

RESULTS: BARRIER DESIGN
I-20 Widening

ICA Engineering						20 April 2015				
Will Kerr/Wayne Hall						TNM 2.5				
RESULTS: BARRIER DESIGN						Calculated with TNM 2.5				
PROJECT/CONTRACT:		I-20 Widening								
RUN:		2037 SC 6 to Longs Pond Road - Wall 2								
BARRIER DESIGN:		INPUT HEIGHTS								
ATMOSPHERICS:		68 deg F, 50% RH								
Selected Receivers										
Name	No.	Calc	Noise Reduction		Barrier Reviewed		Important Segments		Partial	
		LAeq1h	Calc	Goal	Calc-Goal		Name	No.	Height	LAeq1h
		dBA	dB	dB	dB				ft	dBA
Receiver155	155	66.1	3.4	8	-4.6	Wall 2	344+50.00	108	25.0	47.7
						Wall 2	343+50.00	107	25.0	47.3
						Wall 2	335+50.00	99	25.0	46.9
						Wall 2	342+50.00	106	25.0	46.4
						Wall 2	339+50.00	103	25.0	45.5
						Wall 2	341+50.00	105	25.0	45.4
						Wall 2	340+50.00	104	25.0	45.0
						Wall 2	338+50.00	102	25.0	44.7
						Wall 2	336+50.00	100	25.0	44.6
						Wall 2	337+50.00	101	25.0	43.2
Receiver157	157	55.3	7.1	8	-0.9	Wall 2	336+50.00	100	25.0	42.6
						Wall 2	335+50.00	99	25.0	42.6
						Wall 2	337+50.00	101	25.0	42.1
						Wall 2	334+50.00	98	25.0	41.9
						Wall 2	333+50.00	97	25.0	41.9
						Wall 2	338+50.00	102	25.0	41.4
						Wall 2	328+50.00	92	25.0	41.1
						Wall 2	332+50.00	96	25.0	41.0
						Wall 2	339+50.00	103	25.0	40.8
						Wall 2	330+50.00	94	25.0	40.7
Receiver158	158	56.1	7.0	8	-1.0	Wall 2	333+50.00	97	25.0	44.0

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						Wall 2	332+50.00	96	25.0	43.7
						Wall 2	334+50.00	98	25.0	43.2
						Wall 2	331+50.00	95	25.0	42.7
						Wall 2	335+50.00	99	25.0	42.4
						Wall 2	336+50.00	100	25.0	41.8
						Wall 2	330+50.00	94	25.0	41.8
						Wall 2	325+50.00	89	25.0	41.5
						Wall 2	324+50.00	88	25.0	41.3
						Wall 2	329+50.00	93	25.0	41.0
Receiver159	159	55.4	6.6	8	-1.4	Wall 2	330+50.00	94	25.0	42.9
						Wall 2	329+50.00	93	25.0	42.9
						Wall 2	331+50.00	95	25.0	42.9
						Wall 2	321+50.00	85	25.0	42.7
						Wall 2	328+50.00	92	25.0	42.7
						Wall 2	332+50.00	96	25.0	42.7
						Wall 2	333+50.00	97	25.0	41.8
						Wall 2	327+50.00	91	25.0	41.1
						Wall 2	334+50.00	98	25.0	40.5
						Wall 2	326+50.00	90	25.0	40.4
Receiver160	160	57.6	8.5	8	0.5	Wall 2	332+50.00	96	25.0	47.4
						Wall 2	333+50.00	97	25.0	46.8
						Wall 2	331+50.00	95	25.0	46.6
						Wall 2	330+50.00	94	25.0	45.5
						Wall 2	334+50.00	98	25.0	45.4
						Wall 2	329+50.00	93	25.0	44.6
						Wall 2	325+50.00	89	25.0	44.3
						Wall 2	328+50.00	92	25.0	44.2
						Wall 2	326+50.00	90	25.0	43.5
						Wall 2	335+50.00	99	25.0	43.3
Receiver162	162	55.7	6.8	8	-1.2	Wall 2	328+50.00	92	25.0	43.8
						Wall 2	329+50.00	93	25.0	43.8
						Wall 2	330+50.00	94	25.0	43.6
						Wall 2	331+50.00	95	25.0	43.2
						Wall 2	321+50.00	85	25.0	43.1
						Wall 2	332+50.00	96	25.0	43.0
						Wall 2	327+50.00	91	25.0	42.5

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						Wall 2	333+50.00	97	25.0	41.7
						Wall 2	326+50.00	90	25.0	41.6
						Wall 2	320+50.00	84	25.0	41.3
Receiver163	163	54.9	6.8	8	-1.2	Wall 2	327+50.00	91	25.0	42.7
						Wall 2	328+50.00	92	25.0	42.6
						Wall 2	329+50.00	93	25.0	41.8
						Wall 2	326+50.00	90	25.0	41.8
						Wall 2	330+50.00	94	25.0	41.3
						Wall 2	325+50.00	89	25.0	41.2
						Wall 2	331+50.00	95	25.0	40.8
						Wall 2	324+50.00	88	25.0	40.6
						Wall 2	332+50.00	96	25.0	40.3
						Wall 2	323+50.00	87	25.0	40.0
Receiver164	164	56.1	7.0	8	-1.0	Wall 2	328+50.00	92	25.0	45.0
						Wall 2	329+50.00	93	25.0	44.6
						Wall 2	330+50.00	94	25.0	44.1
						Wall 2	321+50.00	85	25.0	44.0
						Wall 2	327+50.00	91	25.0	43.9
						Wall 2	331+50.00	95	25.0	43.6
						Wall 2	332+50.00	96	25.0	43.0
						Wall 2	326+50.00	90	25.0	42.9
						Wall 2	325+50.00	89	25.0	42.1
						Wall 2	333+50.00	97	25.0	41.5
Receiver165	165	59.4	10.3	8	2.3	Wall 2	331+50.00	95	25.0	51.7
						Wall 2	330+50.00	94	25.0	50.5
						Wall 2	332+50.00	96	25.0	50.4
						Wall 2	328+50.00	92	25.0	49.3
						Wall 2	329+50.00	93	25.0	48.7
						Wall 2	333+50.00	97	25.0	47.8
						Wall 2	334+50.00	98	25.0	45.2
						Wall 2	326+50.00	90	25.0	43.3
						Wall 2	337+50.00	101	25.0	42.5
						Wall 2	338+50.00	102	25.0	41.8
Receiver166	166	55.1	7.3	8	-0.7	Wall 2	327+50.00	91	25.0	43.2
						Wall 2	328+50.00	92	25.0	42.6
						Wall 2	326+50.00	90	25.0	42.3

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						Wall 2	329+50.00	93	25.0	41.8
						Wall 2	325+50.00	89	25.0	41.8
						Wall 2	324+50.00	88	25.0	41.4
						Wall 2	330+50.00	94	25.0	41.2
						Wall 2	323+50.00	87	25.0	40.8
						Wall 2	331+50.00	95	25.0	40.7
						Wall 2	332+50.00	96	25.0	40.2
Receiver167	167	56.7	7.5	8	-0.5	Wall 2	328+50.00	92	25.0	46.1
						Wall 2	327+50.00	91	25.0	45.7
						Wall 2	329+50.00	93	25.0	45.2
						Wall 2	321+50.00	85	25.0	44.8
						Wall 2	326+50.00	90	25.0	44.5
						Wall 2	330+50.00	94	25.0	44.4
						Wall 2	331+50.00	95	25.0	43.6
						Wall 2	325+50.00	89	25.0	43.6
						Wall 2	332+50.00	96	25.0	42.8
						Wall 2	324+50.00	88	25.0	42.7
Receiver168	168	55.1	7.3	8	-0.7	Wall 2	327+50.00	91	25.0	43.1
						Wall 2	326+50.00	90	25.0	42.3
						Wall 2	328+50.00	92	25.0	42.3
						Wall 2	325+50.00	89	25.0	41.9
						Wall 2	324+50.00	88	25.0	41.7
						Wall 2	329+50.00	93	25.0	41.4
						Wall 2	323+50.00	87	25.0	41.1
						Wall 2	330+50.00	94	25.0	40.7
						Wall 2	322+50.00	86	25.0	40.5
						Wall 2	331+50.00	95	25.0	40.3
Receiver169	169	57.0	8.0	8	0.0	Wall 2	327+50.00	91	25.0	46.9
						Wall 2	328+50.00	92	25.0	46.4
						Wall 2	326+50.00	90	25.0	45.8
						Wall 2	329+50.00	93	25.0	45.2
						Wall 2	320+50.00	84	25.0	44.9
						Wall 2	325+50.00	89	25.0	44.9
						Wall 2	330+50.00	94	25.0	44.3
						Wall 2	321+50.00	85	25.0	44.0
						Wall 2	324+50.00	88	25.0	44.0

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						Wall 2	331+50.00	95	25.0	43.4
Receiver170	170	55.8	7.5	8	-0.5	Wall 2	327+50.00	91	25.0	44.2
						Wall 2	326+50.00	90	25.0	43.6
						Wall 2	325+50.00	89	25.0	43.3
						Wall 2	324+50.00	88	25.0	43.2
						Wall 2	328+50.00	92	25.0	43.0
						Wall 2	323+50.00	87	25.0	42.8
						Wall 2	322+50.00	86	25.0	42.1
						Wall 2	329+50.00	93	25.0	41.9
						Wall 2	321+50.00	85	25.0	41.3
						Wall 2	330+50.00	94	25.0	41.3
Receiver171	171	57.3	8.6	8	0.6	Wall 2	327+50.00	91	25.0	47.6
						Wall 2	326+50.00	90	25.0	47.0
						Wall 2	325+50.00	89	25.0	46.5
						Wall 2	328+50.00	92	25.0	46.1
						Wall 2	320+50.00	84	25.0	46.0
						Wall 2	324+50.00	88	25.0	45.7
						Wall 2	329+50.00	93	25.0	44.8
						Wall 2	323+50.00	87	25.0	44.7
						Wall 2	319+50.00	83	25.0	44.2
						Wall 2	330+50.00	94	25.0	44.0
Receiver172	172	55.3	7.4	8	-0.6	Wall 2	327+50.00	91	25.0	43.0
						Wall 2	324+50.00	88	25.0	42.7
						Wall 2	323+50.00	87	25.0	42.6
						Wall 2	325+50.00	89	25.0	42.4
						Wall 2	326+50.00	90	25.0	42.4
						Wall 2	322+50.00	86	25.0	42.3
						Wall 2	321+50.00	85	25.0	41.7
						Wall 2	328+50.00	92	25.0	41.4
						Wall 2	320+50.00	84	25.0	41.0
						Wall 2	329+50.00	93	25.0	40.6
Receiver173	173	57.2	8.9	8	0.9	Wall 2	327+50.00	91	25.0	47.4
						Wall 2	326+50.00	90	25.0	47.0
						Wall 2	325+50.00	89	25.0	46.9
						Wall 2	324+50.00	88	25.0	46.6
						Wall 2	319+50.00	83	25.0	46.2

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						Wall 2	323+50.00	87	25.0	45.7
						Wall 2	328+50.00	92	25.0	45.4
						Wall 2	322+50.00	86	25.0	44.6
						Wall 2	329+50.00	93	25.0	44.6
						Wall 2	321+50.00	85	25.0	43.7
Receiver174	174	59.3	13.9	8	5.9	Wall 2	326+50.00	90	25.0	52.5
						Wall 2	327+50.00	91	25.0	52.2
						Wall 2	325+50.00	89	25.0	51.1
						Wall 2	323+50.00	87	25.0	49.6
						Wall 2	328+50.00	92	25.0	49.6
						Wall 2	324+50.00	88	25.0	48.8
						Wall 2	322+50.00	86	25.0	47.8
						Wall 2	329+50.00	93	25.0	47.3
						Wall 2	321+50.00	85	25.0	39.1
						Wall 2	320+50.00	84	25.0	23.3
Receiver175	175	54.6	7.2	8	-0.8	Wall 2	322+50.00	86	25.0	41.7
						Wall 2	321+50.00	85	25.0	41.6
						Wall 2	323+50.00	87	25.0	41.6
						Wall 2	327+50.00	91	25.0	41.4
						Wall 2	320+50.00	84	25.0	41.3
						Wall 2	324+50.00	88	25.0	41.2
						Wall 2	319+50.00	83	25.0	40.6
						Wall 2	325+50.00	89	25.0	40.5
						Wall 2	326+50.00	90	25.0	40.5
						Wall 2	318+50.00	82	25.0	39.9
Receiver176	176	57.9	9.8	8	1.8	Wall 2	324+50.00	88	25.0	49.1
						Wall 2	327+50.00	91	25.0	48.8
						Wall 2	325+50.00	89	25.0	48.7
						Wall 2	323+50.00	87	25.0	48.2
						Wall 2	326+50.00	90	25.0	47.9
						Wall 2	320+50.00	84	25.0	47.5
						Wall 2	328+50.00	92	25.0	47.5
						Wall 2	322+50.00	86	25.0	46.7
						Wall 2	319+50.00	83	25.0	45.7
						Wall 2	321+50.00	85	25.0	45.6
Receiver177	177	55.6	7.9	8	-0.1	Wall 2	322+50.00	86	25.0	44.0

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						Wall 2	323+50.00	87	25.0	43.8
						Wall 2	321+50.00	85	25.0	43.8
						Wall 2	327+50.00	91	25.0	43.5
						Wall 2	324+50.00	88	25.0	43.3
						Wall 2	320+50.00	84	25.0	43.1
						Wall 2	325+50.00	89	25.0	42.5
						Wall 2	326+50.00	90	25.0	42.5
						Wall 2	319+50.00	83	25.0	42.1
						Wall 2	328+50.00	92	25.0	42.0
Receiver178	178	57.1	9.2	8	1.2	Wall 2	327+50.00	91	25.0	48.8
						Wall 2	322+50.00	86	25.0	47.3
						Wall 2	323+50.00	87	25.0	47.1
						Wall 2	321+50.00	85	25.0	46.7
						Wall 2	324+50.00	88	25.0	46.1
						Wall 2	320+50.00	84	25.0	45.6
						Wall 2	326+50.00	90	25.0	45.1
						Wall 2	325+50.00	89	25.0	44.9
						Wall 2	319+50.00	83	25.0	44.5
						Wall 2	317+50.00	81	25.0	44.1
Receiver179	179	58.7	10.4	8	2.4	Wall 2	323+50.00	87	25.0	50.9
						Wall 2	322+50.00	86	25.0	49.9
						Wall 2	324+50.00	88	25.0	49.7
						Wall 2	326+50.00	90	25.0	49.3
						Wall 2	319+50.00	83	25.0	48.9
						Wall 2	321+50.00	85	25.0	48.0
						Wall 2	325+50.00	89	25.0	47.8
						Wall 2	327+50.00	91	25.0	47.7
						Wall 2	320+50.00	84	25.0	47.0
						Wall 2	318+50.00	82	25.0	43.1
Receiver180	180	54.5	7.2	8	-0.8	Wall 2	327+50.00	91	25.0	44.4
						Wall 2	318+50.00	82	25.0	41.6
						Wall 2	319+50.00	83	25.0	41.6
						Wall 2	317+50.00	81	25.0	41.4
						Wall 2	320+50.00	84	25.0	41.4
						Wall 2	316+50.00	80	25.0	41.0
						Wall 2	321+50.00	85	25.0	40.8

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						Wall 2	315+50.00	79	25.0	40.3
						Wall 2	322+50.00	86	25.0	40.1
						Wall 2	314+50.00	78	25.0	39.7
Receiver181	181	55.4	7.8	8	-0.2	Wall 2	326+50.00	90	25.0	44.1
						Wall 2	319+50.00	83	25.0	43.5
						Wall 2	318+50.00	82	25.0	43.4
						Wall 2	320+50.00	84	25.0	43.2
						Wall 2	317+50.00	81	25.0	43.0
						Wall 2	321+50.00	85	25.0	42.5
						Wall 2	316+50.00	80	25.0	42.3
						Wall 2	322+50.00	86	25.0	41.8
						Wall 2	327+50.00	91	25.0	41.7
						Wall 2	315+50.00	79	25.0	41.6
Receiver182	182	56.8	8.9	8	0.9	Wall 2	325+50.00	89	25.0	46.3
						Wall 2	319+50.00	83	25.0	46.2
						Wall 2	320+50.00	84	25.0	46.0
						Wall 2	318+50.00	82	25.0	45.9
						Wall 2	321+50.00	85	25.0	45.2
						Wall 2	317+50.00	81	25.0	45.0
						Wall 2	322+50.00	86	25.0	44.1
						Wall 2	316+50.00	80	25.0	44.1
						Wall 2	315+50.00	79	25.0	43.3
						Wall 2	323+50.00	87	25.0	43.3
Receiver183	183	58.7	10.4	8	2.4	Wall 2	319+50.00	83	25.0	50.9
						Wall 2	320+50.00	84	25.0	50.0
						Wall 2	318+50.00	82	25.0	49.6
						Wall 2	322+50.00	86	25.0	48.5
						Wall 2	321+50.00	85	25.0	48.0
						Wall 2	317+50.00	81	25.0	47.7
						Wall 2	323+50.00	87	25.0	47.6
						Wall 2	316+50.00	80	25.0	46.8
						Wall 2	315+50.00	79	25.0	45.7
						Wall 2	314+50.00	78	25.0	43.7
Receiver189	189	57.7	9.0	8	1.0	Wall 2	315+50.00	79	25.0	47.7
						Wall 2	314+50.00	78	25.0	47.6
						Wall 2	316+50.00	80	25.0	46.8

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						Wall 2	313+50.00	77	25.0	46.6
						Wall 2	319+50.00	83	25.0	46.1
						Wall 2	318+50.00	82	25.0	45.8
						Wall 2	317+50.00	81	25.0	45.4
						Wall 2	312+50.00	76	25.0	45.2
						Wall 2	320+50.00	84	25.0	43.8
						Wall 2	311+50.00	75	25.0	43.8
Receiver191	191	58.2	8.6	8	0.6	Wall 2	312+50.00	76	25.0	47.3
						Wall 2	311+50.00	75	25.0	47.0
						Wall 2	313+50.00	77	25.0	46.7
						Wall 2	310+50.00	74	25.0	46.0
						Wall 2	314+50.00	78	25.0	45.5
						Wall 2	317+50.00	81	25.0	45.4
						Wall 2	315+50.00	79	25.0	45.2
						Wall 2	316+50.00	80	25.0	44.8
						Wall 2	309+50.00	73	25.0	44.7
						Wall 2	308+50.00	72	25.0	43.4
Receiver192	192	67.0	3.6	8	-4.4	Wall 2	305+50.00	68	25.0	47.9
						Wall 2	306+50.00	70	25.0	47.4
						Wall 2	307+50.00	71	25.0	46.4
						Wall 2	308+50.00	72	25.0	45.1
						Wall 2	309+50.00	73	25.0	44.4
						Wall 2	312+50.00	76	25.0	43.7
						Wall 2	310+50.00	74	25.0	43.1
						Wall 2	313+50.00	77	25.0	42.5
						Wall 2	311+50.00	75	25.0	42.5
						Wall 2	314+50.00	78	25.0	39.9
Receiver284	252	57.2	7.9	8	-0.1	Wall 2	333+50.00	97	25.0	45.6
						Wall 2	334+50.00	98	25.0	45.6
						Wall 2	335+50.00	99	25.0	45.3
						Wall 2	336+50.00	100	25.0	44.7
						Wall 2	332+50.00	96	25.0	44.6
						Wall 2	337+50.00	101	25.0	43.7
						Wall 2	330+50.00	94	25.0	43.6
						Wall 2	329+50.00	93	25.0	43.6
						Wall 2	331+50.00	95	25.0	43.3

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						Wall 2	338+50.00	102	25.0	42.5
Receiver285	253	58.8	9.3	8	1.3	Wall 2	333+50.00	97	25.0	50.7
						Wall 2	332+50.00	96	25.0	49.6
						Wall 2	334+50.00	98	25.0	48.9
						Wall 2	331+50.00	95	25.0	47.8
						Wall 2	330+50.00	94	25.0	47.5
						Wall 2	335+50.00	99	25.0	45.9
						Wall 2	329+50.00	93	25.0	45.0
						Wall 2	336+50.00	100	25.0	44.8
						Wall 2	337+50.00	101	25.0	44.2
						Wall 2	338+50.00	102	25.0	43.2
Total Cost, All Barriers (including additional cost(s))						\$0				