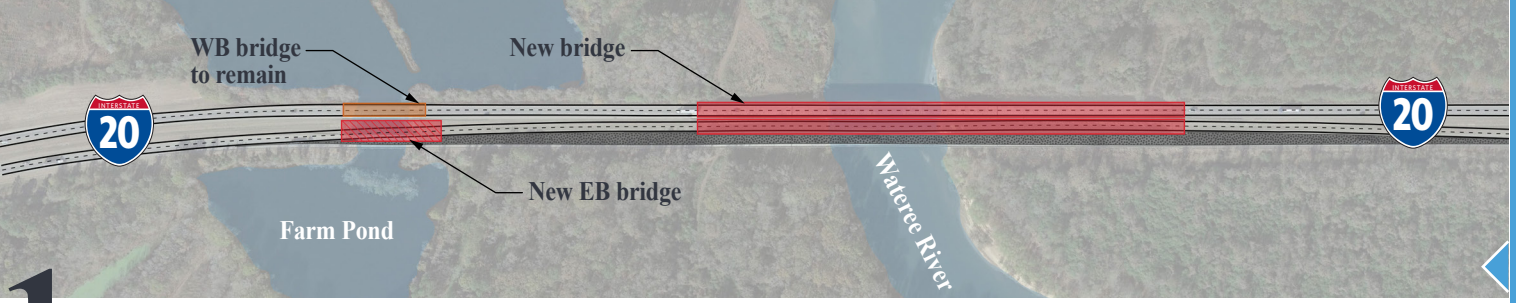
TECHNICAL PROPOSAL - CONTRACT ID 2847360

# I-20 over Wateree River Bridge Replacement & Swamp Overflow Bridge Rehabilitations Design-Build

*Kershaw County, South Carolina*

**February 9, 2023**

# Technical Proposal Narrative




# 1 Project Delivery & Approach

## 1.a. Proposed Schedule, Sequence of Construction, & Methods to Reduce Overall Construction Schedule

The Lane team recognizes the importance of the I-20 corridor and the need to minimize disruption to the traveling public during construction, while addressing safety, working over flowing water with variable depths, and maintaining the schedule. We have performed several field studies to develop a real-world project understanding of critical site conditions, such as day/time variations in water elevations and on-site geological conditions. This knowledge was used to develop Formal ATCs (FATCs) and innovations to enhance the preliminary design with staging that safely expedite construction, improve operational performance, and minimize risks. We will provide schedule certainty to SCDOT by incorporating potential risk contingencies in the schedule, self-performing critical path activities, leveraging local resources, and minimizing traffic disruptions to deliver an optimized, quality product. Our highly-skilled management team will transition from the I-85 Widening Phase III project, providing SCDOT with operational continuity and immediate availability of local staff.

### KEY FEATURE OF OUR APPROACH

The Lane team considered multiple innovative options to minimize impacts during bridge construction and maintain driver expectancy. The proposed design incorporates FATC#2, which benefits SCDOT and the traveling public by improving efficiency and safety.

**Key Feature & Benefits**

**22'-4" median with an EB alignment shift**
- ✓ Savings of approx. 200 days with two-stage construction for bridge over Wateree River
- ✓ Eliminates permanent wetland impacts
- ✓ Eliminates need for a temporary detour bridge
- ✓ No reverse curves
- ✓ Improves safety with 10' paved inside shoulder

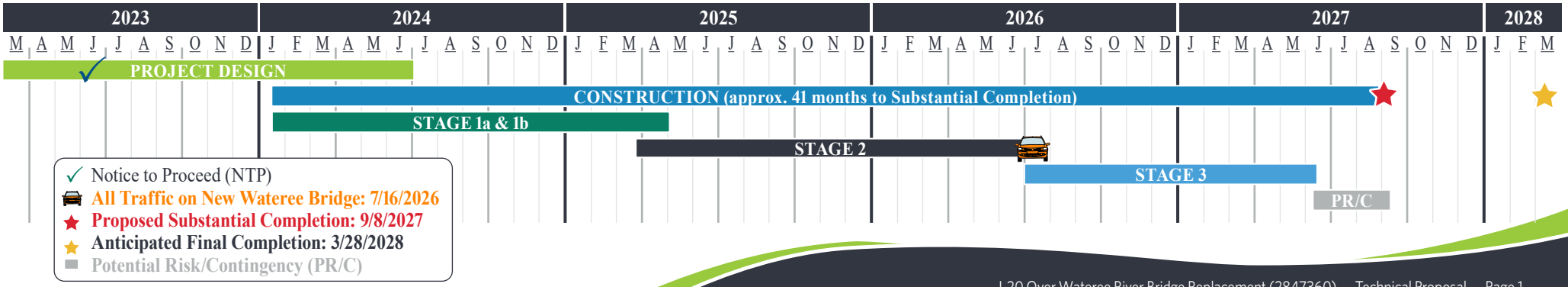
**New EB bridge over Farm Pond**
- ✓ Allows for smooth geometric transition for eastbound (EB) traffic from the curve to the new bridge over the Wateree River
- ✓ New jointless bridge will minimize maintenance compared to existing bridge
- ✓ Simplifies future replacement of westbound (WB) bridge over pond

**Simplifying constructability of future widening**
- ✓ Single river bridge eliminates future widening within the median
- ✓ Future widening only required on the EB side within the current existing footprint
- ✓ EB bridge over Farm Pond width allows for future third EB lane

### PROPOSED SCHEDULE

Our proposed schedule summary is shown below. A detailed Critical Path Method (CPM) Schedule can be found in **Appendix A.4**.

Figure 1.a. - 1: Schedule Summary



## SEQUENCE OF CONSTRUCTION AND MATERIALS & EQUIPMENT STAGING PLAN

Our sequence of construction prioritizes completing the project with minimal traffic shifts and limited lane closures, while maintaining design speed at 70 mph through the construction zone. **The bridge over Wateree River will be constructed in Stages 1 and 2, while the EB bridge over Farm Pond will be completed in Stages 1 and 3.** Conventional construction methods and availability of standard materials selected for this project facilitate the delivery of materials at the time needed for construction. This allows ample storage and staging for limited materials and equipment, as needed, along SCDOT right-of-way (ROW) on existing bridge structures and median, via SCDOT-approved maintenance of traffic (MOT) procedures.

Figure 1.a. - 2: Sequence of Construction for Entire Project

**Stage 1a** Shoulder strengthening is performed. WB and EB traffic is shifted to the outside to facilitate partial demolition of the EB bridge over Wateree River and EB bridge over Farm Pond, as well as construction activities within the median.

**Stage 1b** Traffic is maintained on existing I-20 while the construction of a portion of the new bridge over Wateree River and EB bridge over Farm Pond occurs.

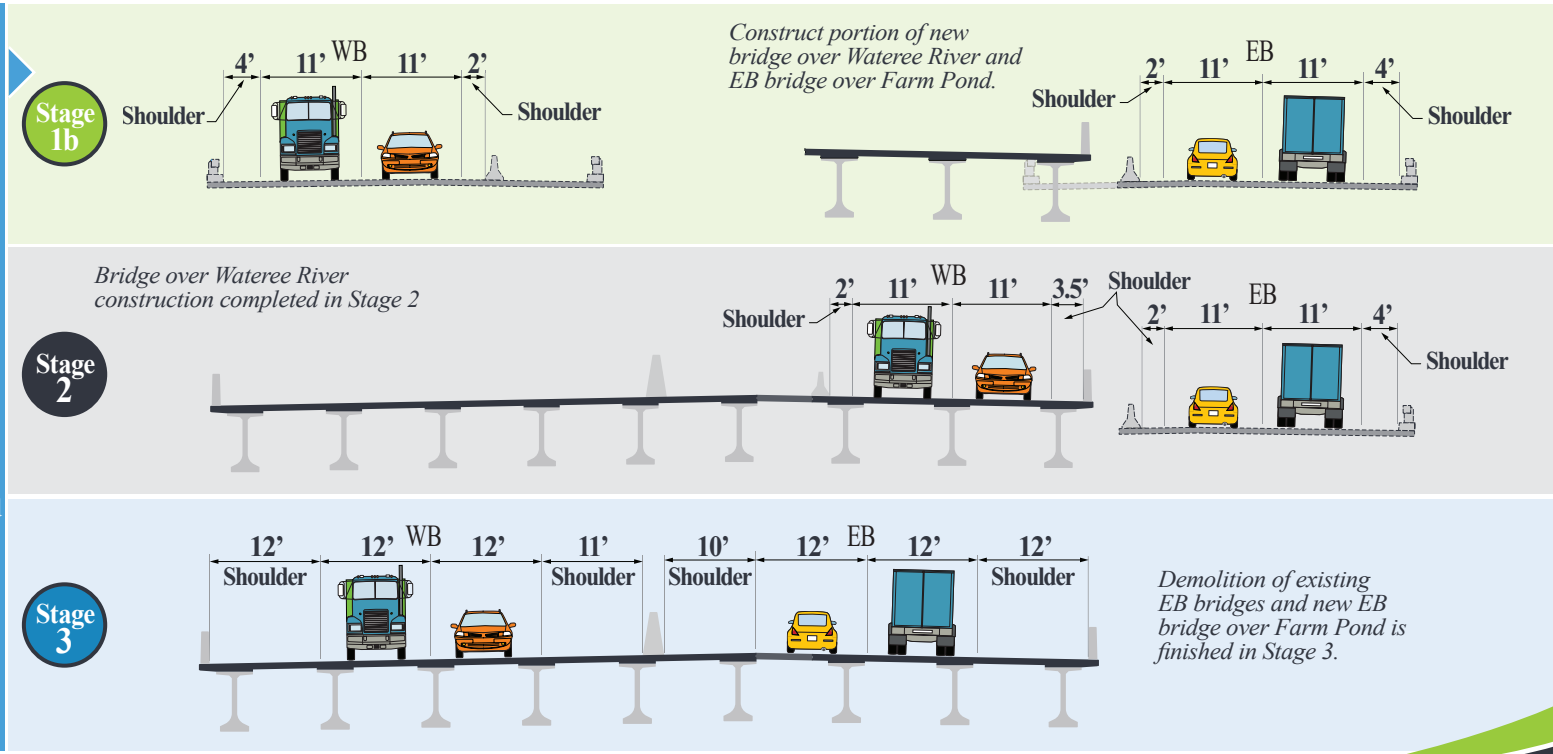
**Stage 2** Once Stage 1 construction is complete, WB traffic is shifted to the new bridges and the existing WB bridge over the Wateree River is demolished. Construction of the new bridge over Wateree River is completed in this stage.

**Stage 3** Traffic is shifted into the final configuration on the new bridge over the Wateree River and demolition of the existing EB bridges is completed. New EB bridge over Farm Pond construction is finished.

Figure 1.a. - 3: Bridge over Wateree River Construction Stages

### KEY FEATURES OF CONSTRUCTION STAGING FOR BRIDGE OVER WATEREE RIVER

- Single 4-lane bridge constructed in two stages (Stages 1 and 2).
- Partial removal of EB bridge allows for construction of Stage 1 while maintaining construction access and space for construction between the bridges.
- Shifting traffic over on the existing WB bridge facilitates access for personnel and delivery of materials between temporary barrier and existing bridge railing.
- 4' shoulders along outside existing curb and railing to meet spread requirements during MOT without adding significant drains to the existing bridge.
- WB bridge superstructure is in worse condition with limited partial removal, and is therefore being removed first.



## METHODS TO REDUCE OVERALL CONSTRUCTION SCHEDULE

**A combination of innovative design solutions, construction methods and incorporation of five approved FATCs have resulted in significant time savings of approximately 200 days.** The Lane team has already conducted exploratory field studies and used this information to develop methods that will help mitigate critical risks associated with site-specific project challenges. We will further reduce the overall construction schedule by implementing the following solutions:

### SCHEDULE ASSURANCE THROUGH RISK MITIGATION

The Lane team has built in several contingencies into the CPM and included other mitigation strategies to provide schedule assurance.

- **Geotechnical investigation contingency of 14 days**
- **Seasonal high water contingency of 30 days**
- **Drilled shaft flooding recovery contingency of 15 days**
- **Review time for environmental permits contingency of 30 days**
- **Realistic number of iterations during the design review process**
- **Effective use of "over the shoulder" meetings**
- **First-hand knowledge of SCDOT's load rating process**

| Methods to Reduce the Overall Construction Schedule | |
|---|---|
| DESIGN | ✓ Establish an internal Notice to Proceed (NTP) that allows design to begin prior to SCDOT's issuance of the project NTP<br>✓ Use existing WB bridge over Wateree River and bridge over Farm Pond to accommodate traffic, eliminate need for a temporary bridge and associated permitting, and save construction time<br>✓ Reduce the number of beam lines from 12 to 9, resulting in less time required for material delivery and setting beams during construction<br>✓ Realistic number of iterations during the design review process<br>✓ HDR's knowledge of the design review process will result in effective use of "over the shoulder" meetings to mitigate potential schedule issues, both during design and throughout construction |
| PHASING | ✓ Construct the bridge over Wateree River in two stages rather than three, as indicated by the preliminary design, to expedite the overall project schedule<br>✓ Construct most of the bridge over Wateree River and bridge over Farm Pond concurrently and independently of each other |
| CONSTRUCTION MEANS & METHODS | ✓ Conducted months long field exploration of water elevation at the bridge over Wateree River to correlate the site conditions to the upstream USGS data station<br>✓ Use conventional construction techniques and standard, readily-available equipment to complete project<br>✓ All construction operations and material laydown take place within SCDOT ROW, reducing haul time and distance<br>✓ Establish acceptable vegetation more rapidly with permanent seeding, in lieu of temporary seeding<br>✓ Perform additional quality control (QC) testing to decrease overall curing durations and decrease rework, such as using additional concrete cylinders for early access to subsequent concrete pours<br>✓ Assign dedicated, on-site construction support personnel for supply logistics, MOT, and erosion control measures<br>✓ Pre-plan construction access and staging to minimize wetland impacts<br>✓ Set the temporary work trestle height at approximately 137' elevation to help mitigate risk of delays due to exceptionally high water elevation<br>✓ Set tops of drilled shafts above the normal maximum water level to further minimize impacts of fluctuating water levels on the construction schedule<br>✓ Use I-20 for construction access in lieu of local roads to eliminate the need to restore local roads once construction is complete |
| FATCS | ✓ FATC#2: Eliminates the need for temporary bridge, allowing for construction of the bridge over the Wateree River in two stages<br>✓ FATC#5: Allows for expanded December through April lane closures to provide for efficient construction<br>✓ FATC#7: Eliminates 10 drilled shafts and 10 columns for the bridge over Wateree River, reducing schedule risk associated with drilled shaft and rock excavation |
| EARLY COORDINATION | ✓ Permitting agencies \| Early coordination with SCDOT for overflow bridge rehabilitation |

## 1.b. Approach to Maintaining Traffic While Minimizing Impacts to the Public

### BRIDGE REHABILITATIONS

The extensive rehabilitation work required for overflow bridges will impact traffic; however, our FATC#5 solution will significantly reduce the impact to the traveling public by increasing work time through expanded lane closure windows. Joint rehabilitation and approach slab replacements will be performed during lane closures on half the bridge width, while maintaining a single lane of traffic on the other half. Along with the additional work time available, the reduction in the total number of lane closures will improve construction efficiency and reduce risks to workers executing the closures, as well as the traveling public. **This increase in efficiency of work during lane closures is expected to reduce the overall duration of the bridge rehabilitation by up to two months.**

### WATEREE BRIDGE REPLACEMENT

Both lanes of traffic will be maintained throughout a majority of the construction of the new bridge over the Wateree River. Lane closures will be limited to short duration closures for ingress and egress for delivery and removal of materials, setting beams, pavement tie-ins for temporary crossovers, and final alignment tie-ins.

Figure 1.b. - 1: Access to Work Areas without Lane Closures

| IS INGRESS/EGRESS AVAILABLE WITHOUT LANE CLOSURES? | | | |
|---|---|---|---|
| | STAGE 1a & 1b | STAGE 2 | STAGE 3 |
| WEST OF POND BRIDGE | Yes* | Egress Only | No |
| BETWEEN BRIDGES | Yes* | Yes | No |
| EAST OF RIVER BRIDGE | Yes | Yes | No |

**Work zone access can occur via construction access lane on WB bridges and out through EB ingress/egress east of the bridge over Wateree River*

### SAFETY ENHANCEMENTS DURING MOT

Bridge length, along with the flat cross slope on the existing bridge, makes the traditional use of 2' shoulders during MOT unfeasible based on stormwater spread requirements in the project design criteria. The minimum outside shoulder proposed on the existing bridge during MOT is 4' in order to **meet the spread requirements without coring a large number of additional drain holes in the bridge decks**.

MOT staging strategy, along with the replacement of the EB bridge over Farm Pond, **allows for all temporary alignments during MOT operations to meet a 70 mph design speed**.

Using the construction access areas on the WB bridge over Wateree River and the EB bridge over Farm Pond, in conjunction with the ingress and egress points on the project's east end, we are **able to minimize the need for lane closures for construction access to the median work zone.**

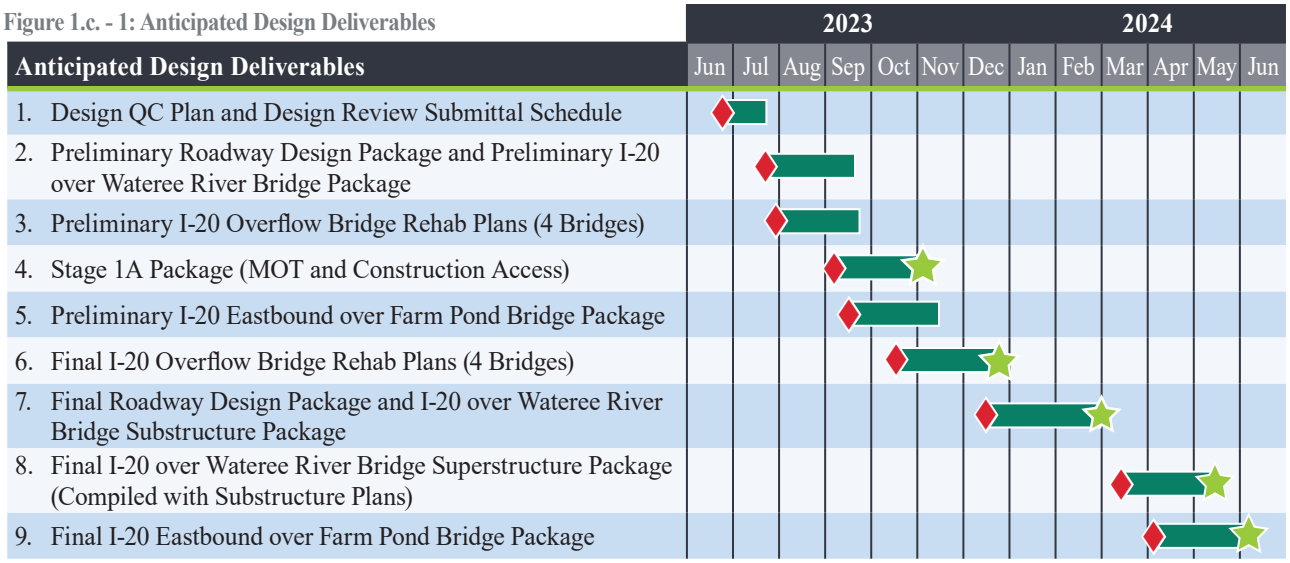
## 1.c. Design Submittal Process

Our team will prepare the Design Quality Control Plan (DQCP) and Design Review Submittal Schedule as Submittal 000 to be submitted immediately upon NTP, or prior to NTP if SCDOT allows, so that preliminary design submittals can be made as quickly as possible. The Design Submittal Schedule will demonstrate full compliance with the RFP, including all necessary deliverables required by Exhibit 4z, submittals staggered by 5 days, and 15-day review cycles followed by a realistic

number of 5-day status and response iterations. The Design Review Submittal Schedule will be updated with each submittal and coordinated with the overall project CPM schedule.

The anticipated design deliverables and proposed submittal sequence are shown in Figure 1.c. - 1. We propose minimizing the number of submittals to streamline the review process for SCDOT, including eliminating the ROW Plan Package, as well as bundling road and bridge plans and bundling rehabilitation plans, if allowed by SCDOT. The progressive sequence of the submittals will allow for the shortest construction duration, and each submittal will contain sufficient information to facilitate comprehensive compliance reviews. Lane intends to request approval for submitting a Stage 1a/early works package to include first phase of MOT and land disturbance associated with construction access. The Roadway Plans will be developed for the entire project area, and Conceptual Work Zone Traffic Control Plans will be included with the Preliminary Roadway Package in compliance with Exhibit 4z. The I-20 over Wateree River Bridge Plans will be split into substructure and superstructure packages to allow construction to begin as early as possible.

Figure 1.c. - 1: Anticipated Design Deliverables




♦ *Denotes submittal to SCDOT*

★ *Indicates Release for Construction (RFC) Plans*

## FACILITATING THE REVIEW PROCESS

The Lane team will offer "over the shoulder" meetings at significant points during project development to accelerate the overall review process, as desired by SCDOT. For example, we recommend scheduling an "over the shoulder" meeting after the review of the Preliminary I-20 over Wateree River Bridge Package and prior to submitting the Substructure Package. During this meeting the design team will present any additional design information developed after the preliminary plan submittal and the proposed details and other content that will be included in the Substructure Package. The goals of this intentional coordination are to reassure SCDOT and eliminate any concerns associated with the partial structure submittal, as well as facilitate final plan reviews.

Figure 1.c. - 2: Design Submittal Process

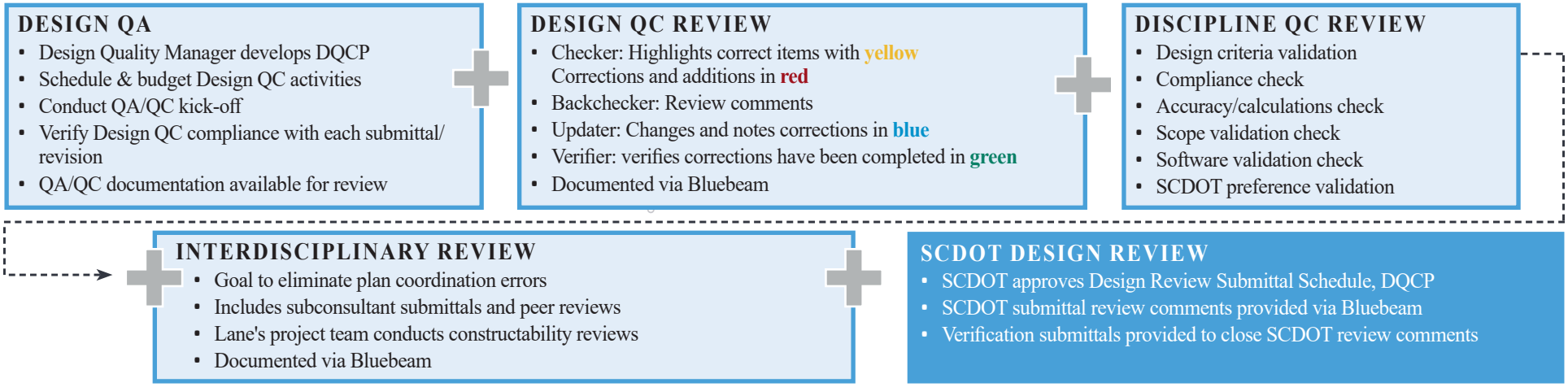
| | |
|---|---|
| DESIGN TEAM & CONTRACTOR | **Complete design QA/QC process** detailed in DQCP |
| DESIGN TEAM | **Prepare deliverable package** for submittal using D-B file naming convention and flattening PDF to facilitate Bluebeam review |
| DESIGN TEAM | **Submit package** (maximum of one package every 5 business days) via SCDOT's ProjectWise and notify SCDOT by email |
| SCDOT | Initiate **design review and provide comments** within 15 business days |
| CONTRACTOR & DESIGN TEAM | **Review all comments**<br>• Design leads reach out to review team for clarifications, if needed |
| DESIGN TEAM | **Respond to comments** in Bluebeam within 5 business days<br>• Design leads provide clear, detailed responses<br>• Email is sent to notify SCDOT that all comments have been addressed |
| SCDOT | **Update the status for each comment** within 5 business days |

# 1.d. Approach to QC & Understanding of QA Program

## DESIGN QA/QC PROCESSES

The design QA/QC process will be detailed in a project-specific DQCP. Figure 1.d. - 1 highlights the major elements and roles of our approach. The DQCP will incorporate SCDOT's recently published QA/QC checklists for each discipline and project-specific checklists developed from the RFP.

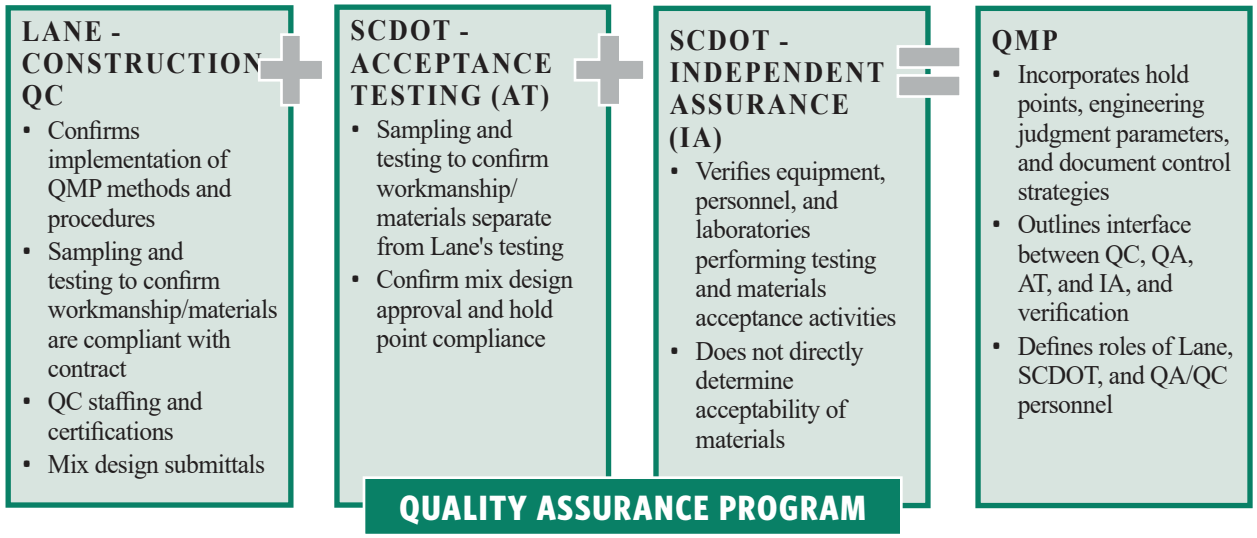
Figure 1.d. - 1: Proven Design QA/QC Process




## CONSTRUCTION QA/QC PROCESSES

The Lane team's construction QC approach, independent assurance (IA), and compliance with the QA Program will be detailed in our Quality Management Plan (QMP). Prior to construction, we will submit a project-specific QMP for review and approval, describing Lane's policies, procedures, staffing plan, and approach to QC, as well as the approach to staffing, processes, and procedures for materials testing and comprehensive inspection. Figure 1.d. - 2. highlights major elements and roles of our approach.

Figure 1.d. - 2: Construction QC Approach



## COMPLIANCE WITH REQUIRED STANDARDS, TESTING LABORATORIES, MIX DESIGNS & MATERIAL CERTIFICATIONS PROCESSES

All hot mix asphalt sampling and testing will be performed in SCDOT-approved laboratories, and all other testing and sampling will be performed in AASHTO-accredited, SCDOT-approved laboratories, with work for all types of testing performed by SCDOT-certified personnel. Lane's QMP includes mix design submittal processes to SCDOT for review at least five business days prior to use. Hot mix designs will be prepared by personnel certified in Mix Design Methods. Portland cement concrete mix designs will be prepared by a certified concrete technician or Professional Engineer. SCDOT AT personnel will confirm mix design approval and minimum hold point compliance. Our QMP details collection of material certifications, the processes to facilitate future audits, and staff responsible for managing the materials certification program. SCDOT's IA testing personnel will provide testing to confirm proper sampling and testing procedures are followed, testing equipment is functioning properly, observing construction QC and IA personnel performing QC testing, and taking split samples for comparison testing. Material certifications will be reviewed and submitted to SCDOT by the Lane QC Manager prior to their use.

Lane's approach to quality during construction will include providing timely and organized Contract Requests, such as RFIs and DCNs, with clear descriptions and complete supporting documentation as required by Exhibit 5, Special Provision #8. This will facilitate SCDOT's understanding and review of the issues.

## REQUIRED STAFFING LEVELS TO MEET REQUIREMENTS

QC staffing will comply with the QMP and be based on the volume of activities necessary for inspection and testing of all construction activities, including adjustment needed to reflect changes in schedule and production. All QC staff will possess the required knowledge, technical skills, certifications, and experience to perform all sampling, testing, and inspection required to for QMP conformance.

### ANTICIPATED QC STAFF

- Document Control/Administration
- Concrete Field Technicians
- Earthwork/Drainage Density Testing
- Asphalt Technicians
- Lab Technicians

## UNDERSTANDING OF QUALITY ASSURANCE PROGRAM

Lane is responsible for construction quality control activities, including sampling and testing to confirm that workmanship and materials are in compliance with contract requirements. Lane will develop and manage the QMP, provide SCDOT-certified personnel to control the work, conduct required sampling and testing through approved laboratories, and prepare mix designs and submit to SCDOT for approval. SCDOT is responsible for quality acceptance activities, to include conducting inspections, AT, IA testing, and final project material certification.

## A SUCCESSFUL PARTNERSHIP BETWEEN SCDOT & LANE

Throughout the I-85 Widening Phase III project *(pictured to the left)*, Lane has productively collaborated with SCDOT to settle issues at the lowest possible levels, avoiding escalation and allowing for quick resolution of disputes and claims. Open and honest conversations were conducted when making changes to the contract. The deletion of an open grade friction course was negotiated in a positive manner for the betterment of the project.

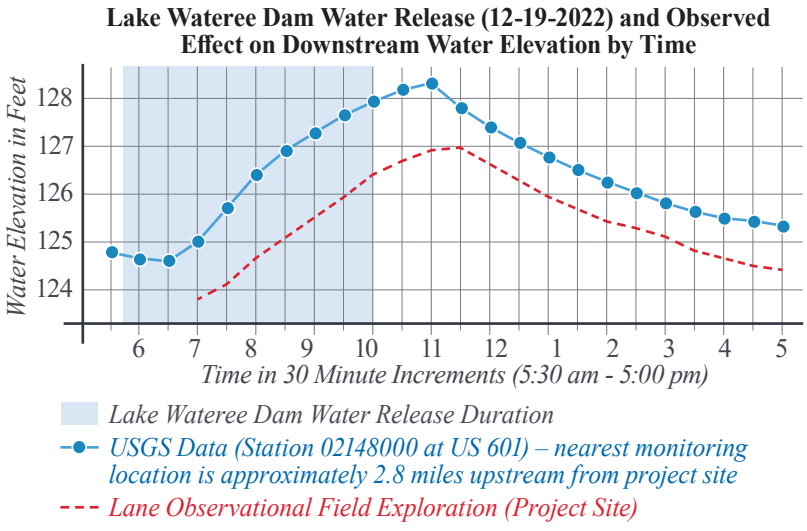
## 1.e. Approach to Addressing Unique Characteristics & Mitigating Risk

Understanding project risks and providing strategies to effectively mitigate them, while maximizing opportunity, is vital to project success. Our team members are highly adept in developing and executing plans to identify, prioritize, and manage risk. We will apply our collective design-build (DB) expertise so these risk items are effectively mitigated to successfully deliver this important project on time, under budget, with a focus on quality and safety. Critical risks are described below.

***CLICK*** to view trestle and crane placement details in **Appendix A.3.**

*I-85 over the Yadkin River*

| Risk/Impact to Project | Mitigation Strategies |
|---|---|
| **LIMITED SITE ACCESS** | |
| ▪ Work in the median (bridge over Wateree River)<br>▪ Access to site for under-bridge work (rehabilitation and replacement)<br>▪ Staging area for bridge rehabilitation<br>▪ Schedule impacts due to limited access | ✓ Shifting WB traffic on the bridge over Wateree River to the outside shoulder provides a dedicated construction lane separate from the traveling public to facilitate construction deliveries and construction traffic with improved access.<br>✓ Developed trestle layout and lift plan to make certain crane clearances are met to complete Stage 1 median construction.<br>✓ Proposed design eliminates the need for temporary structure by shifting the alignment. This enhances safety for the traveling public during construction, as well as reduces costs and time associated with installation and removal of the temporary structure. |
| **WATER FLUCTUATIONS** | |
| ▪ Varying water level due to upstream dam operation | ✓ Construction access in the Wateree River will be via trestle set at an estimated 137' elevation, well above the five-year mean water elevation.<br>✓ Extensive initial field exploration focused on water levels was conducted to determine appropriate trestle height.<br>✓ Tops of drilled shafts will be set above the normal maximum water level so drilled shaft construction is not adversely affected by water levels. |
| **IN-WATER & OVER-WATER CONSTRUCTION/DEMOLITION LIMITATIONS** | |
| ▪ Water depth is not always adequate to float barges<br>▪ Minimize in-water work during daytime work and avoid at nighttime | ✓ Proposed design only includes two bents in the river with a total of eight drilled shafts in the river (four per bent – saved one shaft per bent with FATC#7 for column spacings up to 30') minimizing work in the river. |



**NOTE**: Different data collection methodologies represented. Chart is intended for illustrative purposes only and does not warrant or imply specific survey data.

Our proposed construction plan features a Lane-owned trestle for accelerating bridge work and minimizing environmental impacts. Lane explored field conditions at the project site to gain an understanding of Wateree River Dam water release events. Observations indicate that water elevation at the site begins to change approximately 1.5 hours after the start/finish of a water release event. Additionally, the water elevation observed at the site tends to be 1' lower than the elevation recorded at the USGS US 601 Bridge station.

Lane's past project performance involving this construction method, such as I-85 over the Yadkin River, resulted in reduced schedule risk and overall costs. We will use our experience on similar bridge projects to offer the same benefits for this project and provide the best value to SCDOT.

Risk/Impact and Mitigation Strategies (continued)

| Risk/Impact to Project | Mitigation Strategies |
|---|---|
| **MAINTENANCE OF TRAFFIC** | |
| • Work zone construction access<br>• Multiple traffic shifts | ✓ MOT plan reduces the number of traffic stages and construction duration.<br>✓ Design incorporates a 70 mph design speed throughout the project with a smooth transition on the west approach.<br>✓ FATC#5 reduces the duration of the bridge rehabilitation work.<br>✓ Access in Stages 1 and 2 facilitates ingress/egress without the need for daily lane closures. |
| **GEOTECHNICAL SEISMIC HAZARDS** | |
| • Seismic-induced soil liquefaction / shear strength loss (SSL)<br>• Seismic-induced down drag loadings<br>• Influence of seismic slope stability on end bents<br>• Depth of liquefaction at east end of bridge | ✓ Design implements techniques to mitigate the effects of SSL at bridge end bents which are favorable for application within existing embankments.<br>✓ End bent foundations at both end bents are designed to provide necessary shear resistance to meet performance requirements associated with slope stability and larger permanent ground displacements.<br>✓ End and interior bent foundations are designed to resist down drag forces caused by post-liquefaction settlement.<br>✓ Eastern end bent utilizing drilled shaft foundations based on depth of liquefaction and inability to drive piles to a depth sufficient to achieve stability under liquefied conditions.<br>✓ Drilled shafts and columns are designed to meet performance requirements for both the unliquefied and liquefied conditions. |
| **IMPACTS OF MARKET CONDITIONS ON COST AND SCHEDULE** | |
| • Material availability<br>• Labor availability<br>• Market-driven cost escalation<br>• Equipment availability | ✓ Ample equipment and resources will be available, including cranes and trestles, as Lane has several other projects wrapping up prior to construction of this project.<br>✓ Leverage Lane's Global Supply Chain Group to provide guidance for optimum material procurement timing and identify material supply streams available from multiple supplier options for each material.<br>✓ Use of standard materials and early procurement of those materials will reduce the risk for availability/cost challenges.<br>✓ Significant workforce available to perform the required work from other Lane projects that will be wrapping up before construction begins.<br>✓ SCDOT's National Environmental Policy Act (NEPA) timing strategy for the overflow bridge rehabilitation allows us to start work earlier to mitigate cost escalation and labor challenges for the main bridge replacement.<br>✓ Lane is self-performing a majority of the work with only a few local, SCDOT-certified subcontractors that have experience working together. |
| **PARTIAL REMOVAL OF THE BRIDGE OVER WATEREE RIVER** | |
| • Partial removal of EB existing bridge required by bridge staging will cause an eccentricity on existing bridge's hammerhead pier foundations | ✓ Extensive review has been conducted on the as-built plans, existing survey information, and geotechnical information to determine foundation elevations, existing cover, and foundation soil characteristics.<br>✓ Conceptual designs for pier retrofit strategies using micropiles have been developed and considered in development of cost and schedule.<br>✓ Preliminary plan submittal will include comprehensive technical memo summarizing analysis of existing bridge after partial removal. Memo will include evaluation of substructure and foundation stability, as well as load rating. |
| **CONDITION OF EXISTING BRIDGE SUPERSTRUCTURE** | |
| • Bridge decks over steel girders and beams on the existing bridge are in poor condition and will likely require repair before being removed | ✓ WB bridge deck is in worse condition than the EB deck. Our MOT staging allows for traffic to be removed from the WB bridge first.<br>✓ Significant partial removal of the existing bridge is only necessary for the EB bridge<br>✓ Load rating of WB bridge will be performed to include the proposed temporary barrier during Stage 1, and submitted with preliminary plans. |

# 2 Innovation & Value Added

The innovative ideas presented below and throughout this proposal have been carefully vetted to provide the best-value solution with the lowest overall cost to SCDOT.

| FATC | Innovative Idea | Description and Value Added to the Project |
|---|---|---|
| FATC#2 | **Incorporating a 22'-4" median with an EB alignment shift** | ✓ Allows replacement of the bridge over Wateree River as a four-lane bridge using **two-staged construction, saving approximately 200 days** compared to the RFP.<br>✓ Removes the need to perform sliver fills on the south side of EB which eliminates wetland impacts.<br>✓ Reduces construction costs and schedule by eliminating the need to install and remove a temporary detour bridge.<br>✓ Final design keeps WB traffic in the existing pattern and allows for a smooth transition for EB with **no reverse curves**.<br>✓ Median barrier wall in lieu of proposed cable rail and increased width inside paved shoulder improves safety for the traveling public. |
| | **New EB bridge over Farm Pond** | ✓ Provides a new bridge for SCDOT that meets current standards.<br>✓ Minimizes maintenance needs compared to the existing 53-year-old bridge.<br>✓ Replacement of the EB bridge over Farm Pond allows for a long, smooth transition from the existing curve on the west side to the tangent that crosses the river. Similarly, the EB alignment on the east side of the bridge transitions from the tangent over the river to a tangent extending from the curve to the east. |
| | **Simplifying constructability of future widening** | ✓ Single bridge eliminates future widening within the median proposed in SCDOT's dual bridge concept.<br>✓ Future widening only required on the EB side, within the current existing footprint, avoiding future ROW and environmental impacts.<br>✓ EB bridge over Farm Pond accommodates MOT for the WB bridge replacement in the future, allowing for the WB bridge to be replaced in a single stage.<br>✓ EB bridge over Farm Pond width allows for a future third EB lane, eliminating the need to widen the bridge in the future. |
| FATC#5 | **Refined seasonal lane closure prohibitions** | ✓ Increases quality and safety due to longer uninterrupted construction periods.<br>✓ Results in cost savings to SCDOT due to increased efficiency and fewer lane closure set ups/removals.<br>✓ Reduces the schedule risk associated with discovery of unforeseen issues during rehabilitation or repair work. |
| FATC#6 | **Use of GalvaBar in bridge deck and barrier** | ✓ Cost efficient, durable alternative to hot-dipped galvanization used to reinforce the bridge decks. |
| FATC#7 | **Increase column spacing to 30'** | ✓ Cost and schedule savings associated with fewer drilled shafts.<br>✓ Fewer columns results in reduced schedule risk associated with drilled shaft construction.<br>✓ Fewer columns and drilled shafts reduces long term maintenance for SCDOT. |
| FATC#8 | **Alternative temporary pavement design** | ✓ Uses less pavement for short duration exposure resulting in cost savings. |
| - | **Median access for construction** | ✓ Additional WB shoulder strengthening provides construction access to the median.<br>✓ Allows for access in Stages 1 and 2, minimizing the need for daily lane closures to facilitate ingress/egress. |
| - | **Dedicated lane across the bridge over Wateree River for construction access in Stage 1** | ✓ Shifting WB traffic to the outside shoulder provides a dedicated construction lane separate from the traveling public which enhances safety.<br>✓ Increases construction efficiency by providing a dedicated lane for construction traffic and deliveries to cross the river outside of the travel lanes.<br>✓ Barrier separated lane on the existing WB bridges in Stage 1 facilitates crossing the river and pond during median construction. |

# Appendix A.1. - Conceptual Roadway Plans

## INDEX OF SHEETS


| SHEET NO. | DESCRICPTION | SHEET TOTALS |
|---|---|---|
| 1 | TITLE SHEET | 1 |
| 3-3B | TYPICAL SECTIONS | 3 |
| 5 | REFERENCE DATA | 1 |
| 6-10 | ROADWAY PLANS | 5 |
| 6A-10A | ROADWAY PROFILES | 5 |
| X1-X26 | CROSS SECTIONS | 26 |
| | TOTAL | 41 |


SCDOT
South Carolina Department of Transportation

# PROPOSED PLANS FOR KERSHAW COUNTY CONTRACT ID 2847360 I-20 OVER WATEREE RIVER

## TWIN BRIDGES REPLACEMENT

Hydraulic Design Reference for these plans is the:

2009

Edition of SCDOT's "Requirements for Hydraulic Design Studies"

Design Reference for these plans is the:

2021

SCDOT Roadway Design Manual

NPDES PERMIT INFORMATION

Disturbed Area = T.B.D. Acre(s)

Project Area = T.B.D. Acre(s)

Approximate Location of Roadway is

Begin
Latitude 34° 12' 59.1"
Longitude 80° 38' 05.1"

End
Latitude 34° 13' 06.6"
Longitude 80° 37' 30.1"

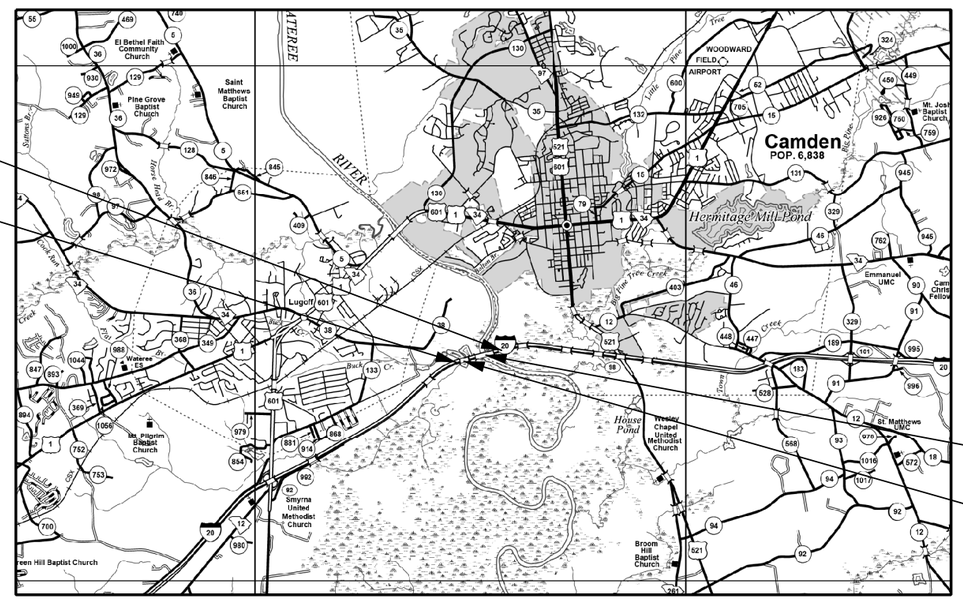
Hydraulic and NPDES Design provided by:

HDR

Designs may be obtained from the SCDOT Regional Production Group

CONTRACT ID 2847360
END CONSTRUCTION STA.1832+25.17
I-20

CONTRACT ID 2847360
BEGIN CONSTRUCTION STA.1785+32.94
I-20




LAYOUT
(NOT TO SCALE)

KERSHAW COUNTY MAP

CONCRETE RIVER BRIDGE
FROM STA.1800+92.38 TO 1816+07.71

CONCRETE POND BRIDGE
FROM STA.1790+04.26 TO 1792+64.26

ENVIRONMENTAL PERMIT INFORMATION

| | | |
|---|---|---|
| USACE PERMIT | X YES | NO |
| NEPA DOCUMENT | X YES | NO |
| 401 CERTIFICATION | X YES | NO |
| OCRM CAP | YES | X NO |
| NAVIGABLE WATERS | X SC | USCG / USACE / N/A |

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

RAILROAD INVOLVEMENT?
YES (NO)

TRAFFIC DATA

SC 41

| | | |
|---|---|---|
| 2025 | ADT | 42,754 |
| 2045 | ADT | 57,583 |
| TRUCKS | 21 | % |

| | |
|---|---|
| NET LENGTH OF ROADWAY | 0.553 MILES |
| NET LENGTH OF BRIDGES | 0.336 MILES |
| NET LENGTH OF PROJECT | 0.889 MILES |
| LENGTH OF EXCEPTIONS | 0.000 MILES |
| GROSS LENGTH OF PROJECT | 0.889 MILES |

EQUALITIES IN STATIONING
NONE

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.

PLANS PREPARED BY

lane HDR

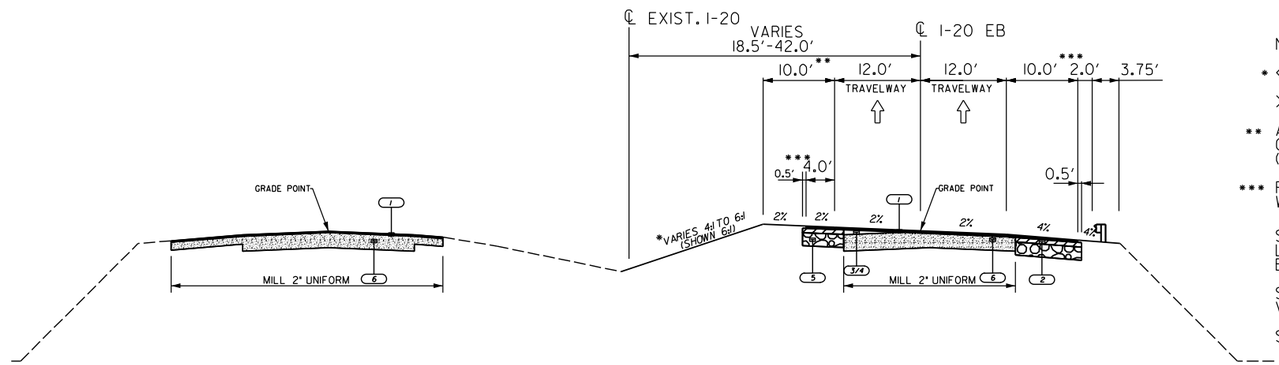
ENGINEER OF RECORD

PRELIMINARY PLANS — NOT FOR CONSTRUCTION

$FILES$
2/6/2023

| FED. RD. DIV. NO. | STATE | COUNTY | FILE NO. | ROUTE NO. | SHEET NO. |
|---|---|---|---|---|---|
| 3 | S.C. | KERSHAW | 2847360 | I-20 | 3 |

(1)




NOTES:

* < 5.0' USE 6:1 SLOPE
5.0' - 10.0' USE 4:1 SLOPE
> 10.0' USE 2:1 SLOPE

** ADD 3.75' WHERE GUARDRAIL IS USED. SEE PLANS AND CROSS SECTIONS FOR LOCATION OF EXTRA LENGTH POSTS (SEE DETAIL FOR PAVING UNDER GUARDRAIL ON SHT 3A)

*** PLACE MILLED IN RUMBLE STRIPS IN ACCORDANCE WITH STANDARD DRAWING 401-205-01 & 401-205-02

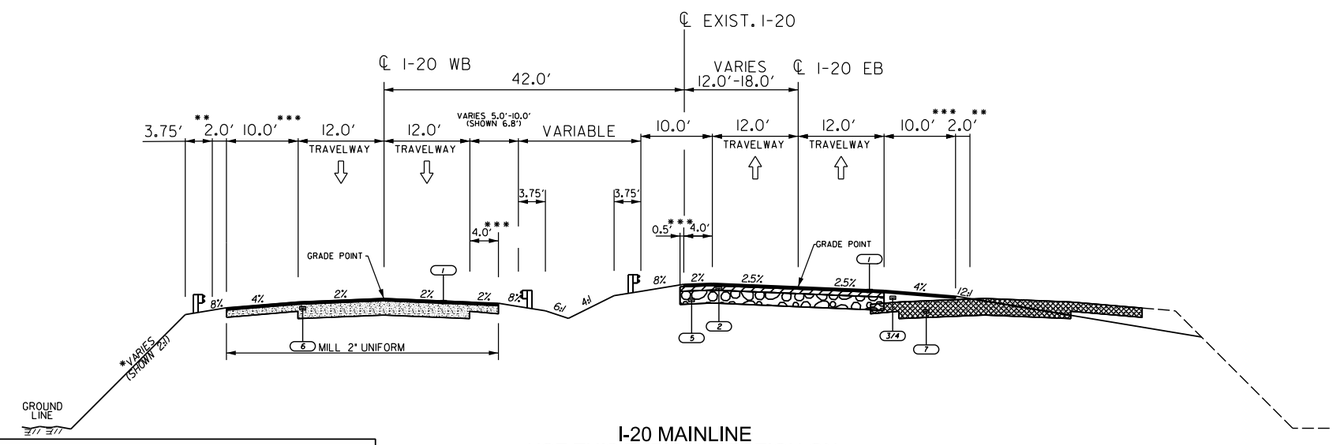
SEE PLANS AND CROSS SECTIONS FOR LOCATION OF CABLE GUIDE RAIL LOCATED BETWEEN WBL & EBL I-20.

SUPERELEVATION OF PAVEMENT AND SHOULDERS VARIES, SEE CROSS SECTIONS FOR DETAILS

SEE CROSS SECTIONS FOR GRADING OF MEDIAN

I-20 MAINLINE
USE THIS TYPICAL SECTION ON:
STA. 1777+01.47 TO STA. 1785+30.88 WB - MILL 2" UNIFORM AND RESURFACE WITH HMA SURFACE COURSE (TYPE A) (200PSY)
STA. 1778+41.25 TO STA. 1785+30.88 EB - MILL 2" UNIFORM AND RESURFACE WITH HMA SURFACE COURSE (TYPE A) (200PSY)
STA. 1785+30.88 TO STA. 1789+84.64
STA. 1823+55.00 TO STA. 1832+25.90
STA. 1823+55.00 TO STA. 1830+54.20 WB - MILL 2" UNIFORM AND RESURFACE WITH HMA SURFACE COURSE (TYPE A) (200PSY)

(2)




I-20 MAINLINE
USE THIS TYPICAL SECTION ON:
STA. 1792+84.40 TO STA. 1794+56.87

## PAVEMENT LEGEND

| | |
|---|---|
| 1 | HOT MIX ASPHALT SURFACE COURSE (TYPE A) (200 PSY) |
| 2 | HOT MIX ASPHALT INTERMED. COURSE (TYPE B) (400 PSY) |
| 3 | HOT MIX ASPHALT SURFACE COURSE FOR BUILD-UP 0-1.8 IN. (TYPE E) (VAR.) |
| 4 | HOT MIX ASPHALT INTERMED. COURSE FOR BUILD-UP >1.8 IN. (TYPE B) (VAR.) |
| 5 | HOT MIX ASPHALT BASE COURSE (TYPE A) (1150 PSY) |
| 6 | EXISTING PAVEMENT (RETAIN) |
| 7 | EXISTING PAVEMENT (REMOVE) |

FUNCTIONAL CLASS

RURAL FREEWAY

| REV. NO. | BY | DATE | DESCRIPTION OF REVISION |
|---|---|---|---|
| 3 | | | |
| 2 | | | |
| 1 | | | |

PLANS PREPARED BY

lane HDR

| RTE. I-20 DESIGN SPEED | | |
|---|---|---|
| MPH | FROM STA. | TO STA. |
| 75 MPH | 1785 + 30.88 | 1833 + 60.82 |
| EXCEPTIONS TO DESIGN SPEED | | |

PAVEMENT DESIGN

KERSHAW COUNTY

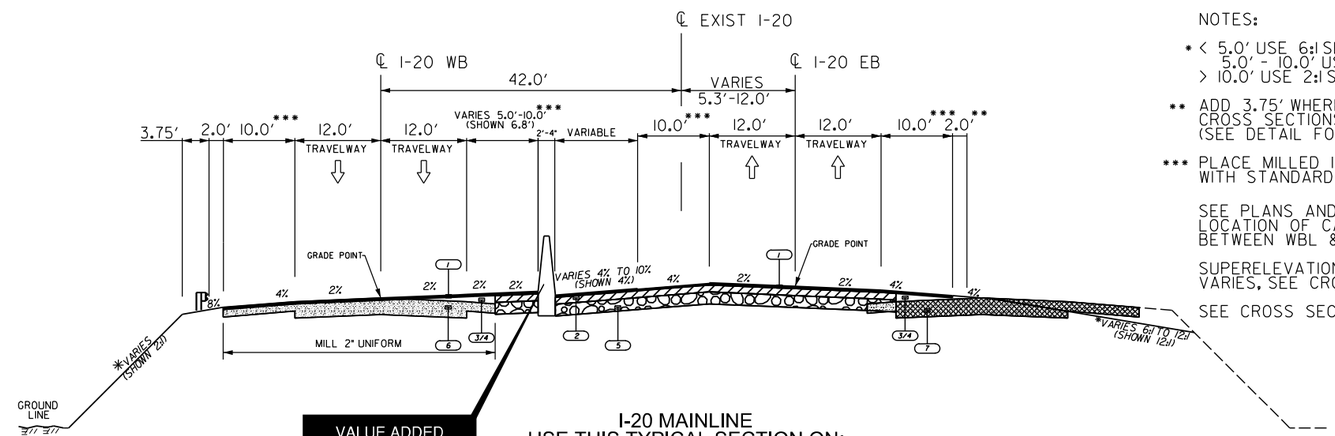
TYPICAL SECTION

SCALE 1"V=1' SCALE 1"H=5' RTE./ RD. I-20

DATE: 2/6/2023
FILE: SHT 03A typical.dgn

| FED. RD. DIV. NO. | STATE | COUNTY | FILE NO. | ROUTE NO. | SHEET NO. |
|---|---|---|---|---|---|
| 3 | S.C. | KERSHAW | 2847360 | I-20 | 3A |

3




NOTES:

* < 5.0' USE 6:1 SLOPE
5.0' - 10.0' USE 4:1 SLOPE
> 10.0' USE 2:1 SLOPE

** ADD 3.75' WHERE GUARDRAIL IS USED. SEE PLANS AND CROSS SECTIONS FOR LOCATION OF EXTRA LENGTH POSTS (SEE DETAIL FOR PAVING UNDER GUARDRAIL ON SHT 3A)

*** PLACE MILLED IN RUMBLE STRIPS IN ACCORDANCE WITH STANDARD DRAWING 401-205-01 & 401-205-02

SEE PLANS AND CROSS SECTIONS FOR LOCATION OF CABLE GUIDE RAIL LOCATED BETWEEN WBL & EBL I-20.

SUPERELEVATION OF PAVEMENT AND SHOULDERS VARIES. SEE CROSS SECTIONS FOR DETAILS

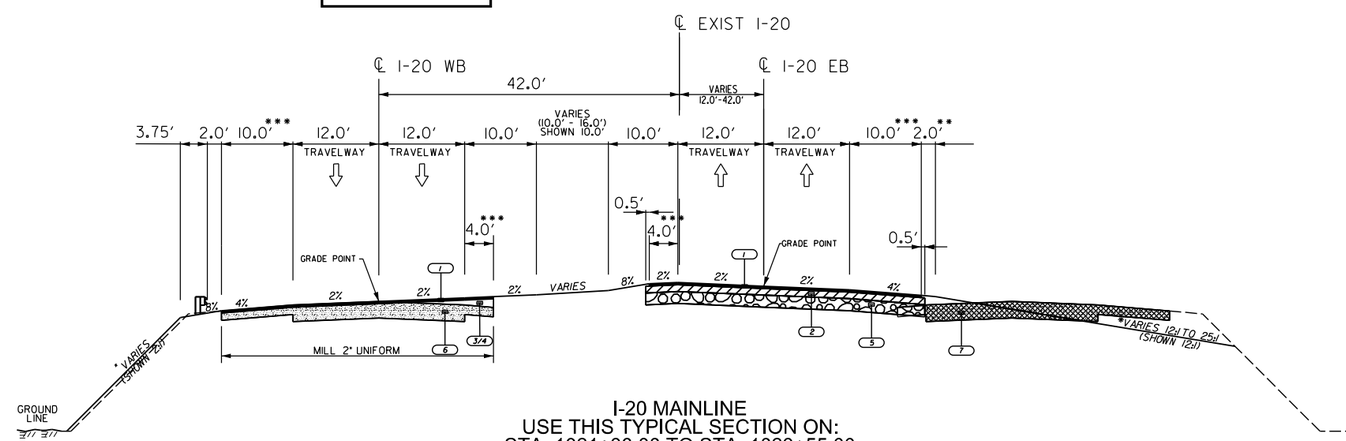
SEE CROSS SECTIONS FOR GRADING OF MEDIAN

**VALUE ADDED**

MEDIAN BARRIER WALL IN LIEU OF PROPOSED CABLE RAIL AND INCREASED PAVED SHOULDER WIDTH IMPROVES SAFETY FOR TRAVELING PUBLIC.

I-20 MAINLINE
USE THIS TYPICAL SECTION ON:
STA. 1794+56.87 TO STA. 1800+72.38
STA. 1816+27.71 TO STA. 1821+38.88

4




I-20 MAINLINE
USE THIS TYPICAL SECTION ON:
STA. 1821+38.88 TO STA. 1823+55.00

## PAVEMENT LEGEND

1. HOT MIX ASPHALT SURFACE COURSE (TYPE A) (200 PSY)
2. HOT MIX ASPHALT INTERMED. COURSE (TYPE B) (400 PSY)
3. HOT MIX ASPHALT SURFACE COURSE FOR BUILD-UP 0-1.8 IN. (TYPE E) (VAR.)
4. HOT MIX ASPHALT INTERMED. COURSE FOR BUILD-UP >1.8 IN. (TYPE B) (VAR.)
5. HOT MIX ASPHALT BASE COURSE (TYPE A) (1150 PSY)
6. EXISTING PAVEMENT (RETAIN)
7. EXISTING PAVEMENT (REMOVE)

FUNCTIONAL CLASS

RURAL FREEWAY

| REV. NO. | BY | DATE | DESCRIPTION OF REVISION |
|---|---|---|---|
| 3 | | | |
| 2 | | | |
| 1 | | | |

PLANS PREPARED BY

lane HDR

| RTE. I-20 | DESIGN SPEED | |
|---|---|---|
| MPH | FROM STA. | TO STA. |
| 75 MPH | 1785+30.88 | 1833+60.82 |
| EXCEPTIONS TO DESIGN SPEED | | |

PAVEMENT DESIGN

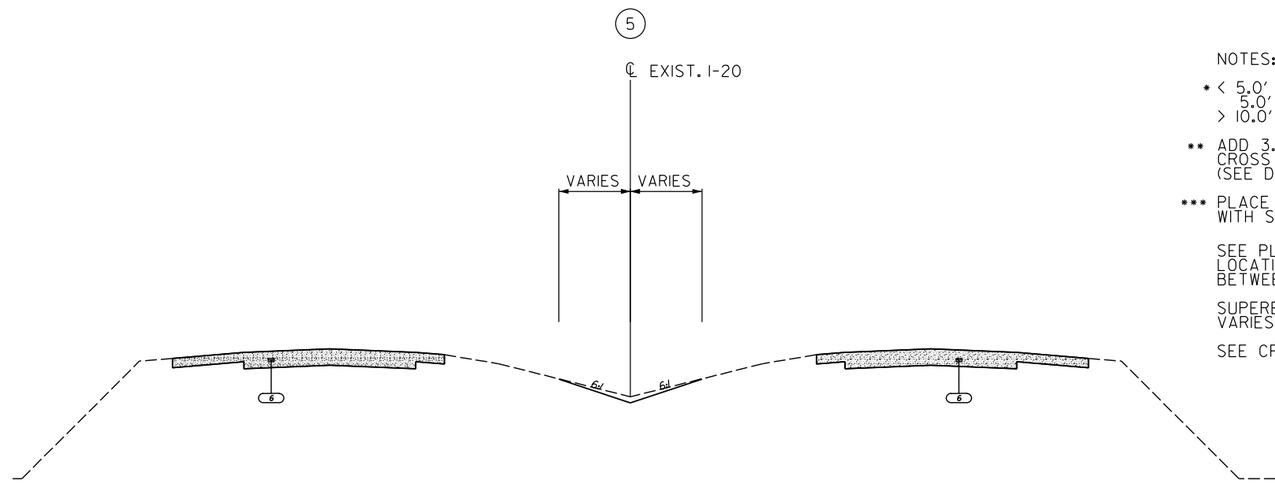
KERSHAW COUNTY

TYPICAL SECTION

SCALE 1"V=1' SCALE 1"H=5' RTE./ RD. I-20

DATE: 2/6/2023
FILE: SHT 03A typical.dgn

| FED. RD. DIV. NO. | STATE | COUNTY | FILE NO. | ROUTE NO. | SHEET NO. |
|---|---|---|---|---|---|
| 3 | S.C. | KERSHAW | 2847360 | I-20 | 3B |




NOTES:

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5.0' - 10.0' USE 4:1 SLOPE
> 10.0' USE 2:1 SLOPE

** ADD 3.75' WHERE GUARDRAIL IS USED. SEE PLANS AND CROSS SECTIONS FOR LOCATION OF EXTRA LENGTH POSTS (SEE DETAIL FOR PAVING UNDER GUARDRAIL ON SHT 3A)

*** PLACE MILLED IN RUMBLE STRIPS IN ACCORDANCE WITH STANDARD DRAWING 401-205-01 & 401-205-02

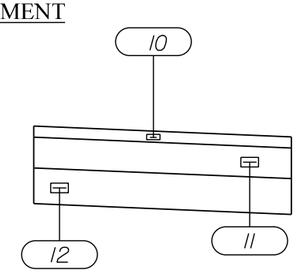
SEE PLANS AND CROSS SECTIONS FOR LOCATION OF CABLE GUIDE RAIL LOCATED BETWEEN WBL & EBL I-20.

SUPERELEVATION OF PAVEMENT AND SHOULDERS VARIES, SEE CROSS SECTIONS FOR DETAILS

SEE CROSS SECTIONS FOR GRADING OF MEDIAN

I-20 MAINLINE
USE THIS TYPICAL SECTION ON:
STA. 1832+25.90 TO STA. 1833+60.82

TEMPORARY PAVEMENT




| Temporary Pavement | Duration | >12 months (Option 1) | >12 months (Option 2) | 12-9months | 9-6 months | < 6months |
|---|---|---|---|---|---|---|
| 8) HMA Surface Type A | | 200psy | 200psy | 200psy | 200psy | 200psy |
| 9) HMA Intermediate Type A | | 300psy | - | - | - | - |
| 10) HMA Base Type A | | 750psy | 1100psy | 950psy | 900psy | 825psy |

PAVEMENT LEGEND

1. HOT MIX ASPHALT SURFACE COURSE (TYPE A) (200 PSY)
2. HOT MIX ASPHALT INTERMED. COURSE (TYPE B) (400 PSY)
3. HOT MIX ASPHALT SURFACE COURSE FOR BUILD-UP 0-1.8 IN. (TYPE E) (VAR.)
4. HOT MIX ASPHALT INTERMED. COURSE FOR BUILD-UP >1.8 IN. (TYPE B) (VAR.)
5. HOT MIX ASPHALT BASE COURSE (TYPE A) (1150 PSY)
6. EXISTING PAVEMENT (RETAIN)
7. EXISTING PAVEMENT (REMOVE)

FUNCTIONAL CLASS
RURAL FREEWAY

| REV. NO. | BY | DATE | DESCRIPTION OF REVISION |
|---|---|---|---|
| 3 | | | |
| 2 | | | |
| 1 | | | |

PLANS PREPARED BY
lane HDR

| RTE. I-20 DESIGN SPEED | | |
|---|---|---|
| MPH | FROM STA. | TO STA. |
| 75 MPH | 1785+30.88 | 1833+60.82 |
| | | |
| EXCEPTIONS TO DESIGN SPEED | | |
| | | |
| | | |
| | | |
| | | |

PAVEMENT DESIGN

KERSHAW COUNTY

TYPICAL SECTION

SCALE 1"V=1' SCALE 1"H=5' RTE./ RD. I-20

DATE: 2/6/2023
FILE: SHT 03A typical.dgn

| FED. RD. DIV. NO. | STATE | COUNTY | FILE NO. | ROUTE NO. | SHEET NO. |
|---|---|---|---|---|---|
| 3 | S.C. | KERSHAW | 2847360 | I-20 | 5 |

## I-20 CENTERLINE (CL)

Beginning chain CL description
==========

Point 10000 N 864,504.4990 E 2,106,246.6612 Sta 1741+99.5200

Course from 10000 to PC C1 N 47^ 09' 51.34" E Dist 1,928.8500

Curve Data
*———*

Curve C1
Feature: DEFAULT
P.I. Station 1775+56.4339 N 866,786.8609 E 2,108,708.3059
Delta = 27^ 59' 27.44" (RT)
Degree = 1^ 00' 00.00"
Tangent = 1,428.0639
Length = 2,799.0955
Radius = 5,729.5780
External = 175.2870
Long Chord = 2,771.3431
Mid. Ord. = 170.0836
P.C. Station 1761+28.3700 N 865,815.9219 E 2,107,661.0983
P.T. Station 1789+27.4655 N 867,152.7328 E 2,110,088.7059
C.C. N 861,614.3885 E 2,111,556.6317
Back = N 47^ 09' 51.34" E
Ahead = N 75^ 09' 18.78" E
Chord Bear = N 61^ 09' 35.06" E

Course from PT C1 to PC C2 N 75^ 09' 18.78" E Dist 4,126.7358

Curve Data
*———*

Curve C2
Feature: DEFAULT
P.I. Station 1841+76.4885 N 868,497.5398 E 2,115,162.5346
Delta = 22^ 09' 54.41" (RT)
Degree = 1^ 00' 00.00"
Tangent = 1,122.2872
Length = 2,216.5115
Radius = 5,729.5780
External = 108.8801
Long Chord = 2,202.7159
Mid. Ord. = 106.8496
P.C. Station 1830+54.2013 N 868,210.0082 E 2,114,077.7055
P.T. Station 1852+70.7128 N 868,354.5418 E 2,116,275.6744
C.C. N 862,671.6639 E 2,115,545.6312
Back = N 75^ 09' 18.78" E
Ahead = S 82^ 40' 46.81" E
Chord Bear = N 86^ 14' 15.98" E

Course from PT C2 to 10001 S 82^ 40' 46.81" E Dist 5,717.4036

Point 10001 N 867,626.0499 E 2,121,946.4771 Sta 1909+88.1164

==========

Ending chain CL description

## I-20 WB CONST. (I20_WB_CONST)

Beginning chain I20_WB_CONST description
==========

Curve Data
*———*

Curve I20_WB_CONST-1
P.I. Station 1775+46.3837 N 866,824.7771 E 2,108,687.4266
Delta = 27^ 59' 27.44" (RT)
Degree = 0^ 59' 33.80"
Tangent = 1,438.5321
Length = 2,819.6139
Radius = 5,771.5780
External = 176.5719
Long Chord = 2,791.6581
Mid. Ord. = 171.3303
P.C. Station 1761+07.8516 N 865,846.7208 E 2,107,632.5425
P.T. Station 1789+27.4655 N 867,193.3310 E 2,110,077.9455
C.C. N 861,614.3885 E 2,111,556.6317
Back = N 47^ 09' 51.34" E
Ahead = N 75^ 09' 18.78" E
Chord Bear = N 61^ 09' 35.06" E
DS = 75 MPH
eMAX = 8%
e=MATCH EXISTING (2.9%)
LG-PC=0.50%
LG-PT=0.50%

Course from PT I20_WB_CONST-1 to WB002 N 75^ 09' 18.78" E Dist 2,072.5345

Point WB002 N 867,724.3172 E 2,112,081.3059 Sta 1810+00.0000

Course from WB002 to PC I20_WB_CONST-2 N 75^ 09' 18.78" E Dist 2,054.2013

Curve Data
*———*

Curve I20_WB_CONST-2
P.I. Station 1841+84.7154 N 868,540.2457 E 2,115,159.7263
Delta = 22^ 09' 54.41" (RT)
Degree = 0^ 59' 33.80"
Tangent = 1,130.5140
Length = 2,232.7594
Radius = 5,771.5780
External = 109.6782
Long Chord = 2,218.8627
Mid. Ord. = 107.6328
P.C. Station 1830+54.2013 N 868,250.6064 E 2,114,066.9450
P.T. Station 1852+86.9607 N 868,396.1995 E 2,116,281.0259
C.C. N 862,671.6639 E 2,115,545.6312
Back = N 75^ 09' 18.78" E
Ahead = S 82^ 40' 46.81" E
Chord Bear = N 86^ 14' 15.98" E
DS = 75 MPH
eMAX = 8%
e=MATCH EXISTING (2.9%)
LG-PC=0.50%
LG-PT=0.50%

==========

Ending chain I20_WB_CONST description

## I-20 EB CONST. (I20_EB_CONST)

Beginning chain I20_EB_CONST description
==========

Curve Data
*———*

Curve I20_EB_CONST-1
P.I. Station 1773+58.2757 N 866,607.9594 E 2,108,577.1254
Delta = 24^ 01' 30.31" (RT)
Degree = 1^ 00' 26.58"
Tangent = 1,210.2334
Length = 2,384.8973
Radius = 5,687.5780
External = 127.3346
Long Chord = 2,367.4637
Mid. Ord. = 124.5462
P.C. Station 1761+48.0423 N 865,785.1231 E 2,107,689.6540
P.T. Station 1785+32.9396 N 866,998.1891 E 2,109,722.7194
C.C. N 861,614.3885 E 2,111,556.6317
Back = N 47^ 09' 51.34" E
Ahead = N 71^ 11' 21.65" E
Chord Bear = N 59^ 10' 36.50" E
DS = 75 MPH
eMAX = 8%
e=MATCH EXISTING (2.9%)
LG-PC=0.50%
LG-PT=0.50%

Curve Data
*———*

Curve I20_EB_CONST-2
P.I. Station 1792+60.0133 N 867,232.6280 E 2,110,410.9596
Delta = 3^ 57' 57.13" (RT)
Degree = 0^ 16' 22.21"
Tangent = 727.0737
Length = 1,453.5667
Radius = 21,000.0000
External = 12.5828
Long Chord = 1,453.2765
Mid. Ord. = 12.5753
P.C. Station 1785+32.9396 N 866,998.1891 E 2,109,722.7194
P.T. Station 1799+86.5063 N 867,418.9053 E 2,111,113.7660
C.C. N 847,119.8133 E 2,116,493.9950
Back = N 71^ 11' 21.65" E
Ahead = N 75^ 09' 18.78" E
Chord Bear = N 73^ 10' 20.21" E
DS = 75 MPH
eMAX = 8%
e=NC
LG-PC=0.50%
LG-PT=0.50%

Course from PT I20_EB_CONST-2 to EB002 N 75^ 09' 18.78" E Dist 1,013.4937

Point EB002 N 867,678.5637 E 2,112,093.4328 Sta 1810+00.0000

Course from EB002 to PC I20_EB_CONST-3 N 75^ 09' 18.78" E Dist 675.0000

Curve Data
*———*

Curve I20_EB_CONST-3
P.I. Station 1819+16.2587 N 867,913.3105 E 2,112,979.1099
Delta = 1^ 43' 01.30" (RT)
Degree = 0^ 21' 21.15"
Tangent = 241.2587
Length = 482.4813
Radius = 16,100.0000
External = 1.8075
Long Chord = 482.4632
Mid. Ord. = 1.8073
P.C. Station 1816+75.0000 N 867,851.4997 E 2,112,745.9036
P.T. Station 1821+57.4813 N 867,868.1059 E 2,113,214.0636
C.C. N 852,288.8625 E 2,116,870.7458
Back = N 75^ 09' 18.78" E
Ahead = N 76^ 52' 20.08" E
Chord Bear = N 76^ 00' 49.43" E
DS = 75 MPH
eMAX = 8%
e=NC
LG-PC=0.50%
LG-PT=0.50%

Course from PT I20_EB_CONST-3 to PC I20_EB_CONST-4 N 76^ 52' 20.08" E Dist 1,067.6902

Curve Data
*———*

Curve I20_EB_CONST-4
P.I. Station 1842+50.9925 N 868,443.5907 E 2,115,252.8630
Delta = 20^ 26' 53.12" (RT)
Degree = 1^ 00' 26.58"
Tangent = 1,025.8210
Length = 2,029.8195
Radius = 5,687.5780
External = 91.7690
Long Chord = 2,019.0644
Mid. Ord. = 90.3119
P.C. Station 1832+25.1715 N 868,210.6031 E 2,114,253.8508
P.T. Station 1852+54.9910 N 868,312.8841 E 2,116,270.3229
C.C. N 862,671.6639 E 2,115,545.6312
Back = N 76^ 52' 20.08" E
Ahead = S 82^ 40' 46.81" E
Chord Bear = N 87^ 05' 46.63" E
DS = 75 MPH
eMAX = 8%
e=MATCH EXISTING (2.9%)
LG-PC=0.50%
LG-PT=0.50%

==========

Ending chain I20_EB_CONST description

PLANS PREPARED BY

lane HDR

| REV. NO. | BY | DATE | DESCRIPTION OF REVISION |
|---|---|---|---|
| 4 | | | |
| 3 | | | |
| 2 | | | |
| 1 | | | |

TOPO. _____ DATE _____
DWG. _____ DATE _____
R/W _____ DATE _____

0 25 50 100
SCALE: 1" = 50'

KERSHAW COUNTY

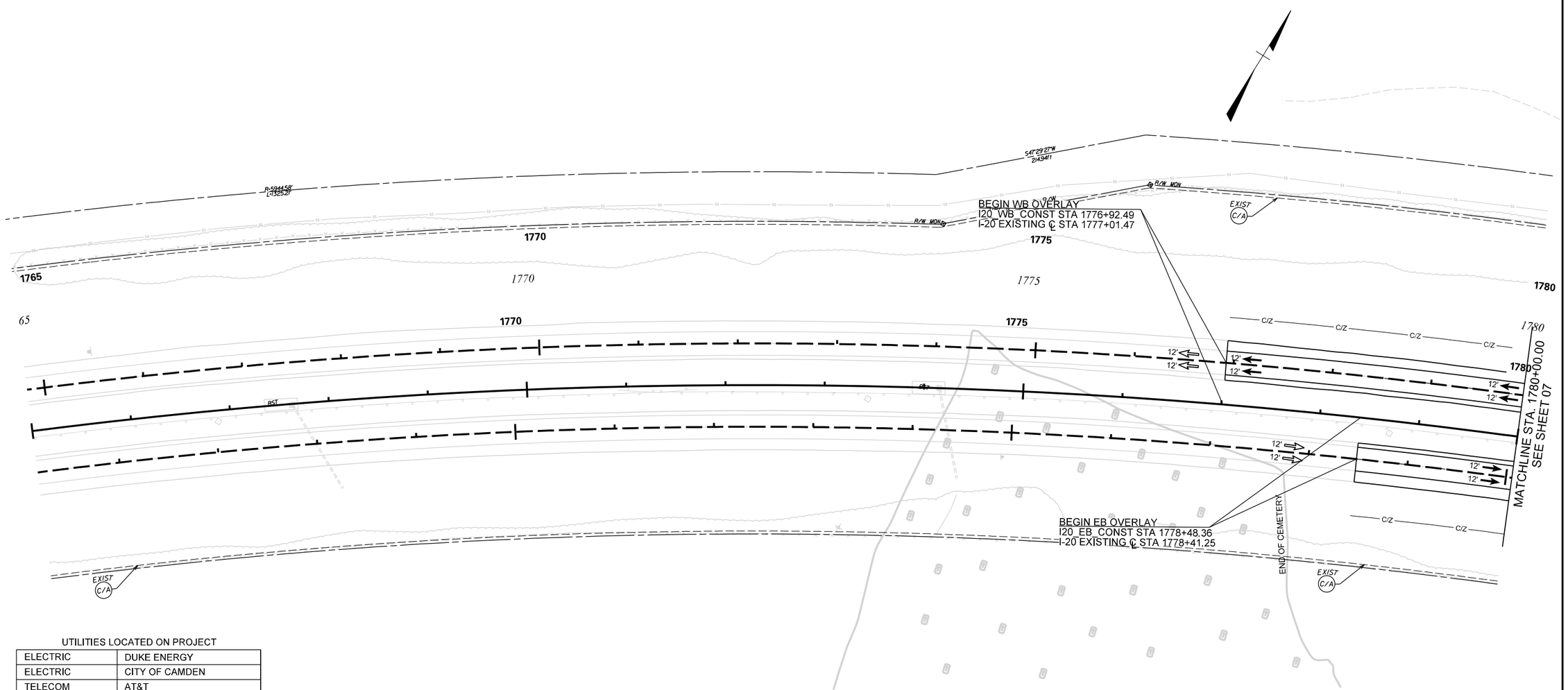
REFERENCE DATA SHEET

I-20 DWG. NO.

DATE: 2/6/2023
FILE: 005_Reference_Data_Sheet.dgn

SEE SHEET 06A FOR I-20 PROFILE

| FED. RD. DIV. NO. | STATE | COUNTY | FILE NO. | ROUTE NO. | SHEET NO. |
|---|---|---|---|---|---|
| 3 | S.C. | KERSHAW | 2847360 | I-20 | 06 |




UTILITIES LOCATED ON PROJECT

| | |
|---|---|
| ELECTRIC | DUKE ENERGY |
| ELECTRIC | CITY OF CAMDEN |
| TELECOM | AT&T |
| WATER | CITY OF CAMDEN |
| SEWER | CITY OF CAMDEN |
| SEWER | PALMETTO UTILITIES INC. |

PLANS PREPARED BY

lane HDR

| REV. NO. | BY | DATE | DESCRIPTION OF REVISION |
|---|---|---|---|
| 4 | | | |
| 3 | | | |
| 2 | | | |
| 1 | | | |

TOPO. _____ DATE _____
DWG. _____ DATE _____
R/W _____ DATE _____

0 25 50 100
SCALE: 1" = 50'

KERSHAW COUNTY

ROADWAY PLAN SHEET

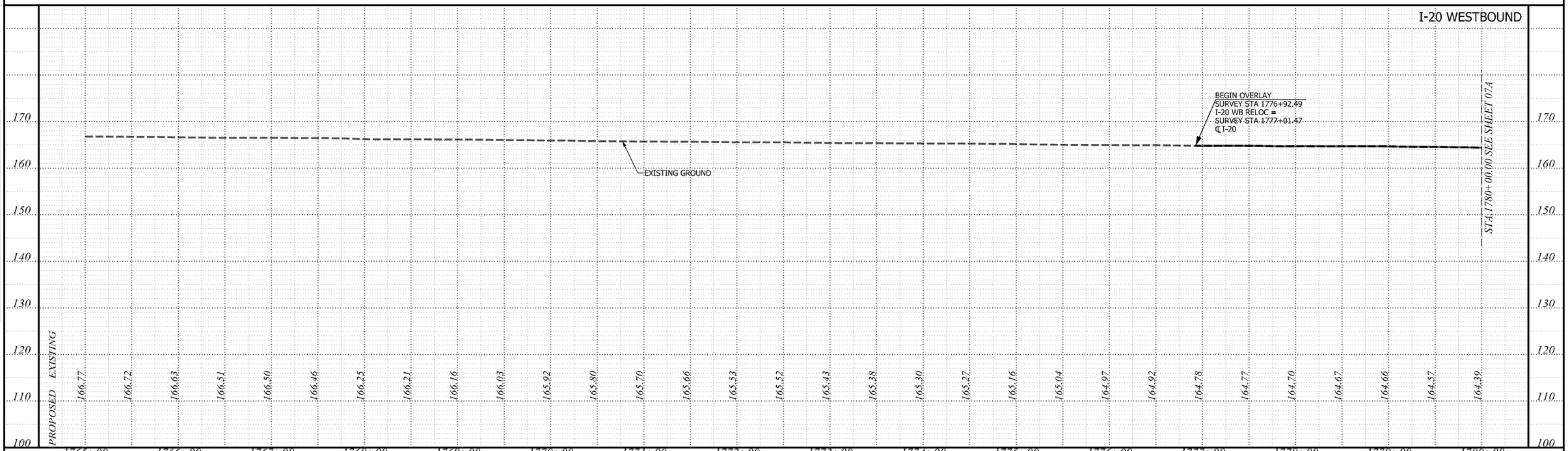
I-20
STA 1765+00.00 TO STA 1780+00.00

I-20 DWG. NO.

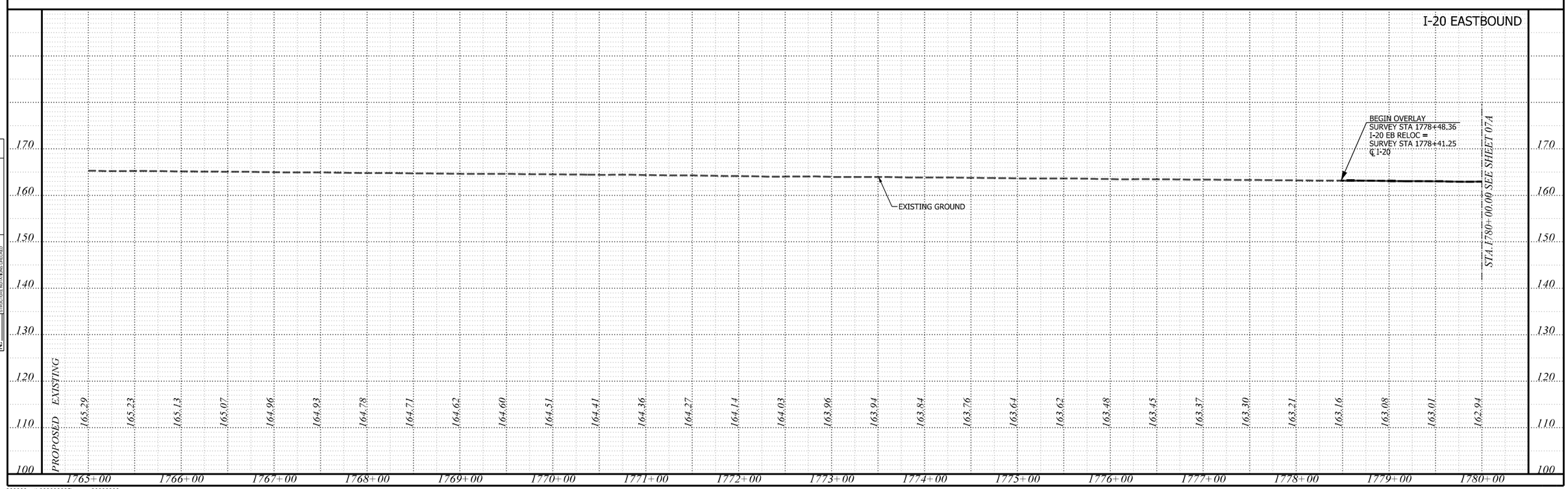
DATE: 2/6/2023
FILE: 006_Plan_Sheet.dgn

| FED. RD. DIV. NO. | STATE | COUNTY | PROJECT ID | ROAD/ROUTE NO. | SHEET NO. |
|---|---|---|---|---|---|
| 3 | S.C. | KERSHAW | 2847360 | I-20 | 06A |

PROFILE
NOTE BOOK
No.
SURVEYED
PLOTTED
GRADES CHECKED
B.M.'S NOTED
STRUCTURE DIMENSIONS CHECKED
BY
DATE




PROFILE
NOTE BOOK
No.
SURVEYED
PLOTTED
GRADES CHECKED
B.M.'S NOTED
STRUCTURE DIMENSIONS CHECKED
BY
DATE

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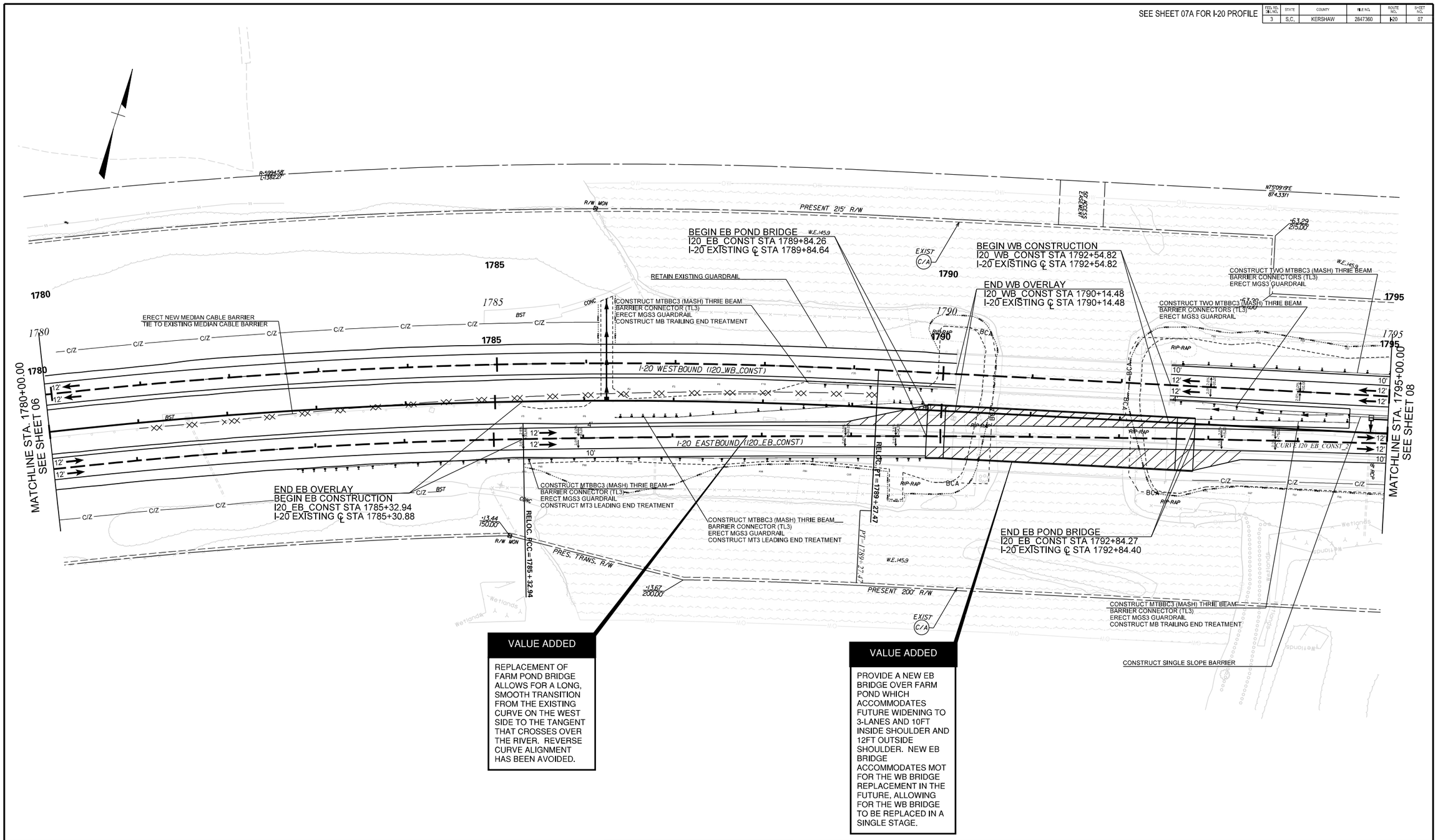
rmckenna
$$$date$$$$

2PROLINE_50.DGN

SEE SHEET 07A FOR I-20 PROFILE

| FED. RD. DIV. NO. | STATE | COUNTY | FILE NO. | ROUTE NO. | SHEET NO. |
|---|---|---|---|---|---|
| 3 | S.C. | KERSHAW | 2847360 | I-20 | 07 |




**VALUE ADDED**

REPLACEMENT OF FARM POND BRIDGE ALLOWS FOR A LONG, SMOOTH TRANSITION FROM THE EXISTING CURVE ON THE WEST SIDE TO THE TANGENT THAT CROSSES OVER THE RIVER. REVERSE CURVE ALIGNMENT HAS BEEN AVOIDED.

**VALUE ADDED**

PROVIDE A NEW EB BRIDGE OVER FARM POND WHICH ACCOMMODATES FUTURE WIDENING TO 3-LANES AND 10FT INSIDE SHOULDER AND 12FT OUTSIDE SHOULDER. NEW EB BRIDGE ACCOMMODATES MOT FOR THE WB BRIDGE REPLACEMENT IN THE FUTURE, ALLOWING FOR THE WB BRIDGE TO BE REPLACED IN A SINGLE STAGE.

PLANS PREPARED BY

lane HDR

| REV. NO. | BY | DATE | DESCRIPTION OF REVISION |
|---|---|---|---|
| 4 | | | |
| 3 | | | |
| 2 | | | |
| 1 | | | |

TOPO. _____ DATE _____
DWG. _____ DATE _____
R/W _____ DATE _____

0 25 50 100
SCALE: 1" = 50'

KERSHAW COUNTY

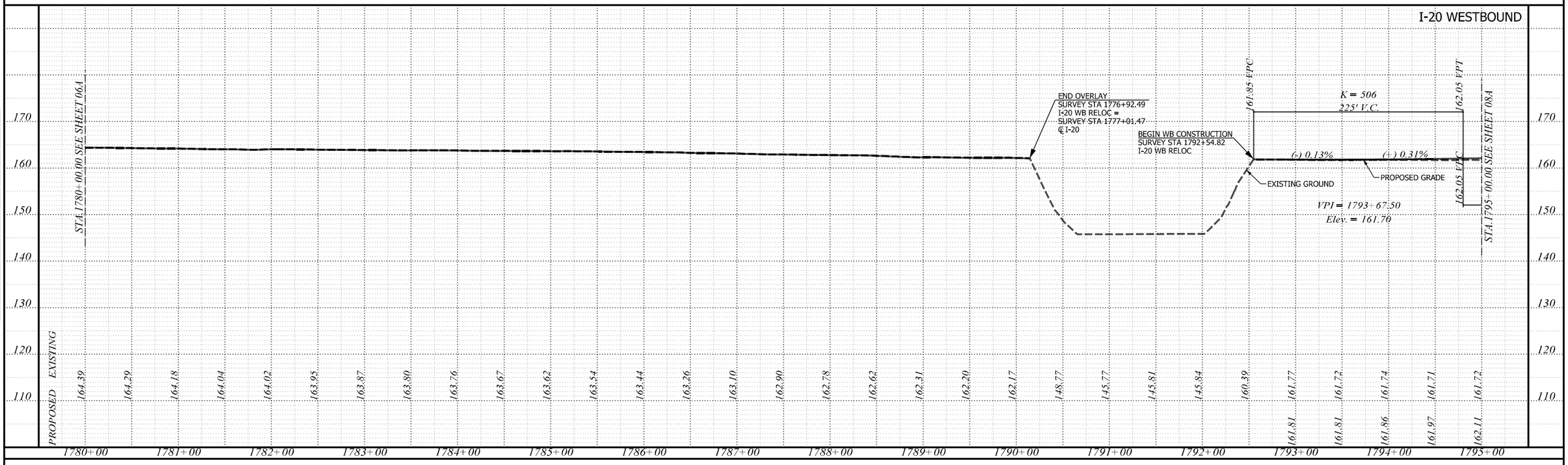
ROADWAY PLAN SHEET

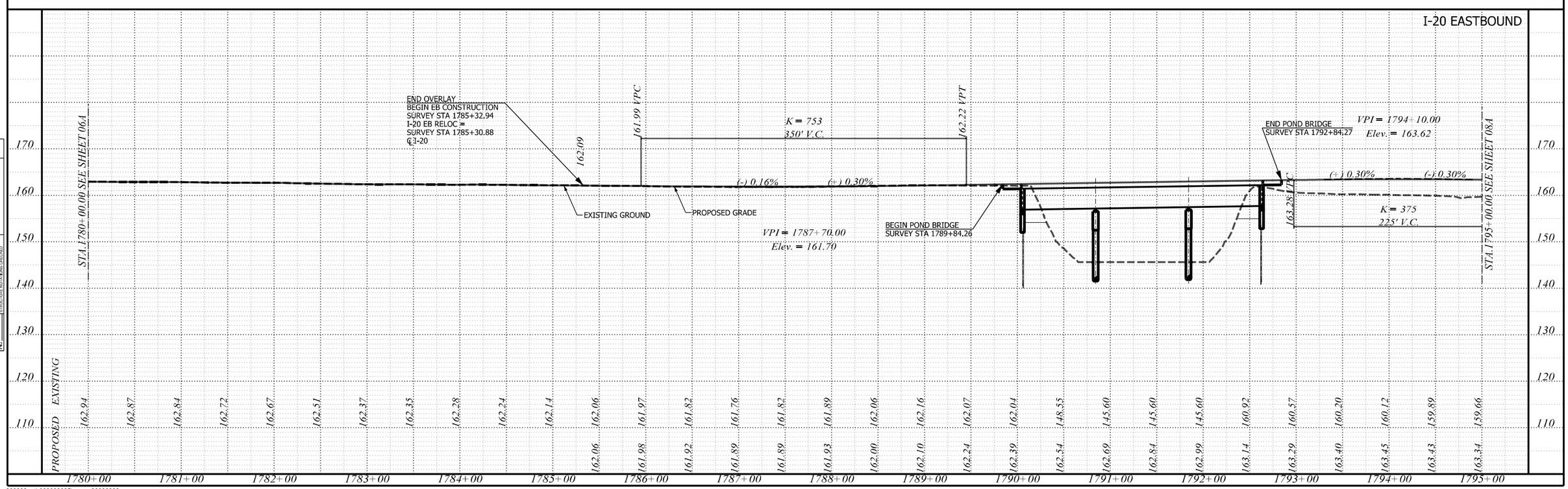
I-20
STA 1780+00.00 TO STA 1795+00.00

I-20 DWG. NO.

DATE: 2/8/2023
FILE: 007_Plan_Sheet.dgn

| FED. RD. DIV. NO. | STATE | COUNTY | PROJECT ID | ROAD/ROUTE NO. | SHEET NO. |
|---|---|---|---|---|---|
| 3 | S.C. | KERSHAW | 2847360 | I-20 | 07A |



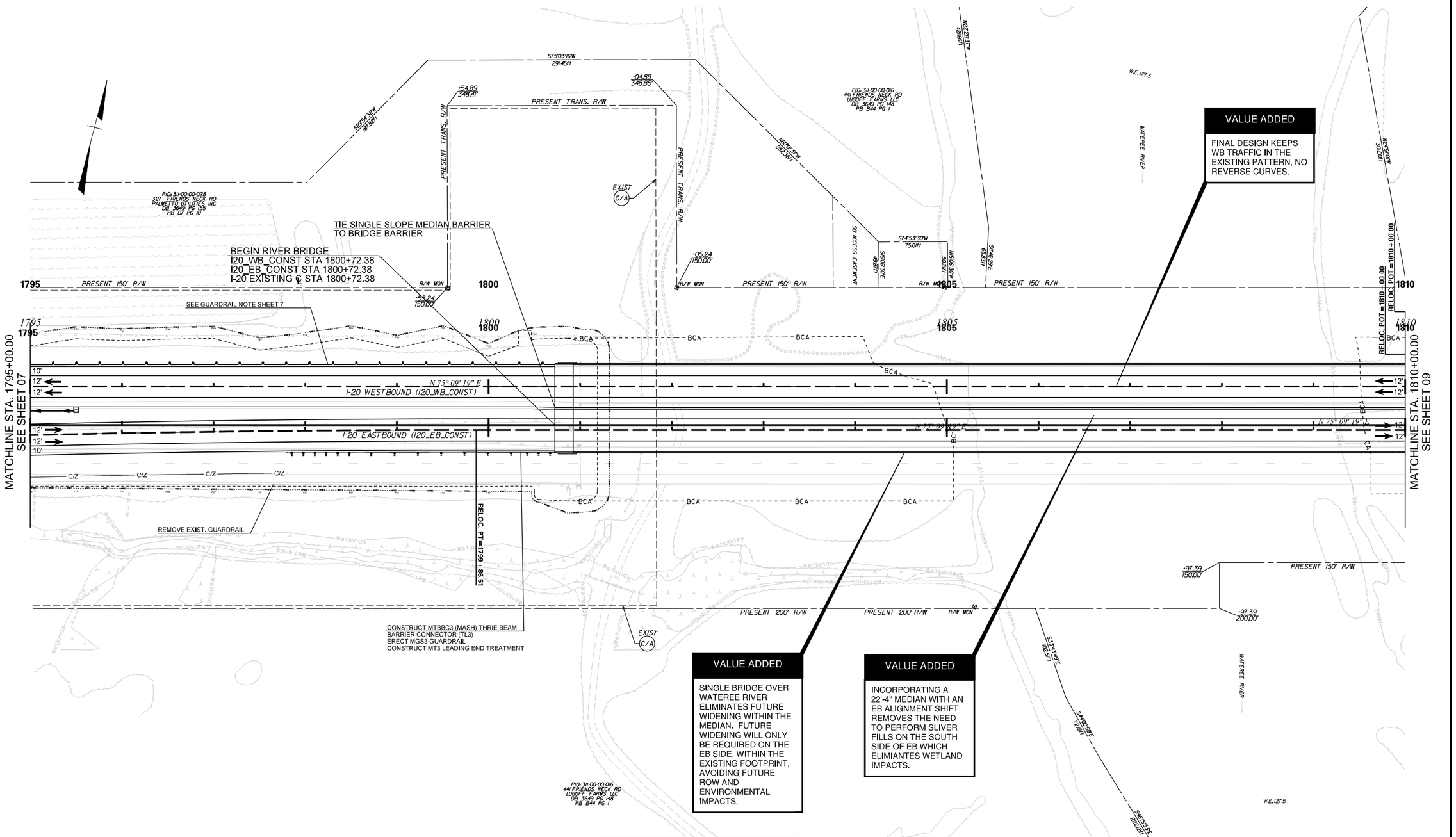

PROFILE
NOTE BOOK
No.
SURVEYED
PLOTTED
GRADES CHECKED
BLK'S NOTED
STRUCTURE NOTATIONS CHECKED
BY
DATE

$$$$$$path$$$$$$$$filename$$$$$$$$
rmckenna
$$$date$$$$

2PROLINE_50.DGN

SEE SHEET 08A FOR I-20 PROFILE

| FED. RD. DIV. NO. | STATE | COUNTY | FILE NO. | ROUTE NO. | SHEET NO. |
|---|---|---|---|---|---|
| 3 | S.C. | KERSHAW | 2847360 | I-20 | 08 |




PLANS PREPARED BY

lane HDR

| REV. NO. | BY | DATE | DESCRIPTION OF REVISION |
|---|---|---|---|
| 4 | | | |
| 3 | | | |
| 2 | | | |
| 1 | | | |

TOPO. DATE
DWG. DATE
R/W DATE

0 25 50 100
SCALE: 1" = 50'

# KERSHAW COUNTY

## ROADWAY PLAN SHEET

I-20
STA 1795+00.00 TO STA 1810+00.00

I-20 DWG. NO.

DATE: 2/8/2023
FILE: 008_Plan_Sheet.dgn

| FED. RD. DIV. NO. | STATE | COUNTY | PROJECT ID | ROAD/ROUTE NO. | SHEET NO. |
|---|---|---|---|---|---|
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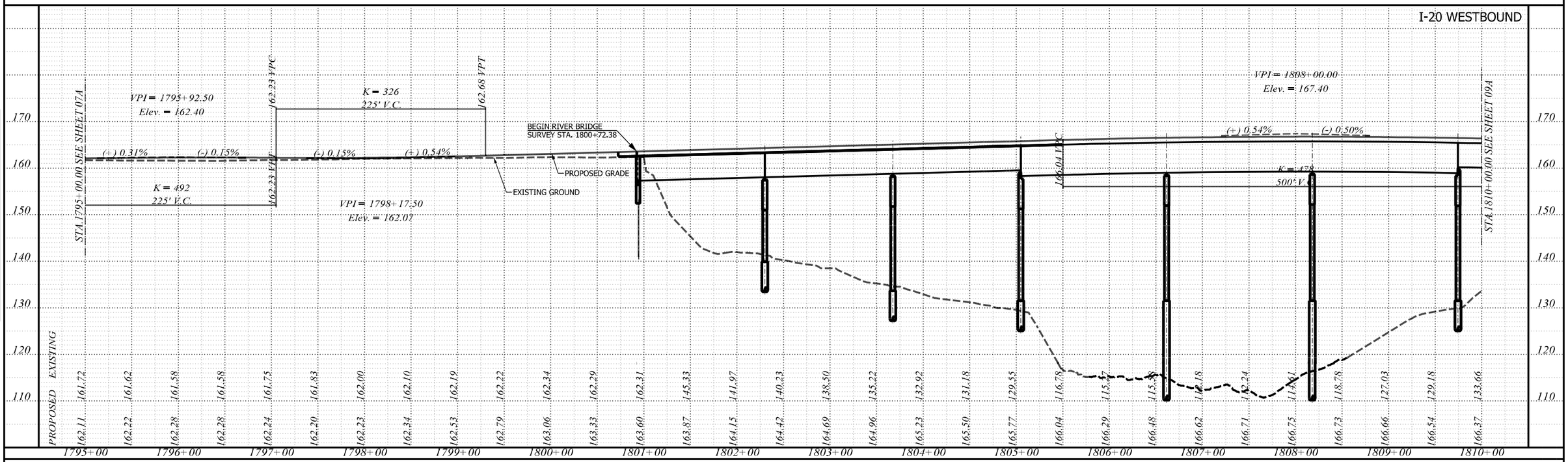
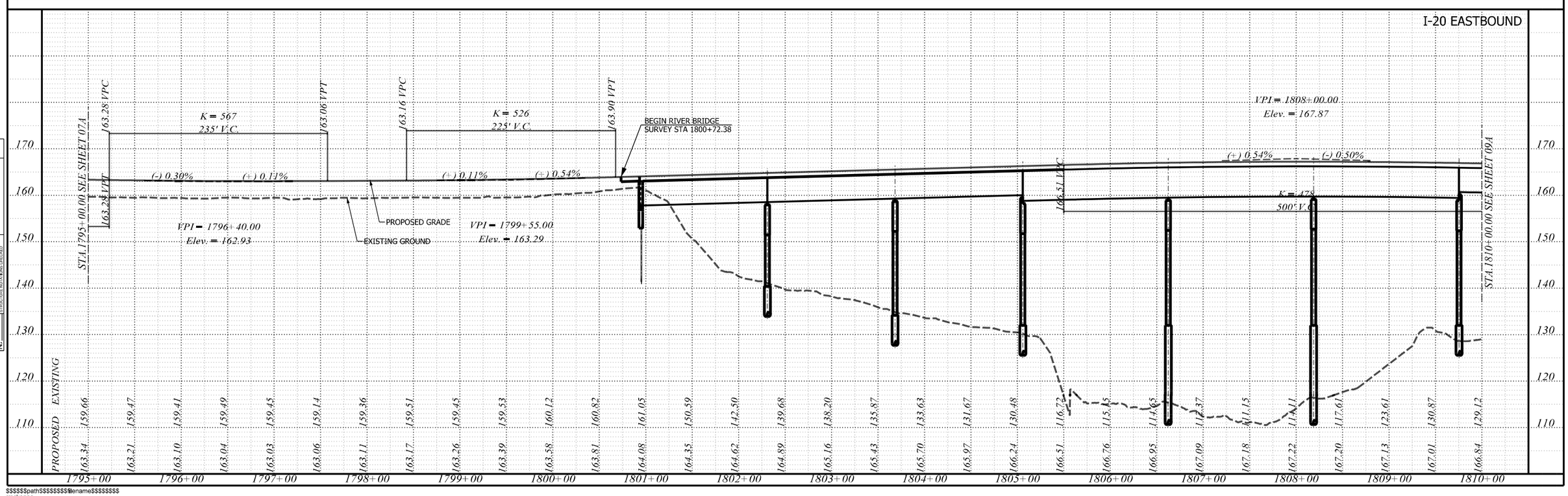


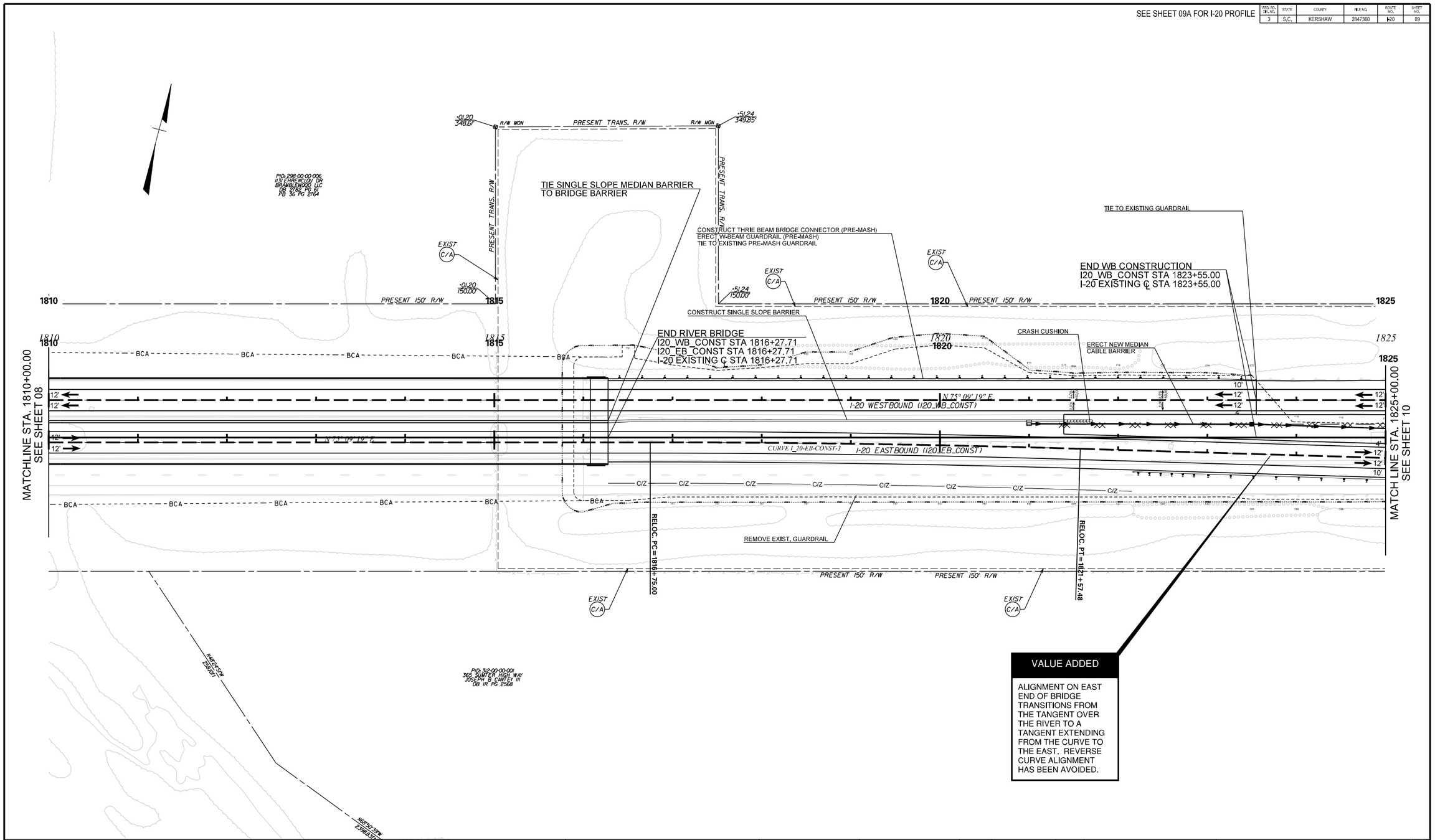

PROFILE
NOTE BOOK
No.
SURVEYED
PLOTTED
GRADES CHECKED
B.M.'S NOTED
STRUCTURE DATA CHECKED
BY
DATE

$$$$$$$path$$$$$$$$$filename$$$$$$$$
rmckenna
$$$date$$$$

2PROLINE_50.DGN

SEE SHEET 09A FOR I-20 PROFILE

| FED. RD. DIV. NO. | STATE | COUNTY | FILE NO. | ROUTE NO. | SHEET NO. |
|---|---|---|---|---|---|
| 3 | S.C. | KERSHAW | 2847360 | I-20 | 09 |




VALUE ADDED

ALIGNMENT ON EAST END OF BRIDGE TRANSITIONS FROM THE TANGENT OVER THE RIVER TO A TANGENT EXTENDING FROM THE CURVE TO THE EAST. REVERSE CURVE ALIGNMENT HAS BEEN AVOIDED.

PLANS PREPARED BY

lane HDR

| REV. NO. | BY | DATE | DESCRIPTION OF REVISION |
|---|---|---|---|
| 4 | | | |
| 3 | | | |
| 2 | | | |
| 1 | | | |

TOPO. _____ DATE _____
DWG. _____ DATE _____
R/W _____ DATE _____

0 25 50 100
SCALE: 1" = 50'

KERSHAW COUNTY

ROADWAY PLAN SHEET

I-20
STA 1810+00.00 TO 1825+00.00

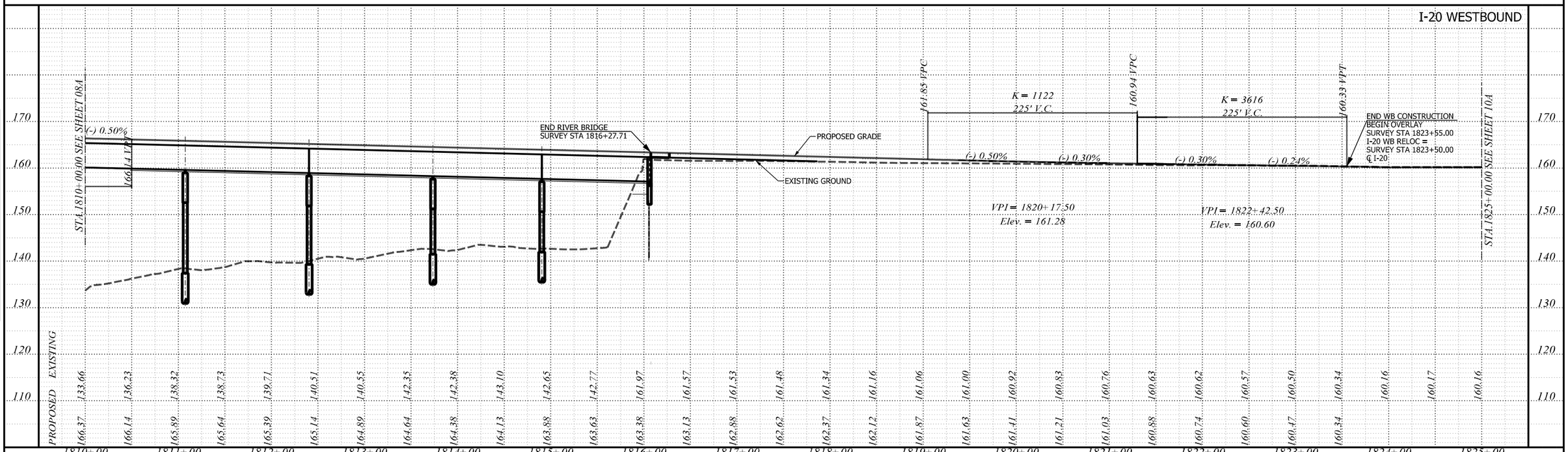
I-20 DWG. NO.

DATE: 2/8/2023
FILE: 009_Plan_Sheet.dgn

| FED. RD. DIV. NO. | STATE | COUNTY | PROJECT ID | ROAD/ROUTE NO. | SHEET NO. |
|---|---|---|---|---|---|
| 3 | S.C. | KERSHAW | 2847360 | I-20 | 09A |

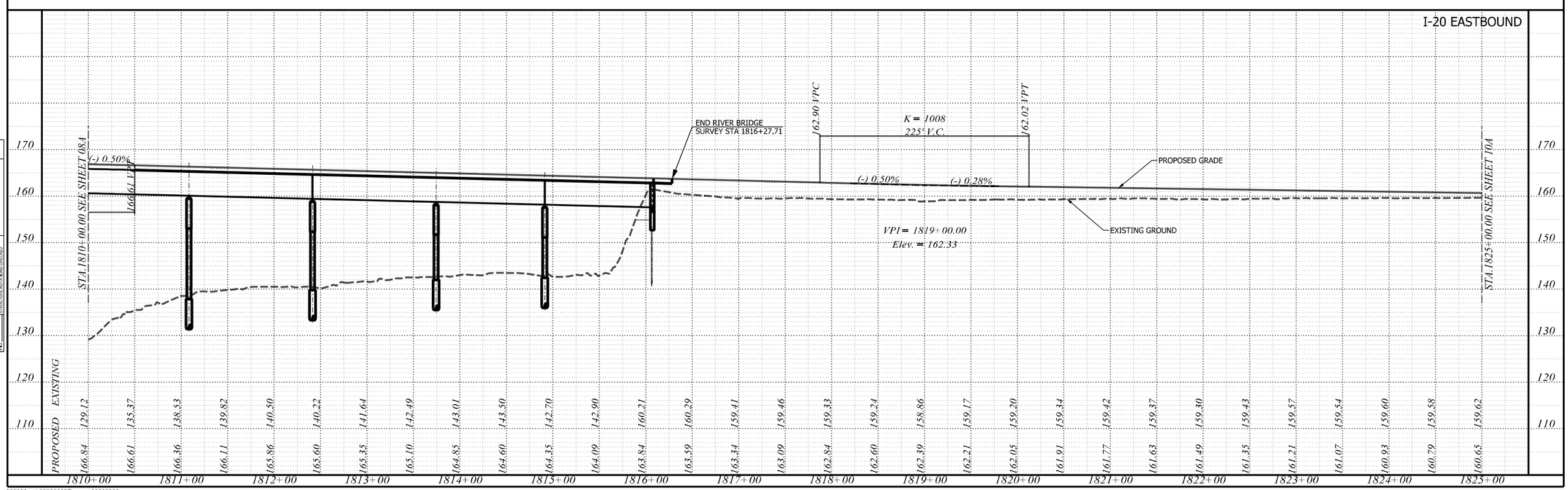
PROFILE
NOTE BOOK
NO.
SURVEYED
PLOTTED
GRADES CHECKED
B.M.'S NOTED
STRUCTURE DIMENSIONS CHECKED
BY
DATE

## I-20 WESTBOUND




PROFILE
NOTE BOOK
NO.
SURVEYED
PLOTTED
GRADES CHECKED
B.M.'S NOTED
STRUCTURE DIMENSIONS CHECKED
BY
DATE

## I-20 EASTBOUND

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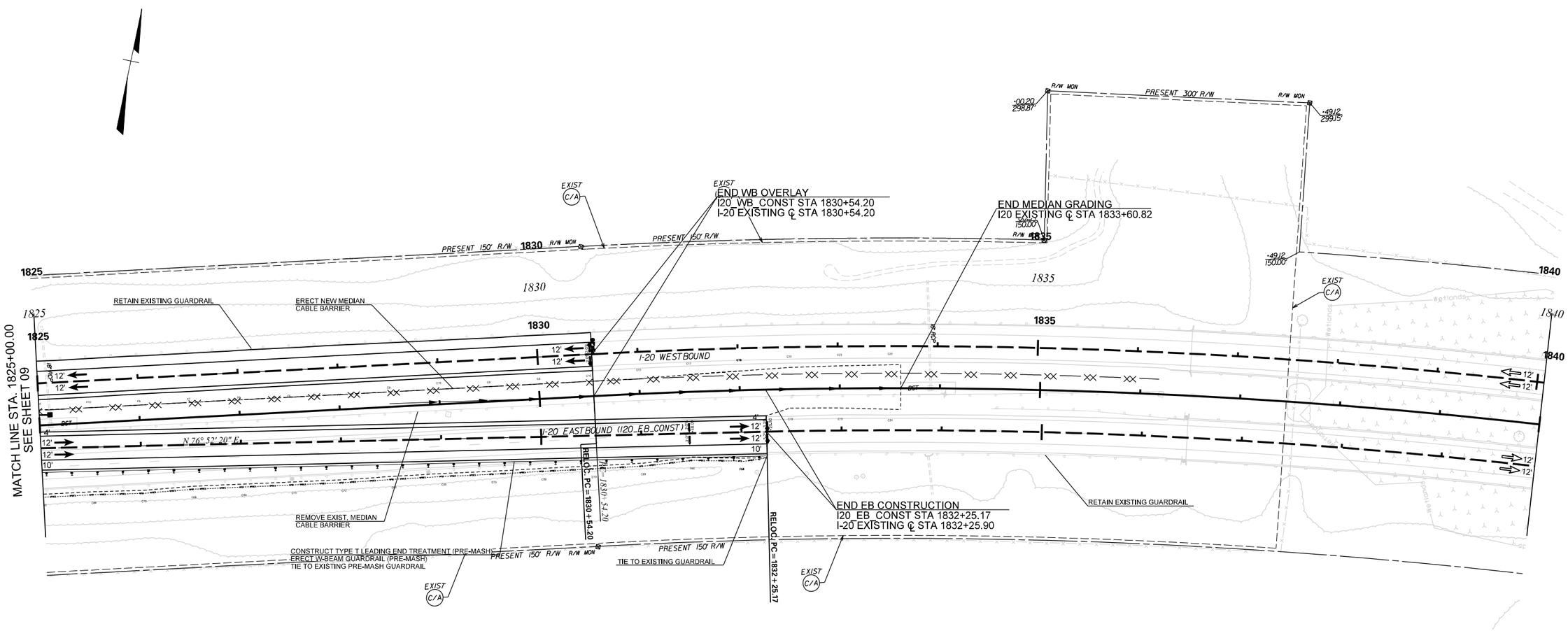
rmckenna
$$$date$$$$

2PROLINE_50.DGN

SEE SHEET 10A FOR I-20 PROFILE

| FED. RD. DIV. NO. | STATE | COUNTY | FILE NO. | ROUTE NO. | SHEET NO. |
|---|---|---|---|---|---|
| 3 | S.C. | KERSHAW | 2847360 | I-20 | 10 |




PLANS PREPARED BY

lane HDR

| REV. NO. | BY | DATE | DESCRIPTION OF REVISION |
|---|---|---|---|
| 4 | | | |
| 3 | | | |
| 2 | | | |
| 1 | | | |

TOPO. _____ DATE _____
DWG. _____ DATE _____
R/W _____ DATE _____

0 25 50 100
SCALE: 1" = 50'

# KERSHAW COUNTY

## ROADWAY PLAN SHEET

I-20
STA 1825+00.00 TO 1840+00.00

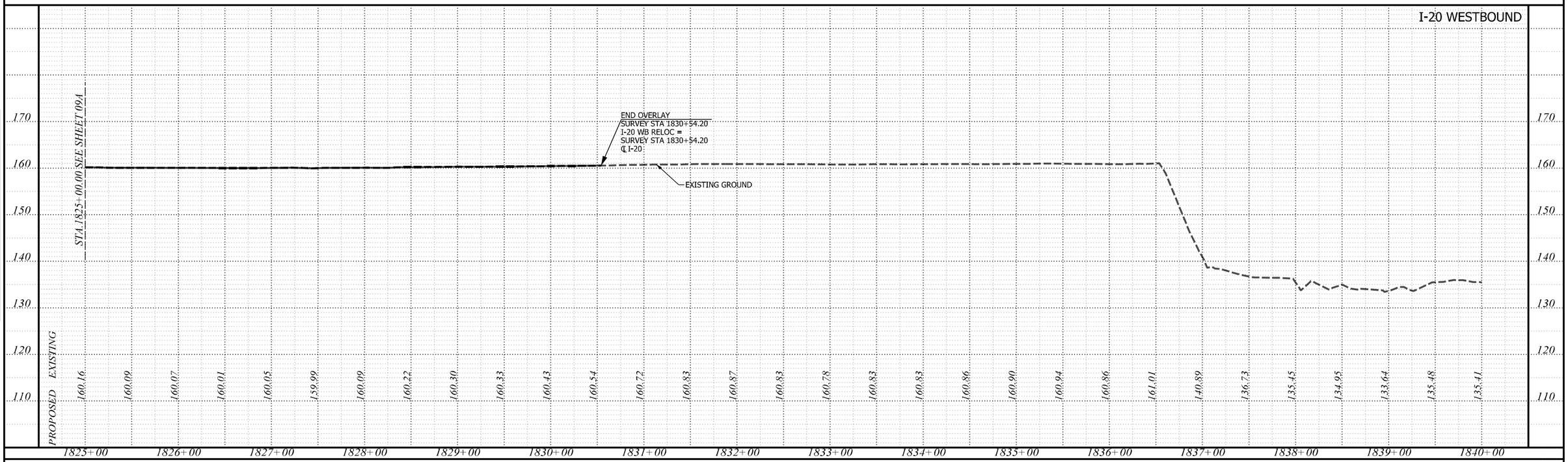
I-20 DWG. NO.

DATE: 2/6/2023
FILE: 010_Plan_Sheet.dgn

| FED. RD. DIV. NO. | STATE | COUNTY | PROJECT ID | ROAD/ROUTE NO. | SHEET NO. |
|---|---|---|---|---|---|
| 3 | S.C. | KERSHAW | 2847360 | I-20 | 10A |

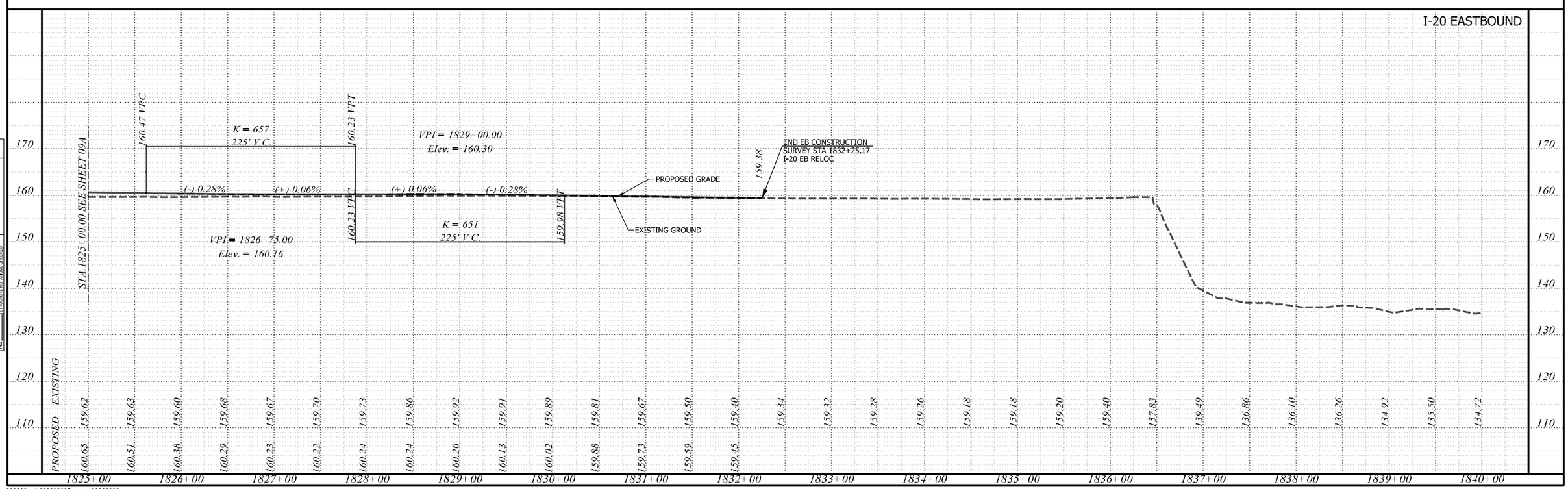
PROFILE
NOTE BOOK
NO.
SURVEYED
PLOTTED
GRADES CHECKED
B.M.'S NOTED
CROSS SECTIONS CHECKED
BY
DATE

## I-20 WESTBOUND




PROFILE
NOTE BOOK
NO.
SURVEYED
PLOTTED
GRADES CHECKED
B.M.'S NOTED
CROSS SECTIONS CHECKED
BY
DATE

## I-20 EASTBOUND

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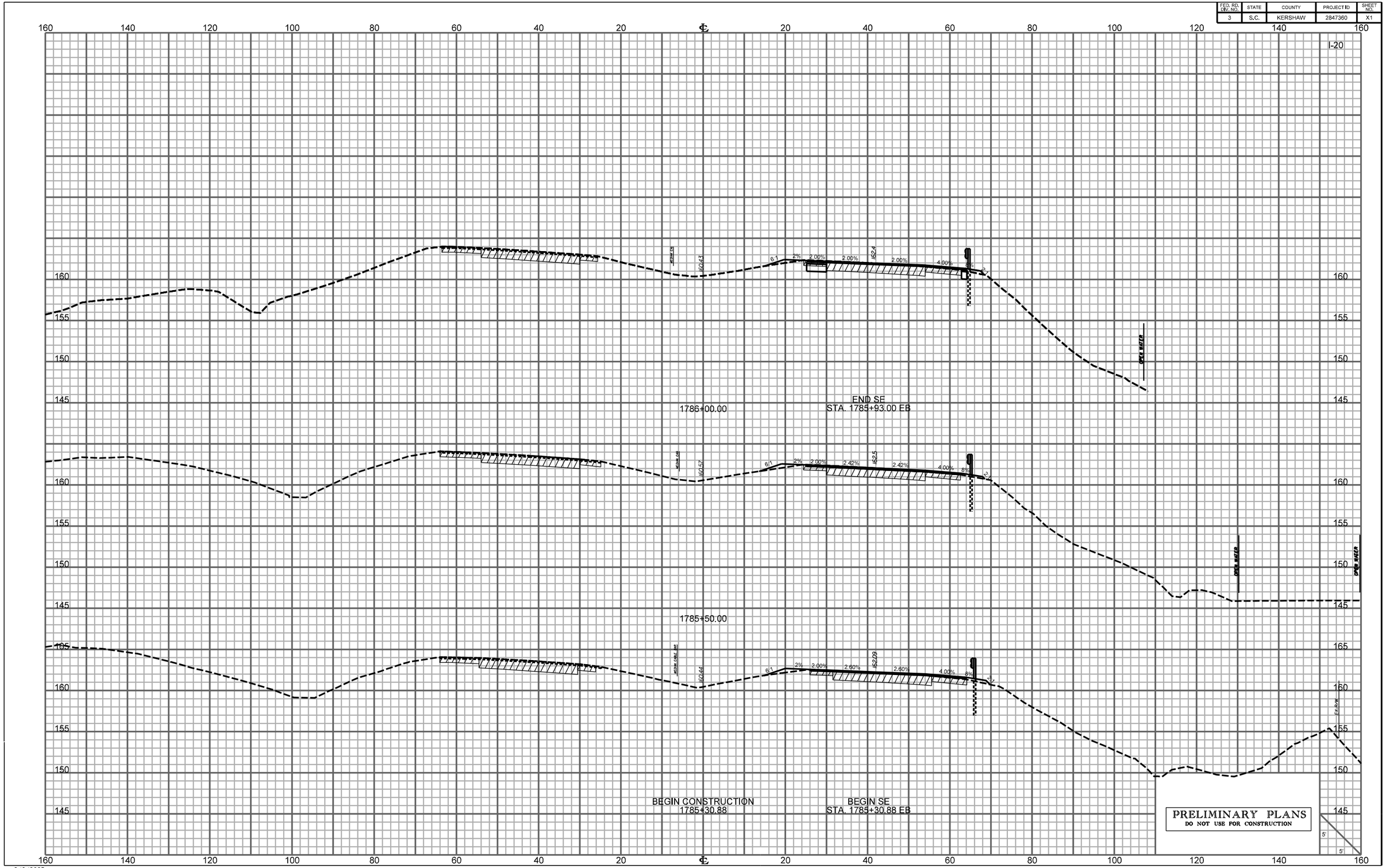
rmckenna
$$$date$$$$

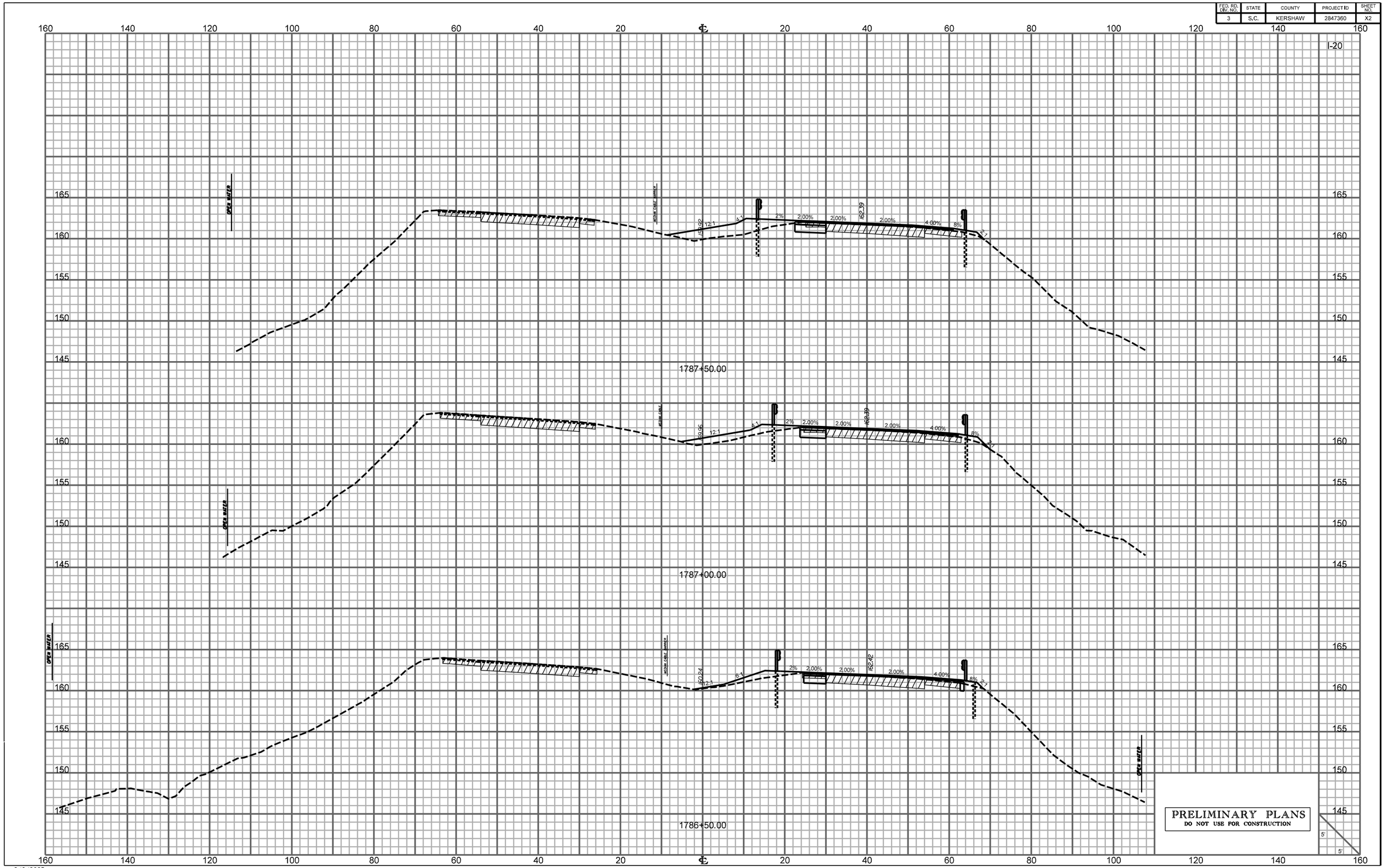
2PROLINE_50.DGN

| FED. RD. DIV. NO. | STATE | COUNTY | PROJECT ID | SHEET NO. |
|---|---|---|---|---|
| 3 | S.C. | KERSHAW | 2847360 | X1 |




2/6/2023
I20_XS_SHEETS.dgn

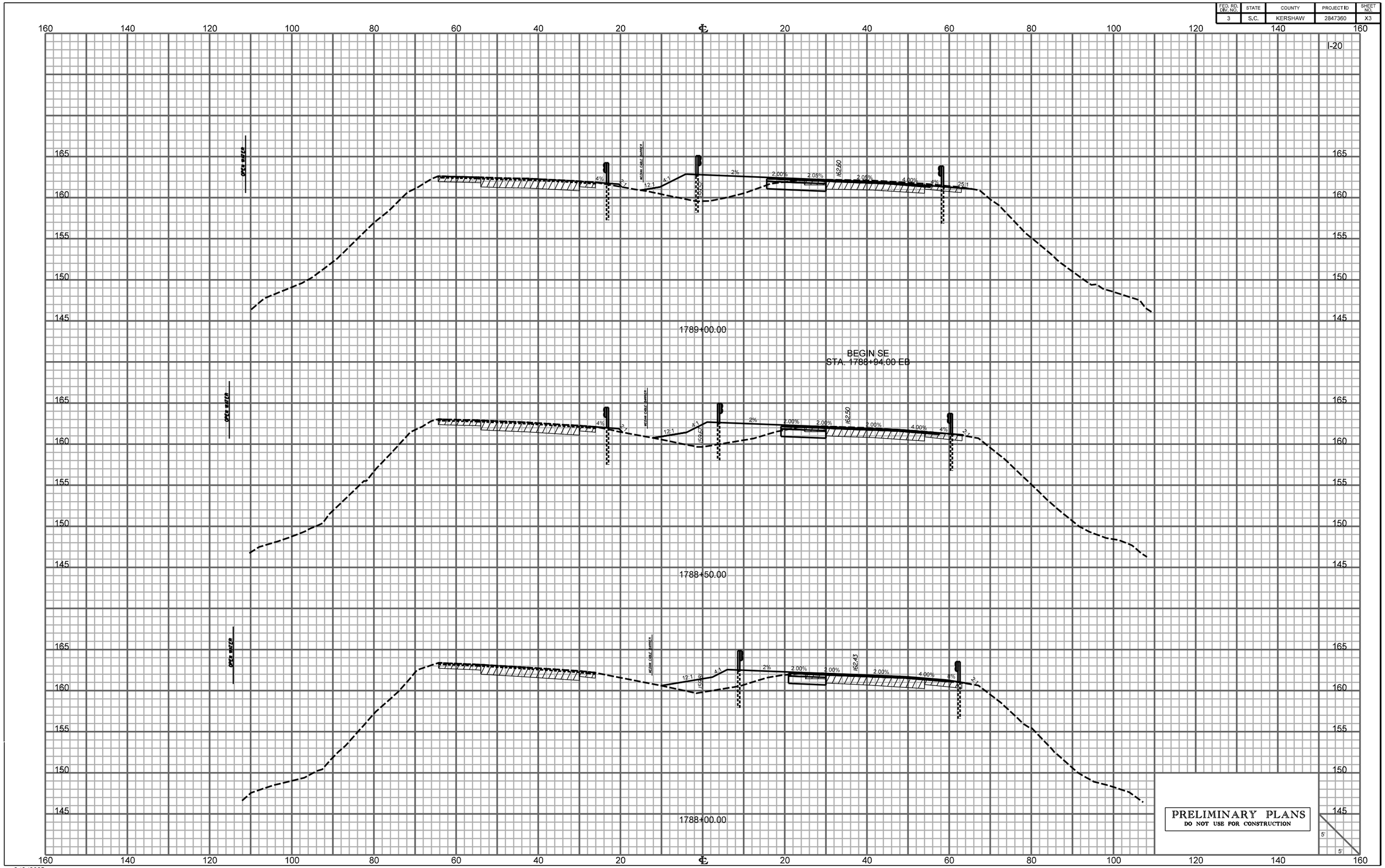
| FED. RD. DIV. NO. | STATE | COUNTY | PROJECT ID | SHEET NO. |
|---|---|---|---|---|
| 3 | S.C. | KERSHAW | 2847360 | X2 |




2/6/2023
I20_XS_SHEETS.dgn

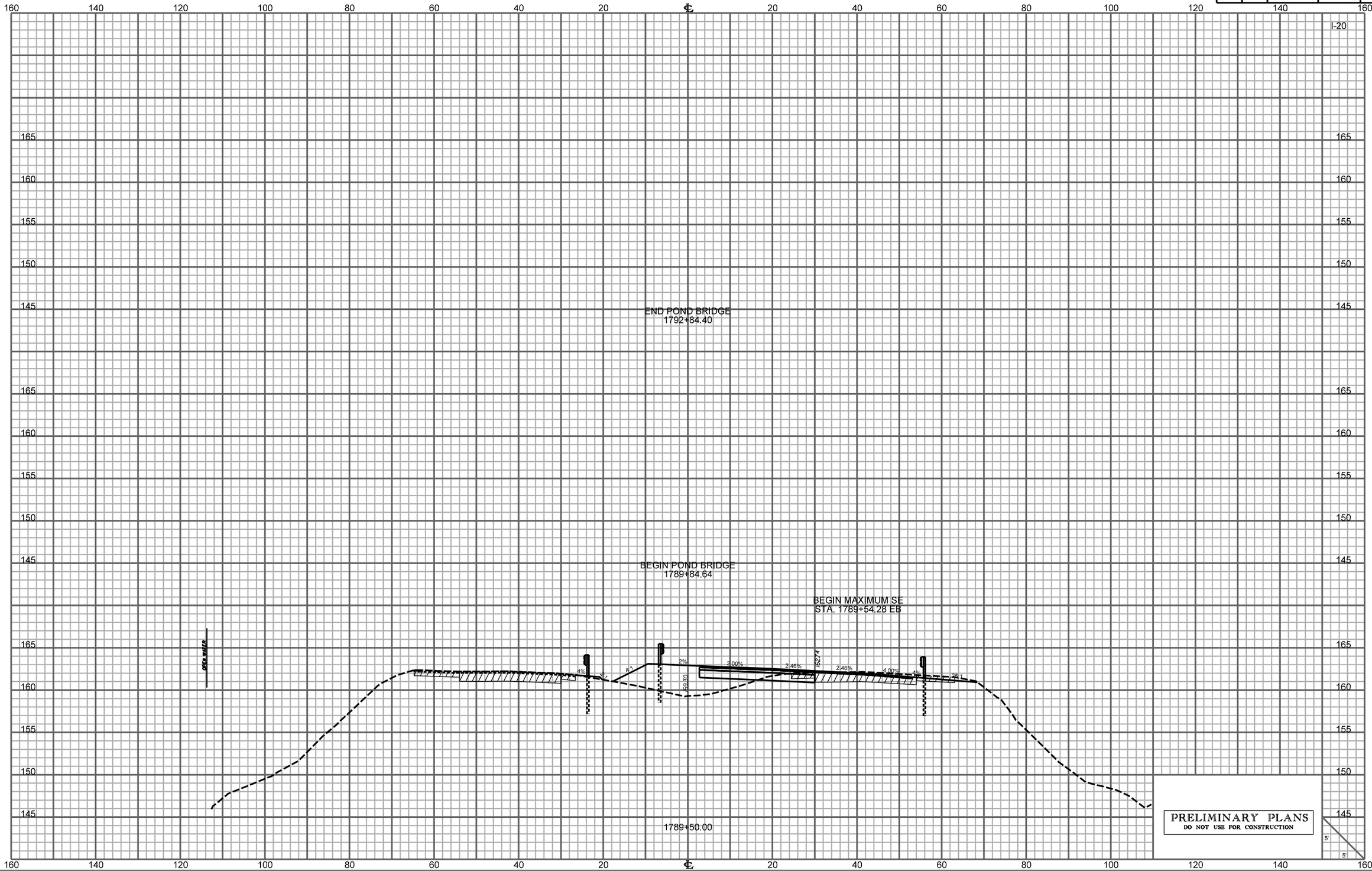
X1_XS_Sheet_5x5

| FED. RD. DIV. NO. | STATE | COUNTY | PROJECT ID | SHEET NO. |
|---|---|---|---|---|
| 3 | S.C. | KERSHAW | 2847360 | X3 |



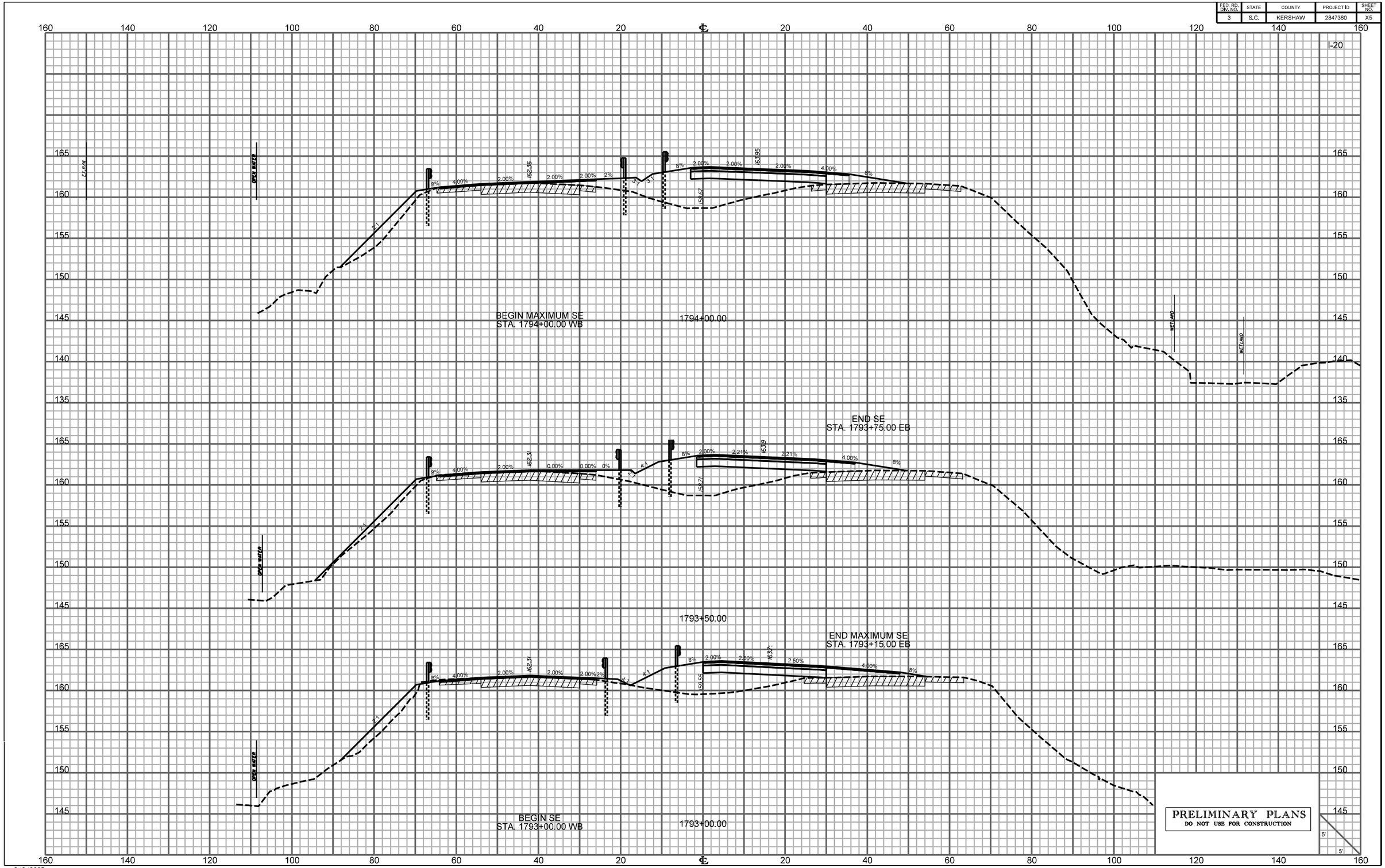

2/6/2023
I20_XS_SHEETS.dgn

| FED. RD. DIV. NO. | STATE | COUNTY | PROJECT ID | SHEET NO. |
|---|---|---|---|---|
| 3 | S.C. | KERSHAW | 2847360 | X4 |




2/6/2023
I20_XS_SHEETS.dgn

| FED. RD. DIV. NO. | STATE | COUNTY | PROJECT ID | SHEET NO. |
|---|---|---|---|---|
| 3 | S.C. | KERSHAW | 2847360 | X5 |




2/6/2023
I20_XS_SHEETS.dgn

| FED. RD. DIV. NO. | STATE | COUNTY | PROJECT ID | SHEET NO. |
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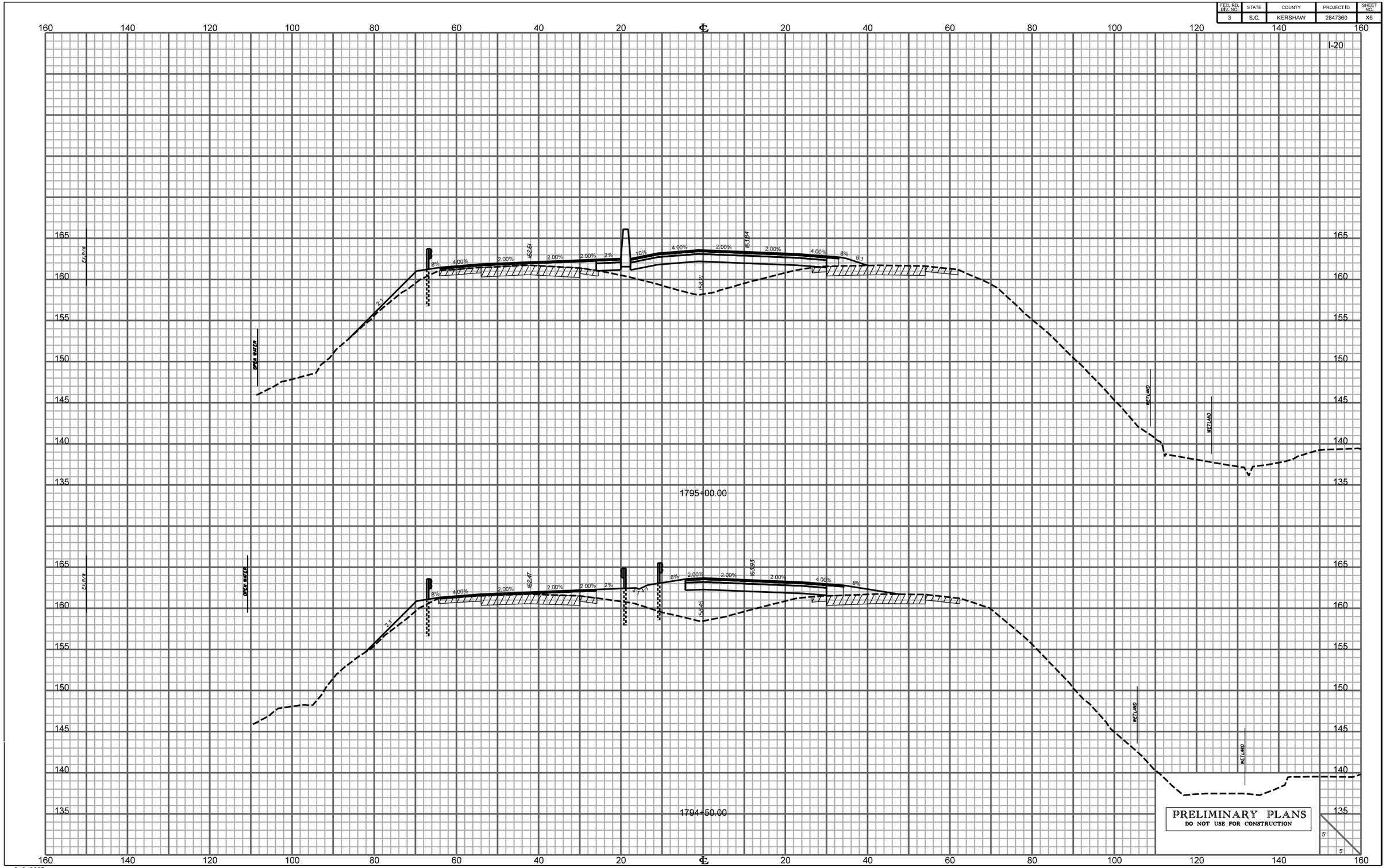
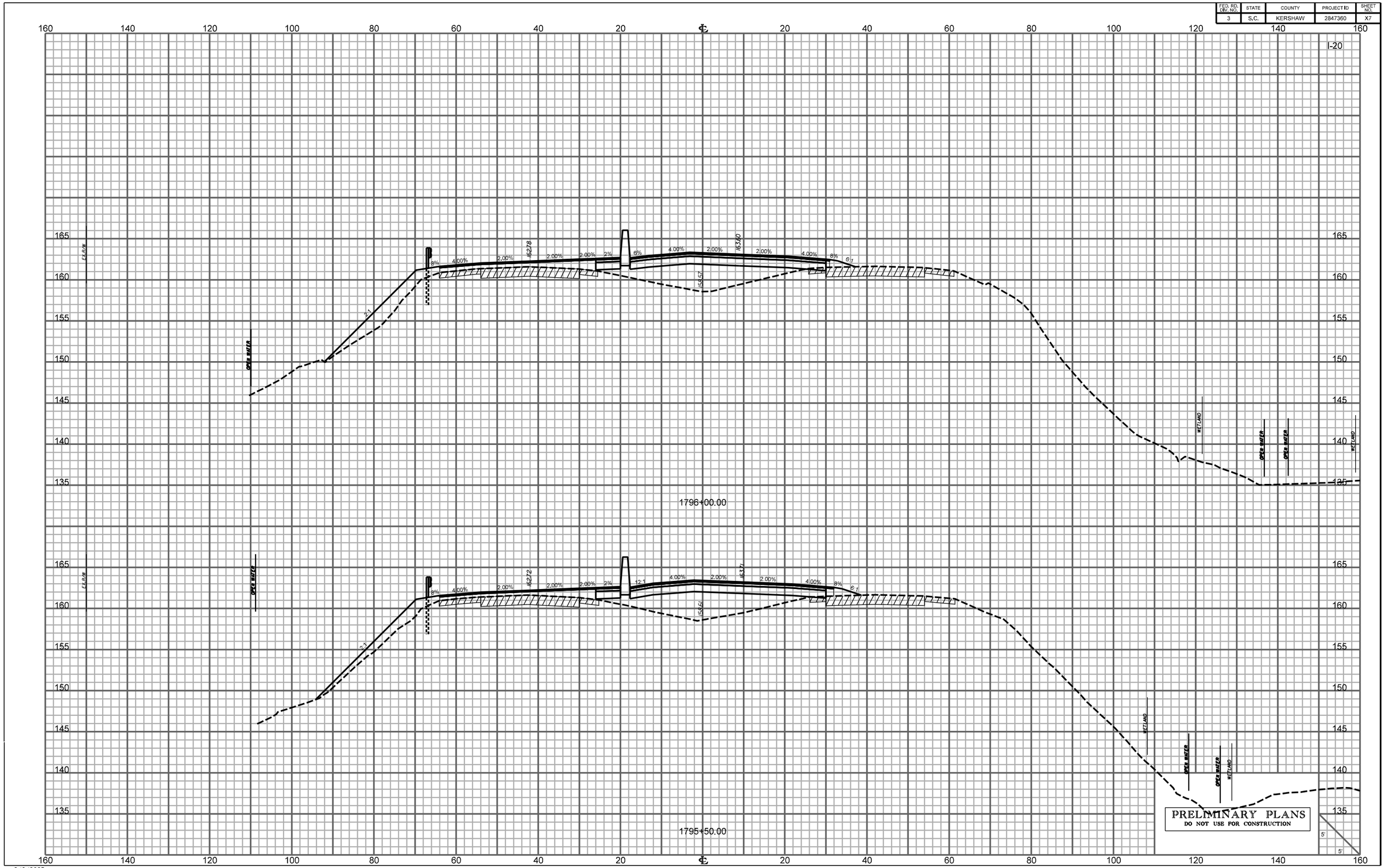



PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

2/6/2023
I20_XS_SHEETS.dgn

| FED. RD. DIV. NO. | STATE | COUNTY | PROJECT ID | SHEET NO. |
|---|---|---|---|---|
| 3 | S.C. | KERSHAW | 2847360 | X7 |




2/6/2023
I20_XS_SHEETS.dgn

X1_X6_Sheet_5x5

| FED. RD. DIV. NO. | STATE | COUNTY | PROJECT ID | SHEET NO. |
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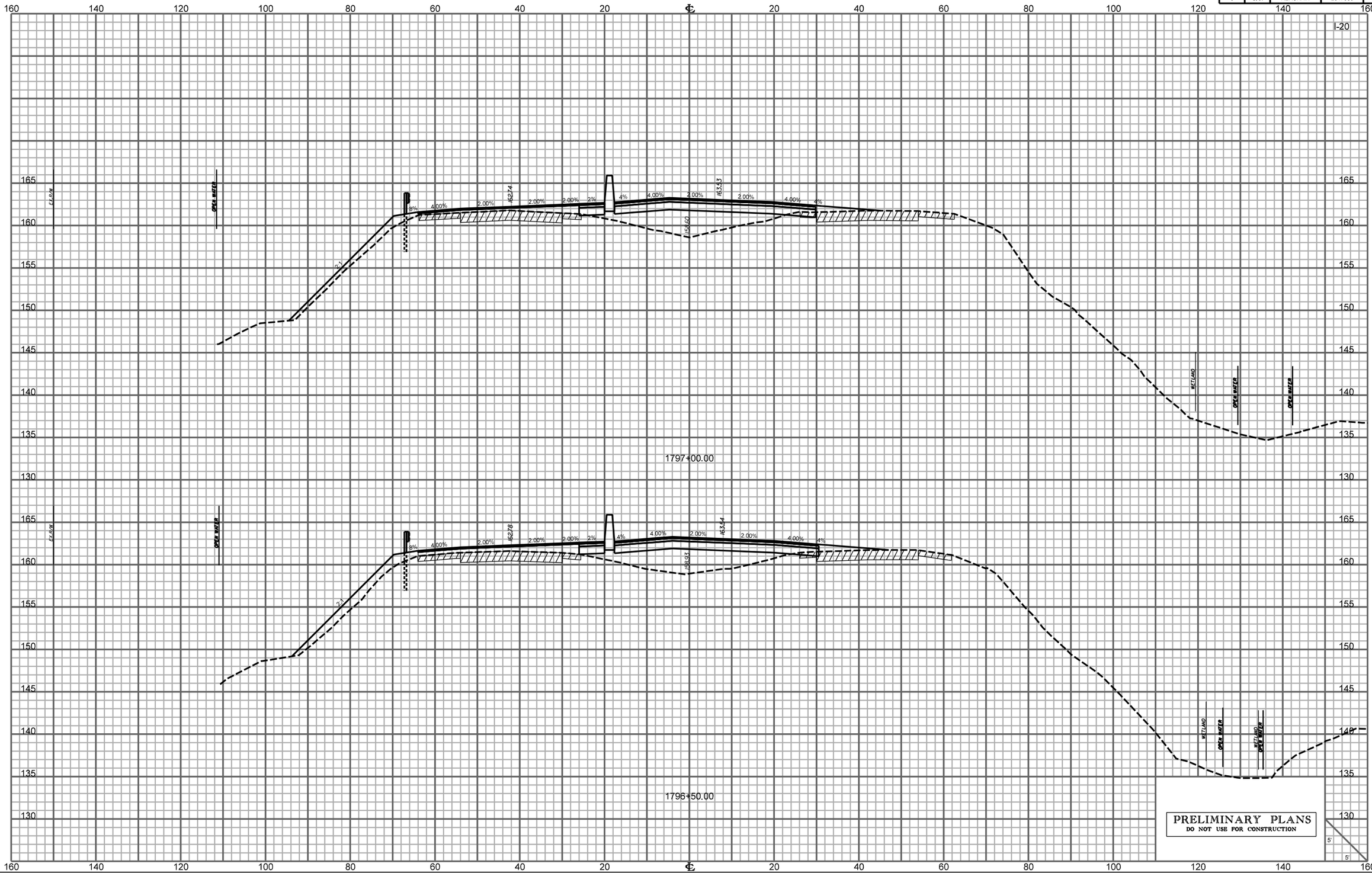
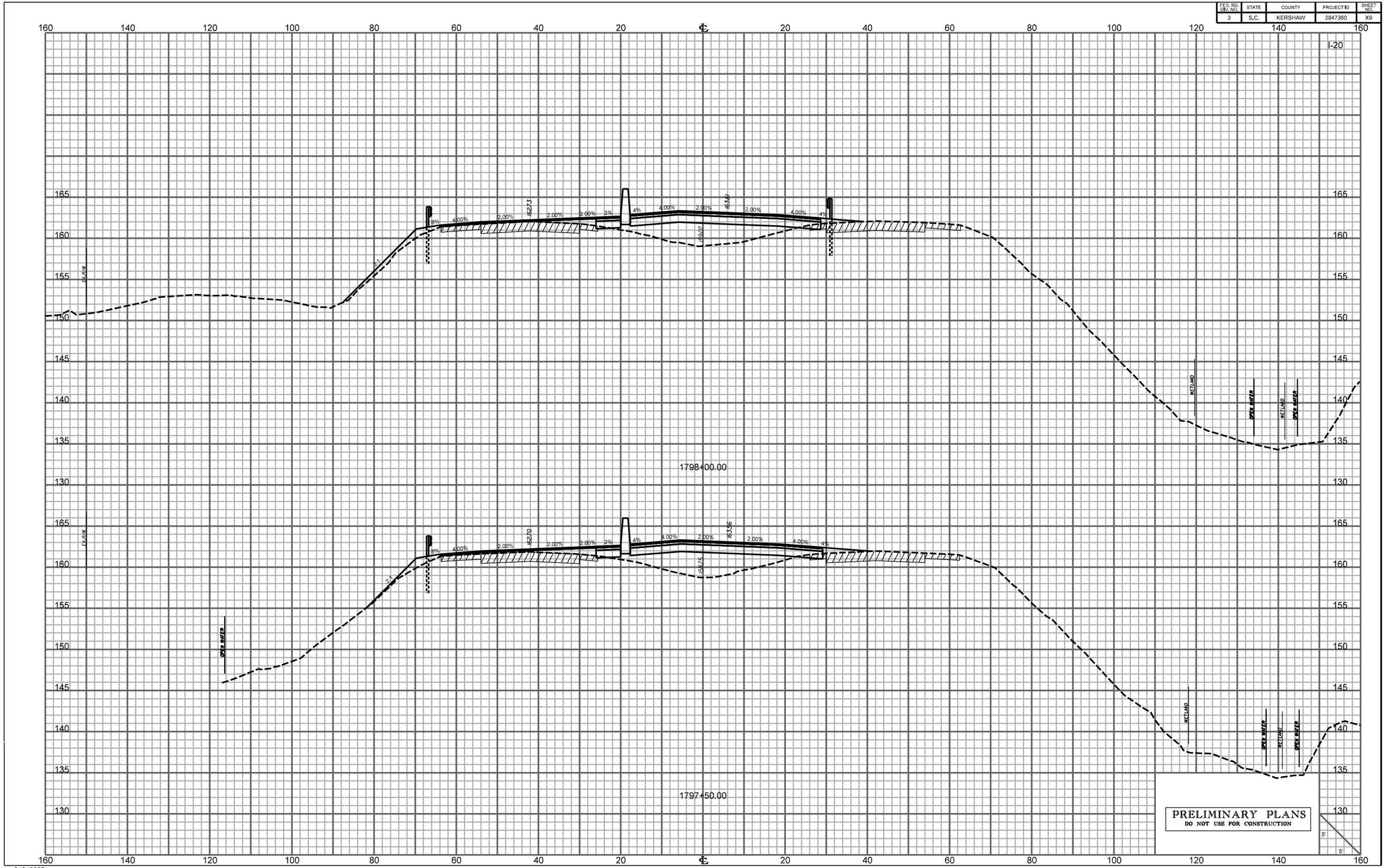
| 3 | S.C. | KERSHAW | 2847360 | X8 |



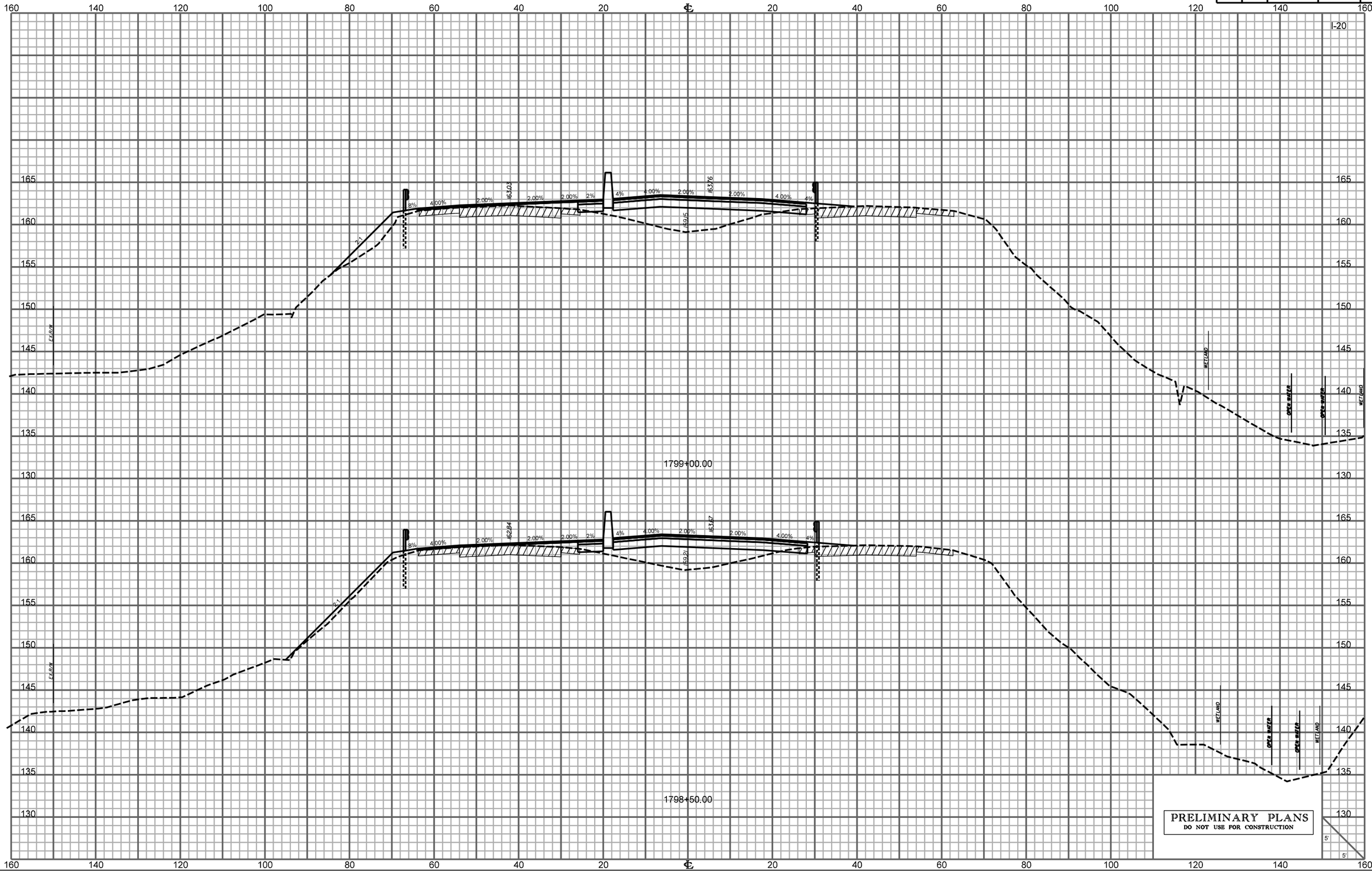

2/6/2023
I20_XS_SHEETS.dgn

| FED. RD. DIV. NO. | STATE | COUNTY | PROJECT ID | SHEET NO. |
|---|---|---|---|---|
| 3 | S.C. | KERSHAW | 2847360 | X9 |




2/6/2023
I20_XS_SHEETS.dgn

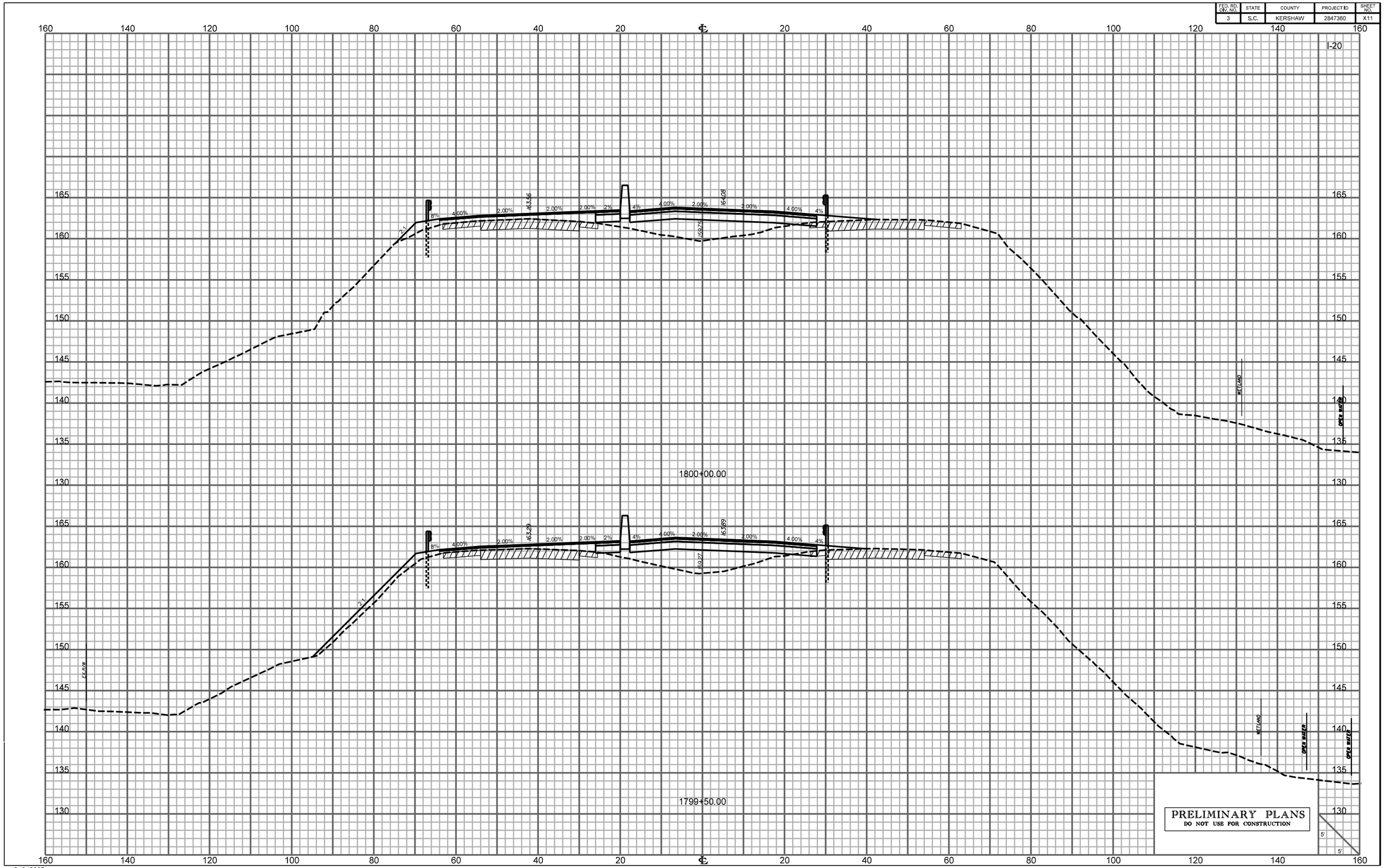
| FED. RD. DIV. NO. | STATE | COUNTY | PROJECT ID | SHEET NO. |
|---|---|---|---|---|
| 3 | S.C. | KERSHAW | 2847360 | X10 |




PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

2/6/2023
I20_XS_SHEETS.dgn

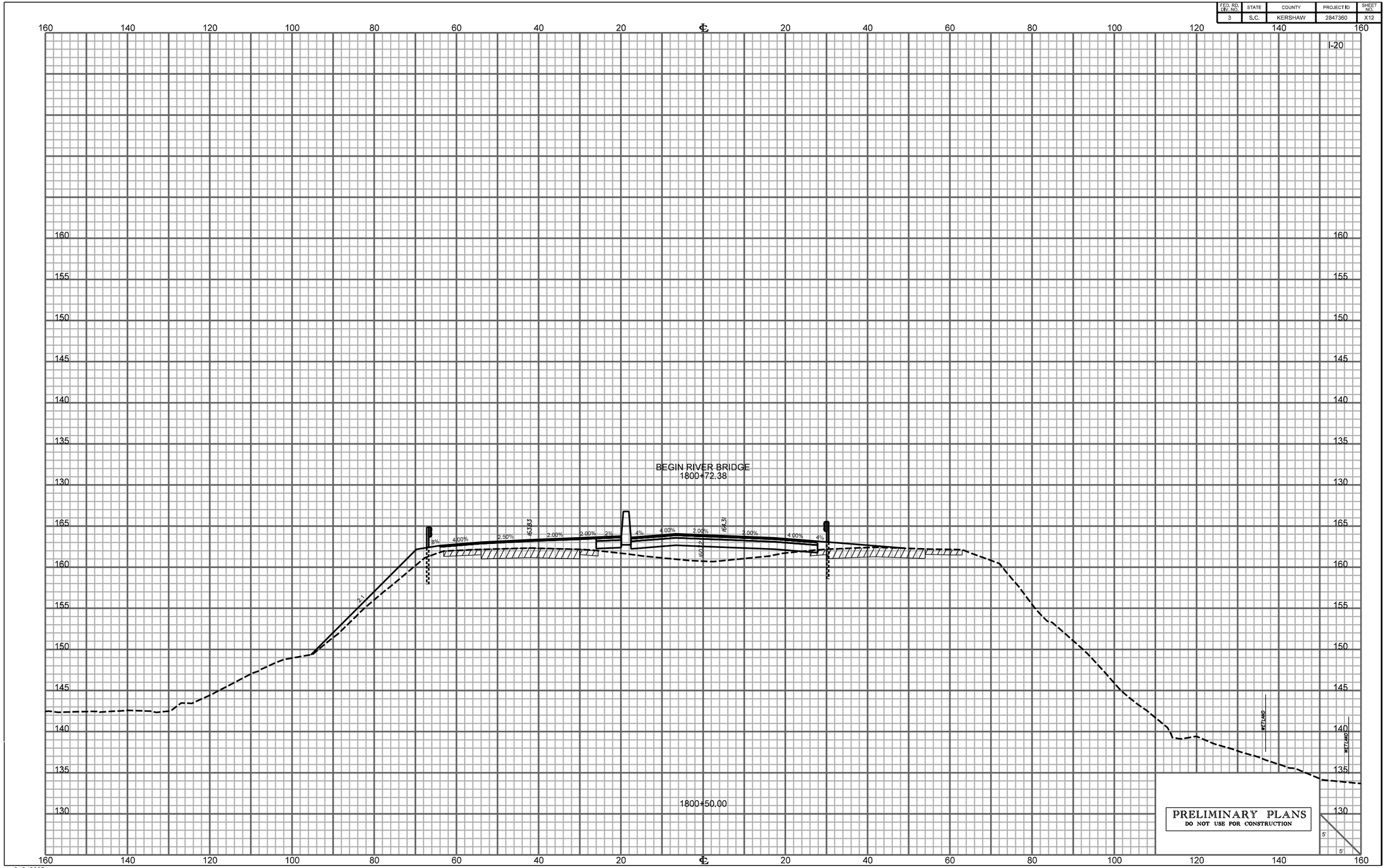
| FED. RD. DIV. NO. | STATE | COUNTY | PROJECT ID | SHEET NO. |
|---|---|---|---|---|
| 3 | S.C. | KERSHAW | 2847360 | X11 |




2/6/2023
I20_XS_SHEETS.dgn

X1_XS_Sheet_5x5

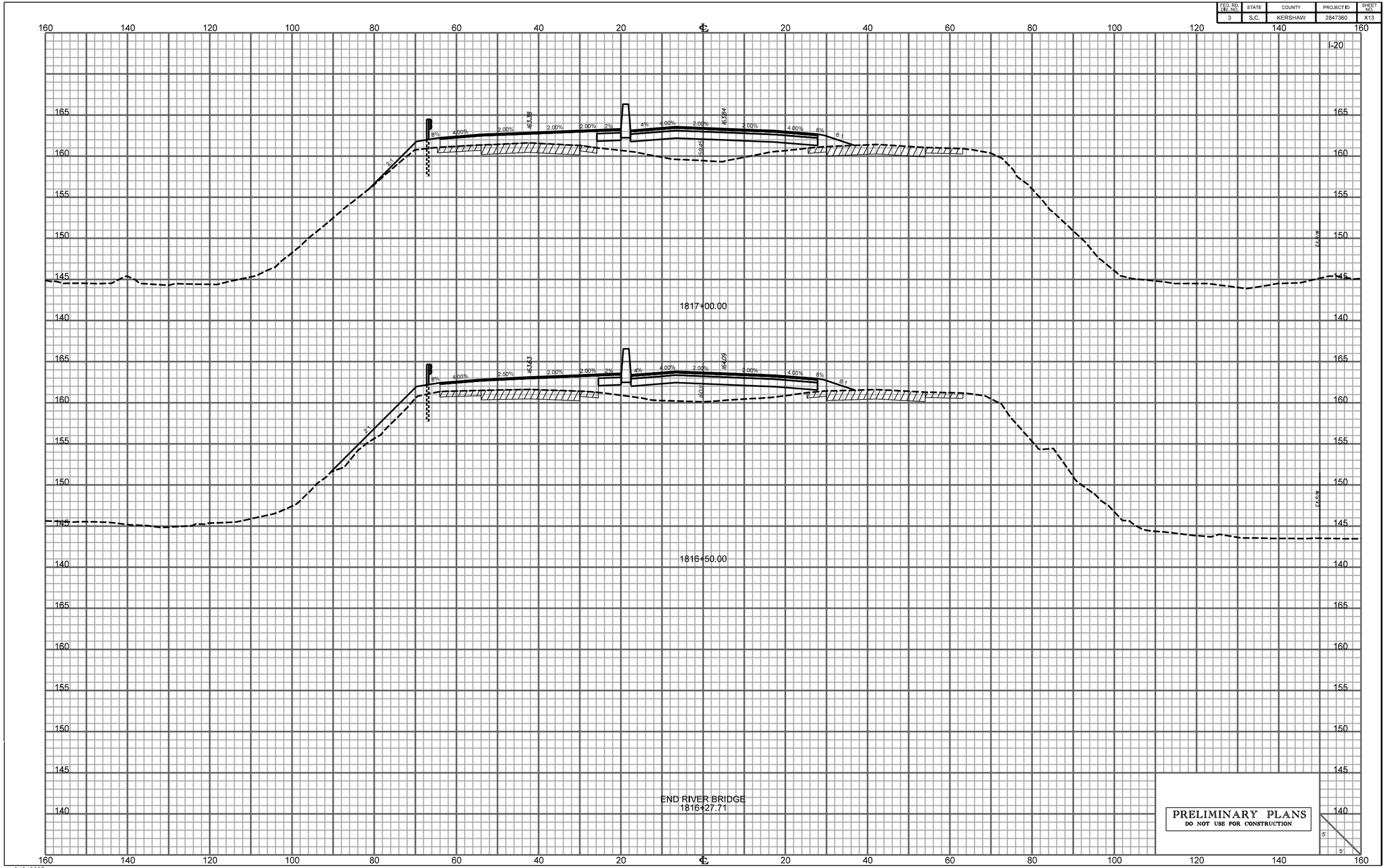
| FED. RD. DIV. NO. | STATE | COUNTY | PROJECT ID | SHEET NO. |
|---|---|---|---|---|
| 3 | S.C. | KERSHAW | 2847360 | X12 |




2/6/2023
I20_XS_SHEETS.dgn

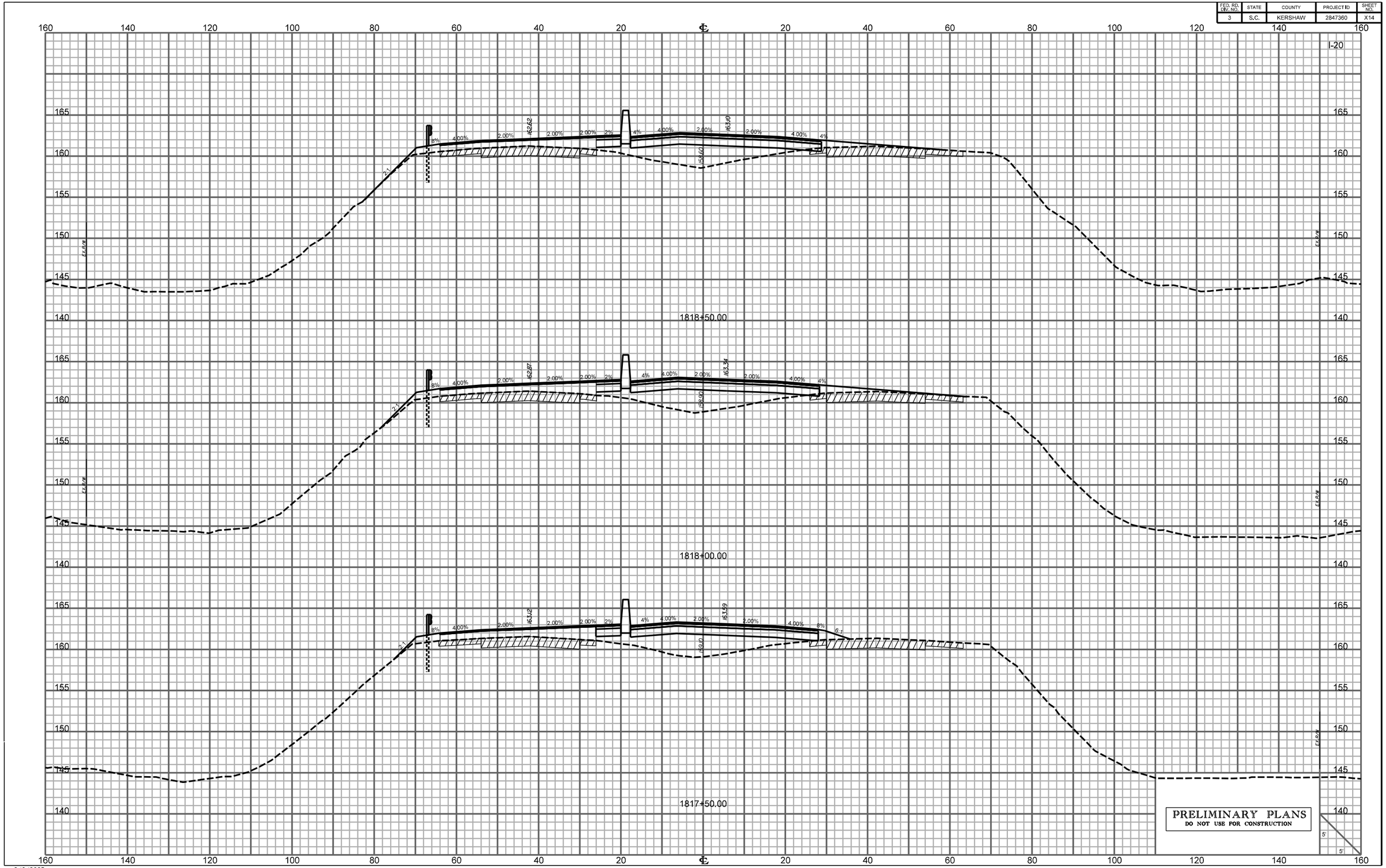
X1_X12_Sheet_5x5

| FED. RD. DIV. NO. | STATE | COUNTY | PROJECT ID | SHEET NO. |
|---|---|---|---|---|
| 3 | S.C. | KERSHAW | 2847360 | X13 |



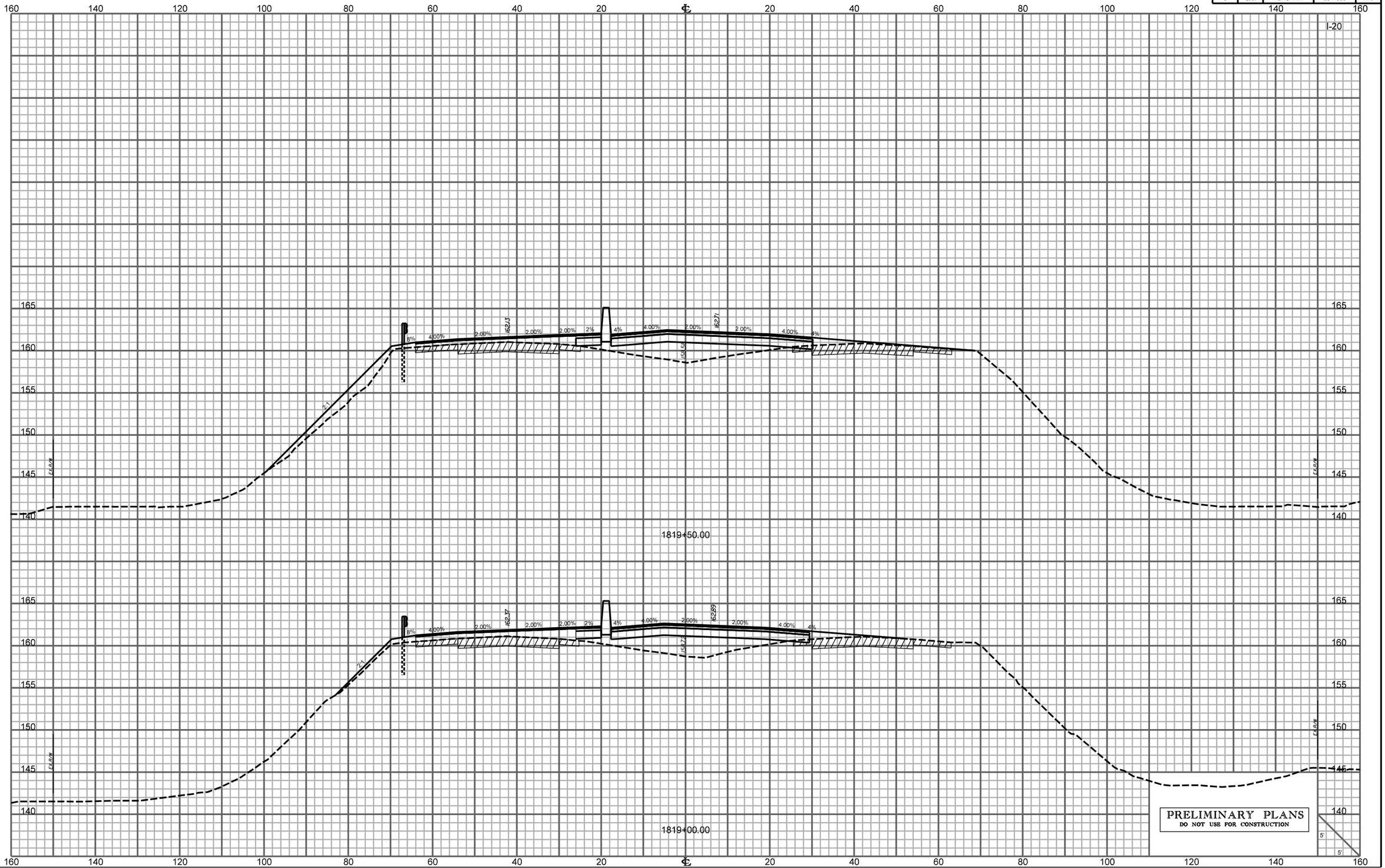

2/6/2023
I20_XS_SHEETS.dgn

| FED. RD. DIV. NO. | STATE | COUNTY | PROJECT ID | SHEET NO. |
|---|---|---|---|---|
| 3 | S.C. | KERSHAW | 2847360 | X14 |




2/6/2023
I20_XS_SHEETS.dgn

| FED. RD. DIV. NO. | STATE | COUNTY | PROJECT ID | SHEET NO. |
|---|---|---|---|---|
| 3 | S.C. | KERSHAW | 2847360 | X15 |




2/6/2023
I20_XS_SHEETS.dgn

X1_X15_Sheet_5x5

| FED. RD. DIV. NO. | STATE | COUNTY | PROJECT ID | SHEET NO. |
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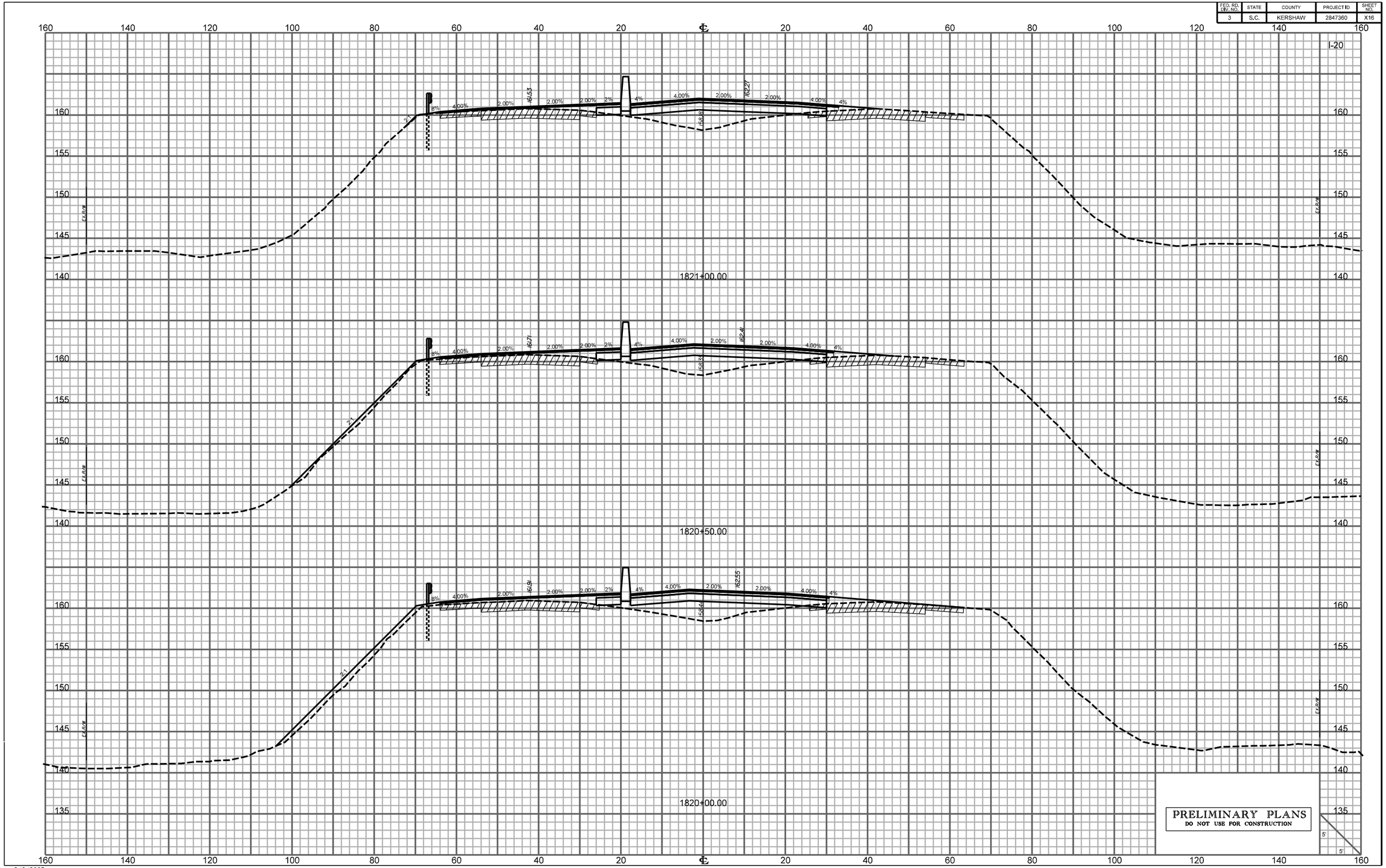
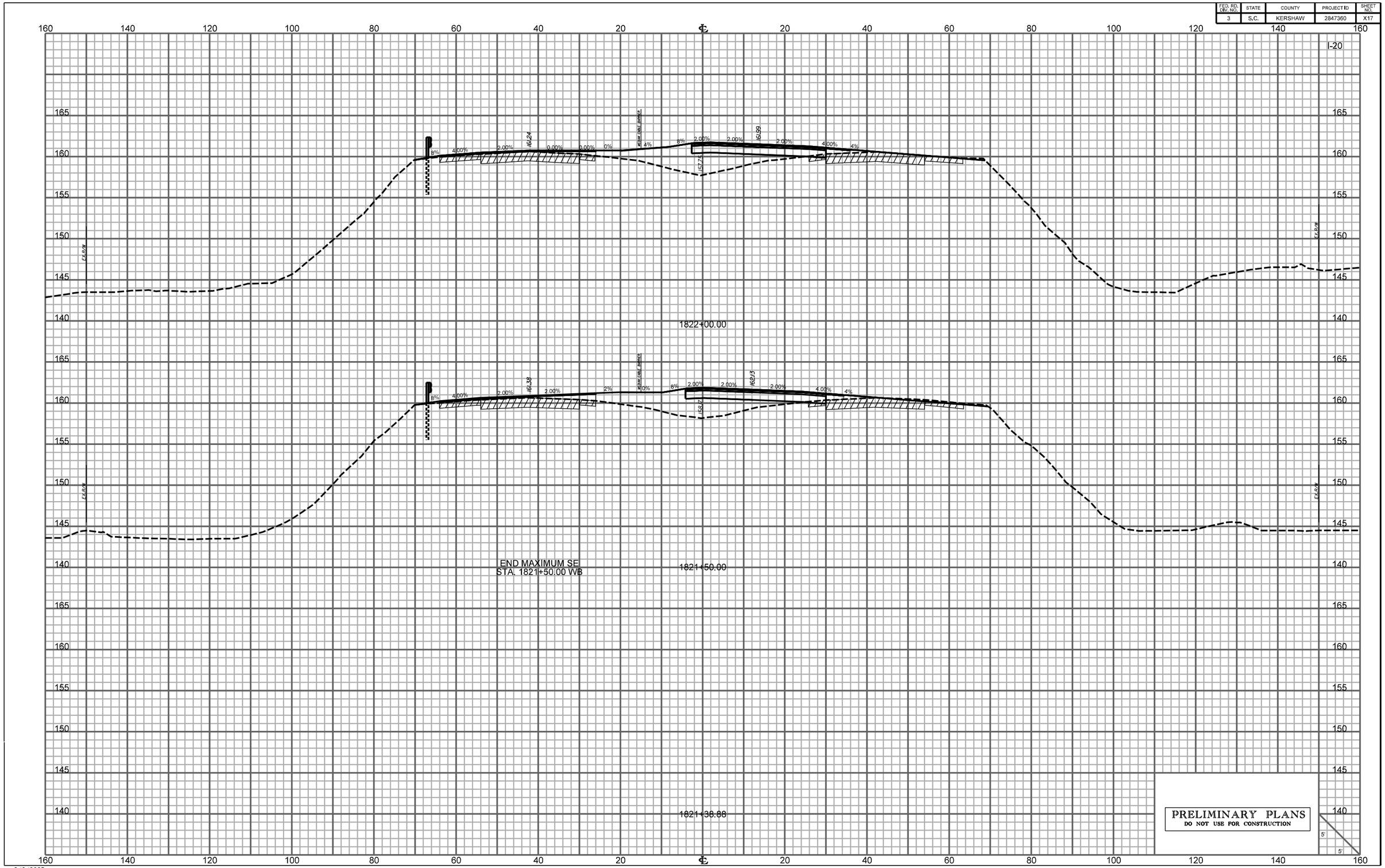
| 3 | S.C. | KERSHAW | 2847360 | X16 |



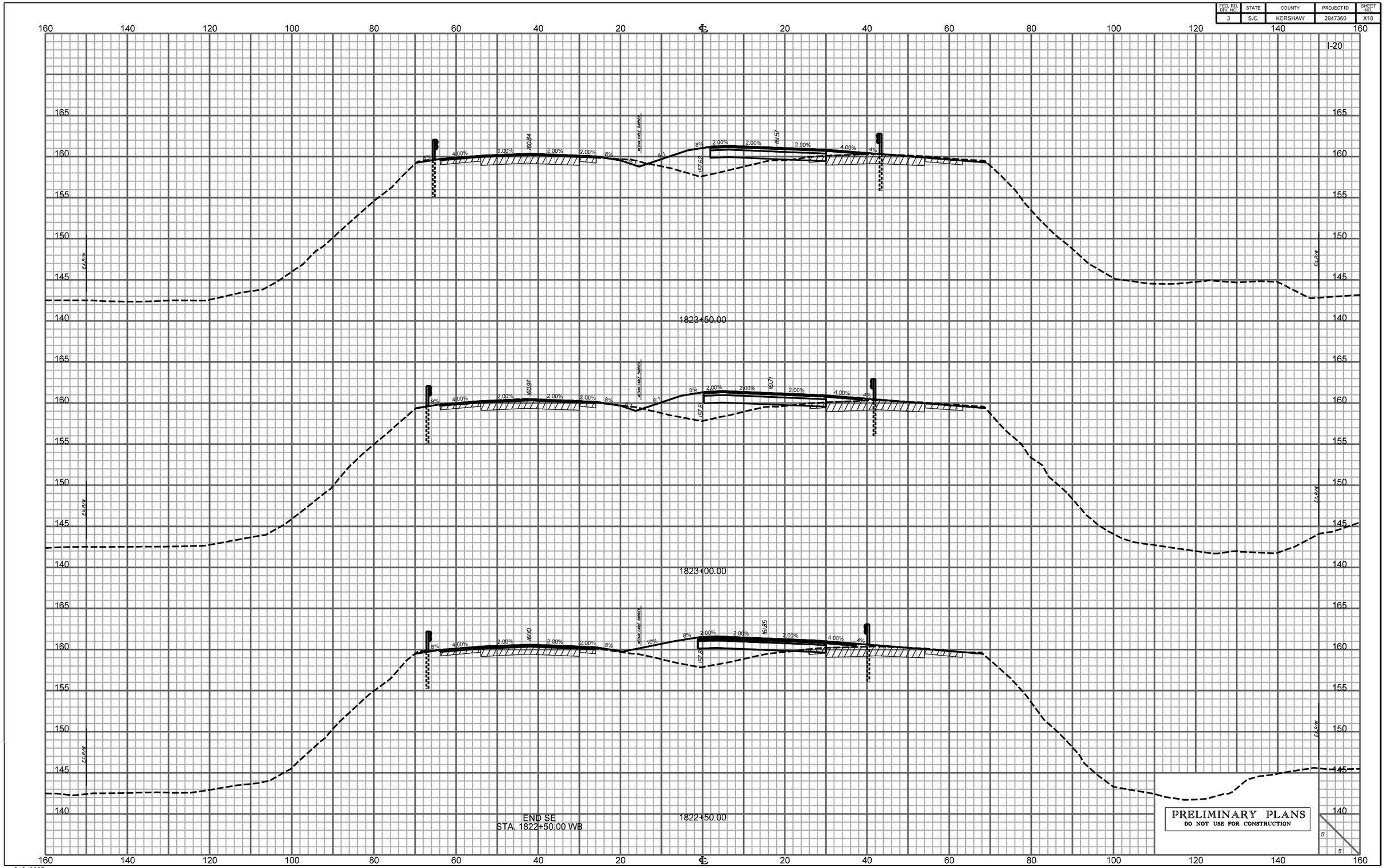

2/6/2023
I20_XS_SHEETS.dgn

| FED. RD. DIV. NO. | STATE | COUNTY | PROJECT ID | SHEET NO. |
|---|---|---|---|---|
| 3 | S.C. | KERSHAW | 2847360 | X17 |




2/6/2023
I20_XS_SHEETS.dgn

| FED. RD. DIV. NO. | STATE | COUNTY | PROJECT ID | SHEET NO. |
|---|---|---|---|---|
| 3 | S.C. | KERSHAW | 2847360 | X18 |

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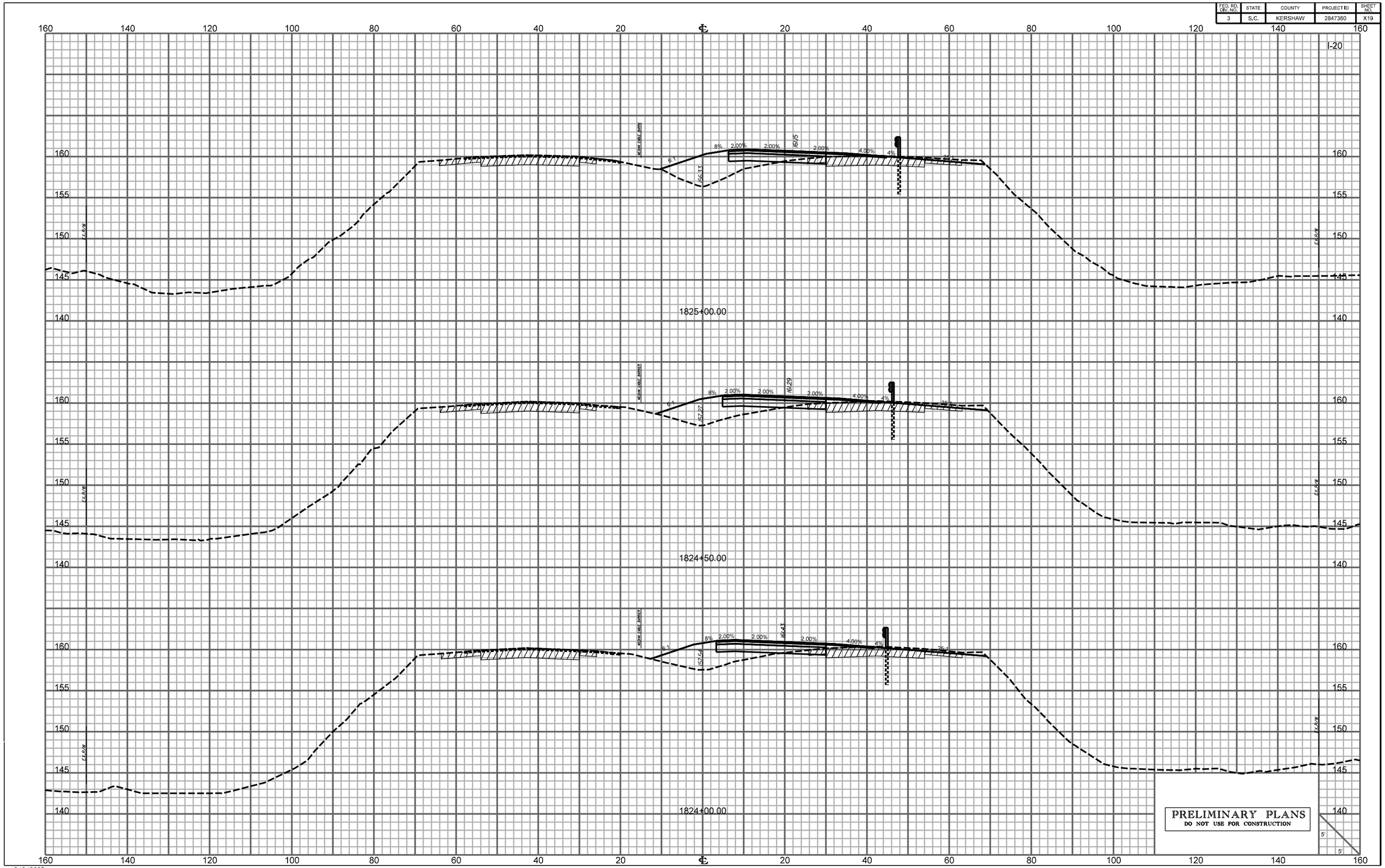


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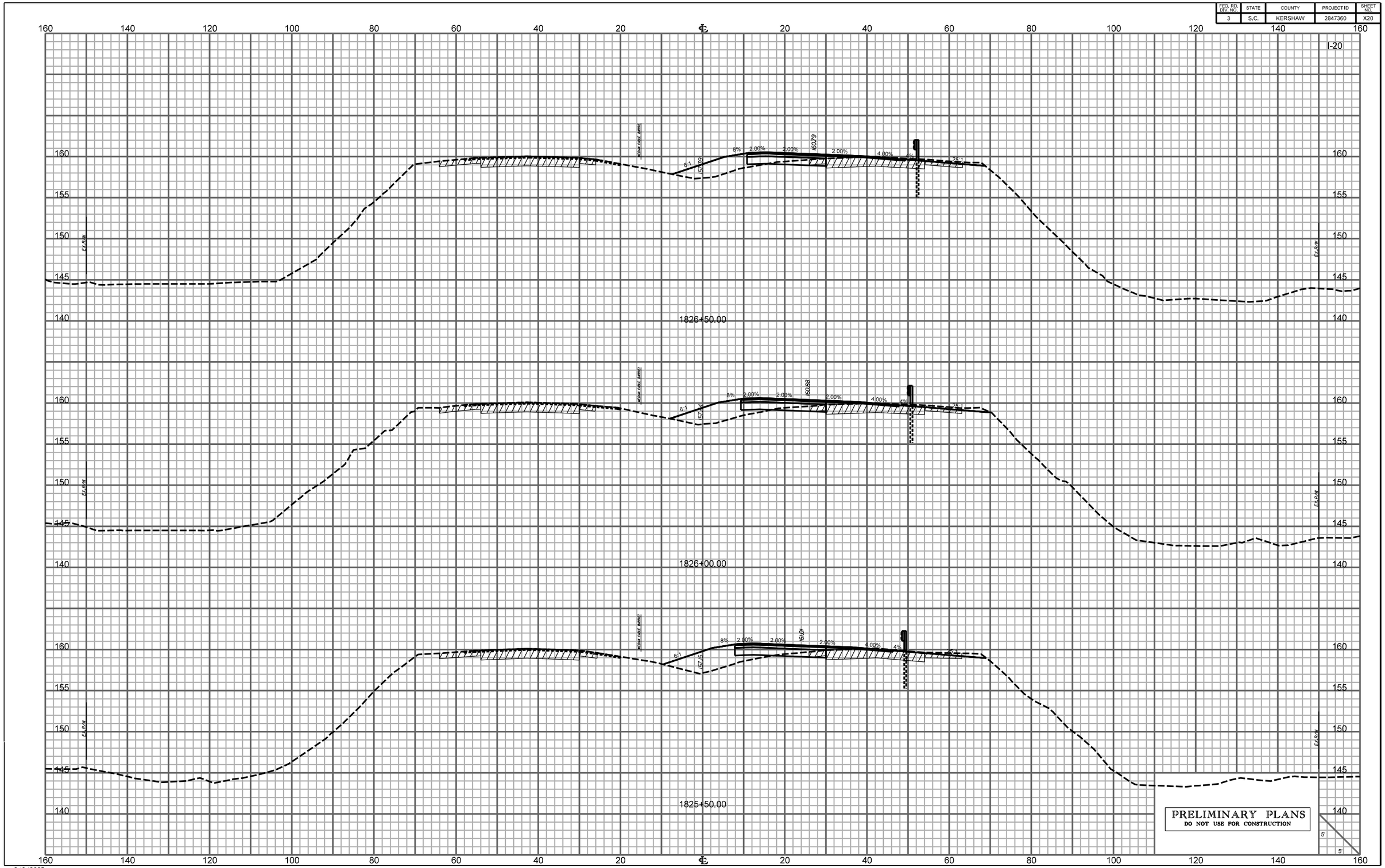


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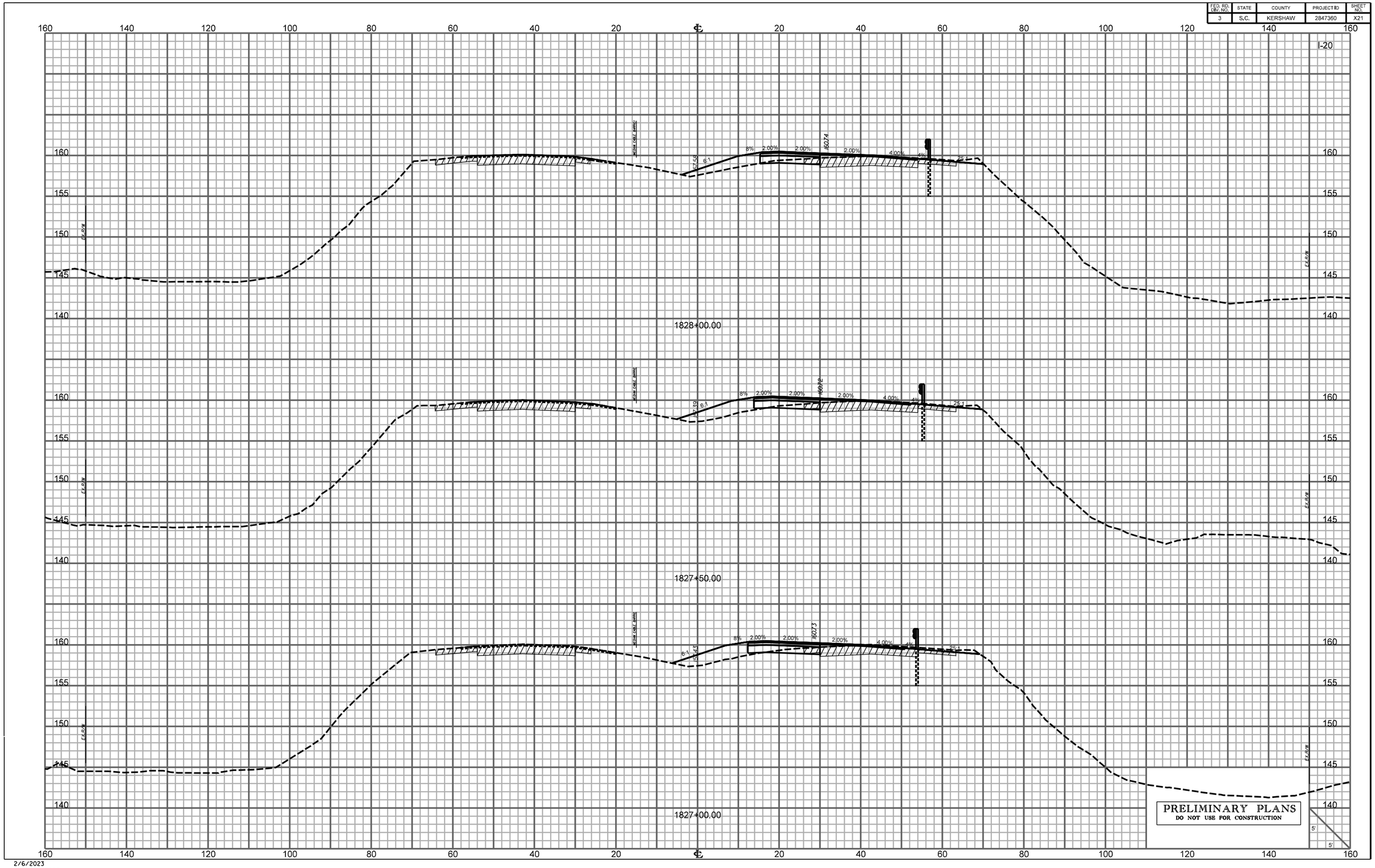


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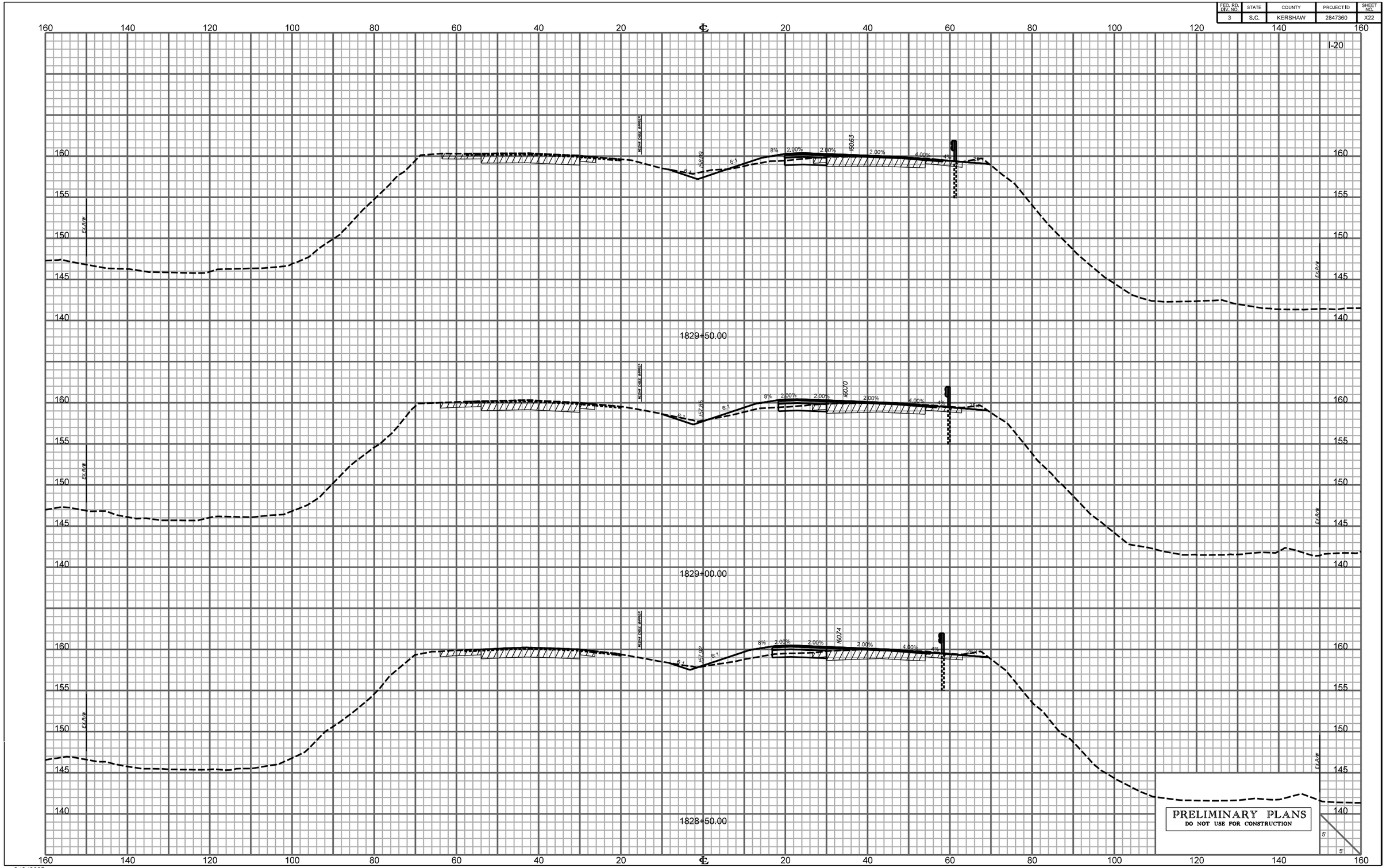


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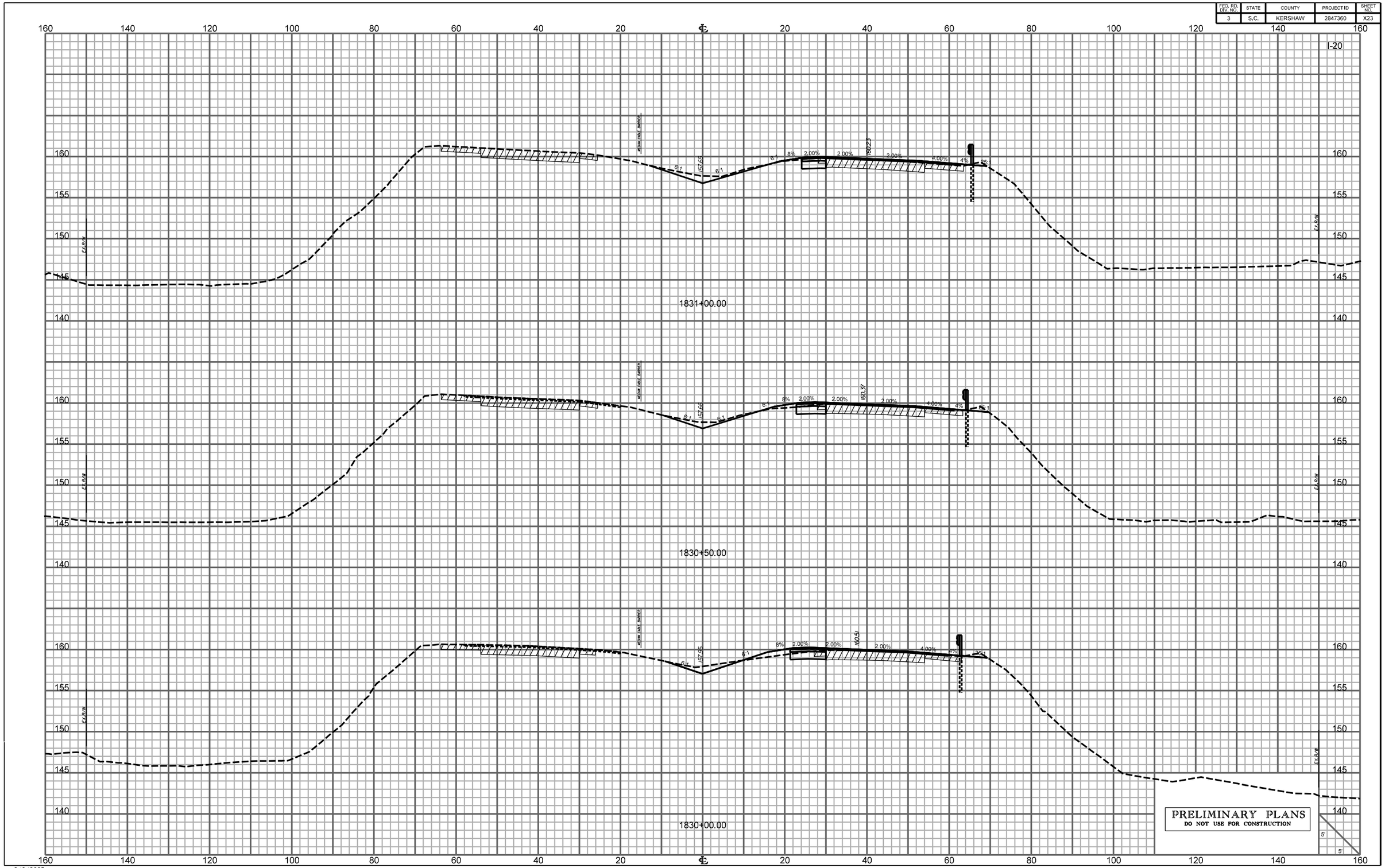


2/6/2023
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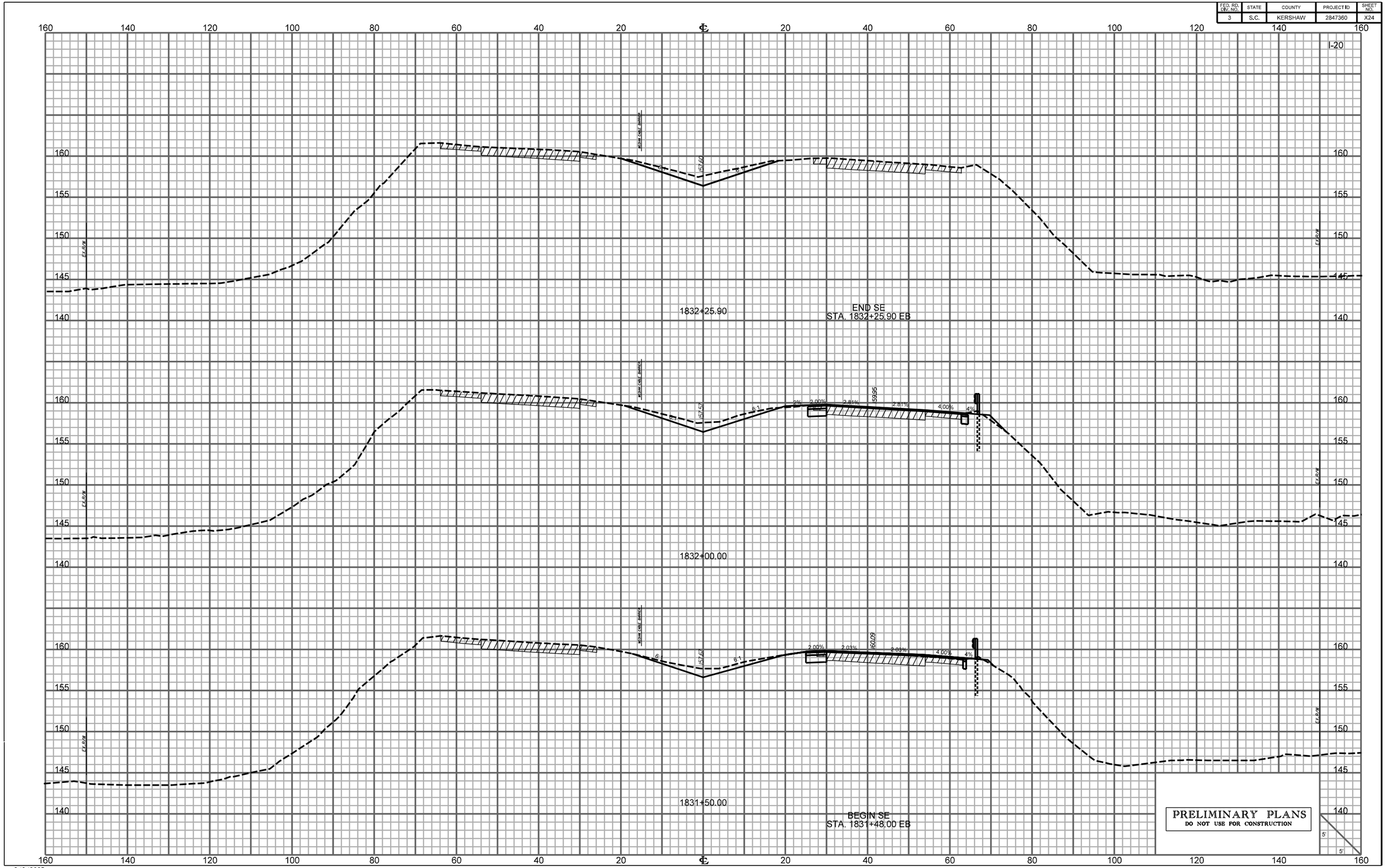


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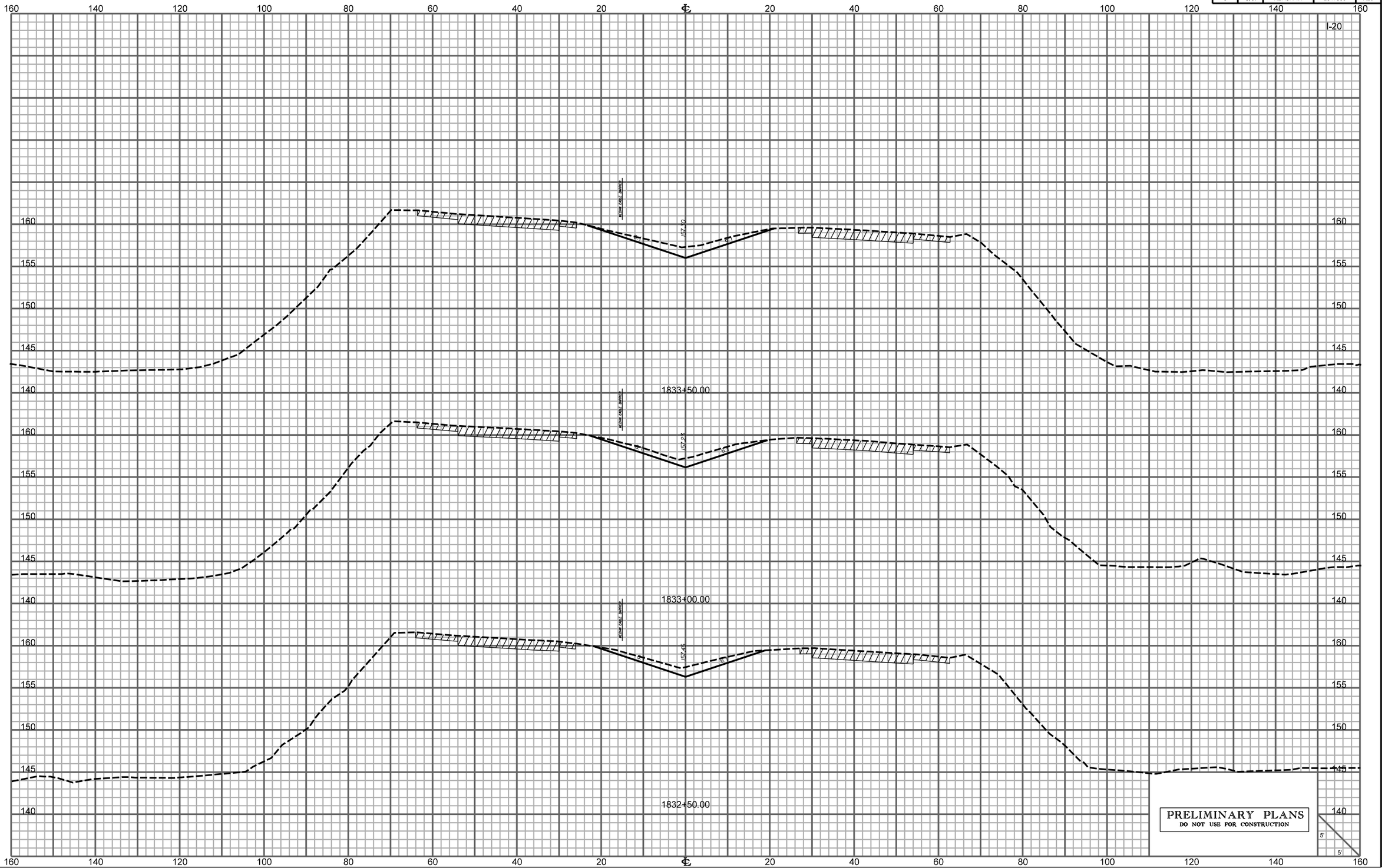


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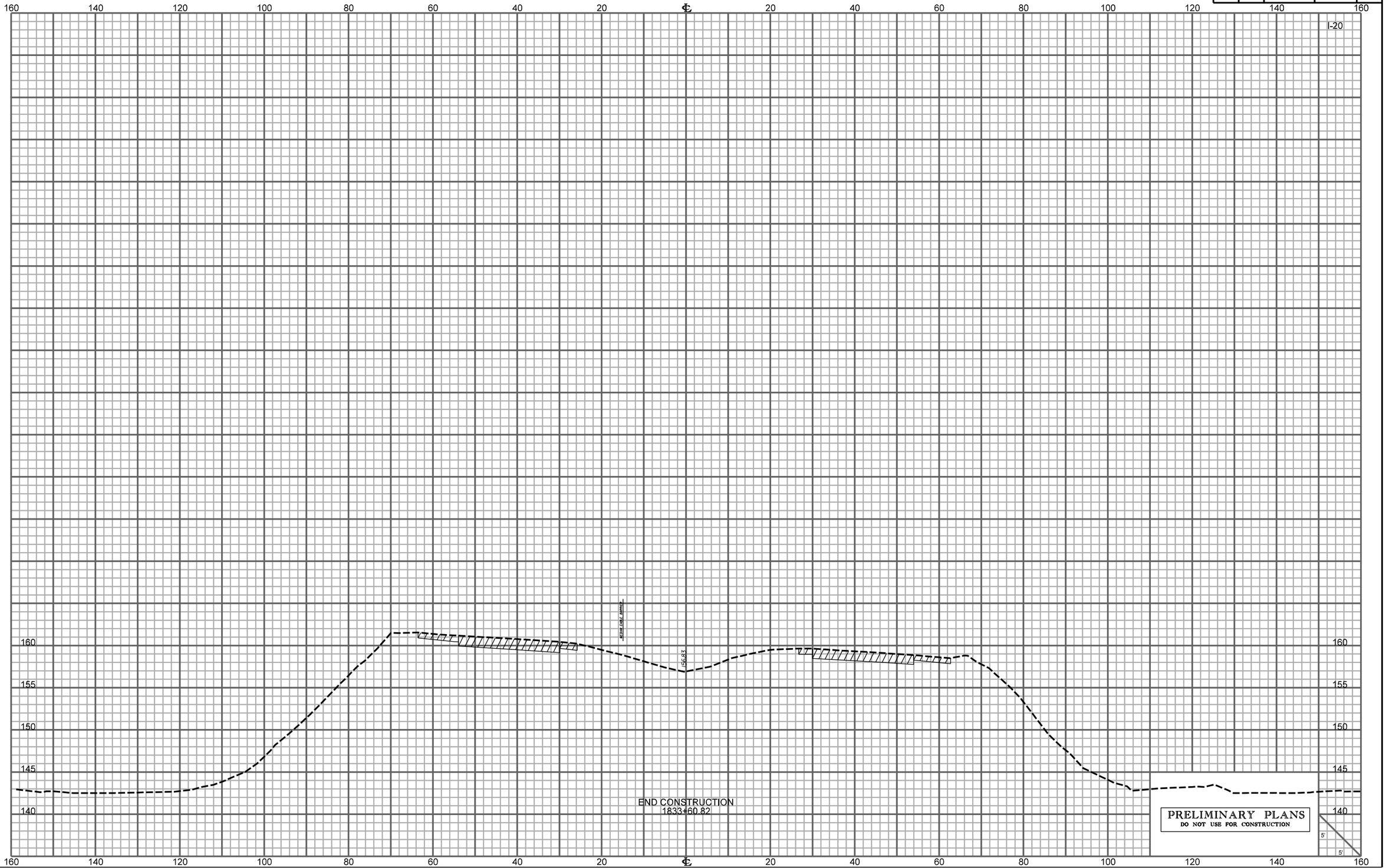



2/6/2023
I20_XS_SHEETS.dgn

# Appendix A.2. - Conceptual Maintenance of Traffic Plans

*STAGE 1 (TOTAL DURATION 14 MONTHS):*
*STEP A:*
*PRIOR TO BEGINNING WORK SHOWN ON THIS SHEET, USE SHOULDER CLOSURES AND LANE CLOSURES AS ALLOWED AND NECESSARY TO RECONSTRUCT EXISTING I-20 MAINLINE SHOULDERS FOR STAGE 1 TEMPORARY TRAFFIC PATTERNS AND CONSTRUCT TEMPORARY ROADWAY BUILD UP TO REGRADE I-20 MAINLINE EB FROM STA. 1779+00 TO STA. 1789+50, FROM STA. 1792+84 TO STA. 1799+00, FROM STA. 1816+27 TO STA. 1821+17, AND I-20 MAINLINE WB FROM STA. 1778+00 TO STA. 1785+00, FROM STA. 1793+50 TO STA. 1800+50, FROM STA. 1816+27 TO STA. 1821+38, AND FROM STA. 1823+50 TO STA. 1831+00. CONSTRUCT PROPOSED DRAINAGE EAST OF THE RIVER BRIDGE.*

*AT POND BRIDGE, CONSTRUCT TEMPORARY ACCESS RAMP AND WORK PLATFORM IN MEDIAN FOR BRIDGE CONSTRUCTION.*

*STEP B:*
*USING LANE CLOSURES AS ALLOWED AND NECESSARY, INSTALL PAVEMENT MARKINGS TO SHIFT I-20 MAINLINE TRAFFIC INTO STAGE 1 TEMPORARY PATTERN USING NARROW (11') LANES AND VARYING SHOULDER WIDTHS ON EXISTING BRIDGES. UPON COMPLETION OF TRAFFIC SHIFT IN ANY LOCATION ALONG THE MAINLINE, INSTALL TEMPORARY CONCRETE BARRIER (TCB) ALONG STAGE 1 MEDIAN WORK AREA, INCLUDING INGRESS / EGRESS AREAS, PER SCDOT STANDARD DRAWING (SCSD) 605-425-00. BEGIN REMOVAL OF BRIDGE SECTIONS AS SHOWN IN THE TYPICAL SECTIONS AND BEGIN CONSTRUCTION OF THE FOLLOWING:*

** PROPOSED EB POND BRIDGE.*
** SECTION OF EB RIVER BRIDGE (AS SHOWN IN TYPICAL SECTIONS).*
** TEMPORARY AND PROPOSED MEDIAN DRAINAGE IMPROVEMENTS INCLUDING CATCH BASIN AND PIPE OUTSIDE OF EXISTING WB TRAVEL LANES AT STA. 1786+ 23.00*
** PAVEMENT REINFORCEMENT OF EXISTING I-20 MAINLINE OUTSIDE SHOULDERS AND TEMPORARY ROADWAY ALIGNMENT FOR STAGE 2 TEMPORARY TRAFFIC PATTERNS.*

*NOTE: TEMPORARY SHORING IS REQUIRED ALONG I-20 IN BOTH DIRECTIONS FOR END BENT CONSTRUCTION OF THE POND AND RIVER BRIDGES.*

*PLAN FOR NOTIFYING TRAVELLING PUBLIC:*

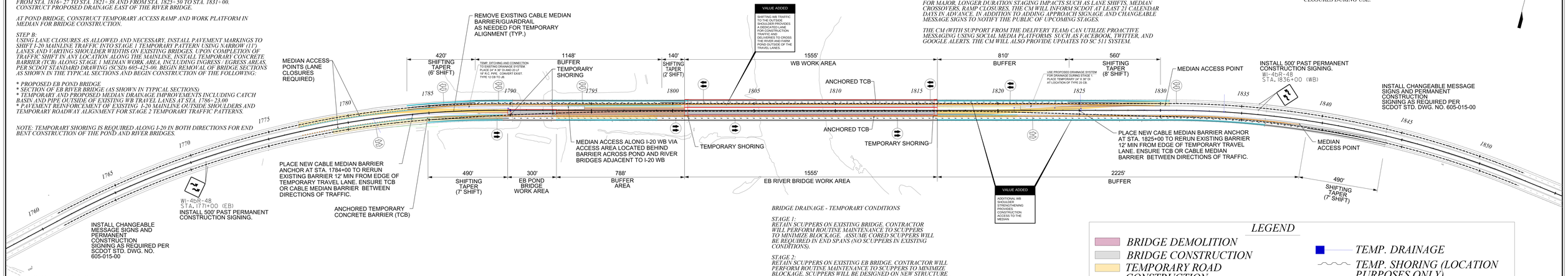
*THE DESIGN BUILD TEAM CONSTRUCTION MANAGER (CM) WILL ACT AS POINT OF CONTACT FOR ALL INFORMATION SHARED WITH THE PUBLIC THROUGH SCDOT. THE CM WILL MAINTAIN REGULAR COMMUNICATION WITH SCDOT REGARDING TRAFFIC CONDITIONS (INCLUDING BUT NOT LIMITED TO ALERTS, DELAYS, LANE CLOSURES, TRAFFIC PATTERN CHANGES).*

*FOR MAJOR, LONGER DURATION STAGING IMPACTS SUCH AS LANE SHIFTS, MEDIAN CROSSOVERS, RAMP CLOSURES, THE CM WILL INFORM SCDOT AT LEAST 21 CALENDAR DAYS IN ADVANCE. IN ADDITION TO ADDING APPROACH SIGNAGE AND CHANGEABLE MESSAGE SIGNS TO NOTIFY THE PUBLIC OF UPCOMING STAGES.*

*THE CM (WITH SUPPORT FROM THE DELIVERY TEAM) CAN UTILIZE PROACTIVE MESSAGING USING SOCIAL MEDIA PLATFORMS SUCH AS FACEBOOK, TWITTER, AND GOOGLE ALERTS. THE CM WILL ALSO PROVIDE UPDATES TO SC 511 SYSTEM.*

*MEDIAN WORKZONE INGRESS/EGRESS:*
*MEDIAN ACCESS POINTS ARE SHOWN THROUGH CALL-OUTS ON THESE SHEETS. MEDIAN ACCESS POINTS ON THE EAST END OF THE PROJECT WILL NOT REQUIRE LANE CLOSURES DURING USE. MEDIAN ACCESS POINTS ON THE WEST END OF THE PROJECT WILL REQUIRE LANE CLOSURES DURING USE.*

N



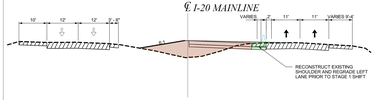

*BRIDGE DRAINAGE - TEMPORARY CONDITIONS*

*STAGE 1:*
*RETAIN SCUPPERS ON EXISTING BRIDGE. CONTRACTOR WILL PERFORM ROUTINE MAINTENANCE TO SCUPPERS TO MINIMIZE BLOCKAGE. ASSUME CORED SCUPPERS WILL BE REQUIRED IN END SPANS (NO SCUPPERS IN EXISTING CONDITIONS).*

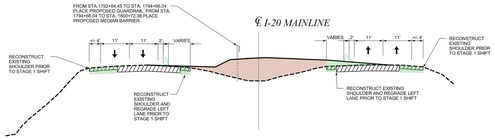
*STAGE 2:*
*RETAIN SCUPPERS ON EXISTING EB BRIDGE. CONTRACTOR WILL PERFORM ROUTINE MAINTENANCE TO SCUPPERS TO MINIMIZE BLOCKAGE. SCUPPERS WILL BE DESIGNED ON NEW STRUCTURE TO MEET SPREAD REQUIREMENTS FOR TEMPORARY CONDITIONS.*

*STAGE 1 TYPICAL SECTIONS:*

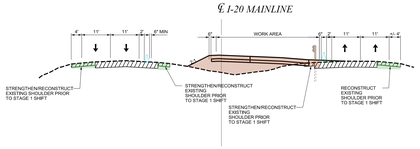
*WEST OF POND BRIDGE:*



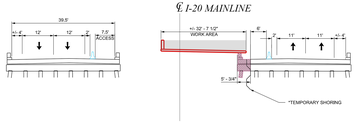

*BETWEEN BRIDGES:*




*EAST OF RIVER BRIDGE:*




*POND BRIDGE:*




*RIVER BRIDGE:*

*SCALE: 1"= 10'*

## *LEGEND*

- *BRIDGE DEMOLITION*
- *BRIDGE CONSTRUCTION*
- *TEMPORARY ROAD CONSTRUCTION*
- *TEMPORARY ROADWAY BUILDUP*
- *PERMANENT ROAD CONSTRUCTION*
- *COMPLETED ROAD CONSTRUCTION*
- *ROADWAY REMOVAL*
- *SHOULDER RECONSTRUCTION AND/OR BUILDUP*
- *CURRENT BRIDGE CONSTRUCTION*
- *TRAFFIC FLOW (EXISTING)*
- *TRAFFIC FLOW (PROPOSED)*
- *TEMP. DRAINAGE*
- *TEMP. SHORING (LOCATION PURPOSES ONLY)*
- *TEMP. CONCRETE BARRIER*

*TRAFFIC CONTROL DEVICES*
- *BARRICADE (TYPE III)*
- *DRUM*
- *TEMPORARY CRASH CUSHION*
- *TRUCK MOUNTED ATTENUATOR (TMA)*
- *CHANGEABLE MESSAGE SIGN*
- *STATIONARY SIGN*

*PAVEMENT MARKINGS*
- *EXISTING LINES*
- *TEMPORARY LINES*

**I-20 OVER WATEREE RIVER BRIDGE REPLACEMENT AND SWAMP OVERFLOW BRIDGE REHABILITATION**

**SCALE: 1"=100'**

lane HDR

**WORK ZONE TRAFFIC CONTROL**
**LANE SHIFT CONCEPTS - STAGE 1**

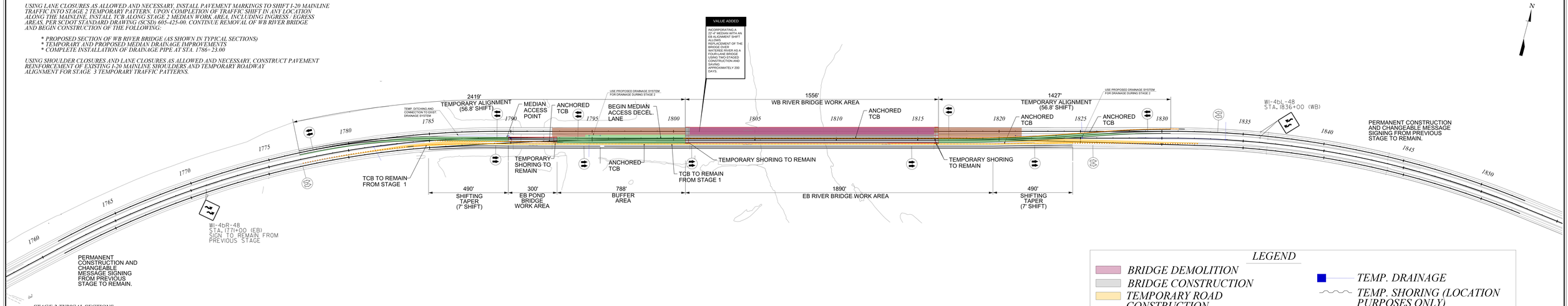
20

*STAGE 2 (DURATION 15 MONTHS):*

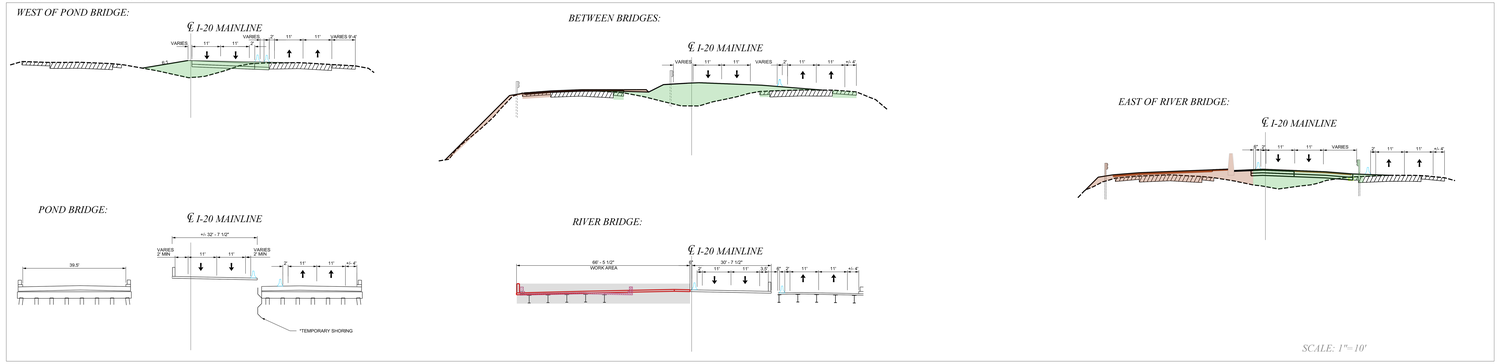
*USING LANE CLOSURES AS ALLOWED AND NECESSARY, INSTALL PAVEMENT MARKINGS TO SHIFT I-20 MAINLINE TRAFFIC INTO STAGE 2 TEMPORARY PATTERN. UPON COMPLETION OF TRAFFIC SHIFT IN ANY LOCATION ALONG THE MAINLINE, INSTALL TCB ALONG STAGE 2 MEDIAN WORK AREA, INCLUDING INGRESS / EGRESS AREAS, PER SCDOT STANDARD DRAWING (SCSD) 605-425-00. CONTINUE REMOVAL OF WB RIVER BRIDGE AND BEGIN CONSTRUCTION OF THE FOLLOWING:*

- *PROPOSED SECTION OF WB RIVER BRIDGE (AS SHOWN IN TYPICAL SECTIONS)*
- *TEMPORARY AND PROPOSED MEDIAN DRAINAGE IMPROVEMENTS*
- *COMPLETE INSTALLATION OF DRAINAGE PIPE AT STA. 1786+ 23.00*

*USING SHOULDER CLOSURES AND LANE CLOSURES AS ALLOWED AND NECESSARY, CONSTRUCT PAVEMENT REINFORCEMENT OF EXISTING I-20 MAINLINE SHOULDERS AND TEMPORARY ROADWAY ALIGNMENT FOR STAGE 3 TEMPORARY TRAFFIC PATTERNS.*




*STAGE 2 TYPICAL SECTIONS:*




## LEGEND

- *BRIDGE DEMOLITION*
- *BRIDGE CONSTRUCTION*
- *TEMPORARY ROAD CONSTRUCTION*
- *TEMPORARY ROADWAY BUILDUP*
- *PERMANENT ROAD CONSTRUCTION*
- *COMPLETED ROAD CONSTRUCTION*
- *ROADWAY REMOVAL*
- *SHOULDER RECONSTRUCTION AND/OR BUILDUP*
- *CURRENT BRIDGE CONSTRUCTION*
- *TRAFFIC FLOW (EXISTING)*
- *TRAFFIC FLOW (PROPOSED)*
- *TEMP. DRAINAGE*
- *TEMP. SHORING (LOCATION PURPOSES ONLY)*
- *TEMP. CONCRETE BARRIER*

*TRAFFIC CONTROL DEVICES*

- *BARRICADE (TYPE III)*
- *DRUM*
- *TEMPORARY CRASH CUSHION*
- *TRUCK MOUNTED ATTENUATOR (TMA)*
- *CHANGEABLE MESSAGE SIGN*
- *STATIONARY SIGN*

*PAVEMENT MARKINGS*

- *EXISTING LINES*
- *TEMPORARY LINES*

**I-20 OVER WATEREE RIVER BRIDGE REPLACEMENT AND SWAMP OVERFLOW BRIDGE REHABILITATION**

**SCALE: 1"=100'**

lane HDR

**WORK ZONE TRAFFIC CONTROL**
**LANE SHIFT CONCEPTS - STAGE 2**

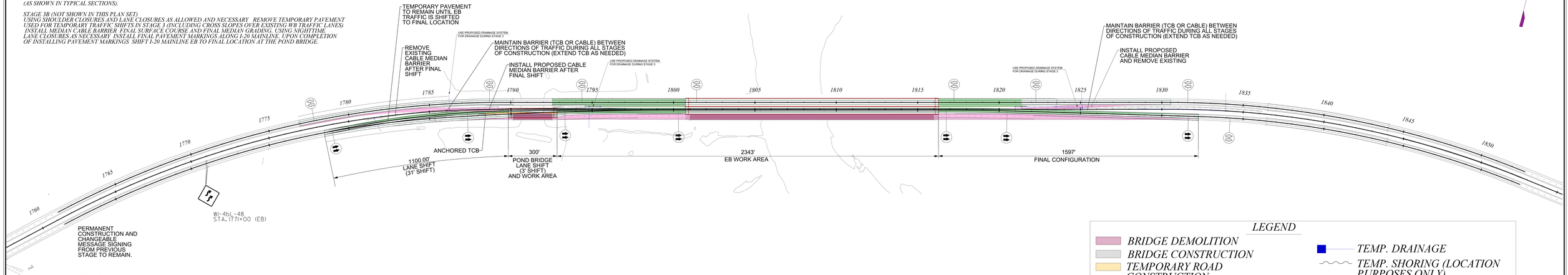
20

STAGE 3 (DURATION 11.5 MONTHS)
STAGE 3A
USING LANE CLOSURES AS ALLOWED AND NECESSARY INSTALL PAVEMENT MARKINGS TO SHIFT I-20 MAINLINE TRAFFIC INTO STAGE 3 TEMPORARY PATTERN ON THE POND BRIDGE AND FINAL PATTERN ON THE RIVER BRIDGE. UPON COMPLETION OF TRAFFIC SHIFT IN ANY LOCATION ALONG THE MAINLINE INSTALL TCB ALONG STAGE 3 EB POND BRIDGE WORK AREA. BEGIN REMOVAL OF REMAINING EB RIVER AND POND BRIDGES AND BEGIN CONSTRUCTION OF THE PROPOSED FINAL SECTION OF EB POND BRIDGE (AS SHOWN IN TYPICAL SECTIONS).

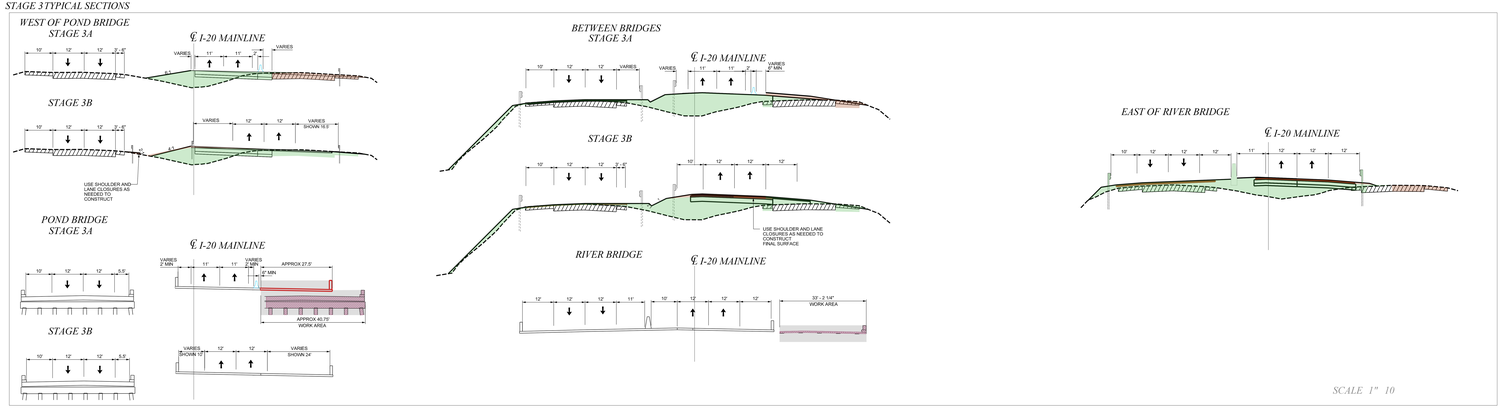
STAGE 3B (NOT SHOWN IN THIS PLAN SET)
USING SHOULDER CLOSURES AND LANE CLOSURES AS ALLOWED AND NECESSARY REMOVE TEMPORARY PAVEMENT USED FOR TEMPORARY TRAFFIC SHIFTS IN STAGE 3 (INCLUDING CROSS SLOPES OVER EXISTING WB TRAFFIC LANES) INSTALL MEDIAN CABLE BARRIER FINAL SURFACE COURSE AND FINAL MEDIAN GRADING. USING NIGHTTIME LANE CLOSURES AS NECESSARY INSTALL FINAL PAVEMENT MARKINGS ALONG I-20 MAINLINE. UPON COMPLETION OF INSTALLING PAVEMENT MARKINGS SHIFT I-20 MAINLINE EB TO FINAL LOCATION AT THE POND BRIDGE.

OVERFLOW BRIDGE REHAB NOTES
BRIDGE REHAB NOT MEDIAN ACCESS WILL BE HANDLED VIA SCDOT STD DWGS. 605-425-00 AND 605-430-00. SEE THE BRIDGE REHAB PLANS IN "APPENDIX A 3 - CONCEPTUAL BRIDGE PLANS" FOR MORE DETAILS.

LANE CLOSURES WILL BE HANDLED VIA SCDOT STD DWG. 610-100-00.




STAGE 3 TYPICAL SECTIONS




## LEGEND

- BRIDGE DEMOLITION
- BRIDGE CONSTRUCTION
- TEMPORARY ROAD CONSTRUCTION
- TEMPORARY ROADWAY BUILDUP
- PERMANENT ROAD CONSTRUCTION
- COMPLETED ROAD CONSTRUCTION
- ROADWAY REMOVAL
- SHOULDER RECONSTRUCTION AND OR BUILDUP
- CURRENT BRIDGE CONSTRUCTION
- TRAFFIC FLOW (EXISTING)
- TRAFFIC FLOW (PROPOSED)
- TEMP. DRAINAGE
- TEMP. SHORING (LOCATION PURPOSES ONLY)
- TEMP. CONCRETE BARRIER

TRAFFIC CONTROL DEVICES
- BARRICADE (TYPE III)
- DRUM
- TEMPORARY CRASH CUSHION
- TRUCK MOUNTED ATTENUATOR (TMA)
- CHANGEABLE MESSAGE SIGN
- STATIONARY SIGN

PAVEMENT MARKINGS
- EXISTING LINES
- TEMPORARY LINES

**I-20 OVER WATEREE RIVER BRIDGE REPLACEMENT AND SWAMP OVERFLOW BRIDGE REHABILITATION**

SCALE: 1"=100'

lane HDR

**WORK ZONE TRAFFIC CONTROL LANE SHIFT CONCEPTS - STAGE 3**

20

# Appendix A.3. - Conceptual Bridge Plans

| BRIDGE PLANS ID | SHEET NO. |
|---|---|
| 2847360-B01 | 1 |

## INDEX OF SHEETS



| SHEET NO. | DESCRICPTION | SHEET TOTALS |
|---|---|---|
| 1 | TITLE SHEET | 1 |
| 2 | BRIDGE PLAN AND PROFILE | 3 |
| 5 | CONSTRUCTION SEQUENCE | 3 |
| 8 | CONSTRUCTION ACCESS PLAN | 2 |
| 10 | INTERIOR BENT PLAN AND ELEVATION | 1 |
| 11 | TYPICAL SECTION | 1 |
| | TOTAL | 11 |



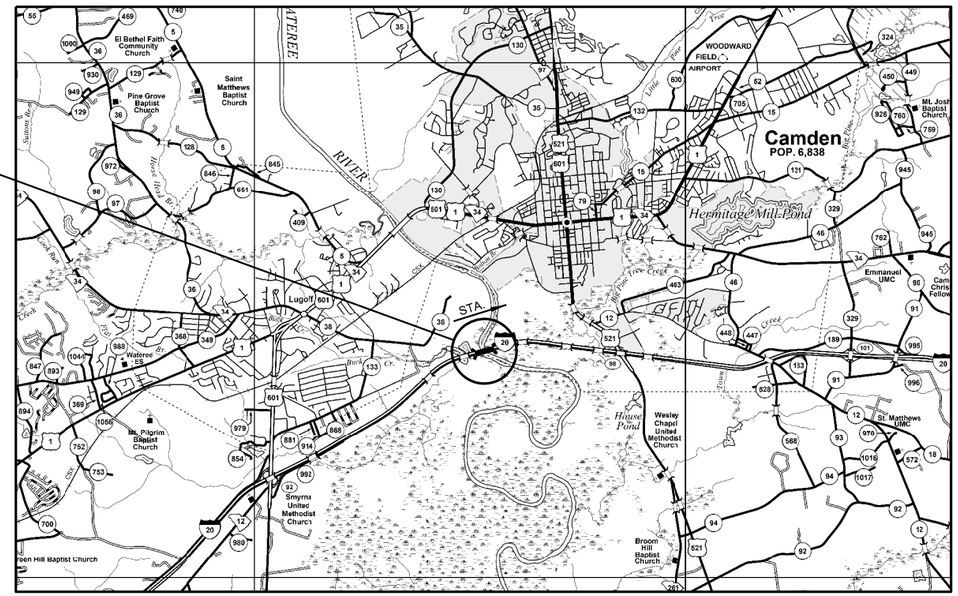
SCDOT

South Carolina Department of Transportation

# PROPOSED PLANS FOR KERSHAW COUNTY CONTRACT ID 2847360 I-20 OVER WATEREE RIVER

## TWIN BRIDGES REPLACEMENT

SITE LOCATION




LAYOUT
(NOT TO SCALE)

Approximate Location of Bridge is

| | |
|---|---|
| Latitude | 34° - 13' - 03" N |
| Longitude | 80° - 37' - 48" W |

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 5779 & 5784

TRAFFIC DATA

2025 ADT 42,754 V.P.D.

2045 ADT 57,583 V.P.D.

TRUCKS 21 %

| | |
|---|---|
| NET LENGTH OF ROADWAY | 0.553 MILES |
| NET LENGTH OF BRIDGES | 0.336 MILES |
| NET LENGTH OF PROJECT | 0.889 MILES |
| LENGTH OF EXCEPTIONS | 0.000 MILES |
| GROSS LENGTH OF PROJECT | 0.889 MILES |

EQUALITIES IN STATIONING
NONE

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.

PLANS PREPARED BY

lane HDR

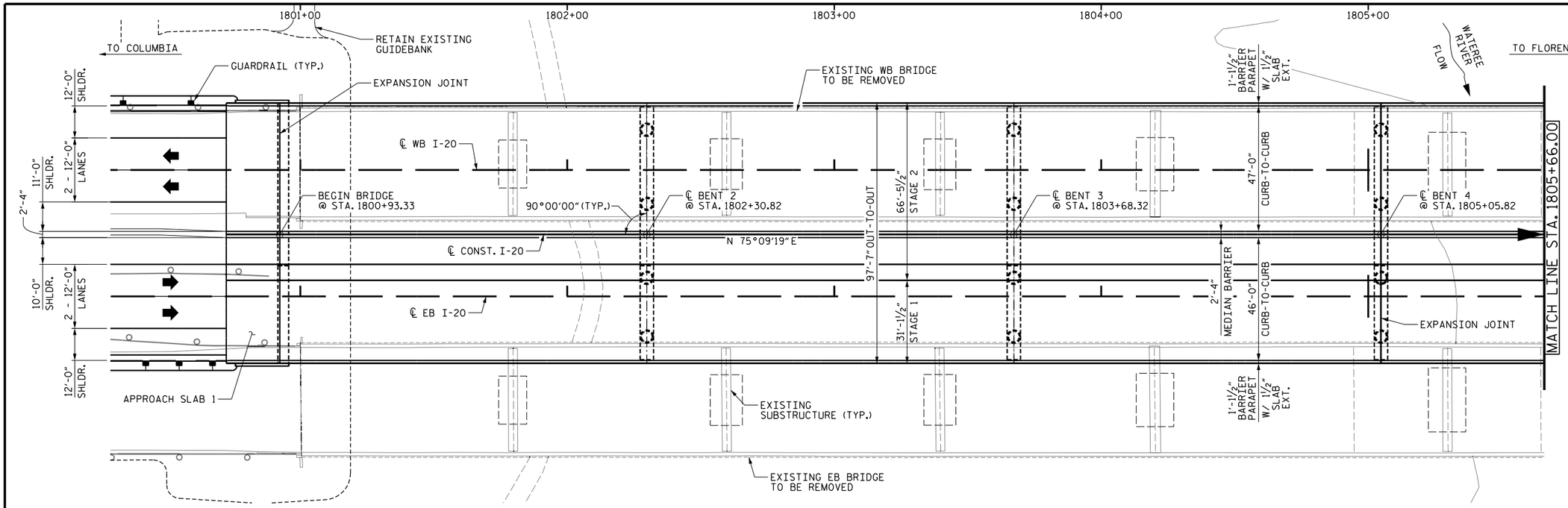
ENGINEER OF RECORD

CONCEPT PLANS

NOT FOR CONSTRUCTION

Wateree - Title.dgn
02-08-23

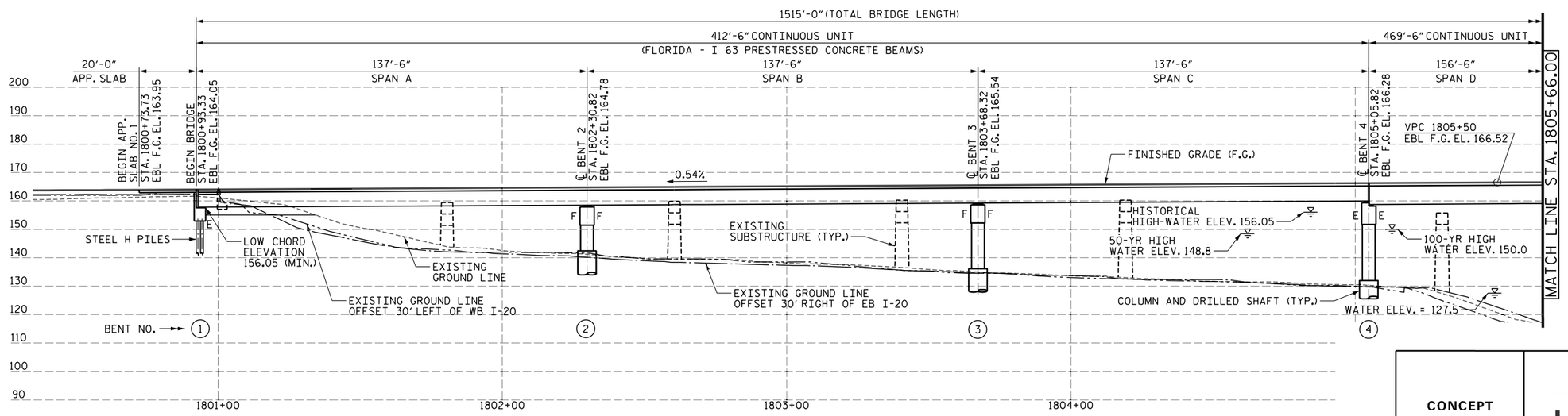
| BRIDGE PLANS ID | SHEET NO. |
|---|---|
| 2847360-B01 | 2 |




## PLAN

BRIDGE SURFACE DRAINAGE NOTES:

1. 6-INCH SCUPPERS WILL BE PLACED ALONG THE LEFT AND RIGHT BRIDGE BARRIERS TO PROVIDE SURFACE DRAINAGE FOR THE BRIDGE DECK. SCUPPERS WILL BE PLACED AT AN APPROXIMATE 20-FT. SPACING.
2. 6-INCH SCUPPERS WILL BE PLACED ALONG THE RIGHT SIDE OF THE MEDIAN BARRIER AT APPROXIMATE 100-FT. SPACING.
3. BRIDGE END DRAINAGE WITH FLUMES WILL BE CONSTRUCTED AT THE 4 OUTSIDE BRIDGE CORNERS IN ACCORDANCE WITH SCDOT STANDARD DRAWING 805-325-75. PAVED FLUMES WILL BE UTILIZED ON THE INSIDE EDGE OF THE BRIDGE TO PROVIDE DRAINAGE FOR THE AREA ALONG THE MEDIAN BARRIER.
4. SCUPPER LOCATIONS WILL BE MINIMIZED OVER THE WATEREE RIVER TO THE EXTENT PRACTICABLE.
5. FOR ANY SCUPPER LOCATIONS WITH A FALL DISTANCE OF LESS THAN 25-FEET TO THE NATURAL GROUND, A RIPRAP PAD WILL BE PLACED TO MINIMIZE EROSION FROM THE SCUPPER DISCHARGE.




## SECTION ALONG ℄ EB I-20

(EASTBOUND SHOWN, WESTBOUND SIMILAR)

HYDROLOGY DATA ✳
D.A. = 1,256 SQ. MILES
Q100 = 178,500 CFS
VELOCITY50 = 3.7 FPS
50-YEAR W.S. ELEV. = 148.8
Q100 = 224,500 CFS
VELOCITY100 = 4.9 FPS
100-YEAR W.S.ELEV. = 150.00

OVERTOPPING FLOOD
Q > 421,300 CFS
PROBABILITY < 0.002

✳ DRAINAGE AREA AND FLOW RATES ARE PROVIDED FOR WATEREE RIVER FLOODPLAIN CROSSING AT I-20.

E - DENOTES EXPANSION
F - DENOTES FIXED

ABUTMENT RIPRAP

CONTRACTOR TO REVIEW EXISTING CONDITIONS OF ABUTMENT RIPRAP AND REPLENISH RIPRAP AS NEEDED. CLASS B RIPRAP SHALL BE USED FOR ABUTMENT PROTECTION.

| | | | |
|---|---|---|---|
| REV. | | | |
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| REVIEWED | | | |
| QUAN. | | | |
| DR. | DMC | CAA | 01-23 |
| DES. | EN | TS | 01-23 |

CONCEPT PLANS

NOT FOR CONSTRUCTION

lane HDR

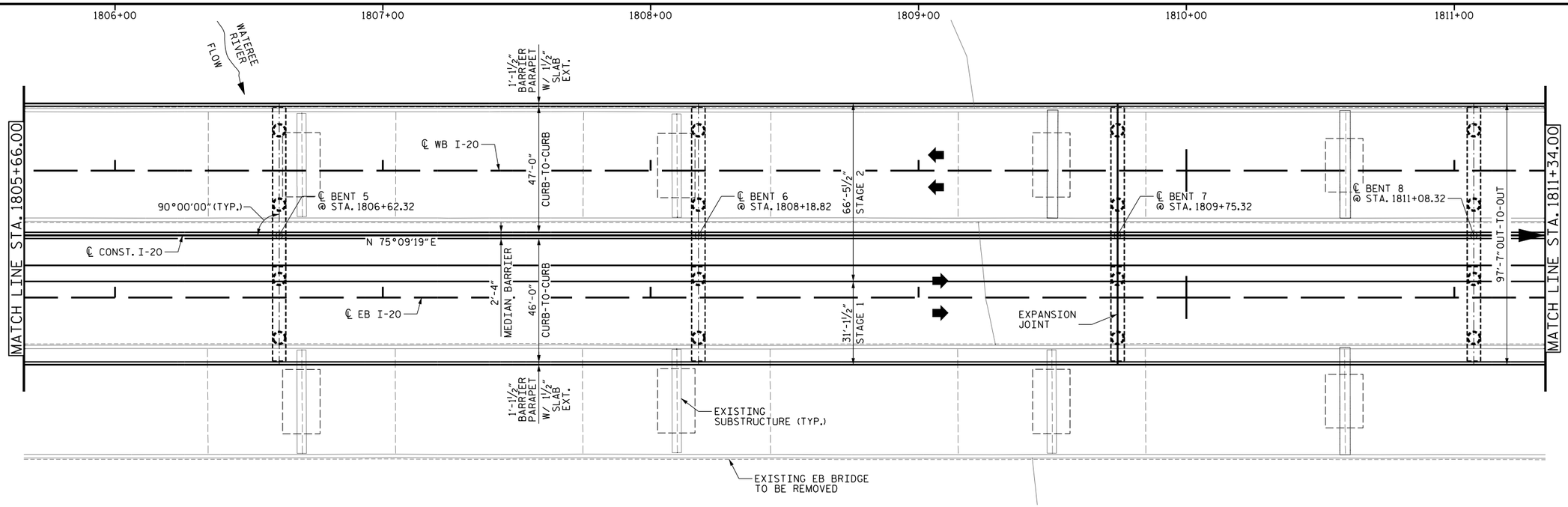
SOUTH CAROLINA
DEPARTMENT OF TRANSPORTATION

BRIDGE PLAN AND PROFILE
(1 OF 3)
I-20 OVER WATEREE RIVER
BRIDGE REPLACEMENT

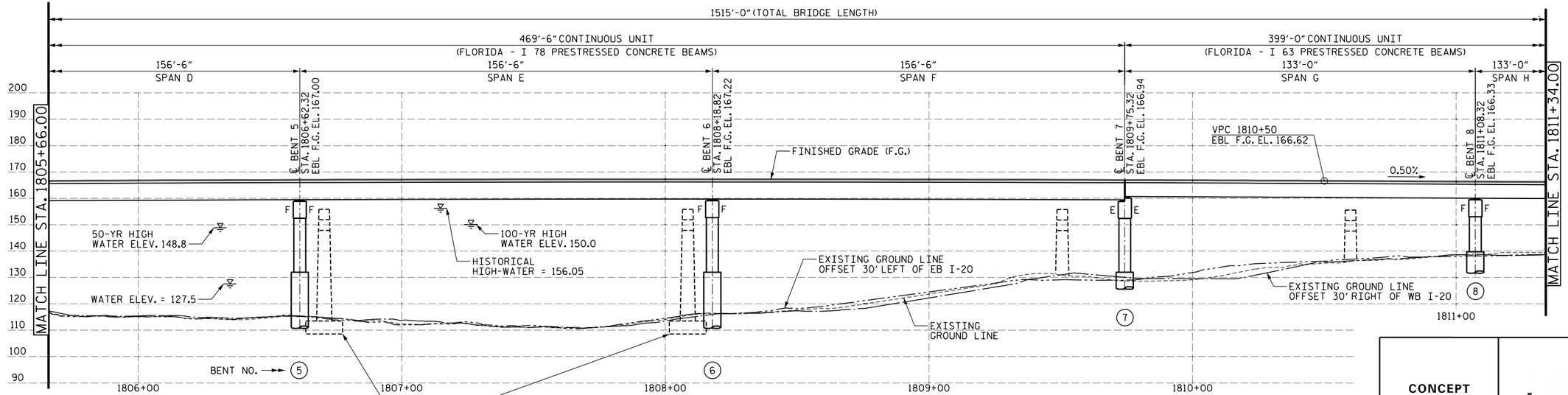
| COUNTY | ROUTE |
|---|---|
| KERSHAW | I-20 |

CADD FILE INFORMATION lu5ul0 AM
PLOTTED DATE: 02-08-23
FILE NAME: Wateree - Plan and Profile.dgn

| BRIDGE PLANS ID | SHEET NO. |
|---|---|
| 2847360-B01 | 3 |




PLAN




SECTION ALONG ℄ EB I-20

(EASTBOUND SHOWN, WESTBOUND SIMILAR)

+0.54% ^ -0.50%

PI STA. 1808+00.00
EL. = 167.40
VC = 500.00'

WBL GRADE DATA

+0.54% ^ -0.50%

PI STA. 1808+00.00
EL. = 167.87
VC = 500.00'

EBL GRADE DATA

| REV. | | | |
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| REV. | | | |
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| REVIEWED | | | |
| QUAN. | | | |
| DR. | DMC | CAA | 01-23 |
| DES. | EN | TS | 01-23 |

**CONCEPT PLANS**

**NOT FOR CONSTRUCTION**

lane HDR

SOUTH CAROLINA
DEPARTMENT OF TRANSPORTATION

BRIDGE PLAN AND PROFILE
(2 OF 3)
I-20 OVER WATEREE RIVER
BRIDGE REPLACEMENT

| COUNTY | ROUTE |
|---|---|
| KERSHAW | I-20 |

CADD FILE INFORMATION 11:51:13 AM
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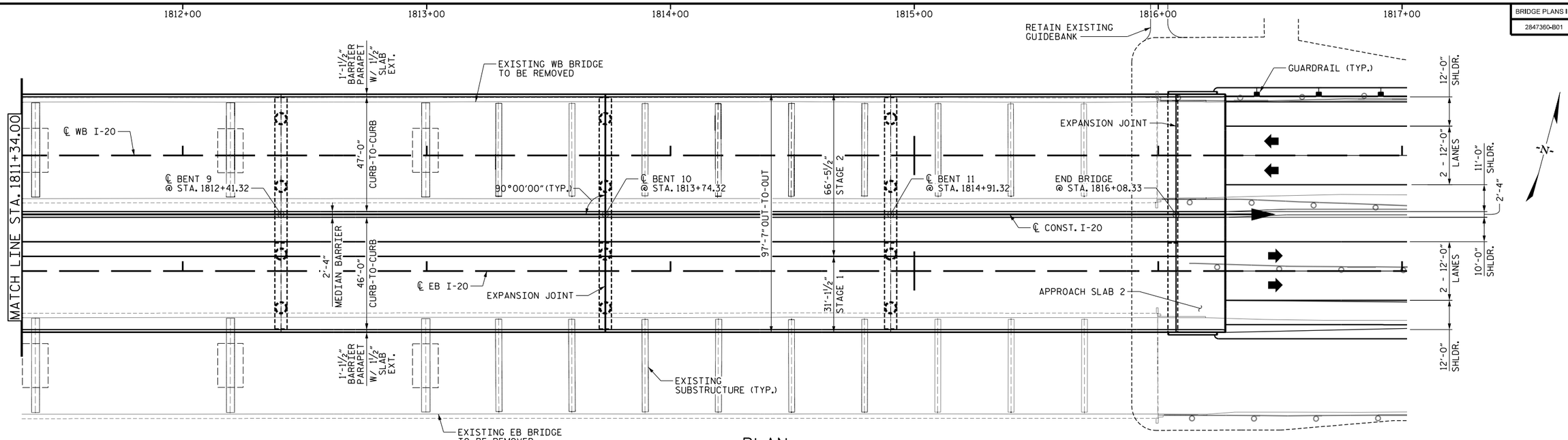
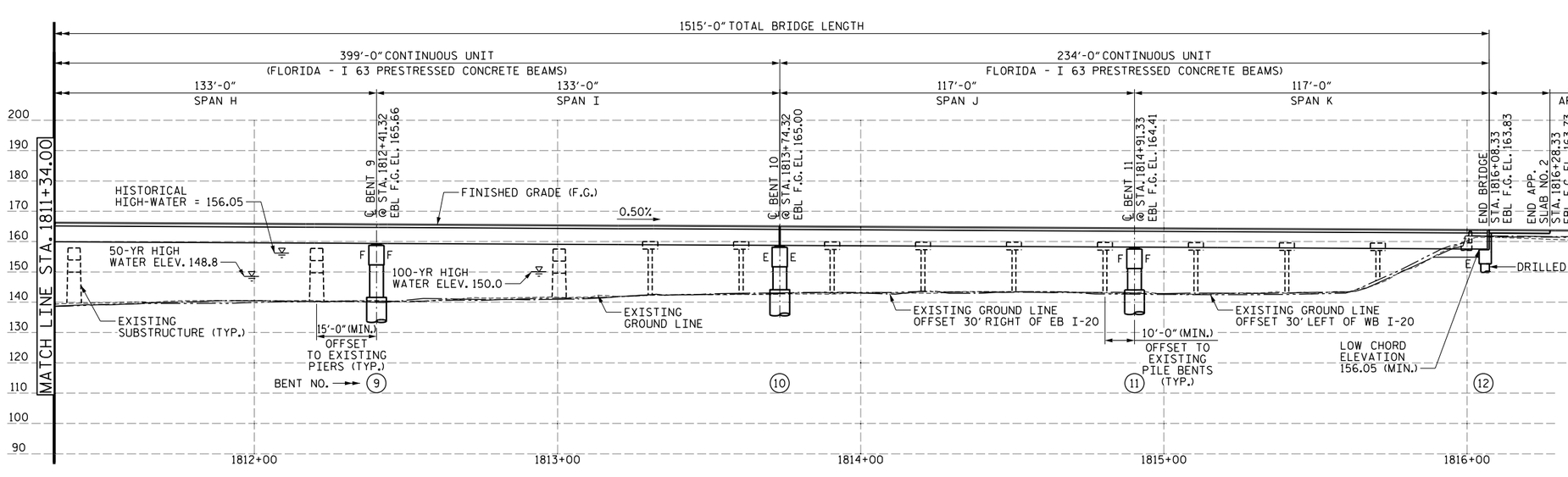
FILE NAME: Wateree - Plan and Profile.dgn

| BRIDGE PLANS ID | SHEET NO. |
|---|---|
| 2847360-B01 | 4 |




PLAN




SECTION ALONG ℄ EB I-20

(EASTBOUND SHOWN, WESTBOUND SIMILAR)

## VALUE ADDED

DRILLED SHAFTS PROPOSED AT WATEREE RIVER EASTERN END BENT TO PROVIDE STABILITY UNDER LIQUEFIED CONDITIONS. DRIVEN PILE FOUNDATIONS LIKELY CANNOT ACHIEVE TIP ELEVATIONS NECESSARY FOR LATERAL STABILITY.

ABUTMENT RIPRAP

CONTRACTOR TO REVIEW EXISTING CONDITIONS OF ABUTMENT RIPRAP AND REPLENISH RIPRAP AS NEEDED. CLASS B RIPRAP SHALL BE USED FOR ABUTMENT PROTECTION.

| | | | |
|---|---|---|---|
| REV. | | | |
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| REVIEWED | | | |
| QUAN. | | | |
| DR. | DMC | CAA | 01-23 |
| DES. | EN | TS | 01-23 |

CONCEPT PLANS

NOT FOR CONSTRUCTION

lane HDR

SOUTH CAROLINA
DEPARTMENT OF TRANSPORTATION

BRIDGE PLAN AND PROFILE
(3 OF 3)
I-20 OVER WATEREE RIVER
BRIDGE REPLACEMENT

| COUNTY | ROUTE |
|---|---|
| KERSHAW | I-20 |

CADD FILE INFORMATION 11:51:46 AM
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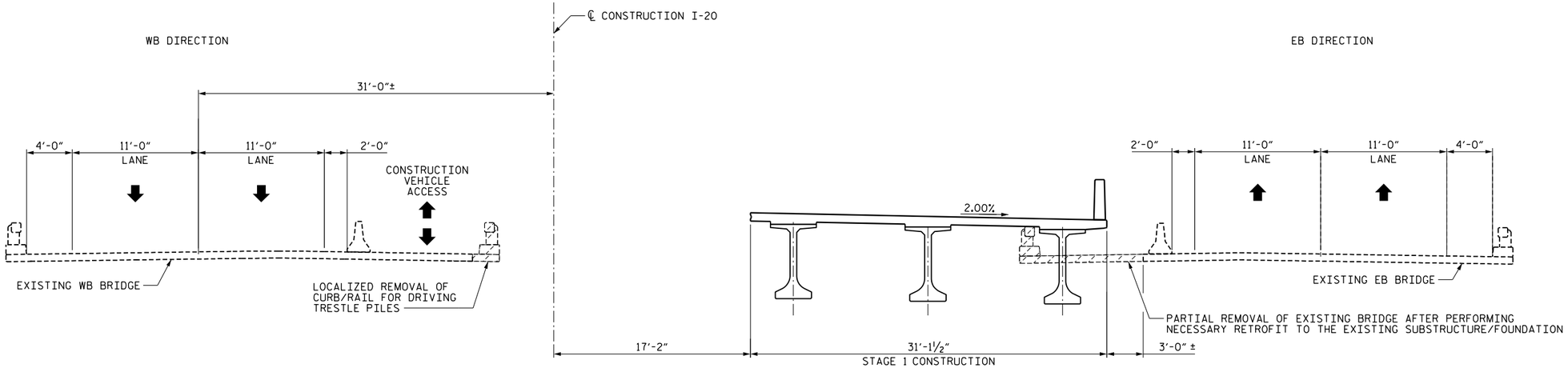
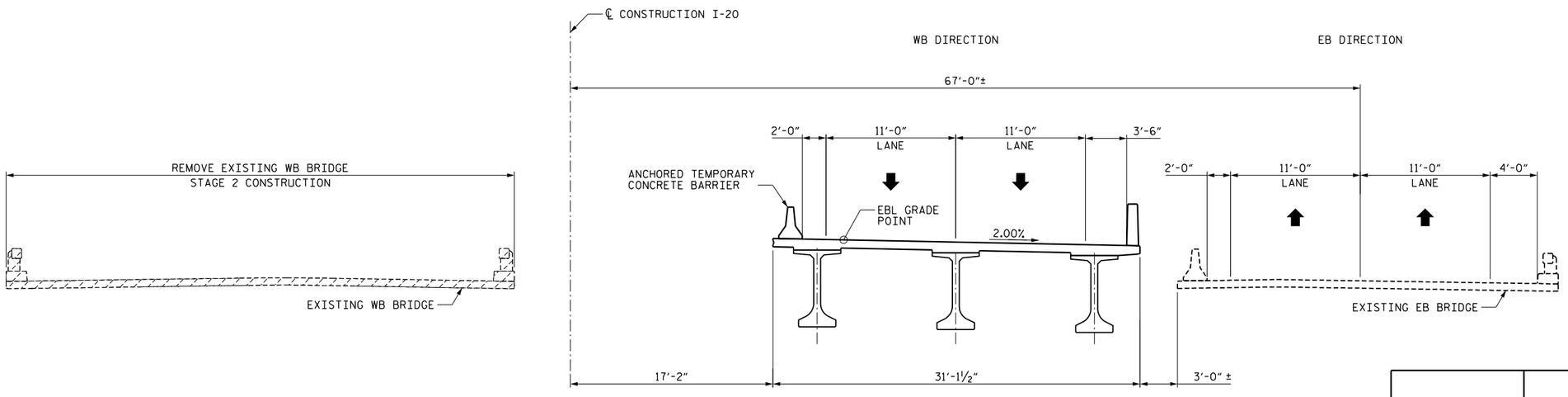
FILE NAME: Wateree - Plan and Profile.dgn

| BRIDGE PLANS ID | SHEET NO. |
|---|---|
| 2847360-B01 | 5 |




## STAGE 1

(LOOKING IN THE DIRECTION OF STATIONING)




## STAGE 2

(LOOKING IN THE DIRECTION OF STATIONING)

NOTES:

SEE MAINTENANCE OF TRAFFIC PLANS FOR COMPLETE CONSTRUCTION SEQUENCING BETWEEN WATEREE RIVER BRIDGE AND LUGOFF FARM POND BRIDGE.

| | | | |
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| REV. | | | |
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| REVIEWED | | | |
| QUAN. | | | |
| DR. | DMC | CAA | 01-23 |
| DES. | EN | TS | 01-23 |

**CONCEPT PLANS**

**NOT FOR CONSTRUCTION**

lane HDR

SOUTH CAROLINA
DEPARTMENT OF TRANSPORTATION

CONSTRUCTION SEQUENCE
(1 OF 3)
I-20 OVER WATEREE RIVER
BRIDGE REPLACEMENT

| COUNTY | ROUTE |
|---|---|
| KERSHAW | I-20 |

CADD FILE INFORMATION 11:51:21 AM
PLOTTED DATE: 02-08-23
FILE NAME: Wateree - Staging_1 of 3.dgn

| BRIDGE PLANS ID | SHEET NO. |
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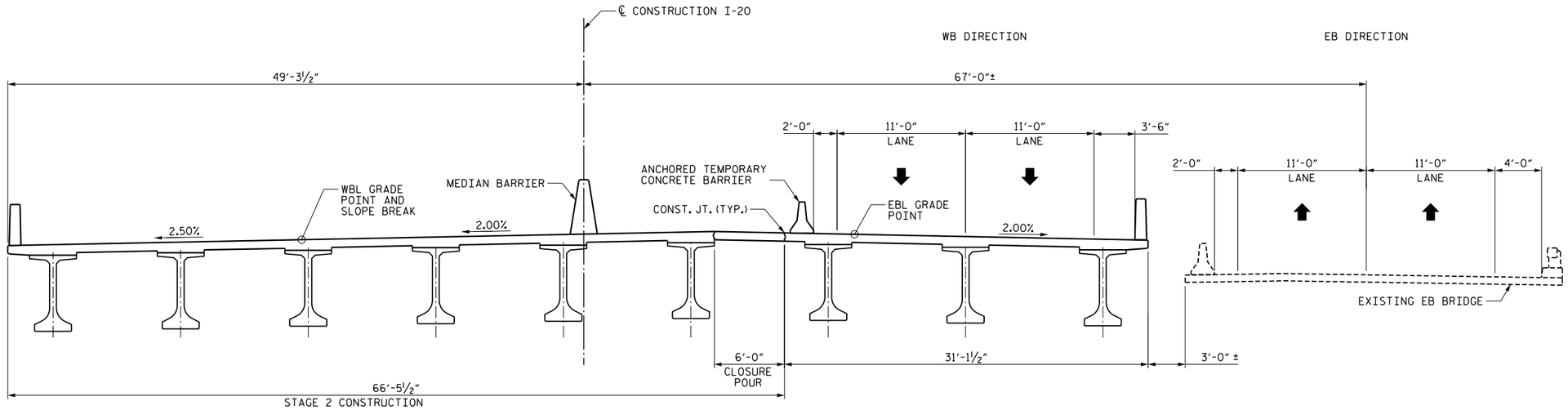
| 2847360-B01 | 6 |

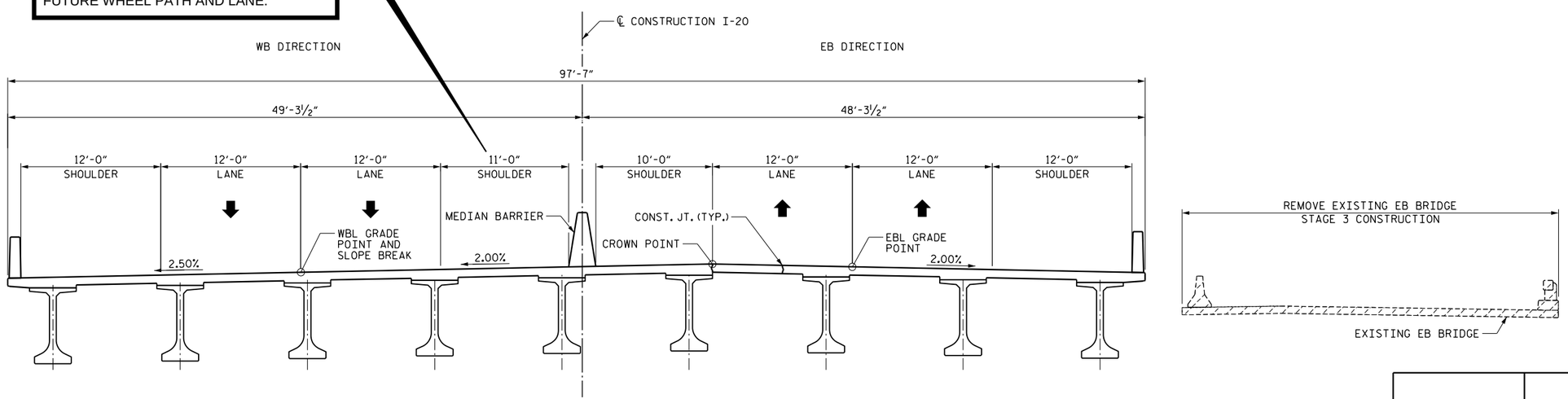



## STAGE 2

(LOOKING IN THE DIRECTION OF STATIONING)

**VALUE ADDED**

ADDITIONAL INSIDE SHOULDER WIDTH ON WB TO PLACE THE PROPOSED BARRIER AND DECK DRAINAGE OUTSIDE OF THE FUTURE WHEEL PATH AND LANE.




## STAGE 3 & FINAL

(LOOKING IN THE DIRECTION OF STATIONING)

NOTES:

SEE MAINTENANCE OF TRAFFIC PLANS FOR COMPLETE CONSTRUCTION SEQUENCING BETWEEN WATEREE RIVER BRIDGE AND LUGOFF FARM POND BRIDGE.

| | | | |
|---|---|---|---|
| REV. | | | |
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| REVIEWED | | | |
| QUAN. | | | |
| DR. | DMC | CAA | 01-23 |
| DES. | EN | TS | 01-23 |

**CONCEPT PLANS**

**NOT FOR CONSTRUCTION**

lane HDR

SOUTH CAROLINA
DEPARTMENT OF TRANSPORTATION

CONSTRUCTION SEQUENCE
(2 OF 3)
I-20 OVER WATEREE RIVER
BRIDGE REPLACEMENT

| COUNTY | ROUTE |
|---|---|
| KERSHAW | I-20 |

CADD FILE INFORMATION 11:51:27 AM
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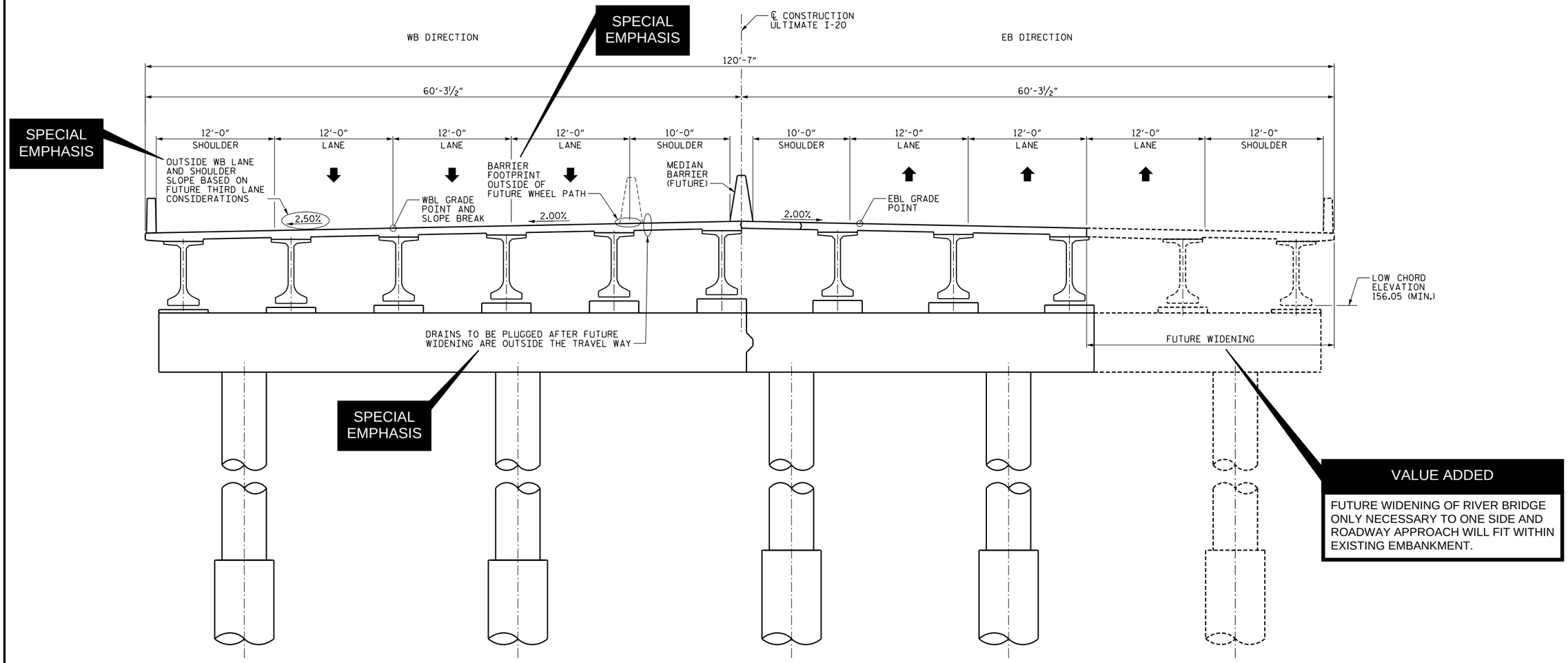
FILE NAME: Wateree - Staging.2 of 3.dgn

| BRIDGE PLANS ID | SHEET NO. |
|---|---|
| 2847360-B01 | 7 |




## FUTURE WIDENING FOR SIX-LANE SECTION

(LOOKING IN THE DIRECTION OF STATIONING)

| | | | |
|---|---|---|---|
| REV. | | | |
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| QUAN. | | | |
| DR. | CAA | 01-23 | DMC |
| DES. | EN | TS | 01-23 |

**CONCEPT PLANS**

**NOT FOR CONSTRUCTION**

lane HDR

SOUTH CAROLINA
DEPARTMENT OF TRANSPORTATION

CONSTRUCTION SEQUENCE
(3 OF 3)
I-20 OVER WATEREE RIVER
BRIDGE REPLACEMENT

| COUNTY | ROUTE |
|---|---|
| KERSHAW | I-20 |

CADD FILE INFORMATION 1:09:06 PM
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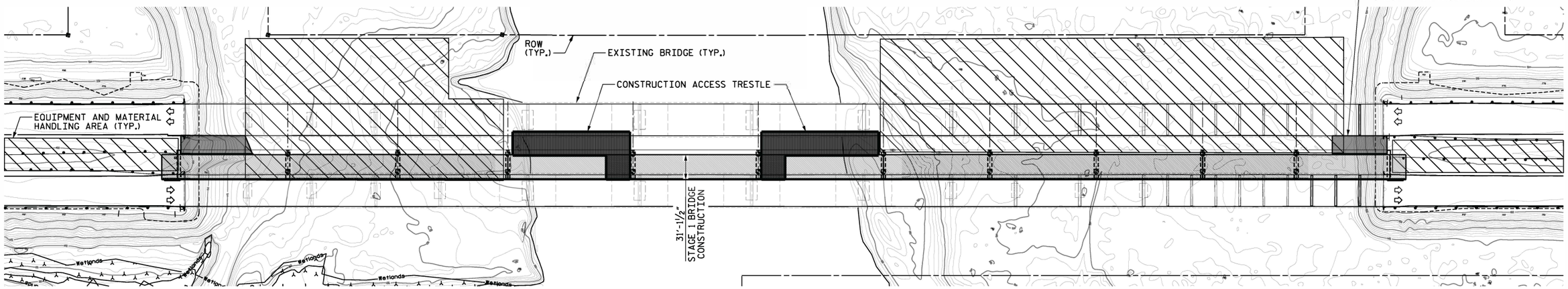
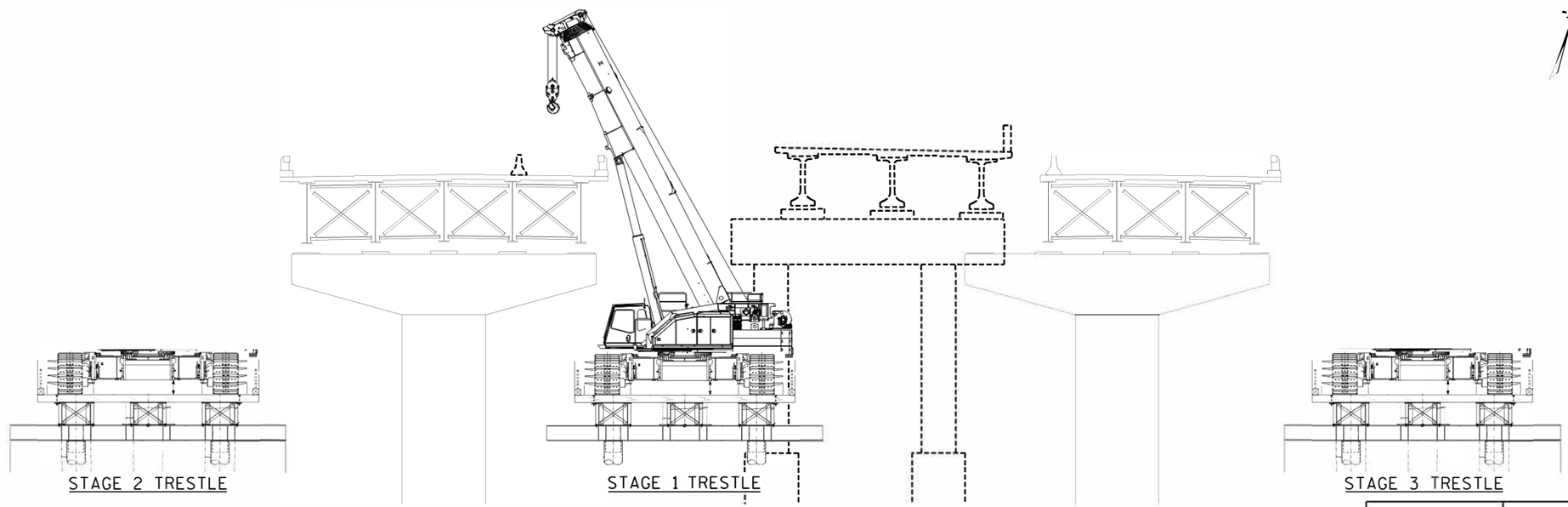
FILE NAME: Wateree - Staging.3 of 3.dgn

| BRIDGE PLANS ID | SHEET NO. |
|---|---|
| 2847360-B01 | 8 |




## CONSTRUCTION ACCESS PLAN - STAGE 1

ACCESS TO WORK ZONES WILL BE GAINED PER RFP REQUIREMENTS




## CONSTRUCTION ACCESS - TYPICAL SECTION

CADD FILE INFORMATION 11:51:39 AM
PLOTTED DATE: 02-08-23
FILE NAME: Wateree - Construction Access Plan_1of 2.dgn

**CLICK HERE** to Return to Section 1.e. of Technical Proposal Narrative

| | | | |
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| REV. | | | |
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| QUAN. | | | |
| DR. | DMC | CAA | 01-23 |
| DES. | EN | TS | 01-23 |

**CONCEPT PLANS**

**NOT FOR CONSTRUCTION**

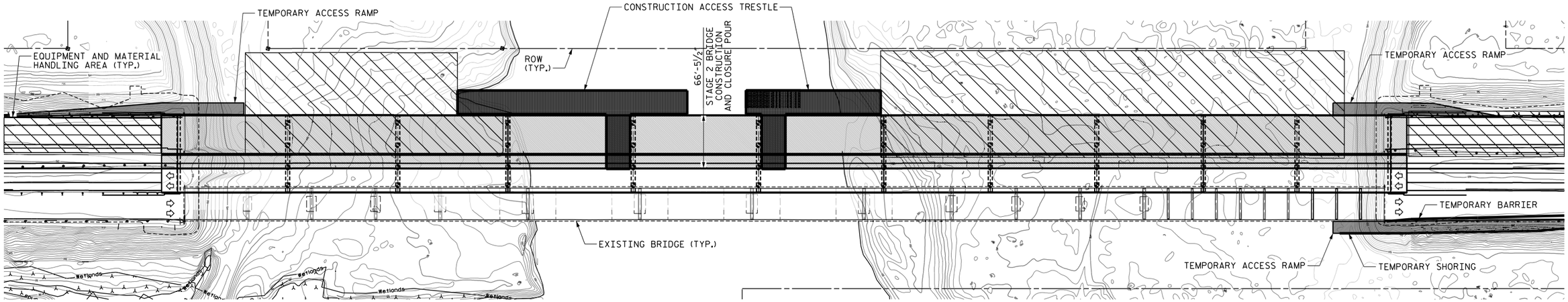
lane HDR

SOUTH CAROLINA
DEPARTMENT OF TRANSPORTATION

CONSTRUCTION ACCESS PLAN
(1 OF 2)
I-20 OVER WATEREE RIVER
BRIDGE REPLACEMENT

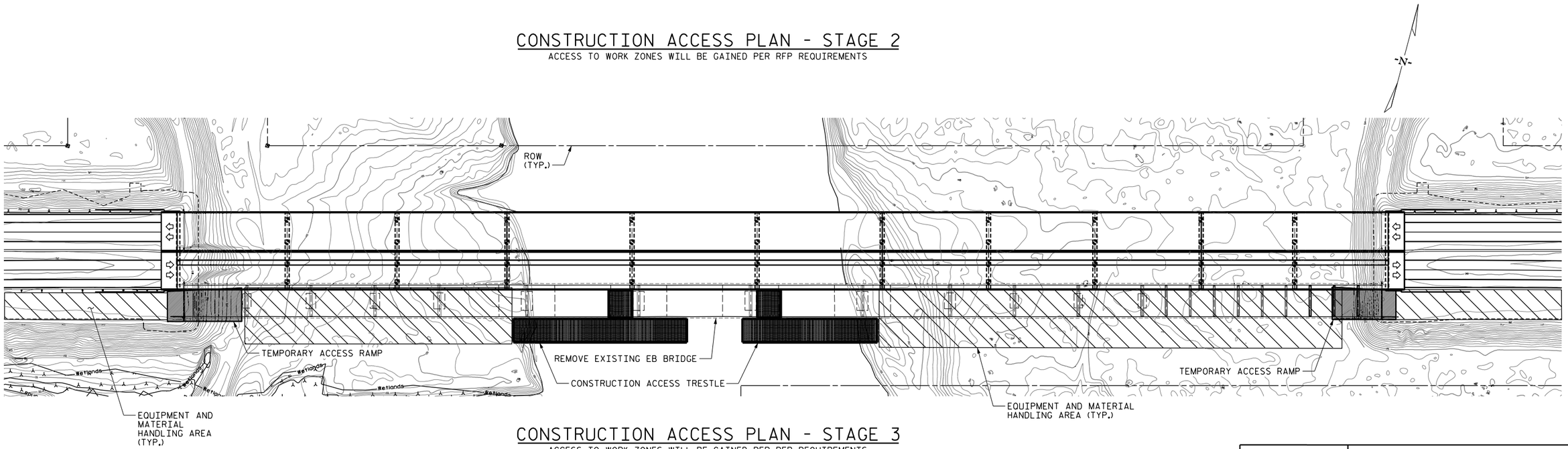
| COUNTY | ROUTE |
|---|---|
| KERSHAW | I-20 |

| BRIDGE PLANS ID | SHEET NO. |
|---|---|
| 2847360-B01 | 9 |




## CONSTRUCTION ACCESS PLAN - STAGE 2

ACCESS TO WORK ZONES WILL BE GAINED PER RFP REQUIREMENTS




## CONSTRUCTION ACCESS PLAN - STAGE 3

ACCESS TO WORK ZONES WILL BE GAINED PER RFP REQUIREMENTS

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| REV. | | | |
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| QUAN. | | | |
| DR. | DMC | CAA | 01-23 |
| DES. | EN | TS | 01-23 |

**CONCEPT PLANS**

**NOT FOR CONSTRUCTION**

lane HDR

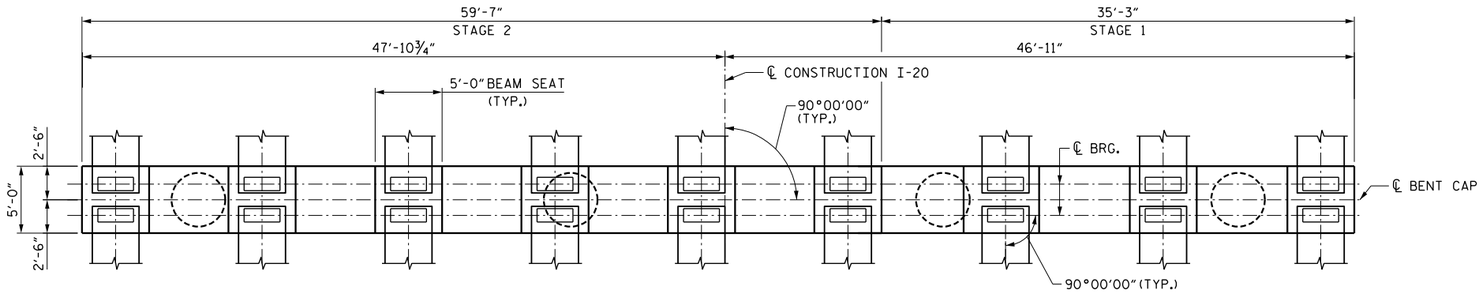
SOUTH CAROLINA
DEPARTMENT OF TRANSPORTATION

CONSTRUCTION ACCESS PLAN
(2 OF 2)
I-20 OVER WATEREE RIVER
BRIDGE REPLACEMENT

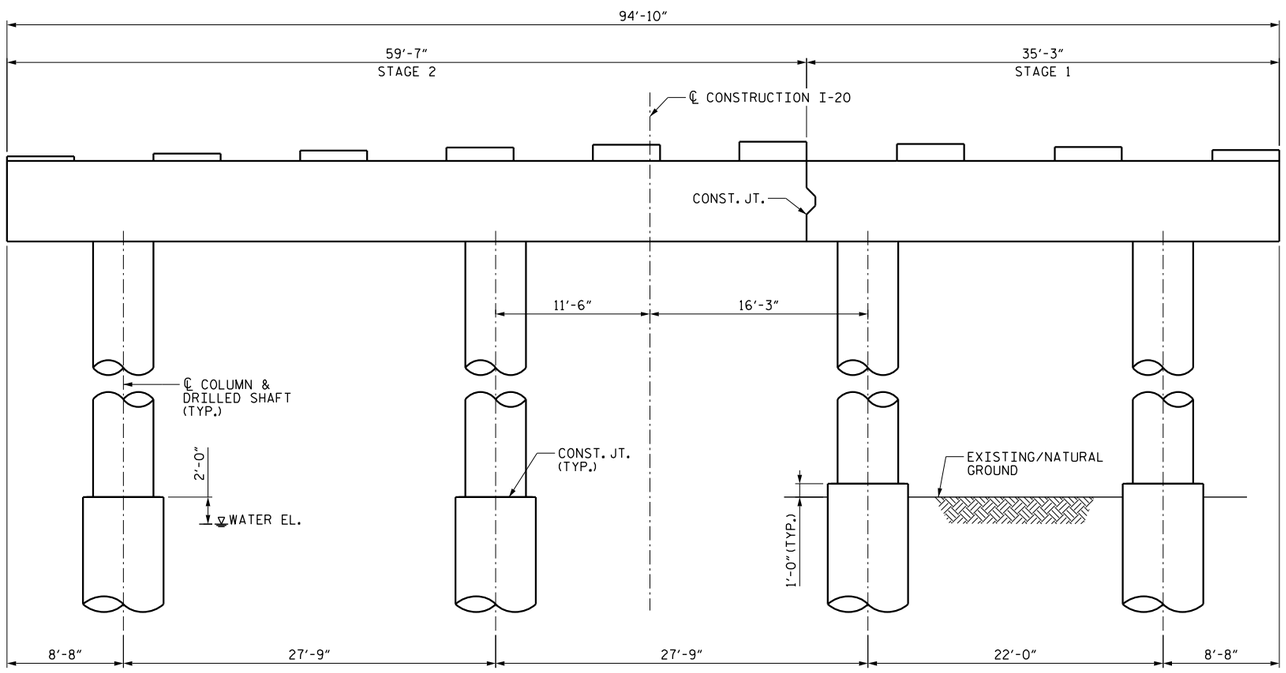
| COUNTY | ROUTE |
|---|---|
| KERSHAW | I-20 |

CADD FILE INFORMATION 11:51:50 AM
PLOTTED DATE: 02-08-23
FILE NAME: Wateree - Construction Access Plan_2 of 2.dgn

| BRIDGE PLANS ID | SHEET NO. |
|---|---|
| 2847360-B01 | 10 |



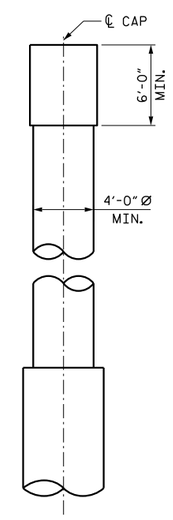

PLAN



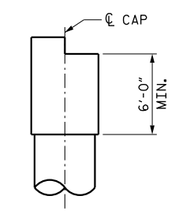

HALF SECTION
BENT IN RIVER

HALF SECTION
BENT ON LAND

ELEVATION




END ELEVATION




PARTIAL END ELEVATION
BENTS 4 AND 7

| | | | |
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| QUAN. | | | |
| DR. | DMC | CAA | 01-23 |
| DES. | EN | TS | 01-23 |

CONCEPT PLANS

NOT FOR CONSTRUCTION

lane HDR

SOUTH CAROLINA
DEPARTMENT OF TRANSPORTATION

INTERIOR BENT
PLAN AND ELEVATION
I-20 OVER WATEREE RIVER
BRIDGE REPLACEMENT

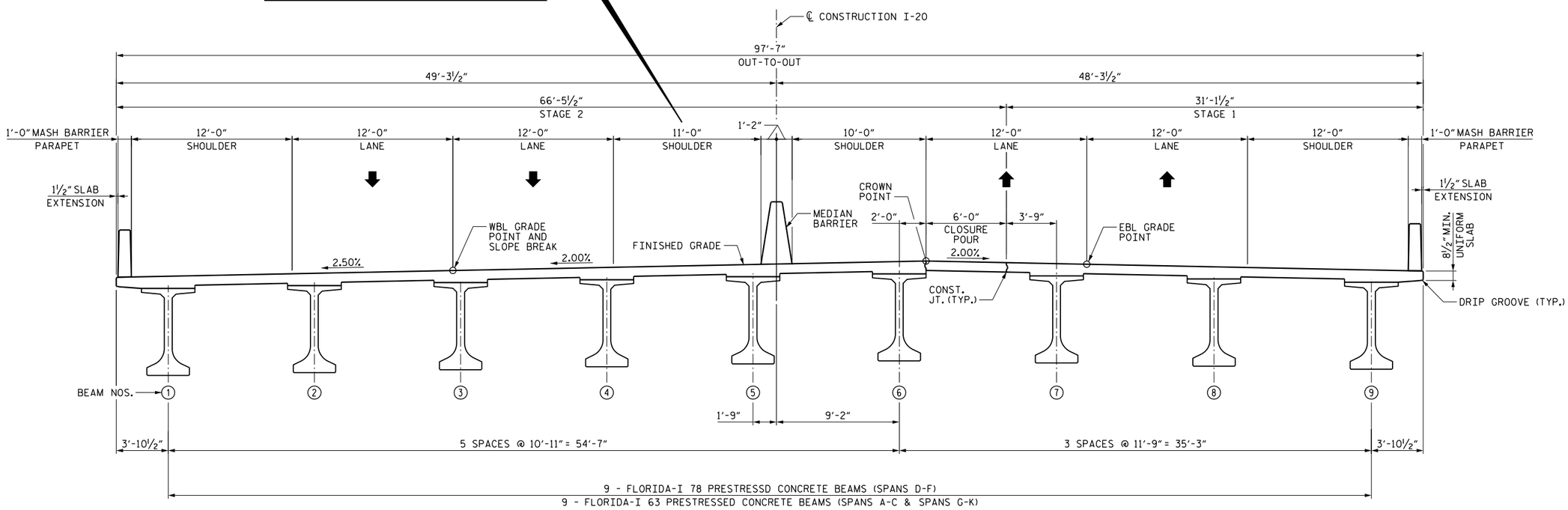
| COUNTY | ROUTE |
|---|---|
| KERSHAW | I-20 |

CADD FILE INFORMATION 11:51:57 AM
PLOTTED DATE: 02-08-23
FILE NAME: Wateree - Bent.dgn

| BRIDGE PLANS ID | SHEET NO. |
|---|---|
| 2847360-B01 | 11 |

**VALUE ADDED**

ADDITIONAL INSIDE SHOULDER WIDTH ON WB TO PLACE THE PROPOSED BARRIER AND DECK DRAINAGE OUTSIDE OF THE FUTURE WHEEL PATH AND LANE.




# TYPICAL SECTION

LOOKING IN DIRECTION OF STATIONING

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| REVIEWED | | | |
| QUAN. | | | |
| DR. | DMC | CAA | 01-23 |
| DES. | EN | TS | 01-23 |

**CONCEPT PLANS**

**NOT FOR CONSTRUCTION**

lane HDR

SOUTH CAROLINA
DEPARTMENT OF TRANSPORTATION

TYPICAL SECTION

I-20 OVER WATEREE RIVER
BRIDGE REPLACEMENT

| COUNTY | ROUTE |
|---|---|
| KERSHAW | I-20 |

CADD FILE INFORMATION 11:52:05 AM
PLOTTED DATE: 02-08-23
FILE NAME: Wateree - Typical_Final.dgn

| BRIDGE PLANS ID | SHEET NO. |
|---|---|
| 2847360-B02 | 1 |

## INDEX OF SHEETS



| SHEET NO. | DESCRICPTION | SHEET TOTALS |
|---|---|---|
| 1 | TITLE SHEET | 1 |
| 2 | BRIDGE PLAN AND PROFILE | 1 |
| 3 | CONSTRUCTION SEQUENCE | 2 |
| 5 | CONSTRUCTION ACCESS PLAN | 1 |
| 6 | INTERIOR BENT PLAN AND ELEVATION | 1 |
| 7 | TYPICAL SECTION | 1 |
| | TOTAL | 7 |



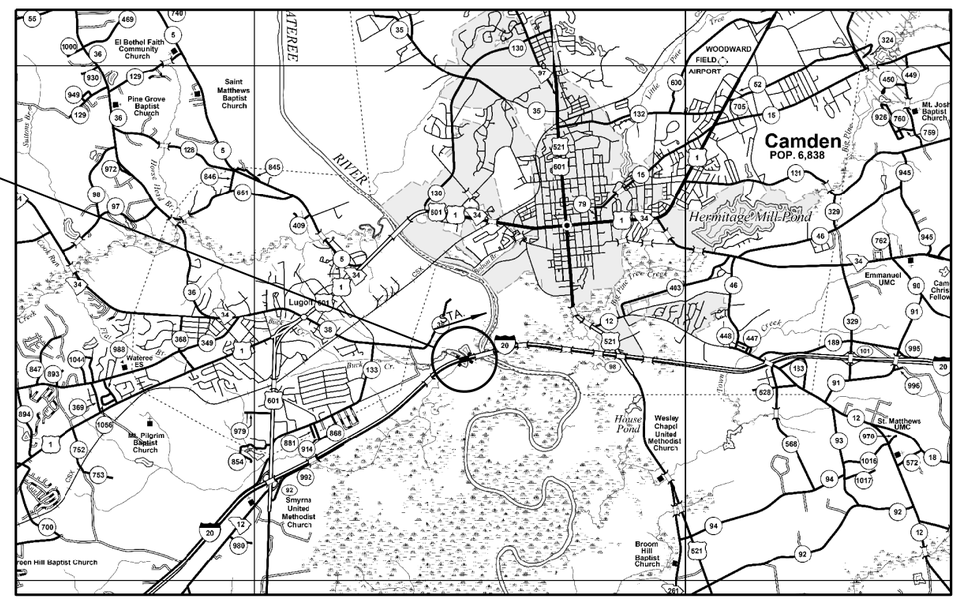
SCDOT

South Carolina Department of Transportation

# PROPOSED PLANS FOR KERSHAW COUNTY CONTRACT ID 2847360 I-20 OVER FARM POND

## REPLACE EAST BOUND BRIDGE

SITE LOCATION




LAYOUT
(NOT TO SCALE)

Approximate Location of Bridge is

| | |
|---|---|
| Latitude | 34° - 12' - 58" N |
| Longitude | 80° - 38' - 06" W |

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 5778

TRAFFIC DATA

2025 ADT 42,754 V.P.D.

2045 ADT 57,583 V.P.D.

TRUCKS 21 %

| | |
|---|---|
| NET LENGTH OF ROADWAY | 0.553 MILES |
| NET LENGTH OF BRIDGES | 0.336 MILES |
| NET LENGTH OF PROJECT | 0.889 MILES |
| LENGTH OF EXCEPTIONS | 0.000 MILES |
| GROSS LENGTH OF PROJECT | 0.889 MILES |

EQUALITIES IN STATIONING
NONE

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.

PLANS PREPARED BY

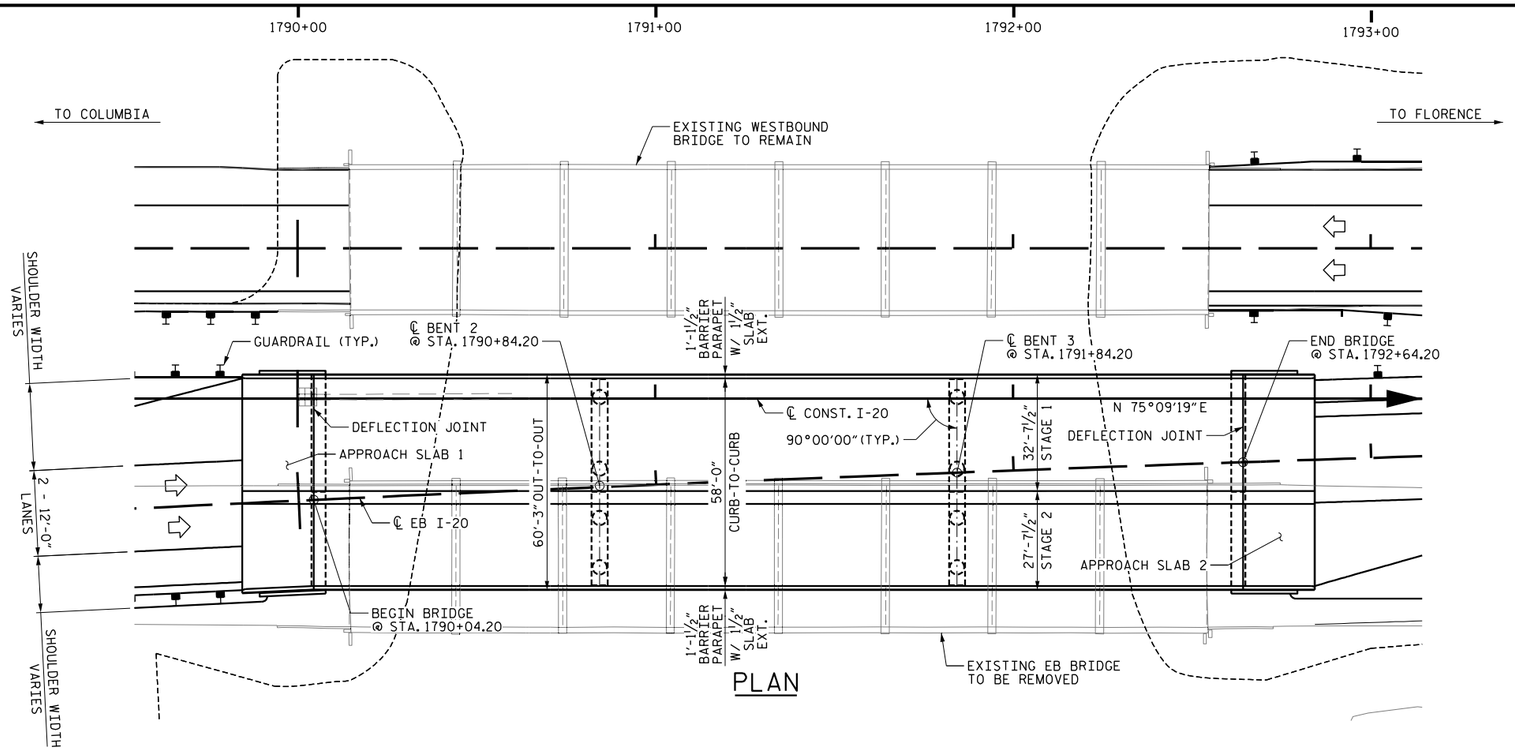
lane HDR

ENGINEER OF RECORD

**CONCEPT PLANS** **NOT FOR CONSTRUCTION**

Pond - Title.dgn
02-08-23

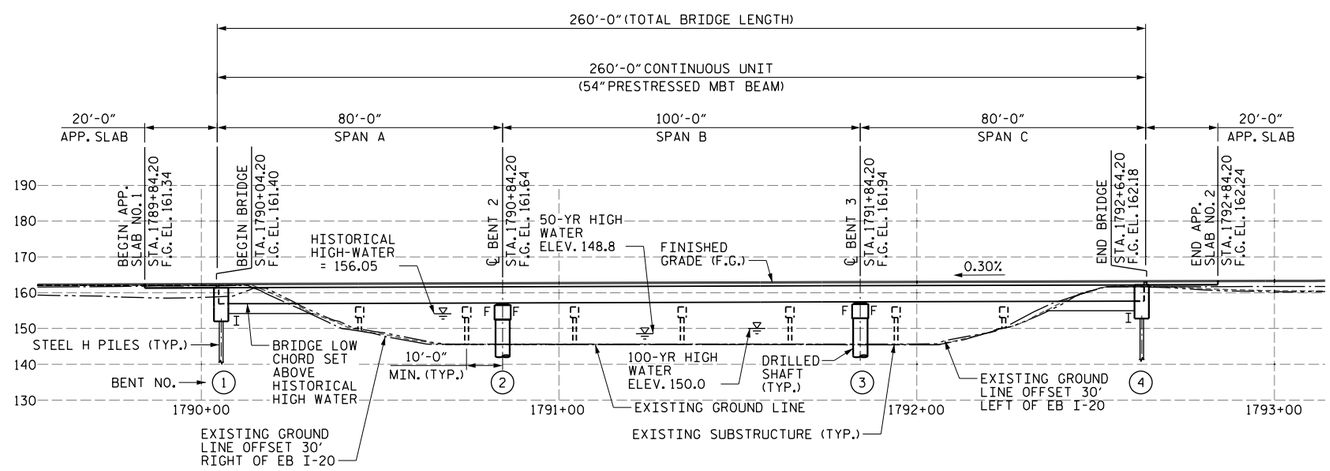
| BRIDGE PLANS ID | SHEET NO. |
|---|---|
| 2847360-B02 | 2 |




PLAN

BRIDGE SURFACE DRAINAGE NOTES:

1. 6-INCH SCUPPERS WILL BE PLACED ALONG THE RIGHT BRIDGE BARRIER TO PROVIDE SURFACE DRAINAGE FOR THE BRIDGE DECK. SCUPPERS WILL BE PLACED AT AN APPROXIMATE 20-FT. SPACING.
2. BRIDGE AND DRAINAGE WITH FLUME WILL BE CONSTRUCTED AT THE SOUTHWEST BRIDGE CORNER IN ACCORDANCE WITH SCDOT STANDARD DRAWING 805-325-75.
3. SCUPPER LOCATIONS WILL BE MINIMIZED OVER THE POND TO THE EXTENT PRACTICABLE.
4. FOR ANY SCUPPER LOCATIONS WITH A FALL DISTANCE OF LESS THAN 25-FEET TO THE NATURAL GROUND, A RIPRAP PAD WILL BE PLACED TO MINIMIZE EROSION FROM THE SCUPPER DISCHARGE.




SECTION ALONG ℄ EB I-20

+0.30% ^ -0.30%

PI STA. 1794+10.00
EL. = 162.62
VC = 225.00'

EBL GRADE DATA

HYDROLOGY DATA ✱
D.A. = 1,256 SQ. MILES
Q100 = 178,500 CFS
VELOCITY50 = 3.7 FPS
50-YEAR W.S. ELEV. = 148.8
Q100 = 224,500 CFS
VELOCITY100 = 4.9 FPS
100-YEAR W.S.ELEV. = 150.00

OVERTOPPING FLOOD
Q > 421,300 CFS
PROBABILITY < 0.002

✱ DRAINAGE AREA AND FLOW RATES ARE PROVIDED FOR WATEREE RIVER FLOODPLAIN CROSSING AT I-20.

I - DENOTES INTEGRAL
F - DENOTES FIXED

ABUTMENT RIPRAP

CONTRACTOR TO REVIEW EXISTING CONDITIONS OF ABUTMENT RIPRAP AND REPLENISH RIPRAP AS NEEDED. CLASS B RIPRAP SHALL BE USED FOR ABUTMENT PROTECTION.

**VALUE ADDED**

NEW EB POND BRIDGE WILL BE A JOINTLESS BRIDGE WHICH WILL REDUCE MAINTENANCE COMPARED TO THE EXISTING BRIDGE.

| | | | |
|---|---|---|---|
| REV. | | | |
| REV. | | | |
| REV. | | | |
| REVIEWED | | | |
| QUAN. | | | |
| DR. | DMC | CAA | 01-23 |
| DES. | EN | TS | 01-23 |

CONCEPT PLANS

NOT FOR CONSTRUCTION

lane HDR

SOUTH CAROLINA
DEPARTMENT OF TRANSPORTATION

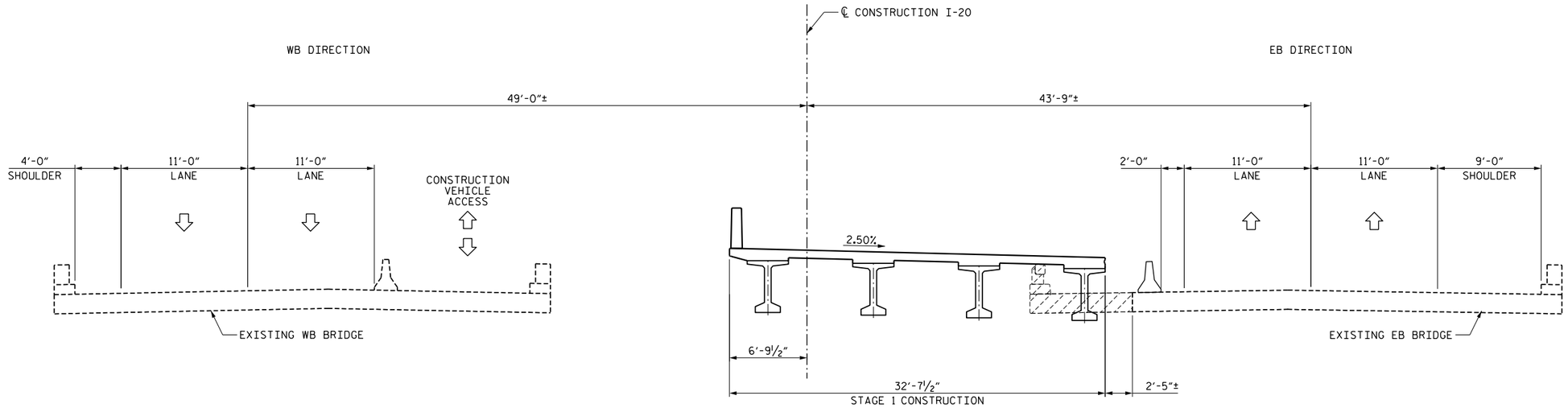
BRIDGE PLAN AND PROFILE

I-20 OVER LUGOFF FARM POND
BRIDGE REPLACEMENT

| COUNTY | ROUTE |
|---|---|
| KERSHAW | I-20 |

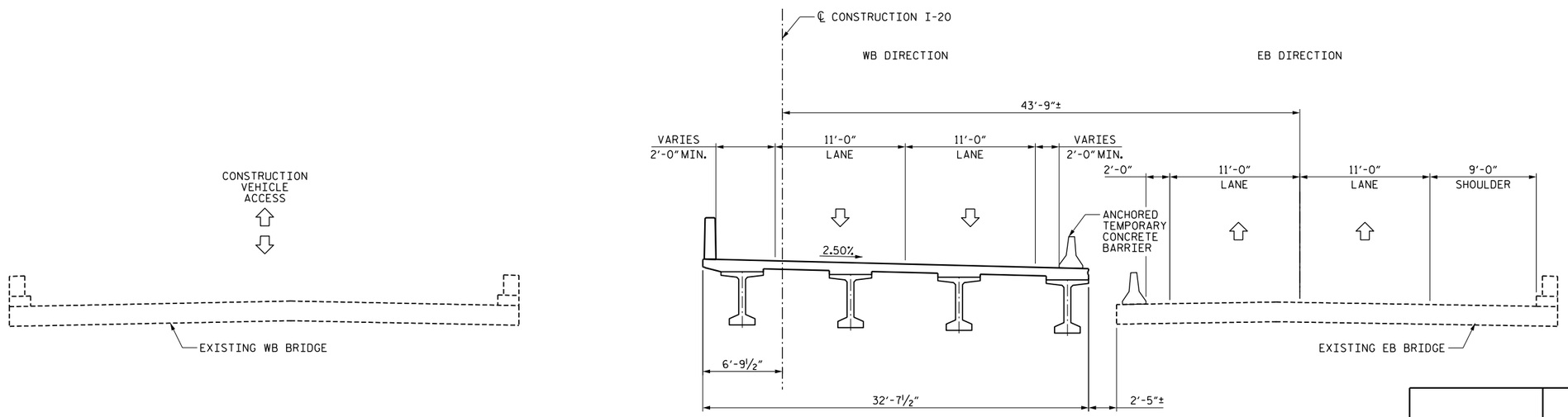
CADD FILE INFORMATION 1:09:37 PM
PLOTTED DATE: 02-08-23
FILE NAME: Pond - Plan and Profile.dgn

| BRIDGE PLANS ID | SHEET NO. |
|---|---|
| 2847360-B02 | 3 |




## STAGE 1

(LOOKING IN DIRECTION OF STATIONING)




## STAGE 2

(LOOKING IN DIRECTION OF STATIONING)

NOTES:

SEE MAINTENANCE OF TRAFFIC PLANS FOR COMPLETE CONSTRUCTION SEQUENCING BETWEEN LUGOFF FARM POND BRIDGE AND WATEREE RIVER BRIDGE.

| | | | |
|---|---|---|---|
| REV. | | | |
| REV. | | | |
| REV. | | | |
| REVIEWED | | | |
| QUAN. | | | |
| DR. | DMC | CAA | 01-23 |
| DES. | EN | TS | 01-23 |

**CONCEPT PLANS**

**NOT FOR CONSTRUCTION**

lane HDR

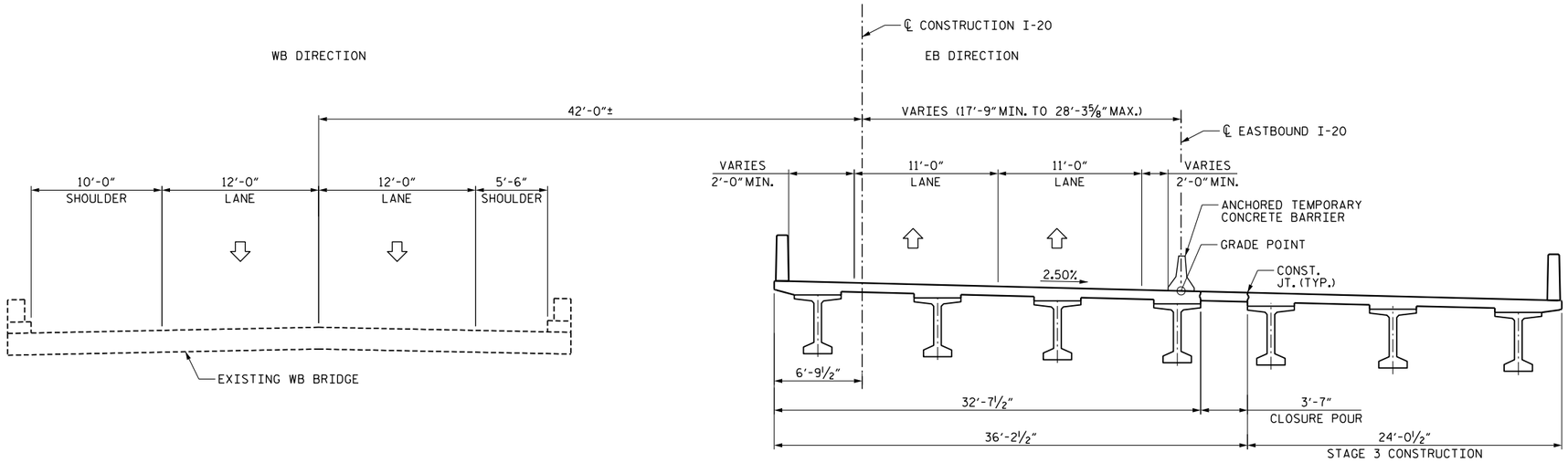
SOUTH CAROLINA
DEPARTMENT OF TRANSPORTATION

CONSTRUCTION SEQUENCE
(1 OF 2)
I-20 OVER LUGOFF FARM POND
BRIDGE REPLACEMENT

| COUNTY | ROUTE |
|---|---|
| KERSHAW | I-20 |

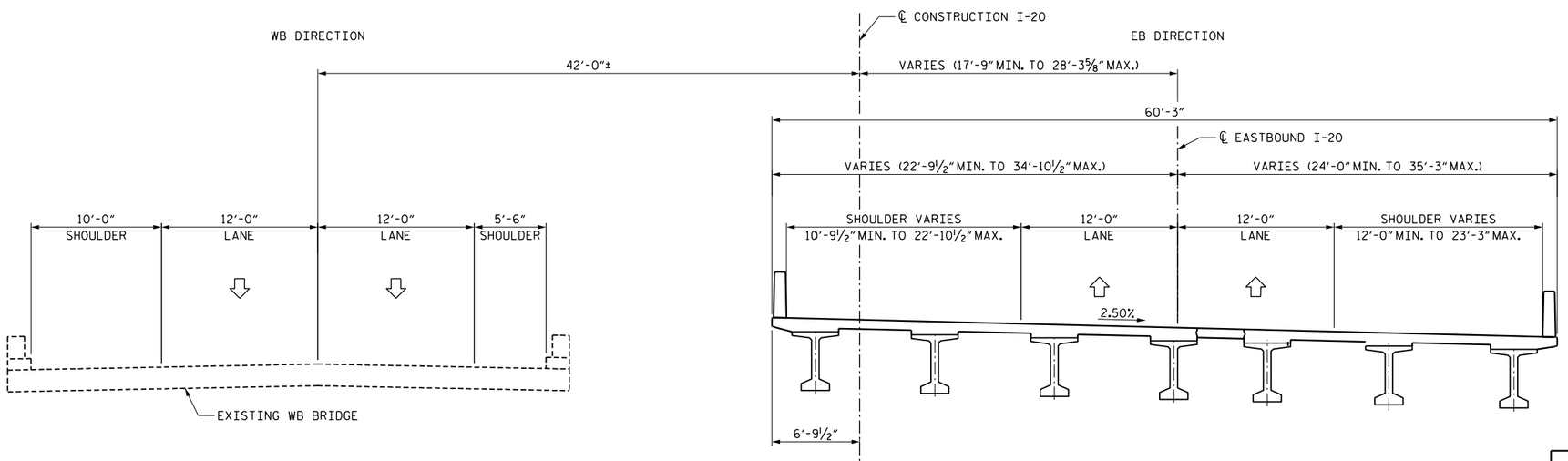
CADD FILE INFORMATION 11:57:16 AM
PLOTTED DATE: 02-08-23
FILE NAME: Pond - Staging.1 of 2.dgn

| BRIDGE PLANS ID | SHEET NO. |
|---|---|
| 2847360-B02 | 4 |




STAGE 3

(LOOKING IN DIRECTION OF STATIONING)




FINAL

(LOOKING IN DIRECTION OF STATIONING)

NOTES:

SEE MAINTENANCE OF TRAFFIC PLANS FOR COMPLETE CONSTRUCTION SEQUENCING BETWEEN LUGOFF FARM POND BRIDGE AND WATEREE RIVER BRIDGE.

| | | | |
|---|---|---|---|
| REV. | | | |
| REV. | | | |
| REV. | | | |
| REVIEWED | | | |
| QUAN. | | | |
| DR. | DMC | CAA | 01-23 |
| DES. | EN | TS | 01-23 |

**CONCEPT PLANS**

**NOT FOR CONSTRUCTION**

lane HDR

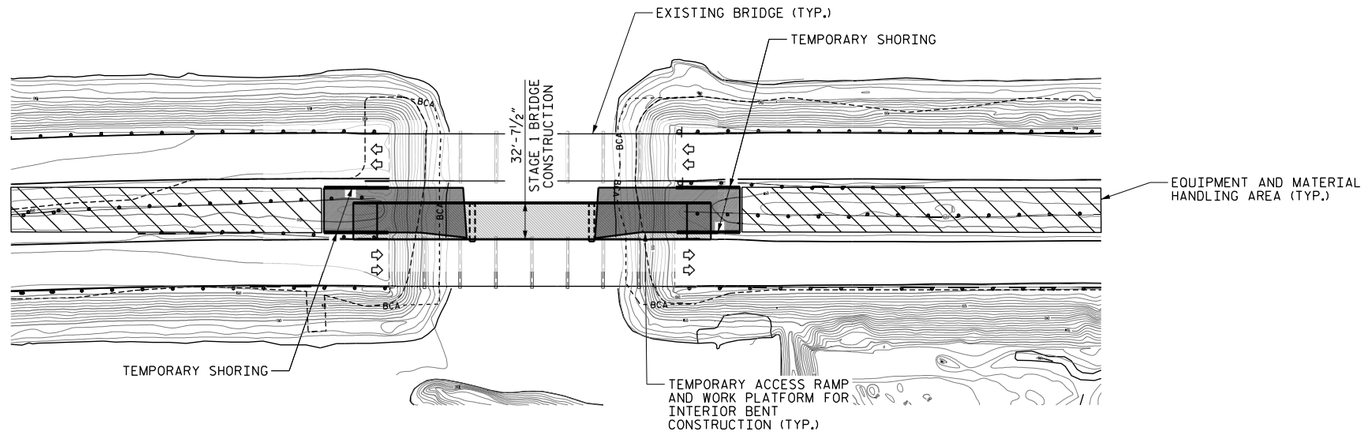
SOUTH CAROLINA
DEPARTMENT OF TRANSPORTATION

CONSTRUCTION SEQUENCE
(2 OF 2)
I-20 OVER LUGOFF FARM POND
BRIDGE REPLACEMENT

| COUNTY | ROUTE |
|---|---|
| KERSHAW | I-20 |

CADD FILE INFORMATION 11:57:22 AM
PLOTTED DATE: 02-08-23
FILE NAME: Pond - Staging_2 of 2.dgn

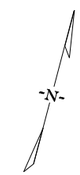
| BRIDGE PLANS ID | SHEET NO. |
|---|---|
| 2847360-B01 | 5 |

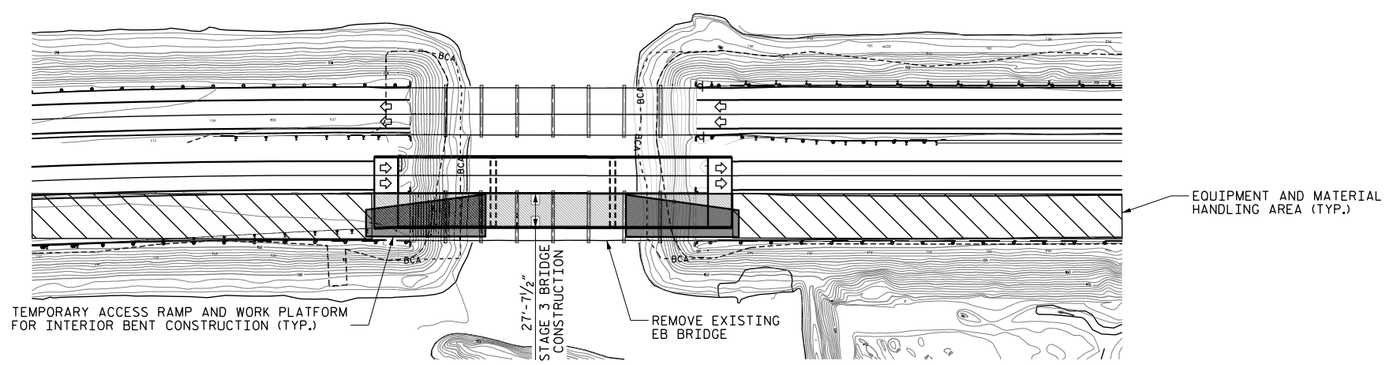



## CONSTRUCTION ACCESS PLAN - STAGE 1

ACCESS TO WORK ZONES WILL BE GAINED PER RFP REQUIREMENTS

**NO CONSTRUCTION AT POND BRIDGE SITE DURING STAGE 2**




## CONSTRUCTION ACCESS PLAN - STAGE 3

ACCESS TO WORK ZONES WILL BE GAINED PER RFP REQUIREMENTS

| | | | |
|---|---|---|---|
| REV. | | | |
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| REVIEWED | | | |
| QUAN. | | | |
| DR. | DMC | CAA | 01-23 |
| DES. | EN | TS | 01-23 |

**CONCEPT PLANS**

**NOT FOR CONSTRUCTION**

lane HDR

SOUTH CAROLINA
DEPARTMENT OF TRANSPORTATION

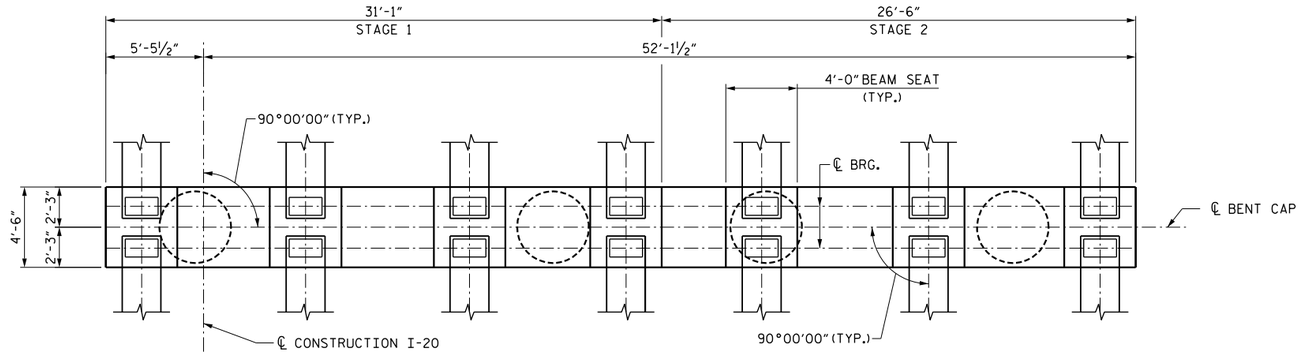
CONSTRUCTION ACCESS PLAN

I-20 OVER LUGOFF FARM POND
BRIDGE REPLACEMENT

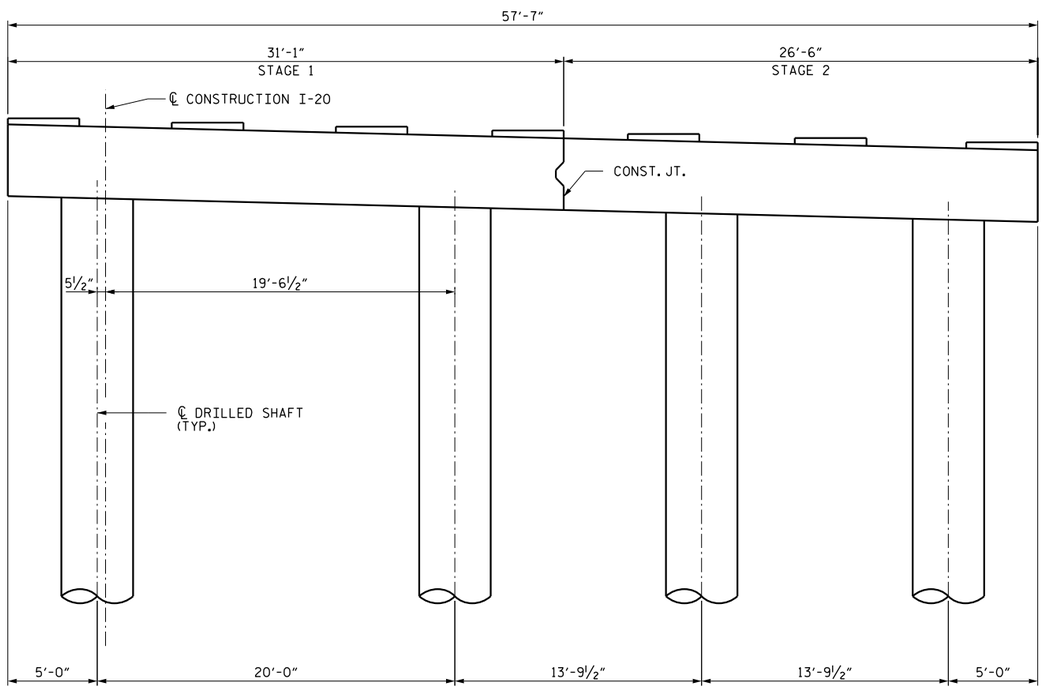
| COUNTY | ROUTE |
|---|---|
| KERSHAW | I-20 |

CADD FILE INFORMATION 11:57:29 AM
PLOTTED DATE: 02-08-23
FILE NAME: Pond - Construction Access Plan.1of 2.dgn

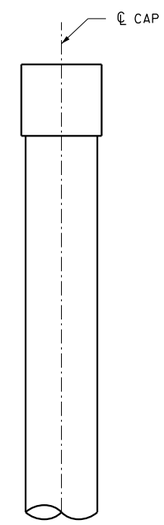
| BRIDGE PLANS ID | SHEET NO. |
|---|---|
| 2847360-B02 | 6 |




PLAN




ELEVATION




END ELEVATION

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| QUAN. | | | |
| DR. | DMC | CAA | 01-23 |
| DES. | EN | TS | 01-23 |

**CONCEPT PLANS**

**NOT FOR CONSTRUCTION**

lane HDR

SOUTH CAROLINA
DEPARTMENT OF TRANSPORTATION

INTERIOR BENT
PLAN AND ELEVATION
I-20 OVER LUGOFF FARM POND
BRIDGE REPLACEMENT

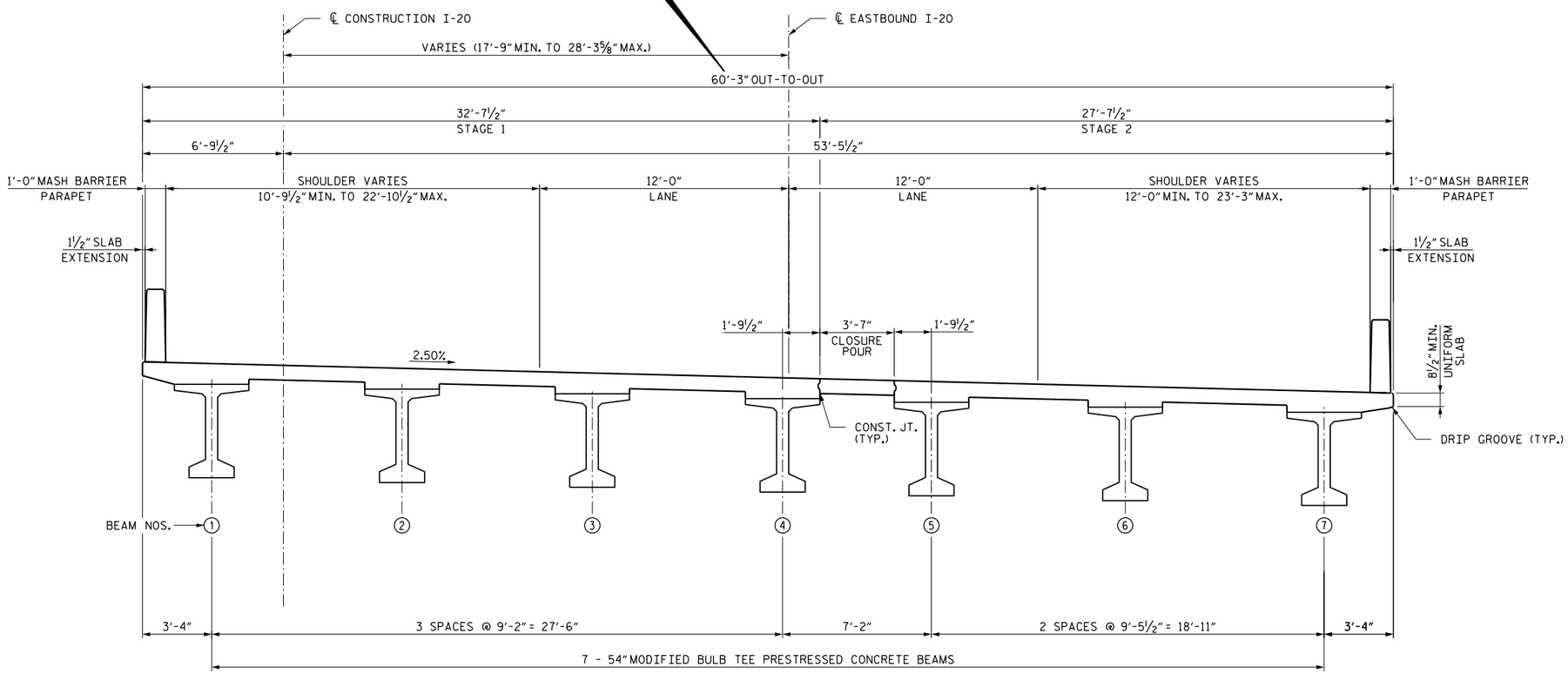
| COUNTY | ROUTE |
|---|---|
| KERSHAW | I-20 |

CADD FILE INFORMATION 11:57:38 AM
PLOTTED DATE: 02-08-23
FILE NAME: Pond - Bent.dgn

| BRIDGE PLANS ID | SHEET NO. |
|---|---|
| 2847360-B02 | 7 |

**VALUE ADDED**

WIDTH OF PROPOSED POND BRIDGE WILL ALLOW FOR FUTURE THIRD LANE WITH NO MODIFICATIONS AND WILL FACILITATE MOT THAT ALLOWS FOR WB POND BRIDGE REPLACEMENT IN A SINGLE STAGE.




## TYPICAL SECTION

LOOKING IN THE DIRECTION OF STATIONING

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FILE NAME: Pond - Typical.dgn

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| REV. | | | |
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| REVIEWED | | | |
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| DR. | DMC | CAA | 01-23 |
| DES. | EN | TS | 01-23 |

**CONCEPT PLANS**

**NOT FOR CONSTRUCTION**

lane HDR

SOUTH CAROLINA
DEPARTMENT OF TRANSPORTATION

TYPICAL SECTION

I-20 OVER LUGOFF FARM POND BRIDGE REPLACEMENT

| COUNTY | ROUTE |
|---|---|
| KERSHAW | I-20 |

| BRIDGE PLANS ID | SHEET NO. |
|---|---|
| 2847360-B03 & B04 | 1 |

## INDEX OF SHEETS



| SHEET NO. | DESCRICPTION | SHEET TOTALS |
|---|---|---|
| 1 | TITLE SHEET | 1 |
| 2 | CONSTRUCTION STAGING AND ACCESS PLAN | 2 |
| | TOTAL | 3 |

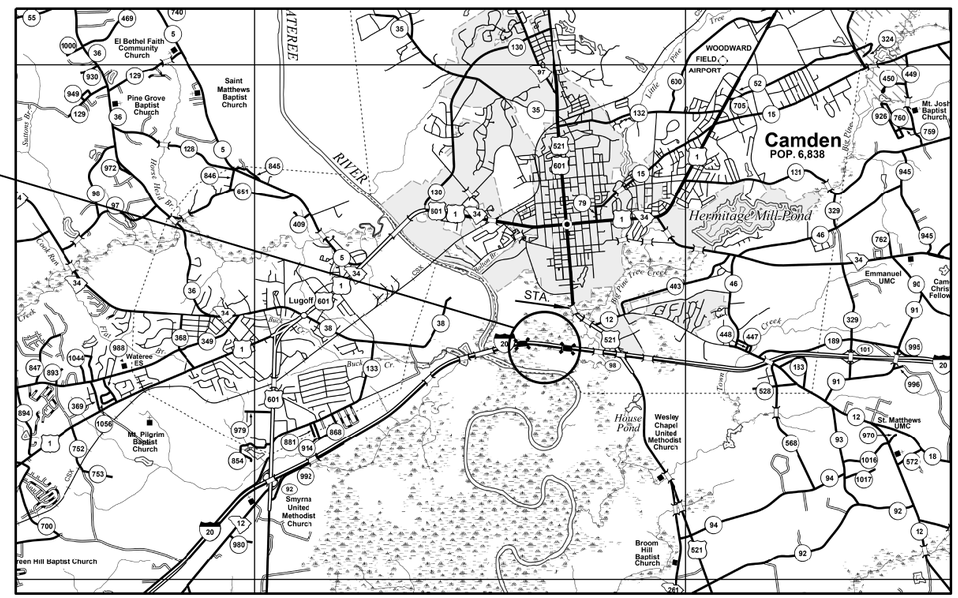


SCDOT
South Carolina Department of Transportation

# PROPOSED PLANS FOR KERSHAW COUNTY CONTRACT ID 2847360 I-20 OVERFLOW BRIDGES

## BRIDGE REHABILITATIONS

SITE LOCATION




LAYOUT
(NOT TO SCALE)

Submit Shop Plans to:

HDR Engineering Inc. of the Carolinas
4400 Leeds Avenue, Suite 450
North Charleston, SC 29405

Telephone: (843) 414-3700

Approximate Locations of Bridges

| | |
|---|---|
| Latitude | 34°- 13' - 10" N |
| Longitude | 80°- 37' - 10" W |
| Latitude | 34°- 13' - 07" N |
| Longitude | 80°- 36' - 26" W |

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 5785, 5780, 5786, & 5781

TRAFFIC DATA

2025 ADT 42,754 V.P.D.

2045 ADT 57,583 V.P.D.

TRUCKS 21 %

| | |
|---|---|
| NET LENGTH OF ROADWAY | 0.553 MILES |
| NET LENGTH OF BRIDGES | 0.336 MILES |
| NET LENGTH OF PROJECT | 0.889 MILES |
| LENGTH OF EXCEPTIONS | 0.000 MILES |
| GROSS LENGTH OF PROJECT | 0.889 MILES |

EQUALITIES IN STATIONING
NONE

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.

PLANS PREPARED BY

lane HDR

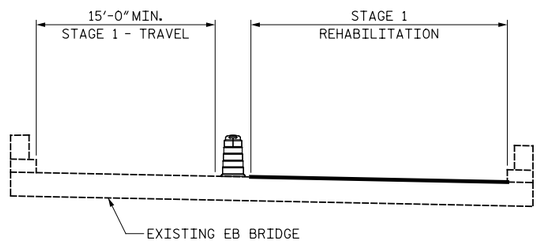
ENGINEER OF RECORD

CONCEPT PLANS

NOT FOR CONSTRUCTION

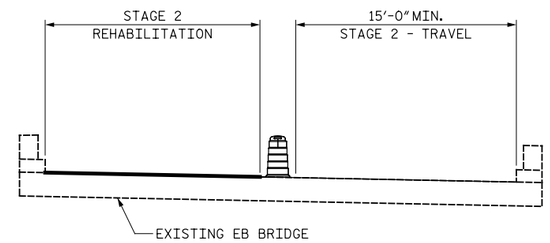
Bridge Rehab - Title.dgn
02-08-23

| BRIDGE PLANS ID | SHEET NO. |
|---|---|
| 2847360-B03 & B04 | 2 |




## CONSTRUCTION SEQUENCE - STAGE 1

EB DIRECTION SHOWN, WB DIRECTION SIMILAR




## CONSTRUCTION SEQUENCE - STAGE 2

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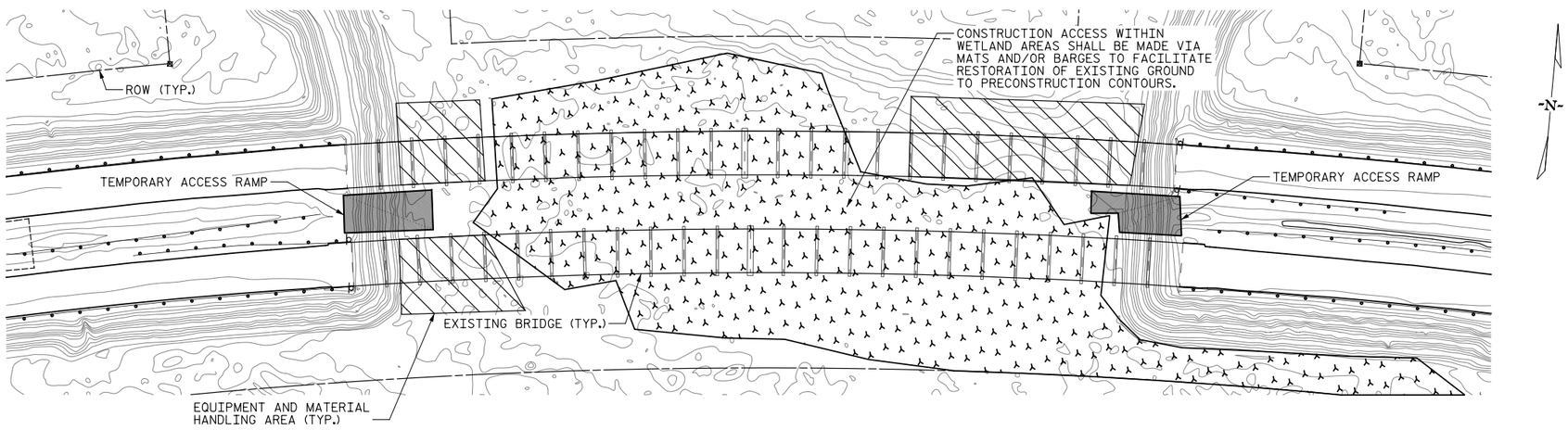



## CONSTRUCTION ACCESS PLAN

ACCESS TO WORK ZONES WILL BE GAINED PER RFP REQUIREMENTS

SEE APPENDIX A.2 FOR MORE INFORMATION REGARDING CONSTRUCTION ACCESS AND MAINTENANCE OF TRAFFIC

CADD FILE INFORMATION 6:10:57 PM
PLOTTED DATE: 02-08-23
FILE NAME: Bridge Rehab - Construction Access Plan_1of 2.dgn

| | | | |
|---|---|---|---|
| REV. | | | |
| REV. | | | |
| REV. | | | |
| REVIEWED | | | |
| QUAN. | | | |
| DR. | DMC | CAA | 01-23 |
| DES. | EN | TS | 01-23 |

**CONCEPT PLANS**

**NOT FOR CONSTRUCTION**

lane HDR

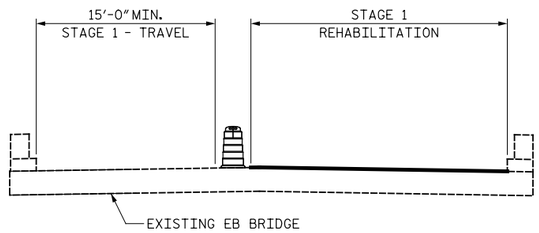
SOUTH CAROLINA
DEPARTMENT OF TRANSPORTATION

CONSTRUCTION STAGING AND ACCESS PLAN (1 OF 2)

**BRIDGE REHABILITATIONS**

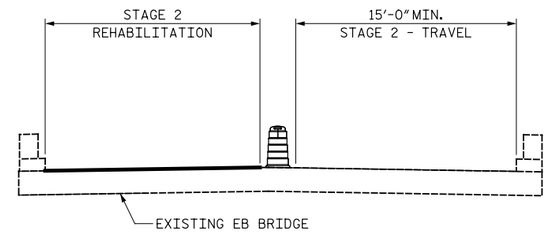
| COUNTY | ROUTE |
|---|---|
| KERSHAW | I-20 |

| BRIDGE PLANS ID | SHEET NO. |
|---|---|
| 2847360-B03 & B04 | 3 |



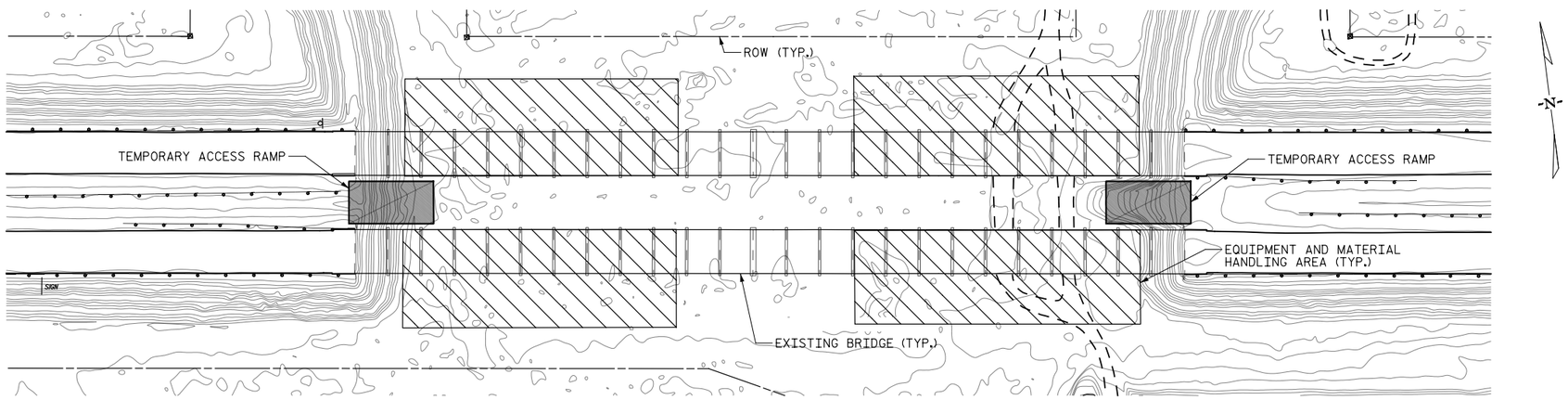

## CONSTRUCTION SEQUENCE - STAGE 1

EB DIRECTION SHOWN, WB DIRECTION SIMILAR




## CONSTRUCTION SEQUENCE - STAGE 2

EB DIRECTION SHOWN, WB DIRECTION SIMILAR




## CONSTRUCTION ACCESS PLAN

ACCESS TO WORK ZONES WILL BE GAINED PER RFP REQUIREMENTS

SEE APPENDIX A.2 FOR MORE INFORMATION REGARDING
CONSTRUCTION ACCESS AND MAINTENANCE OF TRAFFIC

| | | | |
|---|---|---|---|
| REV. | | | |
| REV. | | | |
| REV. | | | |
| REVIEWED | | | |
| QUAN. | | | |
| DR. | DMC | CAA | 01-23 |
| DES. | EN | TS | 01-23 |

**CONCEPT PLANS**

**NOT FOR CONSTRUCTION**

lane HDR

SOUTH CAROLINA
DEPARTMENT OF TRANSPORTATION

CONSTRUCTION STAGING
AND ACCESS PLAN (2 OF 2)

**BRIDGE REHABILITATIONS**

| COUNTY | ROUTE |
|---|---|
| KERSHAW | I-20 |

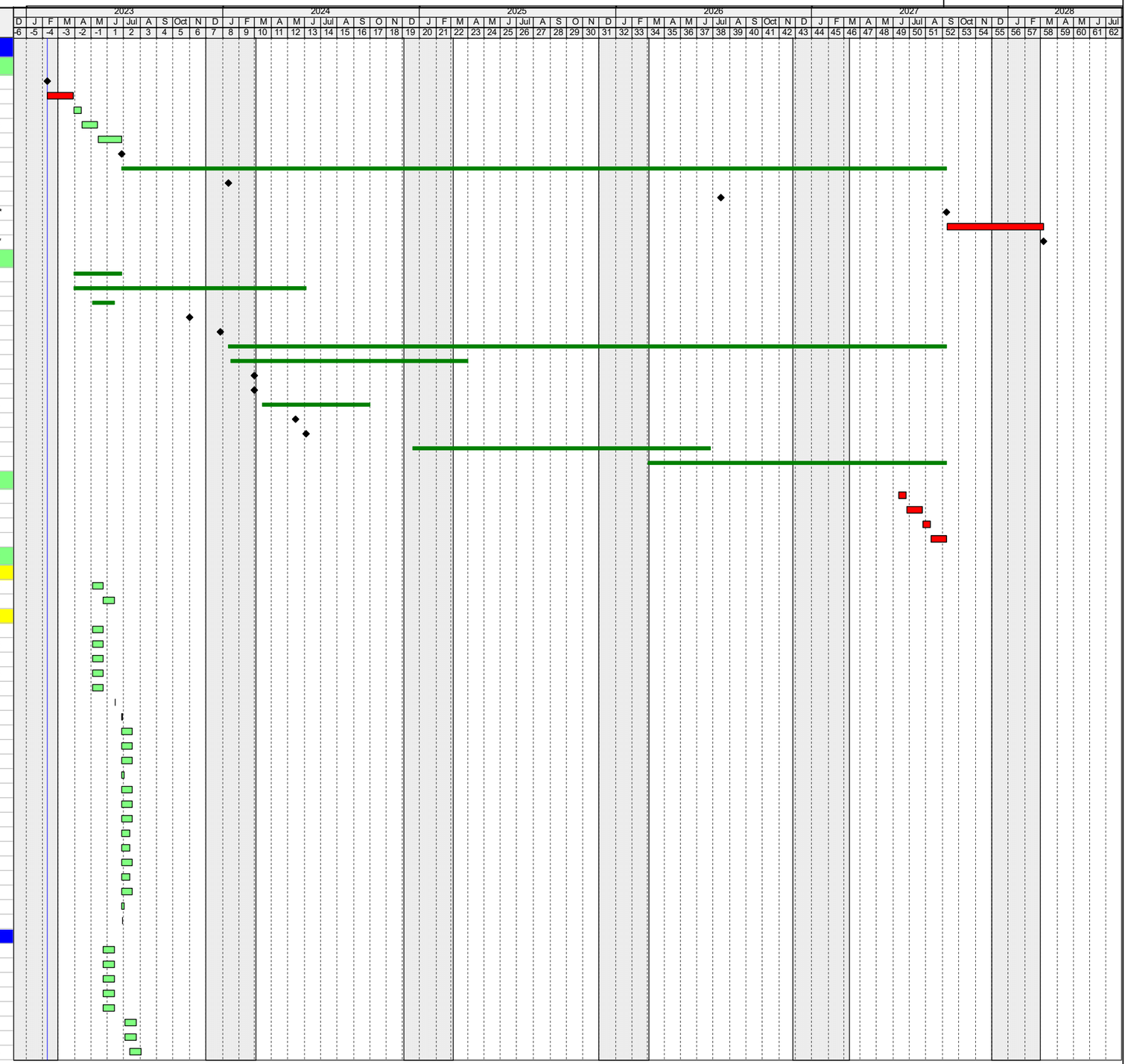
CADD FILE INFORMATION 6:12:43 PM
PLOTTED DATE: 02-08-23
FILE NAME: Bridge Rehab - Construction Access Plan_2 of 2.dgn

# Appendix A.4. - CPM Schedule

# I-20 over Wateree River Bridge Replacement & Swamp Overflow Bridge Rehabilitations Design-Build Project Contract ID 2847360 Kersaw County



| Activity ID | Activity Name | Original Duration | Start | Finish |
|---|---|---|---|---|
| **SCDOT DB Proj Contract ID 2847360 - I-20 over Wateree River Kersaw Co** | | 1272 | 09-Feb-23 | 06-Mar-28 |
| **MILESTONES & ADMINISTRATION** | | 1853 | 09-Feb-23 | 06-Mar-28 |
| M1200 | Technical Proposal Submission (2/09/2023) | 0 | 09-Feb-23 | |
| M1000 | SCDOT Opens Price Proposals & Public Read (3/29/2023) | 49 | 09-Feb-23 | 29-Mar-23 |
| M1010 | SCDOT Approves Proposal / Issues Contract Award (15cd being used after Public Read of Pricing) | 15 | 30-Mar-23 | 13-Apr-23 |
| M1020 | Contract Execution (30cd being used) | 30 | 14-Apr-23 | 13-May-23 |
| M1040 | SCDOT Issues Notice to Proceed (NTP) (up to 45cd max after Contract Execution) | 45 | 14-May-23 | 27-Jun-23 |
| M1500 | ANTICIPATED Notice to Proceed (NTP) | 0 | 28-Jun-23 | |
| M1030 | Project Time to Anticipated Substantial Completion (Contract = 1734cd) | 1534 | 28-Jun-23 | 08-Sep-27 |
| M1505 | Start Construction | 0 | 12-Jan-24 | |
| M1580 | Traffic Fully Shifted off Old River Bridge | 0 | | 16-Jul-26 |
| M1510 | Anticipated Substantial Completion (Contract = 3/26/2028) | 0 | | 08-Sep-27* |
| M1520 | Anticipated Punchlist | 180 | 09-Sep-27 | 06-Mar-28 |
| M1530 | Anticipated Final Project Completion (180 Days From SC) (Contract = 9/22/2028) | 0 | | 06-Mar-28* |
| **Project Overview** | | 1624 | 30-Mar-23 | 08-Sep-27 |
| A1000 | LOE: Public Read to Anticipated NTP | 90 | 30-Mar-23 | 27-Jun-23 |
| A1020 | LOE: Design Duration | 433 | 30-Mar-23 | 04-Jun-24 |
| A1010 | LOE: Prestart Submittals (by Contractor) due for NTP issuance | 42 | 04-May-23 | 14-Jun-23 |
| A1130 | Milestone: RFC - Stage 1A Package | 0 | | 01-Nov-23 |
| A1050 | Milestone: RFC - Rehab Bridge Packages | 0 | | 28-Dec-23 |
| A1070 | LOE: Start Construction to Anticipated Substantial Completion | 1336 | 12-Jan-24 | 08-Sep-27 |
| A1200 | LOE: Construction - Stage 1A & Stage 1 | 441 | 16-Jan-24 | 31-Mar-25 |
| A1030 | Milestone: RFC - Roadway Plan Package | 0 | | 28-Feb-24 |
| A1140 | Milestone: RFC - River Bridge Package (Wateree - Substructure) | 0 | | 28-Feb-24 |
| A1060 | LOE: Procurement (Shop Drawings / Fabrication / Delivery) | 200 | 15-Mar-24 | 30-Sep-24 |
| A1150 | Milestone: RFC - River Bridge Package (Wateree - Superstructure) | 0 | | 16-May-24 |
| A1040 | Milestone: RFC - River Bridge Package (Farm Pond) | 0 | | 04-Jun-24 |
| A1210 | LOE: Construction - Stage 2 | 555 | 19-Dec-24 | 26-Jun-26 |
| A1220 | LOE: Construction - Stage 3 / Final FInishes | 555 | 03-Mar-26 | 08-Sep-27 |
| **POTENTIAL RISKS / CONTINGENCIES** | | 89 | 12-Jun-27 | 08-Sep-27 |
| A1160 | Geotechnical Investigation Contingency | 14 | 12-Jun-27 | 25-Jun-27 |
| A1170 | Seasonal High Water Contingency | 30 | 26-Jun-27 | 25-Jul-27 |
| A1180 | Drilled Shaft Flooding Recovery Contingency | 15 | 26-Jul-27 | 09-Aug-27 |
| A1190 | Review Time for Environmental Permit Contingency | 30 | 10-Aug-27 | 08-Sep-27 |
| **SUBMITTALS** | | 66 | 04-May-23 | 07-Aug-23 |
| **Baseline Schedule Submission** | | 29 | 04-May-23 | 14-Jun-23 |
| S1000 | Prep/Submit Project Baseline Schedule | 20 | 04-May-23 | 23-May-23 |
| S1005 | SCDOT Reviews & Approve Project Baseline Schedule | 15 | 24-May-23 | 14-Jun-23 |
| **Other Admin Prestart Submissions** | | 66 | 04-May-23 | 07-Aug-23 |
| S1010 | Develop & Submit Contract Deliverables Matrix | 20 | 04-May-23 | 23-May-23 |
| S1020 | Develop & Submit Schedule of Values | 20 | 04-May-23 | 23-May-23 |
| S1040 | Develop & Submit Escrow Proposal Documents | 20 | 04-May-23 | 23-May-23 |
| S1150 | Develop & Submit OJT Plan | 20 | 04-May-23 | 23-May-23 |
| S1170 | Develop & Submit DBE Utilization Plan | 20 | 04-May-23 | 23-May-23 |
| S1120 | Pre-Construction Meeting | 1 | 15-Jun-23 | 15-Jun-23 |
| S1130 | Utilities Coordination Meeting | 1 | 28-Jun-23 | 28-Jun-23 |
| S1190 | Develop & Submit Demolition Plan | 20 | 28-Jun-23 | 17-Jul-23 |
| S1210 | Develop & Submit Construction QC Plan | 20 | 28-Jun-23 | 17-Jul-23 |
| S1230 | Develop & Submit Drill Shaft Installation Plan - River Bridge | 20 | 28-Jun-23 | 17-Jul-23 |
| S1250 | Develop & Submit Pile Installation Plan - River Bridge | 5 | 28-Jun-23 | 02-Jul-23 |
| S1270 | Develop & Submit Access Plans - River Bridge | 20 | 28-Jun-23 | 17-Jul-23 |
| S1290 | Develop & Submit Const Access Plans - Pond Bridge | 20 | 28-Jun-23 | 17-Jul-23 |
| S1310 | Develop & Submit Const Access Plans - Outfall Bridges | 20 | 28-Jun-23 | 17-Jul-23 |
| S1330 | Develop & Submit Rdwy Matl Sources | 15 | 28-Jun-23 | 12-Jul-23 |
| S1350 | Develop & Submit Bridge Matl Sources & Shop Dwgs | 15 | 28-Jun-23 | 12-Jul-23 |
| S1370 | Develop & Submit Erection Plan - River Bridge | 20 | 28-Jun-23 | 17-Jul-23 |
| S1390 | Develop & Submit Erection Plan - Pond Bridge | 15 | 28-Jun-23 | 12-Jul-23 |
| S1410 | Develop & Submit Drill Shaft Installation Plan - Pond Bridge | 20 | 28-Jun-23 | 17-Jul-23 |
| S1420 | Develop & Submit Pile Installation Plan - Pond Bridge | 5 | 28-Jun-23 | 02-Jul-23 |
| S1140 | Partnering Meeting | 1 | 29-Jun-23 | 29-Jun-23 |
| **SC DOT Reviews - Prestart Submissions** | | 52 | 24-May-23 | 07-Aug-23 |
| S1050 | SCDOT Reviews & Approve Contract Deliverables Matrix | 15 | 24-May-23 | 14-Jun-23 |
| S1070 | SCDOT Reviews & Approve Schedule of Values | 15 | 24-May-23 | 14-Jun-23 |
| S1110 | SCDOT Reviews & Approve Escrow Proposal Documents | 15 | 24-May-23 | 14-Jun-23 |
| S1160 | SCDOT Review & Approve OJT Plan | 15 | 24-May-23 | 14-Jun-23 |
| S1180 | SCDOT Review & Approve DBE Utilization Plan | 15 | 24-May-23 | 14-Jun-23 |
| S1260 | SCDOT Review & Approve Pile Installation Plan - River Bridge | 15 | 03-Jul-23 | 24-Jul-23 |
| S1440 | SCDOT Review & Approve Pile Installation Plan - Pond Bridge | 15 | 03-Jul-23 | 24-Jul-23 |
| S1340 | SCDOT Review & Approve Rwdy Matl Sources | 15 | 13-Jul-23 | 02-Aug-23 |




Remaining Level of Effort | Remaining Work | ◆ Milestone
Actual Work | Critical Remaining Work

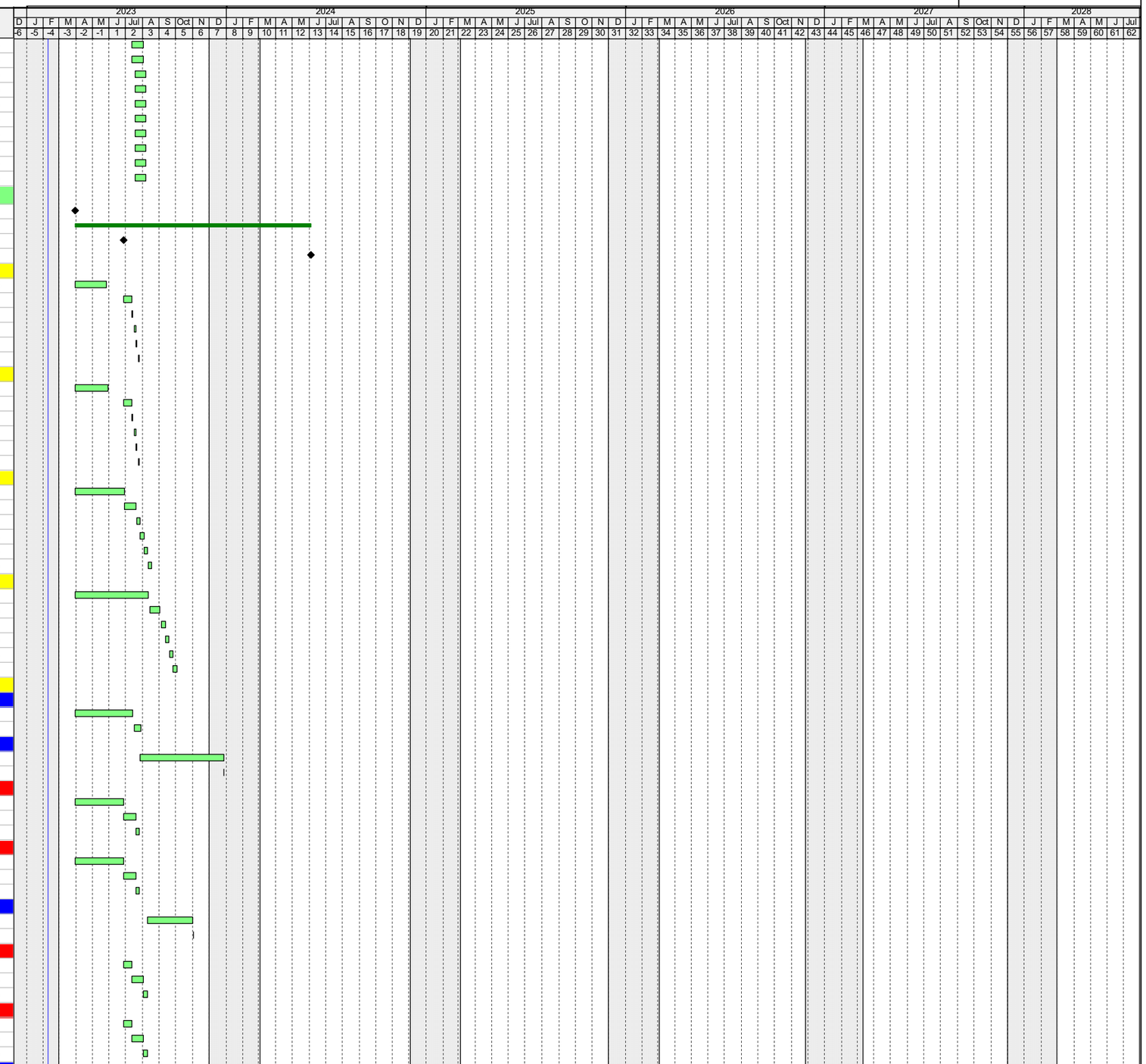
CPM Schedule

lane

# I-20 over Wateree River Bridge Replacement & Swamp Overflow Bridge Rehabilitations Design-Build Project Contract ID 2847360 Kersaw County



| Activity ID | Activity Name | Original Duration | Start | Finish |
|---|---|---|---|---|
| S1360 | SCDOT Review & Approve Bridge Matl Sources & Shop Dwgs | 15 | 13-Jul-23 | 02-Aug-23 |
| S1400 | SCDOT Review & Approve Erection Plan - Pond Bridge | 15 | 13-Jul-23 | 02-Aug-23 |
| S1200 | SCDOT Review & Approve Demolition Plan | 15 | 18-Jul-23 | 07-Aug-23 |
| S1220 | SCDOT Review & Approve Construction QC Plan | 15 | 18-Jul-23 | 07-Aug-23 |
| S1240 | SCDOT Review & Approve Drill Shaft Installation Plan - River Bridge | 15 | 18-Jul-23 | 07-Aug-23 |
| S1280 | SCDOT Review & Approve Access Plan - River Bridge | 15 | 18-Jul-23 | 07-Aug-23 |
| S1300 | SCDOT Review & Approve Const Access Plan - Pond Bridge | 15 | 18-Jul-23 | 07-Aug-23 |
| S1320 | SCDOT Review & Approve Const Access Plan - Outfall Bridges | 15 | 18-Jul-23 | 07-Aug-23 |
| S1380 | SCDOT Review & Approve Erection Plan - River Bridge | 15 | 18-Jul-23 | 07-Aug-23 |
| S1430 | SCDOT Review & Approve Drill Shaft Installation Plan - Pond Bridge | 15 | 18-Jul-23 | 07-Aug-23 |
| **DESIGN** | | 298 | 30-Mar-23 | 04-Jun-24 |
| DESIGN-01 | Design Start | 0 | 30-Mar-23 | |
| DESIGN-02 | Design LOE / Duration | 298 | 30-Mar-23 | 04-Jun-24 |
| DESIGN-03 | Design Initial Submittals for SCDOT Review (after NTP) | 0 | 28-Jun-23 | |
| DESIGN-04 | Design Complete | 0 | | 04-Jun-24 |
| **Design Review Submittal Schedule** | | 82 | 30-Mar-23 | 25-Jul-23 |
| R-ERC-P-1330.01 | Prepare & Submit - Design Submittal Schedule | 42 | 30-Mar-23 | 26-May-23 |
| R-ERC-P-1330.02 | SCDOT Review & Comment - Design Submittal Schedule | 10 | 28-Jun-23 | 12-Jul-23 |
| R-ERC-P-1330.03 | HDR Comment Response & Submit to SCDOT - Design Submittal Schedule | 2 | 13-Jul-23 | 14-Jul-23 |
| R-ERC-P-1330.04 | SCDOT Review & Status Comments - Design Submittal Schedule | 3 | 17-Jul-23 | 19-Jul-23 |
| R-ERC-P-1330.05 | HDR Submit Comment Responses & Revised Schedule to SCDOT - Design Submittal Schedule | 2 | 20-Jul-23 | 21-Jul-23 |
| R-ERC-P-1330.06 | SCDOT Review & Status Comments - Approved - Design Submittal Schedule | 2 | 24-Jul-23 | 25-Jul-23 |
| **Design Quality Control Plan** | | 82 | 30-Mar-23 | 25-Jul-23 |
| R-ERC-P-1355.01 | Prepare & Submit - Design Quality Control Plan | 43 | 30-Mar-23 | 30-May-23 |
| R-ERC-P-1355.02 | SCDOT Review & Comment - Design Quality Control Plan | 10 | 28-Jun-23 | 12-Jul-23 |
| R-ERC-P-1355.03 | HDR Comment Response & Submit to SCDOT - Design Quality Control Plan | 2 | 13-Jul-23 | 14-Jul-23 |
| R-ERC-P-1355.04 | SCDOT Review & Status Comments - Design Quality Control Plan | 3 | 17-Jul-23 | 19-Jul-23 |
| R-ERC-P-1355.05 | HDR Submit Comment Responses & Revised Schedule to SCDOT - Design Quality Control Plan | 2 | 20-Jul-23 | 21-Jul-23 |
| R-ERC-P-1335.06 | SCDOT Review & Status Comments - Approved - Design Quality Control Plan | 2 | 24-Jul-23 | 25-Jul-23 |
| **Transportation Management Plan** | | 99 | 30-Mar-23 | 17-Aug-23 |
| R-ERC-P-1380.01 | Prepare & Submit - Transportation Mgmt Plan | 64 | 30-Mar-23 | 28-Jun-23 |
| R-ERC-P-1380.02 | SCDOT Review & Comment - Transportation Mgmt Plan | 15 | 29-Jun-23 | 20-Jul-23 |
| R-ERC-P-1380.03 | HDR Comment Response & Submit to SCDOT - Transportation Mgmt Plan | 5 | 21-Jul-23 | 27-Jul-23 |
| R-ERC-P-1380.04 | SCDOT Review & Status Comments - Transportation Mgmt Plan | 5 | 28-Jul-23 | 03-Aug-23 |
| R-ERC-P-1380.05 | HDR Submit Comment Responses & Revised Schedule to SCDOT - Transportation Mgmt Plan | 5 | 04-Aug-23 | 10-Aug-23 |
| R-ERC-P-1380.06 | SCDOT Review & Status Comments - Approved - Transportation Mgmt Plan | 5 | 11-Aug-23 | 17-Aug-23 |
| **Community & Public Relations Plan** | | 130 | 30-Mar-23 | 02-Oct-23 |
| R-ERC-P-3603.01 | Prepare & Submit - Community & Public Relations Plan | 95 | 30-Mar-23 | 11-Aug-23 |
| R-ERC-P-3603.02 | SCDOT Review & Comment - Community & Public Relations Plan | 15 | 14-Aug-23 | 01-Sep-23 |
| R-ERC-P-3603.03 | HDR Comment Response & Submit to SCDOT - Community & Public Relations Plan | 5 | 05-Sep-23 | 11-Sep-23 |
| R-ERC-P-3603.04 | SCDOT Review & Status Comments - Community & Public Relations Plan | 5 | 12-Sep-23 | 18-Sep-23 |
| R-ERC-P-3603.05 | HDR Submit Comment Responses & Revised Schedule to SCDOT - Community & Public Relations Plan | 5 | 19-Sep-23 | 25-Sep-23 |
| R-ERC-P-3603.06 | SCDOT Review & Status Comments - Approved - Community & Public Relations Plan | 5 | 26-Sep-23 | 02-Oct-23 |
| **Environmental** | | 236 | 30-Mar-23 | 07-Mar-24 |
| **Environmental - NEPA Reevaluation** | | 85 | 30-Mar-23 | 28-Jul-23 |
| R-ERC-P-1480.01 | Prepare & Submit - NEPA Reevaluation Permit Package | 75 | 30-Mar-23 | 14-Jul-23 |
| R-ERC-P-1480.02 | SCDOT Review & Comment - NEPA Reevaluation Permit Package | 10 | 17-Jul-23 | 28-Jul-23 |
| **Environmental - Regional General Permit Package - River Bridge** | | 189 | 30-Mar-23 | 28-Dec-23 |
| PER-1015.01 | USACE Permit Review - River Bridges (Regional General Permit Package) | 105 | 27-Jul-23 | 27-Dec-23 |
| PER-1015.02 | Receive USACE Approval - River Bridges (Regional General Permit Package) | 1 | 28-Dec-23 | 28-Dec-23 |
| **Environmental - Regional General Permit Package - River Bridge - Permit Drawings** | | 83 | 30-Mar-23 | 26-Jul-23 |
| PER-1015a.01 | Prepare & Submit - USACE Permit - River Bridges (Permit Drawings) | 63 | 30-Mar-23 | 27-Jun-23 |
| PER-1015a.02 | SCDOT Review & Comment - USACE Permit - River Bridges (Permit Drawings) | 15 | 28-Jun-23 | 19-Jul-23 |
| PER-1015a.03 | HDR Comment Response to SCDOT & Submit to USACE - USACE Permit - River Bridges (Permit Drawings) | 5 | 20-Jul-23 | 26-Jul-23 |
| **Environmental - Regional General Permit Package - River Bridge - Mitigation Plan** | | 83 | 30-Mar-23 | 26-Jul-23 |
| PER-1015b.01 | Prepare & Submit - USACE Permit - River Bridges (Mitigation Plan) | 63 | 30-Mar-23 | 27-Jun-23 |
| PER-1015b.02 | SCDOT Review & Comment - USACE Permit - River Bridges (Mitigation Plan) | 15 | 28-Jun-23 | 19-Jul-23 |
| PER-1015b.03 | HDR Comment Response to SCDOT & Submit to USACE - USACE Permit - River Bridges (Mitigation Plan) | 5 | 20-Jul-23 | 26-Jul-23 |
| **Environmental - Nationwide 3 Permit Package - Bridge Rehab** | | 89 | 28-Jun-23 | 02-Nov-23 |
| PER-1012.01 | USACE Permit Review - Rehab Bridges (Nationwide 3 Permit Package) | 58 | 10-Aug-23 | 01-Nov-23 |
| PER-1012.02 | Receive USACE Approval - Rehab Bridges (Nationwide 3 Permit Package) | 1 | 02-Nov-23 | 02-Nov-23 |
| **Environmental - Nationwide 3 Permit Package - Bridge Rehab - Permit Drawings** | | 30 | 28-Jun-23 | 09-Aug-23 |
| PER-1012a.01 | Prepare & Submit - USACE Permit - Rehab Bridges (Permit Drawings) | 10 | 28-Jun-23 | 12-Jul-23 |
| PER-1012a.02 | SCDOT Review & Comment - USACE Permit - Rehab Bridges (Permit Drawings) | 15 | 13-Jul-23 | 02-Aug-23 |
| PER-1012a.03 | HDR Comment Response to SCDOT & Submit to USACE - USACE Permit - Rehab Bridges (Permit Drawings) | 5 | 03-Aug-23 | 09-Aug-23 |
| **Environmental - Nationwide 3 Permit Package - Bridge Rehab - Mitigation Plan** | | 30 | 28-Jun-23 | 09-Aug-23 |
| PER-1012b.01 | Prepare & Submit - USACE Permit - Rehab Bridges (Mitigation Plan) | 10 | 28-Jun-23 | 12-Jul-23 |
| PER-1012b.02 | SCDOT Review & Comment - USACE Permit - Rehab Bridges (Mitigation Plan) | 15 | 13-Jul-23 | 02-Aug-23 |
| PER-1012b.03 | HDR Comment Response to SCDOT & Submit to USACE - USACE Permit - Rehab Bridges (Mitigation Plan) | 5 | 03-Aug-23 | 09-Aug-23 |
| **Environmental - SCDHEC Land Disturbance Package** | | 113 | 22-Sep-23 | 07-Mar-24 |




Remaining Level of Effort
Remaining Work
Milestone
Actual Work
Critical Remaining Work

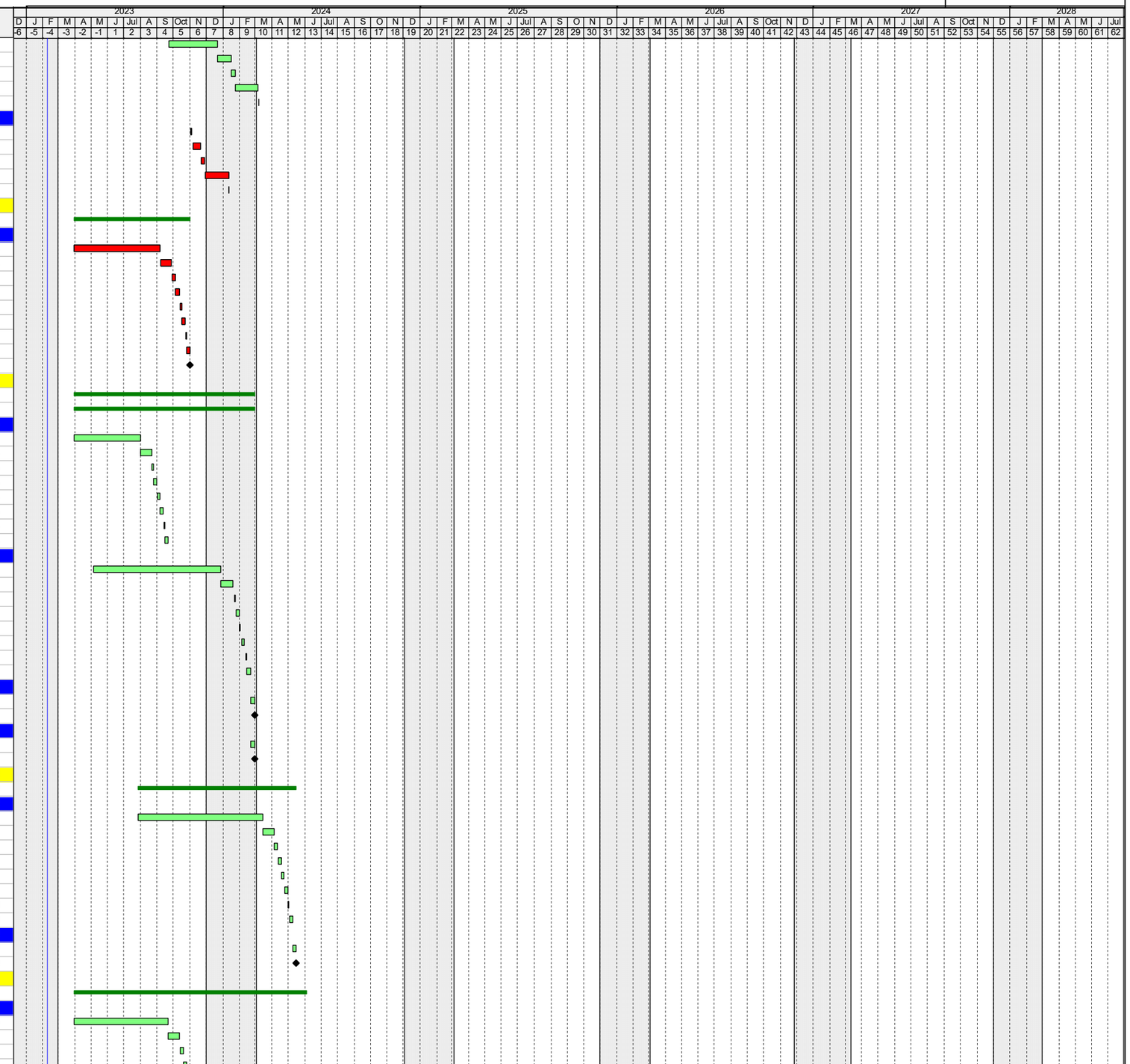
CPM Schedule

lane

# I-20 over Wateree River Bridge Replacement & Swamp Overflow Bridge Rehabilitations Design-Build Project Contract ID 2847360 Kersaw County



| Activity ID | Activity Name | Original Duration | Start | Finish |
|---|---|---|---|---|
| R-ERC-P-1555.01 | Prepare & Submit NOI Application & SWPPP - SCDHEC Land Disturbance Package | 62 | 22-Sep-23 | 21-Dec-23 |
| R-ERC-P-1555.02 | SCDOT Review & Comment - SCDHEC Land Disturbance Package | 15 | 22-Dec-23 | 16-Jan-24 |
| R-ERC-P-1555.03 | HDR Comment Response to SCDOT & Submit to SCDEHC - Land Disturbance Package | 5 | 17-Jan-24 | 23-Jan-24 |
| R-ERC-P-1555.04 | SDHEC Review - Land Disturbance Package | 30 | 24-Jan-24 | 06-Mar-24 |
| R-ERC-P-1555.05 | Receive SCDEHC Approval - Land Disturbance Package | 1 | 07-Mar-24 | 07-Mar-24 |
| **Environmental - SCDHEC Land Disturbance Package - Stage 1a Construction Access / TCP** | | **48** | **02-Nov-23** | **12-Jan-24** |
| R-ERC-P-1555.5 | Prepare & Submit - SCDEHC Land Disturbance Package - Stage 1a Constr Access / TCP | 2 | 02-Nov-23 | 03-Nov-23 |
| R-ERC-P-1555.15 | SCDOT Review & Comment - SCDHEC Land Disturbance Package | 10 | 06-Nov-23 | 20-Nov-23 |
| R-ERC-P-1555.25 | HDR Comment Response to SCDOT & Submit to SCDEHC - Land Disturbance Package - Stage 1a Constr Acces | 5 | 21-Nov-23 | 28-Nov-23 |
| R-ERC-P-1555.35 | SDHEC Review - Land Disturbance Package - Stage 1a Constr Access / TCP | 30 | 29-Nov-23 | 11-Jan-24 |
| R-ERC-P-1555.45 | Receive SCDEHC Approval - Land Disturbance Package - Stage 1a Constr Access / TCP | 1 | 12-Jan-24 | 12-Jan-24 |
| **Stage 1A Construction Access / TCP Package** | | **151** | **30-Mar-23** | **01-Nov-23** |
| D-Rd-5 | LOE: Design - Stage 1A Construction Access / TCP Package | 151 | 30-Mar-23 | 01-Nov-23 |
| **Stage 1A Construction Access / TCP Package** | | **151** | **30-Mar-23** | **01-Nov-23** |
| R-P-1010.8 | Prepare & Submit - Stage 1A Construction Access / TCP Package | 112 | 30-Mar-23 | 06-Sep-23 |
| R-P-1010.18 | SCDOT Review & Comment - Stage 1A Construction Access / TCP Package | 15 | 07-Sep-23 | 27-Sep-23 |
| R-P-1010.28 | HDR Comment Response & Submit to SCDOT - Stage 1A Construction Access / TCP Package | 5 | 28-Sep-23 | 04-Oct-23 |
| R-P-1010.38 | SCDOT Review & Status Comments - Stage 1A Construction Access / TCP Package | 5 | 05-Oct-23 | 12-Oct-23 |
| R-P-1010.48 | HDR Comment Responses & Resubmit to SCDOT - R01 - Stage 1A Construction Access / TCP Package) | 2 | 13-Oct-23 | 16-Oct-23 |
| R-P-1010.58 | SCDOT Review & Status Comments - R01 - Stage 1A Construction Access / TCP Package | 5 | 17-Oct-23 | 23-Oct-23 |
| R-P-1010.68 | HDR Comment Responses & Resubmit to SCDOT - R02 - Stage 1A Construction Access / TCP Package | 2 | 24-Oct-23 | 25-Oct-23 |
| R-P-1010.78 | SCDOT Review & Status - Approved as Noted - R02 - Stage 1A Construction Access / TCP Package | 5 | 26-Oct-23 | 01-Nov-23 |
| R-P-1036.01 | RFC Package - Stage 1A Construction Access / TCP Package | 0 | | 01-Nov-23 |
| **I-20 over Wateree River - Roadway & Bridge (Substructure) Packages** | | **230** | **30-Mar-23** | **28-Feb-24** |
| D-Rd-01 | LOE: Design - Roadway Plans Package | 230 | 30-Mar-23 | 28-Feb-24 |
| D-BR-01 | LOE: Design - I-20 over Wateree Bridge (Substructure) Plans Package | 230 | 30-Mar-23 | 28-Feb-24 |
| **I-20 over Wateree River - Preliminary - Roadway & Bridge (Substructure) Package** | | **123** | **30-Mar-23** | **21-Sep-23** |
| R-P-1010.01 | Prepare & Submit - Roadway & River Bridge (Substructure) Plans (Prelim) | 86 | 30-Mar-23 | 31-Jul-23 |
| R-P-1010.02 | SCDOT Review & Comment - Roadway & River Bridge (Substructure) Plans (Prelim) | 15 | 01-Aug-23 | 21-Aug-23 |
| R-P-1010.03 | HDR Comment Response & Submit to SCDOT - Roadway & River Bridge (Substructure) Plans (Prelim) | 3 | 22-Aug-23 | 24-Aug-23 |
| R-P-1010.04 | SCDOT Review & Status Comments - Roadway & River Bridge (Substructure) Plans (Prelim) | 5 | 25-Aug-23 | 31-Aug-23 |
| R-P-1010.05 | HDR Comment Responses & Resubmit to SCDOT - R01 - Roadway & River Bridge (Substructure) Plans (Prelim) | 2 | 01-Sep-23 | 05-Sep-23 |
| R-P-1010.06 | SCDOT Review & Status Comments - R01 - Roadway & River Bridge (Substructure) Plans (Prelim) | 5 | 06-Sep-23 | 12-Sep-23 |
| R-P-1010.07 | HDR Comment Responses & Resubmit to SCDOT - R02 - Roadway & River Bridge (Substructure) Plans (Prelim) | 2 | 13-Sep-23 | 14-Sep-23 |
| R-P-1010.08 | SCDOT Review & Status - Approved as Noted - R02 - Roadway & River Bridge (Substructure) Plans (Prelim) | 5 | 15-Sep-23 | 21-Sep-23 |
| **I-20 over Wateree River - Final - Roadway & Bridge (Substructure) Packages** | | **199** | **05-May-23** | **21-Feb-24** |
| R-P-1023.01 | Prepare & Submit - Roadway & River Bridge (Substructure) Plans (Final) | 162 | 05-May-23 | 27-Dec-23 |
| R-P-1023.02 | SCDOT Review & Comment - Roadway & River Bridge (Substructure) Plans (Final) | 15 | 28-Dec-23 | 19-Jan-24 |
| R-P-1023.03 | HDR Comment Response & Submit to SCDOT - Roadway & River Bridge (Substructure) Plans (Final) | 3 | 22-Jan-24 | 24-Jan-24 |
| R-P-1023.04 | SCDOT Review & Status Comments - Roadway & River Bridge (Substructure) Plans (Final) | 5 | 25-Jan-24 | 31-Jan-24 |
| R-P-1023.05 | HDR Submit Comment Responses & Verification Plans to SCDOT - R01 - Roadway & River Bridge (Substructure) | 2 | 01-Feb-24 | 02-Feb-24 |
| R-P-1023.06 | SCDOT Review & Status Comments - R01 - Roadway & River Bridge (Substructure) Plans (Final) | 5 | 05-Feb-24 | 09-Feb-24 |
| R-P-1023.07 | HDR Comment Responses & Resubmit to SCDOT - R02 - Roadway & River Bridge (Substructure) Plans (Final) | 2 | 12-Feb-24 | 13-Feb-24 |
| R-P-1023.08 | SCDOT Review & Status - Approved as Noted - R02 - Roadway & River Bridge (Substructure) Plans (Final) | 5 | 14-Feb-24 | 21-Feb-24 |
| **I-20 over Wateree River - RFC - Roadway Plans Package** | | **5** | **22-Feb-24** | **28-Feb-24** |
| R-P-1026 | Sign & Submit RFC - Roadway Plan Package | 5 | 22-Feb-24 | 28-Feb-24 |
| D-Rd-25 | RFC Package - Roadway Plan Package | 0 | | 28-Feb-24 |
| **I-20 over Wateree River - RFC - Bridge (Substructure) Plans Package** | | **5** | **22-Feb-24** | **28-Feb-24** |
| BR-1044 | Sign & Submit RFC - I-20 over Wateree River Bridge (Substructure) Plans Package | 5 | 22-Feb-24 | 28-Feb-24 |
| D-BR-22 | RFC Package - I-20 over Wateree River Bridge (Substructure) Plans Package | 0 | | 28-Feb-24 |
| **I-20 over Wateree River - Bridge (Superstructure) Package** | | **203** | **27-Jul-23** | **16-May-24** |
| D-BR-02 | LOE: Design - I-20 over Wateree River Bridge (Superstructure) Plans Package | 203 | 27-Jul-23 | 16-May-24 |
| **I-20 over Wateree River - Final - Bridge (Superstructure) Package** | | **198** | **27-Jul-23** | **09-May-24** |
| BR-1032.8 | Prepare & Submit - I-20 over Wateree River Bridge (Superstructure) Plans (Final) | 158 | 27-Jul-23 | 14-Mar-24 |
| BR-1032.18 | SCDOT Review & Comment - I-20 over Wateree River Bridge (Superstructure) Plans (Final) | 15 | 15-Mar-24 | 04-Apr-24 |
| BR-1032.28 | HDR Comment Response & Submit to SCDOT - I-20 over Wateree River Bridge (Superstructure) Plans (Final) | 5 | 05-Apr-24 | 11-Apr-24 |
| BR-1032.38 | SCDOT Review & Status Comments - I-20 over Wateree River Bridge (Superstructure) Plans (Final) | 5 | 12-Apr-24 | 18-Apr-24 |
| BR-1032.48 | HDR Submit Comment Responses & Verification Plans to SCDOT - R01 - I-20 over Wateree River Bridge (Supers | 3 | 19-Apr-24 | 23-Apr-24 |
| BR-1032.58 | SCDOT Review & Status Comments - R01 - I-20 over Wateree River Bridge (Superstructure) Plans (Final) | 5 | 24-Apr-24 | 30-Apr-24 |
| BR-1032.68 | HDR Comment Responses & Resubmit to SCDOT - R02 - I-20 over Wateree River Bridge (Superstructure) Plans | 2 | 01-May-24 | 02-May-24 |
| BR-1032.78 | SCDOT Review & Status - Approved as Noted - R02 - I-20 over Wateree River Bridge (Superstructure) Plans (Fin | 5 | 03-May-24 | 09-May-24 |
| **I-20 over Wateree River - RFC - Bridge (Superstructure) Package** | | **5** | **10-May-24** | **16-May-24** |
| BR-1072 | Sign & Submit RFC - I-20 over Wateree River Bridge (Superstructure) Plans Package | 5 | 10-May-24 | 16-May-24 |
| D-BR-05 | RFC Package -I-20 over Wateree River Bridge (Superstructure) Plans Package | 0 | | 16-May-24 |
| **I-20 EB over Farm Pond - Bridge Plans Package** | | **298** | **30-Mar-23** | **04-Jun-24** |
| D-BR-06 | LOE: Design - I-20 EB over Farm Pond Bridge Plans Package | 298 | 30-Mar-23 | 04-Jun-24 |
| **I-20 EB over Farm Pond - Preliminary - Bridge Plans Package** | | **161** | **30-Mar-23** | **16-Nov-23** |
| BR-1056.01 | Prepare & Submit - I-20 EB over Farm Pond Bridge Plans Package (Prelim) | 122 | 30-Mar-23 | 20-Sep-23 |
| BR-1056.02 | SCDOT Review & Comment - I-20 EB over Farm Pond Bridge Plans Package (Prelim) | 15 | 21-Sep-23 | 12-Oct-23 |
| BR-1056.03 | HDR Comment Response & Submit to SCDOT - I-20 EB over Farm Pond Bridge Plans Package (Prelim) | 5 | 13-Oct-23 | 19-Oct-23 |
| BR-1056.04 | SCDOT Review & Status Comments - I-20 EB over Farm Pond Bridge Plans Package (Prelim) | 5 | 20-Oct-23 | 26-Oct-23 |




Remaining Level of Effort
Remaining Work
Milestone
Actual Work
Critical Remaining Work

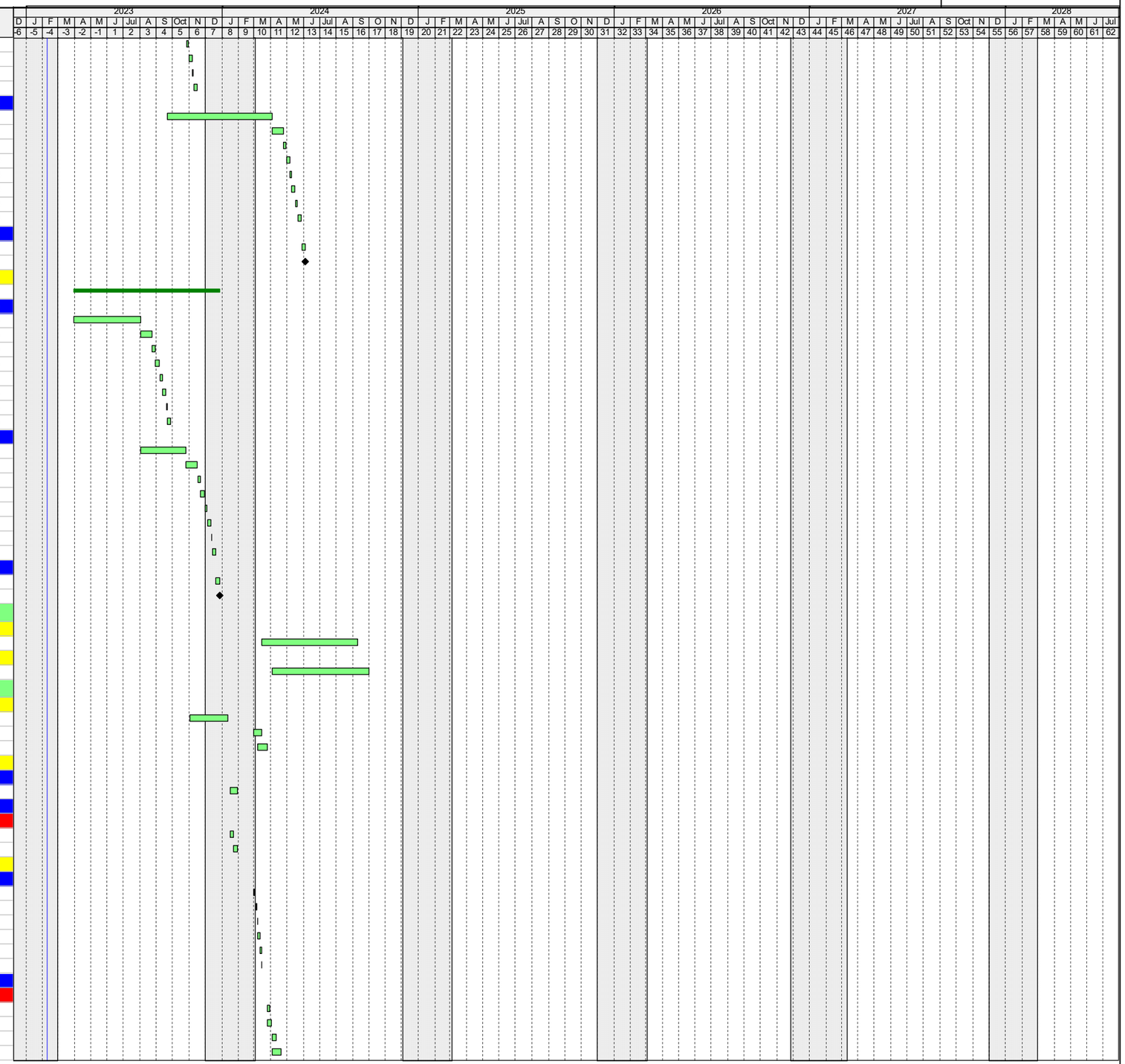
CPM Schedule

lane

# I-20 over Wateree River Bridge Replacement & Swamp Overflow Bridge Rehabilitations Design-Build Project Contract ID 2847360 Kersaw County



| Activity ID | Activity Name | Original Duration | Start | Finish |
|---|---|---|---|---|
| BR-1056.05 | HDR Comment Responses & Resubmit to SCDOT - R01 - I-20 EB over Farm Pond Bridge Plans Package (Prelim | 2 | 27-Oct-23 | 30-Oct-23 |
| BR-1056.06 | SCDOT Review & Status Comments - R01 - I-20 EB over Farm Pond Bridge Plans Package (Prelim) | 5 | 31-Oct-23 | 06-Nov-23 |
| BR-1056.07 | HDR Comment Responses & Resubmit to SCDOT - R02 - I-20 EB over Farm Pond Bridge Plans Package (Prelim | 2 | 07-Nov-23 | 08-Nov-23 |
| BR-1056.08 | SCDOT Review & Status - Approved as Noted - R02 - I-20 EB over Farm Pond Bridge Plans Package (Prelim) | 5 | 09-Nov-23 | 16-Nov-23 |
| **I-20 EB over Farm Pond - Final - Bridge Plans Package** | | 171 | 21-Sep-23 | 28-May-24 |
| BR-1059.01 | Prepare & Submit - I-20 EB over Farm Pond Bridge Plans Package (Final) | 133 | 21-Sep-23 | 03-Apr-24 |
| BR-1059.02 | SCDOT Review & Comment - I-20 EB over Farm Pond Bridge Plans Package (Final) | 15 | 04-Apr-24 | 24-Apr-24 |
| BR-1059.03 | HDR Comment Response & Submit to SCDOT - I-20 EB over Farm Pond Bridge Plans Package (Final) | 3 | 25-Apr-24 | 29-Apr-24 |
| BR-1059.04 | SCDOT Review & Status Comments - I-20 EB over Farm Pond Bridge Plans Package (Final) | 5 | 30-Apr-24 | 06-May-24 |
| BR-1059.05 | HDR Submit Comment Responses & Verification Plans to SCDOT - R01 - I-20 EB over Farm Pond Bridge Plans P | 3 | 07-May-24 | 09-May-24 |
| BR-1059.06 | SCDOT Review & Status Comments - R01 - I-20 EB over Farm Pond Bridge Plans Package (Final) | 5 | 10-May-24 | 16-May-24 |
| BR-1059.07 | HDR Comment Responses & Resubmit to SCDOT - R02 - I-20 EB over Farm Pond Bridge Plans Package (Final) | 2 | 17-May-24 | 20-May-24 |
| BR-1059.08 | SCDOT Review & Status - Approved as Noted - R02 - I-20 EB over Farm Pond Bridge Plans Package (Final) | 5 | 21-May-24 | 28-May-24 |
| **I-20 EB over Farm Pond - RFC - Bridge Plans Package** | | 5 | 29-May-24 | 04-Jun-24 |
| BR-1062 | Sign & Submit RFC - I-20 EB over Farm Pond Bridge Plans Package | 5 | 29-May-24 | 04-Jun-24 |
| D-BR-10 | RFC Package - I-20 EB over Farm Pond Bridge Plans Package | 0 | | 04-Jun-24 |
| **Overflow Rehab Bridges 1 & 2 - Bridge Plans Package** | | 189 | 30-Mar-23 | 28-Dec-23 |
| D-BR-07 | LOE: Design - Overflow Rehabs 1 & 2 - Bridge Plans Package | 189 | 30-Mar-23 | 28-Dec-23 |
| **Overflow Rehab Bridges 1 & 2 - Preliminary - Bridge Plans Package** | | 127 | 30-Mar-23 | 27-Sep-23 |
| BR-1026.01 | Prepare & Submit - Overflow Rehabs 1 & 2 - Bridge Plans (Prelim) | 88 | 30-Mar-23 | 02-Aug-23 |
| BR-1026.02 | SCDOT Review & Comment - Overflow Rehabs 1 & 2 - Bridge Plans (Prelim) | 15 | 03-Aug-23 | 23-Aug-23 |
| BR-1026.03 | HDR Comment Response & Submit to SCDOT - Overflow Rehabs 1 & 2 - Bridge Plans (Prelim) | 4 | 24-Aug-23 | 29-Aug-23 |
| BR-1026.04 | SCDOT Review & Status Comments - Overflow Rehabs 1 & 2 - Bridge Plans (Prelim) | 5 | 30-Aug-23 | 06-Sep-23 |
| BR-1026.05 | HDR Comment Responses & Resubmit to SCDOT - R01 - Overflow Rehabs 1 & 2 - Bridge Plans (Prelim) | 3 | 07-Sep-23 | 11-Sep-23 |
| BR-1026.06 | SCDOT Review & Status Comments - R01 - Overflow Rehabs 1 & 2 - Bridge Plans (Prelim) | 5 | 12-Sep-23 | 18-Sep-23 |
| BR-1026.07 | HDR Comment Responses & Resubmit to SCDOT - R02 - Overflow Rehabs 1 & 2 - Bridge Plans (Prelim) | 2 | 19-Sep-23 | 20-Sep-23 |
| BR-1026.08 | SCDOT Review & Status - Approved as Noted - R02 - Overflow Rehabs 1 & 2 - Bridge Plans (Prelim) | 5 | 21-Sep-23 | 27-Sep-23 |
| **Overflow Rehab Bridges 1 & 2 - Final - Bridge Plans Package** | | 96 | 03-Aug-23 | 20-Dec-23 |
| BR-1038.01 | Prepare & Submit - Overflow Rehabs 1 & 2 - Bridge Plans (Final) | 58 | 03-Aug-23 | 25-Oct-23 |
| BR-1038.02 | SCDOT Review & Comment - Overflow Rehabs 1 & 2 - Bridge Plans (Final) | 15 | 26-Oct-23 | 16-Nov-23 |
| BR-1038.03 | HDR Comment Response & Submit to SCDOT - Overflow Rehabs 1 & 2 - Bridge Plans (Final) | 3 | 17-Nov-23 | 21-Nov-23 |
| BR-1038.04 | SCDOT Review & Status Comments - Overflow Rehabs 1 & 2 - Bridge Plans (Final) | 5 | 22-Nov-23 | 29-Nov-23 |
| BR-1038.05 | HDR Submit Comment Responses & Verification Plans to SCDOT - R01 - Overflow Rehabs 1 & 2 - Bridge Plans ( | 3 | 30-Nov-23 | 04-Dec-23 |
| BR-1038.06 | SCDOT Review & Status Comments - R01 - Overflow Rehabs 1 & 2 - Bridge Plans (Final) | 5 | 05-Dec-23 | 11-Dec-23 |
| BR-1038.07 | HDR Comment Responses & Resubmit to SCDOT - R02 - Overflow Rehabs 1 & 2 - Bridge Plans (Final) | 2 | 12-Dec-23 | 13-Dec-23 |
| BR-1038.08 | SCDOT Review & Status - Approved as Noted - R02 - Overflow Rehabs 1 & 2 - Bridge Plans (Final) | 5 | 14-Dec-23 | 20-Dec-23 |
| **Overflow Rehab Bridges 1 & 2 - RFC - Bridge Plans Package** | | 5 | 21-Dec-23 | 28-Dec-23 |
| BR-1050.01 | Sign & Submit RFC - Overflow Rehabs 1 & 2 - Bridge Plans Package | 5 | 21-Dec-23 | 28-Dec-23 |
| D-BR-11 | RFC Package - Overflow Rehabs 1 & 2 - Bridge Plans Package | 0 | | 28-Dec-23 |
| **PROCUREMENT** | | 200 | 15-Mar-24 | 30-Sep-24 |
| **Bridge over Wateree** | | 180 | 15-Mar-24 | 10-Sep-24 |
| P1010 | Girders - Shop Drawings / Fabrication / Delivery - I-20 River Bridge | 180 | 15-Mar-24 | 10-Sep-24 |
| **Bridge over Pond** | | 180 | 04-Apr-24 | 30-Sep-24 |
| P1020 | Girders - Shop Drawings / Fabrication / Delivery - I-20 Pond Bridge | 180 | 04-Apr-24 | 30-Sep-24 |
| **CONSTRUCTION** | | 915 | 02-Nov-23 | 25-Jun-27 |
| **Prelim Activities** | | 82 | 02-Nov-23 | 25-Mar-24 |
| B1000 | Mobilize and Set up Field Office Site | 40 | 02-Nov-23 | 11-Jan-24 |
| B1010 | Install Projectwide Advanced Warning WZ Traffic Control Devices | 10 | 29-Feb-24 | 15-Mar-24 |
| B1020 | Install Projectwide Erosion & Sediment Controls | 10 | 08-Mar-24 | 25-Mar-24 |
| **Stage 1A** | | 10 | 16-Jan-24 | 30-Jan-24 |
| **Traffic Control** | | 10 | 16-Jan-24 | 30-Jan-24 |
| B3785 | Daily Lane Closures for Shld Strengthening - EB I-20 - Stage 1a | 10 | 16-Jan-24 | 30-Jan-24 |
| **Earthwork-Roadway (EB)** | | 10 | 16-Jan-24 | 30-Jan-24 |
| **I-20 EB Outside Shoulder Strengthening** | | 10 | 16-Jan-24 | 30-Jan-24 |
| B7670 | Shld Pvmt Strengthen - I-20 EB outside (between bridges) - Stage 1a | 5 | 16-Jan-24 | 22-Jan-24 |
| B7680 | Shld Pvmt Strengthen - I-20 EB outside (east end from River Bridge) - Stage 1a | 5 | 23-Jan-24 | 30-Jan-24 |
| **Stage 1** | | 327 | 16-Jan-24 | 01-May-25 |
| **Traffic Control** | | 10 | 29-Feb-24 | 15-Mar-24 |
| B3790 | Set up Traffic Control (WZ stripings/signs) - EB I-20 - Stage 1 | 2 | 29-Feb-24 | 01-Mar-24 |
| B3800 | Set/Move PCTBs & CCAs - EB I-20 - Stage 1 | 2 | 04-Mar-24 | 05-Mar-24 |
| B3810 | Shift traffic into Stage 1 configuration - EB I-20 | 1 | 07-Mar-24 | 07-Mar-24 |
| B4240 | Set up Traffic Control (WZ stripings/signs) - WB I-20 - Stage 1 | 2 | 08-Mar-24 | 11-Mar-24 |
| B4250 | Set/Move PCTBs & CCAs - WB I-20 - Stage 1 | 2 | 12-Mar-24 | 14-Mar-24 |
| B4260 | Shift traffic into Stage 1 configuration - WB I-20 | 1 | 15-Mar-24 | 15-Mar-24 |
| **Earthwork-Roadway (EB/Center)** | | 214 | 26-Mar-24 | 27-Mar-25 |
| **I-20 Median - West End to Pond Bridge Approach** | | 198 | 26-Mar-24 | 27-Feb-25 |
| B5290 | Clear & Grub - I-20 Median (west end to Pond Bridge) - Stage 1 | 3 | 26-Mar-24 | 29-Mar-24 |
| B5300 | Remove Exist Rdwy - I-20 Median (west end to Pond Bridge) - Stage 1 | 5 | 26-Mar-24 | 02-Apr-24 |
| B5310 | Excav - I-20 Median (west end to Pond Bridge) - Stage 1 | 5 | 03-Apr-24 | 11-Apr-24 |
| B5320 | Drainage - I-20 Median (west end to Pond Bridge) - Stage 1 | 10 | 03-Apr-24 | 19-Apr-24 |




Remaining Level of Effort
Remaining Work
Milestone
Actual Work
Critical Remaining Work

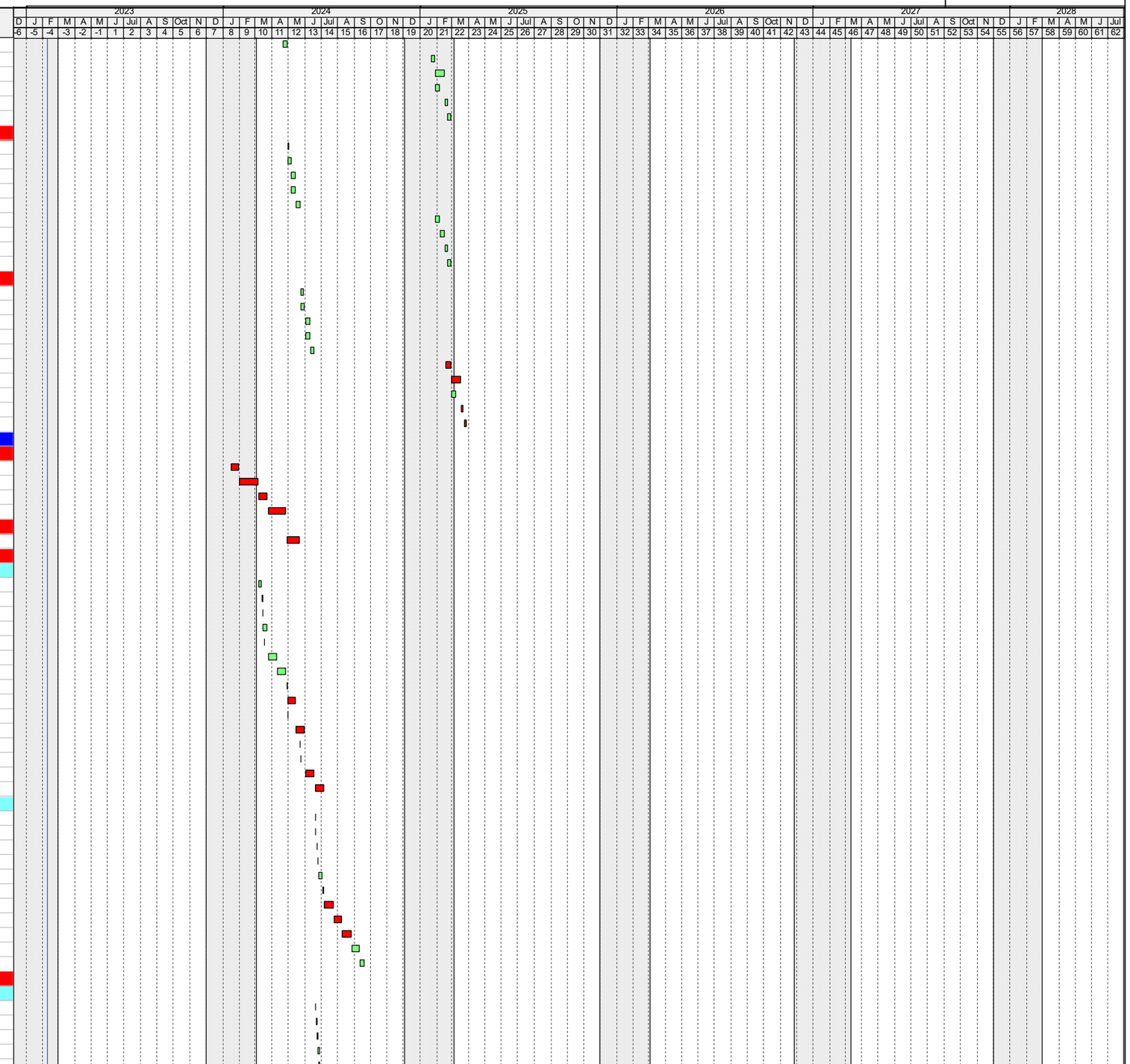
CPM Schedule

lane

# I-20 over Wateree River Bridge Replacement & Swamp Overflow Bridge Rehabilitations Design-Build Project Contract ID 2847360 Kersaw County



| Activity ID | Activity Name | Original Duration | Start | Finish |
|---|---|---|---|---|
| B5330 | Embank - I-20 Median (west end to Pond Bridge) - Stage 1 | 5 | 22-Apr-24 | 29-Apr-24 |
| B5350 | Base & Paving - I-20 Median (west end to Pond Bridge) - Stage 1 | 5 | 22-Jan-25 | 28-Jan-25 |
| B5370 | Construct Temp WB Crossover - I-20 Median (west end to Pond Bridge) - Stage 1 | 10 | 30-Jan-25 | 14-Feb-25 |
| B5360 | Guardrail - I-20 Median (west end to Pond Bridge) - Stage 1 | 5 | 30-Jan-25 | 06-Feb-25 |
| B5380 | Place Topsoil - I-20 Median (west end to Pond Bridge) - Stage 1 | 3 | 17-Feb-25 | 20-Feb-25 |
| B5390 | Seed / Sod - I-20 Median (west end to Pond Bridge) - Stage 1 | 3 | 21-Feb-25 | 27-Feb-25 |
| **I-20 Median - Pond Bridge to River Bridge** | | **178** | **30-Apr-24** | **27-Feb-25** |
| B5400 | Clear & Grub - I-20 Median (between bridges) - Stage 1 | 3 | 30-Apr-24 | 02-May-24 |
| B5410 | Remove Exist Rdwy - I-20 Median (between bridges) - Stage 1 | 5 | 30-Apr-24 | 06-May-24 |
| B5420 | Excav - I-20 Median (between bridges) - Stage 1 | 5 | 07-May-24 | 14-May-24 |
| B5430 | Drainage - I-20 Median (between bridges) - Stage 1 | 5 | 07-May-24 | 14-May-24 |
| B5440 | Embank - I-20 Median (between bridges) - Stage 1 | 5 | 16-May-24 | 23-May-24 |
| B5460 | Base & Paving - I-20 Median (between bridges) - Stage 1 | 5 | 30-Jan-25 | 06-Feb-25 |
| B5470 | Guardrail - I-20 Median (between bridges) - Stage 1 | 5 | 07-Feb-25 | 14-Feb-25 |
| B5490 | Place Topsoil - I-20 Median (between bridges) - Stage 1 | 3 | 17-Feb-25 | 20-Feb-25 |
| B7620 | Seed / Sod - I-20 Median (between bridges) - Stage 1 | 3 | 21-Feb-25 | 27-Feb-25 |
| **I-20 Median - River Bridge Approach to East End** | | **179** | **24-May-24** | **27-Mar-25** |
| B5510 | Clear & Grub - I-20 Median (east end from River Bridge) - Stage 1 | 3 | 24-May-24 | 29-May-24 |
| B5520 | Remove Exist Rdwy - I-20 Median (east end from River Bridge) - Stage 1 | 5 | 24-May-24 | 31-May-24 |
| B5530 | Excav - I-20 Median (east end from River Bridge) - Stage 1 | 5 | 03-Jun-24 | 10-Jun-24 |
| B5540 | Drainage - I-20 Median (east end from River Bridge) - Stage 1 | 5 | 03-Jun-24 | 10-Jun-24 |
| B5550 | Embank - I-20 Median (east end from River Bridge) - Stage 1 | 5 | 11-Jun-24 | 18-Jun-24 |
| B5570 | Base & Paving - I-20 Median (east end from River Bridge) - Stage 1 | 5 | 18-Feb-25 | 27-Feb-25 |
| B5590 | Construct Temp WB Crossover - I-20 Median (east end from River Bridge) - Stage 1 | 10 | 28-Feb-25 | 17-Mar-25 |
| B5580 | Guardrail - I-20 Median (east end from River Bridge) - Stage 1 | 5 | 28-Feb-25 | 07-Mar-25 |
| B5600 | Place Topsoil - I-20 Median (east end from River Bridge) - Stage 1 | 3 | 18-Mar-25 | 21-Mar-25 |
| B7630 | Seed / Sod - I-20 Median (east end from River Bridge) - Stage 1 | 3 | 24-Mar-25 | 27-Mar-25 |
| **Bridge over Wateree (EB/Center)** | | **327** | **16-Jan-24** | **01-May-25** |
| **Trestle Installations** | | **60** | **16-Jan-24** | **26-Apr-24** |
| B1025 | Install Temp Access Rdwy to Trestle Spans ABCDEF - I-20 EB River Bridge - Stage 1 | 10 | 16-Jan-24 | 30-Jan-24 |
| B1022 | Install Temp Trestle Spans D - I-20 EB River Bridge - Stage 1 | 20 | 31-Jan-24 | 05-Mar-24 |
| B1145 | Install Temp Access Rdwy to Trestle Spans GHIJK - I-20 EB River Bridge - Stage 1 | 10 | 07-Mar-24 | 22-Mar-24 |
| B1142 | Install Temp Trestle Spans F - I-20 EB River Bridge - Stage 1 | 20 | 25-Mar-24 | 26-Apr-24 |
| **Demolition** | | **15** | **29-Apr-24** | **21-May-24** |
| B4270 | Demo & Remove exist EB Bridge (partial) - I-20 EB River Bridge - Stage 1 | 15 | 29-Apr-24 | 21-May-24 |
| **Foundations** | | **116** | **07-Mar-24** | **18-Sep-24** |
| **Bents 1-7** | | **71** | **07-Mar-24** | **05-Jul-24** |
| B4274 | Construct Temp Shoring End Bent 1 - I-20 EB River Bridge - Stage 1 | 4 | 07-Mar-24 | 12-Mar-24 |
| B1030 | Prep for Foundations End Bent 1 - I-20 EB River Bridge - Stage 1 | 1 | 14-Mar-24 | 14-Mar-24 |
| B1050 | Prep for Foundations Interior Bent 2 - I-20 EB River Bridge - Stage 1 | 1 | 15-Mar-24 | 15-Mar-24 |
| B1040 | Install Foundations (Pile or DS) End Bent 1 - I-20 EB River Bridge - Stage 1 | 5 | 15-Mar-24 | 22-Mar-24 |
| B1070 | Prep for Foundations Interior Bent 3 - I-20 EB River Bridge - Stage 1 | 1 | 18-Mar-24 | 18-Mar-24 |
| B1060 | Install Foundations (DS) Interior Bent 2 - I-20 EB River Bridge - Stage 1 | 10 | 25-Mar-24 | 09-Apr-24 |
| B1080 | Install Foundations (DS) Interior Bent 3 - I-20 EB River Bridge - Stage 1 | 10 | 11-Apr-24 | 26-Apr-24 |
| B1090 | Prep for Foundations Interior Bent 4 - I-20 EB River Bridge - Stage 1 | 1 | 29-Apr-24 | 29-Apr-24 |
| B1100 | Install Foundations (DS) Interior Bent 4 - I-20 EB River Bridge - Stage 1 | 10 | 30-Apr-24 | 14-May-24 |
| B1110 | Prep for Foundations Interior Bent 5 - I-20 EB River Bridge - Stage 1 | 1 | 30-Apr-24 | 30-Apr-24 |
| B1120 | Install Foundations (DS) Interior Bent 5 - I-20 EB River Bridge - Stage 1 | 10 | 16-May-24 | 31-May-24 |
| B1130 | Prep for Foundations Interior Bent 6 - I-20 EB River Bridge - Stage 1 | 1 | 23-May-24 | 23-May-24 |
| B1150 | Prep for Foundations Interior Bent 7 - I-20 EB River Bridge - Stage 1 | 1 | 24-May-24 | 24-May-24 |
| B1140 | Install Foundations (DS) Interior Bent 6 - I-20 EB River Bridge - Stage 1 | 10 | 03-Jun-24 | 18-Jun-24 |
| B1160 | Install Foundations (DS) Interior Bent 7 - I-20 EB River Bridge - Stage 1 | 10 | 20-Jun-24 | 05-Jul-24 |
| **Bents 8-12** | | **55** | **20-Jun-24** | **18-Sep-24** |
| B1170 | Prep for Foundations Interior Bent 8 - I-20 EB River Bridge - Stage 1 | 1 | 20-Jun-24 | 20-Jun-24 |
| B1190 | Prep for Foundations Interior Bent 9 - I-20 EB River Bridge - Stage 1 | 1 | 21-Jun-24 | 21-Jun-24 |
| B1210 | Prep for Foundations Interior Bent 10 - I-20 EB River Bridge - Stage 1 | 1 | 24-Jun-24 | 24-Jun-24 |
| B1230 | Prep for Foundations Interior Bent 11 - I-20 EB River Bridge - Stage 1 | 1 | 25-Jun-24 | 25-Jun-24 |
| B4278 | Construct Temp Shoring End Bent 12 - I-20 EB River Bridge - Stage 1 | 5 | 27-Jun-24 | 03-Jul-24 |
| B1250 | Prep for Foundations End Bent 12 - I-20 EB River Bridge - Stage 1 | 1 | 05-Jul-24 | 05-Jul-24 |
| B1180 | Install Foundations (DS) Interior Bent 8 - I-20 EB River Bridge - Stage 1 | 10 | 08-Jul-24 | 23-Jul-24 |
| B1200 | Install Foundations (DS) Interior Bent 9 - I-20 EB River Bridge - Stage 1 | 10 | 25-Jul-24 | 08-Aug-24 |
| B1220 | Install Foundations (DS) Interior Bent 10 - I-20 EB River Bridge - Stage 1 | 10 | 09-Aug-24 | 26-Aug-24 |
| B1240 | Install Foundations (DS) Interior Bent 11 - I-20 EB River Bridge - Stage 1 | 10 | 27-Aug-24 | 10-Sep-24 |
| B1260 | Install Foundations (Pile or DS) End Bent 12 - I-20 EB River Bridge - Stage 1 | 5 | 12-Sep-24 | 18-Sep-24 |
| **Substructure** | | **85** | **20-Jun-24** | **21-Oct-24** |
| **Bents 1-5** | | **37** | **20-Jun-24** | **12-Aug-24** |
| B1415 | Prep Shafts for Columns Interior Bent 5 - I-20 EB River Bridge - Stage 1 | 2 | 20-Jun-24 | 21-Jun-24 |
| B1418 | Cure Shaft Prep for Columns Interior Bent 5 - I-20 EB River Bridge - Stage 1 | 3 | 22-Jun-24 | 24-Jun-24 |
| B1375 | Prep Shafts for Columns Interior Bent 4 - I-20 EB River Bridge - Stage 1 | 2 | 24-Jun-24 | 25-Jun-24 |
| B1410 | F/R/P/S Columns Interior Bent 5 - I-20 EB River Bridge - Stage 1 | 3 | 25-Jun-24 | 28-Jun-24 |
| B1378 | Cure Shaft Prep for Columns Interior Bent 4 - I-20 EB River Bridge - Stage 1 | 3 | 26-Jun-24 | 28-Jun-24 |




Remaining Level of Effort
Remaining Work
Milestone
Actual Work
Critical Remaining Work

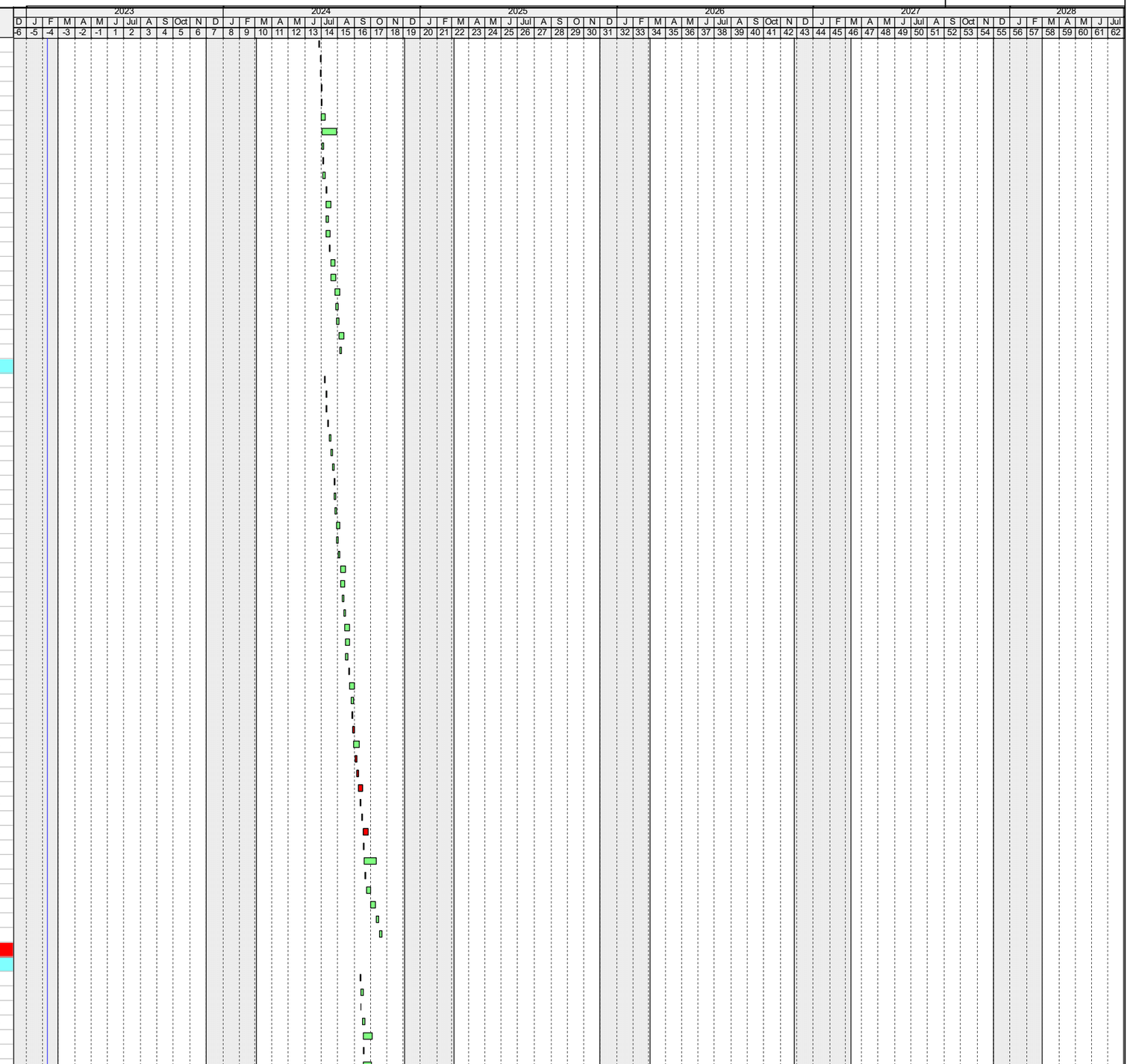
CPM Schedule

lane

# I-20 over Wateree River Bridge Replacement & Swamp Overflow Bridge Rehabilitations Design-Build Project Contract ID 2847360 Kersaw County



| Activity ID | Activity Name | Original Duration | Start | Finish |
|---|---|---|---|---|
| B1335 | Prep Shafts for Columns Interior Bent 3 - I-20 EB River Bridge - Stage 1 | 2 | 27-Jun-24 | 28-Jun-24 |
| B1420 | Cure Columns Interior Bent 5 - I-20 EB River Bridge - Stage 1 | 3 | 29-Jun-24 | 01-Jul-24 |
| B1338 | Cure Shaft Prep for Columns Interior Bent 3 - I-20 EB River Bridge - Stage 1 | 3 | 29-Jun-24 | 01-Jul-24 |
| B1370 | F/R/P/S Columns Interior Bent 4 - I-20 EB River Bridge - Stage 1 | 3 | 01-Jul-24 | 03-Jul-24 |
| B1295 | Prep Shafts for Columns Interior Bent 2 - I-20 EB River Bridge - Stage 1 | 2 | 01-Jul-24 | 02-Jul-24 |
| B1430 | F/R/P/S Caps & Pedestals Interior Bent 5 - I-20 EB River Bridge - Stage 1 | 5 | 02-Jul-24 | 09-Jul-24 |
| B1270 | F/R/P/S End Bent 1 - I-20 EB River Bridge - Stage 1 | 15 | 03-Jul-24 | 29-Jul-24 |
| B1298 | Cure Shaft Prep for Columns Interior Bent 2 - I-20 EB River Bridge - Stage 1 | 3 | 03-Jul-24 | 05-Jul-24 |
| B1380 | Cure Columns Interior Bent 4 - I-20 EB River Bridge - Stage 1 | 3 | 04-Jul-24 | 06-Jul-24 |
| B1330 | F/R/P/S Columns Interior Bent 3 - I-20 EB River Bridge - Stage 1 | 3 | 05-Jul-24 | 09-Jul-24 |
| B1340 | Cure Columns Interior Bent 3 - I-20 EB River Bridge - Stage 1 | 3 | 10-Jul-24 | 12-Jul-24 |
| B1440 | Cure Caps Interior Bent 5 - I-20 EB River Bridge - Stage 1 | 10 | 10-Jul-24 | 19-Jul-24 |
| B1290 | F/R/P/S Columns Interior Bent 2 - I-20 EB River Bridge - Stage 1 | 3 | 11-Jul-24 | 15-Jul-24 |
| B1390 | F/R/P/S Caps & Pedestals Interior Bent 4 - I-20 EB River Bridge - Stage 1 | 5 | 11-Jul-24 | 18-Jul-24 |
| B1300 | Cure Columns Interior Bent 2 - I-20 EB River Bridge - Stage 1 | 3 | 16-Jul-24 | 18-Jul-24 |
| B1350 | F/R/P/S Caps & Pedestals Interior Bent 3 - I-20 EB River Bridge - Stage 1 | 5 | 19-Jul-24 | 26-Jul-24 |
| B1400 | Cure Caps Interior Bent 4 - I-20 EB River Bridge - Stage 1 | 10 | 19-Jul-24 | 28-Jul-24 |
| B1360 | Cure Caps Interior Bent 3 - I-20 EB River Bridge - Stage 1 | 10 | 27-Jul-24 | 05-Aug-24 |
| B1310 | F/R/P/S Caps & Pedestals Interior Bent 2 - I-20 EB River Bridge - Stage 1 | 5 | 29-Jul-24 | 02-Aug-24 |
| B1280 | Cure End Bent 1 - I-20 EB River Bridge - Stage 1 | 5 | 30-Jul-24 | 03-Aug-24 |
| B1320 | Cure Caps Interior Bent 2 - I-20 EB River Bridge - Stage 1 | 10 | 03-Aug-24 | 12-Aug-24 |
| B8590 | Grade / Install Riprap End Bent 1 - I-20 EB River Bridge - Stage 1 | 3 | 05-Aug-24 | 08-Aug-24 |
| **Bents 6-12** | | 74 | 08-Jul-24 | 21-Oct-24 |
| B1455 | Prep Shafts for Columns Interior Bent 6 - I-20 EB River Bridge - Stage 1 | 2 | 08-Jul-24 | 09-Jul-24 |
| B1458 | Cure Shaft Prep for Columns Interior Bent 6 - I-20 EB River Bridge - Stage 1 | 3 | 10-Jul-24 | 12-Jul-24 |
| B1495 | Prep Shafts for Columns Interior Bent 7 - I-20 EB River Bridge - Stage 1 | 2 | 11-Jul-24 | 12-Jul-24 |
| B1498 | Cure Shaft Prep for Columns Interior Bent 7 - I-20 EB River Bridge - Stage 1 | 3 | 13-Jul-24 | 15-Jul-24 |
| B1450 | F/R/P/S Columns Interior Bent 6 - I-20 EB River Bridge - Stage 1 | 3 | 16-Jul-24 | 19-Jul-24 |
| B1460 | Cure Columns Interior Bent 6 - I-20 EB River Bridge - Stage 1 | 3 | 20-Jul-24 | 22-Jul-24 |
| B1490 | F/R/P/S Columns Interior Bent 7 - I-20 EB River Bridge - Stage 1 | 3 | 22-Jul-24 | 25-Jul-24 |
| B1535 | Prep Shafts for Columns Interior Bent 8 - I-20 EB River Bridge - Stage 1 | 2 | 25-Jul-24 | 26-Jul-24 |
| B1500 | Cure Columns Interior Bent 7 - I-20 EB River Bridge - Stage 1 | 3 | 26-Jul-24 | 28-Jul-24 |
| B1538 | Cure Shaft Prep for Columns Interior Bent 8 - I-20 EB River Bridge - Stage 1 | 3 | 27-Jul-24 | 29-Jul-24 |
| B1470 | F/R/P/S Caps & Pedestals Interior Bent 6 - I-20 EB River Bridge - Stage 1 | 5 | 30-Jul-24 | 05-Aug-24 |
| B1530 | F/R/P/S Columns Interior Bent 8 - I-20 EB River Bridge - Stage 1 | 3 | 30-Jul-24 | 01-Aug-24 |
| B1540 | Cure Columns Interior Bent 8 - I-20 EB River Bridge - Stage 1 | 3 | 02-Aug-24 | 04-Aug-24 |
| B1480 | Cure Caps Interior Bent 6 - I-20 EB River Bridge - Stage 1 | 10 | 06-Aug-24 | 15-Aug-24 |
| B1510 | F/R/P/S Caps & Pedestals Interior Bent 7 - I-20 EB River Bridge - Stage 1 | 5 | 06-Aug-24 | 13-Aug-24 |
| B1575 | Prep Shafts for Columns Interior Bent 9 - I-20 EB River Bridge - Stage 1 | 2 | 09-Aug-24 | 12-Aug-24 |
| B1578 | Cure Shaft Prep for Columns Interior Bent 9 - I-20 EB River Bridge - Stage 1 | 3 | 13-Aug-24 | 15-Aug-24 |
| B1520 | Cure Caps Interior Bent 7 - I-20 EB River Bridge - Stage 1 | 10 | 14-Aug-24 | 23-Aug-24 |
| B1550 | F/R/P/S Caps & Pedestals Interior Bent 8 - I-20 EB River Bridge - Stage 1 | 5 | 15-Aug-24 | 22-Aug-24 |
| B1570 | F/R/P/S Columns Interior Bent 9 - I-20 EB River Bridge - Stage 1 | 3 | 16-Aug-24 | 20-Aug-24 |
| B1580 | Cure Columns Interior Bent 9 - I-20 EB River Bridge - Stage 1 | 3 | 21-Aug-24 | 23-Aug-24 |
| B1560 | Cure Caps Interior Bent 8 - I-20 EB River Bridge - Stage 1 | 10 | 23-Aug-24 | 01-Sep-24 |
| B1590 | F/R/P/S Caps & Pedestals Interior Bent 9 - I-20 EB River Bridge - Stage 1 | 5 | 26-Aug-24 | 30-Aug-24 |
| B1615 | Prep Shafts for Columns Interior Bent 10 - I-20 EB River Bridge - Stage 1 | 2 | 27-Aug-24 | 28-Aug-24 |
| B1618 | Cure Shaft Prep for Columns Interior Bent 10 - I-20 EB River Bridge - Stage 1 | 3 | 29-Aug-24 | 31-Aug-24 |
| B1600 | Cure Caps Interior Bent 9 - I-20 EB River Bridge - Stage 1 | 10 | 31-Aug-24 | 09-Sep-24 |
| B1610 | F/R/P/S Columns Interior Bent 10 - I-20 EB River Bridge - Stage 1 | 3 | 03-Sep-24 | 05-Sep-24 |
| B1620 | Cure Columns Interior Bent 10 - I-20 EB River Bridge - Stage 1 | 3 | 06-Sep-24 | 08-Sep-24 |
| B1630 | F/R/P/S Caps & Pedestals Interior Bent 10 - I-20 EB River Bridge - Stage 1 | 5 | 09-Sep-24 | 16-Sep-24 |
| B1655 | Prep Shafts for Columns Interior Bent 11 - I-20 EB River Bridge - Stage 1 | 2 | 12-Sep-24 | 13-Sep-24 |
| B1658 | Cure Shaft Prep for Columns Interior Bent 11 - I-20 EB River Bridge - Stage 1 | 3 | 14-Sep-24 | 16-Sep-24 |
| B1640 | Cure Caps Interior Bent 10 - I-20 EB River Bridge - Stage 1 | 10 | 17-Sep-24 | 26-Sep-24 |
| B1650 | F/R/P/S Columns Interior Bent 11 - I-20 EB River Bridge - Stage 1 | 3 | 17-Sep-24 | 19-Sep-24 |
| B1690 | F/R/P/S End Bent 12 - I-20 EB River Bridge - Stage 1 | 15 | 19-Sep-24 | 11-Oct-24 |
| B1660 | Cure Columns Interior Bent 11 - I-20 EB River Bridge - Stage 1 | 3 | 20-Sep-24 | 22-Sep-24 |
| B1670 | F/R/P/S Caps & Pedestals Interior Bent 11 - I-20 EB River Bridge - Stage 1 | 5 | 23-Sep-24 | 30-Sep-24 |
| B1680 | Cure Caps Interior Bent 11 - I-20 EB River Bridge - Stage 1 | 10 | 01-Oct-24 | 10-Oct-24 |
| B1700 | Cure End Bent 12 - I-20 EB River Bridge - Stage 1 | 5 | 12-Oct-24 | 16-Oct-24 |
| B8630 | Grade / Install Riprap End Bent 12 - I-20 EB River Bridge - Stage 1 | 3 | 17-Oct-24 | 21-Oct-24 |
| **Superstructure** | | 101 | 12-Sep-24 | 08-Feb-25 |
| **Bents 1-5 (Spans ABC-DEF)** | | 69 | 12-Sep-24 | 22-Dec-24 |
| B1760 | Erect Girders Spans E - I-20 EB River Bridge - Stage 1 | 1 | 12-Sep-24 | 12-Sep-24 |
| B1710 | Erect Girders Spans ABCD - I-20 EB River Bridge - Stage 1 | 3 | 13-Sep-24 | 17-Sep-24 |
| B8410 | Safety Cabling & Girder Asbuilt Spans E - I-20 EB River Bridge - Stage 1 | 1 | 13-Sep-24 | 13-Sep-24 |
| B8420 | SCDOT Review & Approve Girder Asbuilt Spans E - I-20 EB River Bridge - Stage 1 | 5 | 16-Sep-24 | 20-Sep-24 |
| B1720 | Install OH Brackets & Side Forms Spans ABC - I-20 EB River Bridge - Stage 1 | 12 | 18-Sep-24 | 04-Oct-24 |
| B8390 | Safety Cabling & Girder Asbuilt Spans ABCD - I-20 EB River Bridge - Stage 1 | 1 | 18-Sep-24 | 18-Sep-24 |
| B1715 | Form Diaphragms Spans ABC - I-20 EB River Bridge - Stage 1 | 10 | 18-Sep-24 | 02-Oct-24 |




Remaining Level of Effort
Remaining Work
Milestone
Actual Work
Critical Remaining Work

CPM Schedule

lane

# I-20 over Wateree River Bridge Replacement & Swamp Overflow Bridge Rehabilitations Design-Build Project Contract ID 2847360 Kersaw County



| Activity ID | Activity Name | Original Duration | Start | Finish |
|---|---|---|---|---|
| B8400 | SCDOT Review & Approve Girder Asbuilt Spans ABCD - I-20 EB River Bridge - Stage 1 | 5 | 19-Sep-24 | 25-Sep-24 |
| B1730 | Install SIP Panels Spans ABC - I-20 EB River Bridge - Stage 1 | 4 | 26-Sep-24 | 01-Oct-24 |
| B1770 | Install OH Brackets & Side Forms Spans DEF - I-20 EB River Bridge - Stage 1 | 12 | 03-Oct-24 | 22-Oct-24 |
| B1780 | Install SIP Panels Spans DEF- I-20 EB River Bridge - Stage 1 | 4 | 03-Oct-24 | 08-Oct-24 |
| B1765 | Form Diaphragms Spans DEF- I-20 EB River Bridge - Stage 1 | 10 | 03-Oct-24 | 18-Oct-24 |
| B1732 | Set & Tie Deck Rebar Spans ABC - I-20 EB River Bridge - Stage 1 | 10 | 07-Oct-24 | 22-Oct-24 |
| B1734 | Dryrun Bidwell for Spans ABC - I-20 EB River Bridge - Stage 1 | 10 | 24-Oct-24 | 07-Nov-24 |
| B1782 | Set & Tie Deck Rebar Spans DEF - I-20 EB River Bridge - Stage 1 | 10 | 24-Oct-24 | 07-Nov-24 |
| B1740 | Pour Deck Spans ABC - I-20 EB River Bridge - Stage 1 | 15 | 08-Nov-24 | 04-Dec-24 |
| B1784 | Dryrun Bidwell for Spans DEF - I-20 EB River Bridge - Stage 1 | 10 | 08-Nov-24 | 22-Nov-24 |
| B1790 | Pour Deck Spans DEF - I-20 EB River Bridge - Stage 1 | 15 | 25-Nov-24 | 18-Dec-24 |
| B1750 | Cure Deck Spans ABC - I-20 EB River Bridge - Stage 1 | 4 | 05-Dec-24 | 08-Dec-24 |
| B1800 | Cure Deck Spans DEF- I-20 EB River Bridge - Stage 1 | 4 | 19-Dec-24 | 22-Dec-24 |
| **Bents 6-12 (Spans GHI- JK)** | | 90 | 27-Sep-24 | 08-Feb-25 |
| B1810 | Erect Girders Spans FGHI - I-20 EB River Bridge - Stage 1 | 4 | 27-Sep-24 | 02-Oct-24 |
| B8430 | Safety Cabling & Girder Asbuilt Spans GHI - I-20 EB River Bridge - Stage 1 | 1 | 03-Oct-24 | 03-Oct-24 |
| B8440 | SCDOT Review & Approve Girder Asbuilt Spans GHI - I-20 EB River Bridge - Stage 1 | 5 | 04-Oct-24 | 10-Oct-24 |
| B1830 | Install SIP Panels Spans GHI -I-20 EB River Bridge - Stage 1 | 4 | 11-Oct-24 | 17-Oct-24 |
| B1815 | Form Diaphragms Spans GHI - I-20 EB River Bridge - Stage 1 | 10 | 21-Oct-24 | 05-Nov-24 |
| B1860 | Erect Girders Spans JK - I-20 EB River Bridge - Stage 1 | 2 | 22-Oct-24 | 24-Oct-24 |
| B1820 | Install OH Brackets & Side Forms Spans GHI - I-20 EB River Bridge - Stage 1 | 12 | 24-Oct-24 | 11-Nov-24 |
| B8450 | Safety Cabling & Girder Asbuilt Spans JK - I-20 EB River Bridge - Stage 1 | 1 | 25-Oct-24 | 25-Oct-24 |
| B8460 | SCDOT Review & Approve Girder Asbuilt Spans JK - I-20 EB River Bridge - Stage 1 | 5 | 28-Oct-24 | 01-Nov-24 |
| B1880 | Install SIP Panels Spans JK - I-20 EB River Bridge - Stage 1 | 4 | 04-Nov-24 | 07-Nov-24 |
| B1865 | Forms Diaphragms Spans JK - I-20 EB River Bridge - Stage 1 | 10 | 06-Nov-24 | 20-Nov-24 |
| B1870 | Install OH Brackets & Side Forms Spans JK - I-20 EB River Bridge - Stage 1 | 12 | 12-Nov-24 | 03-Dec-24 |
| B1832 | Set & Tie Deck Rebar Spans GHI -I-20 EB River Bridge - Stage 1 | 10 | 12-Nov-24 | 26-Nov-24 |
| B1834 | Dryrun Bidwell for Spans GHI -I-20 EB River Bridge - Stage 1 | 10 | 02-Dec-24 | 13-Dec-24 |
| B1882 | Set & Tie Deck Rebar Spans JK - I-20 EB River Bridge - Stage 1 | 7 | 04-Dec-24 | 12-Dec-24 |
| B1884 | Dryrun Bidwell for Spans JK - I-20 EB River Bridge - Stage 1 | 7 | 13-Dec-24 | 30-Dec-24 |
| B1840 | Pour Deck Spans GHI -I-20 EB River Bridge - Stage 1 | 15 | 19-Dec-24 | 17-Jan-25 |
| B1850 | Cure Deck Spans GHI -I-20 EB River Bridge - Stage 1 | 4 | 18-Jan-25 | 21-Jan-25 |
| B1890 | Pour Deck Spans JK - I-20 EB River Bridge - Stage 1 | 10 | 21-Jan-25 | 04-Feb-25 |
| B1900 | Cure Deck Spans JK - I-20 EB River Bridge - Stage 1 | 4 | 05-Feb-25 | 08-Feb-25 |
| **Bridge Finishes** | | 82 | 09-Dec-24 | 01-May-25 |
| B1930 | Construct Approach Slab End Bent 1 - I-20 EB River Bridge - Stage 1 | 5 | 09-Dec-24 | 13-Dec-24 |
| B1940 | Construct Approach Slab End Bent 12 - I-20 EB River Bridge - Stage 1 | 5 | 10-Feb-25 | 17-Feb-25 |
| B8890 | Install Deck Expan Joint Seals Spans A-K - I-20 EB River Bridge - Stage 1 | 2 | 10-Feb-25 | 11-Feb-25 |
| B1910 | Slip Parapet Railing - Spans A-K - I-20 EB River Bridge - Stage 1 | 5 | 18-Feb-25 | 27-Feb-25 |
| B1920 | Groove Bridge Deck Spans A-K - I-20 EB River Bridge - Stage 1 | 5 | 28-Feb-25 | 07-Mar-25 |
| B1915 | Strip OH - Spans A-K - I-20 EB River Bridge - Stage 1 | 37 | 28-Feb-25 | 01-May-25 |
| **Bridge over Pond (EB)** | | 179 | 06-Jun-24 | 24-Feb-25 |
| **Demolition** | | 30 | 06-Jun-24 | 26-Jul-24 |
| B4360 | Demo & Remove exist EB Bridge over Pond (partial) - I-20 EB Pond Bridge - Stage 1 | 10 | 06-Jun-24 | 21-Jun-24 |
| B4364 | Construct Temp Shoring /Rock Causeway End Bent 1 - I-20 EB Pond Bridge - Stage 1 | 10 | 24-Jun-24 | 09-Jul-24 |
| B7610 | Construct Temp Shoring /Rock Causeway End Bent 4 - I-20 EB Pond Bridge - Stage 1 | 10 | 11-Jul-24 | 26-Jul-24 |
| **Foundations** | | 21 | 11-Jul-24 | 13-Aug-24 |
| B4370 | Prep for Foundations End Bent 1 - I-20 EB Pond Bridge - Stage 1 | 1 | 11-Jul-24 | 11-Jul-24 |
| B4380 | Install Foundations (Pile or DS) End Bent 1 - I-20 EB Pond Bridge - Stage 1 | 5 | 12-Jul-24 | 19-Jul-24 |
| B4390 | Prep for Foundations Interior Bent 2 - I-20 EB Pond Bridge - Stage 1 | 1 | 12-Jul-24 | 12-Jul-24 |
| B4410 | Prep for Foundations Interior Bent 3 - I-20 EB Pond Bridge - Stage 1 | 1 | 15-Jul-24 | 15-Jul-24 |
| B4400 | Install Foundations (DS) Interior Bent 2 - I-20 EB Pond Bridge - Stage 1 | 5 | 22-Jul-24 | 29-Jul-24 |
| B4590 | Prep for Foundations End Bent 4 - I-20 EB Pond Bridge - Stage 1 | 1 | 29-Jul-24 | 29-Jul-24 |
| B4420 | Install Foundations (DS) Interior Bent 3 - I-20 EB Pond Bridge - Stage 1 | 5 | 30-Jul-24 | 05-Aug-24 |
| B4600 | Install Foundations (Pile or DS) End Bent 4- I-20 EB Pond Bridge - Stage 1 | 5 | 06-Aug-24 | 13-Aug-24 |
| **Substructure** | | 43 | 22-Jul-24 | 19-Sep-24 |
| B4610 | F/R/P/S End Bent 1 - I-20 EB Pond Bridge - Stage 1 | 15 | 22-Jul-24 | 13-Aug-24 |
| B4635 | Prep Shafts for Columns Interior Bent 2 - I-20 EB Pond Bridge - Stage 1 | 2 | 30-Jul-24 | 31-Jul-24 |
| B4638 | Cure Shaft Prep for Columns Interior Bent 2 - I-20 EB Pond Bridge - Stage 1 | 3 | 01-Aug-24 | 03-Aug-24 |
| B4630 | F/R/P/S Columns Interior Bent 2 - I-20 EB Pond Bridge - Stage 1 | 3 | 05-Aug-24 | 08-Aug-24 |
| B4655 | Prep Shafts for Columns Interior Bent 3 - I-20 EB Pond Bridge - Stage 1 | 2 | 06-Aug-24 | 08-Aug-24 |
| B4640 | Cure Columns Interior Bent 2 - I-20 EB Pond Bridge - Stage 1 | 3 | 09-Aug-24 | 11-Aug-24 |
| B4658 | Cure Shaft Prep for Columns Interior Bent 3 - I-20 EB Pond Bridge - Stage 1 | 3 | 09-Aug-24 | 11-Aug-24 |
| B4660 | F/R/P/S Caps & Pedestals Interior Bent 2 - I-20 EB Pond Bridge - Stage 1 | 5 | 12-Aug-24 | 19-Aug-24 |
| B4650 | F/R/P/S Columns Interior Bent 3 - I-20 EB Pond Bridge - Stage 1 | 3 | 12-Aug-24 | 15-Aug-24 |
| B4620 | Cure End Bent 1 - I-20 EB Pond Bridge - Stage 1 | 5 | 14-Aug-24 | 18-Aug-24 |
| B5000 | F/R/P/S End Bent 4 - I-20 EB Pond Bridge - Stage 1 | 15 | 15-Aug-24 | 06-Sep-24 |
| B4670 | Cure Columns Interior Bent 3 - I-20 EB Pond Bridge - Stage 1 | 3 | 16-Aug-24 | 18-Aug-24 |
| B4690 | Cure Caps Interior Bent 2 - I-20 EB Pond Bridge - Stage 1 | 10 | 20-Aug-24 | 29-Aug-24 |
| B4700 | F/R/P/S Caps & Pedestals Interior Bent 3 - I-20 EB Pond Bridge - Stage 1 | 5 | 20-Aug-24 | 27-Aug-24 |
| B4730 | Cure Caps Interior Bent 3 - I-20 EB Pond Bridge - Stage 1 | 10 | 28-Aug-24 | 06-Sep-24 |

Remaining Level of Effort
Remaining Work
Milestone
Actual Work
Critical Remaining Work

CPM Schedule

lane

# I-20 over Wateree River Bridge Replacement & Swamp Overflow Bridge Rehabilitations Design-Build Project Contract ID 2847360 Kersaw County



| Activity ID | Activity Name | Original Duration | Start | Finish |
|---|---|---|---|---|
| B5030 | Cure End Bent 4 - I-20 EB Pond Bridge - Stage 1 | 5 | 07-Sep-24 | 11-Sep-24 |
| B8620 | Grade / Install Riprap End Bents 1 & 4 - I-20 EB Pond Bridge - Stage 1 | 6 | 12-Sep-24 | 19-Sep-24 |
| **Superstructure** | | 69 | 01-Oct-24 | 10-Jan-25 |
| B5050 | Erect Girders Spans ABC - I-20 EB Pond Bridge - Stage 1 | 4 | 01-Oct-24 | 04-Oct-24 |
| B8470 | Safety Cabling & Girder Asbuilt Spans ABC - I-20 EB Pond Bridge - Stage 1 | 1 | 07-Oct-24 | 07-Oct-24 |
| B5055 | Forms Diaphragms Spans ABC - I-20 EB Pond Bridge - Stage 1 | 10 | 07-Oct-24 | 22-Oct-24 |
| B7600 | Install OH Brackets & Side Forms Spans ABC - I-20 EB Pond Bridge - Stage 1 | 12 | 08-Oct-24 | 28-Oct-24 |
| B8480 | SCDOT Review & Approve Girder Asbuilt Spans ABC - I-20 EB Pond Bridge - Stage 1 | 5 | 08-Oct-24 | 15-Oct-24 |
| B5090 | Install SIP Panels Spans ABC - I-20 EB Pond Bridge - Stage 1 | 4 | 29-Oct-24 | 04-Nov-24 |
| B5092 | Set & Tie Deck Rebar Spans ABC - I-20 EB Pond Bridge - Stage 1 | 10 | 05-Nov-24 | 19-Nov-24 |
| B5094 | Dryrun Bidwell for Spans ABC - I-20 EB Pond Bridge - Stage 1 | 10 | 20-Nov-24 | 06-Dec-24 |
| B5110 | Pour Deck Spans ABC - I-20 EB Pond Bridge - Stage 1 | 15 | 09-Dec-24 | 06-Jan-25 |
| B5140 | Cure Deck Spans ABC - I-20 EB Pond Bridge - Stage 1 | 4 | 07-Jan-25 | 10-Jan-25 |
| **Bridge Finishes** | | 25 | 13-Jan-25 | 24-Feb-25 |
| B5250 | Construct Approach Slab End Bent 1 - I-20 EB Pond Bridge - Stage 1 | 5 | 13-Jan-25 | 21-Jan-25 |
| B5260 | Construct Approach Slab End Bent 4 - I-20 EB Pond Bridge - Stage 1 | 5 | 22-Jan-25 | 28-Jan-25 |
| B8900 | Install Deck Expan Joint Seals Spans ABC - I-20 EB Pond Bridge - Stage 1 | 2 | 30-Jan-25 | 31-Jan-25 |
| B5270 | Slip Parapet Railing - Spans ABC - I-20 EB Pond Bridge - Stage 1 | 3 | 03-Feb-25 | 06-Feb-25 |
| B2570 | Strip OH - Spans ABC - I-20 EB Pond Bridge - Stage 1 | 7 | 07-Feb-25 | 18-Feb-25 |
| B5280 | Groove Bridge Deck Spans ABC - I-20 EB Pond Bridge - Stage 1 | 3 | 20-Feb-25 | 24-Feb-25 |
| **Overflow Rehab Bridges** | | 121 | 26-Mar-24 | 13-Sep-24 |
| **Rehab Investigations & Reporting** | | 45 | 26-Mar-24 | 28-May-24 |
| B7952 | Rehab Bridge Investigation - I-20 EB Outfall Bridges 1 & 2 - Stage 1 | 5 | 26-Mar-24 | 02-Apr-24 |
| B7954 | Rehab Bridge Investigation - I-20 WB Outfall Bridges 1 & 2 - Stage 1 | 5 | 03-Apr-24 | 11-Apr-24 |
| B7956 | Rehab Bridge Demo / Repair Submittal - I-20 EB & WB Outfall Bridges 1 & 2 - Stage 1 | 15 | 12-Apr-24 | 06-May-24 |
| B7958 | SCDOT Review - Rehab Bridge Submittal - I-20 EB & WB Outfall Bridges 1 & 2 - Stage 1 | 15 | 07-May-24 | 28-May-24 |
| **Overflow Rehab 1** | | 65 | 29-May-24 | 13-Sep-24 |
| **I-20 EB Demo / Repair** | | 36 | 29-May-24 | 29-Jul-24 |
| B7960 | Set/Move PCTBs & CCAs - I-20 EB Outfall Bridge 1 - Stage 1 | 4 | 29-May-24 | 03-Jun-24 |
| B7970 | Rehab Bridge Demo / Repair - I-20 EB Outfall Bridge 1 - Stage 1 | 20 | 04-Jun-24 | 08-Jul-24 |
| B8040 | Reset/Move PCTBs & CCAs - I-20 EB Outfall Bridge 1 - Stage 1 | 2 | 09-Jul-24 | 11-Jul-24 |
| B8050 | Rehab Bridge Approach Slab Overlay - I-20 EB Outfall Bridge 1 - Stage 1 | 10 | 12-Jul-24 | 29-Jul-24 |
| **I-20 WB Demo / Repair** | | 36 | 09-Jul-24 | 05-Sep-24 |
| B7980 | Set/Move PCTBs & CCAs - I-20 WB Outfall Bridge 1 - Stage 1 | 4 | 09-Jul-24 | 15-Jul-24 |
| B7990 | Rehab Bridge Demo / Repair - I-20 WB Outfall Bridge 1 - Stage 1 | 20 | 16-Jul-24 | 16-Aug-24 |
| B8060 | Reset/Move PCTBs & CCAs - I-20 WB Outfall Bridge 1 - Stage 1 | 2 | 19-Aug-24 | 20-Aug-24 |
| B8070 | Rehab Bridge Approach Slab Overlay - I-20 WB Outfall Bridge 1 - Stage 1 | 10 | 22-Aug-24 | 05-Sep-24 |
| **Finishes** | | 5 | 06-Sep-24 | 13-Sep-24 |
| B8120 | Rehab Bridge Perm Striping - I-20 EB/WB Outfall Bridge 1 - Stage 1 | 2 | 06-Sep-24 | 09-Sep-24 |
| B8130 | Rehab Bridge Temp Access / Grass Restoration - I-20 EB/WB Outfall Bridge 1 - Stage 1 | 5 | 06-Sep-24 | 13-Sep-24 |
| **Overflow Rehab 2** | | 65 | 29-May-24 | 13-Sep-24 |
| **I-20 EB Demo / Repair** | | 36 | 29-May-24 | 29-Jul-24 |
| B8000 | Set/Move PCTBs & CCAs - I-20 EB Outfall Bridge 2 - Stage 1 | 4 | 29-May-24 | 03-Jun-24 |
| B8010 | Rehab Bridge Demo / Repair - I-20 EB Outfall Bridge 2 - Stage 1 | 20 | 04-Jun-24 | 08-Jul-24 |
| B8080 | Reset/Move PCTBs & CCAs - I-20 EB Outfall Bridge 2 - Stage 1 | 2 | 09-Jul-24 | 11-Jul-24 |
| B8090 | Rehab Bridge Approach Slab Overlay - I-20 EB Outfall Bridge 2 - Stage 1 | 10 | 12-Jul-24 | 29-Jul-24 |
| **I-20 WB Demo / Repair** | | 36 | 09-Jul-24 | 05-Sep-24 |
| B8020 | Set/Move PCTBs & CCAs - I-20 WB Outfall Bridge 2 - Stage 1 | 4 | 09-Jul-24 | 15-Jul-24 |
| B8030 | Rehab Bridge Demo / Repair - I-20 WB Outfall Bridge 2 - Stage 1 | 20 | 16-Jul-24 | 16-Aug-24 |
| B8100 | Reset/Move PCTBs & CCAs - I-20 WB Outfall Bridge 2 - Stage 1 | 2 | 19-Aug-24 | 20-Aug-24 |
| B8110 | Rehab Bridge Approach Slab Overlay - I-20 WB Outfall Bridge 2 - Stage 1 | 10 | 22-Aug-24 | 05-Sep-24 |
| **Finishes** | | 5 | 06-Sep-24 | 13-Sep-24 |
| B8140 | Rehab Bridge Perm Striping - I-20 EB/WB Outfall Bridge 2 - Stage 1 | 2 | 06-Sep-24 | 09-Sep-24 |
| B8150 | Rehab Bridge Temp Access / Grass Restoration - I-20 EB/WB Outfall Bridge 2 - Stage 1 | 5 | 06-Sep-24 | 13-Sep-24 |
| **Stage 2** | | 396 | 19-Dec-24 | 17-Jul-26 |
| **Traffic Control** | | 10 | 28-Mar-25 | 10-Apr-25 |
| B3840 | Reset Traffic Control (WZ stripings/signs) - EB I-20 - Stage 2 | 2 | 28-Mar-25 | 31-Mar-25 |
| B3850 | Reset/Move PCTBs & CCAs - EB I-20 - Stage 2 | 2 | 01-Apr-25 | 02-Apr-25 |
| B3860 | Shift traffic into Stage 2 configuration - EB I-20 | 1 | 03-Apr-25 | 03-Apr-25 |
| B4310 | Reset Traffic Control (WZ stripings/signs) - WB I-20 - Stage 2 | 2 | 04-Apr-25 | 07-Apr-25 |
| B4320 | Reset/Move PCTBs & CCAs - WB I-20 - Stage 2 | 2 | 08-Apr-25 | 09-Apr-25 |
| B4330 | Shift traffic into Stage 2 configuration - WB I-20 | 1 | 10-Apr-25 | 10-Apr-25 |
| **Earthwork-Roadway (Center)** | | 297 | 14-Apr-25 | 17-Jun-26 |
| **I-20 WB Outside Shoulder - River Bridge Approach to East End** | | 22 | 14-Apr-25 | 13-May-25 |
| B7870 | Clear & Grub - I-20 WB outside shld (east end from River Bridge) - Stage 2 | 3 | 14-Apr-25 | 17-Apr-25 |
| B7910 | Embank - I-20 WB outside shld (east end from River Bridge) - Stage 2 | 4 | 18-Apr-25 | 24-Apr-25 |
| B7920 | Shld Pvmt Reconstruction - I-20 WB outside shld (east end from River Bridge) - Stage 2 | 2 | 25-Apr-25 | 28-Apr-25 |
| B7930 | Guardrail - I-20 WB outside shld (east end from River Bridge) - Stage 2 | 5 | 29-Apr-25 | 06-May-25 |
| B7940 | Place Topsoil - I-20 WB outside shld (east end from River Bridge) - Stage 2 | 3 | 08-May-25 | 12-May-25 |
| B7950 | Seed / Sod - I-20 WB outside shld (east end from River Bridge) - Stage 2 | 1 | 13-May-25 | 13-May-25 |
| **I-20 WB Outside Shoulder - Pond Bridge to River Bridge** | | 18 | 08-May-25 | 03-Jun-25 |

Remaining Level of Effort
Remaining Work
Milestone
Actual Work
Critical Remaining Work

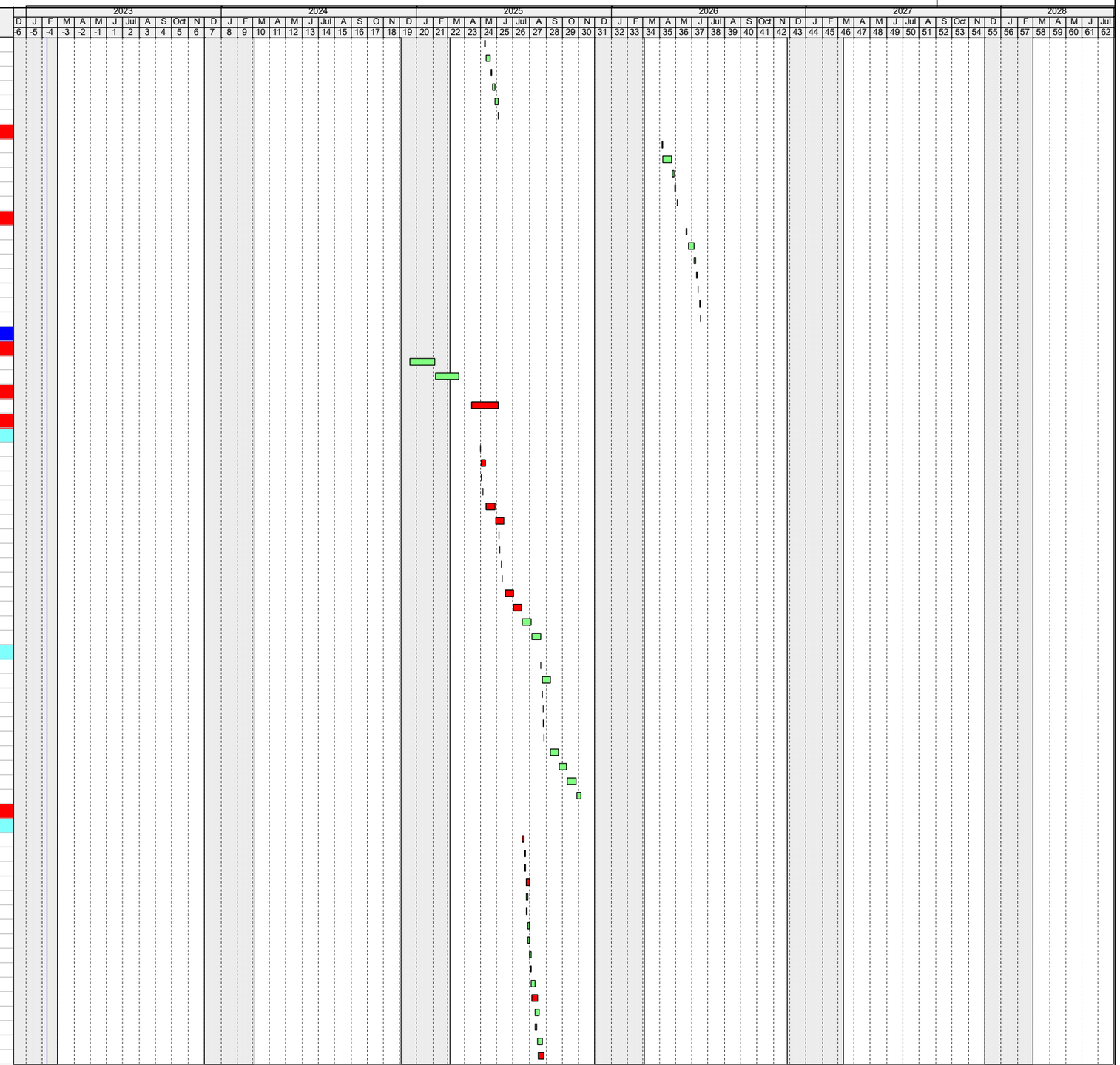
CPM Schedule

lane

# I-20 over Wateree River Bridge Replacement & Swamp Overflow Bridge Rehabilitations Design-Build Project Contract ID 2847360 Kersaw County



| Activity ID | Activity Name | Original Duration | Start | Finish |
|---|---|---|---|---|
| B7760 | Clear & Grub - I-20 WB outside shld (between bridges) - Stage 2 | 2 | 08-May-25 | 09-May-25 |
| B7800 | Embank - I-20 WB outside shld (between bridges) - Stage 2 | 5 | 12-May-25 | 19-May-25 |
| B7810 | Shld Pvmt Reconstruction - I-20 WB outside shld (between bridges) - Stage 2 | 2 | 20-May-25 | 22-May-25 |
| B7820 | Guardrail - I-20 WB outside shld (between bridges) - Stage 2 | 2 | 23-May-25 | 27-May-25 |
| B7830 | Place Topsoil - I-20 WB outside shld (between bridges) - Stage 2 | 4 | 28-May-25 | 02-Jun-25 |
| B7850 | Seed / Sod - I-20 WB outside shld (between bridges) - Stage 2 | 1 | 03-Jun-25 | 03-Jun-25 |
| **I-20 Median - Pond Bridge to River Bridge** | | **21** | **06-Apr-26** | **04-May-26** |
| B8190 | Grading - I-20 EB/WB (between bridges) - Stage 2 | 2 | 06-Apr-26 | 07-Apr-26 |
| B8200 | F/R/P/S Perm Median Barrier - I-20 EB/WB (between bridges) - Stage 2 | 10 | 08-Apr-26 | 24-Apr-26 |
| B8230 | Cure Perm Median Barrier - I-20 EB/WB (between bridges) - Stage 2 | 4 | 25-Apr-26 | 28-Apr-26 |
| B8210 | Place Topsoil - I-20 EB/WB (between bridges) - Stage 2 | 2 | 30-Apr-26 | 01-May-26 |
| B8220 | Seed / Sod - I-20 EB/WB (between bridges) - Stage 2 | 1 | 04-May-26 | 04-May-26 |
| **I-20 Median - River Bridge Approach to East End** | | **19** | **21-May-26** | **17-Jun-26** |
| B8240 | Grading - I-20 EB/WB (east end from River Bridge) - Stage 2 | 2 | 21-May-26 | 22-May-26 |
| B8250 | F/R/P/S Perm Median Barrier - I-20 EB/WB (east end from River Bridge) - Stage 2 | 7 | 26-May-26 | 04-Jun-26 |
| B8260 | Cure Perm Median Barrier - I-20 EB/WB (east end from River Bridge) - Stage 2 | 4 | 05-Jun-26 | 08-Jun-26 |
| B8350 | Install Perm Attenuator - I-20 EB/WB (east end from River Bridge) - Stage 2 | 2 | 09-Jun-26 | 11-Jun-26 |
| B8360 | Install Cable Barrier - I-20 EB/WB (east end from River Bridge) - Stage 2 | 1 | 12-Jun-26 | 12-Jun-26 |
| B8270 | Place Topsoil - I-20 EB/WB (east end from River Bridge) - Stage 2 | 2 | 15-Jun-26 | 16-Jun-26 |
| B8280 | Seed / Sod - I-20 EB/WB (east end from River Bridge) - Stage 2 | 1 | 17-Jun-26 | 17-Jun-26 |
| **Bridge over Wateree (WB)** | | **396** | **19-Dec-24** | **17-Jul-26** |
| **Trestle Relocations** | | **50** | **19-Dec-24** | **21-Mar-25** |
| B8310 | Relocate Temp Access Rdwy / Trestle Spans D-E - I-20 EB River Bridge - Stage 2 | 25 | 19-Dec-24 | 04-Feb-25 |
| B8320 | Relocate Temp Access Rdwy / Trestle Spans E-F - I-20 EB River Bridge - Stage 2 | 25 | 06-Feb-25 | 21-Mar-25 |
| **Demolition** | | **30** | **14-Apr-25** | **03-Jun-25** |
| B3870 | Demo & Remove exist WB Bridge - I-20 River Bridge - Stage 2 | 30 | 14-Apr-25 | 03-Jun-25 |
| **Foundations** | | **112** | **01-May-25** | **04-Nov-25** |
| **Bents 1-7** | | **66** | **01-May-25** | **21-Aug-25** |
| B1950 | Prep for Foundations End Bent 1 - I-20 WB River Bridge - Stage 2 | 1 | 01-May-25 | 01-May-25 |
| B1960 | Install Foundations (Pile or DS) End Bent 1 - I-20 WB River Bridge - Stage 2 | 5 | 02-May-25 | 09-May-25 |
| B1970 | Prep for Foundations Interior Bent 2 - I-20 WB River Bridge - Stage 2 | 1 | 02-May-25 | 02-May-25 |
| B1990 | Prep for Foundations Interior Bent 3 - I-20 WB River Bridge - Stage 2 | 1 | 05-May-25 | 05-May-25 |
| B1980 | Install Foundations (DS) Interior Bent 2 - I-20 WB River Bridge - Stage 2 | 10 | 12-May-25 | 28-May-25 |
| B2000 | Install Foundations (DS) Interior Bent 3 - I-20 WB River Bridge - Stage 2 | 10 | 29-May-25 | 13-Jun-25 |
| B2010 | Prep for Foundations Interior Bent 4 - I-20 WB River Bridge - Stage 2 | 1 | 05-Jun-25 | 05-Jun-25 |
| B2030 | Prep for Foundations Interior Bent 5 - I-20 WB River Bridge - Stage 2 | 1 | 06-Jun-25 | 06-Jun-25 |
| B2050 | Prep for Foundations Interior Bent 6 - I-20 WB River Bridge - Stage 2 | 1 | 09-Jun-25 | 09-Jun-25 |
| B2070 | Prep for Foundations Interior Bent 7 - I-20 WB River Bridge - Stage 2 | 1 | 10-Jun-25 | 10-Jun-25 |
| B2020 | Install Foundations (DS) Interior Bent 4 - I-20 WB River Bridge - Stage 2 | 10 | 16-Jun-25 | 01-Jul-25 |
| B2040 | Install Foundations (DS) Interior Bent 5 - I-20 WB River Bridge - Stage 2 | 10 | 02-Jul-25 | 17-Jul-25 |
| B2060 | Install Foundations (DS) Interior Bent 6 - I-20 WB River Bridge - Stage 2 | 10 | 18-Jul-25 | 04-Aug-25 |
| B2080 | Install Foundations (DS) Interior Bent 7 - I-20 WB River Bridge - Stage 2 | 10 | 05-Aug-25 | 21-Aug-25 |
| **Bents 8-12** | | **46** | **22-Aug-25** | **04-Nov-25** |
| B2090 | Prep for Foundations Interior Bent 8 - I-20 WB River Bridge - Stage 2 | 1 | 22-Aug-25 | 22-Aug-25 |
| B2100 | Install Foundations (DS) Interior Bent 8 - I-20 WB River Bridge - Stage 2 | 10 | 25-Aug-25 | 08-Sep-25 |
| B7370 | Prep for Foundations Interior Bent 9 - I-20 WB River Bridge - Stage 2 | 1 | 25-Aug-25 | 25-Aug-25 |
| B7390 | Prep for Foundations Interior Bent 10 - I-20 WB River Bridge - Stage 2 | 1 | 26-Aug-25 | 26-Aug-25 |
| B7410 | Prep for Foundations Interior Bent 11 - I-20 WB River Bridge - Stage 2 | 1 | 27-Aug-25 | 27-Aug-25 |
| B2170 | Prep for Foundations End Bent 12 - I-20 WB River Bridge - Stage 2 | 1 | 28-Aug-25 | 28-Aug-25 |
| B7380 | Install Foundations (DS) Interior Bent 9 - I-20 WB River Bridge - Stage 2 | 10 | 09-Sep-25 | 23-Sep-25 |
| B7400 | Install Foundations (DS) Interior Bent 10 - I-20 WB River Bridge - Stage 2 | 10 | 25-Sep-25 | 09-Oct-25 |
| B7420 | Install Foundations (DS) Interior Bent 11 - I-20 WB River Bridge - Stage 2 | 10 | 10-Oct-25 | 27-Oct-25 |
| B2180 | Install Foundations (Pile or DS) End Bent 12 - I-20 WB River Bridge - Stage 2 | 5 | 28-Oct-25 | 04-Nov-25 |
| **Substructure** | | **108** | **18-Jul-25** | **22-Dec-25** |
| **Bents 1-5** | | **59** | **18-Jul-25** | **09-Oct-25** |
| B2335 | Prep Shafts for Columns Interior Bent 5 - I-20 WB River Bridge - Stage 2 | 2 | 18-Jul-25 | 21-Jul-25 |
| B2295 | Prep Shafts for Columns Interior Bent 4 - I-20 WB River Bridge - Stage 2 | 2 | 22-Jul-25 | 24-Jul-25 |
| B2338 | Cure Shaft Prep for Columns Interior Bent 5 - I-20 WB River Bridge - Stage 2 | 3 | 22-Jul-25 | 24-Jul-25 |
| B2330 | F/R/P/S Columns Interior Bent 5 - I-20 WB River Bridge - Stage 2 | 5 | 25-Jul-25 | 01-Aug-25 |
| B2255 | Prep Shafts for Columns Interior Bent 3 - I-20 WB River Bridge - Stage 2 | 2 | 25-Jul-25 | 28-Jul-25 |
| B2298 | Cure Shaft Prep for Columns Interior Bent 4 - I-20 WB River Bridge - Stage 2 | 3 | 25-Jul-25 | 27-Jul-25 |
| B2215 | Prep Shafts for Columns Interior Bent 2 - I-20 WB River Bridge - Stage 2 | 2 | 29-Jul-25 | 31-Jul-25 |
| B2258 | Cure Shaft Prep for Columns Interior Bent 3 - I-20 WB River Bridge - Stage 2 | 3 | 29-Jul-25 | 31-Jul-25 |
| B2218 | Cure Shaft Prep for Columns Interior Bent 2 - I-20 WB River Bridge - Stage 2 | 3 | 01-Aug-25 | 03-Aug-25 |
| B2340 | Cure Columns Interior Bent 5 - I-20 WB River Bridge - Stage 2 | 3 | 02-Aug-25 | 04-Aug-25 |
| B2290 | F/R/P/S Columns Interior Bent 4 - I-20 WB River Bridge - Stage 2 | 5 | 04-Aug-25 | 11-Aug-25 |
| B2350 | F/R/P/S Caps & Pedestals Interior Bent 5 - I-20 WB River Bridge - Stage 2 | 7 | 05-Aug-25 | 15-Aug-25 |
| B2250 | F/R/P/S Columns Interior Bent 3 - I-20 WB River Bridge - Stage 2 | 5 | 12-Aug-25 | 19-Aug-25 |
| B2300 | Cure Columns Interior Bent 4 - I-20 WB River Bridge - Stage 2 | 3 | 12-Aug-25 | 14-Aug-25 |
| B2360 | Cure Caps Interior Bent 5 - I-20 WB River Bridge - Stage 2 | 10 | 16-Aug-25 | 25-Aug-25 |
| B2310 | F/R/P/S Caps & Pedestals Interior Bent 4 - I-20 WB River Bridge - Stage 2 | 7 | 18-Aug-25 | 27-Aug-25 |




Remaining Level of Effort
Remaining Work
Milestone
Actual Work
Critical Remaining Work

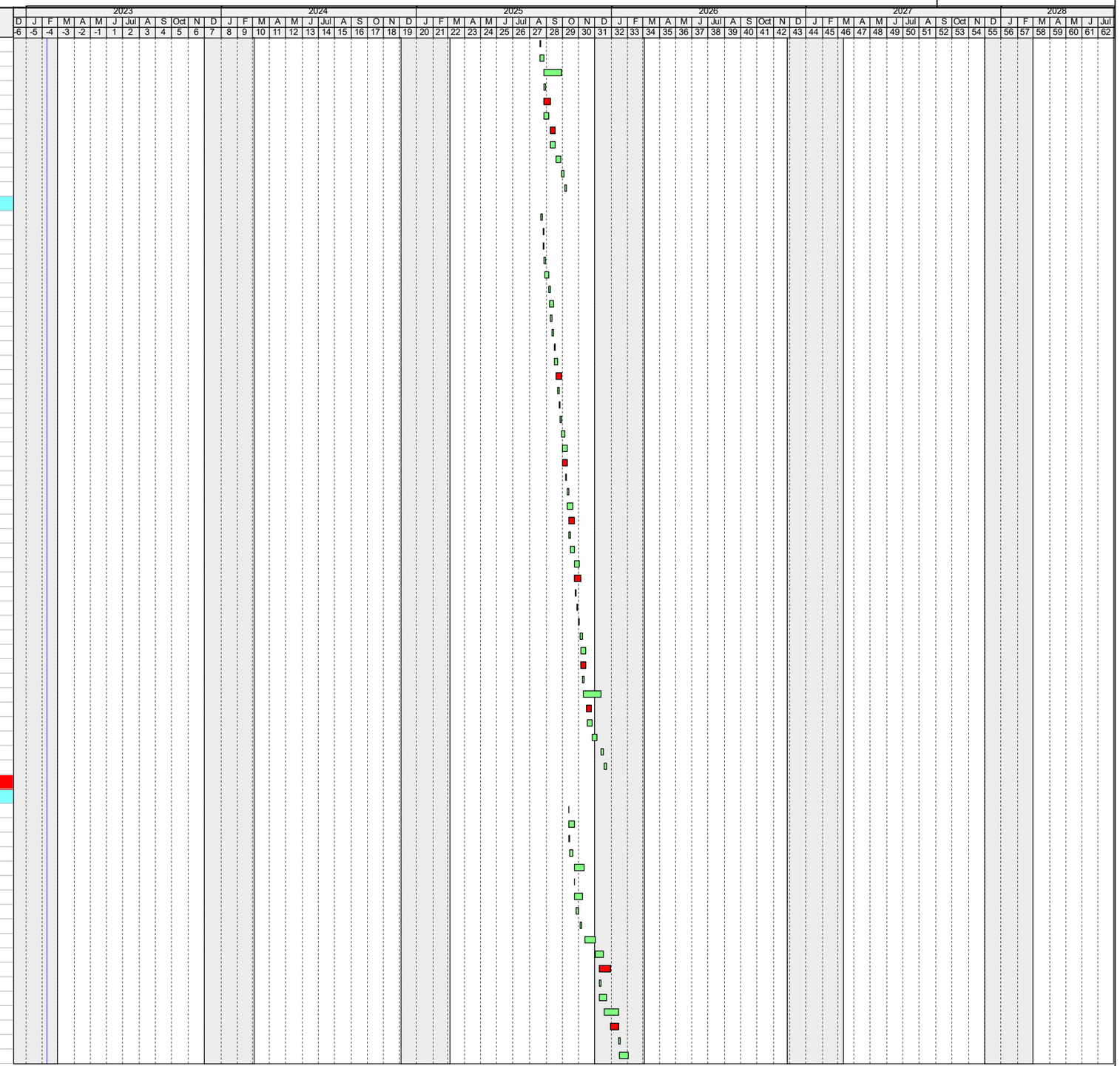
CPM Schedule

lane

# I-20 over Wateree River Bridge Replacement & Swamp Overflow Bridge Rehabilitations Design-Build Project Contract ID 2847360 Kersaw County



| Activity ID | Activity Name | Original Duration | Start | Finish |
|---|---|---|---|---|
| B2260 | Cure Columns Interior Bent 3 - I-20 WB River Bridge - Stage 2 | 3 | 20-Aug-25 | 22-Aug-25 |
| B2210 | F/R/P/S Columns Interior Bent 2 - I-20 WB River Bridge - Stage 2 | 5 | 21-Aug-25 | 27-Aug-25 |
| B2190 | F/R/P/S End Bent 1 - I-20 WB River Bridge - Stage 2 | 20 | 28-Aug-25 | 29-Sep-25 |
| B2220 | Cure Columns Interior Bent 2 - I-20 WB River Bridge - Stage 2 | 3 | 28-Aug-25 | 30-Aug-25 |
| B2270 | F/R/P/S Caps & Pedestals Interior Bent 3 - I-20 WB River Bridge - Stage 2 | 7 | 28-Aug-25 | 08-Sep-25 |
| B2320 | Cure Caps Interior Bent 4 - I-20 WB River Bridge - Stage 2 | 10 | 28-Aug-25 | 06-Sep-25 |
| B2230 | F/R/P/S Caps & Pedestals Interior Bent 2 - I-20 WB River Bridge - Stage 2 | 7 | 09-Sep-25 | 18-Sep-25 |
| B2280 | Cure Caps Interior Bent 3 - I-20 WB River Bridge - Stage 2 | 10 | 09-Sep-25 | 18-Sep-25 |
| B2240 | Cure Caps Interior Bent 2 - I-20 WB River Bridge - Stage 2 | 10 | 19-Sep-25 | 28-Sep-25 |
| B2200 | Cure End Bent 1 - I-20 WB River Bridge - Stage 2 | 5 | 30-Sep-25 | 04-Oct-25 |
| B8640 | Grade / Install Riprap End Bent 1 - I-20 WB River Bridge - Stage 2 | 3 | 06-Oct-25 | 09-Oct-25 |
| **Bents 6-12** | | 83 | 22-Aug-25 | 22-Dec-25 |
| B2375 | Prep Shafts for Columns Interior Bent 6 - I-20 WB River Bridge - Stage 2 | 2 | 22-Aug-25 | 25-Aug-25 |
| B2415 | Prep Shafts for Columns Interior Bent 7 - I-20 WB River Bridge - Stage 2 | 2 | 26-Aug-25 | 27-Aug-25 |
| B2378 | Cure Shaft Prep for Columns Interior Bent 6 - I-20 WB River Bridge - Stage 2 | 3 | 26-Aug-25 | 28-Aug-25 |
| B2418 | Cure Shaft Prep for Columns Interior Bent 7 - I-20 WB River Bridge - Stage 2 | 3 | 28-Aug-25 | 30-Aug-25 |
| B2370 | F/R/P/S Columns Interior Bent 6 - I-20 WB River Bridge - Stage 2 | 5 | 29-Aug-25 | 05-Sep-25 |
| B2380 | Cure Columns Interior Bent 6 - I-20 WB River Bridge - Stage 2 | 3 | 06-Sep-25 | 08-Sep-25 |
| B2410 | F/R/P/S Columns Interior Bent 7 - I-20 WB River Bridge - Stage 2 | 5 | 08-Sep-25 | 15-Sep-25 |
| B2455 | Prep Shafts for Columns Interior Bent 8 - I-20 WB River Bridge - Stage 2 | 2 | 09-Sep-25 | 11-Sep-25 |
| B2458 | Cure Shaft Prep for Columns Interior Bent 8 - I-20 WB River Bridge - Stage 2 | 3 | 12-Sep-25 | 14-Sep-25 |
| B2420 | Cure Columns Interior Bent 7 - I-20 WB River Bridge - Stage 2 | 3 | 16-Sep-25 | 18-Sep-25 |
| B2450 | F/R/P/S Columns Interior Bent 8 - I-20 WB River Bridge - Stage 2 | 5 | 16-Sep-25 | 22-Sep-25 |
| B2390 | F/R/P/S Caps & Pedestals Interior Bent 6 - I-20 WB River Bridge - Stage 2 | 7 | 19-Sep-25 | 30-Sep-25 |
| B2460 | Cure Columns Interior Bent 8 - I-20 WB River Bridge - Stage 2 | 3 | 23-Sep-25 | 25-Sep-25 |
| B7435 | Prep Shafts for Columns Interior Bent 9 - I-20 WB River Bridge - Stage 2 | 2 | 25-Sep-25 | 26-Sep-25 |
| B7438 | Cure Shaft Prep for Columns Interior Bent 9 - I-20 WB River Bridge - Stage 2 | 3 | 27-Sep-25 | 29-Sep-25 |
| B7430 | F/R/P/S Columns Interior Bent 9 - I-20 WB River Bridge - Stage 2 | 5 | 30-Sep-25 | 06-Oct-25 |
| B2400 | Cure Caps Interior Bent 6 - I-20 WB River Bridge - Stage 2 | 10 | 01-Oct-25 | 10-Oct-25 |
| B2430 | F/R/P/S Caps & Pedestals Interior Bent 7 - I-20 WB River Bridge - Stage 2 | 7 | 01-Oct-25 | 10-Oct-25 |
| B7440 | Cure Columns Interior Bent 9 - I-20 WB River Bridge - Stage 2 | 3 | 07-Oct-25 | 09-Oct-25 |
| B7475 | Prep Shafts for Columns Interior Bent 10 - I-20 WB River Bridge - Stage 2 | 2 | 10-Oct-25 | 13-Oct-25 |
| B2440 | Cure Caps Interior Bent 7 - I-20 WB River Bridge - Stage 2 | 10 | 11-Oct-25 | 20-Oct-25 |
| B2470 | F/R/P/S Caps & Pedestals Interior Bent 8 - I-20 WB River Bridge - Stage 2 | 7 | 13-Oct-25 | 23-Oct-25 |
| B7478 | Cure Shaft Prep for Columns Interior Bent 10 - I-20 WB River Bridge - Stage 2 | 3 | 14-Oct-25 | 16-Oct-25 |
| B7470 | F/R/P/S Columns Interior Bent 10 - I-20 WB River Bridge - Stage 2 | 5 | 17-Oct-25 | 24-Oct-25 |
| B2480 | Cure Caps Interior Bent 8 - I-20 WB River Bridge - Stage 2 | 10 | 24-Oct-25 | 02-Nov-25 |
| B7450 | F/R/P/S Caps & Pedestals Interior Bent 9 - I-20 WB River Bridge - Stage 2 | 7 | 24-Oct-25 | 04-Nov-25 |
| B7480 | Cure Columns Interior Bent 10 - I-20 WB River Bridge - Stage 2 | 3 | 25-Oct-25 | 27-Oct-25 |
| B7515 | Prep Shafts for Columns Interior Bent 11 - I-20 WB River Bridge - Stage 2 | 2 | 28-Oct-25 | 30-Oct-25 |
| B7518 | Cure Shaft Prep for Columns Interior Bent 11 - I-20 WB River Bridge - Stage 2 | 3 | 31-Oct-25 | 02-Nov-25 |
| B7510 | F/R/P/S Columns Interior Bent 11 - I-20 WB River Bridge - Stage 2 | 5 | 03-Nov-25 | 07-Nov-25 |
| B7460 | Cure Caps Interior Bent 9 - I-20 WB River Bridge - Stage 2 | 10 | 05-Nov-25 | 14-Nov-25 |
| B7490 | F/R/P/S Caps & Pedestals Interior Bent 10 - I-20 WB River Bridge - Stage 2 | 7 | 05-Nov-25 | 14-Nov-25 |
| B7520 | Cure Columns Interior Bent 11 - I-20 WB River Bridge - Stage 2 | 3 | 08-Nov-25 | 10-Nov-25 |
| B2610 | F/R/P/S End Bent 12 - I-20 WB River Bridge - Stage 2 | 20 | 10-Nov-25 | 12-Dec-25 |
| B7500 | Cure Caps Interior Bent 10 - I-20 WB River Bridge - Stage 2 | 10 | 15-Nov-25 | 24-Nov-25 |
| B7530 | F/R/P/S Caps & Pedestals Interior Bent 11 - I-20 WB River Bridge - Stage 2 | 7 | 17-Nov-25 | 25-Nov-25 |
| B7540 | Cure Caps Interior Bent 11 - I-20 WB River Bridge - Stage 2 | 10 | 26-Nov-25 | 05-Dec-25 |
| B2620 | Cure End Bent 12 - I-20 WB River Bridge - Stage 2 | 5 | 13-Dec-25 | 17-Dec-25 |
| B8600 | Grade / Install Riprap End Bent 12 - I-20 WB River Bridge - Stage 2 | 3 | 18-Dec-25 | 22-Dec-25 |
| **Superstructure** | | 156 | 13-Oct-25 | 28-May-26 |
| **Bents 1-5 (Spans ABC-DEF)** | | 134 | 13-Oct-25 | 27-Apr-26 |
| B2680 | Erect Girders Spans E - I-20 WB River Bridge - Stage 2 | 1 | 13-Oct-25 | 13-Oct-25 |
| B2630 | Erect Girders Spans ABCD - I-20 WB River Bridge - Stage 2 | 6 | 14-Oct-25 | 23-Oct-25 |
| B8510 | Safety Cabling & Girder Asbuilt Spans DEF - I-20 WB River Bridge - Stage 2 | 1 | 14-Oct-25 | 14-Oct-25 |
| B8520 | SCDOT Review & Approve Girder Asbuilt Spans DEF - I-20 WB River Bridge - Stage 2 | 5 | 15-Oct-25 | 21-Oct-25 |
| B2640 | Install OH Brackets & Side Forms Spans ABC - I-20 WB River Bridge - Stage 2 | 12 | 24-Oct-25 | 11-Nov-25 |
| B8490 | Safety Cabling & Girder Asbuilt Spans ABC - I-20 WB River Bridge - Stage 2 | 1 | 24-Oct-25 | 24-Oct-25 |
| B2635 | Form Diaphragms Spans ABC - I-20 WB River Bridge - Stage 2 | 10 | 24-Oct-25 | 07-Nov-25 |
| B8500 | SCDOT Review & Approve Girder Asbuilt Spans ABC - I-20 WB River Bridge - Stage 2 | 5 | 27-Oct-25 | 31-Oct-25 |
| B2650 | Install SIP Panels Spans ABC - I-20 WB River Bridge - Stage 2 | 4 | 03-Nov-25 | 06-Nov-25 |
| B2660 | Set & Tie Deck Rebar Spans ABC - I-20 WB River Bridge - Stage 2 | 10 | 13-Nov-25 | 01-Dec-25 |
| B2662 | Dryrun Bidwell for Spans ABC - I-20 WB River Bridge - Stage 2 | 10 | 02-Dec-25 | 16-Dec-25 |
| B2690 | Install OH Brackets & Side Forms Spans DEF - I-20 WB River Bridge - Stage 2 | 12 | 09-Dec-25 | 30-Dec-25 |
| B2700 | Install SIP Panels Spans DEF - I-20 WB River Bridge - Stage 2 | 4 | 09-Dec-25 | 12-Dec-25 |
| B2685 | Form Diaphragms Spans DEF - I-20 WB River Bridge - Stage 2 | 10 | 09-Dec-25 | 23-Dec-25 |
| B2664 | Pour Deck Spans ABC - I-20 WB River Bridge - Stage 2 | 15 | 18-Dec-25 | 14-Jan-26 |
| B2702 | Set & Tie Deck Rebar Spans DEF - I-20 WB River Bridge - Stage 2 | 10 | 31-Dec-25 | 15-Jan-26 |
| B2670 | Cure Deck Spans ABC - I-20 WB River Bridge - Stage 2 | 4 | 15-Jan-26 | 18-Jan-26 |
| B2704 | Dryrun Bidwell for Spans DEF - I-20 WB River Bridge - Stage 2 | 10 | 16-Jan-26 | 02-Feb-26 |




Remaining Level of Effort
Actual Work
Remaining Work
Critical Remaining Work
Milestone

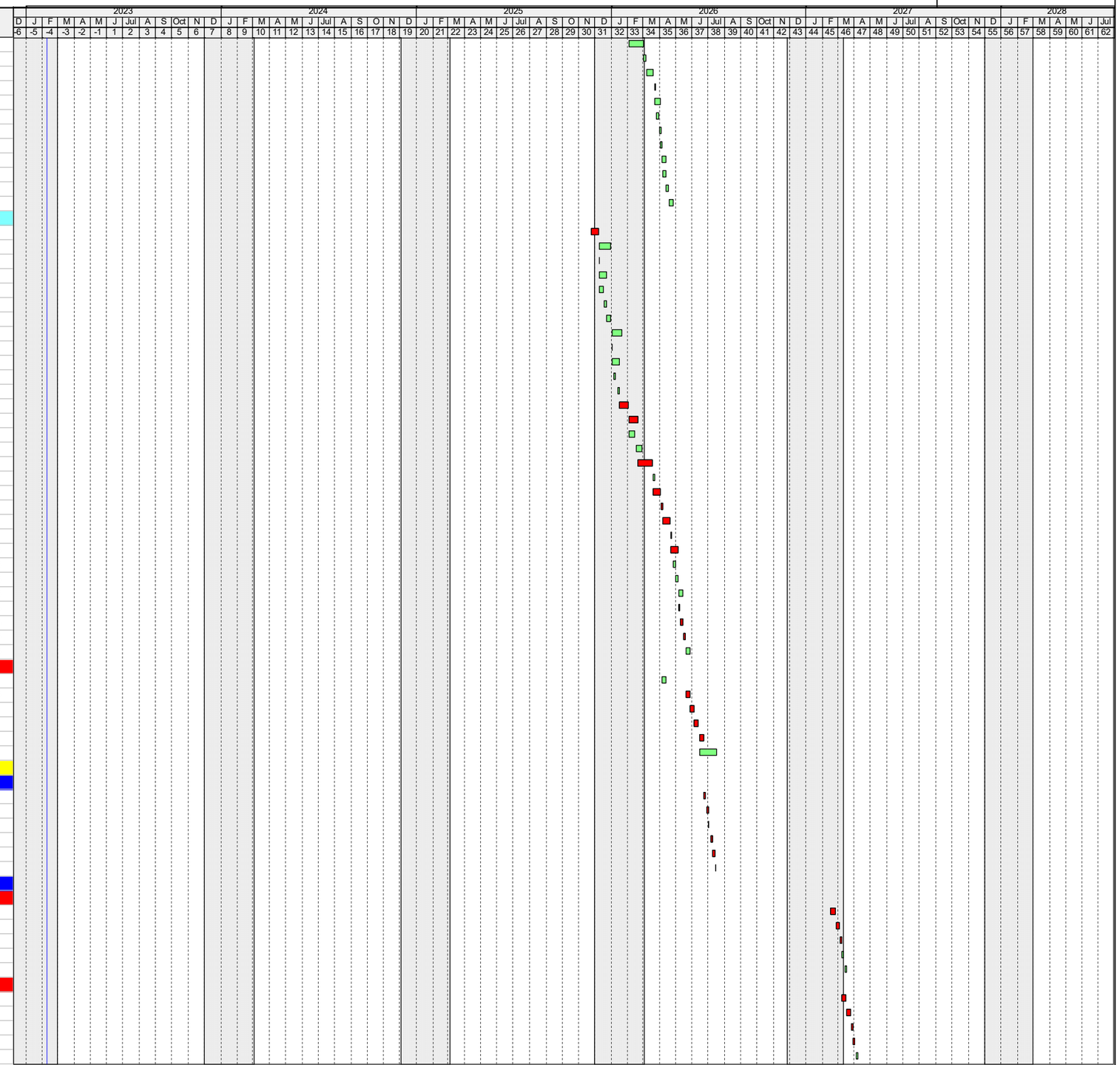
CPM Schedule

lane

# I-20 over Wateree River Bridge Replacement & Swamp Overflow Bridge Rehabilitations Design-Build Project Contract ID 2847360 Kersaw County



| Activity ID | Activity Name | Original Duration | Start | Finish |
|---|---|---|---|---|
| B2710 | Pour Deck Spans DEF - I-20 WB River Bridge - Stage 2 | 15 | 03-Feb-26 | 02-Mar-26 |
| B2720 | Cure Deck Spans DEF- I-20 WB River Bridge - Stage 2 | 4 | 03-Mar-26 | 06-Mar-26 |
| B8650 | Wood Form Deck Closure Spans ABC - I-20 WB River Bridge - Stage 2 | 8 | 09-Mar-26 | 20-Mar-26 |
| B8660 | Set & Tie Deck Rebar Closure Spans ABC - I-20 WB River Bridge - Stage 2 | 2 | 23-Mar-26 | 24-Mar-26 |
| B8700 | Wood Form Deck Closure Spans DEF - I-20 WB River Bridge - Stage 2 | 8 | 23-Mar-26 | 02-Apr-26 |
| B8680 | Pour Deck Closure Spans ABC - I-20 WB River Bridge - Stage 2 | 4 | 26-Mar-26 | 31-Mar-26 |
| B8690 | Cure Deck Closure Spans ABC - I-20 WB River Bridge - Stage 2 | 4 | 01-Apr-26 | 04-Apr-26 |
| B8710 | Set & Tie Deck Rebar Closure Spans DEF - I-20 WB River Bridge - Stage 2 | 2 | 03-Apr-26 | 06-Apr-26 |
| B8670 | Strip Wood Form Deck Closure Spans ABC - I-20 WB River Bridge - Stage 2 | 5 | 06-Apr-26 | 13-Apr-26 |
| B8730 | Pour Deck Closure Spans DEF - I-20 WB River Bridge - Stage 2 | 4 | 07-Apr-26 | 13-Apr-26 |
| B8740 | Cure Deck Closure Spans DEF - I-20 WB River Bridge - Stage 2 | 4 | 14-Apr-26 | 17-Apr-26 |
| B8720 | Strip Wood Form Deck Closure Spans DEF - I-20 WB River Bridge - Stage 2 | 5 | 20-Apr-26 | 27-Apr-26 |
| **Bents 6-12 (Spans GHI-JK)** | | 127 | 25-Nov-25 | 28-May-26 |
| B2730 | Erect Girders Spans FGHI - I-20 WB River Bridge - Stage 2 | 6 | 25-Nov-25 | 08-Dec-25 |
| B2740 | Install OH Brackets & Side Forms Spans GHI - I-20 WB River Bridge - Stage 2 | 12 | 09-Dec-25 | 30-Dec-25 |
| B8530 | Safety Cabling & Girder Asbuilt Spans GHI - I-20 WB River Bridge - Stage 2 | 1 | 09-Dec-25 | 09-Dec-25 |
| B2735 | Form Diaphragms Spans GHI - I-20 WB River Bridge - Stage 2 | 10 | 09-Dec-25 | 23-Dec-25 |
| B8540 | SCDOT Review & Approve Girder Asbuilt Spans GHI - I-20 WB River Bridge - Stage 2 | 5 | 10-Dec-25 | 16-Dec-25 |
| B2750 | Install SIP Panels Spans GHI - I-20 WB River Bridge - Stage 2 | 4 | 18-Dec-25 | 23-Dec-25 |
| B7550 | Erect Girders Spans JK - I-20 WB River Bridge - Stage 2 | 4 | 23-Dec-25 | 31-Dec-25 |
| B7560 | Install OH Brackets & Side Forms Spans JK - I-20 WB River Bridge - Stage 2 | 12 | 02-Jan-26 | 20-Jan-26 |
| B8550 | Safety Cabling & Girder Asbuilt Spans JK - I-20 WB River Bridge - Stage 2 | 1 | 02-Jan-26 | 02-Jan-26 |
| B7555 | Form Diaphragms Spans JK - I-20 WB River Bridge - Stage 2 | 10 | 02-Jan-26 | 16-Jan-26 |
| B8560 | SCDOT Review & Approve Girder Asbuilt Spans JK - I-20 WB River Bridge - Stage 2 | 5 | 05-Jan-26 | 09-Jan-26 |
| B7570 | Install SIP Panels Spans JK - I-20 WB River Bridge - Stage 2 | 4 | 13-Jan-26 | 16-Jan-26 |
| B2752 | Set & Tie Deck Rebar Spans GHI - I-20 WB River Bridge - Stage 2 | 10 | 16-Jan-26 | 02-Feb-26 |
| B2754 | Dryrun Bidwell for Spans GHI - I-20 WB River Bridge - Stage 2 | 10 | 03-Feb-26 | 19-Feb-26 |
| B7572 | Set & Tie Deck Rebar Spans JK - I-20 WB River Bridge - Stage 2 | 7 | 03-Feb-26 | 13-Feb-26 |
| B7574 | Dryrun Bidwell for Spans JK - I-20 WB River Bridge - Stage 2 | 7 | 16-Feb-26 | 27-Feb-26 |
| B2760 | Pour Deck Spans GHI - I-20 WB River Bridge - Stage 2 | 15 | 20-Feb-26 | 19-Mar-26 |
| B2770 | Cure Deck Spans GHI - I-20 WB River Bridge - Stage 2 | 4 | 20-Mar-26 | 23-Mar-26 |
| B7580 | Pour Deck Spans JK - I-20 WB River Bridge - Stage 2 | 10 | 20-Mar-26 | 03-Apr-26 |
| B7590 | Cure Deck Spans JK - I-20 WB River Bridge - Stage 2 | 4 | 04-Apr-26 | 07-Apr-26 |
| B8750 | Wood Form Deck Closure Spans GHI - I-20 WB River Bridge - Stage 2 | 8 | 08-Apr-26 | 21-Apr-26 |
| B8760 | Set & Tie Deck Rebar Closure Spans GHI - I-20 WB River Bridge - Stage 2 | 2 | 23-Apr-26 | 24-Apr-26 |
| B8800 | Wood Form Deck Closure Spans JK - I-20 WB River Bridge - Stage 2 | 8 | 23-Apr-26 | 05-May-26 |
| B8780 | Pour Deck Closure Spans GHI - I-20 WB River Bridge - Stage 2 | 4 | 27-Apr-26 | 01-May-26 |
| B8790 | Cure Deck Closure Spans GHI - I-20 WB River Bridge - Stage 2 | 4 | 02-May-26 | 05-May-26 |
| B8770 | Strip Wood Form Deck Closure Spans GHI - I-20 WB River Bridge - Stage 2 | 5 | 07-May-26 | 14-May-26 |
| B8810 | Set & Tie Deck Rebar Closure Spans JK - I-20 WB River Bridge - Stage 2 | 2 | 07-May-26 | 08-May-26 |
| B8830 | Pour Deck Closure Spans JK - I-20 WB River Bridge - Stage 2 | 4 | 11-May-26 | 15-May-26 |
| B8840 | Cure Deck Closure Spans JK - I-20 WB River Bridge - Stage 2 | 4 | 16-May-26 | 19-May-26 |
| B8820 | Strip Wood Form Deck Closure Spans JK - I-20 WB River Bridge - Stage 2 | 5 | 21-May-26 | 28-May-26 |
| **Bridge Finishes** | | 60 | 06-Apr-26 | 17-Jul-26 |
| B2850 | Construct Approach Slab End Bent 1 - I-20 WB River Bridge - Stage 2 | 5 | 06-Apr-26 | 13-Apr-26 |
| B2860 | Construct Approach Slab End Bent 12 - I-20 WB River Bridge - Stage 2 | 5 | 21-May-26 | 28-May-26 |
| B8910 | Install Deck Expan Joint Seals Spans A-K - I-20 WB River Bridge - Stage 2 | 4 | 29-May-26 | 04-Jun-26 |
| B2830 | Slip Parapet Railing - Spans A-K - I-20 WB River Bridge - Stage 2 | 5 | 05-Jun-26 | 12-Jun-26 |
| B2840 | Groove Bridge Deck Spans A-K - I-20 WB River Bridge - Stage 2 | 5 | 15-Jun-26 | 22-Jun-26 |
| B2835 | Strip OH - Spans A-K - I-20 WB River Bridge - Stage 2 | 20 | 15-Jun-26 | 17-Jul-26 |
| **Stage 3** | | 333 | 03-Mar-26 | 25-Jun-27 |
| **Traffic Control** | | 14 | 23-Jun-26 | 16-Jul-26 |
| B3980 | Reset Traffic Control (WZ stripings/signs) - WB I-20 - Stage 3 | 3 | 23-Jun-26 | 26-Jun-26 |
| B3990 | Reset/Move PCTBs & CCAs - WB I-20 - Stage 3 | 3 | 29-Jun-26 | 01-Jul-26 |
| B4000 | Shift traffic into Stage 3 configuration - WB I-20 | 1 | 02-Jul-26 | 02-Jul-26 |
| B4010 | Reset Traffic Control (WZ stripings/signs) - EB I-20 - Stage 3 | 3 | 06-Jul-26 | 09-Jul-26 |
| B4020 | Reset/Move PCTBs & CCAs - EB I-20 - Stage 3 | 3 | 10-Jul-26 | 14-Jul-26 |
| B4030 | Shift traffic into Stage 3 configuration - EB I-20 | 1 | 16-Jul-26 | 16-Jul-26 |
| **Earthwork-Roadway** | | 46 | 16-Feb-27 | 06-May-27 |
| **I-20 EB/Median - West End to Pond Bridge Approach** | | 18 | 16-Feb-27 | 18-Mar-27 |
| B6320 | Remove Exist Rdwy - I-20 EB (west end to Pond Bridge) - Stage 3 | 5 | 16-Feb-27 | 25-Feb-27 |
| B6330 | Grading - I-20 EB (west end to Pond Bridge) - Stage 3 | 5 | 26-Feb-27 | 04-Mar-27 |
| B8160 | Guardrail - I-20 EB (west end to Pond Bridge) - Stage 3 | 2 | 05-Mar-27 | 08-Mar-27 |
| B6340 | Place Topsoil - I-20 EB (west end to Pond Bridge) - Stage 3 | 3 | 09-Mar-27 | 12-Mar-27 |
| B7640 | Seed / Sod - I-20 EB (west end to Pond Bridge) - Stage 3 | 3 | 15-Mar-27 | 18-Mar-27 |
| **I-20 EB - Pond Bridge to River Bridge** | | 18 | 09-Mar-27 | 07-Apr-27 |
| B6360 | Remove Exist Rdwy - I-20 EB (between bridges) - Stage 3 | 5 | 09-Mar-27 | 16-Mar-27 |
| B6370 | Grading - I-20 EB (between bridges) - Stage 3 | 5 | 18-Mar-27 | 25-Mar-27 |
| B8170 | Guardrail - I-20 EB (between bridges) - Stage 3 | 2 | 26-Mar-27 | 29-Mar-27 |
| B6380 | Place Topsoil - I-20 EB (between bridges) - Stage 3 | 3 | 30-Mar-27 | 02-Apr-27 |
| B7650 | Seed / Sod - I-20 EB (between bridges) - Stage 3 | 3 | 05-Apr-27 | 07-Apr-27 |




Remaining Level of Effort
Remaining Work
Milestone
Actual Work
Critical Remaining Work

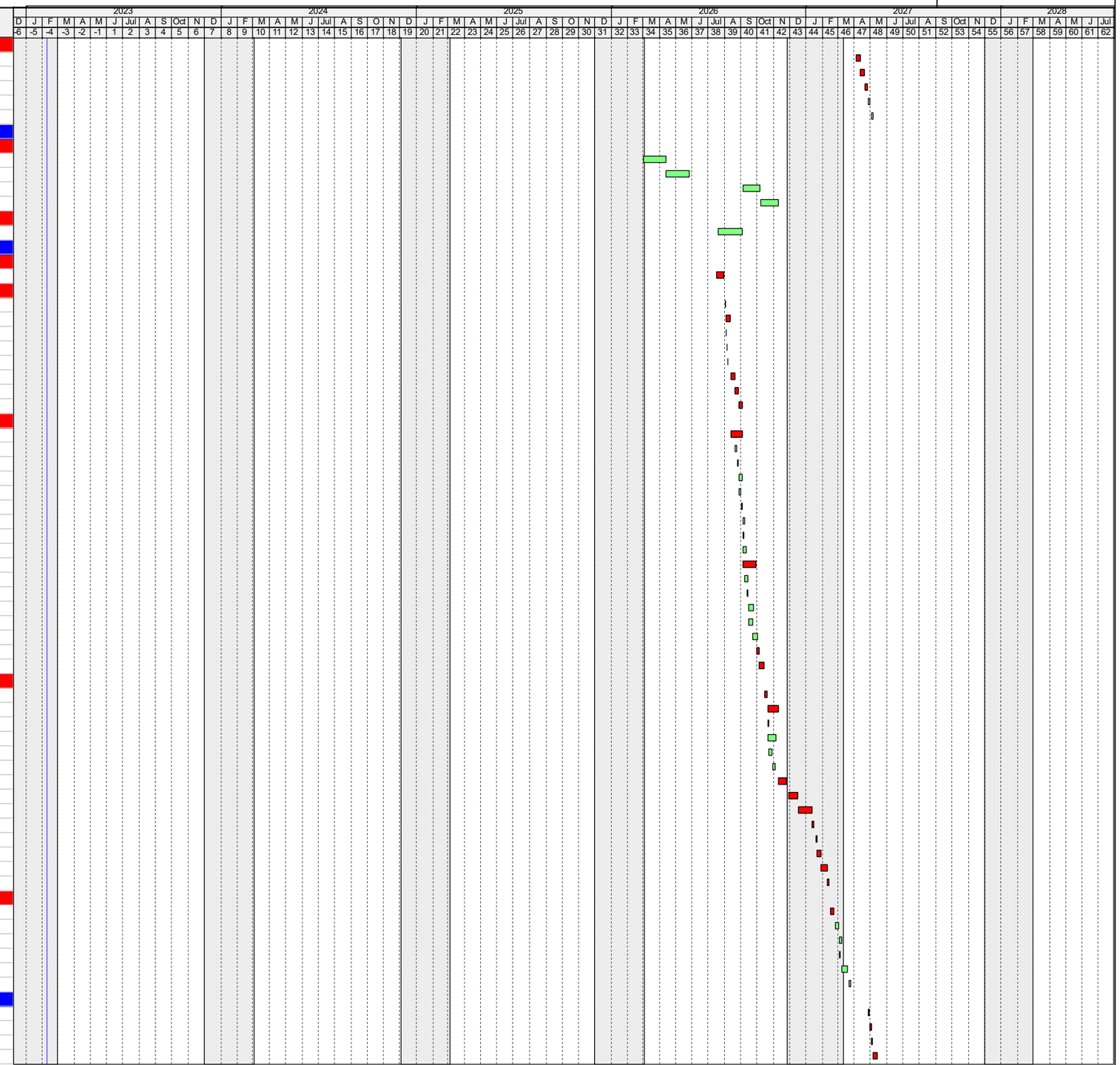
CPM Schedule

lane

# I-20 over Wateree River Bridge Replacement & Swamp Overflow Bridge Rehabilitations Design-Build Project Contract ID 2847360 Kersaw County



| Activity ID | Activity Name | Original Duration | Start | Finish |
|---|---|---|---|---|
| **I-20 EB/Median - River Bridge Approach to East End** | | 19 | 05-Apr-27 | 06-May-27 |
| B6400 | Remove Exist Rdwy - I-20 EB (east end from River Bridge) - Stage 3 | 5 | 05-Apr-27 | 12-Apr-27 |
| B6410 | Grading - I-20 EB (east end from River Bridge) - Stage 3 | 5 | 13-Apr-27 | 20-Apr-27 |
| B8180 | Guardrail - I-20 EB (east end from River Bridge) - Stage 3 | 3 | 22-Apr-27 | 26-Apr-27 |
| B6420 | Place Topsoil - I-20 EB (east end from River Bridge) - Stage 3 | 3 | 27-Apr-27 | 30-Apr-27 |
| B7660 | Seed / Sod - I-20 EB (east end from River Bridge) - Stage 3 | 3 | 03-May-27 | 06-May-27 |
| **Bridge over Wateree (exist EB)** | | 150 | 03-Mar-26 | 09-Nov-26 |
| **Trestle Removals** | | 150 | 03-Mar-26 | 09-Nov-26 |
| B8370 | Relocate Temp Access Rdwy / Trestle Spans A-D - I-20 EB River Bridge - Stage 3 | 25 | 03-Mar-26 | 13-Apr-26 |
| B8380 | Relocate Temp Access Rdwy / Trestle Spans F-K - I-20 EB River Bridge - Stage 3 | 25 | 14-Apr-26 | 27-May-26 |
| B8290 | Remove Temp Access & Trestle Spans A-D - I-20 WB River Bridge - Stage 3 | 20 | 04-Sep-26 | 06-Oct-26 |
| B8300 | Remove Temp Access & Trestle Spans F-K - I-20 WB River Bridge - Stage 3 | 20 | 08-Oct-26 | 09-Nov-26 |
| **Demolition** | | 30 | 20-Jul-26 | 03-Sep-26 |
| B4050 | Demo & Remove exist EB Bridge (balance) - I-20 EB River Bridge - Stage 3 | 30 | 20-Jul-26 | 03-Sep-26 |
| **Bridge over Pond (EB)** | | 172 | 17-Jul-26 | 25-Mar-27 |
| **Demolition** | | 10 | 17-Jul-26 | 31-Jul-26 |
| B5620 | Demo & Remove exist EB Bridge over Pond (balance) - I-20 EB Pond Bridge - Stage 3 | 10 | 17-Jul-26 | 31-Jul-26 |
| **Foundations** | | 21 | 03-Aug-26 | 03-Sep-26 |
| B5630 | Prep for Foundations End Bent 1 - I-20 EB Pond Bridge - Stage 3 | 1 | 03-Aug-26 | 03-Aug-26 |
| B5640 | Install Foundations (Pile or DS) End Bent 1 - I-20 EB Pond Bridge - Stage 3 | 5 | 04-Aug-26 | 11-Aug-26 |
| B5650 | Prep for Foundations Interior Bent 2 - I-20 EB Pond Bridge - Stage 3 | 1 | 04-Aug-26 | 04-Aug-26 |
| B5670 | Prep for Foundations Interior Bent 3 - I-20 EB Pond Bridge - Stage 3 | 1 | 06-Aug-26 | 06-Aug-26 |
| B5790 | Prep for Foundations End Bent 4 - I-20 EB Pond Bridge - Stage 3 | 1 | 07-Aug-26 | 07-Aug-26 |
| B5660 | Install Foundations (DS) Interior Bent 2 - I-20 EB Pond Bridge - Stage 3 | 5 | 13-Aug-26 | 20-Aug-26 |
| B5680 | Install Foundations (DS) Interior Bent 3 - I-20 EB Pond Bridge - Stage 3 | 5 | 21-Aug-26 | 27-Aug-26 |
| B5800 | Install Foundations (Pile or DS) End Bent 4 - I-20 EB Pond Bridge - Stage 3 | 5 | 28-Aug-26 | 03-Sep-26 |
| **Substructure** | | 42 | 13-Aug-26 | 13-Oct-26 |
| B5810 | F/R/P/S End Bent 1 - I-20 EB Pond Bridge - Stage 3 | 15 | 13-Aug-26 | 03-Sep-26 |
| B5835 | Prep Shafts for Columns Interior Bent 2 - I-20 EB Pond Bridge - Stage 3 | 2 | 21-Aug-26 | 24-Aug-26 |
| B5838 | Cure Shaft Prep for Columns Interior Bent 2 - I-20 EB Pond Bridge - Stage 3 | 3 | 25-Aug-26 | 27-Aug-26 |
| B5830 | F/R/P/S Columns Interior Bent 2 - I-20 EB Pond Bridge - Stage 3 | 5 | 28-Aug-26 | 03-Sep-26 |
| B5875 | Prep Shafts for Columns Interior Bent 3 - I-20 EB Pond Bridge - Stage 3 | 2 | 28-Aug-26 | 31-Aug-26 |
| B5878 | Cure Shaft Prep for Columns Interior Bent 3 - I-20 EB Pond Bridge - Stage 3 | 3 | 01-Sep-26 | 03-Sep-26 |
| B5820 | Cure End Bent 1 - I-20 EB Pond Bridge - Stage 3 | 5 | 04-Sep-26 | 08-Sep-26 |
| B5840 | Cure Columns Interior Bent 2 - I-20 EB Pond Bridge - Stage 3 | 3 | 04-Sep-26 | 06-Sep-26 |
| B5870 | F/R/P/S Columns Interior Bent 3 - I-20 EB Pond Bridge - Stage 3 | 5 | 04-Sep-26 | 11-Sep-26 |
| B6110 | F/R/P/S End Bent 4 - I-20 EB Pond Bridge - Stage 3 | 15 | 04-Sep-26 | 29-Sep-26 |
| B5850 | F/R/P/S Caps & Pedestals Interior Bent 2 - I-20 EB Pond Bridge - Stage 3 | 5 | 08-Sep-26 | 14-Sep-26 |
| B5880 | Cure Columns Interior Bent 3 - I-20 EB Pond Bridge - Stage 3 | 3 | 12-Sep-26 | 14-Sep-26 |
| B5860 | Cure Caps Interior Bent 2 - I-20 EB Pond Bridge - Stage 3 | 10 | 15-Sep-26 | 24-Sep-26 |
| B5890 | F/R/P/S Caps & Pedestals Interior Bent 3 - I-20 EB Pond Bridge - Stage 3 | 5 | 15-Sep-26 | 22-Sep-26 |
| B5900 | Cure Caps Interior Bent 3 - I-20 EB Pond Bridge - Stage 3 | 10 | 23-Sep-26 | 02-Oct-26 |
| B6120 | Cure End Bent 4 - I-20 EB Pond Bridge - Stage 3 | 5 | 30-Sep-26 | 04-Oct-26 |
| B8610 | Grade / Install Riprap End Bents 1 & 4 - I-20 EB Pond Bridge - Stage 3 | 6 | 05-Oct-26 | 13-Oct-26 |
| **Superstructure** | | 82 | 15-Oct-26 | 13-Feb-27 |
| B6130 | Erect Girders Spans ABC - I-20 EB Pond Bridge - Stage 3 | 4 | 15-Oct-26 | 20-Oct-26 |
| B6140 | Install OH Brackets & Side Forms Spans ABC - I-20 EB Pond Bridge - Stage 3 | 12 | 22-Oct-26 | 09-Nov-26 |
| B8570 | Safety Cabling & Girder Asbuilt Spans ABC - I-20 EB Pond Bridge - Stage 3 | 1 | 22-Oct-26 | 22-Oct-26 |
| B6135 | Form Diaphragms Spans ABC - I-20 EB Pond Bridge - Stage 3 | 10 | 22-Oct-26 | 05-Nov-26 |
| B8580 | SCDOT Review & Approve Girder Asbuilt Spans ABC - I-20 EB Pond Bridge - Stage 3 | 5 | 23-Oct-26 | 29-Oct-26 |
| B6150 | Install SIP Panels Spans ABC - I-20 EB Pond Bridge - Stage 3 | 4 | 30-Oct-26 | 04-Nov-26 |
| B6152 | Set & Tie Deck Rebar Spans ABC - I-20 EB Pond Bridge - Stage 3 | 10 | 10-Nov-26 | 24-Nov-26 |
| B6154 | Dryrun Bidwell for Spans ABC - I-20 EB Pond Bridge - Stage 3 | 10 | 30-Nov-26 | 15-Dec-26 |
| B6160 | Pour Deck Spans ABC - I-20 EB Pond Bridge - Stage 3 | 15 | 17-Dec-26 | 11-Jan-27 |
| B6170 | Cure Deck Spans ABC - I-20 EB Pond Bridge - Stage 3 | 4 | 12-Jan-27 | 15-Jan-27 |
| B8850 | Install SIP Panels Closure Spans ABC - I-20 EB Pond Bridge - Stage 3 | 2 | 19-Jan-27 | 20-Jan-27 |
| B8860 | Set & Tie Deck Rebar Closure Spans ABC - I-20 EB Pond Bridge - Stage 3 | 5 | 21-Jan-27 | 28-Jan-27 |
| B8870 | Pour Deck Closure Spans ABC - I-20 EB Pond Bridge - Stage 3 | 7 | 29-Jan-27 | 09-Feb-27 |
| B8880 | Cure Deck Closure Spans ABC - I-20 EB Pond Bridge - Stage 3 | 4 | 10-Feb-27 | 13-Feb-27 |
| **Bridge Finishes** | | 23 | 15-Feb-27 | 25-Mar-27 |
| B6300 | Construct Approach Slab End Bent 1 - I-20 EB Pond Bridge - Stage 3 | 5 | 15-Feb-27 | 22-Feb-27 |
| B6310 | Construct Approach Slab End Bent 4 - I-20 EB Pond Bridge - Stage 3 | 5 | 25-Feb-27 | 03-Mar-27 |
| B6280 | Slip Parapet Railing - Spans ABC - I-20 EB Pond Bridge - Stage 3 | 3 | 04-Mar-27 | 08-Mar-27 |
| B8920 | Install Deck Expan Joint Seals Spans ABC - I-20 EB Pond Bridge - Stage 3 | 2 | 04-Mar-27 | 05-Mar-27 |
| B6285 | Strip OH - Spans ABC - I-20 EB Pond Bridge - Stage 3 | 7 | 09-Mar-27 | 19-Mar-27 |
| B6290 | Groove Bridge Deck Spans ABC - I-20 EB Pond Bridge - Stage 3 | 3 | 22-Mar-27 | 25-Mar-27 |
| **Project Final Finishes** | | 43 | 27-Apr-27 | 25-Jun-27 |
| B4160 | Remove Traffic Control (WZ stripings/signs) - EB I-20 - Final | 2 | 27-Apr-27 | 29-Apr-27 |
| B4170 | Remove PCTBs & CCAs - EB I-20 - Final | 2 | 30-Apr-27 | 03-May-27 |
| B4180 | Shift traffic into Final configuration - EB I-20 | 1 | 04-May-27 | 04-May-27 |
| B4230 | Remove Temp Crossovers - I-20 WB Median (east end from River Bridge) - Final | 6 | 06-May-27 | 14-May-27 |




Remaining Level of Effort
Remaining Work
◆ Milestone
Actual Work
Critical Remaining Work

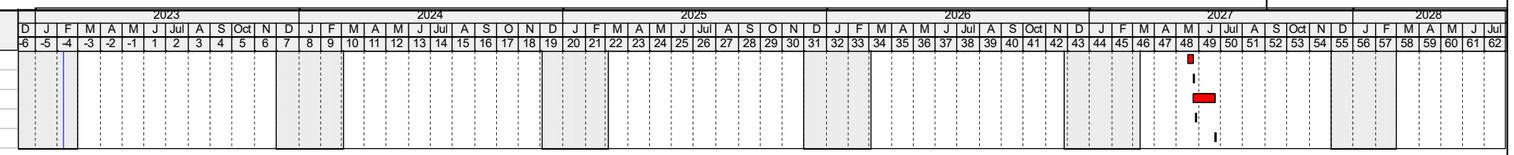
CPM Schedule

lane

# I-20 over Wateree River Bridge Replacement & Swamp Overflow Bridge Rehabilitations Design-Build Project Contract ID 2847360 Kersaw County



| Activity ID | Activity Name | Original Duration | Start | Finish |
|---|---|---|---|---|
| B4190 | Paving Final Surfacing - I-20 EB/WB - Final | 6 | 17-May-27 | 24-May-27 |
| B4210 | Roadway Signing - I-20 EB/WB - Final | 2 | 25-May-27 | 26-May-27 |
| B4195 | Cure Final Surfacing - I-20 EB/WB - Final | 30 | 25-May-27 | 23-Jun-27 |
| B4220 | Perm Seed/Sod - I-20 EB/WB - Final | 2 | 27-May-27 | 28-May-27 |
| B4200 | Perm Striping - I-20 EB/WB - Final | 2 | 24-Jun-27 | 25-Jun-27 |




Remaining Level of Effort
Actual Work
Remaining Work
Critical Remaining Work
Milestone

CPM Schedule

lane

# Appendix B - Forms

- Stipend Acknowledgment form
- Stipend Agreement
- EEO Certificate
- Non-Collusion Certificate
- Notice of Receipt of Addendum
- Updated Organization Chart and Notarized Statement of Availability of Key Individuals Confidential and Proprietary Information Page List
- Prequalification Certificate for Proposer
- Joint Venture Organizational Agreement - Not Applicable
- Quality Credit Matrix

## 12. STIPEND ACKNOWLEDGEMENT FORM

# Stipend Acknowledgement Form

# I-20 over Wateree River Bridge Replacement and Swamp Overflow Bridge Rehabilitations Kershaw County

Proposer: The Lane Construction Corporation

ADDRESS: 90 Fieldstone Court, Cheshire, CT 06410

The undersigned Proposer, hereby:

☐ Waives the stipend for this Project.

☑ Accepts the stipend for this Project.

By accepting the stipend for this Project, Proposer agrees:

1) to execute and include the Stipend Agreement in Article XIII of the RFP with its RFP response;

2) to submit an invoice with FEIN number for the stipend amount to the SCDOT POC after SCDOT's posting of the Notice of Award on SCDOT's Design-Build Website.;

3) to transfer all rights to its Work Product used to develop the Proposal as of the date of this acknowledgement. "Work Product" " means all submittals, including ATCs, ideas, innovations, solutions, methods, processes, design concepts, materials, electronic files, marked up drawings, cross sections, quantity lists and intellectual property, made by Proposer during the RFP process, including the Proposal, exchange of information during the pre-Proposal and post-Proposal period.

SCDOT will pay the stipend to each eligible unsuccessful Proposer, who has signed a Stipend Agreement, within ninety (90) days after execution of the Contract or the decision to not award a contract.

1-30-2023
Date

Proposer

David J. Rankin
Print Name

## 13. STIPEND AGREEMENT

**STIPEND AGREEMENT**
**Project ID: 2847360**

**I-20 over Wateree River Bridge Replacement and Swamp Overflow Bridge Rehabilitations**
**Kershaw County**

**THIS STIPEND AGREEMENT** (the "Agreement") is made and entered into as of the ___ day of _____, 20_, by and between the SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION (hereinafter "SCDOT"), and The Lane Construction Corporation ("Proposer"), with reference to the following facts:

SCDOT issued a Request for Proposal ("RFP") for design and construction of the above-referenced Design-Build Project ("Project"), pursuant to procurement authority granted in Section 57-5-1625 of the S.C. Code of Laws, 1976, as amended. The RFP provided for payment of stipends as provided herein. Capitalized terms used, but not defined, have the meanings ascribed in the RFP.

**NOW, THEREFORE,** Proposer hereby agrees as follows:

**1. Work Product.**

**1.1** Proposer shall prepare and submit a responsible and responsive Technical Proposal and Cost Proposal that conforms in all material respects to the requirements and provisions of the RFP, as determined by SCDOT, and are timely received by SCDOT in accordance with the RFP Milestone Schedule.

**1.2** By signing this Stipend Agreement, Proposer agrees to transfer full and complete ownership to SCDOT of all Work Product. The Work Product (as defined below) shall become the property of SCDOT without restriction or limitation on its use, without further compensation or consideration, and can be used in connection with this Project or any future projects by SCDOT. Neither Proposer nor any of its team members shall copyright any of the material developed under this Agreement.

**1.3** The term "Work Product" shall mean the Proposal and all material, electronic files, marked up drawings, cross sections, quantity lists, submittals, alternative technical concepts (ATC), ideas, innovations, solutions, methods, processes, design concepts, Trade Secrets or confidential information, and intellectual property, made by or produced for Proposer in the development and submission of the Technical and Cost Proposal, including exchanges of information during the pre-Proposal and post-Proposal period.

**2. Compensation and Payment.**

**2.1** A stipend to Proposer for the Work Product described herein shall be $145,000.00 and is payable to Proposer that was determined to be responsible and (1) submitted a responsive Technical Proposal and responsive Cost Proposal to the RFP which is not selected for award of this Project, or (2) was awarded the Contract but the Contract was terminated by SCDOT for convenience after the Submittal of Proposal Due Date (See Final RFP Milestone schedule) but prior to the Notice to Proceed #1. Responsibility of Proposers and responsiveness of the Technical Proposal and Cost Proposal will be determined by SCDOT as a condition of payment.

**2.2** SCDOT will pay the stipend to Proposer as follows, subject (as applicable) to the following conditions:

(a) Proposer has submitted this signed Stipend Agreement, unchanged with its response to the RFP.

(b) After posting of the Notice of Award on SCDOT's Design-Build Website, Proposer has submitted to SCDOT an invoice, with FEIN Number, for the Stipend amount.

(c) After execution of the Contract or the decision not to award a contract, SCDOT will pay the invoice for the stipend amount to the unsuccessful Proposer meeting the criteria of Section 2.1 within 90 calendar days of receipt of the invoice from Proposer.

(d) If the procurement is suspended or cancelled prior to the Proposal Due Date (see FINAL RFP Milestone schedule), no stipend will be paid to Proposer.

(e) After the submittal of Proposals, but prior to award, if the procurement is cancelled, all Proposers that provide a responsive Technical Proposal and Cost Proposal to the final RFP and submitted a signed Stipend Agreement with their RFP shall receive the stipend

(f) In the event of a Best and Final Offer, only one stipend will be paid to each Proposer that executed a Stipend Agreement and met the other criteria and conditions herein.

(g) No stipends will be paid for submitting RFQ responses.

(h) No stipends will be paid to a Proposer who withdraws at any time from this procurement.

**IN WITNESS WHEREOF,** the parties have executed this Agreement as of the date first written above.

Witness:

_____

Recommended:

_____
{INSERT NAME}
Alternative Delivery Program Manager

Witness:
Leslie G Hull
Office Manager

SOUTH CAROLINA DEPARTMENT
OF TRANSPORATION

By: _____
{INSERT NAME}
Alternative Delivery Engineer

Proposer

The Lane Construction Corporation
Name of Proposer

By: David J. Rankin

Its: Executive VP & COO Construction

# 11. EQUAL EMPLOYMENT OPPORTUNITY CERTIFICATION

**(COMPLETE THIS SECTION FOR FEDERAL PROJECTS ONLY)**
**EQUAL EMPLOYMENT OPPORTUNITY PERFORMANCE**

Select the Certification that applies to the PROPOSER:

Certification (1) ☑ Certification (2) ☐

Select the appropriate responses in the applicable Certification:

Certification (1): Pursuant to 41 C.F.R. §60-1.7(b)(1), Previous Equal Employment Opportunity Performance Certification, as the Prospective Prime Contractor, I HEREBY CERTIFY THAT I:

(a) **(HAVE / HAVE NOT)** developed and filed an Affirmative Action Program pursuant to 41C.F.R. §60-2 and/or 60-4;

(b) **(HAVE / HAVE NOT)** participated in a previous contract or subcontract subject to the equal opportunity clause;

(c) **(HAVE / HAVE NOT)** filed with the Joint Reporting Committee, the Director of Office of Federal Contract Compliance, or the Equal Employment Opportunity Commission, all reports due under the applicable filing requirements,

OR

Certification (2): I, HEREBY CERTIFY that as the Prospective Prime Contractor submitting this Proposal, **(CLAIM / DO NOT CLAIM)** exemption from the submission of the Standard Form 100 (EEO-1) due to the fact that it employs a total of less than fifty (50) employees under C.F.R. §60-1.7, or qualifies for an exempted status under 41 C.F.R. §60-1.5.

I FURTHER CERTIFY that the above Certification will be made part of any Subcontract Agreement, or other agreement involved with this project.

Executed on 1.30 20 23.

Signed: _____
(Officer/PROPOSER)

Title: Executive VP & COO Construction

Company: The Lane Construction Corporation

Address: 90 Fieldstone Court, Cheshire, CT 06410

Note: The above certification is required by the Equal Employment Opportunity Regulations of the Secretary of Labor (41 CFR 60-1.7(b)(1)), and must be submitted by PROPOSERS only in connection with contracts which are subject to the equal opportunity clause. Contracts that are exempt from the equal opportunity clause are set forth in 41 CFR 60-1.5. (Generally, only contracts of $10,000 or under are exempt.)

Currently, Standard Form 100 (EEO-1) is the only report required by Executive Orders or their implementing regulations.

Proposers, Primary Members, or proposed Subcontractors (any tier) and Consultants who have participated in a previous contract subject to the Executive Orders and have not filed the required reports shall note that 41 CFR 60-1.7(b)(1) prevents the award of contracts and subcontracts unless such contractor submits a report covering the delinquent period or such other period specified by the Federal Highway Administration or by the Director, Office of Federal Contract Compliance, U.S. Department of Labor.

## 10. NON-COLLUSION CERTIFICATION

### NON-COLLUSION CERTIFICATION

### Contract ID: 2847360

IN ACCORDANCE WITH THE PROVISIONS OF S.C. CODE ANN. §§ 39-3-10 ET.SEQ., 39-5-10 ET. SEQ., 15 U.S.C. §45; 23 C.F.R. §635.112(F); AND 28 U.S.C. §1746, I HEREBY ACKNOWLEDGE THAT I AM AN OFFICER OF THE PROPOSER FIRM AND, UNDER PENALTY OF PERJURY UNDER THE LAWS OF THE UNITED STATES AND SOUTH CAROLINA, DECLARE, BY MY CERTIFICATION BELOW, THAT THE FOLLOWING IS TRUE AND CORRECT, AND FURTHER, THAT THIS JOINT-VENTURE, FIRM, PARTNERSHIP, ASSOCIATION OR CORPORATION, OR ANY OTHER LEGAL ENTITY HAS NOT, EITHER DIRECTLY OR INDIRECTLY, ENTERED INTO ANY AGREEMENT, PARTICIPATED IN ANY COLLUSION, OR OTHERWISE TAKEN ANY ACTION IN RESTRAINT OF FREE COMPETITIVE BIDDING IN CONNECTION WITH THE SUBMISSION OF A BID PROPOSAL ON THE ABOVE REFERENCED PROJECT.

BY CHECKING THIS BOX ☑, I CERTIFY THAT I HAVE READ, UNDERSTAND, ACCEPT, AND ACKNOWLEDGE ALL OF THE ABOVE STATEMENTS.

Executed on 1-30-2023
(Date)

Signed: _____
(Officer/Proposer)

Executive VP & COO Construction
(Title)

90 Fieldstone Court, Cheshire, CT 06410
(Address)

The Lane Construction Corporation

South Carolina
Department of Transportation

# NOTICE OF RECEIPT

**I-20 over Wateree River Bridge Replacement and Swamp Overflow Bridge Rehabilitations Design-Build Project– Contract ID 2847360**
**Kershaw County**

**Addendum 1**

The information in this addendum shall be made part of the contract documents. PROPOSERS are instructed to incorporate the information into the previously provided RFP documents.

PROPOSERS are required to sign this document and enclose it with their Technical Proposal. Receipt of this signed document by The South Carolina Department of Transportation serves as confirmation that the PROPOSER has received and incorporated this Addendum into the contract documents.

**Confirmation Statement:**

I, the PROPOSER confirm that I have received this addendum package and have incorporated the information provided in the addendum into the contract documents.

PROPOSER's Signature

1-30-2023
Date

David J. Rankin
Printed Name

For: The Lane Construction Corporation
Design-Build Team Name

South Carolina
Department of Transportation

# NOTICE OF RECEIPT

**I-20 over Wateree River Bridge Replacement and Swamp Overflow Bridge Rehabilitations Design-Build – Contract ID 2847360**
**Kershaw County**

**Addendum 2**

The information in this addendum shall be made part of the contract documents. PROPOSERS are instructed to incorporate the information into the previously provided RFP documents.

PROPOSERS are required to sign this document and enclose it with their Technical Proposal. Receipt of this signed document by The South Carolina Department of Transportation serves as confirmation that the PROPOSER has received and incorporated this Addendum into the contract documents.

**Confirmation Statement:**

I, the PROPOSER confirm that I have received this addendum package and have incorporated the information provided in the addendum into the contract documents.

PROPOSER's Signature

1-30-2023
Date

David J. Rankin
Printed Name

For: The Lane Construction Corporation
Design-Build Team Name

South Carolina
Department of Transportation

# NOTICE OF RECEIPT

**I-20 over Wateree River Bridge Replacement and Swamp Overflow Bridge Rehabilitations Design-Build – Contract ID 2847360**
**Kershaw County**

**Addendum 3**

The information in this addendum shall be made part of the contract documents. PROPOSERS are instructed to incorporate the information into the previously provided RFP documents.

PROPOSERS are required to sign this document and enclose it with their Technical Proposal. Receipt of this signed document by The South Carolina Department of Transportation serves as confirmation that the PROPOSER has received and incorporated this Addendum into the contract documents.

**Confirmation Statement:**

I, the PROPOSER confirm that I have received this addendum package and have incorporated the information provided in the addendum into the contract documents.

PROPOSER's Signature

1-30-2023
Date

David J. Rankin
Printed Name

For: The Lane Construction Corporation
Design-Build Team Name

South Carolina
Department of Transportation

# NOTICE OF RECEIPT

**I-20 over Wateree River Bridge Replacement and Swamp Overflow Bridge Rehabilitations Design-Build – Contract ID 2847360**
**Kershaw County**

**Addendum 4**

The information in this addendum shall be made part of the contract documents. PROPOSERS are instructed to incorporate the information into the previously provided RFP documents.

PROPOSERS are required to sign this document and enclose it with their Technical Proposal. Receipt of this signed document by The South Carolina Department of Transportation serves as confirmation that the PROPOSER has received and incorporated this Addendum into the contract documents.

**Confirmation Statement:**

I, the PROPOSER confirm that I have received this addendum package and have incorporated the information provided in the addendum into the contract documents.

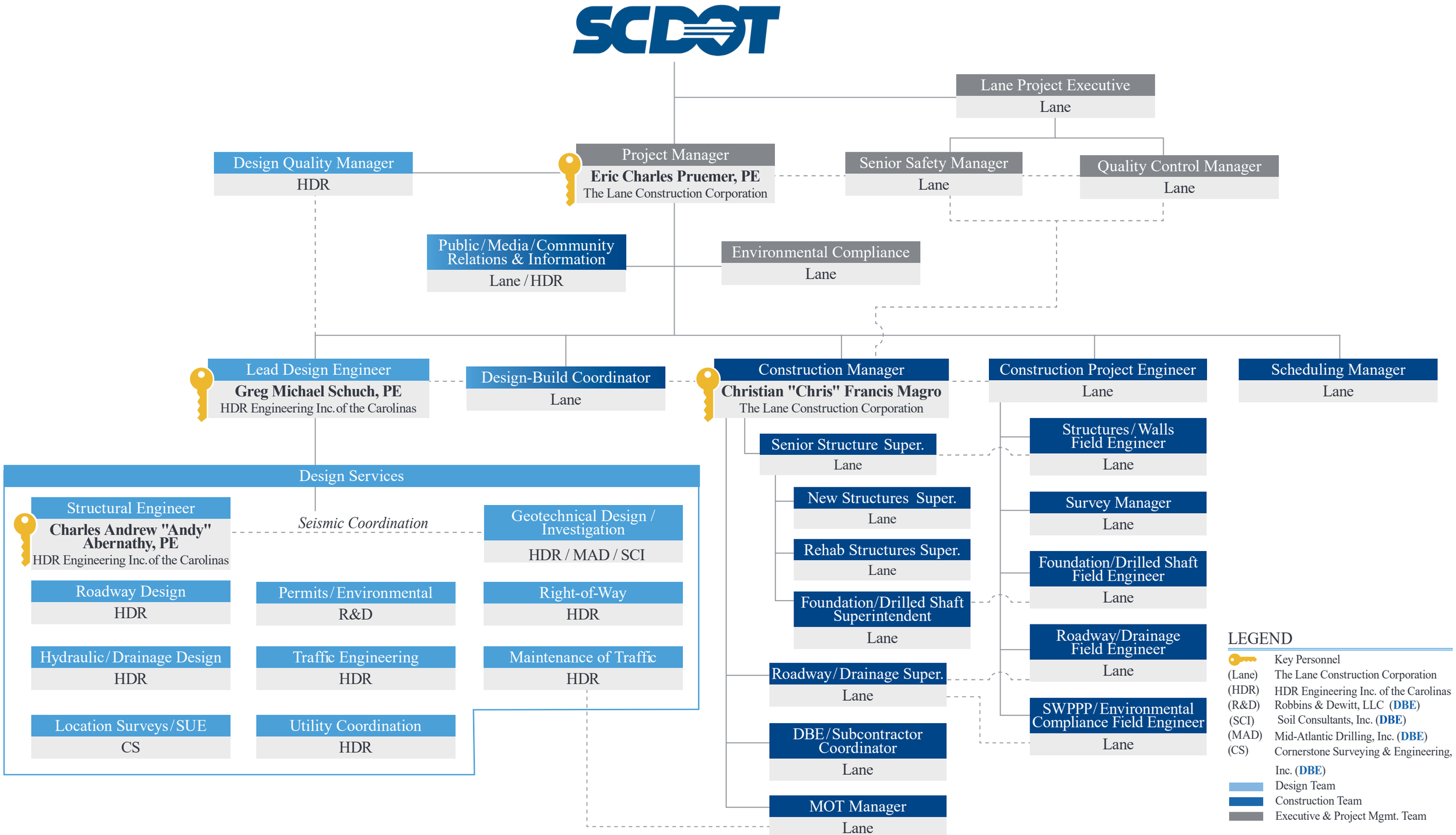
PROPOSER's Signature

Date 1-30-2023

David J. Rankin
Printed Name

For: The Lane Construction Corporation
Design-Build Team Name

# Organizational Chart




lane HDR

lane

January 13, 2023

South Carolina Department of Transportation
Office of Project Delivery
955 Park Street, Room 101
Columbia, SC 29201
Attn: Ms. Carmen Wright

**RE: Affidavit Statement of Availability of Key Individuals**
The Lane Construction Corporation ("Lane" and "Proposer")
SCDOT I-20 over Wateree River Bridge Replacement and Swamp Overflow Bridge Rehabilitations Design-Build Project (2847360) (the "Project")

Ms. Wright,

In accordance with the RFP requirements for the above referenced Project, this document shall serve as the notarized written statement submitted on behalf of the Proposer regarding Key Individuals. The Lane Construction Corporation, as the direct employer, confirms that the Key Individuals identified on the original organizational chart submitted with the SOQ and/or updated organizational chart reflecting SCDOT approvals will be available at the earliest of the times and durations required in the RFQ and RFP, barring any unforeseen circumstance, until expiration of the Warranty Period or such earlier date as the Contract is terminated or SCDOT releases, in writing, such Key Individual from this requirement.

Sincerely,

David J. Rankin
Executive VP & COO Construction, Lane

Eric Pruemer
Project Director, Lane
and proposed Project Manager for the Project

On this 30 day of January, 2023, before me, Leslie G Hull, a Notary Public for North Carolina, personally appeared David J. Rankin and Eric Pruemer, known to me to be the persons described in the foregoing Affidavit, and acknowledged that each executed the same in their capacity therein stated and for the purpose therein contained. In witness thereof, I hereunto set my hand and official seal.

[NOTARIAL SEAL]

Leslie G Hull
Notary Public
Lincoln County, NC

Notary Public

My Commission Expires: 7-2-2027

The Lane Construction Corporation
90 Fieldstone Court
Cheshire, CT 06410
T 203-235-3351 F 203-439-2991
www.laneconstruct.com

February 8, 2023

South Carolina Department of Transportation Office of Project Delivery
955 Park Street, Room 101
Columbia, SC 29201
Attn: Ms. Carmen Wright

RE: Affidavit Statement of Availability of Key Individuals
HDR Engineering, Inc. of the Carolinas ("HDR")
SCOOT 1-20 over Wateree River Bridge Replacement and Swamp Overflow Bridge Rehabilitations Design-Build Project (2847360) (the "Project")

Ms. Wright,

In accordance with the RFP requirements for the above referenced Project, this document shall serve as the notarized written statement submitted on behalf of the Proposer regarding Key Individuals. HDR Engineering, Inc., as the direct employer, confirms that the Key Individuals identified on the original organizational chart submitted with the SOQ and/or updated organizational chart reflecting SCOOT approvals will be available at the earliest of the times and durations required in the RFQ and RFP, barring any unforeseen circumstance, until expiration of the Warranty Period or such earlier date as the Contract is terminated or SCOOT releases, in writing, such Key Individual from this requirement.

Sincerely,

Jonathan Roy Henderson, PE, SVP
South Atlantic Area Manager

SWORN AND SUBSCRIBED before me
this 8th day of February, 2023

My commission expires 11-23-2023.

Notary Public

MELINDA V. LINGERFELT
NOTARY PUBLIC
GASTON COUNTY, N.C.

440 South Church Street, Suite 1200, Charlotte, NC 28202

# Confidential and Proprietary Information

*There are no elements of this Technical Proposal that are considered confidential or proprietary.*

South Carolina Department of Transportation

Columbia, South Carolina

# SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION

## PRIME CONTRACTOR

## PREQUALIFICATION CERTIFICATE

This Certifies that your company has complied with the rules and regualtions of the Department and the State of South Carolina, and subject to the rules and regulations for a prime contractor, is declared eligible to submit a bid and be awarded any construction contract issued by the Department, subject to obtaining proper bonds and insurance acceptable to the Department and complying with all other statutory and contract requirements.

**All BIDS SUBMITTED TO THE DEPARTMENT MUST BE IN THE NAME AS SHOWN BELOW.**

**THE LANE CONSTRUCTION CORPORATION**

**Vendor ID:** **1TH013**

**Issued :** **October 18, 2022**

**Expires:** **October 31, 2023**

**Approved By:** Maria A. Donito
**Prequalification Coordinator**

SCDOT FORM CERT-JANUARY 8, 2019

# Quality Credit Matrix

| Number | Description | Added Value/Benefits | Cost/Schedule Impacts | Self-imposed Assurance |
|---|---|---|---|---|
| 1 | **Expedite schedule** | Early completion of the project. | New substantial completion date of 1,534 days after NTP | Increase Liquidated Damages (LD) rate from $8,000 to $10,000 per calendar day |
| 2 | **Incorporate a 22'-4" median with an eastbound alignment shift (FATC#2)** | Allows replacement of the Wateree River bridges as a four-lane bridge using two-staged construction results in time savings. | Cost and schedule savings due to 2-stage vs 3-stage bridge construction | Cost savings included in the Cost Proposal |
| | | Removes the need to perform sliver fills on the south side of eastbound which eliminates wetland impacts. | | |
| | | Reduces construction costs and schedule by eliminating the temporary detour bridge. | | |
| | | Final design keeps westbound traffic in the existing pattern and allows for a smooth transition for eastbound with no reverse curves. | | |
| | | Median barrier wall and increased width inside paved shoulder improves safety. | | |
| 3 | **Provide SCDOT with a new eastbound pond bridge (FATC#2)** | Provides a new bridge for SCDOT that meets current standards. | Future cost savings to SCDOT of $4 million+ | Additional cost associated with new EB bridge over Farm Pond is included in the Cost Proposal |
| | | Minimizes maintenance needs compared to the existing 53-year-old bridge. | | |
| | | Replacement of the eastbound pond bridge allows for a long, smooth transition from the existing curve on the west side to the tangent that crosses the river. Similarly, the eastbound alignment on the east side of the bridge transitions from the tangent over the river to a tangent extending from the curve to the east. | | |
| 4 | **Design and construct a single bridge over the Wateree River (FATC#2)** | Single bridge eliminates future widening within the median proposed in SCDOT's dual bridge concept. | Improves constructability of future project | Cost savings included in the Cost Proposal |
| | | Future widening only required on the eastbound side, within the current existing footprint, avoiding future right-of-way and environmental impacts. | | |
| 5 | **Design eastbound pond bridge with extra width for future third lane and/or to accommodate maintenance of traffic for the westbound bridge replacement (FATC#2)** | Eastbound pond bridge accommodates maintenance of traffic for the westbound bridge replacement in the future, allowing for the westbound bridge to be replaced in a single stage. | Improves constructability of future project | Cost savings included in the Cost Proposal |
| | | EB pond bridge width allows for a future third EB lane, eliminating the need to widen the bridge in the future. | | |

| Number | Description | Added Value/Benefits | Cost/Schedule Impacts | Self-imposed Assurance |
|---|---|---|---|---|
| 6 | **Refine seasonal lane closure prohibitions (FATC#5)** | Increases quality and safety due to longer uninterrupted construction periods.<br>Results in cost savings to SCDOT due to increased efficiency and fewer lane closure set ups/removals.<br>Reduces the schedule risk associated with discovery of unforeseen issues during rehabilitation or repair work. | Cost savings due to increased efficiency and fewer lane closure set ups/removals | Cost savings included in the Cost Proposal |
| 7 | **Use GalvaBar in bridge deck and barrier (FATC#6)** | Cost efficient, durable alternative to hot-dipped galvanization used to reinforce the bridge decks. | Cost savings | Cost savings included in the Cost Proposal |
| 8 | **Use alternative temporary pavement design (FATC#8)** | Uses less pavement for short duration exposure resulting in cost savings. | Cost savings | Cost savings included in the Cost Proposal |
| 9 | **Strengthen shoulders to provide median access** | Additional westbound shoulder strengthening provides construction access to the median.<br>Allows for access in Stages 1 and 2, minimizing the need for daily lane closures to facilitate ingress/egress. | Additional cost for extra shoulder strengthening required for MOT configurations which minimize daily lane closures | Cost of additional shoulder strengthening included in the Cost Proposal; Lane is incentivized to minimize lane closures due to construction mobility |

Cost/Schedule Impacts – Describe the Cost in dollars and/or Schedule impacts in days associated with the feature (positive or negative).
Self-imposed Assurance – Discuss any penalties or liquidated damages that will apply in the event the CONTRACTOR cannot implement the feature

# Appendix C - Formal Alternative Technical Concepts

- FATC#2
- FATC#5
- FATC#6
- FATC#7
- FATC#8

South Carolina Department of Transportation

# ALTERNATIVE TECHNICAL CONCEPTS

## I-20 over Wateree and Overflow Bridges - Contract ID 284760 - Kershaw County

### Formal ATCs

Date Received: **11/2/2022**

Date Reponse Sent: **11/17/2022**

| Lane - HDR | | | SCDOT | |
|---|---|---|---|---|
| ATC No. | Primary Discipline | Concept | Response | Justification |
| 1 | Roadway | 22'-4" Median with EB Pond Bridge Widening | Need Info | Did not see Attachment C referenced in the the Justification section. |
| 2 | Roadway | 22'-4" Median with New 3-Lane EB Pond Bridge | Approved | |
| 3 | Roadway | 22'-4" Median with Widening of both Pond Bridges | Need Info | Clarify the need to have cross-slope going towards the median on the River bridge. |
| 4 | Roadway | 22'-4" Median with New 2-Lane EB Pond Bridge on Extended Tangent | Approved | |
| 5 | Traffic | Refined Seasonal Lane Closure Prohibitions | Need Info | Need to compare streelight data from 2019 to the ATR from 2019. |
| 6 | Structures | Use of GalvaBar in Bridge Deck and Barrier | Approved | |
| 7 | Structures | Increase Column Spacing to 30 feet | Approved | |
| 8 | Pavement | Alternative Temporary Pavement Design | Need Info | SCDOT is favorable to the alternate pavement provided for the crossovers and the inclusion of the performance criteria for temporary pavements, however please provide proposed temporary pavements and durations for other areas. Please also include repair plans and associated penalties for not meeting performance criteria. |
| 9 | Roadway | Allow for Shoulder Slope Towards Median Barrier | Need Info | Provide typical section of single structure that includes inside shoulders sloping toward median barrier. |
| 10 | Structures | Allow for use of Prestressed Concrete Pile Interior Bents for New Pond Bridge | Approved | |

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## Formal ATCs Round 2

Date Received: **12/2/2022** **Date Reponse Sent: 12/19/2022**

| Lane - HDR | | | SCDOT | |
|---|---|---|---|---|
| Formal ATCs | Primary Discipline | Concept | Response | Justification |
| 1 | Roadway | 22'-4" Median with EB Pond Bridge Widening | Approved | |
| 3 | Roadway | 22'-4" Median with Widening of both Pond Bridges | Not Approved | Team sent email on 12/16/2022 withdrawing this as an ATC. |
| 5 | Traffic | Refined Seasonal Lane Closure Prohibitions | Approved | |
| 8 | Pavement | Alternative Temporary Pavement Design | Approved | |
| 9 | Roadway | Allow for Shoulder Slope Towards Median Barrier | Approved | |

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# Formal Alternative Technical Concepts Submittal Form

**Project:** I-20 over Wateree River Bridge Replacements and Swamp Bridge Rehabilitations **Project ID:** 2847360

**ATC No.:** 2 **Priority:** High **Team:** Lane Construction Corp / HDR **Date:** 11/2/22

## Description (required):

Reduce proposed minimum median width to 22'-4" to allow for 10 foot shoulders in each direction and 2'-4" median barrier. Proposed design will result in a four lane bridge with a minumum 22'-4" median. The westbound lanes would be approximately retained in their current location while the eastbound lanes will be shifted to create a single bridge with a 22'-4" median. The eastbound alignment transition on the western approach will be facilitated by the construction of a new eastbound bridge over the pond to accommodate a long, 25,000-foot radius curve. This new curve will begin at a PCC within the existing curve west of the pond bridges and end just prior to the new river bridge. This ATC would result in the new river bridge being constructed in two stages instead of three. The new eastbound bridge over the pond will be set up to accommodate the future three-lane section in the eastbound direction.

See Attachment A for more information.

## Usage:

The 22'-4" minimum median would be used across the river bridge and start to gradually transition back to the existing 60-foot median on each end of the bridge.

## Deviations (required):

This ATC requires deviations to Exhibits 4a as follows:

Section 2.4: In the fourth bullet (Median) under I-20, this ATC would replace “46.4 ft. minimum” with “22.33 ft. minimum”.

Section 2.8: This ATC would delete the following sentences "All shoulders shall be sloped to drain away from the traveled way in tangent sections, with the exception of inside shoulders on a single structure design. Inside shoulders for single structures shall be sloped away from the median barrier." The deleted sentences would be replaced with the following sentence: "All shoulders shall be sloped to drain away from the traveled way in tangent sections, with the exception of inside shoulders on a single structure design which may have shoulders which are sloped towards the traveled way."

Section 2.11: This ATC would add the following:
“Concrete Median Barrier: Provide concrete median barrier in accordance with SCDOT Standard Drawings along Interstate 20 where proposed medians are less than 30 feet. When concrete median barrier is constructed, pave the inside shoulder to the barrier. Use single slope shaped concrete median barriers.”

## Justification:

The proposed deviations will allow for the construction of a single, four-lane bridge with adequate space for the addition of future lanes to the outside within the existing roadway footprint and ROW. A major challenge of this project is construction within the narrow space between the bridges and this ATC would eliminate that concern in the future while other compliant designs may force SCDOT to either widen into the median or expand the roadway footprint. The future widening of the river bridge will be to one side only with no additional footprint required and no significant constraints to complicate construction. Future widening would require removal and reconstruction of the median barrier on the river bridge, but the proposed bridge is configured such that proposed barrier will be outside of the future wheel path



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**Project:** I-20 over Wateree River Bridge Replacements and Swamp Bridge Rehabilitations **Project ID:** 2847360

**ATC No.:** 2 **Priority:** High **Team:** Lane Construction Corp / HDR **Date:** 11/2/22

and no future median drainage will be required. See Attachment B for additional information.

In addition, the new eastbound bridge over the pond is wide enough to carry the three-lane future eastbound section and will allow for all four lanes of traffic to be carried on the bridge during future MOT, making the future replacement of the westbound pond bridge a single stage of construction. This future MOT scenario is much more favorable than the three-stage replacement of the existing with a constrained median work zone.

Regarding the cross slope for the median shoulder, MOT needs and/or future widening/barrier relocation make it necessary to slope the deck towards the median barrier for this single bridge alternative.

## Schedule:

This ATC will save approximately 6 months. The construction of the new eastbound pond bridge would be concurrent with the construction of the river bridge. There will be significant schedule savings due to the two-stage river bridge construction compared to a three-stage replacement.

## Impacts:

While the project's construction limits will expand across the pond bridges, most of the work is anticipated to remain within the existing roadway footprint with little to no impacts to wetlands or streams as compared to the dual stucture concept included in the PIP.

Impacts to the traveling public will be reduced by virtue of eliminating a stage of construction for the river bridge and associated reduction of overall project schedule. These MOT enhancements will eliminate a traffic shift and reduce the overall exposure of the traveling public to work zone conditions.

## History:

Barrier-separated medians which only accommodate the shoulder and barrier widths are used on interstate facilities throughout South Carolina and many other states. A similar alignment shift was implemented on the I-85 bridge replacement over Norfolk Southern Railroad in Cherokee County, where compound curves were utilized to allow for a mainline alignment shift which enhanced the MOT operations and eliminated a stage of construction.

## Risks:

Requires partial removal of existing bridges, retrofitting of the existing river bridge bents will be provided as necessary.

There is increased risk due to the lack of available geotechnical information at the pond bridges. This risk is accounted for in the cost savings presented and will be further refined and included in the cost proposal.

This ATC will reduce risk to the traveling public by eliminating a traffic shift and reducing the overall construction duration.

This ATC will eliminate the risks associated with bridge work in a constrained median work zone between two bridges (gantry crane, launching systems, etc.) when SCDOT widens this corridor in the future.

## Costs (required):

This ATC would result in approximately $5,500,000 in savings for this contract.



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**ATC No.:** 2 **Priority:** High **Team:** Lane Construction Corp / HDR **Date:** 11/2/22

There are also significant future savings to be realized when I-20 is widened. These future savings include construction efficiency associated with all future widening of the river bridge being on one side and not within a constrained median work zone. In addition, the eastbound pond bridge will already be in the ultimate location for the future widening of the corridor, requiring only re-striping to carry three eastbound lanes in the future. The pond bridge width will facilitate a traffic shift that will allow for the westbound bridge to be constructed in a single stage, providing direct savings related to reduced future construction costs as well as increased efficiency in the construction of the westbound pond bridge replacement.

## Quality:

From a functional perspective, this concept is equal to the two bridge concept presented in the Project Information Package. The same number of lanes, lane widths, and equal or greater shoulders are provided when compared to the dual structure concept in the PIP with the added benefit of future widening to only one side and avoiding construction between two bridges in the future.

The proposed permanent alignments have been evaluated using the Highway Safety Software (HSS) to implement the Predictive Method of the Highway Safety Manual (HSM) and the results indicate that the proposed design is predicted to have fewer crashes than the dual bridge alternative presented in the PIP. The roadway alignment had minimal effect on the evaluation and the safety enhancements appear to be driven by the full width paved inside shoulder provided by the proposed design adjacent to each end of the river bridge.

A quality enhancement offered by this ATC is a brand new eastbound pond bridge with a minimum +/- 22 foot shoulder on the outside and minimum 10 foot shoulder on the inside with MASH compliant barriers.

## Operations & Maintenance:

Single bridge over the river instead of two bridges and new eastbound bridge over the pond will be an advantage to bridge maintenance. Operation will be equal to the concepts presented in the Project Information Package. Future widening of this bridge to the outside will be much simpler from a construction access and traffic control perspective during future widening.

Replacement of the +/- 50 year old eastbound pond bridge with a modern, new bridge will provide a maintenance benefit to SCDOT.



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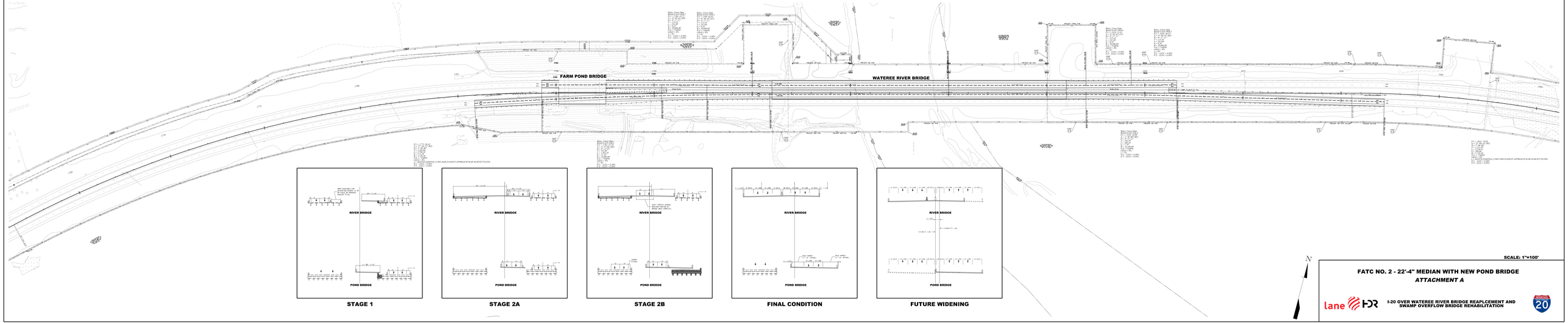
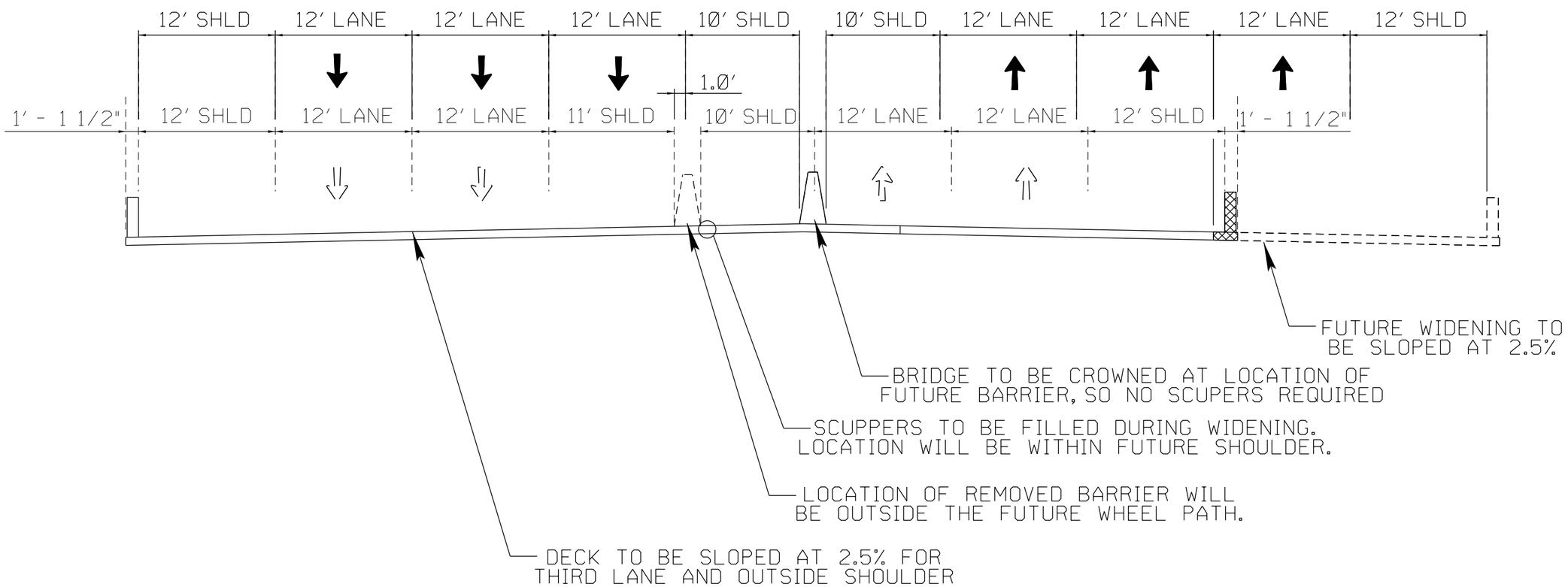

FARM POND BRIDGE
WATEREE RIVER BRIDGE
RIVER BRIDGE
POND BRIDGE
STAGE 1
STAGE 2A
STAGE 2B
FINAL CONDITION
FUTURE WIDENING
SCALE: 1"=100'
FATC NO. 2 - 22'-4" MEDIAN WITH NEW POND BRIDGE
ATTACHMENT A
lane
I-20 OVER WATEREE RIVER BRIDGE REAPLCEMENT AND
SWAMP OVERFLOW BRIDGE REHABILITATION
INTERSTATE
20




SCALE: 1"=10'

**FATC NO. 2 - 22'-4" MEDIAN WITH NEW EB POND BRIDGE**

***ATTACHMENT B***

**FUTURE WIDENING OF RIVER BRIDGE**

lane HDR

**I-20 OVER WATEREE RIVER BRIDGE REAPLCEMENT AND SWAMP OVERFLOW BRIDGE REHABILITATION**

INTERSTATE 20

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# Formal Alternative Technical Concepts Submittal Form

**Project:** I-20 over Wateree River Bridge Replacements and Swamp Bridge Rehabilitations **Project ID:** 2847360

**ATC No.:** 5 **Priority:** Med **Team:** Lane Construction Corp / HDR **Date:** 12/2/22

## Description (required):

Use refined traffic data from StreetLight Data and SCDOT Continuous Counting Stations to analyze hourly traffic volumes and develop updated lane closure prohibitions based on the 1200 VPH Threshold in Exhibit 4d Part 2. Data from 2020 and 2021 will not be considered due to the impacts of the COVID-19 pandemic on travel patterns.

## Usage:

The refined monthly/seasonal lane closure prohibitions will be used throughout the duration of the project.

## Deviations (required):

Lane closure prohibitions are stated in Exhibit 4d Part 2 on page 5. This ATC would eliminate the westbound lane closure prohibition on Mondays from 12PM (noon) to 3PM for the months of December through April. In addition, this ATC would eliminate the lane closure prohibitions in both directions on Thursdays for the months of December, January, and February.

In addition to the adjustments to the lane closure prohibitions stated above, this ATC would also allow for additional refinements to the lane closure prohibitions using the same methodology as outlined in the attached memo which justifies the refinements proposed in this ATC.

## Justification:

In addition to the cost savings for the project, the ATC could also potentially allow for more uniformity in the lane closure restrictions such that the same or similar lane closure schedules can be used instead of having varying closure times from day to day. This will benefit both the construction team and the traveling public.

## Schedule:

This ATC has the potential to save approximately 2 months on the bridge rehabilitation work.

## Impacts:

This ATC will improve quality of construction while reducing the overall duration of construction work. This will also increase the safety to the traveling public by reducing the overall exposure to work zone conditions.

## History:

Seasonal variations from the standard lane closure prohibitions have been implemented on several SCDOT projects when supported by traffic counts.

## Risks:

This ATC will help avoid risks associated with unforeseen conditions that only become known during the execution of the work by providing more time to resolve these potential issues.

## Costs (required):

Due to a reduction in the number of lane closures required and associated efficiency, this ATC will save $200,000.



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# Formal Alternative Technical Concepts Submittal Form

**Project:** I-20 over Wateree River Bridge Replacements and Swamp Bridge Rehabilitations **Project ID:** 2847360

**ATC No.:** 5 **Priority:** Med **Team:** Lane Construction Corp / HDR **Date:** 12/2/22

**Quality:**

Longer work periods will allow for better quality of construction versus more shorter periods.

**Operations & Maintenance:**

The longer closure periods may allow for fewer joints and therefore less potential maintenance concerns.



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# Technical Memo

Date: Wednesday, November 30, 2022

Project: I-20 Wateree and Overflow Bridges

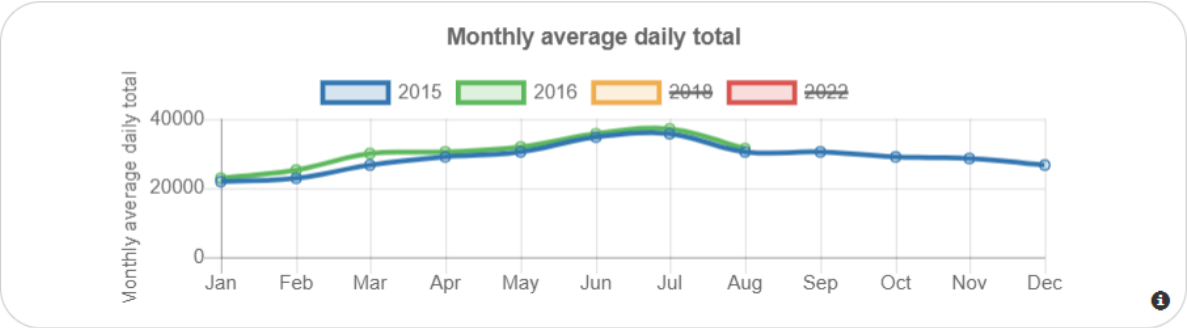
Subject: Proposed Approach to Refinement of Lane Closure Prohibitions

The intent of this memorandum is to document a proposed approach to be used when establishing extended lane closure time periods beyond the allowed time periods provided to proposers in the I-20 over Wateree and Overflow Bridges – Contract ID 284760 Request for Proposals (RFP). The desired outcome is South Carolina Department of Transportation approval of this method for use in establishing extended lane closure allowance opportunities. This memorandum has been prepared to support the Lane-HDR Formal ATC #5 which seeks to refine the lane closure prohibitions along I-20 based on seasonal traffic fluctuations. The process outlined in this memorandum for refinement of the lane closure prohibitions is to identify seasonal/monthly fluctuations in travel patterns and then evaluate the resulting seasonal hourly volumes against the 1200 vehicle per hour threshold established in Engineering Directive 32 and the project design criteria.

The methodology presented uses the newest count station data available from Continuous Count Station (CCS) #053 to establish seasonal factors for adjusting to other months of the year. These seasonal factors are verified using Streetlight data from 2019 and 2022 count station data from CCS #093. A base month of September was used for seasonal factors. The month of September was selected for the following reasons:

1. September represents a generally accepted month in which traffic volumes are at or near the yearly average annual daily traffic (AADT).
2. CCS #053 was recently turned on and began collecting data in September 2022. This represents the most recent count data available at the CCS where the project's lane closure restrictions were established.

Prior to being reactivated in 2022, CCS #053 last collected information in August 2016 (with an exception occurring in 2018 which appears to be outlier data). The last full year that was collected at CCS #053 was 2015. A plot of the 2015 and 2016 data is shown below, taken from the station's dashboard.




From the dashboard, the 2015 August and September ADT are 30,675 and 30,400 respectively. These two months ADT differ by less than 1% and are effectively equal. This understanding of the equivalent seasonal relationship between August and September at this location is used in establishing seasonal factors for other months from this and other data sources, as outlined below.

### Verifying StreetLight Data

To verify StreetLight Data, relative to CCS #093 where the most recent real-time traffic data is available, a comparison of bi-directional ADT for each month is shown below in Table. 1. The pass-through zones in Streetlight were drawn in the relative location as the CCS #093 position as found in the online Traffic Analysis and Data Application.

**Table 1. StreetLight Data and CCS #093 Comparison, 2019 Monthly ADT**

| | 2019 Traffic Data | | % Difference (CCS/SL)*100 |
|---|---|---|---|
| | CCS #093 | StreetLight Data | |
| Jan | 45,687 | 47,293 | 97% |
| Feb | 47,912 | 50,690 | 95% |
| Mar | 50,906 | 53,283 | 96% |
| Apr | 53,163 | 54,953 | 97% |
| May | 53,172 | 55,432 | 96% |
| Jun | 55,727 | 56,045 | 99% |
| Jul | 56,901 | 55,167 | 103% |
| Aug | 54,617 | 54,524 | 100% |
| Sep | 51,911 | 53,511 | 97% |
| Oct | 53,502 | 56,788 | 94% |
| Nov | 50,760 | 54,019 | 94% |
| Dec | 50,501 | 51,272 | 98% |
| | | Average: | 97% |

The resulting comparison of StreetLight data to CCS data suggests that there is a maximum of 6% difference between monthly data, seen in October and November when StreetLight data reported higher ADT than the CCS. In general, the average difference between the StreetLight

data and the CCS data is 97% indicating that the CCS data is on average 3% lower than the Streetlight data.

### Establishing Seasonal Factors

Using the ADT from 2016, which was the most recent data available at CCS #053 prior to it being reactivated in 2022, the following monthly seasonal factors, relative to the August ADT, were developed. Recall that the assumption noted above is that that the ADT in August is equivalent to the ADT in September, and therefore these 2016 August Seasonal Factors would also apply to volume from September.

**Table 2. 2016 Seasonal Factors for August (September) from CCS #053**

| | CCS #053 | |
|---|---|---|
| | 2016 | 2016 August Factor |
| Jan | 23100 | 0.75 |
| Feb | 25059 | 0.81 |
| Mar | 29577 | 0.96 |
| Apr | 30525 | 0.99 |
| May | 31635 | 1.02 |
| Jun | 35656 | 1.15 |
| Jul | 37671 | 1.22 |
| Aug | 30968 | 1.00 |
| Sep | No Data Available | |
| Oct | | |
| Nov | | |
| Dec | | |

It is understood that volumes in Table 1 are from 2016, and therefore a verification process was developed that used other sources to confirm that the seasonal factors remain valid for more recent data. These data sources included:

- Streetlight Data from January – December 2019 as reported near the location of CCS #053 and CCS #093
- CCS #093 Data from January – December 2022

The respective ADT and seasonal adjustment factors are shown in Table 3. Note that an adjustment to August 2022 and to September 2022 are shown using data from CCS #093 to illustrate that the August-to-September ADT equivalency relationship is still valid in 2022.

**Table 3. Seasonal Factors, Multiple Sources**

| Month | CCS #093 | | | Streetlight Data #093 Location | | Streetlight Data #053 Location | | CCS #053 | | Average Factor |
|---|---|---|---|---|---|---|---|---|---|---|
| | 2022 ADT | 2022 Aug Factor | 2022 Sep Factor | 2019 ADT | 2019 Aug Factor | 2019 ADT | 2019 Aug Factor | 2016 | 2016 Aug Factor | |
| Jan | 43534 | 0.80 | 0.79 | 47293 | 0.87 | 29625 | 0.77 | 23100 | 0.75 | 0.80 |
| Feb | 50242 | 0.93 | 0.92 | 50690 | 0.93 | 31974 | 0.83 | 25059 | 0.81 | 0.88 |
| Mar | 53054 | 0.98 | 0.97 | 53283 | 0.98 | 36920 | 0.96 | 29577 | 0.96 | 0.97 |
| Apr | 53600 | 0.99 | 0.98 | 54953 | 1.01 | 38252 | 0.99 | 30525 | 0.99 | 0.99 |
| May | 56155 | 1.04 | 1.02 | 55432 | 1.02 | 38685 | 1.00 | 31635 | 1.02 | 1.02 |
| Jun | 57563 | 1.06 | 1.05 | 56045 | 1.03 | 40278 | 1.04 | 35656 | 1.15 | 1.07 |
| Jul | 56319 | 1.04 | 1.03 | 55167 | 1.01 | 41866 | 1.09 | 37671 | 1.22 | 1.08 |
| Aug | 54251 | 1.00 | 0.99 | 54524 | 1.00 | 38544 | 1.00 | 30968 | 1.00 | 1.00 |
| Sep | 54895 | 1.01 | 1.00 | 53511 | 0.98 | 35779 | 0.93 | | | 0.98 |
| Oct | | | | 56788 | 1.04 | 37557 | 0.97 | | | 1.01 |
| Nov | | | | 54019 | 0.99 | 35371 | 0.92 | | | 0.95 |
| Dec | | | | 51272 | 0.94 | 33728 | 0.88 | | | 0.91 |

Ultimately, an average seasonal factor was established using the three sources shown above. The information shown above can help with understanding seasonality in the project area. In general, the months of December through April have lower ADT than summer months of May-September. With this information, these factors can be used to approximate hourly volumes using actual data from CCS #053 to expand lane closure allowances during certain months of the year.

### Example Seasonal Analysis of Hourly Volumes

To illustrate this method in practice, the current lane closure restriction in the westbound direction of travel on Mondays from 12p – 3p has been chosen as an example. The data shown in Table 3 illustrates how the various seasonal factors can be used to identify windows during the year in which an expanded lane closure allowance can be permitted. In this example, the hourly volumes for each direction from CCS #053 for Monday, September 26, 2022, are shown in the first two columns of volume data. The Average Seasonal Factors from Table 3 are used as multipliers for each hour's volume to arrive at an approximate hourly volume during the months of December through April. In this particular example, it could be concluded that at any point during the months of December – April, as well as September, that a westbound lane closure prohibition during the 12p (noon)-3p time period on Mondays could be eliminated, as the volumes at any given point do not exceed 1,200 vehicles per hour.

**Table 4. Example Lane Closure Allowance, Monday**

| **Mon.** | September 2022 | | December | | January | | February | | March | | April | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **S.F.** | | | **0.91** | | **0.80** | | **0.88** | | **0.97** | | **0.99** | |
| **Time** | **E** | **W** | **E** | **W** | **E** | **W** | **E** | **W** | **E** | **W** | **E** | **W** |
| 00:00 | 209 | 143 | 190 | 130 | 167 | 114 | 184 | 126 | 203 | 139 | 207 | 142 |
| 01:00 | 125 | 89 | 114 | 81 | 100 | 71 | 110 | 78 | 121 | 86 | 124 | 88 |
| 02:00 | 128 | 100 | 116 | 91 | 102 | 80 | 113 | 88 | 124 | 97 | 127 | 99 |
| 03:00 | 139 | 123 | 126 | 112 | 111 | 98 | 122 | 108 | 135 | 119 | 138 | 122 |
| 04:00 | 178 | 220 | 162 | 200 | 142 | 176 | 157 | 194 | 173 | 213 | 176 | 218 |
| 05:00 | 352 | 402 | 320 | 366 | 282 | 322 | 310 | 354 | 341 | 390 | 348 | 398 |
| 06:00 | 588 | 626 | 535 | 570 | 470 | 501 | 517 | 551 | 570 | 607 | 582 | 620 |
| 07:00 | 703 | 782 | 640 | 712 | 562 | 626 | 619 | 688 | 682 | 759 | 696 | 774 |
| 08:00 | 767 | 742 | 698 | 675 | 614 | 594 | 675 | 653 | 744 | 720 | 759 | 735 |
| 09:00 | 837 | 762 | 762 | 693 | 670 | 610 | 737 | 671 | 812 | 739 | 829 | 754 |
| 10:00 | 874 | 949 | 795 | 864 | 699 | 759 | 769 | 835 | 848 | 921 | 865 | 940 |
| 11:00 | 1026 | 1023 | 934 | 931 | 821 | 818 | 903 | 900 | 995 | 992 | 1016 | 1013 |
| 12:00 | 1036 | 1084 | 943 | 986 | 829 | 867 | 912 | 954 | 1005 | 1051 | 1026 | 1073 |
| 13:00 | 944 | 1075 | 859 | 978 | 755 | 860 | 831 | 946 | 916 | 1043 | 935 | 1064 |
| 14:00 | 1067 | 989 | 971 | 900 | 854 | 791 | 939 | 870 | 1035 | 959 | 1056 | 979 |
| 15:00 | 1006 | 1016 | 915 | 925 | 805 | 813 | 885 | 894 | 976 | 986 | 996 | 1006 |
| 16:00 | 1014 | 888 | 923 | 808 | 811 | 710 | 892 | 781 | 984 | 861 | 1004 | 879 |
| 17:00 | 942 | 939 | 857 | 854 | 754 | 751 | 829 | 826 | 914 | 911 | 933 | 930 |
| 18:00 | 746 | 735 | 679 | 669 | 597 | 588 | 656 | 647 | 724 | 713 | 739 | 728 |
| 19:00 | 496 | 551 | 451 | 501 | 397 | 441 | 436 | 485 | 481 | 534 | 491 | 545 |
| 20:00 | 446 | 437 | 406 | 398 | 357 | 350 | 392 | 385 | 433 | 424 | 442 | 433 |
| 21:00 | 293 | 340 | 267 | 309 | 234 | 272 | 258 | 299 | 284 | 330 | 290 | 337 |
| 22:00 | 224 | 213 | 204 | 194 | 179 | 170 | 197 | 187 | 217 | 207 | 222 | 211 |
| 23:00 | 170 | 199 | 155 | 181 | 136 | 159 | 150 | 175 | 165 | 193 | 168 | 197 |
| Total | 14310 | 14427 | 13022 | 13129 | 11448 | 11542 | 12593 | 12696 | 13881 | 13994 | 14167 | 14283 |

A second example is provided below using data from Thursday, September 22, 2022. Hourly volume from this date was reviewed against other Thursday data points from the following three weeks of Thursday data posted at the CCS and was found to be a representative sample date. The results of the seasonal factor adjustment are shown in Table 4. It can be observed that using this method, the established restriction for lane closures on Thursdays (1P-6P Eastbound, 12P [Noon]-4P Westbound) could be expanded to allow for lane closures to take place throughout the day in the months of December, January and February. In the months of March and April, some hourly volumes exceed the 1,200 vph per lane maximum for lane closures during construction and would require simulation to determine approximate queue length and duration before approval could be granted.

**Table 5. Example Lane Closure Allowance, Thursday**

| **Mon.** | September 2022 | | December | | January | | February | | March | | April | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **S. F.** | | | **0.91** | | **0.80** | | **0.88** | | **0.97** | | **0.99** | |
| **Time** | **E** | **W** | **E** | **W** | **E** | **W** | **E** | **W** | **E** | **W** | **E** | **W** |
| 00:00 | 156 | 146 | 142 | 133 | 125 | 117 | 137 | 128 | 151 | 142 | 154 | 145 |
| 01:00 | 100 | 109 | 91 | 99 | 80 | 87 | 88 | 96 | 97 | 106 | 99 | 108 |
| 02:00 | 164 | 89 | 149 | 81 | 131 | 71 | 144 | 78 | 159 | 86 | 162 | 88 |
| 03:00 | 143 | 112 | 130 | 102 | 114 | 90 | 126 | 99 | 139 | 109 | 142 | 111 |
| 04:00 | 212 | 181 | 193 | 165 | 170 | 145 | 187 | 159 | 206 | 176 | 210 | 179 |
| 05:00 | 303 | 362 | 276 | 329 | 242 | 290 | 267 | 319 | 294 | 351 | 300 | 358 |
| 06:00 | 492 | 579 | 448 | 527 | 394 | 463 | 433 | 510 | 477 | 562 | 487 | 573 |
| 07:00 | 669 | 669 | 609 | 609 | 535 | 535 | 589 | 589 | 649 | 649 | 662 | 662 |
| 08:00 | 804 | 766 | 732 | 697 | 643 | 613 | 708 | 674 | 780 | 743 | 796 | 758 |
| 09:00 | 934 | 810 | 850 | 737 | 747 | 648 | 822 | 713 | 906 | 786 | 925 | 802 |
| 10:00 | 943 | 904 | 858 | 823 | 754 | 723 | 830 | 796 | 915 | 877 | 934 | 895 |
| 11:00 | 977 | 1012 | 889 | 921 | 782 | 810 | 860 | 891 | 948 | 982 | 967 | 1002 |
| 12:00 | 1042 | 1156 | 948 | 1052 | 834 | 925 | 917 | 1017 | 1011 | 1121 | 1032 | 1144 |
| 13:00 | 1230 | 1088 | 1119 | 990 | 984 | 870 | 1082 | 957 | 1193 | 1055 | 1218 | 1077 |
| 14:00 | 1199 | 1076 | 1091 | 979 | 959 | 861 | 1055 | 947 | 1163 | 1044 | 1187 | 1065 |
| 15:00 | 1188 | 1076 | 1081 | 979 | 950 | 861 | 1045 | 947 | 1152 | 1044 | 1176 | 1065 |
| 16:00 | 1252 | 1077 | 1139 | 980 | 1002 | 862 | 1102 | 948 | 1214 | 1045 | 1239 | 1066 |
| 17:00 | 1154 | 1073 | 1050 | 976 | 923 | 858 | 1016 | 944 | 1119 | 1041 | 1142 | 1062 |
| 18:00 | 858 | 874 | 781 | 795 | 686 | 699 | 755 | 769 | 832 | 848 | 849 | 865 |
| 19:00 | 743 | 623 | 676 | 567 | 594 | 498 | 654 | 548 | 721 | 604 | 736 | 617 |
| 20:00 | 524 | 530 | 477 | 482 | 419 | 424 | 461 | 466 | 508 | 514 | 519 | 525 |
| 21:00 | 418 | 411 | 380 | 374 | 334 | 329 | 368 | 362 | 405 | 399 | 414 | 407 |
| 22:00 | 356 | 290 | 324 | 264 | 285 | 232 | 313 | 255 | 345 | 281 | 352 | 287 |
| 23:00 | 241 | 185 | 219 | 168 | 193 | 148 | 212 | 163 | 234 | 179 | 239 | 183 |
| Total | 16102 | 15198 | 14653 | 13830 | 12882 | 12158 | 14170 | 13374 | 15619 | 14742 | 15941 | 15046 |

South Carolina Department of Transportation

# Formal Alternative Technical Concepts Submittal Form

**Project:** I-20 over Wateree River Bridge Replacements and Swamp Bridge Rehabilitations **Project ID:** 2847360

**ATC No.:** 6 **Priority:** Med **Team:** Lane Construction Corp / HDR **Date:** 11/2/22

## Description (required):

This ATC proposes to use GalvaBar by Commercial Metals Company as a substitute for hot dipped galvanized reinforcing in the bridge deck.

## Usage:

GalvaBar would be used as a substitute for hot-dipped galvanized bars in the bridge deck and barriers.

## Deviations (required):

Special Provision 63 ("Section 703: Galvanized Reinforcing Bars") requires hot-dipped galvanized reinforcing in accordance with ASTM A 767. This ATC would allow for the use of the GalvaBar product (ASTM A1094) as a substitute for the hot-dipped reinforcing by making the following changes to Special Provision 63:

Replace the first paragraph with the following to allow for the use of continuous galvanization:
Refer to the latest Reinforcing Steel Supplemental Specification dated July 1, 2020. This special provision covers coating reinforcing bars and mechanical couplers with a galvanized coating for use in structures.
There are two coating methods allowed by this specification:

- Hot dipped galvanization in accordance with ASTM A 767, Class I coating
- Continuous galvanization in accordance with ASTM A 1094

Insert the following specification to the end of Section 703.2.3.1:

Continuous galvanizing coating requirements:
Provide zinc-coated reinforcing steel in structures that is continuously hot-dipped in accordance with ASTM A 1094. The zinc coating shall be chromate treated. Furnish certification and test results at time of shipment.

## Justification:

GalvaBar achieves the same resistance to corrosion as hot-dipped galvanized bars.

## Schedule:

This ATC does not affect the project schedule.

## Impacts:

This ATC does not affect project impacts.

## History:

GalvaBar has been substituted for hot-dipped galvanized bars on several SCDOT projects including the I-85 Phase 3 Design-Build project in Cherokee County.



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**Project:** I-20 over Wateree River Bridge Replacements and Swamp Bridge Rehabilitations **Project ID:** 2847360

**ATC No.:** 6 **Priority:** Med **Team:** Lane Construction Corp / HDR **Date:** 11/2/22

**Risks:**

There are no risks associated with this ATC.

**Costs (required):**

This ATC will save approximately $65,000.

**Quality:**

Quality of the reinforced concrete deck with GalvaBar will be equal or better.

**Operations & Maintenance:**

This ATC will have no affect on O&M since the corrosion resistance of the GalvaBar is essentially the same as hot-dipped galvanized bars.



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# Formal Alternative Technical Concepts Submittal Form

**Project:** I-20 over Wateree River Bridge Replacements and Swamp Bridge Rehabilitations **Project ID:** 2847360

**ATC No.:** 7 **Priority:** Med **Team:** Lane Construction Corp / HDR **Date:** 11/2/22

## Description (required):

Allow for column spacings at interior bents in excess of 25 feet, up to a 30-foot maximum spacing.

## Usage:

This ATC would be used for all interior bents.

## Deviations (required):

Exhibit 4b Section 2.1.19 states that the column spacing shall not exceed 25 feet. This ATC modifies this statement to allow for column spacings up to 30 feet provided that a minimum cap depth of 6 feet and a column diameter equal to 0.12 times the clear column height between the top of shaft and bottom of cap or 48 inches, whichever is greater.

## Justification:

Increasing the column spacing could result in fewer columns and drilled shafts.

## Schedule:

Having fewer shafts will expedite the schedule and reduce schedule risk that is often associated with drilled shaft work.

## Impacts:

This ATC will not change impacts.

## History:

Column spacings greater than 25 feet with reinforced concrete caps have been used on SCDOT projects. Two examples designed by HDR are the SC-41 bridge over Wando River and SC-6 bridge over Lake Murray which both had 36-foot column spacings.

## Risks:

Having fewer drilled shafts will reduce risks associated with drilling operations in the hard soils and rock at this site and reducing the dependency on the drilled shaft contractor.

## Costs (required):

This ATC could save up to one columns per bent line for a total of up to 10 drilled shafts and columns resulting in a cost savings of up to $400,000.

## Quality:

Properly designed interior bents with up to 30-foot column spacing will provide equal quality.



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**Project:** I-20 over Wateree River Bridge Replacements and Swamp Bridge Rehabilitations **Project ID:** 2847360

**ATC No.:** 7 **Priority:** Med **Team:** Lane Construction Corp / HDR **Date:** 11/2/22

**Operations & Maintenance:**

Increasing the column spacing will decrease the number of columns and shafts to inspect and maintain.



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# Formal Alternative Technical Concepts Submittal Form

**Project:** I-20 over Wateree River Bridge Replacements and Swamp Bridge Rehabilitations **Project ID:** 2847360

**ATC No.:** 8 **Priority:** Med **Team:** Lane Construction Corp / HDR **Date:**

## Description (required):

Allow for Contractor-designed temporary pavement designs to be utilized based on duration of maintenance of traffic shifts or cross-overs. Exhibit 4c includes a single temporary pavement design for crossovers which are for longer durations associated with long term traffic shifts for staged construction of the main river bridge. An equivalent pavement design for the long term crossovers will be developed as well as separate pavement designs for shorter term traffic shifts and crossovers that may be implemented for the bridge rehabilitation work.

## Usage:

The temporary pavement designs associated with this ATC will be used for short duration crossovers and short duration lane shifts that may be required during the bridge construction and/or rehabilitations.

## Deviations (required):

Exhibit 4c Section 2.3 provides criteria for Temporary Crossover Pavement that is to be utilized on the project.

This ATC would revise the section name from "Temporary Crossover Pavement" to "Temporary Pavement".

This ATC would amend the following sentence and pavement design, "For new pavement for crossovers, use the following structure: 200psy HMA Surface Type A, 300psy HMA Intermediate Type A, 750psy HMA Base Type A." to "For temporary pavement expected to be in use for longer than 12 months, use one of the following structures: 200psy HMA Surface Type A, 300psy HMA Intermediate Type A, 750psy HMA Base Type A or 200psy HMA Surface Type A, 1100psy HMA Base Type A."

This ATC would also to allow the Contractor to select from the following temporary pavement designs for durations of use.

6 months or less – 200psy HMA Surface Type A plus 825 PSY Base Type A
9 months or less– 200psy HMA Surface Type A plus 900 PSY Base Type A
12 months or less – 200psy HMA Surface Type A plus 950 PSY Base Type A

If patching/repairs of the temporary asphalt designed by the Contractor is required, the Contractor shall complete such repairs within 3 business days of written notification from the Department. If patching/repairs are not completed within 3 business days, liquidated damages will be assessed at the rate of $2500 per day after the third business day has elapsed.

## Justification:

The long term temporary pavement design for crossovers in Exhibit 4c is not economical to use for shorter duration crossovers and lane shifts.

## Schedule:

The reduced pavement design for the shorter durations will have minimal effect on the schedule. However, inclusion of a more economical temporary pavement design could be a factor in making other MOT-related innovations which could provide more significant schedule savings viable for inclusion.



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**Project:** I-20 over Wateree River Bridge Replacements and Swamp Bridge Rehabilitations **Project ID:** 2847360

**ATC No.:** 8 **Priority:** Med **Team:** Lane Construction Corp / HDR **Date:**

**Impacts:**

There is no change in impacts associated with this ATC.

**History:**

SCDOT typically allows for contractor-designed temporary pavements on design-build projects which are based on intended use and duration of use.

**Risks:**

There are no additional risks associated with this ATC.

**Costs (required):**

Utilizing temporary pavement designs that are based on expected duration and usage will allow for more cost-effective use of the temporary pavement. Using an alternative pavement design for shorter-duration crossovers or temporary widenings could save up to $250,000 compared to the temporary crossover pavement design in Exhibit 4c.

**Quality:**

No impacts to quality as this is being used temporary.

**Operations & Maintenance:**

No impacts to O&M as this is temporary pavement.



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