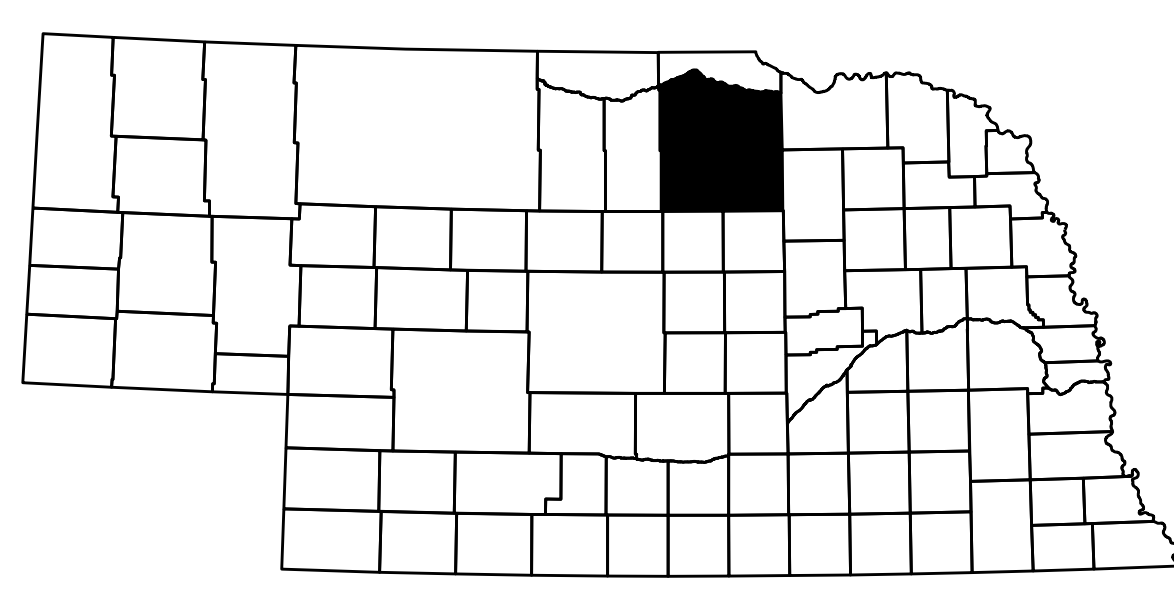
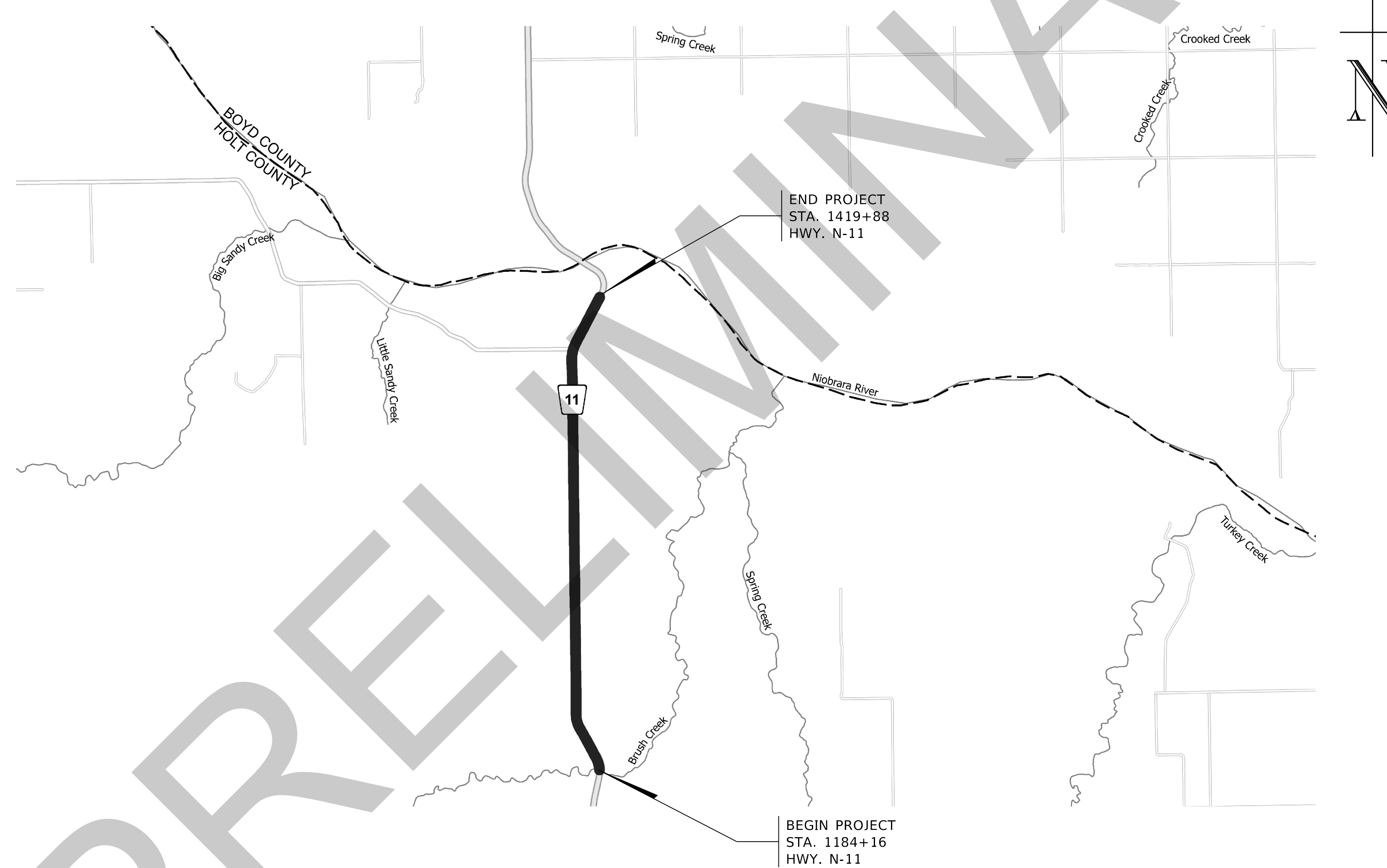


STATE OF NEBRASKA  
DEPARTMENT OF TRANSPORTATION  
PLANS FOR CONSTRUCTION  
**BRUSH CREEK - NIOBRARA RIVER**  
HOLT COUNTY



THE WORK ON THIS PROJECT CONSISTS OF GROUPS  
1 - GRADING, 3 - CONCRETE PAVEMENT, 4 - CULVERTS,  
5 - SEEDING, 6 - BRIDGE, 6A - BRIDGE,  
9 - BITUMINOUS & 10 - GENERAL

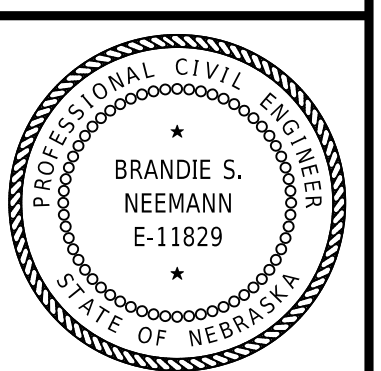
▲	GROUPS 1, 3, 4, 5, 6, 6A, 9 & 10	ARE INCLUDED
	IN THE LETTING OF OCTOBER 3, 2024	
▲	GROUPS _____	ARE INCLUDED
	IN THE LETTING OF _____	
■	GROUPS _____	ARE INCLUDED
	IN THE LETTING OF _____	

THE 2017 EDITION OF THE NEBRASKA STANDARD SPECIFICATIONS AND THE SPECIAL PROVISIONS APPLY TO THIS PROJECT.

DESIGN DESIGNATION	
3R RURAL	
TRAFFIC	
YEAR: 2025	2045
ADT: 290	350
DHV: -	-
T= 18 %	D= - %

<b>A1</b>
Project Number STP-11-4(116)
▲ C.N. 80952
▲ C.N.
■ C.N.

REFERENCE POST NO. 171.37 TO REFERENCE POST NO. 175.99  
TOTAL NET LENGTH OF PROJECT: 23,572 FEET 4.464 MILES



I, Brandie Neemann, am the Coordinating Professional on the Brush Creek - Niobrara River project.

FILE: 80952\_NDOT\_Title\_and\_Index.dgn DATE: 5-SEP-2024 07:22 COMPUTER: BG0419M593

WORK ON THIS PROJECT IS AUTHORIZED PURSUANT TO THE CONDITIONS STIPULATED IN THE ARMY CORPS OF ENGINEERS GENERAL/NATIONWIDE/INDIVIDUAL PERMIT.

SHEET NO.

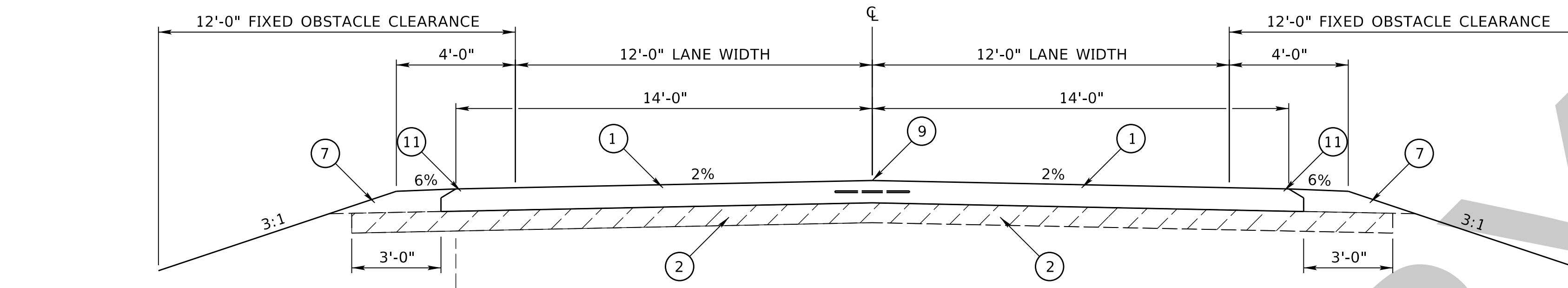
A1	TITLE PAGE
A2	INDEX OF SHEETS
B1 - B2	TYPICAL CROSS SECTIONS
C1 - C2	SUMMARY OF QUANTITIES
E1 - E5	ENVIRONMENTAL
F1 - F7	HORIZONTAL ALIGNMENT & ORIENTATION
G1 - G4	GENERAL INFORMATION
H1 - H2	PHASING
J1	GEOMETRICS, GRADES & JOINTS
J2	EROSION & SEDIMENT CONTROL
L1 - L5	PLAN
M1	TYPICAL TRAFFIC CONTROL PLAN--LANE CLOSURE USING AUTOMATED FLAGGER ASSISTANCE DEVICE (AFAD)
M2 - M3	TEMPORARY TRAFFIC SIGNAL PLAN--SHORT TERM CLOSURE
M4 - M5	MOBILE OPERATIONS--TWO-LANE AND MULTILANE
M6	TEMPORARY TRAFFIC SIGNAL DETAILS
M7	TYPICAL TRAFFIC CONTROL PLAN--ONE LANE, TWO-WAY OPERATION WITH BARRELS
M8	TYPICAL TRAFFIC CONTROL PLAN--ONE LANE, TWO-WAY OPERATION WITH BARRIERS
Q1 - Q4	EARTHWORK
R1 - R3	DRAINAGE CROSS SECTIONS
S1 - S_	SPECIAL PLAN 1 5 SPAN DECK STEEL GIRDER EXPANSION JOINT REPAIR STA. 1180+77.97
U1 - U2	SPECIAL PLAN 1C MAILBOX POST
U3 - U4	SPECIAL PLAN 2C RUMBLE STRIPS
U5 - U8	SPECIAL PLAN 3C SILT CHECKS ALL TYPES
X1 - X13	CROSS SECTIONS

STANDARD PLANS

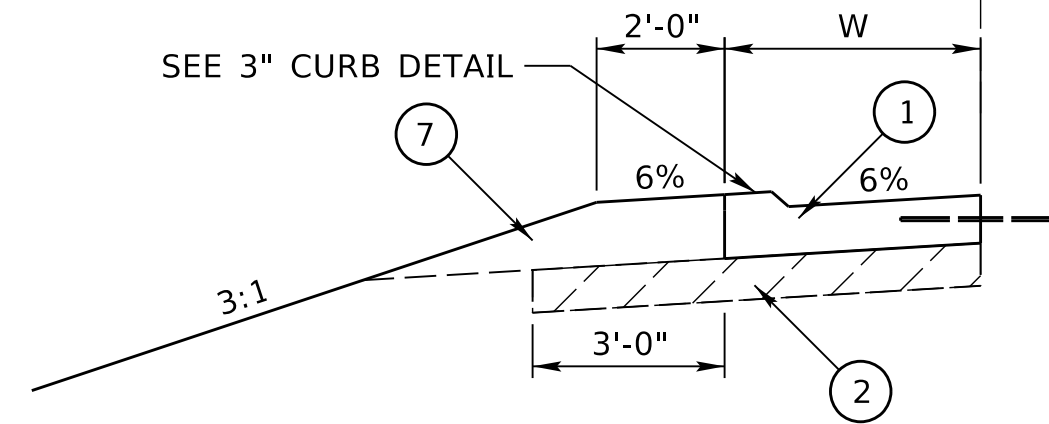
108-R5	SUPERELEVATION PLAN FOR CONCRETE & BITUMINOUS SURFACING
301-R12	(3 SHEETS) PAVEMENT DETAILS
307-R3	(2 SHEETS) MAILBOX TURNOUT
329-R12	(4 SHEETS) 8 TO 16 INCH CONCRETE PAVEMENT
410-R5	(2 SHEETS) FLARED END SECTIONS FOR CULVERT PIPES
411-R2	(4 SHEETS) BEDDING AND BACKFILL REQUIREMENTS FOR CONCRETE PIPE
428-R4	CONCRETE PLUGS AND FIELD PIPE TAP DETAILS
501-R7	(3 SHEETS) EROSION CONTROL
502-R2	(2 SHEETS) SILT FENCE DETAILS
503	CONCRETE WASHOUT & CONSTRUCTION EXIT
541	CONCRETE FLUME, TYPE I
870	(2 SHEETS) CONCRETE PROTECTION BARRIER
901-R12	(2 SHEETS) HIGHWAY DELINEATORS AND CHEVRONS
920-R7	(3 SHEETS) TRAFFIC CONTROL, CONSTRUCTION AND MAINTENANCE
921-R8	(2 SHEETS) TRAFFIC CONTROL, CONSTRUCTION AND MAINTENANCE
922-R11	(2 SHEETS) TRAFFIC CONTROL FOR ASPHALT SURFACING
941-R1	(2 SHEETS) PAVEMENT MARKING
943	(4 SHEETS) TEMPORARY PAVEMENT MARKING

PRELIMINARY

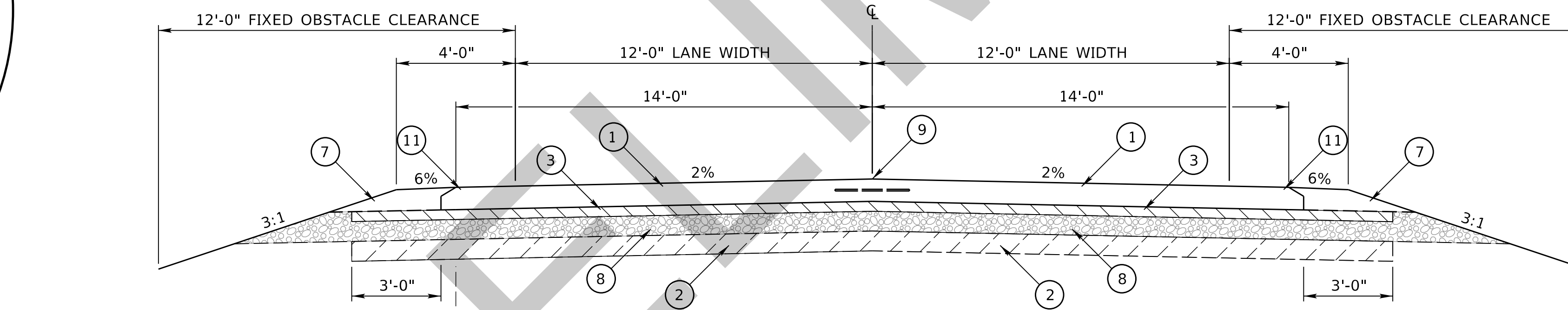
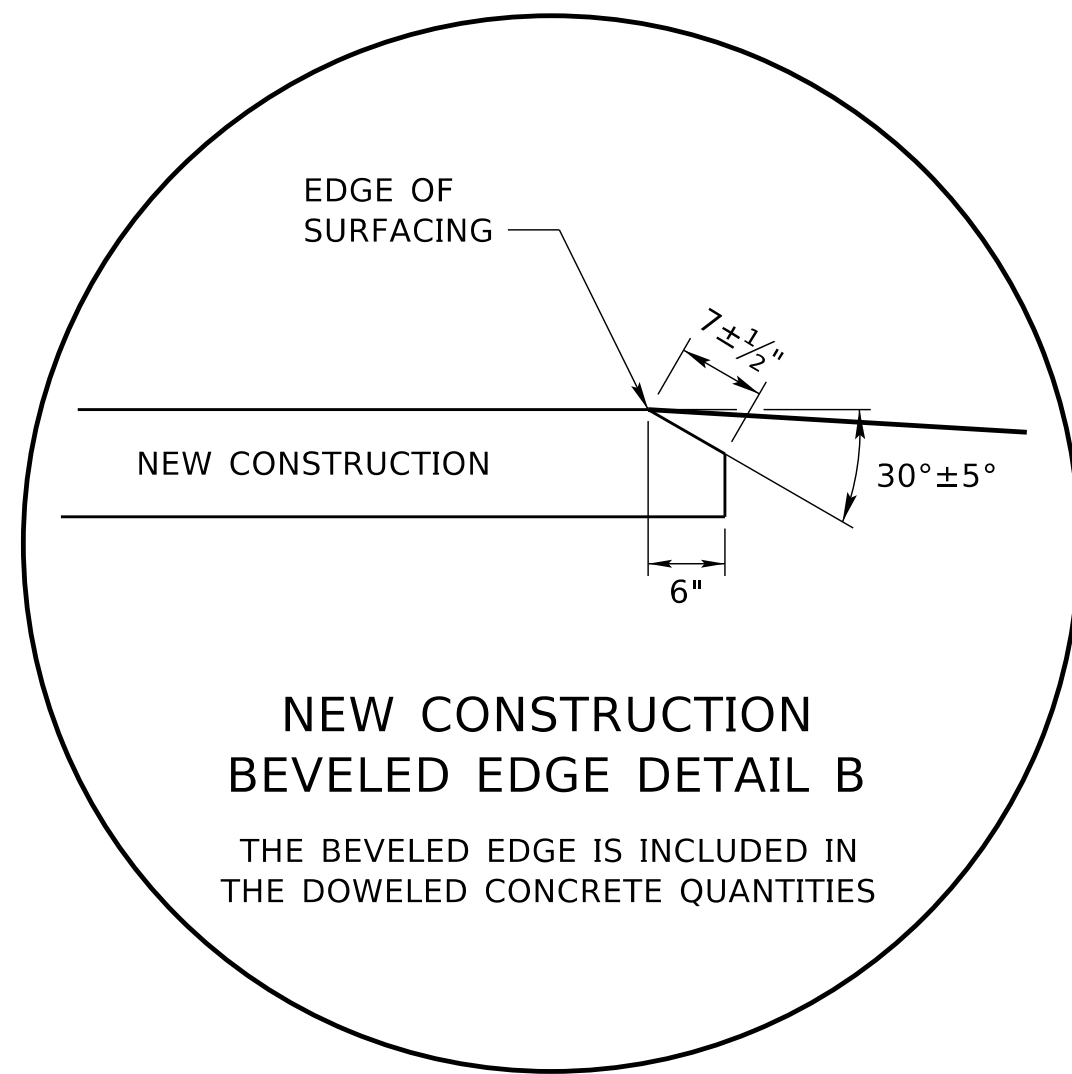
INDEX OF SHEETS



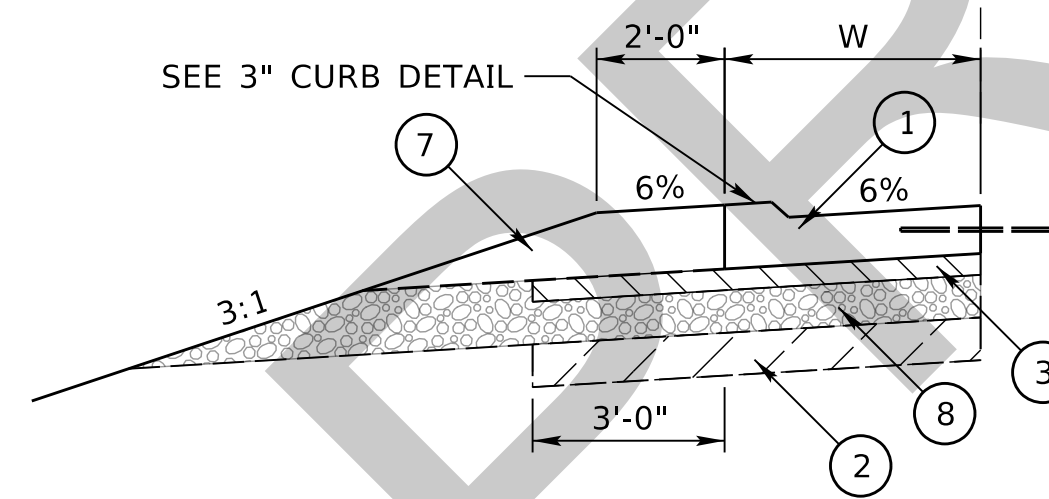
STATION TO STATION  
1184+16 - 1185+50  
(EXCEPT AS SHOWN ELSEWHERE)



STATION TO STATION SIDE W  
1185+06 - 1185+50 LT. VARIES



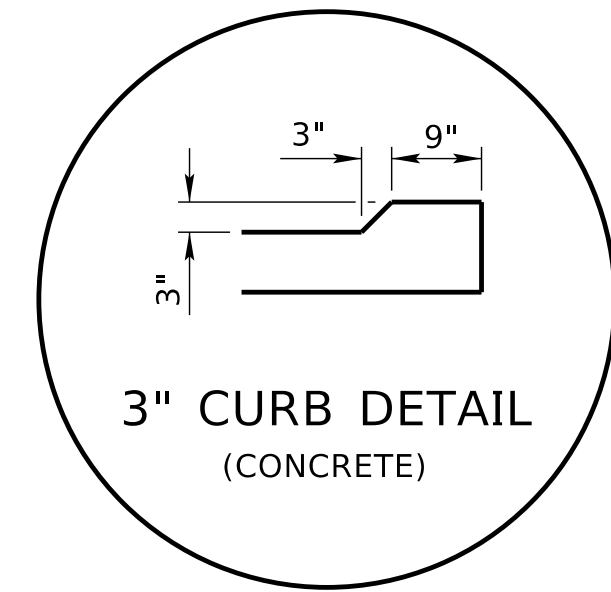
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1185+50 - 1187+18  
(EXCEPT AS SHOWN ELSEWHERE)



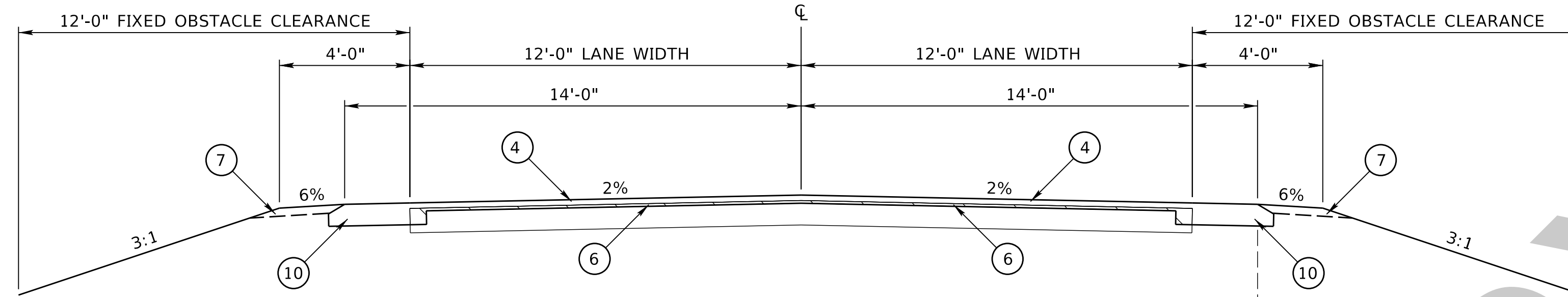
STATION TO STATION SIDE W  
1185+50 - 1185+87 LT. VARIES  
1185+87 - 1187+18 LT. 4'-0"

LEGEND

- ① 9" DOWELED CONCRETE PAVEMENT
- ② SUBGRADE PREPARATION
- ③ 4" FOUNDATION COURSE
- ④ 3" ASPHALTIC CONCRETE, TYPE SPR
- ⑤ 6" ASPHALTIC CONCRETE, TYPE SPR
- ⑥ 1" COLD MILING CLASS 3
- ⑦ EARTH SHOULDER CONSTRUCTION
- ⑧ 8" CRUSHED ROCK BASE COURSE
- ⑨ LONGITUDINAL JOINT
- ⑩ BEVELED EDGE (SEE DETAIL A)
- ⑪ BEVELED EDGE (SEE DETAIL B)



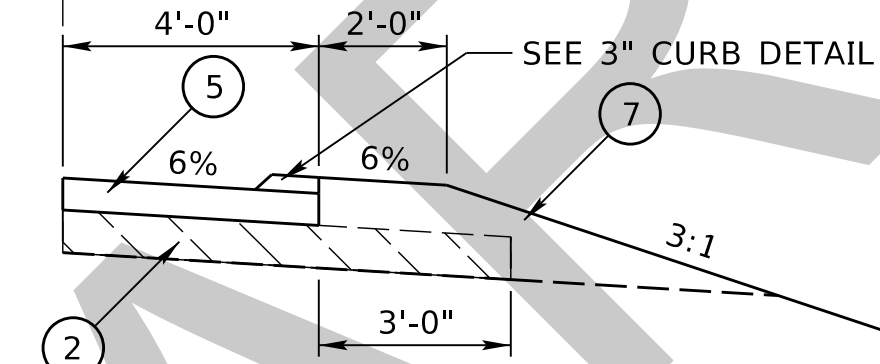
TYPICAL CROSS SECTIONS



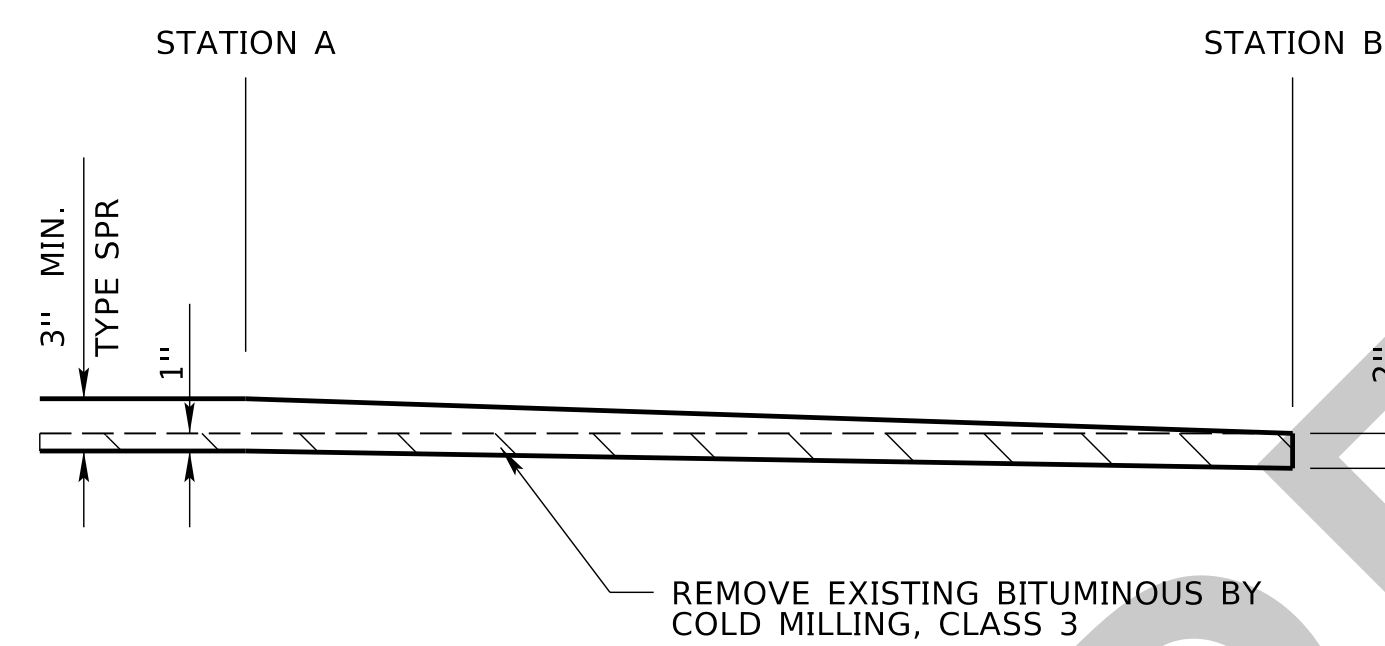
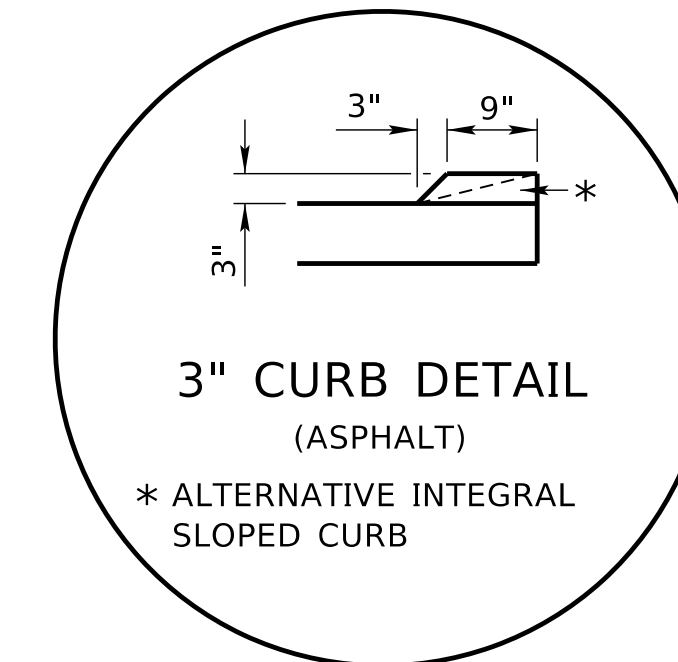
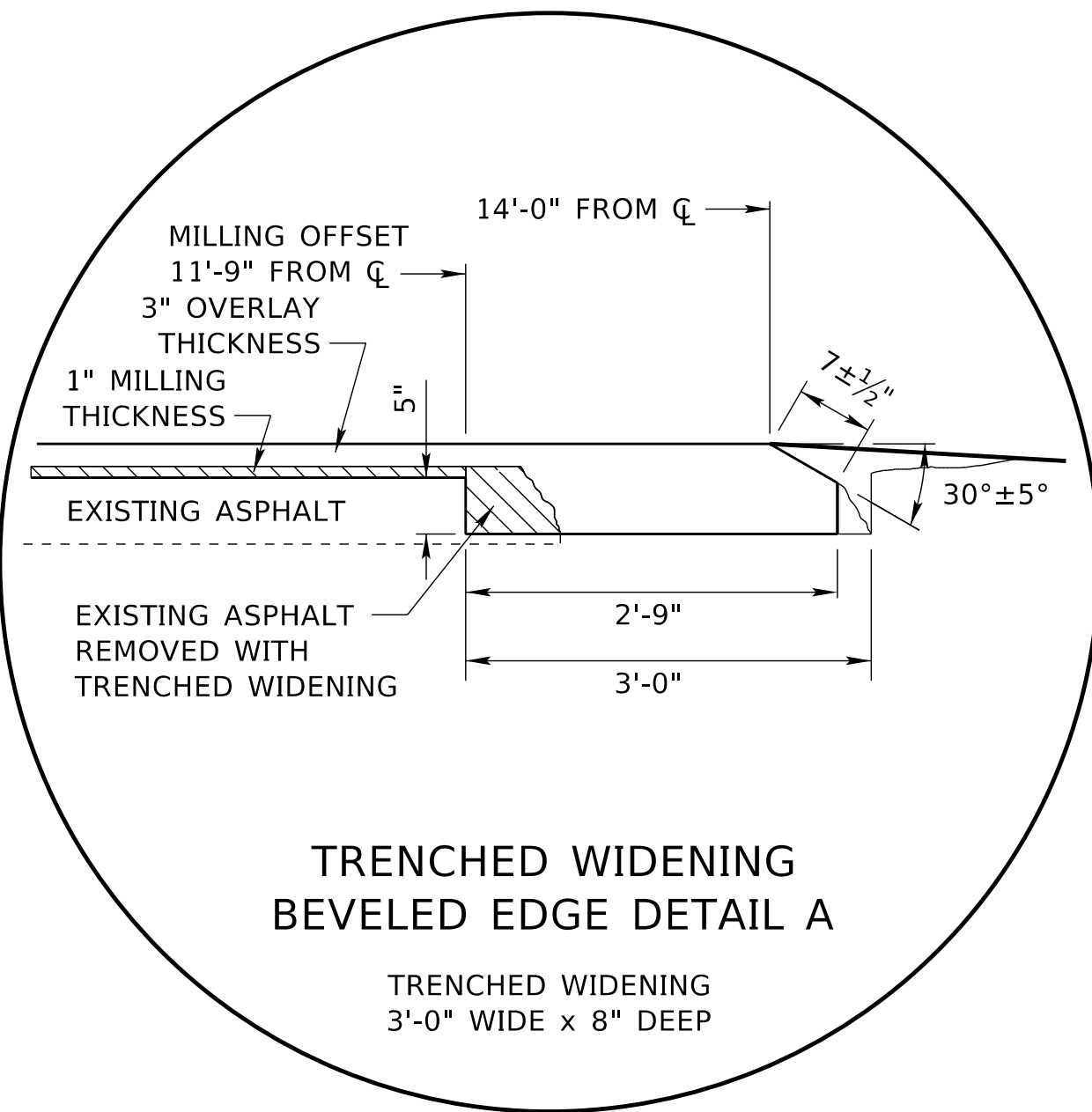
STATION TO STATION	
1187+18	- 1419+88
(EXCEPT AS SHOWN ELSEWHERE)	

LEGEND

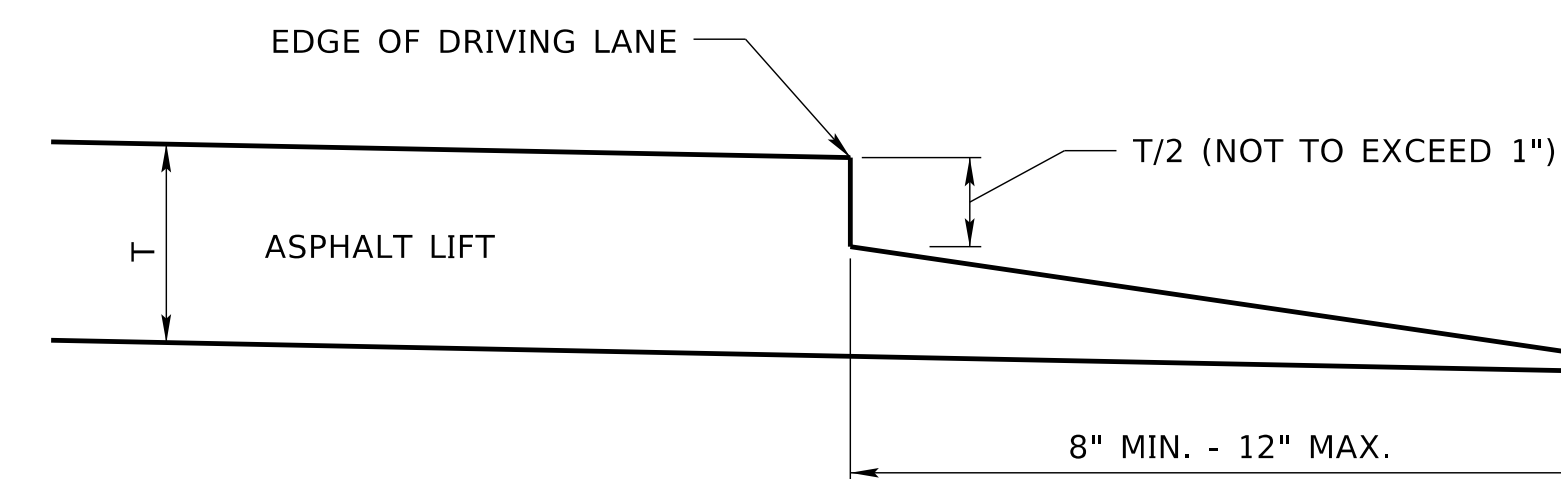
- ① 9" DOWELED CONCRETE PAVEMENT
- ② SUBGRADE PREPARATION
- ③ 4" FOUNDATION COURSE
- ④ 3" ASPHALTIC CONCRETE, TYPE SPR
- ⑤ 6" ASPHALTIC CONCRETE, TYPE SPR
- ⑥ 1" COLD MILLING CLASS 3
- ⑦ EARTH SHOULDER CONSTRUCTION
- ⑧ 8" CRUSHED ROCK BASE COURSE
- ⑨ LONGITUDINAL JOINT
- ⑩ BEVELED EDGE (SEE DETAIL A)
- ⑪ BEVELED EDGE (SEE DETAIL B)



STATION TO STATION		SIDE
1187+18	- 1199+15	LT.
1187+18	- 1199+15	RT.



STATION A	TO	STATION B
1188+18	-	1187+18
1418+88	-	1419+88



NOTCHED WEDGE JOINT  
(CONSTRUCTION DETAIL)

TYPICAL CROSS SECTIONS

COMPUTER: BG0419M593

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FILE: 80952\_NDOT\_Summary\_of\_Quantities.dgn

C1

Project Number  
11-4(116)

C.N. 80952

SUMMARY OF QUANTITIES

NEBRASKA  
Good Life. Great Journey.  
DEPARTMENT OF TRANSPORTATION

COMPACTION REQUIREMENTS  
Class III (See Specifications)

	SOIL TYPE	DEPTH BELOW FINISH SUBGRADE	PERCENT DENSITY	MOISTURE REQUIREMENTS	
				MINIMUM	MAXIMUM
Embankment / Roadway Grading, including driveways, to receive concrete pavement	Silt-Clay	Upper 3 feet	98 Min.	Opt. -3%	Opt. +2%
	Silt-Clay	At depths greater than 3 feet	95 Min.	Opt. -3%	Opt. +2%
	Granular	All depths	100 Min.	**	**
Embankment / Roadway Grading, including detours, temporary roads, and driveways, to receive flexible pavement	Silt-Clay	Upper 3 feet	100 Min.	Opt. -2%	Opt. +1%
	Silt-Clay	At depths greater than 3 feet	95 Min.	Opt. -3%	Opt. +2%
	Granular	All depths	100 Min.	**	**
Embankment / Roadway Grading not to be surfaced	All	All depths	95 Min.	Opt. -3%	Opt. +2%
Embankment / Roadway Grading to receive gravel surfacing / crushed rock embedment	All	All depths	95 Min.	**	**
Subgrade Preparation, Shoulder Subgrade Preparation (Concrete Pavement)	Silt-Clay	The upper 6 inches of subgrade soil	98 Min.	Opt. -3%	Opt. +2%
	Granular	The upper 6 inches of subgrade soil	100 Min.	**	**
Subgrade Preparation, Shoulder Subgrade Preparation (Flexible Pavement)	Silt-Clay	The upper 6 inches of subgrade soil	100 Min.	Opt. -2%	Opt. +1%
	Granular	The upper 6 inches of subgrade soil	100 Min.	**	**
Trench Widening	--	--		(See Special Provisions)	
Bituminous Pavement Patching	All	Underlying Material	100 Min.	(See Specifications)	
Foundation Course / Subgrade Stabilization	--	--	100 Min.	(See Specifications)	
Stabilized Subgrade (ie Lime, Flyash, etc.)	--	--	100 Min.	(See Special Provisions)	
Granular Structural Fill (MSE Walls, Granular Fill for bridges, Culverts, etc)	Granular	All depths	100 Min.	Opt. -3%	Opt. +3%

\*\* Moisture as necessary to obtain density.  
(A moisture target value at maximum density shall be established in the field by the Contractor during the compaction process. The acceptable moisture content shall be ± 2% of the target value.)

PRELIMINARY

TYPES OF ASPHALTIC OIL TO BE USED
TACK COAT: SS-1, SS-1H, CSS-1, CSS-1H, CFS-1, FS-1

C2

Project Number  
11-4(116)

C.N. 80952

SUMMARY OF QUANTITIES

**NEBRASKA**  
Good Life. Great Journey.  
DEPARTMENT OF TRANSPORTATION

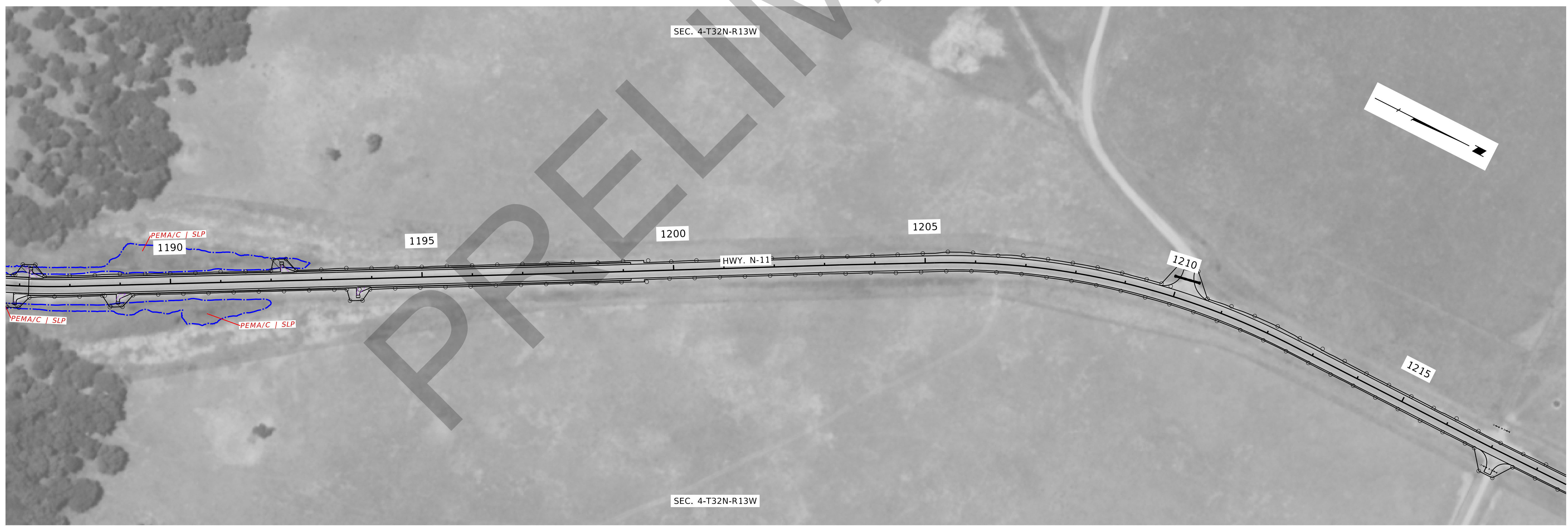
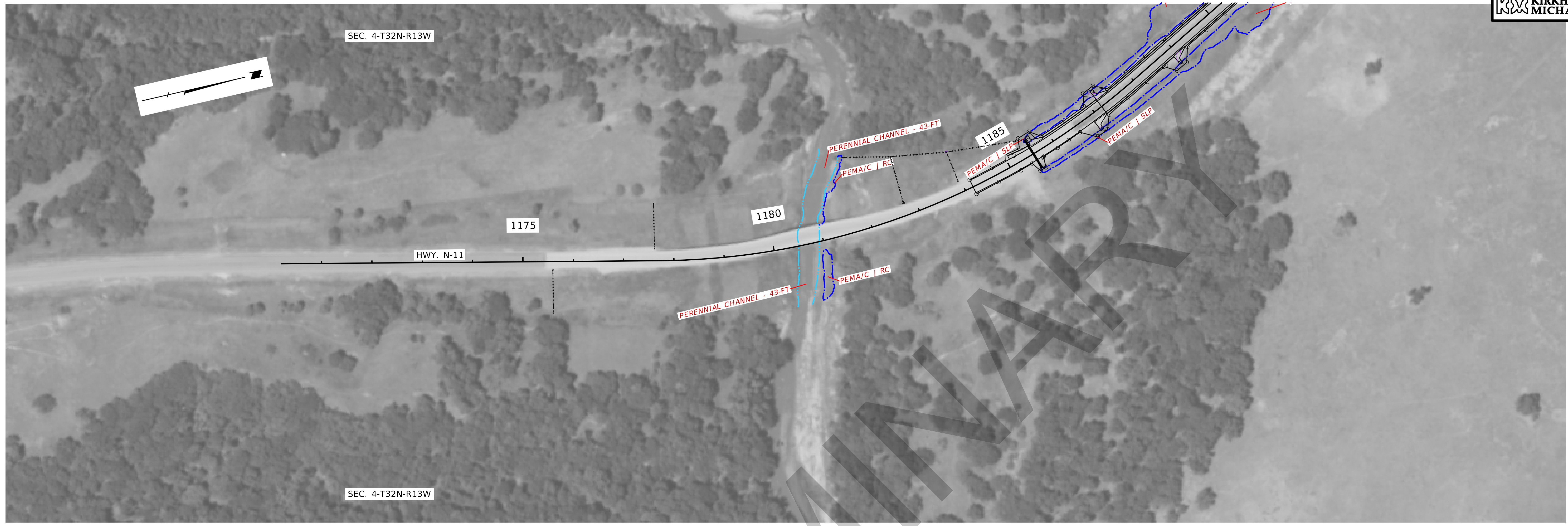
Project Number  
11-4(116)

C.N. 80952

DATE: 2020  
FLIGHT: NAIP

LEGEND

- LIMITS OF CONSTRUCTION
- ▭ WETLANDS - DO NOT DISTURB - IMPACTED WETLANDS
- ▭ TEMPORARY IMPACTED WETLANDS



COMPUTER: GX02

DATE: 6-AUG-2024 17:07

FILE: 80952 Sheets Enviro.dgn

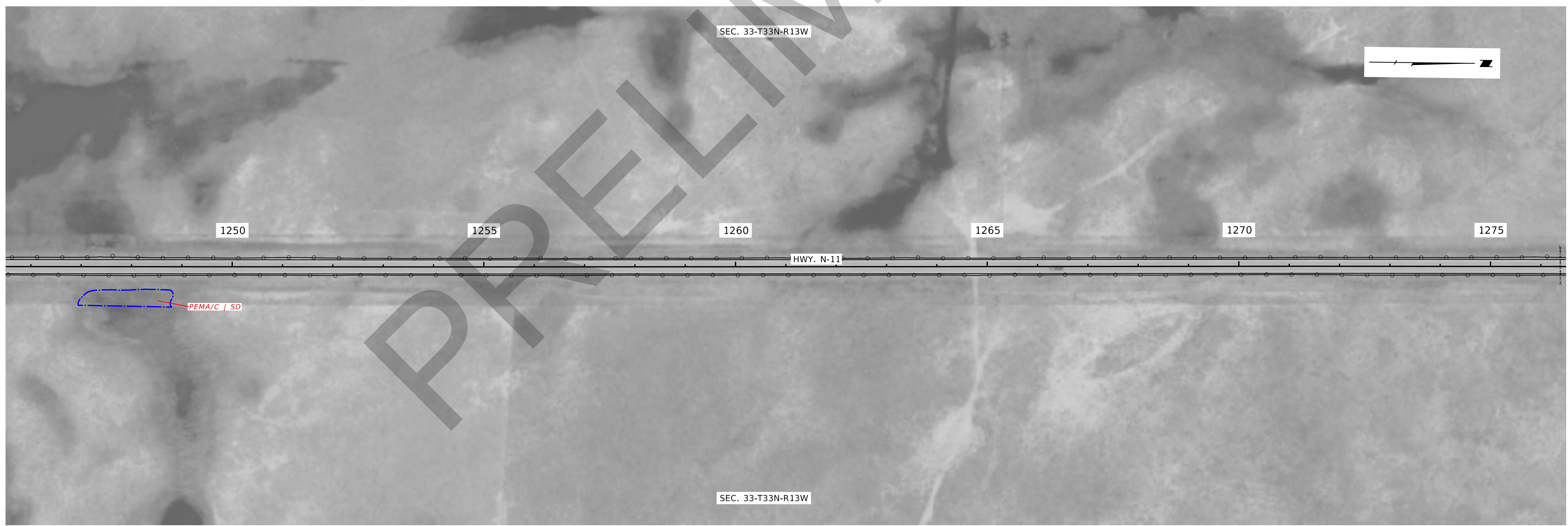
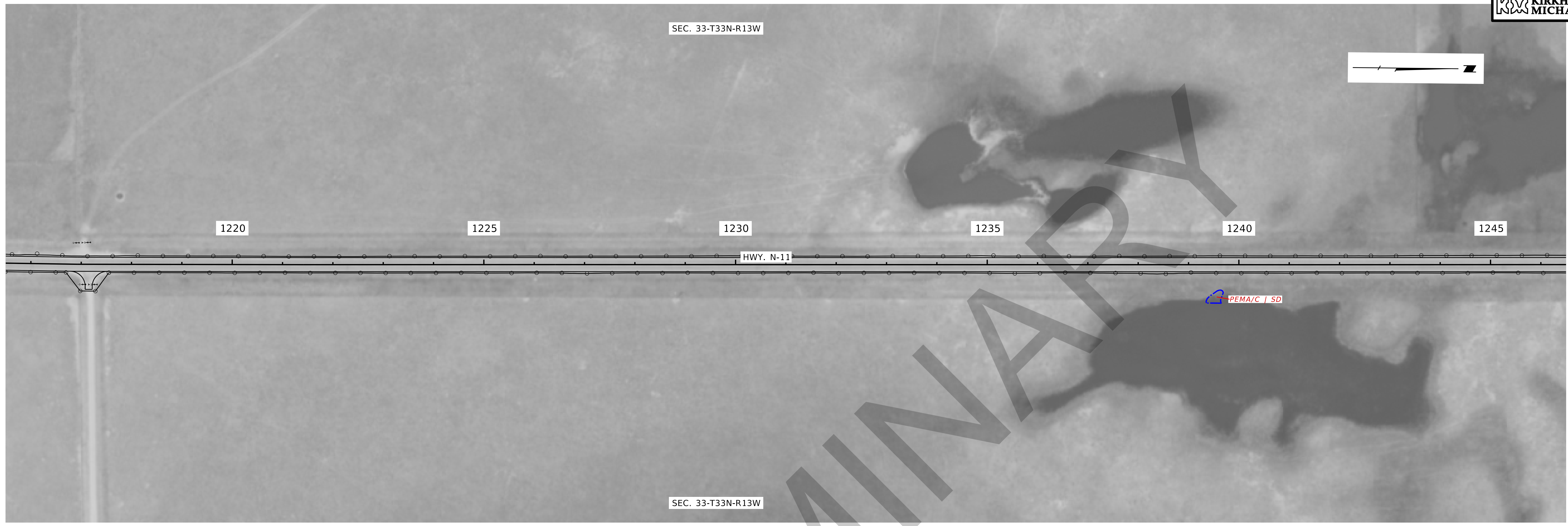
ENVIRONMENTAL

NEBRASKA  
Good Life. Great Journey.  
DEPARTMENT OF TRANSPORTATION

Roadway Design  
Division

LEGEND

- LIMITS OF CONSTRUCTION
- WETLANDS - DO NOT DISTURB - IMPACTED WETLANDS
- TEMPORARY IMPACTED WETLANDS






ENVIRONMENTAL

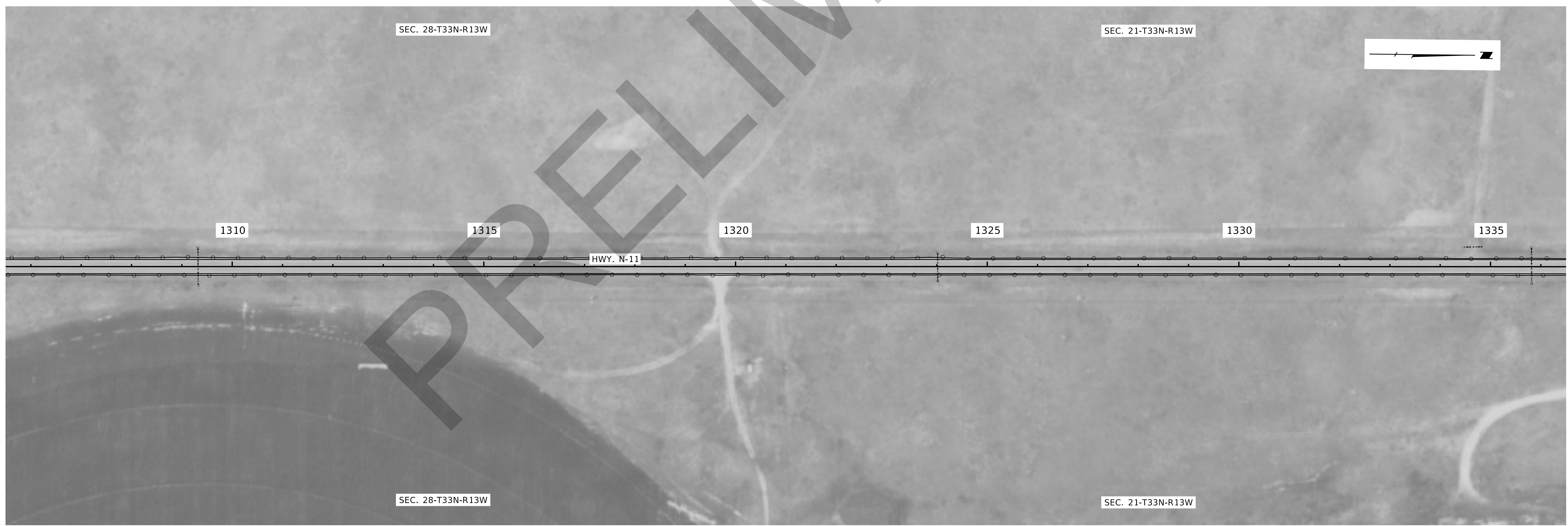
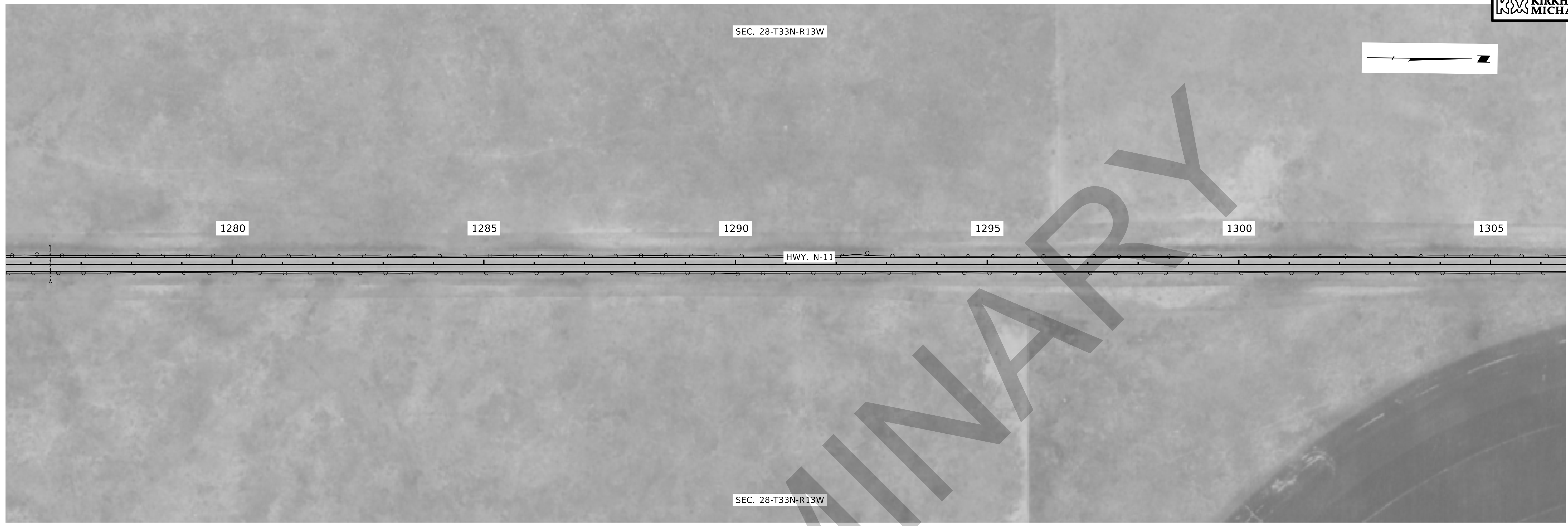
Project Number  
11-4(116)

C.N. 80952

DATE: 2020  
FLIGHT: NAIP

LEGEND

-  LIMITS OF CONSTRUCTION
-  WETLANDS - DO NOT DISTURB - IMPACTED WETLANDS
-  TEMPORARY IMPACTED WETLANDS



PRELIMINARY

ENVIRONMENTAL

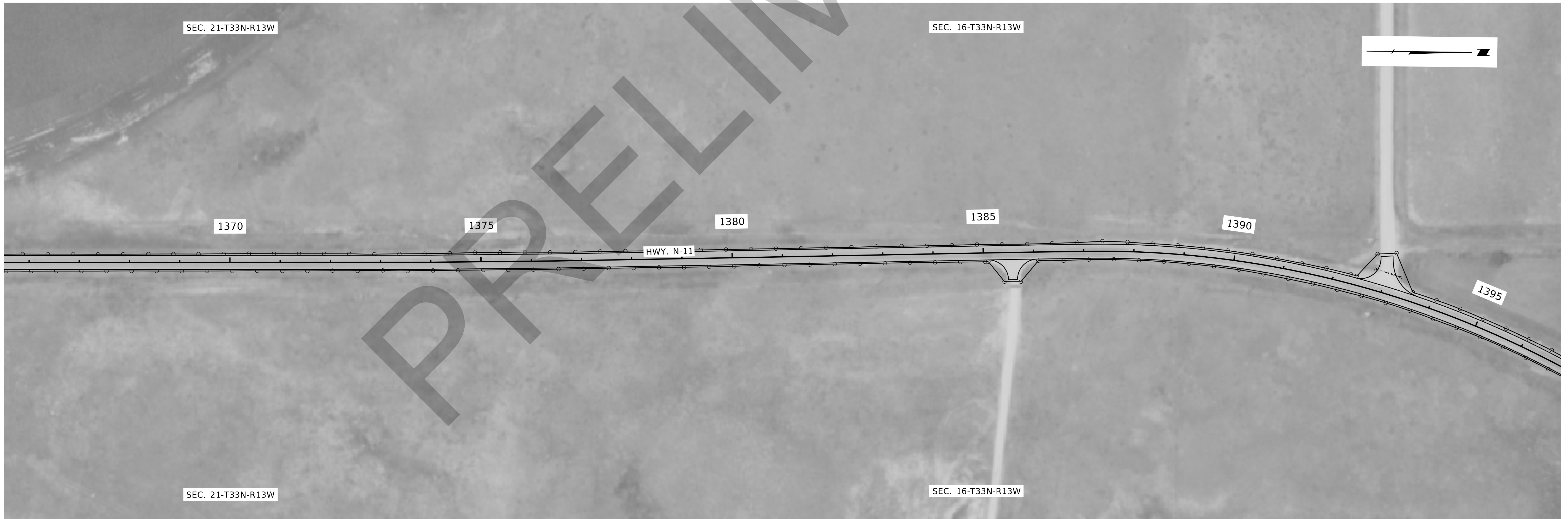
Project Number  
11-4(116)

C.N. 80952

DATE: 2020  
FLIGHT: NAIP

LEGEND

- LIMITS OF CONSTRUCTION
- ▨ WETLANDS - DO NOT DISTURB - IMPACTED WETLANDS
- ▨ TEMPORARY IMPACTED WETLANDS



PRELIMINARY

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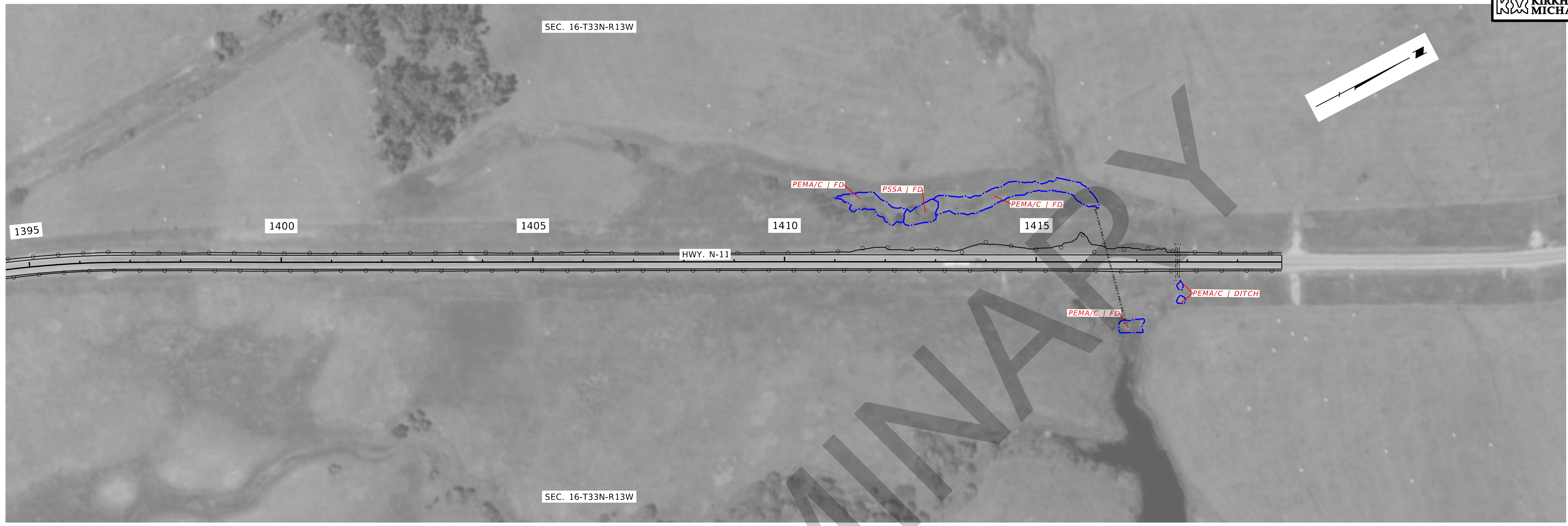
ENVIRONMENTAL

NEBRASKA  
Good Life. Great Journey.  
DEPARTMENT OF TRANSPORTATION

Roadway Design Division

LEGEND

- LIMITS OF CONSTRUCTION
- WETLANDS - DO NOT DISTURB
- ▨ IMPACTED WETLANDS
- ▨ TEMPORARY IMPACTED WETLANDS

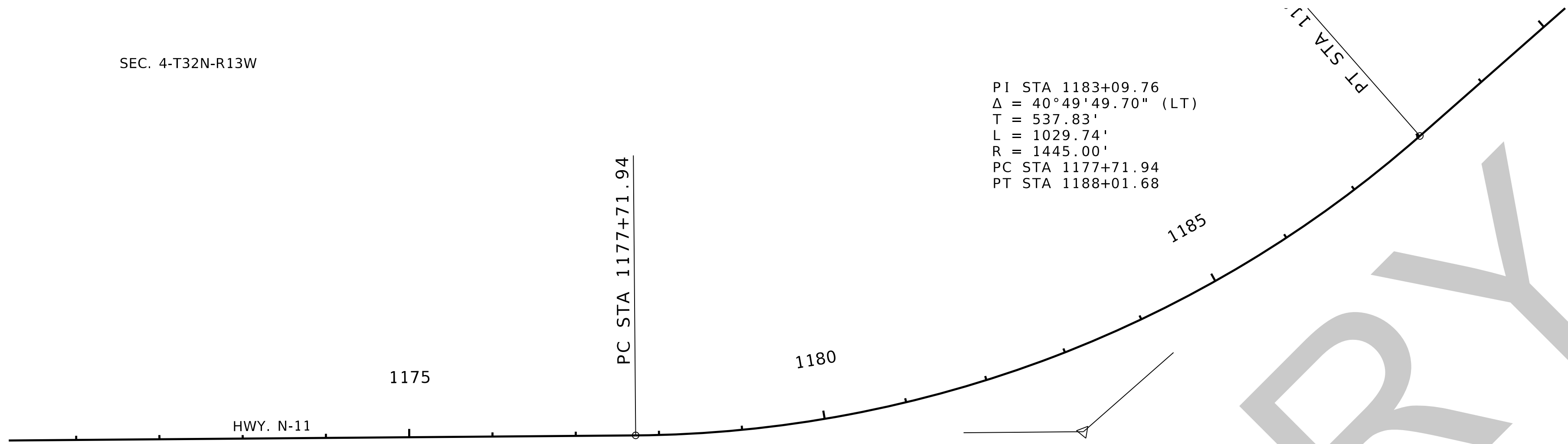


PRELIMINARY

ENVIRONMENTAL

SEC. 4-T32N-R13W

PI STA 1183+09.76  
 $\Delta = 40^\circ 49' 49.70''$  (LT)  
 T = 537.83'  
 L = 1029.74'  
 R = 1445.00'  
 PC STA 1177+71.94  
 PT STA 1188+01.68



SEC. 4-T32N-R13W

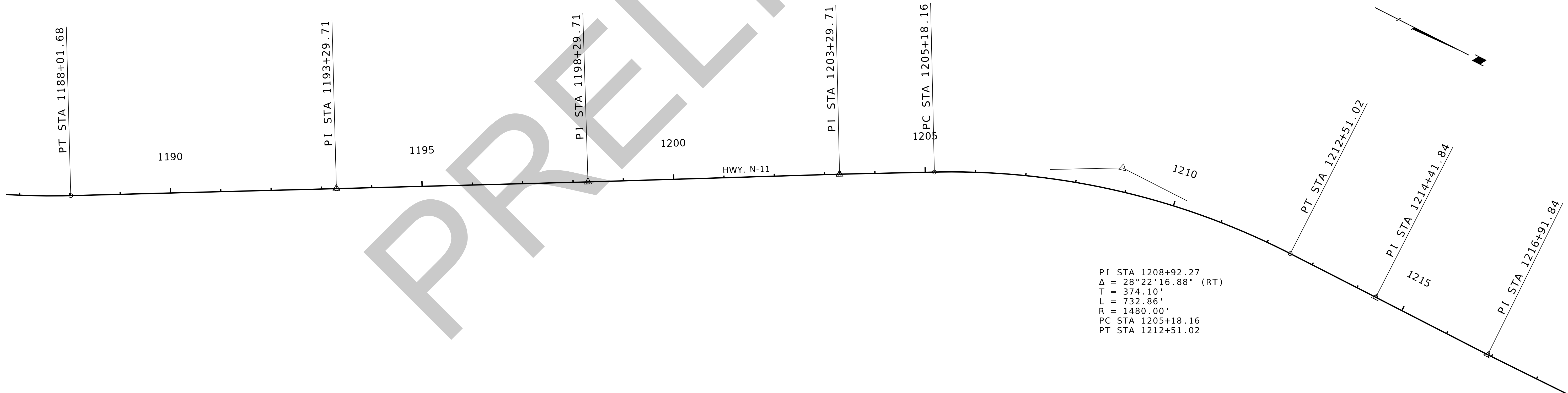
SEC. 4-T32N-R13W

ALIGNMENT INFORMATION		
SEGMENT	ALIGNMENT	PROFILE
HWY. N-11	N-11	-

NOTE: ALIGNMENT HAS BEEN CREATED FROM ASBUILT INFORMATION AND MODIFIED TO REPRESENT THE FIELD SURVEY DATA COLLECTED.

SEC. 4-T32N-R13W

PI STA 1208+92.27  
 $\Delta = 28^\circ 22' 16.88''$  (RT)  
 T = 374.10'  
 L = 732.86'  
 R = 1480.00'  
 PC STA 1205+18.16  
 PT STA 1212+51.02



SEC. 4-T32N-R13W

PRELIMINARY

HORIZONTAL ALIGNMENT & ORIENTATION

SEC. 33-T33N-R13W

PI STA 1216+91.84

1220

PI STA 1221+41.84

1225

PI STA 1226+41.84

1230

HWY. N-11

1235

1240

PI STA 1241+41.84

1245



SEC. 33-T33N-R13W

SEC. 33-T33N-R13W

PI STA 1253+91.84

1250

1255

1260

HWY. N-11

PI STA 1263+91.84

1265

1270

PI STA 1271+41.84

1275



SEC. 33-T33N-R13W

PRELIMINARY

HORIZONTAL ALIGNMENT & ORIENTATION

SEC. 28-T33N-R13W

1280

1285

1290

1295

PI STA 1298+91.84

1300

1305

HWY. N-11

SEC. 28-T33N-R13W

SEC. 28-T33N-R13W

SEC. 21-T33N-R13W

1310

1315

PI STA 1318+91.84

1320

1325

PI STA 1328+91.84

1330

1335

HWY. N-11

PI STA 1336+41.84

SEC. 28-T33N-R13W

SEC. 21-T33N-R13W

HORIZONTAL ALIGNMENT & ORIENTATION

SEC. 21-T33N-R13W

PI STA 1336+41.84

1340

1345

PI STA 1346+41.84

1350

HWY. N-11

1355

PI STA 1356+41.84

1360

1365

SEC. 21-T33N-R13W

SEC. 21-T33N-R13W

SEC. 16-T33N-R13W

PI STA 1368+91.84

1370

PI STA 1373+91.84

1375

PI STA 1376+47.29

HWY. N-11

1380

PI STA 1380+69.76

1385

PI STA 1385+69.76

PC STA 1387+03.17

1390

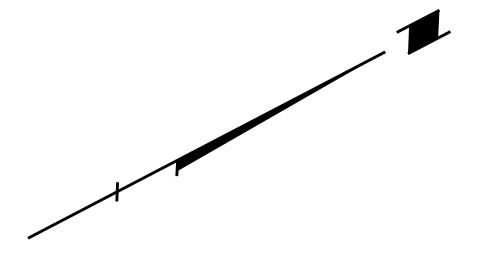
1395

PI STA 1392+03.81  
 $\Delta = 28^\circ 47' 52.82''$  (RT)  
T = 500.64'  
L = 980.11'  
R = 1950.00'  
PC STA 1387+03.17  
PT STA 1396+83.28

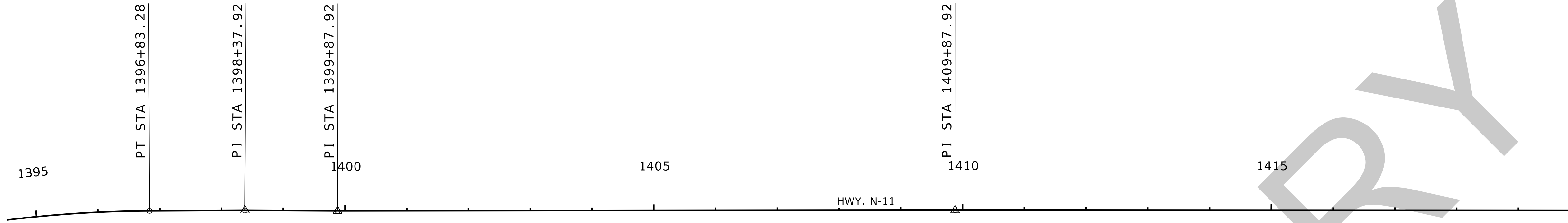
SEC. 21-T33N-R13W

SEC. 16-T33N-R13W

HORIZONTAL ALIGNMENT & ORIENTATION



SEC. 16-T33N-R13W



SEC. 16-T33N-R13W

PRELIMINARY

HORIZONTAL ALIGNMENT & ORIENTATION

Alignment Name:	N-11		
Alignment Description:			
Alignment Style:	Alignment/Mainline		
Element: Linear		X	Y
START	( )	1170+19.00 R1	1949458.535 1072721.125
PC	( )	1177+71.94 R1	1949620.787 1073456.371
Tangential Direction:		N12.444°E	
Tangential Length:		752.937	
Element: Circular			
PC	( )	1177+71.94 R1	1949620.787 1073456.371
HPI	( )	1183+09.76 R1	1949736.685 1073981.564
CC	( )		1948209.737 1073767.759
PT	( )	1188+01.68 R1	1949480.996 1074454.726
Radius:		1445	
Delta:		40.830° Left	
Degree of Curvature (Arc):		3.965°	
Length:		1029.745	
Tangent:		537.828	
Chord:		1008.094	
Middle Ordinate:		90.762	
External:		96.844	
Tangent Direction:		N12.444°E	
Radial Direction:		S77.556°E	
Chord Direction:		N7.971°W	
Radial Direction:		N61.614°E	
Tangent Direction:		N28.386°W	
Element: Linear			
PT	( )	1188+01.68 R1	1949480.996 1074454.726
HPI	( )	1193+29.71 R1	1949229.965 1074919.269
Tangential Direction:		N28.386°W	
Tangential Length:		528.032	
Element: Linear			
HPI	( )	1193+29.71 R1	1949229.965 1074919.269
HPI	( Mainline16 )	1198+29.71 R1	1948992.164 1075359.099
Tangential Direction:		N28.399°W	
Tangential Length:		500	
Element: Linear			
HPI	( )	1198+29.71 R1	1948992.164 1075359.099
HPI	( )	1203+29.71 R1	1948752.501 1075797.918
Tangential Direction:		N28.641°W	
Tangential Length:		500	
Element: Linear			
HPI	( )	1203+29.71 R1	1948752.501 1075797.918
PC	( )	1205+18.16 R1	1948663.598 1075964.081
Tangential Direction:		N28.148°W	
Tangential Length:		188.452	
Element: Circular			
PC	( )	1205+18.16 R1	1948663.598 1075964.081
HPI	( )	1208+92.27 R1	1948487.114 1076293.94
CC	( )		1949968.56 1076662.275
PT	( )	1212+51.02 R1	1948488.571 1076668.041
Radius:		1480	
Delta:		28.371° Right	
Degree of Curvature (Arc):		3.871°	
Length:		732.857	
Tangent:		374.104	
Chord:		725.393	
Middle Ordinate:		45.13	
External:		46.55	
Tangent Direction:		N28.148°W	
Radial Direction:		N61.852°E	
Chord Direction:		N13.962°W	
Radial Direction:		S89.777°E	
Tangent Direction:		N0.223°E	
Element: Linear			
PT	( )	1212+51.02 R1	1948488.571 1076668.041
HPI	( )	1214+41.84 R1	1948489.315 1076858.861
Tangential Direction:		N0.223°E	
Tangential Length:		190.821	
Element: Linear			
HPI	( )	1214+41.84 R1	1948489.315 1076858.861
HPI	( Mainline19 )	1216+91.84 R1	1948490.561 1077108.857
Tangential Direction:		N0.286°E	
Tangential Length:		250	
Element: Linear			
HPI	( )	1216+91.84 R1	1948490.561 1077108.857

HPI	( Mainline18 )	1221+41.84 R1	1948486.335 1077558.838
Tangential Direction:		N0.538°W	
Tangential Length:		450	
Element: Linear			
HPI	( )	1221+41.84 R1	1948486.335 1077558.838
HPI	( Mainline )	1226+41.84 R1	1948480.731 1078058.806
Tangential Direction:		N0.642°W	
Tangential Length:		500	
Element: Linear			
HPI	( )	1226+41.84 R1	1948480.731 1078058.806
HPI	( )	1241+41.84 R1	1948464.432 1079558.718
Tangential Direction:		N0.623°W	
Tangential Length:		1500	
Element: Linear			
HPI	( Mainline )	1241+41.84 R1	1948464.432 1079558.718
HPI	( )	1253+91.84 R1	1948450.116 1080808.636
Tangential Direction:		N0.656°W	
Tangential Length:		1250	
Element: Linear			
HPI	( Mainline1 )	1253+91.84 R1	1948450.116 1080808.636
HPI	( )	1263+91.84 R1	1948437.483 1081808.556
Tangential Direction:		N0.724°W	
Tangential Length:		1000	
Element: Linear			
HPI	( Mainline2 )	1263+91.84 R1	1948437.483 1081808.556
HPI	( )	1271+41.84 R1	1948427.58 1082558.491
Tangential Direction:		N0.757°W	
Tangential Length:		750	
Element: Linear			
HPI	( Mainline3 )	1271+41.84 R1	1948427.58 1082558.491
HPI	( )	1298+91.84 R1	1948397.667 1085308.328
Tangential Direction:		N0.623°W	
Tangential Length:		2750	
Element: Linear			
HPI	( Mainline4 )	1298+91.84 R1	1948397.667 1085308.328
HPI	( )	1318+91.84 R1	1948374.976 1087308.199
Tangential Direction:		N0.650°W	
Tangential Length:		2000	
Element: Linear			
HPI	( Mainline5 )	1318+91.84 R1	1948374.976 1087308.199
HPI	( )	1328+91.84 R1	1948363.835 1088308.137
Tangential Direction:		N0.638°W	
Tangential Length:		1000	
Element: Linear			
HPI	( Mainline6 )	1328+91.84 R1	1948363.835 1088308.137
HPI	( )	1336+41.84 R1	1948355.572 1089058.092
Tangential Direction:		N0.631°W	
Tangential Length:		750	
Element: Linear			
HPI	( Mainline7 )	1336+41.84 R1	1948355.572 1089058.092
HPI	( )	1346+41.84 R1	1948343.776 1090058.022
Tangential Direction:		N0.676°W	
Tangential Length:		1000	
Element: Linear			
HPI	( Mainline8 )	1346+41.84 R1	1948343.776 1090058.022
HPI	( )	1356+41.84 R1	1948332.839 1091057.962
Tangential Direction:		N0.627°W	
Tangential Length:		1000	
Element: Linear			
HPI	( Mainline9 )	1356+41.84 R1	1948332.839 1091057.962
HPI	( )	1368+91.84 R1	1948318.597 1092307.881
Tangential Direction:		N0.653°W	
Tangential Length:		1250	
Element: Linear			
HPI	( Mainline10 )	1368+91.84 R1	1948318.597 1092307.881
HPI	( )	1373+91.84 R1	1948312.515 1092807.844
Tangential Direction:		N0.697°W	
Tangential Length:		500	
Element: Linear			
HPI	( Mainline11 )	1373+91.84 R1	1948312.515 1092807.844
HPI	( Mainline15 )	1376+47.29 R1	1948306.952 1093063.233
Tangential Direction:		N1.248°W	
Tangential Length:		255.45	
Element: Linear			
HPI	( )	1376+47.29 R1	1948306.952 1093063.233
HPI	( Mainline14 )	1380+69.76 R1	1948294.577 1093485.52
Tangential Direction:		N1.679°W	

Tangential Length:		422.469	
Element: Linear			
HPI	( )	1380+69.76 R1	1948294.577
HPI	( )	1385+69.76 R1	1948279.286
Tangential Direction:		N1.752°W	
Tangential Length:		500	
Element: Linear			
HPI	( )	1385+69.76 R1	1948279.286
PC	( )	1387+03.17 R1	1948275.751
Tangential Direction:		N1.518°W	
Tangential Length:		133.409	
Element: Circular			
PC	( )	1387+03.17 R1	1948275.751
HPI	( )	1392+03.81 R1	1948262.484
CC	( )		1950225.066
PT	( )	1396+83.28 R1	1948491.943
Radius:		1950	
Delta:		28.798° Right	
Degree of Curvature (Arc):		2.938°	
Length:		980.109	
Tangent:		500.639	
Chord:		969.825	
Middle Ordinate:		61.254	
External:		63.241	
Tangent Direction:		N1.518°W	
Radial Direction:		N88.482°E	
Chord Direction:		N12.881°E	
Radial Direction:		S62.720°E	
Tangent Direction:		N27.280°E	
Element: Linear			
PT	( )	1396+83.28 R1	1948491.943
HPI	( )	1398+37.92 R1	1948562.822
Tangential Direction:		N27.280°E	
Tangential Length:		154.645	
Element: Linear			
HPI	( )	1398+37.92 R1	1948562.822
HPI	( Mainline13 )	1399+87.92 R1	1948632.89
Tangential Direction:		N27.848°E	
Tangential Length:		150	
Element: Linear			
HPI	( )	1399+87.92 R1	1948632.89
HPI	( Mainline12 )	1409+87.92 R1	1949094.34
Tangential Direction:		N27.481°E	
Tangential Length:		1000	
Element: Linear			
HPI	( )	1409+87.92 R1	1949094.34
END	( )	1419+87.92 R1	1949557.234
Tangential Direction:		N27.574°E	
Tangential Length:		1000	

DATUM INFORMATION  
HORIZONTAL      VERTICAL  
 NAD 83 (1995)      NAVD 88  
 D.A.F. = 1.0001309  
 UNITS = US Survey Foot

Project Number  
 11-4(116)  
 C.N. 80952

PRELIMINARY

Control Point Data						
Control Point	X	Y	Z	Station	Offset	Object Used For Station
CP 171-913	1949482.644	1072458.899	1790.940	OFF CHAIN	OFF CHAIN	CONC. MON. W/ALUM. CAP
CP 172-900	1948441.339	1077239.03	1803.757	1218+22.47	-48.00'	CONC. MON. W/ALUM. CAP
CP 173-901	1948380.015	1082400.19	1784.508	1268+84.18	-49.65'	CONC. MON. W/ALUM. CAP
CP 173-902	1948310.33	1087397.04	1757.65	1319+81.40	-63.65'	CONC. MON. W/ALUM. CAP
CP 175-903	1948234.849	1092806.99	1723.995	1373+92.68	-77.67'	CONC. MON. W/ALUM. CAP
CP 175-904	1949867.218	1097536.76	1665.779	OFF CHAIN	OFF CHAIN	CONC. MON. W/ALUM. CAP

NOTE: CONTROL POINT INFORMATION AVAILABLE UPON REQUEST.

CONTROL POINT TIES  
 HORIZONTAL ALIGNMENT & ORIENTATION

NOTES

- The locations of all aerial and underground utility facilities may not be indicated in these plans. Underground utilities, whether indicated or not will be located and flagged by the Utilities at the request of the Contractor.

No excavation will be permitted in the area of underground utility facilities until all such facilities have been located and identified to the satisfaction of all parties. The excavation must be accomplished with extreme care in order to avoid any possibility of damage to the utility facility.

- The Contractor will be required to furnish Borrow on this Project.

FOR INFORMATION ONLY

- As indicated by the Typical Section, Embankment will be required to construct the earth portion of the shoulder. This material will be furnished by the Contractor from sources other than State Right-of-Way.

ASPHALTIC CONCRETE, TYPE SPR FOR MAILBOX TURNOUT, PLAN 307		
STATION	SIDE	SQ. YDS.
1209+99	Lt.	49
1217+51	Lt.	79

MAILBOX POSTS, SPECIAL PLAN 1C		
STATION	SIDE	EACH
1209+99	Lt.	1
1217+51	Lt.	1

EARTHWORK QUANTITIES		
STATION TO STATION	EXCAVATION AVAILABLE (CU. YDS.)	EARTHWORK MEASURED IN EMBANKMENT (CU. YDS.)
1187+18 - 1419+87	458	535
TOTAL	458	535

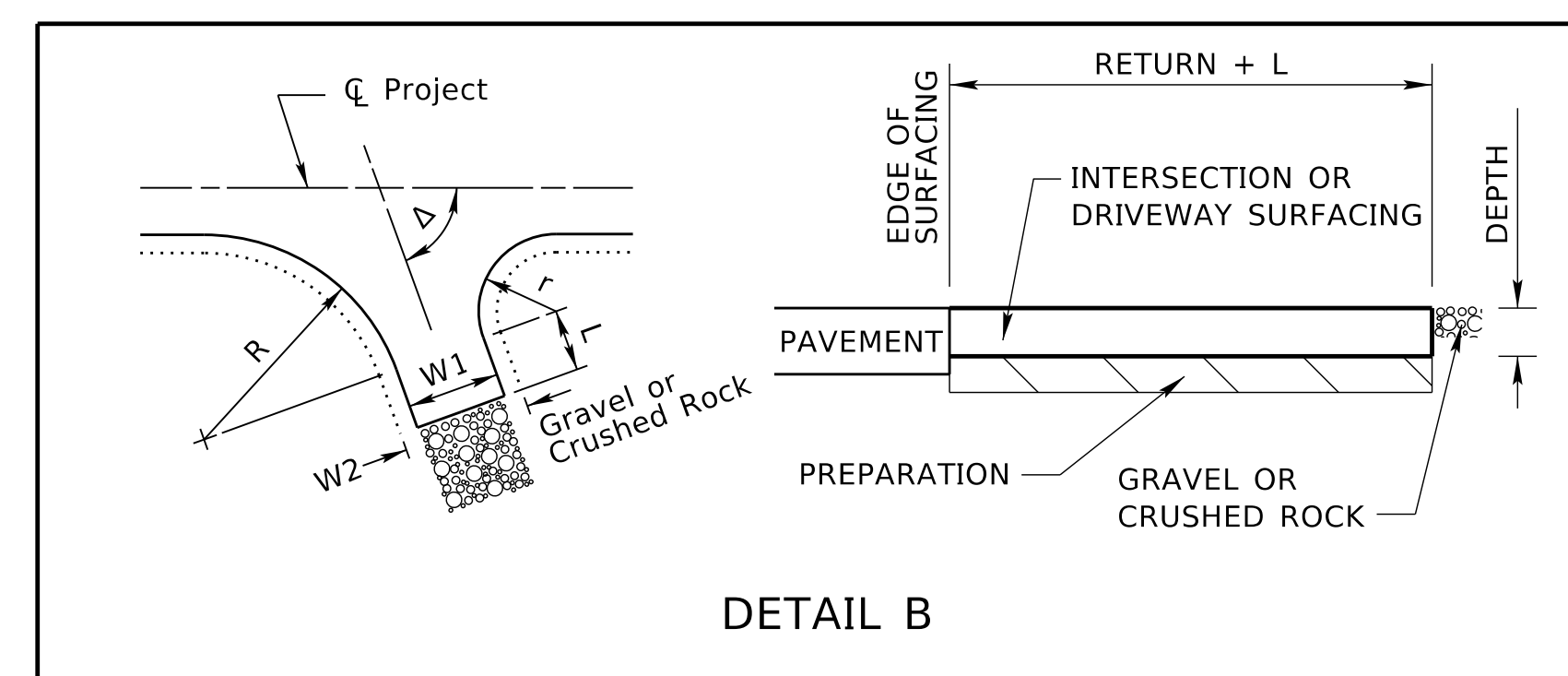
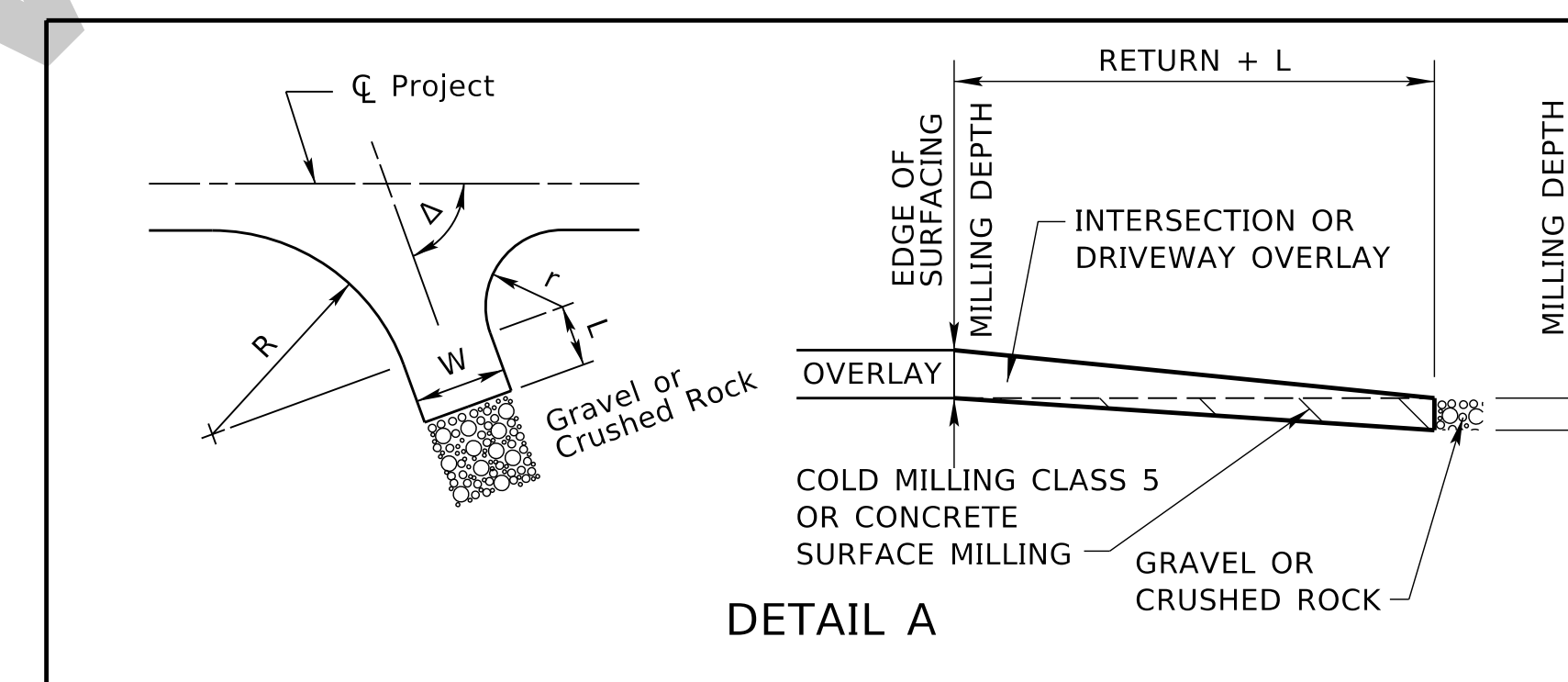
CULVERT PIPE LEGEND		
TYPE	DESCRIPTION	
1	RCSP	Reinforced Concrete Sewer Pipe
2	RCP	Reinforced Concrete Pipe
3	GCCMP	Galvanized (zinc) Coated Corrugated Metal Pipe
4	ACCOMP	Aluminum Coated Corrugated Metal Pipe
5	PCCMP	Polymer Coated Corrugated Metal Pipe
6	HDPE-CI	High Density Polyethylene (corrugated interior)
7	HDPE-SI	High Density Polyethylene (smooth interior)
8	PVC	Polyvinyl Chloride Pipe

BUILD RUMBLE STRIPS, SPECIAL PLAN 2C				
STATION TO STATION	CENTERLINE	SHOULDER		EDGELINE
	(STA.)	(STA.)	SIDE	(STA.)
1187+18 - 1419+88	-	-	-	233 Lt./Rt.
TOTAL	-	-	-	466

SURFACE DRIVEWAY, SEE DETAIL A													
STATION	SIDE	R (ft.)	r (ft.)	W (ft.)	L (ft.)	Δ (°)	PLACEMENT (SY)	ASPHALTIC CONCRETE TYPE	OVERLAY DEPTH	ASPHALTIC CONCRETE (TON)	MILLING DEPTH	COLD MILLING CLASS 5 (SY)	GRAVEL (CY)
1217+13	Rt.	30	30	14	6	90	99	SPR	3"-2"	11	1"-2"	99	5

BUILD EARTH DRIVE & SURFACE, SEE DETAIL B														
STATION	SIDE	R (ft.)	r (ft.)	W1 (ft.)	W2 (ft.)	L (ft.)	Δ (°)	SLOPE	PLACEMENT (SY)	ASPHALTIC CONCRETE TYPE	ASPHALT DEPTH	ASPHALTIC CONCRETE (TON)	PREPARATION (SY)	GRAVEL (CY)
1210+14	Lt.	50	40	22	24	-	85	+0.2%	204	SPR	6"	67	204	5
1348+69	Lt.	50	50	24	26	-	90	+2.1%	253	SPR	6"	83	253	5
1385+58	Rt.	40	40	18	20	-	90	-1.9%	156	SPR	6"	51	156	5

BUILD INTERSECTION, SEE DETAIL B														
STATION	SIDE	R (ft.)	r (ft.)	W1 (ft.)	W2 (ft.)	L (ft.)	Δ (°)	SLOPE	PLACEMENT (SY)	ASPHALTIC CONCRETE TYPE	ASPHALT DEPTH	ASPHALTIC CONCRETE (TON)	PREPARATION (SY)	GRAVEL (CY)
1393+11	Lt.	75	40	24	26	15	70	+1.4%	343	SPR	8"	150	343	10



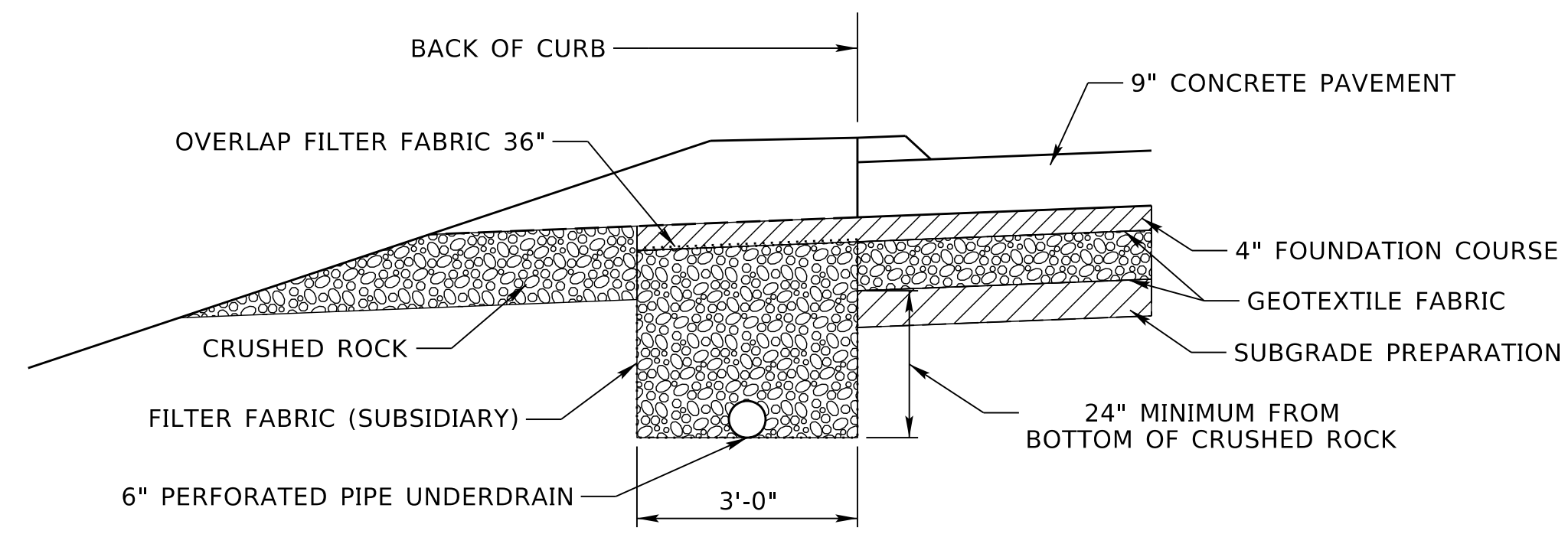
LEGEND

- G --- GAS LINE
- E --- ELECTRICAL SERVICE
- P --- POWER LINE
- OP --- OVERHEAD POWER LINE
- SAN --- SANITARY SEWER
- SS --- STORM SEWER
- T --- TELEPHONE LINE
- TFO --- FIBER OPTIC TELE. LINE
- OT --- OVERHEAD TELEPHONE LINE
- TV --- CABLE TV LINE
- OTV --- OVERHEAD CABLE TV LINE
- W --- WATER LINE
- o --- FENCE - CHAIN LINK
- x --- FENCE - R.O.W. OR WIRE
- □ --- FENCE - WOOD
- --- FLOWLINE
- --- CENTER LINE DRIVE
- ⊙ BENCH MARK
- ⊙ CENTER PIVOT
- ⊙ CONTROL POINT
- ⊔ CULVERT
- XXXXXX DIKE
- ⊙ GAS METER
- ⊙ GAS VALVE
- ⊕ GRID TICK
- ⊔ GUARDRAIL
- ⊙ GUARD POST
- ⊙ GUY POLE
- ⊙ GUY WIRE
- ⊙ LIGHT POLE
- ⊙ MAILBOX
- ⊙ MANHOLE
- ⊙ MARSH
- ⊙ OIL WELL
- ⊙ PHOTO CODE POINT
- ⊙ POWER BOX
- ⊙ POWER POLE
- ⊙ POWER PULL BOX
- ⊙ PROPANE TANK
- ⊙ R.O.W. MARKER
- ⊙ ADVANCED R.R. WARNING SIGN
- ⊙ RAILROAD WARNING
- ⊔ RAILROAD TRACKS
- ⊔ RETAINING WALL
- ⊙ SATELLITE DISH
- ⊙ SIGN
- ⊙ TRAFFIC SIGNAL
- ⊙ TRAFFIC SIGNAL/ST. LIGHT
- ⊙ TELEPHONE BOX
- ⊙ TELE. FIBER OPTICS BOX
- ⊙ TELEPHONE PULL BOX
- ⊙ TELEPHONE POLE
- ⊙ TELEVISION BOX
- ⊙ TRAVELED WAY
- ⊙ TREE - CONIFEROUS
- ⊙ TREE - DECIDUOUS
- ⊙ TREE STUMP
- ⊙ WATER (FIRE) HYDRANT
- ⊙ WATER VALVE
- ⊙ WATER METER
- ⊙ WELL
- ⊙ WINDMILL

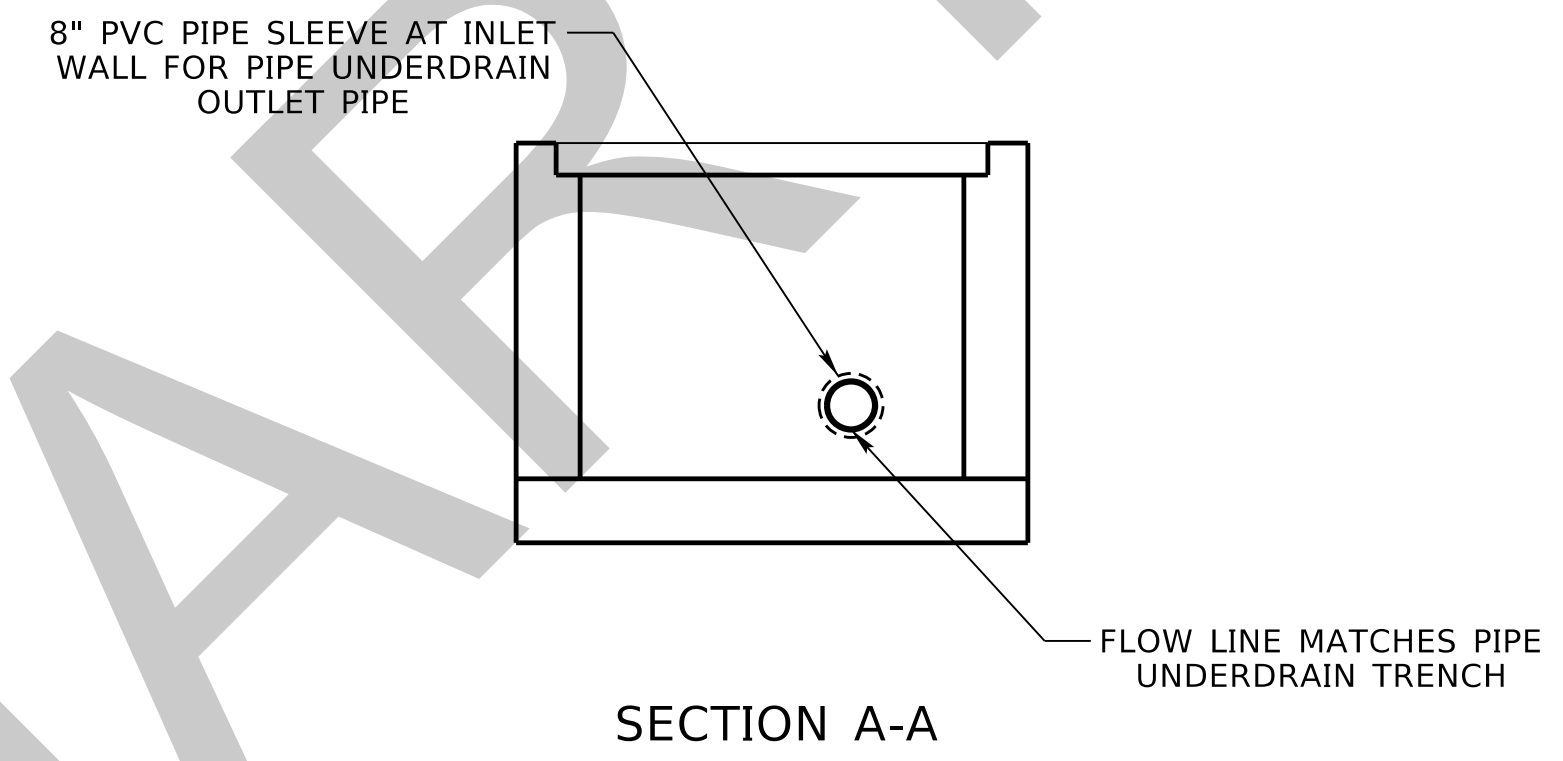
Project Number  
11-4(116)

C.N. 80952

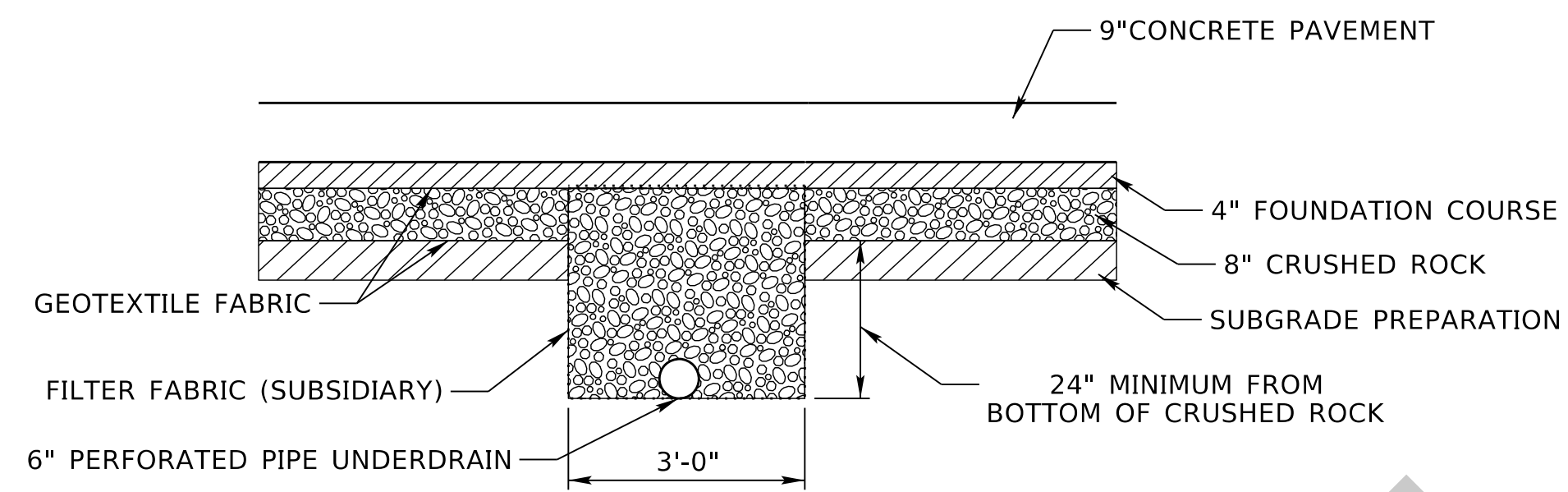
GENERAL INFORMATION



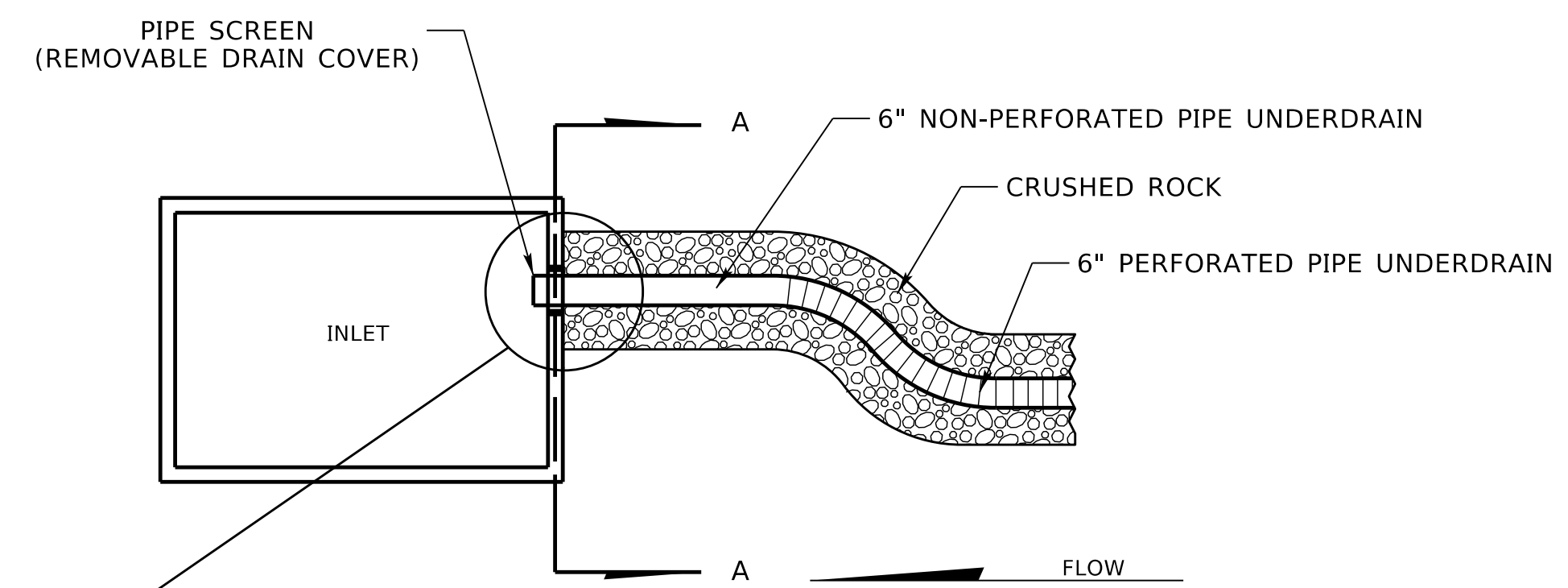
PIPE UNDERDRAIN DETAIL



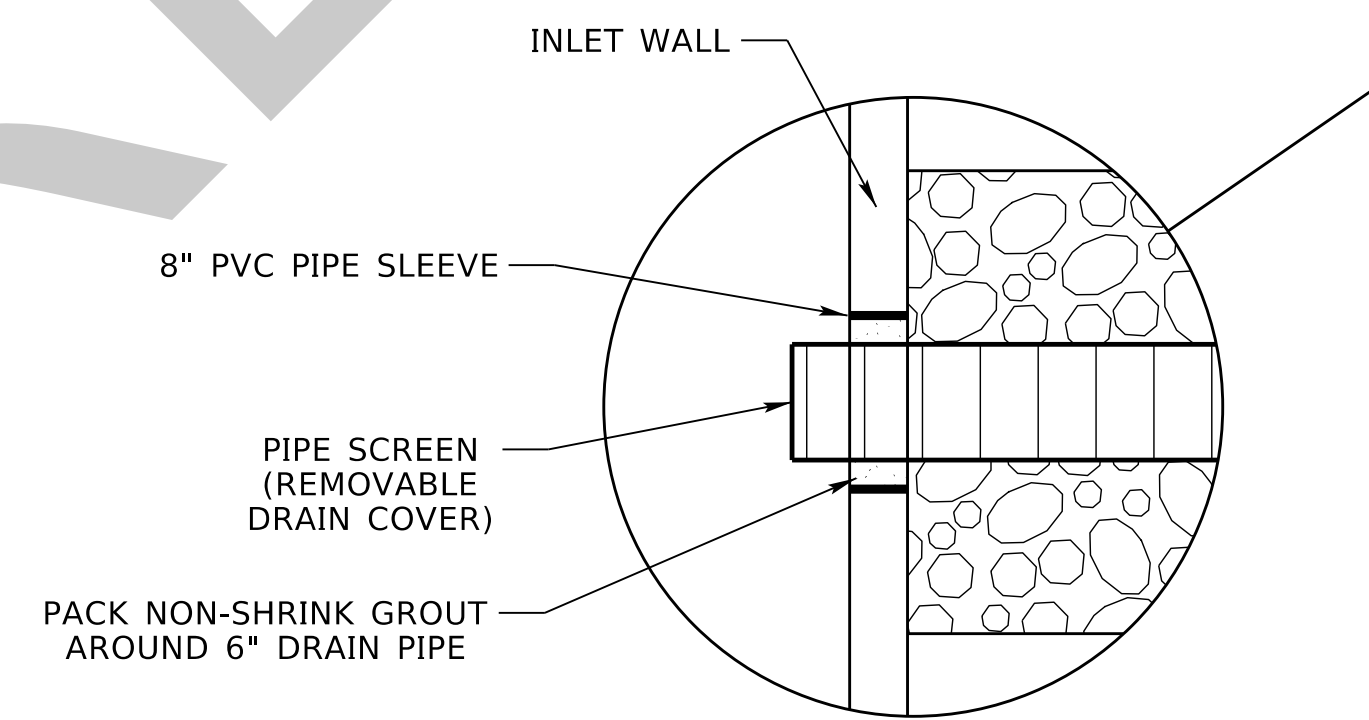
SECTION A-A



TRANSVERSE PIPE UNDERDRAIN DETAIL



PLAN (ON GRADE)

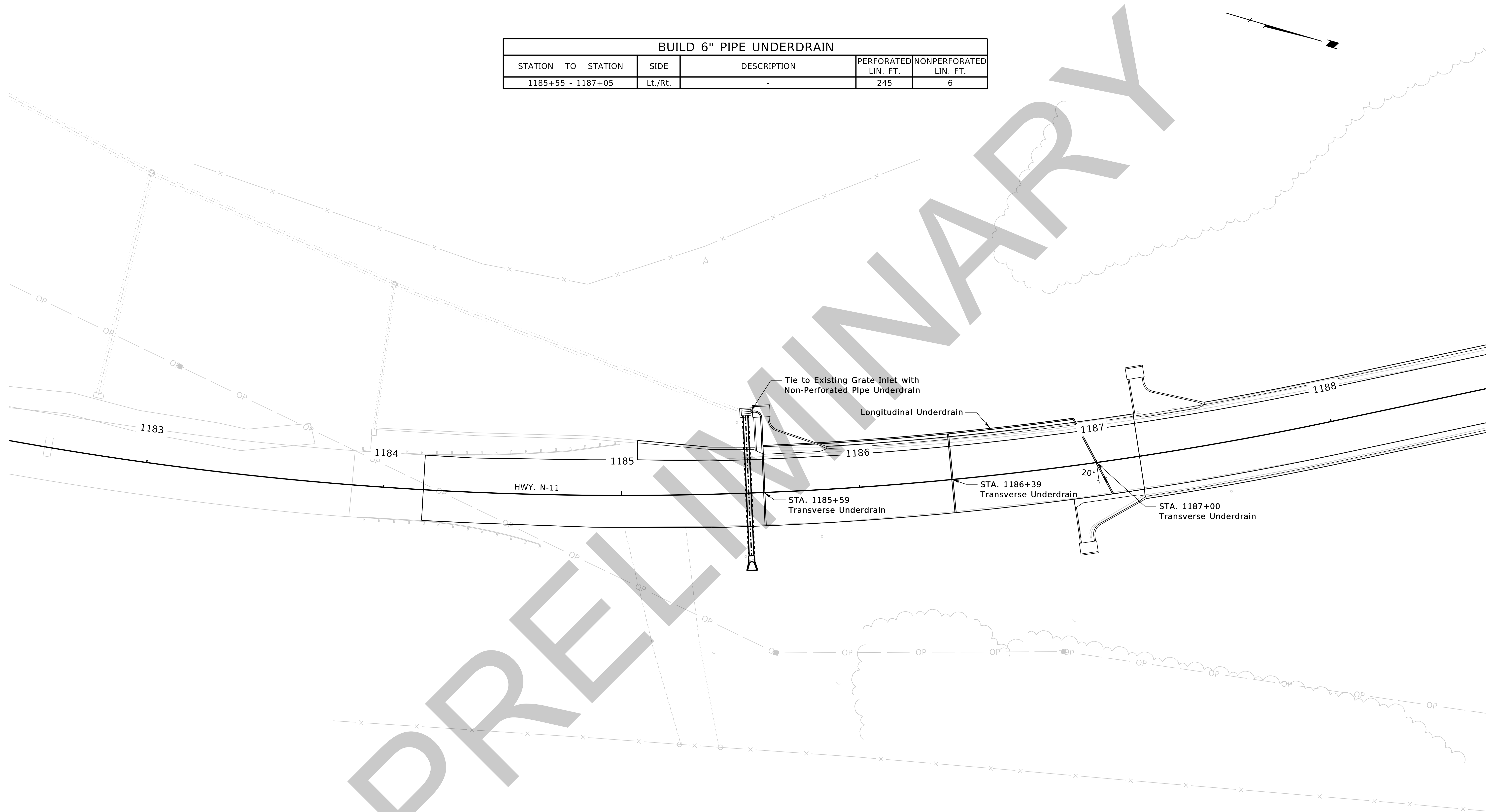


DETAIL OF PIPE UNDERDRAIN AT INLET

PRELIMINARY

6" PIPE UNDERDRAIN  
GENERAL INFORMATION

BUILD 6" PIPE UNDERDRAIN				
STATION TO STATION	SIDE	DESCRIPTION	PERFORATED LIN. FT.	NONPERFORATED LIN. FT.
1185+55 - 1187+05	Lt./Rt.	-	245	6

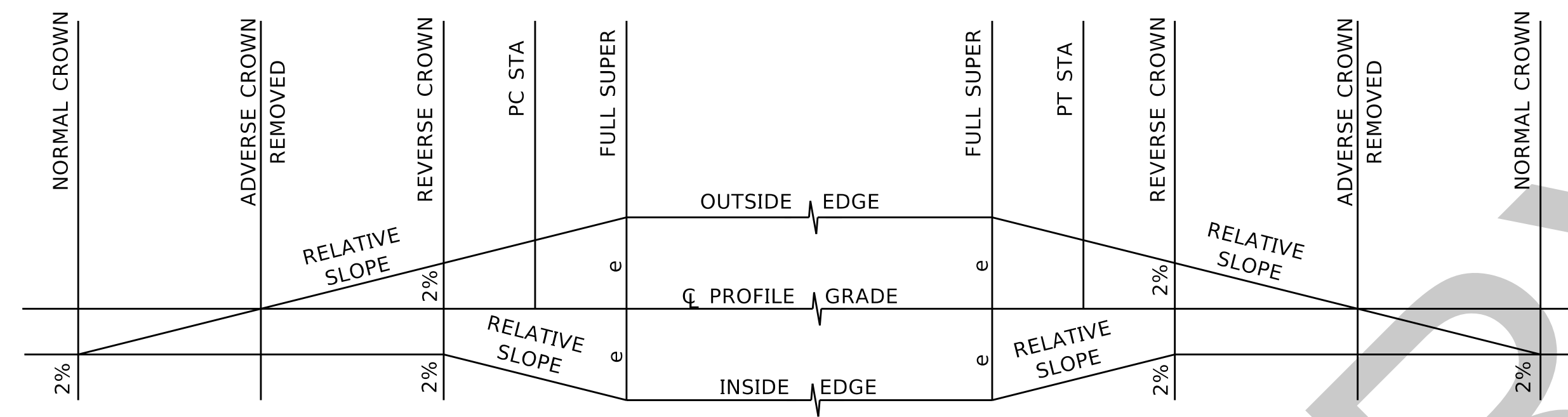


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FILE: 80952 Sheets General Info.dgn

6" PIPE UNDERDRAIN  
GENERAL INFORMATION



SUPERELEVATION													
P.I. STATION	RADIUS OF CURVE	SUPERELEVATION e %	RELATIVE SLOPE	NORMAL CROWN STATION	ADVERSE CROWN REMOVED STATION	REVERSE CROWN STATION	P.C. STATION	FULL SUPER STATION	FULL SUPER STATION	P.T. STATION	REVERSE CROWN STATION	ADVERSE CROWN REMOVED STATION	NORMAL CROWN STATION
1183+09.76	1445'	6.0	222:1	1176+12	1176+65	1177+19	1177+71.94	1178+25	1187+48	1188+01.68	1188+55	1189+08	1189+62
1208+92.27	1480'	6.0	222:1	1203+58	1204+11	1204+65	1205+18.16	1205+71	1211+98	1212+51.02	1213+04	1213+58	1214+11
1392+03.81	1950'	5.6	222:1	1385+50	1386+04	1386+57	1387+03.17	1387+53	1396+34	1396+83.28	1397+30	1397+83	1398+36

FOR DETAILS NOT SHOWN SEE PLAN 108

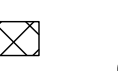


SUPERELEVATION DIAGRAM

NOTE: SUPERELEVATION TRANSITION STATIONS CALCULATED FROM ALIGNMENT AND AS-BUILT SUPERELEVATION RATE. EXISTING CONDITIONS MAY BE DIFFERENT.

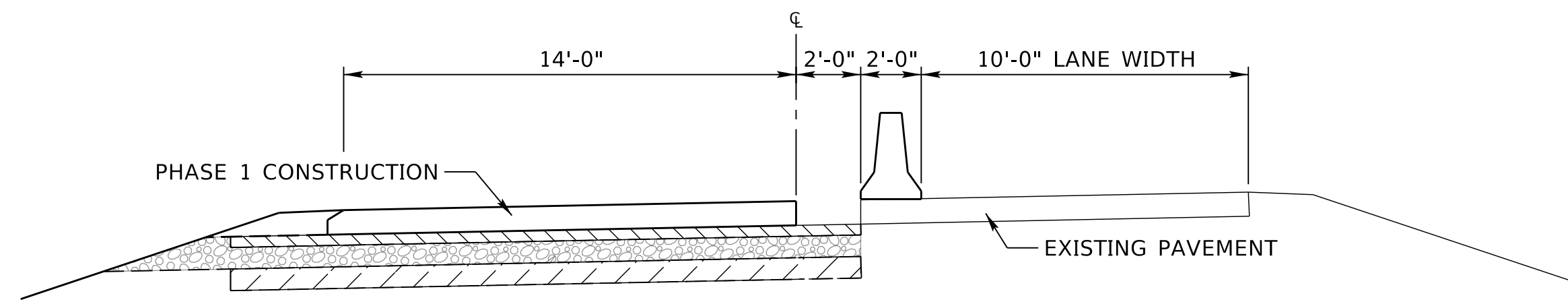
PRELIMINARY

SUPERELEVATION DIAGRAM  
GENERAL INFORMATION

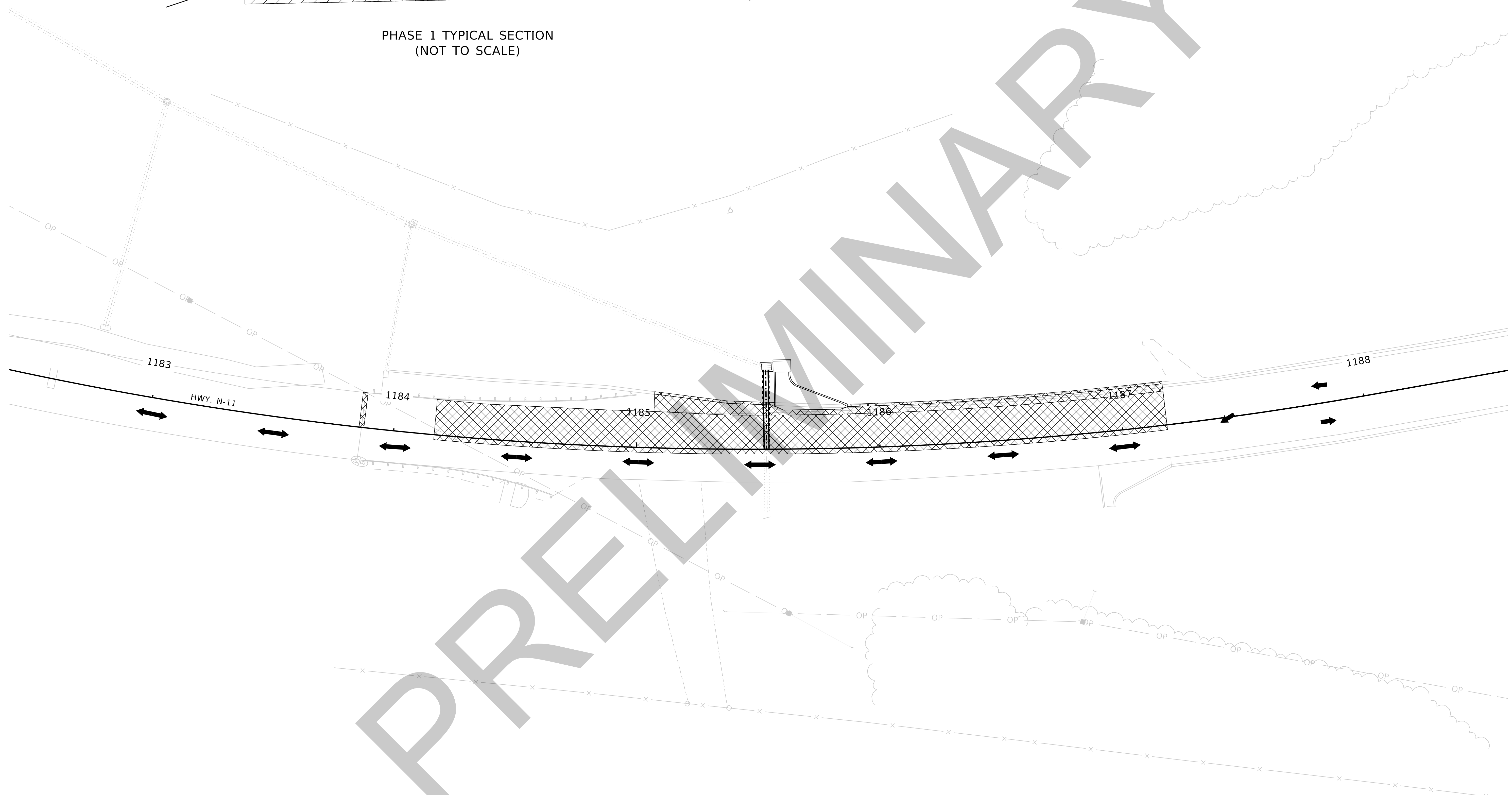
LEGEND

-  BUILD CONCRETE PAVEMENT / BRIDGE
-  COMPLETED CONCRETE PAVEMENT / BRIDGE
-  TRAFFIC FLOW

SEC. 4-T32N-R13W



PHASE 1 TYPICAL SECTION  
(NOT TO SCALE)



SEC. 4-T32N-R13W

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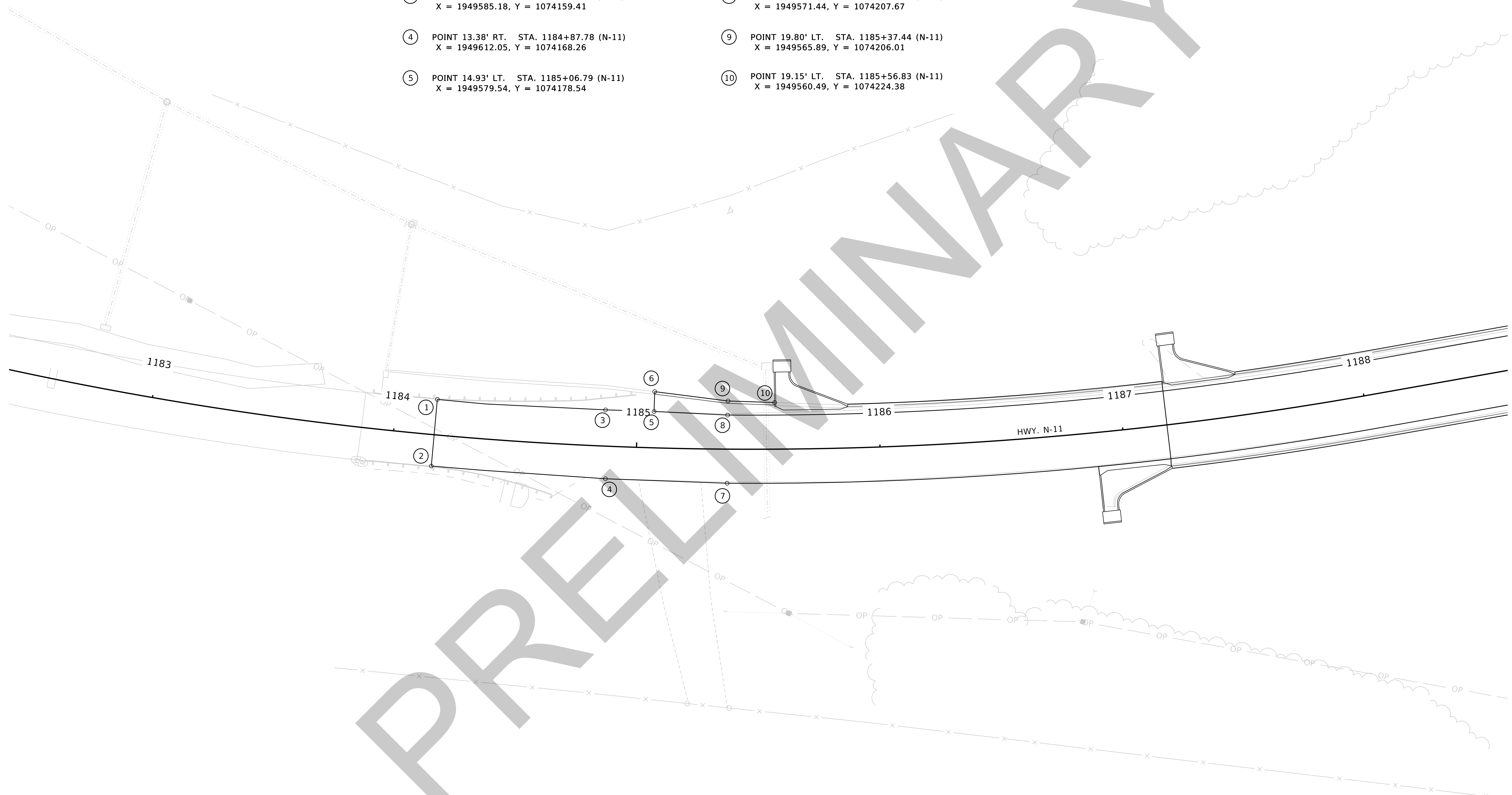
FILE: 80952 Sheets Phase 1.dgn

PHASE 1  
PHASING



SEC. 4-T32N-R13W

- |   |   |
|---|---|
| ① POINT 14.56' LT. STA. 1184+16.71 (N-11)<br>X = 1949602.83, Y = 1074092.49 | ⑥ POINT 23.09' LT. STA. 1185+06.81 (N-11)<br>X = 1949571.72, Y = 1074176.22 |
| ② POINT 12.91' RT. STA. 1184+16.71 (N-11)<br>X = 1949629.58, Y = 1074098.73 | ⑦ POINT 14.00' RT. STA. 1185+37.31 (N-11)<br>X = 1949598.09, Y = 1074216.28 |
| ③ POINT 14.88' LT. STA. 1184+86.64 (N-11)<br>X = 1949585.18, Y = 1074159.41 | ⑧ POINT 14.00' LT. STA. 1185+37.31 (N-11)<br>X = 1949571.44, Y = 1074207.67 |
| ④ POINT 13.38' RT. STA. 1184+87.78 (N-11)<br>X = 1949612.05, Y = 1074168.26 | ⑨ POINT 19.80' LT. STA. 1185+37.44 (N-11)<br>X = 1949565.89, Y = 1074206.01 |
| ⑤ POINT 14.93' LT. STA. 1185+06.79 (N-11)<br>X = 1949579.54, Y = 1074178.54 | ⑩ POINT 19.15' LT. STA. 1185+56.83 (N-11)<br>X = 1949560.49, Y = 1074224.38 |



SEC. 4-T32N-R13W

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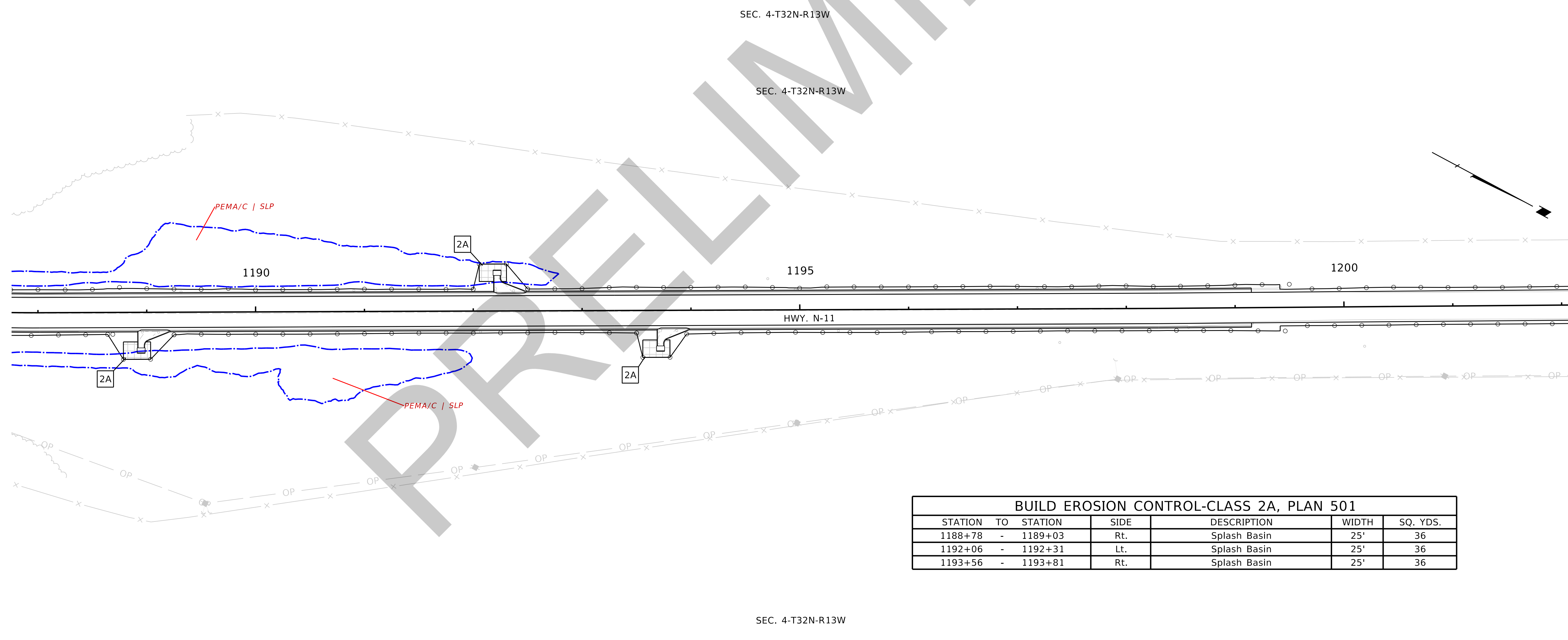
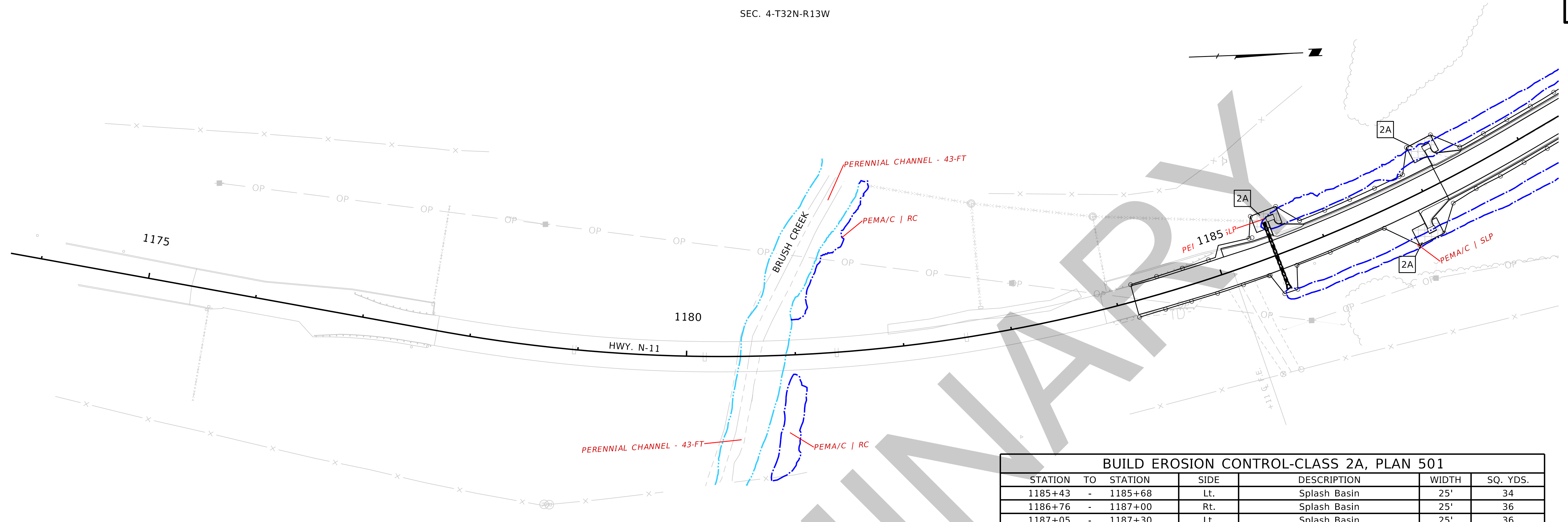
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FILE: 80952 Sheets Geometrics.dgn

GEOMETRICS

LEGEND

- LIMITS OF CONSTRUCTION
- WETLANDS - DO NOT DISTURB
- EROSION CONTROL, CLASS 2A



COMPUTER: GX02

DATE: 6-AUG-2024 17:07

FILE: 80952 Sheets Erosion Control.dgn

EROSION & SEDIMENT CONTROL

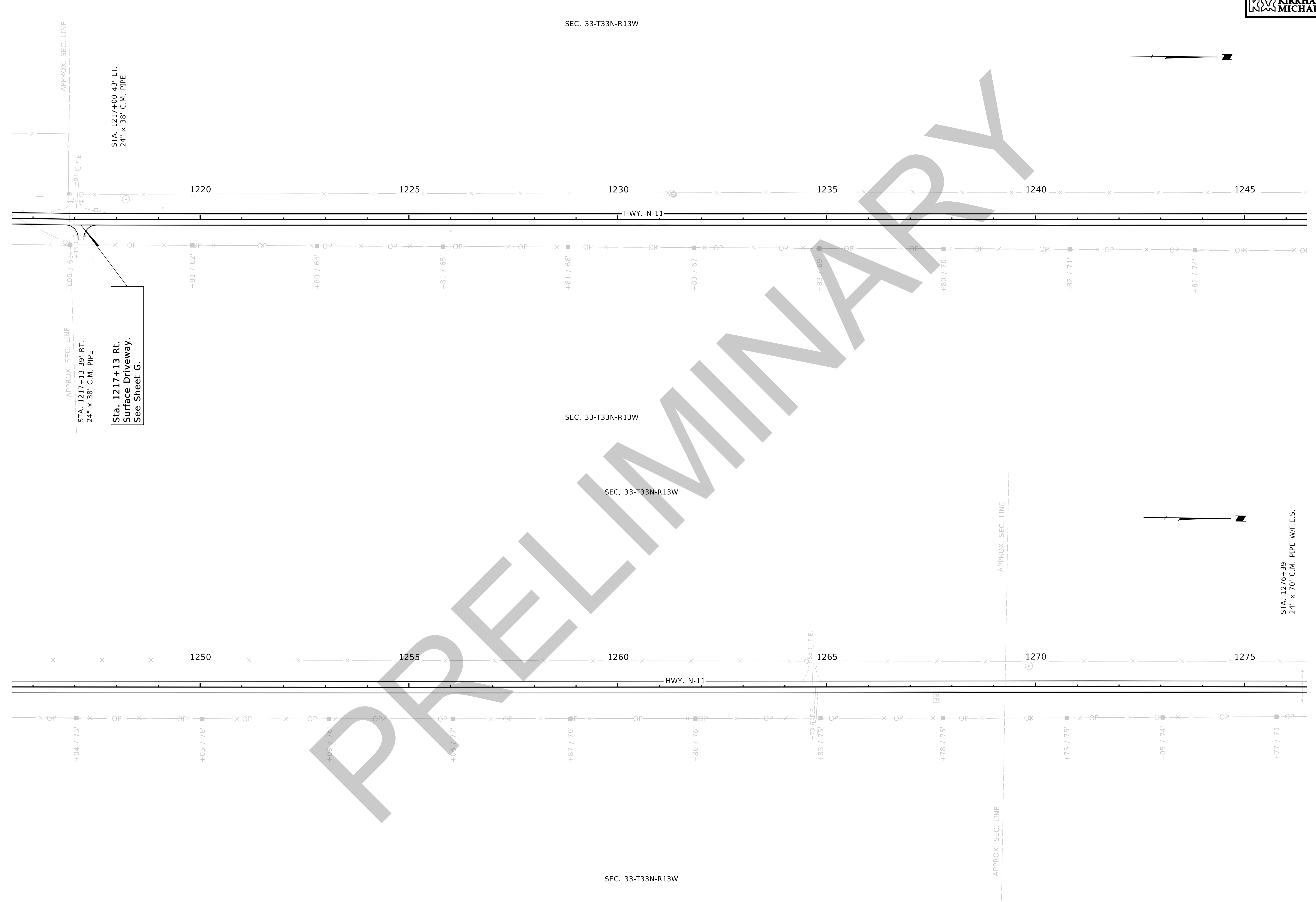


SEC. 33-T33N-R13W

SEC. 33-T33N-R13W

SEC. 33-T33N-R13W

SEC. 33-T33N-R13W



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DATE: 12-JUL-2024 14:11

FILE: 80952 Sheets Plan-Plan.dgn

PLAN

SEC. 28-T33N-R13W

SEC. 28-T33N-R13W

SEC. 21-T33N-R13W

SEC. 28-T33N-R13W

SEC. 28-T33N-R13W

SEC. 21-T33N-R13W

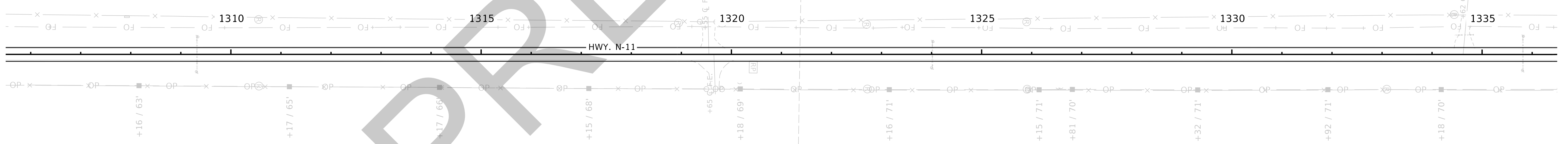
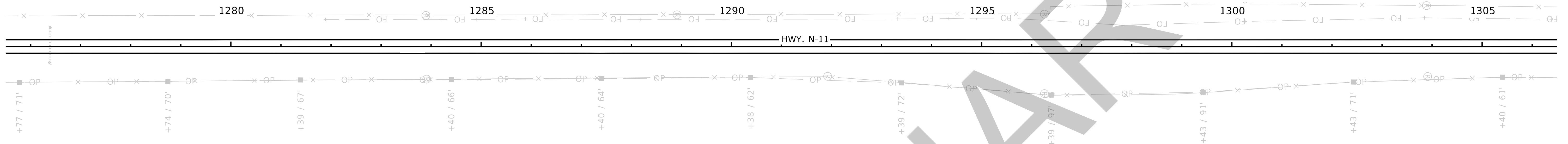
STA. 1276+39  
24" x 70' C.M. PIPE W/F.E.S.

STA. 1309+32  
24" x 70' C.M. PIPE W/F.E.S.

STA. 1324+02  
24" x 52' C.M. PIPE W/F.E.S.

STA. 1334+64 39' LT.  
24" x 38' C.M. PIPE

STA. 1335+82  
24" x 68' C.M. PIPE



COMPUTER: GX02

DATE: 12-JUL-2024 14:11

FILE: 80952 Sheets Plan-Plan.dgn

PRELIMINARY

PLAN

STA. 1335+82  
24" x 68" C.M. PIPE

Sta. 1348+69 Lt.  
Build Earth Drive & Surface.  
See Sheet G.

SEC. 21-T33N-R13W

SEC. 21-T33N-R13W

SEC. 16-T33N-R13W

SEC. 21-T33N-R13W

SEC. 16-T33N-R13W

Sta. 1385+58 Rt.  
Build Earth Drive & Surface.  
See Sheet G.

Build 3-Way Intersection.  
See Sheet G.

STA. 1393+03 41" LT.  
24" x 49" C.M. PIPE  
W/F.E.S. ON LT.



COMPUTER: GX02

DATE: 12-JUL-2024 14:11

FILE: 80952 Sheets Plan-Plan.dgn

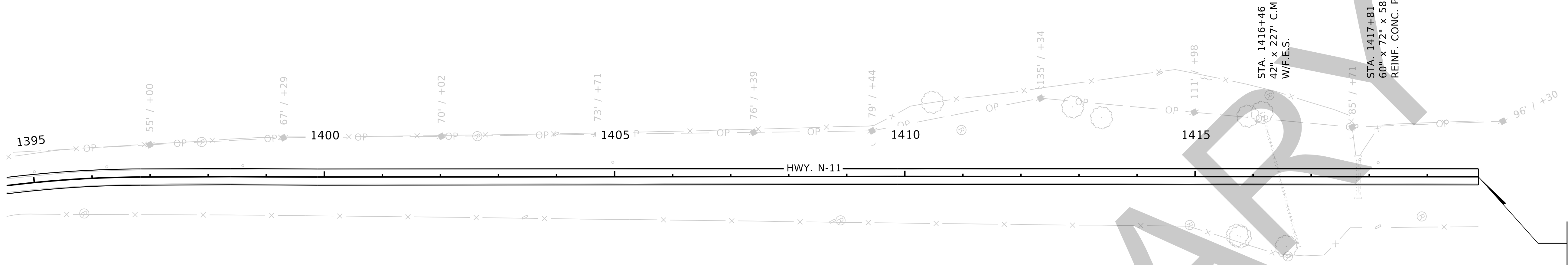
PRELIMINARY

PLAN

SEC. 16-T33N-R13W

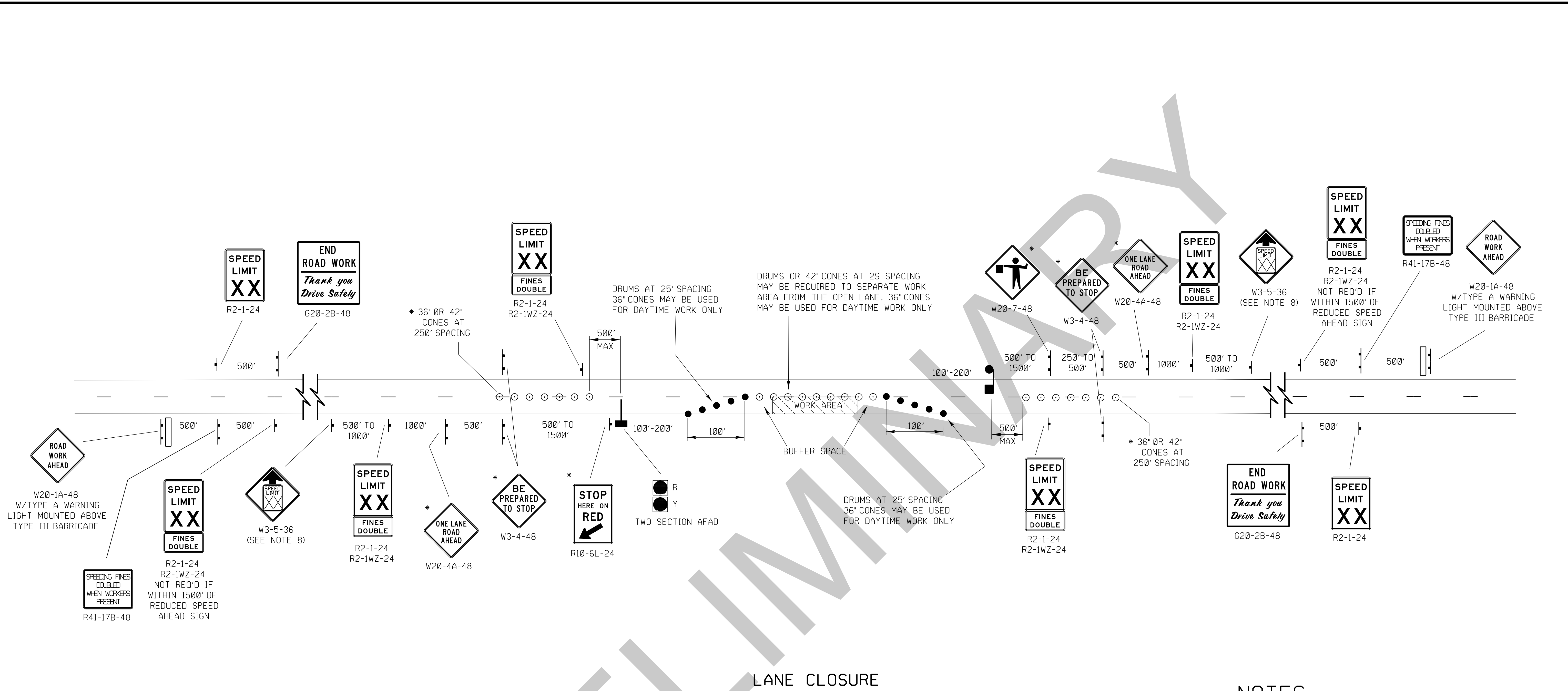
SEC. 16-T33N-R13W

HWY. N-11



PRELIMINARY

PLAN



LANE CLOSURE

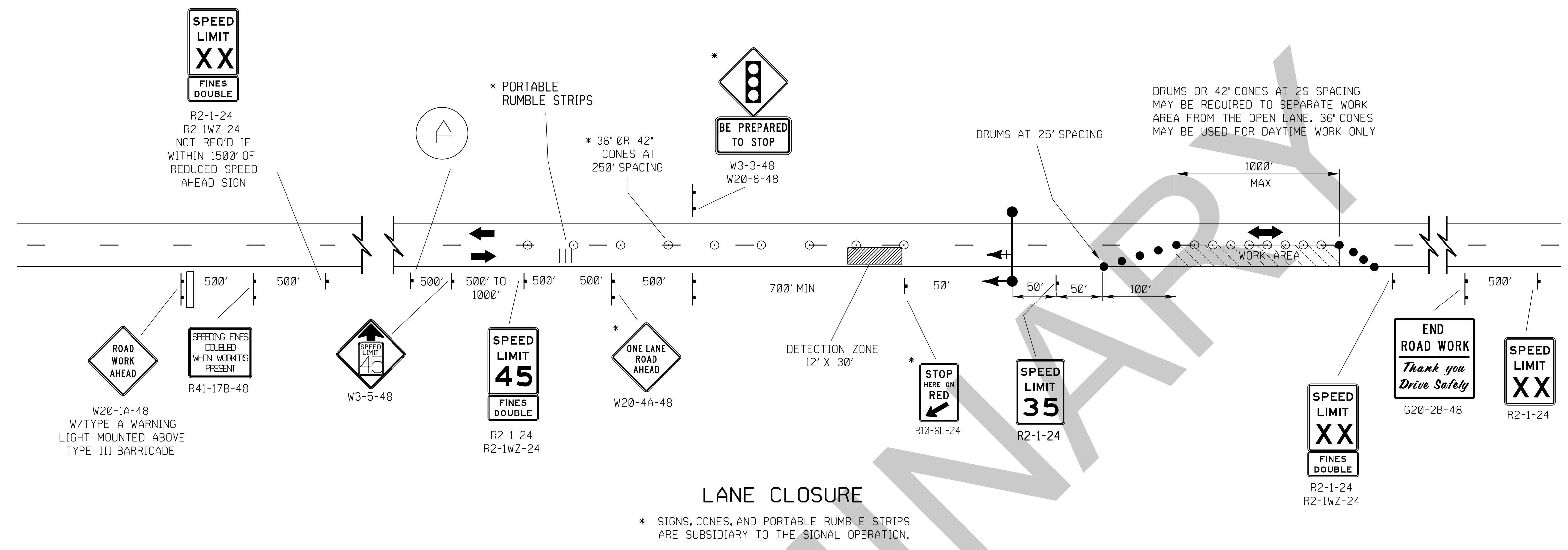
NOTES

1. "FLAGGER AHEAD SYMBOL" SIGN (W20-7) SHALL BE USED WHEN A FLAGGER IS PRESENT, AND REMOVED WHEN NOT APPLICABLE.
2. THE CONTRACTOR SHALL INSTALL, MAINTAIN, AND REMOVE ALL SIGNS IN ACCORDANCE WITH THE DETAILS OF AND AT THE LOCATIONS SHOWN IN THE PLANS. SIGNS INSTALLED BY THE DEPARTMENT OF TRANSPORTATION OR OTHER GOVERNMENT AGENCY SHALL BE MAINTAINED AND REMOVED BY THEIR FORCES.
3. WHEN MESSAGE IS NOT PERTINENT, SIGNS SHALL BE TAKEN DOWN, COVERED OR FOLDED. TAPE IS NOT PERMITTED ON THE FACE OF THE SIGN.
4. VEHICLES OR EQUIPMENT SHALL NOT BE PARKED SO AS TO OBSCURE OR DISTRACT FROM TRAFFIC CONTROL DEVICES.
5. ORANGE FLAGS MAY BE USED TO CALL ATTENTION TO WARNING SIGNS.
6. REFER TO STANDARD PLAN 920 FOR GENERAL INFORMATION NOT SHOWN.
7. A MINIMUM OF 7-36" OR 42" CONES SHALL BE PLACED ON THE CENTERLINE IN ADVANCE OF THE FLAGGER. THE CONES SHOULD BE SPACED AT 250 FEET.
8. THE SPEED IN FLAGGING/PILOT CAR OPERATIONS IS GENERALLY CONTROLLED BY THE PILOT CAR, A SPEED REDUCTION MAY NOT BE NECESSARY IF THE WORK ZONE CONDITIONS WILL NOT EXIST UPON COMPLETION OF EACH DAYS WORK. W3-5 SIGN IS NOT NEEDED IF SPEED LIMIT IS NOT REDUCED.

LEGEND

- ● FLAGGER
- REFLECTORIZED PLASTIC DRUM
- REFLECTORIZED PLASTIC DRUM OR 42" CONE
- ▬ TYPE III BARRICADE
- ┆ SINGLE POSTED SIGN
- ┆ DOUBLE POSTED SIGN
- ┆ AFAD

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FILE: Flagger Assistance Device (AFAD).dgn



**GENERAL NOTES**

1. SIGNS SHOWN ARE USUALLY FOR ONE DIRECTION OF TRAVEL ONLY.
2. THE CONTRACTOR SHALL INSTALL, MAINTAIN, AND REMOVE ALL SIGNS IN ACCORDANCE WITH THE DETAILS OF AND AT THE LOCATIONS SHOWN IN THE PLANS. SIGNS INSTALLED BY THE DEPARTMENT OF TRANSPORTATION OR OTHER GOVERNMENT AGENCIES SHALL BE MAINTAINED AND REMOVED BY THEIR FORCES.
3. WHEN MESSAGE IS NOT PERTINENT, SIGNS SHALL BE TAKEN DOWN, COVERED OR FOLDED. TAPE WILL NOT BE PERMITTED ON THE FACE OF THE SIGN.
4. ALL BARRICADE AND SIGN LOCATIONS ARE APPROXIMATE, AND MAY BE ADJUSTED TO FIT FIELD CONDITIONS. THE SIGNS SHALL BE INSTALLED SO AS TO NOT OBSCURE THE VIEW OF OTHER TRAFFIC CONTROL DEVICES FROM MOTORISTS.
5. VEHICLES OR EQUIPMENT SHALL NOT BE PARKED AS TO OBSCURE OR DISTRACT FROM TRAFFIC CONTROL DEVICES.
6. "NO PASSING ZONES NOT MARKED" SIGN (W25-6-48) SHOULD BE INSTALLED AT EACH END OF THE PROJECT WHENEVER THE EXISTING NO PASSING ZONE PAVEMENT MARKINGS HAVE BEEN REMOVED OR COVERED AND NO PASSING ZONE PAVEMENT MARKINGS ARE NOT INCLUDED IN THE PROJECT.
7. SPEED LIMIT SIGN IS NOT REQUIRED IF WITHIN 1500 FT OF A REDUCED SPEED AHEAD SIGN.
8. WORK ZONE SPEED LIMITS SHALL NOT BE INSTALLED WITHOUT A SPEED ZONE AUTHORIZATION COMPLETED BY THE DEPARTMENT. THE WORK ZONE SPEED LIMIT SHALL BE ESTABLISHED ACCORDING TO DOT-01 60-18. SEE WORK ZONE SPEED LIMIT NOTES ON STANDARD PLAN 920.
9. A SPEED LIMIT SIGN ENDING THE REDUCED SPEED ZONE SHALL BE INSTALLED AT THE END OF EACH ZONE.
10. PLACE TYPE II BARRICADES, REFLECTORIZED PLASTIC DRUMS, OR 42" CONES ON THE TRAFFIC SIDE OF THE DROP-OFF WHERE SUFFICIENT LATERAL DISTANCE EXISTS BETWEEN THE TRAVEL LANE AND THE DROP-OFF (DROP-OFF DETAIL ON STANDARD PLAN 922).
11. THE LEAD SIGNS ARE NOT NEEDED IF TWO PROJECTS ARE LESS THAN 1 MILE APART. THE "END CONSTRUCTION" SIGN (G20-2B-48) SHOULD NOT BE INSTALLED BETWEEN THE PROJECTS.
12. ON ARMOR COAT SURFACING, A "LOOSE GRAVEL" SIGN (W8-7-36) IS REQUIRED AT THE BEGINNING OF THE DAYS WORK AND SHALL REMAIN IN PLACE UNTIL THE LOOSE GRAVEL HAS BEEN SWEEPED OFF.
13. SIGN SIZES SHOWN ARE FOR TYPICAL SITUATIONS- REFER TO NEBRASKA SUPPLEMENT TO THE MUTCD FOR FURTHER SIZE INFORMATION.
14. REFER TO STANDARD PLAN 920 FOR GENERAL INFORMATION NOT SHOWN.
15. A MINIMUM OF 7-36" OR 42" CONES SHALL BE PLACED ON CENTERLINE IN ADVANCE OF THE TEMPORARY SIGNAL. THE CONES SHOULD BE SPACED AT 250 FEET.

**LEGEND**

- FLAGGER
- REFLECTORIZED PLASTIC DRUM
- REFLECTORIZED PLASTIC DRUM OR 42" CONE
- TYPE III BARRICADE
- SINGLE POSTED SIGN
- DOUBLE POSTED SIGN
- TRAFFIC SIGNAL

**TAPER FORMULA**

$L = S \times W$  FOR SPEEDS OF 45 MPH OR MORE.

$L = \frac{WS^2}{60}$  FOR SPEEDS OF 40 MPH OR LESS.

WHERE:  
 L = MINIMUM LENGTH OF TAPER.  
 S = NUMERICAL VALUE OF POSTED SPEED LIMIT PRIOR TO WORK.  
 W = WIDTH OF OFFSET (LANE WIDTH).

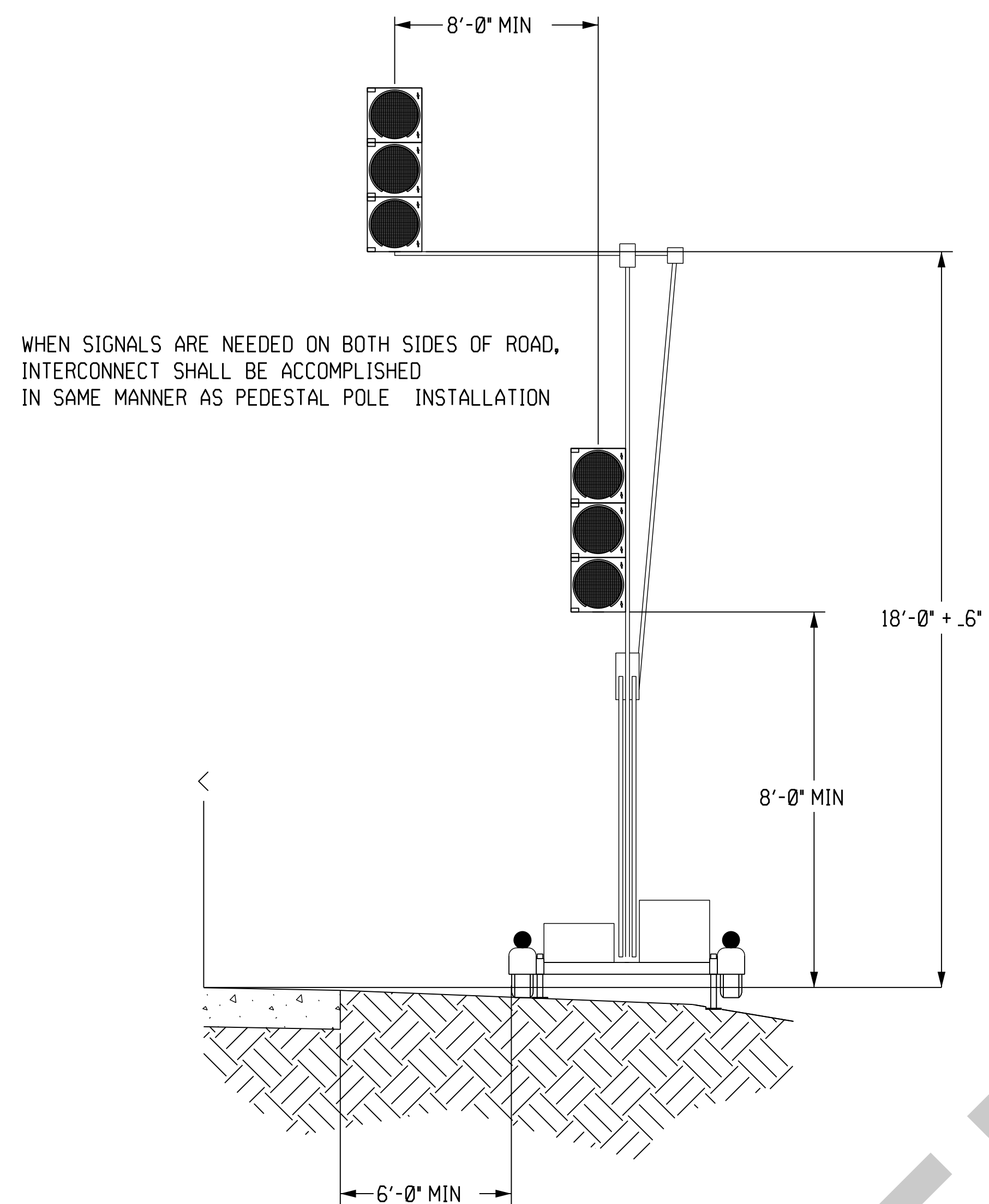
- FRESH OIL  
W21-2-36
- REDUCE SPEED LOOSE GRAVEL ON SURFACE  
W8-7C-48
- MILLED SURFACE  
W41-24-36
- LOOSE GRAVEL  
W8-7-36  
WHERE REQUIRED BY THE ENGINEER

**TABLE A: TEMPORARY TRAFFIC SIGNAL TIMING**

RECOMMENDED SETTINGS (SEC.)	DISTANCE BETWEEN "STOP HERE ON RED" SIGN LOCATIONS (FT)	ALL RED (SEC.)
INITIAL GREEN - 15	500' - 700'	19
EXTENSION - 2.5	700' - 850'	24
MAX. GREEN - 45	850' - 1,000'	28
YELLOW - 5	1,000' - 1,250'	34
	1,250' - 1,500'	41

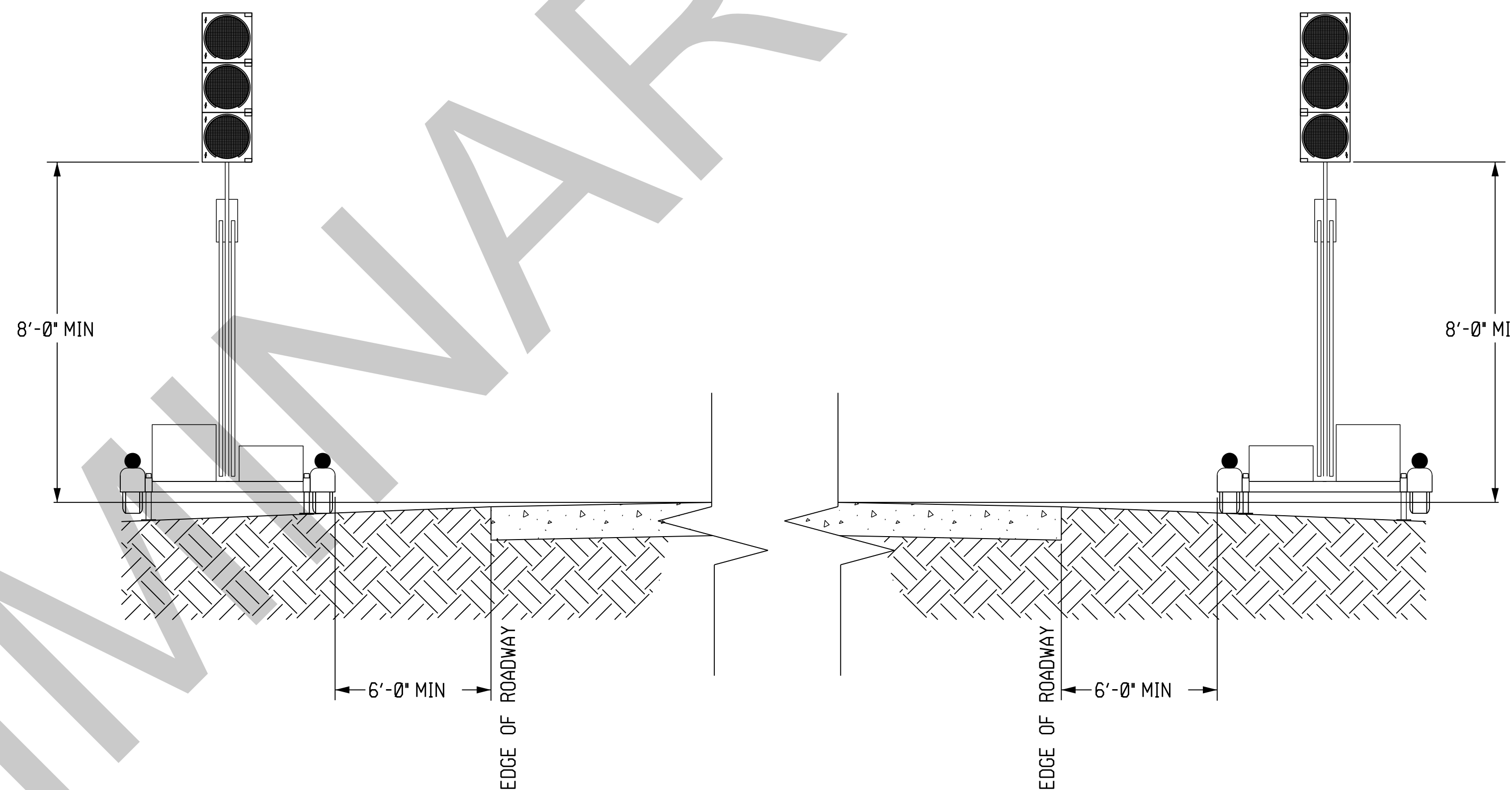
ADDITIONAL SIGNS  
USE WHERE APPLICABLE

### PORTABLE SIGNAL TRAILER (MULTI SIGNAL UNIT) INSTALLATION



WHEN SIGNALS ARE NEEDED ON BOTH SIDES OF ROAD,  
INTERCONNECT SHALL BE ACCOMPLISHED  
IN SAME MANNER AS PEDESTAL POLE INSTALLATION

### PORTABLE SIGNAL TRAILER (SINGLE SIGNAL UNIT) INSTALLATION

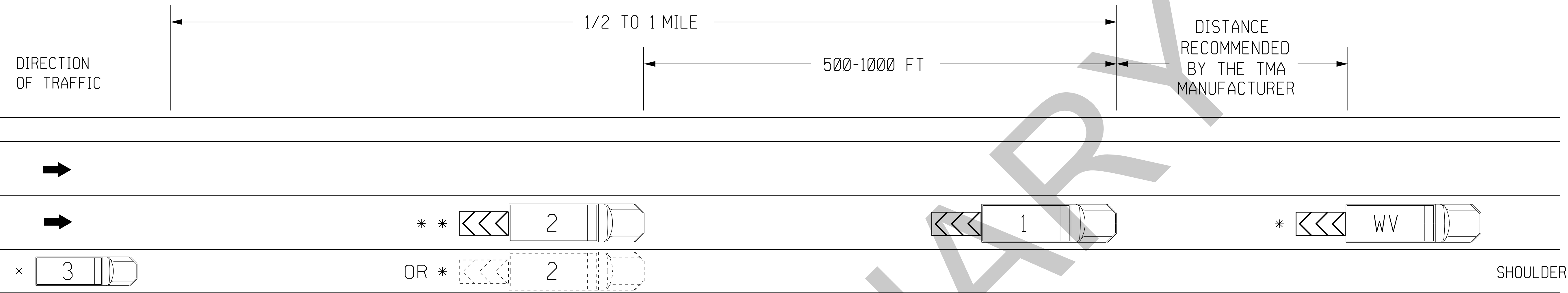


#### NOTES

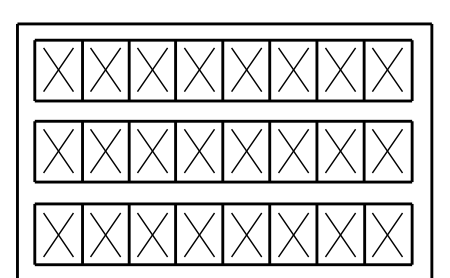
1. THE CONTRACTOR SHALL FURNISH ALL EQUIPMENT AND MATERIAL REQUIRED FOR THE TEMPORARY SIGNAL UNLESS OTHERWISE SPECIFIED. ALL EQUIPMENT AND MATERIAL FURNISHED BY THE CONTRACTOR SHALL REMAIN HIS PROPERTY.
2. ANY STATE SUPPLIED EQUIPMENT OR MATERIAL SHALL REMAIN THE PROPERTY OF THE STATE OF NEBRASKA.
3. THE SIGNAL HEAD LENSES SHALL BE A MINIMUM OF 12 INCHES IN DIAMETER.
4. ALL SIGNAL LAMPS SHALL BE EXTENDED ANGLE LED.
5. MAINTENANCE OF THE TEMPORARY SIGNAL SHALL BE THE FULL RESPONSIBILITY OF THE CONTRACTOR.
6. TRAFFIC SIGNALS POWERED BY MEANS OF A PORTABLE GENERATOR SHALL HAVE STANDBY BATTERY POWER CAPABLE OF OPERATING THE SIGNAL NOT LESS THAN 26 HOURS. PORTABLE TRAFFIC SIGNALS SHALL BE CHECKED EVERY 24 HOURS TO INSURE PROPER OPERATION.
7. THE SIGNAL SHALL BE PLACED INTO FLASHING AMBER OPERATION FOR BOTH DIRECTIONS DURING PERIODS WHEN THE LANE ARE OPEN TO TWO-WAY TRAFFIC. UNDER NO CIRCUMSTANCES SHALL AN INOPERATIVE TRAFFIC SIGNAL BE LEFT UNCOVERED ON AN OPEN ROAD TO THE PUBLIC.
8. INSTALLATION OF THE TEMPORARY SIGNAL SHALL BE IN COMPLIANCE WITH THE NATIONAL ELECTRIC CODE (LATEST EDITION), THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, ALL LOCAL ORDINANCES AND REGULATIONS, THE SPECIFICATIONS AND THE PROJECT PLANS.
9. SEE SIGNING STANDARD FOR REQUIRED SIGNING TO ACCOMPANY SIGNAL.
10. WHEN REQUIRED, THE CONTRACTOR SHALL FURNISH ALL EQUIPMENT AND MATERIAL REQUIRED FOR VEHICLE DETECTION ON ALL APPROACHES.

# MOBILE OPERATIONS ON RURAL MULTI-LANE ROADWAY

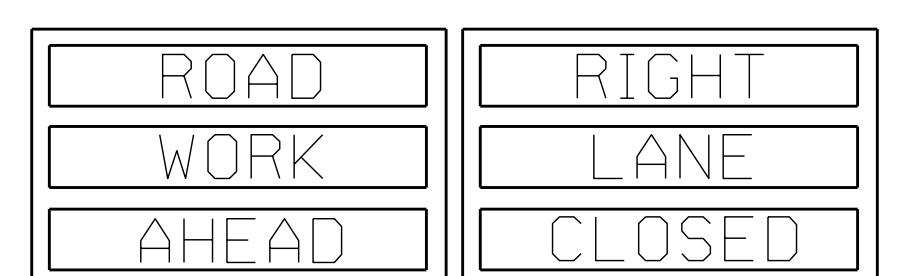
**M4**  
Project Number  
11-4(116)  
C.N. 80952



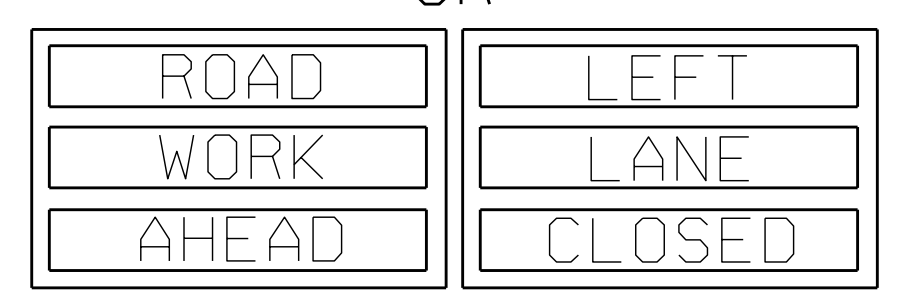
SHADOW VEHICLE 3  
& PORTABLE DYNAMIC MESSAGE SIGN  
WITH 2-360° BEACONS OR  
APPROVED MINI-BAR LIGHT  
\* TMA OPTIONAL



PORTABLE DYNAMIC MESSAGE SIGN

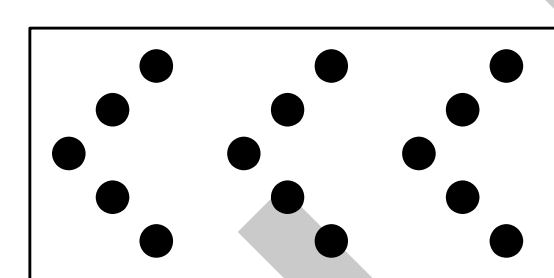


-OR-



TWO MESSAGES (1.6 - 2.0 SECONDS PER MESSAGE)

OPTIONAL SHADOW VEHICLE 2  
& FLASHING ARROW PANEL ON REAR  
WITH 2-360° BEACONS OR  
APPROVED MINI-BAR LIGHT  
\* TMA OPTIONAL IF COMPLETELY ON  
SHOULDER AND NOT STRADDLING EDGE LINE.  
\* \* TMA REQUIRED IF STRADDLING EDGE  
LINE OR IN CLOSED LANE.

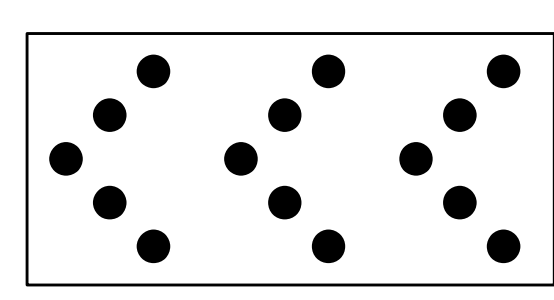


FLASHING ARROW PANEL ON REAR

### TRUCK MOUNTED ATTENUATOR SYSTEM:

1. THE CONTACTOR SHALL FURNISH A FEDERALLY APPROVED TRUCK MOUNTED ATTENUATOR SYSTEM, MOUNTED ON A MINIMUM 16,000 POUND TRUCK. THE TRUCK SHALL BE EQUIPPED WITH 60" X 30" FLASHING ARROW PANEL, SECURLY MOUNTED ON THE TRUCK. THE TMA SYSTEM SHALL BE LOCATED IN THE FIELD AS REQUIRED BY THE MANUFACTURER. A COMPLETE SET OF REPLACEMENT MODULES SHALL BE AVAILABLE NEAR THE PROJECT SITE IN THE EVENT OF DAMAGE TO THE INSTALLED TMA. DAMAGED TMA'S SHALL BE REMOVED FROM THE ROADWAY AND PROJECT WORK STOPPED UNTIL REPAIRS TO THE UNIT HAVE BEEN COMPLETED.
2. THE TRUCK MOUNTED ATTENUATOR SHALL BE AN NCHRP 350 TEST LEVEL 3 (OR MASH EQUIVALENT) APPROVED TMA FOR 100 km PER HOUR (60 MPH).
3. THE TRUCK SHALL BE A 16,000 TO 35,000 POUND (GVW) VEHICLE AS REQUIRED BY THE TMA MANUFACTURER.
4. THE FLASHING ARROW PANEL SHALL BE SECURLY MOUNTED AS HIGH AS PRACTICABLE ON THE VEHICLE. THE ARROW PANEL SHALL NOT COME LOOSE UPON IMPACT TO THE TMA.

SHADOW VEHICLE 1 WITH TMA  
& FLASHING ARROW PANEL ON REAR  
WITH 2-360° BEACONS OR  
APPROVED MINI-BAR LIGHT



FLASHING ARROW PANEL ON REAR

WORKING VEHICLE(S)  
WITH 2-360° BEACONS OR  
APPROVED MINI-BAR LIGHT  
\* TMA OPTIONAL

### NOTES:

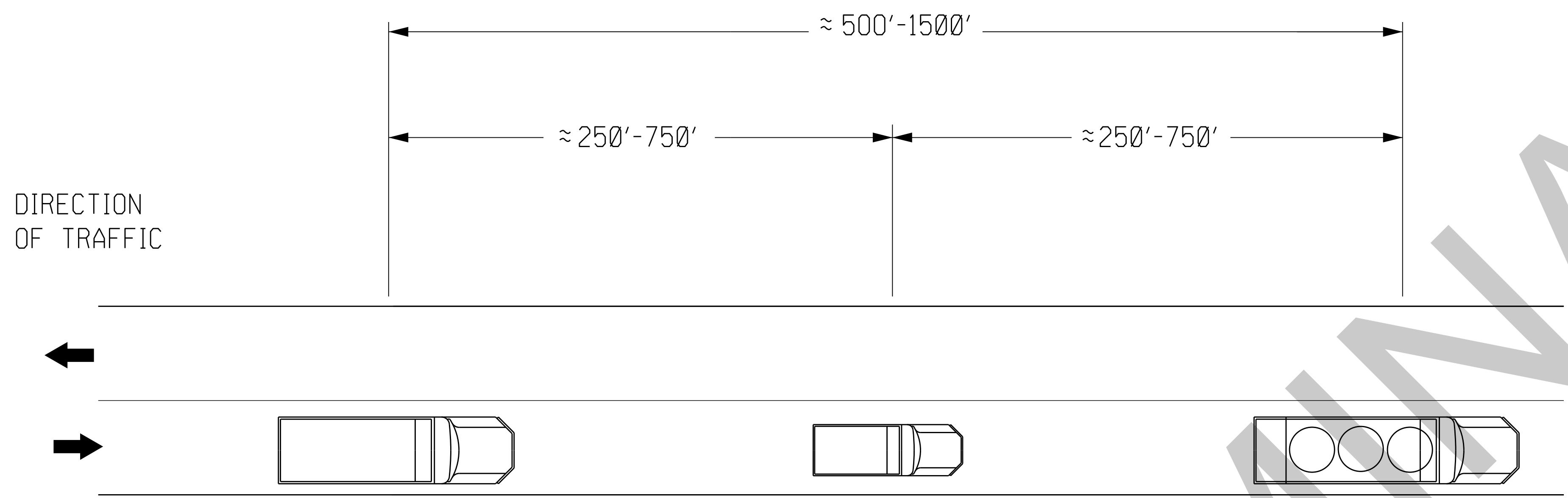
1. SHADOW VEHICLE 1 SHALL HAVE A TRUCK MOUNTED ATTENUATOR. SHADOW VEHICLE 2 IS OPTIONAL AND SHALL HAVE A TRUCK-MOUNTED ATTENUATOR IF IN THE CLOSED LANE OR STRADDLING THE EDGE LINE. SHADOW VEHICLE 3 MAY HAVE A TMA.
2. SHADOW VEHICLE 1 AND WHEN USED, SHADOW VEHICLE 2 SHALL HAVE A FLASHING ARROW PANEL.
3. SHADOW VEHICLE NUMBER 3 SHALL HAVE A PORTABLE DYNAMIC MESSAGE SIGN.
4. WHEN USED, SHADOW VEHICLE 2 SHALL BE PLACED IN ADVANCE OF HORIZONTAL OR VERTICAL CURVES TO PROVIDE ADVANCE WARNING FOR WORK OPERATIONS HIDDEN BY CURVES.
5. FOR LEFT LANE CLOSURES, SHADOW VEHICLE 3 WILL REMAIN ON RIGHT SHOULDER WHEN AN 8' OR WIDER PAVED INSIDE (LEFT) SHOULDER DOES NOT EXIST.
6. IN URBAN AREAS THE DISTANCE MAINTAINED BETWEEN VEHICLES MAY BE DECREASED AS NEEDED.
7. VEHICLE HAZARD LIGHT WARNING SIGNALS SHALL NOT BE USED INSTEAD OF THE VEHICLE'S HIGH-INTENSITY ROTATING, FLASHING OSCILLATING, OR STROBE LIGHTS.
8. DETAIL MAY BE USED FOR LEFT OR RIGHT LANE/SHOULDER WORK.

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MOBILE OPERATIONS  
TWO-LANE AND MULTI-LANE  
DESIGNED BY NRL  
DATE 12/22  
NEBRASKA DEPARTMENT OF TRANSPORTATION - TRAFFIC ENGINEERING DIVISION

PLAN SHEET NUMBER  
1 / 2

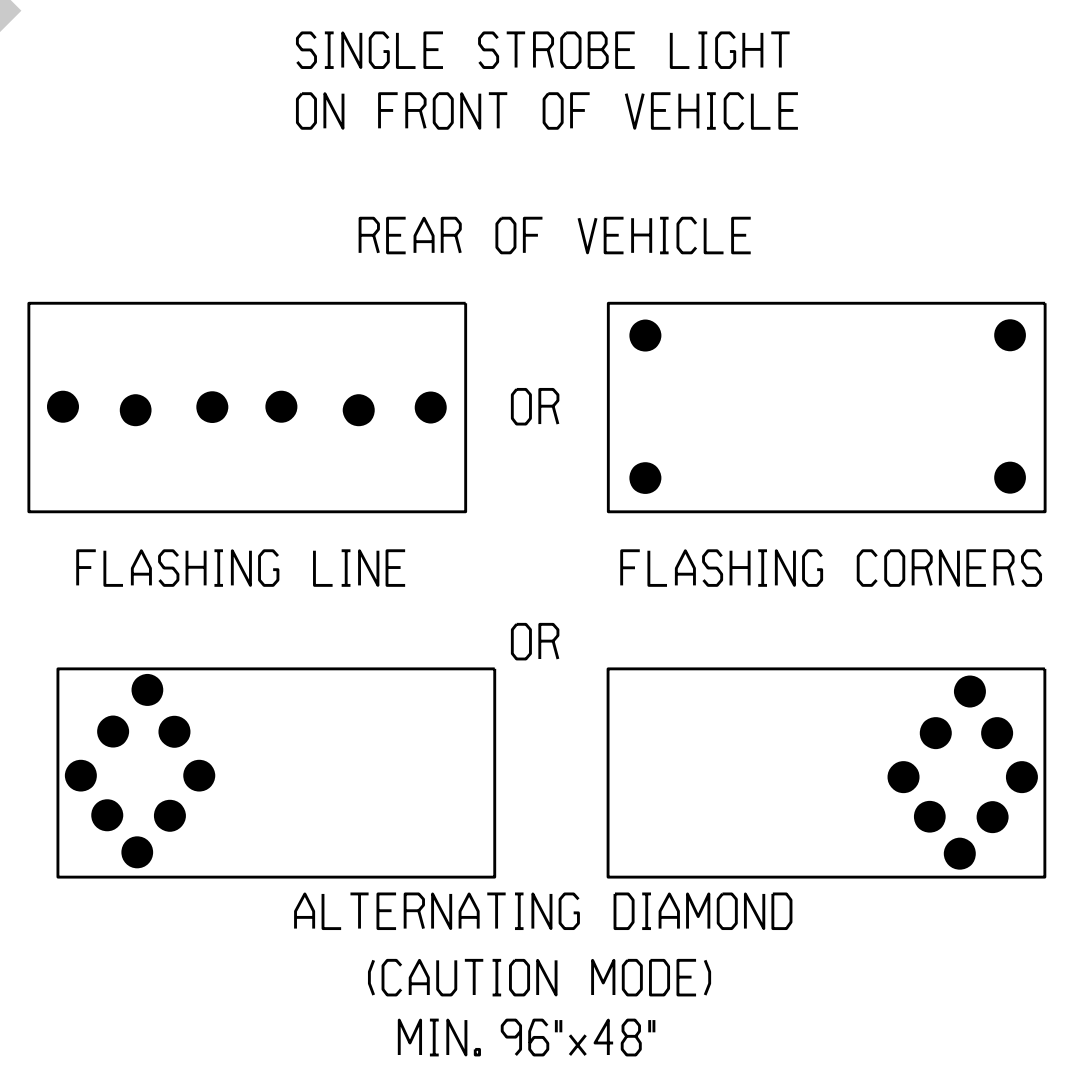
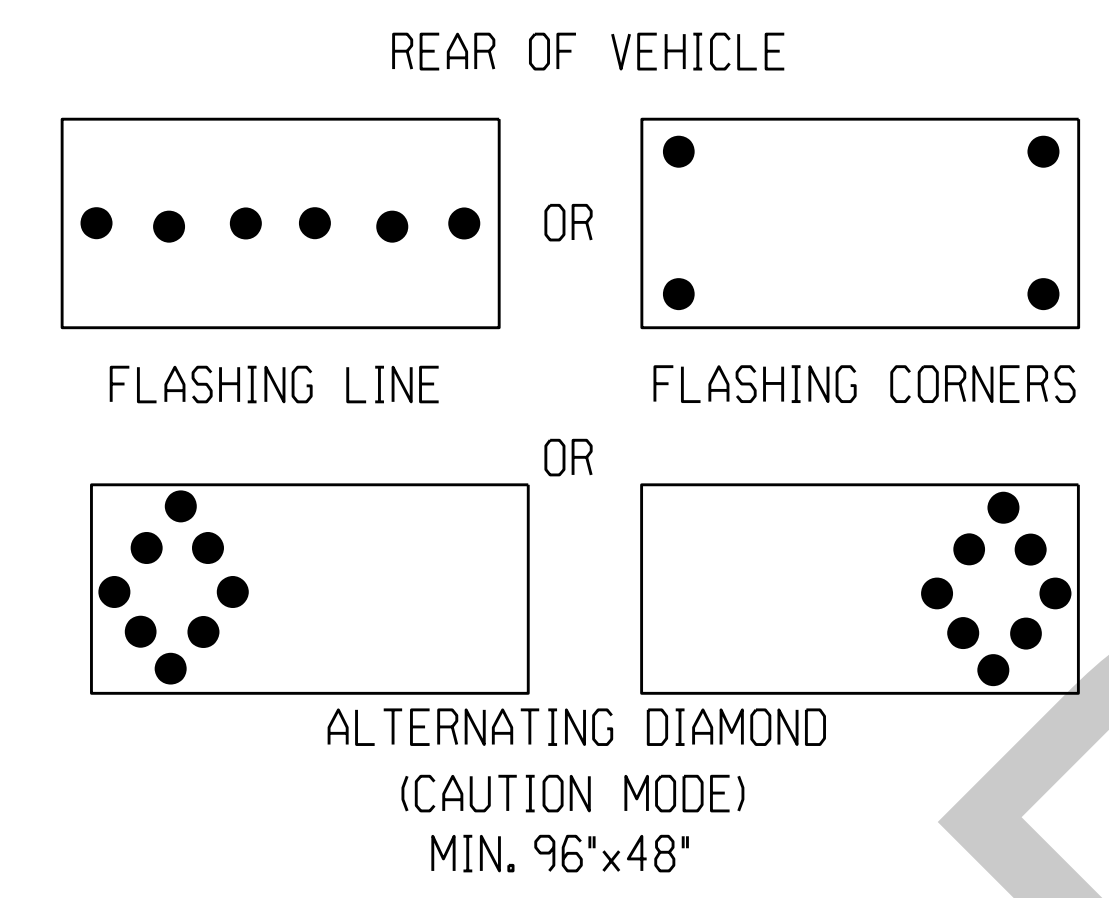
# MOBILE OPERATIONS RURAL TWO-LANE TWO-WAY ROADS



REAR VEHICLE  
WITH 2 HIGH INTENSITY  
FLASHING LIGHTS  
MOUNTED ON THE REAR  
AND 2-360° BEACONS OR  
APPROVED MINI-BAR LIGHT  
(TMA OPTIONAL)

OPTIONAL VEHICLE  
WITH 2-360° BEACONS OR  
APPROVED MINI-BAR LIGHT

WORK VEHICLE  
WITH 4 HIGH INTENSITY  
FLASHING LIGHTS MOUNTED  
ON REAR AND 2-360°  
BEACONS OR APPROVED  
MINI-BAR LIGHT



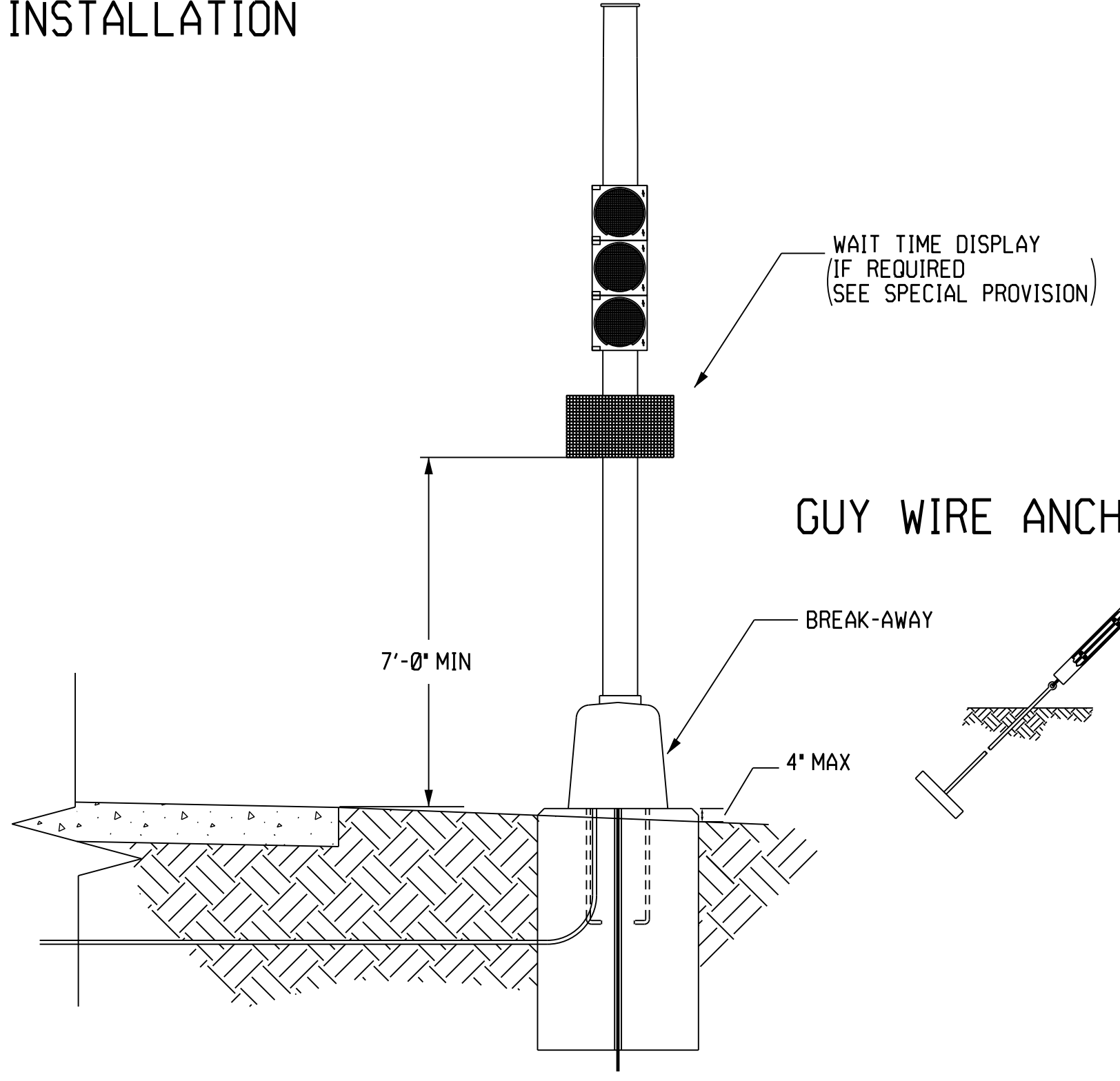
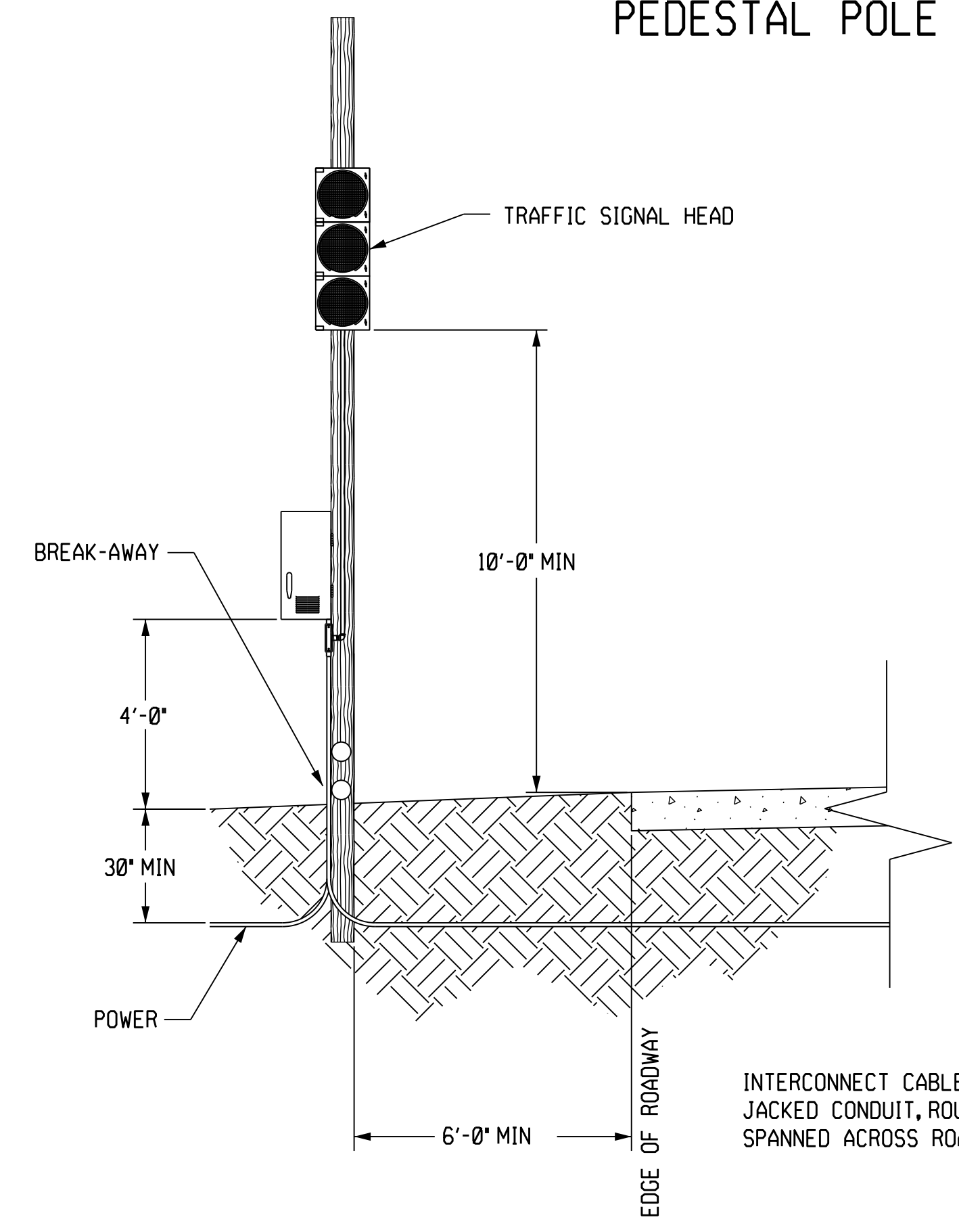
### NOTES:

1. CAUTION MODE ON WORK VEHICLE AND REAR VEHICLE SHALL BE ALTERNATING DIAMOND OR THE FLASHING 4 CORNER LIGHTS IF THE DIAMOND MODE IS NOT AVAILABLE.
2. REAR VEHICLE SHALL BE PLACED IN ADVANCE OF HORIZONTAL OR VERTICAL CURVES TO PROVIDE ADVANCE WARNING FOR WORK OPERATIONS HIDDEN BY CURVES.

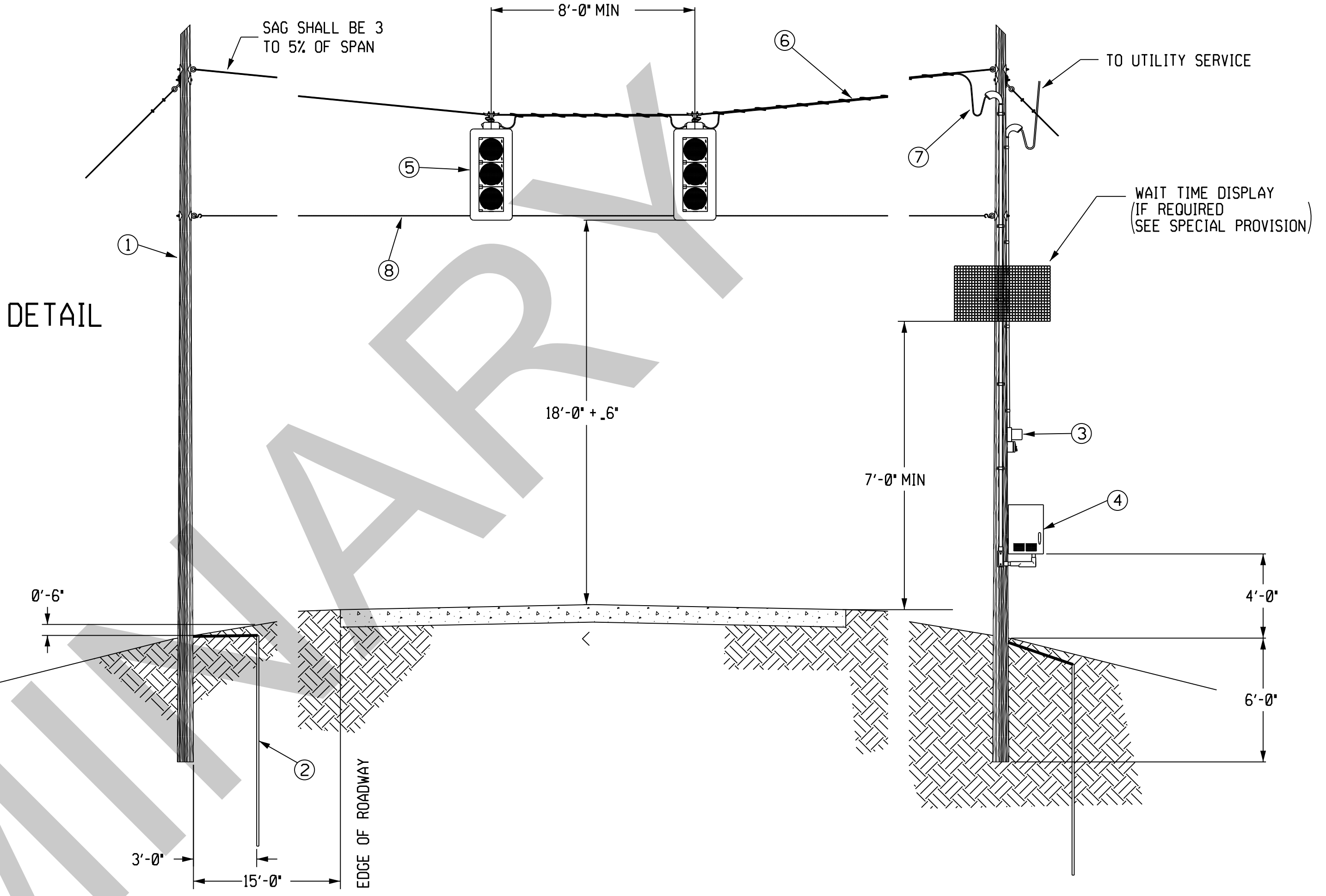
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MOBILE OPERATIONS  
TWO-LANE AND MULTI-LANE  
DESIGNED BY NRI  
DATE 12/22  
NEBRASKA DEPARTMENT OF TRANSPORTATION - TRAFFIC ENGINEERING DIVISION

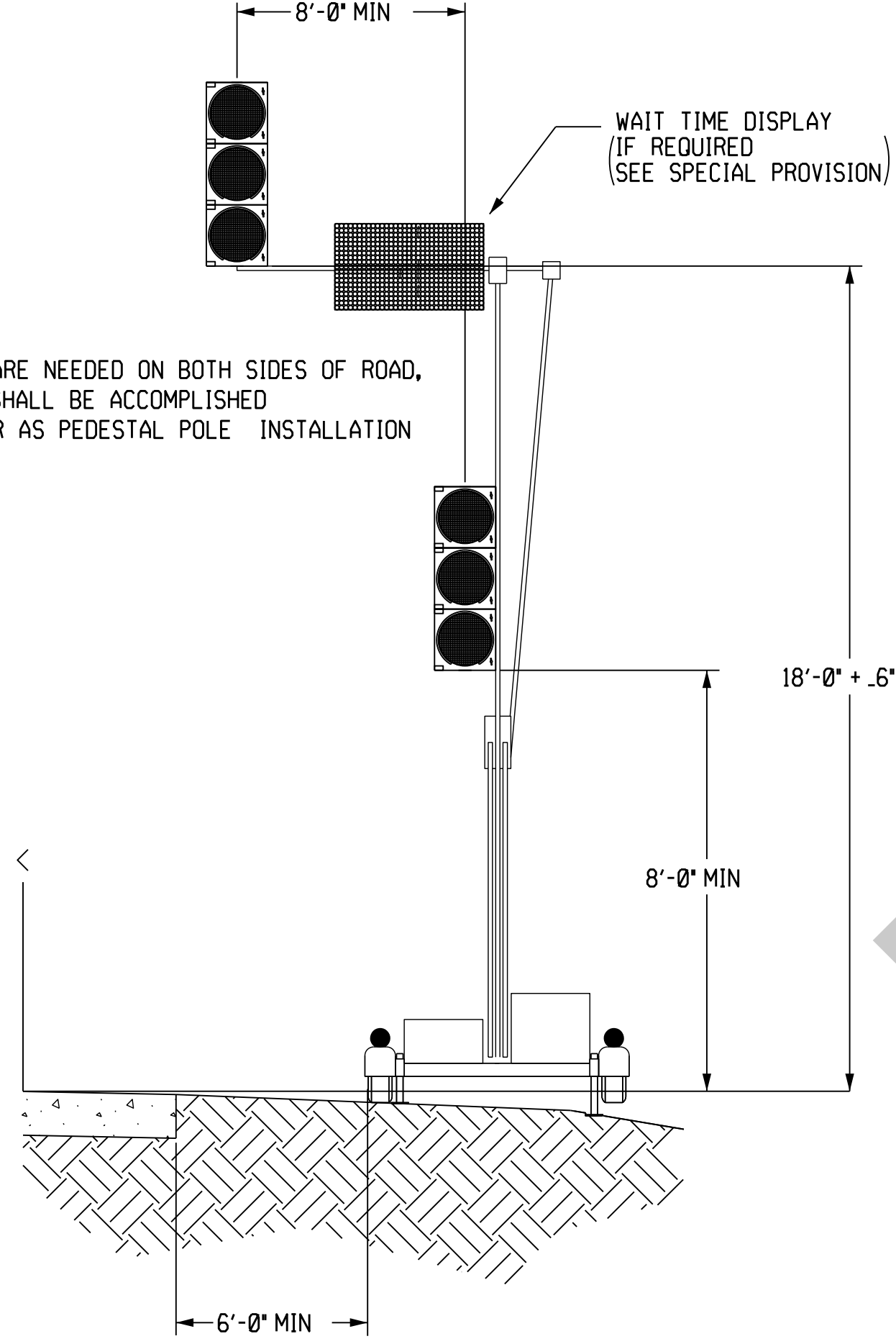
PEDESTAL POLE INSTALLATION



SPAN WIRE INSTALLATION



PORTABLE SIGNAL



NOTES

1. THE LOCATIONS OF ALL AERIAL AND UNDERGROUND UTILITY FACILITIES MAY NOT BE INDICATED IN THESE PLANS, UNDERGROUND UTILITIES, WHETHER INDICATED OR NOT WILL BE LOCATED AND FLAGGED BY THE UTILITIES AT THE REQUEST OF THE CONTRACTOR. NO EXCAVATION WILL BE PERMITTED IN THE AREA OF UNDERGROUND UTILITY FACILITIES UNTIL ALL SUCH FACILITIES HAVE BEEN LOCATED AND IDENTIFIED TO THE SATISFACTION OF ALL PARTIES. THE EXCAVATION MUST BE ACCOMPLISHED WITH EXTREME CARE IN ORDER TO AVOID ANY POSSIBILITY OF DAMAGE TO THE UTILITY FACILITY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING ALL AERIAL AND UNDERGROUND UTILITIES AND CONSTRUCTIONS.
2. THE CONTRACTOR SHALL FURNISH ALL EQUIPMENT AND MATERIAL REQUIRED FOR THE TEMPORARY SIGNAL UNLESS OTHERWISE SPECIFIED. ALL EQUIPMENT AND MATERIAL FURNISHED BY THE CONTRACTOR SHALL REMAIN HIS PROPERTY.
3. ANY STATE SUPPLIED EQUIPMENT OR MATERIAL SHALL REMAIN THE PROPERTY OF THE STATE OF NEBRASKA.
4. THE SIGNAL HEAD LENSES SHALL BE A MINIMUM OF 12 INCHES IN DIAMETER.
5. ALL SIGNAL LAMPS SHALL BE EXTENDED ANGLE LED.
6. MAINTENANCE OF THE TEMPORARY SIGNAL SHALL BE THE FULL RESPONSIBILITY OF THE CONTRACTOR.
7. TRAFFIC SIGNALS POWERED BY MEANS OF A PORTABLE GENERATOR SHALL HAVE STANDBY BATTERY POWER CAPABLE OF OPERATING THE SIGNAL NOT LESS THAN 26 HOURS. PORTABLE TRAFFIC SIGNALS SHALL BE CHECKED EVERY 24 HOURS TO INSURE PROPER OPERATION.
8. SIGNAL POLE LOCATIONS SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER UNLESS THE EXACT PLACEMENT IS NOTED IN THE PLANS.
9. THE TIMING OF THE SIGNAL CYCLE SHALL BE DETERMINED BY THE NDOT TRAFFIC ENGINEERING DIVISION. FOR THE SPECIFIC INSTALLATION, CALL TRAFFIC ENGINEERING DIVISION AT 402-479-4594. HAVE THE FOLLOWING INFORMATION READY WHEN YOU CALL. PROJECT NAME, CONTROL NUMBER, DISTANCE BETWEEN STOP BARS, NUMBER OF SIDE STREET SIGNALS AND ADT FOR HIGHWAYS. TIMING SHOULD BE REQUESTED ONE WEEK PRIOR TO INSTALLATION TO AVOID UNEXPECTED PROJECT DELAYS.

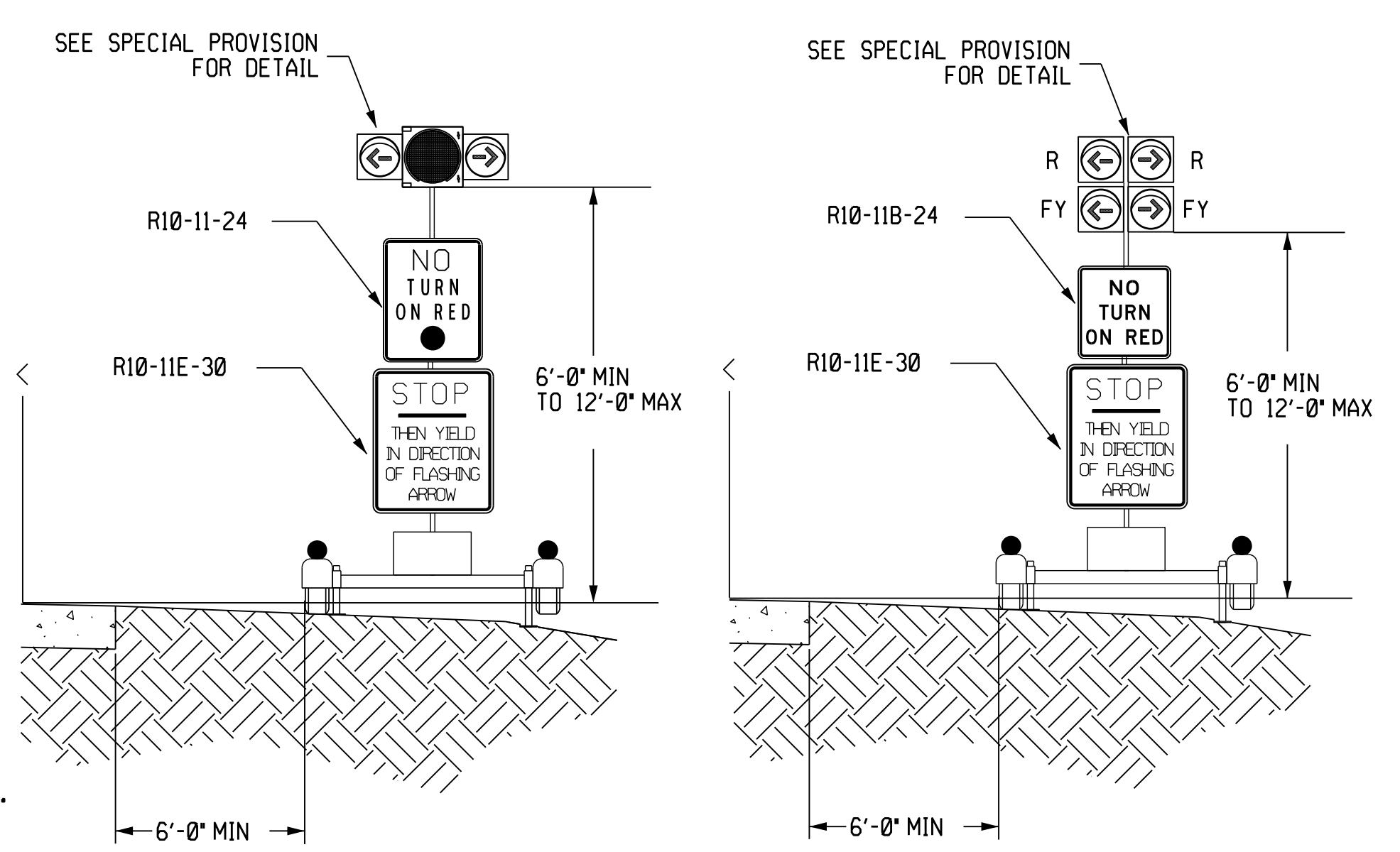
ITEM NO.	DESCRIPTION
1	CLASS IV BUTT TREATED WOOD POLE W/DOWN GUYS
2	5/8" X 10' COPPERWELD GROUND ROD
3	METER SOCKET (IF REQ'D BY UTILITY)
4	CONTROLLER CABINET
5	TRAFFIC SIGNAL W/BACKPLATE
6	3/8" HIGH STRENGTH 7 STRAND WIRE ROPE
7	600 VOLT NO.12 AWG 5/C TRAFFIC SIGNAL CABLE
8	1/4" SIEMANS MARTIN 7 STRAND WIRE ROPE

\* CONTRACTOR SHALL FURNISH A SOLID STATE DIGITAL CONTROLLER WITH A PROGRAMMING MANUAL.

SIGNAL	APPROXIMATE LOCATION OF TEMP TRAFFIC SIGNAL
1	S011 17131
2	FLUME/UNDERDRAIN RECON. STA 1184+36 TO 1187+18
3	
4	
5	

10. THE SIGNAL SHALL BE PLACED INTO FLASHING AMBER OPERATION FOR BOTH DIRECTIONS DURING PERIODS WHEN THE BRIDGE IS OPEN TO TWO-WAY TRAFFIC. UNDER NO CIRCUMSTANCES SHALL AN INOPERATIVE TRAFFIC SIGNAL BE LEFT UNCOVERED ON AN OPEN ROAD TO THE PUBLIC.
11. INSTALLATION OF THE TEMPORARY SIGNAL SHALL BE IN COMPLIANCE WITH THE NATIONAL ELECTRIC CODE (LATEST EDITION), THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, ALL LOCAL ORDINANCES AND REGULATIONS, THE SPECIFICATIONS AND THE PROJECT PLANS.
12. THE TRAFFIC SIGNAL SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE FOR THE ITEM 'TEMPORARY TRAFFIC SIGNAL' OR 'TEMPORARY TRAFFIC SIGNAL WITH WAIT TIME DISPLAY'. THIS PRICE SHALL BE FULL COMPENSATION FOR FURNISHING, INSTALLING, MAINTAINING AND REMOVING THE COMPLETE TEMPORARY SIGNAL.
13. SEE SIGNING STANDARD FOR REQUIRED SIGNING TO ACCOMPANY SIGNAL.
14. WHEN REQUIRED, THE CONTRACTOR SHALL FURNISH ALL EQUIPMENT AND MATERIAL REQUIRED FOR VEHICLE DETECTION ON ALL APPROACHES.

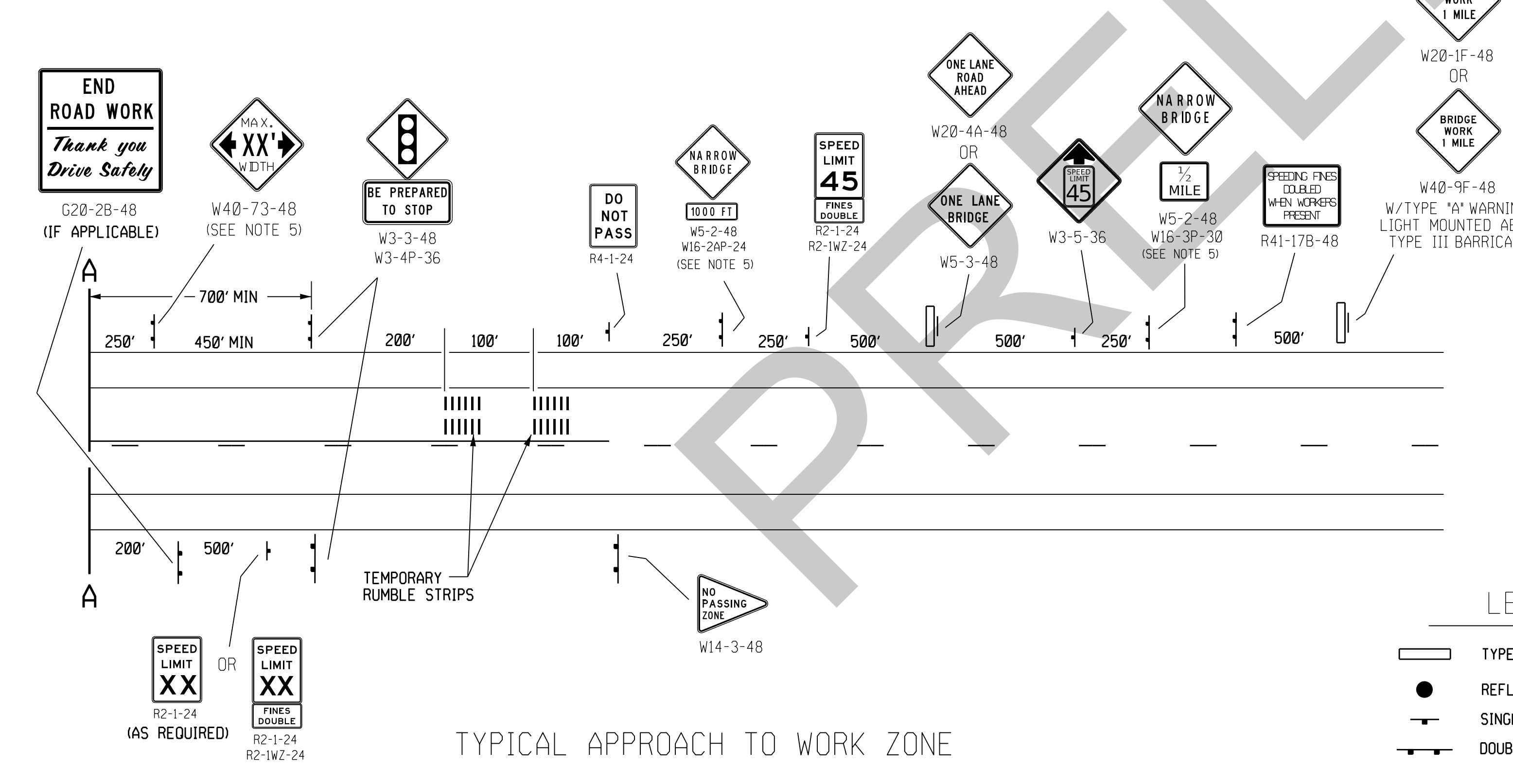
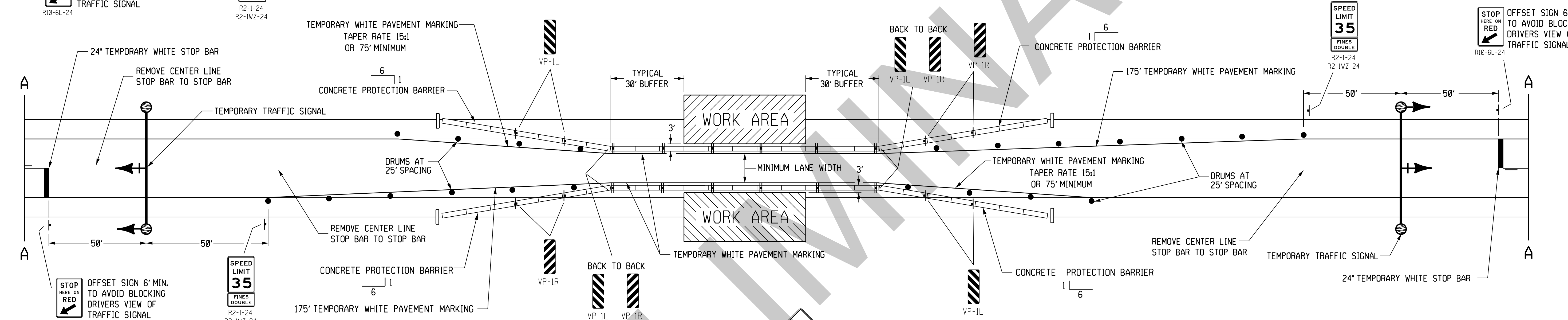
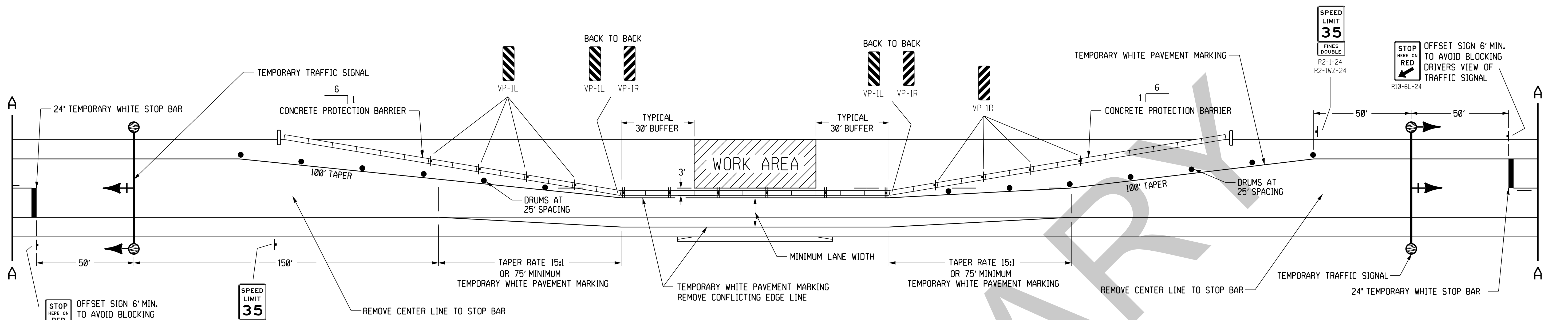
DRIVEWAY ASSISTANCE DEVICE



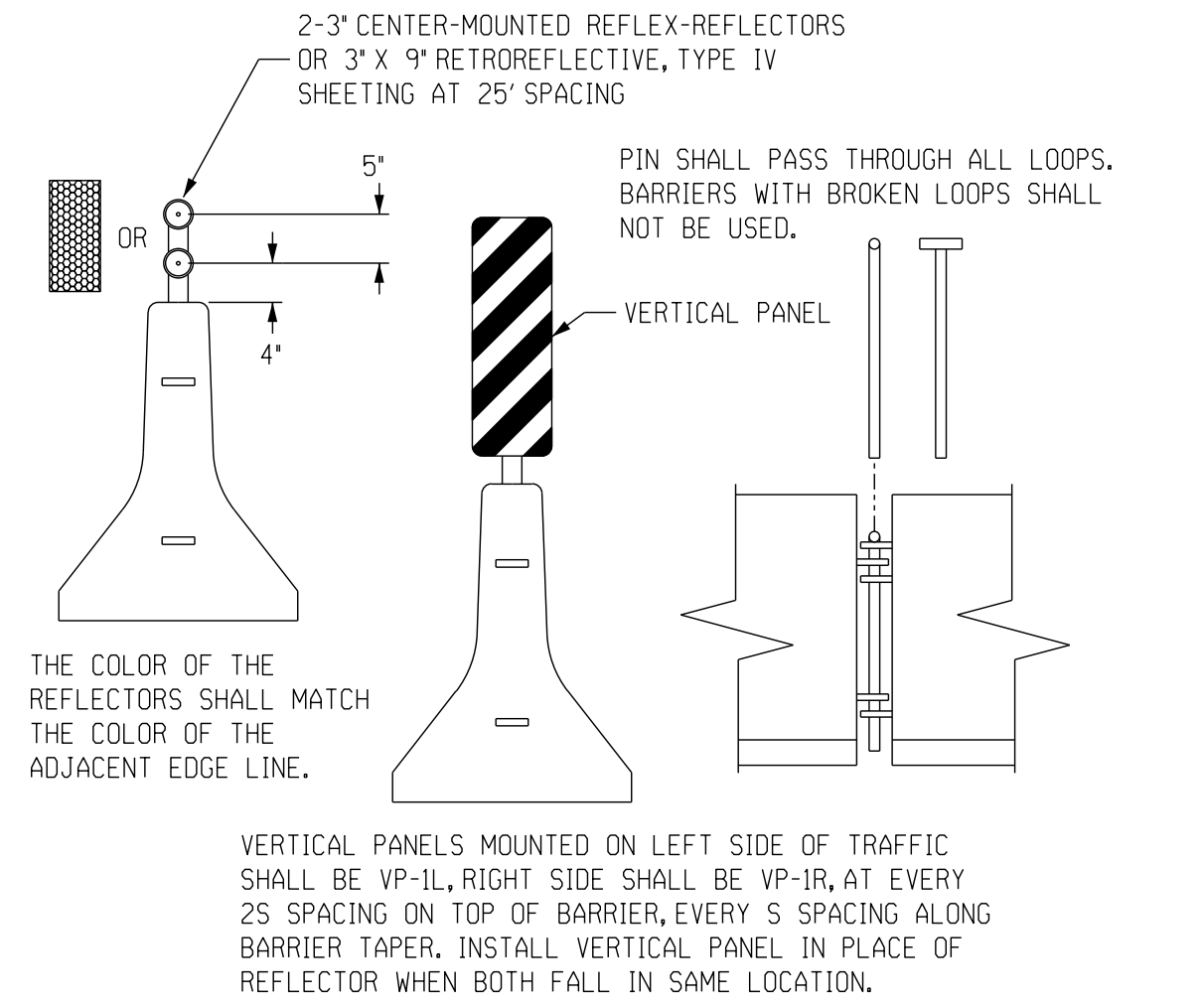
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CONCRETE PROTECTION BARRIER DETAIL



- NOTES
1. THE CONTRACTOR SHALL FURNISH REFLECTORS, VERTICAL PANELS AND A BRACKET TO SUPPORT THEM IN A STABLE POSITION ON THE CONCRETE BARRIERS. THE BRACKET SHALL BE CONSTRUCTED OF MATERIAL THAT MAY BEND, BUT NOT COME LOOSE IF STRUCK BY A PASSING VEHICLE.
  2. CONCRETE PROTECTION BARRIERS SHOULD EXTEND TO EDGE OF PAVEMENT. NO EQUIPMENT OR CONSTRUCTION MATERIAL IS TO BE PLACED IN FRONT OF THE PROTECTION BARRIERS AT ANY TIME. IF BARRIERS ARE REQUIRED TO BE MOVED FOR WORK ACCESS THEY SHALL BE REPOSITIONED BACK EACH NIGHT. AT NO TIME WILL A BLUNT END OF THE BARRIER BE ALLOWED IN THE TRAVEL LANE OF APPROACHING TRAFFIC.
  3. REFLECTORS USED FOR WORK ZONE TRAFFIC CONTROL SHALL BE SUBSIDIARY TO OTHER TRAFFIC CONTROL DEVICES.
  4. MINIMUM WIDTH OF TRAVELED LANE SHALL BE DETERMINED BY THE ENGINEER.
  5. INSTALL WHEN LANE WIDTH ACROSS IS LESS THAN APPROACH LANE WIDTH.
  6. SIGNS R41-17B-48, W20-1F-48 AND W40-9F-48 ARE NOT REQUIRED IF INSTALLED ON THE PROJECT IN ADVANCE OF THIS WORK SITE.

LEGEND

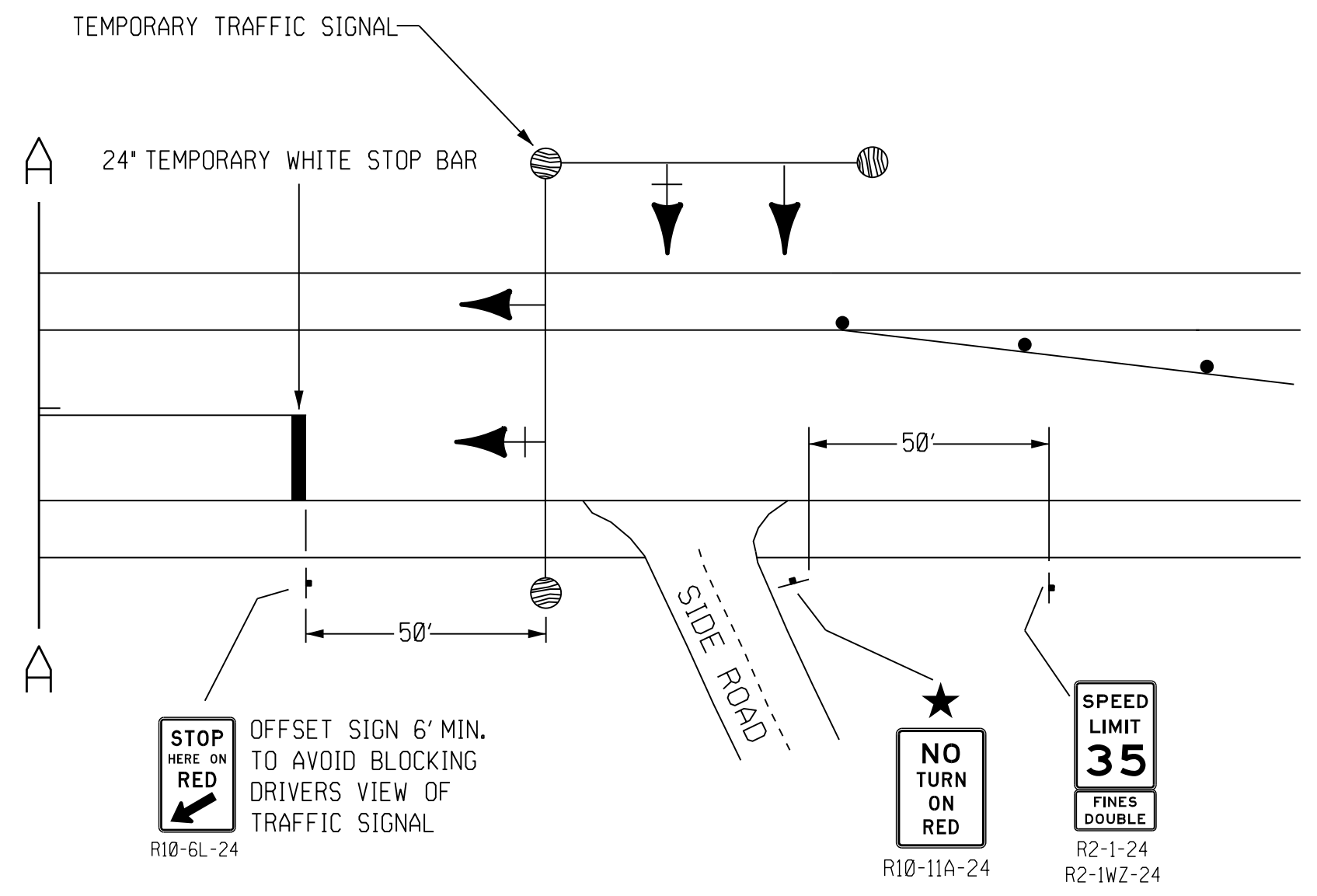
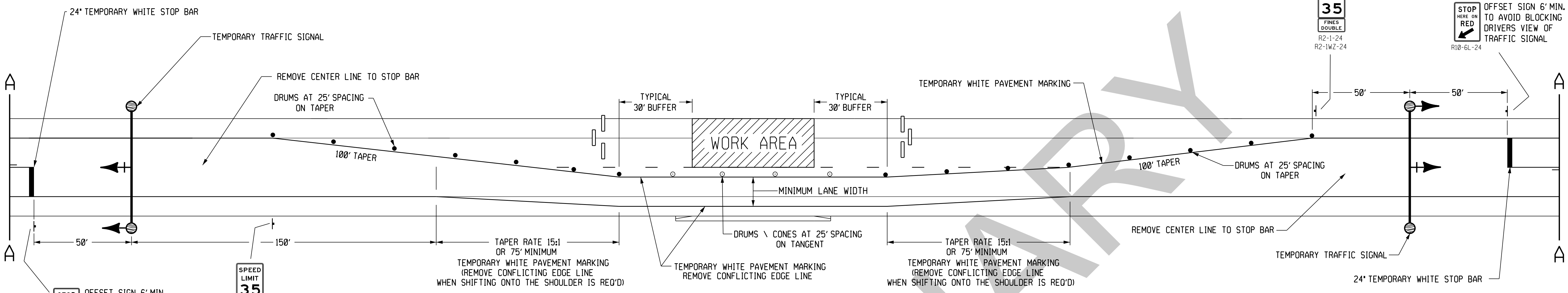
- TYPE III BARRICADE
- REFLECTORIZED PLASTIC DRUM
- SINGLE POST SIGN
- DOUBLE POST SIGN

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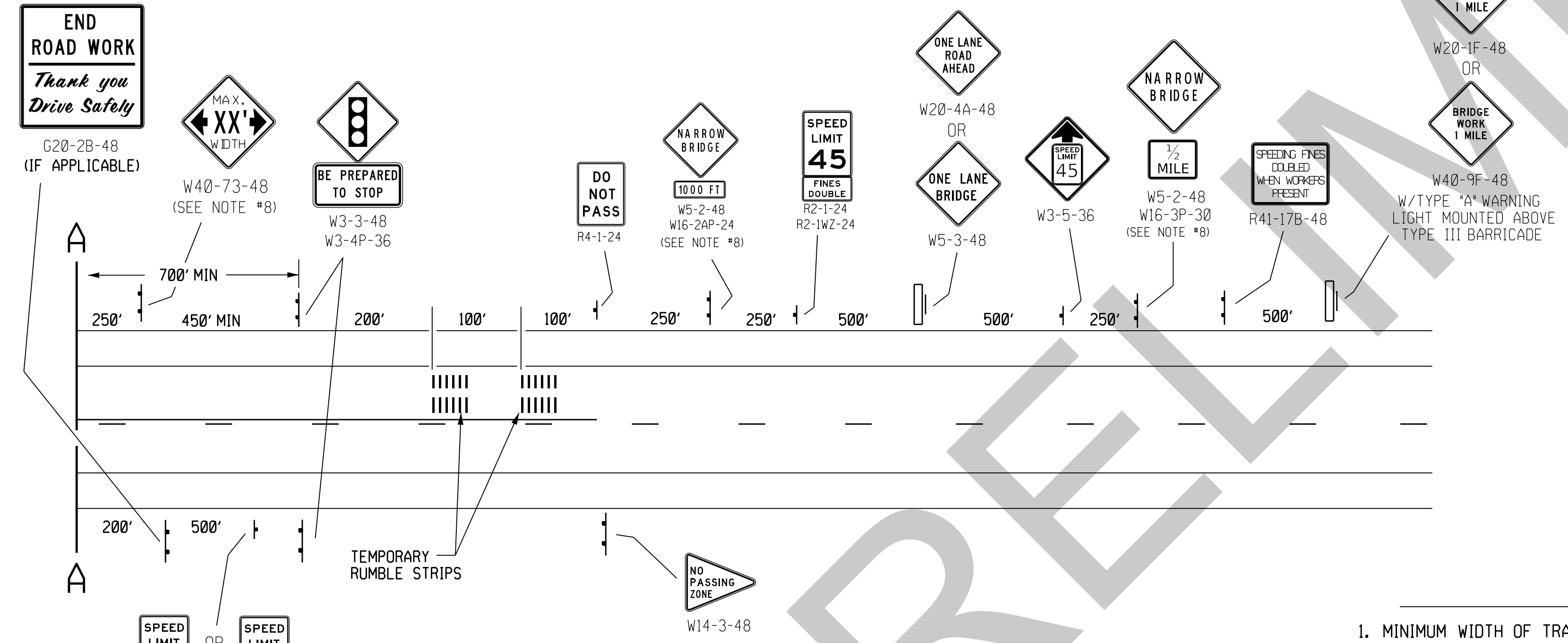
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TYPICAL APPROACH TO WORK ZONE



TYPICAL APPROACH TO WORK ZONE FROM SIDE ROAD



TYPICAL APPROACH TO WORK ZONE

NOTES

1. MINIMUM WIDTH OF TRAVELED LANE SHALL BE DETERMINED BY THE ENGINEER.
2. SIGNS R41-17B-48, W20-1F-48 AND W40-9F-48 ARE NOT REQUIRED IF INSTALLED ON THE PROJECT IN ADVANCE OF THIS WORK SITE.
3. WHEN THE CONTRACTOR IS ACTIVELY WORKING ON THE BRIDGE, THE CONTRACTOR AT THEIR EXPENSE MAY TURN THE TRAFFIC SIGNAL TO RED FLASH AND PROVIDE FLAGGERS TO CONTROL TRAFFIC. ADVANCE FLAGGER SIGN (W20-7-48) SHALL BE INSTALLED OVER THE SIGNAL AHEAD SIGN.
- ★ 4. MINIMUM 7' MOUNTING HEIGHT.
5. MIRROR PAVEMENT MARKINGS, REFLECTORIZED PLASTIC DRUM, AND SIGN PLACEMENTS WHEN WORK AREA IS ON THE OPPOSITE SIDE OF THE ROAD/BRIDGE.
6. ALL BARRICADE AND SIGN LOCATIONS ARE APPROXIMATE, AND MAY BE ADJUSTED TO FIT FIELD CONDITIONS. THE SIGNS SHALL BE INSTALLED SO AS TO NOT OBSCURE THE VIEW OF OTHER TRAFFIC CONTROL DEVICES FROM MOTORISTS.
7. ALL TEMPORARY AND/OR PERMANENT PAVEMENT MARKINGS SHALL BE INSTALLED WITH SMOOTH AND GRADUAL TRANSITIONS AND ALIGNMENTS. WHEN NECESSARY, THE CONTRACTOR SHALL PREMARK THE PAVEMENT PRIOR TO PLACING THE MARKINGS.
8. INSTALL WHEN LANE WIDTH ACROSS IS LESS THAN APPROACH LANE WIDTH.

LEGEND

- ▭ TYPE III BARRICADE
- REFLECTORIZED PLASTIC DRUM
- REFLECTORIZED PLASTIC DRUM OR 42" CONE
- SINGLE POST SIGN
- DOUBLE POST SIGN

COMPUTER: BG0419M687

DATE: 29-MAR-2024 08:36

FILE: wz111e2\_r9.dgn

----- Cut -----				----- Fill -----				Mass Ordinate	----- Cut -----				----- Fill -----				Mass Ordinate	
Station	Factor	Area	Volume	Adjusted	Factor	Area	Volume		Adjusted	Station	Factor	Area	Volume	Adjusted	Factor	Area		Volume
1187+18.248 R1	1	2.187	0	0	1	0.659	0	0	1224+00.000 R1	1	0.47	0.763	0.763	1	0.134	0.315	0.315	213.069
1187+50.000 R1	1	4.586	3.982	3.982	1	0.41	0.629	0.629	1224+50.000 R1	1	0.394	0.8	0.8	1	0.149	0.263	0.263	213.606
1188+00.000 R1	1	3.537	7.521	7.521	1	0.341	0.695	0.695	1225+00.000 R1	1	0.274	0.618	0.618	1	0.214	0.337	0.337	213.888
1188+50.000 R1	1	2.664	5.742	5.742	1	0.262	0.558	0.558	1225+50.000 R1	1	0.263	0.497	0.497	1	0.261	0.44	0.44	213.945
1189+00.000 R1	1	2.959	5.207	5.207	1	0	0.242	0.242	1226+00.000 R1	1	0.347	0.565	0.565	1	0.22	0.445	0.445	214.065
1189+50.000 R1	1	5.638	7.96	7.96	1	0.001	0.001	0.001	1226+50.000 R1	1	0.361	0.656	0.656	1	0.196	0.385	0.385	214.336
1190+00.000 R1	1	5.957	10.736	10.736	1	0.002	0.003	0.003	1227+00.000 R1	1	0.197	0.517	0.517	1	0.488	0.633	0.633	214.22
1190+50.000 R1	1	6.33	11.377	11.377	1	0	0.002	0.002	1227+50.000 R1	1	0.312	0.471	0.471	1	0.316	0.744	0.744	213.946
1191+00.000 R1	1	6.387	11.775	11.775	1	0	0	0	1228+00.000 R1	1	0.366	0.627	0.627	1	0.246	0.521	0.521	214.053
1191+50.000 R1	1	6.055	11.521	11.521	1	0	0	0	1228+50.000 R1	1	0.383	0.693	0.693	1	0.284	0.491	0.491	214.256
1192+00.000 R1	1	5.758	10.938	10.938	1	0.001	0.001	0.001	1229+00.000 R1	1	0.405	0.73	0.73	1	0.302	0.542	0.542	214.443
1192+50.000 R1	1	6.321	11.184	11.184	1	0	0.001	0.001	1229+50.000 R1	1	0.341	0.691	0.691	1	0.503	0.745	0.745	214.389
1193+00.000 R1	1	6.052	11.457	11.457	1	0	0	0	1230+00.000 R1	1	0.233	0.531	0.531	1	0.67	1.086	1.086	213.834
1193+50.000 R1	1	4.994	10.228	10.228	1	0.001	0.001	0.001	1230+50.000 R1	1	0.251	0.448	0.448	1	0.481	1.066	1.066	213.216
1194+00.000 R1	1	5.175	9.415	9.415	1	0.001	0.002	0.002	1231+00.000 R1	1	0.43	0.631	0.631	1	0.279	0.703	0.703	213.143
1194+50.000 R1	1	5.327	9.724	9.724	1	0	0.002	0.002	1231+50.000 R1	1	0.511	0.872	0.872	1	0.236	0.477	0.477	213.538
1195+00.000 R1	1	6.174	10.649	10.649	1	0.003	0.003	0.003	1232+00.000 R1	1	0.487	0.924	0.924	1	0.288	0.485	0.485	213.977
1195+50.000 R1	1	4.96	10.309	10.309	1	0.432	0.403	0.403	1232+50.000 R1	1	0.555	0.965	0.965	1	0.22	0.47	0.47	214.472
1196+00.000 R1	1	5.414	9.605	9.605	1	0.003	0.403	0.403	1233+00.000 R1	1	0.534	1.009	1.009	1	0.298	0.48	0.48	215.001
1196+50.000 R1	1	5.304	9.924	9.924	1	0	0.003	0.003	1233+50.000 R1	1	0.476	0.936	0.936	1	0.319	0.572	0.572	215.364
1197+00.000 R1	1	5.315	9.832	9.832	1	0.001	0.001	0.001	1234+00.000 R1	1	0.468	0.875	0.875	1	0.301	0.574	0.574	215.664
1197+50.000 R1	1	5.645	10.148	10.148	1	0.002	0.003	0.003	1234+50.000 R1	1	0.388	0.793	0.793	1	0.404	0.653	0.653	215.805
1198+00.000 R1	1	5.626	10.436	10.436	1	0	0.002	0.002	1235+00.000 R1	1	0.193	0.538	0.538	1	0.641	0.967	0.967	215.375
1198+50.000 R1	1	6.011	10.774	10.774	1	0	0	0	1235+50.000 R1	1	0.225	0.386	0.386	1	0.533	1.087	1.087	214.675
1199+00.000 R1	1	5.151	10.335	10.335	1	0.003	0.003	0.003	1236+00.000 R1	1	0.379	0.559	0.559	1	0.389	0.854	0.854	214.38
1199+41.207 R1	1	0.289	4.151	4.151	1	0.39	0.3	0.3	1236+50.000 R1	1	0.535	0.846	0.846	1	0.235	0.578	0.578	214.649
1199+50.000 R1	1	0.293	0.095	0.095	1	0.331	0.118	0.118	1237+00.000 R1	1	0.485	0.945	0.945	1	0.176	0.38	0.38	215.213
1200+00.000 R1	1	0.168	0.427	0.427	1	0.507	0.776	0.776	1237+50.000 R1	1	0.268	0.698	0.698	1	0.339	0.477	0.477	215.434
1200+50.000 R1	1	0.127	0.273	0.273	1	0.699	1.116	1.116	1238+00.000 R1	1	0.252	0.482	0.482	1	0.168	0.47	0.47	215.446
1201+00.000 R1	1	0.219	0.321	0.321	1	0.421	1.036	1.036	1238+50.000 R1	1	0.198	0.417	0.417	1	0.596	0.707	0.707	215.155
1201+50.000 R1	1	0.197	0.385	0.385	1	0.393	0.754	0.754	1239+00.000 R1	1	0.316	0.476	0.476	1	0.434	0.953	0.953	214.679
1202+00.000 R1	1	0.171	0.34	0.34	1	0.472	0.802	0.802	1239+50.000 R1	1	0.22	0.496	0.496	1	0.581	0.94	0.94	214.235
1202+50.000 R1	1	0.162	0.308	0.308	1	0.213	0.634	0.634	1240+00.000 R1	1	0.265	0.449	0.449	1	0.543	1.041	1.041	213.644
1203+00.000 R1	1	0.161	0.299	0.299	1	0.384	0.552	0.552	1240+50.000 R1	1	0.315	0.537	0.537	1	0.494	0.96	0.96	213.22
1203+50.000 R1	1	0.244	0.375	0.375	1	0.086	0.435	0.435	1241+00.000 R1	1	0.285	0.555	0.555	1	0.521	0.94	0.94	212.836
1204+00.000 R1	1	0.204	0.415	0.415	1	0.759	0.783	0.783	1241+50.000 R1	1	0.337	0.576	0.576	1	0.527	0.971	0.971	212.441
1204+50.000 R1	1	0.145	0.323	0.323	1	0.962	1.594	1.594	1242+00.000 R1	1	0.339	0.626	0.626	1	0.507	0.958	0.958	212.108
1205+00.000 R1	1	0.021	0.154	0.154	1	0.569	1.417	1.417	1242+50.000 R1	1	0.417	0.7	0.7	1	0.458	0.894	0.894	211.914
1205+50.000 R1	1	0.278	0.276	0.276	1	0.662	1.139	1.139	1243+00.000 R1	1	0.493	0.842	0.842	1	0.493	0.881	0.881	211.876
1206+00.000 R1	1	0.131	0.378	0.378	1	1.563	2.06	2.06	1243+50.000 R1	1	0.339	0.77	0.77	1	1.493	1.839	1.839	210.807
1206+50.000 R1	1	0.19	0.297	0.297	1	1.409	2.751	2.751	1244+00.000 R1	1	0.204	0.502	0.502	1	0.186	1.554	1.554	209.755
1207+00.000 R1	1	0.409	0.554	0.554	1	0.674	1.928	1.928	1244+50.000 R1	1	0.349	0.512	0.512	1	0.305	0.455	0.455	209.812
1207+50.000 R1	1	0.248	0.608	0.608	1	0.032	0.654	0.654	1245+00.000 R1	1	0.417	0.709	0.709	1	0.207	0.474	0.474	210.047
1208+00.000 R1	1	0.221	0.434	0.434	1	0.281	0.29	0.29	1245+50.000 R1	1	0.406	0.762	0.762	1	0.181	0.359	0.359	210.45
1208+50.000 R1	1	0.25	0.436	0.436	1	0.288	0.526	0.526	1246+00.000 R1	1	0.275	0.631	0.631	1	0.326	0.469	0.469	210.611
1209+00.000 R1	1	0.203	0.42	0.42	1	1.712	1.851	1.851	1246+50.000 R1	1	0.193	0.433	0.433	1	0.177	0.466	0.466	210.579
1209+50.000 R1	1	0.057	0.241	0.241	1	1.383	2.866	2.866	1247+00.000 R1	1	0.142	0.31	0.31	1	0.304	0.445	0.445	210.444
1210+00.000 R1	1	0.495	0.512	0.512	1	0.62	1.854	1.854	1247+50.000 R1	1	0.13	0.252	0.252	1	0.606	0.842	0.842	209.854
1210+50.000 R1	1	0.478	0.901	0.901	1	0.59	1.12	1.12	1248+00.000 R1	1	0.032	0.15	0.15	1	0.8	1.301	1.301	208.703
1211+00.000 R1	1	0.034	0.474	0.474	1	2.109	2.499	2.499	1248+50.000 R1	1	0.16	0.178	0.178	1	1.137	1.793	1.793	207.088
1211+50.000 R1	1	0.081	0.106	0.106	1	0.359	2.285	2.285	1249+00.000 R1	1	0.163	0.298	0.298	1	0.221	1.257	1.257	206.129
1212+00.000 R1	1	0.154	0.218	0.218	1	0.745	1.023	1.023	1249+50.000 R1	1	0.262	0.393	0.393	1	0.803	0.948	0.948	205.574
1212+50.000 R1	1	0.215	0.342	0.342	1	0.462	1.118	1.118	1250+00.000 R1	1	0.374	0.588	0.588	1	0.432	1.144	1.144	205.018
1213+00.000 R1	1	0.245	0.426	0.426	1	0.384	0.783	0.783	1250+50.000 R1	1	0.355	0.675	0.675	1	0.676	1.026	1.026	204.667
1213+50.000 R1	1	0.276	0.482	0.482	1	0.266	0.602	0.602	1251+00.000 R1	1	0.215	0.528	0.528	1	0.142	0.758	0.758	204.437
1214+00.000 R1	1	0.236	0.474	0.474	1	0.325	0.547	0.547	1251+50.000 R1	1	0.221	0.404	0.404	1	1.103	1.153	1.153	203.688
1214+50.000 R1	1	0.187	0.392	0.392	1	0.367	0.641	0.641	1252+00.000 R1	1	0.102	0.299	0.299	1	0.804	1.766	1.766	202.221
1215+00.000 R1	1	0.063	0.232	0.232	1	0.408	0.718	0.718	1252+50.000 R1	1	0.49	0.548	0.548	1	0.295	1.018	1.018	201.751
1215+50.000 R1	1	0.011	0.069	0.069	1	0.478	0.82	0.82	1253+00.000 R1	1	0.463	0.883	0.883	1	0.279	0.531	0.531	202.103
1216+00.000 R1	1	0.011	0.02	0.02	1	0.178	0.608	0.608	1253+50.000 R1	1	0.551	0.939	0.939	1	0.25	0.49	0.49	202.553
1216+50.000 R1	1	0.266	0.256	0.256	1	0.267	0.412	0.412	1254+00.000 R1									

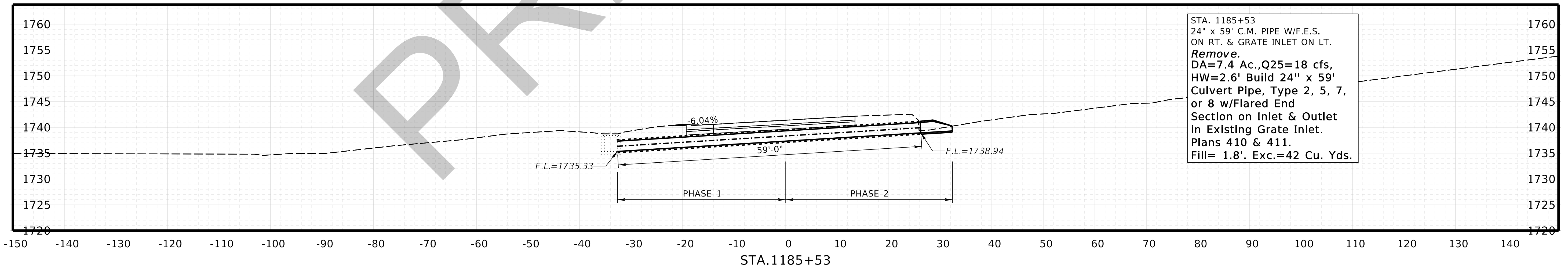
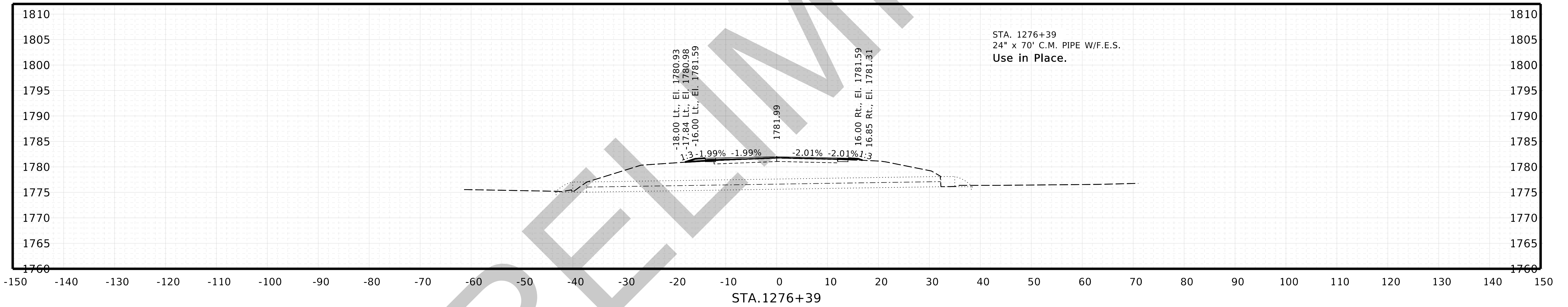
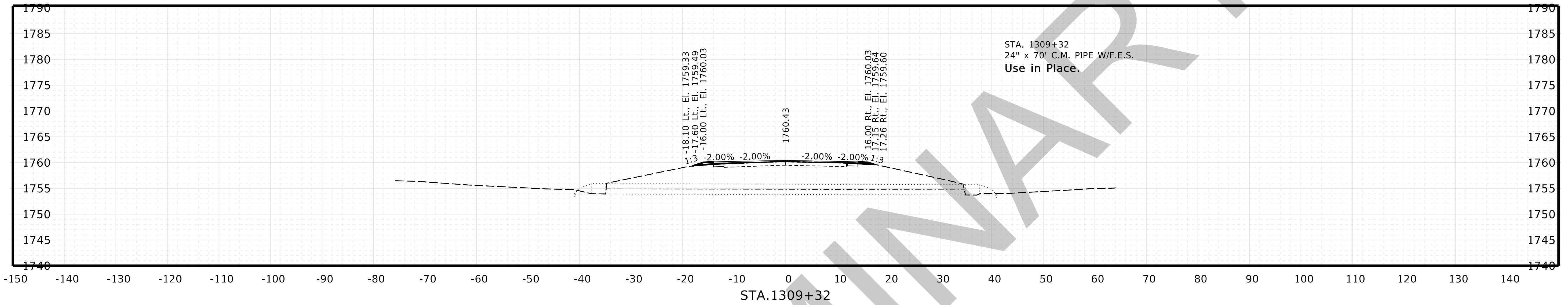


----- Cut -----					----- Fill -----					Mass Ordinate	----- Cut -----					----- Fill -----					Mass Ordinate								
Station	Factor	Area	Volume	Adjusted	Factor	Area	Volume	Adjusted	Station		Factor	Area	Volume	Adjusted	Factor	Area	Volume	Adjusted	Station	Factor		Area	Volume	Adjusted	Station	Factor	Area	Volume	Adjusted
1336+50.000 R1	1	0.487	0.683	0.683	1	0.189	0.458	0.458	177.809	1374+00.000 R1	1	0.397	0.648	0.648	1	0.517	0.799	0.799	186.531	1374+00.000 R1	1	0.377	0.716	0.716	1	0.794	1.214	1.214	186.034
1337+00.000 R1	1	0.275	0.706	0.706	1	0.278	0.433	0.433	178.083	1375+00.000 R1	1	0.291	0.618	0.618	1	1.342	1.978	1.978	184.674	1375+00.000 R1	1	0.241	0.492	0.492	1	1.282	2.429	2.429	182.737
1337+50.000 R1	1	0.363	0.591	0.591	1	0.236	0.476	0.476	178.198	1376+00.000 R1	1	0.182	0.391	0.391	1	0.99	2.104	2.104	181.024	1376+50.000 R1	1	0.354	0.496	0.496	1	0.432	1.317	1.317	180.203
1338+00.000 R1	1	0.477	0.778	0.778	1	0.13	0.339	0.339	178.637	1377+00.000 R1	1	0.394	0.692	0.692	1	0.24	0.623	0.623	180.273	1377+50.000 R1	1	0.348	0.687	0.687	1	0.311	0.511	0.511	180.449
1338+50.000 R1	1	0.571	0.971	0.971	1	0.101	0.214	0.214	179.395	1378+00.000 R1	1	0.24	0.544	0.544	1	0.32	0.584	0.584	180.409	1378+50.000 R1	1	0.262	0.465	0.465	1	0.252	0.529	0.529	180.345
1339+00.000 R1	1	0.258	0.768	0.768	1	0.222	0.298	0.298	179.864	1379+00.000 R1	1	0.015	0.256	0.256	1	0.22	0.437	0.437	180.164	1379+50.000 R1	1	0.085	0.092	0.092	1	0.116	0.311	0.311	179.946
1339+50.000 R1	1	0.376	0.588	0.588	1	0.261	0.447	0.447	180.005	1380+00.000 R1	1	0.162	0.228	0.228	1	0.284	0.37	0.37	179.804	1380+50.000 R1	1	0.337	0.462	0.462	1	0.141	0.394	0.394	179.872
1340+00.000 R1	1	0.143	0.48	0.48	1	0.276	0.497	0.497	179.988	1381+00.000 R1	1	0.356	0.642	0.642	1	0.12	0.241	0.241	180.272	1381+50.000 R1	1	0.406	0.706	0.706	1	0.101	0.205	0.205	180.774
1340+50.000 R1	1	0.154	0.275	0.275	1	0.199	0.44	0.44	179.823	1382+00.000 R1	1	0.362	0.711	0.711	1	0.132	0.216	0.216	181.268	1382+50.000 R1	1	0.389	0.695	0.695	1	0.104	0.219	0.219	181.745
1341+00.000 R1	1	0.172	0.302	0.302	1	0.486	0.634	0.634	179.491	1383+00.000 R1	1	0.276	0.616	0.616	1	0.173	0.256	0.256	182.104	1383+50.000 R1	1	0.38	0.607	0.607	1	0.123	0.274	0.274	182.438
1341+50.000 R1	1	0.016	0.174	0.174	1	0.605	1.01	1.01	178.655	1384+00.000 R1	1	0.324	0.651	0.651	1	0.189	0.289	0.289	182.8	1384+50.000 R1	1	0.162	0.45	0.45	1	0.36	0.509	0.509	182.741
1342+00.000 R1	1	0.134	0.138	0.138	1	0.328	0.864	0.864	177.929	1385+00.000 R1	1	0.076	0.221	0.221	1	0.394	0.698	0.698	182.64	1385+50.000 R1	1	0.277	0.326	0.326	1	0.278	0.622	0.622	181.968
1342+50.000 R1	1	0.148	0.261	0.261	1	0.364	0.641	0.641	177.549	1386+00.000 R1	1	0.404	0.63	0.63	1	0.313	0.547	0.547	182.051	1386+50.000 R1	1	0.404	0.63	0.63	1	0.313	0.547	0.547	182.051
1343+00.000 R1	1	0.216	0.338	0.338	1	0.383	0.692	0.692	177.195	1387+00.000 R1	1	0.307	0.659	0.659	1	0.297	0.564	0.564	182.145	1387+50.000 R1	1	0.228	0.496	0.496	1	1.235	1.419	1.419	181.222
1343+50.000 R1	1	0.203	0.388	0.388	1	0.41	0.734	0.734	176.849	1388+00.000 R1	1	0.419	0.535	0.535	1	0.815	1.855	1.855	178.631	1388+50.000 R1	1	0.419	0.535	0.535	1	0.815	1.855	1.855	178.631
1344+00.000 R1	1	0.191	0.365	0.365	1	0.308	0.665	0.665	176.549	1389+00.000 R1	1	0.43	0.786	0.786	1	0.894	1.582	1.582	177.836	1389+50.000 R1	1	0.43	0.786	0.786	1	0.894	1.582	1.582	177.836
1344+50.000 R1	1	0.364	0.513	0.513	1	0.015	0.299	0.299	176.763	1390+00.000 R1	1	0.458	0.815	0.815	1	0.873	1.623	1.623	176.174	1390+50.000 R1	1	0.451	0.842	0.842	1	0.446	1.222	1.222	175.794
1345+00.000 R1	1	0.442	0.746	0.746	1	0.028	0.04	0.04	177.469	1391+00.000 R1	1	0.329	0.722	0.722	1	0.754	1.111	1.111	175.405	1391+50.000 R1	1	0.233	0.521	0.521	1	1.456	2.046	2.046	173.879
1345+50.000 R1	1	0.658	1.018	1.018	1	0.198	0.209	0.209	178.278	1392+00.000 R1	1	0.638	0.806	0.806	1	1.73	2.95	2.95	171.735	1392+50.000 R1	1	0.167	0.745	0.745	1	1.333	2.837	2.837	169.643
1346+00.000 R1	1	0.47	1.044	1.044	1	0.148	0.321	0.321	179.001	1393+00.000 R1	1	0.372	0.498	0.498	1	1.101	2.254	2.254	167.887	1393+50.000 R1	1	0.143	0.477	0.477	1	2.609	3.436	3.436	164.928
1346+50.000 R1	1	0.32	0.731	0.731	1	0.245	0.364	0.364	179.368	1394+00.000 R1	1	0.1	0.225	0.225	1	3.398	5.562	5.562	159.591	1394+50.000 R1	1	0.092	0.178	0.178	1	3.232	6.139	6.139	153.631
1347+00.000 R1	1	0.123	0.411	0.411	1	0.33	0.532	0.532	179.246	1395+00.000 R1	1	0.112	0.189	0.189	1	2.817	5.601	5.601	148.219	1395+50.000 R1	1	0.112	0.189	0.189	1	2.817	5.601	5.601	148.219
1347+50.000 R1	1	0.435	0.517	0.517	1	0.194	0.485	0.485	179.278	1396+00.000 R1	1	0.081	0.09	0.09	1	3.406	6.324	6.324	136.326	1396+50.000 R1	1	0.009	0.083	0.083	1	4.151	6.997	6.997	129.412
1348+00.000 R1	1	0.36	0.736	0.736	1	0.274	0.433	0.433	179.581	1397+00.000 R1	1	0.173	0.168	0.168	1	2.267	5.942	5.942	123.638	1397+50.000 R1	1	0.199	0.344	0.344	1	1.597	3.578	3.578	120.405
1348+50.000 R1	1	0.449	0.749	0.749	1	0.286	0.518	0.518	179.812	1398+00.000 R1	1	0.065	0.145	0.145	1	0.775	1.369	1.369	117.321	1398+50.000 R1	1	0.005	0.065	0.065	1	0.56	1.237	1.237	116.15
1349+00.000 R1	1	0.197	0.598	0.598	1	0.341	0.58	0.58	179.829	1399+00.000 R1	1	0.001	0.006	0.006	1	0.558	1.036	1.036	115.12	1399+50.000 R1	1	0.016	0.016	0.016	1	0.643	1.113	1.113	114.023
1349+50.000 R1	1	0.281	0.443	0.443	1	0.265	0.561	0.561	179.711	1400+00.000 R1	1	0.016	0.016	0.016	1	0.643	1.113	1.113	114.023	1400+50.000 R1	1	0.078	0.087	0.087	1	0.537	1.093	1.093	113.016
1350+00.000 R1	1	0.236	0.479	0.479	1	0.288	0.512	0.512	179.677	1401+00.000 R1	1	0.085	0.151	0.151	1	0.65	1.1	1.1	112.068	1401+50.000 R1	1	0.261	0.32	0.32	1	0.539	1.101	1.101	111.287
1350+50.000 R1	1	0.334	0.528	0.528	1	0.267	0.514	0.514	179.691	1402+00.000 R1	1	0.139	0.37	0.37	1	0.22	0.703	0.703	110.954	1402+50.000 R1	1	0.139	0.37	0.37	1	0.22	0.703	0.703	110.954
1351+00.000 R1	1	0.379	0.66	0.66	1	0.184	0.418	0.418	179.933	1403+00.000 R1	1	0.044	0.169	0.169	1	0.745	0.894	0.894	110.229	1403+50.000 R1	1	0	0.041	0.041	1	0.944	1.564	1.564	108.705
1351+50.000 R1	1	0.521	0.833	0.833	1	0.125	0.286	0.286	180.48	1404+00.000 R1	1	0	0	0	1	1.128	1.919	1.919	106.787	1404+50.000 R1	1	0.001	0.001	0.001	1	0.394	1.265	1.265	103.579
1352+00.000 R1	1	0.528	0.971	0.971	1	0.165	0.269	0.269	181.183	1405+00.000 R1	1	0.118	0.11	0.11	1	0.602	0.922	0.922	102.767	1405+50.000 R1	1	0.118	0.11	0.11	1	0.602	0.922	0.922	102.767
1352+50.000 R1	1	0.506	0.957	0.957	1	0.17	0.31	0.31	181.829	1406+00.000 R1	1	0.017	0.125	0.125	1	0.626	1.137	1.137	101.754	1406+50.000 R1	1	0	0.016	0.016	1	1.233	1.722	1.722	100.049
1353+00.000 R1	1	0.487	0.919	0.919	1	0.126	0.274	0.274	182.475	1407+00.000 R1	1	0.09	0.095	0.095	1	0.411	1.068	1.068	97.258	1407+50.000 R1	1	0.127	0.201	0.201	1	0.568	0.906	0.906	96.552
1353+50.000 R1	1	0.508	0.922	0.922	1	0.129	0.236	0.236	183.16	1408+00.000 R1	1	0.078	0.189	0.189	1	0.307	0.81	0.81	95.932	1408+50.000 R1	1	0.142	0.204	0.204	1	0.549	0.792	0.792	95.343
1354+00.000 R1	1	0.523	0.955	0.955	1	0.068	0.183	0.183	183.933	1409+00.000 R1	1	0.162	0.282	0.282	1	0.252	0.741	0.741	94.884	1409+50.000 R1	1	0.035	0.182	0.182	1	0.629	0.815	0.815	94.251
1354+50.000 R1	1	0.636	1.074	1.074	1	0.052	0.111	0.111	184.896	1410+00.000 R1	1	0.105	0.129	0.129	1	0.458	1.006	1.006	93.375	1410+50.000 R1	1	0.07	0.162	0.162	1	0.923	1.278	1.278	92.258
1355+00.000 R1	1	0.642	1.184	1.184	1	0.039	0.084	0.084	185.995	1411+00.000 R1	1	0.056	0.117	0.117	1	1.079	1.853	1.853	90.522	1411+50.000 R1	1	0.056	0.117	0.117	1	1.079	1.853	1.853	90.522
1355+50.00																													

Station	----- Cut -----				----- Fill -----				Mass Ordinate
	Factor	Area	Volume	Adjusted	Factor	Area	Volume	Adjusted	
1411+50.000 R1	1	0.086	0.132	0.132	1	1.494	2.382	2.382	88.273
1412+00.000 R1	1	0.106	0.178	0.178	1	3.574	4.693	4.693	83.758
1412+50.000 R1	1	0.021	0.117	0.117	1	2.787	5.89	5.89	77.986
1413+00.000 R1	1	0	0.02	0.02	1	2.456	4.854	4.854	73.152
1413+50.000 R1	1	0	0	0	1	1.897	4.03	4.03	69.122
1414+00.000 R1	1	0.002	0.002	0.002	1	7.407	8.614	8.614	60.51
1414+50.000 R1	1	0.048	0.047	0.047	1	5.044	11.528	11.528	49.028
1415+00.000 R1	1	0.008	0.052	0.052	1	39.526	41.269	41.269	7.812
1415+50.000 R1	1	0.001	0.008	0.008	1	4.074	40.371	40.371	-32.551
1416+00.000 R1	1	0	0.001	0.001	1	10.357	13.362	13.362	-45.913
1416+50.000 R1	1	0	0	0	1	2.997	12.365	12.365	-58.278
1417+00.000 R1	1	0	0	0	1	3.159	5.7	5.7	-63.978
1417+50.000 R1	1	0	0	0	1	2.241	5	5	-68.978
1418+00.000 R1	1	0	0	0	1	1.212	3.197	3.197	-72.174
1418+50.000 R1	1	0	0.001	0.001	1	0.654	1.727	1.727	-73.901
1419+00.000 R1	1	0.083	0.077	0.077	1	0.463	1.033	1.033	-74.857
1419+50.000 R1	1	0.112	0.18	0.18	1	0.52	0.91	0.91	-75.587
1419+87.924 R1	1	0	0.078	0.078	1	1.767	1.606	1.606	-77.115
Grand Total	1		458.057	458.057	1		535.172	535.172	

PRELIMINARY

EARTHWORK



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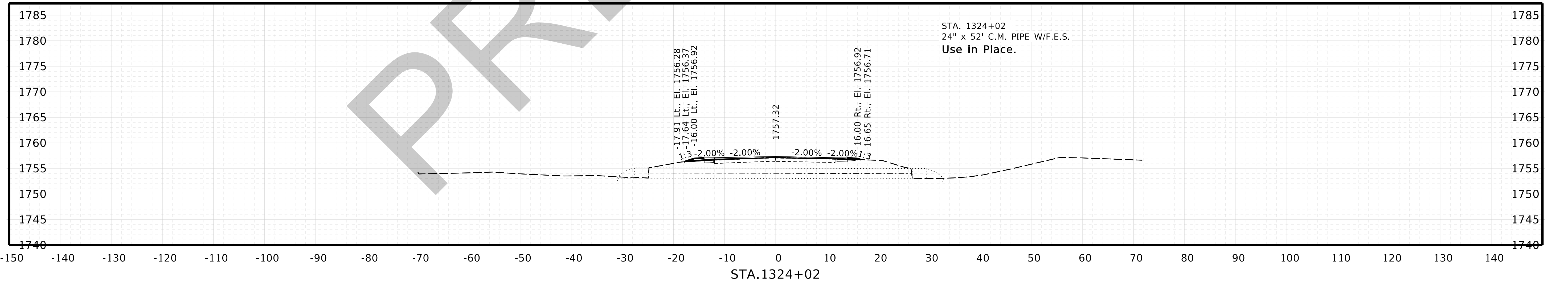
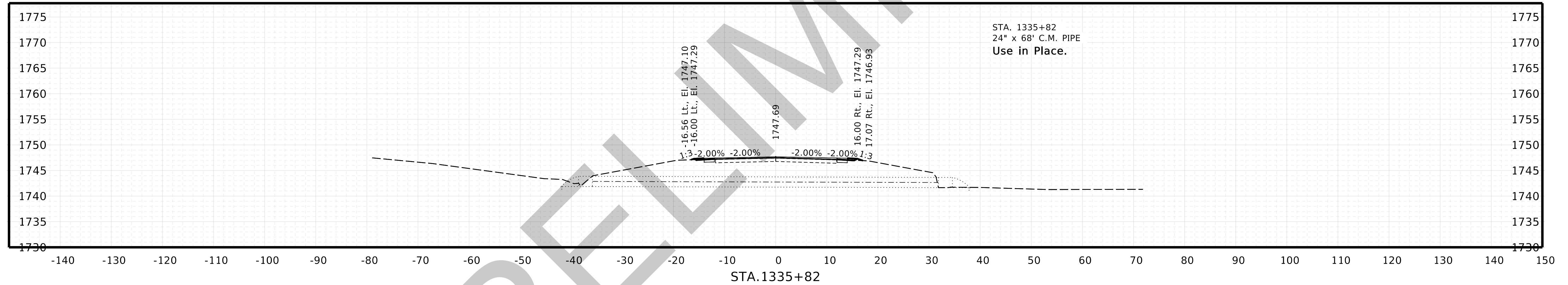
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DRAINAGE CROSS SECTIONS

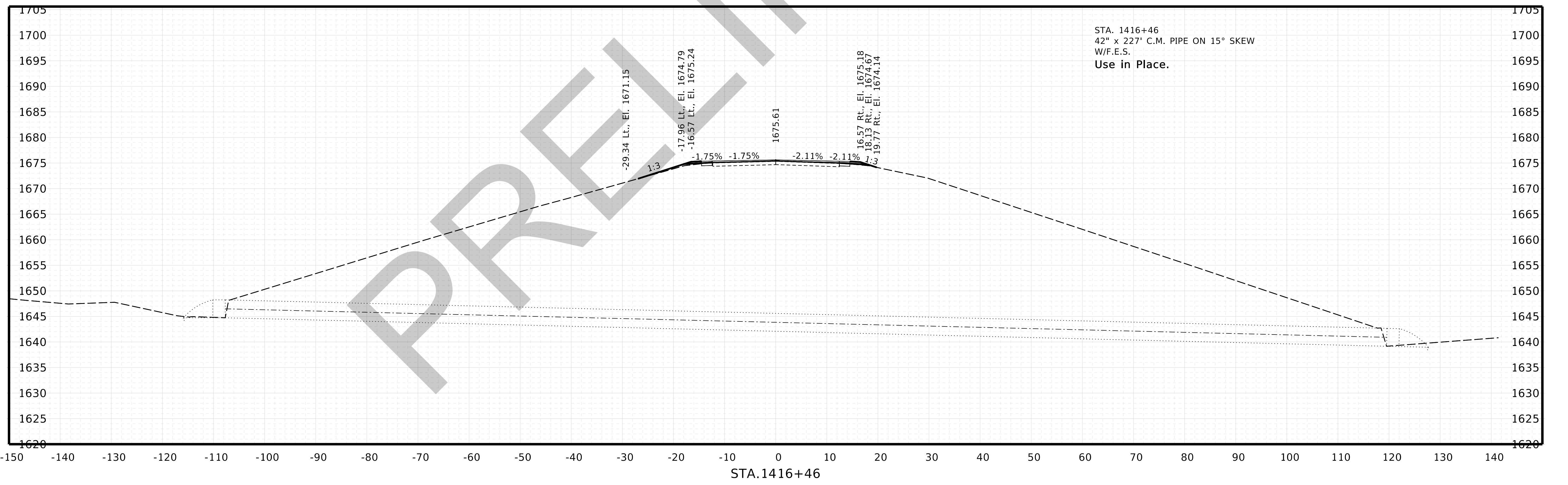
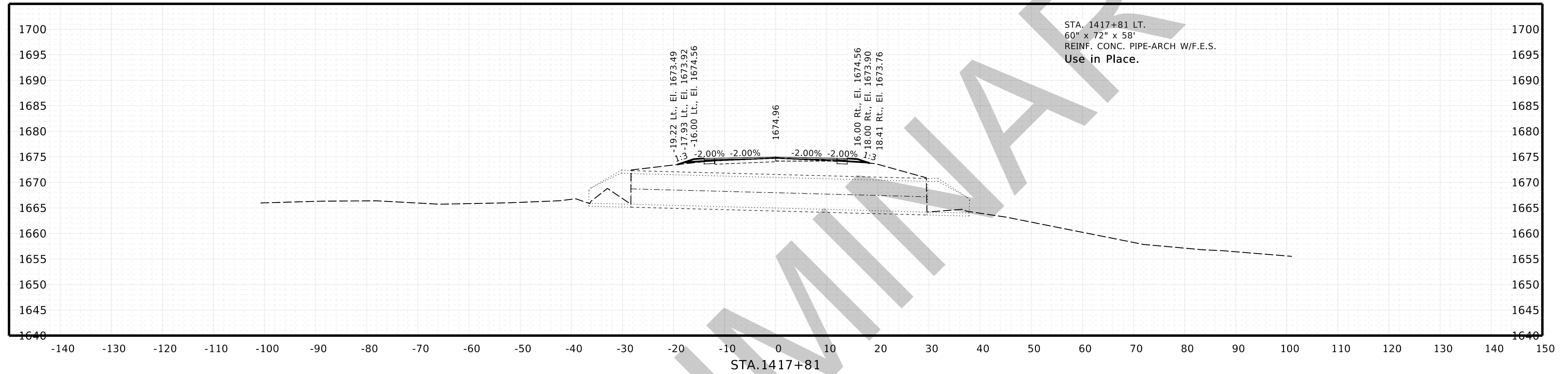
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DRAINAGE CROSS SECTIONS



COMPUTER: GX02

DATE: 12-JUL-2024 14:12

FILE: 80952 Sheets Drainage X Sections.dgn

DRAINAGE CROSS SECTIONS

# -BRUSH CREEK/ NIOBRARA-

## - NOTES -

## - QUANTITIES -

## - INDEX -

### GROUP 6

**GENERAL**

The Contractor may substitute any one of the alternate designs shown on the plans for the original design. All quantities are based on the original design and no additions or deductions will be allowed for the use of an alternate design.

All dimensions shown are in horizontal plane only. No allowances have been made for vertical curve or roadway cross slope.

Unless noted "NOT TO SCALE", all details are drawn using a constant scale in accordance with NDOT Bridge Scaling Policy.

**CONCRETE & REINFORCEMENT**

Concrete for approach slabs shall be Class "47BD", with a 28-day strength of 4,000 psi.

Chamfer all exposed edges of concrete.

Unless noted as "Optional", all construction joints shown are mandatory.

All reinforcing steel shall be epoxy coated and conform to the requirements of ASTM A615, Grade 60 steel.

The minimum clearance, measured from the face of the concrete to the surface of any reinforcing bar, shall be 3" except where otherwise noted.

Field bend and/or clip reinforcing bars to maintain minimum clearance. Epoxy coat clipped ends.

**MISCELLANEOUS**

All materials, equipment, tools, labor, and incidentals necessary to complete the work, not paid for directly, shall be considered subsidiary to other items for which payment is made.

**REPAIR/REHAB**

Before ordering any materials, the Contractor shall make a detailed field inspection of the structure verifying all dimensions and reporting to the Engineer any discrepancies between the field measurements and those shown on the plans.

All materials removed shall become the property of the Contractor and shall be removed from the project site.

As-built plans for the existing structure are available from the Bridge Division upon request.

The State does not guarantee that these repair plans or the As-built plans depict the actual site conditions and shall not be liable for any discrepancies.

Dimensions shown were obtained from the as-built Plans. The Engineer shall establish control points from the existing structure as needed.

The Contractor shall place a 1" deep saw cut at the limits of concrete removal to facilitate a clean, smooth line when breaking back existing concrete.

All reinforcing steel that is to be incorporated into the new work shall be thoroughly cleaned, straightened, and extended into the new work a minimum of 2'-0" or as shown in the plans.

All existing concrete surfaces to be in contact with the new construction shall be thoroughly roughened and cleaned before placing any new concrete.

Existing unbroken concrete surfaces to be in contact with the new concrete shall be scarified to an amplitude of 1/4".

Use surface saturated dry condition when placing new concrete against old concrete.

Damage to existing structures, consequent to the Contractor's operations, shall be repaired at the Contractor's expense, under the direction of the Engineer.

Actual field conditions may require repair more or less than what is depicted in the plans. The final areas to be repaired shall be determined by the Engineer. The Bridge Office shall be notified when field conditions impede the implementation of these plans or vary significantly from what is shown.

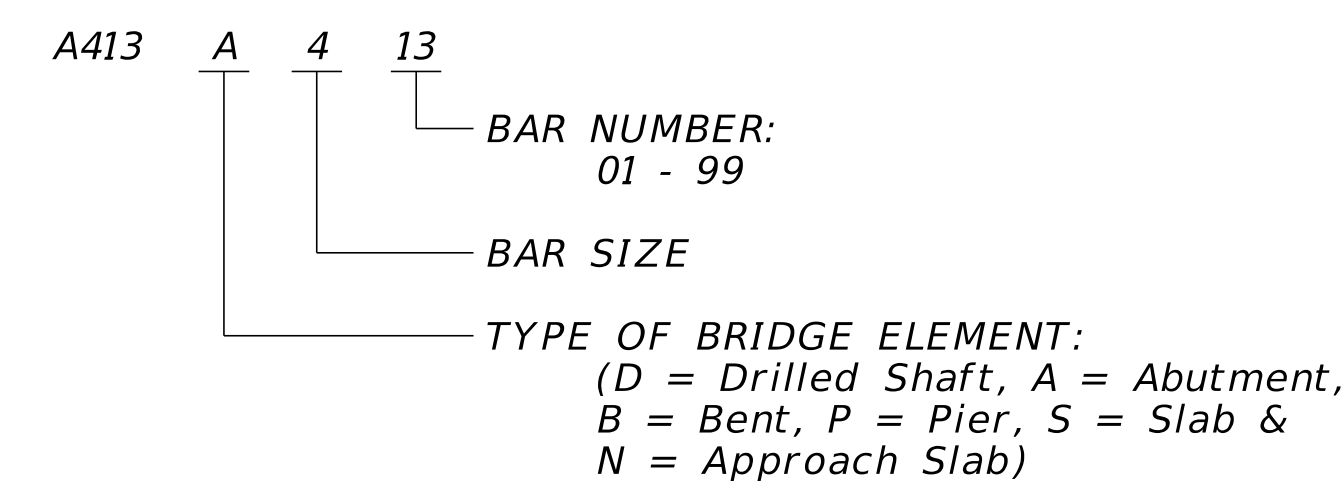
The contractor shall take all necessary precautions, during construction, to prevent debris from falling into channel.

PREPARATION OF BRIDGE AT STATION 1180+77.97	1 EA	GENERAL NOTES, QUANTITIES, INDEX	1
CONCRETE BRIDGE DECK REPAIR	324.0 SY	GENERAL PLAN & PHASED CROSS-SECTIONS	2
BRIDGE APPROACH REPAIR	56.0 SY	STRIP SEAL EXPANSION JOINT	3
CONCRETE FOR PAVEMENT APPROACHES CLASS 47BD-4000	5.0 CY		
SLABS	5.0 CY		
PHASE I	2.5 CY		
PHASE II	2.5 CY		
STRIP SEALS	56.0 LF		
EPOXY COATED REINFORCING STEEL FOR PAVEMENT APPROACHES	470 LB		
SLABS	470 LB		
PHASE I	245 LB		
PHASE II	225 LB		

DESIGN HISTORY			
PROJECT NO.	CONTROL NO.	YEAR	TYPE OF WORK
RS-II-4(102)	80308	1984	1-121'-0" & 2-92'-0" SPANS DECK STEEL GIRDER BRIDGE - CONTINUOUS COMPOSITE TYPE
STR-II-4(1012)	80792A	2006	5 SPAN DECK STEEL GIRDER BRIDGE CONTINUOUS COMPOSITE TYPE - REMODEL

Existing Plans are available from the Bridge Division upon request.

**BAR MARK**



THE NUMBER OF LAP SPLICES ARE CALCULATED BASED ON 60'-0" LENGTHS OF REINFORCING STEEL BARS. SPLICES ON BARS SHORTER THAN 60'-0" WILL REQUIRE ADDITIONAL LAP SPLICES AT NO ADDITIONAL EXPENSE TO NDOT.

APPROACH SLAB MARK	NUMBER OF BARS										WEIGHT				
	Phase I		Phase II	LENGTH	TYPE	A	B	C	D	E	F	PIN Ø	HOOK	Phase I	Phase II
	60	60	15'-9"												
N401	60	60	1'-10"	103	0'-7"	0'-8"	0'-7"							75	75
N411	16	-	15'-9"	STR										170	-
N412	-	16	13'-9"	STR										-	150
TOTAL PER PHASE (LB) =													245	225	
GRAND TOTAL (LB) =													470		

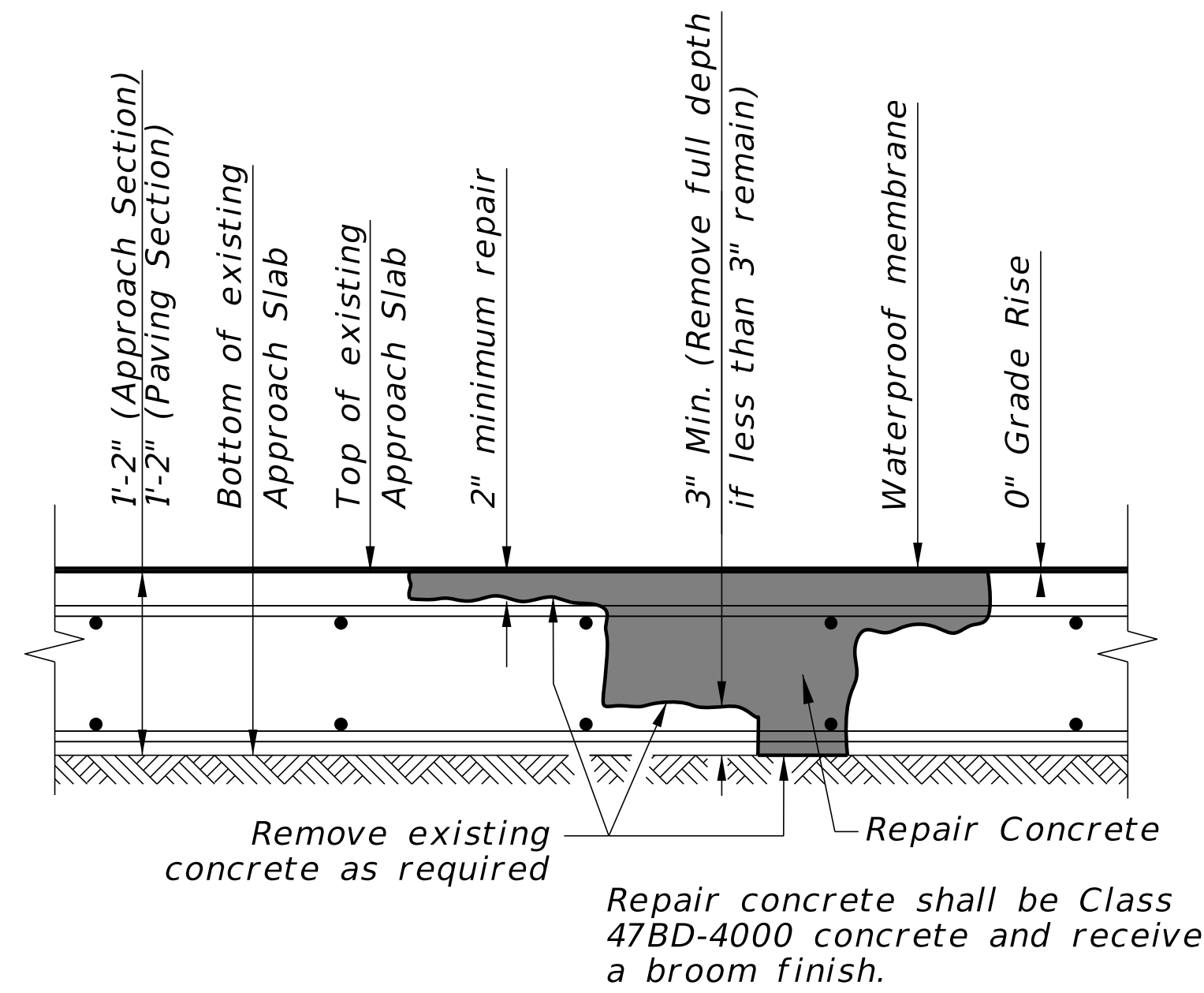
STANDARD HOOK LENGTH				PIN DIAMETER				BENDING DIAGRAMS		
PRIMARY STRESS		STIRRUPS & TIES		PRIMARY STRESS		STIRRUPS & TIES		ALL DIMENSIONS ARE OUT TO OUT & NOT TO SCALE		
BAR SIZE	HOOK	BAR SIZE	HOOK	BAR SIZE	Dp	BAR SIZE	Dp			
4	8"	6"	3	4"	4"	4	3"	4	2"	
5	10"	7"	4	4 1/2"	4 1/2"	5	3 3/4"	5	2 1/2"	
6	12"	8"	5	6"	5 1/2"	6	4 1/2"	6	4 1/2"	
7	15"	10"	6	12"	8"	7	5 1/4"	7	5 1/4"	
8	17"	11"	7	14"	9"	8	6"	8	6"	
9	19"	15"	8	16"	10 1/2"	9	9 1/2"			
10	23"	17"	d = Bar Size Dp = Pin Diameter		10	10 3/4"				
11	24"	19"			11	12"				
14	31"	27"			14	18 1/4"				
18	41"	36"			18	24"				

S1
PROJECT NUMBER STP-II-4(116)
C.N. 80952
STRUCTURE NUMBER S011 17131
BRIDGE ENGINEER
COUNTY HOLT HWY. NO. N-11 REF. POST. 171.31 STA. 1180+77.97 DESIGNED BY TDA CHECKED BY SBR DATE SEP. 2023
LOCATION ATKINSON - BRUSH CREEK SKEW 0° ROADWAY 28'-0" CLEAR DESIGN LIVE LOAD HS-20 TDA SBR DATE SEP. 2023
5 SPAN DECK STEEL GIRDER EXPANSION JOINT REPAIR GENERAL NOTES, QUANTITIES AND INDEX
NEBRASKA DEPARTMENT OF TRANSPORTATION - BRIDGE DIVISION
NEBRASKA Good Life. Great Journey. DEPARTMENT OF TRANSPORTATION
SPECIAL PLAN NO. 1 1 3

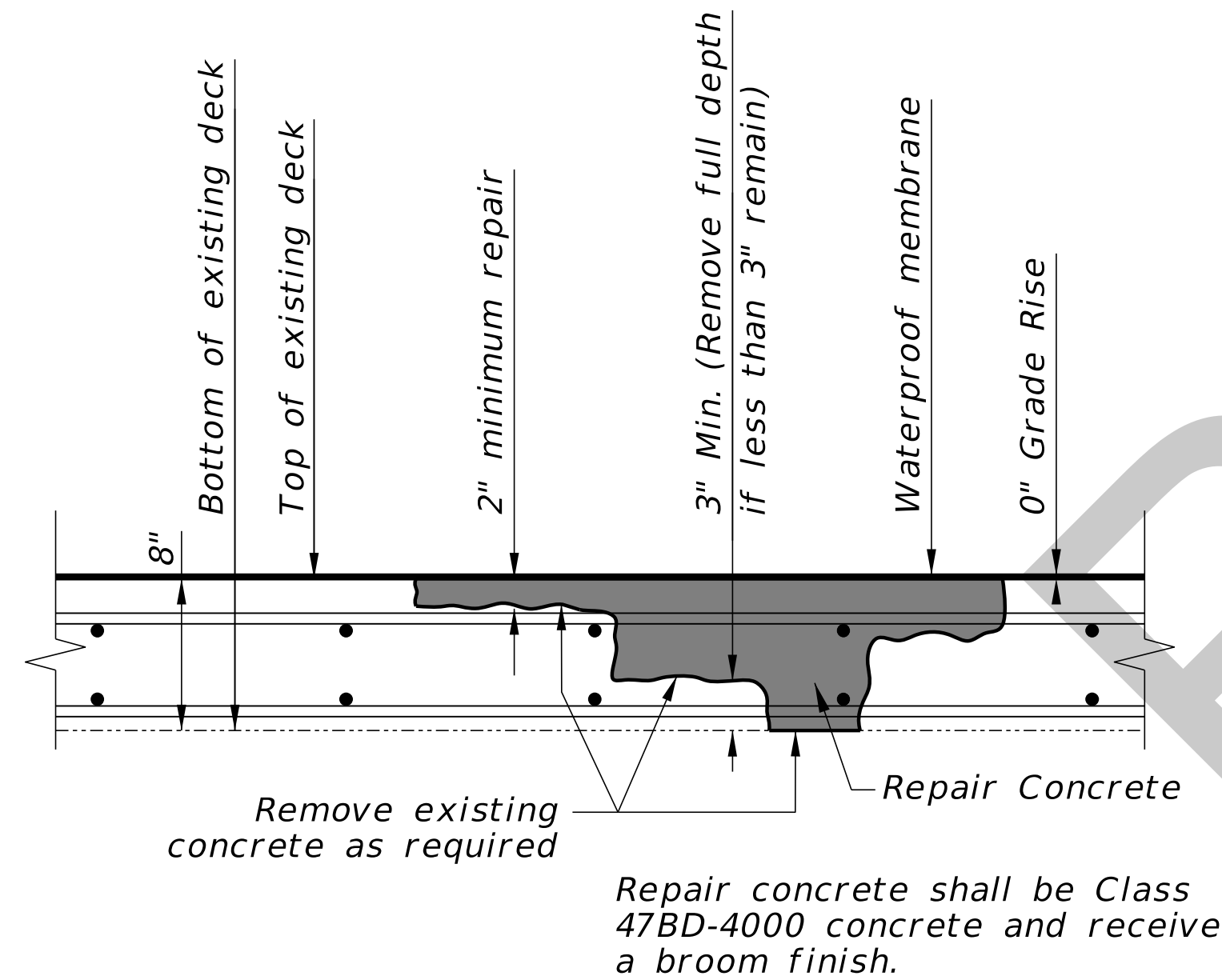
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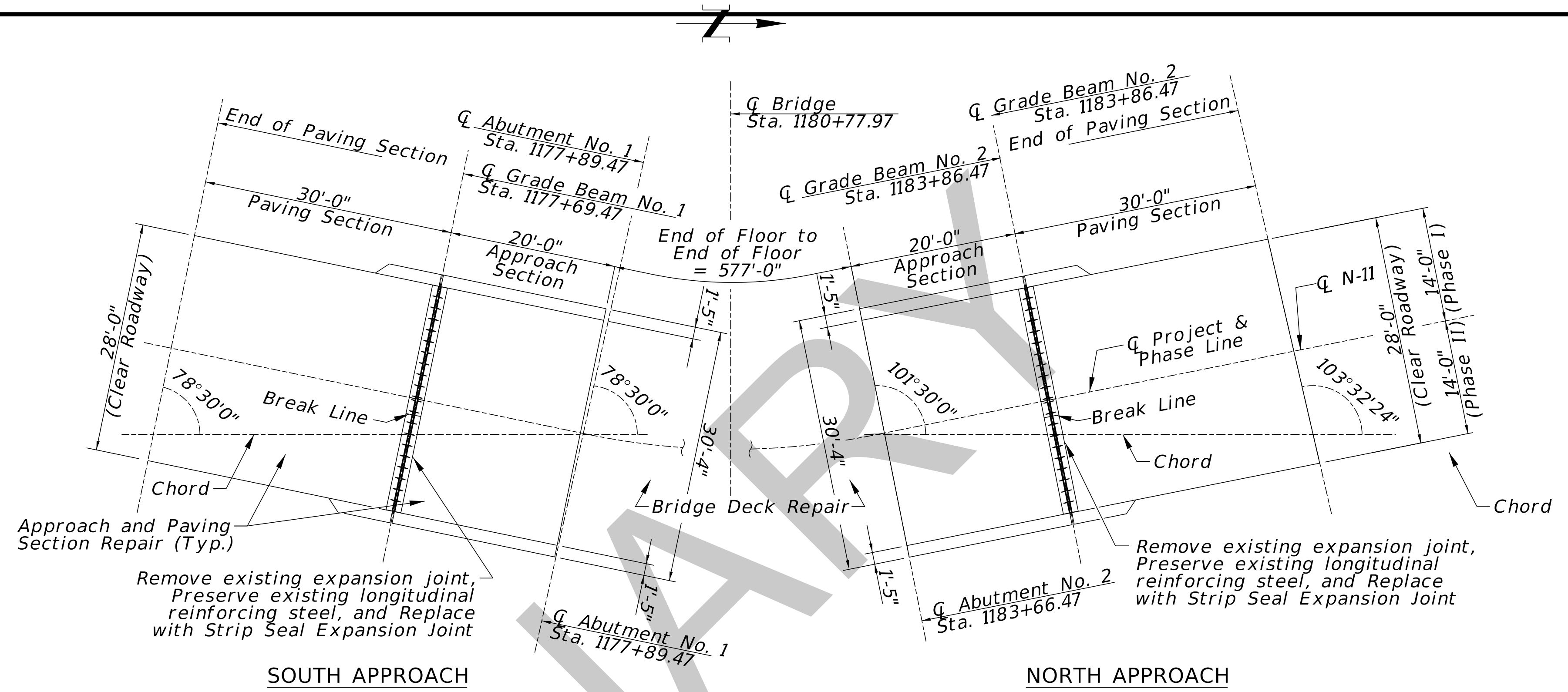
File: S2-S011 17131 Phased Cross Section.dgn



**BRIDGE APPROACH REPAIR**  
Not to Scale



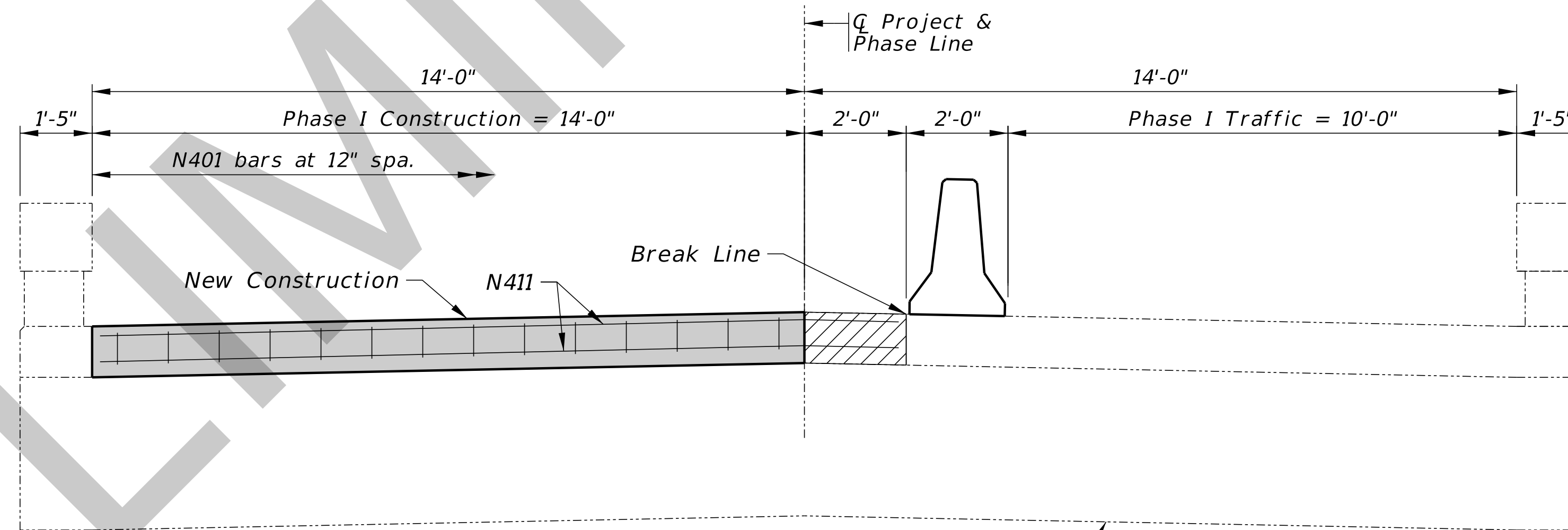
**CONCRETE BRIDGE DECK REPAIR**  
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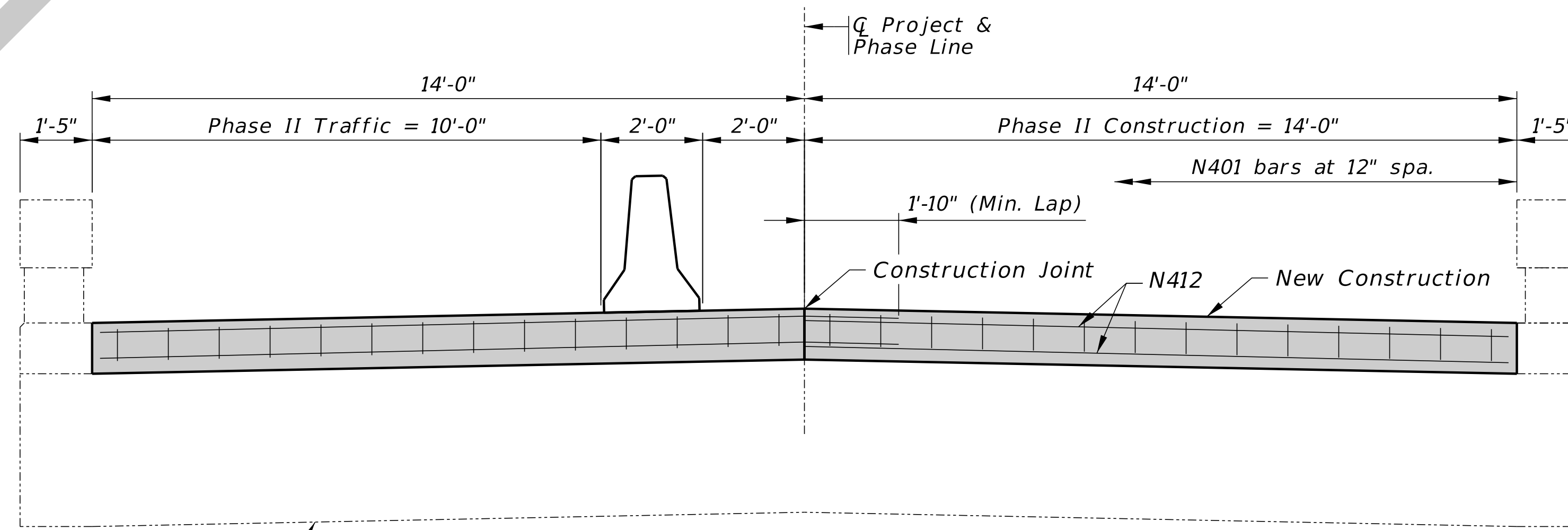
**SOUTH APPROACH**

**NORTH APPROACH**

**GENERAL REPAIR PLAN**  
Not to Scale



**PHASE I CROSS SECTION**  
(Shown at Expansion Joint)  
Not to Scale



**PHASE II CROSS SECTION**  
(Shown at Expansion Joint)  
Not to Scale

S2

PROJECT NUMBER  
STP-11-4(116)

C.N. 80952

STRUCTURE NUMBER  
S011 17131

BRIDGE ENGINEER

LOCATION ATKINSON - BRUSH CREEK  
5 SPAN DECK STEEL GIRDER

EXPANSION JOINT REPAIR  
GENERAL PLAN & PHASED CROSS-SECTIONS

DESIGNED BY TDA  
CHECKED BY SBR  
DATE SEP 2023

DATE SEP 2023

DATE SEP 2023

DATE SEP 2023

DATE SEP 2023

DATE SEP 2023

DATE SEP 2023

DATE SEP 2023

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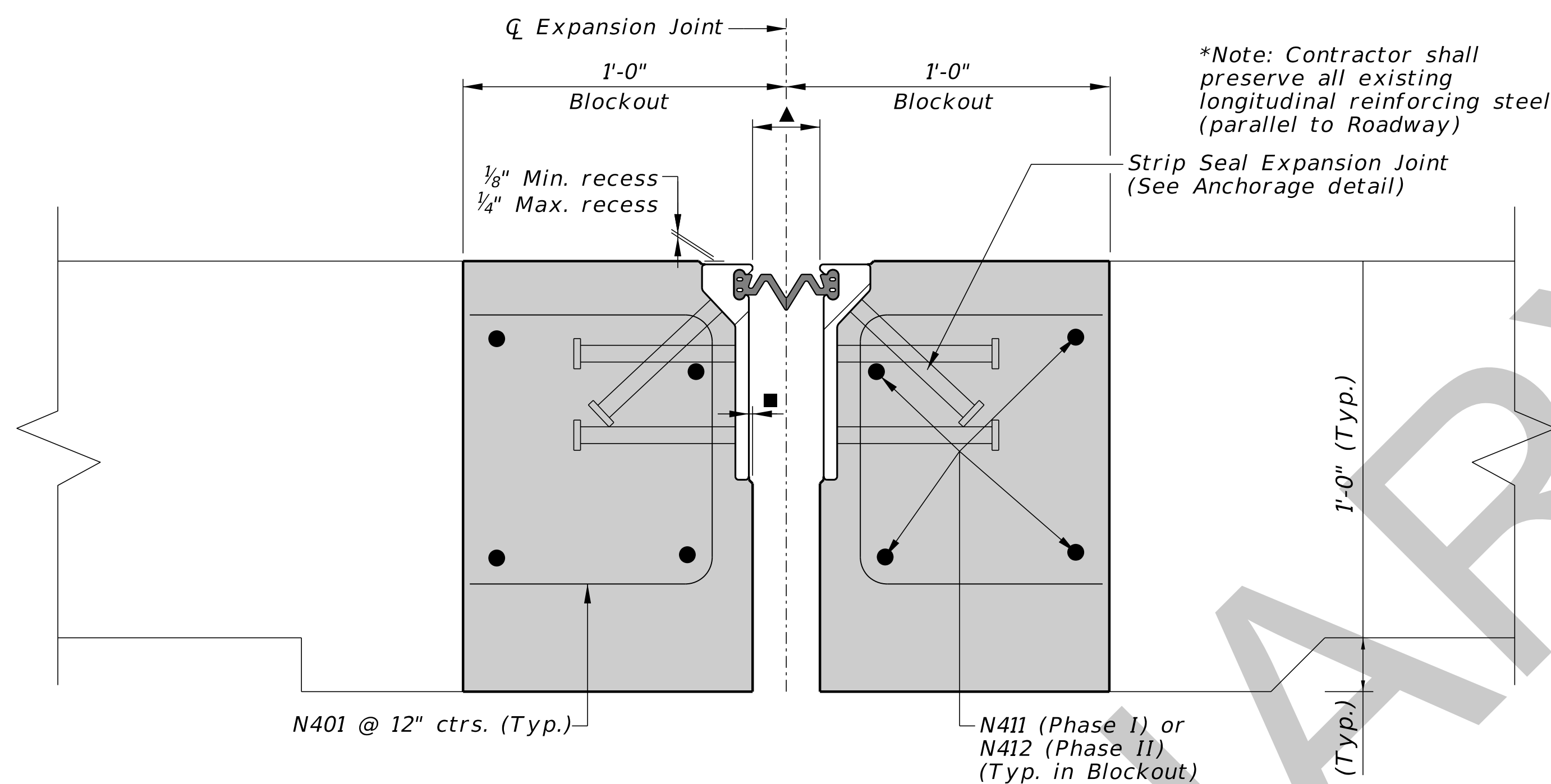
NEBRASKA  
Good Life. Great Journey.  
DEPARTMENT OF TRANSPORTATION

SPECIAL PLAN NO.  
1 2 3

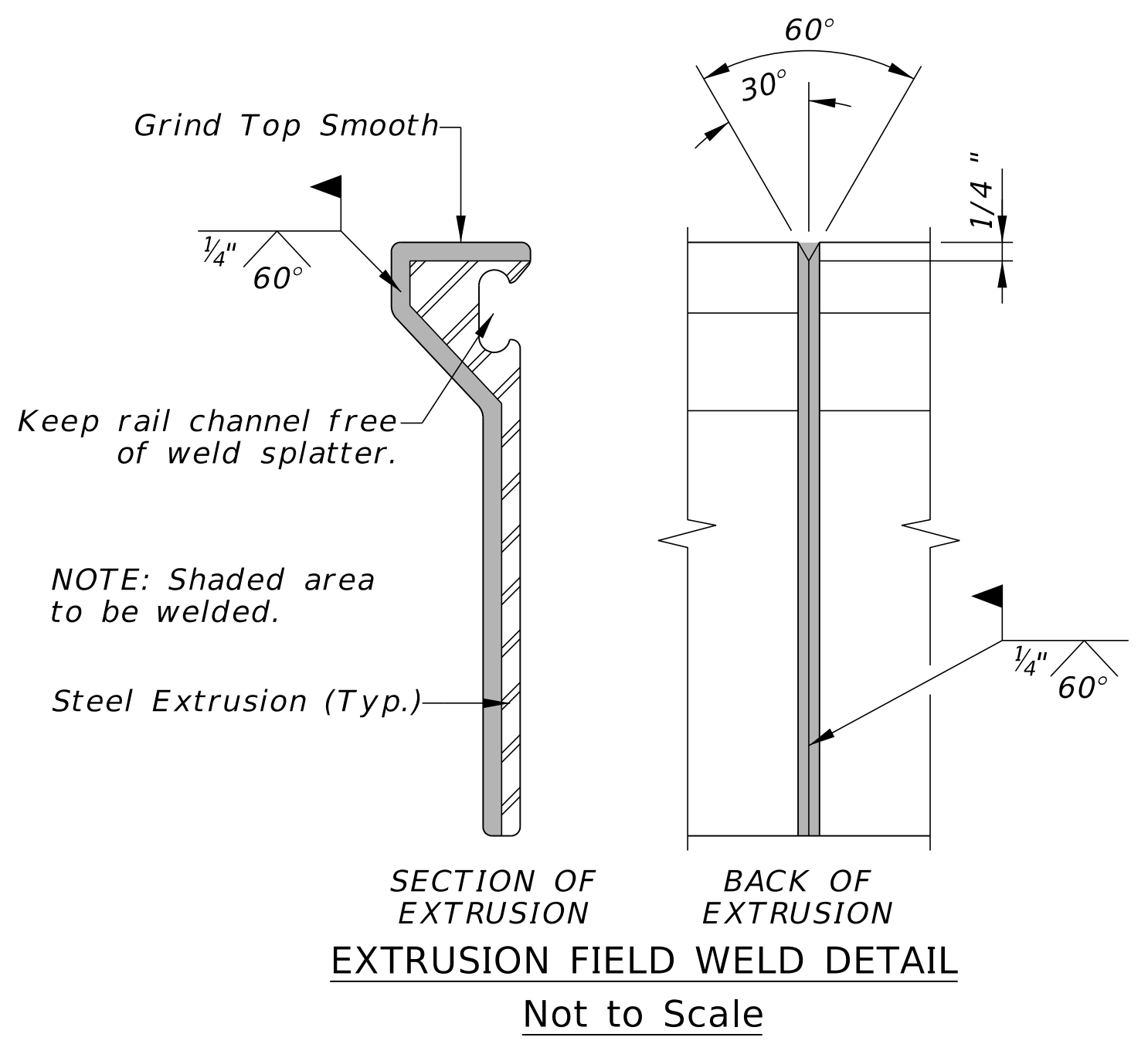
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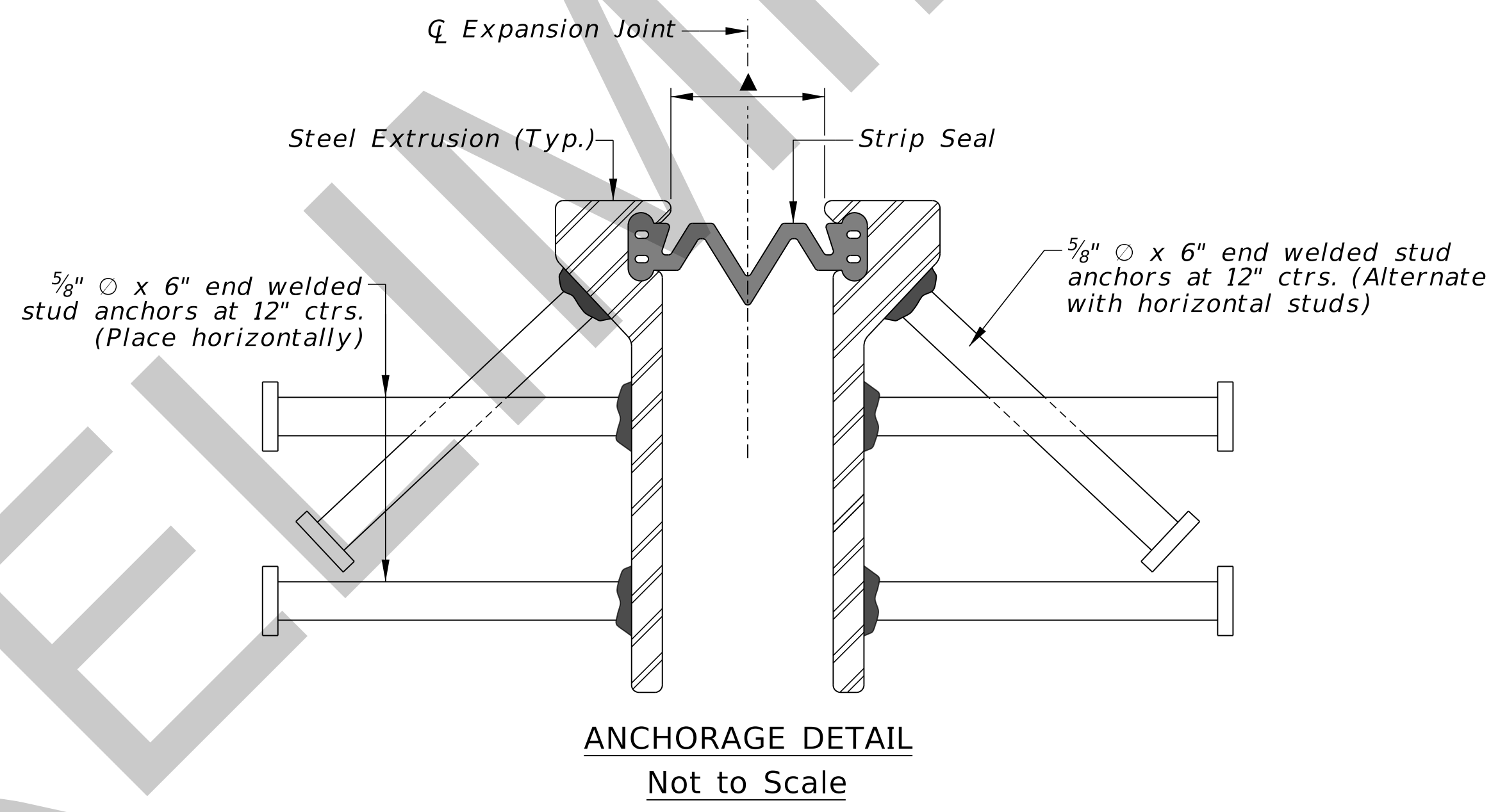
File: S3-S011 17131 Expansion Joint.dgn



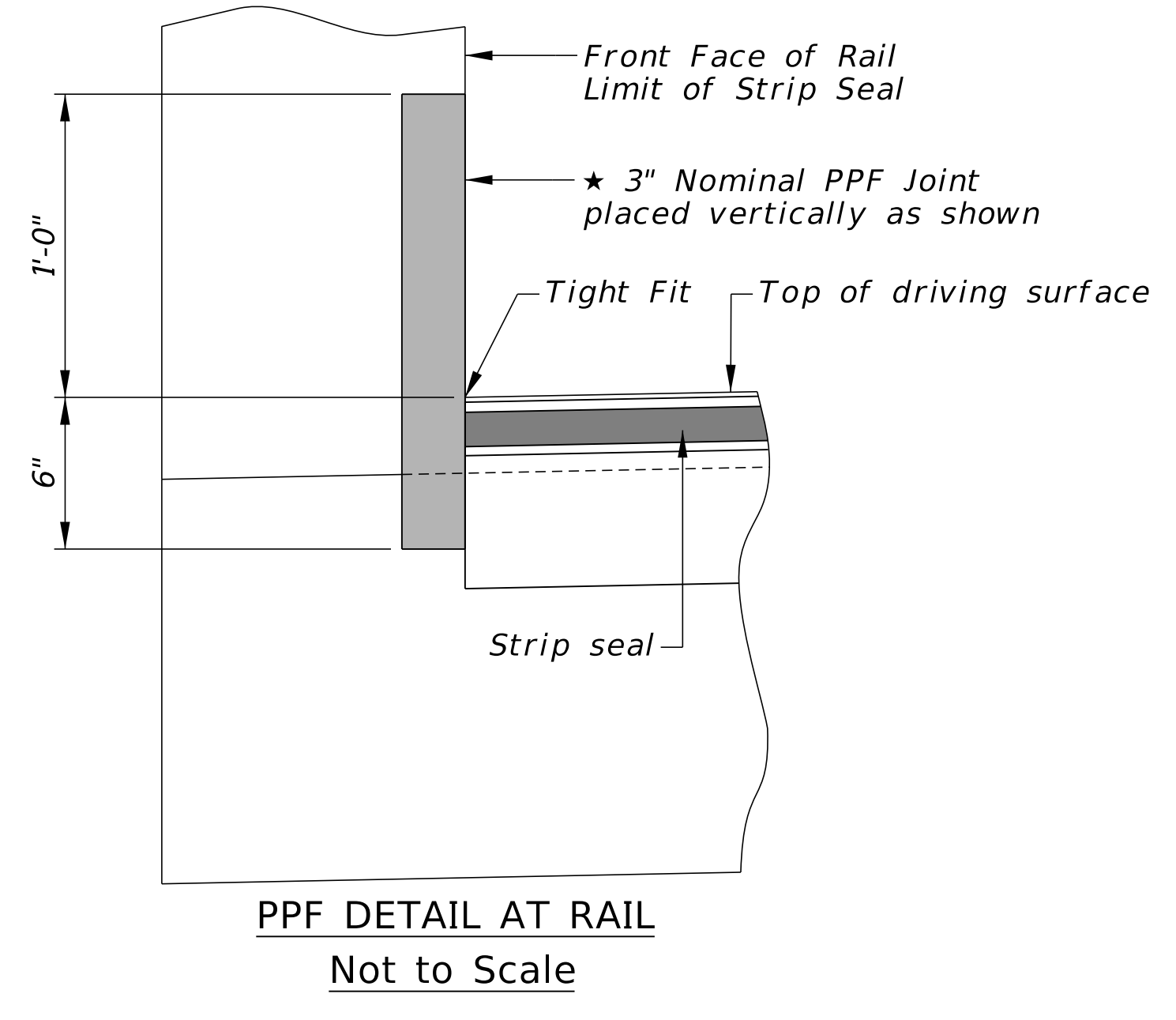
SECTION AT EXPANSION JOINT\*  
Not to Scale



EXTRUSION FIELD WELD DETAIL  
Not to Scale



ANCHORAGE DETAIL  
Not to Scale



PPF DETAIL AT RAIL  
Not to Scale

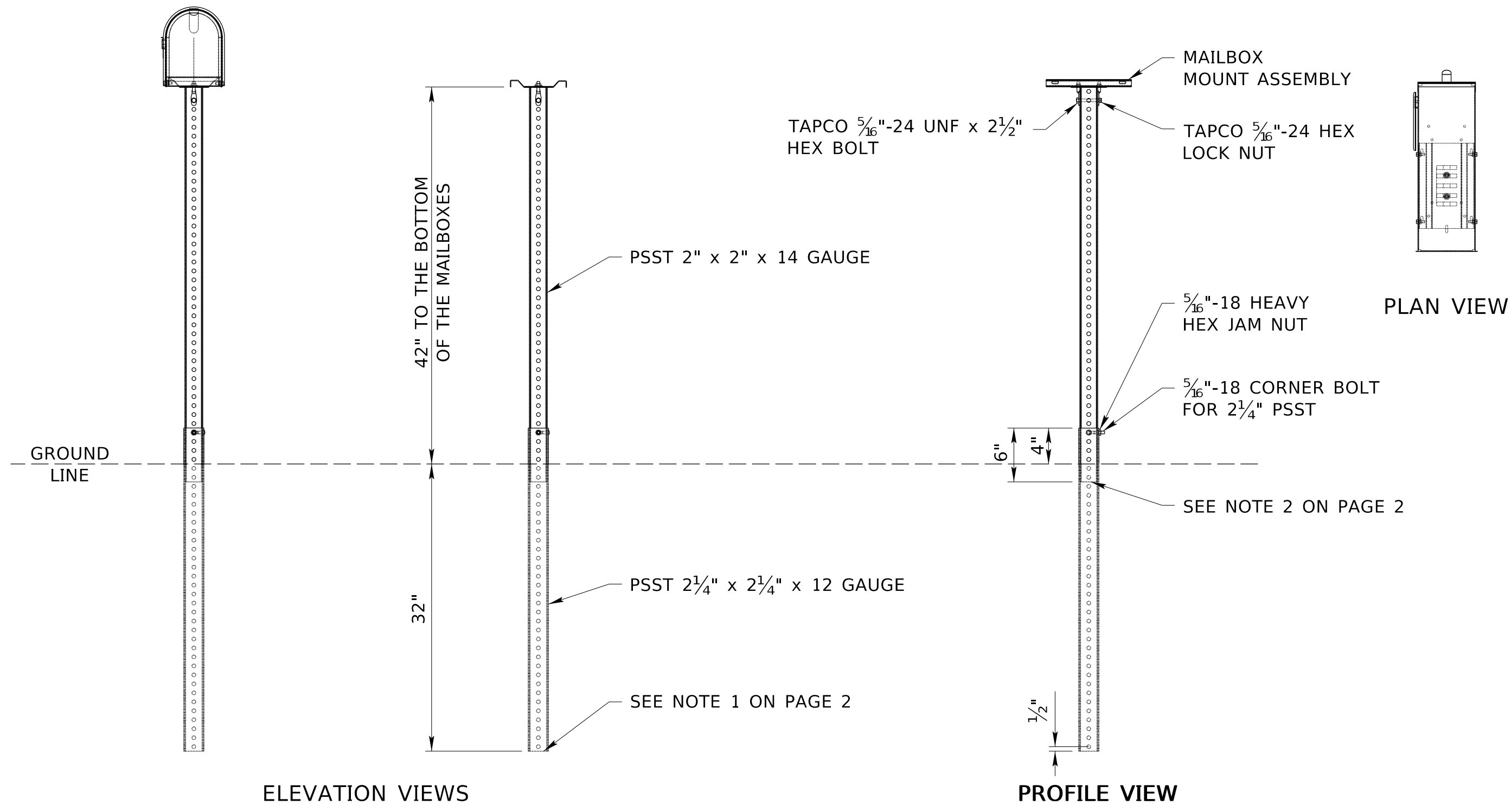
5" STRIP SEAL EXPANSION JOINTS		
MANUFACTURER	EXTRUSION	SEAL
D.S. Brown Co.	SSPA	L2-500
Watson Bowman	P	SE-500

EXPANSION JOINT GAP DIMENSIONS	
AMBIENT TEMPERATURE RANGE DURING POUR (°F)	▲ Gap Width
35 - 45	3.25"
40 - 55	3"
55 - 65	2.75"
65 - 85	2.50"

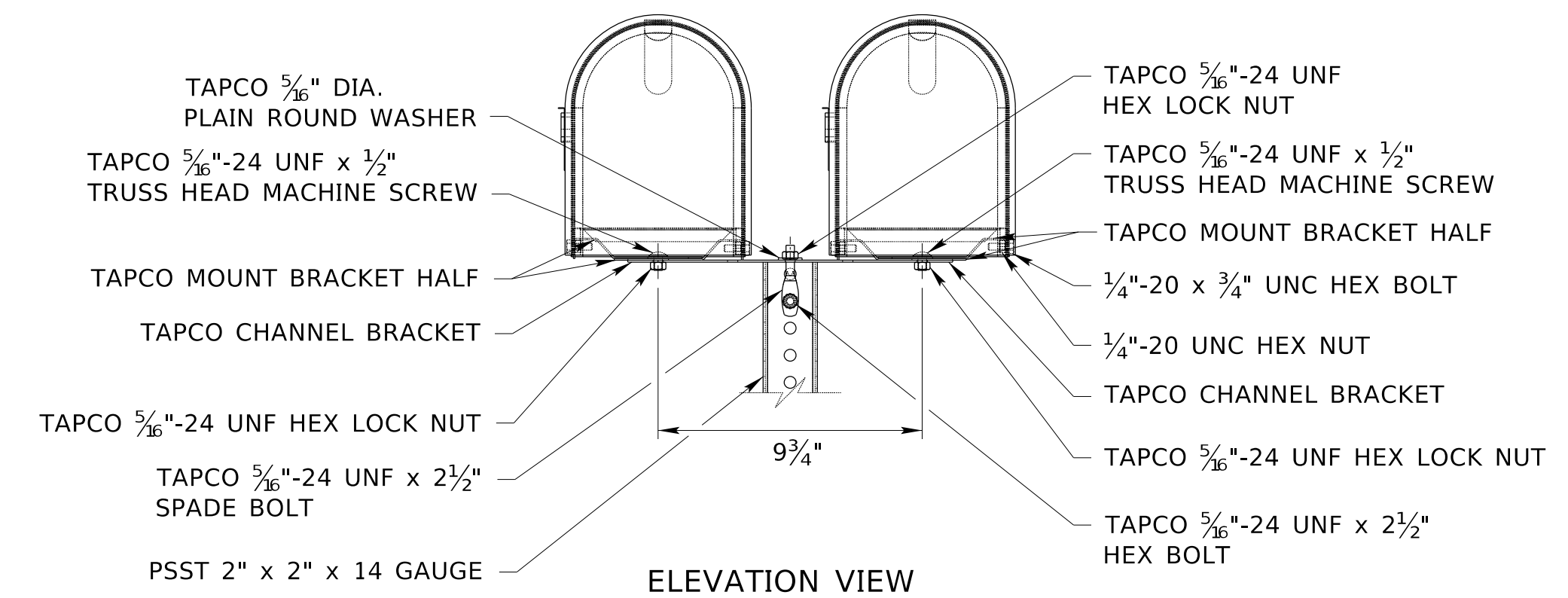
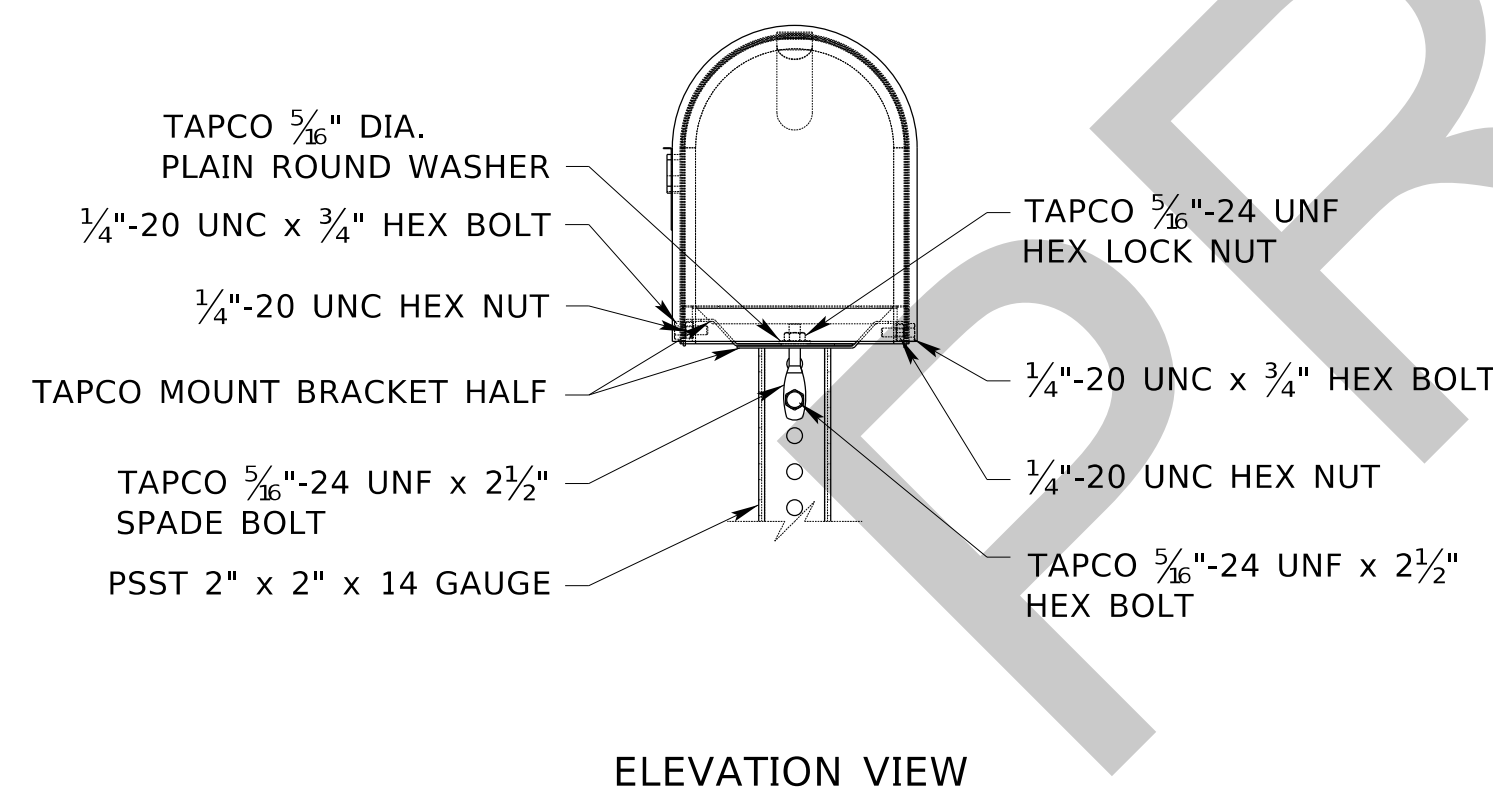
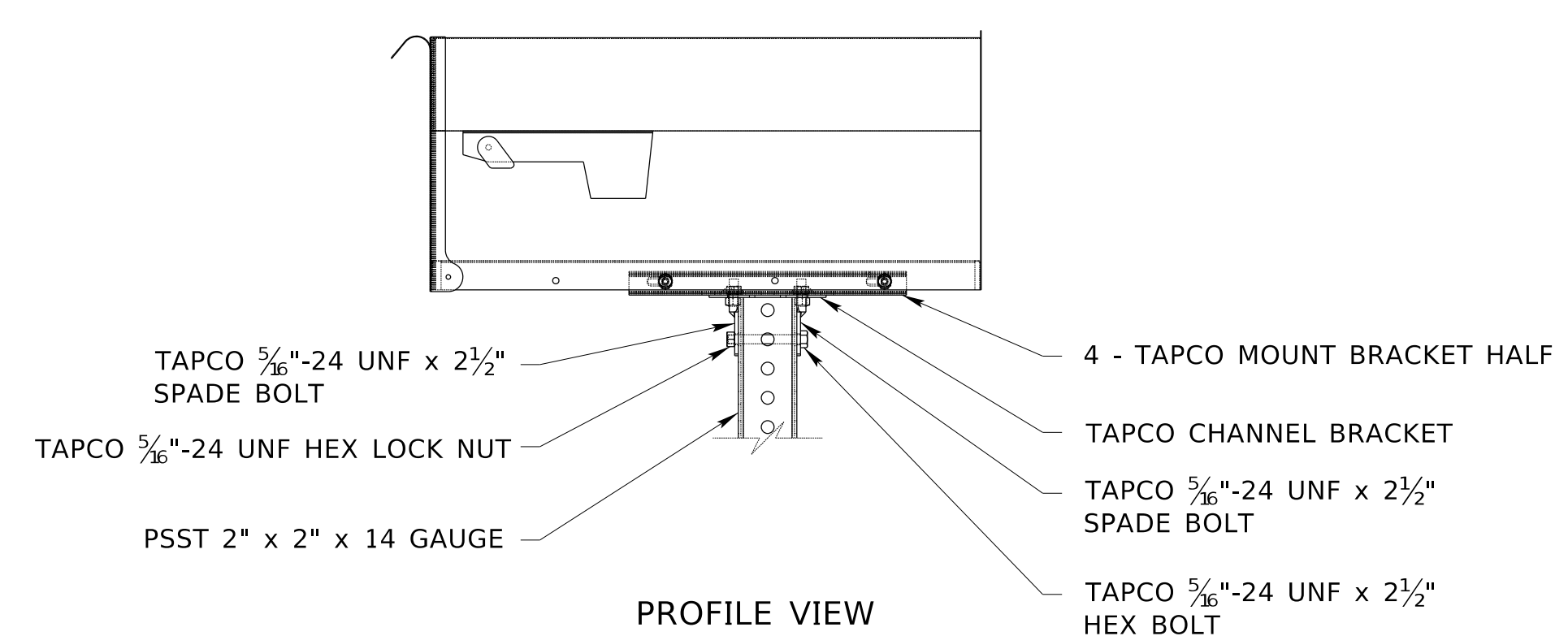
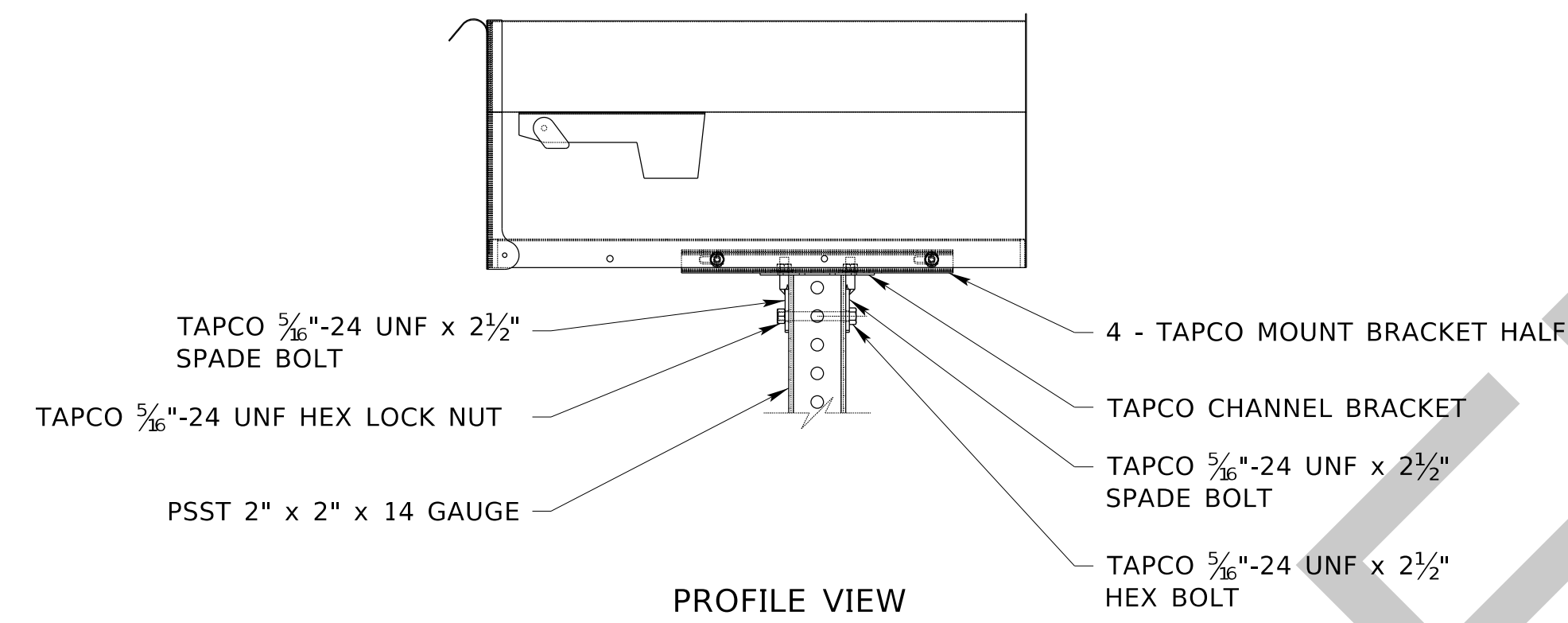
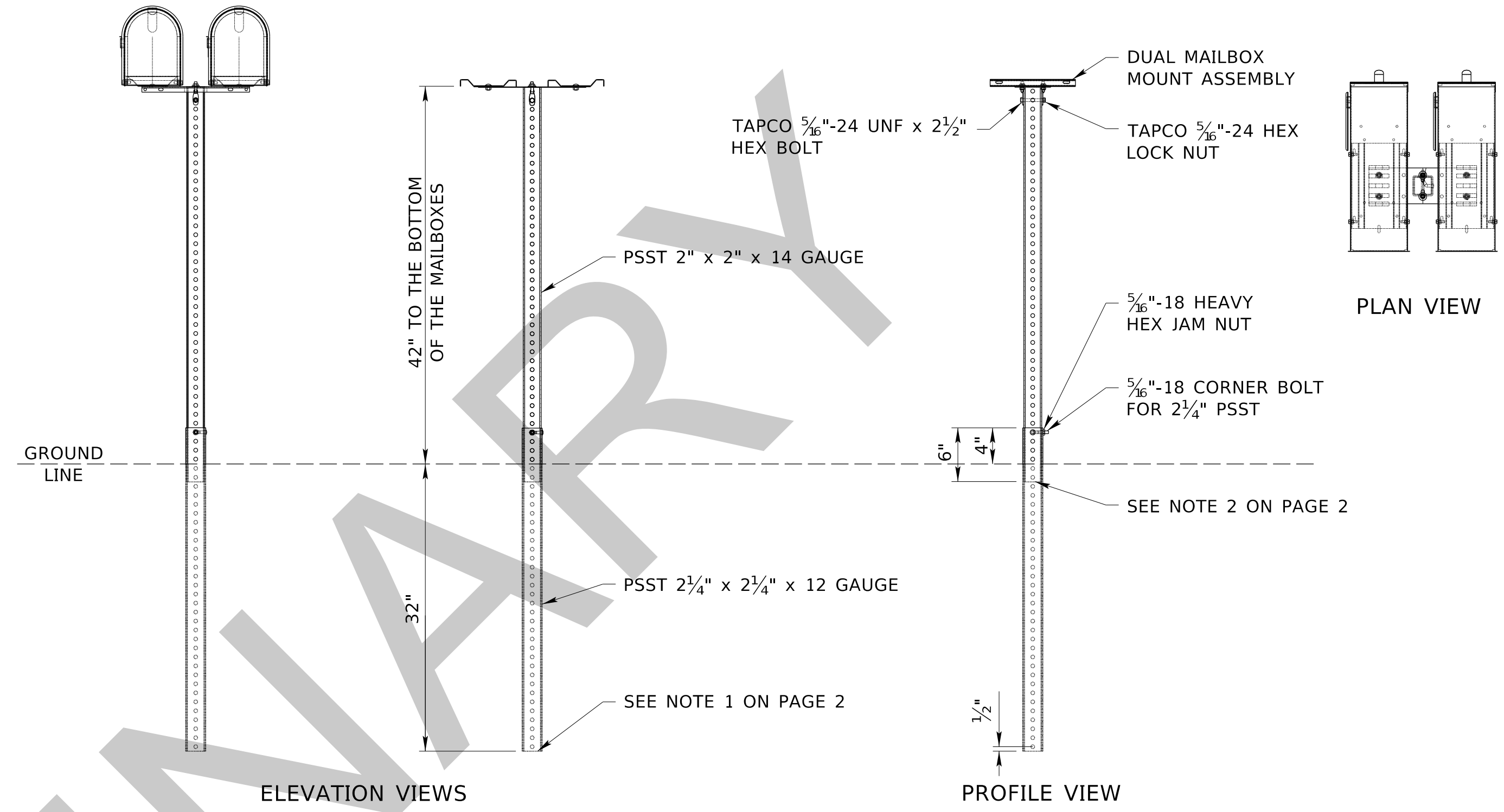
- NOTES:**
- ▲ Nominal Joint Opening at time of pour, based on ambient air temperature. Adjust for temperature as shown in the table. Dimensions measured Normal to Q Expansion Joint.
  - Strip Seal shall be installed within the gap limits recommended by the listed Expansion Joint manufacturers.
  - Steel extrusions shall be galvanized in accordance with ASTM A123. Extrusions shall be set to grade and crown.
  - The gap shall be cleaned of all foreign matter before installation of the Expansion Joint.
  - \* Precompressed Polyurethane Foam Joint used in vertical faces of rail will not be paid for directly, but shall be considered subsidiary to the item, "STRIP SEALS".

S3	
PROJECT NUMBER	STP-11-4(116)
C.N.	80952
STRUCTURE NUMBER	S011 17131
BRIDGE ENGINEER	
LOCATION ATKINSON - BRUSH CREEK 5 SPAN DECK STEEL GIRDER	
EXPANSION JOINT REPAIR	
STRIP SEAL EXPANSION JOINT	
CHECKED BY SBR	DATE SEP 2023
DESIGNED BY TDA	DETAILED BY TDA
COUNTY HOLT	LOCATION ATKINSON - BRUSH CREEK
HWY. NO. N-11	SKEW 0°
REF. POST. 171.31	ROADWAY 28'-0" CLEAR
STA. 1180+77.97	DESIGN LIVE LOAD HS-20
NEBRASKA DEPARTMENT OF TRANSPORTATION - BRIDGE DIVISION	
NEBRASKA Good Life. Great Journey. DEPARTMENT OF TRANSPORTATION	
SPECIAL PLAN NO.	3
1	3

# TAPCO SINGLE MAILBOX CONFIGURATION



# TAPCO DOUBLE MAILBOX CONFIGURATION



COMPUTER: BG0419M593

DATE: 18-JUL-2024 07:36

FILE: 80952 Sheets Specials\_US\_FT.dgn

U1

Project Number  
11-4(116)

C.N. 80952

SPECIAL PLAN 1C  
1 OF 2  
MAILBOX POST

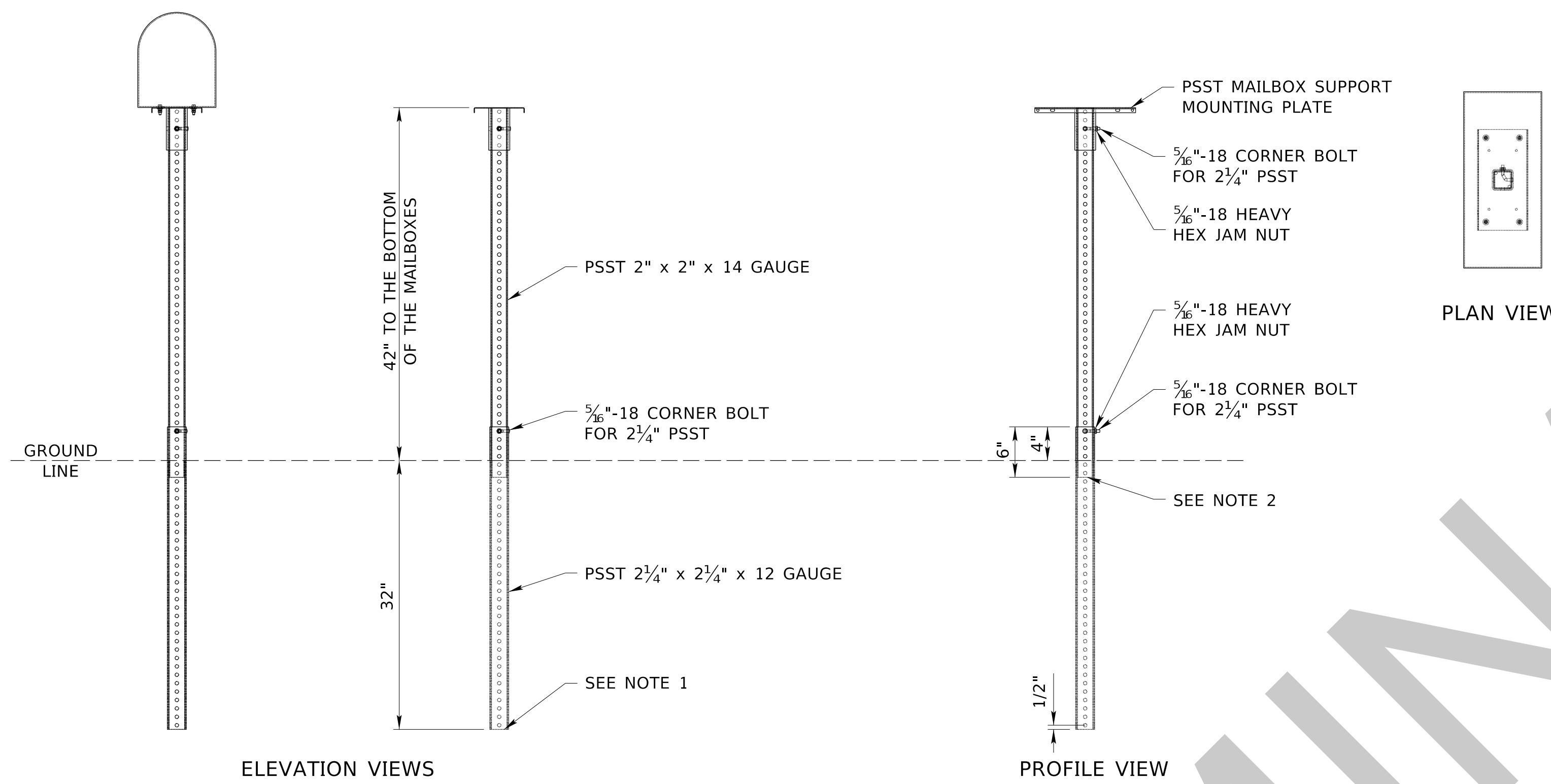
NEBRASKA  
Good Life. Great Journey.  
DEPARTMENT OF TRANSPORTATION

Roadway  
Design  
Division

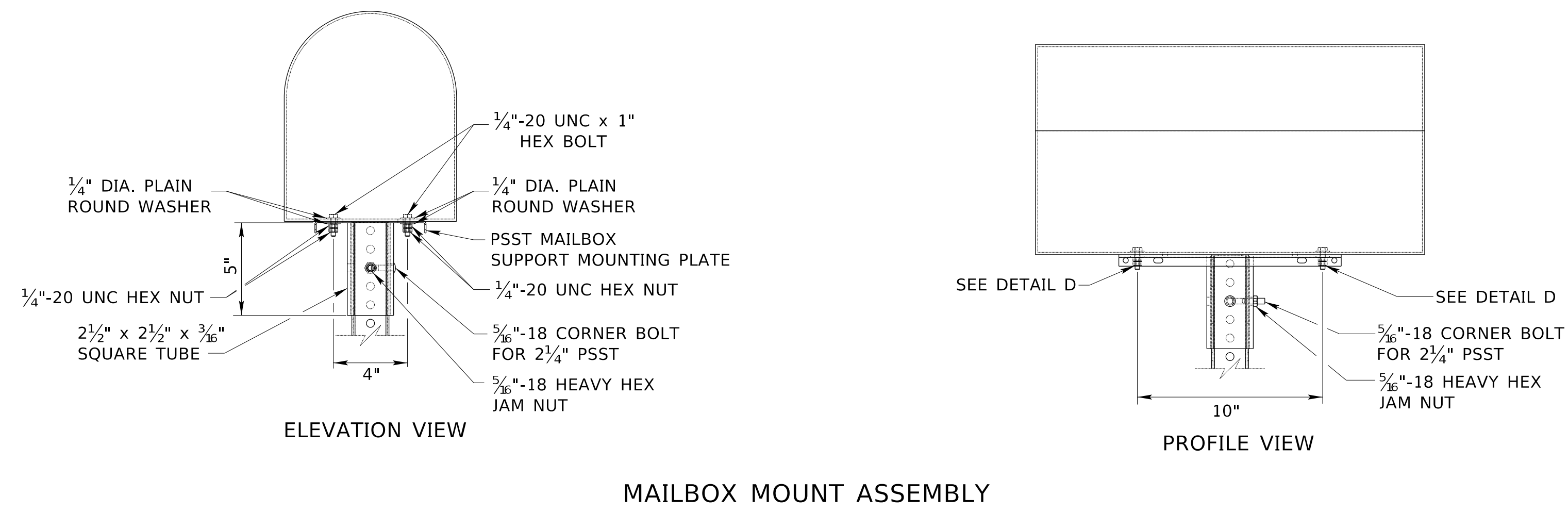
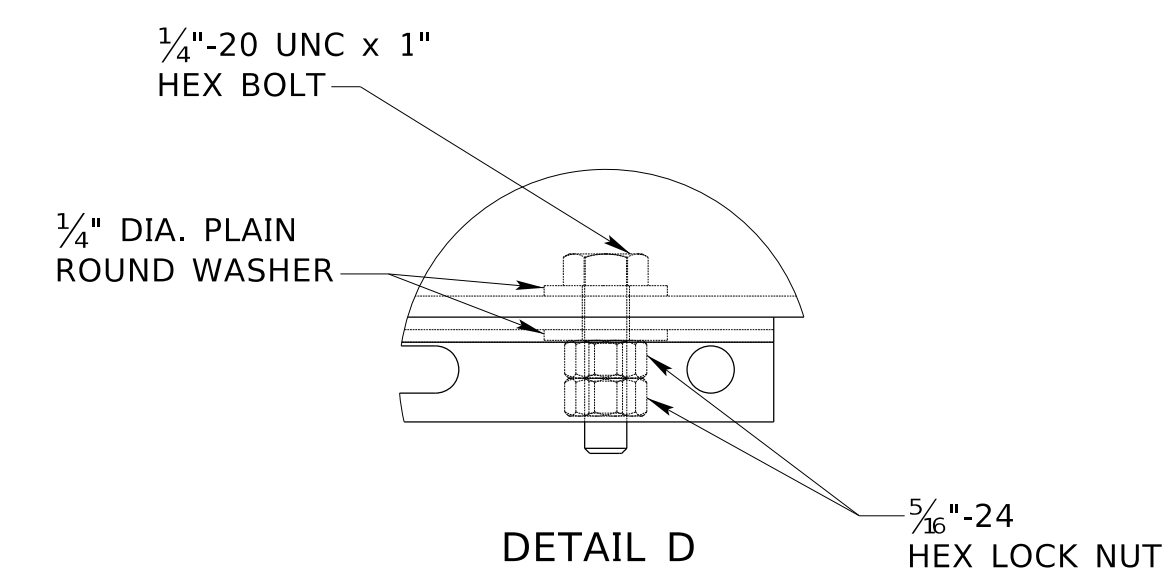
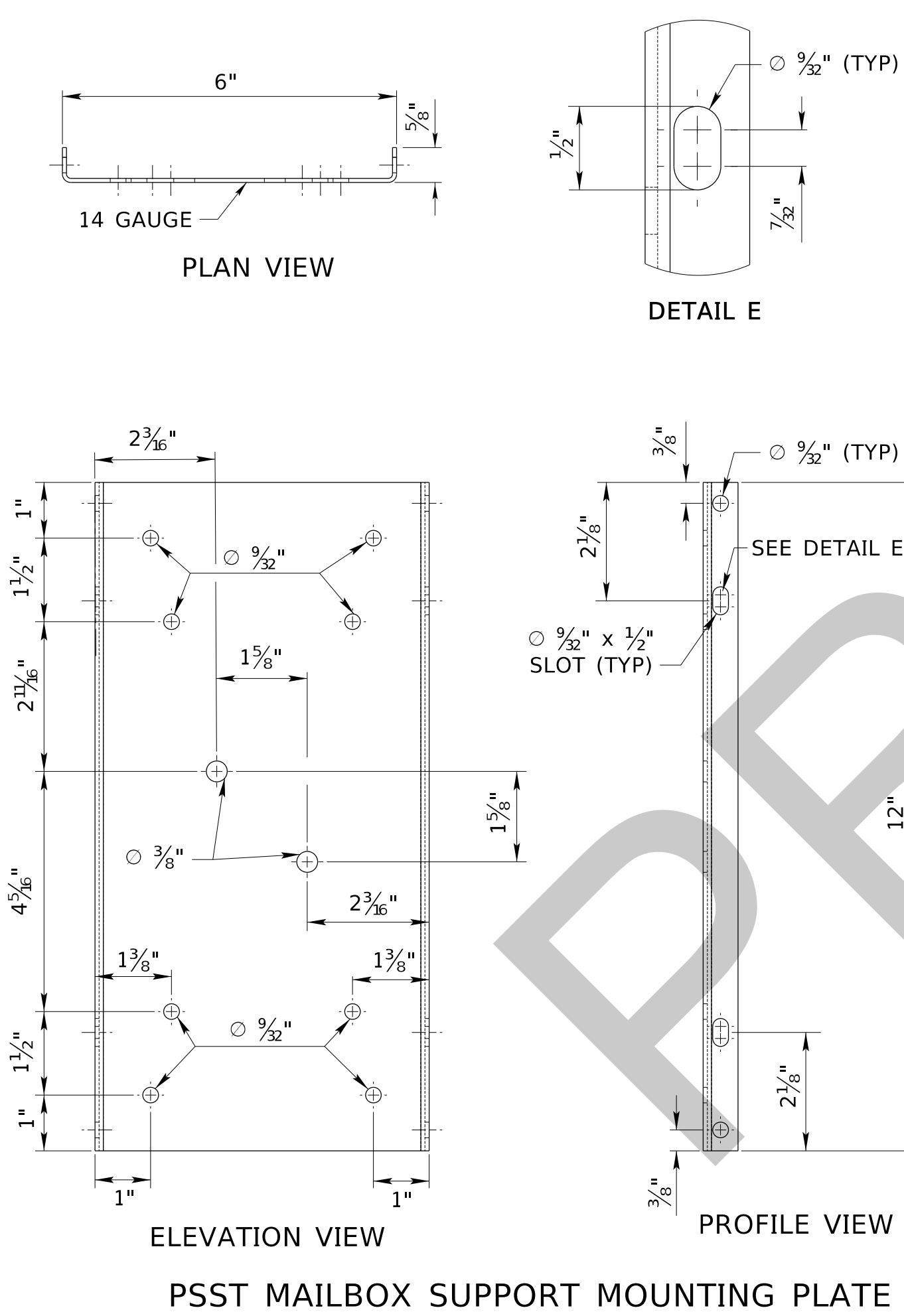
PROFESSIONAL CIVIL ENGINEER  
AUSTIN PAUL  
E-1799  
DATE: 18-JUL-2024 07:36  
STATE OF NEBRASKA

# NON-PROPRIETARY SINGLE MAILBOX CONFIGURATION

U2  
Project Number  
11-4(116)  
C.N. 80952



- NOTES:**
1. PSST 2 1/4" x 2 1/4" x 12 GAUGE IS ASYMMETRICAL AND SHALL BE INSERTED WITH THE END OF THE POST WITH THE 1/2" GAP BETWEEN THE FIRST HOLE AND THE END OF THE POST BEING INSERTED FIRST.
  2. PSST 2 x 2 x 14 GAUGE SHALL BE INSERTED WITH THE 1/2" GAP DOWN.
  3. THE TAPCO MAILBOX SUPPORTS ARE TO BE ATTACHED TO THE POST USING THE SUPPLIED TAPCO HARDWARE EXCEPT THE SUPPLIED #10 BOLTS ARE REPLACED WITH 1/4"-20 GRADE 5 HEX BOLTS AND NUTS TO ATTACH THE MAILBOXES TO THE BRACKETS VIA THE FURTHEST REARWARD HOLES.
  4. CONTRACTOR MAY INSTALL TWO SINGLE MAILBOX CONFIGURATIONS IN LIEU OF THE DOUBLE MAILBOX CONFIGURATION.



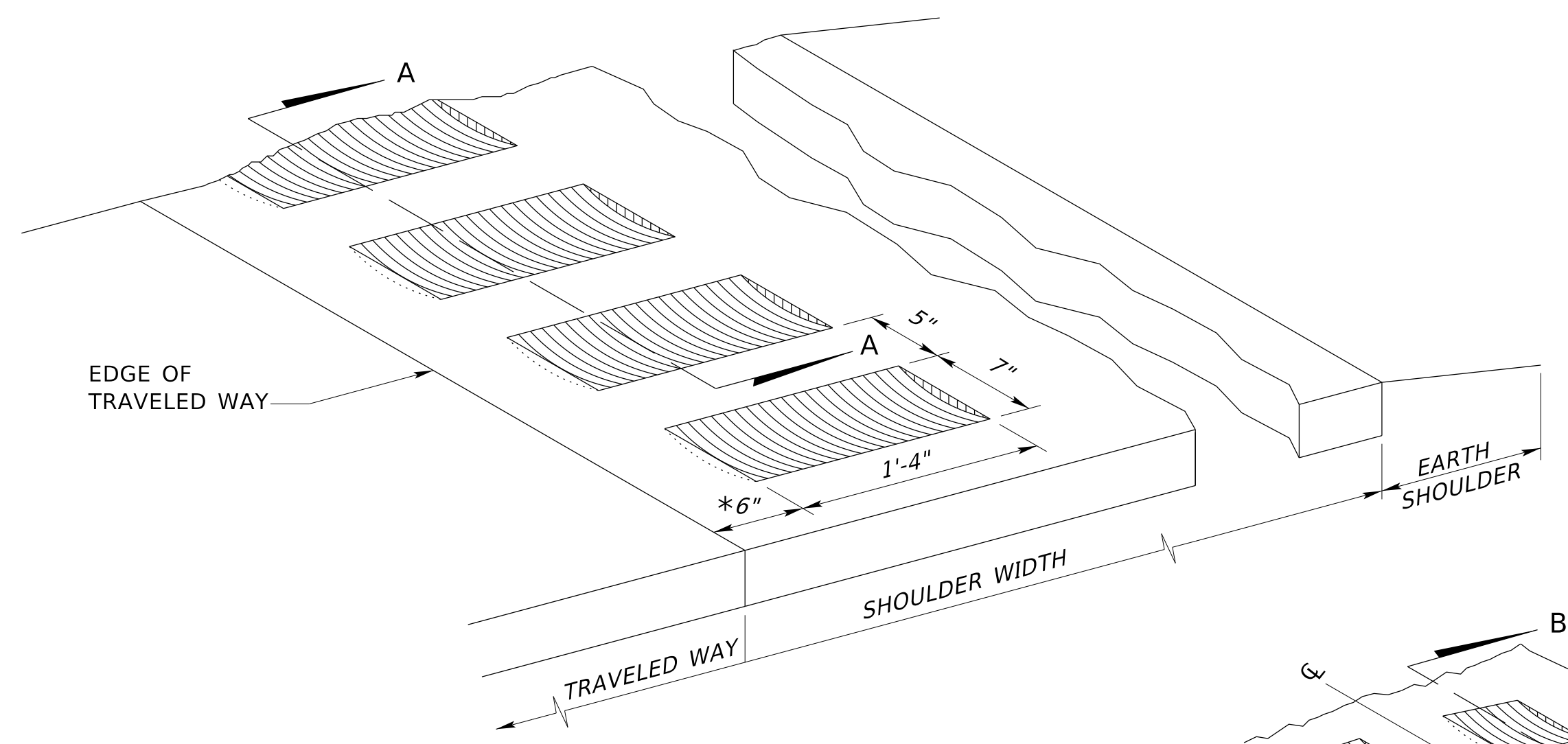
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SPECIAL PLAN 1C  
2 OF 2  
MAILBOX POST

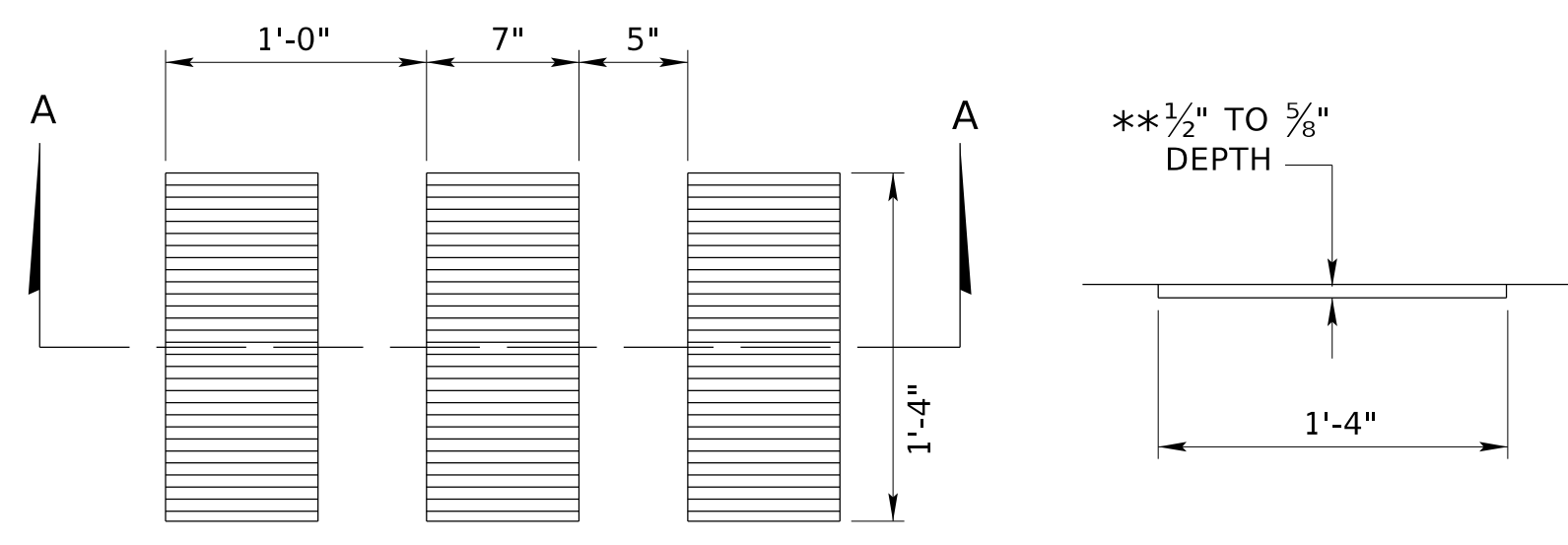
NEBRASKA  
Good Life. Great Journey.  
DEPARTMENT OF TRANSPORTATION

Roadway Design  
Division

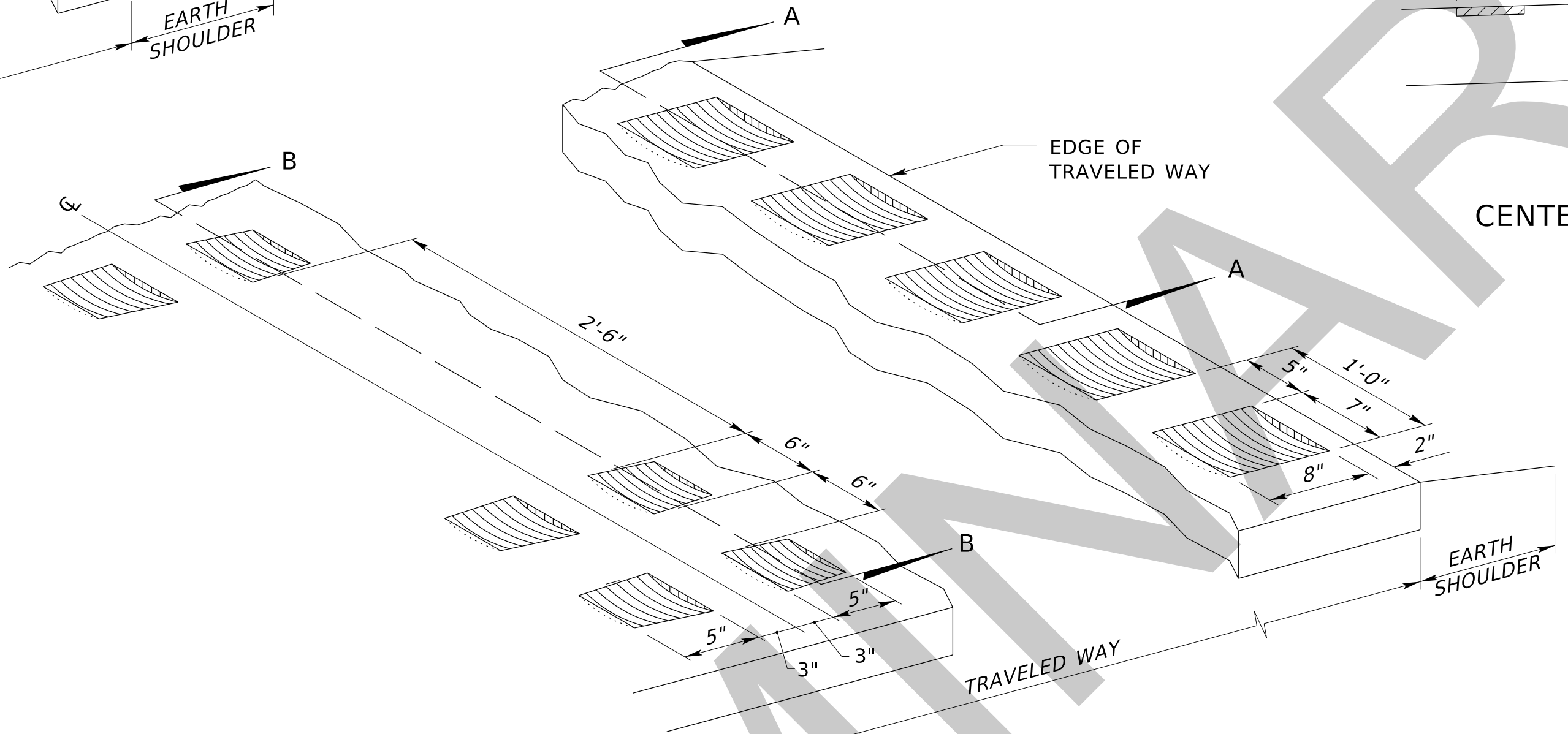




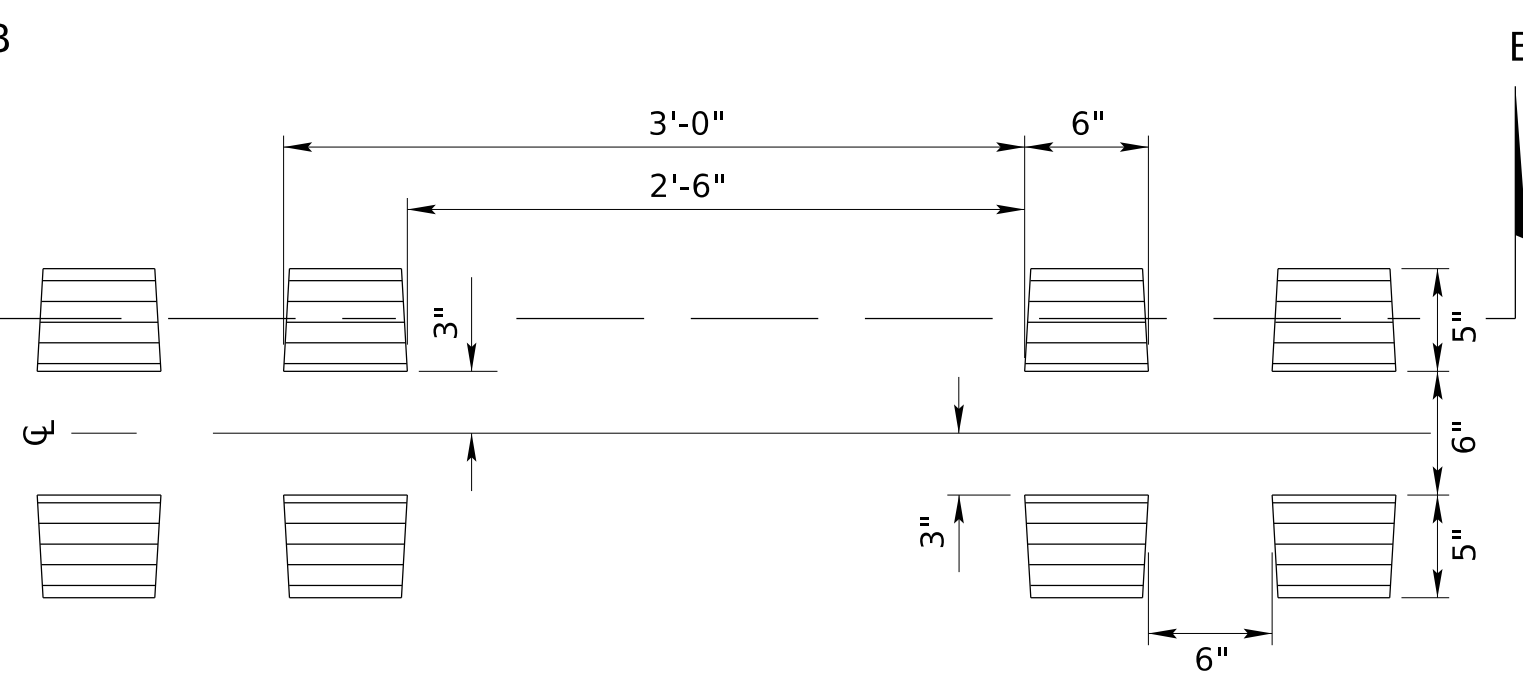
SHOULDER RUMBLE STRIPS DETAIL



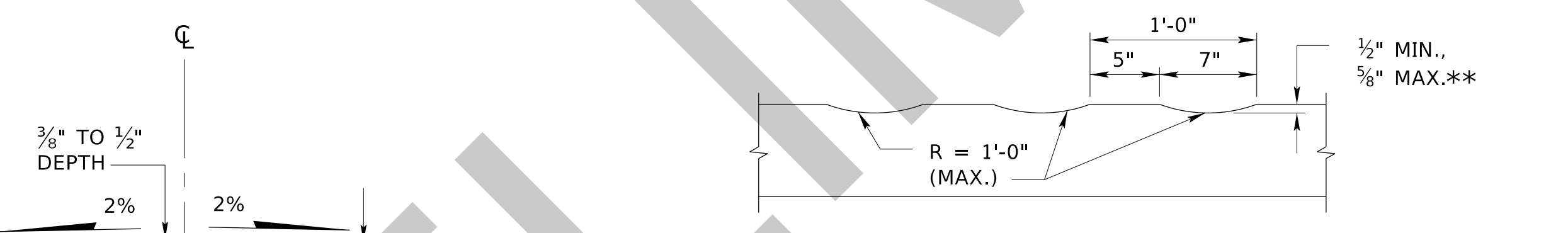
SHOULDER RUMBLE STRIPS SHAPE



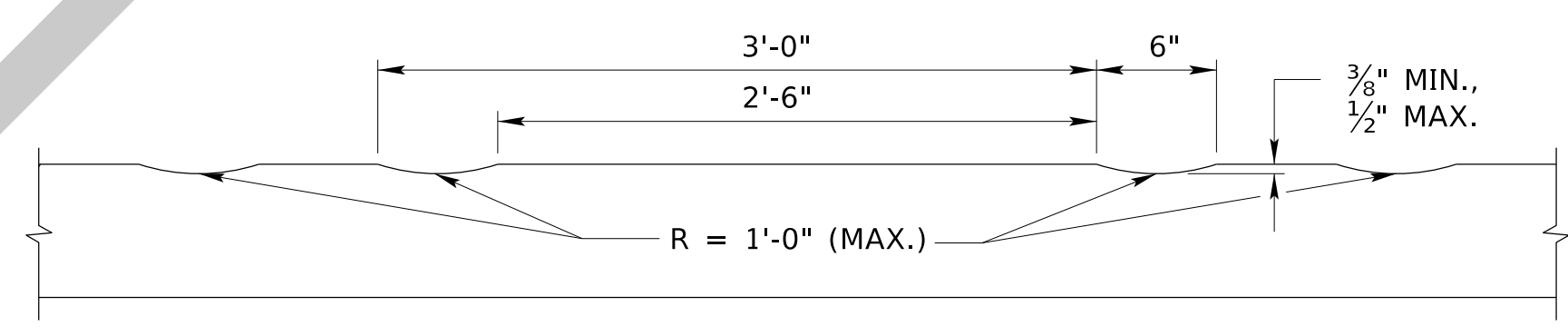
CENTERLINE RUMBLE STRIPS DETAIL



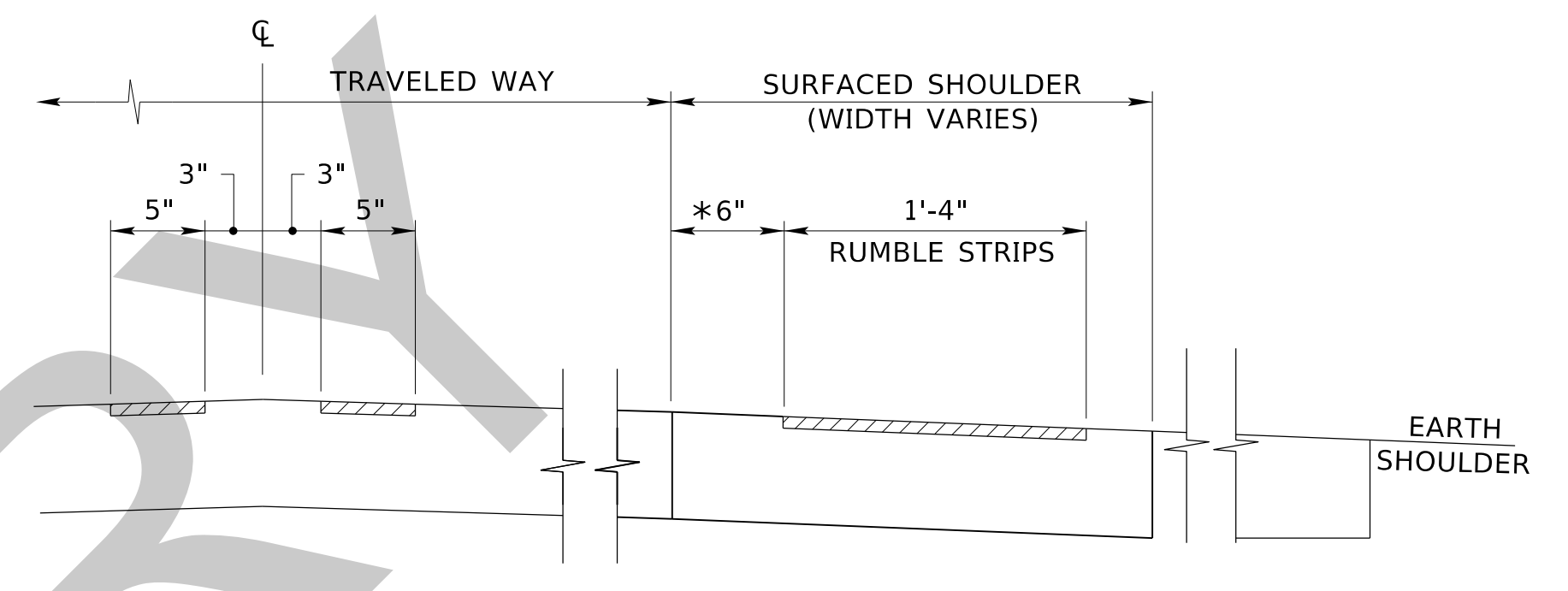
CENTERLINE RUMBLE STRIPS SHAPE



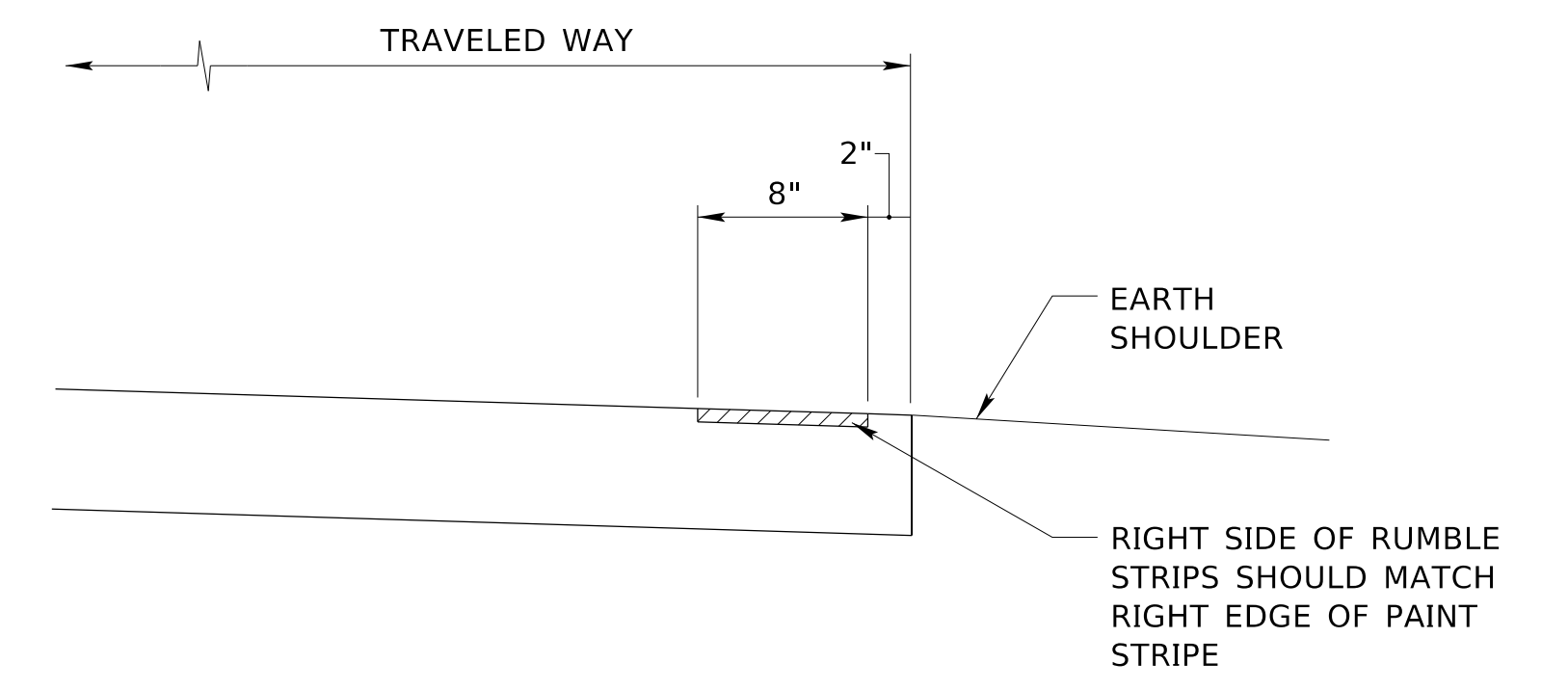
SHOULDER AND EDGELINE RUMBLE STRIPS SECTION A-A  
\*\*3/8" MIN., 1/2" MAX. FOR 1" OVERLAY



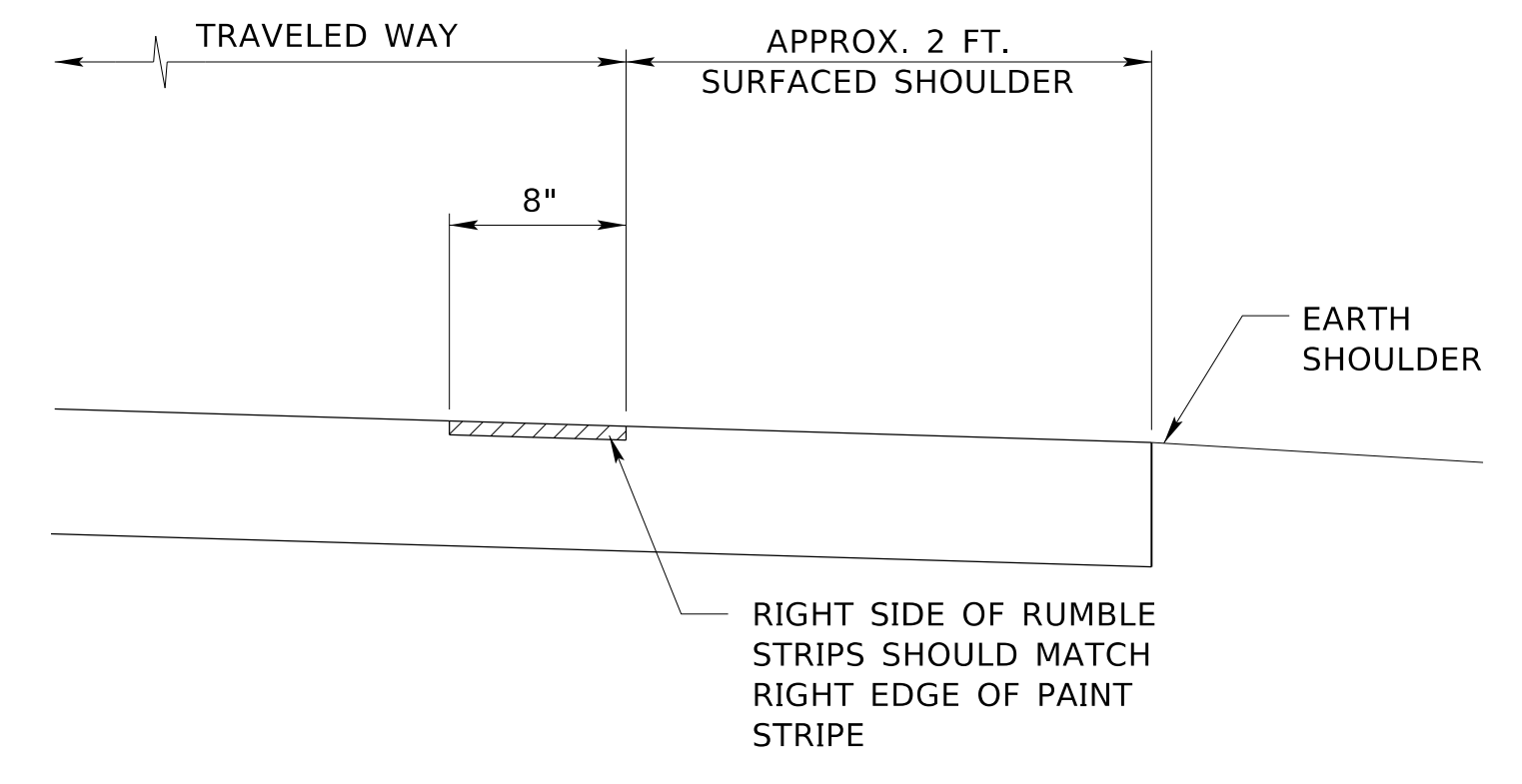
CENTERLINE RUMBLE STRIPS SECTION B-B



CENTERLINE SHOULDER  
\*1'-0" FOR INTERSTATE



EDGELINE ON 24 FEET ROADWAY



EDGELINE ON 28 FEET ROADWAY

NOTES:

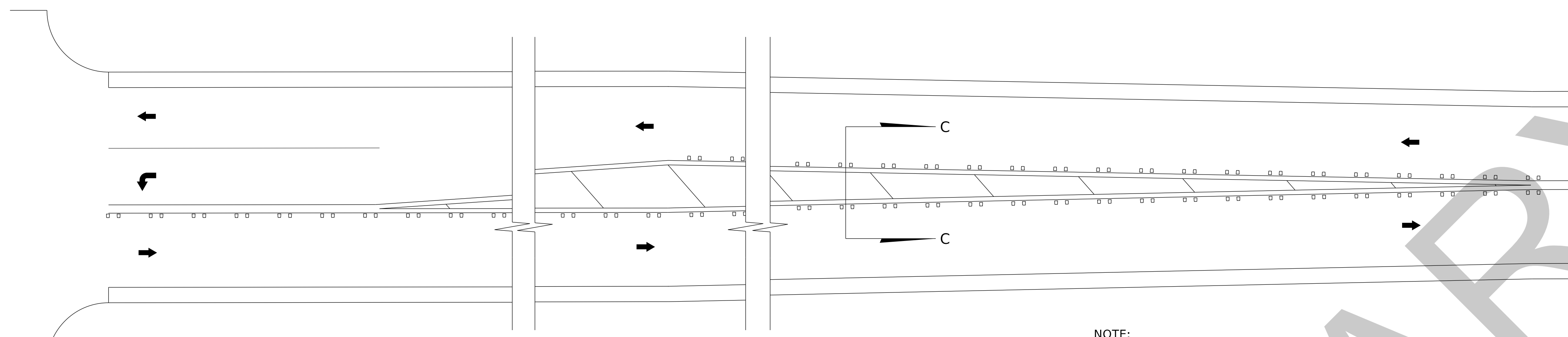
RUMBLE STRIPS SHALL BE PLACED ON SHOULDERS AS INDICATED IN THIS PLAN AND IN ACCORDANCE WITH THE PROJECT PLANS. RUMBLE STRIPS ARE NOT NORMALLY REQUIRED ON CITY STREETS AND OTHER URBAN SHOULDERS ADJACENT TO CURB AND GUTTER UNLESS SPECIFICALLY NOTED IN THE PLANS.

RUMBLE STRIPS MAY BE CONTINUOUS THROUGH DRIVEWAYS AND SHALL BE OMITTED ACROSS INTERSECTING ROADWAYS AND BRIDGES.

COMPUTER: BG0419M593

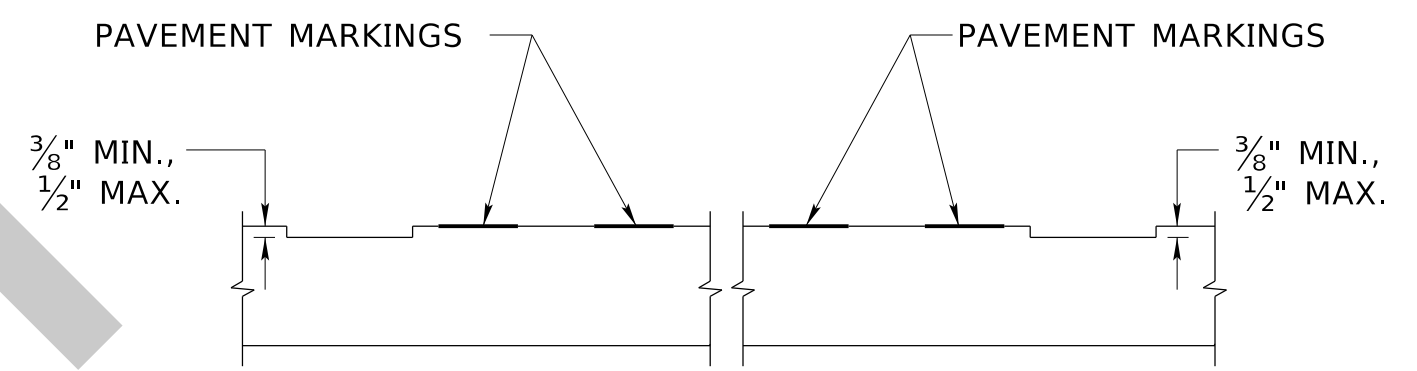
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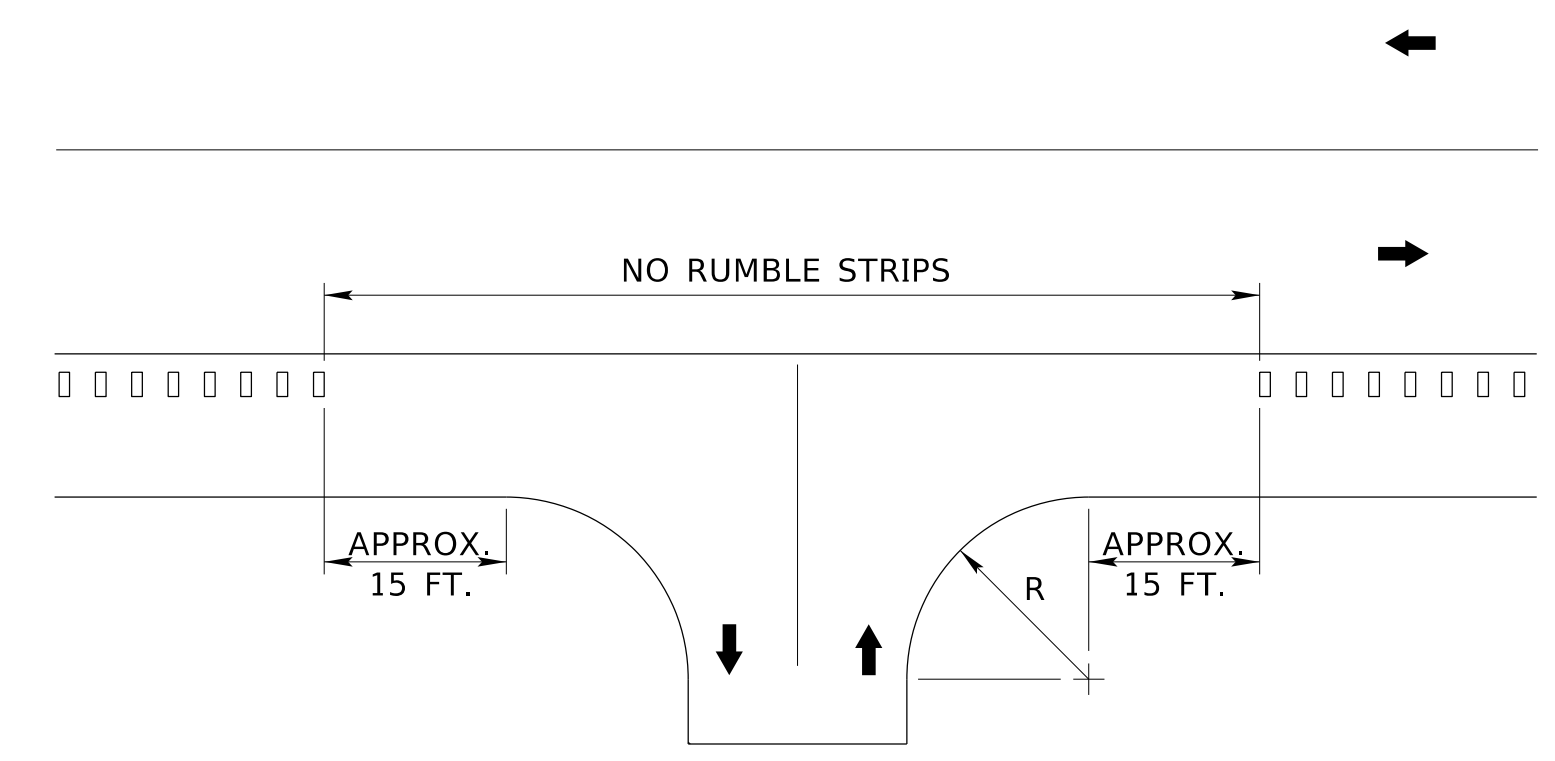
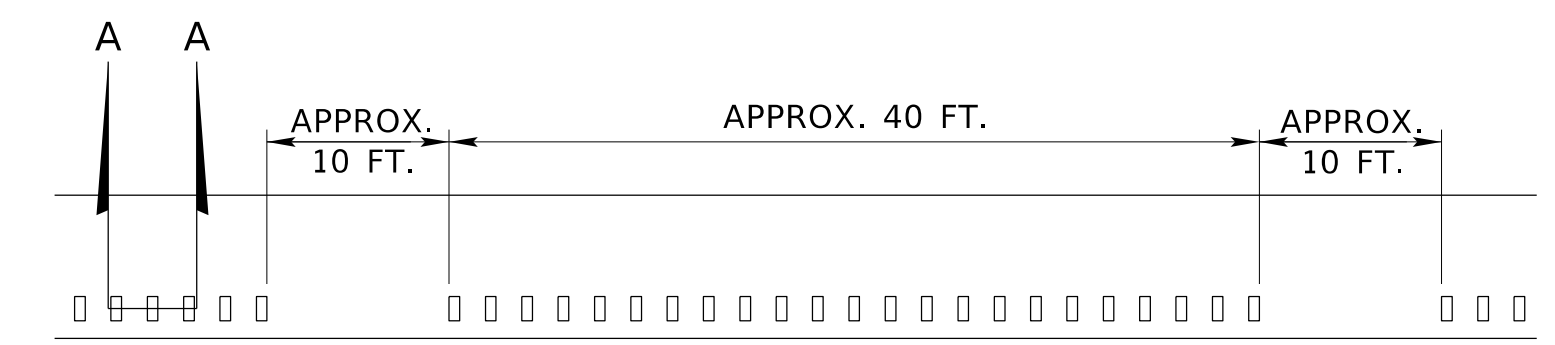
CENTERLINE RUMBLE STRIPS AT LEFT TURN BAY

NOTE:  
TURN BAY PAVEMENT MARKINGS SHALL BE MARKED  
BY CONTRACTOR AND/OR DISTRICT PRIOR TO  
CONSTRUCTION OF RUMBLE STRIPS.

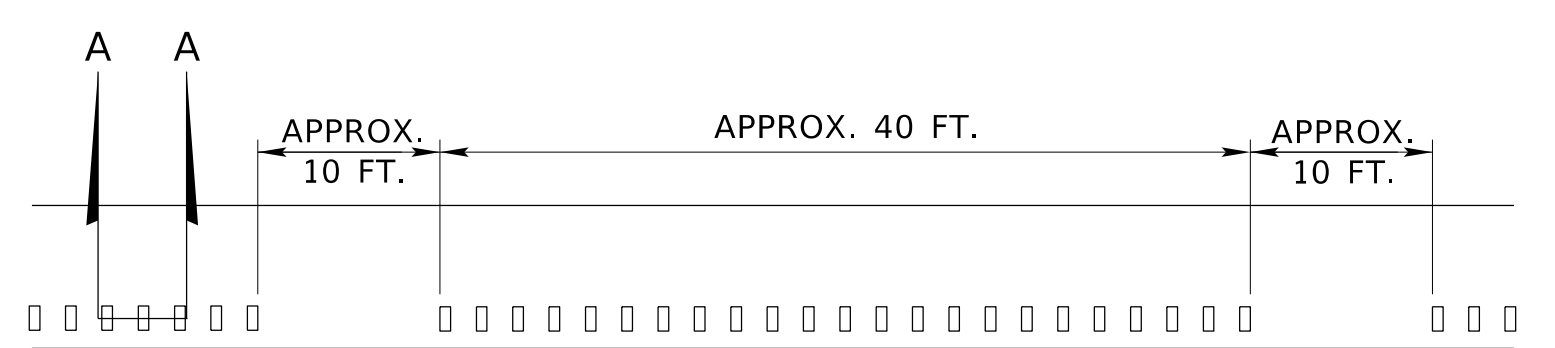


CENTERLINE RUMBLE STRIPS  
AT LEFT TURN BAY

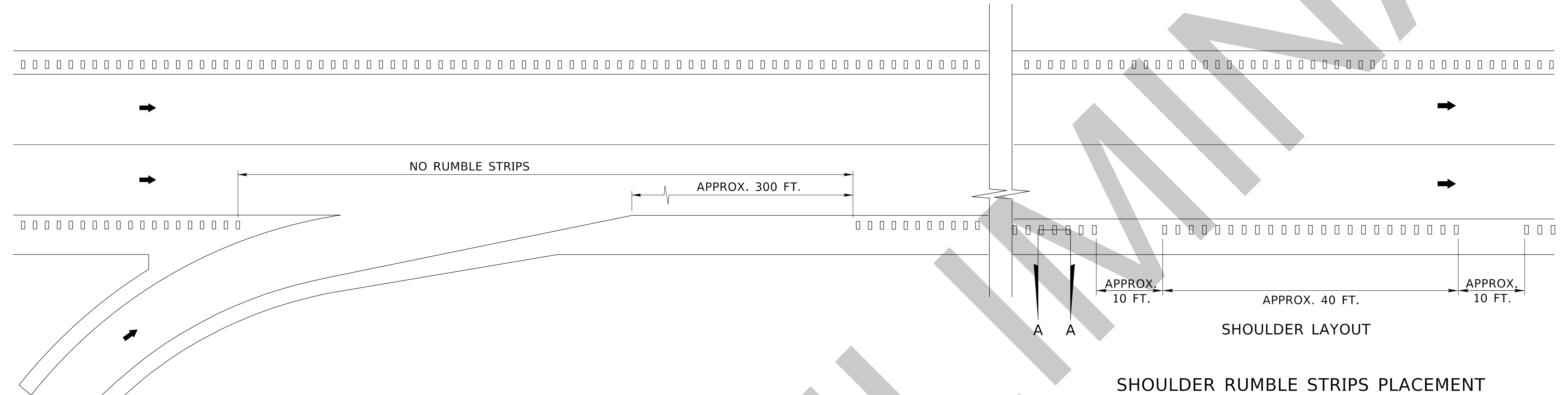
SECTION C-C



SHOULDER RUMBLE STRIPS PLACEMENT  
ON 2-LANE HIGHWAY AT INTERSECTION

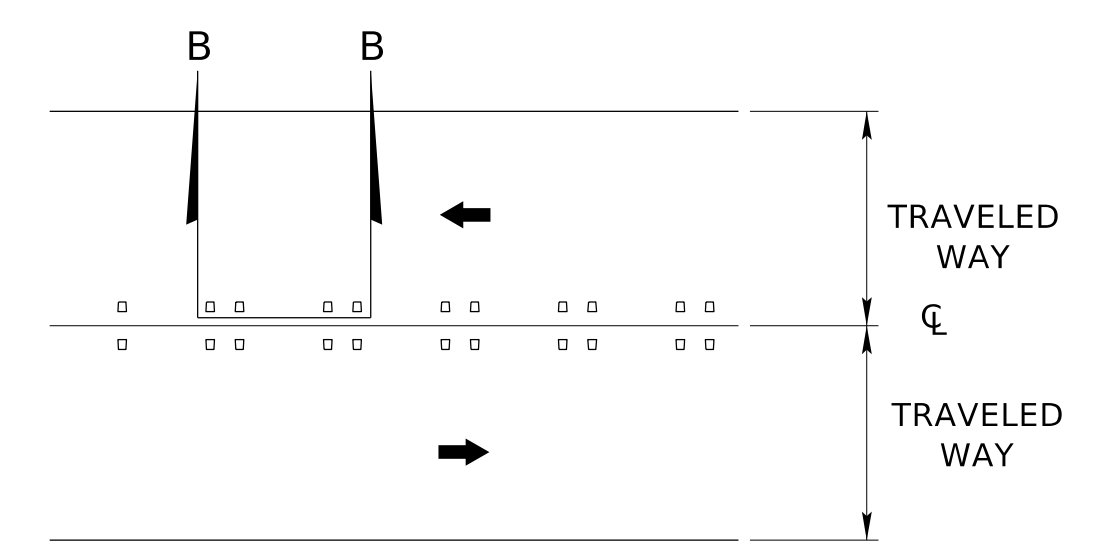


SHOULDER LAYOUT

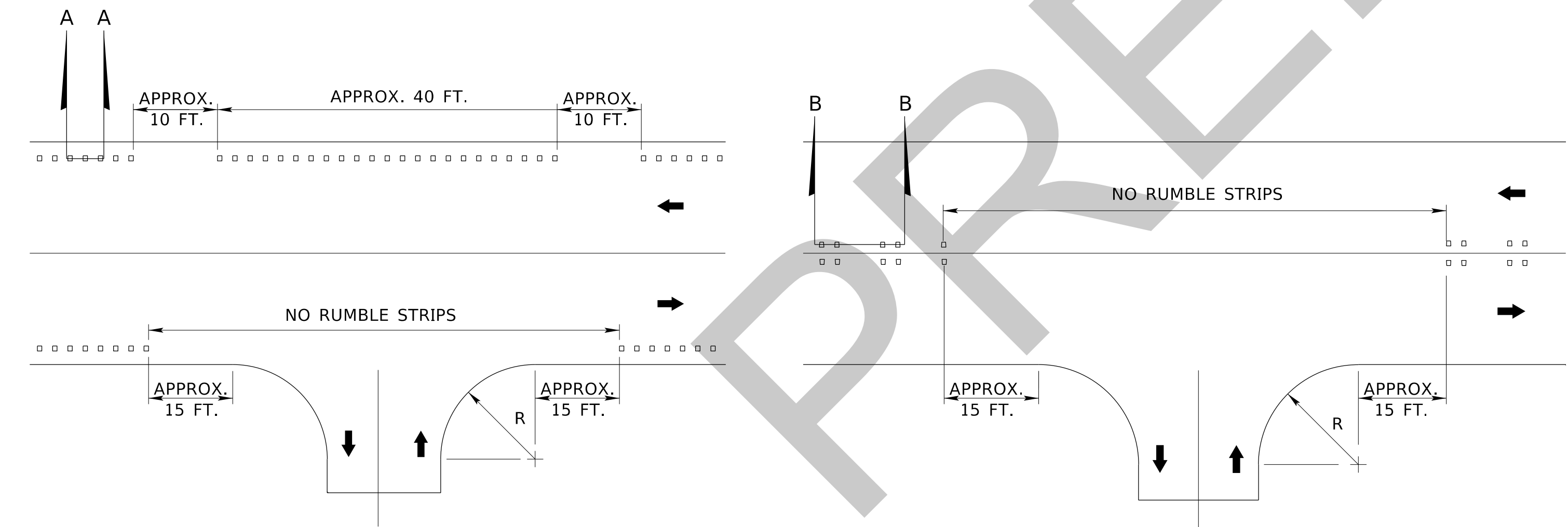


SHOULDER RUMBLE STRIPS PLACEMENT ON  
DIVIDED HIGHWAY AT ENTRANCE/EXIT RAMP

SHOULDER RUMBLE STRIPS PLACEMENT  
ON DIVIDED HIGHWAY  
(OMIT 10 FT. GAP ON  
INTERSTATE AND FREEWAYS)



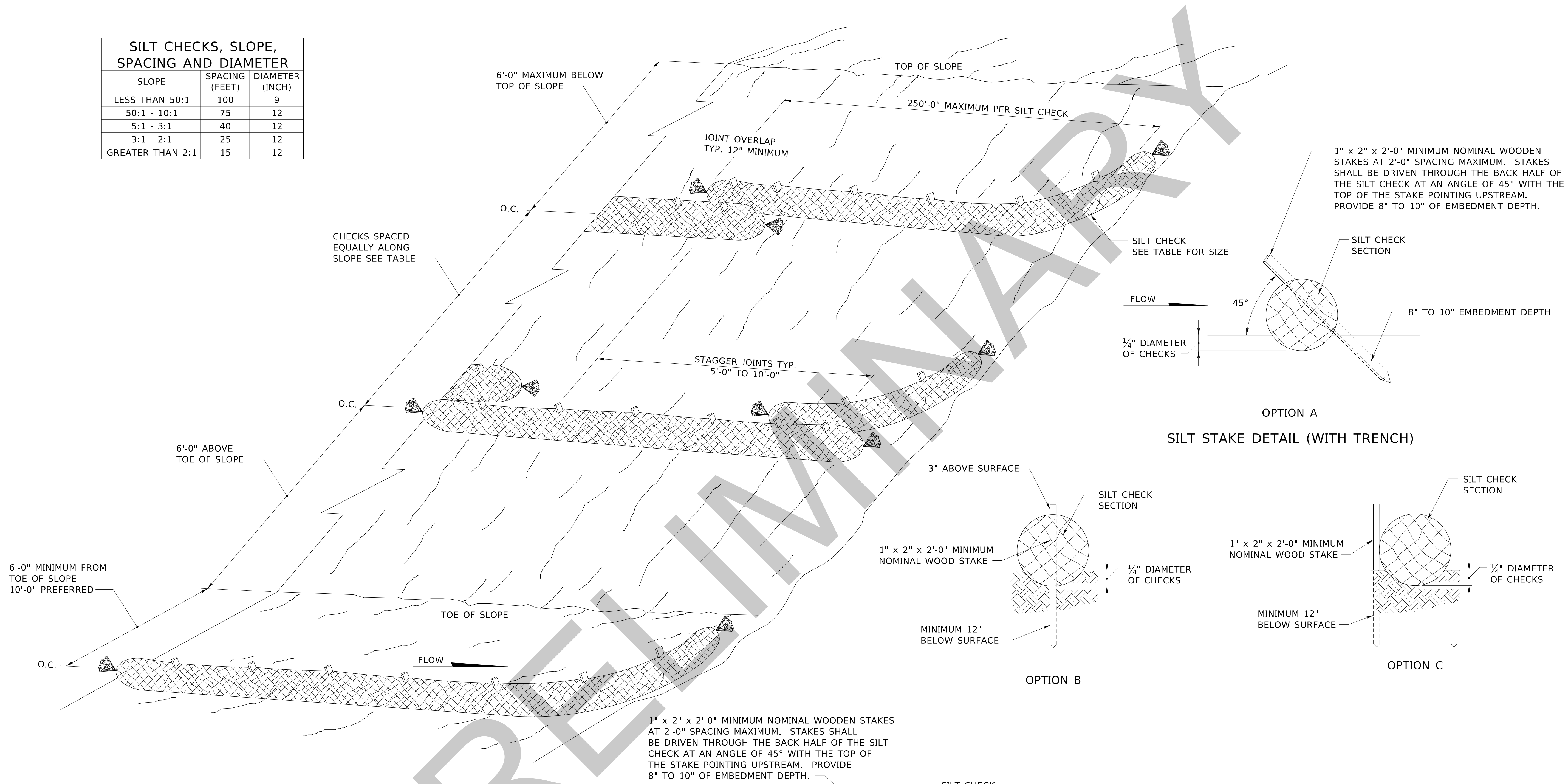
CENTERLINE LAYOUT



EDGELINE RUMBLE STRIPS  
PLACEMENT AT INTERSECTION

CENTERLINE RUMBLE STRIPS  
PLACEMENT AT INTERSECTION

SILT CHECKS, SLOPE, SPACING AND DIAMETER		
SLOPE	SPACING (FEET)	DIAMETER (INCH)
LESS THAN 50:1	100	9
50:1 - 10:1	75	12
5:1 - 3:1	40	12
3:1 - 2:1	25	12
GREATER THAN 2:1	15	12



SLOPE APPLICATION PERSPECTIVE VIEW

OPTION A SILT STAKE DETAIL (WITH TRENCH)

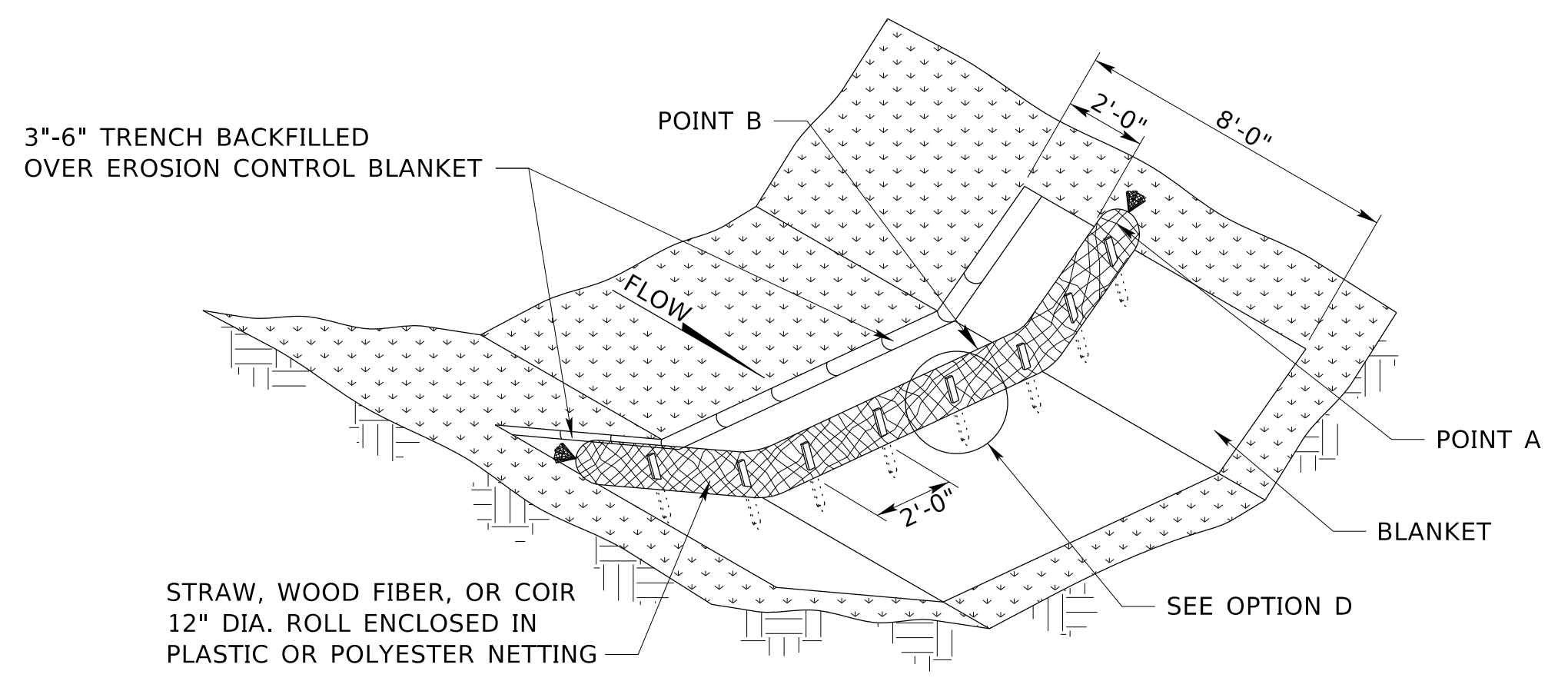
OPTION B

OPTION C

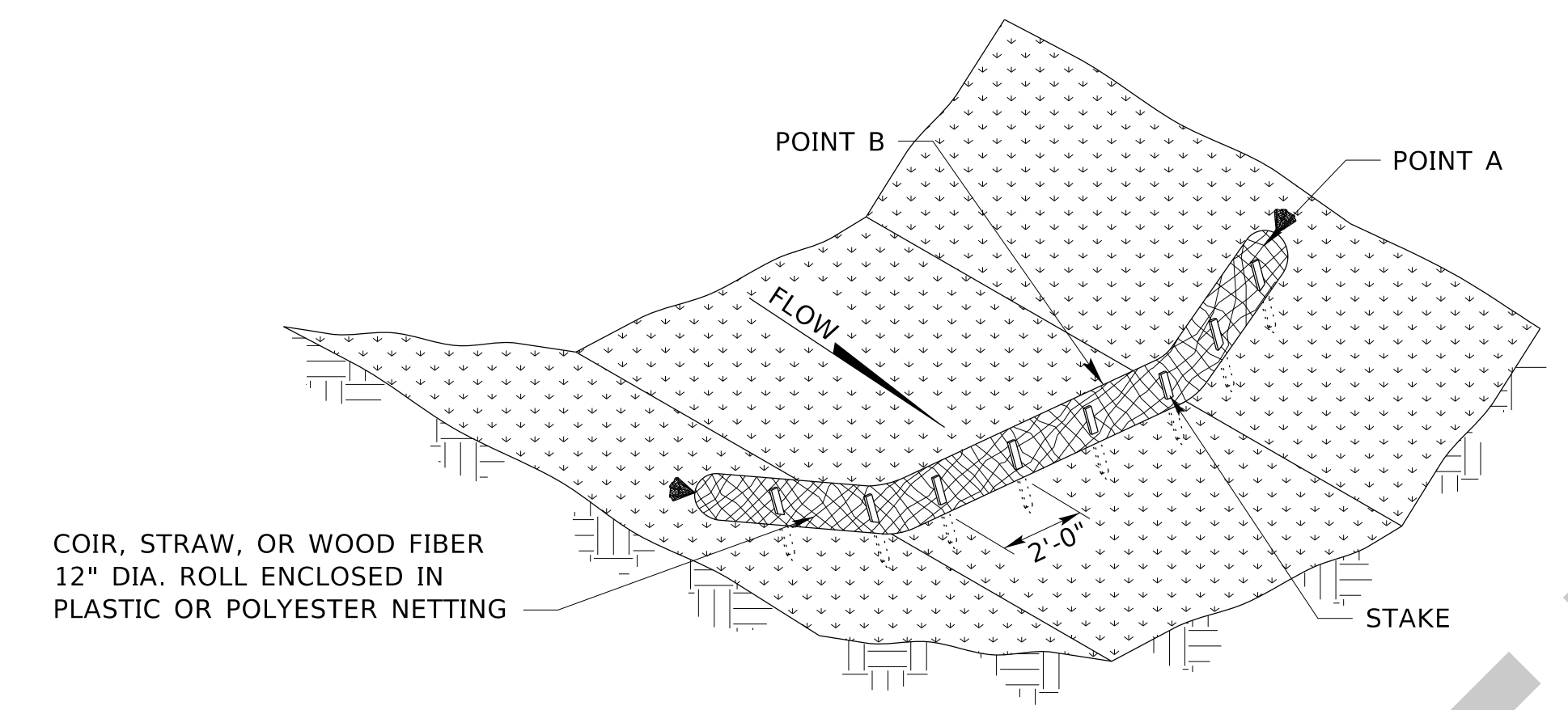
OPTION D STAKE DETAIL (NO TRENCH)

NOTE:  
TRENCHING IS OPTIONAL FOR CHECKS ON BACKSLOPES & FORESLOPES

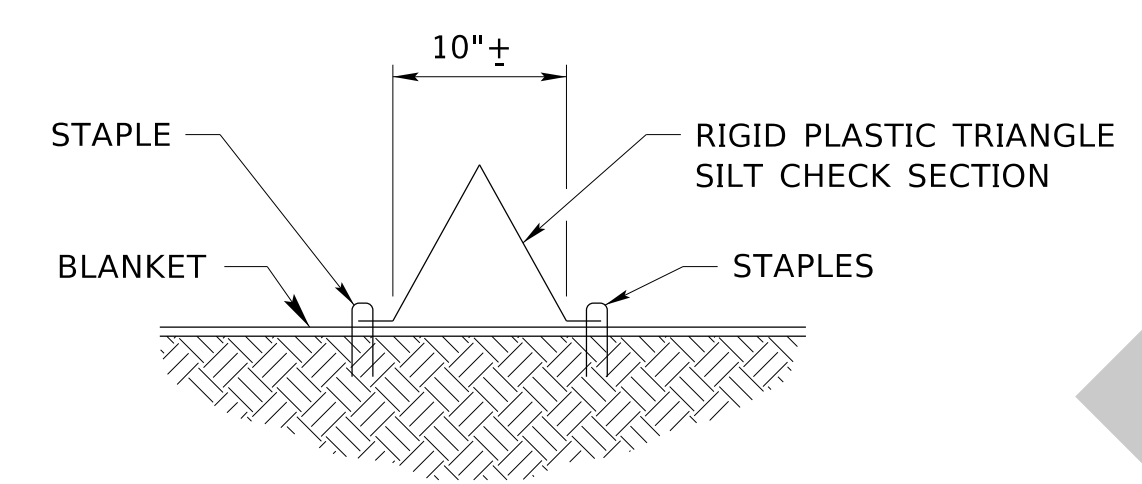
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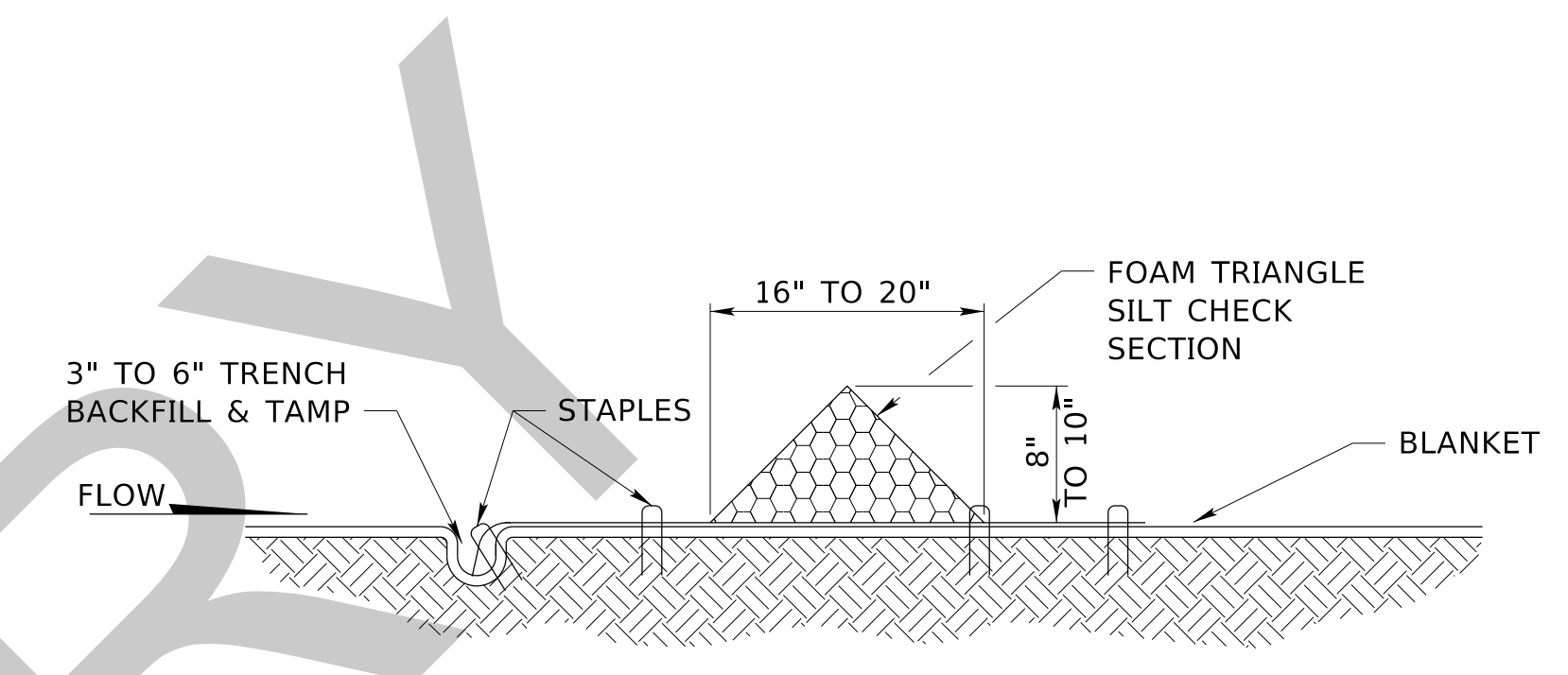
TYPE 2 & 3: HIGH & LOW WITH EROSION CONTROL



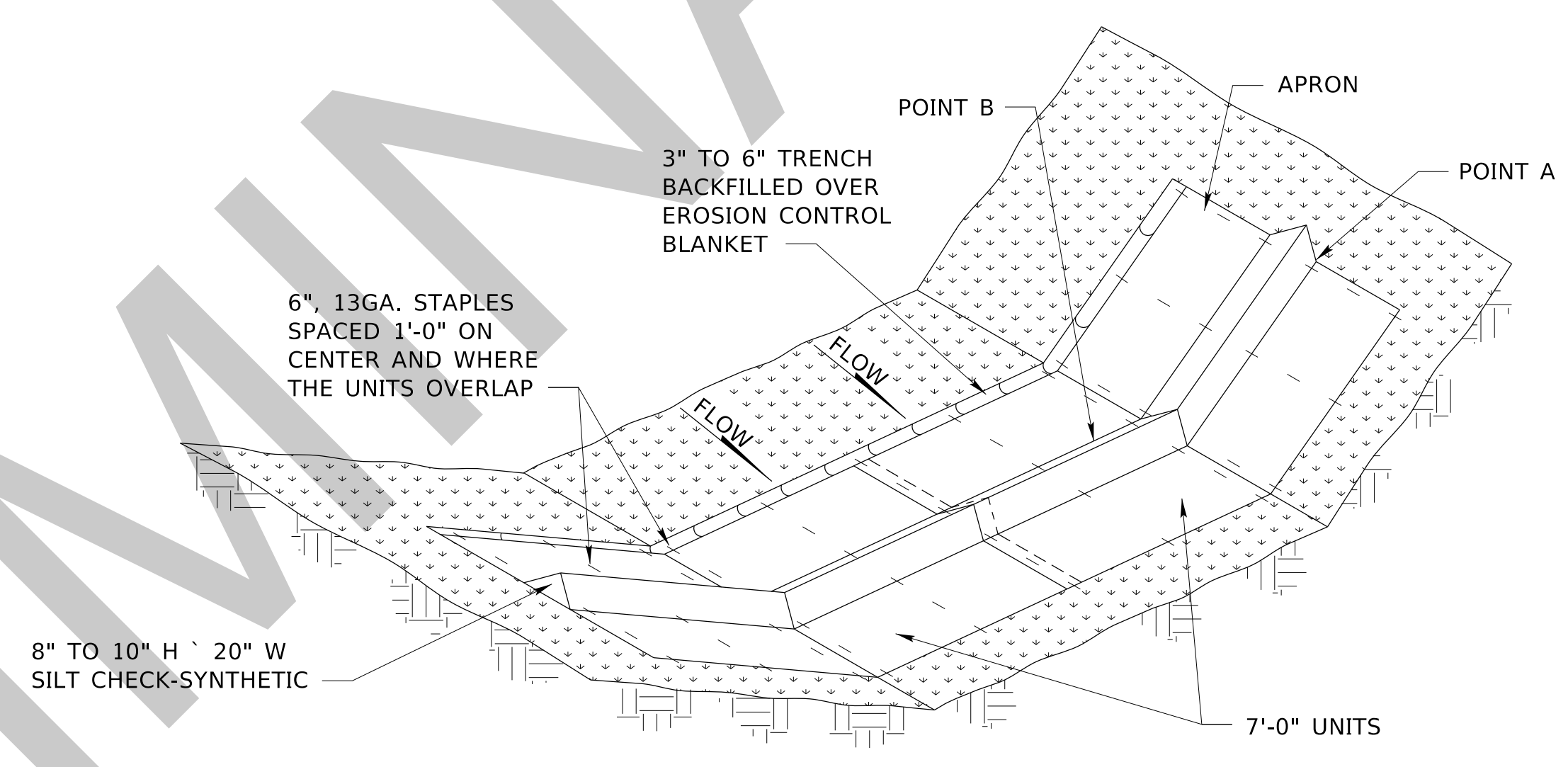
TYPE 1, 2 & 3: HIGH & LOW USE ON ROUGH GRADED & BARE SOIL AREAS



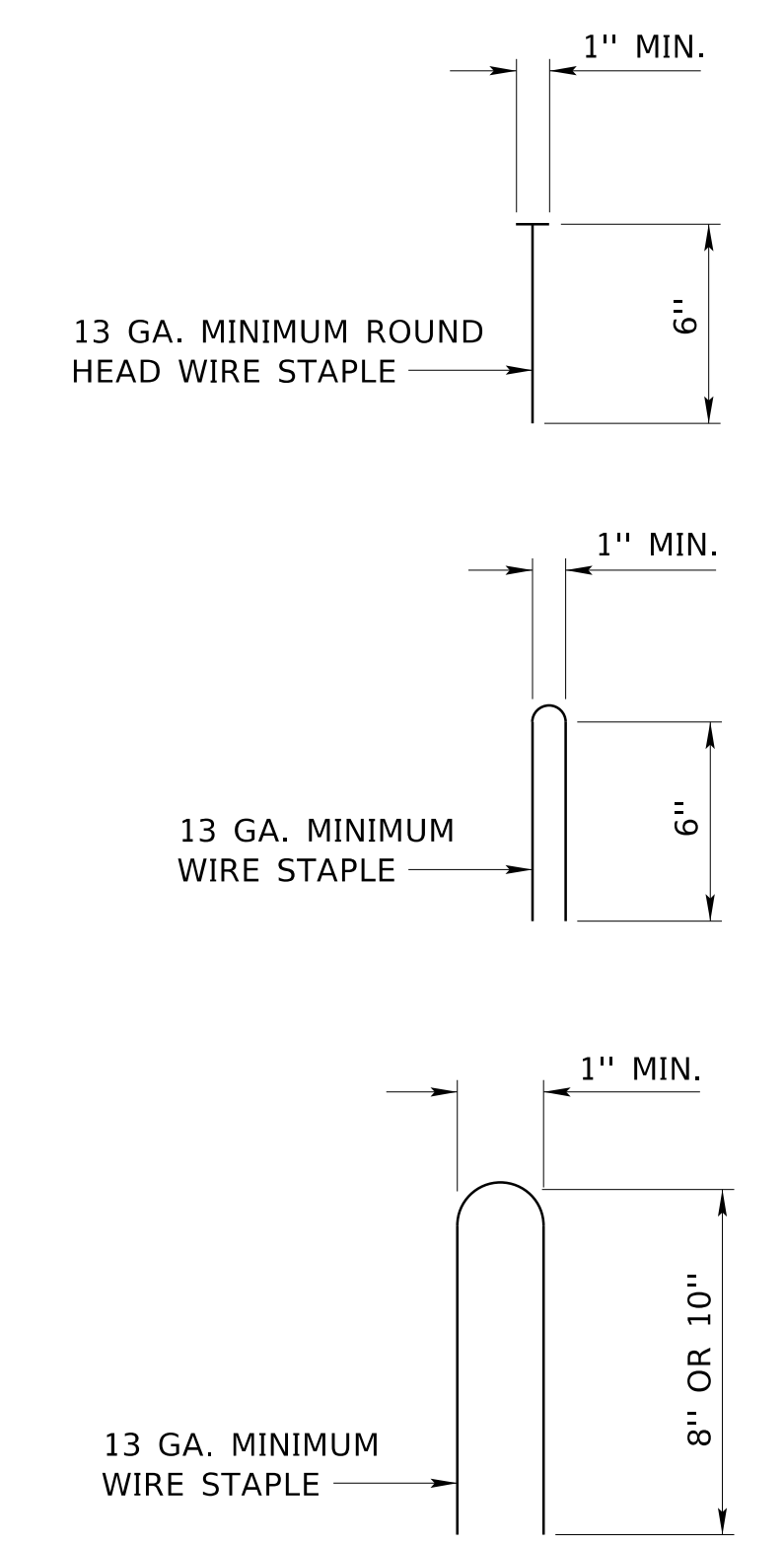
TYPE 4 SECTION



TYPE 4 SECTION

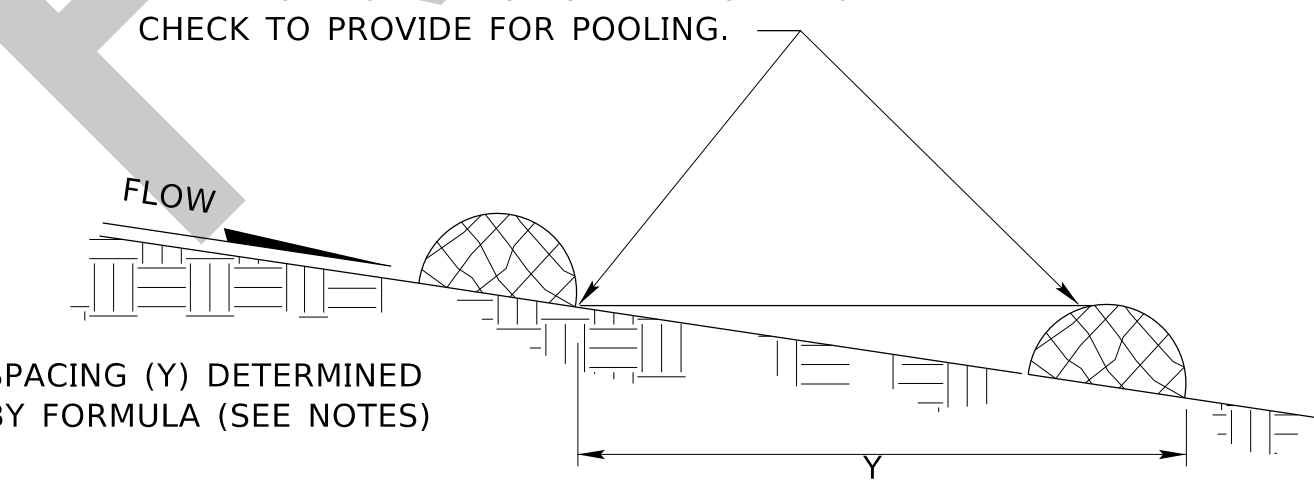


SILT CHECK: TYPE 4



WIRE STAPLE DETAIL

BOTTOM OF UPPER SILT CHECK SHOULD BE SAME ELEVATION AS THE TOP OF THE LOWER SILT CHECK TO PROVIDE FOR POOLING.



SILT CHECK SPACING-DITCH

NOTES:

APPROXIMATE SPACING BETWEEN EACH DITCH CHECK SHOULD BE DETERMINED FROM THE FOLLOWING SPACING FORMULA:

$$\text{APPROXIMATE SPACING OF DITCH CHECKS (FT.)} = Y = \frac{\text{SILT CHECK HEIGHT (FT.)}}{\% \text{ CHANNEL SLOPE}} \times 100$$

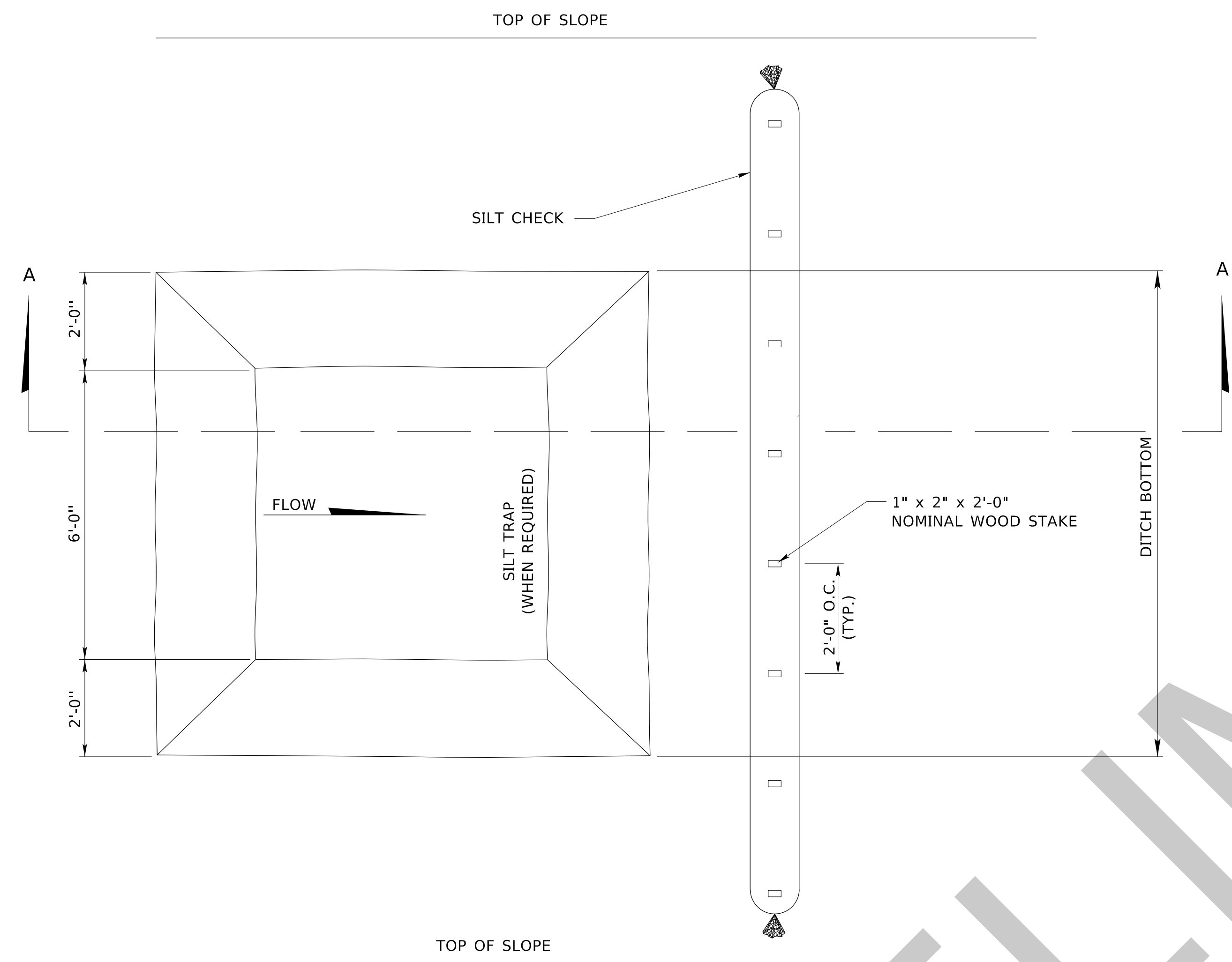
POINT A MUST BE A MINIMUM OF 6" HIGHER THAN POINT B TO ENSURE THAT WATER FLOWS OVER THE CHECK AND NOT AROUND THE ENDS.

PERMANENT ROCK CHECKS PLACED WITHIN THE CLEAR ZONE WILL NEED TO BE 18" OR LESS IN HEIGHT. A 10:1 APPROACH AND DEPARTURE SLOPE SHALL BE PROVIDED.

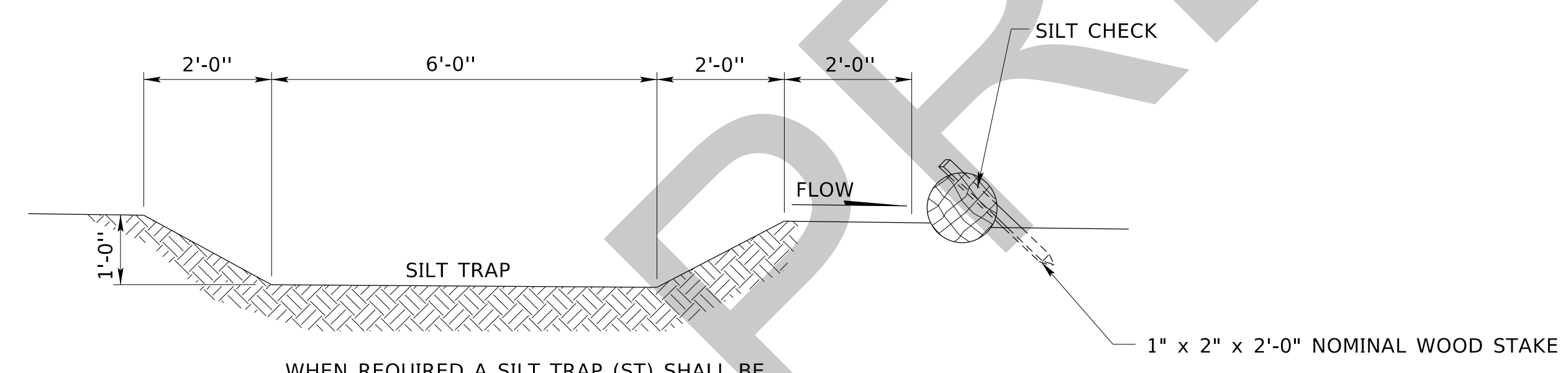
THE TRENCH ON THE UPSTREAM SIDE OF THE SILT CHECK IS NOT REQUIRED IF THE EROSION CONTROL BLANKET CONTINUES IN THE ENTIRE LENGTH OF THE DITCH.

THE MANUFACTURERS RECOMMENDED INSTALLATION DETAILS SHALL GOVERN OVER THE PLANS.

SEE STAKING DETAIL SHEET 1 OF 4

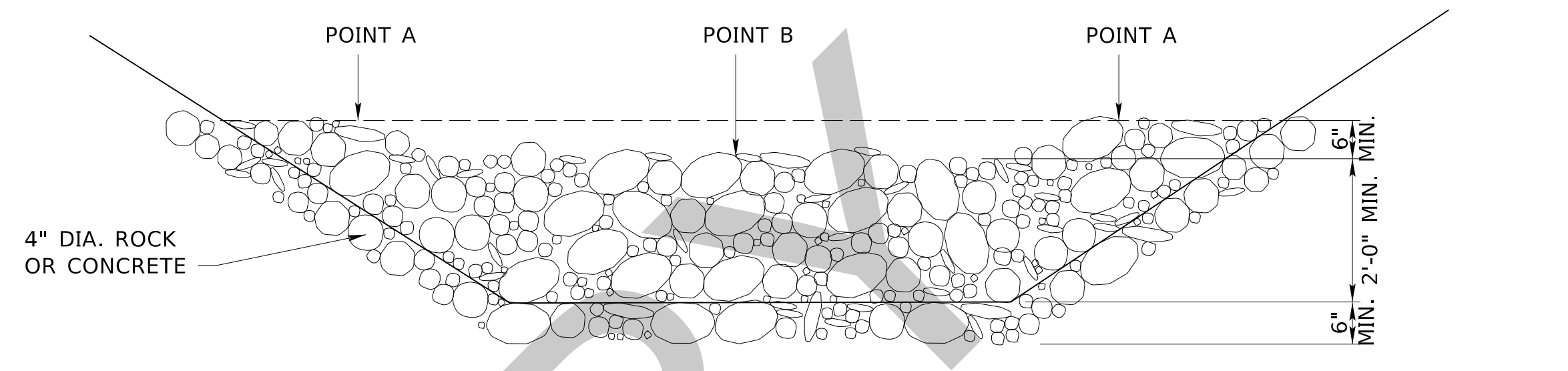


PLAN VIEW  
FOR FLAT BOTTOM DITCH

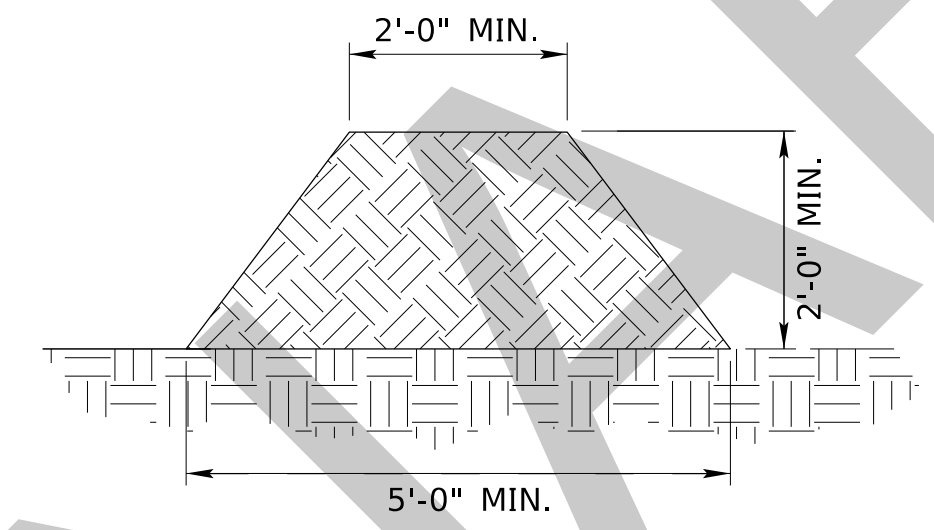


WHEN REQUIRED A SILT TRAP (ST) SHALL BE EXCAVATED TO THE WIDTH OF THE DITCH AND NO DIRECT PAYMENT WILL BE MADE.

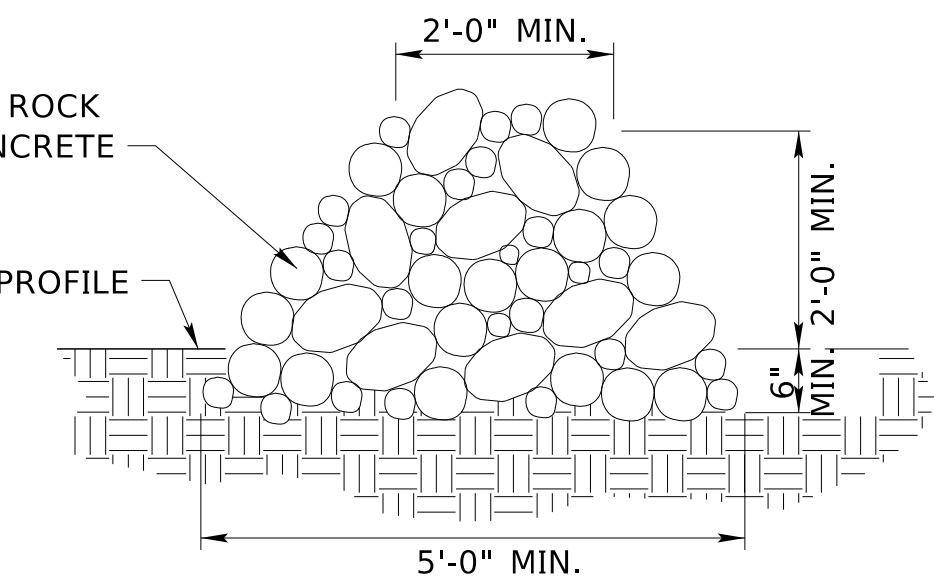
SECTION A-A



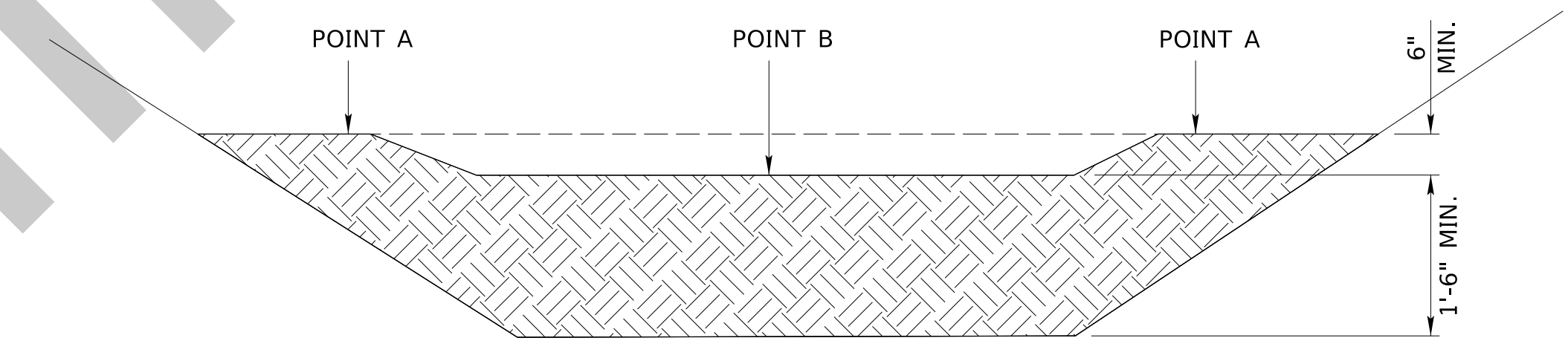
ROCK CHECK  
ELEVATION VIEW



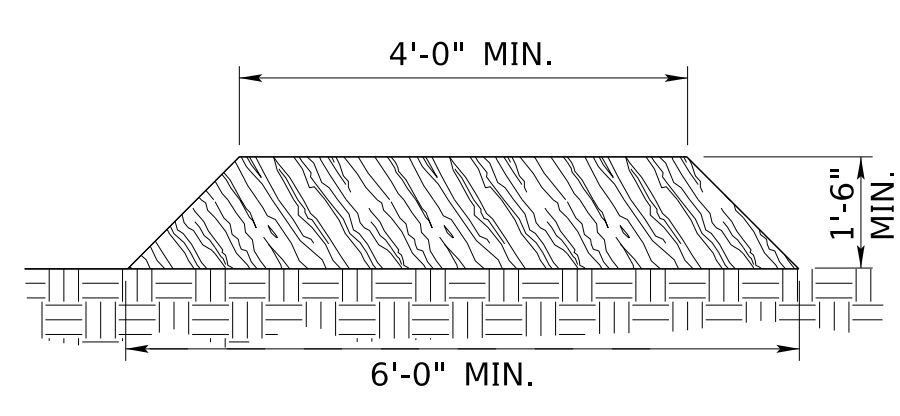
EARTH-SLASH MULCH PERIMETER BERM  
CROSS SECTION



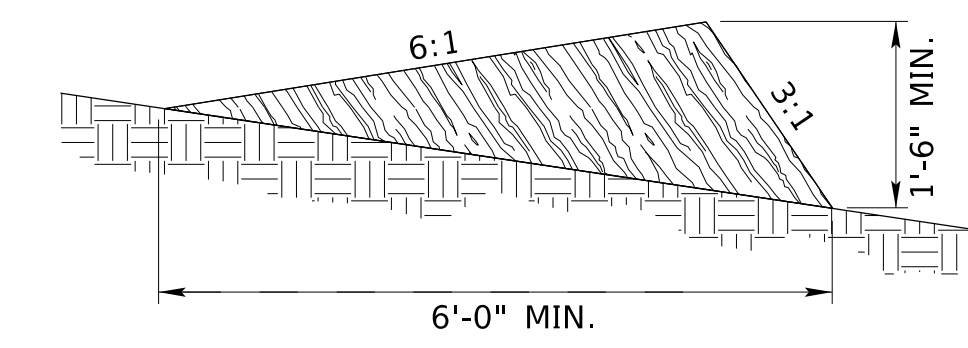
ROCK CHECK  
CROSS SECTION



EARTH-SLASH MULCH CHECK  
ELEVATION VIEW

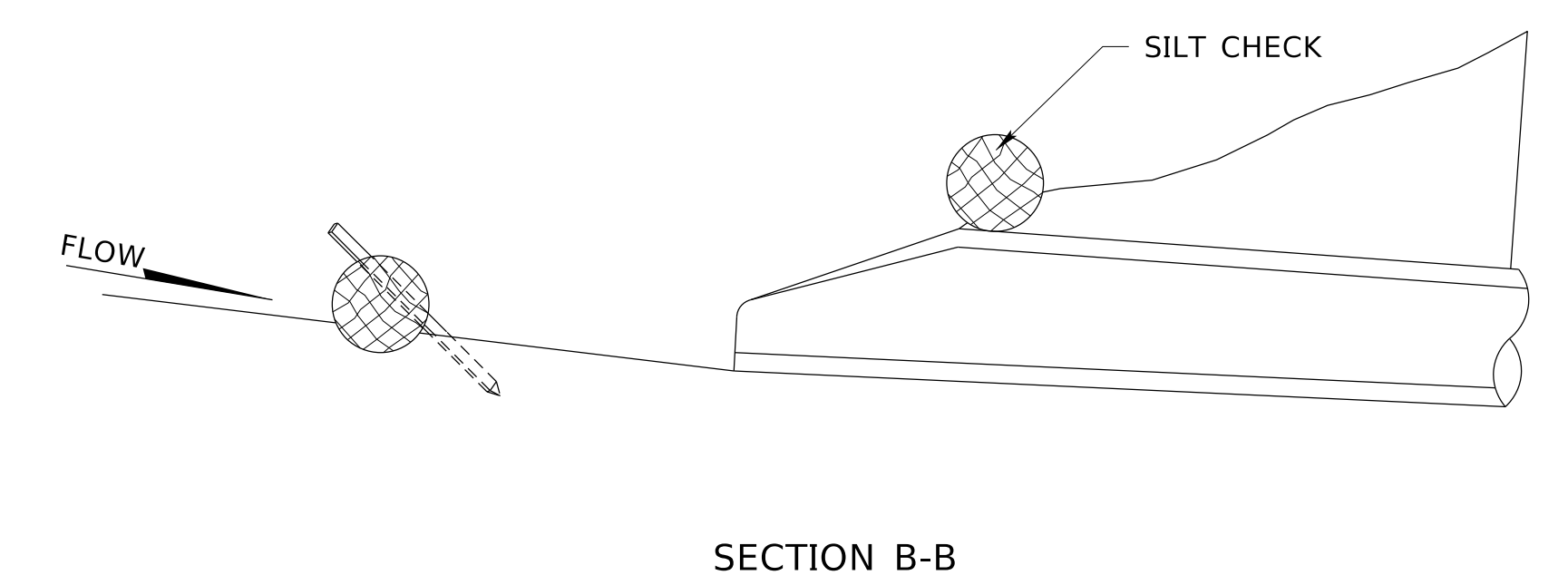
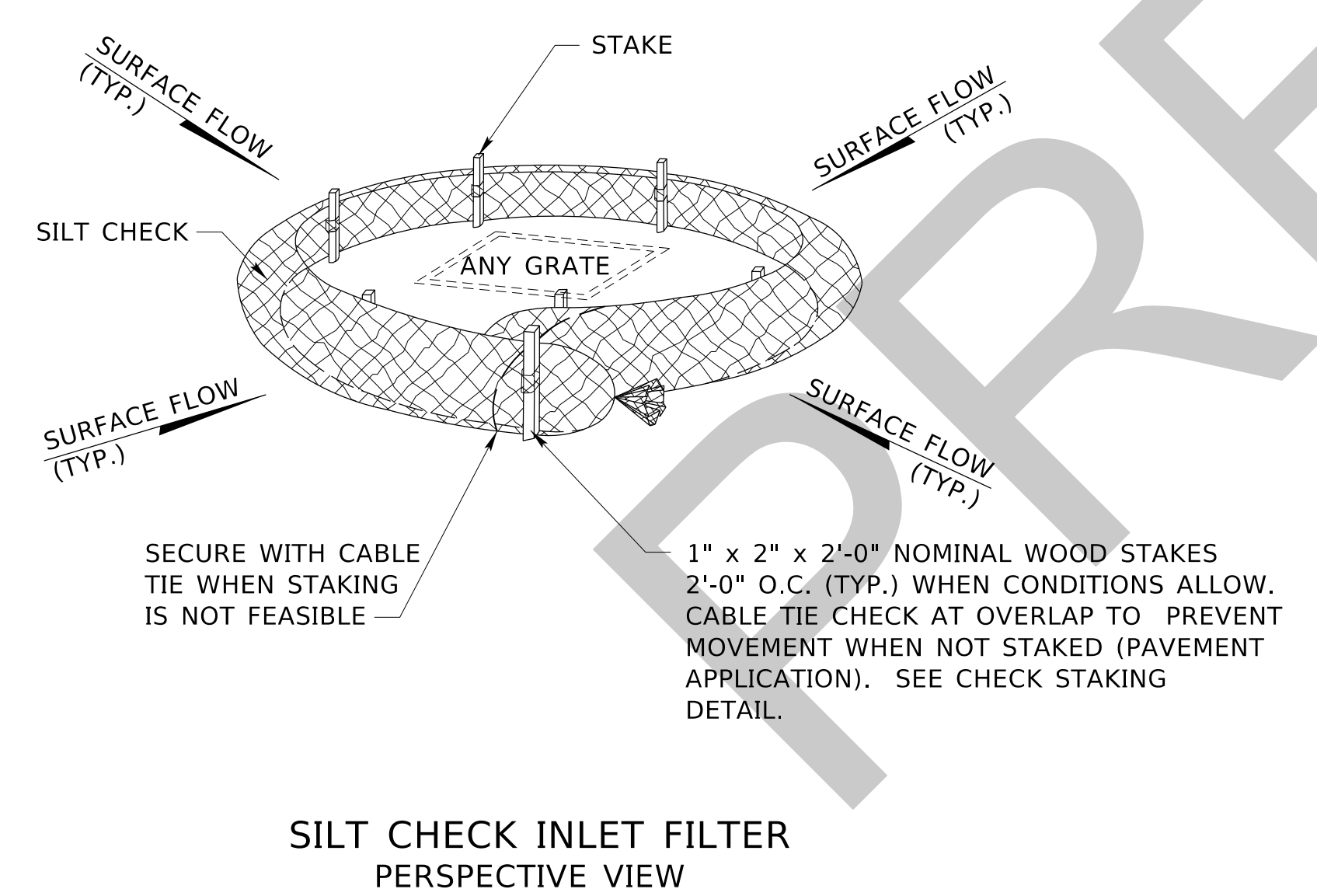
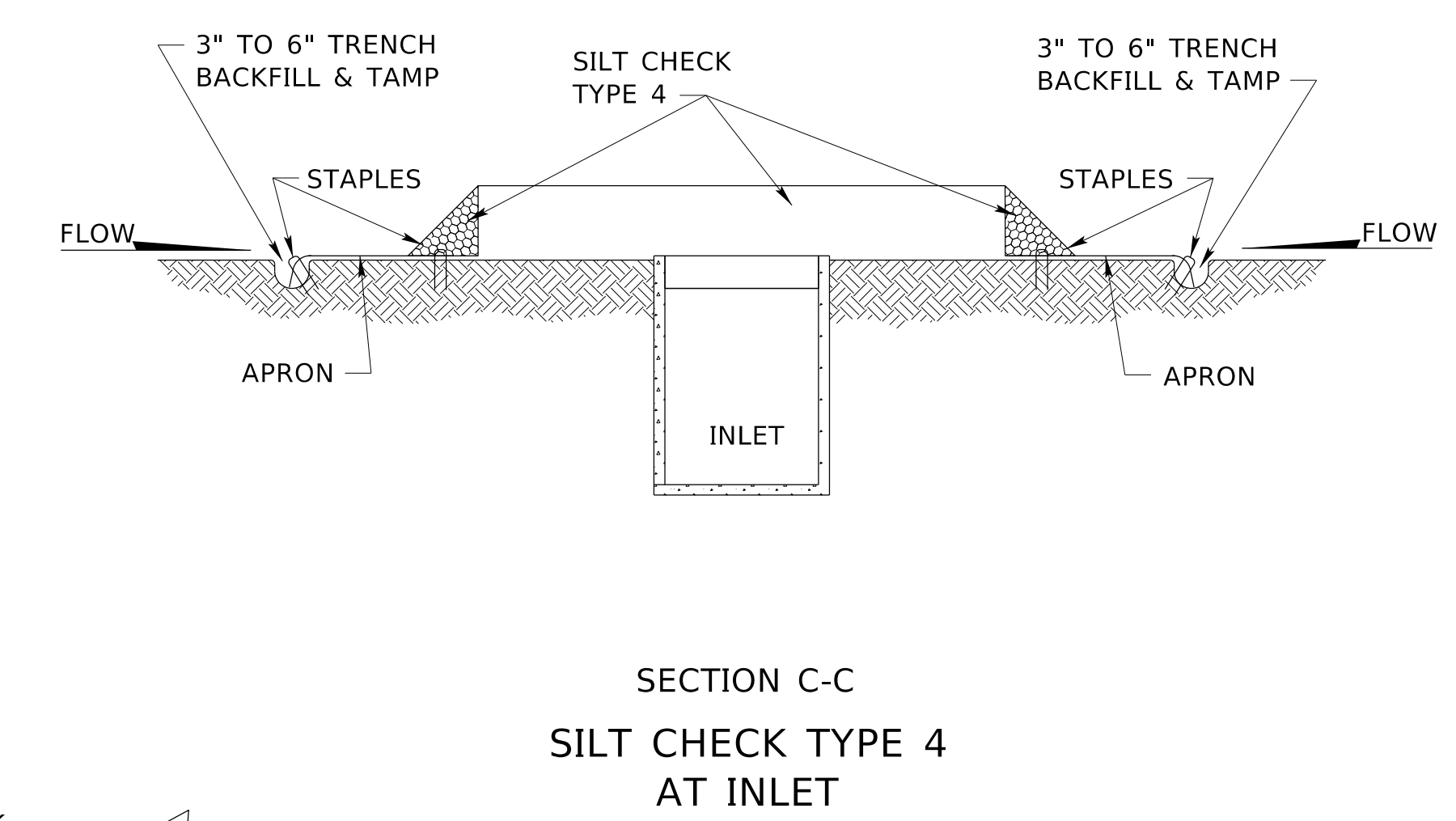
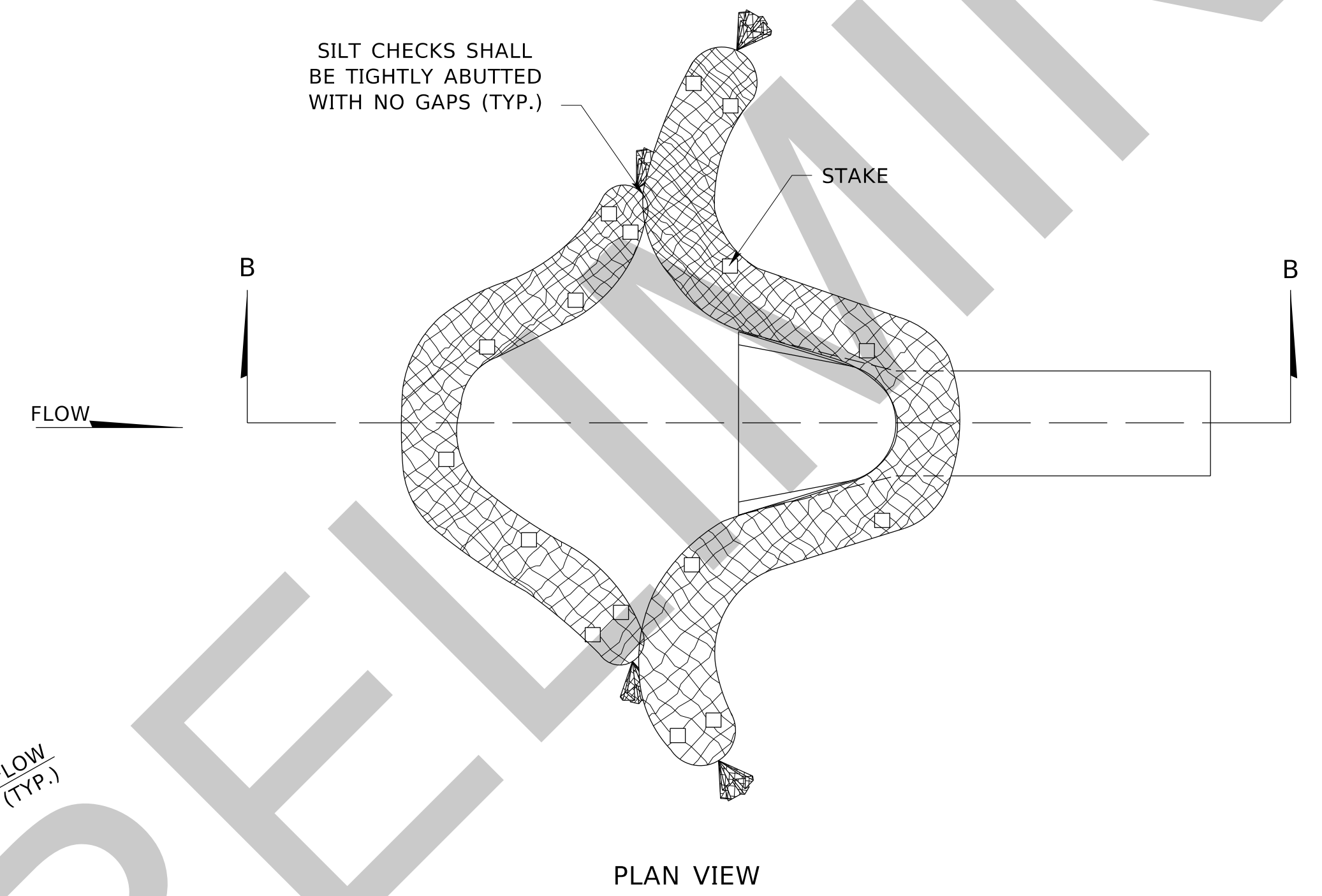
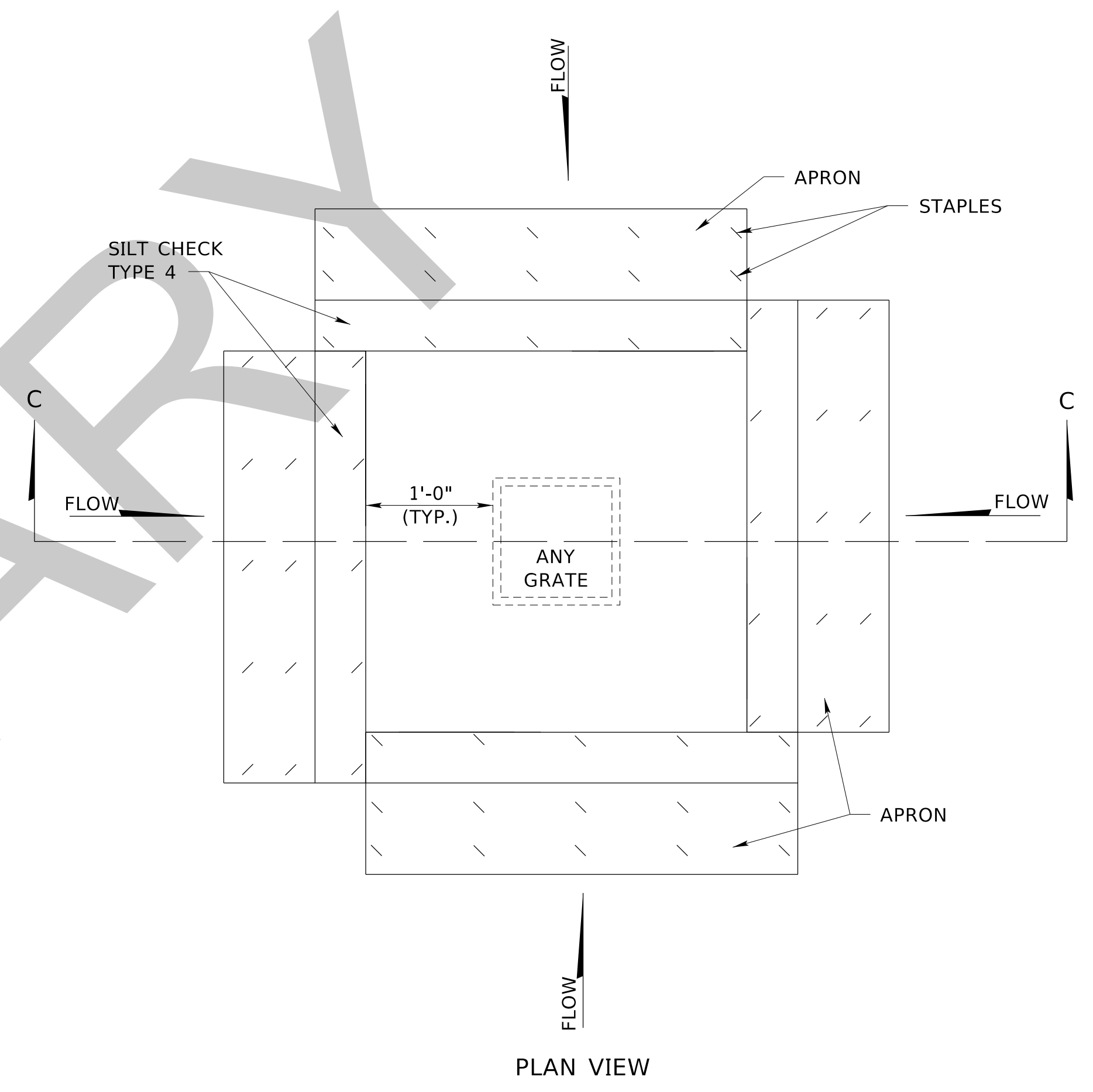
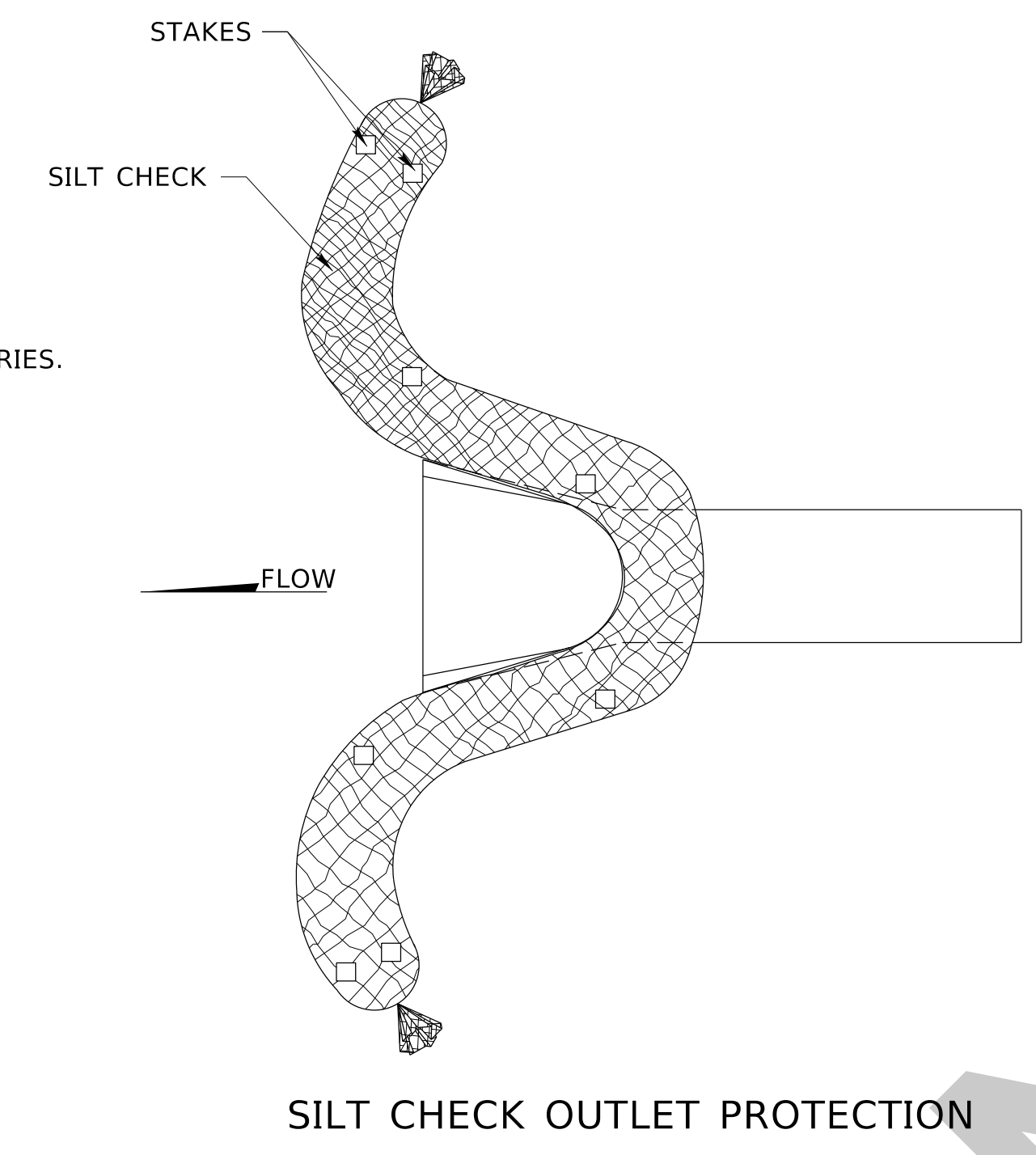
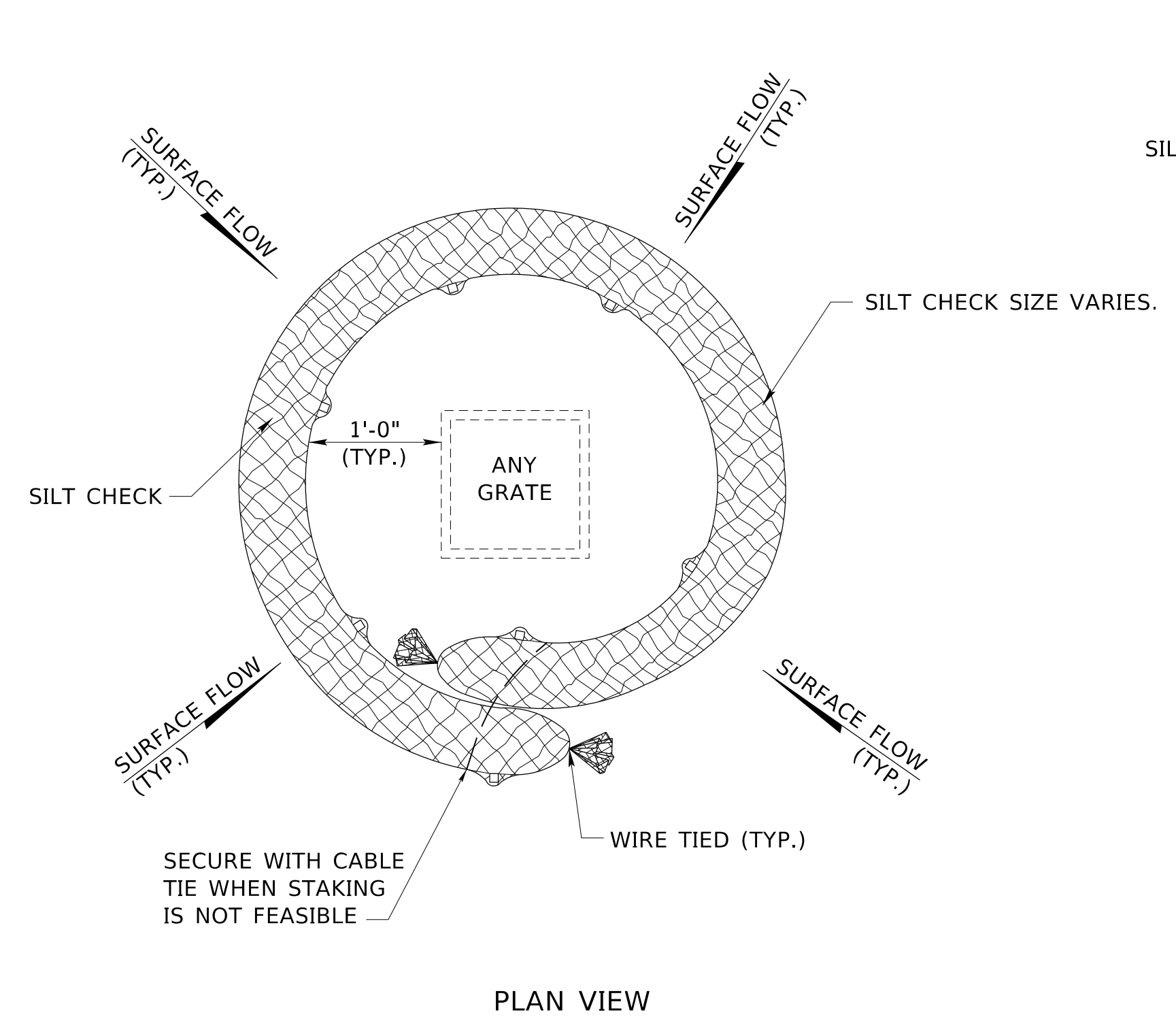


CROSS SECTION  
SILT CHECK-SLASH MULCH  
OPTION A



CROSS SECTION  
SILT CHECK-SLASH MULCH  
OPTION B

SEE STAKING DETAIL SHEET 1 OF 4



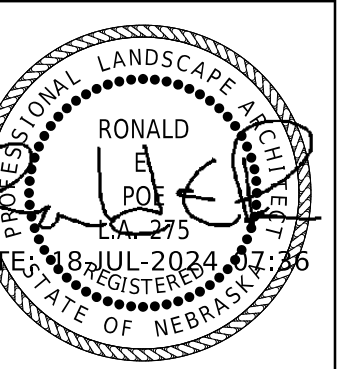
SEE STAKING DETAIL SHEET 1 OF 4

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SPECIAL PLAN 3C  
4 OF 4  
SILT CHECKS ALL TYPES

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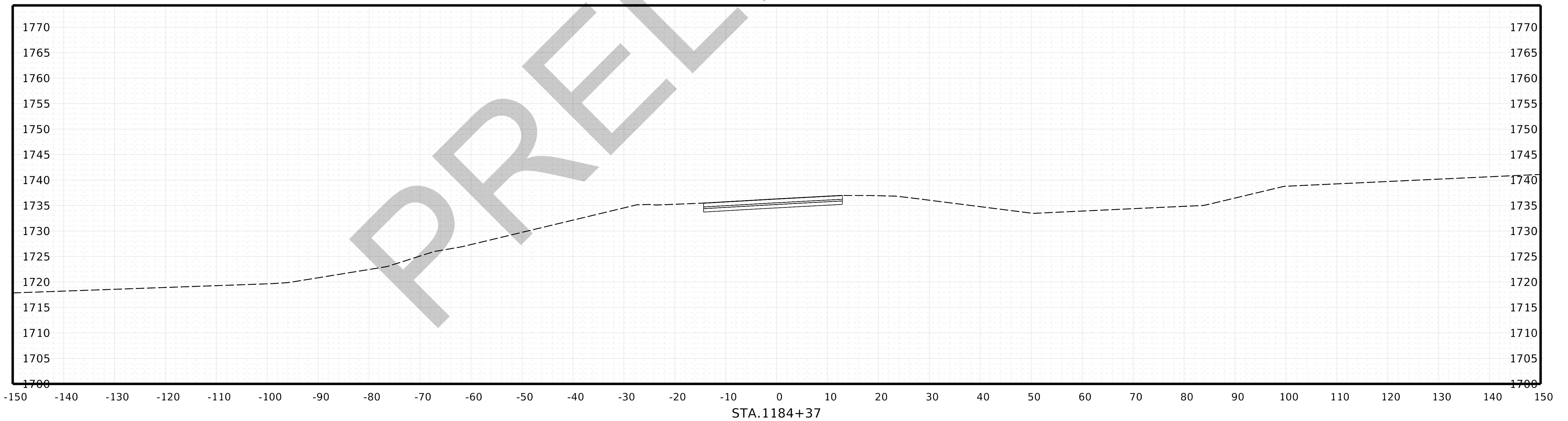
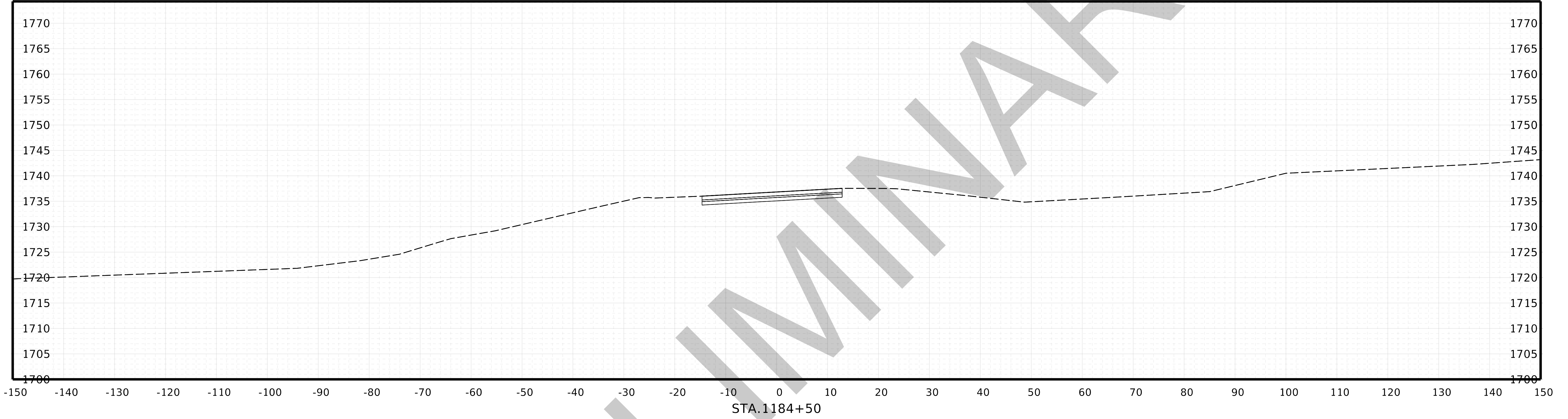
Roadway  
Design  
Division



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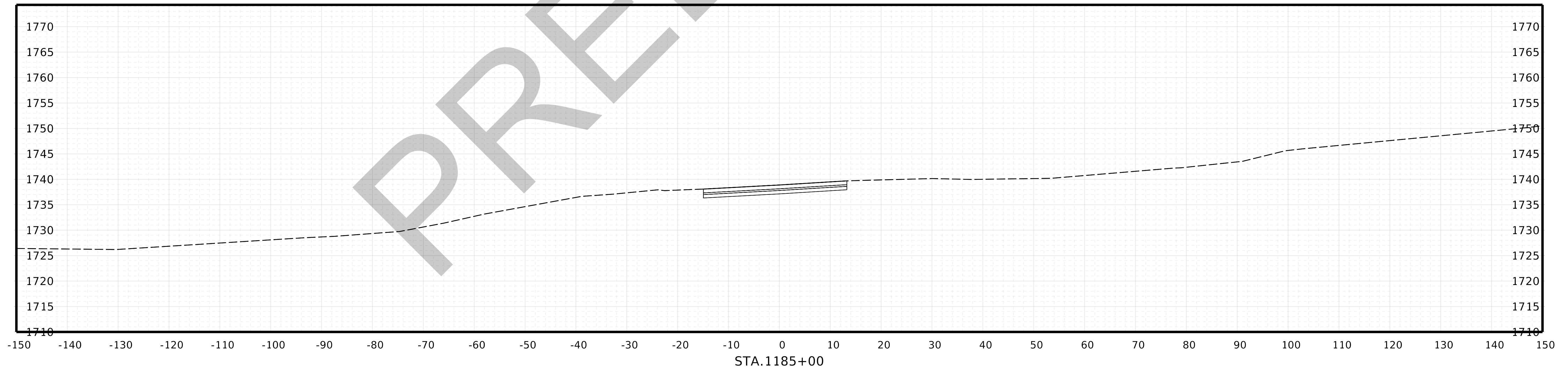
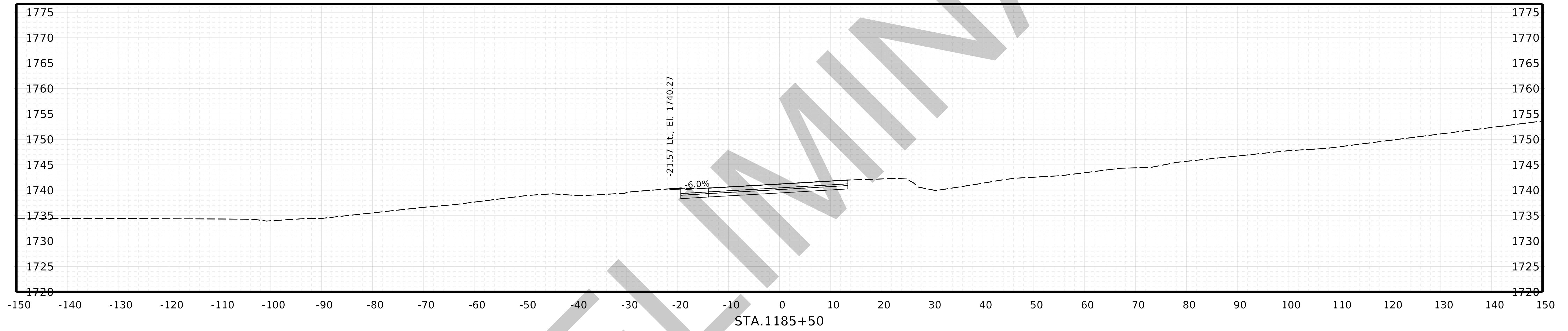
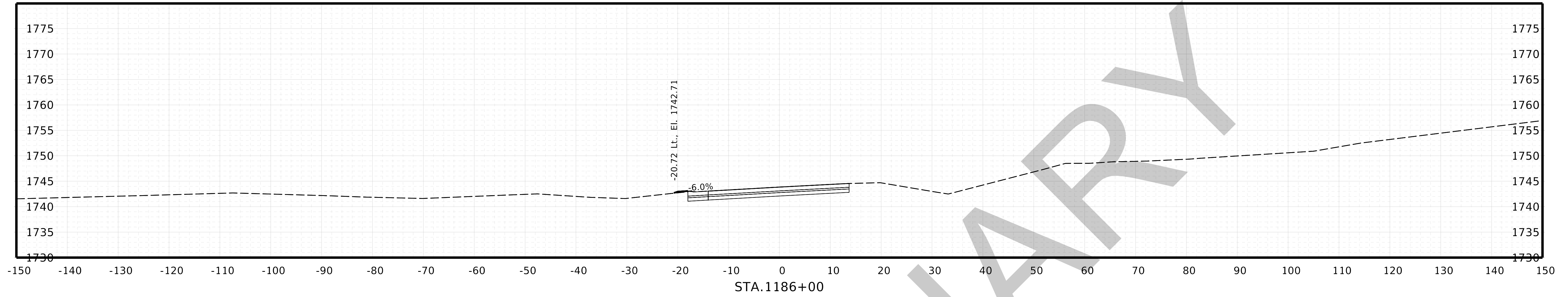
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PRELIMINARY

CROSS SECTIONS



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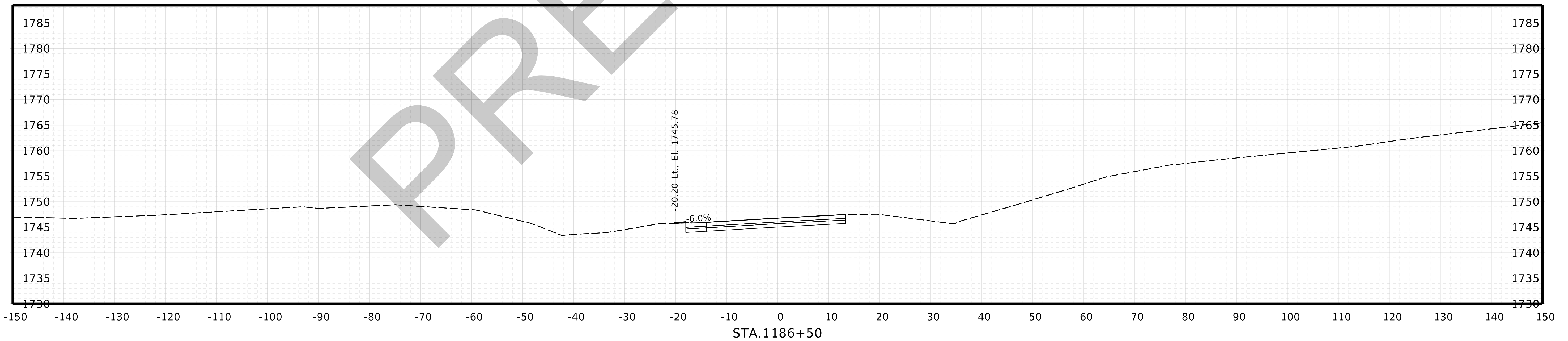
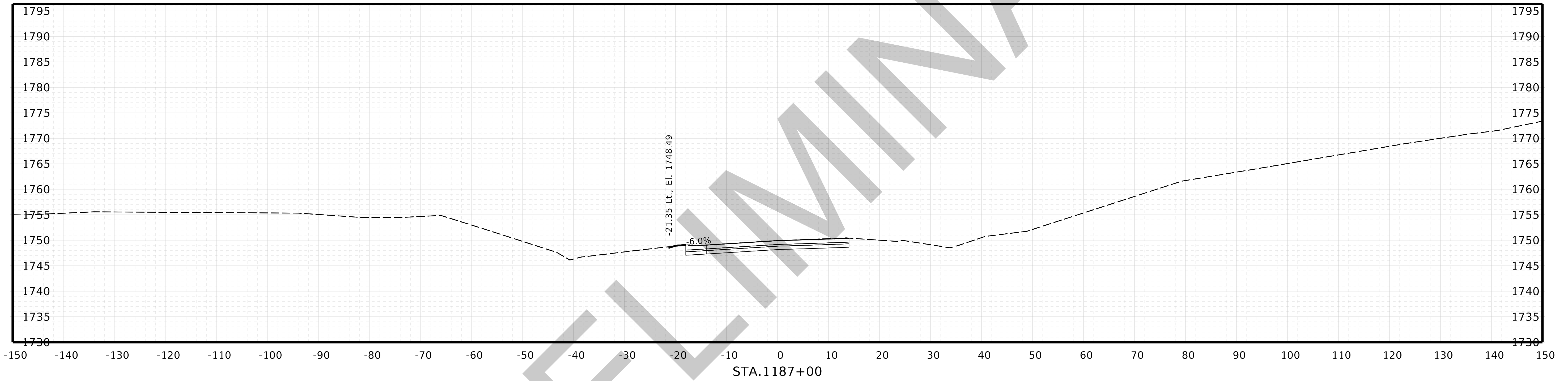
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PRELIMINARY

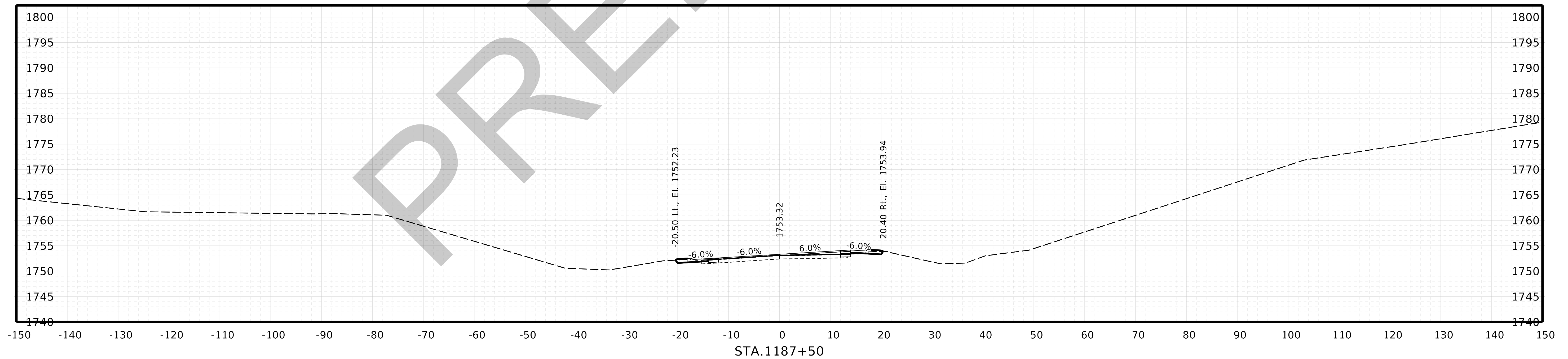
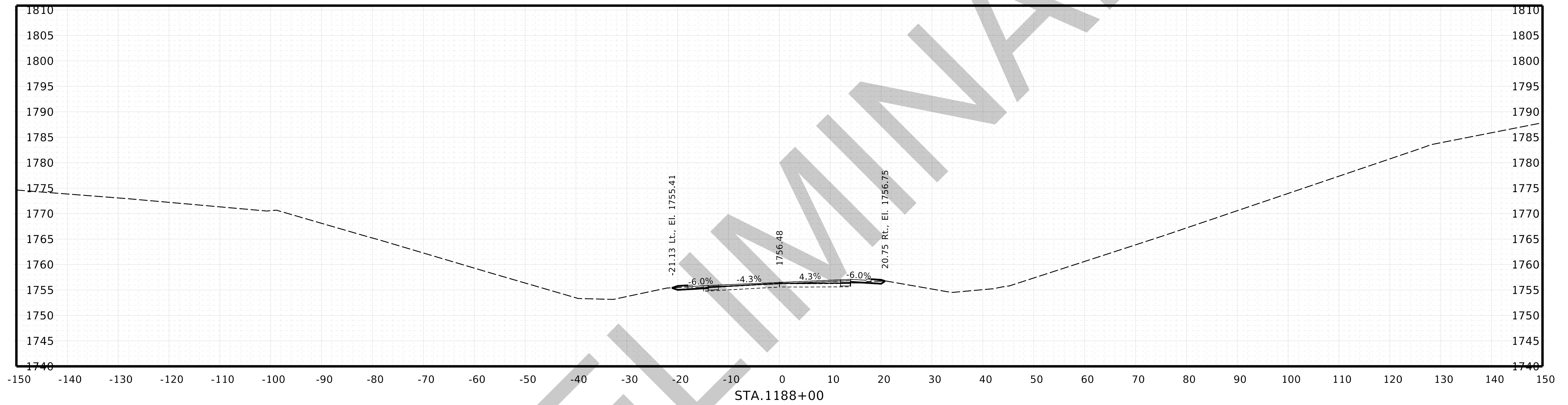


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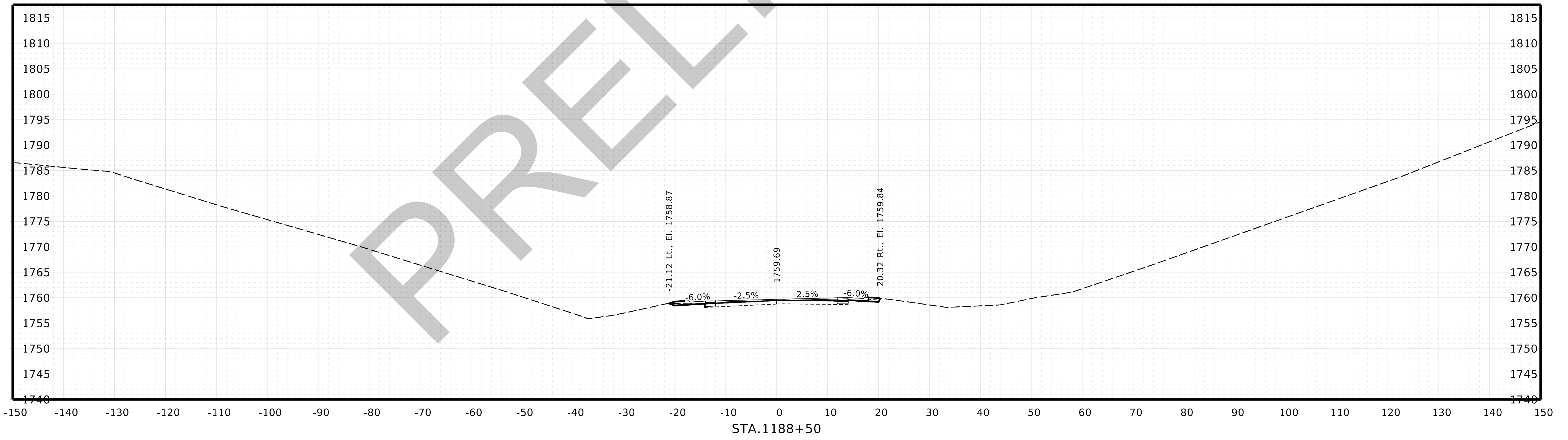
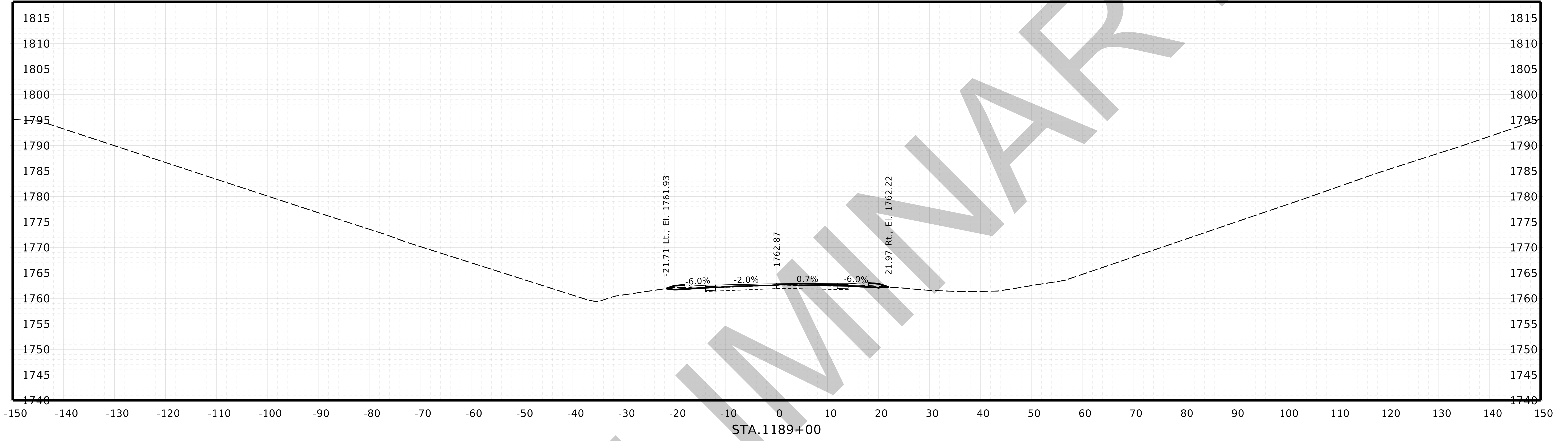


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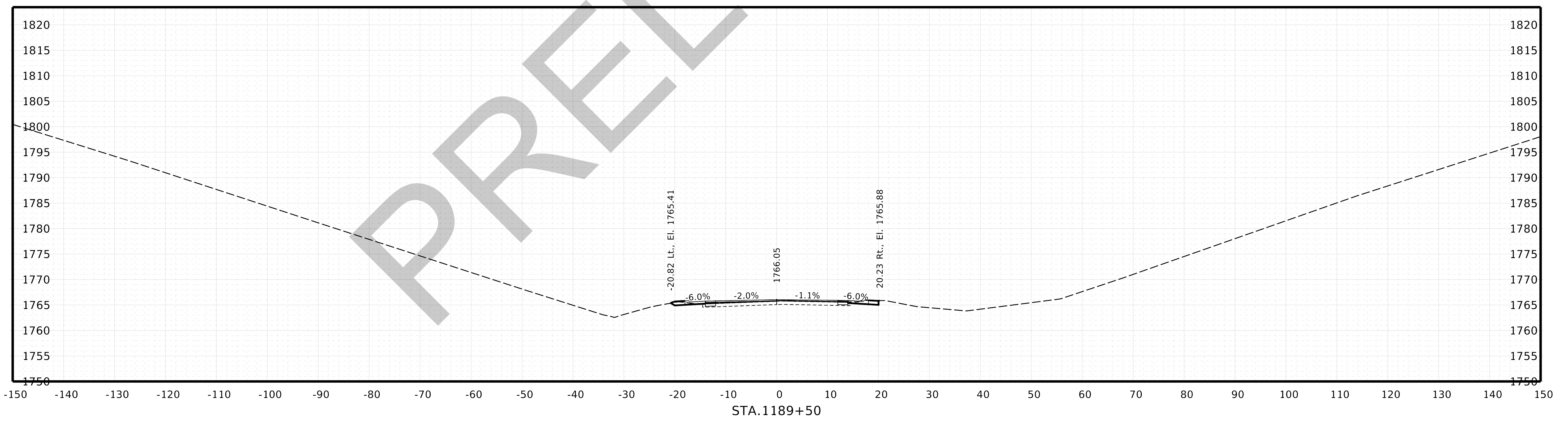
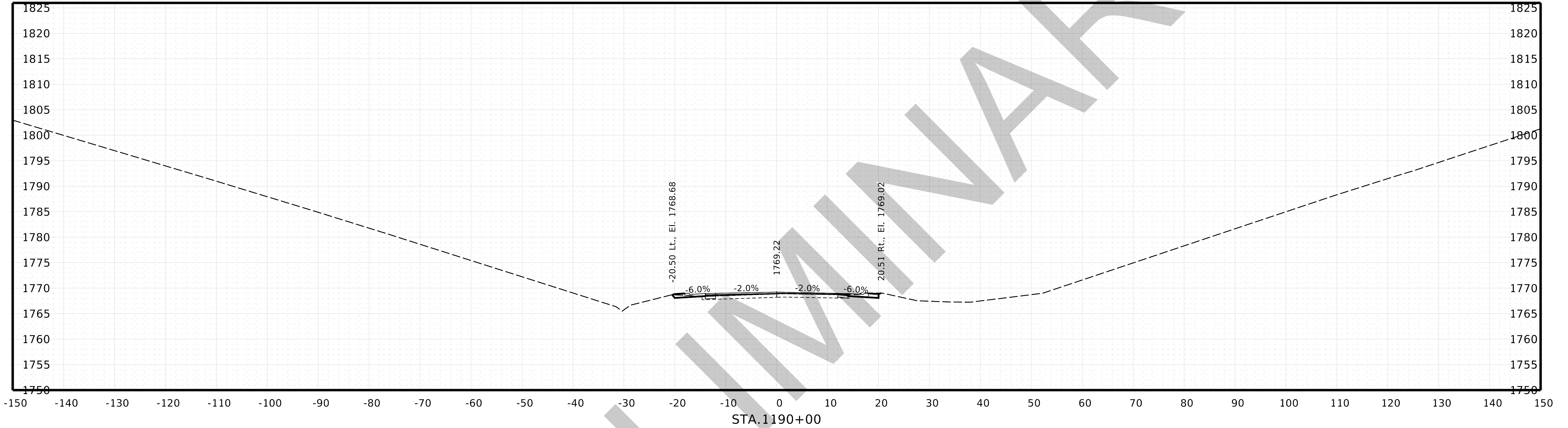


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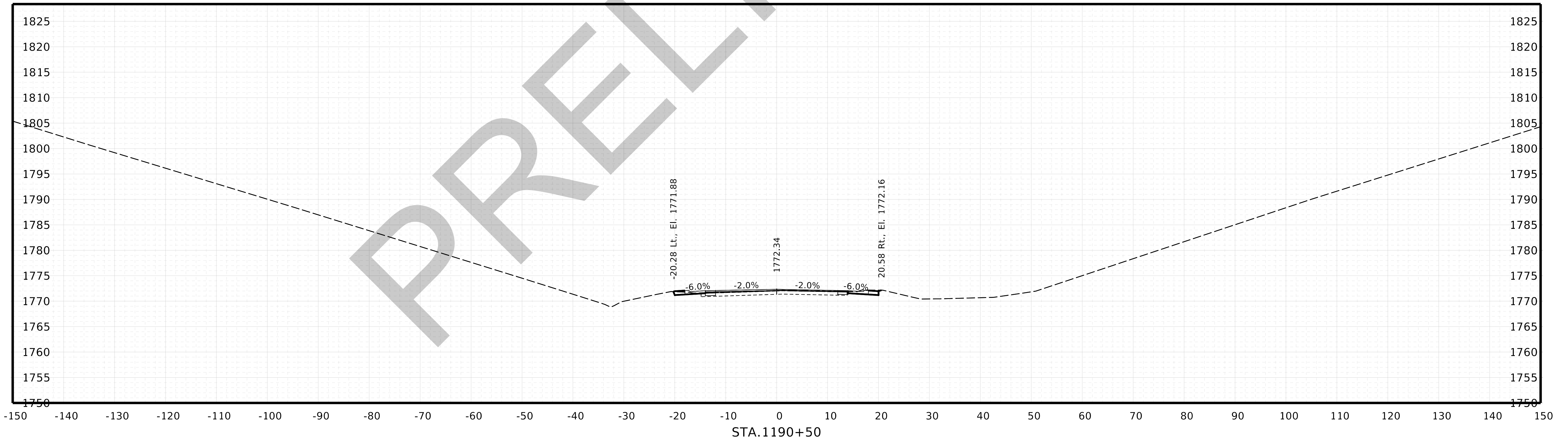
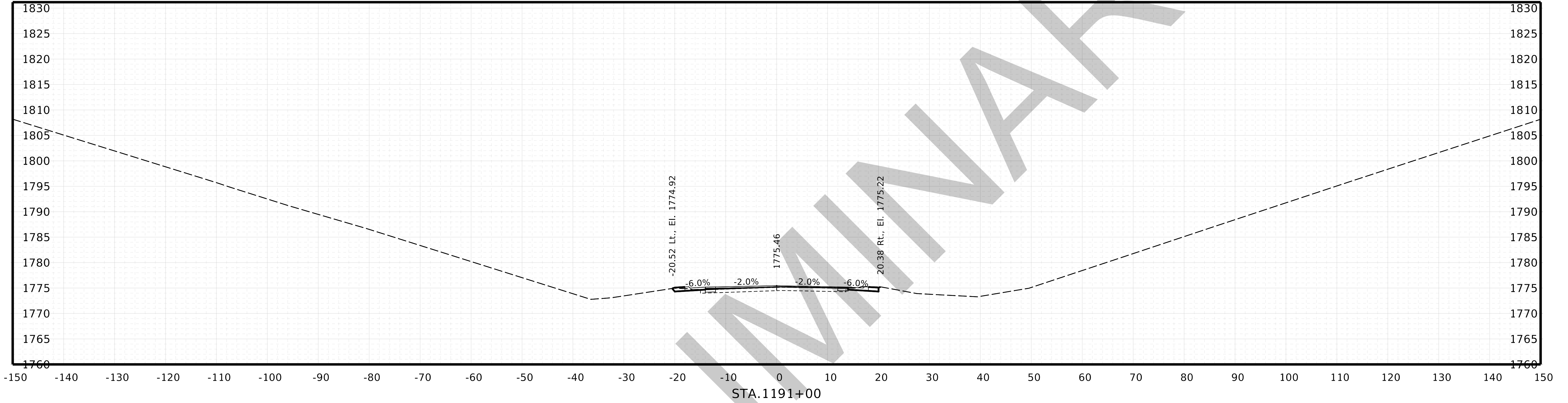


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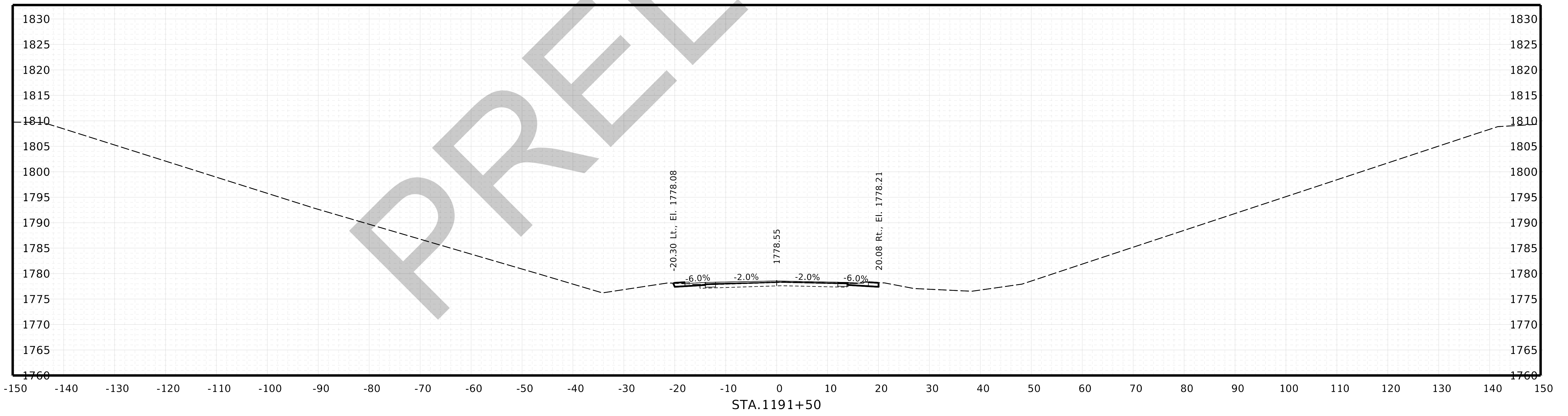
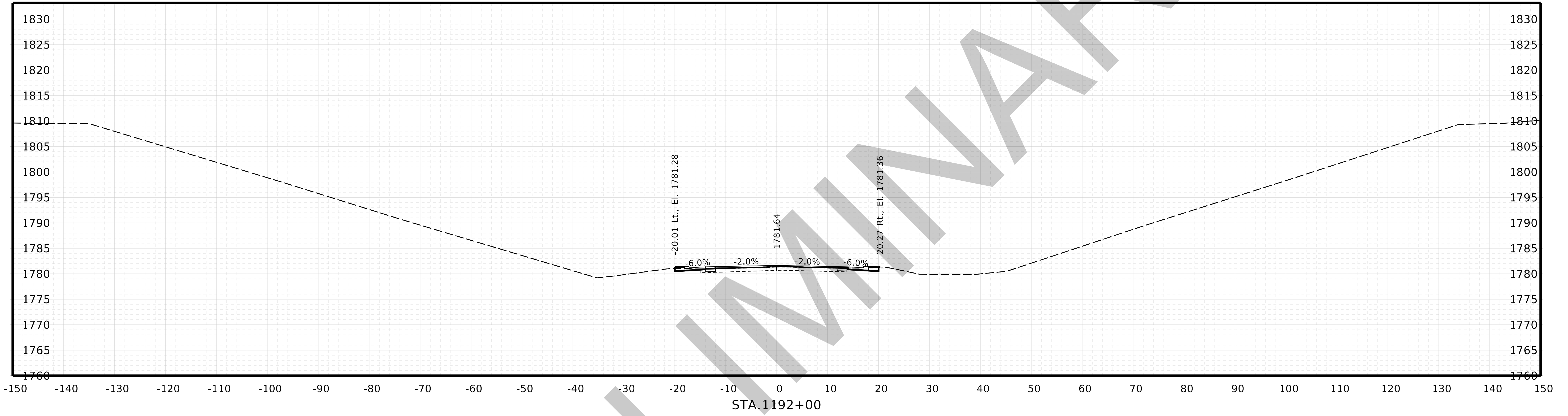


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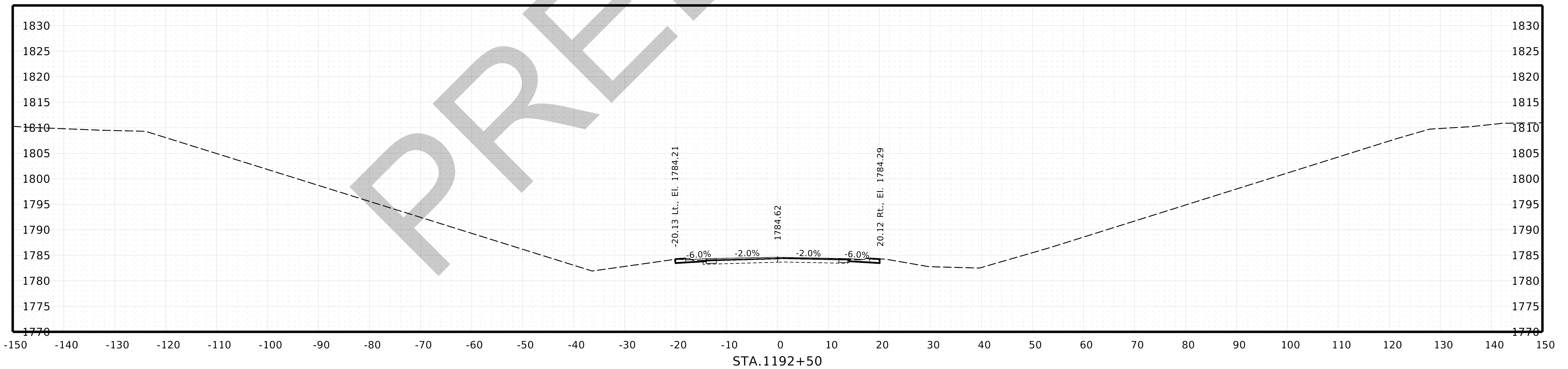
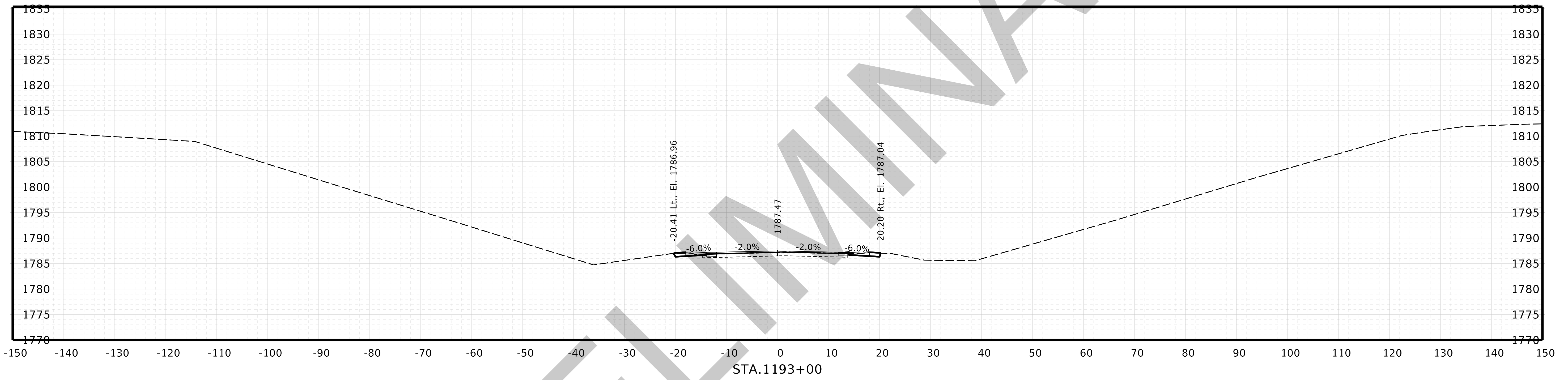


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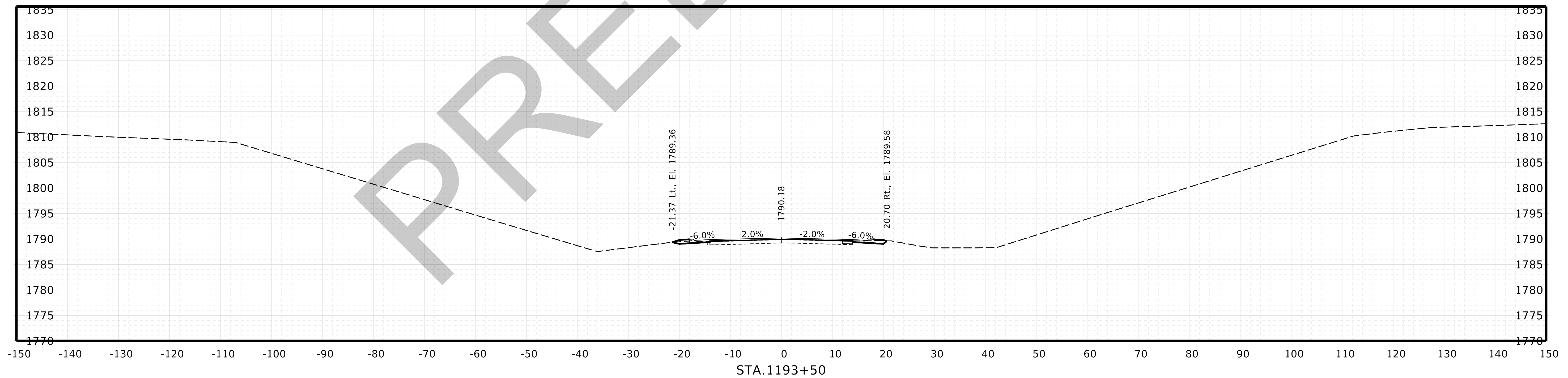
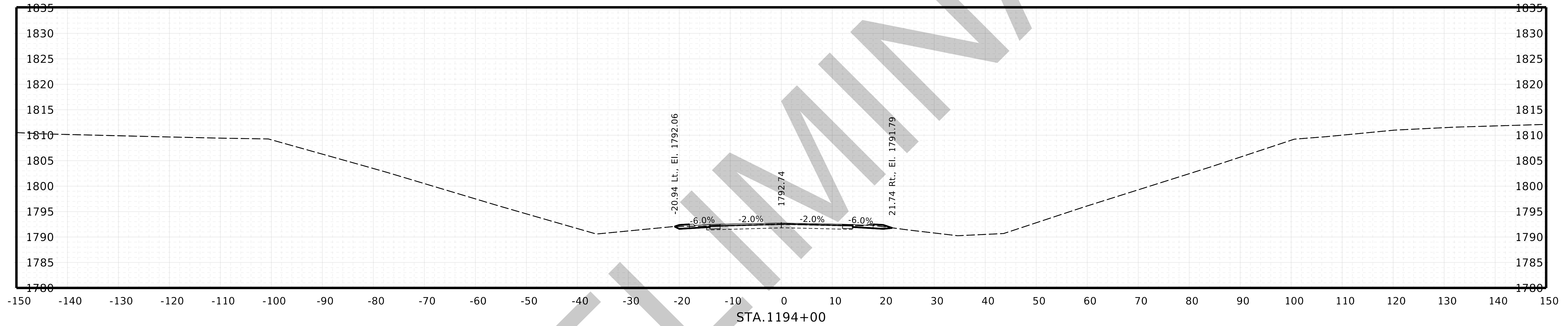
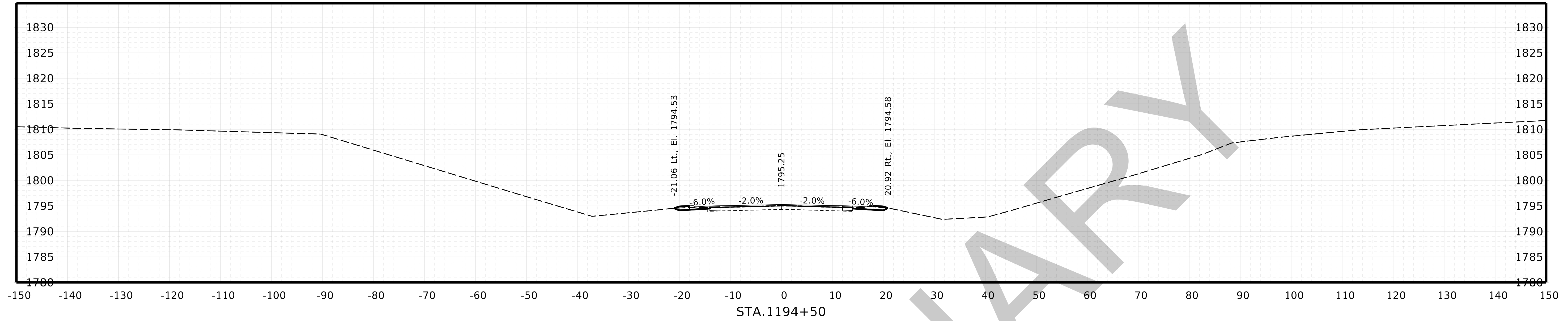
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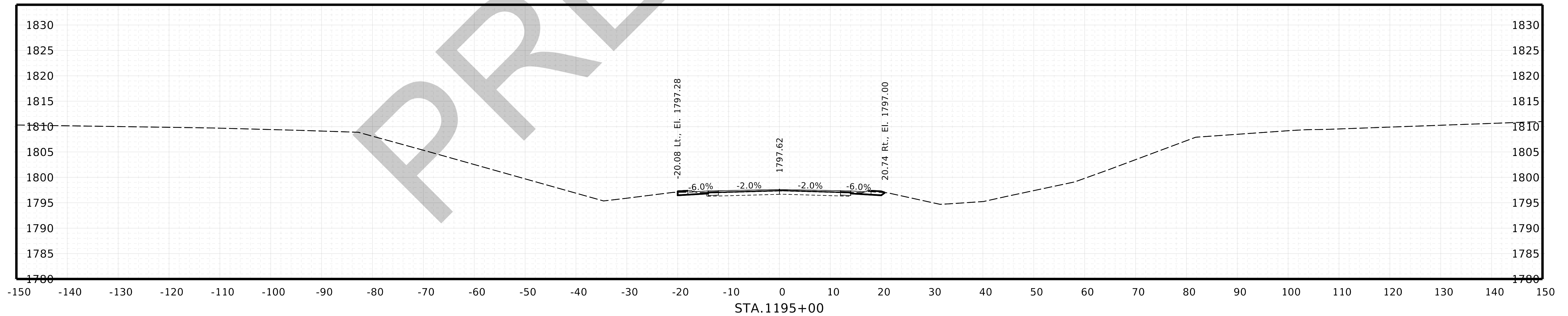
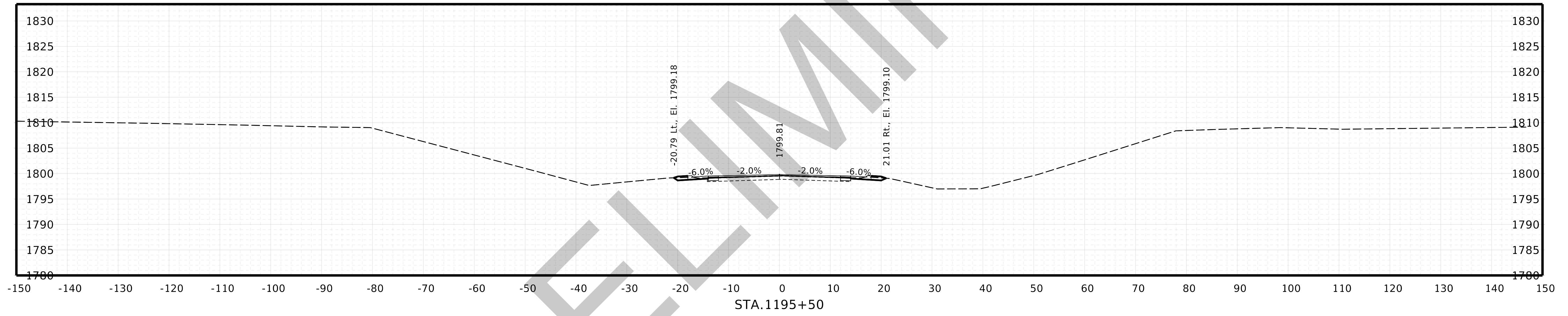
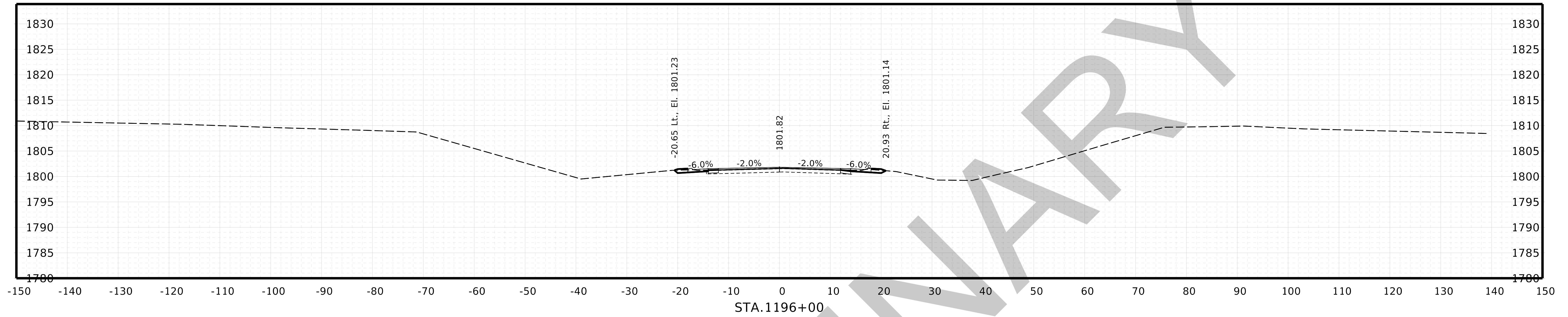
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PRELIMINARY

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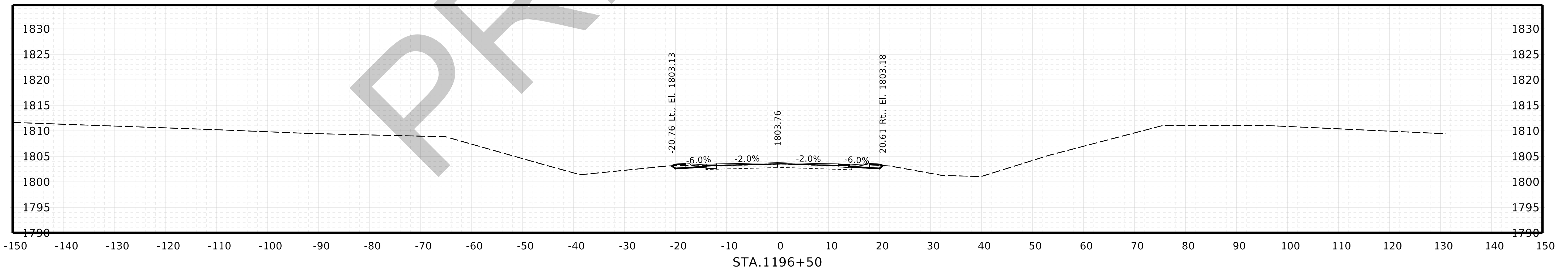
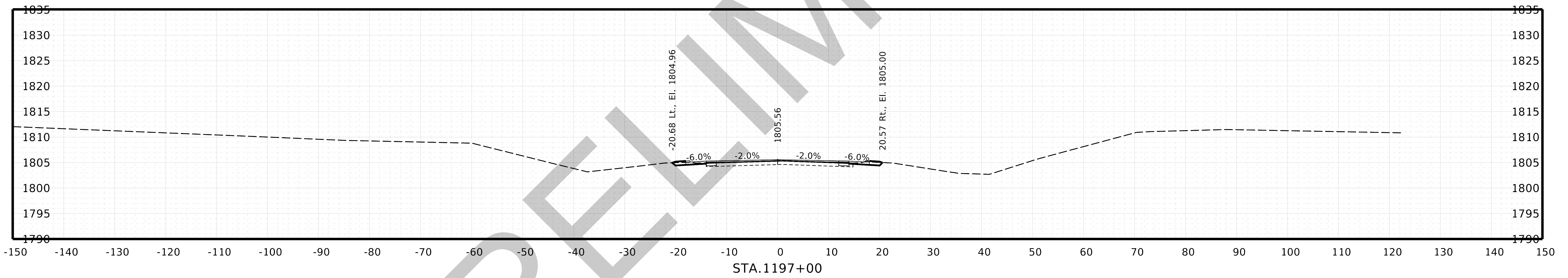
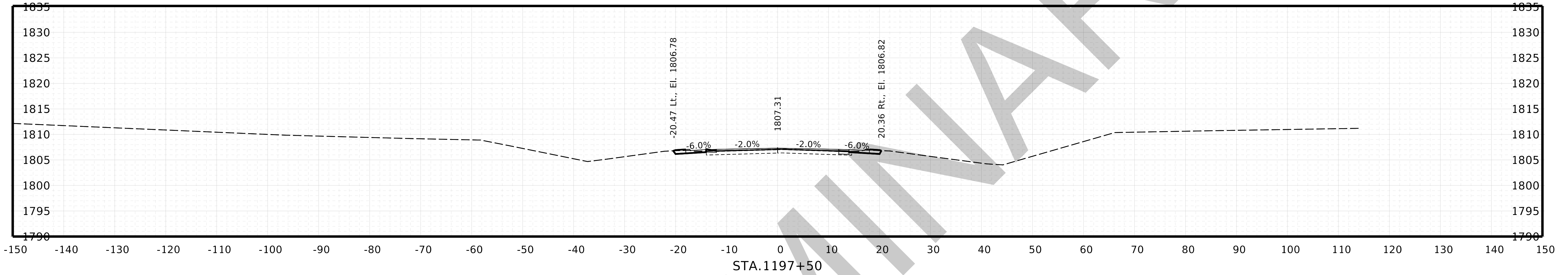


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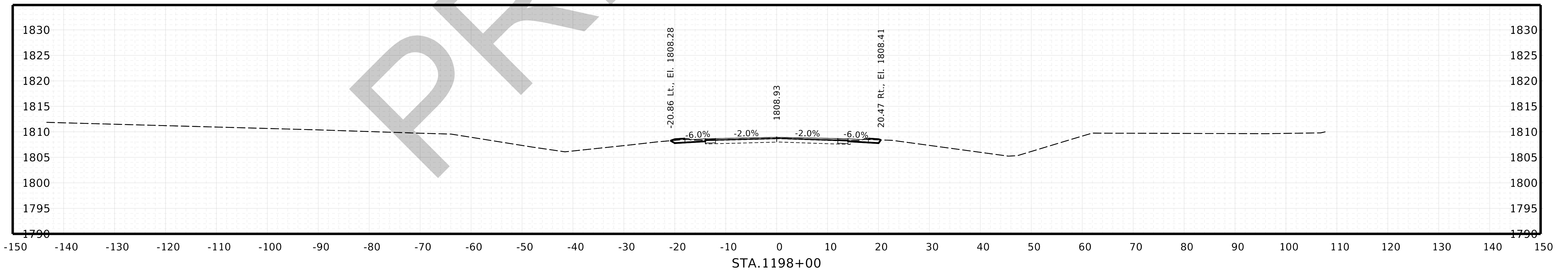
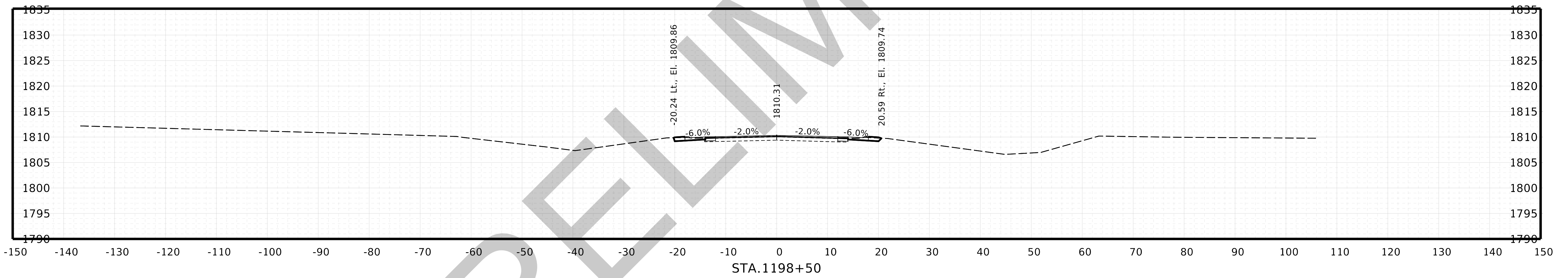
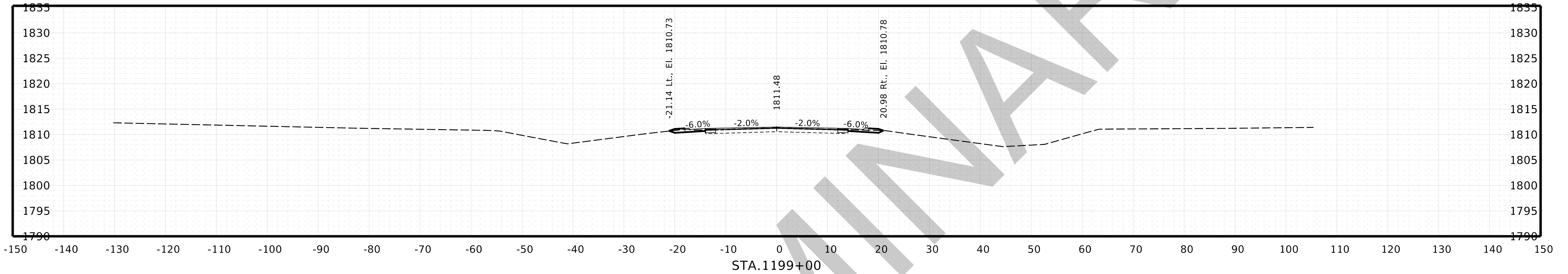


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