SHEET NUM.											PART.			ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
P.9	P.10	P.26	P.27	P.28	P.222						01/NHS/20								
																		ROADWAY	
LS											LS			201	11001	LS		CLEARING AND GRUBBING, AS PER PLAN	P.9
		3									3			202	22900	3	SY	APPROACH SLAB REMOVED	
		486									486			202	23000	486	SY	PAVEMENT REMOVED 4	
			1,262								1,262			202	38000	1,262	FT	GUARDRAIL REMOVED	
			1								1			202	42040	1	EACH	ANCHOR ASSEMBLY REMOVED, TYPE T	
			4,001								4,001			202	75000	4,001	FT	FENCE REMOVED	
																4			
			1,229	2,069	4						4 3,298			203	10000	3,298	CY	EXCAVATION	
				684							684			203	20000	684	CY	EMBANKMENT	
				67							67			203	98000	67	CY	ROADWAY, MISC.: TEMPORARY OVER-STEEPENED FILL	P.10
		362									362			606	15050	362	FT	GUARDRAIL, TYPE MGS	
		3									3			606	26150	3	EACH	ANCHOR ASSEMBLY, MGS TYPE E (MASH 2016)	
		4									4			606	35002	4	EACH	MGS BRIDGE TERMINAL ASSEMBLY, TYPE 1	
		1									1			606	35102	1	EACH	MGS BRIDGE TERMINAL ASSEMBLY, TYPE 2	
		1									1			606	60022 3	1	EACH	IMPACT ATTENUATOR, TYPE 2 (UNIDIRECTIONAL) 3	
			201								201			607	35000	201	FT	FENCE REMOVED AND REBUILT	
	1		80								80			607	98000	80	FT	FENCE, MISC.: WHITE SPLIT RAIL FENCE	P.10
4,202											4,202			607	98000	4,202	FT	FENCE, MISC.: TEMPORARY FENCE	P.9
		3,743									3,743			622	90000	3,743	FT	BARRIER, MISC.: 81" SINGLE SLOPE BARRIER	P.224
		29									29			622	90200	29	EACH	BARRIER, MISC.: 81" SINGLE SLOPE BARRIER END ANCHORAGE, REINFORCED	P.224
		6									6			622	90200	6	EACH	BARRIER, MISC.: BARRIER DRAINAGE WINDOW SECTION	P.230
		6									6			622	90200	6	EACH	BARRIER, MISC.: 81" CONCRETE BARRIER END SECTION	P.223
											LS			878	25000	LS		INSPECTION AND COMPACTION TESTING OF UNBOUND MATERIALS	
																		EROSION CONTROL	
1											1			659	00100	1	EACH	SOIL ANALYSIS TEST	
887			1,012								1,899			659	00300	1,899	CY	TOPSOIL	
			955								955			659	00590	955	SY	SEEDING AND MULCHING, CLASS 6	
7,985											7,985			659	10000	7,985	SY	SEEDING AND MULCHING	
400											400			659	14000	400	SY	REPAIR SEEDING AND MULCHING	
400											400			659	15000	400	SY	INTER-SEEDING	
1.08											1.08			659	20000	1.08	TON	COMMERCIAL FERTILIZER	
1.65											1.65			659	31000	1.65	ACRE	LIME	
45											45			659	35000	45	MGAL	WATER	
			9,090								9,090			670	00500	9,090	SY	SLOPE EROSION PROTECTION	
											LS			832	15000	LS		STORM WATER POLLUTION PREVENTION PLAN	
											LS			832	15002	LS		STORM WATER POLLUTION PREVENTION INSPECTIONS	
											LS			832	15010	LS		STORM WATER POLLUTION PREVENTION INSPECTION SOFTWARE	
											142,257			832	30000	142,257	EACH	EROSION CONTROL	
																		DRAINAGE	
	10		237								247			601	21050	247	SY	TIED CONCRETE BLOCK MAT WITH TYPE 1 UNDERLAYMENT	
	2	2.43									2 2.43			602	20000	2 2.43	CY	CONCRETE MASONRY	
	50		9,333								9,383			605	13300	9,383	FT	6" UNCLASSIFIED PIPE UNDERDRAINS	
	50										50			605	31100	50	FT	AGGREGATE DRAINS	
	25		532								557			611	00510	557	FT	6" CONDUIT, TYPE F FOR UNDERDRAIN OUTLETS	
	2	339									2 339			611	06100	2 339	FT	15" CONDUIT, TYPE C	
		83									83			611	06700	83	FT	15" CONDUIT, TYPE F	
		11									11			611	99500	11	EACH	INLET, MISC.: INLET NO. 3 FOR 81" SINGLE SLOPE BARRIER	P.226
	5		26								31			611	99710	31	EACH	PRECAST REINFORCED CONCRETE OUTLET	
																		PAVEMENT	
		4,822									4,822			254	01000	4,822	SY	PAVEMENT PLANING, ASPHALT CONCRETE, 3"	
		4,401									4,401			255	20000	4,401	FT	FULL DEPTH PAVEMENT SAWING 4	
		998									998			304	20000	998	CY	AGGREGATE BASE	
		219									219			407	10000	219	GAL	TACK COAT	
		760									760			407	20000	760	GAL	NON-TRACKING TACK COAT	
															2				
		189									189			442	22101	189	CY	ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (449), AS PER PLAN, PG70-22M	P.10
		189									189			442	22300	189 2	CY	ASPHALT CONCRETE INTERMEDIATE COURSE, 12.5 MM, TYPE A (449) 2	
	2	430									430 2			452	12010	430 4	SY	8" NON-REINFORCED CONCRETE PAVEMENT, CLASS QC 1P	
	4	1,915									1,915 4			452	13010	1,915	SY	9" NON-REINFORCED CONCRETE PAVEMENT, CLASS QC 1P	
		108									108			609	24000	108	FT	CURB, TYPE 4-A	
		4,401									4,401			872	10000	4,401	FT	VOID REDUCING ASPHALT MEMBRANE (VRAM)	
																		NOISE BARRIERS	
					4						4			519	11101	4	SF	PATCHING CONCRETE STRUCTURE, AS PER PLAN	P.222
		115,010									115,010			SPECIAL	60610210	115,010	SF	NOISE BARRIER (REFLECTIVE)	P.9

1 *8-12-2024 - ADDED TEMPORARY FENCE ITEM*

2 *9-05-2024 - UPDATED QUANTITY OF 15" TYPE C PIPE, CONCRETE MASONRY, 8" CONCRETE PAVEMENT, AND 9" CONCRETE PAVEMENT. UPDATED ASPHALT DENSITY ACCEPTANCE*

3 *9-09-2024 - REVISED IMPACT ATTENUATOR TO TYPE 2*

4 *9-11-2024 - ADDED APPROACH SLAB REMOVED, PAVEMENT REMOVED & SAWCUTTING, REVISED EXCAVATION, CONCRETE BASE*

GENERAL SUMMARY

FRA-161-15.80 NOISE ABATEMENT

MODEL: GG001 PAPERSIZE: 34x22 (in.) DATE: 9/20/2024 TIME: 3:00:53 PM USER: watt|4128
pw:\\arcadis-us-pw.bentley.com:arcadis-us-01\Documents\01 Active Projects\143720\400_CAD\400-Engineering\Roadway\Sheets\117607_GG001.dgn

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DESIGNER JMK

REVIEWER JDH 05-22-24

PROJECT ID 117607

SHEET P.24 | TOTAL P.297

SHEET NO.	REF. NO.	STATION FROM	STATION TO	SIDE	606 GUARDRAIL, TYPE MGS (FT)	606 ANCHOR ASSEMBLY, MGS TYPE E (MASH 2016) (EACH)	606 MGS BRIDGE TERMINAL ASSEMBLY, TYPE 1 (EACH)	606 MGS BRIDGE TERMINAL ASSEMBLY, TYPE 2 (EACH)	606 IMPACT ATTENUATOR, TYPE 2 (UNIDIRECTIONAL) (EACH) 2	622 BARRIER, MISC.: 81" SINGLE SLOPE BARRIER (FT)	622 BARRIER, MISC.: 81" SINGLE SLOPE BARRIER END ANCHORAGE, REINFORCED (EACH)	622 BARRIER, MISC.: BARRIER DRAINAGE WINDOW SECTION (EACH)	622 BARRIER, MISC.: 81" CONCRETE BARRIER END SECTION (EACH)	602 CONCRETE MASONRY (CY)	611 15" CONDUIT, TYPE C (FT)	611 15" CONDUIT, TYPE F (FT)	611 INLET, MISC.: INLET NO. 3 FOR 81" SINGLE SLOPE BARRIER (EACH) 3	202 PAVEMENT REMOVED (SY)	202 APPROACH SLAB REMOVED (SY)	254 PAVEMENT PLANING, ASPHALT CONCRETE, 3" (SY)	255 FULL DEPTH PAVEMENT SAWING (FT) 3	304 AGGREGATE BASE (10") (CY)	407 TACK COAT (APPLIED AT A RATE 0.055 GAL/SY) (GAL)	407 NON-TRACKING TACK COAT (APPLIED AT A RATE 0.085 GAL/SY) (GAL)	442 ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (449) AS PER PLAN, PG70-22M (1.5") (CY) 1	442 ASPHALT CONCRETE INTERMEDIATE COURSE, 12.5 MM, TYPE A (449) (1.5") (CY)	452 8" NON-REINFORCED CONCRETE PAVEMENT, CLASS QC 1P (SY) 1	452 9" NON-REINFORCED CONCRETE PAVEMENT, CLASS QC 1P (SY)	609 CURB, TYPE 4-A (FT)	872 VOID REDUCING ASPHALT MEMBRANE (VRAM) (FT)	606 SPECIAL - NOISE BARRIER (REFLECTIVE) (SF)
WALL 3 / BARRIER 3																																
P.33 - P.34	NW-3	300+00.00	305+76.00	LT																									3			8064
P.34 - P.35	B-3	3000+00.00	3006+99.96	LT	100	1	1	1		532	5	1	1	0.27	15		1	78			700	120	22	156	32	32	299	1 3	27	700	
WALL 6 / BARRIER 6																																
P.36 - P.37	B-6	5999+90.38	6008+25.00	LT	50	1	1			574	5		2	0.81	160	1	4	90	3	1326	835	145	26	189	39	39		331	27	835	
P.37 - P.38	NW-6	600+00.00	605+28.00	LT																												7392
WALL 8 / BARRIER 8																																
P.39 - P.40	B-8	8000+00.00	8007+00.00	RT	187		1			512	5	1	1	0.54	60		2	78		1117	700	120	61	68	30	30		288	27	700	
P.40 - P.43	NW-8	800+00.00	818+08.00	RT																									3			25312
WALL 9																																
P.44 - P.46	NW-9	900+16.00	912+70.00	LT										1														1 3				17556
BARRIER 10																																
P.47 - P.50	B-10	1000+00.00	1012+70.07	LT					1	1312	11	3	1	0.54	104	45	3	141		1962	1270	227	41	270	57	57		610		1270	
		1012+70.07	1014+15.44	LT														16			145	25	5	7	2	2	83			145	
		1014+15.44	1016+49.64	LT																		140					48				
WALL 11																												3				
P.51 - P.54	NW-11	1100+00.00	1115+60.00	RT																												21840
WALL 12 / BARRIER 12																																
P.55 - P.56	B-12	1200+00.00	1202+97.05	RT	25	1	1			633	3		1	0.27		38	1	33			297	129	25	38	14	14		441	27	297	
		1202+97.05	1205+23.39	RT														25		417	226	53	32	21	12	12		144		226	
		1205+23.39	1207+51.00	RT														25			228	39	7	11	3	3		101		228	
P.56 - P.57	NW-12	120+00.00	124+97.00	RT																												6958
WALL 15																																
P.58 - P.62	NW-15	1500+00.00	1502+40.00	RT																												3360
		1504+27.00	1518+43.00	RT																												19824
		1518+90.00	1522+26.00	RT										1														1 3				4704
TOTALS					362	3	4	1	1	3,563	29	5	6	2.43	339	83	11	486	3	4,822	4,401	998	219	760	189	189	430	1,915	108	4,401	115,010

SHEET NO.	REF. NO.	STATION FROM	STATION TO	SIDE	630 GROUND MOUNTED SUPPORT, NO. 3 POST (FT)	630 GROUND MOUNTED STRUCTURAL BEAM SUPPORT, W8X18 (FT)		630 OVERHEAD SIGN SUPPORT, INSTALLATION ONLY, AS PER PLAN (EACH)	630 CONCRETE MEDIAN BARRIEER SIGN BRACKET (EACH)	630 SIGN BACKING ASSEMBLY (EACH)	630 GROUND MOUNTED STRUCTURAL BEAM SUPPORT FOUNDATION (EACH)	630 RIGID OVERHEAD SIGN SUPPORT FOUNDATION (EACH)	630 REMOVAL OF GROUND MOUNTED SIGN AND REERECTION (EACH)	630 REMOVAL OF GROUND MOUNTED MAJOR SIGN AND REERECTION (EACH)	630 REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL (EACH)	630 REMOVAL OF GROUND MOUNTED STRUCTURAL BEAM SUPPORT AND DISPOSAL (EACH)	807 WET REFLECTIVE SPRAY THERMOPLASTIC PAVEMENT MARKING, LANE LINE, 6" (MILE)
	LL-1	2126+70	2150+50	LT													0.45
P.36	S-1	2188+00		LT	3.7				1				1		1		
P.37	S-2	6008+00		LT		20.0	19.9			1	2		1	1		2	
P.47	S-3	2232+50		LT	3				1				1		1		
P.56	S-4	1207+00		RT				1				1					
TOTALS					6.7	39.9		1	2	1	2	1	3	1	2	2	0.45

SHEET NO.	REF. NO.	STATION FROM	STATION TO	SIDE	614 WORK ZONE EDGE LINE, CLASS I, 6", 740.06, TYPE I (MILE)	614 WORK ZONE DOTTED LINE, CLASS I, 6", 740.06, TYPE I (FT)	614 WORK ZONE IMPACT ATTENUATOR, 24" WIDE HAZARDS, (UNIDIRECTIONAL) (EACH)	614 BARRIER REFLECTOR, TYPE 1 (ONE-WAY) (EACH)	614 OBJECT MARKER (ONE-WAY) (EACH)	622 PORTABLE BARRIER, UNANCHORED (FT)
WALL 3 / BARRIER 3										
P.15	PB-1	2135+33	2143+97	LT			1	18	18	870
P.15	WE-1	2126+70	2150+50	LT	0.45					
P.15	WD-1	2142+70	2150+50	LT		780				
WALL 6 / BARRIER 6										
P.16	PB-2	2187+50	2198+46	LT			1	22	22	3300
WALL 8 / BARRIER 8										
P.16	PB-3	2191+84	2200+50	RT			1	18	18	2610
BARRIER 10										
P.17	PB-4	2229+85	2247+50	LT			1	38	38	4670
P.17	WE-2	2236+68	2246+05	LT	0.18					
WALL 12 / BARRIER 12										
P.17	PB-5	2230+34	2241+78	RT			1	23	23	2250
TOTALS					0.63	780	5	119	119	13,700

1 *9-05-2024 - UPDATED QUANTITY OF 15" TYPE C PIPE, CONCRETE MASONRY, 8" CONCRETE PAVEMENT, AND 9" CONCRETE PAVEMENT. UPDATED ASPHALT DENSITY ACCEPTANCE*

2 *9-09-2024 - UPDATED IMPACT ATTENUATOR TO TYPE 2*

3 *9-11-2024 - ADDED SAWCUTTING, PAVEMENT REMOVED AND APPROACH SLAB REMOVED, UPDATED CONCRETE BASE*

SUBSUMMARY

FRA-161-15.80 NOISE ABATEMENT

MODEL: GS001 PAPERSIZE: 34x22 (in.) DATE: 9/20/2024 TIME: 10:16:56 AM USER: watkj4128
pw:\\arcadis-us-pw.bentley.com:arcadis-us-01\Documents\01 Active Projects\143720\400_CAD\400-Engineering\Roadway\Sheets\117607_GS001.dgn

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DESIGNER JMK
REVIEWER JDH 05-22-24
PROJECT ID 117607
SHEET P.26 TOTAL P.297

SHEET NO.	203 EXCAVATION CY	203 EMBANKMENT CY	203 ROADWAY, MISC.: TEMPORARY OVER-STEEPENED FILL CY
WALL 3 / 81" SSB 3			
P.63			
P.64			
P.65			
P.66			
P.67			
P.68			
P.69			
P.70	20	6	
P.71	16	14	
P.72	29	14	
P.73	22	8	
P.74	14	13	
P.75	24	22	
SUBTOTAL	125	77	0

SHEET NO.	203 EXCAVATION CY	203 EMBANKMENT CY	203 ROADWAY, MISC.: TEMPORARY OVER-STEEPENED FILL CY
WALL 6 / 81" SSB 6			
P.76	2		
P.77	44	4	
P.78	44	2	
P.79	44	2	
P.80	44	2	
P.81	44	1	
P.82	44	1	
P.83	44		
P.84	44	1	
P.85	11		
P.86			
P.87			
P.88			
P.89			
P.90			
P.91			
P.92			
P.93			
SUBTOTAL	365	13	0

SHEET NO.	203 EXCAVATION CY	203 EMBANKMENT CY	203 ROADWAY, MISC.: TEMPORARY OVER-STEEPENED FILL CY
81" SSB 8 / WALL 8			
P.94			
P.95			
P.96			
P.97			
P.98			
P.99			
P.100			
P.101			
P.102			
P.103			
P.104			
P.105			
P.106			
P.107			
P.108			
P.109			
P.110			
P.111			
P.112			
P.113			
P.114			
P.115			
P.116			
P.117			
P.118			
P.119			
P.120			
P.121			
P.122			
P.123			
SUBTOTAL	200	20	0

SHEET NO.	203 EXCAVATION CY	203 EMBANKMENT CY	203 ROADWAY, MISC.: TEMPORARY OVER-STEEPENED FILL CY
WALL 9			
P.124			
P.125			
P.126			
P.127			
P.128			
P.129			
P.130			
P.131			
P.132			
P.133			
P.134			
P.135			
P.136			
P.137			
P.138			
P.139			
SUBTOTAL	0	0	0

SHEET NO.	203 EXCAVATION CY	203 EMBANKMENT CY	203 ROADWAY, MISC.: TEMPORARY OVER-STEEPENED FILL CY
81" SSB 10			
P.140			
P.141	44	2	
P.142	68	2	
P.143	72		
P.144	72		
P.145	46		
P.146	45	1	
P.147	42	2	
P.148	41	2	
P.149	40	2	
P.150	20	1	
P.151	39	4	
P.152	39	3	
P.153	48	2	
P.154	58	3	
P.155	71	4	
P.156	33	1	
SUBTOTAL	778	29	0

SHEET NO.	203 EXCAVATION CY	203 EMBANKMENT CY	203 ROADWAY, MISC.: TEMPORARY OVER-STEEPENED FILL CY
WALL 11			
P.140			
P.141			
P.142			
P.143			
P.144			
P.145			
P.146			
P.147			
P.148			
P.149			
P.150			
P.151			
P.152			
P.153			
P.154			
P.155			
P.156			
SUBTOTAL	0	0	0

SHEET NO.	203 EXCAVATION CY	203 EMBANKMENT CY	203 ROADWAY, MISC.: TEMPORARY OVER-STEEPENED FILL CY
81" SSB 12 / WALL 12			
P.174	72	11	
P.175	81	9	
P.176	62	4	
P.177	44	5	
P.178	88	74	14
P.179	180	200	27
P.180	160	180	22
P.181	74	62	4
P.182			
P.183			
P.184			
P.185			
P.186			
P.187			
P.188			
P.189			
SUBTOTAL	761	545	67

SHEET NO.	203 EXCAVATION CY	203 EMBANKMENT CY	203 ROADWAY, MISC.: TEMPORARY OVER-STEEPENED FILL CY
WALL 15			
P.190			
P.191			
P.192			
P.193			
P.194			
P.195			
P.196			
P.197			
P.198			
P.199			
P.200			
P.201			
P.202			
P.203			
P.204			
P.205			
P.206			
P.207			
P.208			
P.209			
P.210			
P.211			
P.212			
P.213			
SUBTOTAL	0	0	0
TOTAL (CADD GENERATED VALUES)	2,229	684	67
CADD VALUE REDUCTION PER THE VOLUME OF ITEM 202 - PAVEMENT REMOVED	160	0	0
TOTAL CARRIED TO GENERAL SUMMARY	2,069	684	67

1 *9-11-2024 - REVISED EXCAVATION QUANTITY BASED UPON REVISED PAVEMENT REMOVED QUANTITY*

SUBSUMMARY

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DESIGNER JMK

REVIEWER JDH 05-22-24

PROJECT ID 117607

SHEET P.28 TOTAL P.297

FRA-161-15.80 NOISE ABATEMENT

MODEL: GS002 PAPERSIZE: 34x22 (in.) DATE: 9/20/2024 TIME: 10:17:28 AM USER: watt4128
pw:\\arcadis-us-pw.bentley.com:arcadis-us-01\Documents\01 Active Projects\143720\400_CAD\400-Engineering\Roadway\Sheets\117607_GS003.dgn

10D CURVE DATA
℄ CONST. 81" BARRIER 10
P.I. = STA. 1014+82.35
Δ = 15°41'58" LT
Dc = 04°46'29"
R = 1,200.00'
T = 165.44'
L = 328.81'
E = 11.35'

Ex LA-R/W
EX. FENCE (DND)
Ex LA
STA. 1015+50.00
ITEM 611 - INLET, MISC.: INLET NO. 3
FOR 81" SINGLE SLOPE BARRIER
GRATE ELEV. = 990.82
INV. 15" (N) ELEV. = 984.78
SEE SHEET P.226
EX. UD
(SEE NOTE 3)
STREAM 5
UD-22
EX. EDGE OF
PAVED SHOULDER
CONST.
LIMITS
PROP. 81" BARRIER 10
CURVE 10D
1015
1016
B-10
POT STA. 1016+49.64
PT STA. 1016+45.71
PROP. IMPACT ATTENUATOR,
TYPE 2 (UNIDIRECTIONAL)
END PROP. 81" BARRIER 10
STA. 1016+49.64, 0.00' LT
℄ CONST. 81" BARRIER 10 =
STA. 2246+25.00, 140.43' LT
℄ CONST. SR 161
CONC. BARRIER
END SECTION
24' - 15" TYPE C
EX. CTSS FIBER
(SEE NOTE 1)
15.26'
6'+
RAMP L
FUTURE EX. LIGHTING CIRCUIT 560, LEG A
MIS-403 (PID 116322) (DND)
STA. 2247+03.73, 155.09' LT
℄ CONST. SR 161
FUTURE EX. LIGHT POLE 560-A9
(PID 116322) (SEE NOTE 2) (DND)
N76°03'22"E
FUTURE EX. LIGHTING CIRCUIT 560, LEG A
MIS-403 (PID 116322) (DND)
FUTURE EX.
(PID 116322)
STA. 2202+40
(DND)
FUTURE EX. LIGHT POLE 560-A8
(PID 116322) (SEE NOTE 2) (DND)
℄ CONST. 81" BARRIER 10
CONST. LIMITS

LEGEND
ITEM 304 - 10" AGGREGATE BASE
PROP. PAVED SHOULDER
(SEE TYPICAL SECTIONS FOR PAVEMENT BUILDUP)

NOTES
1.) CAUTION: EX. CTSS FIBER DEPTH BASED ON FIELD SURVEY SHOTS AT EX. PULL BOX LOCATIONS. THE CONTRACTOR SHALL USE EXTREME CAUTION WHILE WORKING NEAR THE CTSS FIBER TO NOT EXCAVATE BELOW THE 81" BARRIER FOUNDATION LIMITS SHOWN ON THE TYPICAL SECTIONS.

2.) ITEM 304 - 10" AGGREGATE BASE SHALL BE GRADED AROUND LIGHT POLE SO AS NOT TO BURY OR EXPOSE LIGHT POLE BASE.

3.) THE CONTRACTOR SHALL BE REQUIRED TO CONNECT THE EXISTING UNDERDRAIN OUTLET INTO THE PROPOSED BARRIER INLET AT STA. 1015+50.00. THE COST SHALL BE INCIDENTAL TO THE COST OF THE PLACEMENT OF THE BARRIER INLET AT STA. 1015+50.00.

HORIZONTAL SCALE IN FEET
0 10 20 40

COLUMBIA GAS
EX. 20" HP GAS
BLANKET EASEMENT
VOL. 1495, PG. 566
VOL. 1495, PG. 568

WESTBOUND SR-161
EX. CONCRETE
(TBR W/ PID 116322)
EX. CABLE BARRIER
(TBR W/ PID 116322)
MATCH LINE STA. 2244+00.00
SEE SHEET P.49
2244 2245 2246 2247 2248 22
℄ CONST. SR 161
4.
45
MILE
161
EAST
WEST
161
MILE
45
.4
FUTURE EX.
(PID 116322)
STA. 2245+82
(DND)
FUTURE EX. LIGHT POLE 849-C12
(PID 116322) (DND)
FUTURE EX. LIGHTING CIRCUIT 849, LEG C
IN (1)-2" PVC CONDUIT (PID 116322) (DND)
FUTURE EX. CONC. BARRIER, TYPE C APP 2
(PID 116322)
FUTURE EX. LIGHTING CIRCUIT 849, LEG C
IN (1)-2" PVC CONDUIT (PID 116322) (DND)

1010 1005 1000 995 990 985 980 975 970
PROP. 81" BARRIER END
ANCHORAGE, REINFORCED
ITEM 611 - BARRIER INLET, 81" SSB
PROP. 81" BARRIER END
ANCHORAGE, REINFORCED
CONCRETE BARRIER, 81" SSB,
END SECTION, 32" TO 81"
53' TRANSITION PER SCD
PIS-81-SSB
TOP OF PROP. 81" BARRIER 10
+25 +40 +60 +75 +96.64 +49.64
BOTTOM OF
PROP. 81" BARRIER 10
EX. GROUND AT
℄ CONST. 81" BARRIER 10
EX. 20" GAS
EX. 20" GAS
EX. LIGHTING
EX. FIBER OPTIC
END PROP. 81" BARRIER 10
STA. 1016+49.64
NOTE TO CONTRACTOR:
REFER TO SHEET P.11 FOR TC
ENERGY REQUIREMENTS THAT
MUST BE FOLLOWED DURING THE
CONSTRUCTION OF THIS PROJECT.
NOTE TO CONTRACTOR:
REFER TO SHEET P.11 FOR TC
ENERGY REQUIREMENTS THAT
MUST BE FOLLOWED DURING THE
CONSTRUCTION OF THIS PROJECT.
STA. 1015+50.00
ITEM 611 - INLET, MISC.: INLET NO. 3
FOR 81" SINGLE SLOPE BARRIER
GRATE ELEV. = 990.82
INV. 15" (N) ELEV. = 981.40 1
SEE SHEET P.226
1015 1016

1 7-08-2024 - REVISED INVERT ELEVATION AND REMOVED RCP.
2 9-11-2024 - REVISED LIGHT POLE 560-A8 LOCATION

PLAN & PROFILE - 81" BARRIER 10
STA. 2244+00.00 TO STA. 2249+00.00

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DESIGNER
JMK
REVIEWER
JDH 05-22-24
PROJECT ID
117607
SHEET P.50
TOTAL P.297

FRA-161-15.80 NOISE ABATEMENT

MODEL: Wall 10 - Plan 18 PAPERSIZE: 34x22 (in.) DATE: 9/20/2024 TIME: 2:14:44 PM USER: watt|4128
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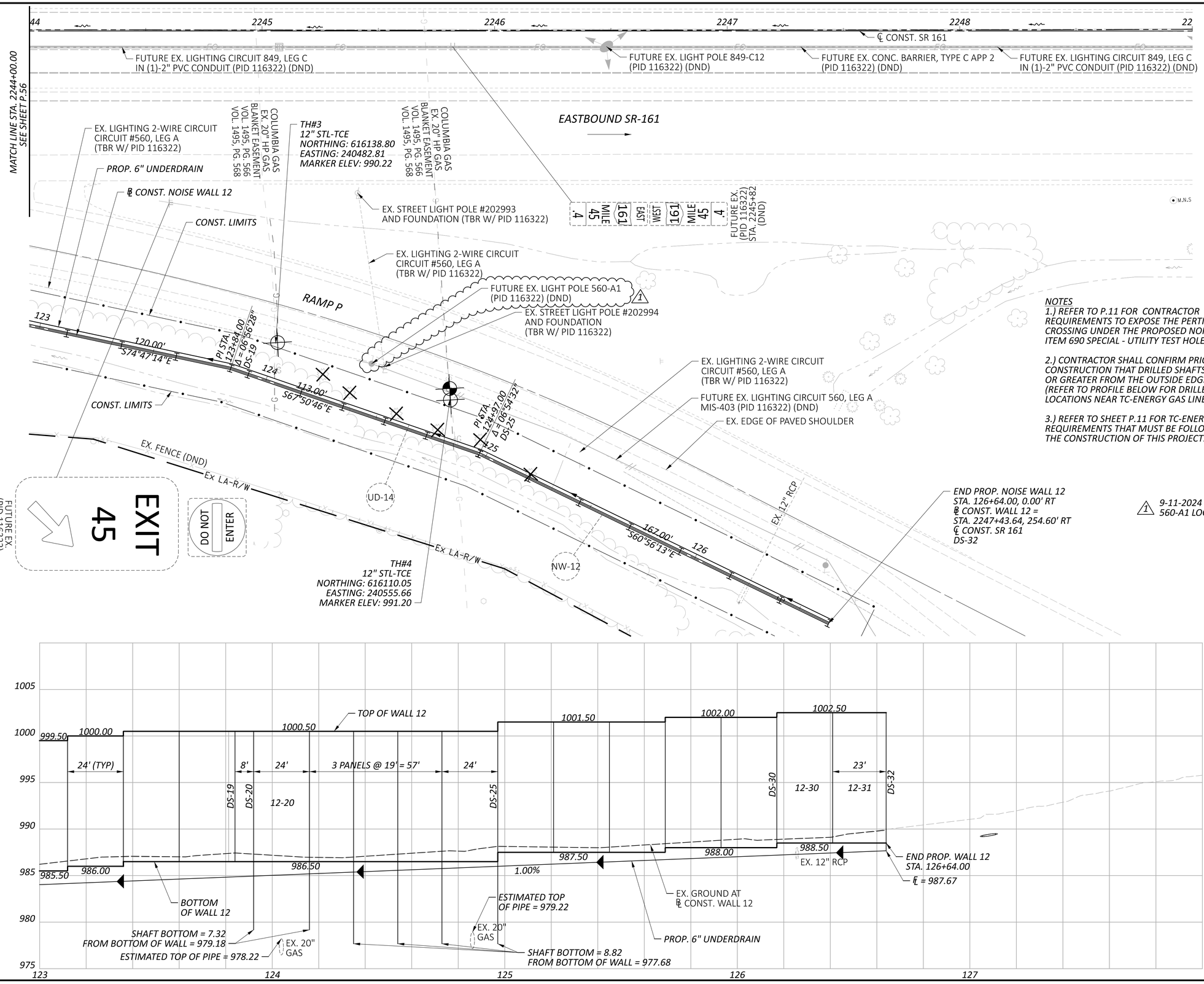

NOTES

1.) REFER TO P.11 FOR CONTRACTOR REQUIREMENTS TO EXPOSE THE PERTINENT UTILITY CROSSING UNDER THE PROPOSED NOISE WALL PER ITEM 690 SPECIAL - UTILITY TEST HOLE (TC-ENERGY).

2.) CONTRACTOR SHALL CONFIRM PRIOR TO CONSTRUCTION THAT DRILLED SHAFTS ARE 10 FEET OR GREATER FROM THE OUTSIDE EDGE OF PIPELINES (REFER TO PROFILE BELOW FOR DRILLED SHAFT LOCATIONS NEAR TC-ENERGY GAS LINES).

3.) REFER TO SHEET P.11 FOR TC-ENERGY REQUIREMENTS THAT MUST BE FOLLOWED DURING THE CONSTRUCTION OF THIS PROJECT.

HORIZONTAL
SCALE IN FEET
0 10 20 40

PLAN & PROFILE - WALL 12
STA. 2244+00.00 TO STA. 2249+00.00

FRA-161-15.80 NOISE ABATEMENT

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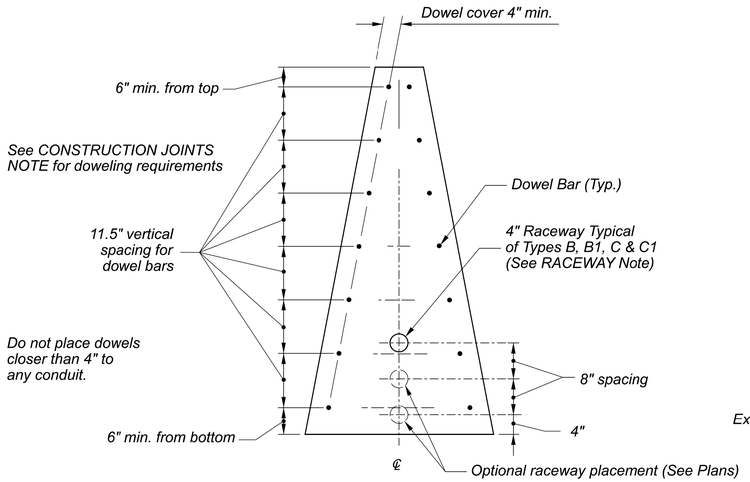
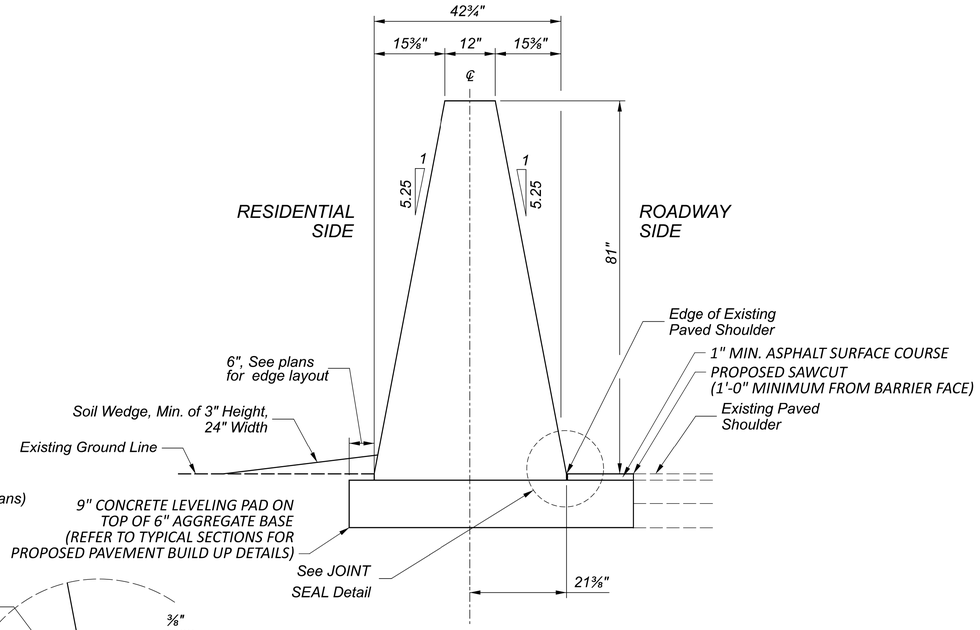
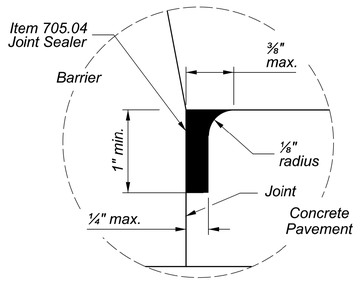
REVIEWER JDH 05-22-24
PROJECT ID 117607
SHEET P.57 TOTAL P.297



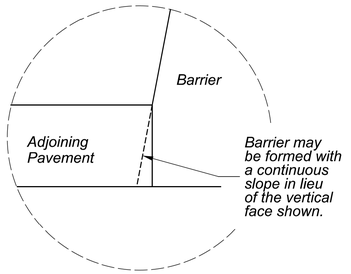
RACEWAY AND DOWEL BAR PLACEMENT



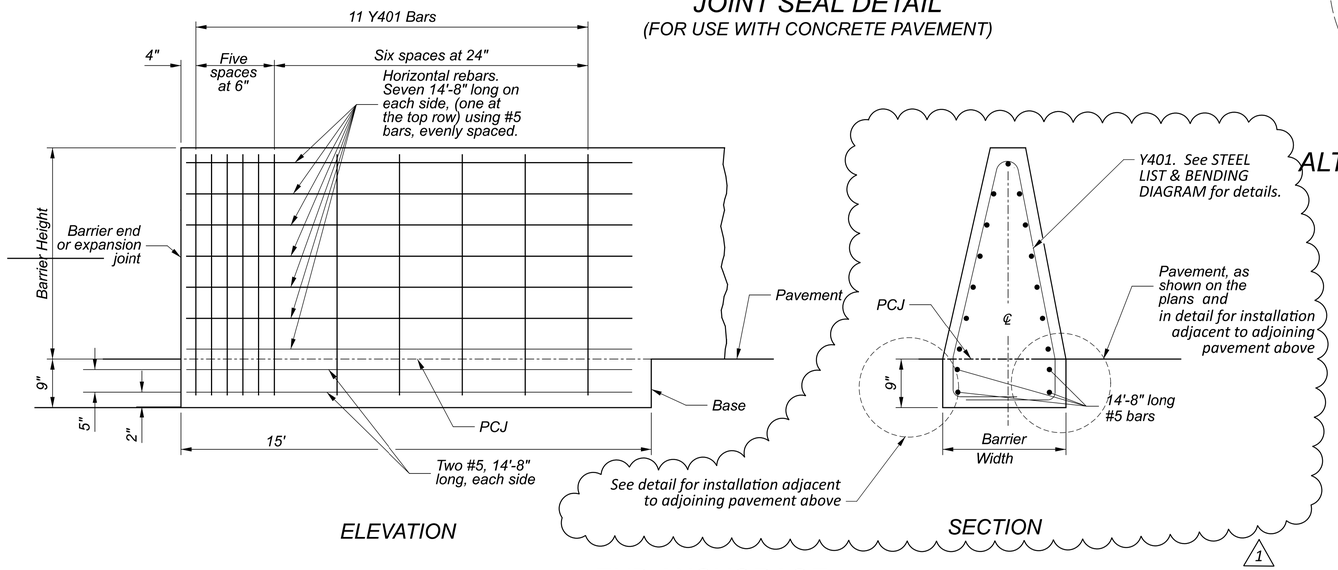
DETAIL FOR INSTALLATION ADJACENT TO ADJOINING PAVEMENT



JOINT SEAL DETAIL
(FOR USE WITH CONCRETE PAVEMENT)



ALTERNATE TOE DETAIL



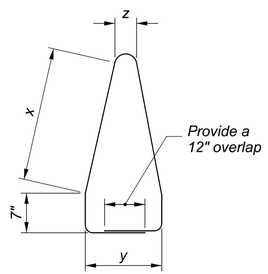
END ANCHORAGE

Dimensions for Y401 (English)			
x	y	z	Length
74"	37"	9"	18'-8"

Y401 STEEL LIST & BENDING DIAGRAM

REINFORCED END ANCHORAGES are required at the ends of concrete barrier runs and at interruptions in barrier caused by expansion joints. When barrier does not abut another barrier run, construct the last 15' using the END ANCHORAGE Detail as shown here.

At expansion joints, construct an End Anchorage on both sides of joint, with a maximum gap of 2" for the open joint. The maximum expansion joint spacing shall be 800'. This anchorage is not needed at construction joints, provide dowel bar connections instead. See CONSTRUCTION JOINT NOTE for doweling details.



Y401 #4

NOTES

SINGLE SLOPE CONCRETE BARRIER may be cast-in-place or slip formed.
See SCD RM-4.3 for Type B, B1, C, and C1 barrier.
See SCD RM-4.5 for Type D barrier.
See SCD RM-4.6 for End Sections.

MATERIALS: Construct using concrete with a minimum design strength of 4000 psi conforming to the requirements of CMS 499. Construct top and end edges with either a 1" radius or ¾" chamfer, except at light pole foundations.

CONTRACTION JOINTS: Maximum allowable spacing of unsealed joints is 20' throughout the run of the barrier. Construct joints by using metal inserts inside the forms, preformed full width joint filler, a grooving tool, or by sawing. Inserts, tooled, or sawed joints will have a 3" depth. Construct all joints for the full height of the barrier. Saw as soon as curing will allow to prevent spalling. When used in conjunction with concrete pavement, match joints to those in the concrete pavement but not exceeding the maximum allowable spacing.

ADJOINING PAVEMENT: When the barrier is constructed in conjunction with new pavement (asphalt or concrete), the concrete leveling pad shall match the thickness of the proposed asphalt or concrete pavement. The leveling pad shall be placed on 6" of aggregate base. The barrier shall then be doweled in to the concrete leveling pad. Barrier constructed next to existing pavement shall have a 9" thick concrete leveling pad placed on 6" of aggregate base. The barrier shall then be doweled in to the concrete levelir pad. Compacted soil on the back side must be placed against the barrier at a minimum height of 3" and extend for a minimum of 2' prior to the breakpoint of the slope.

SEALING JOINTS: Use a butt longitudinal joint between the barrier and adjoining concrete pavement sealed with CMS 705.04 joint sealer. See detail on RM-4.3

TRANSITIONS: Make linear transitions between different types of barrier within a 20' length.

CONSTRUCTION JOINTS: Barrier runs with abutting vertical surfaces at either required or permissible construction joints are to be doweled to each other by use of 3/4" dia. by 18" long epoxy coated deformed dowel bars as per CMS 622.02. Bars are to be placed as shown on the RACEWAY and DOWEL BAR PLACEMENT detail on this sheet. Provide a 4" clearance to barrier surfaces and to any raceways.

STATION MARKINGS: Impress markings in the "green" concrete on both sides at the top of the barrier. The cost is incidental to the unit cost bid for this barrier.

RACEWAY: Raceway not to be included on this project.

1

PAYMENT: will be made at the unit price bid per Foot for ITEM 622 - BARRIER, MISC.: 81" SSB. Include all reinforcement, materials, labor, raceways, dowel holes, markings and other incidentals necessary to construct the barrier.

Payment for any reinforced end anchors, as shown on the END ANCHORAGE details will be made at the unit price bid per Each for ITEM 622 - BARRIER, MISC.: 81" SSB, END ANCHORAGE, REINFORCED. This includes all materials, labor, and other incidentals necessary to construct this anchor.

1 *9-11-2024 - REVISED DETAILS TO INCLUDE BASE DIMENSIONS, NO RACEWAYS*

81" SINGLE SLOPE BARRIER DETAIL (PIS-81-SSB)

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REVIEWER JDH 05-22-24

PROJECT ID 117607

SHEET P.224 | TOTAL P.297

FRA-161-15.80 NOISE ABATEMENT

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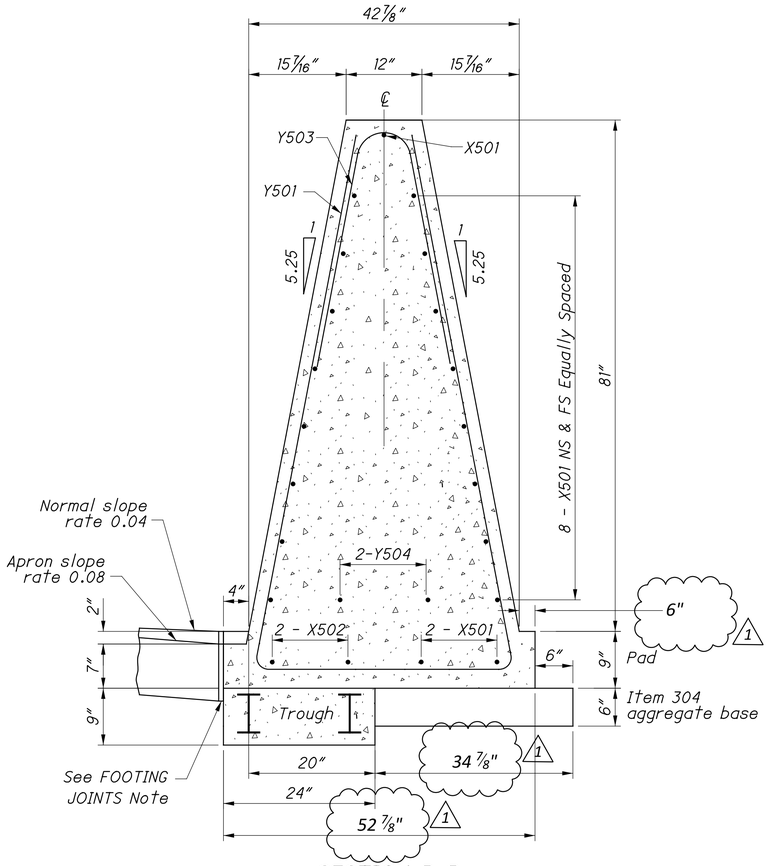
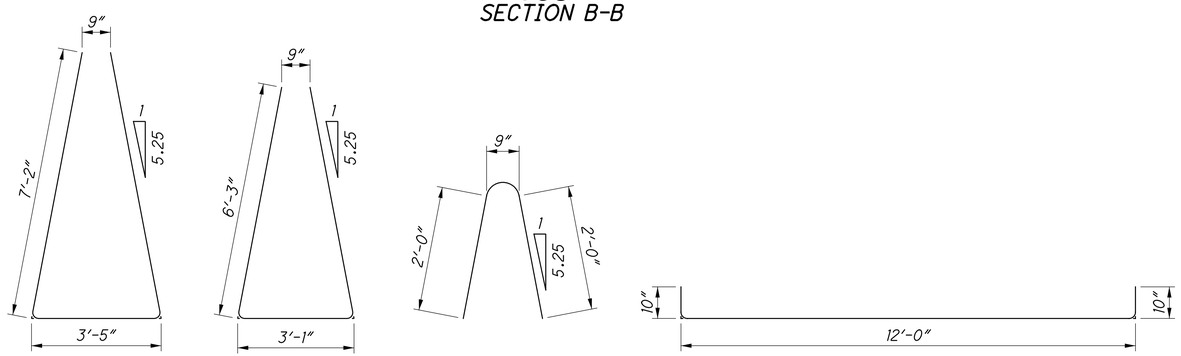
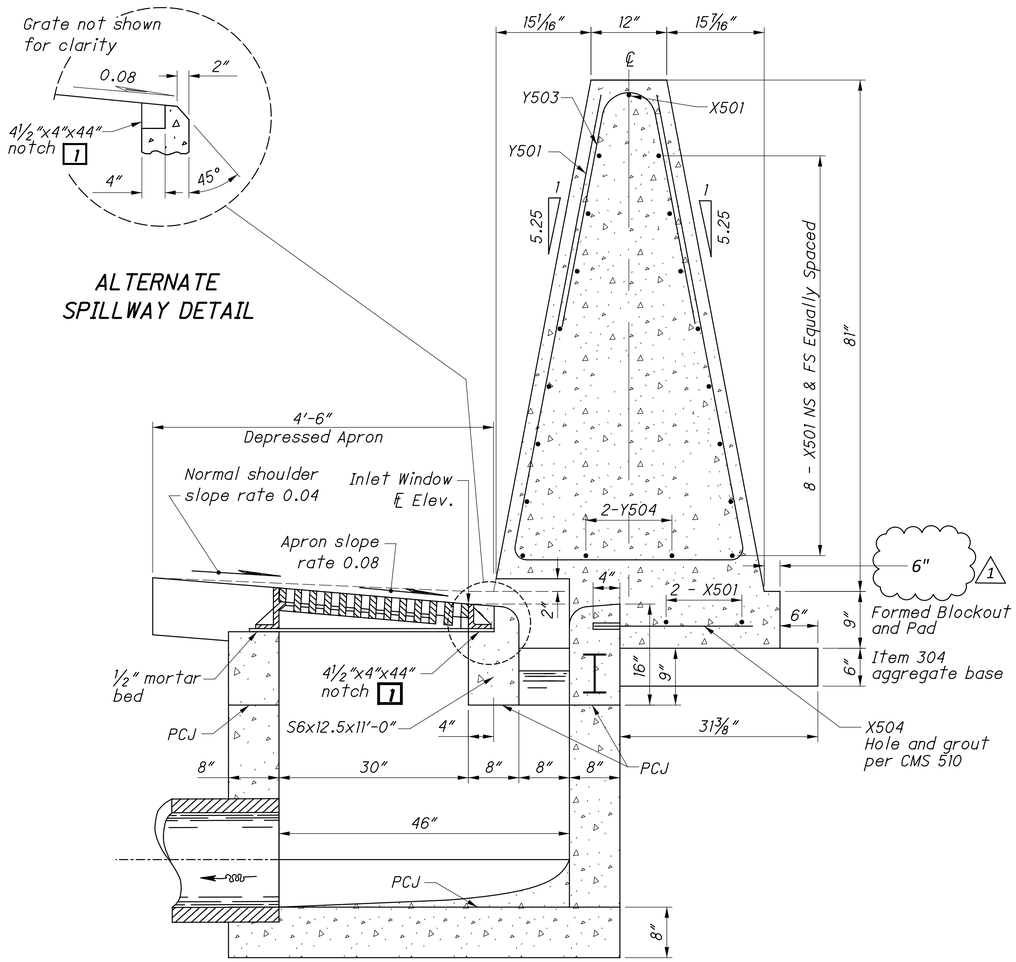


SECTION B-B



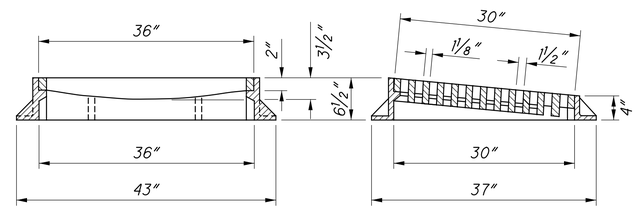
BENDING DIAGRAMS

STEEL LIST (For Estimating Purposes Only)															
X501 #5 Bar		X502 #5 Bar		X503 #5 Bar		X504 #5 Bar		Y501 #5 Bar		Y502 #5 Bar		Y503 #5 Bar		Y504 #5 Bar	
Straight		Straight		Straight		Straight		Bent		Bent		Bent		Bent	
No.	Length	No.	Length	No.	Length	No.	Length	No.	Length	No.	Length	No.	Length	No.	Length
19	19'-8"	4	4'-8"	8	3'-5"	5	2'-2"	8	17'-6"	5	19'-8"	13	8'-11"	2	13'-5"



ALTERNATE SPILLWAY DETAIL

SECTION C-C



CASTING DETAILS

See Sheet 1 For NOTES, LEGEND and PLAN VIEW

1 9-11-2024 - REVISED DETAILS TO INCLUDE BASE DIMENSIONS

INLET, MISC.: INLET NO. 3 FOR 81" SINGLE SLOPE BARRIER

FRA-161-15.80 NOISE ABATEMENT

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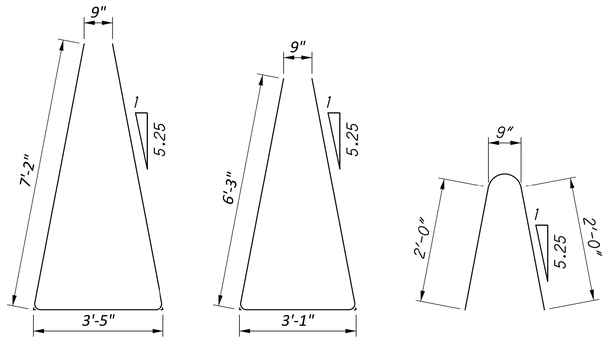
DESIGNER JMK
REVIEWER JDH 05-22-24
PROJECT ID 117607
SHEET P.228 TOTAL P.297

STEEL LIST (For Estimating Purposes Only)

X501 #5 Bar Straight		X502 #5 Bar Straight		X503 #5 Bar Straight		Y501 #5 Bar Bent		Y502 #5 Bar Bent		Y503 #5 Bar Bent	
No.	Length	No.	Length	No.	Length	No.	Length	No.	Length	No.	Length
4	19'-8"	19	19'-6"	5	4'-0"	8	17'-6"	5	15'-4"	13	5'-2"



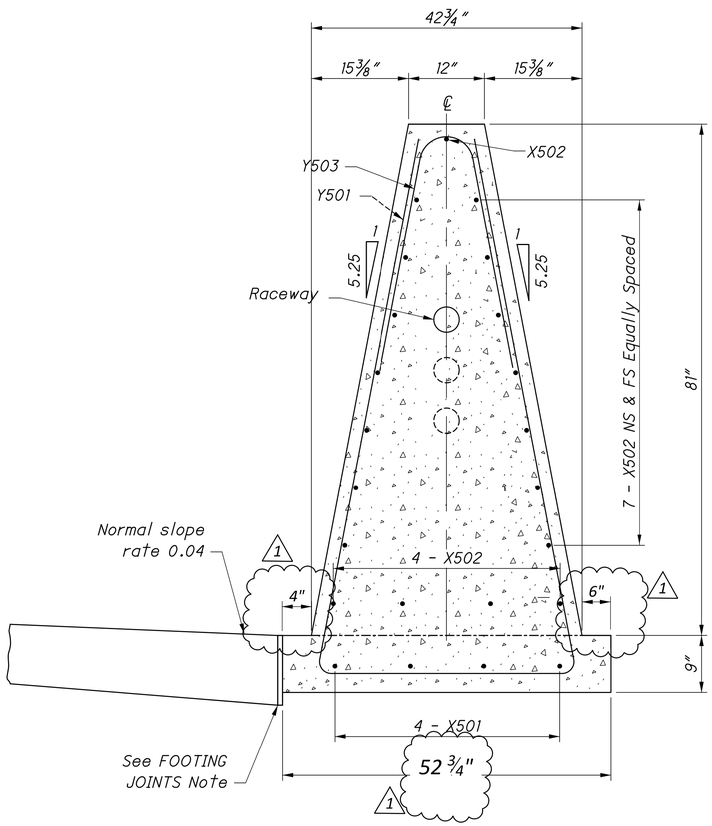
BENDING DIAGRAMS

NOTES

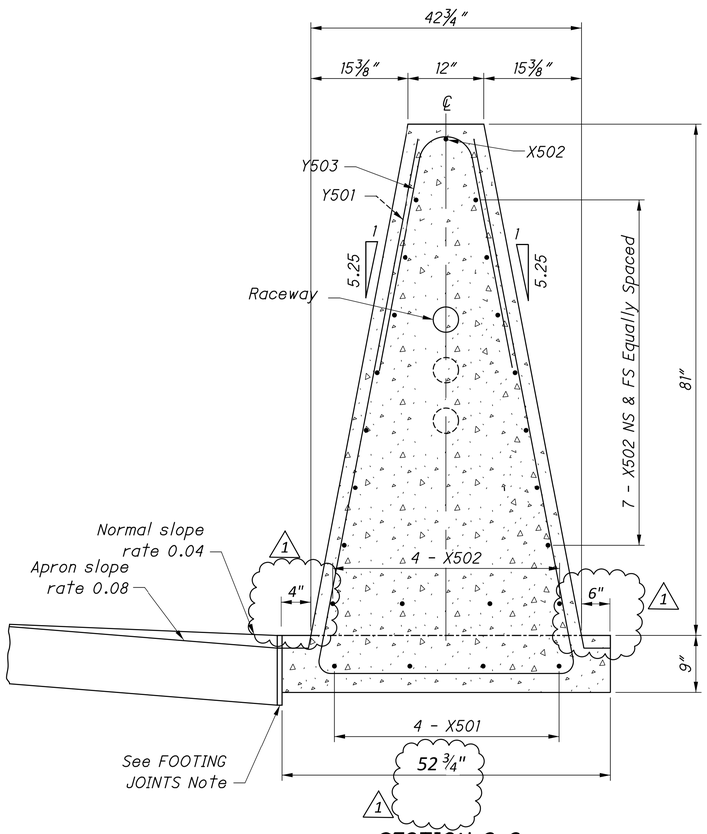
1. For additional notes and details, see SCD I-3B.
2. For location of sections A-A, B-B & C-C, see sheet P.229
3. Reinforcing Steel: Provide epoxy coated reinforcing steel in accordance with CMS 509.09.

FOOTING JOINTS: Provide a sealed joint with the vertical walls between the barrier footing and a concrete pavement or concrete base as detailed on SCD RM-4.3.

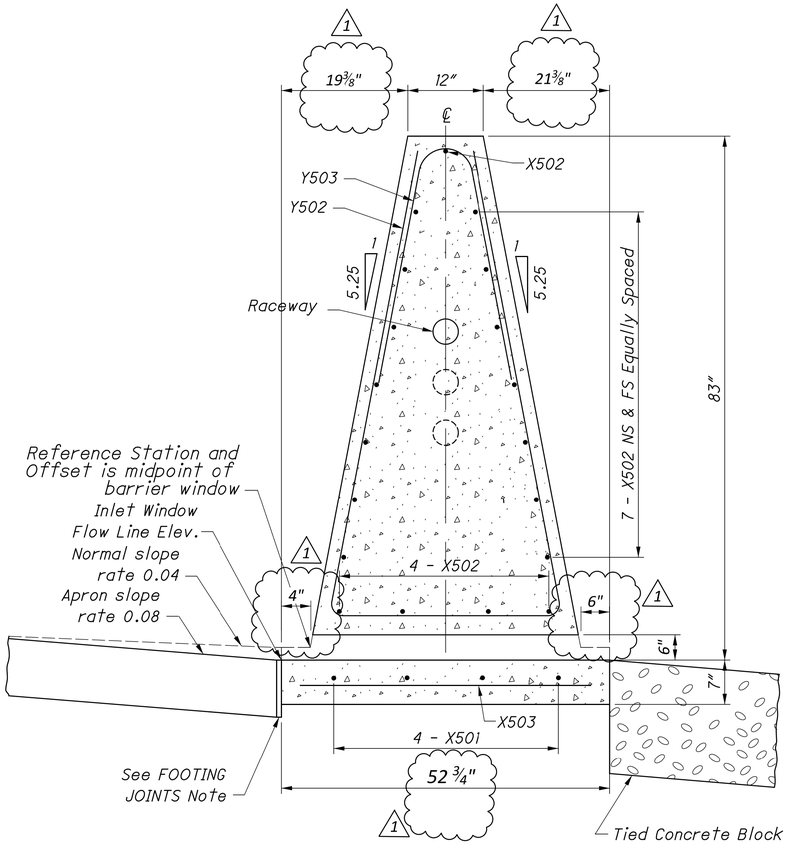
4. Raceway not to be included on this project. (1)



SECTION B-B



SECTION C-C



SECTION D-D

1 9-11-2024 - REVISED DETAILS TO INCLUDE BASE DIMENSIONS, NO RACEWAYS

81" SINGLE SLOPE BARRIER DETAIL (PIS-81-SSB)

FRA-161-15.80 NOISE ABATEMENT

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REVIEWER JDH 05-22-24

PROJECT ID 117607

SHEET P.230 | TOTAL P.297