Adj. Factor for CAVs, CAFCAV	1.000	-

## Demand and Capacity

Demand Volume (Vi), veh/h	1650	70
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	21.00	18.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.826	0.847
Flow Rate (vi), pc/h	2125	88
Capacity (cmd), pc/h	4800	2100
Adjusted Capacity (cmd), pc/h	4800	2100
Volume-to-Capacity Ratio (v/c)	0.44	0.04

## Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (No), ln	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (DS)	0.306
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influence Area Speed (SR), mi/h	61.8
Prop. Freeway Vehicles in Lane 1 and 2 (PFD)	1.000	Outer Lanes Freeway Speed (SO), mi/h	77.3
Flow in Lanes 1 and 2 (v12), pc/h	2125	Ramp Junction Speed (S), mi/h	61.8

Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	17.2
Level of Service (LOS)	C	Density in Ramp Influence Area (DR), pc/mi/ln	20.5

# HCS Freeway Merge Report

## Project Information

Analyst	TranSystems	Date	8/10/2023
Agency	SCDOT	Analysis Year	Design (2045)
Jurisdiction		Time Analyzed	Mid
Project Description	I-95 NB On Ramp from NB Rest Stop	Units	U.S. Customary

## Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	70.5	45.0
Segment Length (L) / Acceleration Length (LA), ft	1500	800
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

## Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAFCAV	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

## Demand and Capacity

Demand Volume (Vi), veh/h	1650	70
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	21.00	18.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.826	0.847
Flow Rate (vi), pc/h	2125	88
Capacity (cmd), pc/h	4800	2100
Adjusted Capacity (cmd), pc/h	4800	2100
Volume-to-Capacity Ratio (v/c)	0.46	0.04

## Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (NO), ln	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (MS)	0.285
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	62.4
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	1.000	Outer Lanes Freeway Speed (SO), mi/h	70.5
Flow in Lanes 1 and 2 (v12), pc/h	2125	Ramp Junction Speed (S), mi/h	62.4



Flow Entering Ramp-Infl. Area (vR12), pc/h	2213	Average Density (D), pc/mi/ln	17.7
Level of Service (LOS)	B	Density in Ramp Influence Area (DR), pc/mi/ln	17.8

# HCS Freeway Diverge Report

## Project Information

Analyst	Transystems	Date	8/9/2023
Agency	SCDOT	Analysis Year	Design (2045)
Jurisdiction		Time Analyzed	PM
Project Description	I-95 NB Exit to US 15	Units	U.S. Customary

## Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	70.5	45.0
Segment Length (L) / Deceleration Length (LD), ft	1500	225
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

## Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	1.000	1.000
Capacity Adj. Factor for CAVs, CAFCAV	1.000	-

## Demand and Capacity

Demand Volume (Vi), veh/h	1505	215
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	21.00	8.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.826	0.926
Flow Rate (vi), pc/h	1938	247
Capacity (cmd), pc/h	4800	2100
Adjusted Capacity (cmd), pc/h	4800	2100
Volume-to-Capacity Ratio (v/c)	0.40	0.12

## Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (No), ln	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (DS)	0.320
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influence Area Speed (SR), mi/h	61.4
Prop. Freeway Vehicles in Lane 1 and 2 (PFD)	1.000	Outer Lanes Freeway Speed (SO), mi/h	77.3
Flow in Lanes 1 and 2 (v12), pc/h	1938	Ramp Junction Speed (S), mi/h	61.4

Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	15.8
Level of Service (LOS)	B	Density in Ramp Influence Area (DR), pc/mi/ln	18.9

# HCS Freeway Merge Report

## Project Information

Analyst	TranSystems	Date	8/10/2023
Agency	SCDOT	Analysis Year	Design (2045)
Jurisdiction		Time Analyzed	PM
Project Description	I-95 NB On Ramp from US 15	Units	U.S. Customary

## Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	70.5	45.0
Segment Length (L) / Acceleration Length (LA), ft	1500	800
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

## Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAFCAV	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

## Demand and Capacity

Demand Volume (Vi), veh/h	1505	17
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	21.00	8.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.826	0.926
Flow Rate (vi), pc/h	1938	20
Capacity (cmd), pc/h	4800	2100
Adjusted Capacity (cmd), pc/h	4800	2100
Volume-to-Capacity Ratio (v/c)	0.41	0.01

## Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (No), ln	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (MS)	0.277
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	62.6
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	1.000	Outer Lanes Freeway Speed (SO), mi/h	70.5
Flow in Lanes 1 and 2 (v12), pc/h	1938	Ramp Junction Speed (S), mi/h	62.6

Flow Entering Ramp-Infl. Area (vR12), pc/h	1958	Average Density (D), pc/mi/ln	15.6
Level of Service (LOS)	B	Density in Ramp Influence Area (DR), pc/mi/ln	15.8

### Design Analysis Table

Freeway Lanes, ln	2	2	3	3	4	4	5	5
Ramp Lanes, ln	1	2	1	2	1	2	1	2
Density, pc/mi/ln	15.6	15.2	10.0	9.8	7.3	7.2	4.6	4.5
LOS	B	B	A	A	A	A	A	A

# HCS Freeway Diverge Report

## Project Information

Analyst	Transystems	Date	8/10/2023
Agency	SCDOT	Analysis Year	Design (2045)
Jurisdiction		Time Analyzed	PM
Project Description	I-95 NB Exit to Buff Blvd	Units	U.S. Customary

## Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	70.5	45.0
Segment Length (L) / Deceleration Length (LD), ft	1500	225
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

## Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	1.000	1.000
Capacity Adj. Factor for CAVs, CAFCAV	1.000	-

## Demand and Capacity

Demand Volume (Vi), veh/h	1286	236
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	21.00	17.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.826	0.855
Flow Rate (vi), pc/h	1656	294
Capacity (cmd), pc/h	4800	2100
Adjusted Capacity (cmd), pc/h	4800	2100
Volume-to-Capacity Ratio (v/c)	0.35	0.14

## Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (No), ln	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (DS)	0.324
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influence Area Speed (SR), mi/h	61.3
Prop. Freeway Vehicles in Lane 1 and 2 (PFD)	1.000	Outer Lanes Freeway Speed (SO), mi/h	77.3
Flow in Lanes 1 and 2 (v12), pc/h	1656	Ramp Junction Speed (S), mi/h	61.3

Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	13.5
Level of Service (LOS)	B	Density in Ramp Influence Area (DR), pc/mi/ln	16.5

# HCS Freeway Merge Report

## Project Information

Analyst	TranSystems	Date	8/10/2023
Agency	SCDOT	Analysis Year	Design (2045)
Jurisdiction		Time Analyzed	PM
Project Description	I-95 NB On Ramp from Buff Blvd	Units	U.S. Customary

## Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	70.5	45.0
Segment Length (L) / Acceleration Length (LA), ft	1500	800
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

## Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAFCAV	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

## Demand and Capacity

Demand Volume (Vi), veh/h	1286	91
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	21.00	17.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.826	0.855
Flow Rate (vi), pc/h	1656	113
Capacity (cmd), pc/h	4800	2100
Adjusted Capacity (cmd), pc/h	4800	2100
Volume-to-Capacity Ratio (v/c)	0.37	0.05

## Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (No), ln	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (MS)	0.272
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	62.7
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	1.000	Outer Lanes Freeway Speed (SO), mi/h	70.5
Flow in Lanes 1 and 2 (v12), pc/h	1656	Ramp Junction Speed (S), mi/h	62.7



Flow Entering Ramp-Infl. Area (vR12), pc/h	1769	Average Density (D), pc/mi/ln	14.1
Level of Service (LOS)	B	Density in Ramp Influence Area (DR), pc/mi/ln	14.3

### Design Analysis Table

Freeway Lanes, ln	2	2	3	3	4	4	5	5
Ramp Lanes, ln	1	2	1	2	1	2	1	2
Density, pc/mi/ln	14.1	13.7	9.0	8.8	6.6	6.5	4.2	4.1
LOS	B	A	A	A	A	A	A	A

# HCS Freeway Diverge Report

## Project Information

Analyst	Transystems	Date	8/10/2023
Agency	SCDOT	Analysis Year	Design (2045)
Jurisdiction		Time Analyzed	PM
Project Description	I-95 SB Exit to Buff Blvd	Units	U.S. Customary

## Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	70.5	45.0
Segment Length (L) / Deceleration Length (LD), ft	1500	225
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

## Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	1.000	1.000
Capacity Adj. Factor for CAVs, CAFCAV	1.000	-

## Demand and Capacity

Demand Volume (Vi), veh/h	1239	102
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	18.00	30.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.847	0.769
Flow Rate (vi), pc/h	1556	141
Capacity (cmd), pc/h	4800	2100
Adjusted Capacity (cmd), pc/h	4800	2100
Volume-to-Capacity Ratio (v/c)	0.32	0.07

## Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (No), ln	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (DS)	0.311
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influence Area Speed (SR), mi/h	61.6
Prop. Freeway Vehicles in Lane 1 and 2 (PFD)	1.000	Outer Lanes Freeway Speed (SO), mi/h	77.3
Flow in Lanes 1 and 2 (v12), pc/h	1556	Ramp Junction Speed (S), mi/h	61.6

Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	12.6
Level of Service (LOS)	B	Density in Ramp Influence Area (DR), pc/mi/ln	15.6

# HCS Freeway Merge Report

## Project Information

Analyst	TranSystems	Date	8/9/2023
Agency	SCDOT	Analysis Year	Design (2045)
Jurisdiction		Time Analyzed	PM
Project Description	I-95 SB On Ramp from Buff Blvd	Units	U.S. Customary

## Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	70.5	45.0
Segment Length (L) / Acceleration Length (LA), ft	1500	800
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

## Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAFCAV	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

## Demand and Capacity

Demand Volume (Vi), veh/h	1239	191
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	20.00	30.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.833	0.769
Flow Rate (vi), pc/h	1582	264
Capacity (cmd), pc/h	4800	2100
Adjusted Capacity (cmd), pc/h	4800	2100
Volume-to-Capacity Ratio (v/c)	0.38	0.13

## Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (No), ln	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (MS)	0.274
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	62.7
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	1.000	Outer Lanes Freeway Speed (SO), mi/h	70.5
Flow in Lanes 1 and 2 (v12), pc/h	1582	Ramp Junction Speed (S), mi/h	62.7

Flow Entering Ramp-Infl. Area (vR12), pc/h	1846	Average Density (D), pc/mi/ln	14.7
Level of Service (LOS)	B	Density in Ramp Influence Area (DR), pc/mi/ln	14.8

### Design Analysis Table

Freeway Lanes, ln	2	2	3	3	4	4	5	5
Ramp Lanes, ln	1	2	1	2	1	2	1	2
Density, pc/mi/ln	14.7	14.3	9.4	9.2	6.9	6.8	4.5	4.4
LOS	B	B	A	A	A	A	A	A

# HCS Freeway Diverge Report

## Project Information

Analyst	Transystems	Date	8/10/2023
Agency	SCDOT	Analysis Year	Desiogn (2045)
Jurisdiction		Time Analyzed	Mid
Project Description	I-95 SB Exit to US 15	Units	U.S. Customary

## Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	70.5	45.0
Segment Length (L) / Deceleration Length (LD), ft	1500	225
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

## Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	1.000	1.000
Capacity Adj. Factor for CAVs, CAFCAV	1.000	-

## Demand and Capacity

Demand Volume (Vi), veh/h	1408	22
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	18.00	6.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.847	0.943
Flow Rate (vi), pc/h	1768	25
Capacity (cmd), pc/h	4800	2100
Adjusted Capacity (cmd), pc/h	4800	2100
Volume-to-Capacity Ratio (v/c)	0.37	0.01

## Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (No), ln	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (DS)	0.300
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influence Area Speed (SR), mi/h	62.0
Prop. Freeway Vehicles in Lane 1 and 2 (PFD)	1.000	Outer Lanes Freeway Speed (SO), mi/h	77.3
Flow in Lanes 1 and 2 (v12), pc/h	1768	Ramp Junction Speed (S), mi/h	62.0

Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	14.3
Level of Service (LOS)	B	Density in Ramp Influence Area (DR), pc/mi/ln	17.4

# HCS Freeway Merge Report

## Project Information

Analyst	TranSystems	Date	8/10/2023
Agency	SCDOT	Analysis Year	Design (2045)
Jurisdiction		Time Analyzed	PM
Project Description	I-95 SB On Ramp from US 15	Units	U.S. Customary

## Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	70.5	45.0
Segment Length (L) / Acceleration Length (LA), ft	1500	800
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

## Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAFCAV	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

## Demand and Capacity

Demand Volume (Vi), veh/h	1408	142
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	18.00	6.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.847	0.943
Flow Rate (vi), pc/h	1768	160
Capacity (cmd), pc/h	4800	2100
Adjusted Capacity (cmd), pc/h	4800	2100
Volume-to-Capacity Ratio (v/c)	0.40	0.08

## Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (No), ln	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (MS)	0.276
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	62.6
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	1.000	Outer Lanes Freeway Speed (SO), mi/h	70.5
Flow in Lanes 1 and 2 (v12), pc/h	1768	Ramp Junction Speed (S), mi/h	62.6



Flow Entering Ramp-Infl. Area (vR12), pc/h	1928	Average Density (D), pc/mi/ln	15.4
Level of Service (LOS)	B	Density in Ramp Influence Area (DR), pc/mi/ln	15.5

### Design Analysis Table

Freeway Lanes, ln	2	2	3	3	4	4	5	5
Ramp Lanes, ln	1	2	1	2	1	2	1	2
Density, pc/mi/ln	15.4	15.0	9.8	9.6	7.2	7.1	4.6	4.5
LOS	B	B	A	A	A	A	A	A

# HCS Freeway Diverge Report

## Project Information

Analyst	Transystems	Date	8/10/2023
Agency	SCDOT	Analysis Year	Design (2045)
Jurisdiction		Time Analyzed	PM
Project Description	I-95 SB Exit to SB Rest Stop	Units	U.S. Customary

## Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	70.5	45.0
Segment Length (L) / Deceleration Length (LD), ft	1500	225
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

## Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	1.000	1.000
Capacity Adj. Factor for CAVs, CAFCAV	1.000	-

## Demand and Capacity

Demand Volume (Vi), veh/h	1488	62
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	18.00	14.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.847	0.877
Flow Rate (vi), pc/h	1869	75
Capacity (cmd), pc/h	4800	2100
Adjusted Capacity (cmd), pc/h	4800	2100
Volume-to-Capacity Ratio (v/c)	0.39	0.04

## Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (No), ln	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (DS)	0.305
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influence Area Speed (SR), mi/h	61.8
Prop. Freeway Vehicles in Lane 1 and 2 (PFD)	1.000	Outer Lanes Freeway Speed (SO), mi/h	77.3
Flow in Lanes 1 and 2 (v12), pc/h	1869	Ramp Junction Speed (S), mi/h	61.8

Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	15.1
Level of Service (LOS)	B	Density in Ramp Influence Area (DR), pc/mi/ln	18.3

# HCS Freeway Weaving Report

## Project Information

Analyst	TranSystems	Date	8/10/2023
Agency	SCDOT	Analysis Year	Design (2045)
Jurisdiction		Time Analyzed	PM
Project Description	I-95 SB Weave bt SB Rest Stop and Hwy 6	Units	U.S. Customary

## Geometric Data

Number of Lanes (N), ln	3	Segment Type	Freeway
Segment Length (Ls), ft	775	Number of Maneuver Lanes (NWL), ln	2
Weaving Configuration	One-Sided	Ramp-to-Freeway Lane Changes (LCRF), lc	1
Terrain Type	Level	Freeway-to-Ramp Lane Changes (LCFR), lc	1
Percent Grade, %	-	Ramp-to-Ramp Lane Changes (LCRR), lc	0
Interchange Density (ID), int/mi	0.80	Cross Weaving Managed Lane	No

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor for CAVs, CAFCAV	1.000
Proportion of CAVs in Traffic Stream	0	Final Capacity Adjustment Factor (CAF)	1.000

## Demand and Capacity

	FF	RF	RR	FR
Demand Volume (Vi), veh/h	1488	62	0	253
Peak Hour Factor (PHF)	0.94	0.94	0.94	0.94
Total Trucks, %	18.00	14.00	0.00	3.00
Heavy Vehicle Adjustment Factor (fHV)	0.847	0.877	1.000	0.971
Flow Rate (vi), pc/h	1869	75	0	277
Weaving Flow Rate (vw), pc/h	352	Ideal Conditions Capacity (ciFL), pc/h/ln		2400
Non-Weaving Flow Rate (vNW), pc/h	1869	Density-Based Capacity (ciWL × N × fHV), veh/h		5557
Total Flow Rate (v), pc/h	2221	Demand Flow-Based Capacity (ciW × fHV), veh/h		13116
Volume Ratio (VR)	0.158	Weaving Area Capacity (cw), veh/h		5557
Minimum Lane Change Rate (LCMIN), lc/h	352	Adjusted Weaving Area Capacity (cWA), veh/h		5557
Maximum Weaving Length (LMAX), ft	4111	Demand-to-Capacity Ratio (v/c)		0.35

## Speed and Density

Non-Weaving Vehicle Index (INW)	116	Average Weaving Speed (SW), mi/h	65.0
Non-Weaving Lane Change Rate (LCNW), lc/h	227	Average Non-Weaving Speed (SNW), mi/h	69.3
Weaving Lane Change Rate (LCW), lc/h	474	Average Speed (S), mi/h	68.6
Weaving Lane Change Rate (LCAII), lc/h	701	Density (D), pc/mi/ln	10.8
Weaving Intensity Factor (W)	0.209	Level of Service (LOS)	B

# HCS Freeway Merge Report

## Project Information

Analyst	TranSystems	Date	8/10/2023
Agency	SCDOT	Analysis Year	Design (2045)
Jurisdiction		Time Analyzed	PM
Project Description	I-95 SB On Ramp from Hwy 6	Units	U.S. Customary

## Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	70.5	45.0
Segment Length (L) / Acceleration Length (LA), ft	1500	800
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

## Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAFCAV	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

## Demand and Capacity

Demand Volume (Vi), veh/h	1297	102
Peak Hour Factor (PHF)	0.94	0.94
Total Trucks, %	18.00	3.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.847	0.971
Flow Rate (vi), pc/h	1629	112
Capacity (cmd), pc/h	4800	2100
Adjusted Capacity (cmd), pc/h	4800	2100
Volume-to-Capacity Ratio (v/c)	0.36	0.05

## Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (No), ln	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (MS)	0.271
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	62.8
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	1.000	Outer Lanes Freeway Speed (SO), mi/h	70.5
Flow in Lanes 1 and 2 (v12), pc/h	1629	Ramp Junction Speed (S), mi/h	62.8

Flow Entering Ramp-Infl. Area (vR12), pc/h	1741	Average Density (D), pc/mi/ln	13.9
Level of Service (LOS)	B	Density in Ramp Influence Area (DR), pc/mi/ln	14.1

# HCS Basic Freeway Report

## Project Information

Analyst	Transystems	Date	8/9/2023
Agency	SCDOT	Analysis Year	Design (2045)
Jurisdiction		Time Analyzed	PM
Project Description	I-95 NB south of Hwy 6	Units	U.S. Customary

## Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Rolling
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.0	Total Ramp Density (TRD), ramps/mi	1.50
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.5
Right-Side Lateral Clearance, ft	10		

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	1.000
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAFCAV	1.000

## Demand and Capacity

Demand Volume (V), veh/h	1625	Heavy Vehicle Adjustment Factor (fhv)	0.704
Peak Hour Factor (PHF)	0.94	Flow Rate (vp), pc/h/ln	1228
Total Trucks, %	21.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.51
Passenger Car Equivalent (ET)	3.00		

## Speed and Density

Lane Width Adjustment (fLW)	0.0	Average Speed (S), mi/h	70.5
Right-Side Lateral Clearance Adj. (fRLC)	0.0	Density (D), pc/mi/ln	17.4
Total Ramp Density Adjustment	4.5	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFSadj), mi/h	70.5		

# HCS Basic Freeway Report

## Project Information

Analyst	Transystems	Date	8/9/2023
Agency	SCDOT	Analysis Year	Design (2045)
Jurisdiction		Time Analyzed	PM
Project Description	I-95 NB south of US 15	Units	U.S. Customary

## Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Rolling
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.0	Total Ramp Density (TRD), ramps/mi	1.50
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.5
Right-Side Lateral Clearance, ft	10		

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	1.000
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAFCAV	1.000

## Demand and Capacity

Demand Volume (V), veh/h	1720	Heavy Vehicle Adjustment Factor (fhv)	0.704
Peak Hour Factor (PHF)	0.94	Flow Rate (vp), pc/h/ln	1300
Total Trucks, %	21.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.54
Passenger Car Equivalent (ET)	3.00		

## Speed and Density

Lane Width Adjustment (fLW)	0.0	Average Speed (S), mi/h	70.3
Right-Side Lateral Clearance Adj. (fRLC)	0.0	Density (D), pc/mi/ln	18.5
Total Ramp Density Adjustment	4.5	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFSadj), mi/h	70.5		



# HCS Basic Freeway Report

## Project Information

Analyst	Transystems	Date	8/9/2023
Agency	SCDOT	Analysis Year	Design (2045)
Jurisdiction		Time Analyzed	PM
Project Description	I-95 NB south of Buff Blvd	Units	U.S. Customary

## Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Rolling
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.0	Total Ramp Density (TRD), ramps/mi	1.50
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.5
Right-Side Lateral Clearance, ft	10		

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	1.000
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAFCAV	1.000

## Demand and Capacity

Demand Volume (V), veh/h	1522	Heavy Vehicle Adjustment Factor (fhv)	0.704
Peak Hour Factor (PHF)	0.94	Flow Rate (vp), pc/h/ln	1150
Total Trucks, %	21.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.48
Passenger Car Equivalent (ET)	3.00		

## Speed and Density

Lane Width Adjustment (fLW)	0.0	Average Speed (S), mi/h	70.5
Right-Side Lateral Clearance Adj. (fRLC)	0.0	Density (D), pc/mi/ln	16.3
Total Ramp Density Adjustment	4.5	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFSadj), mi/h	70.5		

# HCS Basic Freeway Report

## Project Information

Analyst	Transystems	Date	8/9/2023
Agency	SCDOT	Analysis Year	Design (2045)
Jurisdiction		Time Analyzed	PM
Project Description	I-95 NB north of Buff Blvd	Units	U.S. Customary

## Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Rolling
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.0	Total Ramp Density (TRD), ramps/mi	1.50
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.5
Right-Side Lateral Clearance, ft	10		

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	1.000
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAFCAV	1.000

## Demand and Capacity

Demand Volume (V), veh/h	1377	Heavy Vehicle Adjustment Factor (fhv)	0.704
Peak Hour Factor (PHF)	0.94	Flow Rate (vp), pc/h/ln	1040
Total Trucks, %	21.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.43
Passenger Car Equivalent (ET)	3.00		

## Speed and Density

Lane Width Adjustment (fLW)	0.0	Average Speed (S), mi/h	70.5
Right-Side Lateral Clearance Adj. (fRLC)	0.0	Density (D), pc/mi/ln	14.8
Total Ramp Density Adjustment	4.5	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFSadj), mi/h	70.5		

# HCS Basic Freeway Report

## Project Information

Analyst	Transystems	Date	8/9/2023
Agency	SCDOT	Analysis Year	Design (2045)
Jurisdiction		Time Analyzed	PM
Project Description	I-95 SB north of Buff Blvd	Units	U.S. Customary

## Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Rolling
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.0	Total Ramp Density (TRD), ramps/mi	1.50
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.5
Right-Side Lateral Clearance, ft	10		

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	1.000
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAFCAV	1.000

## Demand and Capacity

Demand Volume (V), veh/h	1341	Heavy Vehicle Adjustment Factor (fhv)	0.735
Peak Hour Factor (PHF)	0.94	Flow Rate (vp), pc/h/ln	970
Total Trucks, %	18.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.40
Passenger Car Equivalent (ET)	3.00		

## Speed and Density

Lane Width Adjustment (fLW)	0.0	Average Speed (S), mi/h	70.5
Right-Side Lateral Clearance Adj. (fRLC)	0.0	Density (D), pc/mi/ln	13.8
Total Ramp Density Adjustment	4.5	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFSadj), mi/h	70.5		

# HCS Basic Freeway Report

## Project Information

Analyst	Transystems	Date	8/9/2023
Agency	SCDOT	Analysis Year	Design (2045)
Jurisdiction		Time Analyzed	PM
Project Description	I-95 SB south of Buff Blvd	Units	U.S. Customary

## Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Rolling
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.0	Total Ramp Density (TRD), ramps/mi	1.50
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.5
Right-Side Lateral Clearance, ft	10		

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	1.000
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAFCAV	1.000

## Demand and Capacity

Demand Volume (V), veh/h	1430	Heavy Vehicle Adjustment Factor (fhv)	0.735
Peak Hour Factor (PHF)	0.94	Flow Rate (vp), pc/h/ln	1035
Total Trucks, %	18.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.43
Passenger Car Equivalent (ET)	3.00		

## Speed and Density

Lane Width Adjustment (fLW)	0.0	Average Speed (S), mi/h	70.5
Right-Side Lateral Clearance Adj. (fRLC)	0.0	Density (D), pc/mi/ln	14.7
Total Ramp Density Adjustment	4.5	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFSadj), mi/h	70.5		

# HCS Basic Freeway Report

## Project Information

Analyst	Transystems	Date	8/9/2023
Agency	SCDOT	Analysis Year	Design (2045)
Jurisdiction		Time Analyzed	PM
Project Description	I-95 SB south of US 15	Units	U.S. Customary

## Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Rolling
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.0	Total Ramp Density (TRD), ramps/mi	1.50
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.5
Right-Side Lateral Clearance, ft	10		

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	1.000
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAFCAV	1.000

## Demand and Capacity

Demand Volume (V), veh/h	1550	Heavy Vehicle Adjustment Factor (fhv)	0.735
Peak Hour Factor (PHF)	0.94	Flow Rate (vp), pc/h/ln	1122
Total Trucks, %	18.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.47
Passenger Car Equivalent (ET)	3.00		

## Speed and Density

Lane Width Adjustment (fLW)	0.0	Average Speed (S), mi/h	70.5
Right-Side Lateral Clearance Adj. (fRLC)	0.0	Density (D), pc/mi/ln	15.9
Total Ramp Density Adjustment	4.5	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFSadj), mi/h	70.5		

# HCS Basic Freeway Report

## Project Information

Analyst	Transystems	Date	8/9/2023
Agency	SCDOT	Analysis Year	Design (2045)
Jurisdiction		Time Analyzed	PM
Project Description	I-95 SB south of Hwy 6	Units	U.S. Customary

## Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Rolling
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.0	Total Ramp Density (TRD), ramps/mi	1.50
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.5
Right-Side Lateral Clearance, ft	10		

## Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	1.000
Proportion of CAVs in Traffic Stream	0	Capacity Adj. Factor for CAVs, CAFCAV	1.000

## Demand and Capacity

Demand Volume (V), veh/h	1399	Heavy Vehicle Adjustment Factor (fhv)	0.735
Peak Hour Factor (PHF)	0.94	Flow Rate (vp), pc/h/ln	1012
Total Trucks, %	18.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.42
Passenger Car Equivalent (ET)	3.00		

## Speed and Density

Lane Width Adjustment (fLW)	0.0	Average Speed (S), mi/h	70.5
Right-Side Lateral Clearance Adj. (fRLC)	0.0	Density (D), pc/mi/ln	14.4
Total Ramp Density Adjustment	4.5	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFSadj), mi/h	70.5		

# Lanes, Volumes, Timings

## 24: Hwy 6 & I-95 SB Ramp

08/09/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SWL2	SWL	SWR
Lane Configurations											
Traffic Volume (vph)	0	452	50	34	328	0	0	0	91	0	116
Future Volume (vph)	0	452	50	34	328	0	0	0	91	0	116
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		75	175		0	0	0		0	150
Storage Lanes	0		0	1		0	0	0		1	1
Taper Length (ft)	25			25			25			25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.986									0.850
Flt Protected				0.950					0.950		
Satd. Flow (prot)	0	1819	0	1752	1845	0	0	0	1752	0	1568
Flt Permitted				0.159					0.950		
Satd. Flow (perm)	0	1819	0	293	1845	0	0	0	1752	0	1568
Right Turn on Red			Yes			Yes					Yes
Satd. Flow (RTOR)		10									371
Link Speed (mph)		30			30			30			30
Link Distance (ft)		221			1070			658			713
Travel Time (s)		5.0			24.3			15.0			16.2
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Growth Factor	122%	122%	122%	122%	122%	122%	122%	122%	122%	122%	122%
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	0	574	64	43	417	0	0	0	116	0	147
Shared Lane Traffic (%)											
Lane Group Flow (vph)	0	638	0	43	417	0	0	0	116	0	147
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			12
Link Offset(ft)		0			0			0			0
Crosswalk Width(ft)		16			16			16			16
Two way Left Turn Lane											
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15	9	15	15	9
Number of Detectors		2		1	2				1		1
Detector Template		Thru		Left	Thru				Left		Right
Leading Detector (ft)		100		20	100				20		20
Trailing Detector (ft)		0		0	0				0		0
Detector 1 Position(ft)		0		0	0				0		0
Detector 1 Size(ft)		6		20	6				20		20
Detector 1 Type		Cl+Ex		Cl+Ex	Cl+Ex				Cl+Ex		Cl+Ex
Detector 1 Channel											
Detector 1 Extend (s)		0.0		0.0	0.0				0.0		0.0
Detector 1 Queue (s)		0.0		0.0	0.0				0.0		0.0
Detector 1 Delay (s)		0.0		0.0	0.0				0.0		0.0
Detector 2 Position(ft)		94			94						
Detector 2 Size(ft)		6			6						
Detector 2 Type		Cl+Ex			Cl+Ex						
Detector 2 Channel											
Detector 2 Extend (s)		0.0			0.0						
Turn Type		NA		pm+pt	NA				Perm		Perm

# Lanes, Volumes, Timings

## 24: Hwy 6 & I-95 SB Ramp

08/09/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SWL2	SWL	SWR
Protected Phases		4		3	8						
Permitted Phases				8					6		6
Detector Phase		4		3	8				6		6
Switch Phase											
Minimum Initial (s)		5.0		5.0	5.0				5.0		5.0
Minimum Split (s)		24.0		11.0	24.0				24.0		24.0
Total Split (s)		25.0		11.0	36.0				24.0		24.0
Total Split (%)		41.7%		18.3%	60.0%				40.0%		40.0%
Maximum Green (s)		19.0		5.0	30.0				18.0		18.0
Yellow Time (s)		4.0		4.0	4.0				4.0		4.0
All-Red Time (s)		2.0		2.0	2.0				2.0		2.0
Lost Time Adjust (s)		0.0		0.0	0.0				0.0		0.0
Total Lost Time (s)		6.0		6.0	6.0				6.0		6.0
Lead/Lag		Lag		Lead							
Lead-Lag Optimize?		Yes		Yes							
Vehicle Extension (s)		3.0		3.0	3.0				3.0		3.0
Recall Mode		None		None	None				Max		Max
Walk Time (s)		7.0			7.0				7.0		7.0
Flash Dont Walk (s)		11.0			11.0				11.0		11.0
Pedestrian Calls (#/hr)		0			0				0		0
Act Effect Green (s)		19.2		23.1	23.1				18.2		18.2
Actuated g/C Ratio		0.36		0.43	0.43				0.34		0.34
v/c Ratio		0.97		0.16	0.52				0.19		0.19
Control Delay		50.4		9.6	13.5				15.3		0.5
Queue Delay		0.0		0.0	0.0				0.0		0.0
Total Delay		50.4		9.6	13.5				15.3		0.5
LOS		D		A	B				B		A
Approach Delay		50.4			13.1					7.0	
Approach LOS		D			B					A	
Queue Length 50th (ft)		161		7	90				22		0
Queue Length 95th (ft)		#451		20	152				65		0
Internal Link Dist (ft)		141			990		578			633	
Turn Bay Length (ft)				175							150
Base Capacity (vph)		659		264	1046				596		778
Starvation Cap Reductn		0		0	0				0		0
Spillback Cap Reductn		0		0	0				0		0
Storage Cap Reductn		0		0	0				0		0
Reduced v/c Ratio		0.97		0.16	0.40				0.19		0.19

### Intersection Summary

Area Type:	Other
Cycle Length:	60
Actuated Cycle Length:	53.4
Natural Cycle:	65
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.97
Intersection Signal Delay:	29.4
Intersection LOS:	C
Intersection Capacity Utilization:	46.9%
ICU Level of Service:	A
Analysis Period (min):	15



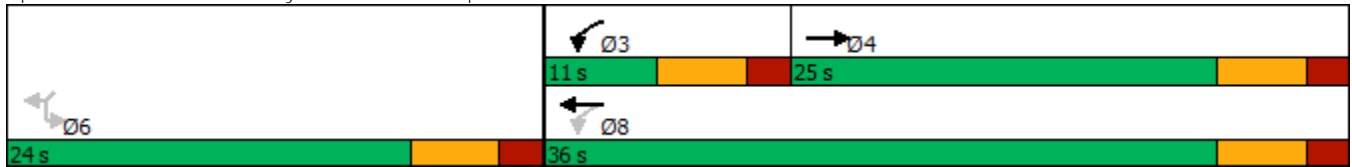
# Lanes, Volumes, Timings

## 24: Hwy 6 & I-95 SB Ramp

08/09/2023

# 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.

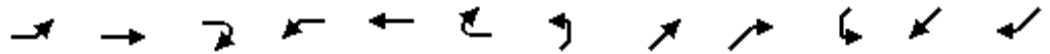
Splits and Phases: 24: Hwy 6 & I-95 SB Ramp



Lanes, Volumes, Timings

27: Bass Dr & Hwy 6

08/09/2023

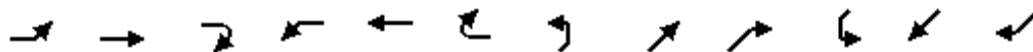


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	9	178	55	163	158	15	70	38	216	34	32	6
Future Volume (vph)	9	178	55	163	158	15	70	38	216	34	32	6
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	120		0	170		0	175		0	120		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.964			0.987			0.873			0.976	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1752	1778	0	1752	1821	0	1752	1610	0	1752	1800	0
Flt Permitted	0.616			0.480			0.567			0.563		
Satd. Flow (perm)	1136	1778	0	885	1821	0	1046	1610	0	1039	1800	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		27			8			277			8	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		638			518			530			613	
Travel Time (s)		14.5			11.8			12.0			13.9	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	122%	122%	122%	122%	122%	122%	122%	122%	122%	122%	122%	122%
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	12	229	71	209	203	19	90	49	277	44	41	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	12	300	0	209	222	0	90	326	0	44	49	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		Perm	NA	

# Lanes, Volumes, Timings

## 27: Bass Dr & Hwy 6

08/09/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Protected Phases		4			8		5	2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	24.0	24.0		24.0	24.0		11.0	24.0		24.0	24.0	
Total Split (s)	24.0	24.0		24.0	24.0		11.0	36.0		25.0	25.0	
Total Split (%)	40.0%	40.0%		40.0%	40.0%		18.3%	60.0%		41.7%	41.7%	
Maximum Green (s)	18.0	18.0		18.0	18.0		5.0	30.0		19.0	19.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Max		Max	Max	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0			11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0			0		0	0	
Act Effect Green (s)	16.0	16.0		16.0	16.0		30.1	30.1		21.5	21.5	
Actuated g/C Ratio	0.28	0.28		0.28	0.28		0.52	0.52		0.37	0.37	
v/c Ratio	0.04	0.59		0.86	0.44		0.15	0.34		0.11	0.07	
Control Delay	15.4	21.7		54.4	19.6		8.6	3.1		15.7	13.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	15.4	21.7		54.4	19.6		8.6	3.1		15.7	13.1	
LOS	B	C		D	B		A	A		B	B	
Approach Delay		21.5			36.4			4.3			14.3	
Approach LOS		C			D			A			B	
Queue Length 50th (ft)	3	81		68	61		16	8		11	10	
Queue Length 95th (ft)	13	149		#172	114		36	43		32	30	
Internal Link Dist (ft)		558			438			450			533	
Turn Bay Length (ft)	120			170			175			120		
Base Capacity (vph)	353	571		275	571		602	967		384	671	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.03	0.53		0.76	0.39		0.15	0.34		0.11	0.07	

### Intersection Summary

Area Type:	Other
Cycle Length:	60
Actuated Cycle Length:	58.1
Natural Cycle:	60
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.86
Intersection Signal Delay:	20.4
Intersection LOS:	C
Intersection Capacity Utilization:	69.4%
ICU Level of Service:	C
Analysis Period (min):	15

# Lanes, Volumes, Timings

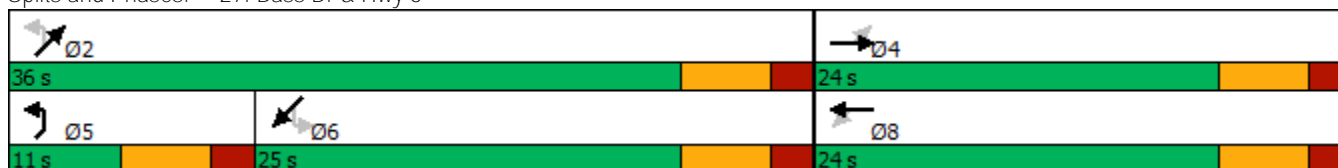
## 27: Bass Dr & Hwy 6

08/09/2023

# 95th percentile volume exceeds capacity, queue may be longer.






















Queue shown is maximum after two cycles.

Splits and Phases: 27: Bass Dr & Hwy 6



Lanes, Volumes, Timings  
30: Bradford & Hwy 6

08/09/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	449	8	38	361	1	14	0	9	0	0	2
Future Volume (vph)	1	449	8	38	361	1	14	0	9	0	0	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	120		0	120		0	0		0	0		0
Storage Lanes	1		0	1		0	1		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.997							0.850		0.865	
Flt Protected	0.950			0.950			0.950					
Satd. Flow (prot)	1752	1839	0	1752	1845	0	1752	1845	1568	0	1596	0
Flt Permitted	0.950			0.950			0.950					
Satd. Flow (perm)	1752	1839	0	1752	1845	0	1752	1845	1568	0	1596	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		518			385			504			268	
Travel Time (s)		11.8			8.8			11.5			6.1	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Growth Factor	122%	122%	122%	122%	122%	122%	122%	122%	122%	122%	122%	122%
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	1	565	10	48	454	1	18	0	11	0	0	3
Shared Lane Traffic (%)												
Lane Group Flow (vph)	1	575	0	48	455	0	18	0	11	0	3	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	
<b>Intersection Summary</b>												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	50.4%						ICU Level of Service A					
Analysis Period (min)	15											

# Lanes, Volumes, Timings

## 33: I-95 BNB Ramp & Hwy 6

08/09/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SBL	SBR	NEL2	NEL	NER
Lane Configurations											
Traffic Volume (vph)	114	426	0	0	320	91	0	0	51	0	76
Future Volume (vph)	114	426	0	0	320	91	0	0	51	0	76
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	0		0	0	0		0	0
Storage Lanes	1		0	0		0	0	0		1	1
Taper Length (ft)	25			25			25			25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.970						0.850
Flt Protected	0.950								0.950		
Satd. Flow (prot)	1752	1845	0	0	1789	0	0	0	1752	0	1568
Flt Permitted	0.167								0.950		
Satd. Flow (perm)	308	1845	0	0	1789	0	0	0	1752	0	1568
Right Turn on Red			Yes			Yes					Yes
Satd. Flow (RTOR)					24						249
Link Speed (mph)		30			30		30			30	
Link Distance (ft)		1070			197		602			707	
Travel Time (s)		24.3			4.5		13.7			16.1	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	122%	122%	122%	122%	122%	122%	122%	122%	122%	122%	122%
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	146	547	0	0	411	117	0	0	65	0	98
Shared Lane Traffic (%)											
Lane Group Flow (vph)	146	547	0	0	528	0	0	0	65	0	98
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Right	Left	Left	Right
Median Width(ft)		12			12		0			12	
Link Offset(ft)		0			0		0			0	
Crosswalk Width(ft)		16			16		16			16	
Two way Left Turn Lane											
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15	9	15	15	9
Number of Detectors	1	2			2				1		1
Detector Template	Left	Thru			Thru				Left		Right
Leading Detector (ft)	20	100			100				20		20
Trailing Detector (ft)	0	0			0				0		0
Detector 1 Position(ft)	0	0			0				0		0
Detector 1 Size(ft)	20	6			6				20		20
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex				Cl+Ex		Cl+Ex
Detector 1 Channel											
Detector 1 Extend (s)	0.0	0.0			0.0				0.0		0.0
Detector 1 Queue (s)	0.0	0.0			0.0				0.0		0.0
Detector 1 Delay (s)	0.0	0.0			0.0				0.0		0.0
Detector 2 Position(ft)		94			94						
Detector 2 Size(ft)		6			6						
Detector 2 Type		Cl+Ex			Cl+Ex						
Detector 2 Channel											
Detector 2 Extend (s)		0.0			0.0						
Turn Type	pm+pt	NA			NA				Perm		Perm

# Lanes, Volumes, Timings

## 33: I-95 BNB Ramp & Hwy 6

08/09/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SBL	SBR	NEL2	NEL	NER
Protected Phases	7	4			8						
Permitted Phases	4								2		2
Detector Phase	7	4			8				2		2
Switch Phase											
Minimum Initial (s)	5.0	5.0			5.0				5.0		5.0
Minimum Split (s)	11.0	24.0			24.0				24.0		24.0
Total Split (s)	11.0	35.0			24.0				25.0		25.0
Total Split (%)	18.3%	58.3%			40.0%				41.7%		41.7%
Maximum Green (s)	5.0	29.0			18.0				19.0		19.0
Yellow Time (s)	4.0	4.0			4.0				4.0		4.0
All-Red Time (s)	2.0	2.0			2.0				2.0		2.0
Lost Time Adjust (s)	0.0	0.0			0.0				0.0		0.0
Total Lost Time (s)	6.0	6.0			6.0				6.0		6.0
Lead/Lag	Lead				Lag						
Lead-Lag Optimize?	Yes				Yes						
Vehicle Extension (s)	3.0	3.0			3.0				3.0		3.0
Recall Mode	None	None			None				Max		Max
Walk Time (s)		7.0			7.0				7.0		7.0
Flash Dont Walk (s)		11.0			11.0				11.0		11.0
Pedestrian Calls (#/hr)		0			0				0		0
Act Effct Green (s)	26.3	26.3			17.9				19.2		19.2
Actuated g/C Ratio	0.46	0.46			0.31				0.33		0.33
v/c Ratio	0.55	0.65			0.92				0.11		0.14
Control Delay	17.1	16.1			45.8				15.3		0.4
Queue Delay	0.0	0.0			0.0				0.0		0.0
Total Delay	17.1	16.1			45.8				15.3		0.4
LOS	B	B			D				B		A
Approach Delay		16.3			45.8					6.3	
Approach LOS		B			D					A	
Queue Length 50th (ft)	28	135			177				16		0
Queue Length 95th (ft)	#56	225			#358				40		0
Internal Link Dist (ft)		990			117		522			627	
Turn Bay Length (ft)	200										
Base Capacity (vph)	267	937			580				582		687
Starvation Cap Reductn	0	0			0				0		0
Spillback Cap Reductn	0	0			0				0		0
Storage Cap Reductn	0	0			0				0		0
Reduced v/c Ratio	0.55	0.58			0.91				0.11		0.14

### Intersection Summary

Area Type:	Other
Cycle Length:	60
Actuated Cycle Length:	57.6
Natural Cycle:	60
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.92
Intersection Signal Delay:	26.4
Intersection LOS:	C
Intersection Capacity Utilization:	46.9%
ICU Level of Service:	A
Analysis Period (min):	15

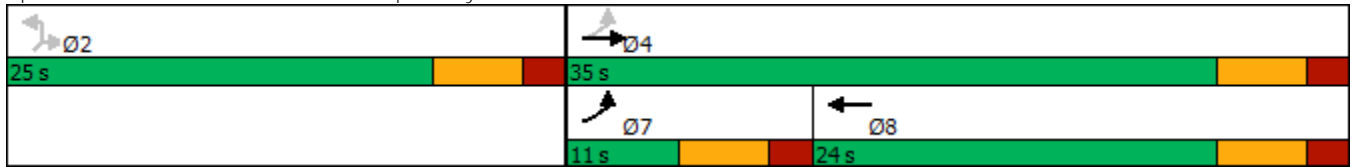
# Lanes, Volumes, Timings

## 33: I-95 BNB Ramp & Hwy 6

08/09/2023

# 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

Splits and Phases: 33: I-95 BNB Ramp & Hwy 6





# Lanes, Volumes, Timings

## 36: Britain & Hwy 6

08/09/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	28	457	10	21	396	26	2	0	20	26	0	20
Future Volume (vph)	28	457	10	21	396	26	2	0	20	26	0	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	50		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.997			0.991			0.879				0.942
Flt Protected	0.950			0.950				0.995				0.972
Satd. Flow (prot)	1752	1839	0	1752	1812	0	0	1613	0	0	1689	0
Flt Permitted	0.950			0.950				0.995				0.972
Satd. Flow (perm)	1752	1839	0	1752	1812	0	0	1613	0	0	1689	0
Link Speed (mph)		30			30			30				30
Link Distance (ft)		385			221			341				104
Travel Time (s)		8.8			5.0			7.8				2.4
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Growth Factor	122%	122%	122%	122%	122%	122%	122%	122%	122%	122%	122%	122%
Heavy Vehicles (%)	3%	3%	3%	3%	4%	3%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	36	581	13	27	503	33	3	0	25	33	0	25
Shared Lane Traffic (%)												
Lane Group Flow (vph)	36	594	0	27	536	0	0	28	0	0	58	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			0				0
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop				Stop

### Intersection Summary

Area Type: Other



















Control Type: Unsignalized

Intersection Capacity Utilization 46.7% ICU Level of Service A

Analysis Period (min) 15

Lanes, Volumes, Timings  
42: St Paul Rd & US 301/Gas Station

08/09/2023

												
Lane Group	NBL	NBT	NBR	SBU	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT
Lane Configurations												
Traffic Volume (vph)	11	15	106	7	16	1	0	1	1	3	55	2
Future Volume (vph)	11	15	106	7	16	1	0	1	1	3	55	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	1.00	0.95
Frt			0.850						0.900			0.885
Flt Protected		0.980				0.954			0.992		0.950	
Satd. Flow (prot)	0	1757	1524	0	0	1710	0	0	3041	0	1703	2929
Flt Permitted		0.980				0.954			0.992		0.950	
Satd. Flow (perm)	0	1757	1524	0	0	1710	0	0	3041	0	1703	2929
Link Speed (mph)		30				30			30			30
Link Distance (ft)		420				197			822			934
Travel Time (s)		9.5				4.5			18.7			21.2
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Growth Factor	122%	122%	122%	122%	122%	122%	122%	122%	122%	122%	122%	122%
Heavy Vehicles (%)	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%
Bus Blockages (#/hr)	0	0	0	6	0	0	0	0	0	0	0	0
Adj. Flow (vph)	15	21	149	10	22	1	0	1	1	4	77	3
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	36	149	0	0	33	0	0	6	0	77	13
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	R NA	Left	Left	Right	Left	Left	Right	Left	Left
Median Width(ft)		0				0			12			12
Link Offset(ft)		0				0			0			0
Crosswalk Width(ft)		16				16			16			16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	9	15		9	15		9	15	
Sign Control		Stop				Stop			Free			Free
<b>Intersection Summary</b>												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	25.3%						ICU Level of Service A					
Analysis Period (min)	15											

# Lanes, Volumes, Timings

## 42: St Paul Rd & US 301/Gas Station

08/09/2023



Lane Group	SWR
Lane Configurations	
Traffic Volume (vph)	7
Future Volume (vph)	7
Ideal Flow (vphpl)	1900
Lane Util. Factor	0.95
Frt	
Flt Protected	
Satd. Flow (prot)	0
Flt Permitted	
Satd. Flow (perm)	0
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	0.87
Growth Factor	122%
Heavy Vehicles (%)	10%
Bus Blockages (#/hr)	0
Adj. Flow (vph)	10
Shared Lane Traffic (%)	
Lane Group Flow (vph)	0
Enter Blocked Intersection	No
Lane Alignment	Right
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	1.00
Turning Speed (mph)	9
Sign Control	
Intersection Summary	

Lanes, Volumes, Timings  
44: US 301 & I-95 SB Ramp

08/09/2023



Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↑↑			↓						↑↓	
Traffic Volume (vph)	54	127	0	0	12	62	0	0	0	12	0	6
Future Volume (vph)	54	127	0	0	12	62	0	0	0	12	0	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr <sub>t</sub>					0.887						0.953	
Fl <sub>t</sub> Protected		0.985									0.968	
Satd. Flow (prot)	0	3355	0	0	1590	0	0	0	0	0	1654	0
Fl <sub>t</sub> Permitted		0.985									0.968	
Satd. Flow (perm)	0	3355	0	0	1590	0	0	0	0	0	1654	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		341			420			593			580	
Travel Time (s)		7.8			9.5			13.5			13.2	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Growth Factor	122%	122%	122%	122%	122%	122%	122%	122%	122%	122%	122%	122%
Heavy Vehicles (%)	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%
Adj. Flow (vph)	77	180	0	0	17	88	0	0	0	17	0	9
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	257	0	0	105	0	0	0	0	0	26	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	20.3%
Analysis Period (min)	15
	ICU Level of Service A

Lanes, Volumes, Timings  
 47: I-95 NB Ramp/US 301 & S-14-400

08/09/2023



Lane Group	WBL	WBR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Volume (vph)	6	55	94	82	25	8
Future Volume (vph)	6	55	94	82	25	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.878		0.937			
Flt Protected	0.995					0.964
Satd. Flow (prot)	1537	0	1648	0	0	1696
Flt Permitted	0.995					0.964
Satd. Flow (perm)	1537	0	1648	0	0	1696
Link Speed (mph)	30		30			30
Link Distance (ft)	708		346			378
Travel Time (s)	16.1		7.9			8.6
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83
Growth Factor	122%	122%	122%	122%	122%	122%
Heavy Vehicles (%)	8%	8%	8%	8%	8%	8%
Adj. Flow (vph)	9	81	138	121	37	12
Shared Lane Traffic (%)						
Lane Group Flow (vph)	90	0	259	0	0	49
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	30.0%
Analysis Period (min)	15
	ICU Level of Service A

**Lanes, Volumes, Timings**  
**49: Gordon Rd & S-14-400**

08/09/2023





















Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	63	26	23	3	2	26
Future Volume (vph)	63	26	23	3	2	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.961			0.875		
Flt Protected	0.966			0.957		
Satd. Flow (prot)	1696	0	0	1748	1599	0
Flt Permitted	0.966			0.957		
Satd. Flow (perm)	1696	0	0	1748	1599	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	708			417	425	
Travel Time (s)	16.1			9.5	9.7	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Growth Factor	122%	122%	122%	122%	122%	122%
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%
Adj. Flow (vph)	90	37	33	4	3	37
Shared Lane Traffic (%)						
Lane Group Flow (vph)	127	0	0	37	40	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

**Intersection Summary**

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	21.3%
Analysis Period (min)	15
	ICU Level of Service A

Lanes, Volumes, Timings  
54: US 301 & Buff Blvd/Hotel

08/09/2023

												
Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	4	1	125	11	3	1	0	58	9	113	51	3
Future Volume (vph)	4	1	125	11	3	1	0	58	9	113	51	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.994			0.982			0.998	
Flt Protected		0.959			0.963						0.967	
Satd. Flow (prot)	0	1752	1553	0	1749	0	0	1794	0	0	1763	0
Flt Permitted		0.959			0.963						0.967	
Satd. Flow (perm)	0	1752	1553	0	1749	0	0	1794	0	0	1763	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		3372			202			760			626	
Travel Time (s)		76.6			4.6			17.3			14.2	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Growth Factor	122%	122%	122%	122%	122%	122%	122%	122%	122%	122%	122%	122%
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Adj. Flow (vph)	6	1	179	16	4	1	0	83	13	162	73	4
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	7	179	0	21	0	0	96	0	0	239	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	
<b>Intersection Summary</b>												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	32.1%					ICU Level of Service A						
Analysis Period (min)	15											

# Lanes, Volumes, Timings

## 55: Buff Blvd

08/09/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕						↕		↕	↕	
Traffic Volume (vph)	137	2	55	0	0	0	0	57	10	63	55	0
Future Volume (vph)	137	2	55	0	0	0	0	57	10	63	55	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	150		0
Storage Lanes	0		0	0		0	0		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.962						0.980				
Flt Protected		0.966								0.950		
Satd. Flow (prot)	0	1509	0	0	0	0	0	1591	0	1543	1624	0
Flt Permitted		0.966								0.950		
Satd. Flow (perm)	0	1509	0	0	0	0	0	1591	0	1543	1624	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		596			536			930			1070	
Travel Time (s)		13.5			12.2			21.1			24.3	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Growth Factor	122%	122%	122%	122%	122%	122%	122%	122%	122%	122%	122%	122%
Heavy Vehicles (%)	17%	17%	17%	17%	17%	17%	17%	17%	17%	17%	17%	17%
Adj. Flow (vph)	192	3	77	0	0	0	0	80	14	88	77	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	272	0	0	0	0	0	94	0	88	77	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

### Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	31.1%
ICU Level of Service	A
Analysis Period (min)	15



# Lanes, Volumes, Timings

## 58: Buff Blvd & I-95 SB Ramp

08/09/2023



















Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↔			↕			↕	
Traffic Volume (vph)	0	0	0	10	0	74	24	139	0	0	114	133
Future Volume (vph)	0	0	0	10	0	74	24	139	0	0	114	133
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.95	0.95
Frt					0.881						0.919	
Flt Protected					0.994			0.993				
Satd. Flow (prot)	0	0	0	0	1280	0	0	2757	0	0	2552	0
Flt Permitted					0.994			0.993				
Satd. Flow (perm)	0	0	0	0	1280	0	0	2757	0	0	2552	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		723			820			1070			3372	
Travel Time (s)		16.4			18.6			24.3			76.6	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Growth Factor	122%	122%	122%	122%	122%	122%	122%	122%	122%	122%	122%	122%
Heavy Vehicles (%)	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%
Adj. Flow (vph)	0	0	0	13	0	99	32	186	0	0	153	178
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	112	0	0	218	0	0	331	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	30.9%
Analysis Period (min)	15
	ICU Level of Service A

Lanes, Volumes, Timings  
66: US 301 & Liberty Hill

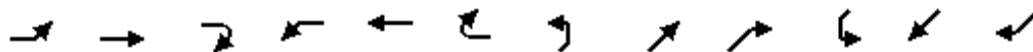
08/09/2023

												
Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	0	3	2	4	4	30	50	50	2	4	28	5
Future Volume (vph)	0	3	2	4	4	30	50	50	2	4	28	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr <sub>t</sub>		0.942			0.895			0.997			0.982	
Fl <sub>t</sub> Protected					0.994			0.976			0.994	
Satd. Flow (prot)	0	1673	0	0	1580	0	0	1728	0	0	1733	0
Fl <sub>t</sub> Permitted					0.994			0.976			0.994	
Satd. Flow (perm)	0	1673	0	0	1580	0	0	1728	0	0	1733	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		717			491			738			807	
Travel Time (s)		16.3			11.2			16.8			18.3	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Growth Factor	122%	122%	122%	122%	122%	122%	122%	122%	122%	122%	122%	122%
Heavy Vehicles (%)	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%
Adj. Flow (vph)	0	4	3	6	6	42	69	69	3	6	39	7
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	7	0	0	54	0	0	141	0	0	52	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	
<b>Intersection Summary</b>												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	27.2%					ICU Level of Service A						
Analysis Period (min)	15											

# Lanes, Volumes, Timings

## 71: Mall St & Hwy 6

08/09/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	19	478	9	1	355	9	11	1	3	14	0	39
Future Volume (vph)	19	478	9	1	355	9	11	1	3	14	0	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.998			0.996			0.972			0.901	
Flt Protected		0.998		0.950				0.964			0.987	
Satd. Flow (prot)	0	1855	0	1770	1855	0	0	1745	0	0	1657	0
Flt Permitted		0.998		0.950				0.964			0.987	
Satd. Flow (perm)	0	1855	0	1770	1855	0	0	1745	0	0	1657	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		197			931			214			176	
Travel Time (s)		4.5			21.2			4.9			4.0	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Growth Factor	122%	122%	122%	122%	122%	122%	122%	122%	122%	122%	122%	122%
Adj. Flow (vph)	24	607	11	1	451	11	14	1	4	18	0	50
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	642	0	1	462	0	0	19	0	0	68	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

### Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	60.6%
ICU Level of Service	B
Analysis Period (min)	15

# Appendix E

**Traffic Growth Historical Analysis (Year 2020 Removed)**

Study Area	Roadway Type	Roadway	County	Count Station	2015	2016	2017	2018	2019	2021	2022	Traffic Growth Projection
I-95 Mainline	Interstate	I-95	Clarendon	14-2395	31900	33600	34100	33500	34300	36700	37600	2.113%
	Interstate	I-95	Clarendon	14-2393	33900	35600	36900	35700	36600	38900	40100	2.092%
	Interstate	I-95	Orangeburg	38-2393	33900	35400	36900	35700	36600	38900	38800	1.809%
	Interstate	I-95	Orangeburg	38-2391	33900	35600	34900	34000	35200	37700	40100	2.021%
Clarendon Surface Streets/Ramps	Surface Street/Ramps	I-95 NB Exit Ramp (Exit 108)	Clarendon	14-8736						2600	2900	11.538%
	Surface Street/Ramps	I-95 NB Entrance Ramp (Exit 108)	Clarendon	14-8737						1700	2000	17.647%
	Surface Street/Ramps	I-95 SB Exit Ramp (Exit 108)	Clarendon	14-8738						1700	1850	8.824%
	Surface Street/Ramps	I-95 SB Entrance Ramp (Exit 108)	Clarendon	14-8739						2900	3100	6.897%
	Surface Street/Ramps	S- 127 (BILL DAVIS RD) TO I- 95 (INTERSTATE 95)	Clarendon	14-0445	1050	1200	1200	1200	1200	1400	1400	3.693%
	Surface Street/Ramps	S-102 : I- 95 (INTERSTATE 95) TO US 15 (S CHURCH ST	Clarendon	14-0447	2800	3200	3400	3400	2400	2300	2300	-4.910%
	Surface Street/Ramps	S- 102 (BUFF BLVD), I- 431 TO S- 31 (BURGESS ST)	Clarendon	14-0107	4100	4400	4100	4100	3900	4300	4400	0.494%
	Surface Street/Ramps	US15 : S- 373 (LIBERTY HILL RD) TO S- 102 (BUFF BLVD)	Clarendon	14-0105	1450	1550	1500	1550	1200	1150	1150	-4.560%
	Surface Street/Ramps	US15 : I- 95 (INTERSTATE 95), S- 400 TO S- 373 (LIBERTY HILL RD)	Clarendon	14-103	1550	1600	1750	1800	1400	1200	1200	-4.920%
	Surface Street/Ramps	I-95 NB Exit Ramp (Exit 102)	Clarendon	14-8733						1500	1700	13.333%
	Surface Street/Ramps	I-95 NB Entrance Ramp (Exit 102)	Clarendon	14-8732						275	250	-9.091%
	Surface Street/Ramps	I-95 SB Exit Ramp (Exit 102)	Clarendon	14-8734						275	250	-9.091%
	Surface Street/Ramps	I-95 SB Entrance Ramp (Exit 102)	Clarendon	14-8735						1450	1500	3.448%
	Orangeburg Surface Streets/Ramps	Surface Street/Ramps	I-95 NB Exit Ramp (Exit 98)	Clarendon	38-8728						1850	2100
Surface Street/Ramps		I-95 NB Entrance Ramp (Exit 98)	Clarendon	38-8729						3100	3100	0.000%
Surface Street/Ramps		I-95 SB Exit Ramp (Exit 98)	Clarendon	38-8730						2700	2700	0.000%
Surface Street/Ramps		I-95 SB Entrance Ramp (Exit 98)	Clarendon	38-8731						1600	1600	0.000%
Surface Street/Ramps		SC6 : I- 95 (INTERSTATE 95) TO S- 1394 (LAREDO ST)	Clarendon	38-0331	6900	7500	7700	6500	6600	6400	6400	-2.083%
Surface Street/Ramps		SC6 : US 15 CON (BASS DR), S- 430 TO I- 95 (INTERSTATE 95)		38-0330	10900	11300	10700	12300	12500	11300	10600	-0.003%

**Traffic Growth Historical Analysis (Year 2020 Removed - Count Stations with Full Historical Data Only)**

Study Area	Roadway Type	Roadway	County	Count Station	2015	2016	2017	2018	2019	2021	2022	
I-95 Mainline	Interstate	I-95	Clarendon	14-2395	31900	33600	34100	33500	34300	36700	37600	2.113%
	Interstate	I-95	Clarendon	14-2393	33900	35600	36900	35700	36600	38900	40100	2.092%
	Interstate	I-95	Orangeburg	38-2393	33900	35400	36900	35700	36600	38900	38800	1.809%
	Interstate	I-95	Orangeburg	38-2391	33900	35600	34900	34000	35200	37700	40100	2.021%
	TOTAL				133600	140200	142800	138900	142700	152200	156600	2.008%
Surface Streets and Ramps	Surface Street/Ramps	S- 127 (BILL DAVIS RD) TO I- 95 (INTERSTATE 95)	Clarendon	14-0445	1050	1200	1200	1200	1200	1400	1400	3.693%
	Surface Street/Ramps	S-102 : I- 95 (INTERSTATE 95) TO US 15 (S CHURCH ST)	Clarendon	14-0447	2800	3200	3400	3400	2400	2300	2300	-4.910%
	Surface Street/Ramps	S- 102 (BUFF BLVD), L- 431 TO S- 31 (BURGESS ST)	Clarendon	14-0107	4100	4400	4100	4100	3900	4300	4400	0.494%
	Surface Street/Ramps	US15 : S- 373 (LIBERTY HILL RD) TO S- 102 (BUFF BLVD)	Clarendon	14-0105	1450	1550	1500	1550	1200	1150	1150	-4.560%
	Surface Street/Ramps	US15 : I- 95 (INTERSTATE 95), S- 400 TO S- 373 (LIBERTY HILL RD)	Clarendon	14-103	1550	1600	1750	1800	1400	1200	1200	-4.920%
	Surface Street/Ramps	SC6 : I- 95 (INTERSTATE 95) TO S- 1394 (LAREDO ST)	Clarendon	38-0331	6900	7500	7700	6500	6600	6400	6400	-2.083%
	Surface Street/Ramps	SC6 : US 15 CON (BASS DR), S- 430 TO I- 95 (INTERSTATE 95)		38-0330	10900	11300	10700	12300	12500	11300	10600	-0.003%
					28750	30750	30350	30850	29200	28050	27450	-1.188%
									Assume positive growth:			1.00%



**TRANSYSTEMS**

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# **Appendix C**

## **Public Involvement**



# I-95 Bridge Replacements over Lake Marion

## Public Involvement Meeting Summary



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## Appendices

### Appendix A: Pre-meeting documentation

- Public Involvement Plan
- Public Information Meeting Advertisements
- Public Information Meeting Materials

### Appendix B: Documents generated at the Public Information Meeting

- Sign In Sheets
- Written Public Comments
- Completed Demographics Forms
- Demographics Pie Charts

### Appendix C: Post-Meeting Comments Received

- USPS Mailed Comments
- Emailed Comments
- Website Comments
- Petition
- Excel Sheets of all Comments

### Appendix D: Post-Meeting SCDOT Responses

- SCDOT Comment Response Newsletter List of Recipients (Mail)
- SCDOT Comment Response Email List of Recipients (Email)

### Appendix E: Post-Meeting SCDOT Petition Responses

- SCDOT Petition Response Newsletter List of Recipients (Mail)
- SCDOT Petition Response Email List of Recipients (Email)

## Introduction

A Public Information Meeting (PIM) for the I-95 Bridge Replacements over Lake Marion was held by SCDOT in collaboration with the CECS, Inc. Consulting Team on Thursday, June 1, 2023. The meeting was held at the Santee Conference Center at 1737 Bass Drive, Santee, SC 29142 from 5:00pm to 7:00pm. This meeting was an informal, open house format and no formal presentation was given.

## Meeting Preparation and Advertisements

The PIM was advertised by SCDOT through the use of large road signs, mailed postcards, website postings, and media coverage. These methods were used to inform the public of the upcoming meeting, direct users to the project website, and make people aware of the 30-day comment period.

A Potential Stakeholders List was generated and included with the Public Involvement Plan (**Appendix A**). This list included agencies, local businesses, large employers, government entities, and minority groups. Entities on this Stakeholders List received a targeted email or mailed flyer informing their group of the upcoming PIM and opportunities to comment on the project.

Road signs were strategically placed near and around the I-95 bridges over Lake Marion in both Orangeburg and Clarendon counties. The road signs were installed to advertise to high vehicular and foot-traffic locations to inform members of the public. Over 2,914 postcards were prepared and mailed to 5 routes located near the project. A media alert/stakeholder email was prepared and distributed by SCDOT and included elected officials, key stakeholders, minority interest groups, and media outlets. Finally, a project-specific website was created to disseminate information and provide the Project Manager contact information. The website was established approximately one week before the comment period opened and contained a method of commenting using a webform right from the project website. Please see **Appendix A** for copies of materials used to advertise the PIM.

## Meeting

Meeting attendees were greeted by staff at the entrance to the conference center and were requested to sign in at the registration table. Once signed in, they were provided a project handout, a demographic survey form, and a comment form.

The project handout provided a project description, purpose and need, a graphic of the proposed design alternatives, a schedule and funding source, as well as methods of submitting project comments (**Appendix A**). Additionally, a demographic survey was provided to users (completed surveys in **Appendix B**). The surveys allow members of the public to self-report ethnicity, gender, age, income level, accommodations requested and how they were informed of the meeting. A project-specific comment sheet was also provided for members of the public to provide written comments they would like to share about the project (**Completed Comments in Appendix B**).

Attendees were then directed toward the project displays, maps, and screens for further information from staff and consultants about the project. 9 general stations were set up for the meeting.

6 stations were identical in that each table showcased a TV screen set up to show the project study area (PSA) dynamically utilizing Google Earth software. This platform allowed staff to show the proposed bridge design alternatives as well as the surrounding properties and local landmarks. Each screen highlighted key features of the project including current digital imagery, current and proposed bridge conditions, construction limits, survey data, and property lines. A copy of the plan set was also provided at each table as a supplemental tool.

One station held three displays of each bridge alternative being proposed. These static displays highlighted key features of the project including current digital imagery, existing and proposed pavement, existing and proposed right of way, existing and proposed bridge structure, multiuse path placement, and property lines. Project team members were assigned to each display station to provide an oral overview of the project, further explain the proposed alternatives, answer questions and receive input and comments from the community stakeholders in attendance at the meeting.

One station was created specifically for noise and the associated study that was conducted. This table had a display explaining the noise study completed for the project as well as information about SCDOT's noise policy. A project team member was assigned to the table to explain the purpose of the noise study, how it was conducted, the subsequent results, and how those results impact the project going forward.

The last station was centered in the room and contained the comment boxes for members of the public to write their comments about the project as well as provide their demographic surveys.

Security was contracted through the Santee Conference Center using the Orangeburg county sheriff's department. The conference center scheduled one officer to be stationed at the meeting facility from 5:00pm to 7:00pm.

### Public Meeting Feedback

Conversations between the public and design staff focused predominantly on the proposed bridge designs and the various alternatives being presented. Several individuals expressed concerns over the plans for the US 301 bridge wanting the bridge to remain open to the public for walking, biking, fishing, and other activities. Staff was able to answer several questions about the noise study that was conducted as well as alleviate concerns that a toll over I-95 was being implemented. A few landowners expressed right of way concerns along Bass Drive. SCDOT right-of-way agents were in attendance and provided plan sets of the 30% design to aid in conversations with attendees. Overall people supported the project and were anxious to see it completed.

After attendees reviewed the display maps, they were given the opportunity to complete a comment sheet either while at the meeting or mail/email their comments to SCDOT by **June 16, 2023**.

### Public Meeting Attendance

A total of **212** community members, not including SCDOT staff and consultants, attended the I-95 Bridge Replacements over Lake Marion PIM held at Santee Conference Center on Thursday, June 1, 2023. One media outlet attended the meeting. Of the 212 attendees who signed in, 40 submitted written comments during the meeting and 31 submitted completed demographic survey forms. The tallied results of the demographic surveys are attached in **Appendix B**.

### Written Comments

As mentioned earlier, the attendees were given the option to provide written comments regarding the project and were given the opportunity to submit their comments at the meeting or submit comments via mail, email or the SCDOT website by June 16, 2023. A total of thirty-eight (38) written comments were received to date as a result of the Public Involvement Meeting held on June 1, 2023. All forty of the comments were submitted prior to the June 16, 2023 deadline date. Additionally, seventeen (17) comments were received prior to the deadline date and were submitted via the project website. There were also fourteen (14) comments that were emailed directly to the project manager. Lastly, eight (8) comments were received via USPS mailed directly to the project manager.

- Comment Sheets Submitted at the Public Meeting: **38**
- Comments Submitted via Project Website: **17**
- Comments Submitted via Email: **14**
- Comments Submitted via USPS: **8**

After the completion of the project meeting held on June 1, 2023. A petition was submitted to SCDOT on behalf of the residents of Clarendon and Orangeburg Counties who requested that SCDOT repair, renovate, and reopen the bridge for US Highway 15 and US 301 over Lake Marion with full access to commercial and non-commercial traffic. They also objected to the PIM format that was held saying that it was not fully transparent or accessible to everyone. This petition was signed by **238** people.

### Total Written Comments Received: 315

Please see the attached Excel spread sheet, **Appendix C**, listing of all comments received as a result of the PIM from the various sources specified above.

### Responses Made to Public Comments

Due to the large number of comments received and the similar topics of comment, SCDOT decided that a newsletter style response would be most beneficial to the public so that all questions could be answered

in a singular location with all response recipients having access to the same information. This newsletter is included in **Appendix C** and as either emailed or mailed to comment submitters.

## **Appendix A: Pre-meeting Documentation**

- **Public Involvement Plan**
- **Public Information Meeting Advertisements**
- **Public Information Meeting Materials**

The Interstate 95 (I-95) Bridge Replacements over Lake Marion Public Involvement Plan (PIP) details strategies and tools to be used so members of the public will receive key information about the project and have opportunities to provide meaningful input on decisions that will affect their community. This plan was developed to be consistent with the SCDOT public involvement policy. This PIP is a dynamic document that can be adapted to incorporate new or varying approaches as the project evolves.

The goals of this PIP include building trust with the local community to best engage them as the project is developed; informing the public of project decisions and updates, and identifying potential concerns and impacts of the project.

### Project Description

The South Carolina Department of Transportation (SCDOT) proposes to replace four bridges along I-95 over Lake Marion in Clarendon and Orangeburg Counties. This includes the large two-lane northbound and southbound bridges over Lake Marion and the smaller two-lane northbound and southbound relief bridges over the lake. The Lake Marion relief bridges provide an overflow for Lake Marion to the north of an existing causeway. Additionally, the replacement of the existing I-95 Lake Marion southbound vehicular bridges would include the construction of a new two-way pedestrian and bicycle facility. The adjacent existing US 301 pedestrian bridge is proposed for demolition at this time.

Demolition related to the I-95 structures and adjacent in-water structures would include removal of the existing northbound and southbound I-95 bridges once the new structures are complete. Additionally, abandoned in-water wooden pilings to the west of the current I-95 bridges and east of the US 301 bridge, would be removed.

The purpose of the project is to maintain connectivity and a safe interstate facility for the traveling public along I-95 over Lake Marion.

### Demographics and Outreach Areas

The Environmental Protection Agency Environmental Justice (EJ) Screening tool was used to determine demographic data from an area within a one half-mile radius of the proposed project. Based on a desktop review and preliminary site visit, EJ populations exist within the PSA. An outreach area has been analyzed and includes the Towns of Santee, Vance, Elloree, and Summerton (Clarendon County). SCDOT will provide additional correspondence to targeted groups in these municipalities to ensure larger organizations such as colleges, faith-based organizations, municipalities, and civic organizations are aware of potential project impacts and can provide meaningful feedback.

**Table 1. EPA EJ Screening Tool Results (1/2-mile buffer including 733 residents)**

Identifier	Project Study Area	Statewide Average
Minority population	36 %	36 %
Low-income population	41 %	35 %
Over Age 64	44 %	17 %



## Project Website

SCDOT developed and maintained a project website that was routinely updated as new project information was available. The website currently includes a project description, purpose and need, schedule, mapping, project updates, and comment/contact information.

## Additional Engagement

An informational flyer, containing a QR code link to the project website, was distributed to the stakeholder list, nearby hotels, and rest areas.

## Public Meeting

A public information meeting was held on June 1, 2023. Project materials included large displays of the project improvements, digital monitors containing project displays and dynamic data files, handout, comment form, sign-in sheets, and interior building directional signage. Materials were submitted to SCDOT for review at least 30 days in advance of the meeting. CECS provided all necessary materials, with the exception of metal road signs placed at least 15 days prior to the meeting date.

### Public Meeting Goals:

- Provide the public opportunities to review the proposed project, ask questions, and provide feedback
- Maintain conformance with:
  - SCDOT Public Involvement Policy for NEPA Compliance (February 2015)
  - Memorandum Request to Supplement SCDOT’s Public Involvement Policy for NEPA Compliance (November 16, 2020)
  - 36 CFR 800 (Protection of Historic Properties)
  - 23 Code of Federal Regulations (CFR) § 771.111 (Early coordination, public involvement, and project development)

### Proposed and Secured Location (and distance from project site):

- Santee Convention Center – 1731 Bass Drive Santee, SC 29142 (3.3 miles)

### Proposed Potential Date:

- June 1, 2023, \*this was the final date used for the meeting.\*

### In-Person Format:

Staffed welcome desk with: meeting sign-in sheets, comment forms, Demographic Survey Forms, handout, project directional signage. Meeting room to include tables with comment sheets, displays, and chairs.

Large-scale project displays to include:

- Large roll plot of plan view of bridge
- Alternatives shown on six digital displays

**Virtual Format:**

15 days prior to meeting, post all materials on the Project Website to include:

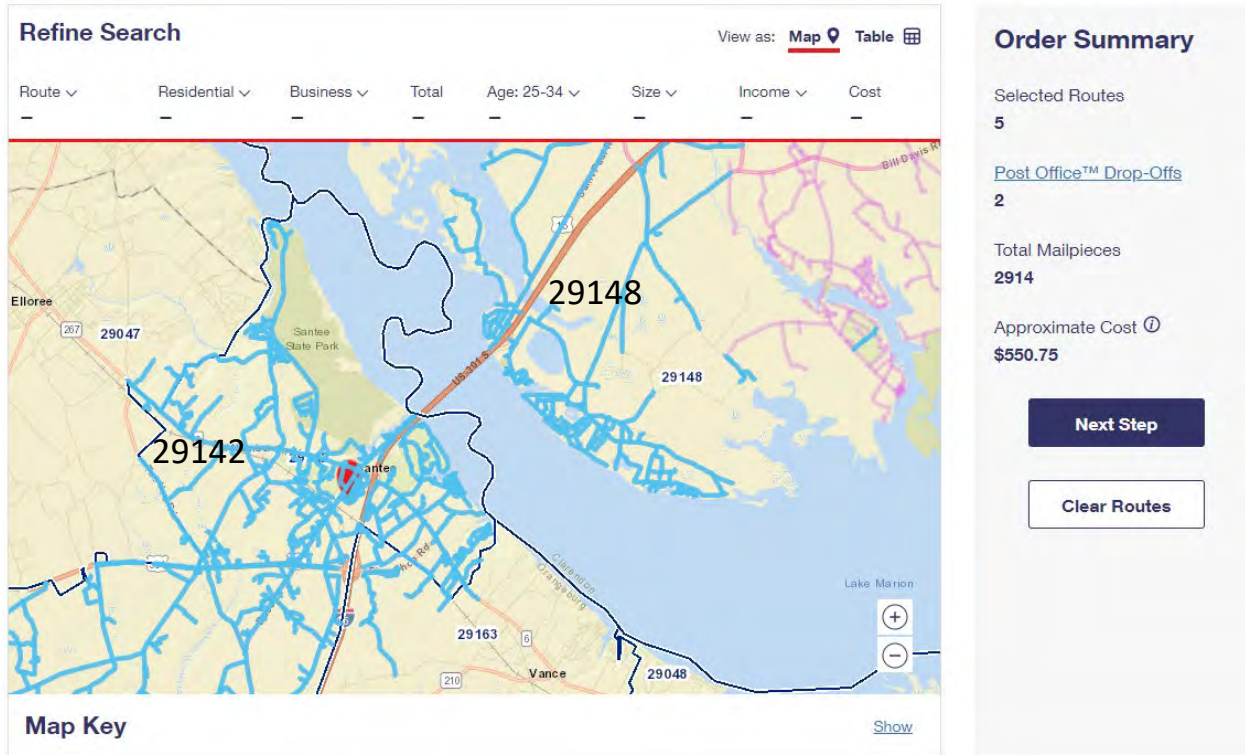
- Project Overview
- Purpose and Need
- Funding
- Schedule
- Alternatives
- Right-of-way Process
- Comment Form, Contact Info

**Tentative Public Involvement Schedule:**

Public Involvement Activity	Date**
Approve Public Involvement Plan	March 31, 2023
Secure Meeting Facility	April 17, 2023
Fill Out and Submit Website Request Form to Jeff Craver	April 17, 2023
Order SCDOT Meeting Signs Through Maintenance Office (Syrees)	April 17, 2023
Obtain Security	April 17, 2023
Add Meeting to ESO Calendar	April 17, 2023
CECS to submit meeting materials to SCDOT	April 21, 2023
Submit Additional Stakeholders’ Email Addresses To Public Involvement Director For Distribution (if applicable)	May 12, 2023
Website approved to “Go Live”	May 12, 2023
Approval Of Meeting Material	May 12, 2023
Meeting Material Sent To Jeff Craver To Be Added To Website	May 12, 2023
Postcard/flyer in postal mail sent by CECS	May 12, 2023
Submit “Notice of Project For Comment” To SCDOT Public Portal Page	May 16, 2023
Staffing Confirmed to Include Translator, if applicable	May 17, 2023
SCDOT website live	May 17, 2023
SCDOT metal sign shop signs placed	May 17, 2023
E-mail to elected officials and stakeholders sent by SCDOT	May 17, 2023
Press release sent by SCDOT	May 17, 2023
Comment period begins	May 17, 2023
Meeting date	June 1, 2023
Scan Meeting Materials (sign-in sheets, comment, and demographic forms)	June 2, 2023
Send Title VI info to SCDOT Public Involvement Team	June 2, 2023
Comment period ends	June 16, 2023
Remove website from public comment web page	July 3, 2023
Tabulate visits to website and distribute comments to team	July 3, 2023
Metal signs removed	July 3, 2023
Respond to Comments Received if Requested	July 14, 2023

**Notifications:**

Every Door Direct mailing to all postal routes included approximately 2,950 locations. Applicable routes include: 29142-001 (651 postcards) 29142-002 (597 postcards), 29142-003 (692 postcards), 29142-004 (228 postcards), and 29148-002 (731 postcards).



CECS prepared postcards and coordinated mailing through designated printing office (Arc Document Solutions and USPS).

CECS provided local business and stakeholders with a flyer for posting that contained public meeting information and a QR code to the project website.

**Other notifications (all provided by SCDOT):**

SCDOT Website

Road signs (SCDOT sign shop; SCDOT to verify advance notice/lead time on sign printing)

SCDOT Elected Officials Email List

**Tentative Team Day-of Schedule:**

- 3:00 pm Place exterior and interior directional signs, setup meeting room (CECS)
- 4:15 pm Project Team Discussion (all)
- 4:30 pm All materials in place in case of early arrivals
- 5:00 – 7:00 pm Informal meeting, general Q/A

Public Meeting Contacts:

Name	Phone
Brad Reynolds, PE, Project Manager, SCDOT	803-737-1440
Will McGoldrick, Program Manager, ESO, SCDOT	803-737-3005
John Hartland, PE, Project Manager, Transystems	813-517-0214
Kally McCormick, Environmental Manager, CECS	843-696-7348
Santee Convention Center site contact	803-854-2152 ext. 221
Orangeburg County, Deputy	803-531-4647
Right of Way Agent	SCDOT

Other Public Meeting Staff:

Name	Organization
Shane Belcher	FHWA
Sandra Saint-Surin	FHWA
Alternative Delivery Staff	SCDOT
Peter Strub	Transystems
Carter Hopkins	Transystems
Walker Roberts	Transystems
Matt Reker	Transystems
Josh Bauer	Transystems
Amanda Harris	CECS
Asha Wallace	CECS
District personnel	SCDOT

Public Meeting Materials:

Item	Responsibility	Number
Meeting handouts	CECS	300
Comment forms	CECS	300
Demographic Survey Forms	CECS	300
Meeting sign-in sheets	CECS	30
Welcome signs	CECS	1
On-site directional signs (exterior)	CECS	6
On-site directional signs (interior)	CECS	6
Laptop	CECS	3
Backup flash drive with all meeting materials	CECS	3
Nametags	CECS	As-needed
Roll plot display boards	CECS	1 set
Digital monitor displays	CECS	3
Comment box	CECS	2
Pens, pencils	CECS	30
Sharpies	CECS	5
Door stoppers	CECS	3
Painters tape	CECS	1

# Interstate 95 Bridge Replacements Over Lake Marion P041130



Public Involvement Plan

Updated 8/7/2024

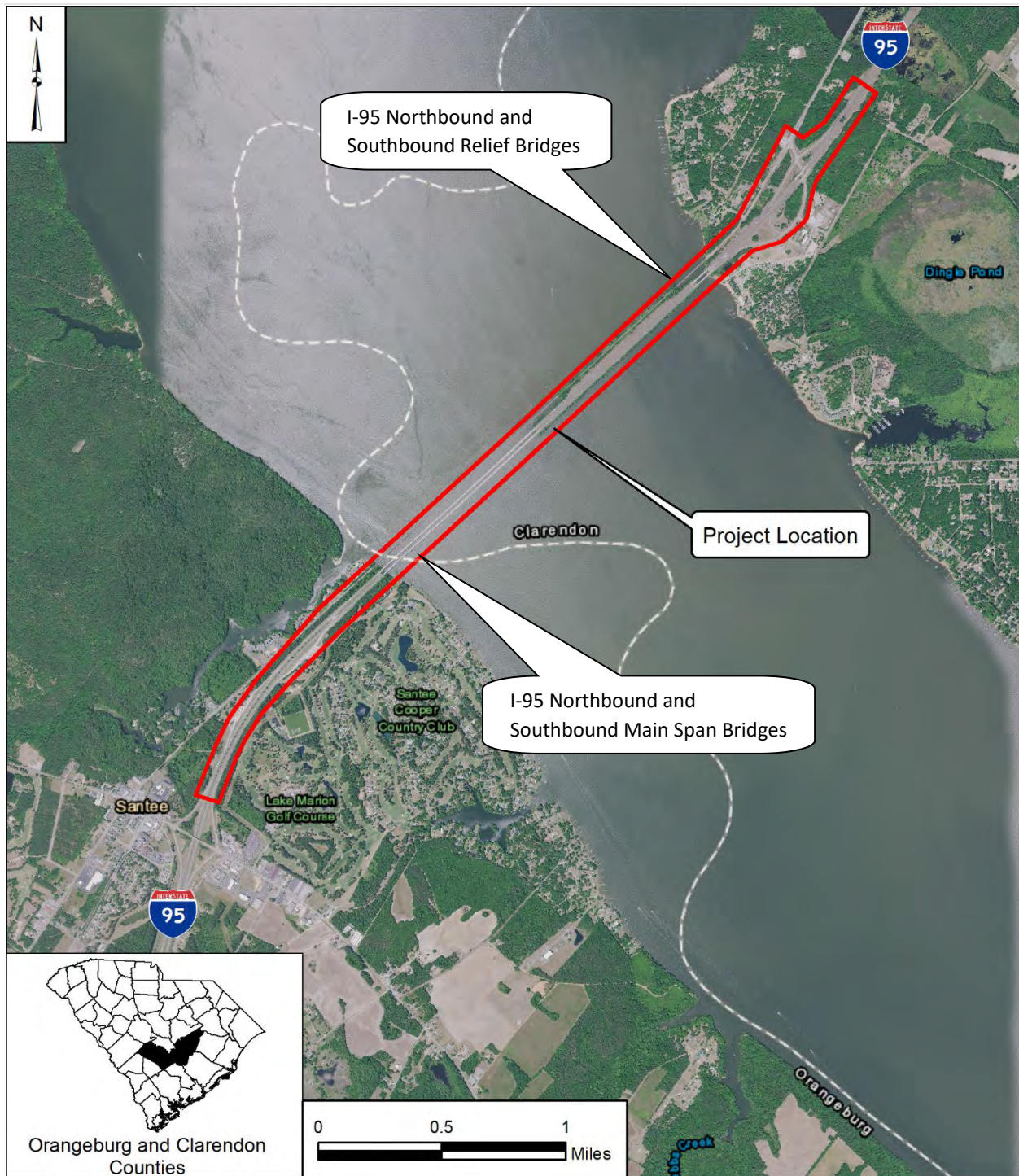
Item	Responsibility	Number
Duct tape	CECS	1
Scissors	CECS	1
Push pins	CECS	Box
Large binder clips	CECS	Box
Hand sanitizer	CECS	2 bottles
Disposable masks	CECS	1 box
Cleaning wipes	CECS	Box
Easels	CECS	12
First Aid Kit	CECS	1
Staff snacks/ water	CECS	30



Attachment A:

Location Maps







Attachment B:

Potential Stakeholders

Organization	Address		Phone	Email
<b>Education</b>				
Claflin	400 Magnolia St.	Orangeburg, SC 29115	(800) 922-1276	
SC State	300 College Street NE	Orangeburg, SC 29117	(800) 260-5956	
Morris College	100 West College St.	Sumter, SC 29150	(803) 934-3200	
Orangeburg Tech	3250 St Matthews Road	Orangeburg SC 29118	803-536-0311	
Orangeburg County School District	102 Founders Court	Orangeburg, SC 29118	(803) 534-5454	
Clarendon County School District	15 Major Drive	Manning, SC 29102	803) 435-4435	
<b>Transportation</b>				
SC Trucking Association	2425 Devine Street	Columbia SC 29205	803-799-4306	info@sctrucking.org
Greyhound bus	710A Buckner Road	Columbia, SC 29203	(803) 569-6522	
Cross County Connector	1437 Amelia Street	Orangeburg, SC 29115	(803)-533-1000	
<b>Emergency Services</b>				
Regional Medical Center	3000 St Matthews Road	Orangeburg, SC 29118	(803)-395-2200	
EMS Providers	Various			
<b>Municipal, County, and Regional Governments</b>				
Orangeburg County	1437 Amelia Street	Orangeburg, SC 29115	(803) 531-1302	
Clarendon County	411 Sunset Dr	Manning, SC 29102	(803)-435-8424	
Town of Santee	194 Brooks Blvd	Santee, SC 29142	(803) 854-2152	
Town of Summerton	10 Main Street	Summerton, SC	(803) 485-2525	
Orangeburg Lower Savannah Council of Governments	PO Box 850	Aiken, SC 29802	(803)649-7981	info@lscog.org
Santee Lynches Regional Council of Governments	2525 Corporate Way, Ste 200	Sumter, SC 29154	(803)-775-7381	
<b>Business</b>				
Orangeburg County Development Corporation	125 Regional Parkway, Ste 100	Orangeburg, SC 29115	803-536-0333	
Orangeburg County Chamber of Commerce	PO Box 328 155 Riverside Drive, SW	Orangeburg, SC 29116-0328	(803) 534-6821	
SC African American Chamber of	2001 Assembly Street	Columbia, SC 29201	(803) 661-0655	



# Interstate 95 Bridge Replacements Over Lake Marion P041130



## Public Involvement Plan

Updated 8/7/2024

Commerce – local chapter				
SC Hispanic Chamber of Commerce – Local	PO Box 1057	Taylors, SC 29687	(864) 643-7261	
Charleston Hispanic Association	216 Savannah Hwy, Suite B	Charleston, SC 29414	843-592-3666	
Club Wyndham	401 Bass Drive	Santee, SC 29142	(803) 974-9902	Mark.laws@wyn.com
Clark's	114 Bradford Blvd,	Santee, SC 29142	(803) 531 9658	
Captain's Quarters	9053 Old Number Six Hwy	, Santee, SC 29142	(803) 854 4695	
Cracker Barrel	250 Britain St	Santee, SC 29142	(803) 854 3020	
Santee Seafood Bistro	648 Bass Dr	Santee, SC 29142	(803) 854 4840	
I-95 Bar and Grill	820 Bass Dr	Santee, SC 29142	(843) 901 2062	
China Dragon	160 plaza circle	Santee, SC 29142	(803)854 3895	
M&M Country Eatery	504 Bass Dr	Santee, SC 29142	(803) 974 0052	
Waffle House	8915 OLD 6 HWY	Santee, SC 29142	(803) 854 3311	
Huddle House	9047 Old Number Six Hwy	Santee, SC 29142	(803) 854 2220	
McDonalds	8409 Old Number Six Hwy	Santee, SC 29142	(803) 854 2634	
Lake House	5321 Dingle Pond Rd	Summerton, SC 29148	(803) 478 3686	
Hampton Inn	9060 Old Number Six Hwy	Santee, SC 29142	(803) 854 2444	
Rodeway Inn	123 Mall St	Santee, SC 29142	(803) 854 2191	
Fairfield Inn	9074 Old Number Six Hwy	Santee, SC 29142	(803) 854 7070	
Holiday Inn	139 Bradford Blvd	Santee, SC 29142	(803) 854 9800	
Baymont Suites	249 Britain St	Santee, SC 29142	(803) 854 3221	
Best Western	9059 Old Number Six Hwy	, Santee, SC 29142	(803) 854 3089	
Royal Inn	8929 Old Number Six Hwy	Santee, SC 29142	(803) 854 7075	
Lake Marion Inn	628 Bass Dr	, Santee, SC 29142	(803) 854 2525	
Santee Cooper Country Club	9069 Old Number Six Hwy	Santee, SC 29142	(803) 854 2467	
Santee National Golf Club	8636 Old Number Six Hwy	Santee, SC 29142	(803) 854 3531	
Lake Marion Golf Course	9069 SC-6	Santee, SC 29142	(803) 854 2554	
Lake Marion Golf Villa	102 Bogey Boulevard	Santee, SC 29142	(800) 344 6534	
<b>Civic</b>				
Orangeburg County Council on Aging	2570 St Matthews Road NE,	Orangeburg, SC 29118	(803) 531 4663	
Clarendon Council on Aging Seniors, Inc.	1 N Dukes St	Summerton, SC 29148	(803) 485-8115	
<b>Miscellaneous</b>				
Palmetto Shores RV Resort	5215 Dingle Pond Rd	Summerton, SC 29148	(803) 478-6336	
Santee Cooper Country Tourism	9302 Old Number Six Hwy	Santee, SC 29142	(803) 854-2131	jpowell@ntinet.com
<b>Agencies</b>				
SC DHEC, Bureau of	8500 Farrow Road Building	Columbia, SC 29147	(803) 898-4300	hightocw@dhec.sc

# Interstate 95 Bridge Replacements Over Lake Marion P041130



Public Involvement Plan

Updated 8/7/2024

Water	12			.gov
USACE	69 Hagood Ave	Charleston, SC 29412	(893) 329-8000	Amanda.L.heath@usace.army.mil
USFWS	176 Croghan Spur Road Ste 200	Charleston, SC 29407	(843) 727-4707	mark_caldwell@fws.gov
SCDNR	1000 Assembly Street	Columbia, SC 29201	(803) 734-3893	daviss@dnr.sc.gov
FHWA	1835 Assembly Street	Columbia, SC 29201	(803) 253-3187	Jeffrey.belcher@dot.gov
USFWS	176 Croghan Spur Road, Suite 200	Charleston, SC 29407	843-300-0413	Melanie_olds@fws.gov
NOAA	263 13th Avenue South	St. Petersburg, FL 33701	727-824-5367	andrew.herndon@noaa.gov
Santee Cooper				
EPA	61 Forsyth St, SW	Atlanta, GA 30303	(404) 562-96-20	Laycock.kelly@epa.gov
SC Department of Agriculture	1550 Henley St.	Orangeburg, SC 29115	(803) 928-8934	george.hicks@sc.usda.gov
SHPO	8301 Parklane Road	Columbia, SC 29223	(803) 896-6196	ejohnson@scdah.sc.gov
<b>Churches:</b>				
Mt Zion AME Church	Old number six Hwy,	Elloree, SC 29047	n/a	
Jericho United Methodist Church	11 Houcks Gin Rd,	Cameron, SC 29030	803 823 2935	
Mt Olive AME Church	4630 Old State Rd,	Holly Hill, SC 29059	803 496 3700	
Rock Hill AME Church	405 Rock Hill Rd,	Vance, SC 29163	803 496 7020	
Fellowship of Praise Church	8280 Old Number Six Hwy,	Santee, SC 29142	803 854 2298	
Elloree United Methodist Church	501 W Barkley St,	Elloree, SC 29047	803 897 2015	
First Baptist Church	6208 Old Number Six Hwy,	Elloree, SC 29047	803 897 2773	
Trinity Lutheran Church	390 E Hampton St,	Elloree, SC 29047	803 897 2668	
Shiloh AME Church	2902 W Cleveland St,	Elloree, SC 29047	803 897 3491	
St Pauls Baptist Church	2917 W Cleveland St,	Elloree, SC 29047	803 897 3008	
Jerusalem United Methodist Church	7361 SC-6,	Elloree, SC 29047	803 897 3040	
Mt Hebron Baptist Church	7566 Old Number Six Hwy,	Santee, SC 29142	n/a	
Parlerville Church	241 Partridge Run Rd,	Santee, SC 29142	n/a	
Granger Baptist Church			n/a	
Saluda Baptist Church	1485 State Rd S-38-81,	Elloree, SC 29047	n/a	
Felderville AME Church	1081 Woolbright Rd,	Elloree, SC 29047	803 897 2183	
Oak Grove Baptist Church	Cotton Road,	Santee, SC 29142	n/a	
Providence Baptist	320 Mt Olive Rd,	Santee, SC 29142	803 496 5994	

# Interstate 95 Bridge Replacements Over Lake Marion P041130



Public Involvement Plan

Updated 8/7/2024

Church				
Santee Presbyterian Church	306 Bradford Blvd,	Santee, SC 29142	803 854 4329	
Shephard's Field Christian Center	106 Veronica Dr,	Santee, SC 29142	n/a	
New Direction Community Church	9271 Old Number Six Hwy,	Santee, SC 29142	n/a	
Santee Bible Baptist	9750 Old Number Six Hwy,	Santee, SC 29142	803 854 2622	
New Calvary Church of our Lord	468 Macon Rd,	Vance, SC 29163	803 492 8487	
Hope Lutheran Church	10154 SC-6,	Vance, SC 29163	803 492 8419	
Mt. Calvary Holiness Church	2112 Dingle Pond Rd,	Summerton, SC 29148	803 478 8510	
Historic Santee AME Church	1045 Dingle Pond Rd,	Summerton, SC 29148	n/a	
Oaks AME Church	2928 Oaks Rd,	Summerton, SC 29148	n/a	
Bethlehem Baptist Church	4319 Rowe Dr,	Summerton, SC 29148	803 478 5519	
Liberty Hill AME Church	2310 Liberty Hill Rd,	Summerton, SC 29148	n/a	
Greater St Phillip RMUE Church	4574 Old River Rd,	Pinewood, SC 29125	803 478 8979	
St Phillip UME Church	1458 St Phillip Ume Church Rd	Pinewood, SC 29125 n/a	n/a	
St Pauls Holiness Church	2917 Liberty Hill Rd	Summerton, SC 29148	n/a	
Summerton Baptist Church	16 Cantey St	Summerton, SC 29148	803 485 4593	
First Summerton Church of God	1087 State Rd S-14-804	Summerton, SC 29148	843 723 9757	
Macedonia Church of God by Faith	25 Mazyck Road	Summerton, SC 29148	803-983-9707	
Shilo Missionary Baptist Church	16 Mazyck St,	Summerton, SC 29148	803-485-3601	
St Matthias' Church	9 N Dukes St	Summerton, SC 29148	803-485-2504	
St Mary Catholic Church	12 Cantey Street	Summerton, SC 29148	n/a	
<b>Elected Officials</b>				
SCDOT List				

Attachment C – Environmental Justice Screening Report



**EJScreen Report (Version 2.0)**



0.5 miles Ring around the Area, SOUTH CAROLINA, EPA Region 4

Approximate Population: 733

Input Area (sq. miles): 5.20

Lake Marion







**EJScreen Report (Version 2.0)**



0.5 miles Ring around the Area, SOUTH CAROLINA, EPA Region 4

Approximate Population: 733

Input Area (sq. miles): 5.20

Lake Marion

Selected Variables	Value	State Avg.	%ile in State	EPA Region Avg.	%ile in EPA Region	USA Avg.	%ile in USA
<b>Pollution and Sources</b>							
Particulate Matter 2.5 ( $\mu\text{g}/\text{m}^3$ )	7.42	7.74	26	8.18	17	8.74	19
Ozone (ppb)	33	37.3	16	37.9	17	42.6	6
2017 Diesel Particulate Matter* ( $\mu\text{g}/\text{m}^3$ )	0.144	0.211	32	0.261	<50th	0.295	<50th
2017 Air Toxics Cancer Risk* (lifetime risk per million)	30	31	85	31	80-90th	29	80-90th
2017 Air Toxics Respiratory HI*	0.4	0.42	75	0.4	70-80th	0.36	80-90th
Traffic Proximity (daily traffic count/distance to road)	33	52	58	430	24	710	17
Lead Paint (% Pre-1960 Housing)	0.029	0.14	31	0.15	33	0.28	22
Superfund Proximity (site count/km distance)	0.017	0.092	13	0.083	25	0.13	14
RMP Facility Proximity (facility count/km distance)	0.095	0.45	18	0.6	18	0.75	14
Hazardous Waste Proximity (facility count/km distance)	0.18	1	24	0.62	44	2.2	27
Underground Storage Tanks (count/km <sup>2</sup> )	0.97	2.6	51	3.5	48	3.9	45
Wastewater Discharge (toxicity-weighted concentration/m distance)	7.3	0.47	99	0.45	99	12	97
<b>Socioeconomic Indicators</b>							
Demographic Index	38%	36%	60	37%	59	36%	61
People of Color	35%	36%	57	39%	53	40%	53
Low Income	41%	35%	64	35%	63	31%	70
Unemployment Rate	5%	6%	52	6%	52	5%	54
Linguistically Isolated	0%	1%	61	3%	51	5%	45
Less Than High School Education	10%	12%	50	13%	49	12%	56
Under Age 5	7%	6%	68	6%	68	6%	65
Over Age 64	44%	17%	98	17%	97	16%	98

\*Diesel particulate matter, air toxics cancer risk, and air toxics respiratory hazard index are from the EPA's 2017 Air Toxics Data Update, which is the Agency's ongoing, comprehensive evaluation of air toxics in the United States. This effort aims to prioritize air toxics, emission sources, and locations of interest for further study. It is important to remember that the air toxics data presented here provide broad estimates of health risks over geographic areas of the country, not definitive risks to specific individuals or locations. Cancer risks and hazard indices from the Air Toxics Data Update are reported to one significant figure and any additional significant figures here are due to rounding. More information on the Air Toxics Data Update can be found at: <https://www.epa.gov/haps/air-toxics-data-update>.

For additional information, see: [www.epa.gov/environmentaljustice](http://www.epa.gov/environmentaljustice)

# Proposed Interstate 95 Bridge Replacements over Lake Marion

Santee, SC

Clarendon and Orangeburg Counties

## Public Information Meeting

### Project:

The South Carolina Department of Transportation (SCDOT) proposes to replace the four bridges along I-95 over Lake Marion in Clarendon and Orangeburg Counties. This includes the long two-lane northbound and southbound bridges over the main channel of Lake Marion and the shorter two-lane northbound and southbound relief bridges over the lake. Two 12-foot travel lanes would be provided in both the southbound and northbound directions. Space would also be provided for a potential future additional travel lane in each direction. A 10-foot minimum inside shoulder (shoulders may be wider due to staging requirements) and 12-foot outside shoulder would be provided in each direction. Additionally, there would be a barrier separated 14-foot shared use path for pedestrians and bicyclists on the southbound side only. The adjacent, existing US 301 bridge that was recently rehabilitated is not an element of this project.

### Meeting:

A public information meeting will be held on June 1, 2023 from 5:00 P.M. to 7:00 P.M. at the Santee Conference Center at 1737 Bass Drive, Santee, SC 29142. The meeting will have a drop-in format with displays for viewing, informational handouts, and comment forms. Project information, including meeting materials and comment forms, will also be available on the SCDOT project website <https://scdotgis.online/i95bridgesoverlakemarion>. A formal presentation will not be given at this time, nor will formal verbal comments be taken. Attendees are encouraged to ask questions and provide written comments regarding the proposed improvements.

### Purpose:

The purpose of this public meeting is to provide an opportunity to review and discuss individually, with representatives from the SCDOT, the proposed bridge replacements. Another purpose of the meeting will be to gather local knowledge from the public or any interested organizations regarding historic or cultural resources in the area. The meeting will also provide an opportunity to review and comment on any potential Section 4(f) resources. Section 4(f) of the U.S. Department of Transportation Act protects park and recreation sites when federal funds are used for a project. The purpose of the project is to maintain connectivity and a safe interstate facility for the traveling public and provide safe access for pedestrians and cyclists over Lake Marion.

### Contact:

Additional information concerning the project may be obtained by contacting the SCDOT Project Manager Mr. Brad Reynolds at 803-737-1440. Persons who may require special accommodations may contact Betty Gray at 803-737-1395 or [GrayB@scdot.org](mailto:GrayB@scdot.org).

South Carolina Department of Transportation



# NOTICE OF PUBLIC INFORMATION MEETING

## SCDOT Interstate 95 Bridge Replacements over Lake Marion Clarendon and Orangeburg Counties

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**Date:** June 1, 2023

**Time:** 5:00 PM – 7:00 PM

**Location:** Santee Conference Center  
1737 Bass Drive  
Santee, SC 29142

Please visit our website for more information regarding the proposed project:  
<https://scdotgis.online/i95bridgesoverlakemarion>

Or visit: <http://www.scdot.org> and click on the Public Involvement Portal.

Comments will be accepted from  
5/18/2023 until 6/16/2023

Please contact SCDOT Project Manager **Mr. Brad Reynolds** at 803-737-1440 or  
[ReynoldsBS@scdot.org](mailto:ReynoldsBS@scdot.org) for questions or to request additional information.



Persons who may require special accommodations may contact Betty Gray at  
803-737-1395 or [GrayB@scdot.org](mailto:GrayB@scdot.org).

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# I-95 Over Lake Marion Bridge Replacements Public Information Meeting

June 1, 2023 - 5pm to 7pm

Santee Conference Center

1737 Bass Drive Santee, SC 29142



## Project Study Area



## Project Overview

SCDOT proposes to replace the four bridges along I-95 over Lake Marion in Clarendon and Orangeburg Counties. This includes the long two-lane northbound and southbound bridges over the main channel of Lake Marion and the shorter two-lane northbound and southbound relief bridges over the lake. Two 12-foot travel lanes would be provided in both the southbound and northbound directions. Space would also be provided for a potential future additional travel lane in each direction. A 10-foot minimum inside shoulder (shoulders may be wider due to staging requirements) and 12-foot outside shoulder would be provided in each direction. Additionally, there would be a barrier separated 14-foot shared use path for pedestrians and bicyclists on the southbound side only. The adjacent existing US 301 bridge that was recently rehabilitated is not an element of this project

## Notice

The South Carolina Department of Transportation (SCDOT) is hosting a drop-in style Public Information Meeting for the I-95 Bridge Replacements over Lake Marion project. This informal meeting offers a chance to speak with project staff and view project information. No formal presentation will be given. An additional purpose of the meeting is to gather local knowledge from the public or organizations regarding historic or cultural resources. The meeting will also provide an opportunity to review and comment on any potential Section 4(f) resources. Section 4(f) of the U.S. Department of Transportation Act protects park and recreation sites when federal funds are used for a project.

Please visit our website for more information regarding the proposed project: <https://scdotgis.online/i95bridge-soverlakemarion>

Or visit: <http://www.scdot.org> and click on the Public Involvement Portal.

Please contact SCDOT Project Manager Mr. Brad Reynolds at 803-737-1440 or [ReynoldsBS@scdot.org](mailto:ReynoldsBS@scdot.org) for questions or to request additional information.

Persons who may require special accommodations may contact Betty Gray at 803-737-1395 or [GrayB@scdot.org](mailto:GrayB@scdot.org).



# Public Information Meeting

## I-95 Over Lake Marion Bridge Replacements

June 1, 2023 - Santee Conference Center

### Project Study Area



### Welcome

The South Carolina Department of Transportation (SCDOT) welcomes you to the Public Information Meeting for the I-95 Bridge Replacements over Lake Marion project. This informal meeting offers a chance to speak with project staff and view project information. No formal presentation will be given. The purpose of the meeting is to provide an opportunity for the community, stakeholders, and interested persons to review and comment on the proposed improvements. An additional purpose of the meeting is to gather local knowledge from the public or organizations regarding historic or cultural resources. The meeting will also provide an opportunity to review and comment on any potential Section 4(f) resources. Section 4(f) of the U.S. Department of Transportation Act protects park and recreation sites when federal funds are used for a project.



### Project Overview

SCDOT proposes to replace the four bridges along I-95 over Lake Marion in Clarendon and Orangeburg Counties. This includes the long two-lane northbound and southbound bridges over the main channel of Lake Marion and the shorter two-lane northbound and southbound relief bridges over the lake. Two 12-foot travel lanes would be provided in both the southbound and northbound directions. Space would also be provided for a potential future additional travel lane in each direction. A 10-foot minimum inside shoulder (shoulders may be wider due to staging requirements) and 12-foot outside shoulder would be provided in each direction. Additionally, there would be a barrier separated 14-foot shared use path for pedestrians and bicyclists on the southbound side only. The adjacent existing US 301 bridge that was recently rehabilitated is not an element of this project.



# Alternatives

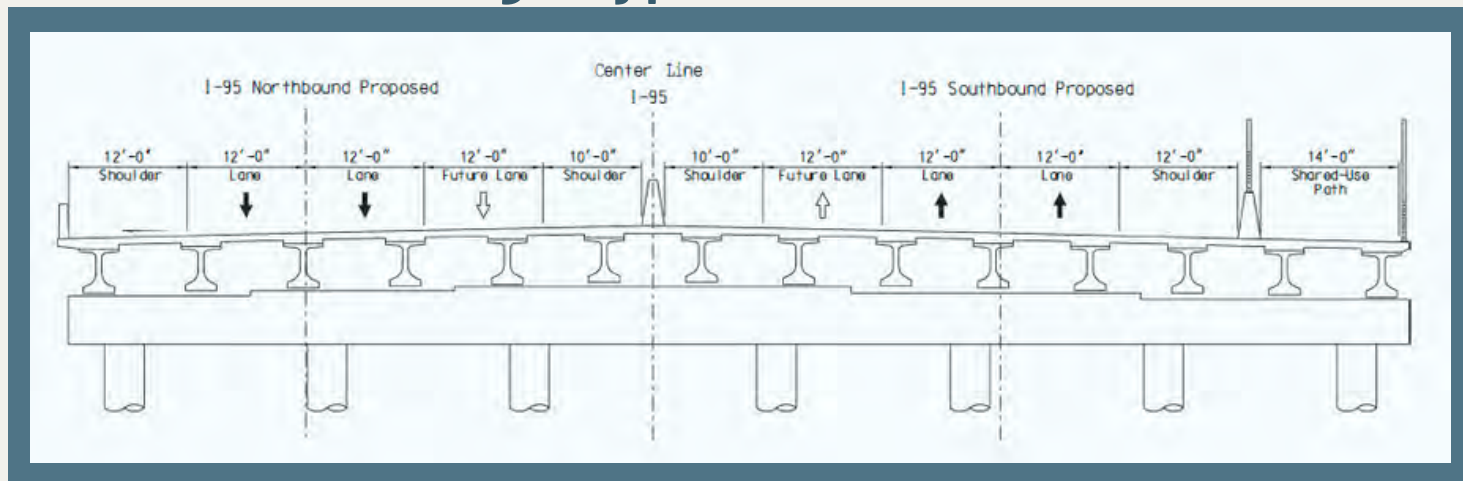


The three alternatives differ in their relative location to the existing bridge alignments:

- **Alternative A**  
Would primarily be constructed between the two bridges.
- **Alternative B**  
Would primarily be constructed just west of the existing bridges.
- **Alternative C**  
Would primarily be constructed just east of existing bridges, towards Lake Moultrie.

As new structures are built, traffic would be shifted and the old structures would be removed.

## Bridge Typical Section



## Summary of Environmental Impacts

	No Build	Alternative A	Alternative B	Alternative C
Jurisdictional Open Water Impacts (acres)	0	0.9	2.1	1.2
American wood stork Shortnose sturgeon Bald Eagle	No	May affect, not likely to adversely affect		
Relocations	0	0	0	0
Total Cost*	\$0.00	\$259,000,000	\$256,700,000	\$229,300,000

No impacts to right of way, cultural resources, parks/ recreation areas, and noise. No detour is anticipated.

\*Estimated preliminary costs do not include variable factors such as potential inflation. Per the Statewide Transportation Improvement Program, the total project budget is \$332 million. (<https://www.scdot.org/inside/planning-stip.aspx>)



# Project Purpose and Need

The purpose of the project is to maintain connectivity and a safe interstate facility for the traveling public and provide safe access for pedestrians and cyclists over Lake Marion.



**Funding:** The project is financed using Federal and State funds



**Schedule:** Construction begins in 2025



**Progress:** Environmental surveys completed in late 2023



**Duration:** Construction phase of approximately 3 years



**Traffic:** A detour is not proposed for construction.

## Comments

We encourage you to provide written comments on the forms provided so we may have a record of your suggestions for our consideration. SCDOT appreciates your attendance and strongly encourages you to provide input regarding this project in one of the following ways:

- Complete the comment form and place it in the comment box provided
- Email comments to: ReynoldsBS@scdot.org
- Mail comments to: Mr. Brad Reynolds – SCDOT 955 Park Street, Columbia SC, 29201

### Comments will be accepted through June 16, 2023

Please visit our website for more information regarding the proposed project:

<https://scdotgis.online/i95bridgesoverlakemarion>

Progress updates for this project can also be found here:

<https://www.scdot.org/business/design-build.aspx>

#### Title VI Compliance

SCDOT complies with all nondiscrimination requirements set forth by the Federal regulations issued by the U.S. Department of Transportation under Title VI of the Civil Rights Act of 1964, as amended. Any person who believes that he or she has been discriminated against because of race, color, religion, sex, age, handicap or disability or national origin under a program receiving Federal Aid has the right to file a complaint with SCDOT. The complaint should be filed with the Title VI Program Compliance Coordinator at the Office of Business Development and Special Programs, 955 Park Street, Suite 117, Columbia, SC 29202 or at (803) 737-5095. The complaint should be submitted no later than 180 days after the date of the alleged act of discrimination. It should outline as completely as possible the facts and circumstances of the incident; and should be signed by the person making the complaint.





# SCDOT PUBLIC MEETING DEMOGRAPHIC SURVEY

## INTERSTATE 95 BRIDGE REPLACEMENTS OVER LAKE MARION

### JUNE 1, 2023

Completing this form is strictly voluntary and anonymous. You are not required to provide the information requested in order to participate in this meeting. Completing this form will only assist SCDOT with our Title VI data collection, and also improve the way we serve our public.

All forms will remain on file at SCDOT

<p><b>County Name:</b> Clarendon and Orangeburg</p> <p><b>Street Address:</b> 1737 Bass Drive Santee, SC 29142</p>	<p><b>Gender:</b> <input type="checkbox"/> Male <input type="checkbox"/> Female <input type="checkbox"/> Non-binary</p>
<p><b>Total Household Income:</b></p> <p><input type="checkbox"/> Less than \$12,000      <input type="checkbox"/> \$47,000 – \$69,999</p> <p><input type="checkbox"/> \$12,000 – \$19,999      <input type="checkbox"/> \$70,000 – \$93,999</p> <p><input type="checkbox"/> \$20,000 – \$30,999      <input type="checkbox"/> \$94,000 – \$117,999</p> <p><input type="checkbox"/> \$31,000 – \$46,999      <input type="checkbox"/> \$118,000 or greater</p>	<p><b>Age Group:</b></p> <p><input type="checkbox"/> Less than 18      <input type="checkbox"/> 45-64</p> <p><input type="checkbox"/> 18-29      <input type="checkbox"/> 65 and older</p> <p><input type="checkbox"/> 30-44</p>
<p><b>Did You Request Special Accommodations For This Meeting?</b></p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p>	<p><b>Do You Have a Disability?</b></p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p>
<p><b>Race/Ethnicity You Identify As:</b></p> <p><input type="checkbox"/> White</p> <p><input type="checkbox"/> Black/African American</p> <p><input type="checkbox"/> Asian</p> <p><input type="checkbox"/> American Indian/Alaskan Native</p> <p><input type="checkbox"/> Native Hawaiian/Pacific Islander</p> <p><input type="checkbox"/> Hispanic/Latino/Spanish</p> <p><input type="checkbox"/> Other (please specify): _____</p>	<p><b>How Did You Hear About This Meeting?</b></p> <p><input type="checkbox"/> Mailing</p> <p><input type="checkbox"/> Internet</p> <p><input type="checkbox"/> Facebook</p> <p><input type="checkbox"/> School Handout</p> <p><input type="checkbox"/> Faith Based Organization</p> <p><input type="checkbox"/> Flyer</p> <p><input type="checkbox"/> Newspaper</p> <p><input type="checkbox"/> Postcard</p> <p><input type="checkbox"/> Newspaper</p> <p><input type="checkbox"/> Radio Advertisement</p> <p><input type="checkbox"/> Local News</p> <p><input type="checkbox"/> Community Organization</p> <p><input type="checkbox"/> Road Sign</p> <p><input type="checkbox"/> Other (please specify): _____</p>
<p><b>“What is Title VI? According to the Civil Rights Act, Title VI prohibits discrimination on the basis of race, color, national origin, sex, age, and disability.”</b></p>	

Thank you for your participation!

## **Appendix B: Public Information Meeting Documents**

- **Sign In Sheets**
- **Written Public Comments**
- **Completed Demographic Surveys**
  - **Demographic Pie Charts**
  - **Comment Excel Sheets**

# Interstate 95 Bridge Replacements over Lake Marion Public Information Meeting

## SIGN-IN SHEET

DATE: June 1, 2023

TIME: 5:00 - 7:00 PM

MEETING LOCATION: Santee Conference Center

PLEASE PRINT

Name	Address	Zip Code
VOU & KAREN HARPMAN	610 SANTEE DR, SANTEE	29142
JIM CYNTHIA	1407 SCOTT LAKE RD	29148
Harvey & Myrna Belser	3496 Princess Pond Rd	29148
MAX & Jung M. Cormick	3282 Francis Marion Blvd	29148
Franki Johnson	258 BARCELONA DR Santee	29142
Greg & Anne Kelien	1087 Scott Lake Rd Summerton	29148
Ralph & Dianne Beckm	1644 Princess Trace Summerton	29148
Dave & Deborah Lambert	1192 Double Pond Dr Summerton	29148
Donnie C. Bain	136 - GREEN ST. Santee SC	29142
A. S. Hayson	1084 GATOR DR Summerton	29148

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# Interstate 95 Bridge Replacements over Lake Marion

## Public Information Meeting

### SIGN-IN SHEET

DATE: June 1, 2023

TIME: 5:00 - 7:00 PM

MEETING LOCATION: Santee Conference Center

PLEASE PRINT

Name	Address	Zip Code
Margaret Still	1139 Crescent St Summerton SC	29148
Donna Faucette	249 Ballard Lane Santee SC	29142
Mike Faucette	249 Ballard Lane Santee SC	29142
Olivia Hughes (Olivia Hughes)	2228 Princess Pond Summerton SC	29148
Charles Marsh	6475 Liberty Hill Rd, Summerton	29148
Gabe Pinter	107 Santee Cooper Ave Santee	29142
Reven Patel	249 Brittain, St Santee, SC	29142
Paul & Sandy Darr	383 Ballard Ln, Santee, SC	29142
DeLany P. Clal	324 Broad River Dr Santee	29142
Garnette Buckhalter	324 BROAD RIVER DR, S.C.	29142

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# Interstate 95 Bridge Replacements over Lake Marion

## Public Information Meeting

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PLEASE PRINT

Name	Address	Zip Code
Roger LeBeau	1084 BRIDGEVIEW LN Summerton	29148
Sheryl Coker	1095 Scott Lake Rd Santee SC	29148
Lois Nichols	1185 Krissy St Summerton	29148
Charles T. P... ..	1185 KRissy St Summerton	29148
Melanie Turner (In Lake Home)	5321 Dingle Pond Rd, Summerton	29148
Rebecca Battle Bryant	3198 Princess Pond Rd, Summerton	29148
Deborah + Mike Darnell	1878 Princess Pond Rd, Summerton	29148
Aron Bivik	1076 DAVIS DR SUMMERTON SC	29148
Dean & Emily Lamoraco	141 Acorn Lane Santee	29142
Kirk & April McMahon	1144 Princes Trace Cir Summerton	29148

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PLEASE PRINT

Name	Address	Zip Code
Jim FLANAGAN	401 BALCANO LANE Santee	29142
GUY BUCK	1190 BRIDGEVIEW LN Summerton	29148
Mike McCully	1214 Bridgeview Ln Summerton	29048
Clara Nelson	1140 Edward Nelson Lane Summerton	29148
Julie R. Resnick	1032 Ackerman Dr Summerton SC 29148	29148
Howard Smith	1306 Bonner ave santee SC	29142
Wanda Smith	3513 Francis Marion Court	29148
Robert + Soves	1165 Cooper Lane Summerton SC 29148	29148
Aime + Brooke Fischio	1428 Scott Lake Rd Summerton SC	29148
Paul + Cynthia	1112 Bridgeview Ln Bl04 SC	29148

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Name	Address	Zip Code
Craig Epphus	315 Santee Dr, Santee	29142
Cindy Douglas	1040 Sanoree Dr Santee	29142
Thomas Blaszyk	1055 Santee Dr Santee	
Pat Blaszyk	1055 Santee Dr Santee	
Michelle & Shawn Malone	2179 PRINCESS ROAD, SUMMERTON	29148
Furman & Susan Denmark	2438 Petr A Rd Murrells	29102
Marsha M. Bull	6531 Jewel Chap Rd Santee SC	29142
Johnny Renevell	127 Kevin Dr Santee SC	29142
Gregory King	246 Boo Circle, Santee, SC	29142
GERRY SCOPAS	229 GREEN ST	29142

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Name	Address	Zip Code
Enoch Nelson	1140 Edward Nelson Lane	29148
Angie Jordan	1129 Lakeside DR. Manning	29102
Van Siewicki	314 Israel River Dr	29142
Cole Dantzer	2532 Princess Pond Rd, Summerton	29148
Judy Ball	137 Doran Lane Santee SC	29142
Tessa Corbett	1443 Scott Lake Rd. Summerton	29148
David + Georganne Kirven	1060 Beaveridge Rd. Wedgefield	29168
MARK MUNKITTRICK	1050 CHAPEL BR RD Santee	29142
Granita M. Keller	2133 Felderville Rd. Santee, SC	29142
David Shumpert	1034 Maragart Pr. Summerton	29148

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PLEASE PRINT

Name	Address	Zip Code
Charlotte & Wayne McGowan	1106 Crescent St. Summerton, SC	29148
Sherley P Small	P.O. Box 1202 Santee SC 29142	→
Ch. Roberts	310 Dek Howard Dr Santee	29142
Eileen + Edgar Thompson	197 BALLARD Ln Santee, SC	29142
Grace + Robert Langara	540 Plantation Drive, Santee, SC	29142
Ozella Vail	1356 Bonner Ave Santee SC	29142
D. Payne	P.O. Box 1391 Summerton, SC	29148
David Epperson Church Co. Administrator	411 Sunset Dr. Manning SC 29102	
Frederick R Gooden	PO Box 1036 Santee, SC 29142	29142
DRAYTON BRYANT	3198 PRINCESS ROAD 29148	

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Name	Address	Zip Code
VIREN PATEL	9112 Old Number Six Hwy Santee	29142
Margaret Postlewaite	11 Hickory Landing Ct. Ellerbe	29047
Ronald Edreese	229 Bay Road Pawesville	29133
John Casper - Archer Westwood	1021 Beinegon Drive Columbus	29210
James L. Williams	1432 Princess Trace Circle	29148
Jessie M Williams	" " " "	"
Meredith P. O'Neil	3254 Francis Marion University	29148
Deanne D. Hilliard	406 Chapel Creek Dr, Santee, SC	29142
Branne A Hilliard	" " " "	
William Little	168 Sailfish Ct Santee	29142

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PLEASE PRINT

Name	Address	Zip Code
Billy L. Malley	1034 Margery Dr.	29142
Theo Goins	1109 Keenan rd Summation	29148
Bhai Hilliard	338 Dalhurst Holly Hill	29059
PARREN SERGEANT	1936 PRINCESS POWD RD <sup>SUMM</sup>	29148
Michele Jordan-Hunter	117 Wateree Drive Santee	29142
Dustin Hunter	" "	29142
Mark Lester	1102 Ralph Counts Rd. Little Mtn 29075	29075
Yana K. Mathis	1136 Lori Lu Manning, SC	29102
Lyle W. Davis	17241 Charleston Hwy Obry, SC	29115
John + Amy Weishaar	303 Santee Dr, Santee	29142

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Name	Address	Zip Code
ALFRED Risher	1061 Blue Bird Ct, Summerton, SC	29148
Bernie + Cathy Goot	PO BOX 265 Santee	29142
Lee Redd	2757 Princess Pond Rd	29148
Debbie + John Gabe	3866 Nelsons Ferry Rd Summerton	29148
Chad + Albergotti	1223 Princess Pond Rd Summerton	29148
James + Donna Patterson	3687 Princess Pond Rd Summerton	29148
Larry Grimsley	2097 Dingle Pond Summerton	29148
Thom + Branda Wicker	1998 Bridgeview Ln. Summerton	29148
Laura + Bobby Bryant	3342 Princess Pond Rd Summerton	29148
Rev Dorothy S. White	7019 Live Chop Rd. Santee SC	29142

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Name	Address	Zip Code
Kristie Anderson	Kristie @ SC Lakelife <sup>5465 Old #6 Hwy</sup> Elloree SC	29047
<del>James Brunson</del>	<del>James Brunson</del>	
17	1487 W HITCHCOCK SUMMERTON	29148
Rose Ann Infinger	1035 Cricket Circle Manning SC	29150
Danny Whitley	Summerton S.C	29145
Eddie Gleaton	1043 AUTUMN LN. SUMMERTON SC	29148
DEBRA GLEATON	1043 AUTUMN LN SUMMERTON SC	29148
Roger Jaegers	P.O. Box 627 Summerton, SC. 29148	
Kent + Susan Vienmeau	1399 Prince's Trace Circle	29148
JAMES T. MURRAY, SR	105 COOPER, CIR, SANTEE	29142

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Name	Address	Zip Code
John + Cindy Senno	1256 Summerford Dr Marion	29102
Holly + Chip Hussey	1154 Bridgeview Lane Summerton	
Big + Neil Junt	129 Ballard Lane	29142
Paul Johnson	2414 Francis Marion Summerton	29143
Jerry Stresh	6425 Liberty Hill Rd, Summerton	29148
John + Joanie Pinter	107 Santee Cooper Ave	29142
Mark C. S. Gil	3554 FRANK ISMARION SUMMERTON	29148
Roy + Barbara Witherspoon	3655 Princess Pond Road Summerton	29148
Scott Clark	468 Santee Dr Santee	29142
Ben + Amanda McGroven	5215 DINGLE POND RD SUMMERTON SC	29148

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Name	Address	Zip Code
CONNIE KORNATHRENS	1412 PRINCE TRACE CIR	29148
Scott Lockwood	118 BRITAIN MAGNOLIAS OF Santee	29142
Rick ATKINSON	22 South CANEY ST SUMMERTON	29148
Gloria Maxwell	1847 Scott Lake Rd. Summerton	29148
Margaret Nernu	228 Jullien St.	29142
Sital Patel	5236 DINGLE POND RD	29148
Patricia Clark	1025 moultrie Dr. Santee	29142
Sheena Hartfield	1226 Bridge view Ln. Summerton	29148
JOHN RACH	118 COOPER DR	29142
Kevin Garlick	181 River Run Dr. VANCE	

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BILL CLARK	1025 MOULTRIE DR SANTEE SC	29142
Jesse Thomas	2738 Francis Marion Dr Summerton, SC	29148
EUGENE GEHRY	5236 DINGLE POND RD.	29148
John Anderson	5465 Old Number Six Ell Oree	29047
Elm Roston	461 Santee Dr.	29801
John Adams	450 SANTEE DR	29142
Julie Wells	1257 St Peter Lane Summerton <sup>SC</sup>	29148
Cornelius Hall	132 Keweenaw Dr.	29142
Michael Bruce	1689 Scottlake Rd	29148
Timothy Evens Jr.	988 Bonner Ave Santee, SC	29142

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Name	Address	Zip Code
Jane Powell	1263 Hurland Rd Summerville	29148
ANTHONY DEALOIA	8460 Old #6 Hwy Santee SC	29142
Jerry & JoAnne WATSON	1694 Sertt Lake Rd	29148
DWIGHT STEWART	11 S. Cantey Summerville	29148
David + Kelli Willison	261 Ballard Ln Santee, SC	29142
Shane Ravenell	467 Ruby Way, Holly Hill SC	29059
Cardacia Jamison	152 Newton Rd.	29142
Linda W Bantz	660 Pickett Lane L Rd Ellerbe	29047
GENE Baa	138 Doron Ln Santee	29142
Patti & Tom Tafrow	2622 Princess Pond Rd	2622

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Name	Address	Zip Code
Laverne White	3326 Dingle Pond Rd Summerton SC	29148
Paul Oliver	211 CECILIA M Santee	29142
Beverly Stroma	101 Ballard Lane Santee	29142
William Irick	9060 old #6 Highway	29142
Mary Ann Clark	3253 old state rd Santee SC	29142
Ted Creech	955 Park St., Coler <del>29261</del>	29201
Charles Hatfield	277 N. CHARLOT ST 2061X MANNING SC	29102
Linda Wood	424 Santee Dr Santee SC	29142
Jingua Deal & David Beal	1183 Scott Lake Rd, Summerton	29148
Joe Goodwin	339 Weds Cove, Santee SC	29142

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Name	Address	Zip Code
Barbara A Murray	127 Mazze Dr Santee SC	29142
Therese Murray	127 Mazze Dr Santee SC	29142
Mr & Mrs Marion C. Harmon	136 Thames Circle, Santee, SC	29142
Gene Scarborough	319 Green St. Santee, SC	"
Merica Elmore Horton	183 Ballard Ln	29142

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# Interstate 95 Bridge Replacements over Lake Marion Public Information Meeting

## SIGN-IN SHEET

DATE: June 1, 2023

TIME: 5:00 - 7:00 PM

MEETING LOCATION: Santee Conference Center

PLEASE PRINT

Name	Address	Zip Code
<i>Robert A. Smith</i>	<i>205 W. WOODHAY ST - Santee</i>	<i>29142</i>
<i>Jim Porth</i>	<i>126 Manigold Rd. Orangeburg</i>	<i>29115</i>
<i>Petey Browder</i>	<i>1718 Cleveland St Ellerbe</i>	<i>29047</i>
<i>Mike Rizzi</i>	<i>1075 Crescent St Sumner</i>	<i>29148</i>
<i>KEITH GRICE</i>	<i>1194 Sportsman Dr. Manning</i>	<i>29102</i>
<i>John Horton</i>	<i>Santee</i>	<i>29142</i>

\*\*NOTE: Information provided, including names and addresses, is subjected to disclosure under the Freedom of Information Act.

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# Interstate 95 Bridge Replacements Over Lake Marion Public Meeting Comment Sheet

Thursday, June 1, 2023

Santee Conference Center

1737 Bass Drive, Santee, SC 29142

Project information is available at <https://scdotgis.online/i95bridgesoverlakemarion>

## NAME

Mr.  Mrs.  Ms.  Mr & Mrs, Other  Eileen Thompson  
(Please choose/circle)

MAILING ADDRESS 197 BALLARD LN SANTEE SC 29142  
Street/Route City State Zip Code

PHONE NUMBER 717-870-8923 EMAIL: STONEBROKE-ADELPHIA1@COMCAST.NET

COMMENTS (please print) Consideration needs to be made  
to installing a sound barrier on the south bound  
side along Bass Drive. Noise has already increased  
since they cut back some of the trees.

Mail Comments to:

Mr. Brad Reynolds, PE  
Project Manager, SCDOT  
955 Park Street Columbia, SC 29201  
Or email to: ReynoldsBS@scdot.org



**Note:** Written comments will be reviewed, provided a response, and incorporated into the official public meeting file. Information provided, including name and address will be published and is subject to disclosure under the Freedom of Information Act. **Comments will be accepted through June 16, 2023.**

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**NAME**

Mr, Mrs, Ms, Mr & Mrs, Other

ROGER JOWERS

(Please choose/circle)

**MAILING ADDRESS**

P.O. Box 627

Summerton

SC

29148

Street/Route

City

State

Zip Code

**PHONE NUMBER**

803840-0767

**EMAIL:**

RJOWERS@FTC-I.NET

**COMMENTS (please print)**

I propose ALTERNATIVE C with the  
Third Bridge being saved for future travel in the  
event that any disaster made the new bridges  
unusable. The emergency use bridge would be a  
vital asset to cross Lake Marion until repairs or  
other measures taken to restore full travel.  
Thank you for the foresight of additional shoulder  
to reduce fatalities from accidents on narrow bridge!

Mail Comments to:

Mr. Brad Reynolds, PE

Project Manager, SCDOT

955 Park Street Columbia, SC 29201

Or email to: ReynoldsBS@scdot.org



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**NAME**

Mr, Mrs, Ms, Mr & Mrs, Other  
(Please choose/circle)

Paul & Sandy Jarvis

**MAILING ADDRESS**

383 Ballard Ln Santee SC 29142

Street/Route

City

State

Zip Code

**PHONE NUMBER**

6303467333

**EMAIL:**

pauljarvis69@hotmail.com

**COMMENTS (please print)**

Our preference is for ALTERNATE C  
OR A. The farther away from the  
residential area the better

**Mail Comments to:**

**Mr. Brad Reynolds, PE**  
**Project Manager, SCDOT**  
**955 Park Street Columbia, SC 29201**  
**Or email to: ReynoldsBS@scdot.org**



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**NAME**

Mr, Mrs Ms, Mr & Mrs, Other Joanie Pinter  
(Please choose/circle)

**MAILING ADDRESS** 107 Santee Cooper Ave Santee SC 29142  
Street/Route City State Zip Code

**PHONE NUMBER** 803 535-8593 **EMAIL:** supermimi@retiret.com

**COMMENTS (please print)**

Good for a change  
Use most cost effective means to do the  
project.

**Mail Comments to:** Mr. Brad Reynolds, PE  
Project Manager, SCDOT  
955 Park Street Columbia, SC 29201  
Or email to: ReynoldsBS@scdot.org



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NAME

Mr.  Mrs.  Ms.  Mr & Mrs.  Other  
(Please choose/circle)

JAMES P FLANAGAN

MAILING ADDRESS

401 BALLARD LANE Santee SC 29142

Street/Route

City

State

Zip Code

PHONE NUMBER

631-384-1160

EMAIL:

POFFASSJ@GMAIL.COM

COMMENTS (please print)

MR. Mc GLODRICK WAS OUTSTANDING, ANSWERING

ALL MY QUESTIONS WITH CLARITY. HE WAS PITHY

IN HIS EXPLANATIONS & HAD AN HONEST AIR ABOUT HOW

BIG CONCERNS - 1) PLEASE DON'T TAKE BASS DRIVE - WE LIVE  
IN BPI

2) NO TOLLS FOR LOCALS TO CROSS LAKE

3) SOUND BARRIERS ON BASS DR FOR HIGHWAY  
NOISE

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Mr. Brad Reynolds, PE

Project Manager, SCDOT

955 Park Street Columbia, SC 29201

Or email to: ReynoldsBS@scdot.org



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**NAME**

Mr, Mrs, Ms, Mr & Mrs, Other  
(Please choose/circle)

*Melanie Turner - The Lake House Restaurant*

**MAILING ADDRESS**

*5321 Dingle Pond Rd, Summerton, SC 29148*

Street/Route City State Zip Code

**PHONE NUMBER**

*803.478.3686*

**EMAIL:**

*me.mckenna@upho.com*

*Cell*

*\* 828.550.2833*

*or lakehouse@lakemarion@gmail.com*

**COMMENTS (please print)**

*\* option C is definitely best Option!*

*Please*

**Mail Comments to:**

**Mr. Brad Reynolds, PE**  
**Project Manager, SCDOT**  
**955 Park Street Columbia, SC 29201**  
**Or email to: ReynoldsBS@scdot.org**



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**NAME**

Mr, Mrs, Ms, Mr & Mrs, Other  
(Please choose/circle)

*Art & Marlene Beckin*

**MAILING ADDRESS**

*3254 Francis Marion Blvd Summerville*

Street/Route City State Zip Code

**PHONE NUMBER**

*803 478 4140*

**EMAIL:**

**COMMENTS (please print)**

*We do not like the idea  
for people to walk, Fish, Ride bikes  
on a road with truck, ETC flying by  
@ 80+ we have gofers (sp) That is  
why we have so many accidents  
with people slowing down to just see  
Lake. Keep old 301 bridge  
Open*

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Project Manager, SCDOT  
955 Park Street Columbia, SC 29201  
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**NAME**  Mr, Mrs, Ms /  Mr & Mrs, Other Laverne White  
(Please choose/circle)  
**MAILING ADDRESS** P.O. Box 1301 Santee SC 29145  
Street/Route City State Zip Code  
**PHONE NUMBER** 803 707-8751 **EMAIL:** lavernejamison@yahoo.com

**COMMENTS (please print)** \_\_\_\_\_  
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**Mail Comments to:** Mr. Brad Reynolds, PE  
Project Manager, SCDOT  
955 Park Street Columbia, SC 29201  
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NAME

Mr, Mrs, Ms, Mr & Mrs, Other  
(Please choose/circle)

MICHAEL C. BILGER

MAILING ADDRESS

3534 FRANCIS MARION BLVD

Street/Route

City

State

Zip Code

PHONE NUMBER

803 825 2637

EMAIL:

MICHAEL.BILGER@GMAIL

COMMENTS (please print)

THE OLD 301 BRIDGE NEED TO STAY  
AS REC'S FISHING SUPPORTED BY THE STATE. OPTION  
A IS MY-OUR VOTE. THE OTHER CONSIDERATION  
IS NATIONAL DEFENSE. NEED A BYPASS NEAR  
TO THIS POINT. DRIVE THE ROUND ABOUTS.  
SHOW TWO LANES.

Mail Comments to:

Mr. Brad Reynolds, PE  
Project Manager, SCDOT  
955 Park Street Columbia, SC 29201  
Or email to: ReynoldsBS@scdot.org



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NAME

Mr, Mrs, Ms, Mr & Mrs, Other  
(Please choose/circle)

0 Rose Ann Infinger

MAILING ADDRESS

210 Winn Street Sumter SC 29150  
Street/Route City State Zip Code

PHONE NUMBER

803 883-1301

EMAIL:

rosehud61053@gmail.com

COMMENTS (please print)

I would hope that if funding is provided through federal grants, with a portion from our State funds the public will totally be informed. We are totally for the bridge as long as in the future the bridge is not a toll bridge.

Many meetings or presentations should be held to keep the taxpayers for cost. I prefer option # C. Cost of existing bridges.

Should have been a presentation to a seated audience in this conference room.

Mail Comments to:

Mr. Brad Reynolds, PE  
Project Manager, SCDOT  
955 Park Street Columbia, SC 29201  
Or email to: ReynoldsBS@scdot.org



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**NAME**

Mr./Mrs, Ms, Mr & Mrs, Other  
(Please choose/circle)

David + Kelli Willison

**MAILING ADDRESS**

261 Ballard Rd Santee SC 29142

Street/Route

City

State

Zip Code

**PHONE NUMBER**

843 6969057

**EMAIL:**

d99jw@yahoo.com

**COMMENTS (please print)**

After reviewing the options  
I prefer option C. Its the  
cheapest and maintains a dedicated  
pedestrian bridge.

**Mail Comments to:**

**Mr. Brad Reynolds, PE**

**Project Manager, SCDOT**

**955 Park Street Columbia, SC 29201**

**Or email to: ReynoldsBS@scdot.org**



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**NAME**

Mr, Mrs, Ms, Mr & Mrs, Other  
(Please choose/circle)

John Anderson

**MAILING ADDRESS**

5465 Old Number Six Elloree SC 29047

Street/Route

City

State

Zip Code

**PHONE NUMBER**

803 387-9451

**EMAIL:**

Jrussellanderson@gmail.com

**COMMENTS (please print)**

I am in favor of Alternative 'C'

The independent walking bridge is part of our local culture.  
Thank for presenting and caring enough to let us  
give feed back.

**Mail Comments to:**

**Mr. Brad Reynolds, PE  
Project Manager, SCDOT  
955 Park Street Columbia, SC 29201  
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**NAME**

Mr, Mrs, Ms, Mr & Mrs, Other  
(Please choose/circle)

*Ronald Edwards*

**MAILING ADDRESS**

*229 Bay Road*      *Rowsville*      *SC*      *29139*  
Street/Route      City      State      Zip Code

**PHONE NUMBER**

*803-662-0225*

**EMAIL:**

**COMMENTS (please print)**

*Put a toll Booth on each  
side.*

**Mail Comments to:**

**Mr. Brad Reynolds, PE  
Project Manager, SCDOT  
955 Park Street Columbia, SC 29201  
Or email to: ReynoldsBS@scdot.org**



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**NAME**

Mr, Mrs, Ms, Mr & Mrs, Other  
(Please choose/circle)

Maria / John Neff

**MAILING ADDRESS**

2657 Princess Pond Rd Summerton SC

Street/Route

City

State

Zip Code

**PHONE NUMBER**

340 398 7926

**EMAIL:**

marigneff181965@gmail.com

**COMMENTS (please print)**

Since Santee being the half point of the country from NYC to Florida, would love to see this bridge like an icon attraction to many travelers, visitors across the country, and to add cable columns and beautiful lights around.  
make it happen 😊

Mail Comments to:

Mr. Brad Reynolds, PE  
Project Manager, SCDOT  
955 Park Street Columbia, SC 29201  
Or email to: ReynoldsBS@scdot.org



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**NAME**

Mr, Mrs, Ms, Mr & Mrs, Other  
(Please choose/circle)

Mike + Terrey Streach

**MAILING ADDRESS**

6475 Liberty Hill Rd Summerton SC 29148  
Street/Route City State Zip Code

**PHONE NUMBER**

803 316 2832  
803 464 5382

**EMAIL:**

mpstreach1955@gmail.com  
termar001@gmail.com

**COMMENTS (please print)**

NO TOLL PLAZAS

This meeting sucked. I was expecting a presentation. I feel we only got pieces of answers.

Let me know when you have a real meeting!

Mail Comments to:

Mr. Brad Reynolds, PE  
Project Manager, SCDOT  
955 Park Street Columbia, SC 29201  
Or email to: ReynoldsBS@scdot.org



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**NAME**

Mr, Mrs, Ms, Mr &  Mrs Other  
(Please choose/circle)

Tricia Beal

**MAILING ADDRESS**

1183 Scott Lake Rd, Summerton SC 29148

Street/Route

City

State

Zip Code

**PHONE NUMBER**

843-345-4078

**EMAIL:**

tricia.beal@gmail.com

**COMMENTS (please print)**

Best option is Alternative C. This is the lowest cost.

It also keeps the pedestrian bridge separate from

the Interstate. This is safer (no vehicles flying by

at 80 mph), this would also keep the community

feel to the pedestrian walkway.

**Mail Comments to:**

**Mr. Brad Reynolds, PE**  
**Project Manager, SCDOT**  
**955 Park Street Columbia, SC 29201**  
**Or email to: ReynoldsBS@scdot.org**



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NAME

Mr, Mrs, Ms, Mr & Mrs, Other  
(Please choose/circle)

ROBERT HENKICH

MAILING ADDRESS

205 W. WISCONSIN CT Santee SC 29142

Street/Route

City

State

Zip Code

PHONE NUMBER

803-974-9990

EMAIL

robert.henkich@scdot.org

COMMENTS (please print)

PEDIGIAN ALLOW TO WALK THE BRIDGE  
WE ALLOW TO PASS BIKES ACROSS THE BRIDGE  
WE ALLOW TO GET FROM THE BRIDGE AGAIN.

Mail Comments to:

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Project Manager, SCDOT  
955 Park Street Columbia, SC 29201  
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**NAME**

Mr., Mrs, Ms, Mr & Mrs, Other GENE SCARBOROUGH  
(Please choose/circle)

**MAILING ADDRESS** 319 GREEN STREET SANTEE SC 29142  
Street/Route City State Zip Code

**PHONE NUMBER** 803-854-3429 **EMAIL:** NESSCARBJR@AOL.COM

**COMMENTS (please print)**

Very encouraged to see this. I prefer the "ONE" BRIDGE PLAN.  
I'm a former bridge bike rider & look forward to riding & walking  
the bridge in the future.  
Go for it!  
Thank you!

**Mail Comments to:**

**Mr. Brad Reynolds, PE  
Project Manager, SCDOT  
955 Park Street Columbia, SC 29201  
Or email to: ReynoldsBS@scdot.org**



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NAME

Mr, Mrs, Ms, Mr & Mrs, Other  
(Please choose/circle)

Petey Browder

MAILING ADDRESS

Street/Route

City

State

Zip Code

PHONE NUMBER

757

EMAIL:

773-6732

COMMENTS (please print)

①

I think the separate bicycle  
ped. bridge will be safer.

Kennel is comparable - but it's  
NOT I-95 nor does it have the 18  
wheel trucks

Mail Comments to:

Mr. Brad Reynolds, PE  
Project Manager, SCDOT  
955 Park Street Columbia, SC 29201  
Or email to: ReynoldsBS@scdot.org



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**NAME**

Mr, Mrs, Ms, Mr & Mrs, Other  
(Please choose/circle)

Kent Vienneau

**MAILING ADDRESS**

1399 Prince's Trace Circle Summerton 29148  
Street/Route City State Zip Code

**PHONE NUMBER**

508 294 2593

**EMAIL:**

suehaggie@yahoo.com

**COMMENTS (please print)**

Will access to the rest areas be affected  
by the construction ei - equipment, parking etc.

Mail Comments to:

Mr. Brad Reynolds, PE  
Project Manager, SCDOT  
955 Park Street Columbia, SC 29201  
Or email to: ReynoldsBS@scdot.org



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**NAME**

Mr, Mrs, Ms, Mr & Mrs, Other ARUN RIVERK  
(Please choose/circle)

**MAILING ADDRESS** 1076 DAVIS DR SUMMERTON SC 29148  
Street/Route City State Zip Code

**PHONE NUMBER** 803 4788501 **EMAIL:** ARUN.RIVERK@YAHOO.COM

**COMMENTS (please print)** AS A TAX PAYER OPINION C

**Mail Comments to:** Mr. Brad Reynolds, PE  
Project Manager, SCDOT  
955 Park Street Columbia, SC 29201  
Or email to: ReynoldsBS@scdot.org



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**NAME**

Mr, Mrs,  Ms, Mr & Mrs, Other  
(Please choose/circle)

Flora-ther Murray

**MAILING ADDRESS**

Po Box 549 127 Mozzie Drive Santee SC 29142

Street/Route

City

State

Zip Code

**PHONE NUMBER**

843-906 4991

**EMAIL:**

flora-ther.murray@yahoo.com

**COMMENTS (please print)**

1. Parking

2. Safety

3. Fishing

4. walking

5. Safety Lane

Great Presentation and Presenter

**Mail Comments to:**

**Mr. Brad Reynolds, PE**

**Project Manager, SCDOT**

**955 Park Street Columbia, SC 29201**

**Or email to: ReynoldsBS@scdot.org**



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**NAME**

Mr, Mrs, Ms, Mr & Mrs, Other  
(Please choose/circle)

David Beer

**MAILING ADDRESS**

1183 Scott LAKE RD

Street/Route

City

State

Zip Code

**PHONE NUMBER**

843-209-5242

**EMAIL:**

**COMMENTS (please print)**

Love option "C".

**Mail Comments to:**

**Mr. Brad Reynolds, PE**

**Project Manager, SCDOT**

**955 Park Street Columbia, SC 29201**

**Or email to: ReynoldsBS@scdot.org**



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**Interstate 95 Bridge Replacements Over Lake Marion  
Public Meeting Comment Sheet  
Thursday, June 1, 2023  
Santee Conference Center  
1737 Bass Drive, Santee, SC 29142**

Project information is available at <https://scdotqis.online/i95bridgesoverlakemarion>

**NAME**

Mr, Mrs, Ms, Mr & Mrs, Other  
(Please choose/circle)

Chad Albergotti

**MAILING ADDRESS**

1223 Princess Pond Rd Summerton SC 29148  
Street/Route City State Zip Code

**PHONE NUMBER**

803 516 1789

**EMAIL:** albergottichad@gmail.com

**COMMENTS (please print)**

I own ~~some~~ property on  
Bass Dr in Santee that might be usfull during  
construction.

**Mail Comments to:**

**Mr. Brad Reynolds, PE  
Project Manager, SCDOT  
955 Park Street Columbia, SC 29201  
Or email to: ReynoldsBS@scdot.org**



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NAME

Mr, Mrs, Ms, Mr & Mrs, Other  
(Please choose/circle)

Kristie Anderson

MAILING ADDRESS

5465 Old # 16 Hwy Elloree 29047

Street/Route

City

State

Zip Code

PHONE NUMBER

803-387-9459

EMAIL:

polywoganderson@gmail.com

COMMENTS (please print)

1. Thank you for having this.

2. Hoping you will do a video/live of the final project.

3. Biggest Concern. walking/Bike traffic on the same Bridge as car/truck traffic. I say verison C. No people walking on same as = moving traffic. I drive this area 2-8 times per ~~yes~~ day. people driving 80-90 mph with a walking trail is not comfortable. Also fishing off the Bridge is important!

Mail Comments to:

Mr. Brad Reynolds, PE  
Project Manager, SCDOT  
955 Park Street Columbia, SC 29201  
Or email to: ReynoldsBS@scdot.org



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Please take the time to Listen to  
the Locals who live here and  
drive this everyday. Our Lake is  
Very important to our area, Palmetto  
trail is also important to us and  
the State.

Interstate 95 Bridge Replacements Over Lake Marion  
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NAME

Mr. Mrs, Ms, Mr & Mrs, Other  
(Please choose/circle)

John Weishart

MAILING ADDRESS

303 Santee Drive Santee SC 29142  
Street/Route City State Zip Code

PHONE NUMBER

803-516-2809

EMAIL:

jwphone@gmail.com

COMMENTS (please print)

I think common sense is to  
build new bridge between existing - my preference

Thank you for  
having this meeting  
Very Informative  
Representatives were  
very helpful

Mail Comments to:

Mr. Brad Reynolds, PE  
Project Manager, SCDOT  
955 Park Street Columbia, SC 29201  
Or email to: ReynoldsBS@scdot.org



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**NAME**

Mr, Mrs, Ms, Mr & Mrs, Other  
(Please choose/circle)

Margaret Still

**MAILING ADDRESS**

1139 Crescent St Summerton SC 29148

Street/Route

City

State

Zip Code

**PHONE NUMBER**

803 837 1602

**EMAIL:**

stillst1@gmail.com

**COMMENTS (please print)**

option C allows for  
the walking path to be further from  
the traffic, exhaust and noise of the  
interstate. please consider the  
air quality and noise walkers would  
be exposed. Thank you

**Mail Comments to:**

**Mr. Brad Reynolds, PE  
Project Manager, SCDOT  
955 Park Street Columbia, SC 29201  
Or email to: ReynoldsBS@scdot.org**



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# Interstate 95 Bridge Replacements Over Lake Marion Public Meeting Comment Sheet

Thursday, June 1, 2023

Santee Conference Center

1737 Bass Drive, Santee, SC 29142

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**NAME**

Mr, Mrs, Ms, Mr & Mrs, Other

Mrs Turip

(Please choose/circle)

**MAILING ADDRESS**

129 Ballard Lane Santee

29142

Street/Route

City

State

Zip Code

**PHONE NUMBER**

**EMAIL:**

L12245561@gmail.com

**COMMENTS (please print)**

SOUND PROOFING FROM ROAD NOISE  
BETWEEN FREEWAY & BASS LANE

ROAD TO  
FREEWAY RESURFACING

Mail Comments to:

Mr. Brad Reynolds, PE

Project Manager, SCDOT

955 Park Street Columbia, SC 29201

Or email to: ReynoldsBS@scdot.org



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**NAME**

Mr, Mrs, Ms, Mr & Mrs, Other  
(Please choose/circle)

DEBRA GLEATON

**MAILING ADDRESS**

1043 Autumn Ln - Summerton, SC 29148  
Street/Route City State Zip Code

**PHONE NUMBER**

803-478-6159

**EMAIL:**

debgleaton@gmail.com

**COMMENTS (please print)**

Need A MESSAGE BOARD OVER BOTH  
BRIDGES To WARN OF AN ACCIDENT & Slow TRAFFIC  
OR STOPPED TRAFFIC

Mail Comments to:

Mr. Brad Reynolds, PE  
Project Manager, SCDOT  
955 Park Street Columbia, SC 29201  
Or email to: ReynoldsBS@scdot.org



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**NAME**

Mr, Mrs, Ms, Mr & Mrs, Other  
(Please choose/circle)

Marsha M. Bull

**MAILING ADDRESS**

6533 Five Chop Rd Santee SC 29142  
Street/Route City State Zip Code

**PHONE NUMBER**

803-664-4309

**EMAIL:**

bullmarsha@yahoo.com

**COMMENTS (please print)**

I am thankful for the I-95  
bridge replacement. It is welcomed by  
me. Future accidents on the bridge will  
not cause lengthy detours.

**Mail Comments to:**

Mr. Brad Reynolds, PE

Project Manager, SCDOT

955 Park Street Columbia, SC 29201

Or email to: ReynoldsBS@scdot.org



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**NAME**

Mr, Mrs, Ms, Mr & Mrs, Other  
(Please choose/circle)

Craig Eppling

**MAILING ADDRESS**

315 Santee Dr. Santee SC 29142

Street/Route

City

State

Zip Code

**PHONE NUMBER**

972-768-3102

**EMAIL:** cheppling@gmail.com

**COMMENTS (please print)**

In favor of option A to put the bridge where the current bridge basically is. This should alleviate (sp?) having to redirect ~~entrances~~ entrances to the bridge.

Mail Comments to:

Mr. Brad Reynolds, PE  
Project Manager, SCDOT  
955 Park Street Columbia, SC 29201  
Or email to: ReynoldsBS@scdot.org



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**NAME**

Mr, Mrs, Ms, Mr & Mrs, Other  
(Please choose/circle)

Craig Eppling

**MAILING ADDRESS**

315 Santee Dr.

Santee

SC

29142

Street/Route

City

State

Zip Code

**PHONE NUMBER**

972-768-4656

**EMAIL:**

Cheppling@gmail.com

**COMMENTS (please print)**

Note: 2nd Comment Sheet

I now would like Option 'C' as it will maintain a separate walking/biking bridge I "Do Not" want a walking area next to traffic lanes on I-95. Way to dangerous. A couple weeks ago a 18 wheeler lost its load on gravel on the bridge

Mail Comments to:

Mr. Brad Reynolds, PE

Project Manager, SCDOT

955 Park Street Columbia, SC 29201

Or email to: ReynoldsBS@scdot.org



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**NAME**

Mr, Mrs, Ms, Mr & Mrs, Other Cole Dantzer  
(Please choose/circle)

**MAILING ADDRESS** 2532 Princess Pond Rd Summerton SC 29148  
Street/Route City State Zip Code

**PHONE NUMBER** 803-707-8862 **EMAIL:** cole.dantzers9@gmail.com

**COMMENTS (please print)**

Please during construction have police presence to keep traffic at a safe speed.

I like alternative A

**Mail Comments to:**

**Mr. Brad Reynolds, PE**  
**Project Manager, SCDOT**  
**955 Park Street Columbia, SC 29201**  
**Or email to: ReynoldsBS@scdot.org**



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NAME

Mr, Mrs, Ms, Mr & Mrs, Other  
(Please choose/circle)

Scott Clark

MAILING ADDRESS

468 Santee Dr Santee SC 29142  
Street/Route City State Zip Code

PHONE NUMBER

803-664-1121

EMAIL:

scott@santeeassociates.com

COMMENTS (please print)

N & S bound must be 3 lanes of vehicular traffic plus 10' and 14' as shoulder area (future 4th lane will be possibility)

I believe there is technology that could warn motorists of stalled or blocked lane so motorists would know to be alert and move over to a different lane - I believe there is a technology to warn motorists on their radio by overriding the radio signals in their vehicle - a light system can be installed over lanes of traffic

solar lighting can be utilized under the bridge at night to help the growing number of boating traffic - also serve as an aesthetically pleasing feature of the bridge

Noise barriers should be built on the N & S bound sides

Mail Comments to:

Mr. Brad Reynolds, PE

Project Manager, SCDOT

955 Park Street Columbia, SC 29201

Or email to: ReynoldsBS@scdot.org

on the Santee-south side of bridge

★ At least near the Ballard Pointe Condos south bound side



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**NAME**

Mr.  Mrs.  Ms, Mr & Mrs, Other  
(Please choose/circle)

DOROTHY S. White

**MAILING ADDRESS**

7019 Five Chop Rd Santee SC 29142  
Street/Route City State Zip Code

**PHONE NUMBER**

803 496 4166 EMAIL: dorothySalleyWhite@gmail.com

**COMMENTS (please print)**

Love The plan! pray that all work out  
for all our good- feel more secure! in passing traffic.  
Too much Traffic. Now. I did sat on the bridge for  
1-3 hours before

Mail Comments to:

Mr. Brad Reynolds, PE  
Project Manager, SCDOT  
955 Park Street Columbia, SC 29201  
Or email to: ReynoldsBS@scdot.org



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**NAME**

Mr, Mrs, Ms, Mr & Mrs, Other  
(Please choose/circle)

JAMES HAMEL

**MAILING ADDRESS**

1407 SCOTTLAKE RD SC 29148

**PHONE NUMBER**

(803) 725-2209

**EMAIL:**

HAMEL, James@XAXI001.com

**COMMENTS (please print)**

GREAT PRESENTATION

PLEASE ALLOW GOLF CARTS ON FOOT BRIDGES

**Mail Comments to:**

**Mr. Brad Reynolds, PE**  
**Project Manager, SCDOT**  
**955 Park Street Columbia, SC 29201**  
**Or email to: ReynoldsBS@scdot.org**



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**NAME**

Mr, Mrs, Ms, Mr & Mrs, Other  
(Please choose/circle)

JAMES HAMBEL

**MAILING ADDRESS**

14107 SCOTT LAKE ROAD SC 29148

**PHONE NUMBER**

(508) 725 2209

**EMAIL:**

HAMBEL.JAMES@YAHOO.COM

**COMMENTS (please print)**

PLAN C LOOK GREAT

PLEASE USE 1 OF THE  
EXISTING BRIDGES AS THE WALKWAY

**Mail Comments to:**

**Mr. Brad Reynolds, PE  
Project Manager, SCDOT  
955 Park Street Columbia, SC 29201  
Or email to: ReynoldsBS@scdot.org**



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**NAME**

Mr, Mrs, Ms, Mr & Mrs, Other  
(Please choose/circle)

Barbara Murray

**MAILING ADDRESS**

P.O. Box 549

27 Mazine Drive

Santee SC

29142

Street/Route

City

State

Zip Code

**PHONE NUMBER**

843 906-3503

**EMAIL:**

bmurray3@gmail.com

**COMMENTS (please print)**

Thank you for your assistance  
& presentations. We are concern about the  
vast changes of the bridge structure want to  
keep it in a line with other structure as  
much as possible. A safe place for parking,  
walking, fishing. Also sound barrier.

Mail Comments to:

Mr. Brad Reynolds, PE

Project Manager, SCDOT

955 Park Street Columbia, SC 29201

Or email to: ReynoldsBS@scdot.org



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**NAME**

Mr, Mrs, Ms, Mr & Mrs, Other  
(Please choose/circle)

Mr Greg Kelier

**MAILING ADDRESS**

1087 Scott Lake Rd Summerville, SC 29148  
Street/Route City State Zip Code

**PHONE NUMBER**

EMAIL: gregkelier@peaphoPC.com

**COMMENTS (please print)**

I believe widening the I-95 is necessary for safety.  
I would like to see old 301 bridge from stay open to public

Mail Comments to:

Mr. Brad Reynolds, PE  
Project Manager, SCDOT  
955 Park Street Columbia, SC 29201  
Or email to: ReynoldsBS@scdot.org



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**NAME**

Mr, Mrs, Ms, Mr & Mrs, Other  
(Please choose/circle)

Lee Rude

**MAILING ADDRESS**

2757 Princess Pond Rd. Summerton SC 29148  
Street/Route City State Zip Code

**PHONE NUMBER**

803-460-5588

**EMAIL:**

n/a

**COMMENTS (please print)**

Need fire protection on bridge island,  
ramps @ each end provide access. I could use  
Dry Hydrants.

Feel free to contact me if you need to

Mail Comments to:

Mr. Brad Reynolds, PE  
Project Manager, SCDOT  
955 Park Street Columbia, SC 29201  
Or email to: ReynoldsBS@scdot.org



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# SCDOT PUBLIC MEETING DEMOGRAPHIC SURVEY

## INTERSTATE 95 BRIDGE REPLACEMENTS OVER LAKE MARION

### JUNE 1, 2023

Completing this form is **strictly voluntary and anonymous**. You are not required to provide the information requested in order to participate in this meeting. Completing this form will only assist SCDOT with our Title VI data collection, and also improve the way we serve our public.

All forms will remain on file at SCDOT

<p><u>County Name:</u> Clarendon and Orangeburg</p> <p><u>Street Address:</u> 1737 Bass Drive Santee, SC 29142</p>	<p><b>Gender:</b> <input type="checkbox"/> Male <input checked="" type="checkbox"/> Female <input type="checkbox"/> Non-binary</p>
<p><b>Total Household Income:</b></p> <p><input type="checkbox"/> Less than \$12,000      <input type="checkbox"/> \$47,000 – \$69,999</p> <p><input type="checkbox"/> \$12,000 – \$19,999      <input type="checkbox"/> \$70,000 – \$93,999</p> <p><input type="checkbox"/> \$20,000 – \$30,999      <input checked="" type="checkbox"/> \$94,000 – \$117,999</p> <p><input type="checkbox"/> \$31,000 – \$46,999      <input type="checkbox"/> \$118,000 or greater</p>	<p><b>Age Group:</b></p> <p><input type="checkbox"/> Less than 18      <input type="checkbox"/> 45-64</p> <p><input type="checkbox"/> 18-29      <input checked="" type="checkbox"/> 65 and older</p> <p><input type="checkbox"/> 30-44</p>
<p><b>Did You Request Special Accommodations For This Meeting?</b></p> <p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>	<p><b>Do You Have a Disability?</b></p> <p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>
<p><b>Race/Ethnicity You Identify As:</b></p> <p><input checked="" type="checkbox"/> White</p> <p><input type="checkbox"/> Black/African American</p> <p><input type="checkbox"/> Asian</p> <p><input type="checkbox"/> American Indian/Alaskan Native</p> <p><input type="checkbox"/> Native Hawaiian/Pacific Islander</p> <p><input type="checkbox"/> Hispanic/Latino/Spanish</p> <p><input type="checkbox"/> Other (please specify): _____</p>	<p><b>If Yes, Were The Accommodations Received?</b></p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No <i>N/A</i></p>
<p><b>How Did You Hear About This Meeting?</b></p> <p><input type="checkbox"/> Mailing</p> <p><input type="checkbox"/> Internet</p> <p><input type="checkbox"/> Facebook</p> <p><input type="checkbox"/> School Handout</p> <p><input type="checkbox"/> Faith Based Organization</p> <p><input type="checkbox"/> Flyer</p> <p><input type="checkbox"/> Newspaper</p> <p><input type="checkbox"/> Postcard</p> <p><input type="checkbox"/> Newspaper</p> <p><input type="checkbox"/> Radio Advertisement</p> <p><input type="checkbox"/> Local News</p> <p><input type="checkbox"/> Community Organization</p> <p><input checked="" type="checkbox"/> Road Sign</p> <p><input type="checkbox"/> Other (please specify): _____</p>	<p><b>“What is Title VI? According to the Civil Rights Act, Title VI prohibits discrimination on the basis of race, color, national origin, sex, age, and disability.”</b></p>

Thank you for your participation!

# SCDOT PUBLIC MEETING DEMOGRAPHIC SURVEY

## INTERSTATE 95 BRIDGE REPLACEMENTS OVER LAKE MARION

### JUNE 1, 2023

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<p><u>County Name:</u> Clarendon and Orangeburg</p> <p><u>Street Address:</u> 1737 Bass Drive Santee, SC 29142</p>	<p><b>Gender:</b> <input checked="" type="checkbox"/> Male <input type="checkbox"/> Female <input type="checkbox"/> Non-binary</p>
<p><b>Total Household Income:</b></p> <p><input type="checkbox"/> Less than \$12,000      <input type="checkbox"/> \$47,000 – \$69,999</p> <p><input type="checkbox"/> \$12,000 – \$19,999      <input checked="" type="checkbox"/> \$70,000 – \$93,999</p> <p><input type="checkbox"/> \$20,000 – \$30,999      <input type="checkbox"/> \$94,000 – \$117,999</p> <p><input type="checkbox"/> \$31,000 – \$46,999      <input type="checkbox"/> \$118,000 or greater</p>	<p><b>Age Group:</b></p> <p><input type="checkbox"/> Less than 18      <input type="checkbox"/> 45-64</p> <p><input type="checkbox"/> 18-29      <input type="checkbox"/> 65 and older</p> <p><input checked="" type="checkbox"/> 30-44</p>
<p><b>Did You Request Special Accommodations For This Meeting?</b></p> <p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>	<p><b>Do You Have a Disability?</b></p> <p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>
<p><b>Race/Ethnicity You Identify As:</b></p> <p><input checked="" type="checkbox"/> White</p> <p><input type="checkbox"/> Black/African American</p> <p><input type="checkbox"/> Asian</p> <p><input type="checkbox"/> American Indian/Alaskan Native</p> <p><input type="checkbox"/> Native Hawaiian/Pacific Islander</p> <p><input type="checkbox"/> Hispanic/Latino/Spanish</p> <p><input type="checkbox"/> Other (please specify): _____</p>	<p><b>How Did You Hear About This Meeting?</b></p> <p><input type="checkbox"/> Mailing</p> <p><input type="checkbox"/> Internet</p> <p><input checked="" type="checkbox"/> Facebook</p> <p><input type="checkbox"/> School Handout</p> <p><input type="checkbox"/> Faith Based Organization</p> <p><input type="checkbox"/> Flyer</p> <p><input checked="" type="checkbox"/> Newspaper</p> <p><input type="checkbox"/> Postcard</p> <p><input type="checkbox"/> Newspaper</p> <p><input type="checkbox"/> Radio Advertisement</p> <p><input type="checkbox"/> Local News</p> <p><input type="checkbox"/> Community Organization</p> <p><input checked="" type="checkbox"/> Road Sign</p> <p><input type="checkbox"/> Other (please specify): _____</p>
<p><b>“What is Title VI? According to the Civil Rights Act, Title VI prohibits discrimination on the basis of race, color, national origin, sex, age, and disability.”</b></p>	

Thank you for your participation!



# SCDOT PUBLIC MEETING DEMOGRAPHIC SURVEY

## INTERSTATE 95 BRIDGE REPLACEMENTS OVER LAKE MARION

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# SCDOT PUBLIC MEETING DEMOGRAPHIC SURVEY

## INTERSTATE 95 BRIDGE REPLACEMENTS OVER LAKE MARION

### JUNE 1, 2023

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<p><b>Did You Request Special Accommodations For This Meeting?</b></p> <p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>	<p><b>Do You Have a Disability?</b></p> <p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>
<p><b>Did You Request Special Accommodations For This Meeting?</b></p> <p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>	<p><b>If Yes, Were The Accommodations Received?</b></p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p>
<p><b>Race/Ethnicity You Identify As:</b></p> <p><input type="checkbox"/> White</p> <p><input type="checkbox"/> Black/African American</p> <p><input checked="" type="checkbox"/> Asian</p> <p><input type="checkbox"/> American Indian/Alaskan Native</p> <p><input type="checkbox"/> Native Hawaiian/Pacific Islander</p> <p><input type="checkbox"/> Hispanic/Latino/Spanish</p> <p><input type="checkbox"/> Other (please specify): _____</p>	<p><b>How Did You Hear About This Meeting?</b></p> <p><input checked="" type="checkbox"/> Mailing</p> <p><input type="checkbox"/> Internet</p> <p><input type="checkbox"/> Facebook</p> <p><input type="checkbox"/> School Handout</p> <p><input type="checkbox"/> Faith Based Organization</p> <p><input type="checkbox"/> Flyer</p> <p><input type="checkbox"/> Newspaper</p> <p><input type="checkbox"/> Postcard</p> <p><input type="checkbox"/> Newspaper</p> <p><input type="checkbox"/> Radio Advertisement</p> <p><input type="checkbox"/> Local News</p> <p><input checked="" type="checkbox"/> Community Organization</p> <p><input checked="" type="checkbox"/> Road Sign</p> <p><input type="checkbox"/> Other (please specify): _____</p>
<p style="color: red;">“What is Title VI? According to the Civil Rights Act, Title VI prohibits discrimination on the basis of race, color, national origin, sex, age, and disability.”</p>	

Thank you for your participation!

# SCDOT PUBLIC MEETING DEMOGRAPHIC SURVEY

## INTERSTATE 95 BRIDGE REPLACEMENTS OVER LAKE MARION

### JUNE 1, 2023

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<p>County Name: <u>Clarendon</u> and Orangeburg</p> <p>Street Address: 1737 Bass Drive Santee, SC 29142</p> <p><i>1694 Scott Lake Rd 29148</i></p> <p><b>Total Household Income:</b></p> <p> <input type="checkbox"/> Less than \$12,000      <input type="checkbox"/> \$47,000 – \$69,999  <input type="checkbox"/> \$12,000 – \$19,999      <input type="checkbox"/> \$70,000 – \$93,999  <input checked="" type="checkbox"/> \$20,000 – \$30,999      <input type="checkbox"/> \$94,000 – \$117,999  <input type="checkbox"/> \$31,000 – \$46,999      <input type="checkbox"/> \$118,000 or greater         </p>	<p><b>Gender:</b> <input checked="" type="checkbox"/> Male <input type="checkbox"/> Female <input type="checkbox"/> Non-binary</p> <p><b>Age Group:</b></p> <p> <input type="checkbox"/> Less than 18      <input type="checkbox"/> 45-64  <input type="checkbox"/> 18-29      <input checked="" type="checkbox"/> 65 and older  <input type="checkbox"/> 30-44         </p> <p><b>Do You Have a Disability?</b></p> <p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>
<p><b>Did You Request Special Accommodations For This Meeting?</b></p> <p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>	<p><b>If Yes, Were The Accommodations Received?</b></p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No <i>N/A</i></p>
<p><b>Race/Ethnicity You Identify As:</b></p> <p> <input checked="" type="checkbox"/> White  <input type="checkbox"/> Black/African American  <input type="checkbox"/> Asian  <input type="checkbox"/> American Indian/Alaskan Native  <input type="checkbox"/> Native Hawaiian/Pacific Islander  <input type="checkbox"/> Hispanic/Latino/Spanish  <input type="checkbox"/> Other (please specify): _____         </p>	<p><b>How Did You Hear About This Meeting?</b></p> <p> <input type="checkbox"/> Mailing  <input type="checkbox"/> Internet  <input type="checkbox"/> Facebook  <input type="checkbox"/> School Handout  <input type="checkbox"/> Faith Based Organization  <input type="checkbox"/> Flyer  <input type="checkbox"/> Newspaper  <input checked="" type="checkbox"/> Postcard  <input type="checkbox"/> Newspaper  <input type="checkbox"/> Radio Advertisement  <input type="checkbox"/> Local News  <input type="checkbox"/> Community Organization  <input type="checkbox"/> Road Sign  <input type="checkbox"/> Other (please specify): _____         </p>
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	<p><b>How Did You Hear About This Meeting?</b></p> <p><input type="checkbox"/> Mailing</p> <p><input type="checkbox"/> Internet</p> <p><input type="checkbox"/> Facebook</p> <p><input type="checkbox"/> School Handout</p> <p><input type="checkbox"/> Faith Based Organization</p> <p><input type="checkbox"/> Flyer</p> <p><input type="checkbox"/> Newspaper</p> <p><input type="checkbox"/> Postcard</p> <p><input type="checkbox"/> Newspaper</p> <p><input type="checkbox"/> Radio Advertisement</p> <p><input type="checkbox"/> Local News</p> <p><input type="checkbox"/> Community Organization</p> <p><input checked="" type="checkbox"/> Road Sign</p> <p><input type="checkbox"/> Other (please specify): _____</p>
<p><b>“What is Title VI? According to the Civil Rights Act, Title VI prohibits discrimination on the basis of race, color, national origin, sex, age, and disability.”</b></p>	

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<b>Did You Request Special Accommodations For This Meeting?</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<b>Do You Have a Disability?</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<b>Race/Ethnicity You Identify As:</b> <input checked="" type="checkbox"/> White <input type="checkbox"/> Black/African American <input type="checkbox"/> Asian <input type="checkbox"/> American Indian/Alaskan Native <input type="checkbox"/> Native Hawaiian/Pacific Islander <input type="checkbox"/> Hispanic/Latino/Spanish <input type="checkbox"/> Other (please specify): _____	<b>If Yes, Were The Accommodations Received?</b> <input type="checkbox"/> Yes <input type="checkbox"/> No
<b>How Did You Hear About This Meeting?</b> <input type="checkbox"/> Mailing <input type="checkbox"/> Internet <input type="checkbox"/> Facebook <input type="checkbox"/> School Handout <input type="checkbox"/> Faith Based Organization <input type="checkbox"/> Flyer <input type="checkbox"/> Newspaper <input type="checkbox"/> Postcard <input type="checkbox"/> Newspaper <input type="checkbox"/> Radio Advertisement <input type="checkbox"/> Local News <input type="checkbox"/> Community Organization <input type="checkbox"/> Road Sign <input checked="" type="checkbox"/> Other (please specify): <u>Word of mouth</u>	
<p style="color: red;">“What is Title VI? According to the Civil Rights Act, Title VI prohibits discrimination on the basis of race, color, national origin, sex, age, and disability.”</p>	

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<p><b>Race/Ethnicity You Identify As:</b></p> <p><input checked="" type="checkbox"/> White</p> <p><input type="checkbox"/> Black/African American</p> <p><input type="checkbox"/> Asian</p> <p><input type="checkbox"/> American Indian/Alaskan Native</p> <p><input type="checkbox"/> Native Hawaiian/Pacific Islander</p> <p><input type="checkbox"/> Hispanic/Latino/Spanish</p> <p><input type="checkbox"/> Other (please specify): _____</p>	<p><b>If Yes, Were The Accommodations Received?</b></p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No <i>NA</i></p>
<p><b>How Did You Hear About This Meeting?</b></p> <p><input type="checkbox"/> Mailing</p> <p><input type="checkbox"/> Internet</p> <p><input type="checkbox"/> Facebook</p> <p><input type="checkbox"/> School Handout</p> <p><input type="checkbox"/> Faith Based Organization</p> <p><input type="checkbox"/> Flyer</p> <p><input type="checkbox"/> Newspaper</p> <p><input type="checkbox"/> Postcard</p> <p><input type="checkbox"/> Newspaper</p> <p><input type="checkbox"/> Radio Advertisement</p> <p><input type="checkbox"/> Local News</p> <p><input checked="" type="checkbox"/> Community Organization</p> <p><input type="checkbox"/> Road Sign</p> <p><input type="checkbox"/> Other (please specify): _____</p>	
<p><b>“What is Title VI? According to the Civil Rights Act, Title VI prohibits discrimination on the basis of race, color, national origin, sex, age, and disability.”</b></p>	

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<p><b>Did You Request Special Accommodations For This Meeting?</b></p> <p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>	<p><b>Do You Have a Disability?</b></p> <p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>
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<p><b>Did You Request Special Accommodations For This Meeting?</b></p> <p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>	<p><b>Do You Have a Disability?</b></p> <p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>
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# SCDOT PUBLIC MEETING DEMOGRAPHIC SURVEY

## INTERSTATE 95 BRIDGE REPLACEMENTS OVER LAKE MARION

### JUNE 1, 2023

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# SCDOT PUBLIC MEETING DEMOGRAPHIC SURVEY INTERSTATE 95 BRIDGE REPLACEMENTS OVER LAKE MARION JUNE 1, 2023

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# SCDOT PUBLIC MEETING DEMOGRAPHIC SURVEY

## INTERSTATE 95 BRIDGE REPLACEMENTS OVER LAKE MARION

### JUNE 1, 2023

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Thank you for your participation!

Figure A: Ethnicity

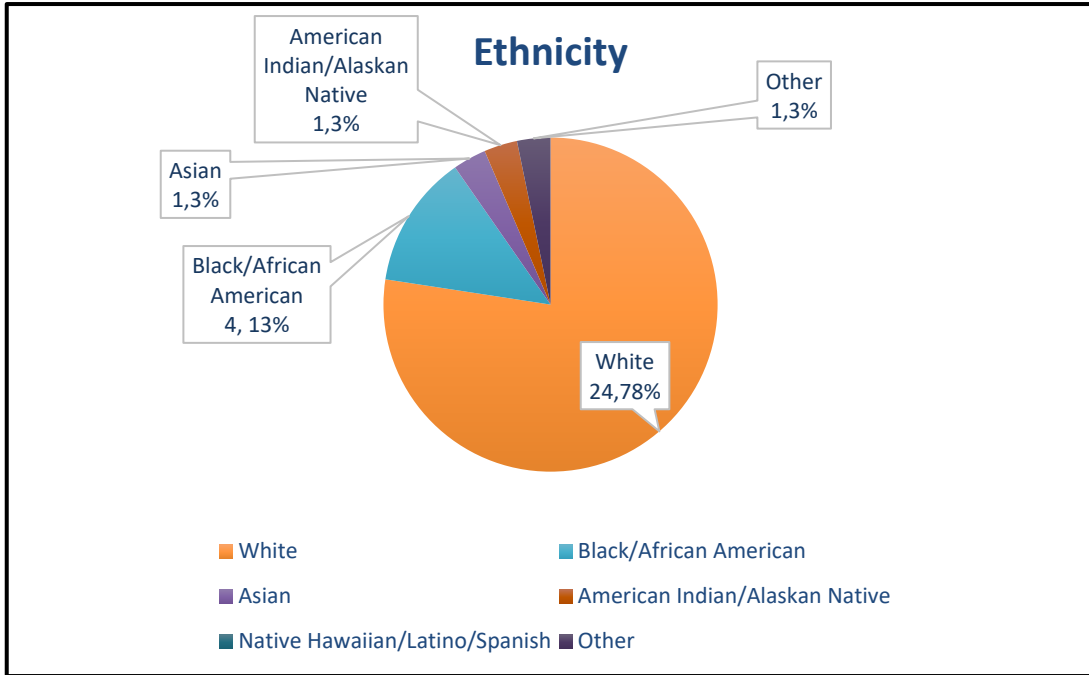


Figure B: Age

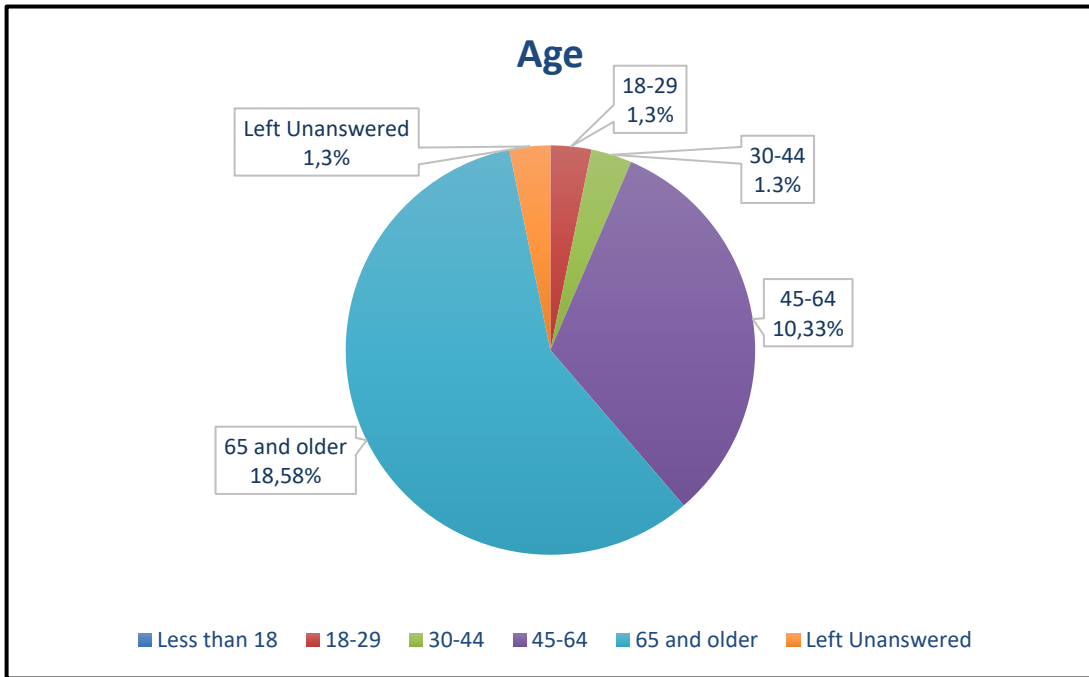


Figure C: Annual Household Income

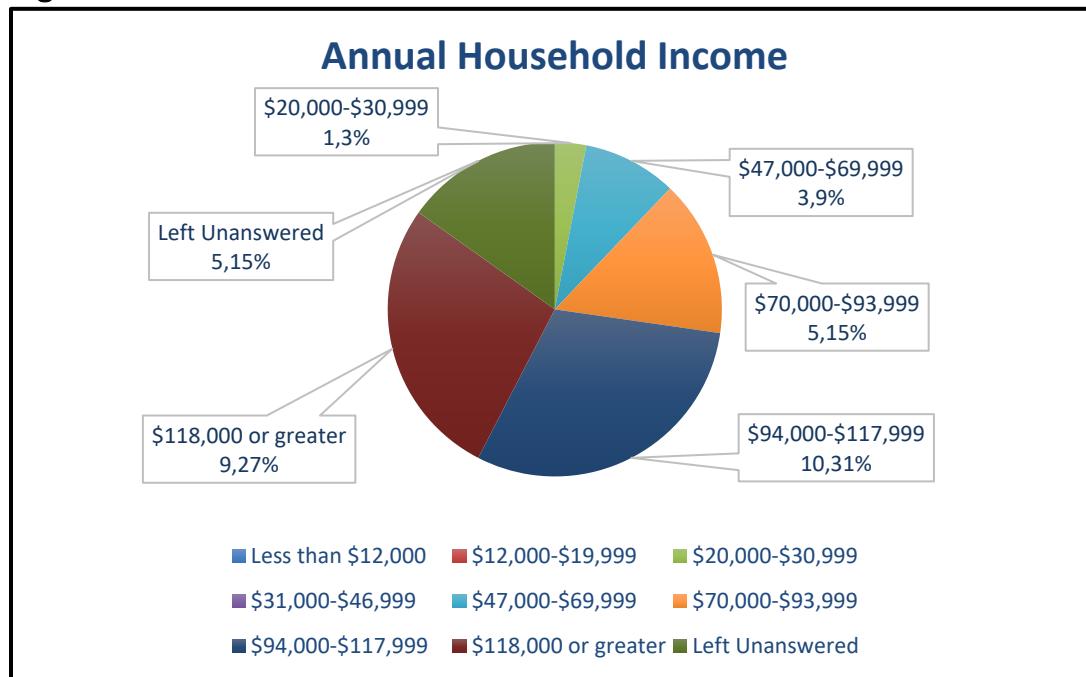


Figure D: Gender

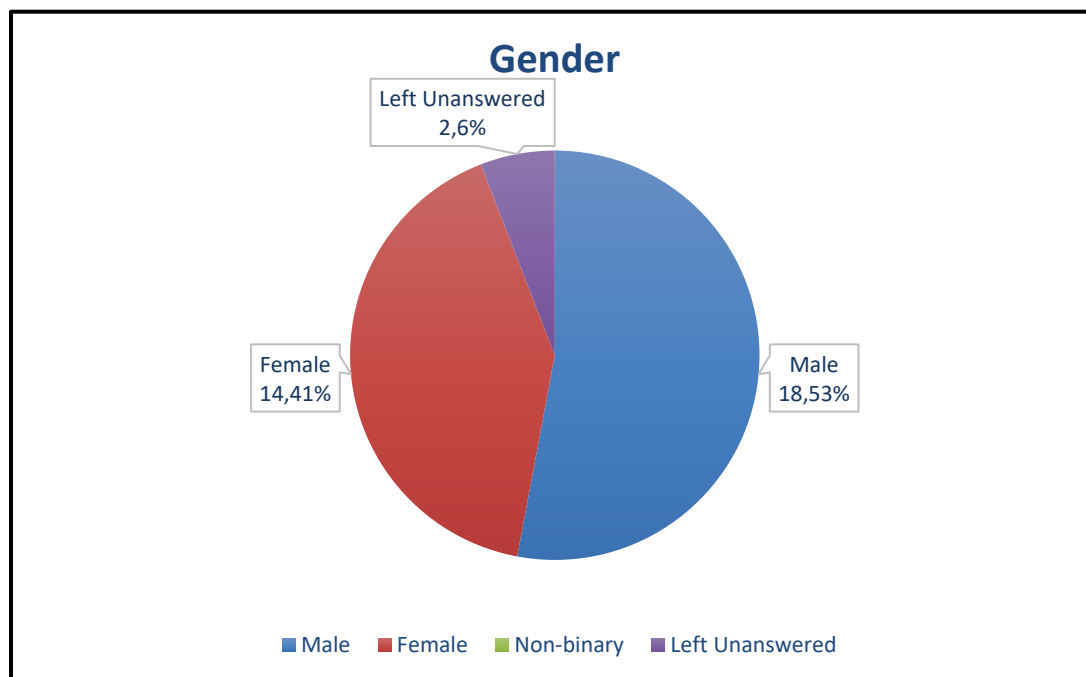


Figure E: Disability

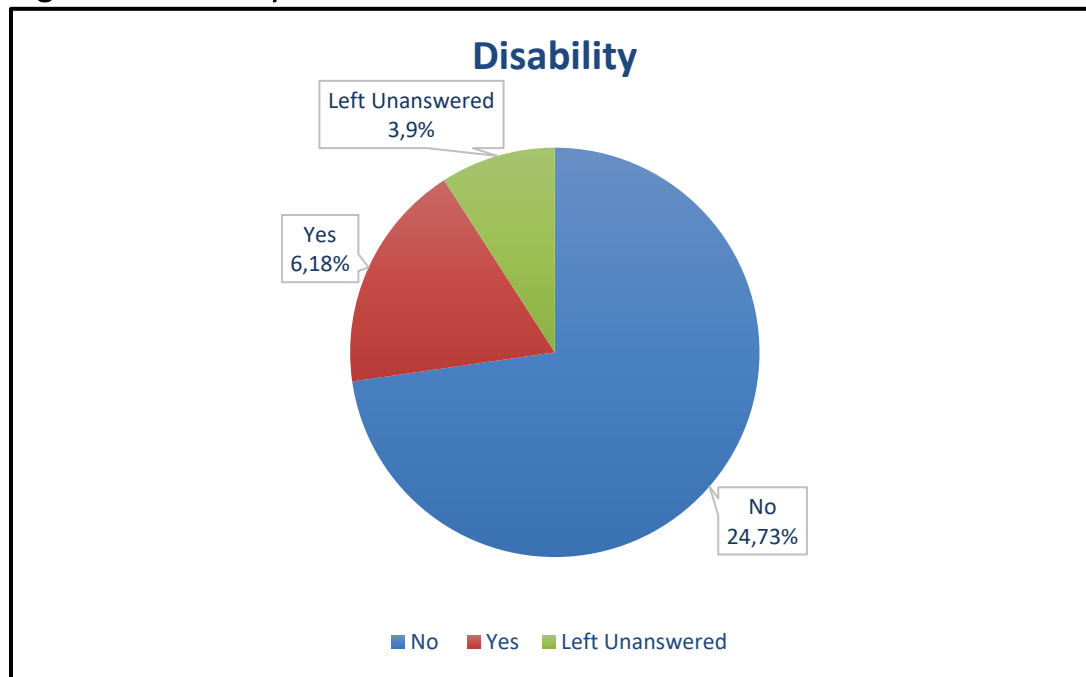
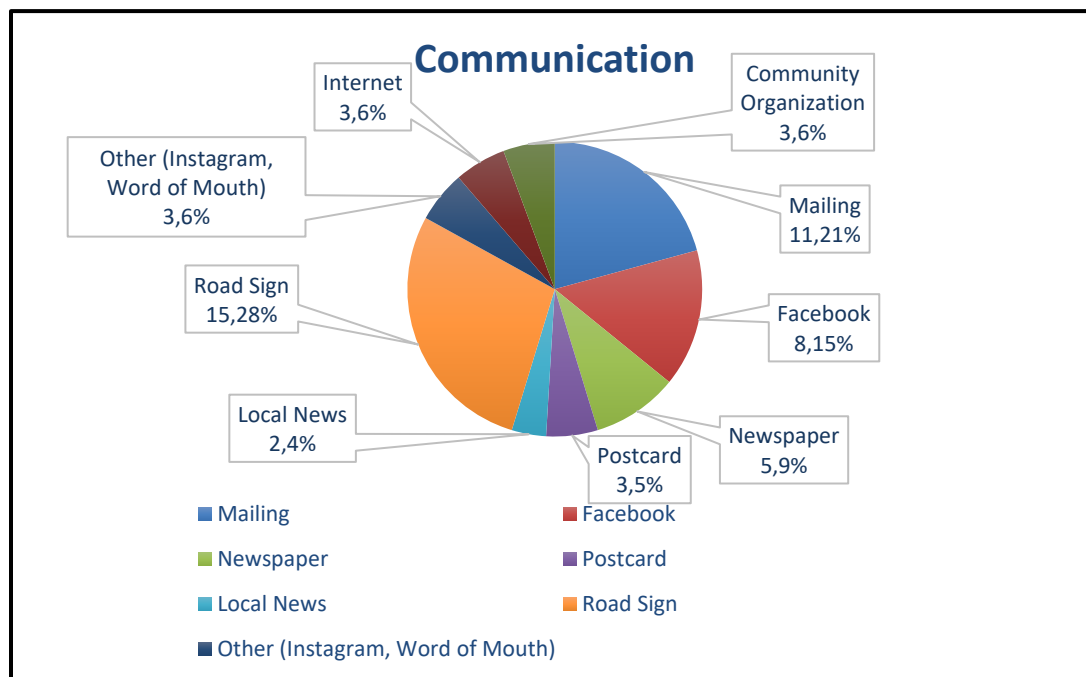


Figure F: Communication (many reported more than 1)



## **Appendix C: Post-Meeting Comments Received**

- **USPS Mailed Comment**
- **Emailed Comments**
- **Website Comments**
- **Petition**
- **Excel Sheets of all Comments**

# Interstate 95 Bridge Replacements Over Lake Marion

## Public Meeting Comment Sheet

Thursday, June 1, 2023

Santee Conference Center

1737 Bass Drive, Santee, SC 29142

Project information is available at <https://scdotgis.online/i95bridgesoverlakemarion>

### NAME

DOROTHY S. HAYSON

Mr, Mrs, Ms, Mr & Mrs, Other

(Please choose/circle)

### MAILING ADDRESS

1084 GATOR DR Summerton SC 29148

Street/Route

City

State

Zip Code

### PHONE NUMBER

803-478-7204

### EMAIL:

### COMMENTS (please print)

I WENT TO YOUR "MEETING" YUCK!!

I GOT NO ANSWER TO MY QUESTIONS-THEY JUST SHOWED ME MAPS OF I-95. I HAVE TO USE I-95 TO GO ANYWHERE FOR THE 38 YEARS I'VE LIVED IN NORTH SANTEE.

→ I WANT TO KNOW WHY WASTE SPACE FOR CYCLES & FOOT WHEN YOU JUST FINISHED REHAB ON THE 301 BRIDGE?

→ WILL ALL TRAFFIC BE ON 1 BRIDGE WHILE THE OTHER BRIDGE BE WORKED ON?

### Mail Comments to:

Mr. Brad Reynolds, PE

Project Manager, SCDOT

955 Park Street Columbia, SC 29201

Or email to: ReynoldsBS@scdot.org



**Note:** Written comments will be reviewed, provided a response, and incorporated into the official public meeting file. Information provided, including name and address will be published and is subject to disclosure under the Freedom of Information Act. Comments will be accepted through June 16, 2023.

**Interstate 95 Bridge Replacements Over Lake Marion  
Public Meeting Comment Sheet  
Thursday, June 1, 2023  
Santee Conference Center  
1737 Bass Drive, Santee, SC 29142**

Project information is available at <https://scdotgis.online/i95bridgesoverlakemarion>

**NAME**

Mr, Mrs, Ms, Mr & Mrs, Other  
(Please choose/circle)

MAX Mc Cormick

**MAILING ADDRESS**

3282 FRANCIS MARION BLVD SUMMERTON  
SC 29148

Street/Route

City

State

Zip Code

**PHONE NUMBER**

803-478-4810

**EMAIL:**

maxeymc@bellsouth.net

**COMMENTS (please print)**

You should place heavy emphasis on MINIMAL Disruption to traffic flow during construction. Heavy 18 wheel traffic can lead to huge back ups even when minimal disruption to their flow is encountered. Especially during vacation and seasonal migration of families from New ENGLAND STATES AND FLORIDA.

**Mail Comments to:**

**Mr. Brad Reynolds, PE**

**Project Manager, SCDOT**

**955 Park Street Columbia, SC 29201**

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**Thank you for your participation!**



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**1737 Bass Drive, Santee, SC 29142**

Project information is available at <https://scdotqis.online/i95bridgesoverlakemarion>

**NAME**

Mr,  Mrs, Mr & Mrs, Other  
(Please choose/circle)

June McCormick

**MAILING ADDRESS**

3282 Frances Marion Blvd, Summerton SC 29148  
Street/Route City State Zip Code

**PHONE NUMBER**

803-478-4810

**EMAIL:**

june.mcc@bellsouth.net

**COMMENTS (please print)**

#1. Thank you for the information AND for squelching Rumors. #2 Lake Marion Bridge is more than a thoroughfare between New York and Florida. It is vital to Middle S.C. Commerce. This needs to be considered when making final decisions, especially in regard to the proposed walking/bike path.

#3 I 95 traffic is AT LEAST 75 mph. Drivers slow down to view the lake, causing accidents. A walking / Bike path is another distraction causing more crashes.

#4 The proposed Bike/Walking Path does not allow fishing. Carts and tents are used on the Old 301 which is important for local residents, visitors, and the Palmetto Trail.

#5 Please take into account that MANY people live here & depend on the bridge.

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**Project Manager, SCDOT**  
**955 Park Street Columbia, SC 29201**  
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**NAME**

Mr, Mrs, Ms, Mr & Mrs, Other  
(Please choose/circle)

ALFRED & CINDY RISHER

**MAILING ADDRESS**

1061 BLUE BIRD CT, SUMMERTON, SC 29148

Street/Route

City

State

Zip Code

**PHONE NUMBER**

803-478-9604

**EMAIL:**

THE PAPPY82@GMAIL.COM

**COMMENTS (please print)**

I PREFER ALTERNATIVE "A"

**Mail Comments to:**

**Mr. Brad Reynolds, PE  
Project Manager, SCDOT  
955 Park Street Columbia, SC 29201  
Or email to: ReynoldsBS@scdot.org**



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1737 Bass Drive, Santee, SC 29142**

Project information is available at <https://scdotqis.online/i95bridgesoverlakemarion>

**NAME**

Mr, Mrs, Ms, Mr & Mrs Other  
(Please choose/circle)

LES CARTER

**MAILING ADDRESS**

322 TRILUUM CT. Santee SC 29142  
Street/Route City State Zip Code

**PHONE NUMBER**

843-992-2493

**EMAIL:**

dcarter1@gmail.com

**COMMENTS (please print)**

WE would suggest ALTERNATIVE  
A if possible to prevent disturbing  
people on west or east side of bridge.

**Mail Comments to:**

**Mr. Brad Reynolds,  
Project Manager, SCDOT  
955 Park Street Columbia, SC 29201  
Or email to: ReynoldsBS@scdot.org**



**Note:** Written comments will be reviewed, provided a response, and incorporated into the official public meeting file. Information provided, including name and address will be published and is subject to disclosure under the Freedom of Information Act. **Comments will be accepted through June 16, 2023.**

**Interstate 95 Bridge Replacements Over Lake Marion  
Public Meeting Comment Sheet  
Thursday, June 1, 2023  
Santee Conference Center  
1737 Bass Drive, Santee, SC 29142**

Project information is available at <https://scdotqis.online/i95bridgesoverlakemarion>

**NAME**

Mr, Mrs, Ms, Mr & Mrs, Other  
(Please choose/circle)

JAMES T. MURRAY, SR.

**MAILING ADDRESS**

105 COOPER CIR.

SANTEE

SC 29142-9314

Street/Route

City

State

Zip Code

**PHONE NUMBER**

540-270-9366

**EMAIL:**

**COMMENTS (please print)**

Sent my concerns in via E-MAIL

**Mail Comments to:**

**Mr. Brad Reynolds, PE**

**Project Manager, SCDOT**

**955 Park Street Columbia, SC 29201**

**Or email to: ReynoldsBS@scdot.org**



**Note:** Written comments will be reviewed, provided a response, and incorporated into the official public meeting file. Information provided, including name and address will be published and is subject to disclosure under the Freedom of Information Act. **Comments will be accepted through June 16, 2023.**

# SCDOT PUBLIC MEETING DEMOGRAPHIC SURVEY

## INTERSTATE 95 BRIDGE REPLACEMENTS OVER LAKE MARION

### JUNE 1, 2023

Completing this form is **strictly voluntary and anonymous**. You are not required to provide the information requested in order to participate in this meeting. Completing this form will only assist SCDOT with our Title VI data collection, and also improve the way we serve our public.

All forms will remain on file at SCDOT

<p><u>County Name:</u> Clarendon and Orangeburg</p> <p><u>Street Address:</u> 1737 Bass Drive Santee, SC 29142</p>	<p><b>Gender:</b> <input checked="" type="checkbox"/> Male <input type="checkbox"/> Female <input type="checkbox"/> Non-binary</p>
<p><b>Total Household Income:</b></p> <p><input type="checkbox"/> Less than \$12,000      <input type="checkbox"/> \$47,000 – \$69,999</p> <p><input type="checkbox"/> \$12,000 – \$19,999      <input checked="" type="checkbox"/> \$70,000 – \$93,999</p> <p><input type="checkbox"/> \$20,000 – \$30,999      <input type="checkbox"/> \$94,000 – \$117,999</p> <p><input type="checkbox"/> \$31,000 – \$46,999      <input type="checkbox"/> \$118,000 or greater</p>	<p><b>Age Group:</b></p> <p><input type="checkbox"/> Less than 18      <input type="checkbox"/> 45-64</p> <p><input type="checkbox"/> 18-29      <input checked="" type="checkbox"/> 65 and older</p> <p><input type="checkbox"/> 30-44</p>
<p><b>Did You Request Special Accommodations For This Meeting?</b></p> <p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>	<p><b>Do You Have a Disability?</b></p> <p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>
<p><b>Race/Ethnicity You Identify As:</b></p> <p><input checked="" type="checkbox"/> White</p> <p><input type="checkbox"/> Black/African American</p> <p><input type="checkbox"/> Asian</p> <p><input type="checkbox"/> American Indian/Alaskan Native</p> <p><input type="checkbox"/> Native Hawaiian/Pacific Islander</p> <p><input type="checkbox"/> Hispanic/Latino/Spanish</p> <p><input type="checkbox"/> Other (please specify): _____</p>	<p><b>If Yes, Were The Accommodations Received?</b></p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><b>How Did You Hear About This Meeting?</b></p> <p><input checked="" type="checkbox"/> Mailing</p> <p><input type="checkbox"/> Internet</p> <p><input type="checkbox"/> Facebook</p> <p><input type="checkbox"/> School Handout</p> <p><input type="checkbox"/> Faith Based Organization</p> <p><input type="checkbox"/> Flyer</p> <p><input type="checkbox"/> Newspaper</p> <p><input type="checkbox"/> Postcard</p> <p><input type="checkbox"/> Newspaper</p> <p><input type="checkbox"/> Radio Advertisement</p> <p><input type="checkbox"/> Local News</p> <p><input type="checkbox"/> Community Organization</p> <p><input checked="" type="checkbox"/> Road Sign</p> <p><input type="checkbox"/> Other (please specify): _____</p>
<p style="color: red;">“What is Title VI? According to the Civil Rights Act, Title VI prohibits discrimination on the basis of race, color, national origin, sex, age, and disability.”</p>	

**Thank you for your participation!**

# Interstate 95 Bridge Replacements Over Lake Marion Public Meeting Comment Sheet

Thursday, June 1, 2023

Santee Conference Center

1737 Bass Drive, Santee, SC 29142

Project information is available at <https://scdotgis.online/i95bridgesoverlakemarion>

**NAME**

Mr, Mrs, Ms, Mr & Mrs, Other (Please choose/circle) MICHAEL WEAVER

**MAILING ADDRESS** 14 BALLARD LN Santee SC 29142  
Street/Route City State Zip Code

**PHONE NUMBER** 717-321-3097 **EMAIL:** MYDNITE51@GMAIL.COM

**COMMENTS (please print)** SINCE THEY REMOVED SOME OF THE TREES ALONG 95 INTERSTATE AND BALLARD LN THE NOISE IS VERY LOUD INSIDE THE CONDOS, WE NEED (SOUND BARRIERS) ALONG THAT AREA, PLEASE HELP US.

*Thank You*

Plenty of mice stirring from the noise.

Mail Comments to:

Mr. Brad Reynolds, PE  
Project Manager, SCDOT  
955 Park Street Columbia, SC 29201  
Or email to: ReynoldsBS@scdot.org



**Note:** Written comments will be reviewed, provided a response, and incorporated into the official public meeting file. Information provided, including name and address will be published and is subject to disclosure under the Freedom of Information Act. **Comments will be accepted through June 16, 2023.**



**Interstate 95 Bridge Replacements Over Lake Marion  
Public Meeting Comment Sheet  
Thursday, June 1, 2023  
Santee Conference Center  
1737 Bass Drive, Santee, SC 29142**

Project information is available at <https://scdotqis.online/i95bridgesoverlakemarion>

**NAME**

Mr, Mrs, Ms, Mr & Mrs, Other  
(Please choose/circle)

Roger L. Flowers

**MAILING ADDRESS**

1184 Joyner Drive, Summerton, SC, 29142  
Street/Route City State Zip Code

**PHONE NUMBER**

803-462-6002 EMAIL: rogertoo@ftc.net

**COMMENTS (please print)**

Dear Mr. Reynolds,  
I am pleased with the project as presented, "too long  
coming". I hope everything goes well.

I'm a Farmer in Clarendon County and take pride in the  
appearance of our County. That being said, the first impres-  
sion a local gets or a visitor is "horrible". I've heard these  
comments." We are blessed to have such a beautiful Lake,  
but first impressions mean more. We have dropped the ball on  
keeping the roadsides of the Bridge clean for perfect vision of  
the Lake and it's beauty.

I ask and hope the new Bridge will be funded to keep  
clean and beautiful. Thanks for all you do,

Roger Flowers

Mail Comments to:

Mr. Brad Reynolds, PE  
Project Manager, SCDOT  
955 Park Street Columbia, SC 29201  
Or email to: ReynoldsBS@scdot.org



**Note:** Written comments will be reviewed, provided a response, and incorporated into the official public meeting file. Information provided, including name and address will be published and is subject to disclosure under the Freedom of Information Act. Comments will be accepted through June 16, 2023.



From: [Michael Peraino](#)  
To: [Reynolds, Bradley S.](#)  
Subject: 195 Lake Marion Bridge project  
Date: Tuesday, June 13, 2023 11:23:51 AM

---

**\*\*\* This is an EXTERNAL email. Please do not click on a link or open any attachments unless you are confident it is from a trusted source. \*\*\***

I have been discussing this with some friends who were at the town council meeting in Elloree yesterday. It is my understanding that Option C would be the cheapest and allow for fishing from the bridge which is what I would support.

It was also my understanding that when fishing was brought up at meetings that DOT would state that isn't their function. I would argue that position needs to change. DOT needs to serve the needs of the citizens and if you are building roads over water ways that connect poor communities, than it is a natural function of the government to provide a way for the citizen to engage in a lawful activity that can provide food on the table. Millions of our tax payer dollars are being spent and the cost to build out a little fishing area every so many yards has to be negligible.

Turn this project from something everyone in the area is dreading to one that offers real benefit to the community. This could be a big win for DOT.

Very Respectfully,

Michael Peraino  
325 Barkley Street  
Elloree, SC 29047.

From: [jcs172@twc.com](mailto:jcs172@twc.com)  
To: [Reynolds, Bradley S.](#)  
Subject: 95 bridge comments  
Date: Monday, June 12, 2023 9:35:22 PM

---

\*\*\* This is an EXTERNAL email. Please do not click on a link or open any attachments unless you are confident it is from a trusted source. \*\*\*

We found the information meeting well done. We went to many of the stations to listen to different conversations. We liked what we saw. It looks to be alot safer. The main comment we have is to remove the old bridge and include the walk and bike lane on the new bridge. So everything is new and be good for x many years.

Thank -you  
John and Cindy Senno  
1256 Summerford Lane  
Manning SC 29102

**From:** [Debra Gleaton](#)  
**To:** [Reynolds, Bradley S.](#)  
**Subject:** I-95 bridge project  
**Date:** Monday, June 12, 2023 2:28:20 PM

---

\*\*\* This is an EXTERNAL email. Please do not click on a link or open any attachments unless you are confident it is from a trusted source. \*\*\*

I am in favor Alternative A. It affects open water less and I don't see a need for a bike and walking lane as it's my understanding that walking and biking on the interstate is prohibited.

My second comment is that signage is desperately needed ASAP prior to NB Exit 99 and SB Exit 102 to alert drivers of an accident on the bridge so drivers can take an alternate route.

Thank you,  
Debra Gleaton  
Summerton, SC

Sent from my iPhone

From: [John Goodwin](#)  
To: [Reynolds, Bradley S.](#)  
Date: Saturday, June 10, 2023 9:58:50 PM

---

\*\*\* This is an EXTERNAL email. Please do not click on a link or open any attachments unless you are confident it is from a trusted source. \*\*\*

Hello Mr. Reynolds,  
This is John Goodwin  
728 bass Dr. Santee s.c.  
29142.  
My comment is attach

From: [papagiblet@ftc-i.net](mailto:papagiblet@ftc-i.net)  
To: [Reynolds, Bradley S.](#)  
Subject: 195 bridge  
Date: Saturday, June 10, 2023 6:44:25 AM

---

\*\*\* This is an EXTERNAL email. Please do not click on a link or open any attachments unless you are confident it is from a trusted source. \*\*\*

We attended the bridge meeting on June 1. We were sort of disappointed in information provided. Seems that some DOT folk were not on same page. However, it seems that no matter which option is decided on that it will be a new portion added and then a tear down. Is this correct? We are also concerned about the proposed bike/walk lane. Even with a fence/barricade for protection, people travel the bridge now in excess of 85mph. Can only imagine what the new bridge will encourage. Another concern is the lanes for future use. What is going to keep people from using them and then be forced into a bottleneck situation when it goes back to two lanes. We agree the bridge needs replacement as we have been stuck many times due to accidents and look forward to the project. We also appreciate the opportunity to comment. Look forward to hearing from you.

John and Debbie Jobe  
Summerton, SC

From: [James T. Murray, Sr.](#)  
To: [Reynolds, Bradley S.](#)  
Subject: Re: I-95 Bridge Replacement  
Date: Friday, June 9, 2023 9:36:46 AM

---

\*\*\* This is an EXTERNAL email. Please do not click on a link or open any attachments unless you are confident it is from a trusted source. \*\*\*

Sent from my iPhone

> On Jun 2, 2023, at 10:20, James T. Murray, Sr. <[bigirishmarine@gmail.com](mailto:bigirishmarine@gmail.com)> wrote:  
>  
> Mr. Reynolds's,  
> A very informative meeting last night at the Santee Conference Center pertaining to the I-95 bridge replacement.  
>  
> It was mentioned that two Federal Loans were being requested and that whether approved or not the project was going through. IF THE LOANS ARE NOT APPROVED, WHO IS PAYING AND HOW?  
>  
> The new bridge will be built for three lanes of traffic but not open to three lane traffic until the highway is widened. Is there any time period as to when that project to widen the highway will be undertaken?  
>  
> Thank you for keeping us informed.  
>  
> James T. Murray, Sr.  
> Santee, SC  
>  
> Sent from my iPad

**From:** [Lee Rudd](#)  
**To:** [Reynolds, Bradley S.](#)  
**Subject:** Excellent meeting  
**Date:** Thursday, June 8, 2023 12:54:18 PM

---

\*\*\* This is an EXTERNAL email. Please do not click on a link or open any attachments unless you are confident it is from a trusted source. \*\*\*

Very informational , y'all did a great job. Everybody there seem 2 know what was going on. We public now know the extent of Your job.

From: [Beverly Stroman](#)  
To: [Reynolds, Bradley S.](#)  
Subject: I95 Bridge Comments  
Date: Wednesday, June 7, 2023 12:06:31 PM

---

\*\*\* This is an EXTERNAL email. Please do not click on a link or open any attachments unless you are confident it is from a trusted source. \*\*\*

My name is Beverly Stroman and reside at 101 Ballard Lane in Santee. Below are my comments and suggestions.

**Option C** is the best proposed option for the following reasons at the I95 bridge in Santee.

1. **Public Safety** is paramount, and Option C allows the current I95 South to be solely dedicated to walking, biking and other recreational activities. The other options do not provide enough safety for recreational activities on the bridge. A dedicated area, concrete walls and substantial fencing will NOT prohibit loaded 18 wheelers and cars with substantial speed from plowing over into the walking/biking lane. Presenters stated that the bridge would be similar to the Arthur Ravenel Bridge in Charleston; however; few 18 wheelers travel that route and even car speeds usually don't exceed 70 mph since this bridge connects Mt. Pleasant to downtown Charleston with numerous traffic lights on both ends of the bridge.
2. The **noise** from I95 is substantial at the present. If Option B is selected, our residences will be even closer to the traffic noise, and the buffered area between I95 and Bass Drive will be destroyed. No one wants to have a clear view to a heavily traveled major interstate. Also, Option C allows the new I95 bridge to be constructed in an area farther from residences.
3. **Parking** is another issue with all options. The presenters stated that there would be a constructed parking area on the Clarendon County side. As you know, humans will take the shortest path so Santee and surrounding residents will not travel a major interstate in order to park to use the walking bridge. I would suggest looking at area at the current rest areas for an Orangeburg County parking site. Also this area would allow accessibility of the I95 travelers and promote tourism in our local counties.
4. **Poverty** in both counties exceeds the state average (with Orangeburg County at 27.3% and Clarendon County at 19.9%). This area has been unfortunately labeled as part of the I95 Corridor of Shame but this would allow both counties to apply for local, state and federal grants to use the new pedestrian I95 southbound bridge for FREE recreational activities, the possibility of staged events, and possible bridge upgrades like lighting, benches and trashcans.

Thank you for allowing the public's input to this major decision!



From: [GeneJudy Ball](#)  
To: [Reynolds, Bradley S.](#)  
Subject: I-95 Bridge Project  
Date: Tuesday, June 6, 2023 4:35:38 PM  
Attachments: [I- 95 Bridge Project.pdf](#)

---

\*\*\* This is an EXTERNAL email. Please do not click on a link or open any attachments unless you are confident it is from a trusted source. \*\*\*

See attached document - Comments concerning the Project

Thanks much

Gene Ball

**From:** [James T. Murray, Sr.](#)  
**To:** [Reynolds, Bradley S.](#)  
**Subject:** Fwd: Interstate 95 Bridge Replacement over Lake Marion  
**Date:** Sunday, May 21, 2023 6:38:28 PM

---

\*\*\* This is an EXTERNAL email. Please do not click on a link or open any attachments unless you are confident it is from a trusted source. \*\*\*

Sent from my iPhone

Begin forwarded message:

**From:** "James T. Murray, Sr." <[bigirishmarine@gmail.com](mailto:bigirishmarine@gmail.com)>  
**Date:** May 18, 2023 at 20:34:04 EDT  
**To:** ReynoldsBS@scdot.org  
**Subject: Interstate 95 Bridge Replacement over Lake Marion**

Mr. Reynolds's,

In a few short words could you explain what this project will entail and when it will begin.

I plan on being at the Santee Conference Center June 1, 2023 as well.

Thanking you in advance,

James T. Murray, Sr.  
Santee, SC  
[bigirishmarine@gmail.com](mailto:bigirishmarine@gmail.com)

Sent from my iPad

From: [Corbett, Tessa](#)  
To: [Reynolds, Bradley S.](#)  
Subject: I-95 Bridge Replacements Over Lake Marion  
Date: Tuesday, June 6, 2023 4:11:40 PM  
Attachments: [SCDOT.pdf](#)

---

\*\*\* This is an EXTERNAL email. Please do not click on a link or open any attachments unless you are confident it is from a trusted source. \*\*\*

Good afternoon,

I attended the Public Meeting in Santee but decided to email my comments. Please review the attachment!

**Thank you and Have a great day!**

**Tessa W. Corbett |**

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This electronic mail and any files transmitted with it are confidential and are intended solely for the use of the individual or entity to whom they are addressed. If you are not the intended recipient or the person responsible for delivering the electronic mail to the intended recipient, be advised that you have received this electronic mail in error and that any use, dissemination, forwarding, printing, or copying of this electronic mail is strictly prohibited. If you have received this electronic mail in error, please immediately notify the sender by return mail. Visit us online at [www.firstcitizens.com](http://www.firstcitizens.com) or call 1-888-FC DIRECT (1-888-323-4732). First Citizens Bank. Forever First®. Member FDIC.

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From: [smithlinlee](#)  
To: [Reynolds, Bradley S.](#)  
Subject: Preference for Lake Marion Bridge construction  
Date: Sunday, June 4, 2023 1:50:54 PM

---

\*\*\* This is an EXTERNAL email. Please do not click on a link or open any attachments unless you are confident it is from a trusted source. \*\*\*

I live on the North side of Lake Marion. I would prefer Option A since he appears to be less disruptive during construction and it still provides a walking option for those who wish to walk across.

Linda Smith  
2396 Princess Pond Rd  
8034607758

Sent from my Verizon, Samsung Galaxy smartphone

**From:** [James T. Murray, Sr.](#)  
**To:** [Reynolds, Bradley S.](#)  
**Subject:** Re: Interstate 95 Bridge Replacement over Lake Marion  
**Date:** Monday, May 22, 2023 11:33:14 AM

---

\*\*\* This is an EXTERNAL email. Please do not click on a link or open any attachments unless you are confident it is from a trusted source. \*\*\*

Thank you.

Sent from my iPhone

On May 22, 2023, at 09:43, Reynolds, Bradley S. <ReynoldsBS@scdot.org> wrote:

Mr. Murray,

The project will replace the I-95 Bridges over the Lake. This includes the main bridges and the bridges that are closest to the US 301 Exit 102. It is anticipated that construction could begin in 2025. Look forward to seeing you at the meeting.

Thanks,

*Bradley S. Reynolds, P.E., DBIA*  
Alternative Delivery Program Manager  
803-737-1440 O/ 803-521-7007 M

<image001.jpg>

---

**From:** James T. Murray, Sr. <bigirishmarine@gmail.com>  
**Sent:** Sunday, May 21, 2023 6:38 PM  
**To:** Reynolds, Bradley S. <ReynoldsBS@scdot.org>  
**Subject:** Fwd: Interstate 95 Bridge Replacement over Lake Marion

\*\*\* This is an EXTERNAL email. Please do not click on a link or open any attachments unless you are confident it is from a trusted source. \*\*\*

Sent from my iPhone

Begin forwarded message:

**From:** "James T. Murray, Sr." <[bigirishmarine@gmail.com](mailto:bigirishmarine@gmail.com)>  
**Date:** May 18, 2023 at 20:34:04 EDT  
**To:** [ReynoldsBS@scdot.org](mailto:ReynoldsBS@scdot.org)  
**Subject:** Interstate 95 Bridge Replacement over Lake Marion

Mr. Reynolds's,

In a few short words could you explain what this project will entail and when it will begin.

I plan on being at the Santee Conference Center June 1, 2023 as well.

Thanking you in advance,

James T. Murray, Sr.  
Santee, SC  
[bigirishmarine@gmail.com](mailto:bigirishmarine@gmail.com)

Sent from my iPad

**From:** [Frank and Patricia Brown](#)  
**To:** [Reynolds, Bradley S.](#)  
**Subject:** I-95 bridges  
**Date:** Friday, June 16, 2023 10:09:41 AM

---

**\*\*\* This is an EXTERNAL email. Please do not click on a link or open any attachments unless you are confident it is from a trusted source. \*\*\***

This could be an opportunity to separate the 18 wheelers and the likes from regular vehicles crossing the bridges, build a new two lane in the middle with lanes for emergency pullovers, let 18 wheelers use existing bridges and continue using the old bridge for walking etc.

From: [SCDOT-NEPA](#)  
To: [Reynolds, Bradley S.](#)  
Subject: New Submission: I-95 Bridge Replacements Project Comment Form  
Date: Monday, June 12, 2023 3:50:29 PM

---

## New Comment Submitted

Full Name	Email	Street Address	Phone Number	City	Zip Code	Receive Response?	How to Receive Response?	Comment
Jackson Hurst	ghostlightmater@yahoo.com		4216 Cornell Crossing	Kennesaw, GA	30144	Yes	By_Email	I approve and support SCDOT's Interstate 95 Bridge Replacements over Lake Marion Project. The aspect that I love about SCDOT's Interstate 95 Bridge Replacements over Lake Marion Project is that the existing 2 lane bridge on I-95 over Lake Marion will be replaced with a 3 lane bridge which will improve safety and reduce congestion. Regarding the alignment alternatives the alternative that I support is Alignment Alternative A - Median Alignment because Alignment Alternative A will not impact the Santee Cooper Country Club.



From: [SCDOT-NEPA](#)  
To: [Reynolds, Bradley S.](#)  
Subject: New Submission: I-95 Bridge Replacements Project Comment Form  
Date: Saturday, June 10, 2023 4:31:08 PM

---

## New Comment Submitted

Full Name	Email	Street Address	Phone Number	City	Zip Code	Receive Response?	How to Receive Response?	Comment
John D. Jackson	hardrider20@gmail.com	(803) 305- 2319	1164 Tisdale	Summerton	29148	Yes	By_Email	I'm a truck driver for over thirty years in this area and seen many times we where sitting in traffic for hours. After a major accident on the bridges south or north around 100 mile markers. we really need a alternate route if there is a major accident over the river.

From: [SCDOT-NEPA](#)  
To: [Reynolds, Bradley S.](#)  
Subject: New Submission: I-95 Bridge Replacements Project Comment Form  
Date: Saturday, June 10, 2023 12:33:15 PM

---

## New Comment Submitted

Full Name	Email	Street Address	Phone Number	City	Zip Code	Receive Response?	How to Receive Response?	Comment
Brigitta Carter and Ronald Carter	brigscar@aol.com		1031 Duboise Drive	summerton	29148	Yes	By_Email	Sorry missed meeting. We feel a replacement bridge is really necessary. No other way to cross the lake. We live in Francis Marion Div. Is this proposal to replace bridge going to really happen???

From: [SCDOT-NEPA](#)  
To: [Reynolds, Bradley S.](#)  
Subject: New Submission: I-95 Bridge Replacements Project Comment Form  
Date: Wednesday, June 7, 2023 4:50:29 PM

---

## New Comment Submitted

Full Name	Email	Street Address	Phone Number	City	Zip Code	Receive Response?	How to Receive Response?	Comment
Regena Powell	powellregena7@gmail.com	(111) 803- 9711	180 Cantey Drive	Santee	29142	Yes	By_Email	I request that the US hwy 15/301 Bridge is Repaired, Renovated and Reopen The Renovated can include pedestrian Lanes

From: [SCDOT-NEPA](#)  
To: [Reynolds, Bradley S.](#)  
Subject: New Submission: I-95 Bridge Replacements Project Comment Form  
Date: Saturday, June 3, 2023 11:42:00 AM

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## New Comment Submitted

Full Name	Email	Street Address	Phone Number	City	Zip Code	Receive Response?	How to Receive Response?	Comment
Elizabeth Bergen	BetseyBergen@gmail.com	(803) 478- 2046	1064 Gator Drive	Summerton	29148	Yes	By_Email	Are there any plans to reopen the rt 301 bridge to vehicular traffic in the future? Also how long is the proposed time to complete the project? Thank you. I was unable to attend the meeting in Santee on June 1st as I was out of town.

From: [SCDOT-NEPA](#)  
To: [Reynolds, Bradley S.](#)  
Subject: New Submission: I-95 Bridge Replacements Project Comment Form  
Date: Friday, June 2, 2023 8:56:58 PM

---

### New Comment Submitted

Full Name	Email	Street Address	Phone Number	City	Zip Code	Receive Response?	How to Receive Response?	Comment
Viola G Baucom	vibaucom@hotmail.com	(803) 225- 6702	2078 Princess Pond Rd	Summerton	29148	No		I prefer option C. It seems to be the safest for walking traffic.

From: [SCDOT-NEPA](#)  
To: [Reynolds, Bradley S.](#)  
Subject: New Submission: I-95 Bridge Replacements Project Comment Form  
Date: Friday, June 2, 2023 11:18:28 AM

---

### New Comment Submitted

Full Name	Email	Street Address	Phone Number	City	Zip Code	Receive Response?	How to Receive Response?	Comment
Nancy Evans	Nbevans1950@gmail.com	(893) 478- 4545	1066 crescent st	Sumnerton	29248	Yes	By_Email	I vote for C

From: [SCDOT-NEPA](#)  
 To: [Reynolds, Bradley S.](#)  
 Subject: New Submission: I-95 Bridge Replacements Project Comment Form  
 Date: Thursday, June 1, 2023 7:27:29 PM

## New Comment Submitted

Full Name	Email	Street Address	Phone Number	City	Zip Code	Receive Response?	How to Receive Response?	Comment
DANIEL MCMAHON	djm792001@yahoo.com	(609) 425- 0491	1202 Dogwood Cir	Summerton	29148	Yes	By_Email	<p>You can travel from Fla. threw Va. with no tolls on rt 95. Each of the above states section of 95 are in most cases, better than ours. We have a road tax in every gallon of gas purchased, state and federal. Most of our portion of 95 are not in real good shape. We do not need tolls to fix this problem. Other states have no tolls and their sections of 95 are in better shape. Before the idea of tolls are thought of look into where the road fund allocation is going. Maybe we should also look at our neighboring states and learn how they can keep rt 95 toll free and in better shape. Thank you. Daniel</p>

From: [SCDOT-NEPA](#)  
To: [Reynolds, Bradley S.](#)  
Subject: New Submission: I-95 Bridge Replacements Project Comment Form  
Date: Thursday, June 1, 2023 4:58:59 PM

---

## New Comment Submitted

Full Name	Email	Street Address	Phone Number	City	Zip Code	Receive Response?	How to Receive Response?	Comment
Dave LeMieux	davelemieux1@gmail.com	(616) 446-0945	1129 Margaret Drive	Summerton	29148	Yes	By_Email	Hello. Interested in knowing if there can be a carpool lane for lose needing to cross at least twice a day for employment purposes alone. Please tell me what you may have come up with regarding this. Dave



From: [SCDOT-NEPA](#)  
To: [Reynolds, Bradley S.](#)  
Subject: New Submission: I-95 Bridge Replacements Project Comment Form  
Date: Thursday, June 1, 2023 9:12:01 AM

---

## New Comment Submitted

Full Name	Email	Street Address	Phone Number	City	Zip Code	Receive Response?	How to Receive Response?	Comment
Cynthia Hutchinson	cindylhutch@icloud.com	(803) 410- 7524	1341 Davenport Dr	Manning	29102	Yes	By_phone	Yes, i have an elderly friend that lives on #6 in Santee,S.C. I check on her frequently almost every day. She will be 84 this month. Do i need a permit or pass so i will be able to check on her? Also she lives alone & depends on me for food, doctors appoints, & emergency if it should occur! I have a vets appointment today & hopefully i will make it in time. Thanks, Cynthia Hutchinson 803-410-7524

From: [SCDOT-NEPA](#)  
To: [Reynolds, Bradley S.](#)  
Subject: New Submission: I-95 Bridge Replacements Project Comment Form  
Date: Thursday, May 25, 2023 8:27:27 AM

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## New Comment Submitted

Full Name	Email	Street Address	Phone Number	City	Zip Code	Receive Response?	How to Receive Response?	Comment
MARC A SALAZAR	bravo14sc@yahoo.com	(803) 456- 1558	696 CALHOUN RD	ST MATTHEWS	291358249	No		The bridge will be a doorway to Orangeburg, Clarendon & Calhoun Counties. Here is an opportunity to increase tourism for the three counties. Millions will pass through each year. Aesthetic please! When replacing the old 301 bridge; please add on small outcrops on the land part or low bridge sections so locals and tourists can relax & fish. Historically locals have used the old 301 bridge for fishing and that would make locals feel like the new bridge is theirs just like the old 301 bridge plus passers by will see folks relaxing, fishing, exercising on designated areas and may want to move or vacation there.

From: [SCDOT-NEPA](#)  
To: [Reynolds, Bradley S.](#)  
Subject: New Submission: I-95 Bridge Replacements Project Comment Form  
Date: Friday, June 16, 2023 7:54:33 PM

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## New Comment Submitted

Full Name	Email	Street Address	Phone Number	City	Zip Code	Receive Response?	How to Receive Response?	Comment
Clyde Bull	bullclyde70@gmail.com	(803) 854- 3241	6533 Five Chop Rd	Santee	29142	Yes	By_Email	Alternative A is my choice.

From: [SCDOT-NEPA](#)  
To: [Reynolds, Bradley S.](#)  
Subject: New Submission: I-95 Bridge Replacements Project Comment Form  
Date: Friday, June 16, 2023 7:28:00 PM

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### New Comment Submitted

Full Name	Email	Street Address	Phone Number	City	Zip Code	Receive Response?	How to Receive Response?	Comment
Tyronne Johnson	tyejohnson6817@yahoo.com	(269) 744- 2813	258 Barcelona Dr.	Santee	29142	Yes	By_phone	Hey , the project looks great Im so happy .yes thee old single bridge needs to be on the new project also to be reopen of an accident that we all know of . The 3 bridge project an I know we can do for the town of Santee and south an north driver.... Thank you so much.

From: [SCDOT-NEPA](#)  
To: [Reynolds, Bradley S.](#)  
Subject: New Submission: I-95 Bridge Replacements Project Comment Form  
Date: Friday, June 16, 2023 4:06:45 PM

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## New Comment Submitted

Full Name	Email	Street Address	Phone Number	City	Zip Code	Receive Response?	How to Receive Response?	Comment
Mark Graham Munkittrick	mgmunk@gmail.com	(208) 661-5369	1055 Chapel Branch Road	Santee	29142	Yes	By_Email	More than 20 years ago the SCDOT acknowledged that they among others were responsible for sedimentation into Lake Marion from Interstate 95 near the bridge. Despite numerous complaints from local residents and attempts to get the siltation stopped nothing has been done. It has come to the point that the sedimentation has made parts of Chapel Branch unnavigable as well as having a negative impact on the fisheries and wildlife. This would be the perfect time to obtain funding for the solution to this problem. Regards



To: The South Carolina Department of Transportation, Brad Reynolds, 955 Park Street, Columbia, SC 29201, ReynoldsBS@scdot.org, 803-737-1440

We, the residents of Clarendon and Orangeburg Counties, request that the South Carolina Department of Transportation (SCDOT) repair, renovate and reopen the bridge for US Highway 15 and US Highway 301 (US Hwy 15/301) over Lake Marion with full access to commercial and non-commercial traffic for which it was used in 1987 when it was closed instead of being replaced. The renovation of this bridge can include lane(s) for pedestrian, bicycling, fishing, etc.

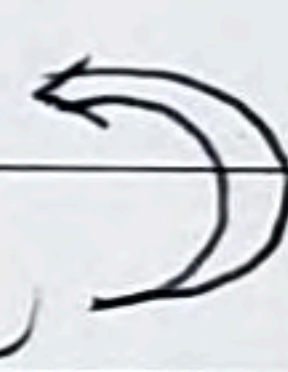
We object to the format of the Public Information Meeting on June 1, 2023, at the Santee Conference Center in Santee, SC, and the method to comment on this matter. This public meeting is not conducted in a manner that is completely transparent and accessible to everyone.

For 36 years, we have requested repair, renovation and reopening of the US Hwy 15/301 Bridge over Lake Marion because it is an alternate route, independent of Interstate 95, for local drivers who prefer not to use the interstate, for interstate traffic when Interstate 95 is shut down, and for vehicles that do not qualify for interstate travel such as farm equipment, bicycles, vehicles in tow, etc. The US Hwy 15/301 Bridge in one form or another has existed long before and was essential to the establishment and growth of towns along US hwy 15 and US hwy 301. And as Interstate 95 is a hurricane evacuation route, it is just common sense to have more than one vehicle route over Lake Marion. Since the closure of the US Hwy 15/301 Bridge in 1987, the following have occurred:

1. Economic development in both counties has been negatively impacted. Many businesses along US Hwy 15 and US Hwy 301 have closed in both counties as well as the state;
2. Local residents who probably would not have used the I-95 Bridge over Lake Marion have died in traffic accidents on the bridge, as interstate fatalities on and near the I-95 Bridge have increased;
3. Traffic congestion in cities adjacent to Lake Marion has become problematic as a result of bumper-to-bumper traffic on Interstate 95 due to monthly occurrences of accidents/incidents, frequently stopping local traffic for hours and sometimes all day. The shortest detour over Lake Marion is 80 miles east or west of the I-95 Bridge.

We, the residents of Clarendon and Orangeburg Counties, wish to receive a response to this comment.



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ID #	Pre	Last name	First name	Address	City	State	ZIP	Email	Phone	Comment Source	Comment	Comment Response (DRAFT)	Internal Comment Tags
1		Thompson	Eileen	197 Ballard Lane	Santee	SC	29142	stonebro ke_adelp hia1@co mcast.net	717-870- 8923	Meeting	Consideration needs to be made to installing a sound barrier on the southbound side along Bass Drive. Noise has already increased since they cut back some of the trees.		Noise
2		Jowers	Richard	PO Box 627	Summert on	SC	29148	rjowers@ ttc-i.net	803-840- 0767	Meeting	I propose Alternative C with the third bridge being saved for future travel in the event that any disaster made the new bridge unusable		Alternative C
3		Janis	Paul and Sandy	383 Ballard Lane	Santee	SC	29142	paulanis@ gshotma il.com	630-346- 7333	Meeting	Our preference is for Alternative C or A. The farther away from the residential area the better.		Alternative A or C
4		Pinter	Joanie	107 Santee Cooper Annex	Santee	SC	29142	supermi ni@ntine t.com	803-535- 8593	Meeting	Good for a change. Use most cost effective means to do the project.		Support
5		Flannagan	James	401 Ballard Lane	Santee	SC	29142	Poffassi@ gmail.co m	631-384- 1660	Meeting	Mr. McGoldrick was outstanding, answering all my questions with clarity. He was pithy in his explanations and had an honest air about him. Big concerns 1) Please don't take Bass Drive - we live in BFL. 2)No tolls for locals to cross lake. 3)Sound baffles on Bass Drive for highway noise.		Support, ROW, tolls, noise
6		Turner	Melanie	The Lake House Restaurant 5321 Dingle Pond Rd	Summert on	SC	29148	me.mcke nna@yah oo.com	803-478- 3686	Meeting	Option C is definitely the best option! Please.		Additional Bridge
7		Pickens	Art and Marion	3254 Francis Marion Blvd	Summert on	SC	29148		803-478- 4140	Meeting	We do not like the idea for people to walk, fish, ride bikes on a road with trucks etc. flying by at 80mph and we have gators. That is why we have so many accidents with people slowing down just to see the lake. Keep old 301 bridge open.		Support, additional bridge
8		White	Laverne	PO Box 1301	Santee	SC	29145	lavernjam ison@yah oo.com	803-707- 8751	Meeting	Blank		Blank
9		Bilger	Michael	3554 Francis Marion Blvd	Summert on	SC	29148	michaelbi lger91@g mail.com	803 4252637	Meeting	The old 301 Bridge needs to stay as recreation and fishing supported by the State. Option A is my/ our vote. The other consideration is national defense. Need a bypass near to this point. Drive the roundabouts. Show two ways.		Alternative A Maintain 301 Bridge
10		Infinger	Rose Ann	210 Winn Street	Sumter	SC	29150	rosebud@ 1053@g mail	803-883- 1301	Meeting	I would hope the funding is provided through federal grants with a portion from our state funds the public will totally be informed. We are totally for the bridge as long as in the future the bridge is not a toll bridge. Many meetings or presentations should be held to keep the taxpayers focused. Please option C, east of existing bridges. Should have been a presentation to a seated auditorium in this conference room.		Alternative C, Funding, no toll
11		Willison	David and Kelli	261 Ballard Rd	Santee	SC	29142	d99jus@v ahoo.com	843696- 9057	Meeting	After reviewing the options, I prefer Option C. It is the cheapest and maintains a dedicated pedestrian bridge.		Alternative C
12		Anderson	John	5465 Old Number six	Elloree	SC	29047	Jruselljan derson@ gmail.co m	803-387- 9951	Meeting	I am in favor of Alternative 'C'. The independent walking bridge is part of our local culture. Thank you for presenting and caring enough to let us give feedback.		Alternative C
13		Edwards	Ronald	229 Bay Road	Reavesvill e	SC	29133		803-662- 0225	Meeting	Put a toll booth on each side		Support toll
14		Neff	Maria and John	2657 Princess Pond Road	Summert on	SC	29148	Mariagene ff181965 @gmail.c om	540-398- 7926	Meeting	Since Santee being the halfway point of the country from NYC to Florida, would love to see this bridge like an icon attraction to many travelers, visitors across the country, add cable columns and beautiful light around. Make it happen. :)		Support, Bridge Aesthetics
15		Streath	Mike and Terry	6475 Liberty Hill Rd	Summert on	SC	29148	mpstreat h1955@g mail.com	803-316- 2832	Meeting	NO TOLL PLAZAS. This meeting sucked. I was expecting a presentation. I feel we only got pieces of answers. Let me know when you have a real meeting.		No toll
16		Beal	Tricia	1183 Scott Lake Road	Summert on	SC	29148	triciabeal @gmail.c om	843-345- 4078	Meeting	Best option is Alternative C. This is the lowest cost. It also keeps the pedestrian bridge separate from the interstate. This is safer (no vehicles flying by at 85mph), this would also keep the community feel of the pedestrian walkway.		Alternative C
17		Hezekiah	Roosevelt	205 Minnesota Ct	Santee	SC	29142	roosveit hezekia@ sysco.co m	803-974- 9190	Meeting	Pedestrians allowed to walk the bridge. Be allowed to ride bikes across the bridge, be allowed to fish from the bridge again.		Ped/Bike use of new bridge
18		Scarborough	Gene	319 Green Street	Santee	SC	29142	nesscarbi r@aol.co m	803-854- 3429	Meeting	Very encouraged to see this. I prefer the one bridge plan. I am a former bridge bike rider and look forward to riding and walking the bridge in the future. Go for it. Thank you!		support
19		Brownee	Petey						757-773- 6732	Meeting	I think the separated bicycle ped bridge will be safer. Richland is comparable- but its not I-95 nor does it have the 18 wheel trucks.		Separated bike/ped from traffic
20		Viennean	Kent	1399 Princess Trace Circe	Summert on	SC	29148	suehagel @yahoo.c om	508-294- 2593	Meeting	Will access to the rest areas be affected by the construction ie. Equipment, parking, etc?		Access
21		Bivek	Arun	1076 Davis Drive	Summert on	SC	29148	arun.bive k@yahoo. com	803-473- 8501	Meeting	As a tax payer option C.		Alternative C
22		Murray	Flarather	P.O. Box 549 127 Mazzie Drive	Santee	SC	29142	florather. murray@ yahoo.co m	843-906- 4991	Meeting	1. Parking 2. Safety 3. Fishing 4. Walking 5. Safety Lane Great Presentation and Presenter		Access, Safety, Support
23		Beal	David	1183 Scott Lake Road	Summert on	SC	29148		843-209- 5242	Meeting	Love option "C"		Alternative C
24		Albergotti	Chad	1223 Prince Pond Road	Summert on	SC	29148	albergotti chad@em ail.com	803-516- 1789	Meeting	I own property on Bass Dr in Santee that might be useful during construction.		potential ROW property



25		Anderson	Kristie	5465 Old Number Six Highway	Elloree	SC	29047	<a href="mailto:polywoganderson@gmail.com">polywoganderson@gmail.com</a>	803-387-9459	Meeting	1. Thank you for having this. 2. Hoping you will do a video live of the final project. 3. Biggest Concern. Walking/Bike traffic on the same Bridge as car/truck traffic. I say version C. No people walking on same as moving traffic. I drive this area 2-8 times per day. People driving 80-90 mph with a walking trail is not comfortable. Also fishing off the bridge is important. Please take the time to listen to the locals who live here and drive this everyday. Our lake is very important to our area. Palmetto trail is also important to us and the state.		support, separated bike/ped from traffic
26		Weisher	John	303 Santee Drive	Santee	SC	29142	<a href="mailto:jwphone@gmail.com">jwphone@gmail.com</a>	803-516-2809	Meeting	I think common sense is to build new bridge between existing-my preference. Thank you for having this meeting very informative representatives were very helpful.		Alternative A
27		Still	Margaret	1139 Crescent Street	Summerton	SC	29148	<a href="mailto:stills71@gmail.com">stills71@gmail.com</a>	803-837-1602	Meeting	Option C allows for the walking path to be farther from the traffic, exhaust, and noise of the interstate. Please consider the air quality and noise walkers would be exposed to. Thank you.		Alternative C, Air & Noise Quality
28		Mrs. June P		129 Ballard Lane	Santee	SC	29142	<a href="mailto:lizzy5561@gmail.com">lizzy5561@gmail.com</a>		Meeting	Sound proofing from road noise between freeway and Bass lane. Freeway Resurfacing		Noise
29		Gleaton	Debra	1043 Autumn Lane	Summerton	SC	29148	<a href="mailto:debatleaton@gmail.com">debatleaton@gmail.com</a>	803-478-6159	Meeting	Need a message board over both bridges to warn of an accident and slow traffic or stopped traffic.		Message Board over Interstate
30		Bull	Marsha M.	6533 Five Chop Road	Santee	SC	29142	<a href="mailto:bullmarsh@a@yahoo.com">bullmarsh@a@yahoo.com</a>	803-664-4309	Meeting	I am thankful for the I-95 bridge replacement. It is welcomed by me. Future accidents on the bridge will not cause lengthy detours.		support
31		Eppling	Craig	315 Santee Dr	Santee	SC	29142	<a href="mailto:cheppling@gmail.com">cheppling@gmail.com</a>	972-768-3102	Meeting	Comment Sheet 1: In favor of option A to put the bridge where the current bridge basically is. This should alleviate (sp?) having to redirect entrances to the bridge. Comment Sheet 2: I now would like Option "C" as it will maintain a separate walking/fishing bridge. I "Do Not" want a walking area next to traffic lanes on I-95. Way to dangerous. A couple weeks ago a 18 wheeler lost its load of granite on the bridge.		Alternative C, separate bike/ped from traffic
32		Dantzer	Cole	2532 Princess Pond Road	Summerton	SC	29148	<a href="mailto:colddantzer59@gmail.com">colddantzer59@gmail.com</a>	803-707-8862	Meeting	Please during construction have police presence to keep traffic at a safe speed. I like Alternative A.		Alternative A
33		Clark	Scott	468 Santee Drive	Santee	SC	29142	<a href="mailto:scott@santeeassociates.com">scott@santeeassociates.com</a>	803-664-1121	Meeting	N and S must be 3 lanes of vehicular traffic plus 10' and 14' as shoulder area (future 4th lane will be possibility). I believe there is technology that could warn motorists of stalled or blocked lane so motorists would know to be alert and move over to a different lane-I believe there is a technology to warn motorists on their radio by overriding the radio signals in their vehicles-a light system can be installed over lanes of traffic. Solar lighting can be utilized under the bridge at night to help growing number of boating traffic-also serve as an aesthetically pleasing feature of the bridge. Noise barriers should be built on the N and S bound sides on the Santee south-side of bridge. At least near the Ballard Pointe Condos south bound side.		support, safety, traffic management
34		White	Dorothy S.	7019 Five Chop Road	Santee	SC	29142	<a href="mailto:dorthysallvwhite@gmail.com">dorthysallvwhite@gmail.com</a>	803-496-4166	Meeting	Love the plan! Pray that all work out for all our good-feel more secure! In passing traffic. Too much traffic now. I sat on the bridge for 1-3 hours before.		Support
35		Hambli	James	1407 Scott Lake Drive	Summerton	SC	29148	<a href="mailto:hambliames@yahoo.com">hambliames@yahoo.com</a>	508-725-2209	Meeting	Comment Sheet 1: Great Presentation. Please allow golf carts on foot bridge. Comment Sheet 2: Plan C look great. Please use 1 of the existing bridges as the walkway.		support, Alternative C
36		Murray	Barbara	P.O Box 549 127 Mazzie Drive	Santee	SC	29142	<a href="mailto:bamurray3@gmail.com">bamurray3@gmail.com</a>	843-906-3503	Meeting	Thank you for your assistance and presentations. We are concerned about the vast changes of the bridge structure want to keep it in a line with other structure as much as possible. A safe place for parking, walking, fishing, also sound barrier.		support, parking, noise
37		Relier	Greg	1087 Scott Lake Road	Summerton	SC	29148	<a href="mailto:ereek2@peophopcc.com">ereek2@peophopcc.com</a>		Meeting	I believe widening the I-95 is necessary for safety. I would like to see old 301 bridge stay open to public.		support, 301 bridge open
38		Rudd	Lee	2757 Princess Pond Road	Summerton	SC	29148		803-460-5508	Meeting	Need fire protection on bridge included, ramps at each end provide access. It could use dry hydrants. Feel free to contact me if you need to.		Fire protection

ID #	Pre	Last name	First name	Address	City	State	ZIP	Email	Phone	Comment Source	Comment	Comment Response (DRAFT)	Internal Comment Tags
1		Perano	Michael	325 Barkley Street	Ellenore	SC	29047	<a href="mailto:mperano@yahoo.com">mperano@yahoo.com</a>		Email	I have been discussing this with some friends who were at the town council meeting in Ellenore yesterday. It is my understanding that Option C would be the cheapest and allow for fishing from the bridge which is what I would support. It was also my understanding that when fishing was brought up at meetings that DOT would state that isn't their function. I would argue that position needs to change. DOT needs to serve the needs of the citizens and if you are building roads over water ways that connect poor communities, then it is a natural function of the government to provide a way for the citizen to engage in a lawful activity that can provide food on the table. Millions of our tax payer dollars are being spent and the cost to build out a little fishing area every so many yards has to be negligible. Turn this project from something everyone in the area is dreading to one that offers real benefit to the community. This could be a big win for DOT.		Alternative C, Fishing access
2		Senno	John and Cindy	1256 Summerford Lane	Manning	SC	29102	<a href="mailto:cs1172@sc.edu">cs1172@sc.edu</a>		Email	We found the information meeting well done. We went to many of the stations to listen to different conversations. We liked what we saw. It looks to be a lot safer. The main comment we have is to remove the old bridge and include the walk and bike lane on the new bridge. So everything is new and be good for x many years.		Support, take down 301
3		Hurst	Jackson	4216 Cornell Crossing	Kenneseaw	GA	30114	<a href="mailto:ahurst@marionbridge.com">ahurst@marionbridge.com</a>		Email	I approve and support SCDOT's Interstate 95 Bridge Replacements over Lake Marion Project. The aspect that I love about SCDOT's Interstate 95 Bridge Replacements over Lake Marion Project is that the existing 2 lane bridge on I-95 over Lake Marion will be replaced with a 3 lane bridge which will improve safety and reduce congestion. Regarding the alignment alternatives the alternative that I support is Alignment Alternative A - Median Alignment because Alignment Alternative A will not impact the Santee Cooper County Club.		Alternative A
4		Gleaton	Debra	1043 Autumn Lane	Summerton	SC		<a href="mailto:debragleaton@yahoo.com">debragleaton@yahoo.com</a>		Email	I am in favor Alternative A. It affects open water less and I don't see a need for a bike and walking lane as it's my understanding that walking and biking on the interstate is prohibited. My second comment is that signage is desperately needed ASAP prior to NB Exit 99 and SB Exit 102 to alert drivers of an accident on the bridge so drivers can take an alternate route.		Alternative A
5		Goodwin	John	728 Bass Drive	Santee	SC		<a href="mailto:good909@gmail.com">good909@gmail.com</a>		Email			
6		Jobe	John and Debbie		Summerton	SC		<a href="mailto:maltopeppabiet@yahoo.com">maltopeppabiet@yahoo.com</a>		Email	We attended the bridge meeting on June 1. We were sort of disappointed in information provided. Seems that some DOT folk were not on same page. However, it seems that no matter which option is decided on that it will be a new portion added and then a tear down. Is this correct? We are also concerned about the proposed bike/walk lane. Even with a fence/barcade for protection, people travel the bridge now in excess of 85mph. Can only imagine what the new bridge will encourage. Another concern is the lanes for future use. What is going to keep people from using them and then be forced into a bottleneck situation when it goes back to two lanes. We agree the bridge needs replacement as we have been stuck many times due to accidents and look forward to the project. We also appreciate the opportunity to comment. Look forward to hearing from you.		support, separated bike/ped from traffic
7		Murray	James T.	105 Cooper Circle	Santee	SC	29142-9314	<a href="mailto:jbmurray@sc.edu">jbmurray@sc.edu</a>	540-270-9366	Email	Mr. Reynolds's, in a few short words could you explain what this project entail and when it will begin. I plan on being at the Santee Conference Center June 1, 2023 as well. Thanking you in advance.	Mr. Murray, The project will replace the I-95 Bridges over the	Brad Reynolds responded.
8		Murray	James T.	105 Cooper Circle	Santee	SC	29142-9314	<a href="mailto:jbmurray@sc.edu">jbmurray@sc.edu</a>	540-270-9366	Email	Mr. Reynolds's, a very informative meeting last night at the Santee Conference Center pertaining to the I-95 bridge replacement. It was mentioned that two Federal Loans were being requested and that whether approved or not the project was going through. IF THE LOANS ARE NOT APPROVED, WHO IS PAYING AND HOW? The new bridge will be built for three lanes of traffic but not open to three lane traffic until the highway is widened. Is there any time period as to when that project to widen the highway will be undertaken? Thank you for keeping us informed.		support, funding
9		Rudd	Lee							Email	Very informational, y'all did a great job. Everybody there seem 2 know what was going on. We public now know the extent of Your job.		support
10		Stroman	Beverly	101 Ballard Lane	Santee	SC	29142			Email	My name is Beverly Stroman and reside at 101 Ballard Lane in Santee. Below are my comments and suggestions: Option C is the best proposed option for the following reasons at the I-95 bridge in Santee. 1. Public safety is paramount, and Option C allows the current I-95 South to be solely dedicated to walking, biking and other recreational activities on the bridge. A dedicated area, concrete walls and substantial fencing will NOT prohibit loaded 18 wheelers and cars with substantial speed from plowing over into the walking/biking lane. Presenters stated that the bridge would be similar to the Arthur Ravenel Bridge in Charleston; however, few 18 wheelers travel that route and even car speeds usually don't exceed 70 mph since the bridge connects Mt. Pleasant to downtown Charleston with numerous traffic lights on both ends of the bridge. 2. The noise from I-95 is substantial at the present. If Option B is selected, our residence will be even closer to the traffic noise, and the buffered area between I-95 and Bass Drive will be destroyed. No one wants to have a clear view to a heavily traveled major interstate. Also, Option C allows the new I-95 bridge to be constructed in an area farther from residences. 3. Parking is another use with all options. The presenters stated that there would be a constructed parking area on the Clarendon County side. As you know, humans will take the shortest path as Santee and surrounding residents will not travel a major interstate in order to park to use the walking bridge. I would suggest looking at area at the current rest areas for an Orangeburg County parking site. Also this area would allow accessibility of the I-95 travelers and promote tourism in our local counties. 4. Poverty in both counties exceeds the state age of 18.3% with Orangeburg County at 27.3% and Clarendon County at 19.9%. This area has been unfortunately labeled as part of the I-95 Corridor of Shame but this would allow both counties to apply for local, state, and federal grants to use the new pedestrian I-95 Southbound bridge for FREE recreational activities, the possibility of staged events, and possibly bridge upgrades like lighting, benches, and trashcans. Thank you for allowing the public's input to this major decision!		Alternative C, separate bike/ped from traffic, parking
11		Ball	GeneLudy	P.O. Box 304	Santee	SC	29142	<a href="mailto:gball@yahoosm">gball@yahoosm</a>	803-682-1118	Email	See attached document - Comments concerning the Project. Thanks much Gene Ball. Dear Mr. Reynolds, In reviewing the I-95 Bridge Project, I would trust that serious consideration be given to the possibility of four lanes for both north and southbound directions. I really believe that the project falls short in projection of future growth as well as, military response in a national emergency. I-95 is an integral part of the Nation's critical infrastructure and this bridge access is most critical. I have been a member of Santee Fire Department for 20 years and its chief for 5 years as well as Director of Fire Services for Orangeburg County for 18 years with additionally now volunteering. During these 44 years, I have personally spent hundreds of hours on the I-95 bridge with accidents and traffic stopped for long periods of time. I know it will involve more costs, but this critical infrastructure must consider the future need especially military and supply chain requirements for our future growth. The present options appear to me to be obsolete before the project can be completed. Sincerely, Clarence E. (Gene) Ball 803 682 1118		# of lanes, utilization by the military
12		Corbett	Tessa W.	1443 Scott Lake Road	Summerton	SC	29148	<a href="mailto:tessacorbett@sc.edu">tessacorbett@sc.edu</a>	803-395-7253	Email	Good afternoon, I attended the Public Meeting in Santee but decided to email my comments. Please review the attachment! Thank you and Have a great day! Tessa W. Corbett. If the current I-95 North & South Bridges over Lake Marion are structurally sound, I would leave them as is. I would build a new bridge between the 2 current bridges to be used when traffic backs-up from an accident. The traffic could be redirected as needed. Also please continue to update and use the old 301 pedestrian bridge instead of building a new pedestrian walk on a new bridge. The relaxing current walk on the old bridge is better than walking beside 18-wheeler trucks traveling at the speed of 80 miles an hour. This would also save SC taxpayer's \$\$\$. Thank you!		Leave existing bridges and build a new set, 301 bridge renovation
13		Smith	Linda	2396 Princess Pond Road	Summerton	SC	29148	<a href="mailto:lsmith@sc.edu">lsmith@sc.edu</a>	803-460-7758	Email	I live on the North side of Lake Marion. I would prefer Option A since he appears to be less disruptive during construction and it still provides a walking option for those who wish to walk across.		Alternative A
14		Brown	Frank Patricia					<a href="mailto:frankbrown@bcschools.com">frankbrown@bcschools.com</a>		Email	This could be an opportunity to separate the 18 wheelers and the files from regular vehicles crossing the bridges, build a new two lane in the middle with lanes for emergency pullovers, let 18 wheelers use existing bridges and continue using the old bridge for walking etc.		separates 18 wheelers from traffic

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		Epping	Craig	315 Santee Dr	Santee	SC	29142	chopping@gmail.com	(972) 788-4656	Website	Looking at the I 95 Bridge webpage it does not show where the new bridges will be. Are they East or West of the current I 95 bridge? Also where will the access points on both sides be? Will the access points take up new land area on either side? This information would be useful for everyone living in the area.		Access
		Conron	Fred	3115 Scott Lake Rd	Summerton	SC	29148	fronson65@gmail.com	(843) 437-2231	Website	Very happy to hear of this project. It is badly needed since if there were a major disaster in lower part of the state this will greatly ease the fear of being bottlenecked on the south side as this would be catastrophic. Especially glad to hear that there will be a pedestrian walkway as well. As a current Lake Marion resident I am pleased to hear that the old 301 bridge will be kept open. There are so many people that like to fish but they can't afford a boat. Thanks for keeping these people in the planning and execution of this project		support, 301 kept open
		Salazar	Marc A.	696 CALHOUN RD	ST MATTHEWS	SC	29138249	bravo146@yahoo.com	(803) 456-1558	Website	The bridge will be a doorway to Orangeburg, Clarendon & Calhoun Counties. Here is an opportunity to increase tourism for the three counties. Millions will pass through each year. Feedback please! When replacing the old 301 bridge, please add on small outcrops on the land part or low bridge sections so locals and tourists can relax & fish. Historically locals have used the old 301 bridge for fishing and that would make locals feel like the new bridge is theirs just like the old 301 bridge plus passers by will see folks relaxing, fishing, exercising on designated areas and may want to move or vacation there.		Bridge Aesthetics, 301 renovation
		Hutchinson	Cynthia	1341 Davenport Dr	Manning	SC	29102	cindyhutch@icloud.com	(803) 450-7524	Website	Yes, I have an elderly friend that lives on #6 in Santee, S.C. I check on her frequently almost every day. She will be 86 this month. Do I need a permit or pass so I will be able to check on her? Also she lives alone & depends on me for food, doctor appointments, & emergency if it should occur I have a vet appointment today & hopefully I will make it in time. Thanks, Cynthia Hutchinson 803-450-7524	Phone call	Need a pass to cross bridge?
		Lefinaux	Dave	1129 Margaret Drive	Summerton	SC	29148	davelefinaux@gmail.com	(616) 446-0945	Website	Hello, interested in knowing if there can be a carpool lane for those needing to cross at least twice a day for employment purposes alone. Please tell me what you may have come up with regarding this. Dave		carpool lane
		McMahon	Daniel	1202 Dogwood Cir	Summerton	SC	29148	djm792001@yahoo.com	(609) 423-0491	Website	You can travel from Fla. thru Va. with no tolls on rt 95. Each of the above states section of 95 are in most cases, better than our. We do not need tolls to fix this problem. Most of our portion of 95 are not in real good shape. We do not need tolls to fix this problem. Other states have no tolls and their sections of 95 are in better shape. Before the idea of tolls are thought of look into where the road fund allocation is going. Maybe we should also look at our neighboring states and learn how they can keep rt 95 toll free and in better shape. Thank you. Daniel McMahon		No tolls
		Evans	Nancy	1056 crescent st	Summerton	SC	29248	nbevan1950@gmail.com	(893) 478-4545	Website	I vote for C		Alternative C
		Baucom	Viola G	2078 Princess Pond Rd	Summerton	SC	29148	vibaucom@hotmail.com	(803) 225-6702	Website	I prefer option C. it seems to be the safest for walking traffic.		Alternative C
		Bergen	Elizabeth	1054 Gator Drive	Summerton	SC	29148	betseybergen@gmail.com	(803) 478-2046	Website	Are there any plans to reopen the rt 301 bridge to vehicular traffic in the future? Also how long is the proposed time to complete the project? Thank you. I was unable to attend the meeting in Santee on June 22 as I was out of town.		301 Bridge renovation
		Powell	Regena	180 Cantey Drive	Santee	SC	29142	powellregena7@gmail.com	(111) 803-9711	Website	Request that the US Hwy 15/301 Bridge is repaired, Renovated and Reopen The Renovated can include pedestrian Lanes		301 Bridge renovation
		Carter	Brigetta Ronald	3031 Duboise Drive	Summerton	SC	29148	briggcar@aol.com		Website	Sorry missed meeting. We need a replacement bridge it really necessary. No other way to cross the lake. We live in Francis Marion Div. Is this proposal to replace bridge going to really happen???		support
		Jackson	John D.	1164 Tidale	Summerton	SC	29148	hardrider20@gmail.com	(803) 305-2319	Website	I'm a truck driver for over thirty years in this area and seen many times we were sitting in traffic for hours. After a major accident on the bridges south or north around 100 mile markers, we really need a alternate route if there is a major accident over the river.		alternative route
		Aiberry	Brenda	285 Rexford Court	Santee	SC	29142	brooklynbear906@gmail.com	(803) 614-6142	Website	Please send all information that is required for this to be transparent to me & my community. Thank you.		Send all meeting information
		Hunt	Jackson	4216 Cornell Crossing	Kennesaw	GA	30144	ghunt@ghunter@yahoo.com		Website	I approve and support SCDOT's Interstate 95 Bridge Replacements over Lake Marion Project. The aspect that I love about SCDOT's Interstate 95 Bridge Replacements over Lake Marion Project is that the existing 2 lane bridge on I-95 over Lake Marion will be replaced with a 3 lane bridge which will improve safety and reduce congestion. Regarding the alignment alternatives the alternative that I support is Alignment Alternative A - Median Alignment because Alignment Alternative A will not impact the Santee Cooper Country Club.		support, Alternative A
		Bull	Chyde	6533 Five Chop Road	Santee	SC	29142	bulchayde70@gmail.com	803-854-3241	Website	Alternative A is my choice		Alternative A
		Johnson	Tyrone	258 Barcelona Drive	Santee	SC	29142	tyjohnson0637@yahoo.com	269-744-2813	Website	Hey, the project looks great! I'm so happy. Yes the old single bridge needs to be on the new project also to be reopen if an accident that we all know of. The 3 lane project as I know we can do for the town of Santee and south a north driver... thank you so much.		support
		Munkittrick	Mark Graham	1055 Chapel Branch Road	Santee	SC	29142	gmunkit@gmail.com	208-661-5369	Website	More than 20 years ago the SCDOT acknowledged that they among others were responsible for sedimentation into Lake Marion from Interstate 95 near the bridge. Despite numerous complaints from local residents and attempts to get the situation stopped nothing has been done. It has come to the point that the sedimentation has made parts of Chapel Branch unswimmable as well as having a negative impact on the fisheries and wildlife. This would be the perfect time to obtain funding for the solution to this problem. Regards		Sedimentation in Chapel Branch



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		Hayson	Dorothy G.	1084 Gator Drive	Summerton	SC	29148		803-478-7204	USPS	I went to your "meeting" yuck!! I got no answer to my question they just showed me maps of 95. I have to use I 95 to go anywhere for the 38 years I've lived in North Santee. I want to know why waste space for cycles and foot when you just finished rehab on the 301 bridge? Will all traffic be on 1 bridge while the other bridge be worked on?		did not like meeting, staging
		McCormick	Max	3383 Francis Marion Blvd	Summerton	SC	29148	<a href="mailto:mmaxmcc@bellsouth.net">mmaxmcc@bellsouth.net</a>	803-478-4810	USPS	You should place heavy emphasis on minimal disruption to traffic flow during construction. Heavy 18 wheel traffic can lead to huge back ups even when minimal disruption to their flow is encountered. Especially during vacation and seasonal migration of families from New England states and Florida.		traffic management during construction
		McCormick	Jane	3383 Francis Marion Blvd	Summerton	SC	29148	<a href="mailto:jmccmcc@bellsouth.net">jmccmcc@bellsouth.net</a>	803-478-4810	USPS	#1. Thank you for the information and for squelching rumors. #2. Lake Marion Bridge I more than a through fare between New York and Florida. It is vital to Middle S.C. Commerce. This needs to be considered when making final decisions, especially in regard to the proposed walking/bike path. #3. I 95 traffic is at least 75 mph. Drivers slow down to view the lake, causing accidents. A walking/bike path is another distraction causing more crashes. #4. The proposed bike/walking path does not allow fishing. Carts and tents are used on the old 301 which is important for local residents, visitors, and the Palmetto Trail. #5. Please take into account that many people love here and depend on the bridge.		support, separated bike/foot traffic from interstate
		Risher	Alfred Cindy	1063 Blue Bird Ct	Summerton	SC	29148	<a href="mailto:13ofpappy2@gmail.com">13ofpappy2@gmail.com</a>	803-478-9604	USPS	I prefer Alternative "A".		Alternative A
		Carter	Lis	322 Yillum Ct	Santee	SC	29142	<a href="mailto:liscarter1@gmail.com">liscarter1@gmail.com</a>	843-993-3473	USPS	We would suggest Alternative A if possible to prevent disturbing people on west or east side of bridge.		Alternative A
Sr.		Murray	James T.	105 Cooper Circle	Santee	SC	29142-9314		540-270-9366	USPS	Sent my concerns in new email.		
		Weaver	Michael	144 Ballard Lane	Santee	SC	29142	<a href="mailto:mjweaver51@gmail.com">mjweaver51@gmail.com</a>	717-321-9097	USPS	Since they removed some of the trees along 95 interstate and Ballard in the noise is very loud inside the condos. We need [Sound Barriers] along the area. Please help us. Thank you, Plenty of nice dining from the noise.		noise
		Flowers	Roger L.	1184 Joyner Drive	Summerton	SC	29148	<a href="mailto:roperl@ftr.net">roperl@ftr.net</a>	803-460-6002	USPS	Dear Mr. Reynolds: I am pleased with the project as presented, "too long coming". I hope everything goes well. I'm a farmer in Clarendon County and take pride in the appearance of our County. That being said, the first impression a local gets on a visitor is "horrific", "I've heard these comments". We are blessed to have such a beautiful lake, but first impressions mean more. We have dropped the ball on keeping the roadsides of the bridge clean for perfect vision of the lake and its beauty. I ask and hope the new bridge will be funded to keep clean and beautiful. Thanks for all you do, Roger Flowers.		support

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		Asbery	Brenda	285 Rexford Court	Santee	SC	29142	<a href="mailto:BrooklynBreeze905@gmail.com">BrooklynBreeze905@gmail.com</a>	803-614-6142	Petition	To: The South Carolina Department of Transportation, Brad Reynolds, 955 Park Street, Columbia, SC 29201, ReynoldsB@scdot.org, 803-737-1440 We, the residents of Clarendon and Orangeburg Counties, request that the South Carolina Department of Transportation (SCDOT) repair, renovate, and reopen the bridge for US Highway 15 and US Highway 301 (US Hwy 15/301) over Lake Marion with full access to commercial and non-commercial traffic for which it was used in 1987 when it was closed instead of being replaced. The renovation of this bridge can include lanes for pedestrian, bicycling, fishing, etc. We object to the format of the Public Information Meeting on June 1, 2023, at the Santee Conference Center in Santee, SC, and the method to comment on this matter. This public meeting is not conducted in a manner that is completely transparent and accessible to everyone. For 36 years, we have requested repair, renovation, and reopening of the US Hwy 15/301 Bridge over Lake Marion because it is an alternative route, independent of Interstate 95, for local drivers who prefer not to use the interstate, for interstate traffic when Interstate 95 is shut down, and for vehicles that do not qualify for interstate travel such as farm equipment, bicycles, vehicles in tow, etc. The US Hwy 15/301 Bridge in one form or another has existed long before and was essential to the establishment and growth of towns along US Hwy 15 and US Hwy 301. And as Interstate 95 is a hurricane evacuation route, it is just common sense to have more than one vehicle route over Lake Marion. Since the closure of the US Hwy 15/301 Bridge in 1987, the following have occurred. 1. Economic development in both counties has been negatively impacted. Many businesses along US Hwy 15 and US Hwy 301 have closed in both counties as well as the state. 2. Local residents who probably would not have used the I-95 Bridge over Lake Marion have died in traffic accidents on the bridge; as interstate fatalities on and near the I-95 Bridge have increased; 3. Traffic congestion in cities adjacent to Lake Marion has become problematic as a result of bumper-to-bumper traffic on Interstate 95 due to monthly occurrences of accidents/incidents, frequently stopping local traffic for hours and sometimes all day. The shortest detour over Lake Marion is 80 miles east or west of the I-95 Bridge. We, the residents of Clarendon and Orangeburg Counties, wish to receive a response to this comment.	Response letter for all petitioners.	
		Absery	Juanita	1235 Cleckley Blvd	Orangeburg	SC	29118		803-997-4334	Petition	"		
		Asbery	Olin	1236 Cleckley Blvd	Orangeburg	SC	29118		803-308-6770	Petition	"		
		Sjahron	Davis	285 Rexford Court	Santee	SC	29142	<a href="mailto:lahdavis526@gmail.com">lahdavis526@gmail.com</a>	803-621-5849	Petition	"		
		Asbery	Dexter	3720 Seif Street	Orangeburg	SC	29118		212-671-2024	Petition	"		
		Asberry	Gregory	3745 Seif Street	Orangeburg	SC	29118		718-506-2629	Petition	"		
		Asbery	Andrew	139 Jitterbug Lane	Santee	SC	29142		803-596-4472	Petition	"		
		Folk	Tameka	160 Graceland Ct	Swansea	SC	29160		803-837-6802	Petition	"		
		Suite	Rayquon	221 Heirs Drive	Eutawville	SC	29048		803-971-3441	Petition	"		
		Green	Richard	262 Lauderdale Road	Eutawville	SC	29048		803-492-7279	Petition	"		
		Green	Rosa	262 Lauderdale Road	Eutawville	SC	29048		803-492-7280	Petition	"		
		King	David D.	231 Craig Street	Eutawville	SC	29048		803-971-2830	Petition	"		
		Mcaeler	Laural	2809 Toney Bay Road	Holly Hill	SC	29059		803-971-3979	Petition	"		
		Adams	Amber	428 Walker Dr	Eutawville	SC	29048		843-245-6182	Petition	"		
		Washington	Kevin	13254 Old Number 6 Hwy	Eutawville	SC	29048		801-571-0159	Petition	"		
		Brown	John	246 Wesgar Drive	Eutawville	SC	29048		803-759-1579	Petition	"		
		Williams	Shinayah	162 Praire Lane				<a href="mailto:williamschinayah@gmail.com">williamschinayah@gmail.com</a>	803-579-0964	Petition	"		
		Martin	Geneva	173 Praire Lane				<a href="mailto:genevamarin1960@gmail.com">genevamarin1960@gmail.com</a>	803-664-8925	Petition	"		
		Foy	Carrie	114 Celea Drive					803-854-0097	Petition	"		
		Davis	Mary	125 Celea Drive					803-854-3214	Petition	"		
		Larry	Shuler	127 Praire Lane				<a href="mailto:LarryShuler1978@gmail.com">LarryShuler1978@gmail.com</a>	803-897-3266	Petition	"		
		Martin	Tiffany	7651 Old Hwy 6	Elloree	SC	29047	<a href="mailto:Tiffany1984C@gmail.com">Tiffany1984C@gmail.com</a>	803-308-3740	Petition	"		
		Fogle	Tyrone	120 Ladd Drive	Santee	SC	29142		803-308-7979	Petition	"		
		Evans	Korey R.	311 Sorin Circle	Elloree	SC	29047	<a href="mailto:Korey.Evans@yahoo.com">Korey.Evans@yahoo.com</a>	201-344-2065	Petition	"		
		Fogle	Brandon	429 Richardson Street	Cross	SC	29436		854-206-7148	Petition	"		
		Washington	Laura	185 Peach Orchard Street	Vance	SC	29163-9539	<a href="mailto:elforeclub@yahoo.com">elforeclub@yahoo.com</a>	803-747-438	Petition	"		
		Gadson	Rachael	P.O. Box 740					803-308-3940	Petition	"		
		Gathers	Raymond	386 Lauderdale Road	Eutawville	SC	29048		803-410-3808	Petition	"		
		Gathers	Oveen Ann	387 Lauderdale Road	Eutawville	SC	29048			Petition	"		
		Smith	Tony		Eutawville	SC	29048		843-364-4752	Petition	"		
		Capers	Bridget	140 Terresa Court	Eutawville	SC	29048	<a href="mailto:coopersbr@yahoo.com">coopersbr@yahoo.com</a>		Petition	"		
		Capers	Brittnie	140 Terresa Court	Eutawville	SC	29048	<a href="mailto:brttniedc@gmail.com">brttniedc@gmail.com</a>		Petition	"		
		Simmons	Benjamin	153 Montgomery Drive	Eutawville	SC	29048	<a href="mailto:clsbr@msn.com">clsbr@msn.com</a>	917-538-3371	Petition	"		
		Jamison	Mary A.	P.O. Box 554	Holly Hill	SC	29059		803-759-0813	Petition	"		
		Halls	Tyrone	253 Sumter Road	Eutawville	SC	29048		803-637-2177	Petition	"		
		Middleton	Gloria J.	P.O. Box 322	Eutawville	SC	29048	<a href="mailto:gmiddleton1221@yahoo.com">gmiddleton1221@yahoo.com</a>	803-630-3689	Petition	"		
		Kenneth	Montgomery	103 200 Lane	Eutawville	SC	29048		803-707-9340	Petition	"		
		Brisbon	Annett	345 Rodeo Drive	Eutawville	SC	29048		803-492-8811	Petition	"		
		Myers	Summer	13806 Hwy 6	Eutawville	SC	29048		803-493-7034	Petition	"		
		Paris	Idrigali	221 Heirs Drive	Eutawville	SC	29048			Petition	"		

	Duncan	Chuck	11983 Old Hwy 6	Eutawville	SC	29048		803-492-5060	Petition	"		
	jaepn	reuenery	Rt# 735 P#	Eutawville	SC	29048		803-971-1587	Petition	"		
	Bennette	Tom	1326 Spilandin g Road, 3493	Cross	SC	29436		843-753-6321	Petition	"		
	Yead	Helen S.	P.O. Box 4	Eutawville	SC	29048		803-971-0346	Petition	"		
	Brown	Larry & Zadie	131 Blakey Court	Eutawville	SC	29048		803-971-3420	Petition	"		
	Brown	Zadie	131 Blakey Court	Eutawville	SC	29048		803-707-7235	Petition	"		
	Parker	Allen	406 Sleepy Hollow Road	Eutawville	SC	29048		803-971-0093	Petition	"		
	Burke	Beverly	192 Campground Road	Eutawville	SC	29048		803-759-0954	Petition	"		
	Gethers	Willie	180 Grader Fire Road	Eutawville	SC	29048		803-492-4975	Petition	"		
	Gethers	Lula	180 Grader Fire Road	Eutawville	SC	29048		803-664-4118	Petition	"		
	Gadson	Tenie	130 Petite Drive	Eutawville	SC	29048		803-496-6461	Petition	"		
	Wright	Jerry	1395 Lodge Hill Street	Vance	SC	29163		803-971-0542	Petition	"		
	Wright	Jo Ann	1395 Lodge Hill Street	Vance	SC	29163		803-498-7870	Petition	"		
	Parker	Midielle	P.O. Box 157	Vance	SC	29163		803-496-3240	Petition	"		
	Brown	Michael	823 Sands Point Street	Eutawville	SC	29048		803-974-9186	Petition	"		
	Young	Terry	110 Speedway Street	Eutawville	SC	29048		803-759-5984	Petition	"		
	Ruviel	Regena	180 Santee Drive Apt#235	Santee	SC	29142		803-971-1228	Petition	"		
	Godfrey	Minnie	162 Slim Jim Road	Santee	SC	29142		203-916-2766	Petition	"		
	Sellers	Tyreda						203-813-0490	Petition	"		
	Darity	Samantha	1681 Main Street	Alcolu	SC	29001	<a href="mailto:samanthadarty2023@icloud.com">samanthadarty2023@icloud.com</a>	843-508-0664	Petition	"		
	Carter	Tiera	411 Sheard Drive	Santee	SC	29142		803-974-1532	Petition	"		
	Greene	Tori	377 Lanier Drive	Holly Hill	SC	29059		803-496-6852	Petition	"		
	Jefferson	Kenneth	233 Boo Circle	Santee	SC	29142	<a href="mailto:kennethjefferson33@gmail.com">kennethjefferson33@gmail.com</a>	347-339-9129	Petition	"		
	Williams	Trina	325 Clark Street	Santee	SC	29142			Petition	"		
	Shivers	James	125 Barninro Street	Elloree	SC	29047			Petition	"		
	Bethey	Artey	P.O. Box 622					803-837-6404	Petition	"		
	Gates	George	603 Threer Bridge Road	Elloree	SC	29047		803-837-3011	Petition	"		
	O'Cain	Dean	209 Browning Road	Elloree	SC	29047		803-308-4163	Petition	"		
	Johnson	Tony	124 Fludd Street	Santee	SC	29142		203-449-2265	Petition	"		
	Haynes	Isaac	450 Bay Street	Elloree	SC	29047		803-308-6038	Petition	"		
	Darley	Hercules	112 Prevoo Drive	Santee	SC	29142		803-974-1397	Petition	"		
	Snider	Rosevelt						803-826-6948	Petition	"		
Sr.	Bryant	Willie S.	13158 Old Hwy 6	Eutawville	SC	29048		803-492-7303	Petition	"		
	MacCoy	Colleen	204 Tucker Road	Eutawville	SC	29048		708-548-0996	Petition	"		
	James	Barbara	P.O. Box 572	Eutawville	SC	29048			Petition	"		
	Oliver	Jeremiah	P.O. Box 461	Eutawville	SC	29048		803-492-7803	Petition	"		
	Minty	Mattie	162 Carribell Road	Eutawville	SC	29048		803492-8337	Petition	"		
	Sanders	Ashley	153 Sacramento Road	Eutawville	SC	29048		803-974-0786	Petition	"		
	Davis	Williams	120 Prayer Lane	Eutawville	SC	29048		803-308-7060	Petition	"		
	Gethers	Patricia	1311 Old Hwy 6	Eutawville	SC	29048		803-496-8348	Petition	"		
	Stephens	Elbert	201 Mazzie Drive	Santee	SC	29142		727-906-2167	Petition	"		
	Pearson	Tommie	110 Cecilia Street	Santee	SC	29142		803-225-4512	Petition	"		
	Sumter	Shelhw	126 Red Bank Road	Eutawville	SC	29048	<a href="mailto:sshelwsumter@gmail.com">sshelwsumter@gmail.com</a>		Petition	"		
	Evans	Debra A.	311 Sorin Circle	Elloree	SC	29047		201-780-6713	Petition	"		
	High	D'Angelo	573 Resort Street	Santee	SC	29142	<a href="mailto:DHleh322@gmail.com">DHleh322@gmail.com</a>	803-456-1634	Petition	"		
	Clark	Sherese	573 Resort Street	Santee	SC	29142		803-585-3289	Petition	"		
	Keitt	Sondra	180 Cantey Drive, Apt 236	Santee	SC	29142			Petition	"		

	Bryant	Jerome	180 Cantey Drive, Apt 249	Santee	SC	29142		803-496-8814	Petition	"		
	West	Barbara	328 Westridge Lane	Eutawville	SC	29048		843-753-4084	Petition	"		
	Parkway	Joseph	426 Howard Lane	Eutawville	SC	29048		843-826-6346	Petition	"		
	McKinley	Yeadon	179 Carriebell Road	Eutawville	SC	29048		843-934-8370	Petition	"		
	King	Johnny	110 Greystone Circle	Eutawville	SC	29048		803-664-0486	Petition	"		
	Gilmore	Glenda J.	371 Carriebell Road	Eutawville	SC	29048		803-971-2081	Petition	"		
	Ravenell	Theodore	426 Rain Lilly Lane	Eutawville	SC	29048		803-492-7917	Petition	"		
	Williams	Ezekiel	P.O. Box 662	Eutawville	SC	29048	<a href="mailto:tug12town@gmail.com">tug12town@gmail.com</a>		Petition	"		
	Stinson	Lubertha	634 County Line Road	Cross	SC	29436		803-971-0768	Petition	"		
	Mack	Mary	787 Antioch Road	Santee	SC	29142		803-614-9928	Petition	"		
	Mack	Santana	7838 Five Chop Road	Santee	SC	29142		803-837-8788	Petition	"		
	Douglas	Helen M.	811 Antioch Road	Santee	SC	29142		803-854-0046	Petition	"		
	Floyd	Louis	220 November Road	Santee	SC	29142		803-854-2042	Petition	"		
	Shivers	Marcus	2111 Tee Vee Road	Santee	SC	29142		803-456-5346	Petition	"		
	Mack	Travis J.	194 Wactor Drive	Santee	SC	29142		803-974-9983	Petition	"		
	Pawling	Eric	785 Antioch Road	Santee	SC	29142		803-347-1294	Petition	"		
Jr	Mack	James	208 November Road	Santee	SC	29142		803-857-3992	Petition	"		
	Goodwin	Linda	2303 Tee Vee Road	Elloree	SC	29047			Petition	"		
	Simmons	James		Charleston	SC			1-843-925-5526	Petition	"		
	Pawling	Stephanie	2303 Tee Vee Road	Elloree	SC	29047	<a href="mailto:moniquepawling@gmail.com">moniquepawling@gmail.com</a>		Petition	"		
Jr	Ferguson	Matthew	6325 Old 6 Hwy	Elloree	SC	29047		843-814-6215	Petition	"		
	Ferguson	Angela	6326 Old 6 Hwy	Elloree	SC	29047		843-709-2064	Petition	"		
	Bereke	Elizabeth						843-459-3464	Petition	"		
	Aytes	Janett	Tee Vee Road	Santee	SC	29142		843-408-8062	Petition	"		
	Aytes	Linda	Tee Vee Road	Santee	SC	29142		803-842-1686	Petition	"		
	Dingle	Na'jas	180 Canty Drive	Santee	SC	29142	<a href="mailto:najasdingle86@gmail.com">najasdingle86@gmail.com</a>		Petition	"		
	Stroman	Tuneisha	180 Cantey Drive, Apt 227	Santee	SC	29142	<a href="mailto:tuneisha_stroman@aol.com">tuneisha_stroman@aol.com</a>	803-974-9038	Petition	"		
	Zeigler	Shawana	180 Cantey Drive, Apt 232	Santee	SC	29142	<a href="mailto:shawanazeigler20@gmail.com">shawanazeigler20@gmail.com</a>		Petition	"		
	Zeigler	Sandra	180 Cantey Drive, Apt 241	Santee	SC	29142		803-857-1951	Petition	"		
	Reese	Shameeka	180 Cantey Drive, Apt 226	Santee	SC	29142			Petition	"		
	Witherspoon	Syria	180 Cantey Drive, Apt 224	Santee	SC	29142		803-877-1244	Petition	"		
	Bran	Teya	180 Cantey Drive, Apt 223	Santee	SC	29142	<a href="mailto:latoya5@yahoo.com">latoya5@yahoo.com</a>		Petition	"		
	Gethers	Roberta	180 Cantey Drive, Apt 214	Santee	SC	29142		803-387-8445	Petition	"		
	Green	Toneyo	113 Pintail Lane	Santee	SC	29142		803-974-9988	Petition	"		
	Williams	Anna	190 Wactor Drive	Santee	SC	29142		803-974-1775	Petition	"		
	Keitt	Trevin	173 Caswell Lane	Holly Hill	SC	29059	<a href="mailto:deonkeitt7@gmail.com">deonkeitt7@gmail.com</a>	803-857-5391	Petition	"		
Jr	Tompson	George	560 Sheard Drive	Santee	SC	29142		803-873-3344	Petition	"		
	Mack	James I.	220 November Road	Santee	SC	29142		803-857-3992	Petition	"		
	Capers	Gloria J.	P.O. Box 688	Santee	SC	29142		803-759-8492	Petition	"		
	Taylor	Aileen D.	328 Ruby Way	Holly Hill	SC	29059		803-759-1548	Petition	"		
	West	Gertrude S.	2033 Wash Davis Road	Summerton	SC	29148	<a href="mailto:starkwesta@gmail.com">starkwesta@gmail.com</a>	803-410-8311	Petition	"		
Jr	Simmons	James	P.O. Box 398	Eutawville	SC	29048		803-492-1992	Petition	"		
	Green	Linda	P.O. Box 119	Eutawville	SC	29048		803-971-9001	Petition	"		
	Gillens	Nathaniel	155 Gillens Road	Eutawville	SC	29048		843-751-3261	Petition	"		
	Lee	Christopher	1537 Adidas Street	Eutawville	SC	29048		803-971-2861	Petition	"		
	Wiggins	Mary D.	P.O. Box 690	Eutawville	SC	29048		803-492-9534	Petition	"		

	Davis	Leon	773 Gardensgate Road	Eutawville	SC	29048		803-707-6735	Petition	"		
	Footman	Joe	398 Lauderdale Road	Eutawville	SC	29048		404-610-0838	Petition	"		
	Howell	William B.	1851 Old Hwy 6	Cross	SC	29436		843-697-4160	Petition	"		
	Fuller	Eartha	133 Noel Drive	Vance	SC	29163		803-496-4282	Petition	"		
	Williams	Jimmy	315 Howard Lane	Santee	SC	29142		803-974-9294	Petition	"		
	Sowards	Linda	130 Canvasback Road	Eutawville	SC	29048		304-382-6817	Petition	"		
	Fisher	Kristen	410 Adidas Street	Eutawville	SC	29048		479-721-6629	Petition	"		
	Johnson	Mariah B.	406 Lauderdale Road	Aut	SC	29048		803-492-7303	Petition	"		
	Brown	Mary Ann	160 Calming Creek Way	Elgin	SC	29048	<a href="mailto:maryann.brown88@yahoo.com">maryann.brown88@yahoo.com</a>		Petition	"		
	Rock	Bessie	845 Sandpoint Street	Eutawville	SC	29048		803-492-3597	Petition	"		
	Brown	Susie	876 Sampaint Street	Eutawville	SC	29048		803-492-8384	Petition	"		
	Taste	Truman	375 Lauderdale Road	Eutawville	SC	29048		803-664-5159	Petition	"		
	Simmons	Irene	214 Sam Hill Drive	Cross	SC	29436		843-312-2555	Petition	"		
	Simmons	Jason	214 Sam Hill Drive	Cross	SC	29436		843-312-1609	Petition	"		
	Simmon	Matthew	123 Cypus Drive	Moncks Corner	SC	29158		843-312-8469	Petition	"		
Jr	Mack	Raymond	111 Cee Cee Lane	Eutawville	SC	29048		803-496-6163	Petition	"		
	Mack	Sharon D.	111 Cee Cee Lane	Eutawville	SC	29048		803-496-6163	Petition	"		
	Davis	Curtis	190 Acme Street	Eutawville	SC	29048		803-496-6612	Petition	"		
	Blanchard	John	P. O. Box 295	Eutawville	SC	29048		803-971-0219	Petition	"		
	Kraft	Gregory A.	1185 Hickory Drive	Summertown	SC	29148	<a href="mailto:Lakewind95@yahoo.com">Lakewind95@yahoo.com</a>		Petition	"		
	Gillard	James	1125 Offshore Court	Vance	SC	29163		803-492-7207	Petition	"		
	Sprinkle	Vera T.	4163 Vance Road	Holly Hill	SC	29059			Petition	"		
	Pelzer	James	117 Esaw Lane	Santee	SC	29142		803-664-6980	Petition	"		
	Benjamin	Loretta H.	274 Mims Lake Road	Holly Hill	SC	29059		803-496-3570	Petition	"		
Jr	Johnson	Booker T.	126 Peachtree Road	Elloree	SC	29047		803-974-0319	Petition	"		
	Washington	Jeanette	734 Bass Drive	Santee	SC	29142		803-496-6715	Petition	"		
	Shuler	Geraldine	734 Bass Drive	Santee	SC	29142		803-846-6715	Petition	"		
	Sheard	Edward	140 Sheard Drive	Santee	SC	29142	<a href="mailto:edwardsantee55@gmail.com">edwardsantee55@gmail.com</a>	803-347-2013	Petition	"		
	Sheard	Edward	140 Sheard Drive	Santee	SC	29142		839-383-3691	Petition	"		
	Sheard	Quinton	140 Sheard Drive	Santee	SC	29142		803-496-4896	Petition	"		
	Goodwin	Keon	125 Topoka Lane	Holly Hill	SC	29059		803-496-6735	Petition	"		
	Goodwin	Fredrick R.	P.O. Box 1036	Santee	SC	29142	<a href="mailto:citizenscampaigncc@gmail.com">citizenscampaigncc@gmail.com</a>	803-290-1833	Petition	"		
	Shulee	Cynthia	180 Cantey Drive, Apt 215	Santee	SC	29142	<a href="mailto:denise5780@yahoo.com">denise5780@yahoo.com</a>	770-771-9873	Petition	"		
	Ladson	Jesse	180 Cantey Drive, Apt 247	Santee	SC	29142		803-759-1497	Petition	"		
	Brown	Dorothy	180 Cantey Drive, Apt 212	Santee	SC	29142			Petition	"		
	Shingler	Barbara	180 Cantey Drive, Apt 213	Santee	SC	29142			Petition	"		
	Shingler	Ronald	119 Braxton Lane	Santee	SC	29142			Petition	"		
	Elmore	Elaine	180 Cantey Drive, Apt 208	Santee	SC	29142	<a href="mailto:ganttelaine@gmail.com">ganttelaine@gmail.com</a>		Petition	"		
	Stokes	Harry	180 Cantey Drive, Apt 207	Santee	SC	29142		803-879-2948	Petition	"		
	Stokes	Bryant	180 Cantey Drive, Apt 204	Santee	SC	29142		803-874-0514	Petition	"		
	Gilmore	Latoya	180 Cantey Drive, Apt 205	Santee	SC	29142	<a href="mailto:Lavettalove@gmail.com">Lavettalove@gmail.com</a>	803-614-9181	Petition	"		
	Brown	Melvin	871 Sandpoint Street	Eutawville	SC	29048		803-971-0153	Petition	"		
	Bryant	Frank	646 Lodge Hall Street	Vance	SC	29163		803-496-7533	Petition	"		
	Ravenell	Rev. Dr. McKinley	132 Dingill Lane	Eutawville	SC	29048		803-492-9075	Petition	"		
	Gallard	Nehemiah	287 Miracle Drive	Eutawville	SC	29048		803-971-2451	Petition	"		



	Williams	Betty	P.O. Box 42	Eutawville	SC	29048		843-826-2191	Petition	"		
	Fogle	Carrie	200 Westbelt Road	Holly Hill	SC	29059		803-496-4349	Petition	"		
	Rivers	Morris	735 Miracle Drive	Eutawville	SC	29048			Petition	"		
	Middleton	Harry	141 Gillens Road	Eutawville	SC	29048		803-492-8348	Petition	"		
	Smith	Jimmy	109 Montequese Street	Santee	SC	29142		803-974-0242	Petition	"		
	Davis	Walter	1042 Lodge Hill Street	Vance	SC	29163		917-286-7026	Petition	"		
Jr	Goodwin	Thomas	2303 Tee Vee Road	Elloree	SC	29047		803-974-9805	Petition	"		
	Singleton	Tyrone	210 Cooper Drive	Santee	SC	29142	<a href="mailto:Tsing212@aol.com">Tsing212@aol.com</a>		Petition	"		
	Howell	Nathaniel	7121 Five Chop Road	Santee	SC	29142		803-496-8895	Petition	"		
	Shuler	Latoya	129 Cheryl Lane	Santee	SC	29142		803-496-6996	Petition	"		
	Davis	Robert	209 C Street	Santee	SC	29142		803-794-3094	Petition	"		
	Odoms	Rafael	125 Renee Drive	Santee	SC	29142	<a href="mailto:raff1862@gmail.com">raff1862@gmail.com</a>	305-975-4761	Petition	"		
	Keitt	Anthony Z.	119 Brookstone Road	Santee	SC	29142		803-387-9822	Petition	"		
	Profft	David	122 Neiman Drive	Holly Hill	SC	29059			Petition	"		
	Green	Calvin A.	116 Dobermann Lane	Cameron	SC	29030	<a href="mailto:calvingreen933@gmail.com">calvingreen933@gmail.com</a>	803-290-7914	Petition	"		
	McDaniel	Willie	1366 Antioch Road	Santee	SC	29142	<a href="mailto:lamontmcdaniel1971@gmail.com">lamontmcdaniel1971@gmail.com</a>	843-818-8663	Petition	"		
	Jones	Tyrees	Lide Springs Road	Darlington	SC	29540		803-468-552	Petition	"		
Sr.	McDaniel	Gary	1366 Antioch Road	Santee	SC	29142	<a href="mailto:Gimoney4gs@gmail.com">Gimoney4gs@gmail.com</a>	843-801-1087	Petition	"		
	Green	Harry & Linda	134 Red Bank Road	Eutawville	SC	29048		803-971-0189	Petition	"		
	Summers	Dorothy	122 Cecelia Street	Santee	SC	29142	<a href="mailto:SummersDorothy459@gmail.com">SummersDorothy459@gmail.com</a>	803-496-4327	Petition	"		
	Moore	Mary Ann	180 Cantey Drive, Apt 203	Santee	SC	29142		803-857-1681	Petition	"		
	James	Eddie						803-387-5444	Petition	"		
	Canty	Jaeinca	180 Cantey Drive, Apt 234	Santee	SC	29142		803-496-4741	Petition	"		
	King	Shakeina	180 Cantey Drive, Apt 222	Santee	SC	29142	<a href="mailto:shakeinaking25@gmail.com">shakeinaking25@gmail.com</a>		Petition	"		
	Davis	Tina	180 Onyx Way	Holly Hill	SC	29059		803-786-278	Petition	"		
	Early	Adam	180 Onyx Way	Holly Hill	SC	29059		803-786-278	Petition	"		
	Williams	Trequan	764 Antioch Road	Santee	SC	29142		803-974-0504	Petition	"		
	Ramsey	Herman	1470 Old Hwy 6	Cross	SC	29436		843-729-7406	Petition	"		
	Pauling	Elaine	P.O. Box 286	Elloree	SC	29047		803-570-1168	Petition	"		
	Wright	Debra	State Park Circle	Santee	SC	29142		803-707-7403	Petition	"		
	Riggin	Donnie	2304 Tee Vee Road	Elloree	SC	29047		703-932-6851	Petition	"		
	Gilmore	Earnest		Santee	SC	29142		803-857-9020	Petition	"		
	Asbury	Freddie		Santee	SC	29142		803-837-6908	Petition	"		
	Hillard	Herbert		Santee	SC	29142		803-664-6729	Petition	"		
	Keitt	Sherline	587 Resort Street	Santee	SC	29142		803-387-5276	Petition	"		
	Keitt	Charles	587 Resort Street	Santee	SC	29142		803-747-1026	Petition	"		
	Fogle	Gregory	1046 Woolbridge Road	Santee	SC	29142		803-378-9928	Petition	"		
	Stroman	Wilbur	4042th Street	Cameron	SC	29030		803-638-9824	Petition	"		
	Johnson	Tyrone	258 Barcelona Drive	Santee	SC	29142	<a href="mailto:tyejohnson6817@yahoo.com">tyejohnson6817@yahoo.com</a>	269-744-2813	Petition	"		
	Debose	Thomas	106 Midtown Circle	Santee	SC	29142		803-682-4860	Petition	"		
	Flowers	Patricia Ann	110 Midtown Circle	Santee	SC	29142		803-496-4467	Petition	"		
	Glover	Tasha	110 Midtown Circle	Santee	SC	29142	<a href="mailto:tashaglover75@yahoo.com">tashaglover75@yahoo.com</a>	803-496-6487	Petition	"		
	Edwards	Quinnie Lee	114 Bandwell Court	Holly Hill	SC	29059			Petition	"		
	Washington	Rutledge	2700 Sarnibel Cane	Eutawville	SC	29048		803-971-3375	Petition	"		
	Robinson	Willie	130 Luter Drive	Holly Hill	SC	29059		617-285-5714	Petition	"		
	Washington	Zac	119 Pendel	Holly Hill	SC	29059			Petition	"		
	Glenn	Harnette	120 Louie Court	Holly Hill	SC	29059		803-971-2158	Petition	"		
	Gillard	Corey	591 Wegggar Ave	Eutawville	SC	29048		803-492-3802	Petition	"		

	Baker	Shannon	313 Mill Creek Road	Vance	SC	29163			803-759-5047	Petition	"		
	Snider	Taish	8927 Old State Road, Apt C-8	Holly Hill	SC	29059				Petition	"		
	Anderson	Sarah	184 Thornburg Street	Holly Hill	SC	29059	<a href="mailto:AndersonSark5319@gmail.com">AndersonSark5319@gmail.com</a>		803-347-0618	Petition	"		
	Fuller	Cynthia	1275 Edward Street	Holly Hill	SC	29059			843-475-2027	Petition	"		
	Martin	Linda Joyce	P.O. Box 1295	Holly Hill	SC	29059			803-496-4356	Petition	"		
	Oliver	Roshika	3104 Tee Vee Road	Santee	SC	29142	<a href="mailto:Roshikaoliver@yahoo.com">Roshikaoliver@yahoo.com</a>		803-664-0344	Petition	"		
	Livingston	Maurice	3104 Tee Vee Road	Santee	SC	29142	<a href="mailto:mauricelivingston911@gmail.com">mauricelivingston911@gmail.com</a>		839-833-0063	Petition	"		
	Benjamin	Imeria	3104 Tee Vee Road	Santee	SC	29142	<a href="mailto:imeriabbenjamin2004@yahoo.com">imeriabbenjamin2004@yahoo.com</a>		803-857-1288	Petition	"		
	Oliver	Gloria	2361 Bass Drive	Santee	SC	29142	<a href="mailto:GloriaShiver1@gmail.com">GloriaShiver1@gmail.com</a>		803-857-3919	Petition	"		
	Hill	Keyona	1071 Harlin Street	Elloree	SC	29047	<a href="mailto:HillKeyona@yahoo.com">HillKeyona@yahoo.com</a>		803-974-9516	Petition	"		
	Harrison	Tatiana	2111 Tee Vee Road	Elloree	SC	29047	<a href="mailto:harrisonatiana@gmail.com">harrisonatiana@gmail.com</a>		803-696-7207	Petition	"		
	Wright	Kepharris	1017 Harlin Street	Elloree	SC	29047	<a href="mailto:kepharrisw13@gmail.com">kepharrisw13@gmail.com</a>		803-974-9516	Petition	"		

## **Appendix D: Post-Meeting SCDOT Responses**

- **SCDOT Comment Response Newsletter List of Recipients  
(Mail)**
- **SCDOT Comment Response Email List of Recipients (Email)**

September 1, 2023

# Post-Public Meeting Update

SCDOT comment response from June 1, 2023 Public Information Meeting held in Santee, South Carolina



## Thank you for your participation in the commenting process.

Update provided by SCDOT

The South Carolina Department of Transportation (SCDOT) appreciates your interest and comments regarding the I-95 bridge replacements over Lake Marion project. The proposed project involves the replacement of the northbound and southbound I-95 bridges over Lake Marion in Clarendon and Orangeburg Counties in South Carolina. A range of improvement alternatives are currently being evaluated. All comments obtained through the public involvement process are being considered in the development of the project and your comment will also be retained as part of the project file and public record.



## Topics:

Alternatives

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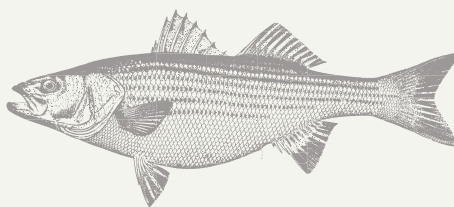
## Alternatives

The purpose of the project is to maintain connectivity and a safe interstate facility for the travelling public and provide safe access for pedestrians and cyclists over Lake Marion. The three alternatives differ in their relative location to the existing bridge alignments. Alternative A would primarily be constructed between the two bridges. Alternative B would primarily be constructed just east of existing bridges, towards Lake Moultrie. Alternative C2 would primarily be constructed just west of the existing bridges. The public meeting originally presented Alternative C1 that would retain the existing I-95 southbound bridge towards Santee as the multiuse path for pedestrians and cyclists. Because funding for this project and across the state is limited and due to excessively high maintenance costs associated with keeping the old bridge structure, Alternative C1 has been eliminated. Alternative C2 would be in the same location, but would provide a new southbound bridge structure and the multiuse path would be included on this new bridge.

Comments received regarding alternatives included support for one of the three options, a request to place truck traffic only on the existing bridges, a carpool lane, tolling, four lanes for military/supply chain use, a separate lane for emergency vehicles, and a bridge for traffic to be redirected to when there is an accident. A designated travel lane on the bridge specific to six-axle vehicles (semi-trucks) is not feasible for inclusion in this project. Heavier trucks do more damage to roads and bridge decks over time, so segregating trucks to certain lanes would require more maintenance for those lanes. The process of separating truck traffic from general traffic flow traffic would need to be conducted miles in advance of the bridges. Additional barriers and merge lanes will create conflict points which could reduce motorist safety. The cost of a separate additional bridge is not included in the budgeting for this project. Truck traffic in 2022 was 22% of total vehicle traffic of 40,100 vehicles per day (average). A toll system is not proposed for the bridge project.

The proposed project allows for additional width to be added to the bridge and approach shoulders, when compared to the existing bridges. The 10-foot inside and 12-foot outside shoulders will provide space for emergency pull-overs and will provide access for first responder vehicles. The proposed shoulder widths are in compliance with design standards and provide for emergency vehicle access. The proposed design of the replacement bridges includes staged construction designed which will allow two lanes of traffic to remain open in each direction at all times. This will provide the best response times for the volume and vehicle mix use of I-95.

The project focus is to replace the deteriorating bridges and alternatives are focused on this effort. Design modifications are underway and a Preferred Alternative has not yet been selected.







## US 301 Bridge

SCDOT continues to explore options for allowing the existing US 301 bridge to remain in place during construction. It is intended that once the new multiuse path is open on the new I-95 bridges, pedestrians and cyclists would be relocated to the new path. Due to structural conditions and very high repair and maintenance costs of the existing US 301 bridge over Lake Marion, there are no plans to re-open it to vehicular traffic. A final decision regarding the existing US 301 structure will be determined as options are evaluated.

## Multiuse Path

SCDOT is proposing a multiuse path facility, adjacent to the main I-95 bridge structures, for cyclists and pedestrians to cross Lake Marion that is physically separated with a barrier from vehicular traffic to ensure the safety of users. For Alternatives A, B, and C2, the multiuse path and vehicle travel lanes would be separated by barriers in accordance with the state and federal requirements. The safety of the travelling public is of the utmost importance to SCDOT. To ensure public safety and maintain the efficient operation of the interstate system, regulations are in place to prohibit pedestrians from walking on interstates.

SCDOT recognizes the recreational, cultural, and economic importance of providing fishing access to Lake Marion. Additional recreation facilities are outside the scope of this project and typically, recreation facilities and amenities are provided and maintained by county or state Parks and Recreation Departments. However, SCDOT is considering options to maintain the current uses of walking, cycling, and fishing that have historically taken place on the US 301 bridges.

## Noise

A traffic noise analysis is required for federal-aid highway projects that would physically alter an existing highway. Physically altering the highway is defined as a substantial change in the horizontal (side to side) and/or vertical (up and down) alignment of the road or bridge, or an increase in the number of through traffic lanes. The proposed alternatives do not substantially alter the physical alignment and through-lanes are not proposed at this time. Because the project does not meet the requirements, a detailed noise study was not prepared and noise mitigation measures are not being proposed at this time. However, if the project design changes and does meet requirements, the appropriate studies will be performed and public comment will be requested.





## Bridge and Roadway Design Elements

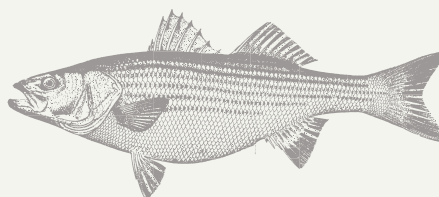
Several comments related to the bridge and road design were submitted. The proposed alternatives do not substantially alter the physical alignment of the current bridge structures. The vertical clearance of the highest point of the bridge to the navigable portion of Lake Marion is approximately 100 feet tall. The span width between the bridge columns at the navigable, or deepest, portion of Lake Marion will be 50 feet wide.

While space for a future third lane will be incorporated into the bridge replacements, in the short term, the additional 12-foot inside lane will act as road shoulder and be marked and signed as such. If a future widening of I-95 were proposed, this lane would be restriped to serve as a travel lane. This would alleviate the need to widen a newly-constructed bridge if a widening of the interstate is proposed. A widening of I-95 in this area is not currently proposed.

The bridge deck will be replaced as part of this project. The roadway approaches to the bridges will be resurfaced to tie in with the new bridges. The replacement bridge will be constructed with concrete and steel to enhance the life of the bridge. Bridge design specifications include elongated bridge deck sections to reduce the frequency of bridge joints. SCDOT will incorporate innovative materials and include the use of a built in quarter-inch sacrificial wearing surface to prolong the bridge deck surface.

SCDOT will work with Clarendon and Orangeburg Counties to ensure emergency resources related to fire and emergency response are provided. Traffic control measures will be employed during construction to assure safe conditions for drivers and workers. The permanent closure of Bass Drive is not proposed and is not expected to be closed.

Best Management Practices will be followed during both design and construction phases to ensure a reduced-risk of sedimentation, minimizing impacts to drainage. A stormwater management plan will be developed and adhered to by both SCDOT and the selected contractor team to ensure compliance. Permitting will be approved through the SC Department of Health and Environmental Control.





## Signage and Lighting

Safety measures, such as lighting, signage, and fencing will be considered as the project progresses. Bridge lighting and signalization (visible by boaters) will be included in the final design of the project. US Coast Guard requirements for a multiple-span fixed bridge include the use of 360-degree green, red, and white lights. Three white lights arranged in a vertical line and placed on the outermost girder will be used to mark the main channel. Red lights will be used on either side of navigable channels as well as the bridge pilings. Green lights affixed to the outermost girder will demarcate navigable passage under the bridge.

Changeable message signs and/or electronic message boards are used by SCDOT throughout the state to convey information to motorists. Temporary signs during construction will be used for lane shifts and/or lane closures. While commenters asked if warning signage could be used throughout the year if traffic is congested on the bridges, there are no plans to include permanent changeable message signs. Potential detours around this area are very lengthy and notification signs would not be visible to motorists until they were well past a possible detour route.

## Construction

A construction timeline for this project has yet to be finalized. The construction phase is being estimated to last approximately 36 months. It is proposed to begin in 2025, with substantial work in starting in 2026.

Traffic control measures will be employed during construction to assure safe conditions for drivers and workers. The selected contractor will be required to adhere to the conditions set forth in the latest version (March 1, 2021) of the SCDOT Rule on Work Safety and Mobility. The use of law enforcement officers is one of many traffic control measures that can be implemented by the selected contractor. In certain instances (like night time lane closures) law enforcement may be present on site. SCDOT and the contractor team will work closely with state and local law enforcement to ensure motorist adherence to work zone safety conditions. A construction detour of I-95 has not been proposed and is not expected. Existing travel lanes on I-95 will remain open during construction. There will be no substantial impacts to the rest areas near Santee and they will remain open during construction.

Constructing new bridges ahead of demolishing existing structures is expected to occur. This will allow travel lanes to remain open during construction which is a requirement of the project. The construction project will be awarded to a contractor team using the design-build delivery process. While preliminary plans are approved by SCDOT, the final design plans are completed by the contractor after the contract has been awarded. Final plans are approved by SCDOT, allowing for an expedited and streamlined process. Due to the nature of the design-build construction process, the methods, phasing, and staging will be at the discretion of the contractor team.





## Funding

While some funds are currently allocated to this project, SCDOT is also seeking federal grants to fully fund the bridge replacements. If no federal grants are approved for the I-95 over Lake Marion Bridge Replacements project, the project will remain in the standard bridge replacement process. The project will be in the 2021-2027 STIP and as funds become available, they will be committed to the project over time. This may result in schedule changes, such as a later start date than early 2025.

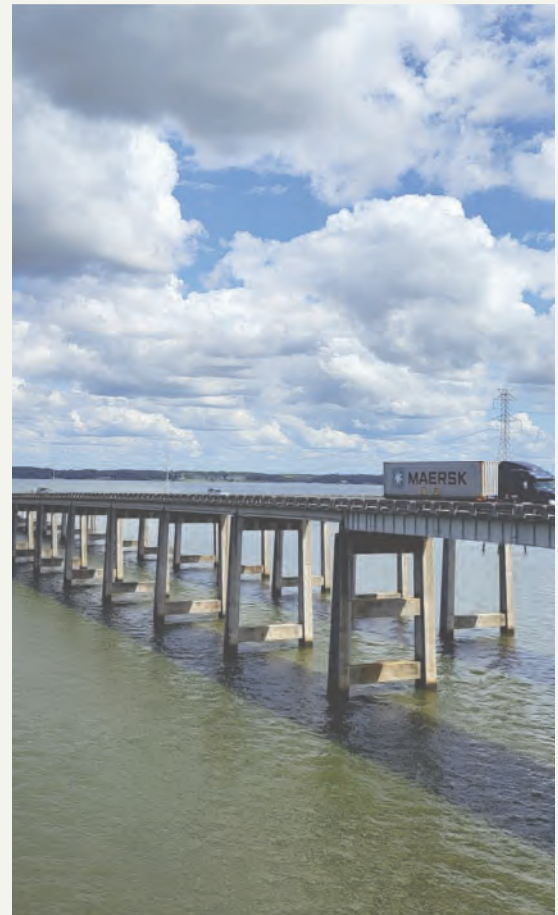
## Next Steps

The next steps of the project will be to conduct a final analysis on the current alternatives. Following the refinement of the current alternatives the final environmental document, a Non-Programmatic Categorical Exclusion, will be sent to Federal Highway Administration for approval. After approval, the project will be awarded to a contractor in which the final design and environmental permitting will be completed. Finally, project construction will commence.

## Thank You

Thank you for taking the time to provide feedback. We value your local knowledge and experience. Please feel free to contact me at [ReynoldsBS@scdot.org](mailto:ReynoldsBS@scdot.org) or 803-737-1440 if you have any additional concerns or visit our website for project updates: <http://scdotgjs.online/i95bridgesoverlakemarion>

Progress updates for this project can also be found here: <https://www.scdot.org/business/design-build.aspx>



## I-95 over Lake Marion Bridges Public Meeting (June 1, 2023) Comment Database

updated 6/26/2023

ID #	Pre	Last name	First name	Address	City	State	ZIP
1		Thompson	Eileen	197 Ballard Lane	Santee	SC	29142
2		Jowers	Richard	PO Box 627	Summerton	SC	29148
3		Janis	Paul and Sandy	383 Ballard Lane	Santee	SC	29142
4		Pinter	Joanie	107 Santee Cooper Annex	Santee	SC	29142
5		Flannagan	James	401 Ballard Lane	Santee	SC	29142
6		Turner	Melanie	The Lake House Restaurant 5321 Dingle Pond Rd	Summerton	SC	29148
7		Pickens	Art and Marion	3254 Francis Marion Blvd	Summerton	SC	29148
8		White	Laverne	PO Box 1301	Santee	SC	29145
9		Bilger	Michael	3554 Francis Marion Blvd	Summerton	SC	29148
10		Infinger	Rose Ann	210 Winn Street	Sumter	SC	29150
11		Willison	David and Kelli	261 Ballard Rd	Santee	SC	29142
12		Anderson	John	5465 Old Number six	Elloree	SC	29047
13		Edwards	Ronald	229 Bay Road	Reavesville	SC	29133
14		Neff	Maria and John	2657 Princess Pond Road	Summerton	SC	29148
15		Streath	Mike and Terry	6475 Liberty Hill Rd	Summerton	SC	29148
16		Beal	Tricia	1183 Scott Lake Road	Summerton	SC	29148
17		Hezekiah	Roosevelt	205 Minnesota Ct	Santee	SC	29142
18		Scarborough	Gene	319 Green Street	Santee	SC	29142
20		Viennean	Kent	1399 Princess Trace Circle	Summerton	SC	29148



**I-95 over Lake Marion Bridges Public Meeting (June 1, 2023) Comment Database**

*updated 6/26/2023*

ID #	Pre	Last name	First name	Address	City	State	ZIP
21		Bivek	Arun	1076 Davis Drive	Summerton	SC	29148
22		Murray	Flarather	P.O. Box 549 127 Mazzie Drive	Santee	SC	29142
23		Beal	David	1183 Scott Lake Road	Summerton	SC	29148
24		Albergotti	Chad	1223 Prince Pond Road	Summerton	SC	29148
25		Anderson	Kristie	5465 Old Number Six Highway	Elloree	SC	29047
26		Weisher	John	303 Santee Drive	Santee	SC	29142
27		Still	Margaret	1139 Crescent Street	Summerton	SC	29148
28		Mrs. June P		129 Ballard Lane	Santee	SC	29142
29		Gleaton	Debra	1043 Autumn Lane	Summerton	SC	29148
30		Bull	Marsha M.	6533 Five Chop Road	Santee	SC	29142
31		Epling	Craig	315 Santee Dr	Santee	SC	29142
32		Dantzler	Cole	2532 Princess Pond Road	Summerton	SC	29148
33		Clark	Scott	468 Santee Drive	Santee	SC	29142
34		White	Dorothy S.	7019 Five Chop Road	Santee	SC	29142
35		Hambl	James	1407 Scott Lake Drive	Summerton	SC	29148
36		Murray	Barbara	P.O Box 549 127 Mazzie Drive	Santee	SC	29142
37		Relier	Greg	1087 Scott Lake Road	Summerton	SC	29148
38		Rudd	Lee	2757 Princess Pond Road	Summerton	SC	29148
39		Peraino	Michael	325 Barkley Street	Elloree	SC	29047

I-95 over Lake Marion Bridges Public Meeting (June 1, 2023) Comment Database

updated 6/26/2023

ID #	Pre	Last name	First name	Address	City	State	ZIP
40		Senno	John and Cindy	1256 Summerford Lane	Manning	SC	29102
41		Hurst	Jackson	4216 Cornell Crossing	Kennesaw	GA	30114
42		Gleaton	Debra	1043 Autumn Lane	Summerton	SC	29148
43		Goodwin	John	728 Bass Drive	Santee	SC	29142
44		Jobe	John and Debbie		Summerton	SC	29148
45	Sr.	Murray	James T.	105 Cooper Circle	Santee	SC	29142-9314
48		Stroman	Beverly	101 Ballard Lane	Santee	SC	29142
49		Ball	GeneJudy	P.O Box 304	Santee	SC	29142
50		Corbett	Tessa W.	1443 Scott Lake Road	Summerton	SC	29148
51		Smith	Linda	2396 Princess Pond Road	Summerton	SC	29148
53		Epling	Craig	315 Santee Dr	Santee	SC	29142
54		Corson	Fred	1515 Scott Lake Rd	Summerton	SC	29148
55		Salazar	Marc A.	696 CALHOUN RD	ST MATTHEWS	SC	29135
56		Hutchinson	Cynthia	1341 Davenport Dr	Manning	SC	29102
57		LeMieux	Dave	1129 Margaret Drive	Summerton	SC	29148
58		McMahon	Daniel	1202 Dogwood Cir	Summerton	SC	29148
59		Evans	Nancy	1066 crescent st	Summerton	SC	29248
60		Baucom	Viola G	2078 Princess Pond Rd	Summerton	SC	29148
61		Bergen	Elizabeth	1064 Gator Drive	Summerton	SC	29148

I-95 over Lake Marion Bridges Public Meeting (June 1, 2023) Comment Database

updated 6/26/2023

ID #	Pre	Last name	First name	Address	City	State	ZIP
62		Powell	Regena	180 Cantey Drive	Santee	SC	29142
63		Carter	Brigitta Ronald	1031 Duboise Drive	Summerton	SC	29148
64		Jackson	John D.	1164 Tisdale	Summerton	SC	29148
65		Asberry	Brenda	285 Rexford Court	Santee	SC	29142
66		Hurst	Jackson	4216 Cornell Crossing	Kennesaw	GA	30144
67		Bull	Clyde	6533 Five Chop Road	Santee	SC	29142
68		Johnson	Tyronne	258 Barcelona Drive	Santee	SC	29142
69		Munkittrick	Mark Graham	1055 Chapel Branch Road	Santee	SC	29142
70		Hayson	Dorothy G.	1084 Gator Drive	Summerton	SC	29148
71		McCormick	Max	3282 Francis Marion Blvd	Summerton	SC	29148
72		McCormick	June	3283 Francis Marion Blvd	Summerton	SC	29148
73		Risher	Alfred Cindy	1061 Blue Bird Ct	Summerton	SC	29148
74		Carter	Les	322 Trillium Ct	Santee	SC	29142
75	Sr.	Murray	James T.	105 Cooper Circle	Santee	SC	29142-9314
76		Weaver	Michael	144 Ballard Lane	Santee	SC	29142
77		Flowers	Roger L.	1184 Joyner Drive	Summerton	SC	29148
78		Asbery	Brenda	285 Rexford Court	Santee	SC	29142
All responses via project update newsletter, unless otherwise noted							

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**From:** Reynolds, Bradley S. <ReynoldsBS@scdot.org>  
**Sent:** Tuesday, September 19, 2023 3:48 PM  
**To:** Reynolds, Bradley S.  
**Subject:** I-95 over Lake Marion Comment Response  
**Attachments:** Lake Marion Newsletter Comment Response.pdf

Good Afternoon,

The South Carolina Department of Transportation (SCDOT) appreciates your interest and comments regarding the I-95 over Lake Marion Bridge Replacements Project. The proposed project involves the replacement of the I-95 bridges over Lake Marion in Clarendon and Orangeburg Counties in South Carolina. A range of improvement alternatives are currently being considered to maintain connectivity and a safe interstate facility for the traveling public and provide safe access for pedestrians and cyclists over Lake Marion.

All comments submitted are being considered in the development of the project and your comments will also be retained as part of the project file and public record. Please find the attached newsletter addressing a range of topics and questions that were asked during the project comment period. Thank you for taking the time to provide feedback. We value your local knowledge and experience. Please feel free to contact me at my number below if you have additional concerns or visit our website for project updates: <http://scdotgis.online/i95bridgesoverlakemarion>

Thanks,

*Bradley S. Reynolds, P.E., DBIA*  
Alternative Delivery Program Manager  
803-737-1440 O/ 803-521-7007 M



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## **Appendix E: Post-Meeting SCDOT Petition Responses**

- **SCDOT Petition Response Letter List of Recipients (Mail)**
- **SCDOT Petition Response Email List of Recipients (Email)**

September 12, 2023

Re: I-95 Over Lake Marion Bridge Replacements Project – Petition Response

The South Carolina Department of Transportation (SCDOT) appreciates your interest and comments regarding the I-95 bridge replacements over Lake Marion project. We recognize that the closure of the US 301 bridge in 1987 resulted in changes where most travelers now utilize I-95 to cross Lake Marion. Currently, the I-95 bridges are in "fair" condition as of 2022, however the National Bridge Inventory analysis of future condition ratings shows that in future years, the bridges will be rated "poor" condition and will require load restrictions. As you noted, I-95 serves as a hurricane evacuation route, as well as providing system linkage to serve high-capacity traffic. The bridges must be replaced while the current structures can still operate safely and functionally to maintain current demand. The purpose of this project is to maintain connectivity and a safe interstate facility for the travelling public and provide safe access for pedestrians and cyclists over Lake Marion. The project focus is to replace the deteriorating interstate bridges and alternatives are focused on this effort.

Due to structural conditions and very high repair and maintenance costs of the existing US 301 bridge, there are no plans to re-open this bridge to vehicular traffic. Additionally, repairing this bridge would not meet the I-95 project purpose and need. SCDOT continues to explore options for allowing the existing US 301 bridge to remain in place during construction. It is intended that once the new multiuse path is open on the new I-95 bridges, pedestrians and cyclists would be relocated to the new path. A final decision regarding the existing US 301 structure will be determined as options are evaluated.

SCDOT is proposing a multiuse path facility, adjacent to the main I-95 bridge structures, for cyclists and pedestrians to cross Lake Marion that is physically separated from vehicular traffic with a barrier to ensure the safety of users. For Alternatives A, B, and C2, the multiuse path and vehicle travel lanes would be separated by barriers in accordance with all state and federal



requirements. The safety of the traveling public is of the utmost importance to SCDOT. To ensure public safety and maintain the efficient operation of the interstate system, regulations are in place to prohibit pedestrians from walking on interstates.

SCDOT recognizes the recreational, cultural, and economic importance of providing fishing access to Lake Marion. Additional recreation facilities are outside the scope of this project and typically, recreation facilities and amenities are provided and maintained by county or state Parks and Recreation Departments. However, SCDOT is considering options to maintain the current uses of walking, cycling, and fishing that have historically taken place on the US 301 bridges.

Regarding the format of the public meeting, all project materials were made available at the public meeting and posted on the project website. The meeting was advertised in local newspapers, on road signs placed in and around the project, by flyers posted at local businesses, and through emails sent to known stakeholders. The meeting was held in a facility that was ADA compliant and all special requests for access and accommodations were honored, as some requests were made prior to the meeting and some during the meeting. Materials were available in print graphically and with text. Over two dozen project team members were present to answer questions. Members of the public that arrived prior to the published meeting's start time were not denied entry and the meeting did not conclude until all attendees had their questions answered.

The radius of direct communication via a meeting notice postcard was selected based on proximity to the project. In this case, a proximity of one mile was selected in accordance with the SCDOT-approved Public Involvement Plan approved on May 1, 2023. Approximately 3,000 postcards advertising the meeting were directly mailed to residences.

All comments obtained through the public involvement process are being considered in the development of the project and your comment will also be retained as part of the project file and public record. Our next steps include assessing public comments, revising the conceptual design and completing the environmental process. Updates will be continuously posted on the project website.





Thank you for taking the time to provide feedback. We value your local knowledge and experience. Please feel free to contact me at ReynoldsBS@scdot.org or 803-737-1440 if you have any additional concerns or visit our website for project updates:

<http://scdotgis.online/i95bridgesoverlakemarion>

Sincerely,



Bradley S. Reynolds, PE  
Alternative Delivery Program Manager  
South Carolina Department of Transportation

updated 6/26/2023

ID #	Last name	First name	Address	City	State	ZIP
1	Suite	Rayquqn	221 Heirs Drive	Eutawville	SC	29048
2	Green	Richard	262 Lauderdale Road	Eutawville	SC	29048
3	Green	Rosa	263 Lauderdale Road	Eutawville	SC	29048
4	King	David D.	231 Craig Street	Eutawville	SC	29048
5	Mcaeler	Laural	2809 Toney Bay Road	Holly Hill	SC	29059
6	Adams	Amber	428 Walker Dr	Eutawville	SC	29048
7	Washingotn	Kevin	13254 Old Number 6 Hwy	Eutawville	SC	29048
8	Brown	John	246 Wesgar Drive	Eutawville	SC	29048
9	Gathers	Oveen Ann	387 Lauderdale Road	Eutawville	SC	29048
10	Halls	Tyrone	253 Sumter Road	Eutawville	SC	29048
11	Brisbon	Annett	345 Rodeo Drive	Eutawville	SC	29048
12	Myers	Summer	13806 Hwy 6	Eutawville	SC	29048
13	Paris	Idrigall	221 Heirs Drive	Eutawville	SC	29048
14	Duncan	Chuck	11983 Old Hwy 6	Eutawville	SC	29048
15	jaepn	reuenery	Rat 735 Pig	Eutawville	SC	29048
16	Bennette	Tom	1326 Spilanding Road, 3493	Cross	SC	29436
17	Yead	Helen S.	P.O. Box 4	Eutawville	SC	29048
18	Brown	Larry & Zadie	131 Blakey Court	Eutawville	SC	29048
19	Brown	Zadie	131 Blakey Court	Eutawville	SC	29048
20	Parker	Allen	406 Sleepy Hollow Road	Eutawville	SC	29048
21	Burke	Beverly	192 Campground Road	Eutawville	SC	29048
22	Gethers	Willie	180 Grader Fire Road	Eutawville	SC	29048
23	Gethers	Lula	180 Grader Fire Road	Eutawville	SC	29048
24	Gadson	Tenie	130 Polite Drive	Eutawville	SC	29048
25	Wright	Jerry	1395 Lodge Hill Street	Vance	SC	29163
26	Wright	Jo Ann	1396 Lodge Hill Street	Vance	SC	29163
27	Parker	Midielle	P.O. Box 157	Vance	SC	29163
28	Brown	Michael	823 Sands Point Street	Eutawville	SC	29048
29	Young	Terry	110 Speedway Street	Eutawville	SC	29048
30	Ruviel	Regena	180 Cantee Drive Apt#235	Santee	SC	29142
31	Godfrey	Minnie	162 Slim Jim Road	Santee	SC	29142
32	Greene	Tori	377 Lanier Drive	Holly Hill	SC	29059
33	Shivers	James	125 Barninro Street	Elloree	SC	29047
34	Bethey	Artey	P.O. Box 622			
35	Gates	George	603 Three Bridge Road	Elloree	SC	29047
36	O'Cain	Dean	209 Browning Road	Elloree	SC	29047
37	Johnson	Tony	124 Fludd Street	Santee	SC	29142
38	Haynes	Isaac	450 Bay Street	Elloree	SC	29047
39	Darley	Hercules	112 Prevo Drive	Santee	SC	29142
40	MacCoy	Colleen	204 Tucker Road	Eutawville	SC	29048
41	James	Barbara	P.O. Box 572	Eutawville	SC	29048
42	Oliver	Jeremiah	P.O. Box 461	Eutawville	SC	29048
43	Minty	Mattie	162 Carribell Road	Eutawville	SC	29048
44	Sanders	Ashley	153 Sacramento Road	Eutawville	SC	29048
45	Davis	Williams	120 Prayer Lane	Eutawville	SC	29048
46	Gethers	Patricia	1311 Old Hwy 6	Eutawville	SC	29048

updated 6/26/2023

ID #	Last name	First name	Address	City	State	ZIP
47	Stephens	Elbert	201 Mazzie Drive	Santee	SC	29142
48	Pearson	Tommie	110 Cecilia Street	Santee	SC	29142
49	Keitt	Sondra	180 Cantey Drive, Apt 236	Santee	SC	29142
50	Bryant	Jerome	180 Cantey Drive, Apt 249	Santee	SC	29142
51	West	Barbara	328 Westridge Lane	Eutawville	SC	29048
52	Parkway	Joseph	426 Howard Lane	Eutawville	SC	29048
53	McKinley	Yeadon	179 Carriebell Road	Eutawville	SC	29048
54	King	Johnny	110 Greystone Circle	Eutawville	SC	29048
55	Gilmore	Glenda J.	371 Carriebell Road	Eutawville	SC	29048
56	Ravenell	Theodore	426 Rain Lilly Lane	Eutawville	SC	29048
57	Mack	Mary	787 Antioch Road	Santee	SC	29142
58	Mack	Santana	7838 Five Chop Road	Santee	SC	29142
59	Douglas	Helen M.	811 Antioch Road	Santee	SC	29142
60	Floyd	Louis	220 November Road	Santee	SC	29142
61	Shivers	Marcus	2111 Tee Vee Road	Santee	SC	29142
79	Asbery	Juanita	1235 Cleckley Blvd	Orangeburg	SC	29118
63	Mack	Travis J.	194 WactorDrive	Santee	SC	29142
80	Asbery	Olin	1235 Cleckley Blvd	Orangeburg	SC	29118
65	Pawling	Eric	785 Antioch Road	Santee	SC	29142
66	Mack	James	208 November Road	Santee	SC	29142
82	Asbery	Dexter	3720 Seif Street	Orangeburg	SC	29118
68	Goodwin	Linda	2303 Tee Vee Road	Elloree	SC	29047
83	Asberry	Gregory	3745 Seif Street	Orangeburg	SC	29118
84	Asbery	Andrew	139 Jitterbug Lane	Santee	SC	29142
71	Ferguson	Angela	6326 Old 6 Hwy	Elloree	SC	29047
85	Folk	Tameka	160 Graceland Ct	Swansea	SC	29160
73	Reese	Shameeka	180 Cantey Drive, Apt 226	Santee	SC	29142
74	Witherspoon	Sylria	180 Cantey Drive, Apt 224	Santee	SC	29142
75	Green	Toneyo	113 Pintail Lane	Santee	SC	29142
76	Williams	Anna	190 Wactor Drive	Santee	SC	29142
77	Mack	James J.	220 November Road	Santee	SC	29142
78	Capers	Gloria J.	P.O. Box 688	Santee	SC	29142
79	Taylor	Aileen D.	328 Ruby Way	Holly Hill	SC	29059
80	Green	Linda	P.O. Box 119	Eutawville	SC	29048
81	Gillens	Nathaniel	155 Gillens Road	Eutawville	SC	29048
82	Lee	Christopher	1537 Addidas Street	Eutawville	SC	29048
83	Wiggins	Mary D.	P.O. Box 690	Eutawville	SC	29048
84	Davis	Leon	773 Gardensgate Road	Eutawville	SC	29048
85	Footman	Joe	398 Lauderdale Road	Eutawville	SC	29048
86	Howell	William B.	1851 Old Hwy 6	Cross	SC	29436
87	Fuller	Eartha	133 Noel Drive	Vance	SC	29163
88	Williams	Jimmy	315 Howard Lane	Santee	SC	29142
89	Sowards	Linda	130 Canvasback Road	Eutawville	SC	29048
90	Fisher	Kristen	410 Addidas Street	Eutawville	SC	29048
91	Johnson	Mariah B.	406 Lauderdale Road	Aut	SC	29048
92	Brown	Susie	876 Sanpoint Street	Eutawville	SC	29048

updated 6/26/2023

ID #	Last name	First name	Address	City	State	ZIP
93	Taste	Truman	375 Lauderdale Road	Eutawville	SC	29048
94	Simmons	Irene	214 Sam Hill Drive	Cross	SC	29436
95	Simmons	Jason	214 Sam Hill Drive	Cross	SC	29436
96	Simmon	Matthew	123 Cyrpus Drive	Moncks Corner	SC	29158
97	Mack	Raymond	111 Cee Cee Lane	Eutawville	SC	29048
98	Mack	Sharon D.	111 Cee Cee Lane	Eutawville	SC	29048
99	Davis	Curtis	190 Acme Street	Eutawville	SC	29048
100	Blanchard	John	P.O. Box 295	Eutawville	SC	29048
101	Sprinkle	Vera T.	4163 Vance Road	Holly Hill	SC	29059
102	Pelzer	James	117 Esaw Lane	Santee	SC	29142
103	Benjamin	Loretta H.	274 Mims Lake Road	Holly Hill	SC	29059
104	Johnson	Booker T.	126 Peachtree Road	Elloree	SC	29047
105	Washington	Jeannette	734 Bass Drive	Santee	SC	29142
106	Shuler	Geraldine	734 Bass Drive	Santee	SC	29142
107	Sheard	Quinton	140 Sheard Drive	Santee	SC	29142
108	Goodwin	Keon	125 Topeka Lane	Holly Hill	SC	29059
109	Brown	Dorothy	180 Cantey Drive, Apt 212	Santee	SC	29142
110	Shingler	Barbara	180 Cantey Drive. Apt 213	Santee	SC	29142
111	Shingler	Ronald	119 Braxton Lane	Santee	SC	29142
112	Stokes	Bryant	180 Cantey Drive, Apt 204	Santee	SC	29142
113	Bryant	Frank	646 Lodge Hall Street	Vance	SC	29163
114	Ravenell	Rev. Dr. McKinely	132 Dingill Lane	Eutawville	SC	29048
115	Gaillard	Nehemiah	287 Miracle Drive	Eutawville	SC	29048
116	Williams	Betty	P.O. Box 42	Eutawville	SC	29048
117	Fogle	Carrie	200 Westbelt Road	Holly Hill	SC	29059
118	Rivers	Morris	735 Miracle Drive	Eutawville	SC	29048
119	Middleton	Harry	141 Gillens Road	Eutawville	SC	29048
120	Smith	Jimmy	102 Montequue Street	Santee	SC	29142
121	Davis	Walter	1042 Lodge Hall Street	Vance	SC	29163
122	Goodwin	Thomas	2303 Tee Vee Road	Elloree	SC	29047
123	Shuler	Latoya	129 Cheryl Lane	Santee	SC	29142
124	Davis	Robert	209 C Street	Santee	SC	29142
125	Profit	David	122 Neiman Drive	Holly Hill	SC	29059
126	Early	Adam	180 Onyx Way	Holly Hill	SC	29059
127	Williams	Trequshn	764 Antioch Road	Santee	SC	29142
128	Ramsey	Herman	1470 Old Hwy 6	Cross	SC	29436
129	Pauling	Elaine	P.O. Box 288	Elloree	SC	29047
130	Wright	Debra	State Park Circle	Santee	SC	29142
131	Riggin	Donnie	2304 Tee Vee Road	Elloree	SC	29047
132	Keitt	Charles	587 Resort Street	Santee	SC	29142
133	Fogle	Gregory	1046 Woolbright Road	Santee	SC	29142
134	Stroman	Wilbur	4042th Street	Cameron	SC	29030
135	Flowers	Patricia Ann	110 Midtown Circle	Santee	SC	29142
136	Washington	Rutledge	2700 Sanibel Cane	Eutawville	SC	29048
137	Robinson	Willie	130 Luter Drive	Holly Hill	SC	29059
138	Washington	Zac	119 Pendel	Holly Hill	SC	29059

updated 6/26/2023

ID #	Last name	First name	Address	City	State	ZIP
139	Glenn	Harnette	120 Louie Court	Holly Hill	SC	29059
140	Gillard	Corey	591 Wegggar Ave	Eutawville	SC	29048
141	Baker	Shannon	313 Mill Creek Road	Vance	SC	29163
142	Snider	Taish	8927 Old State Road, Apt C-8	Holly Hill	SC	29059
143	Martin	Linda Joyce	P.O. Box 1295	Holly Hill	SC	29059
144	Fogle	Tyrone	120 Ladd Drive	Santee	SC	29142
145	Fogle	Brandon	429 Richardson Street	Cross	SC	29436
146	Gathers	Raymond	386 Lauderdale Road	Eutawville	SC	29048
147	Jamison	Mary A.	P.O. Box 554	Holly Hill	SC	29059
148	Kenneth	Montgomery	103 200 Lane	Eutawville	SC	29048
149	Carter	Tiera	411 Sheard Drive	Santee	SC	29142
150	Williams	Trina	325 Clark Street	Santee	SC	29142
151	Bryant	Willie S.	13158 Old 6 Hwy	Eutawville	SC	29048
152	Evans	Debra A.	311 Sorin Circle	Elloree	SC	29047
153	Clark	Sherese	573 Resort Street	Santee	SC	29142
154	Stinson	Luberhta	624 County Line Road	Cross	SC	29436
155	Ferguson	Matthew	6325 Old 6 Hwy	Elloree	SC	29047
156	Zeigler	Sandra	180 Cantey Drive, Apt 241	Santee	SC	29142
157	Gethers	Roberta	180 Cantey Drive, Apt 214	Santee	SC	29142
158	Tompson	George	560 Sheard Drive	Santee	SC	29142
159	Simmons	James	P.O. Box 398	Eutawville	SC	29048
160	Rock	Bessie	845 Sandpoint Street	Eutawville	SC	29048
161	Gillard	James	1125 Offshore Court	Vance	SC	29163
162	Sheard	Edward	140 Sheard Drive	Santee	SC	29142
163	Ladson	Jesse	180 Cantey Drive, Apt 247	Santee	SC	29142
164	Stokes	Harry	180 Cantey Drive, Apt 207	Santee	SC	29142
165	Brown	Melvin	871 Sandpoint Street	Eutawville	SC	29048
166	Howell	Nathaniel	7121 Five Chop Road	Santee	SC	29142
167	Keitt	Anthony Z.	119 Brookstone Road	Santee	SC	29142
168	Jones	Tyrees	Lide Springs Road	Darlington	SC	29540
169	Green	Harry & Linda	134 Red Bank Road	Eutawville	SC	29048
170	Moore	Mary Ann	180 Cantey Drive, Apt 203	Santee	SC	29142
171	Canty	Jaeinca	180 Cantey Drive, Apt 234	Santee	SC	29142
172	Davis	Tina	180 Onyx Way	Holly Hill	SC	29059
173	Keitt	Sherline	587 Resort Street	Santee	SC	29142
174	Debose	Thomas	106 Midtown Circle	Santee	SC	29142
175	Edwards	Quinnie Lee	114 Bandwell Court	Holly Hill	SC	29059
176	Fuller	Cynthia	1275 Edward Street	Holly Hill	SC	29059



---

**From:** Reynolds, Bradley S. <ReynoldsBS@scdot.org>  
**Sent:** Tuesday, September 19, 2023 4:04 PM  
**To:** Reynolds, Bradley S.  
**Subject:** I-95 over Lake Marion Comment Response to Petition  
**Attachments:** I-95\_Lake\_Marion\_Petition\_Response\_Letter.pdf

Good Afternoon,

The South Carolina Department of Transportation (SCDOT) appreciates your interest and comments regarding the I-95 over Lake Marion Bridge Replacements Project. The proposed project involves the replacement of the I-95 bridges over Lake Marion in Clarendon and Orangeburg Counties in South Carolina. A range of improvement alternatives are currently being considered to maintain connectivity and a safe interstate facility for the traveling public and provide safe access for pedestrians and cyclists over Lake Marion. Please find the attached letter addressing your comments received in the Petition.

All comments submitted through the petition are being considered in the development of the project and your comments will also be retained as part of the project file and public record. Thank you for taking the time to provide feedback. We value your local knowledge and experience. Please feel free to contact me at ReynoldsBS@scdot.org or my number below if you have any additional concerns. Our project website is listed below:  
<http://scdotgis.online/i95bridgesoverlakemarion>

Thanks,

*Bradley S. Reynolds, P.E., DBIA*  
Alternative Delivery Program Manager  
803-737-1440 O/ 803-521-7007 M



BrooklynBreeze905@gmail.com;  
jahdavis526@gmail.com;  
williamsshinaryah@gmail.com;  
genevamartin1960@gmail.com;  
LarryShuler1978@gmail.com;

Tiffany1984Cg@mail.com;  
Korey.Evans@yahoo.com;  
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samanthadarity2023@icloud.com;  
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citizenscampaigncc@gmail.com;  
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ganttelaine@gmail.com;

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raff1862@gmail.com;  
calvingreen933@gmail.com;  
lamontmcdaniel1971@gmail.com;

Gmoney4gs@gmail.com;  
SummersDorothy459@gmail.com;  
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tashaglover25@yahoo.com;

AndersonSark5319@gmail.com;  
Roshikaoliver@yahoo.com;  
mauricelivingston911@gmail.com;  
imerabenjamin2004@yahoo.com;  
GloriaShiver1@gmail.com

HillKeyona@yahoo.com;  
harrisontatiana@gmail.com;  
kepharrisw13@gmail.com;  
mccormickk@cecsinc.com;  
mcgoldriwr@scdot.org

# **Appendix D**

## **EJ Screen Report**

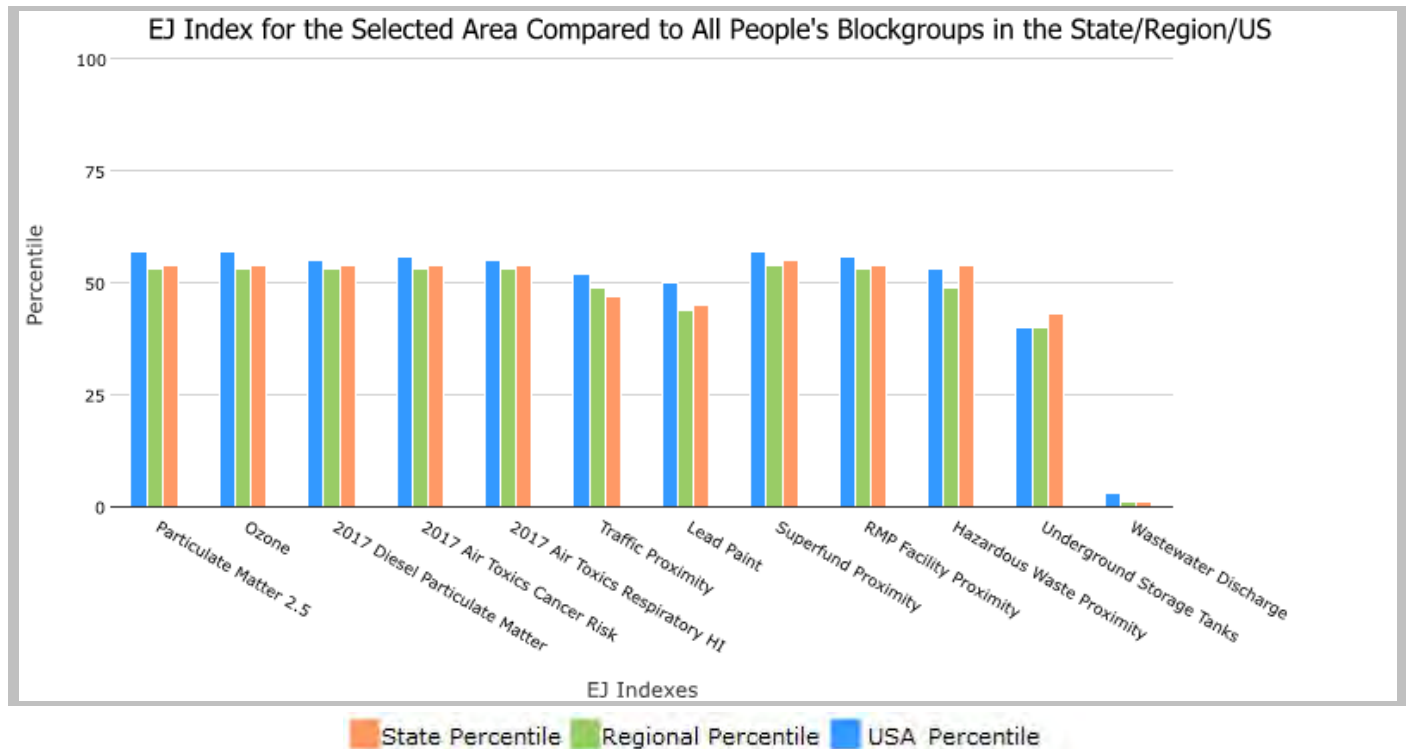
1 mile Ring around the Area, SOUTH CAROLINA, EPA Region 4

Approximate Population: 1,330

Input Area (sq. miles): 11.94

Lake Marion

Selected Variables	State Percentile	EPA Region Percentile	USA Percentile
<b>Environmental Justice Indexes</b>			
EJ Index for Particulate Matter 2.5	54	53	57
EJ Index for Ozone	54	53	57
EJ Index for 2017 Diesel Particulate Matter*	54	53	55
EJ Index for 2017 Air Toxics Cancer Risk*	54	53	56
EJ Index for 2017 Air Toxics Respiratory HI*	54	53	55
EJ Index for Traffic Proximity	47	49	52
EJ Index for Lead Paint	45	44	50
EJ Index for Superfund Proximity	55	54	57
EJ Index for RMP Facility Proximity	54	53	56
EJ Index for Hazardous Waste Proximity	54	49	53
EJ Index for Underground Storage Tanks	43	40	40
EJ Index for Wastewater Discharge	1	1	3



This report shows the values for environmental and demographic indicators and EJSCREEN indexes. It shows environmental and demographic raw data (e.g., the estimated concentration of ozone in the air), and also shows what percentile each raw data value represents. These percentiles provide perspective on how the selected block group or buffer area compares to the entire state, EPA region, or nation. For example, if a given location is at the 95th percentile nationwide, this means that only 5 percent of the US population has a higher block group value than the average person in the location being analyzed. The years for which the data are available, and the methods used, vary across these indicators. Important caveats and uncertainties apply to this screening-level information, so it is essential to understand the limitations on appropriate interpretations and applications of these indicators. Please see EJSCREEN documentation for discussion of these issues before using reports.

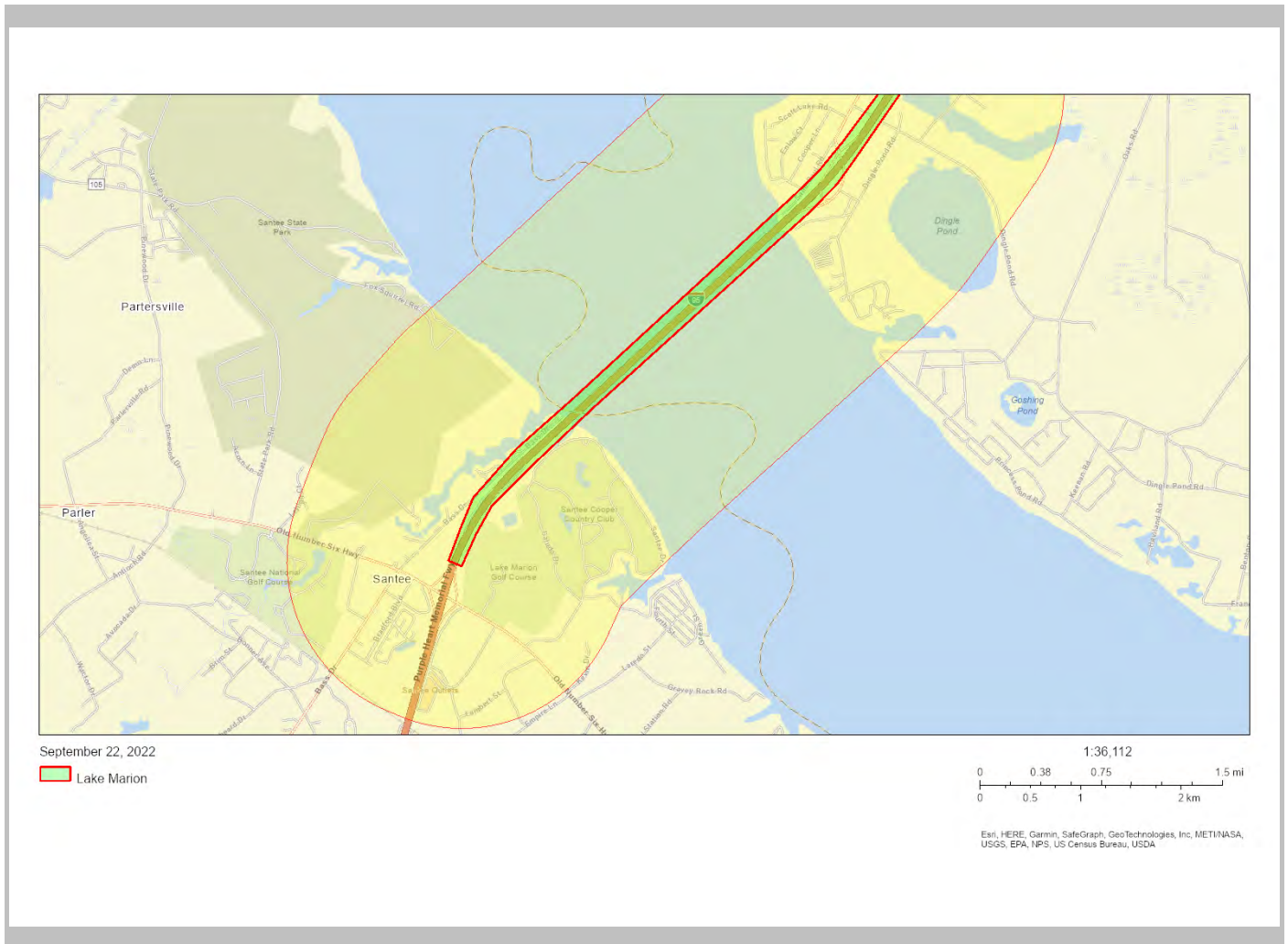


1 mile Ring around the Area, SOUTH CAROLINA, EPA Region 4

Approximate Population: 1,330

Input Area (sq. miles): 11.94

Lake Marion



Sites reporting to EPA	
Superfund NPL	0
Hazardous Waste Treatment, Storage, and Disposal Facilities (TSDF)	0

## EJScreen Report (Version 2.0)



1 mile Ring around the Area, SOUTH CAROLINA, EPA Region 4

Approximate Population: 1,330

Input Area (sq. miles): 11.94

Lake Marion

Selected Variables	Value	State Avg.	%ile in State	EPA Region Avg.	%ile in EPA Region	USA Avg.	%ile in USA
<b>Pollution and Sources</b>							
Particulate Matter 2.5 ( $\mu\text{g}/\text{m}^3$ )	7.42	7.74	26	8.18	17	8.74	19
Ozone (ppb)	32.9	37.3	15	37.9	17	42.6	6
2017 Diesel Particulate Matter* ( $\mu\text{g}/\text{m}^3$ )	0.147	0.211	34	0.261	<50th	0.295	<50th
2017 Air Toxics Cancer Risk* (lifetime risk per million)	30	31	85	31	80-90th	29	80-90th
2017 Air Toxics Respiratory HI*	0.4	0.42	75	0.4	70-80th	0.36	80-90th
Traffic Proximity (daily traffic count/distance to road)	34	52	59	430	24	710	18
Lead Paint (% Pre-1960 Housing)	0.033	0.14	34	0.15	35	0.28	23
Superfund Proximity (site count/km distance)	0.017	0.092	13	0.083	25	0.13	13
RMP Facility Proximity (facility count/km distance)	0.098	0.45	19	0.6	19	0.75	15
Hazardous Waste Proximity (facility count/km distance)	0.19	1	25	0.62	47	2.2	28
Underground Storage Tanks (count/km <sup>2</sup> )	1	2.6	51	3.5	48	3.9	46
Wastewater Discharge (toxicity-weighted concentration/m distance)	7.5	0.47	99	0.45	99	12	97
<b>Socioeconomic Indicators</b>							
Demographic Index	36%	36%	57	37%	56	36%	59
People of Color	33%	36%	52	39%	50	40%	51
Low Income	40%	35%	62	35%	61	31%	69
Unemployment Rate	4%	6%	41	6%	41	5%	43
Linguistically Isolated	0%	1%	61	3%	51	5%	45
Less Than High School Education	8%	12%	39	13%	38	12%	44
Under Age 5	8%	6%	74	6%	72	6%	69
Over Age 64	46%	17%	98	17%	97	16%	98

\*Diesel particulate matter, air toxics cancer risk, and air toxics respiratory hazard index are from the EPA's 2017 Air Toxics Data Update, which is the Agency's ongoing, comprehensive evaluation of air toxics in the United States. This effort aims to prioritize air toxics, emission sources, and locations of interest for further study. It is important to remember that the air toxics data presented here provide broad estimates of health risks over geographic areas of the country, not definitive risks to specific individuals or locations. Cancer risks and hazard indices from the Air Toxics Data Update are reported to one significant figure and any additional significant figures here are due to rounding. More information on the Air Toxics Data Update can be found at: <https://www.epa.gov/haps/air-toxics-data-update>.

For additional information, see: [www.epa.gov/environmentaljustice](http://www.epa.gov/environmentaljustice)

EJScreen is a screening tool for pre-decisional use only. It can help identify areas that may warrant additional consideration, analysis, or outreach. It does not provide a basis for decision-making, but it may help identify potential areas of EJ concern. Users should keep in mind that screening tools are subject to substantial uncertainty in their demographic and environmental data, particularly when looking at small geographic areas. Important caveats and uncertainties apply to this screening-level information, so it is essential to understand the limitations on appropriate interpretations and applications of these indicators. Please see EJScreen documentation for discussion of these issues before using reports. This screening tool does not provide data on every environmental impact and demographic factor that may be relevant to a particular location. EJScreen outputs should be supplemented with additional information and local knowledge before taking any action to address potential EJ concerns.

## **Appendix E**

### **SHPO Concurrence and Cultural Resources Report**



MULT  
34840  
RECEIVED MAY 26 2023  
NHPA

May 23, 2023

Ms. Elizabeth Johnson  
Director, Historical Services, D-SHPO  
State Historic Preservation Office  
SC Department of Archives & History  
8301 Parklane Road  
Columbia, SC 29223

***RE: Phase I Cultural Resources Survey of the I-95 over Lake Marion Bridge Replacement, Orangeburg and Clarendon Counties, South Carolina***

***SCDOT Project #: P041130***

Dear Ms. Johnson:

Please find attached a copy of the above referenced report that describes cultural resources investigations conducted prior to the replacement of the existing twin I-95 Bridges (W.J. Goodman Bridge) over Lake Marion. This project is located in in **Orangeburg and Clarendon Counties**, South Carolina.

The South Carolina Department of Transportation (SCDOT) proposes to replace two bridges along I-95 that span Lake Marion. The project corridor encompasses approximately 342 acres from mile marker 98 to mile marker 102 along I-95. The corridor width is 600 feet, 300 feet from either side of the interstate centerline, and expands in the northeastern portion of the survey area to include the I-95/US 301 interchange. The Area of Potential Effects (APE) consists of the project area and a 300-foot viewshed buffer beyond the project area. The archaeological survey examined the project area, while the architectural survey examined the entire APE. Additionally, underwater archaeological investigations were conducted within an 800-foot-wide corridor, from shoreline to shoreline, on either side of the existing I-95 bridges.

The archaeological survey identified no new sites and two isolated finds. IF-1 consisted of an eroded coarse sand temper Precontact pottery sherd and IF-2 consisted of one piece of quartz debitage. Isolated finds by definition are **not eligible** for the National Register of Historic Places (NRHP). The survey also revisited the location of 38CR48, which was plotted within the project area. 38CR48 is an **unassessed** Precontact Woodland and Mississippian artifact scatter that was originally recorded in 1977 based on collections donated to the Charleston Museum. The site could not be relocated during this survey and it is likely that its locational data is not accurate.

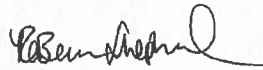
The architectural survey identified six new aboveground resources and seven new sub-resources, SHPO Site Nos 0457-0461 in Orangeburg County and 0311 in Clarendon County. SHPO Site Nos. 0457-0457.05 are buildings associated with the circa-1950 Swamp Fox Motel. Site Nos. 0458, 0459, and 0461 are mid-twentieth century residences. Site Nos. 0460-0460.02 are components of the mid-twentieth century Santee Cooper Country Club. Site No. 0311 is a service station constructed in 1965. All of these aboveground resources have been assessed as **not eligible** for the NRHP.

The underwater archaeological investigation consisted of magnetic and acoustic remote sensing surveys. The survey identified numerous circular and linear features interpreted as former trees and sections of piers and piles associated with a former I-95 bridge, but no potentially significant targets of any type were identified. No additional underwater archaeological investigations are recommended.

Based on the results of the background research and field investigations, the SCDOT has determined that there will be **no historic properties affected** by the proposed undertaking.

Per the terms of the Section 106 Programmatic Agreement executed on October 6, 2017, the Department is providing this information on behalf of the Federal Highway Administration. It is requested that you review the enclosed material, and, if appropriate, indicate your concurrence in the Department's findings. Please respond within 30 days if you have any objections or if you have need of additional information.

Sincerely,



Rebecca Shepherd  
Chief Archaeologist

RES:res  
Enclosures: Cultural resources survey report

I ~~(do not)~~ concur in the above determination.

Signed:  Date: 6/2/2023

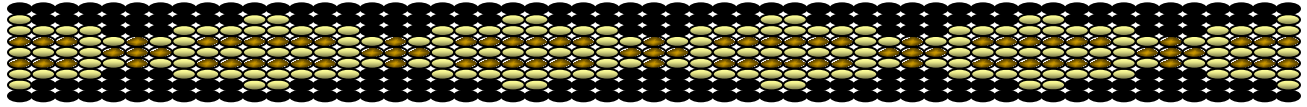
cc: Shane Belcher, FHWA  
Russell Townsend, Eastern Band of Cherokee Indians  
Stephen J. Yerka, Eastern Band of Cherokee Indians  
Elizabeth Toombs, Cherokee Nation  
Bryan Printup, Tuscarora Nation  
LeeAnne Wendt, Muscogee (Creek) Nation  
Acee Watt, United Keetoowah  
Whitney Warrior, United Keetoowah

cc: Wenonah G. Haire, Catawba Nation  
Keith Derting, SCIAA



Catawba Indian Nation  
Tribal Historic Preservation Office  
1536 Tom Steven Road  
Rock Hill, South Carolina 29730

Office 803-328-2427  
Fax 803-328-5791



June 26, 2023

Attention: Rebecca Shepherd  
SCDOT  
P.O. Box 191  
Columbia, SC 29202-0191

Re. THPO #	TCNS #	Project Description
2023-66-20		Phase I Cultural Resources Survey of the I-95 over Lake Marion Bridge Replacement, Orangeburg and Clarendon Counties, SC

Dear Ms. Shepherd,

The Catawba have no immediate concerns with regard to traditional cultural properties, sacred sites or Native American archaeological sites within the boundaries of the proposed project areas. **However, the Catawba are to be notified if Native American artifacts and / or human remains are located during the ground disturbance phase of this project.**

If you have questions please contact Caitlin Rogers at 803-328-2427 ext. 226, or e-mail [Caitlin.Rogers@catawba.com](mailto:Caitlin.Rogers@catawba.com).

Sincerely,

Wenonah G. Haire  
Tribal Historic Preservation Officer







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# Phase I Cultural Resources Survey of the I-95 Over Lake Marion Bridge Replacement

Orangeburg and Clarendon Counties, South Carolina

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Report submitted to

TranSystems • 1859 Summerville Avenue, Suite 600  
• Charleston, SC 29405

---

Report prepared by

New South Associates • 1819 Hampton Street • Columbia, South Carolina, 29201



---

Natalie Adams Pope, MA, RPA – Principal Investigator

Kelly Higgins, MA, RPA – Archaeologist and Co-Author

Katie Dykens Quinn, MSHP – Historian and Co-Author

Lee Cox, MA, RPA – Underwater Archaeologist and Co-Author

May 17, 2023 • **Final Report**  
New South Associates Technical Report 4446

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# ABSTRACT

New South Associates, Inc. (NSA) has completed a Phase I Cultural Resources Survey for the proposed replacement of four bridges along I-95 over Lake Marion in Clarendon and Orangeburg counties. The project area includes the active bridge structures from approximately Mile Marker (MM) 98 to MM 102 with a corridor width of 600 feet, 300 feet on either side of the Interstate centerline. The project area expands to the north of Lake Marion to encompass the U.S. 301/I-95 interchange. This corridor includes the large two-lane northbound and southbound bridges over Lake Marion and the small two-lane relief bridges over the lake. The replacement of the existing I-95 Lake Marion southbound vehicular bridges would include the construction of a new two-way pedestrian and bicycle facility.

The goal of the project was to identify preserved archaeological and historic architectural resources and evaluate the resources' potential eligibility for the National Register of Historic Places (NRHP). The Area of Potential Effects (APE) is defined as the project corridor and a 300-foot buffer. The archaeological survey covered the project corridor while the architectural survey examined the entire APE. NSA was sub-contracted by TranSystems, who is the Prime Contractor for this project, to complete the survey.

While no archaeological sites were identified as a result of the archaeological survey, two Precontact isolated finds were recorded. Isolated finds are not eligible for the NRHP. Additionally, the location of 38CR48 was revisited; however, no evidence of the site was noted. No further archaeological work is necessary. The historic architecture survey assessed six newly identified resources with seven additional sub-resources. None are recommended eligible for the NRHP. An underwater archaeological survey was performed by Dolan Research, Inc. Analysis of magnetic and acoustic remote sensing data collected during the underwater archaeology survey confirmed the presence of no potentially significant remote sensing targets in the APE. In addition to the remote sensing survey, no visible signs of potential submerged cultural resources were encountered during the visual investigation of the two shorelines in the APE. No further cultural resources work is necessary for this project as currently designed.

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# I. INTRODUCTION

The South Carolina Department of Transportation (SCDOT) proposes to replace four bridges along I-95 over Lake Marion in Clarendon and Orangeburg counties, South Carolina. The proposed project includes the large two-lane northbound and southbound bridges over Lake Marion and the smaller two-lane northbound and southbound relief bridges over the lake. Additionally, the replacement of the existing I-95 Lake Marion southbound vehicular bridges would include the construction of a new two-way pedestrian and bicycle facility. The adjacent existing U.S. 301 pedestrian bridge (currently closed to traffic) would be retained while the abandoned in-water wooden pilings to the west of the bridges would be removed. It is anticipated the replacement bridges will be constructed by road closure and detour.

This project was conducted on behalf of TranSystems with the goal of identifying preserved archaeological and historic architecture resources and evaluating the resources' potential eligibility for the National Register of Historic Places (NRHP). The project corridor encompasses approximately 342 acres from mile marker 98 to mile marker 102 along I-95 as well as two existing out of service bridges to the north of I-95 and miscellaneous piers. The corridor width is 600 feet, 300 feet from the Interstate centerline and expands in the northeastern portion of the survey area to include the I-95/US 301 interchange. The Area of Potential Effects (APE) consists of the project corridor for archaeological resources and a 300-foot viewshed buffer for historic architectural resources. The archaeological survey examined the project corridor, while the architectural survey examined the entire APE. For the portions of the project corridor covered by underwater archaeology survey, the APE consists of an 800-foot-wide corridor on either side of the existing I-95 bridges. This corridor also encompassed the US 15/501 bridge and the remains of the original I-95 bridge to the west of the current I-95 bridges.

Fieldwork for the archeological survey took place from January 23–27, 2023. Natalie Adams Pope, MA, RPA served as Principal Investigator, while Kelly Higgins, MA, RPA, served as Project Archaeologist and Field Director. Field assistance was provided by Archaeological Technician David Amrine. Katie Dykens Quinn, MSHP, served as Historian and conducted the architectural survey on January 23, 2023. The underwater survey was conducted by Lee Cox, MA, RPA of Dolan Research on February 7, 2023.

Figure 1.  
Project Location Map



Basemap: USGS Topo (2022)

This report is divided into five chapters, including this Introduction. Chapter II presents an environmental overview. Chapter III contains the cultural background of the project area. Chapter IV discusses the methodology used during the survey and Chapter V presents the survey results and recommendations. Appendix A contains the Underwater Archaeology Survey report and Appendix B contains the Artifact Catalog. Completed architectural survey cards will be submitted separately.

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## II. ENVIRONMENTAL CONTEXT

The project area lies in the Inner Coastal Plain physiographic region, a generally level and nearly featureless surface that slopes gradually from west to east. Elevations in the Coastal Plain range from 0 to 200 feet above mean sea level (amsl), which is consistent with elevations in Orangeburg and Clarendon counties. The elevation within the project area is around 90–130 ft amsl. The most distinctive characteristic of the Coastal Plain is a series of relict shorelines created by advancing and retreating sea levels and fluvial processes. These include a number of beach ridges, ocean terraces, deltas, and other coastal features (Kovacik and Winberry 1987a).

The project corridor straddles the Atlantic Southern Loam Plains and Southeastern Floodplains and Low Terraces ecoregions. The Atlantic Southern Loam Plains, located in the southwestern portion of the project area, contains deep, well drained soils and a high concentration of poorly drained Carolina Bays. Most of the project area is within the Southeastern Floodplains and Low Terraces ecoregion. This region consists of alluvium and terraces deposits of sand, clay, and gravel with sluggish rivers and backwaters. Fauna in this region includes white-tailed deer, black bear, bobcat, gray fox, raccoon, rabbits, squirrels, and other small mammals. Bird species are numerous, and include turkey, bobwhite quail, mourning dove, and various migratory waterfowl and songbirds. Reptiles include box turtle, snakes, and alligators (McNab and Avers 1994).

Sedimentary muds, silts, sands, and other substances of marine origin underlay the Coastal Plain (Kovacik and Winberry 1987a). Soils in the project corridor range from moderately well drained to excessively drained (Table 1, Figures 2-3), while water makes up over 40 percent of the project area. The presence of archaeological resources is often related to drainage, well-drained soils having the higher potential for sites. Historic sites can also be found on well-drained ridges that facilitate transportation between the interior and the coast.

*Table 1. Soil Types Mapped in the Project Corridor*

Map Unit	Map Unit Name	Drainage Class	Notes	Acres in APE	Percentage of APE
BoB	Bonneau sand	Well Drained	0–4% slopes	< 0.1%	0
LaB	Lakeland sand	Excessively Drained	0–6% slopes, Southern Coastal Plain	104.8	31.6
LcB	Lucy loamy sand	Well Drained	0–6% slopes	1.0	0.3

Map Unit	Map Unit Name	Drainage Class	Notes	Acres in APE	Percentage of APE
LcC	Lucy loamy sand	Well Drained	6–10% slopes	< 0.1%	0
NeB	Neeses loamy sand	Well Drained	2–6% slopes	0.5	0.1
NeC	Neeses loamy sand	Well Drained	6–10% slopes	5.7	1.7
TpC	Troup sand	Somewhat Excessively Drained	6–10% slopes, Southern Coastal Plain	3.2	1.0
Ud	Udorthents, loamy	Moderately Well Drained		71.2	21.4
W	Water			145.7	43.8
Total				332.1	100

The local climate is typical of the southern Atlantic coastal plain. Summers are long and humid with high temperatures averaging 90 degrees Fahrenheit (°F). Winters are short and snowfall rare, with an average low temperature of 35°F. A record high temperature was recorded on August 2, 1999, in Orangeburg County when temperatures reached 106°F, while 108°F was reached in Clarendon County on August 22, 1985. The record low temperature for both counties was recorded on January 21, 1985, when 0°F was reached in Clarendon County and 2°F was reached in Orangeburg County.

Precipitation averages about 50 inches per year, with 60 percent of rainfall occurring between April and September. Snowfall accumulations rarely exceed an inch. The tropical storm season is generally from July to October. While hurricanes are rare, tropical storms occur every two to three years and bring heavy rainfall to the area.

Figure 2.  
Soils in the Project Area, 1 of 2



Basemap: BingMaps Hybrid (Accessed 2023); Data Source: Web Soil Survey



Figure 3.  
Soils in the Project Area, 2 of 2



Basemap: BingMaps Hybrid (Accessed 2023); Data Source: Web Soil Survey

### III. CULTURAL CONTEXT

The following overview of the region’s cultural history provides a means for interpreting and evaluating archaeological sites or historic resources identified in the APE. The Precontact period in South Carolina is typically divided into the Paleoindian, Archaic, Woodland, and Mississippian periods. The Protohistoric period refers to the time when American Indian and European societies first encountered one another. The historic period deals primarily with the time after European societies began permanent settlement in the region. A discussion of previously identified cultural resources is provided at the end of this chapter.

#### PRECONTACT PERIOD

##### PALEOINDIAN PERIOD (11,500–10,000 B.P.)

The Paleoindian period reflects the first known human occupation in North America. The climate was cool and dry, and water levels were significantly lower than they are today. The Paleoindian period in South Carolina is generally divided into Early (11,500–11,000 B.P.), Middle (11,000–10,500 B.P.), and Late (10,500–10,000 B.P.) subperiods on the basis of variation in stone tools, which broadly follow a lanceolate pattern (Justice 1987). Paleoindian artifacts are rarely reported along the present day coast of South Carolina, although at least 22 sites in the middle and upper Savannah River Valley have been identified (Anderson et al. 1990; Sassaman et al. 1990).

There have been claims of very early human occupation of eastern North America, pre-dating the Paleoindian components. These “Pre-Clovis” components share questionable stratigraphic contexts, lack diagnostic projectile points, and have lithic debitage assemblages very similar to overlying Paleoindian components. In South Carolina, work at the Topper site on the Savannah River yielded possible Pre-Clovis evidence in the form of numerous small blades, burins, burin spalls, microblades, and blade cores found in alluvial sediments at least 13,000–15,000 years old, overlying 20,000-year-old Pleistocene clay (Goodyear 1999; Goodyear et al. 1998). Additionally, investigations of the Page-Ladson site in Florida revealed stone tools with butchered mastodon bones in an undisturbed context radiocarbon dated to circa 14,500 years before present (Halligan et al. 2016).

The typical depiction of Paleoindians is of highly mobile big-game hunting and gathering bands. Regional settlement patterns were thought to be tied to high quality lithic resources (Gardner 1974). Toolkits recovered from Paleoindian sites indicate a focus on the processing of megafauna



(side scrapers, end scrapers, and drills), although some researchers suggest reliance on a more diverse resource set (Meltzer 1988). This is especially true for the Southeast, where Paleoindian sites associated with megafauna are rare (Meltzer and Smith 1986).

#### ARCHAIC PERIOD (10,000–3,000 B.P.)

Like the earlier Paleoindian period, the Archaic period is further divided into an Early Archaic period dated to between 10,000 and 8,000 B.P., a Middle Archaic period dated to between 8,000 and 5,000 B.P., and a Late Archaic period dated to between 5,000 and 3,000 B.P. Because of the Holocene warming trend and the subsequent rise in the sea level that occurred during this period, the comparatively long Archaic period is seen as one of adjustment to the changing environment.

Most of these adjustments occurred in the Early Archaic period. According to Claggett and Cable (1982), technological evidence collected at two sites in North Carolina's Haw River Valley reflects the environmental changes brought on by the post-Pleistocene warming. Some of the environmental changes included a warmer and moister climate with an increase in sea level and precipitation. The projectile points produced during this time include the Hardaway Side-Notched, Palmer Corner-Notched, and the Kirk Corner-Notched. Representatives of the terminal Early Archaic bifurcate tradition (Chapman 1975) are also found in some quantities.

According to Sassaman (1983), the societal changes begun in the Early Archaic period continued in the Middle Archaic, as these groups transitioned into a foraging lifestyle. Sassaman believed that the Middle Archaic people were very mobile, perhaps moving residences every few weeks, which fits Binford's (1980) definition of a foraging society. Binford postulated that foragers moved camp frequently to take advantage of isolated areas with similar resources. He further hypothesized that climatic conditions that limited resources could produce a collector system. Cable (1982), working in the Haw River Valley in North Carolina, proposed that homogeneous vegetation resulting from postglacial warming at the end of the Pleistocene encourage foraging. Sassaman's (1983) "Adaptive Flexibility" model suggests that this homogeneity allowed for a high degree of social flexibility, which allowed people to pick up and move when needed. This mobility did not allow them to transport material, which alleviated the need for elaborate or specialized tools to procure and process resources at locations distant from camp. Middle Archaic period projectile points include the Kirk Serrated, Kirk Stemmed, Stanly Stemmed, Morrow Mountain I and II, Guilford Lanceolate, and the Brier Creek Lanceolate types.

The Late Archaic was a period of increased settlement permanence, population growth, subsistence intensification, and technological innovation. Projectile points indicative of this period include the Savannah River Stemmed, Small Savannah Stemmed, and Otarre. Late Archaic period site assemblages have produced the earliest pottery sherds. These pottery types include the fiber-tempered Stallings (Griffin 1945; Stoltman 1974) and the sand-tempered Thom's Creek series

(Blanton et al. 1986). Along with the development of this fiber-tempered pottery in the Coastal Plain (about 4,500 B.P.), the first evidence of freshwater shellfish procurement has been discovered. While shellfish procurement and pottery use occurred earlier along the Coastal Plain, it did not occur above the Fall Line until after 3,700 B.P. The Savannah River Valley is the only area in which freshwater shell midden sites have been found. Soapstone cooking tools, such as heating stones and later bowls, have been discovered in the Piedmont and Fall Line areas and might have contributed to the late adaptation of pottery in the region (Sassaman 1983; Sassaman et al. 1990).

#### WOODLAND PERIOD (3,000–800 B.P.)

Generally, the Woodland period was a time of increased sedentism. Sites reflecting long-term settlements are commonly found in alluvial settings and contain structural remains, storage pits, and burials. Subsistence focused on limited agriculture, mixed hunting, and intensive collecting. As agriculture grew in importance, so too did village life, along with social complexity and stratification, although hunting and gathering continued to supplement dietary needs.

During this period, triangular points replaced the stemmed point tradition of the Archaic period. Several researchers observed a probable correlation between point size and time, and they attributed this correlation to the adoption of bow-and-arrow technology at various times throughout the Southeast (Coe 1964; Tippitt and Daniel 1987).

Subsistence and settlement patterns in the Early Woodland (3,000–2,600 B.P.) are a continuation of the semisedentary lifeways practiced in the Late Archaic. There is no direct evidence for horticulture, but the introduction of large-scale pottery production is a major change in storage technology. This change may indicate a shift in subsistence systems, possibly the beginning of a trend toward sedentism and horticulture. By the start of the Early Woodland, sand-tempered Thom's Creek pottery replaced Stallings Island fiber-tempered wares; later, Refuge series pottery replaced Thom's Creek pottery.

The Middle Woodland (2,600–1,500 B.P.) is characterized by changes in artifact styles and settlement patterns. Settlement changes are interpreted as reflecting a focus on semipermanent camps along major river drainages with limited associated activity sites in uplands. The existence of larger sites suggests at least periodic aggregation. The Middle Woodland is represented by sand-tempered Deptford phase pottery, dating from 2,600–1,500 B.P. Towards the end of this period, additional technological changes are noted in the ceramic assemblages. These include ceramics of the sand-tempered McClellanville/Santee wares, grog-tempered Hanover ceramics, which are interpreted as a northern variety of the Wilmington ceramic tradition, and the Mount Pleasant pottery series.

Sassaman et al. (1990) noted that the Late Woodland (1,500–800 B.P.) is difficult to distinguish from the Middle Woodland and the subsequent Mississippian period, and in some respects, it represents a transition between the two. During the Late Woodland, village structure intensified, and the presence of corn and squash remains suggests the origins of an agricultural economy. In addition, stratified social organization and subsistence strategies of the Late Woodland formed a foundation for the ensuing Mississippian period. Earlier stages of this period are marked by the continuation of Hanover and Mount Pleasant ceramic series, which are found as late as 1,000 B.P. (Trinkley 1989). A local manifestation of Late Woodland pottery tempered with limestone has been defined by Adams and Trinkley (1993) and named the Wando Series, with a date range of A.D. 600–1200.

### MISSISSIPPIAN PERIOD (850–310 B.P.)

The Mississippian period (850–310 B.P.) is noted for the development of elaborate political and religious systems and the construction of large, permanent villages. Agriculture emerged as an important contributor of food, with corn, beans, and squash as the primary crops. Large settlements lay on floodplains of major rivers, and smaller settlements were in upland locations. Small triangular point types and burnished and complicated stamped ceramics are typical of Mississippian material culture.

Mississippian cultures of the Coastal Plain are not as well understood as those of interior areas. The Early Mississippian period in the project region is associated with the Savannah phase, which is considered an indigenous culture that developed from local Late Woodland traditions. The Irene phase represents the last indigenous culture in the region prior to European contact. Irene ceramics incorporate coarser tempers than the Savannah types do, and appliqué rim strips are common. While Irene cultural traits resemble inland Lamar and Pee Dee cultures, the settlement pattern and presumably subsistence and other adaptations focus on coastal marshes and tidal creeks (Hendryx et al. 1997:27). Remains of the late Savannah through Irene components included pits and possible buildings. Subsistence remains included maize, bedstraw seeds, hickory, acorn, shellfish, and sea catfish, which suggested summer through fall occupations, as well as the use of both wild and cultivated foods (Loubser et al. 2000:242).

### PROTOHISTORIC PERIOD

The Spanish were the first to explore South Carolina, in the 1520s. American Indian groups during this time still resembled those of the Mississippian period in many aspects. Early explorers such as Hernando De Soto saw a glimpse of their Mississippian world. For example, De Soto visited Cofitachequi in central South Carolina after hearing about its abundance of wealth (Ethridge 2010:26). This Mississippian polity during De Soto's exploration probably had influence over

more simple coastal chiefdoms such as Uscamacu, Orista, Ahova, and Cozao (Ethridge 2010:109). But by the time of Juan Pardo's explorations in 1567–1568, polity powers shifted, with Hoara and Guatari rising above Cofitachequi. According to Ethridge (2010), this change in power was common and often constant during the Late Mississippian period.

Accounts from 1570 portray American Indians in coastal South Carolina following a seasonal period of aggregation (Waddell 1980:147–151). Protohistoric groups of this region include the Sewee and Santee. According to Waddell (1980), these groups practiced seasonal horticulture but did not have permanent year-round villages. Trinkley (1981) believed the Sewee might be responsible for creating a late variety of Pee Dee ceramics.

European settlers greatly affected the Mississippian world through disease, warfare, and slave raids, and native populations dwindled during the sixteenth century (Dobyns 1983; Ramenofsky 1982; Smith 1985). In the mid-sixteenth century, 19 different groups inhabited the area between the mouth of the Santee River and the mouth of the Savannah River (Waddell 1980). It is suspected that Cofitachequi dominated these groups until its decline (Anderson and Logan 1981:29). Independently organized groups such as the Coosaw, Etiwan, Kiawah, and Sewee were living around Charleston in the seventeenth century. These tribes were the first to make contact with the English. For example, the Kiawah lived on Albermarle Point and along the Ashley River until allotting their land to settlers in 1670, at which point they relocated to Kiawah Island and later the Combahee River (Swanton 1952:96).

American Indian populations continued to disperse across the landscape. Others faced annihilation from the growing colonies (Anderson and Logan 1981:24). By the end of the eighteenth century, Native groups sparsely inhabited coastal South Carolina.

## HISTORICAL CONTEXT

### COLONIAL PERIOD

Sixteenth and seventeenth-century Spanish and French attempts to colonize the Carolinas were unsuccessful. Although the Spanish maintained a foothold through its mission system, their colonizing efforts focused primarily on the Caribbean and the Florida peninsula. In the seventeenth century, English adventurers succeeded in establishing several colonies on the Atlantic Coast of Virginia and New England. In 1665, eight Lords Proprietors received a charter for the Carolina Province. That document identified the boundaries extending from the southern boundary of Virginia to just below present-day Daytona Beach, Florida and west to the Pacific Ocean (Cheves 1897). These boundaries intentionally embraced several dispersed settlements along the Albemarle Sound and laid a claim to La Florida lands, including the Spanish colonial capital at St. Augustine.

This claim was reinforced by the settlement of Charles Town in 1670. Located near the confluence of the Ashley and Cooper Rivers, this proprietary colony established a provisioning operation for Caribbean sugar plantations. Settlers and traders dispersed along the coast and filtered into the interior. They supplied the colonies with foodstuffs, raw materials, and enslaved American Indians. Their profits enabled the colony to accumulate capital. They also developed labor-intensive forms of commercial agriculture based on an enslaved labor force (Clowse 1971).

French Huguenots were some of the earliest settlers to people the backcountry, forming a colony known as French Santee. They came to Carolina by way of England, where they had originally moved to escape religious persecution. They found themselves at once a part of British colonial society and apart from it, as cultural differences affected their ability to assimilate. A group of seven or eight French Huguenots traveled up the Santee River from Charles Town in 1687 to scout the land with a goal of establishing an independent settlement there. Shortly thereafter, roughly 50 additional Huguenot settlers followed the initial group. Their settlement, called Jamestown, was located on a limestone bluff overlooking the Santee between Dutart Creek and Savanna Creek. Those settlers with the means to do so quickly established their own plantations near the town but not in it, and began working the land (Bates and Leland 2015:4–7).

Plantations of a relatively modest scale spread out along the Santee to the east and west of Jamestown. The average tract size was around 200 acres, and the plantations were long and narrow, allowing access to the Santee for more settlers. Goods produced for sale included basic provisions such as salted beef, as well as more esoteric and experimental crops like indigo and silk. Settlers grew corn as a staple along with rice and grapes, the latter of which were also used for wine. Settlers grew cotton but primarily for their own personal use rather than as a cash crop (Bates and Leland 2015:11–13). The community grew substantially, and St. James Santee Parish was established in 1706 in portions of what are today Charleston and Berkeley counties, to the east of the project vicinity (Lockhart 2016). The cultural influence of the early French Huguenot settlers along the Santee River permeated throughout the region, including the project vicinity.

Within the Carolina colony, conflict arose from trade with American Indians. American Indians' frustration with the trading system simmered until a loose alliance of tribes began attacking outlying settlements and traders. By the end of 1715, the Yemassee War almost drove the entire colony into to the comparative safety of Charles Town's defenses (Crane 1928; Gallay 2010; Ramsey 2008). The conflict temporarily subsided once the Cherokee formed an alliance with the Carolina colony. This trade and defensive alliance promised the Cherokee preferential treatment and goods in exchange for aid against the colony's rivals (Reid 1976).

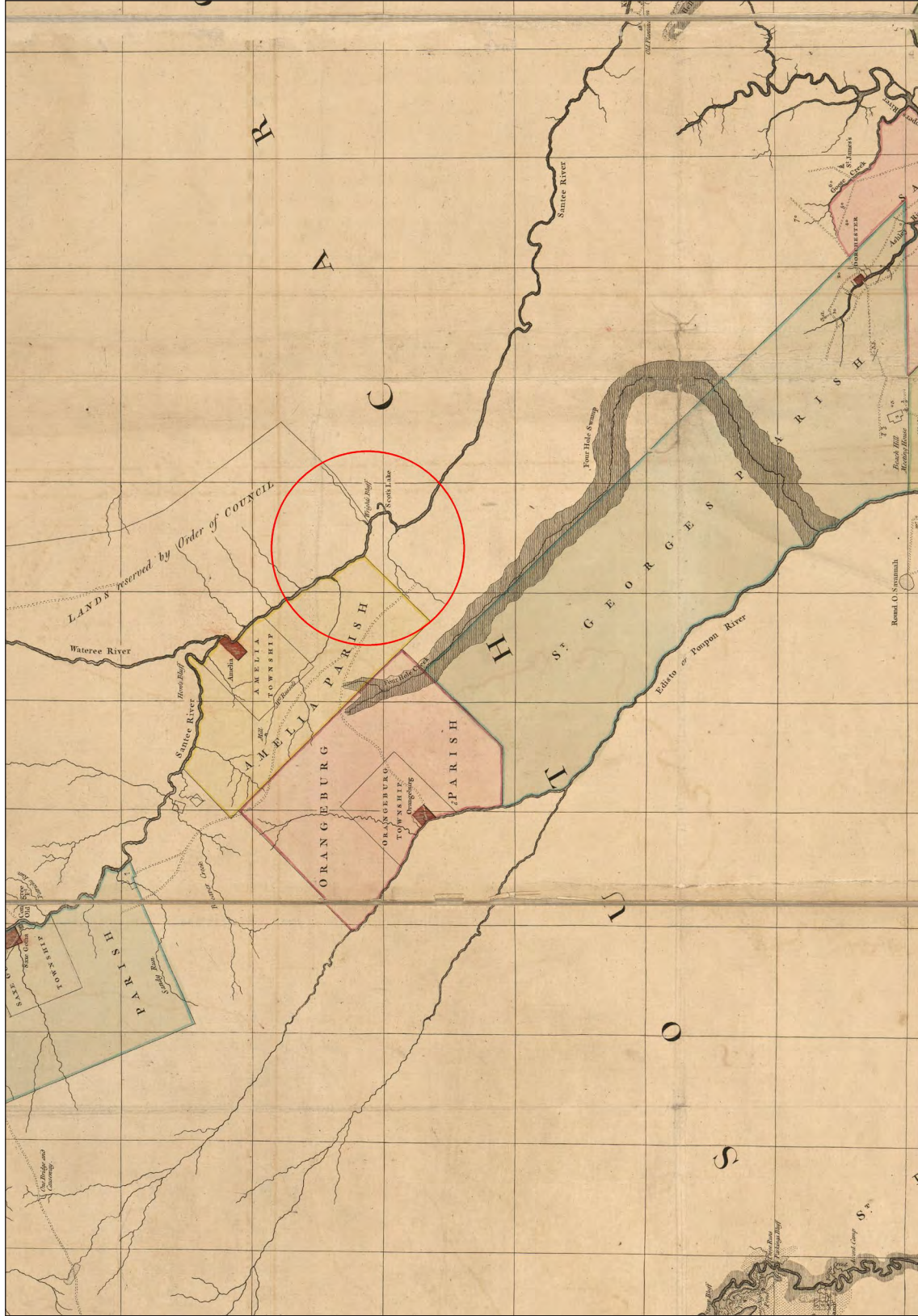


The total population of Carolina, especially the backcountry, increased two-and-a-half times between 1730 and 1760, from 30,000 to over 80,000. This influx of settlers from the coast and over the mountains from the Great Wagon Road drew the enmity of their former Cherokee allies. The Cherokee viewed backcountry settlement as a violation of standing treaties and became hostile toward the Carolina colony. The Cherokee were not alone in their frustrations with encroachment. Fearing a rise in hostility, South Carolina Governor Robert Johnson established a line of eight frontier townships at 80 to 100 miles from Charles Town to protect against raids by the surrounding tribes. Roughly conforming to the settlement boundaries, these townships were sited on major rivers. Each township contained at least 20,000 acres and was subdivided into square plots with a central town located near the river's edge. The townships were intended to attract new European immigrants, and as enticement, all settlers received paid passage, land without obligation to pay quitrents for ten years, and access to provisions and other assistance (Kovacik and Winberry 1987b:78).

Orangeburgh Township was established in the 1730s, and the village of Orangeburgh was settled starting in 1735. It grew slowly but maintained a population and was described in 1767 as a neighborhood with one store, one tavern, and a preacher (National Park Service 1985). Unlike Orangeburgh, Amelia Township, located to the north of the project vicinity, did not thrive and no major settlements were established there. When the townships were reorganized into districts in the late 1760s, Amelia Township was subsumed into Orangeburgh District (Lewis 2020). The 1757 *A Map of South Carolina and a Part of Georgia*, drawn by William De Brahm, shows both Orangeburgh and Amelia townships within the project vicinity as well as the Santee River (Figure 4) (De Brahm 1757).

In 1759, forts were constructed along the Broad, Enoree, and Bush rivers as sanctuaries for European settlers against regular raids by the Cherokee and their Iroquoian allies. Clashes became so frequent that the colonial authorities attempted to stop further settlement of the backcountry. Refugees seeking the forts' protection found disease and widespread corruption as those in charge embezzled supplies and money meant for relief while charging extortionary prices for food. Additionally, militiamen posted outside the forts pilfered the refugees' abandoned homes (Edgar 1998:206; Pope 1973:21). Campaigns against the Cherokee in the early 1760s led to the Treaty of Charleston, which ended what was then known as the Cherokee War (Pope 1973:21–29).

Although the Cherokee threat had abated, the backcountry remained an ungoverned and dangerous region. Cattle and horse thefts were common, while pillaging of abandoned homes continued. The nearest courts were more than 100 miles away in Charleston, making law enforcement largely ineffective (Pope 1973:24). In the backcountry, justice devolved to ad hoc groups of men called Regulators. In 1767, the Regulator movement demanded the colonial administration develop a



Source: De Brahm 1757

Figure 4.  
Project Vicinity on De Brahm's Map of South Carolina and a Part of Georgia, 1757

localized judicial system. They wanted more accessible courts, jails, and better representation in the colonial legislature. By 1769, the colony had established a system of sheriffs and circuit court judges to address some of the Regulators' concerns (Klein 2016). That same year the township system was abandoned in favor of districts and parishes; Orangeburgh Township became Orangeburg District and grew, taking in land from the former Amelia Township. The southern portion of the APE was located in Orangeburg District, St. Matthew's Parish, while the northern half was in Camden District, St. Mark's Parish (Lewis 2019).

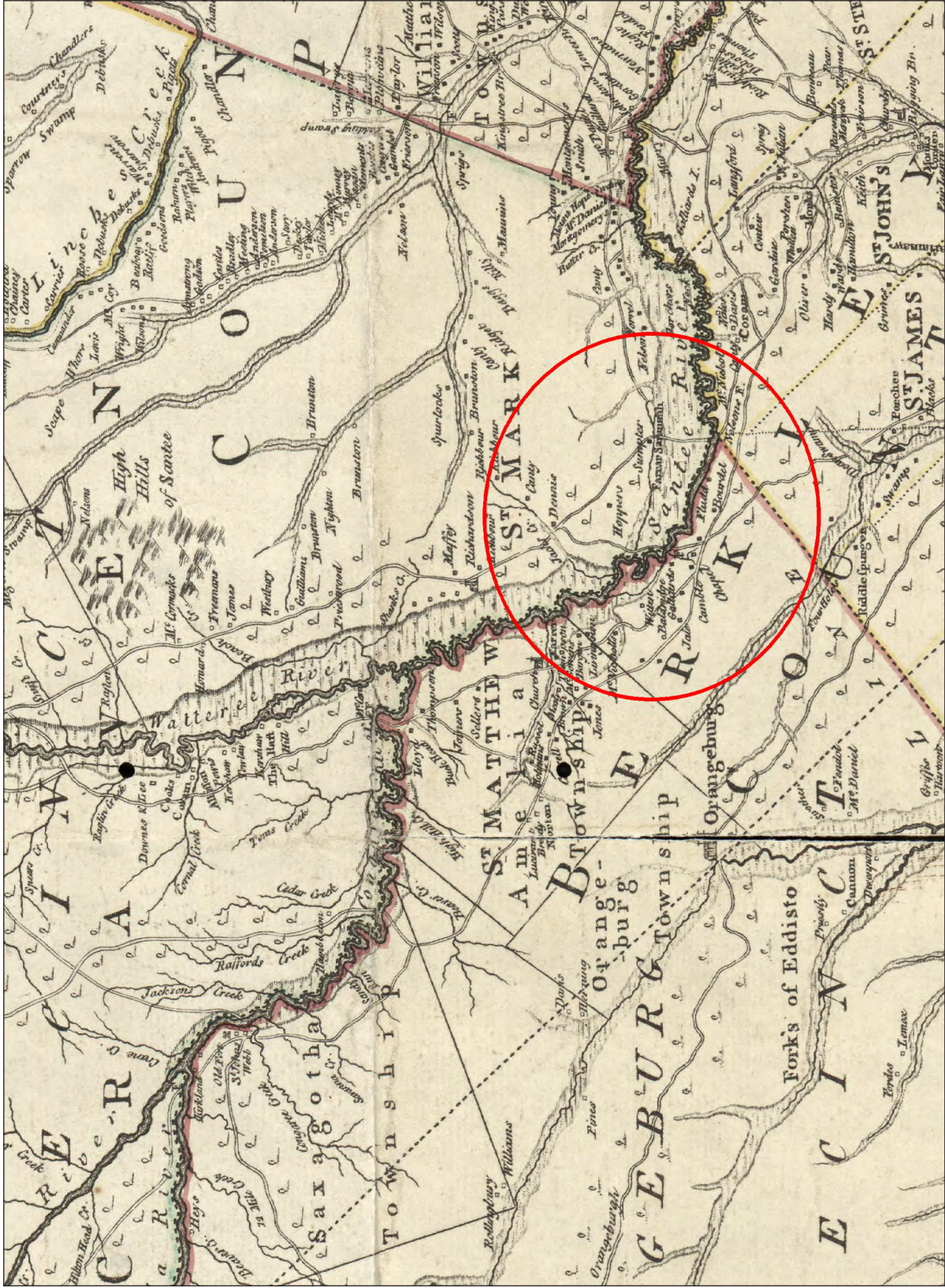
Despite setbacks, Orangeburg grew consistently, and the village became a permanent settlement with a circuit court and Lutheran church by the mid-1760s (Bell 2016; Lewis 2019). The 1773 *Map of the Province of South Carolina* by James Cook shows the village and church (Figure 5) (Cook 1773). It also shows settlement along the Santee River within the project vicinity. Settlers' names include Gailliard, Bourdel, and Dennis, indications of the French influence that extended up the Santee River. Mouzon's 1775 *Accurate map of North and South Carolina* also depicts multiple roads and ferries in the project vicinity. Some of the roads depicted include what is now US 15 and Old Number 6 Highway. A ferry is indicated in the APE on the southern bank of the Santee River (Figure 6) (Mouzon 1775).

## AMERICAN REVOLUTION

In the years preceding the American Revolution, the backcountry was regularly at odds with the colonial legislature. Backcountry residents became increasingly preoccupied by a lack of representation and limited support for local schools and churches. French Huguenots found themselves at the mercy of political machinations as their citizenship and thus the validity of their land grants came into question (Bates and Leland 2015:13). Additionally, friction with the Crown was largely the concern of commercially-oriented coastal elites; in the backcountry, many residents remained loyal to the country that had granted them large tracts of land. These factors led the American Revolution in South Carolina to take on the appearance of partisan warfare with militias supporting both sides of the conflict.

When the British Army captured Charleston in 1780, the conflict shifted from the coast to the backcountry. Seeking to control key transportation links in the colony, the army established fortifications at significant river crossings and towns. Fort Watson was established along the Santee River in the project vicinity, to the north of the project area. In addition to conflicts within the town of Orangeburg, several battles and skirmishes occurred near the project vicinity. The closest was likely the Battle of Nelson's Ferry, which occurred in 1780. General Francis Marion attacked Captain Joseph Roberts as he and his company of Loyalist soldiers were encamped near Nelson's Ferry. Marion's soldiers ended up releasing 150 previously captured prisoners of war





Source: Cook 1773

Figure 5.

Project Vicinity on Cook's Map of the Province of South Carolina, 1773







(Historic Clarendon County). Perhaps the largest battle to take place near the project vicinity was at Eutaw Springs in 1781, when Revolutionary soldiers under Major General Nathanael Greene attacked an encampment of 2,300 British soldiers on their way to Charleston. After a day of very heavy casualties on both sides, both groups retreated, but the losses were more critical for the British and Eutaw Springs proved to be the last major battle of the Revolutionary War (Lewis 2017).

The state was geographically reorganized once again following the Revolutionary War, and in 1785 it was briefly divided into counties. The southern portion of the project area was in Lewisburg County while the northern was in Clarendon County. The county system proved to be somewhat short-lived, however, and Orangeburg District was re-established by 1791 while Clarendon County was folded into Sumter District in 1798 (Lewis 2019, 2021). The population of the backcountry was steadily growing, and bowing to pressure from backcountry residents, the state capital was moved away from Charleston to a more central location in 1786. Richland District, located to the north of Sumter District, was selected for the new town, named Columbia (Moore 1993:41–48).

Internal improvements for commerce, chartered by the state legislature and funded through public subscriptions, were popular endeavors during the antebellum period. The Santee Canal, initiated in 1793, was one of the earliest and most intensive improvement projects in South Carolina. Its goal was to create an inland route for commercial traffic between the Santee River to the south of the project vicinity and Charleston (Kapsch 2010). Additional canal-building projects, such as the Columbia Canal, sought to extend traffic past the Fall Line and open up riverine transportation throughout the state (Tingley 1870).

Canal-building efforts stalled when the Best Friend of Charleston train completed its inaugural run from Charleston to Hamburg, South Carolina in 1833. Railroad lines did not have the same limitations as water-borne traffic, and the port city was trying to wrest commerce away from her nearest rival, Savannah, Georgia. The route selected for this track integrated an area of Coastal Plain extending all the way to the Fall Line, opposite the Georgia commercial center of Augusta. Lured by lower freight costs and access to lending, most farmers in this region gravitated toward the South Carolina port (Haunton 1968). Charleston's connection to Columbia was established by the Branchville and Columbia Railroad (B&CRR), construction of which began in the 1830s. Following a route through Orangeburg, St. Matthews, Gadsden, and Hopkins, the B&CRR was completed in 1842, making Orangeburg District one of the first with established railroad transportation in the state and Branchville the site of the first railroad junction. In 1848 the Camden and Branchville Railroad connected Orangeburg to Manchester and eventually Camden, running north/south to the north of the project vicinity. By 1860, 13 railroad companies were operating 988 miles of tracks in South Carolina and train stations became loci for settlement, agricultural markets, gins, and storehouses (Lewis 2018).

The development of the cotton gin (patented by Eli Whitney) greatly improved short staple cotton's profitability (Whitney, Jr. 1793) by reducing the amount of labor needed to process raw cotton into an export commodity. By the mid-nineteenth century, cotton, transported to textile hubs in northern states, the United Kingdom, and other parts of Europe, formed the base of South Carolina's antebellum economy (U.S. Census Bureau 1840). When the railroads arrived, they improved cotton's profitability further by lowering transportation costs. In 1840, the state produced more than 6 million pounds of cotton. Large-scale cotton production became the primary economic driver in Orangeburg District, which produced 16,000 bales of cotton in 1860. Concomitant with the rise in cotton production was a rise in the enslaved population and over 1,000 enslavers were living in Orangeburg that year, many with over 100 enslaved people living and working on plantations (Hine 2022). Sumter District was similarly driven by a cotton monoculture economy. In 1855 Sumter District was divided into Sumter and Clarendon districts and in 1868 Clarendon County was created (Decker 2022).

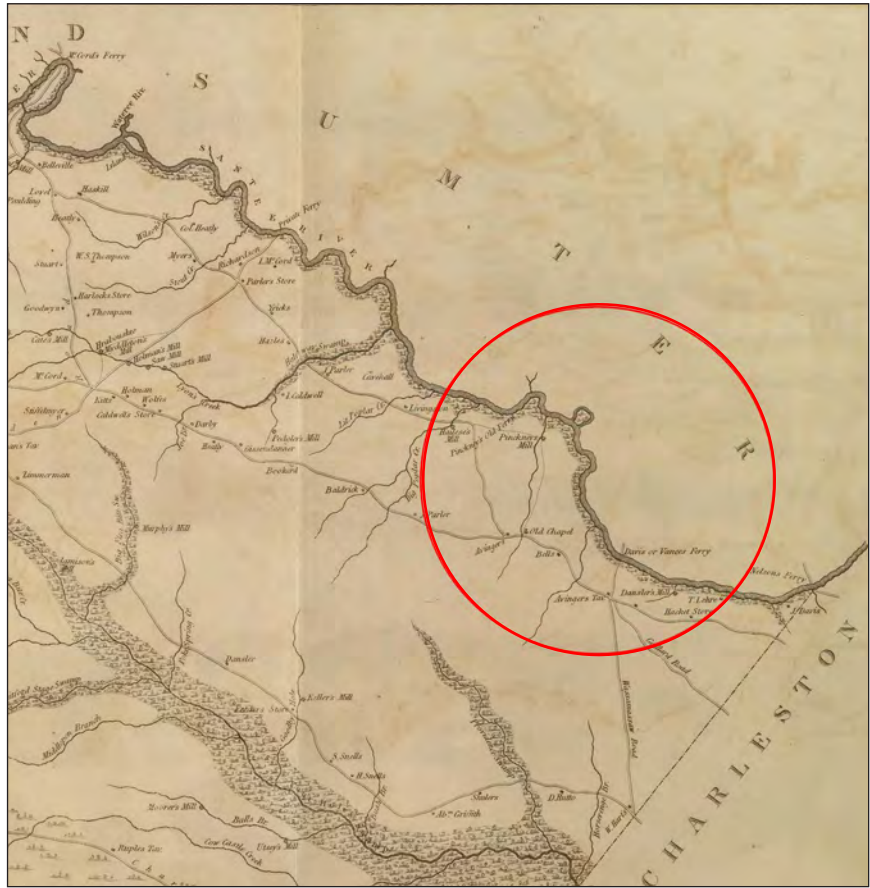
Both Orangeburg District to the south of the project area and Sumter District to the north saw extensive development during the mid-nineteenth century. Within the project vicinity, the 1825 Mills Atlas showed development on both sides of the Santee (Figure 7) (Mills 1980). To the south in Orangeburg District, Pinckney's Mill and Pickney's Old Ferry were located adjacent to the project area in what is now Lake Marion. Other riverine infrastructure and mills were present, including Hailese's Mill, Dansler's Mill, Davis or Vance's Ferry, and Nelson's Ferry. Avingers and Old Chapel were marked near modern-day Santee. To the north in Sumter District, there was also increased development, including a road from Manchester to Vance's Ferry, and residences belonging to H. Bowman, Col. Nielson, and Harvey. Fort Watson was marked, and Vance's Ferry was located on the southern bank. The 1855 Colton's South Carolina map showed a road connecting Vance Ferry in Orangeburg District with Friendship in Clarendon District after passing through Fort Watson (Figure 8) (Colton 1855). Manning, the future county seat of Clarendon, was located to the north of the project vicinity while the Branchville and Columbia Railroad could be seen passing from Orangeburg through Kingsville to the west.

## CIVIL WAR

When the state threatened to secede from the Union during the nullification crisis of 1832, Columbia hosted a convention of political elites opposed to the implementation of new tariffs (Scott 1884). They argued that the state could preempt, or nullify, federal laws it opposed. Slavery, which underpinned the state's economy, was at the heart of South Carolina's opposition to a strong federal government. As the antislavery movement intensified, South Carolinians opposed outside attempts to free enslaved people or stop the expansion of the slave economy. When Abraham Lincoln was elected as the sixteenth President of the United States, South Carolina implemented

Figure 7.  
Project Vicinity on Sumter District and Orangeburg District Maps, Mills Atlas, 1825

A. Sumter District



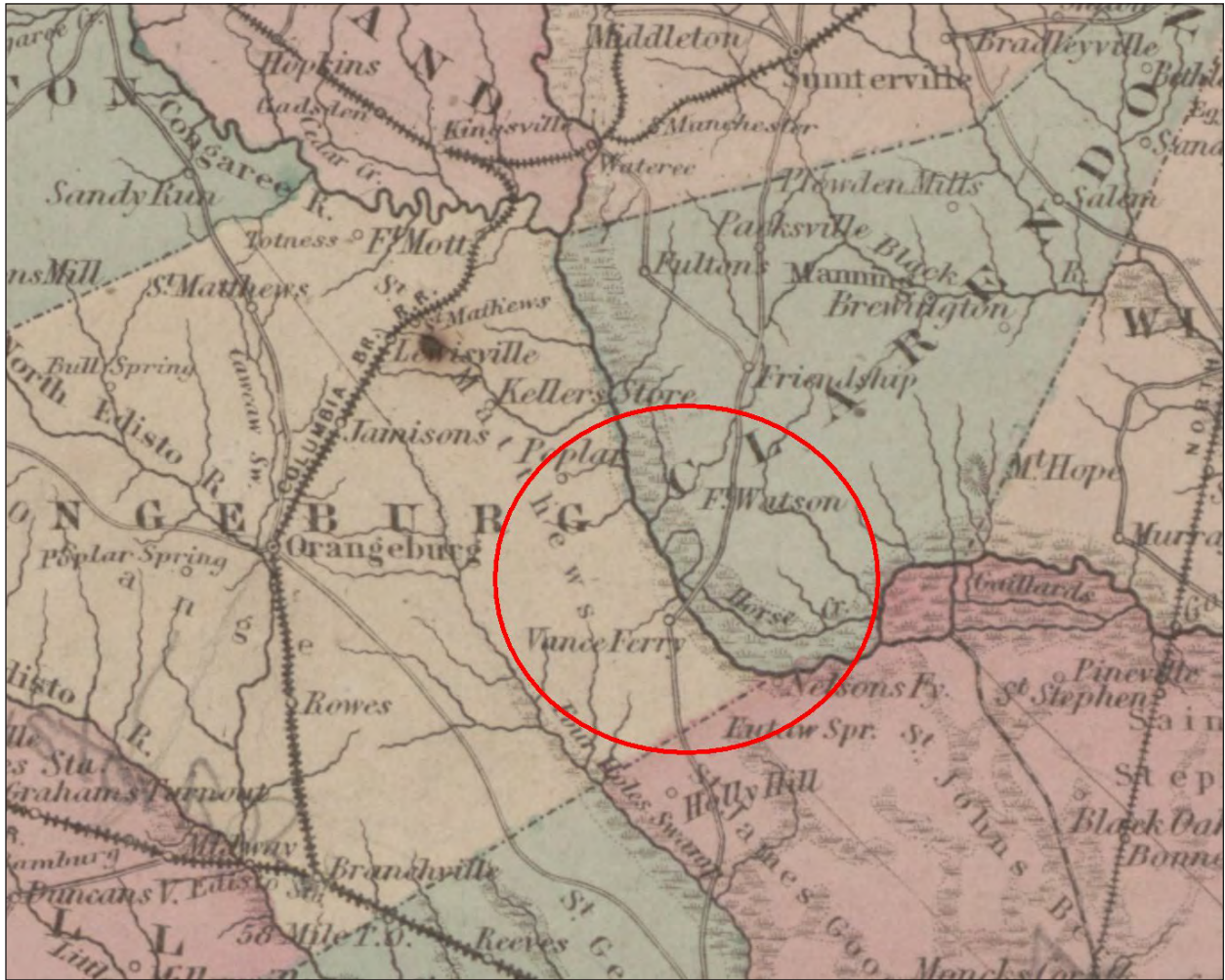
Source: Library of Congress; David Rumsey Map Collection

B. Orangeburg District



Source: Library of Congress; David Rumsey Map Collection

Figure 8.  
Project Vicinity on Colton's South Carolina, 1855



Source: Library of Congress



plans to secede from the Union. Twenty-eight years after the nullification crisis, a secession convention was convened at Columbia's First Baptist Church. Reconvening in Charleston due to a smallpox outbreak, the convention adopted a "Declaration of Immediate Causes" on December 24, 1860. This document firmly placed the issue of slavery at the center of South Carolina's secession.

At the beginning of the Civil War, there were 60,000 men of military age (18–45) in South Carolina. The war was devastating and deadly for South Carolinians. By its end, the total number of recorded deaths was 18,666, with some estimates as high as 21,146 (Edgar 1998:375). Men from both the Clarendon and Orangeburg districts served and died during the conflict, most notably the Edisto Rifles from Orangeburg and the Manning and Sprott Guards from Clarendon. The Clarendon county seat, Manning, was largely destroyed by Union forces in 1865 during Potter's Raid, an effort to interrupt rail lines in the county (Historic Clarendon County). On February 1, 1865, Major General William T. Sherman began marching northwards from Savannah. Seeking to keep the Confederates guessing his destination, Sherman feinted toward Charleston before making his way toward Columbia. While no major battles were fought there, Orangeburg County faced significant destruction as well, as it lay in Sherman's path (Hine 2022). By February 15, the Fifteenth and Seventeenth Army Corps were drawn up for battle in front of a line of defensive earthworks erected along Congaree Creek outside of Columbia and the mayor surrendered the town two days later. Whether intentional or accidental, a fire erupted after the surrender. Eyewitness Edwin Scott, in his *Random Recollections of Long Life* (1884), lays the responsibility for the fire on the actions of Federal soldiers. Columbia was devastated by the fires, and the state was occupied and under military rule until 1876.

## RECONSTRUCTION AND THE LATE NINETEENTH CENTURY

The end of the Civil War meant an end to slavery, which presented a practical as well as an ethical problem of how newly emancipated people secure the means to survive and thrive in a changed social structure. From the very beginning, it was understood that land ownership was important to the successful and permanent integration of former slaves into South Carolina society (Bleser and South Carolina Tricentennial Commission 1969). In the early days of Reconstruction, several efforts were made to provide former slaves with their own land. Early promises of "forty acres and a mule," as General William Sherman famously put it, gave way to more complex solutions (Williamson 1965).

In 1869, the South Carolina Land Commission was established with the goal of providing formerly enslaved people with the capacity to purchase land. The federal government purchased land in blocks from plantation owners and resold it to emancipated people. As they typically had little in the way of monetary resources, the land was purchased through payments over time. While much



of the land was in coastal counties such as Charleston and Beaufort, several significant parcels were offered in Richland County, to the north of the project vicinity (Almlie et al. 2009).

In 1877, the Republican government was overthrown, and the goals of the Reconstruction were abandoned in favor of a rollback on egalitarian policies and the beginnings of the Jim Crow era (Bleser and South Carolina Tricentennial Commission 1969). By the turn of the twentieth century, most planters used the tenant-farming/share-cropping system. Cotton production was widespread but was not dependable owing to fluctuating markets. After the war, landowners divided plantations into smaller farms for tenant farmers or sharecroppers to cultivate. Both Black and white tenant farmers relocated often to seek out the best prices and land. Sharecroppers used the landowners' tools and animals, while cash renters only rented the land and brought their own goods and animals (Kovacik and Winberry 1987b:107–108).

Just as the systems under which agriculture was conducted became more varied, production began to shift from cotton monoculture. The process was slow, however, and cotton and corn remained dominant until after the turn of the twentieth century. Agricultural production had declined drastically during the Civil War but steadily increased again during the final decades of the nineteenth century. In Clarendon County, tobacco was grown starting in the 1890s and by the mid-twentieth century, soybeans were also grown (Decker 2022). Cotton production remained high in Orangeburg County, which was the second-highest producing county in the state in 1900 (Hine 2022).

## TWENTIETH-CENTURY DEVELOPMENTS

An important shift in the post–Civil War economic situation was a rise in manufacturing. Within largely agricultural counties such as Clarendon and Orangeburg, agricultural processing became an important industry. Clarendon County developed canning plants, tobacco warehouses, and a fertilizer factory. In Orangeburg, the primacy of cotton was finally ousted by a combination of the boll weevil and the Great Depression, and, as with Clarendon County earlier, a combination of crops such as corn, soybeans, and dairy farming began to supplant it. The timber industry also became important during the early twentieth century and mills were in both counties. Rail lines expanded, including short-line railroads that connected less densely settled areas such as the project vicinity. The 1913 USGS Orangeburg County Soil Map shows the Atlantic Coast Line running to the south of what is now Santee, for example (Figure 9) (United States Department of Agriculture 1913). The 1913 Orangeburg and 1910 Clarendon soil maps show limited development in the project vicinity (United States Department of Agriculture 1910). Unimproved roads are depicted leading to the Santee River, with less than five buildings indicated along the project corridor (Figure 10).

Figure 9.  
Project Area on 1910 and 1913 Orangeburg Soil Maps



Source: South Carolina Department of Transportation County Road Maps, University of South Carolina



Figure 10.  
Project Area on 1937 Clarendon and 1938 Orangeburg SCDOT Highway Map



Source: USDA Historical Soil Survey Maps of South Carolina Digital Collection, University of South Carolina

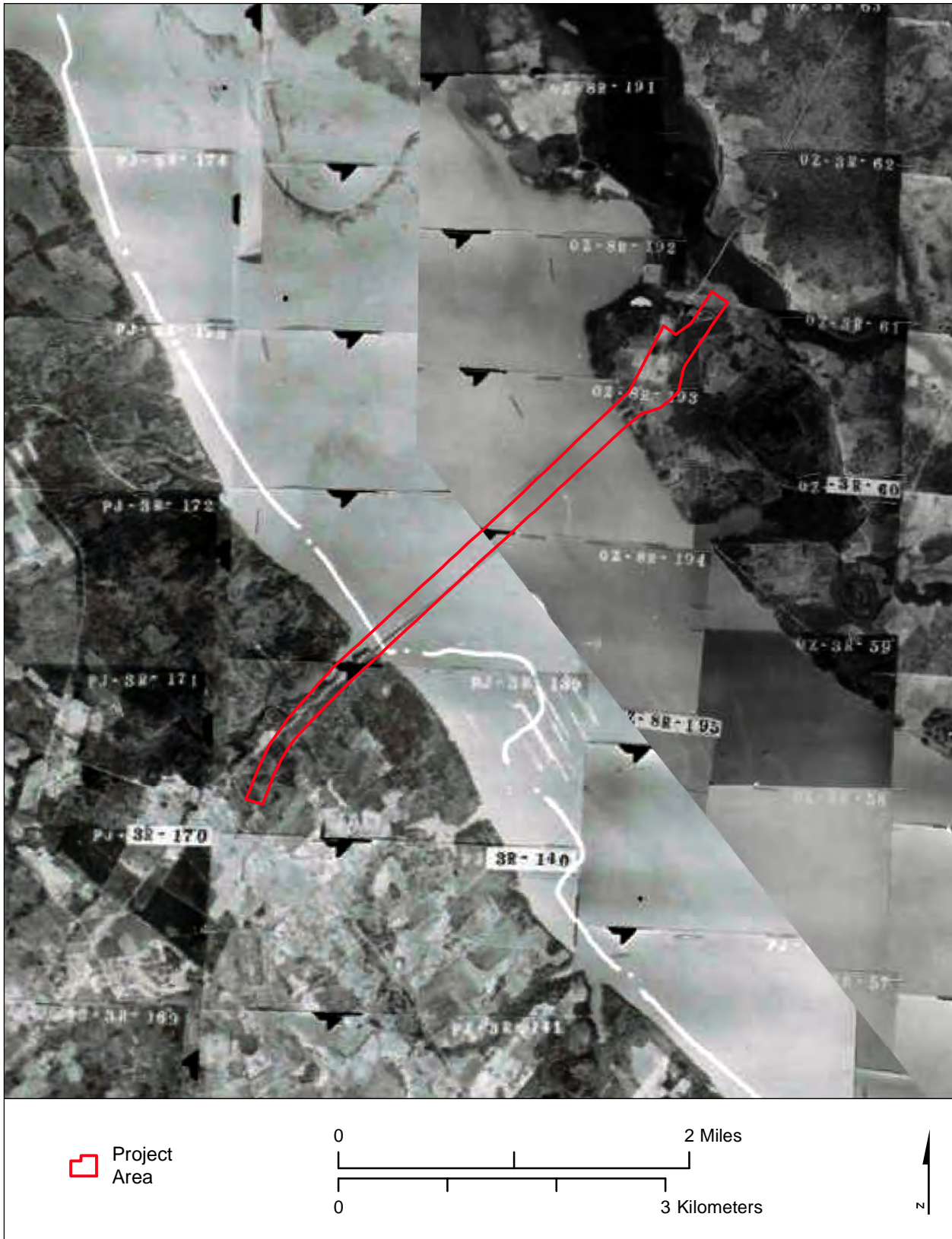
Despite shifts towards more agricultural diversity and new industries such as timber, much of central South Carolina remained quite rural and impoverished during the early twentieth century due in part to an agricultural crisis and the boll weevil. The Great Depression hit an already weakened economy hard, and as banks failed and people began to go hungry, South Carolina turned to the federal government to provide its citizens with assistance. The Works Progress Administration and Public Works Administration, two federal programs established to both provide employment and improve national infrastructure, had many opportunities in South Carolina, which lagged behind much of the nation in terms of infrastructure. A large part of rural South Carolina remained without electricity, and the largest project undertaken was the electrification of much of the rural center of the state through the construction of a hydroelectric dam on the Santee River (Edgar 1992).

The project began in 1934 with the creation of the South Carolina Public Service Authority (known also as Santee Cooper) as a utility company. The project entailed damming the Santee River and diverting water into the Cooper River and would result in the creation of two large lakes, Lake Marion to the north and Lake Moultrie to the south. It was expensive, ultimately totaling 31 million dollars, and was held up in legal roadblocks for several years. However, construction finally began in 1939 and was accelerated due to a need for the power for the war effort in 1941 (Edgar 1984:4, 15).

The creation of Lake Marion, the largest lake in South Carolina, dramatically altered the landscape and land use within the project vicinity. Some portions of the project vicinity were flooded and much of the subsequent development was oriented towards recreation and the lake. County highway maps from the 1930s show development in the town of Santee, along with two campgrounds south of what is now Lake Marion (South Carolina Department of Transportation 1937, 1938). Two farms and a business are shown along US 15 north of the lake (see Figure 10).

An aerial photograph from 1958 indicates the project corridor was in a rural setting, with agricultural fields visible in Clarendon County (Figure 11) (NETR Online 1958). While the setting remained largely rural to the south as well, the Swamp Fox Motel (Resource 0457) had been constructed and the town of Santee was located to the southwest. Interstate 95 was under construction in the late 1960s and is visible on the 1969 Clarendon County aerial photographs (Figure 12) (NETR Online 1958). An aerial photograph from 1972 shows more development in the project vicinity, including the winding roads and landscaping for the Santee Cooper Country Club (Resource 0460) (Figure 13) (NETR Online 1958). By the time of the 1979 Vance and 1980 Saint Paul USGS topographic maps, the project corridor closely resembles its present-day alignment (United States Geological Survey 1979, 1980). Buildings are depicted along the northern side of what used to be US 15 on both sides of Lake Marion, along with two campgrounds to the east of the APE (Figure 14).

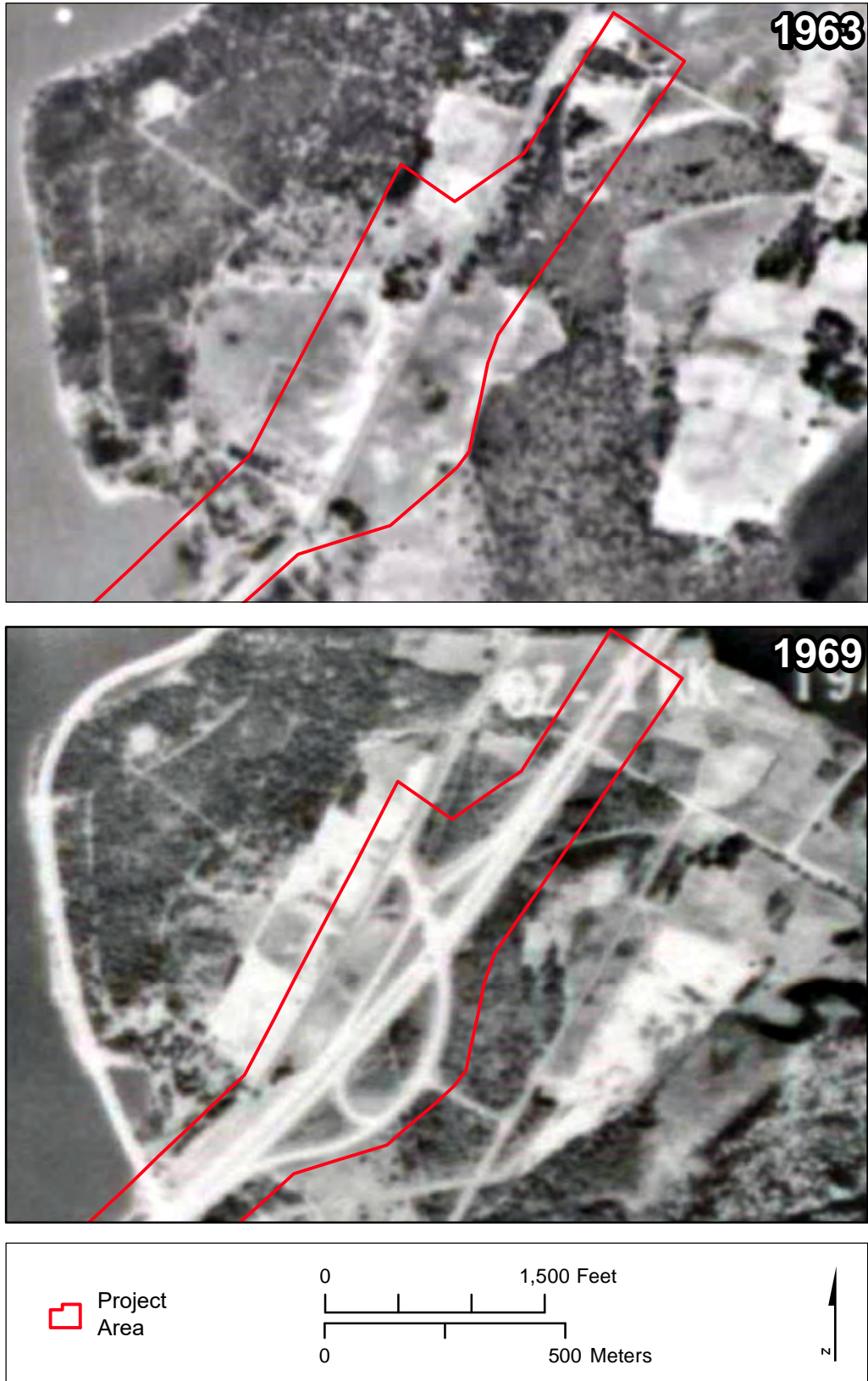
Figure 11.  
Project Area on 1958 Aerial Photograph



Source: South Carolina USDA Historic Aerial Photographic Collection, University of South Carolina

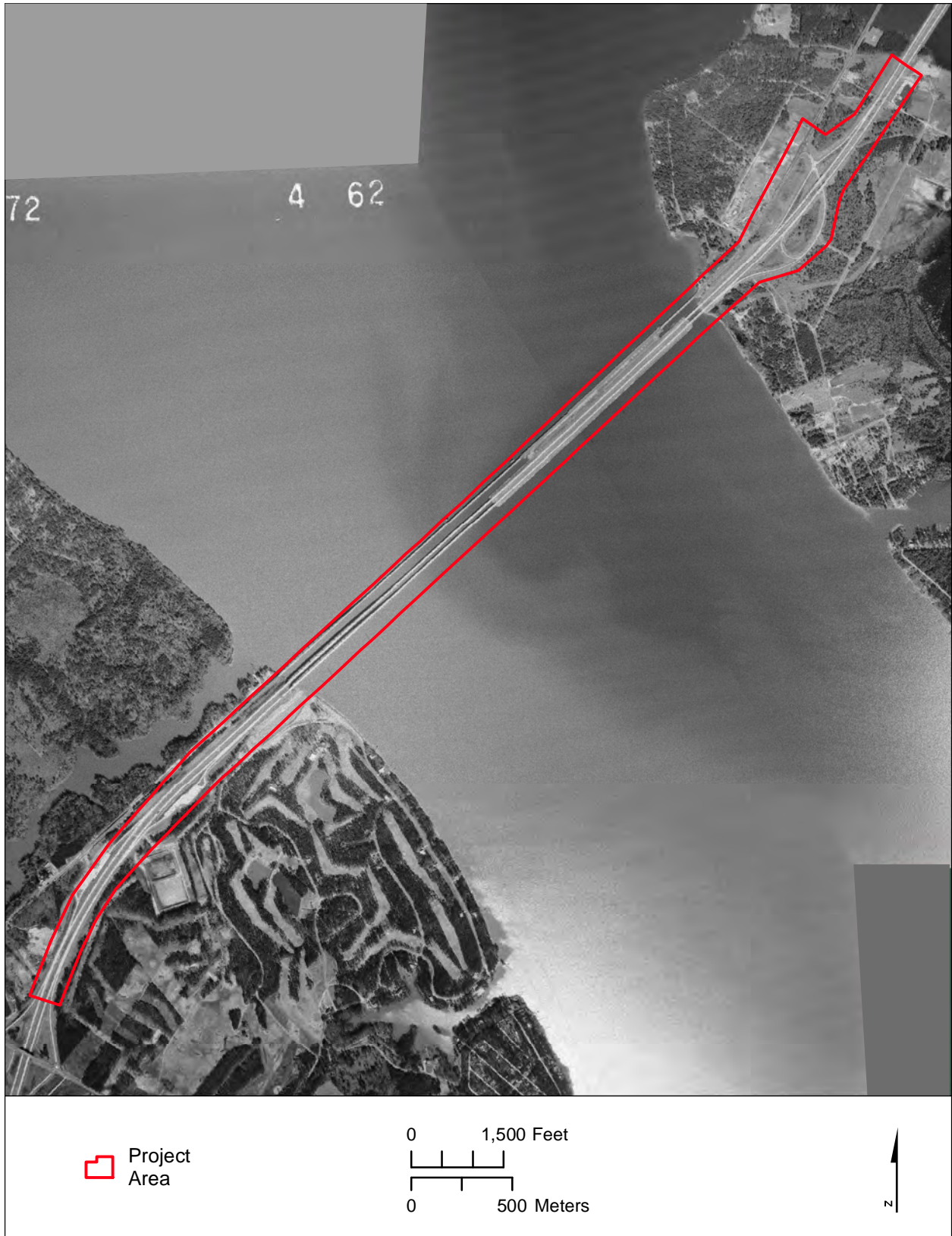


Figure 12.  
Project Area on 1963 and 1969 Clarendon County Aerial Imagery, Showing Construction of I-95



Source: NETR Online (Accessed 2023)

Figure 13.  
Project Area on 1972 Aerial Photograph



Source: USGS Earth Explorer (Accessed 2023)



Figure 14.  
Project Area on 1980 Saint Paul and 1979 Vance Quadrangle USGS Topographic Maps



Source: United States Geological Survey, Vance 1979; Saint Paul 1980 7.5 Minute Quadrangles

## BACKGROUND RESEARCH RESULTS

Desktop research served to identify cultural resources previously recorded in a 0.5-mile search radius of the APE and assess the potential for unrecorded cultural resources. NSA reviewed ArchSite, the digital site files and GIS database maintained by the South Carolina Institute of Archaeology and Anthropology (SCIAA) and the South Carolina Department of Archives and History (SCDAH). Online references, such as Find a Grave, and historic maps were also checked to determine locations of potential historic resources and to understand the general historical development of the area. Accessible records of the Orangeburg and Clarendon County tax assessors were also reviewed.

### PREVIOUSLY RECORDED CULTURAL RESOURCES AND SURVEYS

The archaeological site files identified eight previously recorded archaeological sites and two previous survey areas (Figures 15-17, Table 2). Three of these are in Orangeburg County while five are in Clarendon County. Only one of the archaeological sites, 38CR48, is located within the project boundaries. This site was recorded through collections at the Charleston Museum donated before 1970, and the South Carolina Department of Archives and History visited the mapped location in 1977. Artifacts were noted on the surface; however, subsurface investigation was not conducted, and artifacts were not collected. The locational accuracy of the site is not known, and it may be the same site as 38CR14 and 38CR21 (Anderson et al. 1979), discussed below, as they contain Woodland and Mississippian ceramics. Site 38CR48 was revisited in 2003 by AF Consultants, though it was not relocated within their project area (Drucker and Barr 2003).

Site 38CR14 was initially recorded in 1950 by Elias Bull and has a protective covenant in place. It is a Middle Archaic through Mississippian site with a small historic component and has a rich assemblage consisting of ceramic vessels, pottery sherds, bones, shell tools, projectile points, clay balls and gaming discs, a hammerstone, a scrapper, and pipes (Anderson et al. 1979). Site 38CR14 was revisited in 2003 by AF Consultants, recovering 144 artifacts. The site displayed strong aspects of integrity and it was recommended eligible for inclusion in the NRHP (Drucker and Barr 2003).

Site 38CR14 may have some relationship to the Santee Indian Mound, which, along with Revolutionary War Fort Watson, is part of a National Register district located outside of the search radius to the west of I-95. Santee Indian Mound was part of a mound village complex; it was probably a burial and/or temple mound, likely constructed in some cultural period between 1200-1500 AD. Many nearby sites with Mississippian components may have an association with the mound. Santee Indian Mound and a probable low earthwork remain intact except for the superposition of eighteenth-century fortifications on top of the mound. The fortification, British Revolutionary War post Fort Watson, was built from 30 to 50 feet high atop the mound. Fort Watson was the first fortified British military outpost in South Carolina recaptured by patriot forces after the British occupation of 1780.



Figure 15.

Previously Identified Archaeological Resources and Surveys within 0.5-mile of the Project Area, 1 of 3



Basemap: USGS Topo (2022)



Figure 16. Previously Identified Archaeological Resources and Surveys within 0.5-mile of the Project Area, 2 of 3

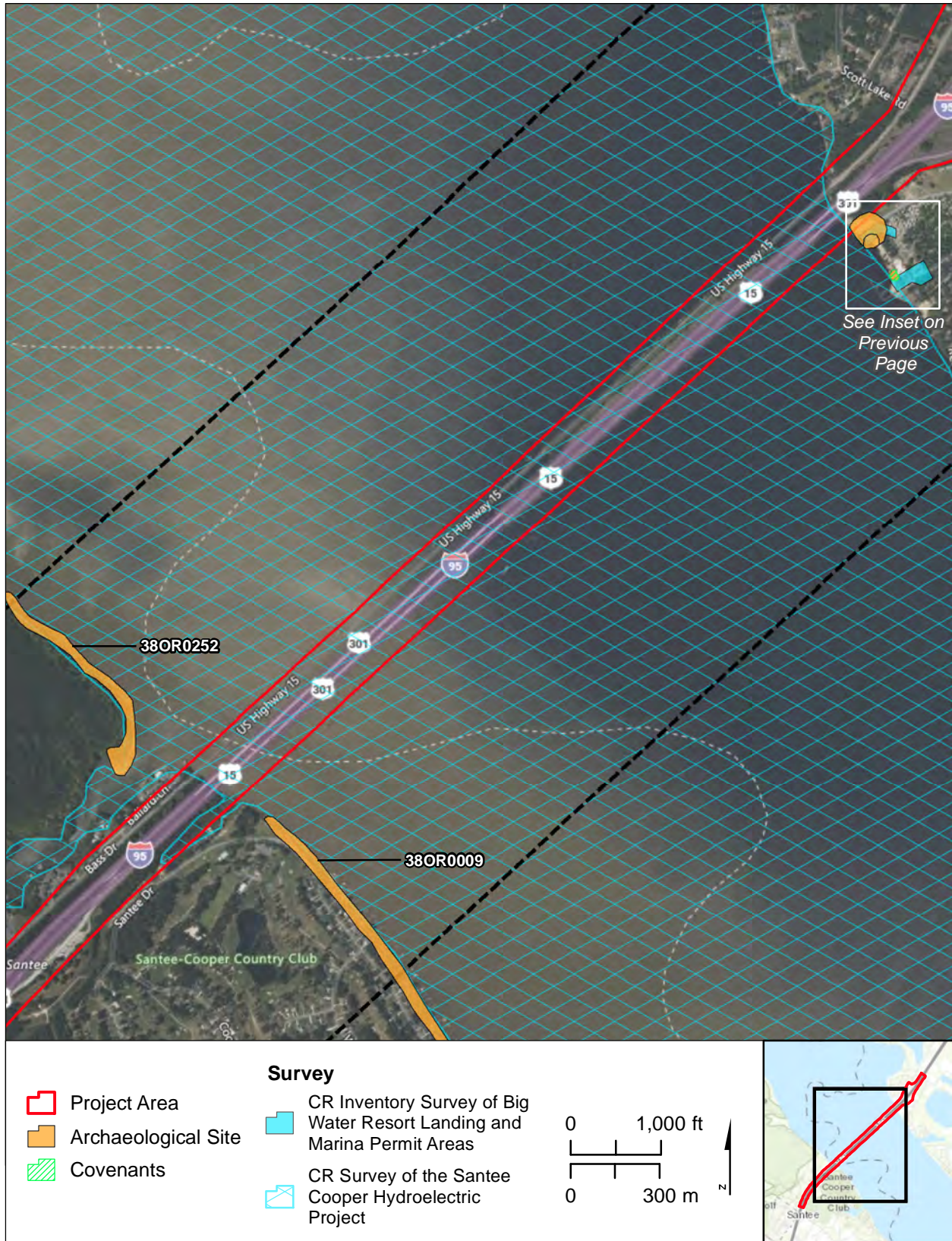




Figure 17.

Previously Identified Archaeological Resources and Surveys within 0.5-mile of the Project Area, 3 of 3



Table 2. Previously Identified Archaeological Resources within 0.5-mile of Project Area

Site/SHPO Number	Resource Type	Temporal Affiliation	Current NRHP	Reference
38CR14	Precontact campsite, Historic artifact scatter	Late Archaic, Early to Middle Woodland, Mississippian; mid-to late-20th century	Eligible	(Drucker and Barr 2003)
38CR21	Precontact ceramic scatter	Woodland and Mississippian	Unassessed	(Drucker and Barr 2003; Ferguson 1972)
38CR35	Scott's Lake Bluff site, Precontact cemetery	Mississippian, Historic	Unassessed	(Anderson et al. 1979; Ferguson 1973)
38CR48	Precontact artifact scatter	Woodland, Mississippian	Unassessed	(Drucker and Barr 2003; Sutherland 1977)
38CR52	Precontact isolate	Woodland, Mississippian	Not Eligible	(Anderson et al. 1979)
38OR9	Unknown	Unknown	Unknown	(Lindsay 1970)
38OR127	Precontact artifact scatter	Woodland, Mississippian	Not Eligible	(Bolen 1990)
38OR252	Precontact artifact scatter	Woodland, Mississippian	Not Eligible	(Baluha and Bailey, Jr 2003)

Site 38CR21 was initially recorded in 1972 by Leland Ferguson. This site had been extensively disturbed due to construction, and all artifacts were recovered from the surface. The assemblage contains ceramics that were dateable to the Woodland and Mississippian periods. The location of 38CR21 is not well defined, and it may be the same site as 38CR14 and 38CR48 (Anderson et al. 1979). AF Consultants revisited the site in 2003; however, it was not relocated (Drucker and Barr 2003).

The Scott's Lake Bluff site, 38CR35, was first recorded in 1973 by Leland Ferguson after it was reported by the owner of the property, Mr. Denny. This is a Precontact burial site, with a large amount of cultural material found in association with burials and may have been a special-purpose cemetery area associated with site 38CR1, the Scott's Lake mound group. Artifacts recovered include pottery sherds, urns, celts, projectile points, and burned animal bone. Site 38CR35 has not been assessed for its NRHP eligibility (Ferguson 1973).

Commonwealth Associates recorded site 38CR52 in 1978. This site is defined by a single sand tempered pottery sherd recovered during shovel testing. Additional shovel tests were excavated around the positive and no other artifacts were recovered; however, the soil from the shovel tests was not screened. No additional work was recommended for 38CR52.

Site 38OR9 was recorded based on information from the Charleston Museum with material in the Gene Waddell collection. The location of the site is questionable and no other information regarding 38OR9 is available on ArchSite (Lindsay 1970). AF Consultants recorded site 38OR127 in 1990 during a survey for the Pinckney's Mill subdivision. The site is low density, with 24 artifacts recovered from nine positive shovel tests. Due to the limited artifact quantity and variety, along with low integrity, site 38OR127 was recommended not eligible for the NRHP (Bolen 1990).

During a survey for the Santee Cooper Hydroelectric Relicensing Project, Brockington and Associates recorded site 38OR252. This site consists of a surface scatter of Precontact artifacts identified along a small beach. The assemblage recovered is consistent with artifacts belonging to the Woodland and Mississippian periods. No additional work was recommended, and 38OR252 was recommended not eligible for the NRHP (Baluha and Bailey, Jr 2003).

Two cultural resources surveys have been conducted within the search radius. The first was conducted by Brockington and Associates in 2003 for the Santee Cooper Hydroelectric project. This survey encompasses Lake Marion, and the current survey crosses it along the I-95 bridge over Lake Marion. Of the 22 archaeological resources identified, only one, 38OR252, is within the current project search radius. In 2003, AF Consultants conducted a survey of a boat landing and marina permit area near the northeastern end of the current project area. This survey does not cross the current project area and one site, 38CR48, was revisited but not relocated.

## IV. METHODS

This chapter outlines the methods used for the Phase I Cultural Resources Survey. The chapter includes a summary of background resources examined prior to fieldwork. Descriptions of the archaeological and architectural survey methods are included next. This is followed by laboratory and curation methods. The last chapter section presents a discussion of the NRHP criteria used in the evaluation of cultural resources identified in the APE.

### BACKGROUND RESEARCH

Prior to fieldwork, files at the South Carolina Institute of Archaeology and Anthropology (SCIAA) were examined to identify previously recorded cultural resources within a 0.5-mile search radius of the project area. In addition, survey reports from the surrounding area were consulted to aid in putting the resources into context. Historical research included a review of existing printed literature, and an examination of the U.S. Census Records, historic maps, plats, and other documents on file at the South Carolina Department of Archives and History and the University of South Carolina.

### ARCHAEOLOGICAL FIELD METHODS

A two-person crew, including the field director, conducted the archaeological survey. The survey was conducted according to the standards outlined in the South Carolina Standards and Guidelines for Archaeological Investigations (Council of South Carolina Professional Archaeologists et al. 2013).

Shovel tests were placed at 30-meter intervals along a single transect on either side of I-95. Additional transects were placed 30 meters apart in the northern portion of the project area where it expands to encompass the I-95/US301 interchange and Saint Paul Road. Shovel tests were roughly 30 centimeters in diameter and were excavated until culturally sterile subsoil was encountered or depths of 80 centimeters below surface (cmbs) were reached. Soils were screened through 0.25-inch hardware mesh for systematic artifact recovery. Notes were kept on the location of each shovel test, the conditions in the immediate area, and the results of excavation. Soils encountered in shovel tests were described using a Munsell soil color chart and standard terminology for texture.



Shovel tests results were logged using NSA's provenience tracking system, which uses a pre-plotted shovel test grid built in ArcGIS and uploaded to Motorola Moto G smartphones, which were used to approximate the location of each pre-plotted shovel test. Excavators placed shovel tests as near as possible to the pre-plotted point, offsetting as necessary to avoid obstacles or to test nearby locations with higher potential for the presence of archaeological material. A custom database developed from Memento Database was used to record each shovel test on the smartphones and take photographs as necessary. All smartphones were synced daily to an online database maintained in Google Sheets. Photos were synced each day to Google Drive, and each photo was hyperlinked within the shovel test database. The shovel test data were also duplicated daily on each phone as an additional backup.

The coordinate positions provided by the phones and field technician pacing were used to locate survey shovel tests, and a Juniper Systems Geode GNSS receiver with sub-meter accuracy was used to collect location data for identified archaeological resources. The sub-meter data was combined with the phone data to produce a comprehensive spatial database that integrated shovel test data for the survey with site delineation shovel tests.

For the purposes of this survey, a site was defined as three or more temporally related artifacts recovered within a 30-meter radius and/or an area with visible or historically recorded cultural features (e.g., shell middens, cemeteries, chimney falls, brick walls, piers, earthworks, etc.). An isolated find was defined as no more than two temporally related artifacts found within a 30-meter radius. All cultural remains except patently modern material (e.g., concrete, plastic, asphalt, modern glass) were collected. Sufficient information required for completion of SCIAA site forms was collected, and photographs were taken to document conditions within the survey area.

## HISTORIC RESOURCE SURVEY METHODS

The APE, defined as a 300-foot buffer around the project corridor, was surveyed by the architectural historian for previously recorded and unrecorded historic architectural resources 50 years of age or older. Buildings, structures, and sites greater than 50 years of age were assessed for their NRHP eligibility. The resources were surveyed using the Statewide Survey Intensive Form, produced by the South Carolina State Historic Preservation Office (SHPO). These architectural properties were surveyed in accordance with the SHPO-produced *Survey Manual: South Carolina Statewide Survey of Historic Places*. Architectural properties were recorded and photographed in the field using FileMaker and a handheld tablet device and described. These descriptions included an assessment of the resource's significance. Properties were evaluated according to NRHP eligibility criteria, and a preliminary assessment of effect for the proposed project was conducted for any property in the APE that was NRHP-listed or that met the NRHP criteria for eligibility.

## LABORATORY AND CURATION ANALYSIS

All recovered artifacts were taken to New South's laboratory in Stone Mountain, Georgia, for analysis. Analysis included cleaning, identifying, cataloging, and curation preparation of all artifacts to the standards required by SCIAA. Distinct provenience numbers were assigned to each shovel test and surface collection point. Artifacts from each provenience were divided by class and type and assigned a catalog number.

All artifacts were cataloged using a database developed by New South Associates for 4th Dimension Software. Historic remains were identified using sources such as South (1977), Noel-Hume (2001), and Brown (1983) for ceramics, Nelson (1968) for nails, Jones and Sullivan for bottle glass (1985), and other sources for various other artifact categories. Precontact pottery was sorted according to temper and surface treatment (Rice 2005; Shepard 1974).

New South Associates provides temporary storage for all records and artifacts, which will be turned over to SCIAA for final curation. Artifacts, photographs, and notes will be prepared using their standards.

## NATIONAL REGISTER OF HISTORIC PLACES (NRHP) EVALUATION

Cultural resources are evaluated based on criteria for NRHP eligibility specified in the Department of Interior Regulations 36 CFR Part 60: National Register of Historic Places. Cultural resources can be defined as significant if they "possess integrity of location, design, setting, materials, workmanship, feeling, and association," and if they:

- A) are associated with events that have made a significant contribution to the broad pattern of history;
- B) are associated with the lives of persons significant in the past;
- C) embody the distinctive characteristics of a type, period, or method of construction, or represent the work of a master, possess high artistic values, or represent a significant and distinguishable entity whose components may lack individual distinction; or,
- D) have yielded, or may be likely to yield, information important in prehistory or history.

Criteria A, B, and C are usually applied to architectural resources. Archaeological sites are generally evaluated relative to Criterion D. Isolated finds are excluded from any NRHP evaluation

as they have no context. In order to evaluate a resource under Criterion D, the *National Register Bulletin Guidelines for Evaluation and Registering Archeological Properties* (Little et al. 2000) lists five primary steps to follow:

1. Identify the property's data set(s) or categories of archaeological, historical, or ecological information;
2. Identify the historic context(s), that is, the appropriate historical and archaeological framework in which to evaluate the property;
3. Identify the important research question(s) that the property's data sets can be expected to address;
4. Taking archaeological integrity into consideration, evaluate the data sets in terms of their potential and known ability to answer research questions; and
5. Identify the important information that an archaeological study of the property has yielded or is likely to yield.

## V. RESULTS AND RECOMMENDATIONS

This Phase I Cultural Resources Survey includes both archaeological and architectural investigations. Fieldwork for the archaeological survey took place from January 23–27, 2023, identifying two isolated finds. The architectural survey was performed January 23, 2023 and resulted in the identification of six resources with seven sub-resources. This chapter describes these resources and provides recommendations for further historic preservation.

### ARCHAEOLOGICAL SURVEY RESULTS

The archaeological survey involved systematic shovel testing across the project corridor, excluding Lake Marion (approximately 145 acres). Generally, one transect was placed on each side of the road. However, the project corridor expands on the northeastern side of Lake Marion to include the I-95/US 301 interchange and additional transects were placed as needed. Shovel tests were excavated at 30-meter intervals, with a total of 371 shovel test locations investigated (Figures 18-25). Of these, two were positive for cultural material, 240 were negative, and 129 were not excavated due to slope greater than 15 degrees, paved surfaces, standing water, grading and landscaping, and buried utilities. This total also includes six delineation shovel tests.

Land use varied across the project corridor, with rest stops and residential development present in the southwestern portion of the corridor, and gas stations and RV campsites present in the northeastern. Disturbances include construction and grading for the I-95 corridor and I-95/US 301 interchange, transmission lines, and residential and commercial development. Vegetation consists of stands of mixed pines and hardwoods with a light to moderate understory throughout the corridor, though dense secondary vegetation is present in some areas (Figures 26-27).

Two general soil profiles were observed, one in the southwestern portion of the project corridor and one in the northeastern. The southwestern profile consists of approximately 30 centimeters of dark grayish brown (10YR 4/2) sandy loam Ap horizon, overlying a yellowish brown (10YR 5/4) sand E horizon. This stratum is variable in depth, continuing to more than 80 centimeters below surface (cmbs) in some shovel tests. Where present, a third stratum consists of a yellowish red (5YR 5/6) sandy clay Bt horizon. The second soil profile, identified in the northeastern portion of the corridor, consists of approximately 30 centimeters of very dark grayish brown (10YR 3/2) loamy sand overlying a strong brown (7.5YR 5/6) sand to 80+ cmbs. This profile has been interpreted as fill, possibly laid during the construction of I-95. Disturbed soil profiles were present in some shovel tests; examples of these profiles are present in Figure 28.

Figure 18.  
Shovel Test Map, 1 of 8





Figure 19.  
Shovel Test Map, 2 of 8





Figure 20.  
Shovel Test Map, 3 of 8

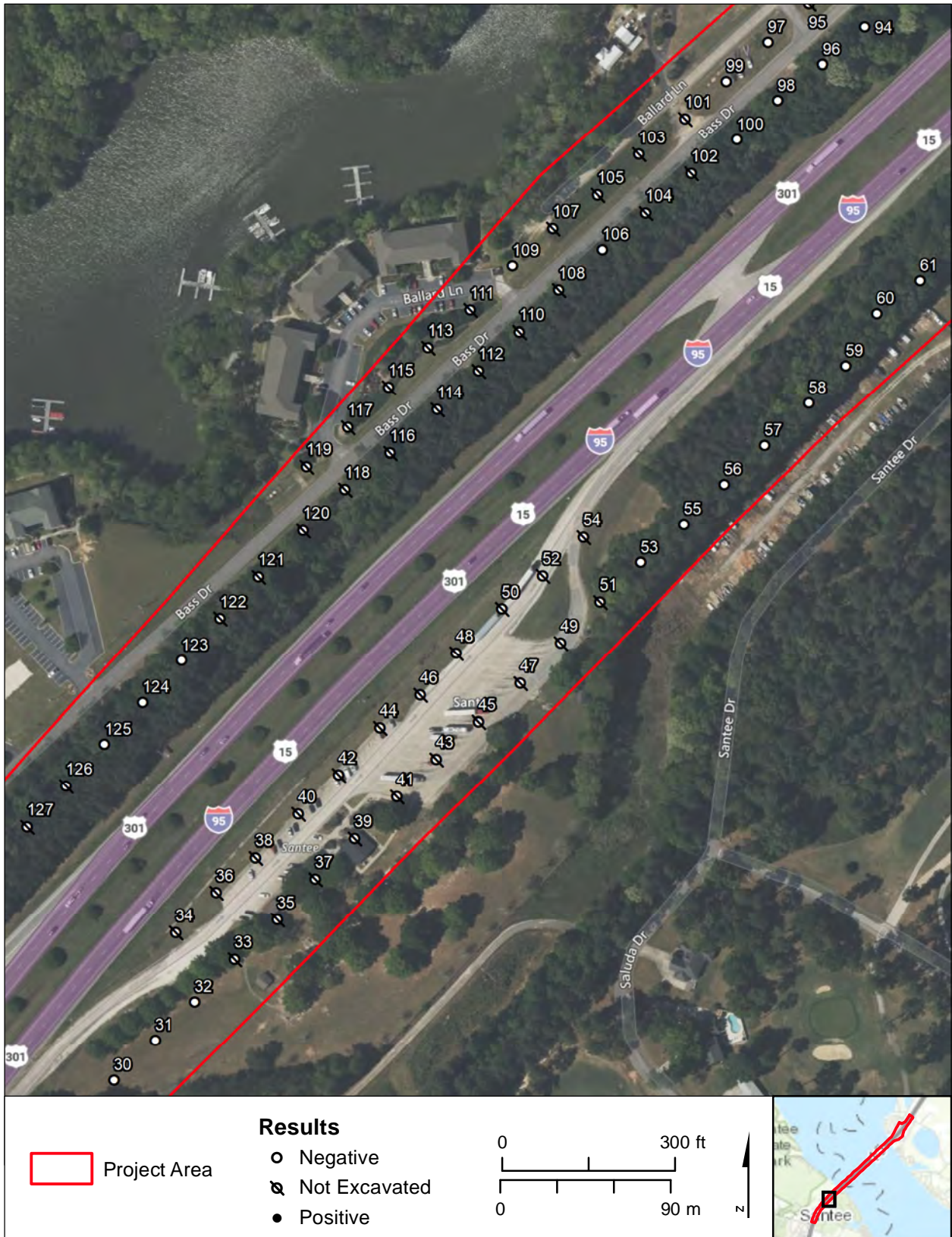




Figure 21.  
Shovel Test Map, 4 of 8





Figure 22.  
Shovel Test Map, 5 of 8





Figure 23.  
Shovel Test Map, 6 of 8



Basemap: BingMaps Hybrid (Accessed 2023)



Figure 24.  
Shovel Test Map, 7 of 8

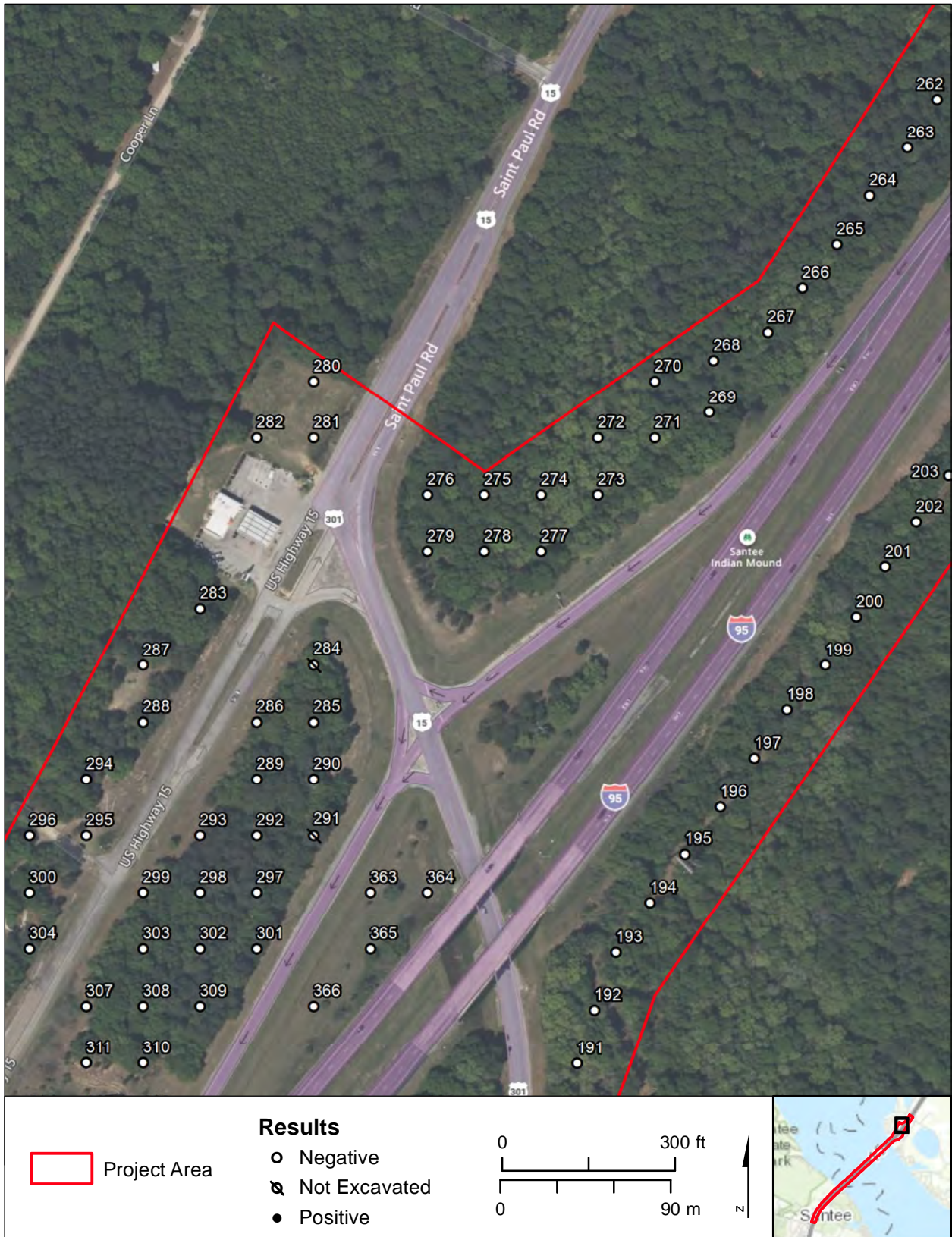
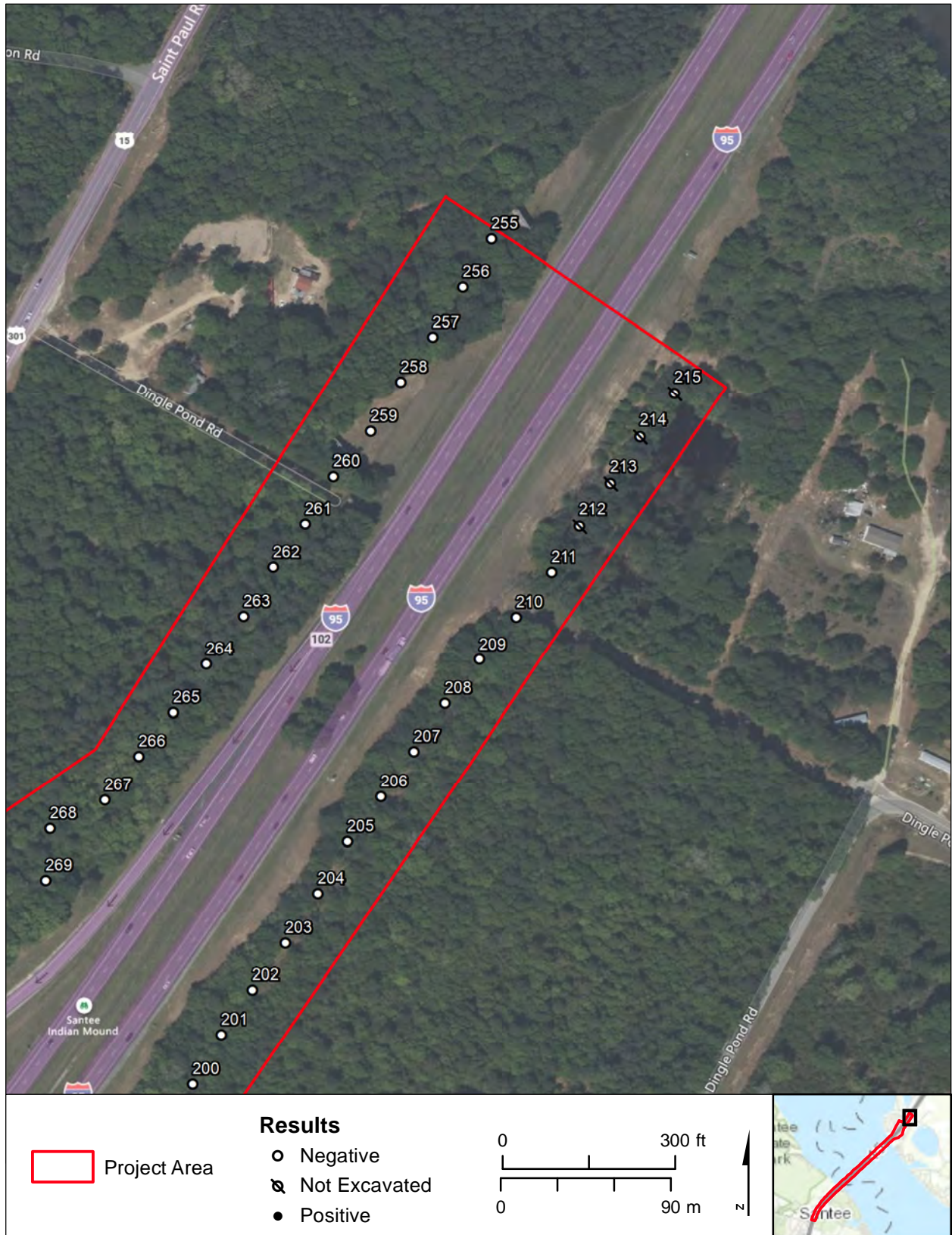




Figure 25.  
Shovel Test Map, 8 of 8



Basemap: BingMaps Hybrid (Accessed 2023)



Figure 26.  
Vegetation in Project Corridor



A. Mixed Pines and Hardwoods, Facing Southwest



B. Dense Privet Patch, Facing North



Figure 27.  
Conditions in Project Corridor

A. Rest Stop Along I-95, Facing South



B. I-95/US 301 Interchange, Facing Northeast



C. Sloping berm to Bass Drive, Facing Southwest





Figure 28.  
Shovel Test Profiles



A. Southwestern Profile



B. Northeastern  
Profile



C. Disturbed Profile



The survey resulted in the identification of two isolated finds (see Figure 21). The first, IF-1, was identified in STP86 (UTM 17S 550172E, 3706886N) between 0 and 10 cmbs. It consists of an eroded Precontact pottery sherd with a coarse sand temper. The second, IF-2, was identified in STP78 (UTM 17S 550261E, 3706966N) between 20 and 80 cmbs. This artifact consists of a piece of quartzite debitage. Delineation was conducted at 15-meter intervals to the north and south of both positive shovel tests; however, slope and the I-95 right of way precluded delineation to the east and west. The delineation shovel tests did not yield additional artifacts. These isolated finds contain low research potential, lack integrity, and are not expected to have associated features. Therefore, IF-1 and IF-2 are recommended not eligible for inclusion in the NRHP.

The location of site 38CR48 was revisited during the survey. Shovel testing was not conducted due to dense secondary vegetation, a retaining pond, and the banks of Lake Marion; however, surface visibility was excellent on the beach and a pedestrian survey did not identify any artifacts on the surface (Figure 29). This is consistent with the survey findings conducted by AF Consultants in 2003, which did not relocate the site.

## ARCHITECTURAL SURVEY RESULTS

The APE extends from Santee in Orangeburg County on the southwest terminus across Lake Marion and into Clarendon County, where the nearest community is Summerton to the northeast. The APE includes both I-95, which is carried across Lake Marion by four separate bridges, and the former U.S. 301 bridge which is now in use for pedestrian traffic only. The former U.S. 301 bridge and several pier fragments all date to 1946. This bridge is of a common type with a combination of concrete and I-beam stringers and plain concrete piers. The pier fragments do not appear noteworthy. Neither was evaluated per the FHWA's Post-1945 Bridges Program Comment (U.S. Department of Transportation, Federal Highway Administration 2012).

Development within the APE is mostly modern with some resources dating to the mid-twentieth century interspersed. Virtually all development is either associated with recreation and the lake or with transportation. There are two large rest areas constructed during the 1980s, gas stations, two RV camping complexes, the Swamp Fox Motel (Resource 0457), and a variety of single-family houses, many of which appear to be vacation homes. The Santee Cooper Country Club is a gated community that dominates the southwest quadrant of the project vicinity. While the main clubhouse, cart storage building, and golf course are historic (Resources 0460 through 0460.02) none of the other buildings or private residences are.

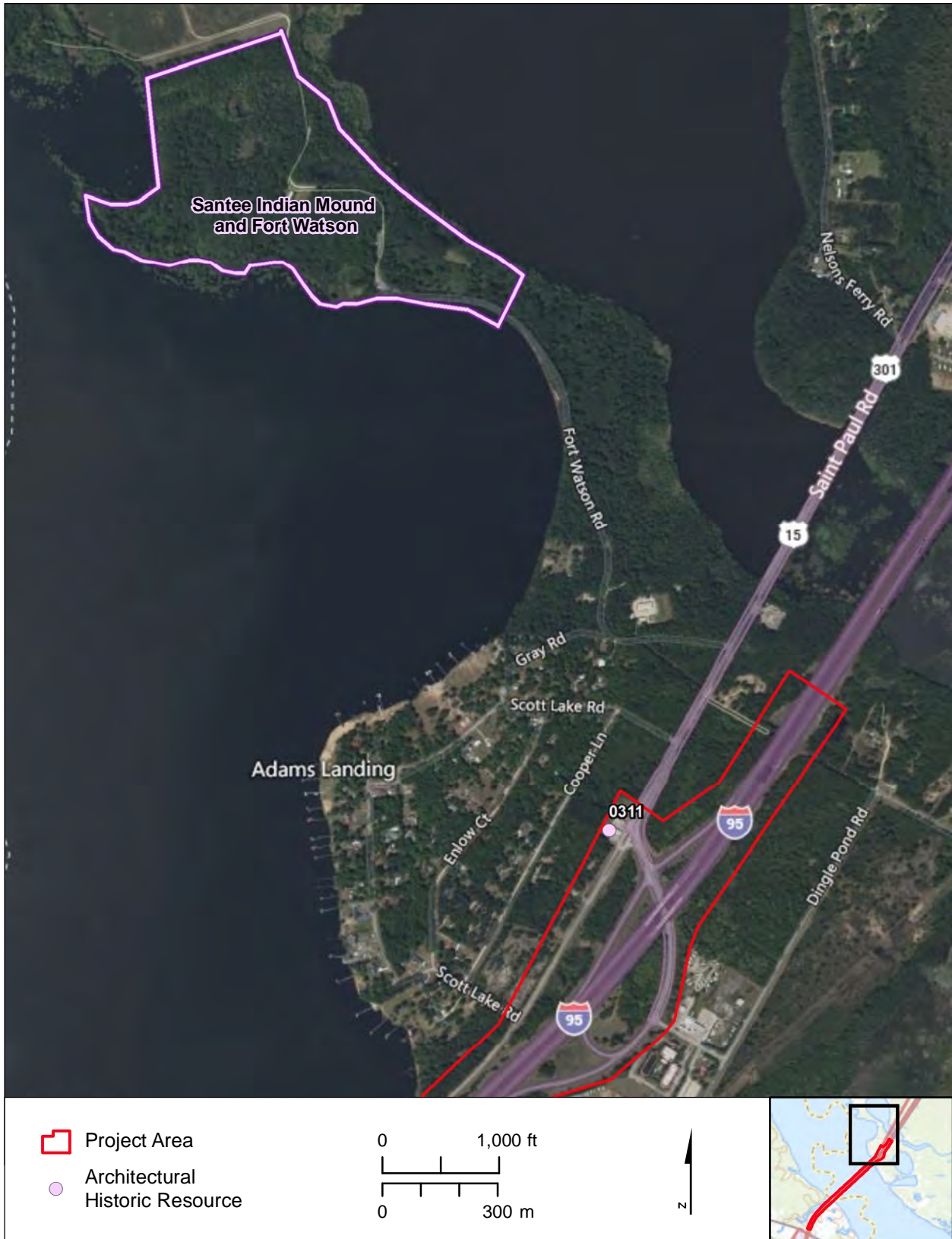
## NEWLY SURVEYED RESOURCES

Background research using the ArchSite GIS database available from SCDHAH indicated no previously surveyed resources in the APE. Six resources with seven sub-resources were newly identified (Figures 30-31; Table 3).

Figure 29.  
Site 38CR48 Location, Facing Southeast



Figure 30.  
Project Location Map Showing Architectural Historic Resources, 1 of 2



Basemap: USGS Topo (2022)



Figure 31.  
Project Location Map Showing Architectural Historic Resources, 2 of 2



Basemap: USGS Topo (2022)

Table 3. Newly Surveyed Historic Architectural Resources within the APE

Resource Number	Name/Address	Construction Date	Resource Style/Type	NRHP Recommendation
	Orangeburg County:			
0457	Swamp Fox Motel – Office 326 Bass Drive	Circa 1950 1958 aerial	Modernist Motel	Not Eligible
0457.01	Swamp Fox Motel – East Building 326 Bass Drive	Circa 1950; 1970	No Style/Motel Building	Not Eligible
0457.02	Swamp Fox Motel – North Building 326 Bass Drive	Circa 1950; 1970	No Style/Motel Building	Not Eligible
0457.03	Swamp Fox Motel – West Building 326 Bass Drive	1970	No Style/Motel Building	Not Eligible
0457.04	Swamp Fox Motel – Storage Building 326 Bass Drive	Circa 1950	No Style/No Type Storage Building	Not Eligible
0457.05	Swamp Fox Motel – Sign 326 Bass Drive	Circa 1950	No Style/Sign	Not Eligible
0458	House 249 Ballard Lane	1965	Plain Compact Ranch House	Not Eligible
0459	House 261 Ballard Lane	1966	Plain Compact Ranch House	Not Eligible
0460	Santee Cooper Country Club – Main Clubhouse 630 Santee Drive	1972	Colonial Revival Commercial Building	Not Eligible
0460.01	Santee Cooper Country Club – Golf Course Santee Drive	Circa 1967	Landscape	Not Eligible
0460.02	Santee Cooper Country Club – Cart Storage Building Santee Drive	Circa 1970	Prefabricated Commercial Building	Not Eligible
0461	House 332 Bass Drive	1940	No Style/No Type Residential	Not Eligible
	Clarendon County:			
0311	En Market (Former Shell Station) 8440 St Paul Road	1965	No Style Service Station	Not Eligible



## RESOURCES 0457 THROUGH 0457.05 – SWAMP FOX MOTEL (326 BASS DRIVE)

The Swamp Fox Motel complex, with long motel buildings arranged in a horseshoe around a former pool and an office to the front, is located on Bass Drive. The Orangeburg County Tax Assessor's Office lists a construction date of 1970 for the five historic buildings on the parcel (Orangeburg County 2023). However, historic aerial photographs indicate that they were constructed prior to 1958 (Figure 32) (NETR Online 1958). The main office building (Resource 0457) is located closest to the road and faces south towards it. The building's overall massing is like a compact ranch house aside from a roofline that is nearly pyramidal and is too steeply pitched for a ranch house (Figure 33). While the building currently has a modern V-crimp metal roof, a 1957 aerial photograph shows that the original roofline was pyramidal. Resource 0457 is rectangular and is of concrete block construction with rusticated, variegated Roman brick veneer cladding. A hipped roof porch with fluted columnar supports shelters a bank of four one-over-one metal frame windows on the center of the front elevation. The main entrance, located to the porch's right, was originally inset and sheltered by the main roofline. A historic wood panel door and teller's window are in the alcove, which is clad in the same rusticated brick and includes historic light fixtures. The alcove has since been enclosed with vinyl siding. The floor of both the alcove and the porch is clad in a broken tile mosaic. A second set of paired windows is located to the left of the central porch and the rear elevation of the building is clad in plain, painted bricks. The foundation is concealed continuous concrete block.

Resource 0457.01, the east motel building, is located approximately 100 feet east of Resource 0457. Resource 0457.01 is a long, rectangular building containing 12 motel units grouped into four sections with three rooms each (Figure 34). The modern V-crimp metal laterally gabled roof steps down four times along the length of the building and the continuous concrete block foundation steps down at these intervals as well. The building is primarily clad in stucco although the southernmost block of three rooms has had portions of the porch filled in with synthetic siding. A shed roofed porch with square wooden supports shelters the full front elevation, stepping down with the roofline and foundation. Fenestration on each three-unit section is irregular, and consists of two mirrored rooms to the right, with adjacent doors and single one-over-one sash windows to the outside, and a third room to the left with a fixed picture window and door. The building is undergoing renovations and all fenestration is modern. The 1957 aerial photograph indicates that the four levels were originally constructed as separate buildings. By 1972, these buildings had been connected, likely through the construction of the third room fenestrated with the picture window and asymmetrically spaced door (Figure 35).



Source: NETR online

Figure 32.  
1958 Aerial Photograph of Swamp Fox Motel (Resources 0457-0457.05)

Figure 33.  
Resource 0457

A. Facing North



B. Facing Northwest



C. Interior



Figure 34.  
Resource 0457.01

A. Facing Northeast



B. Detail, Facing East



C. Facing Northeast







NETR Online 1958

Figure 35.  
1972 Aerial Photograph of Swamp Fox Motel (Resources 0457-0457.05)



The motel building to the rear of the complex, Resource 0457.02, is located approximately 120 feet northwest of Resource 0457. Aerial photographs indicate that, as with Resource 0457.01 this resource was constructed as two separate buildings that were connected by 1972. As with Resource 0457.01, it is a concrete block building clad in stucco with a modern V-crimp laterally gabled roof and has a full-length shed-roofed porch with square wooden supports (Figure 36). There appear to be two original units of two rooms each. The historic cores are fenestrated with two doors to the inside and single windows to the outside of the doors. As with Resource 0457.01, the separate units have been connected via the addition of a third room which is fenestrated with a picture window and door. The building is under renovation and all fenestration is modern. There are indications that the doors were originally flanked with some sort of decorative tile.

Resource 0457.03, the western motel building, is located directly behind Resource 0457. This portion of the complex is partially obscured by trees in the 1957 aerial photograph, but it appears that at least the rear section of the building remains the same length. The resource is similar in design and materials to the other two motel buildings, although it does not have any sections with picture windows. It is constructed in two levels, with each level containing three rooms (Figure 37). Fenestration on the southernmost level, running south to north, consists of a slightly larger one-over-one vinyl window, two paneled doors, two one-over-one windows, and a third door. Fenestration on the northern level is inverted, with a door, two windows, two doors, and a window. As with the other buildings, the resource is under renovation and all fenestration is modern.

Resource 0457.04 is a circa 1950 storage building located between Resources 0457.01 and 0457.02. This small building, visible on the 1957 aerial photograph, is one story tall and of concrete block construction with a pyramidal roof covered in composition shingles (Figure 38). It has overhanging boxed eaves and a small, shed-roofed hood over the modern panel door, the only fenestration on the building. Resource 0457.05, the motel sign, is in front of Resource 0457. The sign is rectangular and is supported by a round metal post (see Figure 38). It has a metal arrow extending over the top of it with round holes for lights. The sign itself only retains lettering on one side. This plastic component appears to date to the late 1970s or later and advertises fridges and microwaves in the rooms. It is yellow with black and red lettering. It is likely that the metal components of the sign, including the arrow with light bulb holes, date to the 1950s while the rectangular component of the sign was renovated.

Resources 0457.01 through 0457.04 are positioned around a central courtyard that is slightly raised and appears to have originally contained a pool. A modern shed-roofed building with synthetic siding is in the courtyard. While no formal historic information could be obtained about the motel,

Figure 36.  
Resource 0457.02



A. Facing North



B. Facing East



Figure 37.  
Resource 0457.03



A. Facing West



B. Detail, Facing South



Figure 38.  
Resources 0457.04 and 0457.05



A. Resource 0457.04, Facing Northeast



B. Resource 0457.05, Facing Northeast

a blog post included an interview with the former owner, who described the motel as having been much more popular prior to the construction of I-95. According to the former owner, in its heyday the motel hosted state senators and had monkeys on the premises (Evan 2014).

The Swamp Fox Motel was evaluated for the NRHP under Criteria A, B, and C as a mid-twentieth-century motor lodge, reflecting broad patterns of history including the mid-twentieth century auto-centric tourist boom in roadside and tourist towns such as Santee, situated near both U.S. 301 and Lake Marion. While the complex remains recognizable as a mid-twentieth-century motor lodge due to elements such as the sign and orientation of the buildings, it lacks integrity of design, materials, and workmanship. Virtually every building has been substantially altered from its original form, and then altered again recently with the replacement of the fenestration and the use of distinctive, green, modern metal roofing material. It is likely that the complex originally had Modernist design elements beyond the use of the Roman brick and tile mosaic floor in Resource 0457, but those details have been lost. While there are indications that several people of note have spent the night at the hotel, there is not an association with any person that rises to a level of importance that would warrant inclusion in the NRHP. The Swamp Fox Motel is recommended not eligible for the NRHP under Criteria A, B and C.

#### RESOURCE 0458 – 249 BALLARD LANE

Facing south from its site at 249 Ballard Lane, Resource 0458 is a compact ranch house. The Orangeburg County Tax Assessor indicates that it was constructed in 1965 (Orangeburg County 2023). The house is one story tall with a rectangular historic core and a modern gabled V-crimp metal roof (Figure 39). It is clad in synthetic siding and windows throughout are modern one-over-one vinyl sashes with modern slat shutters. The main roofline extends to shelter the full front elevation and is supported by turned wood posts. The front elevation contains a modern wood panel door flanked slightly asymmetrically by a single window to the left and right. The house has a slab foundation and a small, shed-roofed addition on the eastern side.

Resource 0458 is located on Ballard Lane, a very small side road that runs parallel to the former US 301. The resource is sited on a 0.84-acre tract that backs up on to the Chapel Branch and is within 0.25 miles of its junction with Lake Marion. It shares the lot with multiple modern buildings, including a larger single-story house and three sheds.

Resource 0458 is a compact ranch house. It is not a distinctive or noteworthy example of this house type, which is common in South Carolina, and has been heavily modified, with virtually all exterior materials being modern replacements. It was not found to embody the distinctive characteristics of a style, period, or method of construction, and does not possess significance for its engineering or materials. It is not known to be associated with events or persons significant in the past. Therefore, the resource is recommended as not individually eligible for the NRHP under Criteria A, B, or C.



Figure 39.  
Resource 0458



A. Resource 0458, Facing North



B. Modern Resources on Parcel, Facing Northeast

### RESOURCE 0459 – 261 BALLARD LANE

Facing south from its site at 261 Ballard Lane, Resource 0459 is a compact ranch house. The Orangeburg County Tax Assessor indicates that it was constructed in 1966 (Orangeburg County 2023). The house is one story tall with a rectangular historic core and a laterally-gable roof covered in modern, V-crimp metal roofing material (Figure 40). It is clad in vertically-oriented, corrugated siding and windows throughout are modern six-over-six vinyl sashes. The house is accessed via a vestibule on the south elevation that may be an infilled porch. The modern door is flanked by two windows and accessed via a set of modern wooden steps. A set of triple windows lights the south elevation of the vestibule. Three evenly spaced windows light the front elevation of the main core of the house. The house is sited on a steep incline and has a partially raised basement clad in brick veneer. The foundation on the north side of the house, which faces Chapel Branch, extends to create a patio. A large chimney rises from the western side of the foundation, possibly venting a fireplace on the basement level.

Resource 0459 is located on Ballard Lane, a very small side road that runs parallel to the former US 301. The resource is sited on a 0.82-acre tract that backs up on to the Chapel Branch and is within 0.15 miles of its junction with Lake Marion. It shares the lot with a small modern shed. Resource 0459 is a compact ranch house. It is not a distinctive or noteworthy example of this house type, which is common in South Carolina, and has been modified, including with replacement fenestration. It was not found to embody the distinctive characteristics of a style, period, or method of construction, and does not possess significance for its engineering or materials. It is not known to be associated with events or persons significant in the past. Therefore, the resource is recommended as not individually eligible for the NRHP under Criteria A, B, or C.

### RESOURCES 0460 THROUGH 0460.02 – SANTEE COOPER COUNTRY CLUB

The Santee Cooper County Club, located in the southeastern wedge created by the intersection of I-95 and Old Number Six Highway, is roughly one square mile in size. The club was established in 1967, although none of the buildings were constructed until several years later, in around 1972 according to the Orangeburg County Tax Assessor (Orangeburg County 2023; Santee Cooper Country Club 2022). The country club property includes landscape features such as an 18-hole golf course (Resource 0460.01), which opened in 1967, and modern tennis courts and a pool. Property owned by the country club also contains the main clubhouse (Resource 0460), which was constructed in 1972, a modern pro shop, a circa 1970 cart storage building (Resource 0460.02), and a grouping of six modern villas for vacationers using the golf course. The communal property is owned by two entities, Santee Cooper Resort, Inc, and Lake Marion Villas, LLC. Roughly 350 privately-owned, single-family homes are also located at the country club, mostly spread out along



Figure 40.  
Resource 0459



A. Facing North



B. Facing Northeast

the southeastern side of the larger property. The vast majority of these are of modern construction, with less than ten appearing on historic aerial maps and none located within 300 feet of the project area. The country club includes a large frontage on Lake Marion and the main clubhouse is situated near the northeastern end of the property, facing towards the large I-95 bridges that carry the freeway across the lake. The country club is gated and is accessed via one entrance on Old Number Six Highway, roughly 0.6 miles south of the APE.

Resource 0460, the main clubhouse, is located at 630 Santee Drive and faces north towards Lake Marion. Orangeburg County Tax Assessor records indicate that it was constructed in 1972 and it is visible on a 1972 aerial photograph (Figure 41). The building is one story tall with a laterally gabled composition roof and painted brick veneer cladding (Figure 42). The building was constructed with a central rectangular section and a smaller wing to the west. The main roofline extends to create a porch over the central portion of the building. The building has Colonial Revival-style decorative elements including four columns which support the porch and heavy window and door surrounds. The building is accessed via a set of double doors which are flanked by two one-over-one windows to either side. The windows have a blind wood panel beneath them and louvered shutters. Sometime after 1972 a second wing was added to the east side. This portion of the building, which is of concrete block construction and clad in brick veneer with a laterally gabled roof, was constructed on an incline and has a partial raised basement. It is fenestrated with horizontal sliding windows. There is wood siding in all the gable ends.

Resource 0460.01, the golf course, spreads out behind Resource 0460 (Figure 43). It was constructed in 1967, and while the country club's website indicates that some elements of the course have been recently renovated, such as the tees and bunkers, some are clearly consistent with the 1972 aerial photograph, such as three irregularly shaped ponds located throughout the course (see Figure 41). In general, the northeastern components of the course appear more like the 1972 aerial photograph than the section to the southwest, which includes the Lake Marion Gold Villas. The course is spread out amongst sections of pine cover which were extant in 1972.

Resource 0460.02, a golf cart storage building, is visible on the 1972 aerial photograph. This prefabricated structure is one story tall with a corrugated metal, front-gabled roof (Figure 44). It is mostly open to the air with a metal frame and I-beam supports, but a section towards the front (north) has been enclosed with brick veneer cladding. The brick veneer section is fenestrated with wood frame horizontal two-over-two windows on all four sides and is accessed via wood doors on the north and south sides. It rests on a slab foundation.



Figure 41.  
1972 Aerial Photograph of Santee Cooper Country Club (Resources 0460-0460.02)



Source: NETR online



Figure 42.  
Resource 0460

A. Facing West



B. Facing Southwest



C. Rear Elevation, Facing East



Figure 43.  
Resource 0460.01

A. Facing West



B. Facing Northeast



C. Detail, Facing Northwest

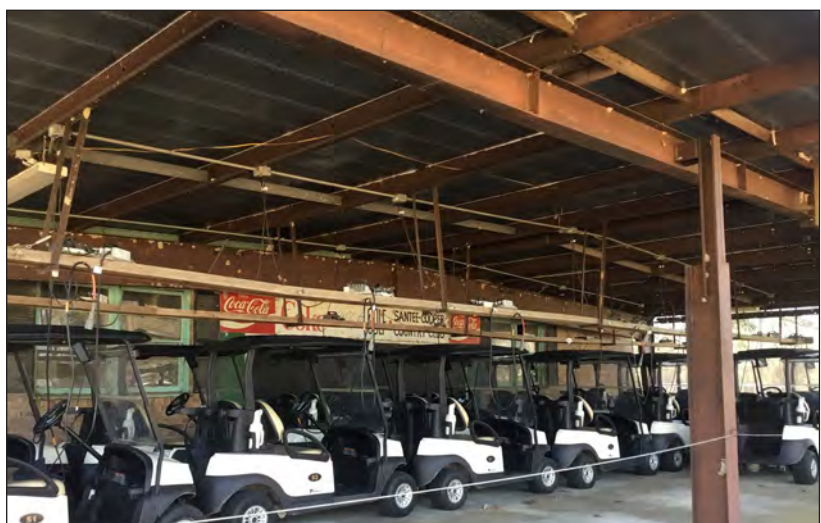




Figure 44.  
Resource 0460.02

A. Facing West



B. Facing Southwest



C. Facing West



The Santee Cooper Country Club is roughly one square mile in size and is bounded by I-95 to the north, Old Number Six Highway to the west, Santee Drive and Broad River Drive to the south, and Lake Marion to the east. It was assessed for the NRHP under Criterion C for architecture and under Criterion A as a component of the recreation-focused development that characterized the Lake Marion area during the mid-twentieth century. While it remains recognizable as a golf course and resort, there is extensive modern infill. There have been alterations to the golf course and main clubhouse, two of the three historic components of the complex. The country club lacks the integrity necessary to convey its significance under either Criteria A or C. The clubhouse is not distinctive architecturally and does not possess significance for its engineering or materials. The cart storage building has integrity but is a prefabricated structure of a type commonly seen throughout South Carolina. The golf course itself has been altered and is not unique for its landscape design, style, or materials. The country club was not found to be associated with persons significant in the past. Therefore, the resources are recommended as not individually or collectively eligible for the NRHP under Criteria A, B, or C.

#### RESOURCE 0461 – 332 BASS DRIVE

Facing south from its site at 332 Bass Drive, Resource 0461 is a house of no distinct style or type. The Orangeburg County Tax Assessor indicates that it was constructed in 1940 (Orangeburg County 2023). The house is one story tall with a rectangular historic core clad in brick veneer and a composition shingle roof that is nearly pyramidal (Figure 45). Much of the massing and fenestration is consistent with a compact ranch house, although the tall, pyramidal roof is not. Windows throughout are six-over-six double-hung, wood sashes. A shed-roofed porch with columnar supports extends across the full front elevation, which has four bays. The wood panel front door is flanked by one set of paired windows to the west and two sets to the east. A single flue rises from the rear of the historic core of the building. A laterally-gabled addition has been made to the eastern side of the house. This section is fenestrated with a metal safety door flanked by two sets of paired windows, several of which are modern replacements. The addition is not visible on a 1972 aerial photograph, suggesting that it is modern. The house has a concealed foundation.

Resource 0461 is located on Bass Drive, or the former US 301. The resource is sited on a 0.7-acre triangular lot. It is adjacent to and shares some stylistic features with the office building of the Swamp Fox Motel (Resource 0457) but is on a different parcel and has a different ownership history.



Figure 45.  
Resource 0461



A. Facing Northwest



B. Facing North



Resource 0461 was not found to embody the distinctive characteristics of a type, style, period, or method of construction, and does not possess significance for its engineering or materials. Its integrity is impacted by a modern addition which is visible from the road. It is not known to be associated with events or persons significant in the past. Therefore, the resource is recommended as not individually eligible for the NRHP under Criteria A, B, or C.

#### RESOURCE 0311 – EN MARKET (8440 ST PAUL ROAD)

Facing east from its site at 332 Bass Drive, Resource 0311 is a service station that has been altered to appear modern. The Clarendon County Tax Assessor indicates that it was constructed in 1965 and that it was originally a Shell Station (Clarendon County 2023). The building is one story tall and rectangular in plan with a flat membrane roof that is concealed by a modern metal parapet (Figure 46). It is of concrete block construction with stucco cladding and a slab foundation. A modern metal hood with V-crimp metal roofing shelters the entrance, which consists of metal and glass double doors with a fixed, single metal frame transom and sidelights. Two fixed, two-pane metal frame picture windows are located to the entrance's south and a single three-pane, fixed, metal frame picture window is located to the north. The building appears to have retained the same footprint since at least 1972, although a large, detached carport located in front of the building was constructed after then.

Resource 0311 is located on Bass Drive, or the former US 301. The resource is sited on a one-acre lot that contains a large parking lot on the eastern side. Resource 0311 is a service station but was not found to embody the distinctive characteristics of a style, period, or method of construction, and does not possess significance for its engineering or materials. It has been modified to appear modern with alterations that include a large parapet and new fenestration. It is not known to be associated with events or persons significant in the past. Therefore, the resource is recommended as not individually eligible for the NRHP under Criteria A, B, or C.

#### SUMMARY AND RECOMMENDATIONS

As a result of the Phase I Cultural Resources Survey for the proposed project, no new archaeological sites were identified. Pedestrian survey was conducted in the mapped location of 38CR48, and artifacts were not noted on the ground surface. It was not relocated. Two Precontact isolated finds were recorded; however, as isolated finds cannot contribute to Precontact research in the area. Isolated finds, by definition, are not eligible for the NRHP. The architectural survey recorded six resources with seven sub-resources. None of the architectural resources are recommended eligible for the NRHP. The underwater archaeological survey identified numerous

Figure 46.  
Resource 0311



A. Facing Southwest



B. Facing Northwest

circular and linear features interpreted as former trees present when the lake was impounded in the 1940s, as well as sections of piers and piles associated with the former I-95 Bridge. No potentially significant targets of any type were identified in the Lake Marion APE. No further cultural resources work is necessary for the proposed project as currently designed.

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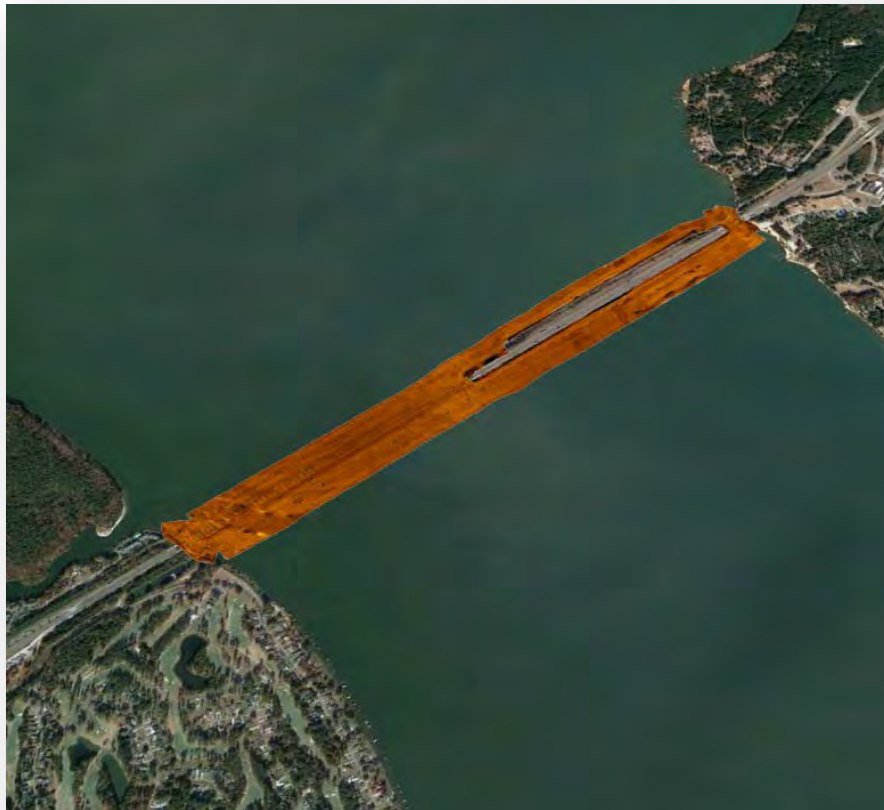
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# APPENDIX A: UNDERWATER ARCHAEOLOGY REPORT

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**PHASE I  
UNDERWATER ARCHAEOLOGICAL INVESTIGATION  
I-95 BRIDGE REPLACEMENT  
LAKE MARION  
CLARENDON AND ORANGEBURG COUNTIES,  
SOUTH CAROLINA**



**DOLAN RESEARCH, Inc.**



March 2023

**PHASE I  
UNDERWATER ARCHAEOLOGICAL INVESTIGATION  
I-95 BRIDGE REPLACEMENT  
LAKE MARION  
CLARENDON AND ORANGEBURG COUNTIES,  
SOUTH CAROLINA**

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March 2023

## **ABSTRACT**

In conjunction with South Carolina Department of Transportation's proposed I-95 Bridge Replacement Project across Lake Marion, Clarendon and Orangeburg Counties, South Carolina, Phase I Underwater Archaeological Investigations were conducted to assess the presence or absence of potential submerged cultural resources within the Project's Area of Potential Effect (APE). The APE was a 800-foot-wide corridor on either side of the existing I-95 Bridges that span Lake Marion adjacent to the town of Santee, South Carolina.

Magnetic and acoustic remote sensing data were collected to identify and assess remote sensing targets that may have an association with submerged cultural resources. In addition, a visual investigation was conducted along the shorelines within the APE.

Analysis of fieldwork data confirms the presence of no potentially significant remote sensing targets in the APE. In addition to the remote sensing survey, no visible signs of potential submerged cultural resources were encountered during the visual investigation of the two shorelines in the APE.

No additional underwater archaeological investigations are recommended for this location in Lake Marion, Clarendon and Orangeburg Counties, South Carolina.



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## 1.0 INTRODUCTION

In conjunction with South Carolina Department of Transportation's proposed I-95 Bridge Replacement across Lake Marion, Clarendon and Orangeburg Counties, South Carolina, Phase I Underwater Archaeological Investigations were conducted to assess the presence or absence of potential submerged cultural resources within the submerged portion of the project's Area of Potential Effect (APE).

The APE encompasses a 300-foot-wide corridor on either side of the existing twin I-95 Bridges (known as the W.J. Goodman Bridge), from shoreline to shoreline. The W.J. Goodman Bridge and causeway extends for more than 9,500-feet and this includes the 2,200-foot main spans over the former Santee River channel. There is a third bridge (former U.S. Route 15/301) crossing at this location, located on the west side of the southbound I-95 Bridge. The U.S. Route 15/301 Bridge was built in 1946 and closed to vehicular traffic in 1987. It remained open to foot and bicycle traffic until it was officially closed in 2017. Repair work is scheduled for the 1.85-mile-long US Route 15/301 Bridge so it can be reopened for pedestrians and cyclists (orangesburgcdp.org 2022).

In addition, there are a few remnants (abandoned pier structures) from a fourth bridge crossing that exist on the west side of the former U.S. Route 15/301 Bridge. This fourth bridge crossing was the original I-95 Bridge and was known as the Francis Marion Bridge, and it was built in 1946. It was closed to all traffic in 1965 after inspectors determined that several of the bridge's wooden trestle piers were failing. Construction of two new identical spans to replace the Francis Marion Bridge began in 1966 and the bridges were opened to traffic in 1968 (American Bridge 2023). Small portions of the Francis Marion Bridge near the southern shoreline of Lake Marion remain visible on the west side of the U.S. Route 15/301 Bridge.

The APE includes all navigable locations within the approximately 800-foot-wide corridor (including the width of all the bridges) in Lake Marion where bottom impacts such as anchoring, dredging, and bridge pier construction are expected to occur. The project location is depicted in Figures 1 and 2.

Comprehensive acoustic and magnetic remote sensing survey investigations were conducted to assess the presence or absence of potential submerged cultural resources within the APE. Additionally, visual inspections of the two shorelines were conducted to identify potential submerged cultural resources that maybe only partially submerged. The underwater archaeological project was completed under a subcontract agreement between New South Associates, Columbia, South Carolina, and Dolan Research, Inc., Newtown Square, Pennsylvania.

The Phase I underwater archaeological investigations were designed to assess the number, locations, cultural affiliations, components, spatial distribution, data potential, and other salient characteristics of potential submerged cultural resources within the APE across Lake Marion. The underwater archaeological investigation involved the development of a brief historical framework for assessing potential site significance, and a comprehensive magnetic and acoustic remote sensing survey to determine the presence or absence of potentially significant remote sensing targets that might be affected by the proposed bridge construction activity. These investigations were conducted in accordance with the instructions and intents of various applicable Federal and State legislation and guidelines governing the evaluation of project impacts on archaeological resources, notably: Section 5 of the Abandoned Shipwreck Act of 1987; Section 101(b)(4) of the National Environmental Policy Act of 1969; Section 1(3) and 2(b) of Executive Order 11593; Section 106 of the National Historic Preservation Act; 23 CFR 771, as amended October 30, 1980; the guidelines developed by the Advisory Council on Historic Preservation published November 26, 1980; the amended Procedures for the Protection of Historic and Cultural Properties as set forth in 36 CFR Part 800 (October 1, 1986); and Executive Order 215.

Fieldwork investigations were completed in Lake Marion on 07 February 2023. The survey goal was to identify remote sensing targets of potential historical significance from the gathered remote sensing data sets. Analysis of fieldwork data confirms that the APE contained no potentially significant remote sensing targets, either magnetic or acoustic (sonar). In addition, the visual inspection of the shorelines failed to identify potential cultural resources along the edges of the riverbanks. No additional underwater archaeological investigations are recommended in the Lake Marion Project Area.

## **2.0 PROJECT LOCATION AND DESCRIPTION**

The APE encompasses a 300-foot-wide corridor on either side of the twin I-95 Bridges that cross Lake Marion, Clarendon and Orangeburg Counties, South Carolina. Including the width of the bridges, the overall survey corridor was approximately 800-feet-wide from shoreline to shoreline. The APE in Lake Marion is approximately 9,500 feet long and water depths within the APE during the time of the survey ranged from less than three foot along both shorelines to more than 35 feet where waters in the natural channel of the former Santee River flowed. The length of the bridge crossing the lake included an island/causeway adjacent to the northern shoreline that extended for approximately 4,700 feet across the lake. At the APE, the former path of the Santee River passed close to the southern shoreline, near the town of Santee, South Carolina.

Lake Marion was created from the Santee River by the construction of the Santee Dam in November 1941, part of the state-owned electric and water utility Santee Cooper's Hydroelectric and Navigation Project. The project also included construction of the Pinopolis Dam (Cooper River Dam) to create Lake Moultrie, immediately downstream, and a diversion canal seven and a half miles long to connect the two lakes. This was one of the Works Progress Administration's (WPA) infrastructure projects supported by President Franklin D. Roosevelt's New Deal Program.

Technically, Lake Marion is fed by many tributaries, including the Santee River and Wyboo Creek, in addition to numerous springs including Eutaw Springs. Overall, the lake is in five South Carolina counties: Clarendon, Orangeburg, Berkeley, Calhoun, and Sumter. It is the largest lake in South Carolina with a 315-mile shoreline and covers nearly 110,000 acres of former rolling farmland, marshes and river valley landscape. The average water depth of the lake is 13.12 feet and across the APE a maximum depth of 36 feet was observed near the southern shoreline where the former Santee River channel is located.

Lake Marion is in the south-central portion of South Carolina and is part of the Santee-Cooper River System that is comprised of several lakes and dams. Lake Marion is located within the Coastal Zone region of South Carolina that encompasses the lowest elevations of South Carolina along the Atlantic coast (Kovacik and Winberry 1989). This region is geologically characterized by flat plains with interspersed lakes and marshes representing the fluctuating sea level and erosion rate that has formed the South Carolina sea islands. Griffith et al. (2002) further describe the area as the Sea Islands/Coastal Marsh ecoregion that has formed from Quaternary unconsolidated sand, silt, and clay deposited as beach, dune, barrier beach, saline marsh, terrace, and near shore marine deposits. Sandy soils are found on the barrier islands and organic and clayey soils often occur in wetland areas. Many areas have been artificially drained with past marshes recognized by the organic deposits observed subsurface and vegetation differences.

### **3.0 BRIEF MARITIME HISTORICAL OVERVIEW**

#### **3.1 Methodology**

A generalized discussion on the formation of Lake Marion (former Santee River), was designed to determine the potential presence of submerged cultural resources in the APE. Prehistoric and historic contexts of the APE were developed and contained in the terrestrial archaeological report that was prepared for this project by New South Associates. The background maritime historical research included a records check for known underwater archaeological sites and National Register properties within the APE vicinity, and review of state archaeological site files in South Carolina, as well as an examination of prior technical reports and preservation planning tools.

#### **3.2 Brief Description of the Santee River and Lake Marion**

The underwater archaeology survey area crossed Lake Marion near the mid-point of the lake, approximately 17 miles above the Santee Dam and 16 miles below the northern limits of where the Santee River flows into the lake. The Santee River is part of the Santee-Wateree-Catawba River system which is a 538-mile inland waterway that originates in the Blue Ridge mountains of North Carolina as the Catawba River. Rising near Mount Mitchell, the Catawba flows into South Carolina to Great Falls where it becomes the Wateree River. Dams on the Catawba portion of the waterway create five lakes. Thirty miles below Columbia, South Carolina, the Wateree River joins the Congaree River to form the Santee River. Other principal rivers of the Santee watershed include the Broad, Linville, and the Saluda. Much of the upper portions of the Santee River is impounded by the expansive, horn-shaped Lake Marion reservoir, formed by the eight-mile-long Santee Dam. Below the Santee Dam, the Santee River flows in a southeasterly direction through sandhills into the low country of cypress swamps and savannahs for approximately 60 miles before emptying in the Atlantic Ocean about 15 miles south of Georgetown via two mouths, the North Santee and the South Santee (Bartlett, 1984).

Although the Santee River is navigable, its primary importance lies in being part of an extensive hydroelectric development. The Santee Dam provides hydroelectric power, navigational and flood control. Santee Dam is located 15 miles below Manning, South Carolina, and forms Lake Marion, which extends approximately 33 miles upstream, close to the conjunction of the Wateree and Congaree Rivers. The Santee Dam is bypassed at its southern end by a canal which diverts water to Lake Maultrie another reservoir formed by the Pinopolis Dam on the nearby Cooper River (Gresswell & Huxley, 1965).

#### **3.3 Archaeological Sites in the South Carolina State Database**

Inspection of the South Carolina state archaeological site files at the Institute of Archaeology and Anthropology, University of South Carolina, confirmed that there are no documented underwater archaeological sites within this portion of Lake Marion.

#### **3.4 Prior Underwater Archaeological Investigations in this portion of Lake Marion**

There have not been any previous underwater archaeological investigations conducted in this portion of Lake Marion.



## 4.0 SUBMERGED CULTURAL RESOURCES POTENTIAL

This chapter addresses in broad terms the potential for submerged cultural resources within Lake Marion APE.

### 4.1 Criteria of Evaluation

The information generated by these investigations was considered in terms of the criteria for evaluation outlined by the U.S. Department of the Interior, National Register Program. Nautical vessels and shipwreck sites, generally excepting reconstructions and reproductions, are considered historic if they are eligible for listing in the National Register of Historic Places (NRHP) at a local, regional, national, or international level of significance. To be eligible for the NRHP, a vessel or site “must be significant in American history, architecture, archaeology, engineering, or culture, and possess integrity of location, design, setting, materials, workmanship, feeling, and association.” To be considered significant the vessel or site must meet one or more of four National Register criteria:

- A. Association with events that have made a significant contribution to the broad patterns of our history; or
- B. Association with the lives of persons significant in our past; or
- C. Embodiment of the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
- D. Sites that have yielded, or may be likely to yield, information important in prehistory or history.

National Register of Historic Places Bulletin 20 clarifies the National Register review process regarding shipwrecks and other submerged cultural resources. Shipwrecks must meet at least one of the above criteria and retain integrity of location, design, settings, materials, workmanship, feelings and association. Determining the significance of a historic vessel depends on establishing whether the vessel is:

- 1. the sole, best, or a good representative of a specific vessel type; or
- 2. is associated with a significant designer or builder; or
- 3. was involved in important maritime trade, naval recreational, government, or commercial activities.

Properties which qualify for the NRHP, must have significance in one or more “Areas of Significance” that are listed in National Register Bulletin 16A. Although 29 specific categories are listed, only some are relevant to potential submerged cultural resources in the Lake Marion environment. Architecture, commerce, engineering, industry, invention, maritime history and transportation are potentially applicable data categories for the type of submerged cultural resources that may be expected in the APE.

### 4.2 Potential Submerged Cultural Resources in the Lake Marion APE

The primary type of vessel that might be expected under the waters of Lake Marion would be almost any recreational/pleasure craft. Other potential boat wreck sites in Lake Marion would be submerged cultural resources associated with flat-bottomed boats, log rafts, and canal boats, and possibly cotton-related commerce vessels. These types of potential waterborne historic sites would be only be expected within the path of the former Santee River. Potentially, terrestrial cultural resources that have been inundated during

the creation of the lake could be located within other portions of the APE, but they would be very difficult to detect with remote sensing equipment.

## 5.0 FIELDWORK INVESTIGATIONS

A comprehensive remote sensing survey was conducted in Lake Marion on 07 February 2023. The remote sensing survey collected magnetic and acoustic data across the entire APE. The purpose the survey was to locate, identify, and preliminarily assess the significance of potential submerged cultural resources that might be impacted by bridge construction activities. The underwater survey was designed to generate enough magnetic and acoustic remote sensing data to identify anomalies associated with submerged cultural resources. Analysis of the remote sensing data aimed to isolate targets of potential historical significance that might require further investigation or avoidance. In addition to the remote sensing survey, a visual examination of the two shorelines within the APE was conducted from the survey vessel.

### 5.1 Fieldwork Methods

Sonar and magnetic survey operations were conducted simultaneously from a 25-foot-long fiberglass survey vessel. Sonar data were gathered with a *Marine Sonic HDS* two-channel acoustic recorder with a dual 600/1200 kHz side scan sensor. The sonar sensor was towed from the bow of the survey vessel and operated at ranges of 10 and 150 feet in either channel which created a swath of acoustic coverage up to 300 feet wide on each survey lane. During follow up survey lanes across specific target locations, the range was decreased to 100 feet to provide more detail of specific locations. *Marine Sonic* data acquisition software was used to merge acoustic data with real-time positioning data.

Magnetic data were collected with a *Geometrics 881* cesium marine magnetometer, capable of +/- 1/10 gamma resolution. A 10 Hz sampling rate by the magnetometer's towed sensor, coupled with a four-knot vessel speed generated a magnetic sample every 0.60 feet. Water depths in center portions of the river averaged around 12 feet but much of the survey area along the shorelines was very shallow. Therefore, the magnetometer sensor was towed with a float 50 feet behind of the survey vessel to allow for collecting magnetic data in shallow water environments.

*Hypack*, a laptop PC-based software package in conjunction with a Differential Global Positioning System (DGPS) onboard the survey vessel provided positioning accuracy for the survey area of +/- one foot. The computer converted positioning data from the DGPS to South Carolina State Plane Coordinates (int. feet) in real time. These X,Y coordinates were used to guide the survey vessel precisely along predetermined survey lines that had been established at 50-foot offsets, parallel with the I-95 Bridges. At both the north and south shorelines, additional survey lines were run parallel to the shoreline and perpendicular to the bridges. All magnetometer and side scan sonar offsets were established in *Hypack*. While surveying, vessel positions were continually updated on the computer monitor to assist the vessel operator, and the processed X,Y data were continually logged on computer disk for post-processing and plotting (Figure 3).

### 5.2 Data Products - Side Scan Sonar

The side scan sonar derives its information from reflected acoustic energy. Side looking sonar, which transmits and receives swept high frequency bandwidth signals from transducers mounted on a sensor that is towed from a survey vessel. Two sets of transducers mounted in an array along both sides of the towfish generate the short duration acoustic pulses required for high resolution images. The pulses are emitted in a thin, fan-shaped pattern that spreads downward to either side of the towfish in a plane perpendicular to its path. As the fish is towed along the survey track line this acoustic beam sequentially scans the bottom from a point beneath the fish outward to each side of the track line.

Acoustic energy reflected from any bottom discontinuities (exposed pipelines, rocks, or other obstructions) is received by the set of transducers, amplified and transmitted to the survey vessel via a tow cable. The digital output from state of the art units is essentially analogous to a high angle oblique photograph provided detailed representations of bottom features and characteristics. Sonar allows display of positive relief (features extending above the bottom) and negative relief (such as depressions) in either light or dark opposing contrast modes on a video monitor. Examination of the images thus allows a determination of significant features and objects present on the bottom within a survey area.

Raw sonar records were inspected for potential man-made features and obstructions present on the lake bottom surface. Sonar data were saved in separate files for each survey lane. Individual acoustic data files were initially examined using Chesapeake Technology acoustic data review software to identify any unnatural or man-made features in the records. Once identified, acoustic features were described using visible length, width, and height from the bottom surface. Acoustic targets are normally defined according to their spatial extent, configuration, location and environmental context. Edited acoustic data were merged into a geo-referenced sonar mosaic of the survey area using a resolution of 0.5'/pixel. As a last step the mosaic was overlaid onto an aerial photograph of the survey area (Figures 4-5 & 8-10).

### 5.3 Data Products - Magnetometer

The magnetometer collected data on the ambient magnetic field strength by measuring the variation in cesium electron energy states. As the sensor passed over objects containing ferrous metal, a fluctuation in the earth's magnetic field was recorded. The fluctuation was measured in nanoteslas (nT) (gammas) and is proportional to the amount of ferrous metal contained in the sensed object and the distance from the sensor. The usefulness of magnetic data to identify signatures associated with potential submerged cultural resource in the APE was extremely limited due to the extreme background disturbances generated by the proximity to the numerous bridges and an overhead utility crossing within the Lake Marion APE.

Regardless of the major background disturbance, magnetic data were edited for analysis of any anomalies. During the editing process a magnetic contour map was created with 300-nT (or gamma) intervals for the survey area. Magnetic data editing consisted of using *Hypack's* single beam editing program to review raw data (of individual survey lines) and to delete any artificially induced noise or data spikes. Once all survey lines for the project area were edited, the processed data were converted to an XYZ file also using *Hypack* (easting, and northing coordinates, and magnetometer data – measured in nT). Next, the XYZ files were imported into a Triangular Irregular Network (TIN) modeling program in *Hypack*, that was used to contour the data in 300-nT intervals (Figures 6-7).

Evaluation of magnetic anomalies are typically analyzed according to several criteria: magnetic intensity (total distortion of the magnetic background measured in gammas); pulse duration (detectable signature duration); signature characteristics (negative monopolar, positive monopolar, dipolar, or multi-component); and spatial extent (total area of disturbance).

### 5.4 Evaluation of Remote Sensing Targets

Target signatures were evaluated using the National Register of Historic Places (NRHP) criteria as a basis for the assessment. For example, although an historic object might produce a remote sensing target signature, it is unlikely that a single object (such as a historic anchor or cannon ball) has the potential to meet the criteria for nomination to the NRHP.

Target assessment was based primarily on the nature and characteristics of the acoustic and magnetic signatures. Shipwrecks – large or small – often have distinctive acoustic signatures, which are characterized by geometrical features typically found only in a floating craft. Most geometrical features identified on the bottom (in open water) are manmade objects. Often an acoustic signature will have an associated magnetic

signature. Generally, if the acoustic signature demonstrates geometric forms or intersecting lines with some relief above the bottom surface and have a magnetic signature of any sort; it can be categorized as a potentially significant target. Often, modern debris near docks, bridges, or an anchorage is easily identified solely based on the characteristics of its acoustic signature. However, it is more common to find material partially exposed. Frequently, these objects produce a record that obviously indicates a man-made object, but the object is impossible to identify or date. Also in making an archaeological assessment of any sonar target, the history and modern use of the waterway must be taken into consideration. Naturally, historically active areas tend to have greater potential for submerged cultural resources. The assessment process prioritizes targets for further underwater archaeological investigations.

Magnetic target signatures alone are more difficult to assess. Without any supporting acoustic records, the type of the bottom sediments and the water currents become more important to the assessment process. A small, single-source magnetic signature has the least potential to be a significant cultural resource. Although it might represent a single historic object, this type of signature has limited potential to meet NRHP criteria.

A more complex magnetic anomaly, represented by a broad monopolar or dipolar type signature, has a greater potential to be a significant cultural resource, depending on bottom type. Shipwrecks that occur in areas where the river/creek bottom conditions are relatively firm with little migrating sand tend to remain at least partially exposed and are often visible on sonar records. A magnetic anomaly that is identified in such an area and has no associated acoustic signature frequently can be discounted as being a historic shipwreck. Most likely, such an anomaly is modern debris, such as wire rope, chain, discarded materials, or other ferrous material.

Soft migrating sand or mud can bury large wrecks, leaving little or no indication of their presence on the bottom surface (via sonar data). The types of magnetic signatures that a boat or ship might produce are infinite, because of the large number of variables including location, position, chemical environment, other metals, vessel type, cargo, sea state, etc. These variables are what determine the characteristics of every magnetic target signature. Since shipwrecks occur in a dynamic environment, many of the variables are subject to constant change. Thus, in making an assessment of a magnetic anomalies potential to represent a significant cultural resource, investigators must be circumspect in their predictions.

Broad, multi-component signatures (again, depending on bottom characteristics and other factors) often have the greatest potential to represent a shipwreck. On the other hand, high-intensity, multi-component, magnetic signatures (without an accompanying acoustic signature) in areas of relatively high velocity currents can be discounted as a historic resource. Eddies created by the high-velocity currents almost always keep some portion of a wreck exposed. Generally, wire rope or some other low-profile ferrous debris produces this type of signature in these circumstances. Many types of magnetic anomalies display characteristics that are not easily interpreted. The only definitive method of determining the nature of the object creating these anomalies is by physical examination.

Typically, target locations with suspect cultural resource images on the sonar records coupled with associated and appropriate magnetic signatures are high probability targets.

### 5.5 Remote Sensing Findings

After the completion of the remote sensing survey, magnetometer and side scan sonar data sets were evaluated to determine the presence or absence of targets with characteristics suggestive of submerged cultural resources. Magnetometer data are normally contour plotted at five-gamma and/or 10-gamma intervals. However, the presence of numerous structures and utilities made magnetic data an unreliable source for identifying potential submerged cultural resources. Four different bridge structures crossed Lake Marion within the APE; the two twin spans of the existing I-95 Bridge (W.J. Goodman Bridge), the former

U.S. Route 15/301 Bridge, and remnants of the original I-95 Bridge (Francis Marion Bridge). In addition, an overhead complex of utility cables crossed the lake supported by towers on the east side of the northbound lane of the existing I-95 Bridge. All these structures generated high levels of background magnetic disturbance across the entire APE. Thus, magnetic survey data was contoured using 300-gamma intervals. Efforts were made to identify individual magnetic anomalies despite the background noise. Evaluation of magnetic anomalies are typically analyzed according to several criteria: magnetic intensity (total distortion of the magnetic background measured in gammas); pulse duration (detectable signature duration); signature characteristics (negative monopolar, positive monopolar, dipolar, or multi-component); and spatial extent (total area of disturbance).

Sonar records were inspected for potential man-made features present on the bottom surface. All sonar targets were analyzed according to their spatial extent, configuration, location, and environmental context. After all fieldwork data were collected, magnetic data were correlated with sonar records to identify targets of potential significance.

As discussed above, the Lake Marion project area featured intense variations in the magnetic background across the APE. However, no individual magnetic targets suggestive of submerged cultural resources were identified in the APE. Examination of the sonar data within the APE confirms the presence of hundreds and hundreds of circular and linear features that line the lake bottom across much of the APE. These bottom features are associated with former trees that were inundated during the creation of the lake in the 1940s (see Figures 9 & 10). In addition to all the trees on the lake bottom, sections of piles and pier structures from the former I-95 Bridge (Francis Marion Bridge) were identified in a linear progression on the west side of the U.S. Route 15/301 Bridge. However, no potentially significant side scan sonar targets were identified within the former Santee River channel near the southern shoreline of the APE. None of the bottom features that were identified on the sonar records appear to be associated with potentially significant submerged cultural resources. No potentially significant targets of any type were identified in the Lake Marion APE.

No additional underwater archaeological investigations are recommended at the Lake Marion APE, Clarendon and Orangeburg Counties, South Carolina.

#### 5.6 Shoreline Investigation Findings

The visual inspection of the southern shoreline between the three bridges indicates the presence of a firm mud embankment with abundant trees, shrubs, and bushes growing right down to the waterline of the lake. Just to the east of the northbound I-95 bridge there is a small creek that has several small floating docks for berthing small recreational vessels. On the west side of the US Route 15/301 Bridge, the shoreline is bulkheaded for a private residence.

Along the north shoreline of the APE there is a sandy beach (part of a small park and boat ramp facility) under and on the east side of the I-95 Bridges. On the west side of the I-95 Bridge and under the U.S. Route 15/301 Bridge, there is a scattering of rip rap rocks that have been placed over the mostly sandy/dirt bottom. Erosion does not appear to be an issue along either shoreline.

No cultural features were identified on the shorelines during this visual investigation.

No additional underwater archaeological investigations are recommended at the APE in Lake Marion, South Carolina.



## **6.0 SUMMARY AND RECOMMENDATIONS**

In conjunction with South Carolina Department of Transportation's proposed I-95 Bridge Replacement over Lake Marion, Clarendon and Orangeburg Counties, South Carolina, Phase I Underwater Archaeological Investigations were conducted to assess the presence or absence of potential submerged cultural resources within the APE. The APE was a 800-foot-wide corridor, from shoreline to shoreline on either side of the existing I-95 Bridges that span Lake Marion, north of the town of Santee, South Carolina.

The underwater archaeological project tasks included limited background maritime historical research, magnetic and acoustic remote sensing, a low tide visual examination of the shoreline and report preparation. The goal of the underwater work was to determine the presence or absence of potential submerged cultural resource sites that might be affected by proposed bridge construction activities.

Analysis of fieldwork data confirms the presence of no potentially significant remote sensing targets in the APE were detected on the magnetic or acoustic (sonar) data sets. Due to the proximity of the multiple bridge spans and an overhead utility crossing, magnetic data were not reliable here in deciphering remote sensing targets potentially associated with submerged cultural resources. Extensive magnetic disturbances from the existing bridges and overhead wires were recorded across the entire APE. Additionally, there were no indications of potential submerged cultural resources identified on the side scan sonar records.

No visible signs of potential submerged cultural resources were recorded during the visual investigation of the two shorelines in the APE.

No additional underwater archaeological investigations are recommended for this location in Lake Marion Clarendon and Orangeburg Counties, South Carolina.

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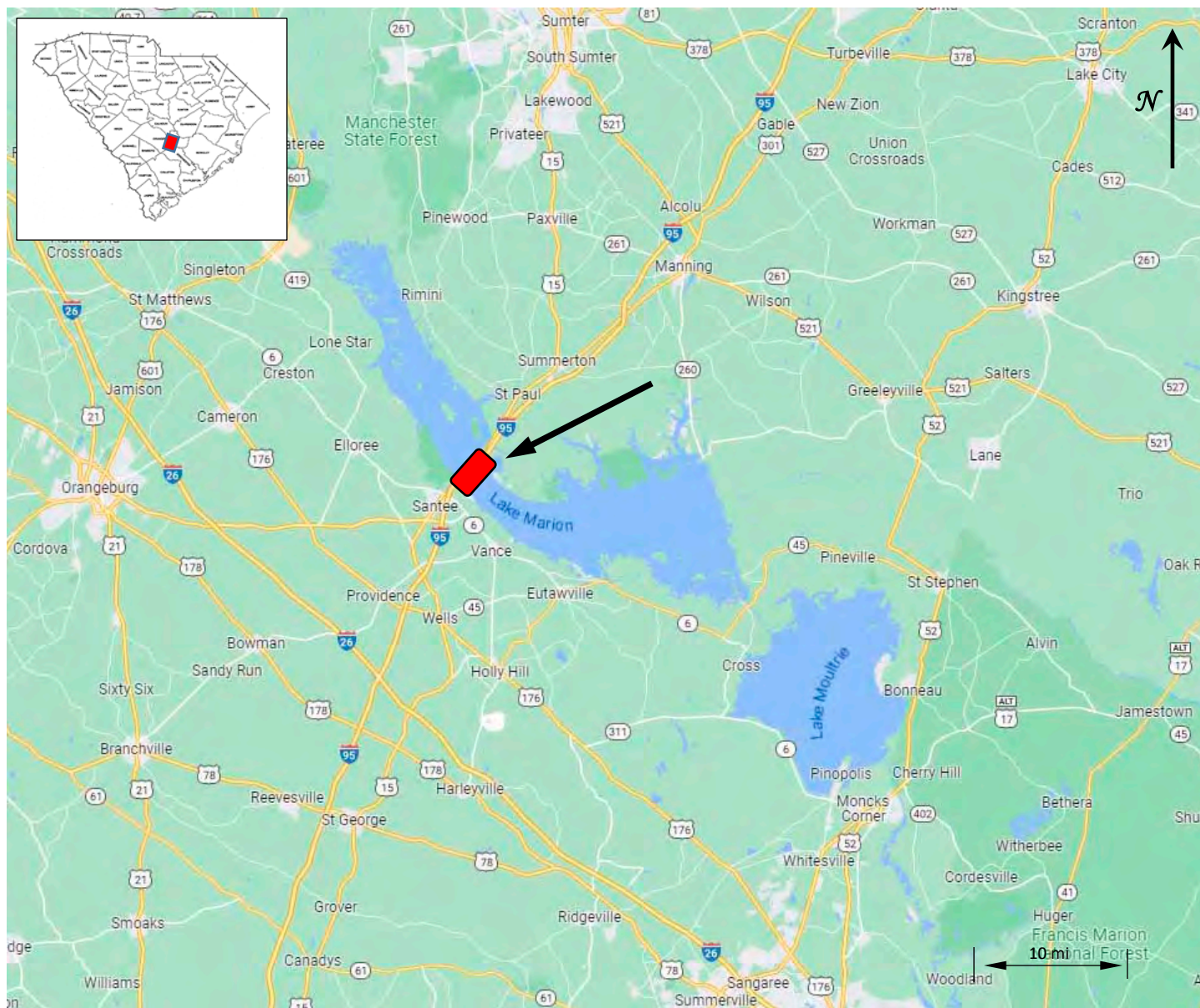
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## FIGURES



**Figure 1. Lake Marion Project Location on Google Map**





**Figure 2. Project Location overlaid on Google Earth, Clarendon and Orangeburg Counties, South Carolina**





**Figure 3. Survey Tracks, Lake Marion Project Area**

- Notes:**
- 1) Lane Spacing = 50 feet
  - 2) Five full length survey lanes were completed parallel to bridge, three on the east side of the I-95 Bridges and two on the east side (one of which was run between the I-95 Southbound bridge and the former U.S. 15/301 Bridge. Additional survey lanes were completed perpendicular to the bridges, adjacent to the north and south shorelines.
  - 3) Background Grid = South Carolina State Plane Coordinates, NAD83, int. feet



**Figure 4. Sonar Mosaic of Lake Marion Project Area overlaid on an Aerial Photograph**

- Notes:**
- 1) Sonar Data were collected with a *Marine Sonic HDS System* with 600/1200 kHz transducer using ranges of 100' and 150'
  - 2) Details of the mosaic are found in Figures 8-10.
  - 3) Background Grid = South Carolina State Plane Coordinates, NAD83, int. feet



**Figure 5. Cross View of Sonar Mosaic of Lake Marion Project Area**

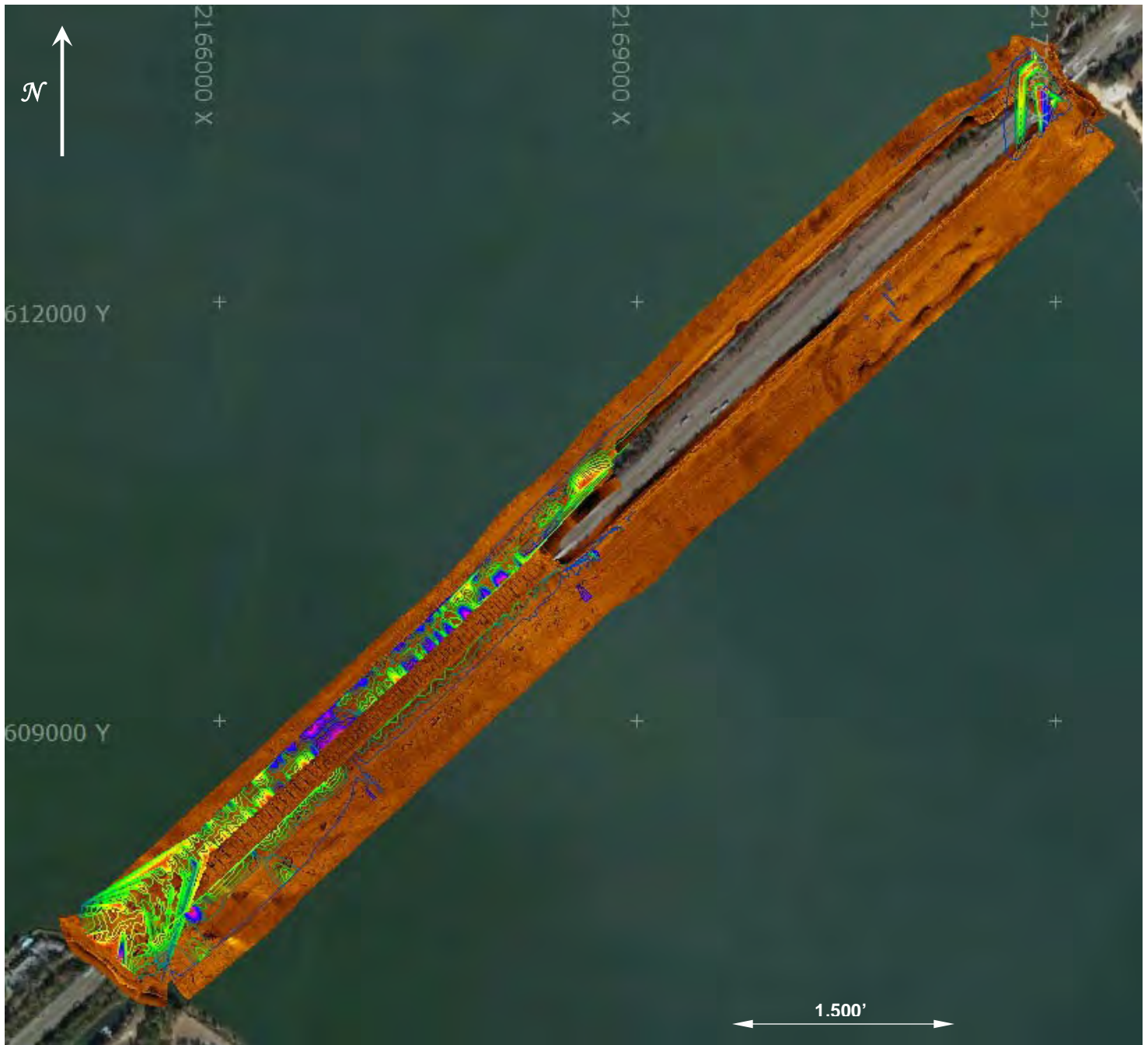
- Notes:** 1) Sonar data were collected on both sides of island/causeway adjacent to the north shoreline (right side) of the Lake.  
2) Natural channel of former river is near the left shoreline. No potentially significant sonar targets were identified in the APE.



**Figure 6. Magnetic Contours at 300 nT (gamma) Intervals at Lake Marion Project Area overlaid on an Aerial Photograph**

- Notes:**
- 1) Contour Interval = 300 nT (gamma)
  - 2) Intense magnetic background was generated by proximity to four bridges and overhead power lines
  - 3) Background Grid = South Carolina State Plane Coordinates, NAD83, int. feet





**Figure 7. Sonar Mosaic overlaid with Magnetic Contours at 300 nT (gamma) Intervals**

- Notes:**
- 1) Magnetic Contour Interval = 300 nT (gamma)
  - 2) Intense magnetic background was generated by proximity to four bridges and overhead power lines
  - 3) Sonar Data were collected with a *Marine Sonic HDS System* 600/1200 kHz transducer using ranges of 100' and 150'
  - 4) Background Grid = South Carolina State Plane Coordinates, NAD83, int. feet





**Figure 8. Detail of Sonar Mosaic at the Northern Shoreline**

Note: No potentially significant sonar targets were identified along the northern shoreline.



**Figure 9. Detail of the Sonar Mosaic at the South End of Causeway**

Note: No potentially significant sonar targets were identified. However, numerous submerged tree stumps and limbs were found on the east side of the bridges.

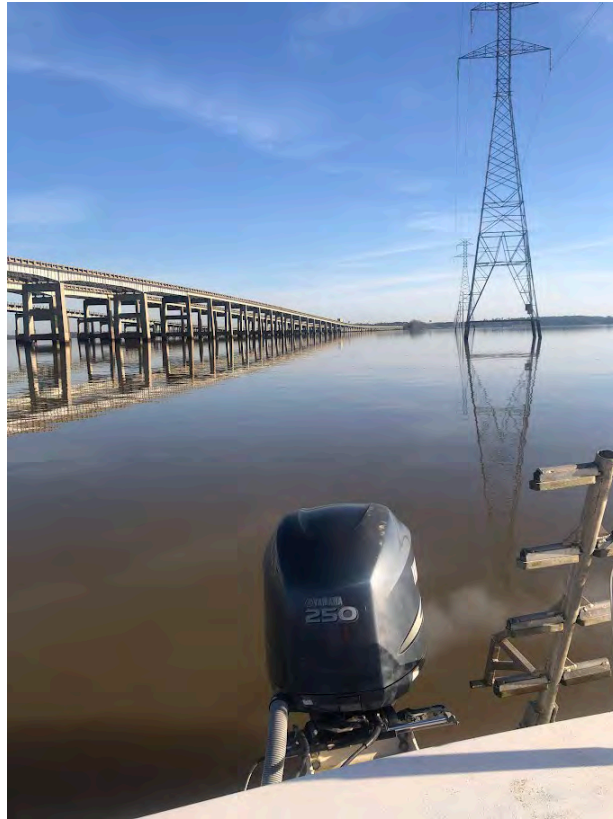




**Figure 10. Detail of the Sonar Mosaic at the Southern Shoreline**

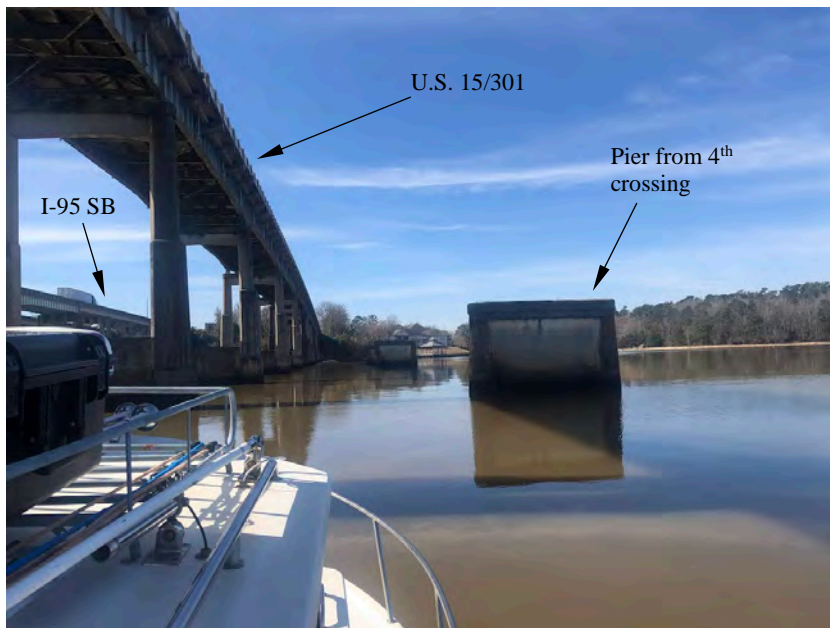
Note: No potentially significant sonar targets were identified along the southern shoreline. However, numerous submerged tree stumps were found on the east side of the bridges. The former Santee River channel is visible on the sonar records (arrow).

## **PLATES**



**Plate 1. View from East Side of the I-95 Bridge looking North**

Note: Overhead power lines cross river adjacent to the bridge. (Photographer: Lee Cox; Date: February 07, 2023)



**Plate 2. View South from West Side of U.S. Route 15/301 Bridge**

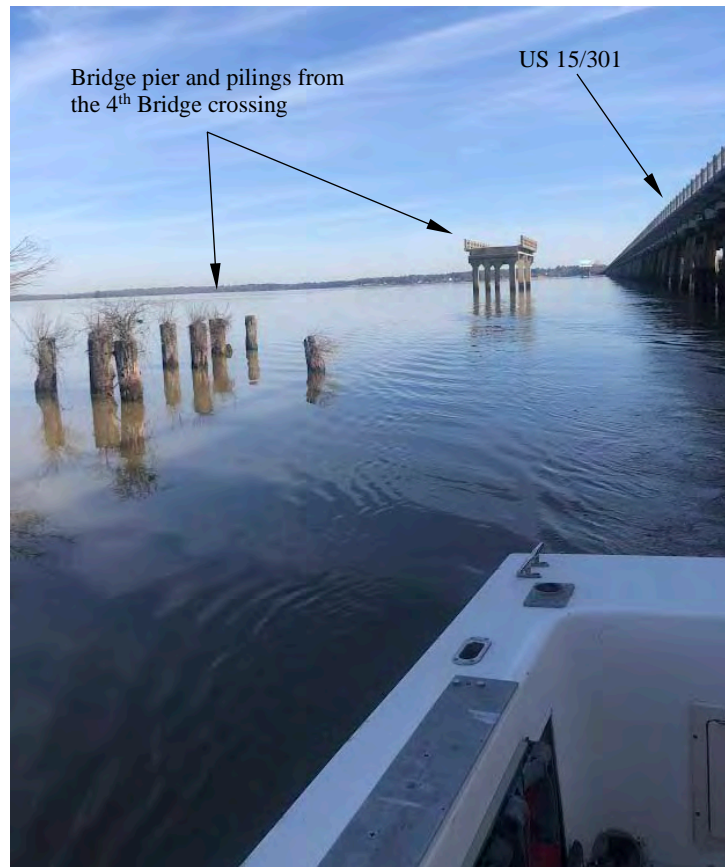
Note: Southbound lane of I-95 Bridge is on the far left. Overhead bridge on the left is the former U.S. Route 15/301 Bridge. On the right side is a pier from a former 4<sup>th</sup> bridge crossing at this location. (Photographer: Lee Cox; Date: February 07, 2023)





**Plate 3. View South from West Side of U.S. Route 15/301 Bridge**

Note: Southbound lane of I-95 Bridge is on the far left. The former U.S. Route 15/301 Bridge is located next to the boat.  
 (Photographer: Lee Cox; Date: February 07, 2023).



**Plate 4. View North from West Side of U.S. Route 15/301 Bridge.**

Note: The former U.S. Route 15/301 Bridge is located on the right side. Pilings and a section of a bridge pier from the 4th bridge crossing are visible on the left side.  
 (Photographer: Lee Cox; Date: February 07, 2023).



**Plate 5. View Southwest of the Northbound Lanes of the I-95 Bridges from the North Shoreline.**  
(Photographer: Lee Cox; Date: February 07, 2023).

**APPENDIX:**

**QUALIFICATIONS OF THE PRINCIPAL INVESTIGATOR**

J. Lee Cox, Jr., owner of Dolan Research, Inc. served as the Principal Investigator. He directed the underwater archaeological investigation. Mr. Cox received a MA from East Carolina University in Maritime Research/Underwater Archaeology and a BA from Duke University in Archaeology. He meets or exceeds the standards for a principal investigator in archaeology as set forth in the Secretary of the Interior's Professional Qualifications Standards (36 CRF Part 61). He has been involved with over 150 different underwater archaeological projects over the last 35 years in 22 different states, Bermuda, Puerto Rico, Trinidad and Tobago, and Canada. He has authored over 150 reports and published seven articles and one book in conjunction with professional experience. He is a member of the Register of Professional Archaeologists (RPA).

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# APPENDIX B: SPECIMEN CATALOG



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Project #	Field Site #	Field Bag #	Shovel Test	North	East	Stratum	Level Depth	Recorder	Field Date	Count	Weight	Component	Macro Lithic Form	General Material	Specific Material	Lithic Description	Platform Type	Lithic Notes	Pottery Description	Temper Size	Exterior Body Treatment	Interior Surface Treatment
6494	FS1	1	86		I	0-10 cmbs	klh	1/24/23	1	5.5	Pre-Contact Pottery							Cortex present on dorsal surface	Body Sherd	Coarse Sand	Eroded	Eroded
6494	FS2	2	78	500	500 II	20-80 cmbs	dma	1/24/23	1	20.5	Pre-Contact Lithic	Debitage	Quartzite	Quartzite	Quartzite	Flake-General	Flat					

## **Appendix F**

### **FHWA 4(f) Concurrence**



**FHWA South Carolina Division**  
Determination of Section 4(f) *De minimis* Use

State File #	P041130	Fed Project #	P041130	PIN	P041130	Date	8/15/2024	County	Clarendon/Orangeburg
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Project Description: I-95 over Lake Marion Bridge Replacements

**Form Purpose:** This form is based on FHWA regulations regarding Section 4(f) found at 23 CFR 774. The form is to be used when a determination of *de minimis* use is to be made for a Section 4(f) property.

**Form Instructions:** Fill out the form completely based on type of impact and attach the approval from the agency with jurisdiction over the Section 4(f) resource to the form. When multiple 4(f) properties are impacted by a project and a *de minimis* finding is to be made for each property, a separate form must be filled out for each property affected.

Document Type:       EIS       EA       CE

**Description of the Section 4(f) Resource:**

The former US 301 bridges, just west of the existing I-95 bridges have been identified as the Section 4(f) resource, providing recreational uses for the public. US 301 is parallel to the I-95 bridges over Lake Marion and formerly provided motorized access across the lake. The US 301 bridges were closed to vehicular traffic in 1987. At a later date, unofficial use converted it to primarily pedestrian and cyclist use. The pedestrian and cyclist facility is used as part of the Palmetto Trail Lake Marion Passage. The Palmetto Trail is the state's longest pedestrian and bicycle trail that, when completed, will include over 500 miles. Approximately 380 miles to-date are complete. The US 301 bridges over Lake Marion were closed in 2017 due to critical structural findings during an inspection, eliminating all public use of the facility. Through legislative directed funding (2021-2022 state budget line item), SCDOT completed minor rehabilitation of the US 301 bridges and the facility was opened to the public in Fall 2023.

**Brief Description of Project Scope:**

SCDOT proposes to replace the four bridges along I-95 over Lake Marion in Clarendon and Orangeburg Counties. This includes the long two-lane northbound and southbound bridges over the main channel of Lake Marion and the shorter two-lane northbound and southbound relief bridges over the lake. Two 12-foot travel lanes would be provided in both the southbound and northbound directions. Space would also be provided for a potential future additional travel lane in each direction. A 10-foot minimum inside shoulder (shoulders may be wider due to staging requirements) and 12-foot outside shoulder would be provided in each direction. Additionally, there would be a barrier separated 14-foot multi-use path (MUP) for pedestrians and bicyclists on the southbound side only. The MUP will be constructed and opened for use before the demolition of the existing 301 bridge. Users will be directed off of the US 301 bridge prior to beginning any demolition activities.

**Applicability Determination:**

(to be applicable answers to all questions must be "yes")

**I. For Public Parks, Recreation Areas, and Wildlife and/or Waterfowl Refuge:**

1. Does the project involve a minor take of land from the resource?       Yes       No

a. Identify the total acreage of the resource:      Acres

Section 4(f) *De minimis* Finding Use Form Continued:

b. Describe the use of the land from the resource and identify amount of the resource to be used (acres):

The resource crosses Lake Marion and is used through an SCDOT easement from Santee Cooper, the agency that operates the lake. The US 301 bridge is proposed to be demolished. The demolition will have a permanent adverse impact to the resource and will result in the loss of entire area of the bridge, approximately 6.6 acres. This constitutes an impact under 4(f).

2. Does the project not adversely affect the qualities, activities, features, or other attributes of the resource that qualify it for protection under Section 4(f)?  Yes  No

3. Has the agency with jurisdiction over the resource concurred in writing with the FHWA's and/or SCDOT's determination that the project will not adversely affect the resource and is the concurrence attached?  Yes  No

a. Identify the agency with jurisdiction:

SCDOT

4. Has the agency with jurisdiction over the resource been informed of FHWA's and/or SCDOT's intent to make a *de minimis* finding?  Yes  No

b. If yes, attach the correspondence. Correspondence attached?  Yes  No

5. Has the public been afforded an opportunity to review and comment on the effects of the project on the protected activities, features, and attributes of the resource?  Yes  No

a. Identify the opportunity for public comment:

A public meeting was held on June 1st to present the replacement of the I-95 bridges over Lake Marion at which time the potential rehabilitation and re-opening of the US 301 pedestrian bridge was determined to not to be within the scope of the project but that discussions were being held between SCDOT, Orangeburg, & Clarendon Counties for bridge maintenance to be potentially taken over by the Counties. Meeting notifications and materials provided at the meeting provided an opportunity to review and comment on any potential Section 4(f) resources and requested feedback specifically for recreational sites.

## II. For Historic Properties:

1. Does the project have a "No Adverse Effect" or a "No Historic Properties Affected" on the historic property as defined by Section 106 of the National Historic Preservation Act and its regulations?  Yes  No

a. Identify the effects determination for the resource:

b. Describe the use of land from resource and identify the amount of the resource to be used (acres):

2. Has the SHPO and ACHP, if participating in the Section 106 consultation, concurred in writing with the effects determination?  Yes  No



- a. If so, attach the written concurrence. Concurrence attached?  Yes  No  
*(Receipt of the SHPO's concurrence with the FHWA's finding, or a non-response after the specific time qualifies as the necessary correspondence from the official with jurisdiction over Section 106 properties).*
3. Has the SHPO and ACHP, if participating in the Section 106 consultation, been informed of FHWA's and/or SCDOT's intent to make a *de minimis* impact/no adverse finding based on their written concurrence in the Section 106 determination?  Yes  No
- a. If yes, attach correspondence. Correspondence attached?  Yes  No
4. Have the views of the consulting parties participating in the Section 106 consultation been considered?  Yes  No
- a. Attach any relevant correspondence and any necessary responses to consulting party comments. Correspondence attached?  Yes  No

### III. Alternatives Analysis:

1. Summarize why the use of the property from the resource cannot be avoided.

Project needs would not be met.

Explain:

Substantial impacts to other environmental/cultural/social resources would result.

Explain:

Project complexity would increase resulting in greater construction and maintenance costs.

Explain:

Long-term use of the US 301 bridges as a recreational facility would require significant repairs to meet current AASHTO standards for pedestrians with the majority of work comprising substructure strengthening (pier/pile jackets), replacement of the railings and barriers to become ADA compliant, and steel beam/bearing repairs. Neither Clarendon nor Orangeburg Counties are able to assume the maintenance due to the associated high costs.

Other.

Explain:

2. Summarize the measures to minimize harm. This would include, if applicable, any mitigation measures.

To minimize and mitigate the loss of the recreational activities of cycling and walking, SCDOT proposes to construct a barrier separated 14-foot multi-use path (MUP) for pedestrians and bicyclists on the southbound side of the new I-95 southbound bridges. This would maintain a connection for non-motorized transportation over Lake Marion and would allow for connections to the existing portions of the Palmetto Trail Lake Marion Passage.

#### IV. Summary and Determination:

The project involves a *de minimis*/no adverse use on the Section 4(f) property as evidence with a "No Adverse Effect" finding from the SHPO or as evidence through the minimization of harm to a public park, recreation land or wildlife and waterfowl refuge as a result of mitigation to or avoidance of impacts to the qualifying characteristics and/or the functions of the resource.

Based on the scope of the undertaking; the fact that the undertaking does not adversely affect the function/qualities of the Section 4(f) resource on a permanent or temporary basis; and with agreement from the official with jurisdiction, the proposed action constitutes a *de minimis*/no adverse use and the alternatives analysis is considered satisfied.

Preparer:

Date:

Program Manager:

Date:

Environmental Manager:

Date:

FHWA:

Date:

## **Appendix G**

### **Preliminary Jurisdictional Determination**



DEPARTMENT OF THE ARMY  
U.S. ARMY CORPS OF ENGINEERS, CHARLESTON DISTRICT  
69A HAGOOD AVENUE  
CHARLESTON, SOUTH CAROLINA 29403-5107

July 17, 2023

Regulatory Division

Mr. Sean Connolly  
South Carolina Department of Transportation  
955 Park Street  
Columbia, South Carolina 29201  
[ConnollyMS@scdot.org](mailto:ConnollyMS@scdot.org)

Dear Mr. Connolly:

This is in response to your request for a preliminary jurisdictional determination (PJD) that is part of an overall project known as I-95 Lake Marion. Based on information submitted to the U.S. Army Corps of Engineers (Corps) we have determined there may be waters of the United States, including wetlands on your parcel located at the following:

<b>Project Number:</b>	SAC-2023-00857
<b>County:</b>	Orangeburg County
<b>Project/Site Size:</b>	332 Acres
<b>Latitude:</b>	33.5108°
<b>Longitude:</b>	-80.4454°
<b>Project/Site Location:</b>	Within the right-of-way of Interstate 95 roadway and bridge crossing over Lake Marion in Santee, SC.
<b>Waters (Acreage/Linear Feet):</b>	0.39 acre of Section 404 Wetlands, 210.13 linear feet (0.15 acre) of Section 404 Non-wetland Waters (Stream), 0.63 acre of Section 404 Non-wetland Waters (Pond), and 100.83 acres of Section 10/404 Non-wetland Water (Lake Marion).

A copy of the PJD form and Pages 1 – 8 dated May 2023, and titled "Figure 5 Aquatic Resources", are enclosed. Please carefully read this form, then sign and return a copy to the project manager at the following [Jeremy.M.Kinney@usace.army.mil](mailto:Jeremy.M.Kinney@usace.army.mil) within 30 days from the date of this notification.

Please be advised a Department of the Army permit will be required for regulated work in all areas which may be waters of the United States, as indicated in this PJD. For purposes of computation of impacts, compensatory mitigation requirements, and other resource protection measures, a permit decision made on the basis of a PJD will

treat all waters and wetlands, which would be affected in any way by the permitted activity on the site, as if they are jurisdictional waters of the United States. Should you desire an approved Corps determination, one will be issued upon request.

You are cautioned that work performed in areas which may be waters of the United States, as indicated in the PJD, without a Department of the Army permit could subject you to enforcement action.

The delineation included herein has been conducted to identify the location and extent of the aquatic resource boundaries and/or the jurisdictional status of aquatic resources for purposes of the Clean Water Act for the particular site identified in this request. This delineation and/or jurisdictional determination may not be valid for the Wetland Conservation Provisions of the Food Security Act of 1985, as amended. If you or your tenant are USDA program participants, or anticipate participation in USDA programs, you should discuss the applicability of a certified wetland determination with the local USDA service center, prior to starting work.

If you submit a permit application as a result of this PJD, include a copy of this letter and the depiction as part of the application. Not submitting the letter and depiction will cause a delay while we confirm a PJD was performed for the proposed permit project area. Note that some or all of these areas may be regulated by other state or local government entities, and you should contact the South Carolina Department of Health and Environmental Control, Bureau of Water to determine the limits of their jurisdiction.

In all future correspondence, please refer to file number SAC-2023-00857. A copy of this letter is forwarded to State and/or Federal agencies for their information. If you have any questions, please contact me at (843) 714-4649, or by email at [Jeremy.M.Kinney@usace.army.mil](mailto:Jeremy.M.Kinney@usace.army.mil).

Sincerely,



Jeremy M. Kinney  
Project Manager

Enclosures:  
Preliminary Jurisdictional Determination Form  
Notification of Appeal Options  
Figure 5 Aquatic Resources



Copies Furnished:

Mr. William McGoldrick  
SCDOT  
PO Box 191  
Columbia, South Carolina 29202  
[mcGoldriWR@scdot.org](mailto:mcGoldriWR@scdot.org)

Ms. Kally McCormick  
Civil Engineering Consulting Services Inc  
2000 Park Street  
Columbia, South Carolina 29201  
[mccormickk@cecsinc.com](mailto:mccormickk@cecsinc.com)

SC DHEC - Bureau of Water  
2600 Bull Street  
Columbia, South Carolina 29201  
[WQCWetlands@dhec.sc.gov](mailto:WQCWetlands@dhec.sc.gov)

**BACKGROUND INFORMATION**

A. **REPORT COMPLETION DATE FOR PJD:** July 17, 2023

B. **NAME AND ADDRESS OF PERSON REQUESTING PJD:**

William McGoldrick  
 SCDOT  
 PO Box 191  
 Columbia, SC 29202

C. **DISTRICT OFFICE, FILE NAME, AND NUMBER:**

SAC, I-95 Lake Marion, SAC-2023-00857

D. **PROJECT LOCATION(S) AND BACKGROUND INFORMATION:  
 (USE THE TABLE BELOW TO DOCUMENT MULTIPLE AQUATIC RESOURCES AND/OR AQUATIC RESOURCES AT DIFFERENT SITES)**

State: SC County/parish/borough: Orangeburg County City: Santee  
 Center coordinates of site (lat/long in degree decimal format):  
 Lat.: 33.510812° Long.: -80.44543°  
 Universal Transverse Mercator: 17  
 Name of nearest waterbody: Santee River

E. **REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):**

- Office (Desk) Determination. Date: July 14, 2023
- Field Determination. Date(s):

TABLE OF AQUATIC RESOURCES IN REVIEW AREA WHICH "MAY BE" SUBJECT TO REGULATORY JURISDICTION.

Site Number	Latitude (decimal degrees)	Longitude (decimal degrees)	Estimated amount of aquatic resource in review area (acreage and linear feet, if applicable)	Type of aquatic resource (i.e., wetland vs. non-wetland waters)	Geographic authority to which the aquatic resource "may be" subject (i.e., Section 404 or Section 10/404)
Non-wetland waters 4 (Pond)	33.518928	-80.433419	0.09 acre	Non-wetland waters	Section 404
Non-wetlands waters 1a (Stream)	33.49488	-80.466706	82.17 feet	Non-wetland waters	Section 404
Non-wetlands waters 1b (Stream)	33.493672	-80.465973	127.96 feet	Non-wetland waters	Section 404
Non-wetlands waters 2 (Lake Marion)	33.508223	-80.448841	100.83 acres	Non-wetland waters	Section 10/404
Non-wetlands waters 3 (Pond)	33.51882	-80.433869	0.54 acre	Non-wetland waters	Section 404
Wetland A	33.493901	-80.465867	0.03 acre	Wetland	Section 404
Wetland B	33.528646	-80.423836	0.36 acre	Wetland	Section 404

<sup>1</sup> Districts may establish timeframes for requester to return signed PJD forms. If the requester does not respond within the established time frame, the district may presume concurrence and no additional follow up is necessary prior to finalizing an action.

Appendix 2 - PRELIMINARY JURISDICTIONAL DETERMINATION (PJD) FORM

- 1) The Corps of Engineers believes that there may be jurisdictional aquatic resources in the review area, and the requestor of this PJD is hereby advised of his or her option to request and obtain an approved JD (AJD) for that review area based on an informed decision after having discussed the various types of JDs and their characteristics and circumstances when they may be appropriate.
- 2) In any circumstance where a permit applicant obtains an individual permit, or a Nationwide General Permit (NWP) or other general permit verification requiring "pre-construction notification" (PCN), or requests verification for a non-reporting NWP or other general permit, and the permit applicant has not requested an AJD for the activity, the permit applicant is hereby made aware that: (1) the permit applicant has elected to seek a permit authorization based on a PJD, which does not make an official determination of jurisdictional aquatic resources; (2) the applicant has the option to request an AJD before accepting the terms and conditions of the permit authorization, and that basing a permit authorization on an AJD could possibly result in less compensatory mitigation being required or different special conditions; (3) the applicant has the right to request an individual permit rather than accepting the terms and conditions of the NWP or other general permit authorization; (4) the applicant can accept a permit authorization and thereby agree to comply with all the terms and conditions of that permit, including whatever mitigation requirements the Corps has determined to be necessary; (5) undertaking any activity in reliance upon the subject permit authorization without requesting an AJD constitutes the applicant's acceptance of the use of the PJD; (6) accepting a permit authorization (e.g., signing a proffered individual permit) or undertaking any activity in reliance on any form of Corps permit authorization based on a PJD constitutes agreement that all aquatic resources in the review area affected in any way by that activity will be treated as jurisdictional, and waives any challenge to such jurisdiction in any administrative or judicial compliance or enforcement action, or in any administrative appeal or in any Federal court; and (7) whether the applicant elects to use either an AJD or a PJD, the JD will be processed as soon as practicable. Further, an AJD, a proffered individual permit (and all terms and conditions contained therein), or individual permit denial can be administratively appealed pursuant to 33 C.F.R. Part 331. If, during an administrative appeal, it becomes appropriate to make an official determination whether geographic jurisdiction exists over aquatic resources in the review area, or to provide an official delineation of jurisdictional aquatic resources in the review area, the Corps will provide an AJD to accomplish that result, as soon as is practicable. This PJD finds that there "may be" waters of the U.S. and/or that there "may be" navigable waters of the U.S. on the subject review area, and identifies all aquatic features in the review area that could be affected by the proposed activity, based on the following information:

**SUPPORTING DATA. Data reviewed for PJD (check all that apply)**

Checked items should be included in subject file. Appropriately reference sources below where indicated for all checked items:

- Maps, plans, plots or plat submitted by or on behalf of the PJD requestor: Request for Corps Jurisdictional Determination (JD) / Delineation dated May 30, 2023.  
Map: Page 1 – 8, Figure 5 Aquatic Resources dated May 2023 .
- Data sheets prepared/submitted by or on behalf of the PJD requestor.
  - Office concurs with data sheets/delineation report.
  - Office does not concur with data sheets/delineation report. Rationale: \_\_\_\_\_.
- Data sheets prepared by the Corps: \_\_\_\_\_.
- Corps navigable waters' study: \_\_\_\_\_.

<sup>1</sup> Districts may establish timeframes for requestor to return signed PJD forms. If the requestor does not respond within the established time frame, the district may presume concurrence and no additional follow up is necessary prior to finalizing an action.

Appendix 2 - PRELIMINARY JURISDICTIONAL DETERMINATION (PJD) FORM

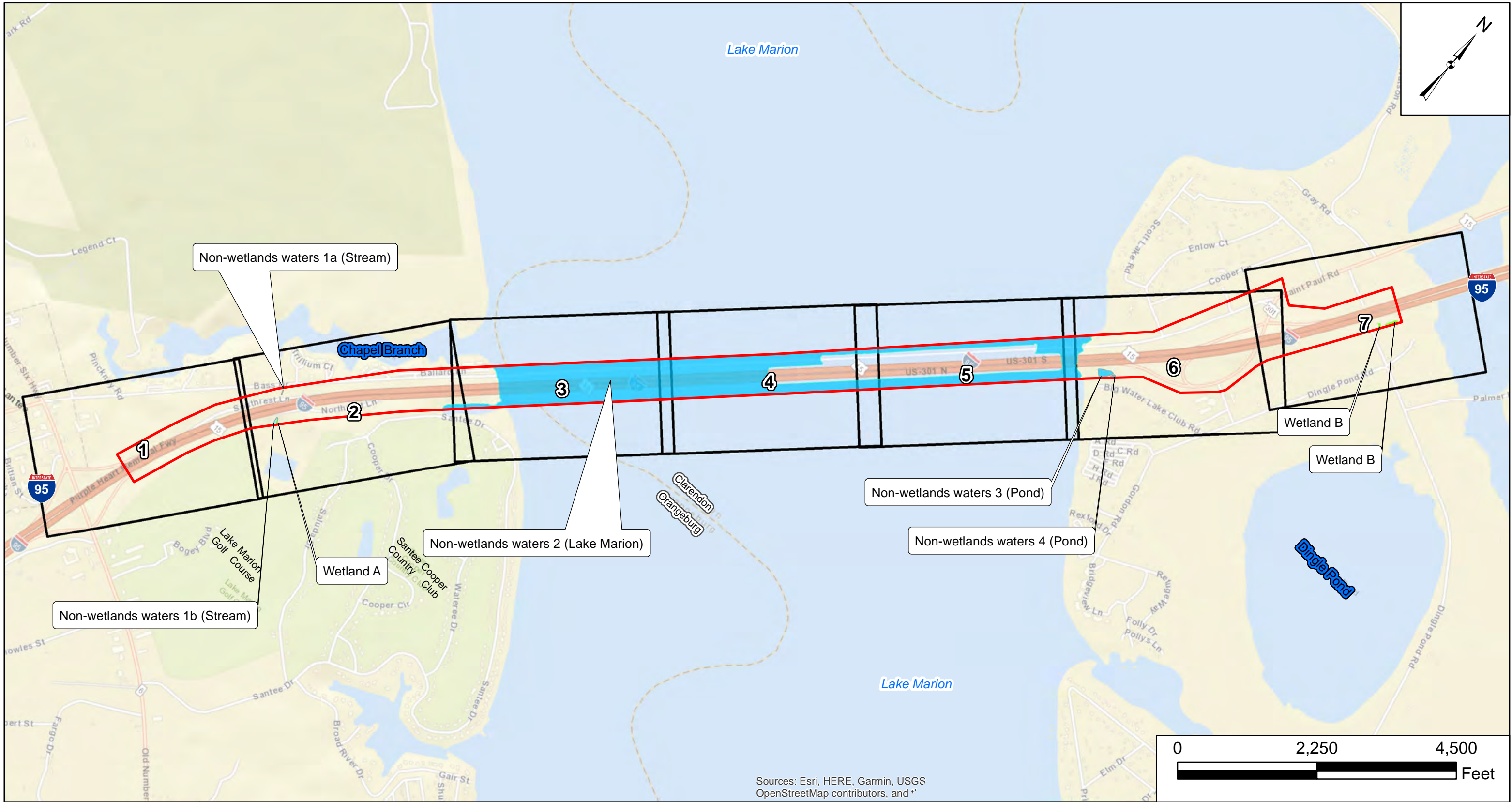
- U.S. Geological Survey Hydrologic Atlas: \_\_\_\_\_.
- USGS NHD data.
- USGS 8 and 12 digit HUC maps.
- U.S. Geological Survey map(s). Cite scale & quad name: Figure 2 Topographic Map, Sheet Key and Pages 1 – 7 dated May 2023.
- Natural Resources Conservation Service Soil Survey. Citation: Figure 3 NRCS Soils Mapping Pages 1 – 7 dated May 2023.
- National wetlands inventory map(s). Cite name: Figure 4 NWI Wetland Mapping Pages 1 – 7 dated May 2023.
- State/local wetland inventory map(s): \_\_\_\_\_.
- FEMA/FIRM maps: \_\_\_\_\_.
- 100-year Floodplain Elevation is: \_\_\_\_\_. (National Geodetic Vertical Datum of 1929)
- Photographs:  Aerial (Name & Date): \_\_\_\_\_.
- or  Other (Name & Date): Site Photographs dated May 2023.
- Previous determination(s). File no. and date of response letter: \_\_\_\_\_.
- Other information (please specify): \_\_\_\_\_.

**IMPORTANT NOTE: The information recorded on this form has not necessarily been verified by the Corps and should not be relied upon for later jurisdictional determinations.**

Jeremy Kinney  
Signature and date of Regulatory staff member completing PJD

Will McGoldrick      7/17/2023  
Signature and date of person requesting PJD (REQUIRED, unless obtaining the signature is impracticable)<sup>1</sup>

<sup>1</sup> Districts may establish timeframes for requester to return signed PJD forms. If the requester does not respond within the established time frame, the district may presume concurrence and no additional follow up is necessary prior to finalizing an action.



Sources: Esri, HERE, Garmin, USGS  
OpenStreetMap contributors, and ' '



**Legend**

- Project Study Area (332 Acres)
- Wetland
- Non-wetlands waters (Lake Marion)
- Non-wetland waters (Stream)
- Non-wetlands waters (Pond)

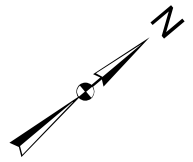
I-95 over Lake Marion Bridge Replacements Design Build Prep  
Orangeburg and Clarendon Counties  
SCDOT P041130

<p>Source: Aerial Imagery  Vivid 2019</p>	<p>Drawn By: RHH QA/QC: KLM  May 2023</p>	<p>Figure 5 Aquatic Resources  Page 1 of 8</p>
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No Aquatic Resources Identified Within Mapped Limits



0 300 600 Feet



**Legend**  
 Project Study Area (332 Acres)



I-95 over Lake Marion Bridge Replacements Design Build Prep  
 Orangeburg and Clarendon Counties  
 SCDOT P041130

Source:  
 USDA Aerial Imagery  
 2021

Drawn By: RHH  
 QA/QC: KLM  
 May 2023

Figure 5  
 Aquatic Resources  
 Page 2 of 8





**Legend**

	Project Study Area (332 Acres)
	Upland Data Point
	Wetland Data Point
	Photo Point
	Wetland
	Non-wetlands waters (Lake Marion)
	Non-wetland waters (Stream)



I-95 over Lake Marion Bridge Replacements Design Build Prep  
 Orangeburg and Clarendon Counties  
 SCDOT P041130

Source:  
 USDA Aerial Imagery  
 2021

Drawn By: RHH  
 QA/QC: KLM  
 May 2023

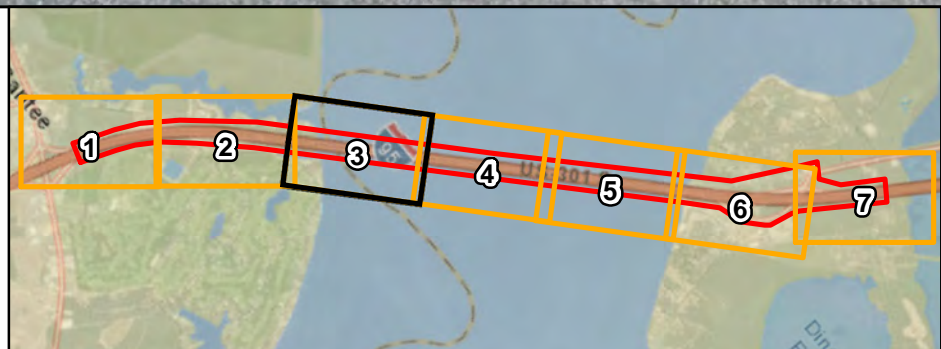
Figure 5  
 Aquatic Resources  
 Page 3 of 8





**Legend**

	Project Study Area (332 Acres)
	Upland Data Point
	Photo Point
	Non-wetlands waters (Lake Marion)



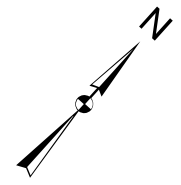
I-95 over Lake Marion Bridge Replacements Design Build Prep  
 Orangeburg and Clarendon Counties  
 SCDOT P041130

Source:  
 USDA Aerial Imagery  
 2021

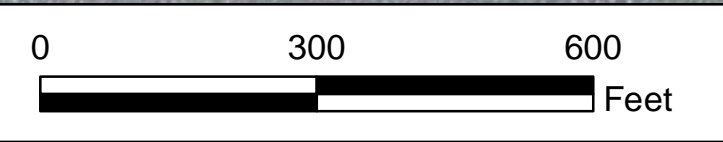
Drawn By: RHH  
 QA/QC: KLM  
 May 2023



Figure 5  
 Aquatic Resources  
 Page 4 of 8

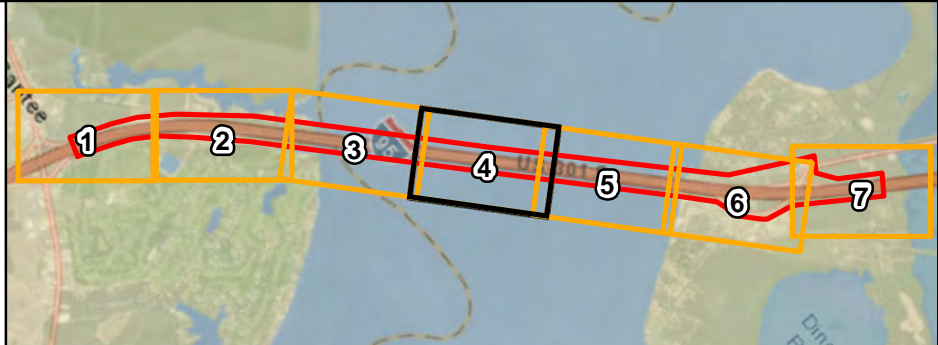




Non-wetlands waters 2 (100.83 Acres)  
33.508223, -80.448841



**Legend**  
 Project Study Area (332 Acres)  
 Non-wetlands waters (Lake Marion)



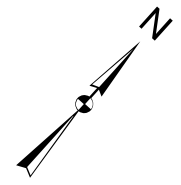
I-95 over Lake Marion Bridge Replacements Design Build Prep  
Orangeburg and Clarendon Counties  
SCDOT P041130

Source:  
USDA Aerial Imagery  
2021

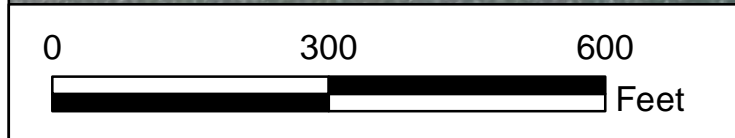
Drawn By: RHH  
QA/QC: KLM  
May 2023

Figure 5  
Aquatic Resources  
Page 5 of 8

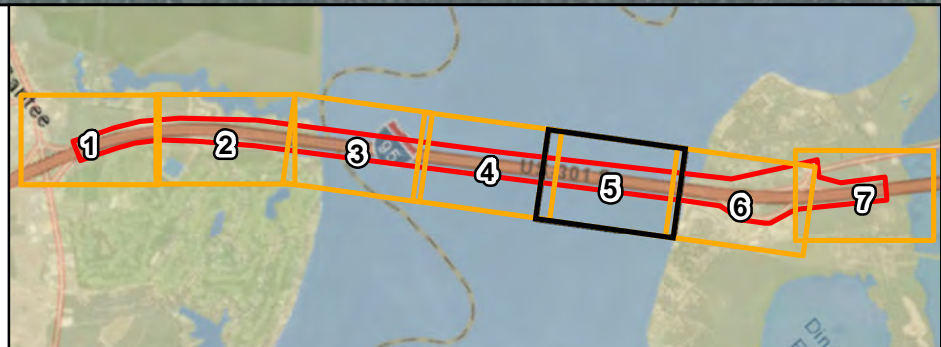




Non-wetlands waters 2 (100.83 Acres)  
33.508223, -80.448841



Legend	
	Project Study Area (332 Acres)
	Non-wetlands waters (Lake Marion)



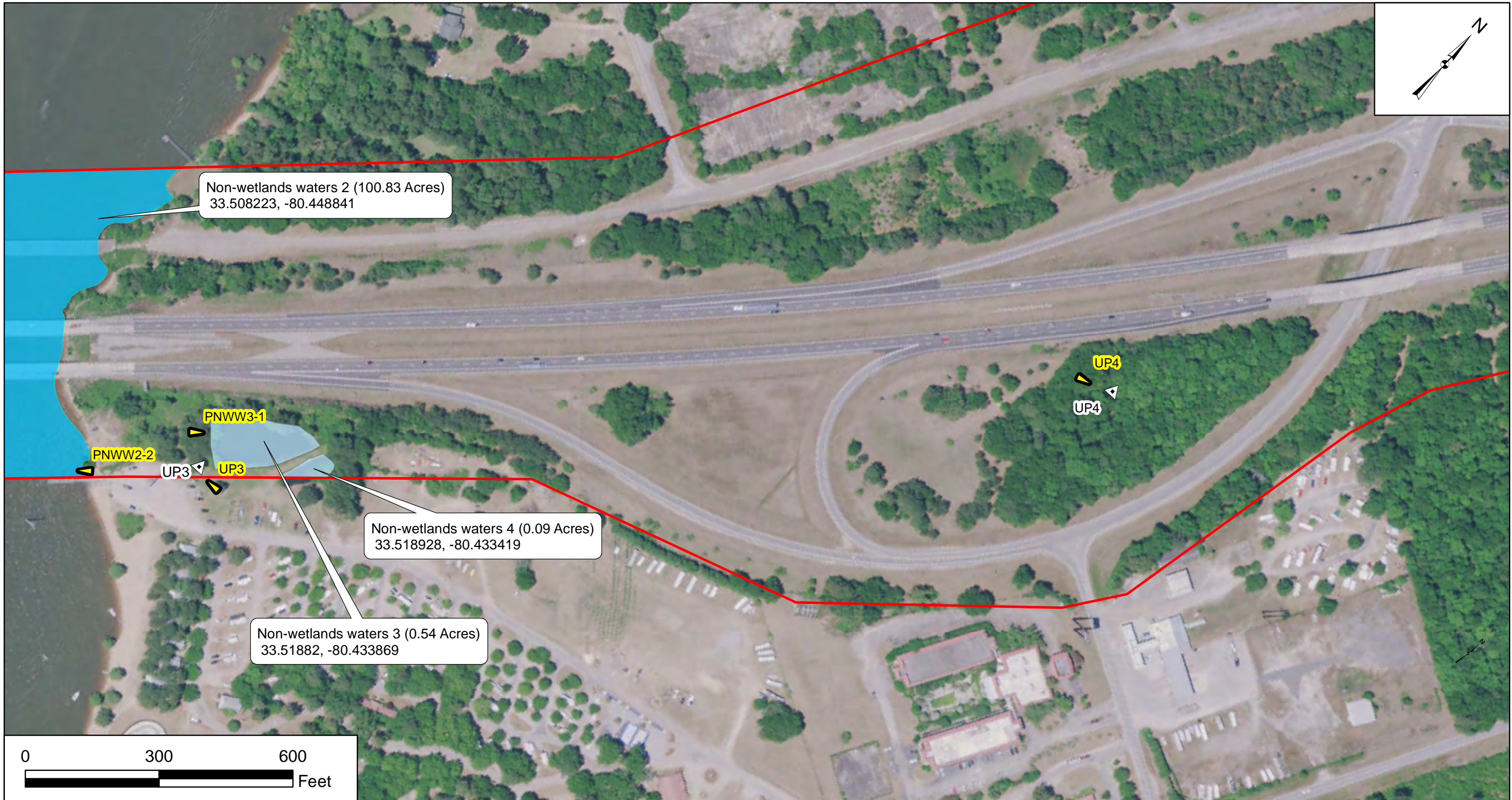
I-95 over Lake Marion Bridge Replacements Design Build Prep  
Orangeburg and Clarendon Counties  
SCDOT P041130

Source:  
USDA Aerial Imagery  
2021

Drawn By: RHH  
QA/QC: KLM  
May 2023

Figure 5  
Aquatic Resources  
Page 6 of 8





Legend	
	Project Study Area (332 Acres)
	Upland Data Point
	Photo Point
	Non-wetlands waters (Pond)
	Non-wetlands waters (Lake Marion)



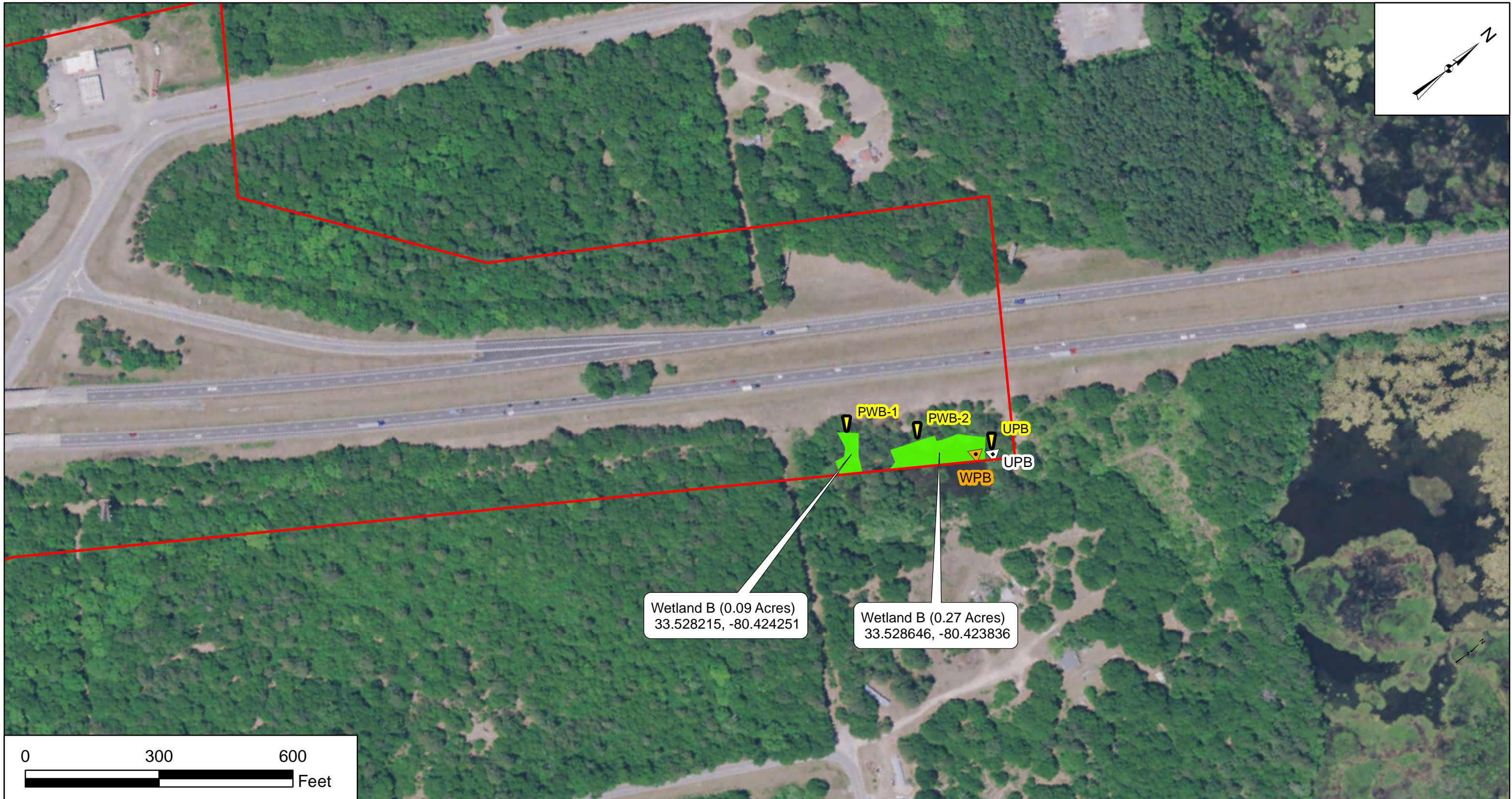
I-95 over Lake Marion Bridge Replacements Design Build Prep  
 Orangeburg and Clarendon Counties  
 SCDOT P041130

Source:  
 USDA Aerial Imagery  
 2021

Drawn By: RHH  
 QA/QC: KLM  
 May 2023

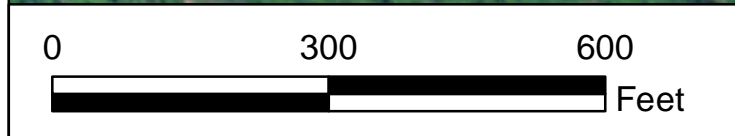
Figure 5  
 Aquatic Resources  
 Page 7 of 8





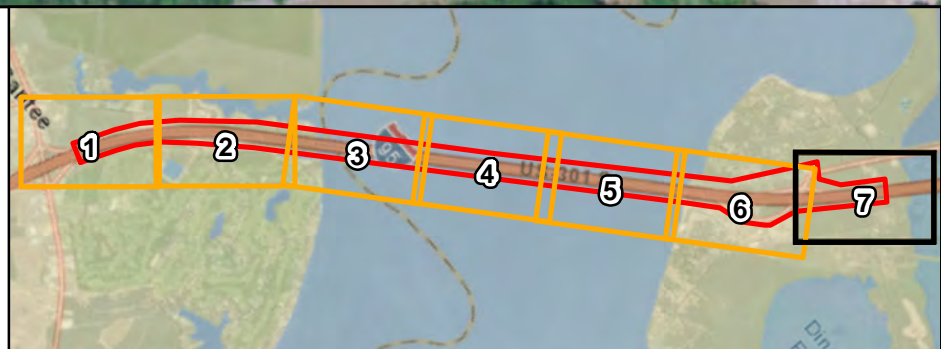
Wetland B (0.09 Acres)  
33.528215, -80.424251

Wetland B (0.27 Acres)  
33.528646, -80.423836



**Legend**

- Project Study Area (332 Acres)
- ▲ Upland Data Point
- ▲ Wetland Data Point
- ▼ Photo Point
- Wetland



I-95 over Lake Marion Bridge Replacements Design Build Prep  
Orangeburg and Clarendon Counties  
SCDOT P041130

Source:  
USDA Aerial Imagery  
2021

Drawn By: RHH  
QA/QC: KLM  
May 2023

Figure 5  
Aquatic Resources  
Page 8 of 8



## NOTIFICATION OF ADMINISTRATIVE APPEAL OPTIONS AND PROCESS AND REQUEST FOR APPEAL

Applicant:	File Number:	Date:
Attached is:		See Section below
	INITIAL PROFFERED PERMIT (Standard Permit or Letter of permission)	A
	PROFFERED PERMIT (Standard Permit or Letter of permission)	B
	PERMIT DENIAL WITHOUT PREJUDICE	C
	PERMIT DENIAL WITH PREJUDICE	D
	APPROVED JURISDICTIONAL DETERMINATION	E
	PRELIMINARY JURISDICTIONAL DETERMINATION	F

### SECTION I

The following identifies your rights and options regarding an administrative appeal of the above decision. Additional information may be found at <https://www.usace.army.mil/Missions/Civil-Works/Regulatory-Program-and-Permits/appeals/> or Corps regulations at 33 CFR Part 331.

**A: INITIAL PROFFERED PERMIT:** You may accept or object to the permit

- **ACCEPT:** If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- **OBJECT:** If you object to the permit (Standard or LOP) because of certain terms and conditions therein, you may request that the permit be modified accordingly. You must complete Section II of this form and return the form to the district engineer. Upon receipt of your letter, the district engineer will evaluate your objections and may: (a) modify the permit to address all of your concerns, (b) modify the permit to address some of your objections, or (c) not modify the permit having determined that the permit should be issued as previously written. After evaluating your objections, the district engineer will send you a proffered permit for your reconsideration, as indicated in Section B below.

**B: PROFFERED PERMIT:** You may accept or appeal the permit

- **ACCEPT:** If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- **APPEAL:** If you choose to decline the proffered permit (Standard or LOP) because of certain terms and conditions therein, you may appeal the declined permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

**C. PERMIT DENIAL WITHOUT PREJUDICE: Not appealable**

You received a permit denial without prejudice because a required Federal, state, and/or local authorization and/or certification has been denied for activities which also require a Department of the Army permit before final action has been taken on the Army permit application. The permit denial without prejudice is not appealable. There is no prejudice to the right of the applicant to reinstate processing of the Army permit application if subsequent approval is received from the appropriate Federal, state, and/or local agency on a previously denied authorization and/or certification.

**D: PERMIT DENIAL WITH PREJUDICE: You may appeal the permit denial**

You may appeal the denial of a permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

**E: APPROVED JURISDICTIONAL DETERMINATION: You may accept or appeal the approved JD or provide new information for reconsideration**

- **ACCEPT:** You do not need to notify the Corps to accept an approved JD. Failure to notify the Corps within 60 days of the date of this notice means that you accept the approved JD in its entirety and waive all rights to appeal the approved JD.
- **APPEAL:** If you disagree with the approved JD, you may appeal the approved JD under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.
- **RECONSIDERATION:** You may request that the district engineer reconsider the approved JD by submitting new information or data to the district engineer within 60 days of the date of this notice. The district will determine whether the information submitted qualifies as new information or data that justifies reconsideration of the approved JD. A reconsideration request does not initiate the appeal process. You may submit a request for appeal to the division engineer to preserve your appeal rights while the district is determining whether the submitted information qualifies for a reconsideration.

**F: PRELIMINARY JURISDICTIONAL DETERMINATION: Not appealable**

You do not need to respond to the Corps regarding the preliminary JD. The Preliminary JD is not appealable. If you wish, you may request an approved JD (which may be appealed), by contacting the Corps district for further instruction. Also, you may provide new information for further consideration by the Corps to reevaluate the JD.

**POINT OF CONTACT FOR QUESTIONS OR INFORMATION:**

If you have questions regarding this decision you may contact the Corps project manager who signed the letter to which this notification is attached. The name and telephone number of this person is given at the end of the letter.

If you have questions regarding the appeal process, or to submit your request for appeal, you may contact:

Philip Shannin  
Regulatory Appeals Review Officer  
South Atlantic Division  
60 Forsyth St SW, Floor M9  
Atlanta, Georgia 30303-8803

[Philip.A.Shannin2@usace.army.mil](mailto:Philip.A.Shannin2@usace.army.mil)  
404-562-5136

**SECTION II – REQUEST FOR APPEAL or OBJECTIONS TO AN INITIAL PROFFERED PERMIT**

REASONS FOR APPEAL OR OBJECTIONS: (Describe your reasons for appealing the decision or your objections to an initial proffered permit in clear concise statements. Use additional pages as necessary. You may attach additional information to this form to clarify where your reasons or objections are addressed in the administrative record.)

ADDITIONAL INFORMATION: The appeal is limited to a review of the administrative record, the Corps memorandum for the record of the appeal conference or meeting, and any supplemental information that the review officer has determined is needed to clarify the administrative record. Neither the appellant nor the Corps may add new information or analyses to the record. However, you may provide additional information to clarify the location of information that is already in the administrative record.

RIGHT OF ENTRY: Your signature below grants the right of entry to Corps of Engineers personnel, and any government consultants, to conduct investigations of the project site during the course of the appeal process. You will be provided a 15-day notice of any site investigation and will have the opportunity to participate in all site investigations.

<hr/> <p>Signature of appellant or agent.</p>	Date:
Email address of appellant and/or agent:	Telephone number:



## **Appendix H**

### **US Coast Guard Coordination and Navigation Report**

U.S. Department of  
Homeland Security

United States  
Coast Guard



Commander  
United States Coast Guard  
Seventh District

909 SE 1<sup>st</sup> Ave. (Rm432)  
Miami, FL 33131  
Staff Symbol: (dpb)  
Phone: 305-415-6766  
Fax: 305-415-6763  
Email: [Martin.A.Bridges@uscg.mil](mailto:Martin.A.Bridges@uscg.mil)

16590/SC  
May 10, 2023

Mr. Will McGoldrick  
South Carolina Department of Transportation  
Environmental Services Office  
955 Park Street, Rm. 506  
Columbia, SC 29202-0191

Delivered via e-mail: [McGoldriWR@scdot.org](mailto:McGoldriWR@scdot.org)

Dear Mr. McGoldrick,

The Coast Guard has completed its review of your vessel survey and navigation report, dated March 2023, for the proposed replacement of the I-95 Bridges over Lake Marion in Clarendon and Orangeburg Counties, South Carolina. Based on our review of the information provided we have made a preliminary determination that a minimum vertical clearance of 50 feet above Ordinary High Water (OHW), and a minimum horizontal clearance of 100 feet will be required to meet the reasonable needs of navigation at this location.

Please note that this preliminary determination does not constitute an approval or final agency action. The Coast Guard can only make a final determination after processing a complete bridge permit application.

Please refer to the Coast Guard's Bridge Permit Application Guide located at <https://go.usa.gov/xRFk2> when ready to submit an application for a Coast Guard bridge permit. If you have any further questions, please contact Mr. Marty Bridges at the above listed address or telephone number.

Sincerely,

A handwritten signature in blue ink, appearing to read "Randall D. Overton".

RANDALL D. OVERTON, MPA  
Director, District Bridge Program  
U.S. Coast Guard  
By Direction

eCopy: LT. James Sullivan ([james.p.sullivan2@uscg.mil](mailto:james.p.sullivan2@uscg.mil)), Charleston, SC

## Kally McCormick

---

**From:** Belcher, Jeffrey (FHWA) <Jeffrey.Belcher@dot.gov>  
**Sent:** Tuesday, April 18, 2023 11:16 AM  
**To:** McgoldriWR@scdot.org  
**Cc:** Saint-Surin, Sandra (FHWA)  
**Subject:** FW: [Non-DoD Source] FW: FHWA-SC: I-95 Bridges over Lake Marion Permit Determination and Navigational Study; Clarendon & Orangeburg Counties, South Carolina

FYI.

*J. Shane Belcher*

*Lead Environmental Specialist  
Federal Highway Administration  
1835 Assembly Street, Suite 1270  
Columbia, SC 29201  
Phone: 803-253-3187*



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**From:** Bridges, Martin A CIV DHS (USA) <Martin.A.Bridges@uscg.mil>  
**Sent:** Tuesday, April 18, 2023 9:08 AM  
**To:** Belcher, Jeffrey (FHWA) <Jeffrey.Belcher@dot.gov>  
**Cc:** Overton, Randall D CIV USCG D7 (USA) <Randall.D.Overton@uscg.mil>  
**Subject:** RE: [Non-DoD Source] FW: FHWA-SC: I-95 Bridges over Lake Marion Permit Determination and Navigational Study; Clarendon & Orangeburg Counties, South Carolina

Good morning Shane,

I don't anticipate any issues from the Coast Guard in regards to the Non-Programmatic CATEX. I plan to send a Navigational Determination Letter this week going with the recommendation of 100' H x 50' V minimum clearances. Lastly, I see no issues stopping the CG from becoming a cooperating agency on this project. Please let me know if you have any question or concerns.

Thanks,  
Marty

Marty Bridges  
Bridge Management Specialist  
Coast Guard Seventh District  
Office: (305) 415-6766  
Cell: (954) 661-7144

---

**From:** Belcher, Jeffrey (FHWA) <[Jeffrey.Belcher@dot.gov](mailto:Jeffrey.Belcher@dot.gov)>  
**Sent:** Monday, April 17, 2023 1:33 PM

**To:** Bridges, Martin A CIV DHS (USA) <[Martin.A.Bridges@uscg.mil](mailto:Martin.A.Bridges@uscg.mil)>  
**Cc:** Overton, Randall D CIV USCG D7 (USA) <[Randall.D.Overton@uscg.mil](mailto:Randall.D.Overton@uscg.mil)>  
**Subject:** [URL Verdict: Neutral]RE: [Non-DoD Source] FW: FHWA-SC: I-95 Bridges over Lake Marion Permit Determination and Navigational Study; Clarendon & Orangeburg Counties, South Carolina

Much thanks Marty. Looking at level of NEPA documentation on our end, the project will qualify for a Non-Programmatic Categorical Exclusion (FHWA approval required) as impacts will be fairly minimal. If that would be an issue for USCG, please let me know as we would ask USCG to be a cooperating agency per our agencies MOA. Did you see any issues with the Navigation Study? If not, would you be able to provide a preliminary Navigational Clearance Determination for the project? The clearance recommendations begin on Page 15 of the report. If I need to send it again, please let me know.

*J. Shane Belcher*  
*Lead Environmental Specialist*  
*Federal Highway Administration*  
*1835 Assembly Street, Suite 1270*  
*Columbia, SC 29201*  
*Phone: 803-253-3187*



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**From:** Bridges, Martin A CIV DHS (USA) <[Martin.A.Bridges@uscg.mil](mailto:Martin.A.Bridges@uscg.mil)>  
**Sent:** Monday, April 17, 2023 1:22 PM  
**To:** Belcher, Jeffrey (FHWA) <[Jeffrey.Belcher@dot.gov](mailto:Jeffrey.Belcher@dot.gov)>  
**Cc:** Overton, Randall D CIV USCG D7 (USA) <[Randall.D.Overton@uscg.mil](mailto:Randall.D.Overton@uscg.mil)>  
**Subject:** RE: [Non-DoD Source] FW: FHWA-SC: I-95 Bridges over Lake Marion Permit Determination and Navigational Study; Clarendon & Orangeburg Counties, South Carolina

Hello Shane,

The Coast Guard has determined replacing the I-95 Bridges over Lake Marion will require a bridge permit. For assistance with the permit application process, please refer to the Coast Guard's Bridge Permit Application Guide (BPAG) located at: <https://go.usa.gov/xRFk2>.

Please do not hesitate to contact me should you have any questions or require additional information.

Respectfully,  
Marty

Marty Bridges  
Bridge Management Specialist  
Coast Guard Seventh District  
Office: (305) 415-6766  
Cell: (954) 661-7144

---

**From:** Belcher, Jeffrey (FHWA) <[Jeffrey.Belcher@dot.gov](mailto:Jeffrey.Belcher@dot.gov)>  
**Sent:** Thursday, April 13, 2023 1:27 PM  
**To:** Bridges, Martin A CIV DHS (USA) <[Martin.A.Bridges@uscg.mil](mailto:Martin.A.Bridges@uscg.mil)>  
**Subject:** [Non-DoD Source] FW: FHWA-SC: I-95 Bridges over Lake Marion Permit Determination and Navigational Study; Clarendon & Orangeburg Counties, South Carolina  
**Importance:** High

Marty,

Would you mind checking where USCG is with this one when you get a moment?

Much thanks,

*J. Shane Belcher*

*Lead Environmental Specialist  
Federal Highway Administration  
1835 Assembly Street, Suite 1270  
Columbia, SC 29201  
Phone: 803-253-3187*



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**From:** Belcher, Jeffrey (FHWA)  
**Sent:** Thursday, March 16, 2023 11:41 AM  
**To:** Overton, Randall D CIV <[randall.d.overton@uscg.mil](mailto:randall.d.overton@uscg.mil)>; Bridges, Martin A CIV <[Martin.A.Bridges@uscg.mil](mailto:Martin.A.Bridges@uscg.mil)>  
**Cc:** McGoldrick, Will <[McGoldriWR@scdot.org](mailto:McGoldriWR@scdot.org)>; Saint-Surin, Sandra (FHWA) <[sandra.saintsurin@dot.gov](mailto:sandra.saintsurin@dot.gov)>; Gerken, Blake (FHWA) <[blake.gerken@dot.gov](mailto:blake.gerken@dot.gov)>  
**Subject:** FHWA-SC: I-95 Bridges over Lake Marion Permit Determination and Navigational Study; Clarendon & Orangeburg Counties, South Carolina  
**Importance:** High

Randy and Marty,

Hope all is well. SCDOT is moving forward with plans to replace the I-95 bridges over Lake Marion in Clarendon and Orangeburg Counties. I believe SCDOT (Will McGoldrick) briefly mentioned this project to Marty in February. Based on initial analysis FHWA, in coordination with SCDOT, has determined that a USCG permit would be required for the project. See attached checklists. Please let me know if the USCG concurs with that determination or if USCG feels otherwise. A Non-Programmatic Categorical Exclusion (FHWA signature required) is proposed for the project based on an initial impacts evaluation. The project would qualify for a USACE Regional General Permit. If you concur in the need for a permit, FHWA would ask the USCG to be a cooperating agency based on the FHWA/USCG MOU.

In anticipation of needing a USCG permit, SCDOT has prepared a Navigation Study (attached). Based on your projected concurrence with the need for a permit, we would like to go ahead and request a preliminary Navigational Clearance Determination if appropriate. The clearance recommendations begin on Page 15 of the report.

If you need further information or would like to discuss, please let me know and we'll set up a meeting.

Much thanks as always,



*J. Shane Belcher*

*Lead Environmental Specialist  
Federal Highway Administration  
1835 Assembly Street, Suite 1270  
Columbia, SC 29201  
Phone: 803-253-3187*



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**From:** [McGoldrick, Will](#)  
**To:** [Kally McCormick](#)  
**Cc:** [Asha Wallace](#)  
**Subject:** FW: FHWA-SC: I-95 Bridges over Lake Marion Permit Determination and Navigational Study; Clarendon & Orangeburg Counties, South Carolina  
**Date:** Monday, March 20, 2023 9:01:18 AM  
**Attachments:** [I-95 Bridges over Lake Marion USCG Jurisdiction Checklist.pdf](#)  
[I95 over Lake Marion USCG Checklist-Draft with Photos \(002\).pdf](#)  
[2023-03-13 I-95 Lake Marion Navigation and Vessel Report \(002\).pdf](#)  
**Importance:** High

---

FYI. CG info for Marion sent.

-WM

---

**From:** Belcher, Jeffrey (FHWA) <Jeffrey.Belcher@dot.gov>  
**Sent:** Thursday, March 16, 2023 11:41 AM  
**To:** Overton, Randall D CIV <randall.d.overton@uscg.mil>; Bridges, Martin A CIV <Martin.A.Bridges@uscg.mil>  
**Cc:** McGoldrick, Will <McGoldriWR@scdot.org>; Saint-Surin, Sandra (FHWA) <sandra.saintsurin@dot.gov>; Gerken, Blake - FHWA <blake.gerken@dot.gov>  
**Subject:** FHWA-SC: I-95 Bridges over Lake Marion Permit Determination and Navigational Study; Clarendon & Orangeburg Counties, South Carolina  
**Importance:** High

**\*\*\* This is an EXTERNAL email. Please do not click on a link or open any attachments unless you are confident it is from a trusted source. \*\*\***

Randy and Marty,

Hope all is well. SCDOT is moving forward with plans to replace the I-95 bridges over Lake Marion in Clarendon and Orangeburg Counties. I believe SCDOT (Will McGoldrick) briefly mentioned this project to Marty in February. Based on initial analysis FHWA, in coordination with SCDOT, has determined that a USCG permit would be required for the project. See attached checklists. Please let me know if the USCG concurs with that determination or if USCG feels otherwise. A Non-Programmatic Categorical Exclusion (FHWA signature required) is proposed for the project based on an initial impacts evaluation. The project would qualify for a USACE Regional General Permit. If you concur in the need for a permit, FHWA would ask the USCG to be a cooperating agency based on the FHWA/USCG MOU.

In anticipation of needing a USCG permit, SCDOT has prepared a Navigation Study (attached). Based on your projected concurrence with the need for a permit, we would like to go ahead and request a preliminary Navigational Clearance Determination if appropriate. The clearance recommendations begin on Page 15 of the report.

If you need further information or would like to discuss, please let me know and we'll set up a

meeting.

Much thanks as always,

*J. Shane Belcher*

*Lead Environmental Specialist*

*Federal Highway Administration*

*1835 Assembly Street, Suite 1270*

*Columbia, SC 29201*

*Phone: 803-253-3187*



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**FHWA South Carolina Division**  
U.S. Coast Guard Jurisdiction Checklist



State File #	P041130	Fed Project #	P041130	PIN	41130	Date	3-14-23	County	Clarendon/Orangeb
--------------	---------	---------------	---------	-----	-------	------	---------	--------	-------------------

Project Description: I-95 Bridge Replacements over Lake Marion, South Carolina

Form Purpose: To assist the SCDOT in determining whether a USCG Section 9 permit is needed.

Form Instructions: SCDOT to complete during the NEPA process when a project involves bridge work over a waterway.

STEP 1: Does the project involve bridge work over a waterway?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
STEP 2: Is the waterway considered NAVIGABLE by the USCG?  - Presently used or susceptible to use in its natural condition or by reasonable improvement to be used as a means to TRANSPORT SUBSTANTIAL INTERSTATE COMMERCE? If "Yes", considered NAVIGABLE; must assess need for Section 9 permit. Go to PERMIT APPLICABILITY table. If "No," continue.  - Tidal waterway? (subject to ebb and flow of tide) If "Yes", GO TO STEP 3 to determine if exempt by FHWA. If "No," end. USCG has no jurisdiction.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No  <input type="checkbox"/> Yes <input type="checkbox"/> No
STEP 3: Is the project federally funded? If "Yes," go to STEP 4. If "No, considered NAVIGABLE; must assess need for Section 9 permit. Go to PERMIT APPLICABILITY table.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
STEP 4: Is the waterway navigable by vessels in excess of 21 feet in length? If "Yes," considered NAVIGABLE; must assess need for Section 9 permit. Go to PERMIT APPLICABILITY table. If "No," waterway can be considered a minor tidal waterway and the project can be exempted by FHWA. Fill out USCG PERMIT EXEMPTION CHECKLIST and submit package to FHWA.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

\* If the project involves bridge work over a waterway that is considered NAVIGABLE by the USCG, review the PERMIT APPLICABILITY table to determine if a Section 9 permit is required. If a permit is required, prepare a permit application package and submit to the USCG.

PERMIT APPLICABILITY TABLE

New or Replacement Bridge, including causeway	SECTION 9 PERMIT REQUIRED
Bridge Modification resulting in: - Change of Width (+) - Change in Horizontal or Vertical Clearance, including: installation of fender systems on piers where none existed before, pier or abutment stabilization work such as pouring collars or encapsulating a substructure resulting in a change of horizontal clearances, or superstructure work that results in a change (±) of vertical clearances. - Major Change of Appearance	SECTION 9 PERMIT REQUIRED
Change of Bridge Structure Type	SECTION 9 PERMIT REQUIRED
Bridge Rehabilitation Projects	NO SECTION 9 PERMIT REQUIRED. ADD NOTE TO CONTRACT PROPOSAL.



## Assessment and Response Checklist and Flowchart for Applying 23 U.S.C. § 144(c)(2) exceptions to Coast Guard Bridge Permits

### INSTRUCTIONS FOR USE

This form provides the process for FHWA's preliminary determination to make an exception under 23 U.S.C. § 144(c)(2) to Coast Guard bridge permitting authorities. It is recommended that State DOT and/or FHWA division offices complete this form.

Section V of the 2014 USCG-FHWA Memorandum of Agreement (MOA) provides that FHWA makes the preliminary exception determination, followed by Coast Guard review to identify issues or concerns with FHWA's preliminary determination. The preliminary determination shall be made at an early stage of project development (as soon as the information is available to the applicant) so that coordination with the local Coast Guard District Bridge Office (DBO) can be accomplished before or during environmental processing (23 CFR Part 650.805(a)).

If the DBO identifies issues or concerns with the determination of the FHWA Division Office, he/she will identify the area of concern by marking the appropriate answer in the **"DBO Concerns"** areas included in this checklist. The DBO will also include written comments **"DBO Comments"** and supporting documentation with this form and return it to the FHWA Division Office. Any disputes resulting from this exception determination process will be resolved in accordance with the Dispute Resolution Section of the 2014 USCG-FHWA MOA.

When both the DBO and FHWA Division Office agree that a 23 U.S.C. 144(c)(2) exception applies to a project, the DBO will provide written concurrence to the FHWA division office. In addition, the DBO will identify if the proposed bridge will require the establishment, maintenance, and operation of lights and signals as required by 14 U.S.C. § 85 and 33 CFR Part 118 at that time.

The use of 23 U.S.C. § 144(c)(2) exceptions cannot be delegated to state transportation agencies as part of a NEPA assignment agreement.

1. Name of waterway:

Lake Marion

2. Has the waterway at the project location determined to be navigable waters of the United States per 33 CFR Part 2.36?

Yes       No       Do Not Know

(If "No", then no USCG jurisdiction. If you do not know, contact DBO for confirmation of waterway status.)

3. At proposed site, mileage along waterway measured from mouth or confluence:

81.7 miles

4. Waterway is a tributary of Congaree at mile N/A (if applicable).





### Assessment and Response Checklist and Flowchart for Applying 23 U.S.C. § 144(c)(2) exceptions to Coast Guard Bridge Permits

Geographical location (city, state, county): **near Santee, SC in Orangeburg and Clarendon Counties**

5. Lat-Long coordinates (if known, as precise as possible):
- a. Latitude: **33 30 38.22** (N) (Example: 40° 48' 3.49" N)
  - b. Longitude: **-80 26 49.27** (W) (Example: -73° 47' 16.19" W)
6. Is there an existing bridge at, or near the above location?
- Yes       No (if **“Yes”** please answer questions 7a-7b)
- a. Does this bridge have a USCG or Army Corps of Engineers permit?  
 Yes       No       Do Not Know
  - b. Please provide vertical and horizontal clearances at:  
 Normal Pool       Mean High Water       Ordinary High Water  
Vertical: **50** (feet)  
Horizontal: **100** (feet) Datum: **NAVD88**
7. Is the waterway tidal (As defined by the process outlined on pages 7-8)?
- Yes       No      **DBO Concerns**  Yes  No  
**DBO Comments:**
8. Is the waterway used by recreational, fishing or other vessels greater than 21 feet in length?
- Yes       No      **DBO Concerns**  Yes  No  
**DBO Comments:**
9. Is the waterway used to transport interstate or foreign commerce? (If **Yes**, permit might be required)
- Yes       No       Do Not Know      **DBO Concerns**  Yes  No  
**DBO Comments:**
10. Is the waterway susceptible for use in its natural condition or by reasonable improvement as a means to transport interstate or foreign commerce? (If **Yes**, permit might be required)
- Yes       No      **DBO Concerns**  Yes  No  
**DBO Comments:**
11. Are there any Army Corps of Engineers permitted structures (piers, docks, dams,



## Assessment and Response Checklist and Flowchart for Applying 23 U.S.C. § 144(c)(2) exceptions to Coast Guard Bridge Permits

powerlines) on the waterway?<sup>1</sup> (contact USCG and/or Army Corps of Engineers to verify] (if **yes**, please attach document with names + locations (mile #))

Yes       No       Do Not Know      **DBO Concerns**  **Yes**  **No**

**DBO Comments:**

### Waterway information at proposed bridge site (if available/applicable)

12. Water depth at high tide (ft):

N/A Freshwater

13. Water depth at normal pool (ft):

76.12 feet

14. Water depth at MLW or MLLW (ft):

N/A

15. Tidal range MHW to MLW or MHHW to MLLW (ft):

N/A

16. Datum used for depths:

NAVD 88

---

<sup>1</sup> This question seeks to determine whether the Army Corps of Engineers has asserted jurisdiction over the waterway or reach thereof by the issuance of a Jurisdictional Determination, or the issuance of permits of any type including those for structures under Section 10 of the Rivers and Harbors Act (33 U.S.C. § 403), or through any other USACE permitting authority including the Clean Water Act § 404.



## Assessment and Response Checklist and Flowchart for Applying 23 U.S.C. § 144(c)(2) exceptions to Coast Guard Bridge Permits

### Additional Documentation

Please include the following information when submitting to the DBO:

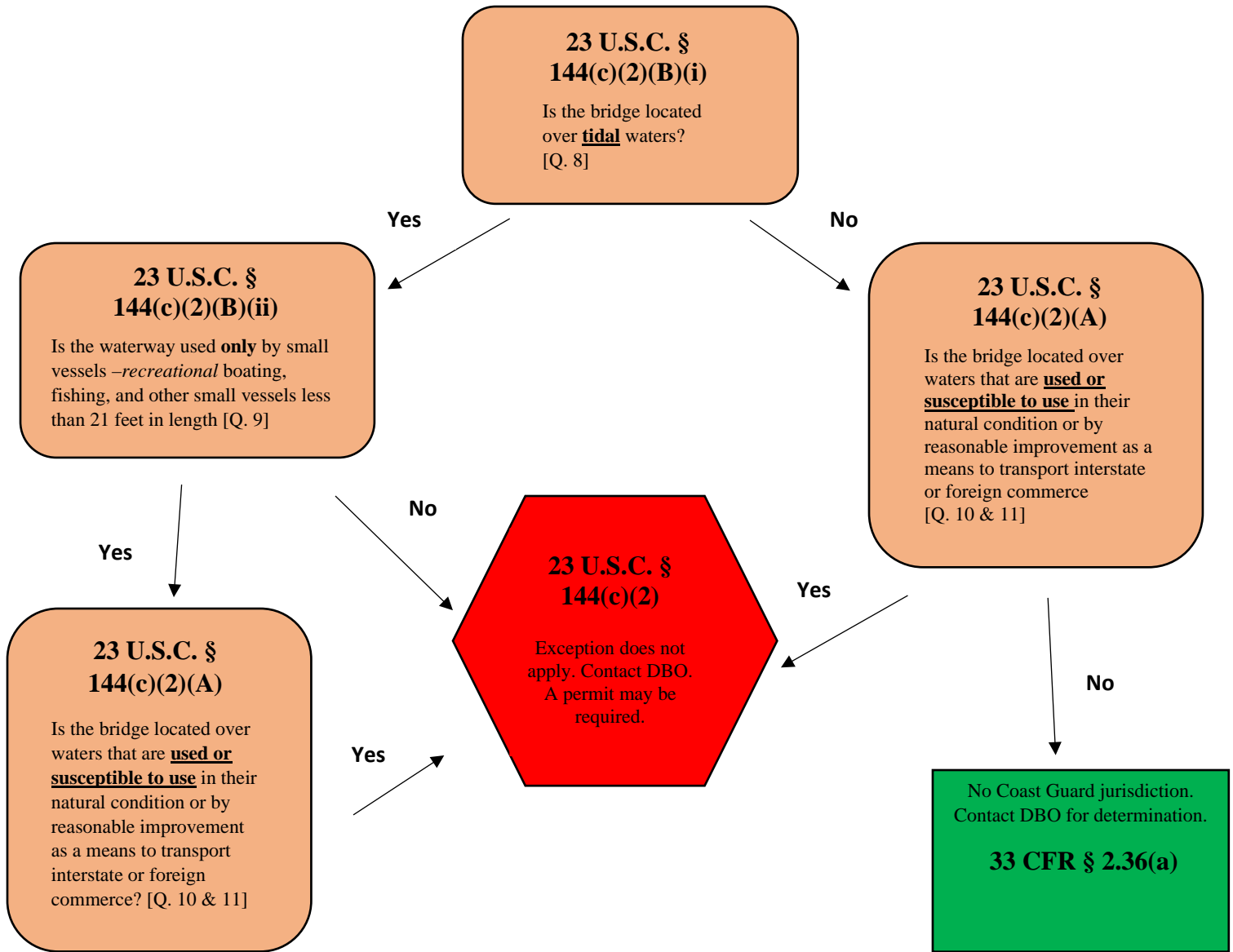
- Location Map (8 ½” x 11”)
  
- Photo of existing bridge (if any) or proposed bridge location taken from the prospective of the waterway

#### **NEXT STEP:**

When both the DBO and FHWA Division Office agree that the 144(c)(2) exception applies to a project, the DBO will write a letter to that effect to the FHWA Division Office, attaching the completed checklist. In addition, in that letter the DBO will identify if the proposed bridge will require the establishment, maintenance, and operation of lights and signals as required by 14 U.S.C. § 85 and 33 CFR Part 118.



## Assessment and Response Checklist and Flowchart for Applying 23 U.S.C. § 144(c)(2) exceptions to Coast Guard Bridge Permits



Generally, 23 U.S.C. § 144(c)(2) applies:

- When the waterway is tidal and;
  - Boats using the waterway are less than 21 feet in length; and
  - Waterway is not used or susceptible to use for interstate or foreign commerce
  - Exceptions may be warranted on case-by-case basis



## Assessment and Response Checklist and Flowchart for Applying 23 U.S.C. § 144(c)(2) exceptions to Coast Guard Bridge Permits

### Navigable waters of the U.S. for Coast Guard Jurisdiction

When Coast Guard navigability determinations are made in accordance with 33 CFR 2.36, they will be maintained at each Coast Guard District office and available for public review. These determinations may be modified or reversed by Congress or a federal court with jurisdiction over the waterway at issue.

#### 33 CFR 2.36(a)

(a) Except as provided in paragraph (b) of this section, *navigable waters of the United States*, *navigable waters*, and *territorial waters* mean, except where Congress has designated them not to be navigable waters of the United States:

(1) Territorial seas of the United States;

(2) Internal waters of the United States that are subject to tidal influence; and

(3) Internal waters of the United States not subject to tidal influence that:

(i) Are or have been used, or are or have been susceptible for use, by themselves or in connection with other waters, as highways for substantial interstate or foreign commerce, notwithstanding natural or man-made obstructions that require portage, or

(ii) A governmental or non-governmental body, having expertise in waterway improvement, determines to be capable of improvement at a reasonable cost (a favorable balance between cost and need) to provide, by themselves or in connection with other waters, as highways for substantial interstate or foreign commerce.



## Assessment and Response Checklist and Flowchart for Applying 23 U.S.C. § 144(c)(2) exceptions to Coast Guard Bridge Permits

### Process for Determining “Tidal Waters” for 144(c)(2) Exceptions

1. 23 U.S.C. § 144(c)(2) provides that a Coast Guard bridge permit is not required for projects that are over waters which are:

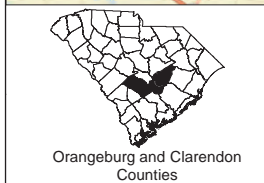
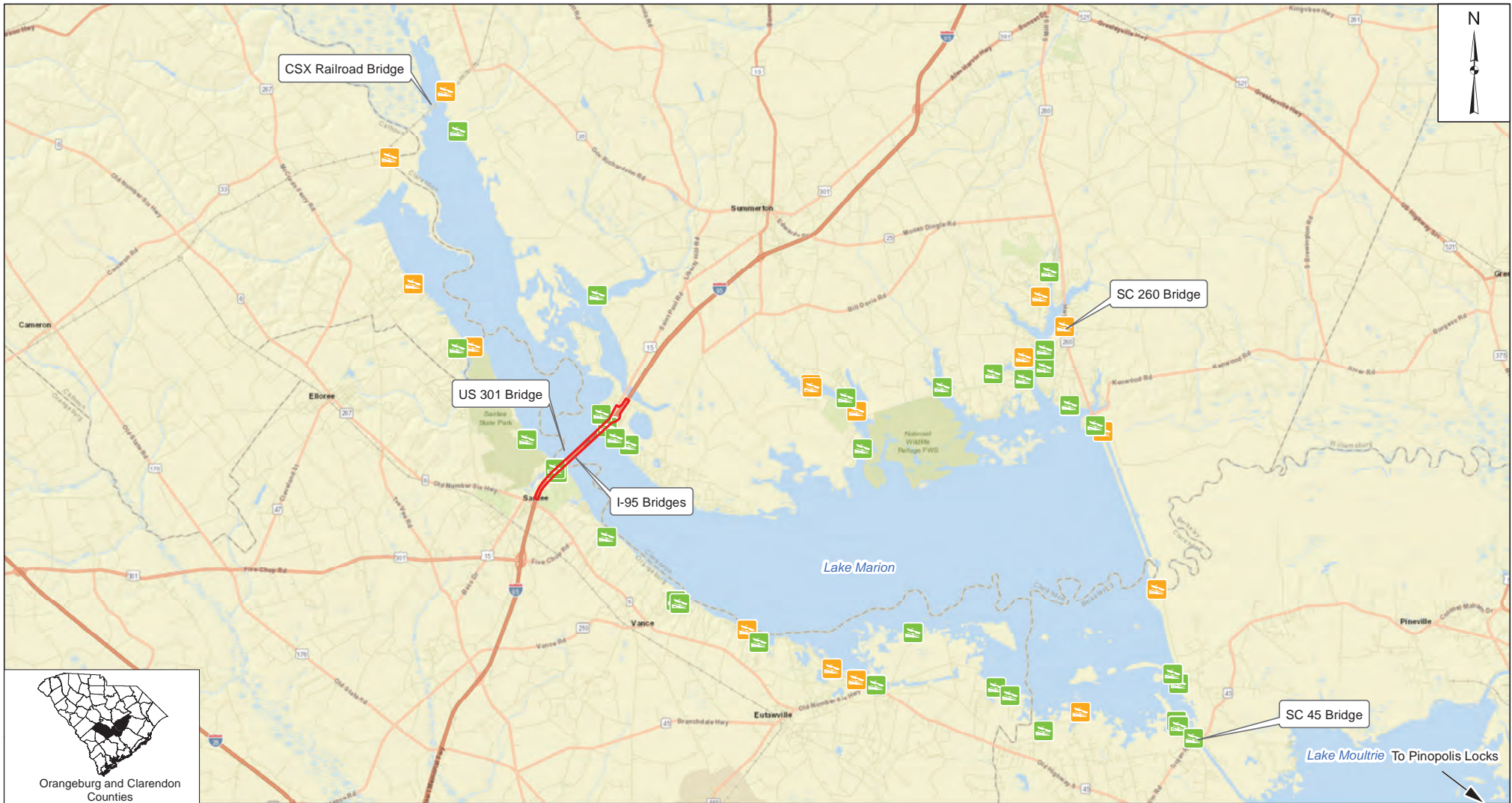
- a) **Not used and are not susceptible to** use in the natural condition of the bridge or by reasonable improvement as a means to transport interstate or foreign commerce; **and are**
- b) Not tidal; or
- c) If tidal, used by only recreational boating, fishing, and other small vessels that are less than 21 feet in length.

2. If 23 U.S.C. § 144(c)(2)(a) criteria are not met, the exception does not apply. As such, the tidal status of a waterway has no impact on a 23 U.S.C. § 144(c)(2) exception determination.
3. To determine whether a waterway is “tidal” for the purposes of the above statute, the coast Guard District Bridge Office with jurisdiction over the project will accept any of the below sources of information as sufficient to establish the tidal status of the reach of waterway in question. These determinations may be done as part of a 23 U.S.C. § 144(c)(2)(b) or (c) determination in consultation and concurrence with the applicant and Federal Highway Administration Office:
  - a. Data from a NOAA Tidal Datum/Buoy, U.S. Army Corps of Engineers Tide Gauge, or other Federally-maintained data collection system showing such data that quantitatively evinces tidal influence in the project area as defined in 33 CFR § 2.34, or,
  - b. A report from an official “state hydrologist” or other analogous official employed by the state government wherein the project lies, or,
  - c. Physically-observable and recordable visual evidence of a “high tide line” including, but limited to:
    - i. A line of oil or scum along shore objects, a more or less continuous deposit of fine shell or debris on the foreshore or berm, other physical markings or characteristics, vegetation lines, tidal gages, or other suitable means that delineate the general height reached by a rising tide. The line encompasses spring high tides and other high tides that occur with periodic frequency but does not include storm surges in which there is a departure from the normal or predicted reach of the tide due to the piling up of water against a coast by strong winds such as those accompanying in a hurricane or other intense storm. (33 CFR § 328.3)





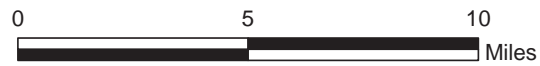
**Assessment and Response Checklist and Flowchart for Applying 23 U.S.C. § 144(c)(2)  
exceptions to Coast Guard Bridge Permits**

4. Any disputes resulting from or related to the above determination process shall be resolved per the Dispute Resolution section of the 2014 USCG-FHWA Memorandum of Agreement



**Legend**

- Project Study Area
-  Private Boat Ramp
-  Public Boat Ramp



I-95 over Lake Marion Bridge Replacements Design Build Prep  
Orangeburg and Clarendon Counties  
SCDOT P041130

Source:  
ESRI  
Base Street Mapping

Drawn By: JLS  
QA/QC: KLM  
February 2023

Figure 1

# I-95 Bridge Replacements over Lake Marion

Photograph #1	Remarks
	<p data-bbox="1182 289 1438 432">Photo of existing bridge location taken from the perspective of the waterway.</p> <p data-bbox="1182 480 1458 930">The existing I-95 bridges from the southeast side of the bridges. The I-95 northbound main span bridge is in the foreground of the picture. The I-95 southbound main span bridge is directly behind the I-95 northbound bridge.</p>




TECHNICAL MEMORANDUM:  
I-95 OVER LAKE MARION BRIDGE REPLACEMENTS  
VESSEL SURVEY AND NAVIGATION REPORT



Prepared For:



Prepared By:



March 2023



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## I. INTRODUCTION

This Vessel Survey and Navigation Report was prepared to assist the South Carolina Department of Transportation (SCDOT) in conjunction with the Federal Highway Administration (FHWA) in coordination with the United States Coast Guard (USCG). The project for which this documentation is being prepared is the I-95 over Lake Marion Bridge Replacements in Clarendon and Orangeburg Counties. The purpose of the project is to maintain connectivity and a safe interstate facility for the traveling public and provide safe access for pedestrians and cyclists over Lake Marion. The bridges are currently in fair (approaching poor) condition and are in need of replacement to ensure safe travel along I-95. The bridges will be brought to good condition and replaced in a manner consistent with the existing interstate alignment while providing access for pedestrians and cyclists to cross Lake Marion.

The permitting improvement provisions found in the 2014 Memorandum of Understanding between the United States USCG and FHWA requires applicants to prepare a navigation impact report to analyze the navigational impacts of the bridge design alternatives. This report will be provided to the USCG Bridge Program to assist with determining the reasonable navigational clearance on the Lake Marion. The USCG Bridge Program ensures marine safety, security, and stewardship and has the authority to approve the location and plans of all new bridges, modifications of existing bridges, international bridges, and causeways in or over navigable waterways of the United States. In accordance with 33 CFR 116.01, “[a]ll bridges are obstructions to navigation and are tolerated only as long as they serve the needs of land transportation while allowing for the reasonable needs of navigation.” Pursuant to the Rivers and Harbors Act, “No bridge shall at any time unreasonably obstruct the free navigation of any navigable waterway of the United States.” In addition, per the International Bridge Act of 1972, “No bridge erected or maintained under the provisions of sections 491 to 498 of this title, shall at any time unreasonably obstruct the free navigation of the waterway over which it is constructed.”

The main objective of the coordination process is to determine suitable vertical and horizontal clearances of the structure spanning the navigation channel. USCG has jurisdiction over this permitting process as directed by 33 U.S.C. 401, 491, 525-533, the International Bridge Act of 1972 and additional Congressional acts.

For the USCG to issue an advanced approval letter or permit for a structure to be built over “Navigable Waters of the U.S.,” the structure must meet the reasonable needs of current and foreseeable future navigation. These needs have been taken into account in this Navigation Report. This study and its

recommendations are based on current facts and circumstances and may be amended if facts and circumstances surrounding the project change over time, or are discovered as the project progresses.

## II. EXISTING FACILITIES

There are four bridges currently in use in the project study area (PSA), including two main spans over Lake Marion (northbound and southbound) and two relief bridges (northbound and southbound) over the northern end of Lake Marion (**Figure 1**).

**Figure 1. Project Study Area.**





The bridges were constructed in 1968 and have no vehicular traffic restrictions. The main span bridges are in fair condition and the relief bridges are in satisfactory condition. They are 4,500 feet long with a 35-foot wide bridge deck. The minimum horizontal clearance is 50 feet and the vertical clearance is 100 feet. Collectively, these structures are the **William James Gooding Memorial Bridge**, referred to as the WJ Gooding bridge for the remainder of this report.



*View looking north at the I-95 WJ Gooding main span bridges over Lake Marion.*

**The former US 301 bridge** (referred to locally as the Francis Marion Bridge) is located to the west of the WJ Gooding southbound I-95 bridge. While the former US 301 bridge is within the Project Study Area (PSA) modifications to this structure are not proposed in this project. This bridge is currently closed to all traffic, however remediation work is currently ongoing to open the bridge to pedestrians and bicyclists only. It was built in 1946 and closed to pedestrian and nonmotorized traffic in 2018. It is 5,347 feet long and the largest span is 120 feet. The deck is 26 feet wide, and the bridge has 50 feet of vertical clearance and 60 feet of horizontal clearance. This bridge is referred to as the US 301 Bridge for the remainder of this report.

**Former Bridge Pilings** (at least 3 additional concrete footing structures) are located approximately 30 feet west of the US 301 Bridge. These structures are currently not in use, with the exception of one that supports an outdoor advertising billboard.



*View looking south towards Santee, South Carolina. From left to right: I-95 main span northbound WJ Gooding bridge, I-95 main span southbound WJ Gooding bridge, the former US 301 bridge, and former bridge pilings (foreground structure supports a billboard).*

### III. PROPOSED PROJECT OVERVIEW

The purpose of the project is to maintain connectivity and a safe interstate facility for the traveling public and provide safe access for pedestrians and cyclists over Lake Marion. The bridges are currently in fair (approaching poor) condition and are in need of replacement to ensure safe travel along I-95. The bridges will be brought to good condition and replaced in a manner consistent with the existing interstate alignment while providing access for pedestrians and cyclists to cross Lake Marion. SCDOT proposes to replace four bridges along I-95 over Lake Marion in Clarendon and Orangeburg Counties. This includes the large two-lane northbound and southbound bridges over Lake Marion and the smaller two-lane northbound and southbound relief bridges over the lake. The Lake Marion relief bridges provide an overflow for Lake Marion to the north of an existing causeway. Additionally, the replacement of the existing I-95 Lake Marion southbound vehicular bridges would accommodate pedestrian and bicycle facility. Additionally, abandoned in-water wooden pilings to the west of the current I-95 bridges and east of the US 301 bridge, would also be removed. The large in-water billboard west of the US 301 bridge would be retained.



The main span and overflow bridges over Lake Marion were constructed in 1968. Per National Bridge Inventory (NBI) data, both the northbound and southbound main span bridges currently have several elements in fair condition including the deck, superstructure, and substructure.<sup>1</sup> The bridge decks do not meet the current design standards for thickness based on design vehicle loads. The lack of proper bridge deck thickness results in a high rate of deterioration, especially in this corridor with a high percentage (22%) of heavy trucks. At the current rate of deterioration, a full bridge deck replacement would be needed by 2042. A full deck replacement would require a complete shutdown of one direction of travel causing substantial traffic impacts in a corridor that does not have a reasonable detour route. The two closest bridge crossings over Lake Marion are 20 miles away from the project site and a full detour route would be between 20 to 75 additional travel miles. The NBI forecast future condition rating analysis shows that by 2025 the northbound and southbound main span bridges will be rated as poor condition.

The length of the bridges and the lack of refuge to motorists due to narrow shoulders is another reason the bridges need to be replaced. The major design constraint contributing to crash history is the narrow three-foot, six-inch wide shoulders on the bridges. The existing narrow shoulder does not allow for vehicle recovery as an incident occurs or space to move a vehicle involved in an incident. Between 2015 and 2021 over 75 crashes were attributed to a harmful event where vehicles strayed from the travel lanes and impacted the guardrail face, bridge rail, or median barrier. Other associated crashes included vehicles impacting a stopped vehicle (rear end). No crashes are able to move out of the travel lanes due to the narrow shoulder. This condition can increase the potential for secondary crashes due to congestion surrounding the first crash event. Any crash on the bridge shuts down at least one lane of traffic and emergency vehicles are hindered in accessing the crash scene. It is also impossible to perform deck repairs without shutting down a lane of interstate traffic, resulting in less safe conditions and slower traffic movement.

There is currently no route over Lake Marion in this area for pedestrians and cyclists. The existing US 301 bridge, located just west of the I-95 bridges, was formerly open to non-vehicular traffic, however due to structural deterioration, structural deficiencies, and lack of routine maintenance on this structure, the US 301 bridge has been closed. However, remediation work is currently ongoing to open the bridge to pedestrians and bicyclists only South Carolina roadway users are among those most at-risk for pedestrian and bicycle crashes across the United States<sup>2</sup>. South Carolina ranks fifth in the nation for pedestrian

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<sup>1</sup> <https://infobridge.fhwa.dot.gov/Data>

<sup>2</sup> <https://www.scdot.org/projects/pdf/SC%20Pedestrian%20and%20Bicycle%20Safety%20Action%20Plan.pdf>

fatalities based on population and from 2009 to 2019, pedestrian fatalities have increased 80% and bicycle fatalities have more than doubled across the state. The SCDOT Pedestrian and Bicycle Safety Action Plan provides a framework for focusing statewide attention on improving conditions for pedestrians and cyclists. Additionally, the SCDOT Complete Streets Policy, Departmental Directive #28, states that the department, “requires and encourages a safe, comfortable, integrated transportation network for all users, regardless of age, ability, income, ethnicity, or mode of transportation.”

Two 12-foot travel lanes would be provided in both the southbound and northbound directions. A 10-foot minimum inside shoulder (shoulders may be wider due to staging requirements) and 12-foot outside shoulder would be provided. Additionally, there would be a barrier separated 14-foot shared use path for pedestrians and bicyclists on the southbound bridge only. The bridge deck widths would be large enough to accommodate an additional 12-foot travel lane in the future, if needed.

#### IV. BRIDGE CHARACTERISTICS

The WJ Gooding main span bridge is a steel twin-span plate girder bridge with a concrete bridge deck. The longest span is approximately 140.1 feet. Within the navigation channel there is a continuous five-span structure. The concrete decks are approximately 35.1 feet wide and contain two 12-foot travel lanes in both the northbound and southbound directions with associated curb, guard rails, and shoulders. The main span bridges are approximately 4,500 feet long and the relief bridges are approximately 359.9 feet long. There is no fender system for this bridge. The USCG maintains a Clearance Guide for certain navigational waterways<sup>3</sup>. Guide Clearances are defined as the navigational clearances established by the USCG for a particular navigable water of the United States which will ordinarily receive favorable consideration under the bridge permitting process as providing for the reasonable needs of navigation. They are not intended to be regulatory in nature or to form a legal basis for approving or denying a bridge permit application. This guide notes a horizontal clearance of 100 feet and a vertical clearance of 50 feet for the WJ Gooding bridge.

The horizontal and vertical clearances of the existing bridges to be replaced (as well as nearby bridges that are not part of this project) are shown in **Table 1**. A railroad bridge (maintained by CSX) is located upstream of the project and the SC 45 diversion canal bridge (maintained by SCDOT) is located downstream (see **Appendix A, Figure 1**). The Palmetto Railway Camp Hall crossing is a proposed new

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<sup>3</sup> <https://www.dco.uscg.mil/Our-Organization/Assistant-Commandant-for-Prevention-Policy-CG-5P/Marine-Transportation-Systems-CG-5PW/Office-of-Bridge-Programs/Bridge-Guide-Clearances/> Accessed February 2023

railroad bridge that would be located downstream of the project. This facility is in the final design stages and construction has not yet begun.

**Table 1. Major Lake Marion Crossings in the Navigation Impact Study Area.**

Bridge	Route	Bridge Type	Horizontal Clearance	Vertical Clearance
CSX Railroad Bridge <i>(upstream of project)</i>	CSX RR	Fixed	100 ft	16 ft
US 301 Bridge <i>(within project site)</i>	Former US 301	Fixed	100 ft	50 ft
WJ Gooding Bridge <i>(within project site)</i>	I-95/US 301	Fixed	100 ft	50 ft
SC 45 Diversion Canal Bridge <i>(downstream of project)</i>	SC 45/Trojan Road	Fixed	100 ft	50 ft
Future Camp Hall Bridge* <i>(downstream of project)</i>	Palmetto Railways	Fixed	100 ft*	50 ft*
SC 260** <i>(Birch Branch; small lake cove crossing)</i>	SC 260	Fixed	30 ft**	8 ft**

Sources: USCG Clearance Guide, June 23, 2017, except \*future Camp Hall Bridge is based on design criteria (not yet constructed) and \*\*SC 260 1972 as-built plans.

The WJ Gooding bridge allows for similar clearances, when compared to the other structures on this watercourse. The US 301 Bridge, located within the proposed project area, has the same horizontal and vertical clearances as the proposed new bridge. The upstream CSX bridge has the most restrictive clearance at 16 feet of vertical clearance.

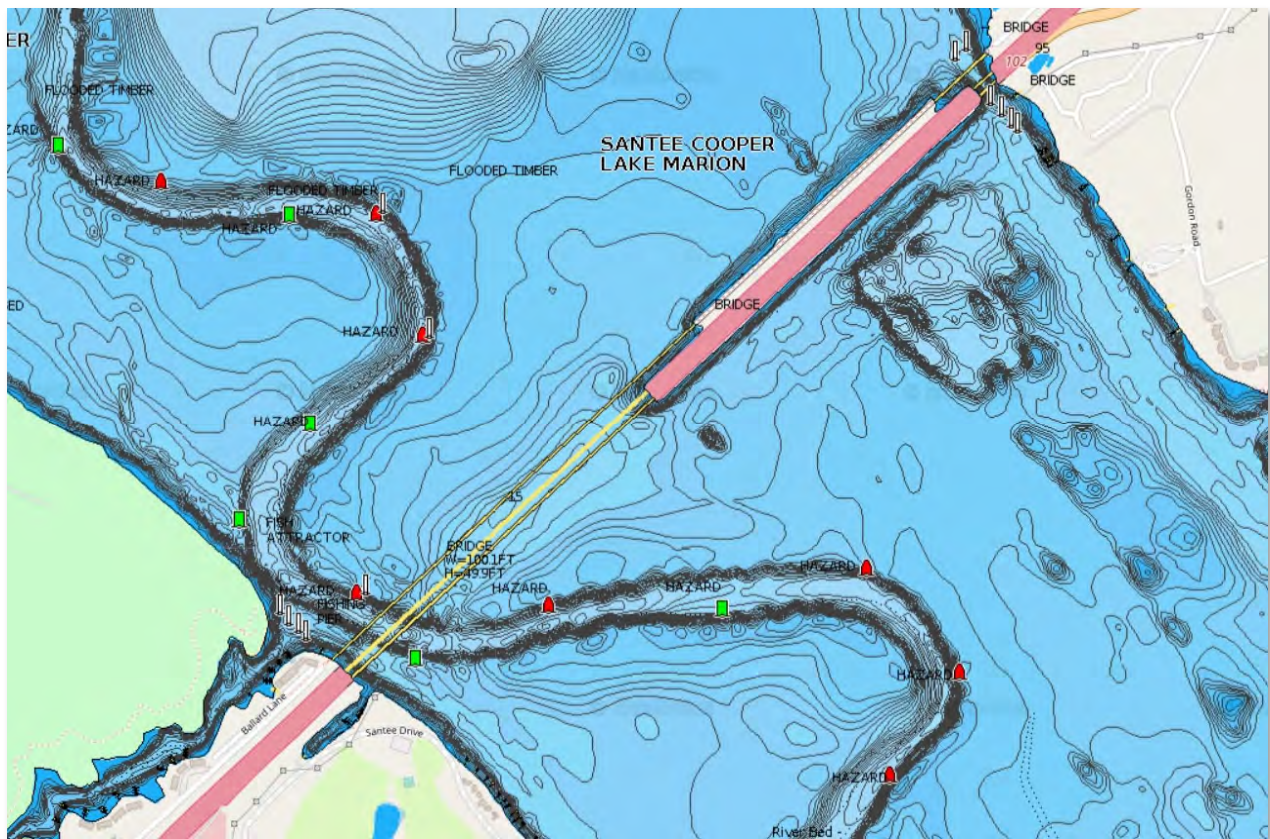
## V. WATERWAY CHARACTERISTICS

Lake Marion is a dam-controlled lake located near Santee, SC. It is the largest lake in South Carolina (110,600 acres) and is centrally located within the coastal plain where it is bordered by Clarendon, Calhoun, Berkeley, Orangeburg, and Sumter counties. Lake Marion is the upper of the two lakes that comprise the Santee Cooper Reservoir (Lakes Marion and Moultrie). The headwaters of this system begin at the confluence of the Congaree and Wateree rivers and flow through miles of seasonally flooded forested wetlands before entering Lake Marion. Lake Marion waters ultimately flow through a 6.5-mile-long diversion canal to Lake Moultrie. Water flow continues through Lake Moultrie and the Pinopolis Lock (32 miles to the southwest of the project site).

Despite its size, Lake Marion is considered a shallow lake with an average depth of 13.12 feet. The original deep river channel remains and at points, the lake has a maximum depth of 76.77 feet. It is surrounded by approximately 511 miles of shoreline.

Lake Marion was created by the construction of the Santee Dam along the Santee River in 1941. Because of World War II, the completion of the project was quickly moved ahead, and the Santee Dam was closed before the clearing of Lake Marion completed. As a result, there is fully or partially submerged large woody debris such as stumps, dead tree trunks, and live cypress trees throughout much of the lake.

Santee Cooper is responsible for maintaining the lake in concert with the Santee Cooper Hydroelectric and Navigation Project. There are series of channel markers are present throughout the navigable channel of the lake with odd numbered, square, green markers defining the port (left) side of the channel, while even numbered, triangular, red markers define the starboard (right) side of the channel.



***Navigational data near the proposed project. Features include channel markers, water depths, and known hazards. Source: Navionics Chart.***

## VI. NAVIGATION

There are various types of navigational activities by numerous vessel types that occur within Lake Marion. To determine the types and extents of activity in the lake, several methods were used to determine existing or known recent past vessel use. Dam operators at the nearby Pinopolis Lock were queried regarding vessel usage. As the lake landowner, Santee Cooper was contacted regarding known past use and potential future usage of the lake. Additionally, a CSX bridge over Lake Marion is present north of this project and CSX was contacted for any known vessel use or future plans for that bridge.

Aerial photography was reviewed and spot verified through ground truthing regarding water-dependent facilities and infrastructure. Representatives of local marinas, lakeside campgrounds, lakeside resorts, boat rental services, marine haulers/towing, and salvage companies were contacted and queried regarding vessel use. A representative sample of local boat ramps, private boat docks, marinas, and water-dependent businesses were identified.

Camera surveys of active vessel traffic were not conducted for this study.

In summary, vessels ranging from 8 to 40 feet in length and up to 45 feet in height of the following type are known to use, or are reasonably expected to use Lake Marion:

- |   |   |
|---|---|
| <b>Aluminum Fishing Boats</b>   | <b>Barges</b> (may be as long as 120 feet)          |
| <b>Bass Boats</b>   | <b>Bay Boats</b>                                    |
| <b>Bowrider Boats</b>   | <b>Cabin Cruisers</b>                               |
| <b>Center Console Boats</b>   | <b>Deck Boats</b>                                   |
| <b>Dinghies</b>   | <b>John Boats</b>                                   |
| <b>Ski Boats</b>  | <b>High Performance Boats</b>                       |
| <b>Pontoons</b>   | <b>Tritoons</b>                                     |
| <b>Sailboats</b>  | <b>Tow Sports Boats</b>                             |
| <b>Tow or tugboats</b>  | <b>Personal watercraft (jet skis, wave runners)</b> |
| <b>Non-motorized watercraft (kayaks, canoes, standup paddleboards, etc)</b> |   |

Additional detail regarding vessel use is outlined in the following sections.

### Pinopolis Lock Vessel Information

Marine traffic on Lake Marion is restricted by the dimensions of the Pinopolis Lock. The lock is located at Santee Cooper’s Jeffries Hydroelectric station and was constructed in the 1942. The lock advertises that



motorized boats between 10 and 150 feet in length can use the lock as it is raised or lowered the 75-foot difference between the Tailrace Canal and Lake Moultrie. The lock operator determines the maximum number of boats allowed in the lock at one time (typically less than 16 boats), depending on the sizes of the boats. The lock operator did not have past records of vessel sizes using the lock. The typical maximum sized vessel that would use the lock was assumed to be a 120-foot long and 45-foot wide barge. A slightly wider barge could use the lock if the floating docks were removed. The gates cannot close if any vessel is over 171 feet long. A graphic of the dimensions of the lock can be found in **Appendix B**.

### Santee Cooper Vessel Information

The Santee Cooper Federal Energy Regulatory Commission (FERC) Administrator and Santee Cooper Lakes and Developed Properties Manager were contacted regarding existing navigational needs and potential future needs. The largest vessel used (or expected to be used in the future) would be a barge to transport a crane. This would be completed with the boom down and moved through the main channel and the existing clearances are suitable for Santee Cooper's needs. The new bridges would be non-project use over a FERC licensed site so no permitting or revisions related to FERC are needed.

### Vessel Hauling and Towing Company Information

Stevens Towing Company typically uses the landing at Redbank and to-date they have not had to travel under I-95 for towing services. Crane barges are the largest vessel type that they would expect to use and cranes would travel with the boom down. Tugboats in Lake Marion are expected to be approximately 45 to 50 feet in height.

Tow Boat US currently stores a 20-foot tow boat on Lake Marion, downstream of the project site. They have completed a total of three salvage operations on the lake. They do not have a particularly high volume of service calls on this lake and they typically encounter boats in the 21 to 24-foot length range. The largest vessel they have towed is a 75-foot powerboat to a local marina (40 feet in height with antennas engaged). Other vessels they have towed include recreational motorboats and sailboats for temporary storage during a hurricane evacuation.

### Commercial Marinas and Water-Dependent Businesses

Nearly 50 water-dependent businesses are located directly on the shores of Lake Marion. These include bait shops, guide services, fish camps, marine dealers, campgrounds, lodging, waterfront restaurants, marinas, and commercial boat landings (see Table 2). The marinas are used to launch, store, maintain, and fuel private, recreational boats. Numerous campgrounds provide access to the water and/or have slips for boat use. The largest vessel documented by these facilities is a 75-foot vessel (40 feet in height) powerboat that was towed to a local marina. Sailboats with larger masts and keels are the next largest vessels, with sizes up to 40 feet in length and 40 feet in height. The most common vessels reported at the marinas and water-dependent businesses were pontoons, motorboats, and sailboats. Several facilities noted that the presence of submerged trees, stumps, and other debris limits the use of larger boats, particularly those with larger keels, from regularly using Lake Marion.



*Private boat slips near the project study area.*

**Table 2. A Sample of Water-dependent Businesses in the Navigation Impact Study Area**

Facility	Address	Phone
Carolina King Retreat and Marina	2498 Belser Rd, Summerton, SC 29148	(803) 478-2800
Club Wyndham Resorts (boat slip use)	401 Bass Dr, Santee, SC 29142	(803) 854-5720
Elliott’s Landing and Campground	2010 Elliott's Landing Rd, Rimini, SC 29125	(803) 452-5336
Lake Marion Resort and Marina	510 Ragtime Trail, Santee, SC 29142	(803) 854-2136
Lakeside Marina and Resort	107 Cypress Shores Rd, Eutawville, SC 29048	(803) 492-7226
Marker 79 Marina	216 Pine Bluff St, Vance, SC 29163	(803) 598-0790
Meares Marine	2058 Lake Shore Dr Manning, SC 29102	(803) 478-2527
Mill Creek Marina & Campground	216 Lake Marion Ln, Vance, SC 29163	(803) 492-7746
Palmetto Shores RV Resort	5215 Dingle Pond Rd, Summerton, SC 29148	(803) 478-6336
Santee Boat Rentals	401 Bass Drive, Santee, SC 29412	(803) 974-0865
Santee Lakes KOA	1268 Gordon Rd, Summerton, SC 29148	(803) 478-2262
Stevens Towing Co	4170 Highway 165, Yonges Island, SC 29449	(803) 478-2262
Tow Boat US	Cross, SC	(843) 745-5977

### Residential Docks

Through aerial photography reviews, it was noted that there are approximately 1,916 residential docks are located on Lake Marion. These docks are generally clustered in close proximity to residential homes and neighborhoods. This approximation includes structures extending from the shore to the lake. This total does not account for several boat slips per dock. From aerial photography and site reviews, residential docks are expected to contain a range of personal vessels, up to approximately 40 feet in length and height.

### Public Boat Ramps

Vessel traffic on Lake Marion is dominated by recreational boating. Seventeen public boat ramps are located on Lake Marion. Within close proximity to the proposed project there are two public ramps. The Santee State Park Boat Ramp #2 is approximately one mile northwest of the project and is maintained by SCDNR. Cathead Landing is located seven miles southeast of the project and is maintained by Santee Cooper. **Appendix A** depicts the locations of ramps along the lake and **Table 3** lists public facilities.



*Public boat ramp #2 at Santee State Park.*

**Table 3. Public Boat Ramps of Lake Marion**

Boat Ramp Name	County	Latitude	Longitude
<a href="#">Borrow Pit Landing</a>	Clarendon	33.51508	-80.18517
<a href="#">C Alex Harvin III</a>	Clarendon	33.5589	-80.2039
<a href="#">Calhoun Subdivision</a>	Calhoun	33.57888	-80.53165
<a href="#">Cathead</a>	Orangeburg	33.41595	-80.32253
<a href="#">Eutaw Springs</a>	Orangeburg	33.4108	-80.31
<a href="#">Indian Bluff Park</a>	Orangeburg	33.4321	-80.36455
<a href="#">John C Land III</a>	Clarendon	33.52422	-80.30832
<a href="#">Low Falls</a>	Calhoun	33.63238	-80.5435
<a href="#">Rimini</a>	Sumter	33.65937	-80.51505
<a href="#">Rowland Landing</a>	Clarendon	33.54613	-80.22425
<a href="#">Santee State Park 1 &amp; 2</a>	Orangeburg	33.5519	-80.50158
<a href="#">Sparkleberry</a>	Sumter	33.70138	-80.53685
<a href="#">Spiers</a>	Berkeley	33.39567	-80.19747
<a href="#">Taw Caw Creek</a>	Clarendon	33.53412	-80.33107
<a href="#">Taw Caw Park</a>	Clarendon	33.53538	-80.33168
<a href="#">White Oak III</a>	Clarendon	33.57162	-80.21618

Source: SCDNR Public Boat Ramps;

<https://www2.dnr.sc.gov/ManagedLands/BoatRamp/BoatRampSelected/1224315>

## Emergency Operations

Emergency operations are conducted by the South Carolina Department of Natural Resources (SCDNR). Lake Marion has shorelines in Berkeley, Calhoun, Clarendon, Orangeburg and Sumter Counties. Orangeburg County Maintains three EMS substations in close proximity to Lake Marion including one in within a mile of the proposed project. Clarendon County Fire Department Station 4 is located on White Oak Branch of Lake Marion and this station maintains a rescue vessel. Clarendon County Fire Station 12 is located 1,200 feet east of the project site on Dingle Pond Road. The USCG Sector Charleston maintains an auxiliary division on Lake Marion.



*Clarendon County Fire and Rescue, 2022.*

## VII. RECOMMENDATIONS

### Horizontal Clearance

The proposed minimum horizontal clearance for the main navigational opening would be 100 feet at the navigable channel. While the existing channel horizontal clearance is noted on previous plans as up to 120 feet, the posted clearance is 100 feet. This is because of the girder haunches that slightly reduce the vertical clearance at each end of the 120-foot span. Therefore, the full vertical clearance is not maintained for the full 120 feet and the current posted and advertised horizontal clearance is 100 feet. Through user interviews and field surveys, no vessels wider than 100 feet are expected to navigate in Lake Marion. This clearance would span the single primary navigational channel within Lake Marion. Therefore, horizontal clearance on Lake Marion at the project site will not be restricted. There are no existing fenders at the bridges and none are proposed for the future bridges.

### Vertical Clearance

The proposed minimum vertical clearance for the main navigational opening would be 50 feet. This configuration will be similar to the existing bridge, or would be less restrictive. Vertical clearances outside of the main navigable channel may vary and would be less than 50 feet. This is to most efficiently place

the widest span to maximize the area at the navigable channel. Therefore, vertical clearance for navigation on Lake Marion at the project site will not be restricted.

### Vessel Impact and Design Vessel

The I-95 bridge is an essential and critical structure. Vessel collision design for this project is applicable for bridges crossing waterways that could have commercial barge traffic. Prior to final design, a vessel collision analysis will be performed for the replacement bridges that complies with the American Association of State Highway and Transportation Officials (AASHTO) Load and Resistance Factor Design (LRFD) Bridge Design Specifications (9th Edition) and AASHTO Vessel Collision Design of Highway Bridges (2nd Edition). The analysis will take into account the size, type, loading condition, and frequency of vessels using the waterway. It is assumed that the design vessel size would be a single deck barge that is 120 feet long and 45 feet wide with an empty draft of 2 feet and a loaded draft of 5 feet. A lesser vessel impact load, representing an errant empty barge or a smaller vessel, will be applied to all applicable bents that are outside of the main channel. Recommendations may vary along the length of the bridge depending on water depth. In addition to the substructure requirements, the possibility an errant barge to impact a superstructure component will be investigated and the affected component will be analyzed and designed accordingly. There is no known vessel use related to national defense activities or channel maintenance.

### Construction

The potential exists for temporary closures during brief stages of construction. These closures will be advertised 30 days in advance and will be no longer than 48 hours. During this 48-hour period the navigation channel will be accessible to boat traffic to the maximum extent feasible.

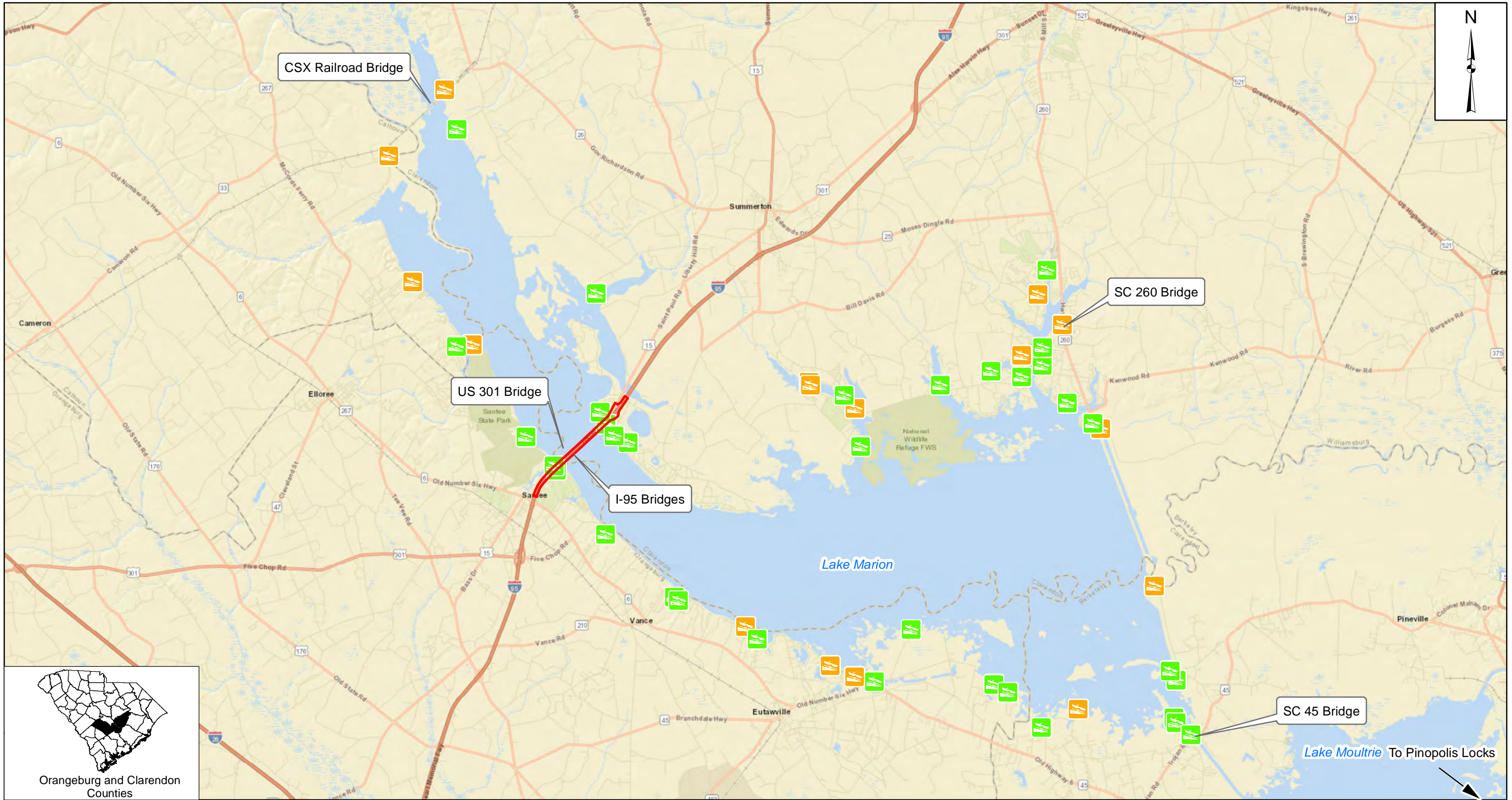
Due to the nature of the project, waterway users will be minimally impacted and mitigation is not recommended.



## **Appendix A**

Figure: Existing bridges and boat ramps





Orangeburg and Clarendon Counties



**Legend**

- Project Study Area
- Private Boat Ramp
- Public Boat Ramp



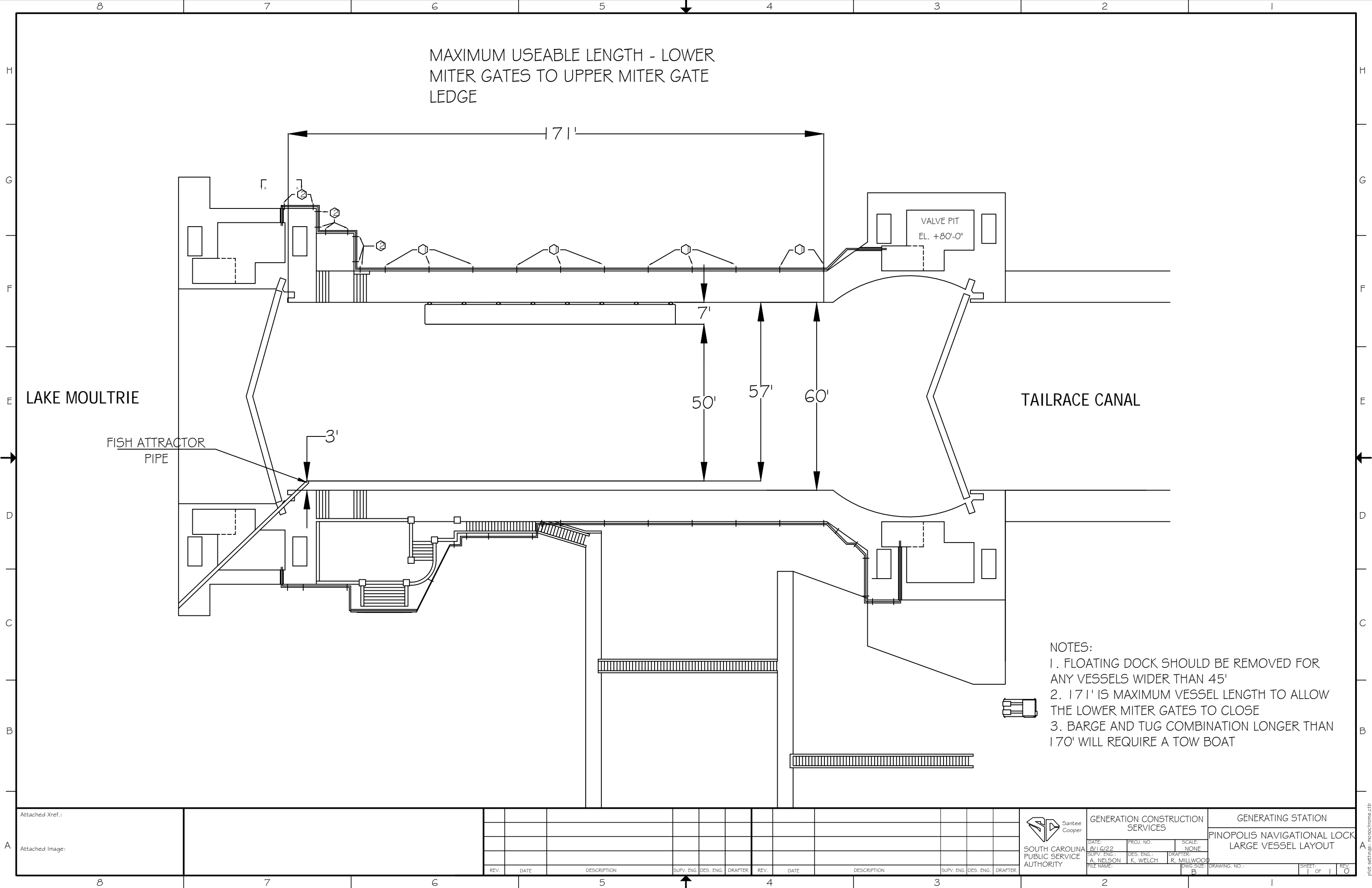
I-95 over Lake Marion Bridge Replacements Design Build Prep  
Orangeburg and Clarendon Counties  
SCDOT P041130

Source: ESRI	Drawn By: JLS QA/QC: KLM February 2023	Figure 1
Base Street Mapping		



## **Appendix B**

### Pinopolis Lock Layout



MAXIMUM USEABLE LENGTH - LOWER  
MITER GATES TO UPPER MITER GATE  
LEDGE

171'

VALVE PIT  
EL. +80'-0"

LAKE MOULTRIE

TAILRACE CANAL

FISH ATTRACTOR  
PIPE

3'

7'  
50'

57'

60'

- NOTES:
1. FLOATING DOCK SHOULD BE REMOVED FOR ANY VESSELS WIDER THAN 45'
  2. 171' IS MAXIMUM VESSEL LENGTH TO ALLOW THE LOWER MITER GATES TO CLOSE
  3. BARGE AND TUG COMBINATION LONGER THAN 170' WILL REQUIRE A TOW BOAT



Attached Xref.:	
Attached Image:	

REV.	DATE	DESCRIPTION	SUPV. ENG.	DES. ENG.	DRAFTER	REV.	DATE	DESCRIPTION	SUPV. ENG.	DES. ENG.	DRAFTER



GENERATION CONSTRUCTION SERVICES		
DATE: 8/16/22	PROJ. NO.:	SCALE: NONE
SUPV. ENG.: A. NELSON	DES. ENG.: K. WELCH	DRAFTER: R. MILLWOOD
FILE NAME:	DWG. SIZE:	DRAWING NO.:

GENERATING STATION	
PINOPOLIS NAVIGATIONAL LOCK	
LARGE VESSEL LAYOUT	
DRAWING NO.:	SHEET: 1 OF 1

Plot settings: mcp\home.ctb  
 File location: F:\REV\WG50\Operations\Drawings\Barge Layout AN51 B.dwg

U.S. Department of  
Homeland Security

United States  
Coast Guard



Commander  
United States Coast Guard  
Seventh District

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16475/SC  
April 21, 2023

J. Shane Belcher  
Lead Environmental Specialist  
Federal Highway Administration  
1835 Assembly Street, Suite 1270  
Columbia, SC 29201

Delivered via e-mail: [jeffrey.belcher@dot.gov](mailto:jeffrey.belcher@dot.gov)

Dear Mr. Belcher,

This letter is in response to an email dated April 19, 2023, requesting the Coast Guard participate as a cooperating agency in the preparation of a Categorical Exclusion for the proposed I-95 Bridge Replacements over Lake Marion in Clarendon and Orangeburg Counties, South Carolina. I, as the Coast Guard Seventh District Bridge Branch Director, acknowledge receipt of and accept the invitation to be a cooperating agency for this project.

The Coast Guard will be a cooperating agency on the I-95 Bridge Replacements over Lake Marion, SC in accordance with 40 CFR 1501.6, and will provide comments concerning construction, or modification of bridges over navigable waterways of the United States that fall within the project corridor.

Thank you for the opportunity to participate as a cooperating agency for this infrastructure improvement project.

If you have any questions please contact Mr. Marty Bridges, Coast Guard Seventh District Bridge Branch representative for this project, at (305) 415-6766 or email [Martin.A.Bridges@uscg.mil](mailto:Martin.A.Bridges@uscg.mil).

Sincerely,

A handwritten signature in blue ink, appearing to read "Randall D. Overton".

RANDALL D. OVERTON, MPA  
Director, District Bridge Program  
U. S. Coast Guard  
By Direction

Copy: Dr. Sandra Saint-Surin, FHWA, via email to [sandra.saintsurin@dot.gov](mailto:sandra.saintsurin@dot.gov)  
Mr. Will McGoldrick, SCDOT, via email to [McGoldriWR@scdot.org](mailto:McGoldriWR@scdot.org)



## **Appendix I**

### **US Coast Guard Navigational Channel Shift Coordination**

**From:** [McGoldrick, Will](#)  
**To:** [John S. Hartland](#)  
**Cc:** [Reynolds, Bradley S.](#); [Kally McCormick](#)  
**Subject:** FW: [Non-DoD Source] FHWA-SC: I-95 Bridge over Lake Marion - Navigational Channel Shift  
**Date:** Monday, December 4, 2023 1:29:34 PM  
**Attachments:** [I-95 over Lake Marion - USCG Exhibit Navigational Span 11-27-2023 \(2\).pdf](#)

---

John,

See below from USCG. Looks like we have some flexibility. They did not give us a max however, but this should give some leeway for you. Let me know if we need to get more details.

-WM

---

**From:** Beceiro, Omar CIV DHS (USA) <Omar.Beceiro@uscg.mil>  
**Sent:** Monday, December 4, 2023 11:26 AM  
**To:** Belcher, Jeffery - FHWA <Jeffrey.Belcher@dot.gov>  
**Cc:** Overton, Randall D CIV USCG D7 (USA) <Randall.D.Overton@uscg.mil>; McGoldrick, Will <McGoldriWR@scdot.org>; Gerken, Blake - FHWA <blake.gerken@dot.gov>  
**Subject:** RE: [Non-DoD Source] FHWA-SC: I-95 Bridge over Lake Marion - Navigational Channel Shift

Good morning Jeffrey,

The Coast Guard does not have any objections to the proposed shift of the navigational channel as defined in the attached exhibit. Please let me know if you will require a formal letter of our decision.

Kind regards,

Omar Beceiro  
Bridge Management Specialist  
U.S. Coast Guard District Seven  
909 SE 1st Ave, Suite 432  
Miami, FL 33131  
(305) 415-6747

---

**From:** Belcher, Jeffrey (FHWA) <[Jeffrey.Belcher@dot.gov](mailto:Jeffrey.Belcher@dot.gov)>  
**Sent:** Tuesday, November 28, 2023 3:24 PM  
**To:** Beceiro, Omar CIV DHS (USA) <[Omar.Beceiro@uscg.mil](mailto:Omar.Beceiro@uscg.mil)>  
**Cc:** Overton, Randall D CIV USCG D7 (USA) <[Randall.D.Overton@uscg.mil](mailto:Randall.D.Overton@uscg.mil)>; McGoldrick, Will <[McGoldriWR@scdot.org](mailto:McGoldriWR@scdot.org)>; Gerken, Blake (FHWA) <[blake.gerken@dot.gov](mailto:blake.gerken@dot.gov)>  
**Subject:** [Non-DoD Source] FHWA-SC: I-95 Bridge over Lake Marion - Navigational Channel Shift

Omar,

Hope you are well. We received a preliminary navigational determination from USCG back in May for the subject project (attached). As the project has progressed, SCDOT has been considering design options for the bridges. We would like to bring this to the attention of USCG to make sure there would not be any issues moving forward or issues with the USCG permit down the road. As a cooperating agency, we want to make sure USCG is comfortable with the proposal. SCDOT is proposing to shift the bent locations to avoid installing new bents on or in the same location of existing bents. The shift would result in an adjusted center line of the navigational channel. This is a conservative value for what they are planning to provide for concept plans. Could USCG verify, from a regulatory navigation point of view, a few questions prior to making the decision to move forward with the shift in bent locations:

1. If the shift is not acceptable, could the USCG provide some guidance on what distance may be allowed or acceptable?
2. What would be the maximum shift USCG would allow (if greater than 50')? This information can potentially be provided as part of the Request for Proposals (RFP) and/or allow SCDOT to evaluate Alternative Technical Concepts (ATCs) that propose to shift the bents and adjust the navigational opening as part of the design-build process.
3. Note: adjacent spans approaching the main channel are shown at 70' spacing intervals. These could be longer depending on the bidding contractor's approach.

Attached is an exhibit that depicts a shift in bent locations in relation to the navigational channel area for Lake Marion.

Apologies on the timing, but the design consultant is trying to turn in plans to SCDOT by the end of next week (12/8) and this question just came up, so any help on the questions by then is much appreciated. Any additional questions, please do not hesitate to reach out to myself or Will McGoldrick (copied) at SCDOT.

Much thanks as always.

*J. Shane Belcher*

*Lead Environmental Specialist*

*Federal Highway Administration*

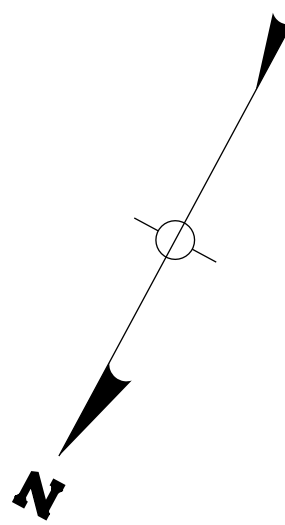
*1835 Assembly Street, Suite 1270*

*Columbia, SC 29201*

*Phone: 803-253-3187*



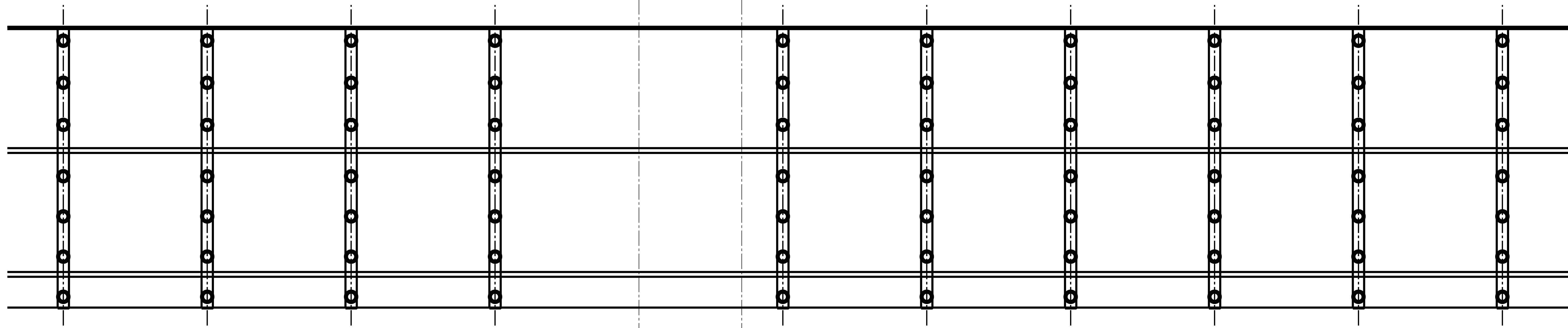
*The content of this e-mail is confidential and intended for the recipient specified in the message only*



NOTE: 50' Minimum Vertical and 100' Minimum Horizontal Clearance to be provided within navigational channel

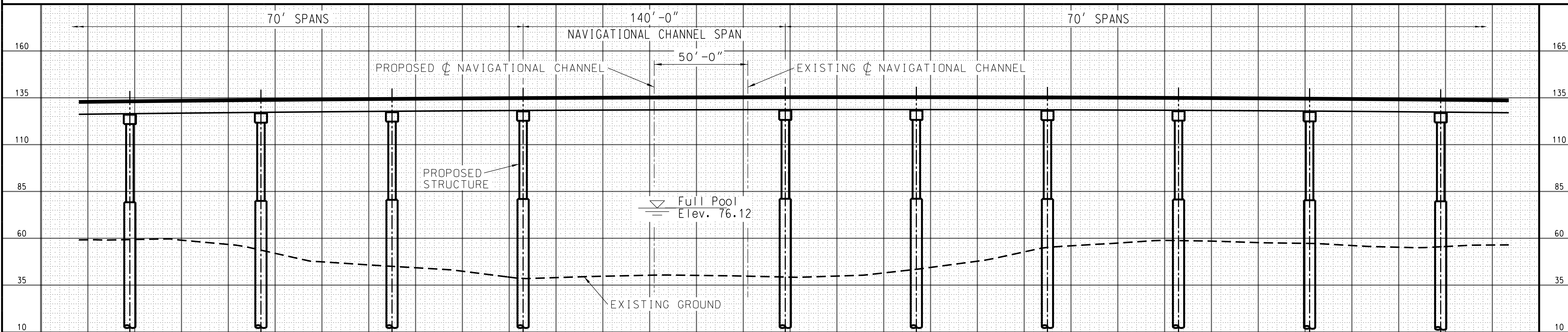
PROPOSED  $\phi$  NAVIGATIONAL CHANNEL      EXISTING  $\phi$  NAVIGATIONAL CHANNEL

50'-0"



PLAN

1"=25' 0 25' 50' 75'



SECTION ALONG CENTERLINE

FOR INFORMATION ONLY

REV.				SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION	
REV.					
REV.				140' NAVIGATIONAL CHANNEL SPAN	
REVIEWED					
QUAN.				COUNTY ORANGEBURG / CLARENDON	
DR.	MWR	11/23			
DES.				ROUTE 1-95	
BY	CHK.	DATE			

## **Appendix J**

### **Floodplains Map and Checklist**



South Carolina Department of Transportation  
Location and Hydraulic Design of Encroachments on Floodplains Checklist

23 CFR 650, this regulation shall apply to all encroachments and to all actions which affect base floodplains, except for repairs made with emergency funds. Note: These studies shall be summarized in the environmental review documents prepared pursuant to 23 CFR 771.

I. PROJECT DESCRIPTION

SCDOT proposes to replace the four bridges along I-95 over Lake Marion in Clarendon and Orangeburg Counties. This includes the long two-lane northbound and southbound bridges over the main channel of Lake Marion and the shorter two-lane northbound and southbound relief bridges over the lake. Two 12-foot travel lanes would be provided in both the southbound and northbound directions. Space would also be provided for a potential future additional travel lane in each direction. A 10-foot minimum inside shoulder (shoulders may be wider due to staging requirements) and 12-foot outside shoulder would be provided in each direction. Additionally, there would be a barrier separated 14-foot shared use path for pedestrians and bicyclists on the southbound side only.

A. Narrative Describing Purpose and Need for Project

- a. Relevant Project History:
- b. General Project Description and Nature of Work (attach Location and Project Map):
- c. Major Issues and Concerns:

The purpose of the project is to maintain connectivity and a safe interstate facility for the traveling public and provide safe access for pedestrians and cyclists over Lake Marion. Currently, the I-95 bridges are in "fair" condition as of 2022, however the National Bridge Inventory analysis of future condition ratings shows that in future years, the bridges will be rated "poor" condition and will require load restrictions. I-95 serves as a hurricane evacuation route, as well as providing system linkage to serve high-capacity traffic. The bridges must be replaced while the current structures can still operate safely and functionally to maintain current demand.

B. Are there any floodplain(s) regulated by FEMA located in the project area?

Yes  No

(Large portion of Zone AE along I-95 over Lake Marion and associated branches.)

C. Will the placing of fill occur within a 100-year floodplain?  
Yes  No

D. Will the existing profile grade be raised within the floodplain?

Yes, the southern approach will be raised resulting in a profile grade raise within the floodplain. The embankment in the middle of the lake will also be raised in the vicinity of the bridges.

E. If applicable, please discuss the practicability of alternatives to any longitudinal encroachments.

Alternatives to the east and west of the existing alignment were considered, but ultimately required too much fill within the floodplain and did not adhere to the environmental impact constraints set for the project.

F. Please include a discussion of the following: commensurate with the significance of the risk or environmental impact for all alternatives containing encroachments and those actions which would support base floodplain development:

a. What are the risks associated with implementation of the action?

The proposed fill and larger hydraulic opening will not result in flood-related risks.

b. What are the impacts on the natural and beneficial floodplain values?

There will be no deleterious consequences to this action.

c. What measures were used to minimize floodplain impacts associated with the action?

The proposed bridge will be longer than the existing bridge and the profile will be increased, increasing the hydraulic opening of the proposed bridge.

- d. Were any measures used to restore and preserve the natural and beneficial floodplain values impacted by the action?

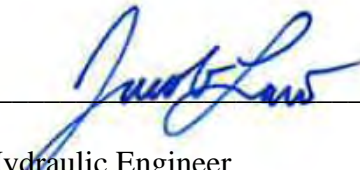
The proposed action will not cause negative effects. The construction of the Santee Cooper dam prohibits restoration of natural floodplain values.

- G. Please discuss the practicability of alternatives to any significant encroachments or any support of incompatible floodplain development.

N/A

- H. Were local, state, and federal water resources and floodplain management agencies consulted to determine if the proposed highway action is consistent with existing watershed and floodplain management programs and to obtain current information on development and proposed actions in the affected? Please include agency documentation.

Yes, SCDOT.

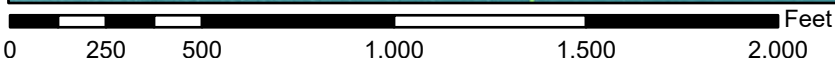
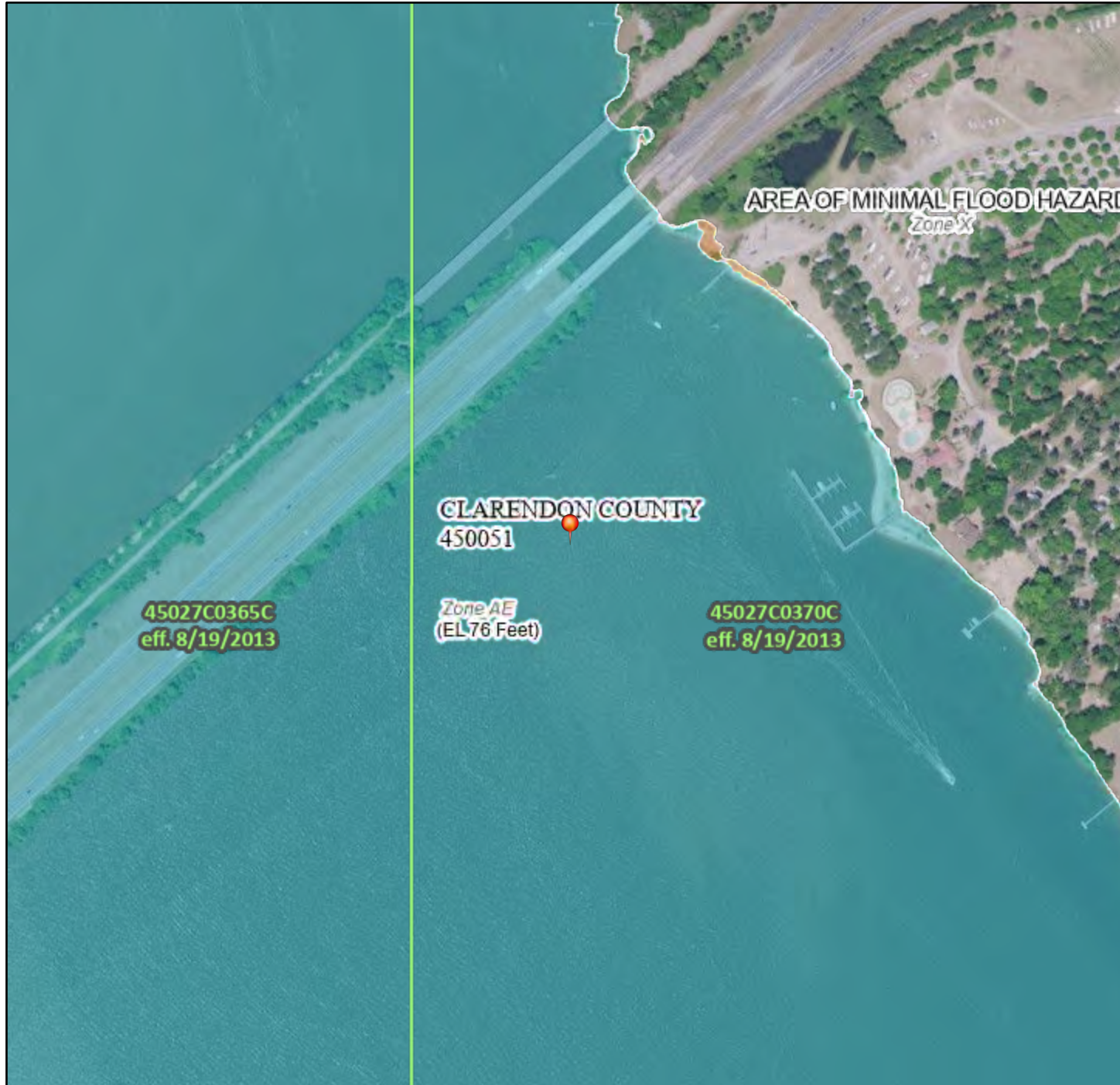
  
Hydraulic Engineer

09-21-2023  
Date

# National Flood Hazard Layer FIRMMette



80°26'28"W 33°31'12"N



1:6,000

80°25'51"W 33°30'42"N

Basemap Imagery Source: USGS National Map 2023

## Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

- |   |   |
|---|---|
| <p><b>SPECIAL FLOOD HAZARD AREAS</b></p>  | <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: lightblue; border: 1px solid black; margin-right: 5px;"></span> Without Base Flood Elevation (BFE)<br/><i>Zone A, V, A99</i></li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #e0f0ff; border: 1px solid black; margin-right: 5px;"></span> With BFE or Depth <i>Zone AE, AO, AH, VE, AR</i></li> <li><span style="display: inline-block; width: 15px; height: 10px; background: repeating-linear-gradient(45deg, transparent, transparent 2px, red 2px, red 4px); border: 1px solid black; margin-right: 5px;"></span> Regulatory Floodway</li> </ul>   |
| <p><b>OTHER AREAS OF FLOOD HAZARD</b></p> | <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #ffcc99; border: 1px solid black; margin-right: 5px;"></span> 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile <i>Zone X</i></li> <li><span style="display: inline-block; width: 15px; height: 10px; background: repeating-linear-gradient(-45deg, transparent, transparent 2px, gray 2px, gray 4px); border: 1px solid black; margin-right: 5px;"></span> Future Conditions 1% Annual Chance Flood Hazard <i>Zone X</i></li> <li><span style="display: inline-block; width: 15px; height: 10px; background: repeating-linear-gradient(45deg, transparent, transparent 2px, orange 2px, orange 4px); border: 1px solid black; margin-right: 5px;"></span> Area with Reduced Flood Risk due to Levee. See Notes. <i>Zone X</i></li> <li><span style="display: inline-block; width: 15px; height: 10px; background: repeating-linear-gradient(-45deg, transparent, transparent 2px, yellow 2px, yellow 4px); border: 1px solid black; margin-right: 5px;"></span> Area with Flood Risk due to Levee <i>Zone D</i></li> </ul>  |
| <p><b>OTHER AREAS</b></p>                 | <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #fff9c4; border: 1px solid black; margin-right: 5px;"></span> NO SCREEN Area of Minimal Flood Hazard <i>Zone X</i></li> <li><span style="display: inline-block; width: 15px; height: 10px; border: 2px solid blue; margin-right: 5px;"></span> Effective LOMRs</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #ffe0b2; border: 1px solid black; margin-right: 5px;"></span> Area of Undetermined Flood Hazard <i>Zone D</i></li> </ul>   |
| <p><b>GENERAL STRUCTURES</b></p>          | <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; border-bottom: 2px dashed black; margin-right: 5px;"></span> Channel, Culvert, or Storm Sewer</li> <li><span style="display: inline-block; width: 15px; border-bottom: 2px dashed gray; margin-right: 5px;"></span> Levee, Dike, or Floodwall</li> </ul>  |
| <p><b>OTHER FEATURES</b></p>              | <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; border-bottom: 2px solid black; margin-right: 5px;"></span> <span style="font-size: 8px; vertical-align: middle;">B</span> 20.2 Cross Sections with 1% Annual Chance Water Surface Elevation</li> <li><span style="display: inline-block; width: 15px; border-bottom: 2px solid black; margin-right: 5px;"></span> 17.5 Coastal Transect</li> <li><span style="display: inline-block; width: 15px; border-bottom: 2px dashed black; margin-right: 5px;"></span> Base Flood Elevation Line (BFE)</li> <li><span style="display: inline-block; width: 15px; border-bottom: 2px solid red; margin-right: 5px;"></span> Limit of Study</li> <li><span style="display: inline-block; width: 15px; border-bottom: 2px solid yellow; margin-right: 5px;"></span> Jurisdiction Boundary</li> <li><span style="display: inline-block; width: 15px; border-bottom: 2px dashed black; margin-right: 5px;"></span> Coastal Transect Baseline</li> <li><span style="display: inline-block; width: 15px; border-bottom: 2px solid blue; margin-right: 5px;"></span> Profile Baseline</li> <li><span style="display: inline-block; width: 15px; border-bottom: 2px solid blue; margin-right: 5px;"></span> Hydrographic Feature</li> </ul> |
| <p><b>MAP PANELS</b></p>                  | <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #c8e6c9; border: 1px solid black; margin-right: 5px;"></span> Digital Data Available</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #e0e0e0; border: 1px solid black; margin-right: 5px;"></span> No Digital Data Available</li> <li><span style="display: inline-block; width: 15px; height: 10px; border: 1px solid black; margin-right: 5px;"></span> Unmapped</li> </ul>   |



The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on **7/28/2023 at 9:08 AM** and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

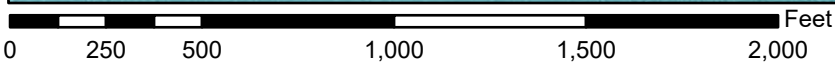
This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.



# National Flood Hazard Layer FIRMMette



80°27'21"W 33°30'39"N



1:6,000

80°26'43"W 33°30'9"N

Basemap Imagery Source: USGS National Map 2023

## Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

- |                             |  |  |
|-----------------------------|--|--|
| SPECIAL FLOOD HAZARD AREAS  |  | Without Base Flood Elevation (BFE)<br><i>Zone A, V, A99</i>  |
|                             |  | With BFE or Depth <i>Zone AE, AO, AH, VE, AR</i>   |
|                             |  | Regulatory Floodway  |
| OTHER AREAS OF FLOOD HAZARD |  | 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile <i>Zone X</i> |
|                             |  | Future Conditions 1% Annual Chance Flood Hazard <i>Zone X</i>  |
|                             |  | Area with Reduced Flood Risk due to Levee. See Notes. <i>Zone X</i>  |
|                             |  | Area with Flood Risk due to Levee <i>Zone D</i>  |
| OTHER AREAS                 |  | NO SCREEN Area of Minimal Flood Hazard <i>Zone X</i>   |
|                             |  | Effective LOMRs  |
| GENERAL STRUCTURES          |  | Area of Undetermined Flood Hazard <i>Zone D</i>  |
|                             |  | Channel, Culvert, or Storm Sewer   |
|                             |  | Levee, Dike, or Floodwall  |
| OTHER FEATURES              |  | 20.2 Cross Sections with 1% Annual Chance<br>17.5 Water Surface Elevation  |
|                             |  | Coastal Transect   |
|                             |  | Base Flood Elevation Line (BFE)  |
|                             |  | Limit of Study   |
|                             |  | Jurisdiction Boundary  |
| MAP PANELS                  |  | Digital Data Available   |
|                             |  | No Digital Data Available  |
|                             |  | Unmapped   |
|                             |  | The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.                                     |



This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on **7/28/2023 at 9:07 AM** and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.



**Appendix K**  
**USFWS Biological Assessment**



# United States Department of the Interior



## FISH AND WILDLIFE SERVICE

176 Croghan Spur Road, Suite 200  
Charleston, South Carolina 29407

February 16, 2023

Will McGoldrick, Program Manager  
Environmental Services Office  
SCDOT  
955 Park St. Rm. 506  
Columbia, South Carolina 29202-0191

Subject: I-95 Over Lake Marion Bridge Replacements  
Clarendon and Orangeburg Counties, South Carolina  
FWS Project Code: 2023-0043187

Dear Mr. McGoldrick:

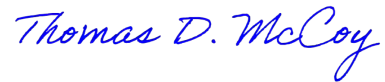
The U.S. Fish and Wildlife Service (Service) received your February 14, 2023, email requesting Section 7 consultation pursuant to the requirements of the Endangered Species Act of 1973 (ESA), for the replacement of multiple I-95 bridges over Lake Marion in Clarendon and Orangeburg Counties, South Carolina. According to the February 13, 2023, Biological Assessment (BA) written for the project, the South Carolina Department of Transportation (SCDOT) proposes to replace four bridges along I-95 over Lake Marion. This includes the two large two-lane northbound and southbound bridges over Lake Marion and the smaller two-lane northbound and southbound bridges over the lake. The Service offers the following comments regarding proposed project activities.

According to the BA, suitable foraging, and nesting habitat for the federally threatened wood stork (*Mycteria americana*) exists within the forested wetlands and uplands near open water located near the project area. However, no active nesting or individual birds were found during site surveys. Therefore, SCDOT determined that project activities may affect, but are not likely to adversely affect the species. After reviewing our records as well as the information received, the Service concurs with this determination.

Please note that obligations under section 7 of the ESA must be reconsidered if: (1) new information reveals impacts of this identified action that may affect listed species or critical habitat in a manner not previously considered; (2) this action is subsequently modified in a manner, which was not considered in this assessment; or (3) a new species is listed or critical habitat is determined that may be affected by the identified action.

Please contact Ms. Morgan Wolf of our staff at 843-300-0428 or by email [Morgan\\_Wolf@fws.gov](mailto:Morgan_Wolf@fws.gov), if you have any questions and reference FWS Project Code: 2023-0043187.

Sincerely,



Thomas D. McCoy  
Field Supervisor

I-95 OVER LAKE MARION BRIDGE REPLACEMENTS  
BIOLOGICAL ASSESSMENT

FOR US FISH AND WILDLIFE SERVICE

P041130

USFWS Project Code: 2023-0043187



Prepared For:



Prepared By:



Civil Engineering  
Consulting Services, Inc.

February 13, 2023

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**Appendix B** USFWS Clarendon and Orangeburg Counties Protected Species Lists

**Appendix C** IPaC MA Verification Letter and Species List from USFWS South Carolina Ecological Services

# 1. Project Overview

## 1.1 Federal Nexus

The purpose of this Biological Assessment (BA) is to address the effect of the Interstate 95 (I-95) over Lake Marion bridge replacements project on U.S. Endangered Species Act (ESA) listed species, listed as endangered or threatened, or their designated critical habitat, under the jurisdiction of the U.S. Fish and Wildlife Service (USFWS). Those species under the jurisdiction of the National Oceanic and Atmospheric Administration-National Marine Fisheries Service (NOAA-NMFS) include Atlantic sturgeon and shortnose sturgeon. There is a major waterway (Lake Marion) within the project study area with suitable habitat and records of the Atlantic sturgeon and shortnose sturgeon are present within the project boundaries. These federally protected fish species are addressed in a separate BA prepared for NOAA-NMFS.

The South Carolina Department of Transportation (SCDOT), on behalf of the Federal Highway Administration (FHWA), is pursuing informal consultation under Section 7 of the ESA on the impacts to species that will result from the proposed I-95 over Lake Marion bridge replacements. Section 7 of the ESA assures that, through consultation with USFWS, federal actions do not jeopardize the continued existence of any threatened, endangered, or proposed species, or result in the destruction or adverse modification of critical habitat.

## 1.2 Project Description

SCDOT proposes to replace four bridges along I-95 over Lake Marion in Clarendon and Orangeburg Counties (**Appendix A**). This includes the large two-lane northbound and southbound bridges over Lake Marion and the smaller two-lane northbound and southbound relief bridges over the lake. The Lake Marion relief bridges provide an overflow for Lake Marion to the north of an existing causeway. Additionally, abandoned in-water wooden pilings to the west of the current I-95 bridges and east of the US 301 bridge, would also be removed. The large in-water billboard west of the US 301 bridge would be retained.

The purpose of the project is to maintain connectivity and a safe interstate facility for the traveling public and provide safe access for pedestrians and cyclists over Lake Marion. The bridges are currently in fair (approaching poor) condition and are in need of replacement to ensure safe travel along I-95. The bridges will be brought to good condition and replaced in a manner consistent with the existing interstate alignment while providing access for pedestrians and cyclists to cross Lake Marion.

### 1.3 Project Area and Setting

The project is located in Orangeburg and Clarendon Counties. A project study area (PSA) has been established to encompass all potential impacts of the project (see **Appendix A**). The PSA extends for approximately four miles and is located northwest of the town of Santee, SC. The eastern terminus is located 1,000 feet north of the bridges of I-95 and US 15 in Orangeburg County. The western terminus is located approximately 1,500 feet southwest of the intersection of I-95 and US 301 in Clarendon County. The PSA encompasses an area approximately 332 acres in size, generally centered on the existing I-95 bridge over Lake Marion and the adjacent streets. A large portion of the land within this PSA is located over the lake itself and extends on either side into populated urban areas. One freshwater stream and several wetlands are present in the PSA, including open waters, scrub-shrub wetlands, and freshwater palustrine emergent wetlands.

### 1.4 Consultation History

The USFWS South Carolina list of at-risk, candidate, endangered, and threatened species by county was reviewed for both Clarendon and Orangeburg Counties (**Appendix B**). A request was submitted through the USFWS Information, Planning, and Conservation (IPaC) online database for information pertaining to designated protected species critical habitats. USFWS provided a verification letter and list of species on February 8, 2023, see **Appendix C**.

## 2. Federally Listed, Proposed, and At-Risk Species, Including Designated Critical Habitat

The PSA is located within the known or expected range of four threatened or endangered species listed under the ESA within the jurisdiction of USFWS (Table 1). Two additional endangered species (shortnose sturgeon and Atlantic sturgeon) fall within the jurisdiction of NOAA-NMFS. There is no Critical Habitat within the PSA.

The term “Candidate” includes species under consideration for which there is sufficient information to support listing but development of a proposed listing regulation is precluded by other higher priority listing activities. There is one Candidate species considered in this project. “At-Risk Species” (ARS) is an informal term that refers to those species which may be in need of concentrated conservation actions, and have been petitioned for listing as threatened or endangered. There are seven ARS considered in this

project. The USFWS designations of candidate and at-risk do not provide federal protection and require no Section 7 consultation under the ESA, however they are considered here for potential natural resources impacts. The bald eagle (*Haliaeetus leucocephalus*) is federally protected under the Bald and Golden Eagle Protection Act (BGEPA) and Migratory Bird Treaty Act (MBTA).

**Table 1. Endangered, Threatened, At-Risk, and Candidate Species under USFWS Jurisdiction.**

Species	USFWS County Known or Likely Occurrence	Federal Protection Status
Canby's dropwort ( <i>Oxypolis canbyi</i> )	Clarendon, Orangeburg	Endangered
American chaffseed ( <i>Schwalbea americana</i> )	Clarendon	Endangered
American wood stork ( <i>Mycteria americana</i> )	Clarendon, Orangeburg	Threatened
Red-cockaded woodpecker ( <i>Picoides borealis</i> )	Clarendon, Orangeburg	Threatened
West Indian Manatee ( <i>Trichechus manatus</i> )	Clarendon, Orangeburg	Threatened
Monarch Butterfly ( <i>Danaus plexippus</i> )	Clarendon, Orangeburg	Candidate
+Tricolored bat ( <i>Perimyotis subflavus</i> )	Clarendon, Orangeburg	At-Risk Species
Boykin's lobelia ( <i>Lobelia boykinii</i> )	Clarendon, Orangeburg	At-Risk Species
Carolina-birds-in-a-nest ( <i>Macbridea caroliniana</i> )	Clarendon, Orangeburg	At-Risk Species
Gopher frog ( <i>Lithobates captio</i> )	Orangeburg	At-Risk Species
Eastern diamondback rattlesnake ( <i>Crotalus adamanteus</i> )	Clarendon, Orangeburg	At-Risk Species
Frosted elfin ( <i>Callophrys irus</i> )	Clarendon	At-Risk-Species
Spotted turtle ( <i>Dermochelys coriacea</i> )	Clarendon	At-Risk Species
Bald Eagle ( <i>Haliaeetus leucocephalus</i> )*	Clarendon, Orangeburg	BGEPA

+On September 13, 2022, the USFWS issued a public notice proposing to list the tricolored bat as endangered. The comment period ends on November 14, 2022 and a final decision is expected within 12 months or sooner.

At-Risk Species: Species that the USFWS has been petitioned to list and for which a positive 90-day finding has been issued (listing may be warranted); information is provided only for conservation actions as no Federal protections currently exist.

Candidate: USFWS has on file sufficient information on biological vulnerability and threat(s) to support proposals to list these species.

\*BGEPA: Federally protected under the Bald and Golden Eagle Protection Act

The following sections detail the four threatened or endangered species within known listings or likely occurrences in Clarendon and Orangeburg Counties. The one candidate species of the counties are also considered below. Additionally, because of the pending potential future listing of the tricolored bat, this species is also included.

## 2.1 American wood stork

American wood storks are a threatened species under the ESA. They are the largest wading bird and only stork species that breeds in the United States. These birds are large, long legged with a head to tail length of up to 45 inches and a wingspan of up to 65 inches. Adult wood storks are white except for the primary and secondary wing feathers and the tail feathers, which are black with a greenish sheen. Adults also have an unfeathered head and neck with a long, thick black bill. The breeding range of the wood stork extends down the southeastern coast of the United States, including South Carolina. American wood storks are colonial nesters with colonies ranging from less than 12 to more than 500 in size. Nesting occurs in small to large trees typically on small islands surrounded by standing water, or in extensive forested and flooded wetlands. The species generally forages in water six to ten inches deep. They feed in freshwater marshes, narrow tidal creeks, or flooded tidal pools. Suitable foraging and nesting habitat exists within the forested wetlands and upland forests near open water located within the PSA including open ponds and wetlands. During surveys, no wood storks were seen and the closest known nesting population is approximately 38.5 miles southwest of the PSA. **There is suitable habitat present, but no active nesting rookeries or birds were found during surveys.**

## 2.2 Red-cockaded woodpecker

The Red-cockaded woodpecker is listed as endangered and is protected under the ESA. The red-cockaded woodpecker has a distinguishable back patterning barred with black and white horizontal stripes. They also have a black cap and nape that encircle large white cheek patches. Males of the species have a notable red streak on each side of their black cap called a cockade. Red-cockaded woodpeckers are rare forest birds native to the southeastern United States. These birds are non-migratory and territorial. They tend to live in family groups which include a breeding pair, their offspring, and helpers. They prefer to forage on pine trees with a strong preference to large trees. They are known to occasionally forage on hardwoods and even eat cornworms in cornfields. The nesting season for these birds is from April to June. The pine



forests in and near the project site are frequently logged, resulting in relatively small, young growth trees. No longleaf pine is present. **Evidence of the Red-cockaded woodpecker was not noted within the PSA, no birds were detected during surveys, and suitable habitat is not present.**

### 2.3 Tricolored bat

On September 13, 2022, the USFWS issued a public notice proposing to list the tricolored bat as endangered. The comment period ended on November 14, 2022 and a final decision is expected within 12 months or sooner. They are not as colorful as the term “tricolored” implies. Tri-color refers to the banding on the hairs; from the base to tip each hair appears dark, light and dark. Most pipistrelles are buff-yellowish but can appear brown. The radius bone visible through the skin appears pink. The face and ears also have a pinkish color. The tricolored bat is distributed throughout the state. These bats are known to use T-beam bridges, buildings, large culverts, mines, tunnels, caves, and hollow trees for roosts and have suitable habitat within the PSA. In winter these bats often use abandoned mines and caves. Although considered colonial bats, individuals are often not physically clumped together. While hibernating, tricolored bats hang singly but can be near conspecifics. Frequently they are covered in condensation while hibernating. During summer tricolored bats can be found under certain bridges and in buildings in the summer. In South Carolina, females often form small maternity colonies (3-5 individuals) in clusters of live or dead leaves in trees. Tricolored bats may switch roost sites in summer but their roosts are typically close together. The existing bridges within the PSA are too tall in height with high levels of sunlight present beneath the bridge to support roosting bats. Additionally, seams and gaps in the bridge that could support bats are exposed to too much sunlight to be suitable roosting areas for bats. Large open areas also permit drafty winds in and around the bridges. Culverts within the project site are limited to small diameter pipes that are more than 50% obscured with sediment and/or standing water. **In conclusion, no tricolored bats were present within the project site and suitable habitat is not available.**

### 2.4 Canby's dropwort

Canby's dropwort is an endangered perennial herbaceous plant with tuberous roots and pale, fleshy rhizomes and erect stems up to 39 inches tall. The flowers are small and white with five petals that grow in umbels or flat-topped clusters. Canby's dropwort grows in wide range of habitats, including moist areas in the coastal plain and sandhills, wet meadows, wet pineland savannas, ditches, sloughs, and around the edges of Cypress-pine ponds. The plant seems to be more prolific when the habitat has been burned. Suitable habitat for Canby's dropwort exists within ditches and other open wet areas (i.e., grass and sedge

fields) located within the PSA. **Surveys were conducted during the flowering period and this species was not observed.**

## 2.5 American Chaffseed

American chaffseed is a perennial herbaceous plant with erect, densely hairy, unbranched stems up to 24 inches tall. The leaves are sessile, attaching directly to the stem, and arranged in an alternate pattern along the stem. The flowers are yellowish or purplish and grow in a long terminal cluster from May to July. American chaffseed typically grows in open moist pine flatwoods, fire-maintained pine savannas, and ecotones between peaty wetlands and other open areas dominated by grasses and sedges. The plant is dependent upon factors such as mowing, fire, and fluctuating water tables for survival. **Surveys were conducted during the flowering period and this species was not observed.**

## 2.6 Monarch Butterfly

The monarch butterfly is listed as a candidate species and is not currently protected by the ESA. This invertebrate is among the most easily recognizable butterfly species in North America. The wings of these butterflies are a deep orange with black borders and veins with white spots along the edges. The underside of the wings is a pale orange. Monarch caterpillars are striped with yellow, black, and white bands and reach lengths of two inches or five centimeters. The eastern population of monarch butterflies travels to Mexico during the winter for and around March begins its journey north to southern Canada during the summer months. Monarch caterpillars feed exclusively on milkweed leaves and then evolve to feeding on nectar from a wide range of blooming native plants as adult butterflies. Milkweed is native to South Carolina but is not present in PSA. **Based on the lack of milkweed in the PSA, suitable habitat is not present for the monarch caterpillar or butterfly.**

## 2.7 West Indian Manatee

The West Indian manatee is a large gray to brown aquatic mammal, averaging about ten feet in length and 1,000 pounds in weight. This mammal has no hind limbs, and the forelimbs are modified flippers. West Indian manatees have flattened horizontal and rounded tails used for locomotion. Manatees inhabit both fresh and salt water, including canals, rivers, estuarine habitats and saltwater bays, throughout their range. West Indian manatees concentrate in areas of warm water, primarily the Florida Gulf Coast waters, from October to April. In the summer months, the West Indian manatee will migrate as far north as coastal Virginia on the east coast and coastal Louisiana on the Gulf of Mexico. West Indian manatees migrate into estuarine waters off the coast of South Carolina during the warmer, summer months and early fall from May to September, typically when water temperatures exceed 70 degrees Fahrenheit. **There are no**

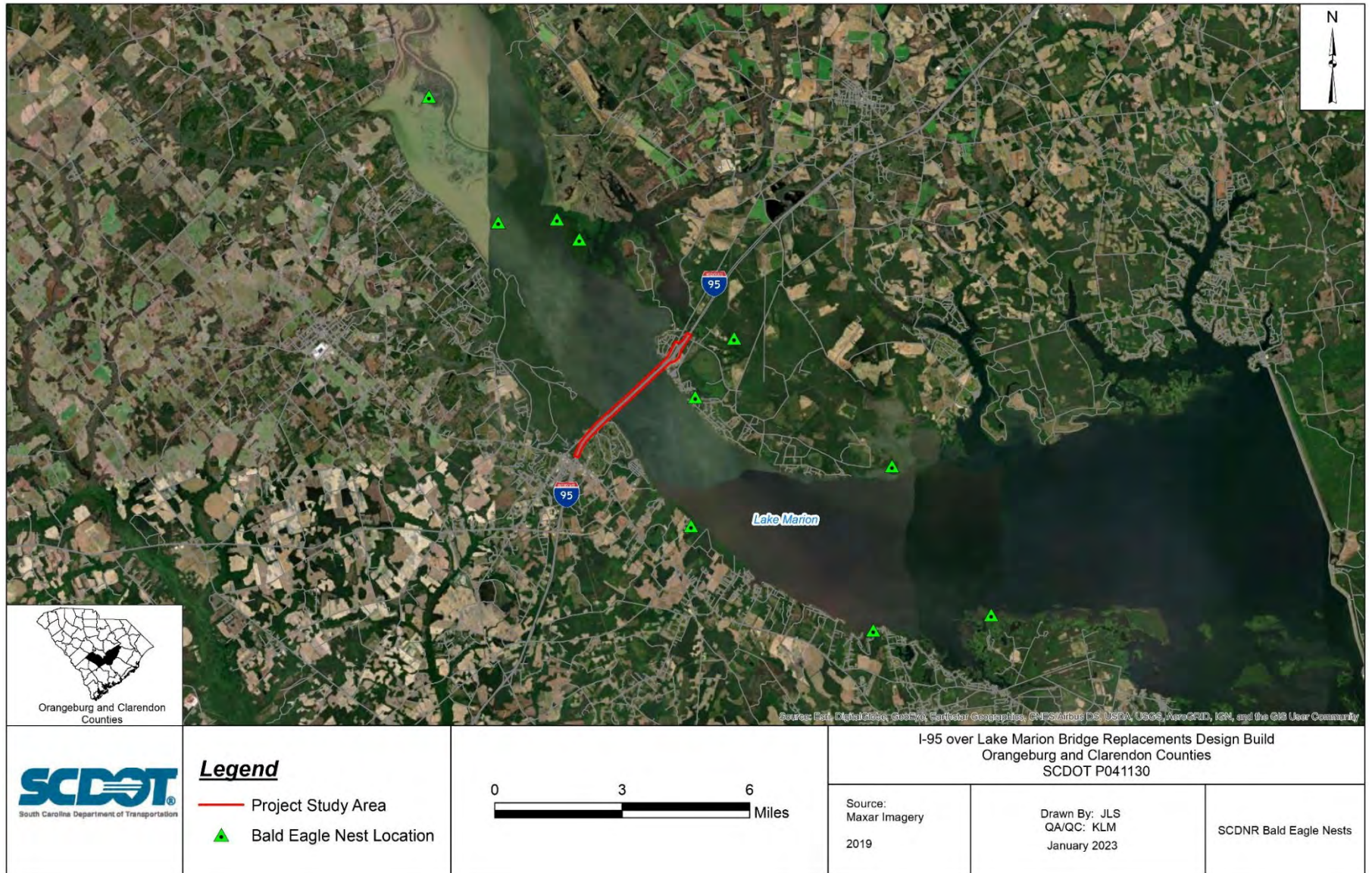
**known occurrences of manatees within Lake Marion or within the PSA and this species was not observed.**

## 2.8 Bald Eagle

Bald eagles were listed as endangered species in 1978. Bald eagles were removed from the endangered species list in August 2007 because their populations recovered sufficiently. Bald eagles are now protected under the MBTA and the BGEPA. The bald eagle gets its name from the distinctive white head of mature adults (6 years of age). Bald eagle breeding habitat is generally within approximately 2.5 miles of water bodies including rivers, lakes, reservoirs, bays, and other areas with abundant fish and/or waterfowl populations. Nesting areas usually occur in large tall trees able to support their four to six-foot-wide nests, and may be used year after year or may be alternated with another nest in successive years. Additionally, nesting sites are primarily chosen in areas with limited disturbance. Eggs are laid between October and March with clutch sizes of 1 to 3 eggs. Chicks usually fledge by 12 weeks but often remain in the same territory for an additional 6 weeks as they are still dependent on the adults for food. During non-migratory seasons, bald eagles will travel 10-20 miles away from their nests but consider a radius of approximately 200 yards as personal territory. Lake Marion is known to be home to numerous nesting pairs of eagles. During surveys in September 2022, 4 bald eagles were identified flying over the PSA. SCDNR's Bald Eagle nest location database was used to identify documented nests in proximity to the corridor, with the closest nest being approximately 1.57 miles away (see attached map), outside of the 660-foot secondary zone outlined in the National Bald Eagle Management Plan (USFWS 2007). While there are no active nests within 660 feet or 200 yards, there are 10 active nests within a 10-mile radius of the PSA; see **Figure 1: Known Bald Eagle Nest Locations**. **Suitable habitat is present within the PSA; however, no nests are within 660 feet of the proposed project activities.**



Figure 1: Known Bald Eagle Nest Locations



### 3. Environmental Baseline

The majority of PSA is comprised of existing roadway and bridges. Areas which are not developed were classified based upon vegetation and land form types. Vegetative terrestrial communities within the PSA were distinguished by dominant plant species and community types, location in the landscape, past disturbances, and hydrologic characteristics. Only those habitats which were located directly within the PSA are characterized. The PSA was examined through current and historical Google Earth imagery, USDA ortho imagery, and USGS topographic maps to discern areas with similar signatures, and the data were verified and classified through on-site field review.

Specific surveys for commonly occurring wildlife species were not conducted; however, wildlife readily observed and documented during the field reviews, or those likely to occur within the PSA, are summarized below.

Common bird species either observed during field reviews or known to occur within the PSA include osprey, cattle egret, fish crow, rock pigeon, chimney swift, Canada goose, barn swallow, northern cardinal, American black duck, rusty blackbird, green heron, black vulture, tree swallow, and red-headed woodpecker.



*Osprey nest on overhead powerlines in the PSA.*

There are many common reptile and amphibian species that could occur in the PSA including American bullfrog, Eastern narrow mouth toad, green or bronze frog, green treefrog, pig frog, southern cricket frog, southern leopard frog, southern toad, squirrel treefrog, ground skink, green anole, American alligator, racer snake, ringneck snake, rat snake, northern cottonmouth, and slider turtle.

Common mammal species likely to occur in the PSA include white-tailed deer, striped skunk, raccoon, bats, cotton mouse, opossum, eastern gray squirrel, and eastern cottontail rabbit.



## 3.1 Aquatic and open water habitats

### 3.1.1 Streams

A single freshwater unnamed stream traverses the PSA. Approximately 225 linear feet (0.04 miles) of stream was identified and delineated within the project area. Project activities such as roadway fill, culvert extension, and rip rap to reinforce the outlet of the box culverts may result in impacts to a portion of this stream.

### 3.1.2 Open Water

Open freshwater communities within the PSA include Lake Marion. Lake Marion is the largest lake in South Carolina and is the uppermost water body that comprises the Santee Cooper Reservoir. This is a lacustrine habitat formed from a dammed riverine feature. The lake is hydrologically connected to other wetlands or ditches within the PSA. Plant species common to the lake are include black willow (*Salix nigra*), wax myrtle (*Morella cerifera*), bald cypress (*Taxodium distichum*), bladderwort (*Utricularia macrorhiza*), duckweed (*Lemna* sp.), and various species of cattail (*Typha* sp.).

## 3.2 Terrestrial and mixed aquatic habitats:

### 3.2.1 Maintained Development

Maintained developments were classified as areas or regions which have altered the native state of the land for consumptive human use. Man-maintained and disturbed communities within the PSA also include roadside shoulders, utility rights of way, as well as residential and commercial buildings. Most of the naturally-occurring plants associated with these maintained or disturbed communities have been eliminated and/or replaced with cultivated grasses or taken over by naturally occurring opportunistic species characteristic of disturbed areas. Most of the maintained developed areas are comprised of herbaceous species and sparse shrubs, including ragweed (*Ambrosia artemisiifolia*), various grasses such as common fescue (*Festuca* sp.), ryegrass (*Lolium perenne*), bahia grass (*Paspalum notatum*), and bluegrass (*Poa* sp.).

### 3.2.2 Mixed Pine/Hardwood Forest

Mixed pine/hardwood forest is a dominant community type located throughout the majority of the PSA. Dominant vegetation consists of pine species including loblolly pine (*Pinus taeda*) and pond pine (*Pinus serotina*). Hardwood species observed include sweetgum (*Liquidambar styraciflua*) and water oak (*Quercus nigra*). Smaller hardwood sapling species include sweetgum, sycamore (*Platanus occidentalis*), and wax myrtle. Groundcover and vine strata include blackberry (*Rubus* sp.), blueberry (*Vaccinium* sp.), greenbrier (*Smilax* sp.), poison ivy (*Toxicodendron radicans*), and partridge berry (*Michella repens*).

### 3.2.3 Scrub/ Shrub

Scrub shrub habitat is characterized as being cleared within the past five years. These areas do not have the established species found in the mixed hardwood forest but are not frequently mowed like roadsides and lawns. Notable areas include dry drainages, areas beneath overpasses and spaces that have been maintained in the past but have been allowed to lie fallow. These communities often include ruderal and non-native species. These species tend to be more widespread and occupy numerous habitat types. These areas include an early diverse array of herbaceous species within the initial phases of disturbance and transition towards the climax community, replacing primary colonizers. Species observed in the PSA include sweetgum, wax myrtle, blackberry, eastern baccharis (*Baccharis halimifolia*), Chinese privet (*Ligustrum sinense*), Autumn olive (*Eleagnus errulate*), honey suckle (*Lonicera japonica*), broomsedge (*Andropogon sp.*), black cherry (*Prunus serotina*), and loblolly pine.

### 3.2.4 Freshwater Palustrine Emergent Wetlands

Freshwater palustrine emergent wetlands are characterized as inland freshwater areas dominated by aquatic plants and vegetation excluding mosses and lichens. Wildlife frequently use these emergent wetlands for nesting and feeding. Emergent vegetation commonly includes cattail, reeds, and sedges. Margins of these wetlands are often lined with sapling woody species such as alder (*Alnus serrulata*), birch (*Betula nigra*), and black willow.

## 4. Project Details

### 4.1 Construction

#### 4.1.1 Roadway and Bridge Construction

Construction is expected to begin in late 2024 and is expected to last approximately three years. This project is expected to be delivered via the design build method and final construction and design plans will be prepared by the selected contractor and submitted to the SCDOT. While means and methods of construction may not be final, the following is an outline of the likely construction activities and project designs. This may vary slightly depending on the selected contractor. While none are expected, changes from those proposed in this document that will result in greater impact effects to listed species will require additional coordination with SCDOT and federal agencies. The following is an outline of the likely construction activities and project designs.

During construction of the replacement bridges, traffic would be maintained on the existing facility. Maintenance and improvements would be made to the existing bridges while new structures are being built. Road construction generally entails the widening of the roadway approaches to the I-95 northbound

and southbound bridges as well as the overflow bridges on the northbound and southbound sides. Minor modifications to the rest area ramps may be needed to maintain alignment

New bridges would be built on a mix of concrete prestressed piles and drilled shafts with poured concrete support. Lighting would be installed for navigation and to meet SCDOT urban interstate lighting requirements (“Roadway Lighting on Interstate Routes in South Carolina”).

Improvements to the drainage system would be provided with the bridge replacements. In general, the existing drainage facilities are not proposed to change substantially. Existing parallel roadside ditches would remain or be reconstructed. Drainage of stormwater from surface runoff from the newly constructed bridges is proposed to be discharged via open scuppers.

#### 4.1.2 Site Preparation

Utility relocation work will likely be the initial project activity. Site clearing and grubbing will be necessary for some areas outside of the already maintained right-of-way. Grading of slopes will be required and will follow the established Stormwater Pollution Prevention Plan (SWPPP).

#### 4.1.3 Construction Access and Staging

Construction of temporary access areas in and near Lake Marion would include matting, barges, and work trestles. For access in deeper water and the main navigation channel of Lake Marion barges would be used for construction. Barges may be delivered and moved via water and transport vessels or via land on flatbed trucks with cranes and other heavy equipment. At no point would barges in the Lake Marion block more than 50% of the channel. Areas for staging, laydown, and equipment will be sited outside of aquatic habitats. Materials will be stored in designated upland areas and only clean fills and materials will be utilized for construction per SCDOT standard specs. Best management practices (BMPs), along with other proven procedures will be implemented to mitigate potential temporary impacts from construction. In addition, detailed engineering and construction plans will be developed for the Preferred Alternative, which will specify procedures to mitigate potentially adverse impacts.

#### 4.1.4 Potential Construction Impacts on Water Quality

While areas for staging, laydown and equipment will be sited outside of aquatic habitats, construction activities that are outside of aquatic habitats may still have the potential to impact water quality. As soils are disturbed, the movement of loose sediment that may contain pollutants downslope into ditches and other water bodies is possible. To eliminate or reduce sedimentation and turbidity SCDOT has specifications or BMPs available for the following elements: silt fence, sediment basins, drainage ditches,

sediment tubes, sandbag/straw barriers, slope drains, hydroseeding, hydraulic mulching, geotextile matting, and inlet/outlet protection.

Additionally, construction equipment has the potential to release petroleum products like oil, fuel, and hydraulic fluid. As part of the environmental compliance plan, measures will be implemented to reduce and minimize potential impacts to water quality like containment areas of fuel storage, clean up procedures for spills, and the development of a Spill Prevention Plan.

In accordance with South Carolina state stormwater regulations, BMPs, along with other proven procedures would be implemented to mitigate potential temporary impacts from construction. In addition, detailed engineering and construction plans would be developed for the Preferred Alternative, which would specify procedures to mitigate potentially adverse impacts.

## 4.2 Operations and Maintenance

Once construction is complete, much of the operations and maintenance of the roadway will take place in upland, maintained roadside habitat. Tasks such as routine mowing, guard rail repairs, road surface repairs, and stormwater infrastructure maintenance will be needed. Routine maintenance is expected on the existing and proposed new bridges including sanding/painting, deck resurfacing, concrete patching, and lighting replacement. SCDOT Maintenance will utilize BMPs to limit sediment and non-point source runoff resulting from maintenance activities.

## 5. Project Action Area

### 5.1 Project Action Area

The action area, as defined under 50 CFR §402.02, includes all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action. The project roadway action area includes approximately 332 acres, as shown in **Appendix A**.

### 5.2 Limits of an Action Area

The limits of the action area are within the PSA. The action area may be slightly modified again as the design team begins final road, bridge, and drainage design. Any activities that could potentially impact protected species, other than those already outlined in this document may require additional Section 7 coordination.

## 6. Effects Analysis

### 6.1 Direct and Indirect Effects

Direct and indirect effects to species will be avoided and minimized to maximum extent practicable. The anticipated direct impacts are to minor areas of potential foraging habitat. Generally, secondary or indirect impacts are induced by the initial action. They may be comprised of a variety of effects such as changes in land use, development patterns, water quality, wildlife habitat, and other natural systems. Transportation projects may influence development in localized areas and have environmental impacts resulting from land use changes, however the bridge replacements will not change existing access and development is not expected to vary. Risk factors include being struck by construction equipment or materials, construction-associated noise and turbidity, temporary or permanent loss of habitat, and temporary disruption of behavior patterns. In the case of endangered species, surveys were conducted within the survey window and no threatened or endangered species were identified. In the case of the plant species, surveys were conducted within the survey window and no protected species were identified. Potential impacts are as listed:

American wood stork: There are no known wood stork rookeries within the PSA, none were found during surveys, and no birds were present during field surveys. The proposed project may affect wood stork potential foraging habitat. While impacts will be minimized, areas of open waters and wetlands will be partially filled with widened bridge approaches and realigned roadway approaches. Foraging wood storks would likely avoid the construction area when activity and noise increases. Suitable foraging and nesting habitat exists within the forested wetlands and upland forests near open water located within the PSA including open ponds and wetlands. During surveys, the closest known nesting population is approximately 38.5 miles southwest of the PSA. **There is suitable habitat present, but no active nesting rookeries or birds were found during surveys. Therefore, the proposed project may affect, but is not likely to adversely affect American wood stork.**

Tricolored bat: Habitat conducive to seasonal occupation for the tricolored bat is located within the PSA. The PSA contains potentially suitable summer roosting and foraging habitat for this species within forested areas. No tricolored bats were identified during September 2022 field surveys, no suitable culverts or bridge structures were identified, and there are no known populations within the PSA. There will be no new substantial right of way required for this project. Minimal tree clearing in very small linear strips near I-95 may be required. **Therefore, the proposed project will have no effect on the tricolored bat.**



Canby's dropwort: This plant grows in moist areas in the coastal plain and sandhills, including wet meadows, wet pineland savannas, ditches, sloughs, and around the edges of Cypress-pine ponds. Canby's dropwort seems to be more prolific when the habitat has been burned. Suitable habitat for Canby's dropwort exists within ditches and other open wet areas (i.e., grass and sedge fields) located within the PSA. Surveys were conducted during the flowering period and the Canby's dropwort was not observed. **Therefore, the proposed project will have no effect on Canby's dropwort.**

American chaffseed: This plant grows in open moist pine flatwoods, fire-maintained pine savannas, and ecotones between peaty wetlands and other open areas dominated by grasses and sedges. Chaffseed seems to be more prolific when the habitat has been burned or mowed. Suitable habitat for American chaffseed does not exist within the PSA. Surveys were conducted during the flowering period and the American chaffseed was not observed. **Therefore, the proposed project will have no effect on American chaffseed.**

Red-cockaded woodpecker: Suitable habitat for nesting and foraging is not present within the PSA due to the absence of large hardwood trees such as longleaf pines. No red-cockaded woodpeckers were identified during the field surveys. **Therefore, the proposed project will have no effect to the red-cockaded woodpecker.**

West Indian Manatee: There are no occurrences of west Indian manatee within the PSA or in the surrounding lake due to the lack of suitable habitat within Lake Marion and restricted connectivity of Lake Marion to surrounding rivers, estuaries, and salt water habitat near and around the coast. **Therefore, the proposed project will have no effect to the West Indian Manatee.**

Bald Eagle: Habitat conducive for nesting and foraging within the PSA. The PSA has suitable trees for nesting in with limited disturbance as well as foraging ponds. Areas within the PSA provide habitat for foraging as well as nesting sites. Two pairs of bald eagles were observed during field surveys within the PSA. The project area and surrounding habitats contain a system of wetlands and open ponds, which provide alternative feeding habitats nearby. **Due to past and present land uses and management, the proposed action may affect, but is not likely to "disturb" bald eagles as defined within the BGEPA.**

## 6.2 Interrelated and Interdependent Actions and Activities

Interrelated and interdependent actions are those that are part of a larger action and depend on the larger action for their justification. There are no related or dependent actions to the I-95 Bridge Replacements project.

### 6.3 Migratory Bird Treaty Act

The federal MBTA 16 USC § 703-711, states that it is unlawful to pursue, hunt, take, capture or kill; attempt to take, capture or kill; possess, offer to or sell, barter, purchase, deliver or cause to be shipped, exported, imported, transported, carried or received any migratory bird, part, nest, egg or product, manufactured or not. The migratory bird species protected by the Act are listed in 50 CFR 10.13. The USFWS have statutory authority and responsibility for enforcing the MBTA (16 U.S.C. 703–712). Any activity which results in the take of migratory birds is prohibited unless authorized by the USFWS. Ground nests, arboreal nests, and nests built on man-made structures could occur within the project area. Numerous osprey nests are present within and along Lake Marion and within the PSA they are present on the high energy transmission powerlines. Additionally, nesting birds in the surrounding vegetated areas are likely.

## 7. Effect Determinations

This section includes effect determinations to listed species or those that may become listed in the relatively near future (**Table 2**). Of the seven endangered species, there will be no effect to the red-cockaded woodpecker. The project may affect, but is not likely to adversely affect American wood stork or Canby's dropwort. Regarding the species that may be listed in the future (tricolored bat), the project may affect, but is not likely to adversely affect this bat.

An ESA Section 7 project affect determination on bald eagle is not necessary as the species is no longer protected by the ESA and does not require Section 7 consultation. As proposed, there will be no impacts to bald eagle.

**Table 2. Protected or Proposed Species Effect Determinations**

Species	Protection Status	Biological Conclusion
Canby's dropwort ( <i>Oxypolis canbyi</i> )	Endangered	No effect
American chaffseed ( <i>Schwalbea americana</i> )	Endangered	No effect
American wood stork ( <i>Mycteria americana</i> )	Threatened	May Affect, Not Likely to Adversely Affect
Red-cockaded woodpecker ( <i>Picoides borealis</i> )	Threatened	No effect
West Indian Manatee ( <i>Trichechus manatus</i> )	Threatened	No effect

Species	Protection Status	Biological Conclusion
Tricolored bat ( <i>Perimyotis subflavus</i> )	At-Risk Species, Proposed as Endangered	Presumed Conclusion: No effect
Bald Eagle ( <i>Haliaeetus leucocephalus</i> )	Federally Protected	Not impact, not likely to disturb

## 8. Conservation Measures and Environmental Commitments

The SCDOT commits to implementing the following conservation measures, or actions, to minimize or compensate for effects to each species:

- Follow SCDOT Best Management Practices during construction.
- Obtain NPDES permit and prepare a Stormwater Pollution Prevention Plan
- Obligations under Section 7 of the Endangered Species Act must be considered if (1) new information reveals impacts associated with this project may affect listed species or critical habitat in a manner not previously considered, (2) the project is subsequently modified in a manner which was not considered in this assessment, or (3) a new species is listed or critical habitat is determined that may be affected by the proposed improvements.”
- Ensure equipment does not obstruct or impede passage through more than 50 percent of the main channel of Lake Marion.
- To avoid impacts to nesting birds, the contractor shall notify the Resident Construction Engineer (RCE) at least four weeks prior to construction/demolition/maintenance of bridges and box culverts. The RCE will coordinate with SCDOT Environmental Services Office (ESO), Compliance Division, to determine if there are any active birds using structures. After this coordination, it will be determined when construction/demolition/maintenance can begin. If a nest is observed that was not discovered after construction/demolition/maintenance has begun, the contractor will cease work and immediately notify the RCE, who will notify the ESO Compliance Division. The ESO Compliance Division will determine the next course of action. The use of any deterrents by the contractor designed to prevent birds from nesting, shall be approved by the RCE with coordination from the ESO Compliance Division.

## 9. References

- NMFS. 1998. Recovery Plan for the Shortnose Sturgeon (*Acipenser brevirostrum*). Prepared by the Shortnose Sturgeon Recovery Team for the National Marine Fisheries Service, Silver Spring, Maryland. 104 pages.
- SCDNR. 2020. South Carolina Bat Conservation Plan: Chapter 3 Species Accounts. Available at: <https://www.dnr.sc.gov/wildlife/bats/SCBatConservationPlanIntro.pdf> (Accessed August 2022).
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- USFWS. 2023. Occurrences of Federally Threatened, Endangered, and Candidate Animal Species in South Carolina. <https://www.fws.gov/office/south-carolina-ecological-services/library>
- USFWS. 2014. Endangered and Threatened Wildlife and Plants; Reclassification of the U.S. Breeding Population of the Wood Stork from Endangered to Threatened. Department of the Interior. Federal Register/Vol. 79, No. 125.
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- USFWS. 2007. National Bald Eagle Management Guidelines.  
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- USFWS. 1997. Revised Recovery Plan for the US Breeding Population of the Wood Stork. [https://www.fws.gov/northflorida/WoodStorks/Documents/19970127\\_rpp\\_Wood-stork-recovery-plan-1997.pdf](https://www.fws.gov/northflorida/WoodStorks/Documents/19970127_rpp_Wood-stork-recovery-plan-1997.pdf)

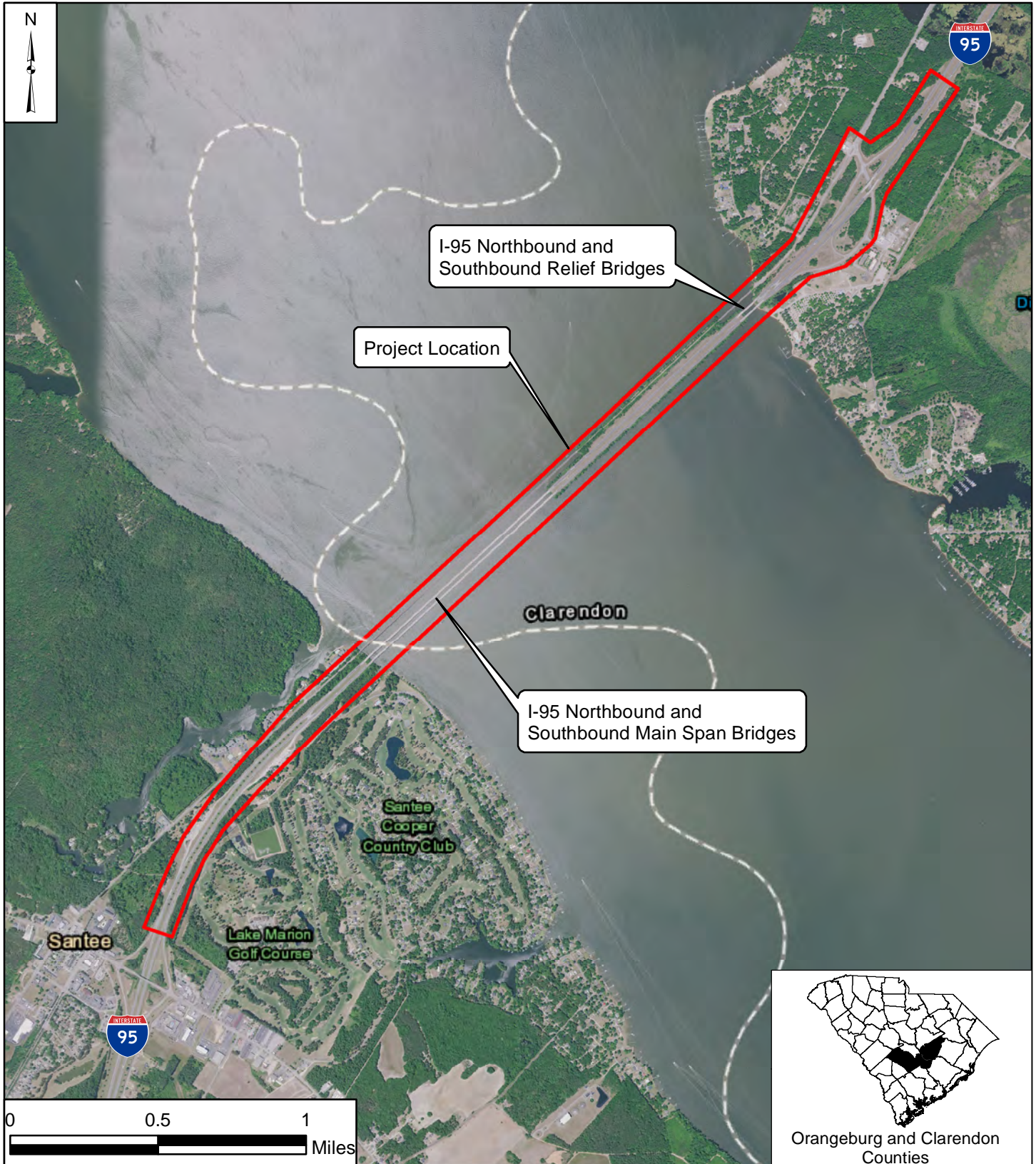
## **APPENDICES**

- Appendix A      Project Location Map**
- Appendix B      USFWS Clarendon and Orangeburg Counties Protected Species Lists**
- Appendix C      IPaC MA Verification Letter and Species List from USFWS South  
Carolina Ecological Services**



## **Appendix A**

### **Project Location Map**



I-95 over Lake Marion Bridge Replacements Design Build  
Orangeburg and Clarendon Counties



Legend

 Project Study Area

Drawn By: JLS

SCDOT P041130

February 2023

Project Location Map

## **Appendix B**

# **USFWS Clarendon and Orangeburg Counties Protected Species Lists**

## CLARENDON COUNTY

CATEGORY	COMMON NAME/STATUS	SCIENTIFIC NAME	SURVEY WINDOW/ TIME PERIOD	COMMENTS
<b>Bird</b>	American wood stork (T)	<i>Mycteria americana</i>	February 15-September 1	Nesting season
<b>Bird</b>	Bald eagle (BGEPA)	<i>Haliaeetus leucocephalus</i>	October 1-May 15	Nesting season
<b>Bird</b>	Red-cockaded woodpecker (E)	<i>Picoides borealis</i>	March 1-July 31	Nesting season
<b>Fish</b>	Atlantic sturgeon* (E)	<i>Acipenser oxyrinchus*</i>	February 1-April 30	Spawning migration
<b>Fish</b>	Shortnose sturgeon* (E)	<i>Acipenser brevirostrum*</i>	February 1-April 30	Spawning migration
<b>Insect</b>	Frosted elfin (ARS)	<i>Callophrys irus</i>	March - June	
<b>Insect</b>	Monarch butterfly (C)	<i>Danaus plexippus</i>	August-December	Overwinter population departs; March-April
<b>Mammal</b>	Tri-colored bat (ARS)	<i>Perimyotis subflavus</i>	Year round	Found in mines and caves in the winter
<b>Plant</b>	American chaffseed (E)	<i>Schwalbea americana</i>	May-August	1-2 months after a fire
<b>Plant</b>	Boykin's lobelia (ARS)	<i>Lobelia boykinii</i>	May-August	
<b>Plant</b>	Canby's dropwort (E)	<i>Oxypolis canbyi</i>	Mid-July-September	
<b>Plant</b>	Carolina-birds-in-a-nest (ARS)	<i>Macbridea caroliniana</i>	July-November	
<b>Reptile</b>	Eastern diamondback rattlesnake (ARS)	<i>Crotalus adamanteus</i>	Most of the year	Peak: April-November
<b>Reptile</b>	Spotted turtle (ARS)	<i>Clemmys guttata</i>	February-mid April	

**Note: There are no federally protected species found in this county in the amphibian, crustacean, and mollusk family categories.**

## ORANGEBURG COUNTY

CATEGORY	COMMON NAME/STATUS	SCIENTIFIC NAME	SURVEY WINDOW/ TIME PERIOD	COMMENTS
<b>Amphibian</b>	Gopher frog (ARS)	<i>Lithobates capito</i>	Breeding: October-March	Call survey: February-April
<b>Bird</b>	American wood stork (T)	<i>Mycteria americana</i>	February 15-September 1	Nesting season
<b>Bird</b>	Bald eagle (BGEPA)	<i>Haliaeetus leucocephalus</i>	October 1-May 15	Nesting season
<b>Bird</b>	Red-cockaded woodpecker (E)	<i>Picoides borealis</i>	March 1-July 31	Nesting season
<b>Fish</b>	Atlantic sturgeon* (E)	<i>Acipenser oxyrinchus*</i>	February 1-April 30	Spawning migration
<b>Fish</b>	Shortnose sturgeon* (E)	<i>Acipenser brevirostrum*</i>	February 1-April 30	Spawning migration
<b>Insect</b>	Monarch butterfly (C)	<i>Danaus plexippus</i>	August-December	Overwinter population departs; March-April
<b>Mammal</b>	Tri-colored bat (ARS)	<i>Perimyotis subflavus</i>	Year round	Found in mines and caves in the winter
<b>Plant</b>	Boykin's lobelia (ARS)	<i>Lobelia boykinii</i>	May-August	
<b>Plant</b>	Canby's dropwort (E)	<i>Oxpolis canbyi</i>	Mid-July-September	
<b>Plant</b>	Carolina-birds-in-a-nest (ARS)	<i>Macbridea caroliniana</i>	July-November	
<b>Reptile</b>	Eastern diamondback rattlesnake (ARS)	<i>Crotalus adamanteus</i>	Most of the year	Peak: April-November

**Note: There are no federally protected species found in this county in the crustacean and mollusk family categories.**



## **Appendix C**

### **IPaC MA Verification Letter and Species List from USFWS South Carolina Ecological Services**



## United States Department of the Interior



FISH AND WILDLIFE SERVICE  
South Carolina Ecological Services  
176 Croghan Spur Road, Suite 200  
Charleston, SC 29407-7558  
Phone: (843) 727-4707 Fax: (843) 727-4218

In Reply Refer To:

February 08, 2023

Project Code: 2023-0043187

Project Name: I-95 OVER LAKE MARION BRIDGE REPLACEMENTS

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2) (c)). For projects other than major construction activities, the Service suggests that a biological

evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

<http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF>

**Northern Long-eared Bat:** On November 30, 2022, the U.S. Fish and Wildlife Service published our final rule to reclassify the northern long-eared bat as endangered under the Endangered Species Act. Based on a thorough review of the species' status, we found the species, currently listed as threatened, now meets the definition of endangered under the act due to the range-wide impacts of white-nose syndrome. The rule becomes effective on March 31, 2023.

The reclassification removes the current 4(d) rule for the NLEB, as these rules may be applied only to threatened species. Depending on the type of effects a project has on NLEB, the change in the species' status may trigger the need to re-initiate consultation for any actions that are not completed and for which the Federal action agency retains discretion once the new listing determination becomes effective. If your project may require re-initiation of consultation, please contact our office for additional guidance.

Final Rule: <https://www.federalregister.gov/documents/2022/11/30/2022-25998/endangered-and-threatened-wildlife-and-plants-endangered-species-status-for-northern-long-eared-bat>  
Species Information: <https://www.fws.gov/species/northern-long-eared-bat-myotis-septentrionalis>

**Migratory Birds:** In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts see <https://www.fws.gov/birds/policies-and-regulations.php>.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and

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recommended conservation measures see <https://www.fws.gov/birds/bird-enthusiasts/threats-to-birds.php>.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit <https://www.fws.gov/birds/policies-and-regulations/executive-orders/e0-13186.php>.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
  - USFWS National Wildlife Refuges and Fish Hatcheries
  - Migratory Birds
  - Marine Mammals
  - Wetlands
-

## **Official Species List**

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

### **South Carolina Ecological Services**

176 Croghan Spur Road, Suite 200

Charleston, SC 29407-7558

(843) 727-4707

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## Project Summary

Project Code: 2023-0043187

Project Name: I-95 OVER LAKE MARION BRIDGE REPLACEMENTS

Project Type: Bridge - Replacement

Project Description: SCDOT proposes to replace four bridges along I-95 over Lake Marion in Clarendon and Orangeburg Counties. This includes the large two-lane northbound and southbound bridges over Lake Marion and the smaller two-lane northbound and southbound relief bridges over the lake. The Lake Marion relief bridges provide an overflow for Lake Marion to the north of an existing causeway. Additionally, the replacement of the existing I-95 Lake Marion southbound vehicular bridges would accommodate pedestrian and bicycle facility. Additionally, abandoned in-water wooden pilings to the west of the current I-95 bridges and east of the US 301 bridge, would also be removed. The large in-water billboard west of the US 301 bridge would be retained.

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@33.508753999999996,-80.44816752245137,14z>



Counties: Clarendon and Orangeburg counties, South Carolina

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## Endangered Species Act Species

There is a total of 5 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries<sup>1</sup>, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

### Mammals

NAME	STATUS
West Indian Manatee <i>Trichechus manatus</i> There is <b>final</b> critical habitat for this species. Your location does not overlap the critical habitat. <b><i>This species is also protected by the Marine Mammal Protection Act, and may have additional consultation requirements.</i></b> Species profile: <a href="https://ecos.fws.gov/ecp/species/4469">https://ecos.fws.gov/ecp/species/4469</a>	Threatened

### Birds

NAME	STATUS
Red-cockaded Woodpecker <i>Picoides borealis</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/7614">https://ecos.fws.gov/ecp/species/7614</a>	Endangered

### Insects

NAME	STATUS
Monarch Butterfly <i>Danaus plexippus</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/9743">https://ecos.fws.gov/ecp/species/9743</a>	Candidate

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## Flowering Plants

NAME	STATUS
American Chaffseed <i>Schwalbea americana</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/1286">https://ecos.fws.gov/ecp/species/1286</a>	Endangered
Canby's Dropwort <i>Oxypolis canbyi</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/7738">https://ecos.fws.gov/ecp/species/7738</a>	Endangered

## Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

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# USFWS National Wildlife Refuge Lands And Fish Hatcheries

Any activity proposed on lands managed by the [National Wildlife Refuge](#) system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

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## Migratory Birds

Certain birds are protected under the Migratory Bird Treaty Act<sup>1</sup> and the Bald and Golden Eagle Protection Act<sup>2</sup>.

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described [below](#).

- 
1. The [Migratory Birds Treaty Act](#) of 1918.
  2. The [Bald and Golden Eagle Protection Act](#) of 1940.
  3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

**The birds listed below are birds of particular concern either because they occur on the [USFWS Birds of Conservation Concern \(BCC\)](#) list or warrant special attention in your project location.** To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ [below](#). This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the [E-bird data mapping tool](#) (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found [below](#).

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
American Kestrel <i>Falco sparverius paulus</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA <a href="https://ecos.fws.gov/ecp/species/9587">https://ecos.fws.gov/ecp/species/9587</a>	Breeds Apr 1 to Aug 31
Bald Eagle <i>Haliaeetus leucocephalus</i> This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.	Breeds Sep 1 to Jul 31

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NAME	BREEDING SEASON
<b>Brown-headed Nuthatch <i>Sitta pusilla</i></b> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds Mar 1 to Jul 15
<b>Chimney Swift <i>Chaetura pelagica</i></b> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Mar 15 to Aug 25
<b>Eastern Whip-poor-will <i>Antrostomus vociferus</i></b> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 1 to Aug 20
<b>Henslow's Sparrow <i>Ammodramus henslowii</i></b> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. <a href="https://ecos.fws.gov/ecp/species/3941">https://ecos.fws.gov/ecp/species/3941</a>	Breeds elsewhere
<b>Kentucky Warbler <i>Oporornis formosus</i></b> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Apr 20 to Aug 20
<b>King Rail <i>Rallus elegans</i></b> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. <a href="https://ecos.fws.gov/ecp/species/8936">https://ecos.fws.gov/ecp/species/8936</a>	Breeds May 1 to Sep 5
<b>Lesser Yellowlegs <i>Tringa flavipes</i></b> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. <a href="https://ecos.fws.gov/ecp/species/9679">https://ecos.fws.gov/ecp/species/9679</a>	Breeds elsewhere
<b>Painted Bunting <i>Passerina ciris</i></b> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds Apr 25 to Aug 15
<b>Prairie Warbler <i>Dendroica discolor</i></b> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 1 to Jul 31
<b>Prothonotary Warbler <i>Protonotaria citrea</i></b> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Apr 1 to Jul 31
<b>Red-headed Woodpecker <i>Melanerpes erythrocephalus</i></b> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Sep 10
<b>Rusty Blackbird <i>Euphagus carolinus</i></b> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds elsewhere

NAME	BREEDING SEASON
<b>Short-billed Dowitcher <i>Limnodromus griseus</i></b> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. <a href="https://ecos.fws.gov/ecp/species/9480">https://ecos.fws.gov/ecp/species/9480</a>	Breeds elsewhere
<b>Swallow-tailed Kite <i>Elanoides forficatus</i></b> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. <a href="https://ecos.fws.gov/ecp/species/8938">https://ecos.fws.gov/ecp/species/8938</a>	Breeds Mar 10 to Jun 30
<b>Wood Thrush <i>Hylocichla mustelina</i></b> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Aug 31
<b>Yellow Rail <i>Coturnicops noveboracensis</i></b> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. <a href="https://ecos.fws.gov/ecp/species/9476">https://ecos.fws.gov/ecp/species/9476</a>	Breeds elsewhere

## Probability Of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

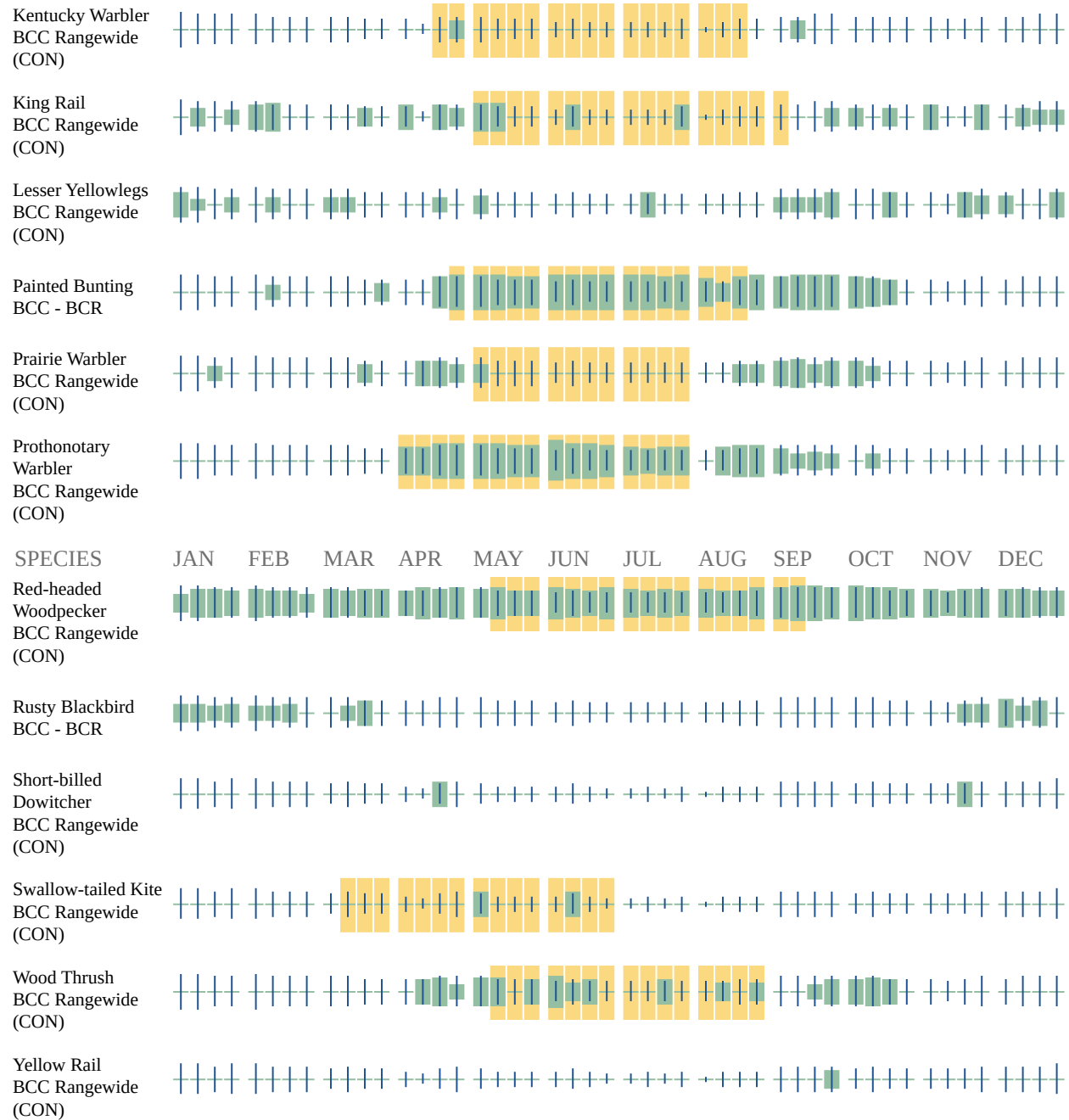
### Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12





Additional information can be found using the following links:

- Birds of Conservation Concern <https://www.fws.gov/program/migratory-birds/species>
- Measures for avoiding and minimizing impacts to birds <https://www.fws.gov/library/collections/avoiding-and-minimizing-incident-take-migratory-birds>
- Nationwide conservation measures for birds <https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf>

## Migratory Birds FAQ

**Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.**

[Nationwide Conservation Measures](#) describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. [Additional measures](#) or [permits](#) may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

**What does IPaC use to generate the list of migratory birds that potentially occur in my specified location?**

The Migratory Bird Resource List is comprised of USFWS [Birds of Conservation Concern \(BCC\)](#) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle ([Eagle Act](#) requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the [Rapid Avian Information Locator \(RAIL\) Tool](#).

**What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?**

The probability of presence graphs associated with your migratory bird list are based on data provided by the [Avian Knowledge Network \(AKN\)](#). This data is derived from a growing collection of [survey, banding, and citizen science datasets](#).

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

**How do I know if a bird is breeding, wintering or migrating in my area?**

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may query your location using the [RAIL Tool](#) and look at the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point

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within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

### **What are the levels of concern for migratory birds?**

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are [Birds of Conservation Concern](#) (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the [Eagle Act](#) requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

### **Details about birds that are potentially affected by offshore projects**

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the [Northeast Ocean Data Portal](#). The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the [NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf](#) project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the [Diving Bird Study](#) and the [nanotag studies](#) or contact [Caleb Spiegel](#) or [Pam Loring](#).

### **What if I have eagles on my list?**

If your project has the potential to disturb or kill eagles, you may need to [obtain a permit](#) to avoid violating the Eagle Act should such impacts occur.

### **Proper Interpretation and Use of Your Migratory Bird Report**

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no

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data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

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# Marine Mammals

Marine mammals are protected under the [Marine Mammal Protection Act](#). Some are also protected under the Endangered Species Act<sup>1</sup> and the Convention on International Trade in Endangered Species of Wild Fauna and Flora<sup>2</sup>.

The responsibilities for the protection, conservation, and management of marine mammals are shared by the U.S. Fish and Wildlife Service [responsible for otters, walruses, polar bears, manatees, and dugongs] and NOAA Fisheries<sup>3</sup> [responsible for seals, sea lions, whales, dolphins, and porpoises]. Marine mammals under the responsibility of NOAA Fisheries are **not** shown on this list; for additional information on those species please visit the [Marine Mammals](#) page of the NOAA Fisheries website.

The Marine Mammal Protection Act prohibits the take of marine mammals and further coordination may be necessary for project evaluation. Please contact the U.S. Fish and Wildlife Service Field Office shown.

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1. The [Endangered Species Act](#) (ESA) of 1973.
  2. The [Convention on International Trade in Endangered Species of Wild Fauna and Flora](#) (CITES) is a treaty to ensure that international trade in plants and animals does not threaten their survival in the wild.
  3. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

NAME

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West Indian Manatee *Trichechus manatus*

Species profile: <https://ecos.fws.gov/ecp/species/4469>

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## Wetlands

Impacts to [NWI wetlands](#) and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

### RIVERINE

- [R5UBH](#)

### LAKE

- [L1UBHh](#)
- [L2AB4Hh](#)

### FRESHWATER POND

- [PUBHx](#)

### FRESHWATER FORESTED/SHRUB WETLAND

- [PFO1A](#)
-

## **IPaC User Contact Information**

Agency: Civil Engineering Consulting Services  
Name: Asha Wallace  
Address: 2000 Park Street  
Address Line 2: Unit 201  
City: Columbia  
State: SC  
Zip: 29210  
Email: wallacea@cecsinc.com  
Phone: 8037790311

## **Lead Agency Contact Information**

Lead Agency: Department of Transportation  
Name: Will McGoldrick  
Email: McGoldriWR@scdot.org  
Phone: 8037371326

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## **Appendix L**

### **NOAA-NMFS Biological Assessment**



**UNITED STATES DEPARTMENT OF COMMERCE**  
**National Oceanic and Atmospheric Administration**  
**NATIONAL MARINE FISHERIES SERVICE**

Southeast Regional Office  
263 13<sup>th</sup> Avenue South  
St. Petersburg, Florida 33701-5505  
<https://www.fisheries.noaa.gov/region/southeast>

12/8/2023

F/SER31:JC  
SERO-2023-00701

William McGoldrick, Assoc. DBIA  
Alternative Delivery Environmental Manager  
South Carolina Department of Transportation  
955 Park Street  
Columbia, South Carolina 20202-0191

Ref.: South Carolina Department of Transportation on behalf of the Federal Highway Administration, I-95 Replacement Bridge over Lake Marion and Removal of Existing I-95 Bridge and a Remnant Footbridge, Clarendon and Orangeburg Counties, South Carolina – EXPEDITED TRACK

Dear William McGoldrick,

This letter responds to your November 3, 2023, request pursuant to Section 7 of the Endangered Species Act (ESA) for consultation with the National Marine Fisheries Service (NMFS) on the subject action.

We reviewed the action agency's consultation request document and related materials. Based on our knowledge, expertise, and the action agency's materials, we concur with the action agency's conclusions that the proposed action is not likely to adversely affect the NMFS ESA-listed species and/or designated critical habitat.

On July 5, 2022, the U.S. District Court for the Northern District of California issued an order vacating the 2019 regulations that were revised or added to 50 CFR part 402 in 2019 ("2019 Regulations," see 84 FR 44976, August 27, 2019) without making a finding on the merits. On September 21, 2022, the U.S. Court of Appeals for the Ninth Circuit granted a temporary stay of the district court's July 5 order. On November 14, 2022, the Northern District of California issued an order granting the government's request for voluntary remand without vacating the 2019 regulations. The District Court issued a slightly amended order two days later on November 16, 2022. As a result, the 2019 regulations remain in effect, and we are applying the 2019 regulations here. For purposes of this consultation and in an abundance of caution, we considered whether the substantive analysis and conclusions articulated in the letter of concurrence would be any different under the pre-2019 regulations. We have determined that our analysis and conclusions would not be any different.

This concludes your consultation responsibilities under the ESA for species and/or designated critical habitat under NMFS's purview. Reinitiation of consultation is required and shall be requested by the action agency or by NMFS where discretionary Federal involvement or control over the action has been retained or is authorized by law and: (a) take occurs; (b) new information reveals effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered in this consultation; (c) the action is subsequently modified in a manner that causes an effect to the listed species or critical habitat



not previously considered in this consultation; or (d) if a new species is listed or critical habitat designated that may be affected by the action.

We look forward to further cooperation with you on other projects to ensure the conservation of our threatened and endangered marine species and designated critical habitat. If you have any questions on this consultation, please contact Joseph Cavanaugh, Consultation Biologist, at (727) 551-4097 or by email at Joseph.Cavanaugh@noaa.gov.

Sincerely,

REECE.KARLA.MICHELLE.1365  
HELLE.1365885962  
Date: 2023.12.08 08:59:46 -05'00'

for

David Bernhart  
Assistant Regional Administrator  
for Protected Resources

File: 1514-22.1.2

**TEMPLATE for Request to NOAA Fisheries Southeast Regional Office  
for Initiation of Expedited Informal Consultation**

Template Version: October, 2021

Submittal Date: May 11, 2023; Revised November 3, 2023

Mr. David Bernhart  
Assistant Regional Administrator for Protected Resources  
National Marine Fisheries Service  
Southeast Regional Office  
St. Petersburg, Florida

Re: Request for Initiation of Expedited Informal Consultation under section 7(a)(2) of the Endangered Species Act for I-95 over Lake Marion Bridge Replacements Project.

Dear Mr. Bernhart:

The South Carolina Department of Transportation (SCDOT), on behalf of the Federal Highway Administration (FHWA) proposes to carry out the proposed project as described below. We request initiation of informal consultation under section 7(a)(2) of the Endangered Species Act (ESA) for the I-95 over Lake Marion bridge replacements project (Figure 1). We have determined that the proposed activity may affect, but is not likely to adversely affect, the ESA-listed species and habitat included in the table(s) below. Our supporting analysis is provided below. We request your written concurrence with our determinations.

Pursuant to our request for expedited informal consultation, we are providing, enclosing, or otherwise identifying the following information:

- A description of the action to be considered;
- A description of the action area;
- A description of any listed species or critical habitat that may be affected by the action; and
- An analysis of the potential routes of effect on any listed species or habitat.

Appendices supporting this request include:

Appendix A – Conceptual Plans

Appendix B – National Marine Fisheries Service (NMFS) Protected Species Construction



Conditions

Appendix C – US Fish and Wildlife Service (USFWS) South Carolina List of At-Risk, Candidate, Endangered, and Threatened Species by County

Appendix D - NMFS Multi-species Pile Driving Tool Impact Report

Appendix E - US 301 Bridge and Related Structures Photo Log

The proposed bridge replacement project does not meet the *Programmatic Biological Evaluation (NLAA) on the Effects of Transportation Activities and Projects Regularly Undertaken in North Carolina, South Carolina, and Georgia* (NMFS/FHWA 2018).

**Figure 1. Project Location Map**





## Proposed Action

This proposed project is intended to maintain connectivity and a safe interstate facility for the traveling public along I-95 over Lake Marion. SCDOT proposes to replace four bridges along I-95 over Lake Marion in Clarendon and Orangeburg Counties. This includes the long two-lane northbound and southbound bridges over Lake Marion and the shorter two-lane northbound and southbound relief bridges over the lake. The Lake Marion relief bridges provide an overflow for Lake Marion to the north of an existing causeway. Additionally, the replacement of the existing I-95 Lake Marion southbound vehicular bridges would include the construction of a new two-way pedestrian and bicycle facility. The adjacent existing former US 301 bridge would be demolished and removed. Additionally, the large in-water free-standing structures west of the US 301 bridge (one contains a billboard), abandoned in-water standalone concrete piers, and the abandoned timber piles near the free-standing structures would also be demolished and removed.

The existing structures have two lanes of traffic that carry northbound and southbound I-95 traffic from one side of Lake Marion in Clarendon County to the other side of the lake near the town of Santee in Orangeburg County. The replacement structures would provide two 12-foot travel lanes in both the southbound and northbound directions. A 10-foot minimum inside shoulder (shoulders may be wider due to staging requirements) and 12-foot outside shoulder would be provided. Additionally, there would be a barrier-separated 14-foot shared use path for pedestrians and bicyclists on the southbound bridge only. The bridge deck widths would be large enough to accommodate an additional 12-foot travel lane in the future, if needed. Improvements to the drainage system would be provided with the bridge replacements. In general, the existing drainage facilities are not proposed to change substantially. Existing parallel roadside ditches would remain or be reconstructed. Drainage of stormwater from surface runoff from the newly constructed bridges is proposed to be discharged via open scuppers. There is currently no public fishing allowed from the I-95 northbound and southbound bridges and access for fishing would not be provided with the new I-95 facilities. The proposed minimum horizontal clearance for the main navigational opening would be 50 feet. This configuration would be the same as the existing bridge clearance. The vertical clearance of the proposed fixed span bridge would be 100 feet for clearance for the main navigational opening to meet the needs of waterway users in the area.

Clean rip rap would be mechanically applied to toe of the slope, on the banks, beginning at Bent 1 (**Appendix A, Conceptual Plans**). This would be at a 2:1 slope in a silty clay sand mix. Rip rap would cover 25 vertical feet of slope for the linear length of the bridge (approximately 120 linear feet or 3,000 square feet of rip rap along each bank. This would be located above the water line.

Work is expected to commence in 2025 and take approximately 3 years to complete. Please see the attached Conceptual Plans in **Appendix A**, detailing the bridge construction and staging.



As an overview, the type and sequence of actions during construction would include:

- Install temporary work surfaces including trestles, barges, and matting adjacent to the existing bridges.
- At the relief bridges, it is anticipated that new structures will be constructed between the existing bridges. Once traffic is shifted to the new bridges, the old relief bridges will be demolished. With the old structures demolished, the remaining portions of the bridge and multiuse path will be constructed.
- At the main span bridges, new bridge structure would be constructed along a similar alignment, supported by drilled shafts.
- Restripe lanes to allow traffic to shift to the new portion of bridge.
- Demolish northern/upstream/southbound portion of existing I-95 bridge.
- Construct new portion of northern/upstream/southbound bridge, supported by a mix of drilled shafts and steel pipe piles.
- Demolish southern/downstream/northbound portion of existing I-95 bridge.
- Construct remaining portions of the new northbound bridge.
- Restripe lanes for final traffic configuration.
- Demolish the US 301 bridge as well as the in-water structures west of the US 301 bridge.

A Non-Programmatic Categorical Exclusion is being prepared concurrently and consultation is underway for this project.

### **Temporary Access**

Deeper water and the navigable channel of Lake Marion would be accessed via barges for construction to reduce the amount of temporary work trestle needed in the channel. Barges may be delivered and moved via water and transport vessels or via land on flatbed trucks with cranes and other heavy equipment. In-water delivery vessels and small motor craft for crew access would operate at slow rates of speed enroute to, and within, the project area. At no point would barges or temporary work trestles in Lake Marion block more than 50% of the channel. No more than 50 percent of the waterway of Lake Marion will be impeded at one time due to construction or demolition to allow for the natural movement of sturgeon. Barges would be generally stationary so no speed would be routinely generated. For one-time arrival and departures, speeds would vary from 5-10 miles per hour. Barge size would vary but a standard barge is 5 feet wide and 10 feet long.

Temporary work trestles would be placed in relatively shallow depth areas near the banks of Lake Marion for construction access to the relief bridges and a portion of the main span bridges (**Appendix A, Conceptual Plans**). Temporary work trestle would be supported by steel pipe piles



installed in via an impact hammer. Access to the trestles would be gained by existing fill or temporary matting. Temporary piles to support the trestle would be vibrated out or cut off at the lake bed line when no longer needed. Removal is expected to take approximately one hour per pile. Table 1 outlines temporary trestle pile details.

**Table 1. Pile Installation (Temporary Work Trestle\*)**

Pile Type and Material	<i>HP Steel Pile</i>
Pile Diameter (inches)	<i>30</i>
Number of Piles Total	<i>200</i>
Installation Method	<i>Impact</i>
Number of Strikes per Pile (for impact hammer)	<i>2,000</i>
Number of Piles Installed per Day (if using impact or vibratory hammer)	<i>1 days for 5 piles (2 hours of pile driving every 3 days)</i>
Duration of pile driving activity (days)	<i>40 days</i>
Substrate and water depth in pile installation area	<i>Silt to limestone</i>
Confined Space or Open Water?	<i>Open Water</i>
Noise abatement used	<i>Nylon cushion block and slow starts</i>

\*Final design for the temporary work trestle would not be completed until the project is awarded to a contractor.

**Drilled Shaft Installation**

Drilled shafts are proposed to support both the relief bridges and the main span bridges. At the relief bridges, bents 2 through 5 are the only bents that would be within Lake Marion and these would be supported by drilled shafts. Bents 2 through 35 are the only bents that would be within the water of Lake Marion at the main span crossing and these would also be supported by drilled shafts. To install, steel casing would be installed at each location using a driving method with an impact hammer. Inside of the casing would be drilled so that rebar cage can be constructed. Concrete would then be poured into the casing to create a large support structure in the water. There would be a total of 36 drilled shafts for the relief bridges and 273 drilled shafts for the main span bridges. Detail regarding the drilled shafts can be found in Table 2.



**Table 2. Drilled Shaft Installation (Permanent)**

Pile Type and Material	<i>Drilled shafts</i>
Pile Diameter (inches)	<i>84</i>
Number of Piles Total	<i>309 in water</i>
Installation Method	<i>Drilled</i>
Number of Strikes per Pile (if using impact hammer) or Number of Seconds of Vibration per Pile (if using vibratory hammer)	<i>2,000</i>
Number of Piles Installed per Day (if using impact or vibratory hammer)	<i>2</i>
Duration of drilled shaft activity (days)	<i>0.5 days/ bent. Total days = 154.5</i>
Substrate and water depth in pile installation area	<i>Silt to limestone</i> <i>Water depth 3ft to 18 ft</i>
Confined Space or Open Water?	<i>Open Water</i>
Noise abatement used	<i>Slow starts</i>

**Demolition**

Demolition of the existing I-95 bridges, the former US 301 bridge, standalone piers, and in-water standalone concrete piers is proposed and would occur in phases. The main method of demolition would be dismantling in place. The first phase of the conventional demolition would begin by removing the railing in pieces and then saw cutting the concrete deck and moving it away from the substructure using cranes or excavators. Shielding may be placed under the bridge to keep debris from falling into the waterway. Once the deck is removed, the girders will be dismantled in place and a crane or excavator will remove these elements to a trestle or barge for removal. The last phase will include the demolition of the piers of the high-level structures as well as the underwater cutting and breaking of piles and their removal from the waterway. The removal of the piles will be performed per SCDOT Specifications. Some existing timber piles of the former US 301 bridge may not be removed, as they are not all visible.



Blasting and explosives are not currently approved for demolition. If the contractor wishes to utilize blasting methods, SCDOT would be responsible for re-initiating consultation with USFWS and NOAA-NMFS. The contractor would be required to develop a specific blasting plan to submit to SCDOT. The contractor would be required to hire qualified personnel to evaluate the potential effect on protected species to include in the submittal to SCDOT. Above-water work at night is proposed due to the need for safety-related lane-closures. Details regarding the US 301 bridge piles and related structures can be found in Table 3 and in **Appendix E: US 301 Bridge and Related Structures**.

**Table 3. US 301 Bridge Piles and Related Structures**

<b>Pile Type and Material</b>	<b>Number of Piles</b>
Cylindrical Concrete Piles	528
Concrete Column Bents with Struts	45
Stand-alone Platform Piles	18
Stand-alone Struts	3
Stand-alone Timber Piles*	19

\*Rough estimate due to unknown number of timber piles below the water surface.

**Conservation Measures and BMPs**

- The [Protected Species Construction Conditions](#) (NOAA Fisheries, Southeast Regional Office) would be followed and have been included as an environmental commitment in the National Environmental Policy Act document (**Appendix B**).
- Nylon cushion block to be used for noise abatement.
- Blasting for demolition activities is not proposed at this time. If blasting is deemed necessary, the SCDOT will develop a blasting plan for review prior to beginning any demolition activities. This plan would include a marine wildlife watch plan to submit to SCDOT. If explosives are used for demolition, the contractor would be required to hire qualified personnel to evaluate the potential effect on protected species to submit to SCDOT. SCDOT would be responsible for re-initiating consultation with USFWS and NOAA-NMFS.

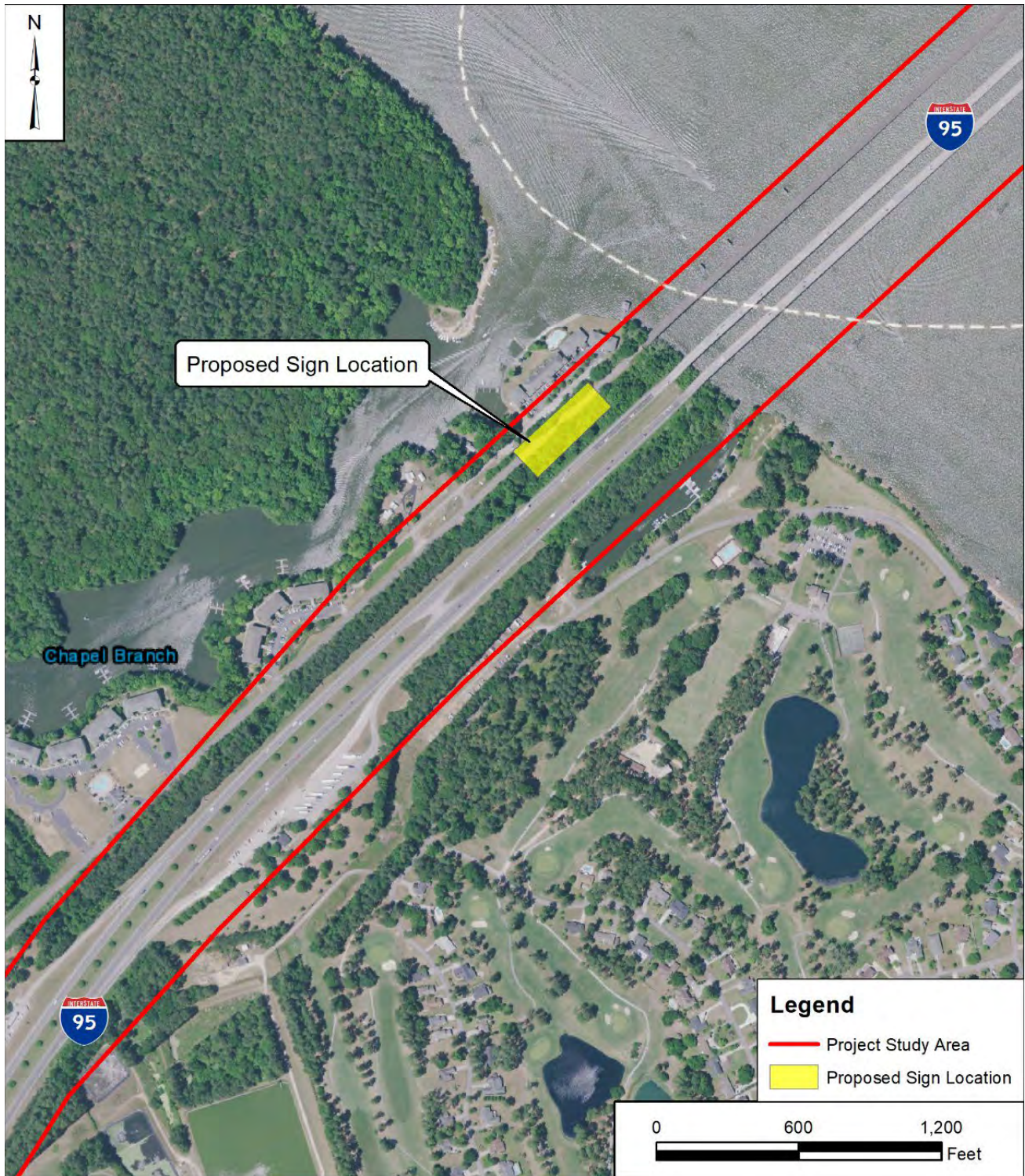




- Use of “slow starts” for pile driving or removal, barge movement, and other vessel movement where activity ramps up slowly in an effort to deter marine species from the work area.
- Turbidity curtain would be used to maintain water quality. At no point would curtain completely span the full navigable channel of Lake Marion. Turbidity curtain will not be allowed to block more than 50% of the navigable channel.
- Given the potential for temporary siltation and erosion, the contractor would be required to minimize these actions through implementation of construction Best Management Practices (BMPs), reflecting policies contained in 23 CFR 650B and SCDOT’s Supplemental Specifications on Seeding and Erosion Control Measures of August 15, 2001. In addition, no contaminants will be released into the water. SCDOT has emergency spill recommendations to the contractor in the event of an accident. If a leak is evident or a spill occurs, the contractor would be notified and would verify that it is mitigated as soon as practical by authorized personnel. Any unused or contaminated materials would be disposed of in accordance with Federal, State, and local laws.
- Equipment and materials would not obstruct or impede passage through more than 50 percent of the waterway of Lake Marion.
- The contractor would stop in-water work at night for a minimum of 8 hours; night-time lane closures along the existing I-95 lanes would be allowed for the delivery of materials.
- In partnership with SCDNR, approved educational signage related to sturgeon will be installed near Lake Marion and adjacent to I-95. The approved signage would include information pertaining to sturgeon as well as the relevant contact information for SCDNR. SCDOT is proposing up to six signs will be placed with two signs located along Bass Drive on the southern terminus and two signs located along State Road 14-230 and two signs at adjacent popular fishing areas at the northern terminus. The proposed general locations are shown in **Figures 2 and 3: Proposed SCDNR Educational Signage Locations**.
- An appropriate National Pollution Discharge Elimination System permit would be obtained.
- A Stormwater Pollution Prevention Plan would be created.



Figure 2: Proposed SCDNR Educational Signage General Locations (Orangeburg County)





**Figure 3: Proposed SCDNR Educational Signage General Locations (Clarendon County)**



## Description of the Action Area

The *action area* is all areas to be affected by the Federal action and not merely the immediate area involved in the action (50 CFR 402.02). *Effects of the action* are all consequences to listed species or critical habitat that are caused by the proposed action, including the consequences of other activities that are caused by the proposed action. A consequence is caused by the proposed action if it would not occur but for the proposed action and it is reasonably certain to occur. Effects of the action may occur later in time and may include consequences occurring outside the immediate area involved in the action. The action area is distinct from and can be larger than the project footprint because some elements of the project may affect listed species or critical habitat some distance from the project footprint. The action area, therefore, extends out to a point where no effects from the project are expected to occur.

For this project, the action area extends beyond the 332-acre direct project area and extends beyond the project limits to account for areas of potential noise transmission, sediment migration, and other offsite impacts.

The action area, as currently proposed, extends approximately 1,000 feet east and west of the proposed project. The basis for the selection of the 1,000 feet east and west of the proposed project was due to the limits of the proposed action, potential effects to sturgeon, and potential turbidity effects and in Lake Marion.

The action area corners are:

**NW:** 33.521808, -80.243775      **NE:** 33.515489, -80.433061

**SW:** 33.503803, -80.461072      **SE:** 33.499183, -80.454333

The habitat in this area includes:

- Open freshwater community formed from a dammed riverine feature, Lake Marion;
- a substrate of unconsolidated sand and silt with tree remanents;
- a lake classified as freshwater by the South Carolina Department of Health and Environmental Control with low salinity and low water-quality;
- surrounding terrestrial habitat type comprised of mixed pine/hardwood forests, scrub/shrub, and freshwater palustrine emergent wetlands;
- rural adjacent land uses with relatively few sources of major water withdrawals, when compared to other South Carolina lakes.



## Potentially Affected NMFS ESA-Listed Species and Critical Habitat

The federally protected species county list for Orangeburg and Clarendon Counties was obtained from the USFWS Charleston Field Office website (USFWS 2022). Atlantic sturgeon and shortnose sturgeon are the only protected species listed that fall under the direct jurisdiction of NMFS (**Appendix C**).

There is a population of shortnose sturgeon that lives in Lake Marion year-round due to the lake being isolated by the dam at the Pinopolis Lock. Telemetry data collected by SCDNR from 2011 to 2016 indicates that shortnose sturgeon have been detected both downstream and upstream of the I-95 bridges. Sturgeon appear to occupy the project area throughout the year and move towards I-95, but do not remain in this location for an extended period of time. A major well-traveled or known migration route in this area has not been detected (Bill Post, personal communication, September 22, 2022). The population of shortnose sturgeon in Lake Marion ranged from 207 to 286 individuals (Post and Holbrook 2016). It is also reasonable to assume that there are non-tagged individuals that make up a higher total population of sturgeon in Lake Marion.

Atlantic sturgeon are not known to persist in Lake Marion and are not expected to, based on the dam-locked lake. Most recently, in September 2016, SCDNR identified a single Atlantic sturgeon that was tagged with an acoustic transmitter, swimming up the Cooper River, through the Pinopolis Lock, and into Lake Marion. This individual was tracked, captured, and successfully released back to the Cooper River.

We have assessed the listed species that may be present in the action area and our determination of the project's potential effects to them as shown in Table 4 below.

**Table 4. ESA-listed Species in the Action Area and Effect Determination(s)**

Species	ESA Listing Status	Listing Rule/Date	Most Recent Recovery Plan/Outline Date	Effect Determination (Species)
Shortnose sturgeon	E	32 FR 4001/ March 11, 1967	December 1998	<u>NLAA</u>
Atlantic sturgeon (South Atlantic DPS)	E	77 FR 5914/ February 6, 2012	N/A	<u>NLAA</u>

E = endangered, N/A = not applicable, NLAA = may affect, not likely to adversely affect





While a small number of shortnose sturgeon may be present in the action area, they are likely to be present year-round, therefore an in-water moratorium would be impractical and unnecessary for the proposed action.

Critical habitat for the shortnose sturgeon has not been designated at this time. According to NMFS’s endangered species mapping application (ESA Section 7 Mapper, Southeast Region<sup>1</sup>), which aids Federal action agencies in their Section 7 consultation responsibilities under the ESA and utilizes the best scientific and commercial data available, the data supports that shortnose sturgeon are potentially present in the action area, as detailed in Table 5.

Currently, a 2013 project by NOAA-NMFS is being published in the near future on the population of shortnose sturgeon within Lake Marion regarding their population growth, movement patterns, and the effects of hydro-related projects upriver on the population. Once this study is published, if new information is presented that has not been considered within this Biological Assessment, and the impacts considered here are now determined to be worse, or new impacts are identified, SCDOT will re-initiate consultation and a re-evaluation will occur. The SCDOT will prepare and submit a short summary of work annually to NMFS. The Contractor shall prepare the annual summary and shall submit a draft to SCDOT 10 months after construction begins. SCDOT will provide the summary to NMFS within 12 months after the start of construction. The summary shall include:

- Start date of construction;
- Project work completed to date or from date of last report;
- Brief description of expected work for upcoming year;
- Representative photo log of work completed areas;

**Table 5. NOAA ESA Species in the Action Area (Section 7 Mapper)**

Species	Life stage	Behavior	Season
Shortnose sturgeon	Adults	Migrating & Foraging	March 1 – May 1
Shortnose sturgeon	Adults	Maturing & Holding	March 1 – May 1
Shortnose sturgeon	Adults	Spawning	March 1 – May 1
Shortnose sturgeon	Adults	Spawning-Related Migration	December 1 – March 31

<sup>1</sup> <https://noaa.maps.arcgis.com/apps/webappviewer/index.html?id=b184635835e34f4d904c6fb741cfb00d>



Species	Life stage	Behavior	Season
Shortnose sturgeon	Eggs and larvae	Hatching & Maturing	December 1 – March 31
Shortnose sturgeon	Juveniles	Migrating & Foraging	March 1 – May 1
Shortnose sturgeon	Young of the year	Maturing & Holding	March 1 – May 1
Shortnose sturgeon	Young of the year	Migrating & Foraging	March 1 – May 1
Shortnose sturgeon	Young of the year	Maturing & Holding	March 1 – May 1

Accessed April 5, 2023.

### **Routes of Effects of the Action to ESA-listed Species**

Shortnose and Atlantic sturgeon could be affected by the project in one of three primary ways: effects of **vessel or equipment strike**, effects of **noise**, and/or effects of **changes to the environment (water quality)**.

### **Construction Material Strikes or Vessel Strikes**

Sturgeon may be physically injured if struck by construction equipment, vessels, or materials used for demolition of the existing bridge and construction of the replacement bridge. We believe this is extremely unlikely to occur due to the ability of shortnose sturgeon to move away from the project site if disturbed. The agreement by the applicant to implement NMFS’s *Protected Species Construction Conditions* will further reduce the risk by requiring all construction workers to watch for ESA-listed species. Operation of any equipment will cease immediately if a protected species is seen within a 50-ft radius of the equipment. Activities will not resume until the protected species has departed the project area of its own volition. If sturgeon were present within the project area, potential impacts to sturgeon could result from direct strikes by construction equipment (piles, casings, etc) or by construction vessels (work boats or barges). The factors relevant to determining the risk to fish from vessel strikes vary but may be related to the size and speed of the vessels, navigational clearance (i.e., depth of water and draft of the vessel) in the area where the vessel is operating, and the behavior of individuals in the area. Sturgeon are able to move away from or avoid entirely the project site if disturbed (Krebs et. al 2012). The use of construction vessels during the construction period would not meaningfully increase the risk of interactions between listed species and vessels in the action area when added to baseline conditions. As such, any increased risk of a vessel strike caused by the project would be too small to be meaningfully measured or detected. As a result, the increased risk of a strike on listed species in the action area is not expected to be substantial.



## Underwater Noise

Noise created by pile-driving activities can physically injure animals or change animal behavior in the affected areas. Injurious effects can occur in two ways. First, immediate adverse effects can occur if a single noise event exceeds the threshold for direct physical injury. Second, effects can result from prolonged exposure to noise levels that exceed the daily cumulative sound exposure level ( $SEL_{cum}$ ) for the animals, and these can constitute adverse effects if animals are exposed to the noise levels for sufficient periods. Behavioral effects can be adverse if such effects interfere with an animal's behavior such as migrating, feeding, resting, or reproducing. To minimize potential noise impacts to species, the applicant has agreed to use noise abatement measures (i.e., temporary noise attenuation piles or bubble curtains) to reduce noise levels.

The noise analysis in this consultation evaluates effects to ESA-listed fish identified by NMFS that may be affected by the proposed action, which occurs in an open-water environment. SERO Protected Resources Division defines an open-water environment as any area where an animal would be able to move away from the noise source without being forced to pass through the radius of noise effects. When multiple pile types and/or installation methods are proposed, the noise analysis in this consultation will evaluate the worst-case scenario. That is, we will present the pile type and/or installation method with the largest effect radius and assume all other pile-driving noise effects will fall within that radius. NMFS uses the U.S. Navy Phase III criteria (U.S. Department of the Navy 2017) for the thresholds listed below. Peak Sound Pressure Level (PK) and Root Mean Square sound pressure are referenced to decibel at 1 micropascal (dB 1  $\mu$ PA). Sound Exposure Level (SEL) and  $SEL_{cum}$  are referenced to dB at 1 micropascal squared second ( $\mu$ PA<sup>2</sup>-second).

According to the NMFS Multi-species Pile Driving Tool (NMFS 2022), the installation of drilled shafts (cast-in-drilled-hole piles) by impact hammer using noise abatement measures may cause PK *injurious noise effects* to ESA-listed fishes (**Appendix D**). The  $SEL_{cum}$  exposure of multiple pile strikes over the course of a day may cause injury to ESA-listed fishes at a radius of up to 6,082 feet (1,854 m) away from the pile-driving operations. We believe  $SEL_{cum}$  injurious noise effects are extremely unlikely to occur due to the mobility of these species. Movement away from the injurious sound radius is a behavioral response which is discussed below.

According to the NMFS Multi-species Pile Driving Tool, the installation of drilled shafts by impact hammer using noise abatement measures could result in *behavioral noise effects* to ESA-listed fishes at a radius of up to 32,808.4 feet (10,000 m) away from the pile-driving operations. We believe behavioral noise effects will be insignificant due to the mobility of these species, the project occurring in an open-water environment, and the similarity of nearby habitat. If an individual chooses to remain within the behavioral response zone, it could be exposed to behavioral noise effects during pile installations. Since pile installations will occur intermittently and will not persist for the entire duration of the day, these species will be able to resume normal



activities during quiet periods between pile installations (e.g., non-daylight hours). It is reasonable to assume that a sturgeon, upon detecting underwater levels of noise would modify its behavior such that it redirects its course of movement away from the ensonified area. These movements would not amount to substantial changes to essential sturgeon foraging behaviors.

### **Water Quality**

Turbidity associated with construction may be increased through the placement of fill for bridge approaches and pile driving or construction of drilled shafts. Turbidity from pile driving may temporarily decrease water quality. Pouring concrete into the drilled shaft casings would require a sequencing plan from the contractor to ensure that no spills of material into nearby waters would occur. Temporary formwork for the bent construction and superstructure would need to be removed over the water. The contractor would provide a staged plan for removing the formwork, and would utilize BMPs such as netting, floating barges, and/or other containment measures. The contractor would utilize SCDOT BMPs for soil and erosion control and the applicable portions of the *SERO Protected Species Construction Conditions* guidance, which may include seeding of slopes, silt fences, standard height (5 feet) turbidity curtains, and sediment basins as appropriate, and prepare a spill prevention and pollution control plan to minimize potential impacts. Therefore, the temporary impacts to sturgeon resulting from increases in turbidity during construction and demolition are expected to be insignificant.

### **Habitat Loss**

The installation of drilled shaft piers in the river will result in the loss of potential sturgeon habitat. Piles installed in the lake for the temporary work trestles will all be removed upon completion of the new bridges; therefore, these will not result in a permanent loss of habitat. The effect to sturgeon from the potential loss of foraging or refuge habitat due to the placement of pile-supported structures is insignificant. Sturgeon are a mobile species that forage over large areas and the area of impact is relatively small compared to the surrounding habitat available. Additionally, we believe these effects will be insignificant due to the availability of similar substrate nearby. Finally, SCDOT will be removing existing remnant structures (**Appendix E**) such as standalone concrete piers and bridge sections as well as remnant timber piles that will result in a net increase of available sturgeon habitat.

### **Temporary Impacts**

The proposed action includes the use of barges, work trestle, and turbidity curtains that may preclude or deter listed species from entering the project area. We believe the temporary exclusion from the project area due to the project activities, including the presence of turbidity curtains, will have an insignificant effect on listed species. Turbidity curtains will enclose only portions of the lake at any given time and will be removed after project completion. However, listed species



excluded from the project area will be able to use surrounding areas with similar available habitat during the project and return to the project site when the activity is complete.

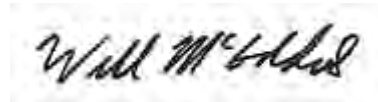
### **Routes of Effects of the Action to Critical Habitat**

There is no critical habitat within the project boundary.

### **Conclusion**

The SCDOT, on behalf of FHWA, has reviewed the proposed project for its effects to ESA-listed species and their critical habitat. Based on the analysis above, we have determined that the I-95 over Lake Marion bridge replacements project is not likely to adversely affect any listed species or critical habitat under NMFS's jurisdiction. We have used the best scientific and commercial data available to complete this analysis. We request your concurrence with this determination.

Sincerely,



Will McGoldrick, Assoc. DBIA  
Alternative Delivery Environmental Mgr  
South Carolina Department of Transportation

Cc: Sandra Saint-Surin, FHWA  
Shane Belcher, FHWA  
Chad Long, SCDOT  
David Kelly, SCDOT  
Kally McCormick, CECS





## Literature Cited

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- United States Fish and Wildlife Service (USFWS). March 2022. South Carolina List of At-Risk, Candidate, Endangered, and Threatened Species by County. Clarendon and Orangeburg Counties, SC. <https://www.fws.gov/southeast/pdf/fact-sheet/south-carolina-species-list-by-county.pdf> Accessed February 6, 2023.



# **Appendix A**

## **Conceptual Bridge Plans**



South Carolina Department of Transportation

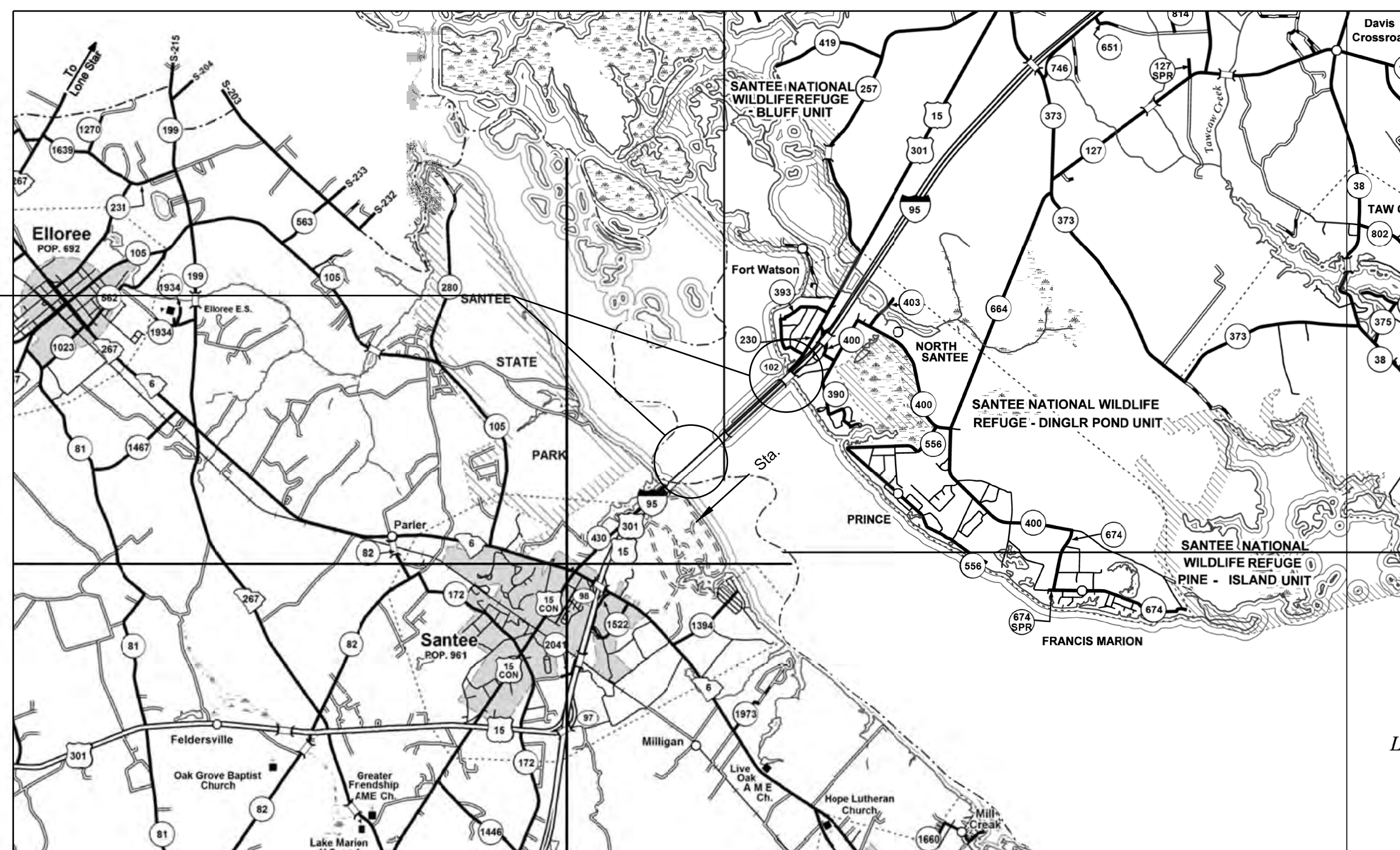
# CONCEPTUAL PLANS FOR

## ORANGEBURG / CLARENDON COUNTY PROJECT ID P041130 ROUTE I-95 REPLACE BRIDGES OVER LAKE MARION

INDEX OF SHEETS

1. Title Sheet
2. Relief Bridge Plan and Profile
3. Main Bridge Plan and Profile (1 of 7)
4. Main Bridge Plan and Profile (2 of 7)
5. Main Bridge Plan and Profile (3 of 7)
6. Main Bridge Plan and Profile (4 of 7)
7. Main Bridge Plan and Profile (5 of 7)
8. Main Bridge Plan and Profile (6 of 7)
9. Main Bridge Plan and Profile (7 of 7)
10. Stages of Construction Relief (1 of 2)
11. Stages of Construction Relief (2 of 2)
12. Stages of Construction Main (1 of 2)
13. Stages of Construction Main (2 of 2)
14. Substructure Typical Sections

SITE LOCATIONS

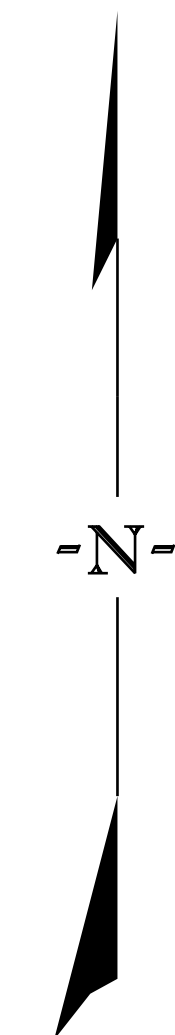


LAYOUT

NET LENGTH OF ROADWAY	0.000	MILES
NET LENGTH OF BRIDGES	0.927	MILES
NET LENGTH OF PROJECT	0.927	MILES
LENGTH OF EXCEPTIONS	0.000	MILES
GROSS LENGTH OF PROJECT	0.927	MILES

NOTE: EXCEPT AS MAY OTHERWISE BE SPECIFIED ON THE PLANS OR IN THE SPECIAL PROVISIONS, ALL MATERIALS AND WORKMANSHIP ON THIS PROJECT SHALL CONFORM TO THE SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (2007 EDITION) AND THE STANDARD DRAWINGS FOR ROAD CONSTRUCTION IN EFFECT AT THE TIME OF LETTING.

Approximate Location of Bridge is	
Main Bridge	
Latitude	33°- 30' - 19"
Longitude	80°- 27' - 09"
Relief Bridge	
Latitude	33°- 31' - 05"
Longitude	80°- 26' - 08"



CONCEPTUAL PLANS  
NOT FOR CONSTRUCTION

ENGINEER OF RECORD

FOR CONSTRUCTION : \_\_\_\_\_ DATE \_\_\_\_\_

3 DAYS BEFORE DIGGING IN  
SOUTH CAROLINA  
**CALL 811**  
SOUTH CAROLINA 811 (SC811)  
WWW.SC811.COM  
ALL UTILITIES MAY NOT BE A MEMBER OF SC811

ASSET ID (I-95 SB MAIN)	TBD Formerly 05258
ASSET ID (I-95 NB MAIN)	TBD Formerly 05249
ASSET ID (I-95 SB RELIEF)	TBD Formerly 05259
ASSET ID (I-95 NB RELIEF)	TBD Formerly 05250

TRAFFIC DATA			
2025	ADT	41,000	V.P.D.
2045	ADT	55,000	V.P.D.
TRUCKS		22	%

REVIEWED	DR.	BY	CHK	DATE
XXX	XXX	XXX	XXX	XX-XX

\$\$\$\$\$\$\$\$















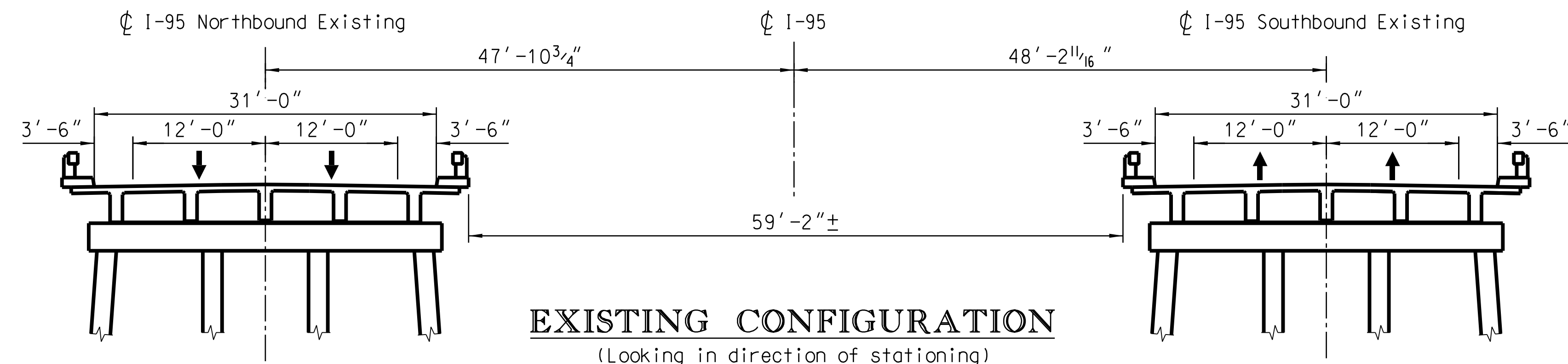








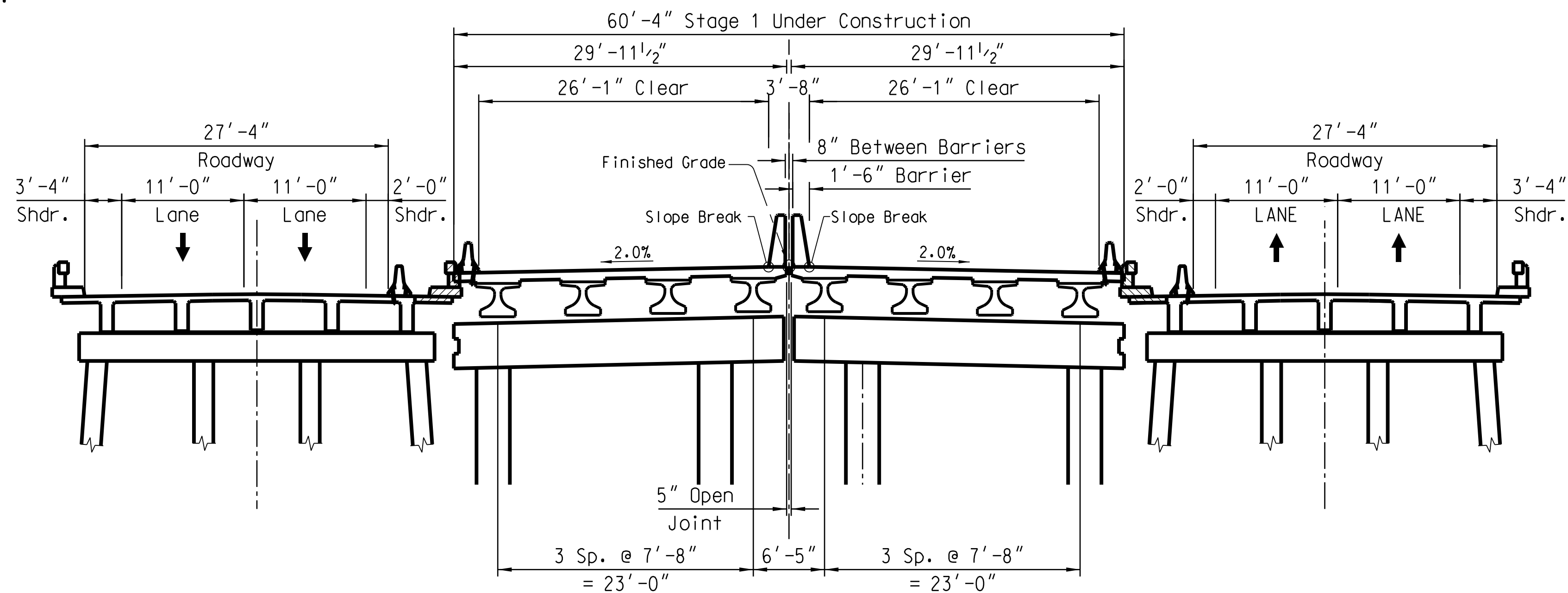




**EXISTING CONFIGURATION**

(Looking in direction of stationing)  
(Existing Cast-in-Place T Beams Spans shown)

Note:  
Guardrails on existing bridges  
not shown.

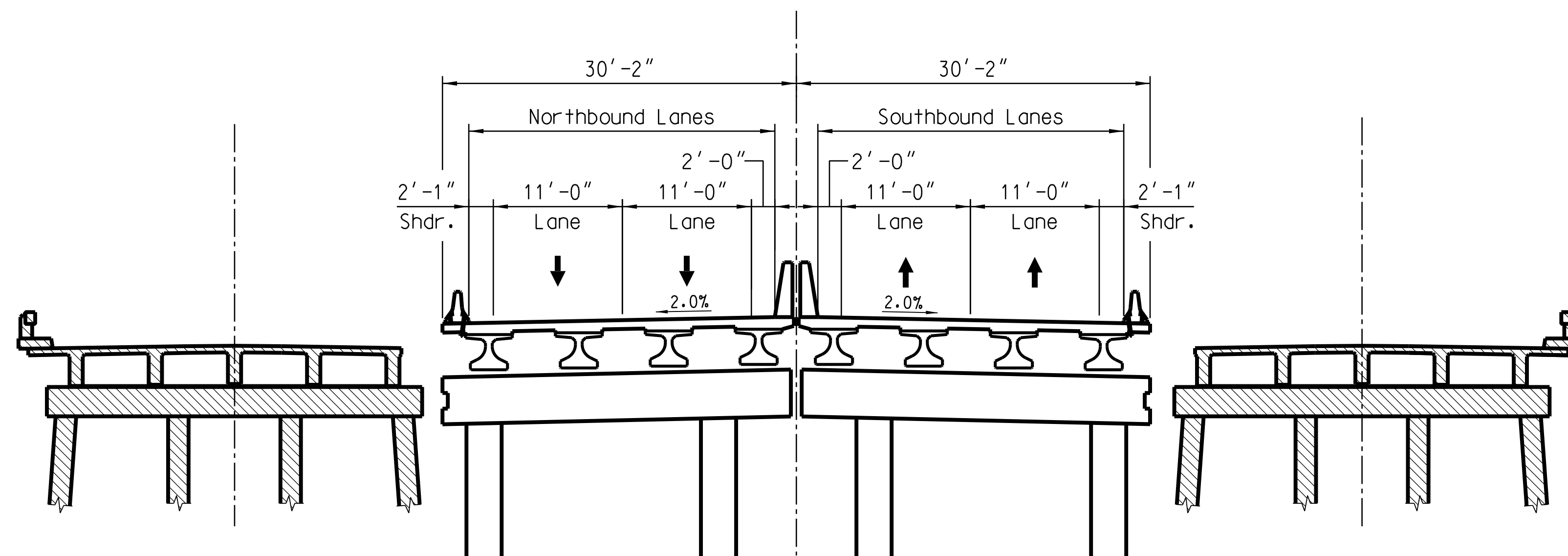


**STAGE 1 CONSTRUCTION**

(Looking in direction of stationing)

Stage 1 Notes:

1. Shift Existing Traffic, demolish designated portions of existing I-95 bridges and Construct Stage 1 Portion of new bridge.



**STAGE 2A CONSTRUCTION**

(Looking in direction of stationing)

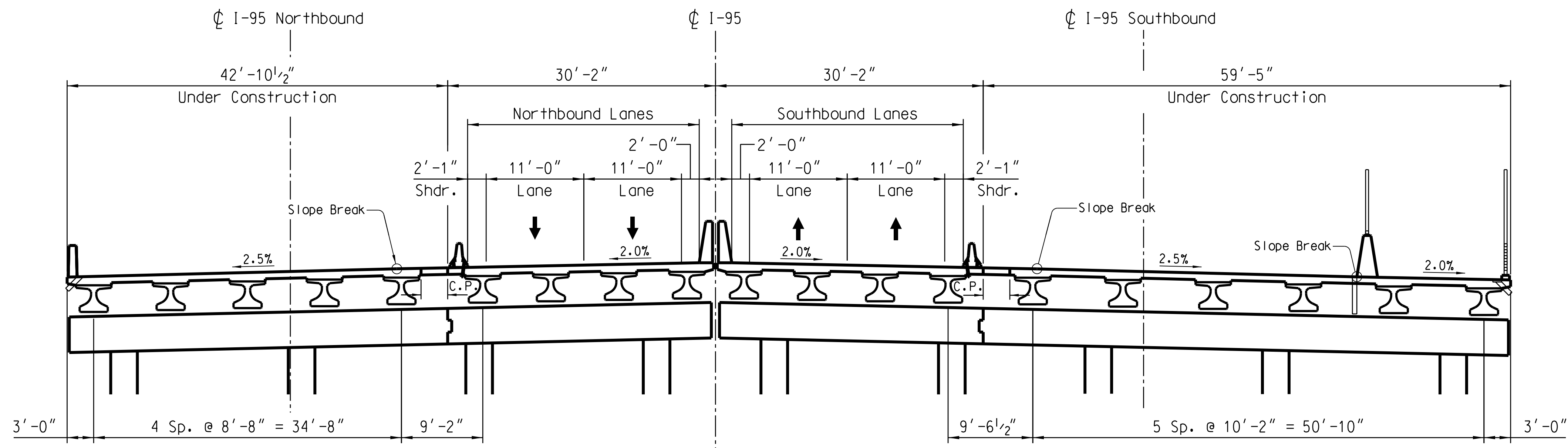
= Existing Bridge Removal

CONCEPTUAL PLANS  
NOT FOR CONSTRUCTION

Stage 2A Notes:

1. Shift Existing Traffic to newly constructed bridge.
2. Demolish Existing I-95 bridges.

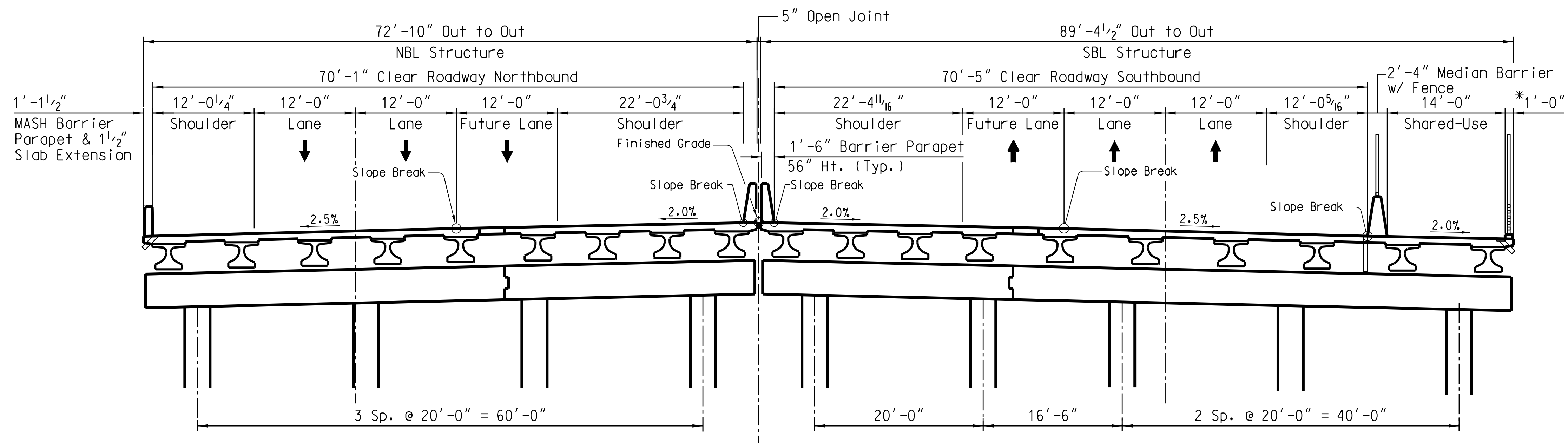
REV.				<p align="center"><b>SOUTH CAROLINA</b> <b>DEPARTMENT OF TRANSPORTATION</b></p> <p align="center"><b>I-95 OVER LAKE MARION</b> <b>STAGES OF CONSTRUCTION</b> <b>RELIEF BRIDGE 1 OF 2</b></p>			
REV.							
REV.							
REVIEWED							
QUAN.							
DR.							
DES.				COUNTY	ORANGEBURG / CLARENDON	ROUTE	I-95
BY				CHK.		DATE	



**STAGE 2B CONSTRUCTION**  
(Looking in direction of stationing)

Stage 2B Notes:

1. Construct remaining portions of NBL and SBL bridges. Remove temporary barriers and shift traffic to final configuration.



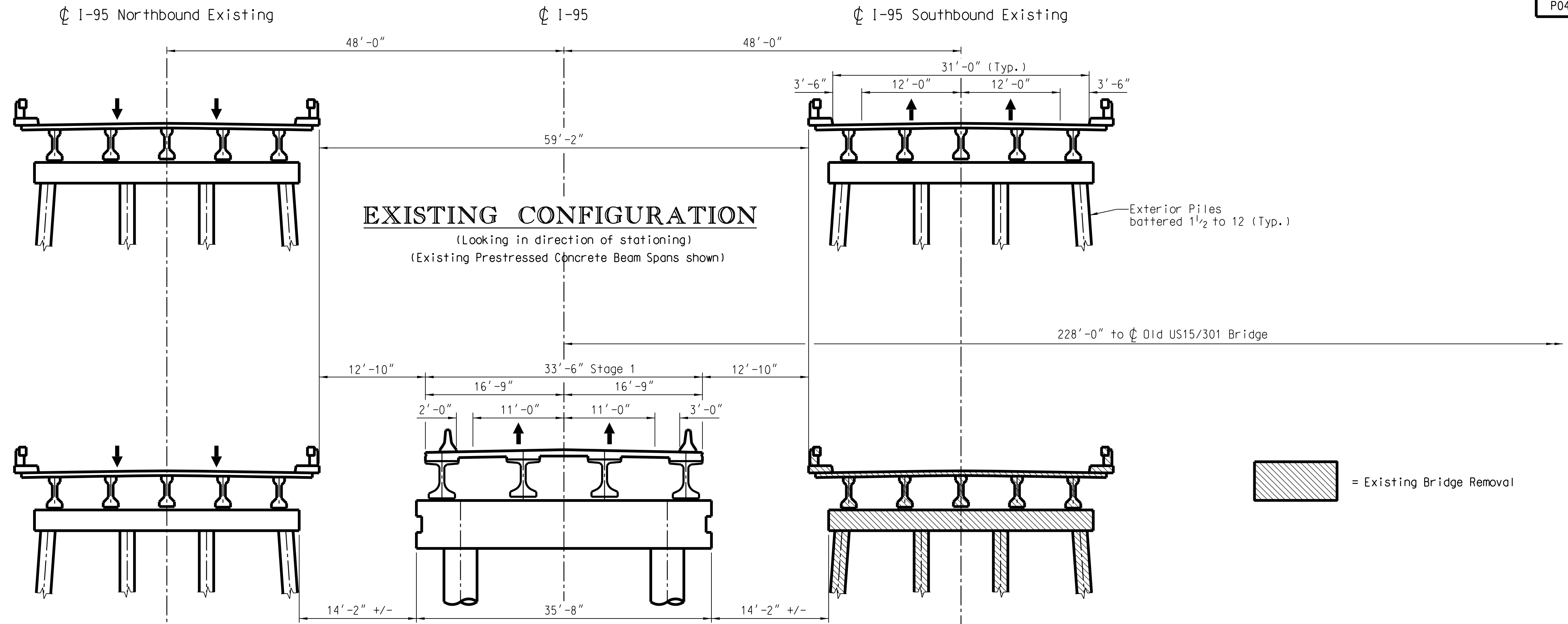
**FINISHED BRIDGE**  
(Looking in direction of stationing)

CONCEPTUAL PLANS  
NOT FOR CONSTRUCTION

\*Combination Pedestrian Railing / Security Fence

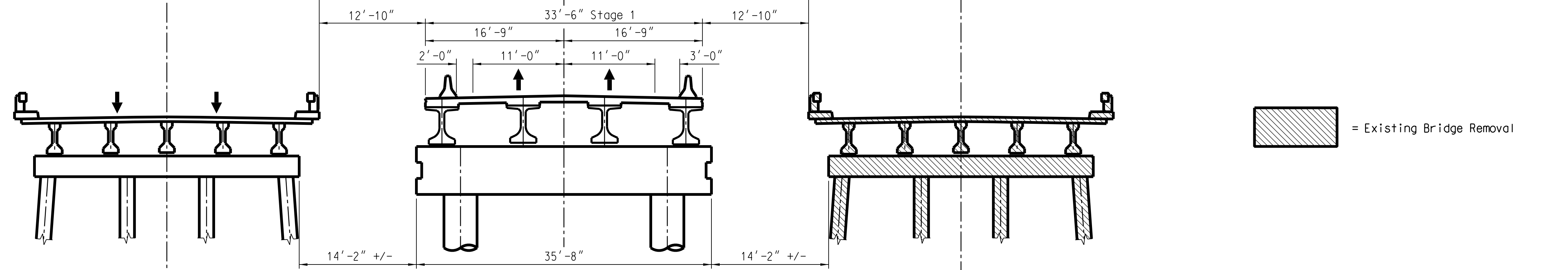
 = Existing Bridge Removal

REV.				<b>SOUTH CAROLINA</b> <b>DEPARTMENT OF TRANSPORTATION</b> <b>I-95 OVER LAKE MARION</b> <b>STAGES OF CONSTRUCTION</b> <b>RELIEF BRIDGE 2 OF 2</b>			
REV.							
REV.							
REVIEWED							
QUAN.							
DR.							
DES.				COUNTY	ORANGEBURG / CLARENDON	ROUTE	I-95
BY				CHK.		DATE	



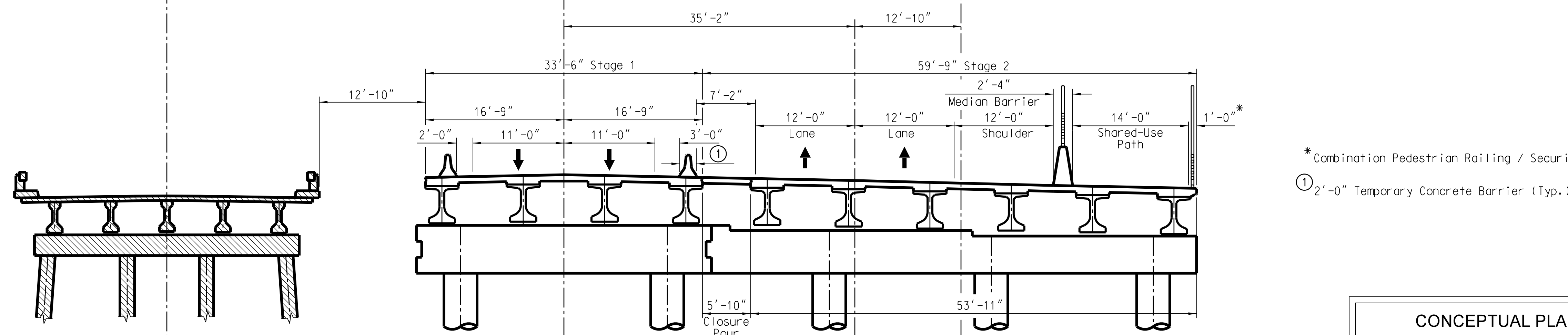
Stage 1 Notes:

1. Construct Stage 1 portion of new bridge & shift Southbound traffic.
2. Demolish Existing Southbound bridge.



Stage 2 Notes:

1. Construct Stage 2 portion of new bridge & place closure pour.
2. Shift Southbound lanes to final configuration on Stage 2 deck.
3. Shift Northbound lanes to Stage 1 lane configuration as shown.
4. Demolish Existing Northbound bridge.

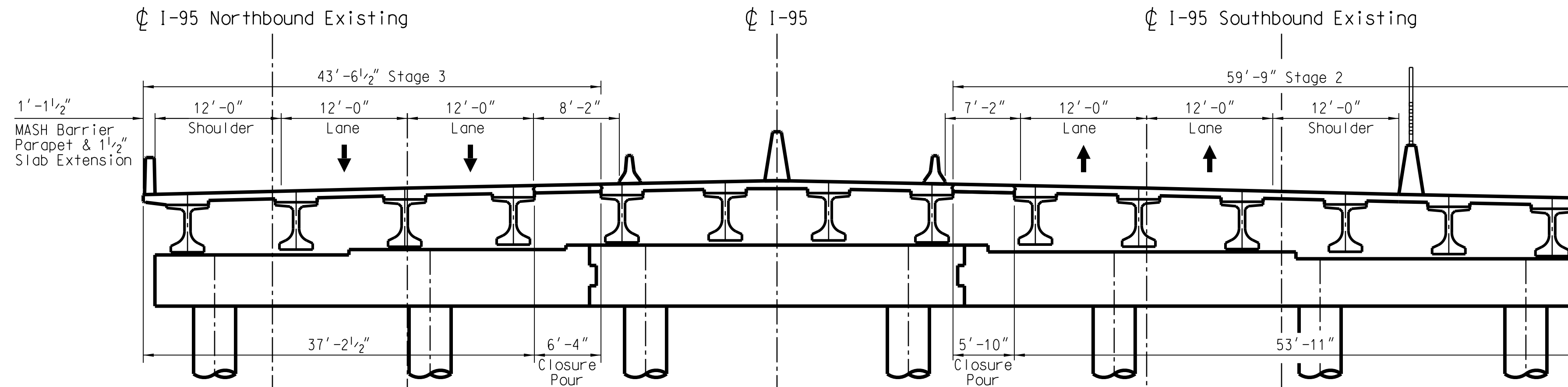


CONCEPTUAL PLANS  
NOT FOR CONSTRUCTION

REV.				<b>SOUTH CAROLINA</b> <b>DEPARTMENT OF TRANSPORTATION</b> <b>I-95 OVER LAKE MARION</b> <b>STAGES OF CONSTRUCTION</b> <b>(1 OF 2)</b>
REV.				
REV.				
REVIEWED				
QUAN.				
DR.				COUNTY ORANGEBURG / CLARENDON
DES.				ROUTE I-95
BY				
CHK.				
DATE				

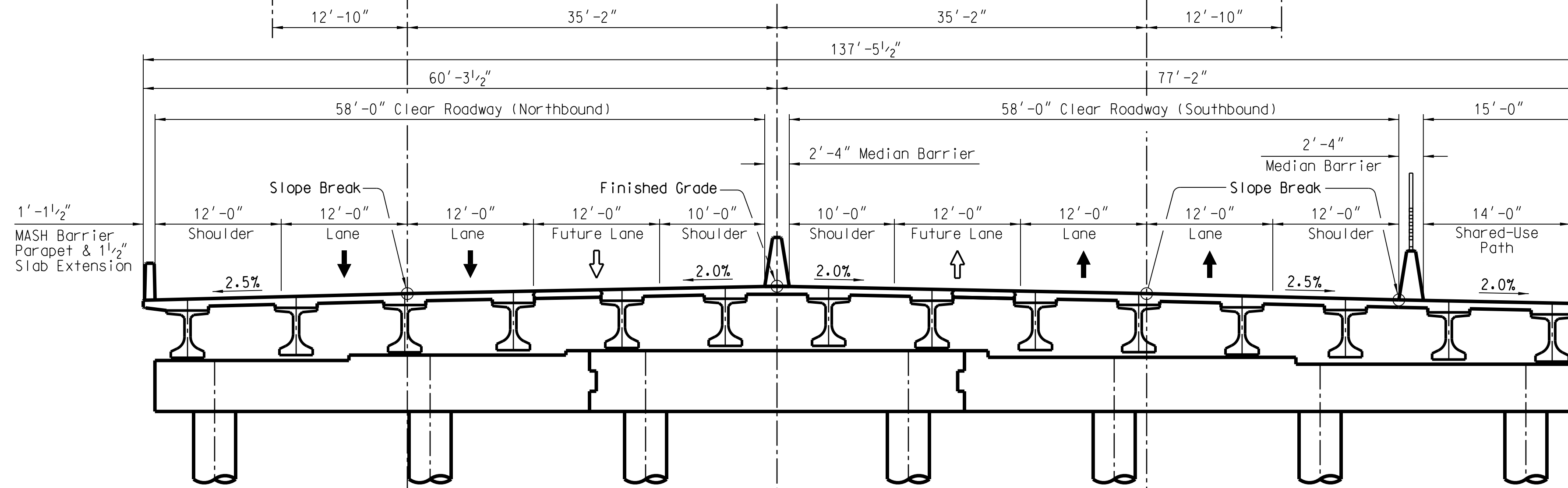
**Stage 3 Notes:**

1. Construct Stage 3 portion of new bridge & place closure pour.
2. Shift Northbound lanes to final configuration on Stage 3 deck.
3. Place Median Barrier.
4. Remove temporary barriers.



**STAGE 3 CONSTRUCTION**

(Looking in direction of stationing)



**FINAL CONFIGURATION**

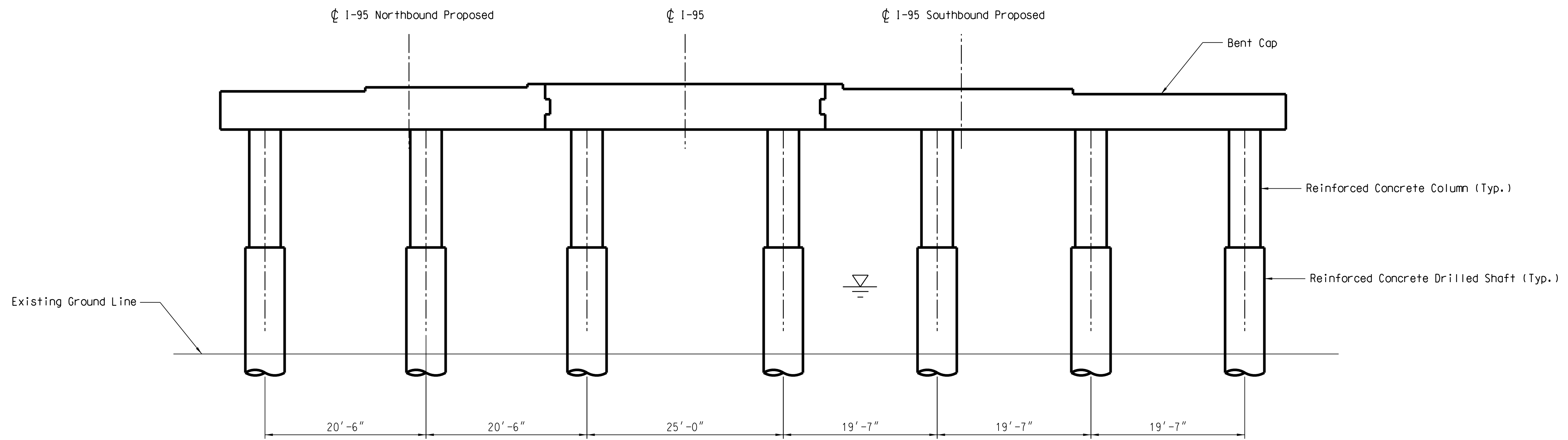
(Looking in direction of stationing)

\* Combination Pedestrian Railing / Security Fence

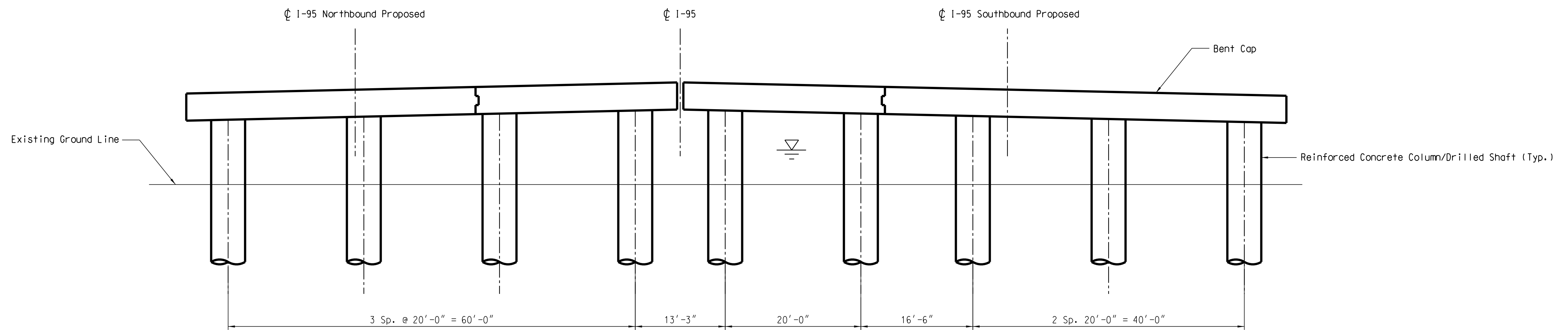
CONCEPTUAL PLANS  
NOT FOR CONSTRUCTION

REV.				<p><b>SOUTH CAROLINA</b> <b>DEPARTMENT OF TRANSPORTATION</b></p> <p><b>I-95 OVER LAKE MARION</b> <b>STAGES OF CONSTRUCTION</b> <b>(2 OF 2)</b></p>			
REV.							
REV.							
REVIEWED							
QUAN.							
DR.							
DES.				COUNTY	ORANGEBURG / CLARENDON	ROUTE	I-95
BY				CHK.		DATE	





**SUBSTRUCTURE TYPICAL SECTION**  
**I-95 OVER LAKE MARION**  
 (Looking in direction of stationing)



**SUBSTRUCTURE TYPICAL SECTION**  
**I-95 OVER LAKE MARION RELIEF**  
 (Looking in direction of stationing)

CONCEPTUAL PLANS  
 NOT FOR CONSTRUCTION

REV.				SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION
REV.				
REV.				
REVIEWED				
QUAN.				
DR.				SUBSTRUCTURE TYPICAL SECTIONS
DES.				
BY	CHK.	DATE		
				COUNTY ORANGEBURG / CLARENDON
				ROUTE I-95

## **Appendix B**

### **Protected Species Construction Conditions NOAA-NMFS**



## **PROTECTED SPECIES CONSTRUCTION CONDITIONS, NOAA FISHERIES SOUTHEAST REGIONAL OFFICE**

The action agency and any permittee shall comply with the following construction conditions for protected species under the jurisdiction of NOAA Fisheries Southeast Regional Office (SERO) Protected Resources Division (PRD):<sup>1</sup>

**Protected Species Sightings**—The action agency and any permittee shall ensure that all personnel associated with the project are instructed about the potential presence of species protected under the Endangered Species Act (ESA) and the Marine Mammal Protection Act (MMPA). All on-site project personnel are responsible for observing water-related activities for the presence of protected species. All personnel shall be advised that there are civil and criminal penalties for harming, harassing, or killing listed species and all marine mammals. To determine which protected species and critical habitat may be found in the transit area, please review the relevant [marine mammal](https://www.fisheries.noaa.gov/find-species) and [ESA-listed species](https://www.fisheries.noaa.gov/find-species) at Find A Species (<https://www.fisheries.noaa.gov/find-species>) and the consultation documents that have been completed for the project.

1. **Equipment**—Turbidity curtains, if used, shall be made of material in which protected species cannot become entangled and be regularly monitored to avoid protected species entrapment. All turbidity curtains and other in-water equipment shall be properly secured with materials that reduce the risk of protected species entanglement and entrapment.
  - a. In-water lines (rope, chain, and cable, including the lines to secure turbidity curtains) shall be stiff, taut, and non-looping. Examples of such lines are heavy metal chains or heavy cables that do not readily loop and tangle. Flexible in-water lines, such as nylon rope or any lines that could loop or tangle, shall be enclosed in a plastic or rubber sleeve/tube to add rigidity and prevent the line from looping and tangling. In all instances, no excess line shall be allowed in the water. All anchoring shall be in areas free from hardbottom and seagrass.
  - b. Turbidity curtains and other in-water equipment shall be placed in a manner that does not entrap protected species within the project area and minimizes the extent and duration of their exclusion from the project area.
  - c. Turbidity barriers shall be positioned in a way that minimizes the extent and duration of protected species exclusion from important habitat (e.g. critical habitat, hardbottom, seagrass) in the project area.
2. **Operations**—For construction work that is generally stationary (e.g., barge-mounted equipment dredging a berth or section of river, or shore-based equipment extending into the water):
  - a. Operations of moving equipment shall cease if a protected species is observed within 150 feet of operations.

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<sup>1</sup> Manatees are managed under the jurisdiction of the U.S. Fish and Wildlife Service.

- b. Activities shall not resume until the protected species has departed the project area of its own volition (e.g., species was observed departing or 20 minutes have passed since the animal was last seen in the area).
3. **Vessels**–For projects requiring vessels, the action agency, and any permittee shall ensure conditions in the [Vessel Strike Avoidance Measures](https://www.fisheries.noaa.gov/southeast/consultations/regulations-policies-and-guidance) are implemented as part of the project/permit issuance (<https://www.fisheries.noaa.gov/southeast/consultations/regulations-policies-and-guidance>).
4. **Consultation Reporting Requirements**–Any interaction with a protected species shall be reported immediately to NOAA Fisheries SERO PRD and the local authorized stranding/rescue organization.

To report to NOAA Fisheries SERO PRD, send an email to [takereport.nmfsser@noaa.gov](mailto:takereport.nmfsser@noaa.gov). Please include the species involved, the circumstances of the interaction, the fate and disposition of the species involved, photos (if available), and contact information for the person who can provide additional details if requested. Please include the project’s Environmental Consultation Organizer (ECO) number and project title in the subject line of email reports.

To report the interaction to the local stranding/rescue organization, please see the following website for the most up to date information for reporting sick, injured, or dead protected species:

**Reporting Violations**–To report an ESA or MMPA violation, call the NOAA Fisheries Enforcement Hotline. This hotline is available 24 hours a day, 7 days week for anyone in the United States.

NOAA Fisheries Enforcement Hotline      (800) 853-1964

5. **Additional Conditions**–Any special construction conditions, required of your specific project, outside these general conditions, if applicable, will be addressed in the project consultation and must also be complied with.

**For additional information, please contact NOAA Fisheries SERO PRD at:**

NOAA Fisheries Service  
Southeast Regional Office  
263 13<sup>th</sup> Avenue South  
St. Petersburg, Florida 33701  
Tel: (727) 824-5312

Visit us on the web at [Protected Marine Life in the Southeast](https://www.fisheries.noaa.gov/region/southeast#protected-marine-life)  
(<https://www.fisheries.noaa.gov/region/southeast#protected-marine-life>)

Revised: May 2021

## **Appendix C**

### **Clarendon and Orangeburg Counties Species List**



## CLARENDON COUNTY

CATEGORY	COMMON NAME/STATUS	SCIENTIFIC NAME	SURVEY WINDOW/ TIME PERIOD	COMMENTS
<b>Bird</b>	American wood stork (T)	<i>Mycteria americana</i>	February 15-September 1	Nesting season
<b>Bird</b>	Bald eagle (BGEPA)	<i>Haliaeetus leucocephalus</i>	October 1-May 15	Nesting season
<b>Bird</b>	Red-cockaded woodpecker (E)	<i>Picoides borealis</i>	March 1-July 31	Nesting season
<b>Fish</b>	Atlantic sturgeon* (E)	<i>Acipenser oxyrinchus*</i>	February 1-April 30	Spawning migration
<b>Fish</b>	Shortnose sturgeon* (E)	<i>Acipenser brevirostrum*</i>	February 1-April 30	Spawning migration
<b>Insect</b>	Frosted elfin (ARS)	<i>Callophrys irus</i>	March - June	
<b>Insect</b>	Monarch butterfly (C)	<i>Danaus plexippus</i>	August-December	Overwinter population departs; March-April
<b>Mammal</b>	Tri-colored bat (ARS)	<i>Perimyotis subflavus</i>	Year round	Found in mines and caves in the winter
<b>Plant</b>	American chaffseed (E)	<i>Schwalbea americana</i>	May-August	1-2 months after a fire
<b>Plant</b>	Boykin's lobelia (ARS)	<i>Lobelia boykinii</i>	May-August	
<b>Plant</b>	Canby's dropwort (E)	<i>Oxypolis canbyi</i>	Mid-July-September	
<b>Plant</b>	Carolina-birds-in-a-nest (ARS)	<i>Macbridea caroliniana</i>	July-November	
<b>Reptile</b>	Eastern diamondback rattlesnake (ARS)	<i>Crotalus adamanteus</i>	Most of the year	Peak: April-November
<b>Reptile</b>	Spotted turtle (ARS)	<i>Clemmys guttata</i>	February-mid April	

**Note: There are no federally protected species found in this county in the amphibian, crustacean, and mollusk family categories.**

## ORANGEBURG COUNTY

CATEGORY	COMMON NAME/STATUS	SCIENTIFIC NAME	SURVEY WINDOW/ TIME PERIOD	COMMENTS
<b>Amphibian</b>	Gopher frog (ARS)	<i>Lithobates capito</i>	Breeding: October-March	Call survey: February-April
<b>Bird</b>	American wood stork (T)	<i>Mycteria americana</i>	February 15-September 1	Nesting season
<b>Bird</b>	Bald eagle (BGEPA)	<i>Haliaeetus leucocephalus</i>	October 1-May 15	Nesting season
<b>Bird</b>	Red-cockaded woodpecker (E)	<i>Picoides borealis</i>	March 1-July 31	Nesting season
<b>Fish</b>	Atlantic sturgeon* (E)	<i>Acipenser oxyrinchus*</i>	February 1-April 30	Spawning migration
<b>Fish</b>	Shortnose sturgeon* (E)	<i>Acipenser brevirostrum*</i>	February 1-April 30	Spawning migration
<b>Insect</b>	Monarch butterfly (C)	<i>Danaus plexippus</i>	August-December	Overwinter population departs; March-April
<b>Mammal</b>	Tri-colored bat (ARS)	<i>Perimyotis subflavus</i>	Year round	Found in mines and caves in the winter
<b>Plant</b>	Boykin's lobelia (ARS)	<i>Lobelia boykinii</i>	May-August	
<b>Plant</b>	Canby's dropwort (E)	<i>Oxpolis canbyi</i>	Mid-July-September	
<b>Plant</b>	Carolina-birds-in-a-nest (ARS)	<i>Macbridea caroliniana</i>	July-November	
<b>Reptile</b>	Eastern diamondback rattlesnake (ARS)	<i>Crotalus adamanteus</i>	Most of the year	Peak: April-November

**Note: There are no federally protected species found in this county in the crustacean and mollusk family categories.**

## **Appendix D**

### **Impact Pile Driving Report - Drilled Shafts**

### **Impact Pile Driving Report - Steel Piles, Temporary**

# IMPACT PILE DRIVING REPORT

VERSION 1.2-Multi-Species: 2022

PRINT IN LANDSCAPE TO CAPTURE ENTIRE SCREEN

(if OTHER INFO or NOTES get cut-off, please include information elsewhere)

I-95 over Lake Marion Bridge Replacements. SCDOT. Will McGoldrick, mcgoldriwr@scdot.org

PROJECT INFORMATION	PEAK	SEL <sub>ss</sub>	RMS
Single strike level (dB)	210	185	195
Distance associated with single strike level (meters)	10	10	10
Transmission loss constant	15		
Number of piles per day	2		
Number of strikes per pile	2000		
Number of strikes per day	4000		
Cumulative SEL at measured distance	221		

OTHER INFO 309 impact driven CIDH drilled shafts - 84"

NOTES 2,000 strikes per casing

Attenuation 0

## RESULTANT ISOPLETHS

(Range to Effects)

### FISHES

	ONSET OF	PHYSICAL INJURY		BEHAVIOR
	Peak Isopleth	SEL <sub>cum</sub> Isopleth		RMS Isopleth
		Fish ≥ 2 g	Fish < 2 g	
ISOPLETHS (meters)	18.5	1,853.7	2,154.4	10,000.0
Isopleth (feet)	60.6	6,081.7	7,068.4	32,808.4

Fishes present

### SEA TURTLES

	PTS ONSET		BEHAVIOR
	Peak Isopleth	SEL <sub>cum</sub> Isopleth	RMS Isopleth
	ISOPLETHS (meters)	0.3	136.5
Isopleth (feet)	1.1	447.7	706.8

NO SEA TURTLES

### MARINE MAMMALS

	LF Cetacean	MF Cetaceans	HF Cetaceans	PW Pinniped	OW Pinnipeds
PTS ONSET (Peak isopleth, meters)	2.5	0.5	34.1	2.9	0.3
PTS ONSET (Peak isopleth, feet)	8.2	1.5	112.0	9.6	1.1
PTS ONSET (SEL <sub>cum</sub> isopleth, meters)	3,420.7	121.7	4,074.6	1,830.6	133.3
PTS ONSET (SEL <sub>cum</sub> isopleth, feet)	11,222.7	399.2	13,368.0	6,005.8	437.3
ALL MM	NO MF CET. NO HF CET. NO PHOCIDS NO OTARIIDS				
Behavior (RMS isopleth, meters)	2,154.4	NO LF CET.			
Behavior (RMS isopleth, feet)	7,068.4				

# IMPACT PILE DRIVING REPORT

VERSION 1.2-Multi-Species: 2022

PRINT IN LANDSCAPE TO CAPTURE ENTIRE SCREEN

(if OTHER INFO or NOTES get cut-off, please include information elsewhere)

I-95 over Lake Marion Bridge Replacements, SCDOT, Will McGoldrick, mcgoldriwr@scdot.org

## PROJECT INFORMATION

	PEAK	SEL <sub>ss</sub>	RMS
Single strike level (dB)	196	172	185
Distance associated with single strike level (meters)	10	10	10
Transmission loss constant	15		
Number of piles per day	0.67		
Number of strikes per pile	2000		
Number of strikes per day	1340		
Cumulative SEL at measured distance	203		

OTHER INFO 200 temporary steel 30" pipe piles

NOTES 2,000 strikes per day

Attenuation 0

## RESULTANT ISOPLETHS

(Range to Effects)

### FISHES

	ONSET OF		PHYSICAL INJURY		BEHAVIOR
	Peak Isopleth	SEL <sub>cum</sub> Isopleth		RMS Isopleth	
		Fish ≥ 2 g	Fish < 2 g		
ISOPLETHS (meters)	2.2	121.5	224.6	2,154.4	Fishes present
Isopleth (feet)	7.1	398.8	736.9	7,068.4	

### SEA TURTLES

	PTS ONSET		BEHAVIOR	
	Peak Isopleth	SEL <sub>cum</sub> Isopleth	RMS Isopleth	
	ISOPLETHS (meters)	0.0	8.9	46.4
Isopleth (feet)	0.1	29.4	152.3	

### MARINE MAMMALS

	LF Cetacean	MF Cetaceans	HF Cetaceans	PW Pinniped	OW Pinnipeds
PTS ONSET (Peak isopleth, meters)	0.3	0.1	4.0	0.3	0.0
PTS ONSET (Peak isopleth, feet)	1.0	0.2	13.1	1.1	0.1
PTS ONSET (SEL <sub>cum</sub> isopleth, meters)	224.3	8.0	267.2	120.0	8.7
PTS ONSET (SEL <sub>cum</sub> isopleth, feet)	735.9	26.2	876.5	393.8	28.7
Behavior (RMS isopleth, meters)	464.2	NO MF CET. NO LF CET.	NO HF CET.	NO PHOCIDS	NO OTARIIDS



Behavior (RMS isopleth, feet)

1,522.8

## **Appendix E**

### **US 301 Bridge Demolition Photo Log**



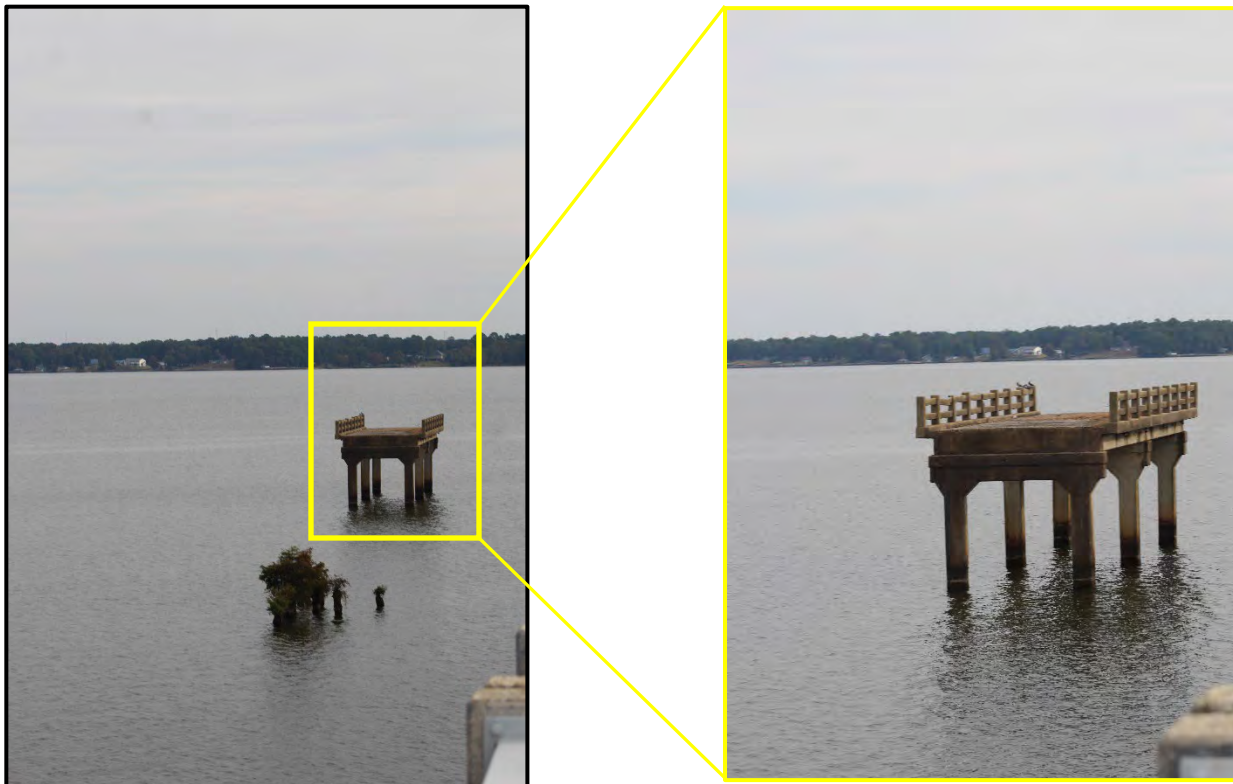
**Photo 1.** Cylindrical Concrete Piles. Four concrete piles per bent cap.



**Photo 2.** Cylindrical Concrete Piles. Six concrete piles per bent cap.



**Photo 3.** Concrete piles with concrete strut.

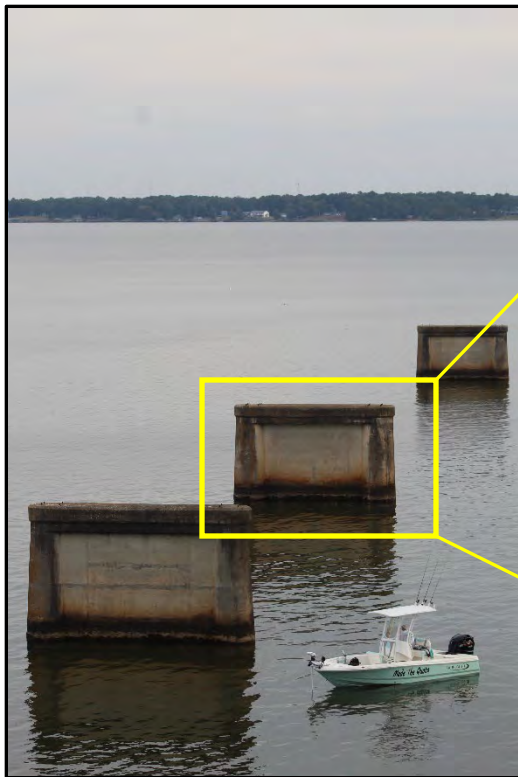


**Photo 4.** Standalone bridge sections west of the US 301 bridge. Each structure is constructed with 6 concrete piles.





**Photo 5.** Standalone bridge structure west of the US 301 bridge with billboard.



**Photo 6.** Standalone concrete piers west of the US 301 bridge.





**Photo 7.** Standalone timber piles west of the US 301 bridge.



**Photo 8.** Standalone timber piles west of the US 301 bridge in the lake channel.

## **Appendix M**

### **Type III Project Traffic Noise Analysis Memorandum**

## Kally McCormick

---

**From:** McGoldrick, Will <McGoldriWR@scdot.org>  
**Sent:** Tuesday, January 31, 2023 8:20 AM  
**To:** Kally McCormick  
**Cc:** John S. Hartland  
**Subject:** RE: trail and noise for Lake Marion/I-95  
**Attachments:** FW: Section 4(f) and trails

Kally,

Had some internal discussions and eventually got Shane on the line. He sent the attached to us which is good. While called the "Palmetto Trail", the section we're dealing with is actually an alignment of US 301 and 15 that is being used by pedestrians as part of a network of trails. So while the area maybe labelled 'trail', it is in fact a road which can and does carry vehicular traffic. It's purpose was transportation before the PT came into being so their use of the facility does not trump or override the previous use. In summary, the trail is located on an existing transportation facility and there is no conversion of non-transportation use property to transportation use so there is no conversion/use of 4f resource. Therefore no noise modelling need occur on the existing road facilities as related to the 'trail'. We are not required to model noise on an existing road even if a portion of that road is being used as or has been identified as a public trail/path/walkway.

-WM

---

**From:** Kally McCormick <mccormickk@cecsinc.com>  
**Sent:** Friday, January 27, 2023 5:16 PM  
**To:** McGoldrick, Will <McGoldriWR@scdot.org>  
**Cc:** John S. Hartland <jshartland@transystems.com>  
**Subject:** trail and noise for Lake Marion/I-95

**\*\*\* This is an EXTERNAL email. Please do not click on a link or open any attachments unless you are confident it is from a trusted source. \*\*\***

Hi Will

We are QA/QCing all of the receptor locations to make sure we are not halving the distance to them with any of the alternatives. I know for the Palmetto Trail you guys have it down as a non-Section 4(f) property and it is also not currently open to the public so we do not have it marked as a receptor. When we asked the Trail reps if they had any bike and ped counts they also let us know that the bridge rehab project is underway and they expect to re-open the old US 301 bridge this summer (2023). How would you guys like us to proceed as far as considering it in the potential noise receptors? Trails are typically considered sensitive noise use areas and are modeled with receptors. Thanks!

-Kally

---

**Kally McCormick**  
**Environmental Manager**  
**Civil Engineering Consulting Services**

843-696-7348

[mccormick@cecsinc.com](mailto:mccormick@cecsinc.com)

2551 Oscar Johnson Drive, Suite B  
North Charleston, SC 29405

## Kally McCormick

---

**From:** Kelly, David P. <KellyDP@scdot.org>  
**Sent:** Monday, January 30, 2023 3:19 PM  
**To:** McGoldrick, Will  
**Subject:** FW: Section 4(f) and trails

FYI

---

**From:** Belcher, Jeffrey (FHWA) <Jeffrey.Belcher@dot.gov>  
**Sent:** Monday, January 30, 2023 2:05 PM  
**To:** Kelly, David P. <KellyDP@scdot.org>  
**Cc:** Saint-Surin, Sandra (FHWA) <sandra.saintsurin@dot.gov>  
**Subject:** Section 4(f) and trails

\*\*\* This is an EXTERNAL email. Please do not click on a link or open any attachments unless you are confident it is from a trusted source. \*\*\*

David,

Hope this helps with your question regarding trails, etc... that are already part of the roadway. See question 15C in FHWA's 4f Policy Guide:

**Question 15C: Are shared use paths, bikeways, or designated scenic or recreational trails on highway rights-of-way subject to the requirements of Section 4(f)?**

**Answer:** FHWA must comply with **23 CFR 774.13(f) when determining if a Section 4(f) approval is necessary** for the use of a trail, path, bikeway, or sidewalk. If a path or trail is simply described as occupying the right-of-way of the highway and is not limited to any specific location within the right-of-way, a use of land would not occur provided that adjustments or changes in the alignment of the highway or the trail would not substantially impair the continuity of the path or trail. In this regard, it would be helpful if all future designations, including those made under the National Trails System Act, describe the location of the trail only as generally in the right-of-way.

774.13(f) are the 4(f) exemptions:

### § 774.13 Exceptions

The Administration has identified various exceptions to the requirement for Section 4(f) approval. These exceptions include, but are not limited to:

(f) Certain trails, paths, bikeways, and sidewalks, in the following circumstances:

(1) Trail-related projects funded under the Recreational Trails Program, [23 U.S.C. 206\(h\)\(2\)](#);

(2) National Historic Trails and the Continental Divide National Scenic Trail, designated under the National Trails System Act, [16 U.S.C. 1241-1251](#), with the exception of those trail segments that are historic sites as defined in [§ 774.17](#);



(3) Trails, paths, bikeways, and sidewalks that occupy a transportation facility right-of-way without limitation to any specific location within that right-of-way, so long as the continuity of the trail, path, bikeway, or sidewalk is maintained; and

(4) Trails, paths, bikeways, and sidewalks that are part of the local transportation system and which function primarily for transportation.

*J. Shane Belcher*

*Lead Environmental Specialist  
Federal Highway Administration  
1835 Assembly Street, Suite 1270  
Columbia, SC 29201  
Phone: 803-253-3187*



*The content of this e-mail is confidential and intended for the recipient specified in the message only*

**From:** [McGoldrick, Will](#)  
**To:** [Kally McCormick](#)  
**Cc:** [Asha Wallace](#)  
**Subject:** FW: I-95 Lake Marion ped bridge and noise  
**Date:** Monday, May 8, 2023 12:58:43 PM

---

Closing the loop.

-WM

---

**From:** Kelly, David P. <[KellyDP@scdot.org](mailto:KellyDP@scdot.org)>  
**Sent:** Monday, May 8, 2023 10:36 AM  
**To:** McGoldrick, Will <[McGoldriWR@scdot.org](mailto:McGoldriWR@scdot.org)>  
**Subject:** RE: I-95 Lake Marion ped bridge and noise

Yes—based on those measurements a noise study is not required.

---

**From:** McGoldrick, Will <[McGoldriWR@scdot.org](mailto:McGoldriWR@scdot.org)>  
**Sent:** Friday, May 5, 2023 12:08 PM  
**To:** Kelly, David P. <[KellyDP@scdot.org](mailto:KellyDP@scdot.org)>  
**Subject:** Fwd: I-95 Lake Marion ped bridge and noise

David,

Would please review and give me some feedback on proceeding on noise? Thank you.

Will McGoldrick | SCDOT  
Alt Delivery Environmental Coordinator  
Environmental Services Office  
Mobile Reply

Begin forwarded message:

**From:** Kally McCormick <[mccormickk@cecsinc.com](mailto:mccormickk@cecsinc.com)>  
**Date:** May 5, 2023 at 12:03:09 PM EDT  
**To:** "McGoldrick, Will" <[McGoldriWR@scdot.org](mailto:McGoldriWR@scdot.org)>  
**Subject:** I-95 Lake Marion ped bridge and noise

**\*\*\* This is an EXTERNAL email. Please do not click on a link or open any attachments unless you are confident it is from a trusted source. \*\*\***

Hi Will

With the old US 301 bridge being opened after the rehab work, we went through the design files to see if the proposed alternatives would trigger a noise study.

Policy: "A project that halves the distance between the traffic noise source and the closest receptor between the existing condition to the future build condition."

Conditions: Alternative B (just west or upstream of the I-95 bridge) is the alternative that is closest to the US 301 bridge. The traffic noise source would be the outer vehicle travel lane, moving in the southbound direction towards Santee. The threshold halving number is 72.5 feet (see attached screenshot). The vehicle travel lane of Alternative B would be no less than 164 feet from the US 301 bridge so that halved distance would be 82 feet. Therefore this number is not lower than the halved threshold of 72.5 feet and we propose that a noise study would not be required for the noise receptors of the trail on the US 301 bridge.

We can put this officially in a noise memo once everyone has had a chance to review and discuss. Thanks!

-Kally

---

**Kally McCormick**  
**Environmental Manager**  
**Civil Engineering Consulting Services**  
843-696-7348  
[mccormick@cecsinc.com](mailto:mccormick@cecsinc.com)  
2551 Oscar Johnson Drive, Suite B  
North Charleston, SC 29405

**I-95 OVER LAKE MARION BRIDGE REPLACEMENTS**  
**P041130**  
**ORANGEBURG AND CLARENDON COUNTIES, SOUTH CAROLINA**  
**TYPE III PROJECT TRAFFIC NOISE ANALYSIS MEMORANDUM**

**October 25, 2023**



**Prepared for:**



**Prepared by:**



**Civil Engineering  
Consulting Services, Inc.**

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Appendix A	Building Permit Request Letters
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## 1.0 Project Description

The South Carolina Department of Transportation (SCDOT) proposes to replace the four bridges along Interstate 95 (I-95) over Lake Marion in Clarendon and Orangeburg Counties (**Figure 1**). This includes the long two-lane northbound and southbound bridges over the main channel of Lake Marion and the shorter two-lane northbound and southbound relief bridges over the lake. Two 12-foot travel lanes would be provided in both the southbound and northbound directions. Space would also be provided for a potential future additional travel lane in each direction. A 10-foot minimum inside shoulder (shoulders may be wider due to staging requirements) and 12-foot outside shoulder would be provided in each direction. Additionally, there would be a barrier separated 14-foot shared use path for pedestrians and bicyclists on the southbound side only.

**Figure 1. I-95 over Lake Marion Bridge Replacements Project Location**



The purpose of the project is to maintain connectivity and a safe interstate facility for the traveling public along I-95 over Lake Marion. Additionally, a goal of the project is to provide access over Lake Marion for pedestrians and cyclists. Currently, the I-95 bridges are in Fair condition as of 2022 however the National Bridge Inventory's analysis of future condition ratings shows that by 2025 the bridges will be rated 4 – Poor Condition and require load restrictions. Due to I-95 being a hurricane evacuation route as well as providing system linkage yielding high-capacity traffic, I-95 cannot be closed and detoured at this location. The two nearest crossings over Lake Marion are 20 miles away. The bridges must be replaced while the current structure can still operate safely and functionally to maintain current demand.

This project includes the use of federal funds.

Three alternative concepts were developed and assessed for potential impacts within the Noise Project Study Area (PSA). Each alternative would replace the existing northbound and southbound bridges, and would provide a shared use path on the southbound side of the bridge. The three alternatives differ in their relative location to the existing bridge alignments:

- Alternative A would primarily be constructed between the two existing bridges.
- Alternative B would primarily be constructed just west of the existing bridges, towards the former US 301 bridge.
- Alternative C2<sup>1</sup> would primarily be constructed just east of the existing bridges, towards Lake Moultrie.

Because Alternative B would bring traffic noise closer to sensitive receptors, when compared to Alternatives A and C2, this analysis primarily focuses on Alternative B.

As new structures are built, traffic would be shifted and the old structures would be removed.

## 2.0 Traffic Noise Regulation and Policy

A traffic noise analysis is required for proposed federal-aid highway Type I projects. There are several conditions that qualify a project as being Type I and they generally include a project that would construct a highway on new location or physically alter an existing highway, which would significantly change the horizontal and/or vertical alignment of the road or increase the number of through traffic lanes. Type II projects are a federal or federal-aid highway project for noise abatement on an existing highway. For a Type II project to be eligible for federal-aid funding, the

---

<sup>1</sup> Originally, a similar alignment, Alternative C1, was proposed to utilize the existing southbound bridges for the shared use path. However, the cost of rehabilitating and maintaining the southbound bridges would exceed project funding and Alternative C1 was eliminated from further consideration. A similar alignment, Alternative C2, was created to construct new northbound and southbound bridges.

highway agency must develop and implement a Type II program in accordance with Code of Federal Regulations (CFR) section 772.7(e). SCDOT does not have a Type II program at this time. Type III Projects are those federal or federal-aid highway projects that do not meet the classifications of a Type I or Type II project. Type III projects do not require a noise analysis.

CFR 23, Part 772 contains the Federal Highway Administration (FHWA) traffic noise standards and the SCDOT has implemented these standards in its Traffic Noise Abatement Policy, effective on February 24, 2023. The I-95 over Lake Marion Bridge Replacements Project does not qualify as a Type I project because the alternatives do not include the addition of through travel lanes nor do they bring traffic noise substantially closer to a noise sensitive area, or receptor. This memorandum outlines the procedures used to determine that the project does not meet the conditions of a Type I project.

### 3.0 Determination of Type I Project

As project alternatives were developed, the alternatives were assessed to determine if any Type I project conditions would be met. These are summarized below in Table 1.

**Table 1: Type I project conditions with respect to the I-95 project corridor.**

ID	Condition	Result
1	Is there construction of a highway on new location?	No
2	Is there physical alteration of an existing highway where there is Substantial Horizontal Alteration? This would mean halving the distance between the traffic noise source and the closest receptor between the existing condition to the future build condition.	No
3	Is there physical alteration of an existing highway where there is Substantial Vertical Alteration? This would mean that the project removes shielding therefore exposing the line-of-sight between the receptor and the traffic noise source. This is done by either altering the vertical alignment of the highway or by altering the topography between the highway traffic noise source and the receptor.	No
4	Is there an addition of a through-traffic lane(s)?	No
5	Is there an addition of an auxiliary lane, except for when the auxiliary lane is a turn lane?	No
6	Is there an addition or relocation of interchange lanes or ramps added to a quadrant to complete an existing partial interchange?	No
7	Is there restriping of existing pavement for the purpose of adding a through-traffic lane or an auxiliary lane?	No
8	Is there an addition of a new or substantial alteration of an existing weigh station, rest stop, ride-share lot or toll plaza?	No

The design alternatives were reviewed with the project team to determine if any of the Type I conditions would apply to the bridge replacement. Conditions 1 and 3 through 8 were quickly identified as not being applicable. Condition 2 required additional analysis to determine if the travel lanes and wider shoulders would be constructed substantially closer to sensitive noise receptors. Digital project design files were utilized to calculate the distance between the noise receptors and the *existing* roadway and this was compared to the distance between noise receptors and the *proposed* roadway. The area in the project corridor that has receptors the closest to the road is near Bass Drive and is shown in **Figure 2**. These locations are in the southwestern limits of the project near Ballards Pointe. Additionally, the former US 301 bridge currently serves as a recreational site providing pedestrian and cycling access (**Figure 3**). As shown in **Table 2**, at these locations, the future traffic noise source distance of Alternative B would be greater than half of the existing distance.

**Table 2: Traffic noise distances from sensitive noise areas near I-95.**

Location	Distance from existing edge of travel lane to outdoor use area	Halved Distance	Distance from Alternative B future edge of travel lane to outdoor use area	Distance from future edge of travel lane greater than halved distance
Ballards Pointe	250 ft	125 ft	185 ft	Yes
Former US 301 Bridge	145 ft	72.5 ft	82 ft	Yes

Similar to the Ballads Pointe and US 301 bridge locations in Table 2, all noise sensitive areas were measured within the corridor. Areas were identified via digital aerial photography, county GIS layers, and field assessments of areas such as homes, hotels, and businesses. Additionally, to accurately determine if residential, commercial, or other properties are impacted by noise, SCDOT is also tasked with considering impacts to structures that may not yet be constructed, but that have an active and approved building permit. This would include areas such as residential homes, apartments, commercial buildings, etc. SCDOT requested a list of active and approved building permits from both Clarendon County and Orangeburg County and there are no permitted structures that would meet these conditions (**Appendix A**).

No sensitive noise areas meet the condition for a substantial horizontal alteration of the roadway.

## **4.0 Conclusions**

After reviewing the project design alternatives, it was determined that traffic noise sources would not be moved substantially closer to sensitive noise receptors and the conditions of a Type I project would not be met. Therefore, the I-95 over Lake Marion Bridge Replacements Project qualifies as a Type III project and does not require a full traffic noise analysis.



Figure 2. Noise receptors closest to the I-95 over Lake Marion, Alternative B.

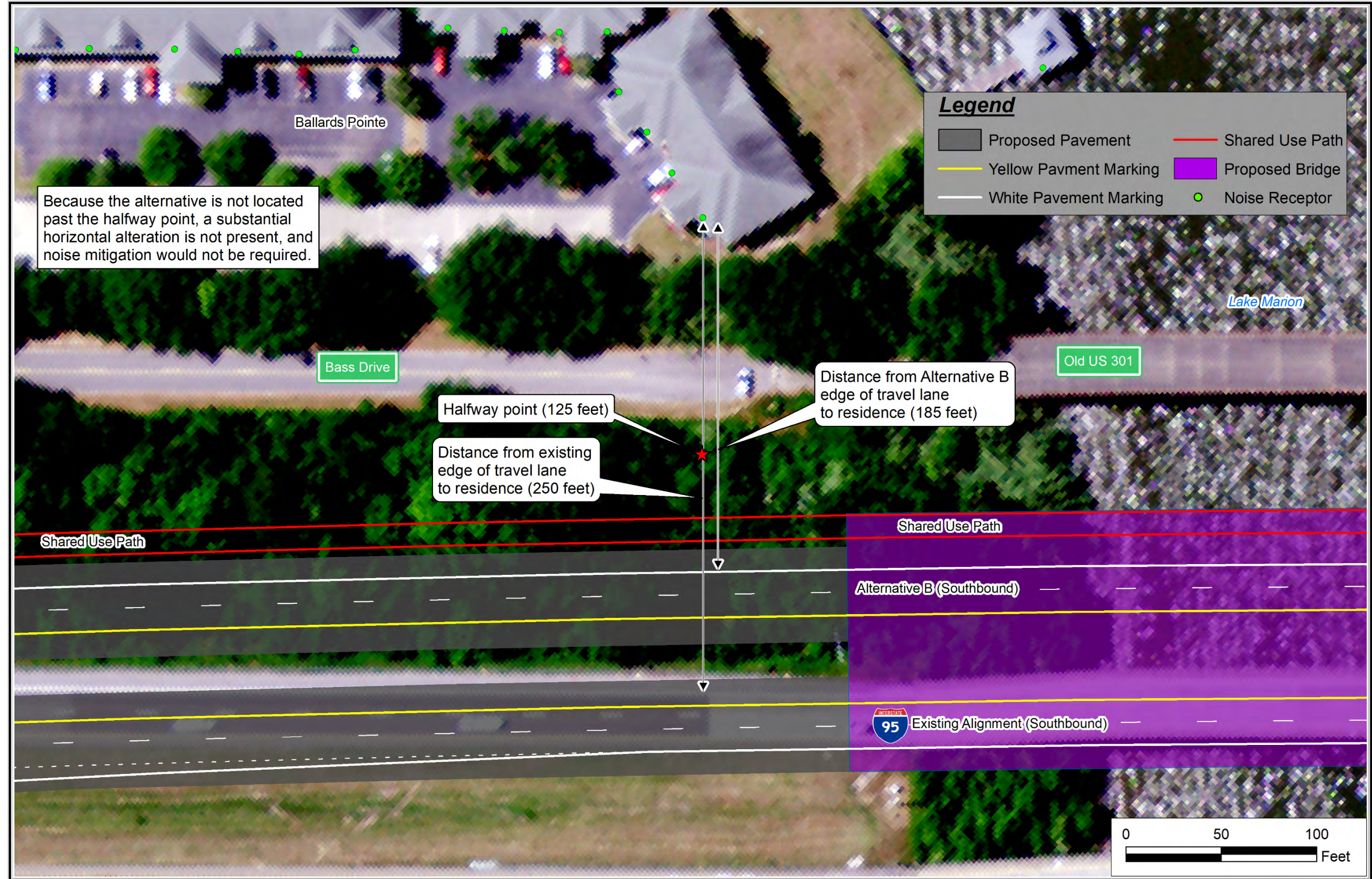
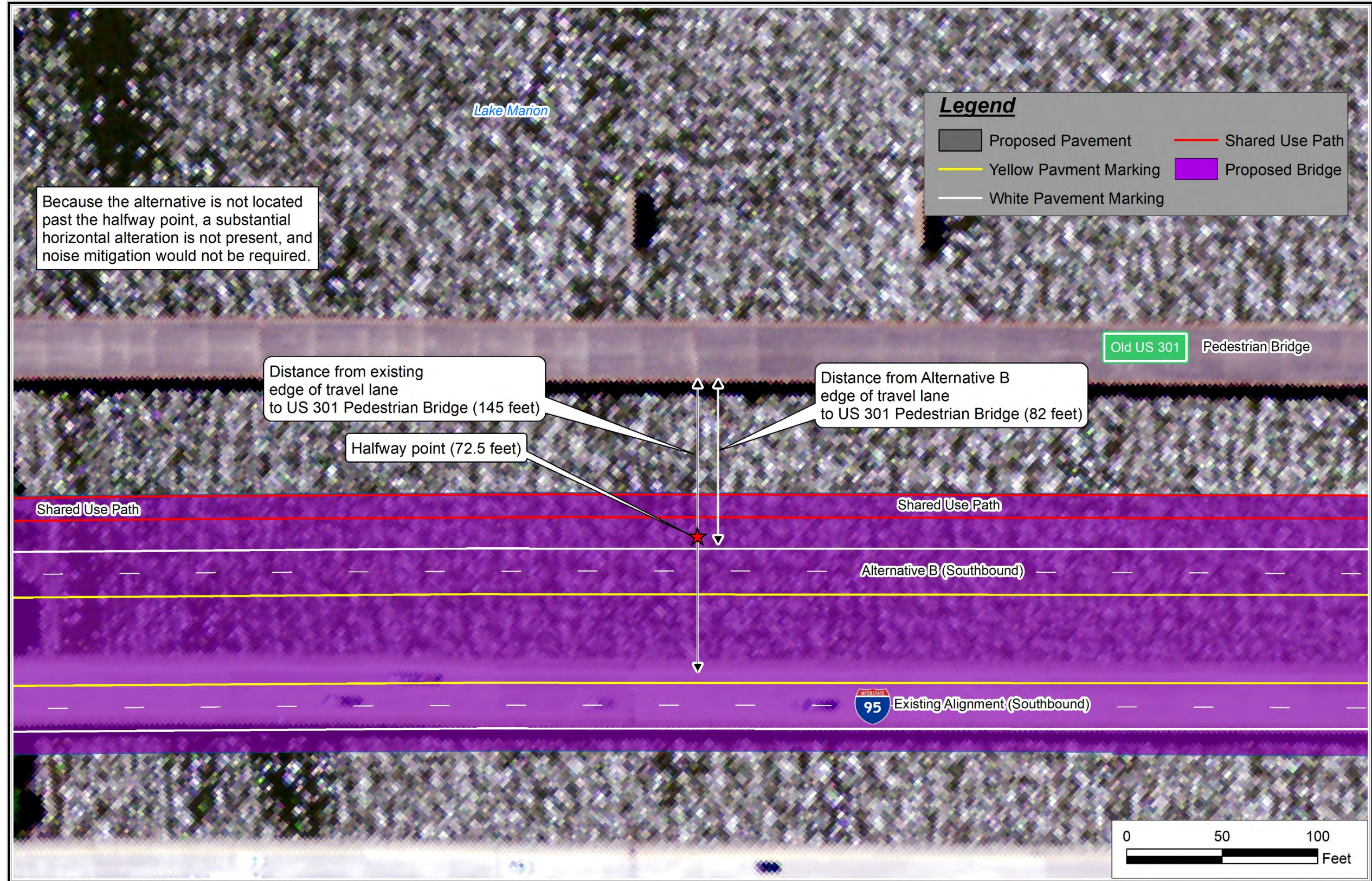




Figure 3. Noise receptors closest to the I-95 over Lake Marion, Alternative B (US 301).





## **Appendix A**

### **Building Permit Request Letters**

February 6, 2023

Lucille O'Brien  
[lobrien@clarendoncountygov.org](mailto:lobrien@clarendoncountygov.org)  
Planning/Zoning Coordinator  
Clarendon County  
411 Sunset Dr.  
Manning, SC 29102

Re: I-95 Bridge Replacements over Lake Marion Project  
Orangeburg and Clarendon Counties

Dear Ms. O'Brien,

The South Carolina Department of Transportation (SCDOT) proposes to replace four bridges along I-95 over Lake Marion in Clarendon and Orangeburg Counties. This includes the large two-lane northbound and southbound bridges over Lake Marion and the smaller two-lane northbound and southbound relief bridges over the lake. In accordance with federal aid project noise regulations (Code of Federal Regulations Title 23, Part 772, available at <https://www.ecfr.gov/current/title-23/chapter-I/subchapter-H/part-772>), SCDOT is requesting a list of active and approved building permits from your office. This would apply to an area near the proposed I-95 bridge replacements project in Orangeburg County, SC. The project study area is generally bounded by the I-95 interchange at Old Number 6 Highway to the south and the I-95 at US 301 to the north (see attached Figure 1). We have also completed a Freedom of Information Act (FOIA) form and attached that to this request.

To accurately if residential, commercial, or other properties are impacted by noise, we are tasked with considering impacts to structures that may not yet be constructed, but that do have **an active and approved building permit**. This would include areas such as residential homes, apartments, commercial buildings, etc. If you could provide us with a list of those permits, including location, we can use that information to accurately complete the noise analysis. We are happy to work with you GIS staff as well if that is an easier method to query the database. Thank you for your assistance and cooperation in this matter. If there are any other digital files or other documents



that we can provide to please do not hesitate to let me know (mcgoldriwr@scdot.org or 803-737-1326).

Sincerely,

*Will McGoldrick*

Will McGoldrick

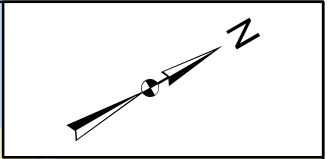
Program Manager, Environmental Services Office

SCDOT

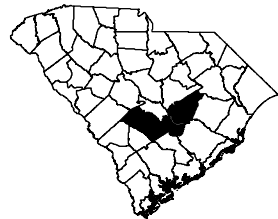
cc: Kally McCormick, Civil Engineering Consulting Services







Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community



Clarendon County



**Legend**

— Noise\_Project\_Study\_Area



I-95 over Lake Marion Bridge Replacements Design Build  
Orangeburg and Clarendon Counties  
SCDOT P041130

Source:  
Aerial Imagery  
2021

Drawn By: JLS  
QA/QC: KLM  
January 2023

Noise Project Study Area



Clarendon County

Freedom of Information Act Request Form

Date of Request 1 / 31 / 2023

Name Jeffrey Sieckman - C.Vil Engineering Consulting Services Inc - for SCDOT

Address 2000 Park St. Suite 201

City Columbia State SC Zip 29201

Phone 864-992-2131 Alternate 803-779-0711

Information Requested (please be as specific as possible) \_\_\_\_\_

List of active and approved building permits for residential and commercial properties that are within our Project Study Area.

Section 30-4-30 (B) S.C. Code of Laws, 1976, as amended, provides as follows;

The public body may establish and collect fees not to exceed the actual cost of searching for and making copies of records. Documents may be furnished when appropriate without charge or at a reduced charge when the agency determines that waiver or reduction of the fee is in the public interest. The custodian of the public records may charge a reasonable hourly rate for making records available to the public and may receive a reasonable deposit of these rates before searching for or making copies of the records.

FOR OFFICE USE ONLY

Request Assigned to: \_\_\_\_\_ Date of Completion: \_\_\_\_\_

Date of Assignment: \_\_\_\_\_

Comments: \_\_\_\_\_

Fee for services rendered: \$ \_\_\_\_\_

Method of Payment: \_\_\_\_\_ PAID \_\_\_\_\_

*\*All copies are .25 per copy- Cash or Money Order accepted. (No personal Checks Accepted)*

## Kally McCormick

---

**From:** McGoldrick, Will <McGoldriWR@scdot.org>  
**Sent:** Tuesday, February 14, 2023 8:00 AM  
**To:** Kally McCormick  
**Subject:** FW: Building Permit FOIA Request for I-95 Bridges over Lake Marion

FYR

-WM

---

**From:** Lucille Obrien <lobrien@clarendoncountygov.org>  
**Sent:** Monday, February 13, 2023 2:03 PM  
**To:** McGoldrick, Will <McGoldriWR@scdot.org>  
**Subject:** RE: Building Permit FOIA Request for I-95 Bridges over Lake Marion

\*\*\* This is an EXTERNAL email. Please do not click on a link or open any attachments unless you are confident it is from a trusted source. \*\*\*

Mr. McGoldrick,

I've spoken to Mrs. Tabitha Hanna, Planning Director and Ms. Maria Rose, Deputy Planning Director and we do not have or are aware of any active residential or commercial building permit for property located within the highlighted area on the map you submitted. Hope this information is helpful. Have a great day!

*Lucille O'Brien*

Planning/Zoning Coordinator  
Clarendon County Planning Commission  
411 Sunset Drive  
Manning, South Carolina 29102  
803.435.8672 tel 803.435.2208 fax  
[lobrien@clarendoncountygov.org](mailto:lobrien@clarendoncountygov.org)

---

**From:** McGoldrick, Will <[McGoldriWR@scdot.org](mailto:McGoldriWR@scdot.org)>  
**Sent:** Tuesday, February 7, 2023 8:23 AM  
**To:** Lucille Obrien <[lobrien@clarendoncountygov.org](mailto:lobrien@clarendoncountygov.org)>  
**Cc:** Kally McCormick <[mccormick@cecsinc.com](mailto:mccormick@cecsinc.com)>  
**Subject:** Building Permit FOIA Request for I-95 Bridges over Lake Marion

Ms. O'Brien,

My name is Will McGoldrick and I work for the SCDOT. The SCDOT is preparing environmental documentation for the replacement of the I-95 bridges over Lake Marion in Orangeburg and Clarendon Counties. As part of that endeavor, we are seeking information from your office. Please find the attached request submitted to your office for processing. Any



information you can provide will be appreciated and helpful in our development and delivery of this project. If you have any questions or require additional information, please let know.

Respectfully,

Will McGoldrick, Assoc. DBIA | Program Manager  
Environmental Services Office  
SCDOT  
955 Park St Rm 506  
Columbia SC 29202-0191  
(o) 803-737-1326

February 6, 2023

Stewart Haig  
[shaig@orangeburgcounty.org](mailto:shaig@orangeburgcounty.org)  
Building Official  
Orangeburg County  
1437 Amelia Street  
Orangeburg, SC 29115

Re: I-95 Bridge Replacements over Lake Marion Project  
(Orangeburg and Clarendon Counties)

Dear Mr. Haig,

The South Carolina Department of Transportation (SCDOT) proposes to replace four bridges along I-95 over Lake Marion in Clarendon and Orangeburg Counties. This includes the large two-lane northbound and southbound bridges over Lake Marion and the smaller two-lane northbound and southbound relief bridges over the lake. In accordance with federal aid project noise regulations (Code of Federal Regulations Title 23, Part 772, available at <https://www.ecfr.gov/current/title-23/chapter-I/subchapter-H/part-772>), SCDOT is requesting a list of active and approved building permits from your office. This would apply to an area near the proposed I-95 bridge replacements project in Orangeburg County, SC. The project study area is generally bounded by the I-95 interchange at Old Number 6 Highway to the south and the I-95 at US 301 to the north (see attached Figure 1). We have also completed a Freedom of Information Act (FOIA) form and attached that to this request.

To accurately determine if residential, commercial, or other properties are impacted by noise, we are tasked with considering impacts to structures that may not yet be constructed, but that do have an **active and approved building permit**. This would include areas such as residential homes, apartments, commercial buildings, etc. For example, if Wyndham Resorts off of Bass Drive has building permits for future resort buildings, we would want to consider these areas. If you could provide us with a list of those permits, including location, we can use that information to accurately complete the noise analysis. We are happy to work with you GIS staff as well if





that is an easier method to query the database. Thank you for your assistance and cooperation in this matter. If there are any other digital files or other documents that we can provide to please do not hesitate to let me know (mcgoldriwr@scdot.org or 803-737-1326).

Sincerely,



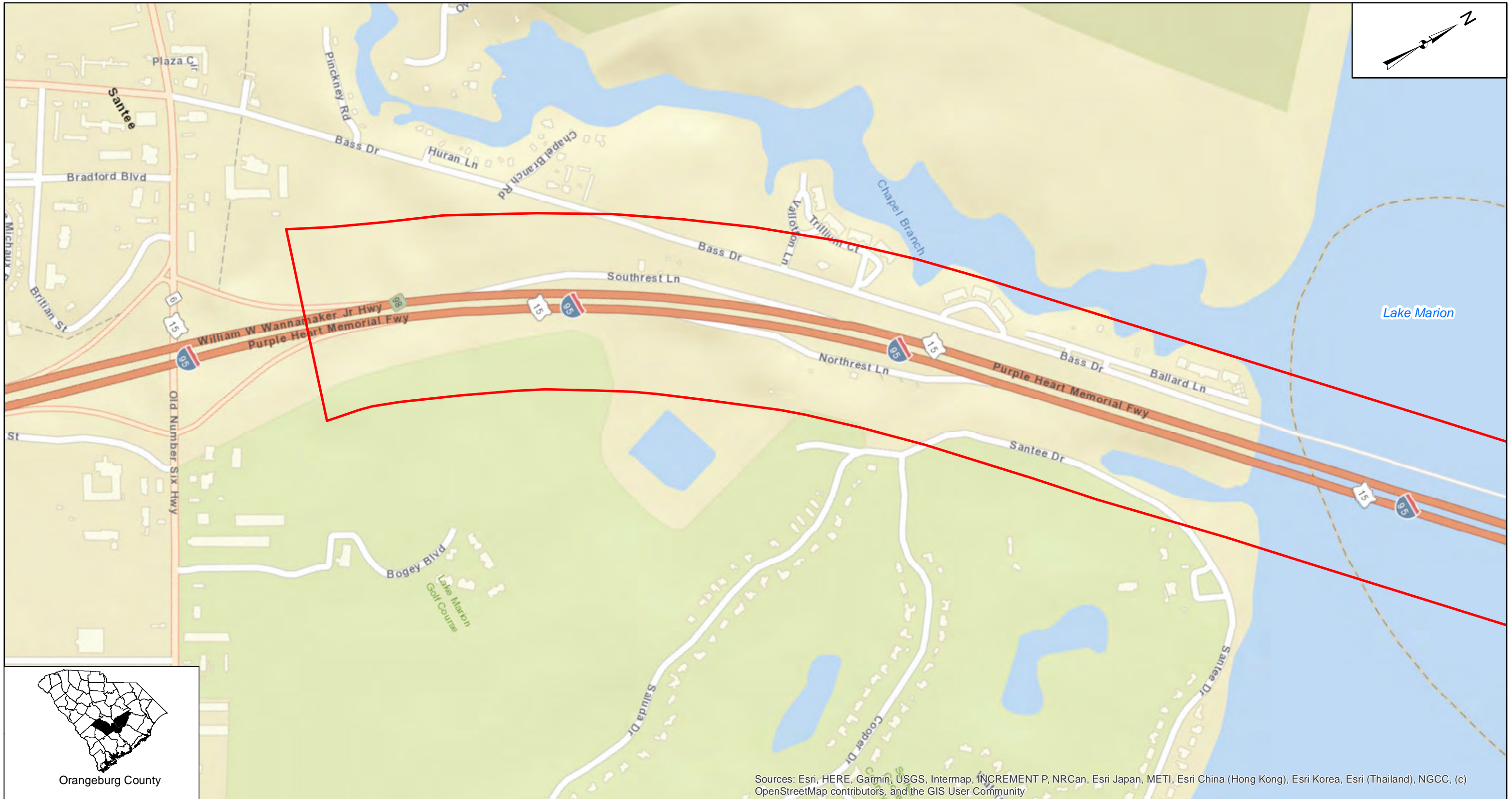
Will McGoldrick

Program Manager, Environmental Services Office

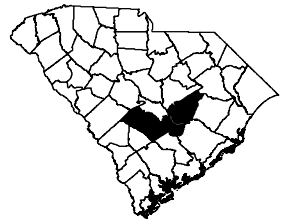
SCDOT

cc: Kally McCormick, Civil Engineering Consulting Services





Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community



Orangeburg County



**Legend**

— Noise\_Project\_Study\_Area



I-95 over Lake Marion Bridge Replacements Design Build  
Orangeburg and Clarendon Counties  
SCDOT P041130

Source:  
Aerial Imagery  
2021

Drawn By: JLS  
QA/QC: KLM  
January 2023

Noise Project Study Area

**FREEDOM OF INFORMATION ACT (FOIA) REQUEST FORM**

DATE OF REQUEST: 1-31-2023

FOIA REQUEST: List of active and approved building permits for residential/commercial  
properties that are within our Project Study Area.

**REQUESTOR'S**

NAME: Jeffrey Sieckman - Civil Engineering Consulting Services Inc. for SCDOT

**ADDRESS:**

EMAIL Sieckmanjl@cecsinc.com

U.S. MAIL 2000 Park St Suite 201  
Columbia, SC 29201

PHONE NUMBER: 864-992-2181

SIGNATURE: 

**Please deliver your FOIA Request to Orangeburg County**  
**Via email**

**Via U.S. Mail** or

**Orangeburg County**  
**P.O. Drawer 9000**  
**Orangeburg SC 29116-9000**

**Orangeburg County**  
**1437 Amelia St.**  
**Orangeburg SC 29115**

## **Appendix N**

### **Farmland**



**FARMLAND CONVERSION IMPACT RATING  
FOR CORRIDOR TYPE PROJECTS**

<b>PART I (To be completed by Federal Agency)</b>	3. Date of Land Evaluation Request <b>5/9/22</b>	4. Sheet 1 of <u>1</u>
---	--	------------------------

1. Name of Project <b>I-95 Bridge Replacements over Lake Marion</b>	5. Federal Agency Involved <b>SCDOT</b>
---	---

2. Type of Project <b>Bridge Replacement</b>	6. County and State <b>Clarendon and Orangeburg Counties</b>
--	--

<b>PART II (To be completed by NRCS)</b>	1. Date Request Received by NRCS	2. Person Completing Form
--	----------------------------------	---------------------------

3. Does the corridor contain prime, unique statewide or local important farmland? (If no, the FPPA does not apply - Do not complete additional parts of this form). YES <input type="checkbox"/> NO <input type="checkbox"/>	4. Acres Irrigated   Average Farm Size
---	--

5. Major Crop(s)	6. Farmable Land in Government Jurisdiction Acres: _____ % _____	7. Amount of Farmland As Defined in FPPA Acres: _____ % _____
------------------	---	--

8. Name Of Land Evaluation System Used	9. Name of Local Site Assessment System	10. Date Land Evaluation Returned by NRCS
--	---	---

<b>PART III (To be completed by Federal Agency)</b>	<b>Alternative Corridor For Segment</b>			
	Corridor A	Corridor B	Corridor C	Corridor D
A. Total Acres To Be Converted Directly	<b>334</b>	<b>40</b>	<b>61</b>	<b>61</b>
B. Total Acres To Be Converted Indirectly, Or To Receive Services		<b>294</b>	<b>273</b>	<b>273</b>
C. Total Acres In Corridor	<b>334</b>	<b>334</b>	<b>334</b>	<b>334</b>

<b>PART IV (To be completed by NRCS) Land Evaluation Information</b>				
A. Total Acres Prime And Unique Farmland	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
B. Total Acres Statewide And Local Important Farmland	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>
C. Percentage Of Farmland in County Or Local Govt. Unit To Be Converted	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
D. Percentage Of Farmland in Govt. Jurisdiction With Same Or Higher Relative Value	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

**PART V (To be completed by NRCS) Land Evaluation Information Criterion Relative value of Farmland to Be Serviced or Converted (Scale of 0 - 100 Points)**

<b>PART VI (To be completed by Federal Agency) Corridor Assessment Criteria (These criteria are explained in 7 CFR 658.5(c))</b>	Maximum Points				
1. Area in Nonurban Use	15	0	0	0	0
2. Perimeter in Nonurban Use	10	0	0	0	0
3. Percent Of Corridor Being Farmed	20	0	0	0	0
4. Protection Provided By State And Local Government	20	0	0	0	0
5. Size of Present Farm Unit Compared To Average	10	0	0	0	0
6. Creation Of Nonfarmable Farmland	25	0	0	0	0
7. Availability Of Farm Support Services	5	5	5	5	5
8. On-Farm Investments	20	0	0	0	0
9. Effects Of Conversion On Farm Support Services	25	0	0	0	0
10. Compatibility With Existing Agricultural Use	10	0	0	0	0
<b>TOTAL CORRIDOR ASSESSMENT POINTS</b>	<b>160</b>	<b>5</b>	<b>5</b>	<b>5</b>	<b>5</b>

<b>PART VII (To be completed by Federal Agency)</b>					
Relative Value Of Farmland (From Part V)	<b>100</b>				
Total Corridor Assessment (From Part VI above or a local site assessment)	<b>160</b>	<b>5</b>	<b>5</b>	<b>5</b>	<b>5</b>
<b>TOTAL POINTS (Total of above 2 lines)</b>	<b>260</b>	<b>5</b>	<b>5</b>	<b>5</b>	<b>5</b>

1. Corridor Selected: <b>B</b>	2. Total Acres of Farmlands to be Converted by Project: <b>1</b>	3. Date Of Selection: <b>5/9/23</b>	4. Was A Local Site Assessment Used? YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>
-----------------------------------	---	--	---

5. Reason For Selection:

Signature of Person Completing this Part: Asha Wallace DATE **5/9/22**

NOTE: Complete a form for each segment with more than one Alternate Corridor



## **Appendix O**

### **Limited Phase I Environmental Site Assessment**

# LIMITED PHASE I ENVIRONMENTAL SITE ASSESSMENT REPORT

**I-95 OVER LAKE MARION  
ORANGEBURG AND CLARENDON COUNTIES  
SOUTH CAROLINA**

## **PREPARED FOR:**

TranSystems  
4400 Leeds Avenue  
Charleston SC, 29405  
and  
South Carolina Department of Transportation  
Columbia, SC 29201

## **PREPARED BY:**

F&ME Consultants, Inc.  
211 Business Park Blvd.  
Columbia, South Carolina 29203

**December 11, 2023**

FME Project No.: G6744.000



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Appendix A – Parcels of the Project Area

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## LIST OF ACRONYMS

AAI	All Appropriate Inquiry
AST	Aboveground Storage Tank
ASTM	American Society of Testing and Materials (ASTM) International
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CREC	Controlled Recognized Environmental Condition
EDR	Environmental Data Resources, Inc.
EPA	United States Environmental Protection Agency
ESA	Environmental Site Assessment
FEMA	Federal Emergency Management Agency
FOI	Freedom of Information
HREC	Historical Recognized Environmental Condition
RCRA	Resource Conservation and Recovery Act
REC	Recognized Environmental Condition
SCDHEC	South Carolina Department of Health and Environmental Control
SCDOT	South Carolina Department of Transportation
SHWS	State Hazardous Waste Site
SWF/LF	Solid Waste Facility/Landfill Facility
USGS	United States Geological Survey
UST	Underground Storage Tank



# 1. SUMMARY

F&ME Consultants, Inc. (FME) has performed a Limited Phase I Environmental Site Assessment (Limited Phase I ESA) relating to the bridge replacement project, identified as I-95 Over Lake Marion (Project Area). The Project Area includes approximately four (4) linear miles of I-95 located near the Towns of Santee and Summerton, in Orangeburg and Clarendon Counties (respectively), South Carolina. This assessment of the Project Area was performed for the South Carolina Department of Transportation (SCDOT) and TranSystems Corporation, collectively the “Users” of this report. Appendix A identifies the 46 individual tracts of land within the Project Area. The Site Vicinity Map is found in Appendix B, Figure 1. Appendix B, Figures 2 through 6 includes the FME-established parcel identification numbers which are used to identify the 46 individual land tracts of the Project Area identified within Appendix A.

In general accordance with ASTM International (ASTM) E1527-21, *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process*, FME’s Limited Phase I ESA included records review and site reconnaissance. FME reviewed reasonably ascertainable historical records, historical photographs, regulatory records databases, and other records made readily available. On December 4, 2023, FME photographed the Project Area during site reconnaissance. Site reconnaissance included observation of the present usage of portions of the parcels located within the Project Area from public thoroughfares (i.e., FME did not enter private property).

**Findings.** The Project Area currently consists primarily of approximately four (4) linear miles of I-95 and portions of other roadways adjacent to I-95. Land uses within and adjoining the Project Area are primarily rural. Based on historic information, parcels within the Project Area were historically rural commercial gas stations, a lumber mill, rest areas, a water treatment site, and residential/recreational uses.

The EDR regulatory information identified 31 regulatory listings within the ASTM minimum search distances and regulatory databases. However, these 31 listings corresponded to 12 sites due to duplicate listings. Additionally, ten (10) orphan/unmapped sites were identified as potentially located within the minimum search distances.

**Opinions.** Based on EDR regulatory and historic information FME identified six (6) sites which may have adversely affected the Project Area. These sites are summarized below.

**Conclusions.** FME determined that six (6) sites may have adversely affected the Project Area. These six (6) identified sites include four (4) Recognized Environmental Condition (REC) sites and two (2) Controlled Recognized Environmental Condition (CREC). Each of these six (6) sites are summarized below.

- **CREC 1 (Parcel 37)** – EZ Shop #24 / EZ Shop 24 / ENK 889 / Eazy Shop 24 / Enmarket, 8440 St. Paul Road / Jim Sniffen, (UST/LUST/RGA LUST site);
- **CREC 2 (Parcel 28)** – Lake Marion Economart / Econ O Mart, adjoining 5236 State Road S-14-400 / 5236 Dingle Pond Road / I-95 Exit 102, (UST/LUST/RCR site);

- **REC 3 (Parcels 27, 28, 29, and 30)** – Big Water Country Store / KK Mart / Food Center Marathon, 5236 Dingle Pond Road, (UST/LUST/FINDS/GWCI/RCR site);
- **REC 4 (Parcel 26)** –Santee Cooper / Santee Cooper Camp 3 / Palmetto Shores RV Resort, I-95 Exit 102 HWY 400 / I-95 at SC 400 / 5215 State Road S-14-400 / 5215 Dingle Pond Road, (UST/LUST/maintenance and repair site);
- **REC 5 (Parcel 41)** –former lumber mill site, 8705 State Road S-14-230, (potentially hazardous materials and petroleum site); and,
- **REC 6 (Parcels 4 and 5)** –Santee Treatment Plant, 9151 Old Number Six Highway, (potentially treatment chemicals and wastes generated on site).

**Recommendations.** FME recommends a Phase II Environmental Site Assessment (Phase II ESA) to determine if the four (4) REC and two (2) CREC have adversely impacted soil, groundwater, and/or soil vapor within the Project Area. Please note that this recommendation is based on the current Project Area provided by the Users, located within Appendix B of this Limited Phase I ESA Report.

The Users should consider how potential future changes to the Project Area will affect the number of REC and CREC identified within this Limited Phase I ESA Report. In the future, if the Project Area becomes more refined (e.g., changes in size, shape, number of parcels affected), this will likely also change the number of REC and CREC that were identified within this Limited Phase I ESA Report

## 2. INTRODUCTION

### 2.1 Purpose

The purpose of this Limited Phase I ESA was to identify, to the extent feasible and in general accordance with ASTM E1527-21, Recognized Environmental Conditions in connection with the subject property.

ASTM E1527-21 defines a Recognized Environmental Condition (REC) as: (1) the presence of hazardous substances or petroleum products in, on, or at the subject property due to a release to the environment; (2) the likely presence of hazardous substances or petroleum products in, on, or at the subject property due to a release or likely release to the environment; or, (3) the presence of hazardous substances or petroleum products in, on, or at the subject property under conditions that pose a material threat of a future release to the environment.

ASTM E1527-21 defines a Controlled Recognized Environmental Condition (CREC) as a REC affecting the subject property that has been addressed to the satisfaction of the applicable regulatory authority or authorities with hazardous substances or petroleum products allowed to remain in place subject to implementation of required controls (for example, activity and use limitations or other property use limitations).

ASTM E1527-21 defines a Historical Recognized Environmental Condition (HREC) as a previous release of hazardous substances or petroleum products affecting the subject property that has been addressed to the satisfaction of the applicable regulatory authority or authorities and meeting unrestricted use criteria established by the applicable regulatory authority or authorities without subjecting the subject property to any controls (for example, activity and use limitations or other property use limitations). A historical recognized environmental condition is not a REC.

ASTM E1527-21 defines a *de minimis* condition as a condition related to a release that generally does not present a threat to human health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies. A condition determined to be a *de minimis* condition is not a REC nor a CREC.

### 2.2 Detailed Scope of Services

Pursuant to an agreement between the Users and FME, and in general accordance with ASTM E1527-21, FME's Limited Phase I ESA consisted of: a physical site reconnaissance of the portions of the parcels found within the Project Area from public thoroughfares; review of reasonably ascertainable South Carolina Department of Health and Environmental Control (SCDHEC) records for the Project Area, as well as records pertaining to parcels within the minimum search distances as defined in ASTM E1527-21; where applicable, a review of available current and past aerial photographs for the Project Area and adjoining parcels; Environmental Data Resources, Inc. (EDR) database report for the Project Area; a report written using the format recommended in ASTM E1527-21; and, recommendations as to the need for additional investigations where applicable.

This assessment is consistent with good commercial and customary practice as defined in the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) for the purposes of the Landowner Liability Protection only for the portions of the parcels located within the Project Area.

## 2.3 Significant Assumptions

FME has made the following assumptions in preparing the scope for this Limited Phase I ESA.

- Data gathered from public information sources (i.e., libraries and public regulatory agencies) is accurate and reliable.
- Site operations reflect site conditions relative to potential releases and no intentional concealment of environmental conditions or releases has occurred.
- Any interview information is directly reported as gathered by the assessor and is limited by the accuracy of the interviewee's recollection and experience.
- Published geologic information and site observations made by the Environmental Professional are utilized to estimate likely surficial and subsurface contaminant migration pathways (i.e., groundwater, soil, and soil vapor). These estimates are limited in accuracy and generally cross-referenced with existing information about similar sites and environmental releases in the area.
- Pursuant to an agreed upon scope of work, site reconnaissance was only performed on the portions of the parcels located within the Project Area and viewed from public thoroughfares. The limits of site reconnaissance were agreed to by the Users. Likewise, interior of buildings located within the Project Area were not inspected or accessed.
- Similarly, deeds are typically provided by the User(s), however, pursuant to the agreed upon scope of work, deeds are not included in this report.

## 2.4 Limitations and Exceptions

This Limited Phase I ESA does not address all possible environmental liabilities that the Users may need to consider in the context of a commercial real estate transaction. Asbestos-containing building materials, emerging contaminants, biological agents, cultural and historical resources, ecological resources, endangered species, health and safety, indoor air quality, industrial hygiene, lead-based paint, lead in drinking water, mold, radon, regulatory compliance, wetlands, and Federal Emergency Management Agency (FEMA) flood zones are investigative areas not included in this Limited Phase I ESA.

### 2.4.1 Site Reconnaissance

The findings of this report are applicable, and representative of conditions encountered at the Project Area on the date of the site reconnaissance and may not represent

conditions at a later date. Where portions of the Project Area were inaccessible, or access was limited, FME renders no opinion as to the presence or absence of potential environmental concerns located indirectly or directly in the Project Area, adjoining parcels, or contents of onsite/offsite building structures.

#### 2.4.2 Records Review

The review of public records was limited to that information which was available to FME at the time that this report was prepared. To the extent that public files were missing, incomplete, or not provided, FME is not responsible for the completeness of public files. If an overlap in the information provided by the various officials, other parties, or agencies is noted, FME did not attempt to verify the accuracy or completeness of information received and incorporated into this Limited Phase I ESA. No warranty or guarantee, either stated or implied, is given concerning the authenticity of the various agencies and present or past owners or operators of the Project Area or the completeness of federal, state, or local records.

If data gaps concerning the Project Area and adjoining parcels are identified, regardless of cause (i.e., intentional, or unintentional withholding or loss of information), FME will attempt to comment on the significance of these data gaps. However, FME cannot and does not warrant or guarantee that significant events, releases, or negative conditions did not occur during periods of time for which no records are available.

#### 2.4.3 Findings, Opinions, Conclusions, and Recommendations

The findings, opinions, and conclusions of this Limited Phase I ESA are based, in part, upon the information obtained from the records made available by others and from the site reconnaissance. If variations or latent conditions arise or become evident later, it may be necessary to re-evaluate the findings and conclusions presented in this Limited Phase I ESA.

During the Limited Phase I ESA, FME did not perform any collection, sampling, or laboratory analysis of materials (e.g., soil, water, air, building materials). Therefore, if the conclusions and recommendations contained herein are based in part upon laboratory data found during our research, then the conclusions and recommendations are contingent upon the validity of such data and the laboratory that performed the analyses and prepared the analytical data report. The potential for vapor encroachment or intrusion is also considered relative to onsite and offsite sources, based on the experience of the Environmental Professional.

## 2.5 User Reliance

This Limited Phase I ESA has been prepared exclusively for the Users and shall not be disseminated in whole or in part to other parties without prior consent from FME.



## 3. SITE DESCRIPTION

### 3.1 Location and Legal Description

The Project Area includes approximately four (4) linear miles on and adjacent to I-95 near the Towns of Santee and Summerton, Orangeburg and Clarendon Counties, South Carolina. The Project Area includes 46 individual tracts of land located adjacent to I-95 and includes roadways generally described within Section 3.4 below. The parcels within the Project Area were selected based upon the preliminary road improvement project limits provided by the Users in order to assess lands where road improvements are planned or where rights-of-way will be expanded. Refer to Appendix B, Figures 2 through 6, for the general layout of the Project Area, depicted in red as well as the FME-established parcel numbers, which correspond to the parcels of the Project Area identified within Appendix A.

### 3.2 Site and Vicinity General Characteristics

The Project Area is located within a rural area near the Towns of Santee and Summerton, as well as Lake Marion. The Project Area is accessible via roadways generally described within Section 3.4 below. Parcels within the Project Area and adjoining areas are primarily residential, recreational, and commercial. Parcels surrounding the Project Area have similar uses. Please refer to the Site Vicinity Map and the Project Area Plans included as Appendix B.

The Project Area is located approximately 75 to 100 feet above mean sea level (MSL). This information was obtained from the 2020 United States Geological Survey's (USGS) 7.5 Minute Topographic Map obtained from Environmental Data Resources (EDR).

### 3.3 Geologic and Hydrogeologic Conditions

The Project Area is geologically located within the Middle Coastal Plain Physiographic Province near the Towns of Santee and Summerton, Orangeburg and Clarendon Counties, South Carolina. Typically, the topography of the Middle Coastal Plain is in an intermediate stage of erosion, which is commonly characterized by flat, interfluvial divides with narrow stream valleys. This is the catchment area for the Tertiary Sand and Limestone Aquifer.

According to the United States Department of Agriculture (USDA), Web Soil Survey, the predominant surficial soil of the Project Area are Udorthents and Lakeland sand. These soils are moderately well drained to excessively drained. Depth to the water table within the Project Area is generally six (6) feet or more below the ground surface (bgs). However, depth to groundwater throughout the Project Area is largely controlled by rainfall frequency, intensity, stormwater movement, depth to bedrock, as well as tidal influences. Therefore, reference to groundwater in this area should not be considered static. Precipitation within the Project Area is generally 44 to 55 inches per year.

Below the surficial soils lie Coastal Plain sediments, including the Pleistocene aged Marietta Formation, the Pliocene aged Duplin, the Eocene aged Santee Limestone, Warley Hill and Congaree Formation and the Paleocene aged Williamsburg Formation. Underlying the coastal

plain sediments, are the Precambrian and Cambrian aged crystalline basement rocks at a minimum depth of 1,200 feet MSL.

### 3.4 Current Uses of the Project Area

The Project Area consists of portions of approximately 46 individual tracts of land, primarily located along I-95. Other roadways potentially impacted by roadway work may include the driveway of the south bound rest area, driveway of the north bound rest area, Bass Drive, Ballard Lane, State Road S-14-400 (a.k.a., Dingle Pond Road and Road 400), St. Paul Road, Scott Lake Road as well as driveways of commercial businesses within the Project Area. Parcels within the Project Area are primarily rural commercial gas stations, a former lumber mill, rest areas, a water treatment site, and residential/recreational uses. Uses of each of the parcels within the Project Area are described in general terms within Appendix A.

### 3.5 Current Uses of the Adjoining Parcels

Current uses of parcels adjoining the Project Area are similar to the uses within the Project Area. Since the Project Area extends approximately some distance on either side of the centerline of the proposed roadway improvements, the Project Area includes only a portion of the parcels listed within Appendix A (i.e., a small portion of each parcel is slated to become the new right-of-way). Therefore, for the purpose of this report, adjoining parcels also include the remaining portions of the parcels within the Project Area. Table 1 below is a summary of parcels adjoining the Project Area.

**Table 1. Adjoining Project Area and Facility Description**

LOCATION RELATIVE TO THE PROJECT AREA	GENERAL ADJOINING PROJECT AREA/FACILITY DESCRIPTION
North	I-95
South	I-95 and the intersection of Highway 6
East	Remaining portions of parcels located within the Project Area.
West	Remaining portions of parcels located within the Project Area.

## 4. USER PROVIDED INFORMATION

### 4.1 Title Records

As per ASTM E1527-21, it is the responsibility of the Users to provide the chain of ownership information. However, due to an agreed upon scope of work, deed information was not provided by the Users and was not reviewed as part of this Limited Phase I ESA.

## 4.2 Environmental Liens or Activity and Use Limitations

Environmental liens as well as activity and use limitations are often documented in deeds for affected parcels. When necessary, liens resulting from delinquent financial responsibilities and/or land use restrictions are memorialized in deeds for these affected parcels. However, per an agreed upon scope of work, deed information was not provided by the Users and was not reviewed as part of this Limited Phase I ESA.

## 5. RECORDS REVIEW

### 5.1 Standard Environmental Record Sources

FME utilized Environmental Data Resources, Inc. (EDR) to complete a database search of federal, state, local, and tribal environmental records for the Project Area, November 17, 2023. EDR also collected information on parcels within the required minimum search distance as defined in ASTM E1527-21. Additionally, FME requested information from the SCDHEC Freedom of Information (FOI) office, Orangeburg County FOI office, and Clarendon County FOI office pertaining to records related to the Project Area and parcels within the minimum search distances. FME requested the following information.

- Information pertaining to the removal or installation of aboveground storage tanks (ASTs) and USTs.
- Issuance of any environmentally related license(s), permit(s), and well record(s).
- Issuance of any license(s), permit(s) (or complaint(s) against), to store hazardous substances, waste, and/or petroleum products at the Project Area and/or adjacent parcels, and any actions taken.
- Issuance of any license(s), permit(s) (or complaints) regarding waste disposal at the Project Area and/or adjacent parcels.
- Brownfields site(s) on the Project Area and/or adjacent parcels.
- County response to fires and/or spills.

FME routinely requests information from the SCDHEC and local agencies to obtain environmental records. Occasionally, conditions arise where this process proves inadequate to meet the needs of our client (i.e., parcels with no address, quick turnaround on report, etc.). Therefore, EDR is utilized as a primary records resource to provide a timely response to the Users. Requests are submitted to SCDHEC, Orangeburg County, and Clarendon County at the beginning of the Limited Phase I ESA review. If FME receives a response from SCDHEC and/or Orangeburg and Clarendon Counties following the completion of the Limited Phase I ESA report which changes the findings of the report, FME will notify the Users upon receipt of such information. Refer to Appendix E for copies of the noted correspondence.

The EDR regulatory information, found in Appendix E, identified 31 regulatory listings within the ASTM minimum search distances and regulatory databases. However, these 31 listings corresponded to twelve (12) sites due to duplicate listings. Additionally, 24 “Orphan” sites were identified as potentially located within the minimum search distances. Orphan (i.e., unmapped) sites are typically included due to poor or inadequate address information. Similarly, due to multiple listings these 24 orphan/unmapped sites correspond to nine (9) sites. An additional site was identified by FME which was not previously included within EDR regulatory information for either mapped or orphan/unmapped sites. Therefore, a total of ten (10) orphan/unmapped sites area also discussed below.

It should be noted that while each listing was evaluated by FME, due to the number of regulatory sites, only the regulatory sites that are suspected of possibly impacting the Project Area are discussed here. Some of the listings in the database report were contained in more than one database. Many of the regulatory sites were eliminated from consideration due to direction, distance, or relative elevation when compared to the Project Area. EDR regulatory information for asbestos were also eliminated as this information typically pertains to asbestos assessment and demolition activities that would not likely adversely impact the Project Area. If mapped/unmapped regulatory sites are not discussed here, it is FME’s opinion that the site is unlikely to adversely impact the Project Area. Additionally, some of these sites discussed here could be eliminated based on other forms of information and these sites are also identified below.

### **5.1.1 Mapped Sites:**

#### **Parcel 37 within the Project Area**

**EZ Shop #24 / EZ Shop 24 / ENK 889 / Eazy Shop 24 / Enmarket (SCDHEC UST ID 02397)  
8440 St. Paul Road / Jim Sniffen  
Summerton, SC 29148**

EZ Shop #24 / EZ Shop 24 / ENK 889 / Eazy Shop 24 / Enmarket is identified as an Underground Storage Tank (UST), Leaking Underground Storage Tank (LUST), EDR Recovered Government Archive LUST database (RGA LUST), and Facility Index System (FINDS) site within EDR regulatory information. During site reconnaissance, this was observed to be the site of an Enmarket gas station and convenience store. According to the SCDHEC UST Registry, five (5) UST are associated with ENK 889 located at 8440 St. Paul Road. Four (4) UST are “currently in use” and one (1) UST has been removed. Two (2) confirmed releases are associated with this UST/LUST site. While SCDHEC has issued no further action (NFA) status for each of these releases, this site is located within the Project Area. Additionally, based on historic aerial photographs, Parcel 37 has been a gas station site dating back to at least 1957. However, only limited name, address, and UST information was available, and in some cases no information was available, for these former gas station sites within the SCDHEC UST Registry. Therefore, this UST/LUST/RGA LUST site located on Parcel 37, which pre-dates modern UST regulations is considered CREC 1 in connection with the Project Area, which may have impacted soil, groundwater, and/or soil vapor. Additionally, abandoned UST and/or associated piping and equipment may also be buried on this gas station site from prior operations.

**Taw Caw Tackle / Summerton Citgo (SCDHEC UST ID 12789)**  
**“501 Bluff Road” / 501 Buff Boulevard**  
**Summerton, SC 29148**

Located 5.5 miles northeast of the Project Area.

Taw Caw Tackle / Summerton Citgo is identified as a Groundwater Contamination Case Inventory (GWCI) site. Based on EDR regulatory information this site was located within the Project Area. However, the address of this site is erroneously listed as “501 Bluff Road.” When the SCDHEC UST ID provided by EDR regulatory information is mapped, the actual name and address for this site is Summerton Citgo located at 501 Buff Boulevard, approximately 5.5 miles northeast of the Project Area. Therefore, due to the distance of this site from the Project Area, this GWCI site would not likely adversely impact the Project Area.

**Parcels 28**

**Lake Marion Economart / Econ O Mart (SCDHEC UST ID 11027 and 12059)**  
**I-95 Exit 102 / 5236 State Road S-14-400 / 5236 Dingle Pond Road**  
**N. Santee, SC 29102 / Summerton, SC 29148**

Lake Marion Economart / Econ O Mart is identified as a UST, LUST, and Registry of Conditional Remedies (RCR) site (SCDHEC UST ID 11027 and 12059). While the limited address information provided by EDR regulatory information did not provide an accurate location of the Lake Marion Economart, online information indicates that this former gas station is likely located adjoining 5236 State Road S-14-400 (i.e., 5236 Dingle Pond Road), on Parcel 28. During site reconnaissance, this was observed to be the site of the former Lake Marion Economart / Econ O Mart gas station. Each of the SCDHEC UST ID numbers is discussed below.

- **Lake Marion Economart (SCDHEC UST ID 11027)** – According to the SCDHEC UST Registry, seven (7) UST are associated with the Lake Marion Economart located at “I-95 Exit 102,” (i.e., possibly adjoining 5236 State Road S-14-400). However, four (4) of the UST remain on this site “filled with foam.” One (1) confirmed release is associated with this UST/LUST/RCR site. SCDHEC issued conditional NFA status for this release. However, contamination remains in the groundwater at levels greater than United States Environmental Protection Agency (EPA) Maximum Contamination Levels (MCL). While EDR regulatory information indicates that groundwater flow direction is toward the east, Parcel 28 is located within the Project Area and four UST remain on this site. Additionally, this former gas station site was visible within the 1974 historic aerial photograph. While EDR regulatory information indicates that groundwater flow direction is toward the east, Parcel 28 is located within the Project Area, four UST remain on this site, and known contamination is present on this Parcel according to SCDHEC. Additionally, gas station operations on this site pre-date modern UST regulations.
- **Econ O Mart (SCDHEC UST ID 12059)** – According to the SCDHEC UST Registry, no UST or releases are associated with this SCDHEC UST ID number.



Based on the available regulatory information, this UST/LUST/RCR site located on Parcel 28 is considered CREC 2 in connection with the Project Area, which may have impacted soil, groundwater, and/or soil vapor.

**Parcels 27, 28, 29, and 30**

**Big Water Country Store / KK Mart / Food Center Marathon (SCDHEC UST ID 10494 and 02416)**

**5236 Dingle Pond Road  
Summerton, SC 29148**

Big Water Country Store / KK Mart / Food Center Marathon is identified as a UST, LUST, FINDS, GWCI, and RCR site (SCDHEC UST ID 02416 and 10494), located at 5236 Dingle Pond Road adjoining Parcels 27, 28, 29, and 30 of the Project Area. During site reconnaissance, this was observed to be the site of Food Center Marathon gas station and convenience store. Each of the SCDHEC UST ID numbers is discussed below.

- **Big Water Country Store / KK Mart (SCDHEC UST ID 02416)** – According to the SCDHEC UST Registry, nine (9) UST are associated with KK Mart. Five (5) UST have been removed. Four (4) UST are “currently in use.” One (1) confirmed release is associated with this UST/LUST/FINDS/GWCI/RCR site. SCDHEC issued conditional NFA status for this release. However, contamination remains in the groundwater at levels greater than MCL. Additionally, this former gas station site was visible within the 1983 historic aerial photograph.
- **KK Mart (SCDHEC UST ID 10494)** – According to the SCDHEC UST Registry, no UST or releases are associated with this SCDHEC UST ID number.

Based on the SCDHEC UST Registry information, known contamination is present on this adjoining parcel according to SCDHEC. Additionally, gas station operations on this site pre-date modern UST regulations. Therefore, this UST/LUST/FINDS/GWCI/RCR site located adjoining Parcels 27, 28, 29, and 30 is considered REC 3 in connection with adjoining Parcels 27, 28, 29, and 30 of the Project Area, which may have impacted soil, groundwater, and/or soil vapor.

**Save +3**

**“I-95 at Highway 102 Exit 108”**

**Summerton, SC 29148**

Located 4 miles northeast of the Project Area.

Save +3 is identified as a FINDS site likely due to its listing within the UST database. Based on provided EDR regulatory information this site was located within the Project Area. However, Exit 108 is located approximately 4 miles northeast of the Project Area. Therefore, due to the distance of this site from the Project Area, this FINDS site would not likely adversely impact the Project Area.

**ENK 890 (SCDHEC UST ID 11756)**  
**8933 Old Number 6 Highway**  
**Santee, SC 29142**

Located approximately 958 feet south southwest of the Project Area.

ENK 890 is identified as a UST, LUST, GWCI, and Underground Injection Well location listing (UIC) site within EDR regulatory information. During site reconnaissance, this site was observed to be the site of an Enmarket gas station and convenience store. According to the SCDHEC UST Registry, six (6) UST are associated with ENK 890 located at 8933 Old Number 6 Highway. Four (4) UST are “currently in use” and two (2) UST remain on this site, “fill[sic] with concrete.” One (1) confirmed and one (1) unconfirmed release is associated with this UST/LUST/GWCI/UIC site. While SCDHEC has not issued NFA status for the confirmed release, EDR regulatory information indicates that groundwater flow direction is toward the southwest, away from the Project Area. Therefore, due to the distance of this site from the Project Area as well as the groundwater flow direction, this UST/LUST/GWCI/UIC site would not likely adversely impact the Project Area.

**Coast Santee (SCDHEC UST ID 15118)**  
**9039 Old Number 6 Highway**  
**Santee, SC 29142**

Located approximately 1,020 feet west southwest of the Project Area.

Coast Santee is identified as a UST site within EDR regulatory information. During site reconnaissance, this site was observed to be the site of Coast Exxon gas station and convenience store. According to the SCDHEC UST Registry, two (2) UST are “currently in use.” No confirmed release is associated with this UST site. Therefore, due to the distance of this site from the Project Area and in the absence of release information, this UST site would not likely adversely impact the Project Area.

**Food Mart 107 (SCDHEC UST ID 06949)**  
**9044 Old Number 6 Highway**  
**Santee, SC 29142**

Located approximately 1,192 feet south of the Project Area.

Food Mart 107 is identified as a UST, LUST, and GWCI site within EDR regulatory information. During site reconnaissance, this site was observed to be the site of the Palmetto Express BP gas station and convenience store. According to the SCDHEC UST Registry, nine (9) UST are associated with Food Mart 107 located at 9044 Old Number 6 Highway. Two (2) UST are “currently in use” and six (6) UST have been removed from this site. Two (2) confirmed releases and one (1) unconfirmed release are associated with this UST/LUST/GWCI site. While SCDHEC has not issued NFA status for either of the confirmed releases, EDR regulatory information indicates that groundwater flow direction is toward the west, away from the Project Area. Therefore, due to the distance of this site from the Project Area as well as the groundwater flow direction, this UST/LUST/GWCI site would not likely adversely impact the Project Area.

**ENK 877 (SCDHEC UST ID 02390)**  
**8909 Old Number 6 Highway**  
**Santee, SC 29142**

Located approximately 1,287 feet west of the Project Area.

ENK 877 is identified as a UST site within EDR regulatory information. During site reconnaissance, this site was observed to be the site of an Enmarket gas station and convenience store. According to the SCDHEC UST Registry, five (5) UST are associated with ENK 877 located at 8909 Old Number 6 Highway. Each of the five (5) UST are “currently in use.” No confirmed releases are associated with this site and based on a compliance inspection in January 2023, each UST was in compliance at the time of the inspection. Therefore, due to the distance of this site from the Project Area and in the absence of release information, this UST site would not likely adversely impact the Project Area.

**Santee National Wildlife Refuge (SCDHEC UST ID 02324 and 02325)**  
**I-95 Exit 102**  
**Summerton, SC 29148**

Located approximately 1,295 feet west northwest of the Project Area.

Santee National Wildlife Refuge is identified as a RCR and GWCI site. While the limited address information provided by EDR did not provide an accurate location of the Santee National Wildlife Refuge, online information as well as the direction from the Project Area indicates that this site is likely located at 2125 Fort Watson Road. During site reconnaissance, this site was observed to be the Santee National Wildlife Refuge maintenance facility. Therefore, due to the distance of this site from the Project Area, this GWCI/RCR site would not likely adversely impact the Project Area.

**Quick Pantry 8 (SCDHEC UST ID 06946)**  
**9052 Old Number 6 Highway**  
**Santee, SC 29142**

Located approximately 1,341 feet south southeast of the Project Area.

Quick Pantry 8 is identified as a UST, LUST, and GWCI site within EDR regulatory information. During site reconnaissance, this site was observed to be the site of the Quick Pantry Mobil gas station and convenience store. According to the SCDHEC UST Registry, nine (9) UST are associated with Quick Pantry 8 located at 9052 Old Number 6 Highway. Four (4) UST are “currently in use” and three (3) UST have been removed from this site. Two (2) UST remain on this site and the status is listed as “extended out-of-use.” Two (2) confirmed releases and one (1) unconfirmed release are associated with this UST/LUST/GWCI site. SCDHEC has not issued NFA status for one (1) of the confirmed releases. EDR regulatory information indicates that groundwater flow direction is toward the northwest, which is toward the Project Area. However, this UST/LUST/GWCI site is located approximately 1,341 feet from the Project Area. Therefore, due to the distance of this site from the Project Area, this UST/LUST/GWCI site would not likely adversely impact the Project Area.

**Rivers Country Store, Inc. / Rivers Country Store (SCDHEC UST ID 07020 and 12231)**  
**8851 Old Number 6 Highway**  
**Santee, SC 29142**

Located approximately 1,697 feet west of the Project Area.

Rivers Country Store, Inc. is identified as a UST and LUST site within EDR regulatory information. During site reconnaissance, this was observed to be the site of the Rivers Country Store Sunoco gas station and convenience store. According to the SCDHEC UST Registry, six (6) UST are associated with Rivers Country Store Inc. located at 8851 Old Number 6 Highway. Three (3) UST have been removed from this site and three (3) UST are “currently in use.” One (1) confirmed release and four (4) unconfirmed releases are associated with this UST/LUST site. SCDHEC has issued NFA status for each of the confirmed/unconfirmed releases. Therefore, due to the distance of this site from the Project Area, and NFA status of the identified releases this UST/LUST site would not likely adversely impact the Project Area.

### **5.1.2 Orphan/Unmapped Sites:**

Orphan/Unmapped sites that were identified within the provided regulatory information are discussed below:

#### **Santee General Store (SCDHEC UST ID 06906)**

**8932 Old 6 Highway**

**Santee, SC**

Located approximately 1,000 feet southwest of the Project Area.

This site was not listed within EDR regulatory information as a mapped site or an orphan/unmapped site. However, it is unclear why it was not included within the regulatory database report. During site reconnaissance, this was observed to be the site of Santee General Store Sunoco Marathon gas station and convenience store. Santee General Store is identified as a UST and LUST site SCDHEC UST Registry. According to the SCDHEC UST Registry, six (6) UST are associated with Santee General Store located at 8932 Old Number 6 Highway. Each of the UST are “currently in use.” Two (2) confirmed releases are associated with this UST/LUST site. SCDHEC has issued NFA status for each of the confirmed releases. Therefore, due to the distance of this site from the Project Area and NFA status of the identified releases, this UST/LUST site would not likely adversely impact the Project Area.

#### **Saddle Tanks**

**“I-95 N SC”**

**Clarendon County**

“I-95 N SC” is identified as a SPILLS site due to a past diesel spill. Based on limited address information provided for this Orphan/Unmapped site, the location of this site is unknown. Therefore, in the absence of more accurate address and spill information, it is unlikely that this unmapped spill site would adversely impact the Project Area.

**“I-95 Southbound, Mile Marker 99”  
Santee, SC**

“I-95 Southbound, Mile Marker 99” is identified as a ERNS site due to an oil/fuel spill. Based on limited address information provided for this Orphan/Unmapped site, this site is presumably located at the rest area on the southbound side of I-95 within the Project Area. According to the EDR regulatory information an unknown quantity of oil/fuel was spilled within the parking lot. Therefore, in the absence of more accurate address, spill, or cleanup information, FME is unable to make a determination on the possible impacts to the Project Area.

**SCOT Lake Marion Project  
“I-95 @ Lake Marion”  
Santee, SC 29142**

The South Carolina Department of Transportation (SCDOT) Lake Marion Project located at “I-95 @ Lake Marion” is identified as a RCRA NonGen/NLR, FINDS, and ECHO site since this site formerly generated hazardous waste. According to EDR regulatory information, the hazardous waste generated at this site was “lead paint waste debris from blasting.” This waste may have been generated during preparation for bridge painting or refurbishment in 2017. Based on limited address information provided for this Orphan/Unmapped site, the location of this site is unknown. However, it is possible that the wastes may have been generated in the Project Area associated with a past bridge repainting project. Additionally, it is unknown where these waste were stored or staged prior to disposal (based on limited address information). No violations are associated with this RCRA NonGen/NLR site. Therefore, in the absence of more accurate address information and subsequent regulatory or release information, this RCRA/FINDS/ECHO site would not likely adversely impact the Project Area.

**“Bass Drive”  
Santee, SC 29142**

“Bass Drive” is identified as a polychlorinated biphenyl (PCB) Transformer Registration Database (PCB Transformer) site. Based on the limited EDR regulatory information provided for this Orphan/Unmapped site, the location of this site is unknown. Additionally, being a “registration,” it could not be determined if an actual spill occurred or if this was reference to the location (or former location) of a PCB transformer located on Bass Drive.

During site reconnaissance, several pole-mounted transformers were observed on Bass Drive. However, no staining or stressed vegetation (i.e., which could indicate a potential environmental release) was observed adjacent to the pole-mounted transformers within the Project Area during site reconnaissance. Therefore, in the absence of more accurate address and/or spill information, this PCB Transformer Registration site would not likely adversely impact the Project Area.



**Santee Resort Hotel**  
**“Hwy 15 & I-95”**  
**Santee, SC 29142**

The Santee Resort Hotel located at “Hwy 15 & I-95” is identified as a FINDS site which generally indicates listing within a regulatory database (i.e., FINDS database is usually a “pointer” to other regulatory information or databases). However, no other information was available for this FINDS site. Based on limited address information provided for this Orphan/Unmapped site, this site is presumably located greater than 0.25 mile south of the Project Area. Therefore, due to the likely distance of this site from the Project Area and lack of release or violation information, this FINDS site would not likely adversely impact the Project Area.

**Exxon Location 4-6923 / Santee Convenience Store 112 / Santee Exxon / Smith’s Amoco (SCDHEC UST ID 15630, 02327, and 15147)**  
**“I-95 and SC 6” / 8949 Old Number 6 Highway**  
**Santee, SC 29142**

Located approximately 670 feet southeast of the Project Area.

Exxon Location 4-6923 is an Orphan/Unmapped site said to be located at “I-95 and SC 6.” Exxon Location 4-6923 is identified as a FINDS and ECHO site likely due to listings within multiple regulatory databases. Based on limited address information provided for this Orphan/Unmapped site, online information indicates that this site is presumably located 8949 Old Number 6 Highway, approximately 670 feet south of the Project Area.

It is unclear why this site was not listed within mapped EDR regulatory information, except possibly due to poor address information. Santee Convenience Store 112 / Santee Exxon / Smith’s Amoco is identified as a UST and LUST site within the SCDHEC UST Registry. During site reconnaissance, this was observed to be the site of Palmetto Express Amoco gas station and convenience store. Each of the SCDHEC UST ID numbers associated with this site is discussed below.

- **Santee Convenience Store 112 (SCDHEC UST ID 15630)** – According to the SCDHEC UST Registry, three (3) UST are associated with Santee Convenience Store 112 located at 8949 Old Number 6 Highway. Each of the three (3) UST are “currently in use.” One (1) confirmed release is associated with this FINDS/ECHO/UST/LUST site and NFA has not been issued by SCDHEC.
- **Santee Exxon (SCDHEC UST ID 02327)** – According to the SCDHEC UST Registry, four (4) UST are associated with Santee Exxon located at “I-95 & SC 6,” (i.e., 8949 Old Number 6 Highway). Each of the four (4) UST have been removed. One (1) confirmed release is associated with this FINDS/ECHO/UST/LUST site and NFA has been issued by SCDHEC.
- **Smith’s Amoco (SCDHEC UST ID 15147)** – According to the SCDHEC UST Registry, one (1) UST is associated with Smith’s Amoco located at “I-95 & SC 6,” (i.e., 8949

Old Number 6 Highway). This UST has been removed and no confirmed release is associated with this FINDS/ECHO/UST/LUST site.

Due to the distance and direction of this site from the Project Area, this FINDS/ECHO/UST/LUST site would not likely adversely impact the Project Area.

### **Santee National Wildlife Refuge**

**“I-95 Exit 102”**

**Summerton, SC 29148**

Santee National Wildlife Refuge located at “I-95 Exit 102” is identified as a UST, LUST, and UIC (UST Facility ID 02324) site within regulatory databases. The Santee National Wildlife Refuge site is a GWCI/RCR site discussed with Section 5.1.1 above. Based on limited address information provided for this Orphan/Unmapped site, this site is presumably located approximately 1,295 feet west northwest of the Project Area, at 2125 Fort Watson Road. Therefore, due to the distance of this site from the Project Area, this GWCI/RCR site would not likely adversely impact the Project Area.

### **Parcel 26**

**Santee Cooper / Santee Cooper Camp 3 / Palmetto Shores RV Resort (SCDHEC UST ID 02330 and 10849)**

**“I-95 Exit 102 HWY 400” / “I-95 at SC 400” / 5215 Dingle Pond Road / 5215 State Road S-14-400**

**Summerton, SC 29148**

Santee Cooper / Santee Cooper Camp 3 / Palmetto Shores RV Resort located at “I-95 Exit 102 HWY 400,” or “I-95 at SC 400” is identified as a UST and LUST site. This address appears to be reference to 5215 State Road S-14-400 also known as 5215 Dingle Pond Road. Based on limited address information provided for this Orphan/Unmapped site, this site is located on Parcel 26 within the Project Area. Santee Cooper / Santee Cooper Camp 3 is identified as a UST and LUST site within the SCDHEC UST Registry. During site reconnaissance, this was observed to be the site of Palmetto Shores RV Resort. Each of the SCDHEC UST ID numbers is discussed below.

- **Santee Cooper Camp 3 (SCDHEC UST ID 10849)** – According to the SCDHEC UST Registry, three (3) UST are associated with Santee Cooper Camp 3 located at “I-95 at SC 400.” Each of the three (3) UST have been removed. One (1) confirmed release is associated with this UST/LUST site and NFA has been issued by SCDHEC.
- **Santee Cooper (SCDHEC UST ID 02330)** – According to the SCDHEC UST Registry, no UST or releases are associated with this SCDHEC UST ID number.

While an NFA was issued by SCDHEC for this UST/LUST site, this site pre-dates modern UST regulations. Review of historic aerial photographs did not reveal the location of this UST/LUST site. However, historic aerial photographs did reveal what appears to be a possible maintenance and repair yard within the Project Area on Parcel 26, adjacent to

what appears to be boat storage. Therefore, this UST/LUST/maintenance and repair site located on Parcel 26 is considered REC 4 in connection with the Project Area, which may have impacted soil, groundwater, and/or soil vapor.

**Saddle Tank  
“I-95 N MM102”  
Summerton, SC**

“Saddle Tank” located at “I-95 and SC 6” is identified as a SPILLS site due to a 50-gallon diesel spill. Based on limited address information provided for this Orphan/Unmapped site, this site is presumably located approximately 950 feet south of the Project Area. Therefore, due to the likely distance of this site from the Project Area, this spill site would not likely adversely impact the Project Area.

## 5.2 Historical Use Information for the Project Area

The historical use of the Project Area and adjoining properties was evaluated through the information received, available aerial photographs, and mapping. The historic information was obtained from the following sources listed in Table 2.

**Table 2. Records Identified by EDR**

SOURCE	DOCUMENT/PHOTOGRAPH DATES
Topographic Maps (EDR)	1920, 1921, 1943, 1971, 1979/1980, 1987, 1994, 2014, 2017, 2020
Aerial Photographs (EDR)	1957, 1964, 1974, 1983, 1994, 2006, 2011, 2015, 2019
Sanborn Maps	No Sanborn Maps, unmapped property

### 5.2.1 Historical Topographic Maps

The historical topographical maps were created by the USGS from 1920 to 2020. Historical topographical maps from 1920 and 1921 indicates that Lake Marion and I-95 had not yet been constructed. It should be noted that only a small portion of the southwest portion of the Project Area was located within a mapped area within these early historical topographical maps. Therefore, the Project Area north of the Santee side of the Santee River (i.e., what is now the southwest side of Lake Marion) was unmapped within the 1920 and 1921 historical topographical maps.

Each of the historical topographical maps, even those subsequent to 1920 and 1921 and the construction of Lake Marion, notes the former location of the centerline of the Santee River within Lake Marion. On these historical topographical maps, the center of the Santee River is identified as the boundary between Orangeburg County and Clarendon County. Chapel Branch is identified as the waterway to the north of Highway 301 and I-95 on the Orangeburg side within the Project Area. Horse Creek was identified within the 1920 and 1921 historical topographical maps within the marshlands/flood plain adjacent to the Santee River. However, by 1941 and the construction of the Lake

Marion Dam, Horse Creek was no longer visible within the 1943 historical topographical map, as both the Santee River and Horse Creek were absorbed by the construction of Lake Marion.

The Francis Marion Bridge (i.e., U.S. Highway 301), identified by many today as “The Old Bridge,” first appears within the 1943 historical topographical map and was likely constructed in 1941 at the time of the Lake Marion Dam construction. This bridge is a constructed of concrete and was a two (2) lane bridge. Today, vehicle traffic is prohibited on the Francis Marion Bridge. However, the Francis Marion Bridge is now used as a walking/biking trail, and for fishing. Ruins of an older roadway/bridge construction located to the west of the Francis Marion Bridge were observed during site reconnaissance. While the date of construction and period of use of this former roadway/bridge construction is unknown, it was likely used for some time prior to 1941 and the construction of Lake Marion and the Francis Marion Bridge.

The W. J. Gooding Bridge (i.e., U.S. Highway 301/I-95) first appears within the 1979/1980 historical topographical map and was likely constructed in 1968 to replace the Francis Marion Bridge. The W. J. Gooding Bridge is a twin-span bridge construction, two (2) travel lanes in each direction. The W. J. Gooding Bridge is constructed of concrete and is still in use for vehicle traffic today.

### 5.2.2 Historic Aerial Photographs

**1957 to 1964 Aerial Photographs** – The 1957 historic aerial photograph is the earliest aerial photograph of the Project Area and surrounding area. Uses of parcels within the Project Area and surrounding area appears to be primarily rural in nature. The historic aerial photographs from 1957 and 1964 indicate that I-95 was not yet constructed. These early photographs also show that a gas station was likely located on the north side of U.S. Highway 301 in Clarendon County within the Project Area on Parcel 37. As previously noted in Section 5.1.1 above, Parcel 37 is considered CREC 1, in connection to the Project Area.

Suspected business operations are also noted on Parcels 40 and 41 within these early historic aerial photographs. Based on site reconnaissance, the operation on Parcel 40 appears to be a former motel. During site reconnaissance FME discussed the uses of Parcel 41, located at 8705 State Road S-14-230 (i.e., U.S. Highway 301), with a local police officer posted at the U.S. Highway 301 Bridge. Based on these discussions, it was determined that the operation on Parcel 41, and observed within early historic aerial photographs, was a lumber mill operation. Lumber mill operations are known to use petroleum AST and UST for equipment and vehicles. Additionally, lumber mill operations are known to use hazardous chemicals to treat, stain, and preserve wood. This former lumber mill site pre-dates modern hazardous waste regulations. Therefore, this former lumber mill site located on Parcel 41 is considered REC 5 in connection with the Project Area, which may have impacted soil, groundwater, and/or soil vapor.

**1974 to 1994 Aerial Photographs** – The 1974 historic aerial photograph indicates that I-95 had been constructed within the Project Area. Online information indicates that the W. J. Gooding Bridges were likely constructed within the Project Area by 1968.

Lake Marion Economart / Econ O Mart, discussed above as CREC 2 within Section 5.1.1, also appears within the 1974 historic aerial photograph on Parcel 28. Big Water Country Store / KK Mart, also discussed above as REC 3 within Section 5.1.1, appears within the 1983 historic aerial photograph located at 5236 Dingle Pond Road adjoining Parcels 27, 28, 29, and 30 of the Project Area.

**2006 to 2019 Aerial Photographs** – The 2006 and subsequent historic aerial photograph indicates that the former lumber mill operation visible on Parcel 41 within the Project Area is no longer visible within the 2006 aerial photographs. However, paved areas and driveways remain visible on Parcel 41 within these historic aerial photographs. Historic aerial photographs from this time period indicate a possible maintenance and repair site within the Project Area on Parcel 26, adjacent to what appears to be boat storage. Parcel 26 was identified as REC 4 in connection with the Project Area within Section 5.1.2, above.

### 5.2.3 Sanborn Fire Insurance Maps

Sanborn Fire Insurance Maps (Sanborn Maps) were requested from EDR. However, the subject property is within an unmapped area, therefore, no Sanborn Maps are available for review.

## 6. SITE RECONNAISSANCE

### 6.1 Methodology and Limiting Conditions

On December 4, 2023, FME conducted site reconnaissance of the Project Area to the extent the Environmental Professional was not obstructed by bodies of water, limits on access, adjacent buildings, or other obstacles. The Project Area was viewed from public rights-of-way (i.e., no private property was accessed). The site reconnaissance included a site walkover of the Project Area, observations of adjoining parcels, and photographing portions of the Project Area. Photographs taken during site reconnaissance are included in Appendix C.

### 6.2 General Site Setting

As previously discussed within Section 3 above, the Project Area includes approximately four (4) linear miles on and adjacent to I-95 near the Towns of Santee and Summerton, Orangeburg and Clarendon Counties, South Carolina. The Project Area includes 46 individual tracts of land located adjacent to I-95 and includes roadways generally described within Section 3.4 above. The parcels within the Project Area were selected based upon the preliminary road improvement project limits provided by the Users in order to assess lands where road improvements are planned or where rights-of-way will be expanded.



## 6.3 Interior and Exterior Observations

### 6.3.1 Current Uses of the Project Area

As previously discussed within Section 3 above, uses of parcels within the Project Area and adjoining areas are primarily residential, recreational, and commercial. Parcels surrounding the Project Area have similar uses. Please refer to the Site Vicinity Map and the Project Area Plans included as Appendix B.

### 6.3.2 Past Uses of the Project Area

Past uses of the Project Area are typically demonstrated through topographic maps, aerial photographs, and other research information for the Project Area. Historically as well as today, portions of the Project Area were used for multiple gas stations and a wastewater treatment site (i.e., discussed below in Section 6.4.5). A former lumber mill operation was also identified within the Project Area.

### 6.3.3 Hazardous Substances and Petroleum Products in Connection with Identified Uses

Multiple commercial gas stations (UST/LUST), and light industrial (potential hazardous waste/materials) operations were observed during the site reconnaissance. Assessment of these business operations are discussed within Section 5 above.

### 6.3.4 Storage Tanks

Multiple gas stations with UST and AST were observed within the Project Area during the site reconnaissance. Gas stations posing potential environmental concern to the Project Area are discussed in detail in Section 5 above. Additionally, the likely location of a former lumber yard, which may have used UST and/or AST, was discussed in Section 5.2 above.

### 6.3.5 Odors

No unusual odors were observed during the site reconnaissance.

### 6.3.6 Pools of Liquid

Please note that the interior of businesses located within the Project Area, were not accessed during this Limited Phase I ESA due to an agreed upon scope of work with the Users. However, Lake Marion is located within the Project Area.

### 6.3.7 Drums

No drums were observed during site reconnaissance.

### 6.3.8 Hazardous Substances and Petroleum Products Containers

No hazardous substances and/or petroleum products containers were observed during site reconnaissance.

### 6.3.9 Unidentified Substance Containers

No unidentified substance containers were identified within the limits of the Project Area during site reconnaissance.

### 6.3.10 PCBs

Electrical equipment and oil-filled transformers manufactured prior to 1979 may contain polychlorinated biphenyl (PCB) dielectric oils. The production of PCB fluids was discontinued in the United States in 1977 and new PCB-oil containing equipment was banned on July 1, 1979.

Pole and pad-mounted transformers were observed within the limits of the Project Area during site reconnaissance. Each of the pad-mounted transformers and some of the pole-mounted transformers were labeled as non-PCB, which is a description of the oil-contents within the transformers. Additionally, no staining or stressed vegetation (i.e., which could indicate a potential environmental release) was observed adjacent to the pole or pad-mounted transformers within the Project Area during site reconnaissance. Therefore, these observed transformers are not expected to adversely impact the Project Area. Additionally, as noted above within Section 5.1.2, a PCB Transformer Registration was noted within regulatory information purported to be located on Bass Drive. However, no staining or stressed vegetation was observed adjacent to the pole-mounted transformers located on Bass Drive within the Project Area during site reconnaissance.

It is worth noting that former gas stations and both former/current auto repair locations may contain hydraulic lifts for servicing cars. While all lifts may contain underground hydraulic fluid and/or oil reservoirs, older lifts have the potential to contain PCB oils. If these lifts are encountered during roadwork or if located within lands possibly acquired during property acquisition, the lifts may require additional assessment.

### 6.3.11 Interior Observations

The interior of private structures was not accessed during this Limited Phase I ESA due to an agreed upon scope of work with the Users.

### 6.3.12 Heating/Cooling

Heating, ventilation, and air conditioning (HVAC) systems were observed during site reconnaissance within the Project Area. However, normal use of residential or typical commercial HVAC systems is not likely to impact the Project Area.

### 6.3.13 Stains or Corrosions

No interior stains or evidence of corrosion were observed due to the scope of work for this Limited Phase I ESA (i.e., interiors of buildings were not inspected or accessed).

### 6.3.14 Drains and Sumps

No drains or sumps were observed within the Project Area during site reconnaissance. However, according to an agreed upon scope of work for this Limited Phase I ESA, the interior of buildings located within the Project Area were not accessed or inspected.

## 6.4 Exterior Observations

The Project Area currently consists predominantly of I-95 within a rural area near the Towns of Santee and Summerton, Orangeburg and Clarendon Counties, South Carolina. The Project Area includes 46 individual tracts of land located adjacent to I-95 as well as roads identified within Section 3.4 above. For many of the parcels within the Project Area, only a small portion of each parcel is located within the limits of the Project Area. The Project Area is depicted within Appendix B, Figures 2 through 6 and includes the proposed new right-of-way or road improvement area.

### 6.4.1 Pits, Ponds, or Lagoons

No pits, ponds, or lagoons were observed within the Project Area during site reconnaissance. However, Lake Marion and Chapel Branch are located within the Project Area. Similarly, common stormwater detention features were noted on multiple parcels within the Project Area.

### 6.4.2 Stained Soil or Pavement

No stained soil or pavement was observed within the Project Area during site reconnaissance.

### 6.4.3 Stressed Vegetation

No stressed vegetation was observed within the Project Area during site reconnaissance.

### 6.4.4 Solid Waste

No solid waste was observed on the ground surface within the Project Area during site reconnaissance, with the exception of de minimis household trash located adjacent to roadways within the Project Area. Dumpsters for household or commercial garbage were observed on parcels within the Project Area, on gas station, multi-family residential dwellings, and rest area parcels. Typical use of these dumpsters for the disposal of household garbage would not likely impact the Project Area.

#### 6.4.5 Wastewater

The Santee Treatment Plant is located on Parcels 4 and 5 within the Project Area. It is unclear if this is a potable water treatment plant or a treatment facility for sanitary water. Parcels 4 and 5 were not accessible during site reconnaissance since private property was not accessed during this assessment. In addition to the treatment chemicals used onsite, waste products (e.g., slurry, sludges, etc.) may be generated from the treatment of wastewater at this site. Most of the aeration basins are located outside of the Project Area. However, one (1) of the aeration basins is located within the Project Area. Therefore, due to the types of chemicals used on site and the generation of waste products onsite, the wastewater treatment site located on Parcels 4 and 5 is considered REC 6 in connection with the Project Area, which may have impacted soil, groundwater, and/or soil vapor.

#### 6.4.6 Wells

No operational wells were observed within the limits of the Project Area. However, due to the former rural nature of Project Area, current or former potable wells may still be found within the Project Area. Similarly, current and/or former monitoring wells may still be located on various gas station parcels within the Project Area. Additionally, water treatment plants often have monitoring wells associated with them, although FME did not find evidence or records for wells on the water treatment plant discussed in Section 6.4.5.

#### 6.4.7 Septic Systems

No operational septic systems were observed within the limits of the Project Area. However, due to the former rural nature of Project Area, current or former septic systems may still be found within the Project Area.

#### 6.4.8 Other Observations

Evidence of underground and above ground utilities were observed during site reconnaissance, primarily adjacent to roadways located within the Project Area.

## 7. DATA GAPS

FME identified the following data gaps that may affect the ability of the Environmental Professional to identify RECs.

- Lack of interview information;
- Absence of aerial photography between 1964 to 1974, 1974 to 1983, 1983 to 1994, and 1994 to 2006; and,

- Lack of 60-year chain of title information.

Data gaps regarding aerial photographs and deed information are not considered to be significant due to other sources of information.

## 8. FINDINGS

FME has completed this Limited Phase I ESA, and based on our research, the following findings were revealed:

- The Project Area currently consists of approximately four (4) linear miles of I-95 and includes a small portion of other roadways adjacent to I-95. Land within and adjoining the Project Area are rural, and generally identified as residential, recreational, and commercial.
- Based on historic information such as topographic maps and aerial photographs, parcels within the Project Area were historically rural in nature.
- According to the USDA, Web Soil Survey, the predominant surficial soil of the Project Area are Udorthents and Lakeland sand. These soils are moderately well drained to excessively drained.
- Depth to the water table within the Project Area is generally six (6) feet or more bgs.
- The EDR regulatory information identified 31 regulatory listings within the ASTM minimum search distances and regulatory databases. However, these 31 listings corresponded to twelve (12) sites due to duplicate listings. Additionally, 24 listings corresponded to ten (10) orphan/unmapped sites identified as potentially located within the minimum search distances. Each of these sites were evaluated above.
- Based on EDR regulatory and historic information FME identified six (6) sites which may have adversely affected the Project Area. These sites are summarized below.
  - **CREC 1 (Parcel 37)** – EZ Shop #24 / EZ Shop 24 / ENK 889 / Eazy Shop 24 / Enmarket, 8440 St. Paul Road / Jim Sniffen, (UST/LUST/RGA LUST site);
  - **CREC 2 (Parcel 28)** – Lake Marion Economart / Econ O Mart, adjoining 5236 State Road S-14-400 / 5236 Dingle Pond Road / I-95 Exit 102, (UST/LUST/RCR site);
  - **REC 3 (Parcels 27, 28, 29, and 30)** – Big Water Country Store / KK Mart / Food Center Marathon, 5236 Dingle Pond Road, (UST/LUST/FINDS/GWCI/RCR site);
  - **REC 4 (Parcel 26)** –Santee Cooper / Santee Cooper Camp 3 / Palmetto Shores RV Resort, I-95 Exit 102 HWY 400 / I-95 at SC 400 / 5215 State Road S-14-400 / 5215 Dingle Pond Road, (UST/LUST/maintenance and repair site);



- **REC 5 (Parcel 41)** –former lumber mill site, 8705 State Road S-14-230, (potentially hazardous materials and petroleum site); and,
- **REC 6 (Parcels 4 and 5)** –Santee Treatment Plant, 9151 Old Number Six Highway, (potentially treatment chemicals and wastes generated on site).

## 9. OPINION

Based on our records research, site reconnaissance, environmental records discovered within the minimum search distances, the proximity of possible sites in relation to the Project Area, review of topographic mapping data, a general understanding of the groundwater flow direction in the area around the Project Area, and a general understanding of the regional geology and soil stratigraphy in the area, it is FME’s opinion that six (6) REC/CREC were identified in connection with the Project Area.

## 10. CONCLUSIONS

FME has performed a Limited Phase I ESA in general conformance with the scope and limitations of ASTM E1527-21 of the Project Area. Any exceptions to, or deletions from, this practice are described in Section 2.4 of this report. This assessment has revealed indications of six (6) REC/CREC in connection with the Project Area.

The following statement is required by ASTM E1527-21 as a declaration of whether RECs were found.

*FME has performed a Limited Phase I ESA in general conformance with the scope and limitations of ASTM E1527-21 of the Project Area (i.e., parcels of the Project Area in Appendix A and identified within the Project Area Plans in Appendix B, Figures 2 through 6 to include four (4) linear miles of I-95 near the Towns of Santee and Summerton, in Orangeburg and Clarendon Counties (respectively), South Carolina. Any exceptions to or deletions from these practices are described in previous sections of this report. This assessment has revealed two (2) controlled recognized environmental conditions (CREC) in connection with the Project Area and four (4) recognized environmental conditions (REC) in connection with the Project Area.*

## 11. RECOMMENDATIONS

Recommendations were developed through the investigative procedures described in the Scope of Services, Significant Assumptions, and Limitations and Exceptions sections of this report. Based upon two (2) CREC and four (4) REC identified in connection with the Project Area, FME makes the following recommendation.

- FME recommends a Phase II Environmental Site Assessment (Phase II ESA) to determine if the six (6) REC/CREC have adversely impacted soil, groundwater, and/or soil vapor within the Project Area. Please note that this recommendation is based on the current Project Area provided by the Users, located within Appendix B, Figures 2 to 6 of this Limited Phase I ESA Report.
- The Users should consider how potential future changes to the Project Area will affect the number of REC and CREC identified within this Limited Phase I ESA Report. In the future, if the Project Area becomes more refined (e.g., changes in size, shape, number of parcels affected), this will likely also change the number of REC and CREC that were identified within this Limited Phase I ESA Report
- FME recommends that the Users consider the “shelf life” of these Limited Phase I ESA documents in determining risk. ASTM E1527-21 states that a conforming “Phase I” report is valid for a period of 180 days, and may be updated during the 180 days, up to a 1-year timeframe. The 180 days/1-year timeframe shall commence on November 17, 2023, which is the earliest date of the required report components. The report is valid only for the Users in any of the CERCLA defenses and only if it is updated within this 180-day time frame. If an update is not issued and more than one year passes from November 17, 2023, the Limited Phase I effort would need to be repeated to remain in compliance with ASTM and the “All Appropriate Inquiry” protections.

## 12. DEVIATIONS

Deviation from the standard of practice for this Limited Phase I ESA include the absence of 60-year chain of ownership documentation which was not provided to FME by the Users. Additionally, deviations from the standard of practice for this Limited Phase I ESA include assessment of only portions of parcels located within the Project Area (i.e., the proposed right-of-way), as viewed from public thoroughfares. FME was not given access to any private property during the course of this assessment. Pursuant to an agreed upon scope of work, deed information and AAI questionnaires and pertinent deeds were not provided to FME by the Users.

## 13. REFERENCES

ASTM E1527-21, Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process, ASTM International, West Conshohocken, PA, 2021.

Cretaceous and Tertiary Stratigraphy of the Upper Coastal Plain (S.C.) Nystrom, Willoughby, and Price, 1989

Environmental Data Resources, Inc., November 21, 2023, inquiry 7499100.4;  
*EDR Aerial Photo Decade Package*, with included aerial photographs.

Environmental Data Resources, Inc., November 20, 2023, inquiry 7499100.2;  
*Certified Sanborn Fire Insurance Map Report*, with no Sanborn Maps.

Environmental Data Resources, Inc., November 17, 2023, inquiry 7499100.7s;  
*EDR Area/Corridor Report with GeoCheck*.

Environmental Data Resources, Inc., November 16, 2023, inquiry 7499100.1;  
*EDR Historical Topo Map Report with QuadMatch*, with included; United States Geological Service (USGS), *TP, Saint Paul, S, Vance* 7.5-Minute Topographic Quadrangle Map, and *TP, Summerton, SE, Eutawville*, 15-Minute Topographic Quadrangle Map.

EPA-560-F-05-242, Comparison of the Final All Appropriate Inquiries Standard and the ASTM E1527-00 Environmental Site Assessment Standard, United States Environmental Protection Agency, October 2005.

FEMA Flood Map Service Center, United States Department of Homeland Security,  
<http://msc.fema.gov/>.

Google Earth; Accessed on November 15, 2023.

National Wetlands Inventory Wetlands Mapper, United States Fish and Wildlife Service,  
<http://www.fws.gov/wetlands/Data/Mapper.html>

Orangeburg and Clarendon Counties Online GIS Information;  
<https://gis2.orangeburgcounty.org/maps/>; Accessed on November 15, 2023.

<https://qpublic.schneidercorp.com/Application.aspx?AppID=795&LayerID=11833&PageTypeID=1&PageID=5731>; Accessed on November 15, 2023.

Web Soil Survey, U.S. Department of Agriculture, Natural Resources Conservation Service;  
Retrieved online from <http://websoilsurvey.nrcs.usda.gov/>; Accessed on October 18, 2023.

## 14. SIGNATURE OF ENVIRONMENTAL PROFESSIONAL

I declare that, to the best of my professional knowledge and belief, I meet the definition of an Environmental Professional as defined in §312.10 of 40 CFR 312.

I have the specific qualifications based on education, training, and experience to assess a site of the nature, history, and setting of the Project Area. I have developed and performed AAI in general conformance with the standards and practices set forth in 40 CFR Part 312, noting the limitations within the report.

A handwritten signature in blue ink that reads "Rodney W. Wingard". The signature is written in a cursive style with a large, stylized initial 'R'.

Rodney W. Wingard  
Environmental Manager

## 15. QUALIFICATIONS OF ENVIRONMENTAL PROFESSIONAL

### Rodney W. Wingard Environmental Manager

Previously with SCDHEC for 24 years, Rodney Wingard has direct experience with hazardous and radioactive waste permitting and corrective action. Most recently, he served as Manager of the RCRA Hazardous Waste Permitting and Corrective Action Section, which tracks hazardous wastes from the point of generation to disposal. As Manager, Mr. Wingard was responsible for directing and coordinating the statewide RCRA program for hazardous waste permitting and corrective action at operating commercial facilities. Through this experience, he developed excellent working relationships with those at the EPA, as well as the different divisions within SCDHEC.

Mr. Wingard's project experience includes the following.

#### **1800 Gervais Street**

*Columbia, South Carolina*

Mr. Wingard completed a Phase I ESA on 1800 Gervais Street, a mid-century structure for a property transaction for the University of South Carolina. The assessment consisted of records review, site reconnaissance, and report development.

#### **Kress Corner**

*Florence County, South Carolina*

Mr. Wingard completed a Phase I ESA on Kress Corner, a turn of the century property being redeveloped in downtown Florence. The assessment consisted of records review, site reconnaissance, and report development.

#### **SC 85 Replacement Bridges over S-995/NSR and S-2**

*Spartanburg County, South Carolina*

Mr. Wingard completed a Limited Phase I ESA on 52 parcels for the proposed bridge replacements on SC 85. The assessment consisted of records review, site reconnaissance, and report development.

#### **EXPERIENCE**

FME: 8 years  
Total: 32 years

#### **EDUCATION**

B.S. in Mechanical Engineering  
*University of South Carolina*  
(1990)

#### **TRAINING**

40-Hour HAZWOPER Training  
8-Hour HAZWOPER Supervisor



## APPENDICES

Appendix A – Parcels of the Project Area

Appendix B – Figures

Appendix C – Site Photographs

Appendix D – Historical Research Documentation

Appendix E – Regulatory Records Documentation

## Appendix A

### Parcels of the Project Area

FME Parcel ID #	Orangeburg County TMS #	Use of Parcel Today	Facility Name/Ownership	Address	Acres
1	0324-17-02-001.000	SMALL WOODED LOT	KELLEY LANE	NO ADDRESS	0.42
2	0324-17-02-002.000	LARGE WOODED LOT	LEE KELLEY PROPERTIES LP	0 OLD NUMBER SIX HWY	12.39
3	0324-14-01-023.000	SANTEE COOPER RESORT	SANTEE COOPER RESORT	MULTIPLE ADDRESSES	177.35
4	0324-14-01-024.000	SANTEE TREATMENT PLANT	SANTEE PUBLIC SERVICE DIS	NO ADDRESS	2.58
5	0324-14-01-001.000	SANTEE TREATMENT PLANT	SANTEE PUBLIC SERVICE	NO ADDRESS	20.24
6	0324-10-04-001.000	REST AREA	US FEDERAL HWY ADM	NO ADDRESS	2.90
7	0324-10-02-001.000	SANTEE COOPER RESORT	SANTEE COOPER RESORT INC	MULTIPLE ADDRESSES	186.12
8	0324-10-01-002.000	BALLARDS POINTE I CONDOMINIUMS	BALLARDS POINTE I HORIZONTAL PROPERT	MULTIPLE ADDRESSES	2.62
9	0373-00-00-003.000	VACANT LOT	S C P S A	MULTIPLE ADDRESSES	3,362.68
10	0324-10-01-003.000	RESIDENTIAL HOME	WILLISON DAVID JOHN	261 BALLARD LANE	0.82
11	0324-10-01-004.000	RESIDENTIAL HOME	FAUCETTE CHARLES W	249 BALLARD LANE	0.87
12	0324-10-01-015.000	RESIDENTIAL LOT	WILLIAM E CLARK TRUST	NO ADDRESS	0.09
13	0324-10-01-018.000	RESIDENTIAL LOT	CLARK WILLIAM E JR	NO ADDRESS	0.08
14	0324-10-01-005.000	RESIDENTIAL LOT	WILLIAM E CLARK TRUST	NO ADDRESS	0.32
15	0324-10-01-017.000	RESIDENTIAL LOT	CLARK WILLIAM E JR	NO ADDRESS	0.11
16	0324-10-01-006.000	RESIDENTIAL LOT	FAUCETTE CHARLES W	NO ADDRESS	0.02
17	0324-10-01-011.000	RESIDENTIAL LOT	CLARK WILLIAM E JR	NO ADDRESS	0.91
18	0324-10-01-014.000	BALLARDS POINTE II CONDOMINIUMS	BALLARDS POINTE II ASSOCIATION INC	MULTIPLE ADDRESSES	3.13
19	0324-10-01-009.000	RESIDENTIAL LOT	BALLARDS POINTE II ASSOCIATION INC	NO ADDRESS	4.24
20	0324-10-01-012.000	BALLARDS POINTE III CONCOMINIUMS	BALLARDS POINTE III LLC	MULTIPLE ADDRESSES	17.48
21	0324-13-05-005.000	I-95 REST AREA	U S FEDERAL HWY ADM	NO ADDRESS	3.17
22	0324-13-05-001.000	SMALL WOODED LOT	SANTEE SHORES INC	NO ADDRESS	1.07
23	0324-13-05-008.000	LARGE WOODED LOT	SANTEE BLUFF LLC	NO ADDRESS	12.12
24	0324-13-05-002.000	LARGE WOODED LOT	SANTEE BLUFF LLC	NO ADDRESS	10.59

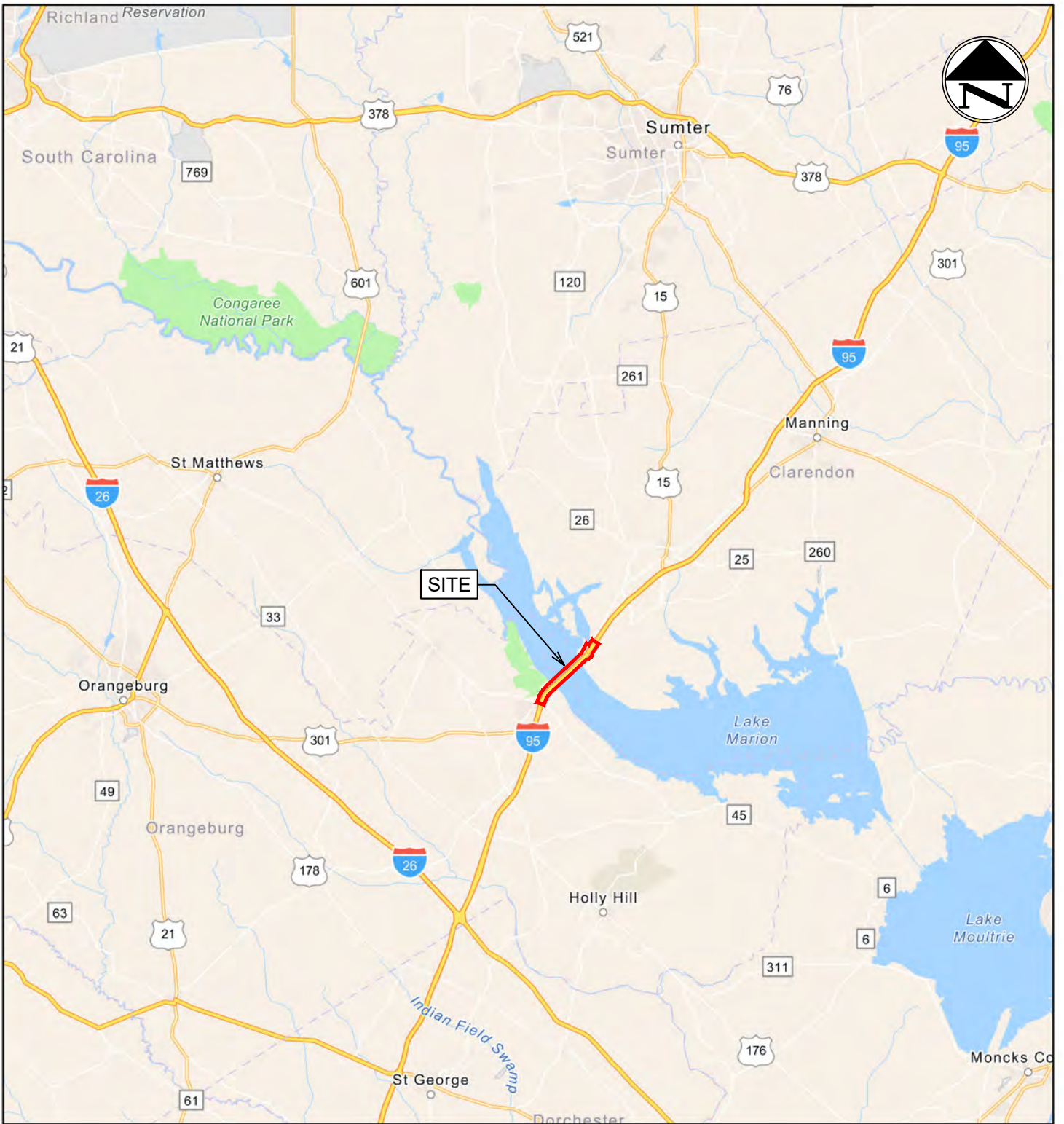
FME Parcel ID #	Clarendon County TMS #	Use of Parcel Today	Facility Name/Ownership	Address	Acres
25	035-05-00-004-00	PALMETTO SHORES RV RESORT	SCPSA	5215 DINGLE POND RD	5.77
26	035-05-00-001-00	PALMETTO SHORES RV RESORT	PALMETTO SHORES RE HOLDINGS LLC	5215 DINGLE POND RD	30.4
27	035-06-02-009-00	APARTMENTS	BJC LLC	N/A	3.9
28	035-06-02-004-00	FORMER ECONOMART GAS STATION	F C ENTERPRISES	5282 DINGLE POND RD	1.0
29	035-06-02-003-00	VACANT LOT	F C ENTERPRISES INC	5296 DINGLE POND RD	1.0*
30	035-06-02-008-00	RV LOTS	HARE PRITAM LLC	N/A	2.5
31	035-00-00-014-00	LARGE WOODED LOT	E AND L MANAGEMENT SERVICES LLC	DINGLE POND RD	35.73
32	035-00-00-006-00	RESIDENTIAL LOT	PEARSON FANNIE MAE LE	4676 DINGLE POND RD	20.77
33	035-00-00-004-00	RESIDENTIAL LOT	BENNETT WILLIAM EST	8167 ST PAUL RD	13.8
34	035-08-04-001-00	LARGE WOODED LOT	SCOTT DANA LYNN	10 ST PAUL RD	11.76
35	035-08-03-005-00	WOODED LOT	ELMORE G W & PATRICK ROBERT E JR & CARLTON JOHN DAVID III	N/A	8.54
36	035-08-03-007-00	VACANT LOT	SKY PHARAOH LLC	N/A	1.0
37	035-07-02-018-00	ENMARK GAS STATION	ENMARK STATIONS INC	8440 ST PAUL RD	1.0
38	035-07-02-017-00	WOODED LOT	PALMETTO MOTELS INC	N/A	6.14
39	035-07-02-021-00	WOODED LOT	CHILDERS M`LYNN	N/A	1.2
40	035-07-02-016-00	WOODED LOT	BLEND MERLE C III	1222 COOPER LN	5.0
41	035-06-01-007-00	VACANT PAVED LOT	BP EXPLORATION & OIL INC C/O BP AMERICA	N/A	7.0
42	035-06-01-008-00	WOODED LOT	NGUYEN HOANGSON TRAN	N/A	1.0
43	035-06-01-009-00	WOODED LOT	NGUYEN HOANGSON TRAN	N/A	1.0*
44	035-06-01-010-00	RESIDENTIAL LOT	SCPSA	9000 ST PAUL RD	1.0
45	035-07-02-020-00	WOODED LOT	CARRERA INVESTMENTS LLC	N/A	N/A
46	035-06-02-001-00	WOODED LOT	BELL WILLIAM MICHAEL II	N/A	N/A

\*Not accurate.

## Appendix B

### Figures





1:577,791



F&M CONSULTANTS, INC.  
COLUMBIA, SC

4			
3			
2			
1			
REV.	BY	DATE	DESCRIPTION OF REVISION
TOPO.		DATE	
DWG.	CTC	DATE 12.11.23	GROUP ____ - ____
R/W		DATE	

I-95 OVER LAKE MARION BRIDGE REPLACEMENTS  
CLARENDON & ORANGEBURG COUNTIES, SOUTH CAROLINA

LIMITED PHASE I ENVIRONMENTAL SITE ASSESSMENT REPORT  
SITE VICINITY MAP

F&M JOB NUMBER: G6744.000

SCALE: AS NOTED

FIGURE 1



ORANGEBURG COUNTY



OLD NUMBER SIX HWY

**LEGEND:**

- PHASE I PROPERTY ASSESSMENT AREA (PROJECT AREA)
- PROPERTY LINES
- # FME PARCEL IDENTIFIER

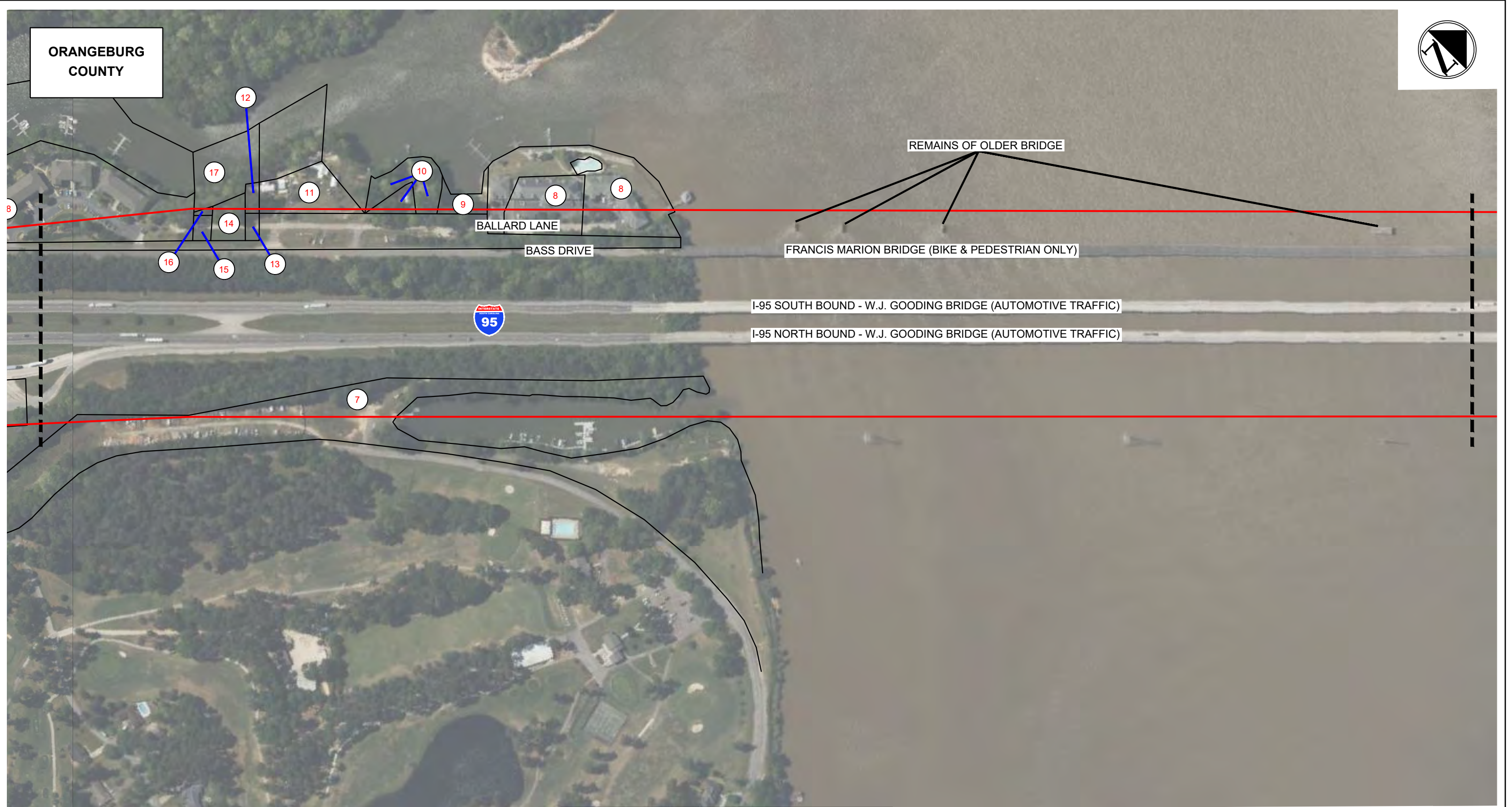
REV.	BY	DATE	DESCRIPTION OF REVISION
4			
3			
2			
1			
TOPO.		DATE	
DWG.	CTC	DATE 12.11.23	GROUP
R/W		DATE	

**F&ME CONSULTANTS**  
 F&ME CONSULTANTS, INC.  
 COLUMBIA, SC

I-95 OVER LAKE MARION BRIDGE REPLACEMENTS  
 CLARENDON & ORANGEBURG COUNTIES, SOUTH CAROLINA  
 LIMITED PHASE I ENVIRONMENTAL SITE ASSESSMENT REPORT  
 SITE PLAN  
 F&ME JOB NUMBER, G6744.000  
 SCALE: 1"=300'      FIGURE 2



ORANGEBURG COUNTY



**LEGEND:**

- PHASE I PROPERTY ASSESSMENT AREA (PROJECT AREA)
- PROPERTY LINES
- # FME PARCEL IDENTIFIER

4			
3			
2			
1			
REV.	BY	DATE	DESCRIPTION OF REVISION
TOPO.		DATE	
DWG.	CTC	DATE 12.11.23	GROUP
R/W		DATE	

**F&ME** CONSULTANTS, INC.  
COLUMBIA, SC

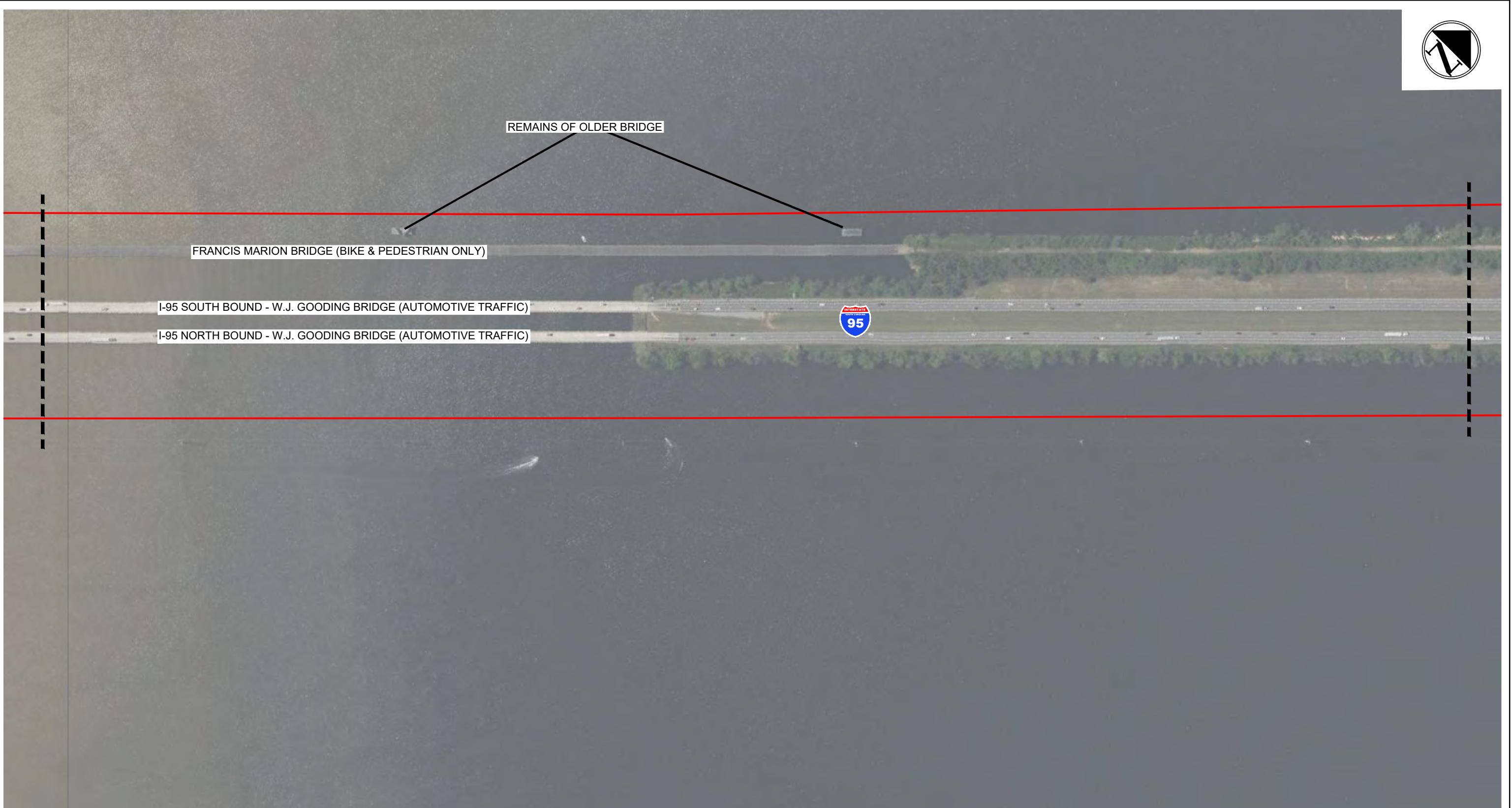
I-95 OVER LAKE MARION BRIDGE REPLACEMENTS  
CLARENDON & ORANGEBURG COUNTIES, SOUTH CAROLINA

LIMITED PHASE I ENVIRONMENTAL SITE ASSESSMENT REPORT  
SITE PLAN

F&ME JOB NUMBER: G6744.000

SCALE: 1"=300'      FIGURE 3





**LEGEND:**

- PHASE I PROPERTY ASSESSMENT AREA (PROJECT AREA)
- PROPERTY LINES
- # FME PARCEL IDENTIFIER

4			
3			
2			
1			
REV.	BY	DATE	DESCRIPTION OF REVISION
TOPO.		DATE	
DWG.	CTC	DATE 12.11.23	GROUP - -
R/W		DATE	



I-95 OVER LAKE MARION BRIDGE REPLACEMENTS  
CLARENDON & ORANGEBURG COUNTIES, SOUTH CAROLINA

LIMITED PHASE I ENVIRONMENTAL SITE ASSESSMENT REPORT  
SITE PLAN

F&ME JOB NUMBER: G6744.000

SCALE: 1"=300'      FIGURE 4





CLARENDON COUNTY

SCOTT LAKE ROAD

ST. PAUL ROAD

EXIT 102

FRANCIS MARION BRIDGE (BIKE & PEDESTRIAN ONLY)

I-95 SOUTH BOUND - W.J. GOODING BRIDGE (AUTOMOTIVE TRAFFIC)

I-95 NORTH BOUND - W.J. GOODING BRIDGE (AUTOMOTIVE TRAFFIC)

(REC 5)  
FORMER LUMBER MILL  
8705 STATE ROAD S-14-230

(REC 4)  
PALMETTO SHORES RV RESORT  
5215 DINGLE POND ROAD

**LEGEND:**

- PHASE I PROPERTY ASSESSMENT AREA (PROJECT AREA)
- PROPERTY LINES
- # FME PARCEL IDENTIFIER

**F&ME CONSULTANTS**  
F&ME CONSULTANTS, INC.  
COLUMBIA, SC

4			
3			
2			
1			
REV.	BY	DATE	DESCRIPTION OF REVISION
TOPO.		DATE	
DWG.	CTC	DATE 12.11.23	GROUP
R/W		DATE	

I-95 OVER LAKE MARION BRIDGE REPLACEMENTS  
CLARENDON & ORANGEBURG COUNTIES, SOUTH CAROLINA

LIMITED PHASE I ENVIRONMENTAL SITE ASSESSMENT REPORT  
SITE PLAN

F&ME JOB NUMBER, G6744.000

SCALE: 1"=300'      FIGURE 5





(REC 5)  
FORMER LUMBER MILL  
8705 STATE ROAD S-14-230

(CREC 1)  
ENMARKET  
8440 ST. PAUL ROAD

(CREC 2)  
LAKE MARION ECONOMART  
ADJOINING 5236 DINGLE POND ROAD

(REC 3)  
FOOD CENTER MARATHON  
5236 DINGLE POND ROAD  
WHICH MAY IMPACT  
PARCELS 27, 28, 29, AND 30

**LEGEND:**

- PHASE I PROPERTY ASSESSMENT AREA (PROJECT AREA)
- PROPERTY LINES
- # FME PARCEL IDENTIFIER

REV.	BY	DATE	DESCRIPTION OF REVISION
4			
3			
2			
1			
TOPO.		DATE	
DWG.	CTC	DATE 12.11.23	GROUP
R/W		DATE	

**F&ME CONSULTANTS**  
F&ME CONSULTANTS, INC.  
COLUMBIA, SC

I-95 OVER LAKE MARION BRIDGE REPLACEMENTS  
CLARENDON & ORANGEBURG COUNTIES, SOUTH CAROLINA

LIMITED PHASE I ENVIRONMENTAL SITE ASSESSMENT REPORT  
SITE PLAN

F&ME JOB NUMBER: G6744.000

SCALE: 1"=300'      FIGURE 6



## Appendix C

### Site Photographs

## Photograph 1



W. J. Gooding Bridge (I-95/US Hwy 301)

Francis Marion Bridge (formerly US Hwy 301)

View of the W. J. Gooding Bridges (I-95/US Hwy 301) and the Francis Marion Bridge (formerly US Hwy 301) over Lake Marion within the Project Area (facing northeast). The Project Area includes a portion of 46 Parcels of land located along four (4) linear miles of I-95 near Santee and Summerton, Orangeburg and Clarendon Counties (respectively), South Carolina.

The Francis Marion Bridge was used for vehicle traffic from approximately 1941 to 1966. The W. J. Gooding Bridge has been used for vehicle traffic since approximately 1968.

1

1

## Photograph 2

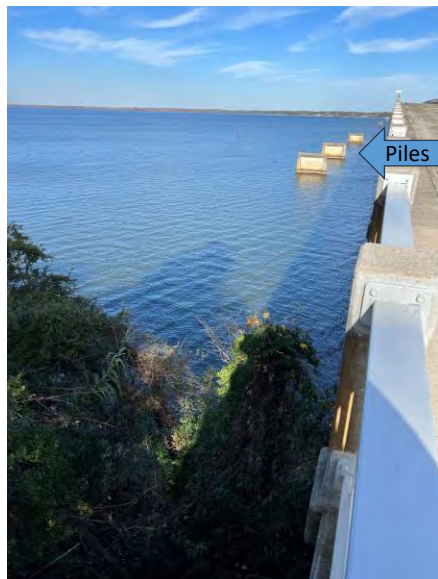


View of the W. J. Gooding Bridges (I-95/US Hwy 301) from the Francis Marion Bridge (formerly US Hwy 301) over Lake Marion within the Project Area. The W. J. Gooding Bridge is located to the east of the Francis Marion Bridge. Each of these bridges are located within the Project Area.

2

2

## Photograph 3



View of the west side of Lake Marion taken from the Francis Marion Bridge. The Francis Marion Bridge is limited to recreational purposes, such as walking, biking, and fishing. Note the piles of a former roadway/bridge to the west of the Francis Marion Bridge. This former roadway/bridge was in use prior to 1941. These former roadway/bridge piles are also located within the Project Area.

3

3

## Photograph 4



View of a portion of the former roadway/bridge to the west of the Francis Marion Bridge, which was in use prior to 1941. This former roadway/bridge structure is located within the Project Area.

4

4

## Photograph 5



View of a portion of the former roadway/bridge to the west of the Francis Marion Bridge, which was in use prior to 1941. This former roadway/bridge structure is located within the Project Area.

5

5

## Photograph 6



Typical view of multi-family residential condominiums located within the Project Area. This particular photograph is of Ballards Pointe 1 located on Parcel 8 within the Project Area.

6

6



## Photograph 7



View of Santee Cooper Resort, single-family residential homes located adjacent to the Project Area.

7

7

## Photograph 8



View of Parcel 37, identified as EZ Shop #24 / EZ Shop 24 / ENK 889 / Easy Shop 24 / Enmarket within EDR regulatory information, located at 8440 St. Paul Road / Jim Sniffen within the Project Area. This UST/LUST/RGA LUST site is considered CREC 1.

8

8

## Photograph 9



View of Parcel 28, identified as Lake Marion Economart / Econ O Mart within EDR regulatory information. This former gas station site is located adjoining 5236 Dingle Pond Road (a.k.a., 5236 S-14-400 and I-95 Exit 102) within the Project Area. This UST/LUST/RCR site is considered CREC 2.

9

9

## Photograph 10



View of Lake Marion Big Water Country Store / KK Mart / Food Center Marathon identified within EDR regulatory information. This gas station site is located at 5236 Dingle Pond Road adjoining the Project Area. This UST/LUST/FINDS/GWCI/RCR site is considered REC 3, which may have impacted Parcel 27, 28, 29, and 30 within the Project Area.

10

10



## Photograph 11



View of Parcel 26, identified as Santee Cooper / Santee Cooper Camp 3 / Palmetto Shores RV Resort within EDR regulatory information. This UST/LUST/maintenance and repair site is located at 5215 Dingle Pond Road (a.k.a., 5215 S-14-400, I-95 Exit 102 HWY 400, and I-95 at SC 400) within the Project Area. This UST/LUST /maintenance and repair site is considered REC 4.

11

11

## Photograph 12



View of Parcel 41, which was not identified as a site within EDR regulatory information. However, historic aerial photographs and information obtained from an interview with a local police officer, indicate this is the site of a former lumber mill operation. This site is located at 8705 State Road S-14-230 within the Project Area. This site is considered REC 5.

12

12

## Photograph 13



View of Parcel 41, site of a former lumber mill operation. This site is located at 8705 State Road S-14-230 within the Project Area. This site is considered REC 5.

13

13

## Photograph 14



View of Parcel 40, a likely former motel operation. No address is available for this site located on St. Paul Road within the Project Area.

14

14



## Photograph 15



View of the Francis Marion Bridge (formerly US Hwy 301) over Lake Marion from the Summerton side (Clarendon County) within the Project Area.

15

15

## Photograph 16



View of Parcel 21. Parcel 21 is the south-bound rest area adjacent to I-95 within the Project Area.

16

16



## Appendix D

### Historical Research Documentation

**G6744.000 - Limited Phase I ESA**

I-95 Over Lake Marion

Santee, SC 29142

Inquiry Number: 7499100.4

November 21, 2023

## The EDR Aerial Photo Decade Package



6 Armstrong Road, 4th floor  
Shelton, CT 06484  
Toll Free: 800.352.0050  
[www.edrnet.com](http://www.edrnet.com)

**Date EDR Searched Historical Sources:**

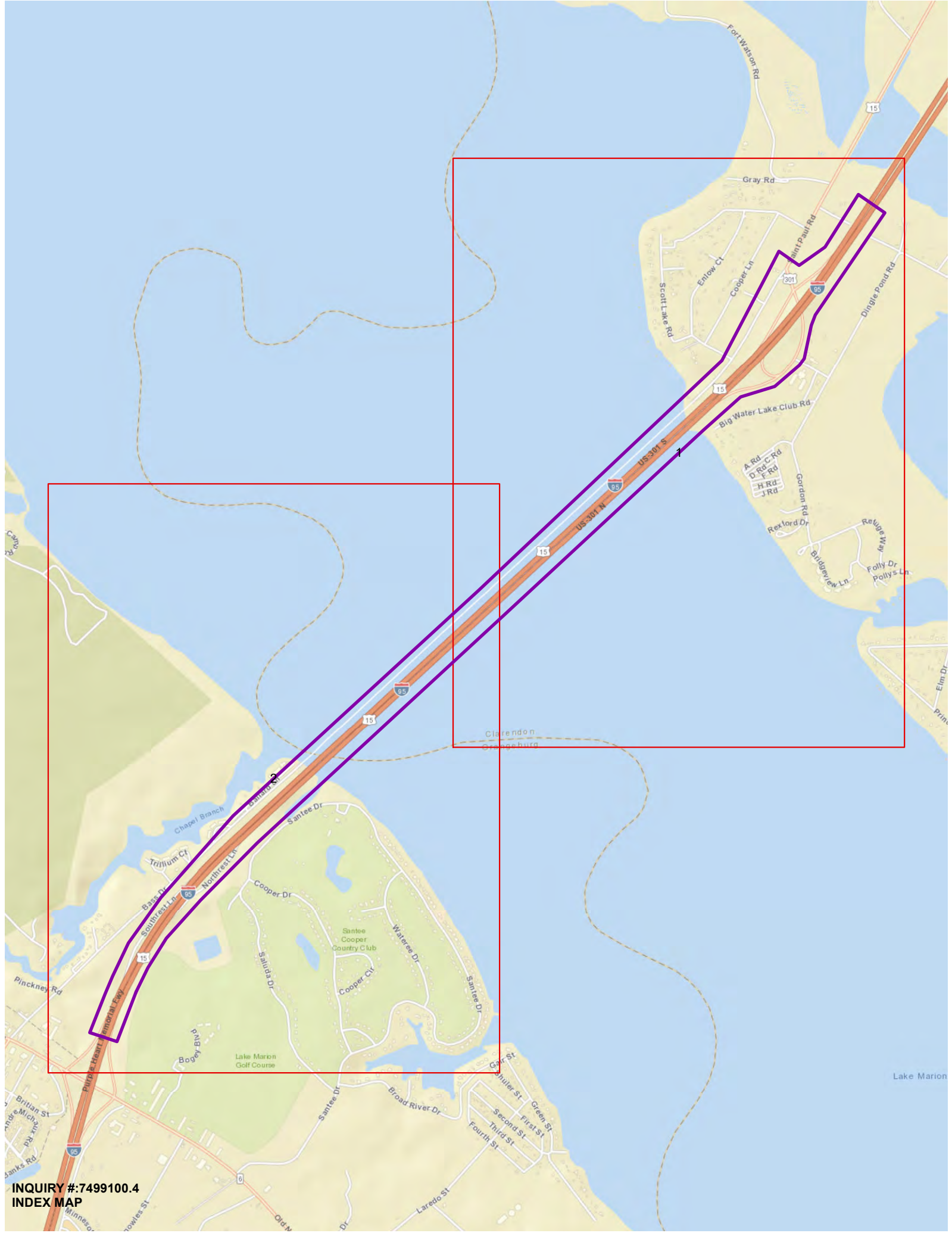
Aerial Photography November 21, 2023

**Target Property:**

I-95 Over Lake marion

Santee, SC 29142

<u><i>Year</i></u>	<u><i>Scale</i></u>	<u><i>Details</i></u>	<u><i>Source</i></u>
1957	Aerial Photograph. Scale: 1"=1000'	Flight Year: 1957	USGS
1964	Aerial Photograph. Scale: 1"=1000'	Flight Year: 1964	USGS
1974	Aerial Photograph. Scale: 1"=1000'	Flight Year: 1974	USGS
1983	Aerial Photograph. Scale: 1"=1000'	Flight Year: 1983	USDA
1994	Aerial Photograph. Scale: 1"=1000'	Flight Year: 1994	USGS/DOQQ
2006	Aerial Photograph. Scale: 1"=1000'	Flight Year: 2006	USDA/NAIP
2011	Aerial Photograph. Scale: 1"=1000'	Flight Year: 2011	USDA/NAIP
2015	Aerial Photograph. Scale: 1"=1000'	Flight Year: 2015	USDA/NAIP
2019	Aerial Photograph. Scale: 1"=1000'	Flight Year: 2019	USDA/NAIP



**INQUIRY #:7499100.4**  
**INDEX MAP**



INQUIRY #: 7499100.4  
YEAR: 1957  
SCALE: 1"=1000'





INQUIRY #: 7499100/4  
YEAR: 1957  
SCALE: 1"=1000'

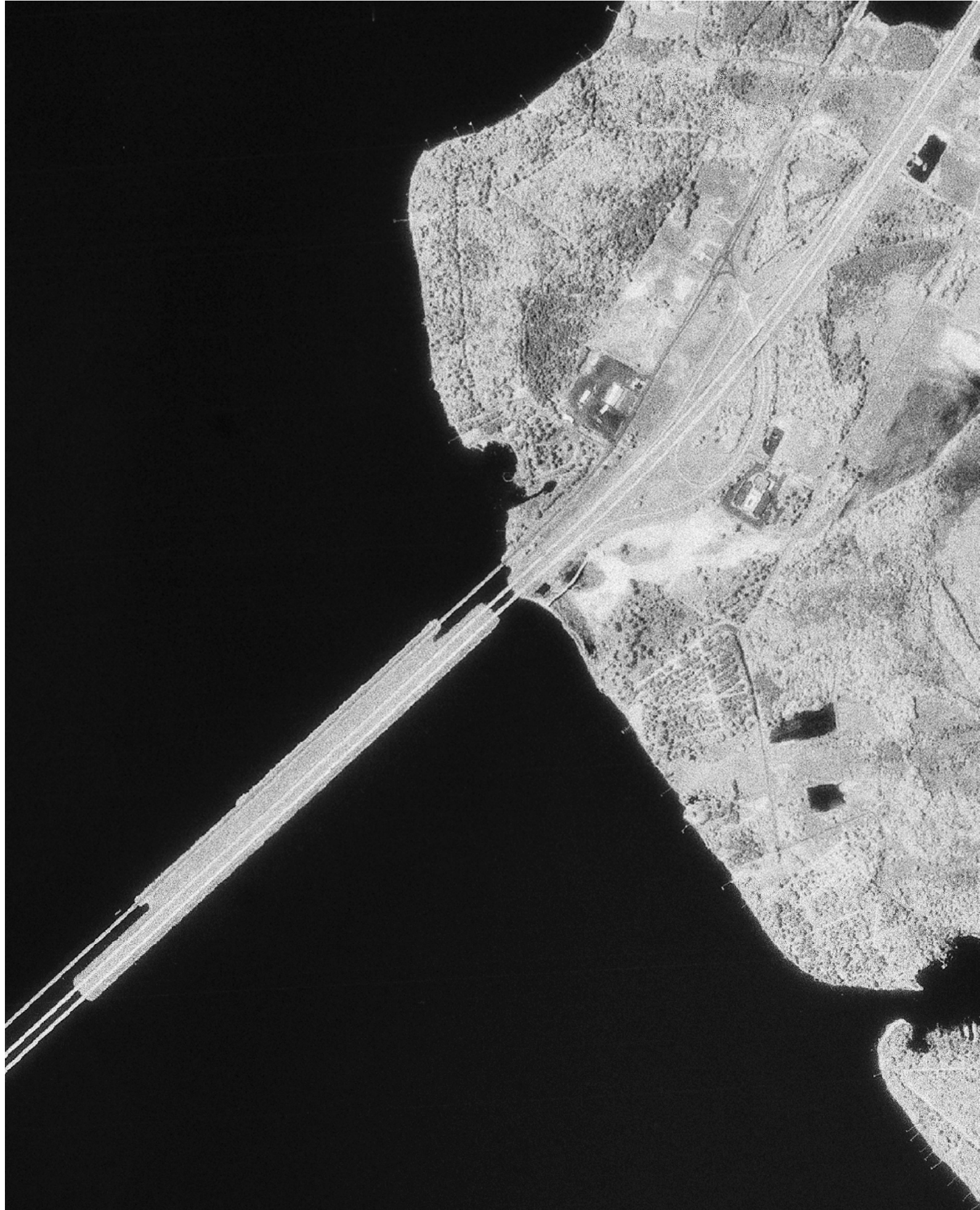


INQUIRY #: 7499100.4  
YEAR: 1964  
SCALE: 1"=1000'





INQUIRY #: 7499100.4  
YEAR: 1964  
SCALE: 1"=1000'



INQUIRY #: 7499100.4  
YEAR: 1974  
SCALE: 1"=1000'





INQUIRY #: 7499100.4  
YEAR: 1974  
SCALE: 1"=1000'





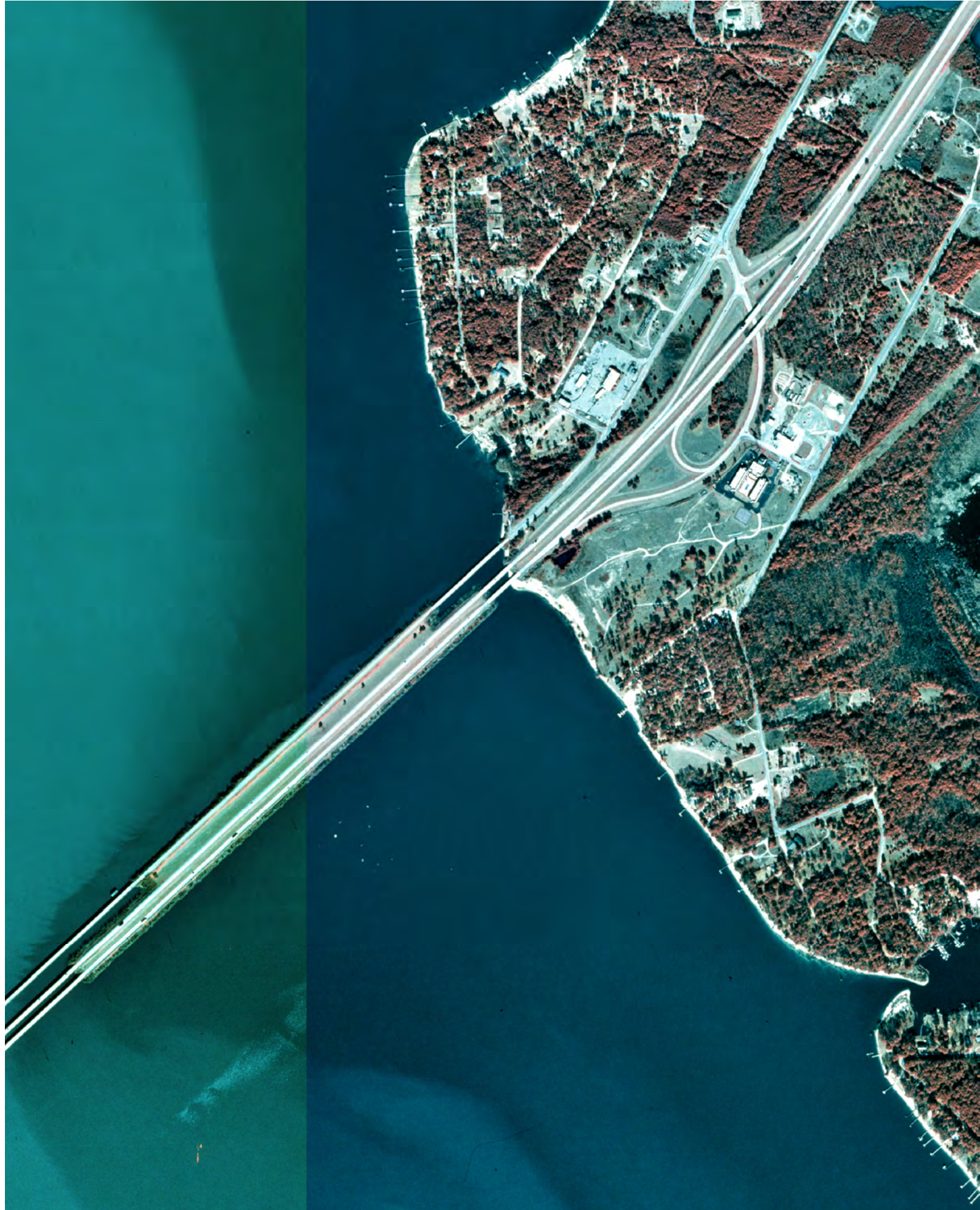
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YEAR: 1983  
SCALE: 1"=1000'





INQUIRY #: 7499100.4  
YEAR: 1983  
SCALE: 1"=1000'





INQUIRY #: 7499100.4  
YEAR: 1994  
SCALE: 1"=1000'





INQUIRY #: 7499100.4  
YEAR: 1994  
SCALE: 1"=1000'





INQUIRY #: 7499100.4  
YEAR: 2006  
SCALE: 1"=1000'





INQUIRY #: 7499100.4  
YEAR: 2006  
SCALE: 1"=1000'





INQUIRY #: 7499100.4  
YEAR: 2011  
SCALE: 1"=1000'





INQUIRY #: 74991004  
YEAR: 2011  
SCALE: 1"=1000'





INQUIRY #: 7499100.4  
YEAR: 2015  
SCALE: 1"=1000'





INQUIRY #: 7499100.4  
YEAR: 2015  
SCALE: 1"=1000'





INQUIRY #: 7499100.4  
YEAR: 2019  
SCALE: 1"=1000'





INQUIRY #: 14991004  
YEAR: 2019  
SCALE: 1"=1000'



## Preliminary Sanborn® Map Report

11/16/2023

**Site Name:**

G6744.000 - Limited Phase I  
ESA  
I-95 Over Lake Marion  
Santee, SC 29142

**Client Name:**

F&ME Consultants  
211 Business Park Blvd.  
Columbia, SC 29203

**Contact:** Rodney  
Wingard



A preliminary search of the Complete Sanborn Library collection has been conducted, and fire insurance maps covering the target property location provided by F&ME Consultants were identified for the years listed below. Certified Sanborn Map search results will be provided in the final version of this report. Only Environmental Data Resources Inc. (EDR) is authorized to grant rights for commercial reproduction of maps by Sanborn Library LLC, the copyright holder for the collection.

### **Preliminary Sanborn Results:**

**Site Name:** G6744.000 - Limited Phase I ESA  
**Address:** I-95 Over Lake Marion  
**City, State, Zip:** Santee, SC 29142  
**Cross Street:**  
**P.O.#**  
**Project:** G6744.000  
**Certification #** Provided with final report  
**Maps Identified:**

### **Preliminary Report**

This report contains the results of a preliminary search for the target property. A final EDR Sanborn Map Report will be delivered after quality review is conducted. Only a final report should be used in connection with a final site assessment.

The Sanborn Library includes more than 1.2 million Sanborn fire insurance maps, which track historical property usage in approximately 12,000 American cities and towns. Collections searched:

- Library of Congress
- University Publications of America
- EDR Private Collection

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This document certifies that the complete holdings of the Sanborn Library, LLC collection have been searched based on client-supplied target property information, and fire insurance maps covering the target property were not found.

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***PRELIMINARY REPORT - FINAL TO FOLLOW***

G6744.000 - Limited Phase I ESA

I-95 Over Lake Marion

Santee, SC 29142

Inquiry Number: 7499100.2

November 20, 2023

## Certified Sanborn® Map Report



6 Armstrong Road, 4th floor  
Shelton, CT 06484  
Toll Free: 800.352.0050  
[www.edrnet.com](http://www.edrnet.com)



# Certified Sanborn® Map Report

11/20/23

**Site Name:**

G6744.000 - Limited Phase I E  
I-95 Over Lake Marion  
Santee, SC 29142  
EDR Inquiry # 7499100.2

**Client Name:**

F&ME Consultants  
211 Business Park Blvd.  
Columbia, SC 29203  
Contact: Rodney Wingard



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The Sanborn Library is continually enhanced with newly identified map archives. This report accesses all maps in the collection as of the day this report was generated.

## Certified Sanborn Results:

**Certification #** C10B-4D6F-9E5E  
**PO #** NA  
**Project** G6744.000



Sanborn® Library search results

Certification #: C10B-4D6F-9E5E

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- Library of Congress
- University Publications of America
- EDR Private Collection

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G6744.000 - Limited Phase I ESA

I-95 Over Lake Marion

Santee, SC 29142

Inquiry Number: 7499100.1

November 16, 2023

# EDR Historical Topo Map Report

with QuadMatch™



6 Armstrong Road, 4th floor  
Shelton, CT 06484  
Toll Free: 800.352.0050  
[www.edrnet.com](http://www.edrnet.com)

# EDR Historical Topo Map Report

11/16/23

**Site Name:**

G6744.000 - Limited Phase I E  
I-95 Over Lake Marion  
Santee, SC 29142  
EDR Inquiry # 7499100.1

**Client Name:**

F&ME Consultants  
211 Business Park Blvd.  
Columbia, SC 29203  
Contact: Rodney Wingard



EDR Topographic Map Library has been searched by EDR and maps covering the target property location as provided by F&ME Consultants were identified for the years listed below. EDR's Historical Topo Map Report is designed to assist professionals in evaluating potential liability on a target property resulting from past activities. EDR's Historical Topo Map Report includes a search of a collection of public and private color historical topographic maps, dating back to the late 1800s.

**Search Results:****Coordinates:**

<b>P.O.#</b>	NA	<b>Latitude:</b>	33.509395 33° 30' 34" North
<b>Project:</b>	G6744.000	<b>Longitude:</b>	-80.447299 -80° 26' 50" West
		<b>UTM Zone:</b>	Zone 17 North
		<b>UTM X Meters:</b>	551332.61
		<b>UTM Y Meters:</b>	3707897.53
		<b>Elevation:</b>	78.95' above sea level

**Maps Provided:**

2020	1921
2017	1920
2014	
1994	
1987	
1979, 1980	
1971	
1943	

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## Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

### 2020 Source Sheets



Saint Paul  
2020  
7.5-minute, 24000



Vance  
2020  
7.5-minute, 24000

### 2017 Source Sheets



Saint Paul  
2017  
7.5-minute, 24000



Vance  
2017  
7.5-minute, 24000

### 2014 Source Sheets

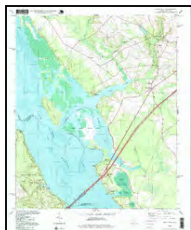


Saint Paul  
2014  
7.5-minute, 24000



Vance  
2014  
7.5-minute, 24000

### 1994 Source Sheets



Saint Paul  
1994  
7.5-minute, 24000  
Aerial Photo Revised 1972

## Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

### 1987 Source Sheets



Saint Paul  
1987  
7.5-minute, 24000  
Aerial Photo Revised 1972

### 1979, 1980 Source Sheets



Vance  
1979  
7.5-minute, 24000  
Aerial Photo Revised 1972



Saint Paul  
1980  
7.5-minute, 24000  
Aerial Photo Revised 1972

### 1971 Source Sheets

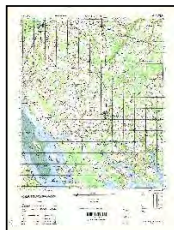


Summerton  
1971  
15-minute, 62500  
Aerial Photo Revised 1943

### 1943 Source Sheets



EUTAWVILLE  
1943  
15-minute, 50000



SUMMERTON  
1943  
15-minute, 50000



## ***Topo Sheet Key***

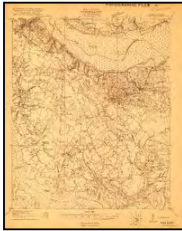
This EDR Topo Map Report is based upon the following USGS topographic map sheets.

### **1921 Source Sheets**



Eutawville  
1921  
15-minute, 62500

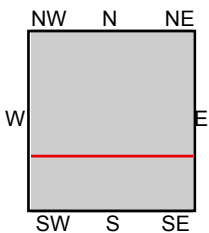
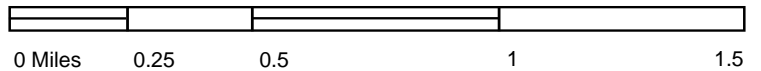
### **1920 Source Sheets**



Eutawville  
1920  
15-minute, 48000



This report includes information from the following map sheet(s).



TP, Saint Paul, 2020, 7.5-minute  
S, Vance, 2020, 7.5-minute

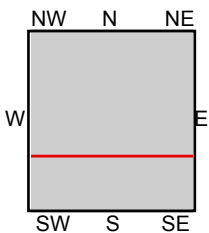
**SITE NAME:** G6744.000 - Limited Phase I ESA  
**ADDRESS:** I-95 Over Lake Marion  
Santee, SC 29142  
**CLIENT:** F&ME Consultants







This report includes information from the following map sheet(s).



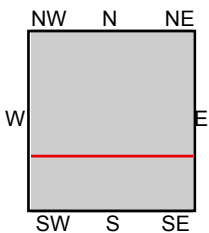
TP, Saint Paul, 2017, 7.5-minute  
S, Vance, 2017, 7.5-minute

**SITE NAME:** G6744.000 - Limited Phase I ESA  
**ADDRESS:** I-95 Over Lake Marion  
Santee, SC 29142  
**CLIENT:** F&ME Consultants





This report includes information from the following map sheet(s).



TP, Saint Paul, 2014, 7.5-minute  
S, Vance, 2014, 7.5-minute

**SITE NAME:** G6744.000 - Limited Phase I ESA  
**ADDRESS:** I-95 Over Lake Marion  
Santee, SC 29142  
**CLIENT:** F&ME Consultants

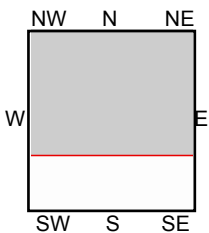






UNMAPPED	UNMAPPED	UNMAPPED	UNMAPPED	UNMAPPED	UNMAPPED
UNMAPPED	UNMAPPED	UNMAPPED	UNMAPPED	UNMAPPED	UNMAPPED
UNMAPPED	UNMAPPED	UNMAPPED	UNMAPPED	UNMAPPED	UNMAPPED
UNMAPPED	UNMAPPED	UNMAPPED	UNMAPPED	UNMAPPED	UNMAPPED

This report includes information from the following map sheet(s).



TP, Saint Paul, 1994, 7.5-minute

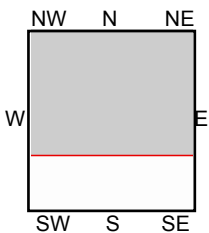
SITE NAME: G6744.000 - Limited Phase I ESA  
 ADDRESS: I-95 Over Lake Marion  
 Santee, SC 29142  
 CLIENT: F&ME Consultants







This report includes information from the following map sheet(s).



TP, Saint Paul, 1987, 7.5-minute

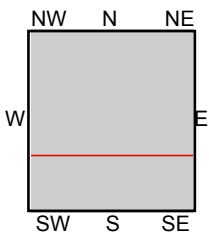
SITE NAME: G6744.000 - Limited Phase I ESA  
 ADDRESS: I-95 Over Lake Marion  
 Santee, SC 29142  
 CLIENT: F&ME Consultants







This report includes information from the following map sheet(s).

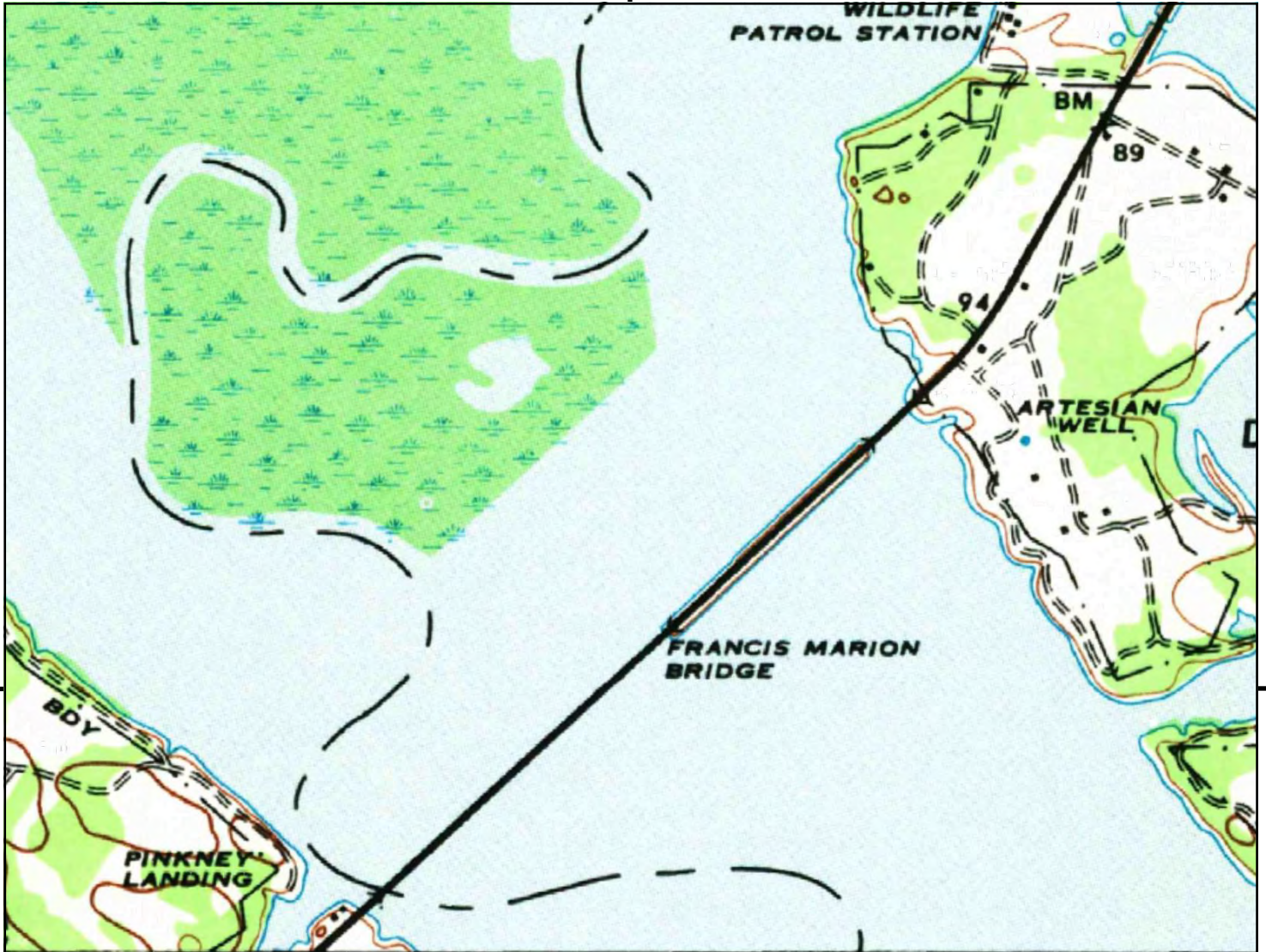


TP, Saint Paul, 1980, 7.5-minute  
S, Vance, 1979, 7.5-minute

**SITE NAME:** G6744.000 - Limited Phase I ESA  
**ADDRESS:** I-95 Over Lake Marion  
Santee, SC 29142  
**CLIENT:** F&ME Consultants

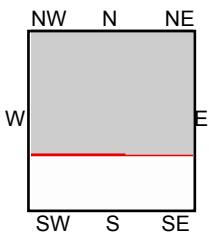
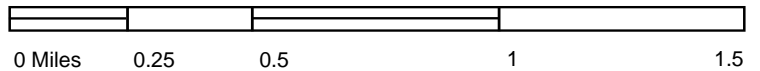






UNMAPPED	UNMAPPED	UNMAPPED	UNMAPPED	UNMAPPED	UNMAPPED
UNMAPPED	UNMAPPED	UNMAPPED	UNMAPPED	UNMAPPED	UNMAPPED
UNMAPPED	UNMAPPED	UNMAPPED	UNMAPPED	UNMAPPED	UNMAPPED
UNMAPPED	UNMAPPED	UNMAPPED	UNMAPPED	UNMAPPED	UNMAPPED

This report includes information from the following map sheet(s).



TP, Summerton, 1971, 15-minute

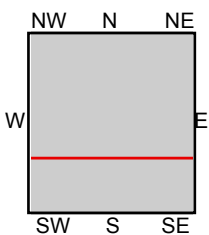
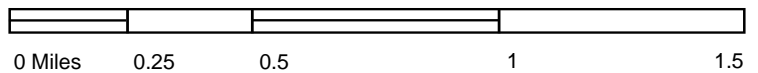
SITE NAME: G6744.000 - Limited Phase I ESA  
 ADDRESS: I-95 Over Lake Marion  
 Santee, SC 29142  
 CLIENT: F&ME Consultants







This report includes information from the following map sheet(s).

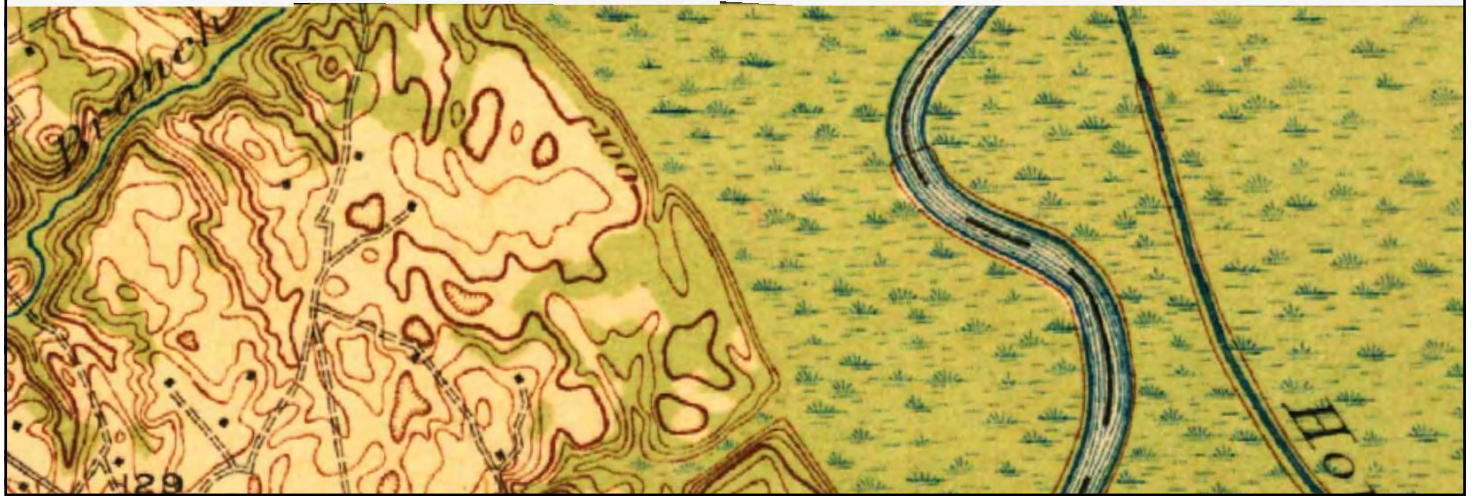


TP, SUMMERTON, 1943, 15-minute  
SE, EUTAWVILLE, 1943, 15-minute

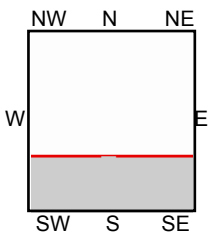
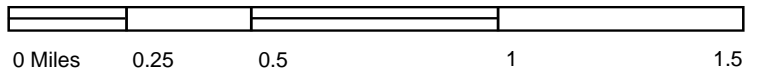
SITE NAME: G6744.000 - Limited Phase I ESA  
ADDRESS: I-95 Over Lake Marion  
Santee, SC 29142  
CLIENT: F&ME Consultants







This report includes information from the following map sheet(s).



SE, Eutawville, 1921, 15-minute

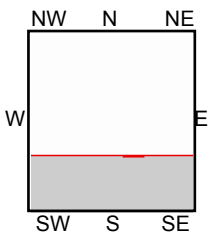
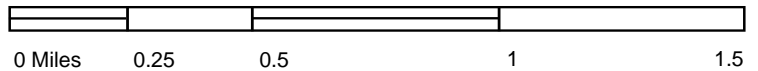
SITE NAME: G6744.000 - Limited Phase I ESA  
ADDRESS: I-95 Over Lake Marion  
Santee, SC 29142  
CLIENT: F&ME Consultants







This report includes information from the following map sheet(s).



SE, Eutawville, 1920, 15-minute

SITE NAME: G6744.000 - Limited Phase I ESA  
ADDRESS: I-95 Over Lake Marion  
Santee, SC 29142  
CLIENT: F&ME Consultants



## Appendix E

### Regulatory Records Documentation

**G6744.000 - Limited Phase I ESA**

I-95 Over Lake Marion

Santee, SC 29142

Inquiry Number: 7499100.7s

November 17, 2023

## EDR Area / Corridor Report



6 Armstrong Road, 4th floor  
Shelton, CT 06484  
Toll Free: 800.352.0050  
[www.edrnet.com](http://www.edrnet.com)

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***Thank you for your business.***  
Please contact EDR at 1-800-352-0050  
with any questions or comments.

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## EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E1527 - 21), the ASTM Standard Practice for Environmental Site Assessments for Forestland or Rural Property (E2247 - 16), the ASTM Standard Practice for Limited Environmental Due Diligence: Transaction Screen Process (E1528 - 22) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

### SUBJECT PROPERTY INFORMATION

#### ADDRESS

I-95 OVER LAKE MARION  
SANTEE, SC 29142

### TARGET PROPERTY SEARCH RESULTS

The Target Property was identified in the following databases.

Page Numbers and Map Identifications refer to the EDR Area/Corridor Report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

### STANDARD ENVIRONMENTAL RECORDS

#### ***Lists of state and tribal leaking storage tanks***

LUST: Leaking Underground Storage Tank List

A review of the LUST list, as provided by EDR, and dated 07/18/2023 has revealed that there are 2 LUST sites within the requested target property.

<u>Site</u>	<u>Address</u>	<u>Map ID / Focus Map(s)</u>	<u>Page</u>
<b><i>ENK 889</i></b> No Action Required: 01/25/1995 No Action Required: 08/08/1994 Substance: PETRO Facility Id: 02397	<b><i>8440 ST PAUL RD</i></b>	<b><i>A3 / 5</i></b>	<b><i>30</i></b>
<b><i>LAKE MARION ECONOMAR</i></b> No Action Required: 07/12/2005 Substance: PETRO Facility Id: 11027	<b><i>I 95 EXIT 102</i></b>	<b><i>B8 / 5</i></b>	<b><i>34</i></b>

#### ***Lists of state and tribal registered storage tanks***

UST: Comprehensive Underground Storage Tanks

A review of the UST list, as provided by EDR, and dated 05/03/2023 has revealed that there are 2 UST



## EXECUTIVE SUMMARY

sites within the requested target property.

<u>Site</u>	<u>Address</u>	<u>Map ID / Focus Map(s)</u>	<u>Page</u>
<b>ENK 889</b> Facility Id: 02397 Status: Abandoned Status: Currently in Use	<b>8440 ST PAUL RD</b>	<b>A3 / 5</b>	<b>30</b>
<b>LAKE MARION ECONOMAR</b> Facility Id: 11027 Status: Abandoned	<b>I 95 EXIT 102</b>	<b>B8 / 5</b>	<b>34</b>

### ***State and tribal institutional control / engineering control registries***

RCR: Registry of Conditional Remedies

A review of the RCR list, as provided by EDR, and dated 06/12/2023 has revealed that there is 1 RCR site within the requested target property.

<u>Site</u>	<u>Address</u>	<u>Map ID / Focus Map(s)</u>	<u>Page</u>
LAKE MARION ECONOMAR	I 95 EXIT 102	B7 / 5	34

### **ADDITIONAL ENVIRONMENTAL RECORDS**

#### ***Other Ascertainable Records***

FINDS: Facility Index System/Facility Registry System

A review of the FINDS list, as provided by EDR, and dated 05/04/2023 has revealed that there are 3 FINDS sites within the requested target property.

<u>Site</u>	<u>Address</u>	<u>Map ID / Focus Map(s)</u>	<u>Page</u>
EZ SHOP #24 Registry ID:: 110008554340	JIM SNIFFEN	A1 / 5	30
EASY SHOP 24 Registry ID:: 110017081566	8440 ST PAUL RD	A5 / 5	33
SAVE +3 Registry ID:: 110017175527	I 95 AT HWY 102 EXIT	9 / 5	38

Financial Assurance: Financial Assurance Information Listing

A review of the Financial Assurance list, as provided by EDR, has revealed that there are 2 Financial Assurance sites within the requested target property.

<u>Site</u>	<u>Address</u>	<u>Map ID / Focus Map(s)</u>	<u>Page</u>
<b>ENK 889</b> Database: Financial Assurance 3, Date of Government Version: 05/03/2023	<b>8440 ST PAUL RD</b>	<b>A3 / 5</b>	<b>30</b>

## EXECUTIVE SUMMARY

Facility ID: R 02397

**LAKE MARION ECONOMAR**

**I 95 EXIT 102**

**B8 / 5**

**34**

Database: Financial Assurance 3, Date of Government Version: 05/03/2023

Facility ID: R 11027

GWCI: Groundwater Contamination Inventory

A review of the GWCI list, as provided by EDR, and dated 07/01/2008 has revealed that there are 2 GWCI sites within the requested target property.

<u>Site</u>	<u>Address</u>	<u>Map ID / Focus Map(s)</u>	<u>Page</u>
TAW CAW TACKLE Solid Waste Permit #: 12789	501 BLUFF RD	6 / 5	33
<b>LAKE MARION ECONOMAR</b> Solid Waste Permit #: 11027	<b>I 95 EXIT 102</b>	<b>B8 / 5</b>	<b>34</b>

### EDR RECOVERED GOVERNMENT ARCHIVES

#### ***Exclusive Recovered Govt. Archives***

RGA LUST: Recovered Government Archive Leaking Underground Storage Tank

A review of the RGA LUST list, as provided by EDR, has revealed that there are 2 RGA LUST sites within the requested target property.

<u>Site</u>	<u>Address</u>	<u>Map ID / Focus Map(s)</u>	<u>Page</u>
E Z SHOP 24	8440 ST PAUL RD	A2 / 5	30
EASY SHOP 24	8440 ST PAUL RD	A4 / 5	33

### SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified in the following databases.

Page Numbers and Map Identifications refer to the EDR Area/Corridor Report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

### STANDARD ENVIRONMENTAL RECORDS

#### ***Lists of state and tribal leaking storage tanks***

LUST: Leaking Underground Storage Tank List

A review of the LUST list, as provided by EDR, and dated 07/18/2023 has revealed that there are 5

## EXECUTIVE SUMMARY

LUST sites within approximately 0.5 miles of the requested target property.

<u>Site</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID / Focus Map(s)</u>	<u>Page</u>
<b>KK MART</b> No Action Required: 01/06/2010 Substance: PETRO Facility Id: 02416	<b>5236 DINGLE POND RD</b>	<b>ESE 0 - 1/8 (0.110 mi.)</b>	<b>C11 / 5</b>	<b>39</b>
<b>ENK 890</b> Substance: PETRO Facility Id: 11756	<b>8933 OLD NUMBER 6 HW</b>	<b>WSW 1/8 - 1/4 (0.193 mi.)</b>	<b>13 / 8</b>	<b>43</b>
<b>FOOD MART 107</b> Substance: PETROL Substance: PETRO Facility Id: 06949	<b>9044 OLD HWY 6</b>	<b>S 1/8 - 1/4 (0.226 mi.)</b>	<b>D15 / 12</b>	<b>46</b>
<b>QUICK PANTRY 8</b> No Action Required: 09/29/2016 Substance: PETROL Substance: PETRO Facility Id: 06946	<b>9052 OLD HWY 6</b>	<b>SSE 1/4 - 1/2 (0.254 mi.)</b>	<b>18 / 12</b>	<b>53</b>
<b>RIVERS COUNTRY STORE</b> No Action Required: 10/25/2000 Substance: PETRO Facility Id: 07020	<b>8851 OLD NUMBER 6 HW</b>	<b>W 1/4 - 1/2 (0.321 mi.)</b>	<b>19 / 7</b>	<b>57</b>

### ***Lists of state and tribal registered storage tanks***

UST: Comprehensive Underground Storage Tanks

A review of the UST list, as provided by EDR, and dated 05/03/2023 has revealed that there are 5 UST sites within approximately 0.25 miles of the requested target property.

<u>Site</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID / Focus Map(s)</u>	<u>Page</u>
<b>KK MART</b> Facility Id: 10494 Facility Id: 02416 Status: Currently in Use Status: Abandoned	<b>5236 DINGLE POND RD</b>	<b>ESE 0 - 1/8 (0.110 mi.)</b>	<b>C11 / 5</b>	<b>39</b>
<b>ENK 890</b> Facility Id: 11756 Status: Abandoned Status: Currently in Use	<b>8933 OLD NUMBER 6 HW</b>	<b>WSW 1/8 - 1/4 (0.193 mi.)</b>	<b>13 / 8</b>	<b>43</b>
<b>COAST SANTEE</b> Facility Id: 15118 Status: Currently in Use	<b>9039 OLD 6 HWY</b>	<b>SSE 1/8 - 1/4 (0.202 mi.)</b>	<b>D14 / 12</b>	<b>45</b>
<b>FOOD MART 107</b> Facility Id: 06949 Status: Currently in Use Status: Abandoned	<b>9044 OLD HWY 6</b>	<b>S 1/8 - 1/4 (0.226 mi.)</b>	<b>D15 / 12</b>	<b>46</b>
<b>ENK 877</b> Facility Id: 02390	<b>8909 OLD NUMBER SIX</b>	<b>W 1/8 - 1/4 (0.244 mi.)</b>	<b>16 / 7</b>	<b>50</b>

## EXECUTIVE SUMMARY

Status: Currently in Use

### **State and tribal institutional control / engineering control registries**

RCR: Registry of Conditional Remedies

A review of the RCR list, as provided by EDR, and dated 06/12/2023 has revealed that there are 2 RCR sites within approximately 0.5 miles of the requested target property.

<u>Site</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID / Focus Map(s)</u>	<u>Page</u>
<b>KK MART</b>	<b>5236 DINGLE POND RD</b>	<b>ESE 0 - 1/8 (0.110 mi.)</b>	<b>C11 / 5</b>	<b>39</b>
<b>SANTEE NATIONAL WILD</b>	<b>I-95 EXIT 102</b>	<b>WNW 1/8 - 1/4 (0.245 mi.)</b>	<b>17 / 5</b>	<b>52</b>

### **ADDITIONAL ENVIRONMENTAL RECORDS**

#### **Other Ascertainable Records**

GWCI: Groundwater Contamination Inventory

A review of the GWCI list, as provided by EDR, and dated 07/01/2008 has revealed that there are 5 GWCI sites within approximately 0.5 miles of the requested target property.

<u>Site</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID / Focus Map(s)</u>	<u>Page</u>
BIG WATER COUNTRY ST Solid Waste Permit #: 02416	5236 DINGLE POND RD	ESE 0 - 1/8 (0.110 mi.)	C10 / 5	38
<b>ENK 890</b> Solid Waste Permit #: 11756	<b>8933 OLD NUMBER 6 HW</b>	<b>SSW 1/8 - 1/4 (0.181 mi.)</b>	<b>12 / 12</b>	<b>42</b>
<b>FOOD MART 107</b> Solid Waste Permit #: 06949	<b>9044 OLD HWY 6</b>	<b>S 1/8 - 1/4 (0.226 mi.)</b>	<b>D15 / 12</b>	<b>46</b>
<b>SANTEE NATIONAL WILD</b> Solid Waste Permit #: 02324	<b>I-95 EXIT 102</b>	<b>WNW 1/8 - 1/4 (0.245 mi.)</b>	<b>17 / 5</b>	<b>52</b>
<b>QUICK PANTRY 8</b> Solid Waste Permit #: 06946	<b>9052 OLD HWY 6</b>	<b>SSE 1/4 - 1/2 (0.254 mi.)</b>	<b>18 / 12</b>	<b>53</b>

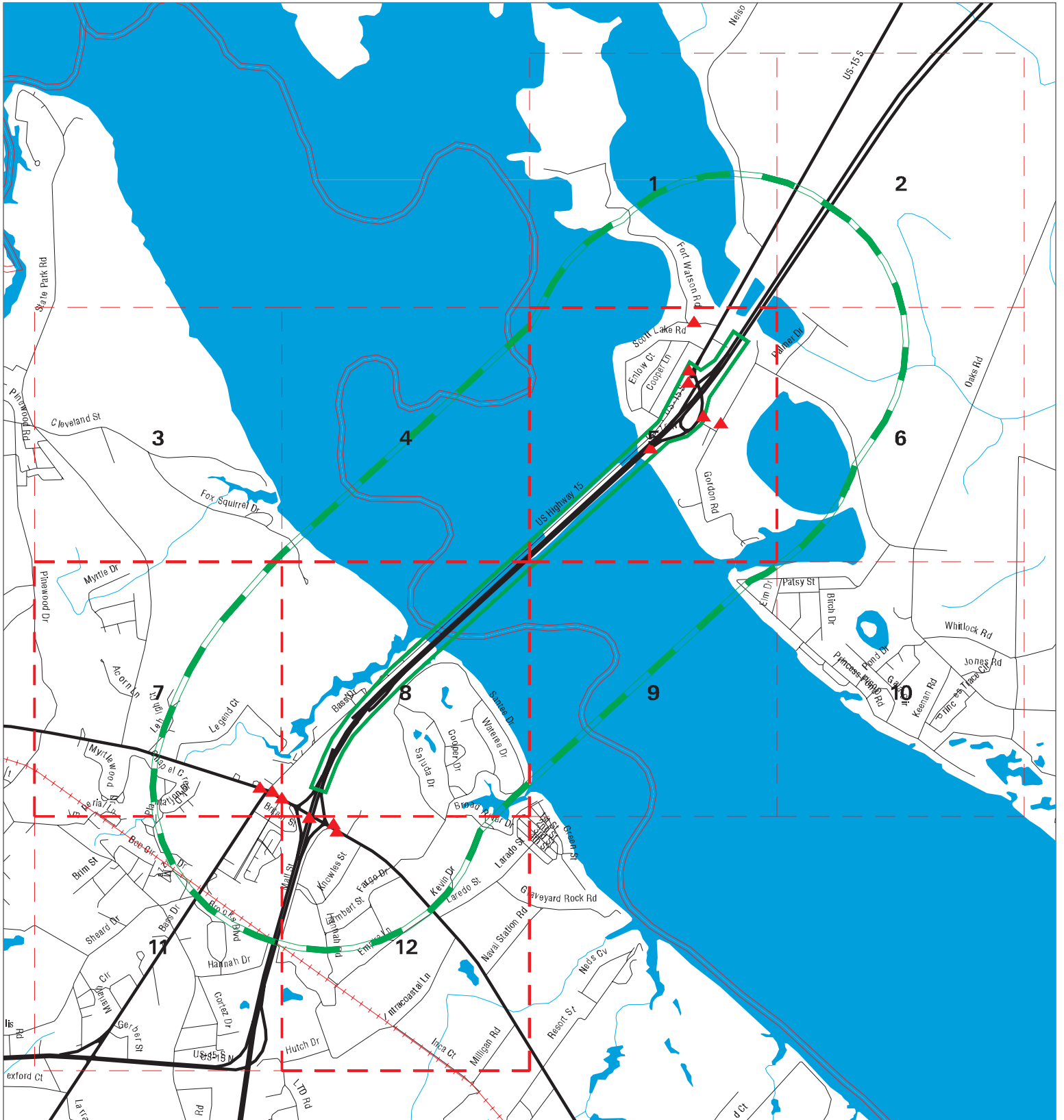
MAPPED SITES SUMMARY

Target Property:  
I-95 OVER LAKE MARION  
SANTEE, SC 29142

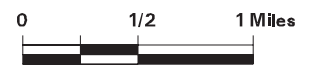
MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION		
A1 / 5	EZ SHOP #24	JIM SNIFFEN	FINDS	TP		
A2 / 5	E Z SHOP 24	8440 ST PAUL RD	RGA LUST	TP		
A3 / 5	ENK 889	8440 ST PAUL RD	LUST, UST, Financial Assurance	TP		
A4 / 5	EASY SHOP 24	8440 ST PAUL RD	RGA LUST	TP		
A5 / 5	EASY SHOP 24	8440 ST PAUL RD	FINDS	TP		
6 / 5	TAW CAW TACKLE	501 BLUFF RD	GWCI	TP		
B7 / 5	LAKE MARION ECONOMAR	I 95 EXIT 102	RCR	TP		
B8 / 5	LAKE MARION ECONOMAR	I 95 EXIT 102	LUST, UST, Financial Assurance, GWCI	TP		
9 / 5	SAVE +3	I 95 AT HWY 102 EXIT	FINDS	TP		
C10 / 5	BIG WATER COUNTRY ST	5236 DINGLE POND RD	GWCI	579	0.110	ESE
C11 / 5	KK MART	5236 DINGLE POND RD	LUST, UST, RCR, Financial Assurance	579	0.110	ESE
12 / 12	ENK 890	8933 OLD NUMBER 6 HW	GWCI, UIC	958	0.181	SSW
13 / 8	ENK 890	8933 OLD NUMBER 6 HW	LUST, UST, Financial Assurance	1020	0.193	WSW
D14 / 12	COAST SANTEE	9039 OLD 6 HWY	UST, Financial Assurance	1068	0.202	SSE
D15 / 12	FOOD MART 107	9044 OLD HWY 6	LUST, UST, Financial Assurance, GWCI	1192	0.226	South
16 / 7	ENK 877	8909 OLD NUMBER SIX	UST, Financial Assurance	1287	0.244	West
17 / 5	SANTEE NATIONAL WILD	I-95 EXIT 102	RCR, GWCI	1295	0.245	WNW
18 / 12	QUICK PANTRY 8	9052 OLD HWY 6	LUST, UST, Financial Assurance, GWCI	1341	0.254	SSE
19 / 7	RIVERS COUNTRY STORE	8851 OLD NUMBER 6 HW	LUST, UST, Financial Assurance	1697	0.321	West



# Key Map - 7499100.7s



- ▲ Sites
- ▬ Target Property
- ▬ Search Buffer
- ▬ Focus Map - No Sites
- ▬ Focus Map - Sites
- National Priority List Sites
- Dept. Defense Sites
- Indian Reservations BIA



SITE NAME: G6744.000 - Limited Phase I ESA ADDRESS: I-95 Over Lake Marion CITY/STATE: Santee SC ZIP: 29142	CLIENT: F&ME Consultants CONTACT: Rodney Wingard INQUIRY #: 7499100.7s DATE: 11/17/23 12:56 PM
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## MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
<b><u>STANDARD ENVIRONMENTAL RECORDS</u></b>								
<b><i>Lists of Federal NPL (Superfund) sites</i></b>								
NPL	1.000		0	0	0	0	NR	0
Proposed NPL	1.000		0	0	0	0	NR	0
NPL LIENS	1.000		0	0	0	0	NR	0
<b><i>Lists of Federal Delisted NPL sites</i></b>								
Delisted NPL	1.000		0	0	0	0	NR	0
<b><i>Lists of Federal sites subject to CERCLA removals and CERCLA orders</i></b>								
FEDERAL FACILITY	0.500		0	0	0	NR	NR	0
SEMS	0.500		0	0	0	NR	NR	0
<b><i>Lists of Federal CERCLA sites with NFRAP</i></b>								
SEMS-ARCHIVE	0.500		0	0	0	NR	NR	0
<b><i>Lists of Federal RCRA facilities undergoing Corrective Action</i></b>								
CORRACTS	1.000		0	0	0	0	NR	0
<b><i>Lists of Federal RCRA TSD facilities</i></b>								
RCRA-TSDF	0.500		0	0	0	NR	NR	0
<b><i>Lists of Federal RCRA generators</i></b>								
RCRA-LQG	0.250		0	0	NR	NR	NR	0
RCRA-SQG	0.250		0	0	NR	NR	NR	0
RCRA-VSQG	0.250		0	0	NR	NR	NR	0
<b><i>Federal institutional controls / engineering controls registries</i></b>								
LUCIS	0.500		0	0	0	NR	NR	0
US ENG CONTROLS	0.500		0	0	0	NR	NR	0
US INST CONTROLS	0.500		0	0	0	NR	NR	0
<b><i>Federal ERNS list</i></b>								
ERNS	TP		NR	NR	NR	NR	NR	0
<b><i>Lists of state- and tribal hazardous waste facilities</i></b>								
SHWS	1.000		0	0	0	0	NR	0
<b><i>Lists of state and tribal landfills and solid waste disposal facilities</i></b>								
SWF/LF	0.500		0	0	0	NR	NR	0
<b><i>Lists of state and tribal leaking storage tanks</i></b>								
LUST	0.500	2	1	2	2	NR	NR	7

## MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
INDIAN LUST	0.500		0	0	0	NR	NR	0
<b><i>Lists of state and tribal registered storage tanks</i></b>								
FEMA UST	0.250		0	0	NR	NR	NR	0
UST	0.250	2	1	4	NR	NR	NR	7
AST	0.250		0	0	NR	NR	NR	0
INDIAN UST	0.250		0	0	NR	NR	NR	0
GWT	TP		NR	NR	NR	NR	NR	0
<b><i>State and tribal institutional control / engineering control registries</i></b>								
RCR	0.500	1	1	1	0	NR	NR	3
AUL	0.500		0	0	0	NR	NR	0
<b><i>Lists of state and tribal voluntary cleanup sites</i></b>								
INDIAN VCP	0.500		0	0	0	NR	NR	0
VCP	0.500		0	0	0	NR	NR	0
<b><i>Lists of state and tribal brownfield sites</i></b>								
BROWNFIELDS	0.500		0	0	0	NR	NR	0
<b><u>ADDITIONAL ENVIRONMENTAL RECORDS</u></b>								
<b><i>Local Brownfield lists</i></b>								
US BROWNFIELDS	0.500		0	0	0	NR	NR	0
<b><i>Local Lists of Landfill / Solid Waste Disposal Sites</i></b>								
SWRCY	0.500		0	0	0	NR	NR	0
INDIAN ODI	0.500		0	0	0	NR	NR	0
ODI	0.500		0	0	0	NR	NR	0
DEBRIS REGION 9	0.500		0	0	0	NR	NR	0
IHS OPEN DUMPS	0.500		0	0	0	NR	NR	0
<b><i>Local Lists of Hazardous waste / Contaminated Sites</i></b>								
US HIST CDL	TP		NR	NR	NR	NR	NR	0
ALLSITES	0.500		0	0	0	NR	NR	0
CDL	TP		NR	NR	NR	NR	NR	0
US CDL	TP		NR	NR	NR	NR	NR	0
<b><i>Local Land Records</i></b>								
LIENS 2	TP		NR	NR	NR	NR	NR	0
<b><i>Records of Emergency Release Reports</i></b>								
HMIRS	TP		NR	NR	NR	NR	NR	0
SPILLS	TP		NR	NR	NR	NR	NR	0
SPILLS 90	TP		NR	NR	NR	NR	NR	0
SPILLS 80	TP		NR	NR	NR	NR	NR	0
<b><i>Other Ascertainable Records</i></b>								
RCRA NonGen / NLR	0.250		0	0	NR	NR	NR	0

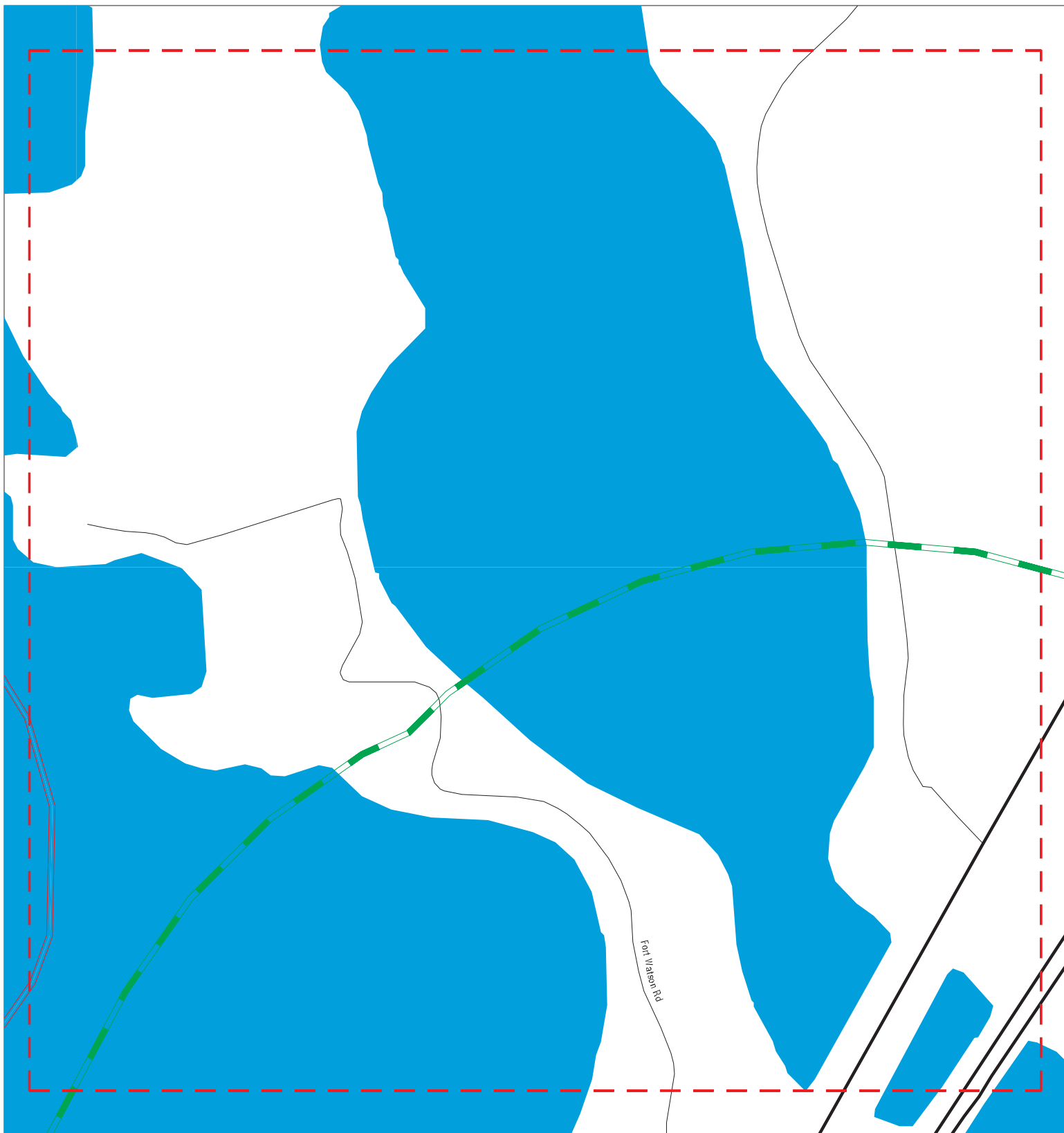
## MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
FUDS	1.000		0	0	0	0	NR	0
DOD	1.000		0	0	0	0	NR	0
SCRD DRYCLEANERS	0.500		0	0	0	NR	NR	0
US FIN ASSUR	TP		NR	NR	NR	NR	NR	0
EPA WATCH LIST	TP		NR	NR	NR	NR	NR	0
2020 COR ACTION	0.250		0	0	NR	NR	NR	0
TSCA	TP		NR	NR	NR	NR	NR	0
TRIS	TP		NR	NR	NR	NR	NR	0
SSTS	TP		NR	NR	NR	NR	NR	0
ROD	1.000		0	0	0	0	NR	0
RMP	TP		NR	NR	NR	NR	NR	0
RAATS	TP		NR	NR	NR	NR	NR	0
PRP	TP		NR	NR	NR	NR	NR	0
PADS	TP		NR	NR	NR	NR	NR	0
ICIS	TP		NR	NR	NR	NR	NR	0
FTTS	TP		NR	NR	NR	NR	NR	0
MLTS	TP		NR	NR	NR	NR	NR	0
COAL ASH DOE	TP		NR	NR	NR	NR	NR	0
COAL ASH EPA	0.500		0	0	0	NR	NR	0
PCB TRANSFORMER	TP		NR	NR	NR	NR	NR	0
RADINFO	TP		NR	NR	NR	NR	NR	0
HIST FTTS	TP		NR	NR	NR	NR	NR	0
DOT OPS	TP		NR	NR	NR	NR	NR	0
CONSENT	1.000		0	0	0	0	NR	0
INDIAN RESERV	1.000		0	0	0	0	NR	0
FUSRAP	1.000		0	0	0	0	NR	0
UMTRA	0.500		0	0	0	NR	NR	0
LEAD SMELTERS	TP		NR	NR	NR	NR	NR	0
US AIRS	TP		NR	NR	NR	NR	NR	0
US MINES	0.250		0	0	NR	NR	NR	0
MINES MRDS	0.250		0	0	NR	NR	NR	0
ABANDONED MINES	0.250		0	0	NR	NR	NR	0
FINDS	TP	3	NR	NR	NR	NR	NR	3
ECHO	TP		NR	NR	NR	NR	NR	0
DOCKET HWC	TP		NR	NR	NR	NR	NR	0
UXO	1.000		0	0	0	0	NR	0
FUELS PROGRAM	0.250		0	0	NR	NR	NR	0
PFAS NPL	0.250		0	0	NR	NR	NR	0
PFAS FEDERAL SITES	0.250		0	0	NR	NR	NR	0
PFAS TSCA	0.250		0	0	NR	NR	NR	0
PFAS TRIS	0.250		0	0	NR	NR	NR	0
PFAS RCRA MANIFEST	0.250		0	0	NR	NR	NR	0
PFAS ATSDR	0.250		0	0	NR	NR	NR	0
PFAS WQP	0.250		0	0	NR	NR	NR	0
PFAS NPDES	0.250		0	0	NR	NR	NR	0
PFAS ECHO	0.250		0	0	NR	NR	NR	0
PFAS ECHO FIRE TRAINING	0.250		0	0	NR	NR	NR	0
PFAS PART 139 AIRPORT	0.250		0	0	NR	NR	NR	0
AQUEOUS FOAM NRC	0.250		0	0	NR	NR	NR	0
BIOSOLIDS	TP		NR	NR	NR	NR	NR	0
AIRS	TP		NR	NR	NR	NR	NR	0





# Focus Map - 1 - 7499100.7s



- ▲ Sites
- ▲ Focus Map - Sites
- ▨ Indian Reservations BIA
- ▬ Target Property
- ▬ Power Line
- ▬ Search Buffer
- ▨ National Priority List Sites
- ▬ Focus Map - No Sites
- ▨ Dept. Defense Sites



SITE NAME: G6744.000 - Limited Phase I ESA  
 ADDRESS: I-95 Over Lake Marion  
 CITY/STATE: Santee SC  
 ZIP: 29142

CLIENT: F&ME Consultants  
 CONTACT: Rodney Wingard  
 INQUIRY #: 7499100.7s  
 DATE: 11/17/23

MAPPED SITES SUMMARY - FOCUS MAP 1

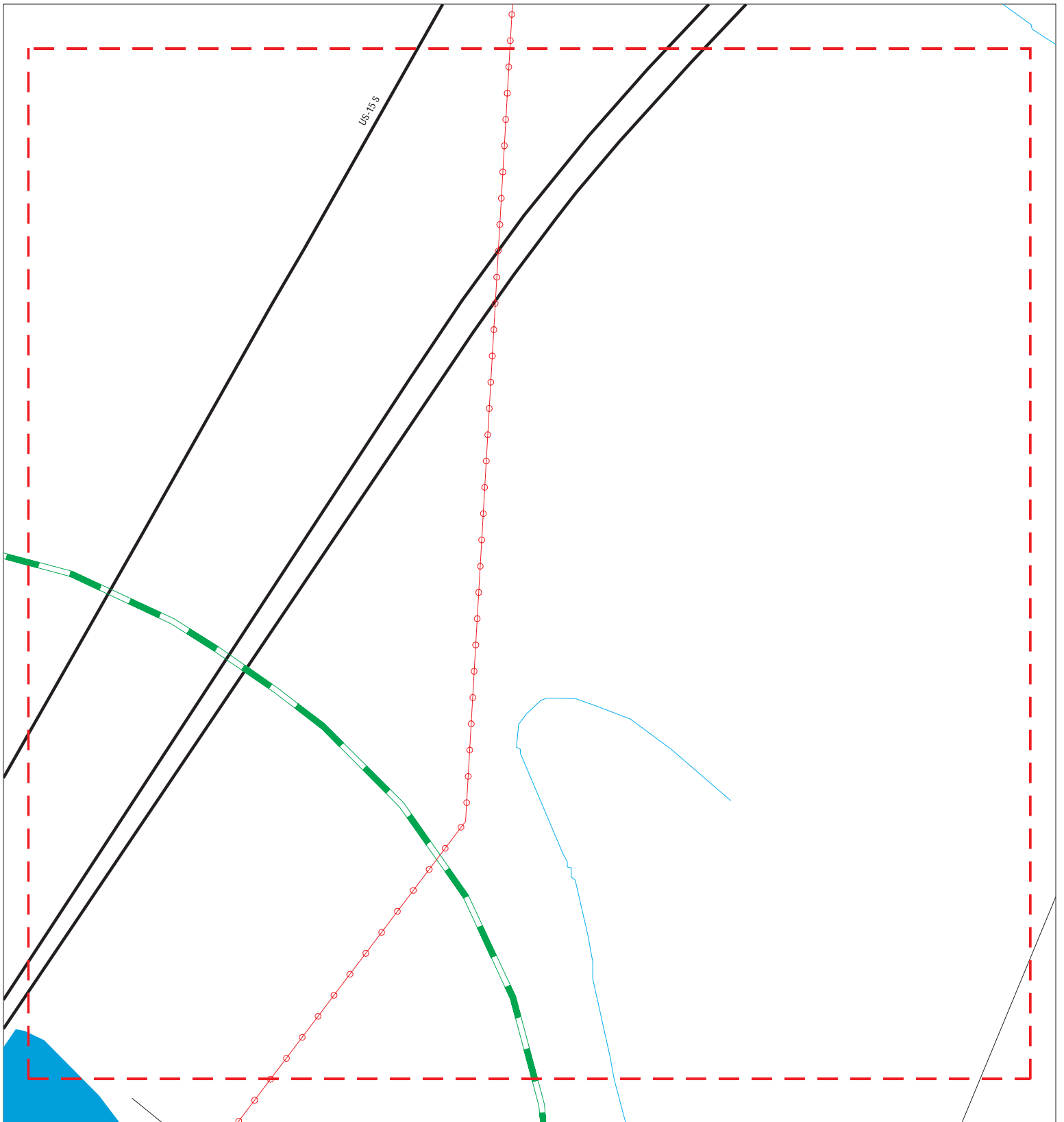
Target Property:  
I-95 OVER LAKE MARION  
SANTEE, SC 29142

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION
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NO MAPPED SITES FOUND

# Focus Map - 2 - 7499100.7s



- |   |  |   |
|---|--|---|
|  Sites                 |  Focus Map - Sites            |  Indian Reservations BIA |
|  Target Property      |  Power Line                   |   |
|  Search Buffer        |  National Priority List Sites |   |
|  Focus Map - No Sites |  Dept. Defense Sites          |   |



**SITE NAME:** G6744.000 - Limited Phase I ESA  
**ADDRESS:** I-95 Over Lake Marion  
**CITY/STATE:** Santee SC  
**ZIP:** 29142

**CLIENT:** F&ME Consultants  
**CONTACT:** Rodney Wingard  
**INQUIRY #:** 7499100.7s  
**DATE:** 11/17/23

MAPPED SITES SUMMARY - FOCUS MAP 2

Target Property:  
I-95 OVER LAKE MARION  
SANTEE, SC 29142

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION
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NO MAPPED SITES FOUND

# Focus Map - 3 - 7499100.7s



- |  |   |  |   |
|--|---|--|---|
|  Sites                |  Focus Map - Sites   |  Indian Reservations BIA      |  |
|  Target Property      |  Power Line          |  National Priority List Sites |   |
|  Search Buffer        |  Dept. Defense Sites |  |   |
|  Focus Map - No Sites |   |  |   |

**SITE NAME:** G6744.000 - Limited Phase I ESA  
**ADDRESS:** I-95 Over Lake Marion  
**CITY/STATE:** Santee SC  
**ZIP:** 29142

**CLIENT:** F&ME Consultants  
**CONTACT:** Rodney Wingard  
**INQUIRY #:** 7499100.7s  
**DATE:** 11/17/23



MAPPED SITES SUMMARY - FOCUS MAP 3

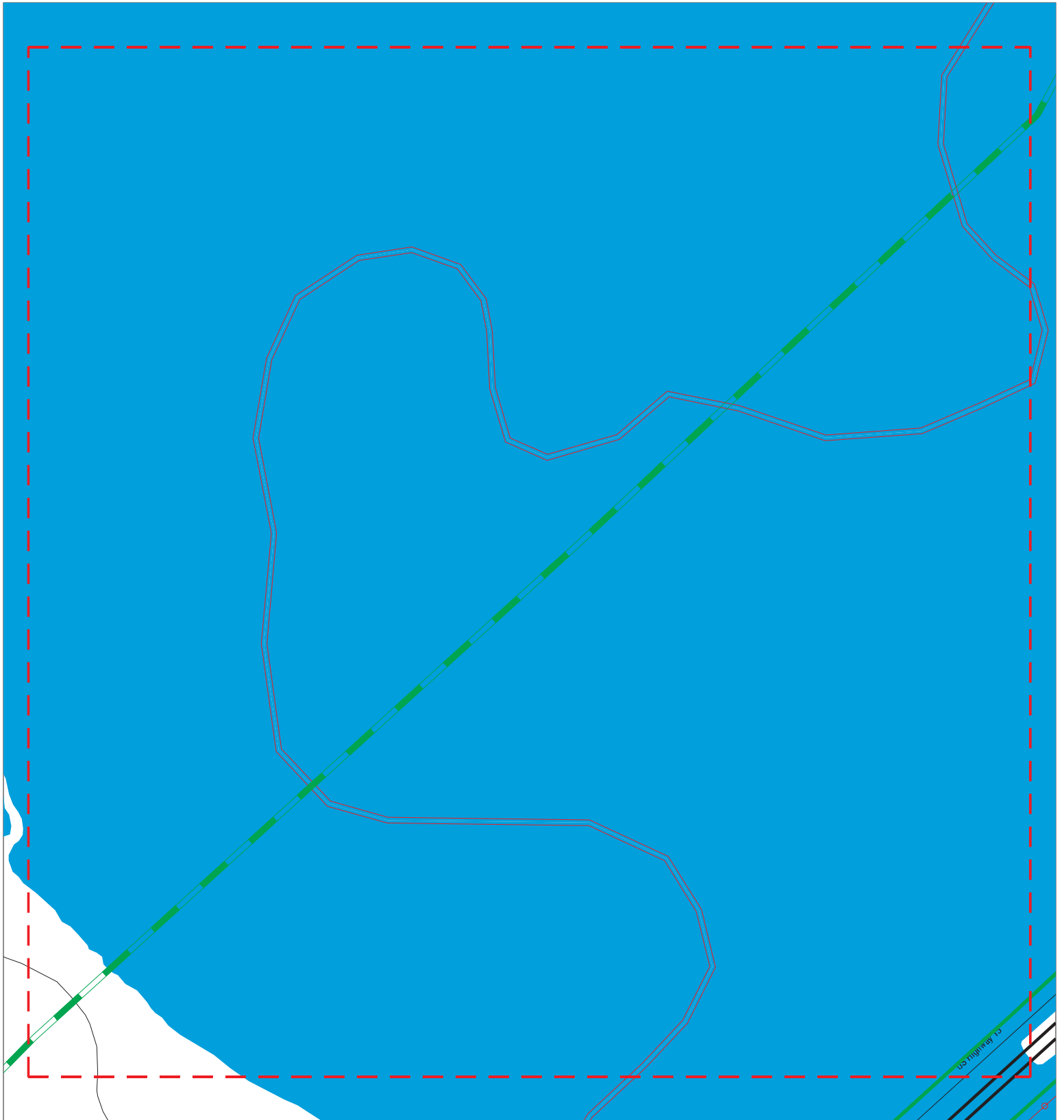
Target Property:  
I-95 OVER LAKE MARION  
SANTEE, SC 29142










MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION
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NO MAPPED SITES FOUND

# Focus Map - 4 - 7499100.7s



- |  |                      |   |                     |   |                              |
|--|----------------------|---|---------------------|---|------------------------------|
|   | Sites                |  | Focus Map - Sites   |  | Indian Reservations BIA      |
|  | Target Property      |  | Power Line          |  | National Priority List Sites |
|  | Search Buffer        |  | Dept. Defense Sites |   |                              |
|  | Focus Map - No Sites |   |                     |   |                              |



SITE NAME: G6744.000 - Limited Phase I ESA  
 ADDRESS: I-95 Over Lake Marion  
 CITY/STATE: Santee SC  
 ZIP: 29142

CLIENT: F&ME Consultants  
 CONTACT: Rodney Wingard  
 INQUIRY #: 7499100.7s  
 DATE: 11/17/23

MAPPED SITES SUMMARY - FOCUS MAP 4

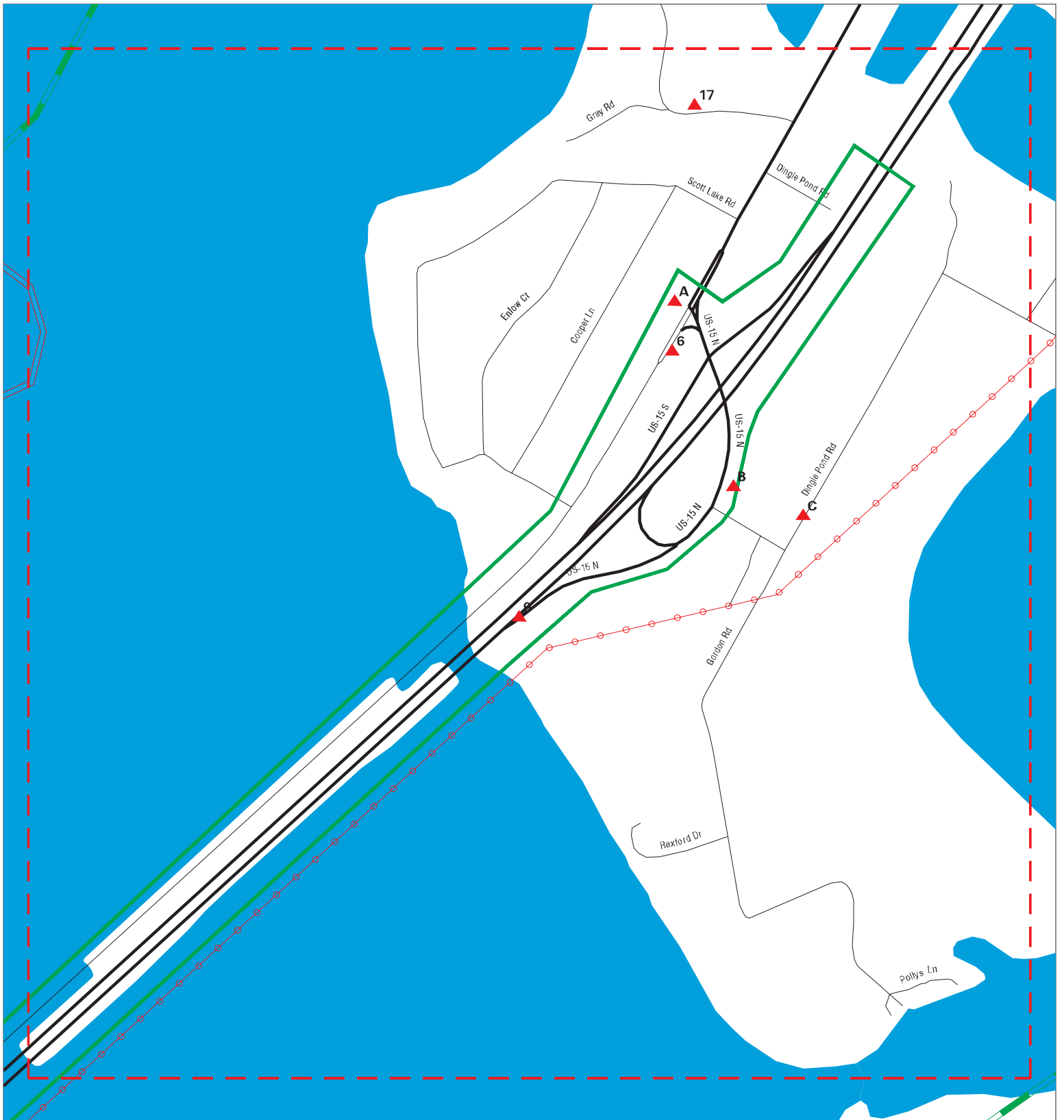
Target Property:  
I-95 OVER LAKE MARION  
SANTEE, SC 29142

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION
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NO MAPPED SITES FOUND

# Focus Map - 5 - 7499100.7s



- |                      |                              |                         |
|----------------------|------------------------------|-------------------------|
| Sites                | Focus Map - Sites            | Indian Reservations BIA |
| Target Property      | Power Line                   |                         |
| Search Buffer        | National Priority List Sites |                         |
| Focus Map - No Sites | Dept. Defense Sites          |                         |

SITE NAME: G6744.000 - Limited Phase I ESA ADDRESS: I-95 Over Lake Marion CITY/STATE: Santee SC ZIP: 29142	CLIENT: F&ME Consultants CONTACT: Rodney Wingard INQUIRY #: 7499100.7s DATE: 11/17/23
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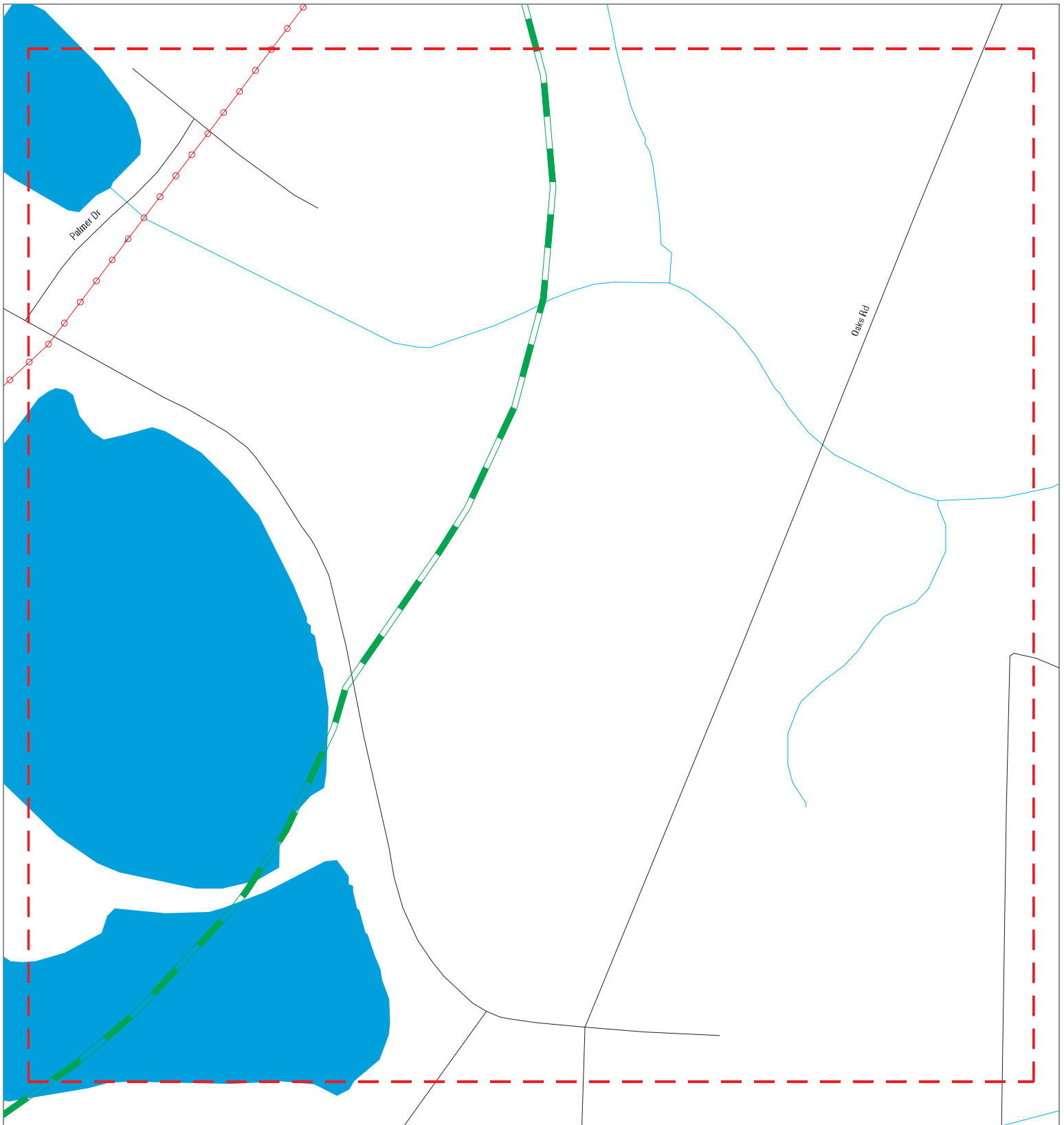
MAPPED SITES SUMMARY - FOCUS MAP 5

Target Property:  
I-95 OVER LAKE MARION  
SANTEE, SC 29142

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION
A1 / 5	EZ SHOP #24	JIM SNIFFEN	FINDS	TP
A2 / 5	E Z SHOP 24	8440 ST PAUL RD	RGA LUST	TP
A3 / 5	ENK 889	8440 ST PAUL RD	LUST, UST, Financial Assurance	TP
A4 / 5	EASY SHOP 24	8440 ST PAUL RD	RGA LUST	TP
A5 / 5	EASY SHOP 24	8440 ST PAUL RD	FINDS	TP
6 / 5	TAW CAW TACKLE	501 BLUFF RD	GWCI	TP
B7 / 5	LAKE MARION ECONOMAR	I 95 EXIT 102	RCR	TP
B8 / 5	LAKE MARION ECONOMAR	I 95 EXIT 102	LUST, UST, Financial Assurance, GWCI	TP
9 / 5	SAVE +3	I 95 AT HWY 102 EXIT	FINDS	TP
C10 / 5	BIG WATER COUNTRY ST	5236 DINGLE POND RD	GWCI	579 0.110 ESE
C11 / 5	KK MART	5236 DINGLE POND RD	LUST, UST, RCR, Financial Assurance	579 0.110 ESE
17 / 5	SANTEE NATIONAL WILD	I-95 EXIT 102	RCR, GWCI	1295 0.245 WNW



# Focus Map - 6 - 7499100.7s



- |   |  |   |
|---|--|---|
|  Sites                 |  Focus Map - Sites            |  Indian Reservations BIA |
|  Target Property      |  Power Line                   |   |
|  Search Buffer        |  National Priority List Sites |   |
|  Focus Map - No Sites |  Dept. Defense Sites          |   |



SITE NAME: G6744.000 - Limited Phase I ESA ADDRESS: I-95 Over Lake Marion CITY/STATE: Santee SC ZIP: 29142	CLIENT: F&ME Consultants CONTACT: Rodney Wingard INQUIRY #: 7499100.7s DATE: 11/17/23
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MAPPED SITES SUMMARY - FOCUS MAP 6

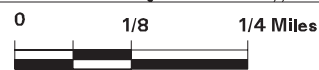
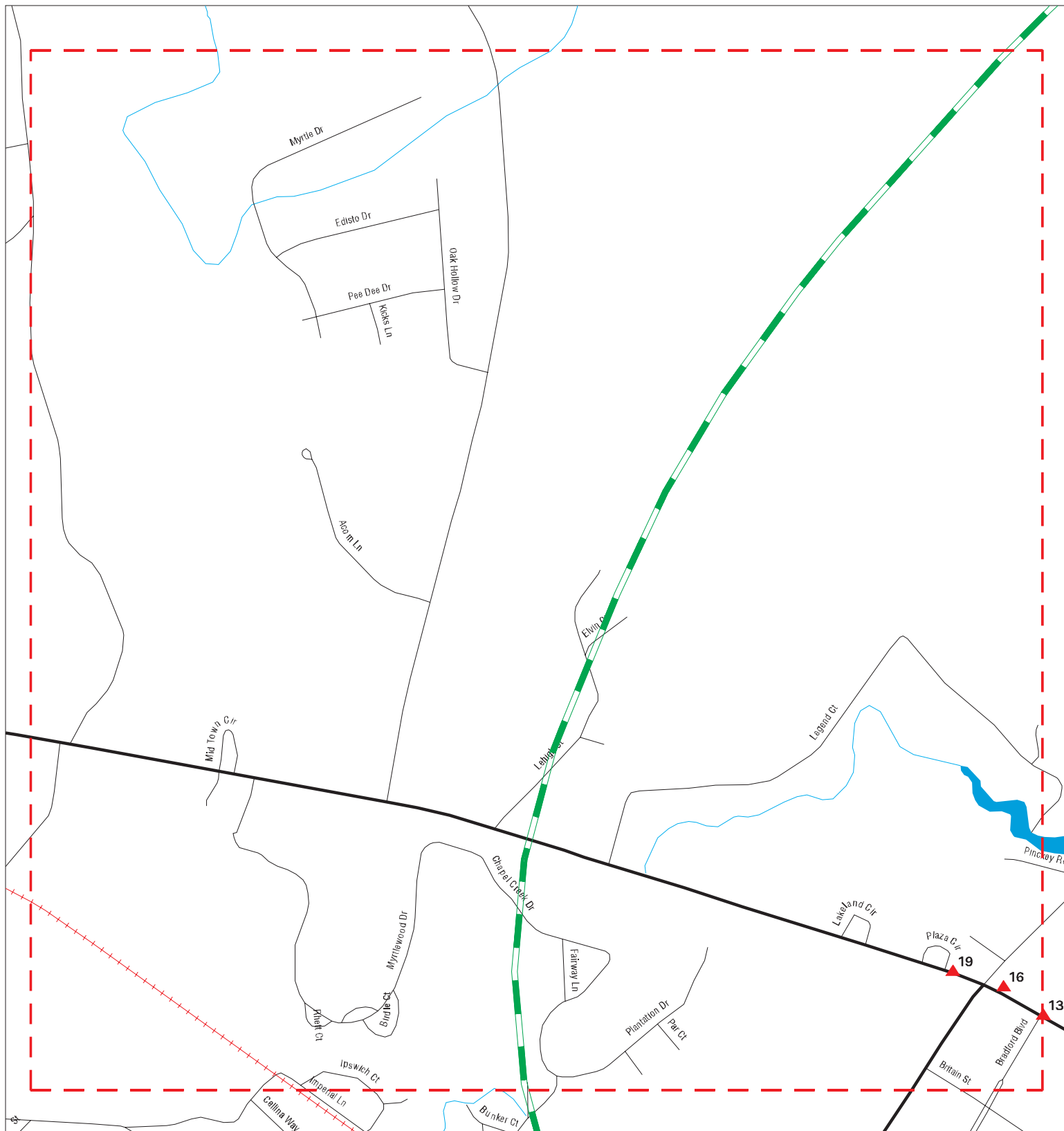
Target Property:  
I-95 OVER LAKE MARION  
SANTEE, SC 29142

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION
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NO MAPPED SITES FOUND

# Focus Map - 7 - 7499100.7s



- ▲ Sites
- - - Target Property
- - - Search Buffer
- - - Focus Map - No Sites
- - - Focus Map - Sites
- - - Power Line
- National Priority List Sites
- Dept. Defense Sites
- Indian Reservations BIA

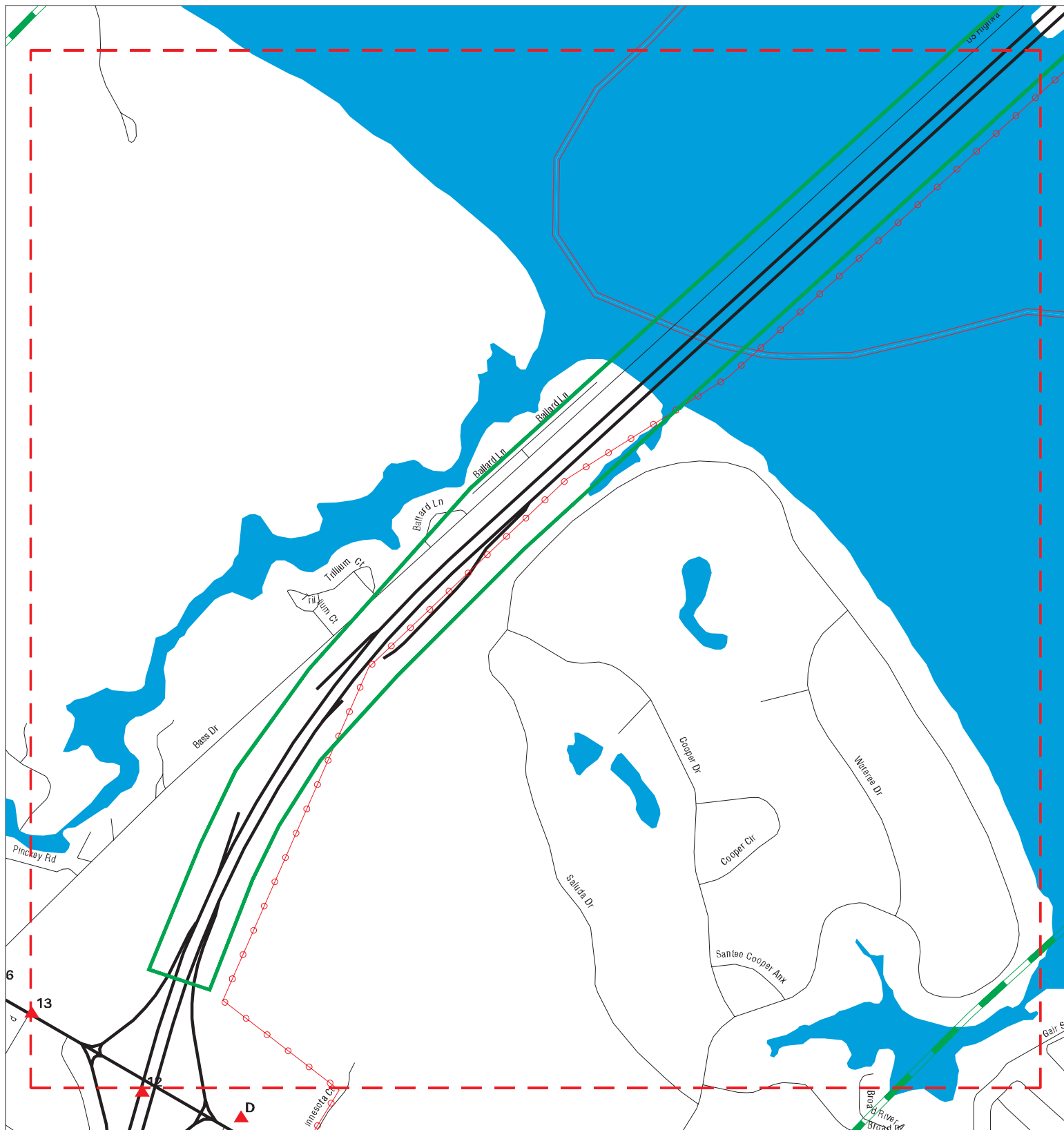
<p>SITE NAME: G6744.000 - Limited Phase I ESA          ADDRESS: I-95 Over Lake Marion          CITY/STATE: Santee SC          ZIP: 29142</p>	<p>CLIENT: F&amp;ME Consultants          CONTACT: Rodney Wingard          INQUIRY #: 7499100.7s          DATE: 11/17/23</p>
--	---

MAPPED SITES SUMMARY - FOCUS MAP 7

Target Property:  
I-95 OVER LAKE MARION  
SANTEE, SC 29142

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION
16 / 7	ENK 877	8909 OLD NUMBER SIX	UST, Financial Assurance	1287 0.244 West
19 / 7	RIVERS COUNTRY STORE	8851 OLD NUMBER 6 HW	LUST, UST, Financial Assurance	1697 0.321 West

# Focus Map - 8 - 7499100.7s



	Sites		Focus Map - Sites		Indian Reservations BIA
	Target Property		Power Line		National Priority List Sites
	Search Buffer		Dept. Defense Sites		
	Focus Map - No Sites				

SITE NAME: G6744.000 - Limited Phase I ESA ADDRESS: I-95 Over Lake Marion CITY/STATE: Santee SC ZIP: 29142	CLIENT: F&ME Consultants CONTACT: Rodney Wingard INQUIRY #: 7499100.7s DATE: 11/17/23
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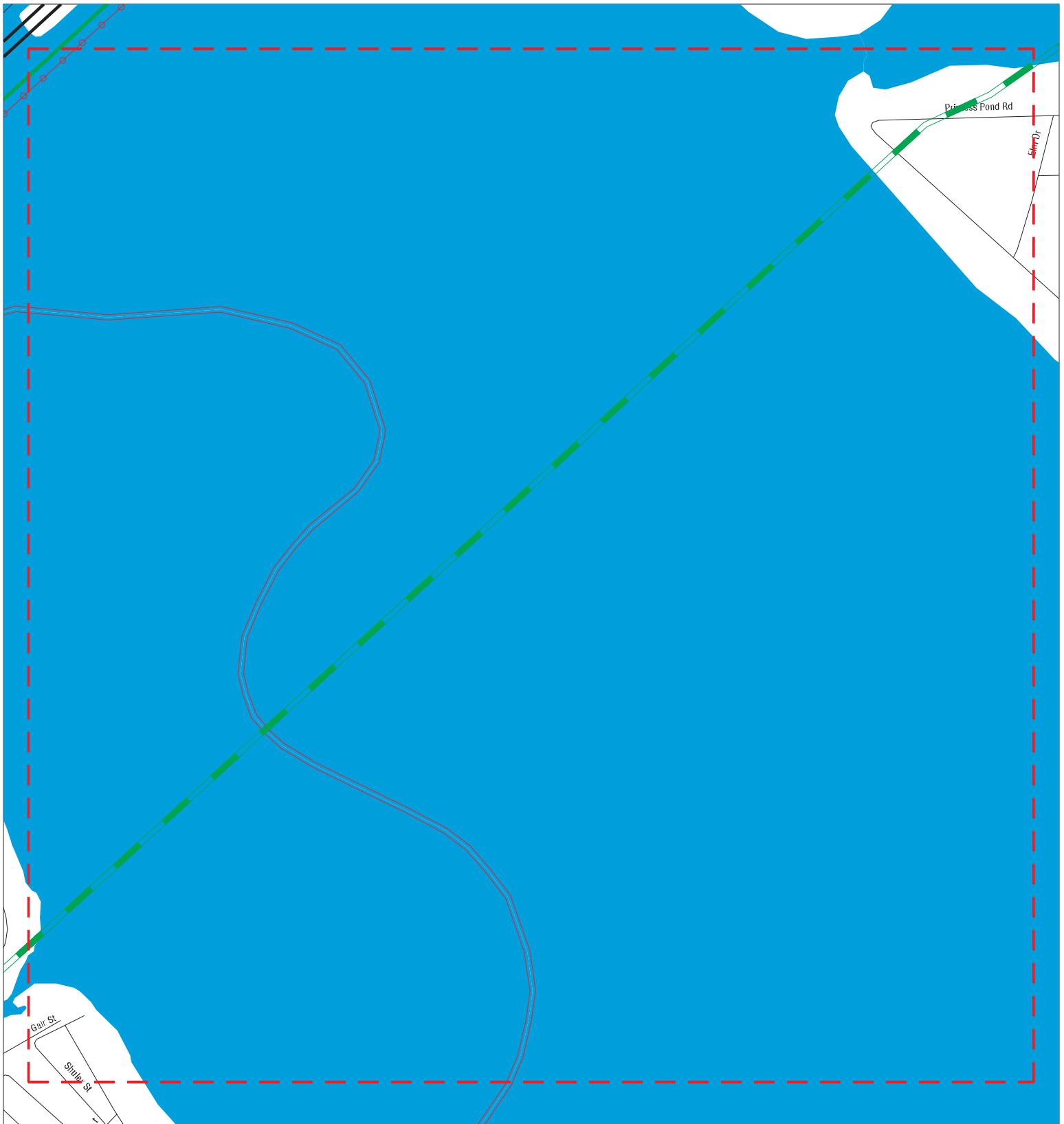


MAPPED SITES SUMMARY - FOCUS MAP 8

Target Property:  
I-95 OVER LAKE MARION  
SANTEE, SC 29142

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION
13 / 8	ENK 890	8933 OLD NUMBER 6 HW	LUST, UST, Financial Assurance	1020 0.193 WSW

# Focus Map - 9 - 7499100.7s



- ▲ Sites
- ↗ Focus Map - Sites
- ▨ Indian Reservations BIA
- ↗ Target Property
- ⚡ Power Line
- ↗ Search Buffer
- ▨ National Priority List Sites
- ↗ Focus Map - No Sites
- ▨ Dept. Defense Sites



<p>SITE NAME: G6744.000 - Limited Phase I ESA          ADDRESS: I-95 Over Lake Marion          CITY/STATE: Santee SC          ZIP: 29142</p>	<p>CLIENT: F&amp;ME Consultants          CONTACT: Rodney Wingard          INQUIRY #: 7499100.7s          DATE: 11/17/23</p>
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MAPPED SITES SUMMARY - FOCUS MAP 9

Target Property:  
I-95 OVER LAKE MARION  
SANTEE, SC 29142

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION
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NO MAPPED SITES FOUND

# Focus Map - 10 - 7499100.7s



- |  |   |  |   |
|--|---|--|---|
|  Sites                |  Focus Map - Sites   |  Indian Reservations BIA      |  |
|  Target Property      |  Power Line          |  National Priority List Sites |   |
|  Search Buffer        |  Dept. Defense Sites |  |   |
|  Focus Map - No Sites |   |  |   |

**SITE NAME:** G6744.000 - Limited Phase I ESA  
**ADDRESS:** I-95 Over Lake Marion  
**CITY/STATE:** Santee SC  
**ZIP:** 29142

**CLIENT:** F&ME Consultants  
**CONTACT:** Rodney Wingard  
**INQUIRY #:** 7499100.7s  
**DATE:** 11/17/23

MAPPED SITES SUMMARY - FOCUS MAP 10

Target Property:  
I-95 OVER LAKE MARION  
SANTEE, SC 29142

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION
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NO MAPPED SITES FOUND



# Focus Map - 11- 7499100.7s



- ▲ Sites
- Target Property
- Search Buffer
- Focus Map - No Sites
- Focus Map - Sites
- Power Line
- National Priority List Sites
- Dept. Defense Sites
- Indian Reservations BIA



SITE NAME: G6744.000 - Limited Phase I ESA  
 ADDRESS: I-95 Over Lake Marion  
 CITY/STATE: Santee SC  
 ZIP: 29142

CLIENT: F&ME Consultants  
 CONTACT: Rodney Wingard  
 INQUIRY #: 7499100.7s  
 DATE: 11/17/23

MAPPED SITES SUMMARY - FOCUS MAP 11

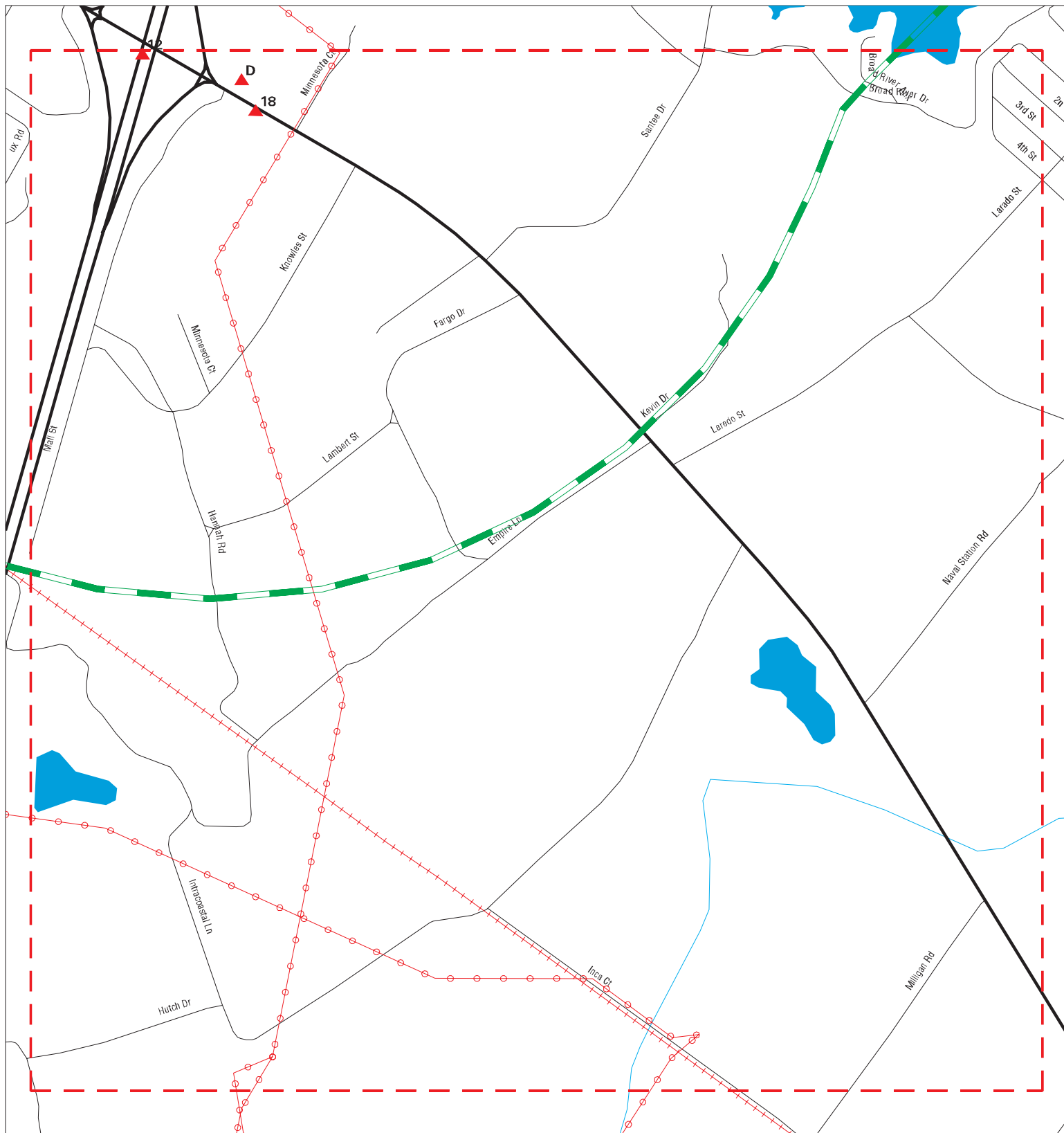
Target Property:  
I-95 OVER LAKE MARION  
SANTEE, SC 29142

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION
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NO MAPPED SITES FOUND

# Focus Map - 12 - 7499100.7s



- ▲ Sites
- ▬ Target Property
- ▬ Search Buffer
- ▬ Focus Map - No Sites
- ▬ Focus Map - Sites
- ▬ Power Line
- ▬ National Priority List Sites
- ▬ Dept. Defense Sites
- ▬ Indian Reservations BIA



SITE NAME: G6744.000 - Limited Phase I ESA  
 ADDRESS: I-95 Over Lake Marion  
 CITY/STATE: Santee SC  
 ZIP: 29142

CLIENT: F&ME Consultants  
 CONTACT: Rodney Wingard  
 INQUIRY #: 7499100.7s  
 DATE: 11/17/23

MAPPED SITES SUMMARY - FOCUS MAP 12

Target Property:  
 I-95 OVER LAKE MARION  
 SANTEE, SC 29142

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION
12 / 12	ENK 890	8933 OLD NUMBER 6 HW	GWCI, UIC	958 0.181 SSW
D14 / 12	COAST SANTEE	9039 OLD 6 HWY	UST, Financial Assurance	1068 0.202 SSE
D15 / 12	FOOD MART 107	9044 OLD HWY 6	LUST, UST, Financial Assurance, GWCI	1192 0.226 South
18 / 12	QUICK PANTRY 8	9052 OLD HWY 6	LUST, UST, Financial Assurance, GWCI	1341 0.254 SSE

MAP FINDINGS

Map ID  
Direction  
Distance  
Elevation

Site

Database(s)

EDR ID Number  
EPA ID Number

**A1**      **EZ SHOP #24**  
**Target**    **JIM SNIFFEN**  
**Property**   **SUMMERTON, SC 29148**

**FINDS**    **1008010488**  
                  **N/A**

**Site 1 of 5 in cluster A**

**Actual:**      **FINDS:**  
**86 ft.**          Registry ID:          110008554340

**Focus Map:**    [Click Here for FRS Facility Detail Report:](#)  
**5**

Environmental Interest/Information System:  
The South Carolina Department of Health and Environmental Control (DHEC) Environmental Facility Information System (SC-EFIS) integrates information on environmental facilities, permits, violations, enforcement actions, and compliance activities needed to support regulatory requirements and target environmental quality improvements for the water, air, solid waste, and hazardous waste program areas.

[Click this hyperlink](#) while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

**A2**      **E Z SHOP 24**  
**Target**    **8440 ST PAUL RD**  
**Property**   **SUMMERTON, SC**

**RGA LUST**    **S114808849**  
                  **N/A**

**Site 2 of 5 in cluster A**

<b>Actual:</b> <b>87 ft.</b>	<b>RGA LUST:</b>	2012	E Z SHOP 24	8440 ST PAUL RD
<b>Focus Map:</b> <b>5</b>		2011	E Z SHOP 24	8440 ST PAUL RD
		2010	E Z SHOP 24	8440 ST PAUL RD
		2009	E Z SHOP 24	8440 ST PAUL RD
		2008	E Z SHOP 24	8440 ST PAUL RD
		2007	E Z SHOP 24	8440 ST PAUL RD
		2006	E Z SHOP 24	8440 ST PAUL RD
		2005	E Z SHOP 24	8440 ST PAUL RD

**A3**      **ENK 889**  
**Target**    **8440 ST PAUL RD**  
**Property**   **SUMMERTON, SC 29148**

**LUST**      **U003714980**  
**UST**        **N/A**  
**Financial Assurance**

**Site 3 of 5 in cluster A**

**Actual:**      **LUST:**  
**87 ft.**          Name:                    ENK 889  
**Focus Map:**    Address:                8440 ST PAUL RD  
**5**                City,State,Zip:        SUMMERTON, SC 29148  
                  Release Number:        2  
                  Facility ID:            02397  
                  Release Status Number: Not reported  
                  Substance:            PETRO  
                  Tank Owner Company Name: ENMARK STATIONS INC



Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**ENK 889 (Continued)**

**U003714980**

Tank Owner Last Name: Not reported  
Tank Owner First name: Not reported  
NFA Date: 01/25/1995  
Tank Owner City: Not reported  
Confirmed Date: Not reported  
Release Date: 01/23/1995  
EID: Not reported  
Local Facility District: Not reported  
SCRBCA Class Number: Not reported  
Release Fin Type Code: Not reported  
Qualified: Not reported  
Release Source: Not reported  
Local Fac Last Name: Not reported  
Local Fac First Name: Not reported  
User Name: WRIGHTJW  
Cleanup Initiated Date: 01/23/1995  
Prefix: Not reported  
Total Score: Not reported

Name: ENK 889  
Address: 8440 ST PAUL RD  
City,State,Zip: SUMMERTON, SC 29148  
Release Number: 1  
Facility ID: 02397  
Release Status Number: Not reported  
Substance: PETRO  
Tank Owner Company Name: ENMARK STATIONS INC  
Tank Owner Last Name: Not reported  
Tank Owner First name: Not reported  
NFA Date: 08/08/1994  
Tank Owner City: Not reported  
Confirmed Date: Not reported  
Release Date: 06/30/1993  
EID: Not reported  
Local Facility District: Not reported  
SCRBCA Class Number: Not reported  
Release Fin Type Code: Not reported  
Qualified: Not reported  
Release Source: Not reported  
Local Fac Last Name: Not reported  
Local Fac First Name: Not reported  
User Name: WRIGHTJW  
Cleanup Initiated Date: 06/30/1993  
Prefix: Not reported  
Total Score: Not reported

**UST:**

Name: ENK 889  
Address: 8440 ST PAUL RD  
City: SUMMERTON  
Facility ID: 02397  
Permit: R 02397  
Owner: ENMARK STATIONS INC  
Owner Address: PO BOX 728  
Owner City, st, zip: SAVANNAH GA 31402-0728  
Owner Phone: 912-236-1331

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

ENK 889 (Continued)

U003714980

Tank ID: 1  
**Status:** **Currently in Use**  
Capacity: 8000  
Product: Gasoline RUL  
Calcage: 15

Name: ENK 889  
Address: 8440 ST PAUL RD  
City: SUMMERTON

Tank ID: 2  
**Status:** **Currently in Use**  
Capacity: 8000  
Product: Gasoline Super/Prem  
Calcage: 15

Name: ENK 889  
Address: 8440 ST PAUL RD  
City: SUMMERTON

Tank ID: 3  
**Status:** **Currently in Use**  
Capacity: 5000  
Product: Gasoline E85  
Calcage: 15

Name: ENK 889  
Address: 8440 ST PAUL RD  
City: SUMMERTON

Tank ID: 4  
**Status:** **Currently in Use**  
Capacity: 5000  
Product: Diesel fuel  
Calcage: 15

Name: ENK 889  
Address: 8440 ST PAUL RD  
City: SUMMERTON

Tank ID: 5  
**Status:** **Abandoned**  
Capacity: 550  
Product: Waste oil, burnt oil, used oil  
Calcage: 20

SC Financial Assurance 3:

Name: ENK 889  
Address: 8440 ST PAUL RD  
City,State,Zip: SUMMERTON, SC 29148  
Owner Name: ENMARK STATIONS INC  
Owner Address: PO BOX 728  
Owner City St Zip: SAVANNAH GA 31402-0728  
Mechanism: Guarantee  
Date Expired: 1/30/2024  
Bill: 4



Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**TAW CAW TACKLE (Continued)**

**U003627371**

Underground Storage Tanks:	True
Pits, Ponds, & Lagoons:	False
Spills & Leaks:	False
Landfills:	False
Aboveground Storage Tank:	False
Spray Irrigation:	False
Single-Event Spill:	False
Unpermitted Disposal:	False
Septic Tank/Tile Field:	False
Substances Not In Other Categories:	False
Sources of Contamination Undetermined:	False
Assessment:	No
Monitoring:	Yes
Remediation:	No
Surface Impact:	No
Drinking Water Well Impact:	No
Remarks:	Site ID # 12789. RBCA Classification 2BB6. Contacted.

**B7**      **LAKE MARION ECONOMART**  
**Target**    **I 95 EXIT 102**  
**Property**   **N SANTEE, SC 29102**

**RCR**    **S119014949**  
**N/A**

**Site 1 of 2 in cluster B**

**Actual:**      **RCR:**  
**91 ft.**      Name:              LAKE MARION ECONOMART  
**Focus Map:**    Address:            I 95 EXIT 102  
**5**              City,State,Zip:    N SANTEE, SC 29102  
Entity Responsibility:    Not reported  
Region:              Not reported  
Tax Id:                035-06-02-003-0  
Latitude:             33.5222  
Longitude:           -80.42831  
Tracking Number:    11027  
Regulatory Program:    Not reported  
Reported:            05/10/2088  
CU-MCL:             07/08/2005  
Unit Type:            Not reported  
Unit Number/Letter:    Not reported  
Area/Acres:           Not reported  
Affected Media:        Not reported  
Site/Unit:            Not reported  
Conditions:           Not reported  
Associated Response/Corrective Action:    Not reported  
Associated Chemicals Requiring:            Not reported

**B8**      **LAKE MARION ECONOMART**  
**Target**    **I 95 EXIT 102**  
**Property**   **N SANTEE, SC 29102**

**LUST**    **U003627228**  
**UST**      **N/A**  
**Financial Assurance**  
**GWCI**

**Site 2 of 2 in cluster B**

**Actual:**      **LUST:**  
**89 ft.**      Name:              LAKE MARION ECONOMART  
**Focus Map:**    Address:            I 95 EXIT 102  
**5**              City,State,Zip:    N SANTEE, SC 29102

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

LAKE MARION ECONOMART (Continued)

U003627228

Release Number: 1  
Facility ID: 11027  
Release Status Number: 7  
Substance: PETRO  
Tank Owner Company Name: FC ENTERPRISES INC  
Tank Owner Last Name: FC ENTERPRISES INC  
Tank Owner First name: Not reported  
NFA Date: 07/12/2005  
Tank Owner City: GREENVILLE  
Confirmed Date: 05/10/1988  
Release Date: 05/10/1988  
EID: 1762673  
Local Facility District: Sumter EQC Office  
SCRBCA Class Number: 2BB  
Release Fin Type Code: WI  
Qualified: Y  
Release Source: UST Non-Superb  
Local Fac Last Name: LAKE MARION ECONOMART  
Local Fac First Name: Not reported  
User Name: CLYMERWR  
Cleanup Initiated Date: 05/10/1988  
Prefix: R  
Total Score: 103

LUST:

Release Date: 05/10/1988  
Cleanup Complete Date: Not reported  
Depth to Ground Water: 12  
Ground Water Flow Direction: E  
Release Number: 1  
Confirmed date: 05/10/1988  
RP Name: ORPHAN MUNN OIL CO INC  
RP Address: 621 COVINGTON ST  
RP City: SUMTER  
RP State: SC  
RP Zip: 29150  
SCRBCA Class Code: CLASS2BB  
Project Manager: CLYMER, WESLEY  
Release Fin Type Code: WI

UST:

Name: LAKE MARION ECONOMART  
Address: I 95 EXIT 102  
City: N SANTEE  
Facility ID: 11027  
Permit: R 11027  
Owner: FC ENTERPRISES INC  
Owner Address: 1341 RUTHERFORD RD  
Owner City, st, zip: GREENVILLE SC 29609  
Owner Phone: 864-268-1111

Tank ID: 1  
**Status:** Abandoned  
Capacity: 10000  
Product: Gasoline  
Calcage: 15



Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

LAKE MARION ECONOMART (Continued)

U003627228

Name: LAKE MARION ECONOMART  
Address: I 95 EXIT 102  
City: N SANTEE

Tank ID: 2  
**Status:** Abandoned  
Capacity: 10000  
Product: Gasoline  
Calcage: 15

Name: LAKE MARION ECONOMART  
Address: I 95 EXIT 102  
City: N SANTEE

Tank ID: 3  
**Status:** Abandoned  
Capacity: 10000  
Product: Gasoline  
Calcage: 15

Name: LAKE MARION ECONOMART  
Address: I 95 EXIT 102  
City: N SANTEE

Tank ID: 4  
**Status:** Abandoned  
Capacity: 12000  
Product: Gasoline  
Calcage: 5

Name: LAKE MARION ECONOMART  
Address: I 95 EXIT 102  
City: N SANTEE

Tank ID: 5  
**Status:** Abandoned  
Capacity: 8000  
Product: Gasoline  
Calcage: 0

Name: LAKE MARION ECONOMART  
Address: I 95 EXIT 102  
City: N SANTEE

Tank ID: 6  
**Status:** Abandoned  
Capacity: 6000  
Product: Diesel fuel  
Calcage: 0

Name: LAKE MARION ECONOMART  
Address: I 95 EXIT 102  
City: N SANTEE

Tank ID: 7  
**Status:** Abandoned  
Capacity: 4000

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**LAKE MARION ECONOMART (Continued)**

**U003627228**

Product: Gasoline  
Calcage: 0

SC Financial Assurance 3:

Name: LAKE MARION ECONOMART  
Address: I 95 EXIT 102  
City,State,Zip: N SANTEE, SC 29102  
Owner Name: FC ENTERPRISES INC  
Owner Address: 1341 RUTHERFORD RD  
Owner City St Zip: GREENVILLE SC 29609  
Mechanism: Letter of Credit  
Date Expired: 12/3/2222  
Bill: 0

SC GWIC:

Bureau: BLWM  
EAP ID: Not reported  
Solid Waste Permit #: Not reported  
Bureau of Land & Waste Management File #: Not reported  
Permit Number: 11027  
WPC Permit: Not reported  
Program: DUST  
Contamination: PETRO  
Petroleum Products: True  
Volatile Organic Compounds: False  
Metals: False  
Nitrates or Potential to Nitrate: False  
Pesticides & Herbicides: False  
Polychlorinated Biphenyls: False  
Base, Neutral, & Acid Extractables: False  
Phenols: False  
Radionuclides Over Max Contaminant Levels: False  
Sources Not In Other Categories: False  
Source: UST  
Underground Storage Tanks: True  
Pits, Ponds, & Lagoons: False  
Spills & Leaks: False  
Landfills: False  
Aboveground Storage Tank: False  
Spray Irrigation: False  
Single-Event Spill: False  
Unpermitted Disposal: False  
Septic Tank/Tile Field: False  
Substances Not In Other Categories: False  
Sources of Contamination Undetermined: False  
Assessment: No  
Monitoring: No  
Remediation: Yes  
Surface Impact: No  
Drinking Water Well Impact: No  
Remarks: Site ID # 11027. RBCA Classification 2BB7. Approved Monitored Natural Attenuation (MNA Awaiti.



Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**BIG WATER COUNTRY STORE (Continued)**

**U003930680**

Drinking Water Well Impact: No  
Remarks: Site ID # 02416. RBCA Classification 2BB8. Awaiting Funding.

**C11**  
**ESE**  
**< 1/8**  
**0.110 mi.**  
**579 ft.**

**KK MART**  
**5236 DINGLE POND RD**  
**SUMMERTON, SC 29148**  
**Site 2 of 2 in cluster C**

**LUST** **U004253384**  
**UST** **N/A**  
**RCR**

**Financial Assurance**

**Actual:**  
**86 ft.**

**LUST:**

Name: KK MART  
Address: 5236 DINGLE POND RD  
City,State,Zip: SUMMERTON, SC 29148  
Release Number: 1  
Facility ID: 02416  
Release Status Number: Not reported  
Substance: PETRO  
Tank Owner Company Name: HARE PRITAM LLC DBA KK MA  
Tank Owner Last Name: Not reported  
Tank Owner First name: Not reported  
NFA Date: 01/06/2010  
Tank Owner City: Not reported  
Confirmed Date: Not reported  
Release Date: 06/30/1993  
EID: Not reported  
Local Facility District: Not reported  
SCRBCA Class Number: Not reported  
Release Fin Type Code: Not reported  
Qualified: Not reported  
Release Source: Not reported  
Local Fac Last Name: Not reported  
Local Fac First Name: Not reported  
User Name: PADGETJJP  
Cleanup Initiated Date: 04/20/1994  
Prefix: Not reported  
Total Score: 2

**LUST:**

Release Date: 06/30/1993  
Cleanup Complete Date: Not reported  
Depth to Ground Water: 10  
Ground Water Flow Direction: SE  
Release Number: 1  
Confirmed date: 04/20/1994  
RP Name: SANTEE INTERSTATE SYSTEMS  
RP Address: PO BOX 647  
RP City: SANTEE  
RP State: SC  
RP Zip: 29142-0647  
SCRBCA Class Code: CLASS2BB  
Project Manager: PADGETT, JOEL P  
Release Fin Type Code: WS

**UST:**

Name: KK MART  
Address: 5236 DINGLE POND RD  
City: SUMMERTON

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**KK MART (Continued)**

**U004253384**

Facility ID: 02416  
Permit: P 02416  
Owner: HARE PRITAM LLC DBA KK MART  
Owner Address: 5236 DINGLE POND RD  
Owner City, st, zip: SUMMERTON SC 29148  
Owner Phone: 803-478-3800

Tank ID: 1  
**Status: Abandoned**  
Capacity: 6000  
Product: Gasoline  
Calcage: 25

Name: KK MART  
Address: 5236 DINGLE POND RD  
City: SUMMERTON

Tank ID: 2  
**Status: Abandoned**  
Capacity: 6000  
Product: Gasoline  
Calcage: 25

Name: KK MART  
Address: 5236 DINGLE POND RD  
City: SUMMERTON

Tank ID: 3  
**Status: Abandoned**  
Capacity: 6000  
Product: Gasoline  
Calcage: 25

Name: KK MART  
Address: 5236 DINGLE POND RD  
City: SUMMERTON

Tank ID: 4  
**Status: Abandoned**  
Capacity: 20000  
Product: Diesel fuel  
Calcage: 25

Name: KK MART  
Address: 5236 DINGLE POND RD  
City: SUMMERTON

Tank ID: 5  
**Status: Abandoned**  
Capacity: 20000  
Product: Diesel fuel  
Calcage: 25

Name: KK MART  
Address: 5236 DINGLE POND RD  
City: SUMMERTON



Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**KK MART (Continued)**

**U004253384**

Tank ID: 6  
**Status:** **Currently in Use**  
Capacity: 6000  
Product: Gasoline RUL  
Calcage: 0

Name: KK MART  
Address: 5236 DINGLE POND RD  
City: SUMMERTON

Tank ID: 7  
**Status:** **Currently in Use**  
Capacity: 6000  
Product: Gasoline RUL  
Calcage: 0

Name: KK MART  
Address: 5236 DINGLE POND RD  
City: SUMMERTON

Tank ID: 8  
**Status:** **Currently in Use**  
Capacity: 6000  
Product: Gasoline Super/Prem  
Calcage: 0

Name: KK MART  
Address: 5236 DINGLE POND RD  
City: SUMMERTON

Tank ID: 9  
**Status:** **Currently in Use**  
Capacity: 12000  
Product: Diesel fuel  
Calcage: 0

Name: KK MART  
Address: 5236 DINGLE POND RD  
City: SUMMERTON

Tank ID: Not reported  
**Status:** **Not reported**  
Capacity: Not reported  
Product: Not reported  
Calcage: Not reported

**RCR:**

Name: KK MART  
Address: 5236 DINGLE POND RD  
City,State,Zip: SUMMERTON, SC 29148  
Entity Responsibility: Not reported  
Region: Not reported  
Tax Id: 35-06-05  
Latitude: 33.52164  
Longitude: -80.42851  
Tracking Number: 2416  
Regulatory Program: Not reported

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**KK MART (Continued)**

**U004253384**

Reported: 06/30/2093  
CU-MCL: 01/06/2010  
Unit Type: Not reported  
Unit Number/Letter: Not reported  
Area/Acres: Not reported  
Affected Media: Not reported  
Site/Unit: Not reported  
Conditions: Not reported  
Associated Response/Corrective Action: Not reported  
Associated Chemicals Requiring: Not reported

SC Financial Assurance 3:

Name: KK MART  
Address: 5236 DINGLE POND RD  
City,State,Zip: SUMMERTON, SC 29148  
Owner Name: HARE PRITAM LLC DBA KK MART  
Owner Address: 5236 DINGLE POND RD  
Owner City St Zip:SUMMERTON SC 29148  
Mechanism: Letter of Credit  
Date Expired: 6/23/2023  
Bill: 4

12  
SSW  
1/8-1/4  
0.181 mi.  
958 ft.

**ENK 890**  
**8933 OLD NUMBER 6 HWY**  
**SANTEE, SC 29142**

**GWCI U003665757**  
**UIC N/A**

**Actual:**  
**120 ft.**  
**Focus Map:**  
**12**

SC GWIC:  
Bureau: BLWM  
EAP ID: Not reported  
Solid Waste Permit #: Not reported  
Bureau of Land & Waste Management File #: Not reported  
Permit Number: 11756  
WPC Permit: Not reported  
Program: DUST  
Contamination: PETRO  
Petroleum Products: True  
Volatile Organic Compounds: False  
Metals: False  
Nitrates or Potential to Nitrate: False  
Pesticides & Herbicides: False  
Polychlorinated Biphenyls: False  
Base, Neutral, & Acid Extractables: False  
Phenols: False  
Radionuclides Over Max Contaminant Levels: False  
Sources Not In Other Categories: False  
Source: UST  
Underground Storage Tanks: True  
Pits, Ponds, & Lagoons: False  
Spills & Leaks: False  
Landfills: False  
Aboveground Storage Tank: False  
Spray Irrigation: False  
Single-Event Spill: False  
Unpermitted Disposal: False  
Septic Tank/Tile Field: False

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**ENK 890 (Continued)**

**U003665757**

Substances Not In Other Categories: False  
Sources of Contamination Undetermined: False  
Assessment: No  
Monitoring: No  
Remediation: Yes  
Surface Impact: No  
Drinking Water Well Impact: No  
Remarks: Site ID # 11756. RBCA Classification 1D4. Active corrective action.

**UIC:**

Name: ENK 890  
Address: 8933 OLD NUMBER 6 HWY  
City,State,Zip: SANTEE, SC 29142  
Permit Number: SCHE03020382  
Permit Holder: BRABHAM OIL COMPANY INC  
Former Permit Number: Not reported  
Activity: Active/Operating  
Disposition: Approved  
District: Orangeburg EQC Office  
Sub Type: Area Permit

13  
WSW  
1/8-1/4  
0.193 mi.  
1020 ft.

**ENK 890**  
**8933 OLD NUMBER 6 HWY**  
**SANTEE, SC 29142**

**LUST** **U004291785**  
**UST** **N/A**  
**Financial Assurance**

**Actual:**  
**124 ft.**  
**Focus Map:**  
**8**

**LUST:**  
Name: ENK 890  
Address: 8933 OLD NUMBER 6 HWY  
City,State,Zip: SANTEE, SC 29142  
Release Number: 1  
Facility ID: 11756  
Release Status Number: 4  
Substance: PETRO  
Tank Owner Company Name: ENMARK STATIONS INC  
Tank Owner Last Name: BRABHAM OIL COMPANY INC  
Tank Owner First name: Not reported  
NFA Date: Not reported  
Tank Owner City: BAMBERG  
Confirmed Date: 11/14/1995  
Release Date: 11/22/1993  
EID: 1766861  
Local Facility District: Aiken EQC Office  
SCRBCA Class Number: 1D  
Release Fin Type Code: DS  
Qualified: Y  
Release Source: UST  
Local Fac Last Name: E Z SHOP 25  
Local Fac First Name: Not reported  
User Name: MINERRS  
Cleanup Initiated Date: 11/14/1995  
Prefix: R  
Total Score: 300300

**LUST:**  
Release Date: 11/22/1993  
Cleanup Complete Date: Not reported

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

ENK 890 (Continued)

U004291785

Depth to Ground Water: 41  
Ground Water Flow Direction: SW  
Release Number: 1  
Confirmed date: 11/14/1995  
RP Name: SHEIDER  
RP Address: PO BOX 183  
RP City: HARLEYVILLE  
RP State: SC  
RP Zip: 29448  
SCRBCA Class Code: CLASS1D  
Project Manager: MINER, READ S  
Release Fin Type Code: DS

UST:

Name: ENK 890  
Address: 8933 OLD NUMBER 6 HWY  
City: SANTEE  
Facility ID: 11756  
Permit: R 11756  
Owner: ENMARK STATIONS INC  
Owner Address: PO BOX 728  
Owner City, st, zip: SAVANNAH GA 31402-0728  
Owner Phone: 912-236-1331

Tank ID: 1  
**Status:** **Currently in Use**  
Capacity: 10000  
Product: Gasoline RUL  
Calclage: 20

Name: ENK 890  
Address: 8933 OLD NUMBER 6 HWY  
City: SANTEE

Tank ID: 2  
**Status:** **Currently in Use**  
Capacity: 10000  
Product: Gasoline Super/Prem  
Calclage: 20

Name: ENK 890  
Address: 8933 OLD NUMBER 6 HWY  
City: SANTEE

Tank ID: 3  
**Status:** **Currently in Use**  
Capacity: 10000  
Product: Gasoline E85  
Calclage: 20

Name: ENK 890  
Address: 8933 OLD NUMBER 6 HWY  
City: SANTEE

Tank ID: 4  
**Status:** **Currently in Use**

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

ENK 890 (Continued)

U004291785

Capacity: 10000  
Product: Diesel fuel  
Calcage: 15

Name: ENK 890  
Address: 8933 OLD NUMBER 6 HWY  
City: SANTEE

Tank ID: 5  
**Status: Abandoned**  
Capacity: 1000  
Product: Waste oil, burnt oil, used oil  
Calcage: 20

Name: ENK 890  
Address: 8933 OLD NUMBER 6 HWY  
City: SANTEE

Tank ID: 6  
**Status: Abandoned**  
Capacity: 1000  
Product: Waste oil, burnt oil, used oil  
Calcage: 0

SC Financial Assurance 3:

Name: ENK 890  
Address: 8933 OLD NUMBER 6 HWY  
City,State,Zip: SANTEE, SC 29142  
Owner Name: ENMARK STATIONS INC  
Owner Address: PO BOX 728  
Owner City St Zip: SAVANNAH GA 31402-0728  
Mechanism: Guarantee  
Date Expired: 1/30/2024  
Bill: 4

D14 COAST SANTEE  
SSE 9039 OLD 6 HWY  
1/8-1/4 SANTEE, SC 29142  
0.202 mi.  
1068 ft. Site 1 of 2 in cluster D

UST U003627464  
Financial Assurance N/A

Actual: 130 ft. UST:  
Focus Map: 12

Name: COAST SANTEE  
Address: 9039 OLD 6 HWY  
City: SANTEE  
Facility ID: 15118  
Permit: P 15118  
Owner: PGB PETROLEUM LLC  
Owner Address: PO BOX 805  
Owner City, st, zip: ISLE OF PALMS SC 29451  
Owner Phone: 843-812-4646

Tank ID: 1  
**Status: Currently in Use**  
Capacity: 10000  
Product: Gasoline RUL  
Calcage: 0



Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**COAST SANTEE (Continued)**

**U003627464**

Name: COAST SANTEE  
Address: 9039 OLD 6 HWY  
City: SANTEE  
  
Tank ID: 2  
**Status: Currently in Use**  
Capacity: 10000  
Product: Gasoline Super/Prem  
Calcage: 0

SC Financial Assurance 3:

Name: COAST SANTEE  
Address: 9039 OLD 6 HWY  
City,State,Zip: SANTEE, SC 29142  
Owner Name: PGB PETROLEUM LLC  
Owner Address: PO BOX 805  
Owner City St Zip: ISLE OF PALMS SC 29451  
Mechanism: Letter of Credit  
Date Expired: 10/1/2023  
Bill: 2

**D15** **FOOD MART 107**  
**South** **9044 OLD HWY 6**  
**1/8-1/4** **SANTEE, SC 29142**  
**0.226 mi.**  
**1192 ft.** **Site 2 of 2 in cluster D**

**LUST** **U003796659**  
**UST** **N/A**  
**Financial Assurance**  
**GWCI**

**Actual:** **LUST:**  
**128 ft.** Name: FOOD MART 107  
**Focus Map:** Address: 9044 OLD HWY 6  
**12** City,State,Zip: SANTEE, SC 29142  
Release Number: 2  
Facility ID: 06949  
Release Status Number: Not reported  
Substance: PETROL  
Tank Owner Company Name: CALHOUN OIL CO INC  
Tank Owner Last Name: Not reported  
Tank Owner First name: Not reported  
NFA Date: Not reported  
Tank Owner City: Not reported  
Confirmed Date: Not reported  
Release Date: 06/25/2020  
EID: Not reported  
Local Facility District: Not reported  
SCRBCA Class Number: Not reported  
Release Fin Type Code: Not reported  
Qualified: Not reported  
Release Source: Not reported  
Local Fac Last Name: Not reported  
Local Fac First Name: Not reported  
User Name: KNIGHTBT  
Cleanup Initiated Date: 07/14/2020  
Prefix: Not reported  
Total Score: 632

**LUST:**  
Release Date: 07/10/1990  
Cleanup Complete Date: Not reported

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**FOOD MART 107 (Continued)**

**U003796659**

Depth to Ground Water: 33.82  
Ground Water Flow Direction: W  
Release Number: 1  
Confirmed date: 01/26/1991  
RP Name: CALHOUN OIL CO  
RP Address: W BRIDGE ST  
RP City: SAINT MATTHEWS  
RP State: SC  
RP Zip: 29135  
SCRBCA Class Code: CLASS2BB  
Project Manager: MINER, READ S  
Release Fin Type Code: WS

Name: FOOD MART 107  
Address: 9044 OLD HWY 6  
City,State,Zip: SANTEE, SC 29142  
Release Number: 1  
Facility ID: 06949  
Release Status Number: Not reported  
Substance: PETRO  
Tank Owner Company Name: CALHOUN OIL CO INC  
Tank Owner Last Name: Not reported  
Tank Owner First name: Not reported  
NFA Date: Not reported  
Tank Owner City: Not reported  
Confirmed Date: Not reported  
Release Date: 07/10/1990  
EID: Not reported  
Local Facility District: Not reported  
SCRBCA Class Number: Not reported  
Release Fin Type Code: Not reported  
Qualified: Not reported  
Release Source: Not reported  
Local Fac Last Name: Not reported  
Local Fac First Name: Not reported  
User Name: KNIGHTBT  
Cleanup Initiated Date: 01/26/1991  
Prefix: Not reported  
Total Score: 886

**LUST:**

Release Date: 07/10/1990  
Cleanup Complete Date: Not reported  
Depth to Ground Water: 33.82  
Ground Water Flow Direction: W  
Release Number: 1  
Confirmed date: 01/26/1991  
RP Name: CALHOUN OIL CO  
RP Address: W BRIDGE ST  
RP City: SAINT MATTHEWS  
RP State: SC  
RP Zip: 29135  
SCRBCA Class Code: CLASS2BB  
Project Manager: MINER, READ S  
Release Fin Type Code: WS

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

FOOD MART 107 (Continued)

U003796659

UST:

Name: FOOD MART 107  
Address: 9044 OLD HWY 6  
City: SANTEE  
Facility ID: 06949  
Permit: P 06949  
Owner: CALHOUN OIL CO INC  
Owner Address: W BRIDGE ST  
Owner City, st, zip: SAINT MATTHEWS SC 29135  
Owner Phone: 803-874-3681

Tank ID: 1  
**Status:** Abandoned  
Capacity: 10000  
Product: Gasoline  
Calcage: 10

Name: FOOD MART 107  
Address: 9044 OLD HWY 6  
City: SANTEE

Tank ID: 2  
**Status:** Abandoned  
Capacity: 10000  
Product: Gasoline  
Calcage: 10

Name: FOOD MART 107  
Address: 9044 OLD HWY 6  
City: SANTEE

Tank ID: 3  
**Status:** Abandoned  
Capacity: 6000  
Product: Gasoline  
Calcage: 10

Name: FOOD MART 107  
Address: 9044 OLD HWY 6  
City: SANTEE

Tank ID: 4  
**Status:** Abandoned  
Capacity: 10000  
Product: Gasoline  
Calcage: 0

Name: FOOD MART 107  
Address: 9044 OLD HWY 6  
City: SANTEE

Tank ID: 5  
**Status:** Abandoned  
Capacity: 10000  
Product: Gasoline  
Calcage: 0

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**FOOD MART 107 (Continued)**

**U003796659**

Name: FOOD MART 107  
Address: 9044 OLD HWY 6  
City: SANTEE

Tank ID: 6  
**Status: Abandoned**  
Capacity: 10000  
Product: Gasoline  
Calcage: 0

Name: FOOD MART 107  
Address: 9044 OLD HWY 6  
City: SANTEE

Tank ID: 7  
**Status: Currently in Use**  
Capacity: 10000  
Product: Gasoline RUL  
Calcage: 0

Name: FOOD MART 107  
Address: 9044 OLD HWY 6  
City: SANTEE

Tank ID: 8  
**Status: Currently in Use**  
Capacity: 10000  
Product: Gasoline RUL  
Calcage: 0

Name: FOOD MART 107  
Address: 9044 OLD HWY 6  
City: SANTEE

Tank ID: 9  
**Status: Currently in Use**  
Capacity: 10000  
Product: Gasoline Super/Prem  
Calcage: 0

SC Financial Assurance 3:

Name: FOOD MART 107  
Address: 9044 OLD HWY 6  
City,State,Zip: SANTEE, SC 29142  
Owner Name: CALHOUN OIL CO INC  
Owner Address: W BRIDGE ST  
Owner City St Zip: SAINT MATTHEWS SC 29135  
Mechanism: Self Insurance 280.101  
Date Expired: 1/30/2024  
Bill: 3

SC GWIC:

Bureau: BLWM  
EAP ID: Not reported  
Solid Waste Permit #: Not reported  
Bureau of Land & Waste Management File #: Not reported

Map ID  
 Direction  
 Distance  
 Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
 EPA ID Number

**FOOD MART 107 (Continued)**

**U003796659**

Permit Number: 06949  
 WPC Permit: Not reported  
 Program: DUST  
 Contamination: PETRO  
 Petroleum Products: True  
 Volatile Organic Compounds: False  
 Metals: False  
 Nitrates or Potential to Nitrate: False  
 Pesticides & Herbicides: False  
 Polychlorinated Biphenyls: False  
 Base, Neutral, & Acid Extractables: False  
 Phenols: False  
 Radionuclides Over Max Contaminant Levels: False  
 Sources Not In Other Categories: False  
 Source: UST  
 Underground Storage Tanks: True  
 Pits, Ponds, & Lagoons: False  
 Spills & Leaks: False  
 Landfills: False  
 Aboveground Storage Tank: False  
 Spray Irrigation: False  
 Single-Event Spill: False  
 Unpermitted Disposal: False  
 Septic Tank/Tile Field: False  
 Substances Not In Other Categories: False  
 Sources of Contamination Undetermined: False  
 Assessment: Yes  
 Monitoring: No  
 Remediation: No  
 Surface Impact: No  
 Drinking Water Well Impact: No  
 Remarks: Site ID # 06949. RBCA Classification 2BB1. Conducting investigation/Risk Assessment.

16  
 West  
 1/8-1/4  
 0.244 mi.  
 1287 ft.

**ENK 877**  
**8909 OLD NUMBER SIX HWY**  
**SANTEE, SC 29142**

UST **U004255472**  
 Financial Assurance **N/A**

**Actual:**  
**120 ft.**  
**Focus Map:**  
**7**

UST:  
 Name: ENK 877  
 Address: 8909 OLD NUMBER SIX HWY  
 City: SANTEE  
 Facility ID: 02390  
 Permit: R 02390  
 Owner: ENMARK STATIONS INC  
 Owner Address: PO BOX 728  
 Owner City, st, zip: SAVANNAH GA 31402-0728  
 Owner Phone: 912-236-1331

Tank ID: 1  
**Status: Currently in Use**  
 Capacity: 10000  
 Product: Gasoline RUL  
 Calcage: 5

Name: ENK 877



Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**ENK 877 (Continued)**

**U004255472**

Address: 8909 OLD NUMBER SIX HWY  
City: SANTEE

Tank ID: 2  
**Status:** **Currently in Use**  
Capacity: 10000  
Product: Gasoline Super/Prem  
Calcage: 5

Name: ENK 877  
Address: 8909 OLD NUMBER SIX HWY  
City: SANTEE

Tank ID: 3  
**Status:** **Currently in Use**  
Capacity: 10000  
Product: Gasoline E0  
Calcage: 5

Name: ENK 877  
Address: 8909 OLD NUMBER SIX HWY  
City: SANTEE

Tank ID: 4  
**Status:** **Currently in Use**  
Capacity: 10000  
Product: Gasoline RUL  
Calcage: 5

Name: ENK 877  
Address: 8909 OLD NUMBER SIX HWY  
City: SANTEE

Tank ID: 5  
**Status:** **Currently in Use**  
Capacity: 6000  
Product: Kerosene  
Calcage: 5

SC Financial Assurance 3:

Name: ENK 877  
Address: 8909 OLD NUMBER SIX HWY  
City,State,Zip: SANTEE, SC 29142-8606  
Owner Name: ENMARK STATIONS INC  
Owner Address: PO BOX 728  
Owner City St Zip: SAVANNAH GA 31402-0728  
Mechanism: Guarantee  
Date Expired: 1/30/2024  
Bill: 5

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

17 **SANTEE NATIONAL WILDLIFE REF**  
WNW **I-95 EXIT 102**  
1/8-1/4 **SUMMERTON, SC 29148**  
0.245 mi.  
1295 ft.

**RCR** **U003558470**  
**GWCI** **N/A**

**Actual:**  
83 ft.

**RCR:**

**Focus Map:**  
5

Name: SANTEE NATIONAL WILDLIFE REF  
Address: I-95 EXIT 102  
City,State,Zip: SUMMERTON, SC 29148  
Entity Responsibility: Not reported  
Region: Not reported  
Tax Id: SUMMERTON  
Latitude: 33.53099  
Longitude: -80.42905  
Tracking Number: 2324  
Regulatory Program: Not reported  
Reported: 12/09/2094  
CU-MCL: 06/06/2005  
Unit Type: Not reported  
Unit Number/Letter: Not reported  
Area/Acres: Not reported  
Affected Media: Not reported  
Site/Unit: Not reported  
Conditions: Not reported  
Associated Response/Corrective Action: Not reported  
Associated Chemicals Requiring: Not reported

**SC GWIC:**

Bureau: BLWM  
EAP ID: Not reported  
Solid Waste Permit #: Not reported  
Bureau of Land & Waste Management File #: Not reported  
Permit Number: 02324  
WPC Permit: Not reported  
Program: DUST  
Contamination: PETRO  
Petroleum Products: True  
Volatile Organic Compounds: False  
Metals: False  
Nitrates or Potential to Nitrate: False  
Pesticides & Herbicides: False  
Polychlorinated Biphenyls: False  
Base, Neutral, & Acid Extractables: False  
Phenols: False  
Radionuclides Over Max Contaminant Levels: False  
Sources Not In Other Categories: False  
Source: UST  
Underground Storage Tanks: True  
Pits, Ponds, & Lagoons: False  
Spills & Leaks: False  
Landfills: False  
Aboveground Storage Tank: False  
Spray Irrigation: False  
Single-Event Spill: False  
Unpermitted Disposal: False  
Septic Tank/Tile Field: False  
Substances Not In Other Categories: False  
Sources of Contamination Undetermined: False

Map ID  
 Direction  
 Distance  
 Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
 EPA ID Number

**SANTEE NATIONAL WILDLIFE REF (Continued)**

**U003558470**

Assessment: No  
 Monitoring: No  
 Remediation: Yes  
 Surface Impact: No  
 Drinking Water Well Impact: No  
 Remarks: Site ID # 02324. RBCA Classification 2BB4. Active corrective action.

**18**  
**SSE**  
**1/4-1/2**  
**0.254 mi.**  
**1341 ft.**

**QUICK PANTRY 8**  
**9052 OLD HWY 6**  
**SANTEE, SC 29142**

**Financial Assurance**  
**UST**  
**GWCI**

**U003930935**  
**N/A**

**Actual:**  
**128 ft.**  
**Focus Map:**  
**12**

**LUST:**  
 Name: QUICK PANTRY 8  
 Address: 9052 OLD HWY 6  
 City,State,Zip: SANTEE, SC 29142  
 Release Number: 2  
 Facility ID: 06946  
 Release Status Number: Not reported  
 Substance: PETROL  
 Tank Owner Company Name: QUICK PANTRY OF ORANGEB  
 Tank Owner Last Name: Not reported  
 Tank Owner First name: Not reported  
 NFA Date: 09/29/2016  
 Tank Owner City: Not reported  
 Confirmed Date: Not reported  
 Release Date: 05/20/2015  
 EID: Not reported  
 Local Facility District: Not reported  
 SCRBCA Class Number: Not reported  
 Release Fin Type Code: Not reported  
 Qualified: Not reported  
 Release Source: Not reported  
 Local Fac Last Name: Not reported  
 Local Fac First Name: Not reported  
 User Name: KNIGHTBT  
 Cleanup Initiated Date: 06/12/2015  
 Prefix: Not reported  
 Total Score: 1

**LUST:**  
 Release Date: 09/25/1991  
 Cleanup Complete Date: Not reported  
 Depth to Ground Water: 34.79  
 Ground Water Flow Direction: NW  
 Release Number: 1  
 Confirmed date: 10/14/1991  
 RP Name: G&M OIL CO INC  
 RP Address: 2309 FIVE CHOP RD  
 RP City: ORANGEBUG  
 RP State: SC  
 RP Zip: 29115  
 SCRBCA Class Code: CLASS2BB  
 Project Manager: MINER, READ S  
 Release Fin Type Code: WS

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**QUICK PANTRY 8 (Continued)**

**U003930935**

Name: QUICK PANTRY 8  
Address: 9052 OLD HWY 6  
City,State,Zip: SANTEE, SC 29142  
Release Number: 1  
Facility ID: 06946  
Release Status Number: Not reported  
Substance: PETRO  
Tank Owner Company Name: QUICK PANTRY OF ORANGEB  
Tank Owner Last Name: Not reported  
Tank Owner First name: Not reported  
NFA Date: Not reported  
Tank Owner City: Not reported  
Confirmed Date: Not reported  
Release Date: 09/25/1991  
EID: Not reported  
Local Facility District: Not reported  
SCRBCA Class Number: Not reported  
Release Fin Type Code: Not reported  
Qualified: Not reported  
Release Source: Not reported  
Local Fac Last Name: Not reported  
Local Fac First Name: Not reported  
User Name: MINERRS  
Cleanup Initiated Date: 10/14/1991  
Prefix: Not reported  
Total Score: 215

**LUST:**

Release Date: 09/25/1991  
Cleanup Complete Date: Not reported  
Depth to Ground Water: 34.79  
Ground Water Flow Direction: NW  
Release Number: 1  
Confirmed date: 10/14/1991  
RP Name: G&M OIL CO INC  
RP Address: 2309 FIVE CHOP RD  
RP City: ORANGEBUG  
RP State: SC  
RP Zip: 29115  
SCRBCA Class Code: CLASS2BB  
Project Manager: MINER, READ S  
Release Fin Type Code: WS

**UST:**

Name: QUICK PANTRY 8  
Address: 9052 OLD HWY 6  
City: SANTEE  
Facility ID: 06946  
Permit: P 06946  
Owner: QUICK PANTRY OF ORANGEBURG LLC  
Owner Address: 2182 MAGNOLIA ST  
Owner City, st, zip: ORANGEBURG SC 29115  
Owner Phone: 803-626-8079

Tank ID: 1  
**Status: Abandoned**

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

QUICK PANTRY 8 (Continued)

U003930935

Capacity: 10000  
Product: Gasoline  
Calcage: 10

Name: QUICK PANTRY 8  
Address: 9052 OLD HWY 6  
City: SANTEE

Tank ID: 2  
**Status: Abandoned**  
Capacity: 10000  
Product: Gasoline  
Calcage: 10

Name: QUICK PANTRY 8  
Address: 9052 OLD HWY 6  
City: SANTEE

Tank ID: 3  
**Status: Abandoned**  
Capacity: 10000  
Product: Gasoline  
Calcage: 10

Name: QUICK PANTRY 8  
Address: 9052 OLD HWY 6  
City: SANTEE

Tank ID: 4  
**Status: Currently in Use**  
Capacity: 10000  
Product: Gasoline RUL  
Calcage: 0

Name: QUICK PANTRY 8  
Address: 9052 OLD HWY 6  
City: SANTEE

Tank ID: 5  
**Status: Currently in Use**  
Capacity: 10000  
Product: Gasoline Super/Prem  
Calcage: 0

Name: QUICK PANTRY 8  
Address: 9052 OLD HWY 6  
City: SANTEE

Tank ID: 6  
**Status: Currently in Use**  
Capacity: 10000  
Product: Gasoline E0  
Calcage: 0

Name: QUICK PANTRY 8  
Address: 9052 OLD HWY 6  
City: SANTEE



Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**QUICK PANTRY 8 (Continued)**

**U003930935**

Tank ID: 7  
**Status:** **Currently in Use**  
Capacity: 10000  
Product: Diesel fuel  
Calcage: 0

Name: QUICK PANTRY 8  
Address: 9052 OLD HWY 6  
City: SANTEE

Tank ID: 8  
**Status:** **Extended Out-of-Use**  
Capacity: 3000  
Product: Diesel Off-Road  
Calcage: 0

Name: QUICK PANTRY 8  
Address: 9052 OLD HWY 6  
City: SANTEE

Tank ID: 9  
**Status:** **Extended Out-of-Use**  
Capacity: 3000  
Product: Kerosene  
Calcage: 0

SC Financial Assurance 3:

Name: QUICK PANTRY 8  
Address: 9052 OLD HWY 6  
City,State,Zip: SANTEE, SC 29142  
Owner Name: QUICK PANTRY OF ORANGEBURG LLC  
Owner Address: 2182 MAGNOLIA ST  
Owner City St Zip:ORANGEBURG SC 29115  
Mechanism: Self Insurance 280.101  
Date Expired: 5/1/2023  
Bill: 6

SC GWIC:

Bureau: BLWM  
EAP ID: Not reported  
Solid Waste Permit #: Not reported  
Bureau of Land & Waste Management File #: Not reported  
Permit Number: 06946  
WPC Permit: Not reported  
Program: DUST  
Contamination: PETRO  
Petroleum Products: True  
Volatile Organic Compounds: False  
Metals: False  
Nitrates or Potential to Nitrate: False  
Pesticides & Herbicides: False  
Polychlorinated Biphenyls: False  
Base, Neutral, & Acid Extractables: False  
Phenols: False  
Radionuclides Over Max Contaminant Levels: False  
Sources Not In Other Categories: False

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**QUICK PANTRY 8 (Continued)**

**U003930935**

Source: UST  
Underground Storage Tanks: True  
Pits, Ponds, & Lagoons: False  
Spills & Leaks: False  
Landfills: False  
Aboveground Storage Tank: False  
Spray Irrigation: False  
Single-Event Spill: False  
Unpermitted Disposal: False  
Septic Tank/Tile Field: False  
Substances Not In Other Categories: False  
Sources of Contamination Undetermined: False  
Assessment: Yes  
Monitoring: No  
Remediation: No  
Surface Impact: No  
Drinking Water Well Impact: No  
Remarks: Site ID # 06946. RBCA Classification 2BB1. Conducting investigation/Risk Assessment.

**19**  
**West**  
**1/4-1/2**  
**0.321 mi.**  
**1697 ft.**

**RIVERS COUNTRY STORE INC**  
**8851 OLD NUMBER 6 HWY**  
**SANTEE, SC 29142**

**LUST** **U004019299**  
**UST** **N/A**  
**Financial Assurance**

**Actual:**  
**126 ft.**  
**Focus Map:**  
**7**

**LUST:**  
Name: RIVERS COUNTRY STORE INC  
Address: 8851 OLD NUMBER 6 HWY  
City,State,Zip: SANTEE, SC 29142  
Release Number: 1  
Facility ID: 07020  
Release Status Number: Not reported  
Substance: PETRO  
Tank Owner Company Name: SANTEE RIVER TRADING CO I  
Tank Owner Last Name: Not reported  
Tank Owner First name: Not reported  
NFA Date: 10/25/2000  
Tank Owner City: Not reported  
Confirmed Date: Not reported  
Release Date: 04/18/1996  
EID: Not reported  
Local Facility District: Not reported  
SCRBCA Class Number: Not reported  
Release Fin Type Code: Not reported  
Qualified: Not reported  
Release Source: Not reported  
Local Fac Last Name: Not reported  
Local Fac First Name: Not reported  
User Name: DUBOISPM  
Cleanup Initiated Date: 04/19/1996  
Prefix: Not reported  
Total Score: 1

**LUST:**  
Release Date: 04/18/1996  
Cleanup Complete Date: 10/25/2000  
Depth to Ground Water: Not reported

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**RIVERS COUNTRY STORE INC (Continued)**

**U004019299**

Ground Water Flow Direction: Not reported  
Release Number: 1  
Confirmed date: 04/19/1996  
RP Name: SANTEE RIVER TRADING CO INC  
RP Address: PO BOX 525  
RP City: SANTEE  
RP State: SC  
RP Zip: 29142-0525  
SCRBCA Class Code: CLASS5B  
Project Manager: DUBOIS, PAMELA M  
Release Fin Type Code: W25

UST:

Name: RIVERS COUNTRY STORE INC  
Address: 8851 OLD NUMBER 6 HWY  
City: SANTEE  
Facility ID: 07020  
Permit: R 07020  
Owner: SANTEE RIVER TRADING CO INC  
Owner Address: PO BOX 525  
Owner City, st, zip: SANTEE SC 29142-0525  
Owner Phone: 000-000-0000

Tank ID: 1  
**Status:** **Currently in Use**  
Capacity: 8000  
Product: Gasoline RUL  
Calclage: 5

Name: RIVERS COUNTRY STORE INC  
Address: 8851 OLD NUMBER 6 HWY  
City: SANTEE

Tank ID: 2  
**Status:** **Currently in Use**  
Capacity: 8000  
Product: Gasoline Super/Prem  
Calclage: 5

Name: RIVERS COUNTRY STORE INC  
Address: 8851 OLD NUMBER 6 HWY  
City: SANTEE

Tank ID: 3  
**Status:** **Abandoned**  
Capacity: 4000  
Product: Gasoline  
Calclage: 5

Name: RIVERS COUNTRY STORE INC  
Address: 8851 OLD NUMBER 6 HWY  
City: SANTEE

Tank ID: 4  
**Status:** **Abandoned**  
Capacity: 4000

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**RIVERS COUNTRY STORE INC (Continued)**

**U004019299**

Product: Kerosene  
Calcage: 5

Name: RIVERS COUNTRY STORE INC  
Address: 8851 OLD NUMBER 6 HWY  
City: SANTEE

Tank ID: 5  
**Status: Abandoned**  
Capacity: 2000  
Product: Diesel fuel  
Calcage: 5

Name: RIVERS COUNTRY STORE INC  
Address: 8851 OLD NUMBER 6 HWY  
City: SANTEE

Tank ID: 6  
**Status: Currently in Use**  
Capacity: 4000  
Product: Gasoline E0  
Calcage: 0

SC Financial Assurance 3:

Name: RIVERS COUNTRY STORE INC  
Address: 8851 OLD NUMBER 6 HWY  
City,State,Zip: SANTEE, SC 29142  
Owner Name: SANTEE RIVER TRADING CO INC  
Owner Address: PO BOX 525  
Owner City St Zip:SANTEE SC 29142-0525  
Mechanism: Self Insurance 280.101  
Date Expired: 8/1/2023  
Bill: 3

## ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
CLARENDON COUNTY	8710918		I-95 30 MILES FROM PINEWOOD, SC HEADED INTO PINEWOOD FROM CO		ERNS
CLARENDON COUNTY	2000524278		WHERE I-95 AND HWY 527 INTERSECT		ERNS
CLARENDON COUNTY	S106656133	FUEL SPILL	I-95 S @ 114 MM		SPILLS
CLARENDON COUNTY	S106656169	SADDLE TANK	I-95 N MM 132		SPILLS
CLARENDON COUNTY	S106349650		I-95 S BOUND BETWEEN MM 109-110		SPILLS
CLARENDON COUNTY	S106044836		I-95 N BETWEEN 130 & 131 MM		SPILLS
CLARENDON COUNTY	S105958162	FUEL SPILL	I-95 124 MM SOUTHBOUND		SPILLS
CLARENDON COUNTY	S104829073	SADDLE TANKS	I-95 N		SPILLS
SANTEE	2004712123		I-95, SOUTHBOUND, MILE MARKER 99	29142	ERNS
SANTEE	1023679979	SCDOT LAKE MARION PROJECT	I-95 @ LAKE MARION	29142	RCRA NonGen / NLR, MANIFEST
SANTEE	1014629660		BASS DRIVE	29142	PCB TRANSFORMER
SANTEE	1007244869	SANTEE RESORT HOTEL	HWY 15 & I-95	29142	FINDS
SANTEE	1016240593	EXXON LOCATION 4-6923	I-95 AND SC 6	29142	FINDS, ECHO
SANTEE	1023711163	SCDOT LAKE MARION PROJECT	I-95 @ LAKE MARION	29142	FINDS, ECHO
SANTEE	S127645816	FORMER GAMECOCK HOTEL	BASS DR	29142	ASBESTOS
SANTEE	S127634112	SCDOT	REST AREA, HWY I-95	29142	ASBESTOS
SANTEE	S119110489	BRIDGE - 301 OVER I-95	I-95 @301	29142	ASBESTOS
SANTEE	S127657900	I-95 N BOUND OVER LAKE MARION	I-95 N BOUND OVER LAKE MARION		ASBESTOS
SANTEE	S120981122	I-95 SB BRIDGE OVER LAKE MARION	I-95 SB MM 100		ASBESTOS
SUMMERTON	U004255452	SANTEE NATIONAL WILDLIFE REFUGE	I-95 EXIT 102	29148	LUST, UST
SUMMERTON	U004255453	SANTEE COOPER	I-95 EXIT 102 HWY 400		UST
SUMMERTON	S106044853	SADDLE TANK	I-95 N MM102		SPILLS
SUMMERTON	1007226715	SANTEE COOPER	I-95 EXIT 102 HWY 400	29148	FINDS
SUMMERTON	S116706198	SANTEE NATIONAL WILDLIFE REFUGE	I-95 EXIT 102	29148	UIC



# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

**Number of Days to Update:** Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

## **STANDARD ENVIRONMENTAL RECORDS**

### ***Lists of Federal NPL (Superfund) sites***

#### **NPL: National Priority List**

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 09/19/2023	Source: EPA
Date Data Arrived at EDR: 10/03/2023	Telephone: N/A
Date Made Active in Reports: 10/19/2023	Last EDR Contact: 11/01/2023
Number of Days to Update: 16	Next Scheduled EDR Contact: 01/08/2024
	Data Release Frequency: Quarterly

#### **NPL Site Boundaries**

##### **Sources:**

EPA's Environmental Photographic Interpretation Center (EPIC)  
Telephone: 202-564-7333

EPA Region 1  
Telephone 617-918-1143

EPA Region 6  
Telephone: 214-655-6659

EPA Region 3  
Telephone 215-814-5418

EPA Region 7  
Telephone: 913-551-7247

EPA Region 4  
Telephone 404-562-8033

EPA Region 8  
Telephone: 303-312-6774

EPA Region 5  
Telephone 312-886-6686

EPA Region 9  
Telephone: 415-947-4246

EPA Region 10  
Telephone 206-553-8665

#### **Proposed NPL: Proposed National Priority List Sites**

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Date of Government Version: 09/19/2023	Source: EPA
Date Data Arrived at EDR: 10/03/2023	Telephone: N/A
Date Made Active in Reports: 10/19/2023	Last EDR Contact: 11/01/2023
Number of Days to Update: 16	Next Scheduled EDR Contact: 01/08/2024
	Data Release Frequency: Quarterly

#### **NPL LIENS: Federal Superfund Liens**

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 10/15/1991  
Date Data Arrived at EDR: 02/02/1994  
Date Made Active in Reports: 03/30/1994  
Number of Days to Update: 56

Source: EPA  
Telephone: 202-564-4267  
Last EDR Contact: 08/15/2011  
Next Scheduled EDR Contact: 11/28/2011  
Data Release Frequency: No Update Planned

## ***Lists of Federal Delisted NPL sites***

Delisted NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 09/19/2023  
Date Data Arrived at EDR: 10/03/2023  
Date Made Active in Reports: 10/19/2023  
Number of Days to Update: 16

Source: EPA  
Telephone: N/A  
Last EDR Contact: 11/01/2023  
Next Scheduled EDR Contact: 01/08/2024  
Data Release Frequency: Quarterly

## ***Lists of Federal sites subject to CERCLA removals and CERCLA orders***

FEDERAL FACILITY: Federal Facility Site Information listing

A listing of National Priority List (NPL) and Base Realignment and Closure (BRAC) sites found in the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) Database where EPA Federal Facilities Restoration and Reuse Office is involved in cleanup activities.

Date of Government Version: 06/23/2023  
Date Data Arrived at EDR: 06/23/2023  
Date Made Active in Reports: 09/20/2023  
Number of Days to Update: 89

Source: Environmental Protection Agency  
Telephone: 703-603-8704  
Last EDR Contact: 09/26/2023  
Next Scheduled EDR Contact: 01/08/2024  
Data Release Frequency: Varies

SEMS: Superfund Enterprise Management System

SEMS (Superfund Enterprise Management System) tracks hazardous waste sites, potentially hazardous waste sites, and remedial activities performed in support of EPA's Superfund Program across the United States. The list was formerly known as CERCLIS, renamed to SEMS by the EPA in 2015. The list contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). This dataset also contains sites which are either proposed to or on the National Priorities List (NPL) and the sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 09/19/2023  
Date Data Arrived at EDR: 10/03/2023  
Date Made Active in Reports: 10/19/2023  
Number of Days to Update: 16

Source: EPA  
Telephone: 800-424-9346  
Last EDR Contact: 11/02/2023  
Next Scheduled EDR Contact: 01/22/2024  
Data Release Frequency: Quarterly

## ***Lists of Federal CERCLA sites with NFRAP***

SEMS-ARCHIVE: Superfund Enterprise Management System Archive

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

SEMS-ARCHIVE (Superfund Enterprise Management System Archive) tracks sites that have no further interest under the Federal Superfund Program based on available information. The list was formerly known as the CERCLIS-NFRAP, renamed to SEMS ARCHIVE by the EPA in 2015. EPA may perform a minimal level of assessment work at a site while it is archived if site conditions change and/or new information becomes available. Archived sites have been removed and archived from the inventory of SEMS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list the site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. The decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be potential NPL site.

Date of Government Version: 09/19/2023	Source: EPA
Date Data Arrived at EDR: 10/03/2023	Telephone: 800-424-9346
Date Made Active in Reports: 10/19/2023	Last EDR Contact: 11/02/2023
Number of Days to Update: 16	Next Scheduled EDR Contact: 01/22/2024
	Data Release Frequency: Quarterly

## ***Lists of Federal RCRA facilities undergoing Corrective Action***

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 07/24/2023	Source: EPA
Date Data Arrived at EDR: 07/31/2023	Telephone: 800-424-9346
Date Made Active in Reports: 08/14/2023	Last EDR Contact: 09/20/2023
Number of Days to Update: 14	Next Scheduled EDR Contact: 01/01/2024
	Data Release Frequency: Quarterly

## ***Lists of Federal RCRA TSD facilities***

RCRA-TSDF: RCRA - Treatment, Storage and Disposal

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 07/24/2023	Source: Environmental Protection Agency
Date Data Arrived at EDR: 07/31/2023	Telephone: (404) 562-8651
Date Made Active in Reports: 08/14/2023	Last EDR Contact: 09/20/2023
Number of Days to Update: 14	Next Scheduled EDR Contact: 01/01/2024
	Data Release Frequency: Quarterly

## ***Lists of Federal RCRA generators***

RCRA-LQG: RCRA - Large Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

Date of Government Version: 07/24/2023	Source: Environmental Protection Agency
Date Data Arrived at EDR: 07/31/2023	Telephone: (404) 562-8651
Date Made Active in Reports: 08/14/2023	Last EDR Contact: 09/20/2023
Number of Days to Update: 14	Next Scheduled EDR Contact: 01/01/2024
	Data Release Frequency: Quarterly

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

## RCRA-SQG: RCRA - Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

Date of Government Version: 07/24/2023	Source: Environmental Protection Agency
Date Data Arrived at EDR: 07/31/2023	Telephone: (404) 562-8651
Date Made Active in Reports: 08/14/2023	Last EDR Contact: 09/20/2023
Number of Days to Update: 14	Next Scheduled EDR Contact: 01/01/2024
	Data Release Frequency: Quarterly

## RCRA-VSQG: RCRA - Very Small Quantity Generators (Formerly Conditionally Exempt Small Quantity Generators)

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Very small quantity generators (VSQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

Date of Government Version: 07/24/2023	Source: Environmental Protection Agency
Date Data Arrived at EDR: 07/31/2023	Telephone: (404) 562-8651
Date Made Active in Reports: 08/14/2023	Last EDR Contact: 09/20/2023
Number of Days to Update: 14	Next Scheduled EDR Contact: 01/01/2024
	Data Release Frequency: Quarterly

## ***Federal institutional controls / engineering controls registries***

### LUCIS: Land Use Control Information System

LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 08/03/2023	Source: Department of the Navy
Date Data Arrived at EDR: 08/07/2023	Telephone: 843-820-7326
Date Made Active in Reports: 10/10/2023	Last EDR Contact: 11/02/2023
Number of Days to Update: 64	Next Scheduled EDR Contact: 02/19/2024
	Data Release Frequency: Varies

### US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 08/21/2023	Source: Environmental Protection Agency
Date Data Arrived at EDR: 08/21/2023	Telephone: 703-603-0695
Date Made Active in Reports: 11/07/2023	Last EDR Contact: 08/21/2023
Number of Days to Update: 78	Next Scheduled EDR Contact: 12/04/2023
	Data Release Frequency: Varies

### US INST CONTROLS: Institutional Controls Sites List

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 08/21/2023	Source: Environmental Protection Agency
Date Data Arrived at EDR: 08/21/2023	Telephone: 703-603-0695
Date Made Active in Reports: 11/07/2023	Last EDR Contact: 08/21/2023
Number of Days to Update: 78	Next Scheduled EDR Contact: 12/04/2023
	Data Release Frequency: Varies

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

## ***Federal ERNS list***

### ERNS: Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 06/12/2023

Date Data Arrived at EDR: 06/20/2023

Date Made Active in Reports: 08/14/2023

Number of Days to Update: 55

Source: National Response Center, United States Coast Guard

Telephone: 202-267-2180

Last EDR Contact: 09/20/2023

Next Scheduled EDR Contact: 01/01/2024

Data Release Frequency: Quarterly

## ***Lists of state- and tribal hazardous waste facilities***

### SHWS: Site Assessment Section Project List

State Hazardous Waste Sites. State hazardous waste site records are the states' equivalent to CERCLIS. These sites may or may not already be listed on the federal CERCLIS list. Priority sites planned for cleanup using state funds (state equivalent of Superfund) are identified along with sites where cleanup will be paid for by potentially responsible parties. Available information varies by state.

Date of Government Version: 06/07/2023

Date Data Arrived at EDR: 06/13/2023

Date Made Active in Reports: 09/05/2023

Number of Days to Update: 84

Source: Department of Health and Environmental Control

Telephone: 803-898-0835

Last EDR Contact: 08/30/2023

Next Scheduled EDR Contact: 12/18/2023

Data Release Frequency: Semi-Annually

## ***Lists of state and tribal landfills and solid waste disposal facilities***

### SWF/LF: Permitted Landfills List

Solid Waste Facilities/Landfill Sites. SWF/LF type records typically contain an inventory of solid waste disposal facilities or landfills in a particular state. Depending on the state, these may be active or inactive facilities or open dumps that failed to meet RCRA Subtitle D Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 06/20/2023

Date Data Arrived at EDR: 06/20/2023

Date Made Active in Reports: 09/12/2023

Number of Days to Update: 84

Source: Department of Health and Environmental Control

Telephone: 803-734-5165

Source: Department of Health and Environmental Control, GIS Section

Telephone: 803-896-4084

Last EDR Contact: 08/30/2023

Next Scheduled EDR Contact: 12/18/2023

Data Release Frequency: Semi-Annually

## ***Lists of state and tribal leaking storage tanks***

### LUST: Leaking Underground Storage Tank List

Leaking Underground Storage Tank Incident Reports. LUST records contain an inventory of reported leaking underground storage tank incidents. Not all states maintain these records, and the information stored varies by state.

Date of Government Version: 07/18/2023

Date Data Arrived at EDR: 07/19/2023

Date Made Active in Reports: 10/10/2023

Number of Days to Update: 83

Source: Department of Health and Environmental Control

Telephone: 803-898-4350

Last EDR Contact: 10/11/2023

Next Scheduled EDR Contact: 01/29/2024

Data Release Frequency: Quarterly

### INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land

A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 04/20/2023

Date Data Arrived at EDR: 05/09/2023

Date Made Active in Reports: 07/14/2023

Number of Days to Update: 66

Source: EPA Region 1

Telephone: 617-918-1313

Last EDR Contact: 10/11/2023

Next Scheduled EDR Contact: 01/29/2024

Data Release Frequency: Varies



# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land  
LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 04/19/2023	Source: Environmental Protection Agency
Date Data Arrived at EDR: 05/09/2023	Telephone: 415-972-3372
Date Made Active in Reports: 07/14/2023	Last EDR Contact: 10/11/2023
Number of Days to Update: 66	Next Scheduled EDR Contact: 01/29/2024
	Data Release Frequency: Varies

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land  
LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 04/20/2023	Source: EPA Region 10
Date Data Arrived at EDR: 05/09/2023	Telephone: 206-553-2857
Date Made Active in Reports: 07/14/2023	Last EDR Contact: 10/11/2023
Number of Days to Update: 66	Next Scheduled EDR Contact: 01/29/2024
	Data Release Frequency: Varies

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land  
LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 04/20/2023	Source: EPA Region 4
Date Data Arrived at EDR: 05/09/2023	Telephone: 404-562-8677
Date Made Active in Reports: 07/14/2023	Last EDR Contact: 10/11/2023
Number of Days to Update: 66	Next Scheduled EDR Contact: 01/29/2024
	Data Release Frequency: Varies

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land  
LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 04/26/2023	Source: EPA Region 6
Date Data Arrived at EDR: 05/09/2023	Telephone: 214-665-6597
Date Made Active in Reports: 07/14/2023	Last EDR Contact: 10/11/2023
Number of Days to Update: 66	Next Scheduled EDR Contact: 01/29/2024
	Data Release Frequency: Varies

INDIAN LUST R5: Leaking Underground Storage Tanks on Indian Land  
Leaking underground storage tanks located on Indian Land in Michigan, Minnesota and Wisconsin.

Date of Government Version: 04/14/2023	Source: EPA, Region 5
Date Data Arrived at EDR: 05/09/2023	Telephone: 312-886-7439
Date Made Active in Reports: 07/14/2023	Last EDR Contact: 10/11/2023
Number of Days to Update: 66	Next Scheduled EDR Contact: 01/29/2024
	Data Release Frequency: Varies

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land  
LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

Date of Government Version: 04/19/2023	Source: EPA Region 8
Date Data Arrived at EDR: 05/09/2023	Telephone: 303-312-6271
Date Made Active in Reports: 07/14/2023	Last EDR Contact: 10/11/2023
Number of Days to Update: 66	Next Scheduled EDR Contact: 01/29/2024
	Data Release Frequency: Varies

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land  
LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 04/25/2023	Source: EPA Region 7
Date Data Arrived at EDR: 05/09/2023	Telephone: 913-551-7003
Date Made Active in Reports: 07/14/2023	Last EDR Contact: 10/11/2023
Number of Days to Update: 66	Next Scheduled EDR Contact: 01/29/2024
	Data Release Frequency: Varies

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

## *Lists of state and tribal registered storage tanks*

### FEMA UST: Underground Storage Tank Listing

A listing of all FEMA owned underground storage tanks.

Date of Government Version: 03/08/2023	Source: FEMA
Date Data Arrived at EDR: 03/09/2023	Telephone: 202-646-5797
Date Made Active in Reports: 05/30/2023	Last EDR Contact: 10/10/2023
Number of Days to Update: 82	Next Scheduled EDR Contact: 01/15/2024
	Data Release Frequency: Varies

### UST: Comprehensive Underground Storage Tanks

Registered Underground Storage Tanks. UST's are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA) and must be registered with the state department responsible for administering the UST program. Available information varies by state program.

Date of Government Version: 05/03/2023	Source: Department of Health and Environmental Control
Date Data Arrived at EDR: 05/04/2023	Telephone: 803-896-7957
Date Made Active in Reports: 07/28/2023	Last EDR Contact: 09/28/2023
Number of Days to Update: 85	Next Scheduled EDR Contact: 01/15/2024
	Data Release Frequency: Quarterly

### AST: Aboveground Storage Tank List

Registered Aboveground Storage Tanks.

Date of Government Version: 03/25/2004	Source: Department of Health and Environmental Control
Date Data Arrived at EDR: 08/04/2004	Telephone: 803-898-4350
Date Made Active in Reports: 09/23/2004	Last EDR Contact: 11/16/2023
Number of Days to Update: 50	Next Scheduled EDR Contact: 03/04/2024
	Data Release Frequency: Varies

### INDIAN UST R4: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee and Tribal Nations)

Date of Government Version: 04/20/2023	Source: EPA Region 4
Date Data Arrived at EDR: 05/09/2023	Telephone: 404-562-9424
Date Made Active in Reports: 07/14/2023	Last EDR Contact: 10/11/2023
Number of Days to Update: 66	Next Scheduled EDR Contact: 01/29/2024
	Data Release Frequency: Varies

### INDIAN UST R9: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 9 (Arizona, California, Hawaii, Nevada, the Pacific Islands, and Tribal Nations).

Date of Government Version: 04/19/2023	Source: EPA Region 9
Date Data Arrived at EDR: 05/09/2023	Telephone: 415-972-3368
Date Made Active in Reports: 07/14/2023	Last EDR Contact: 10/11/2023
Number of Days to Update: 66	Next Scheduled EDR Contact: 01/29/2024
	Data Release Frequency: Varies

### INDIAN UST R7: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 7 (Iowa, Kansas, Missouri, Nebraska, and 9 Tribal Nations).

Date of Government Version: 04/25/2023	Source: EPA Region 7
Date Data Arrived at EDR: 05/09/2023	Telephone: 913-551-7003
Date Made Active in Reports: 07/14/2023	Last EDR Contact: 10/11/2023
Number of Days to Update: 66	Next Scheduled EDR Contact: 01/29/2024
	Data Release Frequency: Varies

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

## INDIAN UST R1: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont and ten Tribal Nations).

Date of Government Version: 04/20/2023	Source: EPA, Region 1
Date Data Arrived at EDR: 05/09/2023	Telephone: 617-918-1313
Date Made Active in Reports: 07/14/2023	Last EDR Contact: 10/11/2023
Number of Days to Update: 66	Next Scheduled EDR Contact: 01/29/2024
	Data Release Frequency: Varies

## INDIAN UST R5: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 5 (Michigan, Minnesota and Wisconsin and Tribal Nations).

Date of Government Version: 04/14/2023	Source: EPA Region 5
Date Data Arrived at EDR: 05/09/2023	Telephone: 312-886-6136
Date Made Active in Reports: 07/14/2023	Last EDR Contact: 10/11/2023
Number of Days to Update: 66	Next Scheduled EDR Contact: 01/29/2024
	Data Release Frequency: Varies

## INDIAN UST R6: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 6 (Louisiana, Arkansas, Oklahoma, New Mexico, Texas and 65 Tribes).

Date of Government Version: 04/26/2023	Source: EPA Region 6
Date Data Arrived at EDR: 05/09/2023	Telephone: 214-665-7591
Date Made Active in Reports: 07/14/2023	Last EDR Contact: 10/11/2023
Number of Days to Update: 66	Next Scheduled EDR Contact: 01/29/2024
	Data Release Frequency: Varies

## INDIAN UST R10: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 10 (Alaska, Idaho, Oregon, Washington, and Tribal Nations).

Date of Government Version: 04/20/2023	Source: EPA Region 10
Date Data Arrived at EDR: 05/09/2023	Telephone: 206-553-2857
Date Made Active in Reports: 07/14/2023	Last EDR Contact: 10/11/2023
Number of Days to Update: 66	Next Scheduled EDR Contact: 01/29/2024
	Data Release Frequency: Varies

## INDIAN UST R8: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).

Date of Government Version: 04/20/2023	Source: EPA Region 8
Date Data Arrived at EDR: 05/09/2023	Telephone: 303-312-6137
Date Made Active in Reports: 07/14/2023	Last EDR Contact: 10/11/2023
Number of Days to Update: 66	Next Scheduled EDR Contact: 01/29/2024
	Data Release Frequency: Varies

## GWT: GWT Management Tracking

Groundwater Tracking information. Active sites reflect the list of current open releases at ASTs but also pipelines, spills, heating oil tanks, or otherwise non-permitted petroleum releases. There is no way to separate them out in the database unfortunately. NFA does not reflect all sites closed.

Date of Government Version: 05/22/2023	Source: Department of Health & Environmental Control
Date Data Arrived at EDR: 05/25/2023	Telephone: 803-898-8137
Date Made Active in Reports: 08/14/2023	Last EDR Contact: 11/16/2023
Number of Days to Update: 81	Next Scheduled EDR Contact: 03/04/2024
	Data Release Frequency: Varies

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

## ***State and tribal institutional control / engineering control registries***

### **RCR: Registry of Conditional Remedies**

The Bureau of Land and Waste Management established this Registry to help monitor and maintain sites that have conditional remedies. A Conditional Remedy is an environmental remedy that includes certain qualifications. These qualifications are divided into two major categories: Remedies requiring Land Use Controls and Conditional No Further Actions.

Date of Government Version: 06/12/2023	Source: Department of Health & Environmental Control
Date Data Arrived at EDR: 06/13/2023	Telephone: 803-896-4000
Date Made Active in Reports: 09/05/2023	Last EDR Contact: 08/30/2023
Number of Days to Update: 84	Next Scheduled EDR Contact: 12/18/2023
	Data Release Frequency: Varies

### **AUL: Land Use Controls**

The term Land Use Controls or "LUCs" encompass institutional controls, such as those involved in real estate interests, governmental permitting, zoning, public advisories, deed notices, and other legal restrictions. The term also includes restrictions on access, whether achieved by means of engineered barriers (e.g., fence or concrete pad) or by human means (e.g., the presence of security guards). Additionally, the term includes both affirmative measures to achieve the desired restrictions (e.g., night lighting of an area) and prohibitive directives (e.g., restrictions on certain types of wells for the duration of the corrective action). Considered altogether, the LUCs for a facility will provide a tool for how the property should be used in order to maintain the level of protectiveness that one or more corrective actions were designed to achieve.

Date of Government Version: 06/05/2023	Source: Department of Health & Environmental Control
Date Data Arrived at EDR: 06/06/2023	Telephone: 803-896-4049
Date Made Active in Reports: 08/24/2023	Last EDR Contact: 09/07/2023
Number of Days to Update: 79	Next Scheduled EDR Contact: 12/18/2023
	Data Release Frequency: Varies

## ***Lists of state and tribal voluntary cleanup sites***

### **INDIAN VCP R7: Voluntary Cleanup Priority Listing**

A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008	Source: EPA, Region 7
Date Data Arrived at EDR: 04/22/2008	Telephone: 913-551-7365
Date Made Active in Reports: 05/19/2008	Last EDR Contact: 07/08/2021
Number of Days to Update: 27	Next Scheduled EDR Contact: 07/20/2009
	Data Release Frequency: Varies

### **INDIAN VCP R1: Voluntary Cleanup Priority Listing**

A listing of voluntary cleanup priority sites located on Indian Land located in Region 1.

Date of Government Version: 07/27/2015	Source: EPA, Region 1
Date Data Arrived at EDR: 09/29/2015	Telephone: 617-918-1102
Date Made Active in Reports: 02/18/2016	Last EDR Contact: 09/12/2023
Number of Days to Update: 142	Next Scheduled EDR Contact: 01/01/2024
	Data Release Frequency: Varies

### **VCP: Voluntary Cleanup Sites**

Sites participating in the Voluntary Cleanup Program. Once staff and a non-responsible party have agreed upon an approved scope of work for a site investigation and/or remediation, the party enters into a voluntary cleanup contract. Staff oversees the cleanup efforts to ensure that activities are performed to our satisfaction. Upon completion of the negotiated work in the voluntary cleanup contract, the non-responsible party receives State Superfund liability protection.

Date of Government Version: 10/17/2023	Source: Department of Health and Environmental Control
Date Data Arrived at EDR: 10/18/2023	Telephone: 803-896-4049
Date Made Active in Reports: 10/30/2023	Last EDR Contact: 10/05/2023
Number of Days to Update: 12	Next Scheduled EDR Contact: 01/22/2024
	Data Release Frequency: Varies

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

## ***Lists of state and tribal brownfield sites***

### **BROWNFIELDS: Brownfields Sites Listing**

The Brownfields component of the Voluntary Cleanup Program allows a non-responsible party to acquire a contaminated property with State Superfund liability protection for existing contamination by agreeing to perform an environmental assessment and/or remediation.

Date of Government Version: 10/17/2023  
Date Data Arrived at EDR: 10/18/2023  
Date Made Active in Reports: 10/30/2023  
Number of Days to Update: 12

Source: Department of Health & Environmental Control  
Telephone: 803-896-4069  
Last EDR Contact: 10/05/2023  
Next Scheduled EDR Contact: 01/22/2024  
Data Release Frequency: Varies

## **ADDITIONAL ENVIRONMENTAL RECORDS**

### ***Local Brownfield lists***

#### **US BROWNFIELDS: A Listing of Brownfields Sites**

Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties takes development pressures off of undeveloped, open land, and both improves and protects the environment. Assessment, Cleanup and Redevelopment Exchange System (ACRES) stores information reported by EPA Brownfields grant recipients on brownfields properties assessed or cleaned up with grant funding as well as information on Targeted Brownfields Assessments performed by EPA Regions. A listing of ACRES Brownfield sites is obtained from Cleanups in My Community. Cleanups in My Community provides information on Brownfields properties for which information is reported back to EPA, as well as areas served by Brownfields grant programs.

Date of Government Version: 04/06/2023  
Date Data Arrived at EDR: 04/13/2023  
Date Made Active in Reports: 04/19/2023  
Number of Days to Update: 6

Source: Environmental Protection Agency  
Telephone: 202-566-2777  
Last EDR Contact: 08/30/2023  
Next Scheduled EDR Contact: 12/25/2023  
Data Release Frequency: Semi-Annually

### ***Local Lists of Landfill / Solid Waste Disposal Sites***

#### **SWRCY: Solid Waste Recycling Facilities**

A listing of recycling center locations.

Date of Government Version: 06/30/2019  
Date Data Arrived at EDR: 03/13/2020  
Date Made Active in Reports: 05/22/2020  
Number of Days to Update: 70

Source: Department of Health & Environmental Control  
Telephone: 803-896-8985  
Last EDR Contact: 08/30/2023  
Next Scheduled EDR Contact: 12/18/2023  
Data Release Frequency: Varies

#### **INDIAN ODI: Report on the Status of Open Dumps on Indian Lands**

Location of open dumps on Indian land.

Date of Government Version: 12/31/1998  
Date Data Arrived at EDR: 12/03/2007  
Date Made Active in Reports: 01/24/2008  
Number of Days to Update: 52

Source: Environmental Protection Agency  
Telephone: 703-308-8245  
Last EDR Contact: 10/23/2023  
Next Scheduled EDR Contact: 02/05/2024  
Data Release Frequency: Varies

#### **DEBRIS REGION 9: Torres Martinez Reservation Illegal Dump Site Locations**

A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside County and northern Imperial County, California.

Date of Government Version: 01/12/2009  
Date Data Arrived at EDR: 05/07/2009  
Date Made Active in Reports: 09/21/2009  
Number of Days to Update: 137

Source: EPA, Region 9  
Telephone: 415-947-4219  
Last EDR Contact: 10/10/2023  
Next Scheduled EDR Contact: 01/29/2024  
Data Release Frequency: No Update Planned



# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

## ODI: Open Dump Inventory

An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985  
Date Data Arrived at EDR: 08/09/2004  
Date Made Active in Reports: 09/17/2004  
Number of Days to Update: 39

Source: Environmental Protection Agency  
Telephone: 800-424-9346  
Last EDR Contact: 06/09/2004  
Next Scheduled EDR Contact: N/A  
Data Release Frequency: No Update Planned

## IHS OPEN DUMPS: Open Dumps on Indian Land

A listing of all open dumps located on Indian Land in the United States.

Date of Government Version: 04/01/2014  
Date Data Arrived at EDR: 08/06/2014  
Date Made Active in Reports: 01/29/2015  
Number of Days to Update: 176

Source: Department of Health & Human Services, Indian Health Service  
Telephone: 301-443-1452  
Last EDR Contact: 10/28/2023  
Next Scheduled EDR Contact: 02/05/2024  
Data Release Frequency: Varies

## **Local Lists of Hazardous waste / Contaminated Sites**

### US HIST CDL: National Clandestine Laboratory Register

A listing of clandestine drug lab locations that have been removed from the DEAs National Clandestine Laboratory Register.

Date of Government Version: 08/21/2023  
Date Data Arrived at EDR: 08/21/2023  
Date Made Active in Reports: 11/07/2023  
Number of Days to Update: 78

Source: Drug Enforcement Administration  
Telephone: 202-307-1000  
Last EDR Contact: 08/21/2023  
Next Scheduled EDR Contact: 12/04/2023  
Data Release Frequency: No Update Planned

### ALLSITES: Site Assessment & Remediation Public Record Database

The South Carolina Department of Health and Environmental Control is pleased to have the Public Record for your review. The purpose of this database is two-fold. First, it will provide to communities another form of notice of cleanup activity, allowing them to have more information about assessment and cleanup activities in their area and in the State. Second, it can assist those seeking to redevelop brownfield properties within South Carolina.

Date of Government Version: 09/05/2023  
Date Data Arrived at EDR: 09/07/2023  
Date Made Active in Reports: 11/16/2023  
Number of Days to Update: 70

Source: Department of Health & Environmental Control  
Telephone: 803-896-4000  
Last EDR Contact: 09/07/2023  
Next Scheduled EDR Contact: 12/18/2023  
Data Release Frequency: Quarterly

### CDL 2: Clandestine Drug Lab Listing

A listing of clandestine drug lab site locations.

Date of Government Version: 08/24/2023  
Date Data Arrived at EDR: 08/24/2023  
Date Made Active in Reports: 11/09/2023  
Number of Days to Update: 77

Source: South Carolina Law Enforcement Division  
Telephone: 803-896-7136  
Last EDR Contact: 11/16/2023  
Next Scheduled EDR Contact: 03/04/2024  
Data Release Frequency: Varies

### CDL: Clandestine Drug Lab Sites

A listing of clandestine drug lab site locations.

Date of Government Version: 01/24/2012  
Date Data Arrived at EDR: 01/26/2012  
Date Made Active in Reports: 02/24/2012  
Number of Days to Update: 29

Source: Department of Health & Environmental Control  
Telephone: 803-896-4288  
Last EDR Contact: 08/23/2023  
Next Scheduled EDR Contact: 12/11/2023  
Data Release Frequency: Varies

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

## US CDL: Clandestine Drug Labs

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 08/21/2023	Source: Drug Enforcement Administration
Date Data Arrived at EDR: 08/21/2023	Telephone: 202-307-1000
Date Made Active in Reports: 11/07/2023	Last EDR Contact: 08/21/2023
Number of Days to Update: 78	Next Scheduled EDR Contact: 12/04/2023
	Data Release Frequency: Quarterly

## Local Land Records

### LIENS 2: CERCLA Lien Information

A Federal CERCLA ("Superfund") lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

Date of Government Version: 09/19/2023	Source: Environmental Protection Agency
Date Data Arrived at EDR: 10/03/2023	Telephone: 202-564-6023
Date Made Active in Reports: 10/19/2023	Last EDR Contact: 11/01/2023
Number of Days to Update: 16	Next Scheduled EDR Contact: 01/08/2024
	Data Release Frequency: Semi-Annually

## Records of Emergency Release Reports

### HMIRS: Hazardous Materials Information Reporting System

Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 09/18/2023	Source: U.S. Department of Transportation
Date Data Arrived at EDR: 09/20/2023	Telephone: 202-366-4555
Date Made Active in Reports: 11/14/2023	Last EDR Contact: 09/20/2023
Number of Days to Update: 55	Next Scheduled EDR Contact: 01/01/2024
	Data Release Frequency: Quarterly

### SPILLS: Spill List

Spills and releases of petroleum and hazardous chemicals reported to the Oil & Chemical Emergency Response division.

Date of Government Version: 08/23/2023	Source: Department of Health and Environmental Control
Date Data Arrived at EDR: 08/24/2023	Telephone: 803-898-4111
Date Made Active in Reports: 11/09/2023	Last EDR Contact: 11/16/2023
Number of Days to Update: 77	Next Scheduled EDR Contact: 03/04/2024
	Data Release Frequency: Semi-Annually

### SPILLS 90: SPILLS90 data from FirstSearch

Spills 90 includes those spill and release records available exclusively from FirstSearch databases. Typically, they may include chemical, oil and/or hazardous substance spills recorded after 1990. Duplicate records that are already included in EDR incident and release records are not included in Spills 90.

Date of Government Version: 10/25/2012	Source: FirstSearch
Date Data Arrived at EDR: 01/03/2013	Telephone: N/A
Date Made Active in Reports: 03/07/2013	Last EDR Contact: 01/03/2013
Number of Days to Update: 63	Next Scheduled EDR Contact: N/A
	Data Release Frequency: No Update Planned

### SPILLS 80: SPILLS80 data from FirstSearch

Spills 80 includes those spill and release records available from FirstSearch databases prior to 1990. Typically, they may include chemical, oil and/or hazardous substance spills recorded before 1990. Duplicate records that are already included in EDR incident and release records are not included in Spills 80.

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 03/26/2001  
Date Data Arrived at EDR: 01/03/2013  
Date Made Active in Reports: 03/07/2013  
Number of Days to Update: 63

Source: FirstSearch  
Telephone: N/A  
Last EDR Contact: 01/03/2013  
Next Scheduled EDR Contact: N/A  
Data Release Frequency: No Update Planned

## **Other Ascertainable Records**

### **RCRA NonGen / NLR: RCRA - Non Generators / No Longer Regulated**

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

Date of Government Version: 07/24/2023  
Date Data Arrived at EDR: 07/31/2023  
Date Made Active in Reports: 08/14/2023  
Number of Days to Update: 14

Source: Environmental Protection Agency  
Telephone: (404) 562-8651  
Last EDR Contact: 09/20/2023  
Next Scheduled EDR Contact: 01/01/2024  
Data Release Frequency: Quarterly

### **FUDS: Formerly Used Defense Sites**

The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 08/07/2023  
Date Data Arrived at EDR: 08/15/2023  
Date Made Active in Reports: 10/10/2023  
Number of Days to Update: 56

Source: U.S. Army Corps of Engineers  
Telephone: 202-528-4285  
Last EDR Contact: 11/10/2023  
Next Scheduled EDR Contact: 02/26/2024  
Data Release Frequency: Varies

### **DOD: Department of Defense Sites**

This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 06/07/2021  
Date Data Arrived at EDR: 07/13/2021  
Date Made Active in Reports: 03/09/2022  
Number of Days to Update: 239

Source: USGS  
Telephone: 888-275-8747  
Last EDR Contact: 10/09/2023  
Next Scheduled EDR Contact: 01/22/2024  
Data Release Frequency: Varies

### **FEDLAND: Federal and Indian Lands**

Federally and Indian administrated lands of the United States. Lands included are administrated by: Army Corps of Engineers, Bureau of Reclamation, National Wild and Scenic River, National Wildlife Refuge, Public Domain Land, Wilderness, Wilderness Study Area, Wildlife Management Area, Bureau of Indian Affairs, Bureau of Land Management, Department of Justice, Forest Service, Fish and Wildlife Service, National Park Service.

Date of Government Version: 04/02/2018  
Date Data Arrived at EDR: 04/11/2018  
Date Made Active in Reports: 11/06/2019  
Number of Days to Update: 574

Source: U.S. Geological Survey  
Telephone: 888-275-8747  
Last EDR Contact: 10/04/2023  
Next Scheduled EDR Contact: 01/15/2024  
Data Release Frequency: N/A

### **SCRD DRYCLEANERS: State Coalition for Remediation of Drycleaners Listing**

The State Coalition for Remediation of Drycleaners was established in 1998, with support from the U.S. EPA Office of Superfund Remediation and Technology Innovation. It is comprised of representatives of states with established drycleaner remediation programs. Currently the member states are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 07/30/2021  
Date Data Arrived at EDR: 02/03/2023  
Date Made Active in Reports: 02/10/2023  
Number of Days to Update: 7

Source: Environmental Protection Agency  
Telephone: 615-532-8599  
Last EDR Contact: 11/08/2023  
Next Scheduled EDR Contact: 02/19/2024  
Data Release Frequency: Varies

## US FIN ASSUR: Financial Assurance Information

All owners and operators of facilities that treat, store, or dispose of hazardous waste are required to provide proof that they will have sufficient funds to pay for the clean up, closure, and post-closure care of their facilities.

Date of Government Version: 06/19/2023  
Date Data Arrived at EDR: 06/20/2023  
Date Made Active in Reports: 08/14/2023  
Number of Days to Update: 55

Source: Environmental Protection Agency  
Telephone: 202-566-1917  
Last EDR Contact: 09/20/2023  
Next Scheduled EDR Contact: 01/01/2024  
Data Release Frequency: Quarterly

## EPA WATCH LIST: EPA WATCH LIST

EPA maintains a "Watch List" to facilitate dialogue between EPA, state and local environmental agencies on enforcement matters relating to facilities with alleged violations identified as either significant or high priority. Being on the Watch List does not mean that the facility has actually violated the law only that an investigation by EPA or a state or local environmental agency has led those organizations to allege that an unproven violation has in fact occurred. Being on the Watch List does not represent a higher level of concern regarding the alleged violations that were detected, but instead indicates cases requiring additional dialogue between EPA, state and local agencies - primarily because of the length of time the alleged violation has gone unaddressed or unresolved.

Date of Government Version: 08/30/2013  
Date Data Arrived at EDR: 03/21/2014  
Date Made Active in Reports: 06/17/2014  
Number of Days to Update: 88

Source: Environmental Protection Agency  
Telephone: 617-520-3000  
Last EDR Contact: 10/31/2023  
Next Scheduled EDR Contact: 02/12/2024  
Data Release Frequency: Quarterly

## 2020 COR ACTION: 2020 Corrective Action Program List

The EPA has set ambitious goals for the RCRA Corrective Action program by creating the 2020 Corrective Action Universe. This RCRA cleanup baseline includes facilities expected to need corrective action. The 2020 universe contains a wide variety of sites. Some properties are heavily contaminated while others were contaminated but have since been cleaned up. Still others have not been fully investigated yet, and may require little or no remediation. Inclusion in the 2020 Universe does not necessarily imply failure on the part of a facility to meet its RCRA obligations.

Date of Government Version: 09/30/2017  
Date Data Arrived at EDR: 05/08/2018  
Date Made Active in Reports: 07/20/2018  
Number of Days to Update: 73

Source: Environmental Protection Agency  
Telephone: 703-308-4044  
Last EDR Contact: 11/03/2023  
Next Scheduled EDR Contact: 02/12/2024  
Data Release Frequency: Varies

## TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2020  
Date Data Arrived at EDR: 06/14/2022  
Date Made Active in Reports: 03/24/2023  
Number of Days to Update: 283

Source: EPA  
Telephone: 202-260-5521  
Last EDR Contact: 09/15/2023  
Next Scheduled EDR Contact: 12/25/2023  
Data Release Frequency: Every 4 Years

## TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 12/31/2021  
Date Data Arrived at EDR: 08/18/2023  
Date Made Active in Reports: 11/07/2023  
Number of Days to Update: 81

Source: EPA  
Telephone: 202-566-0250  
Last EDR Contact: 11/13/2023  
Next Scheduled EDR Contact: 02/26/2024  
Data Release Frequency: Annually

## SSTS: Section 7 Tracking Systems

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 07/17/2023  
Date Data Arrived at EDR: 07/18/2023  
Date Made Active in Reports: 10/10/2023  
Number of Days to Update: 84

Source: EPA  
Telephone: 202-564-4203  
Last EDR Contact: 10/20/2023  
Next Scheduled EDR Contact: 01/29/2024  
Data Release Frequency: Annually

## ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 09/19/2023  
Date Data Arrived at EDR: 10/03/2023  
Date Made Active in Reports: 10/19/2023  
Number of Days to Update: 16

Source: EPA  
Telephone: 703-416-0223  
Last EDR Contact: 11/01/2023  
Next Scheduled EDR Contact: 12/11/2023  
Data Release Frequency: Annually

## RMP: Risk Management Plans

When Congress passed the Clean Air Act Amendments of 1990, it required EPA to publish regulations and guidance for chemical accident prevention at facilities using extremely hazardous substances. The Risk Management Program Rule (RMP Rule) was written to implement Section 112(r) of these amendments. The rule, which built upon existing industry codes and standards, requires companies of all sizes that use certain flammable and toxic substances to develop a Risk Management Program, which includes a(n): Hazard assessment that details the potential effects of an accidental release, an accident history of the last five years, and an evaluation of worst-case and alternative accidental releases; Prevention program that includes safety precautions and maintenance, monitoring, and employee training measures; and Emergency response program that spells out emergency health care, employee training measures and procedures for informing the public and response agencies (e.g the fire department) should an accident occur.

Date of Government Version: 05/09/2023  
Date Data Arrived at EDR: 06/29/2023  
Date Made Active in Reports: 09/25/2023  
Number of Days to Update: 88

Source: Environmental Protection Agency  
Telephone: 202-564-8600  
Last EDR Contact: 09/26/2023  
Next Scheduled EDR Contact: 01/29/2024  
Data Release Frequency: Varies

## RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995  
Date Data Arrived at EDR: 07/03/1995  
Date Made Active in Reports: 08/07/1995  
Number of Days to Update: 35

Source: EPA  
Telephone: 202-564-4104  
Last EDR Contact: 06/02/2008  
Next Scheduled EDR Contact: 09/01/2008  
Data Release Frequency: No Update Planned



# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

## PRP: Potentially Responsible Parties

A listing of verified Potentially Responsible Parties

Date of Government Version: 09/19/2023	Source: EPA
Date Data Arrived at EDR: 10/03/2023	Telephone: 202-564-6023
Date Made Active in Reports: 10/19/2023	Last EDR Contact: 11/01/2023
Number of Days to Update: 16	Next Scheduled EDR Contact: 02/12/2024
	Data Release Frequency: Quarterly

## PADS: PCB Activity Database System

PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 03/20/2023	Source: EPA
Date Data Arrived at EDR: 04/04/2023	Telephone: 202-566-0500
Date Made Active in Reports: 06/09/2023	Last EDR Contact: 10/06/2023
Number of Days to Update: 66	Next Scheduled EDR Contact: 01/15/2024
	Data Release Frequency: Annually

## ICIS: Integrated Compliance Information System

The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 11/18/2016	Source: Environmental Protection Agency
Date Data Arrived at EDR: 11/23/2016	Telephone: 202-564-2501
Date Made Active in Reports: 02/10/2017	Last EDR Contact: 09/27/2023
Number of Days to Update: 79	Next Scheduled EDR Contact: 01/15/2024
	Data Release Frequency: Quarterly

## FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/09/2009	Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Date Data Arrived at EDR: 04/16/2009	Telephone: 202-566-1667
Date Made Active in Reports: 05/11/2009	Last EDR Contact: 08/18/2017
Number of Days to Update: 25	Next Scheduled EDR Contact: 12/04/2017
	Data Release Frequency: No Update Planned

## FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

A listing of FIFRA/TSCA Tracking System (FTTS) inspections and enforcements.

Date of Government Version: 04/09/2009	Source: EPA
Date Data Arrived at EDR: 04/16/2009	Telephone: 202-566-1667
Date Made Active in Reports: 05/11/2009	Last EDR Contact: 08/18/2017
Number of Days to Update: 25	Next Scheduled EDR Contact: 12/04/2017
	Data Release Frequency: No Update Planned

## MLTS: Material Licensing Tracking System

MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 07/20/2023	Source: Nuclear Regulatory Commission
Date Data Arrived at EDR: 09/01/2023	Telephone: 301-415-0717
Date Made Active in Reports: 09/20/2023	Last EDR Contact: 10/10/2023
Number of Days to Update: 19	Next Scheduled EDR Contact: 01/29/2024
	Data Release Frequency: Quarterly

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

## COAL ASH DOE: Steam-Electric Plant Operation Data

A listing of power plants that store ash in surface ponds.

Date of Government Version: 12/31/2021	Source: Department of Energy
Date Data Arrived at EDR: 04/14/2023	Telephone: 202-586-8719
Date Made Active in Reports: 07/10/2023	Last EDR Contact: 09/01/2023
Number of Days to Update: 87	Next Scheduled EDR Contact: 12/11/2023
	Data Release Frequency: Varies

## COAL ASH EPA: Coal Combustion Residues Surface Impoundments List

A listing of coal combustion residues surface impoundments with high hazard potential ratings.

Date of Government Version: 01/12/2017	Source: Environmental Protection Agency
Date Data Arrived at EDR: 03/05/2019	Telephone: N/A
Date Made Active in Reports: 11/11/2019	Last EDR Contact: 08/28/2023
Number of Days to Update: 251	Next Scheduled EDR Contact: 12/11/2023
	Data Release Frequency: Varies

## PCB TRANSFORMER: PCB Transformer Registration Database

The database of PCB transformer registrations that includes all PCB registration submittals.

Date of Government Version: 09/13/2019	Source: Environmental Protection Agency
Date Data Arrived at EDR: 11/06/2019	Telephone: 202-566-0517
Date Made Active in Reports: 02/10/2020	Last EDR Contact: 11/03/2023
Number of Days to Update: 96	Next Scheduled EDR Contact: 02/12/2024
	Data Release Frequency: Varies

## RADINFO: Radiation Information Database

The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

Date of Government Version: 07/01/2019	Source: Environmental Protection Agency
Date Data Arrived at EDR: 07/01/2019	Telephone: 202-343-9775
Date Made Active in Reports: 09/23/2019	Last EDR Contact: 09/22/2023
Number of Days to Update: 84	Next Scheduled EDR Contact: 01/08/2024
	Data Release Frequency: Quarterly

## HIST FTTS: FIFRA/TSCA Tracking System Administrative Case Listing

A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006	Source: Environmental Protection Agency
Date Data Arrived at EDR: 03/01/2007	Telephone: 202-564-2501
Date Made Active in Reports: 04/10/2007	Last EDR Contact: 12/17/2007
Number of Days to Update: 40	Next Scheduled EDR Contact: 03/17/2008
	Data Release Frequency: No Update Planned

## HIST FTTS INSP: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing

A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 10/19/2006  
Date Data Arrived at EDR: 03/01/2007  
Date Made Active in Reports: 04/10/2007  
Number of Days to Update: 40

Source: Environmental Protection Agency  
Telephone: 202-564-2501  
Last EDR Contact: 12/17/2008  
Next Scheduled EDR Contact: 03/17/2008  
Data Release Frequency: No Update Planned

## DOT OPS: Incident and Accident Data

Department of Transportation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 01/02/2020  
Date Data Arrived at EDR: 01/28/2020  
Date Made Active in Reports: 04/17/2020  
Number of Days to Update: 80

Source: Department of Transportation, Office of Pipeline Safety  
Telephone: 202-366-4595  
Last EDR Contact: 10/04/2023  
Next Scheduled EDR Contact: 02/05/2024  
Data Release Frequency: Quarterly

## CONSENT: Superfund (CERCLA) Consent Decrees

Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 06/30/2023  
Date Data Arrived at EDR: 07/19/2023  
Date Made Active in Reports: 10/10/2023  
Number of Days to Update: 83

Source: Department of Justice, Consent Decree Library  
Telephone: Varies  
Last EDR Contact: 10/03/2023  
Next Scheduled EDR Contact: 01/15/2024  
Data Release Frequency: Varies

## BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2021  
Date Data Arrived at EDR: 03/09/2023  
Date Made Active in Reports: 03/20/2023  
Number of Days to Update: 11

Source: EPA/NTIS  
Telephone: 800-424-9346  
Last EDR Contact: 09/20/2023  
Next Scheduled EDR Contact: 01/01/2024  
Data Release Frequency: Biennially

## INDIAN RESERV: Indian Reservations

This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2014  
Date Data Arrived at EDR: 07/14/2015  
Date Made Active in Reports: 01/10/2017  
Number of Days to Update: 546

Source: USGS  
Telephone: 202-208-3710  
Last EDR Contact: 10/02/2023  
Next Scheduled EDR Contact: 01/15/2024  
Data Release Frequency: Semi-Annually

## FUSRAP: Formerly Utilized Sites Remedial Action Program

DOE established the Formerly Utilized Sites Remedial Action Program (FUSRAP) in 1974 to remediate sites where radioactive contamination remained from Manhattan Project and early U.S. Atomic Energy Commission (AEC) operations.

Date of Government Version: 03/03/2023  
Date Data Arrived at EDR: 03/03/2023  
Date Made Active in Reports: 06/09/2023  
Number of Days to Update: 98

Source: Department of Energy  
Telephone: 202-586-3559  
Last EDR Contact: 10/25/2023  
Next Scheduled EDR Contact: 02/12/2024  
Data Release Frequency: Varies

## UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 08/30/2019  
Date Data Arrived at EDR: 11/15/2019  
Date Made Active in Reports: 01/28/2020  
Number of Days to Update: 74

Source: Department of Energy  
Telephone: 505-845-0011  
Last EDR Contact: 11/09/2023  
Next Scheduled EDR Contact: 02/26/2024  
Data Release Frequency: Varies

## LEAD SMELTER 1: Lead Smelter Sites

A listing of former lead smelter site locations.

Date of Government Version: 09/19/2023  
Date Data Arrived at EDR: 10/03/2023  
Date Made Active in Reports: 10/19/2023  
Number of Days to Update: 16

Source: Environmental Protection Agency  
Telephone: 703-603-8787  
Last EDR Contact: 11/01/2023  
Next Scheduled EDR Contact: 01/08/2024  
Data Release Frequency: Varies

## LEAD SMELTER 2: Lead Smelter Sites

A list of several hundred sites in the U.S. where secondary lead smelting was done from 1931 and 1964. These sites may pose a threat to public health through ingestion or inhalation of contaminated soil or dust

Date of Government Version: 04/05/2001  
Date Data Arrived at EDR: 10/27/2010  
Date Made Active in Reports: 12/02/2010  
Number of Days to Update: 36

Source: American Journal of Public Health  
Telephone: 703-305-6451  
Last EDR Contact: 12/02/2009  
Next Scheduled EDR Contact: N/A  
Data Release Frequency: No Update Planned

## US AIRS (AFS): Aerometric Information Retrieval System Facility Subsystem (AFS)

The database is a sub-system of Aerometric Information Retrieval System (AIRS). AFS contains compliance data on air pollution point sources regulated by the U.S. EPA and/or state and local air regulatory agencies. This information comes from source reports by various stationary sources of air pollution, such as electric power plants, steel mills, factories, and universities, and provides information about the air pollutants they produce. Action, air program, air program pollutant, and general level plant data. It is used to track emissions and compliance data from industrial plants.

Date of Government Version: 10/12/2016  
Date Data Arrived at EDR: 10/26/2016  
Date Made Active in Reports: 02/03/2017  
Number of Days to Update: 100

Source: EPA  
Telephone: 202-564-2496  
Last EDR Contact: 09/26/2017  
Next Scheduled EDR Contact: 01/08/2018  
Data Release Frequency: Annually

## US AIRS MINOR: Air Facility System Data

A listing of minor source facilities.

Date of Government Version: 10/12/2016  
Date Data Arrived at EDR: 10/26/2016  
Date Made Active in Reports: 02/03/2017  
Number of Days to Update: 100

Source: EPA  
Telephone: 202-564-2496  
Last EDR Contact: 09/26/2017  
Next Scheduled EDR Contact: 01/08/2018  
Data Release Frequency: Annually

## MINES VIOLATIONS: MSHA Violation Assessment Data

Mines violation and assessment information. Department of Labor, Mine Safety & Health Administration.

Date of Government Version: 07/05/2023  
Date Data Arrived at EDR: 07/05/2023  
Date Made Active in Reports: 09/25/2023  
Number of Days to Update: 82

Source: DOL, Mine Safety & Health Admi  
Telephone: 202-693-9424  
Last EDR Contact: 10/04/2023  
Next Scheduled EDR Contact: 02/19/2024  
Data Release Frequency: Quarterly

## US MINES: Mines Master Index File

Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 08/01/2023  
Date Data Arrived at EDR: 08/22/2023  
Date Made Active in Reports: 11/07/2023  
Number of Days to Update: 77

Source: Department of Labor, Mine Safety and Health Administration  
Telephone: 303-231-5959  
Last EDR Contact: 08/22/2023  
Next Scheduled EDR Contact: 12/04/2023  
Data Release Frequency: Semi-Annually

## US MINES 2: Ferrous and Nonferrous Metal Mines Database Listing

This map layer includes ferrous (ferrous metal mines are facilities that extract ferrous metals, such as iron ore or molybdenum) and nonferrous (Nonferrous metal mines are facilities that extract nonferrous metals, such as gold, silver, copper, zinc, and lead) metal mines in the United States.

Date of Government Version: 01/07/2022  
Date Data Arrived at EDR: 02/24/2023  
Date Made Active in Reports: 05/17/2023  
Number of Days to Update: 82

Source: USGS  
Telephone: 703-648-7709  
Last EDR Contact: 08/24/2023  
Next Scheduled EDR Contact: 12/04/2023  
Data Release Frequency: Varies

## US MINES 3: Active Mines & Mineral Plants Database Listing

Active Mines and Mineral Processing Plant operations for commodities monitored by the Minerals Information Team of the USGS.

Date of Government Version: 04/14/2011  
Date Data Arrived at EDR: 06/08/2011  
Date Made Active in Reports: 09/13/2011  
Number of Days to Update: 97

Source: USGS  
Telephone: 703-648-7709  
Last EDR Contact: 08/24/2023  
Next Scheduled EDR Contact: 12/04/2023  
Data Release Frequency: Varies

## MINES MRDS: Mineral Resources Data System Mineral Resources Data System

Date of Government Version: 08/23/2022  
Date Data Arrived at EDR: 11/22/2022  
Date Made Active in Reports: 02/28/2023  
Number of Days to Update: 98

Source: USGS  
Telephone: 703-648-6533  
Last EDR Contact: 08/24/2023  
Next Scheduled EDR Contact: 12/04/2023  
Data Release Frequency: Varies

## ABANDONED MINES: Abandoned Mines

An inventory of land and water impacted by past mining (primarily coal mining) is maintained by OSMRE to provide information needed to implement the Surface Mining Control and Reclamation Act of 1977 (SMCRA). The inventory contains information on the location, type, and extent of AML impacts, as well as, information on the cost associated with the reclamation of those problems. The inventory is based upon field surveys by State, Tribal, and OSMRE program officials. It is dynamic to the extent that it is modified as new problems are identified and existing problems are reclaimed.

Date of Government Version: 06/13/2023  
Date Data Arrived at EDR: 06/14/2023  
Date Made Active in Reports: 08/14/2023  
Number of Days to Update: 61

Source: Department of Interior  
Telephone: 202-208-2609  
Last EDR Contact: 09/12/2023  
Next Scheduled EDR Contact: 12/18/2023  
Data Release Frequency: Quarterly

## FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 05/04/2023  
Date Data Arrived at EDR: 05/25/2023  
Date Made Active in Reports: 07/24/2023  
Number of Days to Update: 60

Source: EPA  
Telephone: (404) 562-9900  
Last EDR Contact: 11/08/2023  
Next Scheduled EDR Contact: 12/11/2023  
Data Release Frequency: Quarterly



# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

## DOCKET HWC: Hazardous Waste Compliance Docket Listing

A complete list of the Federal Agency Hazardous Waste Compliance Docket Facilities.

Date of Government Version: 05/06/2021	Source: Environmental Protection Agency
Date Data Arrived at EDR: 05/21/2021	Telephone: 202-564-0527
Date Made Active in Reports: 08/11/2021	Last EDR Contact: 11/15/2023
Number of Days to Update: 82	Next Scheduled EDR Contact: 03/04/2024
	Data Release Frequency: Varies

## UXO: Unexploded Ordnance Sites

A listing of unexploded ordnance site locations

Date of Government Version: 11/09/2021	Source: Department of Defense
Date Data Arrived at EDR: 10/20/2022	Telephone: 703-704-1564
Date Made Active in Reports: 01/10/2023	Last EDR Contact: 09/13/2023
Number of Days to Update: 82	Next Scheduled EDR Contact: 01/22/2024
	Data Release Frequency: Varies

## ECHO: Enforcement & Compliance History Information

ECHO provides integrated compliance and enforcement information for about 800,000 regulated facilities nationwide.

Date of Government Version: 06/24/2023	Source: Environmental Protection Agency
Date Data Arrived at EDR: 06/29/2023	Telephone: 202-564-2280
Date Made Active in Reports: 09/25/2023	Last EDR Contact: 10/03/2023
Number of Days to Update: 88	Next Scheduled EDR Contact: 01/15/2024
	Data Release Frequency: Quarterly

## FUELS PROGRAM: EPA Fuels Program Registered Listing

This listing includes facilities that are registered under the Part 80 (Code of Federal Regulations) EPA Fuels Programs. All companies now are required to submit new and updated registrations.

Date of Government Version: 08/14/2023	Source: EPA
Date Data Arrived at EDR: 08/15/2023	Telephone: 800-385-6164
Date Made Active in Reports: 10/19/2023	Last EDR Contact: 11/10/2023
Number of Days to Update: 65	Next Scheduled EDR Contact: 02/26/2024
	Data Release Frequency: Quarterly

## PFAS NPL: Superfund Sites with PFAS Detections Information

EPA's Office of Land and Emergency Management and EPA Regional Offices maintain data describing what is known about site investigations, contamination, and remedial actions under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) where PFAS is present in the environment.

Date of Government Version: 07/05/2023	Source: Environmental Protection Agency
Date Data Arrived at EDR: 07/05/2023	Telephone: 703-603-8895
Date Made Active in Reports: 10/02/2023	Last EDR Contact: 10/03/2023
Number of Days to Update: 89	Next Scheduled EDR Contact: 01/15/2024
	Data Release Frequency: Varies

## PFAS FEDERAL SITES: Federal Sites PFAS Information

Several federal entities, such as the federal Superfund program, Department of Defense, National Aeronautics and Space Administration, Department of Transportation, and Department of Energy provided information for sites with known or suspected detections at federal facilities.

Date of Government Version: 07/05/2023	Source: Environmental Protection Agency
Date Data Arrived at EDR: 07/05/2023	Telephone: 202-272-0167
Date Made Active in Reports: 10/02/2023	Last EDR Contact: 10/03/2023
Number of Days to Update: 89	Next Scheduled EDR Contact: 01/15/2024
	Data Release Frequency: Varies

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

## PFAS TRIS: List of PFAS Added to the TRI

Section 7321 of the National Defense Authorization Act for Fiscal Year 2020 (NDAA) immediately added certain per- and polyfluoroalkyl substances (PFAS) to the list of chemicals covered by the Toxics Release Inventory (TRI) under Section 313 of the Emergency Planning and Community Right-to-Know Act (EPCRA) and provided a framework for additional PFAS to be added to TRI on an annual basis.

Date of Government Version: 07/05/2023	Source: Environmental Protection Agency
Date Data Arrived at EDR: 07/05/2023	Telephone: 202-566-0250
Date Made Active in Reports: 10/02/2023	Last EDR Contact: 10/03/2023
Number of Days to Update: 89	Next Scheduled EDR Contact: 01/15/2024
	Data Release Frequency: Varies

## PFAS TSCA: PFAS Manufacture and Imports Information

EPA issued the Chemical Data Reporting (CDR) Rule under the Toxic Substances Control Act (TSCA) and requires chemical manufacturers and facilities that manufacture or import chemical substances to report data to EPA. EPA publishes non-confidential business information (non-CBI) and includes descriptive information about each site, corporate parent, production volume, other manufacturing information, and processing and use information.

Date of Government Version: 07/05/2023	Source: Environmental Protection Agency
Date Data Arrived at EDR: 07/05/2023	Telephone: 202-272-0167
Date Made Active in Reports: 10/02/2023	Last EDR Contact: 10/03/2023
Number of Days to Update: 89	Next Scheduled EDR Contact: 01/15/2024
	Data Release Frequency: Varies

## PFAS RCRA MANIFEST: PFAS Transfers Identified In the RCRA Database Listing

To work around the lack of PFAS waste codes in the RCRA database, EPA developed the PFAS Transfers dataset by mining e-Manifest records containing at least one of these common PFAS keywords: PFAS, PFOA, PFOS, PERFL, AFFF, GENX, GEN-X (plus the VT waste codes). These keywords were searched for in the following text fields: Manifest handling instructions (MANIFEST\_HANDLING\_INSTR), Non-hazardous waste description (NON\_HAZ\_WASTE\_DESCRIPTION), DOT printed information (DOT\_PRINTED\_INFORMATION), Waste line handling instructions (WASTE\_LINE\_HANDLING\_INSTR), Waste residue comments (WASTE\_RESIDUE\_COMMENTS).

Date of Government Version: 07/05/2023	Source: Environmental Protection Agency
Date Data Arrived at EDR: 07/05/2023	Telephone: 202-272-0167
Date Made Active in Reports: 10/02/2023	Last EDR Contact: 10/03/2023
Number of Days to Update: 89	Next Scheduled EDR Contact: 01/15/2024
	Data Release Frequency: Varies

## PFAS ATSDR: PFAS Contamination Site Location Listing

PFAS contamination site locations from the Department of Health & Human Services, Center for Disease Control & Prevention. ATSDR is involved at a number of PFAS-related sites, either directly or through assisting state and federal partners. As of now, most sites are related to drinking water contamination connected with PFAS production facilities or fire training areas where aqueous film-forming firefighting foam (AFFF) was regularly used.

Date of Government Version: 06/24/2020	Source: Department of Health & Human Services
Date Data Arrived at EDR: 03/17/2021	Telephone: 202-741-5770
Date Made Active in Reports: 11/08/2022	Last EDR Contact: 10/23/2023
Number of Days to Update: 601	Next Scheduled EDR Contact: 02/05/2024
	Data Release Frequency: Varies

## PFAS WQP: Ambient Environmental Sampling for PFAS

The Water Quality Portal (WQP) is a part of a modernized repository storing ambient sampling data for all environmental media and tissue samples. A wide range of federal, state, tribal and local governments, academic and non-governmental organizations and individuals submit project details and sampling results to this public repository. The information is commonly used for research and assessments of environmental quality.

Date of Government Version: 09/23/2023	Source: Environmental Protection Agency
Date Data Arrived at EDR: 10/03/2023	Telephone: 202-272-0167
Date Made Active in Reports: 10/10/2023	Last EDR Contact: 10/03/2023
Number of Days to Update: 7	Next Scheduled EDR Contact: 01/15/2024
	Data Release Frequency: Varies

## GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

### PFAS NPDES: Clean Water Act Discharge Monitoring Information

Any discharger of pollutants to waters of the United States from a point source must have a National Pollutant Discharge Elimination System (NPDES) permit. The process for obtaining limits involves the regulated entity (permittee) disclosing releases in a NPDES permit application and the permitting authority (typically the state but sometimes EPA) deciding whether to require monitoring or monitoring with limits. Caveats and Limitations: Less than half of states have required PFAS monitoring for at least one of their permittees and fewer states have established PFAS effluent limits for permittees. New rulemakings have been initiated that may increase the number of facilities monitoring for PFAS in the future.

Date of Government Version: 07/05/2023	Source: Environmental Protection Agency
Date Data Arrived at EDR: 07/05/2023	Telephone: 202-272-0167
Date Made Active in Reports: 10/02/2023	Last EDR Contact: 10/03/2023
Number of Days to Update: 89	Next Scheduled EDR Contact: 01/15/2024
	Data Release Frequency: Varies

### PFAS ECHO: Facilities in Industries that May Be Handling PFAS Listing

Regulators and the public have expressed interest in knowing which regulated entities may be using PFAS. EPA has developed a dataset from various sources that show which industries may be handling PFAS. Approximately 120,000 facilities subject to federal environmental programs have operated or currently operate in industry sectors with processes that may involve handling and/or release of PFAS.

Date of Government Version: 07/05/2023	Source: Environmental Protection Agency
Date Data Arrived at EDR: 07/05/2023	Telephone: 202-272-0167
Date Made Active in Reports: 09/25/2023	Last EDR Contact: 10/03/2023
Number of Days to Update: 82	Next Scheduled EDR Contact: 01/15/2024
	Data Release Frequency: Varies

### PFAS ECHO FIRE TRAINING: Facilities in Industries that May Be Handling PFAS Listing

A list of fire training sites was added to the Industry Sectors dataset using a keyword search on the permitted facility's name to identify sites where fire-fighting foam may have been used in training exercises. Additionally, you may view an example spreadsheet of the subset of fire training facility data, as well as the keywords used in selecting or deselecting a facility for the subset, as well as the keywords used in selecting or deselecting a facility for the subset. These keywords were tested to maximize accuracy in selecting facilities that may use fire-fighting foam in training exercises, however, due to the lack of a required reporting field in the data systems for designating fire training sites, this methodology may not identify all fire training sites or may potentially misidentify them.

Date of Government Version: 07/05/2023	Source: Environmental Protection Agency
Date Data Arrived at EDR: 07/05/2023	Telephone: 202-272-0167
Date Made Active in Reports: 09/25/2023	Last EDR Contact: 10/03/2023
Number of Days to Update: 82	Next Scheduled EDR Contact: 01/15/2024
	Data Release Frequency: Varies

### PFAS PART 139 AIRPORT: All Certified Part 139 Airports PFAS Information Listing

Since July 1, 2006, all certified part 139 airports are required to have fire-fighting foam onsite that meet military specifications (MIL-F-24385) (14 CFR 139.317). To date, these military specification fire-fighting foams are fluorinated and have been historically used for training and extinguishing. The 2018 FAA Reauthorization Act has a provision stating that no later than October 2021, FAA shall not require the use of fluorinated AFFF. This provision does not prohibit the use of fluorinated AFFF at Part 139 civilian airports; it only prohibits FAA from mandating its use. The Federal Aviation Administration's document AC 150/5210-6D - Aircraft Fire Extinguishing Agents provides guidance on Aircraft Fire Extinguishing Agents, which includes Aqueous Film Forming Foam (AFFF).

Date of Government Version: 07/05/2023	Source: Environmental Protection Agency
Date Data Arrived at EDR: 07/05/2023	Telephone: 202-272-0167
Date Made Active in Reports: 09/25/2023	Last EDR Contact: 10/03/2023
Number of Days to Update: 82	Next Scheduled EDR Contact: 01/15/2024
	Data Release Frequency: Varies

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

## AQUEOUS FOAM NRC: Aqueous Foam Related Incidents Listing

The National Response Center (NRC) serves as an emergency call center that fields initial reports for pollution and railroad incidents and forwards that information to appropriate federal/state agencies for response. The spreadsheets posted to the NRC website contain initial incident data that has not been validated or investigated by a federal/state response agency. Response center calls from 1990 to the most recent complete calendar year where there was indication of Aqueous Film Forming Foam (AFFF) usage are included in this dataset. NRC calls may reference AFFF usage in the ?Material Involved? or ?Incident Description? fields.

Date of Government Version: 07/05/2023	Source: Environmental Protection Agency
Date Data Arrived at EDR: 07/06/2023	Telephone: 202-267-2675
Date Made Active in Reports: 09/25/2023	Last EDR Contact: 10/03/2023
Number of Days to Update: 81	Next Scheduled EDR Contact: 01/15/2024
	Data Release Frequency: Varies

## PCS ENF: Enforcement data

No description is available for this data

Date of Government Version: 12/31/2014	Source: EPA
Date Data Arrived at EDR: 02/05/2015	Telephone: 202-564-2497
Date Made Active in Reports: 03/06/2015	Last EDR Contact: 09/28/2023
Number of Days to Update: 29	Next Scheduled EDR Contact: 01/15/2024
	Data Release Frequency: Varies

## PCS: Permit Compliance System

PCS is a computerized management information system that contains data on National Pollutant Discharge Elimination System (NPDES) permit holding facilities. PCS tracks the permit, compliance, and enforcement status of NPDES facilities.

Date of Government Version: 07/14/2011	Source: EPA, Office of Water
Date Data Arrived at EDR: 08/05/2011	Telephone: 202-564-2496
Date Made Active in Reports: 09/29/2011	Last EDR Contact: 09/28/2023
Number of Days to Update: 55	Next Scheduled EDR Contact: 01/15/2024
	Data Release Frequency: No Update Planned

## BIOSOLIDS: ICIS-NPDES Biosolids Facility Data

The data reflects compliance information about facilities in the biosolids program.

Date of Government Version: 07/16/2023	Source: Environmental Protection Agency
Date Data Arrived at EDR: 07/18/2023	Telephone: 202-564-4700
Date Made Active in Reports: 08/28/2023	Last EDR Contact: 10/03/2023
Number of Days to Update: 41	Next Scheduled EDR Contact: 01/29/2024
	Data Release Frequency: Varies

## AIRS: Permitted Airs Facility Listing

A listing of permitted air facilities.

Date of Government Version: 05/22/2023	Source: Department of Health & Environmental Control
Date Data Arrived at EDR: 06/01/2023	Telephone: 803-898-4279
Date Made Active in Reports: 08/17/2023	Last EDR Contact: 11/16/2023
Number of Days to Update: 77	Next Scheduled EDR Contact: 03/04/2024
	Data Release Frequency: Varies

## ASBESTOS: Asbestos Notification Listing

Asbestos abatement & demolition project list

Date of Government Version: 05/23/2023	Source: Department of Health & Environmental Control
Date Data Arrived at EDR: 05/24/2023	Telephone: 803-898-3882
Date Made Active in Reports: 08/17/2023	Last EDR Contact: 10/05/2023
Number of Days to Update: 85	Next Scheduled EDR Contact: 01/29/2024
	Data Release Frequency: Varies

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

## COAL ASH: Coal Ash Disposal Sites

A listing of sites with coal ash ponds.

Date of Government Version: 03/20/2018  
Date Data Arrived at EDR: 03/22/2018  
Date Made Active in Reports: 04/25/2018  
Number of Days to Update: 34

Source: Department of Health & Environmental Control  
Telephone: 803-898-3964  
Last EDR Contact: 09/07/2023  
Next Scheduled EDR Contact: 12/25/2023  
Data Release Frequency: Varies

## DRYCLEANERS: Drycleaner Database

The Drycleaning Facility Restoration Trust Fund database is used to access, prioritize and cleanup contaminated registered drycleaning sites.

Date of Government Version: 04/26/2023  
Date Data Arrived at EDR: 04/27/2023  
Date Made Active in Reports: 07/18/2023  
Number of Days to Update: 82

Source: Department of Health & Environmental Control  
Telephone: 803-898-3882  
Last EDR Contact: 10/28/2023  
Next Scheduled EDR Contact: 02/05/2024  
Data Release Frequency: Annually

## Financial Assurance 1: Financial Assurance Information Listing

Financial assurance information for solid waste facilities. Financial assurance is intended to ensure that resources are available to pay for the cost of closure, post-closure care, and corrective measures if the owner or operator of a regulated facility is unable or unwilling to pay.

Date of Government Version: 06/15/2023  
Date Data Arrived at EDR: 06/15/2023  
Date Made Active in Reports: 09/05/2023  
Number of Days to Update: 82

Source: Department of Health & Environmental Control  
Telephone: 803-896-4067  
Last EDR Contact: 08/30/2023  
Next Scheduled EDR Contact: 12/18/2023  
Data Release Frequency: Semi-Annually

## Financial Assurance 2: Financial Assurance Information Listing

Hazardous waste financial assurance information.

Date of Government Version: 03/15/2023  
Date Data Arrived at EDR: 03/16/2023  
Date Made Active in Reports: 05/30/2023  
Number of Days to Update: 75

Source: Department of Health & Environmental Control  
Telephone: 803-898-3880  
Last EDR Contact: 08/30/2023  
Next Scheduled EDR Contact: 12/18/2023  
Data Release Frequency: Varies

## Financial Assurance 3: Financial Assurance Information Listing

UST financial assurance information.

Date of Government Version: 05/03/2023  
Date Data Arrived at EDR: 05/04/2023  
Date Made Active in Reports: 07/31/2023  
Number of Days to Update: 88

Source: Department of Health & Environmental Control  
Telephone: 803-898-3880  
Last EDR Contact: 09/28/2023  
Next Scheduled EDR Contact: 01/15/2024  
Data Release Frequency: Varies

## GWCI: Groundwater Contamination Inventory

An inventory of all groundwater contamination cases in the state.

Date of Government Version: 07/01/2008  
Date Data Arrived at EDR: 11/06/2008  
Date Made Active in Reports: 11/19/2008  
Number of Days to Update: 13

Source: Department of Health and Environmental Control  
Telephone: 803-898-3798  
Last EDR Contact: 09/13/2023  
Next Scheduled EDR Contact: 01/01/2024  
Data Release Frequency: Annually

## MANIFEST: Hazardous Waste Manifest Data

A generator who transports, or offers for transportation, hazardous waste for off-site treatment, storage or disposal must prepare a hazardous waste manifest to accompany such shipment.



# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 12/31/2020  
Date Data Arrived at EDR: 02/03/2022  
Date Made Active in Reports: 05/02/2022  
Number of Days to Update: 88

Source: Department of Health & Environmental Control  
Telephone: 803-898-3796  
Last EDR Contact: 10/26/2023  
Next Scheduled EDR Contact: 02/12/2024  
Data Release Frequency: Annually

## NPDES: Waste Water Treatment Facilities Listing

A listing of waste water treatment facility locations.

Date of Government Version: 07/18/2023  
Date Data Arrived at EDR: 07/19/2023  
Date Made Active in Reports: 10/10/2023  
Number of Days to Update: 83

Source: Department of Health & Environmental Control  
Telephone: 803-898-4300  
Last EDR Contact: 10/11/2023  
Next Scheduled EDR Contact: 01/29/2024  
Data Release Frequency: Varies

## UIC: Underground Injection Wells Listing

A listing of underground injection wells locations.

Date of Government Version: 07/27/2022  
Date Data Arrived at EDR: 07/27/2022  
Date Made Active in Reports: 08/01/2022  
Number of Days to Update: 5

Source: Department of Health & Environmental Control  
Telephone: 803-898-3799  
Last EDR Contact: 10/23/2023  
Next Scheduled EDR Contact: 02/05/2024  
Data Release Frequency: Semi-Annually

## EDR HIGH RISK HISTORICAL RECORDS

### *EDR Exclusive Records*

#### EDR MGP: EDR Proprietary Manufactured Gas Plants

The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A  
Date Data Arrived at EDR: N/A  
Date Made Active in Reports: N/A  
Number of Days to Update: N/A

Source: EDR, Inc.  
Telephone: N/A  
Last EDR Contact: N/A  
Next Scheduled EDR Contact: N/A  
Data Release Frequency: No Update Planned

#### EDR Hist Auto: EDR Exclusive Historical Auto Stations

EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A  
Date Data Arrived at EDR: N/A  
Date Made Active in Reports: N/A  
Number of Days to Update: N/A

Source: EDR, Inc.  
Telephone: N/A  
Last EDR Contact: N/A  
Next Scheduled EDR Contact: N/A  
Data Release Frequency: Varies

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

## EDR Hist Cleaner: EDR Exclusive Historical Cleaners

EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A	Source: EDR, Inc.
Date Data Arrived at EDR: N/A	Telephone: N/A
Date Made Active in Reports: N/A	Last EDR Contact: N/A
Number of Days to Update: N/A	Next Scheduled EDR Contact: N/A
	Data Release Frequency: Varies

## EDR RECOVERED GOVERNMENT ARCHIVES

### *Exclusive Recovered Govt. Archives*

#### RGA HWS: Recovered Government Archive State Hazardous Waste Facilities List

The EDR Recovered Government Archive State Hazardous Waste database provides a list of SHWS incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Health and Environmental Control in South Carolina.

Date of Government Version: N/A	Source: Department of Health and Environmental Control
Date Data Arrived at EDR: 07/01/2013	Telephone: N/A
Date Made Active in Reports: 01/03/2014	Last EDR Contact: 06/01/2012
Number of Days to Update: 186	Next Scheduled EDR Contact: N/A
	Data Release Frequency: Varies

#### RGA LF: Recovered Government Archive Solid Waste Facilities List

The EDR Recovered Government Archive Landfill database provides a list of landfills derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Health and Environmental Control in South Carolina.

Date of Government Version: N/A	Source: Department of Health and Environmental Control
Date Data Arrived at EDR: 07/01/2013	Telephone: N/A
Date Made Active in Reports: 01/15/2014	Last EDR Contact: 06/01/2012
Number of Days to Update: 198	Next Scheduled EDR Contact: N/A
	Data Release Frequency: Varies

#### RGA LUST: Recovered Government Archive Leaking Underground Storage Tank

The EDR Recovered Government Archive Leaking Underground Storage Tank database provides a list of LUST incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Health and Environmental Control in South Carolina.

Date of Government Version: N/A	Source: Department of Health and Environmental Control
Date Data Arrived at EDR: 07/01/2013	Telephone: N/A
Date Made Active in Reports: 01/03/2014	Last EDR Contact: 06/01/2012
Number of Days to Update: 186	Next Scheduled EDR Contact: N/A
	Data Release Frequency: Varies

## OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

## CT MANIFEST: Hazardous Waste Manifest Data

Facility and manifest data. Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a tsd facility.

Date of Government Version: 08/07/2023  
Date Data Arrived at EDR: 08/08/2023  
Date Made Active in Reports: 10/24/2023  
Number of Days to Update: 77

Source: Department of Energy & Environmental Protection  
Telephone: 860-424-3375  
Last EDR Contact: 11/07/2023  
Next Scheduled EDR Contact: 02/19/2024  
Data Release Frequency: No Update Planned

## NJ MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 12/31/2018  
Date Data Arrived at EDR: 04/10/2019  
Date Made Active in Reports: 05/16/2019  
Number of Days to Update: 36

Source: Department of Environmental Protection  
Telephone: N/A  
Last EDR Contact: 09/28/2023  
Next Scheduled EDR Contact: 01/15/2024  
Data Release Frequency: Annually

## NY MANIFEST: Facility and Manifest Data

Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

Date of Government Version: 01/01/2019  
Date Data Arrived at EDR: 10/29/2021  
Date Made Active in Reports: 01/19/2022  
Number of Days to Update: 82

Source: Department of Environmental Conservation  
Telephone: 518-402-8651  
Last EDR Contact: 10/28/2023  
Next Scheduled EDR Contact: 02/05/2024  
Data Release Frequency: Quarterly

## PA MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 06/30/2018  
Date Data Arrived at EDR: 07/19/2019  
Date Made Active in Reports: 09/10/2019  
Number of Days to Update: 53

Source: Department of Environmental Protection  
Telephone: 717-783-8990  
Last EDR Contact: 10/05/2023  
Next Scheduled EDR Contact: 01/22/2024  
Data Release Frequency: Annually

## RI MANIFEST: Manifest information

Hazardous waste manifest information

Date of Government Version: 12/31/2020  
Date Data Arrived at EDR: 11/30/2021  
Date Made Active in Reports: 02/18/2022  
Number of Days to Update: 80

Source: Department of Environmental Management  
Telephone: 401-222-2797  
Last EDR Contact: 11/09/2022  
Next Scheduled EDR Contact: 02/26/2024  
Data Release Frequency: Annually

## WI MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 05/31/2018  
Date Data Arrived at EDR: 06/19/2019  
Date Made Active in Reports: 09/03/2019  
Number of Days to Update: 76

Source: Department of Natural Resources  
Telephone: N/A  
Last EDR Contact: 08/30/2023  
Next Scheduled EDR Contact: 12/18/2023  
Data Release Frequency: Annually

## Oil/Gas Pipelines

Source: Endeavor Business Media

Petroleum Bundle (Crude Oil, Refined Products, Petrochemicals, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)) N = Natural Gas Bundle (Natural Gas, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)). This map includes information copyrighted by Endeavor Business Media. This information is provided on a best effort basis and Endeavor Business Media does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of Endeavor Business Media.

## Electric Power Transmission Line Data

Source: Endeavor Business Media

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# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

**Sensitive Receptors:** There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

## AHA Hospitals:

Source: American Hospital Association, Inc.

Telephone: 312-280-5991

The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

## Medical Centers: Provider of Services Listing

Source: Centers for Medicare & Medicaid Services

Telephone: 410-786-3000

A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

## Nursing Homes

Source: National Institutes of Health

Telephone: 301-594-6248

Information on Medicare and Medicaid certified nursing homes in the United States.

## Public Schools

Source: National Center for Education Statistics

Telephone: 202-502-7300

The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

## Private Schools

Source: National Center for Education Statistics

Telephone: 202-502-7300

The National Center for Education Statistics' primary database on private school locations in the United States.

## Daycare Centers: Child Day Care List

Source: Department of Social Services

Telephone: 803-898-7345

**Flood Zone Data:** This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.

Source: FEMA

Telephone: 877-336-2627

Date of Government Version: 2003, 2015

**NWI:** National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005, 2010 and 2015 from the U.S. Fish and Wildlife Service.

## State Wetlands Data: Wetlands Inventory

Source: Department of Natural Resources

Telephone: 803-734-9494

## **STREET AND ADDRESS INFORMATION**

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I-95 30 MILES FROM PINEWOOD, SC HEADED INTO PINEWOOD FROM CO  
SC

Inquiry Number:  
November 21, 2023

## EDR Site Report™



6 Armstrong Road, 4th floor  
Shelton, CT 06484  
Toll Free: 800.352.0050  
[www.edrnet.com](http://www.edrnet.com)



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The EDR-Site Report™ is a comprehensive presentation of government filings on a facility identified in a search of federal, state and local environmental databases.

**Section 1: Facility Detail Reports . . . . . Page 3**

All available detailed information from databases where sites are identified.

**Section 2: Databases and Update Information. . . . . Page 5**

Name, source, update dates, contact phone number and description of each of the databases for this report.

***Thank you for your business.***  
Please contact EDR at 1-800-352-0050  
with any questions or comments.

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# SECTION 1: FACILITY DETAIL REPORTS

I-95 30 MILES FROM PINWOOD, SC HEADED INTO PINWOOD FROM CO  
SC  
EDR ID #8710918

Databases:  
ERNS: Emergency Response Notification System

ERNS 1987-1989:  
NRC Report #: 00010918  
Envid: 8710918  
Spill Date: 19870915  
Spill Time: 0800  
EPA Region: 04  
EPA Region 2: Not reported  
County: CLARENDON  
Spill Address 1: Not reported  
Spill City: Not reported  
Spill State: SC  
Spill Zip: Not reported  
Number of Fatalities: 0  
Number of Injured: 0  
Number of Evacuees: 0  
Damage Dollar Amount: 0.00  
Initial Report: True  
Updated Report: True  
Damage: False  
EPA Notified: False  
Air: False  
Land: True  
Water: False  
Groundwater: False  
Facility: False  
Other: False  
Notes: Not reported  
Transport Related: False  
Equipment Failure: False  
Operator Error: False  
Natural Phenomenon: False  
Dumping: False  
Other: False  
Unknown: False  
Cause Code: Not reported  
Source: Not reported  
Mode: H  
SRC: N  
Report Number: 11830  
C.G. Unit: Not reported  
Type of Agency: Not reported  
Responding Agency: Not reported  
EPA Report Number: Not reported  
DC: 19921225  
Discharger ID: 10918  
Discharger DUNS: Not reported  
Discharger: Not reported  
Discharger Affiliation: Not reported  
Discharger Address: Not reported  
Discharger County: Not reported  
Discharger City: Not reported  
Discharger State: Not reported  
Discharger Zip: Not reported  
CID1: 1  
Material Spilled 1: FLUE DUST  
CC1: NCC  
Spill Total Quantity 1: 0.00  
Units 1: UNK  
In Water 1: 0.00  
Units in Water 1: UNK  
Quantity Lbs 1: 0.00  
CAS 1: Not reported  
DOT Number 1: Not reported  
CID2: Not reported  
Material Spilled 2: Not reported  
CC2: Not reported  
Spill Total Quantity 2: Not reported  
Units 2: Not reported  
In Water 2: Not reported  
Units in Water 2: Not reported  
Quantity Lbs 2: Not reported  
CAS 2: Not reported  
DOT Number 2: Not reported

# SECTION 1: FACILITY DETAIL REPORTS

...Continued...

CID3:	Not reported
Material Spilled 3:	Not reported
CC3:	Not reported
Spill Total Quantity 3:	Not reported
Units 3:	Not reported
In Water 3:	Not reported
Units in Water 3:	Not reported
Quantity Lbs 3:	Not reported
CAS 3:	Not reported
DOT Number 3:	Not reported
Description:	MATERIAL LEAKED FROM TRAILER/MOISTURE CONDENSED IN TRAILER
Site Location:	I-95 30 MILES FROM PINEWOOD, SC HEADED INTO PINEWOOD FROM COATESVILLE, PA
Action:	PUC AND HEALTH DEPT INSPECTED TRAILER. SENT ON TO LANDFILL
Comments:	Not reported

## SECTION 2: DATABASES AND UPDATE DATES

To maintain currency of the following federal, state and local databases, EDR contacts the appropriate government agency on a monthly or quarterly basis as required.

**Elapsed ASTM days:** Provides confirmation that this report meets or exceeds the 90-day updating requirement of the ASTM standard.

### DATABASES FOUND IN THIS REPORT

**ERNS: Emergency Response Notification System**

Source: National Response Center, United States Coast Guard

Telephone: 202-267-2180

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 06/12/2023

Database Release Frequency: Quarterly

Date of Last EDR Contact: 09/20/2023

Date of Next Scheduled Update: 01/01/2024

WHERE I-95 AND HWY 527 INTERSECT  
SC

Inquiry Number:  
November 21, 2023

## EDR Site Report™



6 Armstrong Road, 4th floor  
Shelton, CT 06484  
Toll Free: 800.352.0050  
[www.edrnet.com](http://www.edrnet.com)



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The EDR-Site Report™ is a comprehensive presentation of government filings on a facility identified in a search of federal, state and local environmental databases.

**Section 1: Facility Detail Reports . . . . . Page 3**

All available detailed information from databases where sites are identified.

**Section 2: Databases and Update Information. . . . . Page 6**

Name, source, update dates, contact phone number and description of each of the databases for this report.

***Thank you for your business.***  
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# SECTION 1: FACILITY DETAIL REPORTS

WHERE I-95 AND HWY 527 INTERSECT  
SC  
EDR ID #2000524278

Databases:  
ERNS: Emergency Response Notification System

Incident Commons:  
NRC Report #: 524278  
Description of Incident: CALLER STATES SOAPY TYPE SUDS ARE COMING FROM AN UNKNOWN SOURCE  
Type of Incident: UNKNOWN SHEEN  
Incident Cause: UNKNOWN  
Incident Date Time: 2000-03-26 15:00:00  
Incident DTG: DISCOVERED  
Incident Location: UNKNOWN SHEEN INCIDENT  
Location Address: WHERE I-95 AND HWY 527 INTERSECT  
Location Street 1: BLACK RIVER BRIDGE  
Location Street 2: Not reported  
Location Nearest City: Not reported  
Location State: SC  
Location County: CLARENDON  
Location Zip: Not reported  
Distance From City: Not reported  
Distance Units: Not reported  
Direction From City: Not reported  
Lat Deg: Not reported  
Lat Min: Not reported  
Lat Sec: Not reported  
Lat Quad: Not reported  
Long Deg: Not reported  
Long Min: Not reported  
Long Sec: Not reported  
Long Quad: Not reported  
Location Section: Not reported  
Location Township: Not reported  
Location range: Not reported  
Potential Range: Not reported

Incidents:  
Year: 2000  
NRC Report #: 524278  
Aircraft Type: UNKNOWN  
Aircraft Model: Not reported  
Aircraft ID: Not reported  
Aircraft Fuel Capacity: Not reported  
Aircraft Fuel Capacity Units: Not reported  
Aircraft Fuel on Board: Not reported  
Aircraft Fuel on Board Units: Not reported  
Aircraft Spot Number: Not reported  
Aircraft Hanger: Not reported  
Aircraft Runway Number: Not reported  
Road Mile Marker: Not reported  
Building ID: Not reported  
Type of Fixed Object: UNKNOWN  
Power Generating Facility: Not reported  
Generating Capacity: Not reported  
Type of Fuel: Not reported  
NPDES: Not reported  
NPDES Compliance: Not reported  
Pipeline Type: Not reported  
DOT Regulated: Not reported  
Pipeline Above Ground: Not reported  
Exposed Underwater: Not reported  
Pipeline Covered: Not reported  
Railroad Hotline: Not reported  
Grade Crossing: Not reported  
Location Subdivision: Not reported  
Railroad Milepost: Not reported  
Type Vehicle Involved: Not reported  
Crossing Device Type: Not reported  
Device Operational: Not reported  
DOT Crossing Number: Not reported  
Brake Failure: Not reported  
Description of Tank: Not reported  
Tank Above Ground: Not reported  
Transportable Container: Not reported  
Tank Regulated: Not reported  
Tank Regulated By: Not reported  
Tank ID: Not reported  
Capacity of Tank: Not reported  
Capacity of Tank Units: Not reported

# SECTION 1: FACILITY DETAIL REPORTS

...Continued...

Actual Amount:	Not reported
Actual Amount Units:	Not reported
Platform Rig Name:	Not reported
Platform Letter:	Not reported
Location Area ID:	Not reported
Location Block ID:	Not reported
OCSG Number:	Not reported
OCSP Number:	Not reported
State Lease Number:	Not reported
Pier Dock Number:	Not reported
Berth Slip Number:	Not reported
Continuous Release Type:	Not reported
Initial Continuous Release No:	Not reported
Continuous Release Permit:	Not reported
Allision:	Not reported
Type of Structure:	Not reported
Structure Name:	Not reported
Structure Operational:	Not reported
Airbag Deployed:	Not reported
Date Tiem Normal Service:	Not reported
Service Disruption Time:	Not reported
Service Disruption Units:	Not reported
Transit Bus Flag:	Not reported
CR Begin Date:	Not reported
CR End Date:	Not reported
CR Change Date:	Not reported
FBI Contact:	Not reported
FBI Contact Date Time:	Not reported
Sub Part C Testing Req:	XXX
Conductor Testing:	Not reported
Engineer Testing:	Not reported
Trainman Testing:	Not reported
Yard Foreman Testing:	Not reported
RCL Operator Testing:	Not reported
Brakeman Testing:	Not reported
Train Dispatcher Testing:	Not reported
Signalman Testing:	Not reported
Other Employee Testing:	Not reported
Unknown Testing:	Not reported
Passenger Handling:	Not reported
Passenger Route:	XXX
Passenger Delay:	XXX

## Incident Details:

Year:	2000
NRC Report #:	524278
Fire Involved:	N
Fire Extinguished:	U
Any Evacuations:	N
Number Evacuated:	Not reported
Who Evacuated:	Not reported
Radius of Evacuation:	Not reported
Any Injuries:	N
Number Injured:	Not reported
Number Hospitalized:	Not reported
Any Fatalities:	N
Number Fatalities:	Not reported
Any Damages:	N
Damage Amount:	Not reported
Air Corridor Closed:	N
Air Corridor Desc:	Not reported
Air Closure Time:	Not reported
Waterway Closed:	N
Waterway Desc:	Not reported
Waterway Closure Time:	Not reported
Road Closed:	N
Road Desc:	Not reported
Road Closure Time:	Not reported
Closure Direction:	Not reported
Major Artery:	N
Track Closed:	N
Track Desc:	Not reported
Track Closure Time:	Not reported
Media Interest:	NONE
Medium Desc:	WATER
Additional Medium Info:	Not reported
Body of Water:	BLACK RIVER
Tributary of:	Not reported
Release Secured:	U
Estimated Duration of Release:	Not reported
Release rate:	Not reported
Desc Remedial Action:	NONE
State Agency on Scene:	Not reported
State Agency Report Number:	Not reported

# SECTION 1: FACILITY DETAIL REPORTS

...Continued...

Other Agency Notified:	Not reported
Weather Conditions:	Not reported
Air Temperature:	Not reported
Wind Speed:	Not reported
Wind Direction:	Not reported
Water Supply Contaminated:	U
Sheen Size:	Not reported
Sheen Color:	Not reported
Direction of Sheen Travel:	Not reported
Sheen Odor Description:	Not reported
Wave Condition:	Not reported
Current Speed:	Not reported
Current Direction:	Not reported
Water Temperature:	Not reported
Track Close Dir:	Not reported
Empl Fatality:	Not reported
Pass Fatality:	Not reported
Community Impact:	N
Wind Speed Unit:	Not reported
Employee Injuries:	Not reported
Passenger Injuries:	Not reported
Occupant Fatality:	Not reported
Current Speed Unit:	M
Road Closure Units:	Not reported
Track Closure Units:	Not reported
Sheen Size Units:	Not reported
Additional Info:	CALLER HAD NO ADDITIONAL INFORMATION
State Agency Notified:	Not reported
Federal Agency Notified:	Not reported
nearest River Mile Marker:	Not reported
Sheen Size Length:	Not reported
Sheen Size Length Units:	Not reported
Sheen Size Width:	Not reported
Sheen Size Width Units:	Not reported
Offshore:	N
Duration Unit:	Not reported
Release Rate Unit:	Not reported
Release Rate Rate:	Not reported
Passengers Transferred:	UNK

## Calls:

Year:	2000
NRC Report #:	524278
Site ID:	2000524278
Date Time Received:	2000-03-27 16:55:39
Date Time Complete:	2000-03-27 16:58:21
Call Type:	INC
Responsible Company:	Not reported
Responsible Org Type:	UNKNOWN
Responsible City:	Not reported
Responsible State:	XX
Responsible Zip:	Not reported
On Behalf:	N
Source:	UNAVAILABLE

## Material Involved:

Year:	2000
NRC Report #:	524278
Chris Code:	OUN
Case Number:	000000-00-0
UN Number:	Not reported
Amount of Material:	0
Unit of Measure:	UNKNOWN AMOUNT
Name of Material:	UNKNOWN OIL
If Reached Water:	YES
Amount in Water:	0
Unit of Measure Reach Water:	UNKNOWN AMOUNT

## SECTION 2: DATABASES AND UPDATE DATES

To maintain currency of the following federal, state and local databases, EDR contacts the appropriate government agency on a monthly or quarterly basis as required.

**Elapsed ASTM days:** Provides confirmation that this report meets or exceeds the 90-day updating requirement of the ASTM standard.

### DATABASES FOUND IN THIS REPORT

**ERNS: Emergency Response Notification System**

Source: National Response Center, United States Coast Guard

Telephone: 202-267-2180

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 06/12/2023

Database Release Frequency: Quarterly

Date of Last EDR Contact: 09/20/2023

Date of Next Scheduled Update: 01/01/2024



**FUEL SPILL**

I-95 S @114 MM

SC

Inquiry Number:

November 21, 2023

# EDR Site Report™



6 Armstrong Road, 4th floor  
Shelton, CT 06484  
Toll Free: 800.352.0050  
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# SECTION 1: FACILITY DETAIL REPORTS

FUEL SPILL  
I-95 S @114 MM  
SC  
EDR ID #S106656133

Databases:  
SPILLS: Spill List

SPILL:

Name:	FUEL SPILL
Address:	I-95 S @114 MM
City,State,Zip:	SC
Incident ID number:	6911417
Incident Name:	200401827
District Logged In:	Not reported
Date DHEC notified:	05/04/2004
DHEC notification:	2043
Observed date:	05/04/2004
observed Time:	Not reported
Spill Date:	05/04/2004
Spill Time:	Not reported
Duration:	Not reported
Created Date:	05/05/2004
Updated Date:	05/05/2004
District Name:	Sumter EQC Office
PRP Last Name:	Not reported
PRP First Name:	Not reported
Incident substance type:	Oil
Received by Name:	ROBERT DUNCAN
Reviwed by Name:	REGIE WATTS
Transportation:	Y
Surface water affected:	No
Lead Investigator Name:	Not reported
CCBEP:	No
Water body:	Not reported
Caller Last Name:	Not reported
Caller name:	Not reported
Caller phone number:	Not reported
Caller extension:	Not reported
Caller organization:	Not reported
Substance:	DIESEL
Quantity:	100
Units:	Gallons
Recovered:	Not reported
Recovered Units:	Not reported
Comments:	Not reported

## SECTION 2: DATABASES AND UPDATE DATES

To maintain currency of the following federal, state and local databases, EDR contacts the appropriate government agency on a monthly or quarterly basis as required.

**Elapsed ASTM days:** Provides confirmation that this report meets or exceeds the 90-day updating requirement of the ASTM standard.

### DATABASES FOUND IN THIS REPORT

#### SC SPILLS: Spill List

Source: Department of Health and Environmental Control  
Telephone: 803-898-4111

Spills and releases of petroleum and hazardous chemicals reported to the Oil & Chemical Emergency Response division.

Date of Government Version: 08/23/2023  
Database Release Frequency: Semi-Annually

Date of Last EDR Contact: 11/16/2023  
Date of Next Scheduled Update: 03/04/2024

**SADDLE TANK**

I-95 N MM 132

SC

Inquiry Number:

November 21, 2023

# EDR Site Report™



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# SECTION 1: FACILITY DETAIL REPORTS

SADDLE TANK  
I-95 N MM 132  
SC  
EDR ID #S106656169

Databases:  
SPILLS: Spill List

SPILL:  
Name: SADDLE TANK  
Address: I-95 N MM 132  
City,State,Zip: SC  
Incident ID number: 7100564  
Incident Name: 200402202  
District Logged In: Not reported  
Date DHEC notified: 06/05/2004  
DHEC notification: 952  
Observed date: 06/05/2004  
observed Time: 841  
Spill Date: 06/05/2004  
Spill Time: 841  
Duration: Not reported  
Created Date: 06/05/2004  
Updated Date: 06/21/2004  
District Name: Sumter EQC Office  
PRP Last Name: Not reported  
PRP First Name: Not reported  
Incident substance type: Oil  
Received by Name: CHRIS STATON  
Reviwed by Name: JACK PETTIT  
Transportation: Y  
Surface water affected: No  
Lead Investigator Name: Not reported  
CCBEP: No  
Water body: Not reported  
Caller Last Name: Not reported  
Caller name: Not reported  
Caller phone number: Not reported  
Caller extension: Not reported  
Caller organization: Not reported  
Substance: DIESEL  
Quantity: 40  
Units: Gallons  
Recovered: Not reported  
Recovered Units: Not reported  
Comments: Not reported

## SECTION 2: DATABASES AND UPDATE DATES

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### DATABASES FOUND IN THIS REPORT

#### SC SPILLS: Spill List

Source: Department of Health and Environmental Control  
Telephone: 803-898-4111

Spills and releases of petroleum and hazardous chemicals reported to the Oil & Chemical Emergency Response division.

Date of Government Version: 08/23/2023  
Database Release Frequency: Semi-Annually

Date of Last EDR Contact: 11/16/2023  
Date of Next Scheduled Update: 03/04/2024

I-95 S BOUND BETWEEN MM 109-110  
SC

Inquiry Number:  
November 21, 2023

## EDR Site Report™



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# SECTION 1: FACILITY DETAIL REPORTS

I-95 S BOUND BETWEEN MM 109-110  
SC  
EDR ID #S106349650

Databases:  
SPILLS: Spill List

SPILL:  
Name: Not reported  
Address: I-95 S BOUND BETWEEN MM 109-110  
City,State,Zip: SC  
Incident ID number: 4503899  
Incident Name: 200300531  
District Logged In: Not reported  
Date DHEC notified: 02/19/2003  
DHEC notification: 2307  
Observed date: 02/19/2003  
observed Time: 2400  
Spill Date: 02/19/2003  
Spill Time: Not reported  
Duration: 2  
Created Date: 02/20/2003  
Updated Date: 02/21/2003  
District Name: Sumter EQC Office  
PRP Last Name: Not reported  
PRP First Name: Not reported  
Incident substance type: Oil  
Received by Name: CHRIS STATON  
Revieved by Name: RICHARD TAYLOR  
Transportation: Y  
Surface water affected: No  
Lead Investigator Name: Not reported  
CCBEP: No  
Water body: Not reported  
Caller Last Name: Not reported  
Caller name: Not reported  
Caller phone number: Not reported  
Caller extension: Not reported  
Caller organization: Not reported  
Substance: DIESEL  
Quantity: 95  
Units: Gallons  
Recovered: Not reported  
Recovered Units: Not reported  
Comments: Not reported

## SECTION 2: DATABASES AND UPDATE DATES

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### DATABASES FOUND IN THIS REPORT

#### SC SPILLS: Spill List

Source: Department of Health and Environmental Control  
Telephone: 803-898-4111

Spills and releases of petroleum and hazardous chemicals reported to the Oil & Chemical Emergency Response division.

Date of Government Version: 08/23/2023  
Database Release Frequency: Semi-Annually

Date of Last EDR Contact: 11/16/2023  
Date of Next Scheduled Update: 03/04/2024

I-95 N BETWEEN 130 & 131 MM  
SC

Inquiry Number:  
November 21, 2023

## EDR Site Report™



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# SECTION 1: FACILITY DETAIL REPORTS

I-95 N BETWEEN 130 & 131 MM  
SC  
EDR ID #S106044836

Databases:  
SPILLS: Spill List

SPILL:  
Name: Not reported  
Address: I-95 N BETWEEN 130 & 131 MM  
City,State,Zip: SC  
Incident ID number: 5241207  
Incident Name: 200302209  
District Logged In: Not reported  
Date DHEC notified: 06/26/2003  
DHEC notification: 1035  
Observed date: 06/26/2003  
observed Time: 1130  
Spill Date: 06/26/2003  
Spill Time: Not reported  
Duration: 4  
Created Date: 06/26/2003  
Updated Date: 06/26/2003  
District Name: Sumter EQC Office  
PRP Last Name: Not reported  
PRP First Name: Not reported  
Incident substance type: Oil  
Received by Name: CHRIS STATON  
Reviwed by Name: RICHARD TAYLOR  
Transportation: Y  
Surface water affected: No  
Lead Investigator Name: Not reported  
CCBEP: No  
Water body: Not reported  
Caller Last Name: Not reported  
Caller name: Not reported  
Caller phone number: Not reported  
Caller extension: Not reported  
Caller organization: Not reported  
Substance: DIESEL  
Quantity: 30  
Units: Gallons  
Recovered: Not reported  
Recovered Units: Not reported  
Comments: Not reported



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Source: Department of Health and Environmental Control

Telephone: 803-898-4111

Spills and releases of petroleum and hazardous chemicals reported to the Oil & Chemical Emergency Response division.

Date of Government Version: 08/23/2023  
Database Release Frequency: Semi-Annually

Date of Last EDR Contact: 11/16/2023  
Date of Next Scheduled Update: 03/04/2024



**SADDLE TANKS**

I-95 N

SC

Inquiry Number:  
November 21, 2023

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# SECTION 1: FACILITY DETAIL REPORTS

SADDLE TANKS  
I-95 N  
SC  
EDR ID #S104829073

Databases:  
SPILLS: Spill List

SPILL:  
Name: SADDLE TANKS  
Address: I-95 N  
City,State,Zip: SC  
Incident ID number: 890910  
Incident Name: 200003572  
District Logged In: Not reported  
Date DHEC notified: 10/31/2000  
DHEC notification: 730  
Observed date: 10/31/2000  
observed Time: 720  
Spill Date: Not reported  
Spill Time: Not reported  
Duration: Not reported  
Created Date: 10/31/2000  
Updated Date: 11/01/2000  
District Name: Sumter EQC Office  
PRP Last Name: ANONYMOUS  
PRP First Name: Not reported  
Incident substance type: Oil  
Received by Name: JIM RICE  
Revieved by Name: RONNIE DRIGGERS  
Transportation: Y  
Surface water affected: No  
Lead Investigator Name: RANDY DRIGGERS  
CCBEP: No  
Water body: Not reported  
Caller Last Name: Not reported  
Caller name: Not reported  
Caller phone number: Not reported  
Caller extension: Not reported  
Caller organization: Not reported  
Substance: DIESEL  
Quantity: Not reported  
Units: Not reported  
Recovered: Not reported  
Recovered Units: Not reported  
Comments: Not reported

## SECTION 2: DATABASES AND UPDATE DATES

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### DATABASES FOUND IN THIS REPORT

#### SC SPILLS: Spill List

Source: Department of Health and Environmental Control  
Telephone: 803-898-4111

Spills and releases of petroleum and hazardous chemicals reported to the Oil & Chemical Emergency Response division.

Date of Government Version: 08/23/2023  
Database Release Frequency: Semi-Annually

Date of Last EDR Contact: 11/16/2023  
Date of Next Scheduled Update: 03/04/2024



**SADDLE TANKS**

I-95 N

SC

Inquiry Number:  
November 21, 2023

**EDR Site Report™**



6 Armstrong Road, 4th floor  
Shelton, CT 06484  
Toll Free: 800.352.0050  
[www.edrnet.com](http://www.edrnet.com)

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**Section 1: Facility Detail Reports . . . . . Page 3**

All available detailed information from databases where sites are identified.

**Section 2: Databases and Update Information. . . . . Page 4**

Name, source, update dates, contact phone number and description of each of the databases for this report.

***Thank you for your business.***  
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# SECTION 1: FACILITY DETAIL REPORTS

SADDLE TANKS  
I-95 N  
SC  
EDR ID #S104829073

Databases:  
SPILLS: Spill List

SPILL:  
Name: SADDLE TANKS  
Address: I-95 N  
City,State,Zip: SC  
Incident ID number: 890910  
Incident Name: 200003572  
District Logged In: Not reported  
Date DHEC notified: 10/31/2000  
DHEC notification: 730  
Observed date: 10/31/2000  
observed Time: 720  
Spill Date: Not reported  
Spill Time: Not reported  
Duration: Not reported  
Created Date: 10/31/2000  
Updated Date: 11/01/2000  
District Name: Sumter EQC Office  
PRP Last Name: ANONYMOUS  
PRP First Name: Not reported  
Incident substance type: Oil  
Received by Name: JIM RICE  
Reviwed by Name: RONNIE DRIGGERS  
Transportation: Y  
Surface water affected: No  
Lead Investigator Name: RANDY DRIGGERS  
CCBEP: No  
Water body: Not reported  
Caller Last Name: Not reported  
Caller name: Not reported  
Caller phone number: Not reported  
Caller extension: Not reported  
Caller organization: Not reported  
Substance: DIESEL  
Quantity: Not reported  
Units: Not reported  
Recovered: Not reported  
Recovered Units: Not reported  
Comments: Not reported

## SECTION 2: DATABASES AND UPDATE DATES

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Date of Government Version: 08/23/2023  
Database Release Frequency: Semi-Annually

Date of Last EDR Contact: 11/16/2023  
Date of Next Scheduled Update: 03/04/2024

I-95, SOUTHBOUND, MILE MARKER 99  
SANTEE, SC 29142

Inquiry Number:  
November 21, 2023

## EDR Site Report™



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# SECTION 1: FACILITY DETAIL REPORTS

I-95, SOUTHBOUND, MILE MARKER 99  
SANTEE, SC 29142  
EDR ID #2004712123

Databases:  
ERNS: Emergency Response Notification System

Incident Commons:  
NRC Report #: 712123  
Description of Incident: MATERIAL RELEASED FROM A THIRD PARTY UNKNOWN TRACTOR TRAILER TRUCK IN THE PARKING LOT DUE TO UNKNOWN CAUSES.  
Type of Incident: MOBILE  
Incident Cause: UNKNOWN  
Incident Date Time: 2004-02-01 14:45:00  
Incident DTG: DISCOVERED  
Incident Location: Not reported  
Location Address: I-95, SOUTHBOUND, MILE MARKER 99  
Location Street 1: Not reported  
Location Street 2: Not reported  
Location Nearest City: SANTEE  
Location State: SC  
Location County: ORANGEBURG  
Location Zip: 29142  
Distance From City: Not reported  
Distance Units: Not reported  
Direction From City: Not reported  
Lat Deg: Not reported  
Lat Min: Not reported  
Lat Sec: Not reported  
Lat Quad: Not reported  
Long Deg: Not reported  
Long Min: Not reported  
Long Sec: Not reported  
Long Quad: Not reported  
Location Section: Not reported  
Location Township: Not reported  
Location range: Not reported  
Potential Range: Not reported

Incidents:  
Year: 2004  
NRC Report #: 712123  
Aircraft Type: Not reported  
Aircraft Model: Not reported  
Aircraft ID: Not reported  
Aircraft Fuel Capacity: Not reported  
Aircraft Fuel Capacity Units: Not reported  
Aircraft Fuel on Board: Not reported  
Aircraft Fuel on Board Units: Not reported  
Aircraft Spot Number: Not reported  
Aircraft Hanger: Not reported  
Aircraft Runway Number: Not reported  
Road Mile Marker: Not reported  
Building ID: Not reported  
Type of Fixed Object: Not reported  
Power Generating Facility: U  
Generating Capacity: Not reported  
Type of Fuel: Not reported  
NPDES: Not reported  
NPDES Compliance: U  
Pipeline Type: Not reported  
DOT Regulated: U  
Pipeline Above Ground: ABOVE  
Exposed Underwater: N  
Pipeline Covered: U  
Railroad Hotline: Not reported  
Grade Crossing: N  
Location Subdivision: Not reported  
Railroad Milepost: Not reported  
Type Vehicle Involved: Not reported  
Crossing Device Type: Not reported  
Device Operational: Y  
DOT Crossing Number: Not reported  
Brake Failure: N  
Description of Tank: Not reported  
Tank Above Ground: ABOVE  
Transportable Container: U  
Tank Regulated: U  
Tank Regulated By: Not reported  
Tank ID: Not reported  
Capacity of Tank: Not reported

# SECTION 1: FACILITY DETAIL REPORTS

...Continued...

Capacity of Tank Units:	Not reported
Actual Amount:	Not reported
Actual Amount Units:	Not reported
Platform Rig Name:	Not reported
Platform Letter:	Not reported
Location Area ID:	Not reported
Location Block ID:	Not reported
OCSG Number:	Not reported
OCSP Number:	Not reported
State Lease Number:	Not reported
Pier Dock Number:	Not reported
Berth Slip Number:	Not reported
Continuous Release Type:	Not reported
Initial Continuous Release No:	Not reported
Continuous Release Permit:	Not reported
Allision:	N
Type of Structure:	Not reported
Structure Name:	Not reported
Structure Operational:	U
Airbag Deployed:	Not reported
Date Tiem Normal Service:	Not reported
Service Disruption Time:	Not reported
Service Disruption Units:	Not reported
Transit Bus Flag:	Not reported
CR Begin Date:	Not reported
CR End Date:	Not reported
CR Change Date:	Not reported
FBI Contact:	Not reported
FBI Contact Date Time:	Not reported
Sub Part C Testing Req:	XXX
Conductor Testing:	Not reported
Engineer Testing:	Not reported
Trainman Testing:	Not reported
Yard Foreman Testing:	Not reported
RCL Operator Testing:	Not reported
Brakeman Testing:	Not reported
Train Dispatcher Testing:	Not reported
Signalman Testing:	Not reported
Other Employee Testing:	Not reported
Unknown Testing:	Not reported
Passenger Handling:	Not reported
Passenger Route:	XXX
Passenger Delay:	XXX
Incident Details:	
Year:	2004
NRC Report #:	712123
Fire Involved:	N
Fire Extinguished:	U
Any Evacuations:	N
Number Evacuated:	Not reported
Who Evacuated:	Not reported
Radius of Evacuation:	Not reported
Any Injuries:	N
Number Injured:	Not reported
Number Hospitalized:	Not reported
Any Fatalities:	N
Number Fatalities:	Not reported
Any Damages:	N
Damage Amount:	Not reported
Air Corridor Closed:	N
Air Corridor Desc:	Not reported
Air Closure Time:	Not reported
Waterway Closed:	N
Waterway Desc:	Not reported
Waterway Closure Time:	Not reported
Road Closed:	N
Road Desc:	Not reported
Road Closure Time:	Not reported
Closure Direction:	Not reported
Major Artery:	N
Track Closed:	N
Track Desc:	Not reported
Track Closure Time:	Not reported
Media Interest:	NONE
Medium Desc:	LAND
Additional Medium Info:	ASPHALT (PARKING LOT), POSSIBLY INTO A STORM DRAIN
Body of Water:	Not reported
Tributary of:	Not reported
Release Secured:	U
Estimated Duration of Release:	Not reported
Release rate:	Not reported
Desc Remedial Action:	NOTIFICATIONS
State Agency on Scene:	Not reported

# SECTION 1: FACILITY DETAIL REPORTS

...Continued...

State Agency Report Number: Not reported  
Other Agency Notified: Not reported  
Weather Conditions: CLEAR  
Air Temperature: 40  
Wind Speed: Not reported  
Wind Direction: Not reported  
Water Supply Contaminated: U  
Sheen Size: Not reported  
Sheen Color: Not reported  
Direction of Sheen Travel: Not reported  
Sheen Odor Description: Not reported  
Wave Condition: Not reported  
Current Speed: Not reported  
Current Direction: Not reported  
Water Temperature: Not reported  
Track Close Dir: Not reported  
Empl Fatality: Not reported  
Pass Fatality: Not reported  
Community Impact: N  
Wind Speed Unit: Not reported  
Employee Injuries: Not reported  
Passenger Injuries: Not reported  
Occupant Fatality: Not reported  
Current Speed Unit: Not reported  
Road Closure Units: Not reported  
Track Closure Units: Not reported  
Sheen Size Units: Not reported  
Additional Info: CALLER WILL NOTIFY FIRE DEPT.  
State Agency Notified: Not reported  
Federal Agency Notified: Not reported  
nearest River Mile Marker: Not reported  
Sheen Size Length: Not reported  
Sheen Size Length Units: Not reported  
Sheen Size Width: Not reported  
Sheen Size Width Units: Not reported  
Offshore: N  
Duration Unit: Not reported  
Release Rate Unit: Not reported  
Release Rate Rate: Not reported  
Passengers Transferred: UNK

## Mobile Detail:

Year: 2004  
NRC Report #: 712123  
Vehicle Number: UNKNOWN  
Trailer Number: UNKNOWN  
Vehicle Own Fuel Capacity: Not reported  
Cargo Capacity: 0  
Amount of Cargo on Board: 0  
Hazmat Carrier: N  
Carrier Licensed: N  
Noncompliance With Hazmat: N  
Mobile Type: TRACTOR TRAILER TRUCK  
Cargo Capacity Units: UNKNOWN AMOUNT  
Amount of Cargo on Board Units: UNKNOWN AMOUNT  
Vehicle Year: Not reported  
Vehicle Make: Not reported  
Vehicle Model: Not reported

## Calls:

Year: 2004  
NRC Report #: 712123  
Site ID: 2004712123  
Date Time Received: 2004-02-01 15:05:08  
Date Time Complete: 2004-02-01 15:11:23  
Call Type: INC  
Responsible Company: Not reported  
Responsible Org Type: UNKNOWN  
Responsible City: Not reported  
Responsible State: XX  
Responsible Zip: Not reported  
On Behalf: N  
Source: TELEPHONE

## Material Involved:

Year: 2004  
NRC Report #: 712123  
Chris Code: OTD  
Case Number: 000000-00-0  
UN Number: Not reported  
Amount of Material: 0  
Unit of Measure: UNKNOWN AMOUNT  
Name of Material: OIL, FUEL: NO. 2-D

# SECTION 1: FACILITY DETAIL REPORTS

...Continued...

If Reached Water:	UNKNOWN
Amount in Water:	0
Unit of Measure Reach Water:	UNKNOWN AMOUNT



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### DATABASES FOUND IN THIS REPORT

**ERNS: Emergency Response Notification System**

Source: National Response Center, United States Coast Guard

Telephone: 202-267-2180

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 06/12/2023

Database Release Frequency: Quarterly

Date of Last EDR Contact: 09/20/2023

Date of Next Scheduled Update: 01/01/2024

**SCDOT LAKE MARION PROJECT**

I-95 @ LAKE MARION

SANTEE, SC 29142

Inquiry Number:

November 21, 2023

# EDR Site Report™



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# SECTION 1: FACILITY DETAIL REPORTS

SCDOT LAKE MARION PROJECT  
I-95 @ LAKE MARION  
SANTEE, SC 29142  
EDR ID #1023679979

## Databases:

MANIFEST: Hazardous Waste Manifest Data  
RCRA NonGen / NLR: RCRA - Non Generators / No Longer Regulated

## MANIFEST:

EPAID: SCR000784025  
Name: SCDOT LAKE MARION PROJECT  
Address: I-95 @ LAKE MARION  
City,State,Zip: SANTEE, SC 29142  
District: Beaufort EQC Office  
Quarter: 3  
Year: 2017  
Record Type: T  
No Waste Ind: N  
Index Number: Not reported  
Waste Code 1: Not reported  
Waste Type 1: Not reported  
Waste Code 2: Not reported  
Waste Type 2: Not reported  
Waste Code 3: Not reported  
Waste Type 3: Not reported  
Waste Code 4: Not reported  
Waste Type 4: Not reported  
Waste Code 5: Not reported  
Waste Type 5: Not reported  
Manifest Number: Not reported  
Waste Description: Not reported  
SIC Code: Not reported  
NAICS Code: Not reported  
Source Code: Not reported  
Amount: Not reported  
Handling Code: Not reported  
Handling Description: Not reported  
Shipped Date: Not reported  
TSD ID: Not reported  
TSD Name: Not reported  
Transporter ID: NJD054126164  
Transporter Name: FREEHOLD CARTAGE INC

EPAID: SCR000784025  
Name: SCDOT LAKE MARION PROJECT  
Address: I-95 @ LAKE MARION  
City,State,Zip: SANTEE, SC 29142  
District: Beaufort EQC Office  
Quarter: 3  
Year: 2017  
Record Type: G  
No Waste Ind: N  
Index Number: 8  
Waste Code 1: D008  
Waste Type 1: Lead  
Waste Code 2: Not reported  
Waste Type 2: Not reported  
Waste Code 3: Not reported  
Waste Type 3: Not reported  
Waste Code 4: Not reported  
Waste Type 4: Not reported  
Waste Code 5: Not reported  
Waste Type 5: Not reported  
Manifest Number: Not reported  
Waste Description: LEAD PAINT WASTE DEBRIS FROM BLASTING  
SIC Code: Not reported  
NAICS Code: Not reported  
Source Code: G06  
Amount: 16000  
Handling Code: Not reported  
Handling Description: Not reported  
Shipped Date: Not reported  
TSD ID: Not reported  
TSD Name: Not reported  
Transporter ID: Not reported  
Transporter Name: Not reported

EPAID: SCR000784025  
Name: SCDOT LAKE MARION PROJECT  
Address: I-95 @ LAKE MARION

# SECTION 1: FACILITY DETAIL REPORTS

...Continued...

City,State,Zip: SANTEE, SC 29142  
District: Beaufort EQC Office  
Quarter: 3  
Year: 2017  
Record Type: O  
No Waste Ind: N  
Index Number: 8  
Waste Code 1: D008  
Waste Type 1: Lead  
Waste Code 2: Not reported  
Waste Type 2: Not reported  
Waste Code 3: Not reported  
Waste Type 3: Not reported  
Waste Code 4: Not reported  
Waste Type 4: Not reported  
Waste Code 5: Not reported  
Waste Type 5: Not reported  
Manifest Number: 010518823FLE  
Waste Description: LEAD PAINT WASTE DEBRIS FROM BLASTING  
SIC Code: Not reported  
NAICS Code: Not reported  
Source Code: G06  
Amount: 16000  
Handling Code: Not reported  
Handling Description: Not reported  
Shipped Date: 9/6/2017  
TSD ID: KYD985073196  
TSD Name: LMD INC  
Transporter ID: Not reported  
Transporter Name: Not reported

## RCRA Listings:

Date Form Received by Agency: 20190204  
Handler Name: Scdot Lake Marion Project  
Handler Address: I-95 @ LAKE MARION  
Handler City,State,Zip: SANTEE, SC 29142  
EPA ID: SCR000784025  
Contact Name: RICHARD FLOYD  
Contact Address: PARK ST  
Contact City,State,Zip: COLUMBIA, SC 29201  
Contact Telephone: 803-737-1494  
Contact Fax: Not reported  
Contact Email: FLOYDRI@SCDOT.ORG  
Contact Title: STATE BRIDGE MAINTENANCE ENGINEER  
EPA Region: 04  
Land Type: State  
Federal Waste Generator Description: Not a generator, verified  
Non-Notifier: Not reported  
Biennial Report Cycle: Not reported  
Accessibility: Not reported  
Active Site Indicator: Not reported  
State District Owner: Sc  
State District: LC  
Mailing Address: PARK ST  
Mailing City,State,Zip: COLUMBIA, SC 29201  
Owner Name: Scdot  
Owner Type: State  
Operator Name: Scdot  
Operator Type: State  
Short-Term Generator Activity: No  
Importer Activity: No  
Mixed Waste Generator: No  
Transporter Activity: No  
Transfer Facility Activity: No  
Recycler Activity with Storage: No  
Small Quantity On-Site Burner Exemption: No  
Smelting Melting and Refining Furnace Exemption: No  
Underground Injection Control: No  
Off-Site Waste Receipt: No  
Universal Waste Indicator: No  
Universal Waste Destination Facility: No  
Federal Universal Waste: No  
Active Site State-Reg Handler: ---  
Federal Facility Indicator: Not reported  
Hazardous Secondary Material Indicator: NN  
Sub-Part K Indicator: Not reported  
2018 GPRA Permit Baseline: Not on the Baseline  
2018 GPRA Renewals Baseline: Not on the Baseline  
202 GPRA Corrective Action Baseline: No  
Subject to Corrective Action Universe: No  
Non-TSDFs Where RCRA CA has Been Imposed Universe: No  
Corrective Action Priority Ranking: No NCAPS ranking  
Environmental Control Indicator: No



# SECTION 1: FACILITY DETAIL REPORTS

...Continued...

Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20190226
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

Biennial: List of Years  
Year: 2017

Hazardous Waste Summary:  
Waste Code: D008  
Waste Description: Lead

Handler - Owner Operator:  
Owner/Operator Indicator: Operator  
Owner/Operator Name: SCDOT  
Legal Status: State  
Date Became Current: 20170523  
Date Ended Current: Not reported  
Owner/Operator Address: 955 PARK ST  
Owner/Operator City,State,Zip: COLUMBIA, SC 29201  
Owner/Operator Telephone: 803-737-1494  
Owner/Operator Telephone Ext: Not reported  
Owner/Operator Fax: Not reported  
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner  
Owner/Operator Name: SCDOT  
Legal Status: State  
Date Became Current: 20091231  
Date Ended Current: Not reported  
Owner/Operator Address: 955 PARK ST  
Owner/Operator City,State,Zip: COLUMBIA, SC 29201-3959  
Owner/Operator Telephone: Not reported  
Owner/Operator Telephone Ext: Not reported  
Owner/Operator Fax: Not reported  
Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator  
Owner/Operator Name: SCDOT  
Legal Status: State  
Date Became Current: 20170523  
Date Ended Current: Not reported  
Owner/Operator Address: 955 PARK ST  
Owner/Operator City,State,Zip: COLUMBIA, SC 29201  
Owner/Operator Telephone: 803-737-1494  
Owner/Operator Telephone Ext: Not reported  
Owner/Operator Fax: Not reported  
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner  
Owner/Operator Name: SCDOT  
Legal Status: State  
Date Became Current: 20170523  
Date Ended Current: Not reported  
Owner/Operator Address: 955 PARK ST  
Owner/Operator City,State,Zip: COLUMBIA, SC 29201  
Owner/Operator Telephone: 803-737-1494  
Owner/Operator Telephone Ext: Not reported  
Owner/Operator Fax: Not reported  
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner  
Owner/Operator Name: SCDOT  
Legal Status: State  
Date Became Current: 20170523  
Date Ended Current: Not reported  
Owner/Operator Address: 955 PARK ST  
Owner/Operator City,State,Zip: COLUMBIA, SC 29201  
Owner/Operator Telephone: 803-737-1494  
Owner/Operator Telephone Ext: Not reported  
Owner/Operator Fax: Not reported

# SECTION 1: FACILITY DETAIL REPORTS

...Continued...

Owner/Operator Email: Not reported  
Owner/Operator Indicator: Operator  
Owner/Operator Name: SCDOT  
Legal Status: State  
Date Became Current: 20091231  
Date Ended Current: Not reported  
Owner/Operator Address: 955 PARK ST  
Owner/Operator City,State,Zip: COLUMBIA, SC 29201-3959  
Owner/Operator Telephone: Not reported  
Owner/Operator Telephone Ext: Not reported  
Owner/Operator Fax: Not reported  
Owner/Operator Email: Not reported

Historic Generators:  
Receive Date: 20170101  
Handler Name: SCDOT LAKE MARION PROJECT  
Federal Waste Generator Description: Large Quantity Generator  
State District Owner: Not reported  
Large Quantity Handler of Universal Waste: No  
Recognized Trader Importer: No  
Recognized Trader Exporter: No  
Spent Lead Acid Battery Importer: No  
Spent Lead Acid Battery Exporter: No  
Current Record: No  
Non Storage Recycler Activity: No  
Electronic Manifest Broker: No

Receive Date: 20170523  
Handler Name: SCDOT LAKE MARION PROJECT  
Federal Waste Generator Description: Large Quantity Generator  
State District Owner: Sc  
Large Quantity Handler of Universal Waste: No  
Recognized Trader Importer: No  
Recognized Trader Exporter: No  
Spent Lead Acid Battery Importer: No  
Spent Lead Acid Battery Exporter: No  
Current Record: No  
Non Storage Recycler Activity: Not reported  
Electronic Manifest Broker: Not reported

Receive Date: 20190204  
Handler Name: SCDOT LAKE MARION PROJECT  
Federal Waste Generator Description: Not a generator, verified  
State District Owner: Sc  
Large Quantity Handler of Universal Waste: No  
Recognized Trader Importer: No  
Recognized Trader Exporter: No  
Spent Lead Acid Battery Importer: No  
Spent Lead Acid Battery Exporter: No  
Current Record: Yes  
Non Storage Recycler Activity: No  
Electronic Manifest Broker: No

List of NAICS Codes and Descriptions:  
NAICS Code: 237990  
NAICS Description: OTHER HEAVY AND CIVIL ENGINEERING CONSTRUCTION

Facility Has Received Notices of Violations:  
Violations: No Violations Found

Evaluation Action Summary:  
Evaluations: No Evaluations Found

## SECTION 2: DATABASES AND UPDATE DATES

To maintain currency of the following federal, state and local databases, EDR contacts the appropriate government agency on a monthly or quarterly basis as required.

**Elapsed ASTM days:** Provides confirmation that this report meets or exceeds the 90-day updating requirement of the ASTM standard.

### DATABASES FOUND IN THIS REPORT

#### **SC MANIFEST: Hazardous Waste Manifest Data**

Source: Department of Health & Environmental Control

Telephone: 803-898-3796

A generator who transports, or offers for transportation, hazardous waste for off-site treatment, storage or disposal must prepare a hazardous waste manifest to accompany such shipment.

Date of Government Version: 12/31/2020

Database Release Frequency: Annually

Date of Last EDR Contact: 10/26/2023

Date of Next Scheduled Update: 02/12/2024

#### **RCRA NonGen / NLR: RCRA - Non Generators / No Longer Regulated**

Source: Environmental Protection Agency

Telephone: 202-272-0167

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

Date of Government Version: 07/24/2023

Database Release Frequency: Quarterly

Date of Last EDR Contact: 09/20/2023

Date of Next Scheduled Update: 01/01/2024



BASS DRIVE  
SANTEE, SC 29142

Inquiry Number:  
November 21, 2023

# EDR Site Report™



6 Armstrong Road, 4th floor  
Shelton, CT 06484  
Toll Free: 800.352.0050  
[www.edrnet.com](http://www.edrnet.com)

# TABLE OF CONTENTS

The EDR-Site Report™ is a comprehensive presentation of government filings on a facility identified in a search of federal, state and local environmental databases.

**Section 1: Facility Detail Reports . . . . . Page 3**

All available detailed information from databases where sites are identified.

**Section 2: Databases and Update Information. . . . . Page 4**

Name, source, update dates, contact phone number and description of each of the databases for this report.

***Thank you for your business.***  
Please contact EDR at 1-800-352-0050  
with any questions or comments.

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# SECTION 1: FACILITY DETAIL REPORTS

BASS DRIVE  
SANTEE, SC 29142  
EDR ID #1014629660

## Databases:

PCB TRANSFORMER: PCB Transformer Registration Database

## PCB TRANSFORMER:

Name:	Not reported
Address:	BASS DRIVE
City,State,Zip:	SANTEE, SC 29142
Company Name:	South Carolina Electric & Gas Company
Company Address:	1426 Main Street
Contact Name:	Laura Blake-Orr
Contact Phone:	803-217-7132
Transformer Location ID:	597
Record ID:	2824
Number of Transformers:	13
Weight kgs:	0
Flammable:	Not Provided
Office Region:	4
Officer Title:	Team Leader
Officer Name:	Laura Blake-Orr
Number of Remaining Transformers:	0
Date assigned:	1998-12-24 00:00:00
Date De-Registered/ Latest Removal Date:	2002-09-04 00:00:00

## SECTION 2: DATABASES AND UPDATE DATES

To maintain currency of the following federal, state and local databases, EDR contacts the appropriate government agency on a monthly or quarterly basis as required.

**Elapsed ASTM days:** Provides confirmation that this report meets or exceeds the 90-day updating requirement of the ASTM standard.

### DATABASES FOUND IN THIS REPORT

**PCB TRANSFORMER: PCB Transformer Registration Database**

Source: Environmental Protection Agency

Telephone: 202-566-0517

The database of PCB transformer registrations that includes all PCB registration submittals.

Date of Government Version: 09/13/2019

Database Release Frequency: Varies

Date of Last EDR Contact: 11/03/2023

Date of Next Scheduled Update: 02/12/2024

**SANTEE RESORT HOTEL**

HWY 15 & I-95

SANTEE, SC 29142

Inquiry Number:

November 21, 2023

# EDR Site Report™



6 Armstrong Road, 4th floor  
Shelton, CT 06484  
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Name, source, update dates, contact phone number and description of each of the databases for this report.

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# SECTION 1: FACILITY DETAIL REPORTS

SANTEE RESORT HOTEL  
HWY 15 & I-95  
SANTEE, SC 29142  
EDR ID #1007244869

## Databases:

FINDS: Facility Index System/Facility Registry System

## FINDS:

Registry ID: 110017166984  
Name: SANTEE RESORT HOTEL  
Address: HWY 15 & I-95  
City,State,Zip: SANTEE, SC 29142

[Click Here for FRS Facility Detail Report:](#)

## Environmental Interest/Information System:

The South Carolina Department of Health and Environmental Control (DHEC) Environmental Facility Information System (SC-EFIS) integrates information on environmental facilities, permits, violations, enforcement actions, and compliance activities needed to support regulatory requirements and target environmental quality improvements for the water, air, solid waste, and hazardous waste program areas.

Supplemental Address: Not reported  
FIPS Code: Not reported  
Country Name: UNITED STATES  
Federal Facility: Not reported  
Federal Agency: Not reported  
Tribal Land: Not reported  
Tribal Name: Not reported  
Congressional District: Not reported  
Census: Not reported  
Hydrologic Unit Code: Not reported  
EPA Region: 04  
Site Type: STATIONARY  
Location Description: Not reported  
Date Created: 11-MAR-04  
Date Updated: 29-DEC-14  
U.S-Mexico Border: Not reported  
Information System Abbreviated Name: SC-EFIS:SC0000055456  
Latitude: Not reported  
Longitude: Not reported  
Conveyor: Not reported  
Horizontal Collection: Not reported  
Horizontal Accuracy: Not reported  
Reference Point: Not reported  
Horizontal Datum: NAD83  
Coordinates Source: Not reported

## Alternate Name:

Registry ID: 110017166984  
Information System Abbreviated Name: SC-EFIS  
Program System ID: SC0000055456  
Alternative Name: SANTEE RESORT HOTEL  
Alternative Name Type: PROGRAM NAME

## Interest:

Registry ID: 110017166984  
Program System Name: SC-EFIS  
Program System ID: SC0000055456  
Env. Interest Type: STATE MASTER  
Federal ST Code: STATE  
Start Date: Not reported  
Start Date Qualifier: Not reported  
End Date: Not reported  
End Date Qualifier: Not reported  
Data Source: SC-EFIS  
Last Reported: Not reported  
Date Created: 11-MAR-04  
Date Updated: Not reported  
Active Status: Not reported

## Program:

Legislative District Number: Not reported  
HUC Code 8: Not reported  
HUC Code 12: Not reported  
Data Quality Code: iO  
Std Name: SANTEE RESORT HOTEL  
Std House Number: Not reported  
Std Street Name: Not reported  
Std Base Name: Not reported



# SECTION 1: FACILITY DETAIL REPORTS

...Continued...

Std Prefix:	Not reported
Std Suffix:	Not reported
Std Stype Before:	Not reported
Std Stype After:	Not reported
Std Postal Code:	29142
Std City Name:	SANTEE
Std County Name:	ORANGEBURG COUNTY
Std State Code:	SC
Std County FIPS:	45075
Std Country:	US
Std Full Address:	Not reported
Address Type:	Not reported
Link Method:	Not reported
Location Description:	Not reported
User ID:	REFRESH
Sensitive Ind:	Not reported
User Comment:	Not reported
Public Ind:	Y
Date Refresh:	11-MAR-04
Small Bus Ind:	Not reported
Env Justice Code:	Not reported
Parent Program System ID:	Not reported
Stand Alone Flag:	Not reported

## SECTION 2: DATABASES AND UPDATE DATES

To maintain currency of the following federal, state and local databases, EDR contacts the appropriate government agency on a monthly or quarterly basis as required.

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### DATABASES FOUND IN THIS REPORT

#### **FINDS: Facility Index System/Facility Registry System**

Source: EPA

Telephone: Not reported

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 11/03/2023  
Database Release Frequency: Quarterly

Date of Last EDR Contact: 11/08/2023  
Date of Next Scheduled Update: 12/11/2023

**EXXON LOCATION 4-6923**

I-95 AND SC 6  
SANTEE, SC 29142

Inquiry Number:  
November 21, 2023

# EDR Site Report™



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**Section 1: Facility Detail Reports . . . . . Page 3**

All available detailed information from databases where sites are identified.

**Section 2: Databases and Update Information. . . . . Page 7**

Name, source, update dates, contact phone number and description of each of the databases for this report.

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# SECTION 1: FACILITY DETAIL REPORTS

EXXON LOCATION 4-6923  
I-95 AND SC 6  
SANTEE, SC 29142  
EDR ID #1016240593

## Databases:

FINDS: Facility Index System/Facility Registry System  
ECHO: Enforcement & Compliance History Information

## FINDS:

Registry ID: 110007836057  
Name: EXXON LOCATION 4-6923  
Address: I-95 AND SC 6  
City,State,Zip: SANTEE, SC 29142

[Click Here for FRS Facility Detail Report:](#)

## Environmental Interest/Information System:

The South Carolina Department of Health and Environmental Control (DHEC) Environmental Facility Information System (SC-EFIS) integrates information on environmental facilities, permits, violations, enforcement actions, and compliance activities needed to support regulatory requirements and target environmental quality improvements for the water, air, solid waste, and hazardous waste program areas.

The Resource Conservation and Recovery Act Information System (RCRAInfo) is EPA's comprehensive information system in support of the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. It tracks many types of information about generators, transporters, treaters, storers, and disposers of hazardous waste.

Supplemental Address: Not reported  
FIPS Code: 45075  
Country Name: UNITED STATES  
Federal Facility: Not reported  
Federal Agency: Not reported  
Tribal Land: Not reported  
Tribal Name: Not reported  
Congressional District: Not reported  
Census: Not reported  
Hydrologic Unit Code: Not reported  
EPA Region: 04  
Site Type: STATIONARY  
Location Description: Not reported  
Date Created: 01-MAR-00  
Date Updated: 09-AUG-10  
U.S-Mexico Border: Not reported  
Information System Abbreviated Name: RCRAINFO:SCD987578184, SC-EFIS:SC0000012164, SC-EFIS:SC0000079983  
Latitude: Not reported  
Longitude: Not reported  
Conveyor: Not reported  
Horizontal Collection: Not reported  
Horizontal Accuracy: Not reported  
Reference Point: Not reported  
Horizontal Datum: NAD83  
Coordinates Source: Not reported

## Alternate Name:

Registry ID: 110007836057  
Information System Abbreviated Name: SC-EFIS  
Program System ID: SC0000079983  
Alternative Name: SANTEE EXXON 46923  
Alternative Name Type: PROGRAM NAME

Registry ID: 110007836057  
Information System Abbreviated Name: SC-EFIS  
Program System ID: SC0000012164  
Alternative Name: EXXON LOCATION 4 6923 DEACTIVATED  
Alternative Name Type: PRIMARY

Registry ID: 110007836057  
Information System Abbreviated Name: RCRAINFO  
Program System ID: SCD987578184  
Alternative Name: EXXON LOCATION 4-6923  
Alternative Name Type: PROGRAM NAME

## Contact:

Registry ID: 110007836057  
Program System Name: RCRAINFO  
Program System ID: SCD987578184  
Env. Interest Type: UNSPECIFIED UNIVERSE  
Contact Type: REGULATORY CONTACT  
Start Date: Not reported  
End Date: Not reported



# SECTION 1: FACILITY DETAIL REPORTS

...Continued...

Contact Name: ALDA S POOL  
Contact Title: WASTE ADMN  
Contact Telephone: 7136567709  
Contact Alternate Telephone: Not reported  
Contact Fax: Not reported  
Contact Email: Not reported  
Mailing Address: 800 BELL ROOM 2753X  
Supplemental Address: Not reported  
Mailing City: HOUSTON  
Mailing State Code: TX  
Mailing State: TEXAS  
Mailing Zip: 77002  
Mailing Country: UNITED STATES

## Interest:

Registry ID: 110007836057  
Program System Name: SC-EFIS  
Program System ID: SC0000012164  
Env. Interest Type: STATE MASTER  
Federal ST Code: STATE  
Start Date: Not reported  
Start Date Qualifier: Not reported  
End Date: Not reported  
End Date Qualifier: Not reported  
Data Source: SC-EFIS  
Last Reported: Not reported  
Date Created: 02-JAN-02  
Date Updated: 28-JAN-04  
Active Status: Not reported

Registry ID: 110007836057  
Program System Name: RCRAINFO  
Program System ID: SCD987578184  
Env. Interest Type: UNSPECIFIED UNIVERSE  
Federal ST Code: FEDERAL  
Start Date: 11-FEB-97  
Start Date Qualifier: FIRST NOTIFICATION DATE  
End Date: Not reported  
End Date Qualifier: Not reported  
Data Source: RCRAINFO  
Last Reported: Not reported  
Date Created: 26-NOV-07  
Date Updated: 28-MAY-15  
Active Status: N

Registry ID: 110007836057  
Program System Name: SC-EFIS  
Program System ID: SC0000079983  
Env. Interest Type: STATE MASTER  
Federal ST Code: STATE  
Start Date: Not reported  
Start Date Qualifier: Not reported  
End Date: Not reported  
End Date Qualifier: Not reported  
Data Source: SC-EFIS  
Last Reported: Not reported  
Date Created: 10-MAR-04  
Date Updated: Not reported  
Active Status: Not reported

## Mailing Information:

Registry ID: 110007836057  
Program System Name: RCRAINFO  
Program System ID: SCD987578184  
Supplemental Interest: UNSPECIFIED UNIVERSE  
Contact Type: FACILITY MAILING ADDRESS  
Start Date: Not reported  
End Date: Not reported  
Mailing Address: 800 BELL ROOM 2753X  
Supplemental Address: Not reported  
Contact City: HOUSTON  
Contact State Code: TX  
Contact State: TEXAS  
Contact Zip: 77002  
Contact Country: UNITED STATES

## Program:

Legislative District Number: Not reported  
HUC Code 8: Not reported  
HUC Code 12: Not reported  
Data Quality Code: V  
Std Name: EXXON LOCATION 4 6923  
Std House Number: Not reported

# SECTION 1: FACILITY DETAIL REPORTS

...Continued...

Std Street Name: Not reported  
Std Base Name: Not reported  
Std Prefix: Not reported  
Std Suffix: Not reported  
Std Stype Before: Not reported  
Std Stype After: Not reported  
Std Postal Code: 29142  
Std City Name: SANTEE  
Std County Name: ORANGEBURG COUNTY  
Std State Code: SC  
Std County FIPS: 45075  
Std Country: US  
Std Full Address: Not reported  
Address Type: Not reported  
Link Method: MANUAL  
Location Description: Not reported  
User ID: REFRESH  
Sensitive Ind: N  
User Comment: Not reported  
Public Ind: Y  
Date Refresh: 10-MAR-04  
Small Bus Ind: Not reported  
Env Justice Code: Not reported  
Parent Program System ID: Not reported  
Stand Alone Flag: Not reported

Legislative District Number: Not reported  
HUC Code 8: Not reported  
HUC Code 12: Not reported  
Data Quality Code: V  
Std Name: EXXON LOCATION 4 6923  
Std House Number: Not reported  
Std Street Name: Not reported  
Std Base Name: Not reported  
Std Prefix: Not reported  
Std Suffix: Not reported  
Std Stype Before: Not reported  
Std Stype After: Not reported  
Std Postal Code: 29142  
Std City Name: SANTEE  
Std County Name: ORANGEBURG COUNTY  
Std State Code: SC  
Std County FIPS: 45075  
Std Country: US  
Std Full Address: Not reported  
Address Type: Not reported  
Link Method: NAME ADDRESS  
Location Description: Not reported  
User ID: REFRESH  
Sensitive Ind: N  
User Comment: Not reported  
Public Ind: Y  
Date Refresh: 09-AUG-10  
Small Bus Ind: Not reported  
Env Justice Code: Not reported  
Parent Program System ID: Not reported  
Stand Alone Flag: Not reported

Legislative District Number: Not reported  
HUC Code 8: Not reported  
HUC Code 12: Not reported  
Data Quality Code: V  
Std Name: SANTEE EXXON 46923  
Std House Number: Not reported  
Std Street Name: Not reported  
Std Base Name: Not reported  
Std Prefix: Not reported  
Std Suffix: Not reported  
Std Stype Before: Not reported  
Std Stype After: Not reported  
Std Postal Code: 29142  
Std City Name: SANTEE  
Std County Name: ORANGEBURG COUNTY  
Std State Code: SC  
Std County FIPS: 45075  
Std Country: US  
Std Full Address: Not reported  
Address Type: Not reported  
Link Method: NAME ADDRESS  
Location Description: Not reported  
User ID: REFRESH  
Sensitive Ind: Not reported  
User Comment: Not reported  
Public Ind: Y  
Date Refresh: 10-MAR-04

# SECTION 1: FACILITY DETAIL REPORTS

...Continued...

Small Bus Ind:	Not reported
Env Justice Code:	Not reported
Parent Program System ID:	Not reported
Stand Alone Flag:	Not reported

Supplemental Interest:	
Interest Type:	STATE MASTER
Suppint:	UNDERGROUND STORAGE TANK PROGRAM
Start Date:	24-FEB-01
Start Date Qualifier:	Not reported
End Date:	Not reported
End Date Qualifier:	Not reported
Data Source:	SC-EFIS
Last Reported Date:	Not reported
Created Date:	10-MAR-04
Updated Date:	Not reported

Interest Type:	STATE MASTER
Suppint:	HAZARDOUS WASTE PROGRAM
Start Date:	13-AUG-00
Start Date Qualifier:	Not reported
End Date:	Not reported
End Date Qualifier:	Not reported
Data Source:	SC-EFIS
Last Reported Date:	Not reported
Created Date:	15-MAR-04
Updated Date:	Not reported

ECHO:	
Envid:	1016240593
Registry ID:	110007836057
DFR URL:	<a href="http://echo.epa.gov/detailed-facility-report?fid=110007836057">http://echo.epa.gov/detailed-facility-report?fid=110007836057</a>
Name:	EXXON LOCATION 4-6923
Address:	I-95 AND SC 6
City,State,Zip:	SANTEE, SC 29142

## SECTION 2: DATABASES AND UPDATE DATES

To maintain currency of the following federal, state and local databases, EDR contacts the appropriate government agency on a monthly or quarterly basis as required.

**Elapsed ASTM days:** Provides confirmation that this report meets or exceeds the 90-day updating requirement of the ASTM standard.

### DATABASES FOUND IN THIS REPORT

#### **FINDS: Facility Index System/Facility Registry System**

Source: EPA

Telephone: Not reported

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 11/03/2023  
Database Release Frequency: Quarterly

Date of Last EDR Contact: 11/08/2023  
Date of Next Scheduled Update: 12/11/2023

#### **ECHO: Enforcement & Compliance History Information**

Source: Environmental Protection Agency

Telephone: 202-564-2280

ECHO provides integrated compliance and enforcement information for about 800,000 regulated facilities nationwide.

Date of Government Version: 06/24/2023  
Database Release Frequency: Quarterly

Date of Last EDR Contact: 10/03/2023  
Date of Next Scheduled Update: 01/15/2024

**SCDOT LAKE MARION PROJECT**

I-95 @ LAKE MARION

SANTEE, SC 29142

Inquiry Number:

November 27, 2023

# EDR Site Report™



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Shelton, CT 06484  
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The EDR-Site Report™ is a comprehensive presentation of government filings on a facility identified in a search of federal, state and local environmental databases.

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All available detailed information from databases where sites are identified.

**Section 2: Databases and Update Information. . . . . Page 7**

Name, source, update dates, contact phone number and description of each of the databases for this report.

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# SECTION 1: FACILITY DETAIL REPORTS

SCDOT LAKE MARION PROJECT  
I-95 @ LAKE MARION  
SANTEE, SC 29142  
EDR ID #1023711163

## Databases:

FINDS: Facility Index System/Facility Registry System  
ECHO: Enforcement & Compliance History Information

## FINDS:

Registry ID: 110070122794  
Name: SCDOT LAKE MARION PROJECT  
Address: I-95 @ LAKE MARION  
City,State,Zip: SANTEE, SC 29142

[Click Here for FRS Facility Detail Report:](#)

## Environmental Interest/Information System:

The Resource Conservation and Recovery Act Information System (RCRAInfo) is EPA's comprehensive information system in support of the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. It tracks many types of information about generators, transporters, treaters, storers, and disposers of hazardous waste.

Supplemental Address: Not reported  
FIPS Code: 45075  
Country Name: UNITED STATES  
Federal Facility: Not reported  
Federal Agency: Not reported  
Tribal Land: Not reported  
Tribal Name: Not reported  
Congressional District: Not reported  
Census: Not reported  
Hydrologic Unit Code: Not reported  
EPA Region: 04  
Site Type: STATIONARY  
Location Description: Not reported  
Date Created: 17-OCT-17  
Date Updated: Not reported  
U.S-Mexico Border: Not reported  
Information System Abbreviated Name: RCRAINFO:SCR000784025  
Latitude: Not reported  
Longitude: Not reported  
Conveyor: Not reported  
Horizontal Collection: Not reported  
Horizontal Accuracy: Not reported  
Reference Point: Not reported  
Horizontal Datum: NAD83  
Coordinates Source: Not reported

## Organization:

Registry ID: 110070122794  
Program System Name: RCRAINFO  
Program System ID: SCR000784025  
Env. Interest Type: UNSPECIFIED UNIVERSE  
Contact Type: OPERATOR  
Start Date: 23-MAY-17  
End Date: Not reported  
Organization Name: SCDOT  
Organization Type: PRIVATE  
Duns Number: Not reported  
Division Name: Not reported  
Phone Number: 803-737-1494  
Alternate Phone Number: Not reported  
Fax Number: Not reported  
Email: Not reported  
EIN: Not reported  
State Business ID: Not reported  
Parent Name: Not reported  
Standard Parent Name: Not reported  
Parent Duns Number: Not reported  
Mailing Address: 955 PARK ST  
Supplemental Address: Not reported  
City: COLUMBIA  
State: Not reported  
Zip: 29202  
Country: USA

Registry ID: 110070122794  
Program System Name: RCRAINFO  
Program System ID: SCR000784025  
Env. Interest Type: UNSPECIFIED UNIVERSE  
Contact Type: OWNER

# SECTION 1: FACILITY DETAIL REPORTS

...Continued...

Start Date: 23-MAY-17  
End Date: Not reported  
Organization Name: SCDOT  
Organization Type: PRIVATE  
Duns Number: Not reported  
Division Name: Not reported  
Phone Number: 803-737-1494  
Alternate Phone Number: Not reported  
Fax Number: Not reported  
Email: Not reported  
EIN: Not reported  
State Business ID: Not reported  
Parent Name: Not reported  
Standard Parent Name: Not reported  
Parent Duns Number: Not reported  
Mailing Address: 955 PARK ST  
Supplemental Address: Not reported  
City: COLUMBIA  
State: Not reported  
Zip: 29202  
Country: USA

Interest:  
Registry ID: 110070122794  
Program System Name: RCRAINFO  
Program System ID: SCR000784025  
Env. Interest Type: UNSPECIFIED UNIVERSE  
Federal ST Code: FEDERAL  
Start Date: 01-JAN-17  
Start Date Qualifier: FIRST BIENNIAL/NOTIFICATION DATE  
End Date: Not reported  
End Date Qualifier: Not reported  
Data Source: RCRAINFO  
Last Reported: Not reported  
Date Created: 19-APR-19  
Date Updated: Not reported  
Active Status: N

Mailing Information:  
Registry ID: 110070122794  
Program System Name: RCRAINFO  
Program System ID: SCR000784025  
Supplemental Interest: UNSPECIFIED UNIVERSE  
Contact Type: FACILITY MAILING ADDRESS  
Start Date: Not reported  
End Date: Not reported  
Mailing Address: 955 PARK ST  
Supplemental Address: Not reported  
Contact City: COLUMBIA  
Contact State Code: SC  
Contact State: SOUTH CAROLINA  
Contact Zip: 29206  
Contact Country: USA

NAICS:  
Registry ID: 110070122794  
Program System Name: RCRAINFO  
Program System ID: SCR000784025  
Env. Interest Type: UNSPECIFIED UNIVERSE  
NAICS Code: 237990  
Primary Indicator: PRIMARY  
Description Code: OTHER HEAVY AND CIVIL ENGINEERING CONSTRUCTION.

Program:  
Legislative District Number: Not reported  
HUC Code 8: Not reported  
HUC Code 12: Not reported  
Data Quality Code: V  
Std Name: SCDOT LAKE MARION PROJ  
Std House Number: Not reported  
Std Street Name: I-95 S  
Std Base Name: I 95  
Std Prefix: Not reported  
Std Suffix: Not reported  
Std Stype Before: Not reported  
Std Stype After: Not reported  
Std Postal Code: 29142  
Std City Name: SANTEE  
Std County Name: ORANGEBURG COUNTY  
Std State Code: SC  
Std County FIPS: 45075  
Std Country: US  
Std Full Address: I-95 S, SANTEE, SC 29142 US

# SECTION 1: FACILITY DETAIL REPORTS

...Continued...

Address Type:	Not reported
Link Method:	Not reported
Location Description:	Not reported
User ID:	REFRESH
Sensitive Ind:	N
User Comment:	Not reported
Public Ind:	Y
Date Refresh:	23-JAN-18
Small Bus Ind:	Not reported
Env Justice Code:	Not reported
Parent Program System ID:	Not reported
Stand Alone Flag:	Not reported

Registry ID:	110070739757	
Name:		SCDOT LAKE MARION PROJECT
Address:		I-95 @ LAKE MARION
City,State,Zip:		SANTEE, SC 29142

[Click Here for FRS Facility Detail Report:](#)

## Environmental Interest/Information System:

All generators and treatment, storage, and disposal (TSD) facilities who handle hazardous waste are required to report to the EPA Administrator at least once every two years. The data collected is used to create the National Biennial Resource Conservation and Recovery Act (RCRA) Hazardous Waste Report. This data is processed within the RCRA Information (RCRAInfo) database

Supplemental Address:	Not reported
FIPS Code:	45075
Country Name:	USA
Federal Facility:	Not reported
Federal Agency:	Not reported
Tribal Land:	Not reported
Tribal Name:	Not reported
Congressional District:	Not reported
Census:	Not reported
Hydrologic Unit Code:	Not reported
EPA Region:	04
Site Type:	STATIONARY
Location Description:	Not reported
Date Created:	04-MAY-20
Date Updated:	Not reported
U.S-Mexico Border:	Not reported
Information System Abbreviated Name:	BR:SCR000784025
Latitude:	Not reported
Longitude:	Not reported
Conveyor:	Not reported
Horizontal Collection:	Not reported
Horizontal Accuracy:	Not reported
Reference Point:	Not reported
Horizontal Datum:	NAD83
Coordinates Source:	Not reported

## Interest:

Registry ID:	110070739757
Program System Name:	BR
Program System ID:	SCR000784025
Env. Interest Type:	HAZARDOUS WASTE BIENNIAL REPORTER
Federal ST Code:	FEDERAL
Start Date:	Not reported
Start Date Qualifier:	Not reported
End Date:	Not reported
End Date Qualifier:	Not reported
Data Source:	RCRAINFO
Last Reported:	31-DEC-17
Date Created:	07-MAY-20
Date Updated:	Not reported
Active Status:	Y

## Program:

Legislative District Number:	Not reported
HUC Code 8:	Not reported
HUC Code 12:	Not reported
Data Quality Code:	Not reported
Std Name:	Not reported
Std House Number:	Not reported
Std Street Name:	Not reported
Std Base Name:	Not reported
Std Prefix:	Not reported
Std Suffix:	Not reported
Std Stype Before:	Not reported
Std Stype After:	Not reported
Std Postal Code:	Not reported
Std City Name:	Not reported
Std County Name:	Not reported

# SECTION 1: FACILITY DETAIL REPORTS

...Continued...

Std State Code:	Not reported
Std County FIPS:	Not reported
Std Country:	Not reported
Std Full Address:	Not reported
Address Type:	Not reported
Link Method:	Not reported
Location Description:	Not reported
User ID:	REFRESH
Sensitive Ind:	N
User Comment:	Not reported
Public Ind:	Y
Date Refresh:	04-MAY-20
Small Bus Ind:	Not reported
Env Justice Code:	Not reported
Parent Program System ID:	Not reported
Stand Alone Flag:	Not reported

## ECHO:

Envid:	1023711163
Registry ID:	110070122794
DFR URL:	<a href="http://echo.epa.gov/detailed-facility-report?fid=110070122794">http://echo.epa.gov/detailed-facility-report?fid=110070122794</a>
Name:	SCDOT LAKE MARION PROJECT
Address:	I-95 @ LAKE MARION
City,State,Zip:	SANTEE, SC 29142



## SECTION 2: DATABASES AND UPDATE DATES

To maintain currency of the following federal, state and local databases, EDR contacts the appropriate government agency on a monthly or quarterly basis as required.

**Elapsed ASTM days:** Provides confirmation that this report meets or exceeds the 90-day updating requirement of the ASTM standard.

### DATABASES FOUND IN THIS REPORT

#### **FINDS: Facility Index System/Facility Registry System**

Source: EPA

Telephone: Not reported

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 11/03/2023  
Database Release Frequency: Quarterly

Date of Last EDR Contact: 11/08/2023  
Date of Next Scheduled Update: 03/11/2024

#### **ECHO: Enforcement & Compliance History Information**

Source: Environmental Protection Agency

Telephone: 202-564-2280

ECHO provides integrated compliance and enforcement information for about 800,000 regulated facilities nationwide.

Date of Government Version: 06/24/2023  
Database Release Frequency: Quarterly

Date of Last EDR Contact: 10/03/2023  
Date of Next Scheduled Update: 01/15/2024

**SANTEE NATIONAL WILDLIFE REFUGE**

I-95 EXIT 102

SUMMERTON, SC 29148

Inquiry Number:

November 27, 2023

**EDR Site Report™**



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# SECTION 1: FACILITY DETAIL REPORTS

SANTEE NATIONAL WILDLIFE REFUGE  
I-95 EXIT 102  
SUMMERTON, SC 29148  
EDR ID #U004255452

## Databases:

UST: Comprehensive Underground Storage Tanks  
LUST: Leaking Underground Storage Tank List

## UST:

Name: SANTEE NATIONAL WILDLIFE REFUGE  
Address: I-95 EXIT 102  
City: SUMMERTON  
Facility ID: 02324  
Permit: N 02324  
Owner: US FISH & WILDLIFE SERVICE  
Owner Address: 1000 BUSINESS CENTER DR STE 10  
Owner City, st, zip: SAVANNAH GA 31405  
Owner Phone: 912-652-4415

Tank ID: 1  
Status: Abandoned  
Capacity: 2000  
Product: Gasoline  
Calcage: 5

Name: SANTEE NATIONAL WILDLIFE REFUGE  
Address: I-95 EXIT 102  
City: SUMMERTON

Tank ID: 2  
Status: Abandoned  
Capacity: 2000  
Product: Diesel fuel  
Calcage: 5

Name: SANTEE NATIONAL WILDLIFE REFUGE  
Address: I-95 EXIT 102  
City: SUMMERTON

Tank ID: 3  
Status: Abandoned  
Capacity: 2000  
Product: Gasoline  
Calcage: 5

Name: SANTEE NATIONAL WILDLIFE REFUGE  
Address: I-95 EXIT 102  
City: SUMMERTON

Tank ID: 4  
Status: Abandoned  
Capacity: 500  
Product: Waste oil, burnt oil, used oil  
Calcage: 5

Name: SANTEE NATIONAL WILDLIFE REFUGE  
Address: I-95 EXIT 102  
City: SUMMERTON

Tank ID: 5  
Status: Abandoned  
Capacity: 500  
Product: Not reported  
Calcage: 10

Name: SANTEE NATIONAL WILDLIFE REFUGE  
Address: I-95 EXIT 102  
City: SUMMERTON

Tank ID: Not reported  
Status: Not reported  
Capacity: Not reported  
Product: Not reported  
Calcage: Not reported

## LUST:

Name: SANTEE NATIONAL WILDLIFE REFUGE  
Address: I-95 EXIT 102  
City,State,Zip: SUMMERTON, SC 29148

# SECTION 1: FACILITY DETAIL REPORTS

...Continued...

Release Number: 1  
Facility ID: 02324  
Release Status Number: Not reported  
Substance: PETRO  
Tank Owner Company Name: US FISH & WILDLIFE SERVICE  
Tank Owner Last Name: Not reported  
Tank Owner First name: Not reported  
NFA Date: 06/08/2005  
Tank Owner City: Not reported  
Confirmed Date: Not reported  
Release Date: 12/09/1994  
EID: Not reported  
Local Facility District: Not reported  
SCRBCA Class Number: Not reported  
Release Fin Type Code: Not reported  
Qualified: Not reported  
Release Source: Not reported  
Local Fac Last Name: Not reported  
Local Fac First Name: Not reported  
User Name: CLYMERWR  
Cleanup Initiated Date: 09/05/1995  
Prefix: Not reported  
Total Score: 6

LUST:  
Release Date: 12/09/1994  
Cleanup Complete Date: Not reported  
Depth to Ground Water: 10  
Ground Water Flow Direction: E  
Release Number: 1  
Confirmed date: 09/05/1995  
RP Name: US FISH & WILDLIFE SERVICE  
RP Address: 1000 BUSINESS CENTER DR STE 10  
RP City: SAVANNAH  
RP State: GA  
RP Zip: 31405  
SCRBCA Class Code: CLASS2BB  
Project Manager: CLYMER, WESLEY  
Release Fin Type Code: WO



## SECTION 2: DATABASES AND UPDATE DATES

To maintain currency of the following federal, state and local databases, EDR contacts the appropriate government agency on a monthly or quarterly basis as required.

**Elapsed ASTM days:** Provides confirmation that this report meets or exceeds the 90-day updating requirement of the ASTM standard.

### DATABASES FOUND IN THIS REPORT

#### **SC UST: Comprehensive Underground Storage Tanks**

Source: Department of Health and Environmental Control  
Telephone: 803-896-7957

Registered Underground Storage Tanks. UST's are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA) and must be registered with the state department responsible for administering the UST program. Available information varies by state program.

Date of Government Version: 05/03/2023  
Database Release Frequency: Quarterly

Date of Last EDR Contact: 09/28/2023  
Date of Next Scheduled Update: 01/15/2024

#### **SC LUST: Leaking Underground Storage Tank List**

Source: Department of Health and Environmental Control  
Telephone: 803-898-4350

Leaking Underground Storage Tank Incident Reports. LUST records contain an inventory of reported leaking underground storage tank incidents. Not all states maintain these records, and the information stored varies by state.

Date of Government Version: 07/18/2023  
Database Release Frequency: Quarterly

Date of Last EDR Contact: 10/11/2023  
Date of Next Scheduled Update: 01/29/2024

**SANTEE COOPER**

I-95 EXIT 102 HWY 400

SUMMERTON, SC

Inquiry Number:

November 27, 2023

## EDR Site Report™



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# SECTION 1: FACILITY DETAIL REPORTS

SANTEE COOPER  
I-95 EXIT 102 HWY 400  
SUMMERTON, SC  
EDR ID #U004255453

Databases:

UST: Comprehensive Underground Storage Tanks

UST:

Name: SANTEE COOPER  
Address: I-95 EXIT 102 HWY 400  
City: SUMMERTON  
Facility ID: 02330  
Permit: N 02330  
Owner: SANTEE COOPER  
Owner Address: SANTEE COOPER<br /> PO BOX 2946101<br /> MONCKS CORNER SC 29461-6101<br />  
Owner City, st, zip: MONCKS CORNER SC 29461-6101  
Owner Phone: 843-761-8000

Tank ID: Not reported  
Status: Not reported  
Capacity: Not reported  
Product: Not reported  
Calcage: Not reported

## SECTION 2: DATABASES AND UPDATE DATES

To maintain currency of the following federal, state and local databases, EDR contacts the appropriate government agency on a monthly or quarterly basis as required.

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Date of Government Version: 05/03/2023

Database Release Frequency: Quarterly

Date of Last EDR Contact: 09/28/2023

Date of Next Scheduled Update: 01/15/2024



**SADDLE TANK**

I-95 N MM102

SUMMERTON, SC

Inquiry Number:

November 27, 2023

# EDR Site Report™



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# SECTION 1: FACILITY DETAIL REPORTS

SADDLE TANK  
I-95 N MM102  
SUMMERTON, SC  
EDR ID #S106044853

Databases:  
SPILLS: Spill List

SPILL:  
Name: SADDLE TANK  
Address: I-95 N MM102  
City,State,Zip: SUMMERTON, SC  
Incident ID number: 5823778  
Incident Name: 200303448  
District Logged In: Not reported  
Date DHEC notified: 09/09/2003  
DHEC notification: 452  
Observed date: 09/09/2003  
observed Time: 600  
Spill Date: 09/09/2003  
Spill Time: 337  
Duration: Not reported  
Created Date: 09/09/2003  
Updated Date: 09/18/2003  
District Name: Sumter EQC Office  
PRP Last Name: MIXSON TRUCKING CO  
PRP First Name: Not reported  
Incident substance type: Oil  
Received by Name: CHRIS STATON  
Revierved by Name: RONNIE DRIGGERS  
Transportation: Y  
Surface water affected: No  
Lead Investigator Name: Not reported  
CCBEP: No  
Water body: Not reported  
Caller Last Name: Not reported  
Caller name: Not reported  
Caller phone number: Not reported  
Caller extension: Not reported  
Caller organization: Not reported  
Substance: DIESEL  
Quantity: 50  
Units: Gallons  
Recovered: Not reported  
Recovered Units: Not reported  
Comments: Not reported

## SECTION 2: DATABASES AND UPDATE DATES

To maintain currency of the following federal, state and local databases, EDR contacts the appropriate government agency on a monthly or quarterly basis as required.

**Elapsed ASTM days:** Provides confirmation that this report meets or exceeds the 90-day updating requirement of the ASTM standard.

### DATABASES FOUND IN THIS REPORT

#### SC SPILLS: Spill List

Source: Department of Health and Environmental Control

Telephone: 803-898-4111

Spills and releases of petroleum and hazardous chemicals reported to the Oil & Chemical Emergency Response division.

Date of Government Version: 08/23/2023  
Database Release Frequency: Semi-Annually

Date of Last EDR Contact: 11/16/2023  
Date of Next Scheduled Update: 03/04/2024

**SANTEE COOPER**

I-95 EXIT 102 HWY 400  
SUMMERTON, SC 29148

Inquiry Number:  
November 27, 2023

## EDR Site Report™



6 Armstrong Road, 4th floor  
Shelton, CT 06484  
Toll Free: 800.352.0050  
[www.edrnet.com](http://www.edrnet.com)



# TABLE OF CONTENTS

The EDR-Site Report™ is a comprehensive presentation of government filings on a facility identified in a search of federal, state and local environmental databases.

**Section 1: Facility Detail Reports . . . . . Page 3**

All available detailed information from databases where sites are identified.

**Section 2: Databases and Update Information. . . . . Page 6**

Name, source, update dates, contact phone number and description of each of the databases for this report.

***Thank you for your business.***  
Please contact EDR at 1-800-352-0050  
with any questions or comments.

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# SECTION 1: FACILITY DETAIL REPORTS

SANTEE COOPER  
I-95 EXIT 102 HWY 400  
SUMMERTON, SC 29148  
EDR ID #1007226715

## Databases:

FINDS: Facility Index System/Facility Registry System

## FINDS:

Registry ID: 110016978546  
Name: SANTEE COOPER  
Address: I-95 EXIT 102 HWY 400  
City,State,Zip: SUMMERTON, SC 29148

[Click Here for FRS Facility Detail Report:](#)

## Environmental Interest/Information System:

The South Carolina Department of Health and Environmental Control (DHEC) Environmental Facility Information System (SC-EFIS) integrates information on environmental facilities, permits, violations, enforcement actions, and compliance activities needed to support regulatory requirements and target environmental quality improvements for the water, air, solid waste, and hazardous waste program areas.

Supplemental Address: Not reported  
FIPS Code: Not reported  
Country Name: UNITED STATES  
Federal Facility: Not reported  
Federal Agency: Not reported  
Tribal Land: Not reported  
Tribal Name: Not reported  
Congressional District: Not reported  
Census: Not reported  
Hydrologic Unit Code: Not reported  
EPA Region: 04  
Site Type: STATIONARY  
Location Description: Not reported  
Date Created: 10-MAR-04  
Date Updated: 08-MAY-15  
U.S-Mexico Border: Not reported  
Information System Abbreviated Name: SC-EFIS:SC0000071576, SC-EFIS:SC0000079980  
Latitude: Not reported  
Longitude: Not reported  
Conveyor: Not reported  
Horizontal Collection: Not reported  
Horizontal Accuracy: Not reported  
Reference Point: Not reported  
Horizontal Datum: NAD83  
Coordinates Source: Not reported

## Alternate Name:

Registry ID: 110016978546  
Information System Abbreviated Name: SC-EFIS  
Program System ID: SC0000079980  
Alternative Name: SANTEE COOPER  
Alternative Name Type: PROGRAM NAME  
  
Registry ID: 110016978546  
Information System Abbreviated Name: SC-EFIS  
Program System ID: SC0000071576  
Alternative Name: SANTEE COOPER CAMP 3  
Alternative Name Type: PROGRAM NAME

## Interest:

Registry ID: 110016978546  
Program System Name: SC-EFIS  
Program System ID: SC0000079980  
Env. Interest Type: STATE MASTER  
Federal ST Code: STATE  
Start Date: Not reported  
Start Date Qualifier: Not reported  
End Date: Not reported  
End Date Qualifier: Not reported  
Data Source: SC-EFIS  
Last Reported: Not reported  
Date Created: 10-MAR-04  
Date Updated: Not reported  
Active Status: Not reported

Registry ID: 110016978546  
Program System Name: SC-EFIS  
Program System ID: SC0000071576  
Env. Interest Type: STATE MASTER

# SECTION 1: FACILITY DETAIL REPORTS

...Continued...

Federal ST Code:	STATE
Start Date:	Not reported
Start Date Qualifier:	Not reported
End Date:	Not reported
End Date Qualifier:	Not reported
Data Source:	SC-EFIS
Last Reported:	Not reported
Date Created:	10-MAR-04
Date Updated:	Not reported
Active Status:	Not reported
Program:	
Legislative District Number:	Not reported
HUC Code 8:	Not reported
HUC Code 12:	Not reported
Data Quality Code:	V
Std Name:	SANTEE COOPER CAMP 3
Std House Number:	Not reported
Std Street Name:	SC-102
Std Base Name:	SC 102
Std Prefix:	Not reported
Std Suffix:	Not reported
Std Stype Before:	Not reported
Std Stype After:	Not reported
Std Postal Code:	29148
Std City Name:	SUMMERTON
Std County Name:	CLARENDON COUNTY
Std State Code:	SC
Std County FIPS:	45027
Std Country:	US
Std Full Address:	Not reported
Address Type:	Not reported
Link Method:	Not reported
Location Description:	Not reported
User ID:	DSMITH04
Sensitive Ind:	Not reported
User Comment:	Not reported
Public Ind:	Y
Date Refresh:	10-MAR-04
Small Bus Ind:	Not reported
Env Justice Code:	Not reported
Parent Program System ID:	Not reported
Stand Alone Flag:	Not reported
Legislative District Number:	
HUC Code 8:	Not reported
HUC Code 12:	Not reported
Data Quality Code:	mZ
Std Name:	SANTEE COOPER
Std House Number:	Not reported
Std Street Name:	Not reported
Std Base Name:	Not reported
Std Prefix:	Not reported
Std Suffix:	Not reported
Std Stype Before:	Not reported
Std Stype After:	Not reported
Std Postal Code:	29148
Std City Name:	SUMMERTON
Std County Name:	CLARENDON COUNTY
Std State Code:	SC
Std County FIPS:	45027
Std Country:	US
Std Full Address:	Not reported
Address Type:	Not reported
Link Method:	Not reported
Location Description:	Not reported
User ID:	REFRESH
Sensitive Ind:	Not reported
User Comment:	Not reported
Public Ind:	Y
Date Refresh:	10-MAR-04
Small Bus Ind:	Not reported
Env Justice Code:	Not reported
Parent Program System ID:	Not reported
Stand Alone Flag:	Not reported
Supplemental Interest:	
Interest Type:	STATE MASTER
Suppint:	UNDERGROUND STORAGE TANK PROGRAM
Start Date:	24-FEB-01
Start Date Qualifier:	Not reported
End Date:	Not reported
End Date Qualifier:	Not reported
Data Source:	SC-EFIS

# SECTION 1: FACILITY DETAIL REPORTS

...Continued...

Last Reported Date:	Not reported
Created Date:	10-MAR-04
Updated Date:	Not reported
Interest Type:	STATE MASTER
Suppint:	UNDERGROUND STORAGE TANK PROGRAM
Start Date:	24-FEB-01
Start Date Qualifier:	Not reported
End Date:	Not reported
End Date Qualifier:	Not reported
Data Source:	SC-EFIS
Last Reported Date:	Not reported
Created Date:	10-MAR-04
Updated Date:	Not reported

## SECTION 2: DATABASES AND UPDATE DATES

To maintain currency of the following federal, state and local databases, EDR contacts the appropriate government agency on a monthly or quarterly basis as required.

**Elapsed ASTM days:** Provides confirmation that this report meets or exceeds the 90-day updating requirement of the ASTM standard.

### DATABASES FOUND IN THIS REPORT

#### **FINDS: Facility Index System/Facility Registry System**

Source: EPA

Telephone: Not reported

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 11/03/2023  
Database Release Frequency: Quarterly

Date of Last EDR Contact: 11/08/2023  
Date of Next Scheduled Update: 03/11/2024



**SANTEE NATIONAL WILDLIFE REFUGE**

I-95 EXIT 102

SUMMERTON, SC 29148

Inquiry Number:

November 27, 2023

**EDR Site Report™**



6 Armstrong Road, 4th floor  
Shelton, CT 06484  
Toll Free: 800.352.0050  
[www.edrnet.com](http://www.edrnet.com)

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All available detailed information from databases where sites are identified.

**Section 2: Databases and Update Information. . . . . Page 4**

Name, source, update dates, contact phone number and description of each of the databases for this report.

***Thank you for your business.***  
Please contact EDR at 1-800-352-0050  
with any questions or comments.

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# SECTION 1: FACILITY DETAIL REPORTS

SANTEE NATIONAL WILDLIFE REFUGE  
I-95 EXIT 102  
SUMMERTON, SC 29148  
EDR ID #S116706198

Databases:

UIC: Underground Injection Wells Listing

UIC:

Name:	SANTEE NATIONAL WILDLIFE REFUGE
Address:	I-95 EXIT 102
City,State,Zip:	SUMMERTON, SC 29148
Permit Number:	SCHE03000279
Permit Holder:	Not reported
Former Permit Number:	399 399M 399M1
Activity:	Inactive
Disposition:	Closed
District:	Sumter EQC Office
Sub Type:	Area Permit

## SECTION 2: DATABASES AND UPDATE DATES

To maintain currency of the following federal, state and local databases, EDR contacts the appropriate government agency on a monthly or quarterly basis as required.

**Elapsed ASTM days:** Provides confirmation that this report meets or exceeds the 90-day updating requirement of the ASTM standard.

### DATABASES FOUND IN THIS REPORT

**SC UIC: Underground Injection Wells Listing**

Source: Department of Health & Environmental Control

Telephone: 803-898-3799

A listing of underground injection wells locations.

Date of Government Version: 07/27/2022  
Database Release Frequency: Semi-Annually

Date of Last EDR Contact: 10/23/2023  
Date of Next Scheduled Update: 02/05/2024



November 21, 2023

Ms. Karla Bishop, Director Freedom of Information  
SC Department of Health and Environmental Control  
2600 Bull Street  
Columbia, South Carolina 29201

**Re:** Request for information pertaining to any environmental issues at or near sites identified within the **enclosed Attachment, near the Town of Santee, in Orangeburg and Clarendon Counties, SC.**

Dear Ms. Bishop:

This is a request for information pertaining to any environmental issues that may have been registered with SCDHEC for the above address or attached list. Any information pertaining to environmental problems may consist of the following:

- 1) Information pertaining to the removal or installation of above ground and underground storage tanks;
- 2) Issuance of any environmentally related license(s), permit(s) and well record(s);
- 3) Issuance of any license(s) or permit(s) (or complaints against) to store hazardous substances, waste and/or petroleum products on the subject properties, or adjacent properties and any action taken;
- 4) Issuance of any license(s) or permit(s) (or complaints) regarding waste disposal on the subject properties, or adjacent properties; and,
- 5) Brownfield site(s) on the subject property and/or adjacent properties.

If you have any questions, please do not hesitate to contact us. We would appreciate your response as soon as is convenient.

Regards,

A handwritten signature in blue ink that reads 'Rodney W. Wingard'.

Rodney W. Wingard  
Environmental Manager  
F&ME CONSULTANTS

Attachment





# Attachment

## MAPPED SITES SUMMARY

Target Property:  
I-95 OVER LAKE MARION  
SANTEE, SC 29142

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION		
A1 / 5	EZ SHOP #24	JIM SNIFFEN	FINDS	TP		
A2 / 5	E Z SHOP 24	8440 ST PAUL RD	RGA LUST	TP		
A3 / 5	ENK 889	8440 ST PAUL RD	LUST, UST, Financial Assurance	TP		
A4 / 5	EASY SHOP 24	8440 ST PAUL RD	RGA LUST	TP		
A5 / 5	EASY SHOP 24	8440 ST PAUL RD	FINDS	TP		
6 / 5	TAW CAW TACKLE	501 BLUFF RD	GWCI	TP		
B7 / 5	LAKE MARION ECONOMAR	I 95 EXIT 102	RCR	TP		
B8 / 5	LAKE MARION ECONOMAR	I 95 EXIT 102	LUST, UST, Financial Assurance, GWCI	TP		
9 / 5	SAVE +3	I 95 AT HWY 102 EXIT	FINDS	TP		
C10 / 5	BIG WATER COUNTRY ST	5236 DINGLE POND RD	GWCI	579	0.110	ESE
C11 / 5	KK MART	5236 DINGLE POND RD	LUST, UST, RCR, Financial Assurance	579	0.110	ESE
12 / 12	ENK 890	8933 OLD NUMBER 6 HW	GWCI, UIC	958	0.181	SSW
13 / 8	ENK 890	8933 OLD NUMBER 6 HW	LUST, UST, Financial Assurance	1020	0.193	WSW
D14 / 12	COAST SANTEE	9039 OLD 6 HWY	UST, Financial Assurance	1068	0.202	SSE
D15 / 12	FOOD MART 107	9044 OLD HWY 6	LUST, UST, Financial Assurance, GWCI	1192	0.226	South
16 / 7	ENK 877	8909 OLD NUMBER SIX	UST, Financial Assurance	1287	0.244	West
17 / 5	SANTEE NATIONAL WILD	I-95 EXIT 102	RCR, GWCI	1295	0.245	WNW
18 / 12	QUICK PANTRY 8	9052 OLD HWY 6	LUST, UST, Financial Assurance, GWCI	1341	0.254	SSE
19 / 7	RIVERS COUNTRY STORE	8851 OLD NUMBER 6 HW	LUST, UST, Financial Assurance	1697	0.321	West

## Contact Information

\* First Name

Rodney

MI

\* Last Name

Wingard

\* Address Line 1

211 Business Park Blvd.

Address Line 2

\* City

Columbia

\* State

South Carolina



\* Zip

29203

\* Email

rwingard@fmeconsultants.com

Work Phone

8032164752

---

Freedom of Information Request Form  
Customer Service: (803) 898-3882

Date

11/21/2023

---

Requested Information

Specific Documents



What is the period of time for the records/file review requested?

Great than 24 Months



Facility or project name:

G6744 - Phase I ESA

Facility address:

Multiple addresses.

County

Orangeburg



DHEC file custodian/staff contact if known:

NA

Description of document or files requested:

Please note that the addresses are located within Orangeburg County and Clarendon County. Please see attached letter request.

---

Please upload any relevant attachments that can assist with your FOI Request.

[Remove](#) 2 - FOI Request to DHEC.pdf (203793 bytes)

---

[Upload File](#) No file chosen

---

[Upload File](#) No file chosen

---

### Family Privacy Protection Act Statement

\* The Family Privacy Protection Act, SC Code Section 30-2-50, prohibits any person or private entity from knowingly obtaining or using any personal information obtained from our agency for commercial solicitation directed to any person in the State. Violation of this law is a crime.

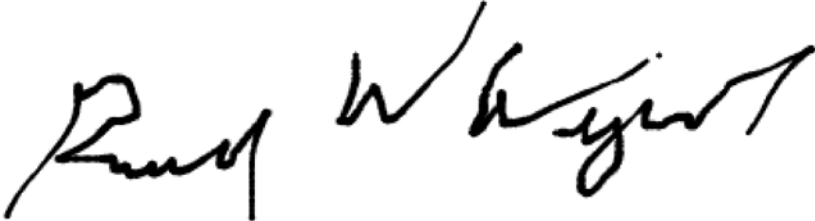
I have read and understand this statement. I am not requesting this information for the purposes of commercial solicitation in violation of the law.

I Agree.

---

Personal information provided in this document is subject to public scrutiny or release.

Sign using your mouse or finger...



A large rectangular box containing a handwritten signature in black ink. The signature is written in a cursive style and reads "Rand Whigert".

Clear

Submit





November 21, 2023

To Whom It May Concern  
Orangeburg County  
PO Drawer 9000  
Orangeburg, South Carolina 29116-9000  
**Attention: FOIA**

Re: Request for information pertaining to any environmental issues at or near sites **listed on the enclosed Attachment, located near the Town of Santee, Orangeburg County, South Carolina.**

To Whom It May Concern:

This is a request for information pertaining to any environmental issues that may have been registered with the County for the above address or attached locations. Any information pertaining to environmental problems may consist of the following:

- 1) Information pertaining to the removal or installation of above ground and underground storage tanks;
- 2) Issuance of any environmentally related license(s), permit(s) and well record(s);
- 3) Issuance of any license(s) or permit(s) (or complaints against) to store hazardous substances, waste and/or petroleum products on the subject properties, or adjacent properties and any action taken;
- 4) Issuance of any license(s) or permit(s) (or complaints) regarding waste disposal on the subject properties, or adjacent properties;
- 5) Brownfield site(s) on the subject property and/or adjacent properties; and,
- 6) County response to fires or spills.

If you have any questions, please do not hesitate to contact us. We would appreciate your response as soon as is convenient.

Sincerely,

A handwritten signature in blue ink that reads 'Rodney W. Wingard'.

Rodney W. Wingard  
Environmental Manager  
F&ME CONSULTANTS

Attachment



# Attachment

## MAPPED SITES SUMMARY

Target Property:  
I-95 OVER LAKE MARION  
SANTEE, SC 29142

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION		
A1 / 5	EZ SHOP #24	JIM SNIFFEN	FINDS	TP		
A2 / 5	E Z SHOP 24	8440 ST PAUL RD	RGA LUST	TP		
A3 / 5	ENK 889	8440 ST PAUL RD	LUST, UST, Financial Assurance	TP		
A4 / 5	EASY SHOP 24	8440 ST PAUL RD	RGA LUST	TP		
A5 / 5	EASY SHOP 24	8440 ST PAUL RD	FINDS	TP		
6 / 5	TAW CAW TACKLE	501 BLUFF RD	GWCI	TP		
B7 / 5	LAKE MARION ECONOMAR	I 95 EXIT 102	RCR	TP		
B8 / 5	LAKE MARION ECONOMAR	I 95 EXIT 102	LUST, UST, Financial Assurance, GWCI	TP		
9 / 5	SAVE +3	I 95 AT HWY 102 EXIT	FINDS	TP		
C10 / 5	BIG WATER COUNTRY ST	5236 DINGLE POND RD	GWCI	579	0.110	ESE
C11 / 5	KK MART	5236 DINGLE POND RD	LUST, UST, RCR, Financial Assurance	579	0.110	ESE
12 / 12	ENK 890	8933 OLD NUMBER 6 HW	GWCI, UIC	958	0.181	SSW
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D15 / 12	FOOD MART 107	9044 OLD HWY 6	LUST, UST, Financial Assurance, GWCI	1192	0.226	South
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18 / 12	QUICK PANTRY 8	9052 OLD HWY 6	LUST, UST, Financial Assurance, GWCI	1341	0.254	SSE
19 / 7	RIVERS COUNTRY STORE	8851 OLD NUMBER 6 HW	LUST, UST, Financial Assurance	1697	0.321	West

FREEDOM OF INFORMATION ACT (FOIA) REQUEST FORM

DATE OF REQUEST: 11-21-23

FOIA REQUEST: PLEASE SEE ATTACHED LETTER REQUEST


\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

REQUESTOR'S  
NAME: RODNEY WINGARD

ADDRESS:  
EMAIL rwingard@fmeconsultants.com

U.S. MAIL F&ME CONSULTANTS, INC.  
211 BUSINESS PARK BLVD  
COLUMBIA SC, 29203

PHONE NUMBER: 803-216-4752

SIGNATURE: 

Please deliver your FOIA Request to Orangeburg County  
Via email

Via U.S. Mail

or

Orangeburg County  
P.O. Drawer 9000  
Orangeburg SC 29116-9000

Orangeburg County  
1437 Amelia St.  
Orangeburg SC 29115



November 21, 2023

David Epperson  
Clarendon County Administrator  
411 Sunset Drive  
Manning, South Carolina 29102  
**Attention: FOIA**

Re: Request for information pertaining to any environmental issues at or near sites **listed on the enclosed Attachment, located near the Town of Santee, Clarendon County, South Carolina.**

To Whom It May Concern:

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Sincerely,

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Rodney W. Wingard  
Environmental Manager  
F&ME CONSULTANTS

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SANTEE, SC 29142

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A3 / 5	ENK 889	8440 ST PAUL RD	LUST, UST, Financial Assurance	TP		
A4 / 5	EASY SHOP 24	8440 ST PAUL RD	RGA LUST	TP		
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19 / 7	RIVERS COUNTRY STORE	8851 OLD NUMBER 6 HW	LUST, UST, Financial Assurance	1697	0.321	West





Clarendon County

Freedom of Information Act Request Form

Date of Request 11 / 21 / 23

Name RODNEY WINGARD, FEME CONSULTANTS, INC

Address 211 BUSINESS PARK BLVD.

City COLUMBIA State SC Zip 29203

Phone 803-216-4752 Alternate N/A

Information Requested (please be as specific as possible) \_\_\_\_\_

PLEASE SEE ATTACHED LETTER REQUEST.

Section 30-4-30 (B) S.C. Code of Laws, 1976, as amended, provides as follows;

The public body may establish and collect fees not to exceed the actual cost of searching for and making copies of records. Documents may be furnished when appropriate without charge or at a reduced charge when the agency determines that waiver or reduction of the fee is in the public interest. The custodian of the public records may charge a reasonable hourly rate for making records available to the public and may receive a reasonable deposit of these rates before searching for or making copies of the records.

**FOR OFFICE USE ONLY**

Request Assigned to: \_\_\_\_\_ Date of Completion: \_\_\_\_\_

Date of Assignment: \_\_\_\_\_

Comments: \_\_\_\_\_

Fee for services rendered: \$ \_\_\_\_\_

Method of Payment: \_\_\_\_\_ PAID \_\_\_\_\_

*\*All copies are .25 per copy- Cash or Money Order accepted. (No personal Checks Accepted)*

**From:** [FOIA Requests](#)  
**To:** [Rodney Wingard](#); [FOIA Requests](#)  
**Subject:** -RE: -Orangeburg County FOI Request  
**Date:** Tuesday, November 21, 2023 1:04:43 PM  
**Attachments:** [image001.png](#)  
[image003.png](#)  
[image005.png](#)  
[image008.png](#)  
[image009.png](#)

---

Good afternoon,

I am confirming receipt of the FOIA request below. It has been sent to the appropriate department for review and processing. The County intends to fulfill the FOIA request unless exemptions apply. Thank you,



**Nikki Jones, ([njones@orangeburgcounty.org](mailto:njones@orangeburgcounty.org))**

Administrative Assistant  
Deputy Administrator's Office  
**O:** 803-533-6106 **F:** 803-533-6104  
**Post Office Drawer 9000**  
**1437 Amelia St, Ste. 200**  
**Orangeburg, SC 29116**  
[www.orangeburgcounty.org](http://www.orangeburgcounty.org)  
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---

**From:** Rodney Wingard <[rwingard@fmeconsultants.com](mailto:rwingard@fmeconsultants.com)>  
**Sent:** Tuesday, November 21, 2023 12:19 PM  
**To:** FOIA Requests <[FOIA@orangeburgcounty.org](mailto:FOIA@orangeburgcounty.org)>  
**Subject:** -Orangeburg County FOI Request

Please see attached FOI Form and Letter Request.

Rodney Wingard,  
Environmental Manager



FME Consultants, Inc.  
211 Business Park Boulevard | Columbia, SC 29203  
O 803.254.4540 | F 803.254.4542 | M 803.216.4752  
[rwingard@fmeconsultants.com](mailto:rwingard@fmeconsultants.com) | [www.fmeconsultants.com](http://www.fmeconsultants.com)



**From:** [Teddy Wolfe](#)  
**To:** [FOIA Requests](#); [Stewart Haig](#); [Nikki Jones](#)  
**Cc:** [Rodney Wingard](#)  
**Subject:** -Re: -FW: -Orangeburg County FOI Request  
**Date:** Wednesday, November 22, 2023 9:14:04 AM  
**Attachments:** [Outlook-b0r1x5j5](#)  
[image001.png](#)  
[image007.png](#)  
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[Outlook-e2ramqdp](#)  
[Outlook-photo](#)  
[Outlook-Title\\_Fac.png](#)  
[Outlook-Title\\_Twi.png](#)

You don't often get email from twolfe@orangeburgcounty.org. [Learn why this is important](#)

Good morning All,

In response to the FIOA for several address in the Santee area, please find my response below.

The OC Fire District does not have any records on the address listed below. The address not listed appear to be in another County. This area is covered by Santee Fire Service District 803-854-3270.

Unless I hear back form you I will assume I have satisfied this request.

12 / 12	ENK 890	8933 OLD NUMBER 6 HW
D14 / 12	COAST SANTEE	9039 OLD 6 HWY
D15 / 12	FOOD MART 107	9044 OLD HWY 6
16 / 7	ENK 877	8909 OLD NUMBER SIX
18 / 12	QUICK PANTRY 8	9052 OLD HWY 6
19 / 7	RIVERS COUNTRY STORE	8851 OLD NUMBER 6 HW



**Teddy D. Wolfe, BS Fire Sci, NRP**  
**([twolfe@orangeburgcounty.org](mailto:twolfe@orangeburgcounty.org))**  
 Director, Orangeburg County Fire  
**O:** 803-533-6218 | **F:** 803-539-2073

131 Firefighter Lane  
 Orangeburg, SC 29115

<https://ocfd.orangeburgcounty.org/>



---

**From:** FOIA Requests <FOIA@orangeburgcounty.org>  
**Sent:** Tuesday, November 21, 2023 1:04 PM  
**To:** Stewart Haig <shaig@orangeburgcounty.org>; Teddy Wolfe <TWolfe@orangeburgcounty.org>  
**Cc:** FOIA Requests <FOIA@orangeburgcounty.org>  
**Subject:** -FW: -Orangeburg County FOI Request

Good afternoon,

Please see the FOIA request below. Please copy me in your response to the requestor or notify me of its completion (either fulfilled or denied), so I note it.

Have a great Thanksgiving Holiday!

**Nikki Jones, ([njones@orangeburgcounty.org](mailto:njones@orangeburgcounty.org))**

Administrative Assistant  
Deputy Administrator's Office  
**O:** 803-533-6106 **F:** 803-533-6104  
**Post Office Drawer 9000**  
**1437 Amelia St, Ste. 200**  
**Orangeburg, SC 29116**

[www.orangeburgcounty.org](http://www.orangeburgcounty.org)  

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---

**From:** Rodney Wingard <rwingard@fmeconsultants.com>  
**Sent:** Tuesday, November 21, 2023 12:19 PM  
**To:** FOIA Requests <FOIA@orangeburgcounty.org>  
**Subject:** -Orangeburg County FOI Request

Please see attached FOI Form and Letter Request.



Rodney Wingard,  
Environmental Manager



FME Consultants, Inc.

211 Business Park Boulevard | Columbia, SC 29203

☎ 803.254.4540 | 📠 803.254.4542 | 📞 803.216.4752

[rwingard@fmeconsultants.com](mailto:rwingard@fmeconsultants.com) | [www.fmeconsultants.com](http://www.fmeconsultants.com)

From: [DHECFOI@sc.lmhostediq.com](mailto:DHECFOI@sc.lmhostediq.com)  
To: [Rodney Wingard](#)  
Subject: Responding to your message  
Date: Tuesday, November 28, 2023 8:23:14 AM

---

Re: Freedom of Information Request #881247  
G6744 - Phase I ESA

Dear Mr. Wingard:

Your request for the above referenced information has been received by the Freedom of Information Center. The Freedom of Information staff are currently researching and compiling this information. You will be notified by our office when the research process is complete. DHEC will make the requested information available for review and copying to the extent it is not protected from disclosure pursuant to section 30-4-30 of the Freedom of Information Act.

If we are unable to locate files on a facility, based on the information submitted, you will be notified by mail.

Further inquiries regarding your request should include your above mentioned Freedom of Information Request Number. We can be reached at (803) 898 - 3882.

Sincerely,

Jennifer Barrier  
Freedom of Information Office



**Clarendon County, South Carolina**

**411 Sunset Drive  
Manning, South Carolina 29102  
(803) 435.0135**

November 29, 2023

Rodney Wingard  
F&ME Consultants  
211 Business Park Boulevard  
Columbia, South Carolina 29203  
VIA EMAIL ONLY: [rwingard@fmeconsultants.com](mailto:rwingard@fmeconsultants.com)

Re: FOIA Request – Environmental Issues

Dear Mr. Wingard:

Please accept this letter as a formal response to your Freedom of Information Act Request dated November 21, 2023. Clarendon County does not have any documents related to above ground/underground storage tanks; environmental licenses, etc.; storage of hazardous substances, etc; licensing in regard to waste disposal; brownfield sites or spills in regard to the Clarendon County properties listed on your FOIA request. There have been no fire response to fire/spills at any of the listed properties.

If you have any questions or concerns, please do not hesitate to contact me.

Sincerely,

  
David W. Epperson  
County Administrator/Attorney

## **Appendix P**

### **Asbestos and Lead-Based Paint Survey Reports**

# **I-95 Northbound Bridge over Lake Marion**

## **Asbestos and Lead-based Paint Reports**





# ASBESTOS CONTAINING MATERIAL INVESTIGATION REPORT

NORTHBOUND I-95 BRIDGE OVER LAKE MARION  
CLARENDON & ORANGEBURG COUNTIES, SOUTH CAROLINA  
**PREPARED FOR:**



C/O Mr. Peter Strub  
Sr. Vice President/Principal  
1859 Summerville Avenue, Suite 600  
Charleston, SC 29405

**PREPARED BY:**

F&ME Consultants, Inc.  
211 Business Park Blvd.  
Columbia, South Carolina 29203

**August 18, 2023**

Yes, asbestos was found.  
 No, asbestos was not found.

F&ME Project No.: G6744.000

# TABLE OF CONTENTS

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- 3. Existing Bridge Structures .....4
- 4. Field Assessments .....5
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- Appendix A – Site Vicinity Map
- Appendix B – Sample Location Plans
- Appendix C – Homogeneous Area Plans
- Appendix D – Summary of Samples
- Appendix E – Summary of Asbestos Containing Materials
- Appendix F – Summary of Inspection
- Appendix G – Physical Assessment Data Sheets
- Appendix H – Laboratory Analysis Reports
- Appendix I – Chain of Custody Forms
- Appendix J – Site Photographs
- Appendix K – Personnel Certifications
- Appendix L – Regulatory Summary
- Appendix M – Abatement Project Forms

# 1 EXECUTIVE SUMMARY

This executive summary is intended as an overview for the convenience of the reader. This report should be reviewed in its entirety prior to making any decisions regarding this project. This investigation report is one of seven (7) completed for the project. The investigations included the existing north and southbound I-95 bridge structures, the former US 301/15 Trail Bridges, and the older remnants of the US 301 bridge. The below Bridge numbering system utilized for the investigations and referenced in this report reflects the numbering system developed by F&ME Consultants, Inc. (FME) field personnel during the field investigation and does not reflect any Bridge numbering system used by The South Carolina Department of Transportation (SCDOT). This report is specifically for the northbound I-95 bridge only. Refer to other reports prepared by FME for the other bridges.

FME has completed the Asbestos Containing Material (ACM) Investigations of the existing northbound I-95 Bridge over Lake Marion (Bridge #2) in Clarendon and Orangeburg Counties in South Carolina, at the request of Transystems (Client). The field investigations were performed between July 19, 2023 and July 21, 2023, in anticipation of the off-alignment replacement of the existing I-95 bridges. This investigation was conducted pursuant to South Carolina Department of Health and Environmental Control (SCDHEC), United States Environmental Protection Agency (USEPA), National Emission Standards for Hazardous Air Pollutants (NESHAP), and Occupational Safety and Health Administration (OSHA) regulations requiring an ACM investigation prior to any demolition activities.

Per an agreed upon scope of work, FME performed this investigation to identify any ACM that might be encountered during the demolition of the existing Bridge, and to provide recommendations regarding proper handling and disposal of any ACM found. The investigation of the subject Bridge identified multiple suspect materials: expansion joint materials, bond break bearing pads, and expansion joint sealers. During the field investigation, FME collected samples of the suspect materials and assessed the physical condition of each material. **Laboratory results indicate that the bond break bearing pads associated with the north side of bent cap #28 only were ACM.** During the demolition activities, previously concealed ACM may be discovered. If hidden suspect ACM is encountered not addressed in this report, the affected contractor(s) must stop work, take appropriate actions, and notify the Owner/FME for an appropriate response action.



We appreciate the opportunity to assist you in this matter. If you have any questions or require additional information, please feel free to contact our office at (803) 254-4540.

Sincerely,

F&ME CONSULTANTS



**Michael S. Mincey**  
Environmental Professional  
Asbestos Consultant/Management Planner  
SCDHEC License No: MP-00161  
Expiration Date 01/23/2024



**Glynn M. Ellen**  
Environmental Department Manager  
Asbestos Consultant/Management Planner  
SCDHEC License No: ASB-22641  
Expiration Date 01/23/2024



## 2 INTRODUCTION

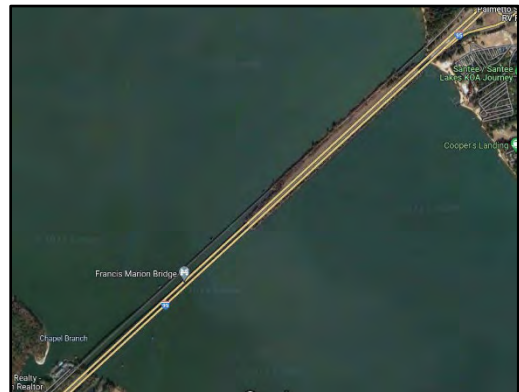
FME has completed an ACM investigation on the northbound I-95 over Lake Marion Bridge in Clarendon and Orangeburg Counties in South Carolina. The investigation was performed on July 19<sup>th</sup> through July 21<sup>st</sup>, 2023. This investigation was conducted pursuant to SCDHEC, USEPA, NESHAP, and OSHA regulations which require an ACM investigation prior to any demolition activities. Refer to Appendix A, Site Vicinity Map for the location of the Bridge.

It is our understanding that the existing Bridge will to be demolished, in anticipation of the off-alignment replacement of the existing I-95 Bridge. The scope of this investigation was to determine if asbestos was present on this Bridge by identifying and sampling suspect ACM, obtaining analytical results, quantifying any confirmed ACM, and assessing the physical condition of the ACM, where possible.

This report has been prepared exclusively for the Client and shall not be disseminated in whole or part to other parties without prior consent from the Client or FME. No other environmental issues were addressed as part of this report.

## 3 EXISTING BRIDGE STRUCTURES

The existing Bridge is located along I-95 and crosses over Lake Marion in Clarendon and Orangeburg Counties in South Carolina. The date of construction for the existing northbound I-95 Bridge (Bridge #2) over Lake Marion were constructed in the late 1960's to early 1970's based on the original construction drawings.



*Photo 1 – Northbound I-95 over Lake Marion Bridge in Clarendon & Orangeburg Counties, SC.*

The northbound I-95 Bridge over Lake Marion (Bridge #2) (~4,500' L x 31.0' W inside curb to inside curb) is a two (2) lane, concrete and steel bridge structure with poured-in-place concrete bridge decking, concrete curb/gutter, and concrete guardrails along with metal scuppers. The Bridge is constructed with a combination of poured-in-place (PIP) concrete beams, pre-cast prestressed beams, structural steel girders, steel diaphragms, steel crossbracing, steel bearing plates and steel rocker bearing supports. The bentcaps were PIP concrete supported by a combination of driven hexagonal concrete piles, and PIP concrete piers. Refer to Appendix A, Site Vicinity Map, for the location of the Bridge. Appendix B, Sample Location Plan, for a layout of the samples taken from the Bridge.





## 4 FIELD ASSESSMENT

During the inspection, all bridge components (i.e., concrete bent caps, piers, scuppers, and expansion joints) were visually inspected for suspect ACM. Examples of possible suspect materials include bent cap bearing materials, expansion joint materials and scuppers. The bridge deck rested directly on concrete bent caps with either a bond break bearing pad or steel bearing plates and steel bearing rockers between them. The PIP concrete bent caps were supported by either driven hexagonal concrete pipes or PIP concrete piers. Bent cap bearing pads, expansion joint materials, and expansion joint sealers were noted during the investigation as suspect materials. Refer to Appendix B, Sample Location Plan, for detailed sample locations. Also, see Appendix J, Site Photographs, for more details.

### 4.1 Suspect Materials

The purpose of this investigation was to locate, sample and record the physical characteristics of suspect ACM on the subject Bridge. Therefore, the quantities and physical condition of suspect materials were assessed, and bulk samples of these materials were submitted for laboratory analysis. The following suspect materials and approximate quantities for each Bridge were identified during this ACM Investigation:

#### Bridge #2 (I-95 NBL over Lake Marion)

- Black Expansion Joint Material (>5,000 SF)
- Bond Break Bearing Pad (>5,000 SF)
- Expansion Joint Sealer (>5,000 SF)
- Bond Break Bearing Pad #2 (>5,000 SF)
- Bond Break Bearing Pad #3 (Northeast Side of Bent #28) (~50 SF)

Random samples of the suspect materials were collected for laboratory analysis, and their physical characteristics were recorded. Building materials such as concrete, metal, wood, brick, etc., were not considered suspect ACM. Bulk samples of suspect materials were analyzed by Polarized Light Microscopy (PLM) in accordance with EPA 600/R-93/116. Confirmation Transmission Electron Microscopy (TEM) was also performed on any non-friable organically bound materials that tested negative for asbestos content as per SCDHEC regulations effective May 27, 2011. Refer to Appendix D, Summary of Samples, for complete list of all samples taken. Appendix L, SCDHEC Regulation Summary. Proper sampling and chain-of-custody protocols were followed to ensure appropriate handling and delivery of samples to the analytical laboratory. Refer to Appendix K, Personnel



Certifications, for SCDHEC qualifications of Investigation personnel, and Appendix I, Chain of Custody Forms, for documentation of proper handling and delivery of samples.

## 5 ASSESSMENT RESULTS

During the investigation, multiple bond break bearing pads, expansion joint materials, and expansion joint sealers were the only suspect materials found associated with the existing Bridges. Three (3) random samples of the each of the materials totaling fifteen (15) samples, were collected for laboratory analysis, and their physical characteristics were recorded. The remaining structural materials (i.e., concrete, steel, etc.) were not considered suspect and were not sampled.

The samples of the suspect material were analyzed by polarized light microscopy (PLM) in accordance with EPA 600/R-93/116. A *“first positive stop”* protocol was utilized for this investigation. This protocol establishes that if the first sample of a material tested positive for asbestos content, subsequent samples were not to be analyzed, and would be considered positive as well. A total of forty-four (44) samples were analyzed by PLM and twenty-one (21) were TEM confirmed. **Laboratory results indicate that the bond break bearing pads associated with northeast/northwest sides of bent cap #28 only on the existing northbound I-95 Bridge (Bridge#2) are ACM.** Results of laboratory analysis are summarized in Appendix D, Summary of Sample Results and Appendix E, Summary of Asbestos Containing Materials.

Appropriate sampling and chain-of-custody protocols were followed to ensure proper handling and delivery of samples to the analytical laboratory. Refer to Appendix H and I were provided to show laboratory documentation for the analytical results. Appendix K, Personnel Certification, shows the official qualifications of the South Carolina Asbestos Inspectors.

### 5.1 Homogeneous Area Locations Where ACM Was Identified

The following are photographs, descriptions, and approximate quantities of the ACM identified during the Investigation. Guidance is also provided for the proper handling and disposition if the materials in these areas are to be removed. See Appendix C, Homogeneous Area Plan, for homogeneous sampling area for the ACM identified below.



## HA-1 – Bond Break Bearing Pads Associated with Bent Cap #28 only on the Existing Northbound I-95 Bridge over Lake Marion (~50 SF).

ACM bond break bearing pads associated with bent cap #28, were found on the tops of bent #28 on the northeast side of the bent cap only. FME field personnel looked for additional locations for this material. However, it was only found at Bent #28 on the northbound I-95 Bridge. Overall, this material was in an intact, but friable condition, with some signs of deterioration due to age and exposure to the elements. Removal of this material will likely render it friable depending on the means and methods utilized. During the demolition, this material must be removed, handled, and disposed of as ACM. This material will need to be abated as a function of demolition activities by a licensed abatement contractor.



## 6 RECOMMENDATIONS

The results, conclusions, and recommendations of this investigation are representative of the conditions observed at the site on the dates of the field inspection. FME does not assume responsibility for any changes in conditions or circumstances that may have occurred after this inspection.

It is our understanding that an off-alignment replacement of the existing northbound I-95 Bridge is planned. As a function of demolition activities, the bond break bearing pads associated with the northeast side of bent cap #28 must be removed, handled, and disposed of as ACM per SCDHEC regulations pertaining to asbestos waste. Removal of this type of bridge component prior to the start of demolition activities is not practical. Therefore, the demolition contractor will be required to coordinate with a licensed abatement contractor to be onsite during the demolition activities to ensure that the ACM is properly handled and disposed of. Based on the quantities and type of ACM identified, a written abatement project design will not be required.

If any concealed and/or inaccessible ACM (i.e., bond break bearing pad materials) are encountered during the demolition activities, the affected contractor(s) must stop work, take appropriate actions, and notify the Owner/asbestos Consultant for an appropriate response action. The SCDHEC must be notified if any suspect ACM is discovered.

All asbestos waste must be deposited in a landfill permitted by the SCDHEC for receiving ACM. If any concealed and/or inaccessible ACM is encountered during asbestos abatement or renovation activities, the affected contractor(s) must stop work, take appropriate actions, and notify the Owner/ Abatement Contractor/ Asbestos Consultant for an appropriate response action. The SCDHEC must be notified if any additional ACM is discovered, as well as changes in the condition of identified ACM.

The SCDHEC's Standards of Performance for Asbestos Projects (R 61-86.1) includes requirements for abatement projects regarding notifications, project design, air sampling and analysis, etc. For informational purposes, some of these requirements are summarized below:

*Notifications.* Written notification (SCDHEC Form 3430) must be submitted to SCDHEC at least two (2) calendar weeks prior to initiation of abatement activities for renovation/demolition projects. A copy of this inspection report and applicable fee payment must be attached to the notification. Additional fees may be required. Copies of all notifications and documents pertinent to the abatement operations must be posted on the job site during abatement work. The Owner/Operators must notify all parties involved with this project of the nature of the work as well as the locations and quantities of asbestos materials to be disturbed or those located near demolition/removal work areas. This notification requirement is also extended to any persons/employees who work near the demolition/removal work areas.

*Project Design.* Furthermore, abatement projects that will remove more than 3,000 square, 1,500 linear or 656 cubic feet of asbestos-containing materials are required to have a licensed and certified Abatement Project Designer develop a project design prior to the commencement of any abatement activities. The Abatement Contractor is required to adhere to the design, which must address all information as directed by the regulations.

*Air Monitoring.* The Abatement Contractor is responsible for daily personal air sampling for Abatement Workers in compliance with current OSHA standard 29 CFR 1926.1101. All remaining air monitoring services required for a renovation project (i.e., backgrounds, areas, and clearances) will be provided by the Owner or the Owner's Representative, as required by SCDHEC.

We sincerely appreciate the opportunity to be of service to Transystems in this matter. If you have any questions regarding the information presented herein, please contact our office at (803) 254-4540.

## APPENDICES

Appendix A – Site Vicinity Map

Appendix B – Sample Location Plan

Appendix C – Homogeneous Area Plan

Appendix D – Summary of Samples

Appendix E – Summary of Asbestos Containing Materials

Appendix F – Summary of Inspection

Appendix G – Physical Assessment Data Sheet

Appendix H – Laboratory Analysis Reports

Appendix I – Chain of Custody Forms

Appendix J – Site Photographs

Appendix K – Personnel Certifications

Appendix L – Regulatory Summary

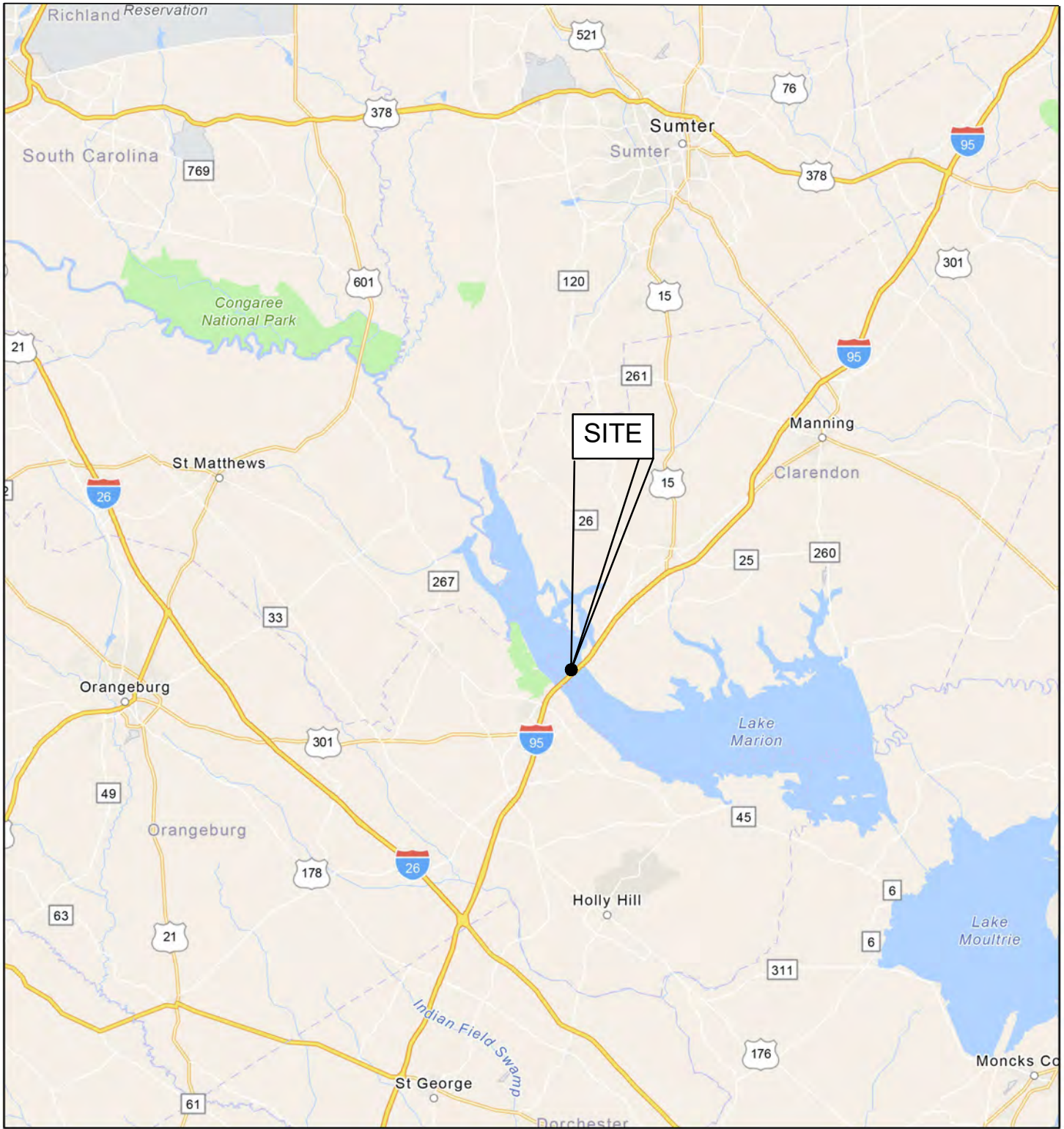
Appendix M – Abatement Project Forms





## Appendix A

### Site Vicinity Map



1:577,791

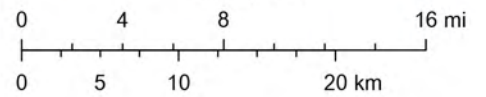


FIGURE NUMBER:

1

F&ME CONSULTANTS PROJECT NUMBER:

G6744.000

ASBESTOS CONTAINING MATERIALS INVESTIGATION  
NB I-95 over Lake Marion Bridge Replacement  
Clarendon & Orangeburg Counties, South Carolina

SITE VICINITY MAP

Prepared for:  
Transystems  
1859 Summerville Ave., Suite 600  
Charleston, SC 29405



211 BUSINESS PARK BLVD.  
COLUMBIA, SC 29203

ORIGINAL:  
August 11, 2023

REVISIONS:

- 1 \_\_\_\_\_
- 2 \_\_\_\_\_
- 3 \_\_\_\_\_

SCALE:  
Shown

DRWN. BY: MSM  
CHKD. BY: GME  
APPR. BY: GME

NOTES:


## Appendix B

### Sample Location Plan





B2-4-3

I-95 (NBL) over Lake Marion (Bridge #2)

B2-4-2

B2-4-1

Match Line



F&ME CONSULTANTS, INC.  
COLUMBIA, SC

NB I-95 OVER LAKE MARION BRIDGE REPLACEMENT  
CLARENDON & ORANGEBURG COUNTIES, SOUTH CAROLINA

SAMPLE LOCATION PLAN

F&ME JOB NO. G6744.000

SCALE: N.T.S.

FIGURE 2

4			
3			
2			
1			
REV.	BY	DATE	DESCRIPTION OF REVISION
TOPO.		DATE	
DWG.	MSM	DATE 08/11/2023	GROUP ____ - ____
R/W		DATE	





Match Line

Match Line

B2-2-3  
B2-1-3

B2-3-3

B2-2-2  
B2-1-2

B2-3-2

B2-5-3  
B2-5-2  
B2-5-1

I-95 (NBL) over Lake Marion (Bridge #2)



NB I-95 OVER LAKE MARION BRIDGE REPLACEMENT  
CLARENDON & ORANGEBURG COUNTIES, SOUTH CAROLINA

SAMPLE LOCATION PLAN

F&ME JOB NO. G6744.000

SCALE: N.T.S.

FIGURE 3

4			
3			
2			
1			
REV.	BY	DATE	DESCRIPTION OF REVISION
TOPO.		DATE	
DWG.	MSM	DATE 08/11/2023	GROUP
R/W		DATE	





Match Line

Match Line

I-95 (NBL) over Lake Marion (Bridge #2)

B2-2-2  
B2-1-2

B2-3-2



F&ME CONSULTANTS, INC.  
COLUMBIA, SC

NB I-95 OVER LAKE MARION BRIDGE REPLACEMENT  
CLARENDON & ORANGEBURG COUNTIES, SOUTH CAROLINA

SAMPLE LOCATION PLAN

F&ME JOB NO. G6744.000

SCALE: N.T.S.

FIGURE 4

4			
3			
2			
1			
REV.	BY	DATE	DESCRIPTION OF REVISION
TOPO.		DATE	
DWG.	MSM	DATE 08/11/2023	GROUP ____ - ____
R/W		DATE	





Match Line

Match Line



I-95 (NBL) over Lake Marion (Bridge #2)

B2-3-1  
B2-2-1  
B2-1-1  
B2-4-1



NB I-95 OVER LAKE MARION BRIDGE REPLACEMENT  
CLARENDON & ORANGEBURG COUNTIES, SOUTH CAROLINA

SAMPLE LOCATION PLAN

F&ME JOB NO. G6744.000

SCALE: N.T.S.

FIGURE 5

4			
3			
2			
1			
REV.	BY	DATE	DESCRIPTION OF REVISION
TOPO.		DATE	
DWG.	MSM	DATE 08/11/2023	GROUP ____ - ____
R/W		DATE	

## Appendix C

### Homogeneous Area Plan





HA-1 ACM Bond Break Pad #3 (Bent #28)

I-95 (NBL) over Lake Marion (Bridge #2)



NB I-95 OVER LAKE MARION BRIDGE REPLACEMENT  
CLARENDON & ORANGEBURG COUNTIES, SOUTH CAROLINA

HOMOGENOUS AREA PLAN

F&ME JOB NO. G6744.000

SCALE: N.T.S.

FIGURE 6

4			
3			
2			
1			
REV.	BY	DATE	DESCRIPTION OF REVISION
TOPO.		DATE	
DWG.	MSM	DATE 08/11/2023	GROUP
R/W		DATE	

## Appendix D

### Summary of Samples



## Appendix D: Summary of Samples

Sample ID	Description
<b>Bridge #2 (NBL I-95 Bridge over Lake Marion)</b>	
B2-1-1	Black Expansion Joint Material
B2-1-2	Black Expansion Joint Material
B2-1-3	Black Expansion Joint Material
B2-2-1	Bond Break Bearing Pad
B2-2-2	Bond Break Bearing Pad
B2-2-3	Bond Break Bearing Pad
B2-3-1	Expansion Joint Sealer
B2-3-2	Expansion Joint Sealer
B2-3-3	Expansion Joint Sealer
B2-4-1	Bond Break Pad #2
B2-4-2	Bond Break Pad #2
B2-4-3	Bond Break Pad #2
B2-5-1	Bond Break Pad #3 (Bent #28)
B2-5-2	Bond Break Pad #3 (Bent #28)
B2-5-3	Bond Break Pad #3 (Bent #28)



## Appendix E

### Summary of Asbestos Containing Materials

## APPENDIX E: SUMMARY OF ASBESTOS CONTAINING MATERIALS

Sample ID	Sample Description	Layer	% Asbestos
B2-5-1	Bond Break Bearing Pad #3 (Bent #28)	-	70% Chrysotile
B2-5-2	Bond Break Bearing Pad #3 (Bent #28)	-	First Stop Positive
B2-5-3	Bond Break Bearing Pad #3 (Bent #28)	-	First Stop Positive



## Appendix F

### Summary of Inspection

## SUMMARY OF INSPECTION

### SUMMARY OF INSPECTION

The following table summarizes the physical assessment data, sampling and assessment results.

As exhibited on this table, coding is used to abbreviate the asbestos containing material's (ACM) locations, characteristics and results. This code is as follows:

#### TYPES OF ACM:

Misc. = Miscellaneous

Sur. = Surfacing

TSI = Thermal System Insulation

#### ACM LOCATIONS:

Homogeneous areas = Indicated by Roman Numerals, Room Number or Area Designation

<u>Functional Space No.:</u>	<u>Functional Space Type:</u>	
1.	UB	Under Bridge

#### ACM CHARACTERISTICS:

F = Friable

NF = Non-Friable

#### ASSESSMENT RESULTS:

(Refer to Physical Assessment Data)

#### POTENTIAL FOR DISTURBANCE:

(Refer to Physical Assessment Data)



## SUMMARY OF INSPECTION

### PHYSICAL ASSESSMENT CATEGORIES:

1. Damaged or significantly damaged friable thermal system insulation ACM.
2. Damaged friable surfacing ACM.
3. Significantly damaged friable surfacing ACM.
4. Damaged or significantly damaged friable miscellaneous ACM.
5. ACM with potential for significant damage.
6. ACM with potential for damage.
7. Any remaining friable ACM or friable suspect ACM.
8. Non-friable ACM.

### CLASSIFICATION FOR HAZARD POTENTIAL:

(Tabular Display)

<u>Hazard Rank</u>	<u>ACM Condition</u>	<u>ACM Disturbance Potential</u>
7	Significantly Damaged	Any
6	Damaged	Potential for Significant Damage
5	Damaged	Potential for Damage
4	Damaged	Low
3	Good	Potential for Significant Damage
2	Good	Potential for Damage
1	Good	Low

## Appendix G

### Summary of Physical Assessment Sheet

## PHYSICAL ASSESSMENT DATA SHEET

**Building:** NB I-95 over Lake Marion Bridge Replacement

**Functional Space No:** 12 **Type:** UB **Location:** (See Homogeneous Area Plan)

**Type of Suspect Material:** TSI **Surfacing** X **Misc.** \_\_\_\_\_

**Description:** HA-1, Bond Break Bearing Pads Associated with NB I-95 Bridge over Lake Marion

**Approximate Amount of Material (SF or LF):** ~50 SF

**Condition:**

**Percent Damage:** \_\_\_\_\_ >0% X <10% \_\_\_\_\_ >10% \_\_\_\_\_ <25% \_\_\_\_\_ >25%

**Extent of Damage:** X Localized \_\_\_\_\_ Distributed

**Type of Damage:** X Deterioration X Water \_\_\_\_\_ Physical

**Description:**

ACM bond break bearing pads, bent #28 only, was found on the tops of bent #28 only on the existing I-95 Bridges (NBL) over Lake Marion. Overall, this material was intact, but friable condition, with some signs of deterioration due to age and exposure to the elements.

**Overall Condition Rating:** Sig. Damaged \_\_\_\_\_ Damaged \_\_\_\_\_ Good \_\_\_\_\_ X

**Potential for Disturbance:**

	High	Moderate	Low	Friable ACM
Frequency of Potential Contact:	_____	_____	<u>X</u>	<u>X</u>
Influence of Vibration	_____	_____	<u>X</u>	<u>X</u>
Frequency of Air Erosion	_____	_____	<u>X</u>	<u>X</u>
Potential of Water Erosion	_____	_____	<u>X</u>	<u>X</u>


**Overall Potential Disturbance Rating:**

Potential for Sig. Damage \_\_\_\_\_ Potential for Damage \_\_\_\_\_ Low Potential for Damage 7

**Overall Hazard Rank #:**

Sig. Damaged \_\_\_\_\_ Pot. Sig. Damage \_\_\_\_\_ Potential Damage \_\_\_\_\_ Low Pot. Damage 1

**Comments:** Potential for Disturbance and Hazard Ranking assessed is based on current usage of the facility.

**Signed:**  **Date:** 08/09/23

## Appendix H

### Laboratory Analysis Reports



# EMSL Analytical, Inc.

706 Gralin Street Kernersville, NC 27284

Tel/Fax: (336) 992-1025 / (336) 992-4175

<http://www.EMSL.com/kernersvillelab@emsl.com>

EMSL Order: 022304976

Customer ID: FMEC62

Customer PO: G6744.000

Project ID:

**Attention:** Glynn M. Ellen  
F & ME Consultants  
211 Business Park Blvd  
Columbia, SC 29203

**Phone:** (803) 254-4540

**Fax:** (803) 254-4542

**Received Date:** 07/25/2023 10:15 AM

**Analysis Date:** 07/27/2023 - 07/28/2023

**Collected Date:**

**Project:** 1-95 over Lake Marion (Bridge #2)


## Test Report: Asbestos Analysis of Bulk Materials via AHERA Method 40CFR 763 Subpart E Appendix E supplemented with EPA 600/R-93/116 using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
B2 1-1 <small>022304976-0001</small>	Black Expansion Joint Material	Black Non-Fibrous Homogeneous	3% Cellulose	97% Non-fibrous (Other)	None Detected
B2 1-2 <small>022304976-0002</small>	Black Expansion Joint Material	Brown/Black Non-Fibrous Heterogeneous	1% Cellulose	99% Non-fibrous (Other)	None Detected
B2 2-1 <small>022304976-0003</small>	Bond Break Pad	Gray Non-Fibrous Heterogeneous		25% Quartz 10% Ca Carbonate 65% Non-fibrous (Other)	None Detected
B2 2-2 <small>022304976-0004</small>	Bond Break Pad	Brown/Gray/Black Non-Fibrous Heterogeneous	1% Cellulose	20% Quartz 10% Ca Carbonate 69% Non-fibrous (Other)	None Detected
B2 3-1 <small>022304976-0005</small>	Expansion Joint Sealer	Black Non-Fibrous Homogeneous	<1% Cellulose	100% Non-fibrous (Other)	None Detected
B2 3-2 <small>022304976-0006</small>	Expansion Joint Sealer	Brown/Black Non-Fibrous Homogeneous	1% Cellulose	99% Non-fibrous (Other)	None Detected
B2 4-1 <small>022304976-0007</small>	Bond Break Pad #2	Black/Silver Non-Fibrous Homogeneous	<1% Cellulose	100% Non-fibrous (Other)	None Detected
B2 4-2 <small>022304976-0008</small>	Bond Break Pad #2	Black/Silver Non-Fibrous Heterogeneous	<1% Cellulose	100% Non-fibrous (Other)	None Detected
B2 5-1 <small>022304976-0009</small>	Bond Break Pad #3 (Bent 28)	Gray Fibrous Homogeneous		30% Non-fibrous (Other)	70% Chrysotile
B2 5-2 <small>022304976-0010</small>	Bond Break Pad #3 (Bent 28)				Positive Stop (Not Analyzed)

Analyst(s)

Cameron Evans (5)

Scott Combs (4)

  
Stephen Bennett, Laboratory Manager  
or Other Approved Signatory

EMSL maintains liability limited to cost of analysis. Interpretation and use of test results are the responsibility of the client. This report relates only to the samples reported above, and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. The report reflects the samples as received. Results are generated from the field sampling data (sampling volumes and areas, locations, etc.) provided by the client on the Chain of Custody. Samples are within quality control criteria and met method specifications unless otherwise noted. The above analyses were performed in general compliance with Appendix E to Subpart E of 40 CFR (previously EPA 600/M4-82-020 "Interim Method") but augmented with procedures outlined in the 1993 ("final") version of the method. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the federal government. Non-friable organically bound materials present a problem matrix and therefore EMSL recommends gravimetric reduction prior to analysis. Unless requested by the client, building materials manufactured with multiple layers (i.e. linoleum, wallboard, etc.) are reported as a single sample. Estimation of uncertainty is available on request.

Samples analyzed by EMSL Analytical, Inc. Kernersville, NC NVLAP Lab Code 102104-0, Virginia 3333-000228, West Virginia LT000321

Initial report from: 07/28/2023 08:26:09





# EMSL Analytical, Inc.

706 Gralin Street Kernersville, NC 27284  
Tel/Fax: (336) 992-1025 / (336) 992-4175  
<http://www.EMSL.com> / [kernersvillelab@emsl.com](mailto:kernersvillelab@emsl.com)

**EMSL Order:** 022304976  
**Customer ID:** FMEC62  
**Customer PO:** G6744.000  
**Project ID:**

**Attention:** Glynn M. Ellen  
F & ME Consultants  
211 Business Park Blvd  
Columbia, SC 29203

**Phone:** (803) 254-4540  
**Fax:** (803) 254-4542  
**Received Date:** 07/25/2023 10:15 AM  
**Analysis Date:** 07/28/2023  
**Collected Date:**

**Project:** 1-95 over Lake Marion (Bridge #2)

## Test Report: Asbestos Analysis of Non-Friable Organically Bound Materials by TEM via EPA/600/R-93/116 Section 2.5.5.1

Sample ID	Description	Appearance	% Matrix Material	% Non-Asbestos Fibers	Asbestos Types
B2 1-3 022304976-0011	Black Expansion Joint Material	Black Non-Fibrous Homogeneous	100.0 Other	None	No Asbestos Detected
B2 2-3 022304976-0012	Bond Break Pad	Gray Non-Fibrous Homogeneous	100.0 Other	None	No Asbestos Detected
B2 3-3 022304976-0013	Expansion Joint Sealer	Black Non-Fibrous Homogeneous	100.0 Other	None	No Asbestos Detected
B2 4-3 022304976-0014	Bond Break Pad #2	Gray/Silver Non-Fibrous Homogeneous	100.0 Other	None	No Asbestos Detected

Analyst(s)

Stephen Bennett (4)

Stephen Bennett, Laboratory Manager  
or other approved signatory

EMSL maintains liability limited to cost of analysis. Interpretation and use of test results are the responsibility of the client. This report relates only to the samples reported above, and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. The report reflects the samples as received. Results are generated from the field sampling data (sampling volumes and areas, locations, etc.) provided by the client on the Chain of Custody. Samples are within quality control criteria and met method specifications unless otherwise noted. EMSL recommends that samples reported as none detected or < 1% undergo additional analysis via PLM to avoid the possibility of false negatives.

Samples analyzed by EMSL Analytical, Inc. Kernersville, NC

Initial report from: 07/28/2023 16:40:22

## Appendix I

### Chain of Custody Forms



EMSL ANALYTICAL, INC.  
LABORATORY PRODUCTS TRAINING

### Asbestos Chain of Custody

EMSL Order Number (Lab Use Only)

022304976

X  
706 GRALIN ST.  
KERNERSVILLE, NC 27284  
PHONE: (336) 992-1025  
FAX: (336) 992-4175

Company Name : F&ME Consultants		EMSL Customer ID: FMEC62	
Street: 211 Business Park Boulevard		City: Columbia	State/Province: SC
Zip/Postal Code: 29203	Country: USA	Telephone #: 803-254-4540	Fax #: 803-254-4542
Report To (Name): Glynn Ellen		Please Provide Results: <input type="checkbox"/> Fax <input checked="" type="checkbox"/> Email	
Email Address: gellen@fmeconsultants.com, and mmincey@fmeconsultants.com,		Purchase Order: G6744.000	
Project Name/Number: I-95 over Lake Marion (Bridge #2)		EMSL Project ID (Internal Use Only):	
U.S. State Samples Taken: SC		CT Samples: <input checked="" type="checkbox"/> Commercial/Taxable <input type="checkbox"/> Residential/Tax Exempt	
EMSL-Bill to: <input checked="" type="checkbox"/> Same <input type="checkbox"/> Different - If Bill to is Different note instructions in Comments** <i>Third Party Billing requires written authorization from third party</i>			
Turnaround Time (TAT) Options* - Please Check			
<input type="checkbox"/> 3 Hour	<input type="checkbox"/> 6 Hour	<input type="checkbox"/> 24 Hour	<input type="checkbox"/> 48 Hour <input checked="" type="checkbox"/> 72 Hour <input checked="" type="checkbox"/> 96 Hour <input type="checkbox"/> 1 Week <input type="checkbox"/> 2 Week
*For TEM Air 3 hr through 6 hr, please call ahead to schedule *There is a premium charge for 3 Hour TEM AHERA or EPA Level II TAT. You will be asked to sign an authorization form for this service. Analysis completed in accordance with EMSL's Terms and Conditions located in the Analytical Price Guide			
<b>PCM - Air</b> <input type="checkbox"/> Check if samples are from NY <input type="checkbox"/> NIOSH 7400 <input type="checkbox"/> w/ OSHA 8hr. TWA <b>PLM - Bulk (reporting limit)</b> <input checked="" type="checkbox"/> PLM EPA 600/R-93/116 (<1%) <input type="checkbox"/> PLM EPA NOB (<1%) Point Count <input type="checkbox"/> 400 (<0.25%) <input type="checkbox"/> 1000 (<0.1%) Point Count w/Gravimetric <input type="checkbox"/> 400 (<0.25%) <input type="checkbox"/> 1000 (<0.1%) <input type="checkbox"/> NYS 198.1 (friable in NY) <input type="checkbox"/> NYS 198.6 NOB (non-friable-NY) <input type="checkbox"/> NYS 198.8 SOF-V <input type="checkbox"/> NIOSH 9002 (<1%)		<b>TEM - Air</b> <input type="checkbox"/> 4-4.5hr TAT (AHERA only) <input type="checkbox"/> AHERA 40 CFR, Part 763 <input type="checkbox"/> NIOSH 7402 <input type="checkbox"/> EPA Level II <input type="checkbox"/> ISO 10312 <b>TEM - Bulk</b> <input checked="" type="checkbox"/> TEM EPA NOB <input type="checkbox"/> NYS NOB 198.4 (non-friable-NY) <input type="checkbox"/> Chatfield SOP <input type="checkbox"/> TEM Mass Analysis-EPA 600 sec. 2 5 <b>TEM - Water:</b> EPA 100 2 Fibers >10µm <input type="checkbox"/> Waste <input type="checkbox"/> Drinking All Fiber Sizes <input type="checkbox"/> Waste <input type="checkbox"/> Drinking	
		<b>TEM - Dust</b> <input type="checkbox"/> Microvac - ASTM D 5755 <input type="checkbox"/> Wipe - ASTM D6480 <input type="checkbox"/> Carpet Sonication (EPA 600/J-93/167) <b>Soil/Rock/Vermiculite</b> <input type="checkbox"/> PLM EPA 600/R-93/116 with milling prep (<1%) <input type="checkbox"/> PLM EPA 600/R-93/116 with milling prep (<0.25%) <input type="checkbox"/> TEM EPA 600/R-93/116 with milling prep (<0.1%) <input type="checkbox"/> TEM Qualitative via Filtration Prep <input type="checkbox"/> TEM Qualitative via Drop Mount Prep <input type="checkbox"/> Cincinnati Method EPA 600/R-04/004 - PLM/TEM (BC only) <b>Other:</b> <input type="checkbox"/>	
<input checked="" type="checkbox"/> Check For Positive Stop - Clearly Identify Homogenous Group		Filter Pore Size (Air Samples): <input type="checkbox"/> 0.8µm <input type="checkbox"/> 0.45µm	
Samplers Name: Glynn M. Ellen		Samplers Signature:	
Sample #	Sample Description	Volume/Area (Air) HA # (Bulk)	Date/Time Sampled
*B2-1-1 thru B2-1-3	Black Expansion Joint Material		
*B2-2-1 thru B2-2-3	Bond Break Pad		
*B2-3-1 thru B2-3-3	Expansion Joint Sealer		
*B2-4-1 thru B2-4-3	Bond Break Pad #2		
*B2-5-1 thru B2-5-3	Bond Break Pad #3 (Bent 28)		
Client Sample # (s): B2-1-1 - B2-5-3		Total # of Samples: 15	
Relinquished (Client):		Date: 07/24/2023	Time: 1700
Received (Lab):		Date: 7-25-23	Time: 10:15
Comments/Special Instructions: *TEM 3 <sup>rd</sup> NOB.			

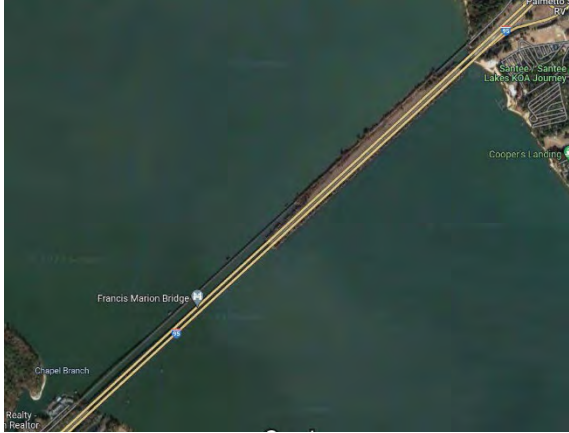
6

① EMSL FAX 7466 7469 10522  
Page 1 Of 1

## Appendix J

### Site Photographs

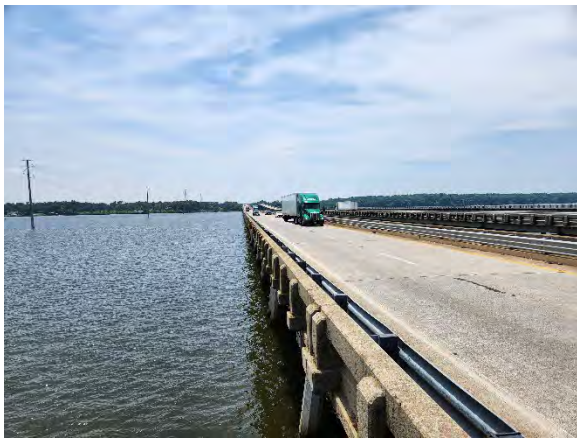
APPENDIX J - SITE PHOTOGRAPHS



**Photo 1.** Top Side View of Bridges.



**Photo 2.** Northeast View of I-95 NBL Bridge #2.



**Photo 3.** Top View of Bridge #2 Deck.



**Photo 4.** ACM Bond Break Bearing Pad Associated with Bent #28 of I-95 NBL Bridge #2.



**Photo 5.** Non-ACM Expansion Joint Material.



**Photo 6.** Underside View of I-95 NBL Bridge #2.





## Appendix K

### Personnel Certifications

# SCDHEC ISSUED

## Asbestos ID Card

**Glynn M Ellen**



**AIRSAMPLER  
CONSULTMP  
CONSULTPD  
SUPERAHERA**

**AS-00079  
ASB-22641  
PD-00098  
SA-00455**

**Expiration Date:**

**01/22/24  
01/23/24  
07/12/23  
01/22/24**

This card is nontransferable and considered invalid if loaned or given to another person for identification. This card will also be invalid if altered or defaced. This card is property of SCDHEC. It must be returned to the department if the holder's accreditation is revoked or if this card is invalidated. Any person performing regulated asbestos activities without current accreditation shall be subject to legal sanction. This card must be returned upon expiration and/or issuance of a new card.

**YOU MUST HAVE THIS IDENTIFICATION CARD WITH YOU ON THE JOB.**

For information of corrections contact: SCDHEC - Asbestos Section  
2600 Bull Street  
Columbia, SC 29201  
(803) 898-4289

# SCDHEC ISSUED

## Asbestos ID Card

**Michael Mincey**



**AIRSAMPLER  
CONSULTMP  
SUPERAHERA**

**AS-00272  
MP-00161  
SA-01424**

**Expiration Date:**

**01/22/24  
01/23/24  
01/22/24**

This card is nontransferable and considered invalid if loaned or given to another person for identification. This card will also be invalid if altered or defaced. This card is property of SCDHEC. It must be returned to the department if the holder's accreditation is revoked or if this card is invalidated. Any person performing regulated asbestos activities without current accreditation shall be subject to legal sanction. This card must be returned upon expiration and/or issuance of a new card.

**YOU MUST HAVE THIS IDENTIFICATION CARD WITH YOU ON THE JOB.**

For information of corrections contact: SCDHEC - Asbestos Section  
2600 Bull Street  
Columbia, SC 29201  
(803) 898-4289

## Appendix L

### Regulatory Summary

# Asbestos Regulatory Information

## Renovations & Demolitions

### Definitions

**Renovation** means altering a facility or one or more facility components in any way, including the stripping or removal of regulated asbestos-containing materials (RACM) from a facility component. "Remodeling" is considered renovation.

**Demolition** is wrecking or taking out any load-supporting structural member of a facility together and any related handling operations. Structural burns are prohibited by State Open Burning Regulations.

### Applicability

Renovation and demolition of most facilities (including buildings, structures, and other installations), are subject to State and Federal asbestos regulations. Certain residential buildings may be exempt. Contact the SCDHEC Asbestos Section for additional information.

All asbestos-containing materials must be removed from a facility prior to demolition. Only the following asbestos-containing materials (ACM) may be left in place during demolition:

- ACM on a facility component that is encased in concrete or other similarly hard material and is adequately wet whenever exposed during demolition
- RACM that was not accessible for testing and was, therefore, not discovered until after demolition began and, as a result of the demolition, cannot be safely removed. If not removed for safety reasons, all exposed RACM and any asbestos-contaminated debris must be treated as regulated asbestos-containing waste material. Category I and Category II non-friable mastic, glue, and adhesive ACM that is not friable or in poor condition, and where the probability is low that the materials will become crumbled, pulverized, or reduced to powder during demolition operations.
- Category I and Category II non-friable mastic, glue, and adhesive ACM that is not friable or in poor condition, and where the probability is low that the materials will become crumbled, pulverized, or reduced to powder during demolition operations.

**The facility owner and the renovation or demolition contractor are both responsible for ensuring compliance with these regulations.**

## Building Inspections

Before a facility or a portion of a facility is renovated or demolished, the owner/operator of the facility or renovation or demolition activity must ensure that the facility or portion of the facility being renovated or demolished has been thoroughly inspected for the presence of asbestos. The inspection must be performed by a person who has been trained and licensed as an Asbestos



Building Inspector or management planner in accordance with State training and licensing requirements.

The inspector must identify, quantify, and assess the condition of all suspect asbestos-containing material, either friable or non-friable, on interior and exterior portions of the facility. The inspector must also comply with the procedures specified in Regulation 61-86.1 VI D. In addition, the inspector is required to prepare a written report detailing the findings of the inspection. At a minimum, the report must include information required in Regulation 61-86.1 VI C. A legible copy of the building inspection report must be provided to the Department prior to each demolition, and upon request for renovations. **(Note: " BUILDING INSPECTIONS "can be consulted for a detailed explanation of the aforementioned sampling and reporting protocols.)**

A building inspection will only be acceptable if performed **within three years** prior to the demolition or renovation. If an inspection report is more than three years old, then it must be confirmed and verified by a licensed Asbestos Building Inspector or Management Planner.

### **Friable Asbestos Containing Materials**

If friable asbestos-containing materials (e.g., pipe insulation) are present, they must be removed prior to being disturbed during renovation or demolition activities. Removal (abatement) must be performed by trained, licensed persons using procedures detailed in State and Federal regulations.

A project design must be prepared for each asbestos abatement project involving the abatement of greater than 3,000 square feet, 1,500 linear feet and/or 656 cubic feet of RACM in a facility to be reoccupied. Such designs must be prepared by a person licensed by DHEC as an Asbestos Project Designer.

### **Non-Friable Asbestos Containing Materials**

Please note that when it can reasonably be expected that non-friable materials will become friable during removal, that these materials must be considered friable from the beginning. If non-friable Asbestos Containing Materials (ACM) becomes friable during an abatement project, the removal becomes subject to the same requirements as friable materials, including training, licensing, notification, and work practices.

- Material should always be lowered to the ground carefully. Throwing or dropping non-friable ACM to the ground or into a truck will cause the material to become friable.
- Materials should be kept wet or misted with water during removal to minimize potential fiber release. **NOTE: The use of water is only a control measure and by no means prevents a material from becoming friable.**
- Once removed, materials may be placed in 6-mil polyethylene bags or drums or wrapped with 6-mil polyethylene sheeting. Additional water may be added to ensure thorough wetting, but do not add so much that the bag or wrapping breaks when lifted.

- Debris already on the ground should be wet and either collected manually or gathered with a shovel and bagged for disposal. These materials can be potential sources of airborne asbestos fiber releases.
- South Carolina Regulation 61-86.1 requires that containers (bags, drums, wrapped components) holding asbestos waste must be labeled with the following: **DANGER - CONTAINS ASBESTOS FIBERS - AVOID CREATING DUST - CANCER AND LUNG DISEASE HAZARD.**
- Materials should be taken to a landfill as soon as possible but may be stored temporarily in a secure area subject to Departmental approval. Transport the materials so as to prevent them from leaking, spilling, or blowing off the vehicle.
- You should contact the landfill directly to make sure it will accept the material. You must obtain written approval from DHEC in advance for the disposal. You can get this approval by writing to the following address:

**South Carolina Department of Health and Environmental Control  
Attn: Bureau of Air Quality/Asbestos Section  
2600 Bull Street Columbia, SC 29201**

Be sure to include the following:

1. the address where the material is to be removed;
2. a brief description of the content (cement-like tiles, asphaltic shingles, etc.);
3. the volume of waste in cubic yards or the area in square feet of material removed, and;
4. the name and location of the landfill which has agreed to accept the waste.

*Please remember to include your name, return address, and phone number.*

- **DO NOT BURN OR RECYCLE** any asbestos-containing or asbestos-contaminated materials.

The Occupational Safety and Health Administration (OSHA) has rules for workers affected by asbestos-containing materials. These rules must be complied with by all contractors and facility owners and include specific work practices, respiratory protection, and asbestos training requirements, **even for activities involving only non-friable asbestos-containing materials.** Contact the Department of Labor at (803) 896-7665 for details.

## **Notification of Renovations & Demolitions**

Prior to removing regulated asbestos-containing materials, [written notification](#) must be submitted to DHEC (up to 10 working days in advance, depending on the amount of asbestos to be removed). The notification must include certain required items of information about the owner, the contractor, the facility, and the asbestos removal project. Required fees must be submitted along with the notification. You must obtain a permit from the Department prior to the renovation activity.

Prior to the demolition of any regulated facility, [written notification](#) must be submitted to DHEC *at least 10 working days* in advance **even if a building inspector determines that asbestos is not present at the facility**. The notification must include certain required items of information about the owner, the contractor, the facility, and the demolition project. Required fees and a copy of the building inspector's report must be submitted along with the notification of demolition. You must obtain a permit from the Department prior to the demolition activity.

## Disposal

***Never burn any asbestos-containing waste material.***

Non-asbestos-containing demolition debris and debris which contains only non-regulated roofing or flooring may be disposed of at a DHEC-approved disposal site for cellulosic or inert waste. Waste consolidation activities involving grinding, cutting, or compacting of non-friable asbestos-containing materials will subject these materials to more stringent State and Federal asbestos disposal regulations.

Regulated asbestos waste must be handled by properly licensed asbestos abatement personnel and disposed of at a landfill permitted to accept regulated asbestos waste. A list of approved landfills may be obtained from the Asbestos Section.

## Building Inspection Report Directions

As required by the National Emission Standard for Hazardous Air Pollutants (NESHAP) and Regulation 61-86.1, an owner/operator shall ensure that a building inspection, to detect the presence of asbestos-containing material (ACM), has been performed prior to any renovation or demolition activity at a regulated facility.

Under Regulation 61-86.1, Section VI.A.6., an inspection cannot have been performed more than three years prior to a renovation or demolition activity. If more than three years have elapsed since the most recent inspection, the previous inspection shall be confirmed and verified by a licensed building inspector and/or management planner.

Regulation 61-86.1 requires that all inspections be performed by persons trained and licensed as either a building inspector and/or management planner. In order to be licensed in these disciplines, persons must have successfully completed a DHEC approved initial training course specific to inspecting for ACM in a building and/or a course specific to management planning for ACM in a building. Persons must also have taken and passed an examination at the end of the course with a score of 70 percent or above.

In performing inspections, Regulation 61-86.1 requires that a building inspector and/or management planner comply with the requirements of Section VI, Asbestos Building Inspection Requirements. An inspection shall include samples from suspect friable and non-friable ACM on interior and exterior portions of a facility or its facility components.

In performing inspections, Regulation 61-86.1 requires that a building inspector and/or management planner follow specific sampling procedures. According to Section IV.B.3.a of the regulation, a building inspector and/or management planner shall comply with the procedures specified in **40 CFR 763.86** in determining sampling locations and the number of representative samples to be collected. An inspection shall include samples from suspect friable and non-friable ACM on interior and exterior portions of a facility or its facility components.

Under 40 CFR Part 763.86, suspect ACM are divided into three categories: surfacing materials, thermal system insulation (commonly referred to as TSI), and miscellaneous materials. Regulation 61-86.1, Section VI contains sampling procedures specific to each category of material.

**Surfacing material** includes, but is not limited to, joint compound, plaster, and painted, troweled on, or spray-applied textured material. To remain in compliance with Regulation 61-86.1, surfacing materials on exterior and interior portions of a facility shall be sampled according to procedures outlined in Regulation 61-86.1, Section VI.D.1. (a)-(c):

- A licensed asbestos inspector shall collect, in a statistically random manner, a minimum of three bulk samples from each homogeneous area of any surfacing that is not assumed to be ACM, and shall collect the samples as follows:
  - At least three bulk samples shall be collected from each homogeneous area that is 1,000 or fewer square feet (sf) or linear feet (Lf) in size.
  - At least five bulk samples shall be collected from each homogeneous area that is greater than 1,000 but fewer than or equal to 5,000 sf or Lf.
  - At least seven bulk samples shall be collected from each homogeneous area that is greater than 5,000 sf or Lf.

**Thermal System Insulation (TSI)** is any material that is applied to pipes, fittings, boilers, breeching, tanks, ducts, or other facility components for the purpose of preventing heat loss or gain, water condensation, or for other purposes. **Miscellaneous Material** is any material that is not considered a surfacing material or thermal system insulation and includes, but is not limited to, flooring, roofing, mastics, gaskets, cementitious materials, caulking, ceiling tiles, fire doors, wall boards, and flexible duct connections. To remain in compliance with Regulation 61-86.1, TSI and miscellaneous materials on exterior and interior portions of a facility shall be sampled in accordance with procedures outlined in Regulation 61-86.1, Section VI.D.2:

- A licensed asbestos inspector shall collect, in a statistically random manner, at least three bulk samples from each homogeneous area of TSI and any miscellaneous material that is not assumed to be ACM.
- In accordance with ASTM E2356, and any subsequent amendments and editions, negative results for non-friable organically bound material (NOB) shall be verified with at least one TEM analysis.
- NOBs include flooring, roofing, mastics, adhesives, caulks, and glazing.
- If an accredited inspector has determined the thermal system insulation to be fiberglass, foam glass, rubber, or other non-suspect material, then bulk samples are not required.

**Regulation 61-86.1, Section VI.C requires that a building inspector and/or management planner prepare a written asbestos building inspection report to include the following:**

- A title page denoting:
  1. The client's name, company, address, and telephone number, and the name and exact location of the facility inspected;
  2. the date the inspection was performed;
  3. the date the inspection report was written; and
  4. the printed name and telephone number of the inspector(s), and his or her affiliated company name, address, and telephone number.
- A cover letter to the building owner or owner's representative that describes the purpose of the inspection; a general synopsis of the inspection and results; and the name, title, and signature of the inspector(s) and report writer, if different.
- A detailed narrative of the physical description of the building or part of the building affected by the renovation or demolition operation that includes:
  1. The square footage of the building or part of the building affected by the renovation or demolition operation;
  2. The building materials used in the construction of the exterior, roof, interior, and basement or crawlspace of the building affected by the demolition or affected by the renovation materials operation;
  3. An estimated or exact quantity (square or linear feet) for all suspect materials whether sampled for or assumed to be asbestos that may be affected by the renovation or demolition operation;
  4. Also include a description of non-suspect materials excluding: glass, metals, kiln brick, cement, fiberglass, concrete, pressed wood, cinder block, and rubber.
- An executive summary that details:
  1. The type of suspect ACM (e.g., TSI, floor tile, mastic), total square or linear footage, and the total number of samples collected for each separate homogenous area affected by the renovation or demolition operation;
  2. The date of the inspection, type, condition, quantity, sample results, and exact location of ACM positively identified or assumed to be ACM in the part of the building affected by the renovation or demolition operation;
  3. A list of the homogeneous areas identified;
  4. Whether the material is accessible for the building or part of the building affected by the renovation or demolition operation; and (5) The material's potential for disturbance for the building or part of the building affected by the renovation or demolition operation.
- For renovation and demolition operations, the inspector's determination that ACM is friable or non-friable.
- Except when suspect ACM materials are assumed to be asbestos, include a complete, clear, legible copy of all laboratory bulk sample results.
- Clear, legible drawings and/or photographs to clarify the scope of the renovation or demolition operation. Illustrate the exact location of each sample collected. For facilities



that involve a trade secret or confidential component or an affected area process, a request for a variance may be submitted.

- The printed name and signature of each accredited inspector who collected the samples, and a clear legible copy of his or her DHEC issued asbestos building inspector or management planner license.

#### **Things to Note:**

- At no time will negative assumptions about a suspect material's content be acceptable. There are only two acceptable options:
  1. Positive assumptions of suspect materials or
  2. Sampling of suspect materials per the procedures specified in 40 CFR 763.86
- A homogenous area is considered not to contain ACM only if the results of all samples required to be collected from the area are one percent or less.
- Bulk samples shall not be composited for analysis.
- In a multi-unit building, each separate room in each part of the building or areas affected by the renovation or demolition operation shall be inspected to confirm and quantify ACM homogeneous areas for sampling purposes.
- DHEC will not accept an asbestos building inspection or written report for any structure from an employee of an abatement company also involved in the removal of asbestos-containing materials from that structure, unless the licensed inspector is an employee of an entity regulated under Regulation 61-86.1, Section XX, Industrial Manufacturing and Electrical Generation Facilities.
- An asbestos building inspector shall not participate in the analysis of the bulk samples he or she has collected.
- Destructive sampling techniques shall be utilized.
- Material Safety Data Sheets (MSDS), statements from the manufacturer, and architecture signoff will not be accepted as proof that a building product contains no asbestos, except in cases where the owner can verify the direct correlation of the building product to the MSDS, statements from the manufacturer, and/or architecture signoff documents. DHEC reserves the right to reject documentation that it deems unacceptable.

## Appendix M

### Abatement Project Forms



## ASBESTOS ABATEMENT PROJECT LICENSE APPLICATION

Bureau of Air Quality • Asbestos Section • 2600 Bull Street • Columbia • SC • 29201

Type of operation:  standard removal  emergency removal  enclosure  encapsulation  cleanup  disposal

For office use  
 postmark/received: \_\_\_\_\_ original  / revised  / cancellation  (check one) project license i.D. (for revisions/cancellations): \_\_\_\_\_

i. facility owner: \_\_\_\_\_  
 mailing address: \_\_\_\_\_  
 city: \_\_\_\_\_ state: \_\_\_\_\_ Zip: \_\_\_\_\_  
 contact person: \_\_\_\_\_ phone: (\_\_\_\_) \_\_\_\_\_

ii. removal contract or: \_\_\_\_\_  
 mailing address: \_\_\_\_\_  
 city: \_\_\_\_\_ state: \_\_\_\_\_ Zip: \_\_\_\_\_  
 contact person: \_\_\_\_\_ phone: (\_\_\_\_) \_\_\_\_\_  
 e-mail address: \_\_\_\_\_ e-mail permit  or mail permit   
 federal i.D. number: \_\_\_\_\_  
 DHEC contract or license no. (if applicable): \_\_\_\_\_ expiration date: \_\_\_\_\_

iii. facility name: \_\_\_\_\_  
 street address: \_\_\_\_\_  
 city: \_\_\_\_\_ state: \_\_\_\_\_ county: \_\_\_\_\_  
 site (room, floor, wing, unit, machine, etc.): \_\_\_\_\_  
 building size: \_\_\_\_\_ no. of floors: \_\_\_\_\_ age in years: \_\_\_\_\_  
 present use: \_\_\_\_\_ prior use: \_\_\_\_\_ future use: \_\_\_\_\_

iv. procedures, including analytical methods if appropriate, used to detect the presence of asbestos material:  
 facility or facility component surveyed by (inspect or name): \_\_\_\_\_  
 company: \_\_\_\_\_ phone: (\_\_\_\_) \_\_\_\_\_  
 DHEC license number: \_\_\_\_\_ expiration date: \_\_\_\_\_

v. project design performed by (if applicable): \_\_\_\_\_  
 company: \_\_\_\_\_ phone: (\_\_\_\_) \_\_\_\_\_  
 DHEC license number: \_\_\_\_\_ expiration date: \_\_\_\_\_

vi. asbestos-containing materials (acm) **TO BE REMOVED ONLY:**

TYPE (tissue, surface, floor, roof, etc.)	AMOUNT (square feet, linear feet, cubic feet)	CONDITION (circle one)
		<input type="checkbox"/> FRIABLE <input type="checkbox"/> non-friable
		<input type="checkbox"/> FRIABLE <input type="checkbox"/> non-friable
		<input type="checkbox"/> FRIABLE <input type="checkbox"/> non-friable
		<input type="checkbox"/> FRIABLE <input type="checkbox"/> non-friable

vii. schedule dates of removal: start date: \_\_\_\_\_ completion date: \_\_\_\_\_  
 work days: \_\_\_\_\_ work hours: \_\_\_\_\_

**APPLICATIONS MUST BE SUBMITTED WITH FEES PRIOR TO THE SCHEDULED START DATE AS FOLLOWS:**

NESHAP PROJECTS: 10 WORKING DAYS SMALL PROJECTS: 4 WORKING DAYS MINOR PROJECTS: 2 WORKING DAYS	<b>FEE SCHEDULE FOR FRIABLE ASBESTOS-CONTAINING MATERIALS:</b> 10 CENTS PER SQUARE FOOT OR LINEAR FOOT MINIMUM FEE OF \$25.00 MAXIMUM FEE OF \$1000.00
--	---

non-friable (nesap-sized) projects: 4 working days. no fee for non-friable acm.  
 for additional information concerning regulatory requirements call or visit our Web site at <http://www.scdhec.gov/environment/baq/asbestos.aspx>

Viii. Description of planned Abatement Work & methods to be used:

IX. Description of Work practices & engineering controls to be used to prevent emissions of asbestos at the renovation site:

X. Waste transporter #1: \_\_\_\_\_  
mailing address: \_\_\_\_\_  
city: \_\_\_\_\_ state: \_\_\_\_\_ Zip: \_\_\_\_\_  
contact person: \_\_\_\_\_ phone: (\_\_\_\_\_) \_\_\_\_\_

Waste transporter #2: \_\_\_\_\_  
mailing address: \_\_\_\_\_  
city: \_\_\_\_\_ state: \_\_\_\_\_ Zip: \_\_\_\_\_  
contact person: \_\_\_\_\_ phone: (\_\_\_\_\_) \_\_\_\_\_

Xi. Waste Disposal site: \_\_\_\_\_  
mailing address: \_\_\_\_\_  
city: \_\_\_\_\_ state: \_\_\_\_\_ Zip: \_\_\_\_\_  
contact person: \_\_\_\_\_ phone: (\_\_\_\_\_) \_\_\_\_\_  
temporary asbestos containment area license number (if applicable): \_\_\_\_\_

Xii. Description of emergency removal (PLEASE ATTACH A LETTER FROM THE FACILITY OWNER EXPLAINING THE NATURE OF THE EMERGENCY)

Date & Hour of emergency (mm/DD/yy): \_\_\_\_\_

Description of sudden, unexpected event:

Explanation of how the event caused unsafe conditions and/or would cause equipment damage and/or an unreasonable financial burden:

Xiii. Description of procedures to be followed in the event that unexpected asbestos is found or previously non-friable asbestos material becomes crumbled, pulverized or reduced to powder:

XIV. I CERTIFY THAT AN INDIVIDUAL TRAINED IN THE PROVISIONS OF REGULATION (40 CFR PART 61, SUBPART M) WILL BE ON-SITE DURING THE RENOVATION AND EVIDENCE THAT THE REQUIRED TRAINING HAS BEEN ACCOMPLISHED BY THIS PERSON WILL BE AVAILABLE FOR INSPECTION DURING NORMAL BUSINESS HOURS.

\_\_\_\_\_  
(Signature of owner/operator)

\_\_\_\_\_  
(Date)

XIV. I CERTIFY THAT THE ABOVE INFORMATION IS CORRECT.

\_\_\_\_\_  
(Signature of owner/operator)

\_\_\_\_\_  
(Date)



## DEMOLITION LICENSE APPLICATION

Bureau of Air Quality • Asbestos Section • 2600 Bull Street • Columbia • SC • 29201

Type of operation :  Total Demolition  Partial Demolition  Ordered Demolition

for office use Postmark/Received:	Original/Revised/Cancellation (circle one)	Project License I.D. (For Revisions/Cancellations):
--------------------------------------	--	---

i. facility owner : \_\_\_\_\_  
 mailing address : \_\_\_\_\_  
 city : \_\_\_\_\_ state : \_\_\_\_\_ Zip : \_\_\_\_\_  
 contact person : \_\_\_\_\_ phone : (\_\_\_\_) \_\_\_\_\_

II. asbestos present in the facility ? : yes  / no  (check one)

iii. Demolition contract or : \_\_\_\_\_ Federal ID no. : \_\_\_\_\_  
 mailing address : \_\_\_\_\_  
 city : \_\_\_\_\_ state : \_\_\_\_\_ Zip : \_\_\_\_\_  
 contact person : \_\_\_\_\_ phone : (\_\_\_\_) \_\_\_\_\_

e-mail address : \_\_\_\_\_ e-mail permit  or mail permit

Federal ID number : \_\_\_\_\_

asbestos removal contract or (if applicable): \_\_\_\_\_

mailing address : \_\_\_\_\_  
 city : \_\_\_\_\_ state : \_\_\_\_\_ Zip : \_\_\_\_\_  
 contact person : \_\_\_\_\_ phone : (\_\_\_\_) \_\_\_\_\_

iv. facility name : \_\_\_\_\_  
 street address : \_\_\_\_\_  
 city : \_\_\_\_\_ state : \_\_\_\_\_ county : \_\_\_\_\_  
 site (room, floor, wing, unit, machine, etc.): \_\_\_\_\_  
 building size : \_\_\_\_\_ no. of floors : \_\_\_\_\_ age in years : \_\_\_\_\_  
 present use : \_\_\_\_\_ prior use : \_\_\_\_\_ future use : \_\_\_\_\_

v. procedures, including analytical methods if appropriate, used to detect the presence of asbestos material :  
 facility or facility component surveyed by (inspect or name): \_\_\_\_\_  
 company : \_\_\_\_\_ phone : (\_\_\_\_) \_\_\_\_\_  
 DHEC license number : \_\_\_\_\_ expiration date : \_\_\_\_\_

vi. non-friable mastic, glue, and adhesive asbestos-containing materials **REMAINING IN PLACE DURING DEMOLITION (IF APPLICABLE):**

TYPE (mastic, glue, and adhesive)	AMOUNT (square feet)

vii. schedule dates of demolition (you must specify dates):  
 start date : \_\_\_\_\_ completion date : \_\_\_\_\_  
 work days : \_\_\_\_\_ work hours : \_\_\_\_\_

- **Applications must be mailed along with a \$50.00 fee (payable to SCDHEC) at least 10 working days prior to the scheduled start date. Faxes will not be accepted.**
- **A copy of an asbestos survey report (no older than 3 years) must accompany the application.**

for additional information concerning regulatory requirements call or visit our Web site at <http://www.scdhec.gov/environment/baq/asbestos.aspx>



Viii. Description of planned Demolition method(s) to be used:

Bulldozer       LOADER       Wheel Loader       manual       Burning       Implosion /Explosion

If other please describe:

ix. Description of Work practices & engineering controls to be used to prevent emissions of asbestos at the Demolition site:

X. Waste transporter #1: \_\_\_\_\_

mailing address: \_\_\_\_\_

city: \_\_\_\_\_ state: \_\_\_\_\_ Zip: \_\_\_\_\_

contact person: \_\_\_\_\_ phone: (\_\_\_\_) \_\_\_\_\_

Waste transporter #2: \_\_\_\_\_

mailing address: \_\_\_\_\_

city: \_\_\_\_\_ state: \_\_\_\_\_ Zip: \_\_\_\_\_

contact person: \_\_\_\_\_ phone: (\_\_\_\_) \_\_\_\_\_

xi. Waste Disposal site: \_\_\_\_\_

mailing address: \_\_\_\_\_

city: \_\_\_\_\_ state: \_\_\_\_\_ Zip: \_\_\_\_\_

contact person: \_\_\_\_\_ phone: (\_\_\_\_) \_\_\_\_\_

xii. If Demolition or Dered by Government Agency, please identify the Agency below: (please attach a copy of the order)

name: \_\_\_\_\_ title: \_\_\_\_\_

AUTHORITY: \_\_\_\_\_

Date of order (mm/DD/yy): \_\_\_\_\_ Date of Dered to begin (mm/DD/yy): \_\_\_\_\_

xiii. Description of procedures to be followed in the event that unexpected asbestos is found or previously nonfriable asbestos material becomes crumbly, pulverized, or reduced to powder:

XIV. I CERTIFY THAT AN INDIVIDUAL TRAINED IN THE PROVISIONS OF REGULATION (40 CFR PART 61, SUBPART M) WILL BE ON-SITE DURING THE DEMOLITION INVOLVING RACM AND EVIDENCE THAT THE REQUIRED TRAINING HAS BEEN ACCOMPLISHED BY THIS PERSON WILL BE AVAILABLE FOR INSPECTION DURING NORMAL BUSINESS HOURS.

\_\_\_\_\_  
(Signature of owner/operator)

\_\_\_\_\_  
(Date)

XV. I CERTIFY THAT THE ABOVE INFORMATION IS CORRECT.

\_\_\_\_\_  
(Signature of owner/operator)

\_\_\_\_\_  
(Date)

- **Applications must be mailed along with a \$50.00 fee (payable to SCDHEC) at least 10 working days prior to the scheduled start date. Faxes will not be accepted.**
- **A copy of an asbestos survey report (no older than 3 years) must accompany the application.**

For additional information concerning regulatory requirements call or visit our Web site at <http://www.scdhec.gov/environment/baq/asbestos.aspx>





# LEAD-BASED PAINT INVESTIGATION REPORT

NORTHBOUND I-95 BRIDGE OVER LAKE MARION  
CLARENDON & ORANGEBURG COUNTIES, SOUTH CAROLINA

## PREPARED FOR:

The logo for TRANSYSTEMS. The word 'TRANSYSTEMS' is in a bold, blue, sans-serif font. The letter 'A' is stylized with a blue triangle pointing upwards from its center.

C/O Mr. Peter Strub  
Sr. Vice President/Principal  
1859 Summerville Avenue, Suite 600  
Charleston, SC 29405

## PREPARED BY:

F&ME Consultants, Inc.  
211 Business Park Blvd.  
Columbia, South Carolina 29203

**August 18, 2023**

- Yes, LBP was found.  
 No, LBP was not found.

FME Project No.: G6744.000

## TABLE OF CONTENTS

1.	Executive Summary.....	1
2.	Lead-Based Paint Background Information.....	3
3.	Introduction.....	3
4.	Investigation Procedures and Results.....	3
5.	Recommemndations.....	4
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Appendix A – Site Vicinity Map

Appendix B – General Bridge Plans

Appendix C – Summary of XRF Data Table

Appendix D – Site Photos

Appendix E – EPA LBP Inspector Certification



# 1 EXECUTIVE SUMMARY

This executive summary is intended as an overview for the convenience of the reader. This report should be reviewed in its entirety prior to making any decisions regarding this project. This investigation report is one of seven (7) completed for the project. The investigations included the existing north and southbound I-95 bridge structures, the former US 301/15 Trail Bridges, and the older remnants of the US 301 bridge. The below Bridge numbering system utilized for the investigations and referenced in this report reflects the numbering system developed by F&ME Consultants, Inc. (FME) field personnel during the field investigation and does not reflect any Bridge numbering system used by The South Carolina Department of Transportation (SCDOT). This report is specifically for the northbound I-95 bridge only. Refer to other reports prepared by FME for the other bridges.

F&ME Consultants, Inc. (FME) has completed a Lead-Based Paint (LBP) investigation the existing northbound I-95 Bridge over Lake Marion (Bridges #2) in Clarendon and Orangeburg Counties in South Carolina, at the request of Transystems (Client). The purpose of the investigation was to locate, identify and test components of the Bridge that are painted or coated with LBP. The field investigations were performed on July 19, 2023, in anticipation of the off-alignment replacement of the existing I-95 northbound Bridge. Refer to Appendix A, Site Vicinity Map is provided to show the locations of the Bridge. Appendix B, General Bridge Plan, is provided to show the lay-out of the Bridge and a reference for locations of XRF scans.

Per an agreed upon scope of work, this LBP Investigation was conducted to identify accessible Bridge components that have been painted or coated with lead-containing materials that have concentrations greater than or equal ( $\geq$ ) to the regulatory limit of 0.7 mg/cm<sup>2</sup>. This investigation includes both a visual evaluation of the physical condition of painted materials as well as quantitative testing of surfaces using an X-Ray Fluorescence (XRF) LBP analyzer. The XRF documents the concentration of lead, if any, in the overall paint or coating. Bridge components were scanned with a Viken XRF analyzer (Model # Pb200i, Serial #1888, Reference Date: 11/01/22) with a limit of detection (LOD) of 0.1 mg/cm<sup>2</sup>.

LBP is regulated by multiple government agencies, and each requires different response actions when the concentration of lead exceeds specified thresholds. The Occupational Safety and Health Administration (OSHA) regulates worker exposure to lead dust, and as a result considers materials with any lead content to be a potential hazard. Additionally, South Carolina Department of Health and Environmental Control (SCDHEC) requires some waste materials to be disposed of at specific disposal facilities that are able to manage this waste. Appendix C, XRF Data, is provided to present the XRF data in a user-friendly format. Items in red text contain lead in concentrations regulated by SCDHEC and these materials must be addressed upon disposal. Items in blue and red text contain lead in concentrations that must be considered a potential for worker exposure by OSHA.



The results from the XRF quantitative testing of the Bridge components indicate that lead is present in paint and/or coatings in concentrations greater than or equal to ( $\geq$ ) 0.7 mg/cm<sup>2</sup> in the following Bridge components:

**Bridge #2 (NB I-95 over Lake Marion)**

- Silver/Gray Steel Rocker Bearings
- Silver/Gray Steel Top Bearing Plates above Steel Rocker Bearings
- Silver/Gray Steel Tie-Rod Washers
- Silver/Gray Steel Bearing Plates

For more information regarding the specific descriptions and locations of the items that were scanned, refer to the Appendix C, Summary of XRF Data. Appendix E, Site Photos for locations and pictures of the materials with concentrations greater than or equal to ( $\geq$ ) 0.7 mg/cm<sup>2</sup>. Appendix D includes the inspector's EPA lead-based paint inspector certification.

We appreciate the opportunity to assist you in this project. If you have any questions or require additional information, please feel free to contact our office at (803) 254-4540.

Sincerely,

F&ME CONSULTANTS



**Michael S. Mincey**

SC Lead Based Paint Inspector

EPA Certification No. LBP-I-1198708-2 (Exp. 2/21/25)



**Glynn M. Ellen**

Environmental Department Manager

## 2 LEAD-BASED PAINT BACKGROUND INFORMATION

Housing and Urban Development (HUD) defines “LBP” as any coating that has a lead concentration of 1.0 milligrams of lead per square centimeter (1.0 mg/cm<sup>2</sup>) or greater, or if the lead concentration is greater than one half of a percent (> 0.5%) by weight. The Consumer Product Safety Commission (CPSC) currently considers paint to be lead-containing if the concentration of lead exceeds 90 ppm (0.009% by weight). In 1978, the CPSC banned the sale of LBP to consumers, and banned its application in areas where consumers have direct access to painted surfaces. Both the CPSC and HUD definitions of lead-containing paint are aimed at protecting the general population from exposure to lead in residential settings.

In contrast, the mission of OSHA with respect to lead-containing paint is to protect workers during construction activities that may generate elevated airborne lead concentrations. OSHA states that construction work (including renovation, maintenance, and demolition) carried-out on structures coated with paint having lead concentrations lower than the HUD or CPSC can still result in airborne lead concentrations in excess of regulatory limits. For this reason, OSHA has not defined lead-containing paint, but states that paint having any measurable level of lead may pose a substantial exposure hazard during construction work, depending upon the work performed. Therefore, in these situations, OSHA guidelines and safety procedures should be followed. By OSHA standards and regulations, the employer shall ensure that no employee is exposed to lead at concentrations greater than fifty micrograms per cubic meter of air (50 ug/m<sup>3</sup>) averaged over an 8-hour period.

Additionally, SCDHEC requires the use of specific waste disposal sites if materials contain lead concentrations greater than or equal to ( $\geq$ ) 0.7 mg/cm<sup>2</sup>. Due to the anticipated demolition of the Bridge structures, the SCDHEC lead disposal requirements were used as a threshold.

## 3 INTRODUCTION

The existing Bridge is located along I-95 and crosses over Lake Marion in Clarendon and Orangeburg Counties in South Carolina. The date of construction for the existing northbound I-95 Bridge (Bridge #2) over Lake Marion were constructed in the late 1960's early 1970's based on the original construction drawings.

The northbound I-95 Bridge over Lake Marion (Bridge #2) (~4,500' L x 31.0' W inside curb to inside curb) are two (2) lane, concrete and steel bridge structure with poured-in-place concrete bridge decking, concrete curb/gutter, and concrete guardrails along with metal scuppers. The Bridge is constructed with a

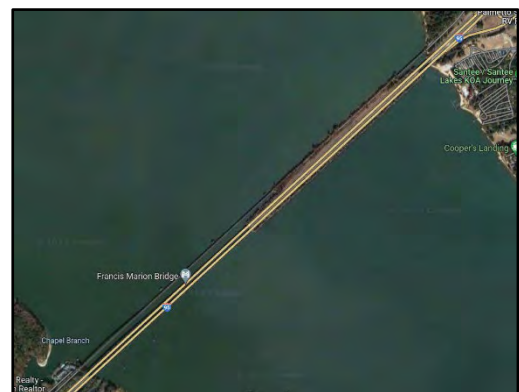


Photo 1: NB I-95 over Lake Marion Bridge Replacement in Clarendon & Orangeburg Counties,

combination of poured-in-place (PIP) concrete beams, pre-cast prestressed beams, structural steel girders, steel diaphragms, steel crossbracing, steel bearing plates and steel rocker bearing supports. The bentcaps were PIP concrete supported by a combination of driven hexagonal concrete piles, and PIP concrete piers. Refer to Appendix A, Site Vicinity Map, for the location of the Bridges. Appendix B, General Bridge Plan, for a layout of the samples taken from each Bridge.

## 4 INVESTIGATION PROCEDURES AND RESULTS

FME's LBP Investigation sampling protocol consisted of randomly selecting bridge components and scanning them with a Viken X-Ray Fluorescence (XRF) Portable Analyzer (Model # Pb200i, Serial #1888). The following Bridge components tested positive for lead in concentrations greater than or equal to ( $\geq$ ) 0.7 mg/cm<sup>2</sup>:

### Bridge #2 (I-95 NBL over Lake Marion)

- Silver/Gray Steel Rocker Bearings
- Silver/Gray Steel Top Bearing Plates above Steel Rocker Bearings
- Silver/Gray Steel Tie-Rod Washers
- Silver/Gray Steel Bearing Plates

For more information regarding the specific descriptions and locations of the items that were scanned, refer to the Appendix C, Summary of XRF Data. On the XRF Data Table, items highlighted in **Red** are positive and contain lead in concentrations greater than or equal to ( $\geq$ ) 0.7 mg/cm<sup>2</sup>. Items in **Blue** text contain lead in concentrations that must be considered a potential for worker exposure by OSHA. Appendix D, Site Photos for locations and pictures of the materials with concentrations greater than or equal to ( $\geq$ ) 0.7 mg/cm<sup>2</sup>. Appendix E includes the inspector's EPA lead-based paint inspector certification.

## 5 RECOMMENDATIONS

The results, conclusions and recommendations from this investigation are representative of the conditions observed at the site on the dates of the field investigations. FME does not assume responsibility for any changes in conditions or circumstances that occur after the date of the field investigation. No other environmental issues were addressed as part of this report.

The results from the XRF quantitative testing of Bridge components scanned indicate that lead was found to be present in paint and/or coatings in concentrations greater than or equal to ( $\geq$ ) 0.7 mg/cm<sup>2</sup> in the following Bridge components:

## Bridge #2 (I-95 NBL over Lake Marion)

- Silver/Gray Steel Rocker Bearings
- Silver/Gray Steel Top Bearing Plates above Steel Rocker Bearings
- Silver/Gray Steel Tie-Rod Washers
- Silver/Gray Steel Bearing Plates

Therefore, OSHA regulations and procedures should be followed when impacting these components. If possible, they should be removed in whole and disposed of properly. Also, SCDHEC disposal requirements for lead containing materials should also be followed.

As stated previously, OSHA regulates any measurable level of lead, as it may pose a substantial exposure hazard to workers. Therefore, in these situations, OSHA regulations and safety procedures should be followed. These regulations also list the proper personal protective equipment to be used by the workers disturbing the LBP items and the requirements for personal air monitoring. OSHA's exposure action level (AL) for lead, regardless of respirator use, is an airborne concentration of  $30\mu\text{g}/\text{cm}^3$ , averaged over an eight-hour period. The action level (AL) is the level at which an employer must begin specific compliance activities as outlined in OSHA's lead standards. By OSHA standards and regulations, the employer shall ensure that no employee is exposed to lead at concentrations greater than fifty micrograms per cubic meter of air ( $50\mu\text{g}/\text{m}^3$ ) averaged over an 8-hour period which is the permissible exposure level (PEL).

SCDHEC regulates the proper disposal of LBP and associated debris. SCDHEC defines two types of LBP debris. The first is LBP *waste*, which is defined as material such as wood, brick and metal that is painted with LBP. The other is LBP *residue* which is defined as residue that is generated from the removal (e.g., scraped, chipped, sandblasted, or chemical) of LBP from a structure. LBP *waste* that comes from a commercial or residential facility may be disposed of in either a class 2 or 3 landfill, while LBP *residue* from a commercial facility must have a toxicity characteristic leaching procedure (TCLP) analysis to determine the lead content. TCLP analysis is used to determine whether or not a waste is a characteristic hazardous waste due to leachability under the South Carolina Hazardous Waste Management Regulations. LBP *residue* with a TCLP analysis result greater than or equal to five milligrams per liter ( $\geq 5\text{ mg/l}$ ) lead must be disposed of in a Subtitle C landfill (Hazardous Waste). However, LBP *residue* from a commercial facility with a TCLP analysis result less than five milligrams per liter ( $< 5\text{ mg/l}$ ) lead is required to be disposed of in a Class 3 landfill.

We sincerely appreciate the opportunity to be of service to Transystems on this project. If you have any questions regarding the information presented herein, please contact our office at (803) 254-4540.

## APPENDICES

Appendix A – Site Vicinity Map

Appendix B – General Bridge Plans

Appendix C – Summary of XRF Data Table

Appendix D – Site Photos

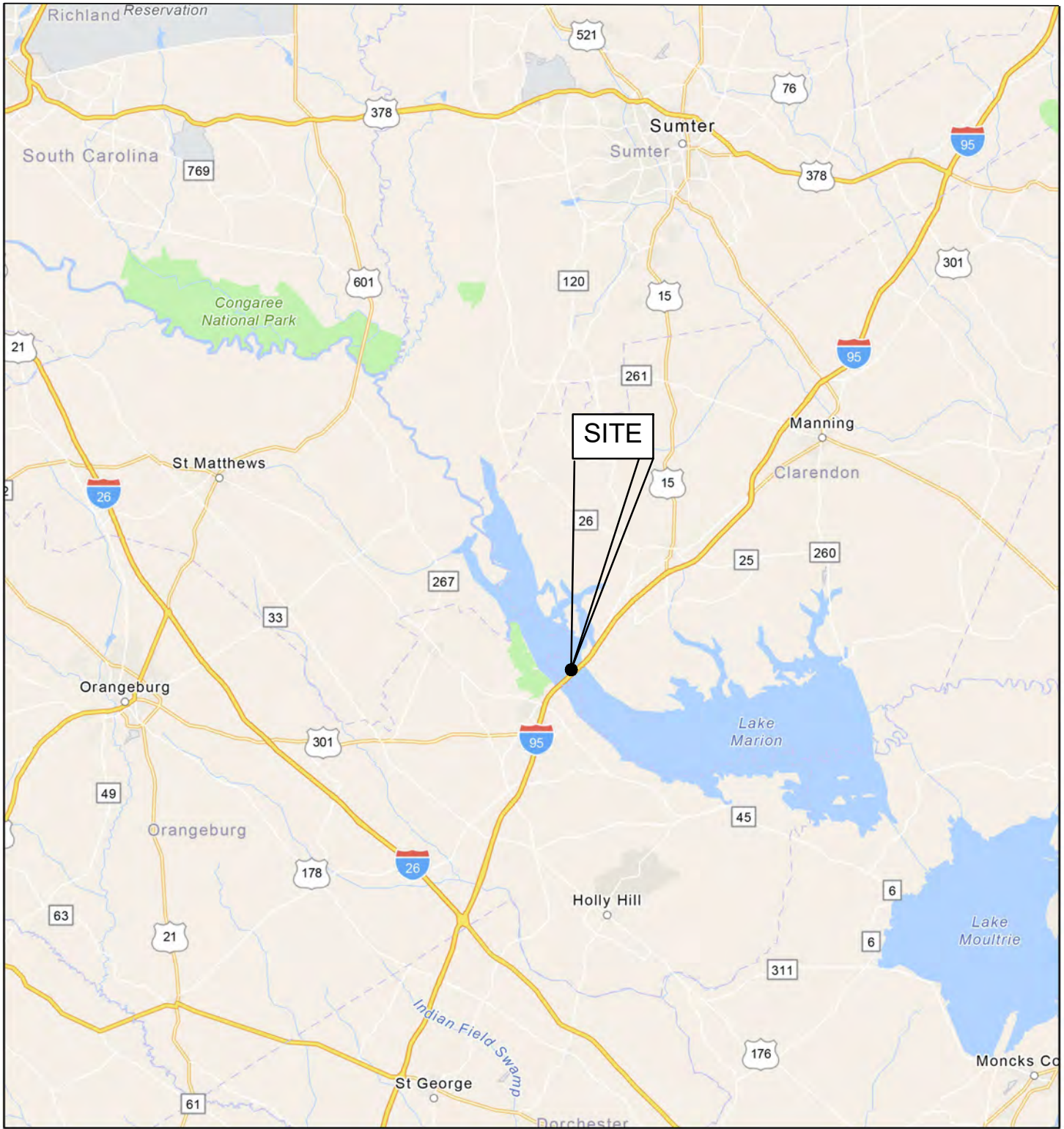
Appendix E – EPA LBP Inspector Certification





## Appendix A

### Site Vicinity Map



1:577,791

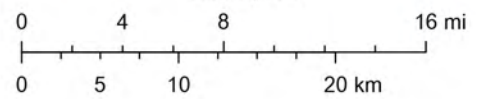


FIGURE NUMBER:

1

F&ME CONSULTANTS PROJECT NUMBER:

G6744.000

LEAD-BASED PAINT INVESTIGATION  
NB I-95 over Lake Marion Bridge Replacement  
Clarendon & Orangeburg Counties, South Carolina

SITE VICINITY MAP

Prepared for:  
Transystems  
1859 Summerville Ave., Suite 600  
Charleston, SC 29405



211 BUSINESS PARK BLVD.  
COLUMBIA, SC 29203

ORIGINAL:  
August 11, 2023

REVISIONS:

- 1 \_\_\_\_\_
- 2 \_\_\_\_\_
- 3 \_\_\_\_\_

SCALE:  
Shown

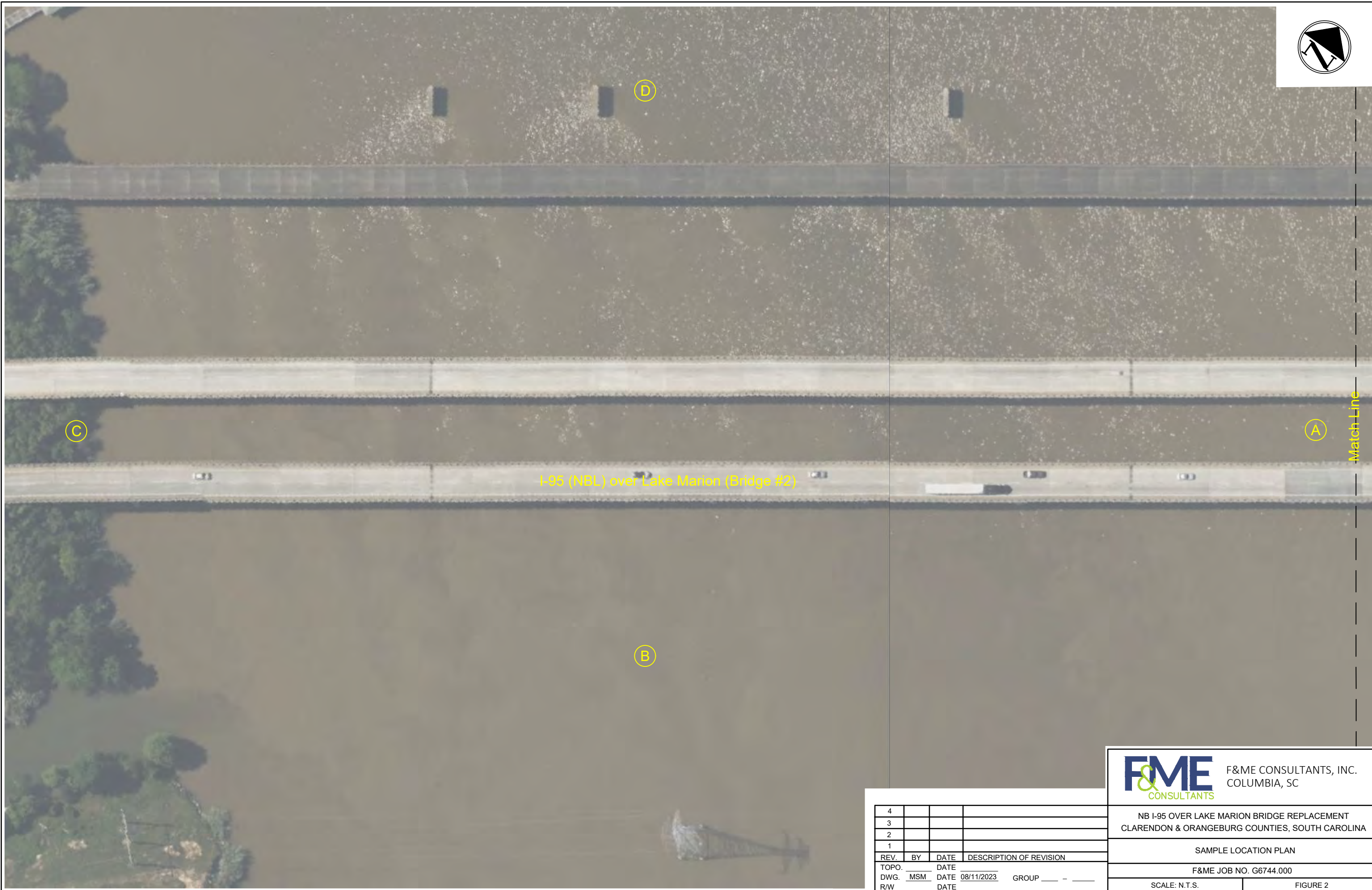
DRWN. BY: MSM  
CHKD. BY: MSM  
APPR. BY: GME

NOTES:


## Appendix B

### General Bridge Plans





I-95 (NBL) over Lake Marion (Bridge #2)

Match Line

**F&ME** CONSULTANTS, INC.  
COLUMBIA, SC  
CONSULTANTS

NB I-95 OVER LAKE MARION BRIDGE REPLACEMENT  
CLARENDON & ORANGEBURG COUNTIES, SOUTH CAROLINA

SAMPLE LOCATION PLAN

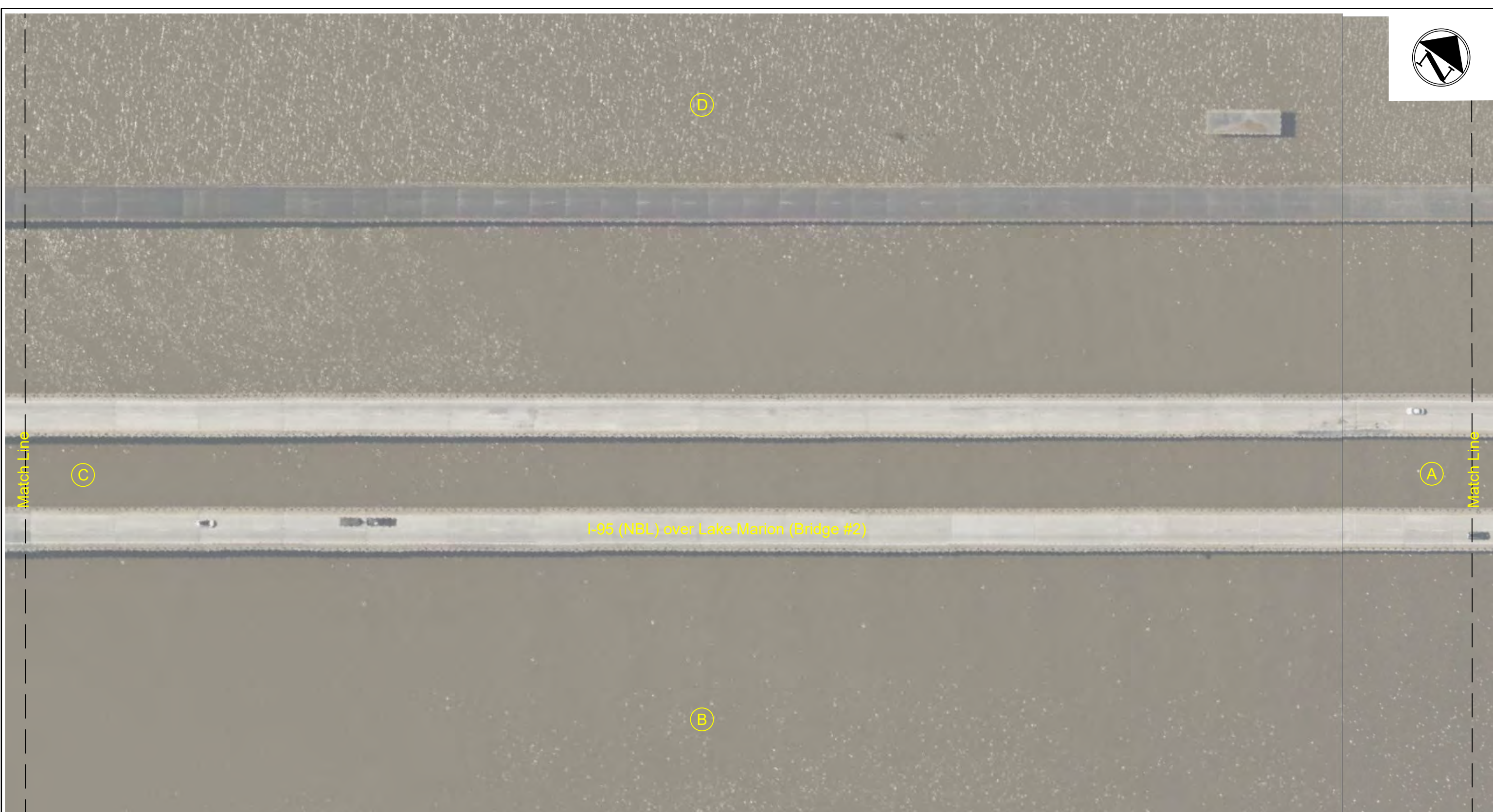
F&ME JOB NO. G6744.000

SCALE: N.T.S.

FIGURE 2

4			
3			
2			
1			
REV.	BY	DATE	DESCRIPTION OF REVISION
TOPO.		DATE	
DWG.	MSM	DATE 08/11/2023	GROUP ____ - ____
R/W		DATE	





I-95 (NBL) over Lake Marion (Bridge #2)



NB I-95 OVER LAKE MARION BRIDGE REPLACEMENT  
CLARENDON & ORANGEBURG COUNTIES, SOUTH CAROLINA

SAMPLE LOCATION PLAN

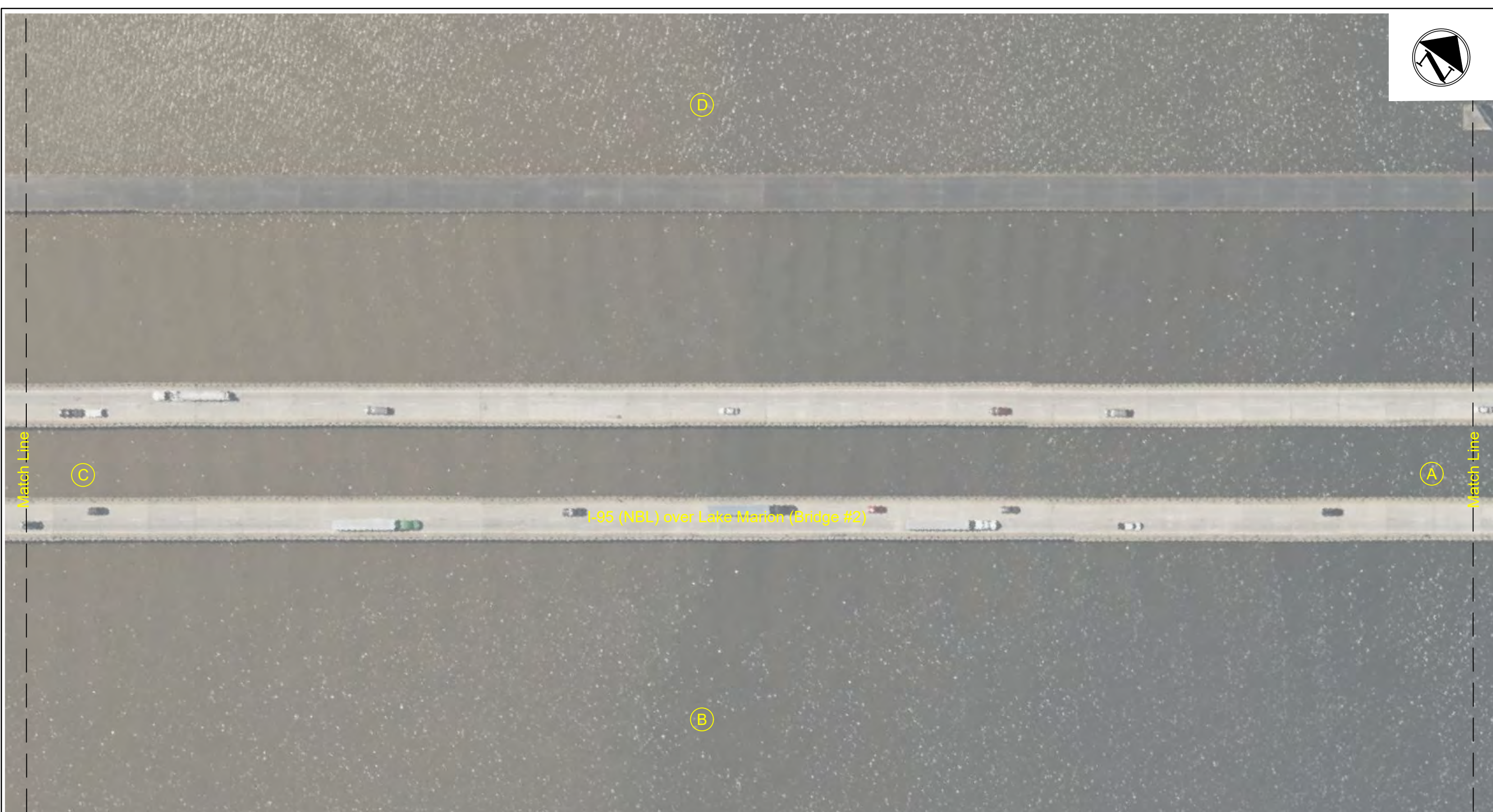
F&ME JOB NO. G6744.000

SCALE: N.T.S.

FIGURE 3

4			
3			
2			
1			
REV.	BY	DATE	DESCRIPTION OF REVISION
TOPO.		DATE	
DWG.	MSM	DATE 08/11/2023	GROUP ____ - ____
R/W		DATE	





Match Line

Match Line

C

A

B

D

I-95 (NBL) over Lake Marion (Bridge #2)

**F&ME** CONSULTANTS, INC.  
COLUMBIA, SC  
CONSULTANTS

NB I-95 OVER LAKE MARION BRIDGE REPLACEMENT  
CLARENDON & ORANGEBURG COUNTIES, SOUTH CAROLINA

SAMPLE LOCATION PLAN

F&ME JOB NO. G6744.000

SCALE: N.T.S.

FIGURE 4

4			
3			
2			
1			
REV.	BY	DATE	DESCRIPTION OF REVISION
TOPO.		DATE	
DWG.	MSM	DATE 08/11/2023	GROUP ____ - ____
R/W		DATE	





I-95 (NBL) over Lake Marion (Bridge #2)

**F&ME** CONSULTANTS, INC.  
CONSULTANTS COLUMBIA, SC

NB I-95 OVER LAKE MARION BRIDGE REPLACEMENT  
CLARENDON & ORANGEBURG COUNTIES, SOUTH CAROLINA

SAMPLE LOCATION PLAN

F&ME JOB NO. G6744.000

SCALE: N.T.S.

FIGURE 5

4			
3			
2			
1			
REV.	BY	DATE	DESCRIPTION OF REVISION
TOPO.		DATE	
DWG.	MSM	DATE 08/11/2023	GROUP ____ - ____
R/W		DATE	

## Appendix C

### Summary of XRF Data Table



**Appendix C – XRF Data**  
**Date Scanned: 07/19/2023**  
**NB I-95 over Lake Marion Bridge Replacement**

Scan No.	Pbc (mg/cm <sup>2</sup> )	Component	Substrate	Side	Condition	Color
<b>Bridge #2 (NB I-95 over Lake Marion) 07/19/2023</b>						
1	0.87	Calibrate				
2	0.88	Calibrate				
3	0.93	Calibrate				
4	<LOD	Girder	Metal	B	Poor	Gray
5	0.21	Bearing Plate	Metal	B	Poor	Gray
6	3.51	Rocker Bearing	Metal	B	Poor	Gray
7	39.0	Rocker Bearing Top Plate	Metal	B	Poor	Gray
8	<LOD	Expansion Joint Shield	Metal	B	Poor	Gray
9	0.11	Expansion Joint	Metal	B	Poor	Gray
10	16.51	Tie-Rod Washer	Metal	B	Poor	Silver
11	0.19	Bracing	Metal	Center	Poor	Gray
12	0.21	Bracing Plate	Metal	Center	Poor	Gray
13	0.42	Girder	Metal	Center	Poor	Gray
14	0.38	Girder	Metal	Center	Poor	Gray
15	0.51	Scupper	Metal	B	Poor	Gray
16	0.27	Scupper	Metal	B	Poor	Gray
17	21.74	Bearing Plate	Metal	B	Poor	Gray
18	0.35	Expansion Joint Shield	Metal	B	Poor	Gray
19	0.39	Expansion Joint Shield	Metal	B	Poor	Gray
20	<LOD	Girder	Metal	B	Poor	Gray
21	0.21	Scupper	Metal	B	Poor	Gray
22	0.24	Bracing	Metal	B	Poor	Gray
23	0.42	Bracing Plate	Metal	B	Poor	Gray
25	0.93	Calibrate				
26	0.95	Calibrate				
27	0.88	Calibrate				

LOD (Limit of Detection) = 0.1 mg/cm<sup>2</sup>

Blue text indicates any concentrations of LBP which OSHA considers a potential exposure risk when removed.

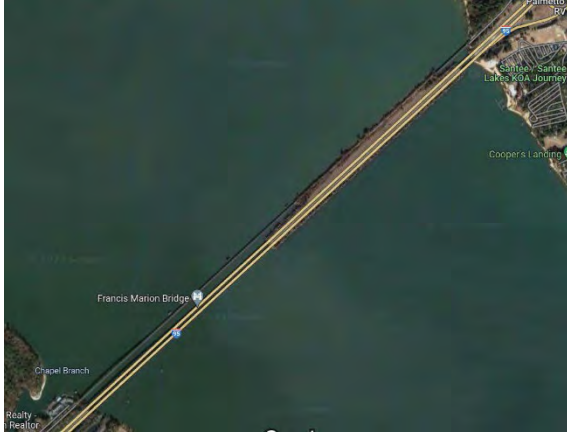
Red text indicates concentrations of LBP that have specific disposal requirements regulated by SCDHEC.

Side A = North, then go clockwise.

## Appendix D

### Site Photos

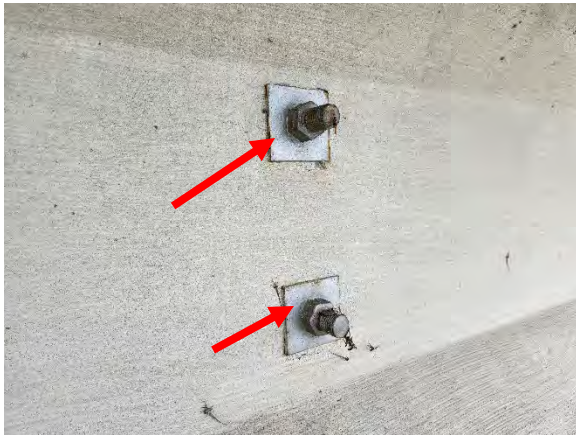




**Photo 1.** Top View of Bridges.



**Photo 2.** LBP on Rocker Bearing Top Plates, Rocker Bearing and Bearing Plates Associated with Bridge #2.



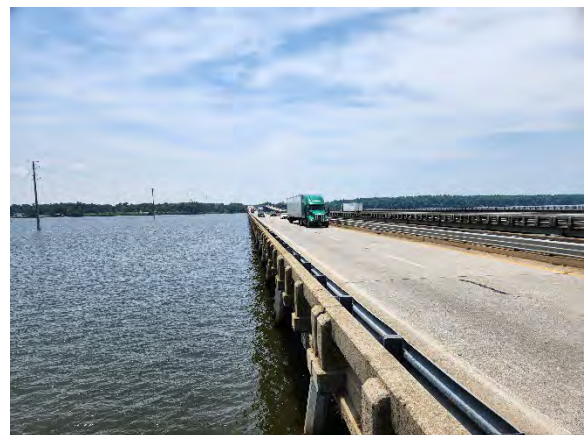
**Photo 3.** LBP on Tie-Rod Washers Located along each Side of Bridge #2.



**Photo 4.** Northeast View of Bridge #2



**Photo 5.** Underside View of Bridge #2.



**Photo 6.** Top Deck View of Bridge #2.



## Appendix E

### EPA LBP Inspector Certification



# United States Environmental Protection Agency

This is to certify that



Michael S Mincey

has fulfilled the requirements of the Toxic Substances Control Act (TSCA) Section 402, and has received certification to conduct lead-based paint activities pursuant to 40 CFR Part 745.226 as:

Inspector

## In the Jurisdiction of:

All EPA Administered Lead-based Paint Activities Program States, Tribes and Territories

This certification is valid from the date of issuance and expires February 21, 2025

LBP-I-1198708-2

Certification #

January 05, 2022

Issued On



A handwritten signature in black ink, appearing to read 'Adrienne Priselac'.

Adrienne Priselac, Manager, Toxics Office

Land Division

# **I-95 Northbound Overflow Bridge over Lake Marion**

## **Asbestos and Lead-based Paint Reports**





# ASBESTOS CONTAINING MATERIAL INVESTIGATION REPORT

NORTHBOUND I-95 OVER LAKE MARION OVERFLOW BRIDGE  
CLARENDON & ORANGEBURG COUNTIES, SOUTH CAROLINA

PREPARED FOR:

**TRANSYSTEMS**

C/O Mr. Peter Strub  
Sr. Vice President/Principal  
1859 Summerville Avenue, Suite 600  
Charleston, SC 29405

PREPARED BY:

F&ME Consultants, Inc.  
211 Business Park Blvd.  
Columbia, South Carolina 29203

**August 18, 2023**

Yes, asbestos was found.  
 No, asbestos was not found.

F&ME Project No.: G6744.000



## TABLE OF CONTENTS

1.	Executive Summary.....	1
2.	Introduction.....	3
3.	Existing Building Structure.....	3
4.	Field Assessment .....	4
5.	Recommendations.....	4
	APPENDICES .....	5

Appendix A – Site Vicinity Map

Appendix B – Sample Bridge Plan

Appendix C – Summary of Samples

Appendix D – Laboratory Analysis Reports

Appendix E – Chain-of-Custody Form

Appendix F – Site Photographs

Appendix G – Personnel Certifications



# 1 EXECUTIVE SUMMARY

This executive summary is intended as an overview for the convenience of the reader. This report should be reviewed in its entirety prior to making any decisions regarding this project. This investigation report is one of seven (7) completed for the project. The investigations included the existing north and southbound I-95 bridge structures, the former US 301/15 Trail Bridges, and the older remnants of the US 301 bridge. The below Bridge numbering system utilized for the investigations and referenced in this report reflects the numbering system developed by F&ME Consultants, Inc. (FME) field personnel during the field investigation and does not reflect any Bridge numbering system used by The South Carolina Department of Transportation (SCDOT). This report is specifically for the northbound I-95 Overflow Bridge only. Refer to other reports prepared by FME for the other bridges.

FME has completed the Asbestos Containing Material (ACM) Investigations of the existing northbound I-95 Bridge over Lake Marion Overflow (Bridge #1) in Clarendon and Orangeburg Counties in South Carolina, at the request of Transystems (Client). The field investigations were performed between July 19, 2023 and July 21, 2023, in anticipation of the off-alignment replacement of the existing I-95 bridges. This investigation was conducted pursuant to South Carolina Department of Health and Environmental Control (SCDHEC), United States Environmental Protection Agency (USEPA), National Emission Standards for Hazardous Air Pollutants (NESHAP), and Occupational Safety and Health Administration (OSHA) regulations requiring an ACM investigation prior to any demolition activities.

Per an agreed upon scope of work, FME performed this investigation to identify any ACM that might be encountered during the demolition of the existing Bridge, and to provide recommendations regarding proper handling and disposal of any ACM found. The investigation of the subject Bridge identified multiple suspect materials: expansion joint materials, bond break bearing pads, and expansion joint sealers. During the field investigation, FME collected samples of the suspect materials and assessed the physical condition of each material. **Laboratory results indicate that the materials sampled during this investigation were negative for asbestos.** During the demolition activities, previously concealed ACM may be discovered. If hidden suspect ACM is encountered not addressed in this report, the affected contractor(s) must stop work, take appropriate actions, and notify the Owner/FME for an appropriate response action.



We sincerely appreciate the opportunity to assist you with this project. Should you have any questions or require additional information concerning this Investigation, please do not hesitate to contact our office at (803) 254-4540.

Sincerely,

F&ME CONSULTANTS



**Michael S. Mincey**  
Environmental Professional  
Asbestos Consultant/Management Planner  
SCDHEC License No: MP-00161  
Expiration Date 01/23/2024



**Glynn M. Ellen**  
Environmental Department Manager  
Asbestos Consultant/Management Planner  
SCDHEC License No: ASB-22641  
Expiration Date 01/23/2024



## 2 INTRODUCTION

FME has completed an ACM investigation on the northbound I-95 over Lake Marion Overflow Bridge in Clarendon and Orangeburg Counties in South Carolina. The investigation was performed on July 19<sup>th</sup> through July 21<sup>st</sup>, 2023. This investigation was conducted pursuant to SCDHEC, USEPA, NESHAP, and OSHA regulations which require an ACM investigation prior to any demolition activities. Refer to Appendix A, Site Vicinity Map for the location of the Bridge.

It is our understanding that the existing Bridge will to be demolished, in anticipation of the off-alignment replacement of the existing I-95 Bridge. The scope of this investigation was to determine if asbestos was present on this Bridge by identifying and sampling suspect ACM, obtaining analytical results, quantifying any confirmed ACM, and assessing the physical condition of the ACM, where possible.

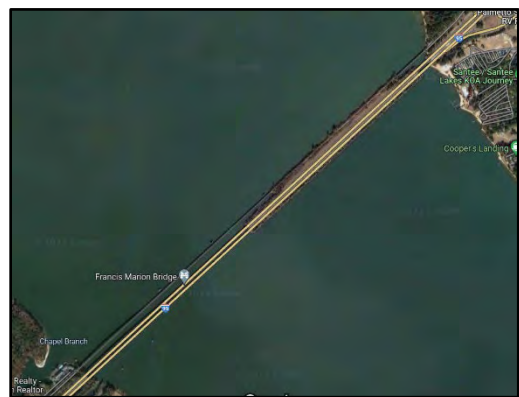
This report has been prepared exclusively for the Client and shall not be disseminated in whole or part to other parties without prior consent from the Client or FME. No other environmental issues were addressed as part of this report.

## 3 EXISTING BRIDGE STRUCTURE

The existing Bridge is located along I-95 and crosses over Lake Marion in Clarendon and Orangeburg Counties in South Carolina. The date of construction for the existing northbound I-95 Overflow Bridge (Bridge #1) over Lake Marion were constructed in the late 1960's to early 1970's based on the original construction drawings.

The northbound I-95 Lake Marion Overflow (Bridge #1) (~350.0' L x 31.0'W inside curb to inside curb) is two (2) lane, concrete and steel bridge structure with poured-in-place concrete bridge decking, concrete curb/gutter, and concrete guardrails along with metal scuppers.

The Bridge is constructed with a pre-cast prestressed beams and poured-in-place (PIP) diaphragms. The bentcaps were PIP concrete supported by driven hexagonal concrete piles.



*Photo 1 – Northbound I-95 over Lake Marion Overflow Bridge in Clarendon & Orangeburg Counties, SC.*

## 4 FIELD ASSESSMENT

During the inspection, all bridge components (i.e., concrete bent caps, piers, scuppers, and expansion joints) were visually inspected for suspect ACM. Examples of possible suspect materials include bent cap bearing materials, expansion joint materials and scuppers. The bridge deck rested directly on concrete bent caps with bond break bearing pads between them. The PIP concrete bent caps were supported by driven hexagonal concrete pipes. Bent cap bearing pads, expansion joint materials, and expansion joint sealers were noted during the investigation as suspect materials. Refer to Appendix B, Sample Location Plan, for detailed sample locations. Also, see Appendix F, Site Photographs, for more details.

## 5 RECOMMENDATIONS

The results, conclusions, and recommendations of this Investigation are representative of the conditions observed at the site on the date of the field investigation. FME does not assume responsibility for any changes in conditions or circumstances that may have occurred after this investigation.

It is our understanding that the existing Bridge will to be demolished, in anticipation of the off-alignment replacement of the existing I-95 Bridge. **Laboratory results indicate that the materials sampled during this investigation were negative for asbestos.** Therefore, there are no foreseen special handling or disposal requirements, regarding asbestos, that will be required for the demolition of this bridge.

If any concealed and/or inaccessible suspect ACM are encountered during the demolition activities, the affected contractor(s) must stop work, take appropriate actions, and notify the Owner/Asbestos Consultant for an appropriate response action. The SCDHEC must be notified if any suspect ACM is discovered.

This report has been prepared exclusively for the Client and FME and shall not be disseminated in whole or in part to other parties without prior consent from the Client. Use of this document for bidding purposes is not recommended without prior consultation with FME.

We sincerely appreciate the opportunity to be of service to Transystems in this matter. If you have any questions regarding the information presented herein, please contact our office at (803) 254-4540.





## APPENDICES

Appendix A – Site Vicinity Map

Appendix B – Sample Bridge Plan

Appendix C – Summary of Samples

Appendix D – Laboratory Analysis Reports

Appendix E – Chain-of-Custody Form

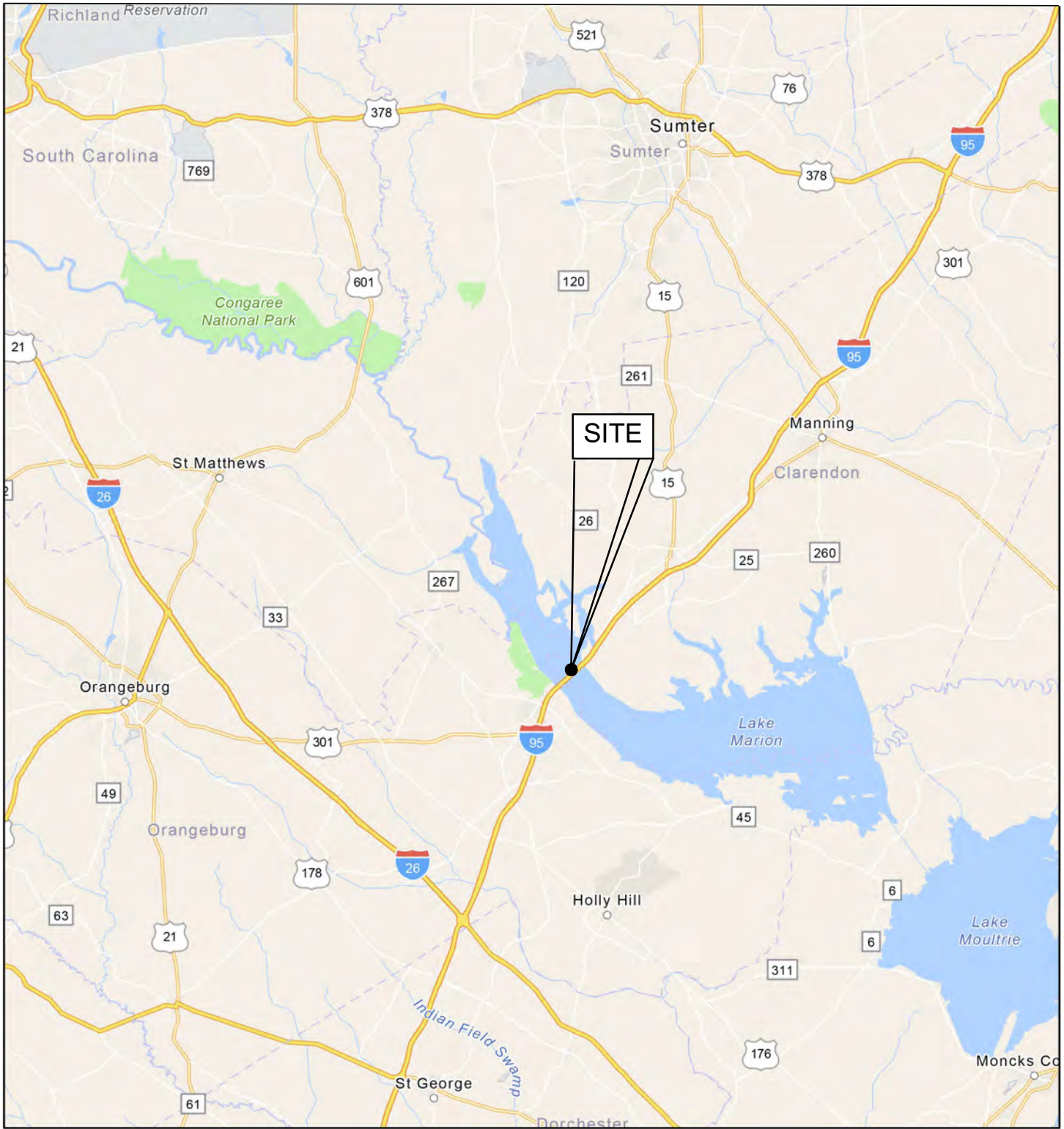
Appendix F – Site Photographs

Appendix G – Personnel Certifications



## Appendix A

### Site Vicinity Map



1:577,791

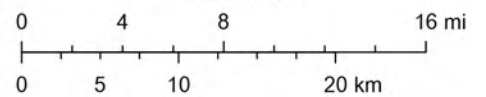


FIGURE NUMBER:

1

F&ME CONSULTANTS PROJECT NUMBER:

G6744.000

ASBESTOS CONTAINING MATERIALS INVESTIGATION  
 NB I-95 over Lake Marion Overflow Bridge Replacement  
 Clarendon & Orangeburg Counties, South Carolina

SITE VICINITY MAP

Prepared for:  
 Transystems  
 1859 Summerville Ave., Suite 600  
 Charleston, SC 29405



211 BUSINESS PARK BLVD.  
 COLUMBIA, SC 29203

ORIGINAL:  
 August 11, 2023

REVISIONS:

- 1 \_\_\_\_\_
- 2 \_\_\_\_\_
- 3 \_\_\_\_\_

SCALE:  
 Shown

DRWN. BY: MSM  
 CHKD. BY: GME  
 APPR. BY: GME

NOTES:


## Appendix B

### Sample Location Plan





B1-3-3

B1-2-3

B1-1-3

B1-3-2

B1-1-2

B1-2-2

B1-2-1

B1-3-1

B1-1-1

I-95 (NBL) over Lake Marion Overflow (Bridge #1)

**F&ME** CONSULTANTS, INC.  
COLUMBIA, SC  
CONSULTANTS

4			
3			
2			
1			
REV.	BY	DATE	DESCRIPTION OF REVISION
TOPO.		DATE	
DWG.	MSM	DATE 08/11/2023	GROUP
R/W		DATE	

NB I-95 OVER LAKE MARION OVERFLOW BRIDGE REPLACEMENT  
CLARENDON & ORANGEBURG COUNTIES, SOUTH CAROLINA

SAMPLE LOCATION PLAN

F&ME JOB NO. G6744.000

SCALE: N.T.S.

FIGURE 2



## Appendix C

### Summary of Samples

## Appendix C: Summary of Samples

Sample ID	Description
<b>Bridge #1 (I-95 NBL Overflow Bridge over Lake Marion)</b>	
B1-1-1	Black Expansion Joint Material
B1-1-2	Black Expansion Joint Material
B1-1-3	Black Expansion Joint Material
B1-2-1	Bond Break Bearing Pad
B1-2-2	Bond Break Bearing Pad
B1-2-3	Bond Break Bearing Pad
B1-3-1	Expansion Joint Sealer
B1-3-2	Expansion Joint Sealer
B1-3-3	Expansion Joint Sealer



## Appendix D

### Laboratory Analysis Reports



# EMSL Analytical, Inc.

706 Gralin Street Kernersville, NC 27284

Tel/Fax: (336) 992-1025 / (336) 992-4175

<http://www.EMSL.com/kernersvillelab@emsl.com>

EMSL Order: 022304977

Customer ID: FMEC62

Customer PO: G6744.000

Project ID:

**Attention:** Glynn M. Ellen  
F & ME Consultants  
211 Business Park Blvd  
Columbia, SC 29203

**Phone:** (803) 254-4540

**Fax:** (803) 254-4542

**Received Date:** 07/25/2023 10:15 AM

**Analysis Date:** 07/27/2023

**Collected Date:**

**Project:** 1-95 over Lake Marion (Bridge #1)


## Test Report: Asbestos Analysis of Bulk Materials via AHERA Method 40CFR 763 Subpart E Appendix E supplemented with EPA 600/R-93/116 using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
B1 1-1 <small>022304977-0001</small>	Black Expansion Joint Material	Brown/Gray/Black Non-Fibrous Heterogeneous	<1% Cellulose	100% Non-fibrous (Other)	None Detected
B1 1-2 <small>022304977-0002</small>	Black Expansion Joint Material	Black Non-Fibrous Homogeneous	4% Cellulose	96% Non-fibrous (Other)	None Detected
B1 2-1 <small>022304977-0003</small>	Bond Break Pad	Brown/Black Fibrous Heterogeneous	5% Cellulose	95% Non-fibrous (Other)	None Detected
B1 2-2 <small>022304977-0004</small>	Bond Break Pad	Gray/Tan Non-Fibrous Heterogeneous		20% Quartz 5% Ca Carbonate 75% Non-fibrous (Other)	None Detected
B1 3-1 <small>022304977-0005</small>	Expansion Joint Sealer	Black Non-Fibrous Homogeneous	<1% Cellulose	100% Non-fibrous (Other)	None Detected
B1 3-2 <small>022304977-0006</small>	Expansion Joint Sealer	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected

Analyst(s)

Cameron Evans (3)

Scott Combs (3)

  
Stephen Bennett, Laboratory Manager  
or Other Approved Signatory

EMSL maintains liability limited to cost of analysis. Interpretation and use of test results are the responsibility of the client. This report relates only to the samples reported above, and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. The report reflects the samples as received. Results are generated from the field sampling data (sampling volumes and areas, locations, etc.) provided by the client on the Chain of Custody. Samples are within quality control criteria and met method specifications unless otherwise noted. The above analyses were performed in general compliance with Appendix E to Subpart E of 40 CFR (previously EPA 600/M4-82-020 "Interim Method") but augmented with procedures outlined in the 1993 ("final") version of the method. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the federal government. Non-friable organically bound materials present a problem matrix and therefore EMSL recommends gravimetric reduction prior to analysis. Unless requested by the client, building materials manufactured with multiple layers (i.e. linoleum, wallboard, etc.) are reported as a single sample. Estimation of uncertainty is available on request.

Samples analyzed by EMSL Analytical, Inc. Kernersville, NC NVLAP Lab Code 102104-0, Virginia 3333-000228, West Virginia LT000321

Initial report from: 07/28/2023 08:17:00



# EMSL Analytical, Inc.

706 Gralin Street Kernersville, NC 27284  
Tel/Fax: (336) 992-1025 / (336) 992-4175  
<http://www.EMSL.com> / [kernersvillelab@emsl.com](mailto:kernersvillelab@emsl.com)

**EMSL Order:** 022304977  
**Customer ID:** FMEC62  
**Customer PO:** G6744.000  
**Project ID:**

**Attention:** Glynn M. Ellen  
F & ME Consultants  
211 Business Park Blvd  
Columbia, SC 29203  
**Phone:** (803) 254-4540  
**Fax:** (803) 254-4542  
**Received Date:** 07/25/2023 10:15 AM  
**Analysis Date:** 07/28/2023  
**Collected Date:**  
**Project:** 1-95 over Lake Marion (Bridge #1)

## Test Report: Asbestos Analysis of Non-Friable Organically Bound Materials by TEM via EPA/600/R-93/116 Section 2.5.5.1

Sample ID	Description	Appearance	% Matrix Material	% Non-Asbestos Fibers	Asbestos Types
B1 1-3 022304977-0007	Black Expansion Joint Material	Brown/Black Non-Fibrous Heterogeneous	100.0 Other	None	No Asbestos Detected
B1 2-3 022304977-0008	Bond Break Pad	Gray/Black Fibrous Heterogeneous	100.0 Other	None	No Asbestos Detected
B1 3-3 022304977-0009	Expansion Joint Sealer	Black Non-Fibrous Homogeneous	100.0 Other	None	No Asbestos Detected

Analyst(s)

Stephen Bennett (3)

Stephen Bennett, Laboratory Manager  
or other approved signatory

EMSL maintains liability limited to cost of analysis. Interpretation and use of test results are the responsibility of the client. This report relates only to the samples reported above, and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. The report reflects the samples as received. Results are generated from the field sampling data (sampling volumes and areas, locations, etc.) provided by the client on the Chain of Custody. Samples are within quality control criteria and met method specifications unless otherwise noted. EMSL recommends that samples reported as none detected or < 1% undergo additional analysis via PLM to avoid the possibility of false negatives.

Samples analyzed by EMSL Analytical, Inc. Kernersville, NC

Initial report from: 07/28/2023 16:41:06



## Appendix E

### Chain-of-Custody Forms



EMSL ANALYTICAL, INC.  
LABORATORY PRODUCTS TRAINING

### Asbestos Chain of Custody

EMSL Order Number (Lab Use Only):

022304977

X  
706 GRALIN ST.  
KERNERSVILLE, NC 27284  
PHONE: (336) 992-1025  
FAX: (336) 992-4175

Company Name : F&ME Consultants		EMSL Customer ID: FMEC62	
Street: 211 Business Park Boulevard		City: Columbia	State/Province: SC
Zip/Postal Code: 29203	Country: USA	Telephone #: 803-254-4540	Fax #: 803-254-4542
Report To (Name): Glynn Ellen		Please Provide Results: <input type="checkbox"/> Fax <input checked="" type="checkbox"/> Email	
Email Address: gellen@fmeconsultants.com, and mmincey@fmeconsultants.com,		Purchase Order: G6744.000	
Project Name/Number: I-95 over Lake Marion (Bridge #1)		EMSL Project ID (Internal Use Only):	
U.S. State Samples Taken: SC		CT Samples: <input checked="" type="checkbox"/> Commercial/Taxable <input type="checkbox"/> Residential/Tax Exempt	

EMSL-Bill to:  Same  Different - If Bill to is Different note instructions in Comments\*\*  
Third Party Billing requires written authorization from third party

Turnaround Time (TAT) Options\* - Please Check

3 Hour  6 Hour  24 Hour  48 Hour  72 Hour  96 Hour  1 Week  2 Week

\*For TEM Air 3 hr through 6 hr, please call ahead to schedule. \*There is a premium charge for 3 Hour TEM AHERA or EPA Level II TAT. You will be asked to sign an authorization form for this service. Analysis completed in accordance with EMSL's Terms and Conditions located in the Analytical Price Guide

<p><b>PCM - Air</b> <input type="checkbox"/> Check if samples are from NY</p> <p><input type="checkbox"/> NIOSH 7400</p> <p><input type="checkbox"/> w/ OSHA 8hr. TWA</p>	<p><b>TEM - Air</b> <input type="checkbox"/> 4-4.5hr TAT (AHERA only)</p> <p><input type="checkbox"/> AHERA 40 CFR, Part 763</p> <p><input type="checkbox"/> NIOSH 7402</p> <p><input type="checkbox"/> EPA Level II</p> <p><input type="checkbox"/> ISO 10312</p>	<p><b>TEM - Dust</b></p> <p><input type="checkbox"/> Microvac - ASTM D 5755</p> <p><input type="checkbox"/> Wipe - ASTM D6480</p> <p><input type="checkbox"/> Carpet Sonication (EPA 600/J-93/167)</p>
<p><b>PLM - Bulk (reporting limit)</b></p> <p><input checked="" type="checkbox"/> PLM EPA 600/R-93/116 (&lt;1%)</p> <p><input type="checkbox"/> PLM EPA NOB (&lt;1%)</p> <p>Point Count</p> <p><input type="checkbox"/> 400 (&lt;0.25%) <input type="checkbox"/> 1000 (&lt;0.1%)</p> <p>Point Count w/Gravimetric</p> <p><input type="checkbox"/> 400 (&lt;0.25%) <input type="checkbox"/> 1000 (&lt;0.1%)</p> <p><input type="checkbox"/> NYS 198.1 (friable in NY)</p> <p><input type="checkbox"/> NYS 198.6 NOB (non-friable-NY)</p> <p><input type="checkbox"/> NYS 198.8 SOF-V</p> <p><input type="checkbox"/> NIOSH 9002 (&lt;1%)</p>	<p><b>TEM - Bulk</b></p> <p><input checked="" type="checkbox"/> TEM EPA NOB</p> <p><input type="checkbox"/> NYS NOB 198.4 (non-friable-NY)</p> <p><input type="checkbox"/> Chatfield SOP</p> <p><input type="checkbox"/> TEM Mass Analysis-EPA 600 sec 2.5</p> <p><b>TEM - Water: EPA 100.2</b></p> <p>Fibers &gt;10µm <input type="checkbox"/> Waste <input type="checkbox"/> Drinking</p> <p>All Fiber Sizes <input type="checkbox"/> Waste <input type="checkbox"/> Drinking</p>	<p><b>Soil/Rock/Vermiculite</b></p> <p><input type="checkbox"/> PLM EPA 600/R-93/116 with milling prep (&lt;1%)</p> <p><input type="checkbox"/> PLM EPA 600/R-93/116 with milling prep (&lt;0.25%)</p> <p><input type="checkbox"/> TEM EPA 600/R-93/116 with milling prep (&lt;0.1%)</p> <p><input type="checkbox"/> TEM Qualitative via Filtration Prep</p> <p><input type="checkbox"/> TEM Qualitative via Drop Mount Prep</p> <p><input type="checkbox"/> Cincinnati Method EPA 600/R-04/004 - PLM/TEM (BC only)</p> <p><b>Other:</b></p> <p><input type="checkbox"/></p>

Check For Positive Stop - Clearly Identify Homogenous Group Filter Pore Size (Air Samples):  0.8µm  0.45µm

Samplers Name: Glynn M. Ellen Samplers Signature: *Glynn M. Ellen*

Sample #	Sample Description	Volume/Area (Air) HA # (Bulk)	Date/Time Sampled
*B1-1-1 thru B1-1-3	Black Expansion Joint Material		
*B1-2-1 thru B1-2-3	Bond Break Pad		
B1-3-1 thru B1-3-3	Expansion Joint Sealer		

Client Sample # (s): B1-1 - B1-3-3 Total # of Samples: 9

Relinquished (Client): *Glynn M. Ellen* Date: 07/24/2023 Time: 1700

Received (Lab): *JS* Date: 7-25-23 Time: 10:15

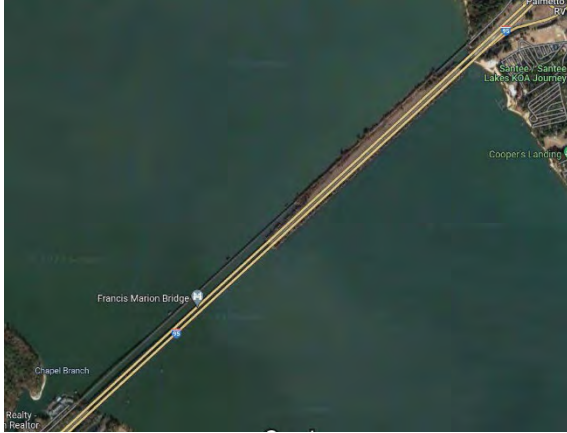
Comments/Special Instructions: \*TEM 3<sup>rd</sup> NOB.

① EMSL FAX 7966 7469 6522  
Page 1 Of 1

## Appendix F

### Site Photographs

APPENDIX F - SITE PHOTOGRAPHS



**Photo 1.** Top Side View of Bridges.



**Photo 2.** Southeast View of NB I-95 Overflow Bridge #1.



**Photo 3.** Underside View of NB I-95 NBL Overflow Bridge #1.



**Photo 4.** Top View of Bridge Deck.



**Photo 5.** Northeast View of South End Bent.



**Photo 6.** Non-ACM Expansion Joint Material.



## Appendix G

### Personnel Certifications



# SCDHEC ISSUED

## Asbestos ID Card

**Glynn M Ellen**



**AIRSAMPLER  
CONSULTMP  
CONSULTPD  
SUPERAHERA**

**AS-00079  
ASB-22641  
PD-00098  
SA-00455**

**Expiration Date:**

**01/22/24  
01/23/24  
07/12/23  
01/22/24**

This card is nontransferable and considered invalid if loaned or given to another person for identification. This card will also be invalid if altered or defaced. This card is property of SCDHEC. It must be returned to the department if the holder's accreditation is revoked or if this card is invalidated. Any person performing regulated asbestos activities without current accreditation shall be subject to legal sanction. This card must be returned upon expiration and/or issuance of a new card.

**YOU MUST HAVE THIS IDENTIFICATION CARD WITH YOU ON THE JOB.**

For information of corrections contact: SCDHEC - Asbestos Section  
2600 Bull Street  
Columbia, SC 29201  
(803) 898-4289

# SCDHEC ISSUED

## Asbestos ID Card

**Michael Mincey**



**AIRSAMPLER  
CONSULTMP  
SUPERAHERA**

**AS-00272  
MP-00161  
SA-01424**

**Expiration Date:**

**01/22/24  
01/23/24  
01/22/24**

This card is nontransferable and considered invalid if loaned or given to another person for identification. This card will also be invalid if altered or defaced. This card is property of SCDHEC. It must be returned to the department if the holder's accreditation is revoked or if this card is invalidated. Any person performing regulated asbestos activities without current accreditation shall be subject to legal sanction. This card must be returned upon expiration and/or issuance of a new card.

**YOU MUST HAVE THIS IDENTIFICATION CARD WITH YOU ON THE JOB.**

For information of corrections contact: SCDHEC - Asbestos Section  
2600 Bull Street  
Columbia, SC 29201  
(803) 898-4289



# LEAD-BASED PAINT INVESTIGATION REPORT

NORTHBOUND I-95 OVER LAKE MARION OVERFLOW BRIDGE  
CLARENDON & ORANGEBURG COUNTIES, SOUTH CAROLINA

## PREPARED FOR:

The logo for TRANSYSTEMS. The word 'TRANSYSTEMS' is written in a bold, blue, sans-serif font. The letter 'A' is stylized with a blue triangle pointing upwards from its center.

C/O Mr. Peter Strub  
Sr. Vice President/Principal  
1859 Summerville Avenue, Suite 600  
Charleston, SC 29405

## PREPARED BY:

F&ME Consultants, Inc.  
211 Business Park Blvd.  
Columbia, South Carolina 29203

**August 18, 2023**

Yes, LBP was found.  
 No, LBP was not found.

FME Project No.: G6744.000

## TABLE OF CONTENTS

1.	Executive Summary.....	1
2.	Lead-Based Paint Background Information.....	3
3.	Introduction.....	3
4.	Investigation Procedures and Results.....	3
5.	Recommemndations.....	4
	APPENDICES.....	5

Appendix A – Site Vicinity Map

Appendix B – General Bridge Plan

Appendix C – Site Photographs

Appendix D – EPA LBP Inspector Certification



# 1 EXECUTIVE SUMMARY

This executive summary is intended as an overview for the convenience of the reader. This report should be reviewed in its entirety prior to making any decisions regarding this project. This investigation report is one of seven (7) completed for the project. The investigations included the existing north and southbound I-95 bridge structures, the former US 301/15 Trail Bridges, and the older remnants of the US 301 bridge. The below Bridge numbering system utilized for the investigations and referenced in this report reflects the numbering system developed by F&ME Consultants, Inc. (FME) field personnel during the field investigation and does not reflect any Bridge numbering system used by The South Carolina Department of Transportation (SCDOT). This report is specifically for the northbound I-95 Overflow Bridge only. Refer to other reports prepared by FME for the other bridges.

F&ME Consultants, Inc. (FME) has completed a Lead-Based Paint (LBP) investigation the existing northbound I-95 Overflow Bridge over Lake Marion (Bridge #1) in Clarendon and Orangeburg Counties in South Carolina, at the request of Transystems (Client). The purpose of the investigation was to locate, identify and test components of the Bridge that are painted or coated with LBP. The field investigations were performed on July 21 2023, in anticipation of the off-alignment replacement of the existing I-95 northbound Bridge. Refer to Appendix A, Site Vicinity Map is provided to show the location of the Bridge. Appendix B, General Bridge Plan, is provided to show the lay-out of the Bridge.

Per an agreed upon scope of work, this LBP Investigation was conducted to identify accessible Bridge components that have been painted or coated with lead-containing materials that have concentrations greater than or equal ( $\geq$ ) to the regulatory limit of 0.7 mg/cm<sup>2</sup>. This investigation includes both a visual evaluation of the physical condition of painted materials as well as quantitative testing of surfaces using an X-Ray Fluorescence (XRF) LBP analyzer. The XRF documents the concentration of lead, if any, in the overall paint or coating. Bridge components were scanned with a Viken XRF analyzer (Model # Pb200i, Serial #1888, Reference Date: 11/01/22) with a limit of detection (LOD) of 0.1 mg/cm<sup>2</sup>.

LBP is regulated by multiple government agencies, and each requires different response actions when the concentration of lead exceeds specified thresholds. The Occupational Safety and Health Administration (OSHA) regulates worker exposure to lead dust, and as a result considers materials with any lead content to be a potential hazard. Additionally, South Carolina Department of Health and Environmental Control (SCDHEC) requires some waste materials to be disposed of at specific disposal facilities that are able to manage this waste.

There were no painted and/or coated bridge components noted during this investigation of the subject Bridge. Therefore, no XRF scans were required during this investigation.





We appreciate the opportunity to assist you in this project. If you have any questions or require additional information, please feel free to contact our office at (803) 254-4540.

Sincerely,

F&ME CONSULTANTS



**Michael S. Mincey**

SC Lead Based Paint Inspector

EPA Certification No. LBP-I-1198708-2 (Exp. 2/21/25)



**Glynn M. Ellen**

Environmental Department Manager

## 2 LEAD-BASED PAINT BACKGROUND INFORMATION

Housing and Urban Development (HUD) defines “LBP” as any coating that has a lead concentration of 1.0 milligrams of lead per square centimeter (1.0 mg/cm<sup>2</sup>) or greater, or if the lead concentration is greater than one half of a percent (> 0.5%) by weight. The Consumer Product Safety Commission (CPSC) currently considers paint to be lead-containing if the concentration of lead exceeds 90 ppm (0.009% by weight). In 1978, the CPSC banned the sale of LBP to consumers, and banned its application in areas where consumers have direct access to painted surfaces. Both the CPSC and HUD definitions of lead-containing paint are aimed at protecting the general population from exposure to lead in residential settings.

In contrast, the mission of OSHA with respect to lead-containing paint is to protect workers during construction activities that may generate elevated airborne lead concentrations. OSHA states that construction work (including renovation, maintenance, and demolition) carried-out on structures coated with paint having lead concentrations lower than the HUD or CPSC can still result in airborne lead concentrations in excess of regulatory limits. For this reason, OSHA has not defined lead-containing paint, but states that paint having any measurable level of lead may pose a substantial exposure hazard during construction work, depending upon the work performed. Therefore, in these situations, OSHA guidelines and safety procedures should be followed. By OSHA standards and regulations, the employer shall ensure that no employee is exposed to lead at concentrations greater than fifty micrograms per cubic meter of air (50 ug/m<sup>3</sup>) averaged over an 8-hour period.

Additionally, SCDHEC requires the use of specific waste disposal sites if materials contain lead concentrations greater than or equal to ( $\geq$ ) 0.7 mg/cm<sup>2</sup>. Due to the anticipated demolition of the Bridge structures, the SCDHEC lead disposal requirements were used as a threshold.

## 3 INTRODUCTION

The existing Bridge is located along I-95 and crosses over Lake Marion in Clarendon and Orangeburg Counties in South Carolina. The date of construction for the existing northbound I-95 Bridge (Bridge #1) over Lake Marion were constructed in the late 1960’s to early 1970’s based on the original construction drawings.

The northbound I-95 Lake Marion Overflow (Bridge #1) (~350.0’ L x 31.0’W inside curb to inside curb) is two (2) lane, concrete and steel bridge structure with poured-in-place concrete bridge decking, concrete curb/gutter,

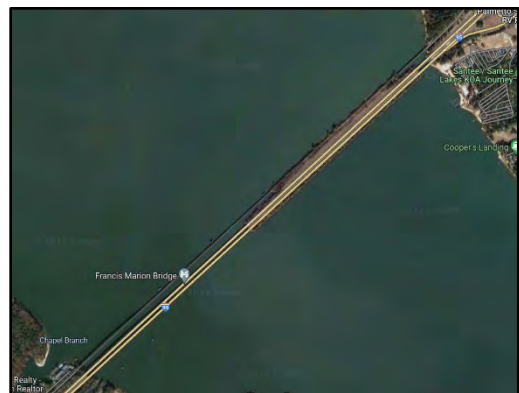


Photo 1 – Northbound I-95 over Lake Marion Overflow Bridge in Clarendon & Orangeburg Counties, SC.

and concrete guardrails along with metal scuppers. The Bridge is constructed with a pre-cast prestressed beams and poured-in-place (PIP) diaphragms. The bentcaps were PIP concrete supported by driven hexagonal concrete piles.

## 4 INVESTIGATION PROCEDURES AND RESULTS

FME's LBP Investigation sampling protocol consisted of randomly selecting bridge components and scanning them with a Viken X-Ray Fluorescence (XRF) Portable Analyzer (Model # Pb200i, Serial #1888).

There were no painted and/or coated bridge components noted during this investigation of the subject Bridge. Therefore, no XRF scans were required during this investigation.

## 5 RECOMMENDATIONS

The results of this LBP investigation determined that there are no lead-based paints or coatings associated with the subject Bridge. During the bridge demolition activities, some painted surfaces may be uncovered. If painted bridge components are uncovered, testing should be conducted if they contain levels of lead  $\geq 0.7$  mg/cm<sup>2</sup>. If found to be lead containing, the coated/painted components will need to be handled and disposed of properly. Proper handling includes the avoidance of creating lead dust, as well as the creation of lead-contaminated soil hazards. Activities that would generate lead dust include abrasion, scraping, or sanding. As previously stated, OSHA has not defined lead-containing paint, but states that paint having any measurable level of lead may pose a substantial exposure hazard during construction work, depending upon the work performed. In these cases, OSHA regulations and procedures should be followed to protect the personnel carrying out the work on a bridge component containing any amount of lead.

If any hidden and/or inaccessible materials suspected or known to contain lead-based paint are encountered during any bridge demolition activities, the persons involved are advised to stop work, follow proper regulatory precautions and procedures, and notify FME for an immediate response action.

We sincerely appreciate the opportunity to be of service to Transystems on this project. If you have any questions regarding the information presented herein, please contact our office at (803) 254-4540.



## APPENDICES

Appendix A – Site Vicinity Map

Appendix B – General Bridge Plan

Appendix C – Site Photos

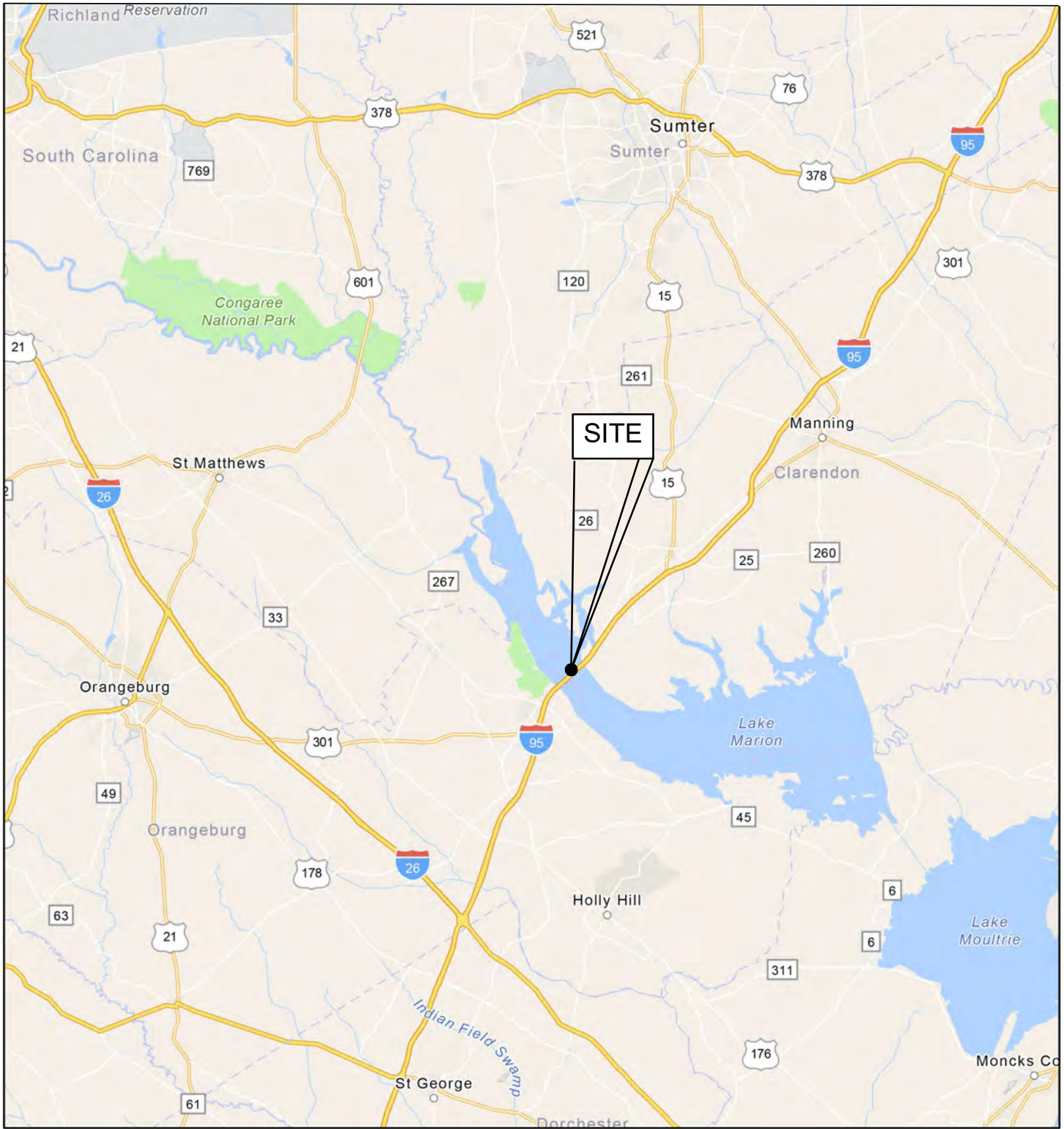
Appendix D – EPA LBP Inspector Certification



## Appendix A

### Site Vicinity Map





1:577,791

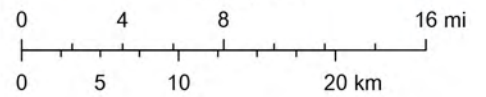


FIGURE NUMBER:

1

F&ME CONSULTANTS PROJECT NUMBER:

G6744.000

LEAD-BASED PAINT INVESTIGATION  
 NB I-95 over Lake Marion Overflow Bridge Replacement  
 Clarendon & Orangeburg Counties, South Carolina

SITE VICINITY MAP

Prepared for:  
 Transystems  
 1859 Summerville Ave., Suite 600  
 Charleston, SC 29405



211 BUSINESS PARK BLVD.  
 COLUMBIA, SC 29203

ORIGINAL:  
 August 11, 2023

REVISIONS:

- 1 \_\_\_\_\_
- 2 \_\_\_\_\_
- 3 \_\_\_\_\_

SCALE:  
 Shown

DRWN. BY: MSM  
 CHKD. BY: MSM  
 APPR. BY: GME

NOTES:

- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

## Appendix B

### General Bridge Plan





I-95 (NBL) over Lake Marion Overflow (Bridge #1)

**F&ME** CONSULTANTS, INC.  
COLUMBIA, SC  
CONSULTANTS

4			
3			
2			
1			
REV.	BY	DATE	DESCRIPTION OF REVISION
TOPO.		DATE	
DWG.	MSM	DATE 08/11/2023	GROUP ____ - ____
R/W		DATE	

NB I-95 OVER LAKE MARION OVERFLOW BRIDGE REPLACEMENT  
CLARENDON & ORANGEBURG COUNTIES, SOUTH CAROLINA

GENERAL BRIDGE PLAN

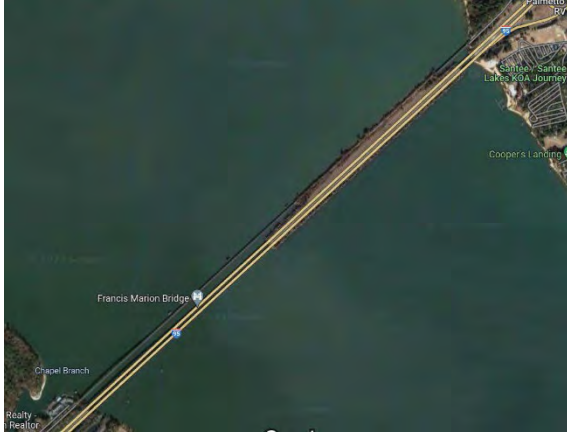
F&ME JOB NO. G6744.000

SCALE: N.T.S.      FIGURE 2

## Appendix C

### Site Photographs

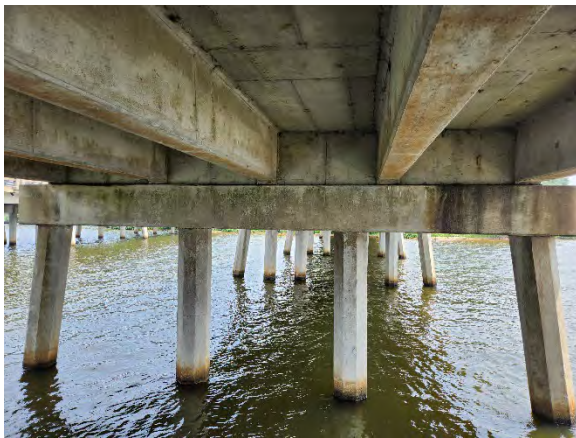




**Photo 1.** Top View of Bridges.



**Photo 2.** Southeast Corner View of Bridge #1.



**Photo 3.** Underside View of Bridge #1.



**Photo 4.** Topside View of Bridge #1.



**Photo 5.** Northeast View of South End Bent.





## Appendix D

### EPA LBP Inspector Certification

# United States Environmental Protection Agency

This is to certify that



Michael S Mincey

has fulfilled the requirements of the Toxic Substances Control Act (TSCA) Section 402, and has received certification to conduct lead-based paint activities pursuant to 40 CFR Part 745.226 as:

Inspector

## In the Jurisdiction of:

All EPA Administered Lead-based Paint Activities Program States, Tribes and Territories

This certification is valid from the date of issuance and expires February 21, 2025

LBP-I-1198708-2

Certification #

January 05, 2022

Issued On



A handwritten signature in black ink, appearing to read 'Adrienne Priselac'.

Adrienne Priselac, Manager, Toxics Office

Land Division



# **I-95 Southbound Bridge over Lake Marion**

## **Asbestos and Lead-based Paint Reports**



# ASBESTOS CONTAINING MATERIAL INVESTIGATION REPORT

SOUTHBOUND I-95 BRIDGE OVER LAKE MARION  
CLARENDON & ORANGEBURG COUNTIES, SOUTH CAROLINA

PREPARED FOR:

## TRANSYSTEMS

C/O Mr. Peter Strub  
Sr. Vice President/Principal  
1859 Summerville Avenue, Suite 600  
Charleston, SC 29405

PREPARED BY:

F&ME Consultants, Inc.  
211 Business Park Blvd.  
Columbia, South Carolina 29203

**August 18, 2023**

Yes, asbestos was found.  
 No, asbestos was not found.

F&ME Project No.: G6744.000

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1. Executive Summary.....2
2. Introduction.....3
3. Existing Bridge Structures .....4
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5. Assessment Results.....6
6. Recommendations .....7
Appendices .....9

- Appendix A – Site Vicinity Map
Appendix B – Sample Location Plans
Appendix C – Homogeneous Area Plans
Appendix D – Summary of Samples
Appendix E – Summary of Asbestos Containing Materials
Appendix F – Summary of Inspection
Appendix G – Physical Assessment Data Sheets
Appendix H – Laboratory Analysis Reports
Appendix I – Chain of Custody Forms
Appendix J – Site Photographs
Appendix K – Personnel Certifications
Appendix L – Regulatory Summary
Appendix M – Abatement Project Forms



# 1 EXECUTIVE SUMMARY

This executive summary is intended as an overview for the convenience of the reader. This report should be reviewed in its entirety prior to making any decisions regarding this project. This investigation report is one of seven (7) completed for the project. The investigations included the existing north and southbound I-95 bridge structures, the former US 301/15 Trail Bridges, and the older remnants of the US 301 bridge. The below Bridge numbering system utilized for the investigations and referenced in this report reflects the numbering system developed by F&ME Consultants, Inc. (FME) field personnel during the field investigation and does not reflect any Bridge numbering system used by The South Carolina Department of Transportation (SCDOT). This report is specifically for the southbound I-95 Bridge only. Refer to other reports prepared by FME for the other bridges.

F&ME Consultants, Inc. (FME) has completed an Asbestos Containing Material (ACM) Investigation on the existing southbound I-95 Bridge over Lake Marion (Bridge #3) in Clarendon and Orangeburg Counties in South Carolina, at the request of Transystems (Client). The field investigations were performed on July 19, 2023 and July 21, 2023, in anticipation of the on-alignment replacement of the existing I-95 southbound Bridge. This investigation was conducted pursuant to South Carolina Department of Health and Environmental Control (SCDHEC), United States Environmental Protection Agency (USEPA), National Emission Standards for Hazardous Air Pollutants (NESHAP), and Occupational Safety and Health Administration (OSHA) regulations requiring an ACM investigation prior to any demolition activities.

Per an agreed upon scope of work, FME performed this investigation to identify any ACM that might be encountered during the demolition of the existing Bridge, and to provide recommendations regarding proper handling and disposal of any ACM found. The investigation of the subject Bridge identified multiple suspect materials: expansion joint materials, bond break bearing pads, and expansion joint sealers. During the field investigation, FME collected samples of the suspect materials and assessed the physical condition of each material. **Laboratory results indicate that the bond break bearing pads associated with the north side of bent cap #28 on the existing southbound I-95 Bridges (Bridge #3) was ACM.** During the demolition activities, previously concealed ACM may be discovered. If hidden suspect ACM is encountered, the affected contractor(s) must stop work, take appropriate actions, and notify the Owner/FME for an appropriate response action.



We appreciate the opportunity to assist you in this matter. If you have any questions or require additional information, please feel free to contact our office at (803) 254-4540.

Sincerely,

F&ME CONSULTANTS



**Michael S. Mincey**  
Environmental Professional  
Asbestos Consultant/Management Planner  
SCDHEC License No: MP-00161  
Expiration Date 01/23/2024



**Glynn M. Ellen**  
Environmental Department Manager  
Asbestos Consultant/Management Planner  
SCDHEC License No: ASB-22641  
Expiration Date 01/23/2024



## 2 INTRODUCTION

FME has completed an ACM investigation on the southbound I-95 over Lake Marion Bridge in Clarendon and Orangeburg Counties in South Carolina. The investigation was performed on July 19<sup>th</sup> through July 21<sup>st</sup>, 2023. This investigation was conducted pursuant to SCDHEC, USEPA, NESHAP, and OSHA regulations which require an ACM investigation prior to any demolition activities. Refer to Appendix A, Site Vicinity Map for the location of the Bridge.

It is our understanding that the existing Bridge will to be demolished, in anticipation of the off-alignment replacement of the existing Bridge. The scope of this investigation was to determine if asbestos was present on these Bridges by identifying and sampling suspect ACM, obtaining analytical results, quantifying any confirmed ACM, and assessing the physical condition of the ACM, where possible.

This report has been prepared exclusively for the Client and shall not be disseminated in whole or part to other parties without prior consent from the Client or FME. No other environmental issues were addressed as part of this report.

## 3 EXISTING BRIDGE STRUCTURES

The existing Bridge is located along I-95 and crosses over Lake Marion in Clarendon and Orangeburg Counties in South Carolina. The date of construction for the existing southbound I-95 Bridge (Bridges #3) over Lake Marion were constructed in the late 1960's early 1970's based on the original construction drawings

The southbound I-95 Bridge over Lake Marion (Bridge #2) (~4,500' L x 31.0' W inside curb to inside curb) is a two (2) lane, concrete and steel bridge structure with poured-in-place concrete bridge decking, concrete curb/gutter, and concrete guardrails along with metal scuppers.

The Bridge is constructed with a combination of poured-in-place (PIP) concrete beams, pre-cast prestressed beams, structural steel girders, steel diaphragms, steel crossbracing, steel bearing plates and steel rocker bearing supports. The bentcaps were PIP concrete supported by a combination of driven hexagonal concrete piles, and PIP concrete piers. Refer to Appendix A, Site Vicinity Map, for the location of the Bridge. Appendix B, Sample Location Plan, for a layout of the samples taken from the Bridge.

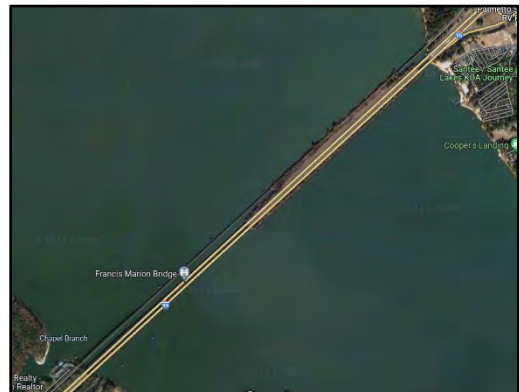


Photo 1 – I-95 over Lake Marion Bridges in Clarendon & Orangeburg Counties, SC.

## 4 FIELD ASSESSMENT

During the inspection, all bridge components (i.e., concrete bent caps, piers, scuppers, and expansion joints) were visually inspected for suspect ACM. Examples of possible suspect materials include bent cap bearing materials, expansion joint materials and scuppers. The bridge deck rested directly on concrete bent caps with either a bond break bearing pad or steel bearing plates and steel bearing rockers between them. The PIP concrete bent caps were supported by either driven hexagonal concrete pipes or PIP concrete piers. Bent cap bearing pads, expansion joint materials, and expansion joint sealers were noted during the investigation as suspect materials. Refer to Appendix B, Sample Location Plan, for detailed sample locations. Also, see Appendix J, Site Photographs, for more details.

### 4.1 Suspect Materials

The purpose of this investigation was to locate, sample and record the physical characteristics of suspect ACM on the subject Bridges. Therefore, the quantities and physical condition of suspect materials were assessed, and bulk samples of these materials were submitted for laboratory analysis. The following suspect materials and approximate quantities for each Bridge were identified during this ACM Investigation:

#### Bridge #3 (I-95 SBL over Lake Marion)

- Black Expansion Joint Material (>5,000 SF)
- Bond Break Bearing Pad (>5,000 SF)
- Expansion Joint Sealer (>5,000 SF)
- Bond Break Bearing Pad #2 (>5,000 SF)
- Bond Break Bearing Pad #3 (Northeast Side of Bent #28) (~50 SF)

Random samples of the suspect materials were collected for laboratory analysis, and their physical characteristics were recorded. Building materials such as concrete, metal, wood, brick, etc., were not considered suspect ACM. Bulk samples of suspect materials were analyzed by Polarized Light Microscopy (PLM) in accordance with EPA 600/R-93/116. Confirmation Transmission Electron Microscopy (TEM) was also performed on any non-friable organically bound materials that tested negative for asbestos content as per SCDHEC regulations effective May 27, 2011. Refer to Appendix D, Summary of Samples, for complete list of all samples taken. Appendix L, SCDHEC Regulation Summary. Proper sampling and chain-of-custody protocols were followed to ensure appropriate handling and delivery of samples to the analytical laboratory. Refer to Appendix K, Personnel



Certifications, for SCDHEC qualifications of Investigation personnel, and Appendix I, Chain of Custody Forms, for documentation of proper handling and delivery of samples.

## 5 ASSESSMENT RESULTS

During the investigation, multiple bond break bearing pads, expansion joint materials, and expansion joint sealers were the only suspect materials found associated with the existing Bridges. Three (3) random samples of the each of the materials totaling fifteen (15) samples, were collected for laboratory analysis, and their physical characteristics were recorded. The remaining structural materials (i.e., concrete, steel, etc.) were not considered suspect and were not sampled.

The samples of the suspect material were analyzed by polarized light microscopy (PLM) in accordance with EPA 600/R-93/116. A *“first positive stop”* protocol was utilized for this investigation. This protocol establishes that if the first sample of a material tested positive for asbestos content, subsequent samples were not to be analyzed, and would be considered positive as well. A total of forty-four (44) samples were analyzed by PLM and twenty-one (21) were TEM confirmed. **Laboratory results indicate that the bond break bearing pads associated with northeast/northwest sides of bent cap #28 on the existing southbound I-95 Bridges (Bridge #3) were ACM.** Results of laboratory analysis are summarized in Appendix D, Summary of Sample Results and Appendix E, Summary of Asbestos Containing Materials.

Appropriate sampling and chain-of-custody protocols were followed to ensure proper handling and delivery of samples to the analytical laboratory. Refer to Appendix H and I were provided to show laboratory documentation for the analytical results. Appendix K, Personnel Certification, shows the official qualifications of the South Carolina Asbestos Inspectors.

### 5.1 Homogeneous Area Locations Where ACM Was Identified

The following are photographs, descriptions, and approximate quantities of the ACM identified during the Investigation. Guidance is also provided for the proper handling and disposition if the materials in these areas are to be removed. See Appendix C, Homogeneous Area Plan, for homogeneous sampling area for the ACM identified below.





## HA-1 – Bond Break Bearing Pads Associated with Bent Cap #28 on the Existing I-95 Bridges (NBL & SBL) over Lake Marion (~50 SF).

ACM bond break bearing pads, bent #28 only, were found on the tops of bent #28 only, northeast and northwest sides, on the existing southbound I-95 Bridge over Lake Marion. FME field personnel looked for additional locations for this material. However, it was only found at Bent #28 on the southbound I-95 Bridge. Overall, this material was intact, but friable condition, with some signs of deterioration due to age and exposure to the elements. Removal of this material will likely render the material friable depending on the means and methods utilized. During the demolition, this material must be removed, handled, and disposed of as ACM. This material will need to be abated as a function of demolition activities by a licensed abatement contractor.



## 6 RECOMMENDATIONS

The results, conclusions, and recommendations of this investigation are representative of the conditions observed at the site on the dates of the field inspection. FME does not assume responsibility for any changes in conditions or circumstances that may have occurred after this inspection.

It is our understanding that an off-alignment replacement of the existing I-95 southbound Bridge is planned. As a function of demolition activities, the bond break bearing pads associated with the northeast/northwest sides of bent cap #28 on the existing southbound I-95 over Lake Marion Bridge must be removed, handled and disposed of as ACM per SCDHEC regulations pertaining to asbestos waste. Removal of this type of bridge component prior to the start of demolition activities is not practical. Therefore, the demolition contractor will be required to coordination with a licensed abatement contractor to ensure they are properly handled and disposed of. Based on the quantities and type of ACM identified, a written abatement project design will not be required.

If any concealed and/or inaccessible ACM (i.e., bond beak bearing pad materials) are encountered during the demolition activities, the affected contractor(s) must stop work, take appropriate actions, and notify the Owner/asbestos Consultant for an appropriate response action. The SCDHEC must be notified if any suspect ACM is discovered.



All asbestos waste must be deposited in a landfill permitted by the SCDHEC for receiving ACM. If any concealed and/or inaccessible ACM is encountered during asbestos abatement or renovation activities, the affected contractor(s) must stop work, take appropriate actions, and notify the Owner/ Abatement Contractor/ Asbestos Consultant for an appropriate response action. The SCDHEC must be notified if any additional ACM is discovered, as well as changes in the condition of identified ACM.

The SCDHEC's Standards of Performance for Asbestos Projects (R 61-86.1) includes requirements for abatement projects regarding notifications, project design, air sampling and analysis, etc. For informational purposes, some of these requirements are summarized below:

*Notifications.* Written notification (SCDHEC Form 3430) must be submitted to SCDHEC at least two (2) calendar weeks prior to initiation of abatement activities for renovation/demolition projects. A copy of this inspection report and applicable fee payment must be attached to the notification. Additional fees may be required. Copies of all notifications and documents pertinent to the abatement operations must be posted on the job site during abatement work. The Owner/Operators must notify all parties involved with this project of the nature of the work as well as the locations and quantities of asbestos materials to be disturbed or those located near demolition/removal work areas. This notification requirement is also extended to any persons/employees who work near the demolition/removal work areas.

*Project Design.* Furthermore, abatement projects that will remove more than 3,000 square, 1,500 linear or 656 cubic feet of asbestos-containing materials are required to have a licensed and certified Abatement Project Designer develop a project design prior to the commencement of any abatement activities. The Abatement Contractor is required to adhere to the design, which must address all information as directed by the regulations.

*Air Monitoring.* The Abatement Contractor is responsible for daily personal air sampling for Abatement Workers in compliance with current OSHA standard 29 CFR 1926.1101. All remaining air monitoring services required for a renovation project (i.e., backgrounds, areas, and clearances) will be provided by the Owner or the Owner's Representative, as required by SCDHEC.

We sincerely appreciate the opportunity to be of service to Transystems in this matter. If you have any questions regarding the information presented herein, please contact our office at (803) 254-4540.



## APPENDICES

Appendix A – Site Vicinity Map

Appendix B – Sample Location Plans

Appendix C – Homogeneous Area Plan

Appendix D – Summary of Samples

Appendix E – Summary of Asbestos Containing Materials

Appendix F – Summary of Inspection

Appendix G – Physical Assessment Data Sheet

Appendix H – Laboratory Analysis Reports

Appendix I – Chain of Custody Forms

Appendix J – Site Photographs

Appendix K – Personnel Certifications

Appendix L – Regulatory Summary

Appendix M – Abatement Project Forms



## Appendix A

### Site Vicinity Map





## Appendix B

### Sample Location Plan



I-95 (SBL) over Lake Marion (Bridge #3)

B3-4-3

B3-4-2

B3-4-1

Match Line

**F&ME** CONSULTANTS, INC.  
COLUMBIA, SC  
CONSULTANTS

SB I-95 OVER LAKE MARION BRIDGE REPLACEMENT  
CLARENDON & ORANGEBURG COUNTIES, SOUTH CAROLINA

SAMPLE LOCATION PLAN

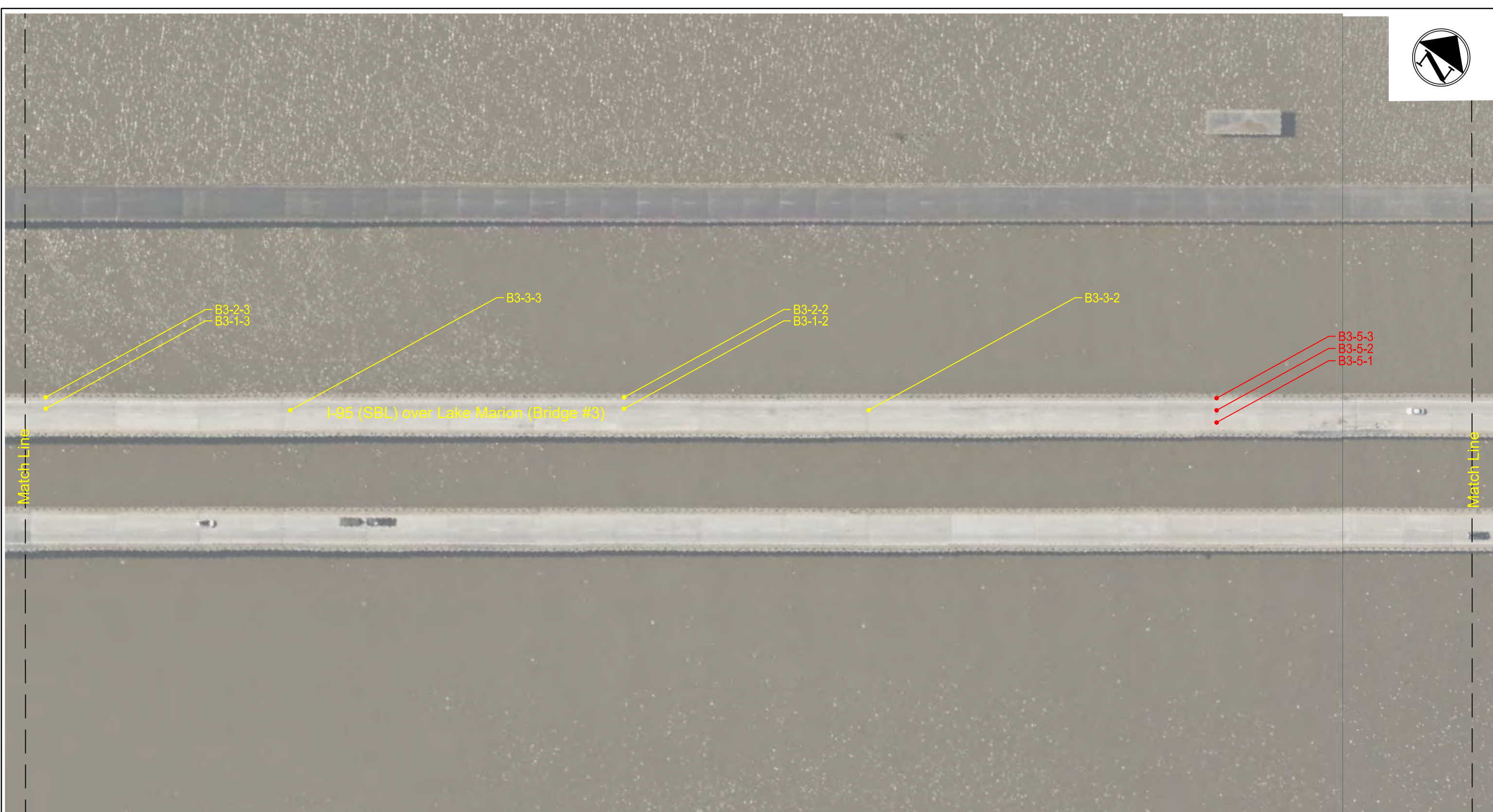
F&ME JOB NO. G6744.000

SCALE: N.T.S.

FIGURE 2

4			
3			
2			
1			
REV.	BY	DATE	DESCRIPTION OF REVISION
TOPO.		DATE	
DWG.	MSM	DATE 08/11/2023	GROUP - -
R/W		DATE	





Match Line

Match Line

B3-2-3  
B3-1-3

B3-3-3

I-95 (SBL) over Lake Marion (Bridge #3)

B3-2-2  
B3-1-2

B3-3-2

B3-5-3  
B3-5-2  
B3-5-1



F&ME CONSULTANTS, INC.  
COLUMBIA, SC

SB I-95 OVER LAKE MARION BRIDGE REPLACEMENT  
CLARENDON & ORANGEBURG COUNTIES, SOUTH CAROLINA

SAMPLE LOCATION PLAN

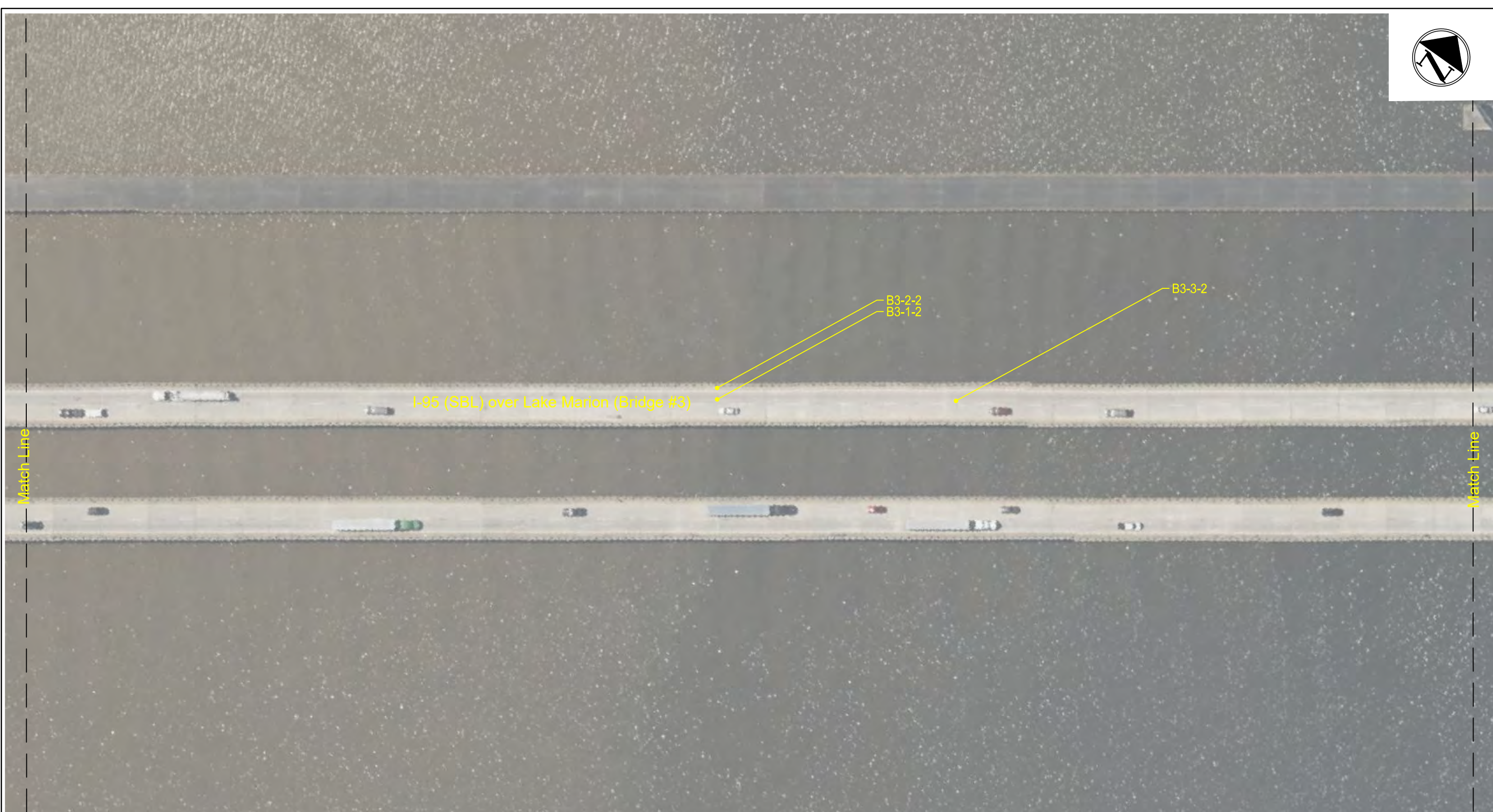
F&ME JOB NO. G6744.000

SCALE: N.T.S.

FIGURE 3

4			
3			
2			
1			
REV.	BY	DATE	DESCRIPTION OF REVISION
TOPO.		DATE	
DWG.	MSM	DATE 08/11/2023	GROUP ____ - ____
R/W		DATE	





I-95 (SBL) over Lake Marion (Bridge #3)

B3-2-2  
B3-1-2

B3-3-2

Match Line

Match Line



F&ME CONSULTANTS, INC.  
COLUMBIA, SC

SB I-95 OVER LAKE MARION BRIDGE REPLACEMENT  
CLARENDON & ORANGEBURG COUNTIES, SOUTH CAROLINA

SAMPLE LOCATION PLAN

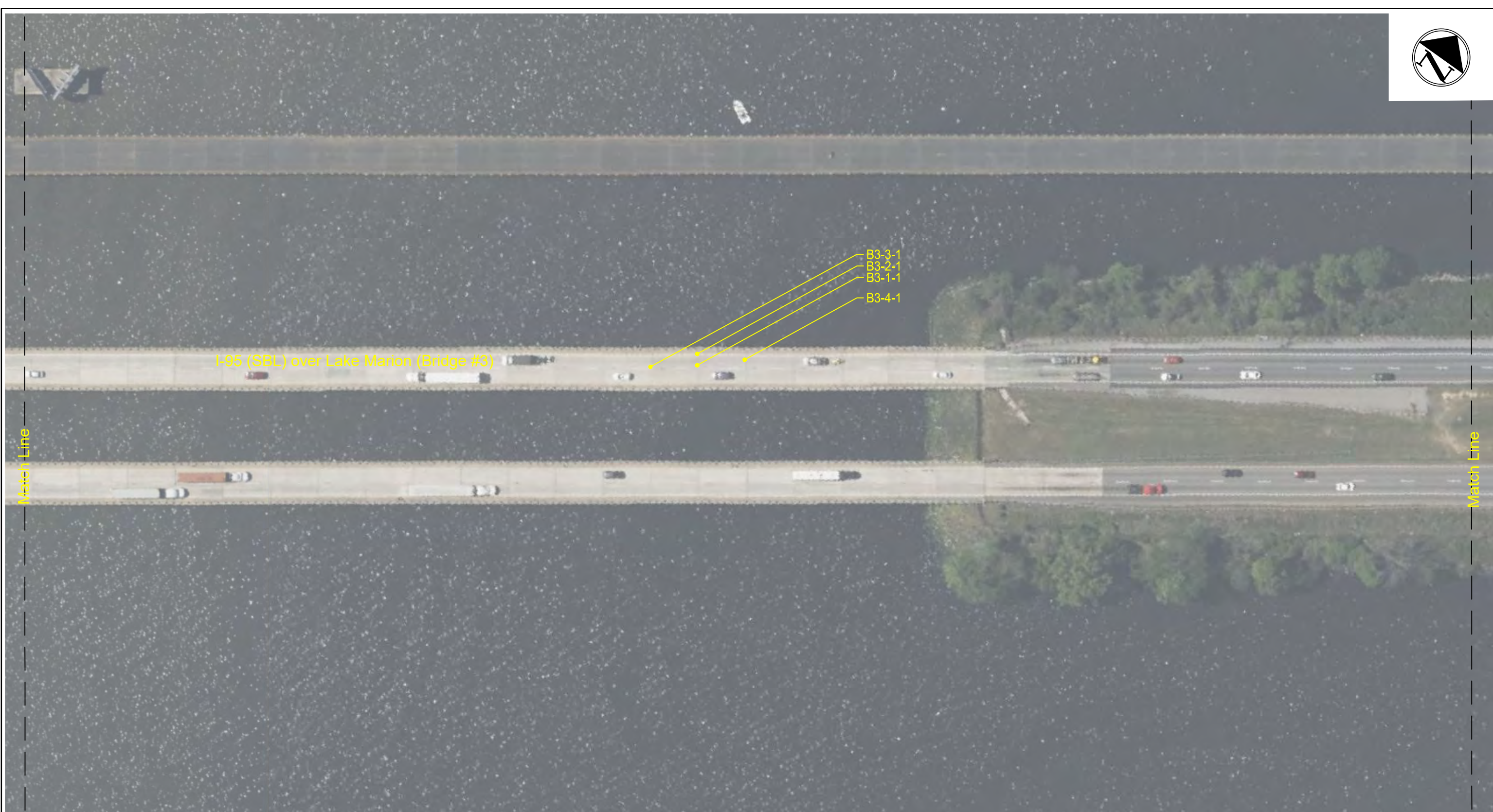
F&ME JOB NO. G6744.000

SCALE: N.T.S.

FIGURE 4

4			
3			
2			
1			
REV.	BY	DATE	DESCRIPTION OF REVISION
TOPO.		DATE	
DWG.	MSM	DATE 08/11/2023	GROUP
R/W		DATE	





I-95 (SBL) over Lake Marion (Bridge #3)

B3-3-1  
B3-2-1  
B3-1-1  
B3-4-1

Match Line

Match Line

**F&ME** CONSULTANTS, INC.  
CONSULTANTS COLUMBIA, SC

SB I-95 OVER LAKE MARION BRIDGE REPLACEMENT  
CLARENDON & ORANGEBURG COUNTIES, SOUTH CAROLINA

SAMPLE LOCATION PLAN

F&ME JOB NO. G6744.000

SCALE: N.T.S.

FIGURE 5

4			
3			
2			
1			
REV.	BY	DATE	DESCRIPTION OF REVISION
TOPO.		DATE	
DWG.	MSM	DATE 08/11/2023	GROUP ____ - ____
R/W		DATE	



## Appendix C

### Homogeneous Area Plan



HA-1 ACM Bond Break Pad #3 (Bent #28)

I-95 (SBL) over Lake Marion (Bridge #3)



SB I-95 OVER LAKE MARION BRIDGE REPLACEMENT  
CLARENDON & ORANGEBURG COUNTIES, SOUTH CAROLINA

HOMOGENOUS AREA PLAN

F&ME JOB NO. G6744.000

SCALE: N.T.S.

FIGURE 6

4			
3			
2			
1			
REV.	BY	DATE	DESCRIPTION OF REVISION
TOPO.		DATE	
DWG.	MSM	DATE 08/11/2023	GROUP
R/W		DATE	

## Appendix D

### Summary of Samples

## Appendix D: Summary of Samples

Sample ID	Description
<b>Bridge #3 (SB I-95 Bridge over Lake Marion)</b>	
B3-1-1	Black Expansion Joint Material
B3-1-2	Black Expansion Joint Material
B3-1-3	Black Expansion Joint Material
B3-2-1	Bond Break Bearing Pad
B3-2-2	Bond Break Bearing Pad
B3-2-3	Bond Break Bearing Pad
B3-3-1	Expansion Joint Sealer
B3-3-2	Expansion Joint Sealer
B3-3-3	Expansion Joint Sealer
B3-4-1	Bond Break Bearing Pad #2
B3-4-2	Bond Break Bearing Pad #2
B3-4-3	Bond Break Bearing Pad #2
B3-5-1	Bond Break Bearing Pad #3 (Bent #28)
B3-5-2	Bond Break Bearing Pad #3 (Bent #28)
B3-5-3	Bond Break Bearing Pad #3 (Bent #28)



## Appendix E

### Summary of Asbestos Containing Materials



## APPENDIX E: SUMMARY OF ASBESTOS CONTAINING MATERIALS

Sample ID	Sample Description	Layer	% Asbestos
B3-5-1	Bond Break Bearing Pad #3 (Bent #28)	-	90% Chrysotile
B3-5-2	Bond Break Bearing Pad #3 (Bent #28)	-	First Stop Positive
B3-5-3	Bond Break Bearing Pad #3 (Bent #28)	-	First Stop Positive



## Appendix F

### Summary of Inspection

## SUMMARY OF INSPECTION

### SUMMARY OF INSPECTION

The following table summarizes the physical assessment data, sampling and assessment results.

As exhibited on this table, coding is used to abbreviate the asbestos containing material's (ACM) locations, characteristics and results. This code is as follows:

#### TYPES OF ACM:

Misc. = Miscellaneous

Sur. = Surfacing

TSI = Thermal System Insulation

#### ACM LOCATIONS:

Homogeneous areas = Indicated by Roman Numerals, Room Number or Area Designation

<u>Functional Space No.:</u>	<u>Functional Space Type:</u>	
1.	UB	Under Bridge

#### ACM CHARACTERISTICS:

F = Friable

NF = Non-Friable

#### ASSESSMENT RESULTS:

(Refer to Physical Assessment Data)

#### POTENTIAL FOR DISTURBANCE:

(Refer to Physical Assessment Data)

## SUMMARY OF INSPECTION

### PHYSICAL ASSESSMENT CATEGORIES:

1. Damaged or significantly damaged friable thermal system insulation ACM.
2. Damaged friable surfacing ACM.
3. Significantly damaged friable surfacing ACM.
4. Damaged or significantly damaged friable miscellaneous ACM.
5. ACM with potential for significant damage.
6. ACM with potential for damage.
7. Any remaining friable ACM or friable suspect ACM.
8. Non-friable ACM.

### CLASSIFICATION FOR HAZARD POTENTIAL:

(Tabular Display)

<u>Hazard Rank</u>	<u>ACM Condition</u>	<u>ACM Disturbance Potential</u>
7	Significantly Damaged	Any
6	Damaged	Potential for Significant Damage
5	Damaged	Potential for Damage
4	Damaged	Low
3	Good	Potential for Significant Damage
2	Good	Potential for Damage
1	Good	Low

## Appendix G

### Summary of Physical Assessment Sheet



## PHYSICAL ASSESSMENT DATA SHEET

**Building:** SB I-95 over Lake Marion Bridge Replacement

**Functional Space No:** 1      **Type:** UB      **Location:** (See Homogeneous Area Plan)

**Type of Suspect Material:** TSI      **Surfacing** X      **Misc.** \_\_\_\_\_

**Description:** HA-1, Bond Break Bearing Pads Associated with Existing SB I-95 Bridge over Lake Marion

**Approximate Amount of Material (SF or LF):** ~50 SF

**Condition:**

**Percent Damage:** \_\_\_\_\_ >0%      X <10%      \_\_\_\_\_ >10%      \_\_\_\_\_ <25%      \_\_\_\_\_ >25%

**Extent of Damage:** \_\_\_\_\_ X Localized      \_\_\_\_\_ Distributed

**Type of Damage:** \_\_\_\_\_ X Deterioration      \_\_\_\_\_ X Water      \_\_\_\_\_ Physical

**Description:**

ACM bond break bearing pads, bent #28 only, were found on the tops of bent #28 only on the existing I-95 Bridge (SBL) over Lake Marion. Overall, this material was intact, but friable condition, with some signs of deterioration due to age and exposure to the elements.

**Overall Condition Rating:**      Sig. Damaged \_\_\_\_\_      Damaged \_\_\_\_\_      Good \_\_\_\_\_      X

**Potential for Disturbance:**

	High	Moderate	Low	Friable ACM
Frequency of Potential Contact:	_____	_____	_____ <u>X</u> _____	_____ <u>X</u> _____
Influence of Vibration	_____	_____	_____ <u>X</u> _____	_____ <u>X</u> _____
Frequency of Air Erosion	_____	_____	_____ <u>X</u> _____	_____ <u>X</u> _____
Potential of Water Erosion	_____	_____	_____ <u>X</u> _____	_____ <u>X</u> _____


**Overall Potential Disturbance Rating:**

Potential for Sig. Damage      Potential for Damage      Low Potential for Damage  
 \_\_\_\_\_      \_\_\_\_\_      \_\_\_\_\_ 7 \_\_\_\_\_

**Overall Hazard Rank #:**

Sig. Damaged      Pot. Sig. Damage      Potential Damage      Low Pot. Damage  
 \_\_\_\_\_      \_\_\_\_\_      \_\_\_\_\_      \_\_\_\_\_ 1 \_\_\_\_\_

**Comments:**      Potential for Disturbance and Hazard Ranking assessed is based on current usage of the facility.

**Signed:**       **Date:** 08/09/23

## Appendix H

### Laboratory Analysis Reports



# EMSL Analytical, Inc.

706 Gralin Street Kernersville, NC 27284  
Tel/Fax: (336) 992-1025 / (336) 992-4175  
<http://www.EMSL.com/kernersvillelab@emsl.com>

**EMSL Order:** 022304975  
**Customer ID:** FMEC62  
**Customer PO:** G6744.000  
**Project ID:**

**Attention:** Glynn M. Ellen  
F & ME Consultants  
211 Business Park Blvd  
Columbia, SC 29203


**Phone:** (803) 254-4540  
**Fax:** (803) 254-4542  
**Received Date:** 07/25/2023 10:15 AM  
**Analysis Date:** 07/27/2023  
**Collected Date:**

**Project:** 1-95 over Lake Marion (Bridge #3)

## Test Report: Asbestos Analysis of Bulk Materials via AHERA Method 40CFR 763 Subpart E Appendix E supplemented with EPA 600/R-93/116 using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
B3 1-1 <small>022304975-0001</small>	Black Expansion Joint Material	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
B3 1-2 <small>022304975-0002</small>	Black Expansion Joint Material	Black Fibrous Homogeneous	3% Cellulose	97% Non-fibrous (Other)	None Detected
B3 2-1 <small>022304975-0003</small>	Bond Break Pad	Black/Silver Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
B3 2-2 <small>022304975-0004</small>	Bond Break Pad	Black Non-Fibrous Homogeneous	<1% Cellulose	100% Non-fibrous (Other)	None Detected
B3 3-1 <small>022304975-0005</small>	Expansion Joint Sealer	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
B3 3-2 <small>022304975-0006</small>	Expansion Joint Sealer	Black Non-Fibrous Homogeneous	<1% Cellulose	100% Non-fibrous (Other)	None Detected
B3 4-1 <small>022304975-0007</small>	Bond Break Pad #2	Gray/Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
B3 4-2 <small>022304975-0008</small>	Bond Break Pad #2	Black/Silver Non-Fibrous Homogeneous	<1% Cellulose	100% Non-fibrous (Other)	None Detected
B3 5-1 <small>022304975-0009</small>	Bond Break Pad #3 (Bent ?)	Gray Fibrous Homogeneous	5% Cellulose	5% Non-fibrous (Other)	90% Chrysotile
B3 5-2 <small>022304975-0010</small>	Bond Break Pad #3 (Bent ?)				Positive Stop (Not Analyzed)

Analyst(s)  
Cameron Evans (4)  
Jurnee West (5)

  
Stephen Bennett, Laboratory Manager  
or Other Approved Signatory

EMSL maintains liability limited to cost of analysis. Interpretation and use of test results are the responsibility of the client. This report relates only to the samples reported above, and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. The report reflects the samples as received. Results are generated from the field sampling data (sampling volumes and areas, locations, etc.) provided by the client on the Chain of Custody. Samples are within quality control criteria and met method specifications unless otherwise noted. The above analyses were performed in general compliance with Appendix E to Subpart E of 40 CFR (previously EPA 600/M4-82-020 "Interim Method") but augmented with procedures outlined in the 1993 ("final") version of the method. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the federal government. Non-friable organically bound materials present a problem matrix and therefore EMSL recommends gravimetric reduction prior to analysis. Unless requested by the client, building materials manufactured with multiple layers (i.e. linoleum, wallboard, etc.) are reported as a single sample. Estimation of uncertainty is available on request.

Samples analyzed by EMSL Analytical, Inc. Kernersville, NC NVLAP Lab Code 102104-0, Virginia 3333-000228, West Virginia LT000321

Initial report from: 07/28/2023 08:08:12



# EMSL Analytical, Inc.

706 Gralin Street Kernersville, NC 27284  
Tel/Fax: (336) 992-1025 / (336) 992-4175  
<http://www.EMSL.com> / [kernersvillelab@emsl.com](mailto:kernersvillelab@emsl.com)

**EMSL Order:** 022304975  
**Customer ID:** FMEC62  
**Customer PO:** G6744.000  
**Project ID:**

**Attention:** Glynn M. Ellen  
F & ME Consultants  
211 Business Park Blvd  
Columbia, SC 29203

**Phone:** (803) 254-4540  
**Fax:** (803) 254-4542  
**Received Date:** 07/25/2023 10:15 AM  
**Analysis Date:** 07/28/2023  
**Collected Date:**

**Project:** 1-95 over Lake Marion (Bridge #3)

## Test Report: Asbestos Analysis of Non-Friable Organically Bound Materials by TEM via EPA/600/R-93/116 Section 2.5.5.1

Sample ID	Description	Appearance	% Matrix Material	% Non-Asbestos Fibers	Asbestos Types
B3 1-3 022304975-0011	Black Expansion Joint Material	Black Fibrous Homogeneous	100.0 Other	None	No Asbestos Detected
B3 2-3 022304975-0012	Bond Break Pad	Brown/Black Non-Fibrous Homogeneous	100.0 Other	None	No Asbestos Detected
B3 3-3 022304975-0013	Expansion Joint Sealer	Black Non-Fibrous Homogeneous	100.0 Other	None	No Asbestos Detected
B3 4-3 022304975-0014	Bond Break Pad #2	Gray Non-Fibrous Homogeneous	100.0 Other	None	No Asbestos Detected

Analyst(s)

Stephen Bennett (4)

Stephen Bennett, Laboratory Manager  
or other approved signatory

EMSL maintains liability limited to cost of analysis. Interpretation and use of test results are the responsibility of the client. This report relates only to the samples reported above, and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. The report reflects the samples as received. Results are generated from the field sampling data (sampling volumes and areas, locations, etc.) provided by the client on the Chain of Custody. Samples are within quality control criteria and met method specifications unless otherwise noted. EMSL recommends that samples reported as none detected or < 1% undergo additional analysis via PLM to avoid the possibility of false negatives.

Samples analyzed by EMSL Analytical, Inc. Kernersville, NC

Initial report from: 07/31/2023 08:40:18

## Appendix I

### Chain of Custody Forms





EMSL ANALYTICAL INC.  
LABORATORY PRODUCTS TRAINING

### Asbestos Chain of Custody EMSL Order Number (Lab Use Only):

022304975

X  
706 GRALIN ST.  
KERNERSVILLE, NC 27284  
PHONE: (336) 992-1025  
FAX: (336) 992-4175

Company Name : F&ME Consultants		EMSL Customer ID: FMEC62	
Street: 211 Business Park Boulevard		City: Columbia	State/Province: SC
Zip/Postal Code: 29203	Country: USA	Telephone #: 803-254-4540	Fax #: 803-254-4542
Report To (Name): Glynn Ellen		Please Provide Results: <input type="checkbox"/> Fax <input checked="" type="checkbox"/> Email	
Email Address: gellen@fmeconsultants.com, and mmincey@fmeconsultants.com,		Purchase Order: G6744.000	
Project Name/Number: I-95 over Lake Marion (Bridge #3)		EMSL Project ID (Internal Use Only):	
U.S. State Samples Taken: SC		CT Samples: <input checked="" type="checkbox"/> Commercial/Taxable <input type="checkbox"/> Residential/Tax Exempt	
EMSL-Bill to: <input checked="" type="checkbox"/> Same <input type="checkbox"/> Different - If Bill to is Different note instructions in Comments** Third Party Billing requires written authorization from third party			
Turnaround Time (TAT) Options* - Please Check			
<input type="checkbox"/> 3 Hour	<input type="checkbox"/> 6 Hour	<input type="checkbox"/> 24 Hour	<input type="checkbox"/> 48 Hour <input checked="" type="checkbox"/> 72 Hour <input checked="" type="checkbox"/> 96 Hour <input type="checkbox"/> 1 Week <input type="checkbox"/> 2 Week
*For TEM Air 3 hr through 6 hr, please call ahead to schedule. *There is a premium charge for 3 Hour TEM AHERA or EPA Level II TAT You will be asked to sign an authorization form for this service. Analysis completed in accordance with EMSL's Terms and Conditions located in the Analytical Price Guide.			
<b>PCM - Air</b> <input type="checkbox"/> Check if samples are from NY <input type="checkbox"/> NIOSH 7400 <input type="checkbox"/> w/ OSHA 8hr. TWA <b>PLM - Bulk (reporting limit)</b> <input checked="" type="checkbox"/> PLM EPA 600/R-93/116 (<1%) <input type="checkbox"/> PLM EPA NOB (<1%) Point Count <input type="checkbox"/> 400 (<0.25%) <input type="checkbox"/> 1000 (<0.1%) Point Count w/Gravimetric <input type="checkbox"/> 400 (<0.25%) <input type="checkbox"/> 1000 (<0.1%) <input type="checkbox"/> NYS 198.1 (friable in NY) <input type="checkbox"/> NYS 198.6 NOB (non-friable-NY) <input type="checkbox"/> NYS 198.8 SOF-V <input type="checkbox"/> NIOSH 9002 (<1%)	<b>TEM - Air</b> <input type="checkbox"/> 4-4.5hr TAT (AHERA only) <input type="checkbox"/> AHERA 40 CFR, Part 763 <input type="checkbox"/> NIOSH 7402 <input type="checkbox"/> EPA Level II <input type="checkbox"/> ISO 10312 <b>TEM - Bulk</b> <input checked="" type="checkbox"/> TEM EPA NOB <input type="checkbox"/> NYS NOB 198.4 (non-friable-NY) <input type="checkbox"/> Chatfield SOP <input type="checkbox"/> TEM Mass Analysis-EPA 600 sec 2.5 <b>TEM - Water:</b> EPA 100 2 Fibers >10µm <input type="checkbox"/> Waste <input type="checkbox"/> Drinking All Fiber Sizes <input type="checkbox"/> Waste <input type="checkbox"/> Drinking	<b>TEM- Dust</b> <input type="checkbox"/> Microvac - ASTM D 5755 <input type="checkbox"/> Wipe - ASTM D6480 <input type="checkbox"/> Carpet Sonication (EPA 600/J-93/167) <b>Soil/Rock/Vermiculite</b> <input type="checkbox"/> PLM EPA 600/R-93/116 with milling prep (<1%) <input type="checkbox"/> PLM EPA 600/R-93/116 with milling prep (<0.25%) <input type="checkbox"/> TEM EPA 600/R-93/116 with milling prep (<0.1%) <input type="checkbox"/> TEM Qualitative via Filtration Prep <input type="checkbox"/> TEM Qualitative via Drop Mount Prep <input type="checkbox"/> Cincinnati Method EPA 600/R-04/004 - PLM/TEM (BC only) <b>Other:</b> <input type="checkbox"/>	
<input checked="" type="checkbox"/> Check For Positive Stop - Clearly Identify Homogenous Group		Filter Pore Size (Air Samples): <input type="checkbox"/> 0.8µm <input type="checkbox"/> 0.45µm	
Samplers Name: Glynn M. Ellen		Samplers Signature:	
Sample #	Sample Description	Volume/Area (Air) HA # (Bulk)	Date/Time Sampled
*B3-1-1 thru B3-1-3	Black Expansion Joint Material		
*B3-2-1 thru B3-2-3	Bond Break Pad		
*B3-3-1 thru B3-3-3	Expansion Joint Sealer		
*B3-4-1 thru B3-4-3	Bond Break Pad #2		
*B3-5-1 thru B3-5-3	Bond Break Pad #3 (Bent ?)		
Client Sample # (s): B3-1-1 - B3-5-3		Total # of Samples: 15	
Relinquished (Client):		Date: 07/24/2023	Time: 1700
Received (Lab): JS		Date: 7-25-23	Time: 10:15
Comments/Special Instructions: *TEM 3 <sup>rd</sup> NOB.			

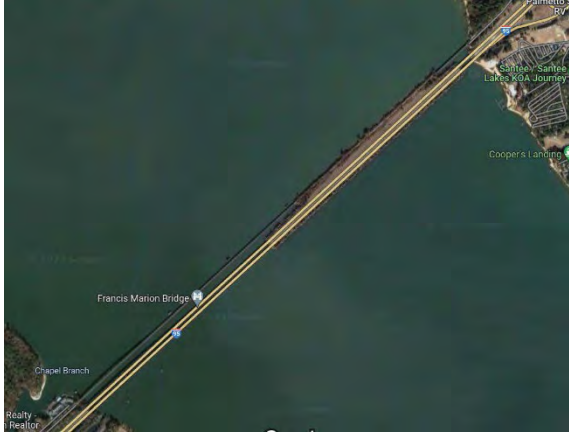
EMSL FAX FILE 7460 1-577  
Page 1 of 1

5

## Appendix J

### Site Photographs

APPENDIX J - SITE PHOTOGRAPHS



**Photo 1.** Top Side View of Bridges.



**Photo 2.** Southwest View of SB I-95 Bridge #3.



**Photo 3.** Underside View of Bridge #3.



**Photo 4.** ACM Bond Break Bearing Pad Associated with Bent #28 of I-95 SBL Bridge #3.



**Photo 5.** Metal Scupper on West Side of Bridge.



**Photo 6.** Topside View of Bridge Deck.



## Appendix K

### Personnel Certifications

# SCDHEC ISSUED

## Asbestos ID Card

**Glynn M Ellen**



**AIRSAMPLER  
CONSULTMP  
CONSULTPD  
SUPERAHERA**

**AS-00079  
ASB-22641  
PD-00098  
SA-00455**

**Expiration Date:**

**01/22/24  
01/23/24  
07/12/23  
01/22/24**

This card is nontransferable and considered invalid if loaned or given to another person for identification. This card will also be invalid if altered or defaced. This card is property of SCDHEC. It must be returned to the department if the holder's accreditation is revoked or if this card is invalidated. Any person performing regulated asbestos activities without current accreditation shall be subject to legal sanction. This card must be returned upon expiration and/or issuance of a new card.

**YOU MUST HAVE THIS IDENTIFICATION CARD WITH YOU ON THE JOB.**

For information of corrections contact: SCDHEC - Asbestos Section  
2600 Bull Street  
Columbia, SC 29201  
(803) 898-4289



# SCDHEC ISSUED

## Asbestos ID Card

**Michael Mincey**



**AIRSAMPLER  
CONSULTMP  
SUPERAHERA**

**AS-00272  
MP-00161  
SA-01424**

**Expiration Date:**

**01/22/24  
01/23/24  
01/22/24**

This card is nontransferable and considered invalid if loaned or given to another person for identification. This card will also be invalid if altered or defaced. This card is property of SCDHEC. It must be returned to the department if the holder's accreditation is revoked or if this card is invalidated. Any person performing regulated asbestos activities without current accreditation shall be subject to legal sanction. This card must be returned upon expiration and/or issuance of a new card.

**YOU MUST HAVE THIS IDENTIFICATION CARD WITH YOU ON THE JOB.**

For information of corrections contact: SCDHEC - Asbestos Section  
2600 Bull Street  
Columbia, SC 29201  
(803) 898-4289

## Appendix L

### Regulatory Summary

# Asbestos Regulatory Information

## Renovations & Demolitions

### Definitions

**Renovation** means altering a facility or one or more facility components in any way, including the stripping or removal of regulated asbestos-containing materials (RACM) from a facility component. "Remodeling" is considered renovation.

**Demolition** is wrecking or taking out any load-supporting structural member of a facility together and any related handling operations. Structural burns are prohibited by State Open Burning Regulations.

### Applicability

Renovation and demolition of most facilities (including buildings, structures, and other installations), are subject to State and Federal asbestos regulations. Certain residential buildings may be exempt. Contact the SCDHEC Asbestos Section for additional information.

All asbestos-containing materials must be removed from a facility prior to demolition. Only the following asbestos-containing materials (ACM) may be left in place during demolition:

- ACM on a facility component that is encased in concrete or other similarly hard material and is adequately wet whenever exposed during demolition
- RACM that was not accessible for testing and was, therefore, not discovered until after demolition began and, as a result of the demolition, cannot be safely removed. If not removed for safety reasons, all exposed RACM and any asbestos-contaminated debris must be treated as regulated asbestos-containing waste material. Category I and Category II non-friable mastic, glue, and adhesive ACM that is not friable or in poor condition, and where the probability is low that the materials will become crumbled, pulverized, or reduced to powder during demolition operations.
- Category I and Category II non-friable mastic, glue, and adhesive ACM that is not friable or in poor condition, and where the probability is low that the materials will become crumbled, pulverized, or reduced to powder during demolition operations.

**The facility owner and the renovation or demolition contractor are both responsible for ensuring compliance with these regulations.**

## Building Inspections

Before a facility or a portion of a facility is renovated or demolished, the owner/operator of the facility or renovation or demolition activity must ensure that the facility or portion of the facility being renovated or demolished has been thoroughly inspected for the presence of asbestos. The inspection must be performed by a person who has been trained and licensed as an Asbestos

Building Inspector or management planner in accordance with State training and licensing requirements.

The inspector must identify, quantify, and assess the condition of all suspect asbestos-containing material, either friable or non-friable, on interior and exterior portions of the facility. The inspector must also comply with the procedures specified in Regulation 61-86.1 VI D. In addition, the inspector is required to prepare a written report detailing the findings of the inspection. At a minimum, the report must include information required in Regulation 61-86.1 VI C. A legible copy of the building inspection report must be provided to the Department prior to each demolition, and upon request for renovations. **(Note: " BUILDING INSPECTIONS "can be consulted for a detailed explanation of the aforementioned sampling and reporting protocols.)**

A building inspection will only be acceptable if performed **within three years** prior to the demolition or renovation. If an inspection report is more than three years old, then it must be confirmed and verified by a licensed Asbestos Building Inspector or Management Planner.

### **Friable Asbestos Containing Materials**

If friable asbestos-containing materials (e.g., pipe insulation) are present, they must be removed prior to being disturbed during renovation or demolition activities. Removal (abatement) must be performed by trained, licensed persons using procedures detailed in State and Federal regulations.

A project design must be prepared for each asbestos abatement project involving the abatement of greater than 3,000 square feet, 1,500 linear feet and/or 656 cubic feet of RACM in a facility to be reoccupied. Such designs must be prepared by a person licensed by DHEC as an Asbestos Project Designer.

### **Non-Friable Asbestos Containing Materials**

Please note that when it can reasonably be expected that non-friable materials will become friable during removal, that these materials must be considered friable from the beginning. If non-friable Asbestos Containing Materials (ACM) becomes friable during an abatement project, the removal becomes subject to the same requirements as friable materials, including training, licensing, notification, and work practices.

- Material should always be lowered to the ground carefully. Throwing or dropping non-friable ACM to the ground or into a truck will cause the material to become friable.
- Materials should be kept wet or misted with water during removal to minimize potential fiber release. **NOTE: The use of water is only a control measure and by no means prevents a material from becoming friable.**
- Once removed, materials may be placed in 6-mil polyethylene bags or drums or wrapped with 6-mil polyethylene sheeting. Additional water may be added to ensure thorough wetting, but do not add so much that the bag or wrapping breaks when lifted.

- Debris already on the ground should be wet and either collected manually or gathered with a shovel and bagged for disposal. These materials can be potential sources of airborne asbestos fiber releases.
- South Carolina Regulation 61-86.1 requires that containers (bags, drums, wrapped components) holding asbestos waste must be labeled with the following: **DANGER - CONTAINS ASBESTOS FIBERS - AVOID CREATING DUST - CANCER AND LUNG DISEASE HAZARD.**
- Materials should be taken to a landfill as soon as possible but may be stored temporarily in a secure area subject to Departmental approval. Transport the materials so as to prevent them from leaking, spilling, or blowing off the vehicle.
- You should contact the landfill directly to make sure it will accept the material. You must obtain written approval from DHEC in advance for the disposal. You can get this approval by writing to the following address:

**South Carolina Department of Health and Environmental Control  
Attn: Bureau of Air Quality/Asbestos Section  
2600 Bull Street Columbia, SC 29201**

Be sure to include the following:

1. the address where the material is to be removed;
2. a brief description of the content (cement-like tiles, asphaltic shingles, etc.);
3. the volume of waste in cubic yards or the area in square feet of material removed, and;
4. the name and location of the landfill which has agreed to accept the waste.

*Please remember to include your name, return address, and phone number.*

- **DO NOT BURN OR RECYCLE** any asbestos-containing or asbestos-contaminated materials.

The Occupational Safety and Health Administration (OSHA) has rules for workers affected by asbestos-containing materials. These rules must be complied with by all contractors and facility owners and include specific work practices, respiratory protection, and asbestos training requirements, **even for activities involving only non-friable asbestos-containing materials.** Contact the Department of Labor at (803) 896-7665 for details.

## **Notification of Renovations & Demolitions**

Prior to removing regulated asbestos-containing materials, [written notification](#) must be submitted to DHEC (up to 10 working days in advance, depending on the amount of asbestos to be removed). The notification must include certain required items of information about the owner, the contractor, the facility, and the asbestos removal project. Required fees must be submitted along with the notification. You must obtain a permit from the Department prior to the renovation activity.



Prior to the demolition of any regulated facility, [written notification](#) must be submitted to DHEC *at least 10 working days* in advance **even if a building inspector determines that asbestos is not present at the facility**. The notification must include certain required items of information about the owner, the contractor, the facility, and the demolition project. Required fees and a copy of the building inspector's report must be submitted along with the notification of demolition. You must obtain a permit from the Department prior to the demolition activity.

## Disposal

***Never burn any asbestos-containing waste material.***

Non-asbestos-containing demolition debris and debris which contains only non-regulated roofing or flooring may be disposed of at a DHEC-approved disposal site for cellulosic or inert waste. Waste consolidation activities involving grinding, cutting, or compacting of non-friable asbestos-containing materials will subject these materials to more stringent State and Federal asbestos disposal regulations.

Regulated asbestos waste must be handled by properly licensed asbestos abatement personnel and disposed of at a landfill permitted to accept regulated asbestos waste. A list of approved landfills may be obtained from the Asbestos Section.

## Building Inspection Report Directions

As required by the National Emission Standard for Hazardous Air Pollutants (NESHAP) and Regulation 61-86.1, an owner/operator shall ensure that a building inspection, to detect the presence of asbestos-containing material (ACM), has been performed prior to any renovation or demolition activity at a regulated facility.

Under Regulation 61-86.1, Section VI.A.6., an inspection cannot have been performed more than three years prior to a renovation or demolition activity. If more than three years have elapsed since the most recent inspection, the previous inspection shall be confirmed and verified by a licensed building inspector and/or management planner.

Regulation 61-86.1 requires that all inspections be performed by persons trained and licensed as either a building inspector and/or management planner. In order to be licensed in these disciplines, persons must have successfully completed a DHEC approved initial training course specific to inspecting for ACM in a building and/or a course specific to management planning for ACM in a building. Persons must also have taken and passed an examination at the end of the course with a score of 70 percent or above.

In performing inspections, Regulation 61-86.1 requires that a building inspector and/or management planner comply with the requirements of Section VI, Asbestos Building Inspection Requirements. An inspection shall include samples from suspect friable and non-friable ACM on interior and exterior portions of a facility or its facility components.

In performing inspections, Regulation 61-86.1 requires that a building inspector and/or management planner follow specific sampling procedures. According to Section IV.B.3.a of the regulation, a building inspector and/or management planner shall comply with the procedures specified in **40 CFR 763.86** in determining sampling locations and the number of representative samples to be collected. An inspection shall include samples from suspect friable and non-friable ACM on interior and exterior portions of a facility or its facility components.

Under 40 CFR Part 763.86, suspect ACM are divided into three categories: surfacing materials, thermal system insulation (commonly referred to as TSI), and miscellaneous materials. Regulation 61-86.1, Section VI contains sampling procedures specific to each category of material.

**Surfacing material** includes, but is not limited to, joint compound, plaster, and painted, troweled on, or spray-applied textured material. To remain in compliance with Regulation 61-86.1, surfacing materials on exterior and interior portions of a facility shall be sampled according to procedures outlined in Regulation 61-86.1, Section VI.D.1. (a)-(c):

- A licensed asbestos inspector shall collect, in a statistically random manner, a minimum of three bulk samples from each homogeneous area of any surfacing that is not assumed to be ACM, and shall collect the samples as follows:
  - At least three bulk samples shall be collected from each homogeneous area that is 1,000 or fewer square feet (sf) or linear feet (Lf) in size.
  - At least five bulk samples shall be collected from each homogeneous area that is greater than 1,000 but fewer than or equal to 5,000 sf or Lf.
  - At least seven bulk samples shall be collected from each homogeneous area that is greater than 5,000 sf or Lf.

**Thermal System Insulation (TSI)** is any material that is applied to pipes, fittings, boilers, breeching, tanks, ducts, or other facility components for the purpose of preventing heat loss or gain, water condensation, or for other purposes. **Miscellaneous Material** is any material that is not considered a surfacing material or thermal system insulation and includes, but is not limited to, flooring, roofing, mastics, gaskets, cementitious materials, caulking, ceiling tiles, fire doors, wall boards, and flexible duct connections. To remain in compliance with Regulation 61-86.1, TSI and miscellaneous materials on exterior and interior portions of a facility shall be sampled in accordance with procedures outlined in Regulation 61-86.1, Section VI.D.2:

- A licensed asbestos inspector shall collect, in a statistically random manner, at least three bulk samples from each homogeneous area of TSI and any miscellaneous material that is not assumed to be ACM.
- In accordance with ASTM E2356, and any subsequent amendments and editions, negative results for non-friable organically bound material (NOB) shall be verified with at least one TEM analysis.
- NOBs include flooring, roofing, mastics, adhesives, caulks, and glazing.
- If an accredited inspector has determined the thermal system insulation to be fiberglass, foam glass, rubber, or other non-suspect material, then bulk samples are not required.

**Regulation 61-86.1, Section VI.C requires that a building inspector and/or management planner prepare a written asbestos building inspection report to include the following:**

- A title page denoting:
  1. The client's name, company, address, and telephone number, and the name and exact location of the facility inspected;
  2. the date the inspection was performed;
  3. the date the inspection report was written; and
  4. the printed name and telephone number of the inspector(s), and his or her affiliated company name, address, and telephone number.
- A cover letter to the building owner or owner's representative that describes the purpose of the inspection; a general synopsis of the inspection and results; and the name, title, and signature of the inspector(s) and report writer, if different.
- A detailed narrative of the physical description of the building or part of the building affected by the renovation or demolition operation that includes:
  1. The square footage of the building or part of the building affected by the renovation or demolition operation;
  2. The building materials used in the construction of the exterior, roof, interior, and basement or crawlspace of the building affected by the demolition or affected by the renovation materials operation;
  3. An estimated or exact quantity (square or linear feet) for all suspect materials whether sampled for or assumed to be asbestos that may be affected by the renovation or demolition operation;
  4. Also include a description of non-suspect materials excluding: glass, metals, kiln brick, cement, fiberglass, concrete, pressed wood, cinder block, and rubber.
- An executive summary that details:
  1. The type of suspect ACM (e.g., TSI, floor tile, mastic), total square or linear footage, and the total number of samples collected for each separate homogenous area affected by the renovation or demolition operation;
  2. The date of the inspection, type, condition, quantity, sample results, and exact location of ACM positively identified or assumed to be ACM in the part of the building affected by the renovation or demolition operation;
  3. A list of the homogeneous areas identified;
  4. Whether the material is accessible for the building or part of the building affected by the renovation or demolition operation; and (5) The material's potential for disturbance for the building or part of the building affected by the renovation or demolition operation.
- For renovation and demolition operations, the inspector's determination that ACM is friable or non-friable.
- Except when suspect ACM materials are assumed to be asbestos, include a complete, clear, legible copy of all laboratory bulk sample results.
- Clear, legible drawings and/or photographs to clarify the scope of the renovation or demolition operation. Illustrate the exact location of each sample collected. For facilities

that involve a trade secret or confidential component or an affected area process, a request for a variance may be submitted.

- The printed name and signature of each accredited inspector who collected the samples, and a clear legible copy of his or her DHEC issued asbestos building inspector or management planner license.

#### **Things to Note:**

- At no time will negative assumptions about a suspect material's content be acceptable. There are only two acceptable options:
  1. Positive assumptions of suspect materials or
  2. Sampling of suspect materials per the procedures specified in 40 CFR 763.86
- A homogenous area is considered not to contain ACM only if the results of all samples required to be collected from the area are one percent or less.
- Bulk samples shall not be composited for analysis.
- In a multi-unit building, each separate room in each part of the building or areas affected by the renovation or demolition operation shall be inspected to confirm and quantify ACM homogeneous areas for sampling purposes.
- DHEC will not accept an asbestos building inspection or written report for any structure from an employee of an abatement company also involved in the removal of asbestos-containing materials from that structure, unless the licensed inspector is an employee of an entity regulated under Regulation 61-86.1, Section XX, Industrial Manufacturing and Electrical Generation Facilities.
- An asbestos building inspector shall not participate in the analysis of the bulk samples he or she has collected.
- Destructive sampling techniques shall be utilized.
- Material Safety Data Sheets (MSDS), statements from the manufacturer, and architecture signoff will not be accepted as proof that a building product contains no asbestos, except in cases where the owner can verify the direct correlation of the building product to the MSDS, statements from the manufacturer, and/or architecture signoff documents. DHEC reserves the right to reject documentation that it deems unacceptable.

## Appendix M

### Abatement Project Forms





## ASBESTOS ABATEMENT PROJECT LICENSE APPLICATION

Bureau of Air Quality • Asbestos Section • 2600 Bull Street • Columbia • SC • 29201

Type of operation:  standard removal  emergency removal  enclosure  encapsulation  cleanup  Disposal

For office use  
 postmark/received: \_\_\_\_\_ original  / revised  / cancellation  (check one) project license i.D. (for revisions/cancellations): \_\_\_\_\_

i. facility owner: \_\_\_\_\_  
 mailing address: \_\_\_\_\_  
 city: \_\_\_\_\_ state: \_\_\_\_\_ Zip: \_\_\_\_\_  
 contact person: \_\_\_\_\_ phone: (\_\_\_\_) \_\_\_\_\_

ii. removal contract or: \_\_\_\_\_  
 mailing address: \_\_\_\_\_  
 city: \_\_\_\_\_ state: \_\_\_\_\_ Zip: \_\_\_\_\_  
 contact person: \_\_\_\_\_ phone: (\_\_\_\_) \_\_\_\_\_  
 e-mail address: \_\_\_\_\_ e-mail permit  or mail permit   
 federal i.D. number: \_\_\_\_\_  
 DHEC contract or license no. (if applicable): \_\_\_\_\_ expiration date: \_\_\_\_\_

iii. facility name: \_\_\_\_\_  
 street address: \_\_\_\_\_  
 city: \_\_\_\_\_ state: \_\_\_\_\_ county: \_\_\_\_\_  
 site (room, floor, wing, unit, machine, etc.): \_\_\_\_\_  
 building size: \_\_\_\_\_ no. of floors: \_\_\_\_\_ age in years: \_\_\_\_\_  
 present use: \_\_\_\_\_ prior use: \_\_\_\_\_ future use: \_\_\_\_\_

iv. procedures, including analytical methods if appropriate, used to detect the presence of asbestos material:  
 facility or facility component surveyed by (inspect or name): \_\_\_\_\_  
 company: \_\_\_\_\_ phone: (\_\_\_\_) \_\_\_\_\_  
 DHEC license number: \_\_\_\_\_ expiration date: \_\_\_\_\_

v. project design performed by (if applicable): \_\_\_\_\_  
 company: \_\_\_\_\_ phone: (\_\_\_\_) \_\_\_\_\_  
 DHEC license number: \_\_\_\_\_ expiration date: \_\_\_\_\_

vi. asbestos-containing materials (acm) **TO BE REMOVED ONLY:**

TYPE (tissue, surface, floor, roof, etc.)	AMOUNT (square feet, linear feet, cubic feet)	CONDITION (circle one)
		<input type="checkbox"/> FRIABLE <input type="checkbox"/> non-friable
		<input type="checkbox"/> FRIABLE <input type="checkbox"/> non-friable
		<input type="checkbox"/> FRIABLE <input type="checkbox"/> non-friable
		<input type="checkbox"/> FRIABLE <input type="checkbox"/> non-friable

vii. schedule dates of removal: start date: \_\_\_\_\_ completion date: \_\_\_\_\_  
 work days: \_\_\_\_\_ work hours: \_\_\_\_\_

<p><b>APPLICATIONS MUST BE SUBMITTED WITH FEES PRIOR TO THE SCHEDULED START DATE AS FOLLOWS:</b></p> <p>NESHAP PROJECTS: 10 WORKING DAYS          SMALL PROJECTS: 4 WORKING DAYS          MINOR PROJECTS: 2 WORKING DAYS</p> <p>non-friable (nesap-sized) projects: 4 working days. no fee for non-friable acm.</p> <p>for additional information concerning regulatory requirements call or visit our Web site at <a href="http://www.scdhec.gov/environment/baq/asbestos.aspx">http://www.scdhec.gov/environment/baq/asbestos.aspx</a></p>	<p><b>FEE SCHEDULE FOR FRIABLE ASBESTOS-CONTAINING MATERIALS:</b></p> <p>10 CENTS PER SQUARE FOOT OR LINEAR FOOT          MINIMUM FEE OF \$25.00          MAXIMUM FEE OF \$1000.00</p>
--	--

Viii. Description of planned Abatement Work & methods to be used:

IX. Description of Work practices & engineering controls to be used to prevent emissions of asbestos at the renovation site:

X. Waste transporter #1: \_\_\_\_\_

mailing address: \_\_\_\_\_

city: \_\_\_\_\_ state: \_\_\_\_\_ Zip: \_\_\_\_\_

contact person: \_\_\_\_\_ phone: (\_\_\_\_) \_\_\_\_\_

Waste transporter #2: \_\_\_\_\_

mailing address: \_\_\_\_\_

city: \_\_\_\_\_ state: \_\_\_\_\_ Zip: \_\_\_\_\_

contact person: \_\_\_\_\_ phone: (\_\_\_\_) \_\_\_\_\_

Xi. Waste Disposal site: \_\_\_\_\_

mailing address: \_\_\_\_\_

city: \_\_\_\_\_ state: \_\_\_\_\_ Zip: \_\_\_\_\_

contact person: \_\_\_\_\_ phone: (\_\_\_\_) \_\_\_\_\_

temporary asbestos containment area license number (if applicable): \_\_\_\_\_

Xii. Description of emergency removal (PLEASE ATTACH A LETTER FROM THE FACILITY OWNER EXPLAINING THE NATURE OF THE EMERGENCY)

Date & Hour of emergency (mm/DD/yy): \_\_\_\_\_

Description of sudden, unexpected event:

Explanation of how the event caused unsafe conditions and/or would cause equipment damage and/or an unreasonable financial burden:

Xiii. Description of procedures to be followed in the event that unexpected asbestos is found or previously non-friable asbestos material becomes crumbled, pulverized or reduced to powder:

XIV. I CERTIFY THAT AN INDIVIDUAL TRAINED IN THE PROVISIONS OF REGULATION (40 CFR PART 61, SUBPART M) WILL BE ON-SITE DURING THE RENOVATION AND EVIDENCE THAT THE REQUIRED TRAINING HAS BEEN ACCOMPLISHED BY THIS PERSON WILL BE AVAILABLE FOR INSPECTION DURING NORMAL BUSINESS HOURS.

\_\_\_\_\_  
(Signature of owner/operator)

\_\_\_\_\_  
(Date)

XIV. I CERTIFY THAT THE ABOVE INFORMATION IS CORRECT.

\_\_\_\_\_  
(Signature of owner/operator)

\_\_\_\_\_  
(Date)



## DEMOLITION LICENSE APPLICATION

Bureau of Air Quality • Asbestos Section • 2600 Bull Street • Columbia • SC • 29201

Type of operation :  Total Demolition  Partial Demolition  Ordered Demolition

for office use Postmark/Received:	Original/Revised/Cancellation (circle one)	Project License I.D. (For Revisions/Cancellations):
--------------------------------------	--	---

i. facility owner : \_\_\_\_\_  
 mailing address : \_\_\_\_\_  
 city : \_\_\_\_\_ state : \_\_\_\_\_ Zip : \_\_\_\_\_  
 contact person : \_\_\_\_\_ phone : (\_\_\_\_) \_\_\_\_\_

II. asbestos present in the facility ? : yes  / no  (check one)

iii. Demolition contract or : \_\_\_\_\_ Federal ID no. : \_\_\_\_\_  
 mailing address : \_\_\_\_\_  
 city : \_\_\_\_\_ state : \_\_\_\_\_ Zip : \_\_\_\_\_  
 contact person : \_\_\_\_\_ phone : (\_\_\_\_) \_\_\_\_\_

e-mail address : \_\_\_\_\_ e-mail permit  or mail permit

Federal ID number : \_\_\_\_\_

asbestos removal contract or (if applicable): \_\_\_\_\_

mailing address : \_\_\_\_\_  
 city : \_\_\_\_\_ state : \_\_\_\_\_ Zip : \_\_\_\_\_  
 contact person : \_\_\_\_\_ phone : (\_\_\_\_) \_\_\_\_\_

iv. facility name : \_\_\_\_\_  
 street address : \_\_\_\_\_  
 city : \_\_\_\_\_ state : \_\_\_\_\_ county : \_\_\_\_\_  
 site (room, floor, wing, unit, machine, etc.): \_\_\_\_\_  
 building size : \_\_\_\_\_ no. of floors : \_\_\_\_\_ age in years : \_\_\_\_\_  
 present use : \_\_\_\_\_ prior use : \_\_\_\_\_ future use : \_\_\_\_\_

v. procedures, including analytical methods if appropriate, used to detect the presence of asbestos material :  
 facility or facility component surveyed by (inspect or name): \_\_\_\_\_  
 company : \_\_\_\_\_ phone : (\_\_\_\_) \_\_\_\_\_  
 DHEC license number : \_\_\_\_\_ expiration date : \_\_\_\_\_

vi. non-friable mastic, glue, and adhesive asbestos-containing materials **REMAINING IN PLACE DURING DEMOLITION (IF APPLICABLE):**

TYPE (mastic, glue, and adhesive)	AMOUNT (square feet)

vii. schedule dates of demolition (you must specify dates):  
 start date : \_\_\_\_\_ completion date : \_\_\_\_\_  
 work days : \_\_\_\_\_ work hours : \_\_\_\_\_

- **Applications must be mailed along with a \$50.00 fee (payable to SCDHEC) at least 10 working days prior to the scheduled start date. Faxes will not be accepted.**
- **A copy of an asbestos survey report (no older than 3 years) must accompany the application.**

for additional information concerning regulatory requirements call or visit our Web site at <http://www.scdhec.gov/environment/baq/asbestos.aspx>

Viii. Description of planned Demolition method(s) to be used:

Bulldozer       LOADER       Wheeling Ball       manual       Burning       Implosion /Explosion

If other please describe:

ix. Description of Work practices & engineering controls to be used to prevent emissions of asbestos at the Demolition site:

X. Waste transporter #1: \_\_\_\_\_

mailing address: \_\_\_\_\_

city: \_\_\_\_\_ state: \_\_\_\_\_ Zip: \_\_\_\_\_

contact person: \_\_\_\_\_ phone: (\_\_\_\_) \_\_\_\_\_

Waste transporter #2: \_\_\_\_\_

mailing address: \_\_\_\_\_

city: \_\_\_\_\_ state: \_\_\_\_\_ Zip: \_\_\_\_\_

contact person: \_\_\_\_\_ phone: (\_\_\_\_) \_\_\_\_\_

xi. Waste Disposal site: \_\_\_\_\_

mailing address: \_\_\_\_\_

city: \_\_\_\_\_ state: \_\_\_\_\_ Zip: \_\_\_\_\_

contact person: \_\_\_\_\_ phone: (\_\_\_\_) \_\_\_\_\_

xii. If Demolition or Dered by Government Agency, please identify the Agency below: (please attach a copy of the order)

name: \_\_\_\_\_ title: \_\_\_\_\_

AUTHORITY: \_\_\_\_\_

Date of order (mm/DD/yy): \_\_\_\_\_ Date of Dered to begin (mm/DD/yy): \_\_\_\_\_

xiii. Description of procedures to be followed in the event that unexpected asbestos is found or previously nonfriable asbestos material becomes crumbly, pulverized, or reduced to powder:

XIV. I CERTIFY THAT AN INDIVIDUAL TRAINED IN THE PROVISIONS OF REGULATION (40 CFR PART 61, SUBPART M) WILL BE ON-SITE DURING THE DEMOLITION INVOLVING RACM AND EVIDENCE THAT THE REQUIRED TRAINING HAS BEEN ACCOMPLISHED BY THIS PERSON WILL BE AVAILABLE FOR INSPECTION DURING NORMAL BUSINESS HOURS.

\_\_\_\_\_  
(Signature of owner/operator)

\_\_\_\_\_  
(Date)

XV. I CERTIFY THAT THE ABOVE INFORMATION IS CORRECT.

\_\_\_\_\_  
(Signature of owner/operator)

\_\_\_\_\_  
(Date)

- **Applications must be mailed along with a \$50.00 fee (payable to SCDHEC) at least 10 working days prior to the scheduled start date. Faxes will not be accepted.**
- **A copy of an asbestos survey report (no older than 3 years) must accompany the application.**

For additional information concerning regulatory requirements call or visit our Web site at <http://www.scdhec.gov/environment/baq/asbestos.aspx>







# LEAD-BASED PAINT INVESTIGATION REPORT

SOUTHBOUND I-95 BRIDGE OVER LAKE MARION  
CLARENDON & ORANGEBURG COUNTIES, SOUTH CAROLINA

## PREPARED FOR:

The logo for TRANSYSTEMS. The word 'TRANSYSTEMS' is in a bold, blue, sans-serif font. The letter 'A' is stylized with a blue triangle pointing to the right, integrated into its structure.

C/O Mr. Peter Strub  
Sr. Vice President/Principal  
1859 Summerville Avenue, Suite 600  
Charleston, SC 29405

## PREPARED BY:

F&ME Consultants, Inc.  
211 Business Park Blvd.  
Columbia, South Carolina 29203

**August 18, 2023**

- Yes, LBP was found.  
 No, LBP was not found.

FME Project No.: G6744.000

## TABLE OF CONTENTS

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Appendix A – Site Vicinity Map

Appendix B – General Bridge Plans

Appendix C – Summary of XRF Data Table

Appendix D – Site Photos

Appendix E – EPA LBP Inspector Certification



# 1 EXECUTIVE SUMMARY

This executive summary is intended as an overview for the convenience of the reader. This report should be reviewed in its entirety prior to making any decisions regarding this project. This investigation report is one of seven (7) completed for the project. The investigations included the existing north and southbound I-95 bridge structures, the former US 301/15 Trail Bridges, and the older remnants of the US 301 bridge. The below Bridge numbering system utilized for the investigations and referenced in this report reflects the numbering system developed by F&ME Consultants, Inc. (FME) field personnel during the field investigation and does not reflect any Bridge numbering system used by The South Carolina Department of Transportation (SCDOT). This report is specifically for the southbound I-95 Bridge only. Refer to other reports prepared by FME for the other bridges.

F&ME Consultants, Inc. (FME) has completed a Lead-Based Paint (LBP) investigation the existing southbound I-95 Bridge over Lake Marion (Bridge #3) in Clarendon and Orangeburg Counties in South Carolina, at the request of Transystems (Client). The purpose of the investigation was to locate, identify and test components of the Bridge that are painted or coated with LBP. The field investigations were performed on July 19<sup>th</sup> through 21<sup>st</sup>, 2023, in anticipation of the off-alignment replacement of the existing I-95 southbound Bridge. Refer to Appendix A, Site Vicinity Map is provided to show the locations of the Bridge. Appendix B, General Bridge Plans, is provided to show the lay-out of the Bridge and a reference for locations of XRF scans.

Per an agreed upon scope of work, this LBP Investigation was conducted to identify accessible Bridge components that have been painted or coated with lead-containing materials that have concentrations greater than or equal ( $\geq$ ) to the regulatory limit of 0.7 mg/cm<sup>2</sup>. This investigation includes both a visual evaluation of the physical condition of painted materials as well as quantitative testing of surfaces using an X-Ray Fluorescence (XRF) LBP analyzer. The XRF documents the concentration of lead, if any, in the overall paint or coating. Bridge components were scanned with a Viken XRF analyzer (Model # Pb200i, Serial #1888, Reference Date: 11/01/22) with a limit of detection (LOD) of 0.1 mg/cm<sup>2</sup>.

LBP is regulated by multiple government agencies, and each requires different response actions when the concentration of lead exceeds specified thresholds. The Occupational Safety and Health Administration (OSHA) regulates worker exposure to lead dust, and as a result considers materials with any lead content to be a potential hazard. Additionally, South Carolina Department of Health and Environmental Control (SCDHEC) requires some waste materials to be disposed of at specific disposal facilities that are able to manage this waste. Appendix C, XRF Data, is provided to present the XRF data in a user-friendly format. Items in red text contain lead in concentrations regulated by SCDHEC and these materials must be addressed upon disposal. Items in blue and red text contain lead in concentrations that must be considered a potential for worker exposure by OSHA.

The results from the XRF quantitative testing of the Bridge components indicate that lead is present in paint and/or coatings in concentrations greater than or equal to ( $\geq$ ) 0.7 mg/cm<sup>2</sup> in the following Bridge components:

**Bridge #3 (I-95 SBL over Lake Marion)**

- Silver/Gray Steel Bearing Plates
- Steel Expansion Joint
- Silver/Gray Steel Tie-Rod Washers

For more information regarding the specific descriptions and locations of the items that were scanned, refer to the Appendix C, Summary of XRF Data. Appendix E, Site Photos for locations and pictures of the materials with concentrations greater than or equal to ( $\geq$ ) 0.7 mg/cm<sup>2</sup>. Appendix D includes the inspector's EPA lead-based paint inspector certification.

We appreciate the opportunity to assist you in this project. If you have any questions or require additional information, please feel free to contact our office at (803) 254-4540.

Sincerely,

F&ME CONSULTANTS



**Michael S. Mincey**

SC Lead Based Paint Inspector

EPA Certification No. LBP-I-1198708-2 (Exp. 2/21/25)



**Glynn M. Ellen**

Environmental Department Manager

## 2 LEAD-BASED PAINT BACKGROUND INFORMATION

Housing and Urban Development (HUD) defines “LBP” as any coating that has a lead concentration of 1.0 milligrams of lead per square centimeter (1.0 mg/cm<sup>2</sup>) or greater, or if the lead concentration is greater than one half of a percent (> 0.5%) by weight. The Consumer Product Safety Commission (CPSC) currently considers paint to be lead-containing if the concentration of lead exceeds 90 ppm (0.009% by weight). In 1978, the CPSC banned the sale of LBP to consumers, and banned its application in areas where consumers have direct access to painted surfaces. Both the CPSC and HUD definitions of lead-containing paint are aimed at protecting the general population from exposure to lead in residential settings.

In contrast, the mission of OSHA with respect to lead-containing paint is to protect workers during construction activities that may generate elevated airborne lead concentrations. OSHA states that construction work (including renovation, maintenance, and demolition) carried-out on structures coated with paint having lead concentrations lower than the HUD or CPSC can still result in airborne lead concentrations in excess of regulatory limits. For this reason, OSHA has not defined lead-containing paint, but states that paint having any measurable level of lead may pose a substantial exposure hazard during construction work, depending upon the work performed. Therefore, in these situations, OSHA guidelines and safety procedures should be followed. By OSHA standards and regulations, the employer shall ensure that no employee is exposed to lead at concentrations greater than fifty micrograms per cubic meter of air (50 ug/m<sup>3</sup>) averaged over an 8-hour period.

Additionally, SCDHEC requires the use of specific waste disposal sites if materials contain lead concentrations greater than or equal to ( $\geq$ ) 0.7 mg/cm<sup>2</sup>. Due to the anticipated demolition of the Bridge structures, the SCDHEC lead disposal requirements were used as a threshold.

## 3 INTRODUCTION

The existing Bridge is located along I-95 and crosses over Lake Marion in Clarendon and Orangeburg Counties in South Carolina. The date of construction for the existing southbound I-95 Bridge (Bridge #3) over Lake Marion were constructed in the late 1960's early 1970's based on the original construction drawings

The southbound I-95 Bridge over Lake Marion (Bridge #2) (~4,500' L x 31.0' W inside curb to inside curb) is a two (2) lane, concrete and steel bridge structure with poured-in-place concrete bridge decking, concrete curb/gutter, and concrete guardrails along with metal scuppers. The Bridge is constructed with a

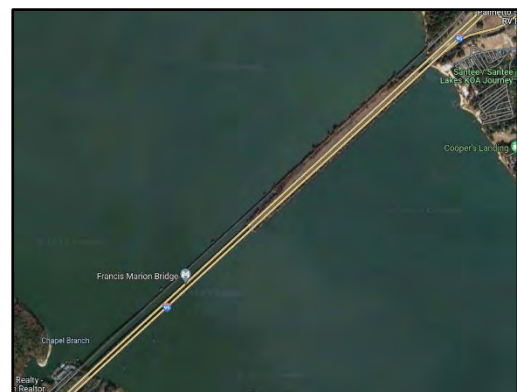


Photo 1:SB I-95 over Lake Marion Bridge Replacement in Clarendon & Orangeburg Counties.



combination of poured-in-place (PIP) concrete beams, pre-cast prestressed beams, structural steel girders, steel diaphragms, steel crossbracing, steel bearing plates and steel rocker bearing supports. The bentcaps were PIP concrete supported by a combination of driven hexagonal concrete piles, and PIP concrete piers. Refer to Appendix A, Site Vicinity Map, for the location of the Bridge. Appendix B, Sample Location Plan, for a layout of the samples taken from the Bridge.

## 4 INVESTIGATION PROCEDURES AND RESULTS

FME's LBP Investigation sampling protocol consisted of randomly selecting bridge components and scanning them with a Viken X-Ray Fluorescence (XRF) Portable Analyzer (Model # Pb200i, Serial #1888). The following Bridge components tested positive for lead in concentrations greater than or equal to ( $\geq$ ) 0.7 mg/cm<sup>2</sup>:

### Bridge #3 (I-95 SBL over Lake Marion)

- Silver/Gray Steel Bearing Plates
- Steel Expansion Joint
- Silver/Gray Steel Tie-Rod Washers

For more information regarding the specific descriptions and locations of the items that were scanned, refer to the Appendix C, Summary of XRF Data. On the XRF Data Table, items highlighted in **Red** are positive and contain lead in concentrations greater than or equal to ( $\geq$ ) 0.7 mg/cm<sup>2</sup>. Items in **Blue** text contain lead in concentrations that must be considered a potential for worker exposure by OSHA. Appendix D, Site Photos for locations and pictures of the materials with concentrations greater than or equal to ( $\geq$ ) 0.7 mg/cm<sup>2</sup>. Appendix E includes the inspector's EPA lead-based paint inspector certification.

## 5 RECOMMENDATIONS

The results, conclusions and recommendations from this investigation are representative of the conditions observed at the site on the dates of the field investigations. FME does not assume responsibility for any changes in conditions or circumstances that occur after the date of the field investigation. No other environmental issues were addressed as part of this report.

The results from the XRF quantitative testing of Bridge components scanned indicate that lead was found to be present in paint and/or coatings in concentrations greater than or equal to ( $\geq$ ) 0.7 mg/cm<sup>2</sup> in the following Bridge components:

### Bridge #3 (I-95 SBL over Lake Marion)

- Silver/Gray Steel Bearing Plates
- Steel Expansion Joint
- Silver/Gray Steel Tie-Rod Washers

Therefore, OSHA regulations and procedures should be followed when impacting these components. If possible, they should be removed in whole and disposed of properly. Also, SCDHEC disposal requirements for lead containing materials should also be followed.

As stated previously, OSHA regulates any measurable level of lead, as it may pose a substantial exposure hazard to workers. Therefore, in these situations, OSHA regulations and safety procedures should be followed. These regulations also list the proper personal protective equipment to be used by the workers disturbing the LBP items and the requirements for personal air monitoring. OSHA's exposure action level (AL) for lead, regardless of respirator use, is an airborne concentration of  $30\mu\text{g}/\text{cm}^3$ , averaged over an eight-hour period. The action level (AL) is the level at which an employer must begin specific compliance activities as outlined in OSHA's lead standards. By OSHA standards and regulations, the employer shall ensure that no employee is exposed to lead at concentrations greater than fifty micrograms per cubic meter of air ( $50\mu\text{g}/\text{m}^3$ ) averaged over an 8-hour period which is the permissible exposure level (PEL).

SCDHEC regulates the proper disposal of LBP and associated debris. SCDHEC defines two types of LBP debris. The first is LBP *waste*, which is defined as material such as wood, brick and metal that is painted with LBP. The other is LBP *residue* which is defined as residue that is generated from the removal (e.g., scraped, chipped, sandblasted, or chemical) of LBP from a structure. LBP *waste* that comes from a commercial or residential facility may be disposed of in either a class 2 or 3 landfill, while LBP *residue* from a commercial facility must have a toxicity characteristic leaching procedure (TCLP) analysis to determine the lead content. TCLP analysis is used to determine whether or not a waste is a characteristic hazardous waste due to leachability under the South Carolina Hazardous Waste Management Regulations. LBP *residue* with a TCLP analysis result greater than or equal to five milligrams per liter ( $\geq 5\text{ mg/l}$ ) lead must be disposed of in a Subtitle C landfill (Hazardous Waste). However, LBP *residue* from a commercial facility with a TCLP analysis result less than five milligrams per liter ( $< 5\text{ mg/l}$ ) lead is required to be disposed of in a Class 3 landfill.

We sincerely appreciate the opportunity to be of service to Transystems on this project. If you have any questions regarding the information presented herein, please contact our office at (803) 254-4540.

## APPENDICES

Appendix A – Site Vicinity Map

Appendix B – General Bridge Plans

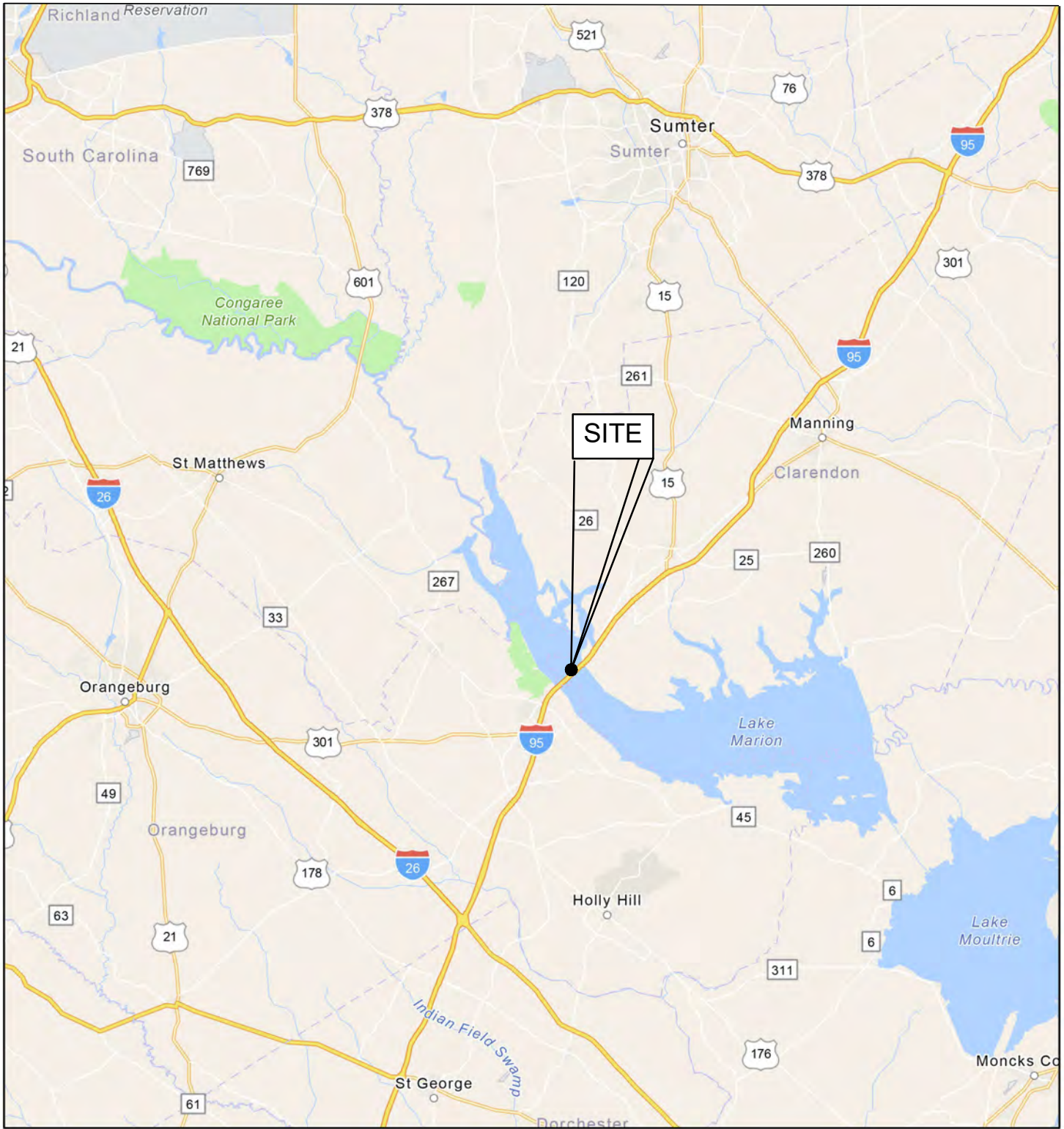
Appendix C – Summary of XRF Data Table

Appendix D – Site Photos

Appendix E – EPA LBP Inspector Certification

## Appendix A

### Site Vicinity Map



1:577,791

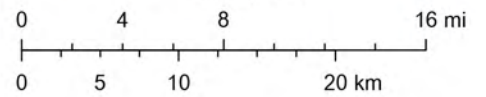


FIGURE NUMBER:

1

F&ME CONSULTANTS PROJECT NUMBER:

G6744.000

LEAD-BASED PAINT INVESTIGATION  
SB I-95 over Lake Marion Bridge Replacement  
Clarendon & Orangeburg Counties, South Carolina

SITE VICINITY MAP

Prepared for:  
Transystems  
1859 Summerville Ave., Suite 600  
Charleston, SC 29405



211 BUSINESS PARK BLVD.  
COLUMBIA, SC 29203

ORIGINAL:  
August 11, 2023

REVISIONS:

1

2

3

SCALE:  
Shown

DRWN. BY: MSM  
CHKD. BY: MSM  
APPR. BY: GME

NOTES:



## Appendix B

### General Bridge Plans



I-95 (SBL) over Lake Marion (Bridge #3)

C

D

B

A

Match Line



F&ME CONSULTANTS, INC.  
COLUMBIA, SC

SB I-95 OVER LAKE MARION BRIDGE REPLACEMENT  
CLARENDON & ORANGEBURG COUNTIES, SOUTH CAROLINA

SAMPLE LOCATION PLAN

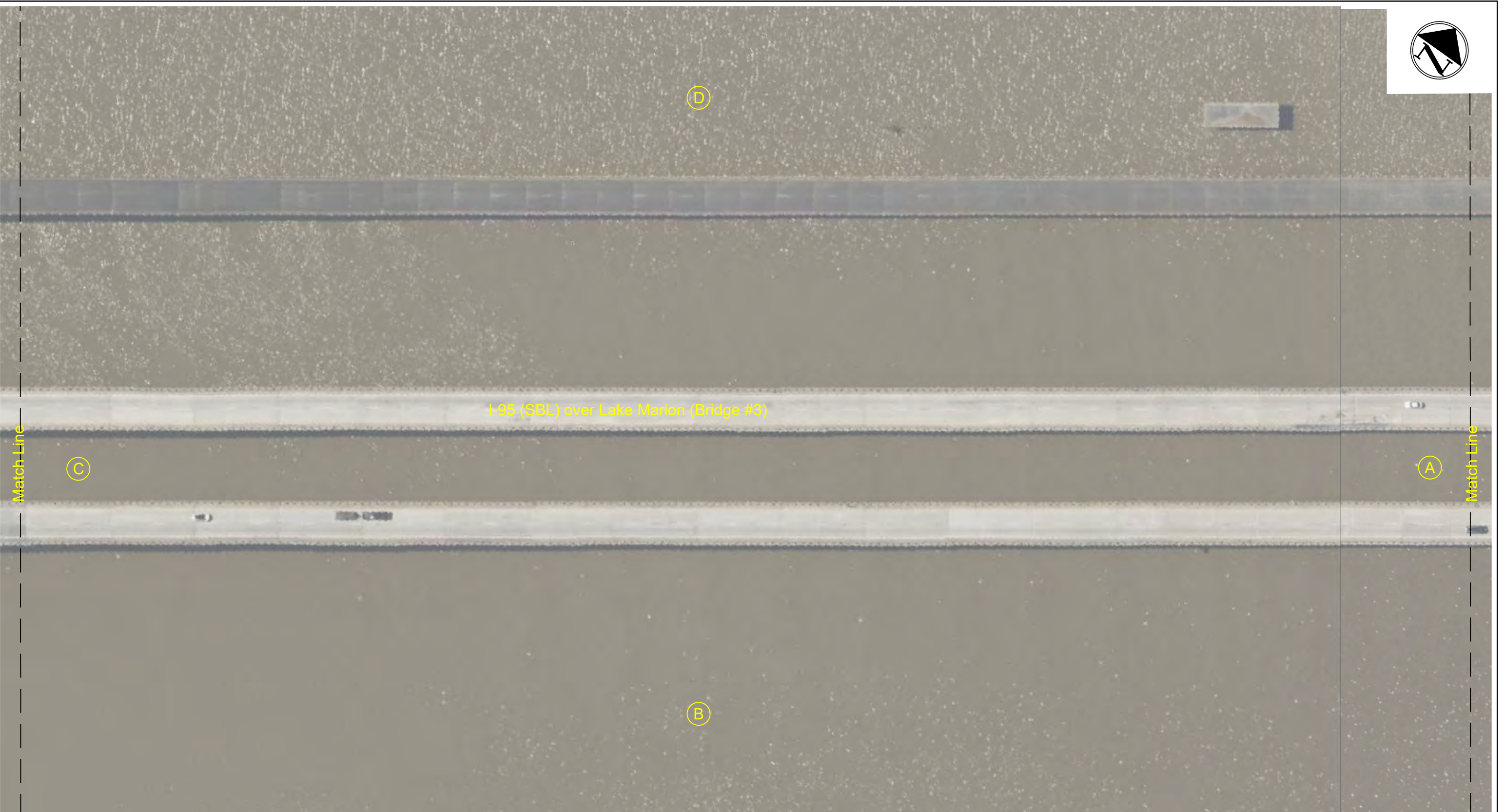
F&ME JOB NO. G6744.000

SCALE: N.T.S.

FIGURE 2

4			
3			
2			
1			
REV.	BY	DATE	DESCRIPTION OF REVISION
TOPO.		DATE	
DWG.	MSM	DATE 08/11/2023	GROUP ____ - ____
R/W		DATE	





I-95 (SBL) over Lake Marion (Bridge #3)

Match Line

Match Line



SB I-95 OVER LAKE MARION BRIDGE REPLACEMENT  
CLARENDON & ORANGEBURG COUNTIES, SOUTH CAROLINA

SAMPLE LOCATION PLAN

F&ME JOB NO. G6744.000

SCALE: N.T.S.

FIGURE 3

4			
3			
2			
1			
REV.	BY	DATE	DESCRIPTION OF REVISION
TOPO.		DATE	
DWG.	MSM	DATE 08/11/2023	GROUP ____ - ____
R/W		DATE	





Match Line

Match Line

I-95 (SBL) over Lake Marion (Bridge #3)



F&ME CONSULTANTS, INC.  
COLUMBIA, SC

SB I-95 OVER LAKE MARION BRIDGE REPLACEMENT  
CLARENDON & ORANGEBURG COUNTIES, SOUTH CAROLINA

SAMPLE LOCATION PLAN

F&ME JOB NO. G6744.000

SCALE: N.T.S.

FIGURE 4

4			
3			
2			
1			
REV.	BY	DATE	DESCRIPTION OF REVISION
TOPO.		DATE	
DWG.	MSM	DATE 08/11/2023	GROUP ____ - ____
R/W		DATE	





Match Line

Match Line

I-95 (SBL) over Lake Marion (Bridge #3)

**F&ME** CONSULTANTS, INC.  
CONSULTANTS COLUMBIA, SC

SB I-95 OVER LAKE MARION BRIDGE REPLACEMENT  
CLARENDON & ORANGEBURG COUNTIES, SOUTH CAROLINA

SAMPLE LOCATION PLAN

F&ME JOB NO. G6744.000

SCALE: N.T.S.

FIGURE 5

4			
3			
2			
1			
REV.	BY	DATE	DESCRIPTION OF REVISION
TOPO.		DATE	
DWG.	MSM	DATE 08/11/2023	GROUP
R/W		DATE	



## Appendix C

### Summary of XRF Data Table

**Appendix C – XRF Data**  
**Date Scanned: 07/20/2023**  
**SB I-95 over Lake Marion Bridge Replacement**

Scan No.	Pbc (mg/cm <sup>2</sup> )	Component	Substrate	Side	Condition	Color
<b>Bridge #3 (I-95 SBL over Lake Marion) 07/20/2023</b>						
28	0.87	Calibrate				
29	0.92	Calibrate				
30	0.92	Calibrate				
31	<LOD	Girder	Metal	D	Poor	Gray
32	0.13	Bearing Plate	Metal	D	Poor	Gray
33	0.20	Rocker Bearing	Metal	D	Poor	Gray
34	0.14	Rocker Bearing	Metal	D	Poor	Gray
35	0.18	Rocker Bearing Top Plate	Metal	D	Poor	Gray
36	<LOD	Expansion Joint Shield	Metal	D	Poor	Gray
37	15.23	Bearing Plate	Metal	D	Poor	Gray
38	3.12	Expansion Joint	Metal	D	Poor	Gray
39	19.02	Tie-Rod Washer	Metal	D	Poor	Silver/Gray
40	<LOD	Bracing	Metal	D	Poor	Gray
41	0.17	Bracing Plate	Metal	D	Poor	Gray
42	0.16	Scupper	Metal	D	Poor	Gray
43	0.15	Scupper	Metal	D	Poor	Gray
44	0.13	Girder	Metal	D	Poor	Gray
45	<LOD	Expansion Joint Shield	Metal	D	Poor	Gray
46	<LOD	Rocker Bearing	Metal	D	Poor	Gray
47	0.20	Rocker Bearing Top Plate	Metal	D	Poor	Gray
48	<LOD	Bracing	Metal	D	Poor	Gray
49	0.11	Bracing Plate	Metal	D	Poor	Gray
50	0.11	Scupper	Metal	D	Poor	Gray
51	0.85	Calibrate				
52	0.92	Calibrate				
53	1.01	Calibrate				

LOD (Limit of Detection) = 0.1 mg/cm<sup>2</sup>

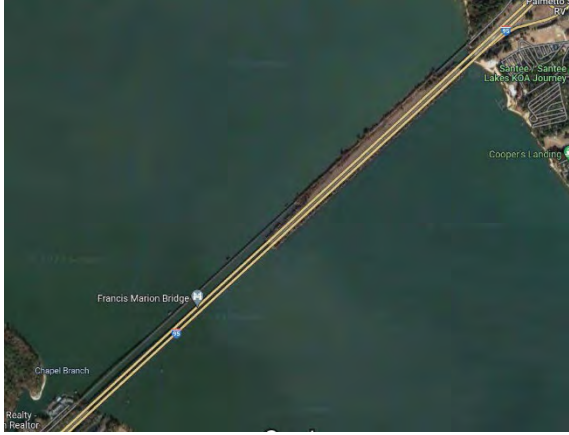
Blue text indicates any concentrations of LBP which OSHA considers a potential exposure risk when removed.

Red text indicates concentrations of LBP that have specific disposal requirements regulated by SCDHEC.

Side A = North, then go clockwise.

## Appendix D

### Site Photos



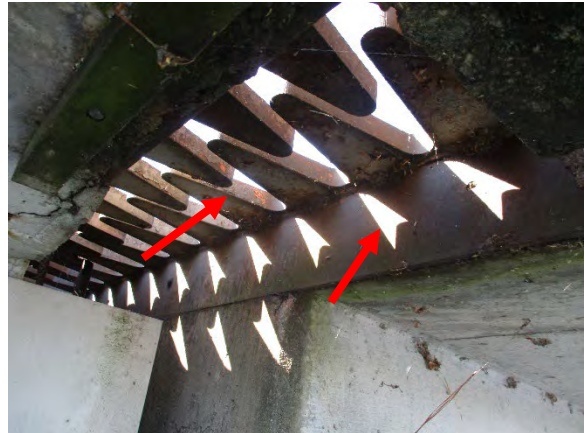
**Photo 1.** Top View of Bridges.



**Photo 2.** LBP on Bearing Plates Associated with Bridge #3.



**Photo 3.** LBP on Tie-Rod Washers Located along each Side of Bridge #3.



**Photo 4.** LBP on Metal Expansion Joint on Decking of Bridge #3.



**Photo 5.** Southwest View of Bridge #3.



**Photo 6.** Underside View of Bridge #3.



## Appendix E

### EPA LBP Inspector Certification



# United States Environmental Protection Agency

This is to certify that



Michael S Mincey

has fulfilled the requirements of the Toxic Substances Control Act (TSCA) Section 402, and has received certification to conduct lead-based paint activities pursuant to 40 CFR Part 745.226 as:

Inspector

## In the Jurisdiction of:

All EPA Administered Lead-based Paint Activities Program States, Tribes and Territories

This certification is valid from the date of issuance and expires February 21, 2025

LBP-I-1198708-2

Certification #

January 05, 2022

Issued On



A handwritten signature in black ink, appearing to read 'Adrienne Priselac'.

Adrienne Priselac, Manager, Toxics Office

Land Division

# **I-95 Southbound Overflow Bridge over Lake Marion**

## **Asbestos and Lead-based Paint Reports**





# ASBESTOS CONTAINING MATERIAL INVESTIGATION REPORT

SOUTHBOUND I-95 OVER LAKE MARION OVERFLOW BRIDGE  
CLARENDON & ORANGEBURG COUNTIES, SOUTH CAROLINA

PREPARED FOR:

**TRANSYSTEMS**

C/O Mr. Peter Strub  
Sr. Vice President/Principal  
1859 Summerville Avenue, Suite 600  
Charleston, SC 29405

PREPARED BY:

F&ME Consultants, Inc.  
211 Business Park Blvd.  
Columbia, South Carolina 29203

**August 18, 2023**

Yes, asbestos was found.  
 No, asbestos was not found.

F&ME Project No.: G6744.000

## TABLE OF CONTENTS

1.	Executive Summary.....	1
2.	Introduction.....	3
3.	Existing Building Structure.....	3
4.	Field Assessment .....	4
5.	Recommendations.....	4
	APPENDICES .....	5

Appendix A – Site Vicinity Map

Appendix B – Sample Location Plan

Appendix C – Summary of Samples

Appendix D – Laboratory Analysis Reports

Appendix E – Chain-of-Custody Form

Appendix F – Site Photographs

Appendix G – Personnel Certifications



# 1 EXECUTIVE SUMMARY

This executive summary is intended as an overview for the convenience of the reader. This report should be reviewed in its entirety prior to making any decisions regarding this project. This investigation report is one of seven (7) completed for the project. The investigations included the existing north and southbound I-95 bridge structures, the former US 301/15 Trail Bridges, and the older remnants of the US 301 bridge. The below Bridge numbering system utilized for the investigations and referenced in this report reflects the numbering system developed by F&ME Consultants, Inc. (FME) field personnel during the field investigation and does not reflect any Bridge numbering system used by The South Carolina Department of Transportation (SCDOT). This report is specifically for the southbound I-95 Overflow Bridge only. Refer to other reports prepared by FME for the other bridges.

FME has completed the Asbestos Containing Material (ACM) Investigations of the existing southbound I-95 Bridge over Lake Marion Overflow (Bridge #1) in Clarendon and Orangeburg Counties in South Carolina, at the request of Transystems (Client). The field investigations were performed between July 19, 2023 and July 21, 2023, in anticipation of the off-alignment replacement of the existing I-95 bridges. This investigation was conducted pursuant to South Carolina Department of Health and Environmental Control (SCDHEC), United States Environmental Protection Agency (USEPA), National Emission Standards for Hazardous Air Pollutants (NESHAP), and Occupational Safety and Health Administration (OSHA) regulations requiring an ACM investigation prior to any demolition activities.

Per an agreed upon scope of work, FME performed this investigation to identify any ACM that might be encountered during the demolition of the existing Bridge, and to provide recommendations regarding proper handling and disposal of any ACM found. The investigation of the subject Bridge identified multiple suspect materials: expansion joint materials, bond break bearing pads, and expansion joint sealers. During the field investigation, FME collected samples of the suspect materials and assessed the physical condition of each material. **Laboratory results indicate that the materials sampled during this investigation were negative for asbestos.** During the demolition activities, previously concealed ACM may be discovered. If hidden suspect ACM is encountered not addressed in this report, the affected contractor(s) must stop work, take appropriate actions, and notify the Owner/FME for an appropriate response action.





We sincerely appreciate the opportunity to assist you with this project. Should you have any questions or require additional information concerning this Investigation, please do not hesitate to contact our office at (803) 254-4540.

Sincerely,

F&ME CONSULTANTS



**Michael S. Mincey**  
Environmental Professional  
Asbestos Consultant/Management Planner  
SCDHEC License No: MP-00161  
Expiration Date 01/23/2024



**Glynn M. Ellen**  
Environmental Department Manager  
Asbestos Consultant/Management Planner  
SCDHEC License No: ASB-22641  
Expiration Date 01/23/2024



## 2 INTRODUCTION

FME has completed an ACM investigation on the southbound I-95 over Lake Marion Overflow Bridge in Clarendon and Orangeburg Counties in South Carolina. The investigation was performed on July 19<sup>th</sup> through July 21<sup>st</sup>, 2023. This investigation was conducted pursuant to SCDHEC, USEPA, NESHAP, and OSHA regulations which require an ACM investigation prior to any demolition activities. Refer to Appendix A, Site Vicinity Map for the location of the Bridge.

It is our understanding that the existing Bridge will to be demolished, in anticipation of the off-alignment replacement of the existing I-95 Bridge. The scope of this investigation was to determine if asbestos was present on this Bridge by identifying and sampling suspect ACM, obtaining analytical results, quantifying any confirmed ACM, and assessing the physical condition of the ACM, where possible.

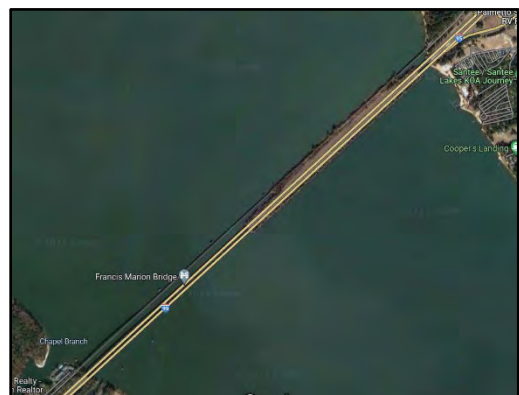
This report has been prepared exclusively for the Client and shall not be disseminated in whole or part to other parties without prior consent from the Client or FME. No other environmental issues were addressed as part of this report.

## 3 EXISTING BRIDGE STRUCTURE

The existing Bridge is located along I-95 and crosses over Lake Marion in Clarendon and Orangeburg Counties in South Carolina. The date of construction for the existing southbound I-95 Overflow Bridge (Bridge #4) over Lake Marion were constructed in the late 1960's to early 1970's based on the original construction drawings.

The southbound I-95 Lake Marion Overflow (Bridge #4) (~350.0' L x 31.0'W inside curb to inside curb) is two (2) lane, concrete and steel bridge structure with poured-in-place concrete bridge decking, concrete curb/gutter, and concrete guardrails along with metal scuppers.

The Bridge is constructed with a pre-cast prestressed beams and poured-in-place (PIP) diaphragms. The bentcaps were PIP concrete supported by driven hexagonal concrete piles.



*Photo 1 – Southbound I-95 over Lake Marion Overflow Bridge in Clarendon & Orangeburg Counties, SC.*

## 4 FIELD ASSESSMENT

During the inspection, all bridge components (i.e., concrete bent caps, piers, scuppers, and expansion joints) were visually inspected for suspect ACM. Examples of possible suspect materials include bent cap bearing materials, expansion joint materials and scuppers. The bridge deck rested directly on concrete bent caps with bond break bearing pads between them. The PIP concrete bent caps were supported by driven hexagonal concrete pipes. Bent cap bearing pads, expansion joint materials, and expansion joint sealers were noted during the investigation as suspect materials. Refer to Appendix B, Sample Location Plan, for detailed sample locations. Also, see Appendix F, Site Photographs, for more details.

## 5 RECOMMENDATIONS

The results, conclusions, and recommendations of this Investigation are representative of the conditions observed at the site on the date of the field investigation. FME does not assume responsibility for any changes in conditions or circumstances that may have occurred after this investigation.

It is our understanding that the existing Bridge will to be demolished, in anticipation of the off-alignment replacement of the existing I-95 Bridge. **Laboratory results indicate that the materials sampled during this investigation were negative for asbestos.** Therefore, there are no foreseen special handling or disposal requirements, regarding asbestos, that will be required for the demolition of this bridge.

If any concealed and/or inaccessible suspect ACM are encountered during the demolition activities, the affected contractor(s) must stop work, take appropriate actions, and notify the Owner/Asbestos Consultant for an appropriate response action. The SCDHEC must be notified if any suspect ACM is discovered.

This report has been prepared exclusively for the Client and FME and shall not be disseminated in whole or in part to other parties without prior consent from the Client. Use of this document for bidding purposes is not recommended without prior consultation with FME.

We sincerely appreciate the opportunity to be of service to Transystems in this matter. If you have any questions regarding the information presented herein, please contact our office at (803) 254-4540.



## APPENDICES

Appendix A – Site Vicinity Map

Appendix B – Sample Location Plan

Appendix C – Summary of Samples

Appendix D – Laboratory Analysis Reports

Appendix E – Chain-of-Custody Form

Appendix F – Site Photographs

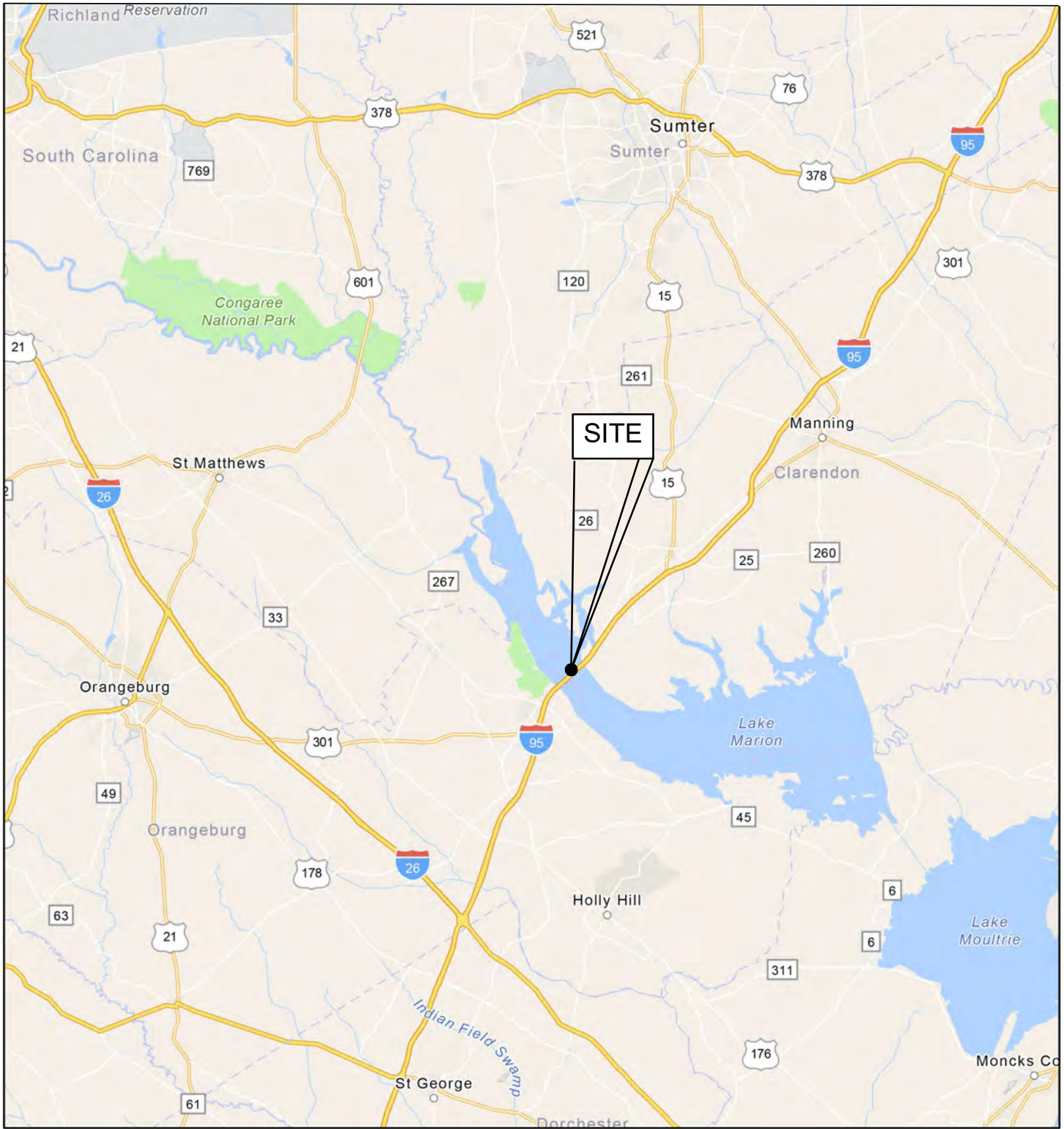
Appendix G – Personnel Certifications



## Appendix A

### Site Vicinity Map





1:577,791

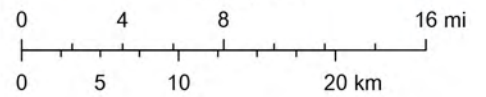


FIGURE NUMBER:

1

F&ME CONSULTANTS PROJECT NUMBER:

G6744.000

ASBESTOS CONTAINING MATERIALS INVESTIGATION  
SB I-95 over Lake Marion Overflow Bridge Replacement  
Clarendon & Orangeburg Counties, South Carolina

SITE VICINITY MAP

Prepared for:  
Transystems  
1859 Summerville Ave., Suite 600  
Charleston, SC 29405



211 BUSINESS PARK BLVD.  
COLUMBIA, SC 29203

ORIGINAL:  
August 11, 2023

REVISIONS:

1	
2	
3	

SCALE:  
Shown

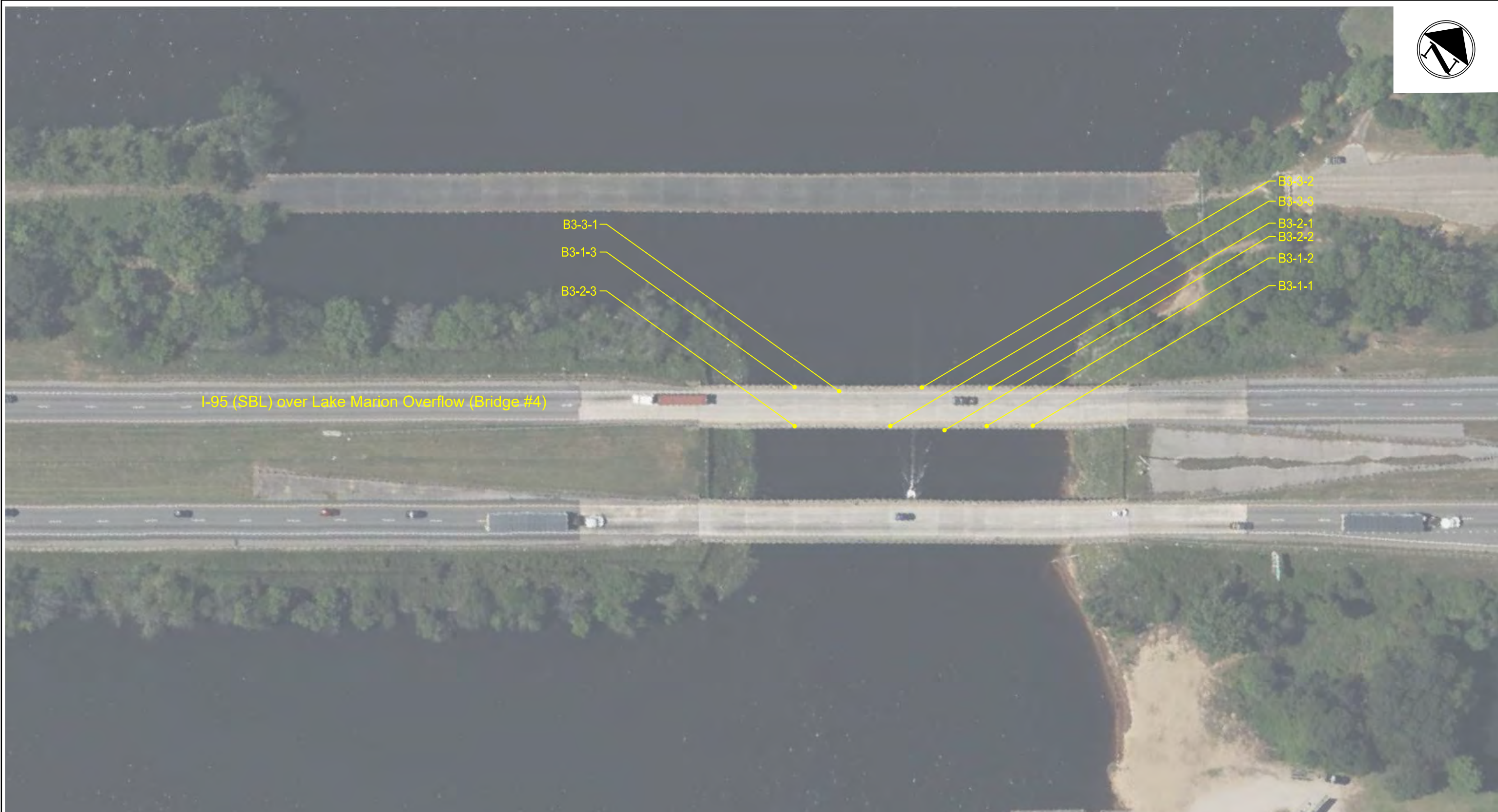
DRWN. BY: MSM  
CHKD. BY: GME  
APPR. BY: GME

NOTES:


## Appendix B

### Sample Location Plan





I-95 (SBL) over Lake Marion Overflow (Bridge #4)

B3-3-1

B3-1-3

B3-2-3

B3-3-2

B3-3-3

B3-2-1

B3-2-2

B3-1-2

B3-1-1

**F&ME** CONSULTANTS, INC.  
COLUMBIA, SC  
CONSULTANTS

4			
3			
2			
1			
REV.	BY	DATE	DESCRIPTION OF REVISION
TOPO.		DATE	
DWG.	MSM	DATE 08/11/2023	GROUP
R/W		DATE	

SB I-95 OVER LAKE MARION OVERFLOW BRIDGE REPLACEMENT  
CLARENDON & ORANGEBURG COUNTIES, SOUTH CAROLINA

SAMPLE LOCATION PLAN

F&ME JOB NO. G6744.000

SCALE: N.T.S.

FIGURE 2

## Appendix C

### Summary of Samples

## Appendix C: Summary of Samples

Sample ID	Description
<b>Bridge #4 (I-95 SBL Overflow Bridge over Lake Marion)</b>	
B4-1-1	Black Expansion Joint Material
B4-1-2	Black Expansion Joint Material
B4-1-3	Black Expansion Joint Material
B4-2-1	Bond Break Bearing Pad
B4-2-2	Bond Break Bearing Pad
B4-2-3	Bond Break Bearing Pad
B4-3-1	Expansion Joint Sealer
B4-3-2	Expansion Joint Sealer
B4-3-3	Expansion Joint Sealer





## Appendix D

### Laboratory Analysis Reports



# EMSL Analytical, Inc.

706 Gralin Street Kernersville, NC 27284

Tel/Fax: (336) 992-1025 / (336) 992-4175

<http://www.EMSL.com> / [kernersvillelab@emsl.com](mailto:kernersvillelab@emsl.com)


<b>EMSL Order:</b> 022304974
<b>Customer ID:</b> FMEC62
<b>Customer PO:</b> G6744.000
<b>Project ID:</b>

<b>Attention:</b> Glynn M. Ellen F & ME Consultants 211 Business Park Blvd Columbia, SC 29203	<b>Phone:</b> (803) 254-4540 <b>Fax:</b> (803) 254-4542 <b>Received Date:</b> 07/25/2023 10:15 AM <b>Analysis Date:</b> 07/27/2023 <b>Collected Date:</b>
<b>Project:</b> 1-95 over Lake Marion (Bridge #4)	

**Test Report: Asbestos Analysis of Bulk Materials via AHERA Method 40CFR 763 Subpart E  
Appendix E supplemented with EPA 600/R-93/116 using Polarized Light Microscopy**

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
B4 1-1 <small>022304974-0001</small>	Black Expansion Joint Material	Brown/Gray/Black Non-Fibrous Homogeneous	1% Cellulose	99% Non-fibrous (Other)	None Detected
B4 1-2 <small>022304974-0002</small>	Black Expansion Joint Material	Gray/Black Non-Fibrous Homogeneous	1% Cellulose	99% Non-fibrous (Other)	None Detected
B4 2-1 <small>022304974-0003</small>	Expansion Joint Sealer	Black Non-Fibrous Homogeneous	<1% Cellulose	100% Non-fibrous (Other)	None Detected
B4 2-2 <small>022304974-0004</small>	Expansion Joint Sealer	Black Non-Fibrous Homogeneous	<1% Cellulose	100% Non-fibrous (Other)	None Detected
B4 3-1 <small>022304974-0005</small>	Bond Break Pad	Gray/Tan/Black Fibrous Heterogeneous	5% Cellulose	95% Non-fibrous (Other)	None Detected
B4 3-2 <small>022304974-0006</small>	Bond Break Pad	Gray/Black Non-Fibrous Homogeneous	2% Cellulose	10% Quartz 88% Non-fibrous (Other)	None Detected

Analyst(s) \_\_\_\_\_  
 Jurnee West (3)  
 Scott Combs (3)

  
 \_\_\_\_\_  
 Stephen Bennett, Laboratory Manager  
 or Other Approved Signatory

EMSL maintains liability limited to cost of analysis. Interpretation and use of test results are the responsibility of the client. This report relates only to the samples reported above, and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. The report reflects the samples as received. Results are generated from the field sampling data (sampling volumes and areas, locations, etc.) provided by the client on the Chain of Custody. Samples are within quality control criteria and met method specifications unless otherwise noted. The above analyses were performed in general compliance with Appendix E to Subpart E of 40 CFR (previously EPA 600/M4-82-020 "Interim Method") but augmented with procedures outlined in the 1993 ("final") version of the method. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the federal government. Non-friable organically bound materials present a problem matrix and therefore EMSL recommends gravimetric reduction prior to analysis. Unless requested by the client, building materials manufactured with multiple layers (i.e. linoleum, wallboard, etc.) are reported as a single sample. Estimation of uncertainty is available on request.

Samples analyzed by EMSL Analytical, Inc. Kernersville, NC NVLAP Lab Code 102104-0, Virginia 3333-000228, West Virginia LT000321

Initial report from: 07/28/2023 08:16:17



# EMSL Analytical, Inc.

706 Gralin Street Kernersville, NC 27284  
Tel/Fax: (336) 992-1025 / (336) 992-4175  
<http://www.EMSL.com> / [kernersvillelab@emsl.com](mailto:kernersvillelab@emsl.com)

**EMSL Order:** 022304974  
**Customer ID:** FMEC62  
**Customer PO:** G6744.000  
**Project ID:**

**Attention:** Glynn M. Ellen  
F & ME Consultants  
211 Business Park Blvd  
Columbia, SC 29203

**Phone:** (803) 254-4540  
**Fax:** (803) 254-4542  
**Received Date:** 07/25/2023 10:15 AM  
**Analysis Date:** 07/28/2023  
**Collected Date:**

**Project:** 1-95 over Lake Marion (Bridge #4)

## Test Report: Asbestos Analysis of Non-Friable Organically Bound Materials by TEM via EPA/600/R-93/116 Section 2.5.5.1

Sample ID	Description	Appearance	% Matrix Material	% Non-Asbestos Fibers	Asbestos Types
B4 1-3 022304974-0007	Black Expansion Joint Material	Gray/Black Non-Fibrous Heterogeneous	100.0 Other	None	No Asbestos Detected
B4 2-3 022304974-0008	Expansion Joint Sealer	Black Non-Fibrous Homogeneous	100.0 Other	None	No Asbestos Detected
B4 3-3 022304974-0009	Bond Break Pad	Brown/Gray/Black Non-Fibrous Heterogeneous	100.0 Other	None	No Asbestos Detected

Analyst(s)

Stephen Bennett (3)

Stephen Bennett, Laboratory Manager  
or other approved signatory

EMSL maintains liability limited to cost of analysis. Interpretation and use of test results are the responsibility of the client. This report relates only to the samples reported above, and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. The report reflects the samples as received. Results are generated from the field sampling data (sampling volumes and areas, locations, etc.) provided by the client on the Chain of Custody. Samples are within quality control criteria and met method specifications unless otherwise noted. EMSL recommends that samples reported as none detected or < 1% undergo additional analysis via PLM to avoid the possibility of false negatives.

Samples analyzed by EMSL Analytical, Inc. Kernersville, NC

Initial report from: 07/28/2023 16:41:47

## Appendix E

### Chain-of-Custody Forms



EMSL ANALYTICAL, INC.  
LABORATORY PRODUCTS TRAINING

### Asbestos Chain of Custody

EMSL Order Number (Lab Use Only):

022304974

X  
706 GRALIN ST.  
KERNERSVILLE, NC 27284  
PHONE: (336) 992-1025  
FAX: (336) 992-4175

Company Name : F&ME Consultants		EMSL Customer ID: FMEC62	
Street: 211 Business Park Boulevard		City: Columbia	State/Province: SC
Zip/Postal Code: 29203	Country: USA	Telephone #: 803-254-4540	Fax #: 803-254-4542
Report To (Name): Glynn Ellen		Please Provide Results: <input type="checkbox"/> Fax <input checked="" type="checkbox"/> Email	
Email Address: gellen@fmeconsultants.com, and mmincey@fmeconsultants.com,		Purchase Order: G6744.000	
Project Name/Number: I-95 over Lake Marion (Bridge #4)		EMSL Project ID (Internal Use Only):	
U.S. State Samples Taken: SC		CT Samples: <input checked="" type="checkbox"/> Commercial/Taxable <input type="checkbox"/> Residential/Tax Exempt	
EMSL-Bill to: <input checked="" type="checkbox"/> Same <input type="checkbox"/> Different - If Bill to is Different note instructions in Comments** <i>Third Party Billing requires written authorization from third party</i>			
<b>Turnaround Time (TAT) Options* - Please Check</b>			
<input type="checkbox"/> 3 Hour	<input type="checkbox"/> 6 Hour	<input type="checkbox"/> 24 Hour	<input type="checkbox"/> 48 Hour <input checked="" type="checkbox"/> 72 Hour <input checked="" type="checkbox"/> 96 Hour <input type="checkbox"/> 1 Week <input type="checkbox"/> 2 Week
*For TEM Air 3 hr through 6 hr, please call ahead to schedule *There is a premium charge for 3 Hour TEM AHERA or EPA Level II TAT You will be asked to sign an authorization form for this service. Analysis completed in accordance with EMSL's Terms and Conditions located in the Analytical Price Guide			
<b>PCM - Air</b> <input type="checkbox"/> Check if samples are from NY <input type="checkbox"/> NIOSH 7400 <input type="checkbox"/> w/ OSHA 8hr TWA		<b>TEM - Air</b> <input type="checkbox"/> 4-4.5hr TAT (AHERA only) <input type="checkbox"/> AHERA 40 CFR, Part 763 <input type="checkbox"/> NIOSH 7402 <input type="checkbox"/> EPA Level II <input type="checkbox"/> ISO 10312	
<b>PLM - Bulk (reporting limit)</b> <input checked="" type="checkbox"/> PLM EPA 600/R-93/116 (<1%) <input type="checkbox"/> PLM EPA NOB (<1%) Point Count <input type="checkbox"/> 400 (<0.25%) <input type="checkbox"/> 1000 (<0.1%) Point Count w/Gravimetric <input type="checkbox"/> 400 (<0.25%) <input type="checkbox"/> 1000 (<0.1%) <input type="checkbox"/> NYS 198.1 (friable in NY) <input type="checkbox"/> NYS 198.6 NOB (non-friable-NY) <input type="checkbox"/> NYS 198.8 SOF-V <input type="checkbox"/> NIOSH 9002 (<1%)		<b>TEM - Bulk</b> <input checked="" type="checkbox"/> TEM EPA NOB <input type="checkbox"/> NYS NOB 198.4 (non-friable-NY) <input type="checkbox"/> Chatfield SOP <input type="checkbox"/> TEM Mass Analysis-EPA 600 sec. 2.5 <b>TEM - Water: EPA 100 2</b> Fibers >10µm <input type="checkbox"/> Waste <input type="checkbox"/> Drinking All Fiber Sizes <input type="checkbox"/> Waste <input type="checkbox"/> Drinking	
<input checked="" type="checkbox"/> Check For Positive Stop - Clearly Identify Homogenous Group		Filter Pore Size (Air Samples): <input type="checkbox"/> 0.8µm <input type="checkbox"/> 0.45µm	
Samplers Name: Glynn M. Ellen		Samplers Signature:	
Sample #	Sample Description	Volume/Area (Air) HA # (Bulk)	Date/Time Sampled
*B4-1-1 thru B4-1-3	Black Expansion Joint Material		
*B4-2-1 thru B4-2-3	Expansion Joint Sealer		
*B4-3-1 thru B4-3-3	Bond Break Pad		
Client Sample # (s): B4-1-1 - B4-3-3		Total # of Samples: 9	
Relinquished (Client):		Date: 07/24/2023	Time: 1700
Received (Lab): JS		Date: 7-25-23	Time: 10:15
Comments/Special Instructions: *TEM 3 <sup>rd</sup> NOB.			

4

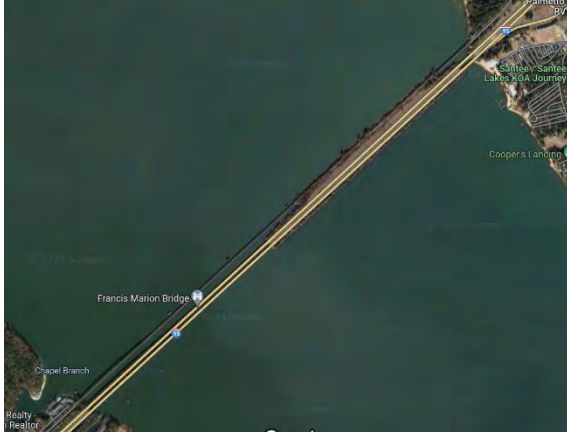
EMSL FAX FILE 7469 10522  
Page 1 Of 1



## Appendix F

### Site Photographs

APPENDIX F - SITE PHOTOGRAPHS



**Photo 1.** Top Side View of Bridges.



**Photo 2.** Southwest Corner View of SB I-95 Overflow Bridge #4.



**Photo 3.** Underside View of SB I-95 NBL Overflow Bridge #4.



**Photo 4.** View of South End Bent.



**Photo 5.** Non-ACM Expansion Joint Material.



**Photo 6.** Non-ACM Bond Break Bearing Pad.



## Appendix G

### Personnel Certifications

# SCDHEC ISSUED

## Asbestos ID Card

**Glynn M Ellen**



**AIRSAMPLER  
CONSULTMP  
CONSULTPD  
SUPERAHERA**

**AS-00079  
ASB-22641  
PD-00098  
SA-00455**

**Expiration Date:**

**01/22/24  
01/23/24  
07/12/23  
01/22/24**

This card is nontransferable and considered invalid if loaned or given to another person for identification. This card will also be invalid if altered or defaced. This card is property of SCDHEC. It must be returned to the department if the holder's accreditation is revoked or if this card is invalidated. Any person performing regulated asbestos activities without current accreditation shall be subject to legal sanction. This card must be returned upon expiration and/or issuance of a new card.

**YOU MUST HAVE THIS IDENTIFICATION CARD WITH YOU ON THE JOB.**

For information of corrections contact: SCDHEC - Asbestos Section  
2600 Bull Street  
Columbia, SC 29201  
(803) 898-4289



# SCDHEC ISSUED

## Asbestos ID Card

**Michael Mincey**



**AIRSAMPLER  
CONSULTMP  
SUPERAHERA**

**AS-00272  
MP-00161  
SA-01424**

**Expiration Date:**

**01/22/24  
01/23/24  
01/22/24**

This card is nontransferable and considered invalid if loaned or given to another person for identification. This card will also be invalid if altered or defaced. This card is property of SCDHEC. It must be returned to the department if the holder's accreditation is revoked or if this card is invalidated. Any person performing regulated asbestos activities without current accreditation shall be subject to legal sanction. This card must be returned upon expiration and/or issuance of a new card.

**YOU MUST HAVE THIS IDENTIFICATION CARD WITH YOU ON THE JOB.**

For information of corrections contact: SCDHEC - Asbestos Section  
2600 Bull Street  
Columbia, SC 29201  
(803) 898-4289





# LEAD-BASED PAINT INVESTIGATION REPORT

SOUTHBOUND I-95 OVER LAKE MARION OVERFLOW BRIDGE  
CLARENDON & ORANGEBURG COUNTIES, SOUTH CAROLINA

## PREPARED FOR:

The logo for TRANSYSTEMS. The word 'TRANSYSTEMS' is in a bold, blue, sans-serif font. The letter 'A' is stylized with a blue triangle pointing upwards from its center.

C/O Mr. Peter Strub  
Sr. Vice President/Principal  
1859 Summerville Avenue, Suite 600  
Charleston, SC 29405

## PREPARED BY:

F&ME Consultants, Inc.  
211 Business Park Blvd.  
Columbia, South Carolina 29203

**August 18, 2023**

Yes, LBP was found.  
 No, LBP was not found.

FME Project No.: G6744.000

## TABLE OF CONTENTS

1.	Executive Summary.....	1
2.	Lead-Based Paint Background Information.....	3
3.	Introduction.....	3
4.	Investigation Procedures and Results.....	3
5.	Recommemndations.....	4
	APPENDICES.....	5

Appendix A – Site Vicinity Map

Appendix B – General Bridge Plan

Appendix C – Site Photographs

Appendix D – EPA LBP Inspector Certification



# 1 EXECUTIVE SUMMARY

This executive summary is intended as an overview for the convenience of the reader. This report should be reviewed in its entirety prior to making any decisions regarding this project. This investigation report is one of seven (7) completed for the project. The investigations included the existing north and southbound I-95 bridge structures, the former US 301/15 Trail Bridges, and the older remnants of the US 301 bridge. The below Bridge numbering system utilized for the investigations and referenced in this report reflects the numbering system developed by F&ME Consultants, Inc. (FME) field personnel during the field investigation and does not reflect any Bridge numbering system used by The South Carolina Department of Transportation (SCDOT). This report is specifically for the southbound I-95 Overflow Bridge only. Refer to other reports prepared by FME for the other bridges.

F&ME Consultants, Inc. (FME) has completed a Lead-Based Paint (LBP) investigation the existing southbound I-95 Overflow Bridge over Lake Marion (Bridge #4) in Clarendon and Orangeburg Counties in South Carolina, at the request of Transystems (Client). The purpose of the investigation was to locate, identify and test components of the Bridge that are painted or coated with LBP. The field investigations were performed on July 21, 2023, in anticipation of the off-alignment replacement of the existing I-95 southbound Bridge. Refer to Appendix A, Site Vicinity Map is provided to show the location of the Bridge. Appendix B, General Bridge Plan, is provided to show the lay-out of the Bridge.

Per an agreed upon scope of work, this LBP Investigation was conducted to identify accessible Bridge components that have been painted or coated with lead-containing materials that have concentrations greater than or equal ( $\geq$ ) to the regulatory limit of 0.7 mg/cm<sup>2</sup>. This investigation includes both a visual evaluation of the physical condition of painted materials as well as quantitative testing of surfaces using an X-Ray Fluorescence (XRF) LBP analyzer. The XRF documents the concentration of lead, if any, in the overall paint or coating. Bridge components were scanned with a Viken XRF analyzer (Model # Pb200i, Serial #1888, Reference Date: 11/01/22) with a limit of detection (LOD) of 0.1 mg/cm<sup>2</sup>.

LBP is regulated by multiple government agencies, and each requires different response actions when the concentration of lead exceeds specified thresholds. The Occupational Safety and Health Administration (OSHA) regulates worker exposure to lead dust, and as a result considers materials with any lead content to be a potential hazard. Additionally, South Carolina Department of Health and Environmental Control (SCDHEC) requires some waste materials to be disposed of at specific disposal facilities that are able to manage this waste.

There were no painted and/or coated bridge components noted during this investigation of the subject Bridge. Therefore, no XRF scans were required during this investigation.



We appreciate the opportunity to assist you in this project. If you have any questions or require additional information, please feel free to contact our office at (803) 254-4540.

Sincerely,

F&ME CONSULTANTS



**Michael S. Mincey**

SC Lead Based Paint Inspector

EPA Certification No. LBP-I-1198708-2 (Exp. 2/21/25)



**Glynn M. Ellen**

Environmental Department Manager



## 2 LEAD-BASED PAINT BACKGROUND INFORMATION

Housing and Urban Development (HUD) defines “LBP” as any coating that has a lead concentration of 1.0 milligrams of lead per square centimeter (1.0 mg/cm<sup>2</sup>) or greater, or if the lead concentration is greater than one half of a percent (> 0.5%) by weight. The Consumer Product Safety Commission (CPSC) currently considers paint to be lead-containing if the concentration of lead exceeds 90 ppm (0.009% by weight). In 1978, the CPSC banned the sale of LBP to consumers, and banned its application in areas where consumers have direct access to painted surfaces. Both the CPSC and HUD definitions of lead-containing paint are aimed at protecting the general population from exposure to lead in residential settings.

In contrast, the mission of OSHA with respect to lead-containing paint is to protect workers during construction activities that may generate elevated airborne lead concentrations. OSHA states that construction work (including renovation, maintenance, and demolition) carried-out on structures coated with paint having lead concentrations lower than the HUD or CPSC can still result in airborne lead concentrations in excess of regulatory limits. For this reason, OSHA has not defined lead-containing paint, but states that paint having any measurable level of lead may pose a substantial exposure hazard during construction work, depending upon the work performed. Therefore, in these situations, OSHA guidelines and safety procedures should be followed. By OSHA standards and regulations, the employer shall ensure that no employee is exposed to lead at concentrations greater than fifty micrograms per cubic meter of air (50 ug/m<sup>3</sup>) averaged over an 8-hour period.

Additionally, SCDHEC requires the use of specific waste disposal sites if materials contain lead concentrations greater than or equal to ( $\geq$ ) 0.7 mg/cm<sup>2</sup>. Due to the anticipated demolition of the Bridge structures, the SCDHEC lead disposal requirements were used as a threshold.

## 3 INTRODUCTION

The existing Bridge is located along I-95 and crosses over Lake Marion in Clarendon and Orangeburg Counties in South Carolina. The date of construction for the existing southbound I-95 Bridge (Bridge #4) over Lake Marion were constructed in the late 1960’s to early 1970’s based on the original construction drawings.

The southbound I-95 Lake Marion Overflow (Bridge #4) (~350.0’ L x 31.0’W inside curb to inside curb) is two (2) lane, concrete and steel bridge structure with poured-in-place concrete bridge decking, concrete curb/gutter,

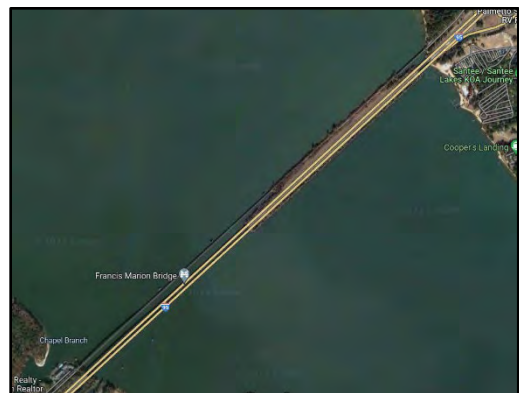


Photo 1 – Southbound I-95 over Lake Marion Overflow Bridge in Clarendon & Orangeburg Counties, SC.



and concrete guardrails along with metal scuppers. The Bridge is constructed with a pre-cast prestressed beams and poured-in-place (PIP) diaphragms. The bentcaps were PIP concrete supported by driven hexagonal concrete piles.

## 4 INVESTIGATION PROCEDURES AND RESULTS

FME's LBP Investigation sampling protocol consisted of randomly selecting bridge components and scanning them with a Viken X-Ray Fluorescence (XRF) Portable Analyzer (Model # Pb200i, Serial #1888).

There were no painted and/or coated bridge components noted during this investigation of the subject Bridge. Therefore, no XRF scans were required during this investigation.

## 5 RECOMMENDATIONS

The results of this LBP investigation determined that there are no lead-based paints or coatings associated with the subject Bridge. During the bridge demolition activities, some painted surfaces may be uncovered. If painted bridge components are uncovered, testing should be conducted if they contain levels of lead  $\geq 0.7$  mg/cm<sup>2</sup>. If found to be lead containing, the coated/painted components will need to be handled and disposed of properly. Proper handling includes the avoidance of creating lead dust, as well as the creation of lead-contaminated soil hazards. Activities that would generate lead dust include abrasion, scraping, or sanding. As previously stated, OSHA has not defined lead-containing paint, but states that paint having any measurable level of lead may pose a substantial exposure hazard during construction work, depending upon the work performed. In these cases, OSHA regulations and procedures should be followed to protect the personnel carrying out the work on a bridge component containing any amount of lead.

If any hidden and/or inaccessible materials suspected or known to contain lead-based paint are encountered during any bridge demolition activities, the persons involved are advised to stop work, follow proper regulatory precautions and procedures, and notify FME for an immediate response action.

We sincerely appreciate the opportunity to be of service to Transystems on this project. If you have any questions regarding the information presented herein, please contact our office at (803) 254-4540.



## APPENDICES

Appendix A – Site Vicinity Map

Appendix B – General Bridge Plan

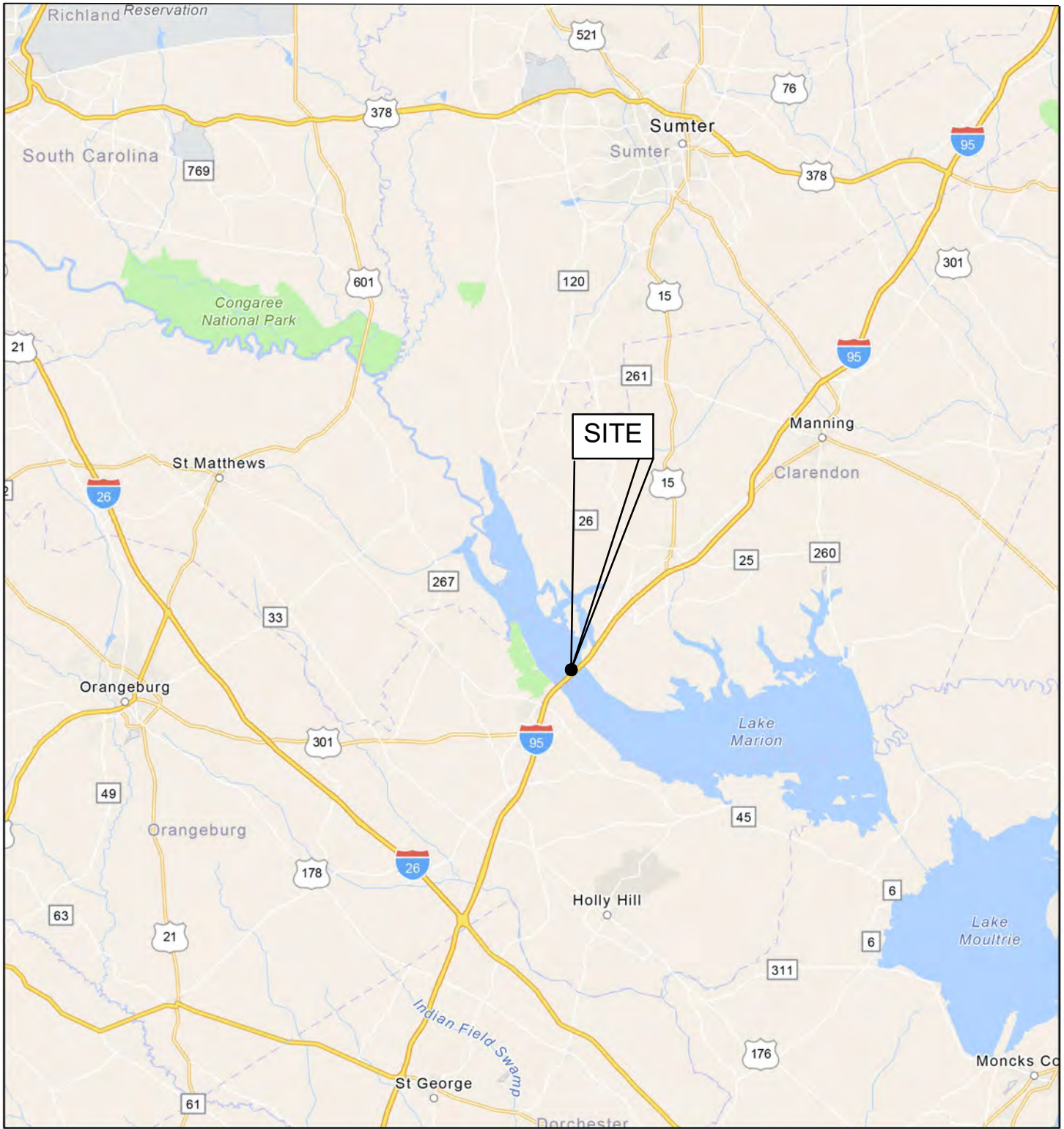
Appendix C – Site Photos

Appendix D – EPA LBP Inspector Certification



## Appendix A

### Site Vicinity Map



1:577,791

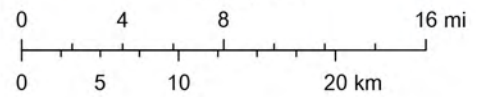


FIGURE NUMBER:

1

F&ME CONSULTANTS PROJECT NUMBER:

G6744.000

LEAD-BASED PAINT INVESTIGATION  
SB I-95 over Lake Marion Overflow Bridge Replacement  
Clarendon & Orangeburg Counties, South Carolina

SITE VICINITY MAP

Prepared for:  
Transystems  
1859 Summerville Ave., Suite 600  
Charleston, SC 29405



211 BUSINESS PARK BLVD.  
COLUMBIA, SC 29203

ORIGINAL:  
August 11, 2023

REVISIONS:

1	
2	
3	

SCALE:  
Shown

DRWN. BY: MSM  
CHKD. BY: MSM  
APPR. BY: GME

NOTES:


## Appendix B

### General Bridge Plan





I-95 (SBL) over Lake Marion Overflow (Bridge #4)

**F&ME** CONSULTANTS, INC.  
COLUMBIA, SC  
CONSULTANTS

SB I-95 OVER LAKE MARION OVERFLOW BRIDGE REPLACEMENT  
CLARENDON & ORANGEBURG COUNTIES, SOUTH CAROLINA

SAMPLE LOCATION PLAN

F&ME JOB NO. G6744.000

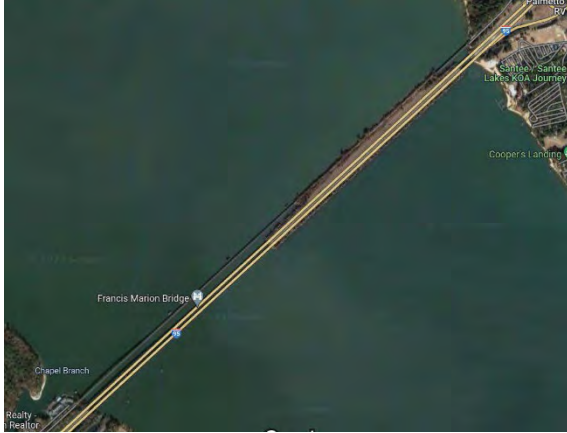
SCALE: N.T.S.

FIGURE 2

4			
3			
2			
1			
REV.	BY	DATE	DESCRIPTION OF REVISION
TOPO.		DATE	
DWG.	MSM	DATE 08/11/2023	GROUP ____ - ____
R/W		DATE	

## Appendix C

### Site Photographs



**Photo 1.** Top Side View of Bridges.



**Photo 2.** Southwest Corner View of SB I-95 Overflow Bridge #4.



**Photo 3.** Underside View of SB I-95 NBL Overflow Bridge #4.



**Photo 4.** View of South End Bent.



## Appendix D

### EPA LBP Inspector Certification



# United States Environmental Protection Agency

This is to certify that



Michael S Mincey

has fulfilled the requirements of the Toxic Substances Control Act (TSCA) Section 402, and has received certification to conduct lead-based paint activities pursuant to 40 CFR Part 745.226 as:

Inspector

## In the Jurisdiction of:

All EPA Administered Lead-based Paint Activities Program States, Tribes and Territories

This certification is valid from the date of issuance and expires February 21, 2025

LBP-I-1198708-2

Certification #

January 05, 2022

Issued On



A handwritten signature in black ink, appearing to read 'Adrienne Priselac'.

Adrienne Priselac, Manager, Toxics Office

Land Division



**US 301 Bridge over Lake Marion**  
**Asbestos and Lead-based Paint Reports**



# ASBESTOS CONTAINING MATERIAL INVESTIGATION REPORT

US 301/15 TRAIL BRIDGE OVER LAKE MARION  
CLARENDON & ORANGEBURG COUNTIES, SOUTH CAROLINA

PREPARED FOR:

## TRANSYSTEMS

C/O Mr. Peter Strub  
Sr. Vice President/Principal  
1859 Summerville Avenue, Suite 600  
Charleston, SC 29405

PREPARED BY:

F&ME Consultants, Inc.  
211 Business Park Blvd.  
Columbia, South Carolina 29203

**August 18, 2023**

Yes, asbestos was found.  
 No, asbestos was not found.

F&ME Project No.: G6744.000

TABLE OF CONTENTS

1. Executive Summary.....1

2. Introduction.....3

3. Existing Building Structure.....3

4. Field Assessment .....4

5. Recommendations.....4

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Appendix A – Site Vicinity Map

Appendix B – Sample Bridge Plans

Appendix C – Summary of Samples

Appendix D – Laboratory Analysis Reports

Appendix E – Chain-of-Custody Form

Appendix F – Site Photographs

Appendix G – Personnel Certifications

# 1 EXECUTIVE SUMMARY

This executive summary is intended as an overview for the convenience of the reader. This report should be reviewed in its entirety prior to making any decisions regarding this project. This investigation report is one of seven (7) completed for the project. The investigations included the existing north and southbound I-95 bridge structures, the former US 301/15 Trail Bridges, and the older remnants of the US 301 bridge. The below Bridge numbering system utilized for the investigations and referenced in this report reflects the numbering system developed by F&ME Consultants, Inc. (FME) field personnel during the field investigation and does not reflect any Bridge numbering system used by The South Carolina Department of Transportation (SCDOT). This report is specifically for the US 301/15 Trail Bridge only. Refer to other reports prepared by FME for the other bridges.

FME has completed the Asbestos Containing Material (ACM) Investigations of the existing US 301/15 Trail Bridge over Lake Marion (Bridge #6) in Clarendon and Orangeburg Counties in South Carolina, at the request of Transystems (Client). The field investigations were performed between July 19, 2023 and July 21, 2023, with the potential demolition of the US 301/15 Trail Bridge. This investigation was conducted pursuant to South Carolina Department of Health and Environmental Control (SCDHEC), United States Environmental Protection Agency (USEPA), National Emission Standards for Hazardous Air Pollutants (NESHAP), and Occupational Safety and Health Administration (OSHA) regulations requiring an ACM investigation prior to any demolition activities.

Per an agreed upon scope of work, FME performed this investigation to identify any ACM that might be encountered during the demolition of the existing Bridge, and to provide recommendations regarding proper handling and disposal of any ACM found. The investigation of the subject Bridge identified multiple suspect materials: bond break bearing pads (Repair 1 and 2 & Original), and expansion joint sealers. During the field investigation, FME collected samples of the suspect materials and assessed the physical condition of each material. **Laboratory results indicate that the materials sampled during this investigation were negative for asbestos.** During the demolition activities, previously concealed ACM may be discovered. If hidden suspect ACM is encountered not addressed in this report, the affected contractor(s) must stop work, take appropriate actions, and notify the Owner/FME for an appropriate response action.



We sincerely appreciate the opportunity to assist you with this project. Should you have any questions or require additional information concerning this Investigation, please do not hesitate to contact our office at (803) 254-4540.

Sincerely,

F&ME CONSULTANTS



**Michael S. Mincey**  
Environmental Professional  
Asbestos Consultant/Management Planner  
SCDHEC License No: MP-00161  
Expiration Date 01/23/2024



**Glynn M. Ellen**  
Environmental Department Manager  
Asbestos Consultant/Management Planner  
SCDHEC License No: ASB-22641  
Expiration Date 01/23/2024





## 2 INTRODUCTION

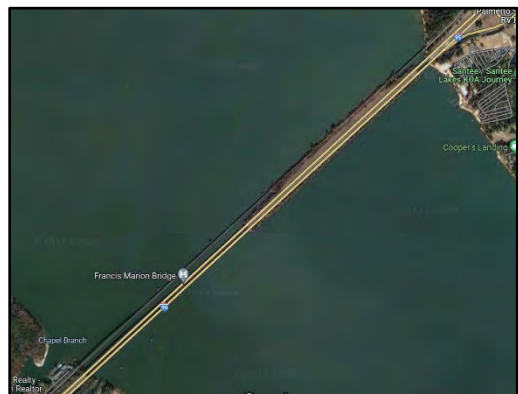
FME has completed an ACM investigation on the US 301/15 Trail Bridge over Lake Marion in Clarendon and Orangeburg Counties in South Carolina. The investigation was performed on July 19<sup>th</sup> through July 21<sup>st</sup>, 2023. This investigation was conducted pursuant to SCDHEC, USEPA, NESHAP, and OSHA regulations which require an ACM investigation prior to any demolition activities. Refer to Appendix A, Site Vicinity Map for the location of the Bridge.

It is our understanding that the existing Bridge will possibly be demolished as part of the I-95 Bridge Replacements. The scope of this investigation was to determine if asbestos was present on this Bridge by identifying and sampling suspect ACM, obtaining analytical results, quantifying any confirmed ACM, and assessing the physical condition of the ACM, where possible.

This report has been prepared exclusively for the Client and shall not be disseminated in whole or part to other parties without prior consent from the Client or FME. No other environmental issues were addressed as part of this report.

## 3 EXISTING BRIDGE STRUCTURE

The US 15/ 301 Trail Bridge over Lake Marion (Bridge #6) (~4,500.0' L x 31.0' W, inside curb to inside curb) were each two (2) lane, concrete and steel bridge structures with poured-in-place concrete bridge decking and concrete curbing with metal scuppers, with an asphalt overlay. The Bridges are constructed with with a combination of poured-in-place (PIP) concrete beams, pre-cast prestressed beams, structural steel girdgers, steel diaphragms and crossbracing. The bentcaps were PIP concrete with PIP concrete piers. Multiple structural repairs to stabilize



*Photo 1 – US 301/15 Bridge over Lake Marion in Clarendon & Orangeburg Counties, SC.*

and to provide new supports for the concrete beams were noted along the underside of both of these Bridges, along with railing repairs on each side of the Bridge. The repairs consisted of steel I-Beams supporting multiple horizontal PIP concrete beams at the tops of several PIP concrete bent caps., with multiple steel bearing plates inserted at the location of each repair to stabilize and level the bridge supports.

## 4 FIELD ASSESSMENT

During the inspection, all bridge components (i.e., concrete bent caps, piers, scuppers, and expansion joints) were visually inspected for suspect ACM. Examples of possible suspect materials include bent cap bearing materials, expansion joint materials and scuppers. The bridge deck rested directly on concrete bent caps with bond break bearing pads between them. The PIP concrete bent caps were supported by driven hexagonal concrete pipes. Multiple bent cap bearing pads from the original construction and multiple repairs, expansion joint materials, and expansion joint sealers were noted during the investigation as suspect materials. Refer to Appendix B, Sample Location Plan, for detailed sample locations. Also, see Appendix F, Site Photographs, for more details.

## 5 RECOMMENDATIONS

The results, conclusions, and recommendations of this Investigation are representative of the conditions observed at the site on the date of the field investigation. FME does not assume responsibility for any changes in conditions or circumstances that may have occurred after this investigation.

It is our understanding that the existing Bridge has the potential to be demolished are part of this project. **Laboratory results indicate that the materials sampled during this investigation were negative for asbestos.** Therefore, there are no foreseen special handling or disposal requirements, regarding asbestos, that will be required for the demolition of this bridge.

If any concealed and/or inaccessible suspect ACM are encountered during the demolition activities, the affected contractor(s) must stop work, take appropriate actions, and notify the Owner/Asbestos Consultant for an appropriate response action. The SCDHEC must be notified if any suspect ACM is discovered.

This report has been prepared exclusively for the Client and FME and shall not be disseminated in whole or in part to other parties without prior consent from the Client. Use of this document for bidding purposes is not recommended without prior consultation with FME.

We sincerely appreciate the opportunity to be of service to Transystems in this matter. If you have any questions regarding the information presented herein, please contact our office at (803) 254-4540.



## APPENDICES

Appendix A – Site Vicinity Map

Appendix B – Sample Bridge Plans

Appendix C – Summary of Samples

Appendix D – Laboratory Analysis Reports

Appendix E – Chain-of-Custody Form

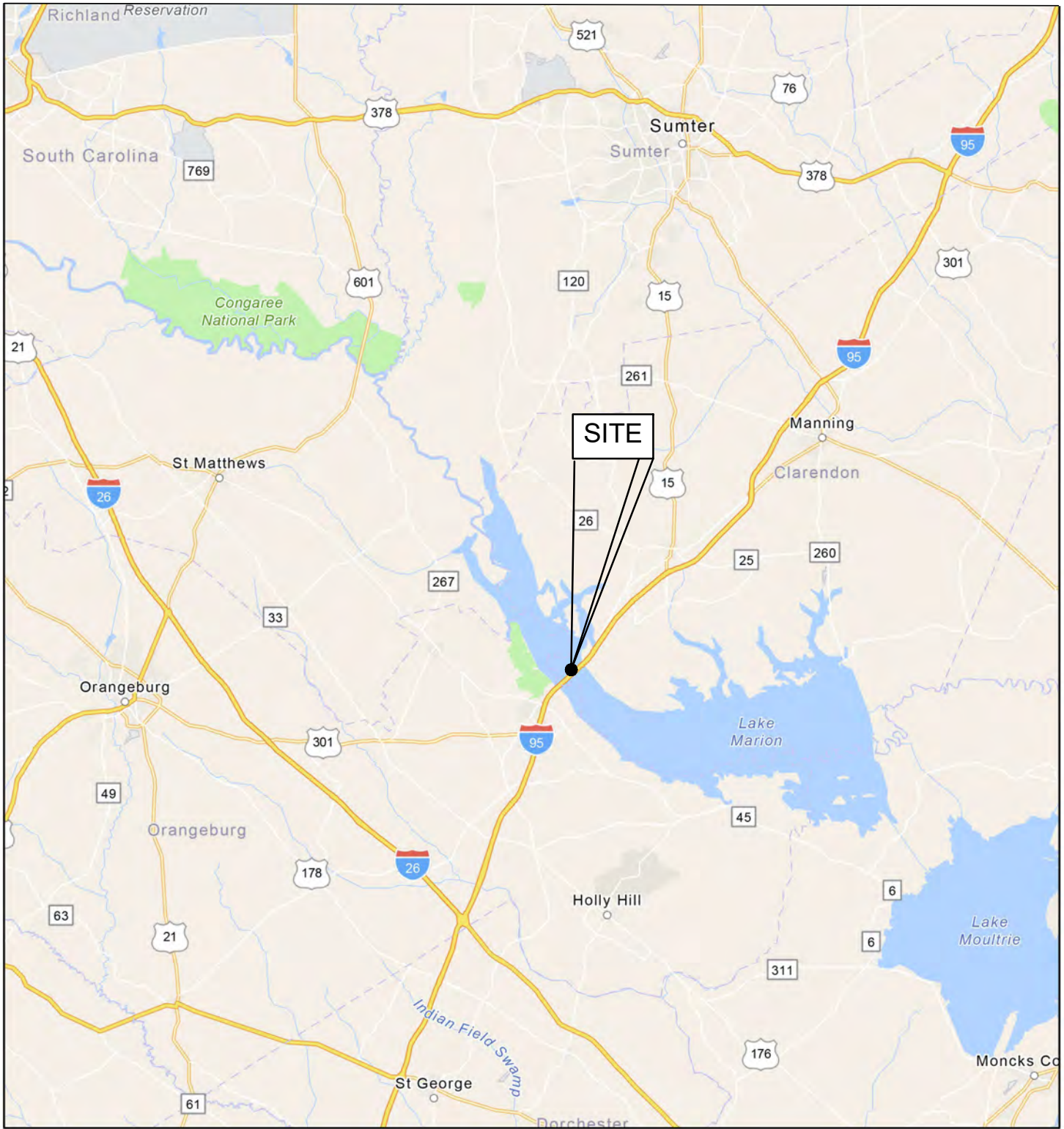
Appendix F – Site Photographs

Appendix G – Personnel Certifications



## Appendix A

### Site Vicinity Map



1:577,791

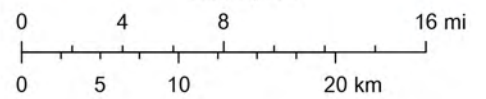


FIGURE NUMBER:

1

F&ME CONSULTANTS PROJECT NUMBER:

G6744.000

ASBESTOS CONTAINING MATERIALS INVESTIGATION  
 US 301/15 Bridge over Lake Marion  
 Clarendon & Orangeburg Counties, South Carolina

SITE VICINITY MAP

Prepared for:  
 Transystems  
 1859 Summerville Ave., Suite 600  
 Charleston, SC 29405



211 BUSINESS PARK BLVD.  
 COLUMBIA, SC 29203

ORIGINAL:  
 August 11, 2023

REVISIONS:

- 1 \_\_\_\_\_
- 2 \_\_\_\_\_
- 3 \_\_\_\_\_

SCALE:  
 Shown

DRWN. BY: MSM  
 CHKD. BY: GME  
 APPR. BY: GME

NOTES:




## Appendix B

### Sample Location Plans



B6-4-3

B6-4-2

B6-4-1

US 301/15 Trail Bridge over Lake Marion (Bridge #6)

Match Line

**F&ME** CONSULTANTS, INC.  
COLUMBIA, SC  
CONSULTANTS

US 301/15 TRAIL BRIDGE OVER LAKE MARION  
CLARENDON & ORANGEBURG COUNTIES, SOUTH CAROLINA

SAMPLE LOCATION PLAN

F&ME JOB NO. G6744.000

SCALE: N.T.S.

FIGURE 2

4			
3			
2			
1			
REV.	BY	DATE	DESCRIPTION OF REVISION
TOPO.		DATE	
DWG.	MSM	DATE 08/11/2023	GROUP ____ - ____
R/W		DATE	





B6-3-3  
 B6-1-3  
 B6-2-3

B6-3-2  
 B6-1-2  
 B6-2-2

US 301/15 Trail Bridge over Lake Marion (Bridge #6)

Match Line

Match Line



US 301/15 TRAIL BRIDGE OVER LAKE MARION  
 CLARENDON & ORANGEBURG COUNTIES, SOUTH CAROLINA

SAMPLE LOCATION PLAN

F&ME JOB NO. G6744.000

SCALE: N.T.S.

FIGURE 3

REV.	BY	DATE	DESCRIPTION OF REVISION
4			
3			
2			
1			

TOPO.	DATE	
DWG. MSM	DATE 08/11/2023	GROUP -- --
R/W	DATE	





B6-4-2  
 B6-3-2  
 B6-1-2  
 B6-2-2

US 301/15 Trail Bridge over Lake Marion (Bridge #6)

Match Line

Match Line



US 301/15 TRAIL BRIDGE OVER LAKE MARION  
 CLARENDON & ORANGEBURG COUNTIES, SOUTH CAROLINA

SAMPLE LOCATION PLAN

F&ME JOB NO. G6744.000

SCALE: N.T.S. FIGURE 4

4			
3			
2			
1			
REV.	BY	DATE	DESCRIPTION OF REVISION
TOPO.		DATE	
DWG.	MSM	DATE 08/11/2023	GROUP ____ - ____
R/W		DATE	





B6-3-1  
 B6-1-1  
 B6-2-1

US 301/15 Trail Bridge over Lake Marion (Bridge #6)

Match Line

Match Line



US 301/15 TRAIL BRIDGE OVER LAKE MARION  
 CLARENDON & ORANGEBURG COUNTIES, SOUTH CAROLINA

SAMPLE LOCATION PLAN

F&ME JOB NO. G6744.000

SCALE: N.T.S. FIGURE 5

4			
3			
2			
1			
REV.	BY	DATE	DESCRIPTION OF REVISION
TOPO.		DATE	
DWG.	MSM	DATE 08/11/2023	GROUP ____ - ____
R/W		DATE	





B6-4-1  
 B6-3-1  
 B6-1-1  
 B6-2-1

US 301/15 Trail Bridge over Lake Marion

Match Line

Match Line

**F&ME** CONSULTANTS, INC.  
 COLUMBIA, SC  
 CONSULTANTS

US 301/15 TRAIL BRIDGE OVER LAKE MARION  
 CLARENDON & ORANGEBURG COUNTIES, SOUTH CAROLINA

SAMPLE LOCATION PLAN

F&ME JOB NO. G6744.000

SCALE: N.T.S.

FIGURE 6

4			
3			
2			
1			
REV.	BY	DATE	DESCRIPTION OF REVISION
TOPO.		DATE	
DWG.	MSM	DATE 08/11/2023	GROUP ____ - ____
R/W		DATE	

## Appendix C

### Summary of Samples

## Appendix C: Summary of Samples

Sample ID	Description
<b>Bridge #6 (US 301/15 Trail Bridge over Lake Marion)</b>	
B6-1-1	Repair Bond Break Pad
B6-1-2	Repair Bond Break Pad
B6-1-3	Repair Bond Break Pad
B6-2-1	Expansion Joint Sealer
B6-2-2	Expansion Joint Sealer
B6-2-3	Expansion Joint Sealer
B6-3-1	Original Bond Break Pad
B6-3-2	Original Bond Break Pad
B6-3-3	Original Bond Break Pad
B6-4-1	Repair Bond Break Pad #2
B6-4-2	Repair Bond Break Pad #2
B6-4-3	Repair Bond Break Pad #2



## Appendix D

### Laboratory Analysis Reports



# EMSL Analytical, Inc.

706 Gralin Street Kernersville, NC 27284  
Tel/Fax: (336) 992-1025 / (336) 992-4175  
<http://www.EMSL.com/kernersvillelab@emsl.com>

**EMSL Order:** 022304972  
**Customer ID:** FMEC62  
**Customer PO:** G6744.000  
**Project ID:**

**Attention:** Glynn M. Ellen  
F & ME Consultants  
211 Business Park Blvd  
Columbia, SC 29203


**Phone:** (803) 254-4540  
**Fax:** (803) 254-4542  
**Received Date:** 07/25/2023 10:15 AM  
**Analysis Date:** 07/27/2023  
**Collected Date:**

**Project:** 1-95 over Lake Marion (Bridge #6)

## Test Report: Asbestos Analysis of Bulk Materials via AHERA Method 40CFR 763 Subpart E Appendix E supplemented with EPA 600/R-93/116 using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
B6-1-1 <small>022304972-0001</small>	Bond Break Pad (Repair)	Black Fibrous Heterogeneous	2% Cellulose	98% Non-fibrous (Other)	None Detected
B6-1-2 <small>022304972-0002</small>	Bond Break Pad (Repair)	Black Fibrous Homogeneous	30% Cellulose	70% Non-fibrous (Other)	None Detected
B6-2-1 <small>022304972-0003</small>	Expansion Joint Sealer	Black Non-Fibrous Homogeneous	<1% Cellulose	10% Quartz 90% Non-fibrous (Other)	None Detected
B6-2-2 <small>022304972-0004</small>	Expansion Joint Sealer	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
B6-3-1 <small>022304972-0005</small>	Bond Bread Pad (Original)	Black Fibrous Homogeneous	10% Cellulose	90% Non-fibrous (Other)	None Detected
B6-3-2 <small>022304972-0006</small>	Bond Bread Pad (Original)	Black Non-Fibrous Homogeneous	5% Cellulose	95% Non-fibrous (Other)	None Detected
B6-4-1 <small>022304972-0007</small>	Bond Break Pad (Repair #2 - Thick)	Black/Green Fibrous Homogeneous	20% Cellulose	80% Non-fibrous (Other)	None Detected
B6-4-2 <small>022304972-0008</small>	Bond Break Pad (Repair #2 - Thick)	Black Fibrous Homogeneous	20% Cellulose	80% Non-fibrous (Other)	None Detected

Analyst(s)  
Bobby Wheatley (4)  
Cameron Evans (4)

  
Stephen Bennett, Laboratory Manager  
or Other Approved Signatory

EMSL maintains liability limited to cost of analysis. Interpretation and use of test results are the responsibility of the client. This report relates only to the samples reported above, and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. The report reflects the samples as received. Results are generated from the field sampling data (sampling volumes and areas, locations, etc.) provided by the client on the Chain of Custody. Samples are within quality control criteria and met method specifications unless otherwise noted. The above analyses were performed in general compliance with Appendix E to Subpart E of 40 CFR (previously EPA 600/M4-82-020 "Interim Method") but augmented with procedures outlined in the 1993 ("final") version of the method. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the federal government. Non-friable organically bound materials present a problem matrix and therefore EMSL recommends gravimetric reduction prior to analysis. Unless requested by the client, building materials manufactured with multiple layers (i.e. linoleum, wallboard, etc.) are reported as a single sample. Estimation of uncertainty is available on request.

Samples analyzed by EMSL Analytical, Inc. Kernersville, NC NVLAP Lab Code 102104-0, Virginia 3333-000228, West Virginia LT000321

Initial report from: 07/28/2023 08:18:03





# EMSL Analytical, Inc.

706 Gralin Street Kernersville, NC 27284  
Tel/Fax: (336) 992-1025 / (336) 992-4175  
<http://www.EMSL.com> / [kernersvillelab@emsl.com](mailto:kernersvillelab@emsl.com)

**EMSL Order:** 022304972  
**Customer ID:** FMEC62  
**Customer PO:** G6744.000  
**Project ID:**

**Attention:** Glynn M. Ellen  
F & ME Consultants  
211 Business Park Blvd  
Columbia, SC 29203

**Phone:** (803) 254-4540  
**Fax:** (803) 254-4542  
**Received Date:** 07/25/2023 10:15 AM  
**Analysis Date:** 07/28/2023  
**Collected Date:**

**Project:** 1-95 over Lake Marion (Bridge #6)

## Test Report: Asbestos Analysis of Non-Friable Organically Bound Materials by TEM via EPA/600/R-93/116 Section 2.5.5.1

Sample ID	Description	Appearance	% Matrix Material	% Non-Asbestos Fibers	Asbestos Types
B6-1-3 022304972-0009	Bond Break Pad (Repair)	Black Non-Fibrous Homogeneous	100.0 Other	None	No Asbestos Detected
B6-2-3 022304972-0010	Expansion Joint Sealer	Gray/Black Non-Fibrous Homogeneous	100.0 Other	None	No Asbestos Detected
B6-3-3 022304972-0011	Bond Bread Pad (Orginal)	Gray/Black Non-Fibrous Homogeneous	100.0 Other	None	No Asbestos Detected
B6-4-3 022304972-0012	Bond Break Pad (Repair #2 - Thick)	Gray/Red/Black Non-Fibrous Homogeneous	100.0 Other	None	No Asbestos Detected

Analyst(s)

Stephen Bennett (4)

Stephen Bennett, Laboratory Manager  
or other approved signatory

EMSL maintains liability limited to cost of analysis. Interpretation and use of test results are the responsibility of the client. This report relates only to the samples reported above, and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. The report reflects the samples as received. Results are generated from the field sampling data (sampling volumes and areas, locations, etc.) provided by the client on the Chain of Custody. Samples are within quality control criteria and met method specifications unless otherwise noted. EMSL recommends that samples reported as none detected or < 1% undergo additional analysis via PLM to avoid the possibility of false negatives.

Samples analyzed by EMSL Analytical, Inc. Kernersville, NC

Initial report from: 07/31/2023 08:43:38

## Appendix E

### Chain-of-Custody Forms



EMSL ANALYTICAL, INC.  
LABORATORY PRODUCTS TRAINING

### Asbestos Chain of Custody

EMSL Order Number (Lab Use Only):

022304972

X  
706 GRALIN ST.  
KERNERSVILLE, NC 27284  
PHONE: (336) 992-1025  
FAX: (336) 992-4175

Company Name : F&ME Consultants		EMSL Customer ID: FMEC62	
Street: 211 Business Park Boulevard		City: Columbia	State/Province: SC
Zip/Postal Code: 29203	Country: USA	Telephone #: 803-254-4540	Fax #: 803-254-4542
Report To (Name): Glynn Ellen		Please Provide Results: <input type="checkbox"/> Fax <input checked="" type="checkbox"/> Email	
Email Address: gellen@fmeconsultants.com, and mmincey@fmeconsultants.com,		Purchase Order: G6744.000	
Project Name/Number: I-95 over Lake Marion (Bridge #6)		EMSL Project ID (Internal Use Only):	
U.S. State Samples Taken: SC		CT Samples: <input checked="" type="checkbox"/> Commercial/Taxable <input type="checkbox"/> Residential/Tax Exempt	

EMSL-Bill to:  Same  Different - if Bill to is Different note instructions in Comments\*\*  
Third Party Billing requires written authorization from third party

**Turnaround Time (TAT) Options\* - Please Check**

3 Hour  6 Hour  24 Hour  48 Hour  72 Hour  96 Hour  1 Week  2 Week

\*For TEM Air 3 hr through 6 hr, please call ahead to schedule \*There is a premium charge for 3 Hour TEM AHERA or EPA Level II TAT You will be asked to sign an authorization form for this service Analysis completed in accordance with EMSL's Terms and Conditions located in the Analytical Price Guide.

<p><b>PCM - Air</b> <input type="checkbox"/> Check if samples are from NY</p> <p><input type="checkbox"/> NIOSH 7400</p> <p><input type="checkbox"/> w/ OSHA 8hr. TWA</p> <p><b>PLM - Bulk (reporting limit)</b></p> <p><input checked="" type="checkbox"/> PLM EPA 600/R-93/116 (&lt;1%)</p> <p><input type="checkbox"/> PLM EPA NOB (&lt;1%)</p> <p>Point Count</p> <p><input type="checkbox"/> 400 (&lt;0.25%) <input type="checkbox"/> 1000 (&lt;0.1%)</p> <p>Point Count w/Gravimetric</p> <p><input type="checkbox"/> 400 (&lt;0.25%) <input type="checkbox"/> 1000 (&lt;0.1%)</p> <p><input type="checkbox"/> NYS 198.1 (friable in NY)</p> <p><input type="checkbox"/> NYS 198.6 NOB (non-friable-NY)</p> <p><input type="checkbox"/> NYS 198.8 SOF-V</p> <p><input type="checkbox"/> NIOSH 9002 (&lt;1%)</p>	<p><b>TEM - Air</b> <input type="checkbox"/> 4-4.5hr TAT (AHERA only)</p> <p><input type="checkbox"/> AHERA 40 CFR, Part 763</p> <p><input type="checkbox"/> NIOSH 7402</p> <p><input type="checkbox"/> EPA Level II</p> <p><input type="checkbox"/> ISO 10312</p> <p><b>TEM - Bulk</b></p> <p><input checked="" type="checkbox"/> TEM EPA NOB</p> <p><input type="checkbox"/> NYS NOB 198.4 (non-friable-NY)</p> <p><input type="checkbox"/> Chatfield SOP</p> <p><input type="checkbox"/> TEM Mass Analysis-EPA 600 sec. 2.5</p> <p><b>TEM - Water:</b> EPA 100.2</p> <p>Fibers &gt;10µm <input type="checkbox"/> Waste <input type="checkbox"/> Drinking</p> <p>All Fiber Sizes <input type="checkbox"/> Waste <input type="checkbox"/> Drinking</p>	<p><b>TEM - Dust</b></p> <p><input type="checkbox"/> Microvac - ASTM D 5755</p> <p><input type="checkbox"/> Wipe - ASTM D6480</p> <p><input type="checkbox"/> Carpet Sonication (EPA 600/J-93/167)</p> <p><b>Soil/Rock/Vermiculite</b></p> <p><input type="checkbox"/> PLM EPA 600/R-93/116 with milling prep (&lt;1%)</p> <p><input type="checkbox"/> PLM EPA 600/R-93/116 with milling prep (&lt;0.25%)</p> <p><input type="checkbox"/> TEM EPA 600/R-93/116 with milling prep (&lt;0.1%)</p> <p><input type="checkbox"/> TEM Qualitative via Filtration Prep</p> <p><input type="checkbox"/> TEM Qualitative via Drop Mount Prep</p> <p><input type="checkbox"/> Cincinnati Method EPA 600/R-04/004 - PLM/TEM (BC only)</p> <p><b>Other:</b></p> <p><input type="checkbox"/></p>
---	---	---

Check For Positive Stop - Clearly Identify Homogenous Group Filter Pore Size (Air Samples):  0.8µm  0.45µm

Samplers Name: Glynn M. Ellen Samplers Signature: *Glynn M. Ellen*

Sample #	Sample Description	Volume/Area (Air) NA # (Bulk)	Date/Time Sampled
*B6-1-1 thru B6-1-3	Bond Break Pad (Repair)		
*B6-2-1 thru B6-2-3	Expansion Joint Sealer		
*B6-3-1 thru B6-3-3	Bond Break Pad (Original)		
*B6-4-1 thru B6-4-3	Bond Break Pad (Repair #2 - Thick)		

Client Sample # (s): B6-1-1 - B6-4-3 Total # of Samples: 12

Relinquished (Client): *Glynn M. Ellen* Date: 07/24/2023 Time: 1700

Received (Lab): *JS* Date: 7-25-23 Time: 10:15

Comments/Special Instructions: \*TEM 3<sup>rd</sup> NOB.

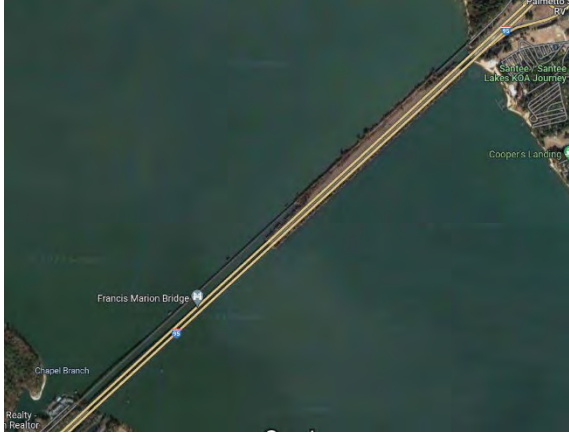
2

EMSLA FILE 7469 1, 5, 27  
Page 1 of 1

## Appendix F

### Site Photographs

APPENDIX F - SITE PHOTOGRAPHS



**Photo 1.** Top Side View of Bridges.



**Photo 2.** Southeast View of US 301/15 over Lake Marion.



**Photo 3.** Underside View of US 301/15 Bridge over Lake Marion.



**Photo 4.** Top View of Bridge Deck.



**Photo 5.** Non-ACM Repair Bond Break Bearing Pad.



**Photo 6.** Non-ACM Expansion Joint Material.





## Appendix G

### Personnel Certifications

# SCDHEC ISSUED

## Asbestos ID Card

**Glynn M Ellen**



**AIRSAMPLER  
CONSULTMP  
CONSULTPD  
SUPERAHERA**

**AS-00079  
ASB-22641  
PD-00098  
SA-00455**

**Expiration Date:**

**01/22/24  
01/23/24  
07/12/23  
01/22/24**

This card is nontransferable and considered invalid if loaned or given to another person for identification. This card will also be invalid if altered or defaced. This card is property of SCDHEC. It must be returned to the department if the holder's accreditation is revoked or if this card is invalidated. Any person performing regulated asbestos activities without current accreditation shall be subject to legal sanction. This card must be returned upon expiration and/or issuance of a new card.

**YOU MUST HAVE THIS IDENTIFICATION CARD WITH YOU ON THE JOB.**

For information of corrections contact: SCDHEC - Asbestos Section  
2600 Bull Street  
Columbia, SC 29201  
(803) 898-4289

# SCDHEC ISSUED

## Asbestos ID Card

**Michael Mincey**



**AIRSAMPLER  
CONSULTMP  
SUPERAHERA**

**AS-00272  
MP-00161  
SA-01424**

**Expiration Date:**

**01/22/24  
01/23/24  
01/22/24**

This card is nontransferable and considered invalid if loaned or given to another person for identification. This card will also be invalid if altered or defaced. This card is property of SCDHEC. It must be returned to the department if the holder's accreditation is revoked or if this card is invalidated. Any person performing regulated asbestos activities without current accreditation shall be subject to legal sanction. This card must be returned upon expiration and/or issuance of a new card.

**YOU MUST HAVE THIS IDENTIFICATION CARD WITH YOU ON THE JOB.**

For information of corrections contact: SCDHEC - Asbestos Section  
2600 Bull Street  
Columbia, SC 29201  
(803) 898-4289



# LEAD-BASED PAINT INVESTIGATION REPORT

US 301/15 TRAIL BRIDGE OVER LAKE MARION  
CLARENDON & ORANGEBURG COUNTIES, SOUTH CAROLINA

## PREPARED FOR:

The logo for TRANSSYSTEMS. The word 'TRANSSYSTEMS' is in a bold, blue, sans-serif font. The letter 'A' is stylized with a blue triangle pointing upwards from its center.

C/O Mr. Peter Strub  
Sr. Vice President/Principal  
1859 Summerville Avenue, Suite 600  
Charleston, SC 29405

## PREPARED BY:

F&ME Consultants, Inc.  
211 Business Park Blvd.  
Columbia, South Carolina 29203

**August 18, 2023**

- Yes, LBP was found.  
 No, LBP was not found.

FME Project No.: G6744.000

## TABLE OF CONTENTS

1.	Executive Summary.....	1
2.	Lead-Based Paint Background Information.....	3
3.	Introduction.....	3
4.	Investigation Procedures and Results.....	3
5.	Recommemndations.....	4
	APPENDICES.....	6

Appendix A – Site Vicinity Map

Appendix B – General Bridge Plans

Appendix C – Summary of XRF Data Table

Appendix D – Site Photos

Appendix E – EPA LBP Inspector Certification





# 1 EXECUTIVE SUMMARY

This executive summary is intended as an overview for the convenience of the reader. This report should be reviewed in its entirety prior to making any decisions regarding this project. This investigation report is one of seven (7) completed for the project. The investigations included the existing north and southbound I-95 bridge structures, the former US 301/15 Trail Bridges, and the older remnants of the US 301 bridge. The below Bridge numbering system utilized for the investigations and referenced in this report reflects the numbering system developed by F&ME Consultants, Inc. (FME) field personnel during the field investigation and does not reflect any Bridge numbering system used by The South Carolina Department of Transportation (SCDOT). This report is specifically for the northbound US 301/15 Trail Bridge only. Refer to other reports prepared by FME for the other bridges.

F&ME Consultants, Inc. (FME) has completed a Lead-Based Paint (LBP) investigation the existing US 301/15 Trail Bridge (Bridge #6) over Lake Marion (Bridge) in Clarendon and Orangeburg Counties in South Carolina, at the request of Transystems (Client). The purpose of the investigation was to locate, identify and test components of seven (7) Bridges that are painted or coated with LBP. The field investigations were performed on July 19<sup>th</sup> through 21<sup>st</sup>, 2023, along with the potential for a complete demolition of the US 301/15 Trail Bridge over Lake Marion. Refer to Appendix A, Site Vicinity Map is provided to show the locations of the Bridges. Appendix B, General Bridge Plans, is provided to show the lay-out of the Bridge and a reference for locations of XRF scans.

Per an agreed upon scope of work, this LBP Investigation was conducted to identify accessible Bridge components that have been painted or coated with lead-containing materials that have concentrations greater than or equal ( $\geq$ ) to the regulatory limit of 0.7 mg/cm<sup>2</sup>. This investigation includes both a visual evaluation of the physical condition of painted materials as well as quantitative testing of surfaces using an X-Ray Fluorescence (XRF) LBP analyzer. The XRF documents the concentration of lead, if any, in the overall paint or coating. Bridge components were scanned with a Viken XRF analyzer (Model # Pb200i, Serial #1888, Reference Date: 11/01/22) with a limit of detection (LOD) of 0.1 mg/cm<sup>2</sup>.

LBP is regulated by multiple government agencies, and each requires different response actions when the concentration of lead exceeds specified thresholds. The Occupational Safety and Health Administration (OSHA) regulates worker exposure to lead dust, and as a result considers materials with any lead content to be a potential hazard. Additionally, South Carolina Department of Health and Environmental Control (SCDHEC) requires some waste materials to be disposed of at specific disposal facilities that are able to manage this waste. Appendix C, XRF Data, is provided to present the XRF data in a user-friendly format. Items in red text contain lead in concentrations regulated by SCDHEC and these materials must be addressed upon disposal. Items in blue and red text contain lead in concentrations that must be considered a potential for worker exposure by OSHA.

The results from the XRF quantitative testing of the Bridge components indicate that lead is present in paint and/or coatings in concentrations greater than or equal to ( $\geq$ ) 0.7 mg/cm<sup>2</sup> in the following Bridge components:

**Bridge #6 (US 301/15 Trail Bridge over Lake Marion)**

- Green Steel Bridge Repair I-Beams
- Green Steel Bearing Plates
- Gray Steel Bridge Repair I-Beams

For more information regarding the specific descriptions and locations of the items that were scanned, refer to the Appendix C, Summary of XRF Data. Appendix E, Site Photos for locations and pictures of the materials with concentrations greater than or equal to ( $\geq$ ) 0.7 mg/cm<sup>2</sup>. Appendix D includes the inspector's EPA lead-based paint inspector certification.

We appreciate the opportunity to assist you in this project. If you have any questions or require additional information, please feel free to contact our office at (803) 254-4540.

Sincerely,

F&ME CONSULTANTS



**Michael S. Mincey**

SC Lead Based Paint Inspector

EPA Certification No. LBP-I-1198708-2 (Exp. 2/21/25)



**Glynn M. Ellen**

Environmental Department Manager

## 2 LEAD-BASED PAINT BACKGROUND INFORMATION

Housing and Urban Development (HUD) defines “LBP” as any coating that has a lead concentration of 1.0 milligrams of lead per square centimeter (1.0 mg/cm<sup>2</sup>) or greater, or if the lead concentration is greater than one half of a percent (> 0.5%) by weight. The Consumer Product Safety Commission (CPSC) currently considers paint to be lead-containing if the concentration of lead exceeds 90 ppm (0.009% by weight). In 1978, the CPSC banned the sale of LBP to consumers, and banned its application in areas where consumers have direct access to painted surfaces. Both the CPSC and HUD definitions of lead-containing paint are aimed at protecting the general population from exposure to lead in residential settings.

In contrast, the mission of OSHA with respect to lead-containing paint is to protect workers during construction activities that may generate elevated airborne lead concentrations. OSHA states that construction work (including renovation, maintenance, and demolition) carried-out on structures coated with paint having lead concentrations lower than the HUD or CPSC can still result in airborne lead concentrations in excess of regulatory limits. For this reason, OSHA has not defined lead-containing paint, but states that paint having any measurable level of lead may pose a substantial exposure hazard during construction work, depending upon the work performed. Therefore, in these situations, OSHA guidelines and safety procedures should be followed. By OSHA standards and regulations, the employer shall ensure that no employee is exposed to lead at concentrations greater than fifty micrograms per cubic meter of air (50 ug/m<sup>3</sup>) averaged over an 8-hour period.

Additionally, SCDHEC requires the use of specific waste disposal sites if materials contain lead concentrations greater than or equal to ( $\geq$ ) 0.7 mg/cm<sup>2</sup>. Due to the anticipated demolition of the Bridge structures, the SCDHEC lead disposal requirements were used as a threshold.

## 3 INTRODUCTION

The US 15/ 301 Trail Bridge over Lake Marion (Bridge #6) (~4,500.0' L x 31.0' W, inside curb to inside curb) were each two (2) lane, concrete and steel bridge structures with poured-in-place concrete bridge decking and concrete curbing with metal scuppers, with an asphalt overlay. The Bridges are constructed with a combination of poured-in-place (PIP) concrete beams, pre-cast prestressed beams, structural steel girders, steel diaphragms and crossbracing. The bentcaps were PIP concrete with PIP concrete piers. Multiple structural repairs to stabilize and to provide new supports for the concrete beams were noted along the underside of both of these Bridges, along with railing repairs

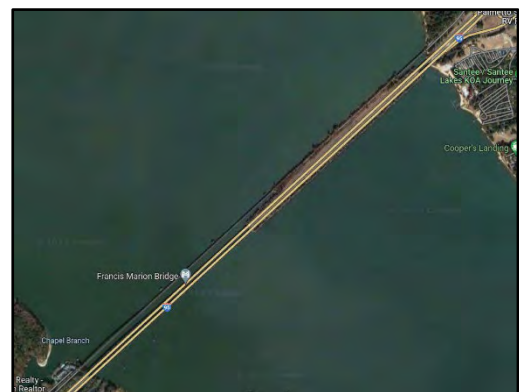


Photo 1: I-95 over Lake Marion Bridge Replacements in Clarendon & Orangeburg Counties, South Carolina.

on each side of the Bridge. The repairs consisted of steel I-Beams supporting multiple horizontal PIP concrete beams at the tops of several PIP concrete bent caps., with multiple steel bearing plates inserted at the location of each repair to stabilize and level the bridge supports. Refer to Appendix A, Site Vicinity Map, for the location of the Bridge. Appendix B, General Bridge Plan, for the scan locations associated with this Bridge.

## 4 INVESTIGATION PROCEDURES AND RESULTS

FME's LBP Investigation sampling protocol consisted of randomly selecting bridge components and scanning them with a Viken X-Ray Fluorescence (XRF) Portable Analyzer (Model # Pb200i, Serial #1888). The following Bridge components tested positive for lead in concentrations greater than or equal to ( $\geq$ ) 0.7 mg/cm<sup>2</sup>:

### Bridge #6 (US 301/15 Trail Bridge over Lake Marion)

- Green Steel Bridge Repair I-Beams
- Green Steel Bearing Plates
- Gray Steel Bridge Repair I-Beams

For more information regarding the specific descriptions and locations of the items that were scanned, refer to the Appendix C, Summary of XRF Data. On the XRF Data Table, items highlighted in **Red** are positive and contain lead in concentrations greater than or equal to ( $\geq$ ) 0.7 mg/cm<sup>2</sup>. Items in **Blue** text contain lead in concentrations that must be considered a potential for worker exposure by OSHA. Appendix D, Site Photos for locations and pictures of the materials with concentrations greater than or equal to ( $\geq$ ) 0.7 mg/cm<sup>2</sup>. Appendix E includes the inspector's EPA lead-based paint inspector certification.

## 5 RECOMMENDATIONS

The results, conclusions and recommendations from this investigation are representative of the conditions observed at the site on the dates of the field investigations. FME does not assume responsibility for any changes in conditions or circumstances that occur after the date of the field investigation. No other environmental issues were addressed as part of this report.

The results from the XRF quantitative testing of Bridge components scanned indicate that lead was found to be present in paint and/or coatings in concentrations greater than or equal to ( $\geq$ ) 0.7 mg/cm<sup>2</sup> in the following Bridge components:

## Bridge #6 (US 301/15 Trail Bridge over Lake Marion)

- Green Steel Bridge Repair I-Beams
- Green Steel Bearing Plates
- Gray Steel Bridge Repair I-Beams

Therefore, OSHA regulations and procedures should be followed when impacting these components. If possible, they should be removed in whole and disposed of properly. Also, SCDHEC disposal requirements for lead containing materials should also be followed.

As stated previously, OSHA regulates any measurable level of lead, as it may pose a substantial exposure hazard to workers. Therefore, in these situations, OSHA regulations and safety procedures should be followed. These regulations also list the proper personal protective equipment to be used by the workers disturbing the LBP items and the requirements for personal air monitoring. OSHA's exposure action level (AL) for lead, regardless of respirator use, is an airborne concentration of  $30\mu\text{g}/\text{cm}^3$ , averaged over an eight-hour period. The action level (AL) is the level at which an employer must begin specific compliance activities as outlined in OSHA's lead standards. By OSHA standards and regulations, the employer shall ensure that no employee is exposed to lead at concentrations greater than fifty micrograms per cubic meter of air ( $50\mu\text{g}/\text{m}^3$ ) averaged over an 8-hour period which is the permissible exposure level (PEL).

SCDHEC regulates the proper disposal of LBP and associated debris. SCDHEC defines two types of LBP debris. The first is LBP *waste*, which is defined as material such as wood, brick and metal that is painted with LBP. The other is LBP *residue* which is defined as residue that is generated from the removal (e.g., scraped, chipped, sandblasted, or chemical) of LBP from a structure. LBP *waste* that comes from a commercial or residential facility may be disposed of in either a class 2 or 3 landfill, while LBP *residue* from a commercial facility must have a toxicity characteristic leaching procedure (TCLP) analysis to determine the lead content. TCLP analysis is used to determine whether or not a waste is a characteristic hazardous waste due to leachability under the South Carolina Hazardous Waste Management Regulations. LBP *residue* with a TCLP analysis result greater than or equal to five milligrams per liter ( $\geq 5\text{ mg/l}$ ) lead must be disposed of in a Subtitle C landfill (Hazardous Waste). However, LBP *residue* from a commercial facility with a TCLP analysis result less than five milligrams per liter ( $< 5\text{ mg/l}$ ) lead is required to be disposed of in a Class 3 landfill.

We sincerely appreciate the opportunity to be of service to Transystems on this project. If you have any questions regarding the information presented herein, please contact our office at (803) 254-4540.



## APPENDICES

Appendix A – Site Vicinity Map

Appendix B – General Bridge Plans

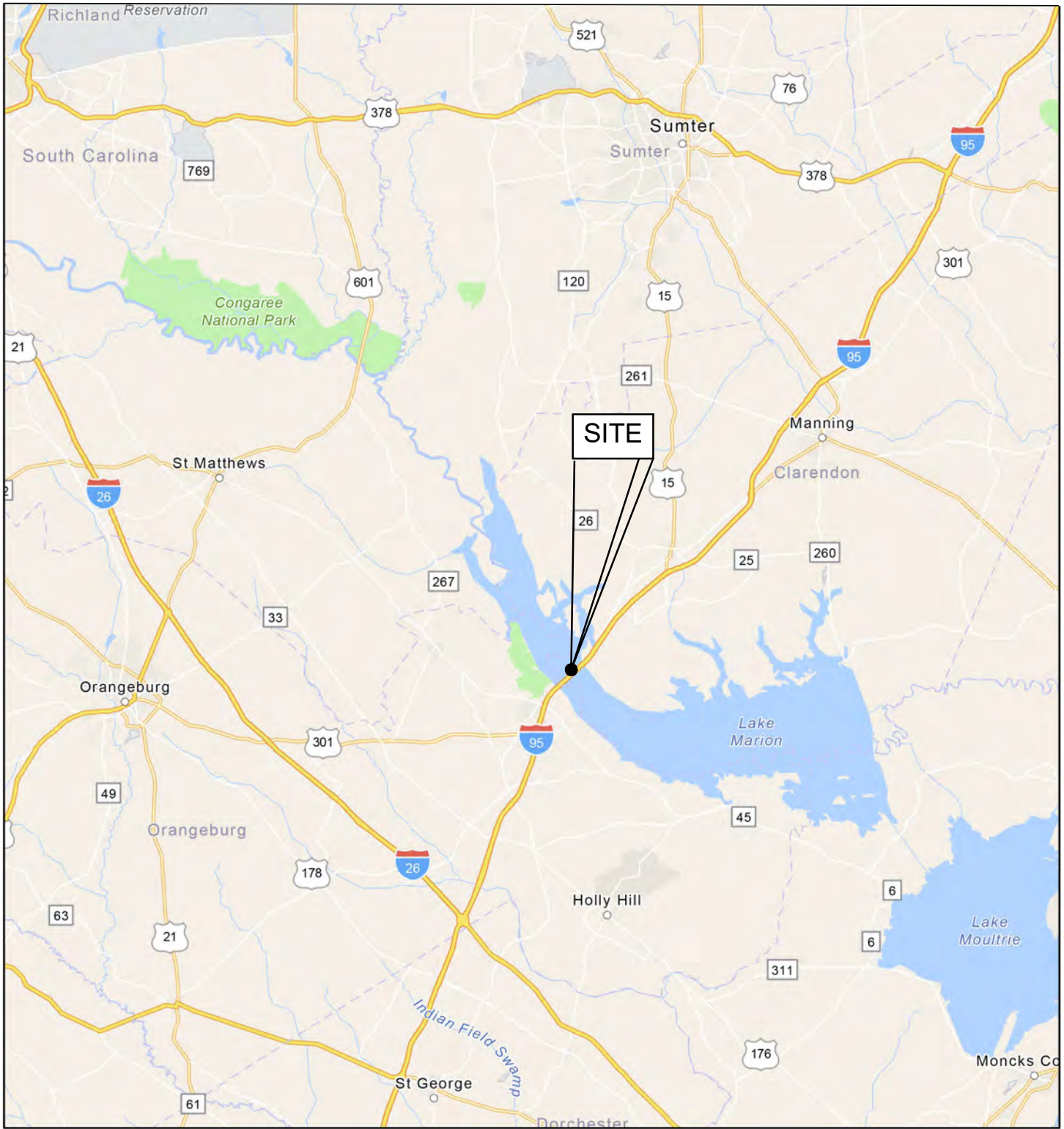
Appendix C – Summary of XRF Data Table

Appendix D – Site Photos

Appendix E – EPA LBP Inspector Certification

## Appendix A

### Site Vicinity Map



1:577,791

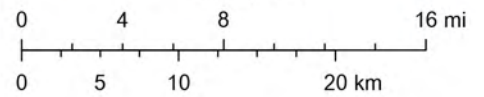


FIGURE NUMBER:

1

F&ME CONSULTANTS PROJECT NUMBER:

G6744.000

LEAD-BASED PAINT INVESTIGATION  
US 301/15 Trail Bridge over Lake Marion  
Clarendon & Orangeburg Counties, South Carolina

SITE VICINITY MAP

Prepared for:  
Transystems  
1859 Summerville Ave., Suite 600  
Charleston, SC 29405



211 BUSINESS PARK BLVD.  
COLUMBIA, SC 29203

ORIGINAL:  
August 11, 2023

REVISIONS:

- 1 \_\_\_\_\_
- 2 \_\_\_\_\_
- 3 \_\_\_\_\_

SCALE:  
Shown

DRWN. BY: MSM  
CHKD. BY: MSM  
APPR. BY: GME

NOTES:

- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

## Appendix B

### General Bridge Plans





US 301/15 Trail Bridge over Lake Marion (Bridge #6)

C

D

B

A

Match Line



F&ME CONSULTANTS, INC.  
COLUMBIA, SC

US 301/15 TRAIL BRIDGE OVER LAKE MARION  
CLARENDON & ORANGEBURG COUNTIES, SOUTH CAROLINA

GENERAL BRIDGE PLAN

F&ME JOB NO. G6744.000

SCALE: N.T.S.

FIGURE 2

4			
3			
2			
1			
REV.	BY	DATE	DESCRIPTION OF REVISION
TOPO.		DATE	
DWG.	MSM	DATE 08/11/2023	GROUP ____ - ____
R/W		DATE	





US 301/15 Trail Bridge over Lake Marion (Bridge #6)

Ⓓ

Ⓒ

Ⓐ

Ⓑ

Match Line

Match Line



US 301/15 TRAIL BRIDGE OVER LAKE MARION  
CLARENDON & ORANGEBURG COUNTIES, SOUTH CAROLINA

GENERAL BRIDGE PLAN

F&ME JOB NO. G6744.000

SCALE: N.T.S. FIGURE 3

REV.	BY	DATE	DESCRIPTION OF REVISION
4			
3			
2			
1			

TOPO.	DATE	
DWG. MSM	DATE 08/11/2023	GROUP
R/W	DATE	





US 301/15 Trail Bridge over Lake Marion (Bridge #6)

Ⓓ

Ⓒ

Ⓐ

Ⓑ

Match Line

Match Line

**F&ME** CONSULTANTS, INC.  
COLUMBIA, SC  
CONSULTANTS

US 301/15 TRAIL BRIDGE OVER LAKE MARION  
CLARENDON & ORANGEBURG COUNTIES, SOUTH CAROLINA

GENERAL BRIDGE PLAN

F&ME JOB NO. G6744.000

SCALE: N.T.S.

FIGURE 4

4			
3			
2			
1			
REV.	BY	DATE	DESCRIPTION OF REVISION
TOPO.		DATE	
DWG.	MSM	DATE 08/11/2023	GROUP ____ - ____
R/W		DATE	





US 301/15 Trail Bridge over Lake Marion (Bridge #6)

Ⓓ

Ⓒ

Ⓐ

Ⓑ

Match Line

Match Line



US 301/15 TRAIL BRIDGE OVER LAKE MARION  
CLARENDON & ORANGEBURG COUNTIES, SOUTH CAROLINA

GENERAL BRIDGE PLAN

F&ME JOB NO. G6744.000

SCALE: N.T.S.

FIGURE 5

4			
3			
2			
1			
REV.	BY	DATE	DESCRIPTION OF REVISION
TOPO.		DATE	
DWG.	MSM	DATE 08/11/2023	GROUP ____ - ____
R/W		DATE	





US 301/15 Trail Bridge over Lake Marion

D

B

C

A

Match Line

Match Line

**F&ME** CONSULTANTS, INC.  
COLUMBIA, SC  
CONSULTANTS

US 301/15 TRAIL BRIDGE OVER LAKE MARION  
CLARENDON & ORANGEBURG COUNTIES, SOUTH CAROLINA

GENERAL BRIDGE PLAN

F&ME JOB NO. G6744.000

SCALE: N.T.S.

FIGURE 6

4			
3			
2			
1			
REV.	BY	DATE	DESCRIPTION OF REVISION
TOPO.		DATE	
DWG.	MSM	DATE 08/11/2023	GROUP ____ - ____
R/W		DATE	

## Appendix C

### Summary of XRF Data Table



**Appendix C – XRF Data**  
**Date Scanned: 07/19 - 21/2023**  
**US 301/15 Trail Bridge over Lake Marion**

Scan No.	Pbc (mg/cm <sup>2</sup> )	Component	Substrate	Side	Condition	Color
<b>Bridge #6 (US 301/15 Trail Bridge over Lake Marion)</b>						
1	0.87	Calibrate				
2	0.92	Calibrate				
3	0.92	Calibrate				
4	29.09	Repair I-Beam	Metal	B	Poor	Green
5	<LOD	Handrail	Metal	B	Intact	White
6	0.18	Handrail Plate	Metal	B	Intact	White
7	0.20	Handrail Plate	Metal	D	Intact	White
8	0.26	Handrail	Metal	D	Intact	White
9	6.52	Bearing Plate	Metal	B	Poor	Green
10	28.8	Repair I-Beam	Metal	B	Poor	Gray
11	38.0	Repair I-Beam	Metal	B	Poor	Green
12	0.18	Handrail Plate	Metal	B	Intact	White
13	<LOD	Handrail	Metal	B	Intact	White
14	0.11	Girder	Metal	B	Poor	Gray
15	0.34	Curb Support	Metal	B	Poor	Gray
16	0.12	Girder	Metal	B	Poor	Gray
17	0.19	Girder	Metal	B	Poor	Gray
18	0.21	Bracing	Metal	B	Poor	Gray
19	<LOD	Bearing Plate	Metal	B	Poor	Gray
20	0.17	Rocker Bearing Top Plate	Metal	B	Poor	Gray
21	<LOD	Bracing Plate	Metal	B	Poor	Gray
22	<LOD	Cross Bracing	Metal	B	Poor	Gray
23	0.49	Diaphragm	Metal	B	Poor	Gray
24	0.17	Bracing Support	Metal	B	Poor	Gray
25	0.29	Scupper	Metal	B	Poor	Gray
26	0.59	Scupper	Metal	B	Poor	Gray
27	0.41	Girder	Metal	B	Poor	Gray
28	<LOD	Girder	Metal	Center	Poor	Gray
29	0.13	Girder	Metal	Center	Poor	Gray
30	0.26	Bracing Plate	Metal	Center	Poor	Gray
31	0.11	Rocker Bearing Top Plate	Metal	B	Poor	Gray
32	0.42	Bracing	Metal	B	Poor	Gray
33	0.90	Bearing Plate	Metal	B	Poor	Gray
34	0.13	Girder	Metal	B	Poor	Gray

Appendix C – XRF Data  
 Date Scanned: 07/19 - 21/2023  
 US 301/15 Trail Bridge over Lake Marion

Scan No.	Pbc (mg/cm <sup>2</sup> )	Component	Substrate	Side	Condition	Color
35	0.26	Cross Bracing	Metal	B	Poor	Gray
36	0.11	Diaphragm	Metal	B	Poor	Gray
37	0.15	Bracing Support	Metal	B	Poor	Gray
38	0.23	Curb Support	Metal	B	Poor	Gray
39	0.85	Calibrate				
40	0.92	Calibrate				
41	1.01	Calibrate				

LOD (Limit of Detection) = 0.1 mg/cm<sup>2</sup>

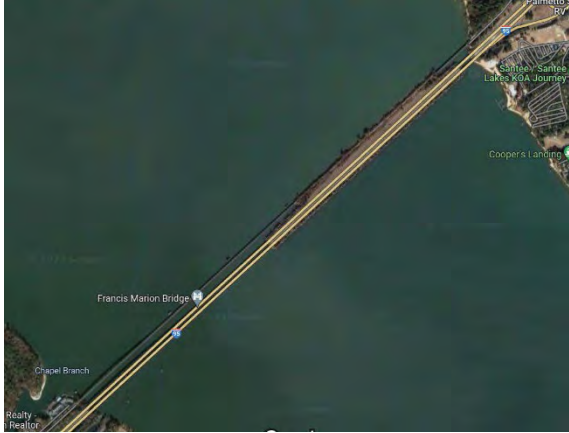
Blue text indicates any concentrations of LBP which OSHA considers a potential exposure risk when removed.

Red text indicates concentrations of LBP that have specific disposal requirements regulated by SCDHEC.

Side A = North, then go clockwise.

## Appendix D

### Site Photos



**Photo 1.** Top View of Bridges.



**Photo 2.** LBP on Green Repair I-Beams Associated with Bridge #6.



**Photo 3.** LBP on Gray Repair I Beam and Top Bearing Plate.



**Photo 4.** LBP on Gray Bearing Plate under Rocker Bearing on South End of Bridge #6.



**Photo 5.** Top Side View of Bridge Deck.



**Photo 6.** Underside View of Bridge #6.



## Appendix E

### EPA LBP Inspector Certification



# United States Environmental Protection Agency

This is to certify that



Michael S Mincey

has fulfilled the requirements of the Toxic Substances Control Act (TSCA) Section 402, and has received certification to conduct lead-based paint activities pursuant to 40 CFR Part 745.226 as:

Inspector

## In the Jurisdiction of:

All EPA Administered Lead-based Paint Activities Program States, Tribes and Territories

This certification is valid from the date of issuance and expires February 21, 2025

LBP-I-1198708-2

Certification #

January 05, 2022

Issued On



A handwritten signature in black ink, appearing to read 'Adrienne Priselac'.

Adrienne Priselac, Manager, Toxics Office

Land Division

# **US 301 Overflow Bridge over Lake Marion**

## **Asbestos and Lead-based Paint Reports**





## ASBESTOS CONTAINING MATERIAL INVESTIGATION REPORT

US 301/15 TRAIL BRIDGE OVER LAKE MARION OVERFLOW  
CLARENDON & ORANGEBURG COUNTIES, SOUTH CAROLINA

PREPARED FOR:

**TRANSYSTEMS**

C/O Mr. Peter Strub  
Sr. Vice President/Principal  
1859 Summerville Avenue, Suite 600  
Charleston, SC 29405

PREPARED BY:

F&ME Consultants, Inc.  
211 Business Park Blvd.  
Columbia, South Carolina 29203

**August 18, 2023**

Yes, asbestos was found.  
 No, asbestos was not found.

F&ME Project No.: G6744.000

# TABLE OF CONTENTS

- 1. Executive Summary.....1
- 2. Introduction.....2
- 3. Existing Bridge Structures .....3
- 4. Field Assessments .....4
- 5. Assessment Results.....4
- 6. Recommendations..... Error! Bookmark not defined.
- Appendices ..... Error! Bookmark not defined.

Appendix A – Site Vicinity Map

Appendix B – Sample Bridge Plan

Appendix C – Summary of Samples

Appendix D – Laboratory Analysis Reports

Appendix E – Chain-of-Custody Form

Appendix F – Site Photographs

Appendix G – Personnel Certifications



# 1 EXECUTIVE SUMMARY

This executive summary is intended as an overview for the convenience of the reader. This report should be reviewed in its entirety prior to making any decisions regarding this project. This investigation report is one of seven (7) completed for the project. The investigations included the existing north and southbound I-95 bridge structures, the former US 301/15 Trail Bridges, and the older remnants of the US 301 bridge. The below Bridge numbering system utilized for the investigations and referenced in this report reflects the numbering system developed by F&ME Consultants, Inc. (FME) field personnel during the field investigation and does not reflect any Bridge numbering system used by The South Carolina Department of Transportation (SCDOT). This report is specifically for the US 301/15 Trail Bridge over Lake Marion Overflow only. Refer to other reports prepared by FME for the other bridges.

F&ME Consultants, Inc. (FME) has completed an Asbestos Containing Material (ACM) Investigation on the existing US 301/15 Trail Bridge (Bridges #5) over Lake Marion Overflow in Clarendon and Orangeburg Counties in South Carolina, at the request of Transystems (Client). The field investigations were performed on July 19<sup>th</sup> through 21<sup>st</sup>, 2023, in anticipation of the potential demolition of the US 301/15 Trail Bridge over Lake Marion Overflow. This investigation was conducted pursuant to South Carolina Department of Health and Environmental Control (SCDHEC), United States Environmental Protection Agency (USEPA), National Emission Standards for Hazardous Air Pollutants (NESHAP), and Occupational Safety and Health Administration (OSHA) regulations requiring an ACM investigation prior to any demolition activities.

Per an agreed upon scope of work, FME performed this investigation to identify any ACM that might be encountered during the demolition of the existing Bridges, and to provide recommendations regarding proper handling and disposal of any ACM found. The investigation of the subject Bridges identified multiple suspect materials: expansion joint sealer, and bond break bearing pads (Repair). During the field investigation, FME collected samples of the suspect materials and assessed the physical condition of each material. **Laboratory results indicate that the materials sampled during this investigation were negative for asbestos.** During the demolition activities, previously concealed ACM may be discovered. If hidden suspect ACM is encountered not addressed in this report, the affected contractor(s) must stop work, take appropriate actions, and notify the Owner/FME for an appropriate response action.





We appreciate the opportunity to assist you in this matter. If you have any questions or require additional information, please feel free to contact our office at (803) 254-4540.

Sincerely,

F&ME CONSULTANTS



**Michael S. Mincey**  
Environmental Professional  
Asbestos Consultant/Management Planner  
SCDHEC License No: MP-00161  
Expiration Date 01/23/2024



**Glynn M. Ellen**  
Environmental Department Manager  
Asbestos Consultant/Management Planner  
SCDHEC License No: ASB-22641  
Expiration Date 01/23/2024



## 2 INTRODUCTION

FME has completed an ACM investigation on the US 301/15 Trail Bridge over Lake Marion Overflow in Clarendon and Orangeburg Counties in South Carolina. The investigation was performed on July 19<sup>th</sup> through July 21<sup>st</sup>, 2023. This investigation was conducted pursuant to SCDHEC, USEPA, NESHAP, and OSHA regulations which require an ACM investigation prior to any demolition activities. Refer to Appendix A, Site Vicinity Map for the location of the Bridge.

It is our understanding that the existing Bridge which may undergo a planned demolition at some time in the future. The scope of this investigation was to determine if asbestos was present on this Bridge by identifying and sampling suspect ACM, obtaining analytical results, quantifying any confirmed ACM, and assessing the physical condition of the ACM, where possible.

This report has been prepared exclusively for the Client and shall not be disseminated in whole or part to other parties without prior consent from the Client or FME. No other environmental issues were addressed as part of this report.

## 3 EXISTING BRIDGE STRUCTURES

The US 301 Pedestrian Bridge (Bridge #5) was constructed in the late 1940's based on the Bridge renovation drawings dated March 2021 that were obtained from the Client.

The Overflow portion of the US 15/ 301 Trail Bridge (Bridge #5) (~350.0' L x 31.0' W, inside curb to inside curb) is a two (2) lane, concrete and steel bridge structures with poured-in-place concrete bridge decking and concrete curbing with metal scuppers, with an asphalt overlay. The Bridges are constructed with poured-in-place (PIP) concrete beams, bent caps, decking, curb/gutter system, and concrete piers. Metal guardrails run along each side of the Bridge and are attached to the concrete curbs. Multiple structural repairs to stabilize and to provide new supports for the concrete beams were noted along the underside of both of these Bridges, along with railing repairs on each side of the Bridge. The repairs consisted of steel I-Beams supporting multiple horizontal PIP concrete beams at the tops of several PIP concrete bent caps., with multiple steel bearing plates inserted at the location of each repair to stabilize and level the bridge supports. Refer to Appendix A, Site Vicinity Map, for the location of the Bridge. Appendix B, Sample Location Plan, for a layout of the samples taken from the Bridge.

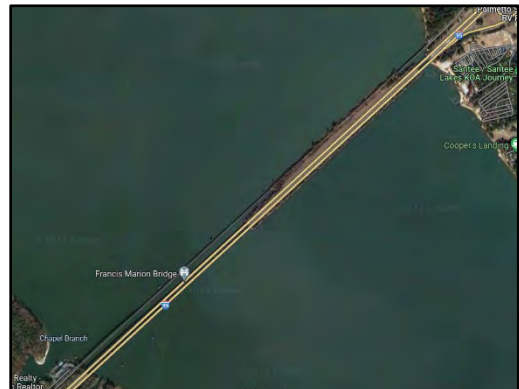


Photo 1 – I-95 over Lake Marion Bridges in Clarendon & Orangeburg Counties, SC.

## 4 FIELD ASSESSMENT

During the inspection, all bridge components (i.e., concrete bent caps, piers, scuppers, and expansion joints) were visually inspected for suspect ACM. Examples of possible suspect materials include bent cap bearing materials, expansion joint materials and scuppers. The bridge deck rested directly on concrete bent beams which are supported by concrete bent caps with bond break bearing pads and bearing plates between them. The PIP concrete bent caps were supported by driven hexagonal concrete pipes. Bent cap bearing pads, expansion joint materials, and expansion joint sealers were noted during the investigation as suspect materials. Refer to Appendix B, Sample Location Plan, for detailed sample locations. Also, see Appendix F, Site Photographs, for more details.

## 5 RECOMMENDATIONS

The results, conclusions, and recommendations of this Investigation are representative of the conditions observed at the site on the date of the field investigation. FME does not assume responsibility for any changes in conditions or circumstances that may have occurred after this investigation.

It is our understanding that the existing Bridge may undergo a planned demolition at some future time. **Laboratory results indicate that the materials sampled during this investigation were negative for asbestos.** Therefore, there are no foreseen special handling or disposal requirements, regarding asbestos, that will be required for the demolition of this bridge.

If any concealed and/or inaccessible suspect ACM are encountered during the demolition activities, the affected contractor(s) must stop work, take appropriate actions, and notify the Owner/Asbestos Consultant for an appropriate response action. The SCDHEC must be notified if any suspect ACM is discovered.

This report has been prepared exclusively for the Client and FME and shall not be disseminated in whole or in part to other parties without prior consent from the Client. Use of this document for bidding purposes is not recommended without prior consultation with FME.

We sincerely appreciate the opportunity to be of service to Transystems in this matter. If you have any questions regarding the information presented herein, please contact our office at (803) 254-4540.



## APPENDICES

Appendix A – Site Vicinity Map

Appendix B – Sample Bridge Plan

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Appendix D – Laboratory Analysis Reports

Appendix E – Chain-of-Custody Form

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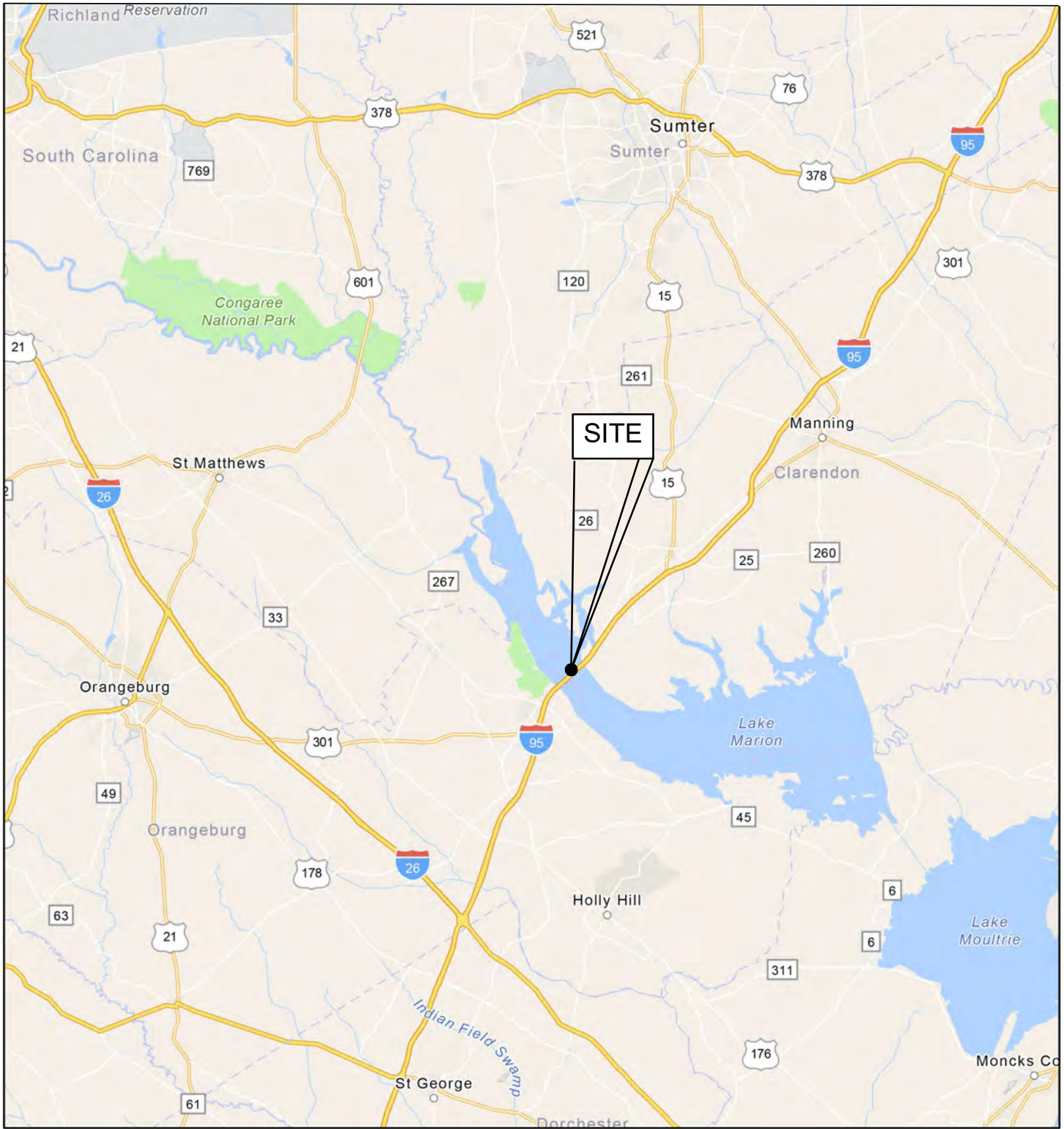
Appendix G – Personnel Certifications



## Appendix A

### Site Vicinity Map





1:577,791

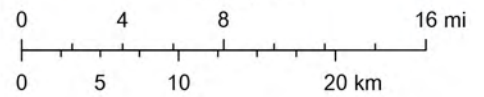


FIGURE NUMBER:

1

F&ME CONSULTANTS PROJECT NUMBER:

G6744.000

ASBESTOS CONTAINING MATERIALS INVESTIGATION  
US 301/15 Trail Bridge over Lake Marion Overflow  
Clarendon & Orangeburg Counties, South Carolina

SITE VICINITY MAP

Prepared for:  
Transystems  
1859 Summerville Ave., Suite 600  
Charleston, SC 29405



211 BUSINESS PARK BLVD.  
COLUMBIA, SC 29203

ORIGINAL:  
August 11, 2023

REVISIONS:

- 1 \_\_\_\_\_
- 2 \_\_\_\_\_
- 3 \_\_\_\_\_

SCALE:  
Shown

DRWN. BY: MSM  
CHKD. BY: GME  
APPR. BY: GME

NOTES:


## Appendix B

### Sample Location Plan





B5-1-3  
 B5-2-3  
 B5-2-2  
 B5-1-2  
 B5-1-1  
 B5-2-1

US 301/15 Trail Bridge over Lake Marion Overflow



US 301/15 TRAIL BRIDGE OVER LAKE MARION OVERFLOW  
CLARENDON & ORANGEBURG COUNTIES, SOUTH CAROLINA

SAMPLE LOCATION PLAN

F&ME JOB NO. G6744.000

SCALE: N.T.S.      FIGURE 2

4			
3			
2			
1			
REV.	BY	DATE	DESCRIPTION OF REVISION
TOPO.		DATE	
DWG.	MSM	DATE 08/11/2023	GROUP ____ - ____
R/W		DATE	

## Appendix C

### Summary of Samples

## Appendix C: Summary of Samples

Sample ID	Description
Bridge #5 (US 301 Overflow Pedestrian Bridge over Lake Marion)	
B5-1-1	Expansion Joint Sealer
B5-1-2	Expansion Joint Sealer
B5-1-3	Expansion Joint Sealer
B5-2-1	Repair Bond Break Pad
B5-2-2	Repair Bond Break Pad
B5-2-3	Repair Bond Break Pad





## Appendix D

### Laboratory Analysis Reports



# EMSL Analytical, Inc.

706 Gralin Street Kernersville, NC 27284

Tel/Fax: (336) 992-1025 / (336) 992-4175

<http://www.EMSL.com> / [kernersvillelab@emsl.com](mailto:kernersvillelab@emsl.com)


<b>EMSL Order:</b> 022304973
<b>Customer ID:</b> FMEC62
<b>Customer PO:</b> G6744.000
<b>Project ID:</b>

<b>Attention:</b> Glynn M. Ellen F & ME Consultants 211 Business Park Blvd Columbia, SC 29203	<b>Phone:</b> (803) 254-4540 <b>Fax:</b> (803) 254-4542 <b>Received Date:</b> 07/25/2023 10:15 AM <b>Analysis Date:</b> 07/27/2023 <b>Collected Date:</b>
<b>Project:</b> 1-95 over Lake Marion (Bridge #5)	

**Test Report: Asbestos Analysis of Bulk Materials via AHERA Method 40CFR 763 Subpart E  
Appendix E supplemented with EPA 600/R-93/116 using Polarized Light Microscopy**

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
B5 1-1 <small>022304973-0001</small>	Expansion Joint Sealer	Brown/Black Fibrous Heterogeneous	<1% Cellulose	5% Mica 95% Non-fibrous (Other)	None Detected
B5 1-2 <small>022304973-0002</small>	Expansion Joint Sealer	Black Fibrous Heterogeneous		100% Non-fibrous (Other)	None Detected
B5 2-1 <small>022304973-0003</small>	Bond Break Pad (Repair)	Brown/Black Fibrous Heterogeneous	8% Cellulose	92% Non-fibrous (Other)	None Detected
B5 2-2 <small>022304973-0004</small>	Bond Break Pad (Repair)	Brown/Black Non-Fibrous Homogeneous	2% Cellulose	98% Non-fibrous (Other)	None Detected

Analyst(s)  
 \_\_\_\_\_  
 Jurnee West (2)  
 Scott Combs (2)

  
 \_\_\_\_\_  
 Stephen Bennett, Laboratory Manager  
 or Other Approved Signatory

EMSL maintains liability limited to cost of analysis. Interpretation and use of test results are the responsibility of the client. This report relates only to the samples reported above, and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. The report reflects the samples as received. Results are generated from the field sampling data (sampling volumes and areas, locations, etc.) provided by the client on the Chain of Custody. Samples are within quality control criteria and met method specifications unless otherwise noted. The above analyses were performed in general compliance with Appendix E to Subpart E of 40 CFR (previously EPA 600/M4-82-020 "Interim Method") but augmented with procedures outlined in the 1993 ("final") version of the method. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the federal government. Non-friable organically bound materials present a problem matrix and therefore EMSL recommends gravimetric reduction prior to analysis. Unless requested by the client, building materials manufactured with multiple layers (i.e. linoleum, wallboard, etc.) are reported as a single sample. Estimation of uncertainty is available on request.

Samples analyzed by EMSL Analytical, Inc. Kernersville, NC NVLAP Lab Code 102104-0, Virginia 3333-000228, West Virginia LT000321

Initial report from: 07/28/2023 08:15:26



# EMSL Analytical, Inc.

706 Gralin Street Kernersville, NC 27284  
Tel/Fax: (336) 992-1025 / (336) 992-4175  
<http://www.EMSL.com> / [kernersvillelab@emsl.com](mailto:kernersvillelab@emsl.com)

**EMSL Order:** 022304973  
**Customer ID:** FMEC62  
**Customer PO:** G6744.000  
**Project ID:**

**Attention:** Glynn M. Ellen  
F & ME Consultants  
211 Business Park Blvd  
Columbia, SC 29203  
**Phone:** (803) 254-4540  
**Fax:** (803) 254-4542  
**Received Date:** 07/25/2023 10:15 AM  
**Analysis Date:** 07/28/2023  
**Collected Date:**  
**Project:** 1-95 over Lake Marion (Bridge #5)

## Test Report: Asbestos Analysis of Non-Friable Organically Bound Materials by TEM via EPA/600/R-93/116 Section 2.5.5.1

Sample ID	Description	Appearance	% Matrix Material	% Non-Asbestos Fibers	Asbestos Types
B5 1-3 022304973-0005	Expansion Joint Sealer	Gray/Black Non-Fibrous Heterogeneous	100.0 Other	None	No Asbestos Detected
B5 2-3 022304973-0006	Bond Break Pad (Repair)	Gray/Black Non-Fibrous Heterogeneous	100.0 Other	None	No Asbestos Detected

Analyst(s)

Stephen Bennett (2)

Stephen Bennett, Laboratory Manager  
or other approved signatory

EMSL maintains liability limited to cost of analysis. Interpretation and use of test results are the responsibility of the client. This report relates only to the samples reported above, and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. The report reflects the samples as received. Results are generated from the field sampling data (sampling volumes and areas, locations, etc.) provided by the client on the Chain of Custody. Samples are within quality control criteria and met method specifications unless otherwise noted. EMSL recommends that samples reported as none detected or < 1% undergo additional analysis via PLM to avoid the possibility of false negatives.

Samples analyzed by EMSL Analytical, Inc. Kernersville, NC

Initial report from: 07/28/2023 16:42:28

## Appendix E

### Chain-of-Custody Forms



EMSL ANALYTICAL, INC.  
LABORATORY • PRODUCTS • TRAINING

### Asbestos Chain of Custody

EMSL Order Number (Lab Use Only)

022304973

X  
706 GRALIN ST.  
KERNERSVILLE, NC 27284  
PHONE: (336) 992-1025  
FAX: (336) 992-4175

Company Name : F&ME Consultants		EMSL Customer ID: FMEC62	
Street: 211 Business Park Boulevard		City: Columbia	State/Province: SC
Zip/Postal Code: 29203	Country: USA	Telephone #: 803-254-4540	Fax #: 803-254-4542
Report To (Name): Glynn Ellen		Please Provide Results: <input type="checkbox"/> Fax <input checked="" type="checkbox"/> Email	
Email Address: gellen@fmeconsultants.com, and mmincey@fmeconsultants.com,		Purchase Order: G6744.000	
Project Name/Number: I-95 over Lake Marion (Bridge #5)		EMSL Project ID (Internal Use Only):	
U.S. State Samples Taken: SC		CT Samples: <input checked="" type="checkbox"/> Commercial/Taxable <input type="checkbox"/> Residential/Tax Exempt	

EMSL-Bill to:  Same  Different - If Bill to is Different note instructions in Comments\*\*  
Third Party Billing requires written authorization from third party

**Turnaround Time (TAT) Options\* - Please Check**

3 Hour  6 Hour  24 Hour  48 Hour  72 Hour  96 Hour  1 Week  2 Week

\*For TEM Air 3 hr through 6 hr, please call ahead to schedule \*There is a premium charge for 3 Hour TEM AHERA or EPA Level II TAT You will be asked to sign an authorization form for this service. Analysis completed in accordance with EMSL's Terms and Conditions located in the Analytical Price Guide

<p><b>PCM - Air</b> <input type="checkbox"/> Check if samples are from NY</p> <p><input type="checkbox"/> NIOSH 7400</p> <p><input type="checkbox"/> w/ OSHA 8hr. TWA</p> <p><b>PLM - Bulk (reporting limit)</b></p> <p><input checked="" type="checkbox"/> PLM EPA 600/R-93/116 (&lt;1%)</p> <p><input type="checkbox"/> PLM EPA NOB (&lt;1%)</p> <p>Point Count</p> <p><input type="checkbox"/> 400 (&lt;0.25%) <input type="checkbox"/> 1000 (&lt;0.1%)</p> <p>Point Count w/Gravimetric</p> <p><input type="checkbox"/> 400 (&lt;0.25%) <input type="checkbox"/> 1000 (&lt;0.1%)</p> <p><input type="checkbox"/> NYS 198 1 (friable in NY)</p> <p><input type="checkbox"/> NYS 198.6 NOB (non-friable-NY)</p> <p><input type="checkbox"/> NYS 198 8 SOF-V</p> <p><input type="checkbox"/> NIOSH 9002 (&lt;1%)</p>	<p><b>TEM - Air</b> <input type="checkbox"/> 4-4.5hr TAT (AHERA only)</p> <p><input type="checkbox"/> AHERA 40 CFR, Part 763</p> <p><input type="checkbox"/> NIOSH 7402</p> <p><input type="checkbox"/> EPA Level II</p> <p><input type="checkbox"/> ISO 10312</p> <p><b>TEM - Bulk</b></p> <p><input checked="" type="checkbox"/> TEM EPA NOB</p> <p><input type="checkbox"/> NYS NOB 198 4 (non-friable-NY)</p> <p><input type="checkbox"/> Chatfield SOP</p> <p><input type="checkbox"/> TEM Mass Analysis-EPA 600 sec. 2.5</p> <p><b>TEM - Water:</b> EPA 100.2</p> <p>Fibers &gt;10µm <input type="checkbox"/> Waste <input type="checkbox"/> Drinking</p> <p>All Fiber Sizes <input type="checkbox"/> Waste <input type="checkbox"/> Drinking</p>	<p><b>TEM - Dust</b></p> <p><input type="checkbox"/> Microvac - ASTM D 5755</p> <p><input type="checkbox"/> Wipe - ASTM D6480</p> <p><input type="checkbox"/> Carpet Sonication (EPA 600/J-93/167)</p> <p><b>Soil/Rock/Vermiculite</b></p> <p><input type="checkbox"/> PLM EPA 600/R-93/116 with milling prep (&lt;1%)</p> <p><input type="checkbox"/> PLM EPA 600/R-93/116 with milling prep (&lt;0.25%)</p> <p><input type="checkbox"/> TEM EPA 600/R-93/116 with milling prep (&lt;0.1%)</p> <p><input type="checkbox"/> TEM Qualitative via Filtration Prep</p> <p><input type="checkbox"/> TEM Qualitative via Drop Mount Prep</p> <p><input type="checkbox"/> Cincinnati Method EPA 600/R-04/004 - PLM/TEM (BC only)</p> <p><b>Other:</b></p> <p><input type="checkbox"/></p>
---	---	---

Check For Positive Stop - Clearly Identify Homogenous Group Filter Pore Size (Air Samples):  0.9µm  0.45µm

Samplers Name: Glynn M. Ellen Samplers Signature:

Sample #	Sample Description	Volume/Area (Air) HA # (Bulk)	Date/Time Sampled
*B5-1-1 thru B5-1-3	Expansion Joint Sealer		
*B5-2-1 thru B5-2-3	Bond Break Pad (Repair)		

Client Sample # (s): B5-1-1 - B5-2-3 Total # of Samples: 6

Relinquished (Client): Date: 07/24/2023 Time: 1700

Received (Lab): Date: 7-25-23 Time: 10:15

Comments/Special Instructions: \*TEM 3<sup>rd</sup> NOB.

3

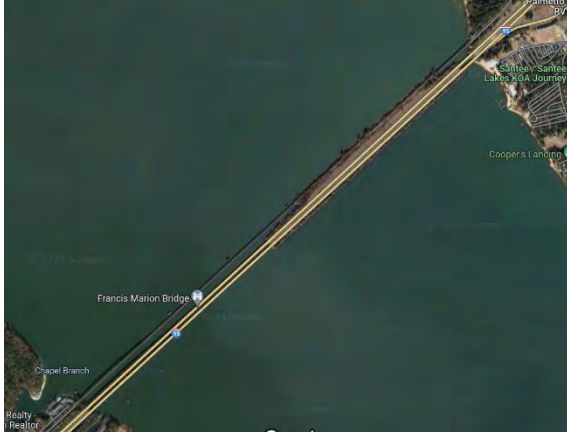
EMSL FAX FILE 7469 10522  
Page 1 Of 1



## Appendix F

### Site Photographs

APPENDIX F - SITE PHOTOGRAPHS



**Photo 1.** Top Side View of Bridges.



**Photo 2.** Southwest View of US 301/15 Trail Bridge over Lake Marion Overflow.



**Photo 3.** Underside View of US 301/15 Trail Bridge over Lake Marion Overflow.



**Photo 4.** Top View of Bridge Deck of Bridge #5.



**Photo 5.** Non-ACM Bond Break Bearing Pad.



**Photo 6.** West View of the Southwest Side of Bridge #5.



## Appendix G

### Personnel Certifications

# SCDHEC ISSUED

## Asbestos ID Card

**Glynn M Ellen**



**AIRSAMPLER  
CONSULTMP  
CONSULTPD  
SUPERAHERA**

**AS-00079  
ASB-22641  
PD-00098  
SA-00455**

**Expiration Date:**

**01/22/24  
01/23/24  
07/12/23  
01/22/24**

This card is nontransferable and considered invalid if loaned or given to another person for identification. This card will also be invalid if altered or defaced. This card is property of SCDHEC. It must be returned to the department if the holder's accreditation is revoked or if this card is invalidated. Any person performing regulated asbestos activities without current accreditation shall be subject to legal sanction. This card must be returned upon expiration and/or issuance of a new card.

**YOU MUST HAVE THIS IDENTIFICATION CARD WITH YOU ON THE JOB.**

For information of corrections contact: SCDHEC - Asbestos Section  
2600 Bull Street  
Columbia, SC 29201  
(803) 898-4289



# SCDHEC ISSUED

## Asbestos ID Card

**Michael Mincey**



**AIRSAMPLER  
CONSULTMP  
SUPERAHERA**

**AS-00272  
MP-00161  
SA-01424**

**Expiration Date:**

**01/22/24  
01/23/24  
01/22/24**

This card is nontransferable and considered invalid if loaned or given to another person for identification. This card will also be invalid if altered or defaced. This card is property of SCDHEC. It must be returned to the department if the holder's accreditation is revoked or if this card is invalidated. Any person performing regulated asbestos activities without current accreditation shall be subject to legal sanction. This card must be returned upon expiration and/or issuance of a new card.

**YOU MUST HAVE THIS IDENTIFICATION CARD WITH YOU ON THE JOB.**

For information of corrections contact: SCDHEC - Asbestos Section  
2600 Bull Street  
Columbia, SC 29201  
(803) 898-4289





# LEAD-BASED PAINT INVESTIGATION REPORT

US 301/15 TRAIL BRIDGE OVER LAKE MARION OVERFLOW  
CLARENDON & ORANGEBURG COUNTIES, SOUTH CAROLINA

## PREPARED FOR:

The logo for TRANSYSTEMS. The word 'TRANSYSTEMS' is written in a bold, blue, sans-serif font. The letter 'A' is stylized with a blue triangle pointing upwards from its center.

C/O Mr. Peter Strub  
Sr. Vice President/Principal  
1859 Summerville Avenue, Suite 600  
Charleston, SC 29405

## PREPARED BY:

F&ME Consultants, Inc.  
211 Business Park Blvd.  
Columbia, South Carolina 29203

**August 18, 2023**

- Yes, LBP was found.  
 No, LBP was not found.

FME Project No.: G6744.000

## TABLE OF CONTENTS

1.	Executive Summary.....	1
2.	Lead-Based Paint Background Information.....	3
3.	Introduction.....	3
4.	Investigation Procedures and Results.....	3
5.	Recommemndations.....	4
	APPENDICES.....	6

Appendix A – Site Vicinity Map

Appendix B – General Bridge Plan

Appendix C – Summary of XRF Data Table

Appendix D – Site Photos

Appendix E – EPA LBP Inspector Certification



# 1 EXECUTIVE SUMMARY

This executive summary is intended as an overview for the convenience of the reader. This report should be reviewed in its entirety prior to making any decisions regarding this project. This investigation report is one of seven (7) completed for the project. The investigations included the existing north and southbound I-95 bridge structures, the former US 301/15 Trail Bridges, and the older remnants of the US 301 bridge. The below Bridge numbering system utilized for the investigations and referenced in this report reflects the numbering system developed by F&ME Consultants, Inc. (FME) field personnel during the field investigation and does not reflect any Bridge numbering system used by The South Carolina Department of Transportation (SCDOT). This report is specifically for the US 301/15 Trail Bridge Overflow only. Refer to other reports prepared by FME for the other bridges.

F&ME Consultants, Inc. (FME) has completed a Lead-Based Paint (LBP) investigation the existing US 301/15 Trail Overflow Bridge over Lake Marion (Bridge #5) in Clarendon and Orangeburg Counties in South Carolina, at the request of Transystems (Client). The purpose of the investigation was to locate, identify and test components of the Bridge that are painted or coated with LBP. The field investigations were performed on July 21, 2023, in anticipation of the potential demolition of the US 301/15 Trail Overflow Bridge over Lake Marion. Refer to Appendix A, Site Vicinity Map is provided to show the locations of the Bridge. Appendix B, General Bridge Plan, is provided to show the lay-out of the Bridge and a reference for locations of XRF scans.

Per an agreed upon scope of work, this LBP Investigation was conducted to identify accessible Bridge components that have been painted or coated with lead-containing materials that have concentrations greater than or equal ( $\geq$ ) to the regulatory limit of 0.7 mg/cm<sup>2</sup>. This investigation includes both a visual evaluation of the physical condition of painted materials as well as quantitative testing of surfaces using an X-Ray Fluorescence (XRF) LBP analyzer. The XRF documents the concentration of lead, if any, in the overall paint or coating. Bridge components were scanned with a Viken XRF analyzer (Model # Pb200i, Serial #1888, Reference Date: 11/01/22) with a limit of detection (LOD) of 0.1 mg/cm<sup>2</sup>.

LBP is regulated by multiple government agencies, and each requires different response actions when the concentration of lead exceeds specified thresholds. The Occupational Safety and Health Administration (OSHA) regulates worker exposure to lead dust, and as a result considers materials with any lead content to be a potential hazard. Additionally, South Carolina Department of Health and Environmental Control (SCDHEC) requires some waste materials to be disposed of at specific disposal facilities that are able to manage this waste. Appendix C, XRF Data, is provided to present the XRF data in a user-friendly format. Items in red text contain lead in concentrations regulated by SCDHEC and these materials must be addressed upon disposal. Items in blue and red text contain lead in concentrations that must be considered a potential for worker exposure by OSHA.

The results from the XRF quantitative testing of the Bridge components indicate that lead is present in paint and/or coatings in concentrations greater than or equal to ( $\geq$ ) 0.7 mg/cm<sup>2</sup> in the following Bridge components:

**Bridge #5 (US 301/15 Trail Overflow Bridge over Lake Marion)**

- Green Steel Bridge Repair I-Beams
- White Steel Handrail Plates
- Gray Steel Bridge Repair I-Beams

For more information regarding the specific descriptions and locations of the items that were scanned, refer to the Appendix C, Summary of XRF Data. Appendix E, Site Photos for locations and pictures of the materials with concentrations greater than or equal to ( $\geq$ ) 0.7 mg/cm<sup>2</sup>. Appendix D includes the inspector's EPA lead-based paint inspector certification.

We appreciate the opportunity to assist you in this project. If you have any questions or require additional information, please feel free to contact our office at (803) 254-4540.

Sincerely,

F&ME CONSULTANTS



**Michael S. Mincey**

SC Lead Based Paint Inspector

EPA Certification No. LBP-I-1198708-2 (Exp. 2/21/25)



**Glynn M. Ellen**

Environmental Department Manager



## 2 LEAD-BASED PAINT BACKGROUND INFORMATION

Housing and Urban Development (HUD) defines “LBP” as any coating that has a lead concentration of 1.0 milligrams of lead per square centimeter (1.0 mg/cm<sup>2</sup>) or greater, or if the lead concentration is greater than one half of a percent (> 0.5%) by weight. The Consumer Product Safety Commission (CPSC) currently considers paint to be lead-containing if the concentration of lead exceeds 90 ppm (0.009% by weight). In 1978, the CPSC banned the sale of LBP to consumers, and banned its application in areas where consumers have direct access to painted surfaces. Both the CPSC and HUD definitions of lead-containing paint are aimed at protecting the general population from exposure to lead in residential settings.

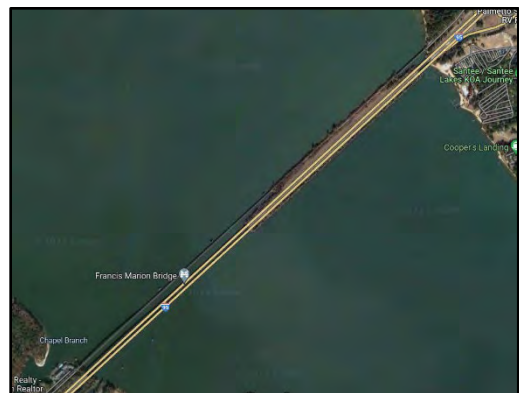
In contrast, the mission of OSHA with respect to lead-containing paint is to protect workers during construction activities that may generate elevated airborne lead concentrations. OSHA states that construction work (including renovation, maintenance, and demolition) carried-out on structures coated with paint having lead concentrations lower than the HUD or CPSC can still result in airborne lead concentrations in excess of regulatory limits. For this reason, OSHA has not defined lead-containing paint, but states that paint having any measurable level of lead may pose a substantial exposure hazard during construction work, depending upon the work performed. Therefore, in these situations, OSHA guidelines and safety procedures should be followed. By OSHA standards and regulations, the employer shall ensure that no employee is exposed to lead at concentrations greater than fifty micrograms per cubic meter of air (50 ug/m<sup>3</sup>) averaged over an 8-hour period.

Additionally, SCDHEC requires the use of specific waste disposal sites if materials contain lead concentrations greater than or equal to ( $\geq$ ) 0.7 mg/cm<sup>2</sup>. Due to the anticipated demolition of the Bridge structures, the SCDHEC lead disposal requirements were used as a threshold.

## 3 INTRODUCTION

The US 301 Pedestrian Bridge (Bridge #5) was constructed in the late 1940’s based on the Bridge renovation drawings dated March 2021 that were obtained from the Client.

The Overflow portion of the US 15/ 301 Trail Bridge (Bridge #5) (~350.0’ L x 31.0’ W, inside curb to inside curb) is a two (2) lane, concrete and steel bridge structures with poured-in-place concrete bridge decking and concrete curbing with metal scuppers, with an asphalt overlay. The Bridges are constructed with poured-in-place (PIP) concrete beams, bent caps,



*Photo 1 – I-95 over Lake Marion Bridges in Clarendon & Orangeburg Counties, SC.*



decking, curb/gutter system, and concrete piers. Metal guardrails run along each side of the Bridge and are attached to the concrete curbs. Multiple structural repairs to stabilize and to provide new supports for the concrete beams were noted along the underside of both of these Bridges, along with railing repairs on each side of the Bridge. The repairs consisted of steel I-Beams supporting multiple horizontal PIP concrete beams at the tops of several PIP concrete bent caps., with multiple steel bearing plates inserted at the location of each repair to stabilize and level the bridge supports. Refer to Appendix A, Site Vicinity Map, for the location of the Bridge. Appendix B, Sample Location Plan, for a layout of the samples taken from the Bridge.

## 4 INVESTIGATION PROCEDURES AND RESULTS

FME's LBP Investigation sampling protocol consisted of randomly selecting bridge components and scanning them with a Viken X-Ray Fluorescence (XRF) Portable Analyzer (Model # Pb200i, Serial #1888). The following Bridge components tested positive for lead in concentrations greater than or equal to ( $\geq$ ) 0.7 mg/cm<sup>2</sup>:

### **Bridge #5 (US 301/15 Trail Overflow Bridge over Lake Marion)**

- Green Steel Bridge Repair I-Beams
- White Steel Handrail Plates
- Gray Steel Bridge Repair I-Beams

For more information regarding the specific descriptions and locations of the items that were scanned, refer to the Appendix C, Summary of XRF Data. On the XRF Data Table, items highlighted in **Red** are positive and contain lead in concentrations greater than or equal to ( $\geq$ ) 0.7 mg/cm<sup>2</sup>. Items in **Blue** text contain lead in concentrations that must be considered a potential for worker exposure by OSHA. Appendix D, Site Photos for locations and pictures of the materials with concentrations greater than or equal to ( $\geq$ ) 0.7 mg/cm<sup>2</sup>. Appendix E includes the inspector's EPA lead-based paint inspector certification.

## 5 RECOMMENDATIONS

The results, conclusions and recommendations from this investigation are representative of the conditions observed at the site on the dates of the field investigations. FME does not assume responsibility for any changes in conditions or circumstances that occur after the date of the field investigation. No other environmental issues were addressed as part of this report.

The results from the XRF quantitative testing of Bridge components scanned indicate that lead was found to be present in paint and/or coatings in concentrations greater than or equal to ( $\geq$ ) 0.7 mg/cm<sup>2</sup> in the following Bridge components:

## Bridge #5 (US 301/15 Trail Overflow Bridge over Lake Marion)

- Green Steel Bridge Repair I-Beams
- White Steel Handrail Plates
- Gray Steel Bridge Repair I-Beams

Therefore, OSHA regulations and procedures should be followed when impacting these components. If possible, they should be removed in whole and disposed of properly. Also, SCDHEC disposal requirements for lead containing materials should also be followed.

As stated previously, OSHA regulates any measurable level of lead, as it may pose a substantial exposure hazard to workers. Therefore, in these situations, OSHA regulations and safety procedures should be followed. These regulations also list the proper personal protective equipment to be used by the workers disturbing the LBP items and the requirements for personal air monitoring. OSHA's exposure action level (AL) for lead, regardless of respirator use, is an airborne concentration of  $30\mu\text{g}/\text{cm}^3$ , averaged over an eight-hour period. The action level (AL) is the level at which an employer must begin specific compliance activities as outlined in OSHA's lead standards. By OSHA standards and regulations, the employer shall ensure that no employee is exposed to lead at concentrations greater than fifty micrograms per cubic meter of air ( $50\mu\text{g}/\text{m}^3$ ) averaged over an 8-hour period which is the permissible exposure level (PEL).

SCDHEC regulates the proper disposal of LBP and associated debris. SCDHEC defines two types of LBP debris. The first is LBP *waste*, which is defined as material such as wood, brick and metal that is painted with LBP. The other is LBP *residue* which is defined as residue that is generated from the removal (e.g., scraped, chipped, sandblasted, or chemical) of LBP from a structure. LBP *waste* that comes from a commercial or residential facility may be disposed of in either a class 2 or 3 landfill, while LBP *residue* from a commercial facility must have a toxicity characteristic leaching procedure (TCLP) analysis to determine the lead content. TCLP analysis is used to determine whether or not a waste is a characteristic hazardous waste due to leachability under the South Carolina Hazardous Waste Management Regulations. LBP *residue* with a TCLP analysis result greater than or equal to five milligrams per liter ( $\geq 5\text{ mg/l}$ ) lead must be disposed of in a Subtitle C landfill (Hazardous Waste). However, LBP *residue* from a commercial facility with a TCLP analysis result less than five milligrams per liter ( $< 5\text{ mg/l}$ ) lead is required to be disposed of in a Class 3 landfill.

We sincerely appreciate the opportunity to be of service to Transystems on this project. If you have any questions regarding the information presented herein, please contact our office at (803) 254-4540.

## APPENDICES

Appendix A – Site Vicinity Map

Appendix B – General Bridge Plan

Appendix C – Summary of XRF Data Table

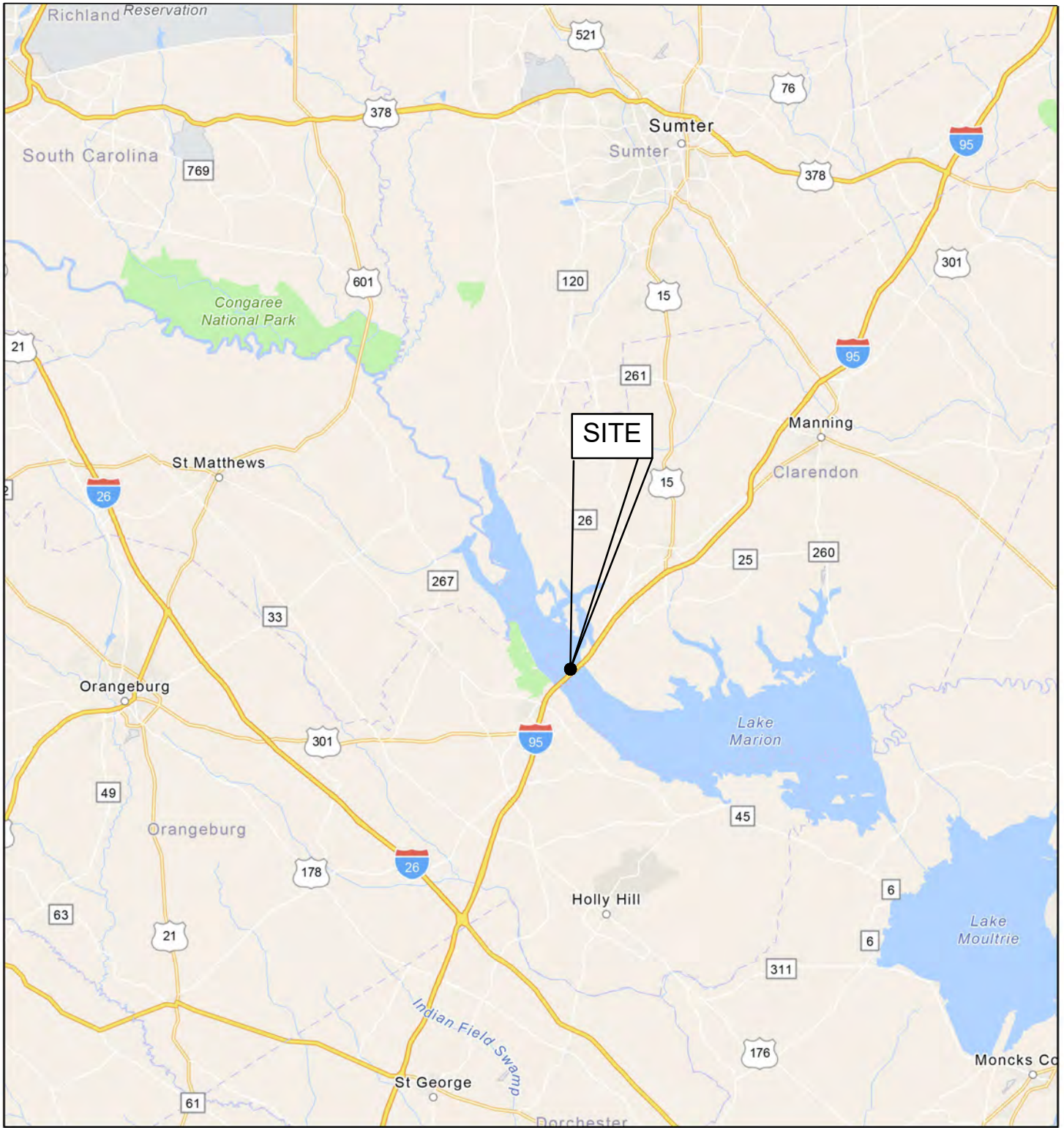
Appendix D – Site Photos

Appendix E – EPA LBP Inspector Certification



## Appendix A

### Site Vicinity Map



1:577,791

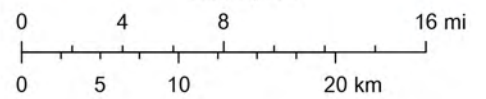


FIGURE NUMBER:

1

F&ME CONSULTANTS PROJECT NUMBER:

G6744.000

LEAD-BASED PAINT INVESTIGATION  
US 301/15 Trail Overflow Bridge over Lake Marion  
Clarendon & Orangeburg Counties, South Carolina

SITE VICINITY MAP

Prepared for:  
Transystems  
1859 Summerville Ave., Suite 600  
Charleston, SC 29405



211 BUSINESS PARK BLVD.  
COLUMBIA, SC 29203

ORIGINAL:  
August 11, 2023

REVISIONS:

- 1 \_\_\_\_\_
- 2 \_\_\_\_\_
- 3 \_\_\_\_\_

SCALE:  
Shown

DRWN. BY: MSM  
CHKD. BY: MSM  
APPR. BY: GME

NOTES:

- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_



## Appendix B

### General Bridge Plan



D

US 301/15 Trail Bridge over Lake Marion Overflow

C

A

B

**F&ME** CONSULTANTS, INC.  
COLUMBIA, SC  
CONSULTANTS

US 301/15 TRAIL OVERFLOW BRIDGE OVER LAKE MARION  
CLARENDON & ORANGEBURG COUNTIES, SOUTH CAROLINA

GENERAL BRIDGE PLAN

F&ME JOB NO. G6744.000

SCALE: N.T.S.

FIGURE 2

4			
3			
2			
1			
REV.	BY	DATE	DESCRIPTION OF REVISION
TOPO.		DATE	
DWG.	MSM	DATE 08/11/2023	GROUP ____ - ____
R/W		DATE	

## Appendix C

### Summary of XRF Data Table

**Appendix C – XRF Data**  
**Date Scanned: 07/21/2023**  
**US 301/15 Trail Overflow Bridge over Lake Marion**

Scan No.	Pbc (mg/cm <sup>2</sup> )	Component	Substrate	Side	Condition	Color
<b>Bridge #5 (US 301/15 Trail Overflow Bridge) 07/21/2023</b>						
1	0.93	Calibrate				
2	0.91	Calibrate				
3	0.94	Calibrate				
4	0.97	Repair I-Beam	Metal	D	Poor	Gray
5	2.05	Repair I-Beam	Metal	D	Poor	Green
6	0.24	Handrail	Metal	D	Intact	White
7	0.49	Handrail Plate	Metal	D	Intact	White
8	0.31	Handrail Plate	Metal	D	Intact	White
9	2.49	Handrail Plate	Metal	D	Intact	White
10	0.38	Handrail	Metal	D	Intact	White
11	0.12	Handrail	Metal	D	Intact	White
12	0.81	Calibrate				
13	0.87	Calibrate				
14	0.93	Calibrate				

LOD (Limit of Detection) = 0.1 mg/cm<sup>2</sup>

Blue text indicates any concentrations of LBP which OSHA considers a potential exposure risk when removed.

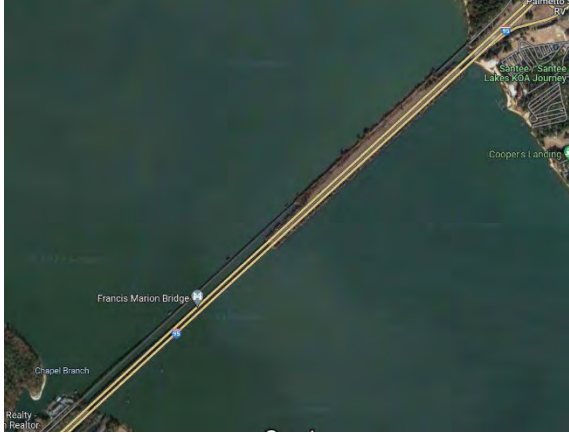
Red text indicates concentrations of LBP that have specific disposal requirements regulated by SCDHEC.

Side A = North, then go clockwise.

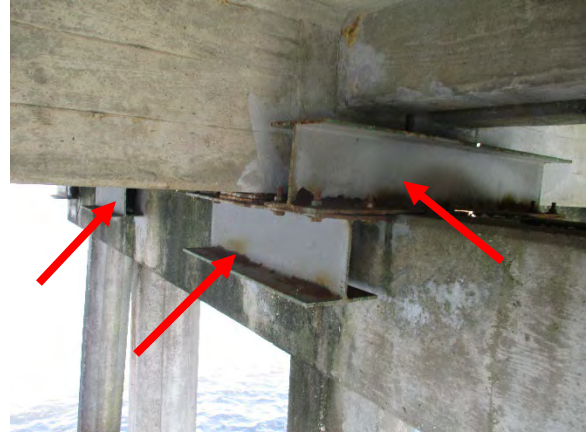
## Appendix D

### Site Photos

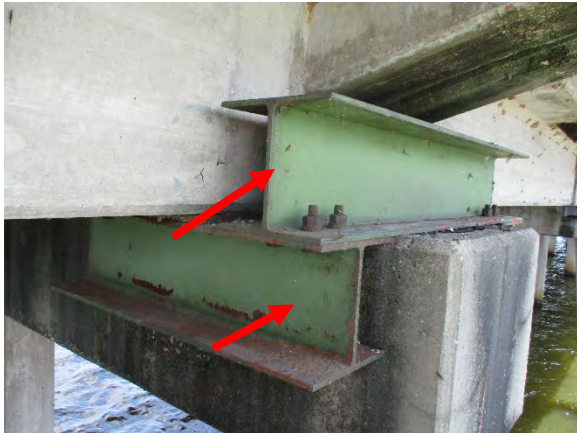




**Photo 1.** Top View of Bridges.



**Photo 2.** LBP on Gray Repair I-Beams on Underside of Bridge #5 .



**Photo 3.** LBP on Green Repair I-Beams on Underside of Bridge #5.



**Photo 4.** LBP on Gray Metal Handrail Plates along each Side of Bridge #5.



**Photo 5.** Underside View of Bridge #5.



**Photo 6.** Top Deck View of Bridge #5.



## Appendix E

### EPA LBP Inspector Certification



# United States Environmental Protection Agency

This is to certify that



Michael S Mincey

has fulfilled the requirements of the Toxic Substances Control Act (TSCA) Section 402, and has received certification to conduct lead-based paint activities pursuant to 40 CFR Part 745.226 as:

Inspector

## In the Jurisdiction of:

All EPA Administered Lead-based Paint Activities Program States, Tribes and Territories

This certification is valid from the date of issuance and expires February 21, 2025

LBP-I-1198708-2

Certification #

January 05, 2022

Issued On



A handwritten signature in black ink, appearing to read 'Adrienne Priselac'.

Adrienne Priselac, Manager, Toxics Office

Land Division

**Bridge Remnants on Lake Marion**  
**Asbestos and Lead-based Paint Reports**





# ASBESTOS CONTAINING MATERIAL INVESTIGATION REPORT

BRIDGE REMNANTS ON LAKE MARION  
CLARENDON & ORANGEBURG COUNTIES, SOUTH CAROLINA

PREPARED FOR:

**TRANSYSTEMS**

C/O Mr. Peter Strub  
Sr. Vice President/Principal  
1859 Summerville Avenue, Suite 600  
Charleston, SC 29405

PREPARED BY:

F&ME Consultants, Inc.  
211 Business Park Blvd.  
Columbia, South Carolina 29203

**August 18, 2023**

Yes, asbestos was found.  
 No, asbestos was not found.

F&ME Project No.: G6744.000



## TABLE OF CONTENTS

1.	Executive Summary.....	1
2.	Introduction.....	3
3.	Existing Building Structure.....	3
4.	Field Assessment .....	4
5.	Recommendations.....	3
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Appendix A – Site Vicinity Map

Appendix B – Sample Bridge Plan

Appendix C – Summary of Samples

Appendix D – Laboratory Analysis Reports

Appendix E – Chain-of-Custody Form

Appendix F – Site Photographs

Appendix G – Personnel Certifications



# 1 EXECUTIVE SUMMARY

This executive summary is intended as an overview for the convenience of the reader. This report should be reviewed in its entirety prior to making any decisions regarding this project. This investigation report is one of seven (7) completed for the project. The investigations included the existing north and southbound I-95 bridge structures, the former US 301/15 Trail Bridges, and the older remnants of the US 301 bridge. The below Bridge numbering system utilized for the investigations and referenced in this report reflects the numbering system developed by F&ME Consultants, Inc. (FME) field personnel during the field investigation and does not reflect any Bridge numbering system used by The South Carolina Department of Transportation (SCDOT). This report is specifically for the Bridge Remnants only. Refer to other reports prepared by FME for the other bridges.

FME has completed the Asbestos Containing Material (ACM) Investigations of the existing Bridge Remnants on Lake Marion (Bridge #7) in Clarendon and Orangeburg Counties in South Carolina, at the request of Transystems (Client). The field investigations were performed between July 19, 2023 and July 21, 2023, in anticipation of the demolition of the Bridge Remnants. This investigation was conducted pursuant to South Carolina Department of Health and Environmental Control (SCDHEC), United States Environmental Protection Agency (USEPA), National Emission Standards for Hazardous Air Pollutants (NESHAP), and Occupational Safety and Health Administration (OSHA) regulations requiring an ACM investigation prior to any demolition activities.

Per an agreed upon scope of work, FME performed this investigation to identify any ACM that might be encountered during the demolition of the existing Bridge, and to provide recommendations regarding proper handling and disposal of any ACM found. The investigation of the subject Bridge identified one suspect material: an expansion joint sealer. During the field investigation, FME collected samples of the suspect materials and assessed the physical condition of each material. **Laboratory results indicate that the material sampled during this investigation was negative for asbestos.** During the demolition activities, previously concealed ACM may be discovered. If hidden suspect ACM is encountered not addressed in this report, the affected contractor(s) must stop work, take appropriate actions, and notify the Owner/FME for an appropriate response action.



We sincerely appreciate the opportunity to assist you with this project. Should you have any questions or require additional information concerning this Investigation, please do not hesitate to contact our office at (803) 254-4540.

Sincerely,

F&ME CONSULTANTS



**Michael S. Mincey**  
Environmental Professional  
Asbestos Consultant/Management Planner  
SCDHEC License No: MP-00161  
Expiration Date 01/23/2024



**Glynn M. Ellen**  
Environmental Department Manager  
Asbestos Consultant/Management Planner  
SCDHEC License No: ASB-22641  
Expiration Date 01/23/2024



## 2 INTRODUCTION

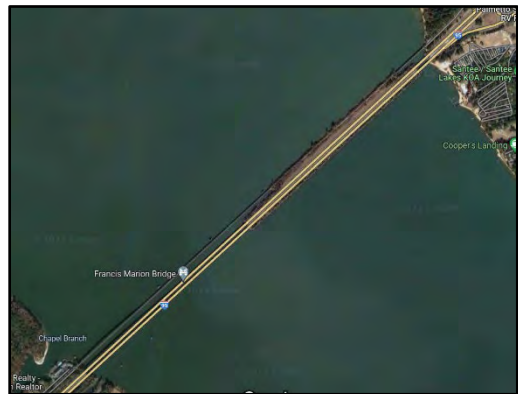
FME has completed an ACM investigation on the Bridge Remnants on Lake Marion in Clarendon and Orangeburg Counties in South Carolina. The investigation was performed on July 19<sup>th</sup> through July 21<sup>st</sup>, 2023. This investigation was conducted pursuant to SCDHEC, USEPA, NESHAP, and OSHA regulations which require an ACM investigation prior to any demolition activities. Refer to Appendix A, Site Vicinity Map for the location of the Bridge.

It is our understanding that the existing Bridge will to be demolished. The scope of this investigation was to determine if asbestos was present on this Bridge by identifying and sampling suspect ACM, obtaining analytical results, quantifying any confirmed ACM, and assessing the physical condition of the ACM, where possible.

This report has been prepared exclusively for the Client and shall not be disseminated in whole or part to other parties without prior consent from the Client or FME. No other environmental issues were addressed as part of this report.

## 3 EXISTING BRIDGE STRUCTURE

The bridge remnants that are believed to be the old US 301 (Bridge #7) consist of three (3) separate sections of the original Bridge that remain out in the water alongside the US 15/ 301 Trail Bridge. Each remaining section consisted of a two (2) Bridge spans. These sections were constructed with PIP concrete decking, curb/gutter system, guardrails, beams, diaphragms, bent caps and piers. Each section was noted to have an asphalt overlay and metal drainage scuppers. Advertising signage was mounted on one section that remains. Refer to Appendix A, Site Vicinity Map, for the location of the Bridges. Appendix B, Sample Location Plan, for a layout of the samples taken from each Bridge.



*Photo 1 – I-95 over Lake Marion Bridges in Clarendon & Orangeburg Counties, SC.*

## 4 FIELD ASSESSMENT

During the inspection, all bridge components (i.e., concrete bent caps, piers, scuppers, and expansion joints) were visually inspected for suspect ACM. Examples of possible suspect materials include bent cap bearing materials, expansion joint materials and scuppers. The bridge deck rested directly on concrete bent caps with no bond break bearing pads between them. The PIP concrete bent caps were supported by PIP concrete piles. An expansion joint sealer was noted

during the investigation as the only suspect material. Refer to Appendix B, Sample Location Plan, for detailed sample locations. Also, see Appendix F, Site Photographs, for more details.

## 5 RECOMMENDATIONS

The results, conclusions, and recommendations of this Investigation are representative of the conditions observed at the site on the date of the field investigation. FME does not assume responsibility for any changes in conditions or circumstances that may have occurred after this investigation.

It is our understanding that the existing Bridge will to be demolished. **Laboratory results indicate that the material sampled during this investigation was negative for asbestos.** Therefore, there are no foreseen special handling or disposal requirements, regarding asbestos, that will be required for the demolition of this bridge.

If any concealed and/or inaccessible suspect ACM are encountered during the demolition activities, the affected contractor(s) must stop work, take appropriate actions, and notify the Owner/Asbestos Consultant for an appropriate response action. The SCDHEC must be notified if any suspect ACM is discovered.

This report has been prepared exclusively for the Client and FME and shall not be disseminated in whole or in part to other parties without prior consent from the Client. Use of this document for bidding purposes is not recommended without prior consultation with FME.

We sincerely appreciate the opportunity to be of service to Transystems in this matter. If you have any questions regarding the information presented herein, please contact our office at (803) 254-4540.





## APPENDICES

Appendix A – Site Vicinity Map

Appendix B – Sample Bridge Plan

Appendix C – Summary of Samples

Appendix D – Laboratory Analysis Reports

Appendix E – Chain-of-Custody Form

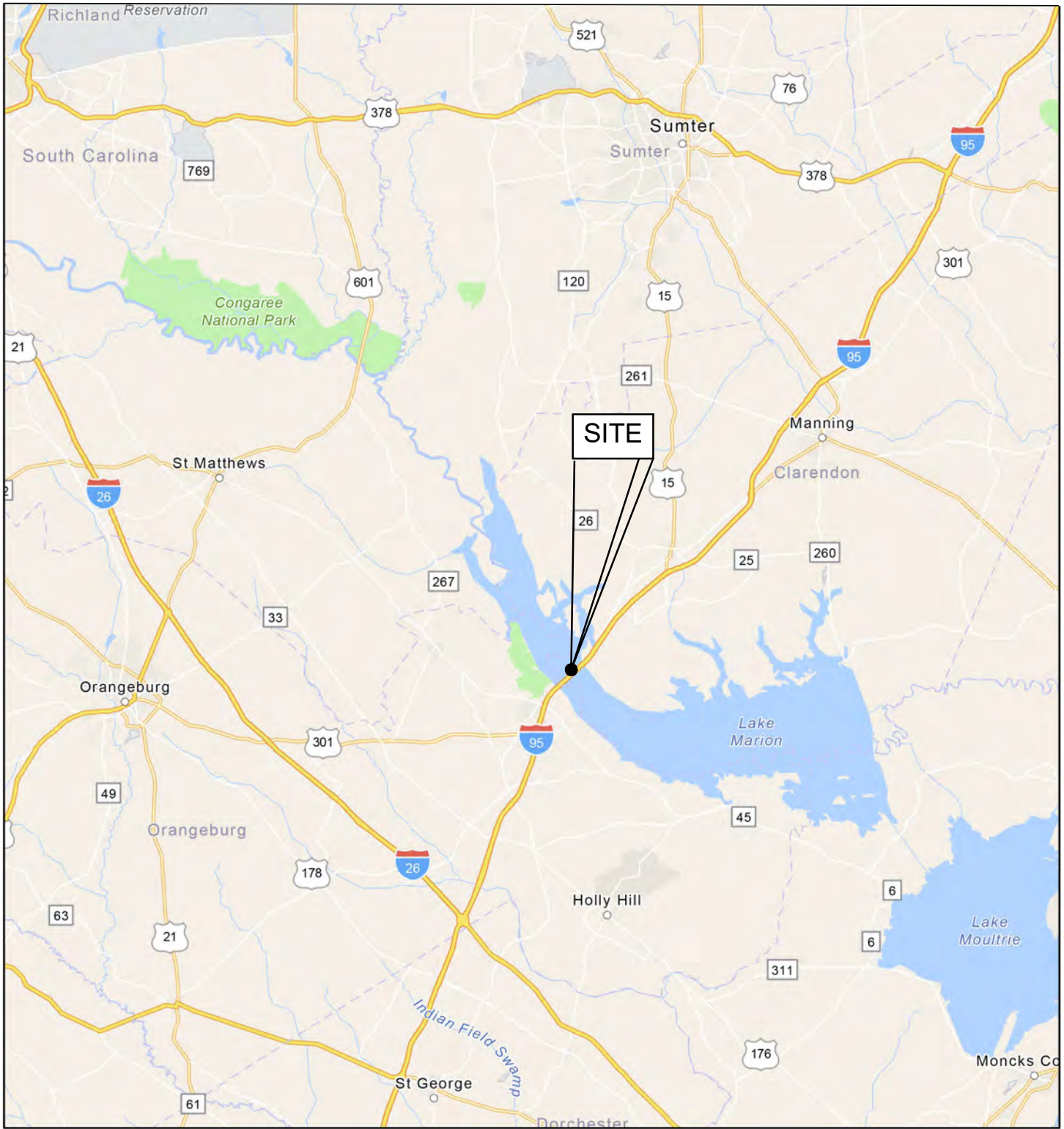
Appendix F – Site Photographs

Appendix G – Personnel Certifications



## Appendix A

### Site Vicinity Map



1:577,791

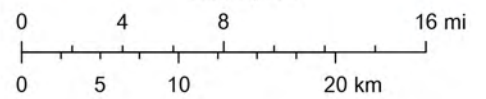


FIGURE NUMBER:

1

F&ME CONSULTANTS PROJECT NUMBER:

G6744.000

ASBESTOS CONTAINING MATERIALS INVESTIGATION  
 Bridge Remnants on Lake Marion  
 Clarendon & Orangeburg Counties, South Carolina  
 SITE VICINITY MAP

Prepared for:  
 Transystems  
 1859 Summerville Ave., Suite 600  
 Charleston, SC 29405



211 BUSINESS PARK BLVD.  
 COLUMBIA, SC 29203

ORIGINAL:  
 August 11, 2023

REVISIONS:

- 1 \_\_\_\_\_
- 2 \_\_\_\_\_
- 3 \_\_\_\_\_

SCALE:  
 Shown

DRWN. BY: MSM  
 CHKD. BY: GME  
 APPR. BY: GME

NOTES:

- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

## Appendix B

### Sample Location Plan





BR-1-1

US 301 Bridge Remnant (Bridge #7)

Match Line

Match Line



F&ME CONSULTANTS, INC.  
COLUMBIA, SC

BRIDGE REMNANTS ON LAKE MARION  
CLARENDON & ORANGEBURG COUNTIES, SOUTH CAROLINA

SAMPLE LOCATION PLAN

F&ME JOB NO. G6744.000

SCALE: N.T.S.

FIGURE 2

4			
3			
2			
1			
REV.	BY	DATE	DESCRIPTION OF REVISION
TOPO.		DATE	
DWG.	MSM	DATE 08/11/2023	GROUP
R/W		DATE	





BR-1-2

US 301 Bridge Remnant (Bridge #7)

Match Line

Match Line

**F&ME** CONSULTANTS, INC.  
CONSULTANTS COLUMBIA, SC

BRIDGE REMNANTS ON LAKE MARION  
CLARENDON & ORANGEBURG COUNTIES, SOUTH CAROLINA

SAMPLE LOCATION PLAN

F&ME JOB NO. G6744.000

SCALE: N.T.S.

FIGURE 3

4			
3			
2			
1			
REV.	BY	DATE	DESCRIPTION OF REVISION
TOPO.		DATE	
DWG.	MSM	DATE 08/11/2023	GROUP ____ - ____
R/W		DATE	





BR-1-3

US 301 Bridge Remnant (Bridge #7)

Match Line

Match Line

**F&ME** CONSULTANTS, INC.  
COLUMBIA, SC  
CONSULTANTS

BRIDGE REMNANTS ON LAKE MARION  
CLARENDON & ORANGEBURG COUNTIES, SOUTH CAROLINA

SAMPLE LOCATION PLAN

F&ME JOB NO. G6744.000

SCALE: N.T.S.

FIGURE 4

4			
3			
2			
1			
REV.	BY	DATE	DESCRIPTION OF REVISION
TOPO.		DATE	
DWG.	MSM	DATE 08/11/2023	GROUP ____ - ____
R/W		DATE	

## Appendix C

### Summary of Samples

## Appendix C: Summary of Samples

Sample ID	Description
<b>Bridge #7 (Bridge Remnants on Lake Marion)</b>	
BR-3-1	Expansion Joint Sealer
BR-3-2	Expansion Joint Sealer
BR-3-3	Expansion Joint Sealer



## Appendix D

### Laboratory Analysis Reports





# EMSL Analytical, Inc.

706 Gralin Street Kernersville, NC 27284

Tel/Fax: (336) 992-1025 / (336) 992-4175

<http://www.EMSL.com / kernersvillelab@emsl.com>


<b>EMSL Order:</b> 022304971
<b>Customer ID:</b> FMEC62
<b>Customer PO:</b> G6744.000
<b>Project ID:</b>

<b>Attention:</b> Glynn M. Ellen F & ME Consultants 211 Business Park Blvd Columbia, SC 29203	<b>Phone:</b> (803) 254-4540 <b>Fax:</b> (803) 254-4542 <b>Received Date:</b> 07/25/2023 10:15 AM <b>Analysis Date:</b> 07/27/2023 <b>Collected Date:</b>
<b>Project:</b> 1-95 over Lake Marion (Old Bridge Remnants)	

**Test Report: Asbestos Analysis of Bulk Materials via AHERA Method 40CFR 763 Subpart E  
Appendix E supplemented with EPA 600/R-93/116 using Polarized Light Microscopy**

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
BR1-1 <small>022304971-0001</small>	Expansion Joint Sealer	Brown/Black Non-Fibrous Heterogeneous	<1% Cellulose	100% Non-fibrous (Other)	None Detected
BR1-2 <small>022304971-0002</small>	Expansion Joint Sealer	Brown/Black Non-Fibrous Heterogeneous	<1% Cellulose	100% Non-fibrous (Other)	None Detected

Analyst(s)  
\_\_\_\_\_  
Scott Combs (2)

  
\_\_\_\_\_  
Stephen Bennett, Laboratory Manager  
or Other Approved Signatory

EMSL maintains liability limited to cost of analysis. Interpretation and use of test results are the responsibility of the client. This report relates only to the samples reported above, and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. The report reflects the samples as received. Results are generated from the field sampling data (sampling volumes and areas, locations, etc.) provided by the client on the Chain of Custody. Samples are within quality control criteria and met method specifications unless otherwise noted. The above analyses were performed in general compliance with Appendix E to Subpart E of 40 CFR (previously EPA 600/M4-82-020 "Interim Method") but augmented with procedures outlined in the 1993 ("final") version of the method. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the federal government. Non-friable organically bound materials present a problem matrix and therefore EMSL recommends gravimetric reduction prior to analysis. Unless requested by the client, building materials manufactured with multiple layers (i.e. linoleum, wallboard, etc.) are reported as a single sample. Estimation of uncertainty is available on request.

Samples analyzed by EMSL Analytical, Inc. Kernersville, NC NVLAP Lab Code 102104-0, Virginia 3333-000228, West Virginia LT000321

Initial report from: 07/28/2023 08:18:53



# EMSL Analytical, Inc.

706 Gralin Street Kernersville, NC 27284  
Tel/Fax: (336) 992-1025 / (336) 992-4175  
<http://www.EMSL.com> / [kernersvillelab@emsl.com](mailto:kernersvillelab@emsl.com)

**EMSL Order:** 022304971  
**Customer ID:** FMEC62  
**Customer PO:** G6744.000  
**Project ID:**

**Attention:** Glynn M. Ellen  
F & ME Consultants  
211 Business Park Blvd  
Columbia, SC 29203  
**Phone:** (803) 254-4540  
**Fax:** (803) 254-4542  
**Received Date:** 07/25/2023 10:15 AM  
**Analysis Date:** 07/28/2023  
**Collected Date:**  
**Project:** 1-95 over Lake Marion (Old Bridge Remnants)

## Test Report: Asbestos Analysis of Non-Friable Organically Bound Materials by TEM via EPA/600/R-93/116 Section 2.5.5.1

Sample ID	Description	Appearance	% Matrix Material	% Non-Asbestos Fibers	Asbestos Types
BR1-3 022304971-0003	Expansion Joint Sealer	Black Non-Fibrous Homogeneous	100.0 Other	None	No Asbestos Detected

Analyst(s)

Stephen Bennett (1)

Stephen Bennett, Laboratory Manager  
or other approved signatory

EMSL maintains liability limited to cost of analysis. Interpretation and use of test results are the responsibility of the client. This report relates only to the samples reported above, and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. The report reflects the samples as received. Results are generated from the field sampling data (sampling volumes and areas, locations, etc.) provided by the client on the Chain of Custody. Samples are within quality control criteria and met method specifications unless otherwise noted. EMSL recommends that samples reported as none detected or < 1% undergo additional analysis via PLM to avoid the possibility of false negatives.

Samples analyzed by EMSL Analytical, Inc. Kernersville, NC

Initial report from: 07/28/2023 16:39:40

## Appendix E

### Chain-of-Custody Forms



EMSL ANALYTICAL, INC.  
LABORATORY PRODUCTS TRAINING

### Asbestos Chain of Custody

EMSL Order Number (Lab Use Only)

022304971

X  
706 GRALIN ST.  
KERNERSVILLE, NC 27284  
PHONE: (336) 992-1025  
FAX: (336) 992-4175

Company Name : F&ME Consultants		EMSL Customer ID: FMEC62	
Street: 211 Business Park Boulevard		City: Columbia	State/Province: SC
Zip/Postal Code: 29203	Country: USA	Telephone #: 803-254-4540	Fax #: 803-254-4542
Report To (Name): Glynn Ellen		Please Provide Results: <input type="checkbox"/> Fax <input checked="" type="checkbox"/> Email	
Email Address: gellen@fmeconsultants.com, and mmincey@fmeconsultants.com,		Purchase Order: G6744.000	
Project Name/Number: I-95 over Lake Marion (Old Bridge Remnants)		EMSL Project ID (Internal Use Only)	
U.S. State Samples Taken: SC		CT Samples: <input checked="" type="checkbox"/> Commercial/Taxable <input type="checkbox"/> Residential/Tax Exempt	
EMSL-Bill to: <input checked="" type="checkbox"/> Same <input type="checkbox"/> Different - If Bill to is Different note instructions in Comments** Third Party Billing requires written authorization from third party			
Turnaround Time (TAT) Options* - Please Check			
<input type="checkbox"/> 3 Hour	<input type="checkbox"/> 6 Hour	<input type="checkbox"/> 24 Hour	<input type="checkbox"/> 48 Hour <input checked="" type="checkbox"/> 72 Hour <input checked="" type="checkbox"/> 96 Hour <input type="checkbox"/> 1 Week <input type="checkbox"/> 2 Week
*For TEM Air 3 hr through 6 hr, please call ahead to schedule. *There is a premium charge for 3 Hour TEM AHERA or EPA Level II TAT You will be asked to sign an authorization form for this service. Analysis completed in accordance with EMSL's Terms and Conditions located in the Analytical Price Guide.			
<b>PCM - Air</b> <input type="checkbox"/> Check if samples are from NY <input type="checkbox"/> NIOSH 7400 <input type="checkbox"/> w/ OSHA 8hr. TWA		<b>TEM - Air</b> <input type="checkbox"/> 4-4.5hr TAT (AHERA only) <input type="checkbox"/> AHERA 40 CFR, Part 763 <input type="checkbox"/> NIOSH 7402 <input type="checkbox"/> EPA Level II <input type="checkbox"/> ISO 10312	
<b>PLM - Bulk (reporting limit)</b> <input checked="" type="checkbox"/> PLM EPA 600/R-93/116 (<1%) <input type="checkbox"/> PLM EPA NOB (<1%) Point Count <input type="checkbox"/> 400 (<0.25%) <input type="checkbox"/> 1000 (<0.1%) Point Count w/Gravimetric <input type="checkbox"/> 400 (<0.25%) <input type="checkbox"/> 1000 (<0.1%) <input type="checkbox"/> NYS 198.1 (friable in NY) <input type="checkbox"/> NYS 198.6 NOB (non-friable-NY) <input type="checkbox"/> NYS 198.8 SOF-V <input type="checkbox"/> NIOSH 9002 (<1%)		<b>TEM - Bulk</b> <input checked="" type="checkbox"/> TEM EPA NOB <input type="checkbox"/> NYS NOB 198.4 (non-friable-NY) <input type="checkbox"/> Chatfield SOP <input type="checkbox"/> TEM Mass Analysis-EPA 600 sec. 2.5 <b>TEM - Water:</b> EPA 100 2 Fibers >10µm <input type="checkbox"/> Waste <input type="checkbox"/> Drinking All Fiber Sizes <input type="checkbox"/> Waste <input type="checkbox"/> Drinking	
<input checked="" type="checkbox"/> Check For Positive Stop - Clearly Identify Homogenous Group		<b>TEM - Dust</b> <input type="checkbox"/> Microvac - ASTM D 5755 <input type="checkbox"/> Wipe - ASTM D6480 <input type="checkbox"/> Carpet Sonication (EPA 600/J-93/167)	
		<b>Soil/Rock/Vermiculite</b> <input type="checkbox"/> PLM EPA 600/R-93/116 with milling prep (<1%) <input type="checkbox"/> PLM EPA 600/R-93/116 with milling prep (<0.25%) <input type="checkbox"/> TEM EPA 600/R-93/116 with milling prep (<0.1%) <input type="checkbox"/> TEM Qualitative via Filtration Prep <input type="checkbox"/> TEM Qualitative via Drop Mount Prep <input type="checkbox"/> Cincinnati Method EPA 600/R-04/004 - PLM/TEM (BC only)	
		<b>Other:</b> <input type="checkbox"/>	
Filter Pore Size (Air Samples): <input type="checkbox"/> 0.8µm <input type="checkbox"/> 0.45µm			
Samplers Name: Glynn M. Ellen		Samplers Signature:	
Sample #	Sample Description	Volume/Area (Air) HA # (Bulk)	Date/Time Sampled
*BR-1-1 thru BR-1-3	Expansion Joint Sealer		
Client Sample # (s):	BR-1-1 - BR-1-3	Total # of Samples:	3
Relinquished (Client):	Date: 07/24/2023	Time:	1700
Received (Lab): <i>JS</i>	Date: <i>7-25-23</i>	Time:	<i>10:15</i>
Comments/Special Instructions: *TEM 3 <sup>rd</sup> NOB.			

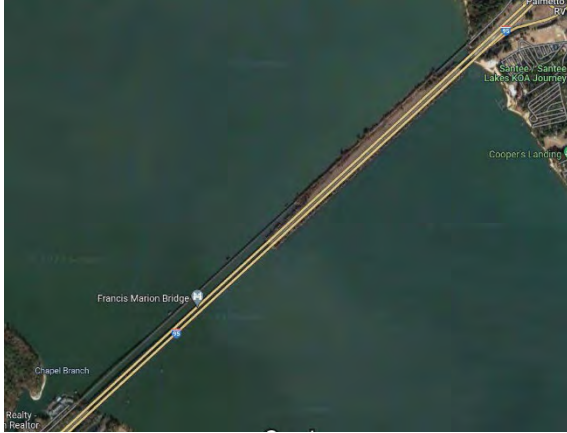
*EMSL FX 7966 7469 10527*  
Page 1 of 1

## Appendix F

### Site Photographs



APPENDIX F - SITE PHOTOGRAPHS



**Photo 1.** Top Side View of Bridges.



**Photo 2.** Bridge Remnant on West Side of US 301/15 Trail Bridge over Lake Marion.



**Photo 3.** Top Side View of Bridge Remnant.



**Photo 4.** Top Side View of Bridge Remnant with Advertising Sign.



**Photo 5.** Non-ACM Expansion Joint Sealer.



**Photo 6.** Underside View of Bridge Remnant.



## Appendix G

### Personnel Certifications

# SCDHEC ISSUED

## Asbestos ID Card

**Glynn M Ellen**



**AIRSAMPLER  
CONSULTMP  
CONSULTPD  
SUPERAHERA**

**AS-00079  
ASB-22641  
PD-00098  
SA-00455**

**Expiration Date:**

**01/22/24  
01/23/24  
07/12/23  
01/22/24**

This card is nontransferable and considered invalid if loaned or given to another person for identification. This card will also be invalid if altered or defaced. This card is property of SCDHEC. It must be returned to the department if the holder's accreditation is revoked or if this card is invalidated. Any person performing regulated asbestos activities without current accreditation shall be subject to legal sanction. This card must be returned upon expiration and/or issuance of a new card.

**YOU MUST HAVE THIS IDENTIFICATION CARD WITH YOU ON THE JOB.**

For information of corrections contact: SCDHEC - Asbestos Section  
2600 Bull Street  
Columbia, SC 29201  
(803) 898-4289



# SCDHEC ISSUED

## Asbestos ID Card

**Michael Mincey**



**AIRSAMPLER  
CONSULTMP  
SUPERAHERA**

**AS-00272  
MP-00161  
SA-01424**

**Expiration Date:**

**01/22/24  
01/23/24  
01/22/24**

This card is nontransferable and considered invalid if loaned or given to another person for identification. This card will also be invalid if altered or defaced. This card is property of SCDHEC. It must be returned to the department if the holder's accreditation is revoked or if this card is invalidated. Any person performing regulated asbestos activities without current accreditation shall be subject to legal sanction. This card must be returned upon expiration and/or issuance of a new card.

**YOU MUST HAVE THIS IDENTIFICATION CARD WITH YOU ON THE JOB.**

For information of corrections contact: SCDHEC - Asbestos Section  
2600 Bull Street  
Columbia, SC 29201  
(803) 898-4289



# LEAD-BASED PAINT INVESTIGATION REPORT

BRIDGE REMNANTS ON LAKE MARION  
CLARENDON & ORANGEBURG COUNTIES, SOUTH CAROLINA

## PREPARED FOR:

The logo for TRANSYSTEMS. The word 'TRANSYSTEMS' is in a bold, blue, sans-serif font. The letter 'A' is stylized with a blue triangle pointing upwards from its center.

C/O Mr. Peter Strub  
Sr. Vice President/Principal  
1859 Summerville Avenue, Suite 600  
Charleston, SC 29405

## PREPARED BY:

F&ME Consultants, Inc.  
211 Business Park Blvd.  
Columbia, South Carolina 29203

**August 18, 2023**

Yes, LBP was found.  
 No, LBP was not found.

FME Project No.: G6744.000



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# 1 EXECUTIVE SUMMARY

This executive summary is intended as an overview for the convenience of the reader. This report should be reviewed in its entirety prior to making any decisions regarding this project. This investigation report is one of seven (7) completed for the project. The investigations included the existing north and southbound I-95 bridge structures, the former US 301/15 Trail Bridges, and the older remnants of the US 301 bridge. The below Bridge numbering system utilized for the investigations and referenced in this report reflects the numbering system developed by F&ME Consultants, Inc. (FME) field personnel during the field investigation and does not reflect any Bridge numbering system used by The South Carolina Department of Transportation (SCDOT). This report is specifically for the Bridge Remnants only. Refer to other reports prepared by FME for the other bridges.

F&ME Consultants, Inc. (FME) has completed a Lead-Based Paint (LBP) investigation the existing three (3) sections of the Bridge Remnants on Lake Marion (Bridge #7) in Clarendon and Orangeburg Counties in South Carolina, at the request of Transystems (Client). The purpose of the investigation was to locate, identify and test components of the Bridge that are painted or coated with LBP. The field investigations were performed on July 19, 2023, in anticipation of the complete demolition of the Bridge Remnants. Refer to Appendix A, Site Vicinity Map is provided to show the location of the Bridge. Appendix B, General Bridge Plans, is provided to show the layout of the Bridge Remnants.

Per an agreed upon scope of work, this LBP Investigation was conducted to identify accessible Bridge components that have been painted or coated with lead-containing materials that have concentrations greater than or equal ( $\geq$ ) to the regulatory limit of 0.7 mg/cm<sup>2</sup>. This investigation includes both a visual evaluation of the physical condition of painted materials as well as quantitative testing of surfaces using an X-Ray Fluorescence (XRF) LBP analyzer. The XRF documents the concentration of lead, if any, in the overall paint or coating. Bridge components were scanned with a Viken XRF analyzer (Model # Pb200i, Serial #1888, Reference Date: 11/01/22) with a limit of detection (LOD) of 0.1 mg/cm<sup>2</sup>.

LBP is regulated by multiple government agencies, and each requires different response actions when the concentration of lead exceeds specified thresholds. The Occupational Safety and Health Administration (OSHA) regulates worker exposure to lead dust, and as a result considers materials with any lead content to be a potential hazard. Additionally, South Carolina Department of Health and Environmental Control (SCDHEC) requires some waste materials to be disposed of at specific disposal facilities that are able to manage this waste.

The results from the XRF quantitative testing of the bridge components indicate that lead is not present in paint and/or coatings in concentrations greater than or equal to ( $\geq$ ) 0.7 mg/cm<sup>2</sup> in the bridge components scanned during this LBP investigation.



We appreciate the opportunity to assist you in this project. If you have any questions or require additional information, please feel free to contact our office at (803) 254-4540.

Sincerely,

F&ME CONSULTANTS



**Michael S. Mincey**

SC Lead Based Paint Inspector

EPA Certification No. LBP-I-1198708-2 (Exp. 2/21/25)



**Glynn M. Ellen**

Environmental Department Manager



## 2 LEAD-BASED PAINT BACKGROUND INFORMATION

Housing and Urban Development (HUD) defines “LBP” as any coating that has a lead concentration of 1.0 milligrams of lead per square centimeter (1.0 mg/cm<sup>2</sup>) or greater, or if the lead concentration is greater than one half of a percent (> 0.5%) by weight. The Consumer Product Safety Commission (CPSC) currently considers paint to be lead-containing if the concentration of lead exceeds 90 ppm (0.009% by weight). In 1978, the CPSC banned the sale of LBP to consumers, and banned its application in areas where consumers have direct access to painted surfaces. Both the CPSC and HUD definitions of lead-containing paint are aimed at protecting the general population from exposure to lead in residential settings.

In contrast, the mission of OSHA with respect to lead-containing paint is to protect workers during construction activities that may generate elevated airborne lead concentrations. OSHA states that construction work (including renovation, maintenance, and demolition) carried-out on structures coated with paint having lead concentrations lower than the HUD or CPSC can still result in airborne lead concentrations in excess of regulatory limits. For this reason, OSHA has not defined lead-containing paint, but states that paint having any measurable level of lead may pose a substantial exposure hazard during construction work, depending upon the work performed. Therefore, in these situations, OSHA guidelines and safety procedures should be followed. By OSHA standards and regulations, the employer shall ensure that no employee is exposed to lead at concentrations greater than fifty micrograms per cubic meter of air (50 ug/m<sup>3</sup>) averaged over an 8-hour period.

Additionally, SCDHEC requires the use of specific waste disposal sites if materials contain lead concentrations greater than or equal to ( $\geq$ ) 0.7 mg/cm<sup>2</sup>. Due to the anticipated demolition of the Bridge structures, the SCDHEC lead disposal requirements were used as a threshold.

## 3 INTRODUCTION

The bridge remnants that are believed to be the old US 301 (Bridge #7) consist of three (3) separate sections of the original Bridge that remain out in the water alongside the US 15/ 301 Trail Bridge. Each remaining section consisted of a two (2) Bridge spans. These sections were constructed with PIP concrete decking, curb/gutter system, guardrails, beams, diaphragms, bent caps and piers. Each section was noted to have an asphalt overlay and metal drainage scuppers. Advertising signage was mounted on one section that remains. Refer to Appendix A, Site Vicinity Map, for the

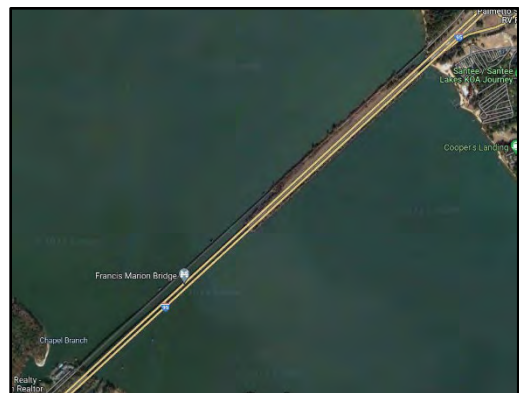


Photo 1 – Northbound I-95 over Lake Marion Overflow Bridge in Clarendon & Orangeburg Counties, SC.

location of the Bridges. Appendix B, Sample Location Plan, for a layout of the samples taken from each Bridge.

## 4 INVESTIGATION PROCEDURES AND RESULTS

FME's LBP Investigation sampling protocol consisted of randomly selecting bridge components and scanning them with a Viken X-Ray Fluorescence (XRF) Portable Analyzer (Model # Pb200i, Serial #1888).

The results from the XRF quantitative testing of the bridge components indicate that lead is not present in paint and/or coatings in concentrations greater than or equal to ( $\geq$ ) 0.7 mg/cm<sup>2</sup> in the bridge components scanned during this LBP investigation.

## 5 RECOMMENDATIONS

The results from the XRF quantitative testing of the bridge components indicate that lead is not present in paint and/or coatings in concentrations greater than or equal to ( $\geq$ ) 0.7 mg/cm<sup>2</sup> in the bridge components scanned during this LBP investigation.

During the bridge demolition activities, some painted surfaces may be uncovered. If painted bridge components are uncovered, testing should be conducted if they contain levels of lead  $\geq$  0.7 mg/cm<sup>2</sup>. If found to be lead containing, the coated/painted components will need to be handled and disposed of properly. Proper handling includes the avoidance of creating lead dust, as well as the creation of lead-contaminated soil hazards. Activities that would generate lead dust include abrasion, scraping, or sanding. As previously stated, OSHA has not defined lead-containing paint, but states that paint having any measurable level of lead may pose a substantial exposure hazard during construction work, depending upon the work performed. In these cases, OSHA regulations and procedures should be followed to protect the personnel carrying out the work on a bridge component containing any amount of lead.

If any hidden and/or inaccessible materials suspected or known to contain lead-based paint are encountered during any bridge demolition activities, the persons involved are advised to stop work, follow proper regulatory precautions and procedures, and notify FME for an immediate response action.

We sincerely appreciate the opportunity to be of service to Transystems on this project. If you have any questions regarding the information presented herein, please contact our office at (803) 254-4540.





## APPENDICES

Appendix A – Site Vicinity Map

Appendix B – General Bridge Plans

Appendix C – XRF Data

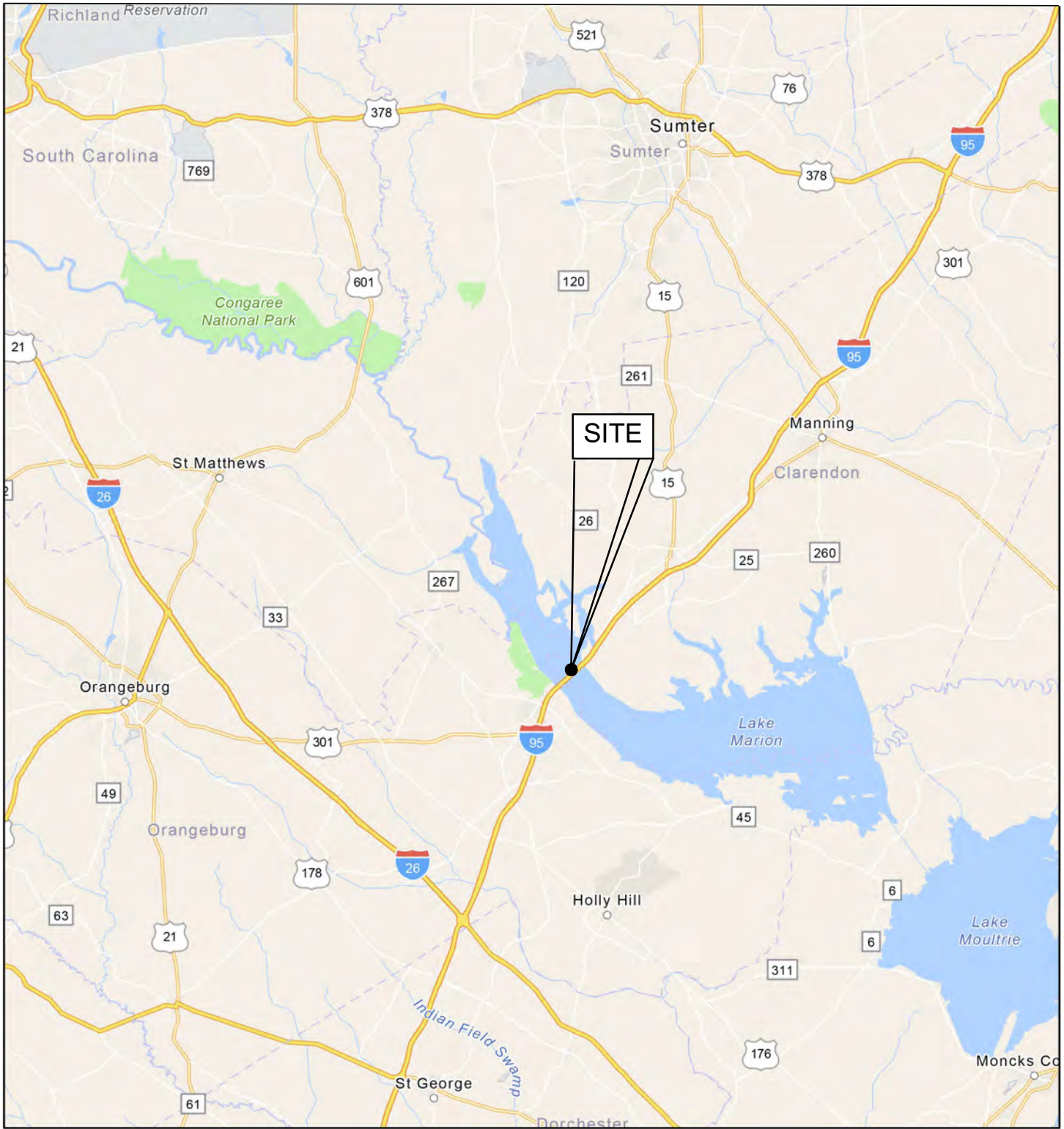
Appendix D - Site Photographs

Appendix E – EPA LBP Inspector Certification



## Appendix A

### Site Vicinity Map



1:577,791

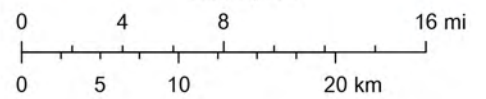


FIGURE NUMBER:

1

F&ME CONSULTANTS PROJECT NUMBER:

G6744.000

LEAD-BASED PAINT INVESTIGATION  
 Bridge Remnants on Lake Marion  
 Clarendon & Orangeburg Counties, South Carolina  
 SITE VICINITY MAP

Prepared for:  
 Transystems  
 1859 Summerville Ave., Suite 600  
 Charleston, SC 29405



211 BUSINESS PARK BLVD.  
 COLUMBIA, SC 29203

ORIGINAL:  
 August 11, 2023

REVISIONS:

- 1 \_\_\_\_\_
- 2 \_\_\_\_\_
- 3 \_\_\_\_\_

SCALE:  
 Shown

DRWN. BY: MSM  
 CHKD. BY: MSM  
 APPR. BY: GME

NOTES:

- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

## Appendix B

### General Bridge Plans





US 301 Bridge Remnant (Bridge #7)

Ⓓ

Ⓒ

Ⓐ

Ⓑ

Match Line

Match Line



F&ME CONSULTANTS, INC.  
COLUMBIA, SC

BRIDGE REMNANTS ON LAKE MARION  
CLARENDON & ORANGEBURG COUNTIES, SOUTH CAROLINA

GENERAL BRIDGE PLAN

F&ME JOB NO. G6744.000

SCALE: N.T.S.

FIGURE 2

4			
3			
2			
1			
REV.	BY	DATE	DESCRIPTION OF REVISION
TOPO.		DATE	
DWG.	MSM	DATE 08/11/2023	GROUP ____ - ____
R/W		DATE	





US 301 Bridge Remnant (Bridge #7)

Ⓓ

Ⓒ

Ⓐ

Ⓑ

Match Line

Match Line

**F&ME** CONSULTANTS, INC.  
CONSULTANTS COLUMBIA, SC

BRIDGE REMNANTS ON LAKE MARION  
CLARENDON & ORANGEBURG COUNTIES, SOUTH CAROLINA

GENERAL BRIDGE PLAN

F&ME JOB NO. G6744.000

SCALE: N.T.S.

FIGURE 3

4			
3			
2			
1			
REV.	BY	DATE	DESCRIPTION OF REVISION
TOPO.		DATE	
DWG.	MSM	DATE 08/11/2023	GROUP ____ - ____
R/W		DATE	





US 301 Bridge Remnant (Bridge #7)

D

C

A

B

Match Line

Match Line

**F&ME** CONSULTANTS, INC.  
COLUMBIA, SC  
CONSULTANTS

BRIDGE REMNANTS ON LAKE MARION  
CLARENDON & ORANGEBURG COUNTIES, SOUTH CAROLINA

GENERAL BRIDGE PLAN

F&ME JOB NO. G6744.000

SCALE: N.T.S.

FIGURE 4

4			
3			
2			
1			
REV.	BY	DATE	DESCRIPTION OF REVISION
TOPO.		DATE	
DWG.	MSM	DATE 08/11/2023	GROUP ____ - ____
R/W		DATE	

## Appendix C

### XRF Data

**Appendix C – XRF Data**  
**Date Scanned: 07/19 - 21/2023**  
**Bridge Remnants on Lake Marion**

Scan No.	Pbc (mg/cm <sup>2</sup> )	Component	Substrate	Side	Condition	Color
<b>Bridge #7 (Bridge Remnants on Lake Marion) 07/21/2023</b>						
1	0.93	Calibrate				
2	0.91	Calibrate				
3	0.94	Calibrate				
4	<LOD	Sign Bottom Plate	Metal	Center	Intact	Gray
5	<LOD	Sign Bottom Plate	Metal	Center	Intact	Gray
6	<LOD	Sign Bottom Plate	Metal	Center	Intact	Gray
7	0.81	Calibrate				
8	0.87	Calibrate				
9	0.93	Calibrate				

LOD (Limit of Detection) = 0.1 mg/cm<sup>2</sup>

Blue text indicates any concentrations of LBP which OSHA considers a potential exposure risk when removed.

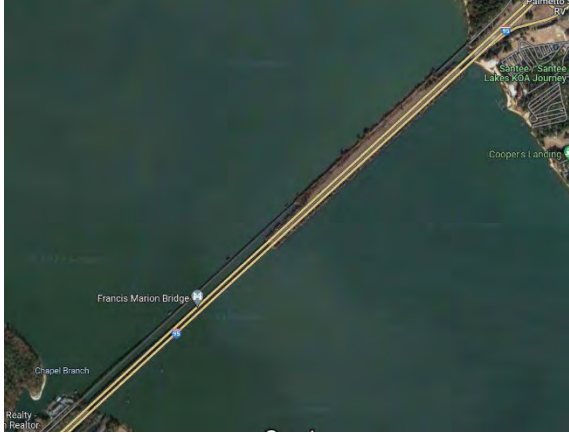
Red text indicates concentrations of LBP that have specific disposal requirements regulated by SCDHEC.

Side A = North, then go clockwise.

## Appendix D

### Site Photographs





**Photo 1.** Top View of Bridges.



**Photo 2.** Bridge Remnant on West Side of US 301/15 Trail Bridge over Lake Marion.



**Photo 3.** Top View of Deck of Bridge Remnant.



**Photo 4.** Galvanized Metal Sign Attached to Top of Deck on Bridge Remnant.



**Photo 5.** Galvanized Metal Sign Anchor Plates on Underside of Bridge Remnant.



## Appendix E

### EPA LBP Inspector Certification



# United States Environmental Protection Agency

This is to certify that



Michael S Mincey

has fulfilled the requirements of the Toxic Substances Control Act (TSCA) Section 402, and has received certification to conduct lead-based paint activities pursuant to 40 CFR Part 745.226 as:

Inspector

## In the Jurisdiction of:

All EPA Administered Lead-based Paint Activities Program States, Tribes and Territories

This certification is valid from the date of issuance and expires February 21, 2025

LBP-I-1198708-2

Certification #

January 05, 2022

Issued On



A handwritten signature in black ink, appearing to read 'Adrienne Priselac'.

Adrienne Priselac, Manager, Toxics Office

Land Division