SUP

PROJECT ID: 8510-01-70

WITH: N/A

11

COUNTY: DOUGLAS

OCTOBER 2022

ORDER OF SHEETS

Section No.	1	Title
Section No.	2	Typical Sections and Details (Includes Erosion Control Plan)
Section No.	3	Estimate of Quantities
Section No.	3	Miscellaneous Quantities
Section No.	4	Right of Way Plat
Section No.	5	Plan and Profile
Section No.	6	Standard Detail Drawings
~~Section No.~~	~~7~~	~~Sign Plates~~
~~Section No.~~	~~8~~	~~Structure Plans~~
~~Section No.~~	~~8~~	~~Computer Earthwork Data~~
Section No.	9	Cross Sections

TOTAL SHEETS = 238

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

PORT WING-SUPERIOR

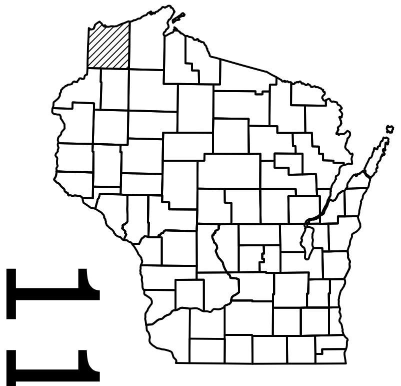
CTH H TO ENGDAHL ROAD

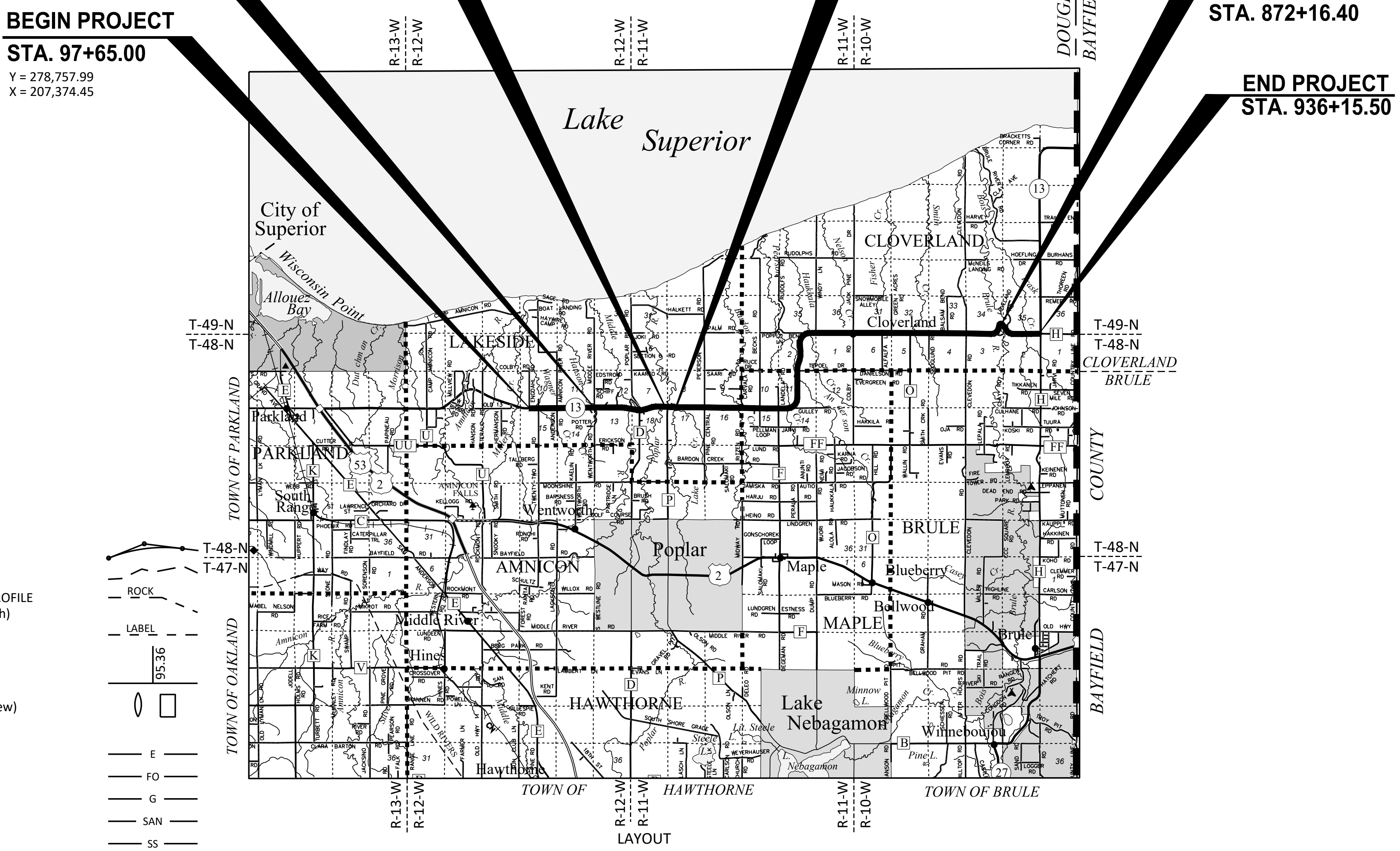
STH 13

DOUGLAS COUNTY

STATE PROJECT NUMBER
8510-01-70

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
8510-01-70	—	—





DESIGN DESIGNATION

A.A.D.T.	(2023)	=	1,900
A.A.D.T.	(2043)	=	2,300
D.H.V.	(2043)	=	172
D.D.		=	60/40
T.		=	10.7%
DESIGN SPEED		=	55 MPH
ESALS		=	500,000

CONVENTIONAL SYMBOLS

PLAN
CORPORATE LIMITS
PROPERTY LINE
LOT LINE
LIMITED HIGHWAY EASEMENT
EXISTING RIGHT OF WAY
PROPOSED OR NEW R/W LINE
SLOPE INTERCEPT
REFERENCE LINE — 300'EB'
EXISTING CULVERT
PROPOSED CULVERT (Box or Pipe)
COMBUSTIBLE FLUIDS — CAUTION
MARSH AREA
WOODED OR SHRUB AREA

PROFILE
GRADE LINE
ORIGINAL GROUND
MARSH OR ROCK PROFILE (To be noted as such) — ROCK
SPECIAL DITCH — LABEL
GRADE ELEVATION — 95.36
CULVERT (Profile View)

UTILITIES
ELECTRIC — E
FIBER OPTIC — FO
GAS — G
SANITARY SEWER — SAN
STORM SEWER — SS
TELEPHONE — T
WATER — W
UTILITY PEDESTAL
POWER POLE
TELEPHONE POLE

TOTAL NET LENGTH OF CENTERLINE = 15.772 MILES

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COUNTY COORDINATES, DOUGLAS COUNTY, NAD83 (2011), IN U.S. SURVEY FEET. VALUES ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCE MAY BE USED AS GROUND DISTANCES.

ELEVATION SHOWN ON THIS PLAN ARE REFERENCE TO THE NORTH AMERICAN VERTICAL DATUM OF 1988, NAVD (2012).

ORIGINAL PLANS PREPARED BY

JEWELL
associates engineers, inc
Engineers - Architects - Surveyors

JEFFREY D SMITH
E-36291
VERONA
WI

1/31/2022
(Date) (Signature)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY
Surveyor: COLEMAN ENGINEERING CO.
Designer: JEWELL ASSOCIATES ENGINEERING, INC
Project Manager: JEFF SAXBY, P.E.
Regional Examiner: TOU YANG, P.E.
Regional Supervisor: JEFFREY OLSON, P.E.

APPROVED FOR THE DEPARTMENT
DATE: 7/28/2022
(Signature)

E

GENERAL NOTES

NO TREES OR SHRUBS ARE TO BE REMOVED UNLESS SUCH TREES OR SHRUBS HAVE FIRST BEEN INDICATED FOR REMOVAL BY THE ENGINEER IN THE FIELD.

EROSION CONTROL ITEMS IN THE MISC. QUAN. ARE SUGGESTED. EXACT LOCATIONS WILL BE DETERMINED BY THE ENGINEER IN THE FIELD. MAINTAIN EROSION CONTROL ITEMS UNTIL SUCH TIME AS THE ENGINEER DETERMINES THE MEASURE IS NO LONGER NECESSARY. PROTECT WETLANDS AND OTHER WATERWAYS THAT ARE PRESENT WITHIN THE PROJECT LIMITS.

DISTURBED AREAS SHOWN WITHIN THE RIGHT-OF-WAY, EXCEPT THE AREAS WITHIN THE FINISHED SHOULDER POINTS ARE TO BE FERTILIZED (TYPE B), SEEDED (USE SEED MIX NO. 30), AND EROSION MAT URBAN CLASS I TYPE A AS DIRECTED BY THE ENGINEER. FERTILIZER (TYPE B), EROSION MAT URBAN CLASS I TYPE B & SEEDING (SEEDING MIX NO. 30) ARE PAID FOR UNDER THE BID ITEM BARRIER SYSTEM GRADING SHAPING FINISHING.

PRIOR TO THE PLACEMENT OF GUARDRAIL, THE SHOULDER MATERIAL SHALL BE PLACED, SHAPED, AND COMPACTED.

EXISTING SHOULDER AGGREGATE SHALL BE INCORPORATED INTO THE NEW SHOULDERS UNLESS OTHERWISE DIRECTED BY THE ENGINEER IN THE FIELD.

WHEN THE QUANTITY OF THE ITEM OF BASE AGGREGATE DENSE OR HMA PAVEMENT IS MEASURED FOR PAYMENT BY THE TON, THE DEPTH OR THICKNESS OF THE LAYER SHOWN ON THE PLANS IS APPROXIMATE, AND THE ACTUAL THICKNESS WILL DEPEND ON THE DISTRIBUTION OF THE MATERIAL AS DIRECTED BY THE ENGINEER IN THE FIELD.

REMOVAL OF ASPHALTIC SURFACES WHERE AN ABUTTING ASPHALTIC SURFACE IS TO REMAIN IN PLACE SHALL REQUIRE A VERTICAL EDGE MEETING THE APPROVAL OF THE ENGINEER IN THE FIELD.

HMA PAVEMENT QUANTITIES WERE CALCULATED USING 112 LB/SY/IN.

PAVING LIMITS AT INTERSECTIONS ARE TO BE DETERMINED IN THE FIELD BY THE ENGINEER.

THE EXACT LOCATIONS AND LIMITS OF PRIVATE ENTRANCES, COMMERCIAL, AND FIELD ENTRANCES SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.

APPLY TACK COAT AT A RATE OF 0.07 GAL/SY TO THE MILLED SURFACE AND AT A RATE OF 0.05 GAL/SY BETWEEN LAYERS OF HMA PAVEMENT.

THE CONTRACTOR'S PAVING OPERATIONS SHALL BE CONSISTENT WITH THE PLAN TYPICAL SECTIONS AND CONSTRUCTED TO PREVENT HMA LONGITUDINAL JOINTS FROM BEING LOCATED WITHIN A DRIVING, TURNING, OR PASSING LANE.

THE LOW SIDE SHOULDER SLOPE ON SUPERELEVATED SECTIONS EQUALS THE SUPERELEVATION WHEN THE SUPERELEVATION IS GREATER THAN 0.04 FT./FT. IF THE SUPERELEVATION IS LESS THAN OR EQUALS 0.04 FT./FT., THEN THE LOW SIDE SHOULDER SLOPE IS 0.04 FT./FT. THE HIGH SIDE SHOULDER SLOPE ON THE SUPERELEVATED SECTION EQUALS THE SUPERELEVATION.

FILL EXPANSION IS VARIABLE AND IS ESTIMATED AT 25%.

ADJUST DITCH GRADING AS NECESSARY TO FIELD CONDITIONS AND AS DIRECTED BY THE ENGINEER IN THE FIELD.

CURVE DATA IS BASED ON THE ARC DEFINITION.

FLAGGERS SHALL BE IN SIGHT OF EACH OTHER OR IN DIRECT COMMUNICATION AT ALL TIMES. THEY SHALL BE EQUIPPED WITH STOP/SLOW PADDLES FASTENED ON SUPPORT STAFFS. WHEN THE FLAGGING OPERATION IS NOT IN EFFECT, ALL SIGNS RELATING TO THIS OPERATION SHALL BE COVERED OR REMOVED AND FACILITY RESTORED TO NORMAL OPERATIONS.

THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS AS SHOWN ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN. THE CONTRACTOR SHALL COORDINATE THEIR CONSTRUCTION ACTIVITIES WITH A CALL TO "DIGGERS HOTLINE" AND/OR A DIRECT CALL TO THE UTILITIES THAT HAVE FACILITIES IN THE AREA. NOT ALL UTILITIES ARE MEMBERS OF DIGGERS HOTLINE.

IF THERE ARE CONFLICTS WITH SIGNS OR OTHER WORK UNDER THIS PROJECT, THE CONTRACTOR WILL WORK AROUND THE UTILITY FACILITIES.

ALL RADII DIMENSIONS ON THE PLAN FOR CURB AND GUTTER ARE TO THE FLANGE OF THE CURB & GUTTER UNLESS OTHERWISE NOTED. DOCUMENT CONCRETE CURB AND GUTTER FLANGE LINE ELEVATION PRIOR TO CURB AND GUTTER REMOVAL. MATCH EXISTING FLANGE LINE ELEVATIONS IN AREAS OF CONCRETE CURB AND GUTTER REPLACEMENT.

THE LOCATION OF ALL PERMANENT SIGNING SHALL BE VERIFIED BY THE ENGINEER IN THE FIELD PRIOR TO PLACEMENT.

ACCURACY OF INLET AND DISCHARGE ELEVATIONS FOR DRAINAGE STRUCTURES SHALL BE VERIFIED BY THE ENGINEER IN THE FIELD.

TOTAL LAYER THICKNESS	LAYER THICKNESS
2"	SINGLE 2" LAYER
3.25"	1.5" UPPER LAYER 1.75" LOWER LAYER
5"	1.5" HMA 5 MT 58-34 V UPPER LAYER 1.75" HMA 5 MT 58-34 V LOWER LAYER (MILL 2" ASPHALTIC SURFACE 1.75" TO REMAIN) 1.75" ASPHALTIC SURFACE UPPER LAYER (MATCH EXISTING PROFILE) 2" ASPHALTIC SURFACE LOWER LAYER
8.25"	1.5" HMA 5 MT 58-34 V UPPER LAYER 1.75" HMA 5 MT 58-34 V LOWER LAYER (MILL 2" ASPHALTIC SURFACE 5" TO REMAIN) 2" ASPHALTIC SURFACE UPPER LAYER (MATCH EXISTING PROFILE) 2" ASPHALTIC SURFACE MIDDLE LAYER 3" ASPHALTIC SURFACE LOWER LAYER

CONTACTS

WISCONSIN DEPARTMENT OF TRANSPORTATION:
WisDOT PROJECT MANAGER
1701 NORTH 4TH STREET
SUPERIOR, WI 54880
ATTN: TRAVIS JENSEN, P.E.
PH: (715) 395-3025
EMAIL: travis.jensen@dot.wi.gov

WISCONSIN DEPARTMENT OF TRANSPORTATION:
WisDOT HEIGHT MODERNIZATION PROGRAM MANAGER
3502 KINSMAN BOULEVARD
MADISON, WI 53704
ATTN: JACOB ROCKWEILER, P.E.
PH: (608) 516-6362
EMAIL: jacob.rockweiler@dot.wi.gov

DESIGN CONSULTANT:
JEWELL ASSOCIATES ENGINEERS, INC.
1001 FOURIER DRIVE, #104
MADISON, WI 53717
ATTN: JEFF SMITH, P.E.
PH: (608) 459-6091
EMAIL: jeff.smith@jewellassoc.com

WDNR LIAISON:
STATE OF WISCONSIN
DNR NORTH CENTRAL REGION
810 WEST MAPLE STREET
SPOONER, WI 54801
ATTN: AMY CRONK
PH: (715) 635-4229
EMAIL: amy.cronk@wisconsin.gov

UTILITIES

ELECTRICITY

BAYFIELD ELECTRIC COOPERATIVE INC
ATTN: ROBERT LAHTI
P.O.BOX 68
IRON RIVER, WI 54847
OFFICE: (715) 372-4287
EMAIL: bob.lahti@bayfieldelectric.com

DAHLBERG LIGHT AND POWER COMPANY
ATTN: JAMES DAHLBERG
9221 E MAIN STREET
P.O. BOX 300
SOLON SPRING, WI 54873
OFFICE: (715) 378-2205
EMAIL: jimdahlberg@dahlberglightandpower.com

GAS/PETROLEUM

ENBRIDGE ENERGY
ATTN: DEAN WILL
10 BARDON AVENUE
SUPERIOR, WI 54880
CELL: (218) 390-5228
EMAIL: dean.will@enbridge.com

COMMUNICATION LINE

CENTURYLINK
ATTN: BRIAN HUHN
425 ELLINGSON AVENUE
HAWKINS, WI 54530
OFFICE: (608) 615-7347
CELL: (715) 563-8294
EMAIL: brian.huhn@centurlink.com

NORVADO
ATTN: GUY FOLSOM
P.O. BOX 67
CABLE, WI 54821
OFFICE: (715) 798-7123
CELL: (715) 580-8123
EMAIL: gfolsom@norvado.com

ORDER OF SECTION 2 SHEETS:

- WRITTEN MATERIAL
- PROJECT OVERVIEW
- TYPICAL SECTIONS
- SUPERELEVATION TABLES
- CONSTRUCTION DETAILS (INCLUDES EROSION CONTROL PLAN)
- TRAFFIC CONTROL PLAN
- PAVEMENT MARKING PLAN
- ALIGNMENT DETAILS
- PLAN DETAILS

DIGGERS HOTLINE
Dial 811 or (800) 242-8511
www.DiggersHotline.com

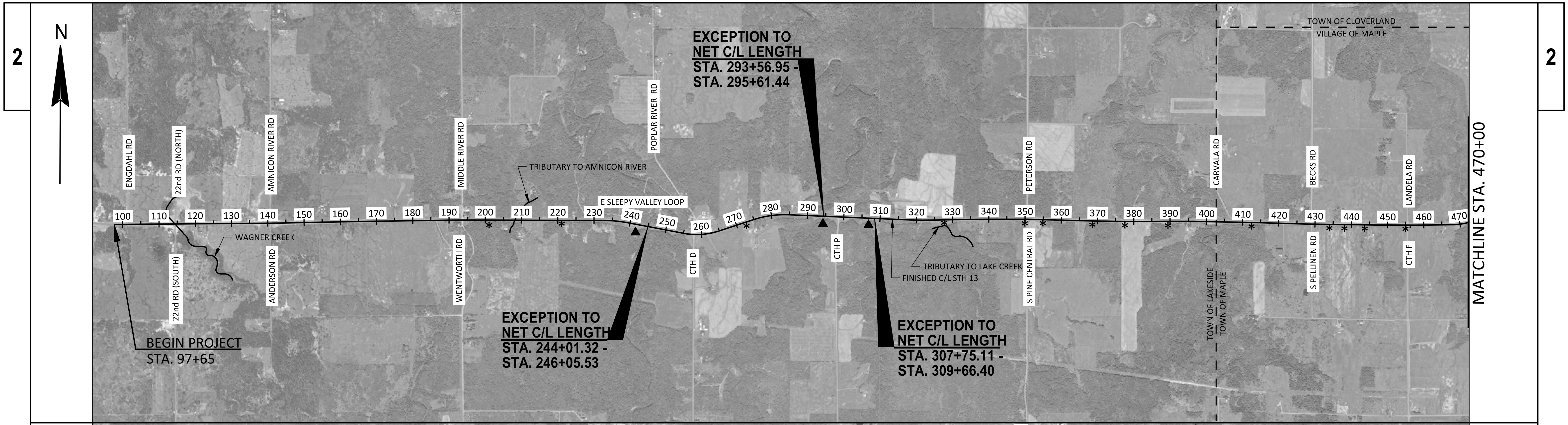
LIST OF STANDARD ABBREVIATIONS

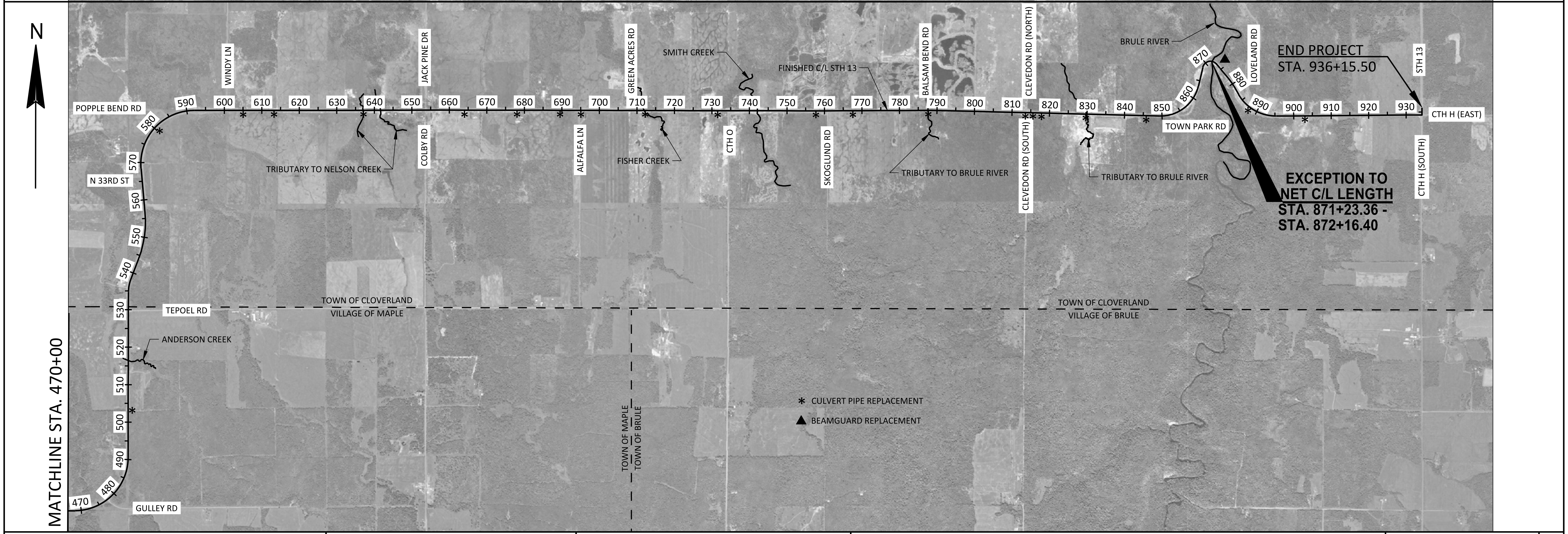
ABUT	Abutment
AC	Acre
AGG	Aggregate
AH	Ahead
<	Angle
ASPH	Asphaltic
AVG	Average
ADT	Average Daily Traffic
BAD	Base Aggregate Dense
BK	Back
BF	Back Face
BM	Bench Mark
BR	Bridge
C or C/L	Center Line
CC	Center to Center
C.E.	Commercial Entrance
CTH	County Trunk Highway
CR	Creek
CR	Crushed
CY or CU YD	Cubic Yard
CP	Culvert Pipe
C & G	Curb and Gutter
D	Degree of Curve
DHV	Design Hour Volume
DIA	Diameter
E	East
X	East Grid Coordinate
ELEC	Electric (al)
EL or ELEV	Elevation
ESALS	Equivalent Single Axle Loads
EBS	Excavation Below Subgrade
FF	Face to Face
F.E.	Field Entrance
F	Fill
FG	Finished Grade
FL or F/L	Flow Line
FT	Foot
FTG	Footing
GN	Grid North
HT	Height
CWT	Hundredweight
HYD	Hydrant
INL	Inlet
ID	Inside Diameter
INV	Invert
IP	Iron Pipe or Pin
IRS	Iron Rod Set
JT	Joint
JCT	Junction
LHF	Left-Hand Forward
L	Length of Curve
LIN FT or LF	Linear Foot
LC	Long Chord of Curve
MH	Manhole
MB	Mailbox
ML or M/L	Match Line
N	North
Y	North Grid Coordinate
OD	Outside Diameter
PLE	Permanent Limited Easement
PT	Point
PC	Point of Curvature
PI	Point of Intersection
PRC	Point of Reverse Curvature
PT	Point of Tangency
POC	Point On Curve
POT	Point on Tangent
PVC	Polyvinyl Chloride
PCC	Portland Cement Concrete
LB	Pound
PSI	Pounds Per Square Inch
P.E.	Private Entrance
R	Radius
RR	Railroad
R	Range
RL or R/L	Reference Line
RP	Reference Point
RCCP	Reinforced Concrete Culvert Pipe
REQD	Required
RES	Residence or Residential
RW	Retaining Wall
RT	Right
RHF	Right-Hand Forward
R/W	Right-of-Way
RD	Road
R	River
RDWY	Roadway
SALV	Salvaged
SAN S	Sanitary Sewer
SEC	Section
SHLDR	Shoulder
SHR	Shrinkage
SW	Sidewalk
S	South
SQ	Square
SF or SQ FT	Square Feet
SY or SQ YD	Square Yard
STD	Standard
SDD	Standard Detail Drawings
STH	State Trunk Highways
STA	Station
SS	Storm Sewer
SG	Subgrade
SE	Superelevation
SL or S/L	Survey Line
SV	Septic Vent
T	Tangent
TEL	Telephone
TEMP	Temporary
TI	Temporary Interest
TLE	Temporary Limited Easement
t	Ton
T or TN	Town
TRANS	Transition
TL or T/L	Transit Line
T	Trucks (percent of)
TYP	Typical
UNCL	Unclassified
UG	Underground Cable
USH	United States Highway
VAR	Variable
V	Velocity or Design Speed
VERT	Vertical
VC	Vertical Curve
VOL	Volume
WM	Water Main
WV	Water Valve
W	West
WB	Westbound
YD	Yard

	HYDROLOGIC SOIL GROUP											
	A			B			C			D		
	SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)		
LAND USE	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER
ROW CROPS	.08 .22	.16 .30	.22 .38	.12 .26	.20 .34	.27 .44	.15 .30	.24 .37	.33 .50	.19 .34	.28 .41	.38 .56
MEDIAN STRIP TURF	.19 .24	.20 .26	.24 .30	.19 .25	.22 .28	.26 .33	.20 .26	.23 .30	.30 .37	.20 .27	.25 .32	.30 .40
SIDE SLOPE TURF			.25 .32			.27 .34			.28 .36			.30 .38
PAVEMENT												
ASPHALT	.70 - .95											
CONCRETE	.80 - .95											
BRICK	.70 - .80											
DRIVES, WALKS	.75 - .85											
ROOFS	.75 - .95											
GRAVEL ROADS, SHOULDERS	.40 - .60											

TOTAL PROJECT AREA= 321.03 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 77.28 ACRES

2





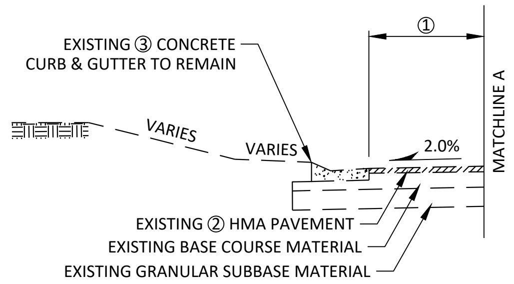
2

PROJECT NO: 8510-01-70	HWY: STH 13	COUNTY: DOUGLAS	PROJECT OVERVIEW	SHEET	E

FILE NAME : S:\PROJECTS\W11599 WISDOT STH 13, CTH H TO ENGDAHL ROAD DOUGLAS CO\SHEETSPLAN\DETAILS\85100100_PROJECT OVERVIEW.DWG PLOT DATE : 2/3/2022 1:35:06 PM PLOT BY : KARTER ZAJICEK PLOT SCALE : 1" = 1' LAYOUT : LAYOUT1

CORING	STATION	ASPHALT THICKNESS (IN.)
1	103+06	6
2	115+85	6.25
3	127+15	6
4	137+50	6
5	148+08	5
6	158+74	5.75
7	169+21	4.75
8	179+85	6.5
9	190+91	9
10	201+18	5.5
11	211+67	4.75
12	222+82	5.25
13	233+84	9.25
14	246+84	5.5
15	255+60	8.5
16	266+31	6
17	277+21	10.75
18	287+22	7.5
19	298+21	4.25
20	309+65	8.25
21	320+29	8
22	329+95	5.75
23	339+36	11
24	349+32	5.75
25	359+28	5
26	369+37	5.75
27	380+31	7
28	390+20	5.25
29	400+20	5
30	410+21	5
31	419+79	5
32	429+67	5.25
33	439+65	4.5
34	449+73	5
35	459+51	5
36	469+40	5
37	479+02	4.25
38	488+98	5
39	498+95	5
40	508+81	3
41	518+57	4.75
42	528+72	5
43	538+68	5.5
44	548+55	4.5
45	558+40	4.75
46	568+34	5
47	578+44	5
48	588+02	5
49	597+76	4.5
50	607+42	5
51	617+36	6
52	627+03	4.5
53	636+73	5.5
54	646+37	4.25
55	656+05	4
56	666+25	4.75
57	675+78	5.5
58	685+42	4.5
59	695+19	5
60	704+97	4.75
61	714+81	5.25
62	724+67	4.5
63	734+58	5.75
64	744+56	5.5
65	754+21	4.75
66	764+031	4.25
67	774+10	4.75
68	783+50	4.5
69	793+34	5.25
70	802+70	6
71	812+25	5.75
72	822+06	5.5
73	831+78	8.5
74	841+23	5.5
75	851+16	7.5
76	861+08	6.75
77	868+48	6.5
78	872+15	7.75
79	882+09	5
80	891+36	5.75
81	901+36	6
82	911+14	7
83	920+99	6.5
84	931+17	5.5
85	933+85	11.25

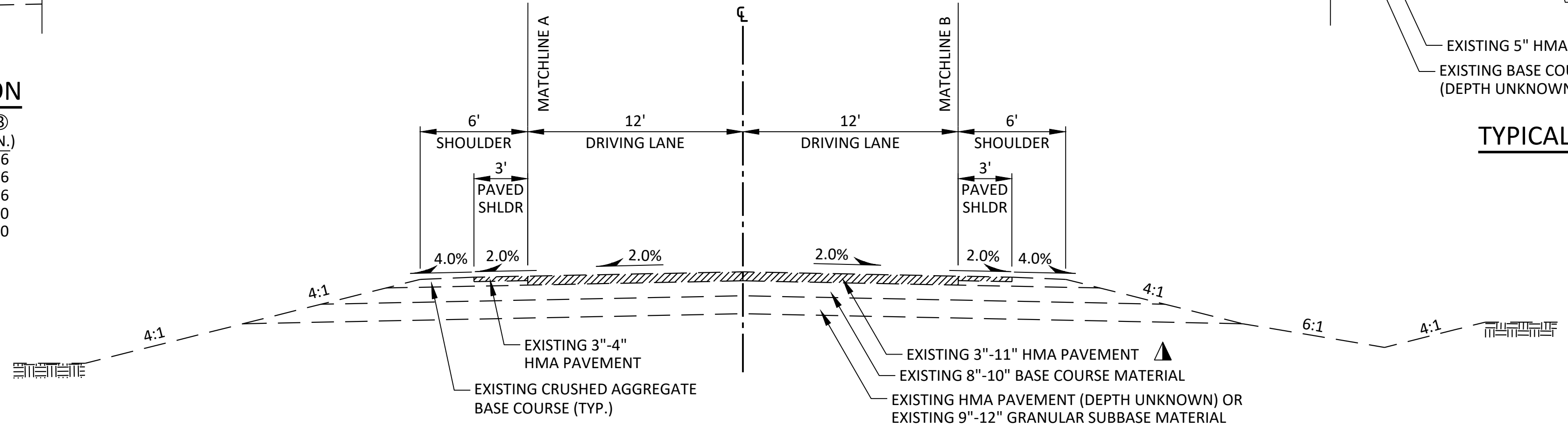
EXISTING PAVEMENT CORINGS



TYPICAL PARTIAL EXISTING SECTION

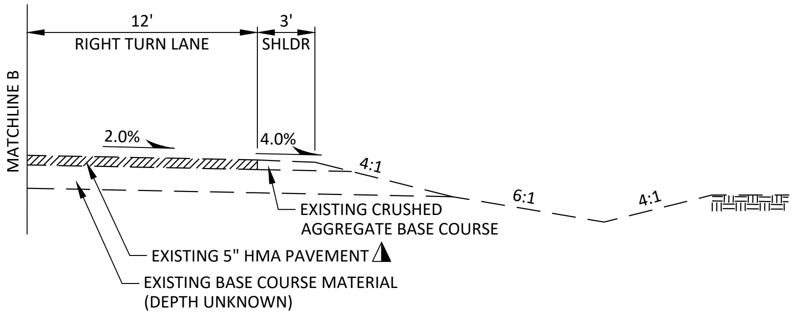
	① (FT.)	② (IN.)	③ (IN.)
STA. 406+46 - STA. 410+77, LT.	5	UNKNOWN	36
STA. 642+81 - STA. 644+00, LT.	5	3	36
STA. 736+25 - STA. 739+37, LT.	6	3	36
④ STA. 904+66 - STA. 910+15, RT.	5	4.5	30
④ STA. 904+73 - STA. 911+11, LT.	5	4.5	30

④ STA. 907+73 - STA. 908+05, LT.
STA. 908+05 - STA. 908+37, RT.
REMOVING CURB AND GUTTER



TYPICAL EXISTING SECTION

STA. 97+65 - STA. 193+70
STA. 202+56 - STA. 231+22
STA. 240+50 - STA. 253+83
STA. 266+18 - STA. 273+51
STA. 286+23 - STA. 316+92
STA. 326+19 - STA. 466+87
STA. 492+12 - STA. 533+43
STA. 539+45 - STA. 542+51
STA. 558+12 - STA. 566+85
STA. 593+60 - STA. 848+07
STA. 864+75 - STA. 867+56
STA. 875+09 - STA. 877+40
STA. 881+38 - STA. 881+92
STA. 896+76 - STA. 936+15.50

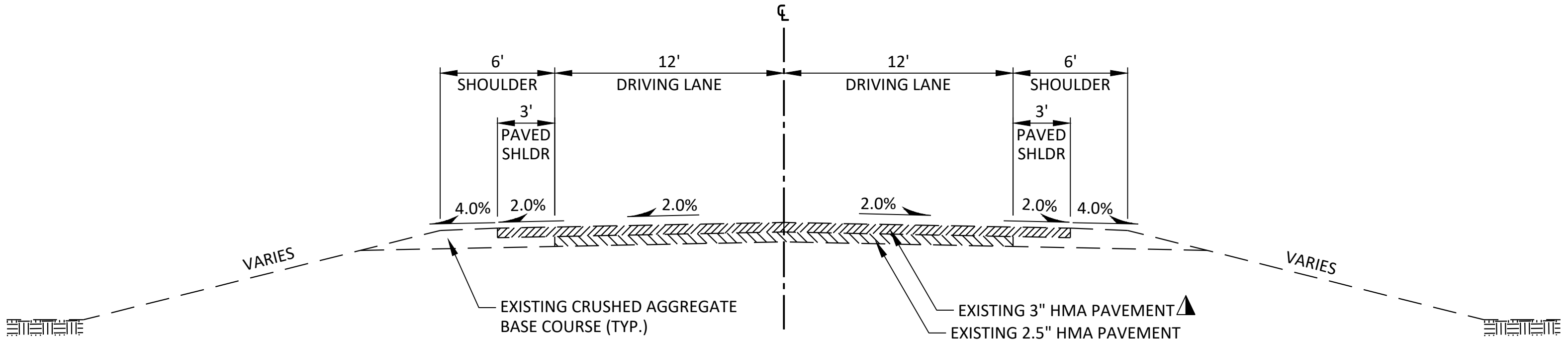


TYPICAL PARTIAL EXISTING SECTION

STA. 451+52 - STA. 457+13, RT.

⚠ SEE EXISTING PAVEMENT CORING LOG FOR
ADDITIONAL INFORMATION

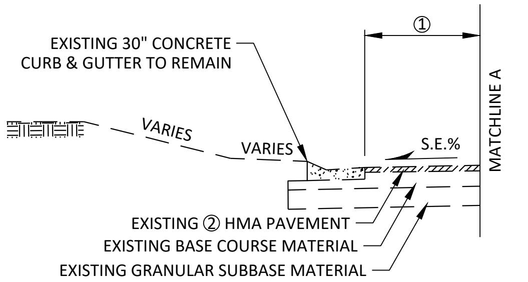
PROJECT NO: 8510-01-70	HWY: STH 13	COUNTY: DOUGLAS	TYPICAL EXISTING SECTIONS	SHEET 4	E



TYPICAL EXISTING SECTION

STA. 193+70 - STA. 202+56

⚠ SEE EXISTING PAVEMENT CORING LOG FOR ADDITIONAL INFORMATION

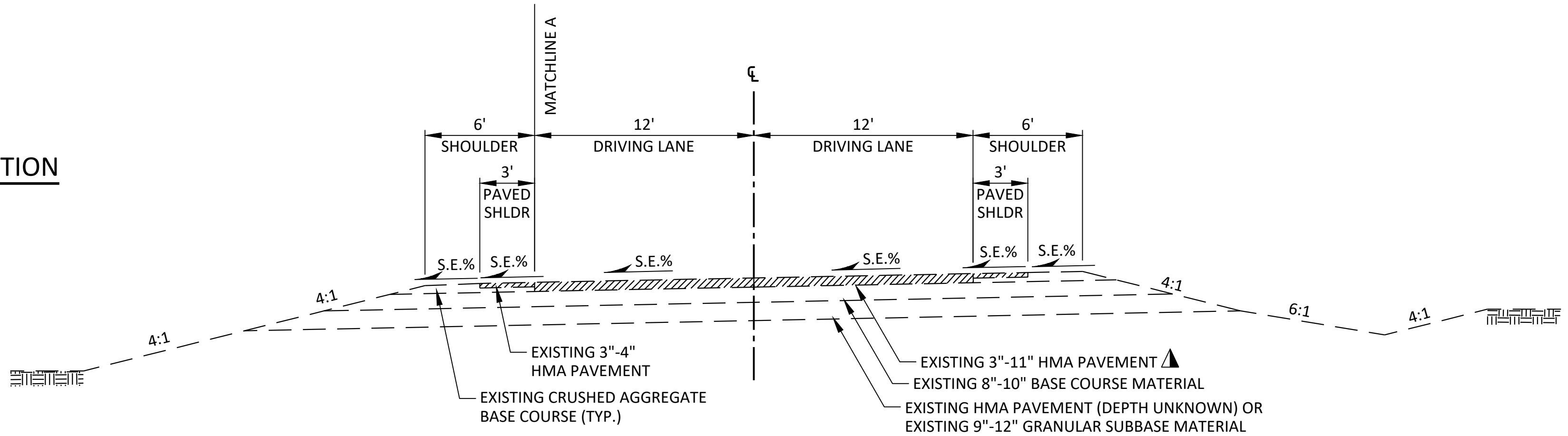


TYPICAL PARTIAL EXISTING SUPERELEVATED SECTION

	① (FT.)	② (IN.)
∗ STA. 856+90 - STA. 869+65, LT.	VARIES 1-6	4.5
STA. 870+07 - STA. 871+37, RT.	VARIES 1.5-3.8	UNKNOWN
③ STA. 872+12 - STA. 873+07, RT.	3.5	UNKNOWN
∗ STA. 879+17 - STA. 886+30, LT.	VARIES 3-5.5	4.5

∗ N.C. - STA. 864+75 - STA. 867+56, LT.
N.C. - STA. 881+38 - STA. 881+92, LT.

③ STA. 872+12 - STA. 873+07, RT.
REMOVING CURB AND GUTTER



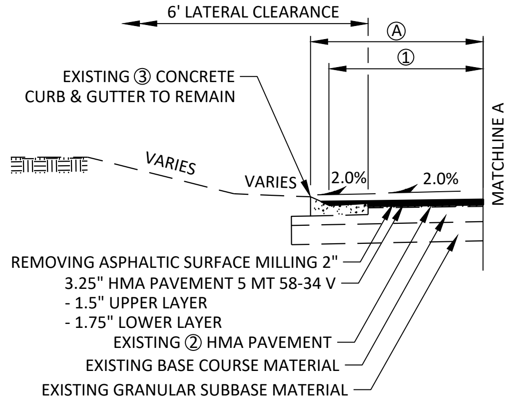
TYPICAL EXISTING SUPERELEVATED SECTION

STA. 231+22 - STA. 240+50
STA. 253+83 - STA. 266+18
STA. 273+51 - STA. 286+23
STA. 316+92 - STA. 326+19
STA. 466+87 - STA. 492+12
STA. 533+43 - STA. 539+45
STA. 542+51 - STA. 558+12
STA. 566+85 - STA. 593+60
STA. 848+07 - STA. 864+75
STA. 867+56 - STA. 875+09
STA. 877+40 - STA. 881+38
STA. 881+92 - STA. 896+76

⚠ SEE EXISTING PAVEMENT CORING LOG FOR ADDITIONAL INFORMATION

PROJECT NO: 8510-01-70 | HWY: STH 13 | COUNTY: DOUGLAS | TYPICAL EXISTING SECTIONS | SHEET 5 | E

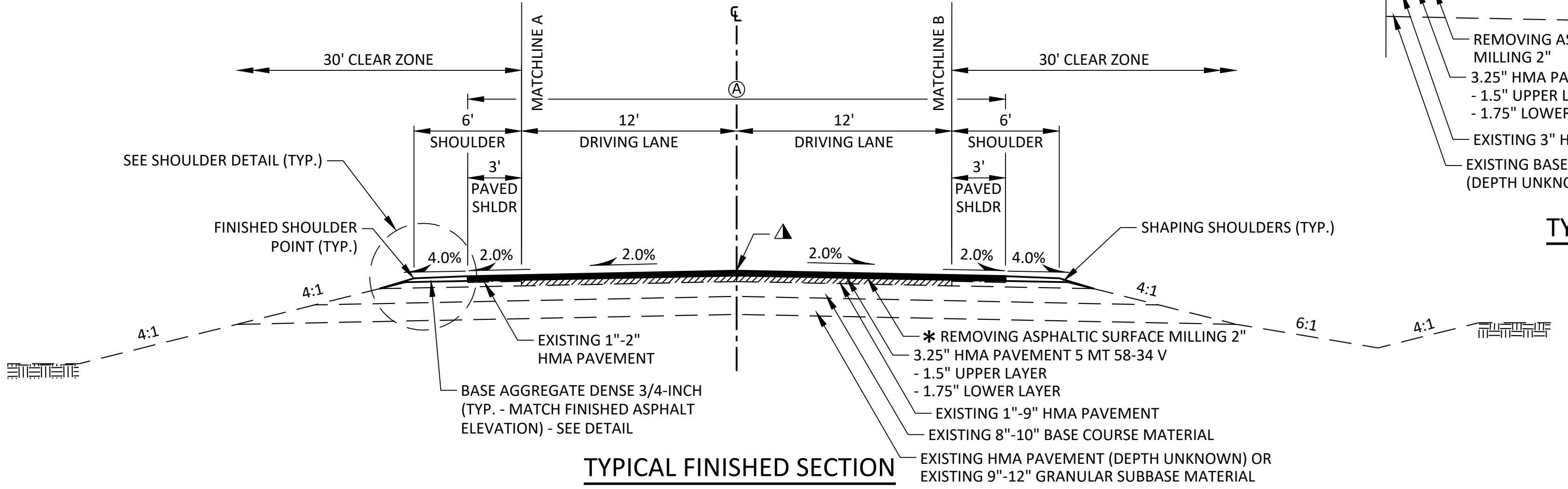
FILE NAME : S:\PROJECTS\W11599 WISDOT STH 13, CTH H TO ENGDAHL ROAD DOUGLAS CO\SHEETSPLAN\TYPICALS\85100100_TYPICALS.DWG PLOT DATE : 1/25/2022 3:13:04 PM PLOT BY : KARTER ZAJICEK PLOT SCALE : 1" = 1' LAYOUT : TYPICAL EXISTING - 2



TYPICAL PARTIAL FINISHED SECTION

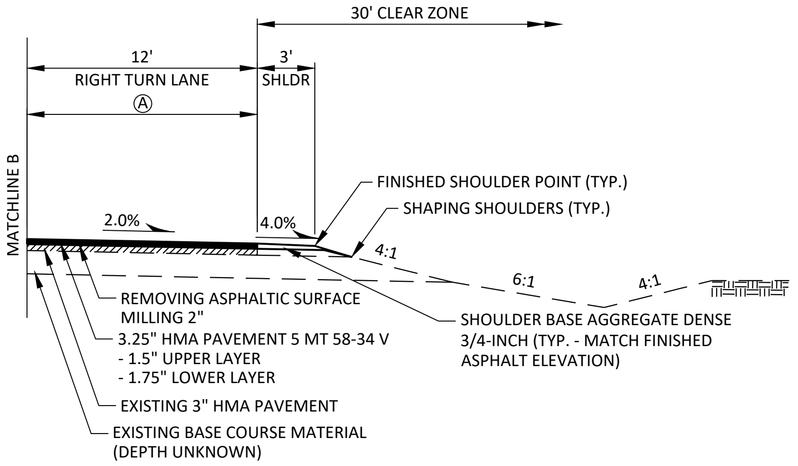
	① (FT.)	② (IN.)	③ (IN.)
STA. 406+46 - STA. 410+77, LT.	7	UNKNOWN	36
STA. 642+81 - STA. 644+00, LT.	7	1	36
STA. 736+25 - STA. 739+37, LT.	8	1	36
④ STA. 904+66 - STA. 910+15, RT.	7	2.5	30
④ STA. 904+73 - STA. 911+11, LT.	7	2.5	30

④ STA. 907+73 - STA. 908+05, LT.
STA. 908+05 - STA. 908+37, RT.
-CONCRETE CURB AND GUTTER 30-INCH
TYPE D (DRIVEWAY CURB CUT) REQ'D.



TYPICAL FINISHED SECTION

STA. 97+65 - STA. 193+70	STA. 539+45 - STA. 542+51
STA. 202+56 - STA. 231+22	STA. 558+12 - STA. 566+85
STA. 240+50 - STA. 253+83	STA. 593+60 - STA. 848+07
STA. 266+18 - STA. 273+51	STA. 864+75 - STA. 867+56
STA. 286+23 - STA. 316+92	STA. 875+09 - STA. 877+40
STA. 326+19 - STA. 466+87	STA. 881+38 - STA. 881+92
STA. 492+12 - STA. 533+43	∗ STA. 896+76 - STA. 936+15.50



TYPICAL PARTIAL FINISHED SECTION

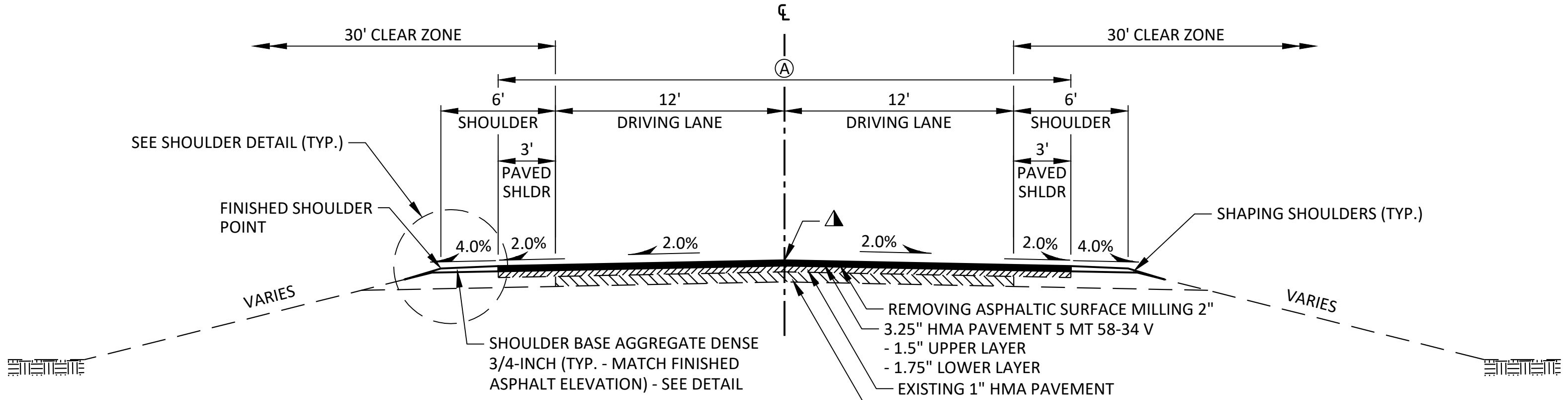
STA. 451+52 - STA. 457+13, RT.

NOTE: STA. 827+35 - STA. 936+15.50 18' CLEAR ZONE

Ⓐ LIMITS OF PREPARE FOUNDATION FOR ASPHALTIC PAVING

◭ ASPHALTIC CENTERLINE RUMBLE STRIPS 2-LANE RURAL REQ'D.
SEE MISCELLANEOUS QUANTITIES AND STANDARD DETAIL
DRAWINGS FOR DETAILS.

∗ STA. 931+12 - STA. 936+15.50 - REMOVING ASPHALTIC SURFACE MILLING 2"
PLACE 2" HMA PAVEMENT 5 MT 58-34 V



TYPICAL FINISHED SECTION

STA. 193+70 - STA. 202+56

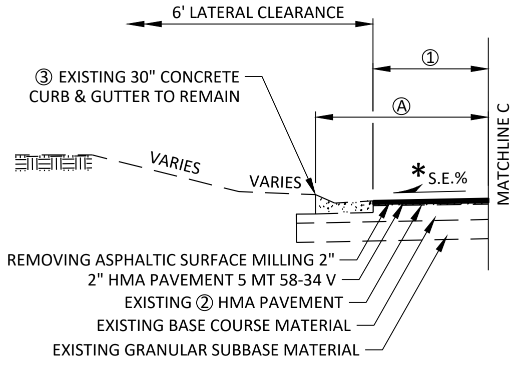
NOTE: STA. 827+35 - STA. 936+15.50 18' CLEAR ZONE

Ⓐ LIMITS OF PREPARE FOUNDATION FOR ASPHALTIC PAVING

◭ ASPHALTIC CENTERLINE RUMBLE STRIPS 2-LANE RURAL REQ'D.
SEE MISCELLANEOUS QUANTITIES AND STANDARD DETAIL
DRAWINGS FOR DETAILS.

PROJECT NO: 8510-01-70	HWY: STH 13	COUNTY: DOUGLAS	TYPICAL FINISHED SECTIONS	SHEET	E

FILE NAME : S:\PROJECTS\W11599 WISDOT STH 13, CTH H TO ENGDAHL ROAD DOUGLAS CO\SHEETSPLAN\TYPICALS\85100100_TYPICALS.DWG PLOT DATE : 2/4/2022 10:01:23 AM PLOT BY : KARTER ZAJICEK PLOT SCALE : 1" = 1' LAYOUT : TYPICAL FINISHED - 1

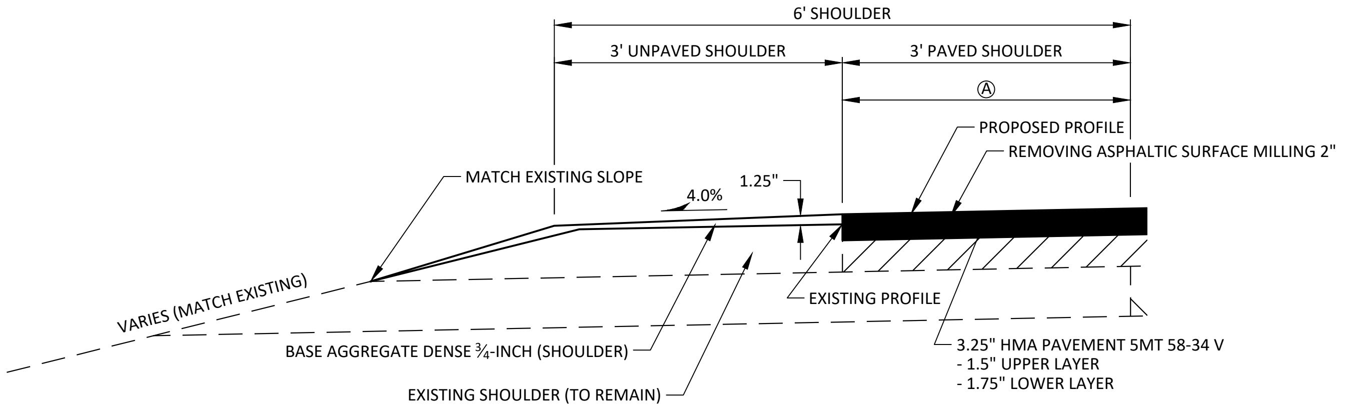


TYPICAL PARTIAL FINISHED SUPERELEVATED SECTION

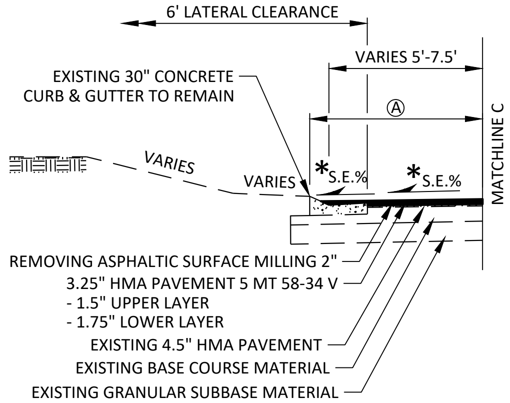
	① (FT.)	② (IN.)
** STA. 856+90 - STA. 869+65, LT.	VARIES 1-6	2.5
STA. 870+07 - STA. 871+37, RT.	VARIES 1.5-3.8	UNKNOWN
③ STA. 872+12 - STA. 873+07, RT.	3.5	UNKNOWN

** N.C. - STA. 864+75 - STA. 867+56, LT.

③ STA. 872+12 - STA. 873+07, LT.
-CONCRETE CURB AND GUTTER 30-INCH TYPE D



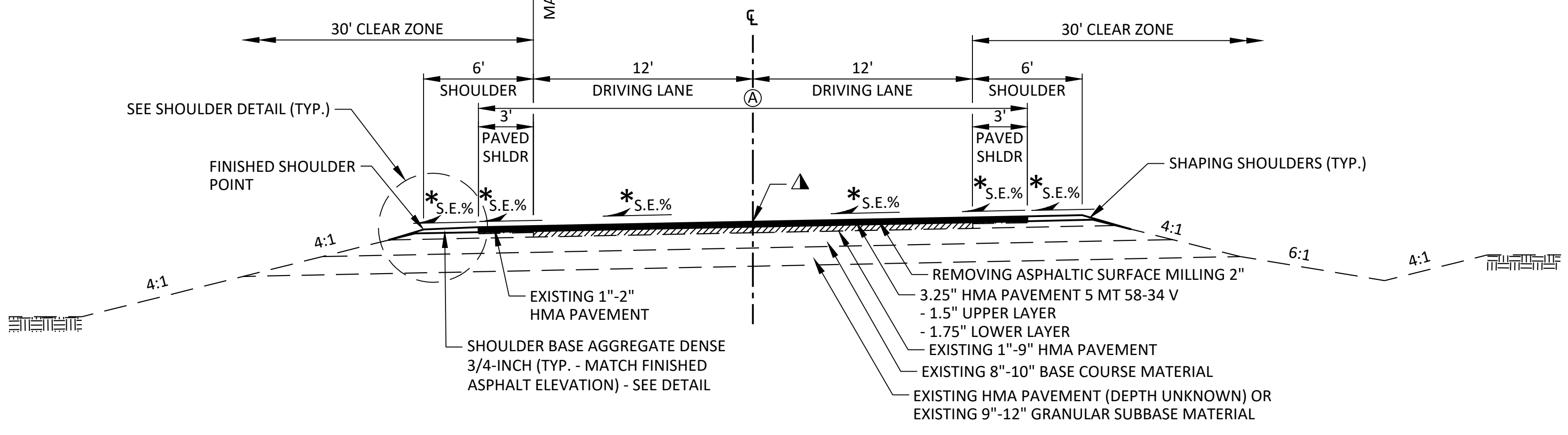
TYPICAL SHOULDER DETAIL



TYPICAL PARTIAL FINISHED SUPERELEVATED SECTION

*** STA. 879+17 - STA. 886+30, LT.

*** N.C. - STA. 881+38 - STA. 881+92, LT.



TYPICAL FINISHED SUPERELEVATED SECTION

STA. 231+22 - STA. 240+50
STA. 253+83 - STA. 266+18
STA. 273+51 - STA. 286+23
STA. 316+92 - STA. 326+19
STA. 466+87 - STA. 492+12
STA. 533+43 - STA. 539+45
STA. 542+51 - STA. 558+12
STA. 566+85 - STA. 593+60
STA. 848+07 - STA. 864+75
STA. 867+56 - STA. 875+09
STA. 877+40 - STA. 881+38
STA. 881+92 - STA. 896+76

NOTE: STA. 827+35 - STA. 936+15.50 18' CLEAR ZONE

Ⓐ LIMITS OF PREPARE FOUNDATION FOR ASPHALTIC PAVING

* SEE SUPERELEVATION TABLE

▲ ASPHALTIC CENTERLINE RUMBLE STRIPS 2-LANE RURAL REQ'D. SEE MISCELLANEOUS QUANTITIES AND STANDARD DETAIL DRAWINGS FOR DETAILS.

PROJECT NO: 8510-01-70 | HWY: STH 13 | COUNTY: DOUGLAS | TYPICAL FINISHED SECTIONS | SHEET 7 | E

FILE NAME : S:\PROJECTS\W11599 WISDOT STH 13, CTH H TO ENGDAHL ROAD DOUGLAS CO\SHEETSPLAN\TYPICALS\85100100_TYPICALS.DWG PLOT DATE : 2/4/2022 10:01:29 AM PLOT BY : KARTER ZAJICEK PLOT SCALE : 1" = 1' LAYOUT : TYPICAL FINISHED - 2

SUPERELEVATION TABLE-CURVE 1

STATION	LEFT(%)	RIGHT(%)
231+22	← 2.0	2.0 →
231+50	← 0.9	2.0 →
232+00	1.1 →	2.0 →
232+50	3.0 →	3.0 →
232+65	3.6 →	3.6 →
FULL SUPERELEVATION		
239+07	3.6 →	3.6 →
239+50	1.9 →	2.0 →
240+00	← 0.4	2.0 →
240+50	← 2.0	2.0 →

SUPERELEVATION TABLE-CURVE 2

STATION	LEFT(%)	RIGHT(%)
253+83	← 2.0	2.0 →
254+00	← 2.0	1.3 →
254+50	← 2.0	← 0.6
255+00	← 2.6	← 2.6
255+50	← 4.5	← 4.5
255+62	← 5.0	← 5.0
FULL SUPERELEVATION		
264+39	← 5.0	← 5.0
264+50	← 4.6	← 4.6
265+00	← 2.6	← 2.6
265+50	← 2.0	← 0.7
266+00	← 2.0	1.3 →
266+18	← 2.0	2.0 →

SUPERELEVATION TABLE-CURVE 3

STATION	LEFT(%)	RIGHT(%)
273+51	← 2.0	2.0 →
274+00	← 0.9	2.0 →
274+50	1.9 →	2.0 →
275+00	3.8 →	3.8 →
275+04	4.0 →	4.0 →
FULL SUPERELEVATION		
284+70	4.0 →	4.0 →
285+00	2.8 →	2.8 →
285+50	0.9 →	2.0 →
286+00	← 1.1	2.0 →
286+23	← 2.0	2.0 →

SUPERELEVATION TABLE-CURVE 4

STATION	LEFT(%)	RIGHT(%)
316+92	← 2.0	2.0 →
317+00	← 2.0	1.7 →
317+50	← 2.0	0.7 →
318+00	← 2.0	← 1.6
318+12	← 2.0	← 2.0
FULL SUPERELEVATION		
324+99	← 2.0	← 2.0
325+00	← 2.0	← 2.0
325+50	← 2.0	← 0.3
326+00	← 2.0	1.4 →
326+19	← 2.0	2.0 →

SUPERELEVATION TABLE-CURVE 5

MAINTAIN NORMAL CROWN THROUGH CURVE 5

SUPERELEVATION TABLE-CURVE 6

STATION	LEFT(%)	RIGHT(%)
466+87	← 2.0	2.0 →
467+00	← 2.0	1.5 →
467+50	← 2.0	← 0.6
468+00	← 2.7	← 2.7
468+50	← 4.8	← 4.8
468+89	← 6.4	← 6.4
FULL SUPERELEVATION		
490+10	← 6.4	← 6.4
490+50	← 4.8	← 4.8
491+00	← 2.7	← 2.7
491+50	← 2.0	← 0.6
492+00	← 2.0	1.5 →
492+12	← 2.0	2.0 →

SUPERELEVATION TABLE-CURVE 7

STATION	LEFT(%)	RIGHT(%)
533+43	← 2.0	2.0 →
533+50	← 1.7	2.0 →
534+00	0.6 →	2.0 →
534+50	2.8 →	2.8 →
535+00	5.1 →	5.1 →
535+16	5.8 →	5.8 →
FULL SUPERELEVATION		
537+72	5.8 →	5.8 →
538+00	4.6 →	4.6 →
538+50	2.3 →	2.3 →
539+00	0.6 →	2.0 →
539+45	← 2.0	2.0 →

SUPERELEVATION TABLE-CURVE 8

STATION	LEFT(%)	RIGHT(%)
542+51	← 2.0	2.0 →
543+00	← 2.0	0.3 →
543+50	← 2.0	← 1.5
544+00	← 3.3	← 3.3
544+49	← 5.1	← 5.1
FULL SUPERELEVATION		
556+14	← 5.1	← 5.1
556+50	← 3.8	← 3.8
557+00	← 2.0	← 2.0
557+50	← 2.0	← 0.2
558+00	← 2.0	1.6 →
558+12	← 2.0	2.0 →

SUPERELEVATION TABLE-CURVE 9

STATION	LEFT(%)	RIGHT(%)
566+85	← 2.0	2.0 →
567+00	← 1.4	2.0 →
567+50	0.5 →	2.0 →
568+00	2.5 →	2.5 →
568+50	4.5 →	4.5 →
568+87	5.9 →	5.9 →
FULL SUPERELEVATION		
591+58	5.9 →	5.9 →
592+00	4.3 →	4.3 →
592+50	2.3 →	2.3 →
593+00	0.4 →	2.0 →
593+50	← 1.6	2.0 →
593+60	← 2.0	2.0 →

SUPERELEVATION TABLE-CURVE 10

STATION	LEFT(%)	RIGHT(%)
848+07	← 2.0	2.0 →
848+50	← 2.0	← 0.1
849+00	← 2.5	← 2.5
849+50	← 4.9	← 4.9
849+76	← 6.2	← 6.2
FULL SUPERELEVATION		
856+90	MATCH EXISTING	MATCH EXISTING
* MATCH EXISTING SUPERELEVATION		
864+75	MATCH EXISTING	MATCH EXISTING

* SEE TYPICAL FINISHED SECTION FOR HMA PAVING WITHIN EXISTING CONCRETE CURB AND GUTTER LIMITS TO REMAIN

SUPERELEVATION TABLE-CURVE 11

STATION	LEFT(%)	RIGHT(%)
867+56	MATCH EXISTING	MATCH EXISTING
* MATCH EXISTING SUPERELEVATION		
873+31	MATCH EXISTING	MATCH EXISTING

* SEE TYPICAL FINISHED SECTION FOR HMA PAVING WITHIN EXISTING CONCRETE CURB AND GUTTER LIMITS TO REMAIN

SUPERELEVATION TABLE-CURVE 12

STATION	LEFT(%)	RIGHT(%)
873+31	MATCH EXISTING	MATCH EXISTING
* MATCH EXISTING SUPERELEVATION		
875+09	← 2.0	2.0 →

* SEE TYPICAL FINISHED SECTION FOR HMA PAVING WITHIN EXISTING CONCRETE CURB AND GUTTER LIMITS TO REMAIN

SUPERELEVATION TABLE-CURVE 13

MAINTAIN NORMAL CROWN THROUGH CURVE 13

SUPERELEVATION TABLE-CURVE 14

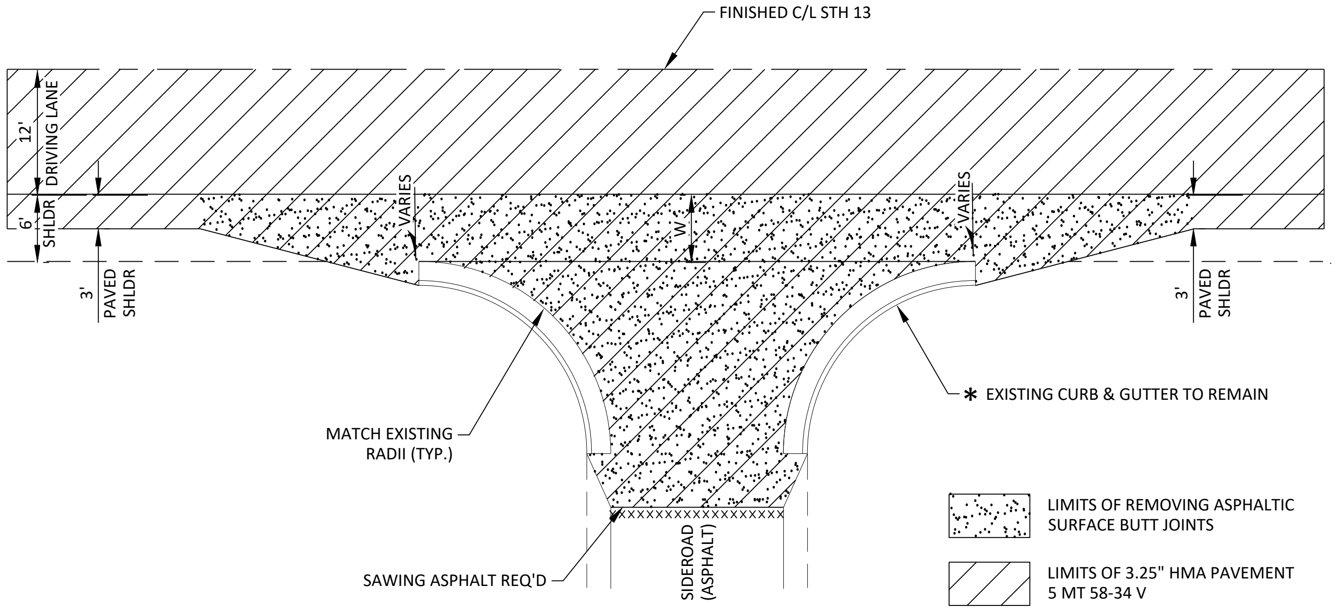
STATION	LEFT(%)	RIGHT(%)
877+40	← 2.0	2.0 →
879+17	MATCH EXISTING	MATCH EXISTING
* MATCH EXISTING SUPERELEVATION		
881+38	MATCH EXISTING	MATCH EXISTING

* SEE TYPICAL FINISHED SECTION FOR HMA PAVING WITHIN EXISTING CONCRETE CURB AND GUTTER LIMITS TO REMAIN

SUPERELEVATION TABLE-CURVE 15

STATION	LEFT(%)	RIGHT(%)
881+92	MATCH EXISTING	MATCH EXISTING
* MATCH EXISTING SUPERELEVATION		
886+50	MATCH EXISTING	MATCH EXISTING
FULL SUPERELEVATION		
894+91	← 5.7	← 5.7
895+00	← 5.3	← 5.3
895+50	← 3.2	← 3.2
896+00	← 2.0	← 1.2
896+50	← 2.0	0.9 →
896+76	← 2.0	2.0 →

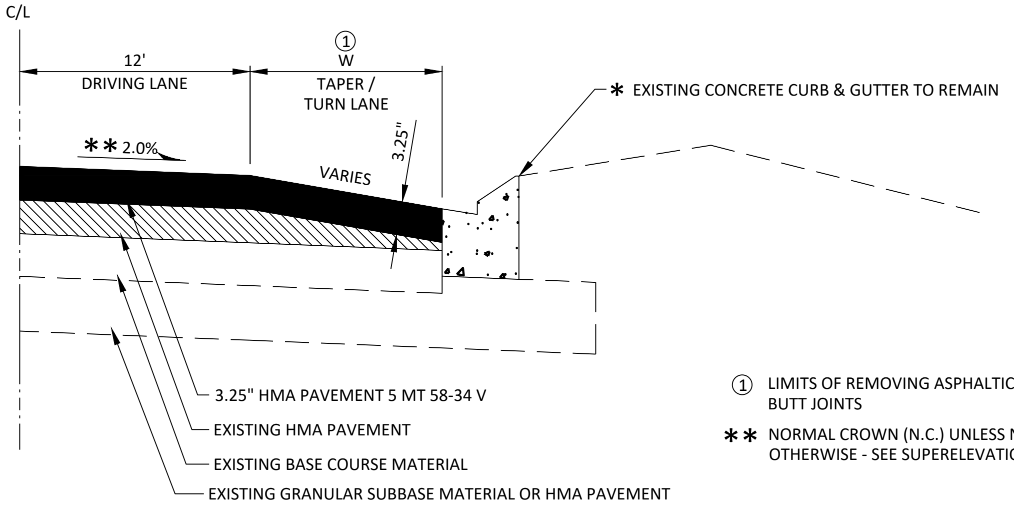
* SEE TYPICAL FINISHED SECTION FOR HMA PAVING WITHIN EXISTING CONCRETE CURB AND GUTTER LIMITS TO REMAIN



TYPICAL SIDEROAD DETAIL WITH CURB & GUTTER

CTH D
CTH P
CTH F
CTH O

* SEE CONSTRUCTION DETAILS (CURB & GUTTER) FOR SPOT CONCRETE CURB & GUTTER REPLACEMENT.



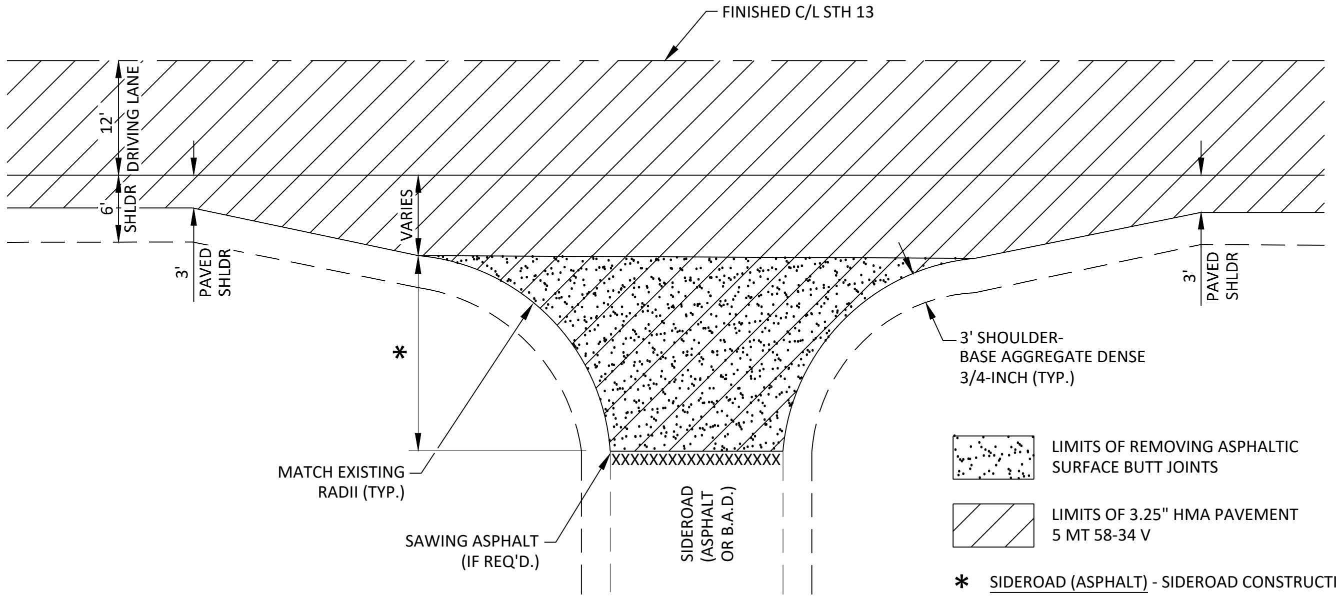
① LIMITS OF REMOVING ASPHALTIC SURFACE BUTT JOINTS

** NORMAL CROWN (N.C.) UNLESS NOTED OTHERWISE - SEE SUPERELEVATION TABLE

TYPICAL SIDEROAD PROFILE WITH CURB & GUTTER

	W (FT)
CTH D	3.4
CTH P	4.7
CTH F	13
CTH O	5

* SEE CONSTRUCTION DETAILS (CURB & GUTTER) FOR SPOT CONCRETE CURB & GUTTER REPLACEMENT.



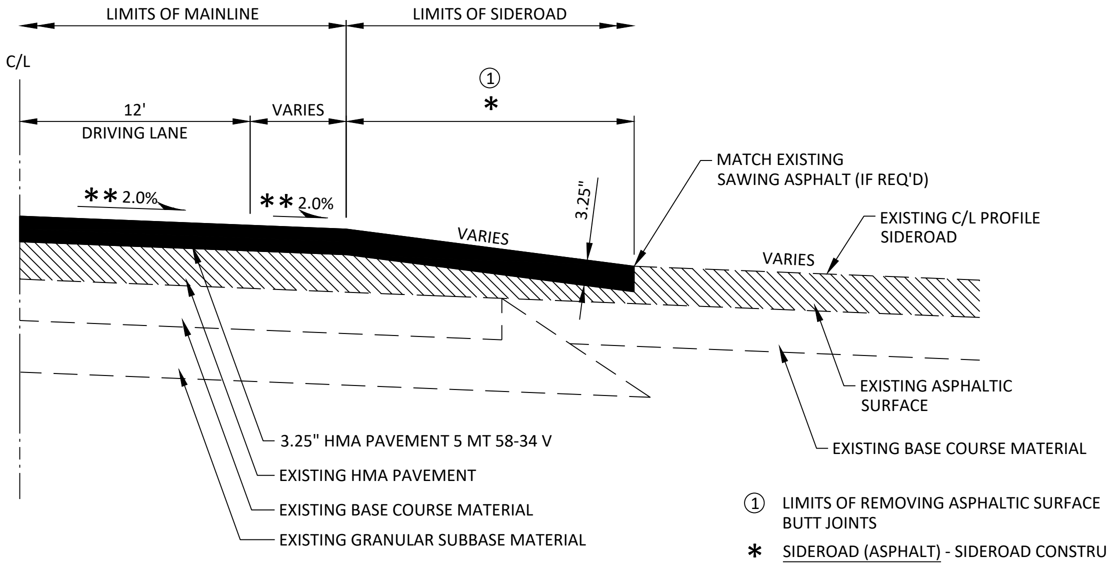
* SIDEROAD (ASPHALT) - SIDEROAD CONSTRUCTION LIMITS ARE TO THE INSIDE RADIUS POINTS OF EACH SIDEROAD (OR AS DIRECTED BY ENGINEER).

SIDEROAD (B.A.D.) - SIDEROAD CONSTRUCTION LIMITS ARE TO THE GREATER OF THE INSIDE RADIUS POINTS OR ASPHALT PAVING LIMITS OF EACH SIDEROAD (OR AS DIRECTED BY ENGINEER).

TYPICAL SIDEROAD DETAIL WITHOUT CURB & GUTTER

ENGDAHL ROAD
22ND ROAD (NORTH)
22ND ROAD (SOUTH)
AMNICON RIVER ROAD
ANDERSON ROAD
MIDDLE RIVER ROAD
WENTWORTH ROAD
E SLEEPY VALLEY LOOP
POPLAR RIVER ROAD
PETERSON ROAD
S PINE CENTRAL ROAD
BECKS ROAD
S PELLINEN ROAD
LANDELA ROAD
GULLEY ROAD

TEPOEL DRIVE
N 33RD STREET
POPPLE BEND ROAD
WINDY LANE
JACK PINE DRIVE
COLBY ROAD
ALFALFA LANE
GREEN ACRES ROAD
SKOGLUND ROAD
BALSAM BEND ROAD
CLEVEDON ROAD (NORTH)
CLEVEDON ROAD (SOUTH)
TOWN PARK ROAD
CTH H (EAST)



① LIMITS OF REMOVING ASPHALTIC SURFACE BUTT JOINTS

* SIDEROAD (ASPHALT) - SIDEROAD CONSTRUCTION LIMITS ARE TO THE INSIDE RADIUS POINTS OF EACH SIDEROAD (OR AS DIRECTED BY ENGINEER)

SIDEROAD (B.A.D.) - SIDEROAD CONSTRUCTION LIMITS ARE TO THE GREATER OF THE INSIDE RADIUS POINTS OR ASPHALT PAVING LIMITS OF EACH SIDEROAD (OR AS DIRECTED BY ENGINEER)

TYPICAL SIDEROAD PROFILE WITHOUT CURB & GUTTER

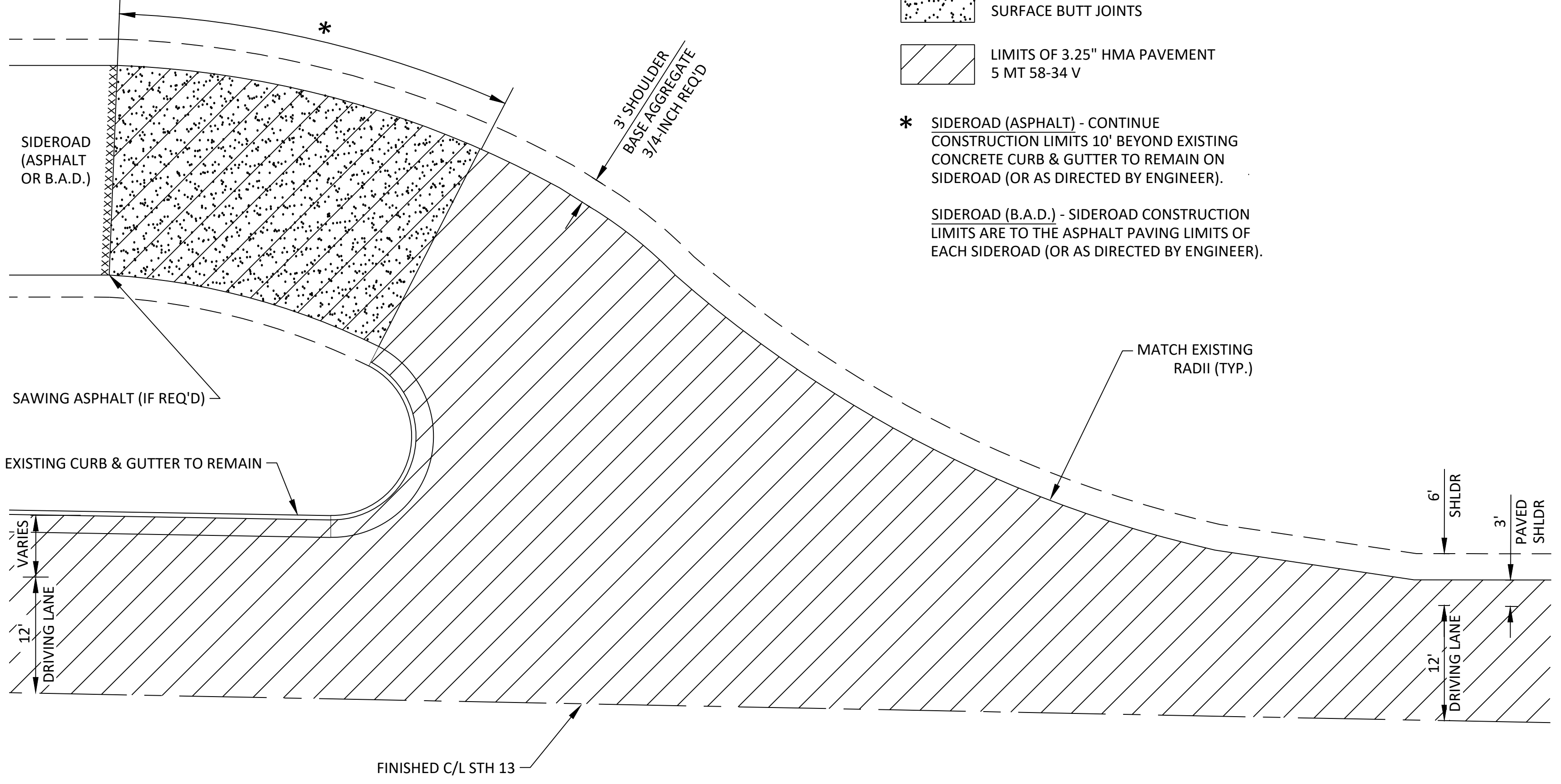
** NORMAL CROWN (N.C) UNLESS NOTED OTHERWISE - SEE SUPERELEVATION TABLE

⁙ LIMITS OF REMOVING ASPHALTIC SURFACE BUTT JOINTS

▨ LIMITS OF 3.25" HMA PAVEMENT 5 MT 58-34 V

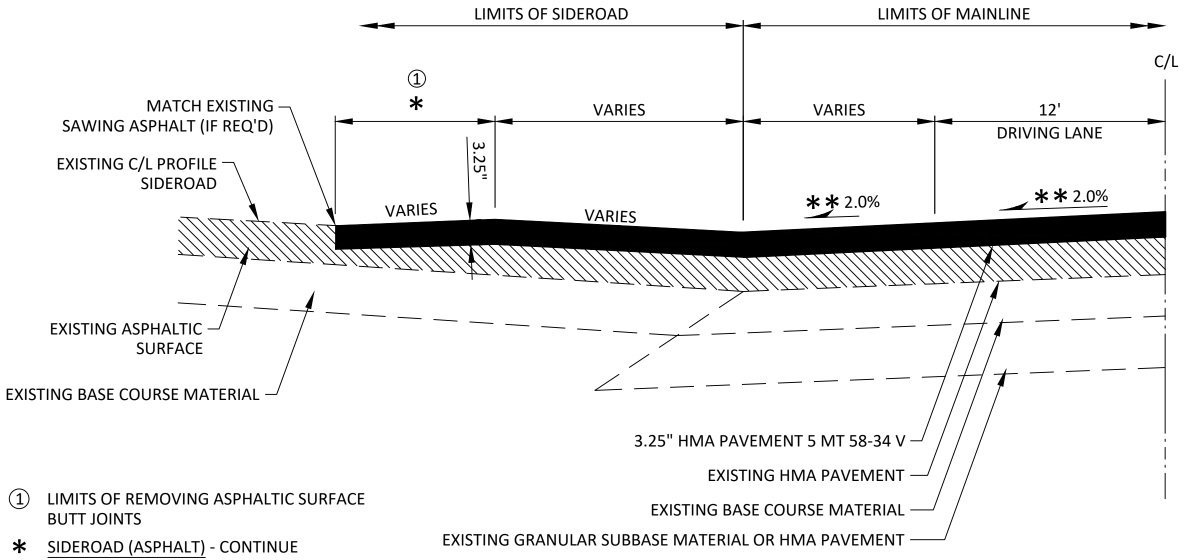
* SIDEROAD (ASPHALT) - CONTINUE CONSTRUCTION LIMITS 10' BEYOND EXISTING CONCRETE CURB & GUTTER TO REMAIN ON SIDEROAD (OR AS DIRECTED BY ENGINEER).

SIDEROAD (B.A.D.) - SIDEROAD CONSTRUCTION LIMITS ARE TO THE ASPHALT PAVING LIMITS OF EACH SIDEROAD (OR AS DIRECTED BY ENGINEER).



TYPICAL SIDEROAD DETAIL WITH CURB & GUTTER (WEST SIDE ONLY)

CARVALA ROAD
LOVELAND ROAD
NOTE: CARVALA ROAD SHOWN. LOVELAND ROAD SIMILAR.



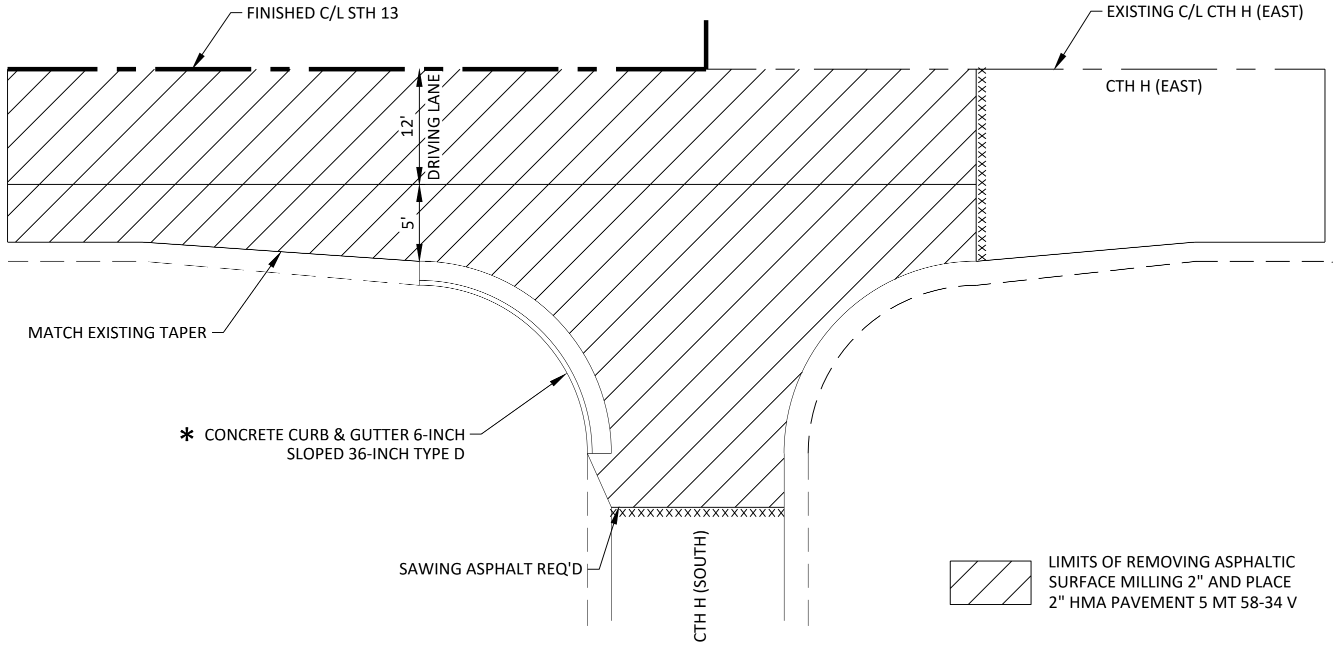
① LIMITS OF REMOVING ASPHALTIC SURFACE BUTT JOINTS

* SIDEROAD (ASPHALT) - CONTINUE CONSTRUCTION LIMITS 10' BEYOND EXISTING CONCRETE CURB & GUTTER TO REMAIN ON SIDEROAD (OR AS DIRECTED BY ENGINEER).

SIDEROAD (B.A.D.) - SIDEROAD CONSTRUCTION LIMITS ARE TO THE ASPHALT PAVING LIMITS OF EACH SIDEROAD (OR AS DIRECTED BY ENGINEER)

** NORMAL CROWN (N.C) UNLESS NOTED OTHERWISE - SEE SUPERELEVATION TABLE

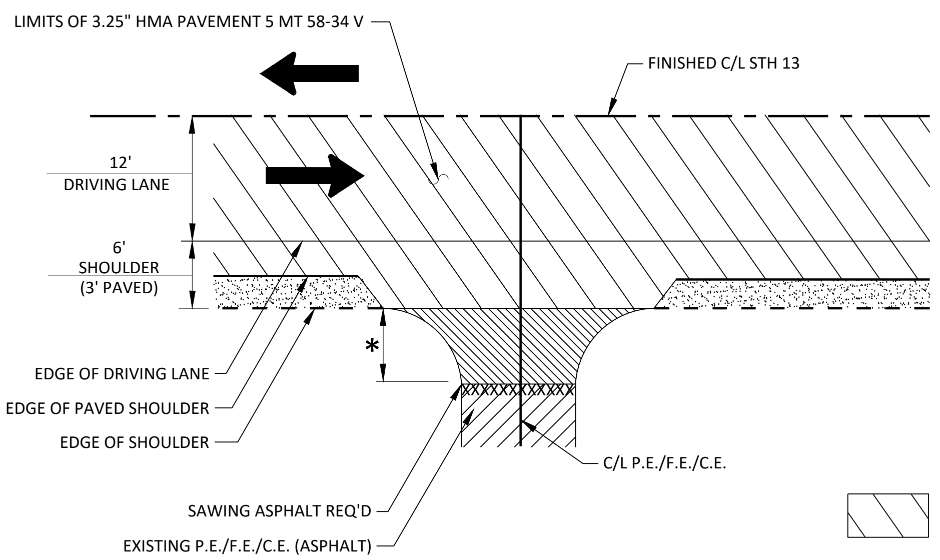
TYPICAL SIDEROAD PROFILE WITHOUT CURB & GUTTER



TYPICAL RURAL SIDEROAD DETAIL WITH CURB & GUTTER (WEST SIDE ONLY)

CTH H (SOUTH)

* SEE CONSTRUCTION DETAILS (CURB & GUTTER) FOR SPOT CONCRETE CURB & GUTTER REPLACEMENT.



P.E./F.E./C.E. (EXISTING ASPHALT) DRIVEWAY DETAIL-RURAL

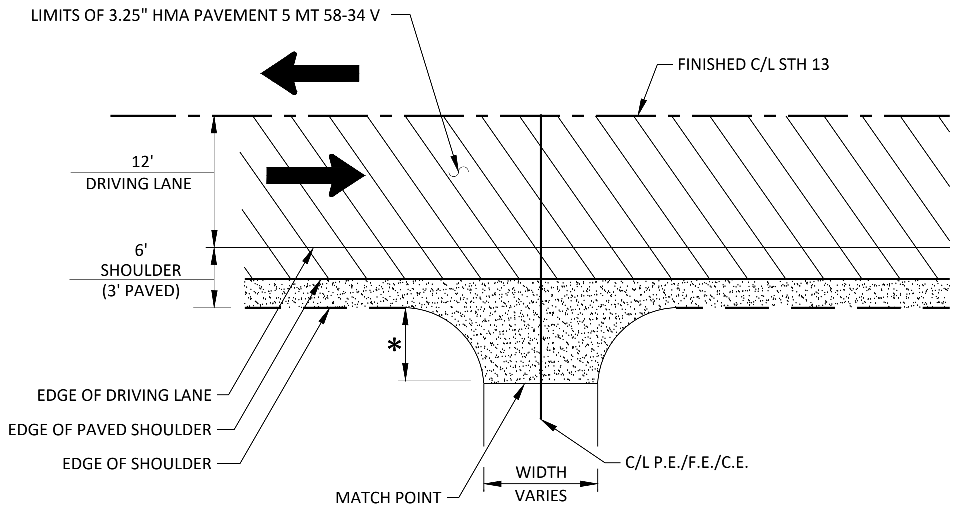
* REPLACE IN KIND TO THE RADIUS POINTS OF EACH DRIVEWAY (OR AS DIRECTED BY ENGINEER)

▧ LIMITS OF 3.25" HMA PAVEMENT 5 MT 58-34 V

░ LIMITS OF BASE AGGREGATE DENSE 3/4-INCH

▧ LIMITS OF REMOVING ASPHALTIC SURFACE MILLING (AT DRIVEWAY) PLACE 2.5" ASPHALTIC SURFACE OVER 6" B.A.D.

▨ LIMITS OF EXISTING ASPHALTIC SURFACE P.E./F.E./C.E.

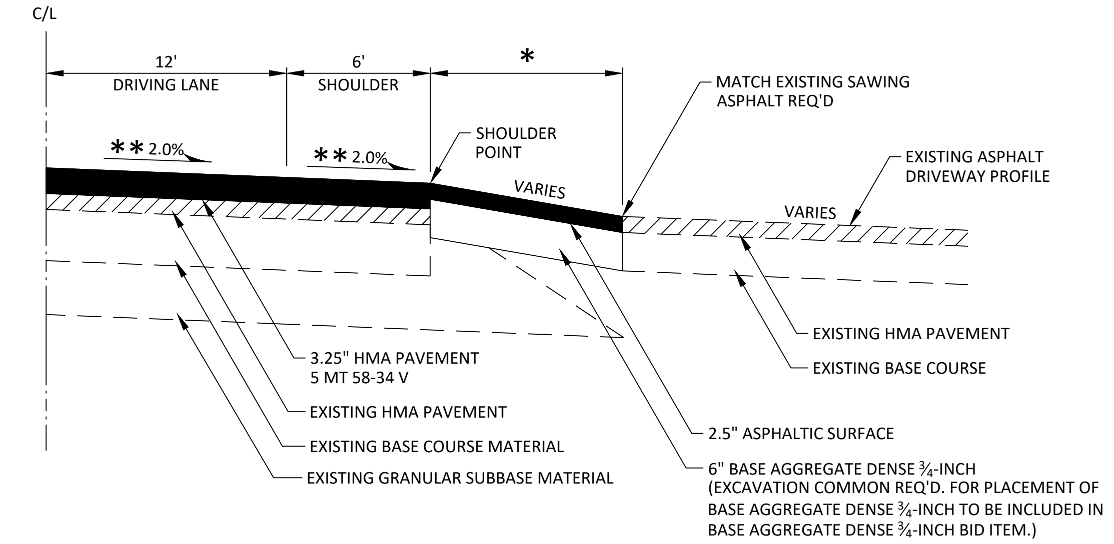


P.E./F.E./C.E. (EXISTING B.A.D.) DRIVEWAY DETAIL-RURAL

* REPLACE IN KIND TO THE RADIUS POINTS OF EACH DRIVEWAY (OR AS DIRECTED BY ENGINEER)

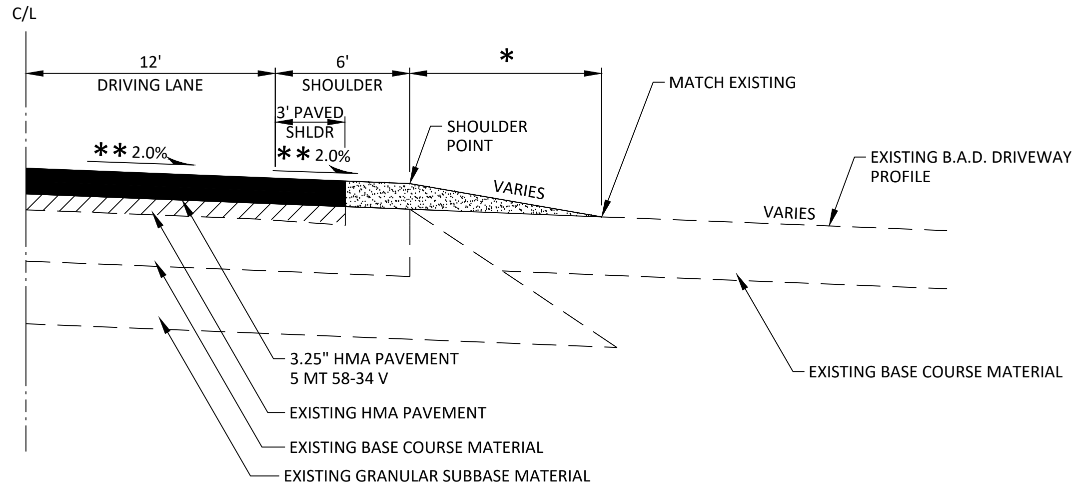
▧ LIMITS OF 3.25" HMA PAVEMENT 5 MT 58-34 V

░ LIMITS OF BASE AGGREGATE DENSE 3/4-INCH



P.E./F.E./C.E. (EXISTING ASPHALT) PROFILE

** N.C. UNLESS NOTED OTHERWISE -SEE SUPERELEVATION TABLE

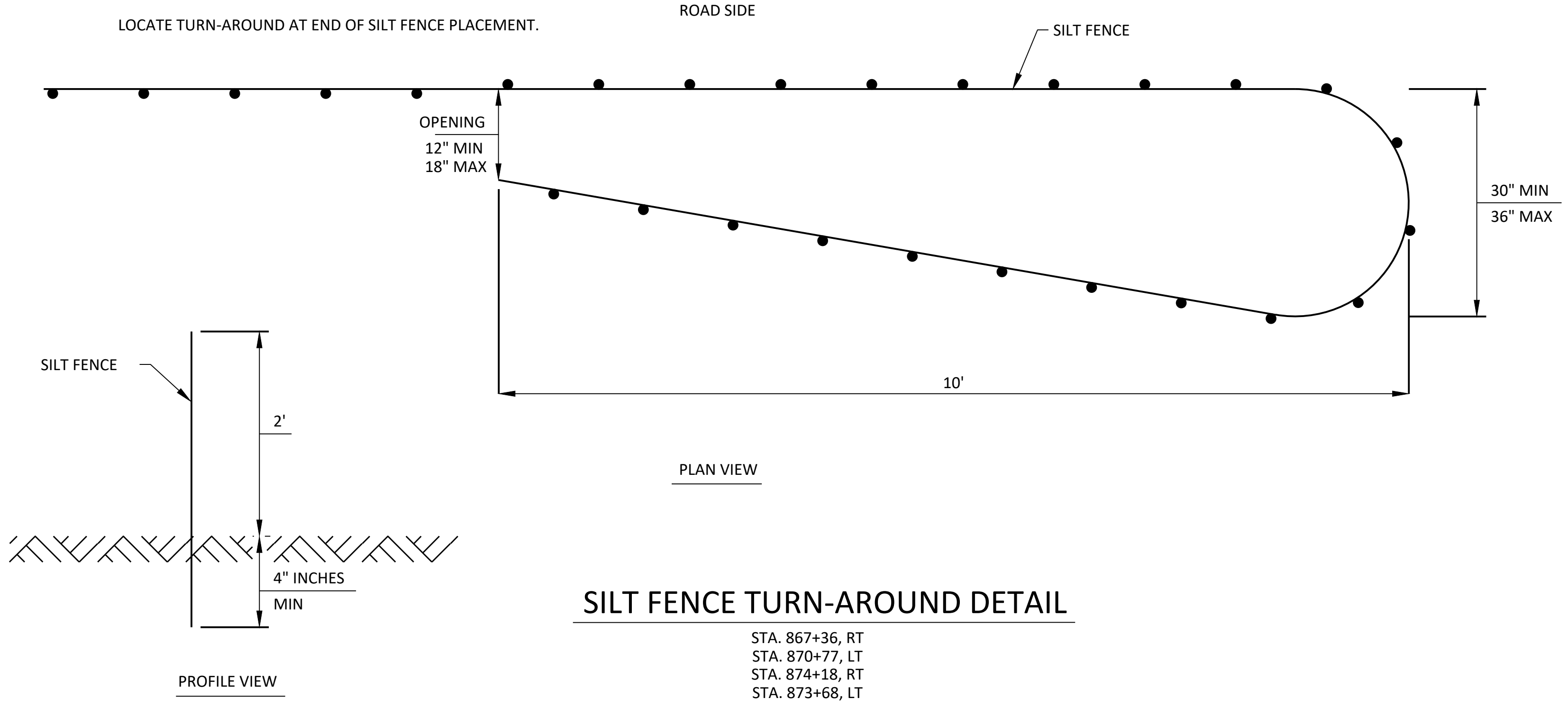


P.E./F.E./C.E. (EXISTING B.A.D.) PROFILE

** N.C. UNLESS NOTED OTHERWISE -SEE SUPERELEVATION TABLE

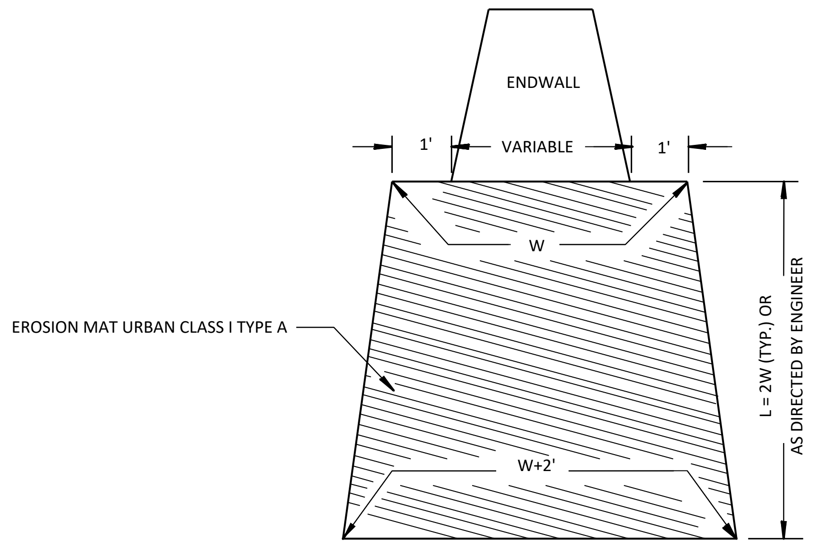
NOTE: PLACE SILT FENCE POSTS FOR THE TURN-AROUND ON THE OUTSIDE OF THE TURN-AROUND.

LOCATE TURN-AROUND AT END OF SILT FENCE PLACEMENT.



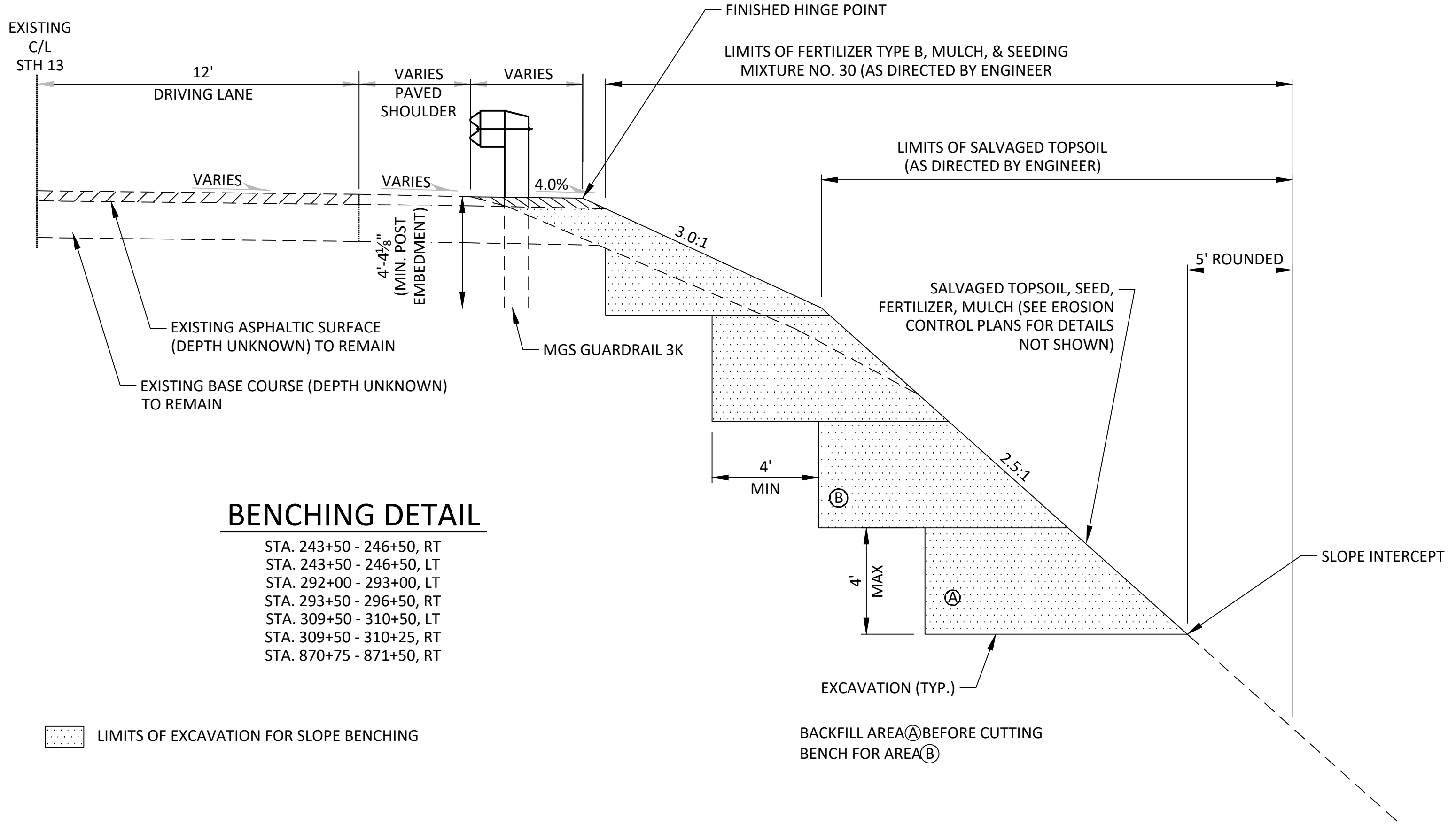
SILT FENCE TURN-AROUND DETAIL

STA. 867+36, RT
STA. 870+77, LT
STA. 874+18, RT
STA. 873+68, LT



EROSION MAT URBAN CLASS I TYPE A TREATMENT AT CULVERTS

SEE MISCELLANEOUS QUANTITIES
SHEET FOR LOCATION AND DIMENSIONS

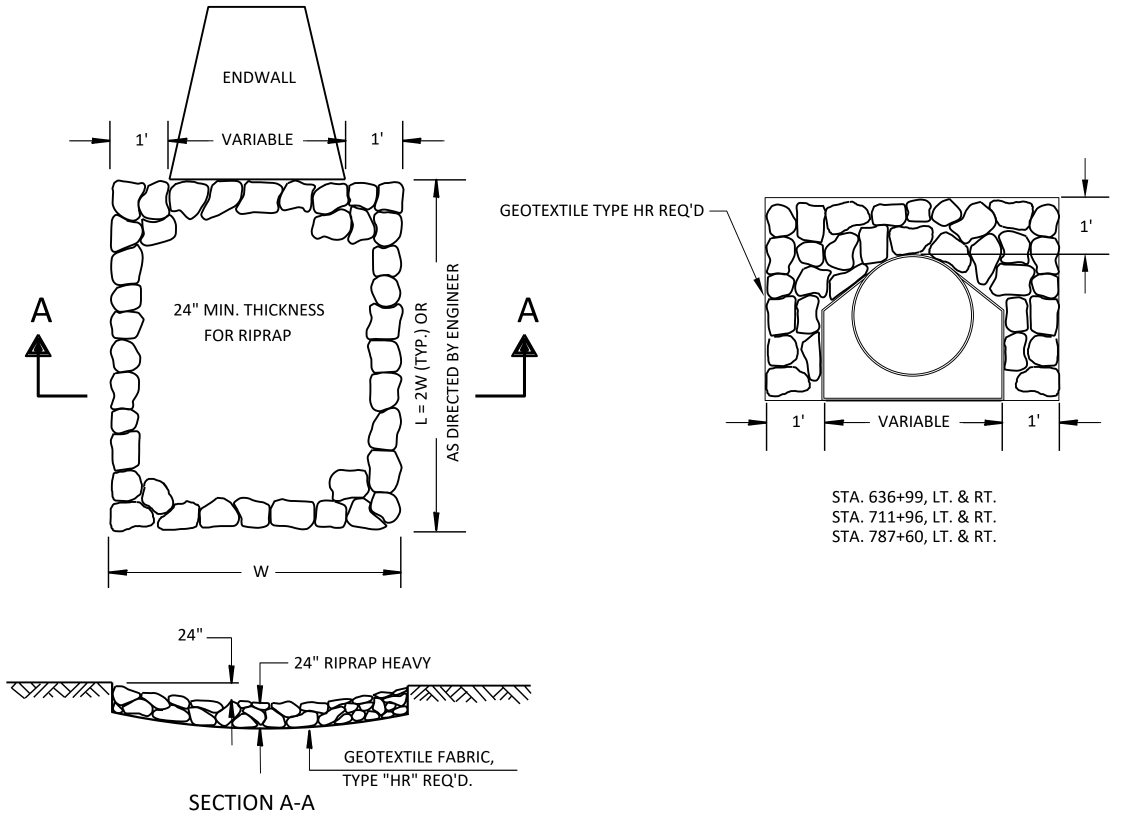


BENCHING DETAIL

STA. 243+50 - 246+50, RT
STA. 243+50 - 246+50, LT
STA. 292+00 - 293+00, LT
STA. 293+50 - 296+50, RT
STA. 309+50 - 310+50, LT
STA. 309+50 - 310+25, RT
STA. 870+75 - 871+50, RT

BACKFILL AREAⒶBEFORE CUTTING
BENCH FOR AREAⒷ

▨ LIMITS OF EXCAVATION FOR SLOPE BENCHING

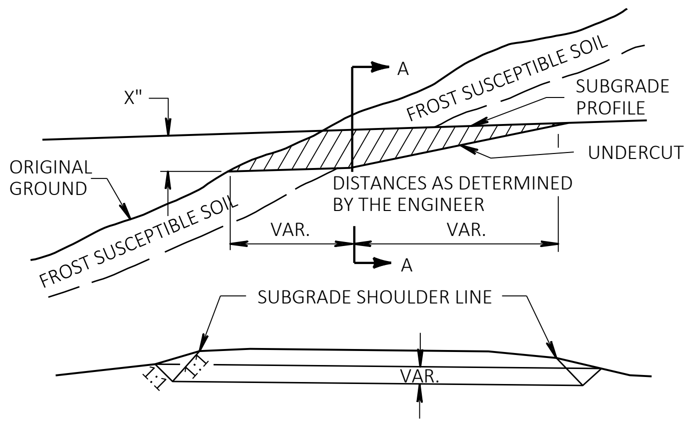


STA. 636+99, LT. & RT.
STA. 711+96, LT. & RT.
STA. 787+60, LT. & RT.

RIPRAP HEAVY TREATMENT AT CULVERTS

CONTROL POINTS

NO.	STA.	DESCRIPTION	Y	X	Z
10	931+47	CAPPED REBAR, 28.01' LT.	289,342.95	279,963.16	843.08
11	903+21	CAPPED REBAR, 26.69' LT.	289,318.42	277,137.15	837.72
12	855+58	CAPPED REBAR, 45.45' LT.	289,493.37	273,807.64	826.97
13	825+18	CAPPED REBAR, 43.82' LT.	289,393.23	270,826.58	829.06
14	796+59	CAPPED REBAR, 43.30' LT.	289,462.69	267,967.84	822.74
15	767+65	CAPPED REBAR, 46.30' LT.	289,476.32	265,072.85	818.19
16	735+24	CAPPED REBAR, 43.97' LT.	289,472.85	261,832.61	807.64
17	706+12	CAPPED REBAR, 34.03' LT.	289,468.82	258,920.76	810.68
18	674+87	CAPPED REBAR, 43.97' LT.	289,486.33	255,795.92	804.74
19	649+71	CAPPED REBAR, 33.03' LT.	289,477.18	253,279.52	801.18
20	625+13	CAPPED REBAR, 44.43' LT.	289,481.97	250,822.01	796.63
21	595+57	CAPPED REBAR, 42.49' LT.	289,480.66	247,865.87	778.63
22	566+94	CAPPED REBAR, 42.03' LT.	287,736.86	246,063.20	793.81
23	529+39	CAPPED REBAR, 40.64' LT.	284,058.38	245,710.73	806.36
24	503+66	CAPPED REBAR, 31.03' LT.	281,484.97	245,714.98	813.21
25	471+29	CAPPED REBAR, 32.66' LT.	278,819.50	244,614.67	808.36
26	441+54	CAPPED REBAR, 32.35' LT.	278,782.56	241,649.00	821.51
27	410+09	CAPPED REBAR, 41.01' LT.	278,859.21	238,505.68	815.09
28	379+45	CAPPED REBAR, 40.57' LT.	278,881.95	235,440.77	811.57
29	350+18	CAPPED REBAR, 36.69' LT.	278,936.09	232,514.55	795.31
30	321+33	CAPPED REBAR, 36.24' LT.	278,912.38	229,629.88	785.61
31	285+31	CAPPED REBAR, 35.42' LT.	279,059.38	226,032.19	771.54
32	229+92	CAPPED REBAR, 57.76' LT.	278,927.31	220,601.07	779.34
33	198+82	CAPPED REBAR, 27.15' LT.	278,906.01	217,490.30	773.13
34	171+15	CAPPED REBAR, 42.04' LT.	278,890.01	214,723.05	762.33
35	141+08	CAPPED REBAR, 123.46' LT.	278,915.50	211,714.75	747.45
36	101+69	CAPPED REBAR, 126.11' LT.	278,887.19	207,777.28	734.97



SECTION A-A

CROSS SECTION SHOWING UNDERCUT

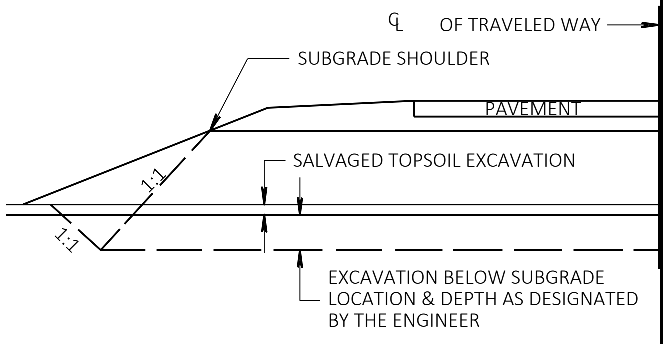
DETAIL FOR EXCAVATION BELOW SUBGRADE AT CUTS

NOTE: EXACT LOCATIONS AND EXTENT OF E.B.S. SECTIONS SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.

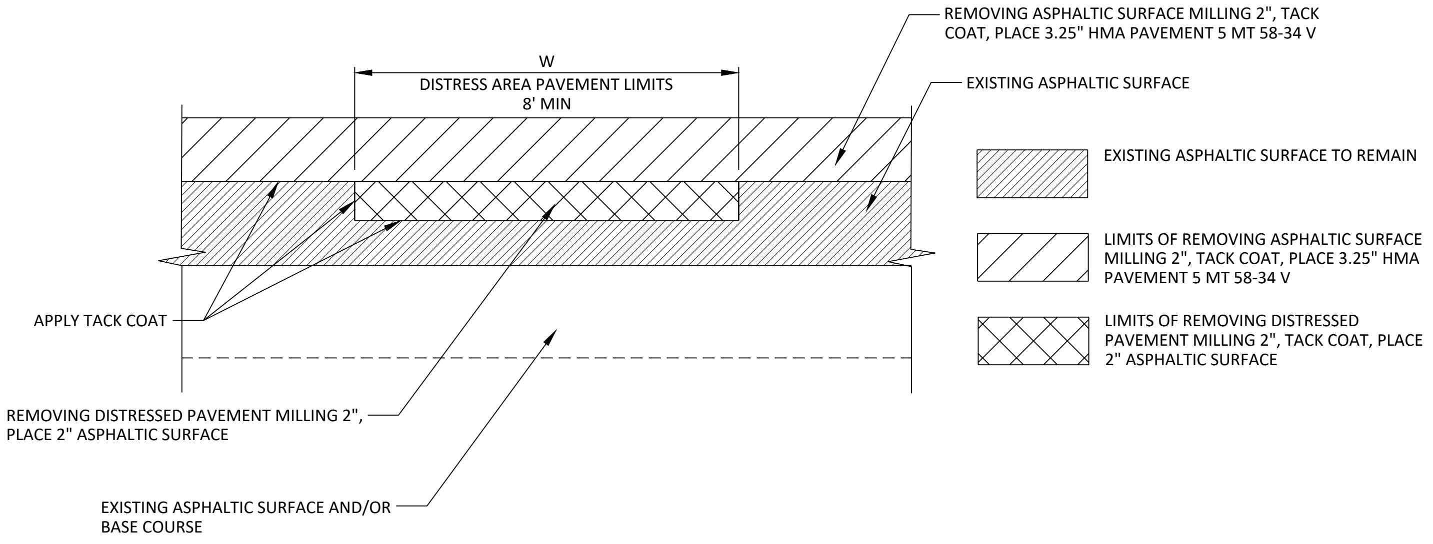
E.B.S. AREA TO BE BACKFILLED WITH MATERIAL ACCEPTABLE TO THE ENGINEER

BACKFILL MUST BE HOMOGENEOUS WITH ADJOINING FILL MATERIAL.

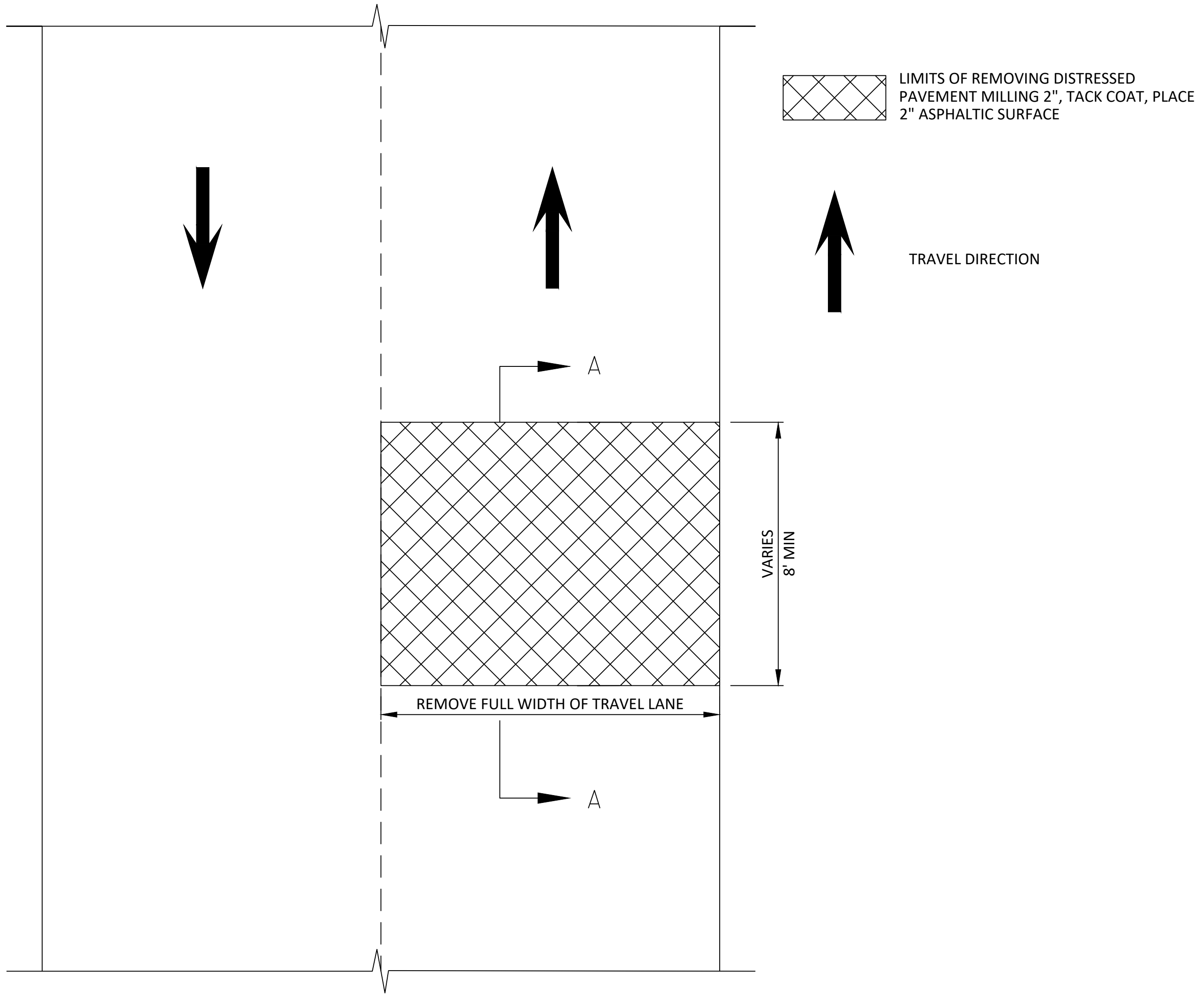
THE FILL SECTION WITHIN 100' OF THE MOUTH OF THE CUT MUST BE KEPT 2' BELOW SUBGRADE UNTIL E.B.S. IS COMPLETED.



DETAIL FOR EXCAVATION BELOW SUBGRADE



REMOVING DISTRESS PAVEMENT MILLING
SECTION A-A



PLAN VIEW

EXACT LOCATION AND LIMITS OF REMOVING DISTRESSED PAVEMENT MILLING TO BE DETERMINED BY THE ENGINEER IN THE FIELD

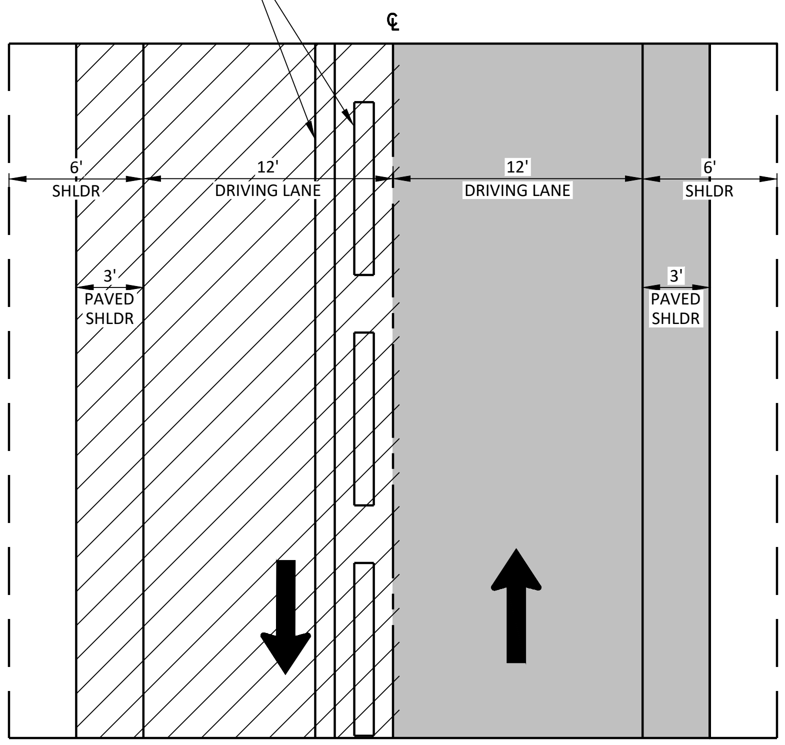
PROJECT NO: 8510-01-70	HWY: STH 13	COUNTY: DOUGLAS	CONSTRUCTION DETAILS	SHEET

E

FILE NAME : S:\PROJECTS\W11599 WISDOT STH 13, CTH H TO ENGDAHL ROAD DOUGLAS CO\SHEETSPLAN\DETAILS\85100100_CONSTRUCTION DETAILS.DWG PLOT DATE : 2/4/2022 10:02:03 AM PLOT BY : KARTER ZAJICEK PLOT SCALE : 1" = 1' LAYOUT : CONTROL POINTS

2

TEMPORARY MARKING LINE EPOXY 4-INCH TO BE PLACED ON LOWER LEVEL PAVEMENT SAME DAY AS PAVING OPERATION (ALL TEMPORARY MARKING LINE EPOXY IS TO MATCH EXISTING CENTERLINE CONDITIONS)

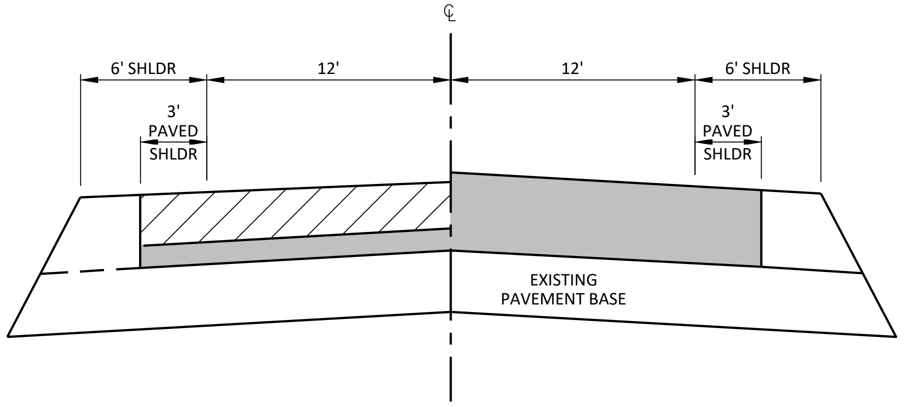


PLAN VIEW

▒ EXISTING ASPHALTIC SURFACE TO REMAIN

▨ FIRST PASS 1.75" HMA PAVEMENT 5 MT 58-34 V (LOWER LAYER)

NOTE: CURB & GUTTER AREAS SIMILAR. SEE TYPICAL FINISHED SECTIONS FOR FURTHER INFORMATION.

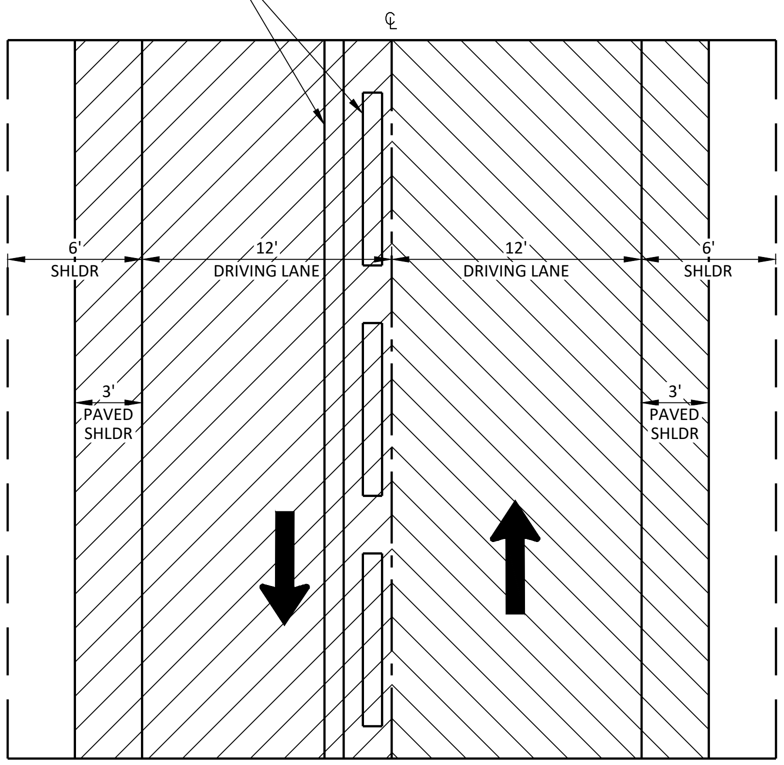


CROSS SECTION VIEW

FIRST PASS DETAIL

2

TEMPORARY MARKING LINE EPOXY 4-INCH PLACED AFTER FIRST PASS TO REMAIN FOR SECOND PASS.



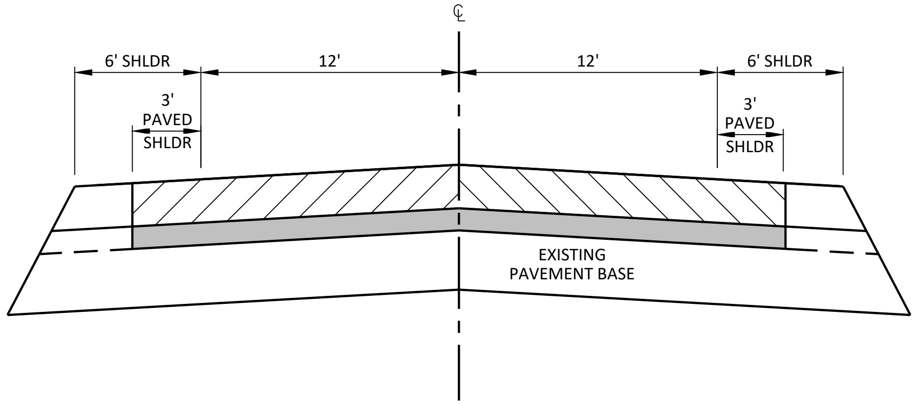
PLAN VIEW

▒ EXISTING ASPHALTIC SURFACE TO REMAIN

▨ FIRST PASS 1.75" HMA PAVEMENT 5 MT 58-34 V (LOWER LAYER)

▧ SECOND PASS 1.75" HMA PAVEMENT 5 MT 58-34 V (LOWER LAYER)

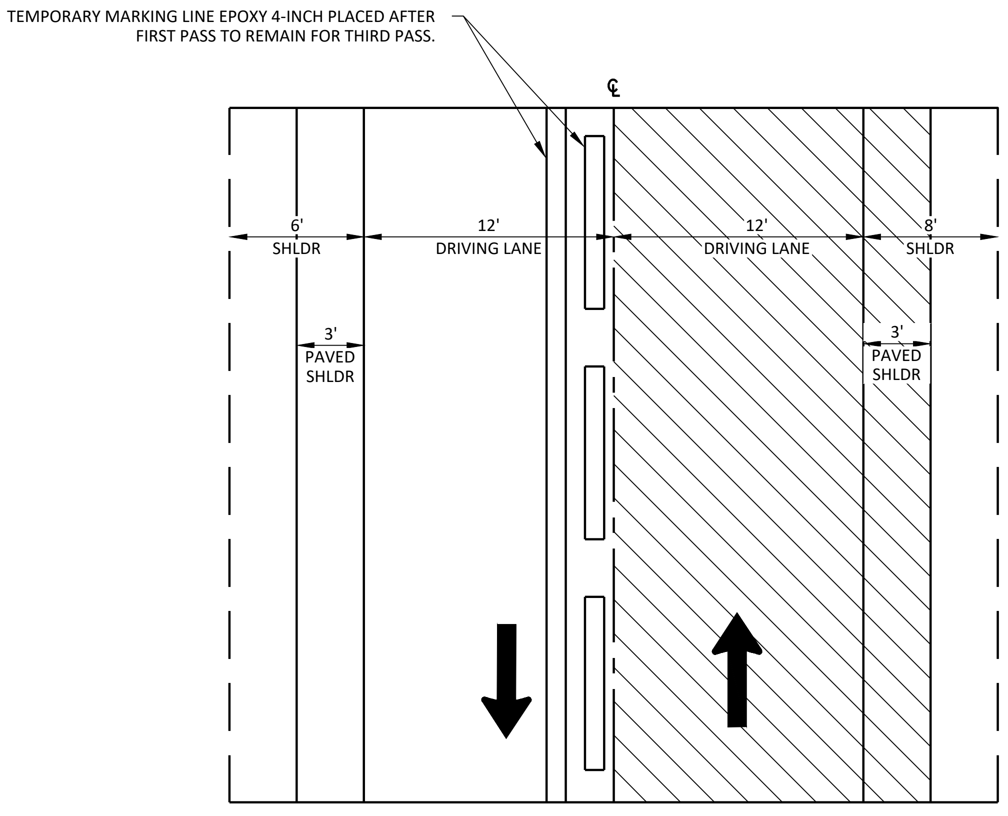
NOTE: CURB & GUTTER AREAS SIMILAR. SEE TYPICAL FINISHED SECTIONS FOR FURTHER INFORMATION.



CROSS SECTION VIEW

SECOND PASS DETAIL

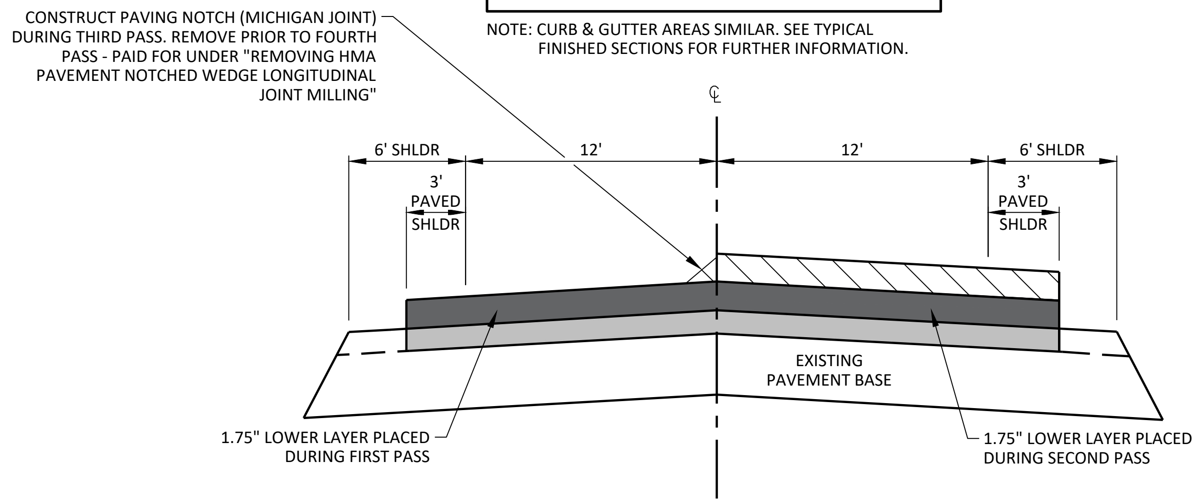
PROJECT NO: 8510-01-70 | HWY: STH 13 | COUNTY: DOUGLAS | CONSTRUCTION DETAILS: PAVING SEQUENCE OF OPERATIONS | SHEET 14 | E



PLAN VIEW

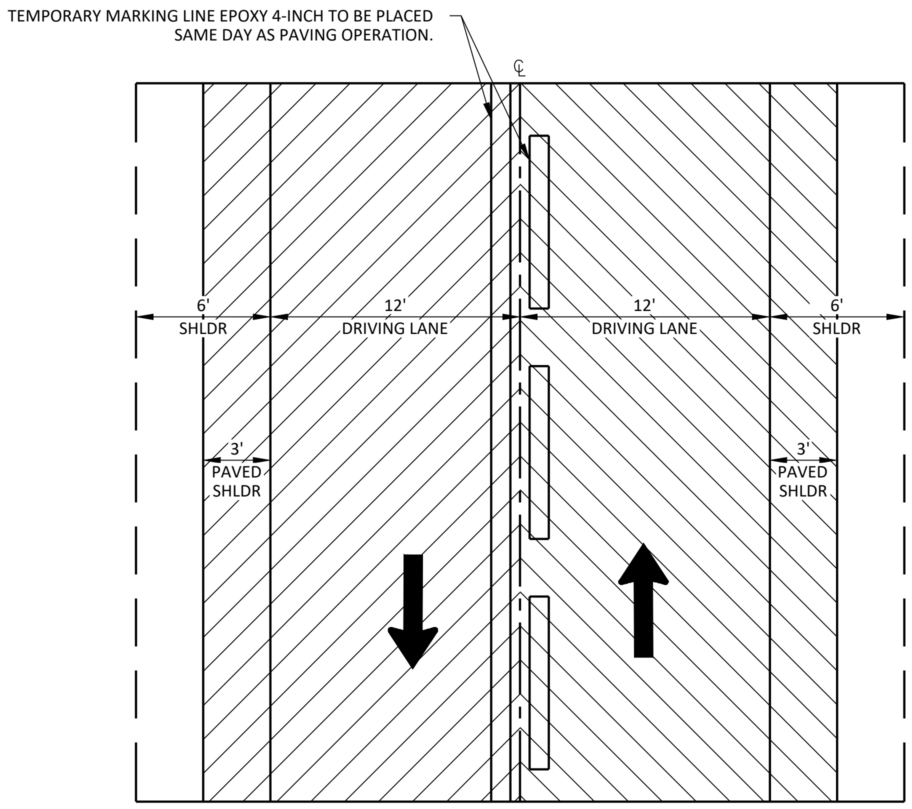
▒	EXISTING ASPHALTIC SURFACE TO REMAIN
▧	THIRD PASS 1.5" HMA PAVEMENT 5 MT 58-34 V (UPPER LAYER) PAVING LIMITS
■	1.75" LOWER LAYER PLACED DURING FIRST AND SECOND PASS

NOTE: CURB & GUTTER AREAS SIMILAR. SEE TYPICAL FINISHED SECTIONS FOR FURTHER INFORMATION.



CROSS SECTION VIEW

THIRD PASS DETAIL



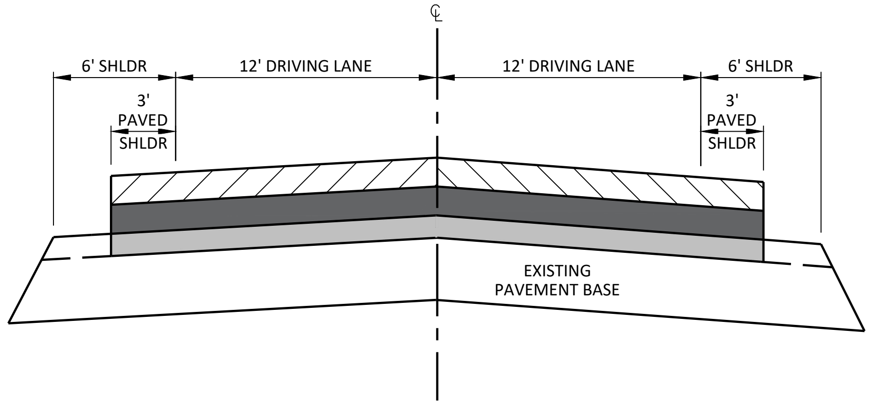
PLAN VIEW

▧	THIRD PASS 1.5" HMA PAVEMENT 5 MT 58-34 V (UPPER LAYER) PAVING LIMITS
▨	FOURTH PASS 1.5" HMA PAVEMENT 5 MT 58-34 V (UPPER LAYER) PAVING LIMITS

NOTE: LOCATING NO PASSING ZONES REQUIRED PRIOR TO PLACEMENT OF MARKING LINE SAME DAY EPOXY 4-INCH

PLACE ASPHALTIC CENTERLINE RUMBLE STRIPS 2-LANE RURAL AND MARKING LINE SAME DAY EPOXY 4-INCH

NOTE: CURB & GUTTER AREAS SIMILAR. SEE TYPICAL FINISHED SECTIONS FOR FURTHER INFORMATION.

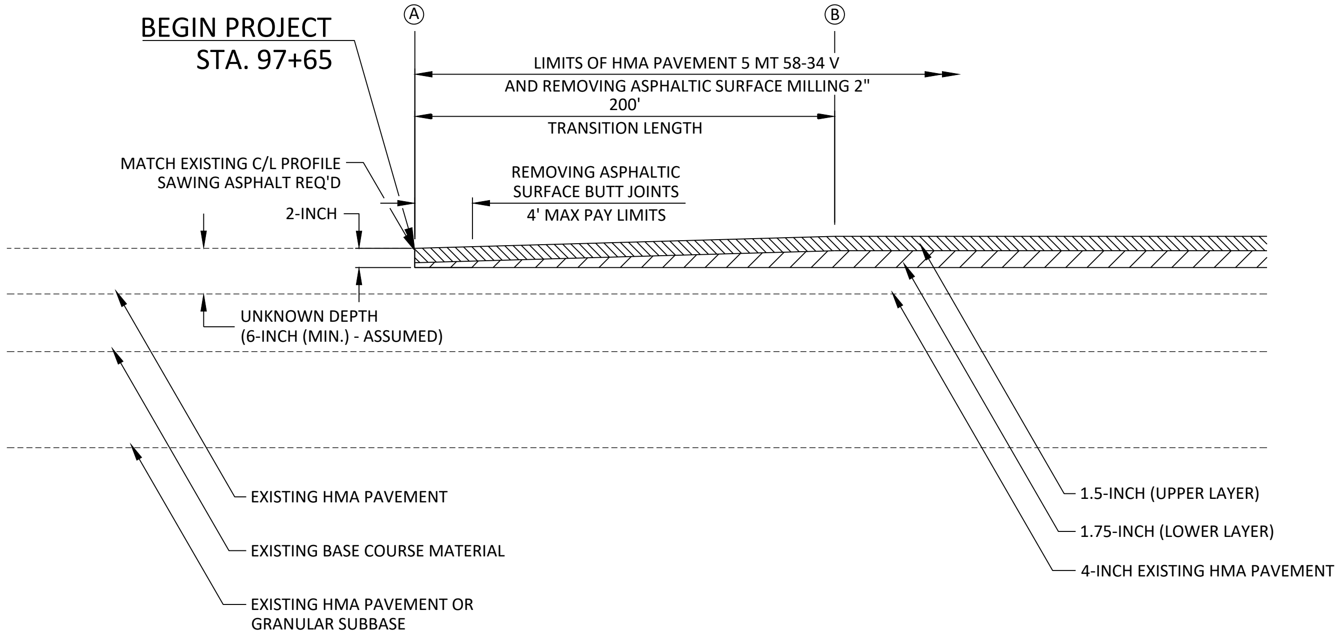


CROSS SECTION VIEW

FOURTH PASS DETAIL

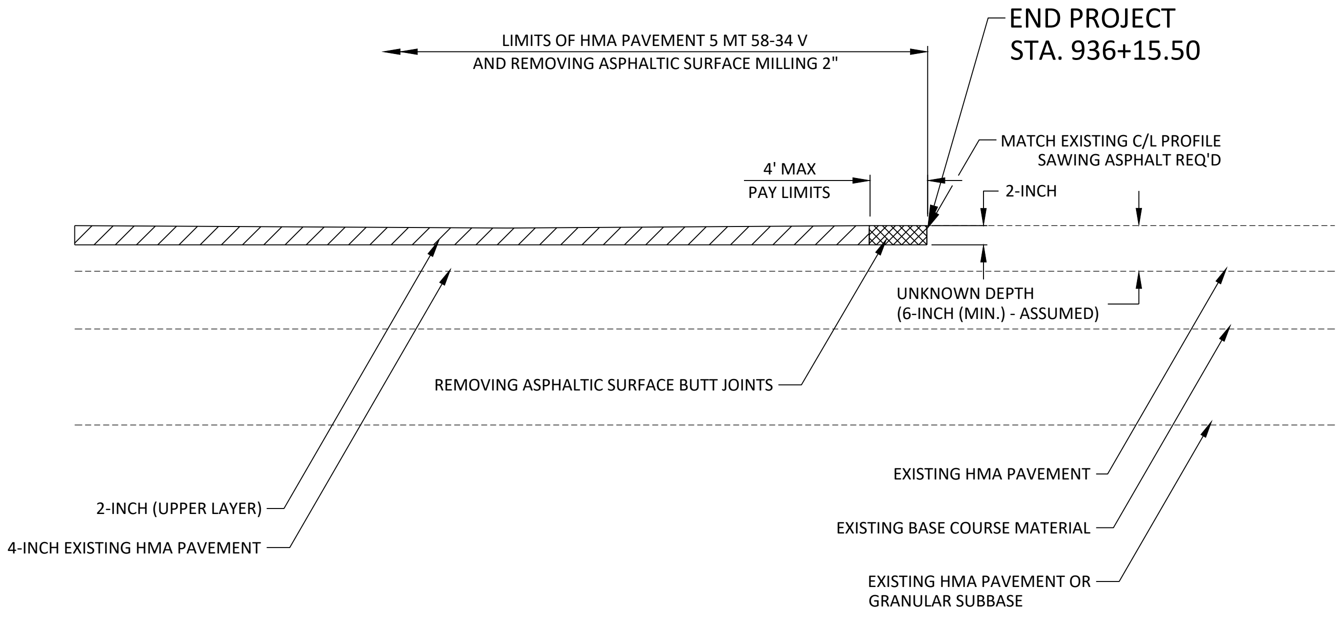
PROJECT NO: 8510-01-70	HWY: STH 13	COUNTY: DOUGLAS	CONSTRUCTION DETAILS: PAVING SEQUENCE OF OPERATIONS	SHEET	E

FILE NAME : S:\PROJECTS\W11599 WISDOT STH 13, CTH H TO ENGDAHL ROAD DOUGLAS CO\SHEETSPLAN\DETAILS\85100100_CONSTRUCTION DETAILS.DWG PLOT DATE : 8/2/2022 10:06:31 AM PLOT BY : KARTER ZAJICEK PLOT SCALE : 1" = 1' LAYOUT : PAVING SEQUENCE - 2



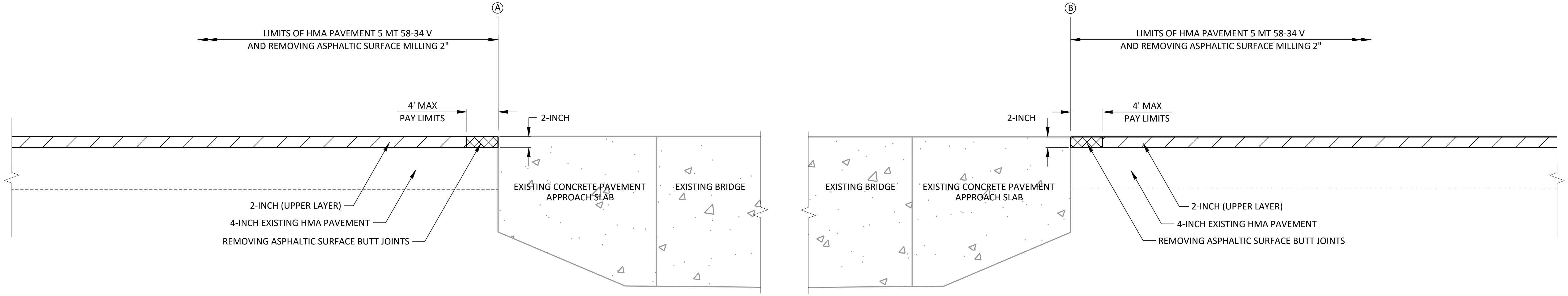
REMOVING ASPHALTIC SURFACE BUTT JOINTS - STH 13

Ⓐ	Ⓑ
STA. 97+65	STA. 99+65



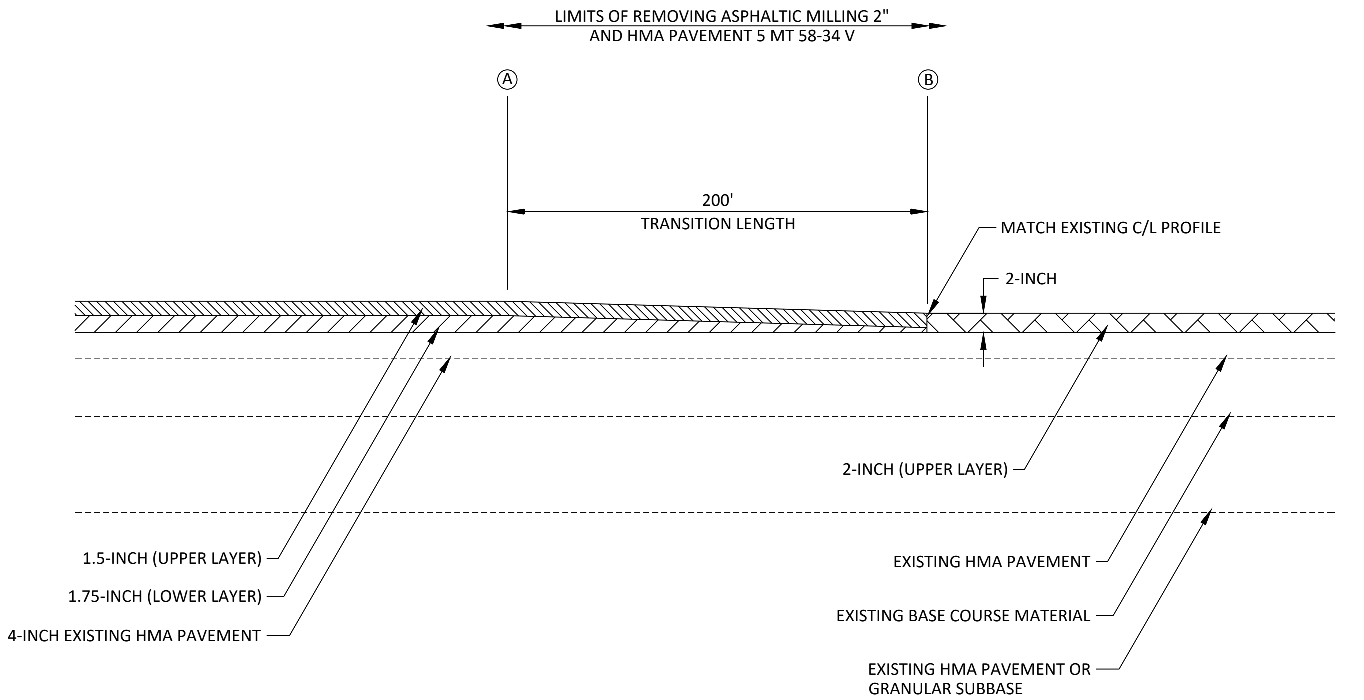
REMOVING ASPHALTIC SURFACE BUTT JOINTS - STH 13

STA. 936+15.50



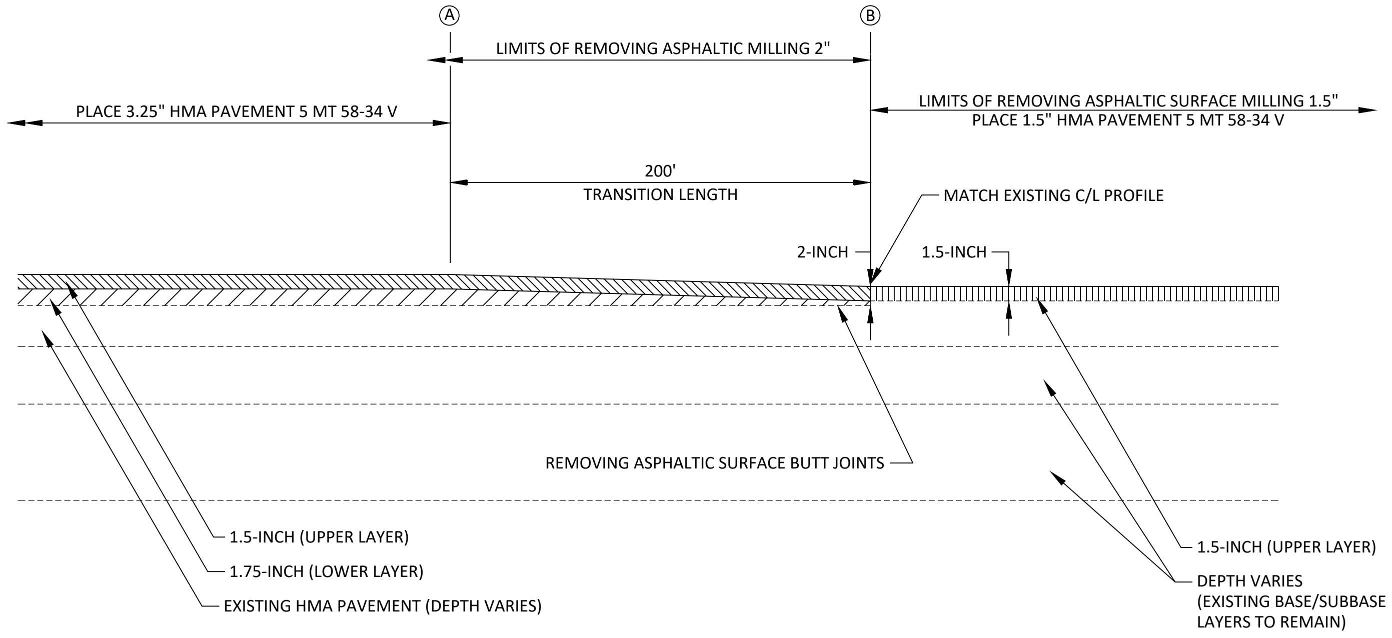
REMOVING ASPHALTIC SURFACE BUTT JOINTS AT BRIDGES - STH 13

Ⓐ	Ⓑ
STA. 244+01.32	STA. 246+05.53
STA. 293+56.95	STA. 295+61.44
STA. 307+75.11	STA. 309+66.40
STA. 871+23.36	STA. 872+16.40



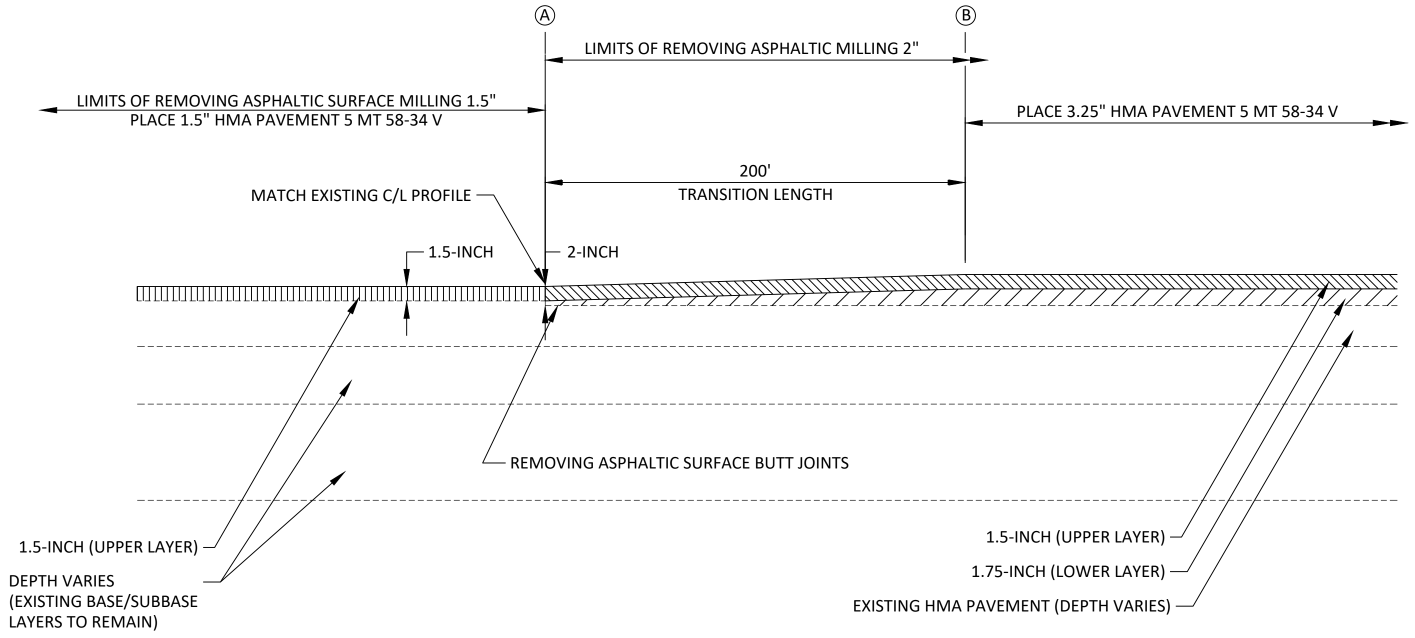
HMA PAVEMENT TRANSITION - STH 13

Ⓐ	Ⓑ
STA. 929+12	STA. 931+12



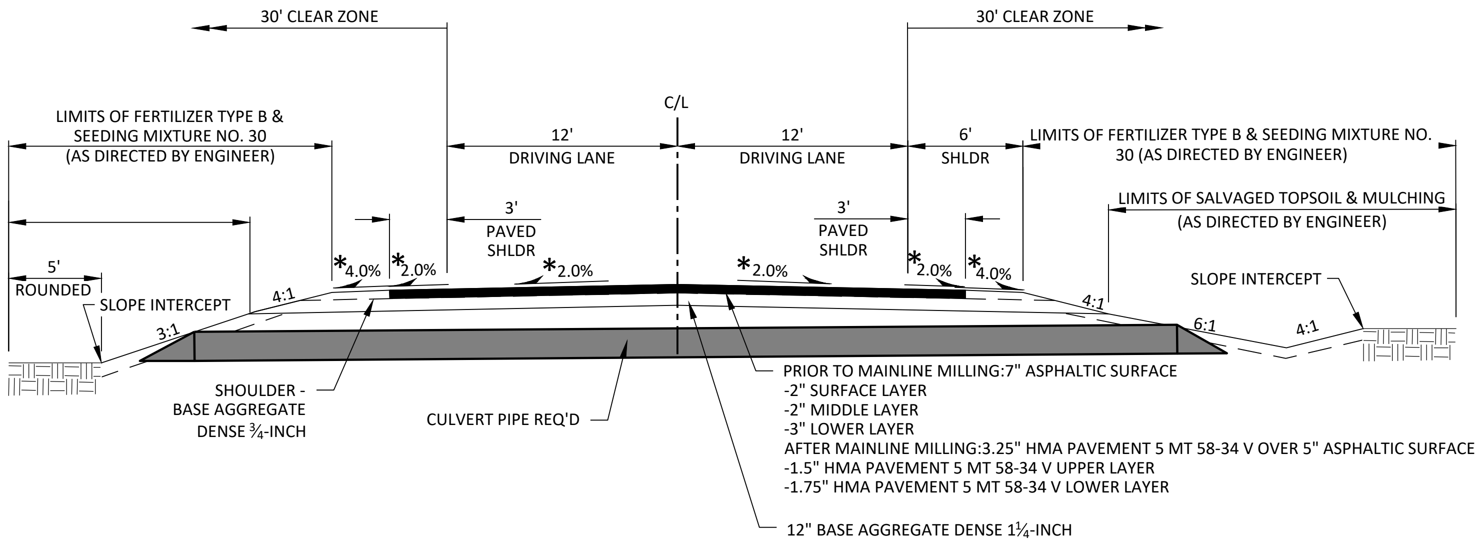
HMA PAVEMENT TRANSITION - STH 13

Ⓐ	Ⓑ
STA. 239+79	STA. 241+79
STA. 289+23	STA. 291+23
STA. 303+66	STA. 305+66
STA. 865+94	STA. 867+94



REMOVING ASPHALTIC SURFACE BUTT JOINTS - STH 13

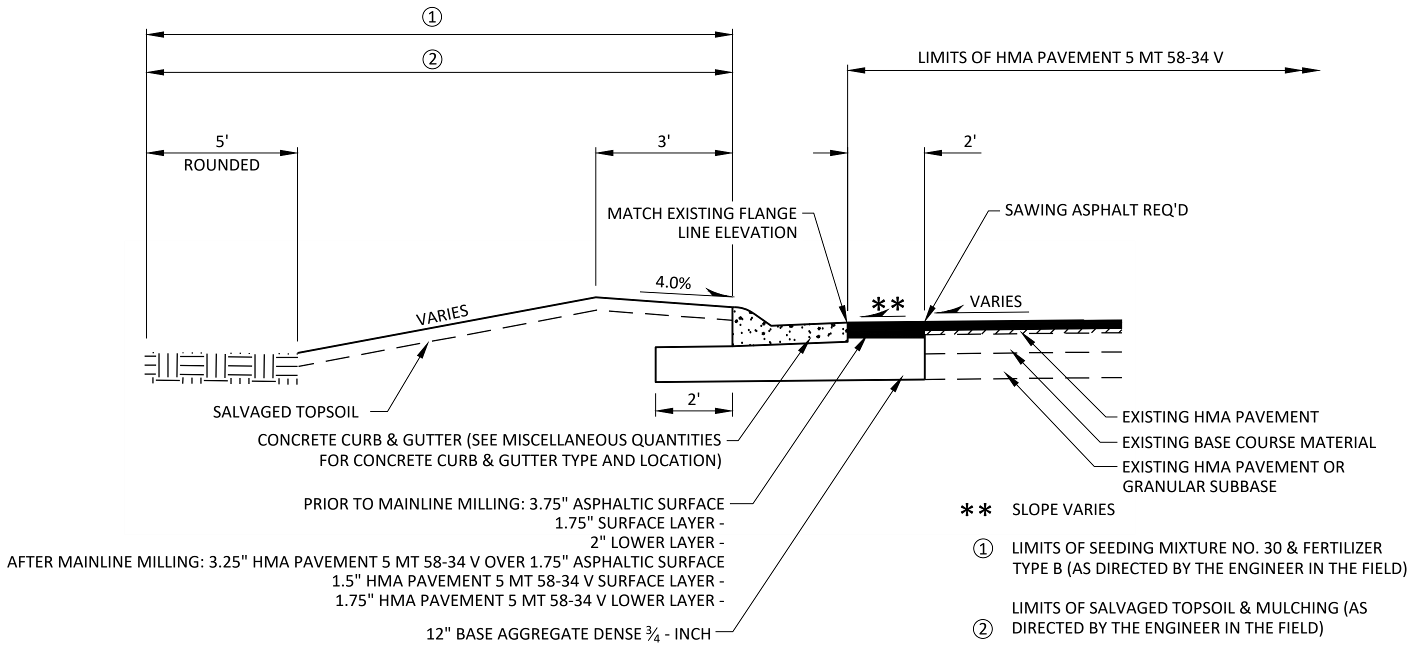
Ⓐ	Ⓑ
STA. 248+40	STA. 250+40
STA. 299+21	STA. 301+21
STA. 312+01	STA. 314+01
STA. 874+53	STA. 876+53



TYPICAL CULVERT PIPE REPLACEMENT DETAIL

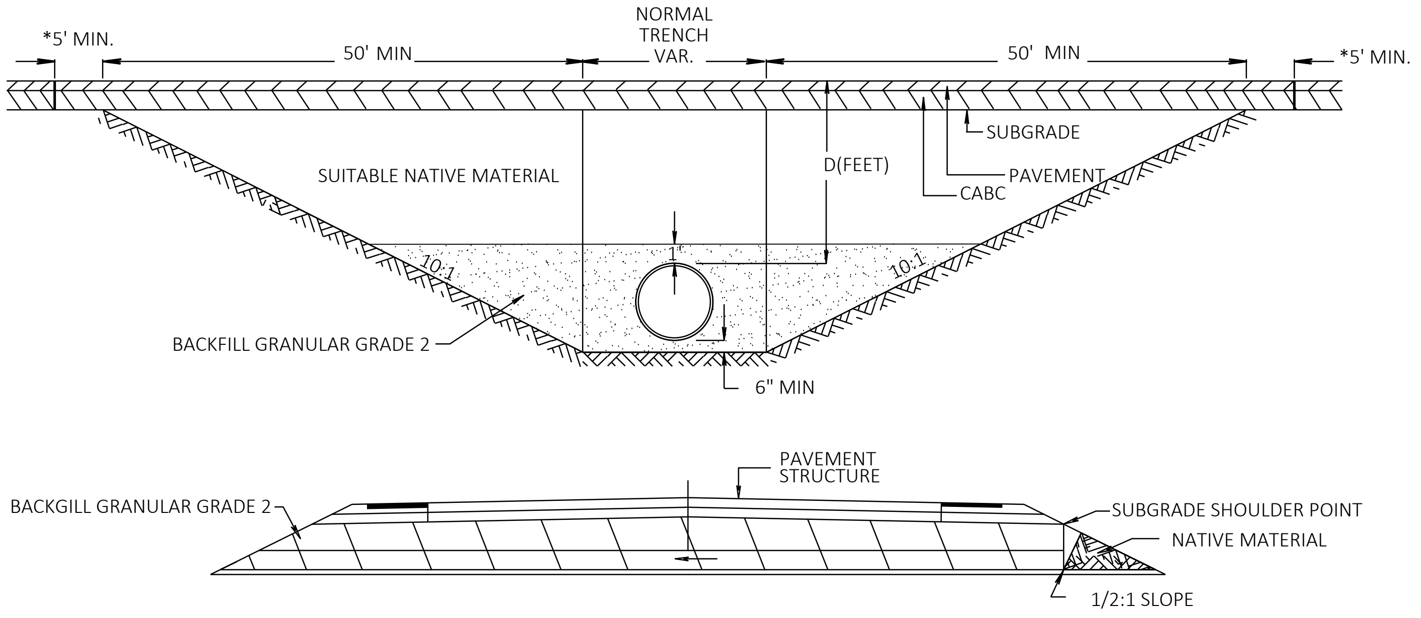
* NORMAL CROWN (N.C.) UNLESS NOTED OTHERWISE - SEE SUPERELEVATION TABLES

NOTE: STA. 827+35 - STA. 936+15.50 18' CLEAR ZONE



TYPICAL CONCRETE CURB & GUTTER REPLACEMENT DETAIL

NOTE: STA. 872+12 - STA. 873+07, RT - SEE CONSTRUCTION DETAIL BEAM GUARD LAYOUT FOR CONCRETE CURB AND GUTTER REPLACEMENT DETAIL

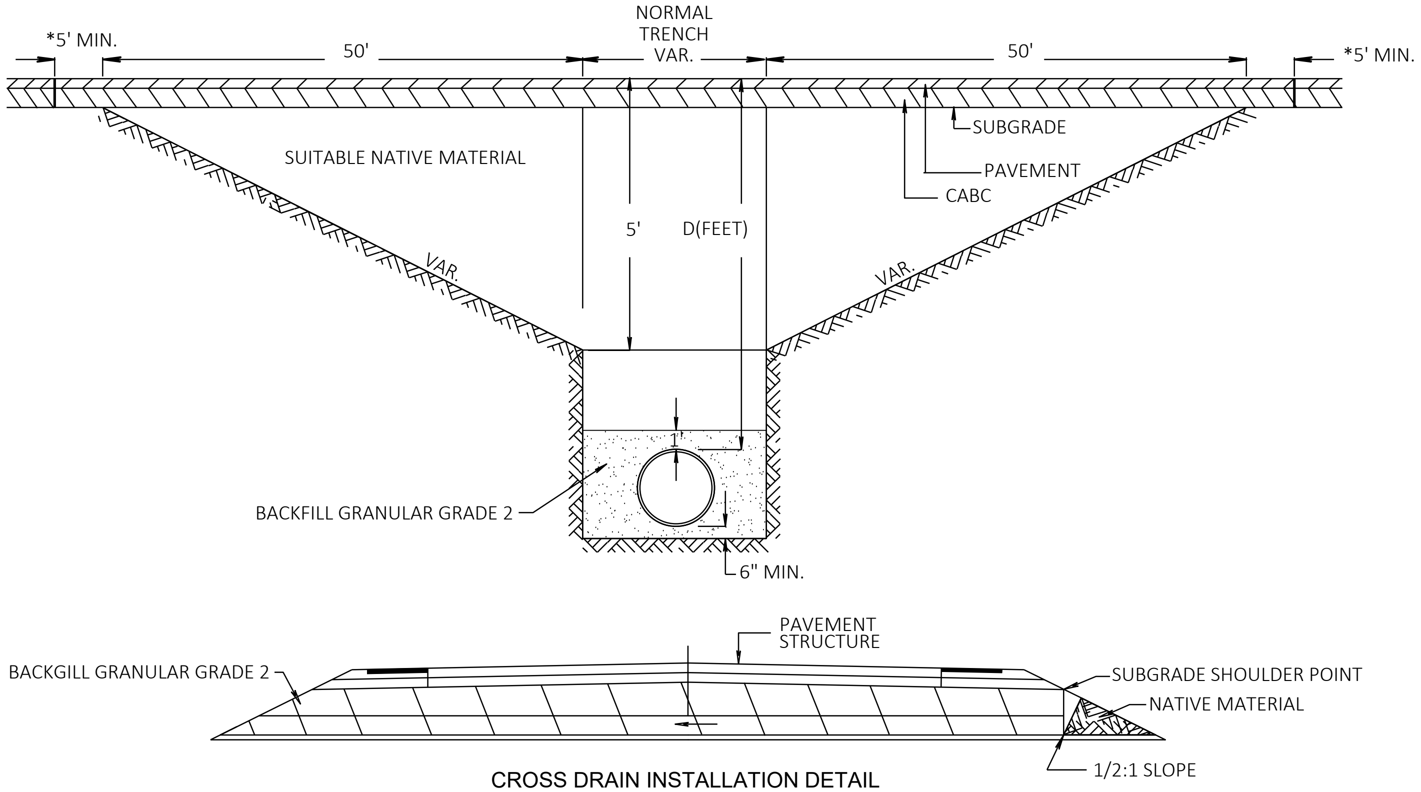


CROSS DRAIN INSTALLATION DETAIL

FOR D ≤ 5'

NOTE: EXCAVATION, BACKFILL, AND BACKFILL GRANULAR FOR CULVERT PIPE REPLACEMENT IS INCIDENTAL TO CULVERT PIPE BID ITEM

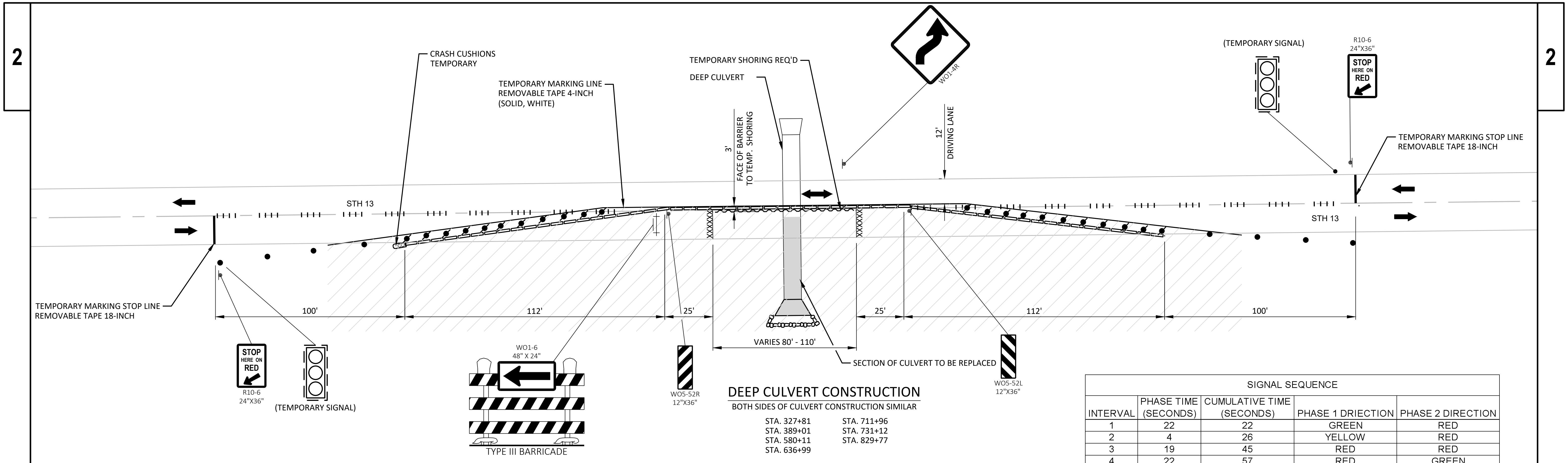
* PAVEMENT REMOVAL LIMITS (TYPICAL)



CROSS DRAIN INSTALLATION DETAIL

FOR D ≥ 5'

PROJECT NO: 8510-01-70	HWY: STH 13	COUNTY: DOUGLAS	CONSTRUCTION DETAILS	SHEET 18	E



DEEP CULVERT CONSTRUCTION

BOTH SIDES OF CULVERT CONSTRUCTION SIMILAR

STA. 327+81	STA. 711+96
STA. 389+01	STA. 731+12
STA. 580+11	STA. 829+77
STA. 636+99	

SIGNAL SEQUENCE

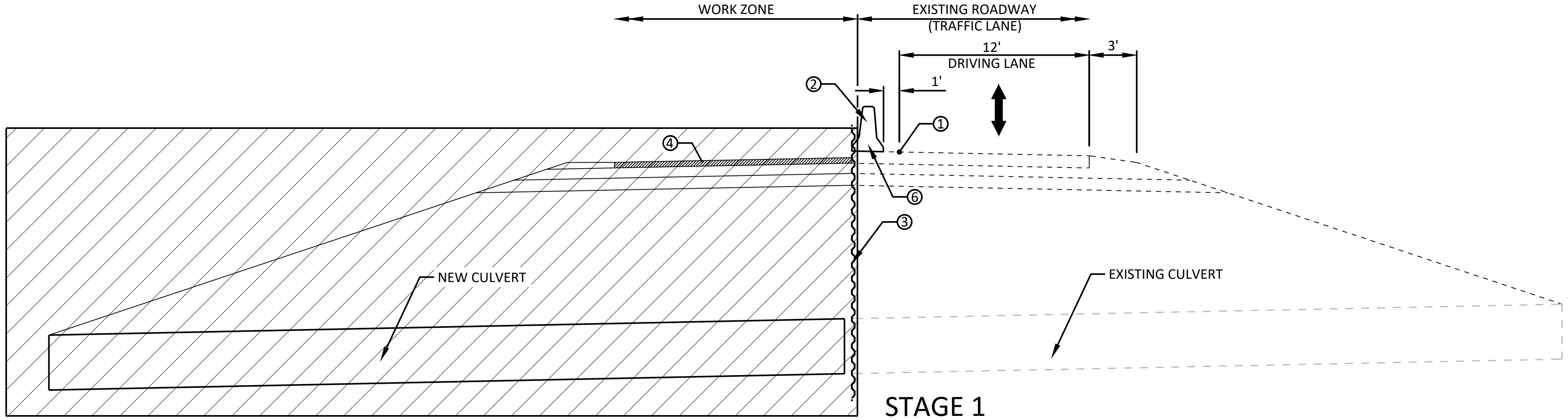
INTERVAL	PHASE TIME (SECONDS)	CUMULATIVE TIME (SECONDS)	PHASE 1 DRIECTION	PHASE 2 DIRECTION
1	22	22	GREEN	RED
2	4	26	YELLOW	RED
3	19	45	RED	RED
4	22	57	RED	GREEN
5	4	61	RED	YELLOW
6	19	80	RED	RED

CONTRACTOR SHALL REVIEW SIGNALS AFTER PROGRAMMING TO ASSURE THERE ARE NOT CONFLICTING MOVEMENTS. IF CONFLICTING MOVEMENTS EXIST OR IF MORE ALL-RED TIME IS NEEDED, THE CONTRACTOR SHALL MAKE THE NECESSARY CHANGES

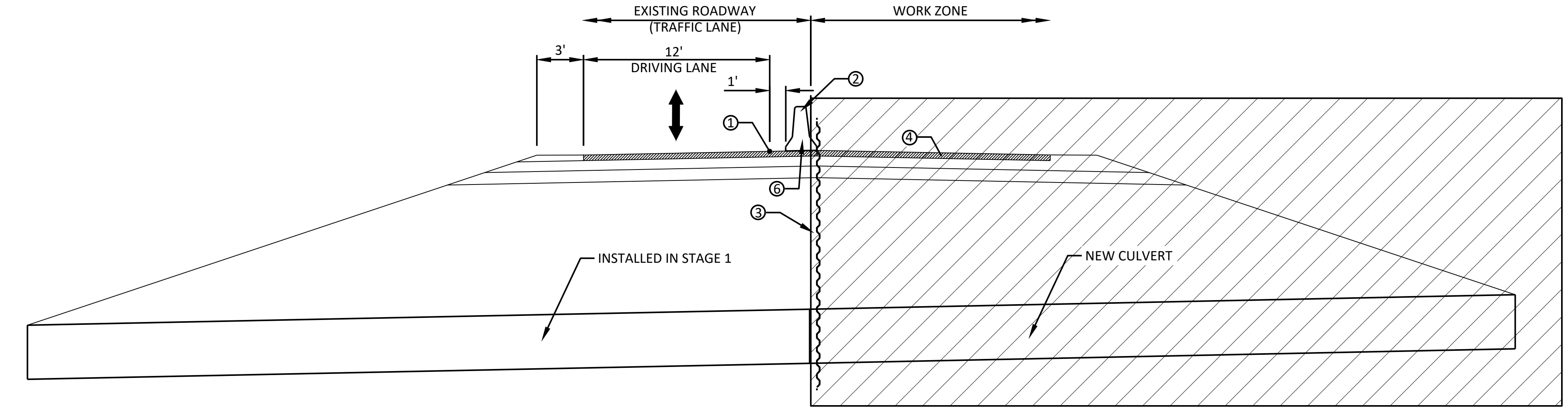
LEGEND

‡	TYPE III BARRICADE WTH ATTACHED SIGN
●	TRAFFIC CONTROL DRUM
●	TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
▸	SIGN ON PERMANENT SUPPORT
▬▬▬	CONCRETE BARRIER TEMPORARY PRECAST
⊠	
➡	DIRECTION OF TRAFFIC
⦾	TEMPORARY SIGNAL
▨	WORK AREA
I I I I I I I I	REMOVING PAVEMENT MARKINGS
XXXXX	SAWING ASPHALT

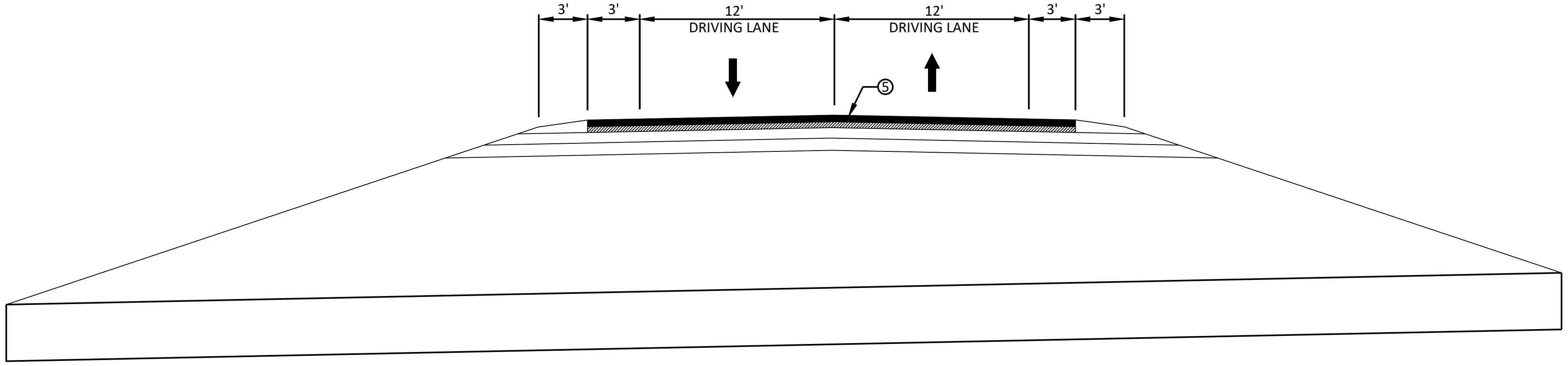
NOTE:
SEE STANDARD DETAIL DRAWING "TRAFFIC CONTROL, ONE LANE ROAD WITH TEMPORARY SIGNALS" FOR ADVANCED WARNING SIGN LAYOUT AND OTHER DETAILS NOT SHOWN ON THIS DRAWING.



STAGE 1



STAGE 2



STAGE 3

① TEMPORARY MARKING LINE EPOXY 4-INCH (WHITE)

② CONCRETE BARRIER TEMPORARY PRECAST

③ TEMPORARY SHORING

④ 1 ¾-INCH HMA PAVEMENT 5 MT 58-34 V (LOWER LAYER)

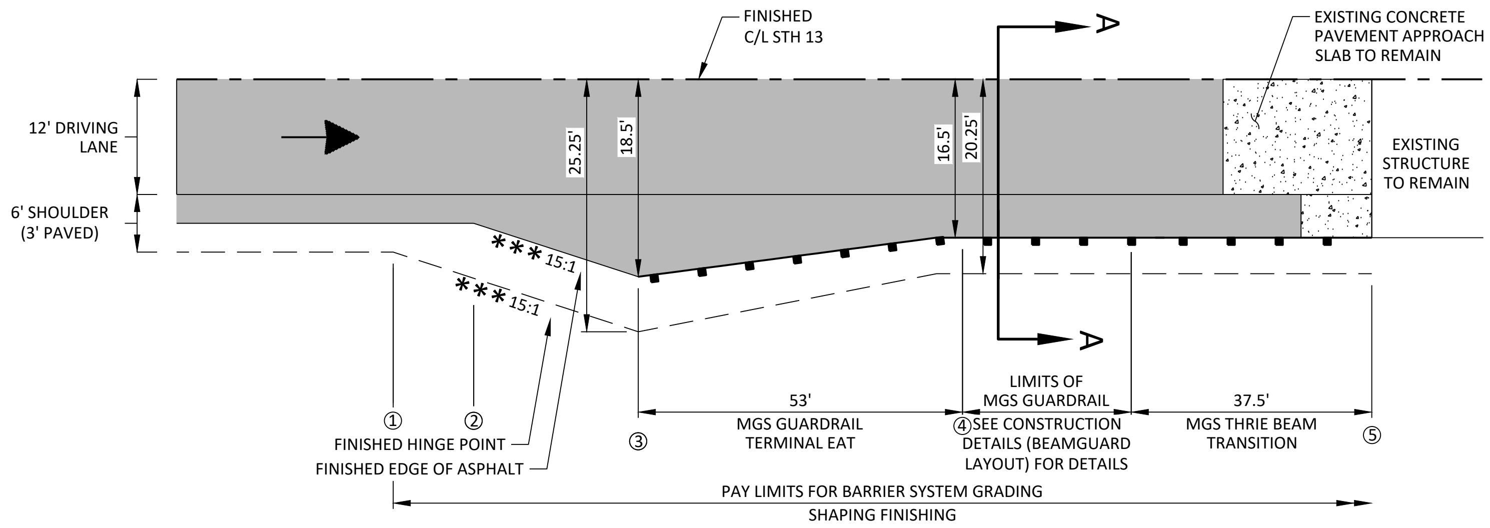
⑤ 1 ½-INCH HMA PAVEMENT 5 MT 58-34 V (UPPER LAYER)

⑥ ANCHORING CONCRETE BARRIER TEMPORARY PRECAST

↕ DIRECTION OF TRAVEL

NOTE: USE SDD "TRAFFIC CONTROL, ONE LANE ROAD WITH TEMPORARY SIGNALS" FOR TRAFFIC CONTROL LAYOUT.

PROJECT NO: 8510-01-70	HWY: STH 13	COUNTY: DOUGLAS	TRAFFIC CONTROL - DEEP CULVERT REPLACEMENTS	SHEET 20	E



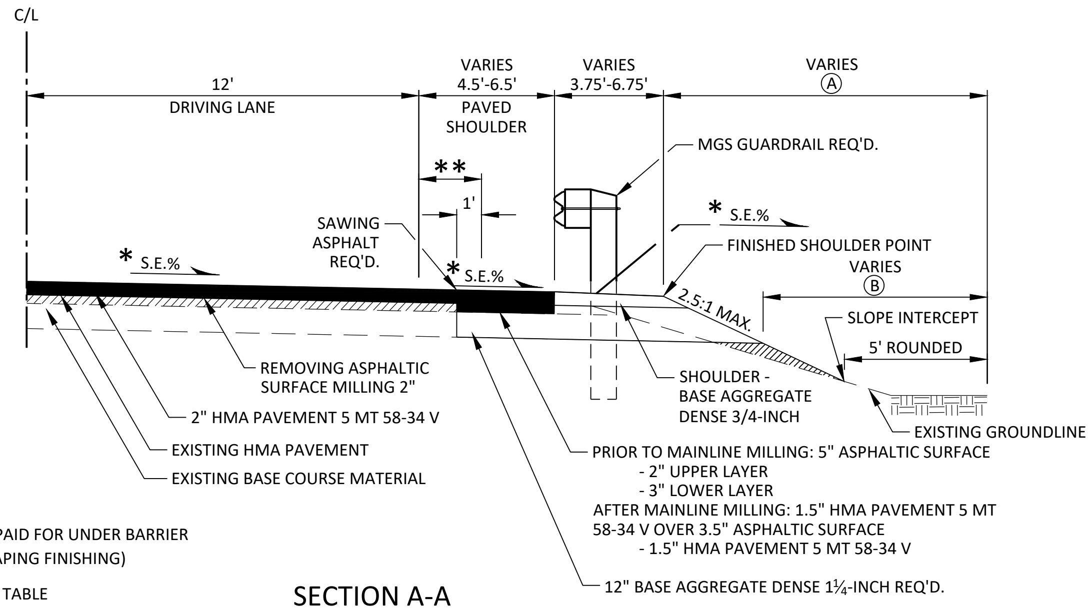
BEAMGUARD LAYOUT DETAIL

▒ LIMITS OF HMA PAVEMENT 5 MT 58-34 V

*** 15:1 TAPER UNLESS OTHERWISE NOTED

BEAMGUARD LAYOUT TABLE

		STATION				
STATION-STATION	LOCATION	①	②	③	④	⑤
241+23 - 244+22	MAINLINE, LT.	241+23	241+79	242+32	242+85	244+22
241+48 - 244+22	MAINLINE, RT.	241+48	242+04	242+57	243+10	244+22
245+85 - 248+22	MAINLINE, RT.	248+22	247+65	247+13	246+60	245+85
245+85 - 248+97	MAINLINE, LT.	248+97	248+40	247+88	247+35	245+85
290+66 - 293+78	MAINLINE, RT.	290+66	291+23	291+75	292+28	293+78
291+29 - 293+78	MAINLINE, LT.	291+29	291+85	292+37	292+90	293+78
295+41 - 297+98	MAINLINE, RT.	297+98	297+98	297+56	297+03	295+41
295+41 - 298+52	MAINLINE, LT.	298+52	297+96	297+44	296+91	295+41
305+09 - 307+96	MAINLINE, RT.	305+09	305+66	306+18	306+71	307+96
305+72 - 307+96	MAINLINE, LT.	305+72	306+28	306+81	307+34	307+96
309+46 - 311+45	MAINLINE, RT.	311+45	310+89	310+36	309+83	309+46
309+46 - 312+57	MAINLINE, LT.	312+57	312+01	311+49	310+96	309+46



SECTION A-A

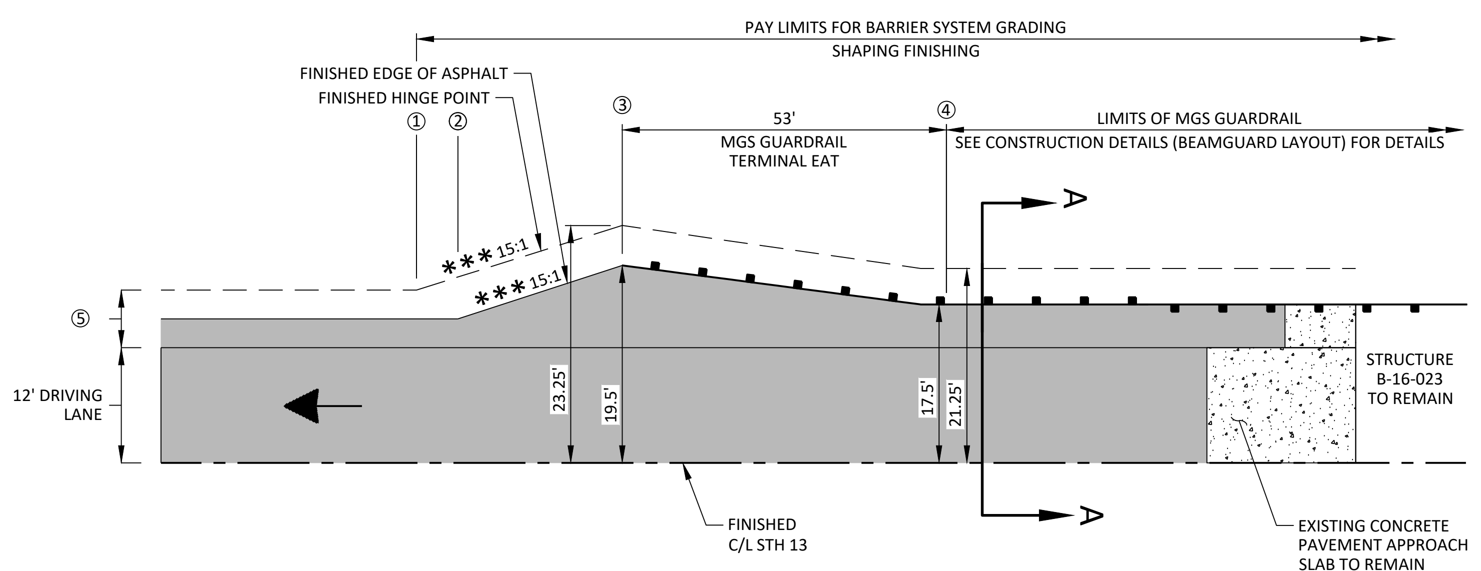
▨ BORROW MATERIAL (PAID FOR UNDER BARRIER SYSTEM GRADING SHAPING FINISHING)

* SEE SUPERELEVATION TABLE

** EXISTING PAVED SHOULDER WIDTH VARIES

Ⓐ LIMITS OF FERTILIZER TYPE B, SEEDING MIXTURE NO. 30 & EROSION MAT URBAN CLASS I TYPE B (AS DIRECTED BY THE ENGINEER). PAID FOR UNDER BARRIER SYSTEM GRADING SHAPING FINISHING BID ITEM.

Ⓑ LIMITS OF SALVAGED TOPSOIL & MULCHING (AS DIRECTED BY THE ENGINEER). PAID FOR UNDER BARRIER SYSTEM GRADING SHAPING FINISHING BID ITEM.



BEAMGUARD LAYOUT DETAIL

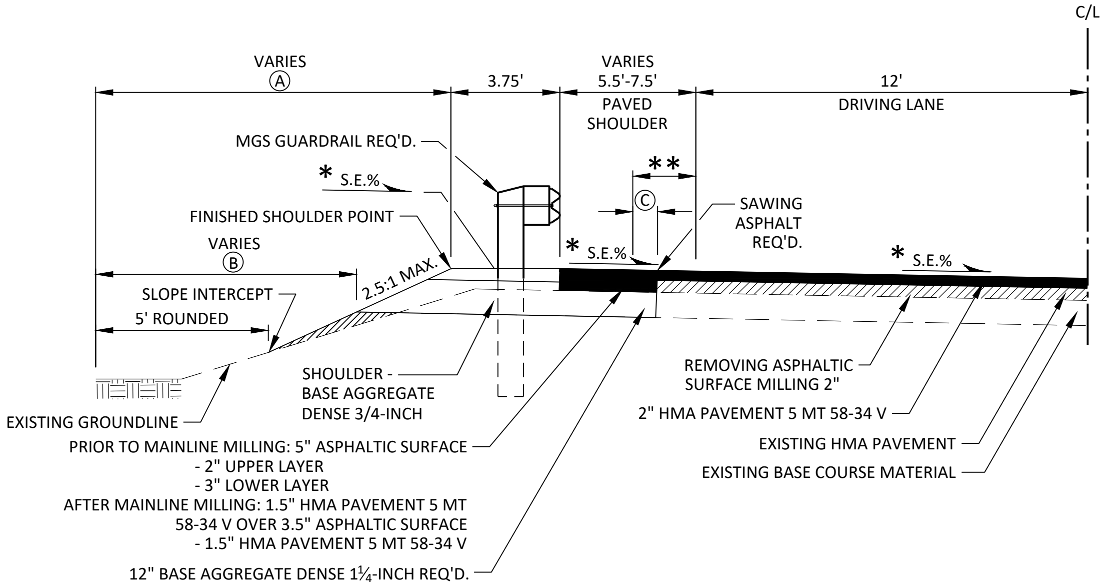
▒ LIMITS OF HMA PAVEMENT 5 MT 58-34 V

*** 15:1 TAPER UNLESS OTHERWISE NOTED

⑤ 6' SHOULDER (3' PAVED) UNLESS OTHERWISE NOTED

BEAMGUARD LAYOUT TABLE

		STATION			
STATION-STATION	LOCATION	①	②	③	④
869+65 - 871+15	MAINLINE, LT.	869+65	869+65	870+66	871+15
872+41 - 873+66	MAINLINE, LT.	873+66	873+55	872+90	872+41



SECTION A-A

▨ BORROW MATERIAL (PAID FOR UNDER BARRIER SYSTEM GRADING SHAPING FINISHING)

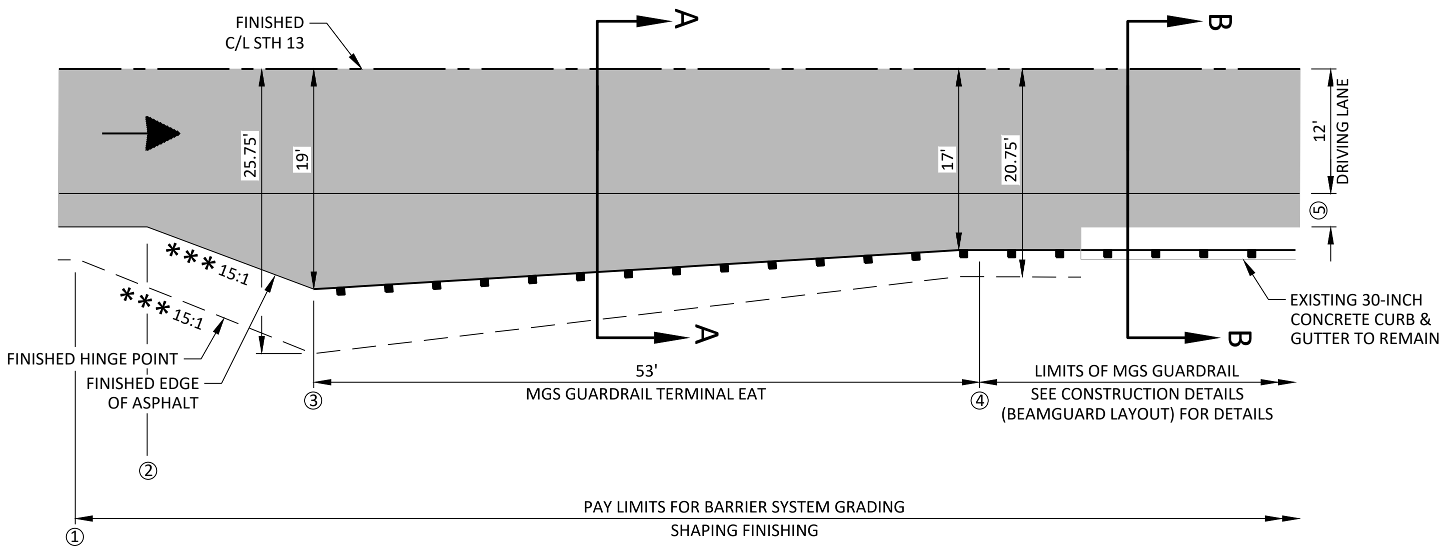
* SEE SUPERELEVATION TABLE

** EXISTING PAVED SHOULDER WIDTH VARIES

Ⓐ LIMITS OF FERTILIZER TYPE B, SEEDING MIXTURE NO. 30 & EROSION MAT URBAN CLASS I TYPE B (AS DIRECTED BY THE ENGINEER). PAID FOR UNDER BARRIER SYSTEM GRADING SHAPING FINISHING BID ITEM.

Ⓑ LIMITS OF SALVAGED TOPSOIL & MULCHING (AS DIRECTED BY THE ENGINEER). PAID FOR UNDER BARRIER SYSTEM GRADING SHAPING FINISHING BID ITEM.

Ⓒ 1' (UNLESS OTHERWISE NOTED - SEE CONSTRUCTION DETAIL (BEAMGUARD LAYOUT))

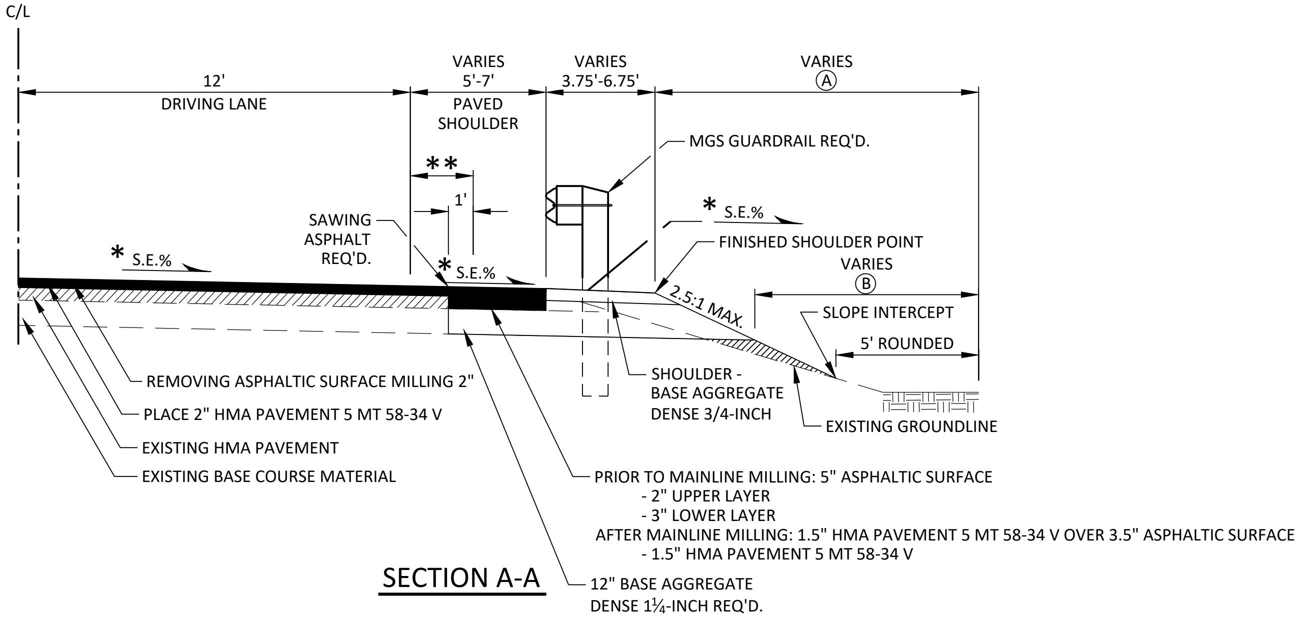


▨	LIMITS OF HMA PAVEMENT 5 MT 58-34 V
***	15:1 TAPER UNLESS OTHERWISE NOTED
⑤	VARIES 1.5' - 3.8'

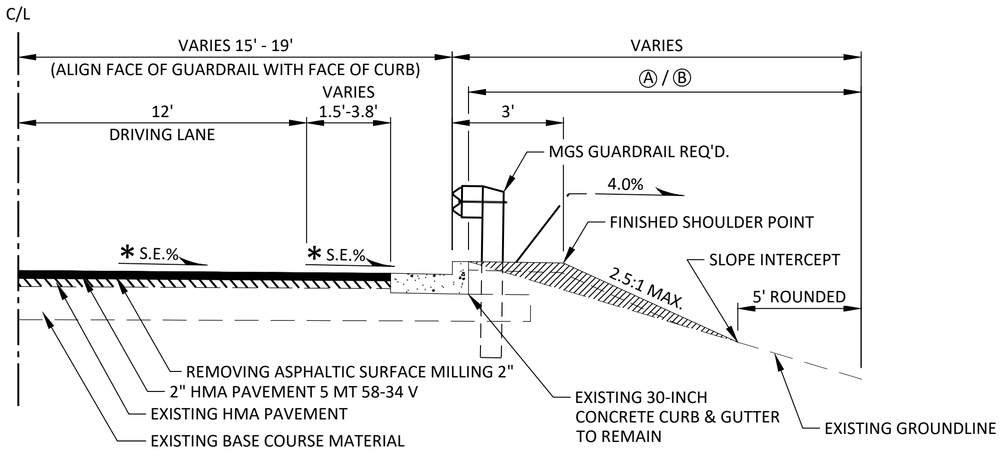
BEAMGUARD LAYOUT DETAIL

BEAMGUARD LAYOUT TABLE

STATION-STATION	LOCATION	STATION ①	STATION ②	STATION ③	STATION ④
867+38 - 869+11	MAINLINE, RT.	867+38	867+94	868+54	869+11

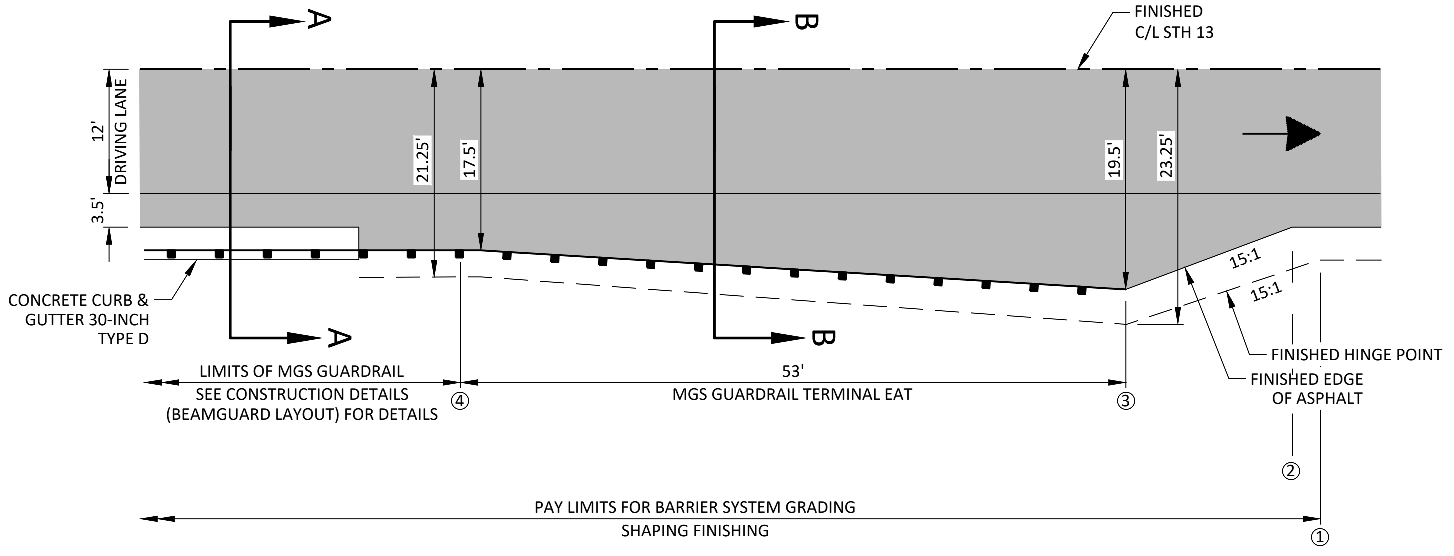


SECTION A-A



SECTION B-B

▨	BORROW MATERIAL (PAID FOR UNDER BARRIER SYSTEM GRADING SHAPING FINISHING)
*	SEE SUPERELEVATION TABLE
**	EXISTING PAVED SHOULDER WIDTH VARIES
Ⓐ	LIMITS OF FERTILIZER TYPE B, SEEDING MIXTURE NO. 30 & EROSION MAT URBAN CLASS I TYPE B (AS DIRECTED BY THE ENGINEER). PAID FOR UNDER BARRIER SYSTEM GRADING SHAPING FINISHING BID ITEM.
Ⓑ	LIMITS OF SALVAGED TOPSOIL MULCHING (AS DIRECTED BY THE ENGINEER). PAID FOR UNDER BARRIER SYSTEM GRADING SHAPING FINISHING BID ITEM.

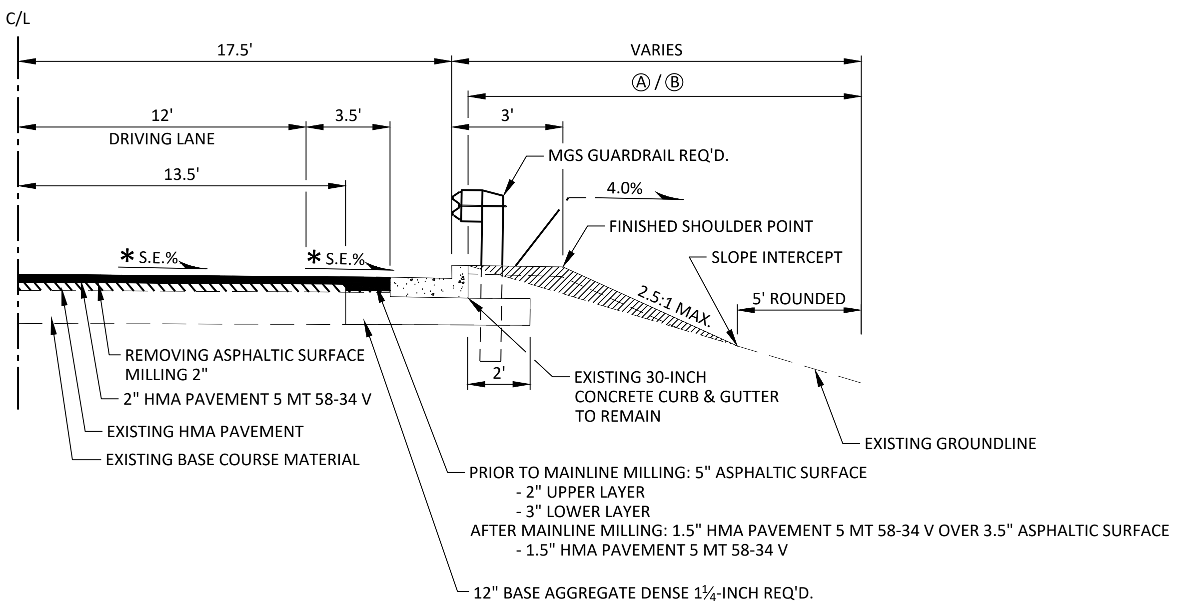


▨ LIMITS OF
HMA PAVEMENT 5 MT 58-34 V

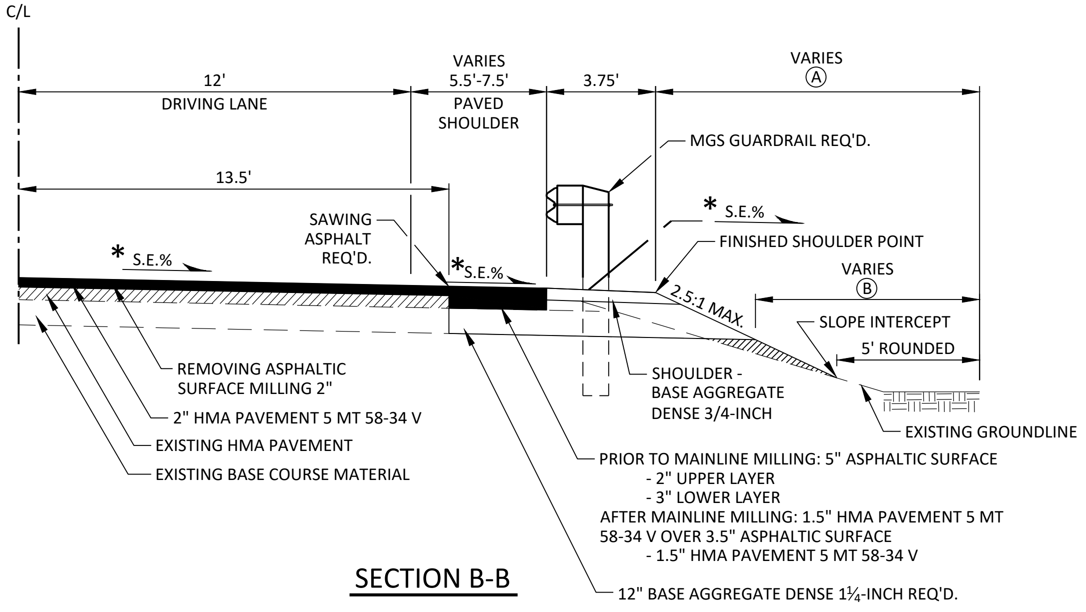
BEAMGUARD LAYOUT DETAIL

BEAMGUARD LAYOUT TABLE

STATION-STATION	LOCATION	STATION ①	STATION ②	STATION ③	STATION ④
873+31 - 874+81	MAINLINE, RT.	874+81	874+53	873+85	873+31



SECTION A-A



SECTION B-B

▨ BORROW MATERIAL (PAID FOR UNDER BARRIER
SYSTEM GRADING SHAPING FINISHING)

* SEE SUPERELEVATION TABLE

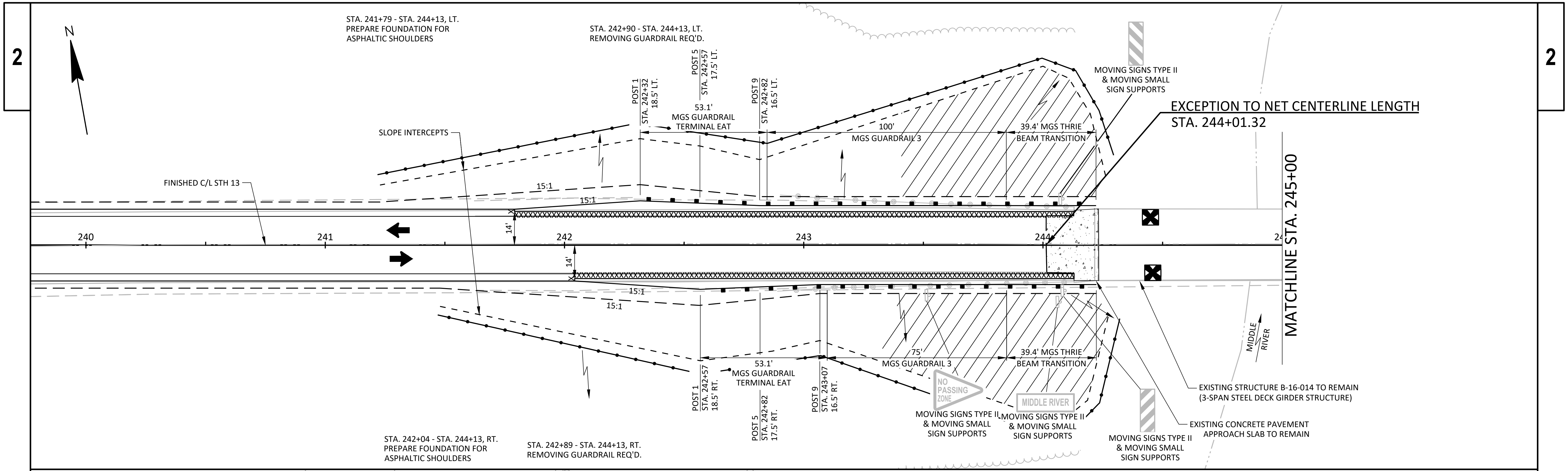
** EXISTING PAVED SHOULDER WIDTH VARIES

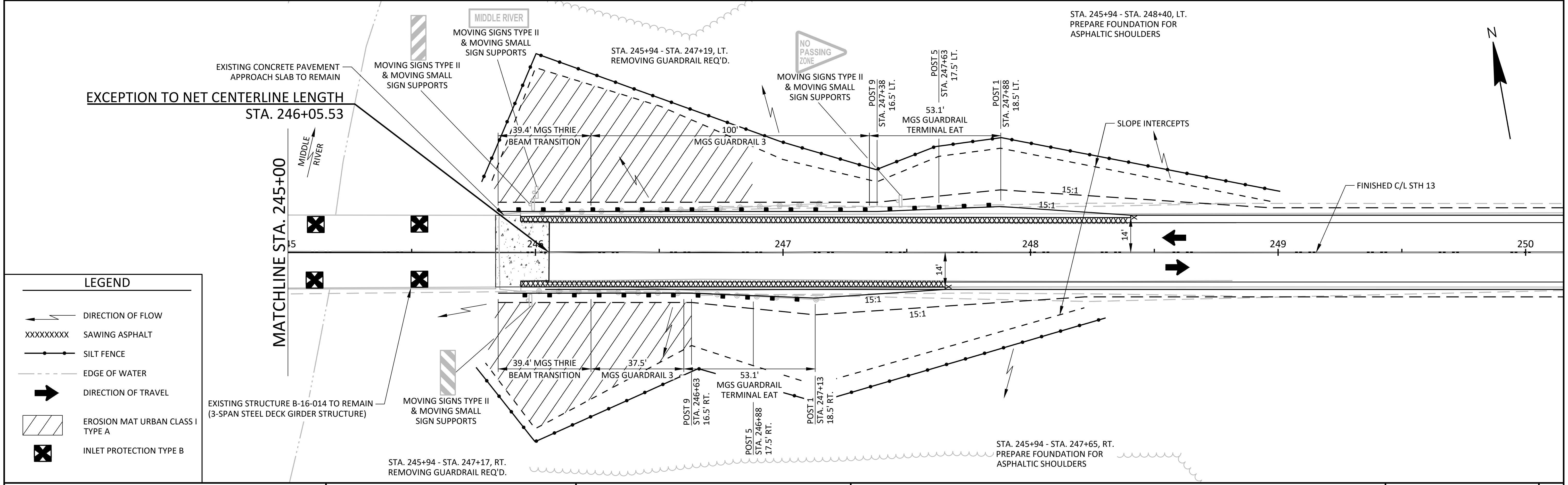
Ⓐ LIMITS OF FERTILIZER TYPE B & SEEDING MIXTURE NO. 30 (AS DIRECTED BY THE ENGINEER). PAID FOR UNDER BARRIER SYSTEM GRADING SHAPING FINISHING BID ITEM. LIMITS OF EROSION MAT URBAN CLASS I TYPE B (AS DIRECTED BY THE ENGINEER).

Ⓑ LIMITS OF SALVAGED TOPSOIL & MULCHING (AS DIRECTED BY THE ENGINEER). PAID FOR UNDER BARRIER SYSTEM GRADING SHAPING FINISHING BID ITEM.

PROJECT NO: 8510-01-70	HWY: STH 13	COUNTY: DOUGLAS	CONSTRUCTION DETAILS	SHEET 23	E

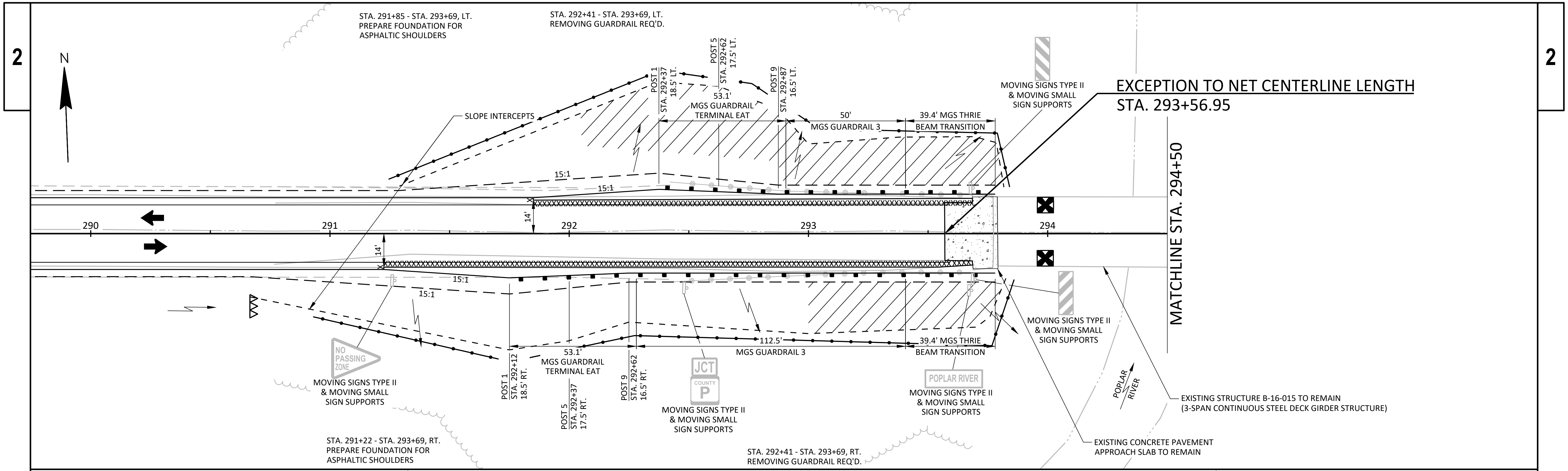
2

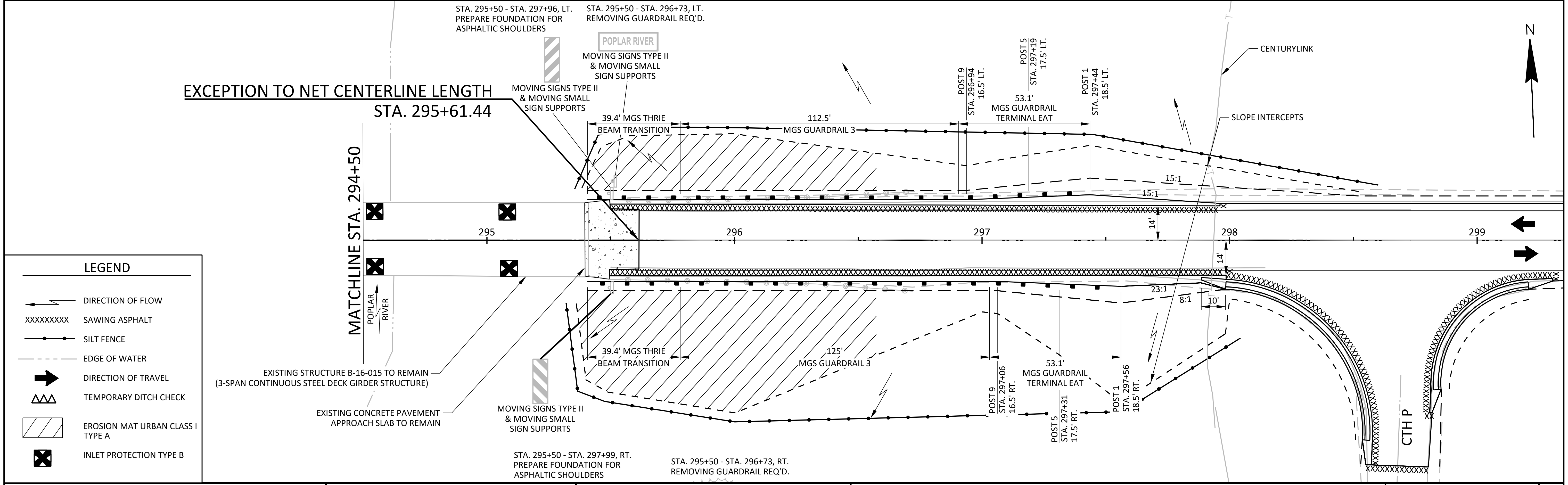




PROJECT NO: 8510-01-70	HWY: STH 13	COUNTY: DOUGLAS	CONSTRUCTION DETAIL (BEAM GUARD LAYOUT)	SHEET 24	E

2



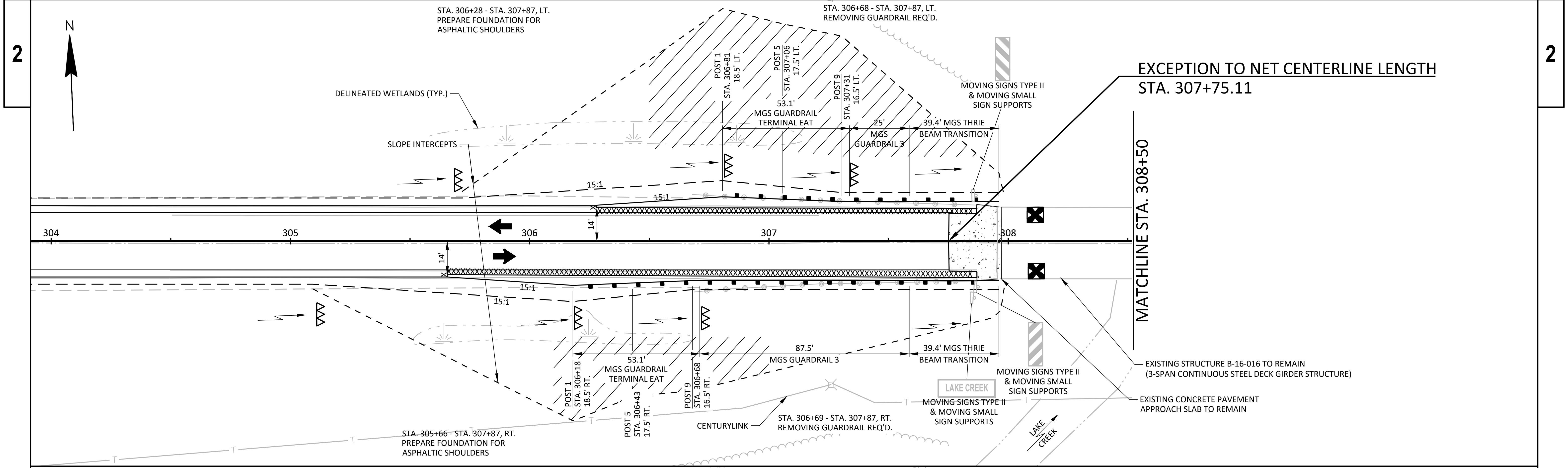


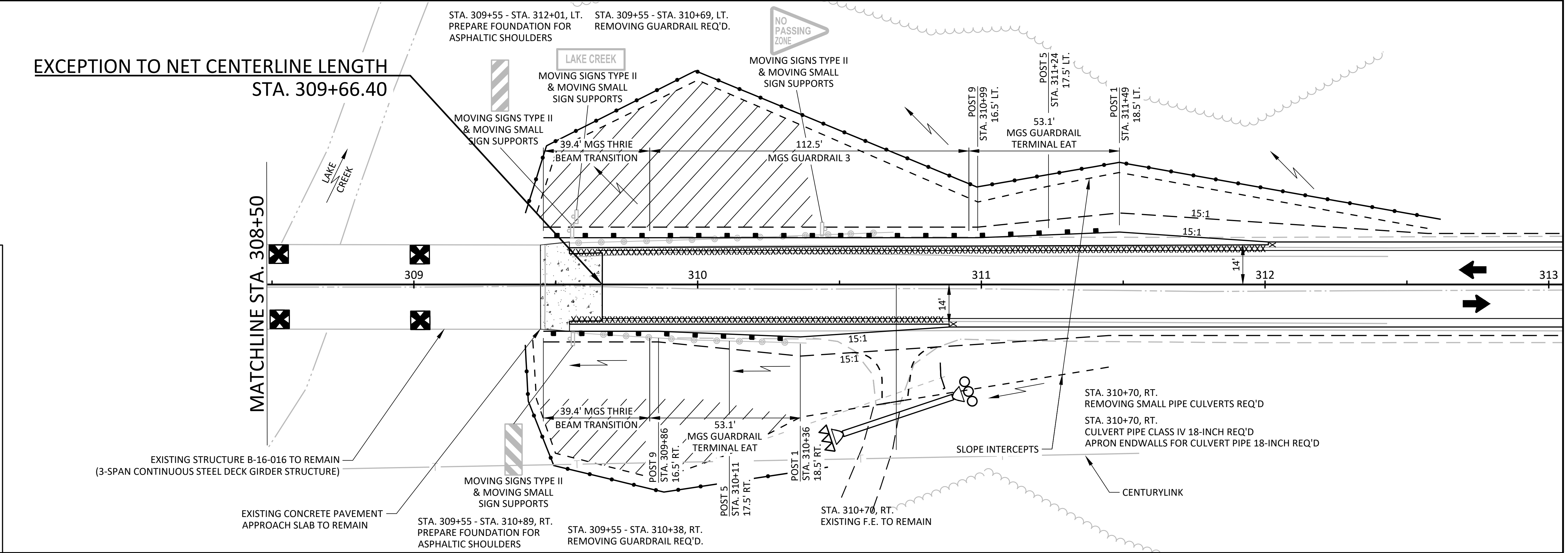
LEGEND

↼	DIRECTION OF FLOW
XXXXXXXXX	SAWING ASPHALT
—●—●—	SILT FENCE
— - —	EDGE OF WATER
➡	DIRECTION OF TRAVEL
ΔΔΔ	TEMPORARY DITCH CHECK
▨	EROSION MAT URBAN CLASS I TYPE A
☒	INLET PROTECTION TYPE B

PROJECT NO: 8510-01-70	HWY: STH 13	COUNTY: DOUGLAS	CONSTRUCTION DETAIL (BEAM GUARD LAYOUT)	SHEET 25	E

FILE NAME : S:\PROJECTS\W11599 WISDOT STH 13, CTH H TO ENGDAHL ROAD DOUGLAS CO\SHEETSPLAN\DETAILS\85100100_BEAMGUARD DETAIL.DWG PLOT DATE : 2/4/2022 10:03:25 AM PLOT BY : KARTER ZAJICEK PLOT SCALE : 1" = 1' LAYOUT : LAYOUT2





LEGEND

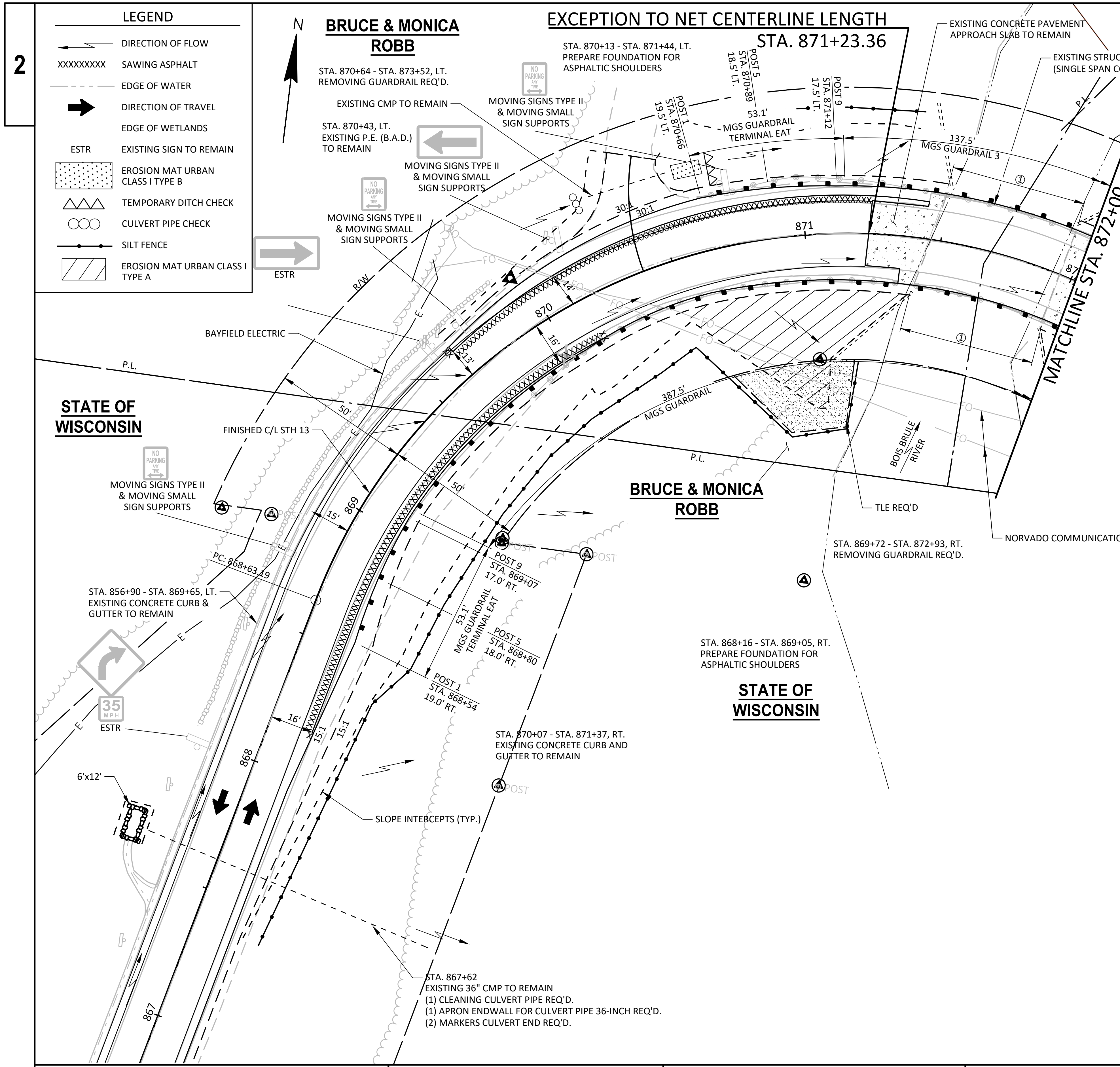
↼	DIRECTION OF FLOW
XXXXXXXXX	SAWING ASPHALT
•—•—•	SILT FENCE
- · - · -	EDGE OF WATER
➡	DIRECTION OF TRAVEL
△△△	TEMPORARY DITCH CHECK
○○○	CULVERT PIPE CHECK
▨	EROSION MAT URBAN CLASS I TYPE A
⩛	WETLANDS
☒	INLET PROTECTION TYPE B

PROJECT NO: 8510-01-70	HWY: STH 13	COUNTY: DOUGLAS	CONSTRUCTION DETAIL (BEAM GUARD LAYOUT)	SHEET 26	E

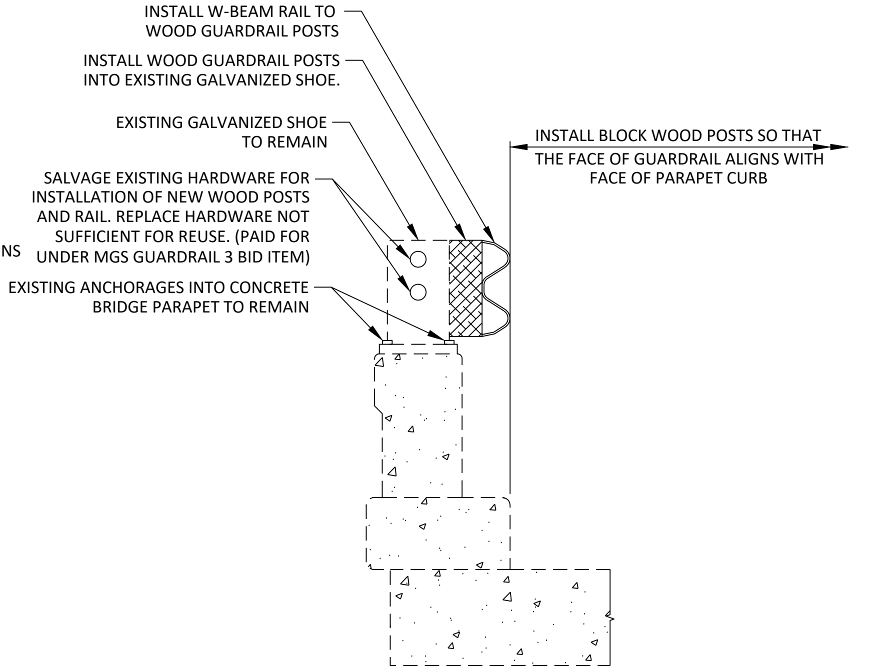
FILE NAME : S:\PROJECTS\W11599 WISDOT STH 13, CTH H TO ENGDAHL ROAD DOUGLAS CO\SHEETSPLAN\DETAILS\85100100_BEAMGUARD DETAIL.DWG PLOT DATE : 2/4/2022 10:03:35 AM PLOT BY : KARTER ZAJICEK PLOT SCALE : 1" = 1' LAYOUT : LAYOUT3

LEGEND

←⌇	DIRECTION OF FLOW
XXXXXXXXX	SAWING ASPHALT
— - —	EDGE OF WATER
➡	DIRECTION OF TRAVEL
	EDGE OF WETLANDS
ESTR	EXISTING SIGN TO REMAIN
▒	EROSION MAT URBAN CLASS I TYPE B
△△△	TEMPORARY DITCH CHECK
○○○	CULVERT PIPE CHECK
•—•—•	SILT FENCE
▨	EROSION MAT URBAN CLASS I TYPE A



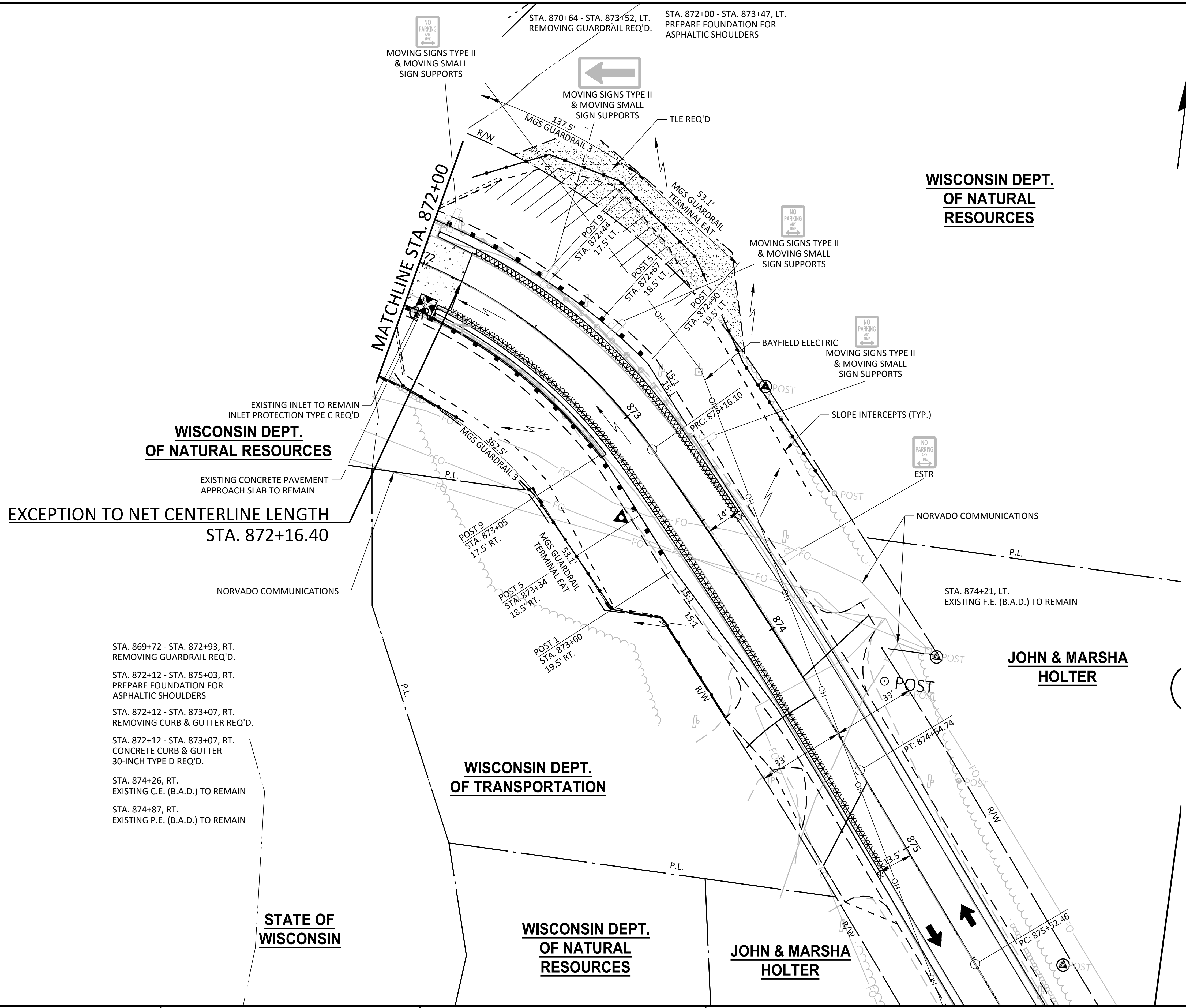
① MATCH EXISTING POST LOCATIONS AND SPACING ACROSS STRUCTURE B-16-023. POSTS SHOWN ON PLAN ARE FOR INFORMATION ONLY. EXACT LOCATIONS AND SPACING IN FIELD MAY VARY. THE EXACT LIMITS OF MGS GUARDRAIL 3/MGS GUARDRAIL TERMINAL EAT MAY VARY. THE EXACT LOCATION OF GUARDRAIL PLACEMENT WILL BE DETERMINED BY THE ENGINEER IN THE FIELD. THE COST FOR SALVAGING HARDWARE, FURNISHING AND INSTALLING WOOD POSTS AND W-BEAM GUARDRAIL ARE PAID FOR UNDER THE MGS GUARDRAIL 3 BID ITEM.



ELEVATION

GUARDRAIL REPLACEMENT ACROSS STRUCTURE B-16-023

PROJECT NO: 8510-01-70 | HWY: STH 13 | COUNTY: DOUGLAS | CONSTRUCTION DETAIL (BEAM GUARD LAYOUT) | SHEET E



STA. 869+72 - STA. 872+93, RT.
REMOVING GUARDRAIL REQ'D.

STA. 872+12 - STA. 875+03, RT.
PREPARE FOUNDATION FOR
ASPHALTIC SHOULDERS

STA. 872+12 - STA. 873+07, RT.
REMOVING CURB & GUTTER REQ'D.

STA. 872+12 - STA. 873+07, RT.
CONCRETE CURB & GUTTER
30-INCH TYPE D REQ'D.

STA. 874+26, RT.
EXISTING C.E. (B.A.D.) TO REMAIN

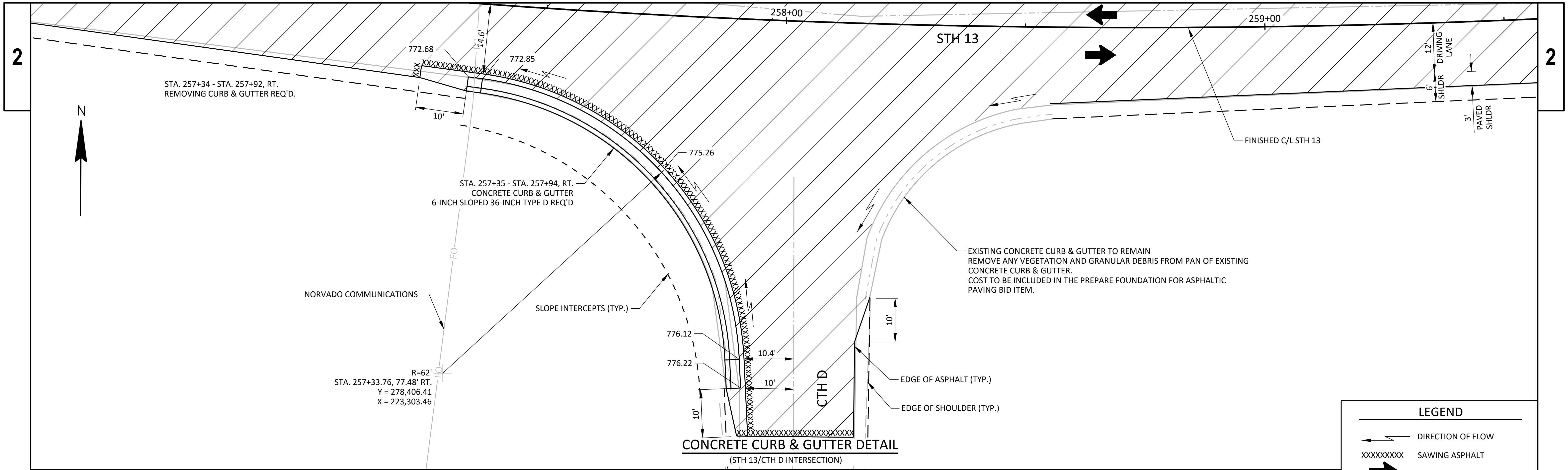
STA. 874+87, RT.
EXISTING P.E. (B.A.D.) TO REMAIN

LEGEND

←	DIRECTION OF FLOW
XXXXXXXXX	SAWING ASPHALT
– – –	EDGE OF WATER
➡	DIRECTION OF TRAVEL
	EDGE OF WETLANDS
ESTR	EXISTING SIGN TO REMAIN
–●–	SILT FENCE
▨	EROSION MAT URBAN CLASS I TYPE A
☒	INLET PROTECTION TYPE C

PROJECT NO: 8510-01-70 | HWY: STH 13 | COUNTY: DOUGLAS | CONSTRUCTION DETAIL (BEAM GUARD LAYOUT) | SHEET 28 | E

FILE NAME : S:\PROJECTS\W11599 WISDOT STH 13, CTH H TO ENGDAHL ROAD DOUGLAS CO\SHEETSPLAN\DETAILS\85100100_BEAMGUARD DETAIL.DWG PLOT DATE : 2/4/2022 10:03:46 AM PLOT BY : KARTER ZAJICEK PLOT SCALE : 1" = 1' LAYOUT : LAYOUT4 (2)



STA. 257+34 - STA. 257+92, RT.
REMOVING CURB & GUTTER REQ'D.

STA. 257+35 - STA. 257+94, RT.
CONCRETE CURB & GUTTER
6-INCH SLOPED 36-INCH TYPE D REQ'D

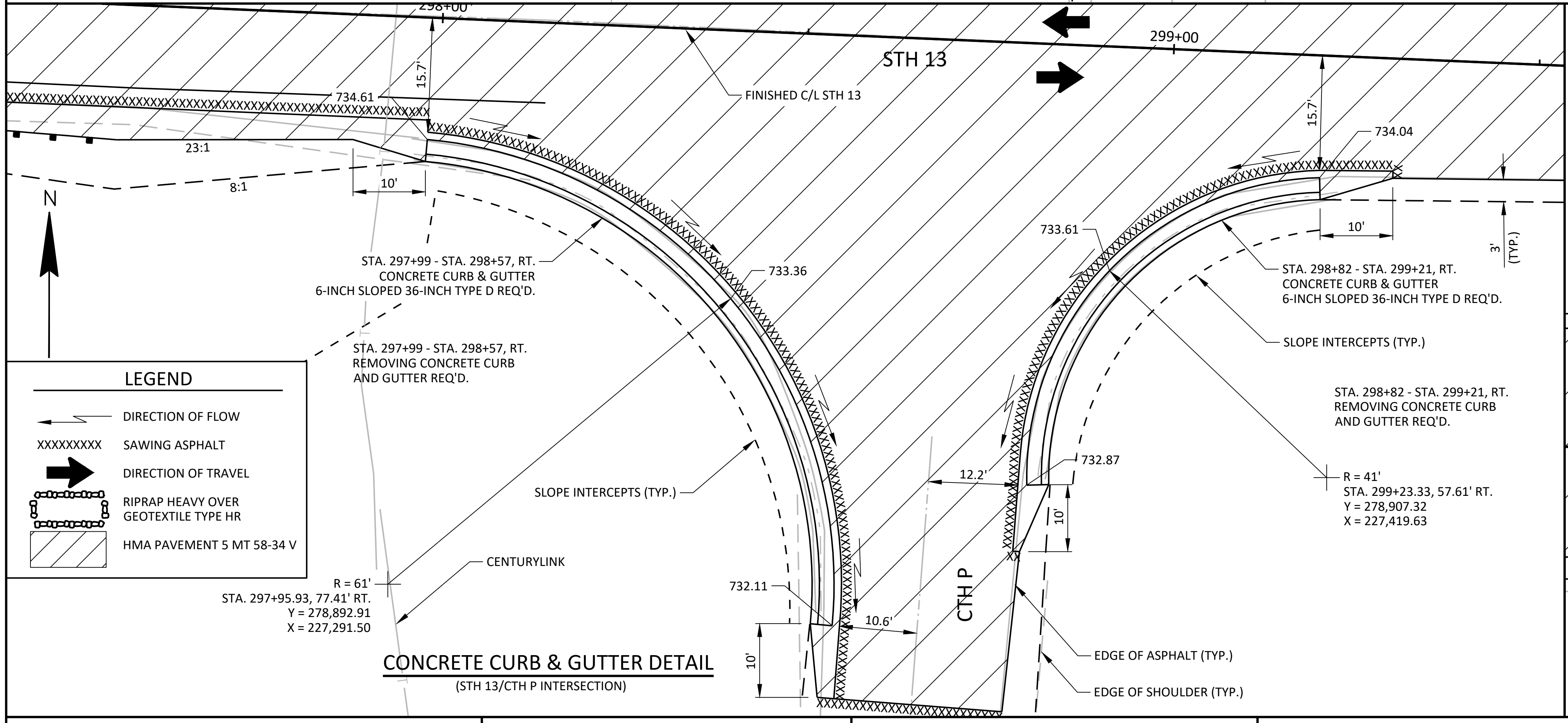
EXISTING CONCRETE CURB & GUTTER TO REMAIN
REMOVE ANY VEGETATION AND GRANULAR DEBRIS FROM PAN OF EXISTING CONCRETE CURB & GUTTER.
COST TO BE INCLUDED IN THE PREPARE FOUNDATION FOR ASPHALTIC PAVING BID ITEM.

CONCRETE CURB & GUTTER DETAIL

(STH 13/CTH D INTERSECTION)

LEGEND

←⌁	DIRECTION OF FLOW
XXXXXXXXX	SAWING ASPHALT
➡	DIRECTION OF TRAVEL
▨	RIPRAP HEAVY OVER GEOTEXTILE TYPE HR
▨	HMA PAVEMENT 5 MT 58-34 V



STA. 297+99 - STA. 298+57, RT.
CONCRETE CURB & GUTTER
6-INCH SLOPED 36-INCH TYPE D REQ'D.

STA. 297+99 - STA. 298+57, RT.
REMOVING CONCRETE CURB AND GUTTER REQ'D.

STA. 298+82 - STA. 299+21, RT.
CONCRETE CURB & GUTTER
6-INCH SLOPED 36-INCH TYPE D REQ'D.

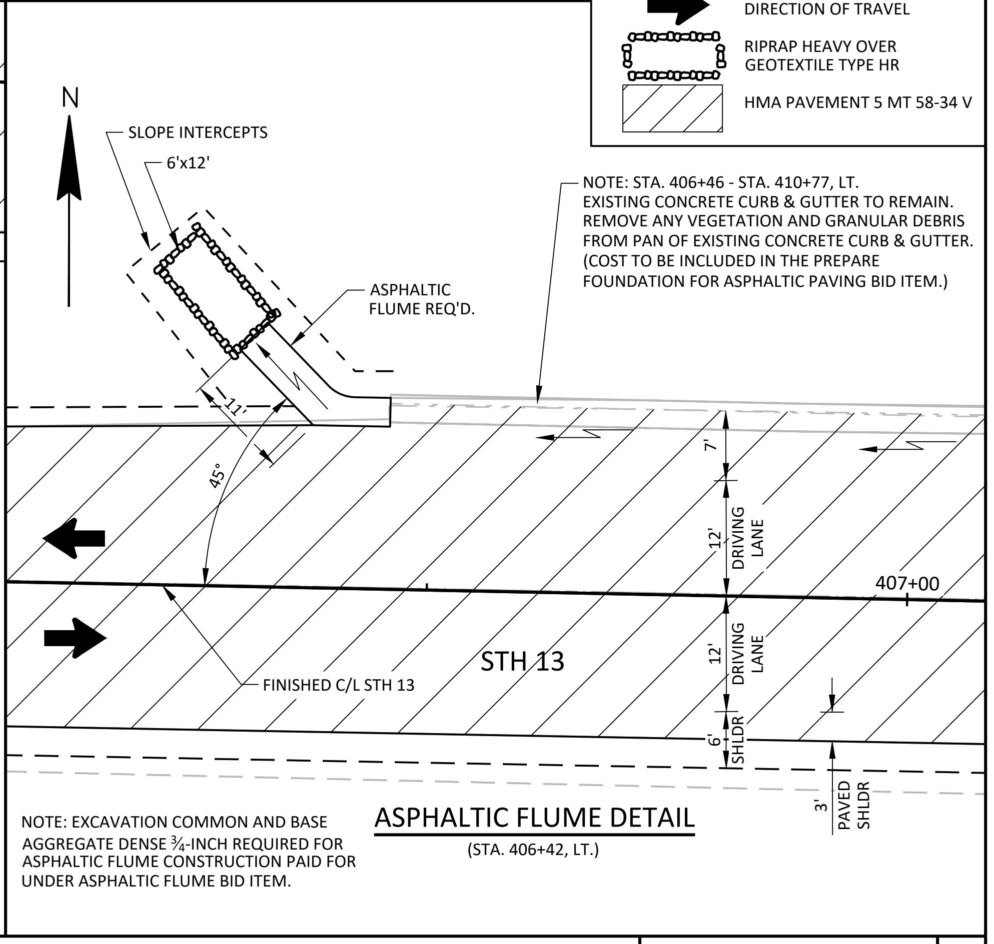
STA. 298+82 - STA. 299+21, RT.
REMOVING CONCRETE CURB AND GUTTER REQ'D.

LEGEND

←⌁	DIRECTION OF FLOW
XXXXXXXXX	SAWING ASPHALT
➡	DIRECTION OF TRAVEL
▨	RIPRAP HEAVY OVER GEOTEXTILE TYPE HR
▨	HMA PAVEMENT 5 MT 58-34 V

CONCRETE CURB & GUTTER DETAIL

(STH 13/CTH P INTERSECTION)

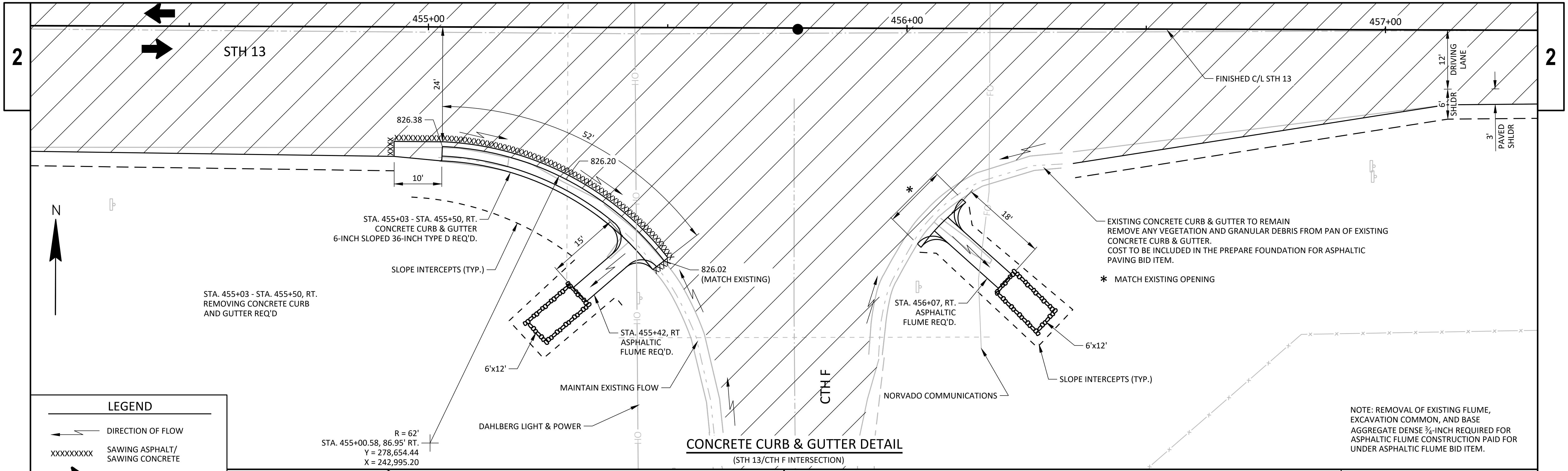


NOTE: STA. 406+46 - STA. 410+77, LT.
EXISTING CONCRETE CURB & GUTTER TO REMAIN.
REMOVE ANY VEGETATION AND GRANULAR DEBRIS FROM PAN OF EXISTING CONCRETE CURB & GUTTER.
(COST TO BE INCLUDED IN THE PREPARE FOUNDATION FOR ASPHALTIC PAVING BID ITEM.)

NOTE: EXCAVATION COMMON AND BASE AGGREGATE DENSE ¾-INCH REQUIRED FOR ASPHALTIC FLUME CONSTRUCTION PAID FOR UNDER ASPHALTIC FLUME BID ITEM.

ASPHALTIC FLUME DETAIL

(STA. 406+42, LT.)



CONCRETE CURB & GUTTER DETAIL

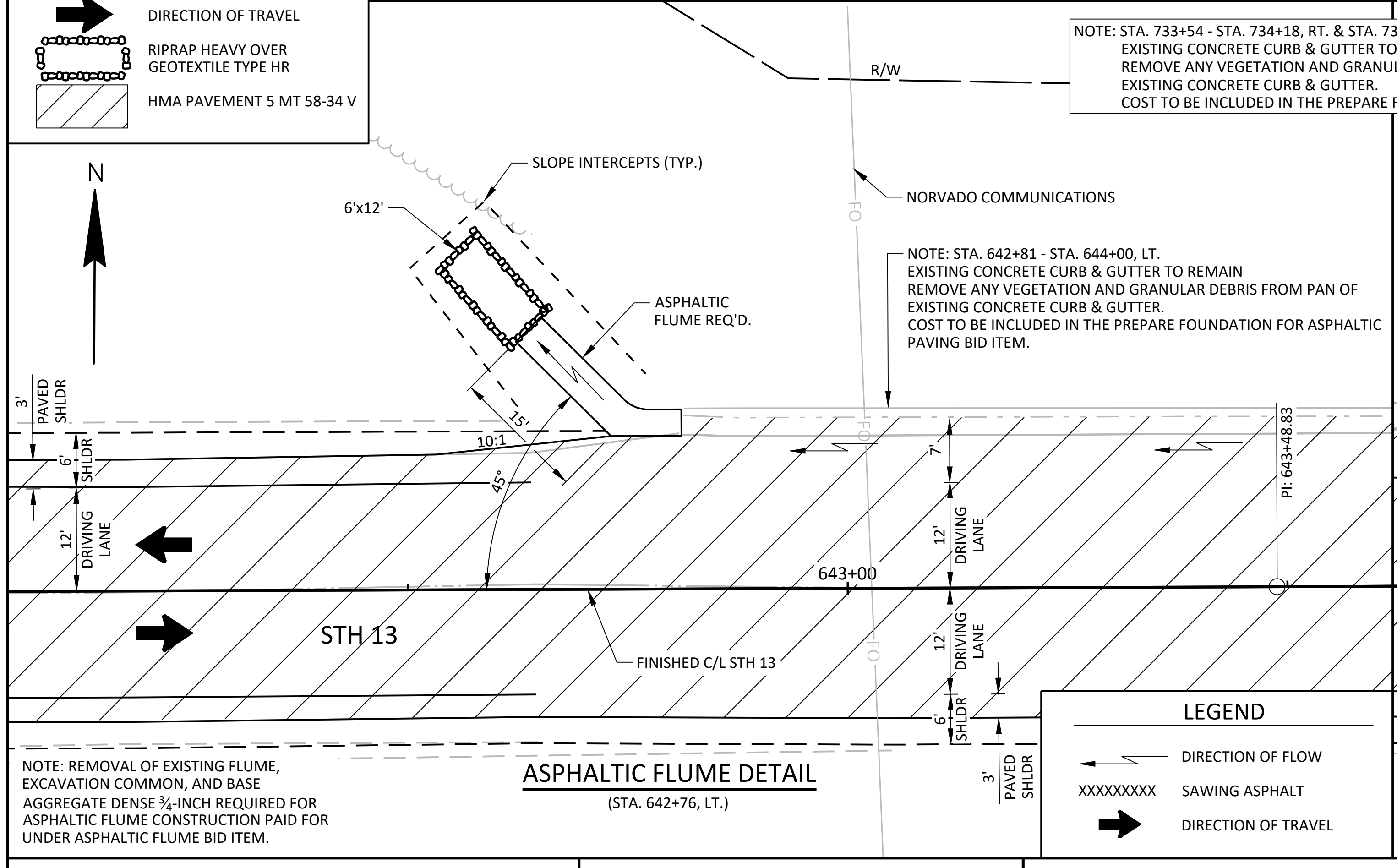
(STH 13/CTH F INTERSECTION)

NOTE: REMOVAL OF EXISTING FLUME, EXCAVATION COMMON, AND BASE AGGREGATE DENSE ¾-INCH REQUIRED FOR ASPHALTIC FLUME CONSTRUCTION PAID FOR UNDER ASPHALTIC FLUME BID ITEM.

LEGEND

↽	DIRECTION OF FLOW
XXXXXXXXX	SAWING ASPHALT/ SAWING CONCRETE
➡	DIRECTION OF TRAVEL
▭	RIPRAP HEAVY OVER GEOTEXTILE TYPE HR
▨	HMA PAVEMENT 5 MT 58-34 V

NOTE: STA. 733+54 - STA. 734+18, RT. & STA. 734+47 - STA. 734+84, RT. (STH 13 / CTH O INTERSECTION)
EXISTING CONCRETE CURB & GUTTER TO REMAIN
REMOVE ANY VEGETATION AND GRANULAR DEBRIS FROM PAN OF
EXISTING CONCRETE CURB & GUTTER.
COST TO BE INCLUDED IN THE PREPARE FOUNDATION FOR ASPHALTIC PAVING BID ITEM.



NOTE: STA. 642+81 - STA. 644+00, LT.
EXISTING CONCRETE CURB & GUTTER TO REMAIN
REMOVE ANY VEGETATION AND GRANULAR DEBRIS FROM PAN OF
EXISTING CONCRETE CURB & GUTTER.
COST TO BE INCLUDED IN THE PREPARE FOUNDATION FOR ASPHALTIC
PAVING BID ITEM.

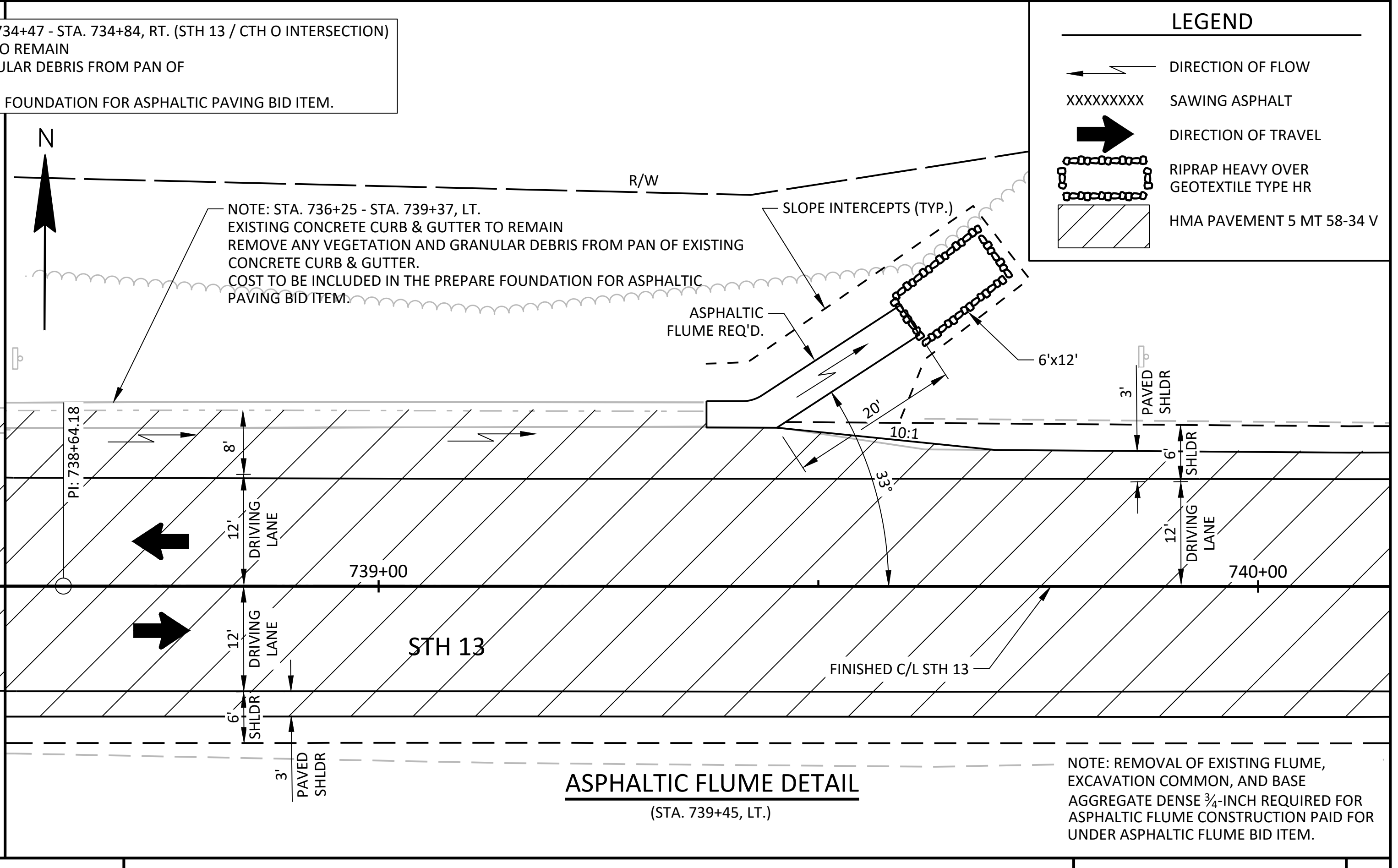
NOTE: REMOVAL OF EXISTING FLUME, EXCAVATION COMMON, AND BASE AGGREGATE DENSE ¾-INCH REQUIRED FOR ASPHALTIC FLUME CONSTRUCTION PAID FOR UNDER ASPHALTIC FLUME BID ITEM.

ASPHALTIC FLUME DETAIL

(STA. 642+76, LT.)

LEGEND

↽	DIRECTION OF FLOW
XXXXXXXXX	SAWING ASPHALT
➡	DIRECTION OF TRAVEL



NOTE: STA. 736+25 - STA. 739+37, LT.
EXISTING CONCRETE CURB & GUTTER TO REMAIN
REMOVE ANY VEGETATION AND GRANULAR DEBRIS FROM PAN OF EXISTING
CONCRETE CURB & GUTTER.
COST TO BE INCLUDED IN THE PREPARE FOUNDATION FOR ASPHALTIC
PAVING BID ITEM.

LEGEND

↽	DIRECTION OF FLOW
XXXXXXXXX	SAWING ASPHALT
➡	DIRECTION OF TRAVEL
▭	RIPRAP HEAVY OVER GEOTEXTILE TYPE HR
▨	HMA PAVEMENT 5 MT 58-34 V

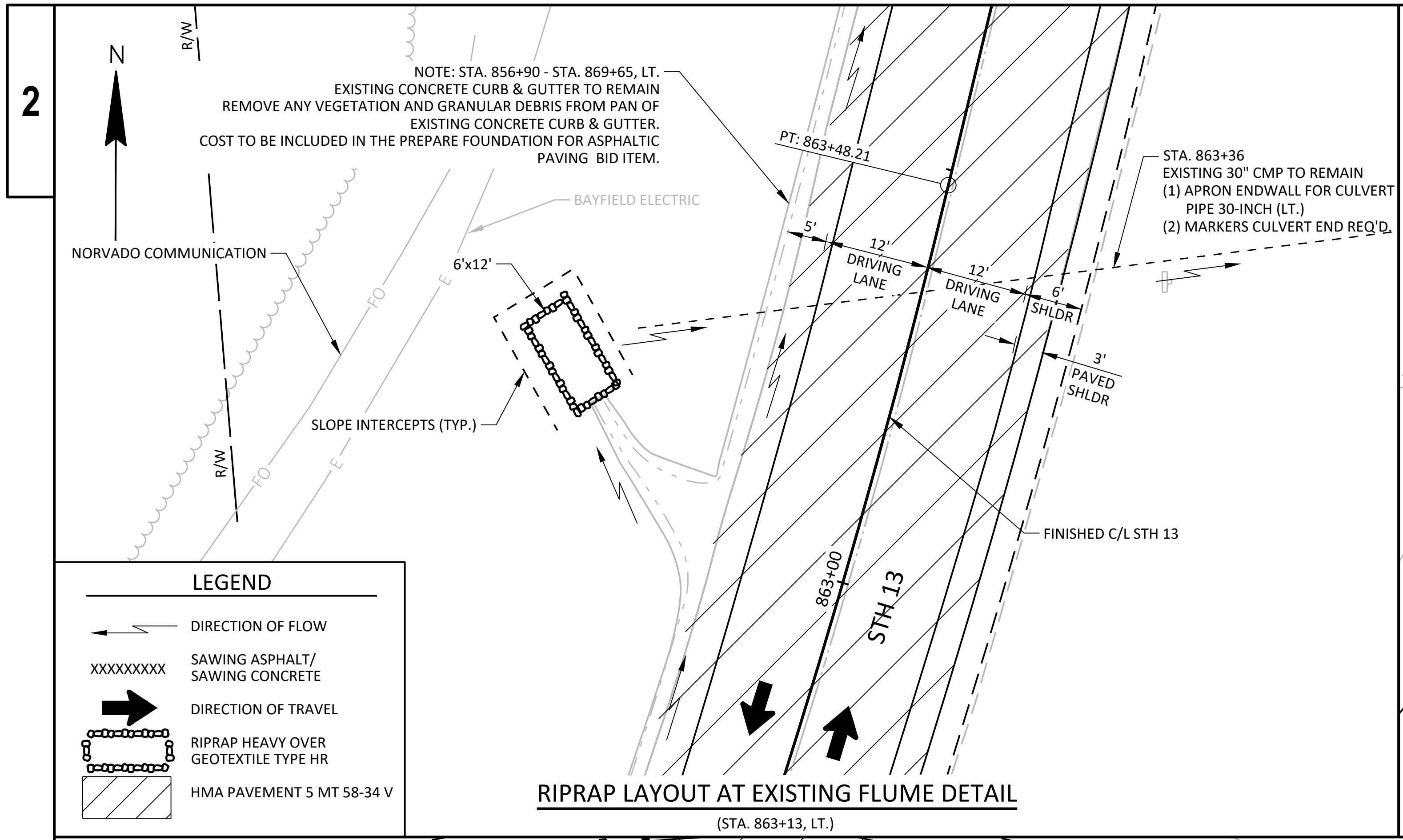
ASPHALTIC FLUME DETAIL

(STA. 739+45, LT.)

NOTE: REMOVAL OF EXISTING FLUME, EXCAVATION COMMON, AND BASE AGGREGATE DENSE ¾-INCH REQUIRED FOR ASPHALTIC FLUME CONSTRUCTION PAID FOR UNDER ASPHALTIC FLUME BID ITEM.

PROJECT NO: 8510-01-70	HWY: STH 13	COUNTY: DOUGLAS	CONSTRUCTION DETAIL (CURB & GUTTER)	SHEET	E

FILE NAME : S:\PROJECTS\W11599 WISDOT STH 13, CTH H TO ENGDAHL ROAD DOUGLAS CO\SHEETSPLAN\DETAILS\85100100_CURB & GUTTER DETAILS.DWG PLOT DATE : 1/25/2022 3:16:03 PM PLOT BY : KARTER ZAJICEK PLOT SCALE : 1" = 1' LAYOUT : LAYOUT 2

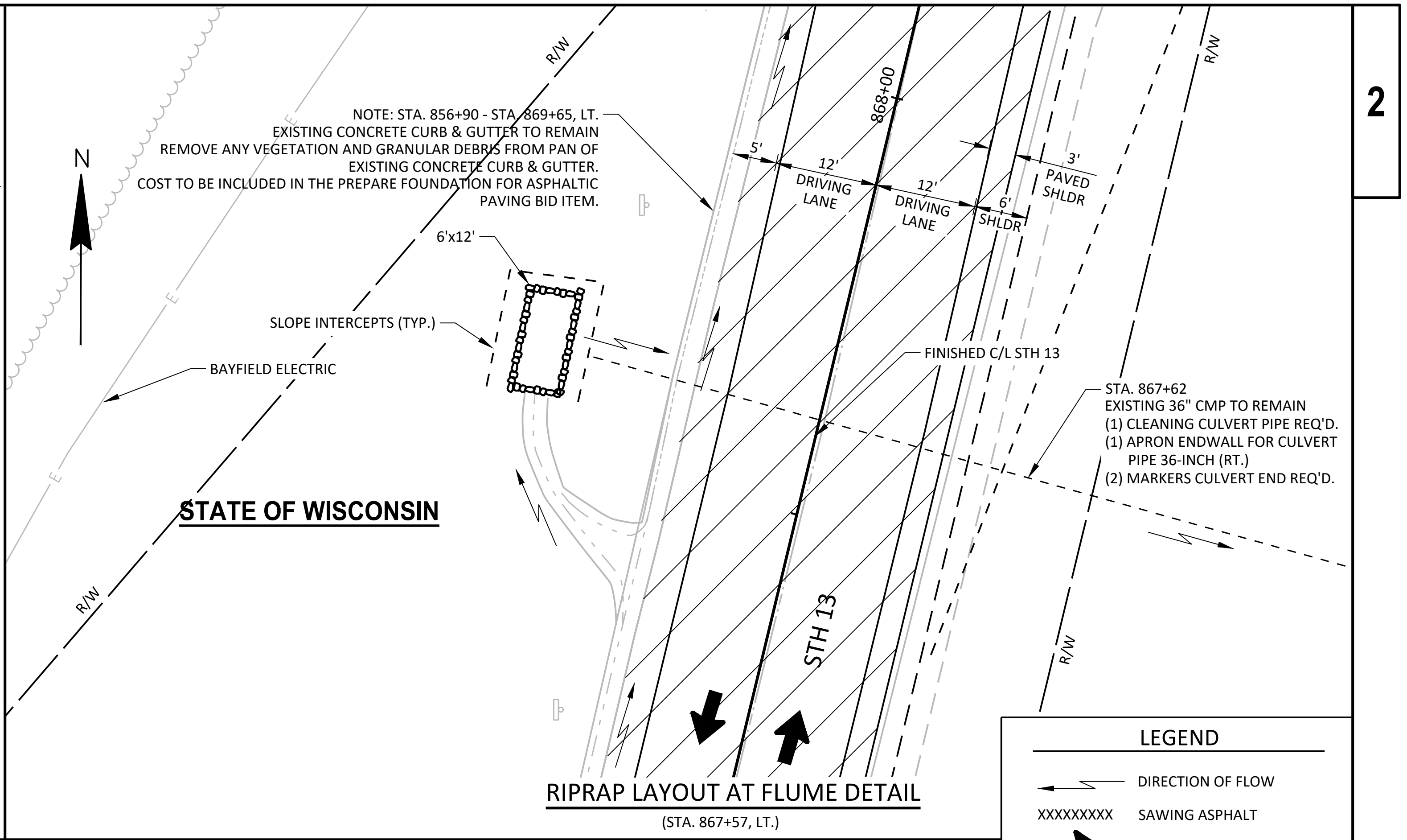


LEGEND

- DIRECTION OF FLOW
- XXXXXXXXX SAWING ASPHALT/ SAWING CONCRETE
- DIRECTION OF TRAVEL
- RIPRAP HEAVY OVER GEOTEXTILE TYPE HR
- ▨ HMA PAVEMENT 5 MT 58-34 V

RIPRAP LAYOUT AT EXISTING FLUME DETAIL

(STA. 863+13, LT.)

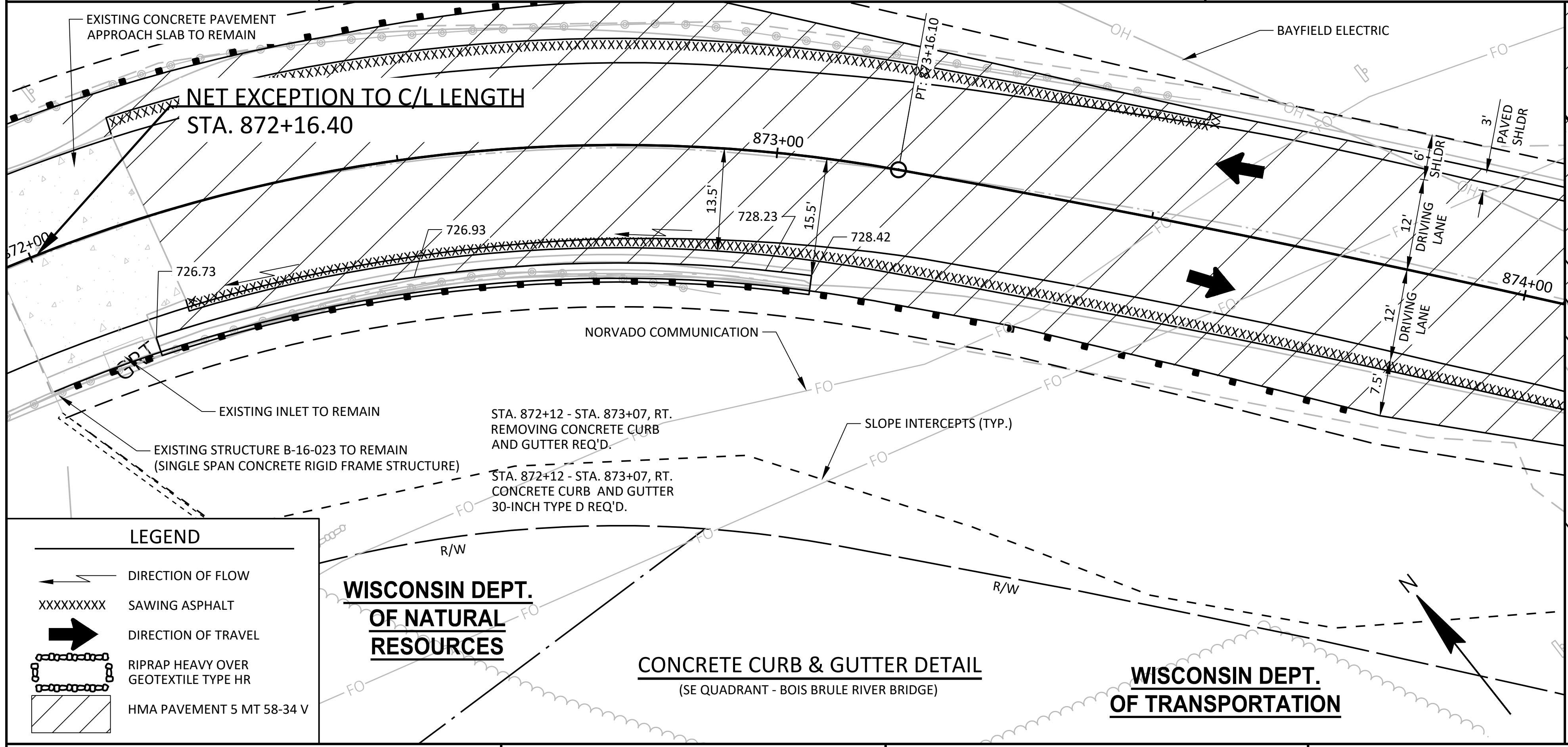


RIPRAP LAYOUT AT FLUME DETAIL

(STA. 867+57, LT.)

LEGEND

- DIRECTION OF FLOW
- XXXXXXXXX SAWING ASPHALT
- DIRECTION OF TRAVEL
- RIPRAP HEAVY OVER GEOTEXTILE TYPE HR
- ▨ HMA PAVEMENT 5 MT 58-34 V

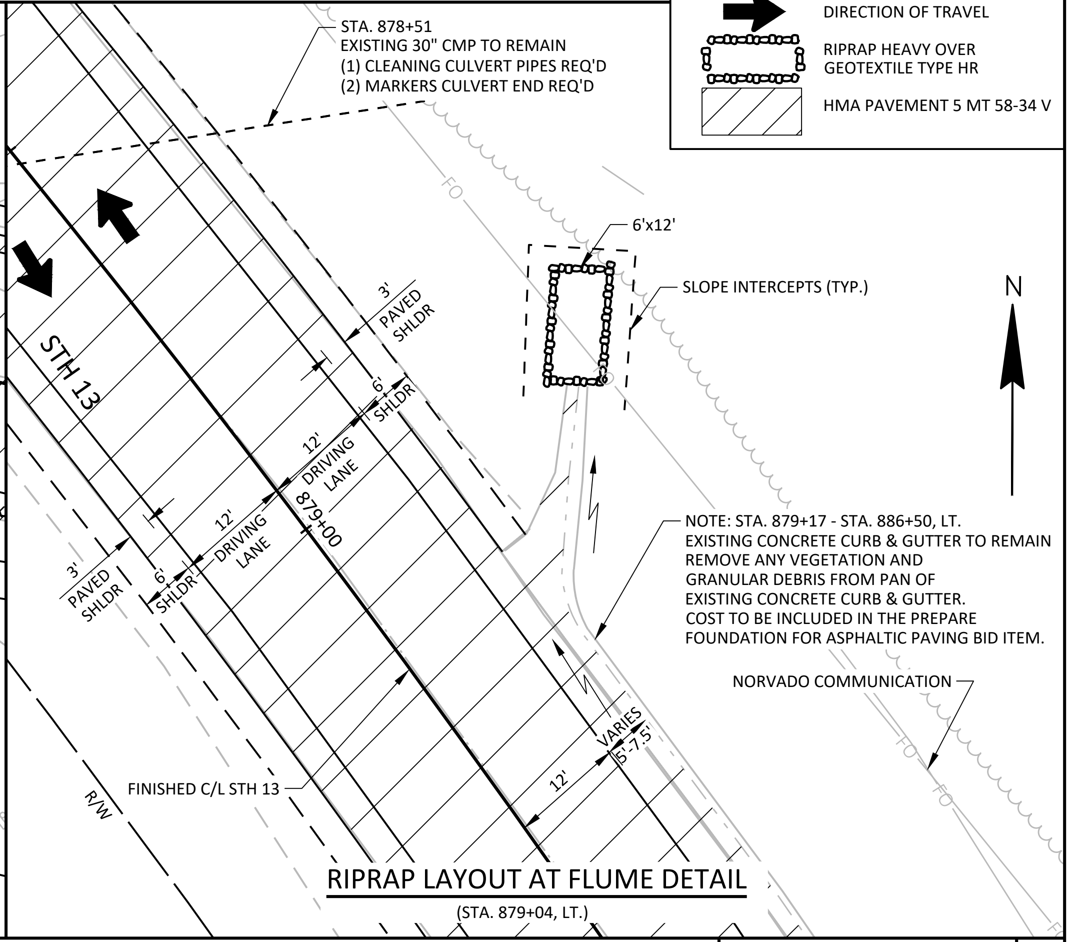


LEGEND

- DIRECTION OF FLOW
- XXXXXXXXX SAWING ASPHALT
- DIRECTION OF TRAVEL
- RIPRAP HEAVY OVER GEOTEXTILE TYPE HR
- ▨ HMA PAVEMENT 5 MT 58-34 V

CONCRETE CURB & GUTTER DETAIL

(SE QUADRANT - BOIS BRULE RIVER BRIDGE)

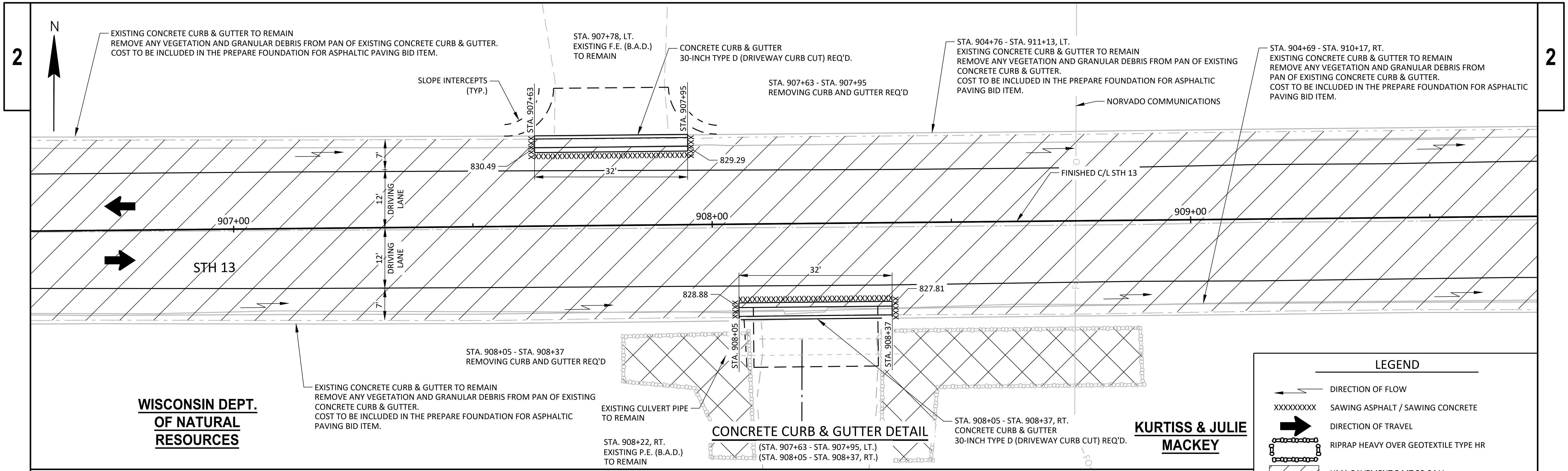


RIPRAP LAYOUT AT FLUME DETAIL

(STA. 879+04, LT.)

PROJECT NO: 8510-01-70	HWY: STH 13	COUNTY: DOUGLAS	CONSTRUCTION DETAIL (CURB & GUTTER)	SHEET	E

FILE NAME : S:\PROJECTS\W11599 WISDOT STH 13, CTH H TO ENGDAHL ROAD DOUGLAS CO\SHEETSPLAN\DETAILS\85100100_CURB & GUTTER DETAILS.DWG PLOT DATE : 2/4/2022 10:04:30 AM PLOT BY : KARTER ZAJICEK PLOT SCALE : 1" = 1' LAYOUT : LAYOUT 3



EXISTING CONCRETE CURB & GUTTER TO REMAIN
REMOVE ANY VEGETATION AND GRANULAR DEBRIS FROM PAN OF EXISTING CONCRETE CURB & GUTTER.
COST TO BE INCLUDED IN THE PREPARE FOUNDATION FOR ASPHALTIC BID ITEM.

STA. 907+78, LT.
EXISTING F.E. (B.A.D.)
TO REMAIN

CONCRETE CURB & GUTTER
30-INCH TYPE D (DRIVEWAY CURB CUT) REQ'D.

STA. 907+63 - STA. 907+95
REMOVING CURB AND GUTTER REQ'D

STA. 904+76 - STA. 911+13, LT.
EXISTING CONCRETE CURB & GUTTER TO REMAIN
REMOVE ANY VEGETATION AND GRANULAR DEBRIS FROM PAN OF EXISTING CONCRETE CURB & GUTTER.
COST TO BE INCLUDED IN THE PREPARE FOUNDATION FOR ASPHALTIC PAVING BID ITEM.

STA. 904+69 - STA. 910+17, RT.
EXISTING CONCRETE CURB & GUTTER TO REMAIN
REMOVE ANY VEGETATION AND GRANULAR DEBRIS FROM PAN OF EXISTING CONCRETE CURB & GUTTER.
COST TO BE INCLUDED IN THE PREPARE FOUNDATION FOR ASPHALTIC PAVING BID ITEM.

STA. 908+05 - STA. 908+37
REMOVING CURB AND GUTTER REQ'D

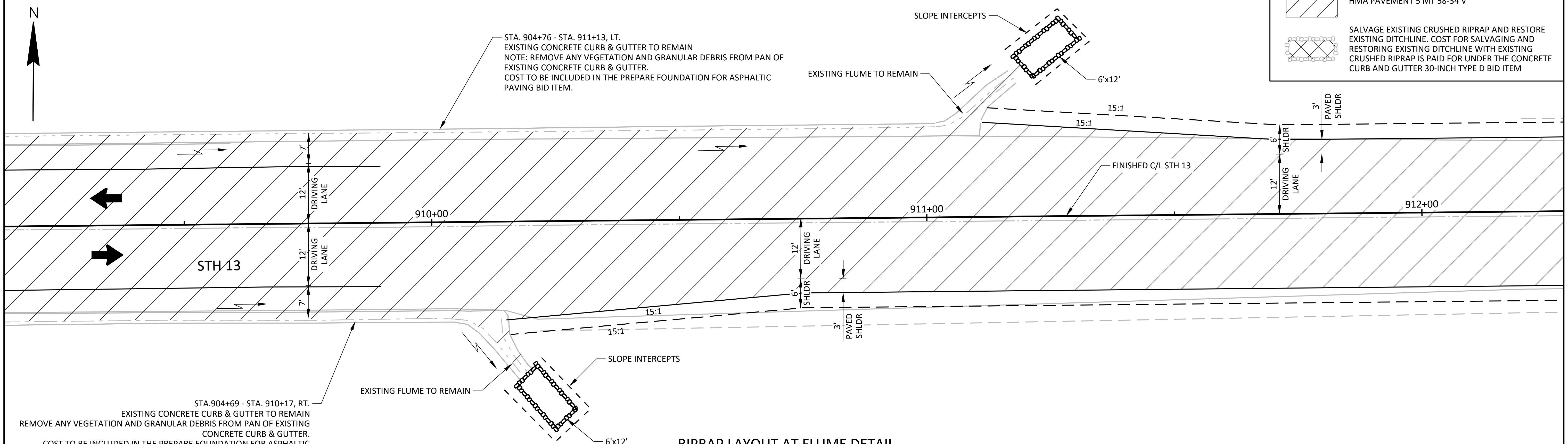
EXISTING CONCRETE CURB & GUTTER TO REMAIN
REMOVE ANY VEGETATION AND GRANULAR DEBRIS FROM PAN OF EXISTING CONCRETE CURB & GUTTER.
COST TO BE INCLUDED IN THE PREPARE FOUNDATION FOR ASPHALTIC PAVING BID ITEM.

STA. 908+05 - STA. 908+37, RT.
CONCRETE CURB & GUTTER
30-INCH TYPE D (DRIVEWAY CURB CUT) REQ'D.

CONCRETE CURB & GUTTER DETAIL
(STA. 907+63 - STA. 907+95, LT.)
(STA. 908+05 - STA. 908+37, RT.)

LEGEND

⟵	DIRECTION OF FLOW
XXXXXXXXX	SAWING ASPHALT / SAWING CONCRETE
➡	DIRECTION OF TRAVEL
▭	RIPRAP HEAVY OVER GEOTEXTILE TYPE HR
▨	HMA PAVEMENT 5 MT 58-34 V
▨	SALVAGE EXISTING CRUSHED RIPRAP AND RESTORE EXISTING DITCHLINE. COST FOR SALVAGING AND RESTORING EXISTING DITCHLINE WITH EXISTING CRUSHED RIPRAP IS PAID FOR UNDER THE CONCRETE CURB AND GUTTER 30-INCH TYPE D BID ITEM



STA. 904+76 - STA. 911+13, LT.
EXISTING CONCRETE CURB & GUTTER TO REMAIN
NOTE: REMOVE ANY VEGETATION AND GRANULAR DEBRIS FROM PAN OF EXISTING CONCRETE CURB & GUTTER.
COST TO BE INCLUDED IN THE PREPARE FOUNDATION FOR ASPHALTIC PAVING BID ITEM.

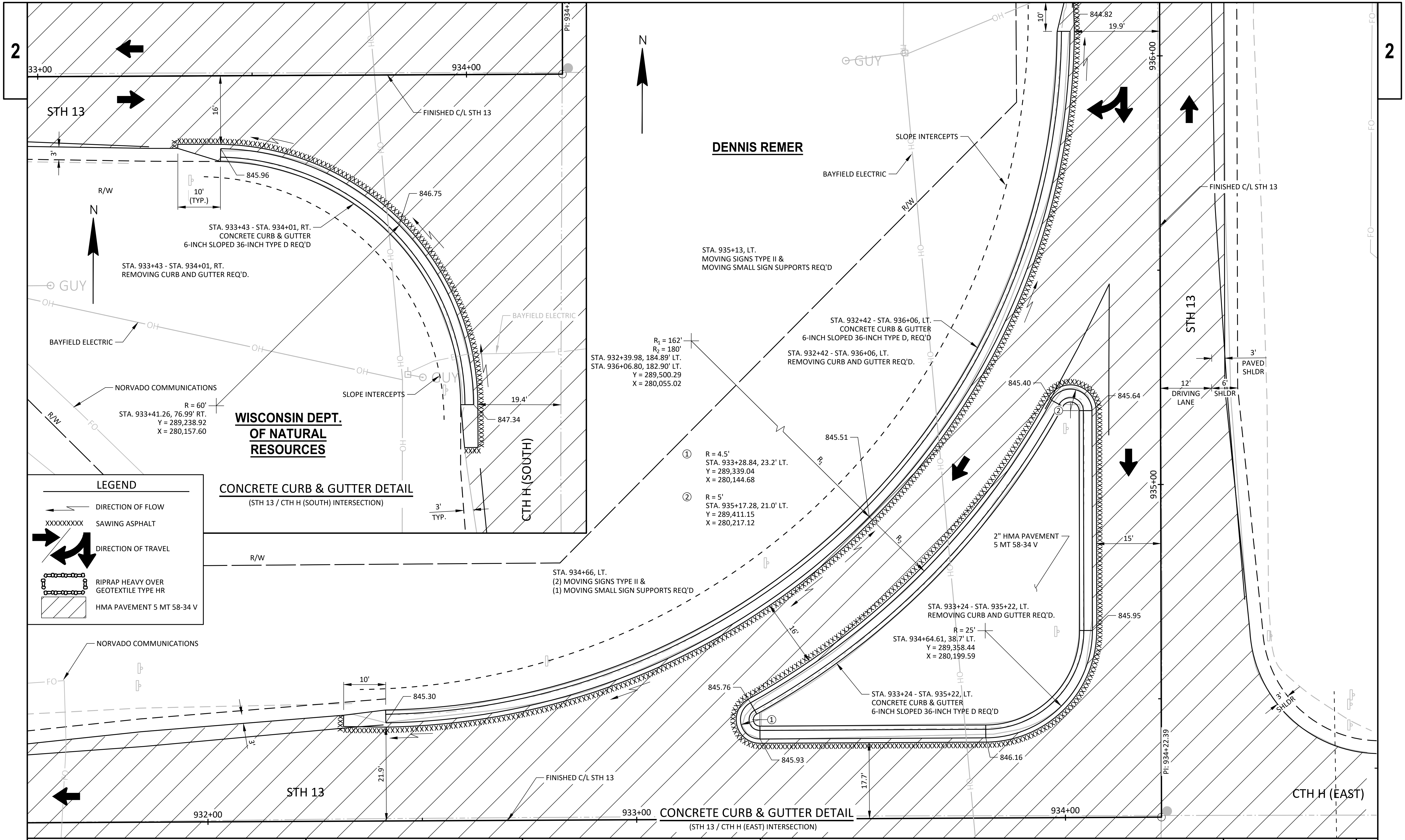
EXISTING FLUME TO REMAIN

EXISTING FLUME TO REMAIN

STA.904+69 - STA. 910+17, RT.
EXISTING CONCRETE CURB & GUTTER TO REMAIN
REMOVE ANY VEGETATION AND GRANULAR DEBRIS FROM PAN OF EXISTING CONCRETE CURB & GUTTER.
COST TO BE INCLUDED IN THE PREPARE FOUNDATION FOR ASPHALTIC PAVING BID ITEM.

RIPRAP LAYOUT AT FLUME DETAIL
(STA. 910+19, RT.)
(STA. 911+20, LT.)

PROJECT NO: 8510-01-70	HWY: STH 13	COUNTY: DOUGLAS	CONSTRUCTION DETAIL (CURB & GUTTER)	SHEET 32	E



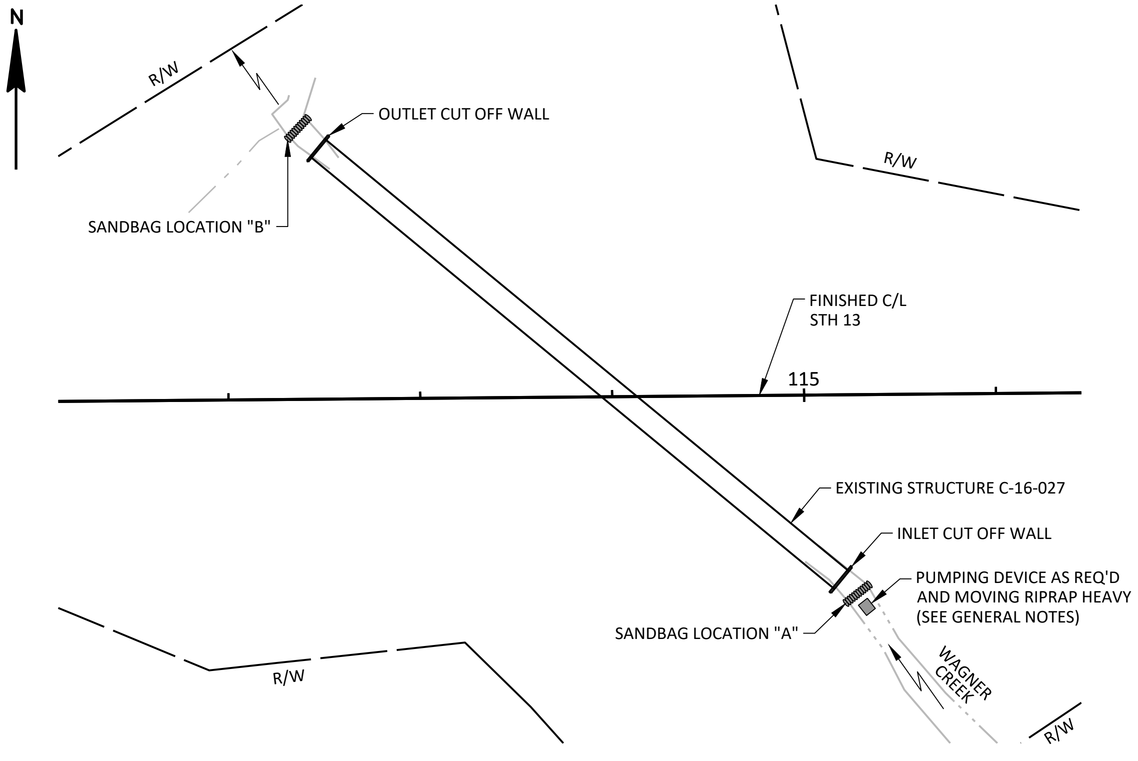
CONCRETE CURB & GUTTER DETAIL
(STH 13 / CTH H (SOUTH) INTERSECTION)

CONCRETE CURB & GUTTER DETAIL
(STH 13 / CTH H (EAST) INTERSECTION)

LEGEND

⟵	DIRECTION OF FLOW
XXXXXXXXX	SAWING ASPHALT
➡	DIRECTION OF TRAVEL
	RIPRAP HEAVY OVER GEOTEXTILE TYPE HR
▨	HMA PAVEMENT 5 MT 58-34 V

PROJECT NO: 8510-01-70	HWY: STH 13	COUNTY: DOUGLAS	CONSTRUCTION DETAIL (CURB & GUTTER)	SHEET	E



PLAN C-16-027

STA. 114+04

GENERAL NOTES

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

THE FIRST DIGIT OF A BAR MARK SIGNIFIES THE BAR SIZE.

BILL OF BARS IS BEING PROVIDED FOR INFORMATION ONLY. COST FOR ALL REQUIRED EXCAVATION AND MATERIALS INCLUDING BAR STEEL AND GALVANIZED ANCHOR BOLTS IS INCLUDED IN THE BID ITEM 504.0900 CONCRETE MASONRY ENDWALLS AS SPECIFIED IN SECTION 504.5.1(4) OF THE STANDARD SPECIFICATIONS.

AT INLET, REMOVE RIPRAP HEAVY IN CHANNEL AND PLACE AT STREAM BANKS TO RESTORE NATURAL STREAM BED. COST OF MOVING RIPRAP IS INCIDENTAL TO "DEWATERING" BID ITEM

LEGEND

◐ ¾" DIA. X 9" GALV. ANCHOR BOLTS REQ'D. AT CONCRETE CUT OFF WALLS. ATTACH TO OUTSIDE OF CULVERT PIPE. SPACE @ 1'-6" CTRS. ESTIMATE 7 ANCHOR BOLTS REQ'D. ON EACH END OF PIPE FOR A TOTAL OF 14 ANCHOR BOLTS. COST IS INCLUDED IN BID ITEM 504.0900 CONCRETE MASONRY ENDWALLS.

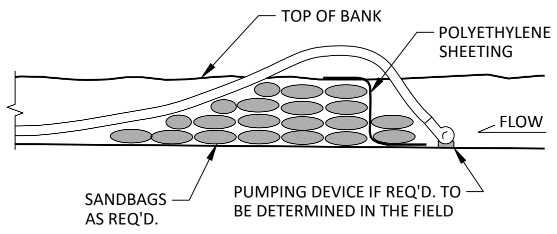
BILL OF BARS

TWO CUT OFF WALLS 740 LB (UNCOATED)

BAR MARK	NO. REQ'D.		LENGTH	LOCATION
	INLET	OUTLET		
A401	16	16	8-7	WALL - VERT. - F.F. & B.F.
A402	4	4	7-3	WALL - VERT. - F.F. & B.F.
A403	4	4	6-5	WALL - VERT. - F.F. & B.F.
A404	4	4	5-11	WALL - VERT. - F.F. & B.F.
A405	4	4	5-7	WALL - VERT. - F.F. & B.F.
A406	4	4	5-5	WALL - VERT. - F.F. & B.F.
A407	12	12	17-2	WALL - HORIZ. - F.F. & B.F.
A408	4	4	5-10	WALL - HORIZ. - F.F. & B.F.
A409	4	4	4-4	WALL - HORIZ. - F.F. & B.F.
A410	4	4	3-5	WALL - HORIZ. - F.F. & B.F.
A411	4	4	3-1	WALL - HORIZ. - F.F. & B.F.
A412	2	2	5-6	WALL - DIAGONAL AT PIPE - CENTER
A413	1	1	7-3	WALL - HORIZ. AT PIPE - CENTER

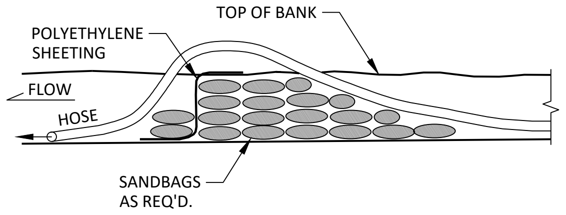
DEWATERING NOTES:

1. DEWATERING DETAILS, SANDBAG LOCATIONS, AND BYPASS PUMPING DETAILS SHOWN ON THIS SHEET PRESENT ONE POSSIBLE CONSTRUCTION METHOD. ALTERNATE METHODS AND LOCATIONS MAY BE ACCEPTABLE PROVIDED THEY MEET THE APPROVAL OF THE FIELD ENGINEER. THE DEWATERING MEANS AND METHODS PROPOSED TO BE USED DURING CONSTRUCTION SHALL BE SUBMITTED FOR APPROVAL AS PART OF THE EROSION CONTROL IMPLEMENTATION PLAN.
2. SIZE OF FILTER BAG OR APPROVED ALTERNATE TO BE DETERMINED BY WATER QUANTITY AND QUALITY.
3. WATER REMOVED FROM STRUCTURE EXCAVATION TO BE PUMPED TO FILTER BAG OR APPROVED ALTERNATE PRIOR TO DISCHARGE INTO THE STREAM.
4. FILTER BAG AND SEDIMENTS SHALL BE DISPOSED OF BY THE CONTRACTOR OFF OF THE PROJECT SITE.
5. ALL EQUIPMENT AND MATERIALS REQUIRED FOR DEWATERING OPERATIONS TO BE PAID FOR UNDER BID ITEM "DEWATERING".



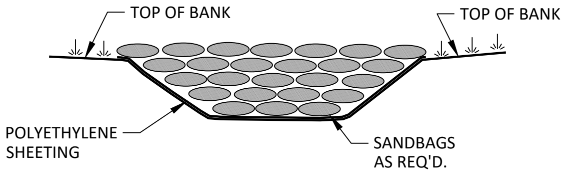
SANDBAG LOCATION "A" DETAIL

(TO STOP FLOW INTO WORK AREA)

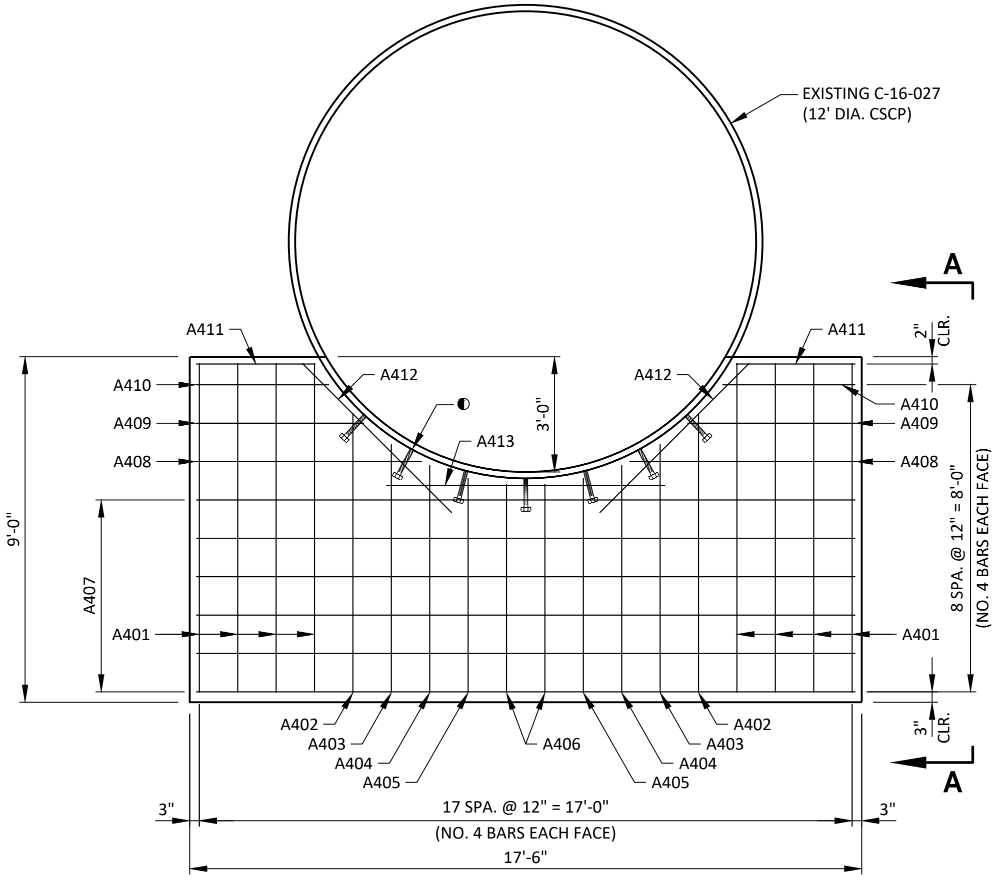


SANDBAG LOCATION "B" DETAIL

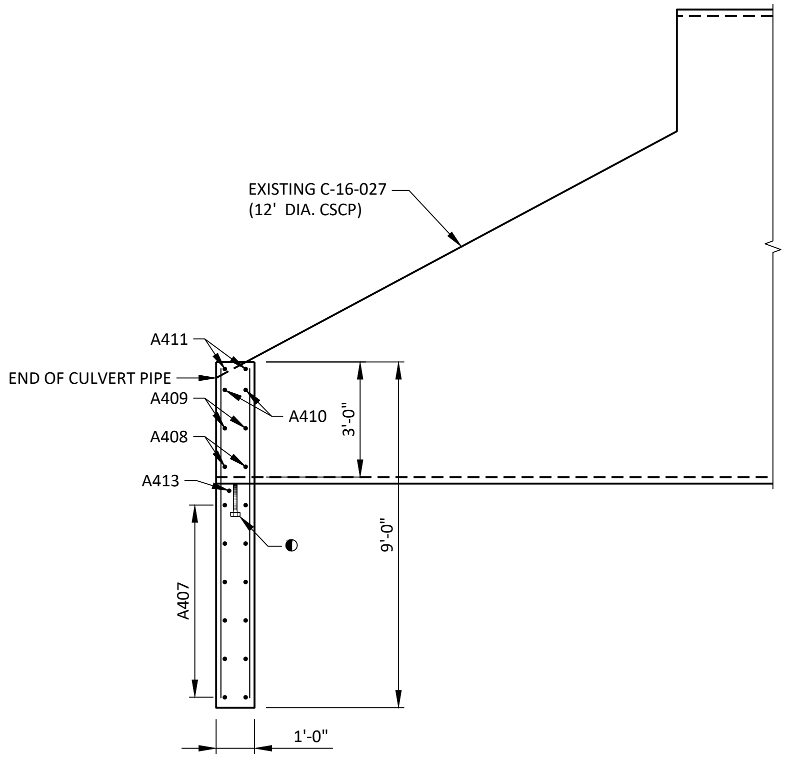
(TO STOP BACKWASH INTO WORK AREA)



TYPICAL SANDBAG INSTALLATION IN EXISTING CHANNEL

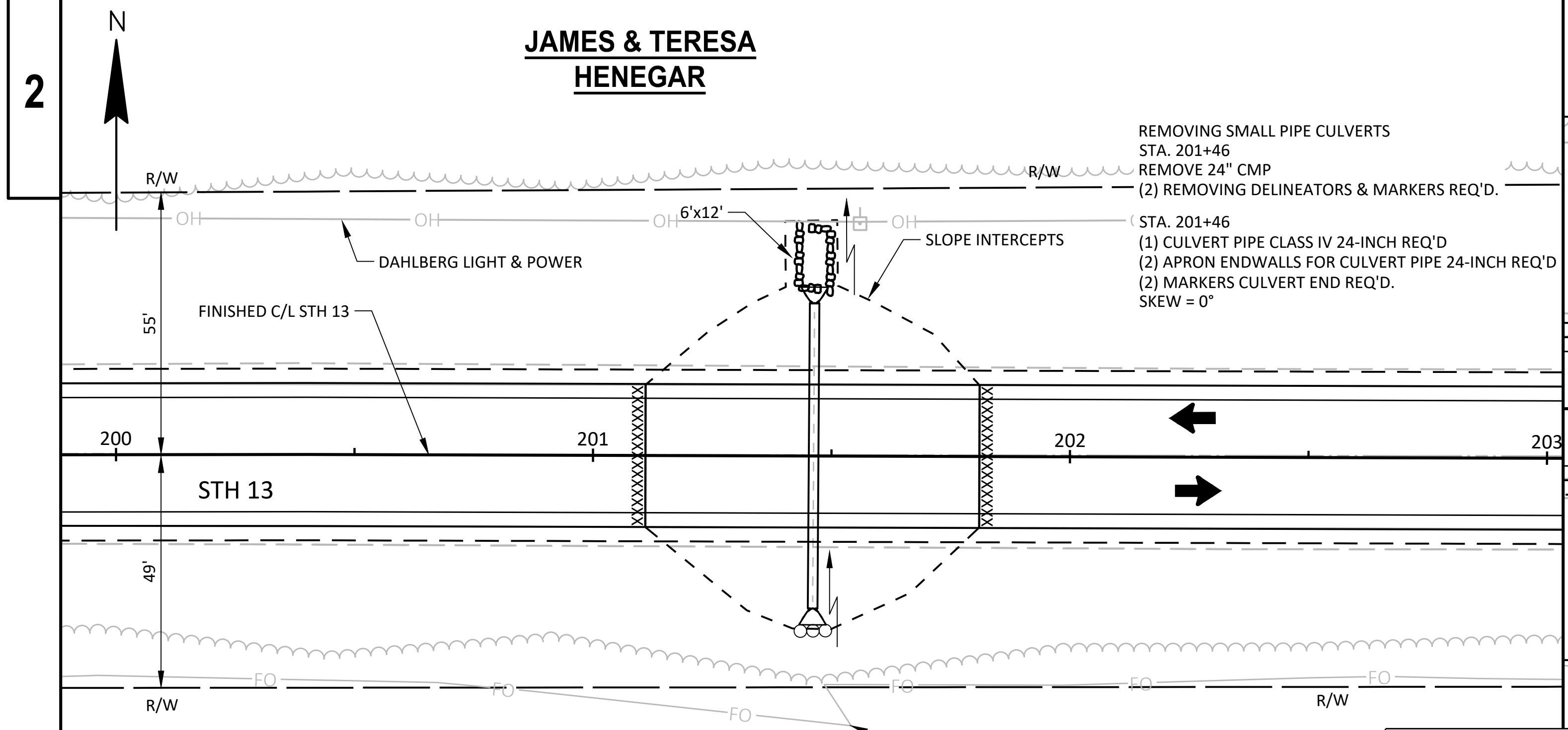


ELEVATION



SECTION A-A

INLET SHOWN, OUTLET SIMILAR

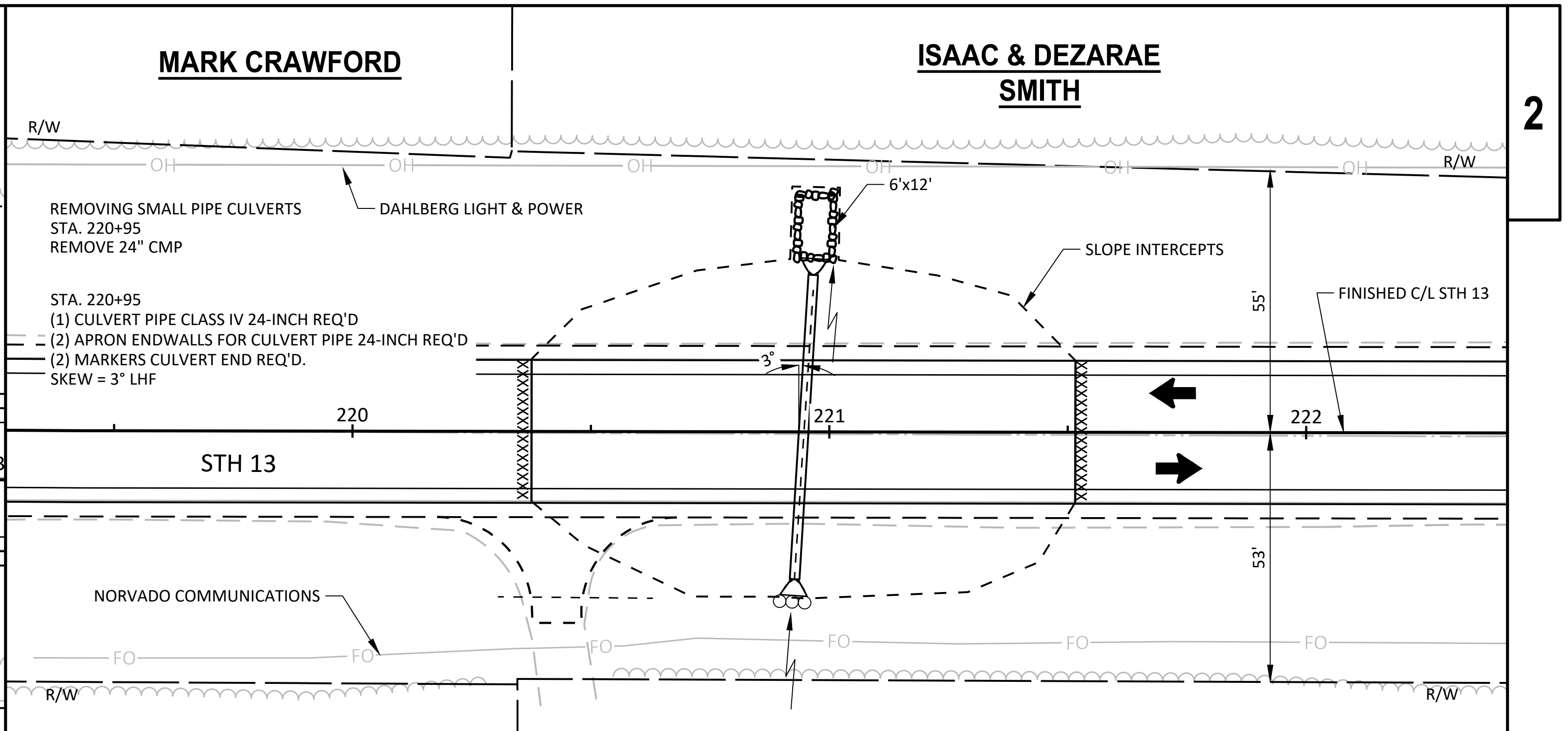


REMOVING SMALL PIPE CULVERTS
STA. 201+46
REMOVE 24" CMP
(2) REMOVING DELINEATORS & MARKERS REQ'D.

STA. 201+46
(1) CULVERT PIPE CLASS IV 24-INCH REQ'D
(2) APRON ENDWALLS FOR CULVERT PIPE 24-INCH REQ'D
(2) MARKERS CULVERT END REQ'D.
SKEW = 0°

CULVERT PIPE DETAIL
STA. 201+46

NOTE: SEE CROSS SECTIONS FOR CULVERT PIPE INVERT ELEVATIONS



REMOVING SMALL PIPE CULVERTS
STA. 220+95
REMOVE 24" CMP

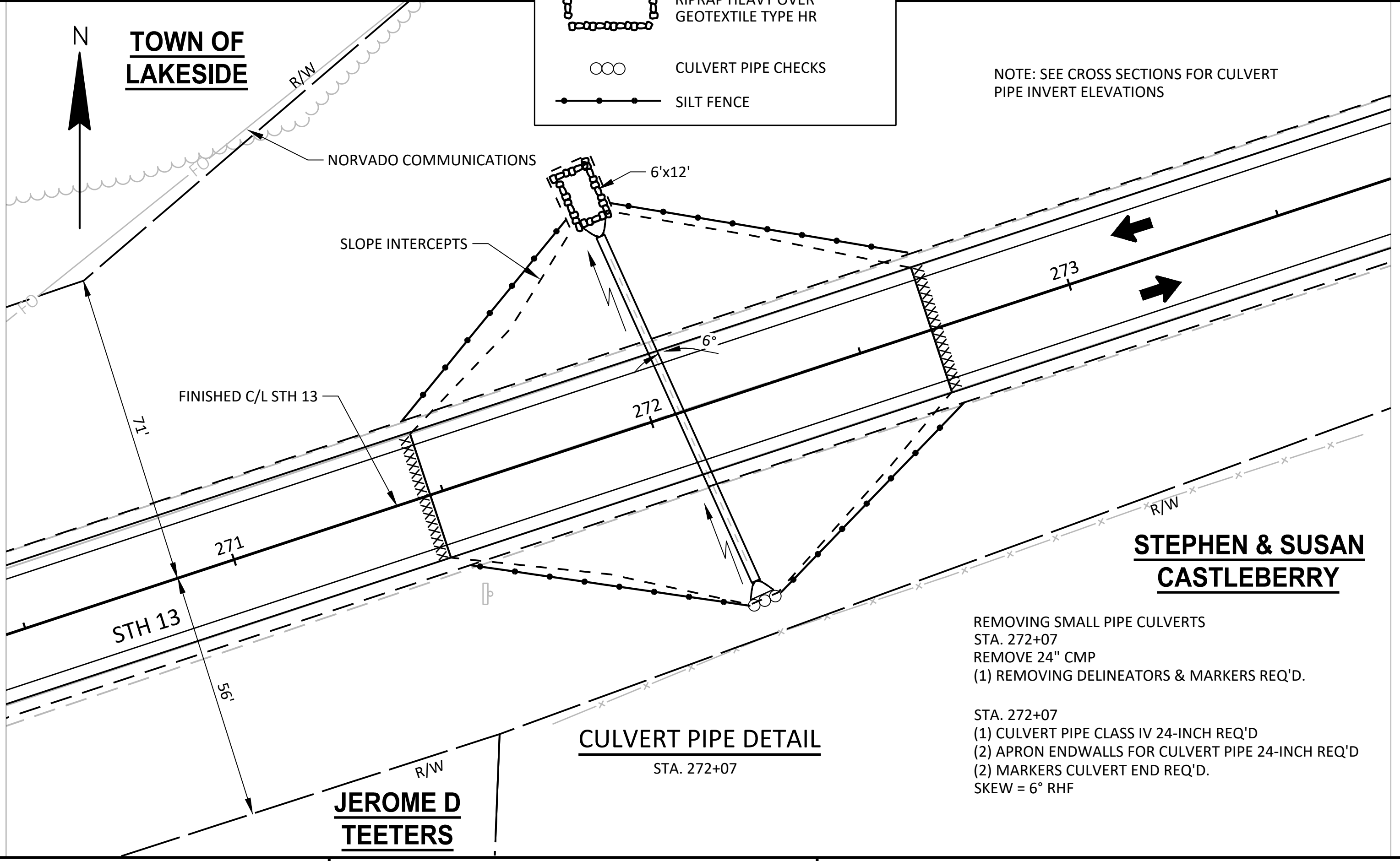
STA. 220+95
(1) CULVERT PIPE CLASS IV 24-INCH REQ'D
(2) APRON ENDWALLS FOR CULVERT PIPE 24-INCH REQ'D
(2) MARKERS CULVERT END REQ'D.
SKEW = 3° LHF

CULVERT PIPE DETAIL
STA. 220+95

NOTE: SEE CROSS SECTIONS FOR CULVERT PIPE INVERT ELEVATIONS

LEGEND

↙	DIRECTION OF FLOW
XXXXXXXXX	SAWING ASPHALT
➡	DIRECTION OF TRAVEL
▭	RIPRAP HEAVY OVER GEOTEXTILE TYPE HR
○○○	CULVERT PIPE CHECKS
●—●—●	SILT FENCE



NOTE: SEE CROSS SECTIONS FOR CULVERT PIPE INVERT ELEVATIONS

CULVERT PIPE DETAIL
STA. 272+07

REMOVING SMALL PIPE CULVERTS
STA. 272+07
REMOVE 24" CMP
(1) REMOVING DELINEATORS & MARKERS REQ'D.

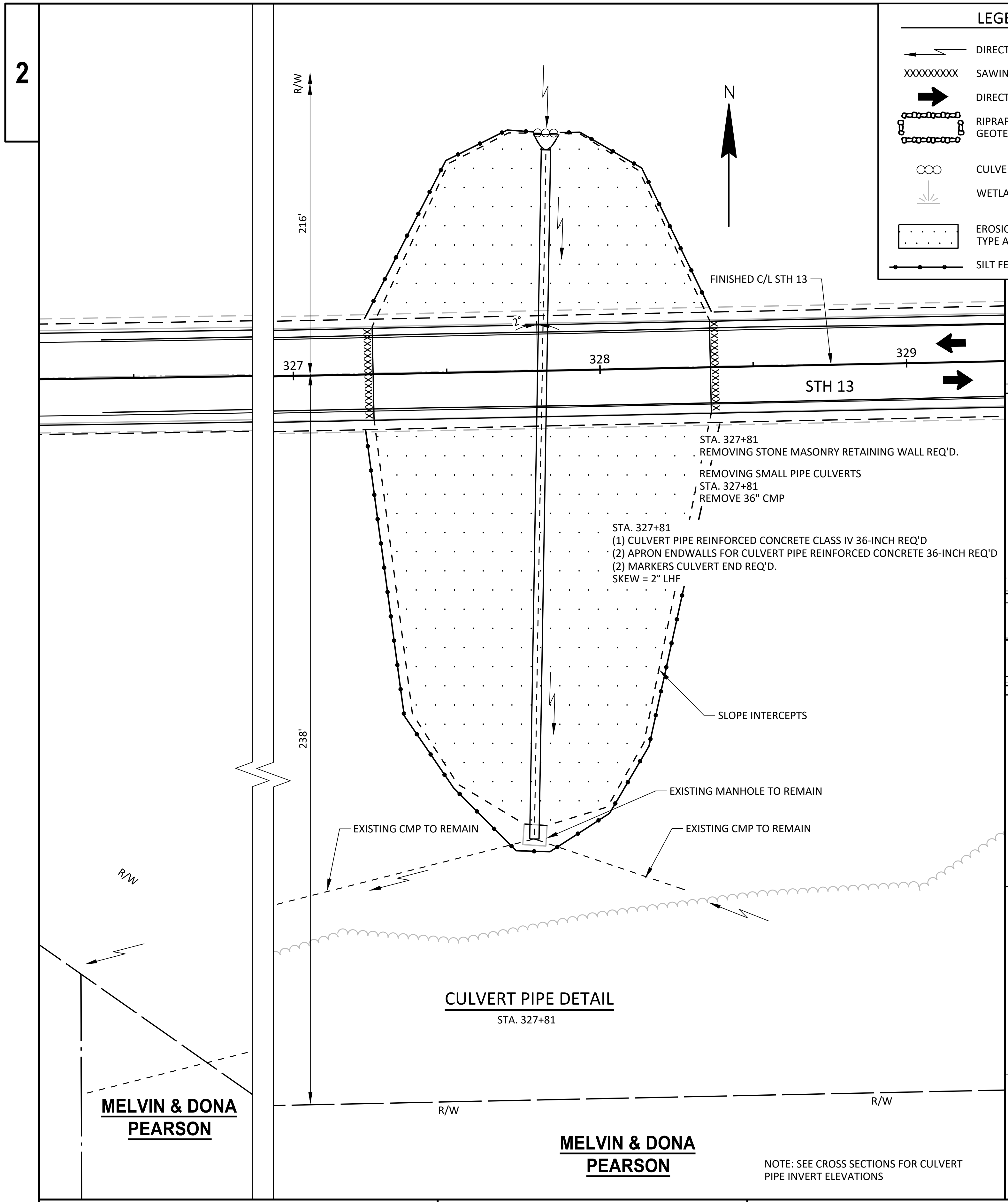
STA. 272+07
(1) CULVERT PIPE CLASS IV 24-INCH REQ'D
(2) APRON ENDWALLS FOR CULVERT PIPE 24-INCH REQ'D
(2) MARKERS CULVERT END REQ'D.
SKEW = 6° RHF

PROJECT NO: 8510-01-70	HWY: STH 13	COUNTY: DOUGLAS	CONSTRUCTION DETAIL (CULVERT PIPE REPLACEMENT)	SHEET 35	E

2

LEGEND

↙	DIRECTION OF FLOW
XXXXXXXXX	SAWING ASPHALT
➡	DIRECTION OF TRAVEL
▭	RIPRAP HEAVY OVER GEOTEXTILE TYPE HR
○○○	CULVERT PIPE CHECKS
⺌	WETLANDS
▨	EROSION MAT URBAN CLASS I TYPE A
—•—•—	SILT FENCE



STA. 327+81
REMOVING STONE MASONRY RETAINING WALL REQ'D.

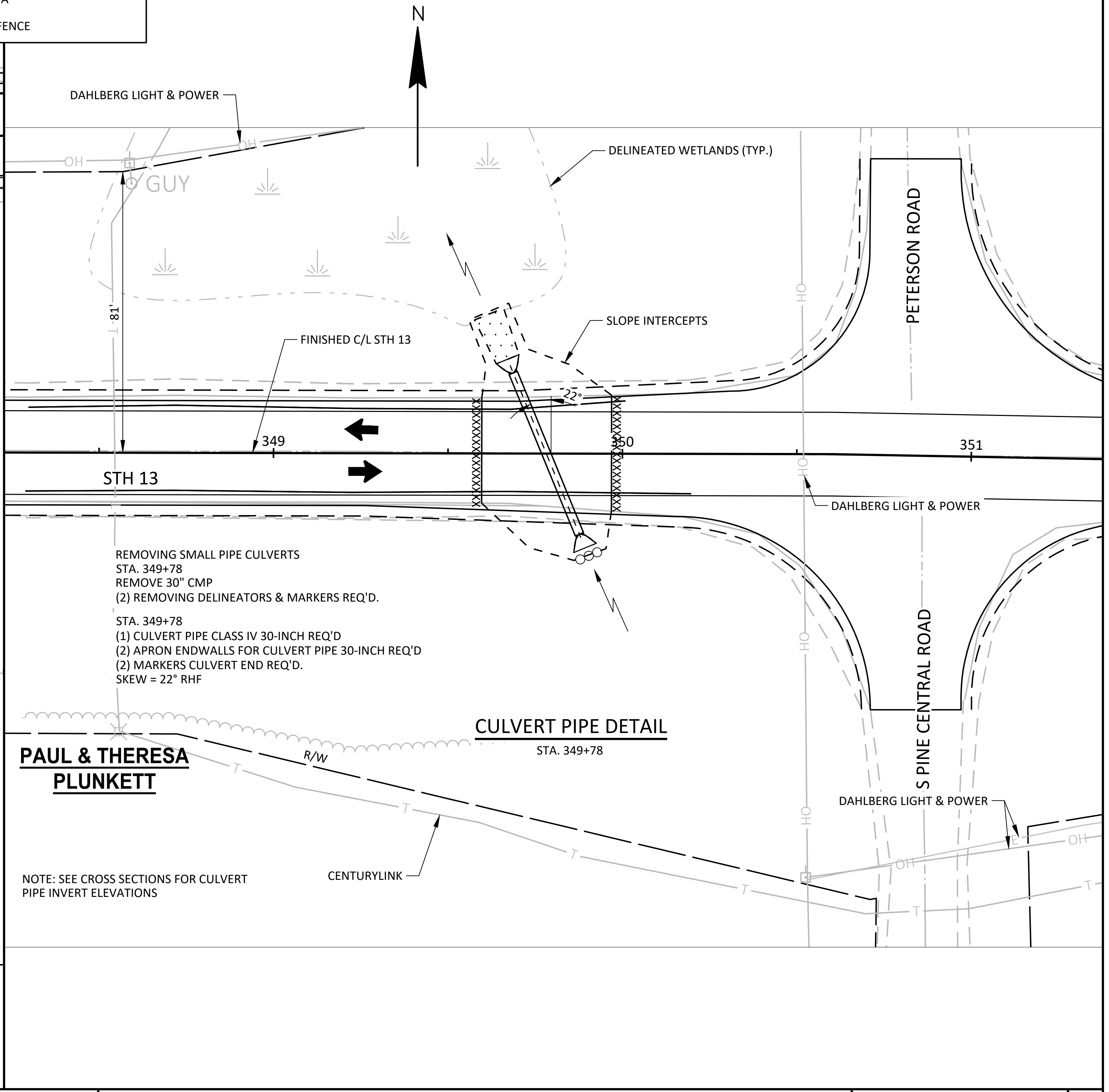
REMOVING SMALL PIPE CULVERTS
STA. 327+81
REMOVE 36" CMP

STA. 327+81
(1) CULVERT PIPE REINFORCED CONCRETE CLASS IV 36-INCH REQ'D
(2) APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 36-INCH REQ'D
(2) MARKERS CULVERT END REQ'D.
SKEW = 2° LHF

CULVERT PIPE DETAIL

STA. 327+81

NOTE: SEE CROSS SECTIONS FOR CULVERT PIPE INVERT ELEVATIONS



REMOVING SMALL PIPE CULVERTS
STA. 349+78
REMOVE 30" CMP
(2) REMOVING DELINEATORS & MARKERS REQ'D.

STA. 349+78
(1) CULVERT PIPE CLASS IV 30-INCH REQ'D
(2) APRON ENDWALLS FOR CULVERT PIPE 30-INCH REQ'D
(2) MARKERS CULVERT END REQ'D.
SKEW = 22° RHF

CULVERT PIPE DETAIL

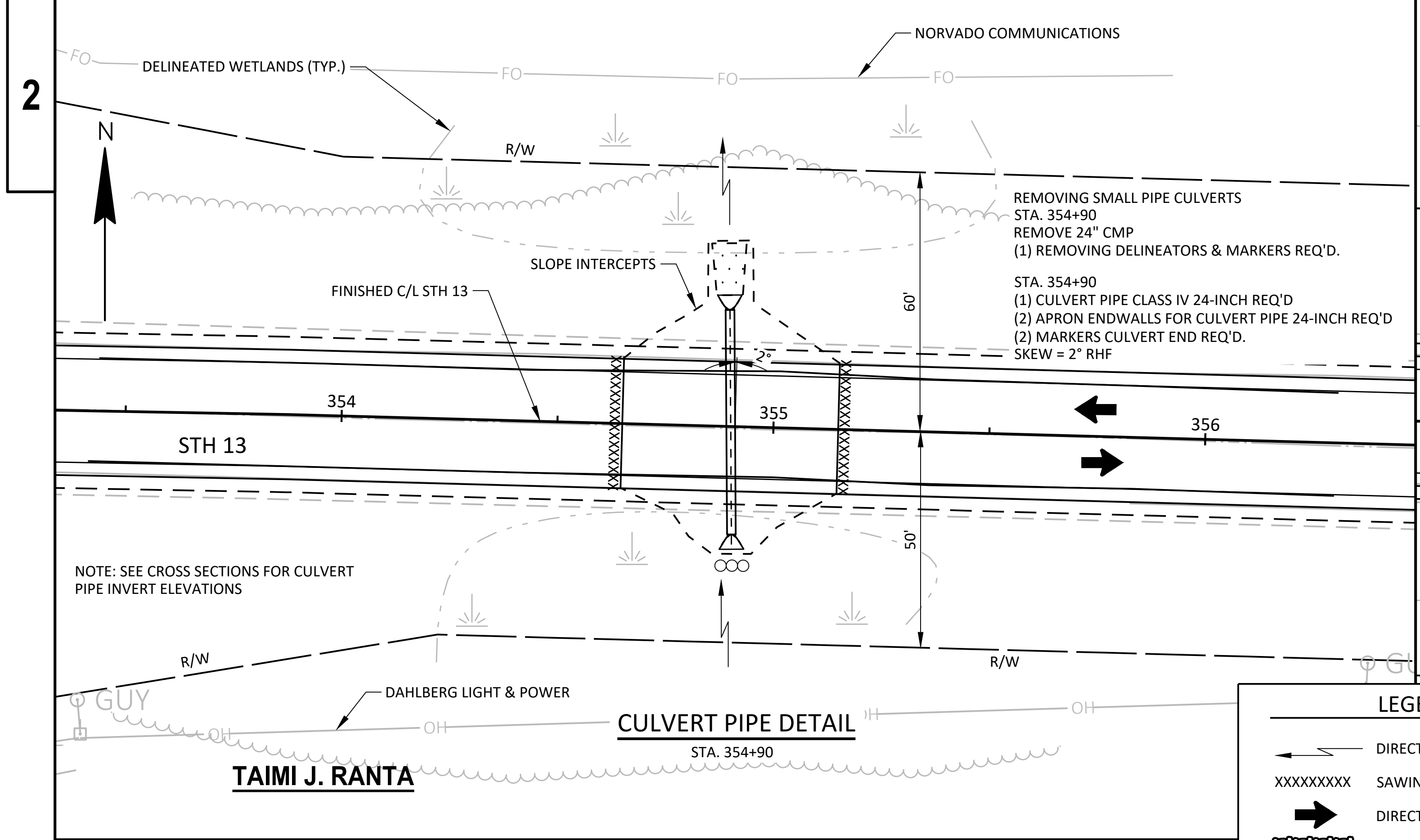
STA. 349+78

NOTE: SEE CROSS SECTIONS FOR CULVERT PIPE INVERT ELEVATIONS

2

PROJECT NO: 8510-01-70	HWY: STH 13	COUNTY: DOUGLAS	CONSTRUCTION DETAIL (CULVERT PIPE REPLACEMENT)	SHEET	E

FILE NAME : S:\PROJECTS\W11599 WISDOT STH 13, CTH H TO ENGDAHL ROAD DOUGLAS CO\SHEETSPLAN\DETAILS\85100100_CULVERTS.DWG PLOT DATE : 2/4/2022 10:06:02 AM PLOT BY : KARTER ZAJICEK PLOT SCALE : 1" = 1' LAYOUT : LAYOUT 2

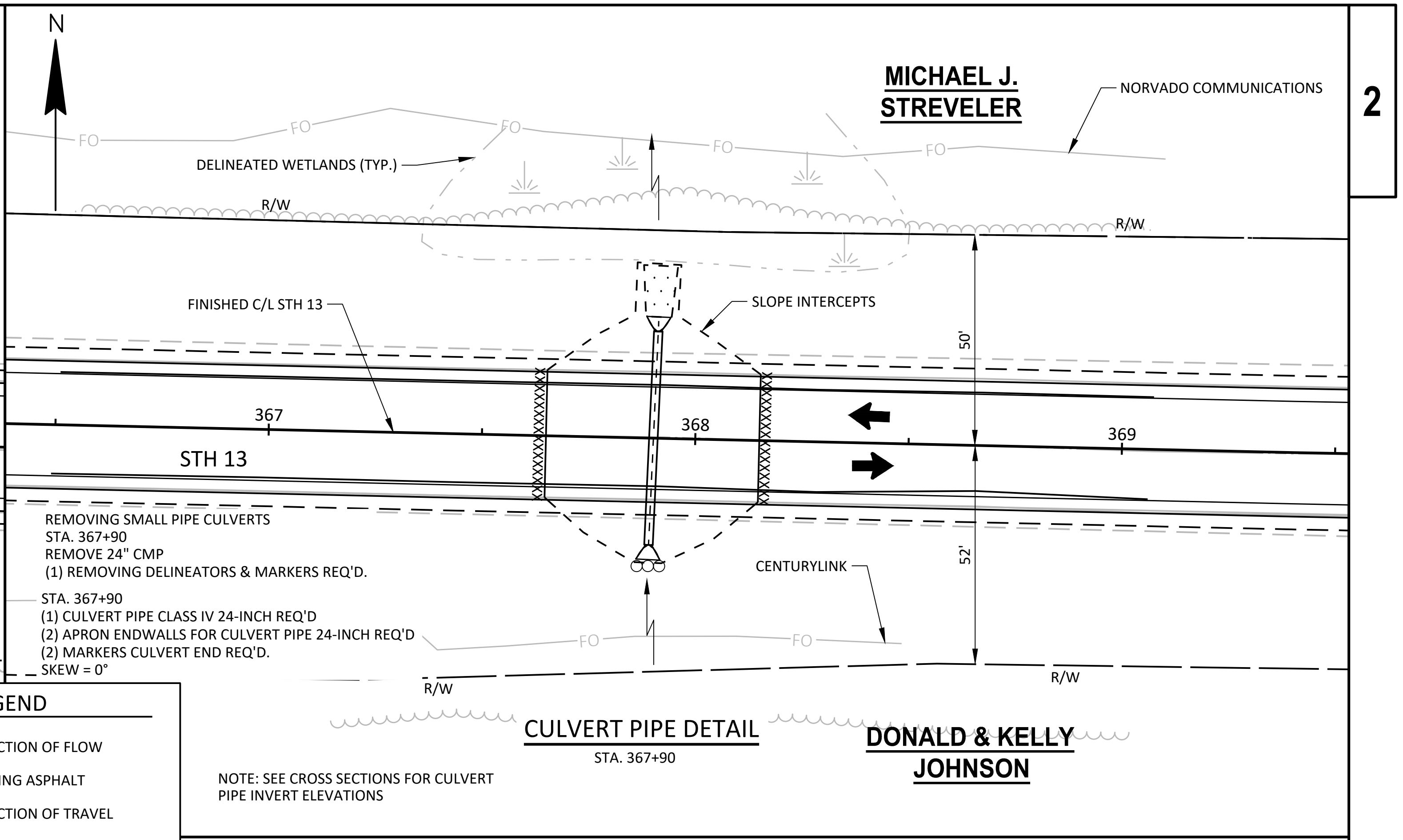


REMOVING SMALL PIPE CULVERTS
STA. 354+90
REMOVE 24" CMP
(1) REMOVING DELINEATORS & MARKERS REQ'D.

STA. 354+90
(1) CULVERT PIPE CLASS IV 24-INCH REQ'D
(2) APRON ENDWALLS FOR CULVERT PIPE 24-INCH REQ'D
(2) MARKERS CULVERT END REQ'D.
SKEW = 2° RHF

NOTE: SEE CROSS SECTIONS FOR CULVERT PIPE INVERT ELEVATIONS

CULVERT PIPE DETAIL
STA. 354+90



REMOVING SMALL PIPE CULVERTS
STA. 367+90
REMOVE 24" CMP
(1) REMOVING DELINEATORS & MARKERS REQ'D.

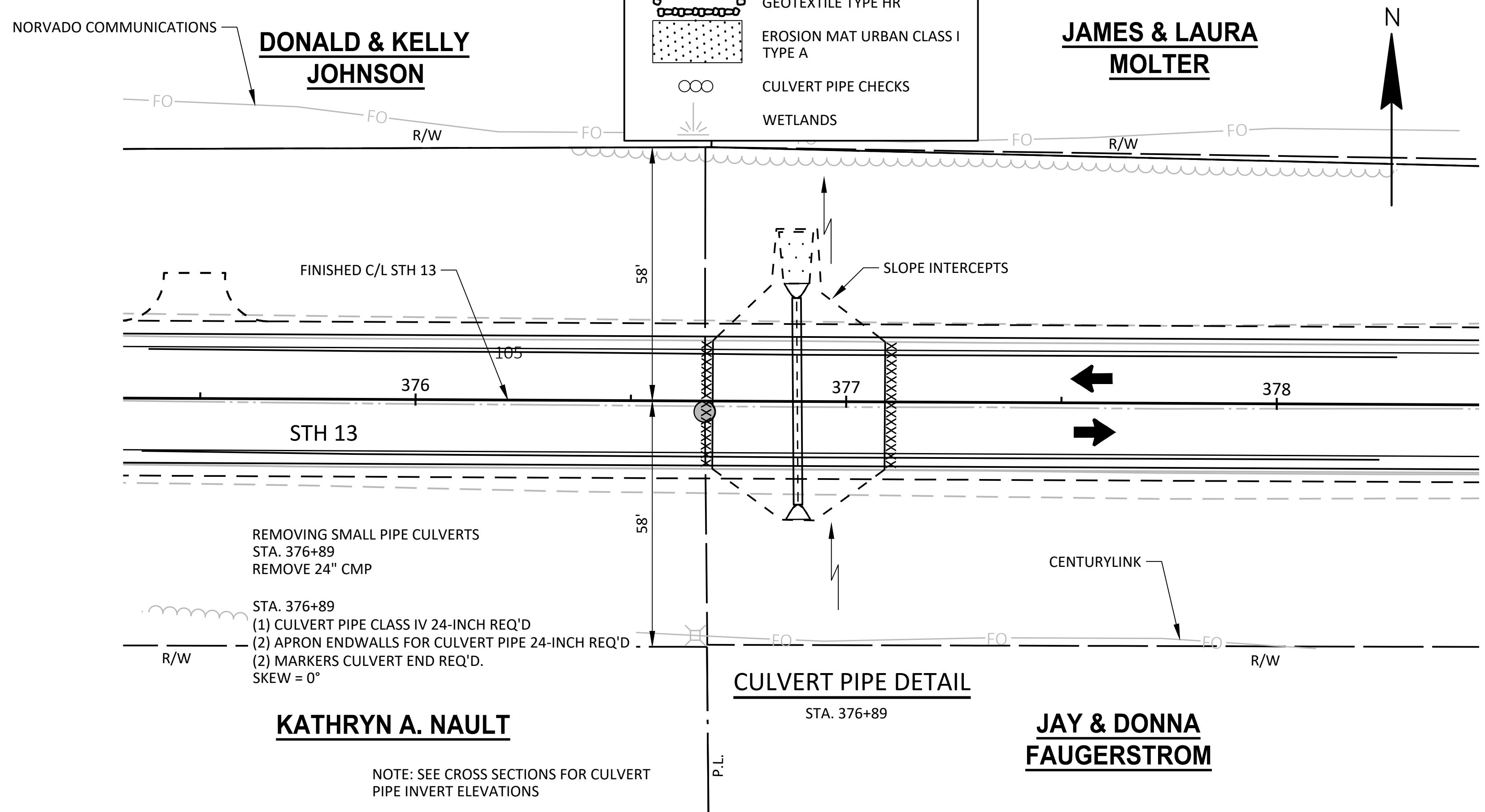
STA. 367+90
(1) CULVERT PIPE CLASS IV 24-INCH REQ'D
(2) APRON ENDWALLS FOR CULVERT PIPE 24-INCH REQ'D
(2) MARKERS CULVERT END REQ'D.
SKEW = 0°

CULVERT PIPE DETAIL
STA. 367+90

NOTE: SEE CROSS SECTIONS FOR CULVERT PIPE INVERT ELEVATIONS

LEGEND

←	DIRECTION OF FLOW
XXXXXXXXX	SAWING ASPHALT
➡	DIRECTION OF TRAVEL
▭	RIPRAP HEAVY OVER GEOTEXTILE TYPE HR
▨	EROSION MAT URBAN CLASS I TYPE A
○○○	CULVERT PIPE CHECKS
ψ	WETLANDS



REMOVING SMALL PIPE CULVERTS
STA. 376+89
REMOVE 24" CMP

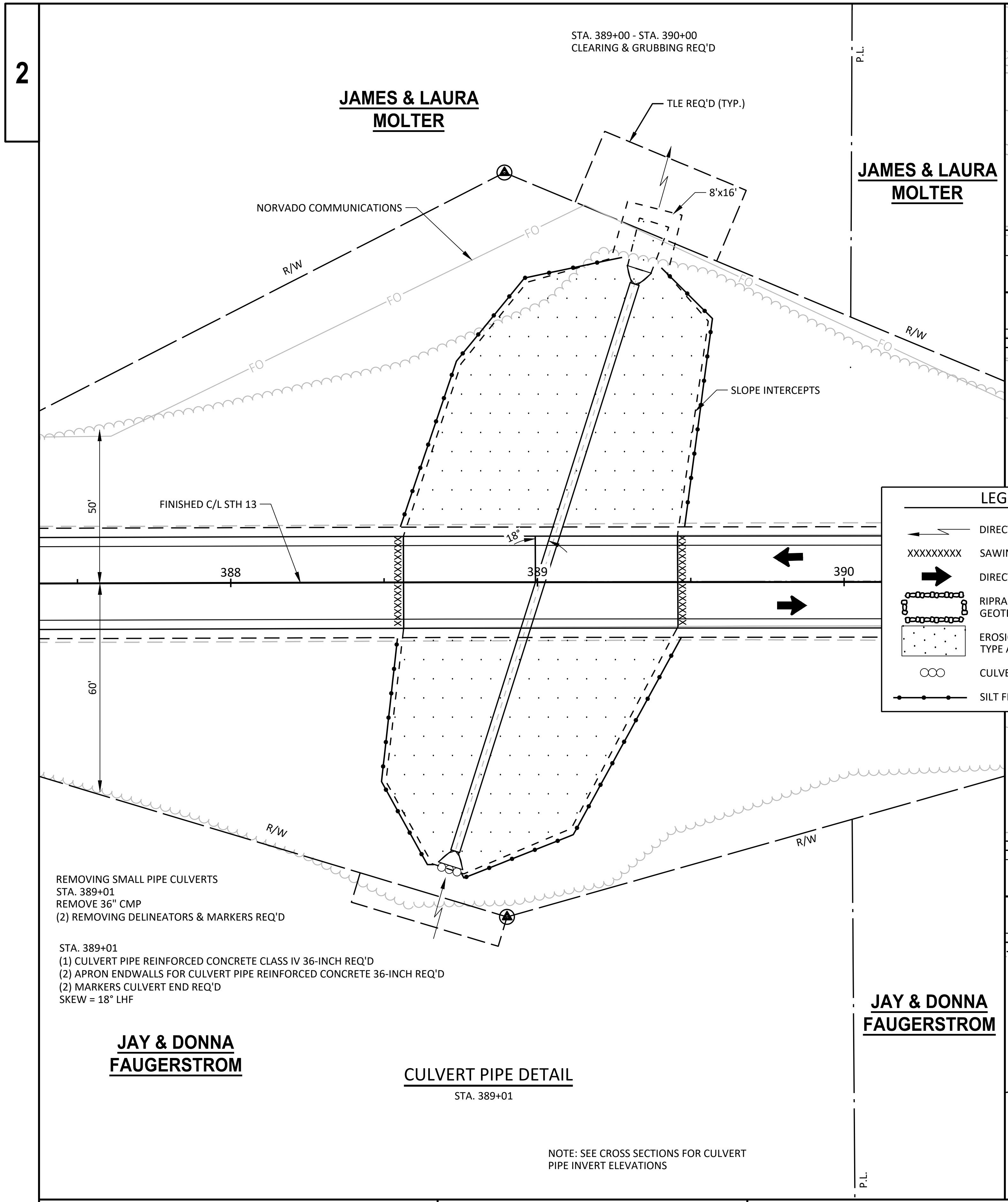
STA. 376+89
(1) CULVERT PIPE CLASS IV 24-INCH REQ'D
(2) APRON ENDWALLS FOR CULVERT PIPE 24-INCH REQ'D
(2) MARKERS CULVERT END REQ'D.
SKEW = 0°

CULVERT PIPE DETAIL
STA. 376+89

NOTE: SEE CROSS SECTIONS FOR CULVERT PIPE INVERT ELEVATIONS

PROJECT NO: 8510-01-70	HWY: STH 13	COUNTY: DOUGLAS	CONSTRUCTION DETAIL (CULVERT PIPE REPLACEMENT)	SHEET 37	E

FILE NAME : S:\PROJECTS\W11599 WISDOT STH 13, CTH H TO ENGDAHL ROAD DOUGLAS CO\SHEETSPLAN\DETAILS\85100100_CULVERTS.DWG PLOT DATE : 2/4/2022 10:06:13 AM PLOT BY : KARTER ZAJICEK PLOT SCALE : 1" = 1' LAYOUT : LAYOUT 3



STA. 389+00 - STA. 390+00
CLEARING & GRUBBING REQ'D

REMOVING SMALL PIPE CULVERTS
STA. 389+01
REMOVE 36" CMP
(2) REMOVING DELINEATORS & MARKERS REQ'D

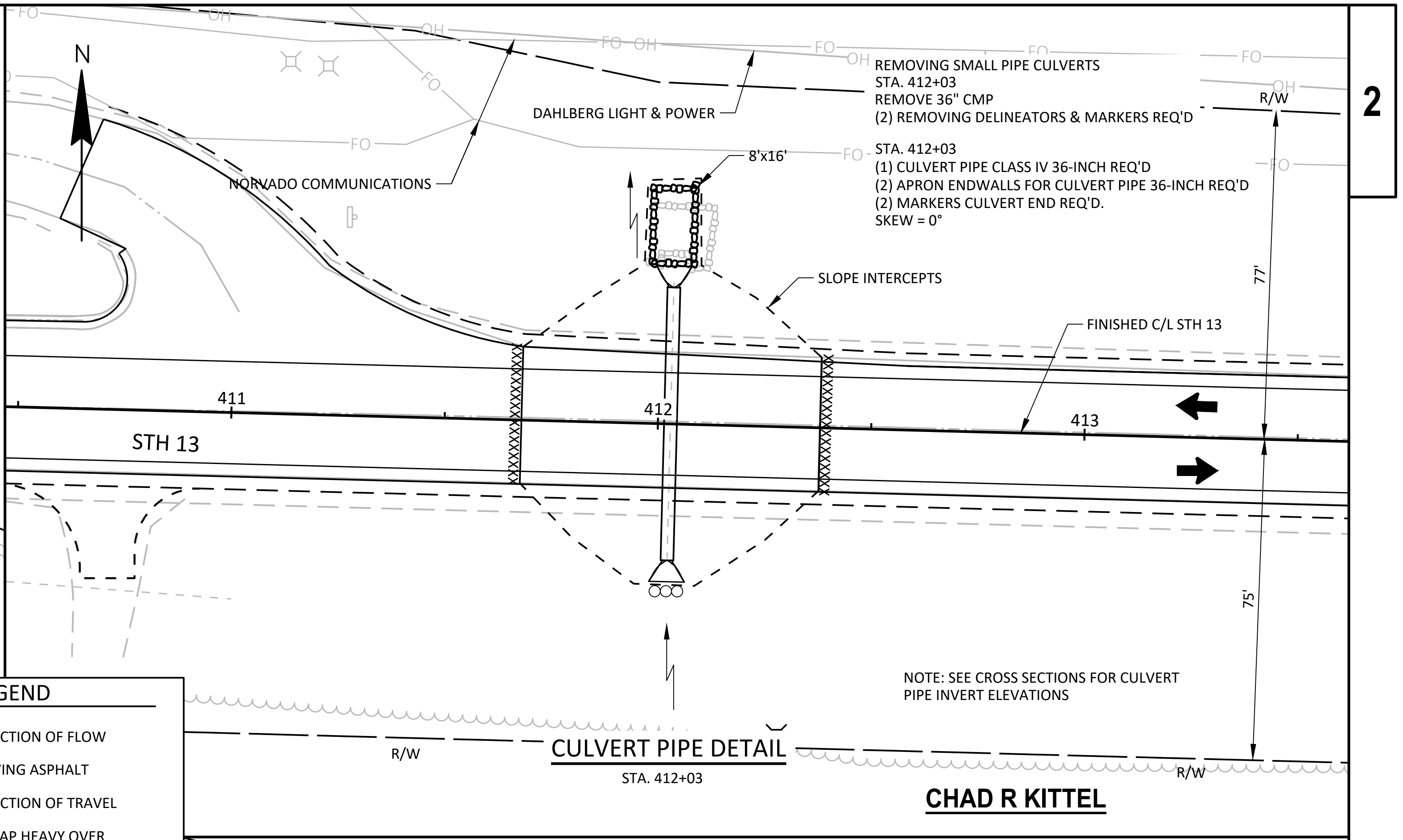
STA. 389+01
(1) CULVERT PIPE REINFORCED CONCRETE CLASS IV 36-INCH REQ'D
(2) APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 36-INCH REQ'D
(2) MARKERS CULVERT END REQ'D
SKEW = 18° LHF

CULVERT PIPE DETAIL
STA. 389+01

NOTE: SEE CROSS SECTIONS FOR CULVERT
PIPE INVERT ELEVATIONS

LEGEND

↙	DIRECTION OF FLOW
XXXXXXXXX	SAWING ASPHALT
➡	DIRECTION OF TRAVEL
▭	RIPRAP HEAVY OVER GEOTEXTILE TYPE HR
▨	EROSION MAT URBAN CLASS I TYPE A
○○○	CULVERT PIPE CHECKS
—●—●—	SILT FENCE

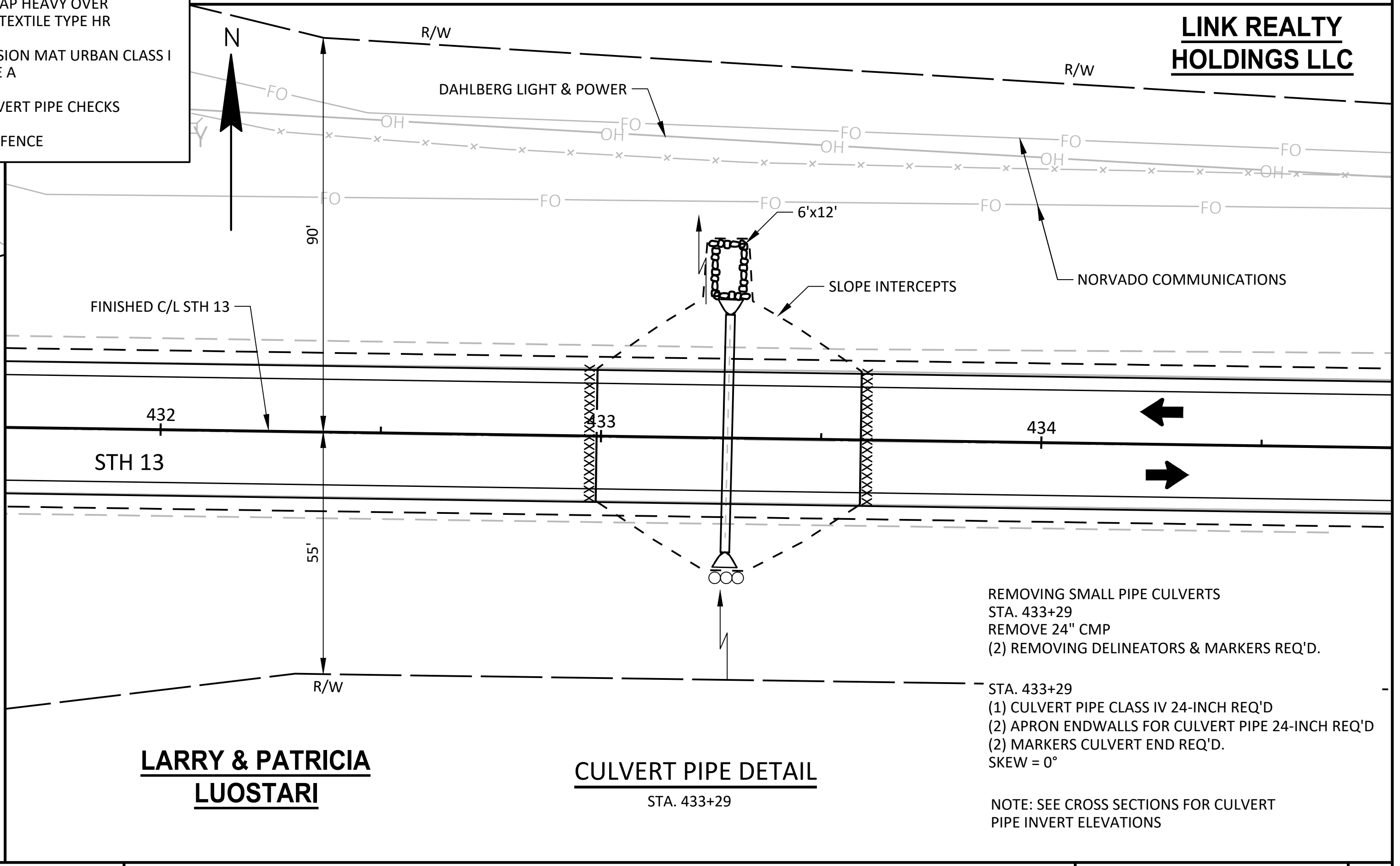


REMOVING SMALL PIPE CULVERTS
STA. 412+03
REMOVE 36" CMP
(2) REMOVING DELINEATORS & MARKERS REQ'D

STA. 412+03
(1) CULVERT PIPE CLASS IV 36-INCH REQ'D
(2) APRON ENDWALLS FOR CULVERT PIPE 36-INCH REQ'D
(2) MARKERS CULVERT END REQ'D.
SKEW = 0°

NOTE: SEE CROSS SECTIONS FOR CULVERT
PIPE INVERT ELEVATIONS

CULVERT PIPE DETAIL
STA. 412+03

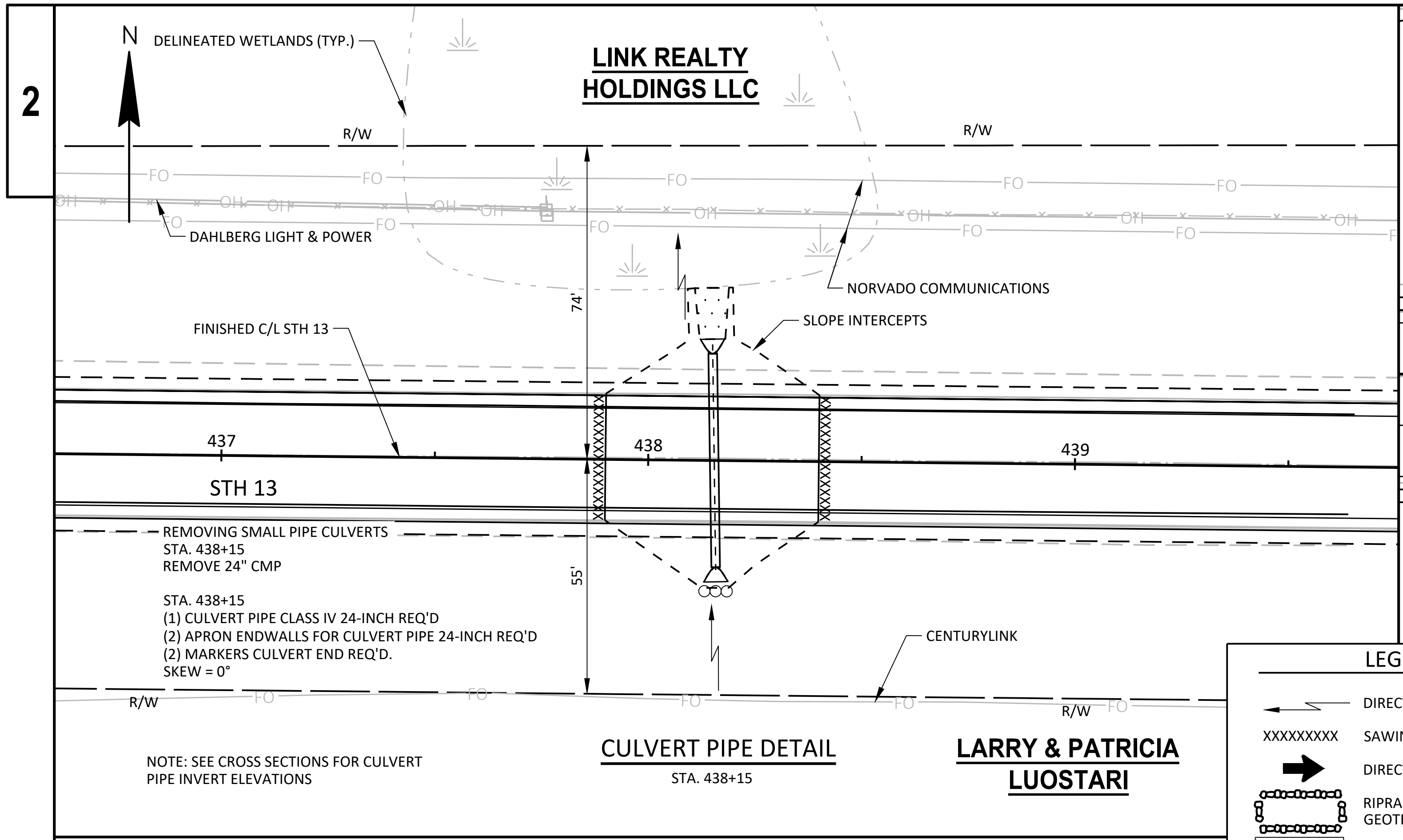


REMOVING SMALL PIPE CULVERTS
STA. 433+29
REMOVE 24" CMP
(2) REMOVING DELINEATORS & MARKERS REQ'D.

STA. 433+29
(1) CULVERT PIPE CLASS IV 24-INCH REQ'D
(2) APRON ENDWALLS FOR CULVERT PIPE 24-INCH REQ'D
(2) MARKERS CULVERT END REQ'D.
SKEW = 0°

CULVERT PIPE DETAIL
STA. 433+29

NOTE: SEE CROSS SECTIONS FOR CULVERT
PIPE INVERT ELEVATIONS

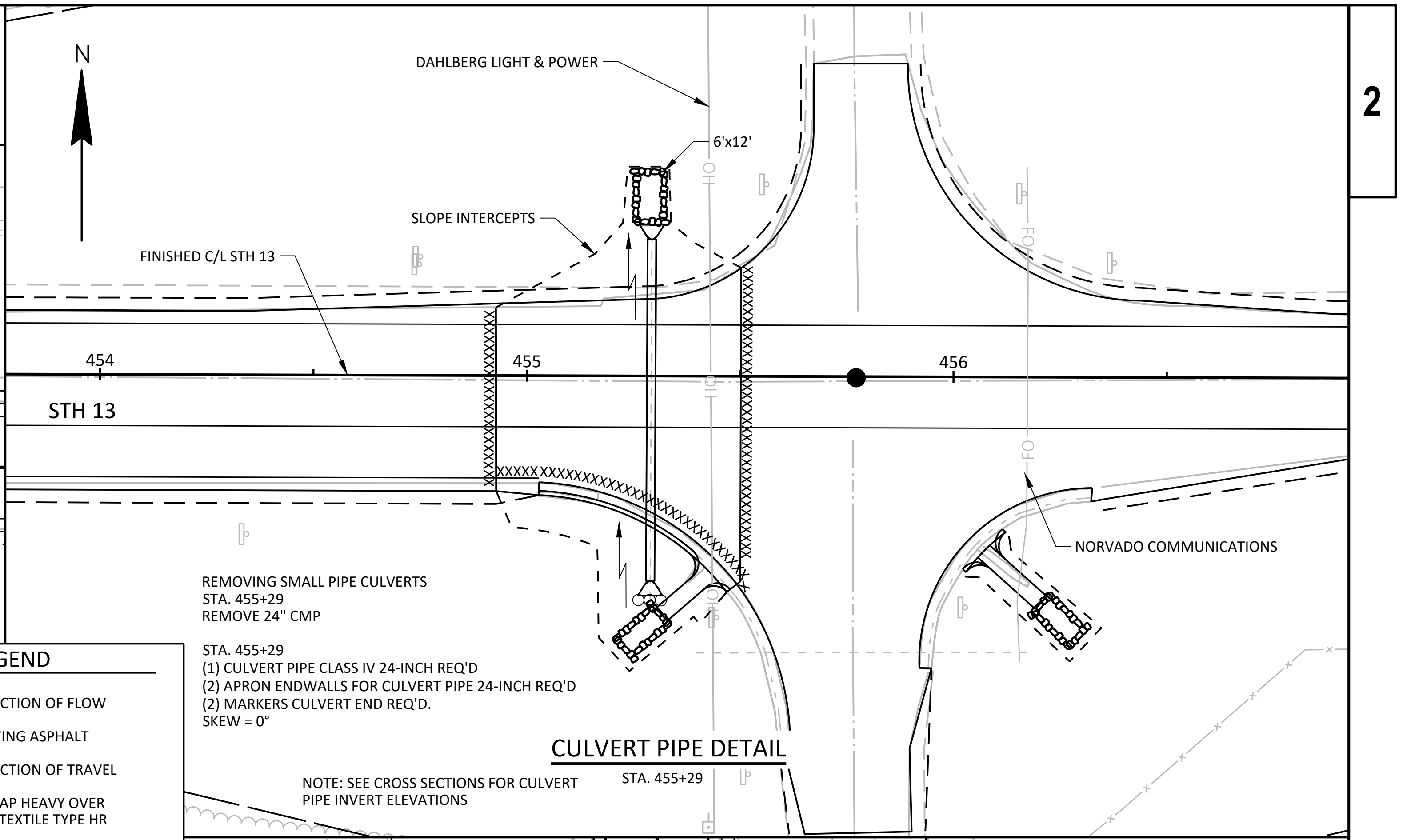


REMOVING SMALL PIPE CULVERTS
STA. 438+15
REMOVE 24" CMP

STA. 438+15
(1) CULVERT PIPE CLASS IV 24-INCH REQ'D
(2) APRON ENDWALLS FOR CULVERT PIPE 24-INCH REQ'D
(2) MARKERS CULVERT END REQ'D.
SKEW = 0°

NOTE: SEE CROSS SECTIONS FOR CULVERT PIPE INVERT ELEVATIONS

CULVERT PIPE DETAIL
STA. 438+15



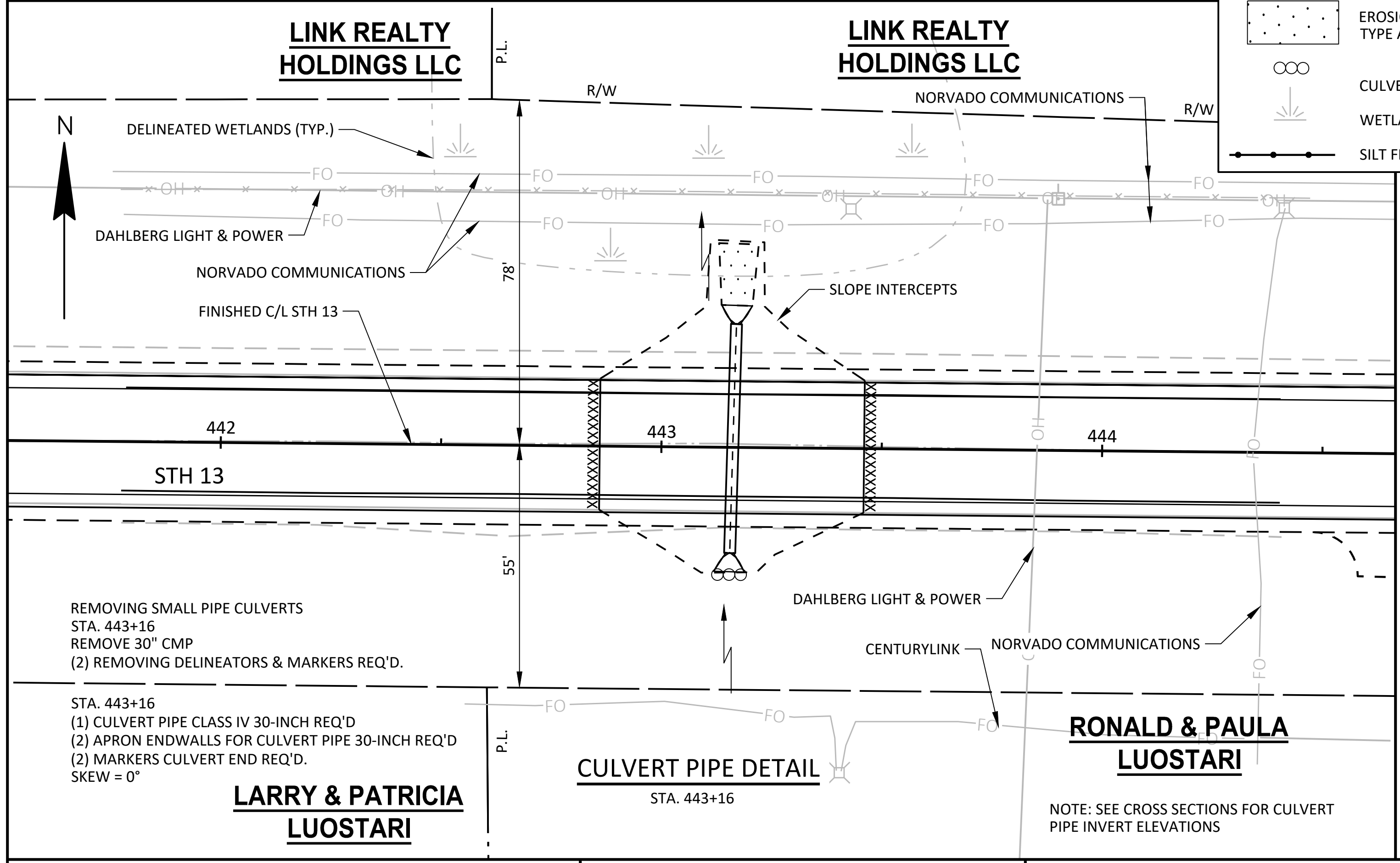
REMOVING SMALL PIPE CULVERTS
STA. 455+29
REMOVE 24" CMP

STA. 455+29
(1) CULVERT PIPE CLASS IV 24-INCH REQ'D
(2) APRON ENDWALLS FOR CULVERT PIPE 24-INCH REQ'D
(2) MARKERS CULVERT END REQ'D.
SKEW = 0°

NOTE: SEE CROSS SECTIONS FOR CULVERT PIPE INVERT ELEVATIONS

CULVERT PIPE DETAIL
STA. 455+29

LEGEND	
↼	DIRECTION OF FLOW
XXXXXXXXX	SAWING ASPHALT
➡	DIRECTION OF TRAVEL
▭	RIPRAP HEAVY OVER GEOTEXTILE TYPE HR
▨	EROSION MAT URBAN CLASS I TYPE A
○○○	CULVERT PIPE CHECKS
⩛	WETLANDS
—•—•—	SILT FENCE

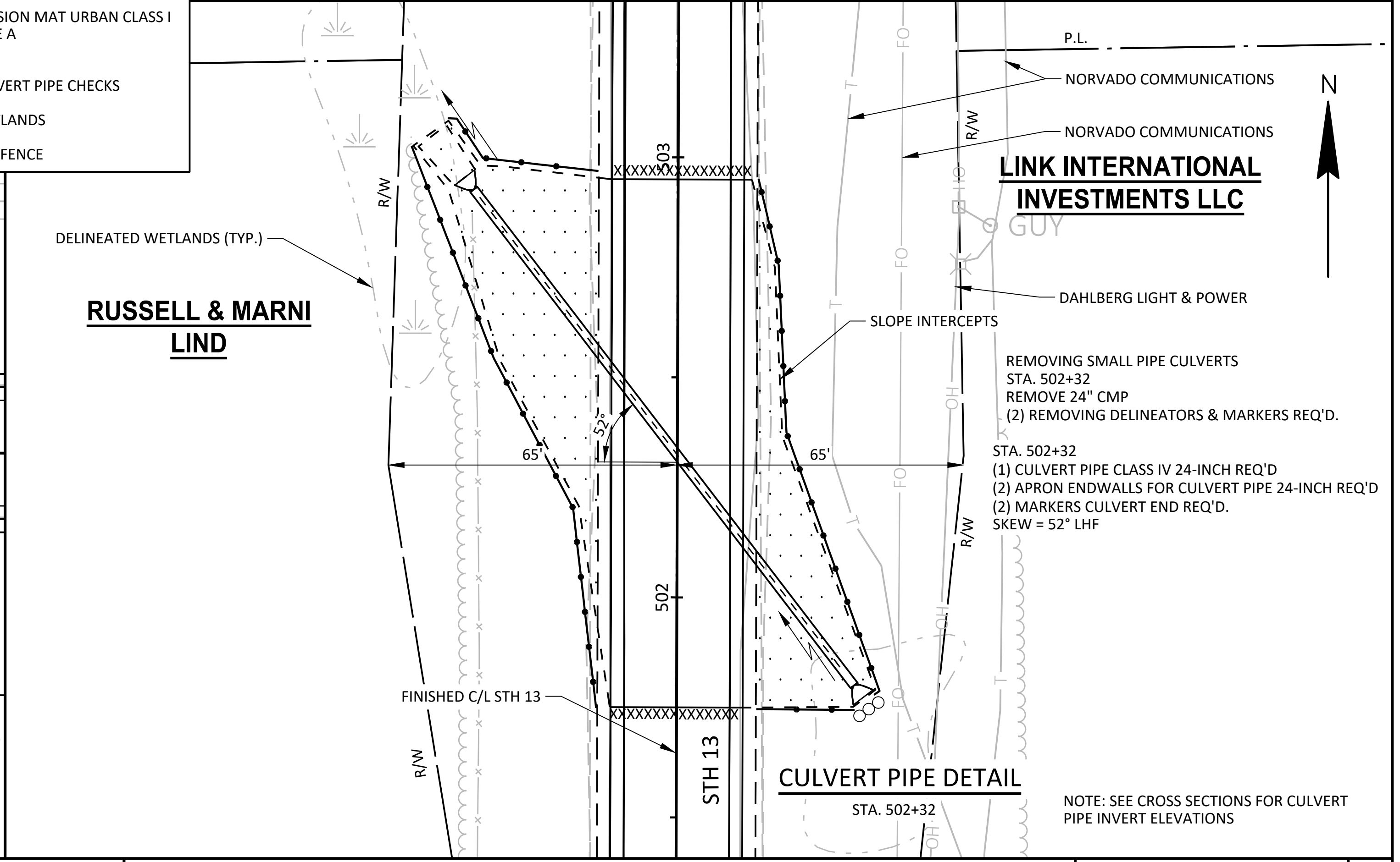


REMOVING SMALL PIPE CULVERTS
STA. 443+16
REMOVE 30" CMP
(2) REMOVING DELINEATORS & MARKERS REQ'D.

STA. 443+16
(1) CULVERT PIPE CLASS IV 30-INCH REQ'D
(2) APRON ENDWALLS FOR CULVERT PIPE 30-INCH REQ'D
(2) MARKERS CULVERT END REQ'D.
SKEW = 0°

CULVERT PIPE DETAIL
STA. 443+16

NOTE: SEE CROSS SECTIONS FOR CULVERT PIPE INVERT ELEVATIONS



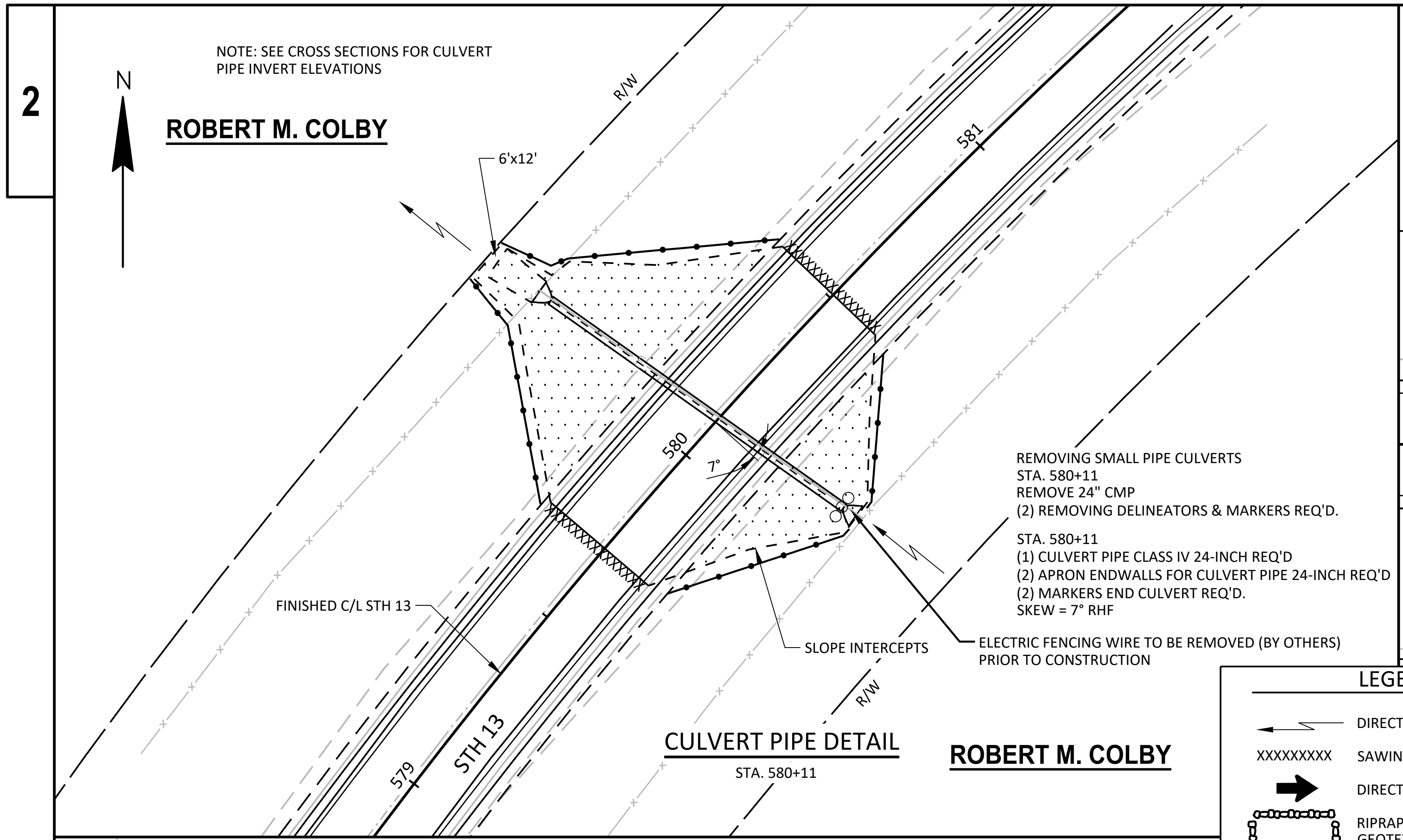
REMOVING SMALL PIPE CULVERTS
STA. 502+32
REMOVE 24" CMP
(2) REMOVING DELINEATORS & MARKERS REQ'D.

STA. 502+32
(1) CULVERT PIPE CLASS IV 24-INCH REQ'D
(2) APRON ENDWALLS FOR CULVERT PIPE 24-INCH REQ'D
(2) MARKERS CULVERT END REQ'D.
SKEW = 52° LHF

CULVERT PIPE DETAIL
STA. 502+32

NOTE: SEE CROSS SECTIONS FOR CULVERT PIPE INVERT ELEVATIONS

PROJECT NO: 8510-01-70 | HWY: STH 13 | COUNTY: DOUGLAS | CONSTRUCTION DETAIL (CULVERT PIPE REPLACEMENT) | SHEET 39 | E



NOTE: SEE CROSS SECTIONS FOR CULVERT PIPE INVERT ELEVATIONS

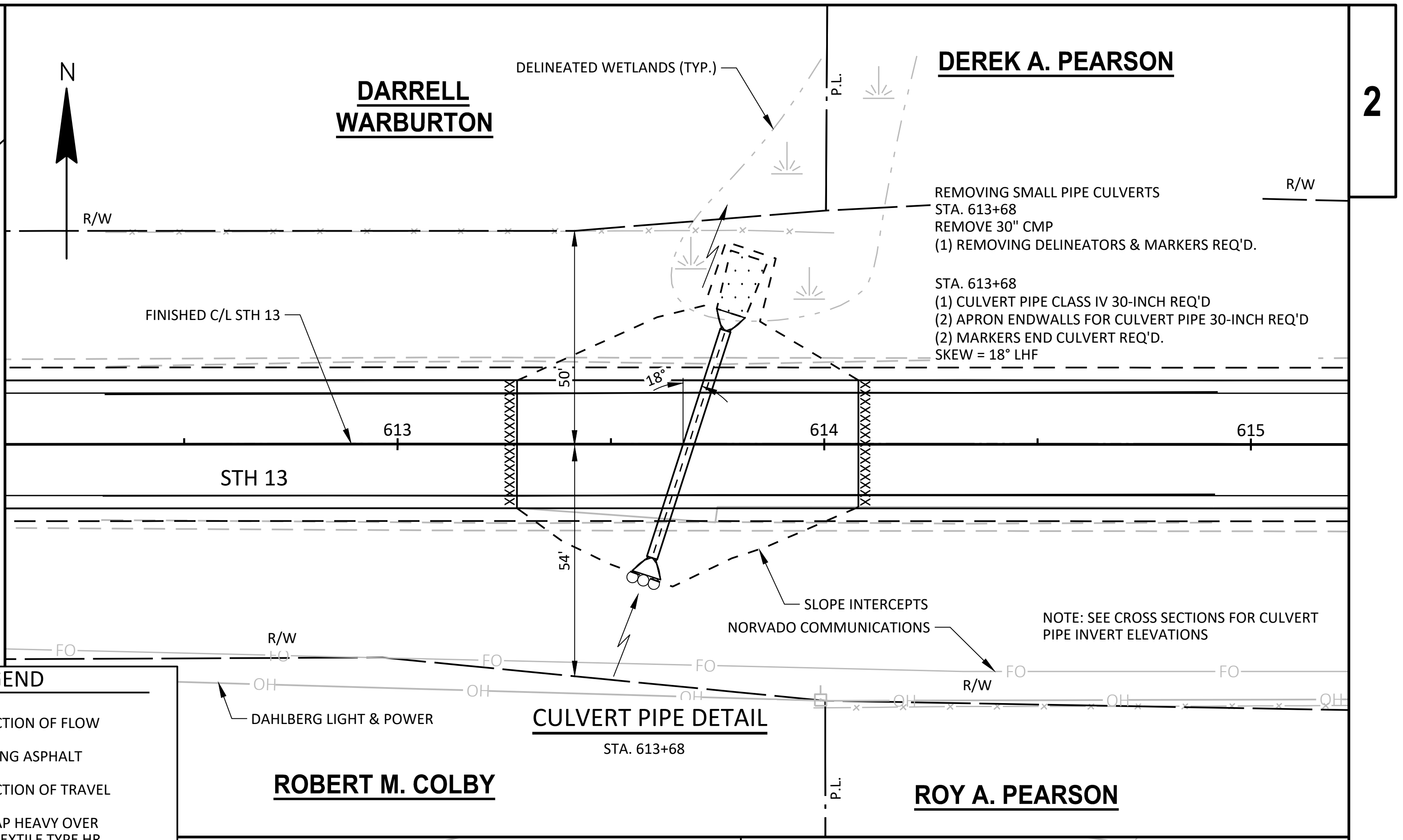
REMOVING SMALL PIPE CULVERTS
STA. 580+11
REMOVE 24" CMP
(2) REMOVING DELINEATORS & MARKERS REQ'D.

STA. 580+11
(1) CULVERT PIPE CLASS IV 24-INCH REQ'D
(2) APRON ENDWALLS FOR CULVERT PIPE 24-INCH REQ'D
(2) MARKERS END CULVERT REQ'D.
SKEW = 7° RHF

ELECTRIC FENCING WIRE TO BE REMOVED (BY OTHERS) PRIOR TO CONSTRUCTION

CULVERT PIPE DETAIL

STA. 580+11



REMOVING SMALL PIPE CULVERTS
STA. 613+68
REMOVE 30" CMP
(1) REMOVING DELINEATORS & MARKERS REQ'D.

STA. 613+68
(1) CULVERT PIPE CLASS IV 30-INCH REQ'D
(2) APRON ENDWALLS FOR CULVERT PIPE 30-INCH REQ'D
(2) MARKERS END CULVERT REQ'D.
SKEW = 18° LHF

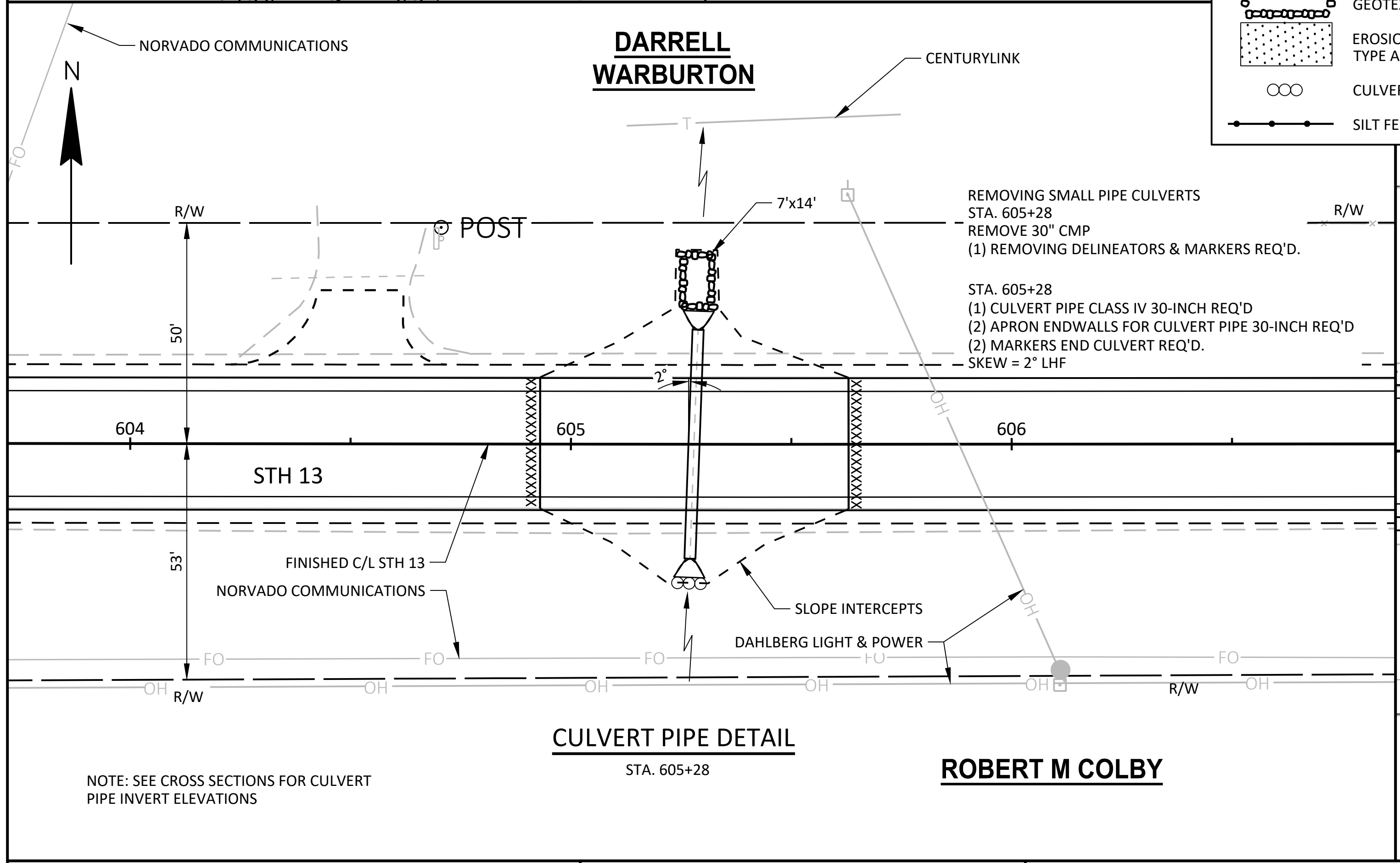
NOTE: SEE CROSS SECTIONS FOR CULVERT PIPE INVERT ELEVATIONS

CULVERT PIPE DETAIL

STA. 613+68

LEGEND

←	DIRECTION OF FLOW
XXXXXXXXX	SAWING ASPHALT
➡	DIRECTION OF TRAVEL
▭	RIPRAP HEAVY OVER GEOTEXTILE TYPE HR
▨	EROSION MAT URBAN CLASS I TYPE A
○○○	CULVERT PIPE CHECKS
●—●—●	SILT FENCE



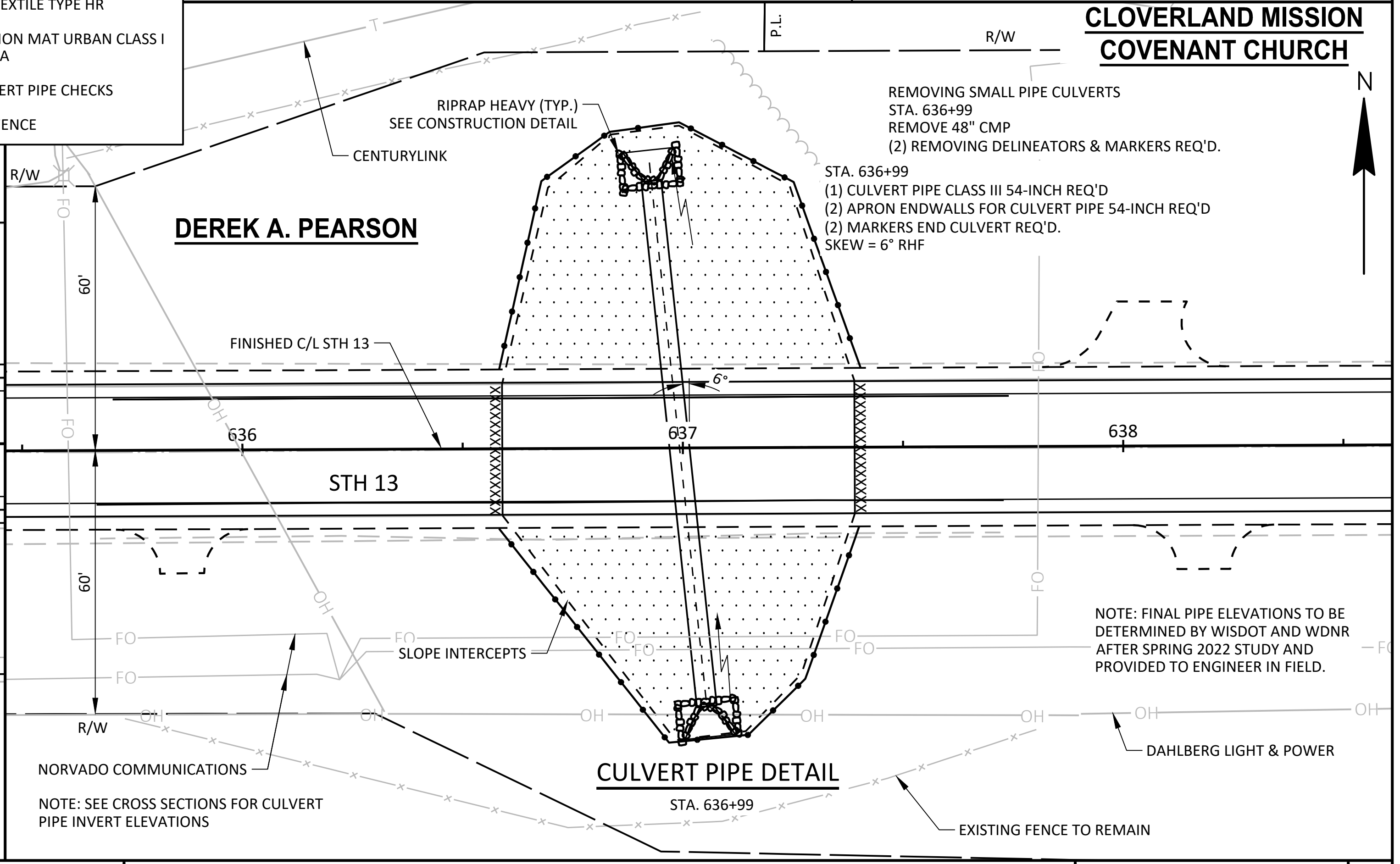
REMOVING SMALL PIPE CULVERTS
STA. 605+28
REMOVE 30" CMP
(1) REMOVING DELINEATORS & MARKERS REQ'D.

STA. 605+28
(1) CULVERT PIPE CLASS IV 30-INCH REQ'D
(2) APRON ENDWALLS FOR CULVERT PIPE 30-INCH REQ'D
(2) MARKERS END CULVERT REQ'D.
SKEW = 2° LHF

CULVERT PIPE DETAIL

STA. 605+28

NOTE: SEE CROSS SECTIONS FOR CULVERT PIPE INVERT ELEVATIONS



REMOVING SMALL PIPE CULVERTS
STA. 636+99
REMOVE 48" CMP
(2) REMOVING DELINEATORS & MARKERS REQ'D.

STA. 636+99
(1) CULVERT PIPE CLASS III 54-INCH REQ'D
(2) APRON ENDWALLS FOR CULVERT PIPE 54-INCH REQ'D
(2) MARKERS END CULVERT REQ'D.
SKEW = 6° RHF

NOTE: FINAL PIPE ELEVATIONS TO BE DETERMINED BY WISDOT AND WDNR AFTER SPRING 2022 STUDY AND PROVIDED TO ENGINEER IN FIELD.

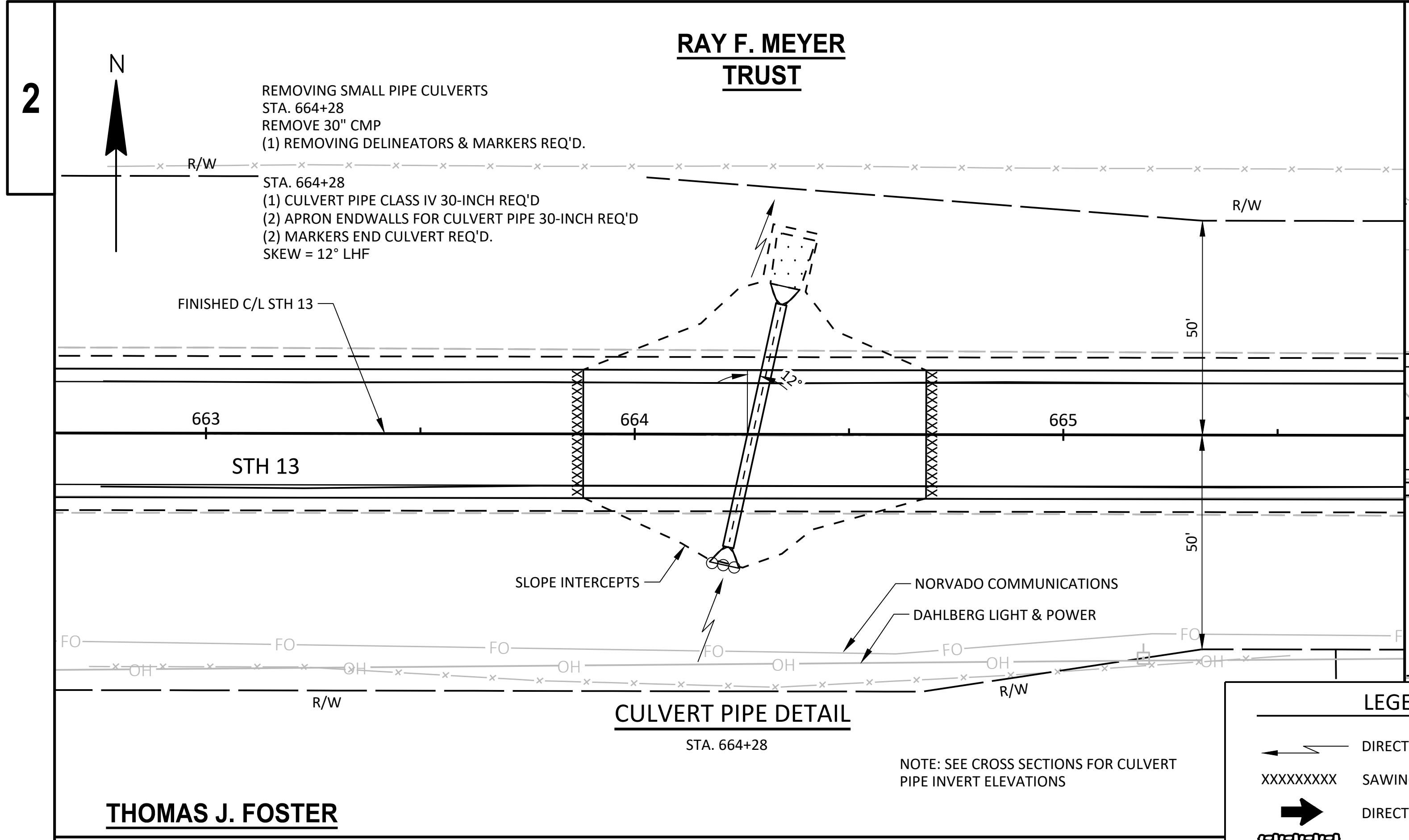
NOTE: SEE CROSS SECTIONS FOR CULVERT PIPE INVERT ELEVATIONS

CULVERT PIPE DETAIL

STA. 636+99

2

2

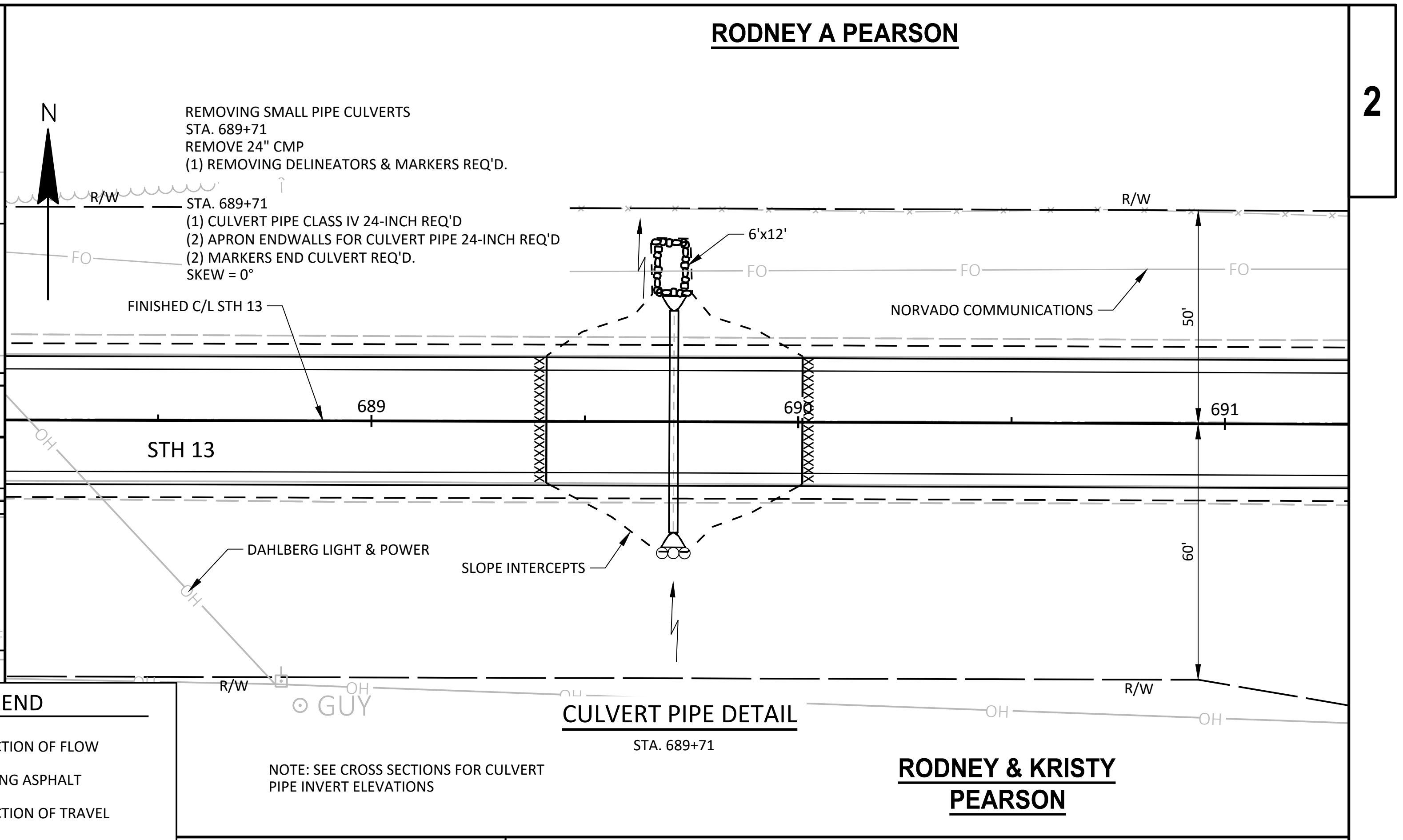


REMOVING SMALL PIPE CULVERTS
STA. 664+28
REMOVE 30" CMP
(1) REMOVING DELINEATORS & MARKERS REQ'D.

STA. 664+28
(1) CULVERT PIPE CLASS IV 30-INCH REQ'D
(2) APRON ENDWALLS FOR CULVERT PIPE 30-INCH REQ'D
(2) MARKERS END CULVERT REQ'D.
SKEW = 12° LHF

CULVERT PIPE DETAIL
STA. 664+28

NOTE: SEE CROSS SECTIONS FOR CULVERT PIPE INVERT ELEVATIONS



REMOVING SMALL PIPE CULVERTS
STA. 689+71
REMOVE 24" CMP
(1) REMOVING DELINEATORS & MARKERS REQ'D.

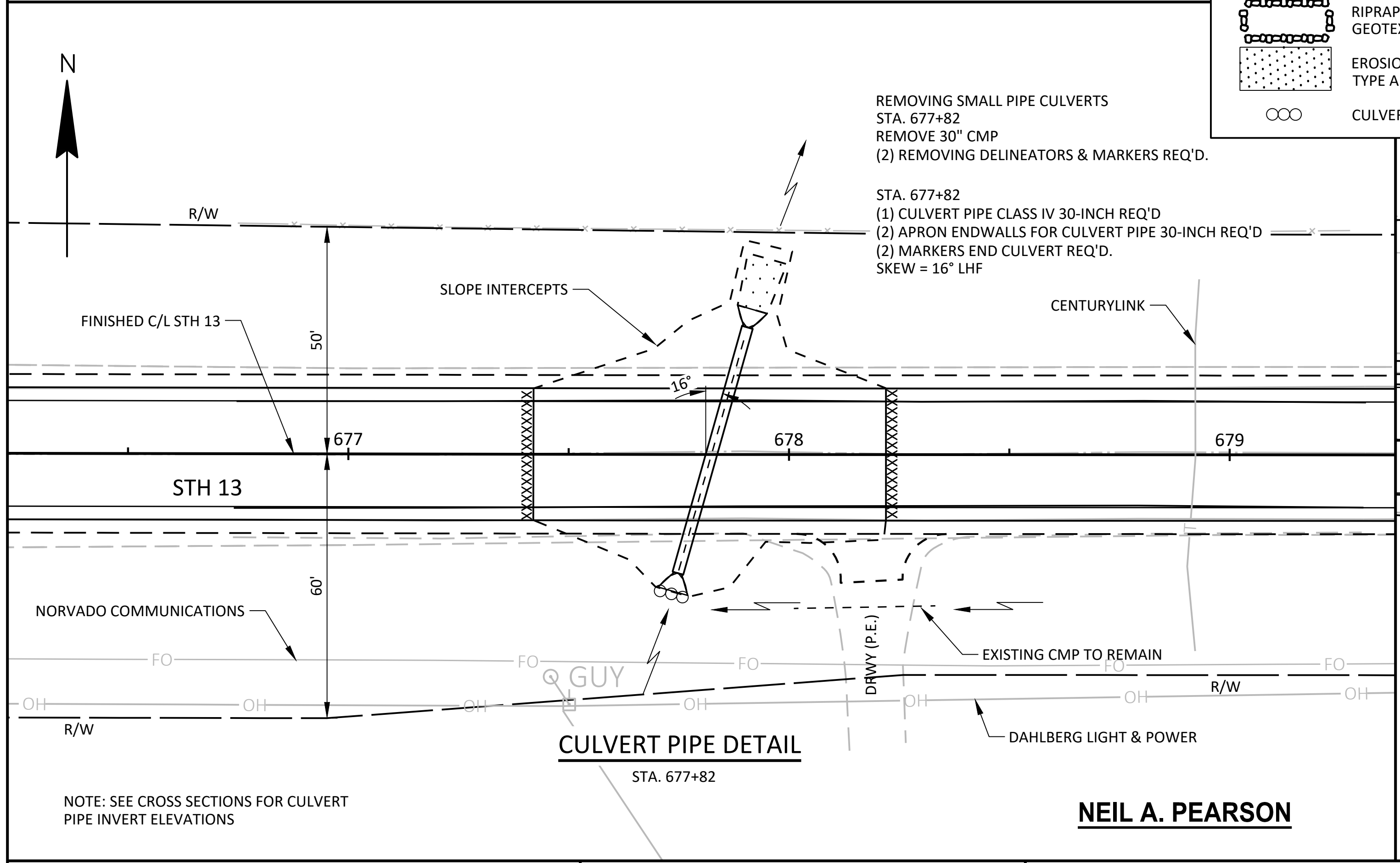
STA. 689+71
(1) CULVERT PIPE CLASS IV 24-INCH REQ'D
(2) APRON ENDWALLS FOR CULVERT PIPE 24-INCH REQ'D
(2) MARKERS END CULVERT REQ'D.
SKEW = 0°

CULVERT PIPE DETAIL
STA. 689+71

NOTE: SEE CROSS SECTIONS FOR CULVERT PIPE INVERT ELEVATIONS

LEGEND

⟵	DIRECTION OF FLOW
XXXXXXXXX	SAWING ASPHALT
➡	DIRECTION OF TRAVEL
▭	RIPRAP HEAVY OVER GEOTEXTILE TYPE HR
▨	EROSION MAT URBAN CLASS I TYPE A
○○○	CULVERT PIPE CHECKS

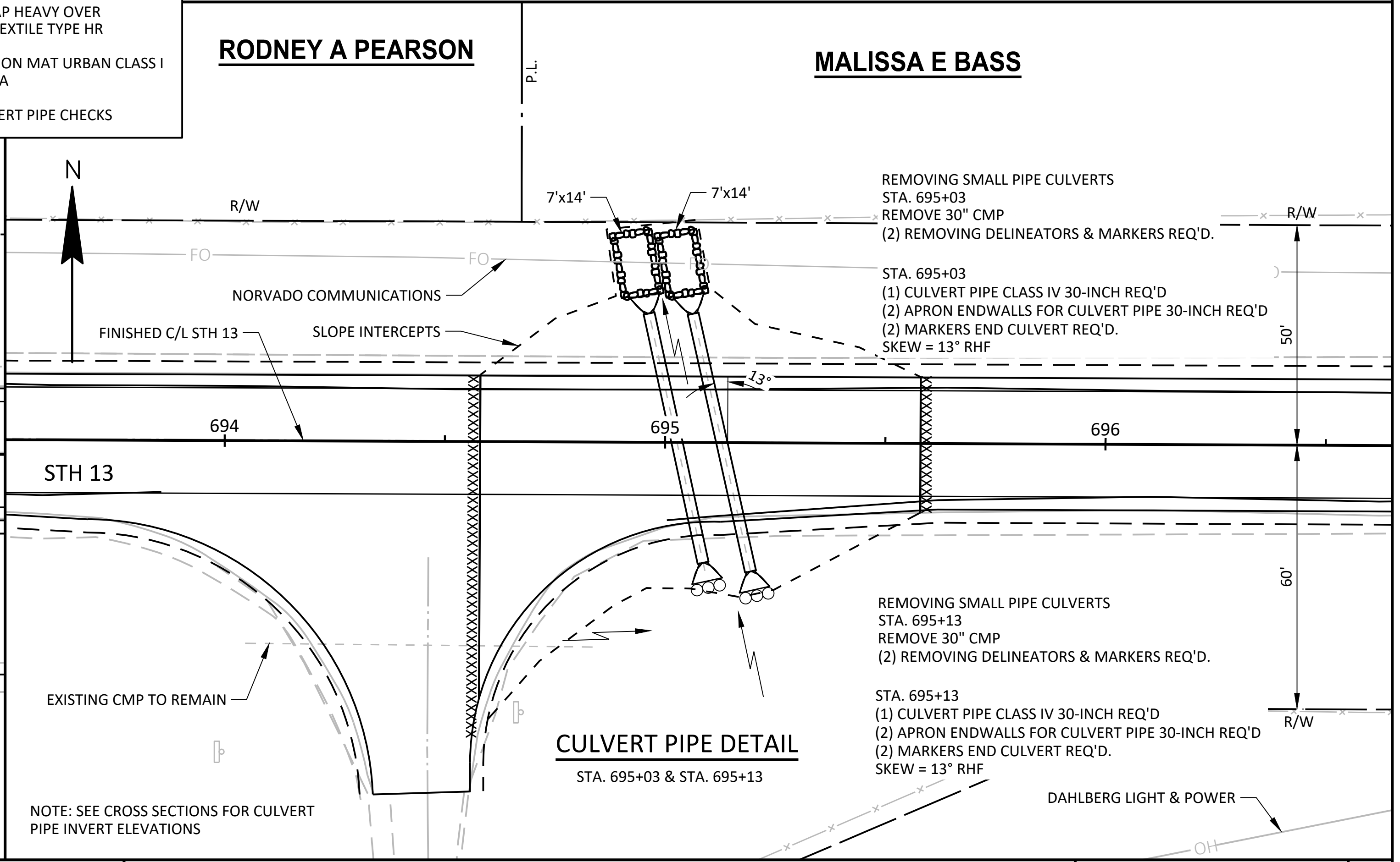


REMOVING SMALL PIPE CULVERTS
STA. 677+82
REMOVE 30" CMP
(2) REMOVING DELINEATORS & MARKERS REQ'D.

STA. 677+82
(1) CULVERT PIPE CLASS IV 30-INCH REQ'D
(2) APRON ENDWALLS FOR CULVERT PIPE 30-INCH REQ'D
(2) MARKERS END CULVERT REQ'D.
SKEW = 16° LHF

CULVERT PIPE DETAIL
STA. 677+82

NOTE: SEE CROSS SECTIONS FOR CULVERT PIPE INVERT ELEVATIONS



REMOVING SMALL PIPE CULVERTS
STA. 695+03
REMOVE 30" CMP
(2) REMOVING DELINEATORS & MARKERS REQ'D.

STA. 695+03
(1) CULVERT PIPE CLASS IV 30-INCH REQ'D
(2) APRON ENDWALLS FOR CULVERT PIPE 30-INCH REQ'D
(2) MARKERS END CULVERT REQ'D.
SKEW = 13° RHF

REMOVING SMALL PIPE CULVERTS
STA. 695+13
REMOVE 30" CMP
(2) REMOVING DELINEATORS & MARKERS REQ'D.

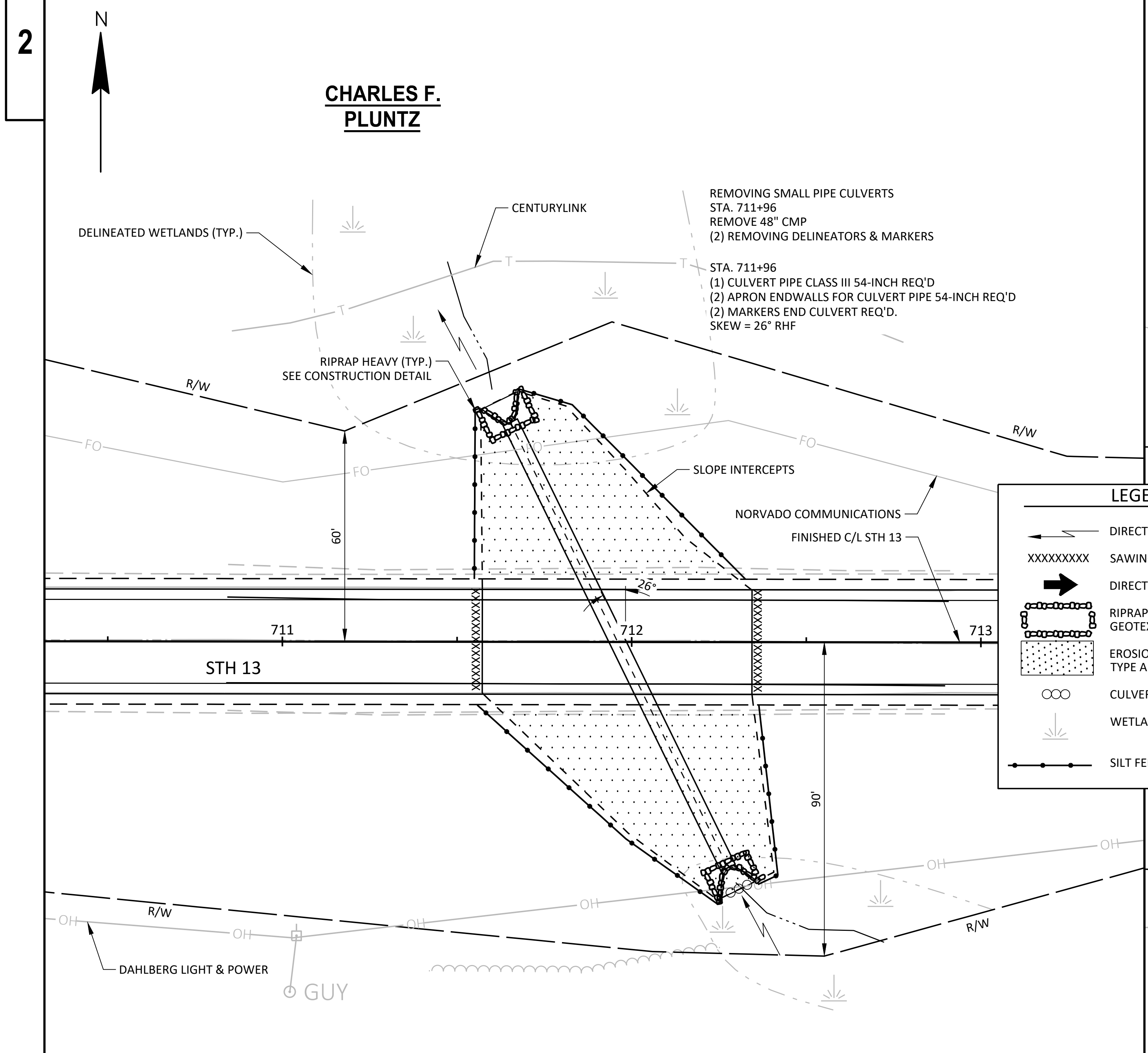
STA. 695+13
(1) CULVERT PIPE CLASS IV 30-INCH REQ'D
(2) APRON ENDWALLS FOR CULVERT PIPE 30-INCH REQ'D
(2) MARKERS END CULVERT REQ'D.
SKEW = 13° RHF

CULVERT PIPE DETAIL
STA. 695+03 & STA. 695+13

NOTE: SEE CROSS SECTIONS FOR CULVERT PIPE INVERT ELEVATIONS

PROJECT NO: 8510-01-70 | HWY: STH 13 | COUNTY: DOUGLAS | CONSTRUCTION DETAIL (CULVERT PIPE REPLACEMENT) | SHEET 41 | E

FILE NAME : S:\PROJECTS\W11599 WISDOT STH 13, CTH H TO ENGDAHL ROAD DOUGLAS CO\SHEETSPLAN\DETAILS\85100100_CULVERTS.DWG PLOT DATE : 2/4/2022 10:07:06 AM PLOT BY : KARTER ZAJICEK PLOT SCALE : 1" = 1' LAYOUT : LAYOUT 7



CULVERT PIPE DETAIL

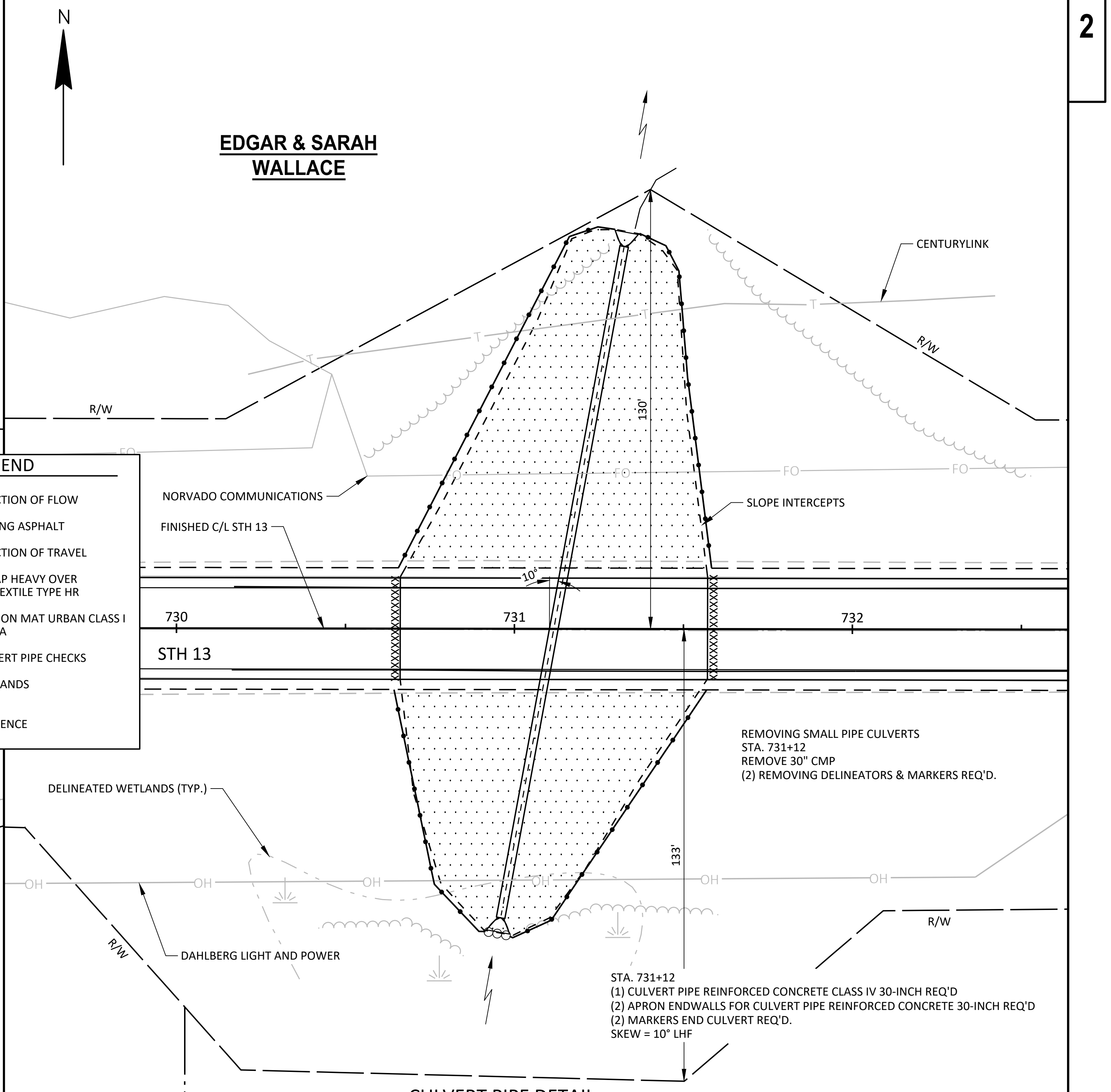
STA. 711+96

NOTE: FINAL PIPE ELEVATIONS TO BE DETERMINED BY WISDOT AND WDNR AFTER SPRING 2022 STUDY AND PROVIDED TO ENGINEER IN FIELD.

NOTE: SEE CROSS SECTIONS FOR CULVERT PIPE INVERT ELEVATIONS

LEGEND

↼	DIRECTION OF FLOW
XXXXXXXXX	SAWING ASPHALT
➡	DIRECTION OF TRAVEL
▭	RIPRAP HEAVY OVER GEOTEXTILE TYPE HR
▨	EROSION MAT URBAN CLASS I TYPE A
○○○	CULVERT PIPE CHECKS
⩡	WETLANDS
─●─●─	SILT FENCE



CULVERT PIPE DETAIL

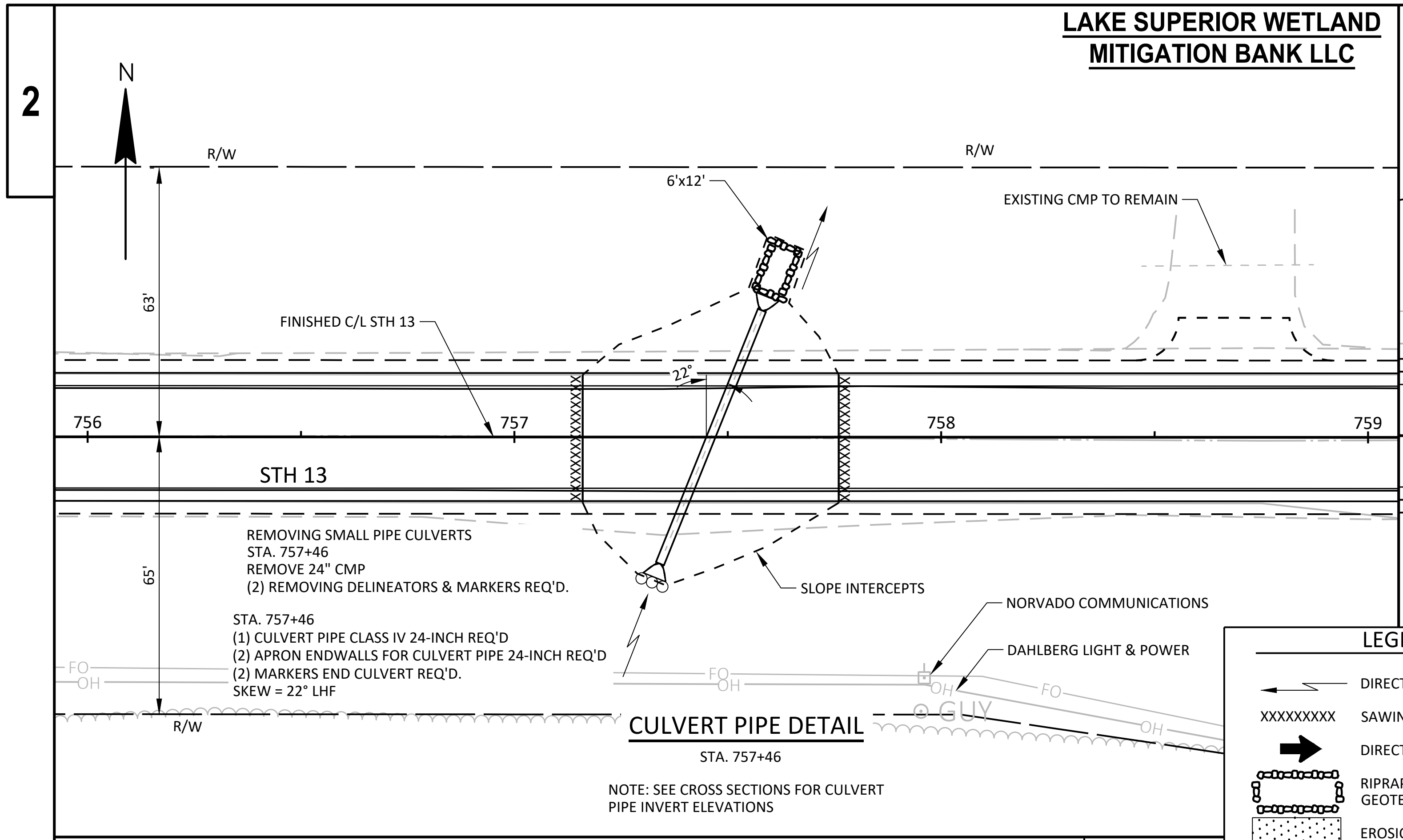
STA. 731+12

TOWN OF CLOVERLAND

P.L.

DANIEL & DAWN MASSIER

NOTE: SEE CROSS SECTIONS FOR CULVERT PIPE INVERT ELEVATIONS



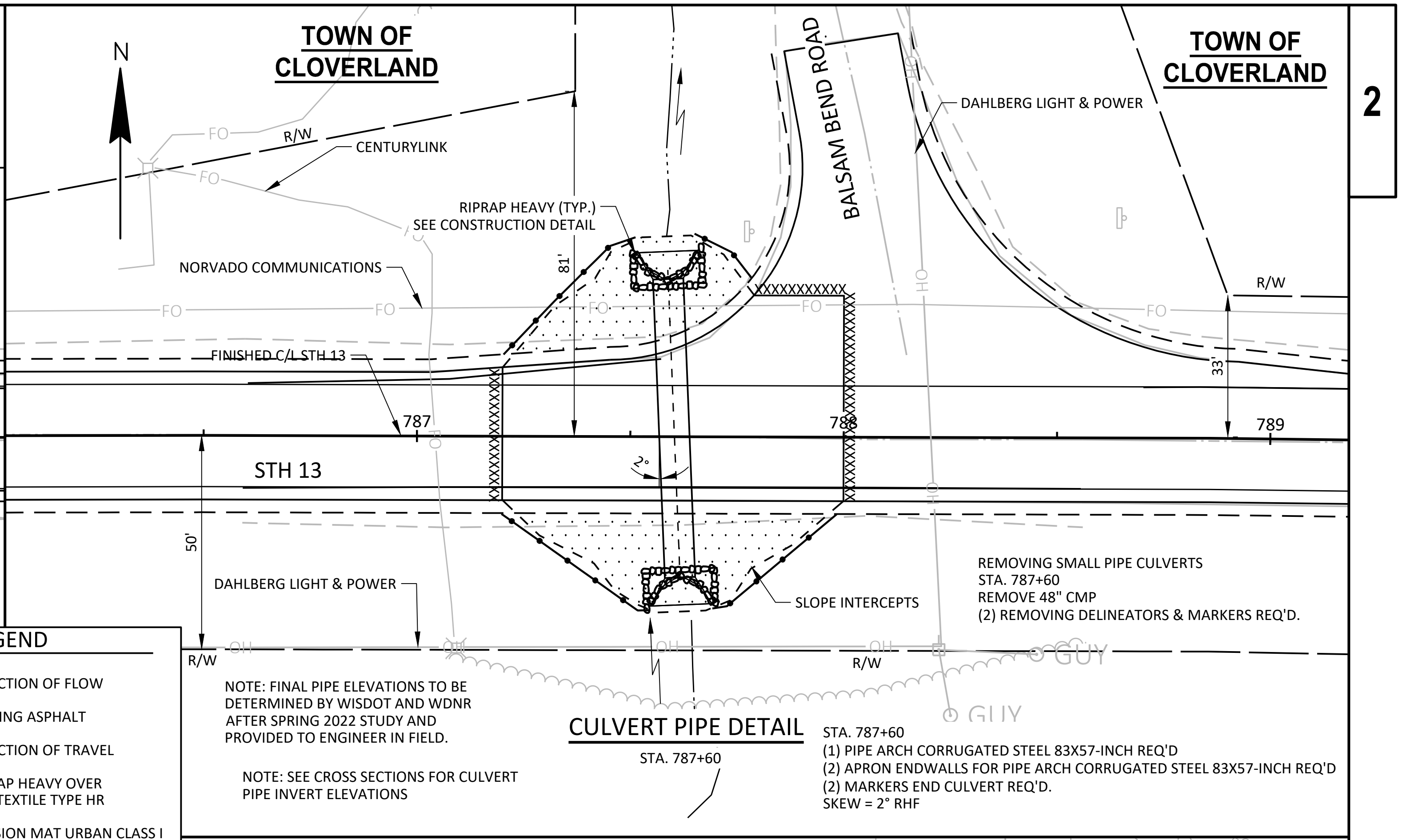
REMOVING SMALL PIPE CULVERTS
STA. 757+46
REMOVE 24" CMP
(2) REMOVING DELINEATORS & MARKERS REQ'D.

STA. 757+46
(1) CULVERT PIPE CLASS IV 24-INCH REQ'D
(2) APRON ENDWALLS FOR CULVERT PIPE 24-INCH REQ'D
(2) MARKERS END CULVERT REQ'D.
SKEW = 22° LHF

CULVERT PIPE DETAIL

STA. 757+46

NOTE: SEE CROSS SECTIONS FOR CULVERT PIPE INVERT ELEVATIONS



REMOVING SMALL PIPE CULVERTS
STA. 787+60
REMOVE 48" CMP
(2) REMOVING DELINEATORS & MARKERS REQ'D.

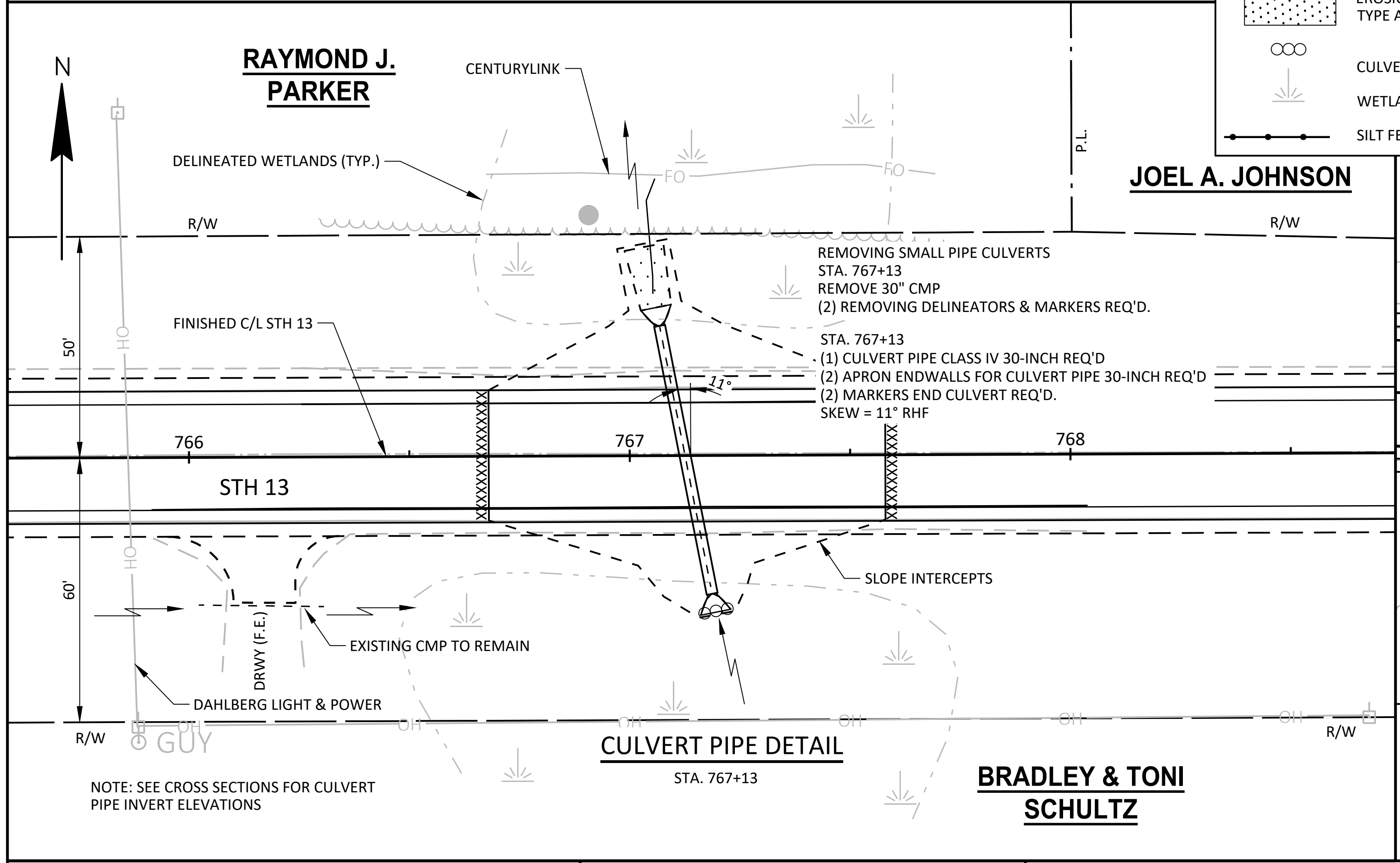
NOTE: FINAL PIPE ELEVATIONS TO BE DETERMINED BY WISDOT AND WDNR AFTER SPRING 2022 STUDY AND PROVIDED TO ENGINEER IN FIELD.

NOTE: SEE CROSS SECTIONS FOR CULVERT PIPE INVERT ELEVATIONS

CULVERT PIPE DETAIL

STA. 787+60

STA. 787+60
(1) PIPE ARCH CORRUGATED STEEL 83X57-INCH REQ'D
(2) APRON ENDWALLS FOR PIPE ARCH CORRUGATED STEEL 83X57-INCH REQ'D
(2) MARKERS END CULVERT REQ'D.
SKEW = 2° RHF



REMOVING SMALL PIPE CULVERTS
STA. 767+13
REMOVE 30" CMP
(2) REMOVING DELINEATORS & MARKERS REQ'D.

STA. 767+13
(1) CULVERT PIPE CLASS IV 30-INCH REQ'D
(2) APRON ENDWALLS FOR CULVERT PIPE 30-INCH REQ'D
(2) MARKERS END CULVERT REQ'D.
SKEW = 11° RHF

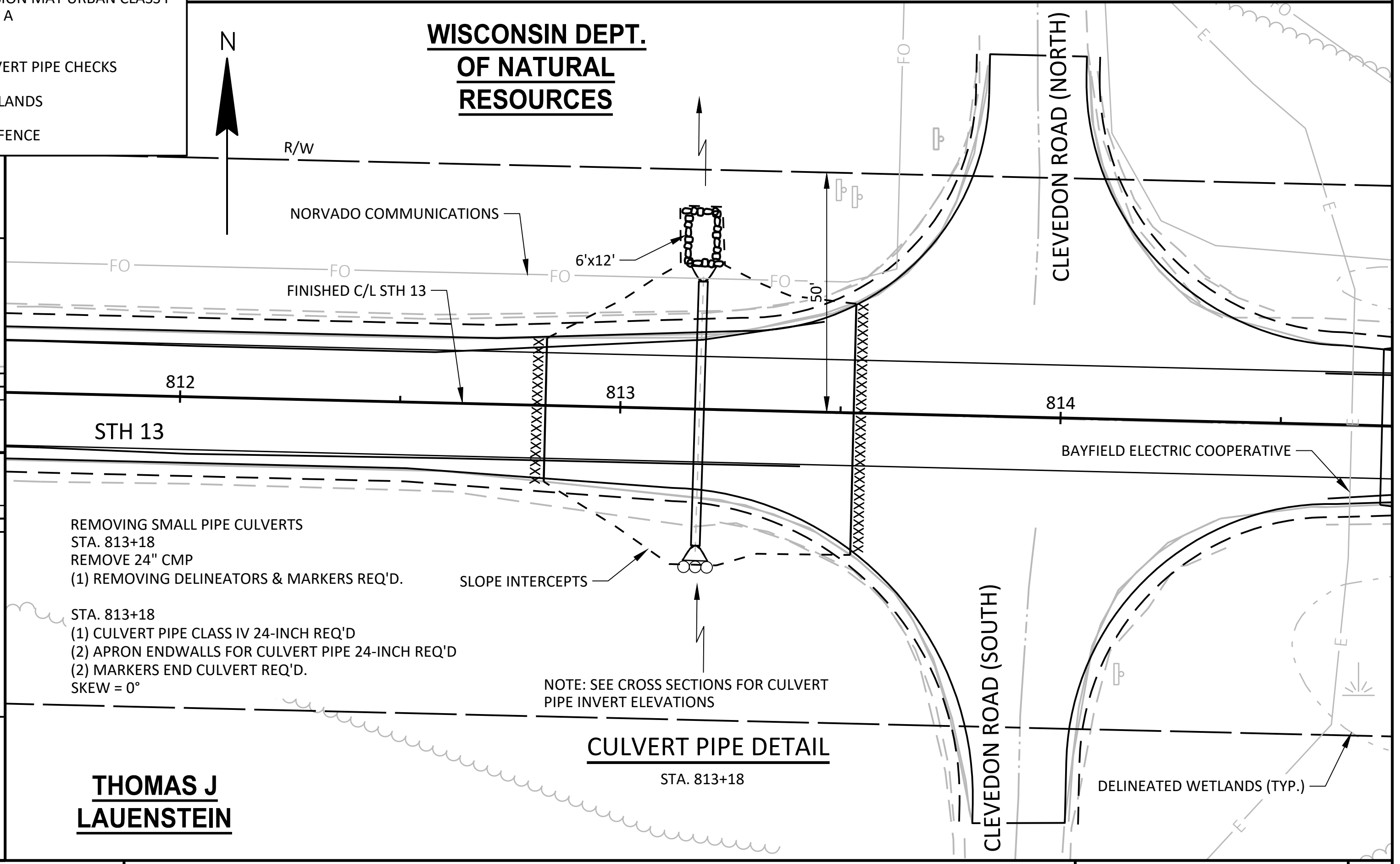
CULVERT PIPE DETAIL

STA. 767+13

NOTE: SEE CROSS SECTIONS FOR CULVERT PIPE INVERT ELEVATIONS

LEGEND

←	DIRECTION OF FLOW
XXXXXXXXX	SAWING ASPHALT
➡	DIRECTION OF TRAVEL
▭	RIPRAP HEAVY OVER GEOTEXTILE TYPE HR
▨	EROSION MAT URBAN CLASS I TYPE A
○○○	CULVERT PIPE CHECKS
ψ	WETLANDS
•—•—•	SILT FENCE



REMOVING SMALL PIPE CULVERTS
STA. 813+18
REMOVE 24" CMP
(1) REMOVING DELINEATORS & MARKERS REQ'D.

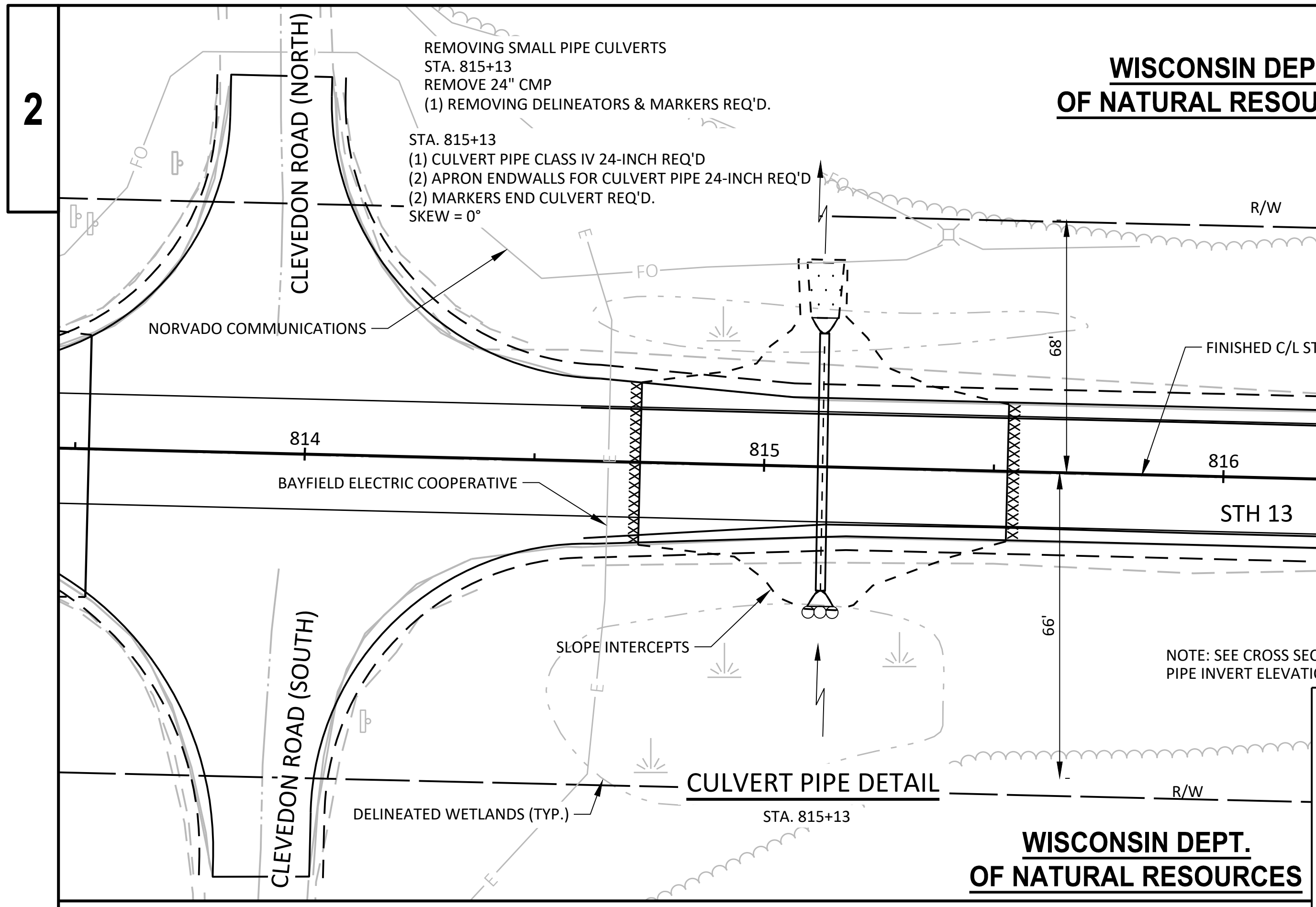
STA. 813+18
(1) CULVERT PIPE CLASS IV 24-INCH REQ'D
(2) APRON ENDWALLS FOR CULVERT PIPE 24-INCH REQ'D
(2) MARKERS END CULVERT REQ'D.
SKEW = 0°

NOTE: SEE CROSS SECTIONS FOR CULVERT PIPE INVERT ELEVATIONS

CULVERT PIPE DETAIL

STA. 813+18

PROJECT NO: 8510-01-70	HWY: STH 13	COUNTY: DOUGLAS	CONSTRUCTION DETAIL (CULVERT PIPE REPLACEMENT)	SHEET 43	E

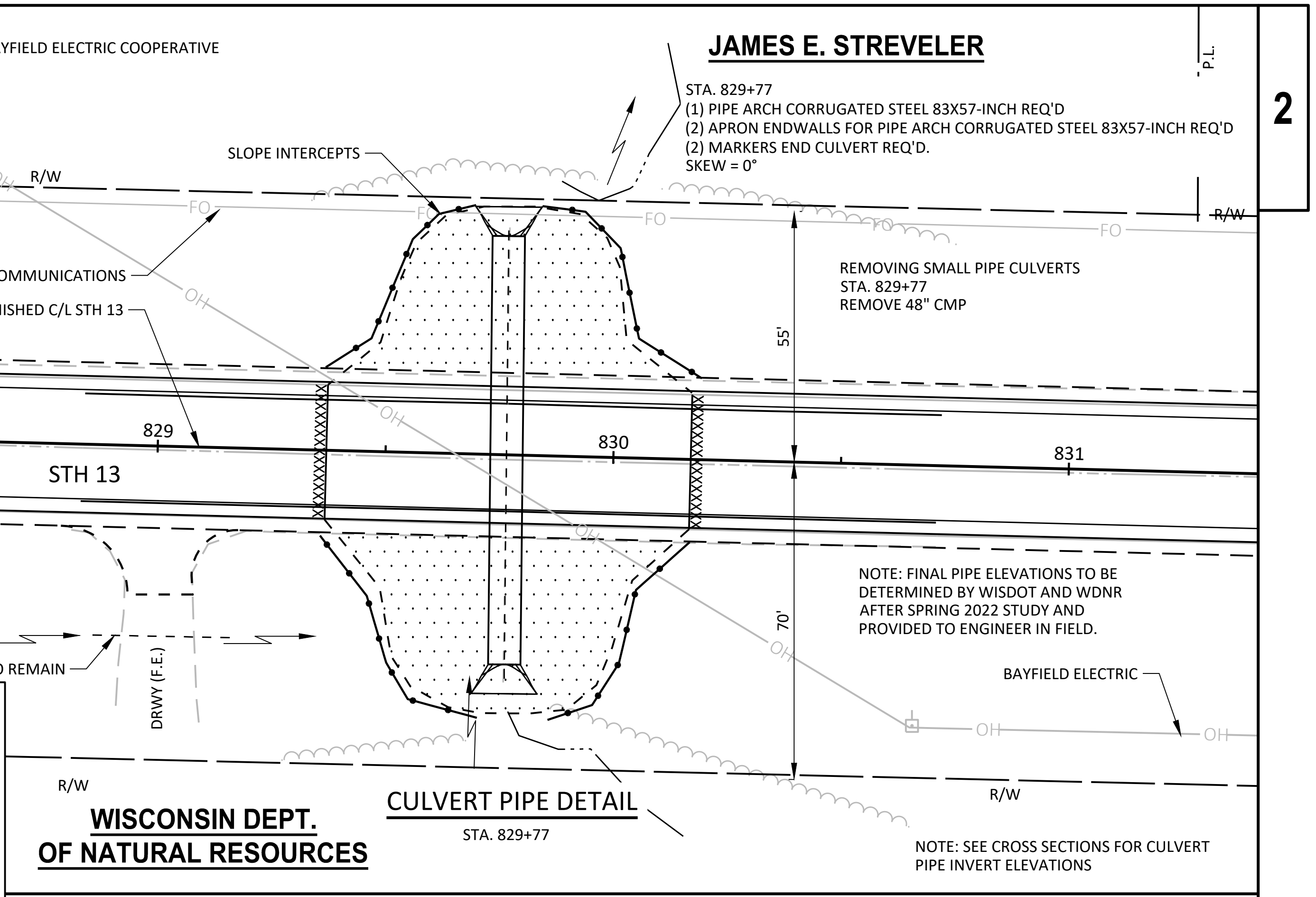


REMOVING SMALL PIPE CULVERTS
STA. 815+13
REMOVE 24" CMP
(1) REMOVING DELINEATORS & MARKERS REQ'D.

STA. 815+13
(1) CULVERT PIPE CLASS IV 24-INCH REQ'D
(2) APRON ENDWALLS FOR CULVERT PIPE 24-INCH REQ'D
(2) MARKERS END CULVERT REQ'D.
SKEW = 0°

NOTE: SEE CROSS SECTIONS FOR CULVERT PIPE INVERT ELEVATIONS

CULVERT PIPE DETAIL
STA. 815+13



STA. 829+77
(1) PIPE ARCH CORRUGATED STEEL 83X57-INCH REQ'D
(2) APRON ENDWALLS FOR PIPE ARCH CORRUGATED STEEL 83X57-INCH REQ'D
(2) MARKERS END CULVERT REQ'D.
SKEW = 0°

REMOVING SMALL PIPE CULVERTS
STA. 829+77
REMOVE 48" CMP

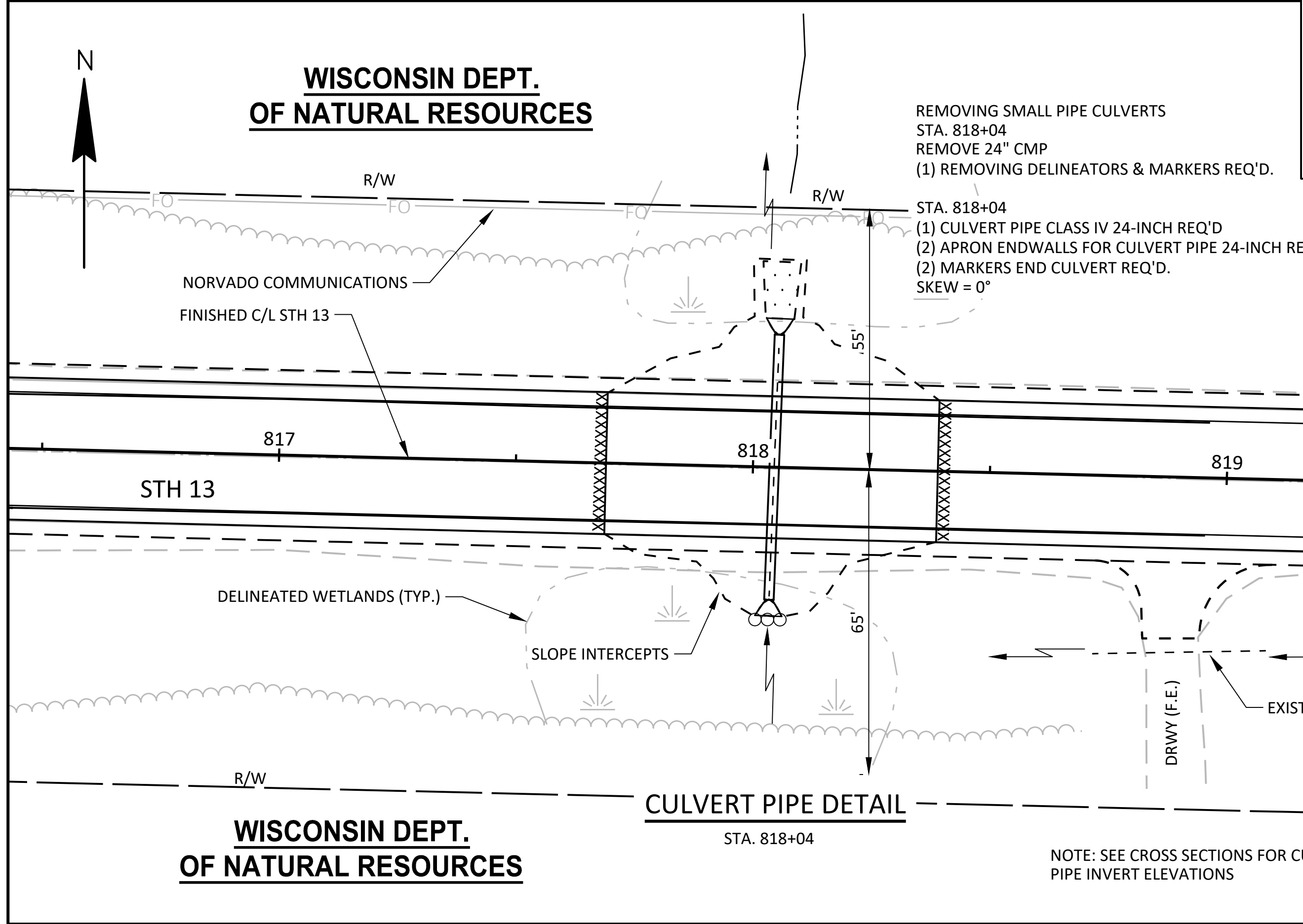
NOTE: FINAL PIPE ELEVATIONS TO BE DETERMINED BY WISDOT AND WDNR AFTER SPRING 2022 STUDY AND PROVIDED TO ENGINEER IN FIELD.

NOTE: SEE CROSS SECTIONS FOR CULVERT PIPE INVERT ELEVATIONS

CULVERT PIPE DETAIL
STA. 829+77

LEGEND

⟵	DIRECTION OF FLOW
XXXXXXXXX	SAWING ASPHALT
➡	DIRECTION OF TRAVEL
▭	RIPRAP HEAVY OVER GEOTEXTILE TYPE HR
○○○	CULVERT PIPE CHECKS
	WETLANDS
▨	EROSION MAT URBAN CLASS I TYPE A
●—●—●	SILT FENCE

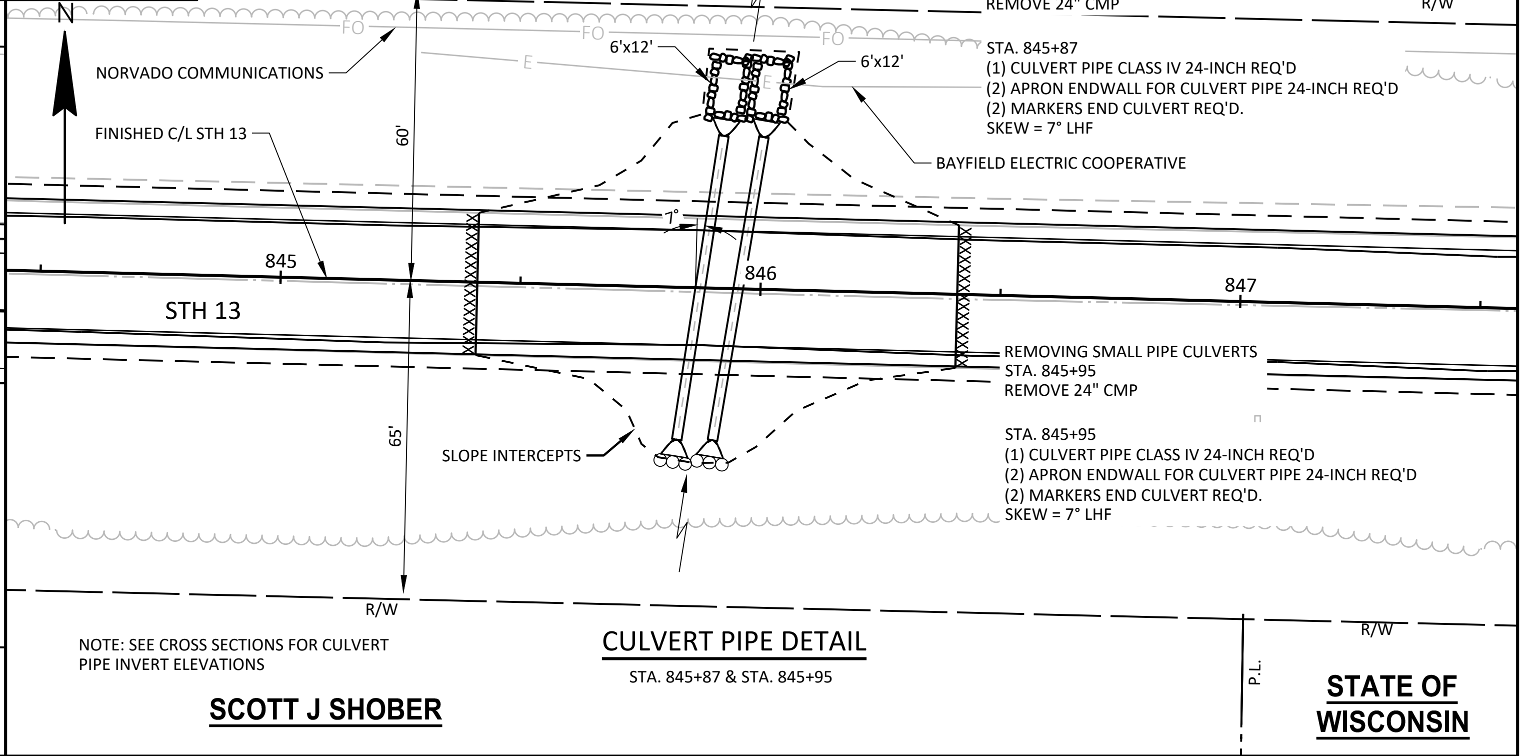


REMOVING SMALL PIPE CULVERTS
STA. 818+04
REMOVE 24" CMP
(1) REMOVING DELINEATORS & MARKERS REQ'D.

STA. 818+04
(1) CULVERT PIPE CLASS IV 24-INCH REQ'D
(2) APRON ENDWALLS FOR CULVERT PIPE 24-INCH REQ'D
(2) MARKERS END CULVERT REQ'D.
SKEW = 0°

CULVERT PIPE DETAIL
STA. 818+04

NOTE: SEE CROSS SECTIONS FOR CULVERT PIPE INVERT ELEVATIONS



REMOVING SMALL PIPE CULVERTS
STA. 845+87
REMOVE 24" CMP

STA. 845+87
(1) CULVERT PIPE CLASS IV 24-INCH REQ'D
(2) APRON ENDWALL FOR CULVERT PIPE 24-INCH REQ'D
(2) MARKERS END CULVERT REQ'D.
SKEW = 7° LHF

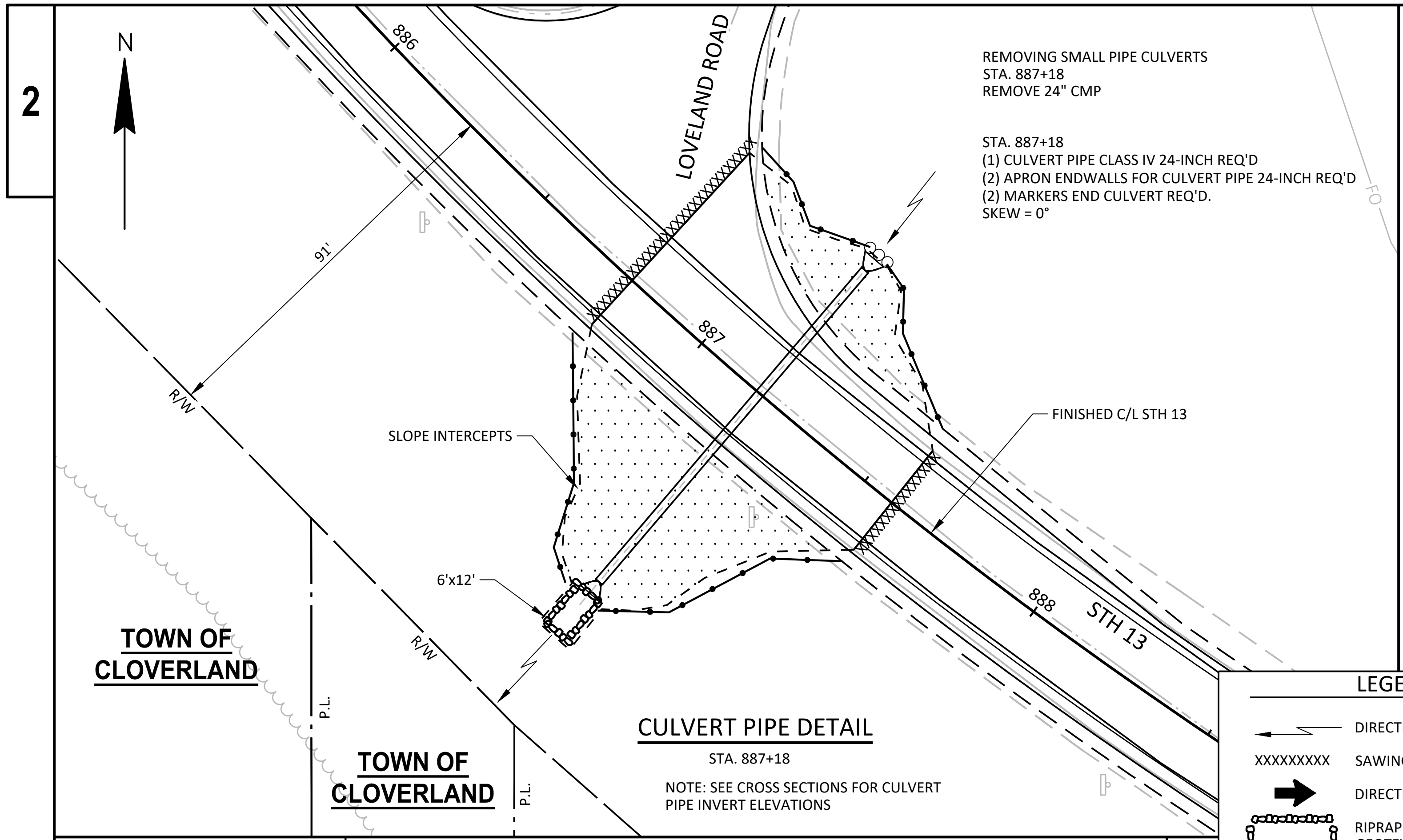
REMOVING SMALL PIPE CULVERTS
STA. 845+95
REMOVE 24" CMP

STA. 845+95
(1) CULVERT PIPE CLASS IV 24-INCH REQ'D
(2) APRON ENDWALL FOR CULVERT PIPE 24-INCH REQ'D
(2) MARKERS END CULVERT REQ'D.
SKEW = 7° LHF

NOTE: SEE CROSS SECTIONS FOR CULVERT PIPE INVERT ELEVATIONS

CULVERT PIPE DETAIL
STA. 845+87 & STA. 845+95

PROJECT NO: 8510-01-70	HWY: STH 13	COUNTY: DOUGLAS	CONSTRUCTION DETAIL (CULVERT PIPE REPLACEMENT)	SHEET 44	E



REMOVING SMALL PIPE CULVERTS
STA. 887+18
REMOVE 24" CMP

STA. 887+18
(1) CULVERT PIPE CLASS IV 24-INCH REQ'D
(2) APRON ENDWALLS FOR CULVERT PIPE 24-INCH REQ'D
(2) MARKERS END CULVERT REQ'D.
SKEW = 0°

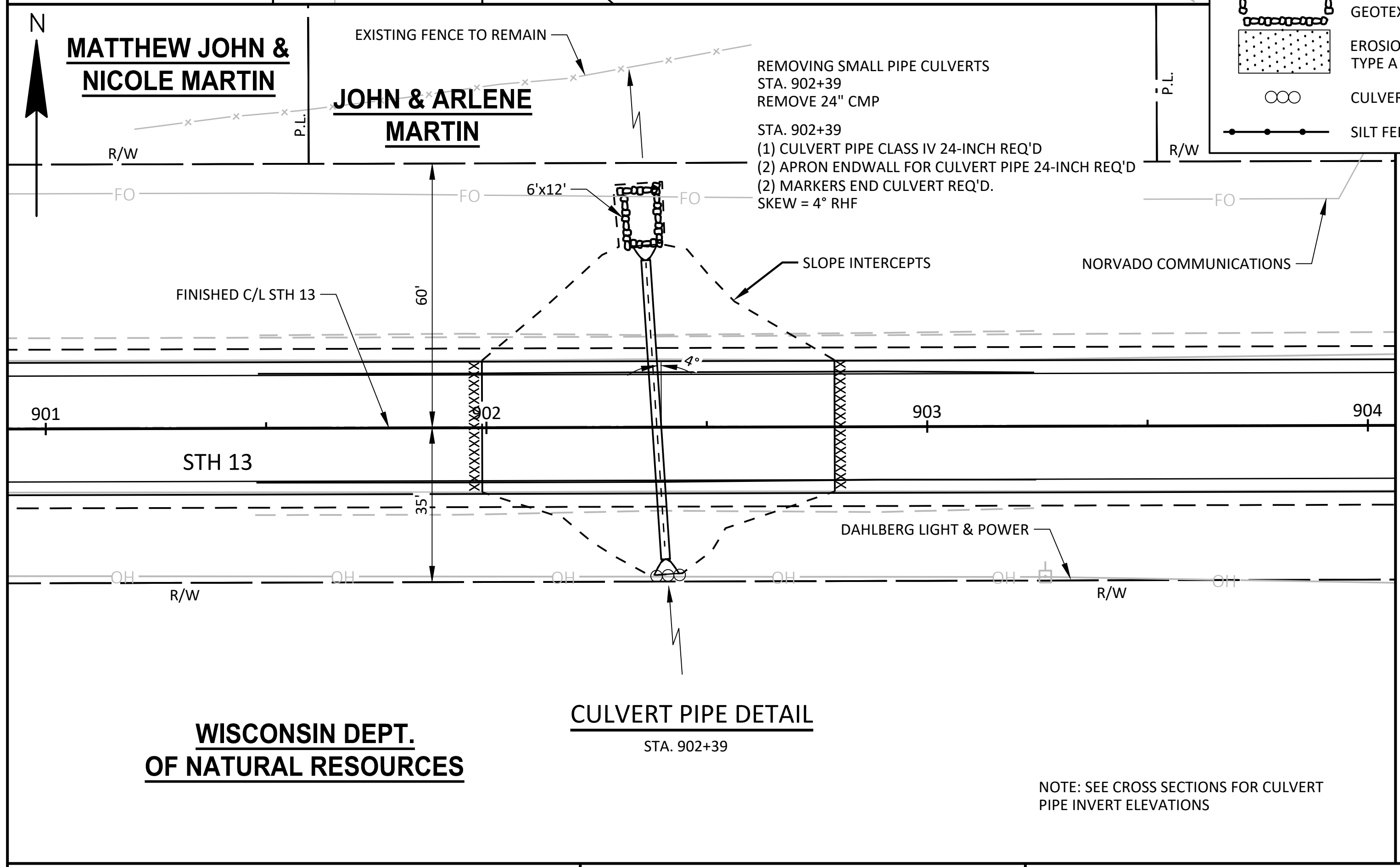
CULVERT PIPE DETAIL

STA. 887+18

NOTE: SEE CROSS SECTIONS FOR CULVERT PIPE INVERT ELEVATIONS

LEGEND

←	DIRECTION OF FLOW
XXXXXXXXX	SAWING ASPHALT
➡	DIRECTION OF TRAVEL
▭	RIPRAP HEAVY OVER GEOTEXTILE TYPE HR
▨	EROSION MAT URBAN CLASS I TYPE A
○○○	CULVERT PIPE CHECKS
—●—●—	SILT FENCE



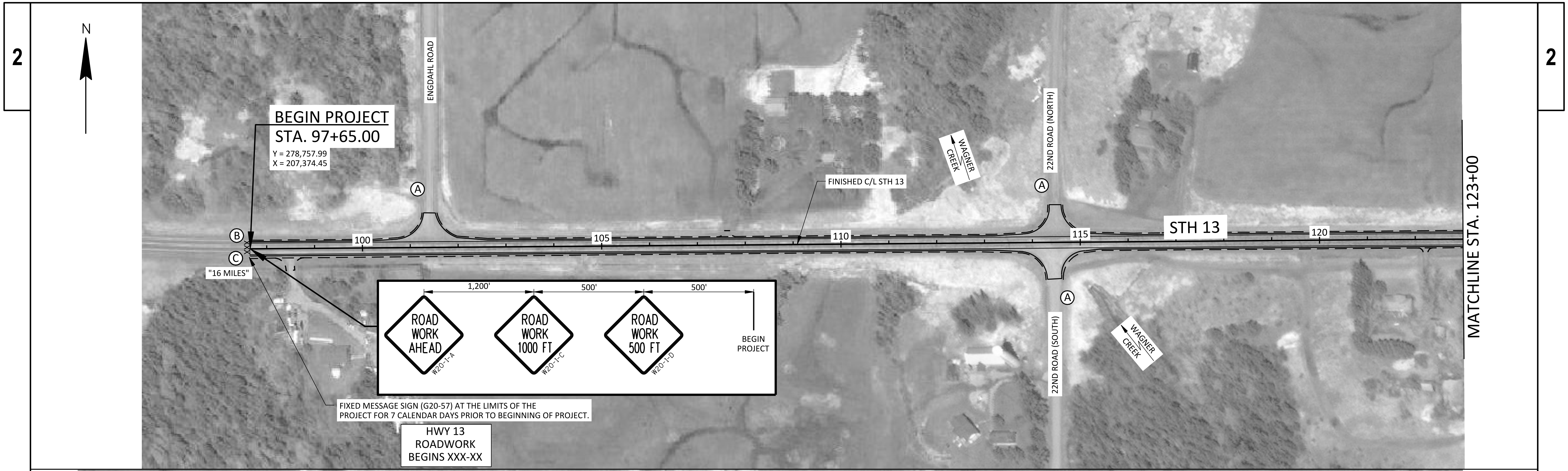
REMOVING SMALL PIPE CULVERTS
STA. 902+39
REMOVE 24" CMP

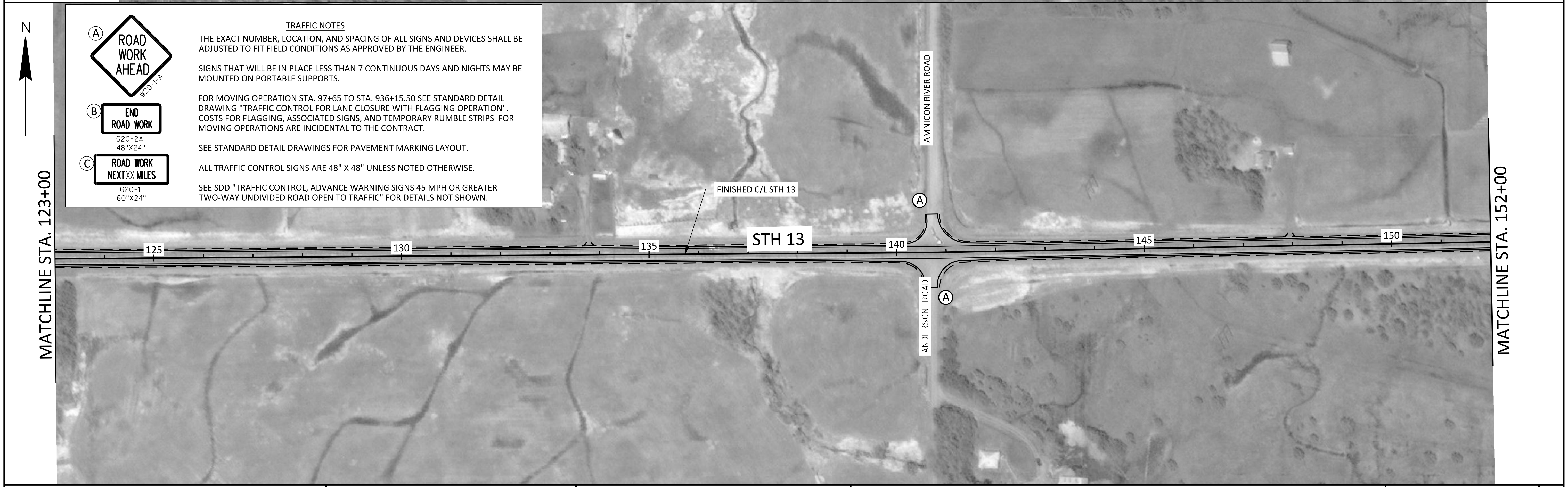
STA. 902+39
(1) CULVERT PIPE CLASS IV 24-INCH REQ'D
(2) APRON ENDWALL FOR CULVERT PIPE 24-INCH REQ'D
(2) MARKERS END CULVERT REQ'D.
SKEW = 4° RHF

CULVERT PIPE DETAIL

STA. 902+39

NOTE: SEE CROSS SECTIONS FOR CULVERT PIPE INVERT ELEVATIONS





TRAFFIC NOTES

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

FOR MOVING OPERATION STA. 97+65 TO STA. 936+15.50 SEE STANDARD DETAIL DRAWING "TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION". COSTS FOR FLAGGING, ASSOCIATED SIGNS, AND TEMPORARY RUMBLE STRIPS FOR MOVING OPERATIONS ARE INCIDENTAL TO THE CONTRACT.

SEE STANDARD DETAIL DRAWINGS FOR PAVEMENT MARKING LAYOUT.

ALL TRAFFIC CONTROL SIGNS ARE 48" X 48" UNLESS NOTED OTHERWISE.

SEE SDD "TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 MPH OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC" FOR DETAILS NOT SHOWN.

PROJECT NO: 8510-01-70	HWY: STH 13	COUNTY: DOUGLAS	TRAFFIC CONTROL	SHEET 46	E

FILE NAME : S:\PROJECTS\W11599 WISDOT STH 13, CTH H TO ENGDAHL ROAD DOUGLAS CO\SHEETSPLAN\DETAILS\85100100_TRAFFIC CONTROL PLAN.DWG PLOT DATE : 2/8/2022 9:35:47 AM PLOT BY : KARTER ZAJICEK PLOT SCALE : 1" = 1' LAYOUT : LAYOUT 1

STA. 201+46
- REPLACE CULVERT IN STAGES
- MAINTAIN ONE LANE OF TRAFFIC USING FLAGGING OPERATION
- USE SDD "TRAFFIC CONTROL, LANE SHIFT IN FLAGGING OPERATION" FOR DETAILS NOT SHOWN.

Ⓐ ROAD WORK AHEAD W20-1-A

Ⓑ END ROAD WORK G20-2A 48"X24"

Ⓒ ROAD WORK NEXT XX MILES G20-1 60"X24"

TRAFFIC NOTES

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

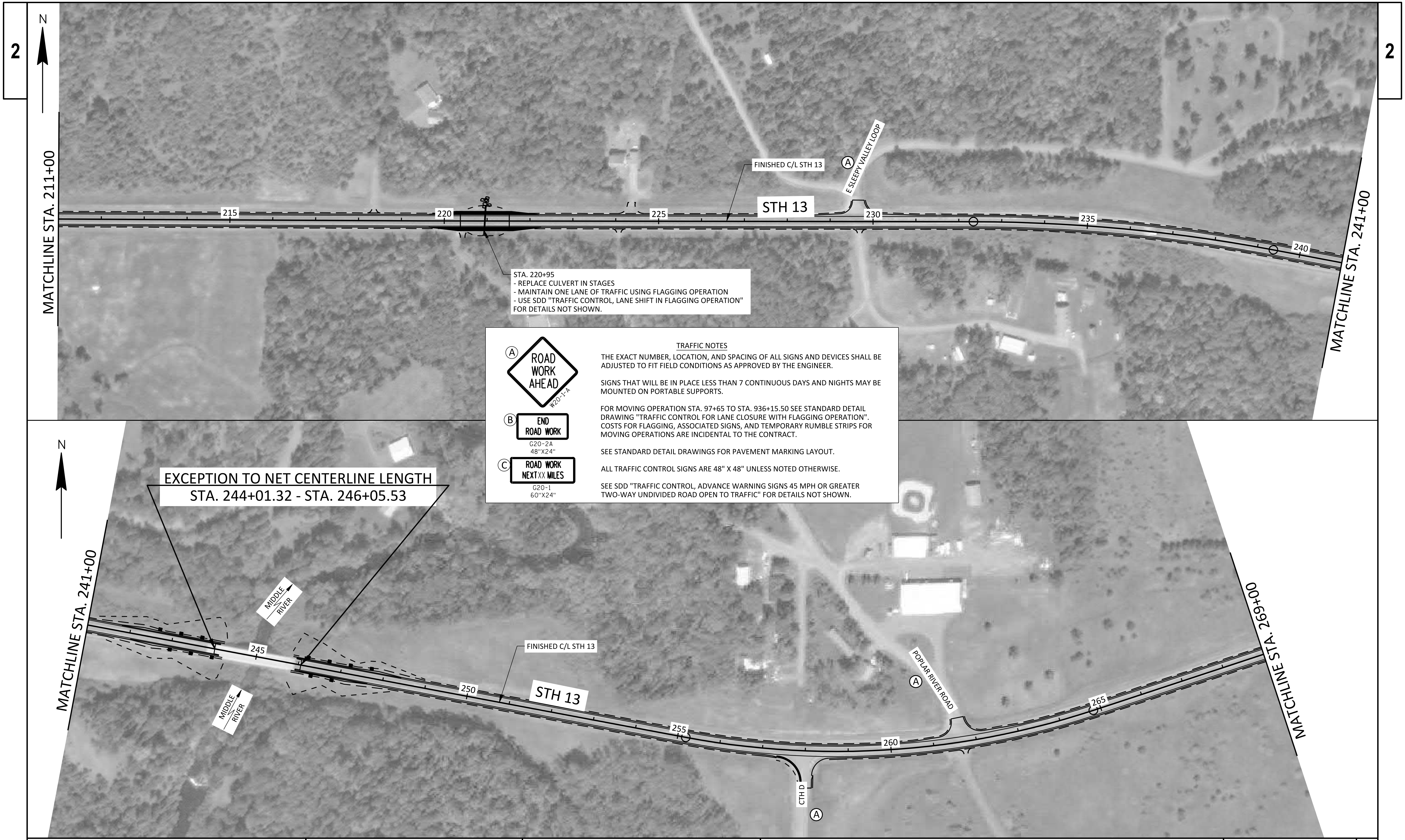
FOR MOVING OPERATION STA. 97+65 TO STA. 936+15.50 SEE STANDARD DETAIL DRAWING "TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION". COSTS FOR FLAGGING, ASSOCIATED SIGNS, AND TEMPORARY RUMBLE STRIPS FOR MOVING OPERATIONS ARE INCIDENTAL TO THE CONTRACT.

SEE STANDARD DETAIL DRAWINGS FOR PAVEMENT MARKING LAYOUT.

ALL TRAFFIC CONTROL SIGNS ARE 48" X 48" UNLESS NOTED OTHERWISE.

SEE SDD "TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 MPH OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC" FOR DETAILS NOT SHOWN.

PROJECT NO: 8510-01-70	HWY: STH 13	COUNTY: DOUGLAS	TRAFFIC CONTROL	SHEET 47	E



TRAFFIC NOTES

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

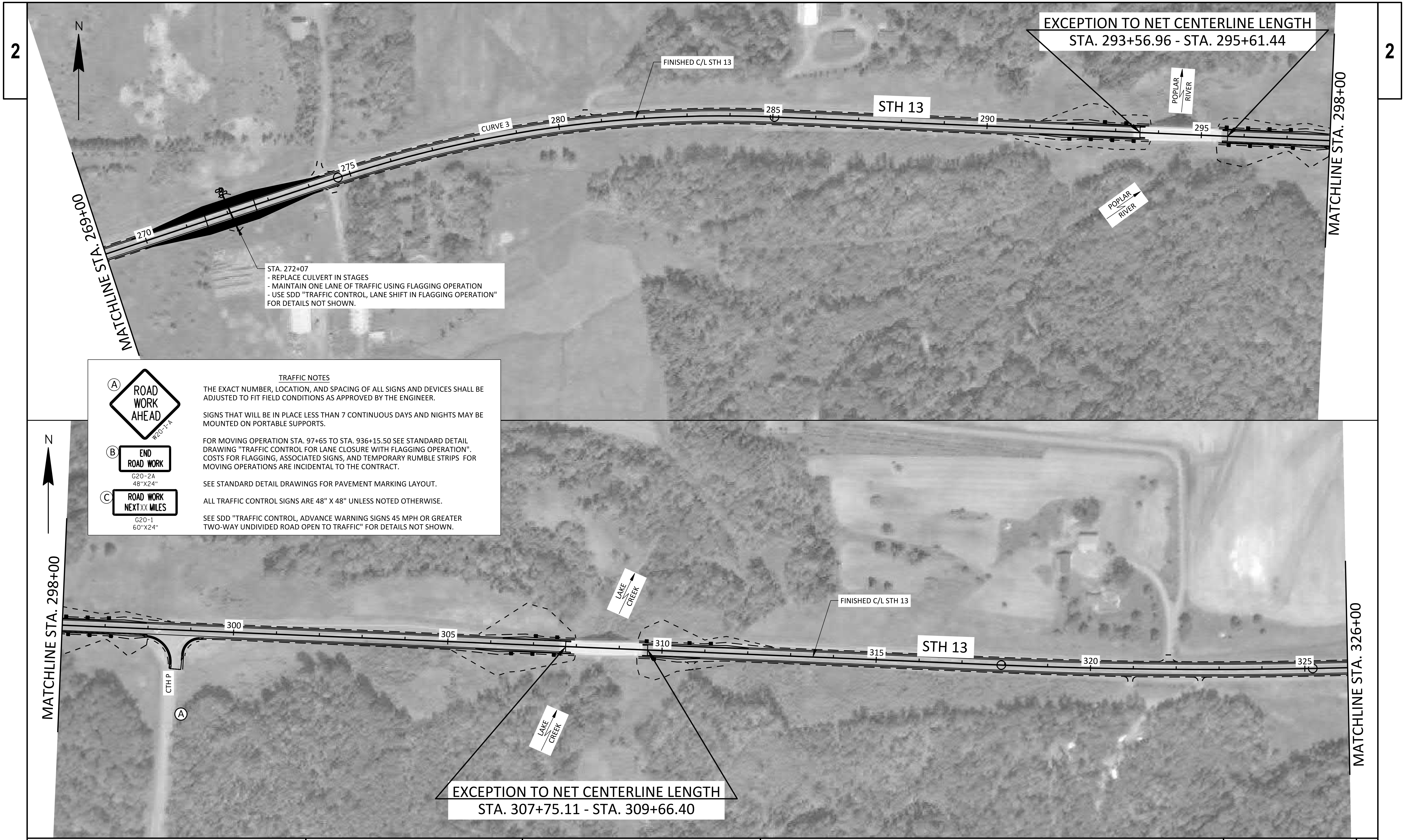
FOR MOVING OPERATION STA. 97+65 TO STA. 936+15.50 SEE STANDARD DETAIL DRAWING "TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION". COSTS FOR FLAGGING, ASSOCIATED SIGNS, AND TEMPORARY RUMBLE STRIPS FOR MOVING OPERATIONS ARE INCIDENTAL TO THE CONTRACT.

SEE STANDARD DETAIL DRAWINGS FOR PAVEMENT MARKING LAYOUT.

ALL TRAFFIC CONTROL SIGNS ARE 48" X 48" UNLESS NOTED OTHERWISE.

SEE SDD "TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 MPH OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC" FOR DETAILS NOT SHOWN.

PROJECT NO: 8510-01-70	HWY: STH 13	COUNTY: DOUGLAS	TRAFFIC CONTROL	SHEET 48	E



STA. 272+07
- REPLACE CULVERT IN STAGES
- MAINTAIN ONE LANE OF TRAFFIC USING FLAGGING OPERATION
- USE SDD "TRAFFIC CONTROL, LANE SHIFT IN FLAGGING OPERATION" FOR DETAILS NOT SHOWN.

Ⓐ ROAD WORK AHEAD W20-1-A

Ⓑ END ROAD WORK G20-2A 48"X24"

Ⓒ ROAD WORK NEXT XX MILES G20-1 60"X24"

TRAFFIC NOTES

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

FOR MOVING OPERATION STA. 97+65 TO STA. 936+15.50 SEE STANDARD DETAIL DRAWING "TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION". COSTS FOR FLAGGING, ASSOCIATED SIGNS, AND TEMPORARY RUMBLE STRIPS FOR MOVING OPERATIONS ARE INCIDENTAL TO THE CONTRACT.

SEE STANDARD DETAIL DRAWINGS FOR PAVEMENT MARKING LAYOUT.

ALL TRAFFIC CONTROL SIGNS ARE 48" X 48" UNLESS NOTED OTHERWISE.

SEE SDD "TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 MPH OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC" FOR DETAILS NOT SHOWN.

PROJECT NO: 8510-01-70	HWY: STH 13	COUNTY: DOUGLAS	TRAFFIC CONTROL	SHEET	E

STA. 327+81 (DEEP CULVERT)
- REPLACE CULVERT IN STAGES
- SEE DETAIL FOR STAGING LAYOUT
- USE SDD "TRAFFIC CONTROL, ONE LANE ROAD WITH TEMPORARY SIGNALS" FOR TRAFFIC CONTROL LAYOUT

FINISHED C/L STH 13

STA. 354+90
- REPLACE CULVERT IN STAGES
- MAINTAIN ONE LANE OF TRAFFIC USING FLAGGING OPERATION
- USE SDD "TRAFFIC CONTROL, LANE SHIFT IN FLAGGING OPERATION" FOR DETAILS NOT SHOWN.

STA. 349+78
- REPLACE CULVERT IN STAGES
- MAINTAIN ONE LANE OF TRAFFIC USING FLAGGING OPERATION
- USE SDD "TRAFFIC CONTROL, LANE SHIFT IN FLAGGING OPERATION" FOR DETAILS NOT SHOWN.

TRAFFIC NOTES

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

FOR MOVING OPERATION STA. 97+65 TO STA. 936+15.50 SEE STANDARD DETAIL DRAWING "TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION". COSTS FOR FLAGGING, ASSOCIATED SIGNS, AND TEMPORARY RUMBLE STRIPS FOR MOVING OPERATIONS ARE INCIDENTAL TO THE CONTRACT.

SEE STANDARD DETAIL DRAWINGS FOR PAVEMENT MARKING LAYOUT.

ALL TRAFFIC CONTROL SIGNS ARE 48" X 48" UNLESS NOTED OTHERWISE.

SEE SDD "TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 MPH OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC" FOR DETAILS NOT SHOWN.

STA. 367+90
- REPLACE CULVERT IN STAGES
- MAINTAIN ONE LANE OF TRAFFIC USING FLAGGING OPERATION
- USE SDD "TRAFFIC CONTROL, LANE SHIFT IN FLAGGING OPERATION" FOR DETAILS NOT SHOWN.

STA. 376+89
- REPLACE CULVERT IN STAGES
- MAINTAIN ONE LANE OF TRAFFIC USING FLAGGING OPERATION
- USE SDD "TRAFFIC CONTROL, LANE SHIFT IN FLAGGING OPERATION" FOR DETAILS NOT SHOWN.

FINISHED C/L STH 13

PROJECT NO: 8510-01-70	HWY: STH 13	COUNTY: DOUGLAS	TRAFFIC CONTROL	SHEET 50 E

FILE NAME : S:\PROJECTS\W11599 WISDOT STH 13, CTH H TO ENGDAHL ROAD DOUGLAS CO\SHEETSPLAN\DETAILS\85100100_TRAFFIC CONTROL PLAN.DWG PLOT DATE : 2/2/2022 8:13:17 AM PLOT BY : KARTER ZAJICEK PLOT SCALE : 1" = 1' LAYOUT : LAYOUT 5

TRAFFIC NOTES

Ⓐ ROAD WORK AHEAD
W20-1-A

Ⓑ END ROAD WORK
G20-2A
48"X24"

Ⓒ ROAD WORK NEXT XX MILES
G20-1
60"X24"

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

FOR MOVING OPERATION STA. 97+65 TO STA. 936+15.50 SEE STANDARD DETAIL DRAWING "TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION". COSTS FOR FLAGGING, ASSOCIATED SIGNS, AND TEMPORARY RUMBLE STRIPS FOR MOVING OPERATIONS ARE INCIDENTAL TO THE CONTRACT.

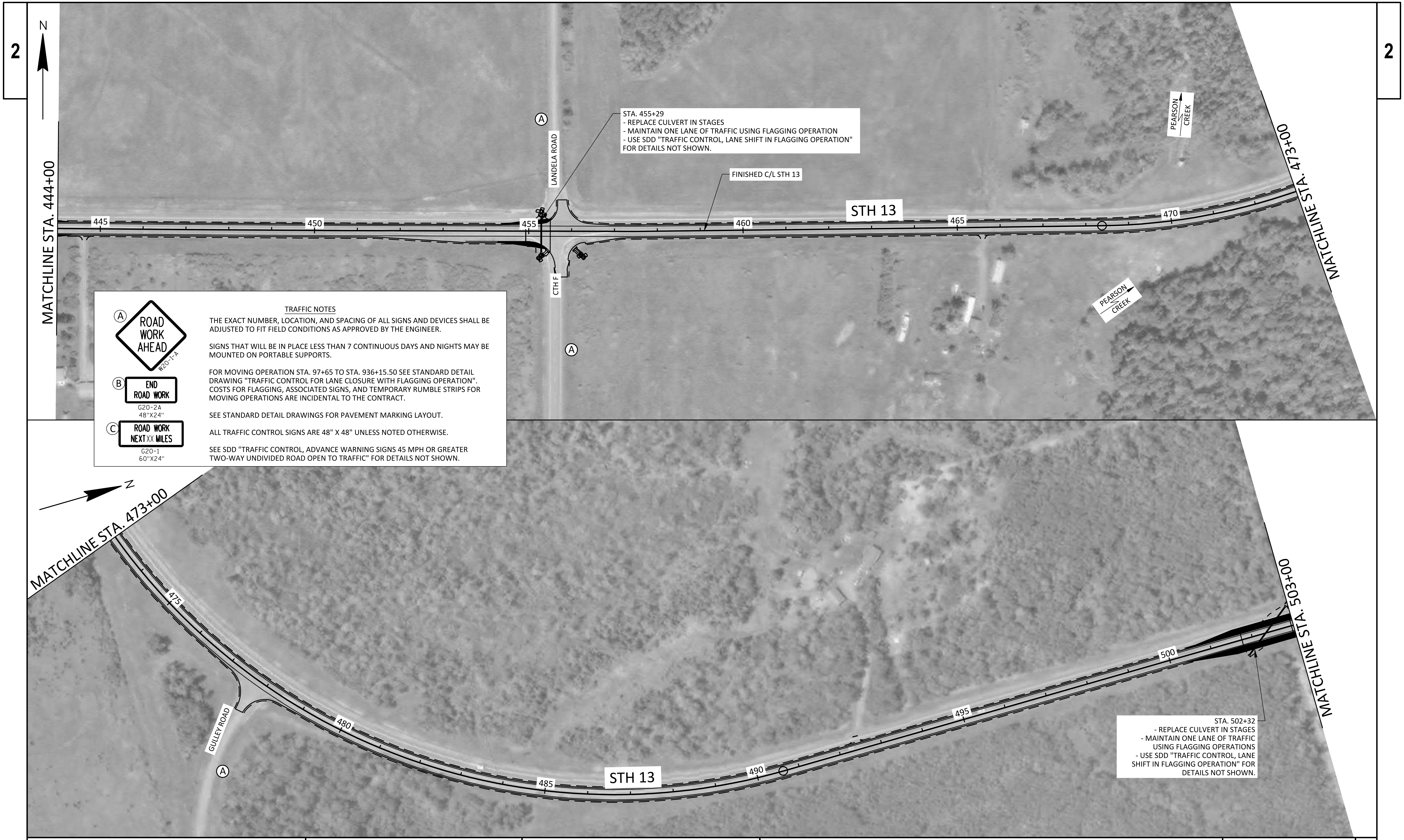
SEE STANDARD DETAIL DRAWINGS FOR PAVEMENT MARKING LAYOUT.

ALL TRAFFIC CONTROL SIGNS ARE 48" X 48" UNLESS NOTED OTHERWISE.

SEE SDD "TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 MPH OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC" FOR DETAILS NOT SHOWN.

PROJECT NO: 8510-01-70	HWY: STH 13	COUNTY: DOUGLAS	TRAFFIC CONTROL	SHEET	E

FILE NAME : S:\PROJECTS\W11599 WISDOT STH 13, CTH H TO ENGDAHL ROAD DOUGLAS CO\SHEETSPLAN\DETAILS\85100100_TRAFFIC CONTROL PLAN.DWG PLOT DATE : 2/2/2022 8:13:22 AM PLOT BY : KARTER ZAJICEK PLOT SCALE : 1" = 1' LAYOUT : LAYOUT 6



STA. 455+29
- REPLACE CULVERT IN STAGES
- MAINTAIN ONE LANE OF TRAFFIC USING FLAGGING OPERATION
- USE SDD "TRAFFIC CONTROL, LANE SHIFT IN FLAGGING OPERATION" FOR DETAILS NOT SHOWN.

FINISHED C/L STH 13

STA. 502+32
- REPLACE CULVERT IN STAGES
- MAINTAIN ONE LANE OF TRAFFIC USING FLAGGING OPERATIONS
- USE SDD "TRAFFIC CONTROL, LANE SHIFT IN FLAGGING OPERATION" FOR DETAILS NOT SHOWN.

TRAFFIC NOTES

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

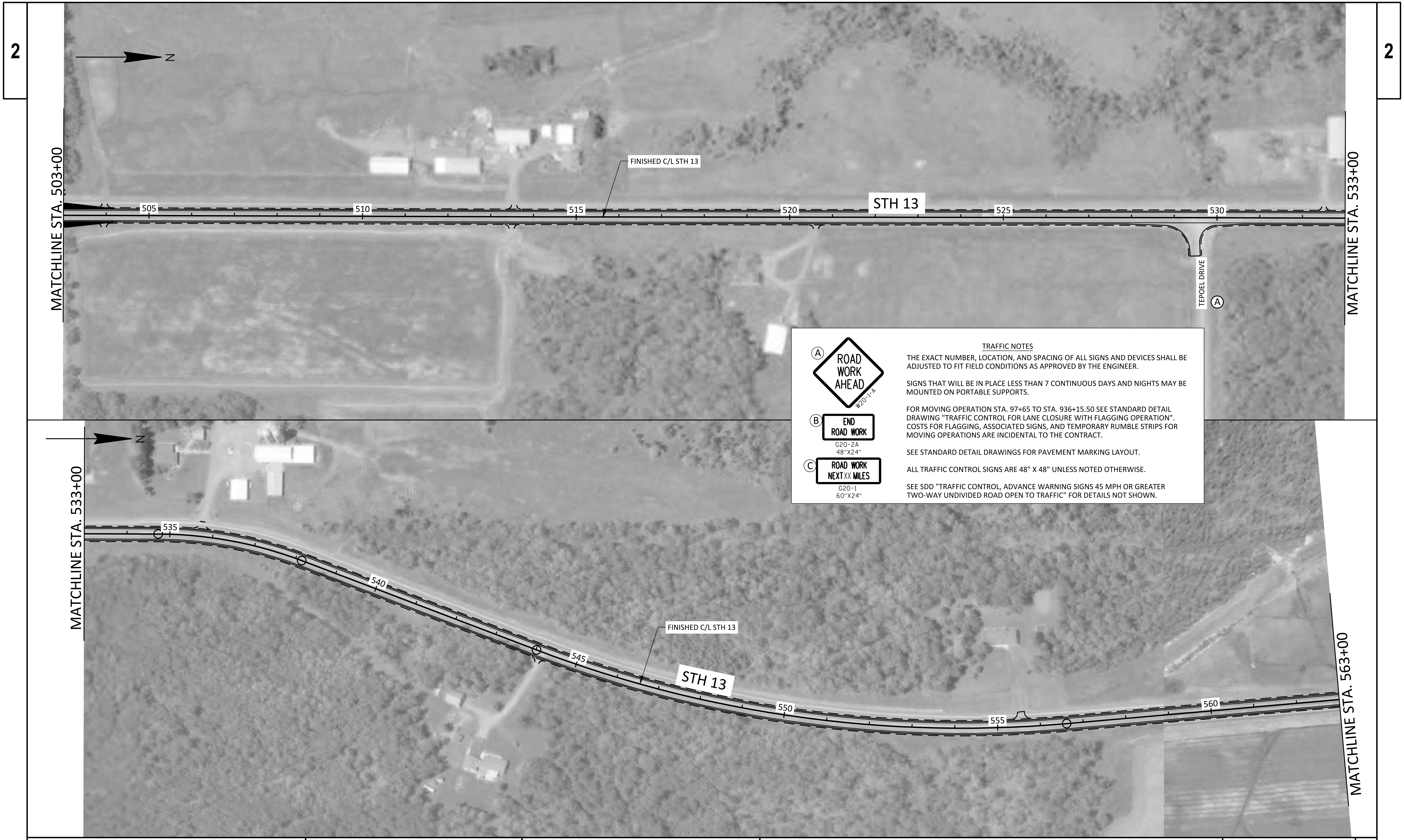
SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

FOR MOVING OPERATION STA. 97+65 TO STA. 936+15.50 SEE STANDARD DETAIL DRAWING "TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION". COSTS FOR FLAGGING, ASSOCIATED SIGNS, AND TEMPORARY RUMBLE STRIPS FOR MOVING OPERATIONS ARE INCIDENTAL TO THE CONTRACT.

SEE STANDARD DETAIL DRAWINGS FOR PAVEMENT MARKING LAYOUT.

ALL TRAFFIC CONTROL SIGNS ARE 48" X 48" UNLESS NOTED OTHERWISE.

SEE SDD "TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 MPH OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC" FOR DETAILS NOT SHOWN.



TRAFFIC NOTES

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

FOR MOVING OPERATION STA. 97+65 TO STA. 936+15.50 SEE STANDARD DETAIL DRAWING "TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION". COSTS FOR FLAGGING, ASSOCIATED SIGNS, AND TEMPORARY RUMBLE STRIPS FOR MOVING OPERATIONS ARE INCIDENTAL TO THE CONTRACT.

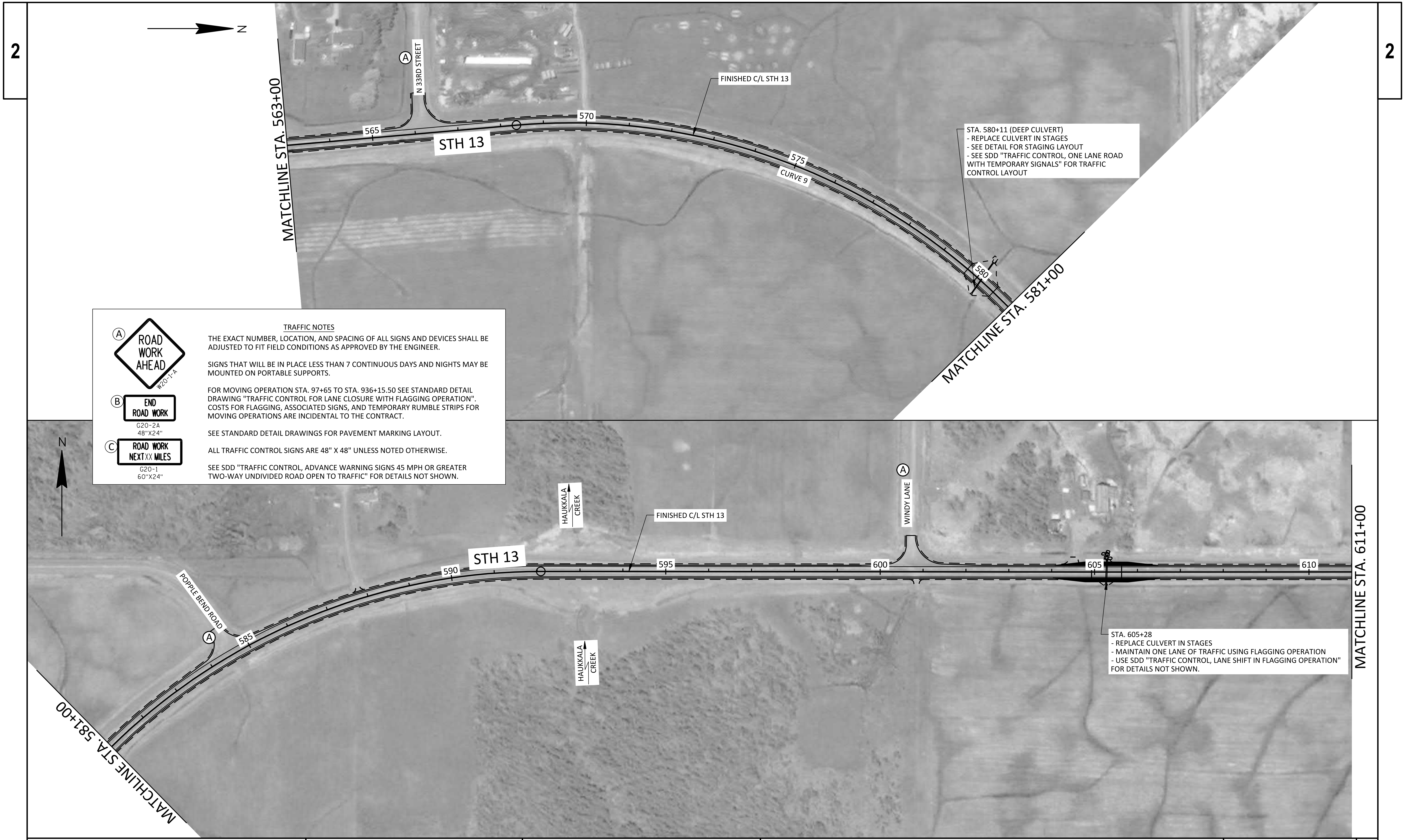
SEE STANDARD DETAIL DRAWINGS FOR PAVEMENT MARKING LAYOUT.

ALL TRAFFIC CONTROL SIGNS ARE 48" X 48" UNLESS NOTED OTHERWISE.

SEE SDD "TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 MPH OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC" FOR DETAILS NOT SHOWN.

PROJECT NO: 8510-01-70	HWY: STH 13	COUNTY: DOUGLAS	TRAFFIC CONTROL	SHEET 53 E

FILE NAME : S:\PROJECTS\W11599 WISDOT STH 13, CTH H TO ENGDAHL ROAD DOUGLAS CO\SHEETSPLAN\DETAILS\85100100_TRAFFIC CONTROL PLAN.DWG PLOT DATE : 2/2/2022 8:13:32 AM PLOT BY : KARTER ZAJICEK PLOT SCALE : 1" = 1' LAYOUT : LAYOUT 8



STA. 580+11 (DEEP CULVERT)
- REPLACE CULVERT IN STAGES
- SEE DETAIL FOR STAGING LAYOUT
- SEE SDD "TRAFFIC CONTROL, ONE LANE ROAD WITH TEMPORARY SIGNALS" FOR TRAFFIC CONTROL LAYOUT

STA. 605+28
- REPLACE CULVERT IN STAGES
- MAINTAIN ONE LANE OF TRAFFIC USING FLAGGING OPERATION
- USE SDD "TRAFFIC CONTROL, LANE SHIFT IN FLAGGING OPERATION" FOR DETAILS NOT SHOWN.

Ⓐ ROAD WORK AHEAD
W20-1-A

Ⓑ END ROAD WORK
G20-2A
48"X24"

Ⓒ ROAD WORK NEXT XX MILES
G20-1
60"X24"

TRAFFIC NOTES

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

FOR MOVING OPERATION STA. 97+65 TO STA. 936+15.50 SEE STANDARD DETAIL DRAWING "TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION". COSTS FOR FLAGGING, ASSOCIATED SIGNS, AND TEMPORARY RUMBLE STRIPS FOR MOVING OPERATIONS ARE INCIDENTAL TO THE CONTRACT.

SEE STANDARD DETAIL DRAWINGS FOR PAVEMENT MARKING LAYOUT.

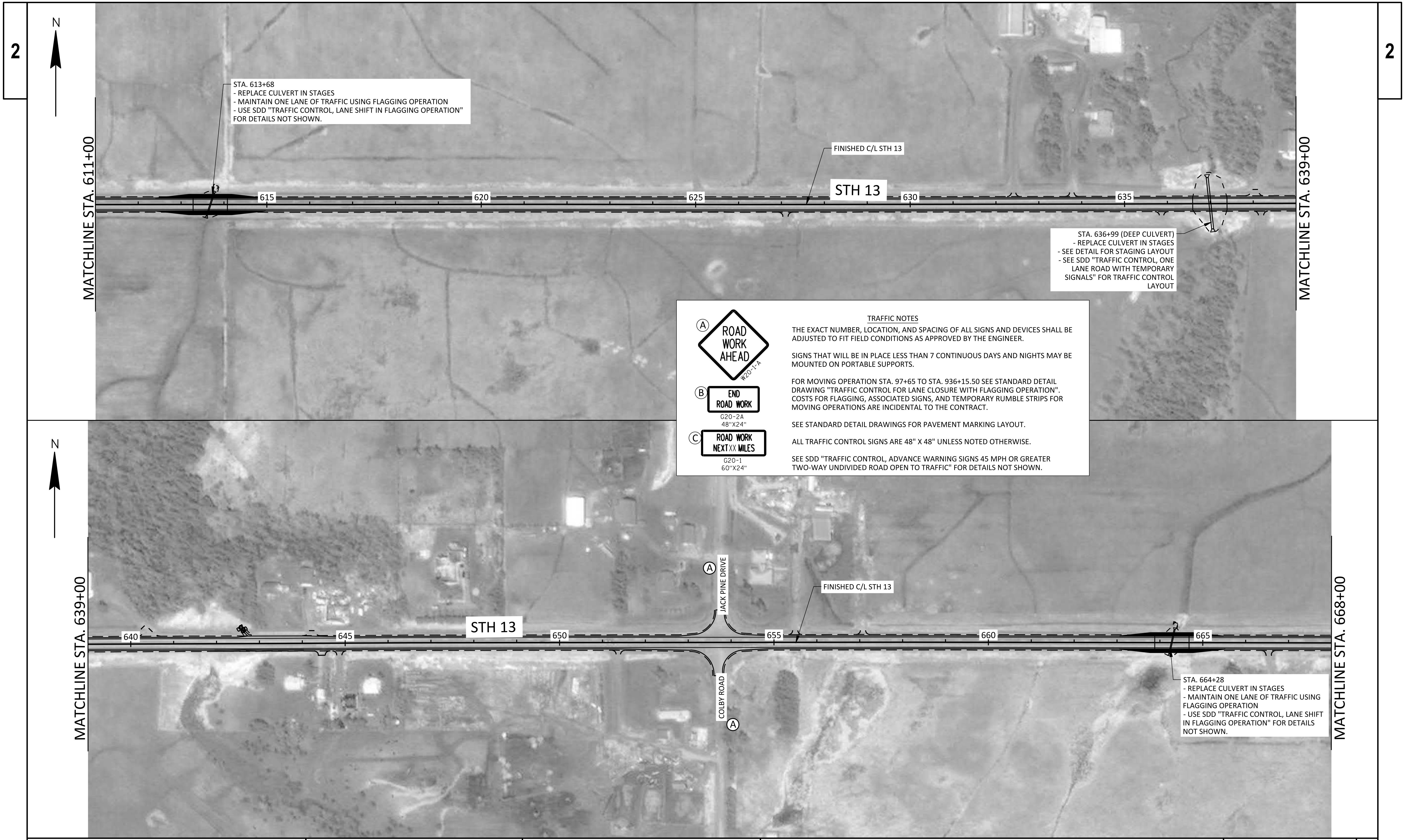
ALL TRAFFIC CONTROL SIGNS ARE 48" X 48" UNLESS NOTED OTHERWISE.

SEE SDD "TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 MPH OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC" FOR DETAILS NOT SHOWN.

PROJECT NO: 8510-01-70	HWY: STH 13	COUNTY: DOUGLAS	TRAFFIC CONTROL	SHEET 54	E

FILE NAME : S:\PROJECTS\W11599 WISDOT STH 13, CTH H TO ENGDAHL ROAD DOUGLAS CO\SHEETSPLAN\DETAILS\85100100_TRAFFIC CONTROL PLAN.DWG
PLOT DATE : 2/2/2022 8:13:37 AM
PLOT BY : KARTER ZAJICEK
PLOT SCALE : 1" = 1'
LAYOUT : LAYOUT 9

2



STA. 613+68
- REPLACE CULVERT IN STAGES
- MAINTAIN ONE LANE OF TRAFFIC USING FLAGGING OPERATION
- USE SDD "TRAFFIC CONTROL, LANE SHIFT IN FLAGGING OPERATION" FOR DETAILS NOT SHOWN.

STA. 636+99 (DEEP CULVERT)
- REPLACE CULVERT IN STAGES
- SEE DETAIL FOR STAGING LAYOUT
- SEE SDD "TRAFFIC CONTROL, ONE LANE ROAD WITH TEMPORARY SIGNALS" FOR TRAFFIC CONTROL LAYOUT

TRAFFIC NOTES

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

FOR MOVING OPERATION STA. 97+65 TO STA. 936+15.50 SEE STANDARD DETAIL DRAWING "TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION". COSTS FOR FLAGGING, ASSOCIATED SIGNS, AND TEMPORARY RUMBLE STRIPS FOR MOVING OPERATIONS ARE INCIDENTAL TO THE CONTRACT.

SEE STANDARD DETAIL DRAWINGS FOR PAVEMENT MARKING LAYOUT.

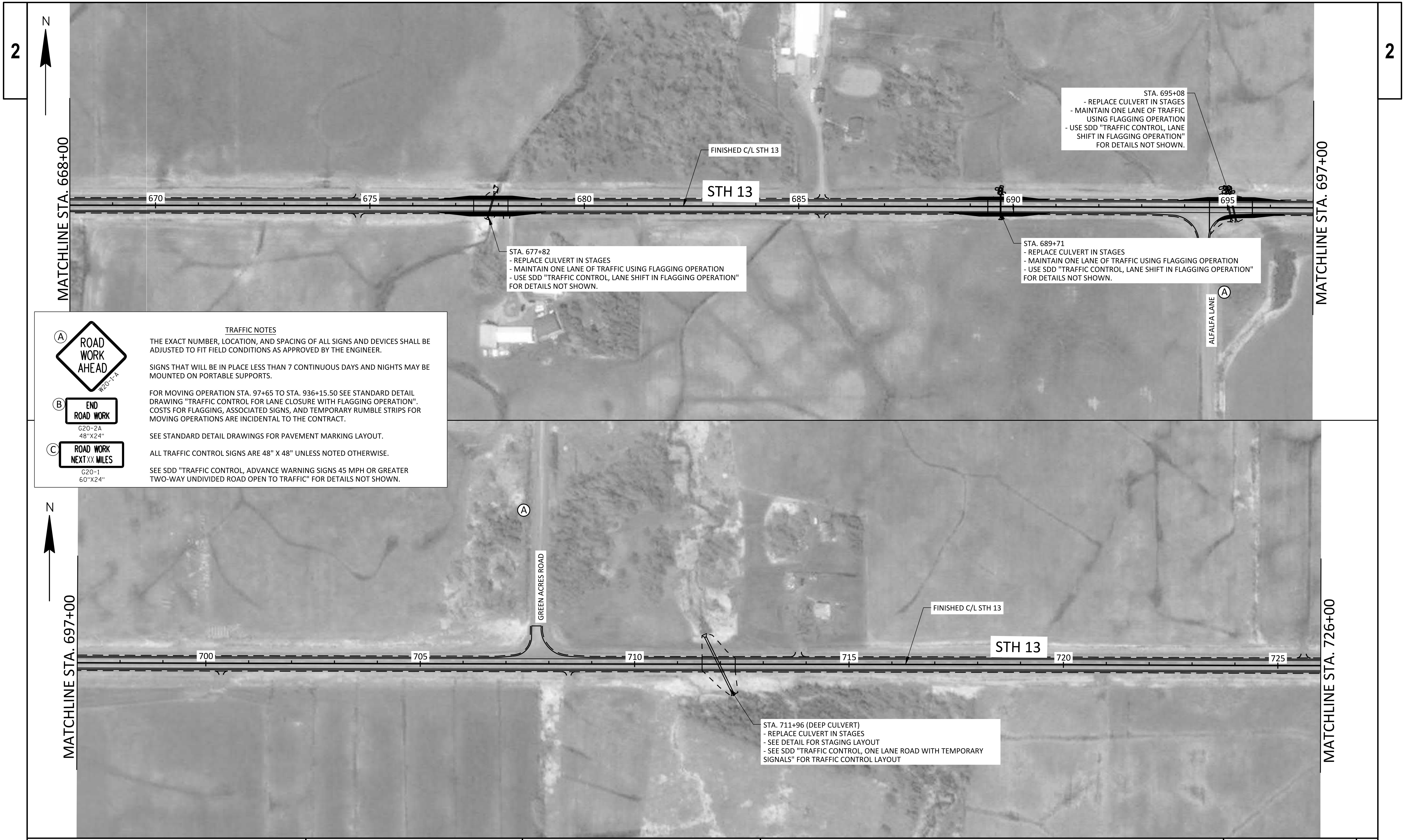
ALL TRAFFIC CONTROL SIGNS ARE 48" X 48" UNLESS NOTED OTHERWISE.

SEE SDD "TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 MPH OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC" FOR DETAILS NOT SHOWN.

STA. 664+28
- REPLACE CULVERT IN STAGES
- MAINTAIN ONE LANE OF TRAFFIC USING FLAGGING OPERATION
- USE SDD "TRAFFIC CONTROL, LANE SHIFT IN FLAGGING OPERATION" FOR DETAILS NOT SHOWN.

PROJECT NO: 8510-01-70	HWY: STH 13	COUNTY: DOUGLAS	TRAFFIC CONTROL	SHEET 55	E

FILE NAME : S:\PROJECTS\W11599 WISDOT STH 13, CTH H TO ENGDAHL ROAD DOUGLAS CO\SHEETSPLAN\DETAILS\85100100_TRAFFIC CONTROL PLAN.DWG PLOT DATE : 2/2/2022 8:13:42 AM PLOT BY : KARTER ZAJICEK PLOT SCALE : 1" = 1' LAYOUT : LAYOUT 10



FINISHED C/L STH 13

STA. 695+08
- REPLACE CULVERT IN STAGES
- MAINTAIN ONE LANE OF TRAFFIC USING FLAGGING OPERATION
- USE SDD "TRAFFIC CONTROL, LANE SHIFT IN FLAGGING OPERATION" FOR DETAILS NOT SHOWN.

STA. 677+82
- REPLACE CULVERT IN STAGES
- MAINTAIN ONE LANE OF TRAFFIC USING FLAGGING OPERATION
- USE SDD "TRAFFIC CONTROL, LANE SHIFT IN FLAGGING OPERATION" FOR DETAILS NOT SHOWN.

STA. 689+71
- REPLACE CULVERT IN STAGES
- MAINTAIN ONE LANE OF TRAFFIC USING FLAGGING OPERATION
- USE SDD "TRAFFIC CONTROL, LANE SHIFT IN FLAGGING OPERATION" FOR DETAILS NOT SHOWN.

Ⓐ ROAD WORK AHEAD
W20-1-A

Ⓑ END ROAD WORK
G20-2A
48"X24"

Ⓒ ROAD WORK NEXT XX MILES
G20-1
60"X24"

TRAFFIC NOTES

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

FOR MOVING OPERATION STA. 97+65 TO STA. 936+15.50 SEE STANDARD DETAIL DRAWING "TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION". COSTS FOR FLAGGING, ASSOCIATED SIGNS, AND TEMPORARY RUMBLE STRIPS FOR MOVING OPERATIONS ARE INCIDENTAL TO THE CONTRACT.

SEE STANDARD DETAIL DRAWINGS FOR PAVEMENT MARKING LAYOUT.

ALL TRAFFIC CONTROL SIGNS ARE 48" X 48" UNLESS NOTED OTHERWISE.

SEE SDD "TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 MPH OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC" FOR DETAILS NOT SHOWN.

FINISHED C/L STH 13

STA. 711+96 (DEEP CULVERT)
- REPLACE CULVERT IN STAGES
- SEE DETAIL FOR STAGING LAYOUT
- SEE SDD "TRAFFIC CONTROL, ONE LANE ROAD WITH TEMPORARY SIGNALS" FOR TRAFFIC CONTROL LAYOUT

PROJECT NO: 8510-01-70	HWY: STH 13	COUNTY: DOUGLAS	TRAFFIC CONTROL	SHEET	E

FILE NAME : S:\PROJECTS\W11599 WISDOT STH 13, CTH H TO ENGDAHL ROAD DOUGLAS CO\SHEETSPLAN\DETAILS\85100100_TRAFFIC CONTROL PLAN.DWG PLOT DATE : 2/2/2022 8:13:47 AM PLOT BY : KARTER ZAJICEK PLOT SCALE : 1" = 1' LAYOUT : LAYOUT 11

STA. 731+12 (DEEP CULVERT)
- REPLACE CULVERT IN STAGES
- SEE DETAIL FOR STAGING LAYOUT
- SEE SDD "TRAFFIC CONTROL, ONE LANE ROAD WITH TEMPORARY SIGNALS" FOR TRAFFIC CONTROL LAYOUT

FINISHED C/L STH 13

STA. 757+46
- REPLACE CULVERT IN STAGES
- MAINTAIN ONE LANE OF TRAFFIC USING FLAGGING OPERATION
- USE SDD "TRAFFIC CONTROL, LANE SHIFT IN FLAGGING OPERATION" FOR DETAILS NOT SHOWN.

STA. 767+13
- REPLACE CULVERT IN STAGES
- MAINTAIN ONE LANE OF TRAFFIC USING FLAGGING OPERATION
- USE SDD "TRAFFIC CONTROL, LANE SHIFT IN FLAGGING OPERATION" FOR DETAILS NOT SHOWN.

FINISHED C/L STH 13

TRAFFIC NOTES

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SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

FOR MOVING OPERATION STA. 97+65 TO STA. 936+15.50 SEE STANDARD DETAIL DRAWING "TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION". COSTS FOR FLAGGING, ASSOCIATED SIGNS, AND TEMPORARY RUMBLE STRIPS FOR MOVING OPERATIONS ARE INCIDENTAL TO THE CONTRACT.

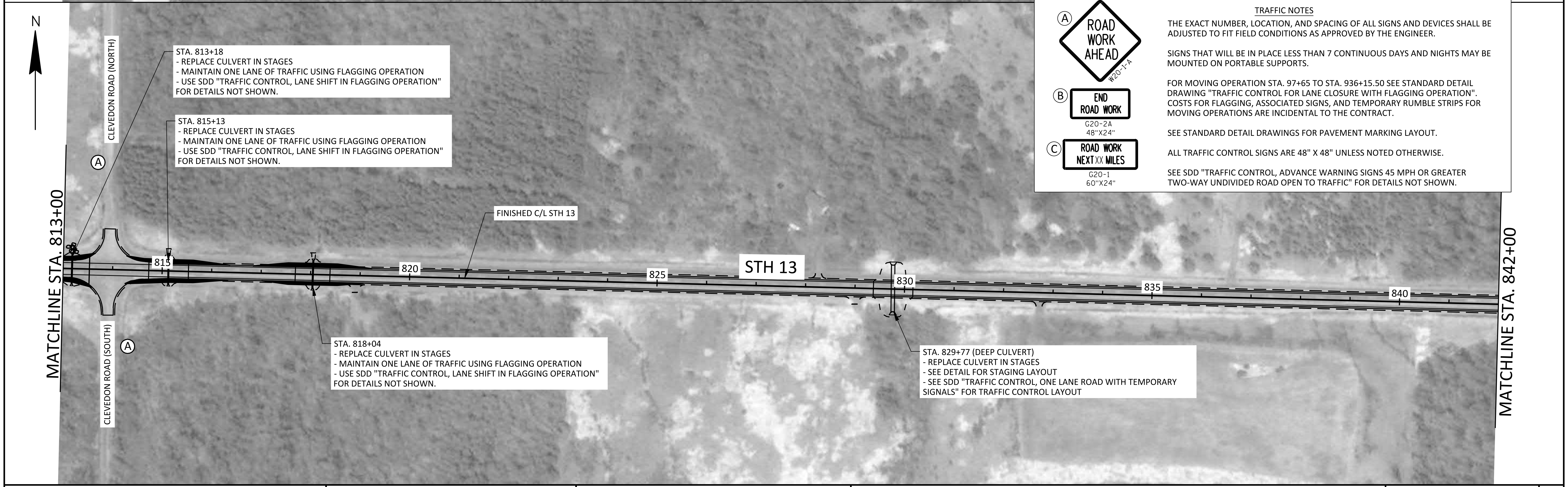
SEE STANDARD DETAIL DRAWINGS FOR PAVEMENT MARKING LAYOUT.

ALL TRAFFIC CONTROL SIGNS ARE 48" X 48" UNLESS NOTED OTHERWISE.

SEE SDD "TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 MPH OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC" FOR DETAILS NOT SHOWN.

STA. 787+60
- REPLACE CULVERT IN STAGES
- MAINTAIN ONE LANE OF TRAFFIC USING FLAGGING OPERATION
- USE SDD "TRAFFIC CONTROL, LANE SHIFT IN FLAGGING OPERATION" FOR DETAILS NOT SHOWN.

FINISHED C/L STH 13



STA. 813+18
- REPLACE CULVERT IN STAGES
- MAINTAIN ONE LANE OF TRAFFIC USING FLAGGING OPERATION
- USE SDD "TRAFFIC CONTROL, LANE SHIFT IN FLAGGING OPERATION" FOR DETAILS NOT SHOWN.

STA. 815+13
- REPLACE CULVERT IN STAGES
- MAINTAIN ONE LANE OF TRAFFIC USING FLAGGING OPERATION
- USE SDD "TRAFFIC CONTROL, LANE SHIFT IN FLAGGING OPERATION" FOR DETAILS NOT SHOWN.

FINISHED C/L STH 13

STA. 818+04
- REPLACE CULVERT IN STAGES
- MAINTAIN ONE LANE OF TRAFFIC USING FLAGGING OPERATION
- USE SDD "TRAFFIC CONTROL, LANE SHIFT IN FLAGGING OPERATION" FOR DETAILS NOT SHOWN.

STA. 829+77 (DEEP CULVERT)
- REPLACE CULVERT IN STAGES
- SEE DETAIL FOR STAGING LAYOUT
- SEE SDD "TRAFFIC CONTROL, ONE LANE ROAD WITH TEMPORARY SIGNALS" FOR TRAFFIC CONTROL LAYOUT

TRAFFIC NOTES

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

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FOR MOVING OPERATION STA. 97+65 TO STA. 936+15.50 SEE STANDARD DETAIL DRAWING "TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION". COSTS FOR FLAGGING, ASSOCIATED SIGNS, AND TEMPORARY RUMBLE STRIPS FOR MOVING OPERATIONS ARE INCIDENTAL TO THE CONTRACT.

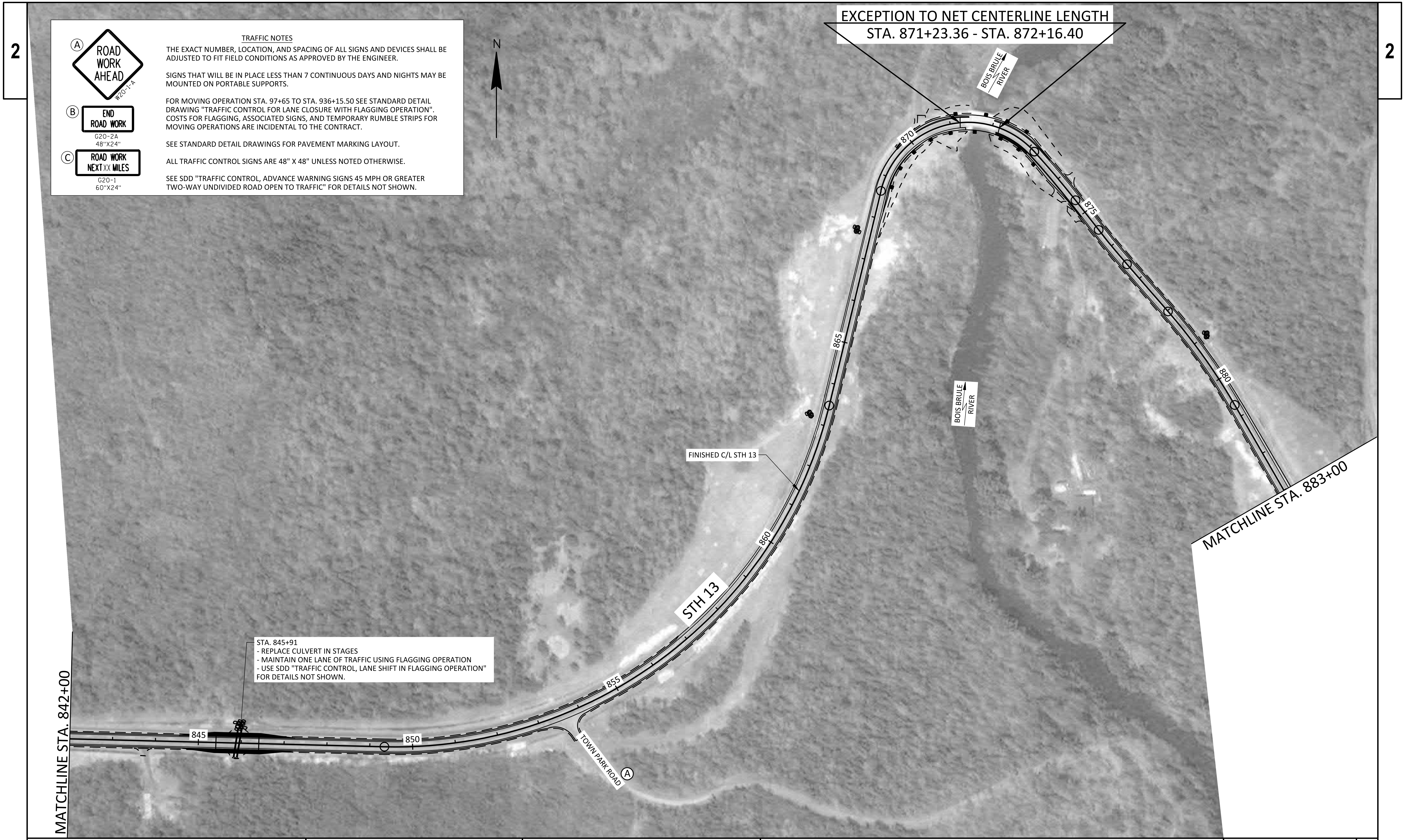
SEE STANDARD DETAIL DRAWINGS FOR PAVEMENT MARKING LAYOUT.

ALL TRAFFIC CONTROL SIGNS ARE 48" X 48" UNLESS NOTED OTHERWISE.

SEE SDD "TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 MPH OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC" FOR DETAILS NOT SHOWN.

PROJECT NO: 8510-01-70	HWY: STH 13	COUNTY: DOUGLAS	TRAFFIC CONTROL	SHEET	E

FILE NAME : S:\PROJECTS\W11599 WISDOT STH 13, CTH H TO ENGDAHL ROAD DOUGLAS CO\SHEETSPLAN\DETAILS\85100100_TRAFFIC CONTROL PLAN.DWG PLOT DATE : 2/2/2022 8:13:57 AM PLOT BY : KARTER ZAJICEK PLOT SCALE : 1" = 1' LAYOUT : LAYOUT 13



TRAFFIC NOTES

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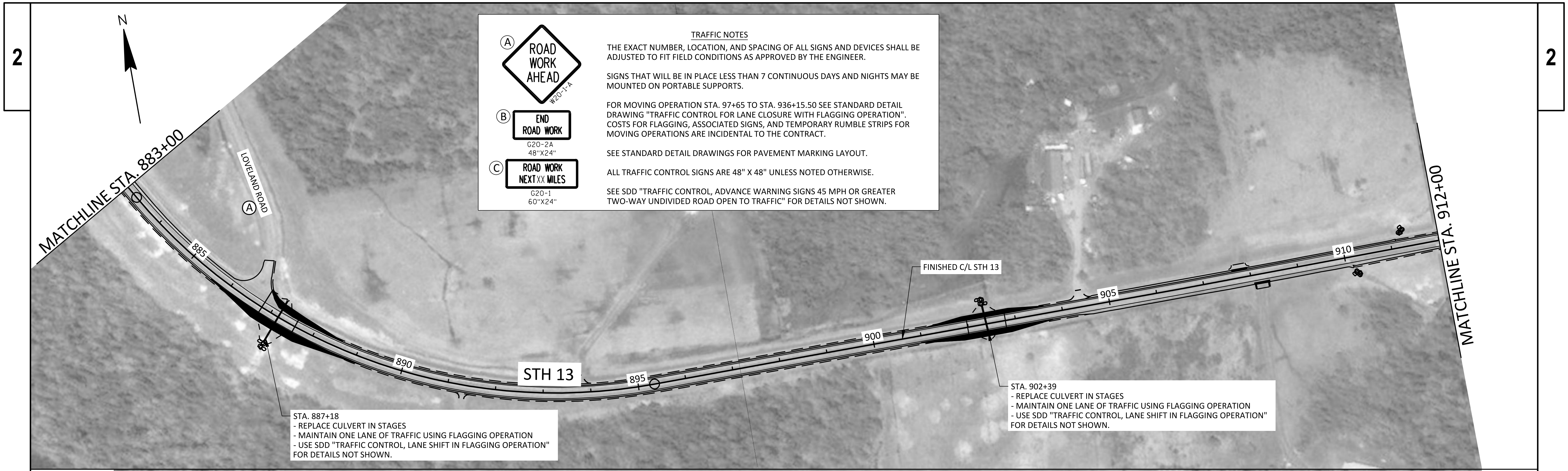
STA. 845+91
- REPLACE CULVERT IN STAGES
- MAINTAIN ONE LANE OF TRAFFIC USING FLAGGING OPERATION
- USE SDD "TRAFFIC CONTROL, LANE SHIFT IN FLAGGING OPERATION" FOR DETAILS NOT SHOWN.

PROJECT NO: 8510-01-70
HWY: STH 13
COUNTY: DOUGLAS
TRAFFIC CONTROL
SHEET
E

FILE NAME : S:\PROJECTS\W11599 WISDOT STH 13, CTH H TO ENGDAHL ROAD DOUGLAS CO\SHEETSPLAN\DETAILS\85100100_TRAFFIC CONTROL PLAN.DWG
PLOT DATE : 2/2/2022 8:14:01 AM
PLOT BY : KARTER ZAJICEK
PLOT SCALE : 1" = 1'
LAYOUT : LAYOUT 14



TRAFFIC NOTES

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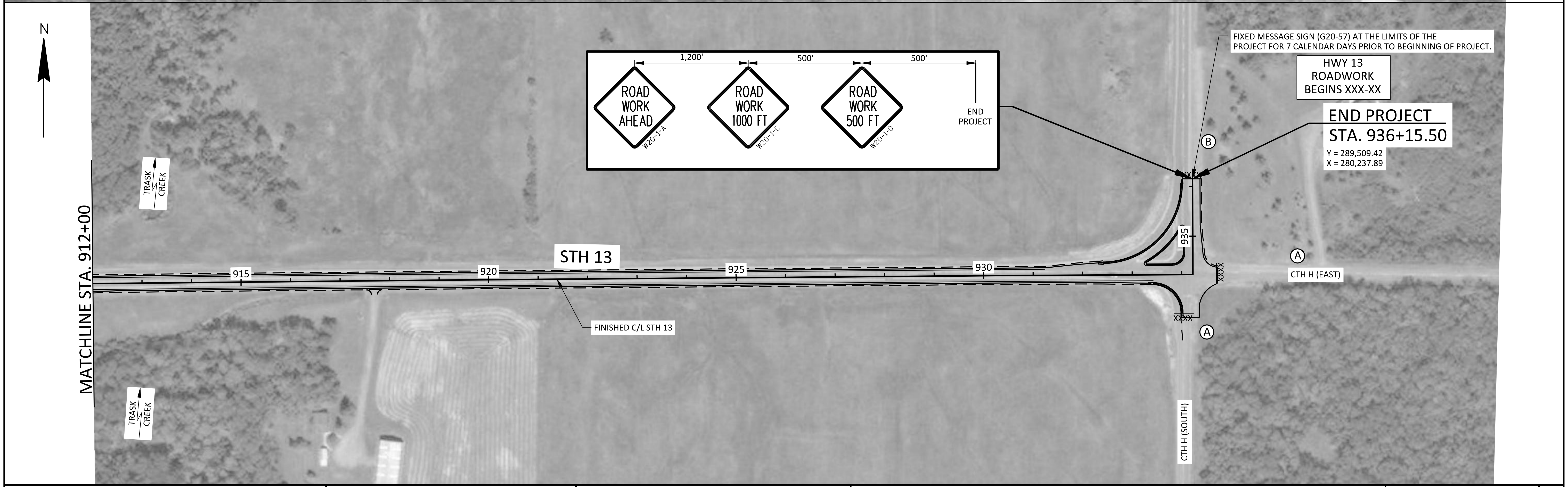
SEE SDD "TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 MPH OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC" FOR DETAILS NOT SHOWN.

FINISHED C/L STH 13

STA. 887+18
- REPLACE CULVERT IN STAGES
- MAINTAIN ONE LANE OF TRAFFIC USING FLAGGING OPERATION
- USE SDD "TRAFFIC CONTROL, LANE SHIFT IN FLAGGING OPERATION" FOR DETAILS NOT SHOWN.

STA. 902+39
- REPLACE CULVERT IN STAGES
- MAINTAIN ONE LANE OF TRAFFIC USING FLAGGING OPERATION
- USE SDD "TRAFFIC CONTROL, LANE SHIFT IN FLAGGING OPERATION" FOR DETAILS NOT SHOWN.



FIXED MESSAGE SIGN (G20-57) AT THE LIMITS OF THE PROJECT FOR 7 CALENDAR DAYS PRIOR TO BEGINNING OF PROJECT.

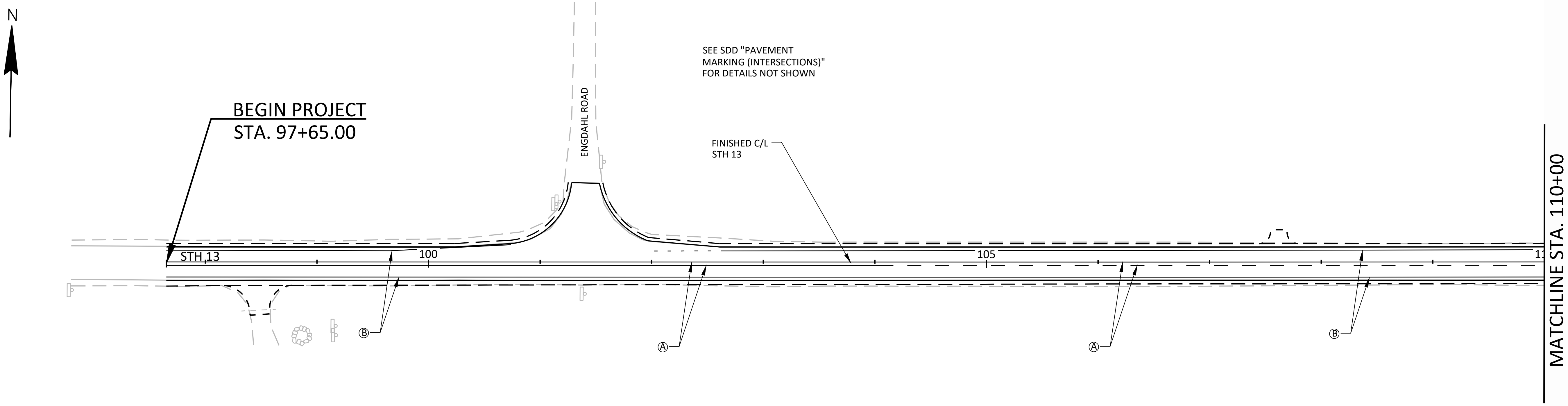
HWY 13
ROADWORK
BEGINS XXX-XX

END PROJECT
STA. 936+15.50

Y = 289,509.42
X = 280,237.89

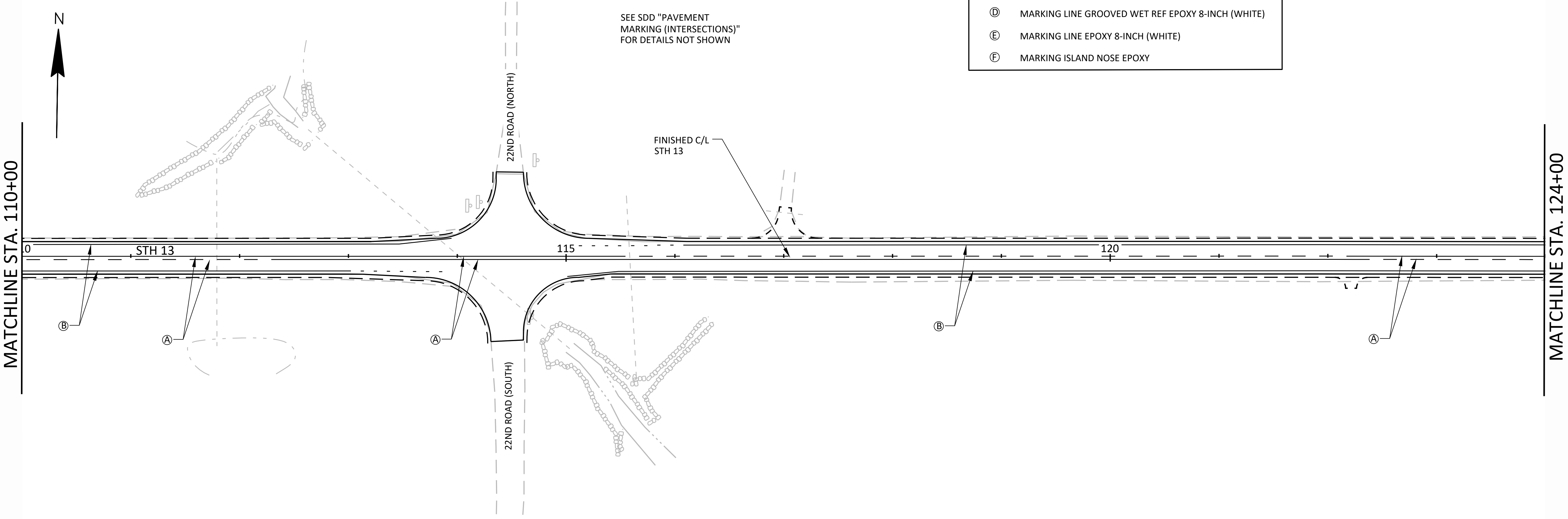
FINISHED C/L STH 13

2



LEGEND

Ⓐ	MARKING LINE SAME DAY EPOXY 4-INCH (YELLOW)
Ⓑ	MARKING LINE GROOVED WET REFLECTIVE EPOXY 4-INCH (WHITE EDGELINE)
Ⓒ	MARKING STOP LINE EPOXY 18-INCH (WHITE)
Ⓓ	MARKING LINE GROOVED WET REF EPOXY 8-INCH (WHITE)
Ⓔ	MARKING LINE EPOXY 8-INCH (WHITE)
Ⓕ	MARKING ISLAND NOSE EPOXY

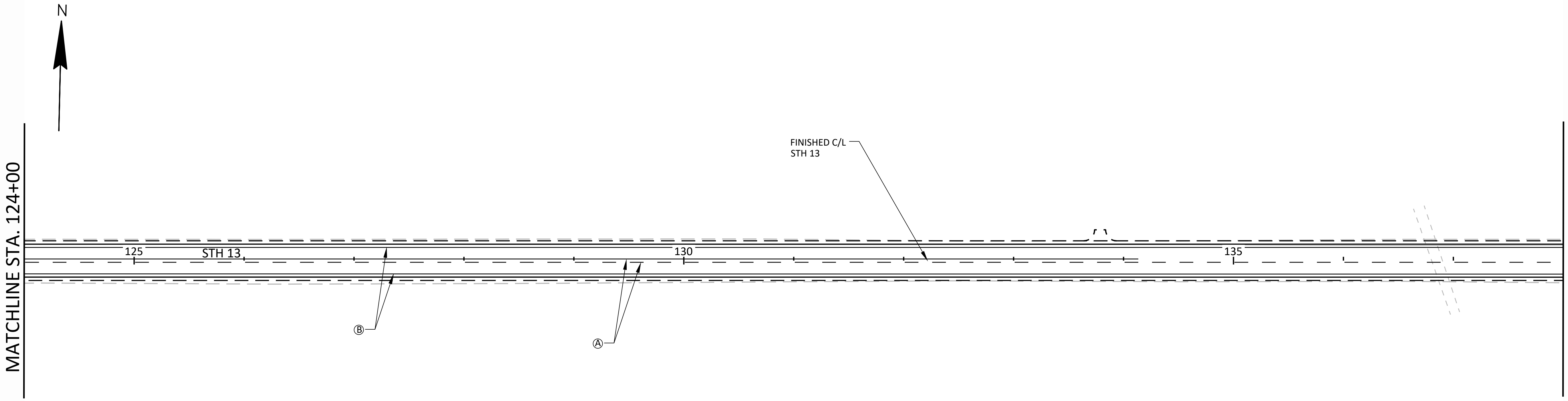


2

PROJECT NO: 8510-01-70	HWY: STH 13	COUNTY: DOUGLAS	PAVEMENT MARKING PLAN	SHEET	E

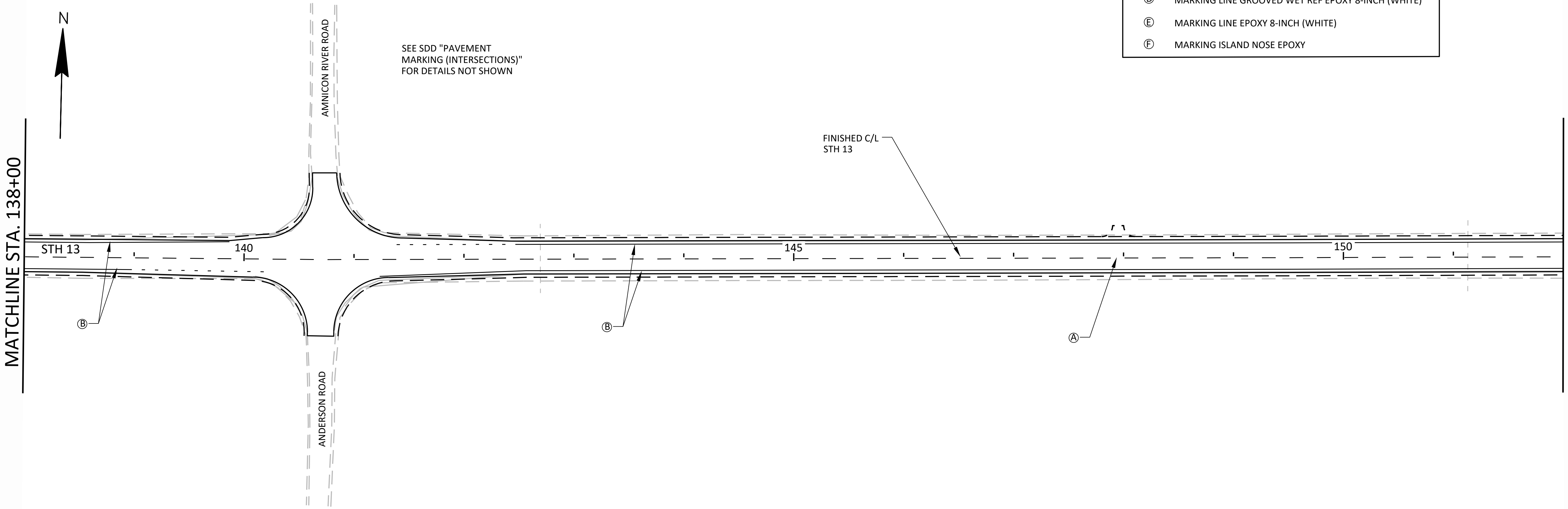
PLOT SCALE : 1 IN:100 FT

LAYOUT NAME - Sheet - (1)

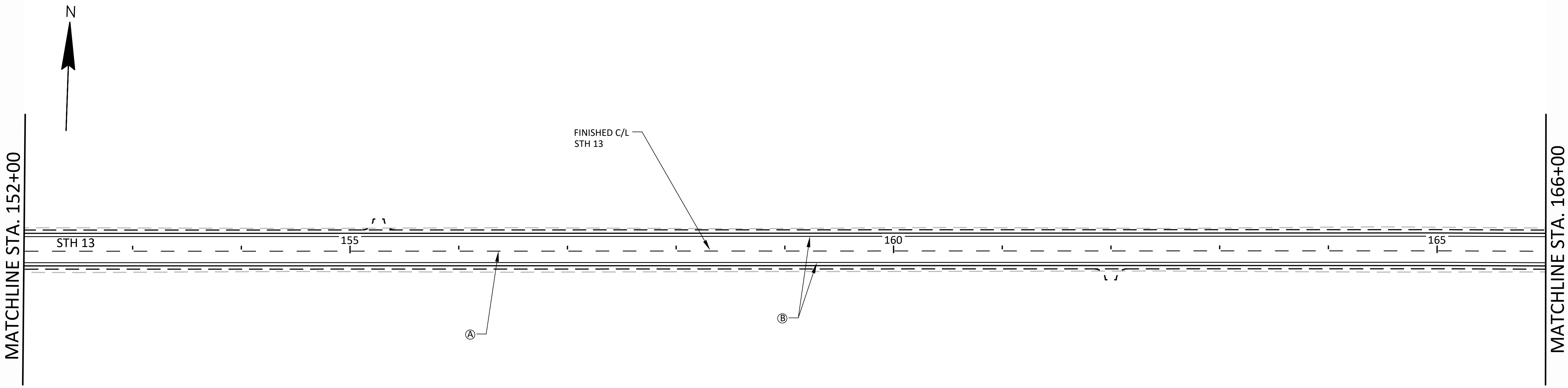


LEGEND

Ⓐ	MARKING LINE SAME DAY EPOXY 4-INCH (YELLOW)
Ⓑ	MARKING LINE GROOVED WET REFLECTIVE EPOXY 4-INCH (WHITE EDGELINE)
Ⓒ	MARKING STOP LINE EPOXY 18-INCH (WHITE)
Ⓓ	MARKING LINE GROOVED WET REF EPOXY 8-INCH (WHITE)
Ⓔ	MARKING LINE EPOXY 8-INCH (WHITE)
Ⓕ	MARKING ISLAND NOSE EPOXY

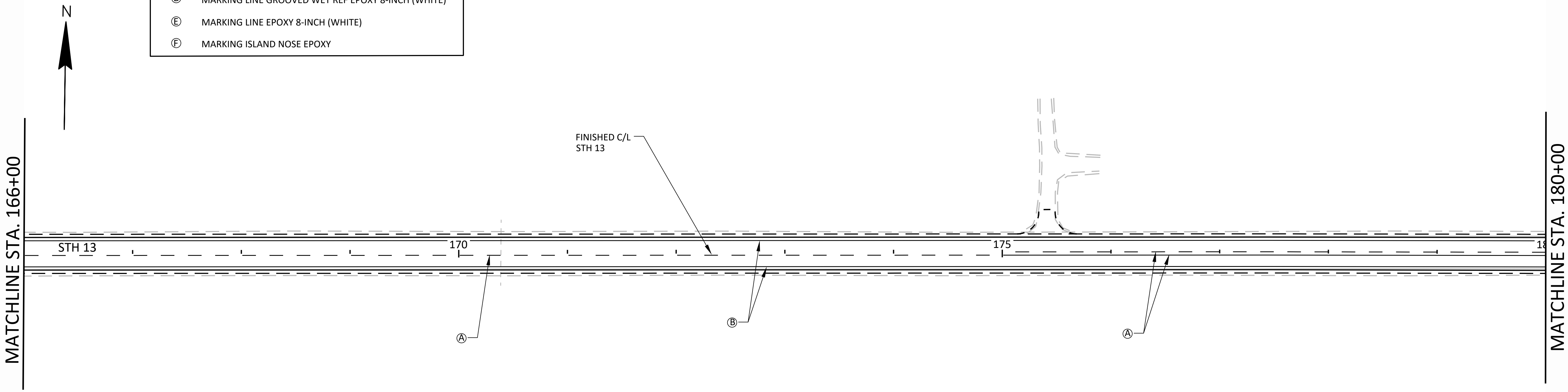


PROJECT NO: 8510-01-70	HWY: STH 13	COUNTY: DOUGLAS	PAVEMENT MARKING PLAN	SHEET 62	E



LEGEND

Ⓐ	MARKING LINE SAME DAY EPOXY 4-INCH (YELLOW)
Ⓑ	MARKING LINE GROOVED WET REFLECTIVE EPOXY 4-INCH (WHITE EDGELINE)
Ⓒ	MARKING STOP LINE EPOXY 18-INCH (WHITE)
Ⓓ	MARKING LINE GROOVED WET REF EPOXY 8-INCH (WHITE)
Ⓔ	MARKING LINE EPOXY 8-INCH (WHITE)
Ⓕ	MARKING ISLAND NOSE EPOXY



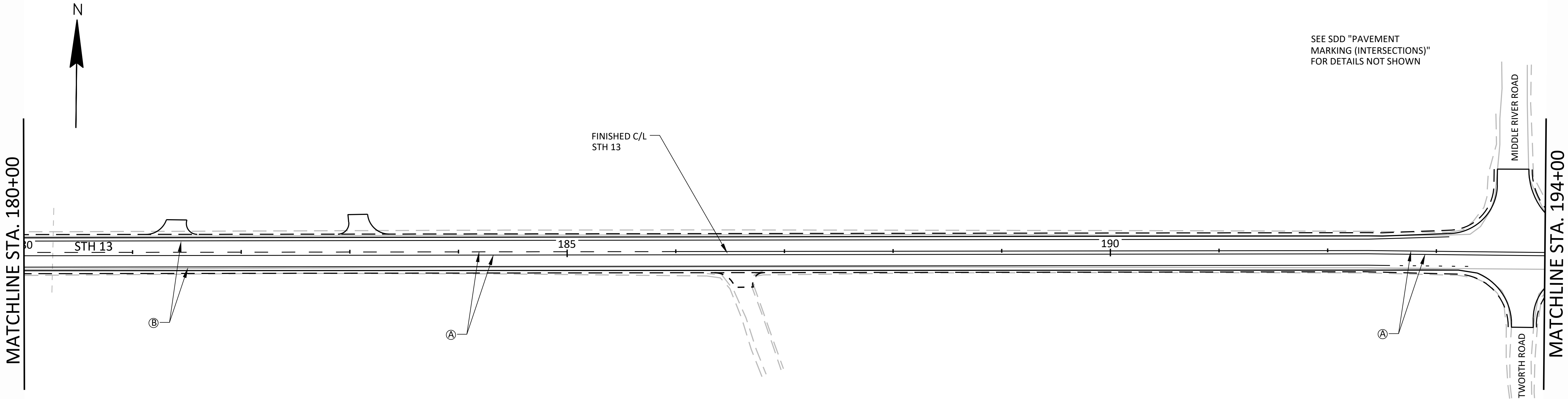
PROJECT NO: 8510-01-70 | HWY: STH 13 | COUNTY: DOUGLAS | PAVEMENT MARKING PLAN | SHEET | E

PLOT SCALE : 1 IN:100 FT

LAYOUT NAME - Sheet - (3)

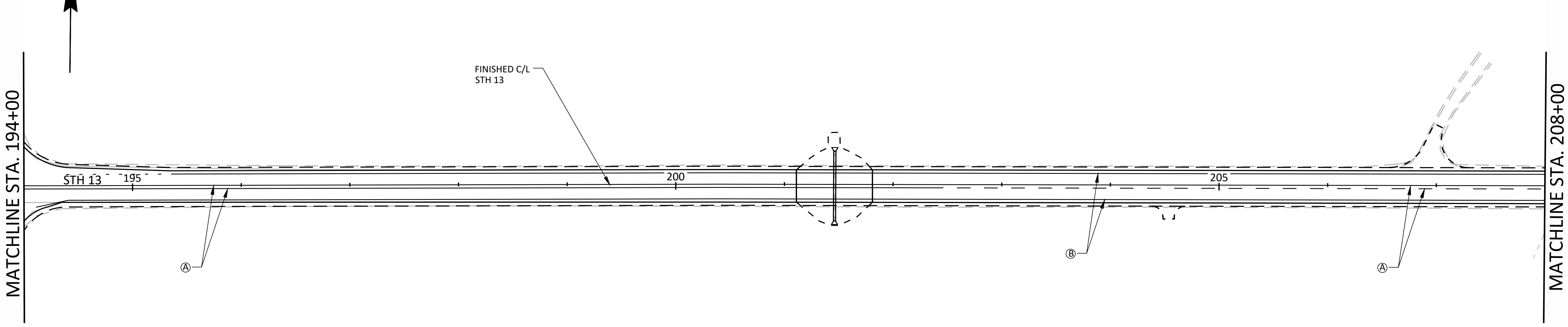
2

SEE SDD "PAVEMENT
MARKING (INTERSECTIONS)"
FOR DETAILS NOT SHOWN



LEGEND

Ⓐ	MARKING LINE SAME DAY EPOXY 4-INCH (YELLOW)
Ⓑ	MARKING LINE GROOVED WET REFLECTIVE EPOXY 4-INCH (WHITE EDGELINE)
Ⓒ	MARKING STOP LINE EPOXY 18-INCH (WHITE)
Ⓓ	MARKING LINE GROOVED WET REF EPOXY 8-INCH (WHITE)
Ⓔ	MARKING LINE EPOXY 8-INCH (WHITE)
Ⓕ	MARKING ISLAND NOSE EPOXY

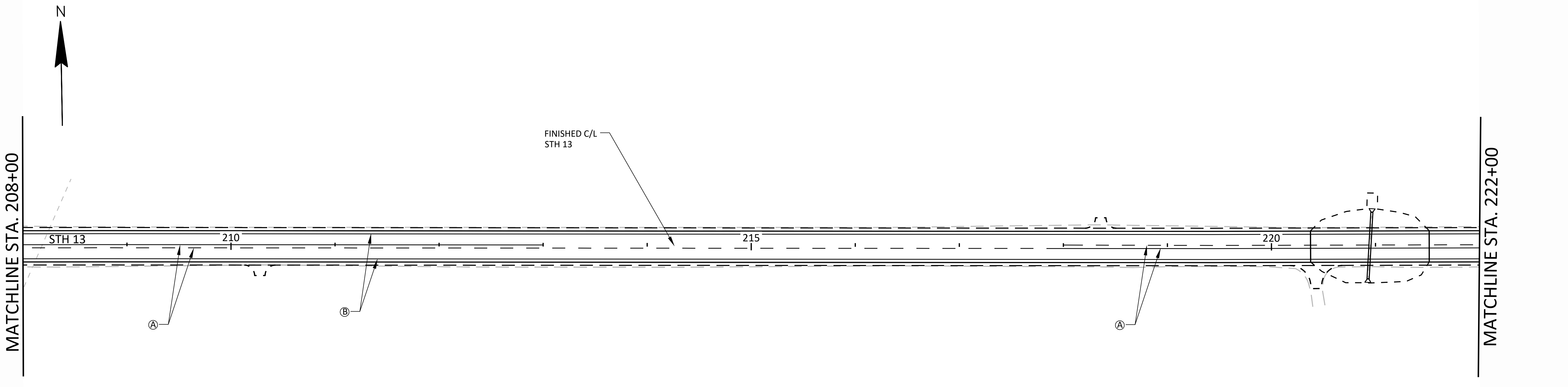


PROJECT NO: 8510-01-70	HWY: STH 13	COUNTY: DOUGLAS	PAVEMENT MARKING PLAN	SHEET 64	E

PLOT SCALE : 1 IN:100 FT

LAYOUT NAME - Sheet - (4)

2



2

LEGEND

Ⓐ MARKING LINE SAME DAY EPOXY 4-INCH (YELLOW)

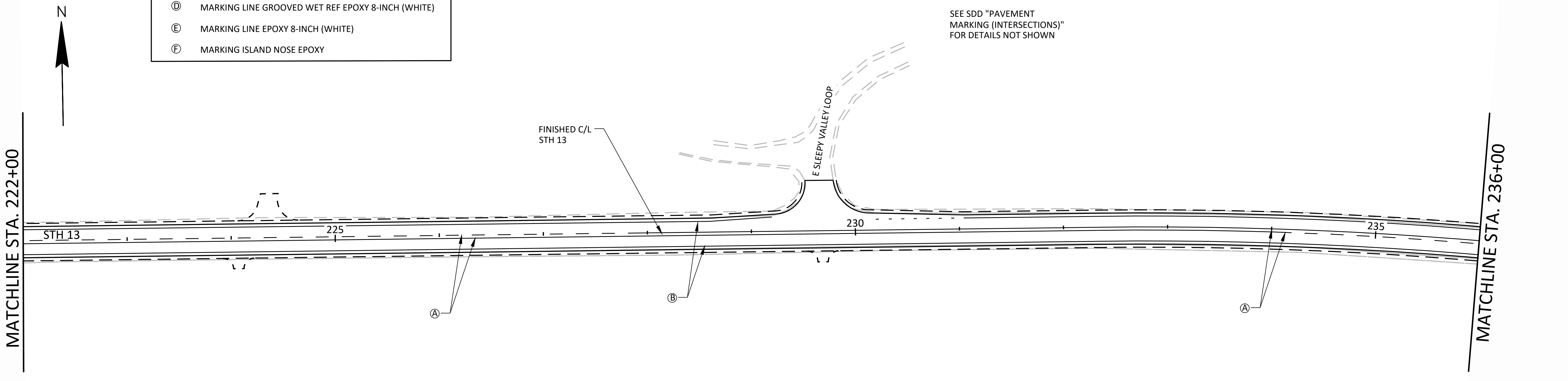
Ⓑ MARKING LINE GROOVED WET REFLECTIVE EPOXY 4-INCH (WHITE EDGELINE)

Ⓒ MARKING STOP LINE EPOXY 18-INCH (WHITE)

Ⓓ MARKING LINE GROOVED WET REF EPOXY 8-INCH (WHITE)

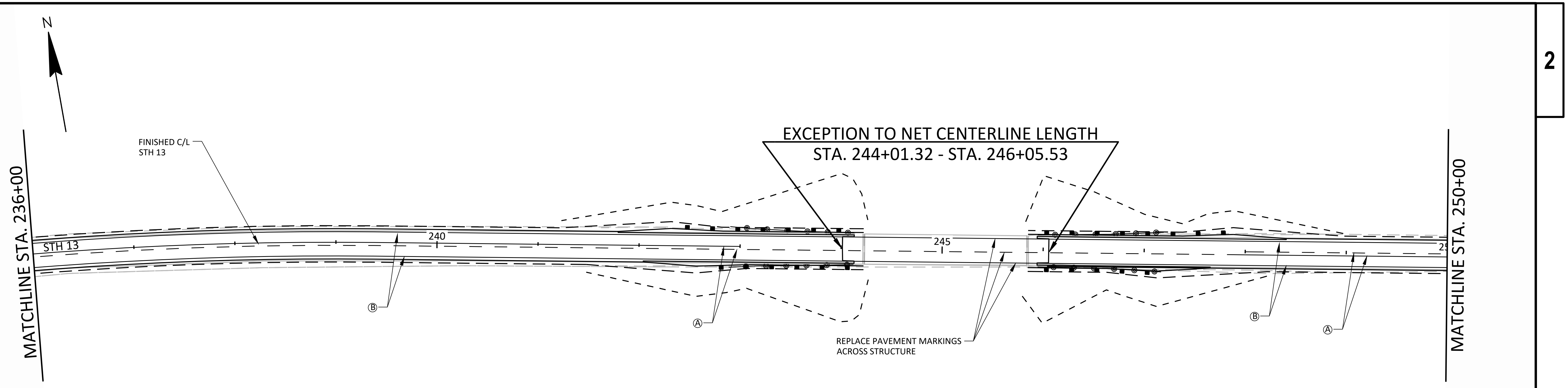
Ⓔ MARKING LINE EPOXY 8-INCH (WHITE)

Ⓕ MARKING ISLAND NOSE EPOXY



PROJECT NO: 8510-01-70	HWY: STH 13	COUNTY: DOUGLAS	PAVEMENT MARKING PLAN	SHEET	E

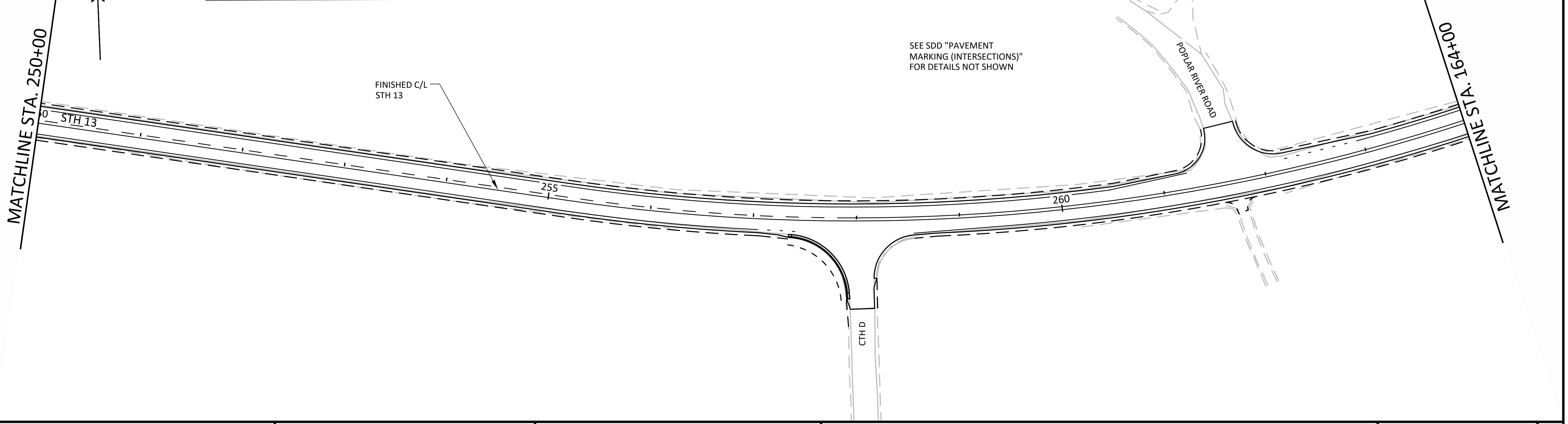
PLOT SCALE : 1 IN:100 FT



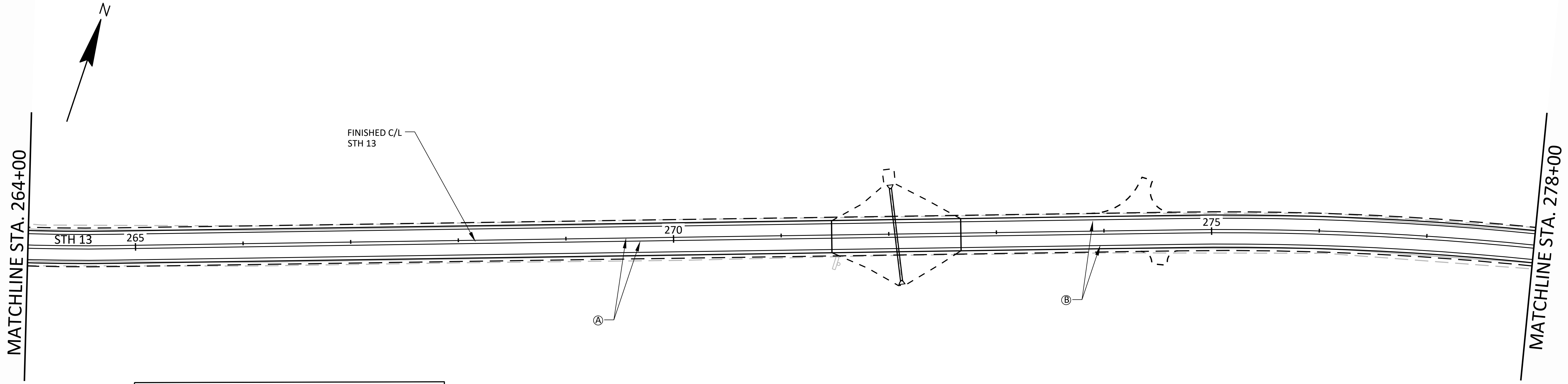
EXCEPTION TO NET CENTERLINE LENGTH
STA. 244+01.32 - STA. 246+05.53

LEGEND

Ⓐ	MARKING LINE SAME DAY EPOXY 4-INCH (YELLOW)
Ⓑ	MARKING LINE GROOVED WET REFLECTIVE EPOXY 4-INCH (WHITE EDGELINE)
Ⓒ	MARKING STOP LINE EPOXY 18-INCH (WHITE)
Ⓓ	MARKING LINE GROOVED WET REF EPOXY 8-INCH (WHITE)
Ⓔ	MARKING LINE EPOXY 8-INCH (WHITE)
Ⓕ	MARKING ISLAND NOSE EPOXY

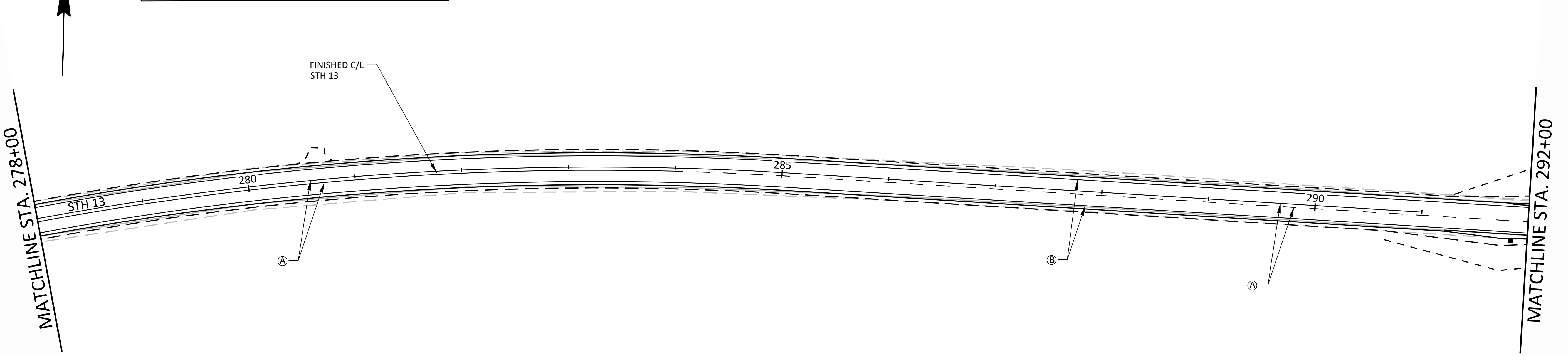


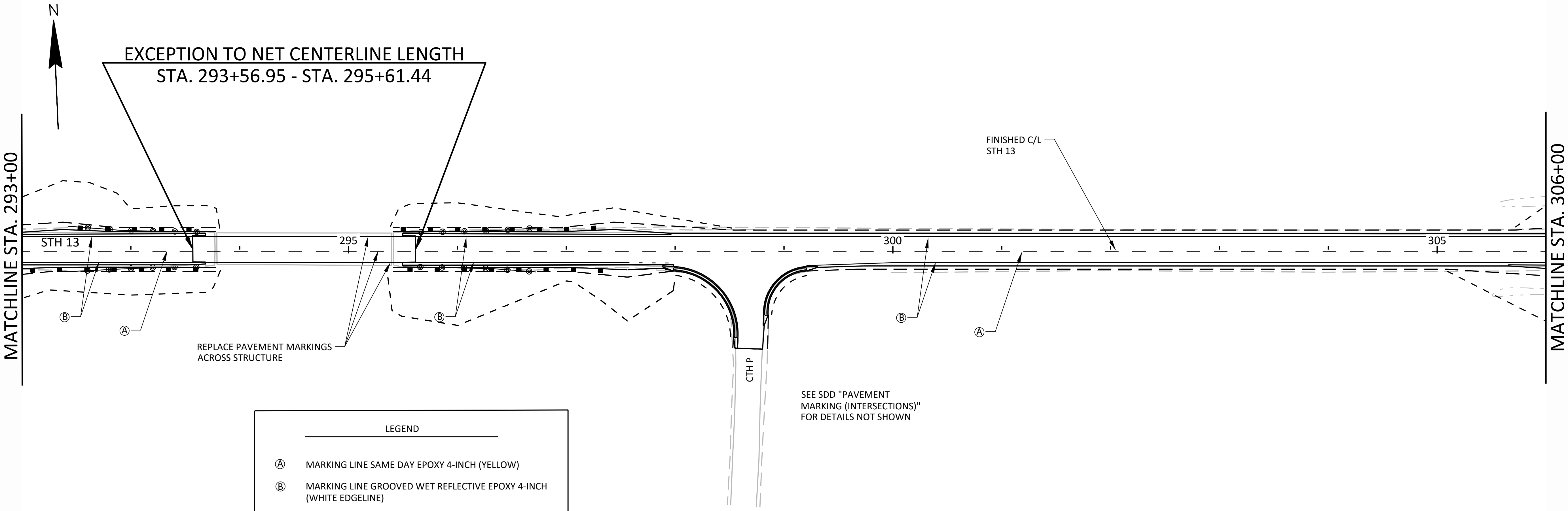
SEE SDD "PAVEMENT
MARKING (INTERSECTIONS)"
FOR DETAILS NOT SHOWN



LEGEND

Ⓐ	MARKING LINE SAME DAY EPOXY 4-INCH (YELLOW)
Ⓑ	MARKING LINE GROOVED WET REFLECTIVE EPOXY 4-INCH (WHITE EDGELINE)
Ⓒ	MARKING STOP LINE EPOXY 18-INCH (WHITE)
Ⓓ	MARKING LINE GROOVED WET REF EPOXY 8-INCH (WHITE)
Ⓔ	MARKING LINE EPOXY 8-INCH (WHITE)
Ⓕ	MARKING ISLAND NOSE EPOXY





EXCEPTION TO NET CENTERLINE LENGTH
STA. 293+56.95 - STA. 295+61.44

LEGEND

Ⓐ MARKING LINE SAME DAY EPOXY 4-INCH (YELLOW)

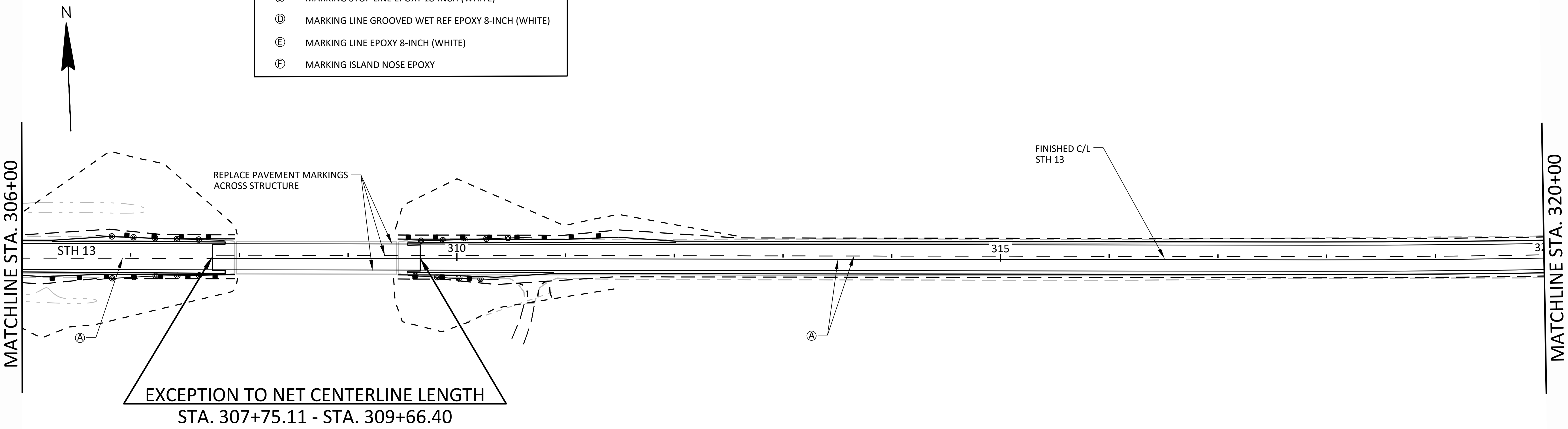
Ⓑ MARKING LINE GROOVED WET REFLECTIVE EPOXY 4-INCH (WHITE EDGELINE)

Ⓒ MARKING STOP LINE EPOXY 18-INCH (WHITE)

Ⓓ MARKING LINE GROOVED WET REF EPOXY 8-INCH (WHITE)

Ⓔ MARKING LINE EPOXY 8-INCH (WHITE)

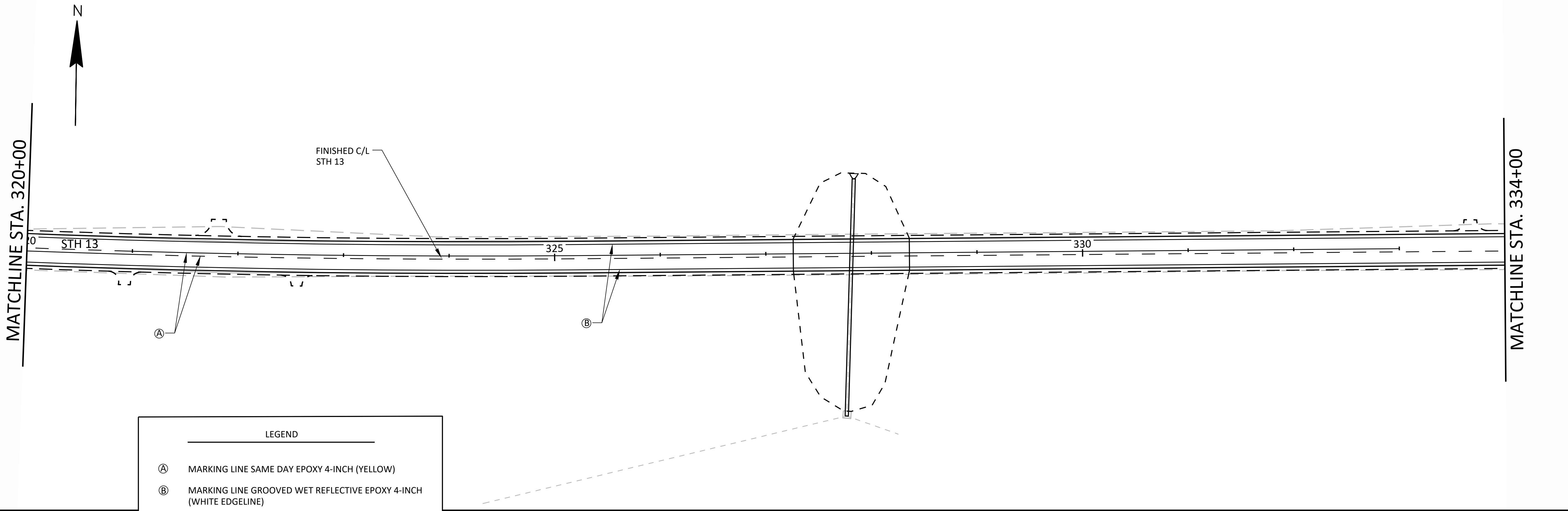
Ⓕ MARKING ISLAND NOSE EPOXY



EXCEPTION TO NET CENTERLINE LENGTH
STA. 307+75.11 - STA. 309+66.40

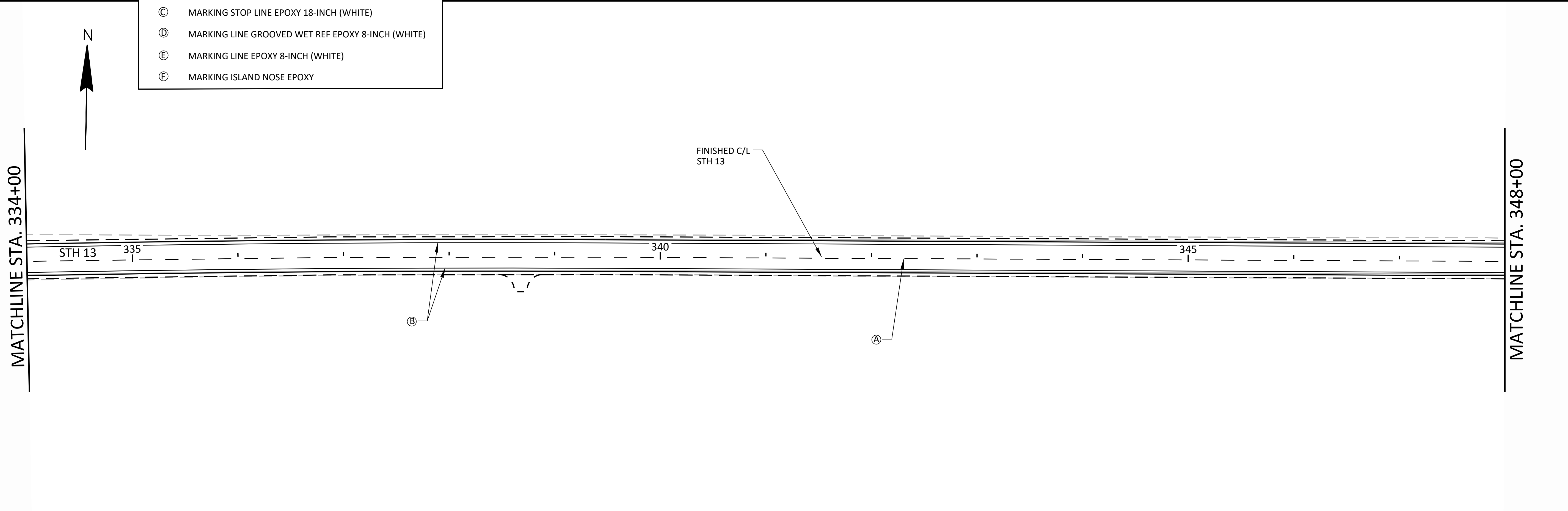
PROJECT NO: 8510-01-70	HWY: STH 13	COUNTY: DOUGLAS	PAVEMENT MARKING PLAN	SHEET	E

2



LEGEND

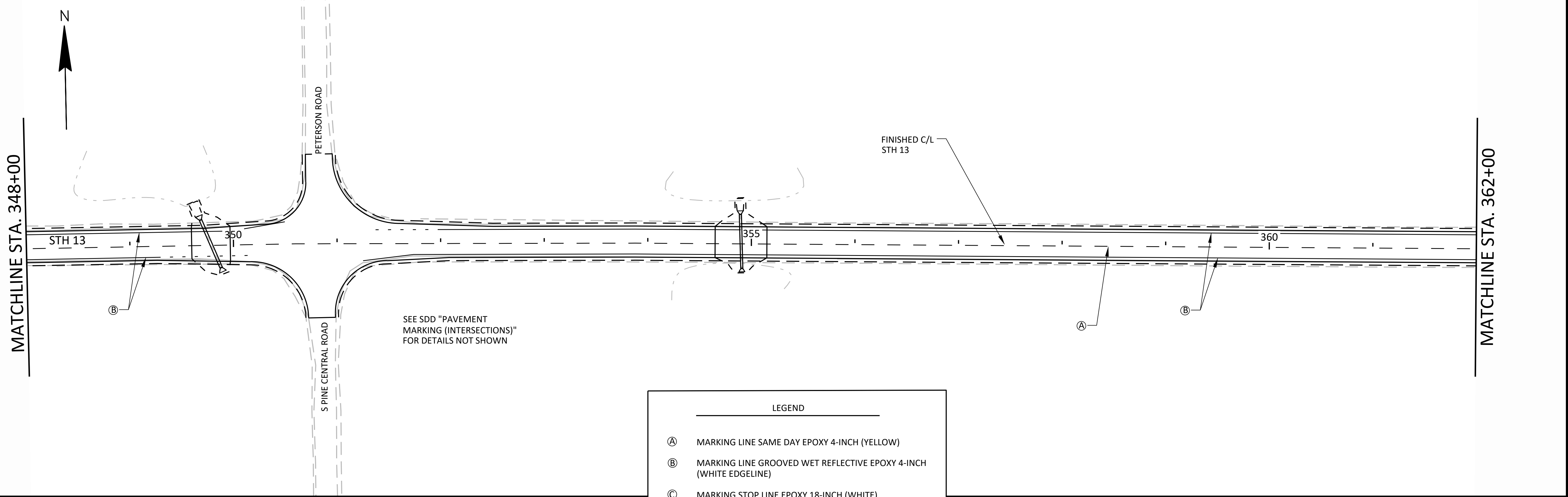
Ⓐ	MARKING LINE SAME DAY EPOXY 4-INCH (YELLOW)
Ⓑ	MARKING LINE GROOVED WET REFLECTIVE EPOXY 4-INCH (WHITE EDGELINE)
Ⓒ	MARKING STOP LINE EPOXY 18-INCH (WHITE)
Ⓓ	MARKING LINE GROOVED WET REF EPOXY 8-INCH (WHITE)
Ⓔ	MARKING LINE EPOXY 8-INCH (WHITE)
Ⓕ	MARKING ISLAND NOSE EPOXY



PROJECT NO: 8510-01-70	HWY: STH 13	COUNTY: DOUGLAS	PAVEMENT MARKING PLAN	SHEET 69 E

PLOT SCALE : 1 IN:100 FT

LAYOUT NAME - Sheet - (9)



LEGEND

Ⓐ MARKING LINE SAME DAY EPOXY 4-INCH (YELLOW)

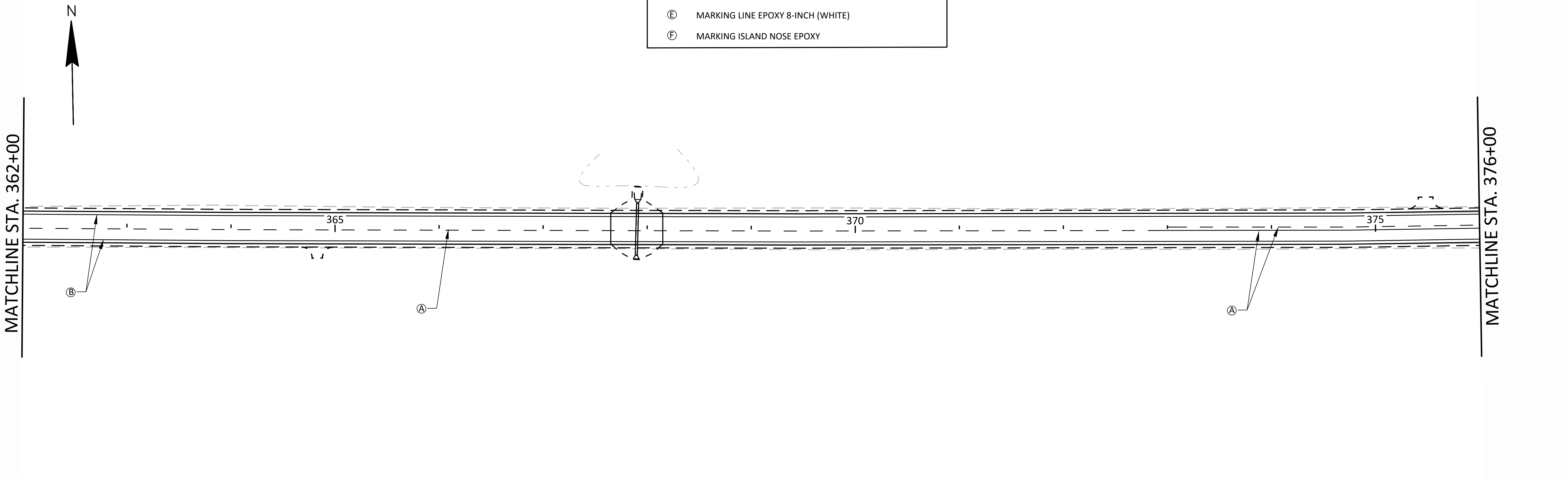
Ⓑ MARKING LINE GROOVED WET REFLECTIVE EPOXY 4-INCH (WHITE EDGELINE)

Ⓒ MARKING STOP LINE EPOXY 18-INCH (WHITE)

Ⓓ MARKING LINE GROOVED WET REF EPOXY 8-INCH (WHITE)

Ⓔ MARKING LINE EPOXY 8-INCH (WHITE)

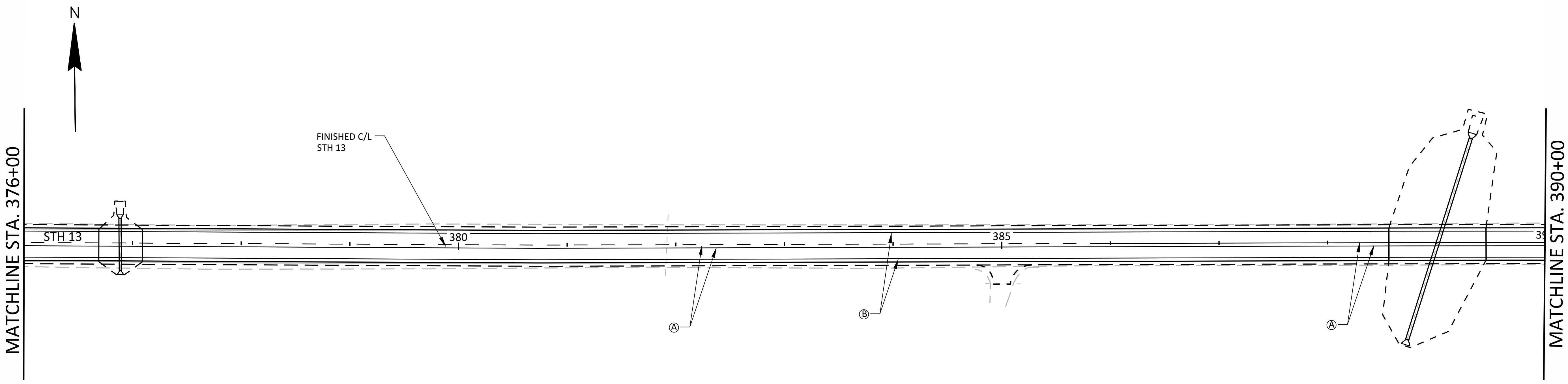
Ⓕ MARKING ISLAND NOSE EPOXY



PROJECT NO: 8510-01-70	HWY: STH 13	COUNTY: DOUGLAS	PAVEMENT MARKING PLAN	SHEET	E

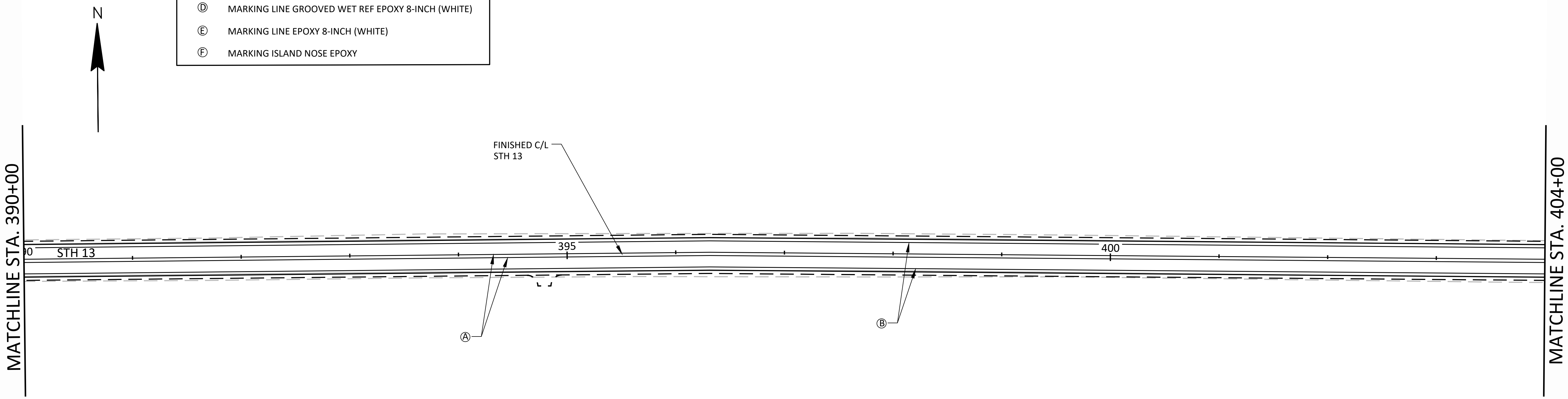
PLOT SCALE : 1 IN:100 FT

LAYOUT NAME - Sheet - (10)

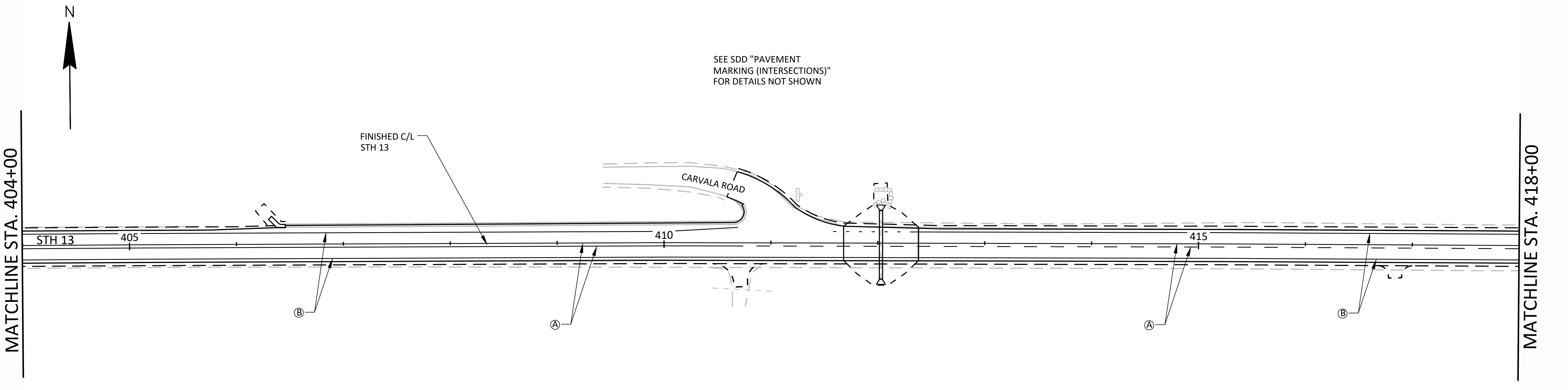


LEGEND

Ⓐ	MARKING LINE SAME DAY EPOXY 4-INCH (YELLOW)
Ⓑ	MARKING LINE GROOVED WET REFLECTIVE EPOXY 4-INCH (WHITE EDGELINE)
Ⓒ	MARKING STOP LINE EPOXY 18-INCH (WHITE)
Ⓓ	MARKING LINE GROOVED WET REF EPOXY 8-INCH (WHITE)
Ⓔ	MARKING LINE EPOXY 8-INCH (WHITE)
Ⓕ	MARKING ISLAND NOSE EPOXY

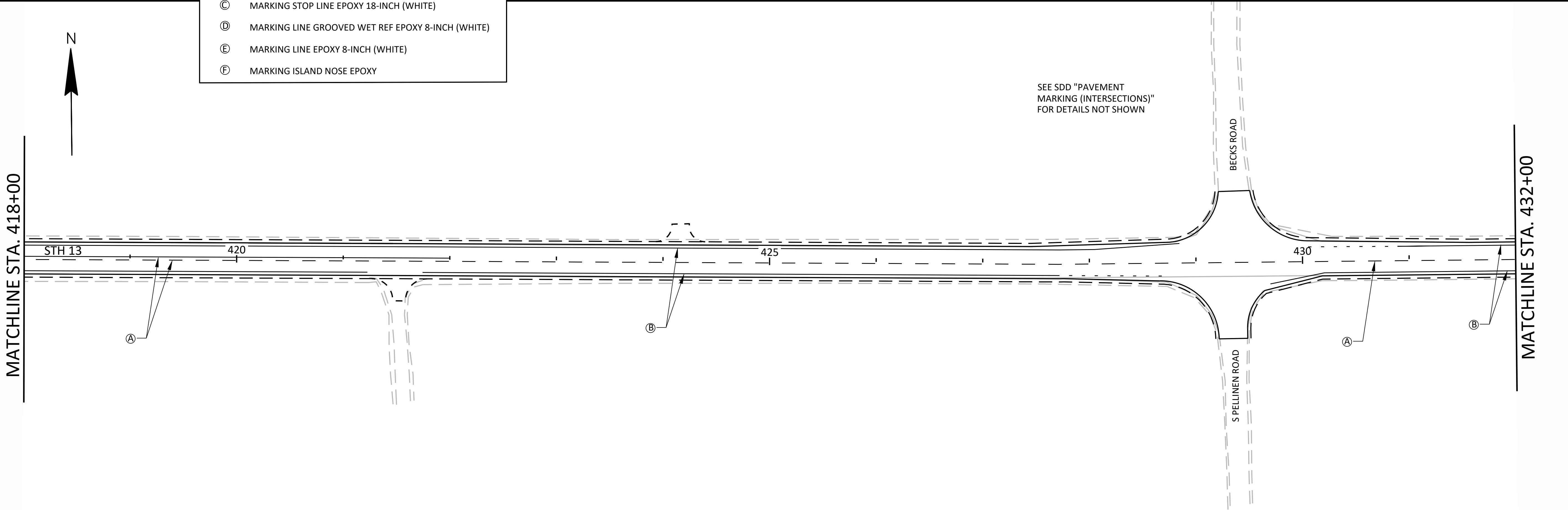


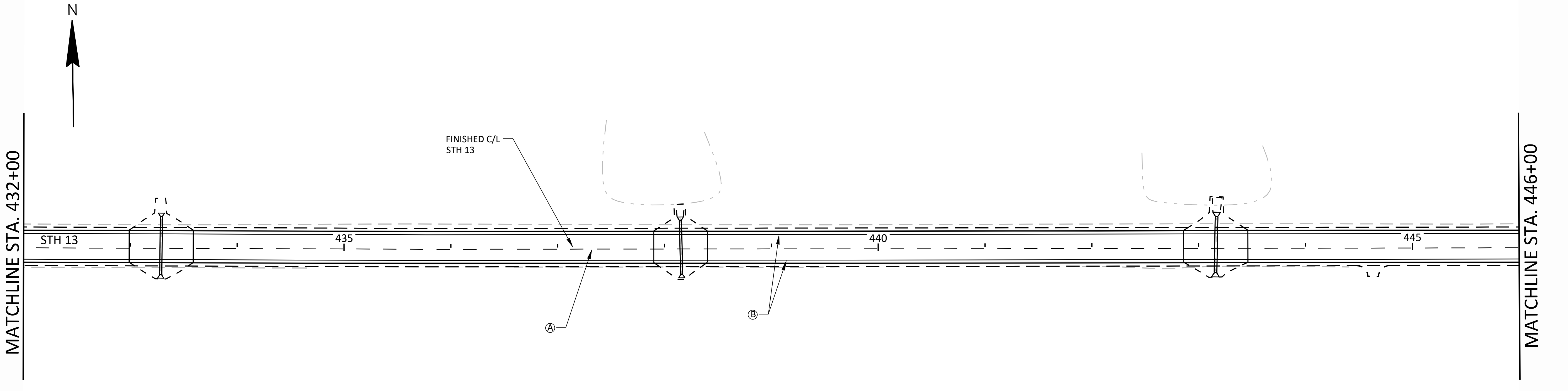
PROJECT NO: 8510-01-70 | HWY: STH 13 | COUNTY: DOUGLAS | PAVEMENT MARKING PLAN | SHEET 71 | E



LEGEND

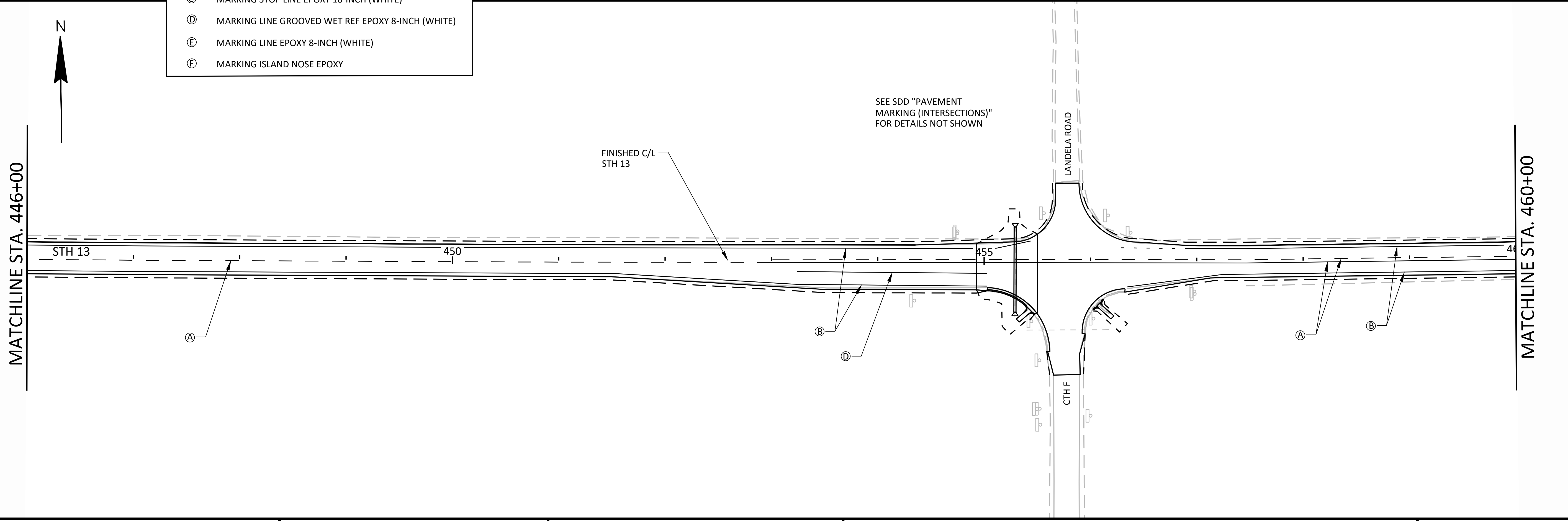
Ⓐ	MARKING LINE SAME DAY EPOXY 4-INCH (YELLOW)
Ⓑ	MARKING LINE GROOVED WET REFLECTIVE EPOXY 4-INCH (WHITE EDGELINE)
Ⓒ	MARKING STOP LINE EPOXY 18-INCH (WHITE)
Ⓓ	MARKING LINE GROOVED WET REF EPOXY 8-INCH (WHITE)
Ⓔ	MARKING LINE EPOXY 8-INCH (WHITE)
Ⓕ	MARKING ISLAND NOSE EPOXY





LEGEND

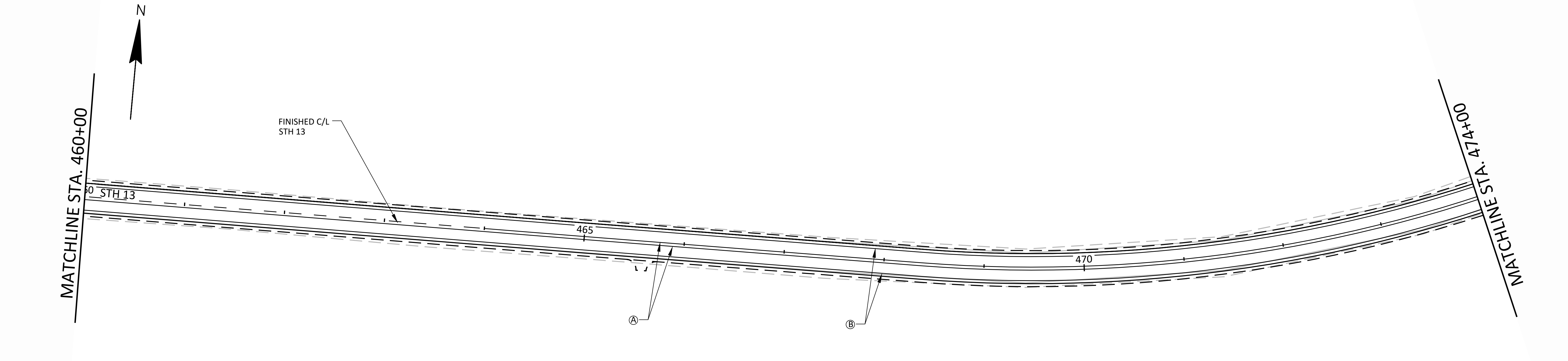
Ⓐ	MARKING LINE SAME DAY EPOXY 4-INCH (YELLOW)
Ⓑ	MARKING LINE GROOVED WET REFLECTIVE EPOXY 4-INCH (WHITE EDGELINE)
Ⓒ	MARKING STOP LINE EPOXY 18-INCH (WHITE)
Ⓓ	MARKING LINE GROOVED WET REF EPOXY 8-INCH (WHITE)
Ⓔ	MARKING LINE EPOXY 8-INCH (WHITE)
Ⓕ	MARKING ISLAND NOSE EPOXY



SEE SDD "PAVEMENT MARKING (INTERSECTIONS)" FOR DETAILS NOT SHOWN

2

2



LEGEND

Ⓐ MARKING LINE SAME DAY EPOXY 4-INCH (YELLOW)

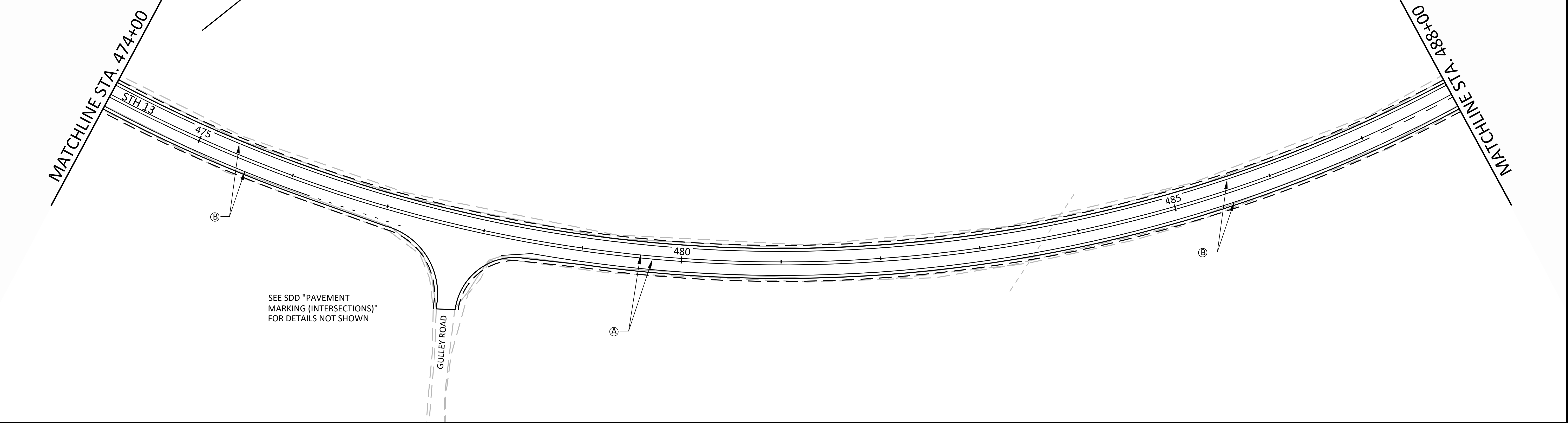
Ⓑ MARKING LINE GROOVED WET REFLECTIVE EPOXY 4-INCH (WHITE EDGELINE)

Ⓒ MARKING STOP LINE EPOXY 18-INCH (WHITE)

Ⓓ MARKING LINE GROOVED WET REF EPOXY 8-INCH (WHITE)

Ⓔ MARKING LINE EPOXY 8-INCH (WHITE)

Ⓕ MARKING ISLAND NOSE EPOXY

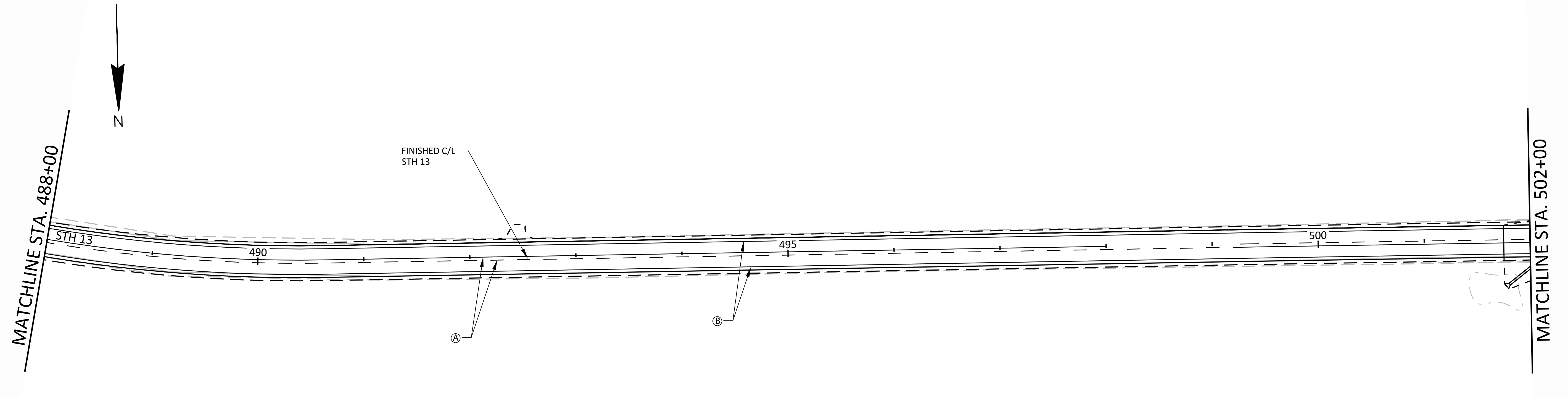


SEE SDD "PAVEMENT MARKING (INTERSECTIONS)" FOR DETAILS NOT SHOWN

PROJECT NO: 8510-01-70	HWY: STH 13	COUNTY: DOUGLAS	PAVEMENT MARKING PLAN	SHEET 74	E

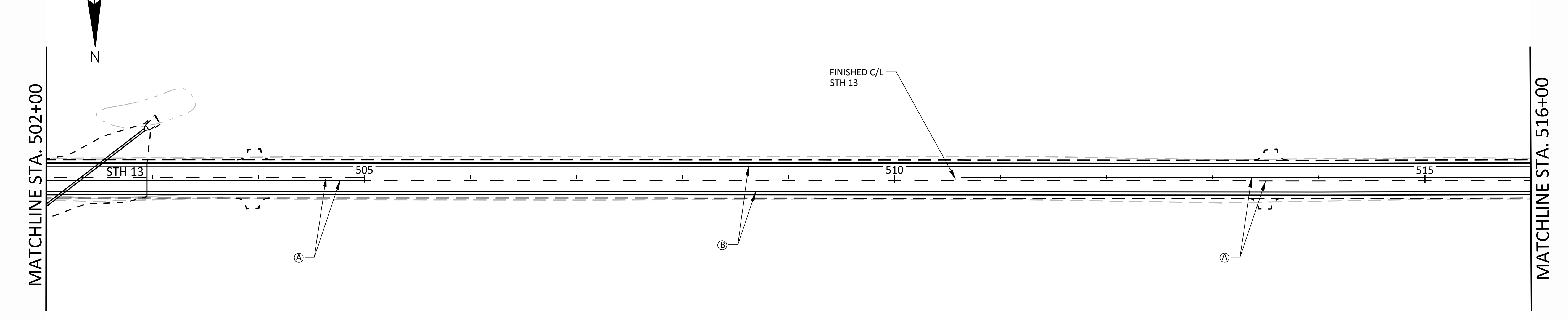
PLOT SCALE : 1 IN:100 FT

LAYOUT NAME - Sheet - (14)



LEGEND

Ⓐ	MARKING LINE SAME DAY EPOXY 4-INCH (YELLOW)
Ⓑ	MARKING LINE GROOVED WET REFLECTIVE EPOXY 4-INCH (WHITE EDGELINE)
Ⓒ	MARKING STOP LINE EPOXY 18-INCH (WHITE)
Ⓓ	MARKING LINE GROOVED WET REF EPOXY 8-INCH (WHITE)
Ⓔ	MARKING LINE EPOXY 8-INCH (WHITE)
Ⓕ	MARKING ISLAND NOSE EPOXY



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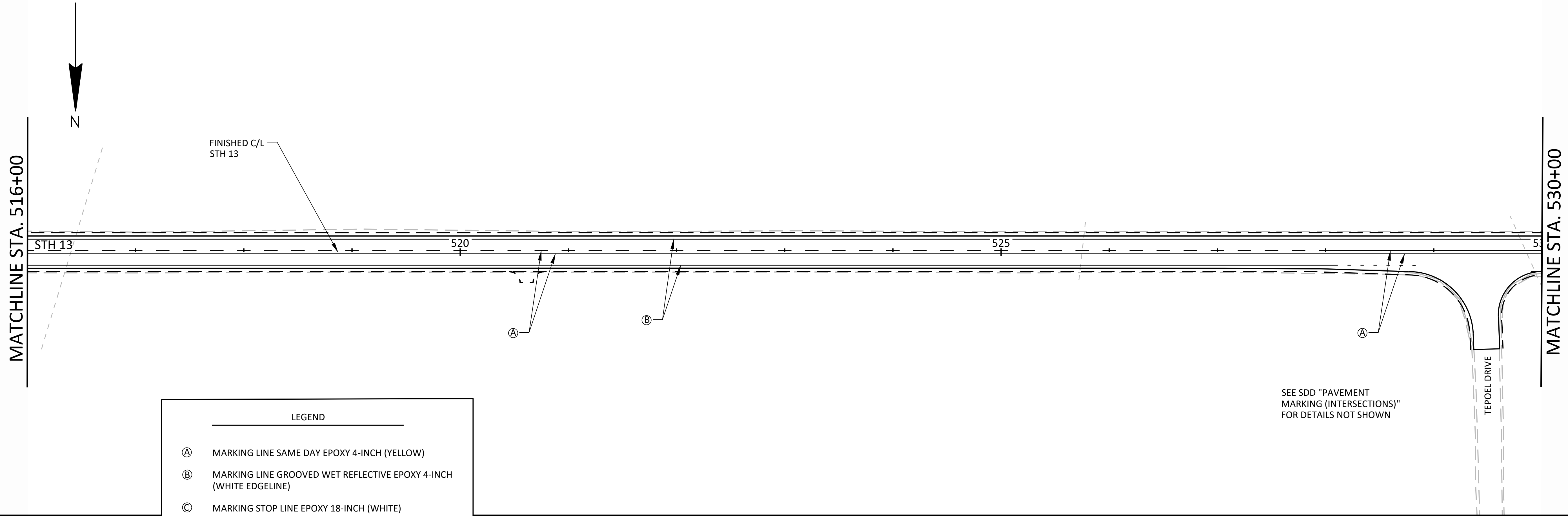
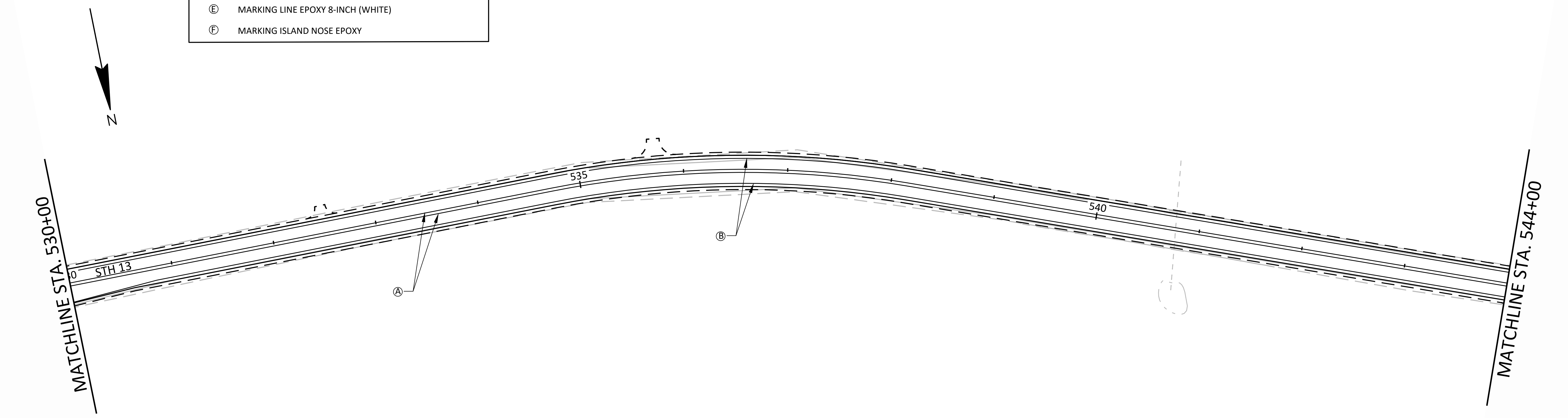


SEE SDD "PAVEMENT
MARKING (INTERSECTIONS)"
FOR DETAILS NOT SHOWN

2

LEGEND

Ⓐ	MARKING LINE SAME DAY EPOXY 4-INCH (YELLOW)
Ⓑ	MARKING LINE GROOVED WET REFLECTIVE EPOXY 4-INCH (WHITE EDGELINE)
Ⓒ	MARKING STOP LINE EPOXY 18-INCH (WHITE)
Ⓓ	MARKING LINE GROOVED WET REF EPOXY 8-INCH (WHITE)
Ⓔ	MARKING LINE EPOXY 8-INCH (WHITE)
Ⓕ	MARKING ISLAND NOSE EPOXY

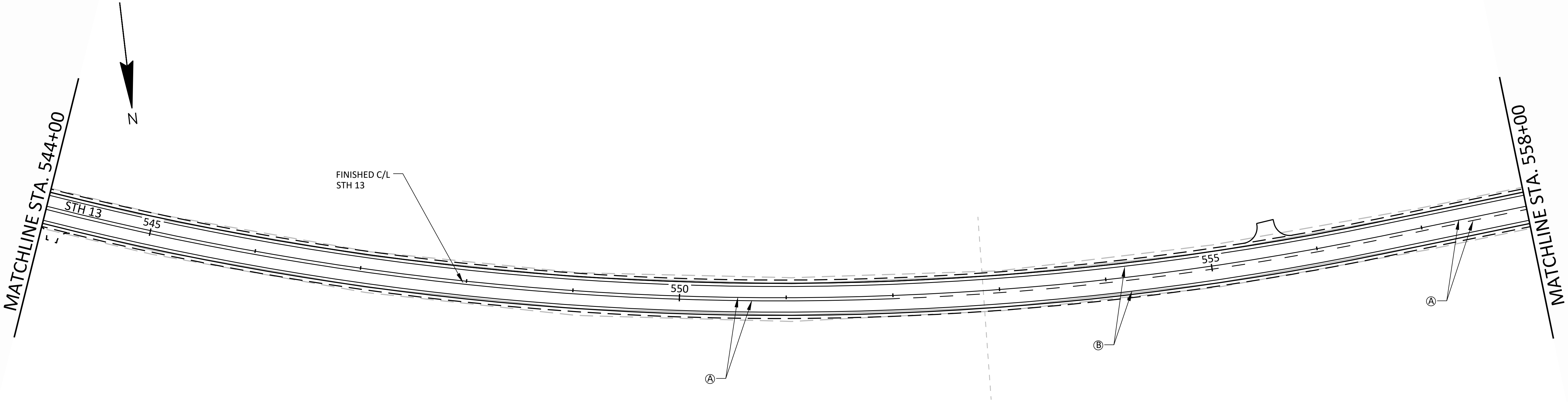


PROJECT NO: 8510-01-70	HWY: STH 13	COUNTY: DOUGLAS	PAVEMENT MARKING PLAN	SHEET 76	E

PLOT SCALE : 1 IN:100 FT

LAYOUT NAME - Sheet - (16)

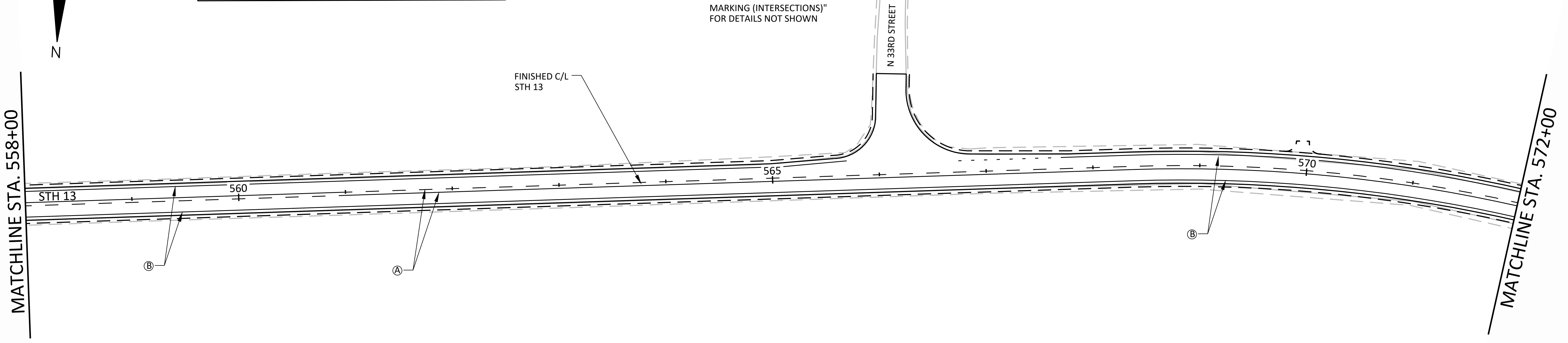
2



LEGEND

- Ⓐ MARKING LINE SAME DAY EPOXY 4-INCH (YELLOW)
- Ⓑ MARKING LINE GROOVED WET REFLECTIVE EPOXY 4-INCH (WHITE EDGELINE)
- Ⓒ MARKING STOP LINE EPOXY 18-INCH (WHITE)
- Ⓓ MARKING LINE GROOVED WET REF EPOXY 8-INCH (WHITE)
- Ⓔ MARKING LINE EPOXY 8-INCH (WHITE)
- Ⓕ MARKING ISLAND NOSE EPOXY

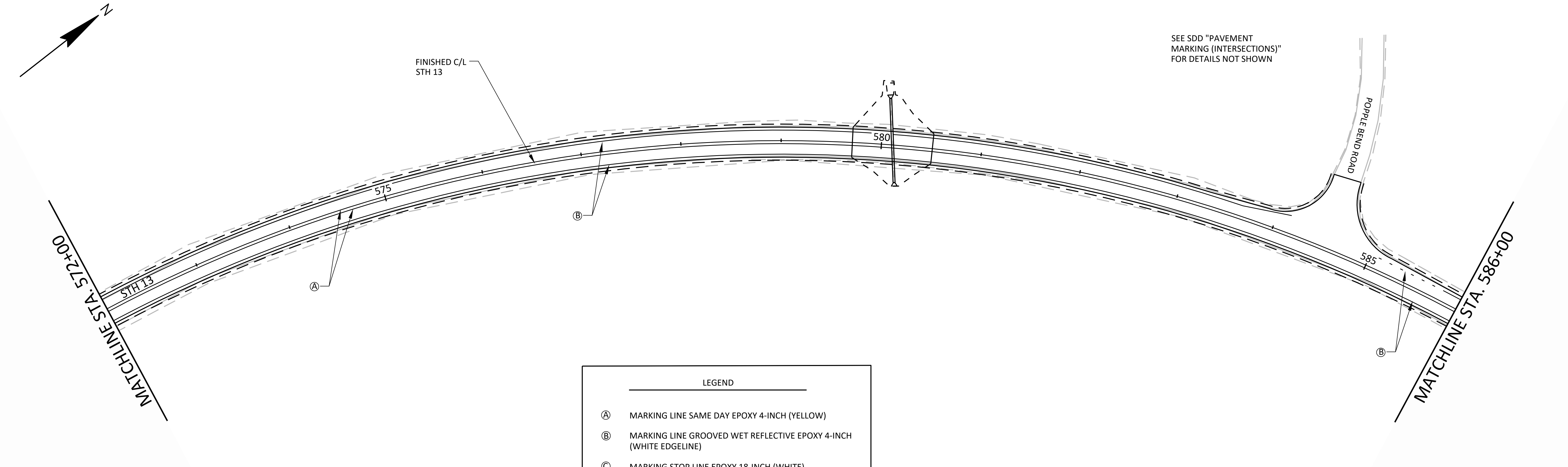
SEE SDD "PAVEMENT MARKING (INTERSECTIONS)" FOR DETAILS NOT SHOWN



2

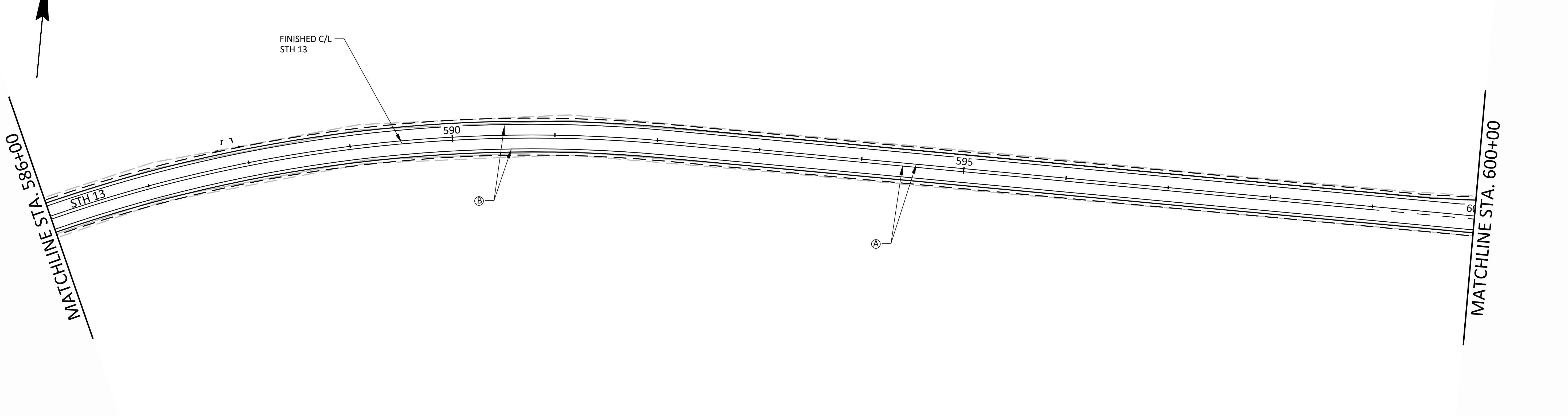
PROJECT NO: 8510-01-70 | HWY: STH 13 | COUNTY: DOUGLAS | PAVEMENT MARKING PLAN | SHEET 77 | E

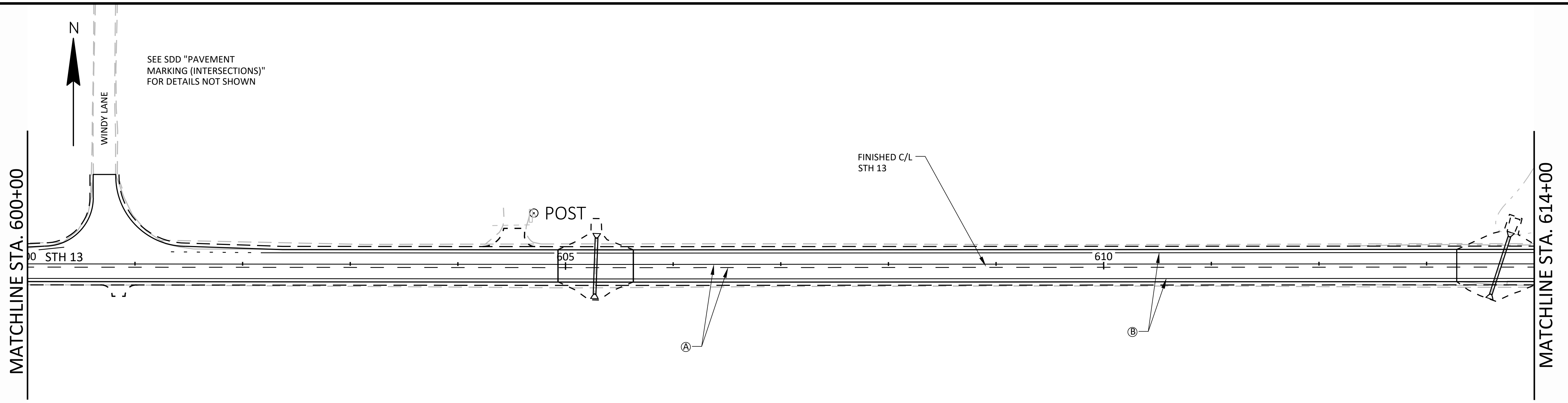
SEE SDD "PAVEMENT
MARKING (INTERSECTIONS)"
FOR DETAILS NOT SHOWN



LEGEND

Ⓐ	MARKING LINE SAME DAY EPOXY 4-INCH (YELLOW)
Ⓑ	MARKING LINE GROOVED WET REFLECTIVE EPOXY 4-INCH (WHITE EDGELINE)
Ⓒ	MARKING STOP LINE EPOXY 18-INCH (WHITE)
Ⓓ	MARKING LINE GROOVED WET REF EPOXY 8-INCH (WHITE)
Ⓔ	MARKING LINE EPOXY 8-INCH (WHITE)
Ⓕ	MARKING ISLAND NOSE EPOXY

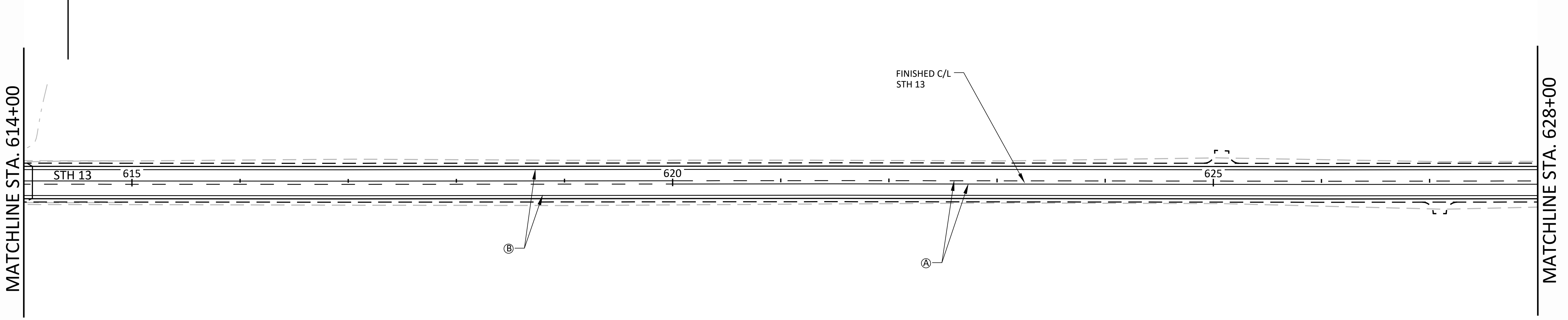




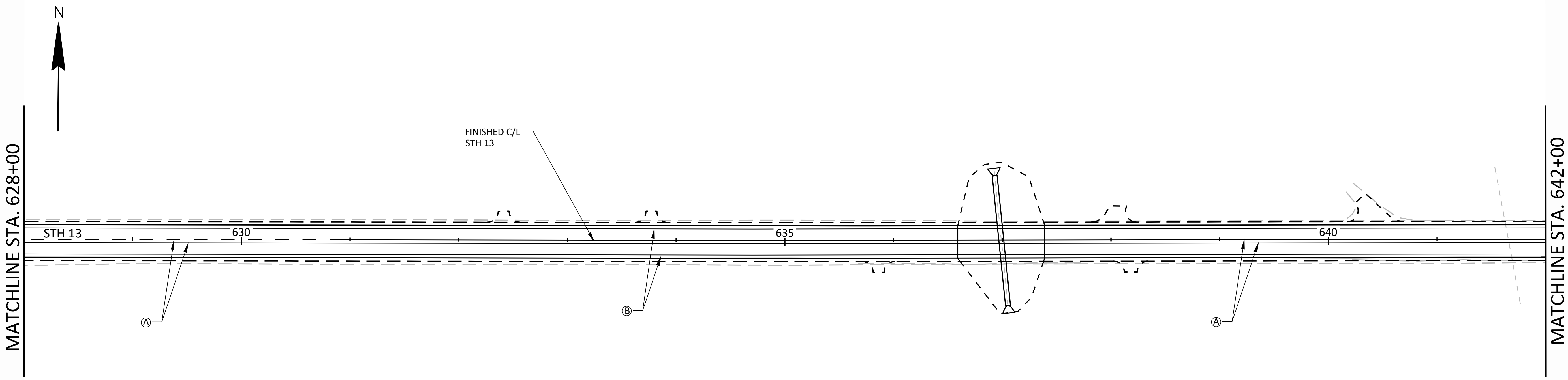
SEE SDD "PAVEMENT MARKING (INTERSECTIONS)" FOR DETAILS NOT SHOWN

LEGEND

Ⓐ	MARKING LINE SAME DAY EPOXY 4-INCH (YELLOW)
Ⓑ	MARKING LINE GROOVED WET REFLECTIVE EPOXY 4-INCH (WHITE EDGELINE)
Ⓒ	MARKING STOP LINE EPOXY 18-INCH (WHITE)
Ⓓ	MARKING LINE GROOVED WET REF EPOXY 8-INCH (WHITE)
Ⓔ	MARKING LINE EPOXY 8-INCH (WHITE)
Ⓕ	MARKING ISLAND NOSE EPOXY

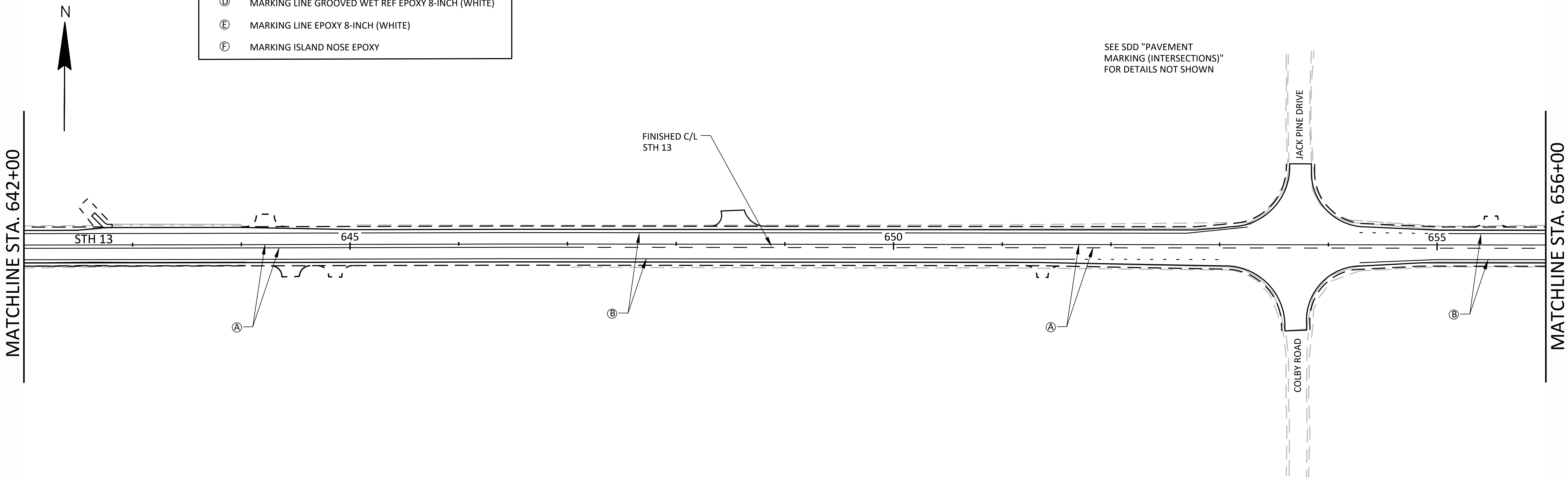


PROJECT NO: 8510-01-70	HWY: STH 13	COUNTY: DOUGLAS	PAVEMENT MARKING PLAN	SHEET 79	E



LEGEND

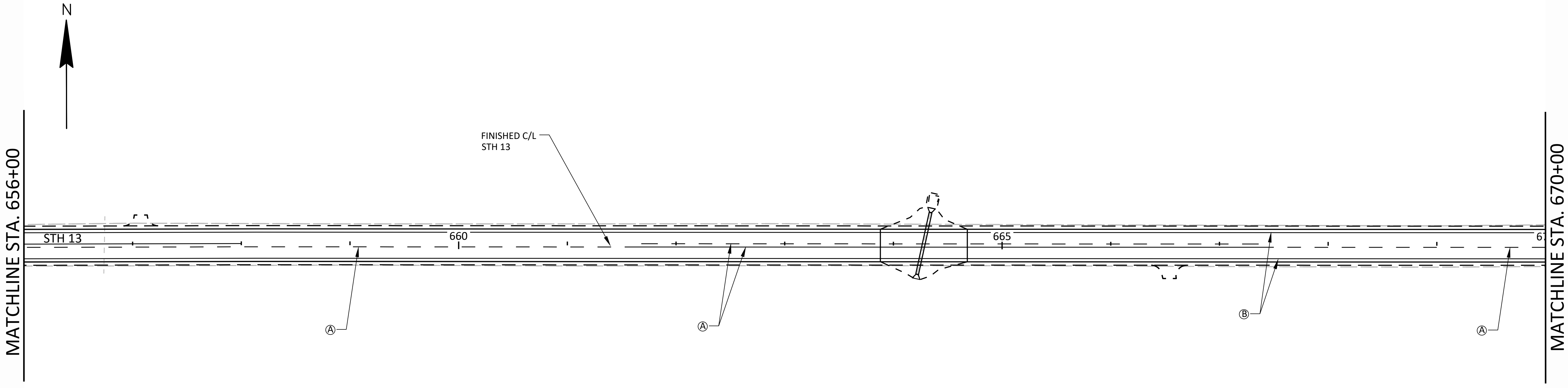
Ⓐ	MARKING LINE SAME DAY EPOXY 4-INCH (YELLOW)
Ⓑ	MARKING LINE GROOVED WET REFLECTIVE EPOXY 4-INCH (WHITE EDGELINE)
Ⓒ	MARKING STOP LINE EPOXY 18-INCH (WHITE)
Ⓓ	MARKING LINE GROOVED WET REF EPOXY 8-INCH (WHITE)
Ⓔ	MARKING LINE EPOXY 8-INCH (WHITE)
Ⓕ	MARKING ISLAND NOSE EPOXY



SEE SDD "PAVEMENT MARKING (INTERSECTIONS)" FOR DETAILS NOT SHOWN

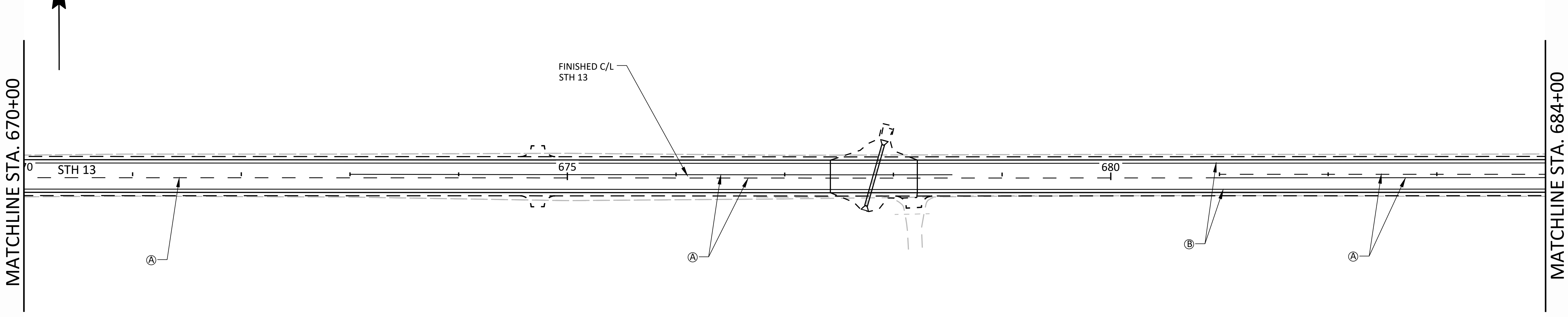
PROJECT NO: 8510-01-70	HWY: STH 13	COUNTY: DOUGLAS	PAVEMENT MARKING PLAN	SHEET 80	E

PLOT SCALE : 1 IN:100 FT



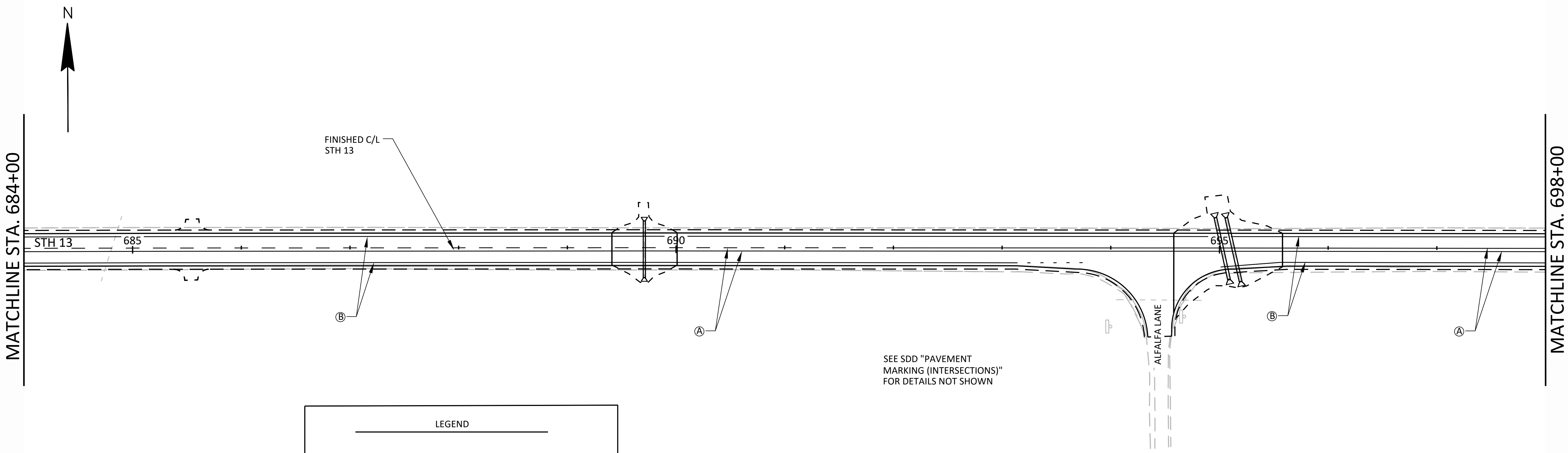
LEGEND

Ⓐ	MARKING LINE SAME DAY EPOXY 4-INCH (YELLOW)
Ⓑ	MARKING LINE GROOVED WET REFLECTIVE EPOXY 4-INCH (WHITE EDGELINE)
Ⓒ	MARKING STOP LINE EPOXY 18-INCH (WHITE)
Ⓓ	MARKING LINE GROOVED WET REF EPOXY 8-INCH (WHITE)
Ⓔ	MARKING LINE EPOXY 8-INCH (WHITE)
Ⓕ	MARKING ISLAND NOSE EPOXY



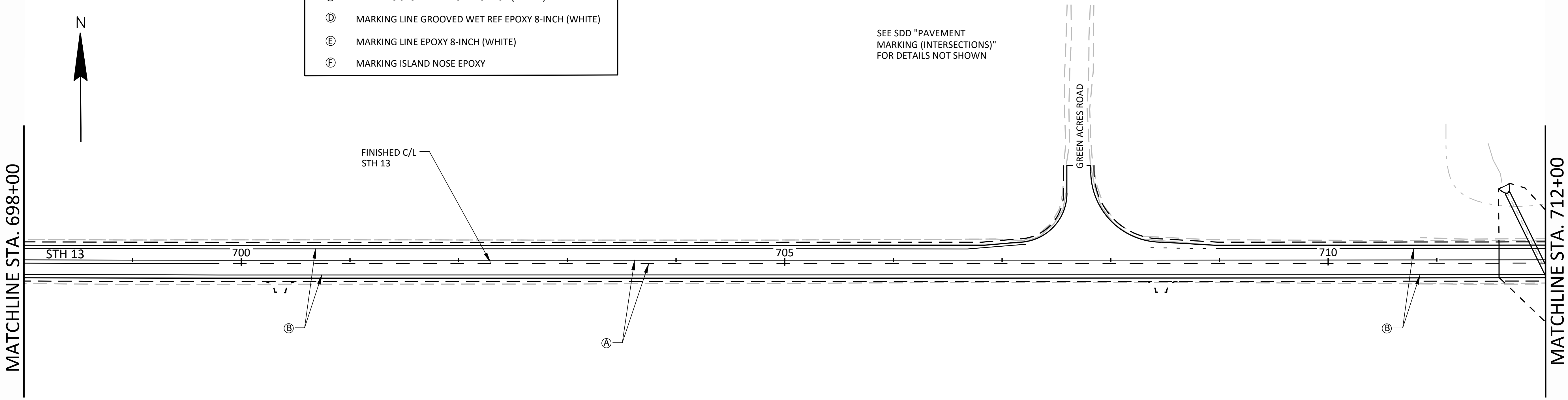
PROJECT NO: 8510-01-70 | HWY: STH 13 | COUNTY: DOUGLAS | PAVEMENT MARKING PLAN | SHEET 81 | E

PLOT SCALE : 1 IN:100 FT



LEGEND

Ⓐ	MARKING LINE SAME DAY EPOXY 4-INCH (YELLOW)
Ⓑ	MARKING LINE GROOVED WET REFLECTIVE EPOXY 4-INCH (WHITE EDGELINE)
Ⓒ	MARKING STOP LINE EPOXY 18-INCH (WHITE)
Ⓓ	MARKING LINE GROOVED WET REF EPOXY 8-INCH (WHITE)
Ⓔ	MARKING LINE EPOXY 8-INCH (WHITE)
Ⓕ	MARKING ISLAND NOSE EPOXY



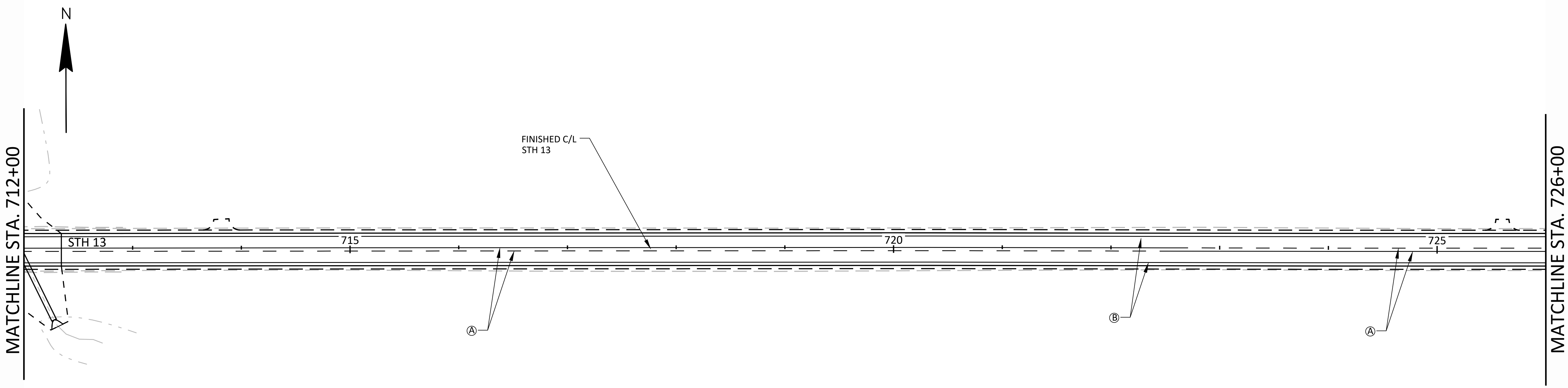
PROJECT NO: 8510-01-70	HWY: STH 13	COUNTY: DOUGLAS	PAVEMENT MARKING PLAN	SHEET E

PLOT SCALE : 1 IN:100 FT

LAYOUT NAME - Sheet - (22)

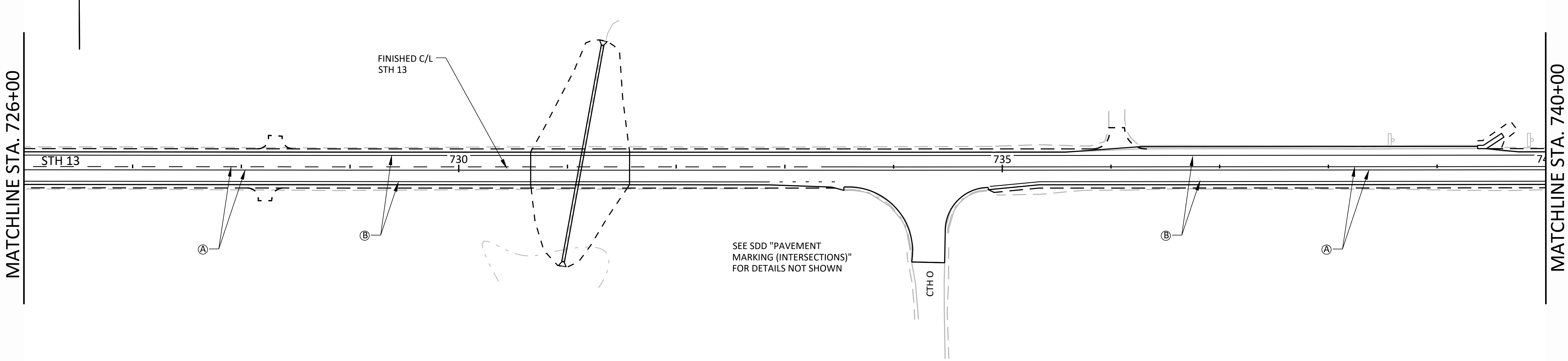
2

2



LEGEND

Ⓐ	MARKING LINE SAME DAY EPOXY 4-INCH (YELLOW)
Ⓑ	MARKING LINE GROOVED WET REFLECTIVE EPOXY 4-INCH (WHITE EDGELINE)
Ⓒ	MARKING STOP LINE EPOXY 18-INCH (WHITE)
Ⓓ	MARKING LINE GROOVED WET REF EPOXY 8-INCH (WHITE)
Ⓔ	MARKING LINE EPOXY 8-INCH (WHITE)
Ⓕ	MARKING ISLAND NOSE EPOXY

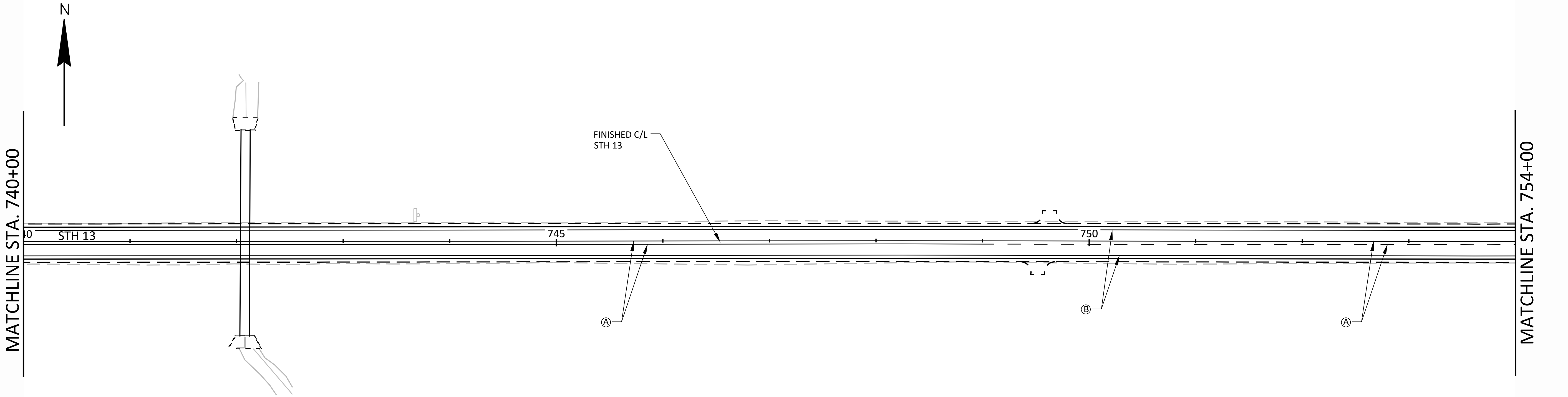


SEE SDD "PAVEMENT MARKING (INTERSECTIONS)" FOR DETAILS NOT SHOWN

PROJECT NO: 8510-01-70	HWY: STH 13	COUNTY: DOUGLAS	PAVEMENT MARKING PLAN	SHEET 83 E

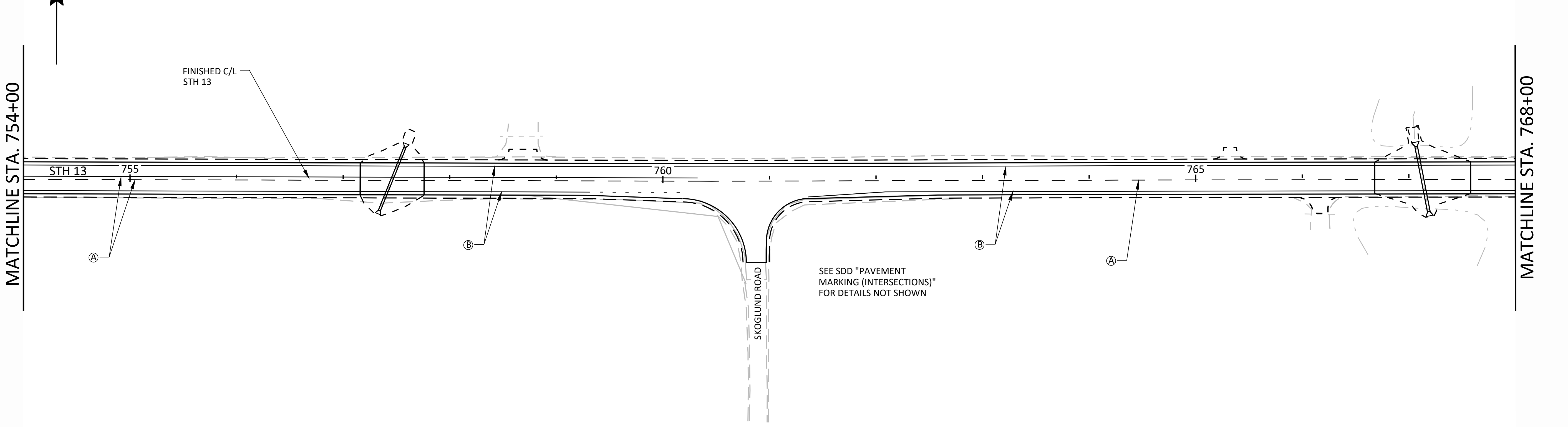
PLOT SCALE : 1 IN:100 FT

LAYOUT NAME - Sheet - (23)



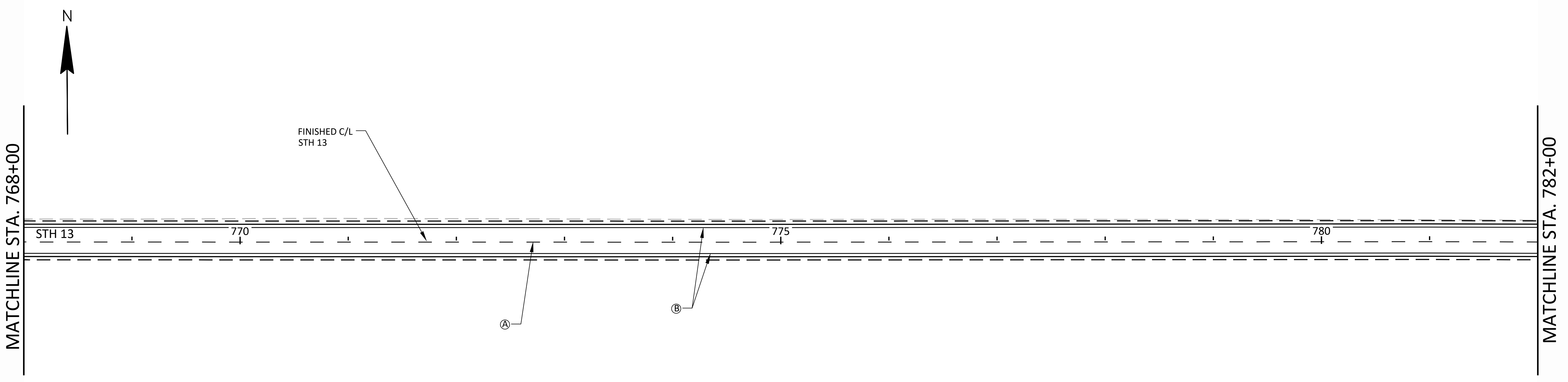
LEGEND

Ⓐ	MARKING LINE SAME DAY EPOXY 4-INCH (YELLOW)
Ⓑ	MARKING LINE GROOVED WET REFLECTIVE EPOXY 4-INCH (WHITE EDGELINE)
Ⓒ	MARKING STOP LINE EPOXY 18-INCH (WHITE)
Ⓓ	MARKING LINE GROOVED WET REF EPOXY 8-INCH (WHITE)
Ⓔ	MARKING LINE EPOXY 8-INCH (WHITE)
Ⓕ	MARKING ISLAND NOSE EPOXY



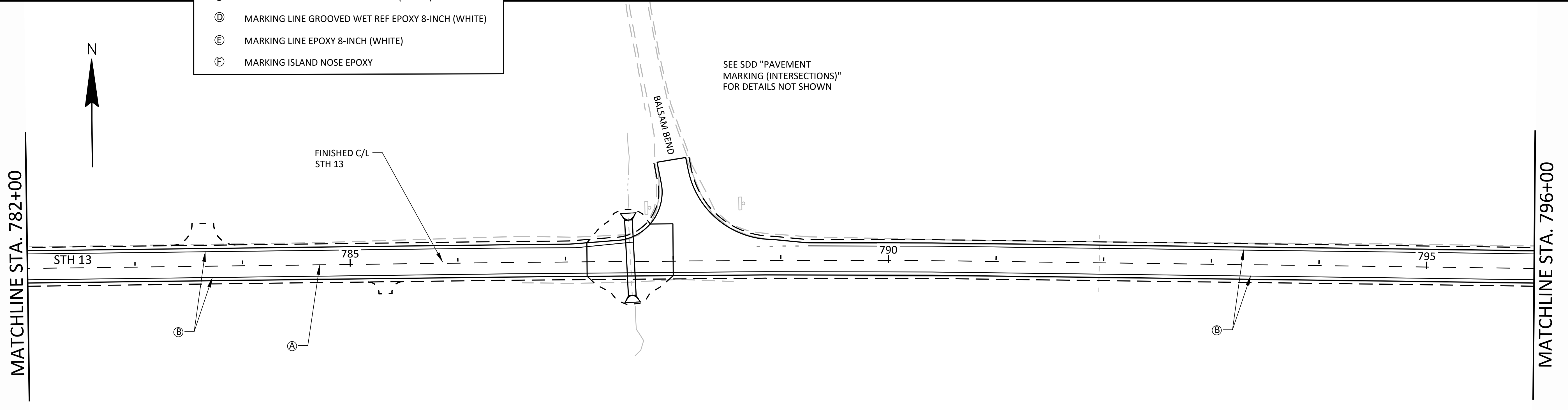
SEE SDD "PAVEMENT MARKING (INTERSECTIONS)" FOR DETAILS NOT SHOWN

PROJECT NO: 8510-01-70 | HWY: STH 13 | COUNTY: DOUGLAS | PAVEMENT MARKING PLAN | SHEET E



LEGEND

Ⓐ MARKING LINE SAME DAY EPOXY 4-INCH (YELLOW)
Ⓑ MARKING LINE GROOVED WET REFLECTIVE EPOXY 4-INCH (WHITE EDGELINE)
Ⓒ MARKING STOP LINE EPOXY 18-INCH (WHITE)
Ⓓ MARKING LINE GROOVED WET REF EPOXY 8-INCH (WHITE)
Ⓔ MARKING LINE EPOXY 8-INCH (WHITE)
Ⓕ MARKING ISLAND NOSE EPOXY

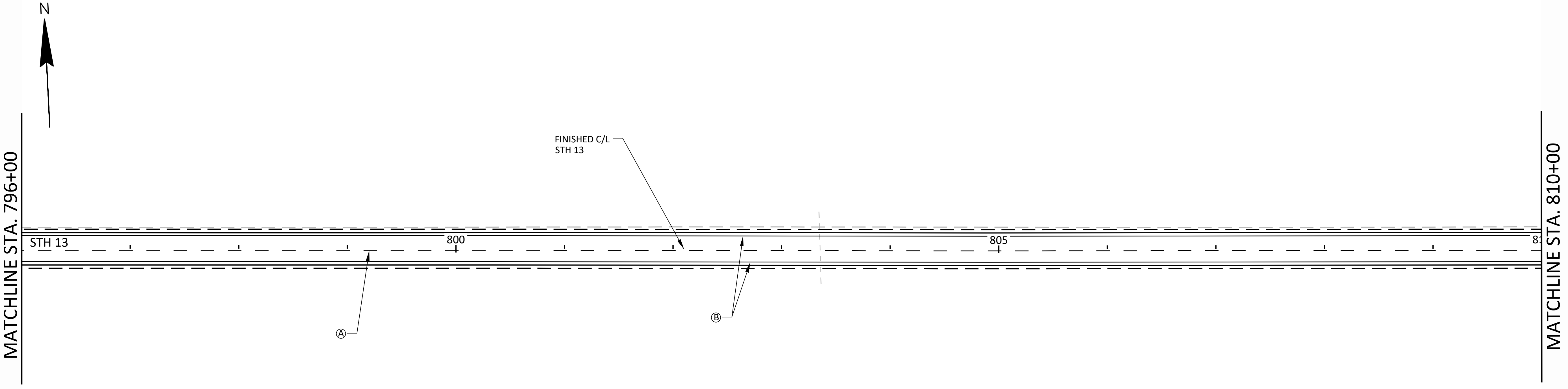


SEE SDD "PAVEMENT MARKING (INTERSECTIONS)" FOR DETAILS NOT SHOWN

PROJECT NO: 8510-01-70
HWY: STH 13
COUNTY: DOUGLAS
PAVEMENT MARKING PLAN
SHEET
E

PLOT SCALE : 1 IN:100 FT

LAYOUT NAME - Sheet - (25)



LEGEND

Ⓐ MARKING LINE SAME DAY EPOXY 4-INCH (YELLOW)

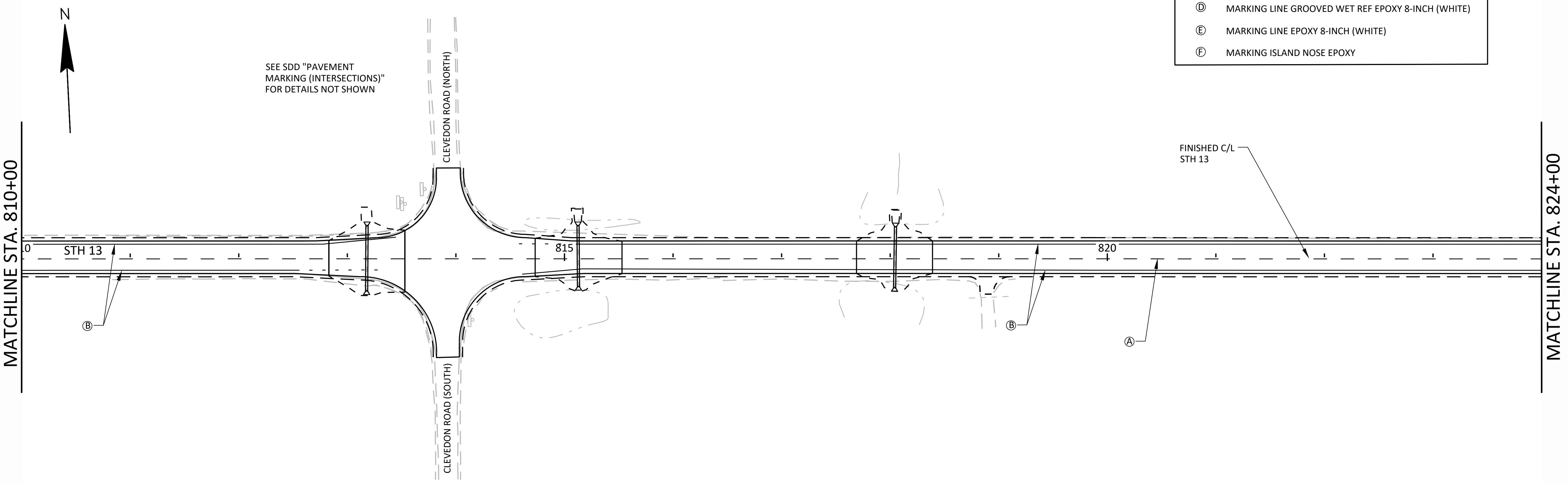
Ⓑ MARKING LINE GROOVED WET REFLECTIVE EPOXY 4-INCH (WHITE EDGELINE)

Ⓒ MARKING STOP LINE EPOXY 18-INCH (WHITE)

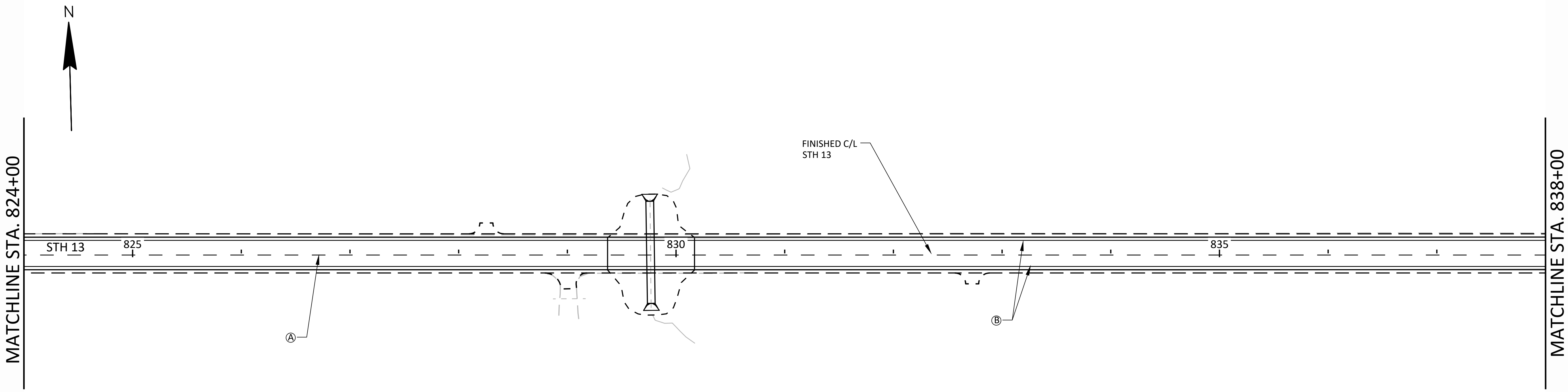
Ⓓ MARKING LINE GROOVED WET REF EPOXY 8-INCH (WHITE)

Ⓔ MARKING LINE EPOXY 8-INCH (WHITE)

Ⓕ MARKING ISLAND NOSE EPOXY



PROJECT NO: 8510-01-70	HWY: STH 13	COUNTY: DOUGLAS	PAVEMENT MARKING PLAN	SHEET 86	E



LEGEND

Ⓐ MARKING LINE SAME DAY EPOXY 4-INCH (YELLOW)

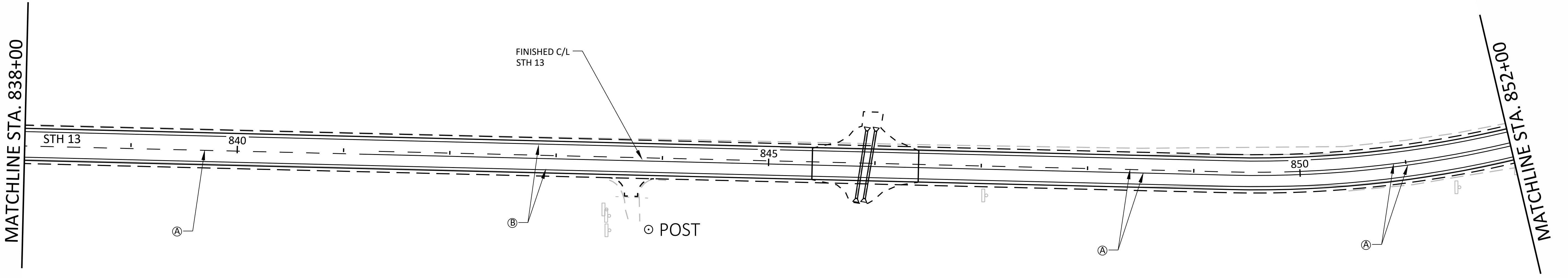
Ⓑ MARKING LINE GROOVED WET REFLECTIVE EPOXY 4-INCH (WHITE EDGELINE)

Ⓒ MARKING STOP LINE EPOXY 18-INCH (WHITE)

Ⓓ MARKING LINE GROOVED WET REF EPOXY 8-INCH (WHITE)

Ⓔ MARKING LINE EPOXY 8-INCH (WHITE)

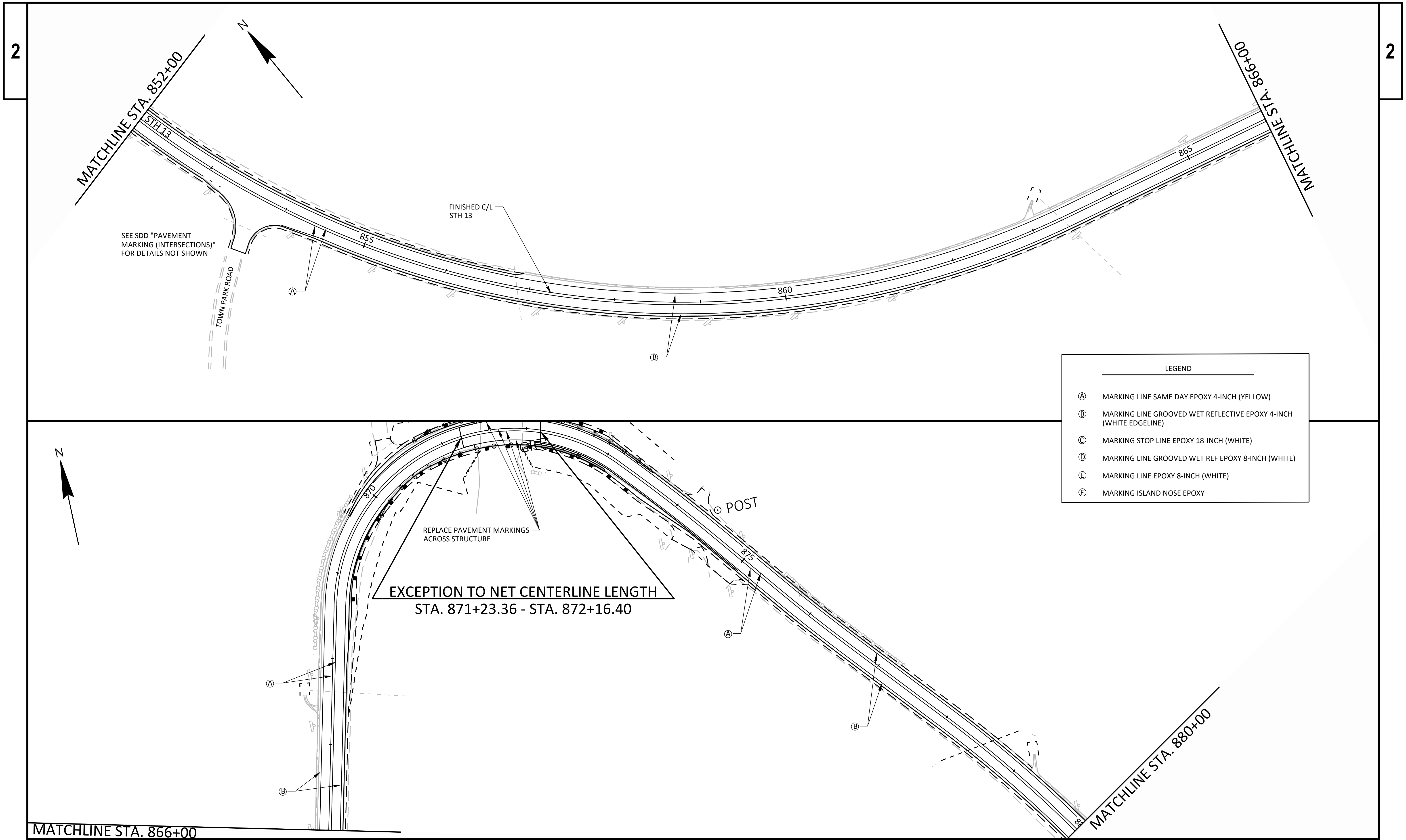
Ⓕ MARKING ISLAND NOSE EPOXY



PROJECT NO: 8510-01-70	HWY: STH 13	COUNTY: DOUGLAS	PAVEMENT MARKING PLAN	SHEET	E

PLOT SCALE : 1 IN:100 FT

LAYOUT NAME - Sheet - (27)



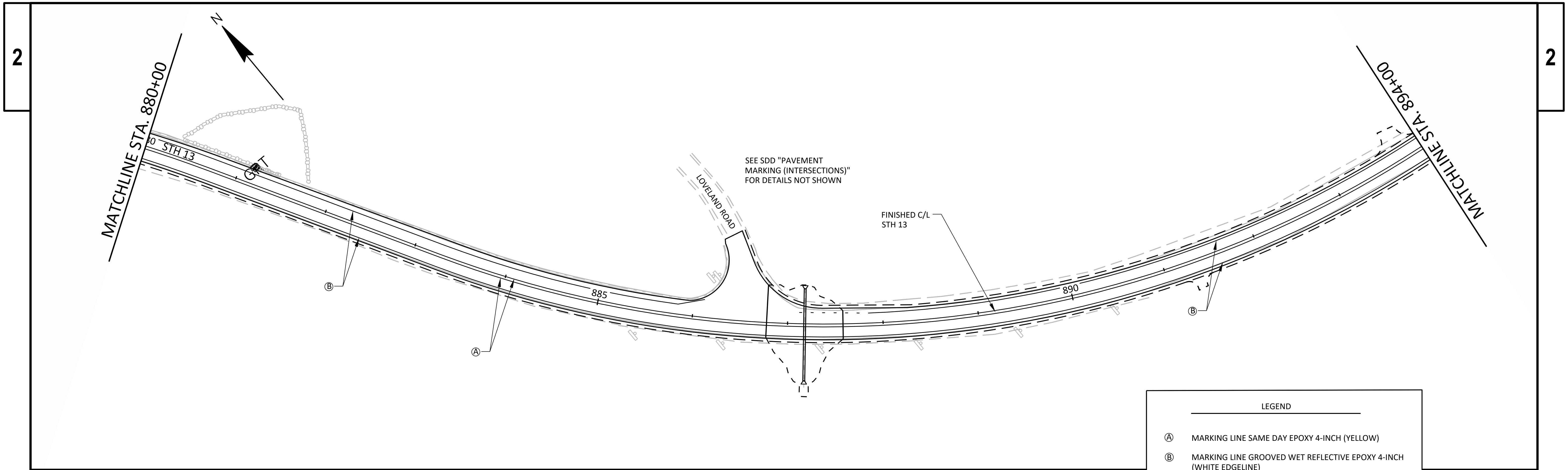
EXCEPTION TO NET CENTERLINE LENGTH
STA. 871+23.36 - STA. 872+16.40

LEGEND

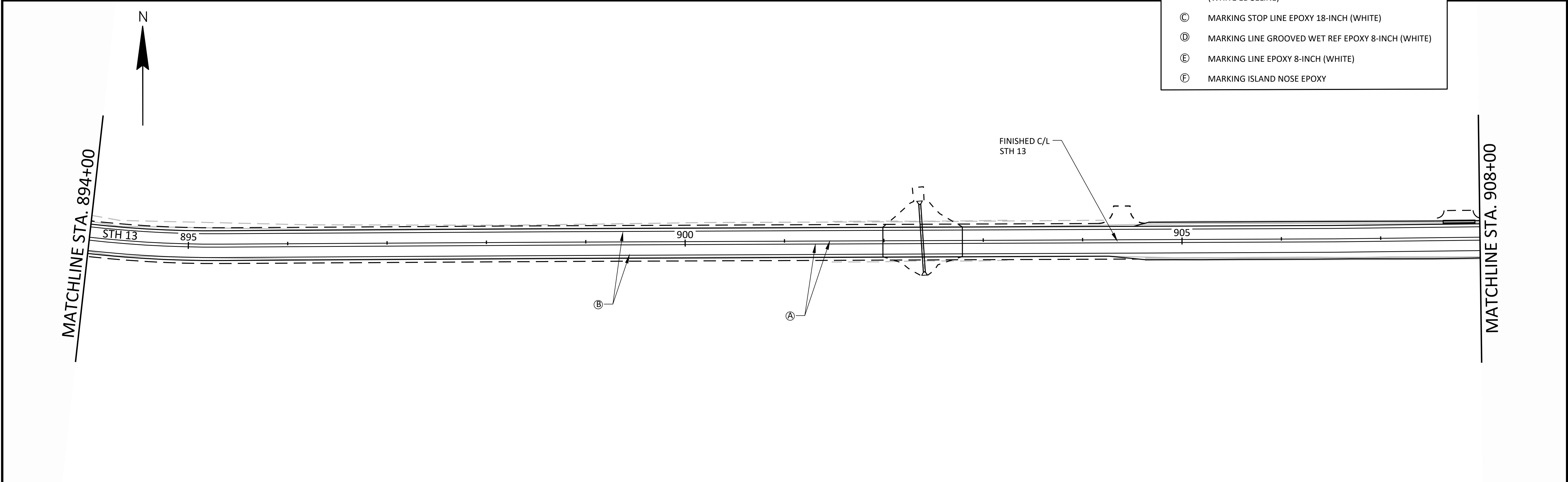
Ⓐ	MARKING LINE SAME DAY EPOXY 4-INCH (YELLOW)
Ⓑ	MARKING LINE GROOVED WET REFLECTIVE EPOXY 4-INCH (WHITE EDGELINE)
Ⓒ	MARKING STOP LINE EPOXY 18-INCH (WHITE)
Ⓓ	MARKING LINE GROOVED WET REF EPOXY 8-INCH (WHITE)
Ⓔ	MARKING LINE EPOXY 8-INCH (WHITE)
Ⓕ	MARKING ISLAND NOSE EPOXY

PROJECT NO: 8510-01-70	HWY: STH 13	COUNTY: DOUGLAS	PAVEMENT MARKING PLAN	SHEET 88	E

PLOT SCALE : 1 IN:100 FT



SEE SDD "PAVEMENT MARKING (INTERSECTIONS)" FOR DETAILS NOT SHOWN



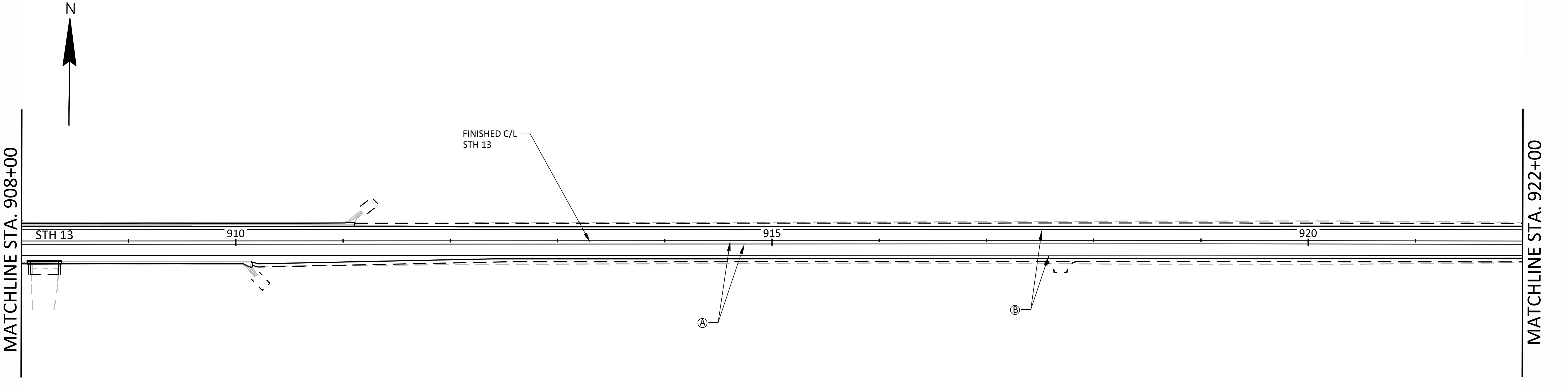
LEGEND

Ⓐ	MARKING LINE SAME DAY EPOXY 4-INCH (YELLOW)
Ⓑ	MARKING LINE GROOVED WET REFLECTIVE EPOXY 4-INCH (WHITE EDGELINE)
Ⓒ	MARKING STOP LINE EPOXY 18-INCH (WHITE)
Ⓓ	MARKING LINE GROOVED WET REF EPOXY 8-INCH (WHITE)
Ⓔ	MARKING LINE EPOXY 8-INCH (WHITE)
Ⓕ	MARKING ISLAND NOSE EPOXY

PROJECT NO: 8510-01-70	HWY: STH 13	COUNTY: DOUGLAS	PAVEMENT MARKING PLAN	SHEET 89	E

PLOT SCALE : 1 IN:100 FT

LAYOUT NAME - Sheet - (29)



LEGEND

Ⓐ MARKING LINE SAME DAY EPOXY 4-INCH (YELLOW)

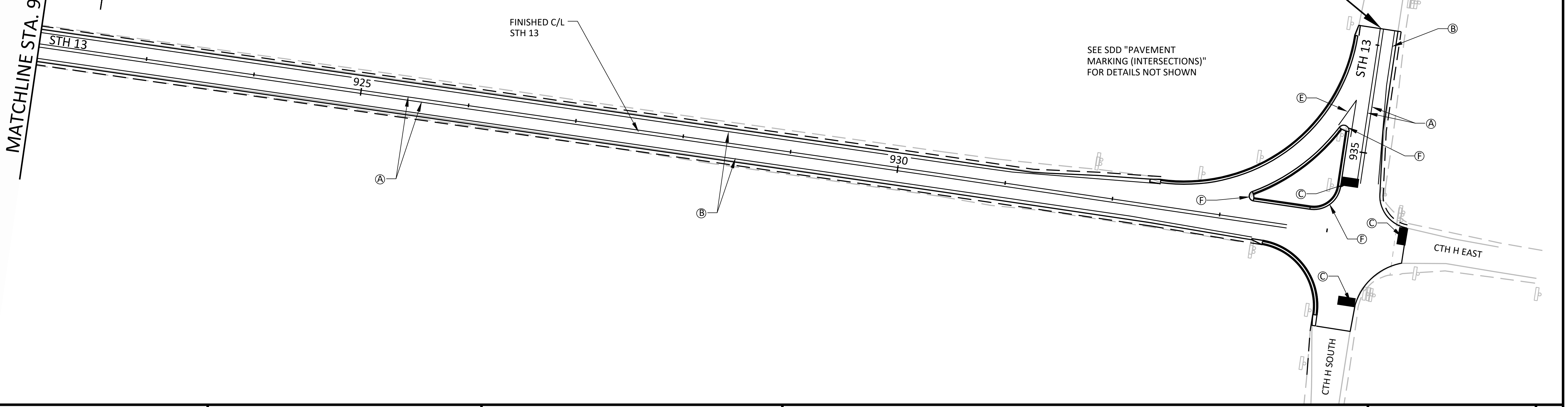
Ⓑ MARKING LINE GROOVED WET REFLECTIVE EPOXY 4-INCH (WHITE EDGELINE)

Ⓒ MARKING STOP LINE EPOXY 18-INCH (WHITE)

Ⓓ MARKING LINE GROOVED WET REF EPOXY 8-INCH (WHITE)

Ⓔ MARKING LINE EPOXY 8-INCH (WHITE)

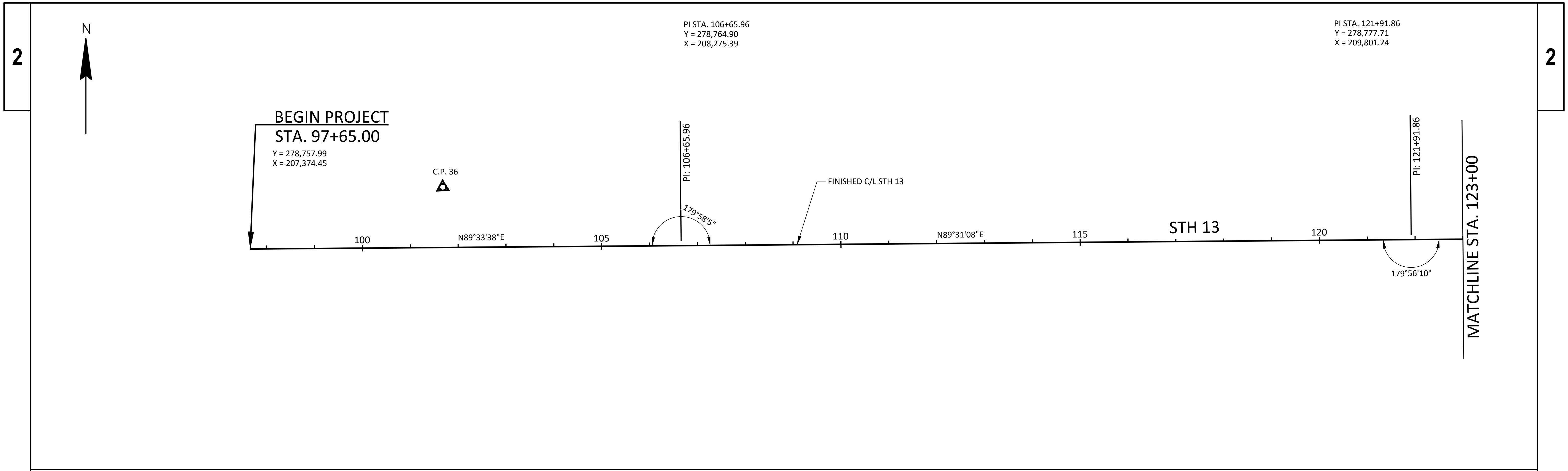
Ⓕ MARKING ISLAND NOSE EPOXY

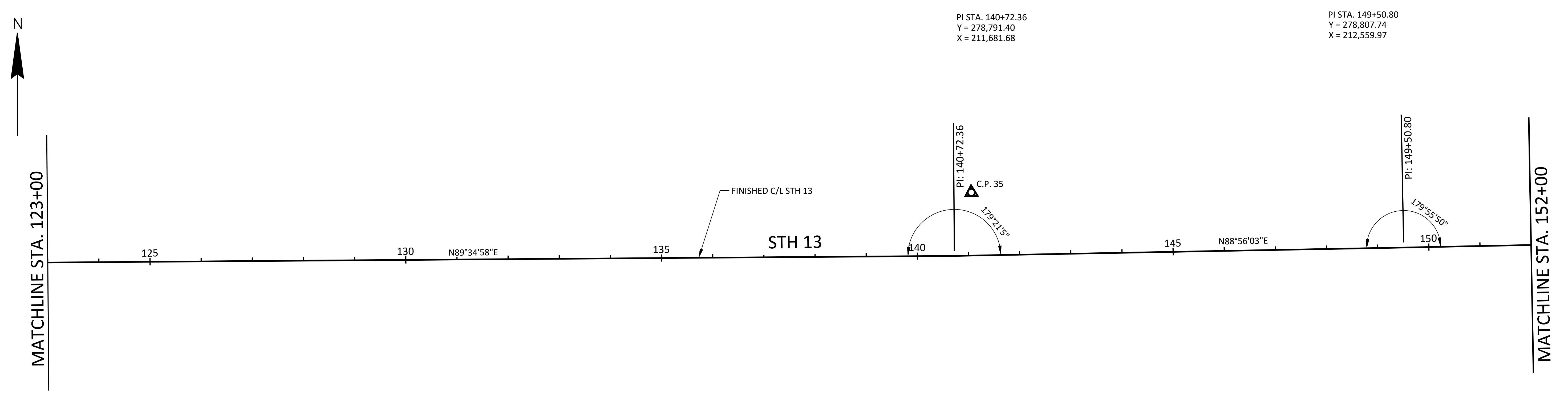


PROJECT NO: 8510-01-70	HWY: STH 13	COUNTY: DOUGLAS	PAVEMENT MARKING PLAN	SHEET 90	E

PLOT SCALE : 1 IN:100 FT

LAYOUT NAME - Sheet - (30)





PROJECT NO: 8510-01-70

HWY: STH 13

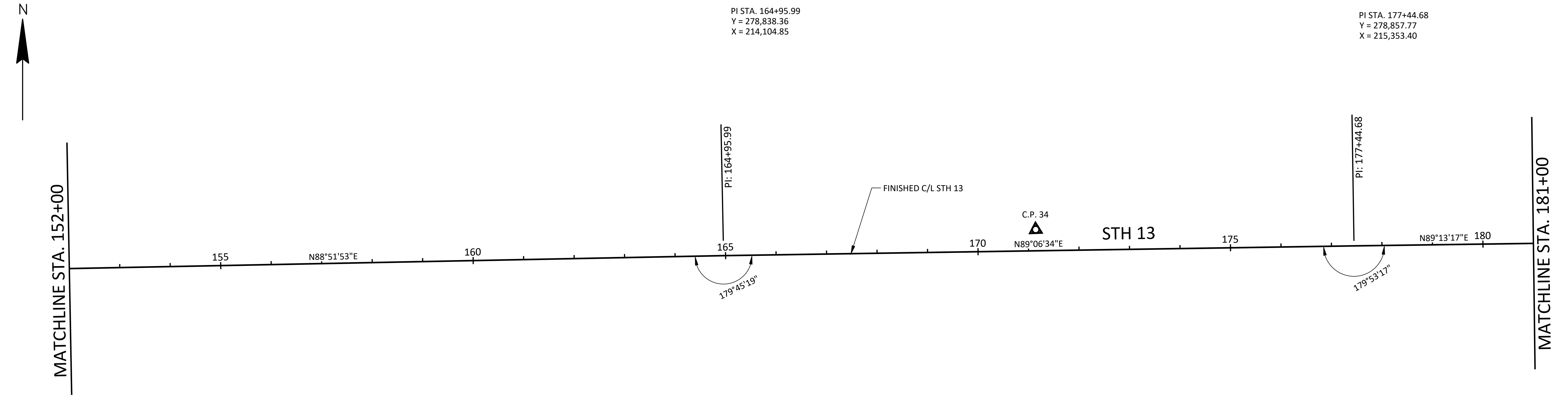
COUNTY: DOUGLAS

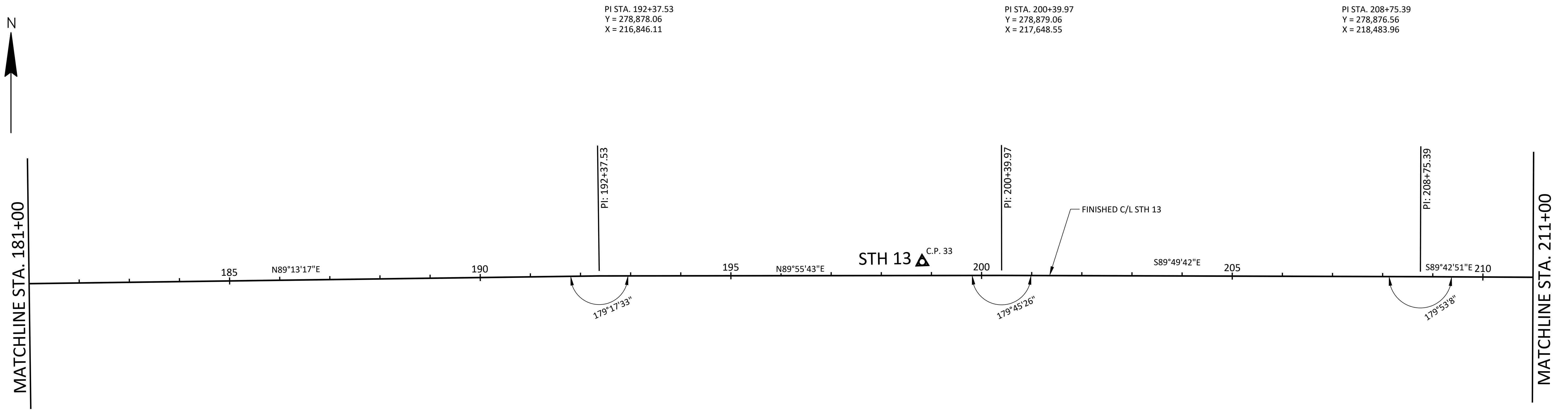
ALIGNMENT DETAILS

SHEET

E

2

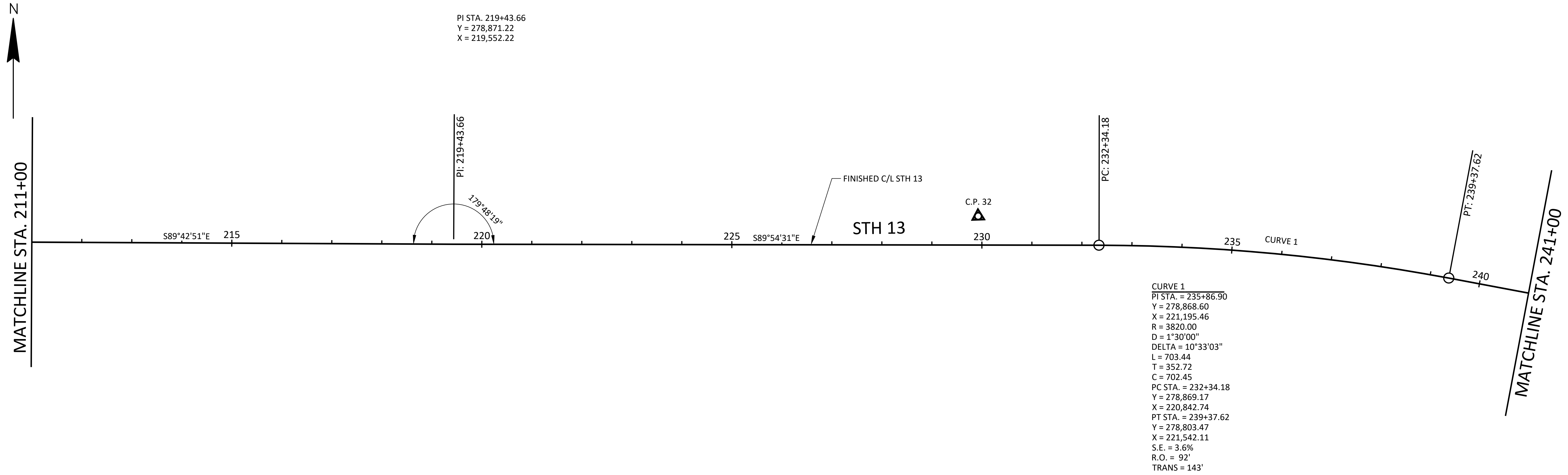




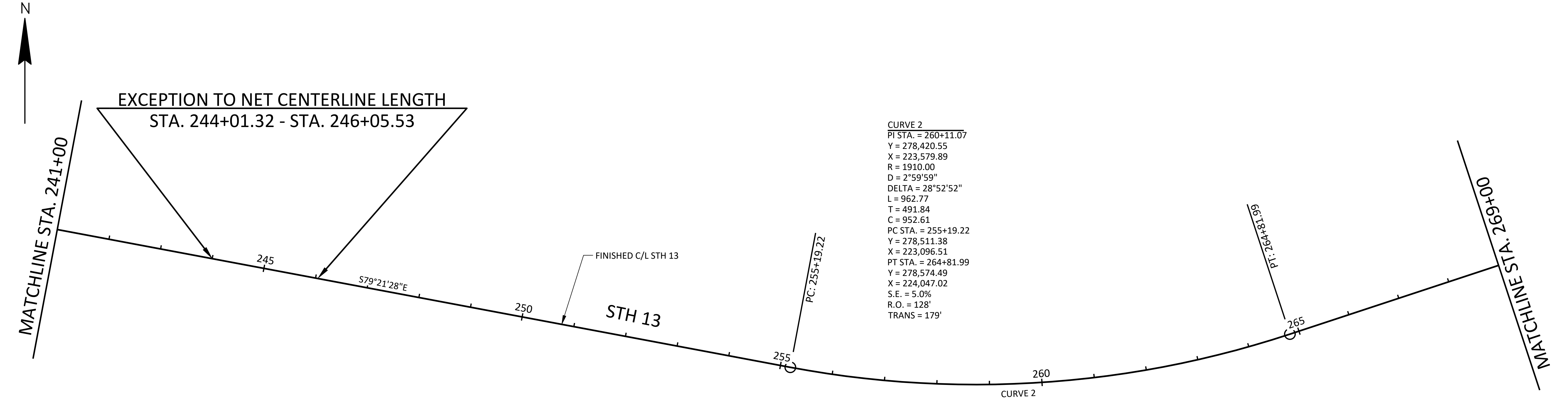
2

PROJECT NO: 8510-01-70	HWY: STH 13	COUNTY: DOUGLAS	ALIGNMENT DETAILS	SHEET 92	E

FILE NAME : S:\PROJECTS\W11599 WISDOT STH 13, CTH H TO ENGDAHL ROAD DOUGLAS CO\SHEETSPLAN\DETAILS\851000100_ALIGNMENT DETAILS.DWG PLOT DATE : 2/4/2022 10:12:50 AM PLOT BY : KARTER ZAJICEK PLOT SCALE : 1" = 1' LAYOUT : LAYOUT 2



CURVE 1
PI STA. = 235+86.90
Y = 278,868.60
X = 221,195.46
R = 3820.00
D = 1°30'00"
DELTA = 10°33'03"
L = 703.44
T = 352.72
C = 702.45
PC STA. = 232+34.18
Y = 278,869.17
X = 220,842.74
PT STA. = 239+37.62
Y = 278,803.47
X = 221,542.11
S.E. = 3.6%
R.O. = 92'
TRANS = 143'

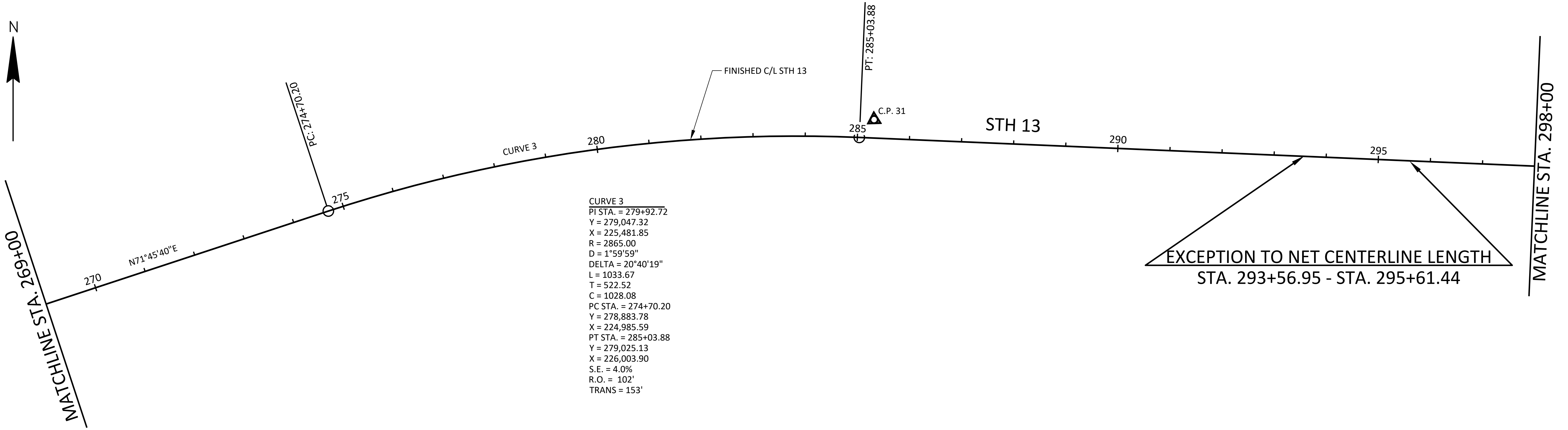


EXCEPTION TO NET CENTERLINE LENGTH
STA. 244+01.32 - STA. 246+05.53

CURVE 2
PI STA. = 260+11.07
Y = 278,420.55
X = 223,579.89
R = 1910.00
D = 2°59'59"
DELTA = 28°52'52"
L = 962.77
T = 491.84
C = 952.61
PC STA. = 255+19.22
Y = 278,511.38
X = 223,096.51
PT STA. = 264+81.99
Y = 278,574.49
X = 224,047.02
S.E. = 5.0%
R.O. = 128'
TRANS = 179'

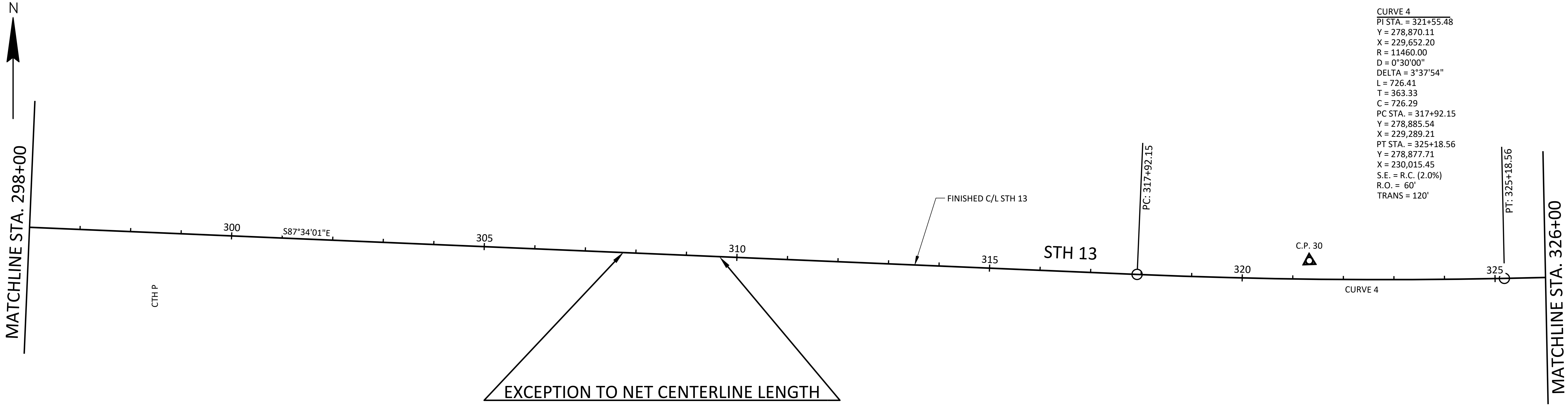
PROJECT NO: 8510-01-70	HWY: STH 13	COUNTY: DOUGLAS	ALIGNMENT DETAILS	SHEET 93	E

FILE NAME : S:\PROJECTS\W11599 WISDOT STH 13, CTH H TO ENGDAHL ROAD DOUGLAS CO\SHEETSPLAN\DETAILS\851000100_ALIGNMENT DETAILS.DWG PLOT DATE : 2/4/2022 10:12:55 AM PLOT BY : KARTER ZAJICEK PLOT SCALE : 1" = 1' LAYOUT : LAYOUT 3



CURVE 3
PI STA. = 279+92.72
Y = 279,047.32
X = 225,481.85
R = 2865.00
D = 1°59'59"
DELTA = 20°40'19"
L = 1033.67
T = 522.52
C = 1028.08
PC STA. = 274+70.20
Y = 278,883.78
X = 224,985.59
PT STA. = 285+03.88
Y = 279,025.13
X = 226,003.90
S.E. = 4.0%
R.O. = 102'
TRANS = 153'

EXCEPTION TO NET CENTERLINE LENGTH
STA. 293+56.95 - STA. 295+61.44

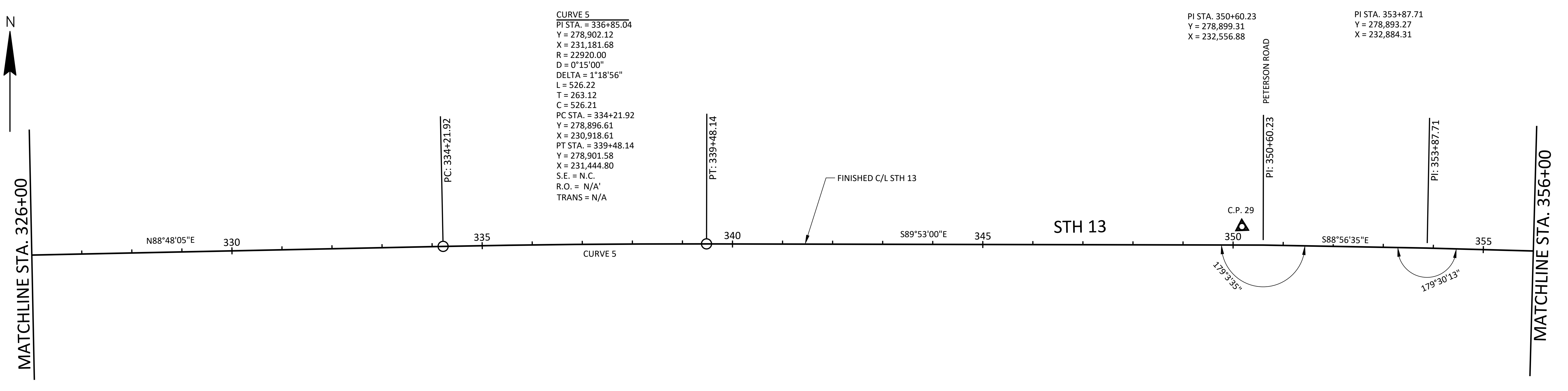


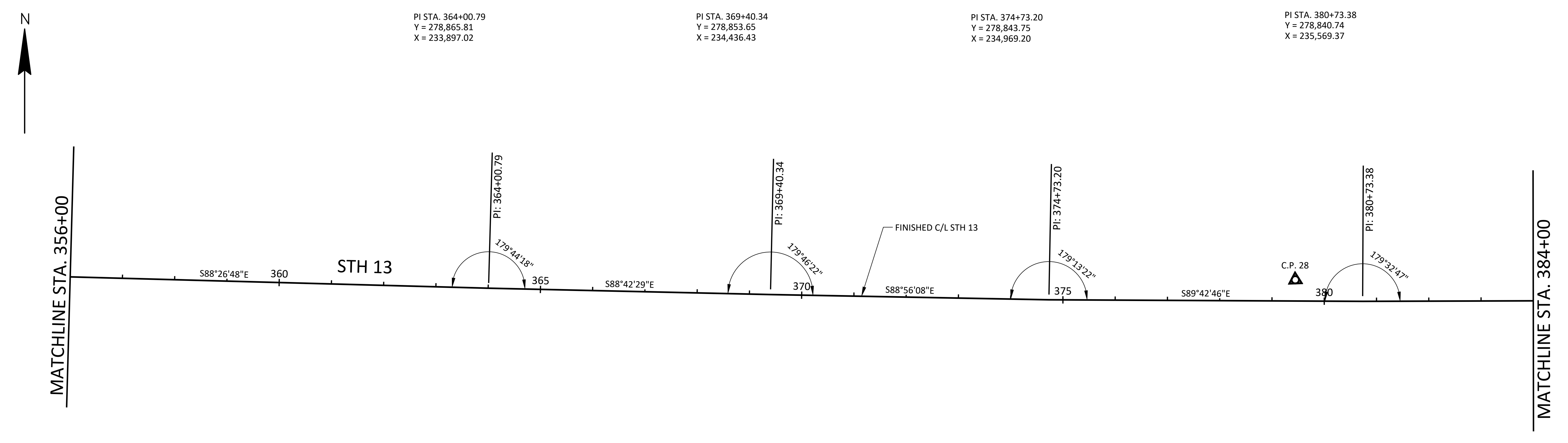
CURVE 4
PI STA. = 321+55.48
Y = 278,870.11
X = 229,652.20
R = 11460.00
D = 0°30'00"
DELTA = 3°37'54"
L = 726.41
T = 363.33
C = 726.29
PC STA. = 317+92.15
Y = 278,885.54
X = 229,289.21
PT STA. = 325+18.56
Y = 278,877.71
X = 230,015.45
S.E. = R.C. (2.0%)
R.O. = 60'
TRANS = 120'

EXCEPTION TO NET CENTERLINE LENGTH
STA. 307+75.11 - STA. 309+66.40

2

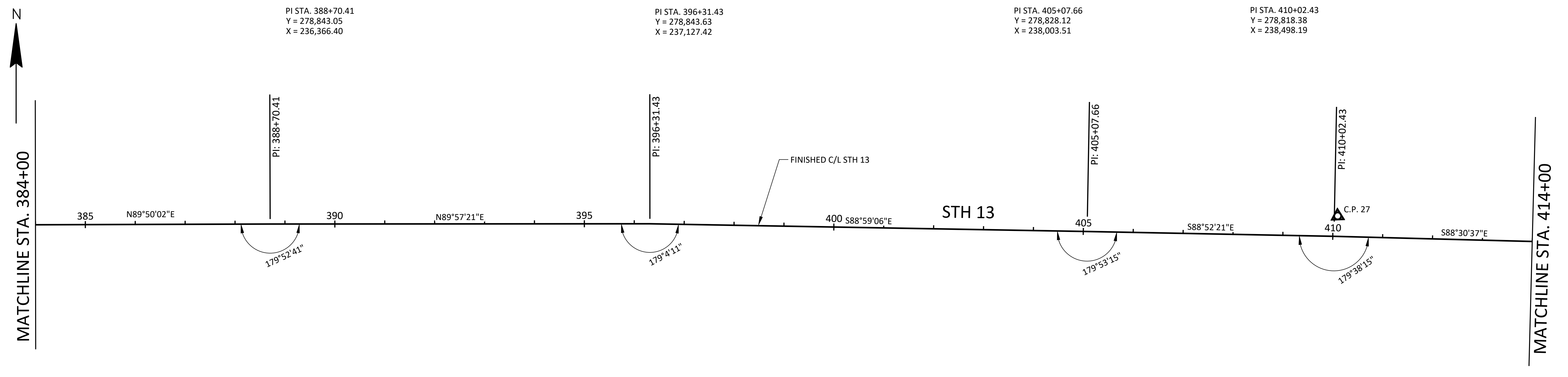
2

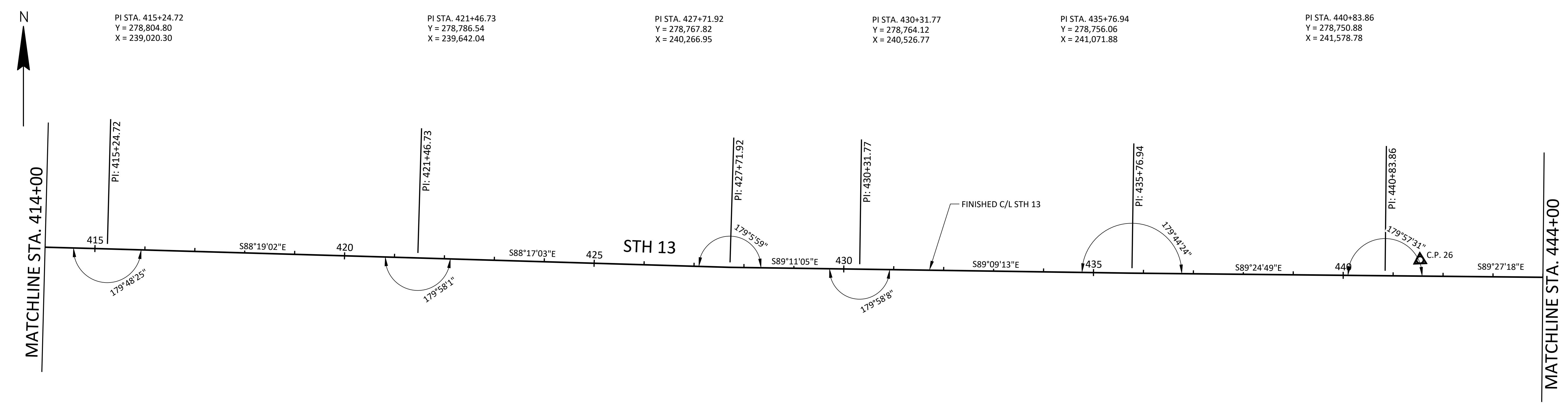




PROJECT NO: 8510-01-70	HWY: STH 13	COUNTY: DOUGLAS	ALIGNMENT DETAILS	SHEET	E

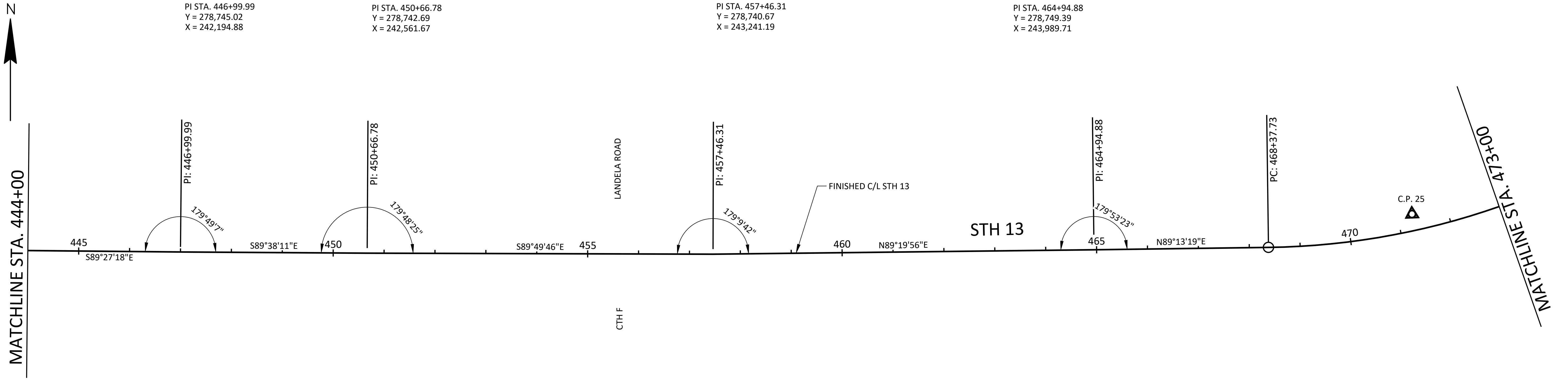
FILE NAME : S:\PROJECTS\W11599 WISDOT STH 13, CTH H TO ENGDAHL ROAD DOUGLAS CO\SHEETSPLAN\DETAILS\851000100_ALIGNMENT DETAILS.DWG PLOT DATE : 2/4/2022 10:13:05 AM PLOT BY : KARTER ZAJICEK PLOT SCALE : 1" = 1' LAYOUT : LAYOUT 5





PROJECT NO: 8510-01-70	HWY: STH 13	COUNTY: DOUGLAS	ALIGNMENT DETAILS	SHEET 96	E

FILE NAME : S:\PROJECTS\W11599 WISDOT STH 13, CTH H TO ENGDAHL ROAD DOUGLAS CO\SHEETSPLAN\DETAILS\851000100_ALIGNMENT DETAILS.DWG PLOT DATE : 2/4/2022 10:13:10 AM PLOT BY : KARTER ZAJICEK PLOT SCALE : 1" = 1' LAYOUT : LAYOUT 6

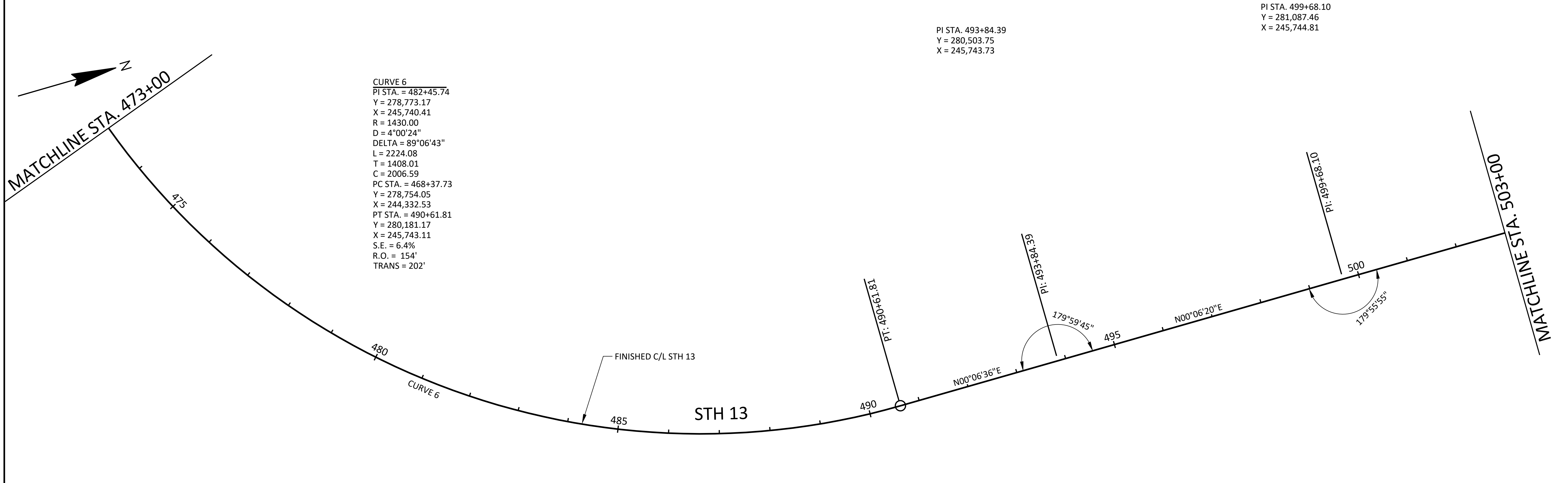


PI STA. 446+99.99
Y = 278,745.02
X = 242,194.88

PI STA. 450+66.78
Y = 278,742.69
X = 242,561.67

PI STA. 457+46.31
Y = 278,740.67
X = 243,241.19

PI STA. 464+94.88
Y = 278,749.39
X = 243,989.71



CURVE 6
PI STA. = 482+45.74
Y = 278,773.17
X = 245,740.41
R = 1430.00
D = 4°00'24"
DELTA = 89°06'43"
L = 2224.08
T = 1408.01
C = 2006.59
PC STA. = 468+37.73
Y = 278,754.05
X = 244,332.53
PT STA. = 490+61.81
Y = 280,181.17
X = 245,743.11
S.E. = 6.4%
R.O. = 154'
TRANS = 202'

PI STA. 493+84.39
Y = 280,503.75
X = 245,743.73

PI STA. 499+68.10
Y = 281,087.46
X = 245,744.81

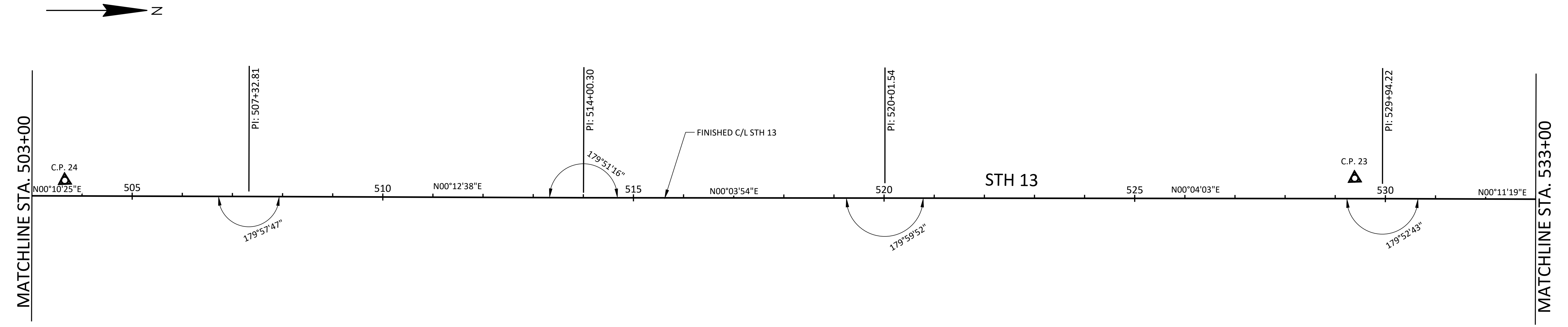
PROJECT NO: 8510-01-70	HWY: STH 13	COUNTY: DOUGLAS	ALIGNMENT DETAILS	SHEET	E

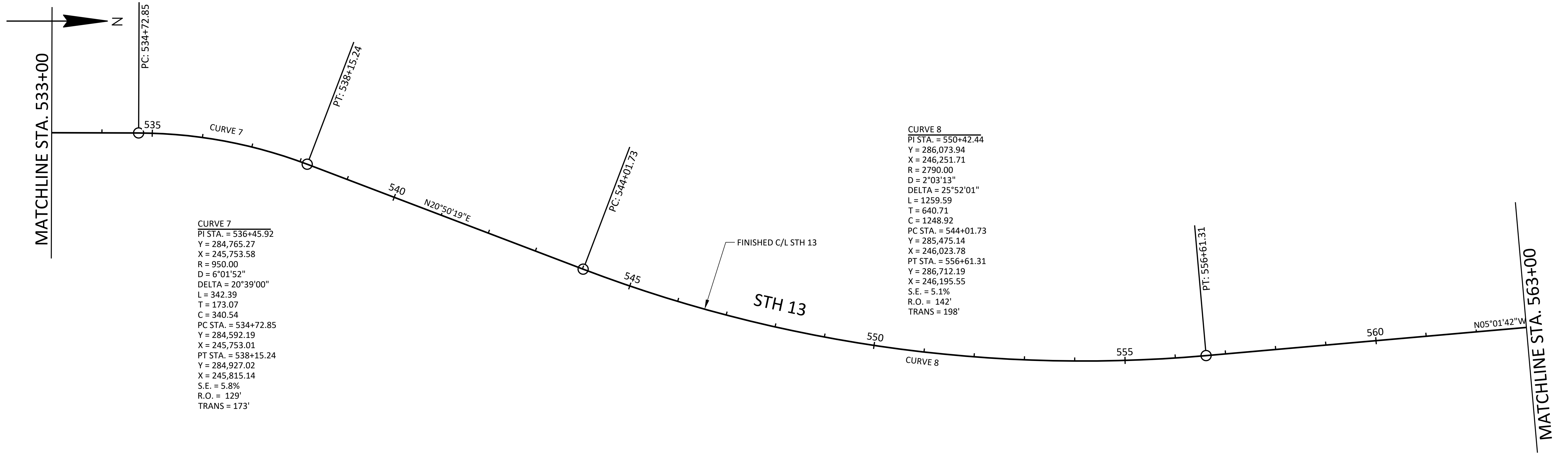
PI STA. 507+32.81
Y = 281,852.17
X = 245,747.12

PI STA. 514+00.30
Y = 282,519.65
X = 245,749.58

PI STA. 520+01.54
Y = 283,120.89
X = 245,750.26

PI STA. 529+94.22
Y = 284,113.57
X = 245,751.43

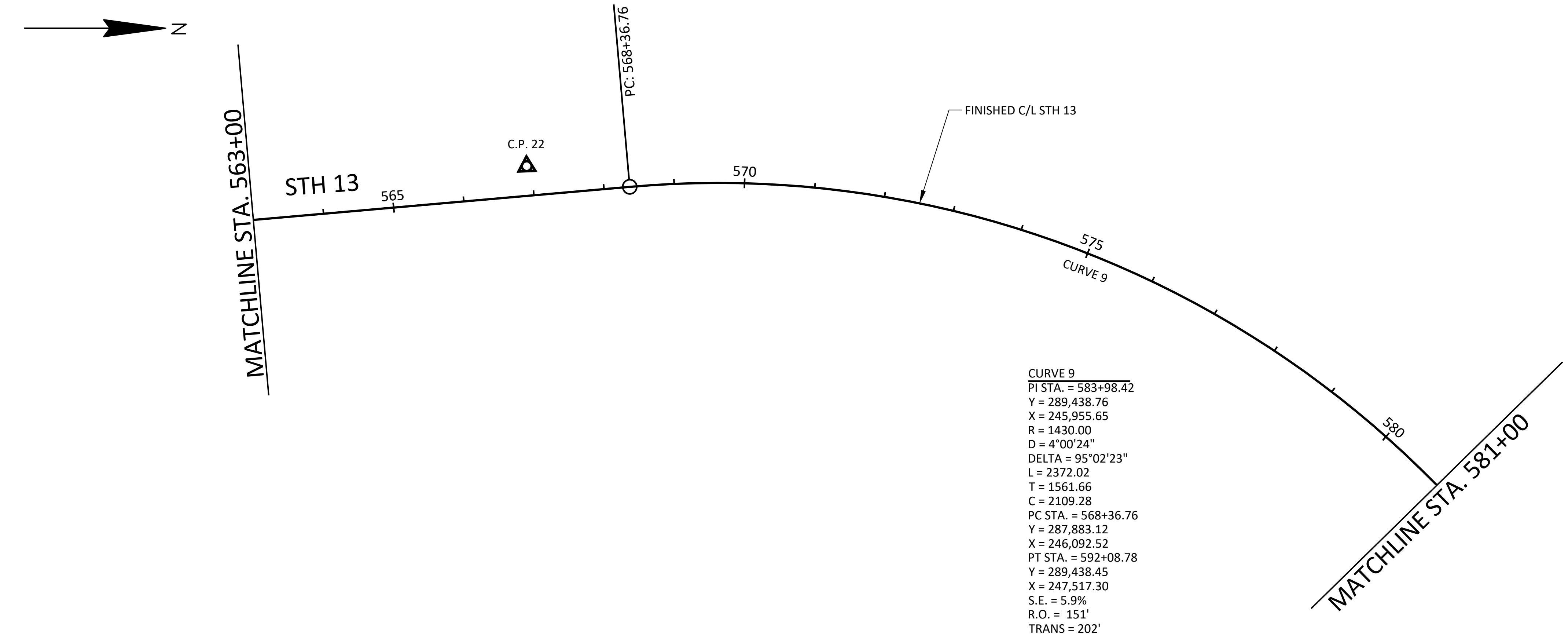




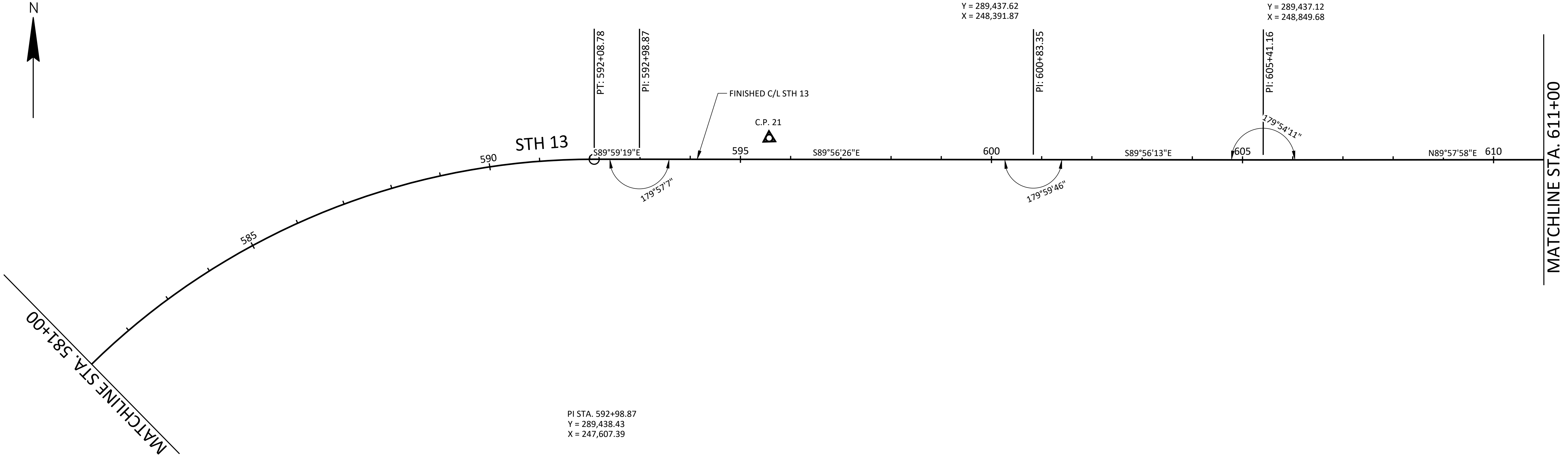
CURVE 7
PI STA. = 536+45.92
Y = 284,765.27
X = 245,753.58
R = 950.00
D = 6°01'52"
DELTA = 20°39'00"
L = 342.39
T = 173.07
C = 340.54
PC STA. = 534+72.85
Y = 284,592.19
X = 245,753.01
PT STA. = 538+15.24
Y = 284,927.02
X = 245,815.14
S.E. = 5.8%
R.O. = 129'
TRANS = 173'

CURVE 8
PI STA. = 550+42.44
Y = 286,073.94
X = 246,251.71
R = 2790.00
D = 2°03'13"
DELTA = 25°52'01"
L = 1259.59
T = 640.71
C = 1248.92
PC STA. = 544+01.73
Y = 285,475.14
X = 246,023.78
PT STA. = 556+61.31
Y = 286,712.19
X = 246,195.55
S.E. = 5.1%
R.O. = 142'
TRANS = 198'

PROJECT NO: 8510-01-70	HWY: STH 13	COUNTY: DOUGLAS	ALIGNMENT DETAILS	SHEET	E



CURVE 9
PI STA. = 583+98.42
Y = 289,438.76
X = 245,955.65
R = 1430.00
D = 4°00'24"
DELTA = 95°02'23"
L = 2372.02
T = 1561.66
C = 2109.28
PC STA. = 568+36.76
Y = 287,883.12
X = 246,092.52
PT STA. = 592+08.78
Y = 289,438.45
X = 247,517.30
S.E. = 5.9%
R.O. = 151'
TRANS = 202'



PI STA. 600+83.35
Y = 289,437.62
X = 248,391.87

PI STA. 605+41.16
Y = 289,437.12
X = 248,849.68

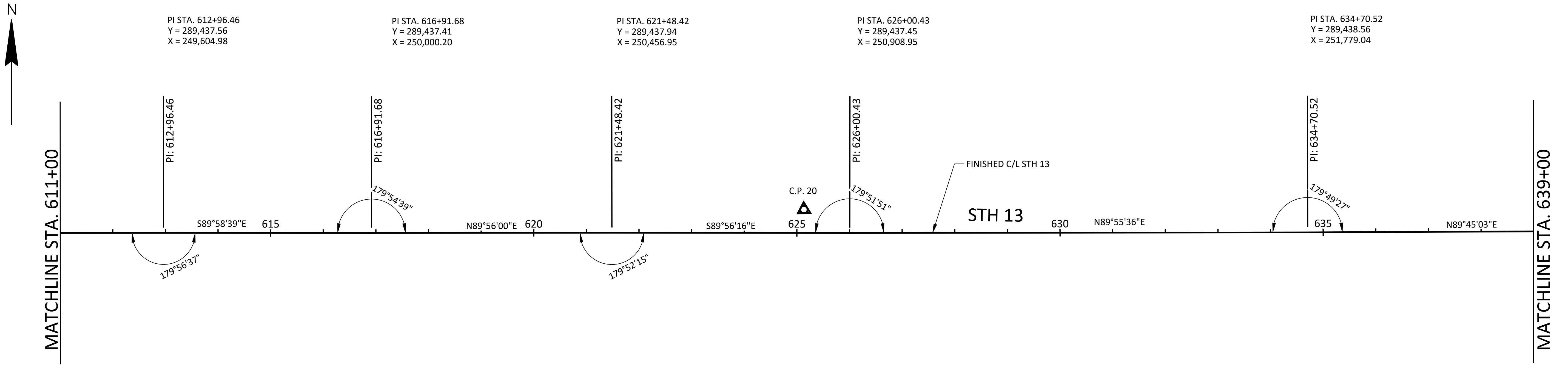
PI STA. 592+98.87
Y = 289,438.43
X = 247,607.39

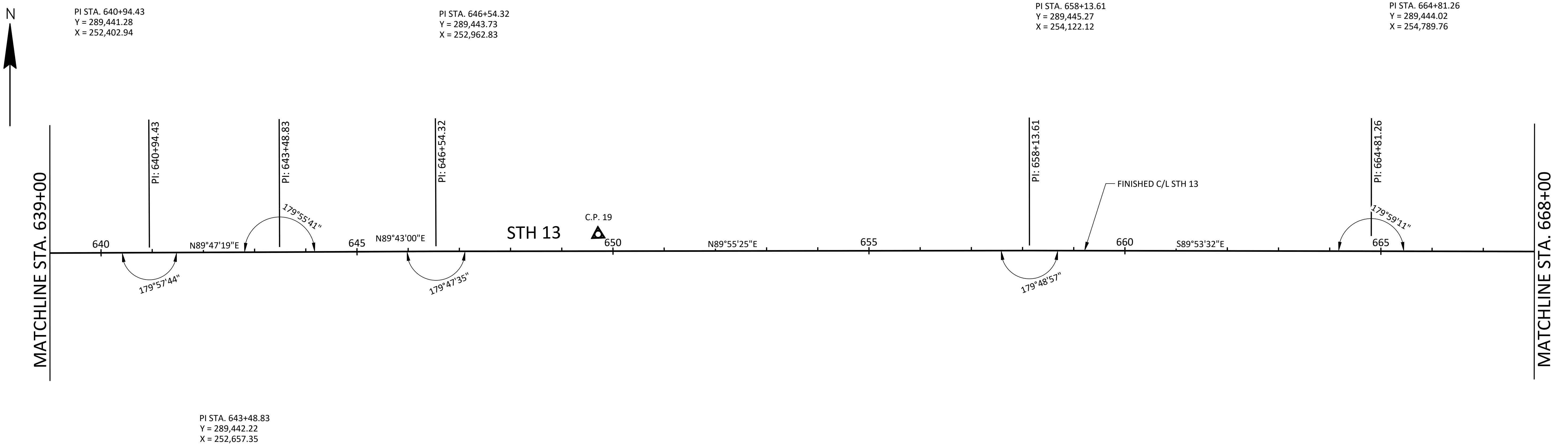
PROJECT NO: 8510-01-70	HWY: STH 13	COUNTY: DOUGLAS	ALIGNMENT DETAILS	SHEET 99	E

FILE NAME : S:\PROJECTS\W11599 WISDOT STH 13, CTH H TO ENGDAHL ROAD DOUGLAS CO\SHEETSPLAN\DETAILS\851000100_ALIGNMENT DETAILS.DWG
PLOT DATE : 2/4/2022 10:13:25 AM
PLOT BY : KARTER ZAJICEK
PLOT SCALE : 1" = 1'
LAYOUT : LAYOUT 9

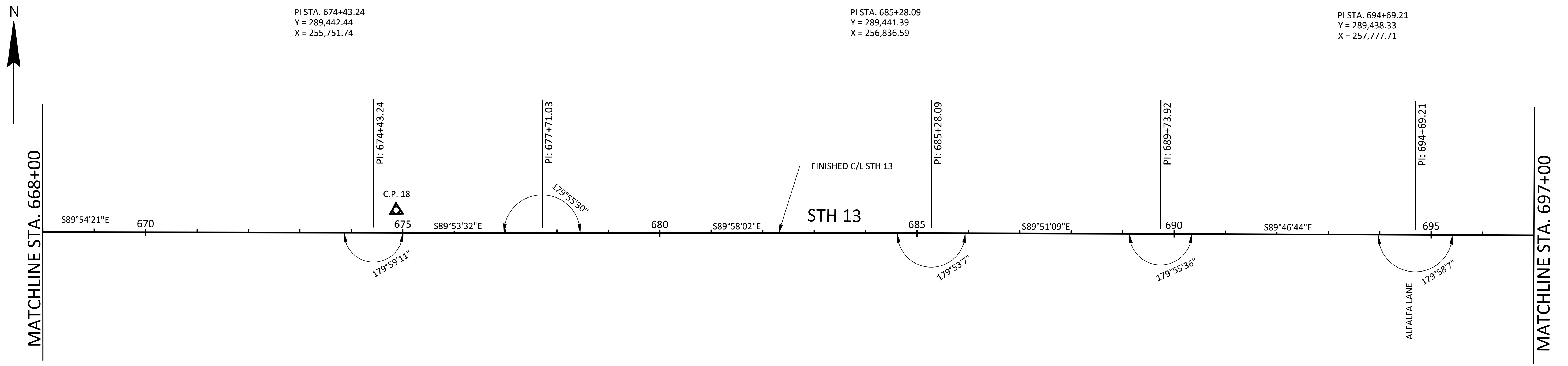
2

2





PROJECT NO: 8510-01-70	HWY: STH 13	COUNTY: DOUGLAS	ALIGNMENT DETAILS	SHEET 100 E



PI STA. 674+43.24
Y = 289,442.44
X = 255,751.74

PI STA. 685+28.09
Y = 289,441.39
X = 256,836.59

PI STA. 694+69.21
Y = 289,438.33
X = 257,777.71

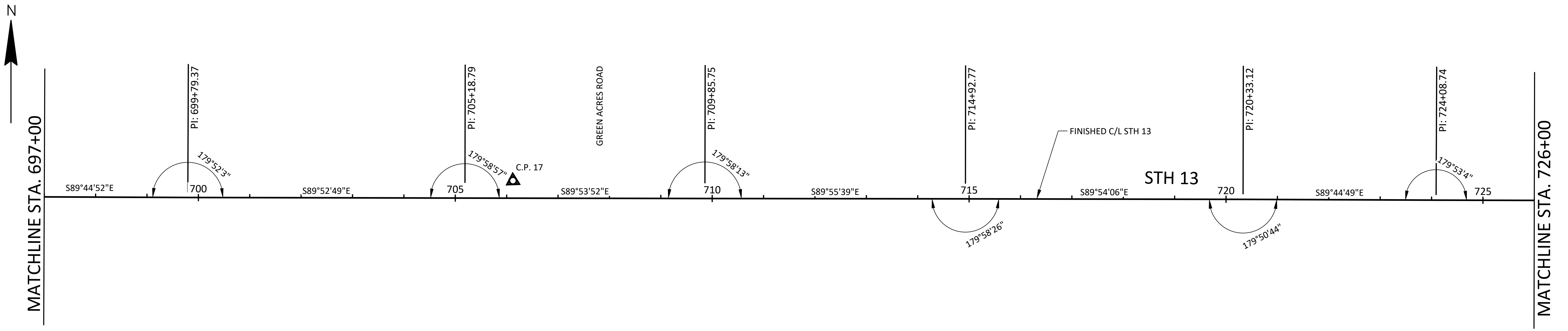
PI STA. 677+71.03
Y = 289,441.82
X = 256,079.53

PI STA. 689+73.92
Y = 289,440.24
X = 257,282.42

PI STA. 699+79.37
Y = 289,436.08
X = 258,287.87

PI STA. 709+85.75
Y = 289,434.12
X = 259,294.24

PI STA. 720+33.12
Y = 289,432.55
X = 260,341.61



PI STA. 705+18.79
Y = 289,434.95
X = 258,827.29

PI STA. 714+92.77
Y = 289,433.48
X = 259,801.27

PI STA. 724+08.74
Y = 289,430.89
X = 260,717.23

PROJECT NO: 8510-01-70	HWY: STH 13	COUNTY: DOUGLAS	ALIGNMENT DETAILS	SHEET 101	E

FILE NAME : S:\PROJECTS\W11599 WISDOT STH 13, CTH H TO ENGDAHL ROAD DOUGLAS CO\SHEETSPLAN\DETAILS\851000100_ALIGNMENT DETAILS.DWG
PLOT DATE : 2/4/2022 10:13:36 AM
PLOT BY : KARTER ZAJICEK
PLOT SCALE : 1" = 1'
LAYOUT : LAYOUT 11

2

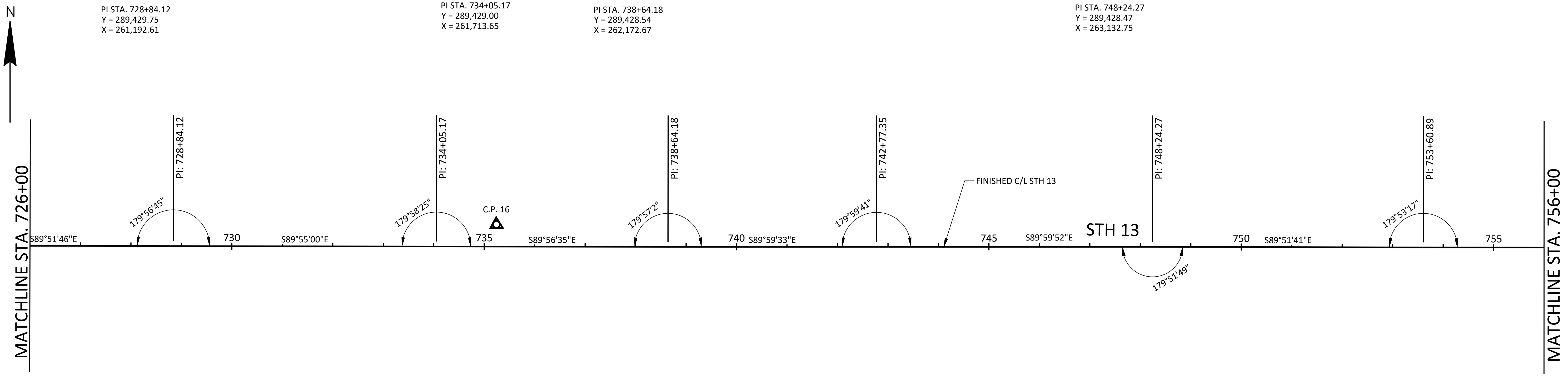
PI STA. 728+84.12
Y = 289,429.75
X = 261,192.61

PI STA. 734+05.17
Y = 289,429.00
X = 261,713.65

PI STA. 738+64.18
Y = 289,428.54
X = 262,172.67

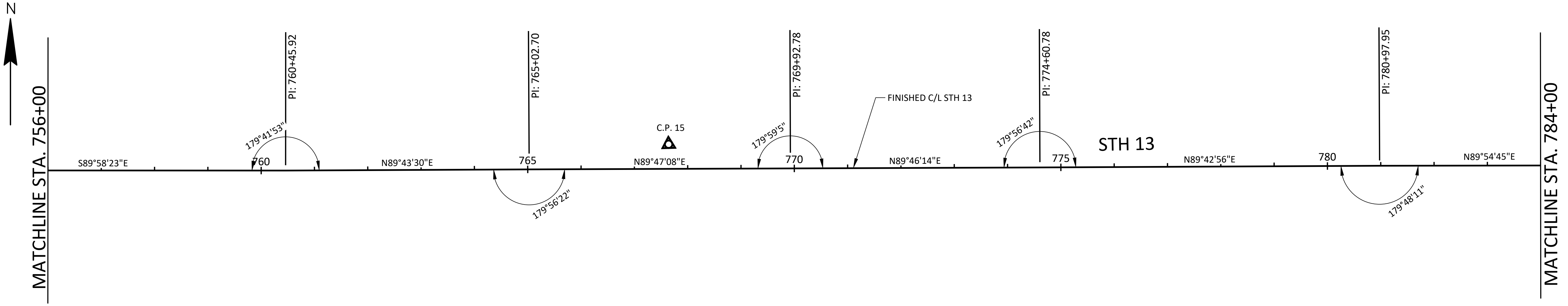
PI STA. 748+24.27
Y = 289,428.47
X = 263,132.75

2



PI STA. 742+77.35
Y = 289,428.49
X = 262,585.84

PI STA. 753+60.89
Y = 289,427.17
X = 263,669.37



PI STA. 760+45.92
Y = 289,426.84
X = 264,354.40

PI STA. 765+02.70
Y = 289,429.04
X = 264,811.18

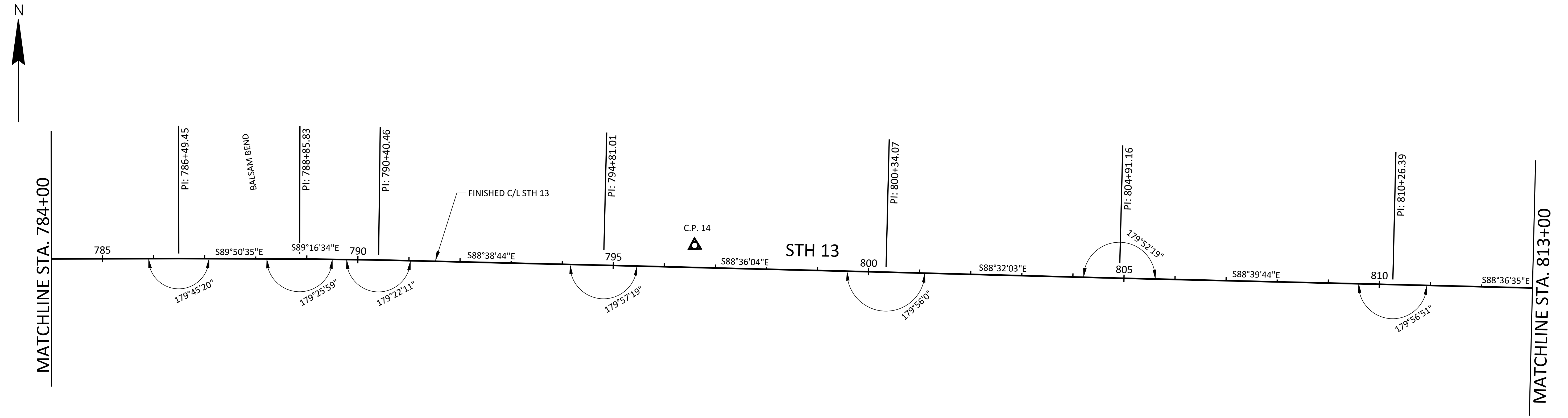
PI STA. 769+92.78
Y = 289,430.87
X = 265,301.26

PI STA. 774+60.78
Y = 289,432.74
X = 265,769.25

PI STA. 780+97.95
Y = 289,435.91
X = 266,406.41

PROJECT NO: 8510-01-70	HWY: STH 13	COUNTY: DOUGLAS	ALIGNMENT DETAILS	SHEET	E

FILE NAME : S:\PROJECTS\W11599 WISDOT STH 13, CTH H TO ENGDAHL ROAD DOUGLAS CO\SHEETSPLAN\DETAILS\851000100_ALIGNMENT DETAILS.DWG PLOT DATE : 2/4/2022 10:13:40 AM PLOT BY : KARTER ZAJICEK PLOT SCALE : 1" = 1' LAYOUT : LAYOUT 12



PI STA. 786+49.45
Y = 289,436.75
X = 266,957.92

PI STA. 788+85.83
Y = 289,436.10
X = 267,194.29

PI STA. 790+40.46
Y = 289,434.15
X = 267,348.91

PI STA. 794+81.01
Y = 289,423.74
X = 267,789.34

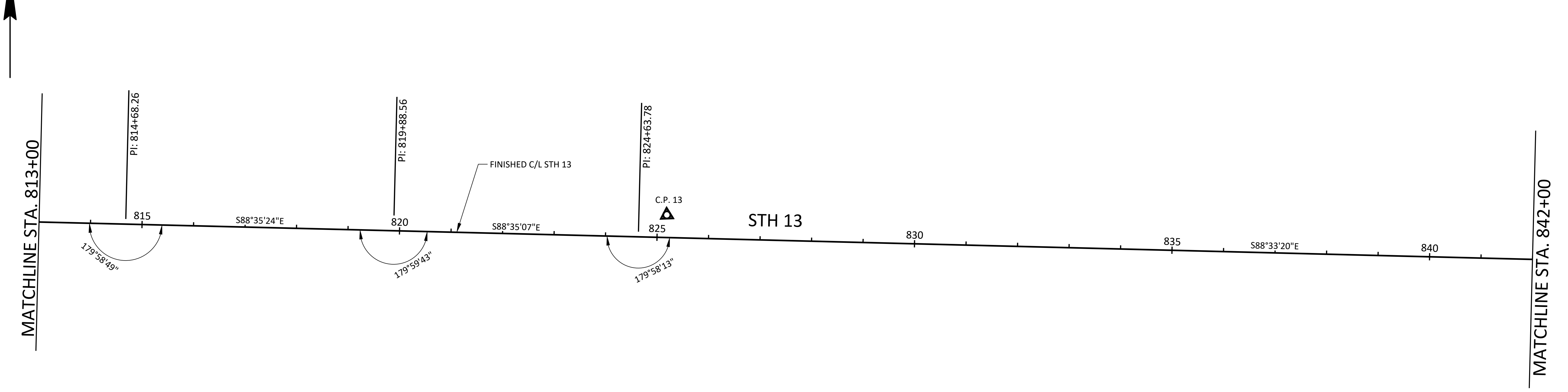
PI STA. 800+34.07
Y = 289,410.23
X = 268,342.23

PI STA. 804+91.16
Y = 289,398.54
X = 268,799.17

PI STA. 810+26.39
Y = 289,386.05
X = 269,334.26

PI STA. 814+68.26
Y = 289,375.33
X = 269,776.00

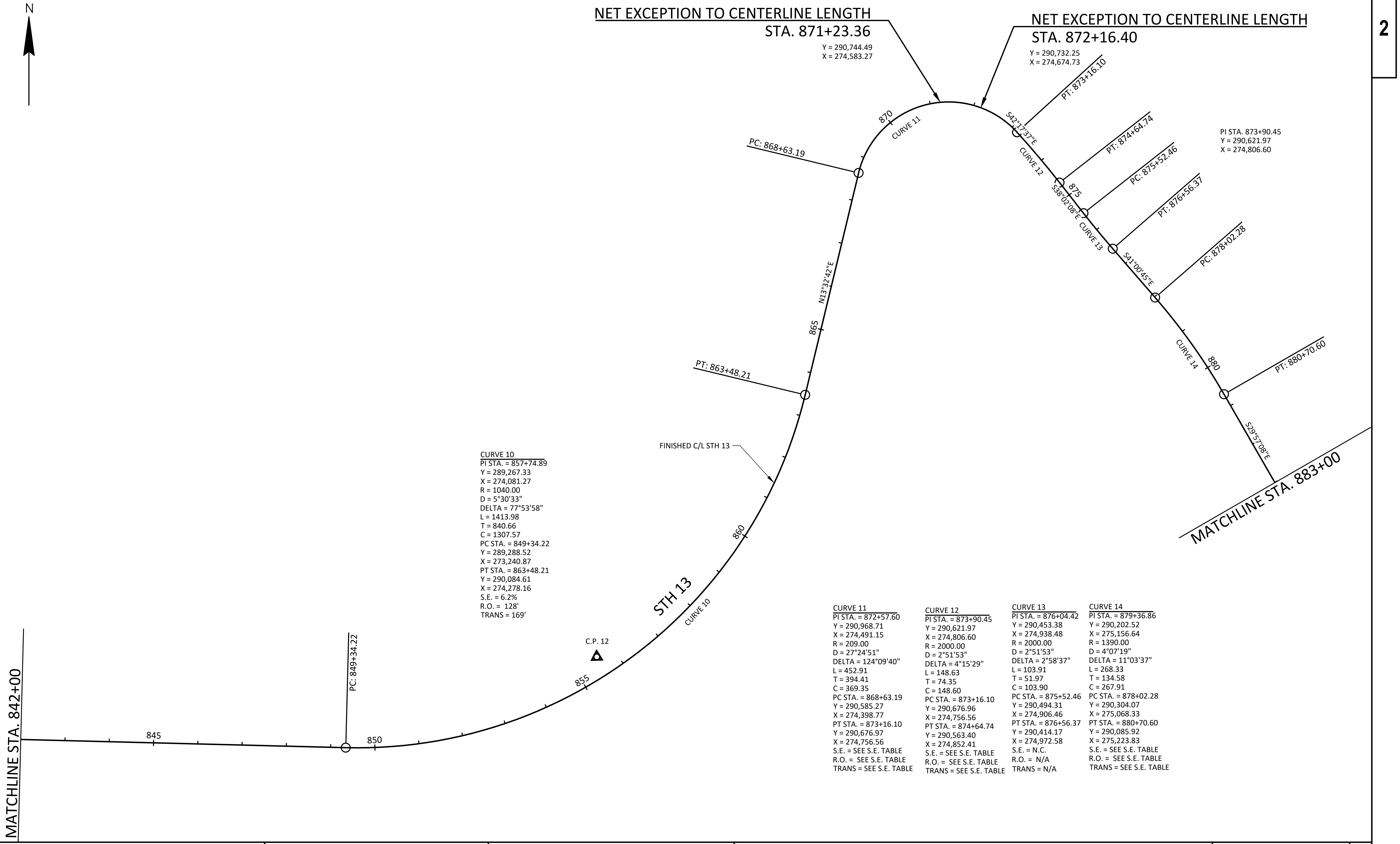
PI STA. 824+63.78
Y = 289,350.79
X = 270,771.22



PI STA. 819+88.56
Y = 289,362.52
X = 270,296.14

PROJECT NO: 8510-01-70	HWY: STH 13	COUNTY: DOUGLAS	ALIGNMENT DETAILS	SHEET 103	E

FILE NAME : S:\PROJECTS\W11599 WISDOT STH 13, CTH H TO ENGDAHL ROAD DOUGLAS CO\SHEETSPLAN\DETAILS\851000100_ALIGNMENT DETAILS.DWG PLOT DATE : 2/4/2022 10:13:46 AM PLOT BY : KARTER ZAJICEK PLOT SCALE : 1" = 1' LAYOUT : LAYOUT 13



CURVE 10
PI STA. = 857+74.89
Y = 289,267.33
X = 274,081.27
R = 1040.00
D = 5°30'33"
DELTA = 77°53'58"
L = 1413.98
T = 840.66
C = 1307.57
PC STA. = 849+34.22
Y = 289,288.52
X = 273,240.87
PT STA. = 863+48.21
Y = 290,084.61
X = 274,278.16
S.E. = 6.2%
R.O. = 128'
TRANS = 169'

CURVE 11
PI STA. = 872+57.60
Y = 290,968.71
X = 274,491.15
R = 209.00
D = 27°24'51"
DELTA = 124°09'40"
L = 452.91
T = 394.41
C = 369.35
PC STA. = 868+63.19
Y = 290,585.27
X = 274,398.77
PT STA. = 873+16.10
Y = 290,676.97
X = 274,756.56
S.E. = SEE S.E. TABLE
R.O. = SEE S.E. TABLE
TRANS = SEE S.E. TABLE

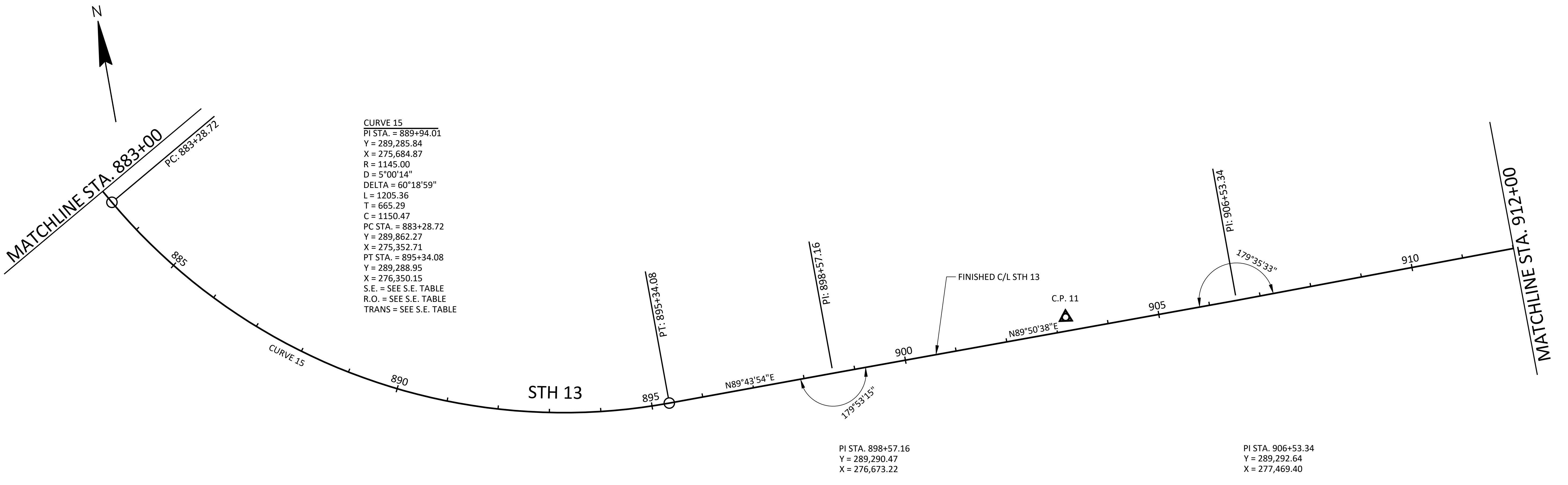
CURVE 12
PI STA. = 873+90.45
Y = 290,621.97
X = 274,806.60
R = 2000.00
D = 2°51'53"
DELTA = 4°15'29"
L = 148.63
T = 74.35
C = 148.60
PC STA. = 873+16.10
Y = 290,676.96
X = 274,756.56
PT STA. = 874+64.74
Y = 290,563.40
X = 274,852.41
S.E. = SEE S.E. TABLE
R.O. = SEE S.E. TABLE
TRANS = SEE S.E. TABLE

CURVE 13
PI STA. = 876+04.42
Y = 290,453.38
X = 274,938.48
R = 2000.00
D = 2°51'53"
DELTA = 2°58'37"
L = 103.91
T = 51.97
C = 103.90
PC STA. = 875+52.46
Y = 290,494.31
X = 274,906.46
PT STA. = 876+56.37
Y = 290,414.17
X = 274,972.58
S.E. = N.C.
R.O. = N/A
TRANS = N/A

CURVE 14
PI STA. = 879+36.86
Y = 290,202.52
X = 275,156.64
R = 1390.00
D = 4°07'19"
DELTA = 11°03'37"
L = 268.33
T = 134.58
C = 267.91
PC STA. = 878+02.28
Y = 290,304.07
X = 275,068.33
PT STA. = 880+70.60
Y = 290,085.92
X = 275,223.83
S.E. = SEE S.E. TABLE
R.O. = SEE S.E. TABLE
TRANS = SEE S.E. TABLE

PROJECT NO: 8510-01-70	HWY: STH 13	COUNTY: DOUGLAS	ALIGNMENT DETAILS	SHEET 104	E

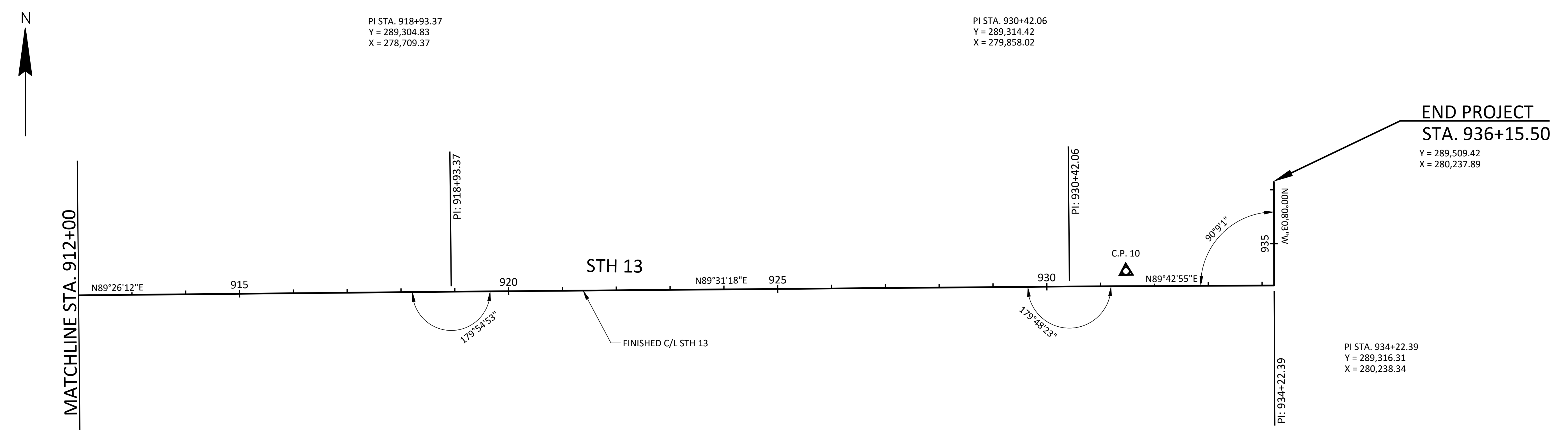
2



CURVE 15
PI STA. = 889+94.01
Y = 289,285.84
X = 275,684.87
R = 1145.00
D = 5°00'14"
DELTA = 60°18'59"
L = 1205.36
T = 665.29
C = 1150.47
PC STA. = 883+28.72
Y = 289,862.27
X = 275,352.71
PT STA. = 895+34.08
Y = 289,288.95
X = 276,350.15
S.E. = SEE S.E. TABLE
R.O. = SEE S.E. TABLE
TRANS = SEE S.E. TABLE

PI STA. 898+57.16
Y = 289,290.47
X = 276,673.22

PI STA. 906+53.34
Y = 289,292.64
X = 277,469.40



PI STA. 918+93.37
Y = 289,304.83
X = 278,709.37

PI STA. 930+42.06
Y = 289,314.42
X = 279,858.02

END PROJECT
STA. 936+15.50
Y = 289,509.42
X = 280,237.89

PI STA. 934+22.39
Y = 289,316.31
X = 280,238.34

PROJECT NO: 8510-01-70
HWY: STH 13
COUNTY: DOUGLAS
ALIGNMENT DETAILS
SHEET 105
E

Estimate Of Quantities

					8510-01-70
Line	**Item**	**Item Description**	**Unit**	**Total**	**Qty**
0002	201.0105	Clearing	STA	4.000	4.000
0004	201.0205	Grubbing	STA	4.000	4.000
0006	203.0100	Removing Small Pipe Culverts	EACH	38.000	38.000
0008	204.0115	Removing Asphaltic Surface Butt Joints	SY	10,900.000	10,900.000
0010	204.0120	Removing Asphaltic Surface Milling	SY	300,500.000	300,500.000
0012	204.0150	Removing Curb & Gutter	LF	1,070.000	1,070.000
0014	204.0165	Removing Guardrail	LF	2,055.000	2,055.000
0016	204.0180	Removing Delineators and Markers	EACH	44.000	44.000
0018	204.9090.S	Removing (item description) 01. Stone Masonry Retaining Wall	LF	9.000	9.000
0020	211.0100	Prepare Foundation for Asphaltic Paving (project) 01. 8510-01-70	LS	1.000	1.000
0022	211.0400	Prepare Foundation for Asphaltic Shoulders	STA	40.000	40.000
0024	213.0100	Finishing Roadway (project) 01. 8510-01-70	EACH	1.000	1.000
0026	305.0110	Base Aggregate Dense 3/4-Inch	TON	8,100.000	8,100.000
0028	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	12,000.000	12,000.000
0030	305.0500	Shaping Shoulders	STA	1,664.000	1,664.000
0032	416.0610	Drilled Tie Bars	EACH	10.000	10.000
0034	450.4000	HMA Cold Weather Paving	TON	13,600.000	13,600.000
0036	455.0605	Tack Coat	GAL	23,000.000	23,000.000
0038	460.0105.S	HMA Percent Within Limits (PWL) Test Strip Volumetrics	EACH	1.000	1.000
0040	460.0110.S	HMA Percent Within Limits (PWL) Test Strip Density	EACH	1.000	1.000
0042	460.2005	Incentive Density PWL HMA Pavement	DOL	43,265.000	43,265.000
0044	460.2007	Incentive Density HMA Pavement Longitudinal Joints	DOL	41,500.000	41,500.000
0046	460.2010	Incentive Air Voids HMA Pavement	DOL	54,400.000	54,400.000
0048	460.6645	HMA Pavement 5 MT 58-34 V	TON	54,400.000	54,400.000
0050	460.9000.S	Material Transfer Vehicle (project) 0.1 8510-01-70	EACH	1.000	1.000
0052	465.0105	Asphaltic Surface	TON	4,125.000	4,125.000
0054	465.0110	Asphaltic Surface Patching	TON	250.000	250.000
0056	465.0315	Asphaltic Flumes	SY	47.000	47.000
0058	465.0475	Asphalt Centerline Rumble Strips 2-Lane Rural	LF	72,200.000	72,200.000
0060	504.0900	Concrete Masonry Endwalls	CY	11.000	11.000
0062	511.1100	Temporary Shoring	SF	25,330.000	25,330.000
0064	520.1018	Apron Endwalls for Culvert Pipe 18-Inch	EACH	2.000	2.000
0066	520.1024	Apron Endwalls for Culvert Pipe 24-Inch	EACH	41.000	41.000
0068	520.1030	Apron Endwalls for Culvert Pipe 30-Inch	EACH	21.000	21.000
0070	520.1036	Apron Endwalls for Culvert Pipe 36-Inch	EACH	5.000	5.000
0072	520.1048	Apron Endwalls for Culvert Pipe 48-Inch	EACH	2.000	2.000
0074	520.1054	Apron Endwalls for Culvert Pipe 54-Inch	EACH	4.000	4.000
0076	520.3154	Culvert Pipe Class III 54-Inch	LF	268.000	268.000
0078	520.4118	Culvert Pipe Class IV 18-Inch	LF	42.000	42.000
0080	520.4124	Culvert Pipe Class IV 24-Inch	LF	1,354.000	1,354.000
0082	520.4130	Culvert Pipe Class IV 30-Inch	LF	506.000	506.000
0084	520.4136	Culvert Pipe Class IV 36-Inch	LF	64.000	64.000
0086	520.8700	Cleaning Culvert Pipes	EACH	16.000	16.000
0088	521.1283	Apron Endwalls for Pipe Arch Steel 83x57-Inch	EACH	4.000	4.000
0090	521.3783	Pipe Arch Corrugated Steel 83x57-Inch	LF	174.000	174.000
0092	522.0430	Culvert Pipe Reinforced Concrete Class IV 30-Inch	LF	202.000	202.000
0094	522.0436	Culvert Pipe Reinforced Concrete Class IV 36-Inch	LF	420.000	420.000
0096	522.1030	Apron Endwalls for Culvert Pipe Reinforced Concrete 30-Inch	EACH	2.000	2.000
0098	522.1036	Apron Endwalls for Culvert Pipe Reinforced Concrete 36-Inch	EACH	4.000	4.000

Estimate Of Quantities

					8510-01-70
Line	**Item**	**Item Description**	**Unit**	**Total**	**Qty**
0100	601.0411	Concrete Curb & Gutter 30-Inch Type D	LF	151.000	151.000
0102	601.0557	Concrete Curb & Gutter 6-Inch Sloped 36-Inch Type D	LF	905.000	905.000
0104	603.8000	Concrete Barrier Temporary Precast Delivered	LF	2,530.000	2,530.000
0106	603.8125	Concrete Barrier Temporary Precast Installed	LF	5,060.000	5,060.000
0108	603.8500	Anchoring Concrete Barrier Temporary Precast	LF	5,060.000	5,060.000
0110	606.0300	Riprap Heavy	CY	190.000	190.000
0112	614.0010	Barrier System Grading Shaping Finishing	EACH	16.000	16.000
0114	614.0905	Crash Cushions Temporary	EACH	14.000	14.000
0116	614.2300	MGS Guardrail 3	LF	1,440.000	1,440.000
0118	614.2500	MGS Thrie Beam Transition	LF	480.000	480.000
0120	614.2610	MGS Guardrail Terminal EAT	EACH	16.000	16.000
0122	618.0100	Maintenance And Repair of Haul Roads (project) 01. 8510-01-70	EACH	1.000	1.000
0124	619.1000	Mobilization	EACH	1.000	1.000
0126	624.0100	Water	MGAL	310.000	310.000
0128	625.0500	Salvaged Topsoil	SY	17,300.000	17,300.000
0130	627.0200	Mulching	SY	19,000.000	19,000.000
0132	628.1504	Silt Fence	LF	9,000.000	9,000.000
0134	628.1520	Silt Fence Maintenance	LF	22,355.000	22,355.000
0136	628.1905	Mobilizations Erosion Control	EACH	9.000	9.000
0138	628.1910	Mobilizations Emergency Erosion Control	EACH	5.000	5.000
0140	628.2006	Erosion Mat Urban Class I Type A	SY	12,500.000	12,500.000
0142	628.2008	Erosion Mat Urban Class I Type B	SY	100.000	100.000
0144	628.7010	Inlet Protection Type B	EACH	18.000	18.000
0146	628.7015	Inlet Protection Type C	EACH	1.000	1.000
0148	628.7504	Temporary Ditch Checks	LF	72.000	72.000
0150	628.7555	Culvert Pipe Checks	EACH	35.000	35.000
0152	629.0210	Fertilizer Type B	CWT	12.000	12.000
0154	630.0130	Seeding Mixture No. 30	LB	350.000	350.000
0156	630.0200	Seeding Temporary	LB	525.000	525.000
0158	630.0500	Seed Water	MGAL	110.000	110.000
0160	633.5200	Markers Culvert End	EACH	104.000	104.000
0162	638.2102	Moving Signs Type II	EACH	34.000	34.000
0164	638.4000	Moving Small Sign Supports	EACH	33.000	33.000
0166	642.5001	Field Office Type B	EACH	1.000	1.000
0168	643.0300	Traffic Control Drums	DAY	1,400.000	1,400.000
0170	643.0420	Traffic Control Barricades Type III	DAY	70.000	70.000
0172	643.0715	Traffic Control Warning Lights Type C	DAY	700.000	700.000
0174	643.0900	Traffic Control Signs	DAY	8,800.000	8,800.000
0176	643.1000	Traffic Control Signs Fixed Message	SF	32.000	32.000
0178	643.5000	Traffic Control	EACH	1.000	1.000
0180	645.0120	Geotextile Type HR	SY	557.000	557.000
0182	646.1040	Marking Line Grooved Wet Ref Epoxy 4-Inch	LF	165,900.000	165,900.000
0184	646.3020	Marking Line Epoxy 8-Inch	LF	65.000	65.000
0186	646.3040	Marking Line Grooved Wet Ref Epoxy 8-Inch	LF	180.000	180.000
0188	646.4520	Marking Line Same Day Epoxy 4-Inch	LF	95,600.000	95,600.000
0190	646.6120	Marking Stop Line Epoxy 18-Inch	LF	48.000	48.000
0192	646.8220	Marking Island Nose Epoxy	EACH	3.000	3.000
0194	646.9000	Marking Removal Line 4-Inch	LF	2,975.000	2,975.000
0196	649.0120	Temporary Marking Line Epoxy 4-Inch	LF	172,550.000	172,550.000

Estimate Of Quantities

Line	Item	Item Description	Unit	Total	8510-01-70 Qty
0198	649.0150	Temporary Marking Line Removable Tape 4-Inch	LF	5,070.000	5,070.000
0200	649.0850	Temporary Marking Stop Line Removable Tape 18-Inch	LF	336.000	336.000
0202	650.4500	Construction Staking Subgrade	LF	2,700.000	2,700.000
0204	650.5000	Construction Staking Base	LF	2,700.000	2,700.000
0206	650.5500	Construction Staking Curb Gutter and Curb & Gutter	LF	1,056.000	1,056.000
0208	650.6000	Construction Staking Pipe Culverts	EACH	38.000	38.000
0210	650.8000	Construction Staking Resurfacing Reference	LF	83,850.000	83,850.000
0212	650.9910	Construction Staking Supplemental Control (project) 01. 8510-01-70	LS	1.000	1.000
0214	650.9920	Construction Staking Slope Stakes	LF	2,700.000	2,700.000
0216	661.0100	Temporary Traffic Signals for Bridges (structure) 01. Sta. 327+81 Culvert Replacement	LS	1.000	1.000
0218	661.0100	Temporary Traffic Signals for Bridges (structure) 02. Sta. 389+01 Culvert Replacement	LS	1.000	1.000
0220	661.0100	Temporary Traffic Signals for Bridges (structure) 03. Sta. 580+11 Culvert Replacement	LS	1.000	1.000
0222	661.0100	Temporary Traffic Signals for Bridges (structure) 04. Sta. 636+99 Culvert Replacement	LS	1.000	1.000
0224	661.0100	Temporary Traffic Signals for Bridges (structure) 05. Sta. 711+96 Culvert Replacement	LS	1.000	1.000
0226	661.0100	Temporary Traffic Signals for Bridges (structure) 06. Sta. 731+12 Culvert Replacement	LS	1.000	1.000
0228	661.0100	Temporary Traffic Signals for Bridges (structure) 07. Sta. 829+77 Culvert Replacement	LS	1.000	1.000
0230	690.0150	Sawing Asphalt	LF	6,800.000	6,800.000
0232	690.0250	Sawing Concrete	LF	18.000	18.000
0234	740.0440	Incentive IRI Ride	DOL	63,530.000	63,530.000
0236	SPV.0060	Special 01. Dewatering	EACH	1.000	1.000
0238	SPV.0180	Special 01. Removing Distressed Pavement Milling	SY	14,650.000	14,650.000

ALL BID ITEMS ARE CATEGORY 010 UNLESS OTHERWISE NOTED

CLEARING & GRUBBING

STATION - STATION	LOCATION	201.0105 CLEARING (STA)	201.0205 GRUBBING (STA)
870+00 - 873+00	MAINLINE	3	3
389+00 - 873+00	MAINLINE	1	1
	TOTAL =	4	4

REMOVING GUARDRAIL

STATION - STATION	LOCATION	204.0165 (LF)
242+89 244+13	MAINLINE, RT.	125
242+90 - 244+13	MAINLINE, LT.	125
245+94 - 247+17	MAINLINE, RT.	125
245+94 - 247+19	MAINLINE, LT.	125
292+41 - 293+69	MAINLINE, RT.	128
292+41 - 293+69	MAINLINE, LT.	128
295+50 - 296+73	MAINLINE, RT.	124
295+50 - 296+73	MAINLINE, LT.	124
306+69 - 307+87	MAINLINE, RT.	120
306+69 - 307+87	MAINLINE, LT.	120
309+55 - 310+38	MAINLINE, RT.	84
309+55 - 310+69	MAINLINE, LT.	114
869+72 - 872+93	MAINLINE, RT.	300
870+64 - 873+52	MAINLINE, LT.	313
	TOTAL =	2,055

REMOVING STONE MASONRY RETAINING WALL

STATION	LOCATION	204.9090.S (LF)
327+81	MAINLINE	9
	TOTAL =	9

REMOVING ASPHALTIC SURFACE BUTT JOINTS

STATION - STATION	LOCATION	204.0115 (SY)
97+65 - 99+65	MAINLINE	14
239+79 - 241+79	MAINLINE	14
248+40 - 250+40	MAINLINE	14
289+23 - 291+23	MAINLINE	14
299+21 - 301+21	MAINLINE	14
303+66 - 305+66	MAINLINE	14
312+01 - 314+01	MAINLINE	14
854+90 - 856+90	MAINLINE	14
874+45 - 876+45	MAINLINE	14
929+12 - 931+12	MAINLINE	14
-	SIDEROADS	10,760
	TOTAL =	10,900

REMOVING DELINEATORS & MARKERS

STATION	LOCATION	204.0180 (EACH)
201+46	MAINLINE	2
272+06	MAINLINE	1
349+78	MAINLINE	2
354+90	MAINLINE	1
367+90	MAINLINE	1
389+01	MAINLINE	2
412+03	MAINLINE	2
433+28	MAINLINE	2
443+16	MAINLINE	2
502+32	MAINLINE	2
580+11	MAINLINE	2
605+28	MAINLINE	1
613+68	MAINLINE	1
636+99	MAINLINE	2
664+28	MAINLINE	1
677+82	MAINLINE	2
689+71	MAINLINE	1
695+03	MAINLINE	2
695+13	MAINLINE	2
711+96	MAINLINE	2
731+12	MAINLINE	2
757+46	MAINLINE	2
767+12	MAINLINE	2
787+60	MAINLINE	2
813+18	MAINLINE	1
815+13	MAINLINE	1
818+04	MAINLINE	1
	TOTAL =	44

REMOVING ASPHALTIC SURFACE MILLING

STATION	LOCATION	204.0120 (SY)
97+65 - 244+03	MAINLINE	52,300
246+04 - 293+59	MAINLINE	16,850
295+60 - 307+77	MAINLINE	4,200
309+65 - 871+23	MAINLINE	201,800
872+16 - 936+16	MAINLINE	25,150
-	DRIVEWAYS	200
	TOTAL =	300,500

PREPARE FOUNDATION FOR ASPHALTIC SHOULDERS

STATION - STATION	LOCATION	211.0400 (STA.)
242+04 - 244+13	MAINLINE, RT.	3
241+79 - 244+13	MAINLINE, LT.	3
245+94 - 247+65	MAINLINE, RT.	2
245+94 - 248+40	MAINLINE, LT.	3
291+22 - 293+69	MAINLINE, RT.	3
291+85 - 293+69	MAINLINE, LT.	2
295+50 - 297+99	MAINLINE, RT.	3
295+50 - 297+96	MAINLINE, LT.	3
305+66 - 307+87	MAINLINE, RT.	3
306+28 - 307+87	MAINLINE, LT.	2
309+55 - 310+89	MAINLINE, RT.	2
309+55 - 312+01	MAINLINE, LT.	3
868+16 - 869+05	MAINLINE, RT.	1
870+13 - 871+44	MAINLINE, LT.	2
872+12 - 875+03	MAINLINE, RT.	3
872+00 - 873+47	MAINLINE, LT.	2
	TOTAL =	40

DRILLED TIE BARS

STATION - STATION	LOCATION	416.0610 DRILLED TIE BARS (EACH)
455+50	MAINLINE, RT.	2
907+78	MAINLINE, LT.	4
908+22	MAINLINE, RT.	4
	TOTALS =	10

REMOVING SMALL PIPE CULVERTS

STATION	LOCATION	203.0100 REMOVING SMALL PIPE CULVERTS (EACH)
201+46	MAINLINE	1
220+95	MAINLINE	1
272+06	MAINLINE	1
310+70	MAINLINE	1
327+81	MAINLINE	1
349+78	MAINLINE	1
354+90	MAINLINE	1
367+90	MAINLINE	1
376+89	MAINLINE	1
389+01	MAINLINE	1
412+03	MAINLINE	1
433+29	MAINLINE	1
438+15	MAINLINE	1
443+16	MAINLINE	1
455+29	MAINLINE	1
502+32	MAINLINE	1
580+11	MAINLINE	1
605+28	MAINLINE	1
613+68	MAINLINE	1
636+99	MAINLINE	1
664+28	MAINLINE	1
677+82	MAINLINE	1
689+71	MAINLINE	1
695+03	MAINLINE	1
695+13	MAINLINE	1
711+96	MAINLINE	1
731+12	MAINLINE	1
757+46	MAINLINE	1
767+13	MAINLINE	1
787+60	MAINLINE	1
813+18	MAINLINE	1
815+13	MAINLINE	1
818+04	MAINLINE	1
829+77	MAINLINE	1
845+87	MAINLINE	1
845+95	MAINLINE	1
887+18	MAINLINE	1
902+39	MAINLINE	1
	TOTAL =	38

BASE AGGREGATE DENSE & SHAPING SHOULDERS

STATION - STATION	LOCATION	305.0110 BASE AGGREGATE DENSE 3/4 - INCH (TON)	305.0120 BASE AGGREGATE DENSE 1 1/4 - INCH (TON)	305.0500 SHAPING SHOULDERS (STA)
-	MAINLINE	6,900	2,500	1,664
-	CURB AND GUTTER REPLACEMENT	620	-	-
-	DRIVEWAYS	580	-	-
-	CULVERT REPLACEMENTS	-	9,500	-
	TOTALS =	8,100	12,000	1,664

PREPARE FOUNDATION FOR ASPHALTIC PAVING

STATION	LOCATION	211.0100 (LS)
97+65 - 936+15.50	MAINLINE	1
	TOTAL =	1

ASPHALTIC FLUMES

STATION	LOCATION	465.0315 (SY)
406+39	MAINLINE, LT.	8
455+42	MAINLINE, RT.	8
456+07	MAINLINE, RT.	11
642+75	MAINLINE, LT.	9
739+51	MAINLINE, LT.	11
	TOTAL =	47

REMOVING CURB & GUTTER

STATION - STATION	LOCATION	204.0150 (LF)
257+34 - 257+92	MAINLINE, RT.	96
297+99 - 298+57	MAINLINE, RT.	96
298+82 - 299+21	MAINLINE, RT.	66
455+03 - 455+50	MAINLINE, RT.	56
872+12 - 873+07	MAINLINE, RT.	88
907+63 - 907+95	MAINLINE, LT.	32
908+05 - 908+37	MAINLINE, RT.	32
932+42 - 936+06	MAINLINE, LT.	251
933+24 - 935+22	MAINLINE, LT.	259
933+43 - 934+01	MAINLINE, RT.	94
	TOTAL =	1,070

ALL BID ITEMS ARE CATEGORY 010 UNLESS OTHERWISE NOTED

STRUCTURE C-16-027 REPAIR

CATEGORY 020

STATION	LOCATION	504.0900 CONCRETE MASONRY ENDWALLS (CY)	SPV.0060.01 DEWATERING (EA)
114+04	MAINLINE	11	1
	TOTALS =	11	1

TEMPORARY SHORING

STATION	LOCATION	511.1100 (SF)
201+46	MAINLINE	420
220+95	MAINLINE	690
272+07	MAINLINE	1,080
327+81	MAINLINE	3,520
349+78	MAINLINE	190
354+90	MAINLINE	250
367+90	MAINLINE	250
376+89	MAINLINE	160
389+01	MAINLINE	2,070
412+03	MAINLINE	490
433+29	MAINLINE	300
438+15	MAINLINE	250
443+16	MAINLINE	360
455+29	MAINLINE	290
502+32	MAINLINE	1,200
580+11	MAINLINE	720
605+28	MAINLINE	350
613+68	MAINLINE	400
636+99	MAINLINE	1,200
664+28	MAINLINE	480
677+82	MAINLINE	480
689+71	MAINLINE	300
695+08	MAINLINE	600
711+96	MAINLINE	1,280
731+12	MAINLINE	2,340
757+46	MAINLINE	300
767+13	MAINLINE	540
787+60	MAINLINE	720
813+18	MAINLINE	350
815+13	MAINLINE	400
818+04	MAINLINE	350
829+77	MAINLINE	1,040
845+91	MAINLINE	600
887+18	MAINLINE	800
902+39	MAINLINE	560
	TOTAL =	25,330

CLEANING CULVERTS PIPES

STATION	LOCATION	520.8700 CLEANING CULVERT PIPES (EACH)
142+70	MAINLINE	1
151+13	MAINLINE	1
170+39	MAINLINE	1
180+27	MAINLINE	1
381+91	MAINLINE	1
525+75	MAINLINE	1
529+85	MAINLINE	1
540+77	MAINLINE	1
552+84	MAINLINE	1
641+66	MAINLINE	1
656+74	MAINLINE	1
684+80	MAINLINE	1
791+96	MAINLINE	1
856+85	MAINLINE	1
867+62	MAINLINE	1
878+51	MAINLINE	1
	TOTAL =	16

CURB & GUTTER

STATION - STATION	LOCATION	601.0411 CONCRETE CURB & GUTTER 30-INCH TYPE D (LF)	601.0557 CONCRETE CURB & GUTTER 6-INCH SLOPED 36-INCH TYPE D (LF)	650.5500 CONSTRUCTION STAKING CURB & GUTTER (LF)
257+35 - 257+94	MAINLINE, RT.	-	95	95
297+99 - 298+57	MAINLINE, RT.	-	96	96
298+82 - 299+21	MAINLINE, RT.	-	65	65
455+03 - 455+50	MAINLINE, RT.	-	54	54
872+12 - 873+07	MAINLINE, RT.	87	-	87
907+63 - 907+95	MAINLINE, LT.	32	-	32
908+05 - 908+37	MAINLINE, RT.	32	-	32
932+42 - 936+06	MAINLINE, LT.	-	252	252
933+24 - 935+22	MAINLINE, LT.	-	250	250
933+43 - 934+01	MAINLINE, RT.	-	93	93
	TOTAL =	151	905	1,056

CONCRETE BARRIER

STATION	LOCATION	603.8000 CONCRETE BARRIER TEMPORARY PRECAST DELIVERED (LF)	603.8125 CONCRETE BARRIER TEMPORARY PRECAST INSTALLED (LF)	603.8500 ANCHORING CONCRETE BARRIER TEMPORARY PRECAST (LF)	614.0905 CRASH CUSHIONS TEMPORARY (EACH)	BACK WIDTH (FT)	OBJECT MARKING PATTERN	CRASH TEST LEVEL	TRAFFIC LOCATION	CRASH CUSHION SHIELDS
327+81	MAINLINE	384	768	768	2	4	OM-3R / OM-3L	TL-3	LT / RT	SINGLE TEMP. BARRIEF
389+01	MAINLINE	364	728	728	2	4	OM-3R / OM-3L	TL-3	LT / RT	SINGLE TEMP. BARRIEF
580+11	MAINLINE	354	708	708	2	4	OM-3R / OM-3L	TL-3	LT / RT	SINGLE TEMP. BARRIEF
636+99	MAINLINE	354	708	708	2	4	OM-3R / OM-3L	TL-3	LT / RT	SINGLE TEMP. BARRIEF
711+96	MAINLINE	354	708	708	2	4	OM-3R / OM-3L	TL-3	LT / RT	SINGLE TEMP. BARRIEF
731+12	MAINLINE	366	732	732	2	4	OM-3R / OM-3L	TL-3	LT / RT	SINGLE TEMP. BARRIEF
829+77	MAINLINE	354	708	708	2	4	OM-3R / OM-3L	TL-3	LT / RT	SINGLE TEMP. BARRIEF
	TOTAL =	2,530	5,060	5,060	14					

PWL MIXTURE USE TABLE

The following acceptance criteria are applicable for this project:

LOCATION	STATION	MIXTURE USE	UNDERLYING SURFACE	BID ITEM	TONS	THICKNESS	QUALITY MANAGEMENT PROGRAM TO BE USED FOR: MIXTURE ACCEPTANCE	DENSITY ACCEPTANCE
12 foot Driving Lanes	97+65 - 931+12	Upper & Lower Layer	Milled Existing HMA Surface	5 MT 58-34 V	41,250	3.25" Total	PWL Incentive Air Voids HMA Pavement 460.2010	Incentive Density PWL HMA Pavement 460.2005
3 foot Paved Shoulders	97+65 - 931+12	Upper & Lower Layer	Milled Existing HMA Surface	5 MT 58-34 V	10,300	3.25" Total	PWL Incentive Air Voids HMA Pavement 460.2010	Acceptance testing by the department; Not eligible for incentive or disincentive
12 foot Driving Lanes	Various Locations	Bridge Approaches	Milled Existing HMA Surface	5 MT 58-34 V	435	1.5"	PWL Incentive Air Voids HMA Pavement 460.2010	Incentive Density PWL HMA Pavement 460.2005
3 foot Paved Shoulders	Various Locations	Bridge Approaches	Milled Existing HMA Surface	5 MT 58-34 V	110	1.5"	PWL Incentive Air Voids HMA Pavement 460.2010	Acceptance testing by the department; Not eligible for incentive or disincentive
12 foot Driving Lanes	931+12 - 936+15.50	Upper Layer	Milled Existing HMA Surface	5 MT 58-34 V	135	2"	PWL Incentive Air Voids HMA Pavement 460.2010	Incentive Density PWL HMA Pavement 460.2005
3 foot Paved Shoulders	931+12 - 936+15.50	Upper Layer	Milled Existing HMA Surface	5 MT 58-34 V	130	2"	PWL Incentive Air Voids HMA Pavement 460.2010	Acceptance testing by the department; Not eligible for incentive or disincentive
Beamguard Replacement Areas	Various Locations	Shoulders	Base Aggregate	5 MT 58-34 V	390	5" Total	PWL Incentive Air Voids HMA Pavement 460.2010	Acceptance testing by the department; Not eligible for incentive or disincentive
Culvert Replacement Areas	Various Locations		Base Aggregate	5 MT 58-34 V	1,445	8.25" Total	PWL Incentive Air Voids HMA Pavement 460.2010	Incentive Density PWL HMA Pavement 460.2005
Culvert Replacement Areas	Various Locations		Base Aggregate	5 MT 58-34 V	830	8.25" Total	PWL Incentive Air Voids HMA Pavement 460.2010	Acceptance testing by the department; Not eligible for incentive or disincentive
Distressed Pavement Repair Areas	Various Locations		Milled Existing HMA Surface	5 MT 58-34 V	1,650	2"	PWL Incentive Air Voids HMA Pavement 460.2010	Acceptance testing by the department; Not eligible for incentive or disincentive

HMA PAVEMENT INCENTIVES

STATION - STATION	LOCATION	460.0105.S HMA PWL TEST STRIP VOLUMETRICS (EACH)	460.0110.S HMA PWL TEST STRIP DENSITY (EACH)
97+65 - 936+15	MAINLINE	1	1
	TOTALS =	1	1

RUMBLE STRIPS

STATION - STATION	LOCATION	465.0475 ASPHALTIC RUMBLE STRIPS 2-LANE RURAL CENTERLINE (LF)
97+65 - 936+15	MAINLINE	72,200
	TOTALS =	72,200

HMA PAVEMENT

STATION - STATION	LOCATION	450.4000 HMA COLD WEATHER PAVING (TON)	455.0605 TACK COAT (GAL)	460.6645 HMA PAVEMENT 5 MT 58-34 V (TON)	465.0105 ASPHALTIC SURFACE (TON)	465.0110 ASPHALTIC SURFACE PATCHING (TON)	SPV.0180.01 REMOVING DISTRESSED PAVEMENT MILLING (SY)
97+65 - 936+15	MAINLINE	13,600	23,000	54,400	4,125	-	14,650
97+65 - 936+15	MINOR REPAIRS (POTHOLES, TRAFFIC POPOUTS, ETC.)	-	-	-	-	100	-
97+65 - 936+15	WEDGING, SPOT LANE FAILURES, EDGE REPAIRS	-	-	-	-	150	-
	TOTALS =	13,600	23,000	54,400	4,125	250	14,650

ALL BID ITEMS ARE CATEGORY 010 UNLESS OTHERWISE NOTED

CULVERT PIPES

STATION	LOCATION	520.1018 APRON ENDWALLS FOR CULVERT PIPE 18-INCH (EACH)	520.1024 APRON ENDWALLS FOR CULVERT PIPE 24-INCH (EACH)	520.1030 APRON ENDWALLS FOR CULVERT PIPE 30-INCH (EACH)	520.1036 APRON ENDWALLS FOR CULVERT PIPE 36-INCH (EACH)	520.1048 APRON ENDWALLS FOR CULVERT PIPE 48-INCH (EACH)	520.1054 APRON ENDWALLS FOR CULVERT PIPE 54-INCH (EACH)	520.3154 CULVERT PIPE CLASS III 54-INCH (LF)	520.4118 CULVERT PIPE CLASS IV 18-INCH (LF)	520.4124 CULVERT PIPE CLASS IV 24-INCH (LF)	520.4130 CULVERT PIPE CLASS IV 30-INCH (LF)	520.4136 CULVERT PIPE CLASS IV 36-INCH (LF)	521.1283 APRON ENDWALLS FOR PIPE ARCH STEEL 83X57-INCH (EACH)	521.3783 PIPE ARCH CORRUGATED STEEL 83X57-INCH (EACH)	650.6000 CONSTRUCTION STAKING PIPE CULVERTS (MORE LISTED ELSEWHERE) (EACH)
136+85	MAINLINE	-	-	-	2	-	-	-	-	-	-	-	-	-	-
170+39	MAINLINE	-	1	-	-	-	-	-	-	-	-	-	-	-	-
180+27	MAINLINE	-	-	2	-	-	-	-	-	-	-	-	-	-	-
201+46	MAINLINE	-	2	-	-	-	-	-	-	64	-	-	-	-	1
208+18	MAINLINE	-	-	-	-	2	-	-	-	-	-	-	-	-	-
220+95	MAINLINE	-	2	-	-	-	-	-	-	64	-	-	-	-	1
272+06	MAINLINE	-	2	-	-	-	-	-	-	86	-	-	-	-	1
310+70	MAINLINE, RT.	2	-	-	-	-	-	-	42	-	-	-	-	-	1
349+78	MAINLINE	-	-	2	-	-	-	-	-	-	50	-	-	-	1
354+90	MAINLINE	-	2	-	-	-	-	-	-	52	-	-	-	-	1
367+90	MAINLINE	-	2	-	-	-	-	-	-	50	-	-	-	-	1
376+89	MAINLINE	-	2	-	-	-	-	-	-	48	-	-	-	-	1
412+03	MAINLINE	-	-	-	2	-	-	-	-	-	-	64	-	-	1
433+29	MAINLINE	-	2	-	-	-	-	-	-	54	-	-	-	-	1
438+15	MAINLINE	-	2	-	-	-	-	-	-	50	-	-	-	-	1
443+16	MAINLINE	-	-	2	-	-	-	-	-	-	52	-	-	-	1
455+29	MAINLINE	-	2	-	-	-	-	-	-	80	-	-	-	-	1
502+32	MAINLINE	-	2	-	-	-	-	-	-	142	-	-	-	-	1
580+11	MAINLINE	-	2	-	-	-	-	-	-	84	-	-	-	-	1
605+28	MAINLINE	-	-	2	-	-	-	-	-	-	52	-	-	-	1
613+68	MAINLINE	-	-	2	-	-	-	-	-	-	56	-	-	-	1
636+99	MAINLINE	-	-	-	-	-	2	126	-	-	-	-	-	-	1
664+28	MAINLINE	-	-	2	-	-	-	-	-	-	58	-	-	-	1
677+82	MAINLINE	-	-	2	-	-	-	-	-	-	58	-	-	-	1
689+71	MAINLINE	-	2	-	-	-	-	-	-	52	-	-	-	-	1
695+03	MAINLINE	-	-	2	-	-	-	-	-	-	58	-	-	-	1
695+13	MAINLINE	-	-	2	-	-	-	-	-	-	60	-	-	-	1
711+96	MAINLINE	-	-	-	-	-	2	142	-	-	-	-	-	-	1
757+46	MAINLINE	-	2	-	-	-	-	-	-	64	-	-	-	-	1
767+13	MAINLINE	-	-	2	-	-	-	-	-	-	62	-	-	-	1
787+60	MAINLINE	-	-	-	-	-	-	-	-	-	-	-	2	76	1
813+18	MAINLINE	-	2	-	-	-	-	-	-	60	-	-	-	-	1
815+13	MAINLINE	-	2	-	-	-	-	-	-	56	-	-	-	-	1
818+04	MAINLINE	-	2	-	-	-	-	-	-	56	-	-	-	-	1
829+77	MAINLINE	-	-	-	-	-	-	-	-	-	-	-	2	98	1
845+87	MAINLINE	-	2	-	-	-	-	-	-	64	-	-	-	-	1
845+95	MAINLINE	-	2	-	-	-	-	-	-	64	-	-	-	-	1
863+36	MAINLINE	-	-	1	-	-	-	-	-	-	-	-	-	-	-
867+62	MAINLINE	-	-	-	1	-	-	-	-	-	-	-	-	-	-
887+18	MAINLINE	-	2	-	-	-	-	-	-	96	-	-	-	-	1
902+39	MAINLINE	-	2	-	-	-	-	-	-	68	-	-	-	-	1
	TOTALS =	2	41	21	5	2	4	268	42	1,354	506	64	4	174	35

PIPE SIZE	MINIMUM THICKNESS (IN.) STEEL	ALUMINUM
18-INCH	0.064	0.060
24-INCH	0.064	0.075
30-INCH	0.079	0.075
36-INCH	0.079	0.105
54-INCH	0.109	0.105
83x57-INCH	0.168	-

REINFORCED CONCRETE CULVERT PIPES

STATION	LOCATION	522.0430 CULVERT PIPE REINFORCED CONCRETE CLASS IV 30-INCH (EACH)	522.0436 CULVERT PIPE REINFORCED CONCRETE CLASS IV 36-INCH (EACH)	522.1030 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE CLASS IV 30-INCH (EACH)	522.1036 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE CLASS IV 36-INCH (EACH)	650.6000 CONSTRUCTION STAKING PIPE CULVERTS (MORE LISTED ELSEWHERE) (EACH)
327+81	MAINLINE	-	226	-	2	1
389+01	MAINLINE	-	194	-	2	1
731+12	MAINLINE	202	-	2	-	1
	TOTALS =	202	420	2	4	3

ALL BID ITEMS ARE CATEGORY 010 UNLESS OTHERWISE NOTED

BARRIER SYSTEM GRADING SHAPING FINISHING

STATION - STATION	LOCATION	614.0010 BARRIER SYSTEM GRADING SHAPING FINISHING (EACH)
241+22 - 248+97	MAINLINE, LT.	2
241+50 - 241+22	MAINLINE, RT.	2
290+66 - 297+98	MAINLINE, RT.	2
291+29 - 298+52	MAINLINE, LT.	2
305+09 - 311+45	MAINLINE, RT.	2
305+72 - 312+57	MAINLINE, LT.	2
867+38 - 874+78	MAINLINE, RT.	2
869+65 - 873+65	MAINLINE, LT.	2
	TOTALS =	16

* INCLUDES EXCAVATION COMMON, BORROW,EROSION MAT URBAN CLASS I TYPE B, SALVAGED TOPSOIL, FERTILIZER TYPE B, SEEDING MIXTURE NO. 30, & SEEDING TEMPORARY QUANTITY FOR RESTORING SIDESLOPES AT BEAMGUARD REPLACEMENT AREAS. SEE FINISHING ITEMS TABLE FOR ESTIMATED QUANTITIES

EROSION MAT

STATION - STATION	LOCATION	628.2006 URBAN CLASS I TYPE A (SY)	628.2008 URBAN CLASS I TYPE B (SY)
243+33 - 244+26	MAINLINE, RT.	420	--
243+40 - 244+26	MAINLINE, LT.	415	--
245+79 - 246+87	MAINLINE, LT.	450	--
245+79 - 246+63	MAINLINE, RT.	320	--
292+04 - 293+80	MAINLINE, LT.	435	--
292+99 - 293+80	MAINLINE, RT.	175	--
295+39 - 296+57	MAINLINE, LT.	260	--
295+39 - 296+57	MAINLINE, RT.	545	--
306+10 - 307+01	MAINLINE, RT.	245	--
306+49 - 307+88	MAINLINE, LT.	620	--
309+43 - 310+32	MAINLINE, RT.	420	--
309+43 - 310+40	MAINLINE, LT.	195	--
327+81	MAINLINE, RT. & LT.	1,700	--
349+78	MAINLINE, LT.	15	--
354+90	MAINLINE, LT.	10	--
367+90	MAINLINE, LT.	10	--
376+89	MAINLINE, LT.	10	--
389+01	MAINLINE, RT. & LT.	1,285	--
438+15	MAINLINE, LT.	10	--
443+16	MAINLINE, LT.	15	--
502+32	MAINLINE, RT. & LT.	345	--
580+11	MAINLINE, RT. & LT.	275	--
613+68	MAINLINE, LT.	15	--
636+99	MAINLINE, RT. & LT.	620	--
664+28	MAINLINE, LT.	15	--
677+82	MAINLINE, LT.	15	--
711+96	MAINLINE, RT. & LT.	555	--
731+12	MAINLINE, RT. & LT.	1,085	--
767+13	MAINLINE, LT.	15	--
787+60	MAINLINE, RT. & LT.	205	--
815+13	MAINLINE, LT.	10	--
818+04	MAINLINE, LT.	10	--
829+77	MAINLINE, RT. & LT.	415	--
870+47 - 871+42	MAINLINE, LT.	195	--
870+66	MAINLINE, RT.	10	--
870+50 - 871+25	MAINLINE, RT	--	90
872+09 - 872+83	MAINLINE, LT.	195	--
887+18	MAINLINE, RT. & LT.	295	--
-	UNDISTRIBUTED	670	10
	TOTALS =	12,500	100

MOBILIZATIONS EROSION CONTROL

PROJECT	628.1905 MOBILIZATIONS EROSION CONTROL (EACH)	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL (EACH)
8510-01-00	9	5
TOTALS =	9	5

RIPRAP/GEOTEXTILE

STATION	LOCATION	606.0300 RIPRAP HEAVY (CY)	645.0120 GEOTEXTILE TYPE HR (SY)
201+46	MAINLINE, LT.	6	18
220+95	MAINLINE, LT.	6	18
272+07	MAINLINE, LT.	6	18
406+42	MAINLINE, LT.	6	18
412+03	MAINLINE, LT.	10	27
433+29	MAINLINE, LT.	6	18
455+29	MAINLINE, LT.	6	18
455+42	MAINLINE, RT.	6	18
456+07	MAINLINE, RT.	6	18
605+28	MAINLINE, LT.	8	22
636+99	MAINLINE, LT.	6	18
642+76	MAINLINE, LT.	6	18
689+71	MAINLINE, LT.	6	18
695+03	MAINLINE, LT.	8	22
695+13	MAINLINE, LT.	8	22
711+64	MAINLINE, LT.	6	18
739+64	MAINLINE, LT.	6	18
757+46	MAINLINE, LT.	6	18
787+60	MAINLINE, LT. & RT.	12	32
813+18	MAINLINE, LT.	6	18
845+87	MAINLINE, LT.	6	18
845+95	MAINLINE, LT.	6	18
863+13	MAINLINE, LT.	6	18
867+63	MAINLINE, LT.	6	18
879+04	MAINLINE, LT.	6	18
887+18	MAINLINE, RT.	6	18
902+39	MAINLINE, LT.	6	18
910+19	MAINLINE, RT.	6	18
911+20	MAINLINE, LT.	6	18
	TOTAL =	190	557

INLET PROTECTION

STATION	LOCATION	628.7010 TYPE B (EACH)	628.7015 TYPE C (EACH)
244+45	MAINLINE, LT. & RT.	2	-
245+10	MAINLINE, LT. & RT.	2	-
245+55	MAINLINE, LT. & RT.	2	-
294+00	MAINLINE, LT. & RT.	2	-
294+55	MAINLINE, LT. & RT.	2	-
295+10	MAINLINE, LT. & RT.	2	-
308+10	MAINLINE, LT. & RT.	2	-
308+50	MAINLINE, LT. & RT.	2	-
309+00	MAINLINE, LT. & RT.	2	-
872+10	MAINLINE, RT.	-	1
	TOTALS =	18	1

MGS GUARDRAIL

STATION - STATION	LOCATION	614.2300 MGS GUARDRAIL 3 (LF)	614.2500 THRIE BEAM TRANSITION (LF)	614.2610 TERMINAL EAT (EACH)
242+85 - 243+85	MAINLNE, LT.	100	40	1
243+10 - 243+85	MAINLINE, RT.	75	40	1
246+22 - 247+22	MAINLNE, LT.	100	40	1
246+22 - 246+50	MAINLINE, RT.	38	40	1
292+25 - 293+38	MAINLINE, RT.	113	40	1
292+91 - 293+41	MAINLNE, LT.	50	40	1
295+78 - 297+03	MAINLINE, RT.	125	40	1
295+78 - 296+91	MAINLNE, LT.	113	40	1
306+71 - 307+59	MAINLINE, RT.	87	40	1
307+34 - 307+59	MAINLNE, LT.	25	40	1
309+83 - 310+96	MAINLNE, LT.	113	40	1
309+83 - 310+36	MAINLINE, RT.	-	40	1
869+11 - 872+99	MAINLINE, RT.	363	-	2
871+15 - 872+53	MAINLNE, LT.	138	-	2
	TOTALS =	1,440	480	16

SILT FENCE

STATION - STATION	LOCATION	628.1504 SILT FENCE (LF)	628.1520 SILT FENCE MAINTENANCE (LF)
241+22 - 244+30	MAINLINE, LT.	340	850
241+47 - 244+32	MAINLINE, RT.	330	825
245+76 - 248+30	MAINLINE, RT.	370	925
245+78 - 249+00	MAINLINE, LT.	285	712
272+07	MAINLINE	255	640
290+93 - 283+86	MAINLINE, RT.	320	800
291+25 - 293+84	MAINLINE, LT.	295	738
295+32 - 298+04	MAINLINE, RT.	345	863
295+35 - 298+60	MAINLINE, LT.	315	787
309+39 - 310+46	MAINLINE, RT.	145	362
309+39 - 312+62	MAINLINE, LT.	360	900
327+81	MAINLINE	500	1,250
389+01	MAINLINE	415	1,035
502+32	MAINLINE	320	800
580+11	MAINLINE	210	525
636+99	MAINLINE	290	725
711+96	MAINLINE	285	570
731+12	MAINLIINE	415	1,035
787+60	MAINLINE	140	350
829+77	MAINLINE	220	550
867+37 - 871+15	MAINLINE, RT.	375	938
870+78 - 871+40	MAINLINE, LT.	75	187
872+04 - 873+68	MAINLINE, RT.	185	463
872+08 - 874+17	MAINLINE, LT.	210	525
887+18	MAINLINE	200	500
-	UNDISTRIBUTED	1,800	4,500
	TOTALS =	9,000	22,355

FINISHING ITEMS

LOCATION	625.0500 SALVAGED TOPSOIL (SY)	627.0200 MULCHING (SY)	629.0210 FERTILIZER TYPE B (CWT)	630.0130 SEED MIXTURE NO. 30 (LB)	630.0200 SEED MIXTURE TEMPORARY (LB)	630.0500 SEED WATER (MGAL)
CULVERT REPLACEMENTS	13,200	14,900	9	268	-	84
CURB AND GUTTER REPLACEMENTS	670	670	1	12	-	4
UNDISTRIBUTED	3,430	3,430	2	70	525	22
PROJECT TOTALS	17,300	19,000	12	350	525	110
B-16-14 (GRADING, SHAPING, FINISHING AREAS)	3,900	3,900	3	68	102	27
B-16-15 (GRADING, SHAPING, FINISHING AREAS)	3,400	3,400	2	76	113	24
B-16-16 (GRADING, SHAPING, FINISHING AREAS)	4,300	4,300	3	91	136	28
B-16-23 (GRADING, SHAPING, FINISHING AREAS)	2,550	2,550	2	60	90	19
*FOR INFORMATIONAL PURPOSES ONLY TOTALS =	14,150	14,150	10	295	441	98

WATER

PROJECT	624.0100 (MGAL)
8510-01-00	310
TOTAL =	310

CULVERT PIPE CHECKS

STATION	LOCATION	628.7555 (EACH)
201+46	MAINLINE, RT.	1
220+95	MAINLINE, RT.	1
272+07	MAINLINE, RT.	1
310+95	MAINLINE, RT.	1
327+81	MAINLINE, LT.	1
349+78	MAINLINE, RT.	1
354+90	MAINLINE, RT.	1
367+90	MAINLINE, RT.	1
389+01	MAINLINE, RT.	1
412+03	MAINLINE, RT.	1
433+29	MAINLINE, RT.	1
438+15	MAINLINE, RT.	1
443+16	MAINLINE, RT.	1
455+28	MAINLINE, RT.	1
502+32	MAINLINE, RT.	1
580+11	MAINLINE, RT.	1
605+28	MAINLINE, RT.	1
613+68	MAINLINE, RT.	1
664+28	MAINLINE, RT.	1
677+82	MAINLINE, RT.	1
689+71	MAINLINE, RT.	1
695+03	MAINLINE, RT.	1
695+13	MAINLINE, RT.	1
711+96	MAINLINE, RT.	1
731+12	MAINLINE, RT.	1
757+46	MAINLINE, RT.	1
767+13	MAINLINE, RT.	1
813+18	MAINLINE, RT.	1
815+13	MAINLINE, RT.	1
818+04	MAINLINE, RT.	1
845+87	MAINLINE, RT.	1
845+95	MAINLINE, RT.	1
870+30	MAINLINE, LT.	1
887+18	MAINLINE, LT.	1
902+39	MAINLINE, RT.	1
	TOTAL =	35

ALL BID ITEMS ARE CATEGORY 010 UNLESS OTHERWISE NOTED

MARKERS CULVERT END

STATION	LOCATION	633.5200 (EACH)
111+79	MAINLINE, RT. & LT.	2
114+04	MAINLINE, RT. & LT.	2
115+59	MAINLINE, RT. & LT.	2
142+70	MAINLINE, RT. & LT.	2
151+13	MAINLINE, RT.	1
201+46	MAINLINE, RT. & LT.	2
220+95	MAINLINE, RT. & LT.	2
272+06	MAINLINE, RT. & LT.	2
327+81	MAINLINE, RT. & LT.	2
349+78	MAINLINE, RT. & LT.	2
354+90	MAINLINE, RT. & LT.	2
367+90	MAINLINE, RT. & LT.	2
376+88	MAINLINE, RT. & LT.	2
381+91	MAINLINE, RT.	1
389+01	MAINLINE, RT. & LT.	2
412+03	MAINLINE, RT. & LT.	2
433+28	MAINLINE, RT. & LT.	2
438+16	MAINLINE, RT. & LT.	2
443+16	MAINLINE, RT. & LT.	2
455+29	MAINLINE, RT. & LT.	2
470+00	MAINLINE, RT. & LT.	2
483+66	MAINLINE, RT. & LT.	2
502+32	MAINLINE, RT. & LT.	2
516+40	MAINLINE, RT.	1
552+84	MAINLINE, RT.	1
580+11	MAINLINE, RT. & LT.	2
605+28	MAINLINE, RT. & LT.	2
613+68	MAINLINE, RT. & LT.	2
636+99	MAINLINE, RT. & LT.	2
641+66	MAINLINE, RT. & LT.	2
656+74	MAINLINE, RT. & LT.	2
664+28	MAINLINE, RT. & LT.	2
677+82	MAINLINE, RT. & LT.	2
684+80	MAINLINE, RT.	1
689+71	MAINLINE, RT. & LT.	2
695+08	MAINLINE, RT. & LT.	4
711+96	MAINLINE, RT. & LT.	2
731+12	MAINLINE, RT. & LT.	2
757+46	MAINLINE, RT. & LT.	2
767+12	MAINLINE, RT. & LT.	2
787+60	MAINLINE, RT. & LT.	2
791+96	MAINLINE, LT.	1
813+17	MAINLINE, RT. & LT.	2
815+14	MAINLINE, RT. & LT.	2
818+05	MAINLINE, RT. & LT.	2
829+76	MAINLINE, RT. & LT.	2
845+91	MAINLINE, RT. & LT.	4
856+85	MAINLINE, RT. & LT.	2
863+36	MAINLINE, RT. & LT.	2
867+62	MAINLINE, RT. & LT.	2
878+51	MAINLINE, RT. & LT.	2
887+17	MAINLINE, RT. & LT.	2
902+38	MAINLINE, RT. & LT.	2
	TOTAL =	104

MOVING SIGNS

STATION	LOCATION	638.2102 SIGNS TYPE II (EACH)	638.4000 SMALL SIGN SUPPORTS (EACH)
243+52	MAINLINE, RT.	1	1
244+06	MAINLINE, RT.	1	1
244+08	MAINLINE, RT.	1	1
244+07	MAINLINE, LT.	1	1
245+97	MAINLINE, RT.	1	1
245+98	MAINLINE, LT.	1	1
246+00	MAINLINE, LT.	1	1
247+46	MAINLINE, LT.	1	1
291+27	MAINLINE, RT.	1	1
292+49	MAINLINE, RT.	1	1
293+66	MAINLINE, RT.	1	1
293+68	MAINLINE, RT.	1	1
293+67	MAINLINE, LT.	1	1
295+51	MAINLINE, RT.	1	1
295+51	MAINLINE, LT.	1	1
295+53	MAINLINE, LT.	1	1
307+84	MAINLINE, RT.	1	1
307+86	MAINLINE, RT.	1	1
307+85	MAINLINE, LT.	1	1
309+56	MAINLINE, RT.	1	1
309+55	MAINLINE, LT.	1	1
309+57	MAINLINE, LT.	1	1
310+45	MAINLINE, LT.	1	1
868+75	MAINLINE, LT.	1	1
869+73	MAINLINE, LT.	1	1
870+15	MAINLINE, LT.	1	1
870+75	MAINLINE, LT.	1	1
872+01	MAINLINE, LT.	1	1
872+43	MAINLINE, LT.	1	1
872+73	MAINLINE, LT.	1	1
872+25	MAINLINE, LT.	1	1
934+66	MAINLINE, LT.	2	1
935+13	MAINLINE, LT.	1	1
	TOTAL =	34	33

TEMPORARY DITCH CHECKS

STATION	LOCATION	628.7504 (LF)
290+66	MAINLINE, RT.	8
305+12	MAINLINE, RT.	8
305+69	MAINLINE, LT.	8
306+20	MAINLINE, RT.	8
306+72	MAINLINE, RT.	8
306+83	MAINLINE, LT.	8
307+36	MAINLINE, LT.	8
310+45	MAINLINE, RT.	8
870+70	MAINLINE, LT.	8
	TOTALS =	72

TEMPORARY TRAFFIC SIGNALS FOR BRIDGES

STATION	ITEM NUMBER	LOCATION	(LS)
327+81	661.0200.01	MAINLINE	1
389+01	661.0200.02	MAINLINE	1
580+11	661.0200.03	MAINLINE	1
636+99	661.0200.04	MAINLINE	1
711+96	661.0200.05	MAINLINE	1
731+12	661.0200.06	MAINLINE	1
829+77	661.0200.07	MAINLINE	1
		TOTAL =	7

TRAFFIC CONTROL

LOCATION	643.0300 DRUMS (DAYS)	643.0420 BARRICADES (DAYS)	643.0715 WARNING LIGHTS TYPE C (DAYS)	643.0900 SIGNS (DAYS)	643.1000 SIGNS FIXED MESSAGE (G20-57) (SF)	643.5000 TRAFFIC CONTROL (EACH)
STH 13	1,400	70	700	8,800	32	1
TOTALS =	1,400	70	700	8,800	32	1

CONSTRUCTION STAKING

LOCATION	650.4500 SUBGRADE (LF)	650.5000 BASE (LF)	650.8000 RESURFACING REFERENCE (LF)	650.9910 SUPPLEMENTAL CONTROL 01. 8510-01-00 (LS)	650.9920 SLOPE STAKES (LF)
PROJECT	-	-	83,850	1	-
CULVERT PIPE LOCATIONS	2,700	2,700	-	-	2,700
TOTALS =	2,700	2,700	83,850	1	2,700

SAWING

STATION	LOCATION	690.0150 ASPHALT (LF)	690.0250 CONCRETE (LF)
97+65	MAINLINE	30	-
241+79 - 244+04	MAINLINE, LT. (B-16-14)	225	-
242+04 - 244+04	MAINLINE, RT. (B-16-14)	200	-
246+04 - 247+66	MAINLINE, RT. (B-16-14)	162	-
246+04 - 248+51	MAINLINE, LT. (B-16-14)	247	-
291+23 - 293+60	MAINLINE, RT. (B-16-15)	237	-
291+85 - 293+60	MAINLINE, LT. (B-16-15)	175	-
295+59 - 297+97	MAINLINE, RT. (B-16-15)	238	-
295+59 - 297+97	MAINLINE, LT. (B-16-15)	238	-
305+65 - 307+78	MAINLINE, RT. (B-16-16)	213	-
306+28 - 307+78	MAINLINE, LT. (B-16-16)	150	-
309+64 - 310+89	MAINLINE, RT. (B-16-16)	125	-
309+64 - 312+02	MAINLINE, LT. (B-16-16)	238	-
455+45	MAINLINE, RT.	-	3
868+17 - 870+14	MAINLINE, RT. (B-16-23)	197	-
869+65 - 871+25	MAINLINE, LT. (B-16-23)	160	-
871+36	MAINLINE, RT.	-	2.5
872+12	MAINLINE, RT.	-	2.5
872+18 - 875+03	MAINLINE, RT. (B-16-23)	285	-
872+15 - 873+57	MAINLINE, LT. (B-16-23)	142	-
907+62	MAINLINE, LT.	36	5
908+22	MAINLINE, RT.	36	5
934+17	MAINLINE, RT.	33	-
934+23	MAINLINE, RT.	33	-
934+15	MAINLINE	38	-
-	CULVERT REPLACEMENTS	2,382	-
-	SIDEROADS	880	-
-	DRIVEWAYS	100	-
	TOTAL =	6,800	18

ALL BID ITEMS ARE CATEGORY 010 UNLESS OTHERWISE NOTED

NOTE: QUANTITIES INCLUDE PLACING PAVEMENT MARKING LINE AFTER FIRST AND THIRD PASS OF PAVING OPERATIONS

3

PAVEMENT MARKING

			646.1040		646.3020	646.3040	646.4520		646.6120	646.8220	646.9000	649.0120		649.0150	649.0850
			MARKING LINE GROOVED WET REFLECTIVE EPOXY 4-INCH		MARKING LINE EPOXY 8-INCH	MARKING LINE GROOVED WET REF EPOXY 8-INCH	MARKING LINE SAME DAY EPOXY 4-INCH		MARKING STOP LINE EPOXY 18-INCH	MARKING ISLAND NOSE	MARKING REMOVAL LINE 4-INCH	TEMPORARY MARKING LINE EPOXY 4-INCH		TEMPORARY MARKING LINE REMOVABLE 4 -INCH	TEMPORARY MARKING STOP 18-INCH
			SOLID	DASHED	SOLID		SOLID	DASHED				SOLID	DASHED		
STATION - STATION	LOCATION	DESCRIPTION	(LF)	(LF)	(LF)	(LF)	(LF)	(LF)	(LF)	(EACH)	(LF)	(LF)	(LF)	(LF)	(LF)
97+65 - 936+15	MAINLINE	WHITE EDGELINE	165,290	610	-	-	-	-	-	-	-	-	-	-	-
97+65 - 104+00	MAINLINE	NO PASSING ZONE	-	-	-	-	1,275	-	-	-	-	2,550	-	-	-
104+00 - 112+45	MAINLINE	EB PASSING ONLY	-	-	-	-	850	210	-	-	-	1,700	140	-	-
112+45 - 115+45	MAINLINE	NO PASSING ZONE	-	-	-	-	600	-	-	-	-	1,200	-	-	-
115+45 - 122+25	MAINLINE	WB PASSING ONLY	-	-	-	-	680	170	-	-	-	1,360	110	-	-
122+25 - 134+15	MAINLINE	EB PASSING ONLY	-	-	-	-	1,200	300	-	-	-	2,400	190	-	-
134+15 - 175+00	MAINLINE	PASSING ZONE	-	-	-	-	-	1,025	-	-	-	-	655	-	-
175+00 - 186+00	MAINLINE	WB PASSING ONLY	-	-	-	-	1,100	275	-	-	-	2,200	180	-	-
186+00 - 202+30	MAINLINE	NO PASSING ZONE	-	-	-	-	3,250	-	-	-	-	6,500	-	-	-
202+30 - 213+00	MAINLINE	EB PASSING ONLY	-	-	-	-	1,070	270	-	-	-	2,140	175	-	-
213+00 - 218+00	MAINLINE	PASSING ZONE	-	-	-	-	-	125	-	-	-	-	80	-	-
218+00 - 228+00	MAINLINE	WB PASSING ONLY	-	-	-	-	1,000	250	-	-	-	2,000	160	-	-
228+00 - 234+00	MAINLINE	NO PASSING ZONE	-	-	-	-	1,200	-	-	-	-	2,400	-	-	-
234+00 - 243+00	MAINLINE	EB PASSING ONLY	-	-	-	-	900	225	-	-	-	1,800	145	-	-
243+00 - 248+00	MAINLINE	PASSING ZONE	-	-	-	-	-	125	-	-	-	-	80	-	-
248+00 - 258+00	MAINLINE	WB PASSING ONLY	-	-	-	-	1,000	250	-	-	-	2,000	160	-	-
258+00 - 284+00	MAINLINE	NO PASSING ZONE	-	-	-	-	5,200	-	-	-	-	10,400	-	-	-
284+00 - 291+00	MAINLINE	EB PASSING ONLY	-	-	-	-	700	175	-	-	-	1,400	115	-	-
291+00 - 307+87	MAINLINE	PASSING ZONE	-	-	-	-	-	425	-	-	-	-	270	-	-
307+87 - 321+00	MAINLINE	WB PASSING ONLY	-	-	-	-	1,320	330	-	-	-	2,640	210	-	-
321+00 - 333+00	MAINLINE	EB PASSING ONLY	-	-	-	-	1,200	300	-	-	-	2,400	195	-	-
327+81	MAINLINE	WHITE EDGELINE	-	-	-	-	-	-	-	-	425	-	-	770	48
333+00 - 373+00	MAINLINE	PASSING ZONE	-	-	-	-	-	1,000	-	-	-	-	640	-	-
373+00 - 386+00	MAINLINE	WB PASSING ONLY	-	-	-	-	1,300	325	-	-	-	2,600	210	-	-
386+00 - 410+60	MAINLINE	NO PASSING ZONE	-	-	-	-	4,925	-	-	-	-	9,850	-	-	-
389+01	MAINLINE	WHITE EDGELINE	-	-	-	-	-	-	-	-	425	-	-	730	48
410+60 - 422+00	MAINLINE	EB PASSING ONLY	-	-	-	-	1,150	290	-	-	-	2,300	185	-	-
422+00 - 453+00	MAINLINE	PASSING ZONE	-	-	-	-	-	775	-	-	-	-	500	-	-
453+00 - 464+00	MAINLINE	WB PASSING ONLY	-	-	-	-	1,100	275	-	-	-	2,200	175	-	-
453+24 - 455+00	MAINLINE	WHITE EDGELINE	-	-	-	180	-	-	-	-	-	#VALUE!	-	-	-
455+00 - 487+00	MAINLINE	NO PASSING ZONE	-	-	-	-	6,400	-	-	-	-	12,800	-	-	-
487+00 - 498+00	MAINLINE	EB PASSING ONLY	-	-	-	-	1,100	275	-	-	-	2,200	175	-	-
498+00 - 505+00	MAINLINE	WB PASSING ONLY	-	-	-	-	700	175	-	-	-	1,400	115	-	-
505+00 - 510+50	MAINLINE	PASSING ZONE	-	-	-	-	-	140	-	-	-	-	90	-	-
510+50 - 516+00	MAINLINE	EB PASSING ONLY	-	-	-	-	550	140	-	-	-	1,100	90	-	-
516+00 - 528+00	MAINLINE	WB PASSING ONLY	-	-	-	-	1,200	300	-	-	-	2,400	195	-	-
528+00 - 552+00	MAINLINE	NO PASSING ZONE	-	-	-	-	4,800	-	-	-	-	9,600	-	-	-
552+00 - 561+00	MAINLINE	EB PASSING ONLY	-	-	-	-	900	225	-	-	-	1,800	145	-	-
561+00 - 572+00	MAINLINE	WB PASSING ONLY	-	-	-	-	1,100	275	-	-	-	2,200	175	-	-
572+00 - 599+00	MAINLINE	NO PASSING ZONE	-	-	-	-	5,400	-	-	-	-	10,800	-	-	-
580+11	MAINLINE	WHITE EDGELINE	-	-	-	-	-	-	-	-	425	-	-	710	48
599+00 - 620+00	MAINLINE	EB PASSING ONLY	-	-	-	-	2,100	525	-	-	-	4,200	335	-	-
620+00 - 631+00	MAINLINE	WB PASSING ONLY	-	-	-	-	1,100	275	-	-	-	2,200	175	-	-
631+00 - 647+00	MAINLINE	NO PASSING ZONE	-	-	-	-	3,200	-	-	-	-	6,400	-	-	-
636+99	MAINLINE	WHITE EDGELINE	-	-	-	-	-	-	-	-	425	-	-	710	48
647+00 - 658+00	MAINLINE	EB PASSING ONLY	-	-	-	-	1,100	275	-	-	-	2,200	175	-	-
658+00 - 661+50	MAINLINE	PASSING ZONE	-	-	-	-	-	90	-	-	-	-	55	-	-
661+50 - 667+25	MAINLINE	WB PASSING ONLY	-	-	-	-	580	145	-	-	-	1,160	95	-	-
667+25 - 673+00	MAINLINE	PASSING ZONE	-	-	-	-	-	145	-	-	-	-	95	-	-
673+00 - 678+50	MAINLINE	EB PASSING ONLY	-	-	-	-	550	140	-	-	-	1,100	90	-	-
678+50 - 681+00	MAINLINE	PASSING ZONE	-	-	-	-	-	65	-	-	-	-	40	-	-
681+00 - 692+00	MAINLINE	WB PASSING ONLY	-	-	-	-	1,100	275	-	-	-	2,200	175	-	-
692+00 - 700+00	MAINLINE	NO PASSING ZONE	-	-	-	-	1,600	-	-	-	-	3,200	-	-	-
700+00 - 722+50	MAINLINE	EB PASSING ONLY	-	-	-	-	2,250	565	-	-	-	4,500	360	-	-
711+96	MAINLINE	WHITE EDGELINE	-	-	-	-	-	-	-	-	425	-	-	710	48
722+50 - 733+25	MAINLINE	WB PASSING ONLY	-	-	-	-	1,080	270	-	-	-	2,160	175	-	-
731+12	MAINLINE	WHITE EDGELINE	-	-	-	-	-	-	-	-	425	-	-	730	48
733+25 - 749+00	MAINLINE	NO PASSING ZONE	-	-	-	-	3,150	-	-	-	-	6,300	-	-	-
749+00 - 760+25	MAINLINE	EB PASSING ONLY	-	-	-	-	1,130	285	-	-	-	2,260	180	-	-
760+25 - 841+25	MAINLINE	PASSING ZONE	-	-	-	-	-	2,025	-	-	-	-	1,300	-	-
829+77	MAINLINE	WHITE EDGELINE	-	-	-	-	-	-	-	-	425	-	-	710	48
841+25 - 850+00	MAINLINE	WB PASSING ONLY	-	-	-	-	880	220	-	-	-	1,760	140	-	-
850+00 - 933+64	MAINLINE	NO PASSING ZONE	-	-	-	-	8,370	-	-	-	-	16,740	-	-	-
934+20	MAINLINE, RT.	STOP LINE	-	-	-	-	-	-	16	-	-	-	-	-	-
934+30	MAINLINE, RT.	STOP LINE	-	-	-	-	-	-	16	-	-	-	-	-	-
934+70	MAINLINE	STOP LINE	-	-	-	-	-	-	16	-	-	-	-	-	-
934+70 - 936+15	MAINLINE	NO PASSING ZONE	-	-	-	-	290	-	-	-	-	580	-	-	-
935+12 - 935+47	MAINLINE, LT.	LANE EDGE	-	-	65	-	-	-	-	-	-	-	-	-	-
933+75	MAINLINE, LT.	ISLAND NOSE	-	-	-	-	-	-	-	3	-	-	-	-	-
-	PROJECT	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		TOTALS =	165,900		65	180	95,600		48	3	2,975	#VALUE!		5,070	336

3

PROJECT NO: 8510-01-70 | HWY: STH 13 | COUNTY: DOUGLAS | MISCELLANEOUS QUANTITIES | SHEET | E

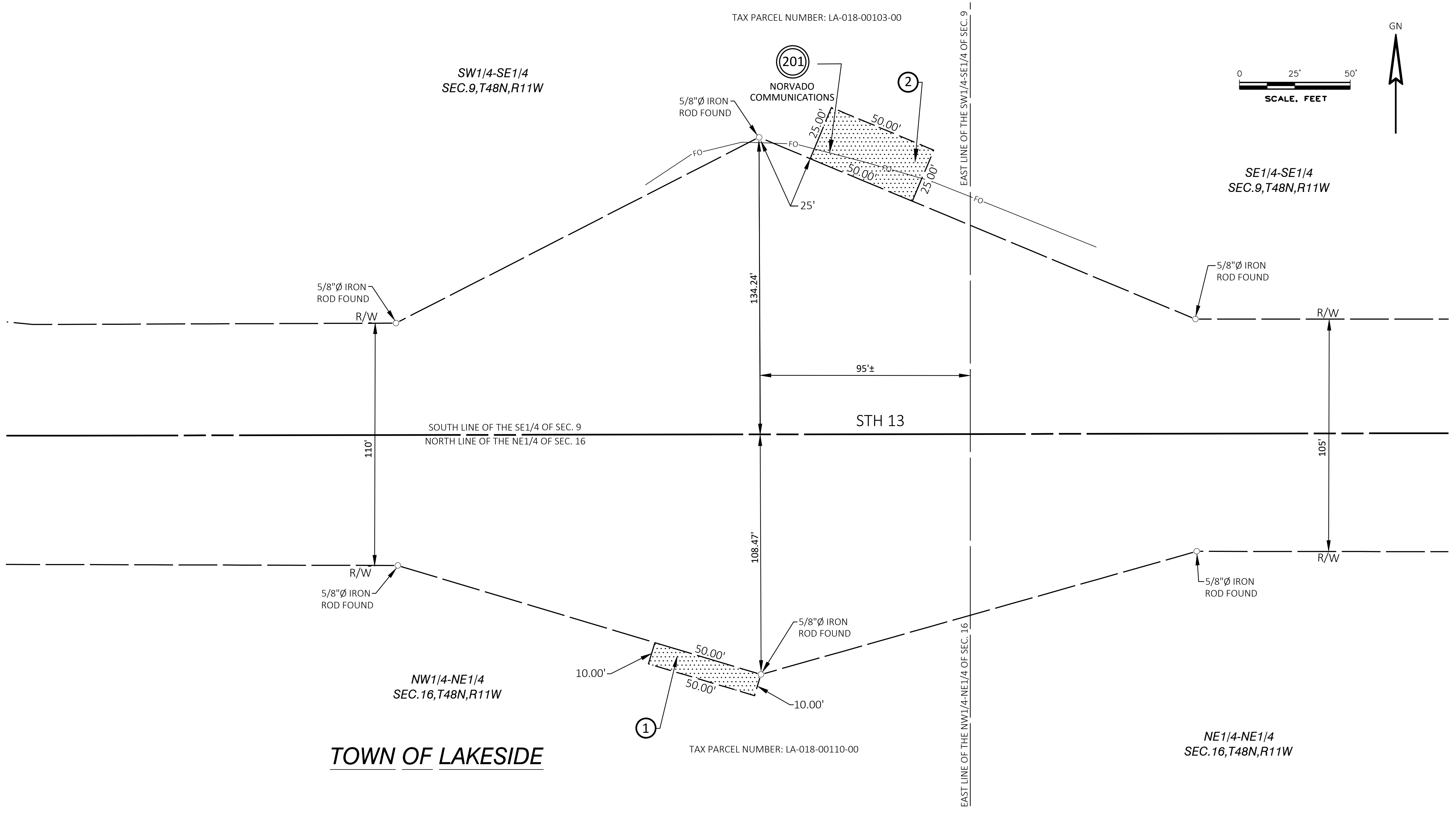
FILE NAME : S:\PROJECTS\W11599 WISDOT STH 13, CTH H TO ENGDAHL ROAD DOUGLAS CO\SHEETSPLAN\DETAILS\85100100_MISC QUANTS.DWG PLOT DATE : 8/2/2022 1:46:36 PM PLOT BY : KARTER ZAJICEK PLOT SCALE : 1" = 1' LAYOUT : LAYOUT 6

NOTES:
THIS EXHIBIT IS A GRAPHIC REPRESENTATION AND IS FOR REFERENCE PURPOSES ONLY.
REFER TO THE CONVEYANCE DOCUMENT FOR PARCEL RELATED DETAILS.
THE PURPOSE OF THE TLE IS FOR CULVERT PIPE CONSTRUCTION.

R/W PROJECT NUMBER: 8510-01-70
EXHIBIT NUMBER: 1

TLE ACQUISITION EXHIBIT
TOWN OF LAKESIDE
PORT WING - SUPERIOR, CTH H - ENGDAHL ROAD
STH 13
DOUGLAS COUNTY

PART OF THE SW1/4-SE1/4 OF SECTION 9 AND PART OF THE NW1/4-NE1/4 OF SECTION 16, ALL IN T48N, R11W, TOWN OF LAKESIDE, DOUGLAS COUNTY, WISCONSIN.



SCHEDULE OF LANDS & INTERESTS REQUIRED

OWNERS NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY AND ARE SUBJECT TO CHANGE PRIOR TO THE TRANSFER OF LAND INTERESTS TO TOWN OF LAKESIDE

PARCEL NUMBER	OWNER(S)	INTEREST REQUIRED	TLE ACRES
1	JAY M. FAUGERSTROM AND DONNA R. FAUGERSTROM, HUSBAND AND WIFE SURVIVORSHIP MARITAL PROPERTY	TLE	0.011
2	JAMES W. AND LAURA L. MOLTER	TLE	0.029

UTILITY INTERESTS REQUIRED

UTILITY NUMBER	UTILITY OWNER	INTEREST REQUIRED
201	NORVADO COMMUNICATIONS	TEMPORARY CONSTRUCTION EASEMENT

UTILITY EASEMENT TABLE

UTILITY NUMBER	UTILITY OWNER	EASEMENT
201	NORVADO COMMUNICATIONS	NO EASEMENT OF RECORD. YEAR OF INSTALLATION WAS 1998. UTILITY HAS EASEMENT BY PRESCRIPTIV

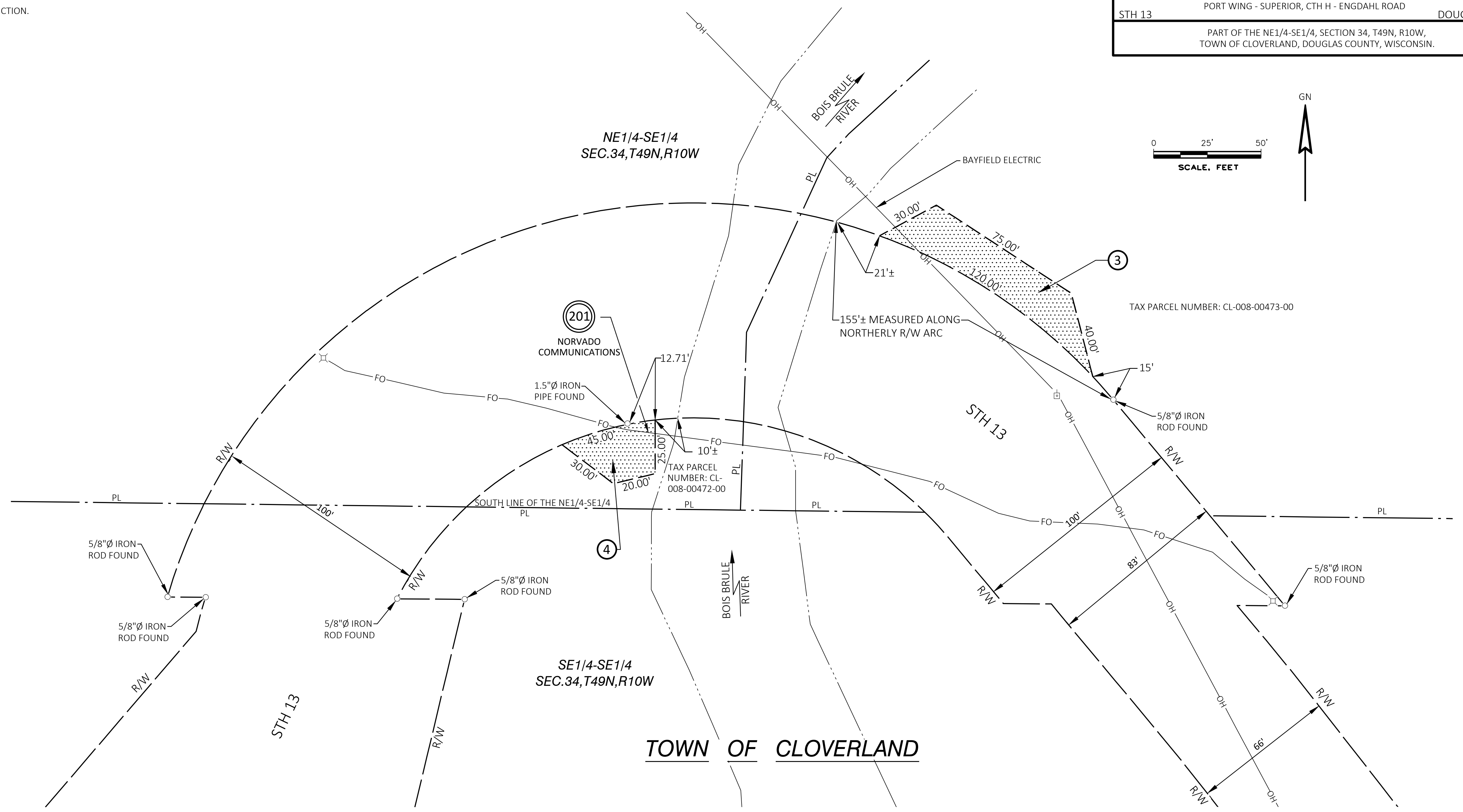
APPRAISAL PLAT DATE:
FILENAME: S:\Projects\W11599 WisDOT STH 13, CTH H to Engdahl Road Douglas Co\RW\W11599 STH 13 TLE exhibit.dwg
PLOT DATE: May 24, 2021
PLOT BY: Kraemer, Wes

NOTES:
THIS EXHIBIT IS A GRAPHIC REPRESENTATION AND IS FOR REFERENCE PURPOSES ONLY.
REFER TO THE CONVEYANCE DOCUMENT FOR PARCEL RELATED DETAILS.
THE PURPOSE OF THE TLE IS FOR CONSTRUCTION.

R/W PROJECT NUMBER: 8510-01-70 | EXHIBIT NUMBER: 2

TLE ACQUISITION EXHIBIT
TOWN OF CLOVERLAND
PORT WING - SUPERIOR, CTH H - ENGDAHL ROAD
STH 13
DOUGLAS COUNTY

PART OF THE NE1/4-SE1/4, SECTION 34, T49N, R10W,
TOWN OF CLOVERLAND, DOUGLAS COUNTY, WISCONSIN.



SCHEDULE OF LANDS & INTERESTS REQUIRED

OWNERS NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY AND ARE SUBJECT TO CHANGE PRIOR TO THE TRANSFER OF LAND INTERESTS TO TOWN OF CLOVERLAND

PARCEL NUMBER	OWNER(S)	INTEREST REQUIRED	TLE ACRES
3	STATE OF WISCONSIN (DEPARTMENT OF NATURAL RESOURCES)	TLE	0.046
4	BRUCE ROBB AND MONICA ROBB, HUSBAND AND WIFE, AS SURVIVORSHIP MARITAL PROPERTY	TLE	0.019

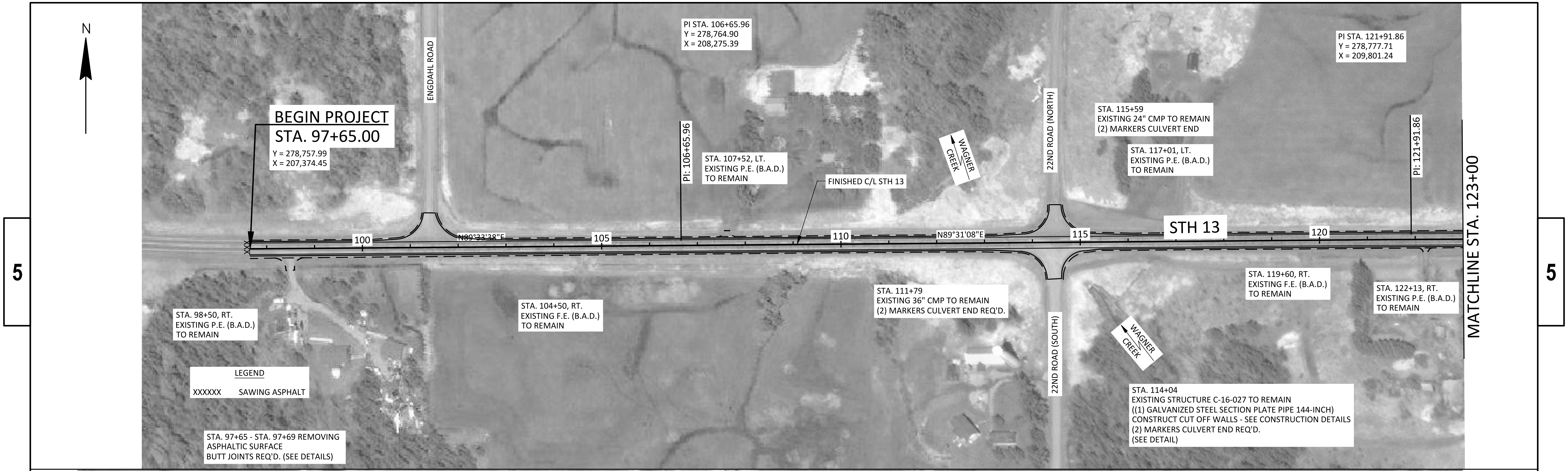
UTILITY INTERESTS REQUIRED

UTILITY NUMBER	UTILITY OWNERS	INTEREST REQUIRED
201	NORVADO COMMUNICATIONS	TEMPORARY CONSTRUCTION EASEMENT

UTILITY EASEMENT TABLE

UTILITY NUMBER	UTILITY OWNER	EASEMENT
201	NORVADO COMMUNICATIONS	NO EASEMENT OF RECORD. YEAR OF INSTALLATION WAS 2011. UTILITY HAS EASEMENT BY PRESCRIPTIVE RIGHTS.

APPRAISAL PLAT DATE:
FILENAME: S:\Projects\W11599 WisDOT STH 13, CTH H to Engdahl Road Douglas Co\RW\W11599 STH 13 TLE exhibit.dwg
PLOT DATE: May 24, 2021
PLOT BY: Kroemer, Wes



BEGIN PROJECT
STA. 97+65.00
Y = 278,757.99
X = 207,374.45

PI STA. 106+65.96
Y = 278,764.90
X = 208,275.39

STA. 107+52, LT.
EXISTING P.E. (B.A.D.)
TO REMAIN

FINISHED C/L STH 13

STA. 115+59
EXISTING 24" CMP TO REMAIN
(2) MARKERS CULVERT END

STA. 117+01, LT.
EXISTING P.E. (B.A.D.)
TO REMAIN

PI STA. 121+91.86
Y = 278,777.71
X = 209,801.24

STA. 98+50, RT.
EXISTING P.E. (B.A.D.)
TO REMAIN

STA. 104+50, RT.
EXISTING F.E. (B.A.D.)
TO REMAIN

STA. 111+79
EXISTING 36" CMP TO REMAIN
(2) MARKERS CULVERT END REQ'D.

STA. 119+60, RT.
EXISTING F.E. (B.A.D.)
TO REMAIN

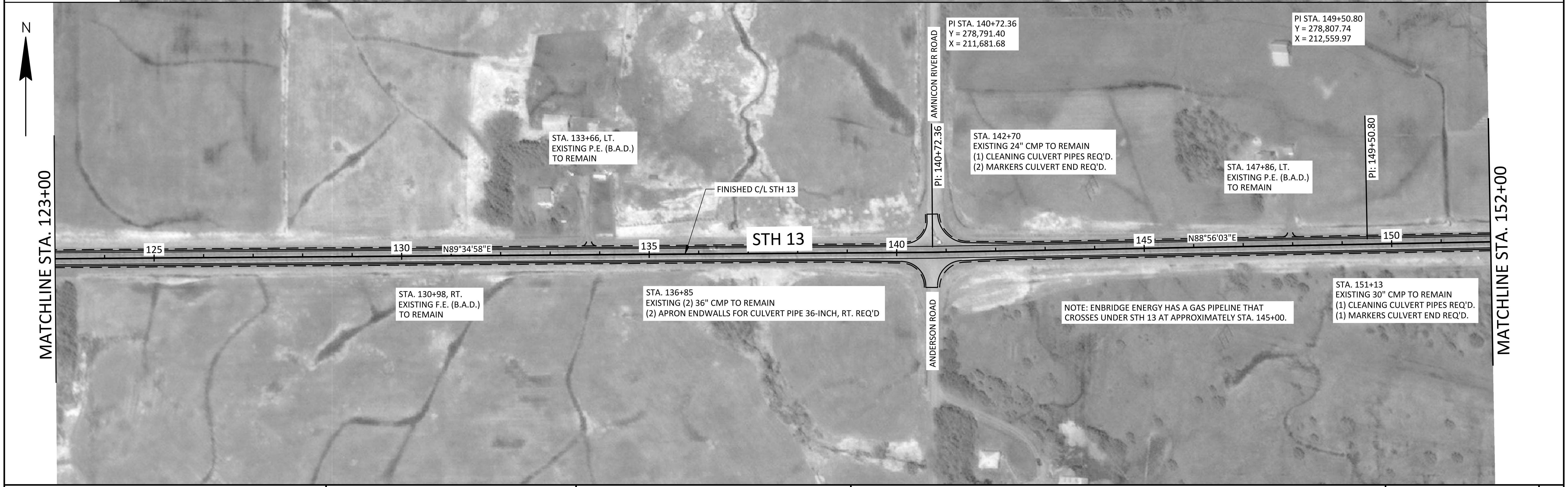
STA. 122+13, RT.
EXISTING P.E. (B.A.D.)
TO REMAIN

LEGEND

XXXXXX	SAWING ASPHALT

STA. 114+04
EXISTING STRUCTURE C-16-027 TO REMAIN
((1) GALVANIZED STEEL SECTION PLATE PIPE 144-INCH)
CONSTRUCT CUT OFF WALLS - SEE CONSTRUCTION DETAILS
(2) MARKERS CULVERT END REQ'D.
(SEE DETAIL)

STA. 97+65 - STA. 97+69 REMOVING
ASPHALTIC SURFACE
BUTT JOINTS REQ'D. (SEE DETAILS)



PI STA. 140+72.36
Y = 278,791.40
X = 211,681.68

PI STA. 149+50.80
Y = 278,807.74
X = 212,559.97

STA. 133+66, LT.
EXISTING P.E. (B.A.D.)
TO REMAIN

STA. 142+70
EXISTING 24" CMP TO REMAIN
(1) CLEANING CULVERT PIPES REQ'D.
(2) MARKERS CULVERT END REQ'D.

STA. 147+86, LT.
EXISTING P.E. (B.A.D.)
TO REMAIN

FINISHED C/L STH 13

STA. 130+98, RT.
EXISTING F.E. (B.A.D.)
TO REMAIN

STA. 136+85
EXISTING (2) 36" CMP TO REMAIN
(2) APRON ENDWALLS FOR CULVERT PIPE 36-INCH, RT. REQ'D

NOTE: ENBRIDGE ENERGY HAS A GAS PIPELINE THAT CROSSES UNDER STH 13 AT APPROXIMATELY STA. 145+00.

STA. 151+13
EXISTING 30" CMP TO REMAIN
(1) CLEANING CULVERT PIPES REQ'D.
(1) MARKERS CULVERT END REQ'D.

PROJECT NO: 8510-01-70	HWY: STH 13	COUNTY: DOUGLAS	PLAN DETAILS	SHEET 117	E

PI STA. 164+95.99
Y = 278,838.36
X = 214,104.85

PI STA. 177+44.68
Y = 278,857.77
X = 215,353.40

STA. 155+17, LT.
EXISTING P.E. (B.A.D.)
TO REMAIN

STA. 170+39
EXISTING 24" CMP TO REMAIN
(1) APRON ENDWALL FOR CULVERT PIPE 24-INCH REQ'D
(1) CLEANING CULVERT PIPES REQ'D.

STA. 175+41, LT.
EXISTING P.E. (B.A.D.)
TO REMAIN

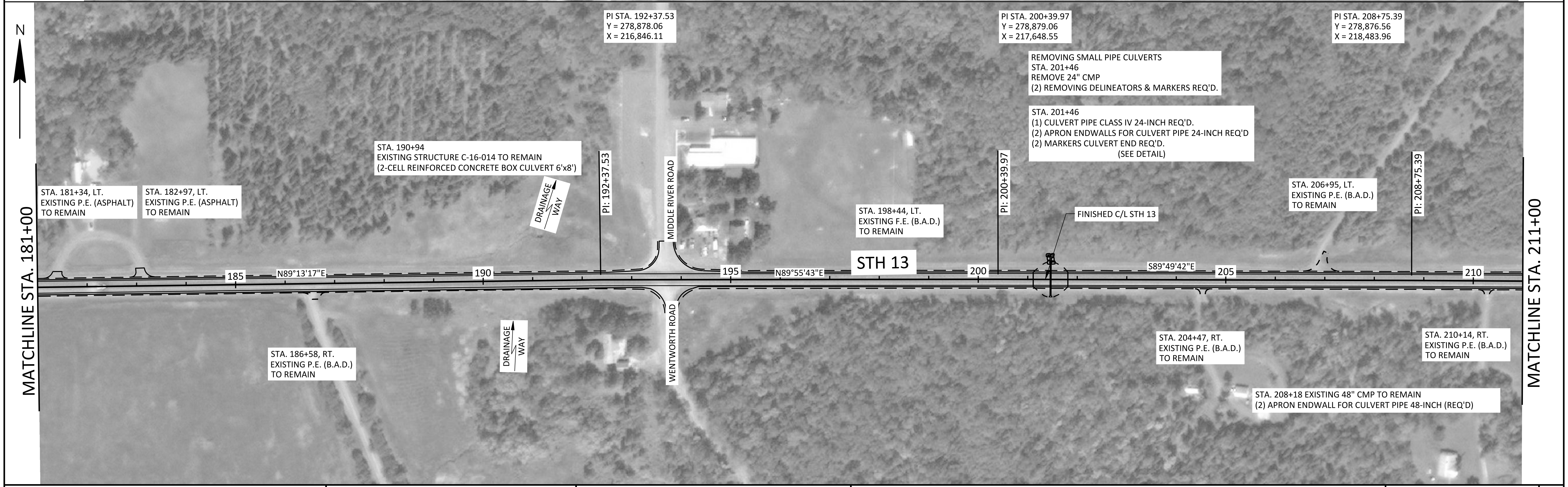
FINISHED C/L STH 13

STA. 161+89, RT.
EXISTING P.E. (B.A.D.)
TO REMAIN

STA. 167+55, RT.
EXISTING F.E. (B.A.D.)
TO REMAIN

STA. 174+90, RT.
EXISTING F.E. (B.A.D.)
TO REMAIN

STA. 180+27
EXISTING 30" CMP TO REMAIN
(2) APRON ENDWALL FOR CULVERT PIPE 30-INCH REQ'D
(1) CLEANING CULVERT PIPES REQ'D.



PI STA. 192+37.53
Y = 278,878.06
X = 216,846.11

PI STA. 200+39.97
Y = 278,879.06
X = 217,648.55

PI STA. 208+75.39
Y = 278,876.56
X = 218,483.96

REMOVING SMALL PIPE CULVERTS
STA. 201+46
REMOVE 24" CMP
(2) REMOVING DELINEATORS & MARKERS REQ'D.

STA. 201+46
(1) CULVERT PIPE CLASS IV 24-INCH REQ'D.
(2) APRON ENDWALLS FOR CULVERT PIPE 24-INCH REQ'D
(2) MARKERS CULVERT END REQ'D.
(SEE DETAIL)

STA. 190+94
EXISTING STRUCTURE C-16-014 TO REMAIN
(2-CELL REINFORCED CONCRETE BOX CULVERT 6'x8')

STA. 181+34, LT.
EXISTING P.E. (ASPHALT)
TO REMAIN

STA. 182+97, LT.
EXISTING P.E. (ASPHALT)
TO REMAIN

STA. 198+44, LT.
EXISTING F.E. (B.A.D.)
TO REMAIN

FINISHED C/L STH 13

STA. 206+95, LT.
EXISTING P.E. (B.A.D.)
TO REMAIN

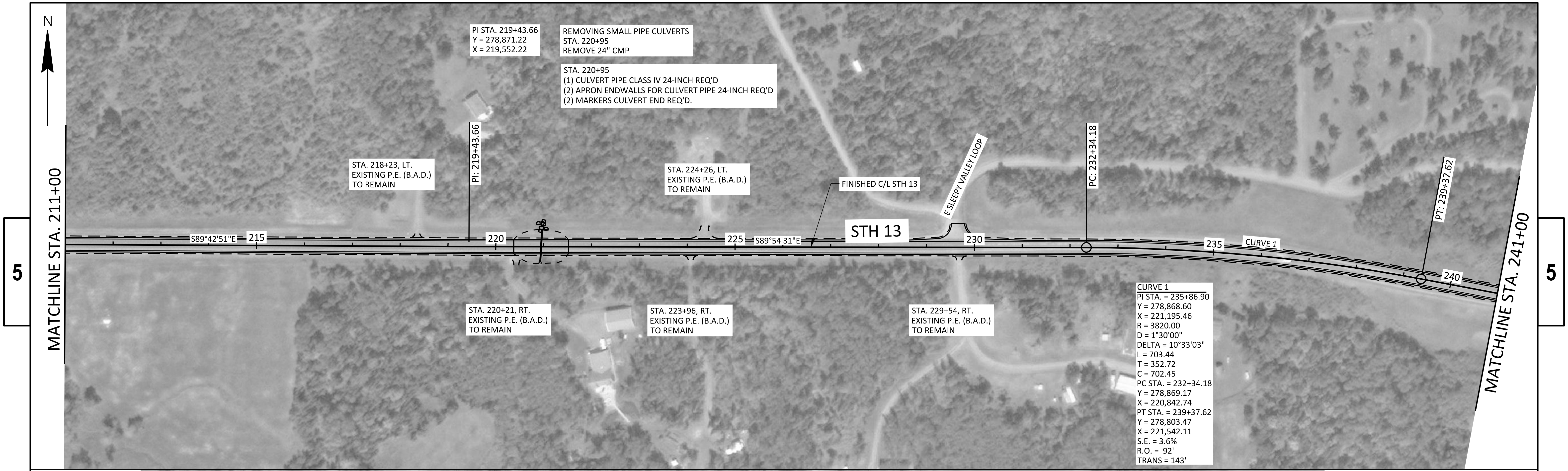
STA. 186+58, RT.
EXISTING P.E. (B.A.D.)
TO REMAIN

STA. 204+47, RT.
EXISTING P.E. (B.A.D.)
TO REMAIN

STA. 210+14, RT.
EXISTING P.E. (B.A.D.)
TO REMAIN

STA. 208+18 EXISTING 48" CMP TO REMAIN
(2) APRON ENDWALL FOR CULVERT PIPE 48-INCH (REQ'D)

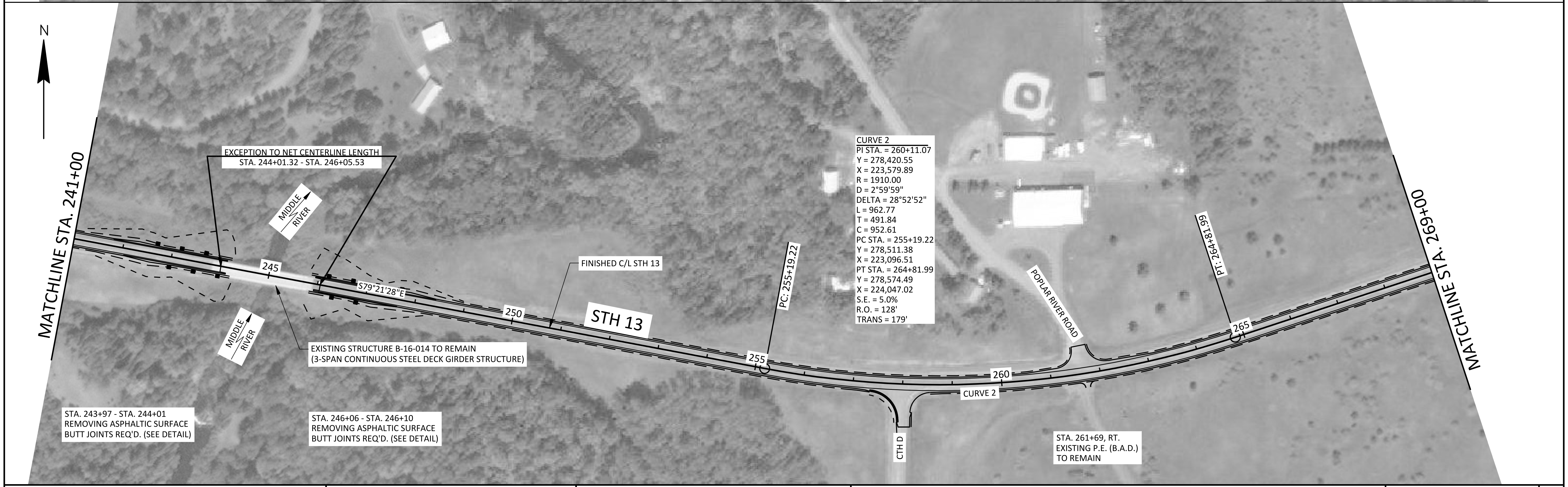
PROJECT NO: 8510-01-70	HWY: STH 13	COUNTY: DOUGLAS	PLAN DETAILS	SHEET 118	E



REMOVING SMALL PIPE CULVERTS
STA. 220+95
REMOVE 24" CMP

STA. 220+95
(1) CULVERT PIPE CLASS IV 24-INCH REQ'D
(2) APRON ENDWALLS FOR CULVERT PIPE 24-INCH REQ'D
(2) MARKERS CULVERT END REQ'D.

CURVE 1
PI STA. = 235+86.90
Y = 278,868.60
X = 221,195.46
R = 3820.00
D = 1°30'00"
DELTA = 10°33'03"
L = 703.44
T = 352.72
C = 702.45
PC STA. = 232+34.18
Y = 278,869.17
X = 220,842.74
PT STA. = 239+37.62
Y = 278,803.47
X = 221,542.11
S.E. = 3.6%
R.O. = 92'
TRANS = 143'



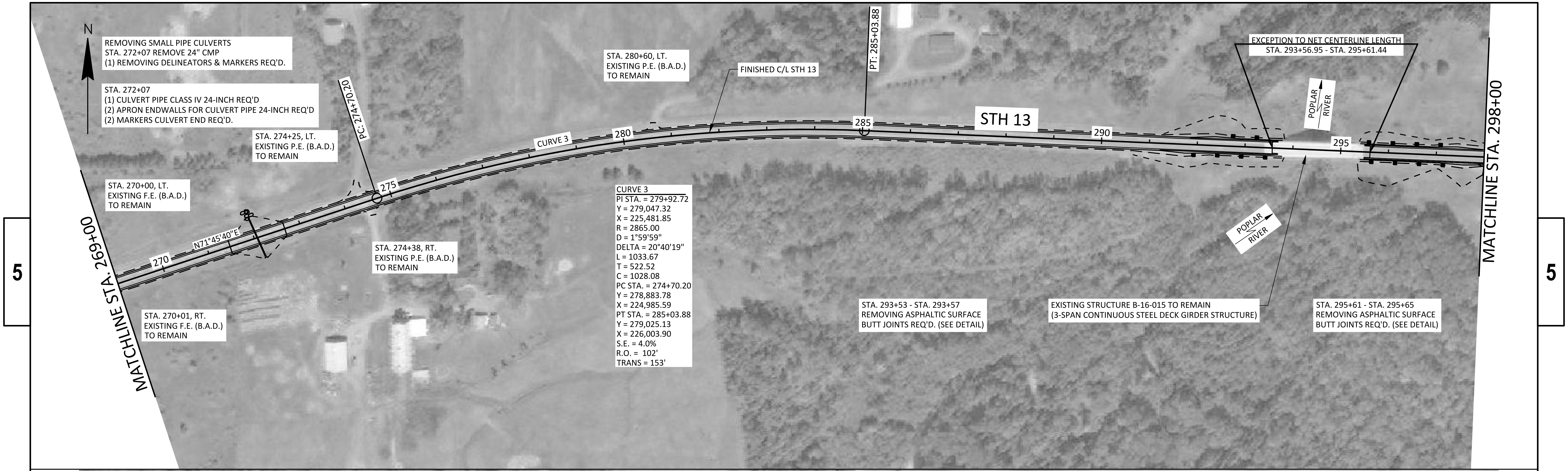
CURVE 2
PI STA. = 260+11.07
Y = 278,420.55
X = 223,579.89
R = 1910.00
D = 2°59'59"
DELTA = 28°52'52"
L = 962.77
T = 491.84
C = 952.61
PC STA. = 255+19.22
Y = 278,511.38
X = 223,096.51
PT STA. = 264+81.99
Y = 278,574.49
X = 224,047.02
S.E. = 5.0%
R.O. = 128'
TRANS = 179'

STA. 243+97 - STA. 244+01
REMOVING ASPHALTIC SURFACE
BUTT JOINTS REQ'D. (SEE DETAIL)

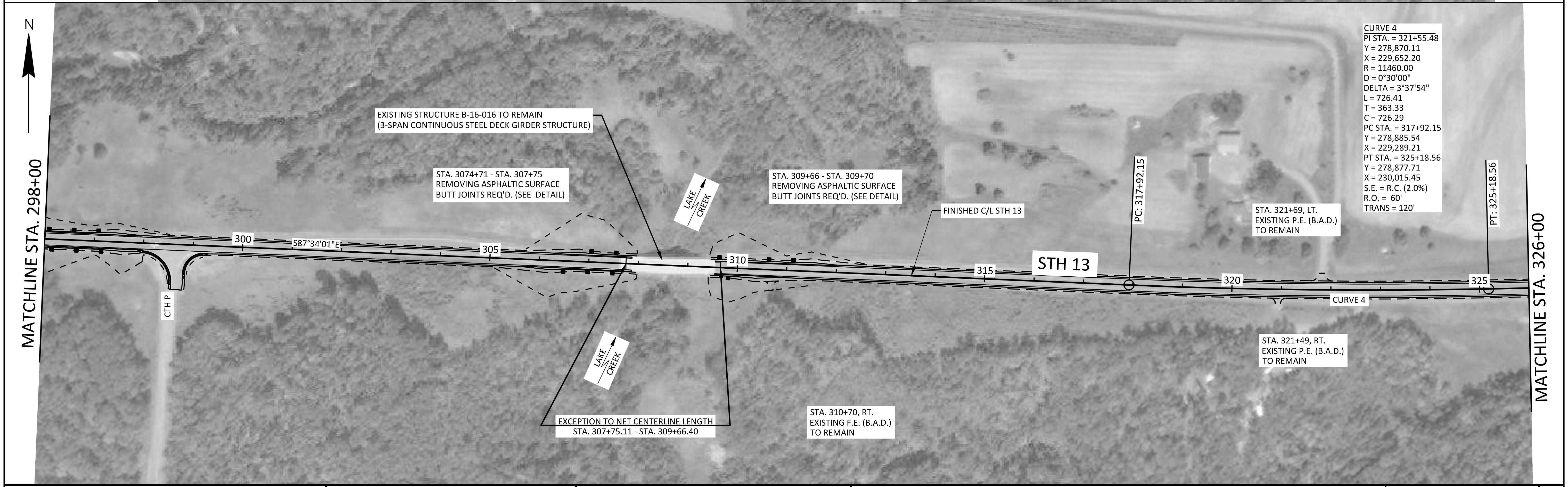
STA. 246+06 - STA. 246+10
REMOVING ASPHALTIC SURFACE
BUTT JOINTS REQ'D. (SEE DETAIL)

PROJECT NO: 8510-01-70	HWY: STH 13	COUNTY: DOUGLAS	PLAN DETAILS	SHEET 119	E

FILE NAME : S:\PROJECTS\W11599 WISDOT STH 13, CTH H TO ENGDAHL ROAD DOUGLAS CO\SHEETSPLAN\PLAN & PROFILE SHEETS\W11599 PLAN SHEETS.DWG PLOT DATE : 2/4/2022 10:15:16 AM PLOT BY : KARTER ZAJICEK PLOT SCALE : 1" = 1' LAYOUT : LAYOUT 3

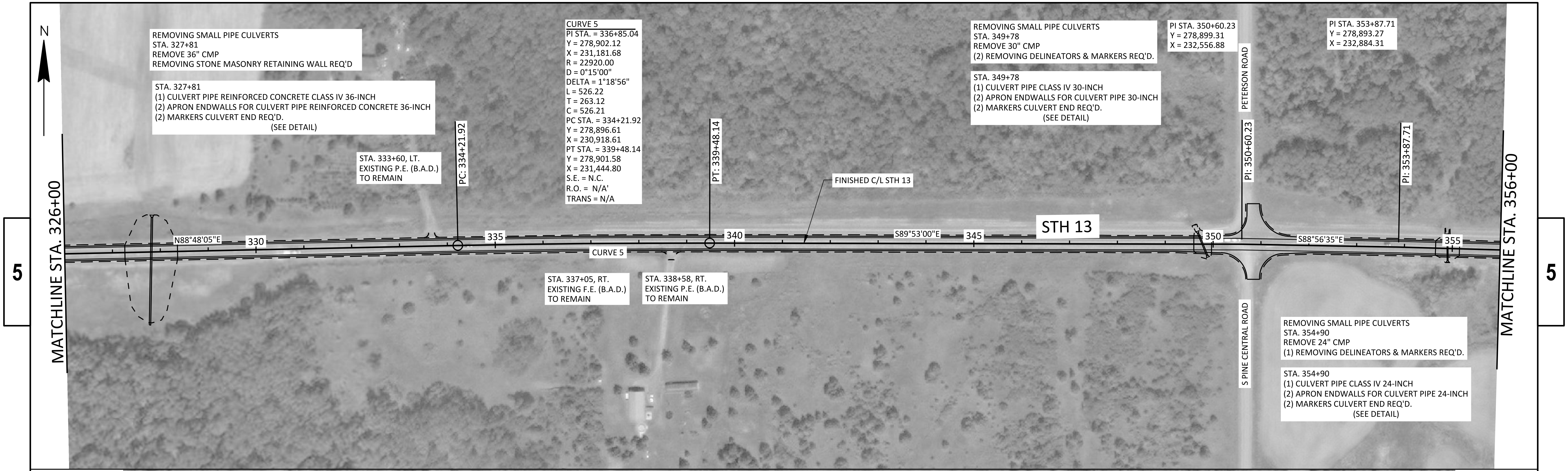


CURVE 3
PI STA. = 279+92.72
Y = 279,047.32
X = 225,481.85
R = 2865.00
D = 1°59'59"
DELTA = 20°40'19"
L = 1033.67
T = 522.52
C = 1028.08
PC STA. = 274+70.20
Y = 278,883.78
X = 224,985.59
PT STA. = 285+03.88
Y = 279,025.13
X = 226,003.90
S.E. = 4.0%
R.O. = 102'
TRANS = 153'



CURVE 4
PI STA. = 321+55.48
Y = 278,870.11
X = 229,652.20
R = 11460.00
D = 0°30'00"
DELTA = 3°37'54"
L = 726.41
T = 363.33
C = 726.29
PC STA. = 317+92.15
Y = 278,885.54
X = 229,289.21
PT STA. = 325+18.56
Y = 278,877.71
X = 230,015.45
S.E. = R.C. (2.0%)
R.O. = 60'
TRANS = 120'

PROJECT NO: 8510-01-70	HWY: STH 13	COUNTY: DOUGLAS	PLAN DETAILS	SHEET 120	E



REMOVING SMALL PIPE CULVERTS
STA. 327+81
REMOVE 36" CMP
REMOVING STONE MASONRY RETAINING WALL REQ'D

STA. 327+81
(1) CULVERT PIPE REINFORCED CONCRETE CLASS IV 36-INCH
(2) APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 36-INCH
(2) MARKERS CULVERT END REQ'D.
(SEE DETAIL)

STA. 333+60, LT.
EXISTING P.E. (B.A.D.)
TO REMAIN

CURVE 5
PI STA. = 336+85.04
Y = 278,902.12
X = 231,181.68
R = 22920.00
D = 0°15'00"
DELTA = 1°18'56"
L = 526.22
T = 263.12
C = 526.21
PC STA. = 334+21.92
Y = 278,896.61
X = 230,918.61
PT STA. = 339+48.14
Y = 278,901.58
X = 231,444.80
S.E. = N.C.
R.O. = N/A'
TRANS = N/A

STA. 337+05, RT.
EXISTING F.E. (B.A.D.)
TO REMAIN

STA. 338+58, RT.
EXISTING P.E. (B.A.D.)
TO REMAIN

REMOVING SMALL PIPE CULVERTS
STA. 349+78
REMOVE 30" CMP
(2) REMOVING DELINEATORS & MARKERS REQ'D.

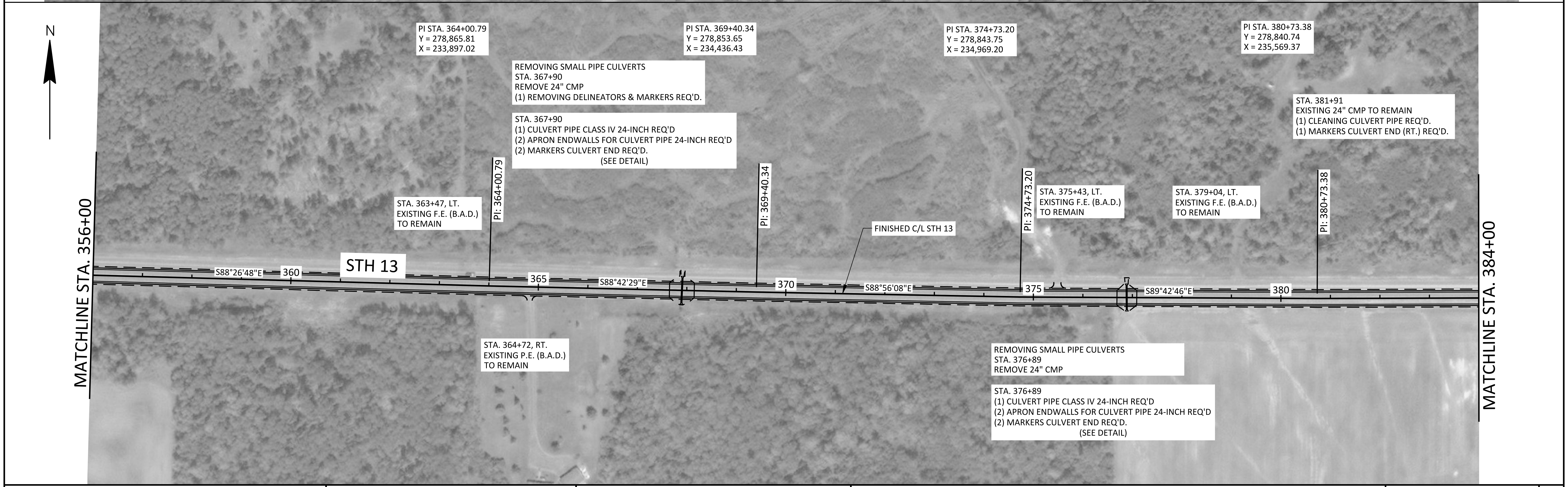
STA. 349+78
(1) CULVERT PIPE CLASS IV 30-INCH
(2) APRON ENDWALLS FOR CULVERT PIPE 30-INCH
(2) MARKERS CULVERT END REQ'D.
(SEE DETAIL)

PI STA. 350+60.23
Y = 278,899.31
X = 232,556.88

PI STA. 353+87.71
Y = 278,893.27
X = 232,884.31

REMOVING SMALL PIPE CULVERTS
STA. 354+90
REMOVE 24" CMP
(1) REMOVING DELINEATORS & MARKERS REQ'D.

STA. 354+90
(1) CULVERT PIPE CLASS IV 24-INCH
(2) APRON ENDWALLS FOR CULVERT PIPE 24-INCH
(2) MARKERS CULVERT END REQ'D.
(SEE DETAIL)



PI STA. 364+00.79
Y = 278,865.81
X = 233,897.02

PI STA. 369+40.34
Y = 278,853.65
X = 234,436.43

PI STA. 374+73.20
Y = 278,843.75
X = 234,969.20

PI STA. 380+73.38
Y = 278,840.74
X = 235,569.37

REMOVING SMALL PIPE CULVERTS
STA. 367+90
REMOVE 24" CMP
(1) REMOVING DELINEATORS & MARKERS REQ'D.

STA. 367+90
(1) CULVERT PIPE CLASS IV 24-INCH REQ'D
(2) APRON ENDWALLS FOR CULVERT PIPE 24-INCH REQ'D
(2) MARKERS CULVERT END REQ'D.
(SEE DETAIL)

STA. 381+91
EXISTING 24" CMP TO REMAIN
(1) CLEANING CULVERT PIPE REQ'D.
(1) MARKERS CULVERT END (RT.) REQ'D.

STA. 363+47, LT.
EXISTING F.E. (B.A.D.)
TO REMAIN

STA. 375+43, LT.
EXISTING F.E. (B.A.D.)
TO REMAIN

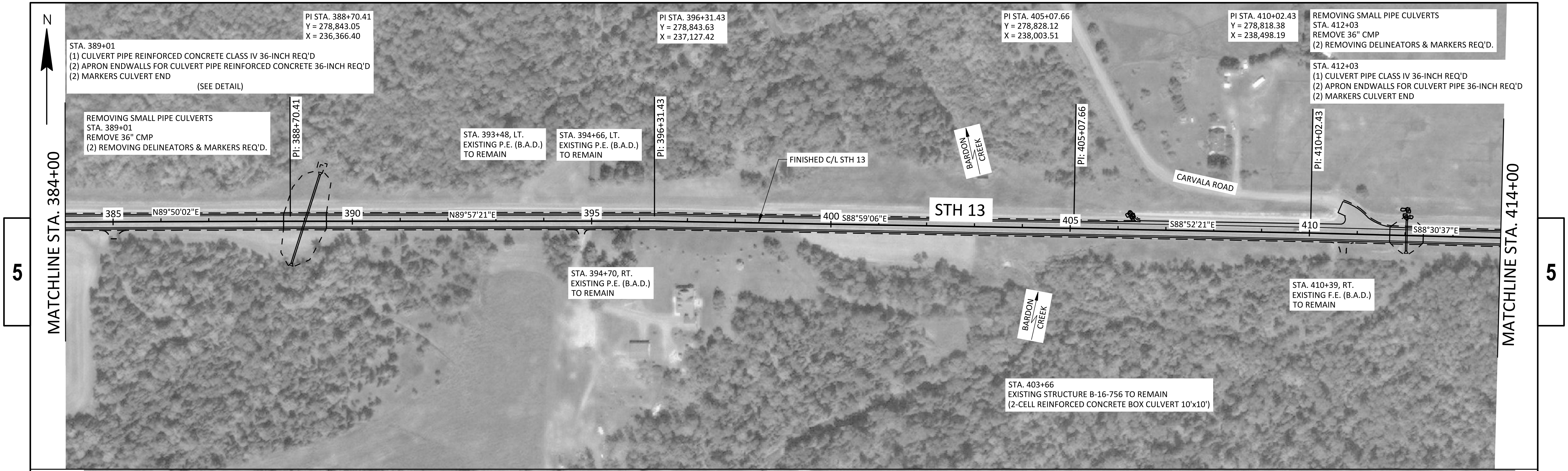
STA. 379+04, LT.
EXISTING F.E. (B.A.D.)
TO REMAIN

STA. 364+72, RT.
EXISTING P.E. (B.A.D.)
TO REMAIN

REMOVING SMALL PIPE CULVERTS
STA. 376+89
REMOVE 24" CMP

STA. 376+89
(1) CULVERT PIPE CLASS IV 24-INCH REQ'D
(2) APRON ENDWALLS FOR CULVERT PIPE 24-INCH REQ'D
(2) MARKERS CULVERT END REQ'D.
(SEE DETAIL)

PROJECT NO: 8510-01-70	HWY: STH 13	COUNTY: DOUGLAS	PLAN DETAILS	SHEET 121	E



PI STA. 388+70.41
Y = 278,843.05
X = 236,366.40

PI STA. 396+31.43
Y = 278,843.63
X = 237,127.42

PI STA. 405+07.66
Y = 278,828.12
X = 238,003.51

PI STA. 410+02.43
Y = 278,818.38
X = 238,498.19

STA. 389+01
(1) CULVERT PIPE REINFORCED CONCRETE CLASS IV 36-INCH REQ'D
(2) APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 36-INCH REQ'D
(2) MARKERS CULVERT END
(SEE DETAIL)

REMOVING SMALL PIPE CULVERTS
STA. 389+01
REMOVE 36" CMP
(2) REMOVING DELINEATORS & MARKERS REQ'D.

STA. 393+48, LT.
EXISTING P.E. (B.A.D.)
TO REMAIN

STA. 394+66, LT.
EXISTING P.E. (B.A.D.)
TO REMAIN

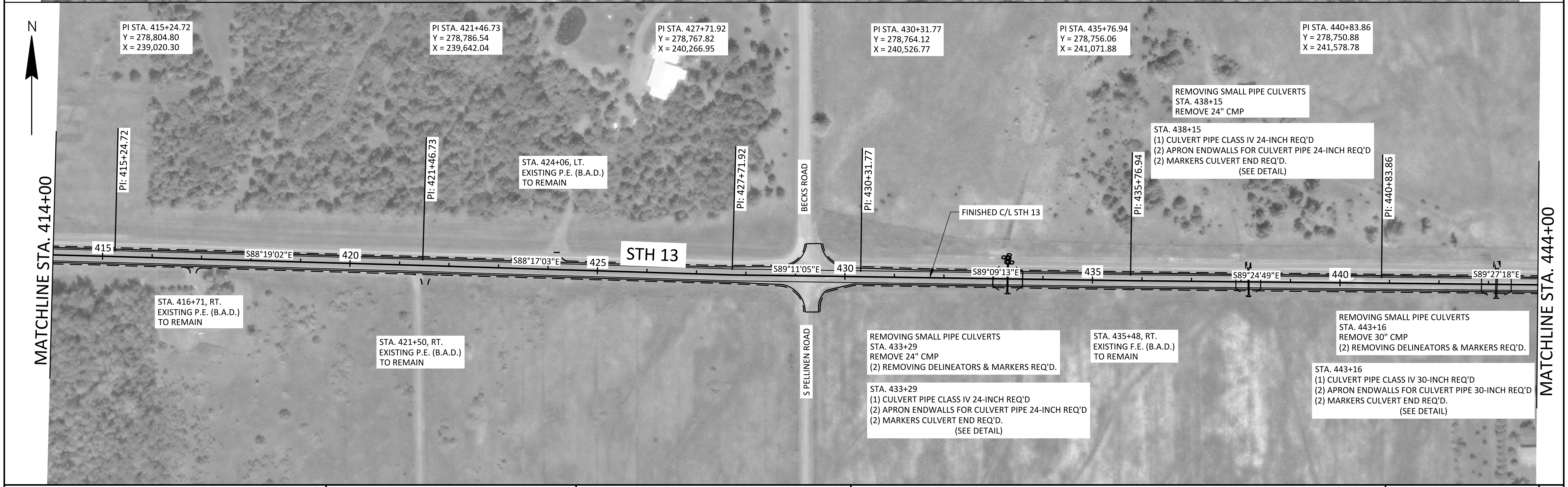
STA. 394+70, RT.
EXISTING P.E. (B.A.D.)
TO REMAIN

REMOVING SMALL PIPE CULVERTS
STA. 412+03
REMOVE 36" CMP
(2) REMOVING DELINEATORS & MARKERS REQ'D.

STA. 412+03
(1) CULVERT PIPE CLASS IV 36-INCH REQ'D
(2) APRON ENDWALLS FOR CULVERT PIPE 36-INCH REQ'D
(2) MARKERS CULVERT END

STA. 410+39, RT.
EXISTING F.E. (B.A.D.)
TO REMAIN

STA. 403+66
EXISTING STRUCTURE B-16-756 TO REMAIN
(2-CELL REINFORCED CONCRETE BOX CULVERT 10'x10')



PI STA. 415+24.72
Y = 278,804.80
X = 239,020.30

PI STA. 421+46.73
Y = 278,786.54
X = 239,642.04

PI STA. 427+71.92
Y = 278,767.82
X = 240,266.95

PI STA. 430+31.77
Y = 278,764.12
X = 240,526.77

PI STA. 435+76.94
Y = 278,756.06
X = 241,071.88

PI STA. 440+83.86
Y = 278,750.88
X = 241,578.78

STA. 424+06, LT.
EXISTING P.E. (B.A.D.)
TO REMAIN

REMOVING SMALL PIPE CULVERTS
STA. 438+15
REMOVE 24" CMP

STA. 438+15
(1) CULVERT PIPE CLASS IV 24-INCH REQ'D
(2) APRON ENDWALLS FOR CULVERT PIPE 24-INCH REQ'D
(2) MARKERS CULVERT END REQ'D.
(SEE DETAIL)

STA. 416+71, RT.
EXISTING P.E. (B.A.D.)
TO REMAIN

STA. 421+50, RT.
EXISTING P.E. (B.A.D.)
TO REMAIN

REMOVING SMALL PIPE CULVERTS
STA. 433+29
REMOVE 24" CMP
(2) REMOVING DELINEATORS & MARKERS REQ'D.

STA. 433+29
(1) CULVERT PIPE CLASS IV 24-INCH REQ'D
(2) APRON ENDWALLS FOR CULVERT PIPE 24-INCH REQ'D
(2) MARKERS CULVERT END REQ'D.
(SEE DETAIL)

STA. 435+48, RT.
EXISTING F.E. (B.A.D.)
TO REMAIN

REMOVING SMALL PIPE CULVERTS
STA. 443+16
REMOVE 30" CMP
(2) REMOVING DELINEATORS & MARKERS REQ'D.

STA. 443+16
(1) CULVERT PIPE CLASS IV 30-INCH REQ'D
(2) APRON ENDWALLS FOR CULVERT PIPE 30-INCH REQ'D
(2) MARKERS CULVERT END REQ'D.
(SEE DETAIL)

PROJECT NO: 8510-01-70	HWY: STH 13	COUNTY: DOUGLAS	PLAN DETAILS	SHEET 122 E

FILE NAME : S:\PROJECTS\W11599 WISDOT STH 13, CTH H TO ENGDAHL ROAD DOUGLAS CO\SHEETSPLAN\PLAN & PROFILE SHEETS\W11599 PLAN SHEETS.DWG PLOT DATE : 2/4/2022 10:15:32 AM PLOT BY : KARTER ZAJICEK PLOT SCALE : 1" = 1' LAYOUT : LAYOUT 6

PI STA. 446+99.99
Y = 278,745.02
X = 242,194.88

PI STA. 450+66.78
Y = 278,742.69
X = 242,561.67

PI STA. 457+46.31
Y = 278,740.67
X = 243,241.19

PI STA. 464+94.88
Y = 278,749.39
X = 243,989.71

REMOVING SMALL PIPE CULVERTS
STA. 455+29
REMOVE 24" CMP

STA. 455+29
(1) CULVERT PIPE CLASS IV 24-INCH REQ'D
(2) APRON ENDWALLS FOR CULVERT PIPE 24-INCH REQ'D
(2) MARKERS CULVERT END REQ'D.

STA. 465+80, LT.
EXISTING F.E. (B.A.D.)
TO REMAIN

STA. 444+53, RT.
EXISTING P.E. (B.A.D.)
TO REMAIN

STA. 465+44, RT.
EXISTING P.E. (B.A.D.)
TO REMAIN

STA. 470+00
EXISTING STRUCTURE C-16-037 TO REMAIN
(2) MARKERS CULVERT END REQ'D.

CURVE 6
PI STA. = 482+45.74
Y = 278,773.17
X = 245,740.41
R = 1430.00
D = 4°00'24"
DELTA = 89°06'43"
L = 2224.08
T = 1408.01
C = 2006.59
PC STA. = 468+37.73
Y = 278,754.05
X = 244,332.53
PT STA. = 490+61.81
Y = 280,181.17
X = 245,743.11
S.E. = 6.4%
R.O. = 154'
TRANS = 202'

STA. 483+66
EXISTING CMP TO REMAIN (SIZE UNKNOWN)
(2) MARKERS CULVERT END REQ'D.

PI STA. 493+84.39
Y = 280,503.75
X = 245,743.73

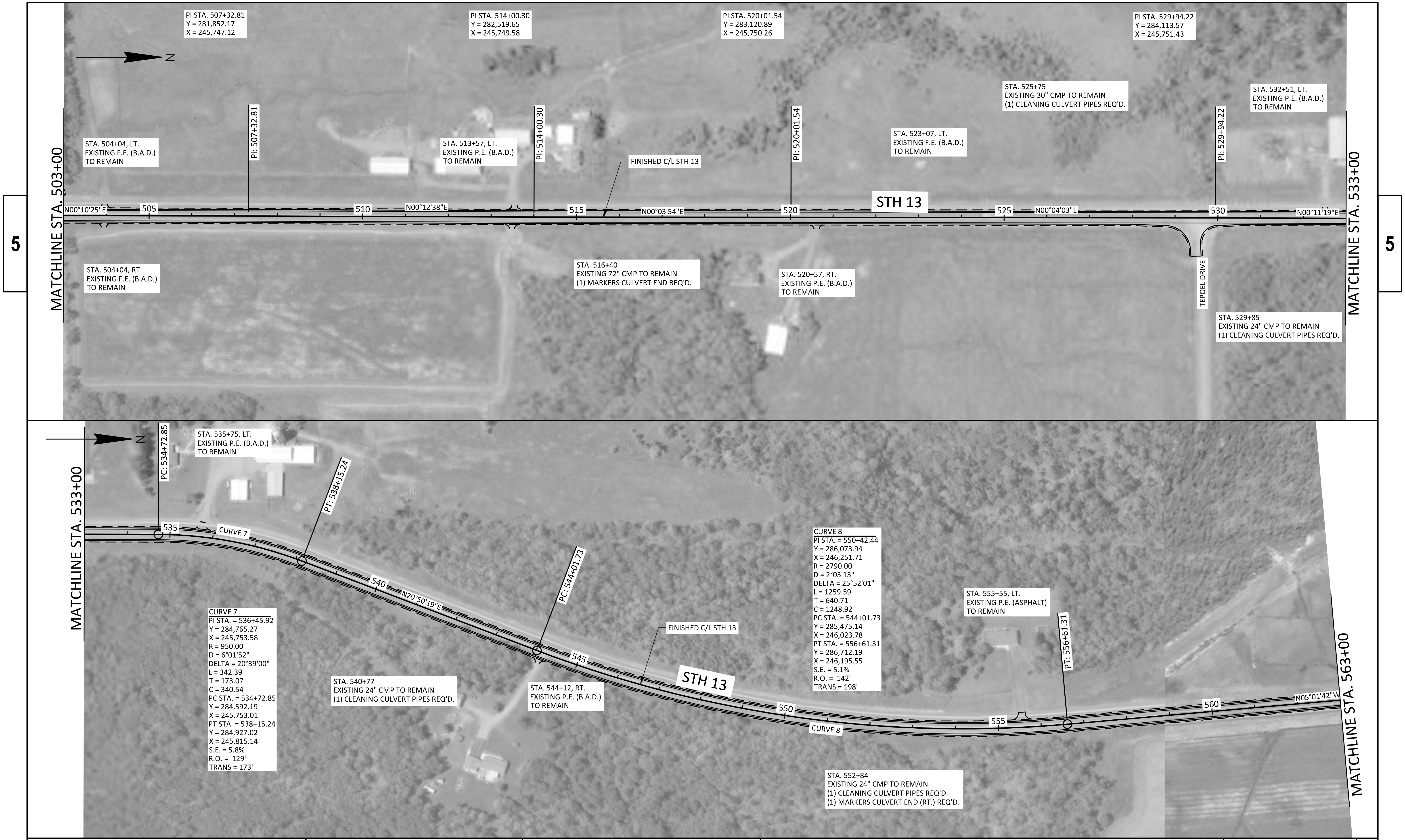
PI STA. 499+68.10
Y = 281,087.46
X = 245,744.81

REMOVING SMALL PIPE CULVERTS
STA. 502+32
REMOVE 24" CMP
(2) REMOVING DELINEATORS & MARKERS REQ'D.

STA. 502+32
(1) CULVERT PIPE CLASS IV 24-INCH REQ'D
(2) APRON ENDWALLS FOR CULVERT PIPE 24-INCH REQ'D
(2) MARKERS CULVERT END REQ'D.
(SEE DETAIL)

STA. 492+45, LT.
EXISTING P.E. (B.A.D.)
TO REMAIN

PROJECT NO: 8510-01-70
HWY: STH 13
COUNTY: DOUGLAS
PLAN DETAILS
SHEET 123
E



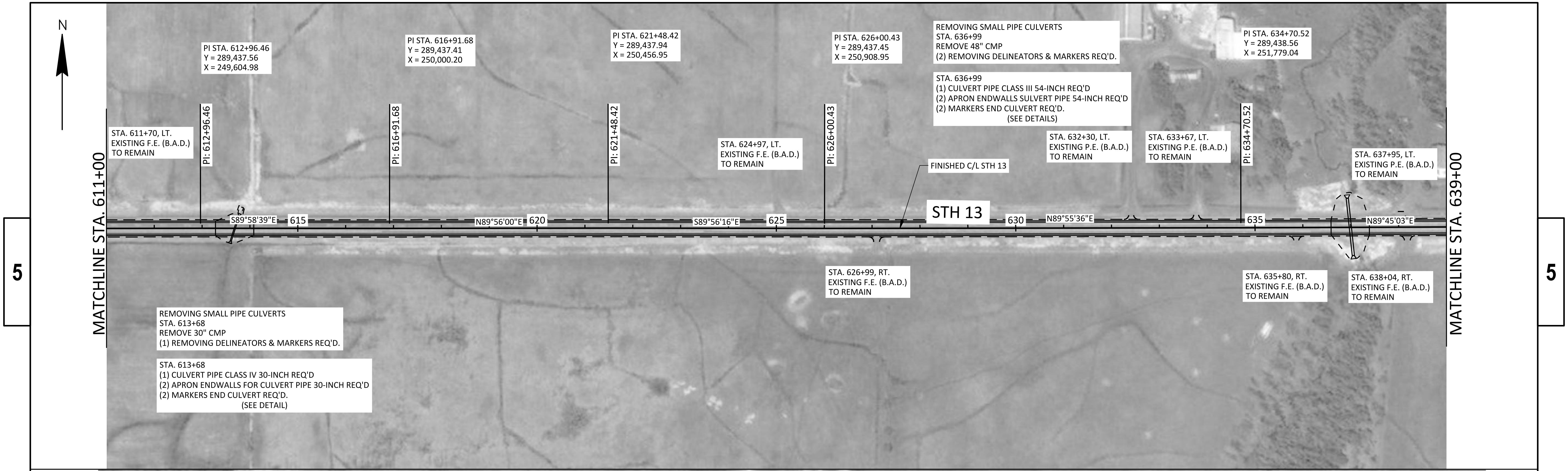
PROJECT NO: 8510-01-70	HWY: STH 13	COUNTY: DOUGLAS	PLAN DETAILS	SHEET	E

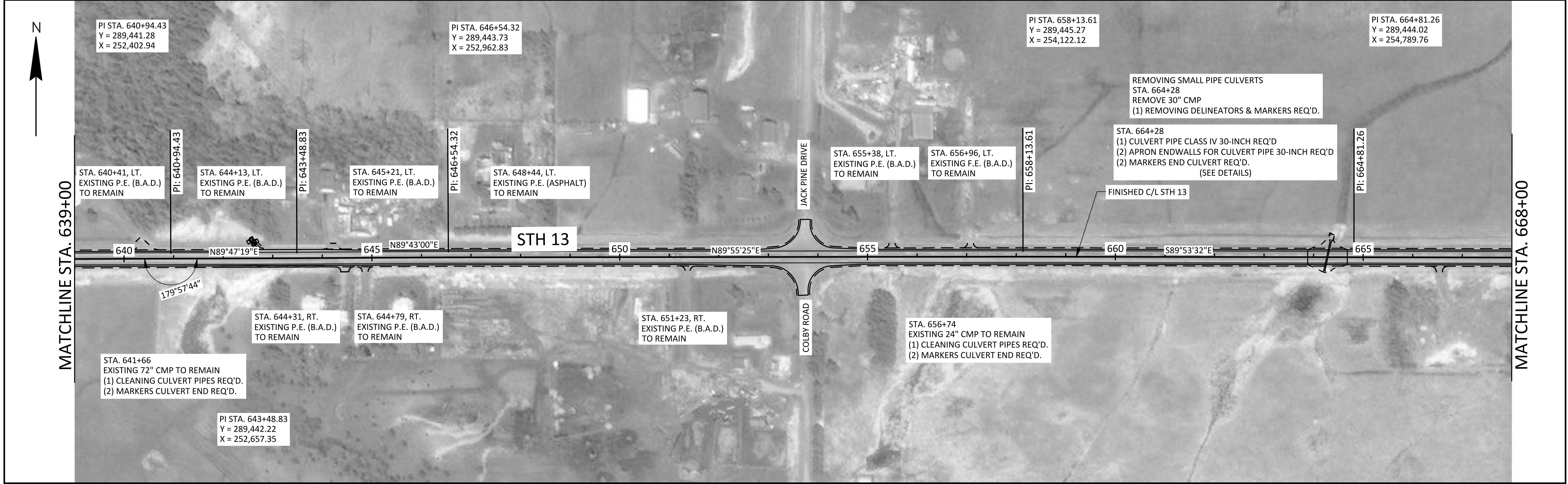
5

5

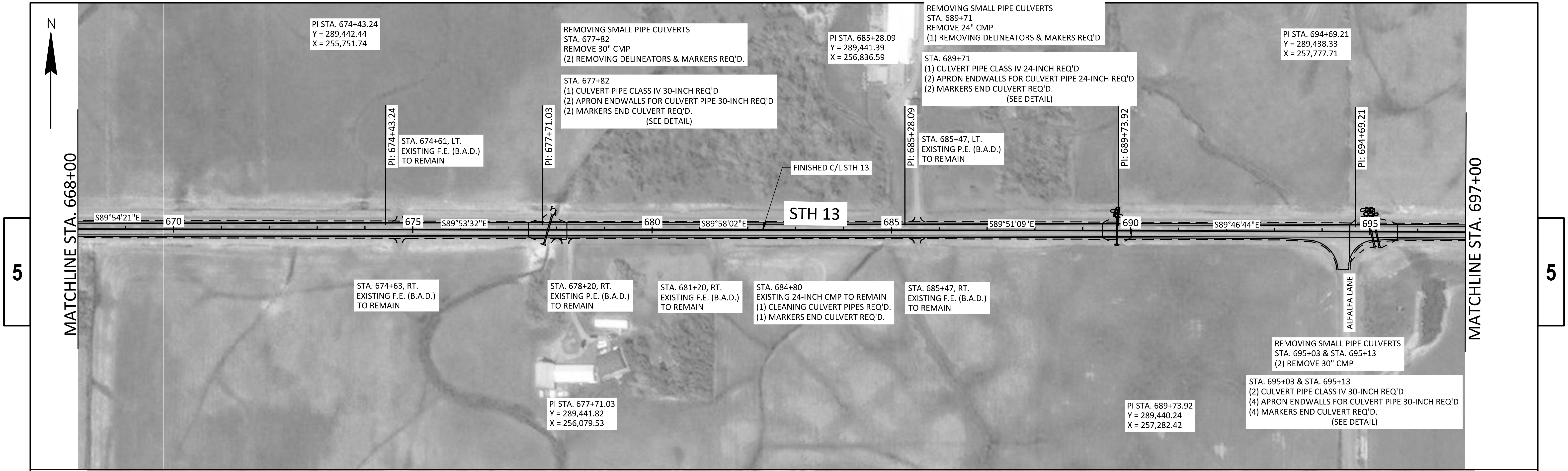
PROJECT NO: 8510-01-70 | HWY: STH 13 | COUNTY: DOUGLAS | PLAN DETAILS | SHEET 125 | E

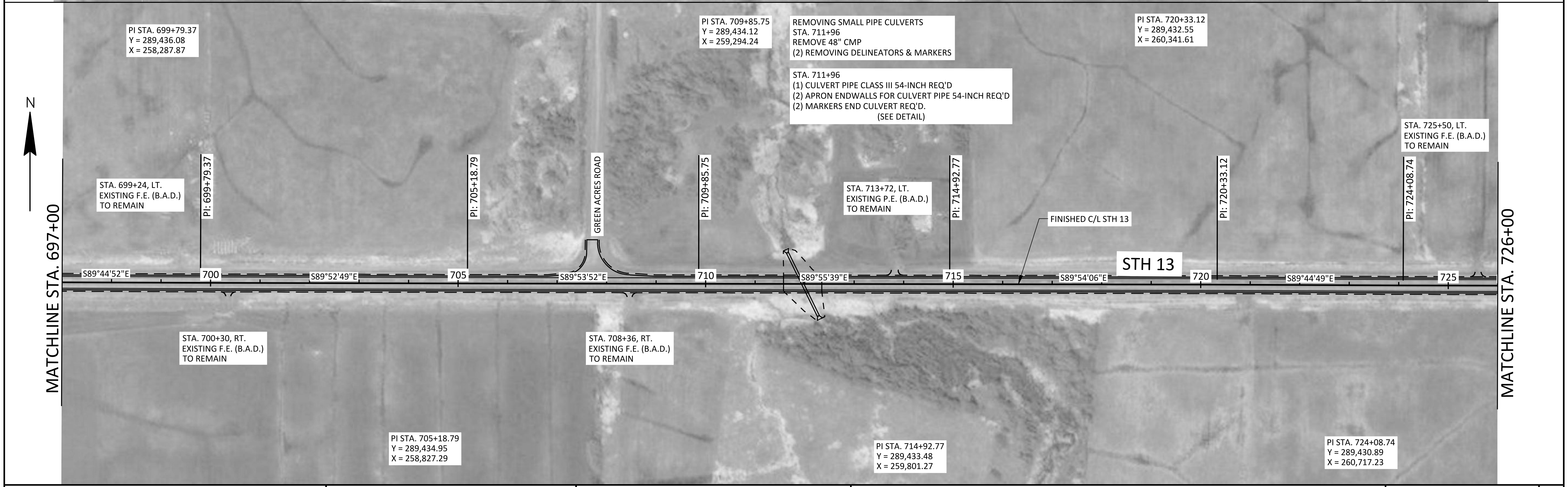
FILE NAME : S:\PROJECTS\W11599 WISDOT STH 13, CTH H TO ENGDAHL ROAD DOUGLAS CO\SHEETSPLAN\PLAN & PROFILE SHEETS\W11599 PLAN SHEETS.DWG PLOT DATE : 2/4/2022 10:15:47 AM PLOT BY : KARTER ZAJICEK PLOT SCALE : 1" = 1' LAYOUT : LAYOUT 9





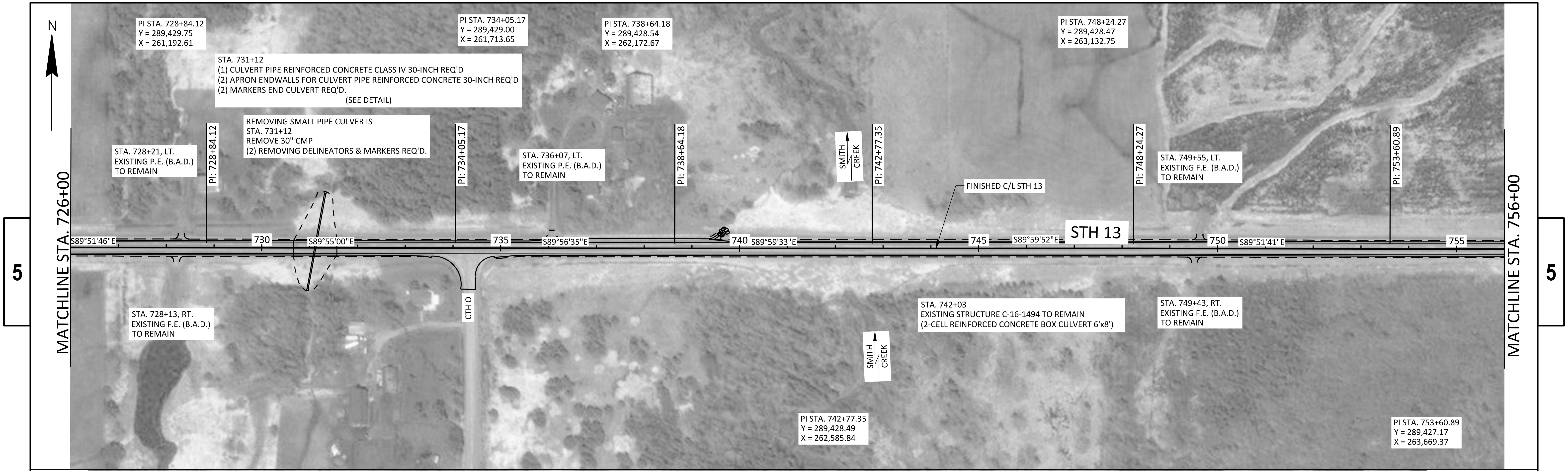
PROJECT NO: 8510-01-70	HWY: STH 13	COUNTY: DOUGLAS	PLAN DETAILS	SHEET 126	E

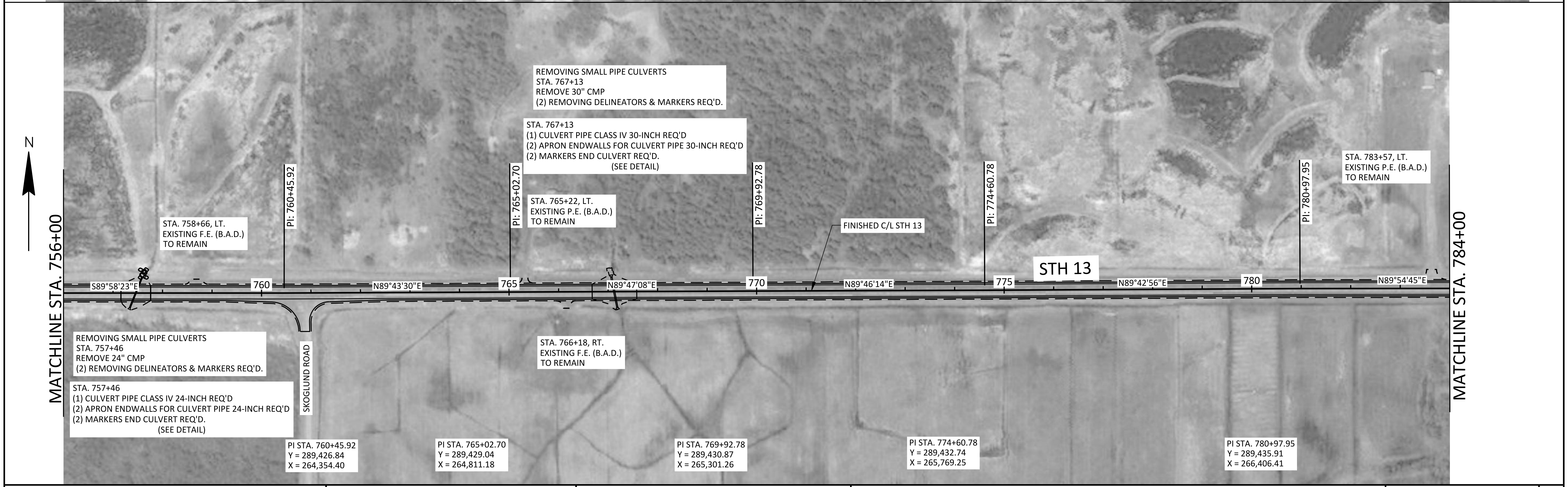




PROJECT NO: 8510-01-70	HWY: STH 13	COUNTY: DOUGLAS	PLAN DETAILS	SHEET 127	E

FILE NAME : S:\PROJECTS\W11599 WISDOT STH 13, CTH H TO ENGDAHL ROAD DOUGLAS CO\SHEETSPLAN\PLAN & PROFILE SHEETS\W11599 PLAN SHEETS.DWG PLOT DATE : 2/4/2022 10:15:57 AM PLOT BY : KARTER ZAJICEK PLOT SCALE : 1" = 1' LAYOUT : LAYOUT 11





PROJECT NO: 8510-01-70	HWY: STH 13	COUNTY: DOUGLAS	PLAN DETAILS	SHEET 128	E

STA. 791+96
EXISTING 24" CMP TO REMAIN
(1) CLEANING CULVERT PIPES REQ'D.
(1) MARKERS CULVERT END REQ'D.

STA. 803+35
EXISTING 24" CMP TO REMAIN

STA. 785+21, RT.
EXISTING P.E. (B.A.D.)
TO REMAIN

REMOVING SMALL PIPE CULVERTS
STA. 787+60
REMOVE 48" CMP
(2) REMOVING DELINEATORS & MARKERS REQ'D.

STA. 787+60
(1) PIPE ARCH CORRUGATED STEEL 83X57-INCH REQ'D
(2) APRON ENDWALLS FOR PIPE ARCH CORRUGATED STEEL 83X57-INCH REQ'D
(2) MARKERS END CULVERT REQ'D.
(SEE DETAIL)

PI STA. 786+49.45
Y = 289,436.75
X = 266,957.92

PI STA. 788+85.83
Y = 289,436.10
X = 267,194.29

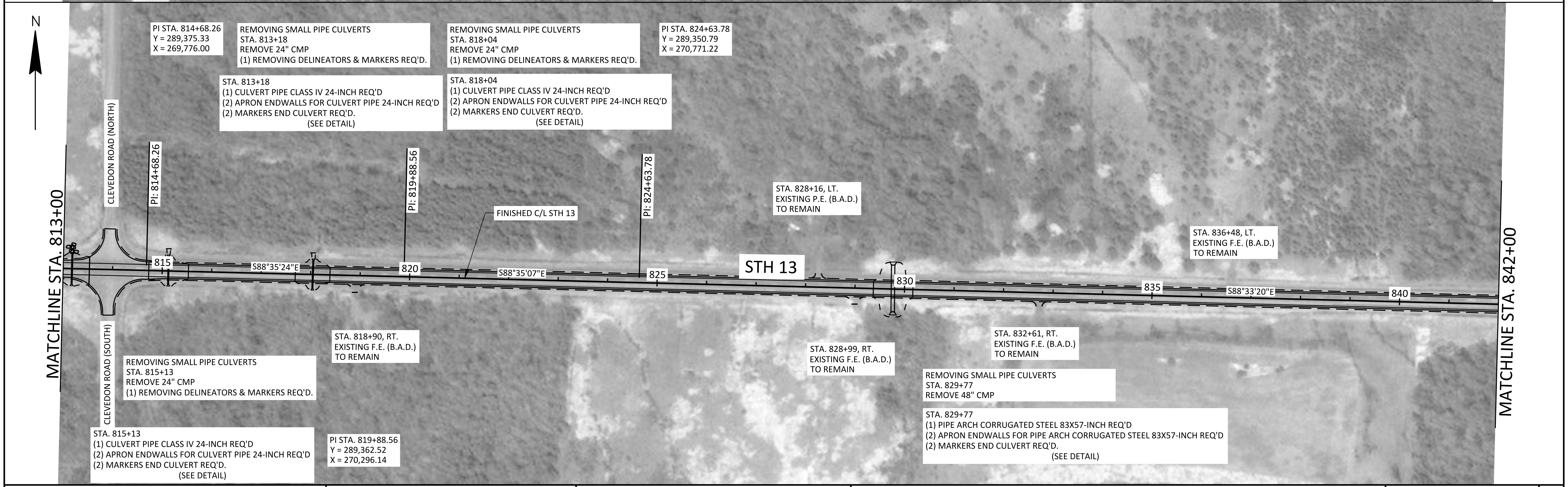
PI STA. 790+40.46
Y = 289,434.15
X = 267,348.91

PI STA. 794+81.01
Y = 289,423.74
X = 267,789.34

PI STA. 800+34.07
Y = 289,410.23
X = 268,342.23

PI STA. 804+91.16
Y = 289,398.54
X = 268,799.17

PI STA. 810+26.39
Y = 289,386.05
X = 269,334.26



PI STA. 814+68.26
Y = 289,375.33
X = 269,776.00

REMOVING SMALL PIPE CULVERTS
STA. 813+18
REMOVE 24" CMP
(1) REMOVING DELINEATORS & MARKERS REQ'D.

STA. 813+18
(1) CULVERT PIPE CLASS IV 24-INCH REQ'D
(2) APRON ENDWALLS FOR CULVERT PIPE 24-INCH REQ'D
(2) MARKERS END CULVERT REQ'D.
(SEE DETAIL)

REMOVING SMALL PIPE CULVERTS
STA. 818+04
REMOVE 24" CMP
(1) REMOVING DELINEATORS & MARKERS REQ'D.

STA. 818+04
(1) CULVERT PIPE CLASS IV 24-INCH REQ'D
(2) APRON ENDWALLS FOR CULVERT PIPE 24-INCH REQ'D
(2) MARKERS END CULVERT REQ'D.
(SEE DETAIL)

PI STA. 824+63.78
Y = 289,350.79
X = 270,771.22

STA. 828+16, LT.
EXISTING P.E. (B.A.D.)
TO REMAIN

STA. 836+48, LT.
EXISTING F.E. (B.A.D.)
TO REMAIN

STA. 818+90, RT.
EXISTING F.E. (B.A.D.)
TO REMAIN

REMOVING SMALL PIPE CULVERTS
STA. 815+13
REMOVE 24" CMP
(1) REMOVING DELINEATORS & MARKERS REQ'D.

STA. 815+13
(1) CULVERT PIPE CLASS IV 24-INCH REQ'D
(2) APRON ENDWALLS FOR CULVERT PIPE 24-INCH REQ'D
(2) MARKERS END CULVERT REQ'D.
(SEE DETAIL)

PI STA. 819+88.56
Y = 289,362.52
X = 270,296.14

STA. 828+99, RT.
EXISTING F.E. (B.A.D.)
TO REMAIN

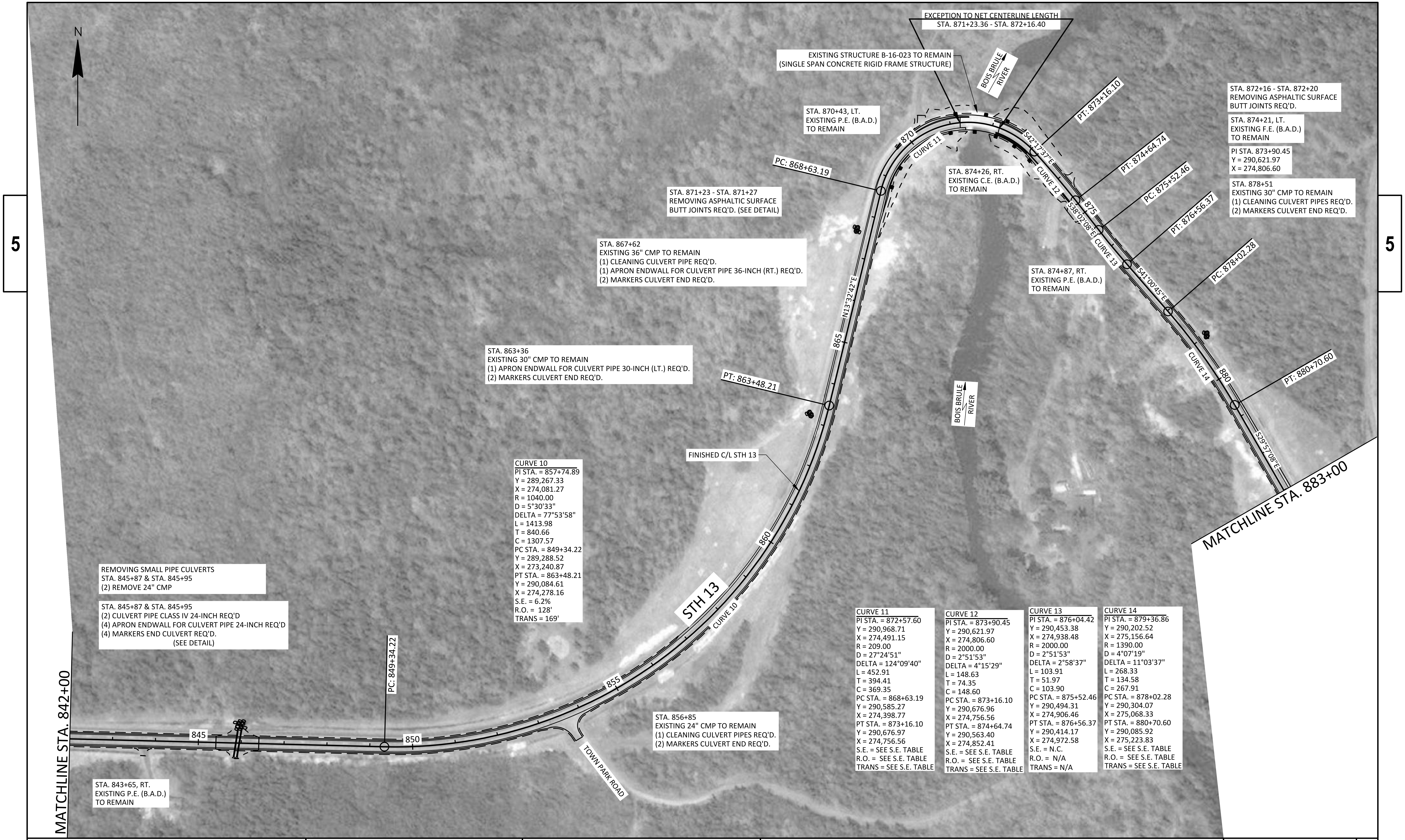
STA. 832+61, RT.
EXISTING F.E. (B.A.D.)
TO REMAIN

REMOVING SMALL PIPE CULVERTS
STA. 829+77
REMOVE 48" CMP

STA. 829+77
(1) PIPE ARCH CORRUGATED STEEL 83X57-INCH REQ'D
(2) APRON ENDWALLS FOR PIPE ARCH CORRUGATED STEEL 83X57-INCH REQ'D
(2) MARKERS END CULVERT REQ'D.
(SEE DETAIL)

PROJECT NO: 8510-01-70	HWY: STH 13	COUNTY: DOUGLAS	PLAN DETAILS	SHEET	E

FILE NAME : S:\PROJECTS\W11599 WISDOT STH 13, CTH H TO ENGDAHL ROAD DOUGLAS CO\SHEETSPLAN\PLAN & PROFILE SHEETS\W11599 PLAN SHEETS.DWG
PLOT DATE : 2/4/2022 10:16:07 AM
PLOT BY : KARTER ZAJICEK
PLOT SCALE : 1" = 1'
LAYOUT : LAYOUT 13



EXCEPTION TO NET CENTERLINE LENGTH
STA. 871+23.36 - STA. 872+16.40

EXISTING STRUCTURE B-16-023 TO REMAIN
(SINGLE SPAN CONCRETE RIGID FRAME STRUCTURE)

STA. 870+43, LT.
EXISTING P.E. (B.A.D.)
TO REMAIN

STA. 872+16 - STA. 872+20
REMOVING ASPHALTIC SURFACE
BUTT JOINTS REQ'D.

STA. 874+21, LT.
EXISTING F.E. (B.A.D.)
TO REMAIN

PI STA. 873+90.45
Y = 290,621.97
X = 274,806.60

STA. 874+26, RT.
EXISTING C.E. (B.A.D.)
TO REMAIN

STA. 871+23 - STA. 871+27
REMOVING ASPHALTIC SURFACE
BUTT JOINTS REQ'D. (SEE DETAIL)

STA. 878+51
EXISTING 30" CMP TO REMAIN
(1) CLEANING CULVERT PIPES REQ'D.
(2) MARKERS CULVERT END REQ'D.

STA. 867+62
EXISTING 36" CMP TO REMAIN
(1) CLEANING CULVERT PIPE REQ'D.
(1) APRON ENDWALL FOR CULVERT PIPE 36-INCH (RT.) REQ'D.
(2) MARKERS CULVERT END REQ'D.

STA. 874+87, RT.
EXISTING P.E. (B.A.D.)
TO REMAIN

STA. 863+36
EXISTING 30" CMP TO REMAIN
(1) APRON ENDWALL FOR CULVERT PIPE 30-INCH (LT.) REQ'D.
(2) MARKERS CULVERT END REQ'D.

CURVE 10
PI STA. = 857+74.89
Y = 289,267.33
X = 274,081.27
R = 1040.00
D = 5°30'33"
DELTA = 77°53'58"
L = 1413.98
T = 840.66
C = 1307.57
PC STA. = 849+34.22
Y = 289,288.52
X = 273,240.87
PT STA. = 863+48.21
Y = 290,084.61
X = 274,278.16
S.E. = 6.2%
R.O. = 128'
TRANS = 169'

REMOVING SMALL PIPE CULVERTS
STA. 845+87 & STA. 845+95
(2) REMOVE 24" CMP

STA. 845+87 & STA. 845+95
(2) CULVERT PIPE CLASS IV 24-INCH REQ'D
(4) APRON ENDWALL FOR CULVERT PIPE 24-INCH REQ'D
(4) MARKERS END CULVERT REQ'D.
(SEE DETAIL)

STA. 856+85
EXISTING 24" CMP TO REMAIN
(1) CLEANING CULVERT PIPES REQ'D.
(2) MARKERS CULVERT END REQ'D.

STA. 843+65, RT.
EXISTING P.E. (B.A.D.)
TO REMAIN

CURVE 11
PI STA. = 872+57.60
Y = 290,968.71
X = 274,491.15
R = 209.00
D = 27°24'51"
DELTA = 124°09'40"
L = 452.91
T = 394.41
C = 369.35
PC STA. = 868+63.19
Y = 290,585.27
X = 274,398.77
PT STA. = 873+16.10
Y = 290,676.97
X = 274,756.56
S.E. = SEE S.E. TABLE
R.O. = SEE S.E. TABLE
TRANS = SEE S.E. TABLE

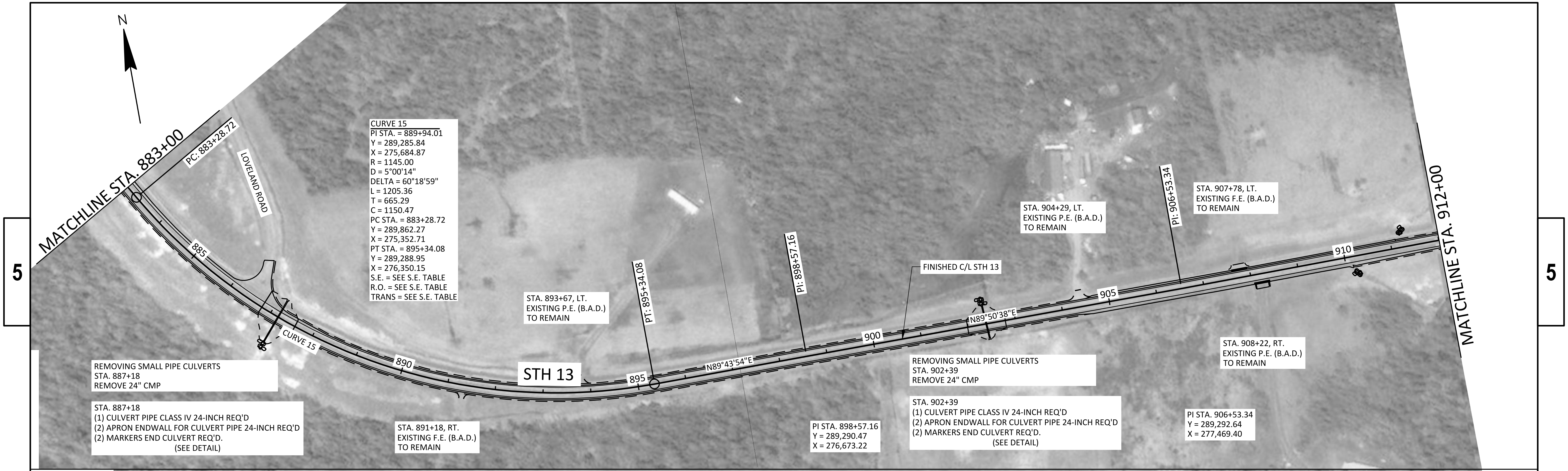
CURVE 12
PI STA. = 873+90.45
Y = 290,621.97
X = 274,806.60
R = 2000.00
D = 2°51'53"
DELTA = 4°15'29"
L = 148.63
T = 74.35
C = 148.60
PC STA. = 873+16.10
Y = 290,676.96
X = 274,756.56
PT STA. = 874+64.74
Y = 290,563.40
X = 274,852.41
S.E. = SEE S.E. TABLE
R.O. = SEE S.E. TABLE
TRANS = SEE S.E. TABLE

CURVE 13
PI STA. = 876+04.42
Y = 290,453.38
X = 274,938.48
R = 2000.00
D = 2°51'53"
DELTA = 2°58'37"
L = 103.91
T = 51.97
C = 103.90
PC STA. = 875+52.46
Y = 290,494.31
X = 274,906.46
PT STA. = 876+56.37
Y = 290,414.17
X = 274,972.58
S.E. = N.C.
R.O. = N/A
TRANS = N/A

CURVE 14
PI STA. = 879+36.86
Y = 290,202.52
X = 275,156.64
R = 1390.00
D = 4°07'19"
DELTA = 11°03'37"
L = 268.33
T = 134.58
C = 267.91
PC STA. = 878+02.28
Y = 290,304.07
X = 275,068.33
PT STA. = 880+70.60
Y = 290,085.92
X = 275,223.83
S.E. = SEE S.E. TABLE
R.O. = SEE S.E. TABLE
TRANS = SEE S.E. TABLE

PROJECT NO: 8510-01-70 | HWY: STH 13 | COUNTY: DOUGLAS | PLAN DETAILS | SHEET | E

FILE NAME : S:\PROJECTS\W11599 WISDOT STH 13, CTH H TO ENGDAHL ROAD DOUGLAS CO\SHEETSPLAN\PLAN & PROFILE SHEETS\W11599 PLAN SHEETS.DWG PLOT DATE : 2/4/2022 10:16:10 AM PLOT BY : KARTER ZAJICEK PLOT SCALE : 1" = 1' LAYOUT : LAYOUT 14



CURVE 15
PI STA. = 889+94.01
Y = 289,285.84
X = 275,684.87
R = 1145.00
D = 5°00'14"
DELTA = 60°18'59"
L = 1205.36
T = 665.29
C = 1150.47
PC STA. = 883+28.72
Y = 289,862.27
X = 275,352.71
PT STA. = 895+34.08
Y = 289,288.95
X = 276,350.15
S.E. = SEE S.E. TABLE
R.O. = SEE S.E. TABLE
TRANS = SEE S.E. TABLE

STA. 893+67, LT.
EXISTING P.E. (B.A.D.)
TO REMAIN

STA. 904+29, LT.
EXISTING P.E. (B.A.D.)
TO REMAIN

STA. 907+78, LT.
EXISTING F.E. (B.A.D.)
TO REMAIN

REMOVING SMALL PIPE CULVERTS
STA. 887+18
REMOVE 24" CMP

STA. 887+18
(1) CULVERT PIPE CLASS IV 24-INCH REQ'D
(2) APRON ENDWALL FOR CULVERT PIPE 24-INCH REQ'D
(2) MARKERS END CULVERT REQ'D.
(SEE DETAIL)

STA. 891+18, RT.
EXISTING F.E. (B.A.D.)
TO REMAIN

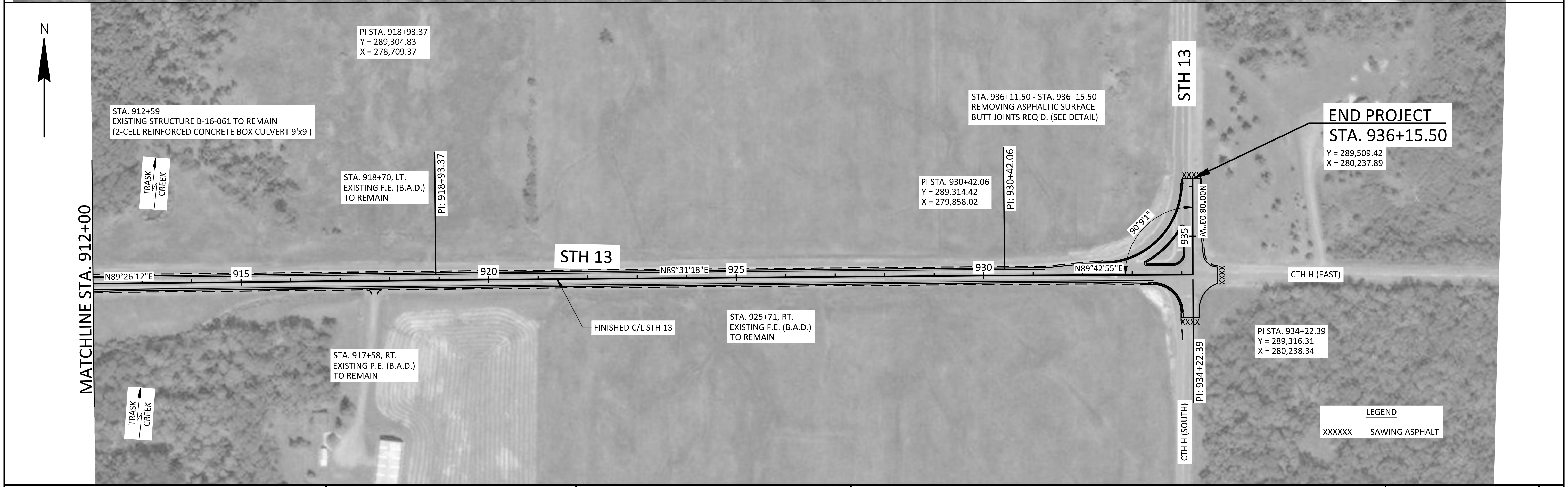
PI STA. 898+57.16
Y = 289,290.47
X = 276,673.22

REMOVING SMALL PIPE CULVERTS
STA. 902+39
REMOVE 24" CMP

STA. 902+39
(1) CULVERT PIPE CLASS IV 24-INCH REQ'D
(2) APRON ENDWALL FOR CULVERT PIPE 24-INCH REQ'D
(2) MARKERS END CULVERT REQ'D.
(SEE DETAIL)

PI STA. 906+53.34
Y = 289,292.64
X = 277,469.40

STA. 908+22, RT.
EXISTING P.E. (B.A.D.)
TO REMAIN



PI STA. 918+93.37
Y = 289,304.83
X = 278,709.37

STA. 912+59
EXISTING STRUCTURE B-16-061 TO REMAIN
(2-CELL REINFORCED CONCRETE BOX CULVERT 9'x9')

STA. 918+70, LT.
EXISTING F.E. (B.A.D.)
TO REMAIN

STA. 917+58, RT.
EXISTING P.E. (B.A.D.)
TO REMAIN

STA. 925+71, RT.
EXISTING F.E. (B.A.D.)
TO REMAIN

STA. 936+11.50 - STA. 936+15.50
REMOVING ASPHALTIC SURFACE
BUTT JOINTS REQ'D. (SEE DETAIL)

PI STA. 930+42.06
Y = 289,314.42
X = 279,858.02

END PROJECT
STA. 936+15.50
Y = 289,509.42
X = 280,237.89

PI STA. 934+22.39
Y = 289,316.31
X = 280,238.34

LEGEND

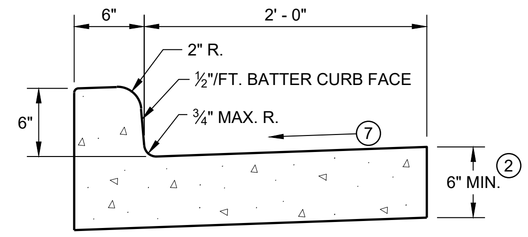
XXXXXX SAWING ASPHALT

PROJECT NO: 8510-01-70	HWY: STH 13	COUNTY: DOUGLAS	PLAN DETAILS	SHEET 131	E

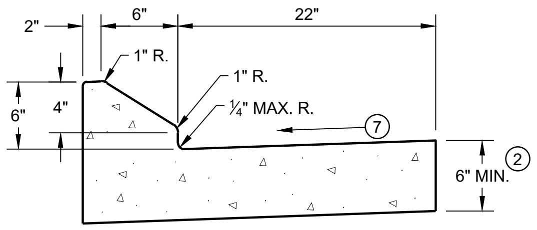
FILE NAME : S:\PROJECTS\W11599 WISDOT STH 13, CTH H TO ENGDAHL ROAD DOUGLAS CO\SHEETSPLAN\PLAN & PROFILE SHEETS\W11599 PLAN SHEETS.DWG PLOT DATE : 2/4/2022 10:16:17 AM PLOT BY : KARTER ZAJICEK PLOT SCALE : 1" = 1' LAYOUT : LAYOUT 15

Standard Detail Drawing List

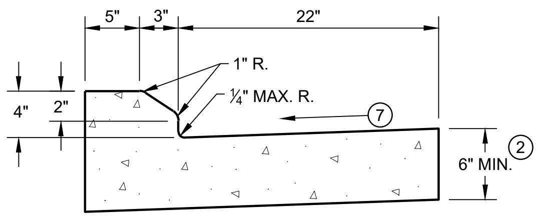
08D01-22A	CONCRETE CURB & GUTTER
08D01-22B	CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS
08D22-01	DRIVEWAYS WITHOUT CURB & GUTTER RESURFACING PROJECTS RURAL
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E10-02	INLET PROTECTION TYPE A, B, C AND D
08E15-01	CULVERT PIPE CHECK
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
09A01-13A	AT-GRADE SIDE ROAD INTERSECTION, TYPES "B1", "B2", "C" AND D AND TEE INTERSECTION BYPASS LANE
09G02-05A	BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION
09G02-05B	BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION
09G02-05C	BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION
11B02-02	CONCRETE MEDIAN NOSE
13A11-03A	2-LANE RURAL CENTER LINE RUMBLE STRIP, MILLING
13A11-03B	2-LANE RURAL CENTER LINE RUMBLE STRIP, MILLING
13C19-03	HMA LONGITUDINAL JOINTS
14B07-16A	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-16B	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-16C	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-16D	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-16E	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-16F	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-16G	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-16H	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-16I	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-16J	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-16K	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-16L	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-16M	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B42-07A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07D	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B44-04A	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-04B	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-04C	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B45-05A	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05B	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05C	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05D	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05E	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05F	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05G	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05H	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05I	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05J	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05K	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05L	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
15A03-02A	FLEXIBLE MARKER POST FOR CULVERT END
15A03-02B	FLEXIBLE MARKER POST FOR CULVERT END
15C02-08F	ADVANCED WIDTH RESTRICTION SIGNING
15C04-05	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 M.P.H. OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC
15C08-21A	LONGITUDINAL MARKING (MAINLINE)
15C08-21B	TEMPORARY LONGITUDINAL PAVEMENT MARKING
15C08-21C	PAVEMENT MARKING (TURN LANES)
15C08-21D	PAVEMENT MARKING (TURN LANES)
15C12-09A	TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION
15C33-04	STOP LINE AND CROSSWALK PAVEMENT MARKING
15C35-05A	PAVEMENT MARKING (INTERSECTIONS)
15D28-04	TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY
15D33-07	TRAFFIC CONTROL, ONE LANE ROAD WITH TEMPORARY SIGNALS
15D44-02	TRAFFIC CONTROL, SIGNING ON ROADWAYS WITH MILLED SURFACES
15D45-03	TRAFFIC CONTROL, SIGNING ON ROADWAYS WITH LOOSE GRAVEL
15D48-01	TRAFFIC CONTROL, LANE SHIFT IN FLAGGING OPERATION



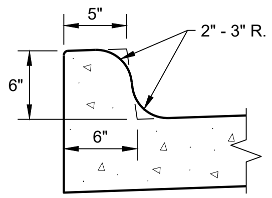
TYPES A① & D



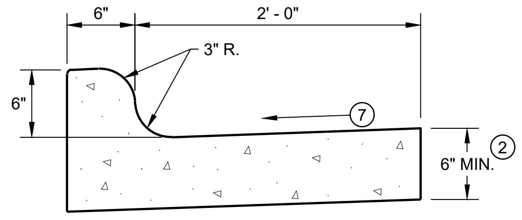
6" SLOPED CURB TYPES G① & J



4" SLOPED CURB TYPES G① & J

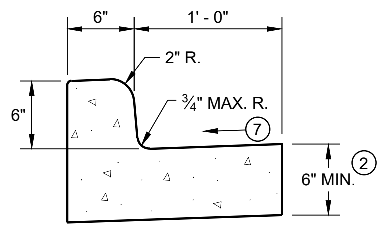


TYPES K① & L
(OPTIONAL CURB SHAPE)



TYPES K① & L

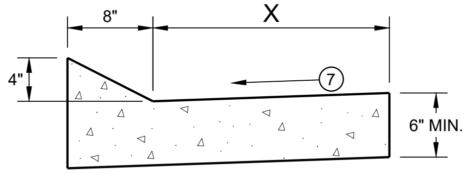
CONCRETE CURB AND GUTTER 30"



TYPES A① & D

CONCRETE CURB AND GUTTER 18"

TBT & TBTT	X
30"	22"
36"	28"



TYPES TBT & TBTT①

CONCRETE CURB AND GUTTER

GENERAL NOTES

DETAILS OF CONSTRUCTION AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

INTEGRAL CURB AND GUTTER SHALL CONFORM TO THE DETAILS SHOWN FOR CONCRETE CURB AND GUTTER INCLUDING THE TRANSVERSE GUTTER SLOPE.

UNLESS OTHERWISE SHOWN ON THE TYPICAL CROSS SECTIONS, THE BASE AGGREGATE AND COMMON EXCAVATION LIMITS ARE 2' - 0" BEHIND THE BACK OF CURBS.

① TIE BARS ARE REQUIRED FOR CURB AND GUTTERS TYPES A, G, K, R, AND TBTT.

② THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.

③ USE 8" MINIMUM GUTTER THICKNESS WHEN USED WITH AN ADJACENT CONCRETE TRUCK APRON PLACED BEHIND BACK OF CURB.

④ THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 8" MINIMUM GUTTER THICKNESS IS MAINTAINED.

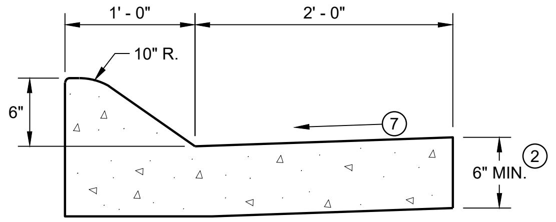
⑤ UNLESS OTHERWISE NOTED, FOR STAKING PURPOSES THE FACE OF CURB IS 6" FROM THE BACK OF CURB.

⑥ WHEN REVERSE SLOPE GUTTER IS REQUIRED, THE LOCATION(S) WILL BE SHOWN ELSEWHERE IN THE PLAN.

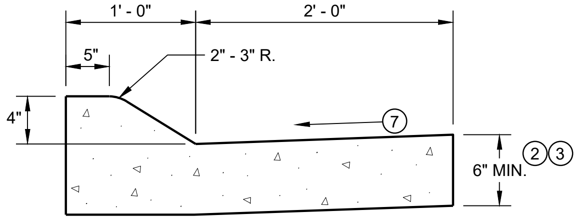
⑦ USE 4% GUTTER CROSS SLOPE UNLESS OTHERWISE NOTED IN THE PLANS.

⑧ INCLUDE LONGITUDINAL JOINT AND TIE BARS ALONG LANE EDGE WHEN CONCRETE PANEL WIDTH EXCEEDS THE MAXIMUM WIDTH PER TABLE BELOW. LONGITUDINAL JOINT(S) ARE NOT ALLOWED WITHIN TRAFFIC LANES AND BIKE LANES. LONGITUDINAL JOINT MAY BE SAWED.

⑨ CONCRETE CURB AND GUTTER 4-INCH SLOPED 30-INCH TYPE "R" AND "T" = 17 INCHES
CONCRETE CURB AND GUTTER 4-INCH SLOPED 36-INCH TYPE "R" AND "T" = 23 INCHES



6" SLOPED CURB TYPES A① & D

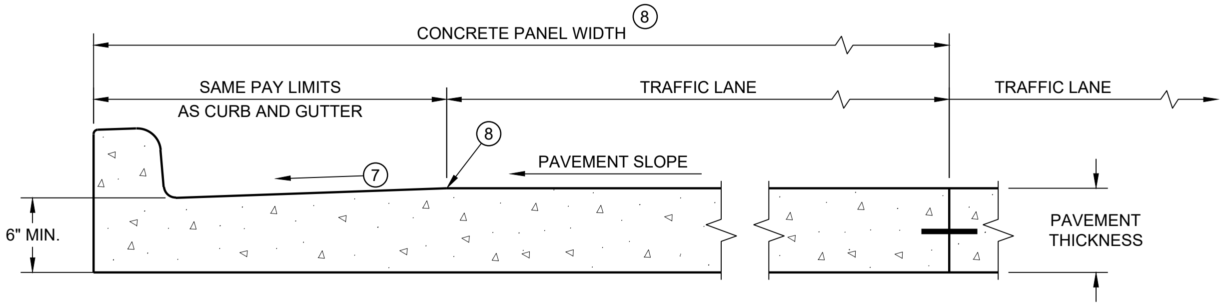


4" SLOPED CURB TYPES A① & D

CONCRETE CURB AND GUTTER 36"

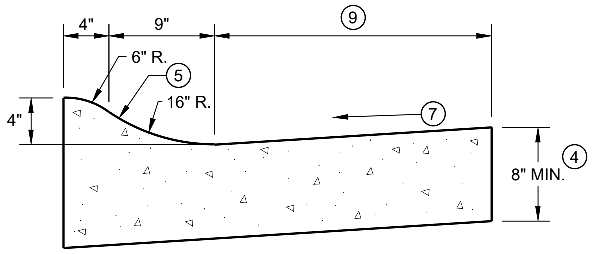
PAVEMENT THICKNESS AND MAXIMUM CONCRETE PANEL WIDTH TABLE

PAVEMENT THICKNESS	MAXIMUM PANEL WIDTH
LESS THAN 10"	12'
10" & ABOVE	15'

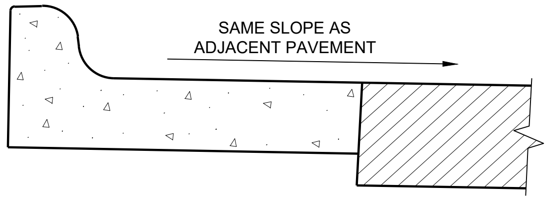


PARTIAL SECTION OF PAVEMENT * WITH INTEGRAL CURB AND GUTTER

* BIKE LANE IS NOT SHOWN



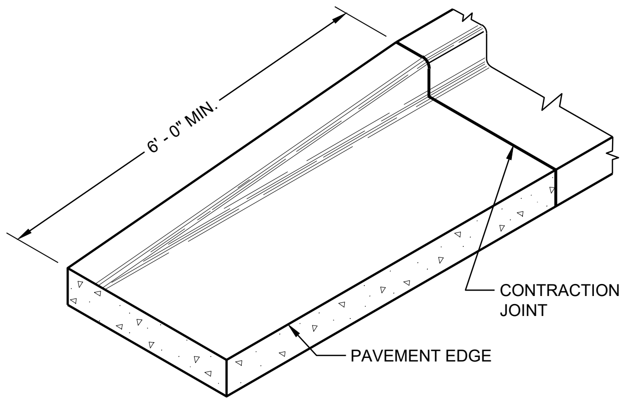
4" SLOPED CURB TYPES R① & T



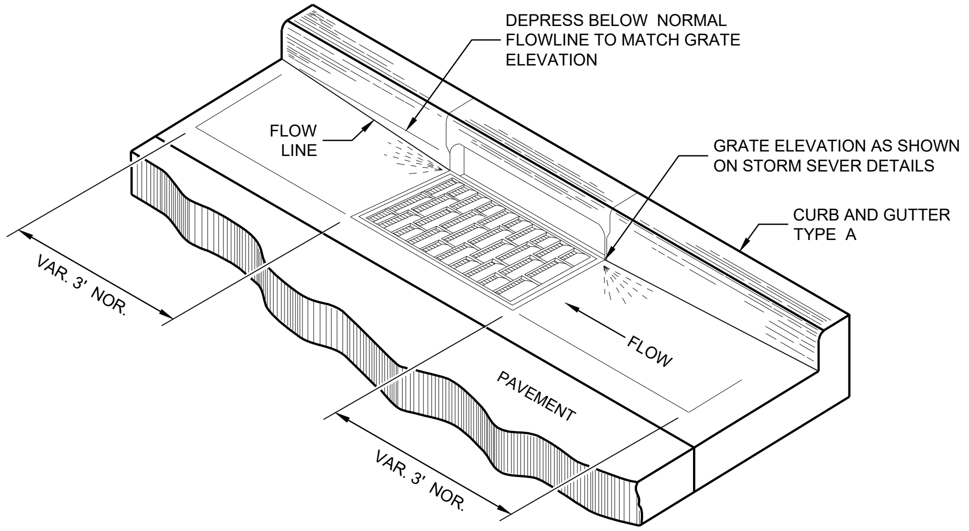
REVERSE SLOPE GUTTER⑥
(TYPICAL FOR ALL CURB & GUTTER TYPES)

CONCRETE CURB AND GUTTER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTAT



END SECTIONCURB AND GUTTER



DETAIL OF CURB AND GUTTER AT INLETS

(TYPICAL H INLET COVER SHOWN)

GENERAL NOTES

DETAILS OF CONSTRUCTION AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

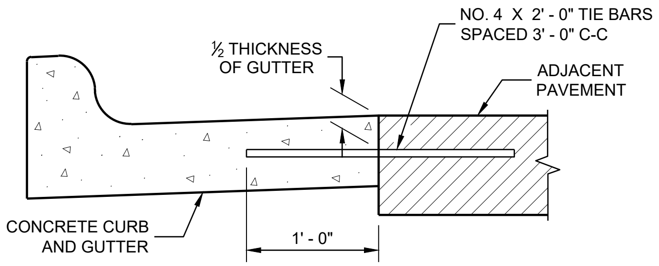
PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

UNLESS OTHERWISE SHOWN ON THE TYPICAL CROSS SECTIONS, THE BASE AGGREGATE AND COMMON EXCAVATION LIMITS ARE 2' - 0" BEHIND THE BACK OF CURBS.

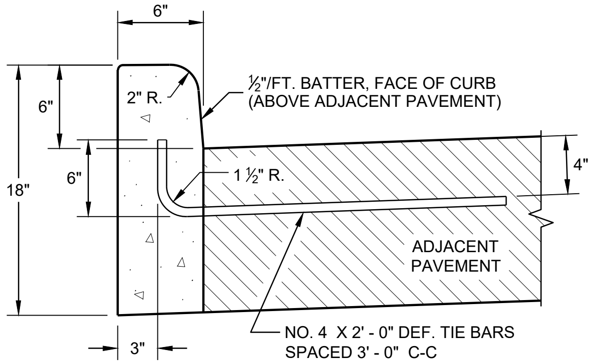
① TIE BARS ARE REQUIRED FOR CURB AND GUTTERS TYPES A, G, K, R, AND TBTT.

② THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.

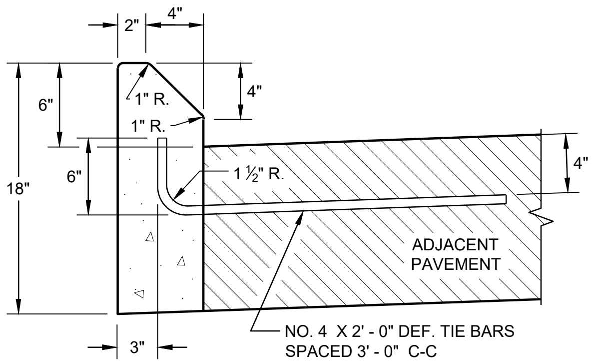
⑨ REFER TO SDD 08D18 AND 08D19 FOR ADDITIONAL DRIVEWAY ENTRANCE CURB DETAILS.



TYPICAL TIE BAR LOCATION①

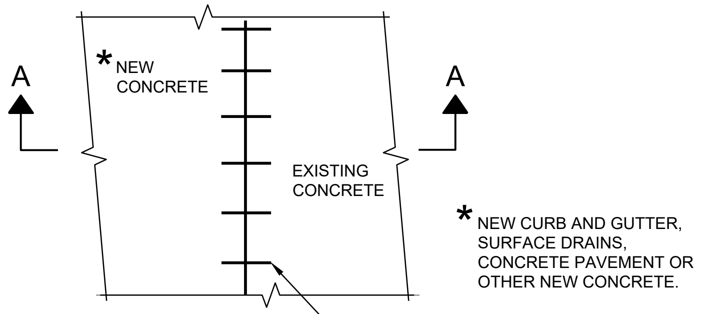


TYPES A① & D

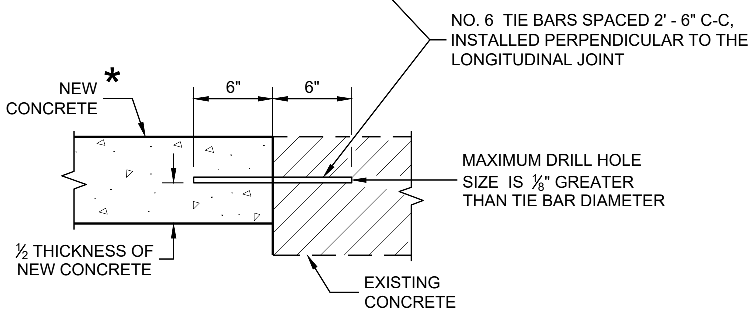


TYPES G① & J

CONCRETE CURB

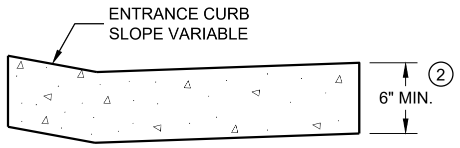


PLAN VIEW



SECTION A - A

TIE BARS DRILLED INTO EXISTING PAVEMENT



DRIVEWAY ENTRANCE CURB⑨

(WHEN DIRECTED BY THE ENGINEER)

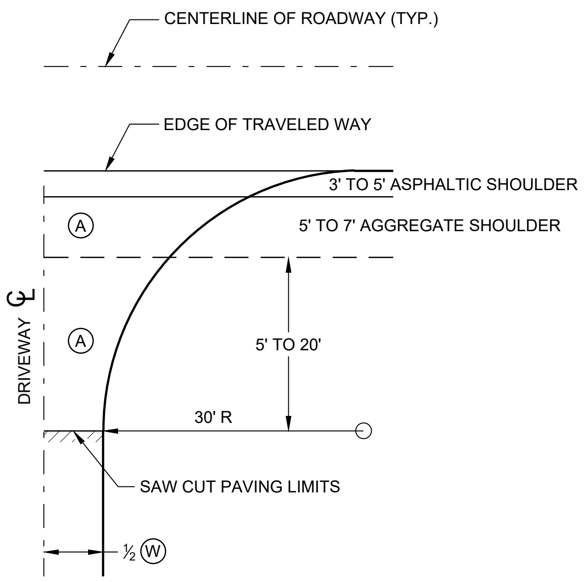
CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2021 /S/ Rodnery Taylor
DATE ROADWAY STANDARDS DEVE ENGINEER
FHWA

GENERAL NOTES

① DESIGN WILL DETERMINE FINAL DRIVEWAY ASPHALTIC THICKNESS BASED ON TYPE OF USAGE AND LOADINGS.



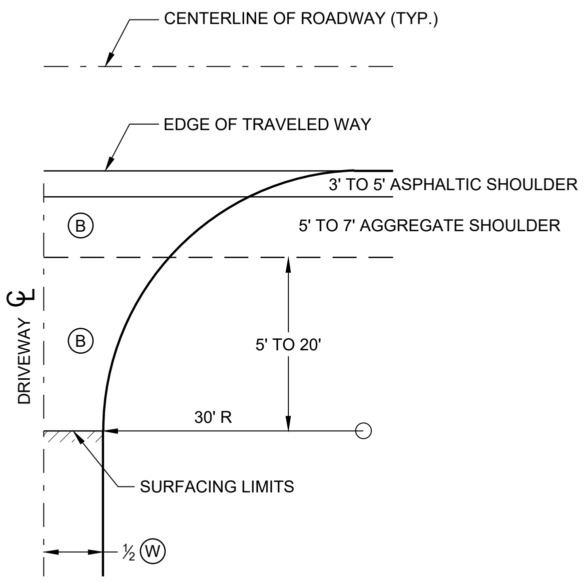
PLAN VIEW

HALF SECTION

Ⓐ : PAID FOR AS ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES. (TON)

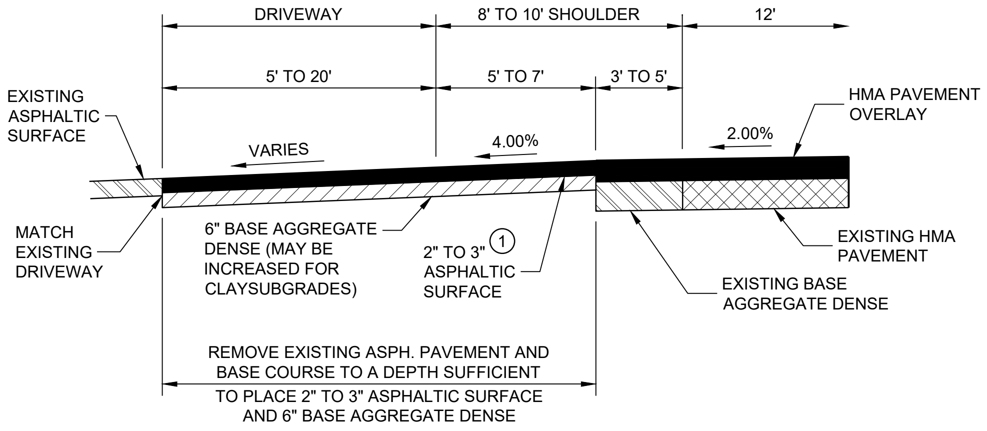
Ⓑ : PAID FOR AS BASE AGGREGATE DENSE 1 ¼" (TON)

Ⓦ : DRIVEWAY WIDTH 16' MIN. - 24' MAX.



PLAN VIEW

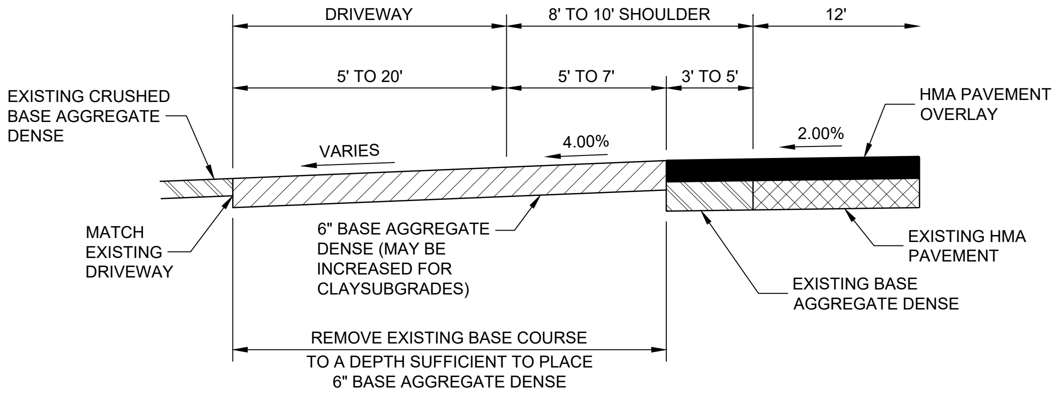
HALF SECTION



PROFILE VIEW

RURAL ENTRANCE WITH ASPHALTIC SURFACE

RESURFACING PROJECTS



PROFILE VIEW

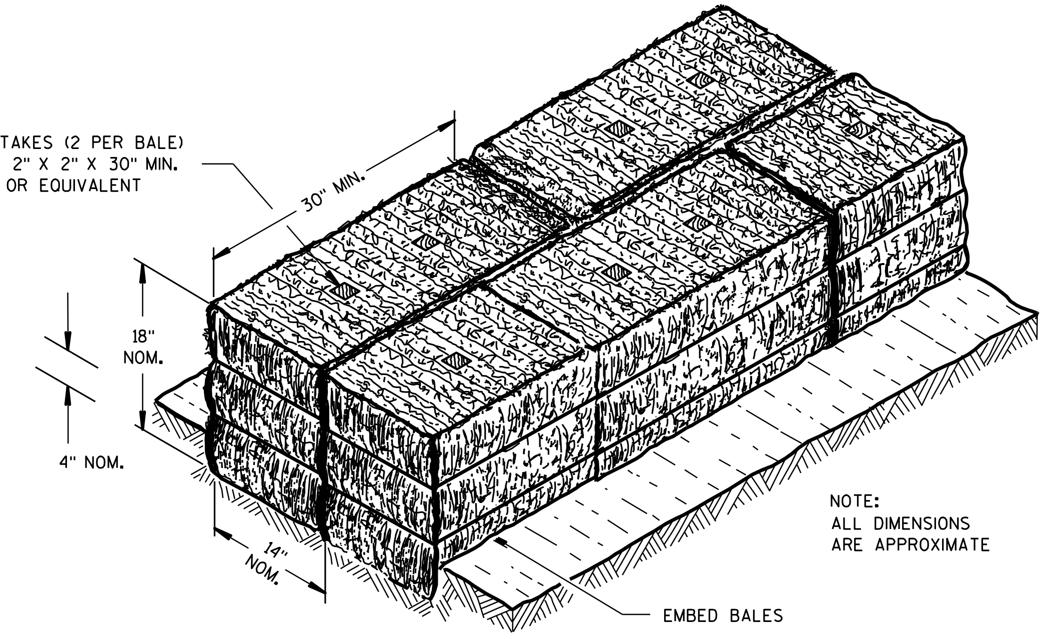
RURAL ENTRANCE WITH AGGREGATE SURFACE

6" BASE AGGREGATE DENSE RESURFACING PROJECTS

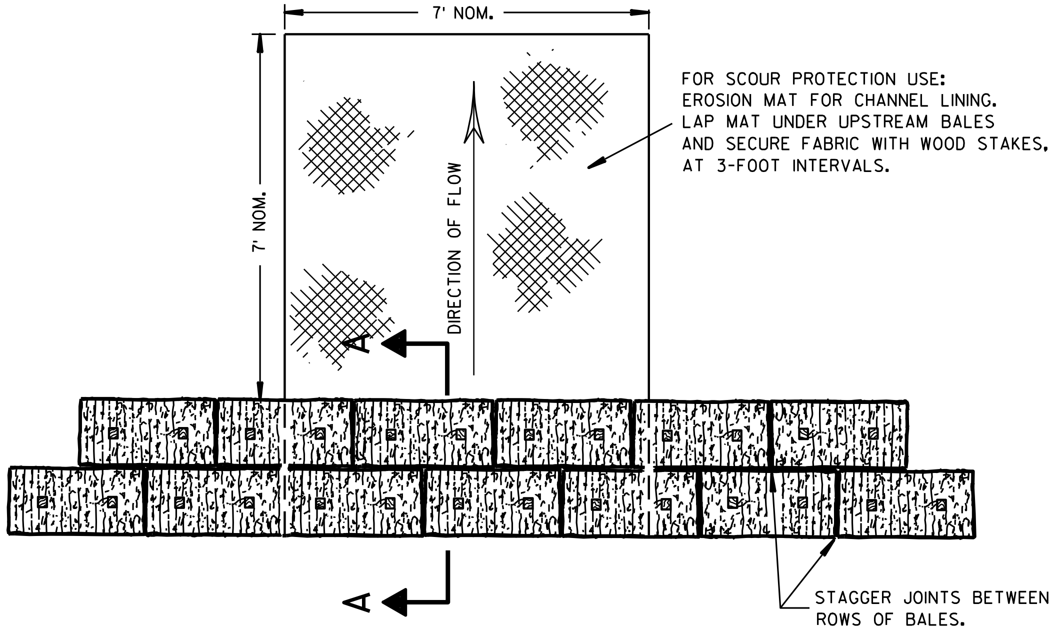
DRIVEWAYS WITHOUT CURB AND GUTTER RESURFACING PROJECTS RURAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

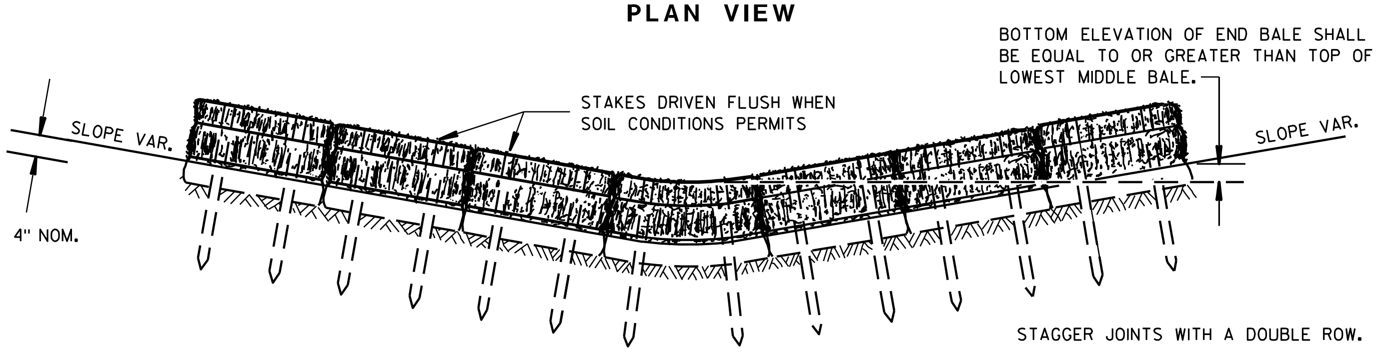
APPROVED
December 2016
DATE
/S/ Rodney Taylor
ROADWAY STANDARDS DEVE ENGINEER
FHWA



SECTION A-A



PLAN VIEW



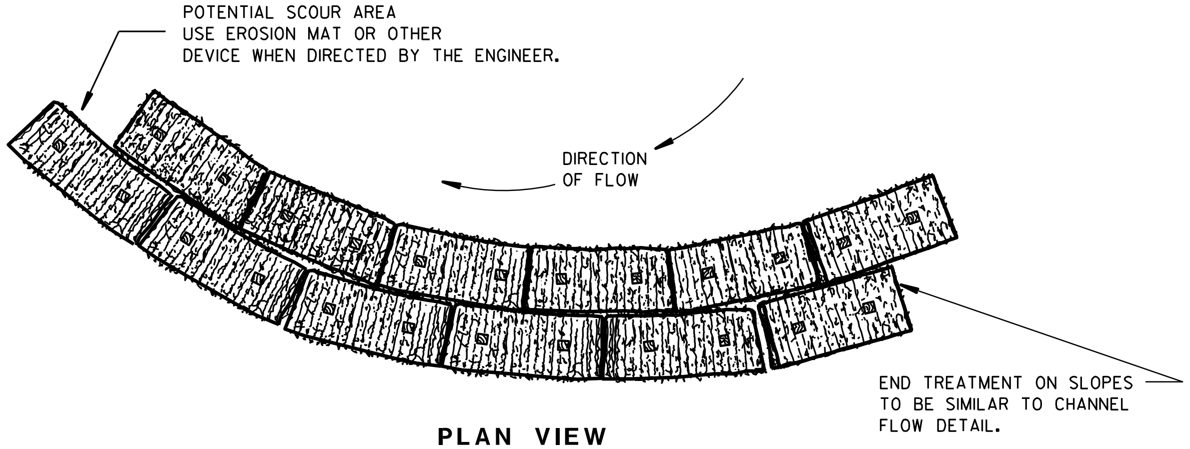
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES ①

GENERAL NOTES

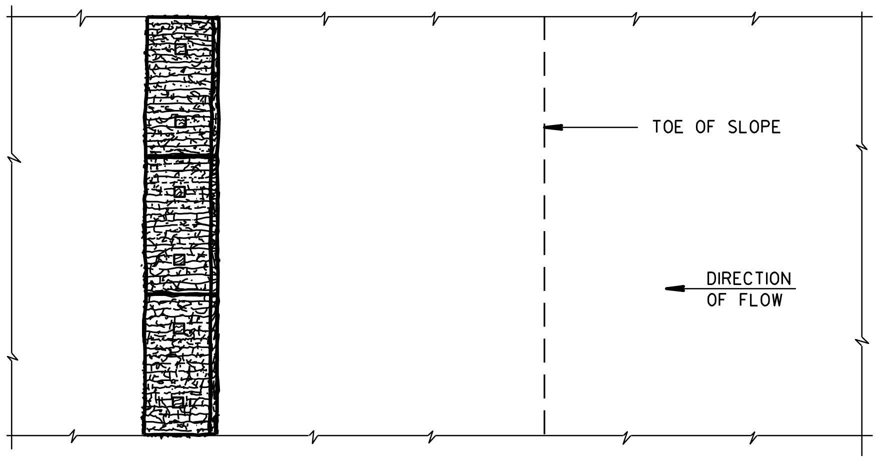
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

① TEMPORARY DITCH CHECKS EITHER EROSION BALES OR MANUFACTURED SHALL BE PAID FOR UNDER THE BID ITEM OF TEMPORARY DITCH CHECK. THE DEPARTMENT WILL NOT PAY FOR TEMPORARY DITCH CHECKS CONSTRUCTED OF A SINGLE ROW OF EROSION BALES.

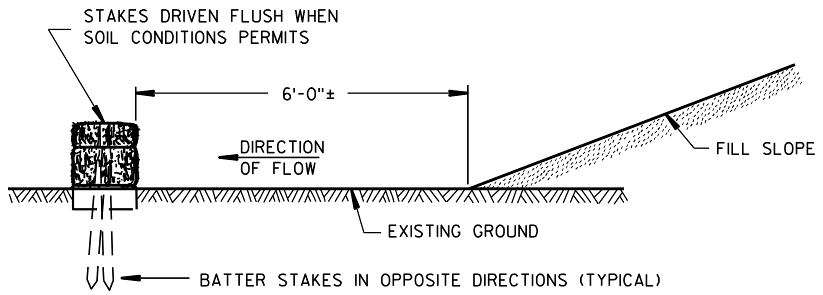


PLAN VIEW

WHEN ALTERING THE DIRECTION OF FLOW



PLAN VIEW



FRONT ELEVATION

WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE

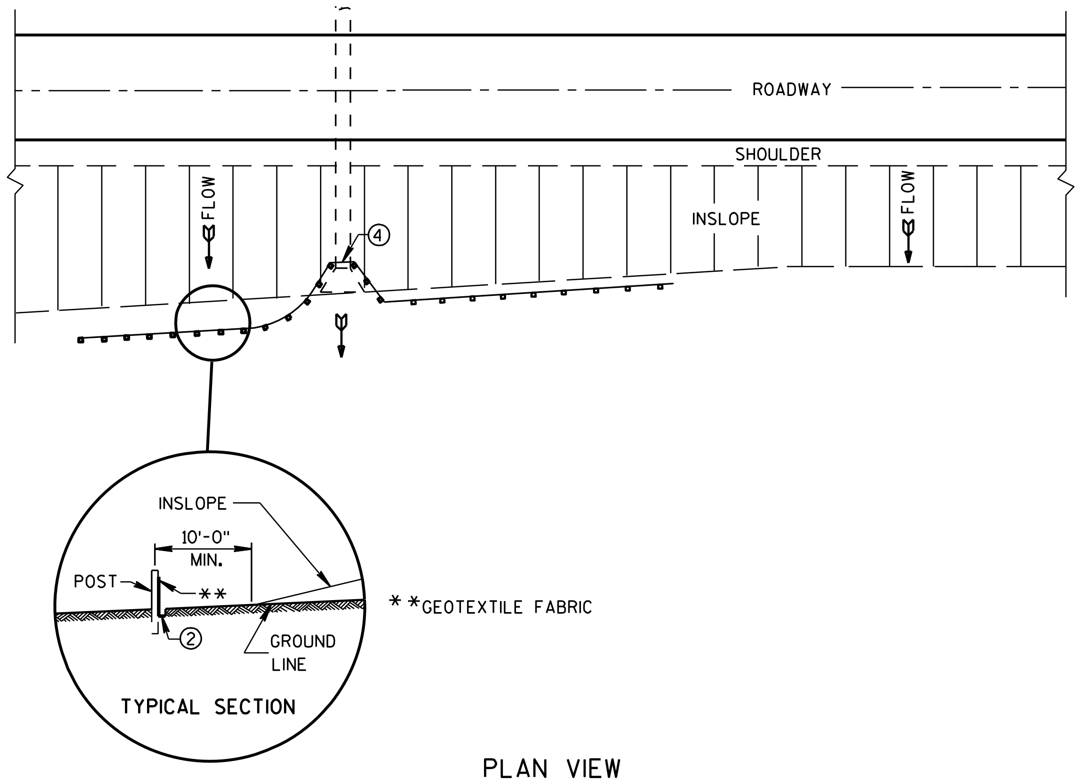
EROSION BALES FOR SHEET FLOW

TYPICAL INSTALLATIONS OF
EROSION BALES / TEMPORARY
DITCH CHECKS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

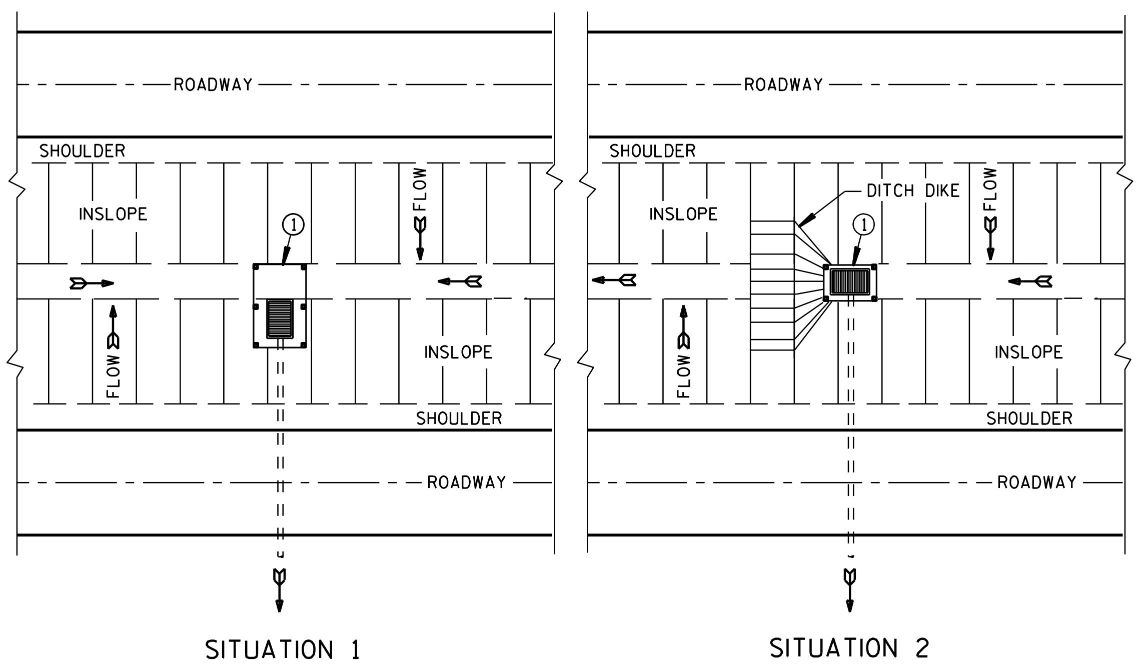
APPROVED
6/04/02
DATE
/S/ Beth Cann
CHIEF ROADWAY DEVELOP

GINEER
FHWA



PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



SITUATION 1

SITUATION 2

PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

GENERAL NOTES

DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

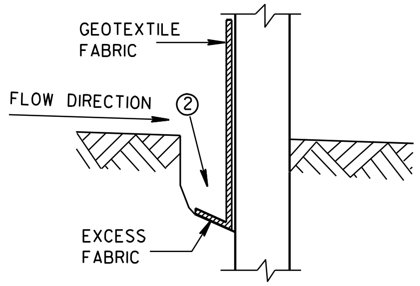
① HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.

② FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.

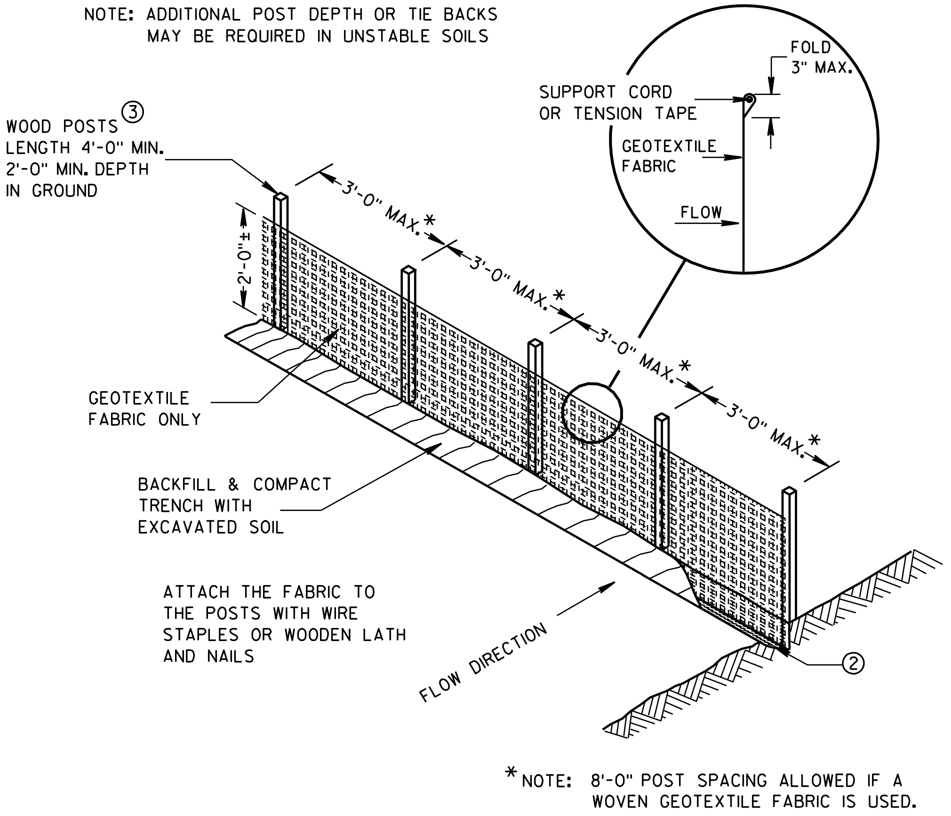
③ WOOD POSTS SHALL BE A MINIMUM SIZE OF $1\frac{1}{8}$" X $1\frac{1}{8}$" OF OAK OR HICKORY.

④ SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.

⑤ CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES. B) HOOK THE END OF EACH SILT FENCE LENGTH.

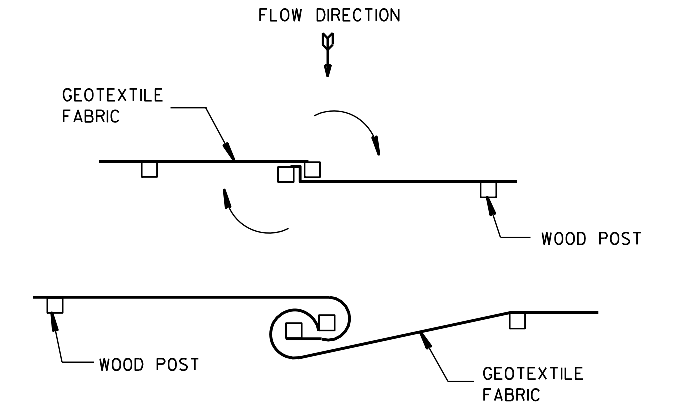


TRENCH DETAIL

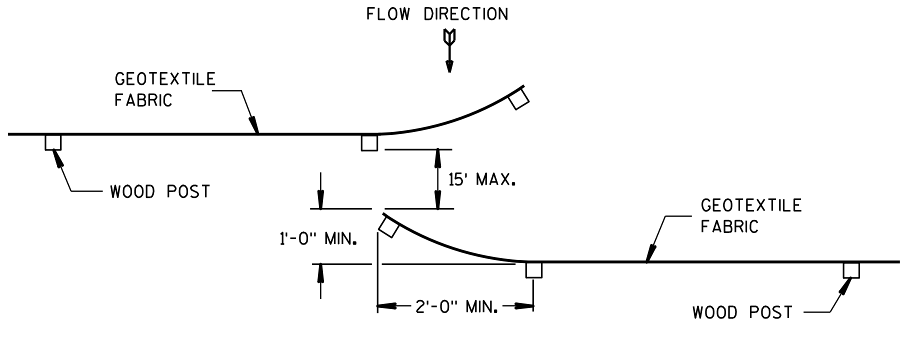


*NOTE: 8'-0" POST SPACING ALLOWED IF A WOVEN GEOTEXTILE FABRIC IS USED.

SILT FENCE

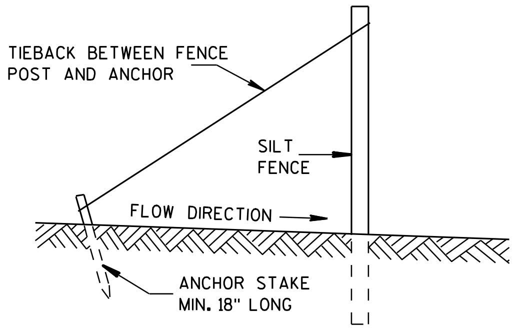


TWIST METHOD



HOOK METHOD

JOINING TWO LENGTHS OF SILT FENCE⑤



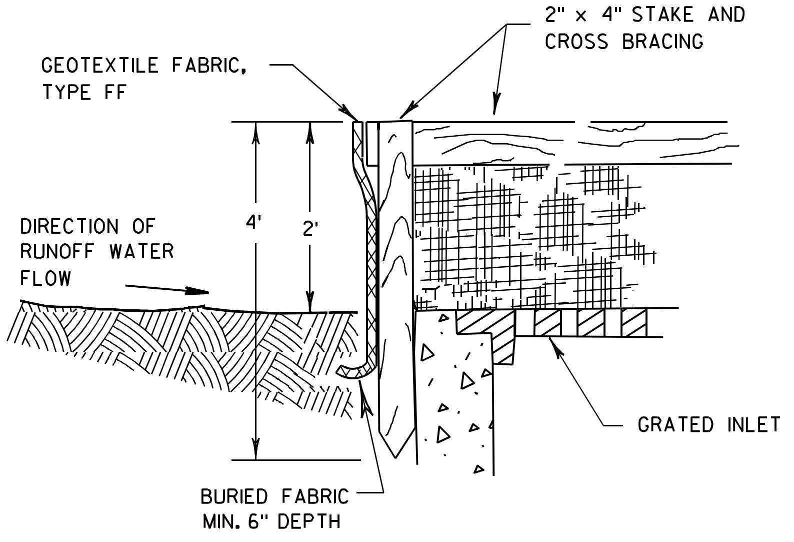
SILT FENCE TIE BACK

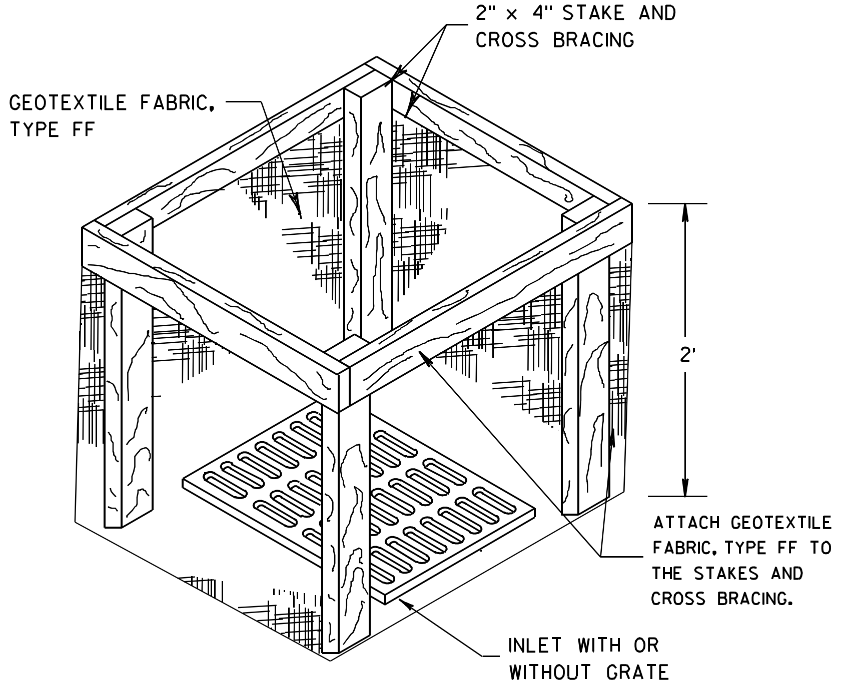
(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

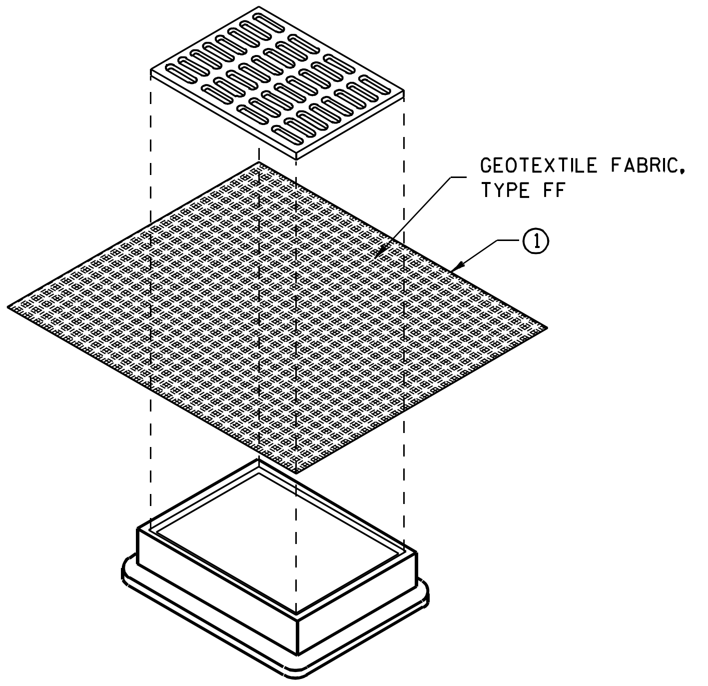
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
4-29-05
DATE
/S/ Beth Cann
CHIEF ROADWAY DEVELOP
INEER
FHWA



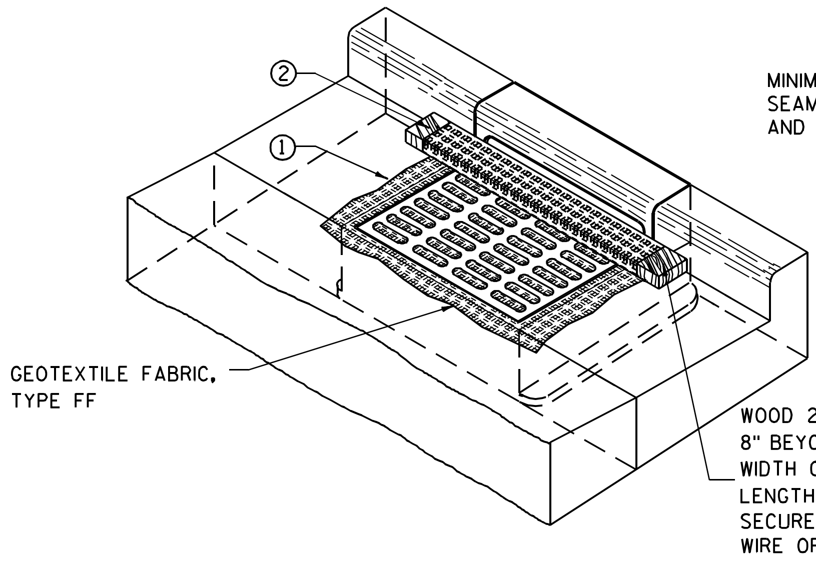


INLET PROTECTION, TYPE A

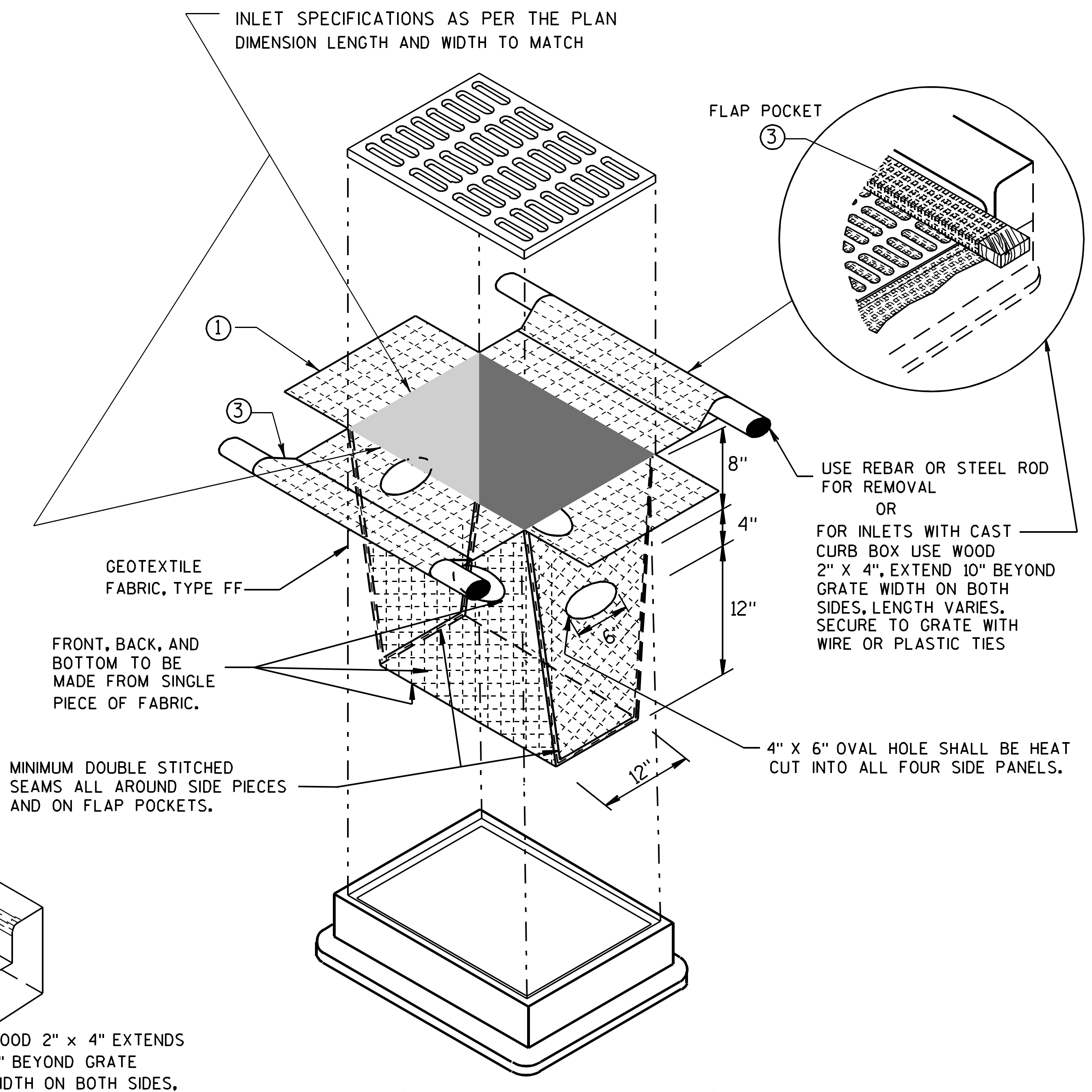


INLET PROTECTION, TYPE B (WITHOUT CURB BOX)

(CAN BE INSTALLED IN ANY INLET WITHOUT A CURB BOX)



INLET PROTECTION, TYPE C (WITH CURB BOX)



INLET PROTECTION, TYPE D

(CAN BE INSTALLED IN ANY INLET TYPE WITH OR WITHOUT A CURB BOX AS PER NOTE ②)

GENERAL NOTES

INLET PROTECTION DEVICES SHALL BE MAINTAINED OR REPLACED AT THE DIRECTION OF THE ENGINEER.

MANUFACTURED ALTERNATIVES APPROVED AND LISTED ON THE DEPARTMENT'S EROSION CONTROL PRODUCT ACCEPTABILITY LIST MAY BE SUBSTITUTED.

WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.

① FINISHED SIZE, INCLUDING FLAP POCKETS WHERE REQUIRED, SHALL EXTEND A MINIMUM OF 10" AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.

② FOR INLET PROTECTION, TYPE C (WITH CURB BOX), AN ADDITIONAL 18" OF FABRIC IS WRAPPED AROUND THE WOOD AND SECURED WITH STAPLES. THE WOOD SHALL NOT BLOCK THE ENTIRE HEIGHT OF THE CURB BOX OPENING.

③ FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2X4.

INSTALLATION NOTES

TYPE B & C

TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.

THE CONTRACTOR SHALL DEMONSTRATE A METHOD OF MAINTENANCE, USING A SEWN FLAP, HAND HOLDS OR OTHER METHOD TO PREVENT ACCUMULATED SEDIMENT FROM ENTERING THE INLET.

TYPE D

DO NOT INSTALL INLET PROTECTION TYPE D IN INLETS SHALLOWER THAN 30", MEASURED FROM THE BOTTOM OF THE INLET TO THE TOP OF THE GRATE.

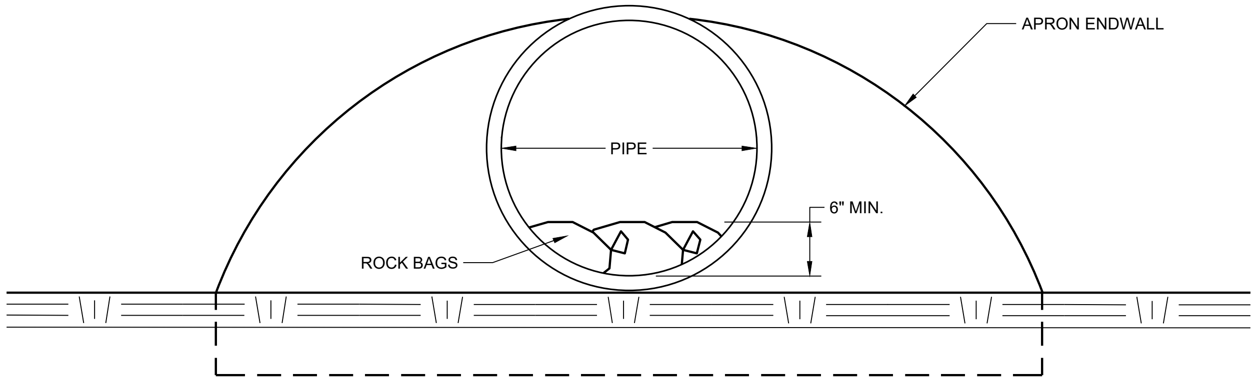
TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.

THE INSTALLED BAG SHALL HAVE A MINIMUM SIDE CLEARANCE, BETWEEN THE INLET WALLS AND THE BAG, MEASURED AT THE BOTTOM OF THE OVERFLOW HOLES, OF 3". WHERE NECESSARY THE CONTRACTOR SHALL CINCH THE BAG, USING PLASTIC ZIP TIES, TO ACHIEVE THE 3" CLEARANCE. THE TIES SHALL BE PLACED AT A MAXIMUM OF 4" FROM THE BOTTOM OF THE BAG.

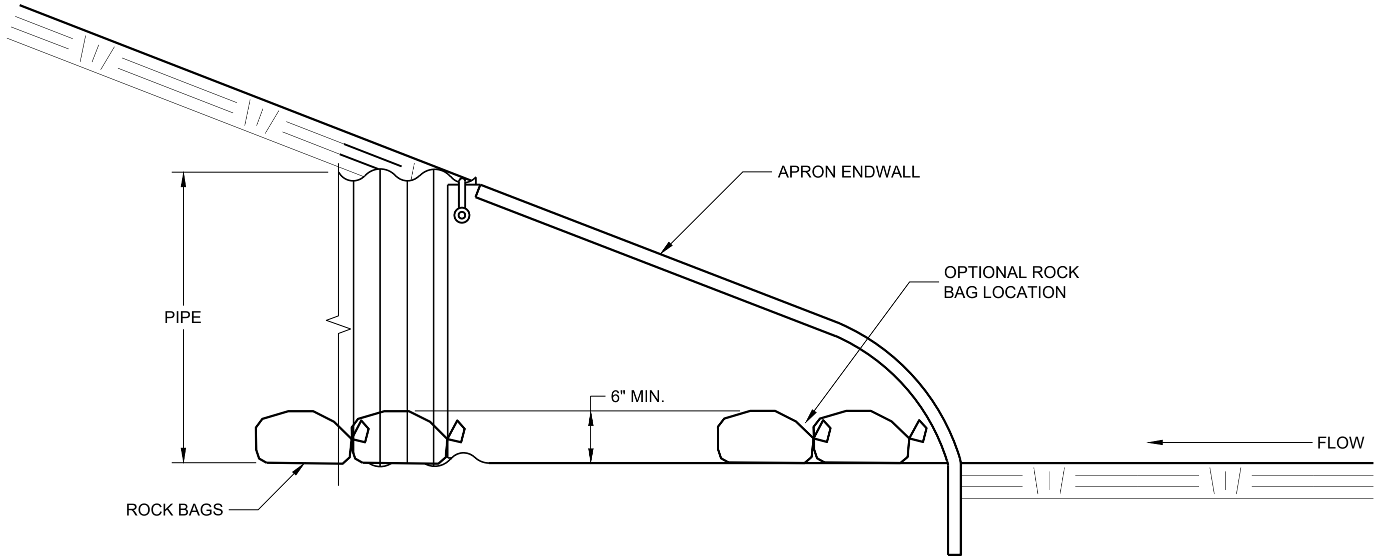
INLET PROTECTION
TYPE A, B, C, AND D

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
10/16/02
DATE
/S/ Beth Cann
CHIEF ROADWAY DEVELOPM[illegible]NEER
FHWA



END VIEW



SIDE VIEW

CULVERT PIPE CHECK

(INSTALL ON INLET END ONLY)

CULVERT PIPE CHECK

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2019
DATE
/S/ Daniel Schave
EROSION CONTROL ENGI

FHWA

METAL APRON ENDWALLS

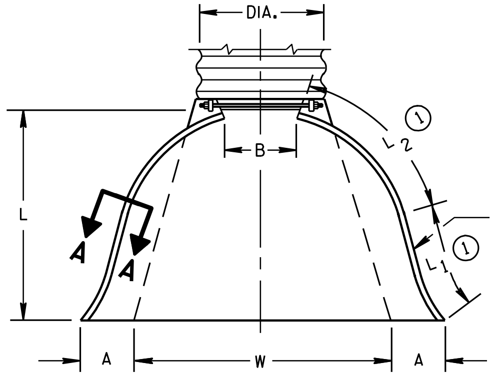
PIPE DIA. (IN.)	MIN. THICK. (Inches)		DIMENSIONS (Inches)							APPROX. SLOPE	BODY
	STEEL	ALUM.	A (±1")	B (MAX.)	H (±1")	L (±1½")	L_1 ①	L_2 ①	W (±2")		
12	.064	.060	6	6	6	21	12	17½	24	2½ to 1	1 Pc.
15	.064	.060	7	8	6	26	14	21¾	30	2½ to 1	1 Pc.
18	.064	.060	8	10	6	31	15	28¼	36	2½ to 1	1 Pc.
21	.064	.060	9	12	6	36	18	29⅝	42	2½ to 1	1 Pc.
24	.064	.075	10	13	6	41	18	37¼	48	2½ to 1	1 Pc.
30	.079	.075	12	16	8	51	18	52¼	60	2½ to 1	1 Pc.
36	.079	.105	14	19	9	60	24	59¾	72	2½ to 1	2 Pc.
42	.109	.105	16	22	11	69	24	75⅝	84	2½ to 1	2 Pc.
48	.109	.105	18	27	12	78	24	81	90	2¼ to 1	3 Pc.
54	.109	.105	18	30	12	84	30	85½	102	2¼ to 1	3 Pc.
60	.109×	.105×	18	33	12	87	—	—	114	2 to 1	3 Pc.
66	.109×	.105×	18	36	12	87	—	—	120	2 to 1	3 Pc.
72	.109×	.105×	18	39	12	87	—	—	126	2 to 1	3 Pc.
78	.109×	.105×	18	42	12	87	—	—	132	1½ to 1	3 Pc.
84	.109×	.105×	18	45	12	87	—	—	138	1½ to 1	3 Pc.
90	.109×	.105×	18	37	12	87	—	—	144	1½ to 1	3 Pc.
96	.109×	.105×	18	35	12	87	—	—	150	1½ to 1	3 Pc.

× EXCEPT CENTER PANEL
SEE GENERAL NOTES

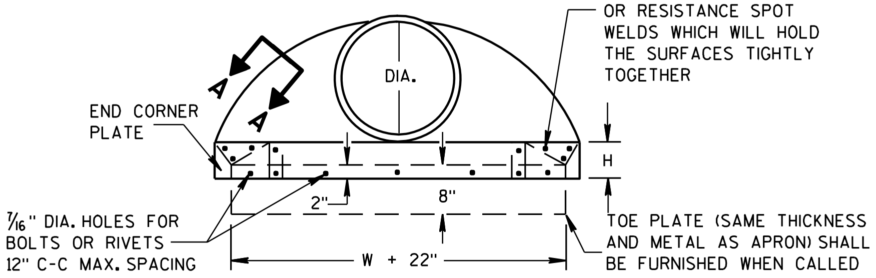
REINFORCED CONCRETE APRON ENDWALLS

PIPE DIA. (IN.)	DIMENSIONS (Inches)							APPROX. SLOPE
	T	A	B	C	D	E	G	
12	2	4	24	48⅞	72⅞	24	2	3 to 1
15	2¼	6	27	46	73	30	2¼	3 to 1
18	2½	9	27	46	73	36	2½	3 to 1
21	2¾	9	36	37½	73½	42	2¾	3 to 1
24	3	9½	43½	30	73½	48	3	3 to 1
27	3¼	10½	49½	24	73½	54	3¼	3 to 1
30	3½	12	54	19¾	73½	60	3½	3 to 1
36	4	15	63	34¾	97¾	72	4	3 to 1
42	4½	21	63	35	98	78	4½	3 to 1
48	5	24	72	26	98	84	5	3 to 1
54	5½	27	65	*33¼-**35	*98¼-**100	90	5½	2⅖ to 1
60	6	*30-**35	60	39	99	96	5	2 to 1
66	6½	*24-**30	*72-**78	*21-**27	99	102	5½	2 to 1
72	7	*24-**36	78	21	99	108	6	2 to 1
78	7½	*24-**36	78	21	99	114	6½	2 to 1
84	8	36	90½	21	111½	120	6½	1½ to 1
90	8½	41	87½	24	111½	132	6½	1½ to 1

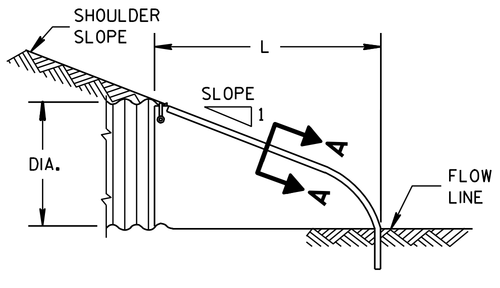
*MINIMUM
**MAXIMUM



PLAN VIEW

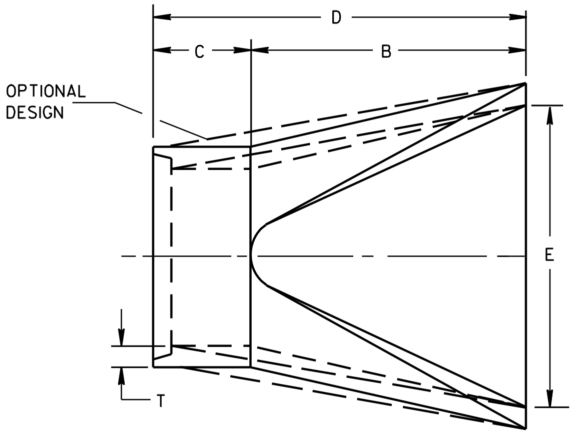


END VIEW

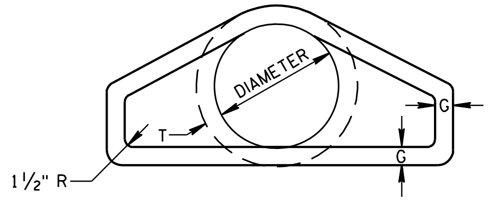


SIDE ELEVATION

METAL ENDWALLS



PLAN



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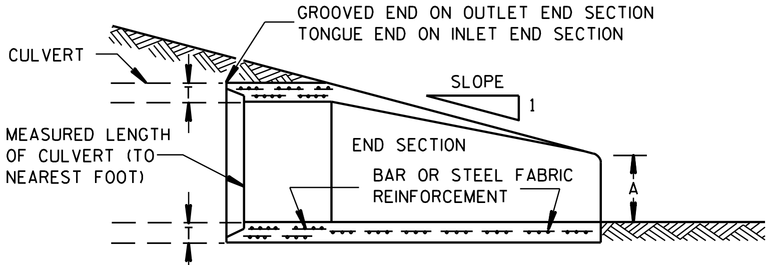
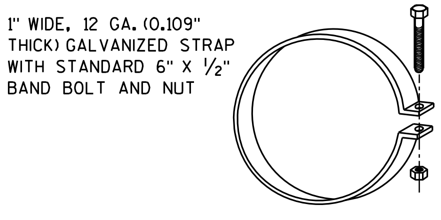


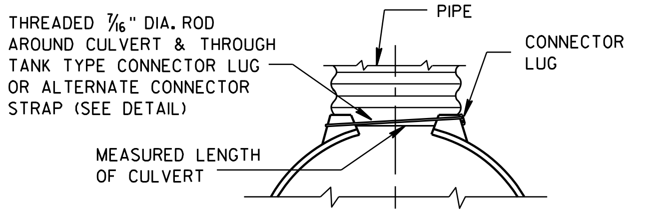
LONGITUDINAL SECTION

CONCRETE ENDWALLS



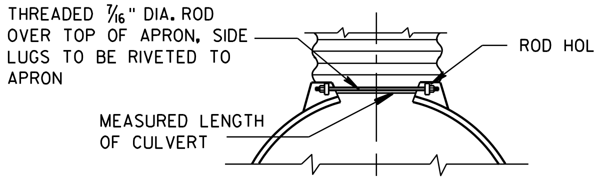
ALTERNATE FOR TYPE 1 CONNECTION

END SECTION CONNECTOR STRAP



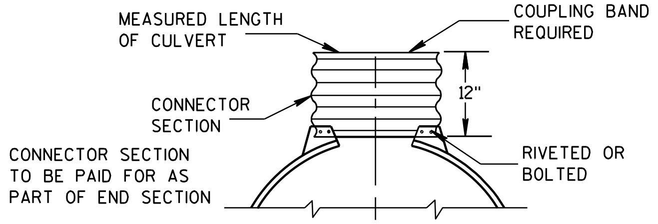
TYPE 1

FOR 12" THRU 24" CORR. PIPE



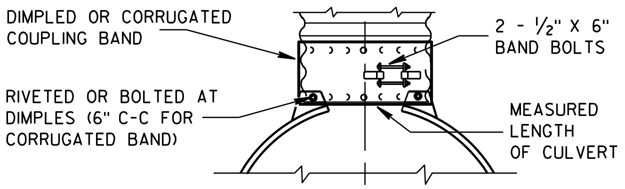
TYPE 2

FOR 30" THRU 96" CORR. PIPE



TYPE 3

FOR 42" THRU 96" CORR. PIPE



TYPE 5

ALTERNATE FOR:
ALL SIZES CORRUGATED CIRCULAR PIPE

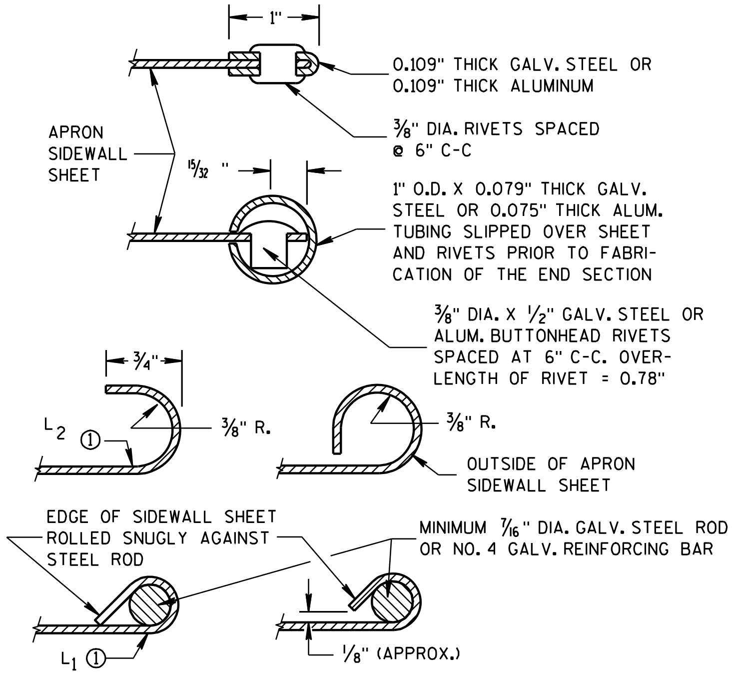
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL, AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

FOR CIRCUMFERENTIALLY CORRUGATED PIPE USE ENDWALL CONNECTION DETAILS 1, 2, 3 OR 5 AS APPLICABLE.

FOR HELICALLY CORRUGATED PIPE USE ENDWALL CONNECTION DETAILS 1, 2 OR 5.

FOR HELICALLY CORRUGATED PIPES WITH TWO CIRCUMFERENTIAL CORRUGATIONS AT EACH END USE ENDWALL CONNECTION DETAILS 1, 2 OR 3.

CONNECTION DETAILS



SECTION A-A

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

CONCRETE CULVERT ENDWALLS MAY NOT BE USED WITH GALVANIZED STEEL OR ALUMINUM CULVERT PIPE OR VISE VERSA. GALVANIZED STEEL OR ALUMINUM ENDWALLS SHALL NORMALLY BE INSTALLED ON CULVERT PIPE OF THE SAME METAL.

ALL THREE PIECE STEEL APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.109" SIDES AND 0.138" CENTER PANELS. ALL THREE PIECE ALUMINUM APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.105" SIDES AND 0.134" CENTER PANELS. THE WIDTH OF CENTER PANELS SHALL BE GREATER THAN 20 PERCENT OF THE PIPE PERIMETER.

LAP SEAMS SHALL BE TIGHTLY JOINED BY GALVANIZED RIVETS OR BOLTS FOR STEEL UNITS AND ALUMINUM RIVETS AND BOLTS FOR ALUMINUM UNITS. FOR THE 60" THROUGH 96" DIAMETER APRON ENDWALL SIZES, THE REINFORCED EDGES AND CENTER PANEL SEAMS SHALL BE FURTHER REINFORCED WITH GALVANIZED STEEL OR ALUMINUM STIFFENER ANGLES. THE ANGLES SHALL BE ATTACHED BY GALVANIZED NUTS AND BOLTS FOR STEEL UNITS AND ALUMINUM NUTS AND BOLTS FOR ALUMINUM UNITS.

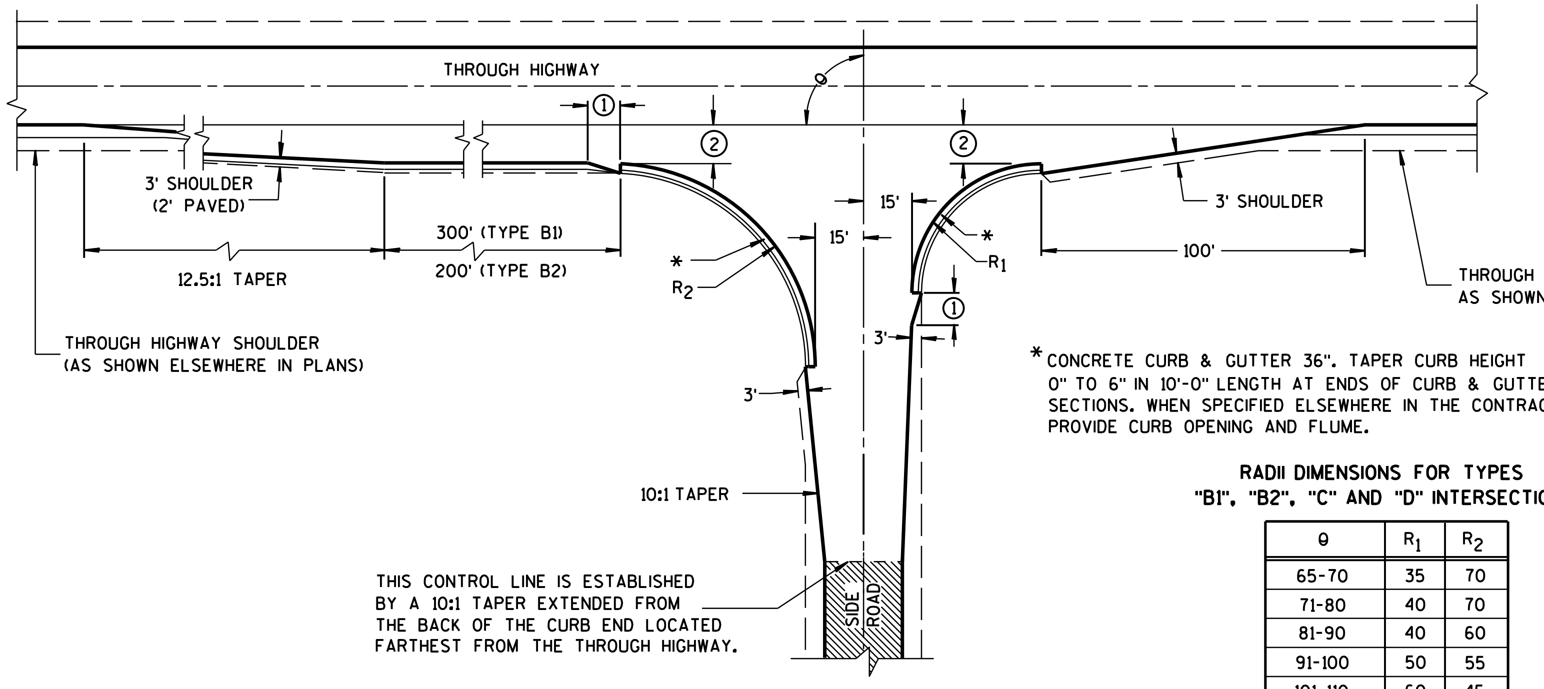
WHERE TWO OR MORE PIPES WITH APRON ENDWALLS ARE LAID ADJACENT TO EACH OTHER, THEY SHALL BE SEPARATED BY A DISTANCE SUFFICIENT TO PROVIDE A MINIMUM CLEARANCE OF 6 INCHES BETWEEN APRON ENDWALLS.

① FOR PIPE SIZES UP TO 60" DIAMETER, A 180° ROLLED EDGE MAY BE USED INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.

APRON ENDWALLS FOR
CULVERT PIPE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
11/30/94
DATE
/S/ Rory L. Rhinesmith
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA



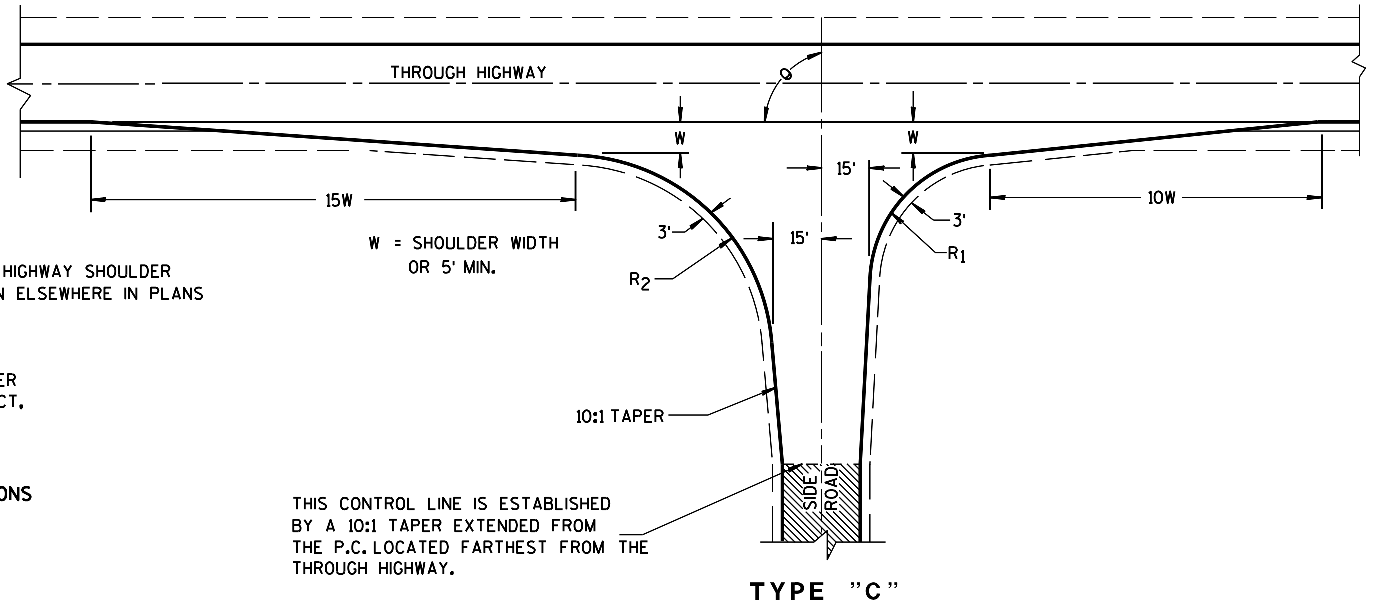
THIS CONTROL LINE IS ESTABLISHED BY A 10:1 TAPER EXTENDED FROM THE BACK OF THE CURB END LOCATED FARTHEST FROM THE THROUGH HIGHWAY.

TYPE "B1" AND "B2"

* CONCRETE CURB & GUTTER 36". TAPER CURB HEIGHT 0" TO 6" IN 10'-0" LENGTH AT ENDS OF CURB & GUTTER SECTIONS. WHEN SPECIFIED ELSEWHERE IN THE CONTRACT, PROVIDE CURB OPENING AND FLUME.

RADII DIMENSIONS FOR TYPES "B1", "B2", "C" AND "D" INTERSECTIONS

θ	R_1	R_2
65-70	35	70
71-80	40	70
81-90	40	60
91-100	50	55
101-110	60	45



W = SHOULDER WIDTH OR 5' MIN.

THIS CONTROL LINE IS ESTABLISHED BY A 10:1 TAPER EXTENDED FROM THE P.C. LOCATED FARTHEST FROM THE THROUGH HIGHWAY.

TYPE "C"

GENERAL NOTES

DESIGNS MAY BE USED INTERCHANGEABLY IN COMBINATION OR SEPARATELY FOR ANY ONE COMPLETE INTERSECTION DEPENDING UPON INTERSECTION ANGLE AND SURFACING OF EACH APPROACH ROADWAY.

SIDE ROAD SURFACING NOTE

WHEN THE SIDE ROAD IS NOT PRESENTLY PAVED, PAVEMENT SHALL BE PLACED TO THE LIMITS SHOWN UNLESS OTHERWISE PROVIDED IN THE CONTRACT. WHERE THE CONSTRUCTION LIMITS ARE BEYOND THE PAVING LIMITS, CRUSHED AGGREGATE SURFACING SHALL BE PLACED BETWEEN THE PAVING LIMITS AND CONSTRUCTION LIMITS.

WHEN THE SIDE ROAD IS PRESENTLY PAVED, NEW PAVEMENT SHALL BE PLACED TO THE LIMITS OF DESIGN AS SHOWN AND BEYOND, IF NECESSARY, TO MEET EXISTING PAVEMENT.

WHEN THE SIDE ROAD IS THE CONSTRUCTION PROJECT, THE INTERSECTION SURFACING SHALL BE THE SAME AS FOR THE PROJECT.

▨ EXISTING PAVED SURFACE

▒ BYPASS LANE

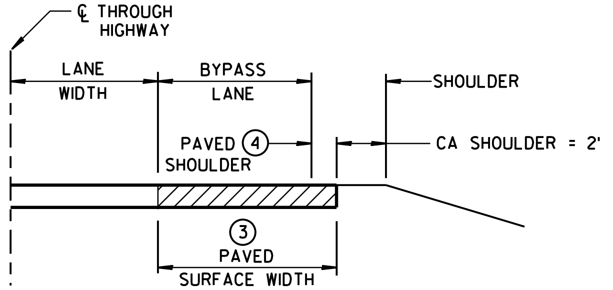
① 10-FT TYPICAL.

② 12-FT** PLUS ADDITIONAL WIDTH FOR BIKE LANE IF SHOWN ELSEWHERE IN THE PLAN.

**10-FT MAY BE USED ON TYPE B2 ON RESURFACING PROJECTS IF SPECIFIED IN THE CONTRACT.

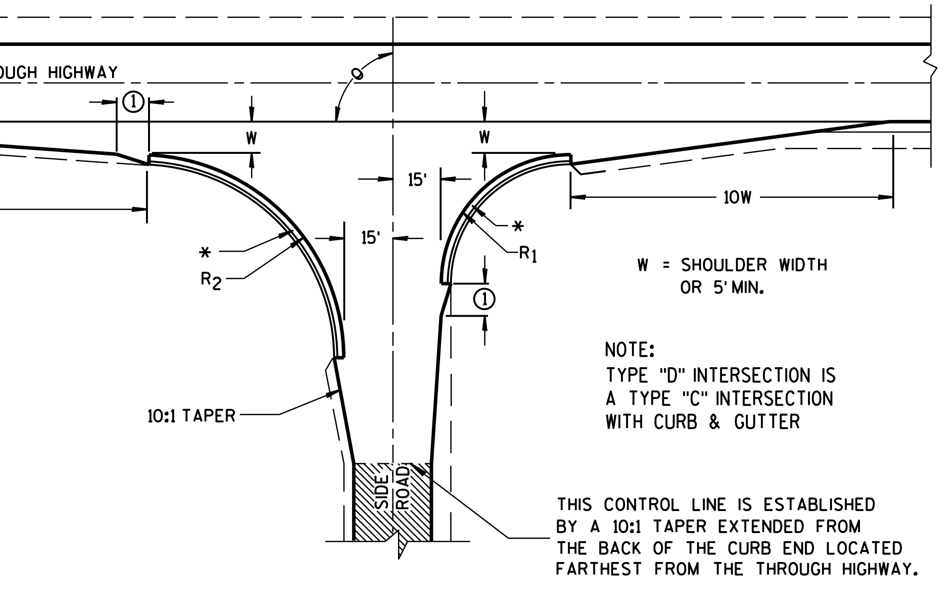
③ BYPASS LANE PAVED SURFACE WIDTH OUTSIDE OF TRAVEL LANE
-ASPHALT = 12-FT PLUS PAVED SHOULDER WIDTH.
-PC CPNCRETE = 13-FT PLUS PAVED SHOULDER WIDTH.

④ BYPASS LANE PAVED SHOULDER WIDTH = THE GREATER OF 1-FT OR THE PAVED SHOULDER WIDTH OF THE THROUGH HIGHWAY.



SECTION A-A

(SHOWING BYPASS LANE AND SHOULDER)

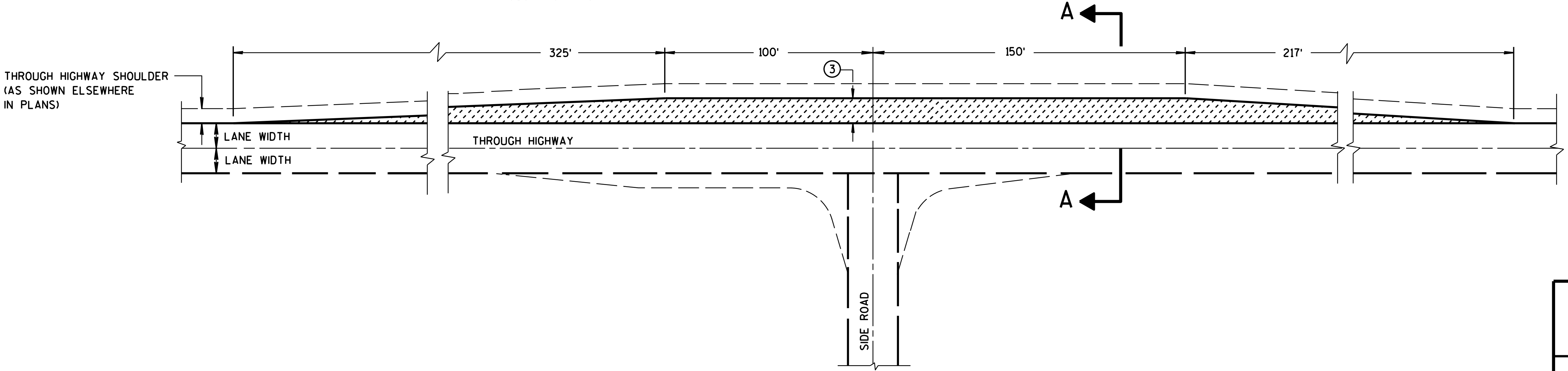


W = SHOULDER WIDTH OR 5' MIN.

NOTE:
TYPE "D" INTERSECTION IS A TYPE "C" INTERSECTION WITH CURB & GUTTER

THIS CONTROL LINE IS ESTABLISHED BY A 10:1 TAPER EXTENDED FROM THE BACK OF THE CURB END LOCATED FARTHEST FROM THE THROUGH HIGHWAY.

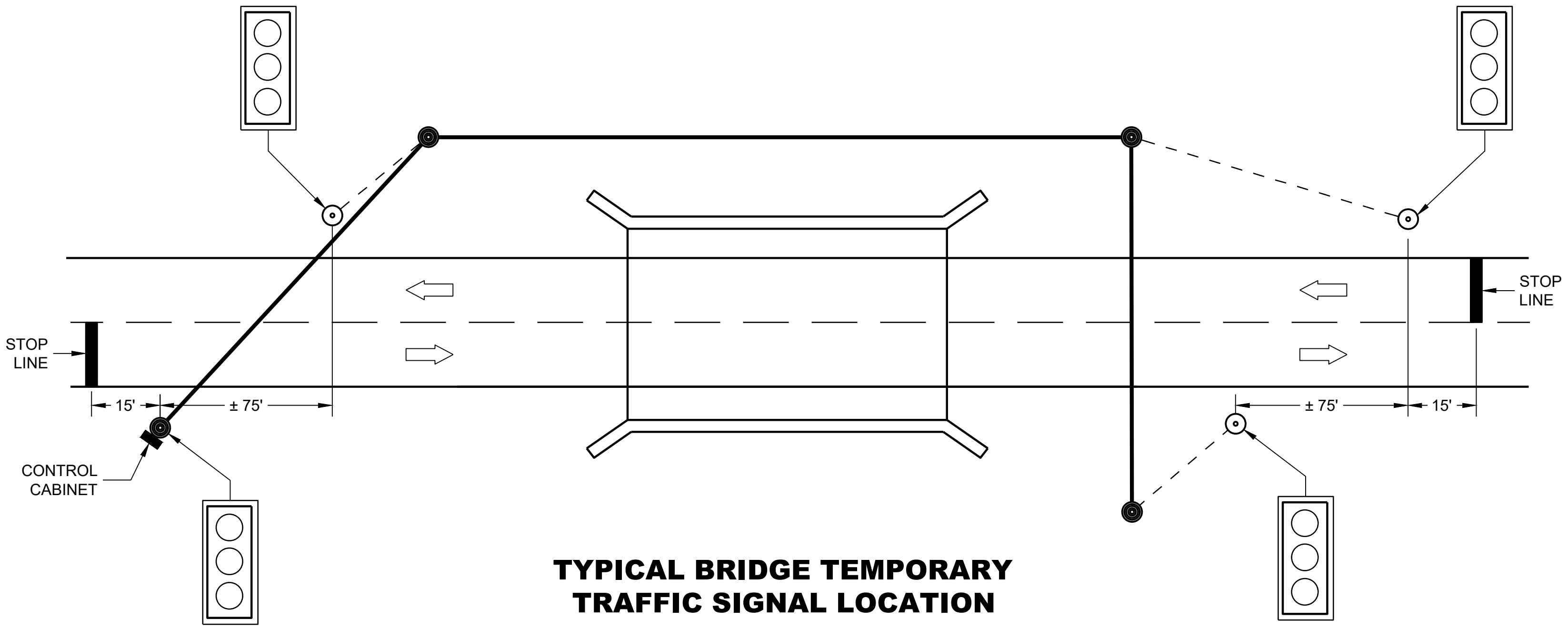
TYPE "D"



TEE INTERSECTION BYPASS LANE DETAIL

AT-GRADE SIDE ROAD
INTERSECTION, TYPES "B1", "B2",
"C" AND "D" AND TEE
INTERSECTION BYPASS LANE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO



TYPICAL BRIDGE TEMPORARY TRAFFIC SIGNAL LOCATION

LEGEND

- ● WOOD POLE (NON-BREAKAWAY)
- ⊙ WOOD POST (BREADAWAY)
- – – – SIGNAL CABLE
- ━━ SIGNAL CABLE W/MESSENGER
- ⇨ DIRECTION OF TRAFFIC
- LED TRAFFIC SIGNAL WITH BACKPLATE (3-12")

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

POLE MOUNTED TRAFFIC SIGNAL CONTROL CABINET MAY BE MOUNTED ON THE SERVICE POLE IF THE ELECTRICAL UTILITY ALLOWS THE INSTALLATION.

WHEN UTILITY POLES ARE USED TO SPAN THE TEMPORARY OVERHEAD CABLE, WRITTEN PERMISSION MUST BE OBTAINED FROM THE OWNER OF THE POLES AND GIVEN TO THE PROJECT MANAGER. ALL PERTINENT UTILITY AND CODE CLEARANCES SHALL BE MAINTAINED.

WOOD POLES (NON-BREAKAWAY) SHALL BE NO CLOSER TO EDGE OF PAVEMENT THAN OFFSET DISTANCE CHART ALLOWS OR 4 FEET BEHIND PROTECTIVE BARRIER (BEAM GUARD, ETC.).

WOOD POSTS (BREAKAWAY) SHALL BE NO CLOSER THAN 2 FEET OUTSIDE OF SHOULDER.

VERTICAL CLEARANCE ETC. PER NEC.

TRAFFIC SIGNAL FACES SHALL BE TYPICALLY PLACED 12 FEET FROM EDGE OF PAVEMENT.

EACH TRAFFIC SIGNAL SHALL HAVE A BACKPLATE.

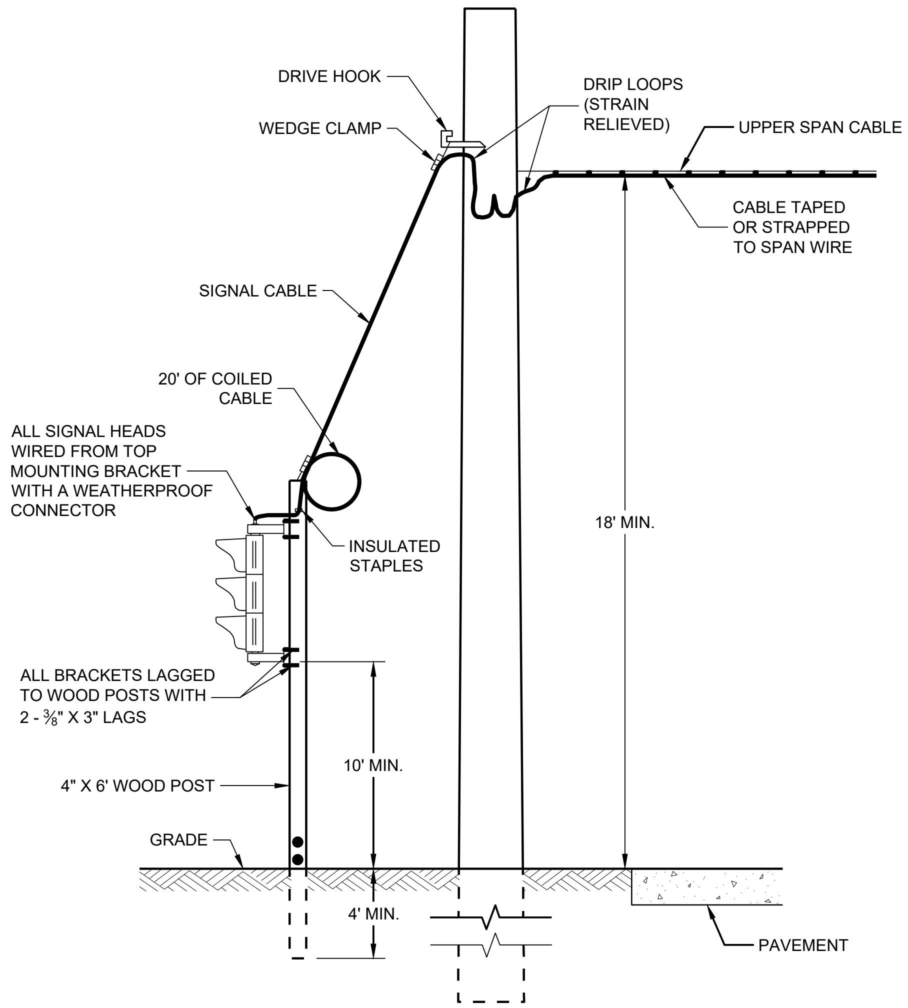
SIGNING, PAVEMENT MARKING AND LANE CONTROL REQUIREMENTS SHALL CONFORM TO STANDARD DETAIL DRAWING 15D33.

MINIMUM POLE LENGTHS	CLASS	POLE BURIAL DEPTHS
25'	V	5'
30'	V	6'
35'	IV	7'
40'	IV	8'
45'	IV	9'

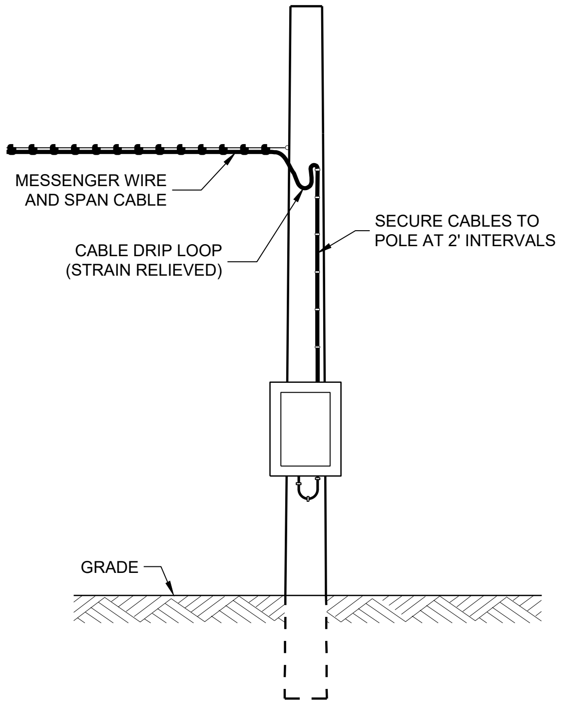
OFFSET DISTANCES FOR TEMPORARY NON-BREAKAWAY POLES

SPEED LIMIT	OFFSET DISTANCE*
GREATER THAN 45 MPH	18 FT
45 MPH OR LESS	12 FT
45 MPH OR LESS W/CURBS	2 FT

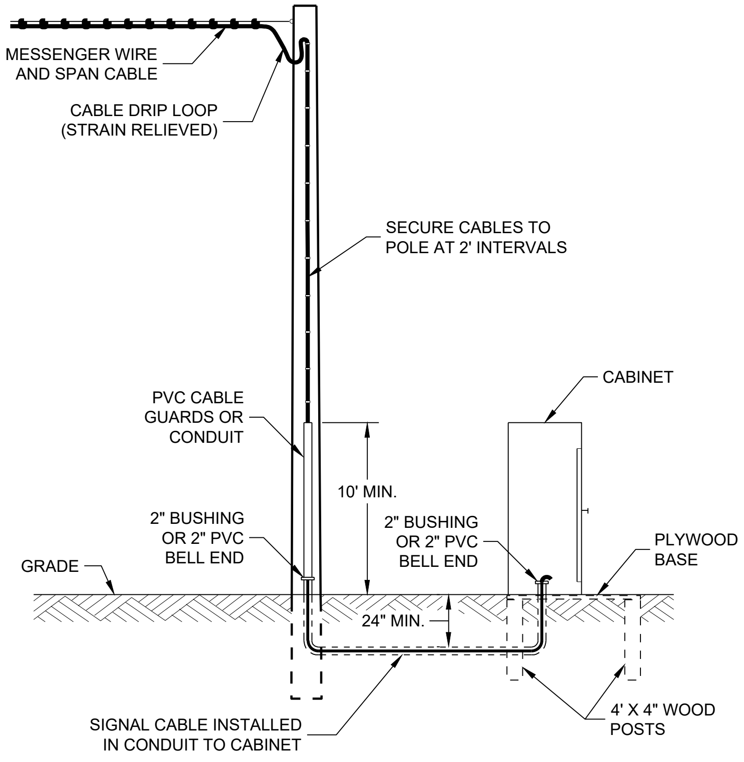
* NOTE: OFFSET MEASURED FROM OUTER EDGE OF OUTSIDE THRU LANE.



TYPICAL DROP TO TRAFFIC SIGNAL FACE



POLE MOUNT CABINET INSTALLATION



GROUND MOUNT CABINET INSTALLATION

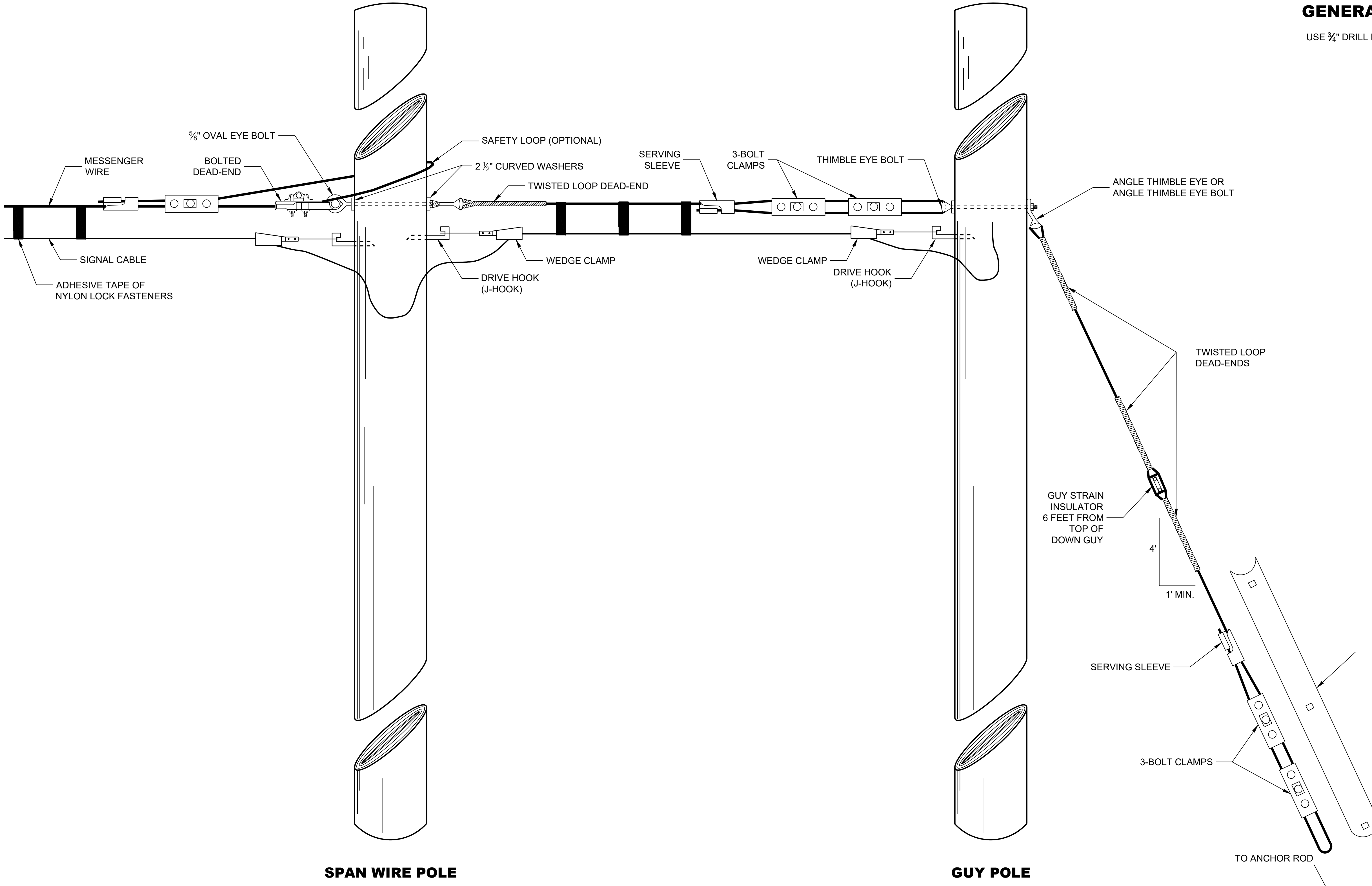
BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
March 2018 — DATE
/S/ Ahmet Demirbilek — ROADWAY STANDARDS DEVE ENGINEER
FHWA

GENERAL NOTES

USE ¾" DRILL IN WOOD POLE TO PROVIDE FOR ⅝" BOLTS.



TYPICAL DEAD-ENDINGS OR GUYING

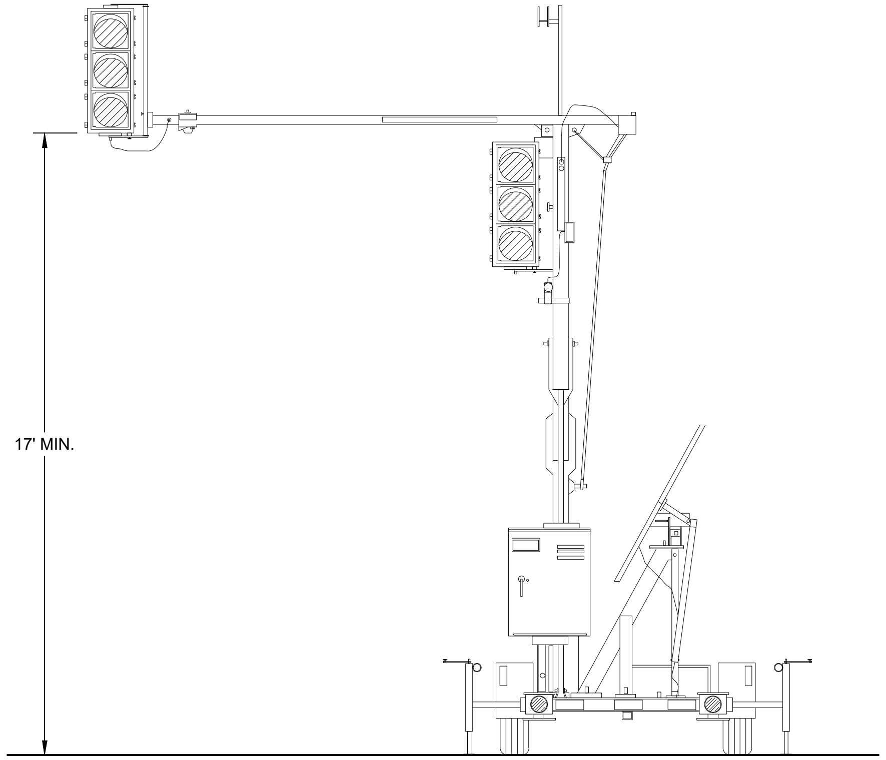
BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2015
DATE

/S/ Ahmet Demerbilek
ROADWAY STANDARDS DEVE
ENGINEER

FHWA

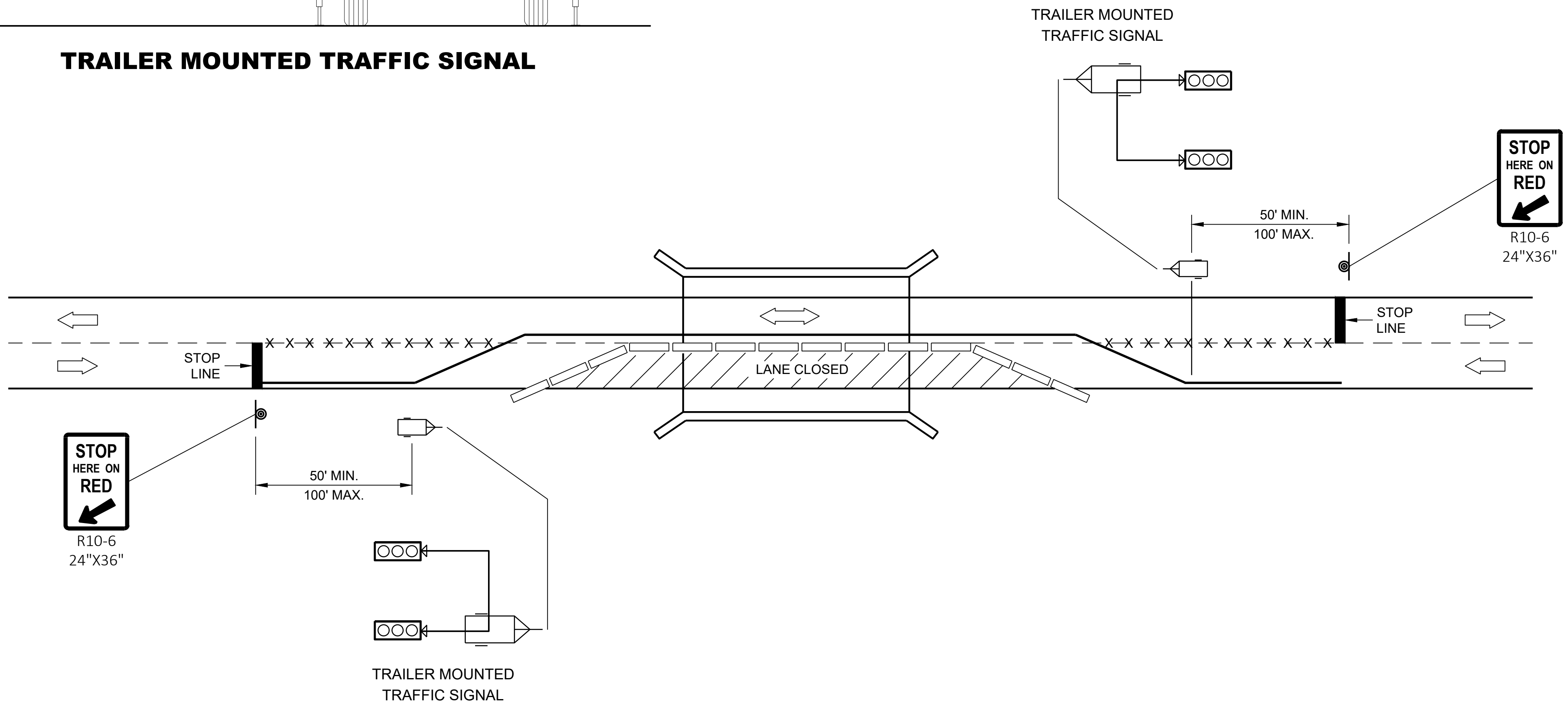


TRAILER MOUNTED TRAFFIC SIGNAL

GENERAL NOTES

DETAIL OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

SIGNING, PAVEMENT MARKING AND LANE CONTROL REQUIREMENTS SHALL CONFORM TO STANDARD DETAIL DRAWING 15D33.



LEGEND

POST MOUNTED SIGN

TEMPORARY PRECAST CONCRETE BARRIER

TRAILER MOUNTED TRAFFIC SIGNAL

REMOVE PAVEMENT MARKINGS

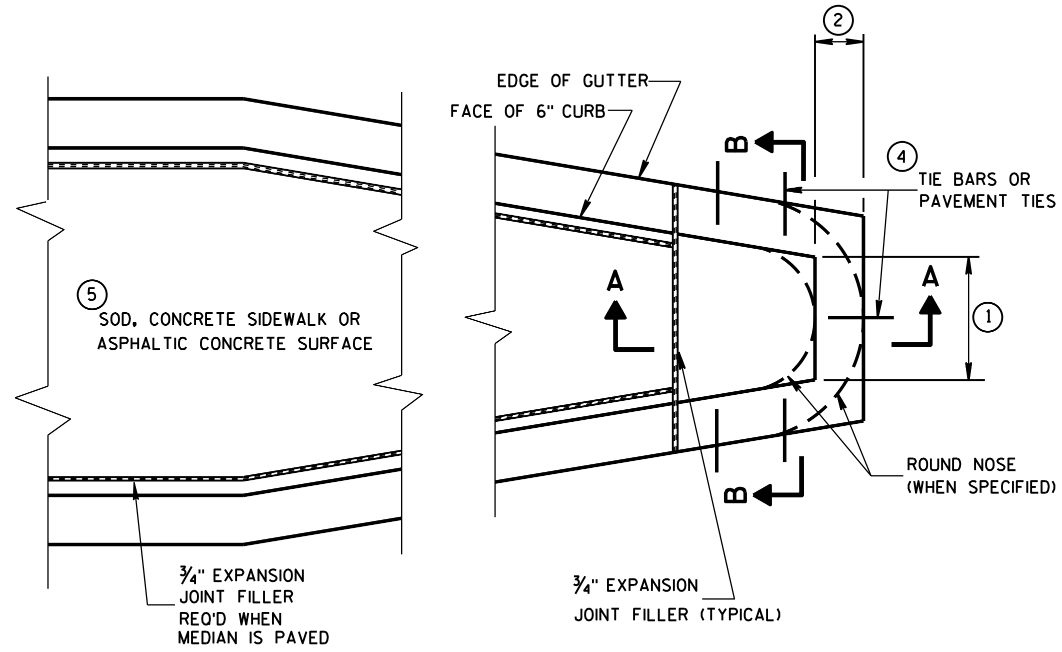
DIRECTION OF TRAFFIC

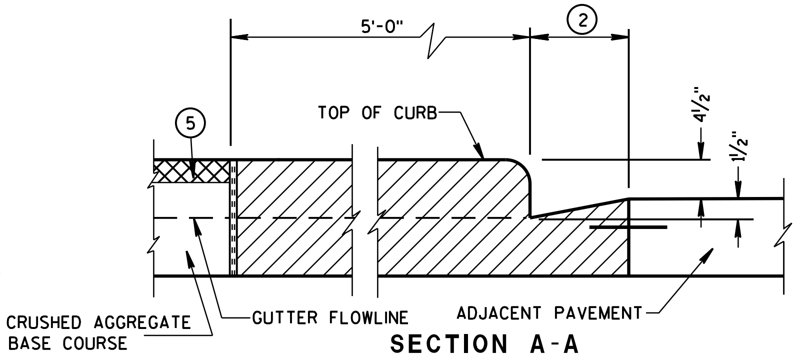
TYPICAL TRAILER MOUNTED TRAFFIC SIGNAL LOCATION

BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION

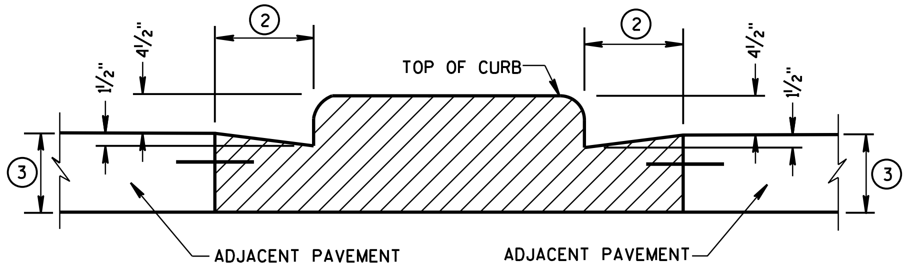
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2015
DATE
/S/ Ahmet Demerbilek
ROADWAY STANDARDS DEVE
ENGINEER
FHWA





SECTION A-A



SECTION B-B

CONCRETE MEDIAN BLUNT NOSE DETAIL

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

① SEE PLAN FOR MEDIAN NOSE WIDTH AND RADIUS (FOR ROUND NOSE ALTERNATE).

② WIDTH OF GUTTER TO MATCH EXISTING ADJACENT GUTTER OR AS SPECIFIED ELSEWHERE IN THE PLAN.

③ DEPTH EQUAL TO ADJACENT PAVEMENT. ADJACENT PAVEMENT STRUCTURE DETAILS ARE SHOWN ON THE PLAN. TYPICAL OPTIONS ARE:

(1) NEW OR EXISTING CONCRETE PAVEMENT.

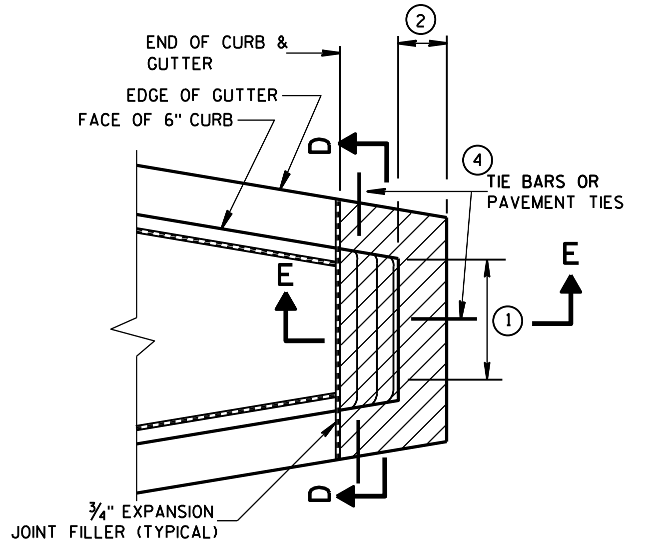
(2) ASPHALTIC CONCRETE PAVEMENT OVER NEW OR EXISTING CONCRETE BASE COURSE.

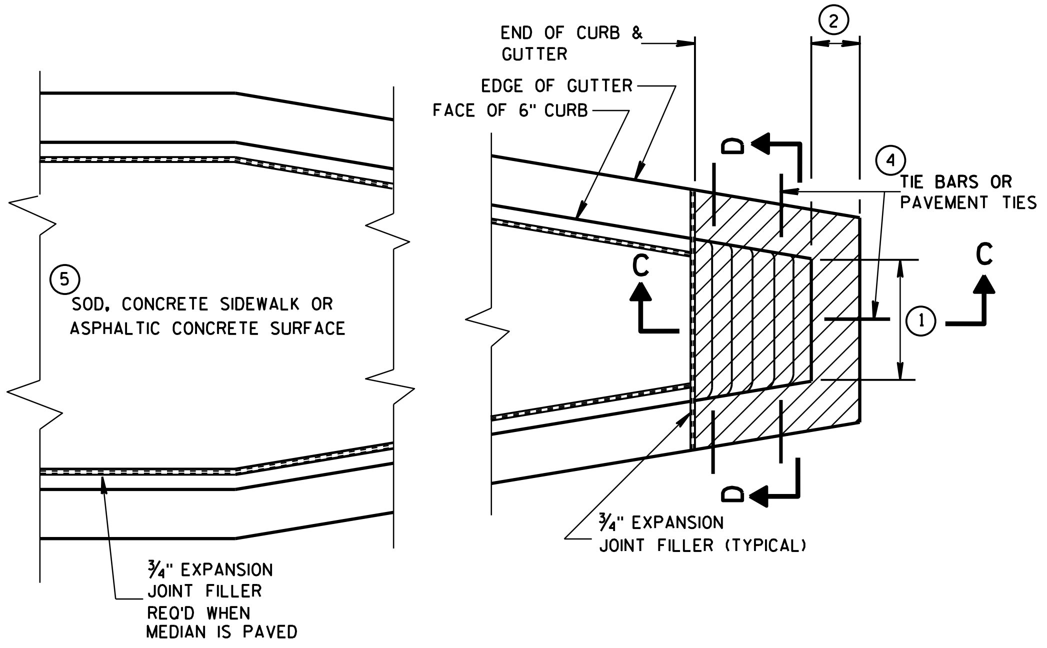
(3) ASPHALTIC CONCRETE PAVEMENT OVER CRUSHED AGGREGATE BASE COURSE.

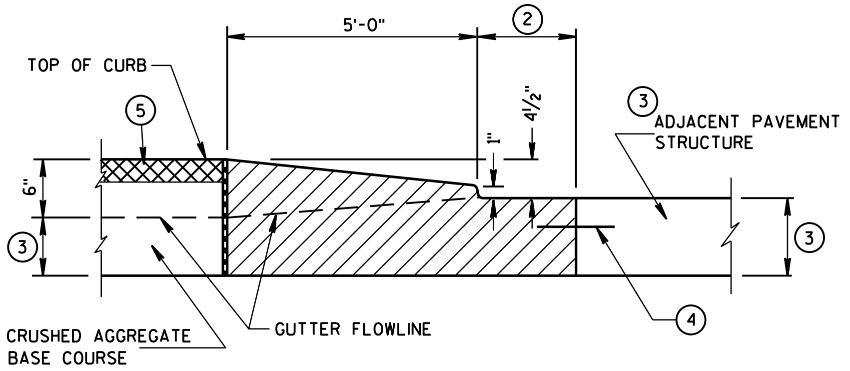
④ TIE BARS OR PAVEMENT TIES REQUIRED IN NEW CONCRETE PAVEMENT OR CONCRETE BASE COURSE. TIE BARS SHALL BE NO. 4 X 2'-0" SPACED AT 2'-0" C-C.

PAVEMENT TIES REQUIRED IN EXISTING CONCRETE BASE COURSE. PAVEMENT TIES SHALL BE NO. 6 X 1'-0" SPACED AT 3'-0" C-C INSTALLED ON A HORIZONTAL SKEW OF 6:1. THE DIRECTION OF SKEW SHALL ALTERNATE AFTER EVERY ONE OR TWO BARS.

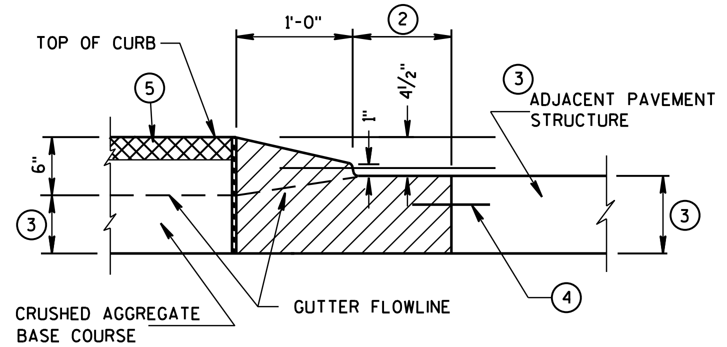
⑤ SURFACE TYPE AND DETAILS ARE SHOWN ELSEWHERE IN THE PLAN.







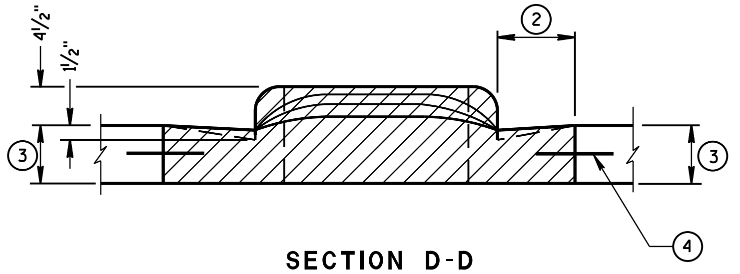
SECTION C-C



SECTION E-E

CONCRETE MEDIAN SLOPED NOSE TYPE 2

CONCRETE MEDIAN SLOPED NOSE TYPE 1



SECTION D-D

CONCRETE MEDIAN NOSE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
6/8/2006
DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS D NT
ENGINEER
FHWA

GENERAL NOTES

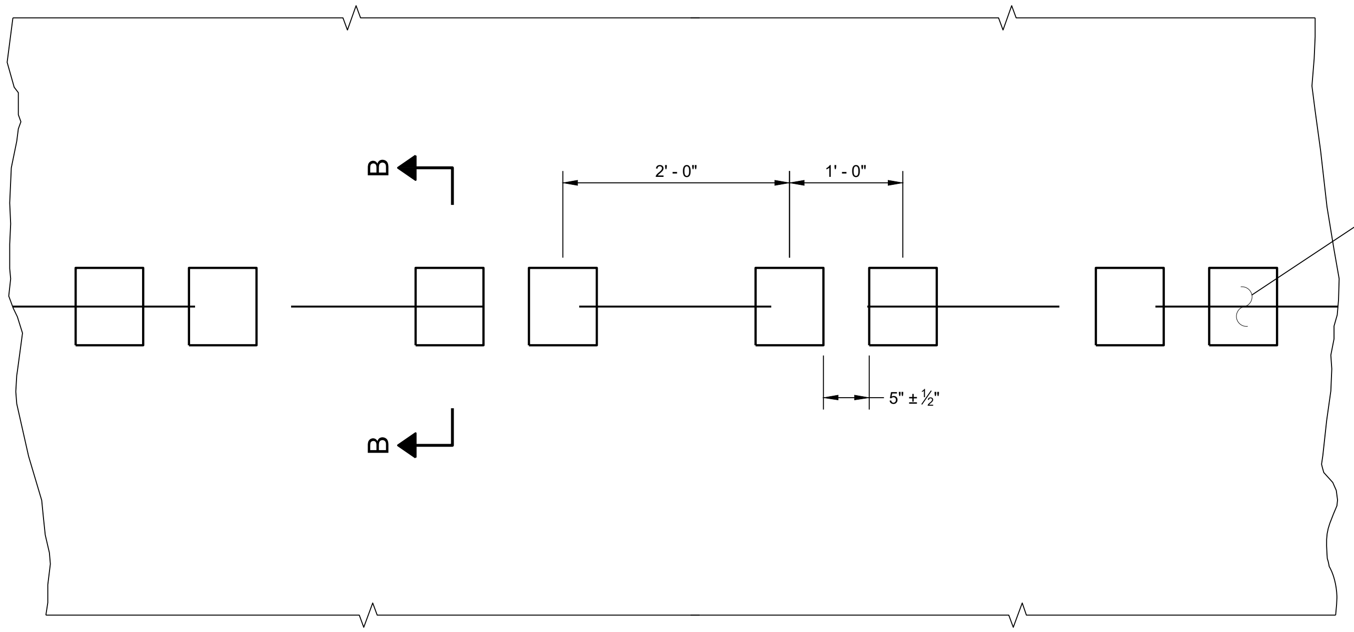
DETAILS OF CONSTRUCTION NO SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

DO NOT MILL CENTERLINE GROOVES THROUGH ANY INTERSECTION, MARKED CROSSWALK, NON-MOTORIZED PATH CROSSING, OR SNOWMOBILE CROSSING.

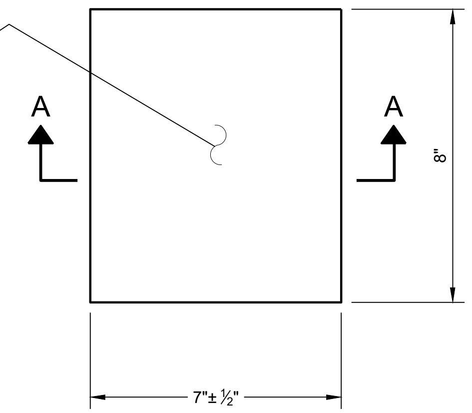
INSTALL PAVEMENT MARKING AFTER THE GROOVES ARE INSTALLED.

SEE SIGNING PLAN FOR SIGN REQUIREMENTS THAT MAY BE NEEDED.

① CENTERLINE GROOVES MAY BE OMITTED IN AREAS WITH HIGH CONCENTRATIONS OF DRIVEWAYS. WHEN DIRECTED BY THE ENGINEER.

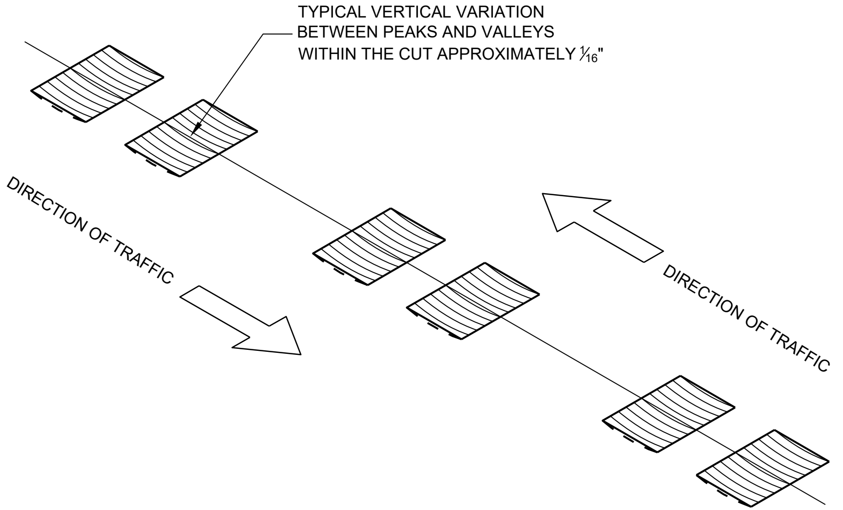


PLAN VIEW
SHOULDER WITH GROOVES

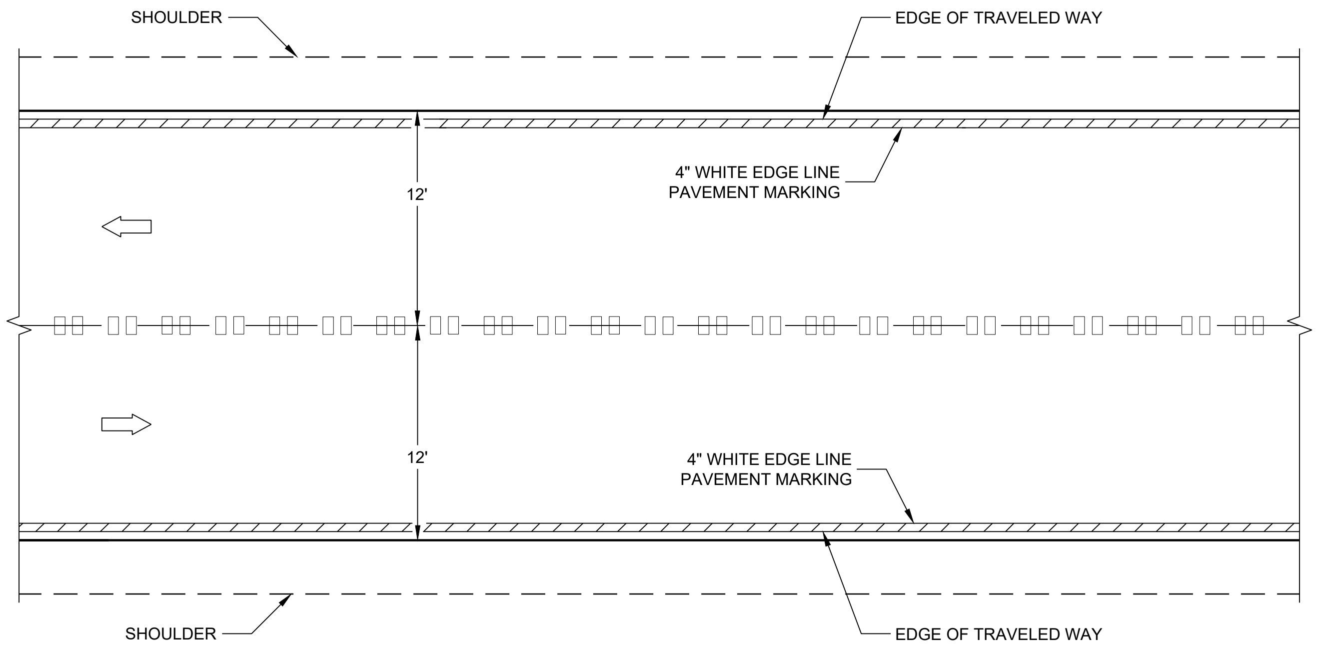


PLAN VIEW
(SINGLE GROOVE)

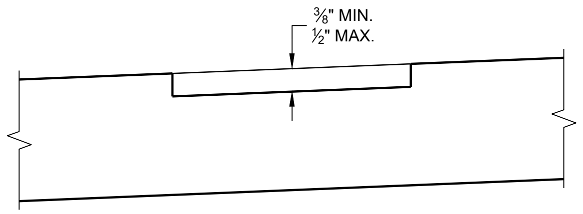
PLACEMENT DETAIL FOR TYPE 1 MILLED RUMBLE STRIP



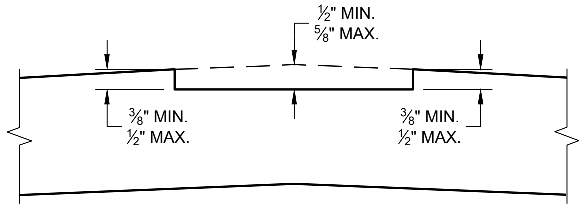
ISOMETRIC



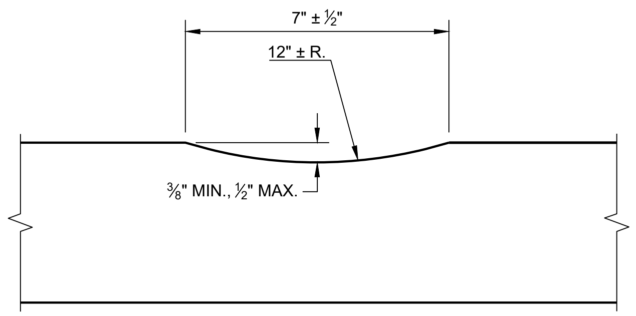
CENTERLINE GROOVES ON TWO-WAY ROADWAYS



SECTION B - B
SUPERELEVATED ROADWAY



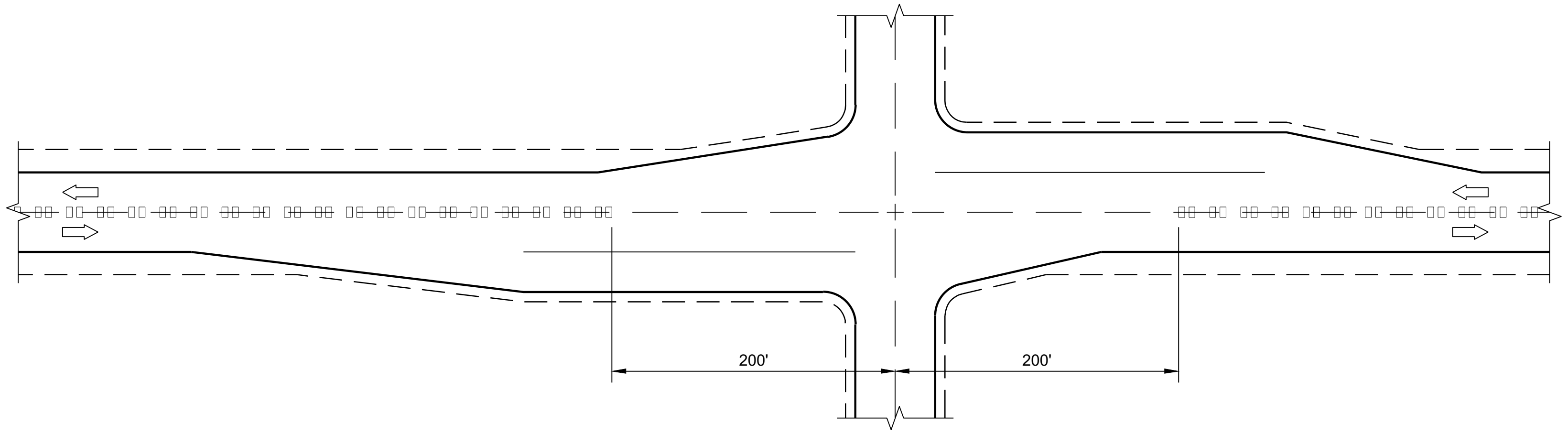
SECTION B - B
CROWNED ROADWAY



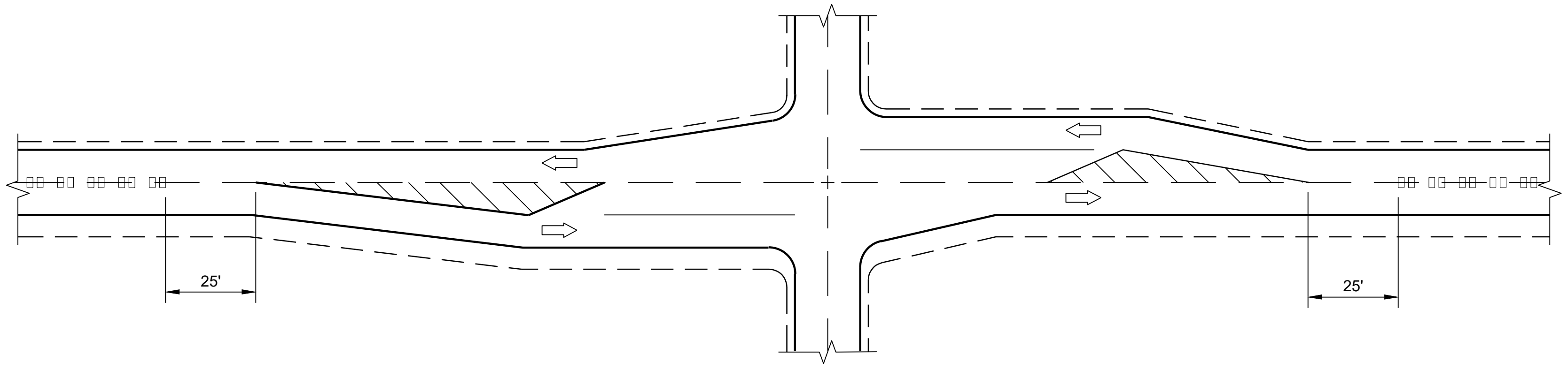
SECTION A - A

**2-LANE RURAL
CENTER LINE RUMBLE STRIP,
MILLING**

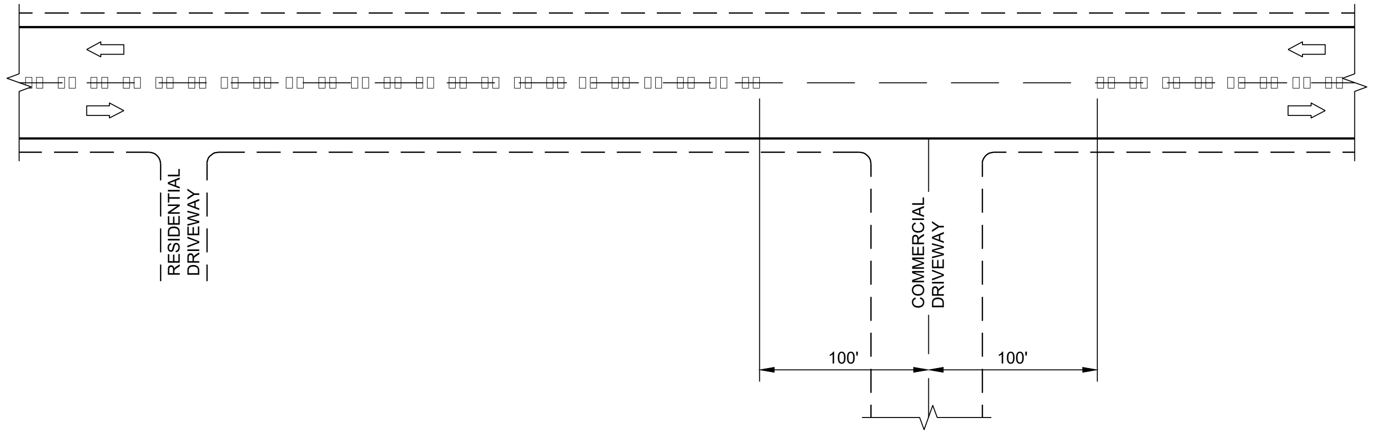
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTA



CENTERLINE GROOVES AT INTERSECTIONS



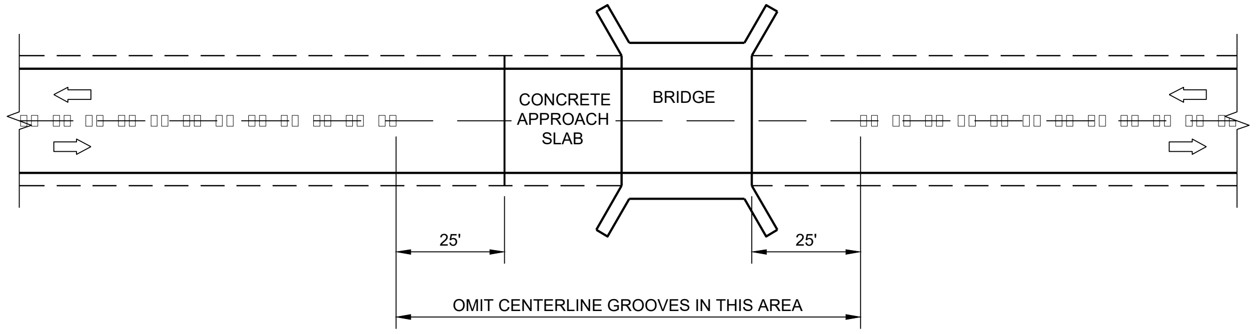
CENTERLINE GROOVES AT INTERSECTIONS
(WITH LEFT TURN LANES)



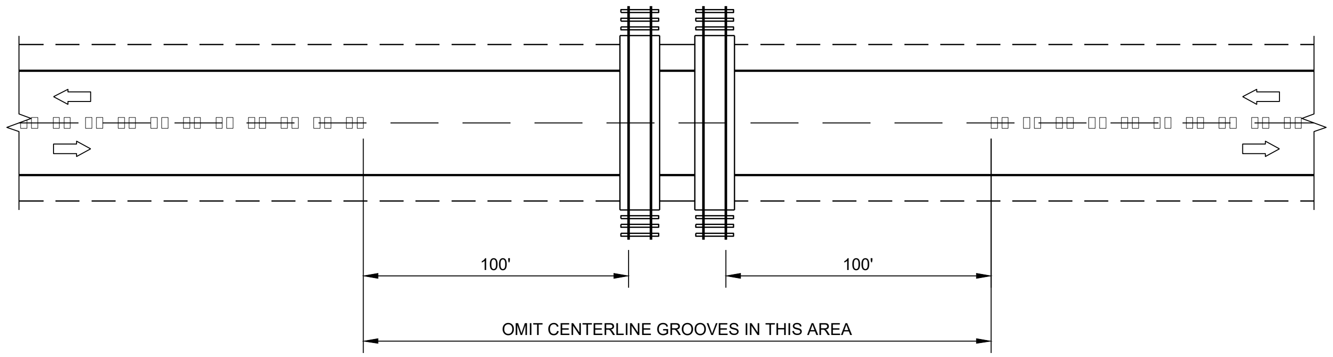
CENTERLINE GROOVES AT DRIVEWAYS①

GENERAL NOTES

① CENTERLINE GROOVES MAY BE OMITTED IN AREAS WITH HIGH CONCENTRATIONS OF DRIVEWAYS. WHEN DIRECTED BY THE ENGINEER.



CENTERLINE GROOVES AT BRIDGES

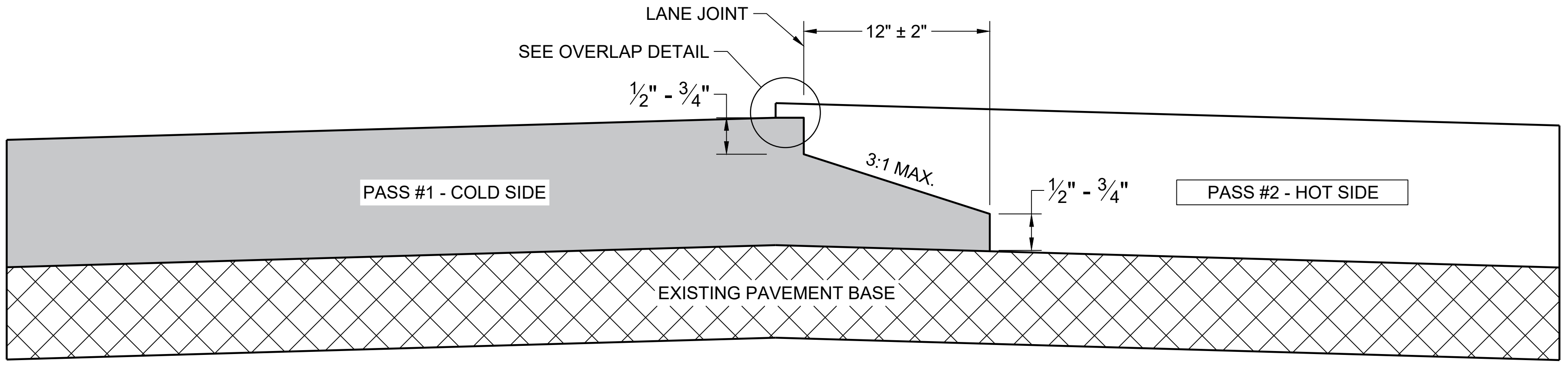


CENTERLINE GROOVES AT RAILROADS

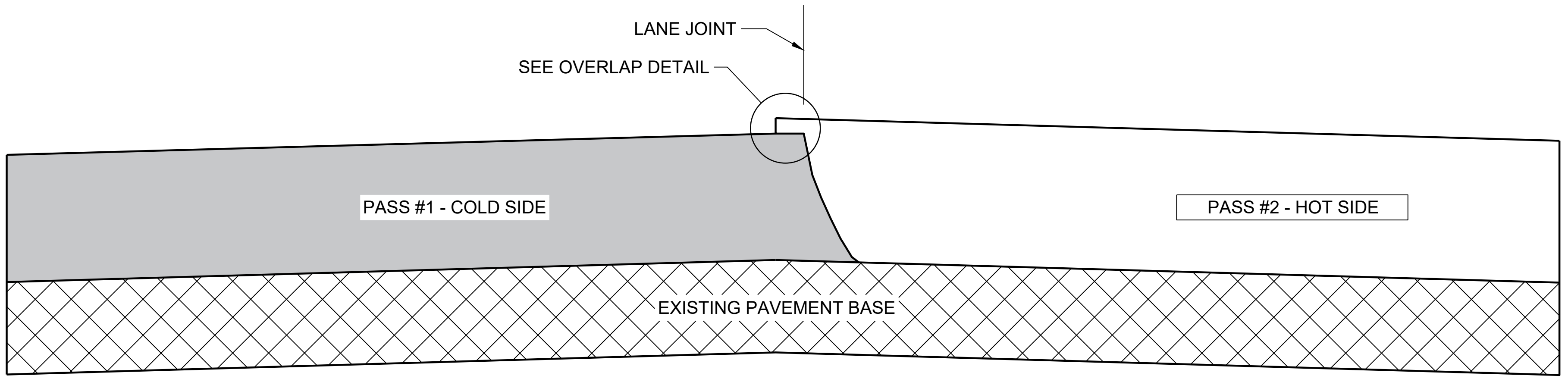
2-LANE RURAL
CENTERLINE RUMBLE STRIP,
MILLING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

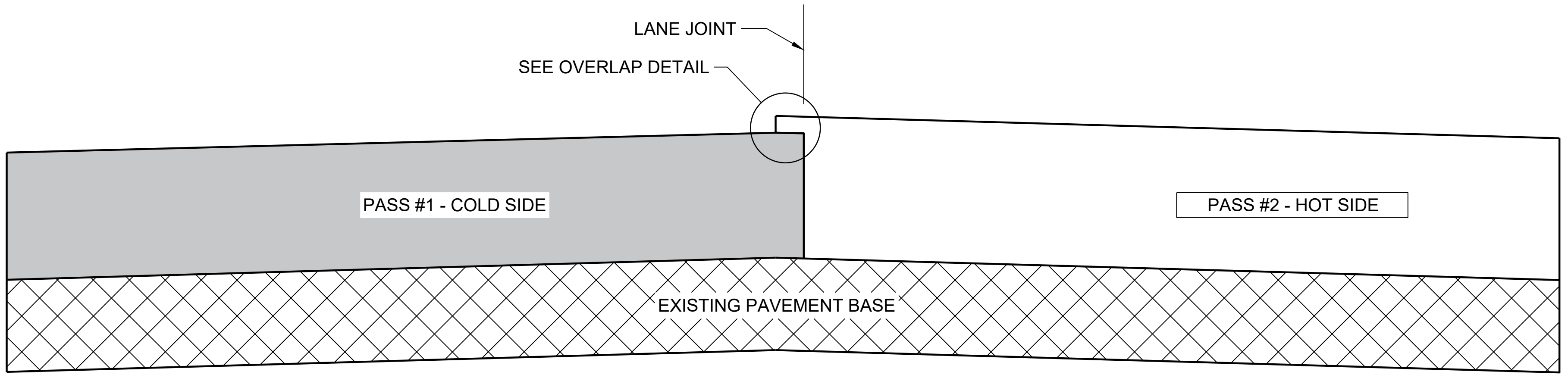
APPROVED
7/2018
DATE
/S/ Rodney Taylor
ROADWAY STANDARDS DEVE
ENGINEER
FHWA



TYPICAL PAVEMENT CROSS SECTION NOTCHED WEDGE JOINT



TYPICAL PAVEMENT CROSS SECTION VERTICAL JOINT



TYPICAL PAVEMENT CROSS SECTION VERTICAL JOINT (MILLED)

GENERAL NOTES

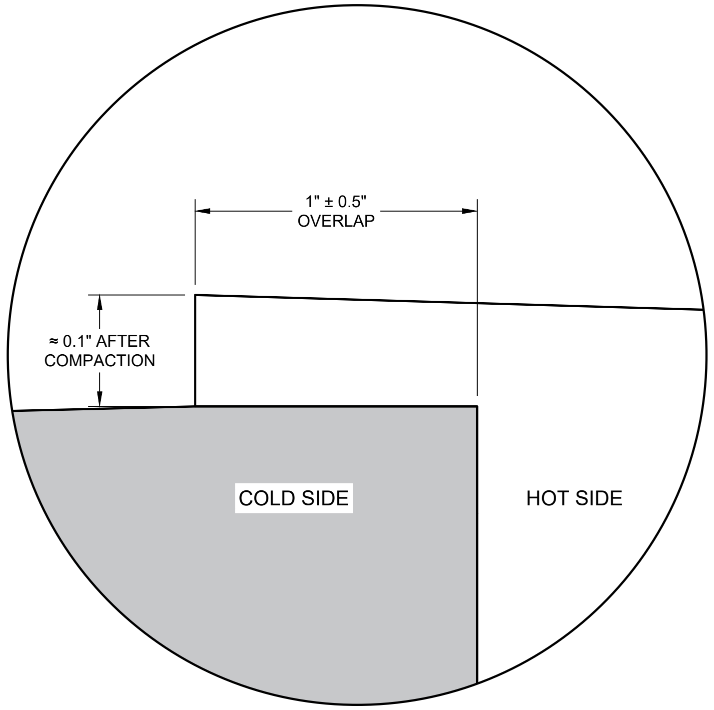
IN ADDITION TO THE DETAILS PROVIDED IN THIS DRAWING, CONFORM TO STANDARD SPECIFICATION 450.3.2.8 FOR WHEN A NOTCHED WEDGE JOINT IS REQUIRED AND FOR GENERAL JOINT CONSTRUCTION REQUIREMENTS.

FOR ALL LONGITUDINAL JOINTS, ENSURE THE PAVER SCREED OVERLAPS THE PREVIOUSLY PLACED PAVEMENT BY 1" ± 0.5" AND THE HOT SIDE OF THE JOINT REMAINS HIGHER THAN THE COLD SIDE BY APPROXIMATELY 0.1" AFTER FINAL COMPACTION. (IT WILL BE FLUSH WHEN PAVING IN ECHELON.)

ONLY REMOVE THE LONGITUDINAL NOTCHED WEDGE JOINT FOR SMA PAVEMENT OR AS DIRECTED BY THE ENGINEER TO ADDRESS SPECIFIC LENGTHS OF JOINT DAMAGED BY TRAFFIC.

WHEN MILLING BACK OR REMOVING ANY LONGITUDINAL JOINT, LIMIT THE MATERIAL REMOVED TO 2" FROM THE TOP NOTCH OR FROM THE VERTICAL JOINT EDGE ON THE COLD SIDE OF THE JOINT.

USE LONGITUDINAL MILLED JOINT AS PLANS SHOW OR THE AS THE ENGINEER DIRECTS.

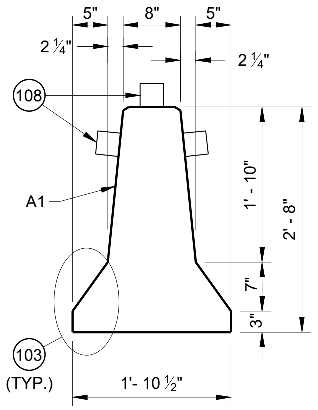


OVERLAP DETAIL (TYPICAL)

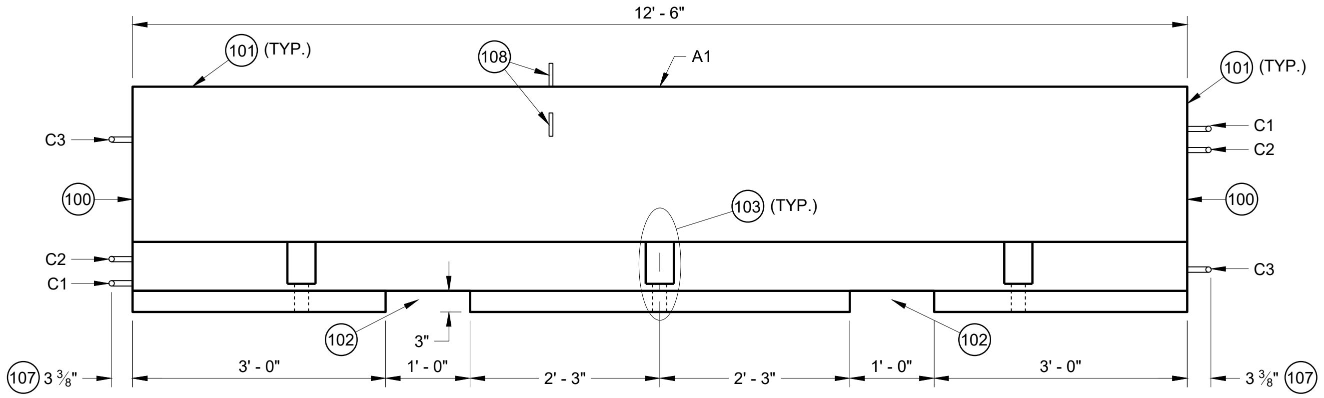
HMA LONGITUDINAL JOINTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2020
DATE
/S/ Steven Hefel
HMA PAVEMENT ENGINI
FHWA



CROSS SECTION



PROFILE VIEW

GENERAL NOTES

PLACE BARRIER ON PAVED SURFACE. BEFORE PLACEMENT OF TEMPORARY BARRIER, REMOVE ALL LOOSE MATERIAL FROM PAVED SURFACE.

LOOP BARS C1, C2 AND C3 ARE NOT FOR PLACEMENT OR MOVEMENT OF BARRIER.

⑩⓪ PERMANENTLY FORM INTO ONE END OF BARRIER THE FOLLOWING INFORMATION:
- A. TYPE OF BARRIER: WI-CBTP
- B. MANUFACTURER
- C. DATE OF MANUFACTURE (MONTH AND YEAR)

(101) 1" OPTIONAL CHAMFER

(102) SEE LIFTING SLOT DETAIL

(103) SEE ANCHOR BLOCK DETAIL

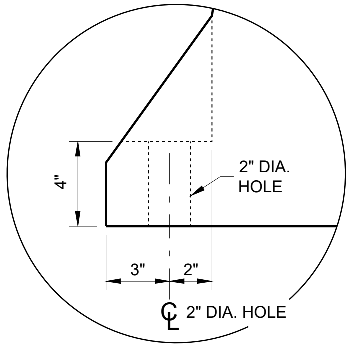
(104) 1 ¾" MIN. CLEAR COVER

(105) 2" MIN. CLEAR COVER

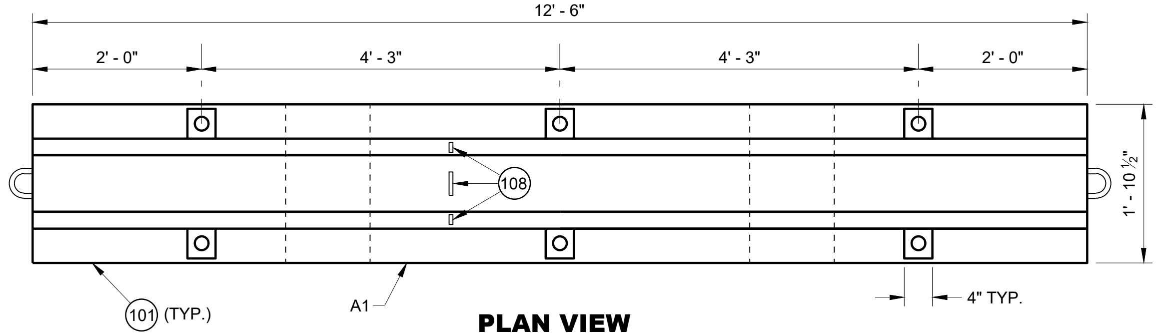
(106) 1" MIN. CLEAR COVER

(107) ± ⅛" MEASURED FROM FACE OF CONCRETE BARRIER TO OUTSIDE OF LOOP BAR (TYP.)

(108) USE DELINEATORS CONFORMING TO SECTION 633 OF THE STANDARD SPECIFICATIONS. CONTRACTOR MY USE ALTERNATE SHAPES AND HOUSING. INSTALL DELINEATORS ACCORDING TO MANUFACTURERS INSTRUCTION. INSTALL YELLOW REFLECTORS WHEN BARRIER IS LOCATED LEFT OF TRAFFIC AND WHITE WHEN BARRIER IS LOCATED RIGHT OF TRAFFIC. SPACE DELINEATORS A MAXIMUM OF 25 FEET APART, PROVIDE TO MOUNTED DELINEATORS IN ADDITION TO SIDE MOUNTED DELINEATORS ON BARRIER INSTALLATIONS LOCATED ON A CURVED ALIGNMENT LONGER THAT 200 FEET AND ON BARRIERS USED TO SEPARATE OPPOSING TRAFFIC.

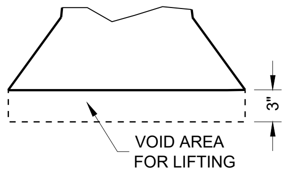


ANCHOR BLOCK DETAIL

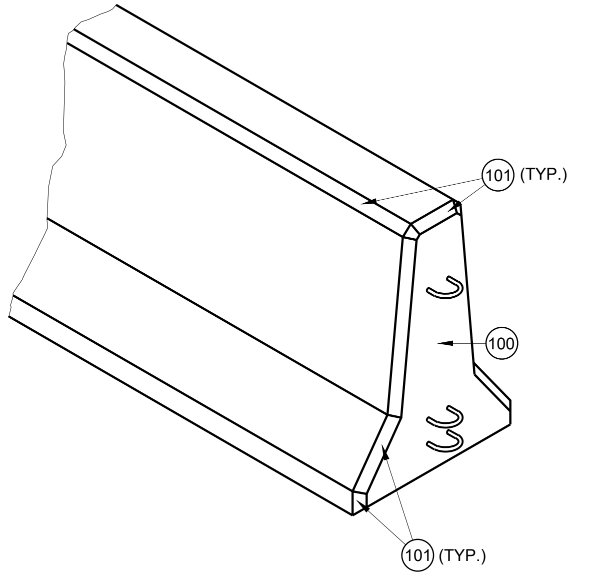


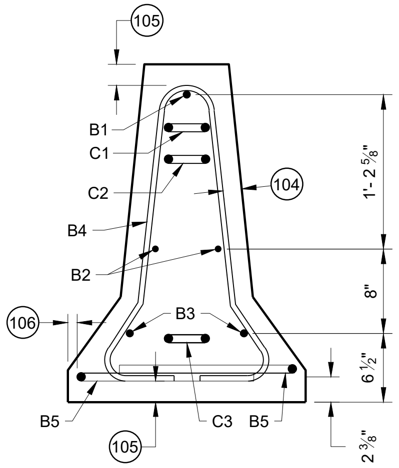
PLAN VIEW

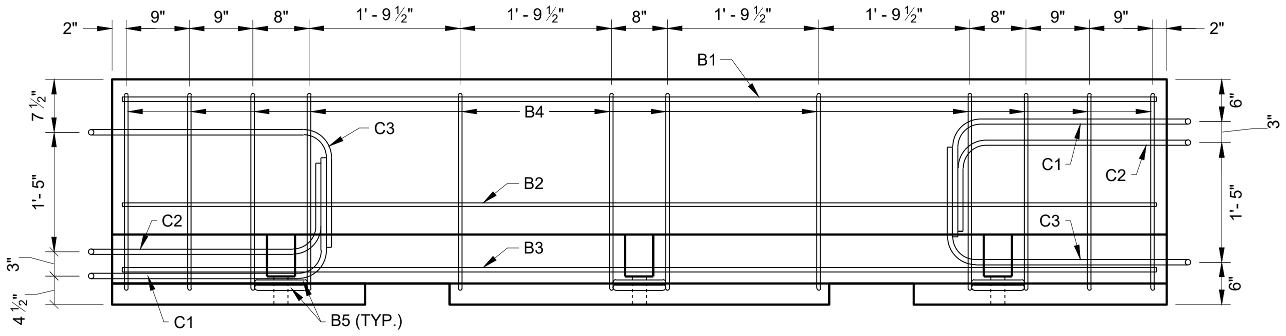
TEMPORARY BARRIER



LIFTING SLOT DETAIL (TYP.)





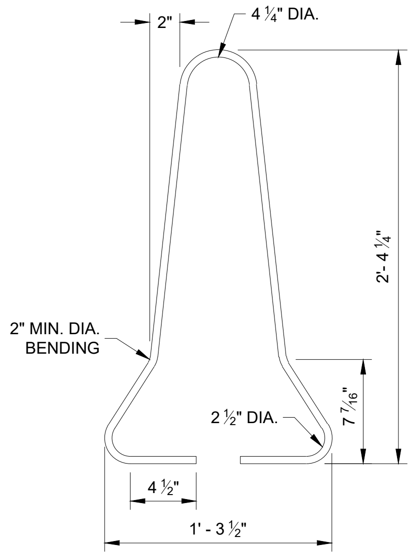


PROFILE VIEW

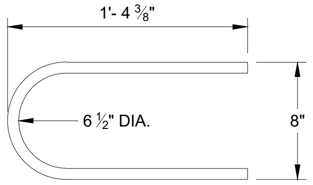
TEMPORARY BARRIER REINFORCEMENT

CONCRETE BARRIER
TEMPORARY PRECAST,
12' - 6"

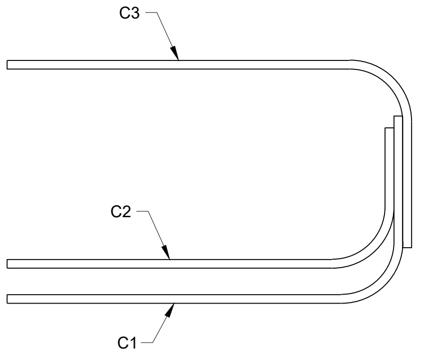
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTAT



B4 BAR DETAIL

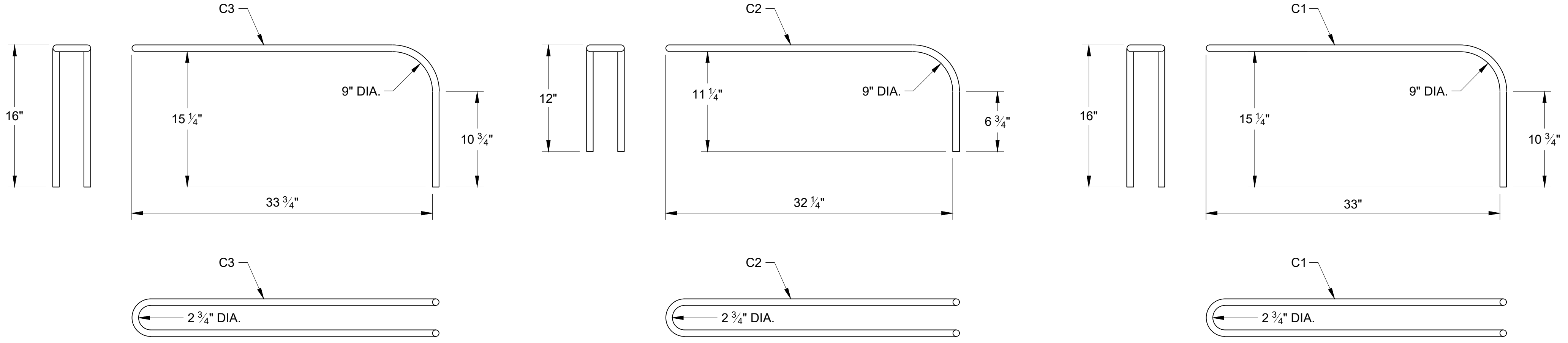


B5 BAR DETAIL



PROFILE VIEW

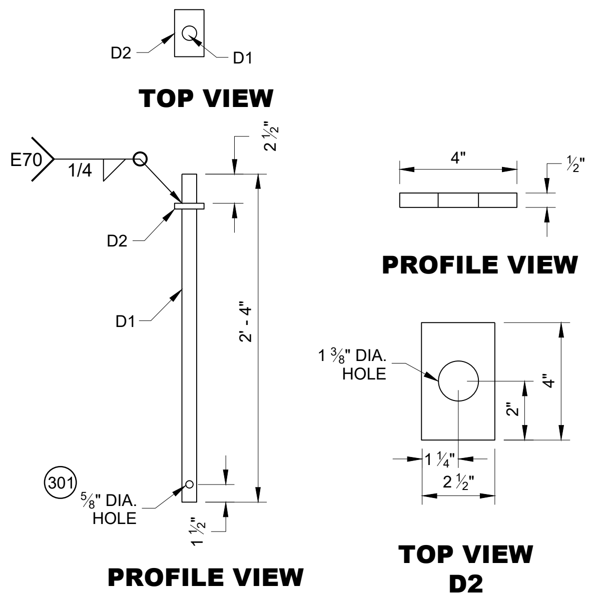
LOOP BAR ASSEMBLY



C BAR DETAILS

CONCRETE BARRIER
TEMPORARY PRECAST,
12' - 6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTAT



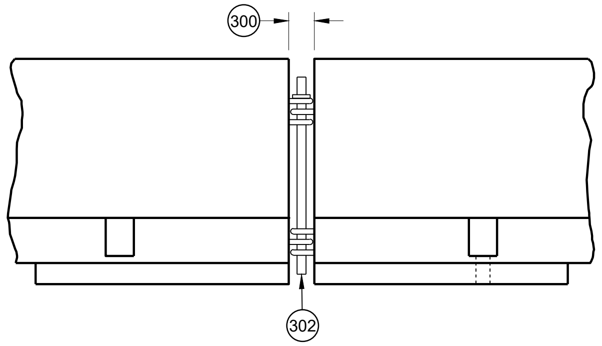
TOP VIEW

PROFILE VIEW

PROFILE VIEW

TOP VIEW
D2

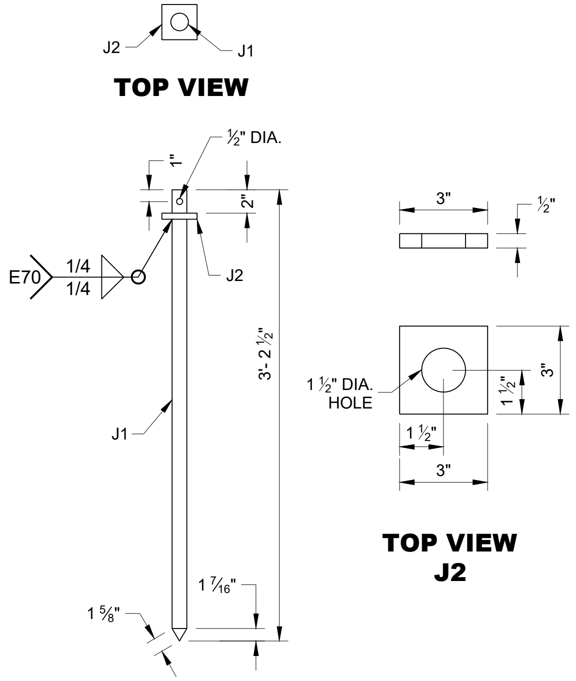
CONNECTOR PIN ASSEMBLY



CONNECTING TEMPORARY BARRIER SECTIONS

GENERAL NOTES

- ⑶⓪⓪ SET WITH 3 ⅝" WOOD BLOCK.
- (301) HOLE IS OPTIONAL.
- (302) CONNECTOR PIN ASSEMBLY.
- (303) CONCRETE PAVEMENT, APPROACH SLAB, OR DECK.
- (304) CONCRETE DECK.
- (305) DO NOT USE ON CONCRETE BRIDGE DECK WITH ASPHALT OVERLAY OR CONCRETE PAVEMENT WITH ASPHALT OVERLAY.
- (306) MINIMUM OF 2" OF ASPHALT.
- (307) ASPHALT ANCHOR PIN ASSEMBLY

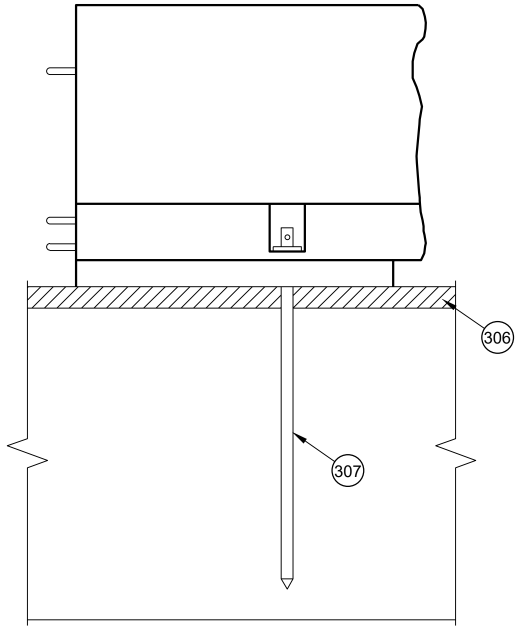


TOP VIEW

PROFILE VIEW

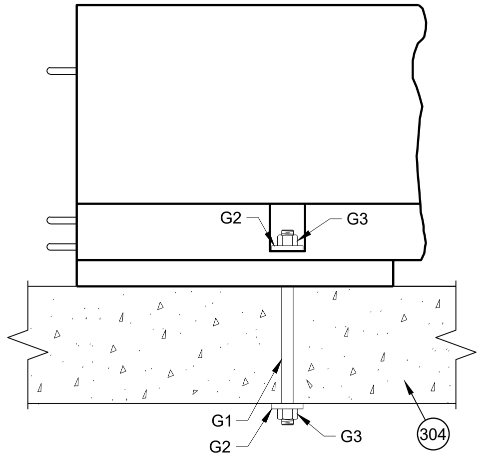
TOP VIEW
J2

ASPHALT ANCHOR PIN ASSEMBLY



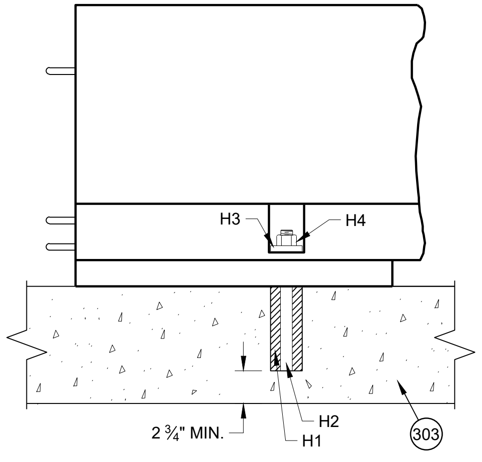
SIDE VIEW

ASPHALT ANCHOR INSTALLATION



SIDE VIEW

THROUGH BOLT ANCHOR INSTALLATION (305)

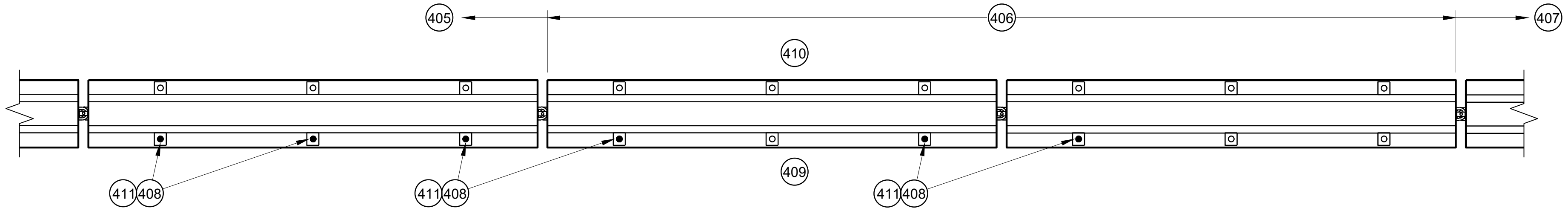


SIDE VIEW

ADHESIVE ANCHOR INSTALLATION (305)

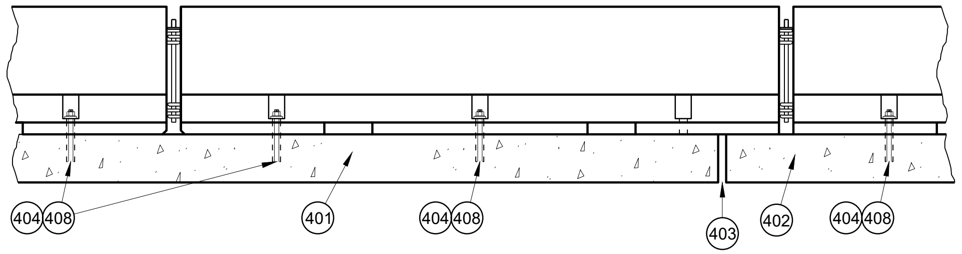
**CONCRETE BARRIER
TEMPORARY PRECAST,
12' - 6"**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



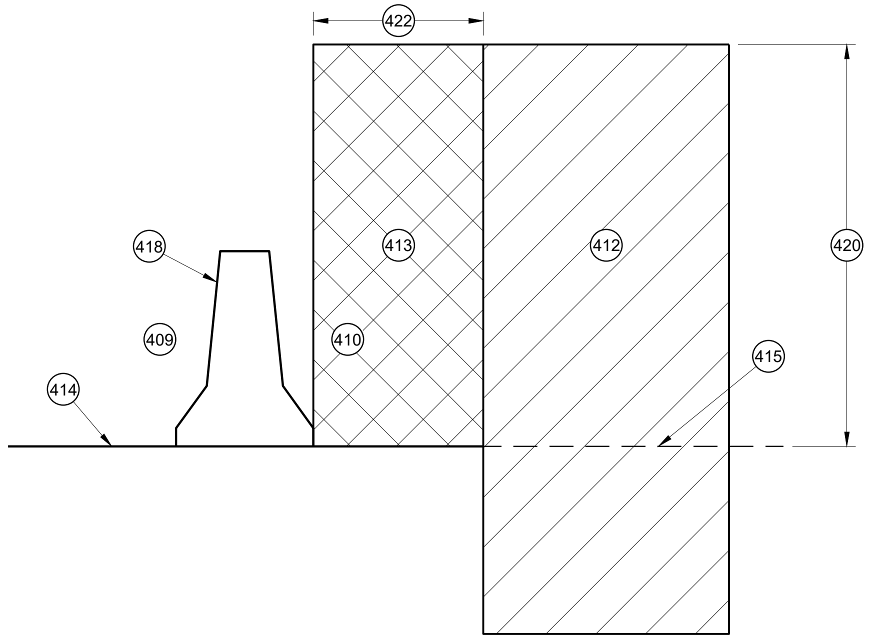
PLAN VIEW

TRANSITION FROM FREE STANDING TO ANCHORED BARRIER



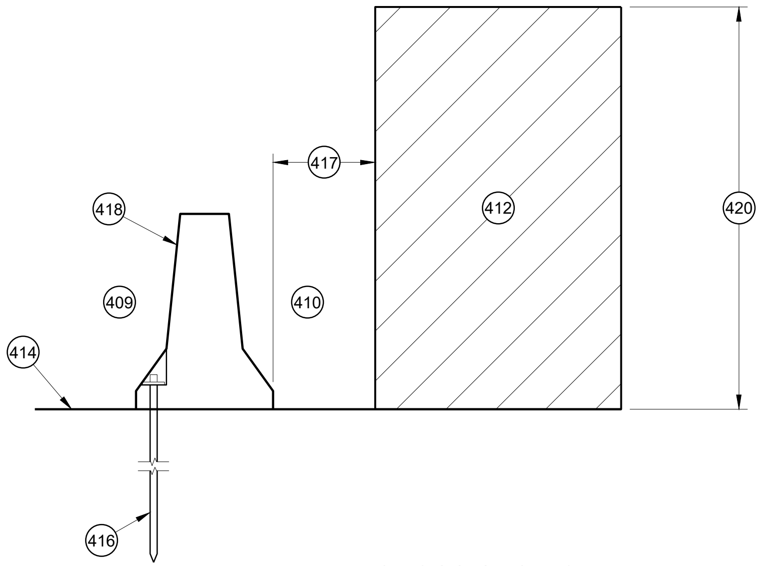
PROFILE VIEW

ANCHORED BARRIER NEAR EXPANSION JOINT (400)



CROSS SECTION

FREE STANDING BARRIER



CROSS SECTION

ANCHORED BARRIER FOR OBJECTS ABOVE THE GRADE LINE AND NEAR THE BARRIER

GENERAL NOTES

(400) NO SINGLE CONCRETE BARRIER SECTION SHALL BE ANCHORED TO BOTH THE BRIDGE DECK AND THE APPROACH SLAB. ALL ANCHOR BOLT LOCATIONS SHALL BE ANCHORED TO THE DECK IN ACCORDANCE WITH THE DETAIL. NO MORE THAN ONE ANCHOR BOLT SHALL BE ELIMINATED FROM A BARRIER SECTION WHEN SPANNING AN EXPANSION JOINT.

(401) CONCRETE DECK

(402) CONCRETE DECK OR APPROACH SLAB.

(403) EXPANSION JOINT

(404) ADHESIVE ANCHOR SHOWN. SEE ANCHOR DETAILS.

(405) ANCHORED TEMPORARY BARRIER

(406) TRANSITION FROM ANCHORED TEMPORARY BARRIER TO FREE STANDING

(407) FREE STANDING BARRIER

(408) REMOVE ALL ANCHORS WHEN NO LONGER NEEDED. FILL CONCRETE PAVEMENTS, DECKS AND APPROACH SLABS WITH NON-SHRINK COMMERCIAL GROUT FROM THE APPROVED PRODUCT LIST. FILL ASPHALT PAVEMENTS WITH ASTM D6690 TYPE II RUBBERIZED CRACK FILLER.

(409) TRAFFIC SIDE

(410) NON-TRAFFIC SIDE

(411) ANCHOR LOCATION. SEE ANCHORING DETAILS.

(412) WORK AREA

(413) AREA FREE OF OBJECTS AND WORKERS

(414) GRADE LINE

(415) EXTENDED GRADE LINE

(416) ANCHORED TEMPORARY BARRIER. SEE BOLT THROUGH DECK, REMOVABLE ADHESIVE ANCHOR, OR AN ASPHALT ANCHOR ROD DETAILS FOR MORE INFORMATION. ASPHALT ANCHOR ROD SHOWN.

(417) WHEN OBJECTS EXTEND ABOVE THE GRADE. A MINIMUM OF 1 FOOT IS REQUIRED FROM BACK OF BARRIER TO OBJECT.

(418) OBJECTS ARE NOT TO BE PLACED ON, MOUNTED TO, OR ALLOWED TO LEAN AGAINST THE BARRIER WITHOUT WRITTEN PERMISSION OF THE PROJECT ENGINEER.

(419) DEPTHS OF 3 FEET OR MORE.

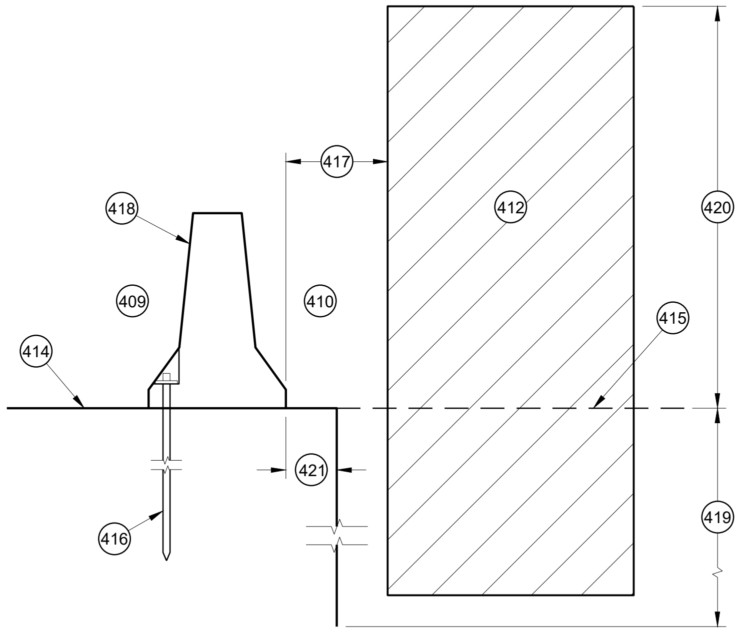
(420) Y = 6.5'

(421) OFFSET FROM BACK OF BARRIER EDGE:

CONCRETE PAVEMENT	0.5'
ASPHALT	0.5'

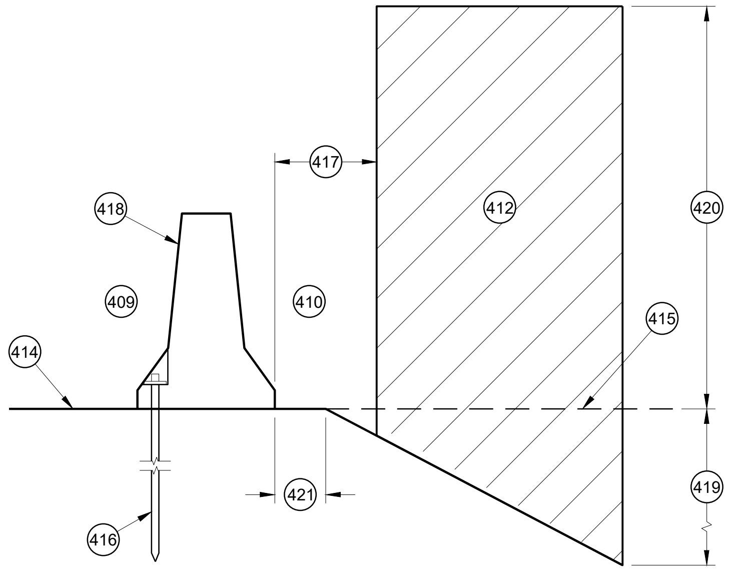
(422) POSTED SPEED (MPH):

45 OR GREATER	4.0'
40 OR LOWER	2.0'



CROSS SECTION

ANCHORED BARRIER NEAR VERTICAL DROP OFF



CROSS SECTION

ANCHORED BARRIER NEAR A SLOPE

CONCRETE BARRIER
TEMPORARY PRECAST,
12' - 6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATI

GENERAL NOTES

(500) EXISTING RIGID BARRIERS (VARIES)

(501) TEMPORARY BARRIER

(502) SEE OTHER DETAIL ON HOW TO ANCHOR TEMPORARY BARRIER (BARRIER ASPHALT ANCHOR SHOWN).

(503) ANCHORS ARE REQUIRED ON BOTH SIDE OF THE TEMPORARY BARRIER.

(504) NESTED RAILS ARE REQUIRED ON BOTH SIDES OF THE TEMPORARY BARRIER FOR ALL INSTALLATIONS.

(505) TRAFFIC TRAVELS FROM PERMANENT BARRIER TO TEMPORARY BARRIER.

(506) TRAFFIC TRAVELS FROM TEMPORARY BARRIER TO PERMANENT BARRIER.

(507) VERTICAL BARRIER

(508) SAFETY SHAPE BARRIER

(509) SINGLE SLOPE BARRIER

(510) CAP END PLATE PLACED FLUSH WITH UPSTREAM END OF RIGID BARRIER.

(511) BENT THRIE BEAM TO FIT.

(512) THRIE BEAM PIECES ARE OFFSET 15 ½" TO PREVENT INTERFERENCE FROM THE ANCHORS ON OPPOSING SIDES.

(513) TWO (2) P1, P2 AND P3 ARE REQUIRED

(514) FIVE (5) N1, N2 AND N3 ARE REQUIRED

(515) TWO (2) R1, R2 AND R3 ARE REQUIRED

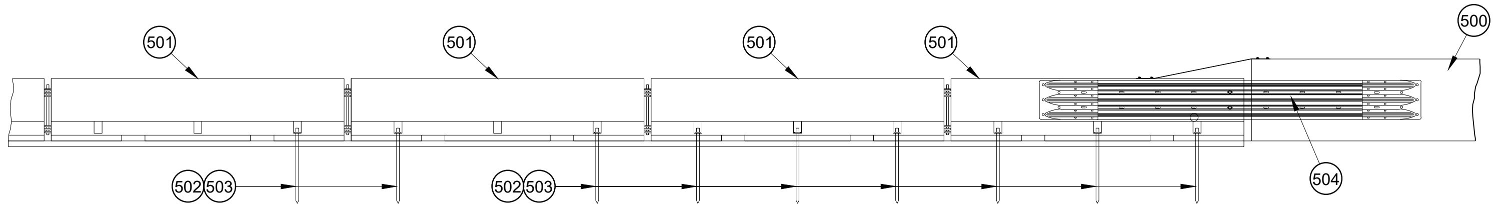
(516) CUT WOOD BLOCK TO FIT.

(517) SEE THRIE BEAM RAIL TERMINAL CONNECTOR DETAIL ASSEMBLY.

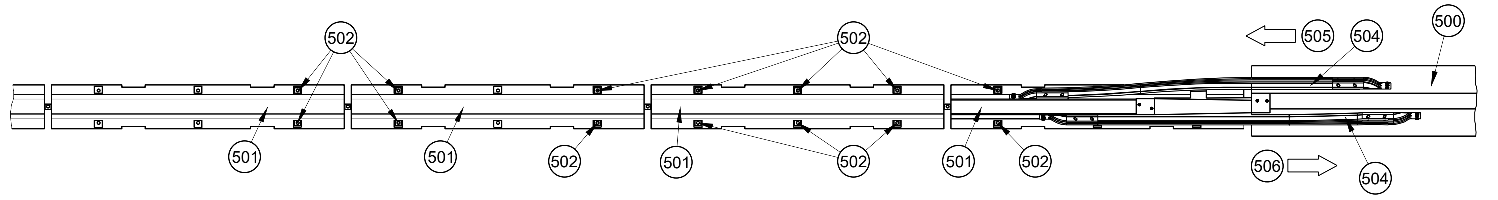
(518) CAP ASSEMBLY

(519) 4" MAX. GAP BETWEEN TEMPORARY BARRIER AND RIGID BARRIER.

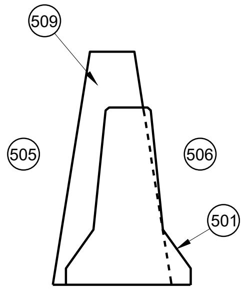
(520) ALL TWELVE SPLICE HOLES REQUIRE M1 AND M2



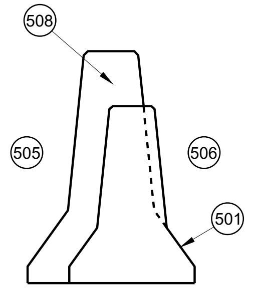
PROFILE VIEW



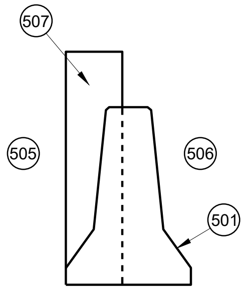
PLAN VIEW
TRANSITION TO RIGID BARRIER



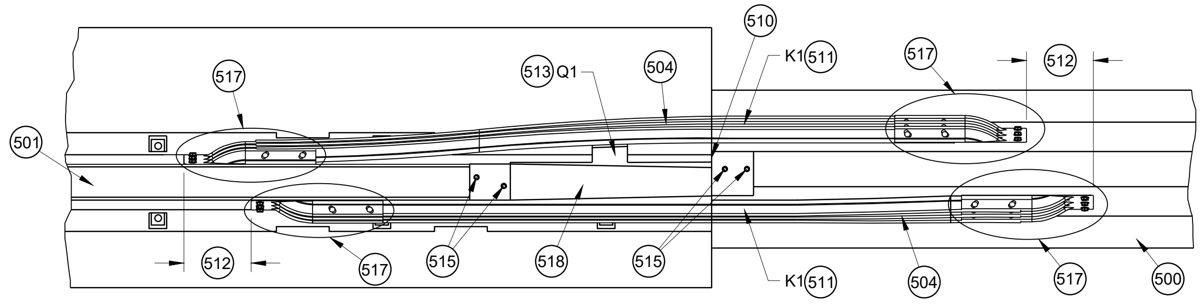
CROSS SECTION
TEMPORARY BARRIER
PLACEMENT SINGLE SLOPE



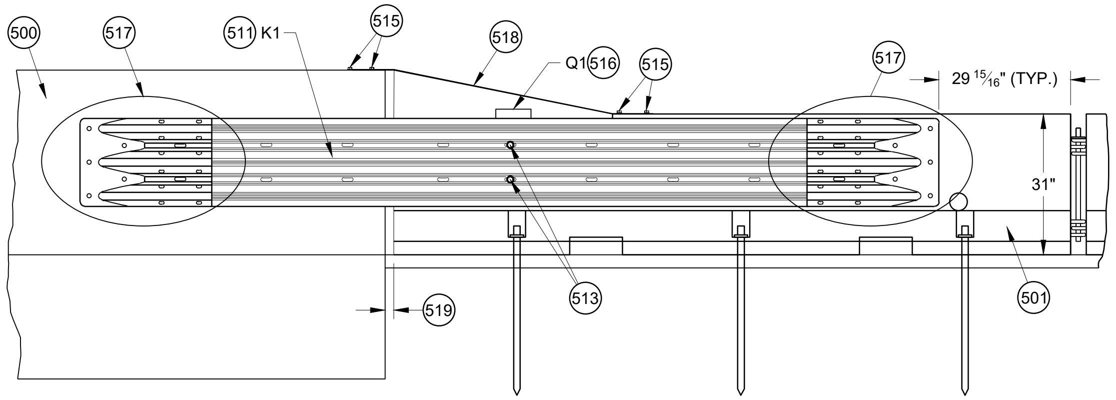
CROSS SECTION
TEMPORARY BARRIER
PLACEMENT SAFETY SHAPE



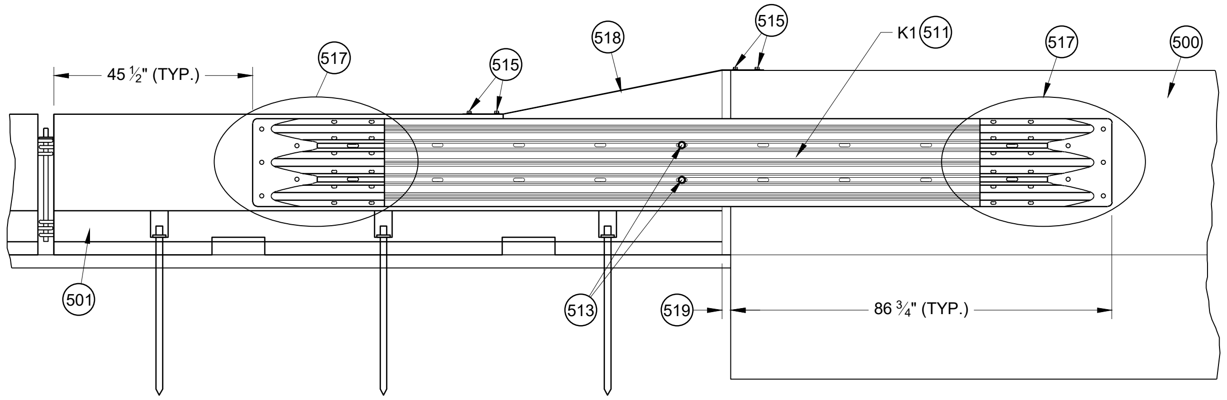
CROSS SECTION
TEMPORARY BARRIER
PLACEMENT VERTICAL



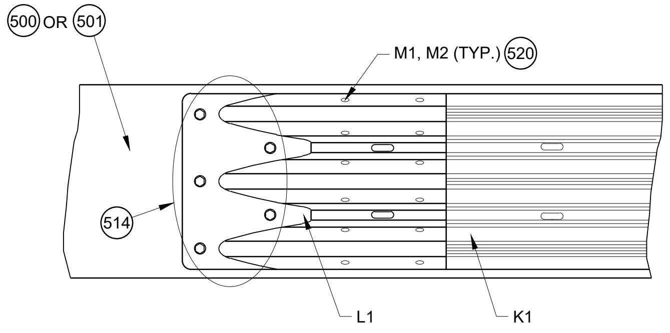
PLAN DETAIL VIEW
TRANSITION TO RIGID BARRIER



BACK DETAIL VIEW
TRANSITION TO RIGID BARRIER



FRONT DETAIL VIEW
TRANSITION TO RIGID BARRIER

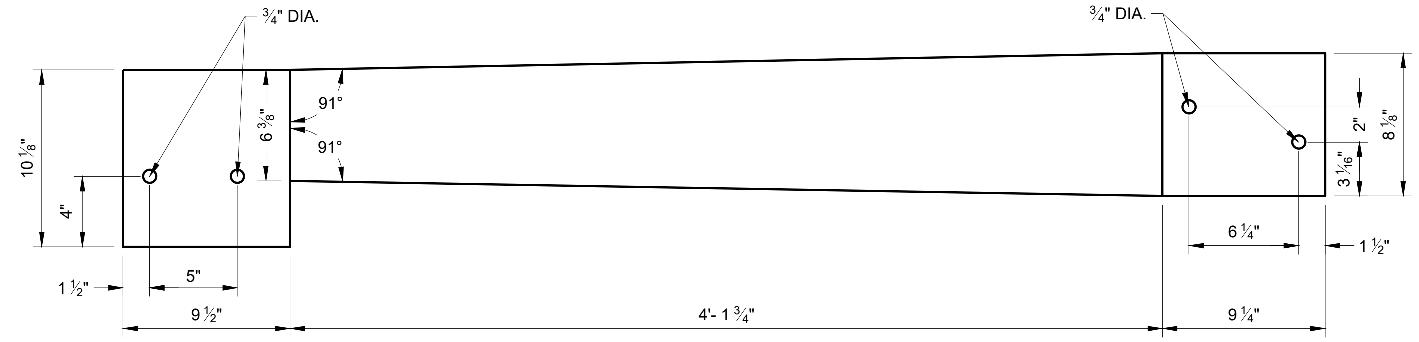


(517) **DETAIL PLAN VIEW**
THRIE BEAM RAIL TERMINAL CONNECTOR ASSEMBLY

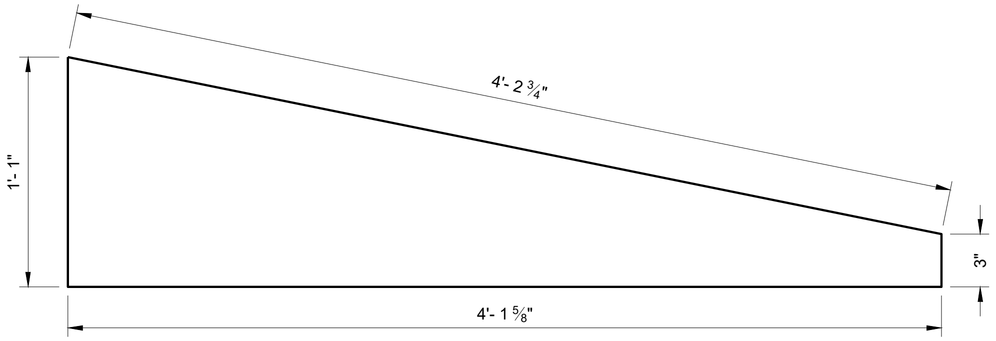
CONCRETE BARRIER TEMPORARY PRECAST, 12' - 6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

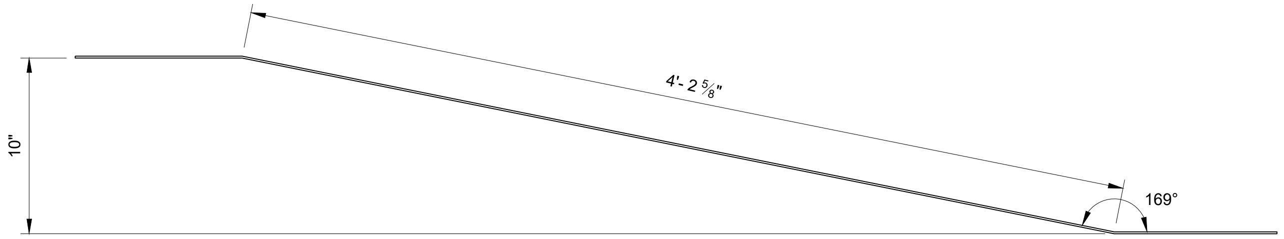
SDD 14B07 - 16e



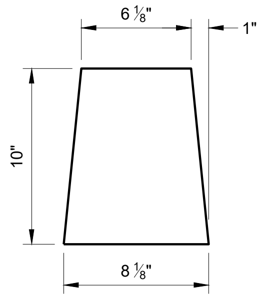
TOP VIEW
S1



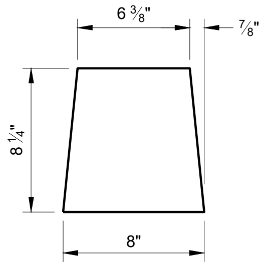
SIDE VIEW
S3



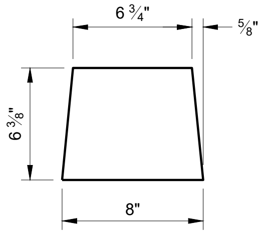
ELEVATION VIEW
S1



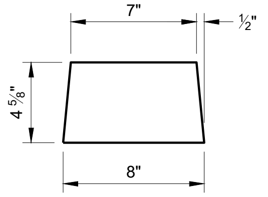
S2



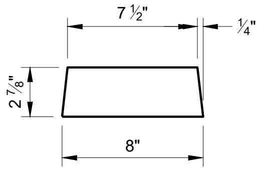
S4



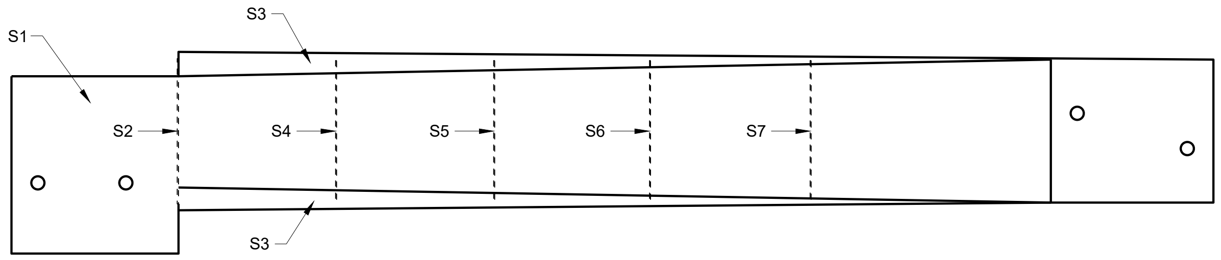
S5



S6



S7



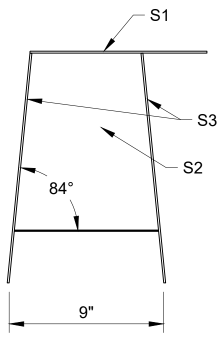
PLAN VIEW

GENERAL NOTES

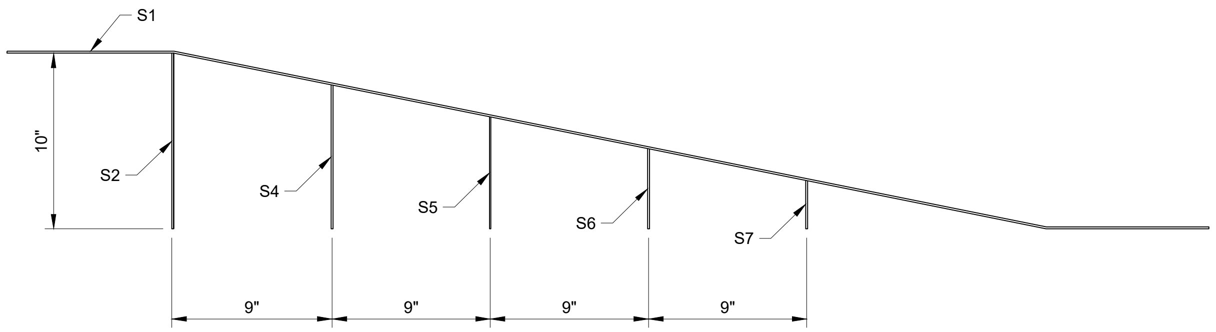
STITCH WELD GUSSET PLATES AND END PLATES ON THREE SIDES

STITCH WELD TWO SIDE PLATES TO TOP PLATE, END PLATE AND GUSSETS.

(600) SIDE PLATES (S3) NOT SHOWN FOR CLARITY.



BACK VIEW

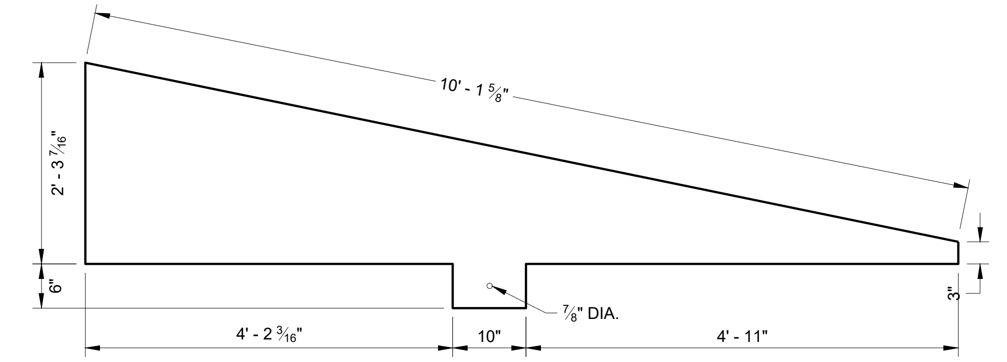


SIDE VIEW (600)

42" TOP CAP ASSEMBLY

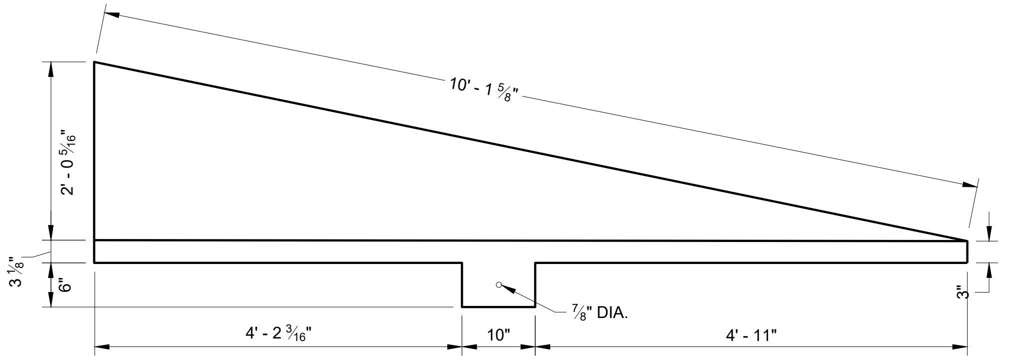
CONCRETE BARRIER
TEMPORARY PRECAST,
12' - 6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTAT

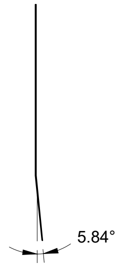


SIDE VIEW
T4

END VIEW



SIDE VIEW
T3



END VIEW

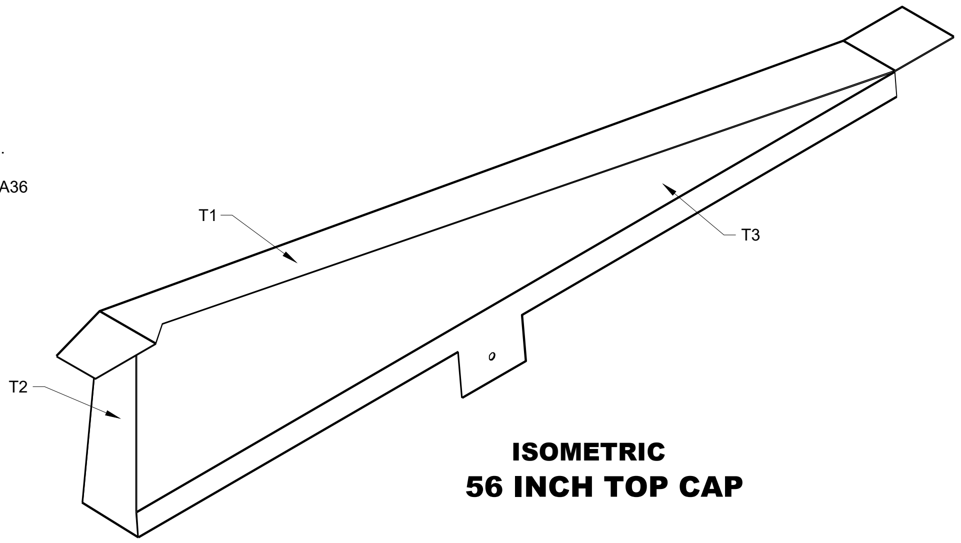
GENERAL NOTES

STITCH WELD GUSSET PLATES AND END PLATES ON THRIE SIDES

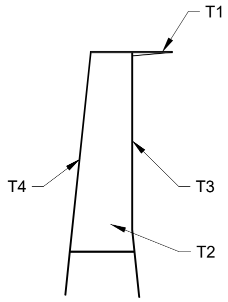
STITCH WELD TWO SIDE PLATES TO TOP PLATE, END PLATE AND GUSSETS.

SIDE PLATES, TOP PLATE, END PLATE AND GUSSETS ARE 12 GAUGE ASTM A36 GALVANIZED STEEL.

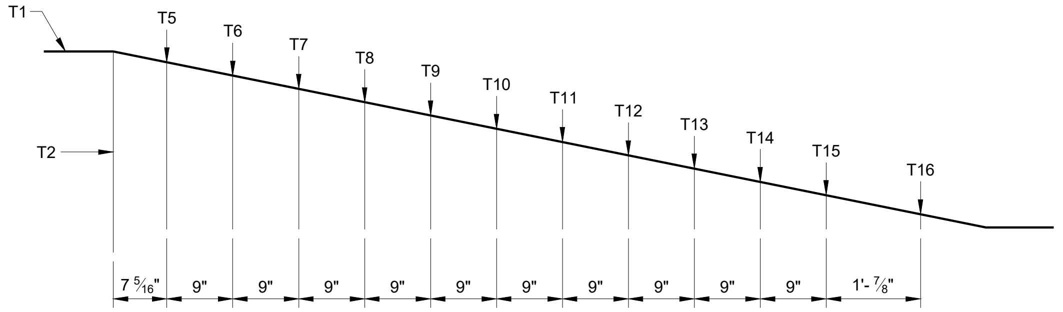
(700) SIDE PLATES (T3 AND T4) NOT SHOWN FOR CLARITY.



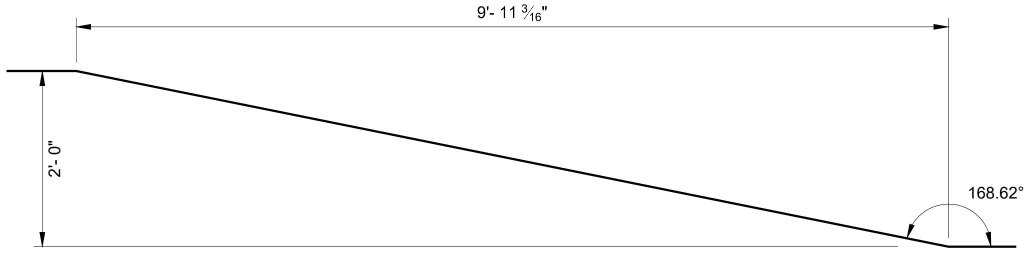
ISOMETRIC
56 INCH TOP CAP



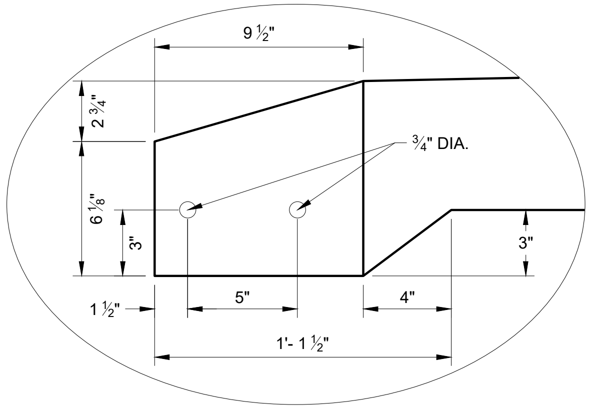
END VIEW
56 INCH TOP CAP



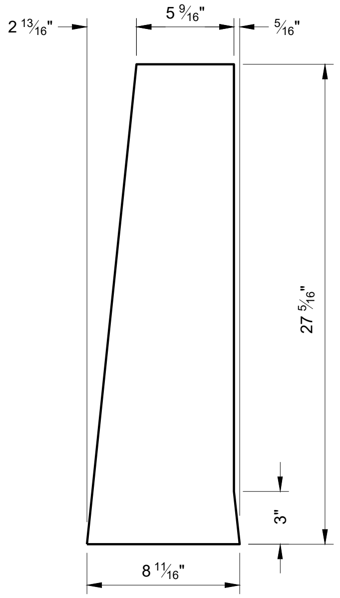
SIDE VIEW
56 INCH TOP CAP (700)



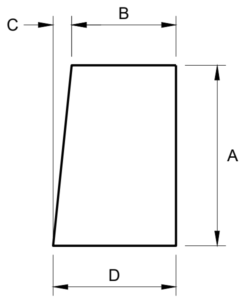
SIDE VIEW
TOP PLATE T1



DETAIL "A"

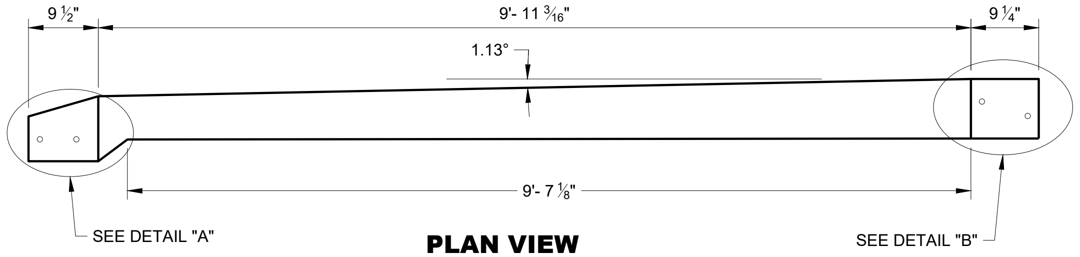


END PLATE T2

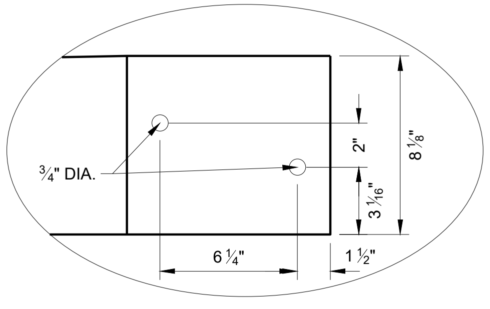


GUSSET PLATES
T5 - T16

GUSSET DIMENSIONS				
GUSSET NO.	A	B	C	D
T5	22 13/16"	5 11/16"	2 5/16"	8 1/16"
T6	21"	5 7/8"	2 3/16"	8 1/16"
T7	19 3/16"	6 1/16"	1 15/16"	8 1/16"
T8	17 3/8"	6 1/4"	1 13/16"	8 1/16"
T9	15 9/16"	6 7/16"	1 9/16"	8 1/16"
T10	13 3/4"	6 5/8"	1 7/16"	8 1/16"
T11	11 15/16"	6 13/16"	1 1/4"	8 1/16"
T12	10 1/8"	7"	1 1/16"	8 1/16"
T13	8 5/16"	7 3/16"	7/8"	8 1/16"
T14	6 1/2"	7 3/8"	11/16"	8 1/16"
T15	4 11/16"	7 9/16"	1/2"	8"
T16	2 7/8"	7 3/4"	1/4"	8"



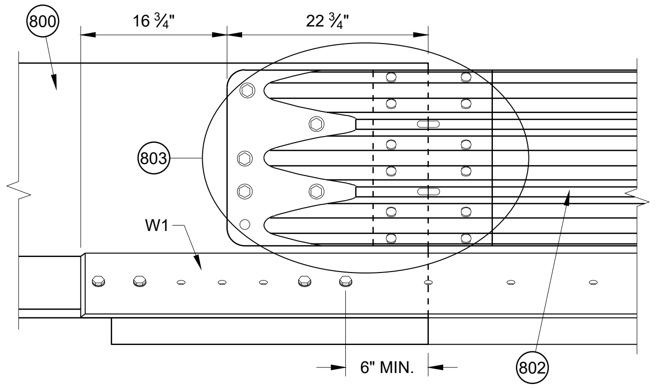
PLAN VIEW
TOP PLATE T1



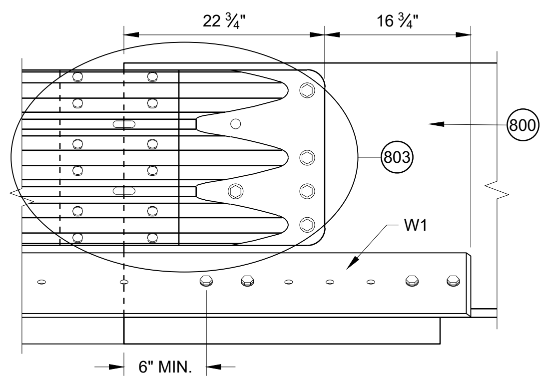
DETAIL "B"

CONCRETE BARRIER
TEMPORARY PRECAST,
12' - 6"

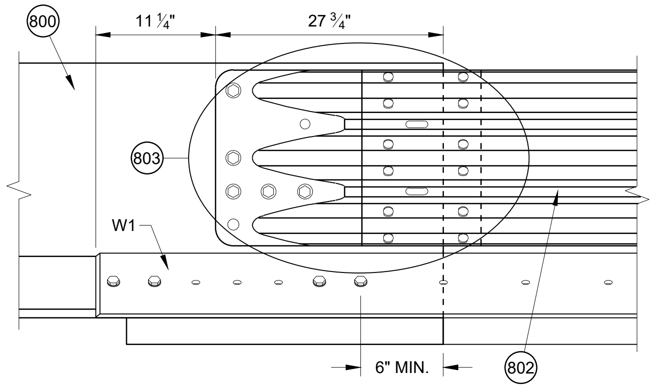
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATI



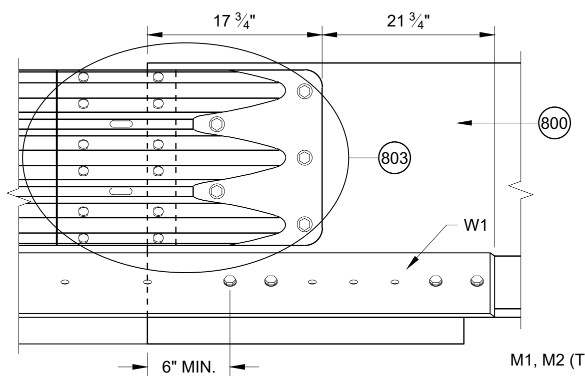
DETAIL D



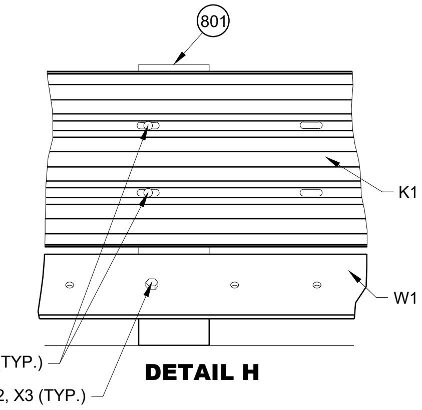
DETAIL E



DETAIL F



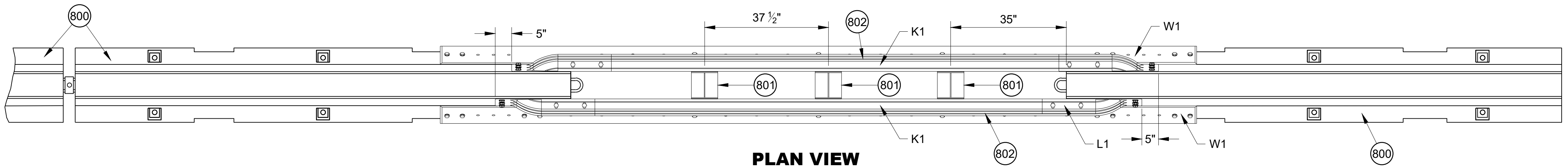
DETAIL G



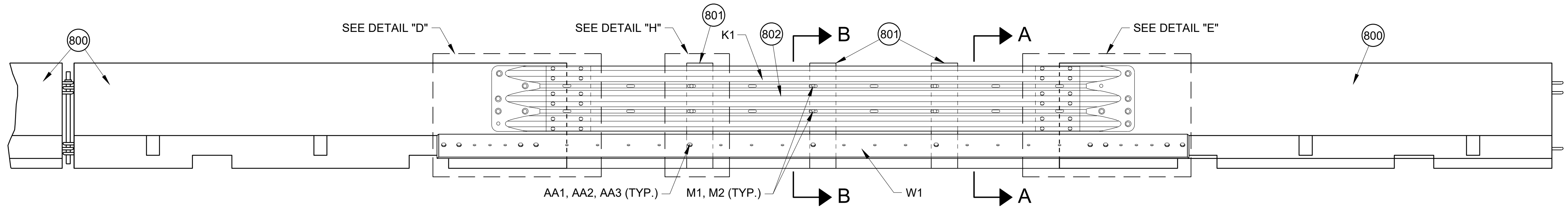
DETAIL H

GENERAL NOTES

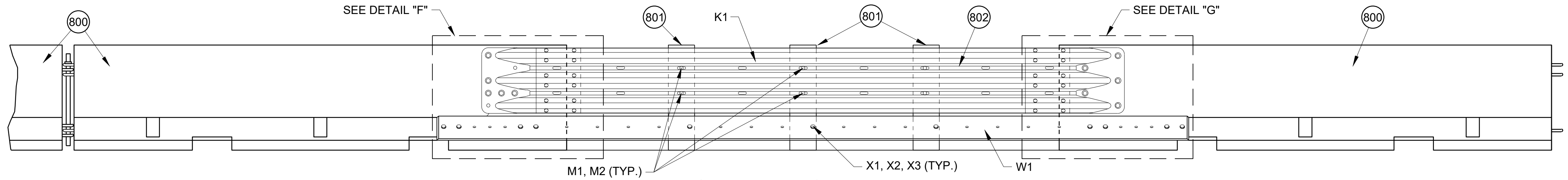
- (800) FREE STANDING TEMPORARY BARRIER
- (801) GAP STIFFENER ASSEMBLY
- (802) THRIE BEAMS ARE NESTED ON BOTH SIDES OF THE TEMPORARY BARRIER.
- (803) SEE THRIE BEAM RAIL TERMINAL CONNECTOR DETAIL



PLAN VIEW



FRONT ELEVATION VIEW

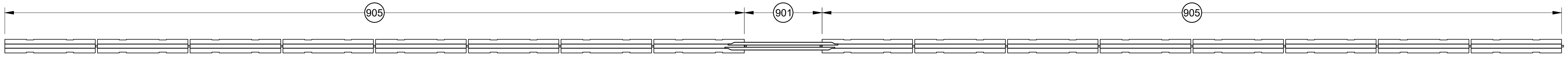


BACK ELEVATION VIEW

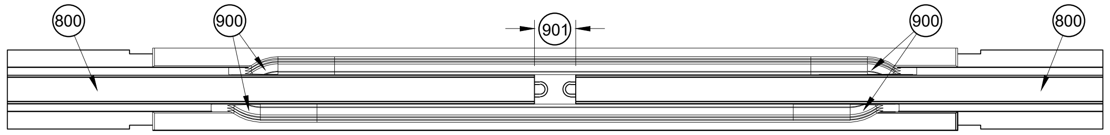
PORTABLE CONCRETE BARRIER GAP THRIE BEAM COVER

CONCRETE BARRIER
TEMPORARY PRECAST,
12' - 6"

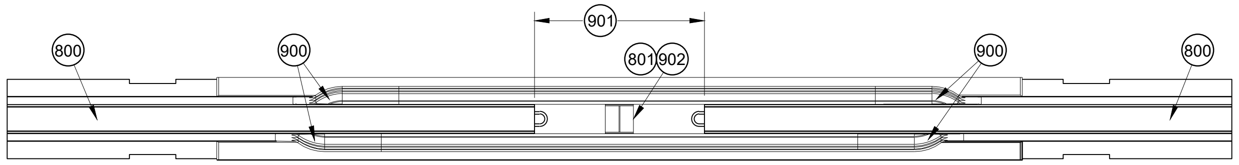
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTAT



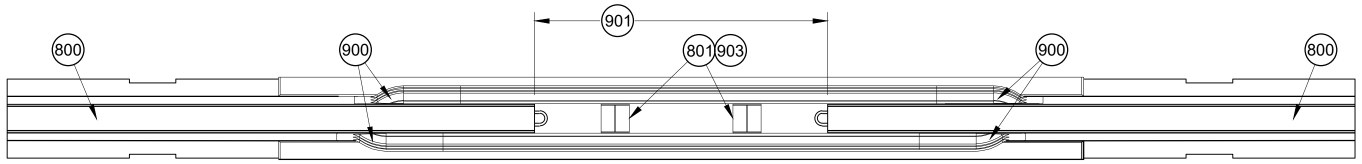
PLAN VIEW
GAP WITHIN SPACING



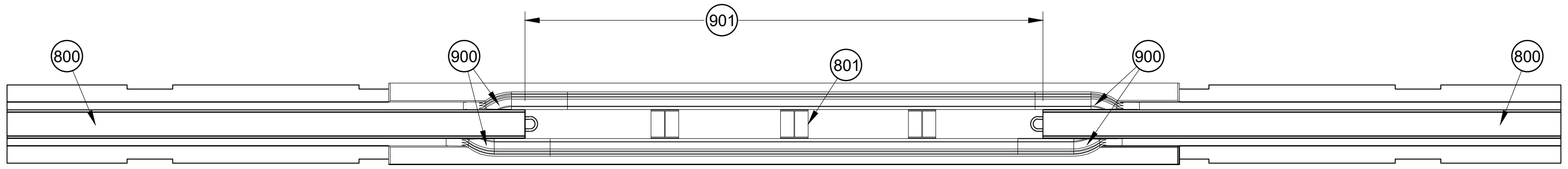
PLAN VIEW
TEMPORARY BARRIER GAP OVER 4" TO 1' MAX.(904)



PLAN VIEW
TEMPORARY BARRIER GAP OVER 1' TO 4' MAX.(904)



PLAN VIEW
TEMPORARY BARRIER GAP OVER 4' TO 7' MAX.(904)



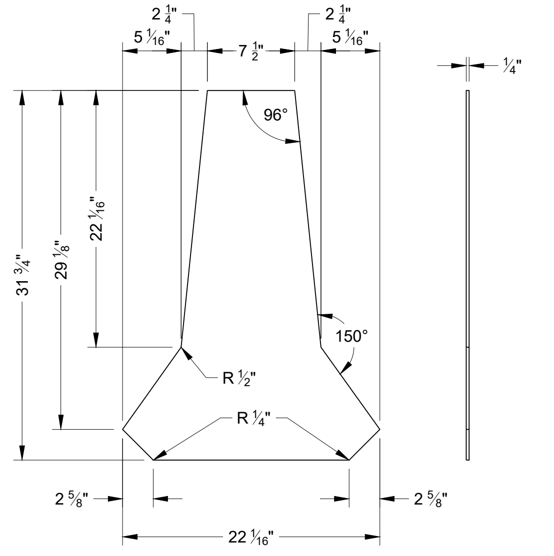
PLAN VIEW
TEMPORARY BARRIER GAP OVER 7' TO 12.5' MAX.(904)

GENERAL NOTES

(900) SEE OTHER DETAILS FOR TEMPORARY GAP HARDWARE (TYP.)
(901) TEMPORARY BARRIER GAP
(902) GAP STIFFENER ASSEMBLY CENTERED IN THE GAP.
(903) GAP STIFFENER ASSEMBLY IS OFFSET 18 ¾" FROM CENTER
(904) MINIMUM NUMBER OF GAP STIFFENERS SHOWN FOR THE GAP RANGE SHOWN.
(905) MINIMUM OF 8 CONTINUOUS FREE STANDING TEMPORARY BARRIERS

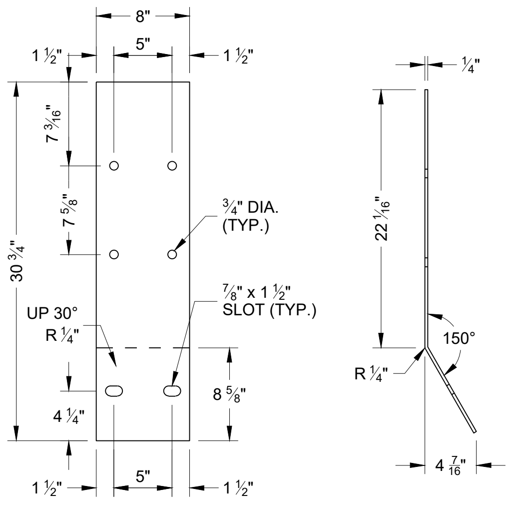
CONCRETE BARRIER
TEMPORARY PRECAST,
12' - 6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTAT



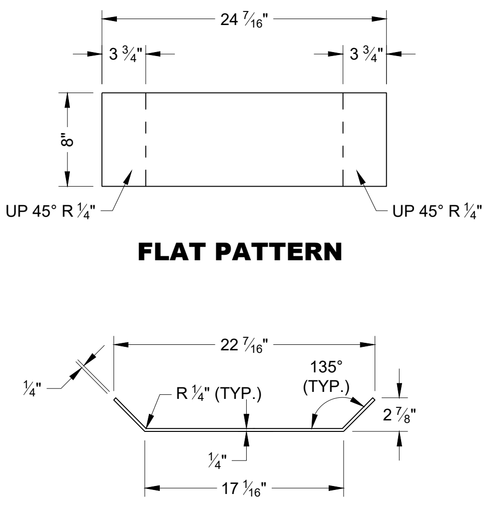
PROFILE VIEW **SIDE VIEW**

STIFFENER ASSEMBLY CENTER PANEL U1



FLAT PATTERN **SIDE VIEW**

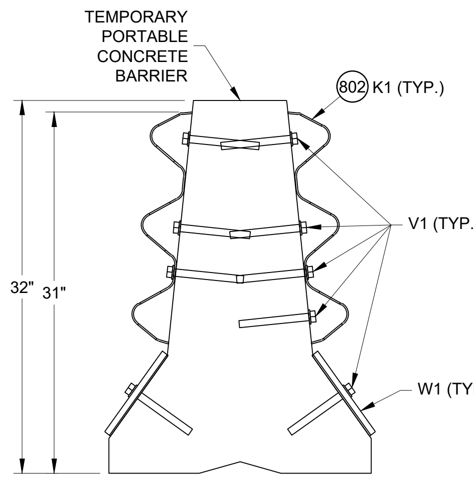
STIFFENER ASSEMBLY SIDE PANEL U2



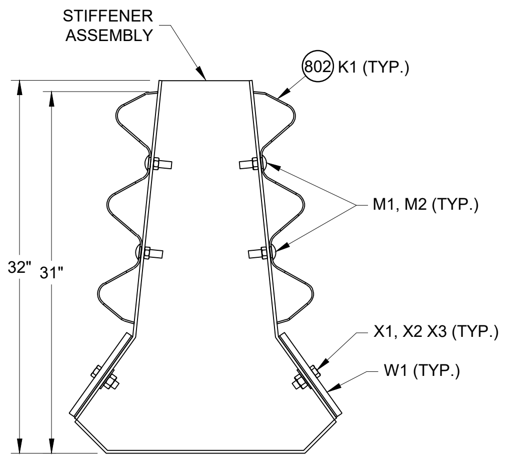
FLAT PATTERN

PROFILE VIEW

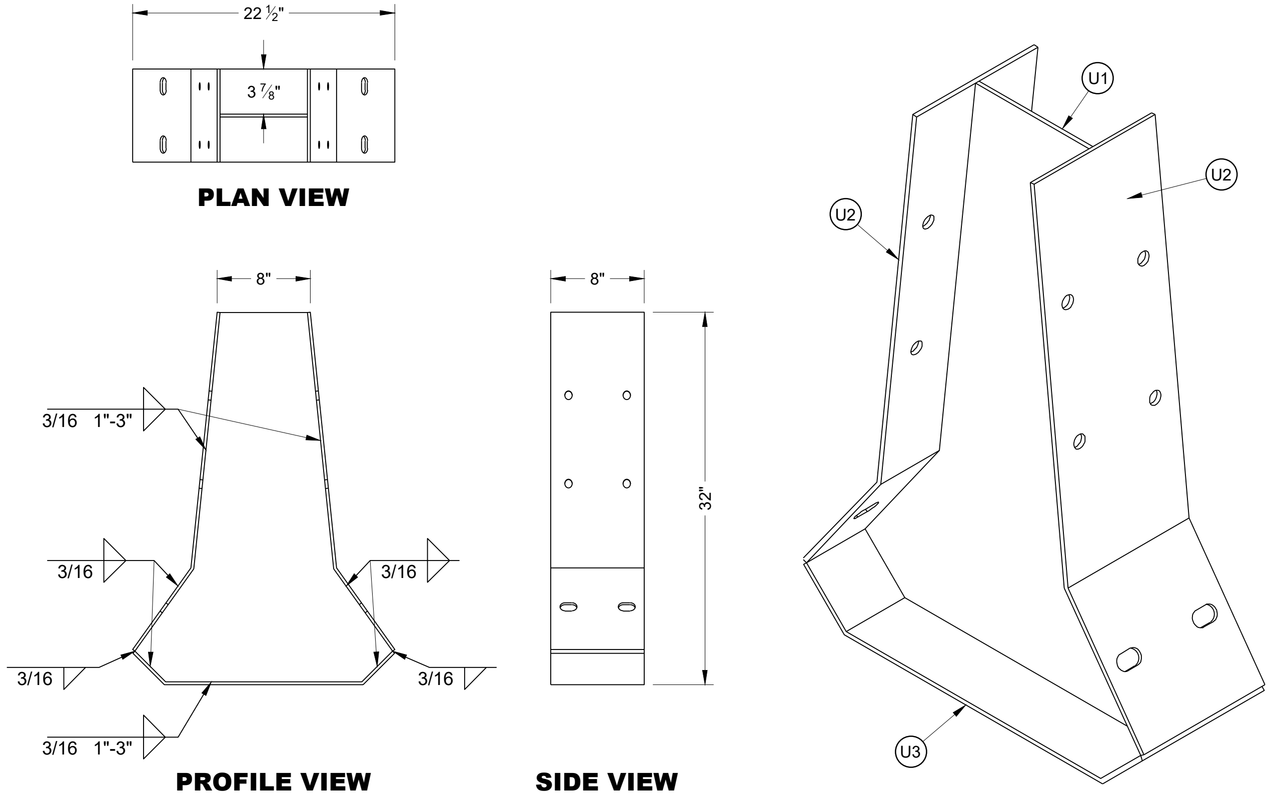
STIFFENER ASSEMBLY BOTTOM PANEL U3



SECTION A - A



SECTION B - B

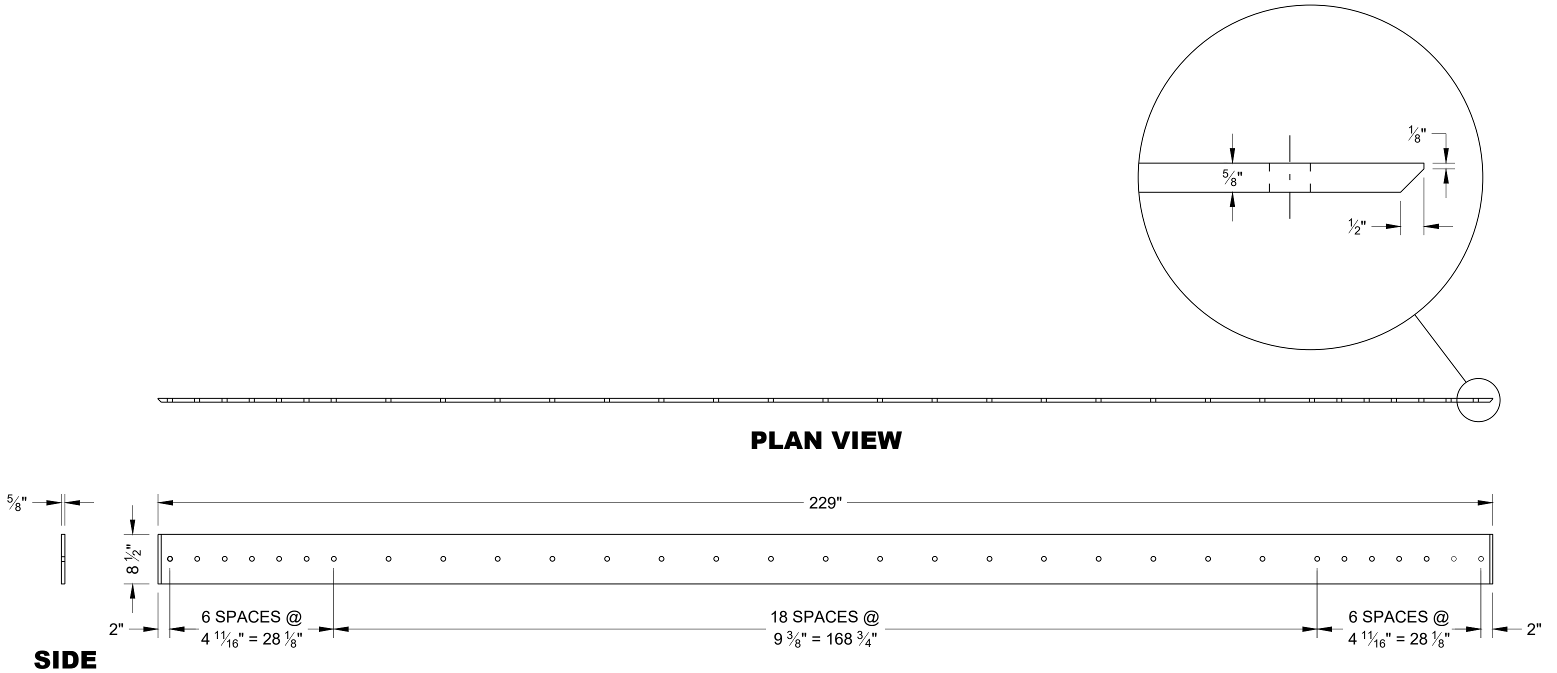


PLAN VIEW

PROFILE VIEW **SIDE VIEW**

ISOMETRIC

GAP STIFFENER ASSEMBLY



PLAN VIEW

SIDE VIEW

ELEVATION VIEW

W1 TOE PLATE

CONCRETE BARRIER
TEMPORARY PRECAST,
12' - 6"

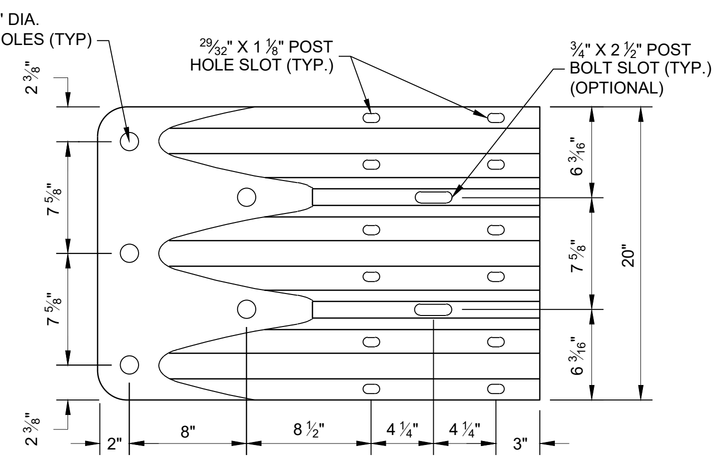
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATI

GENERAL NOTES

(1100) 1" DIA. HOLE

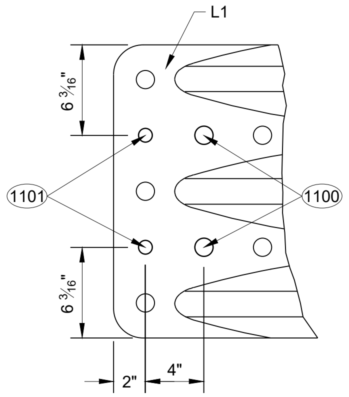
(1101) ¾" DIA. HOLE

(1102) PROVIDE HOLES IN THRIE BEAM TERMINAL CONNECTOR TO LIMIT STEEL REINFORCEMENT OR LOOP BAR CONFLICT. CONTRACTOR MAY FIELD DRILL ADDITIONAL HOLE OR PROVIDE THRIE BEAM TERMINAL CONNECTOR WITH ADDITIONAL HOLES FROM SUPPLIER.



ELEVATION VIEW

THRIE BEAM TERMINAL CONNECTOR



ELEVATION VIEW

ADDITIONAL THRIE BEAM (1102) TERMINAL CONNECTOR HOLE DETAIL

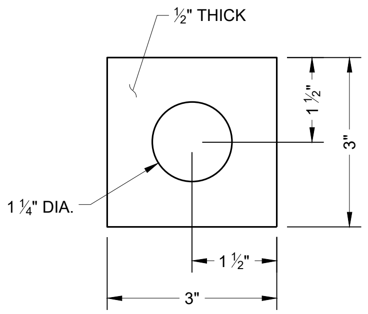
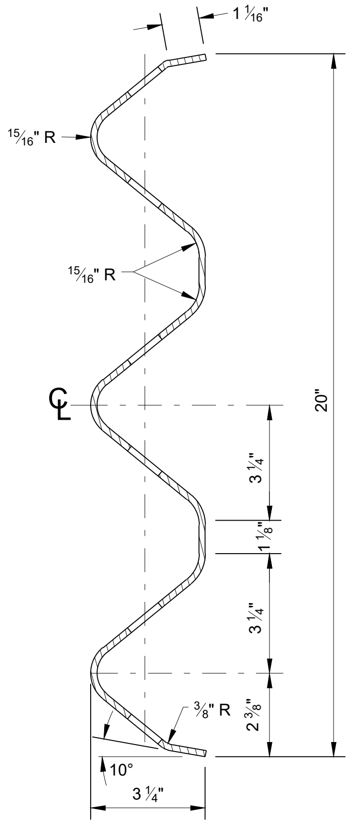
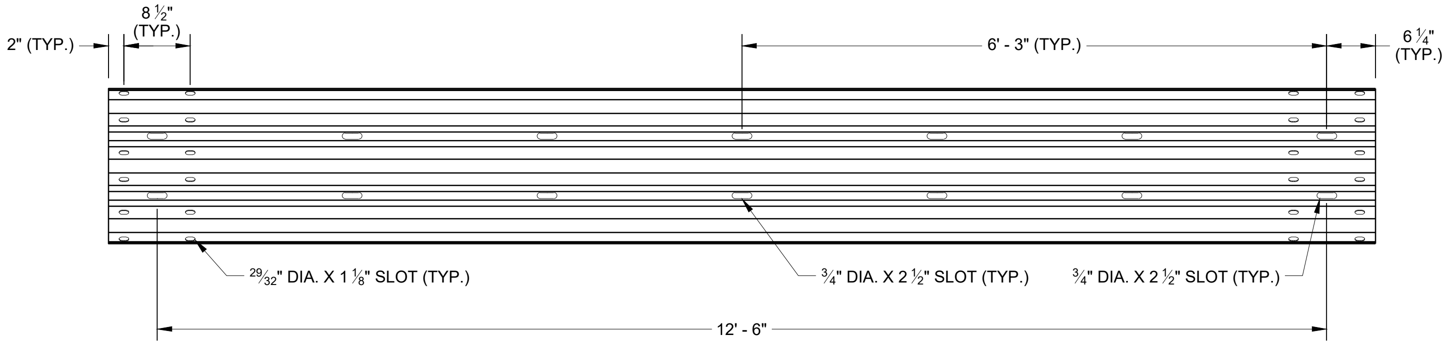


PLATE WASHER DETAIL G2, H3



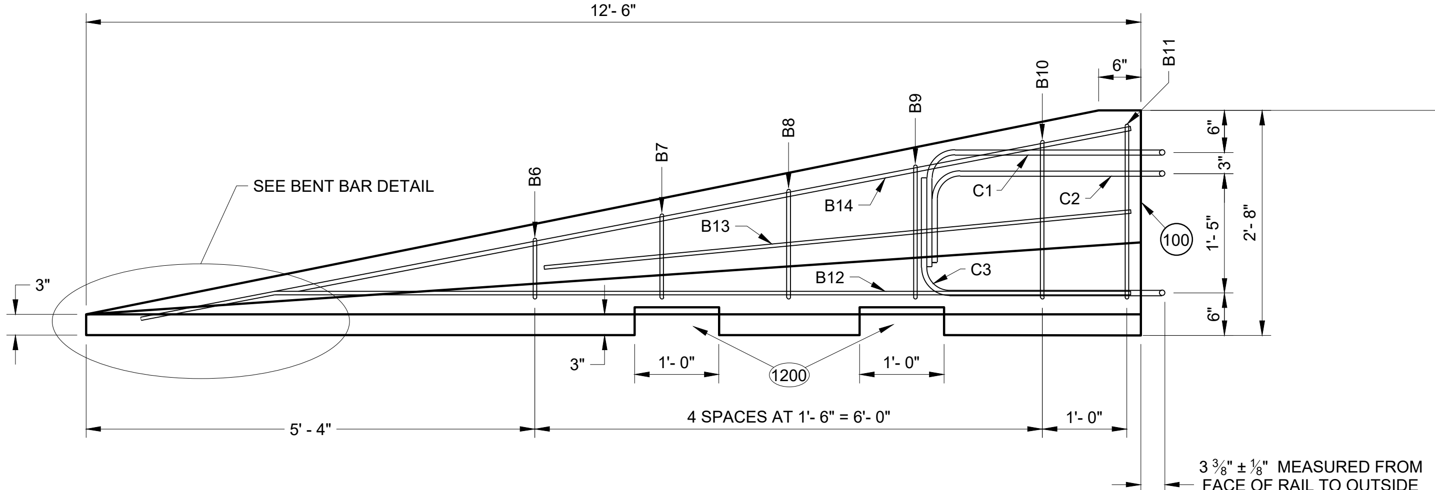


SLOTTED THRIE BEAM RAIL K1

SECTION THROUGH BEAM K1

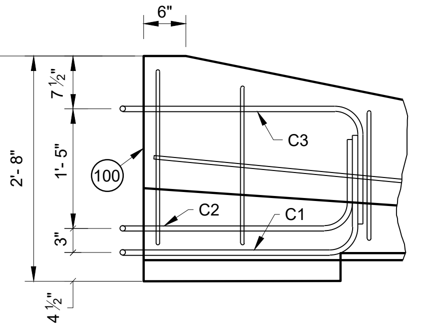
CONCRETE BARRIER
TEMPORARY PRECAST,
12' - 6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTAT



SIDE ELEVATION

(FOR CONNECTION TO LEFT END OF BARRIER)



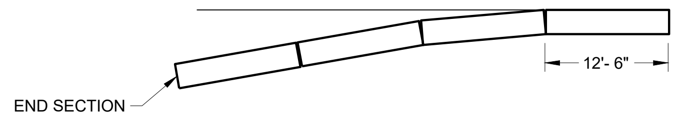
SIDE ELEVATION

LOOP BAR ASSEMBLY INVERTED FOR OPPOSITE END

(FOR CONNECTION TO RIGHT END OF BARRIER)

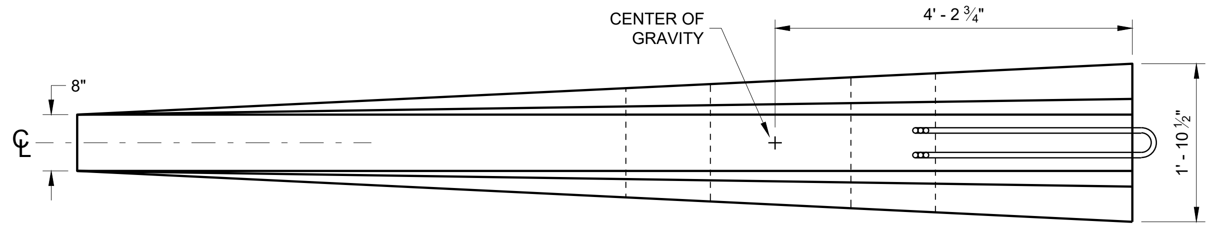
GENERAL NOTES

(1200) SEE LIFTING SLOT DETAIL. LOCATION OF LIFTING SLOTS DETERMINED BY CONTRACTOR.

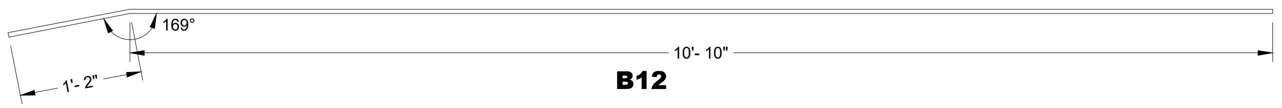


FLARE AT BARRIER END

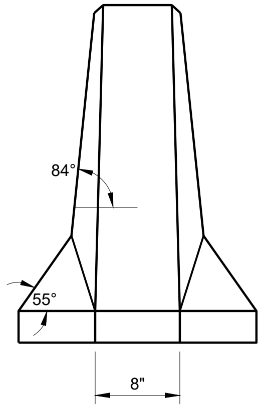
POSTED SPEED, (MPH)	FLARE RATE
40 OR LESS	6:1
45 OR GREATER	8:1



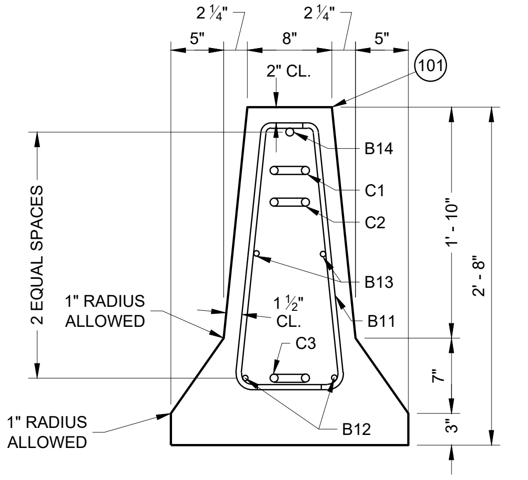
PLAN VIEW



B12

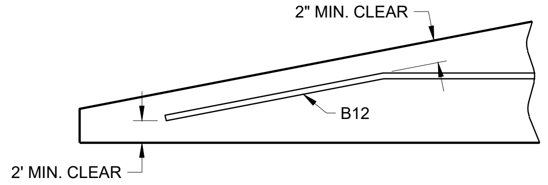


FRONT ELEVATION

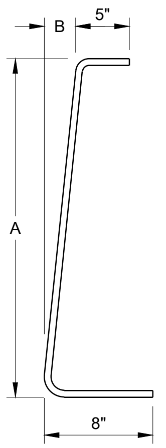


END SECTION

DETAILS OF BARRIER TAPER SECTION



BENT BAR DETAIL



BAR	A	B
B6	10"	1"
B7	1'- 1"	1 1/4"
B8	1'- 5"	1 5/8"
B9	1'- 8"	1 7/8"
B10	2'- 0 1/2"	2 3/8"
B11	2'- 3"	2 3/4"

B BARS

2 OF EACH SIZE REQUIRED FOR STIRRUP ASSEMBLY

CONCRETE BARRIER TEMPORARY PRECAST, 12' - 6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATI

BILL OF MATERIALS - CONCRETE BARRIER PRECAST

PART	DESCRIPTION	MATERIALS SPECIFICATIONS	NOTES
A1	PRECAST TEMPORARY BARRIER - CONCRETE	MIN. = f'c 5000 PSI	
B1	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#5 REBAR, LENGTH 12'-2"
B2	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#4 REBAR, LENGTH 12'-2"
B3	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#5 REBAR, LENGTH 12'-2"
B4	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#4 REBAR, LENGTH 6'-0"
B5	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#6 REBAR, LENGTH 2'-11"
B6	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#4 REBAR, LENGTH 1'-11"
B7	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#4 REBAR, LENGTH 2'-2"
B8	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#4 REBAR, LENGTH 2'-6"
B9	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#4 REBAR, LENGTH 2'-9"
B10	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#4 REBAR, LENGTH 3'-2"
B11	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#4 REBAR, LENGTH 3'-4"
B12	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#4 REBAR, LENGTH 12'-0"
B13	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#4 REBAR, LENGTH 7'-9"
B14	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#5 REBAR, LENGTH 11'-9"
C1	LOOP BAR	ASTM A709 GRADE 70 SMOOTH BAR OR ASTM A706 GRADE 60 REBAR UNCOATED	¾" DIA.
C2	LOOP BAR	ASTM A709 GRADE 70 SMOOTH BAR OR ASTM A706 GRADE 60 REBAR UNCOATED	¾" DIA.
C3	LOOP BAR	ASTM A709 GRADE 70 SMOOTH BAR OR ASTM A706 GRADE 60 REBAR UNCOATED	¾" DIA.
D1	CONNECTION PIN - ROD	ASTM A36 MIN. STRENGTH 36 KSI / ASTM A529 MAX. STRENGTH 50 KSI / ASTM A572 MAX STRENGTH 50 KSI / ASTM A709 MAX STRENGTH 50 KSI / ASTM A992 MAX STRENGTH 50 KSI	1 ¼" DIA.
D2	CONNECTION PIN - TOP PLATE	ASTM A36 MIN. STRENGTH 36 KSI / ASTM A529 MAX. STRENGTH 50 KSI / ASTM A572 MAX STRENGTH 50 KSI / ASTM A709 MAX STRENGTH 50 KSI / ASTM A992 MAX STRENGTH 50 KSI	
G1	BOLT THROUGH ANCHOR - THREADED ROD	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 TYPE 2 A307 GRADE A OR SAE J429 GRADE 2 UNC	1 ⅛" DIA.
G2	BOLT THROUGH ANCHOR - WASHER, SQUARE	ASTM A36 MIN. STRENGTH 36 KSI / ASTM A529 MAX. STRENGTH 50 KSI / ASTM A572 MAX STRENGTH 50 KSI / ASTM A709 MAX STRENGTH 50 KSI / ASTM A992 MAX STRENGTH 50 KSI	
G3	BOLT THROUGH ANCHOR - NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291 / ASTM A 563 HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5	
H1	ADHESIVE ANCHOR - ADHESIVE	ICC-ES-AC308 5 ¼" EMBEDMENT WITH A MIN. STRENGTH OF 1,800 PSI. SEE 603.2 AND 603.3.1.2 OF THE WISCONSIN STANDARD SPECIFICATIONS FOR MORE INFORMATION ON ADHESIVE ANCHORS.	
H2	ADHESIVE ANCHOR - THREADED ROD	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 TYPE 2 A307 GRADE A / SAE J429 GRADE 2 UNC	1 ⅛" DIA.
H3	ADHESIVE ANCHOR - WASHER, SQUARE	ASTM A36 MIN. STRENGTH 36 KSI / ASTM A529 MAX. STRENGTH 50 KSI / ASTM A572 MAX STRENGTH 50 KSI / ASTM A709 MAX STRENGTH 50 KSI / ASTM A992 MAX STRENGTH 50 KSI	
H4	ADHESIVE ANCHOR - NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291 / ASTM A 563 HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5	
J1	ASPHALT ANCHOR PIN - ROD	ASTM A36 MIN. STRENGTH 36 KSI / ASTM A529 MAX. STRENGTH 50 KSI / ASTM A572 MAX STRENGTH 50 KSI / ASTM A709 MAX STRENGTH 50 KSI / ASTM A992 MAX STRENGTH 50 KSI	1 ½" DIA.
J2	ASPHALT ANCHOR PIN - STOP PLATE	ASTM A36 MIN. STRENGTH 36 KSI / ASTM A529 MAX. STRENGTH 50 KSI / ASTM A572 MAX STRENGTH 50 KSI / ASTM A709 MAX STRENGTH 50 KSI / ASTM A992 MAX STRENGTH 50 KSI	
K1	THRIE BEAM RAIL	AASHTO M180 CLASS A TYPE 2 APPROVED PRODUCER	12 GAUGE
L1	THRIE BEAM RAIL - TERMINAL	AASHTO M180 CLASS A TYPE 2 APPROVED PRODUCER	12 GAUGE
M1	SPLICE BOLT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 TYPE 2 UNC AASHTO M180 HEAD ASTM A307 GRADE B OR SAE J429 GRADE 2 OR ASTM F1554 GRADE 36	⅝" DIA.
M2	SPLICE BOLT - NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291 / ASTM A 563 AASHTO M180 RECESSED HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5	
N1	THRIE BEAM RAIL TERMINAL - MECHANICAL ANCHOR	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291 / ASTM A 563 AASHTO M180 RECESSED HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5	¾" DIA. LENGTH 6"
N2	THRIE BEAM RAIL TERMINAL - WASHER	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 TYPE 2 F436 TYPE 1	
N3	THRIE BEAM RAIL TERMINAL MECHANICAL OR ADHESIVE ANCHOR	MINIMUM MECHANICAL OR ADHESIVE ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 17.9 KIPS AND ULTIMATE SHEAR LOAD 21.96 KIPS. SEE 603.2 AND 603.3.1.2 OF THE WISCONSIN STANDARD SPECIFICATIONS FOR MORE INFORMATION ON ADHESIVE ANCHORS.	
P1	THRIE BEAM RAIL CONNECTION 1-BOLT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291 / ASTM A 563 AASHTO M180 RECESSED HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5	¾" DIA.
P2	THRIE BEAM RAIL CONNECTION 1-WASHER	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 TYPE 2 F436 TYPE 1	
P3	THRIE BEAM RAIL CONNETION 1- MECHANICAL OR ADHESIVE ANCHOR	MINIMUM MECHANICAL OR ADHESIVE ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 9.48 KIPS AND ULTIMATE SHEAR LOAD 10.48 KIPS. SEE 603.2 AND 603.3.1.2 OF THE WISCONSIN STANDARD SPECIFICATIONS FOR MORE INFORMATION ON ADHESIVE ANCHORS.	
Q1	BLOCK WOOD	SEE STANDARD SPEC. 614	
R1	CAP - BOLT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291 / ASTM A 563 AASHTO M180 RECESSED HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5	⅝" DIA.
R2	CAP- BOLT - WASHER	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 TYPE 2 F436 TYPE 1	
R3	CAP - BOLT - MECHANICAL ANCHOR	MINIMUM MECHANICAL OR ADHESIVE ANCHOR STRENGTH REQUIREMENTS ULTIMATE TENSILE LOAD 12.14 KIPS AND ULTIMATE SHEAR LOAD 17.5 KIPS.SEE 603.2 AND 603.3.1.2 OF THE WISCONSIN STANDARD SPECIFICATIONS FOR MORE INFORMATION ON ADHESIVE ANCHORS.	12 GAUGE
S1	CAP 42-INCH TOP PLATE	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
S2	CAP 42-INCH END PLATE	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
S3	CAP 42-INCH SIDE PLATE	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
S4	CAP 42-INCH GUSSET 1	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
S5	CAP 42-INCH GUSSET 2	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
S6	CAP 42-INCH GUSSET 3	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
S7	CAP 42-INCH GUSSET 4	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE

MIDWEST GUARDRAIL SYSTEM (MGS)
TYPE 2 TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTAT

① WOOD OR STEEL POSTS (w6X9 OR w6X8.5) MAY BE USED. DO NOT INTERMIX WOOD AND STEEL POSTS. INSTALL STEEL POSTS WITH HOLES ON APPROACHING TRAFFIC SIDE.

② USE WOOD OR APPROVED PLASTIC BLOCKOUTS. WOOD BLOCKOUTS MAY BE CONSTRUCTED OUT OF TWO OR MORE WOOD BLOCKOUTS. SEE ALTERNATE WOOD BLOCKOUT DETAIL. DIMENSIONS OF APPROVED PLASTIC BLOCKOUTS MAY VARY.

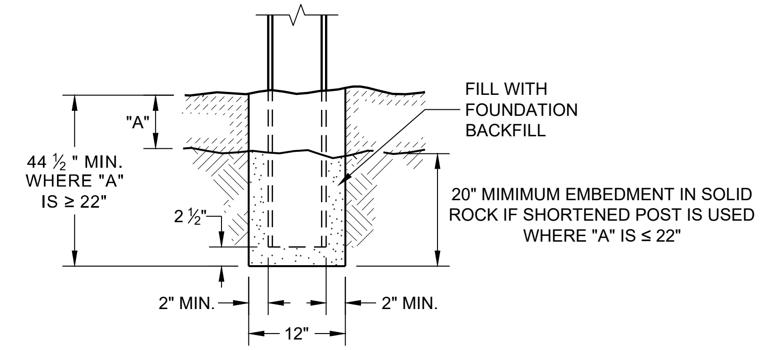
③ IF ROCK IS ENCOUNTERED DURING EXCAVATION, PROVIDE A HOLE 12 INCHES IN DIAMETER EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2 1/2" INCHES OF GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE. CUT THE POSTS THE TO LENGTH AMD INSTALL. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT. BACKFILL IS TO BE FREE OF LARGE ROCKS.

④ WHEN THE DISTANCE FROM BACK OF POST TO SHOULDER HINGE POINT IS LESS THAN 2 FEET INSTALL LONGER POST AT HALF POST SPACING (K).

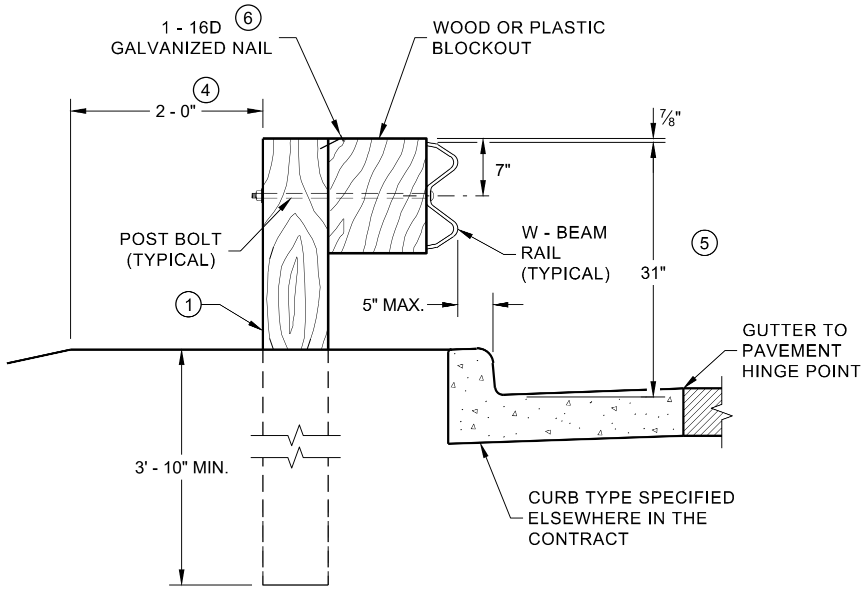
⑤ FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS ±1". FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27 ¾" TO 32".

⑥ WHEN USING STEEL POST AND WOOD BLOCKOUTS INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

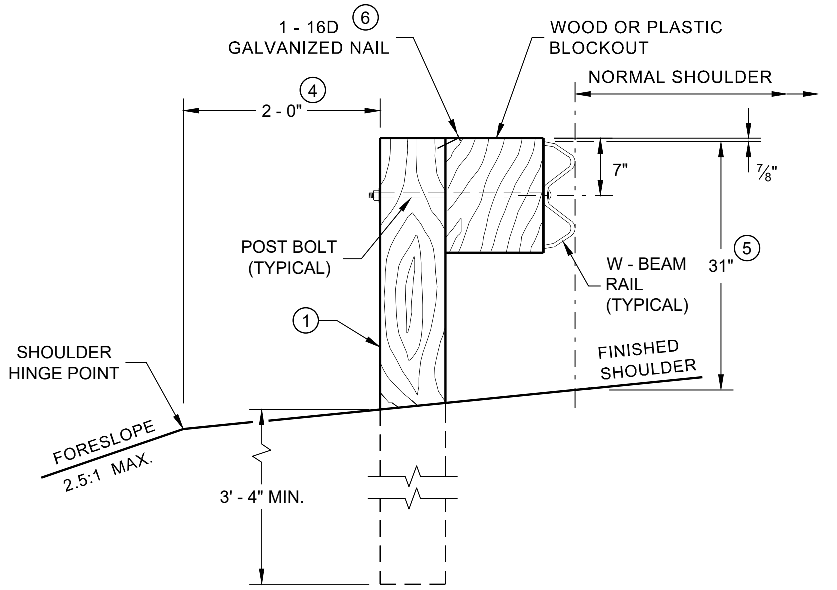
⑦ TOTAL POST LENGTH FOR TYPE K IS 7' - 0".
TOTAL POST LENGTH FOR OTHER MGS TYPES IS 6' - 0".



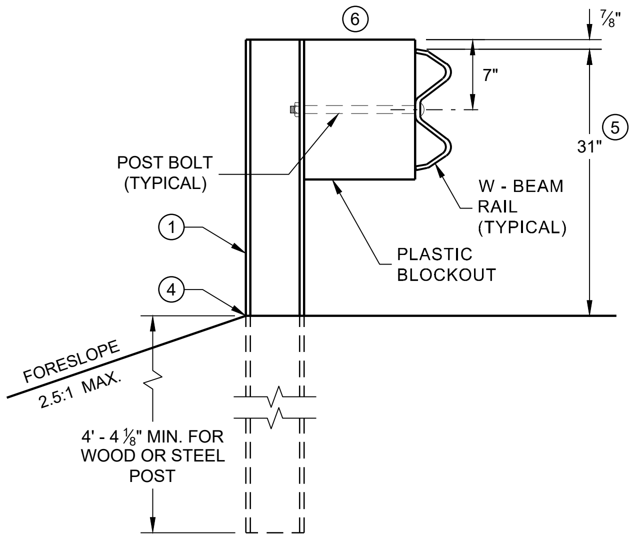
END VIEW
SETTING STEEL OR WOOD POST IN ROCK ③



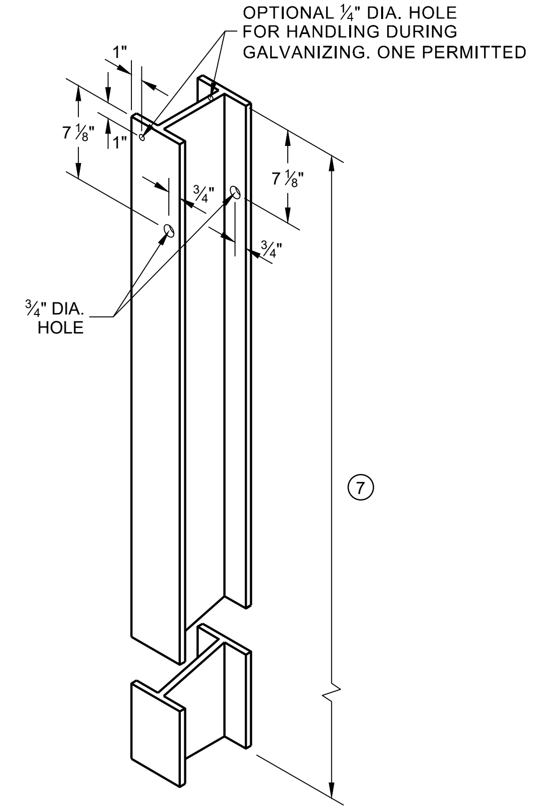
END VIEW
LOCATED ALONG A CURBED ROADWAY



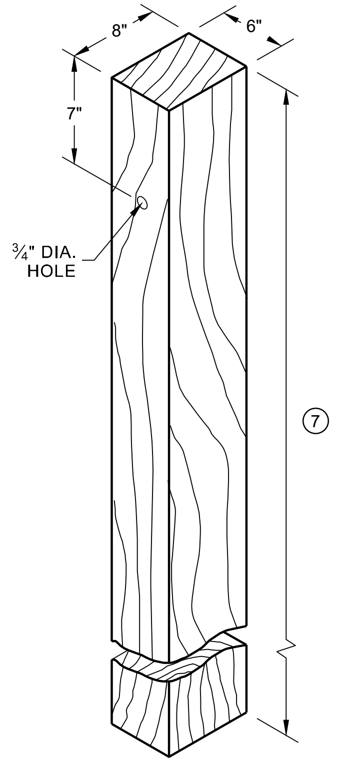
END VIEW
LOCATED ALONG A ROADWAY SHOULDER
STANDARD INSTALLATION



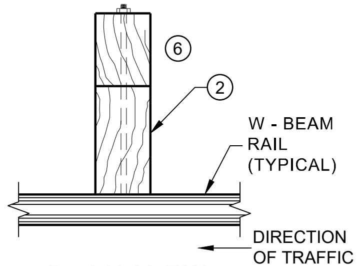
END VIEW
MGS LONGER POST AT HALFPOST SPACING W BEAM (K)



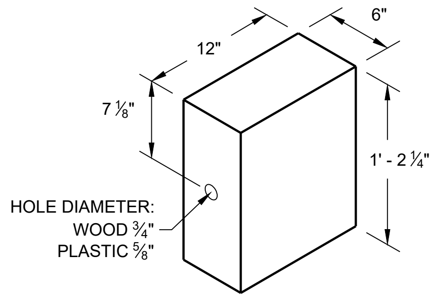
STEEL POST & HOLE PUNCHING DETAIL (W 6 X 9) ①



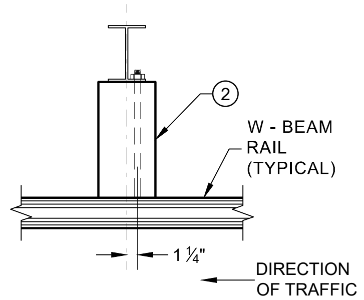
WOOD POST (6" X 8") NOMINAL ①



PLAN VIEW
WOOD POST,
BLOCKOUT & BEAM



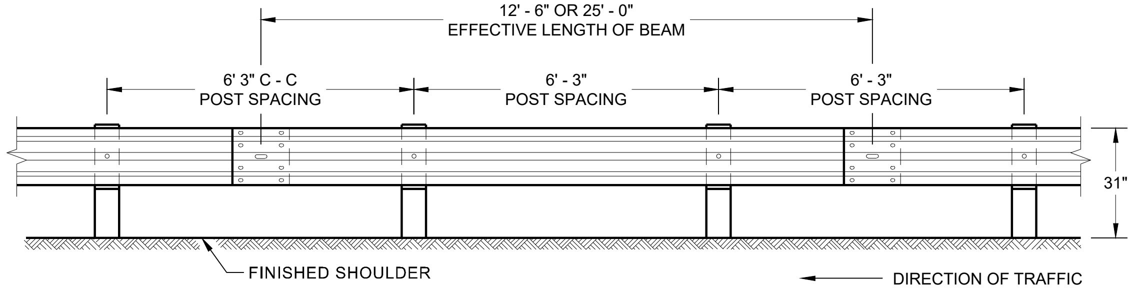
WOOD OR PLASTIC BLOCKOUT ②



PLAN VIEW
STEEL POST,
PLASTIC BLOCKOUT & BEAM

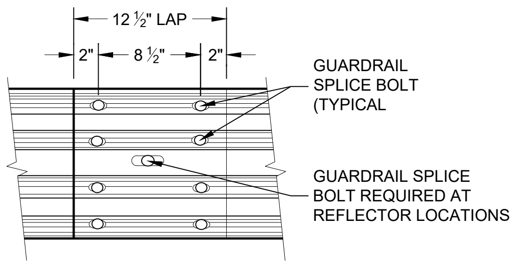
MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTAT



FRONT VIEW

POST SPACING STANDARD INSTALLATION



FRONT VIEW

MID-SPAN BEAM SPLICE

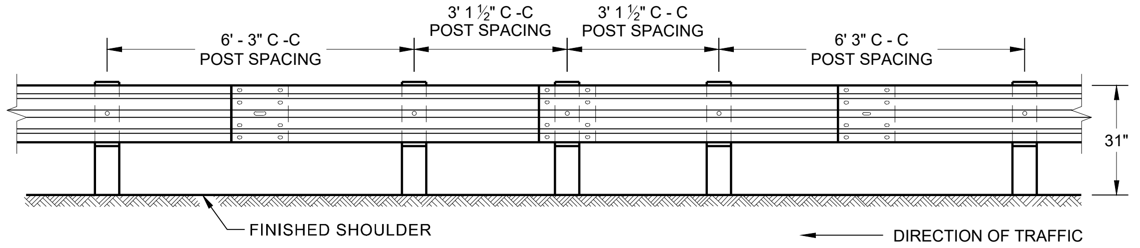
GENERAL NOTES

⑧ DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

⑨ 25 FEET OF HALF POST SPACING IS REQUIRED ON APPROACH AND DEPARTURE ENDS OF QUARTER POST SPACING.

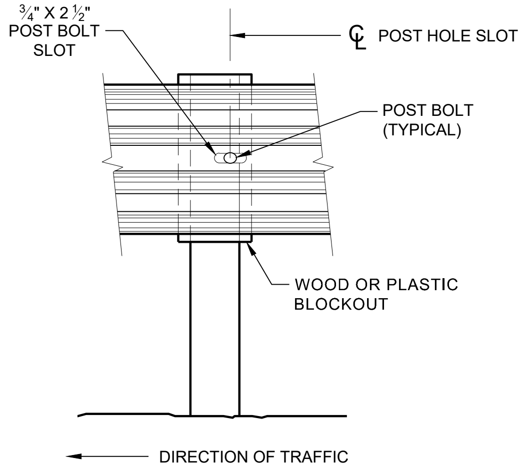
POST BOLTS ARE A ⅝" DIAMETER ASTM A307 GUARDRAIL BOLT. A POST BOLT REQUIRES ⅝" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT AND ⅝" DIAMETER F844 FLAT WASHER. POST BOLTS MAY BE LONGER IF MULTIPLE BLOCKOUTS ARE BEING USED.

GUARD RAIL SPLICE BOLTS ARE A ⅝" DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES ⅝" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.

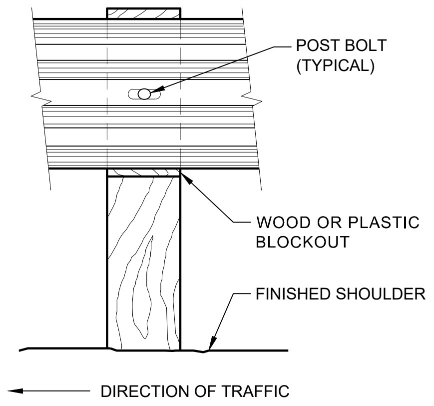


FRONT VIEW

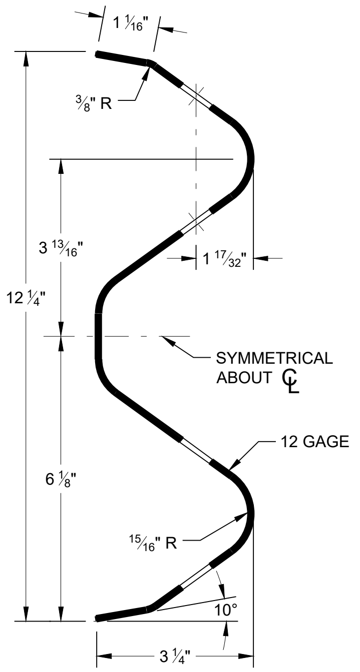
HALF POST SPACING (HS) AND
HALF POST SPACING WITH LONGER POSTS (K)



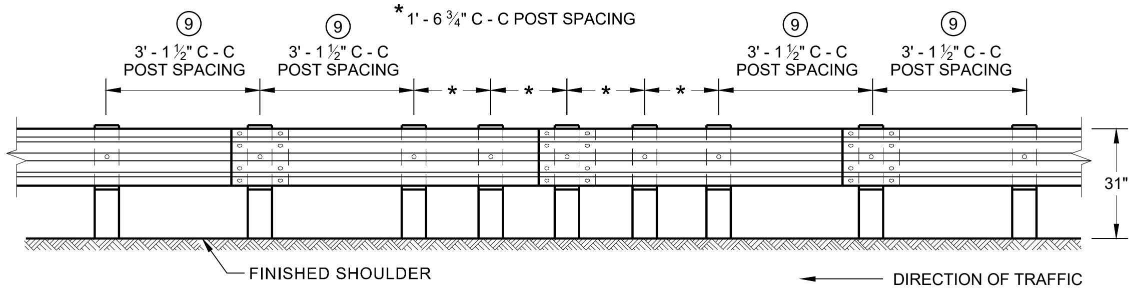
FRONT VIEW AT STEEL POST



FRONT VIEW AT WOOD POST

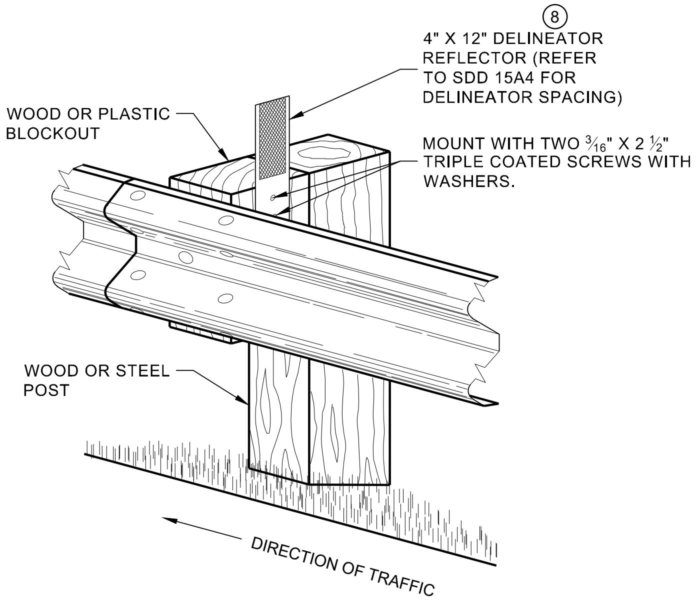


SECTION THRU W-BEAM RAIL



FRONT VIEW

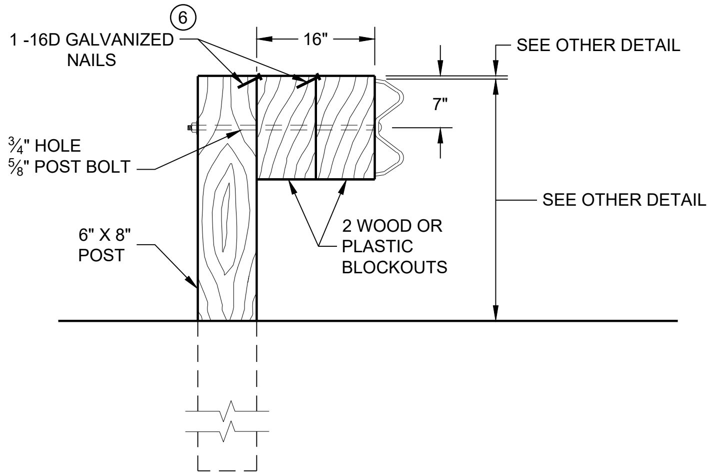
QUARTER POST SPACING (QS)



ONE SIDED REFLECTOR DETAIL
AND TYPICAL INSTALLATION

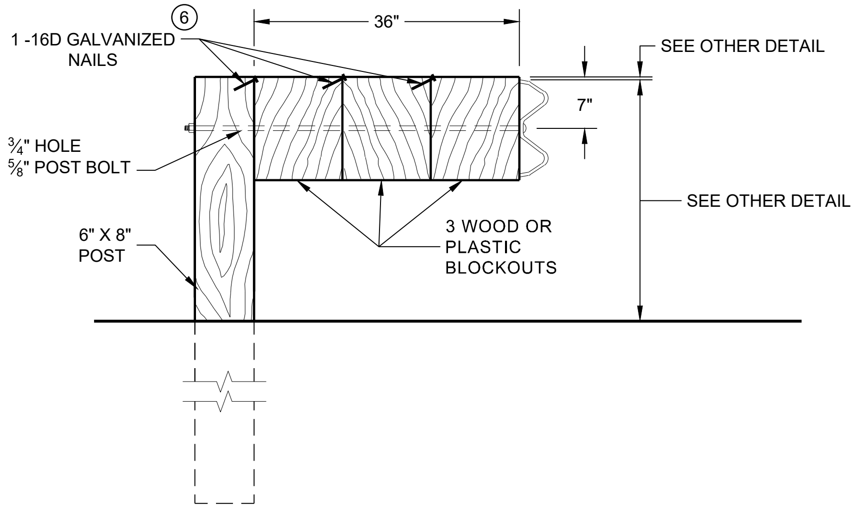
**MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTAT



DETAIL FOR 16" BLOCKOUT DEPTH

IT IS ACCEPTABLE TO USE BLOCKOUTS UP TO 16" DEEP TO INCREASE THE POST OFFSET TO AVOID UNDERGROUND OBSTACLES. THERE IS NO LIMIT TO THE NUMBER OF POSTS THAT CAN HAVE ADDITIONAL BLOCKOUTS UP TO 16" DEEP.



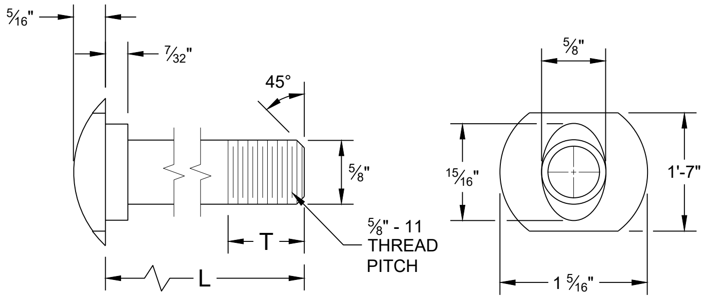
DETAIL FOR 36" BLOCKOUT DEPTH

NOTES: UNDER SPECIAL CIRCUMSTANCES, SUCH AS AVOIDING OBSTACLES THAT ARE NOT RELOCATED, IT IS ACCEPTABLE TO INSTALL ADDITIONAL BLOCKOUTS TO OBTAIN UP TO 36" DEPTH FOR ONE OR TWO POSTS IN A SECTION OF GUARDRAIL.

DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.

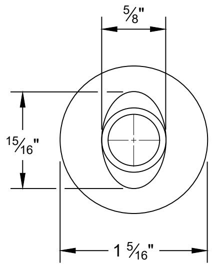
NOTE:

1. ALL FILLETS SHALL HAVE A MINIMUM RADIUS OF $\frac{3}{16}$".
2. IF THE BOLT EXTENDS MORE THAN ¼" FROM THE NUT THE BOLT SHOULD BE TRIMMED BACK.

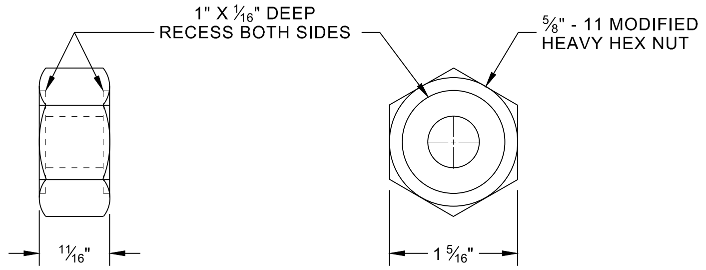


POST BOLT TABLE

L	T (MIN.)
1 ¼"	1 ⅛"
2"	1 ¾"
10"	4"
14"	4 $\frac{1}{16}$"
18"	4"
21"	4 $\frac{1}{16}$"
25"	4"

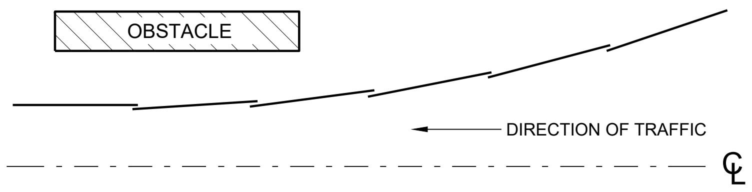


ALTERNATE BOLT HEAD

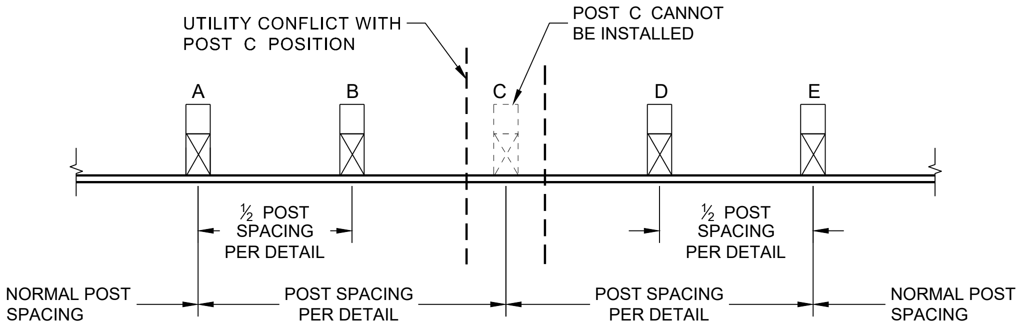


POST BOLT, SPLICE BOLT AND RECESS NUT

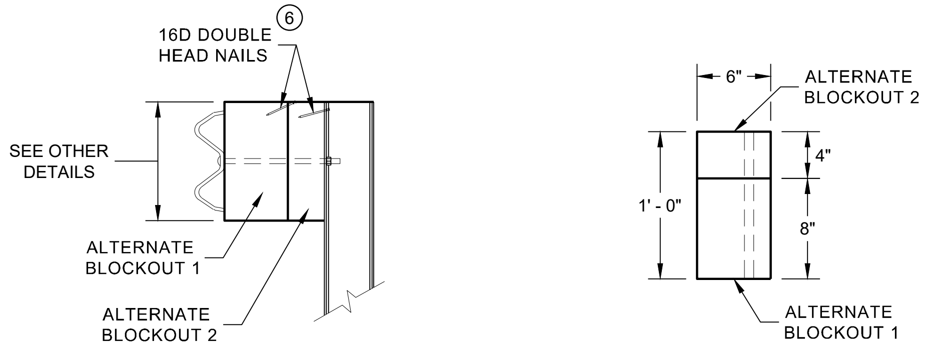
⑥ WHEN USING STEEL POST AD WOOD BLOCKOUTS, INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.



PLAN VIEW
BEAM LAPPING DETAIL



POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION



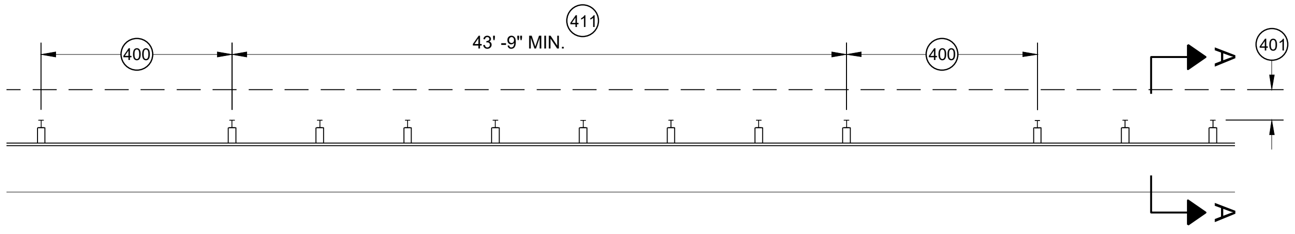
SIDE VIEW

PLAN VIEW

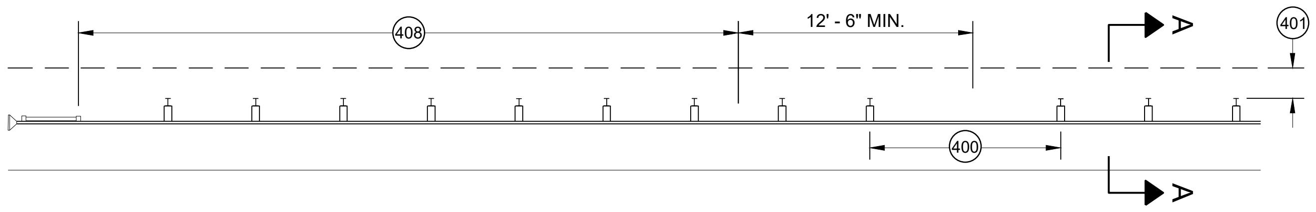
ALTERNATE WOOD BLOCKOUT DETAIL

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

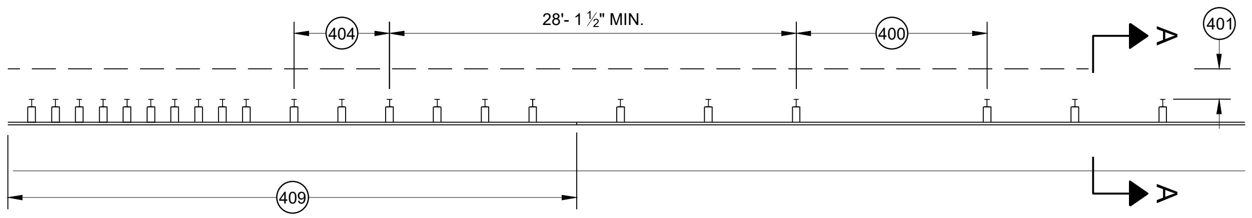
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATI



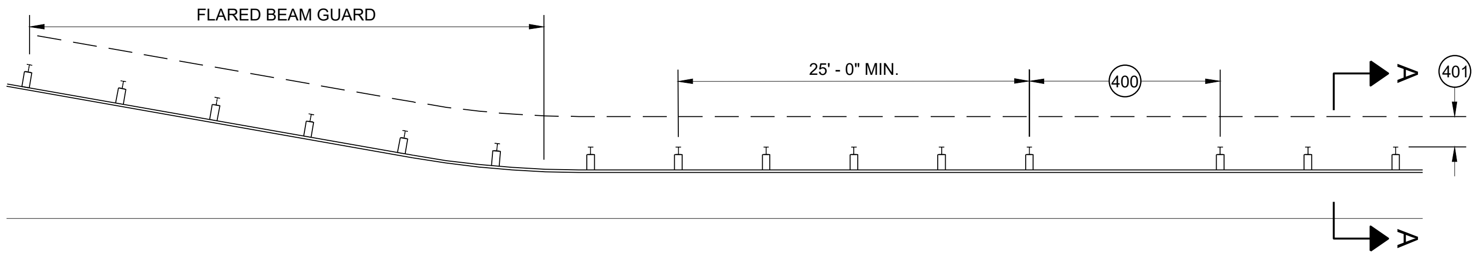
MISSING POST IN MGS GUARDRAIL



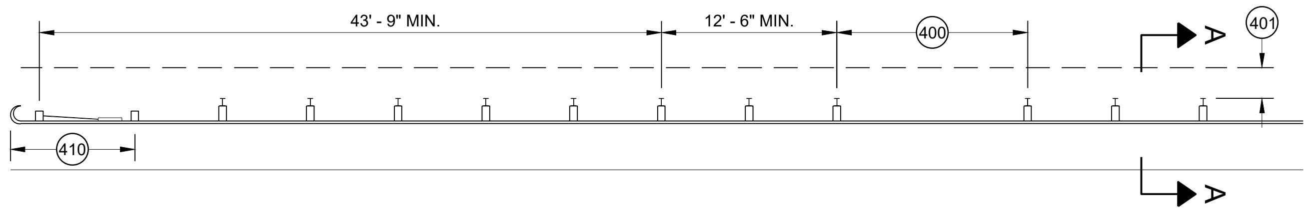
MISSING POST IN MGS GUARDRAIL NEAR EAT



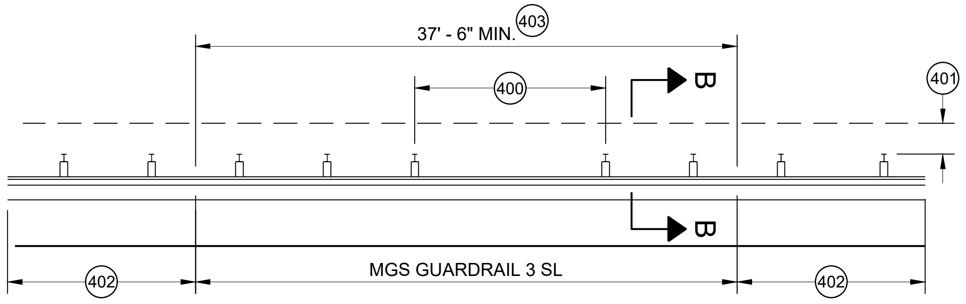
MISSING POST IN MGS GUARDRAIL NEAR AN APPROACH TRANSITION



MISSING POST IN MGS GUARDRAIL NEAR FLARED BEAM GUARD

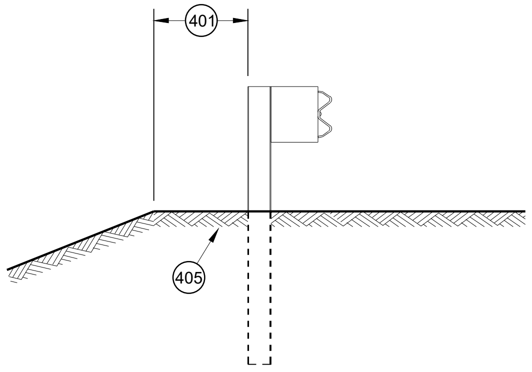


MISSING POST IN MGS GUARDRAIL NEAR A TYPE 2 END TERMINAL

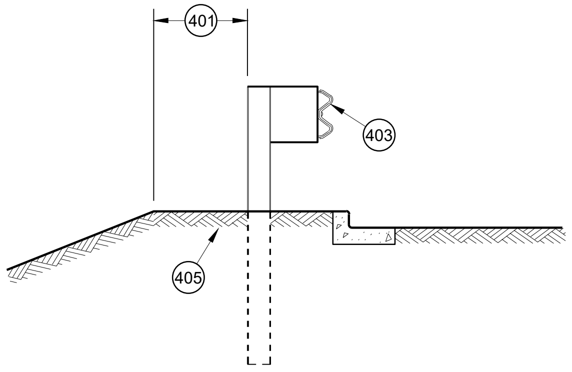


MISSING POST IN SHORT SPAN MGS GUARDRAIL NEAR CURB (SL) ⑦ 407

- (400) MAX SPAN 12' - 6"
- (401) 2' MIN.
- (402) MGS GUARDRAIL 3
- (403) NESTING BEAM GUARD
- (404) ASYMMETRIC TRANSITION
- (405) SOIL WELL DRAINED AND COMPACTED
- (406) SEE OTHER DRAWINGS IN THIS SDD
- (407) SEE OTHER DRAWINGS FOR MIN. SPACING BETWEEN SPANS
- (408) SEE SDD 14B44
- (409) SEE SDD 14B45
- (410) SEE SDD 14B47
- (411) MINIMUM DISTANCE BETWEEN MISSING POST SPANS.



SECTION A - A (406)



SECTION B - B (406)

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2021
DATE
/S/ Rodney Taylor
ROADWAY STANDARDS DEVE
UNIT SUPERVISOR
FHWA

GENERAL NOTES

Ⓐ THE SLOPE IN THE AREA BOUNDED BY THE GRADELINE, THE HINGE POINT LINE (HPL) AND THE CLEAR ZONE LIMITS (CZL) SHALL BE 4:1 OR FLATTER.

Ⓑ AFTER FINAL ASSEMBLY, RECHECK CABLE TO BE SURE IT IS TAUT AND HAS NOT RELAXED

Ⓒ DIFFERENT MANUFACTURERS REQUIRE DIFFERENT PERFORATED W - BEAM RAIL END PANELS. SEE MANUFACTURER'S INFORMATION.

Ⓓ ATTACH ALUMINUM SHEET TO E.A.T. HEAD USING 4 STAINLESS STEEL SELF - TAPPING SCREWS. ONE SCREW PER CORNER.

Ⓔ HARDWARE MAY VARY BETWEEN MANUFACTURER. SEE MANUFACTURER'S DRAWING FOR INFORMATION.

DIMENSIONS MAY VARY, MANUFACTURER'S INFORMATION.

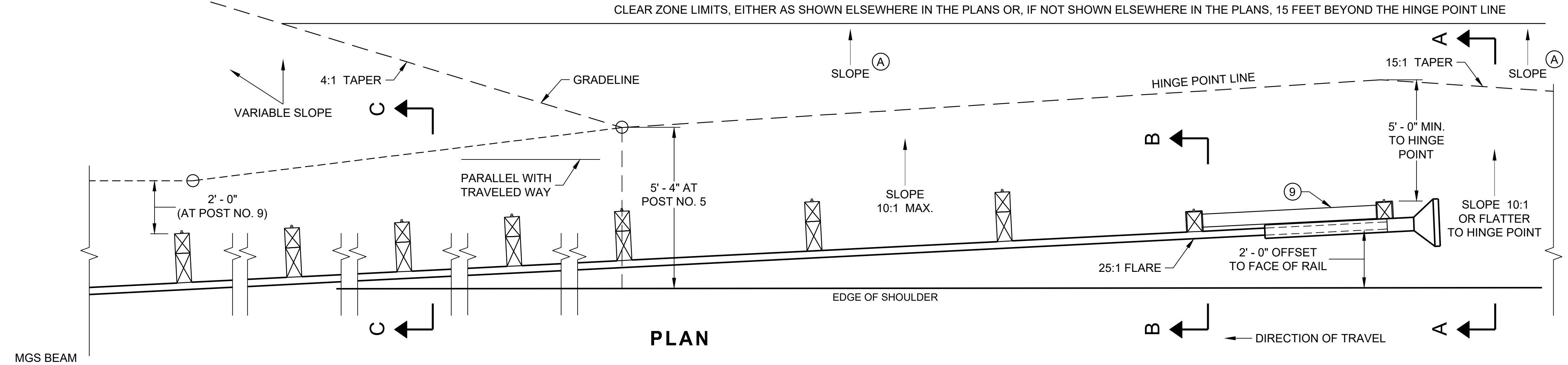
SEE SDD 14B42 FOR MORE INFORMATION.

* DO NOT ATTACH BLOCKOUTS TO POST 1 AND 2.

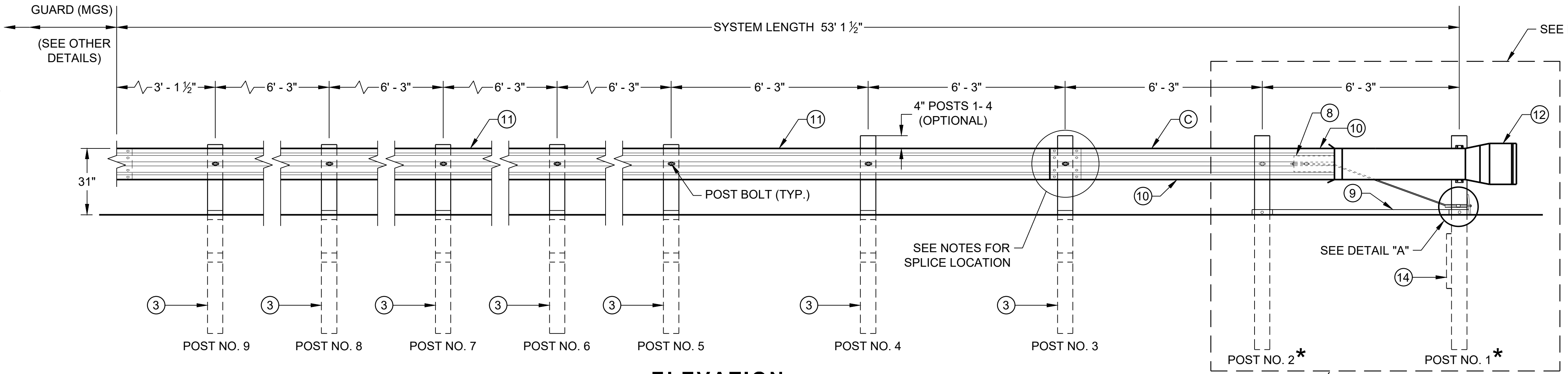
DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

SEE MANUFACTURER'S DRAWING FOR SPLICE LOCATION, HARDWARE DIMENSIONS AND INSTALLATION INSTRUCTIONS.

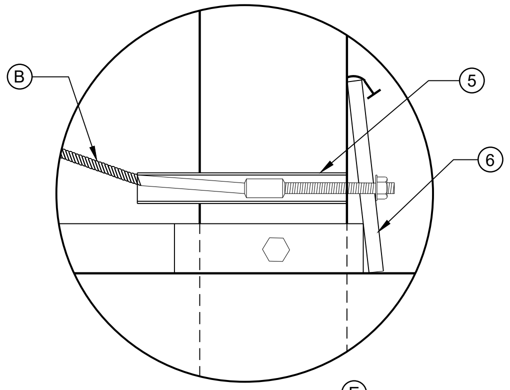
THE CENTER OF THE UPPER 3 ½" DIAMETER HOLE ON POST NUMBER 3 THROUGH POST 9 IS TO BE FLUSH WITH THE GROUND LINE UP TO A MAXIMUM OF 2" ABOVE GROUND LINE. WOOD BLOCKS ON POSTS NUMBERED 3 THROUGH 9 MAY BE ADJUSTED UP TO 3" ABOVE THE TOP OF POST.



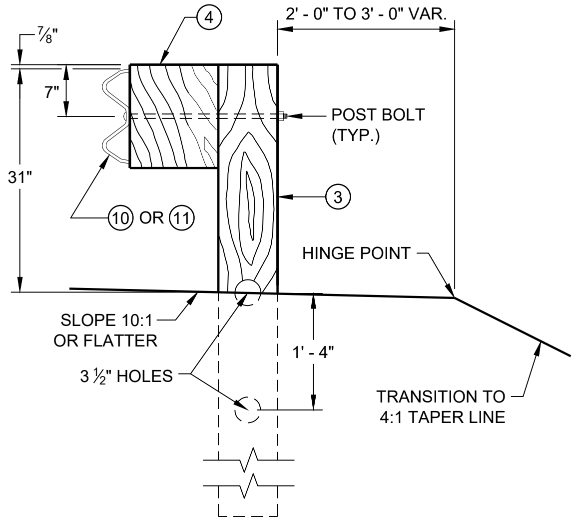
PLAN



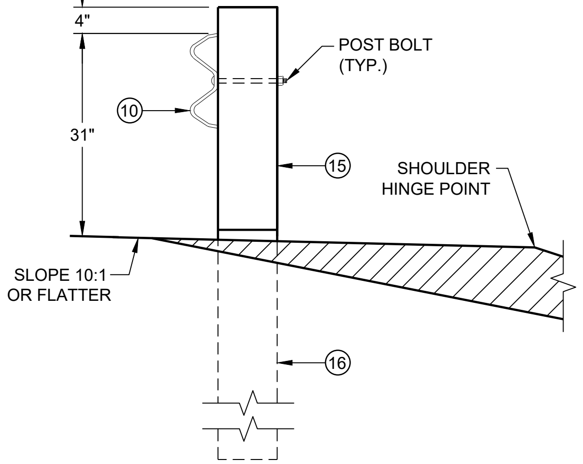
ELEVATION



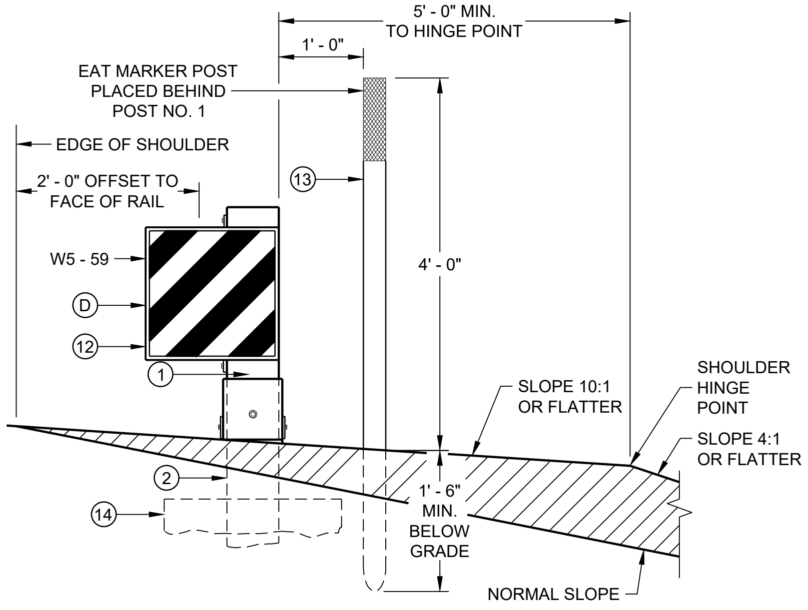
DETAIL "A" Ⓔ



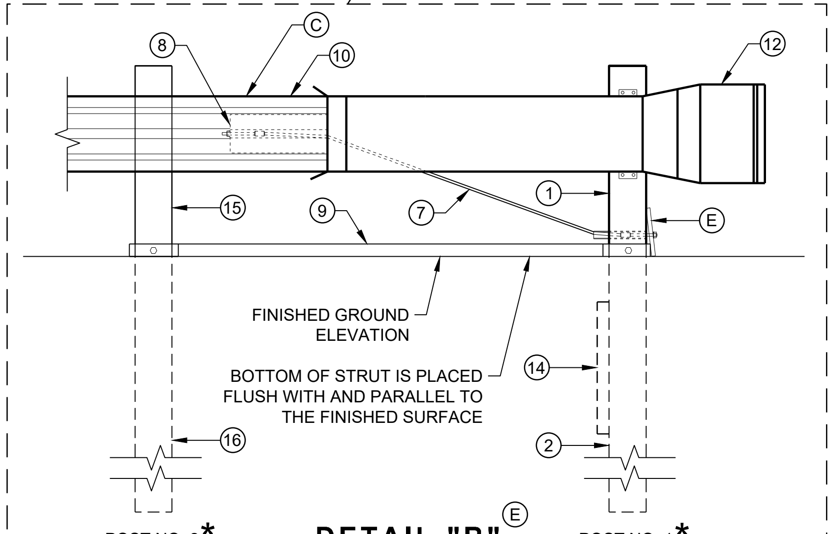
SECTION C - C
TYPICAL AT POST NOS. 3 - 9



SECTION B - B
TYPICAL AT POST NO. 2*



SECTION A - A
TYPICAL AT POST NO. 1*



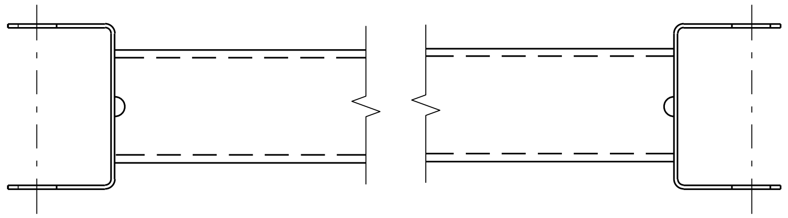
DETAIL "B" Ⓔ

MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)

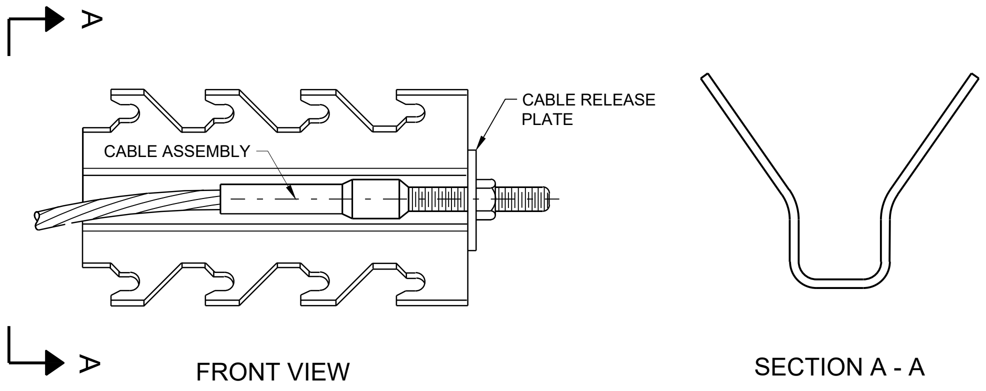
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

BILL OF MATERIALS

PART NO.	DESCRIPTION MATERIALS PROVIDED BY MGS EAT MANUFACTURER. SEE MANUGACTURER'S DETAILS FOR MORE INFORMATION.
①	UPPER POST NO. 1 6" X 6" TUBE
②	LOWER POST NO. 1
③	WOOD CRT
④	WOOD BLOCKOUT
⑤	PIPE SLEEVE
⑥	BEARING PLATE
⑦	BCT CABLE ASSEMBLY
⑧	ANCHOR CABLE BOX
⑨	GROUND STRUT
⑩	PERFORATED W-BEAM RAIL END PANEL, 12'-6" LONG.
⑪	STANDARD W-BEAM RAIL. MULTIPLE SECTIONS REQUIRED. SECTIONS VARY IN LENGTH.
⑫	IMPACT HEAD
⑬	EAT MARKER POST - YELLOW (SEE APPROVED PRODUCTS LIST)
⑭	SOIL PLATE
⑮	UPPER POST NO. 2
⑯	LOWER POST NO. 2



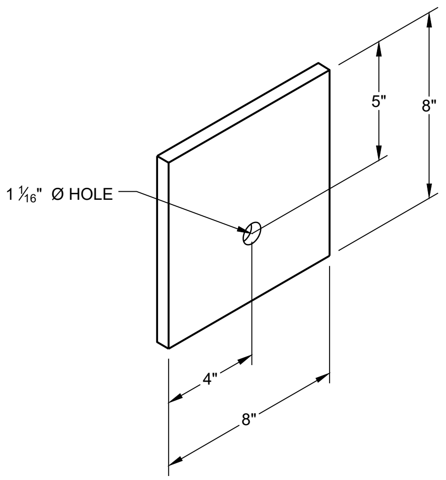
GENERIC GROUND STRUT ⑨ Ⓔ



FRONT VIEW

SECTION A - A

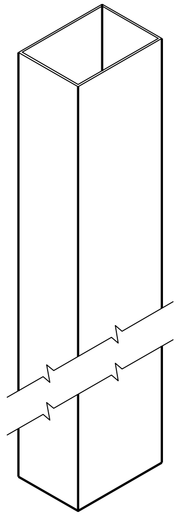
GENERIC ANCHOR CABLE BOX ⑨ Ⓔ



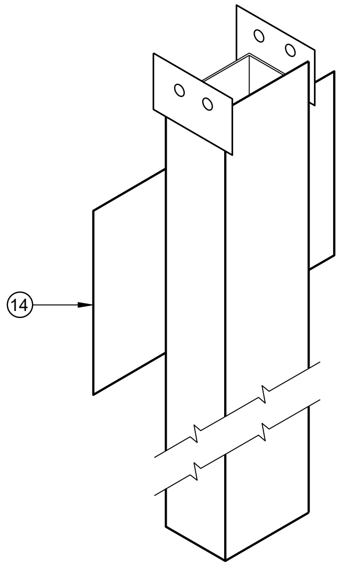
BEARING PLATE ⑥ Ⓔ

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

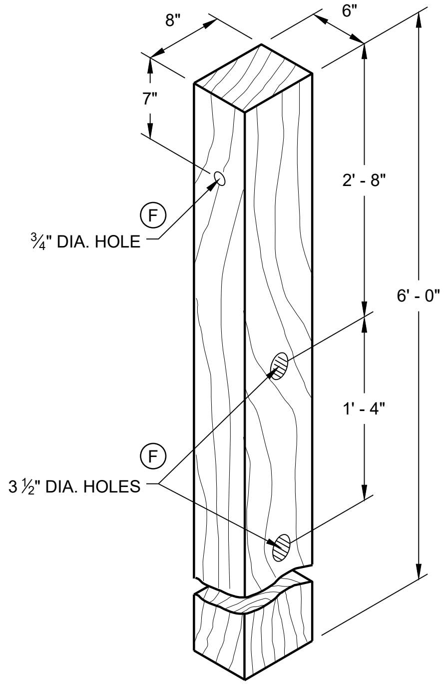
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATI



UPPER POST NO. 1 ① Ⓔ

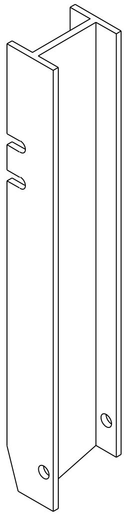


LOWER POST NO. 1 ② Ⓔ

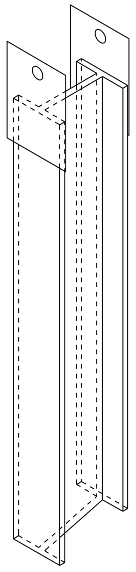


WOOD CRT POST ③ Ⓔ

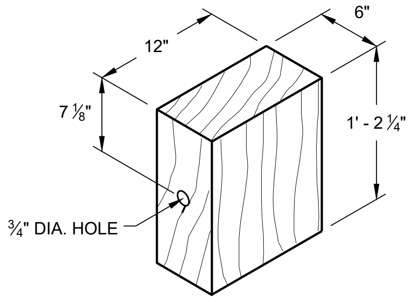
POSTS NUMBER 3-9



UPPER POST NO. 2 ⑮ Ⓔ

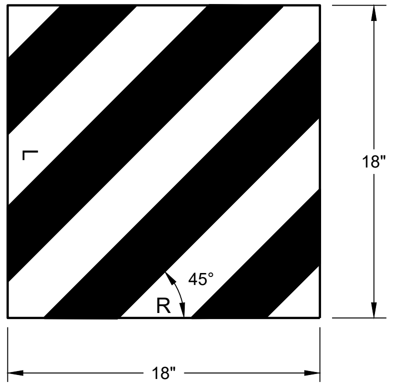


LOWER POST NO. 2 ⑯ Ⓔ



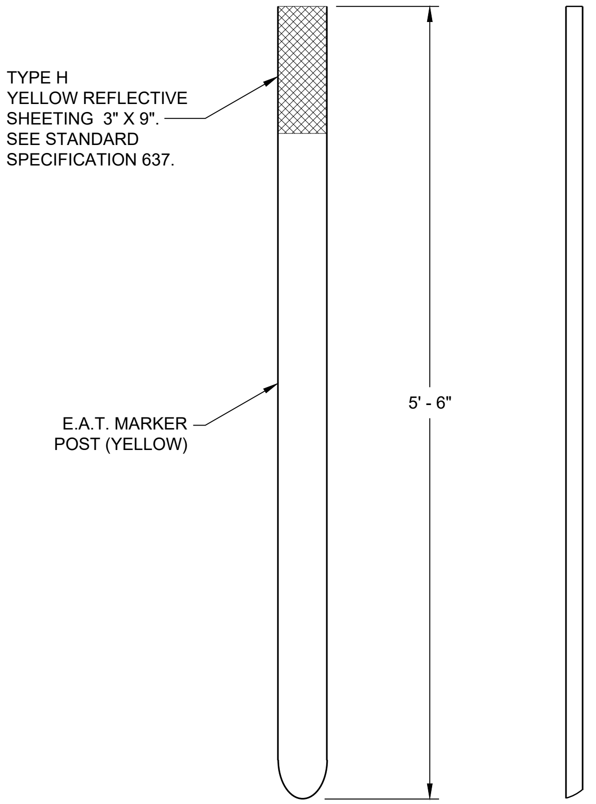
WOOD BLOCKOUT ④

REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2



W5 - 59

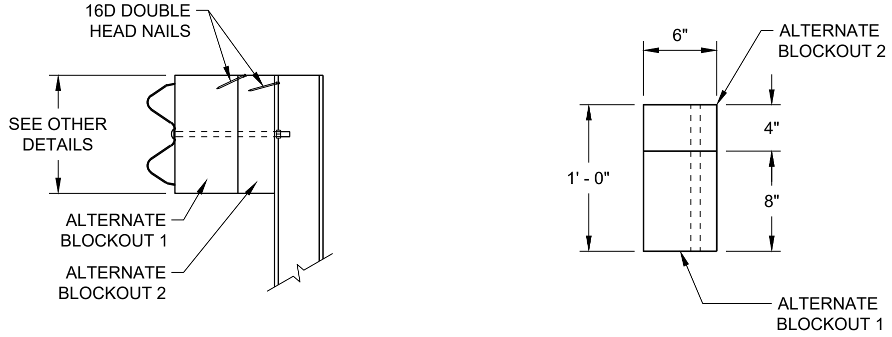
REFLECTIVE SHEETING DETAIL Ⓔ



FRONT VIEW

SIDE VIEW

E.A.T. MARKER POST ⑬



SIDE VIEW

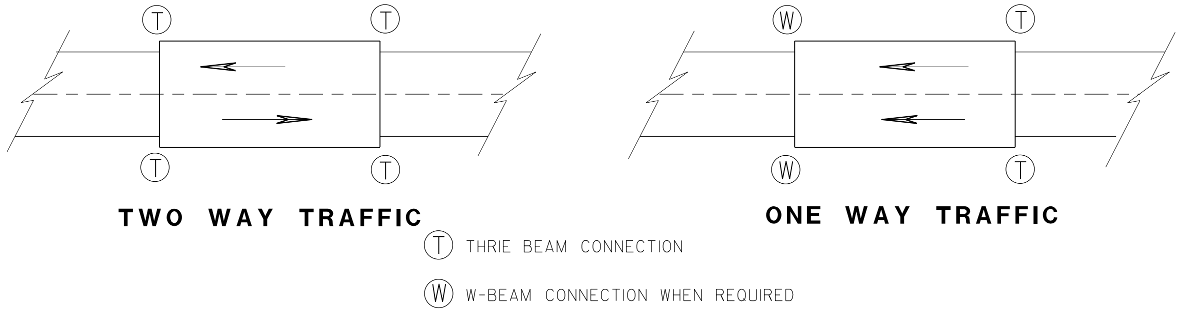
TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL

MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7/2018
DATE
/S/ Rodney Taylor
ROADWAY STANDARDS DEVE
UNIT SUPERVISOR
FHWA



TYPICAL LOCATIONS OF THRIE BEAM AND W-BEAM CONNECTIONS TO BRIDGE

GENERAL NOTES

IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2½", AND 12" DIAMETER AROUND POST. SEE 14B42 FOR MORE DETAILS.

TRANSITION USES STEEL POSTS ONLY.

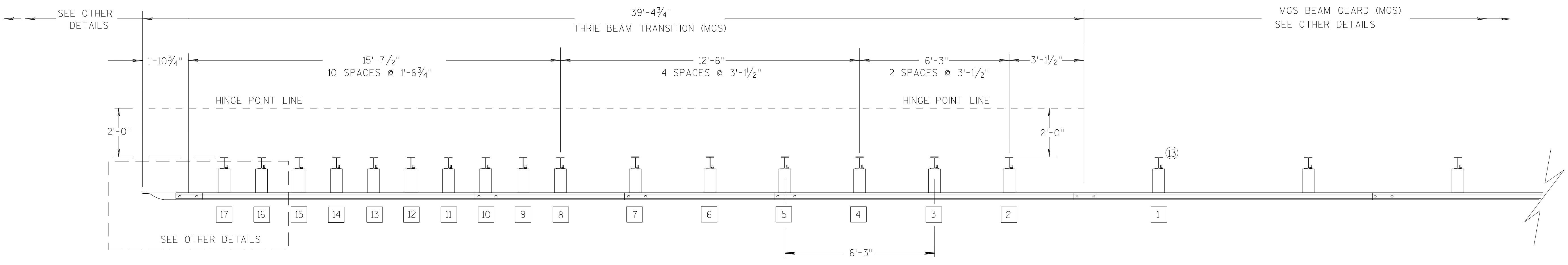
SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

POST 2 THROUGH 17 USES STEEL POST ONLY

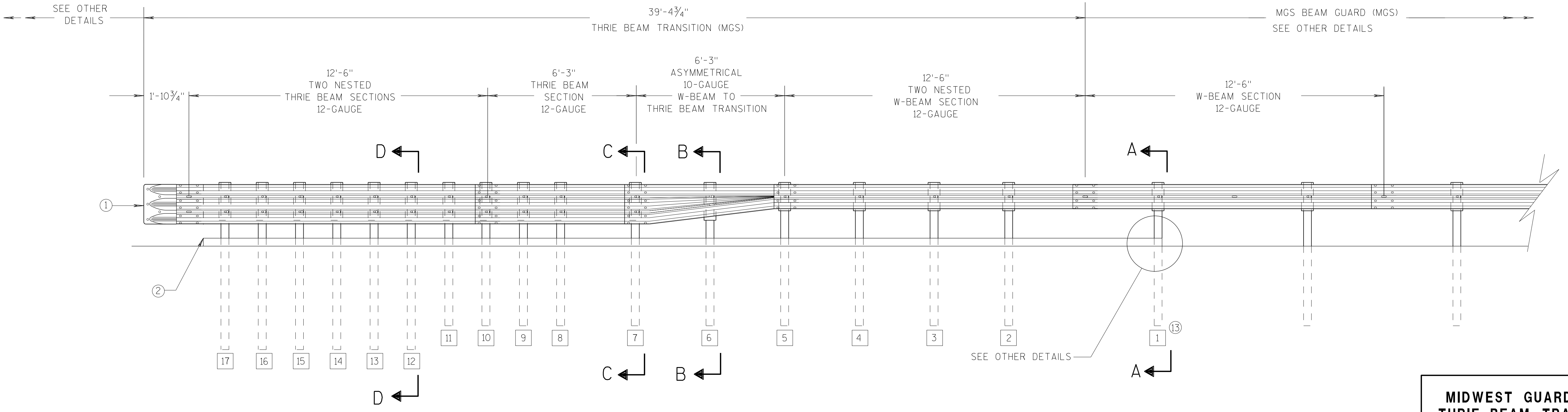
① BRIDGE RAILING TYPE "W" DOES NOT REQUIRE A TERMINAL CONNECTOR.

② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

⑬ STEEL OR WOOD POST IS ACCEPTABLE AT POST 1. SEE SDD14B42



PLAN VIEW



ELEVATION VIEW

MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

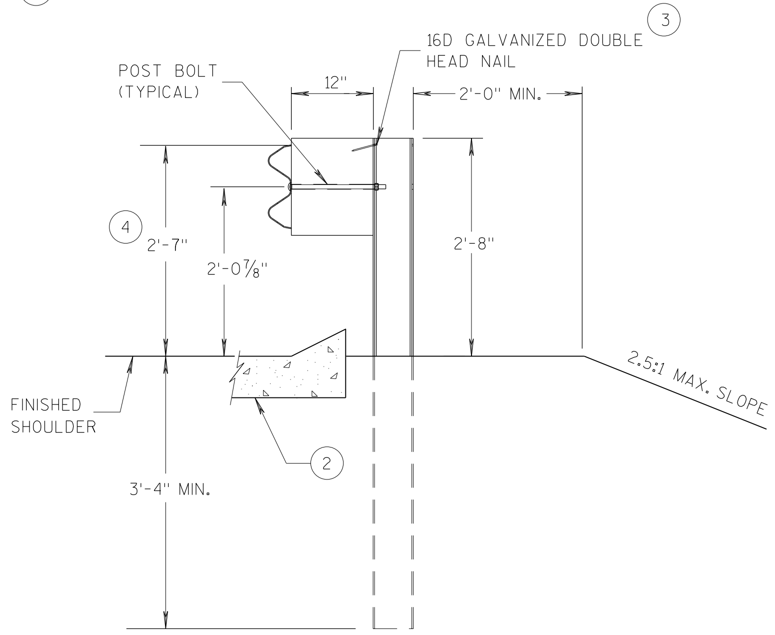
GENERAL NOTES

② OPTIONAL CURB AND GUTTER OR DRAINAGE_FEATURE SEE PLAN FOR INFORMATION.

③ WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 10D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

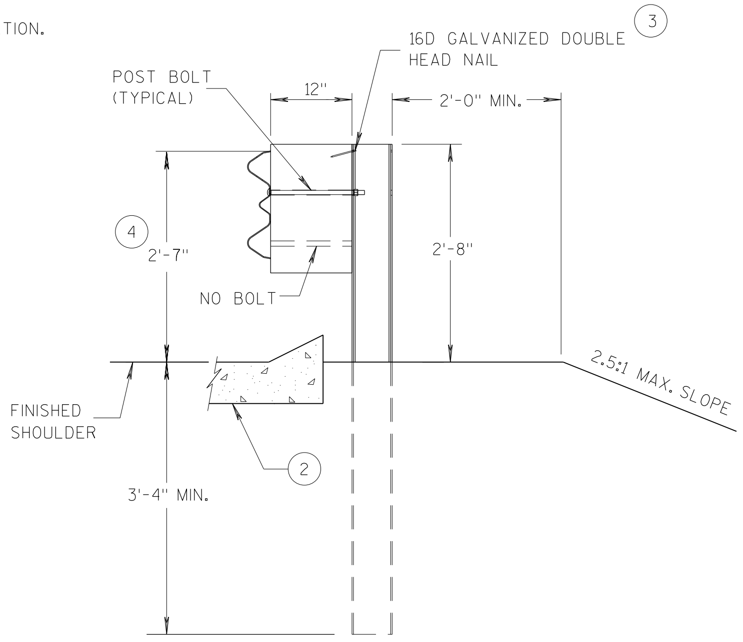
④ TOLERANCE FOR TOP OF W-BEAM RAIL IS ± 1".

⑬ STEEL OR WOOD POST IS ACCEPTABLE AT POST 1. SEE SDD 14B42



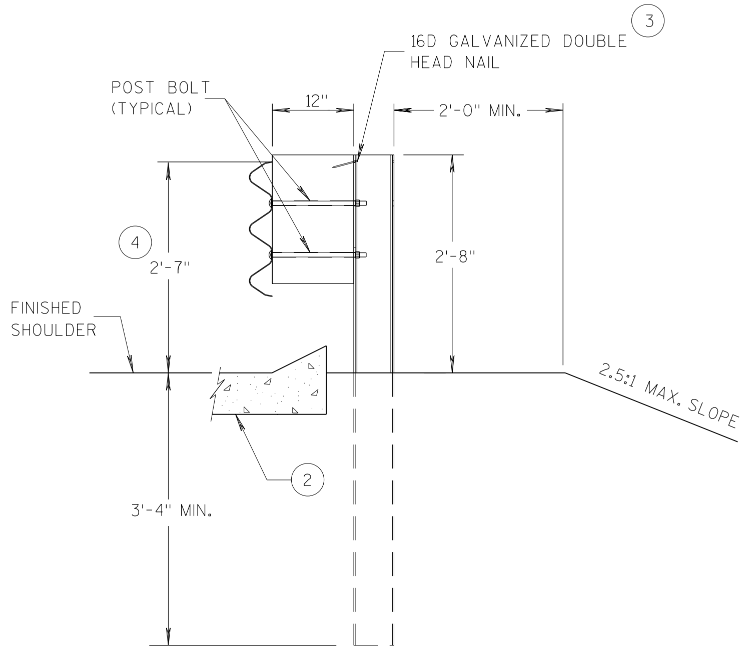
SECTION A-A ⑬

POSTS 1-5



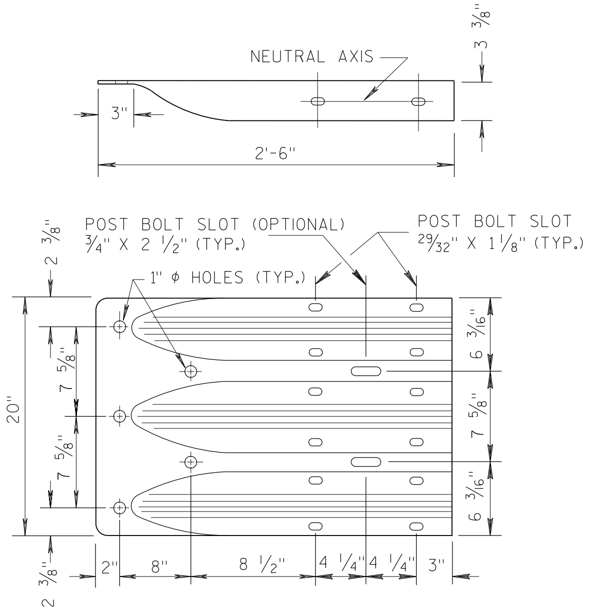
SECTION B-B

POST 6



SECTION C-C

POSTS 7-11



THRIE BEAM TERMINAL CONNECTOR

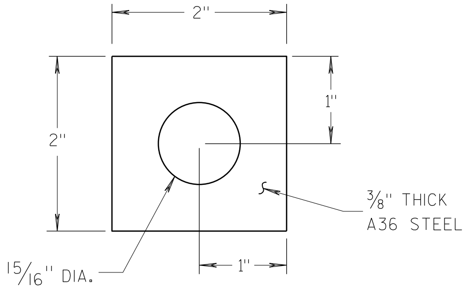
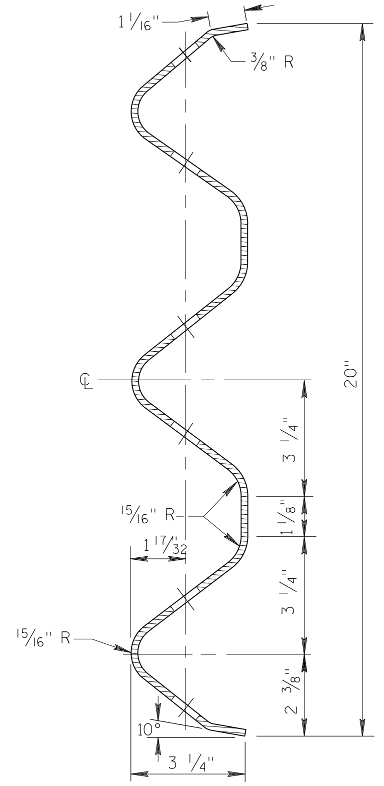
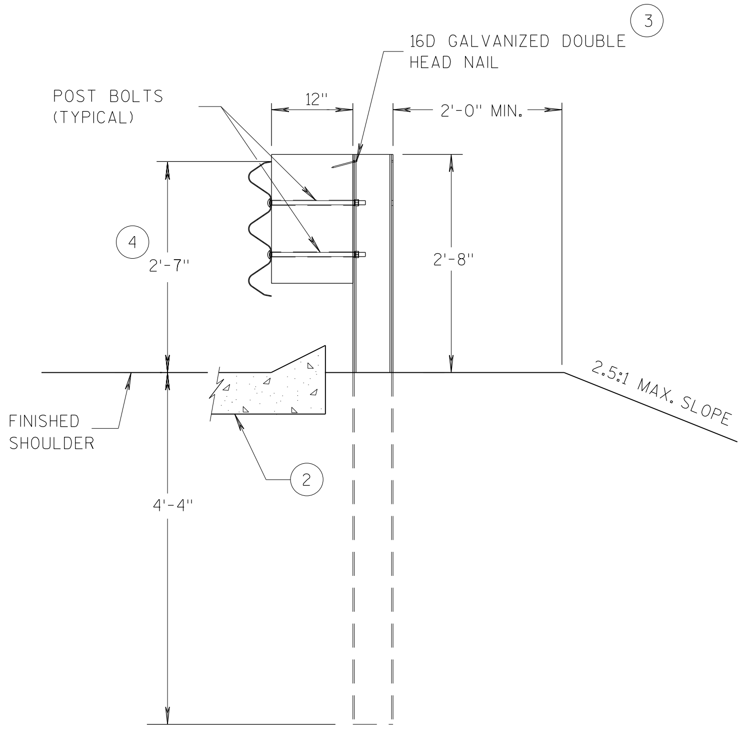


PLATE WASHER DETAIL

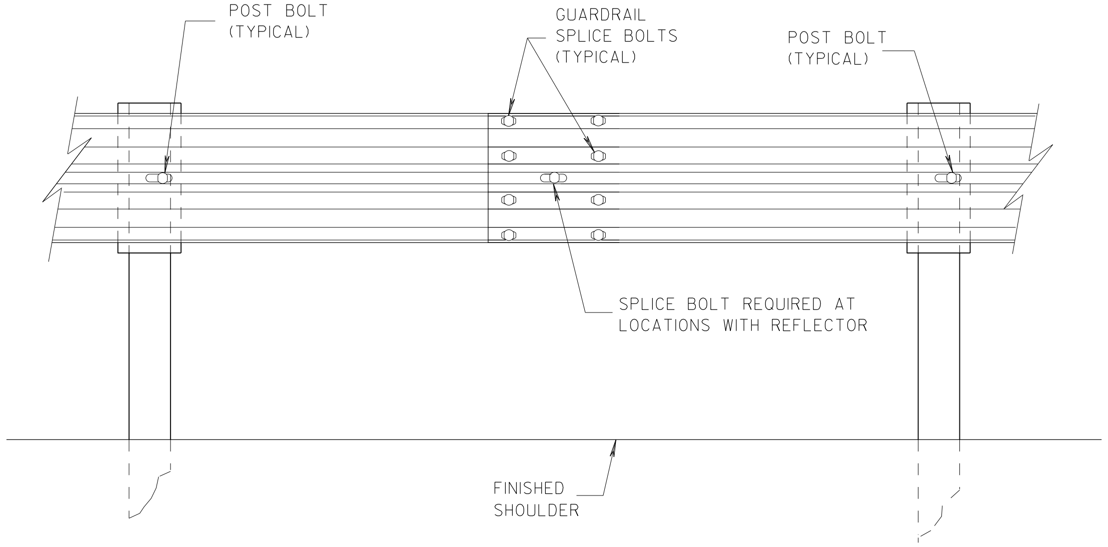


SECTION THRU THRIE BEAM RAIL ELEMENT



SECTION D-D

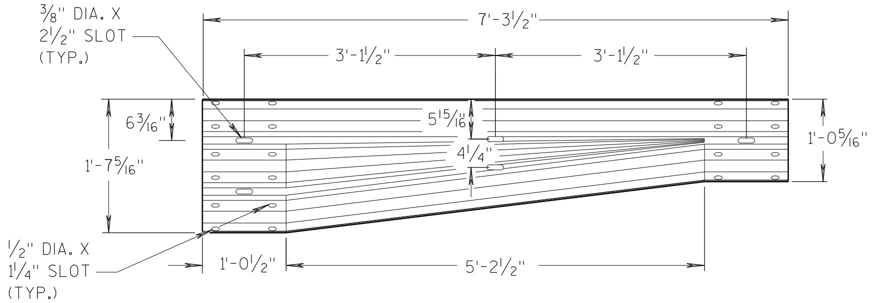
POSTS 12-17



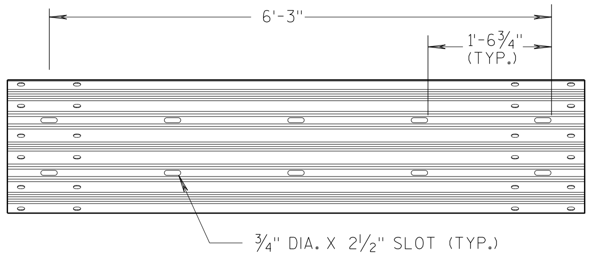
SPLICE DETAIL

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

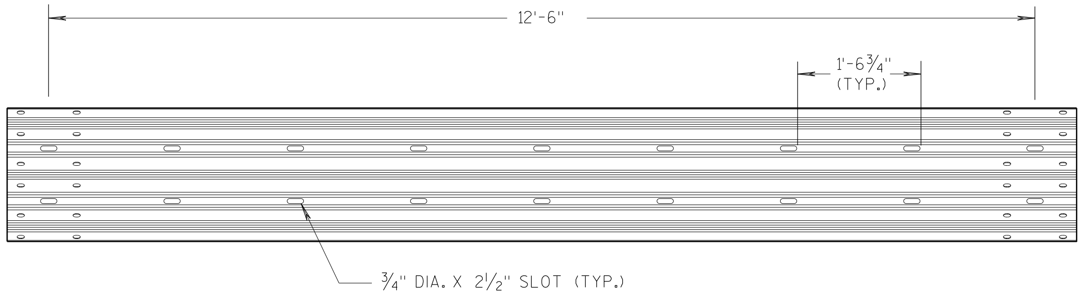
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR



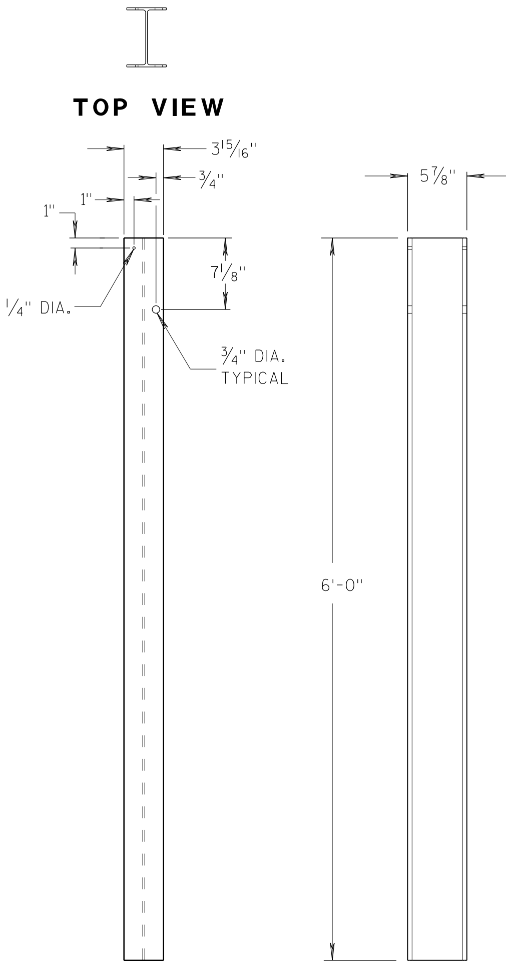
W-BEAM TO THRIE BEAM TRANSITION SECTION



6'-3" THRIE BEAM SECTION



12'-6" THRIE BEAM SECTION

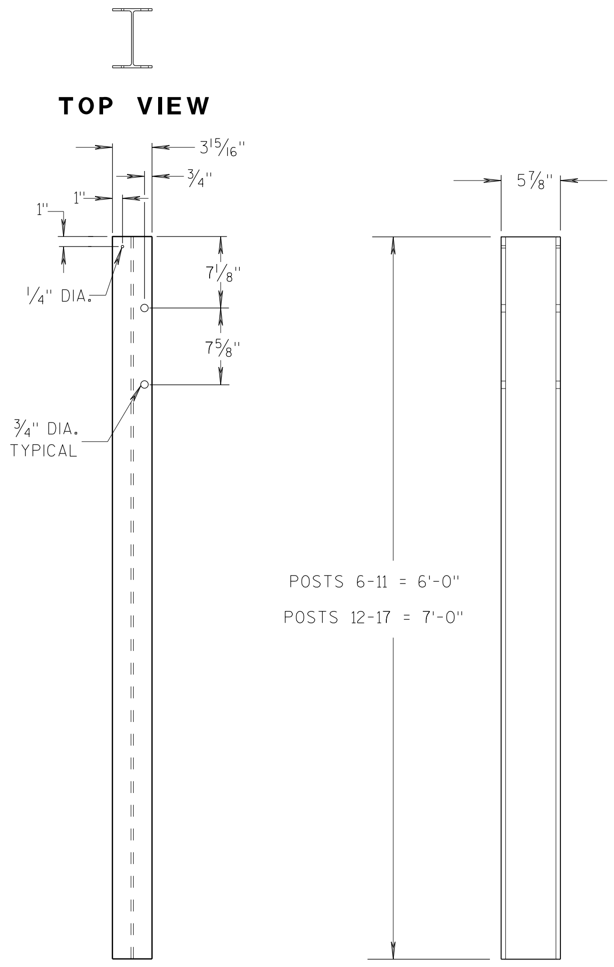


TOP VIEW

FRONT VIEW

SIDE VIEW

STEEL POSTS 1-5 ⑬

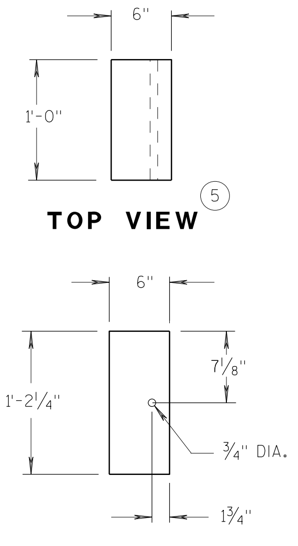


TOP VIEW

FRONT VIEW

SIDE VIEW

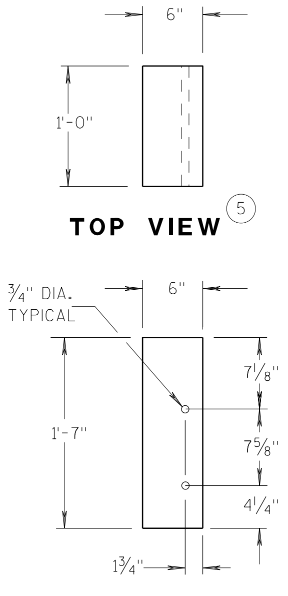
STEEL POSTS 6-17



TOP VIEW ⑤

FRONT VIEW

BLOCKOUT POSTS 1-5



TOP VIEW ⑤

FRONT VIEW

BLOCKOUT POSTS 6-17

GENERAL NOTES

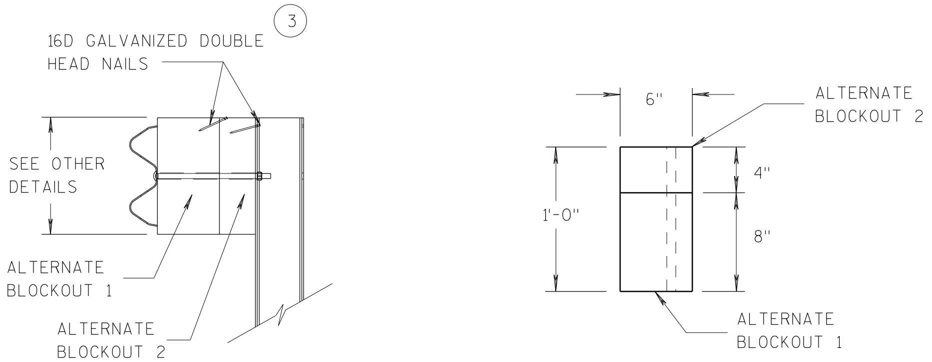
STEEL POSTS ARE W6X9 OR W6X8.5.

BOLT HOLES FOR POST ARE ON FRONT AND OF SIDE OF POST.

③ WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

⑤ WOOD BLOCKS MAY BE CONSTRUCTED OUT OF 2 WOOD BLOCKS. SEE ALTERNATE WOOD BLOCK DETAIL.

⑬ STEEL OR WOOD POST IS ACCEPTABLE AT POST 1. SEE SDD 14B42.



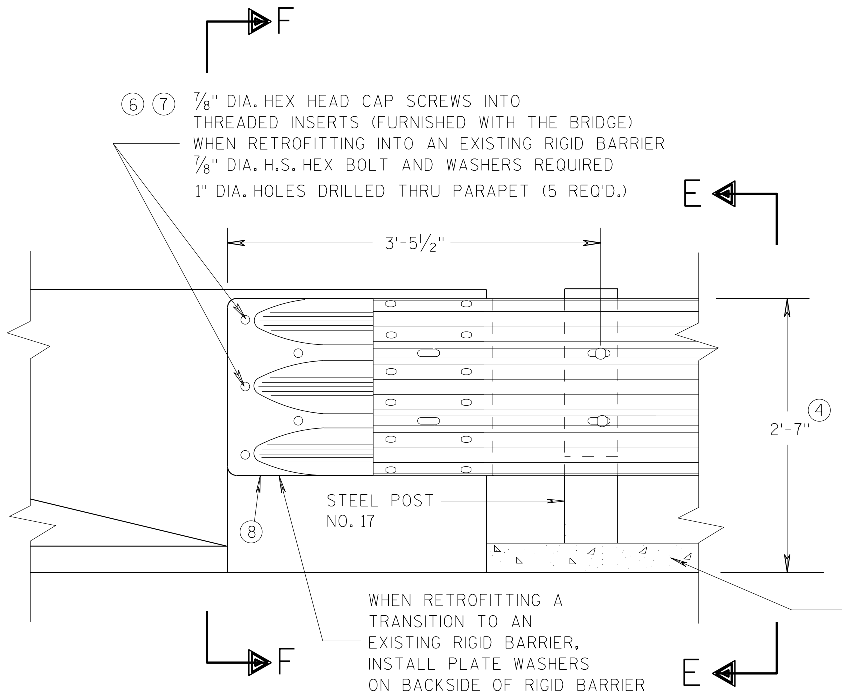
SIDE VIEW

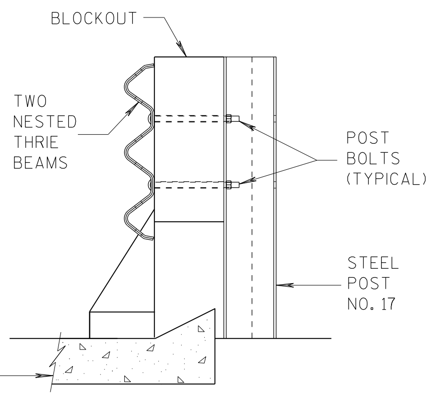
TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR





SECTION E-E

FRONT VIEW

THRIE BEAM CONNECTION TO BRIDGE PARAPET WITH SQUARE ENDS

GENERAL NOTES

THESE ARE TYPICAL CONNECTION DETAILS. ADJUST THE POSTION OF CONNECTIONS TO EXISTING BRIDGES TO FIT THE ACTUAL BRIDGE AND SITE DIMENSIONS.

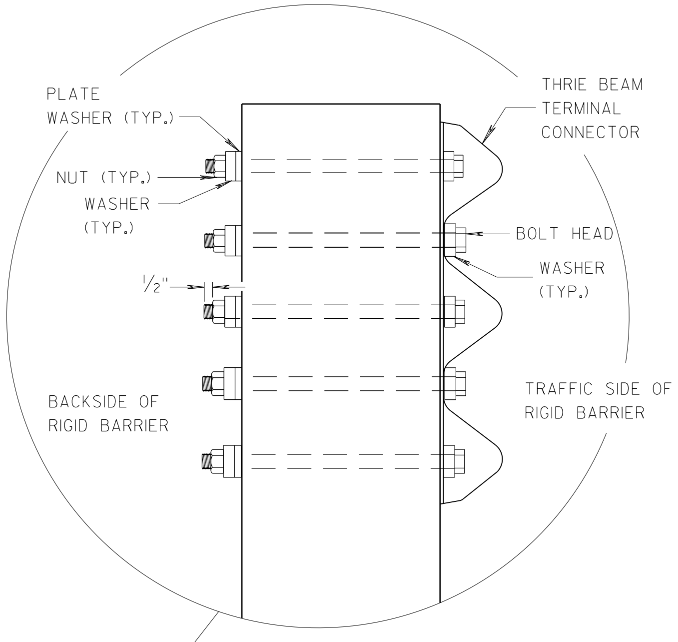
② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

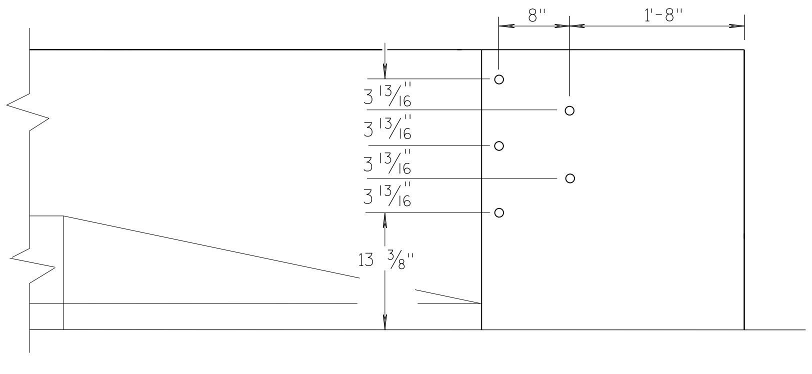
④ TOLERANCE FOR TOP OF BEAM IS ± 1".

⑥ DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

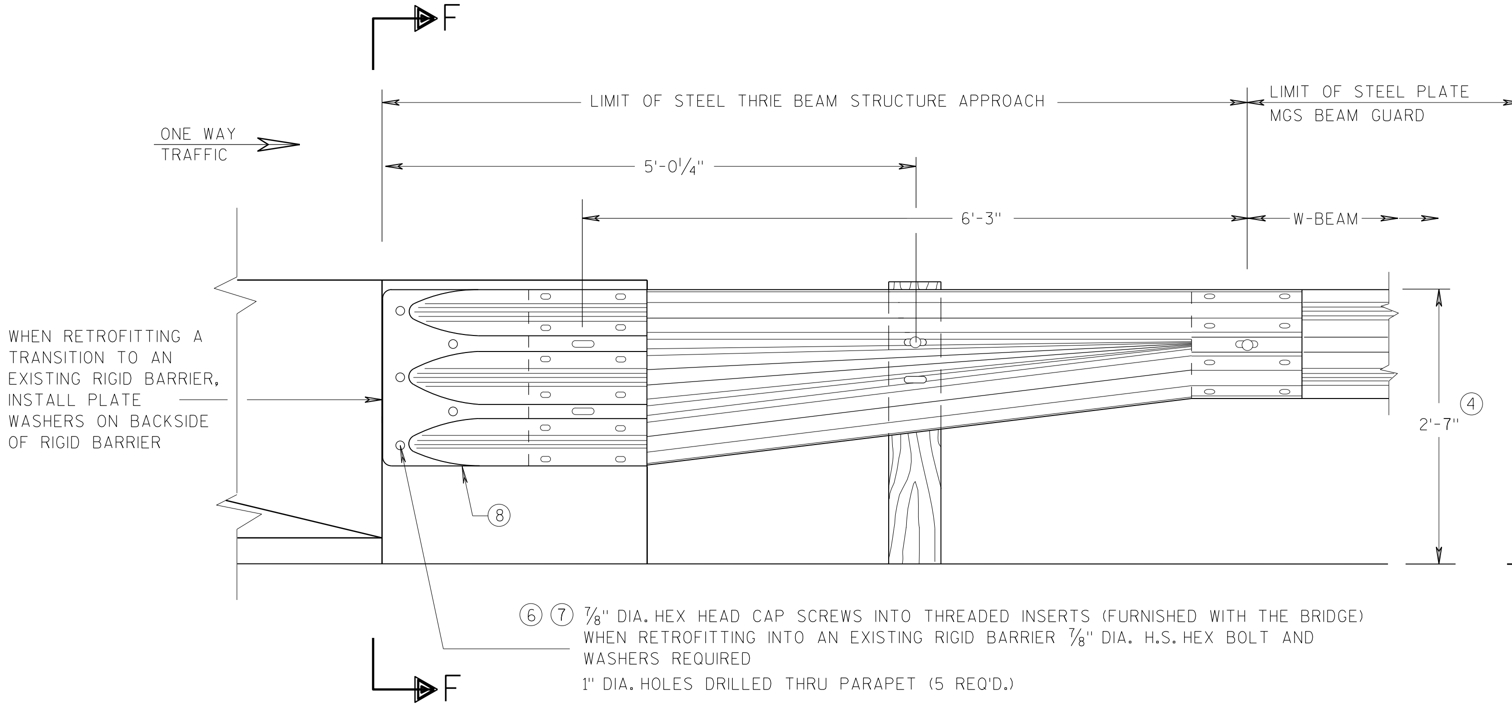
⑦ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/32" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.

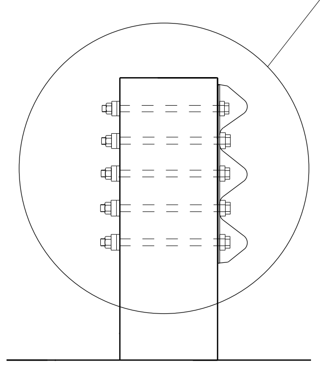
⑧ THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 1/2".





DRILL HOLE LOCATION





SECTION F-F

FRONT VIEW

W BEAM TRANSITION AND CONNECTION TO BRIDGE PARAPETS WITH SQUARE ENDS

(USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
07/2018
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/S/ Rodney Taylor
ROADWAY STANDARDS D
UNIT SUPERVIS
NT

GENERAL NOTES

THESE ARE TYPICAL CONNECTION DETAILS. ADJUST THE POSTION OF CONNECTIONS TO EXISTING BRIDGES TO FIT THE ACTUAL BRIDGE AND SITE DIMENSIONS.

② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

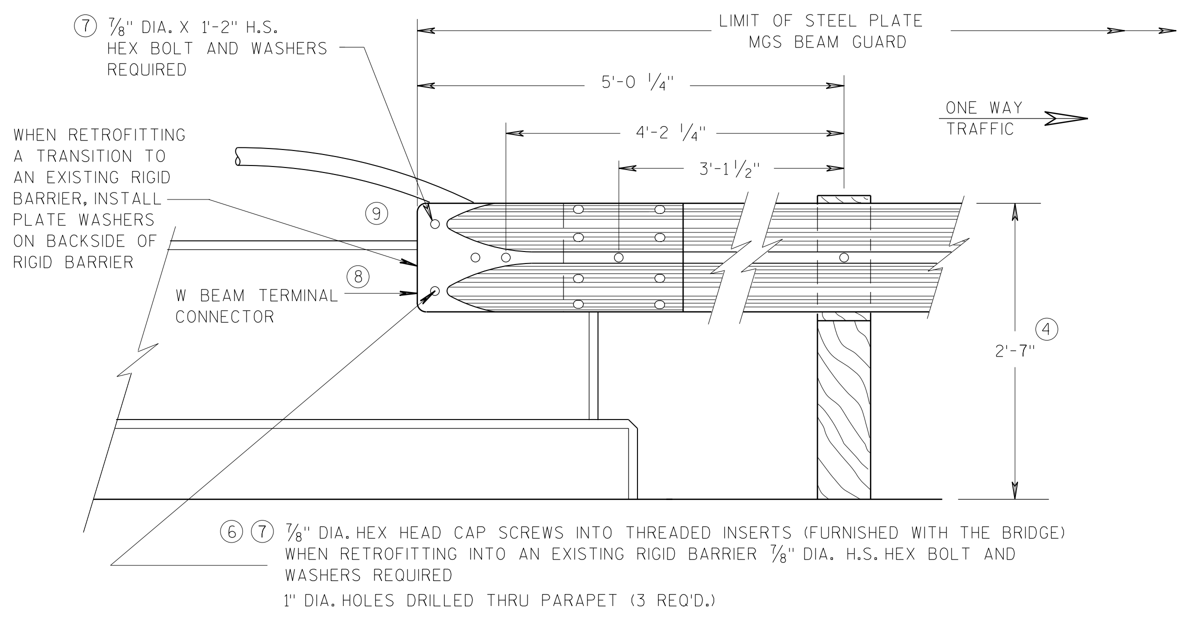
④ TOLERANCE FOR TOP OF BEAM IS ± 1".

⑥ DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

⑦ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X **5/32"** THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.

⑧ THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 $\frac{1}{2}$".

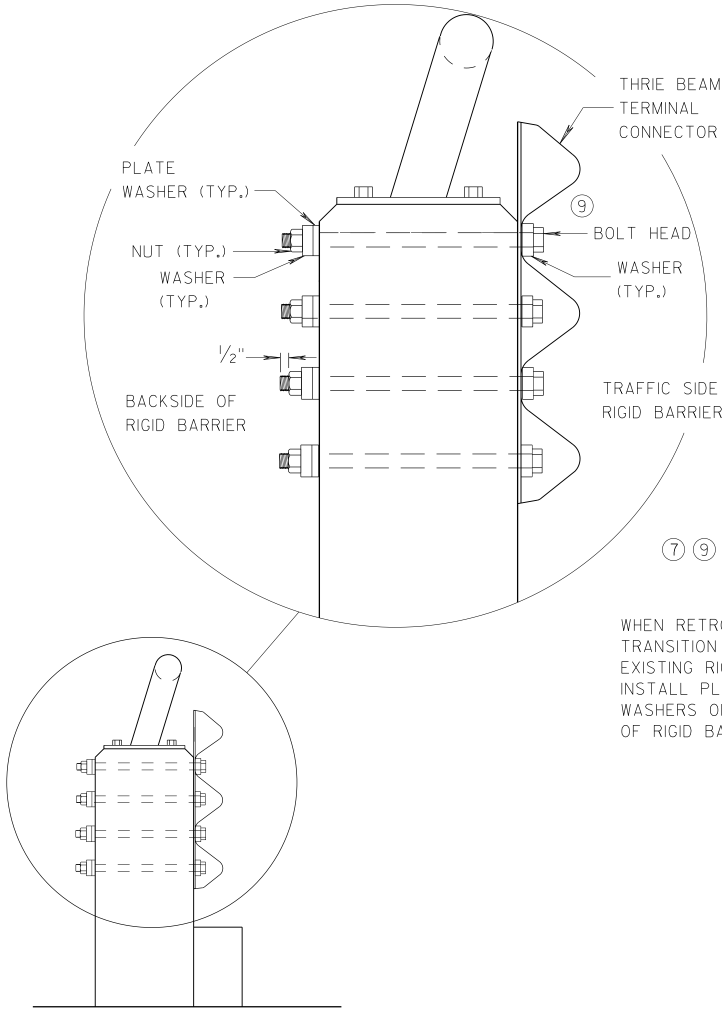
⑨ BOLT, NUT AND WASHERS NOT REQUIRED FOR THIS LOCATION WHEN RETROFITTING AN EXISTING PAPAPET AND THE HOLE IS EITHER ABOVE PARAPET OR WITHIN 4 INCHES OF THE EDGE OF PARAPET.



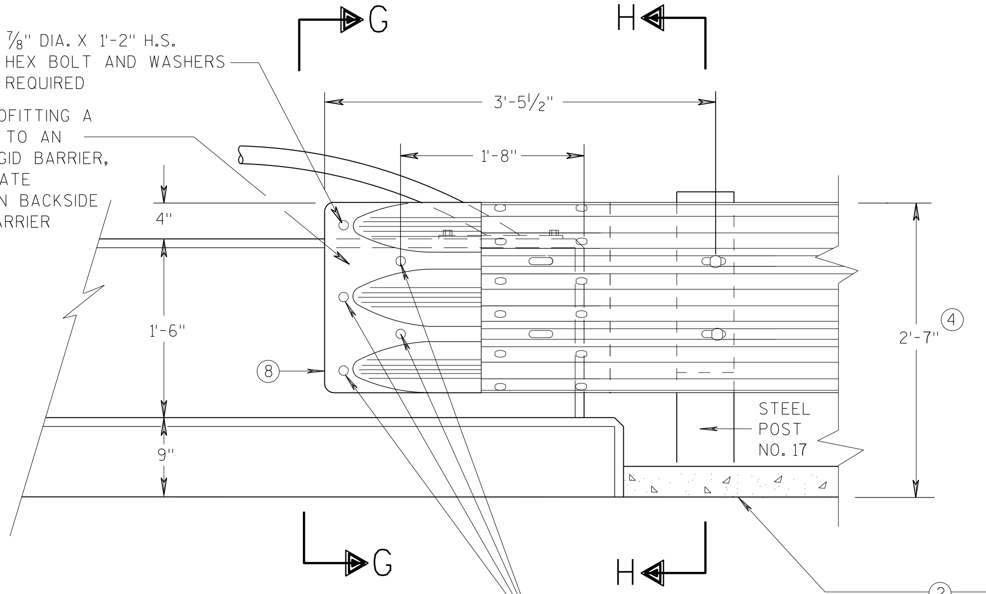
FRONT VIEW

W BEAM CONNECTION TO VERTICAL FACE PARAPET

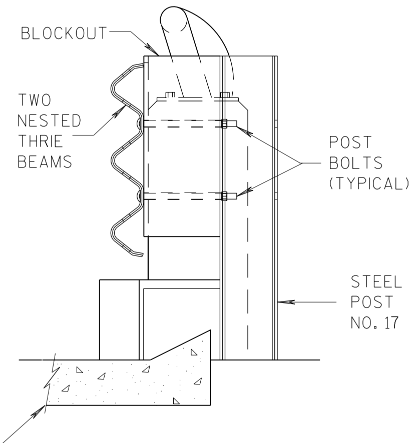
(USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)



SECTION G-G



FRONT VIEW



SECTION H-H

THRIE BEAM CONNECTION TO VERTICAL FACED PARAPETS

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
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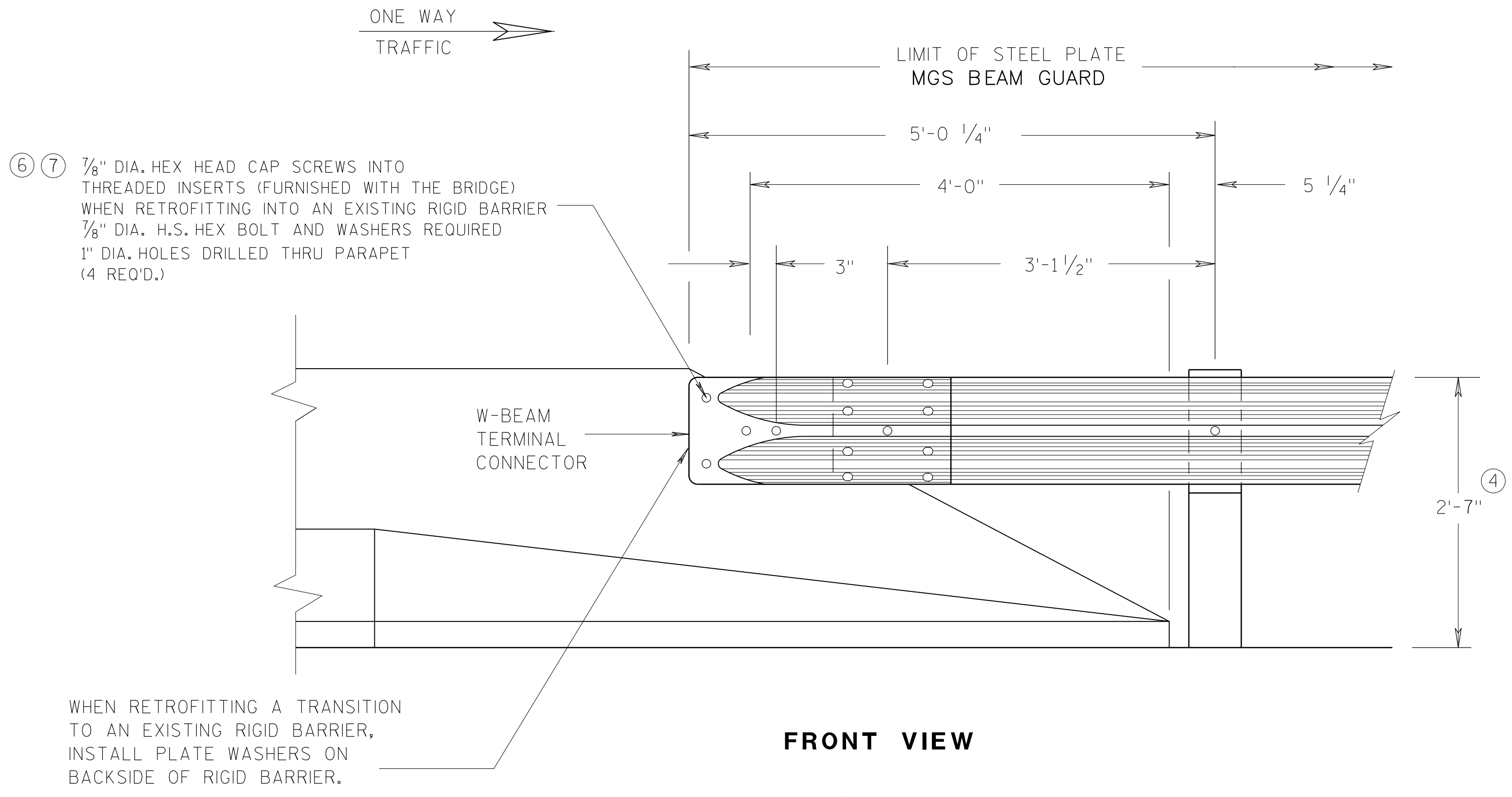
FHWA



⑥⑦ 7/8" DIA. HEX HEAD CAP SCREWS INTO THREADED INSERTS (FURNISHED WITH THE BRIDGE) WHEN RETROFITTING INTO AN EXISTING RIGID BARRIER 7/8" DIA. H.S. HEX BOLT AND WASHERS REQUIRED 1" DIA. HOLES DRILLED THRU PARAPET (4 REQ'D.)

WHEN RETROFITTING A TRANSITION TO AN EXISTING RIGID BARRIER, INSTALL PLATE WASHERS ON BACKSIDE OF RIGID BARRIER.

FRONT VIEW

W BEAM CONNECTION TO PARAPETS WITH SLOPED ENDS

(USE ONLY AT TRAFFIC EXIT END OF ONE WAY BRIDGE)

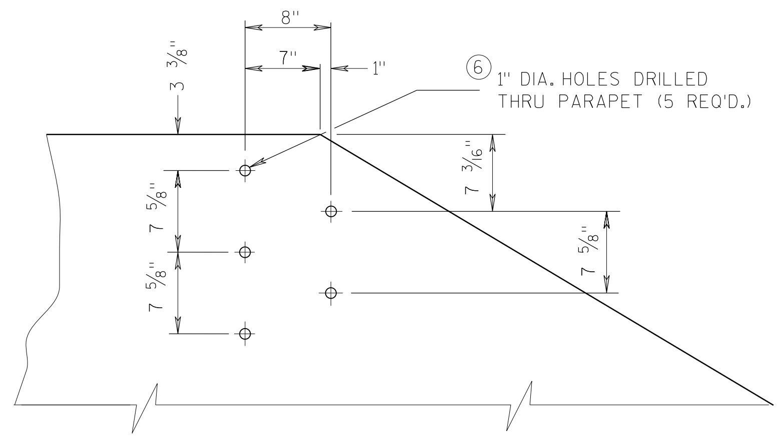
GENERAL NOTES

② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

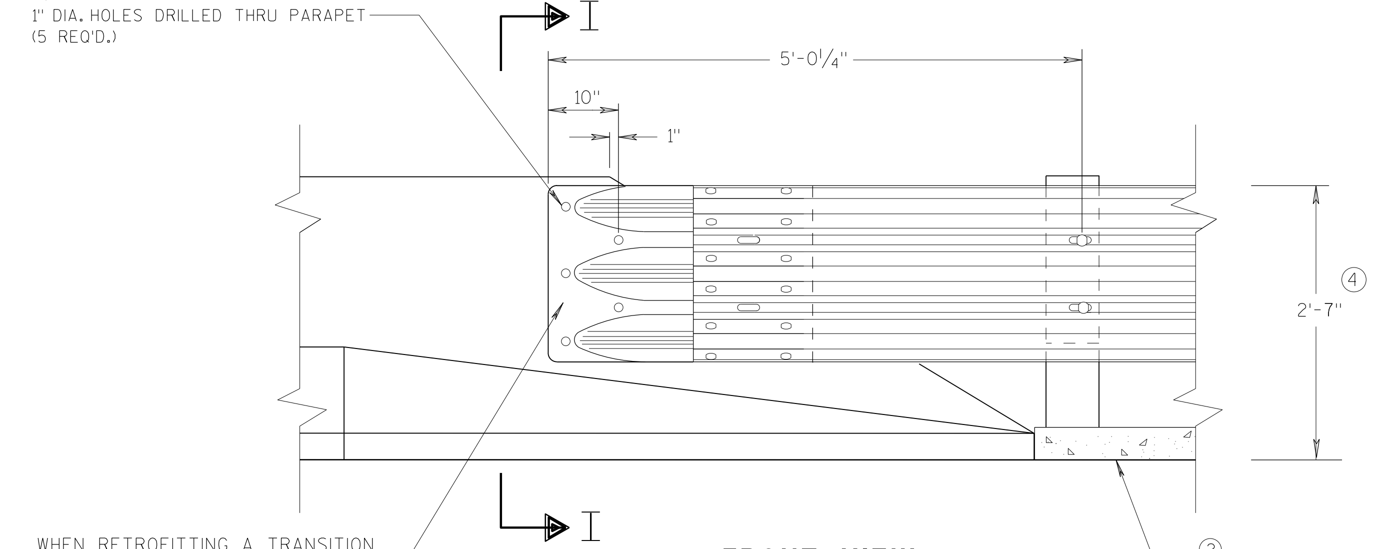
④ TOLERANCE FOR TOP OF BEAM IS ± 1".

⑥ DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

⑦ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X **5/32"** THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.



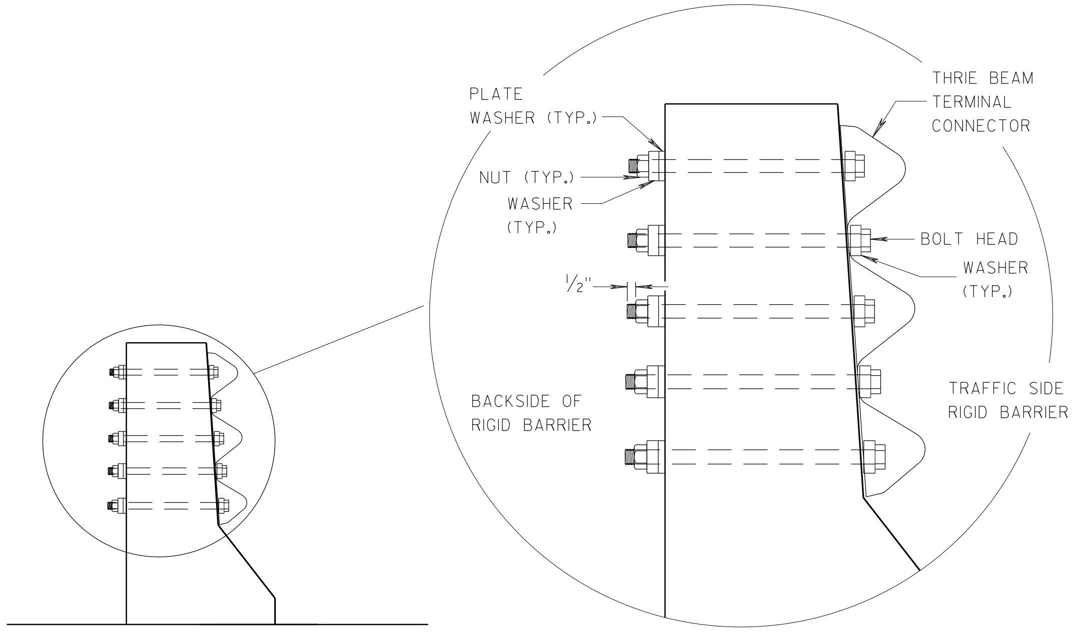
DRILL HOLE LOCATION AND PATTERN FOR THRIE BEAM CONNECTION



⑥⑦ 7/8" DIA. HEX HEAD CAP SCREWS INTO THREADED INSERTS (FURNISHED WITH THE BRIDGE) WHEN RETROFITTING INTO AN EXISTING RIGID BARRIER 7/8" DIA. H.S. HEX BOLT AND WASHERS REQUIRED 1" DIA. HOLES DRILLED THRU PARAPET (5 REQ'D.)

WHEN RETROFITTING A TRANSITION TO AN EXISTING RIGID BARRIER, INSTALL PLATE WASHERS ON BACKSIDE OF RIGID BARRIER.

FRONT VIEW



SECTION I-I

THRIE BEAM CONNECTION TO BRIDGE PARAPETS WITH SLOPED ENDS

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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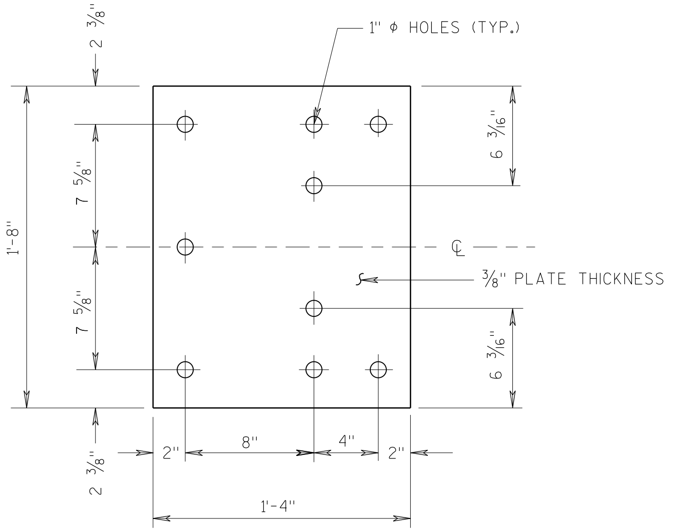
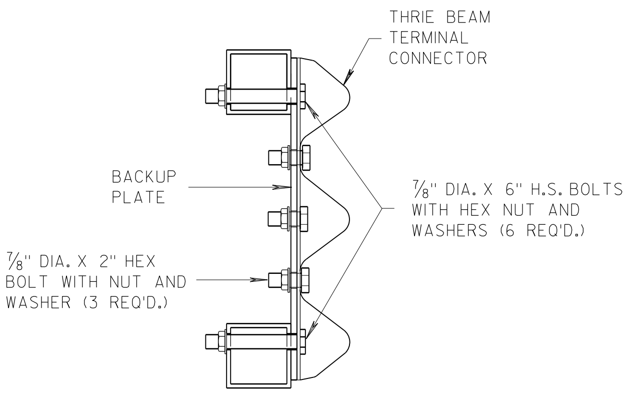


BACK-UP PLATE DETAIL

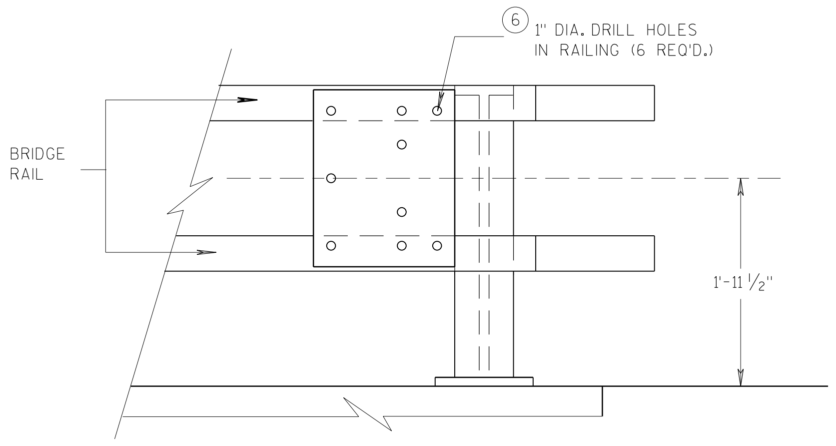


SECTION J-J

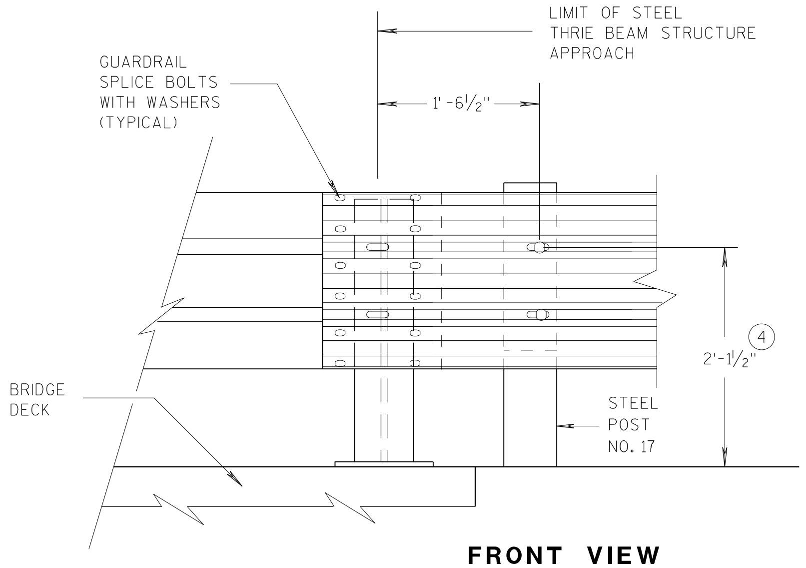
GENERAL NOTES

④ TOLERANCE FOR TOP OF BEAM IS ± 1".

⑥ DRILLING HOLES THROUGH THE PAPRPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

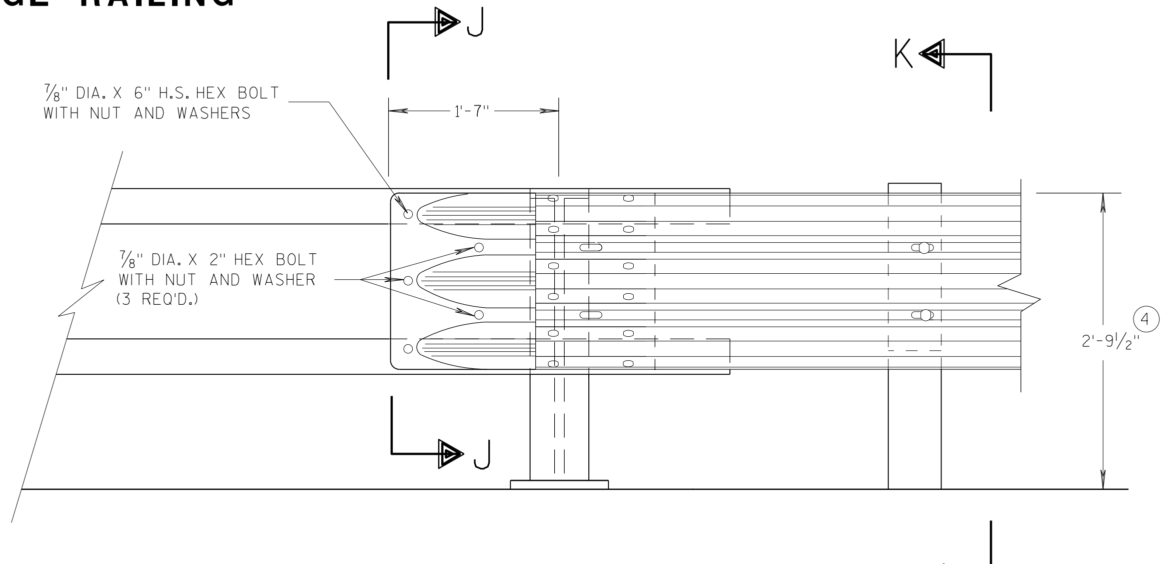


BACK-UP PLATE MOUNTING ONTO BRIDGE RAILING



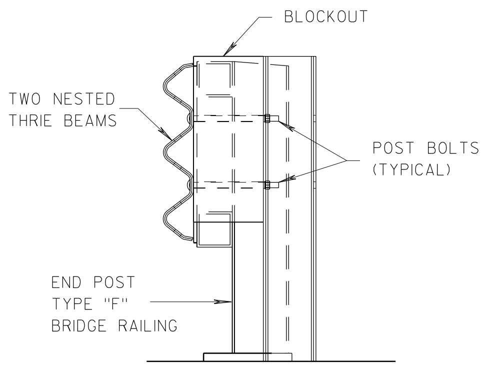
FRONT VIEW

THRIE BEAM CONNECTION TO STEEL RAILING TYPE "W"



FRONT VIEW

THRIE BEAM CONNECTION TO TUBULAR RAILING TYPE "F"



SECTION K-K

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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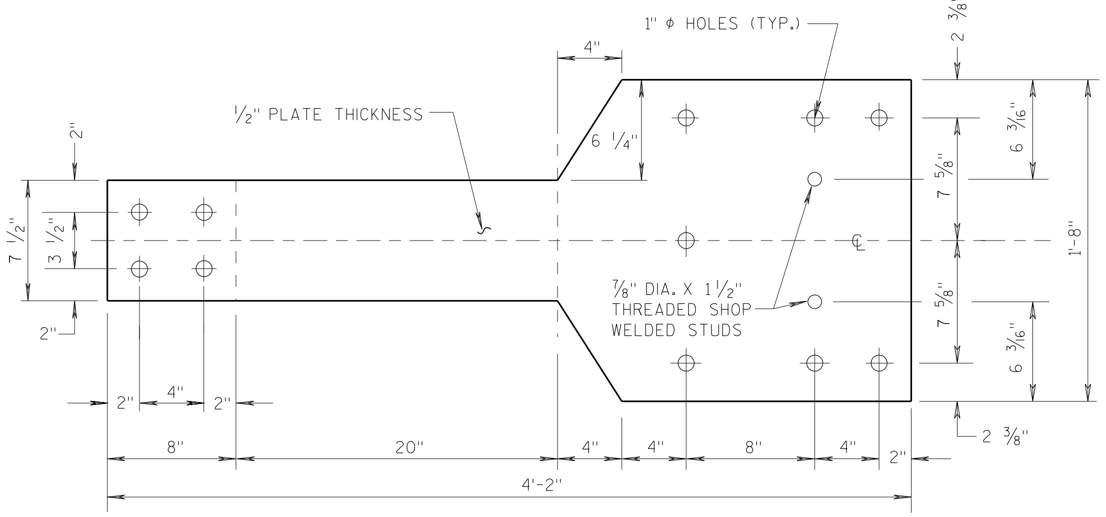
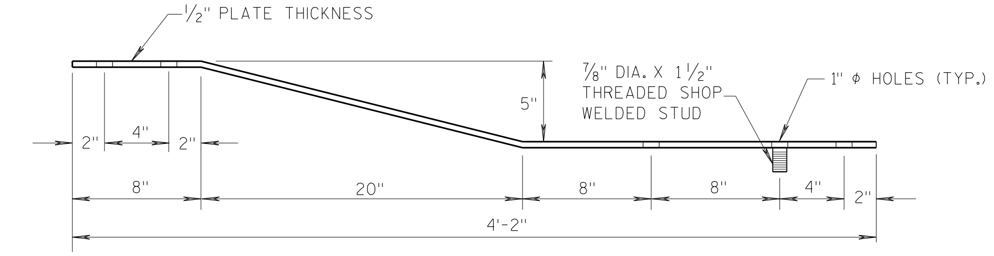
ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR

GENERAL NOTES

④ TOLERANCE FOR TOP OF W-BEAM RAIL IS ± 1".

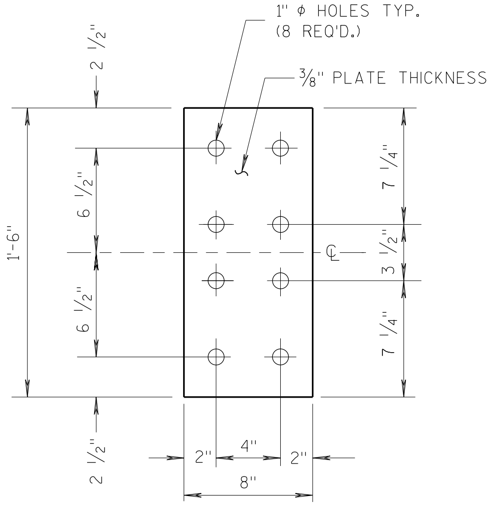


FRONT VIEW



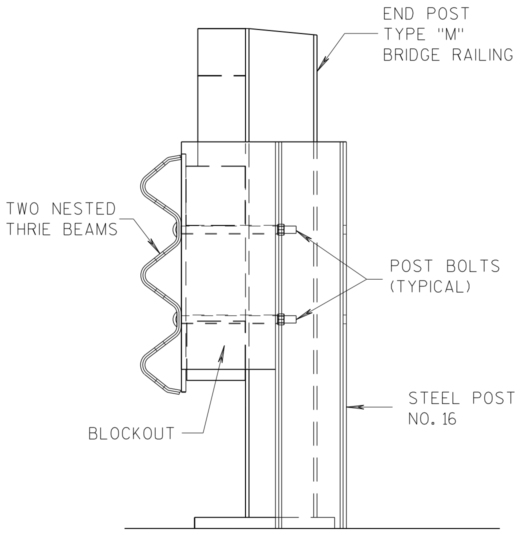
PLAN VIEW

BACK-UP PLATE DETAIL, TYPE "M"

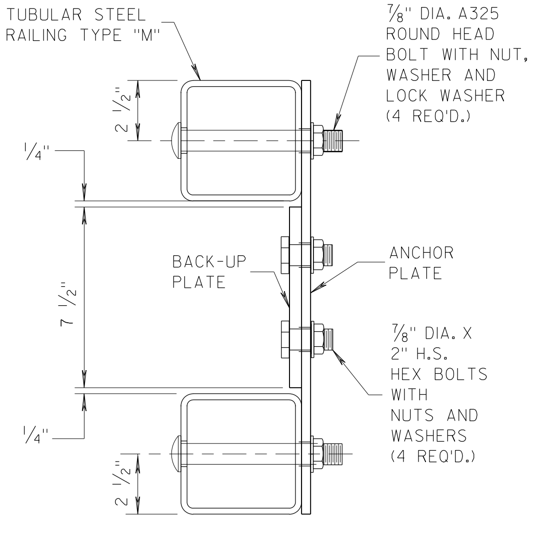


FRONT VIEW

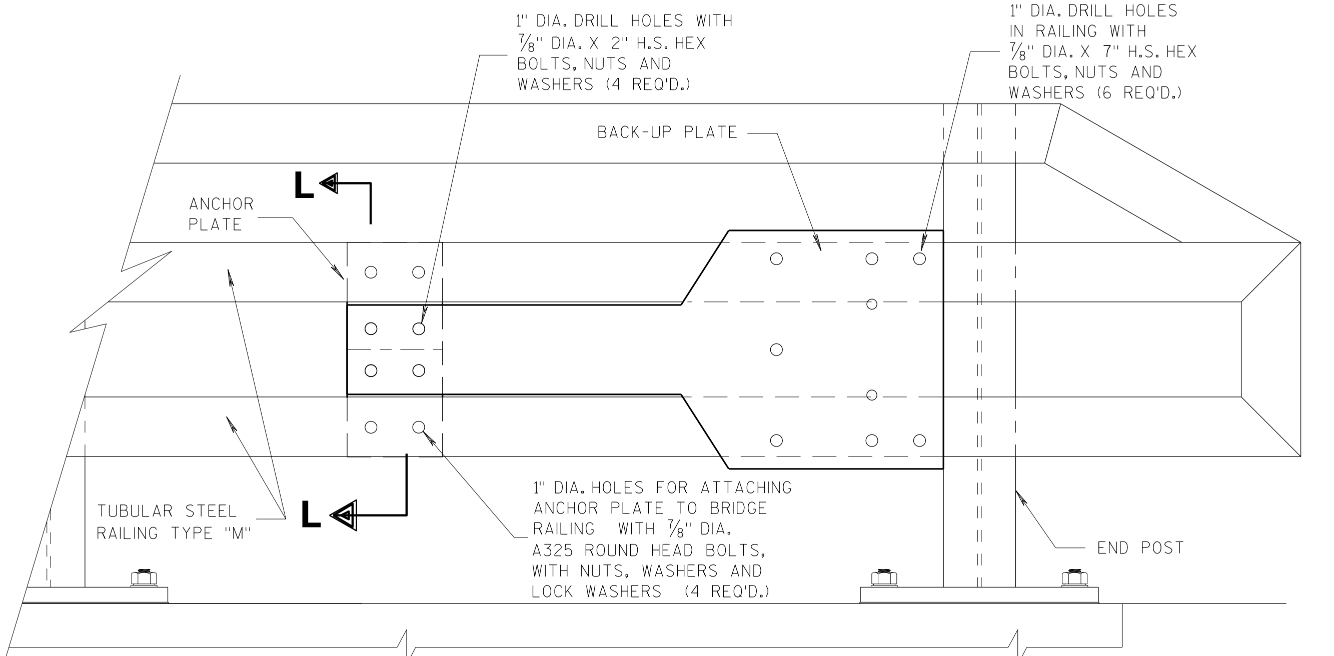
ANCHOR PLATE DETAIL, TYPE "M"



SECTION M-M

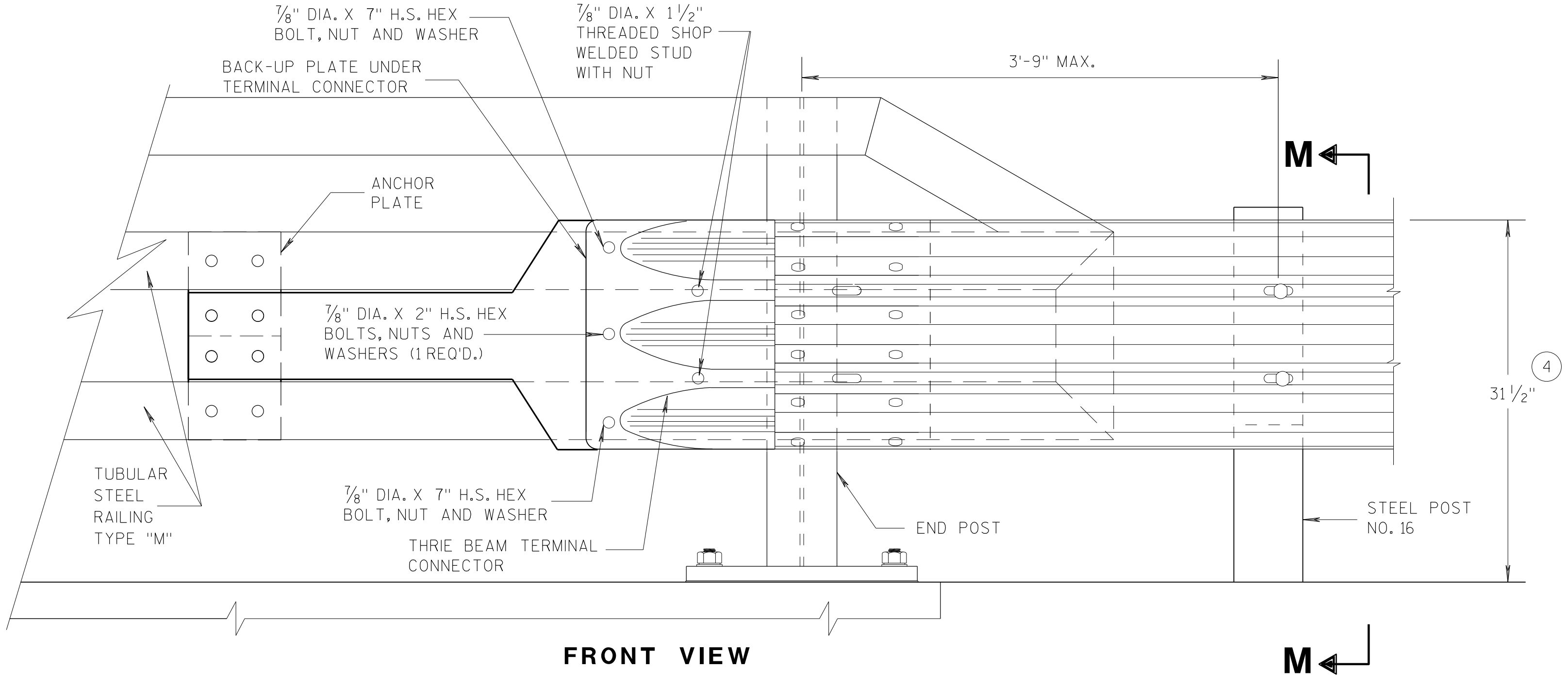


SECTION L-L

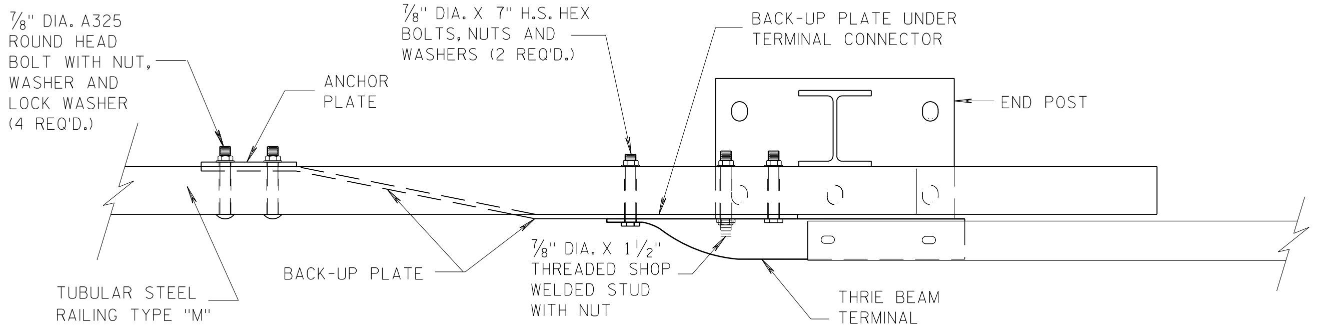


FRONT VIEW

ANCHOR AND BACK-UP PLATE MOUNTING TO BRIDGE RAILING, TYPE "M"



FRONT VIEW



PLAN VIEW

THRIE BEAM CONNECTION TO TUBULAR RAILING, TYPE "M"

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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DATE
/S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR
FHWA

GENERAL NOTES

COVER PLATE PANELS ARE 3/16" THICK.

ALL STIFFENERS ARE 1/4" THICK.

CONNECTOR PLATE SHALL BE FABRICATED FROM ASTM GRADE A36 STEEL AND GALVANIZED.

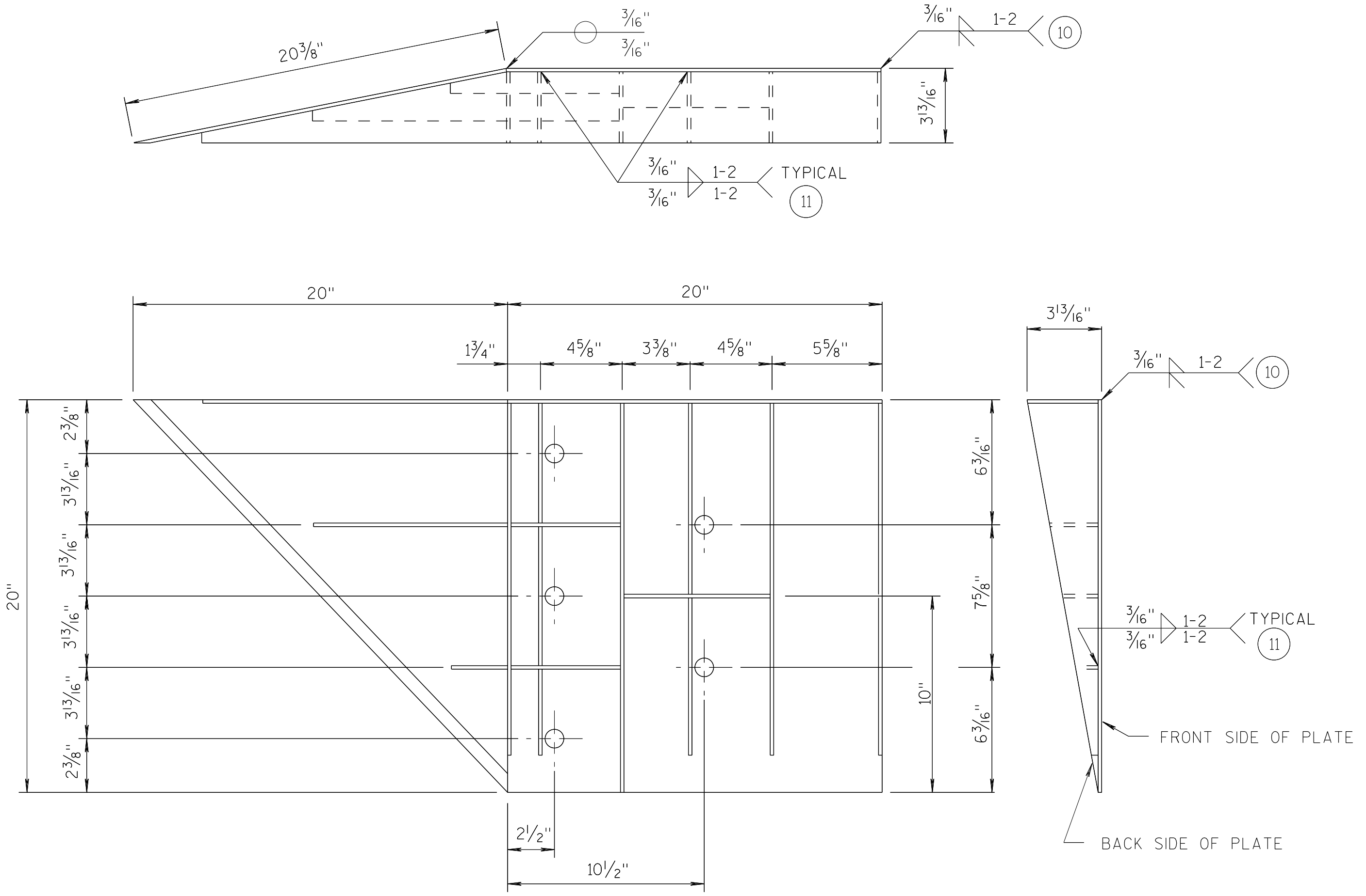
FOR GALVANIZED REQUIREMENTS, SEE SECTION 614 OF THE STANDARD SPECIFICATIONS.

ALL HOLE DIAMETERS SHALL BE 1".

FOR OPPOSITE SIDE INSTALLATION MIRROR DRAWINGS.

⑩ STIFFENERS LOCATED AT THE OUTSIDE EDGES OF THE COVER PLATES SHALL BE WELDED AS FOLLOWS:
SINGLE BEVEL GROOVE WELD ON EXTERNAL SIDES AND 3/16" FILLET WELD BY 1" LONG SPACED AT 2" ON INTERNAL SIDES.

⑪ STIFFENERS LOCATED ON THE INSIDE OF THE COVER PLATE SHALL BE WELDED AS FOLLOWS:
3/16" FILLET WELD BY 1" LONG SPACED AT 2".



WELDING INSTRUCTION

(VIEWED FROM BACK SIDE OF PLATE)

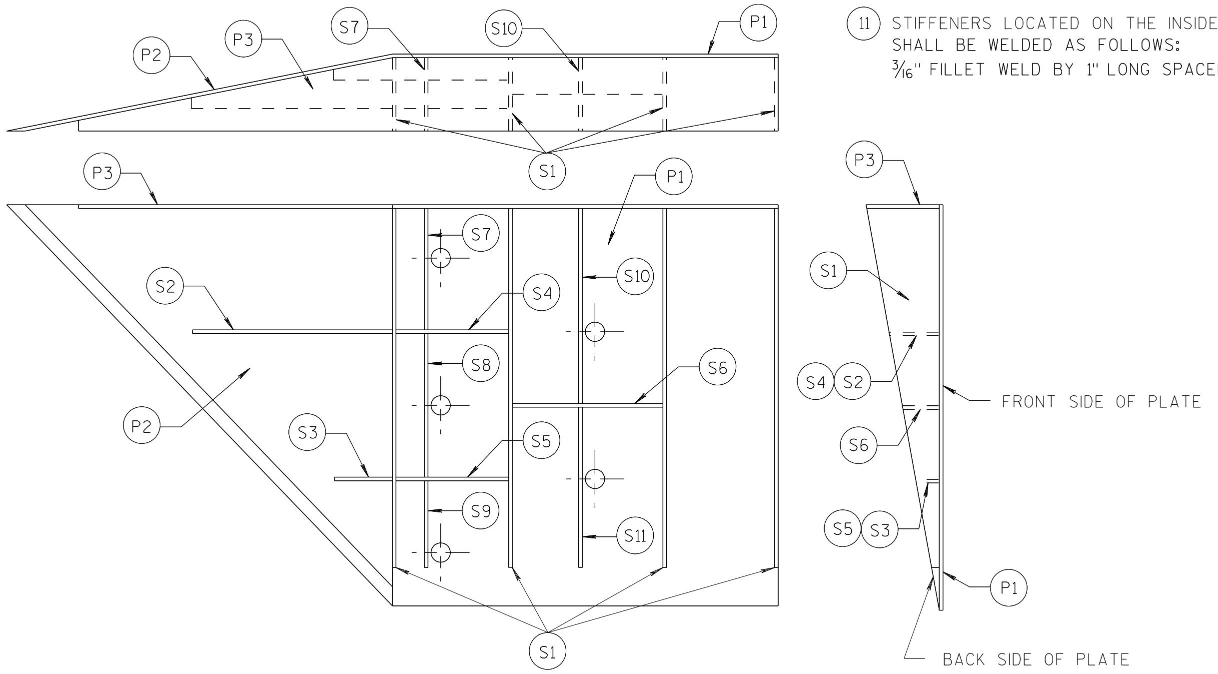


PLATE AND STIFFENER IDENTIFICATION

(VIEWED FROM BACK SIDE OF PLATE)

CONNECTOR PLATE DIMENSION (PER ASSEMBLY)

PLATE	QUANTITY	SHAPE	SIZE (A × B × C × D)	THICKNESS
P1	1	A B	20" × 20"	3/16"
P2	1	A B C	20" × 20" × 28 9/16"	3/16"
P3	1	A B C D	39" × 3 5/8" × 20" × 19 5/16"	3/16"
S1	4	A B C	18 7/16" × 3 5/8" × 18 3/4"	1/4"
S2	1	A B D C	10 1/4" × 2 7/16" × 10 3/8" × 1/2"	1/4"
S3	1	A B D C	3" × 1 1/16" × 3 1/8" × 1/2"	1/4"
S4	1	A B	6 1/8" × 2 7/16"	1/4"
S5	1	A B	6 1/8" × 1 1/16"	1/4"
S6	1	A B	7 3/4" × 1 3/4"	1/4"
S7	1	D A C B	2 9/16" × 6" × 3 5/8" × 5 7/8"	1/4"
S8	1	D A C B	1 5/32" × 7 1/2" × 2 1/2" × 7 3/8"	1/4"
S9	1	A C B	6 1/16" × 6 3/16" × 1 3/32"	1/4"
S10	1	D A C B	1 7/8" × 9 7/8" × 3 5/8" × 9 11/16"	1/4"
S11	1	A C B	8 1/2" × 8 3/4" × 1 13/16"	1/4"

SINGLE SLOPE CONNECTION PLATE

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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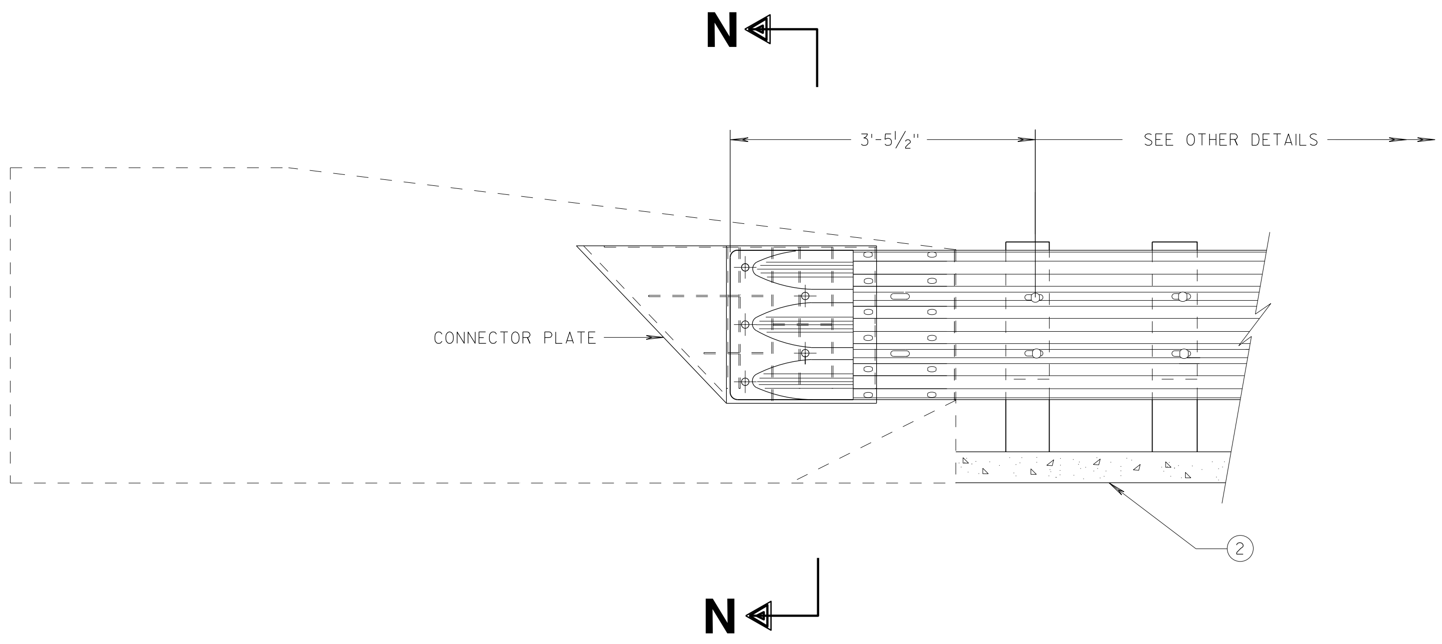
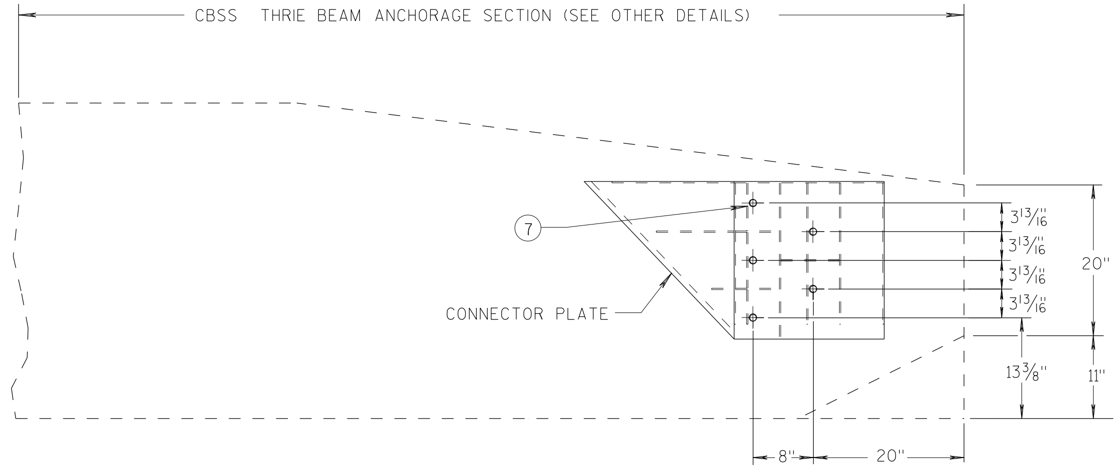


THRIE BEAM CONNECTION TO SINGLE SLOPE BARRIER



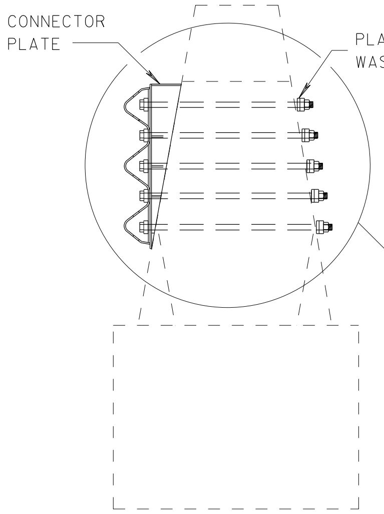
SINGLE SLOPE CONNECTION PLATE PLACEMENT

GENERAL NOTES

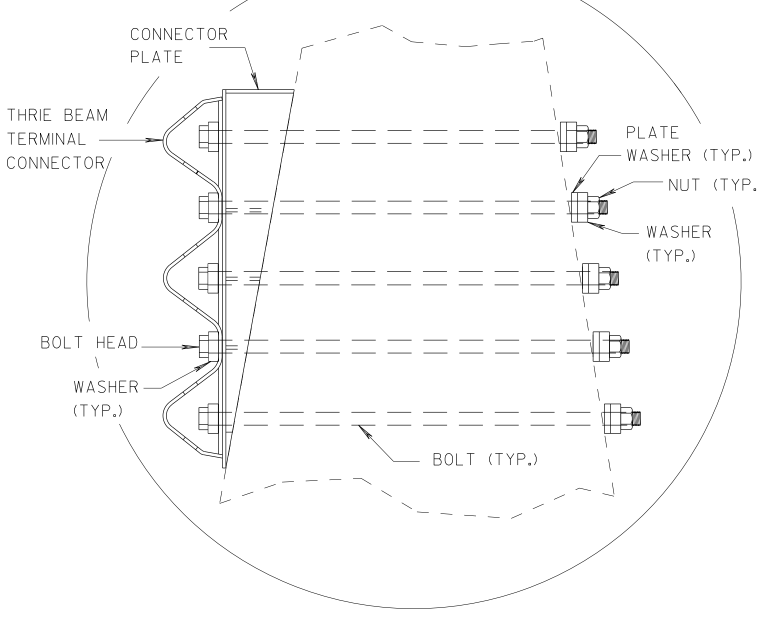
CONNECTOR PLATE, DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

⑦ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X **5/32"** THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.



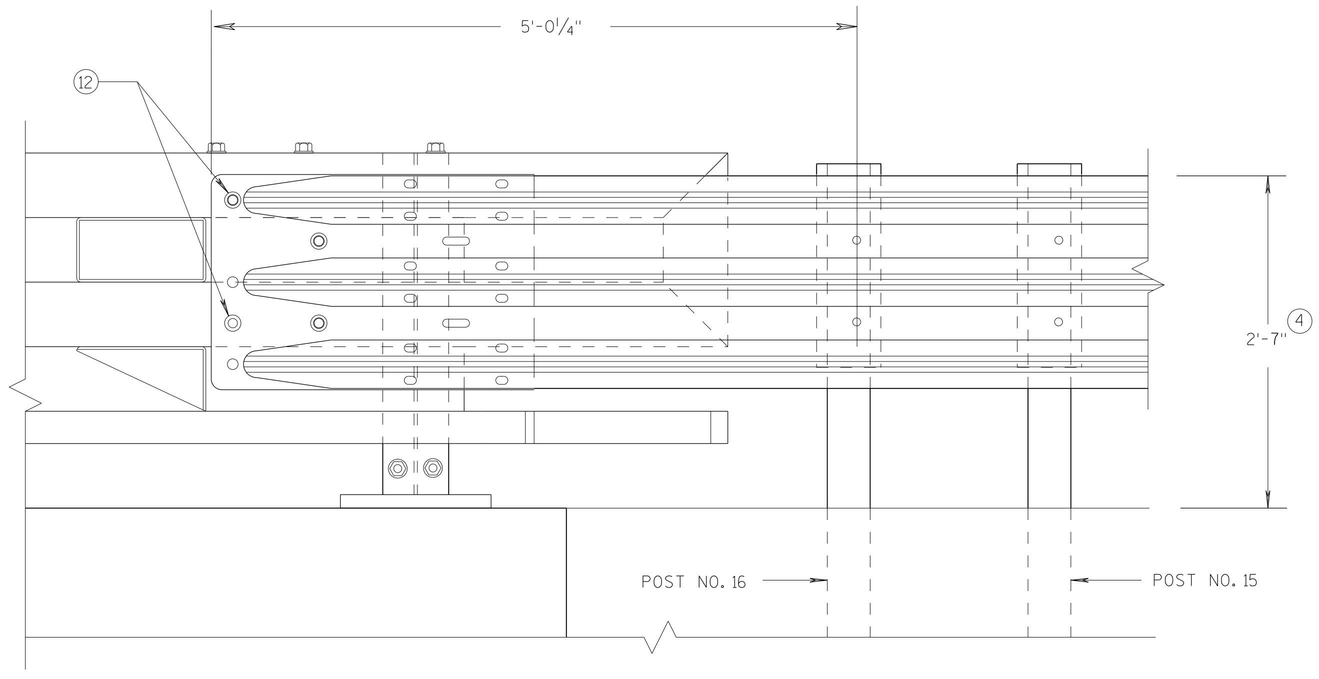
SECTION N-N



MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

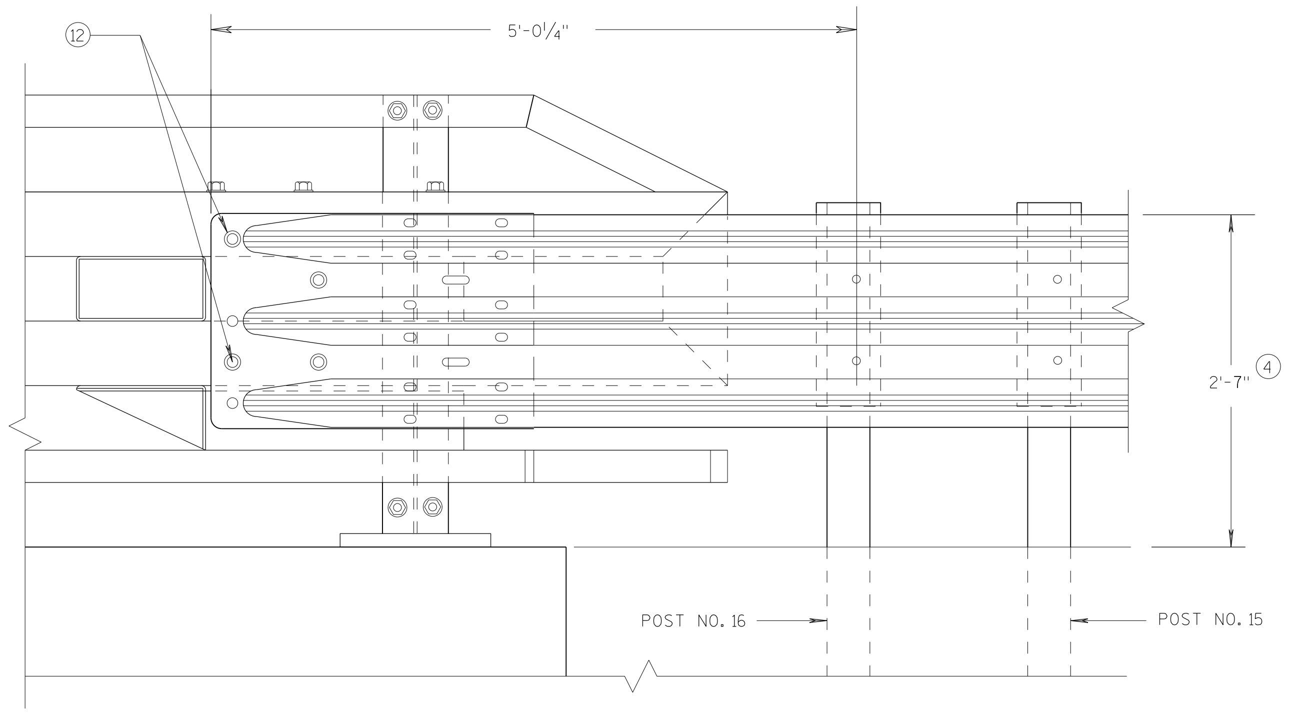
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7/2018
DATE
/S/ Rodney Taylor
ROADWAY STANDARDS DE
UNIT SUPERVIS NT
FHWA



ELEVATION OF DETAIL AT NY3 END POST

THRIE BEAM RAIL ATTACHMENT



ELEVATION OF DETAIL AT NY4 END POST

THRIE BEAM RAIL ATTACHMENT

GENERAL NOTES

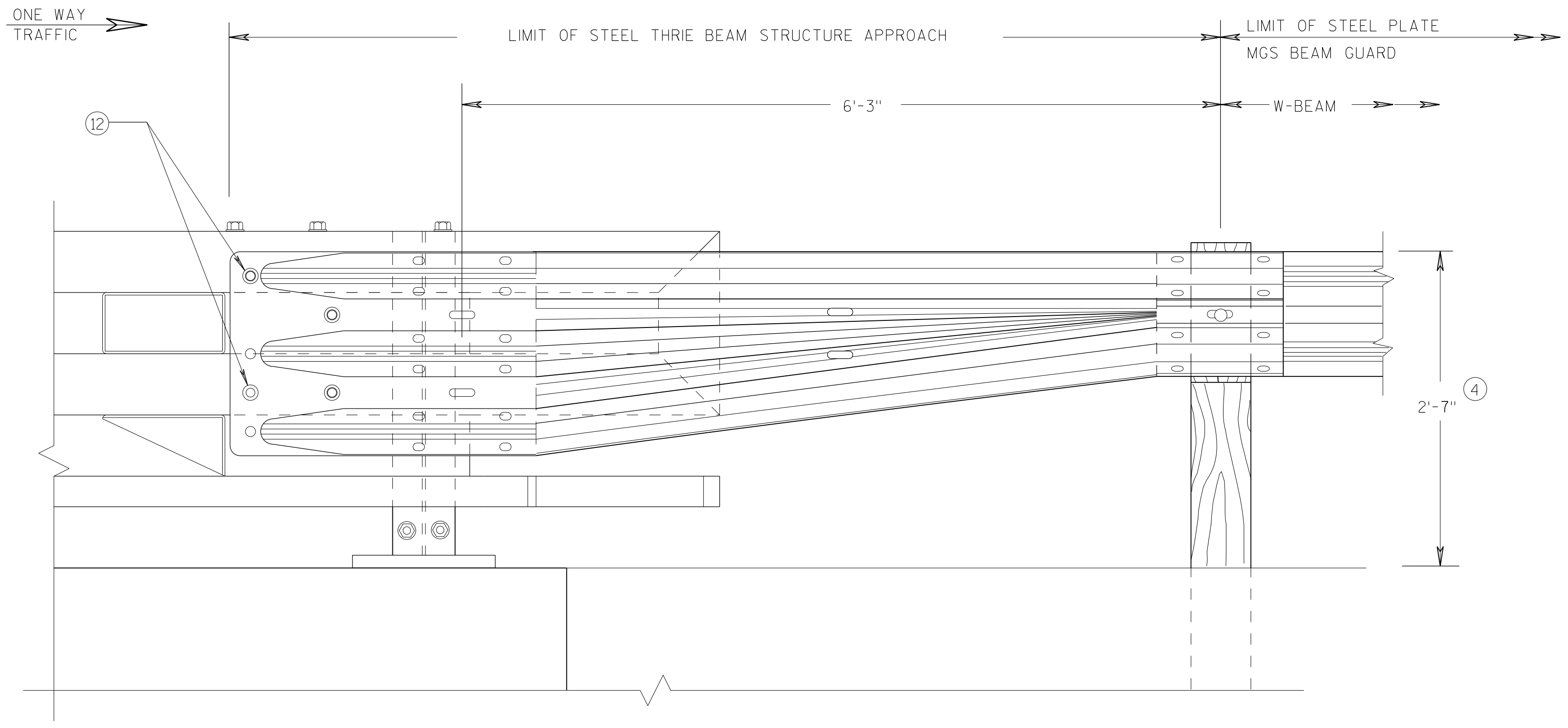
④ TOLERANCE FOR TOP OF BEAM IS ± 1".

⑫ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. ON BACKSIDE OF PARAPET ONE ROUND WASHER, AND NUT REQUIRED. BOLT THREAD IS TO EXTEND ½-INCH BEYOND NUT.

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7/2018
DATE
/S/ Rodney Taylor
ROADWAY STANDARDS D NT
UNIT SUPERVIS
FHWA



FRONT VIEW

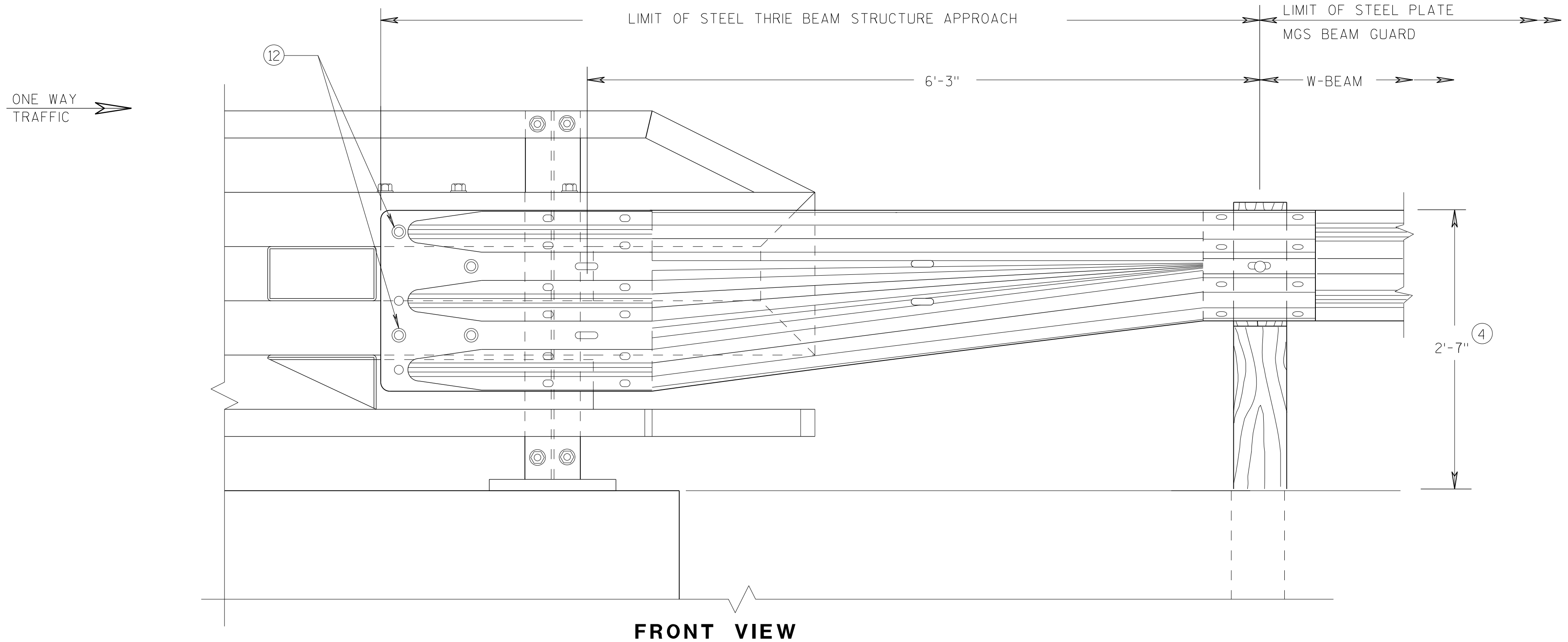
W BEAM TRANSITION AND CONNECTION TO BRIDGE RAILING TYPE "NY3"

(USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)

GENERAL NOTES

④ TOLERANCE FOR TOP OF BEAM IS ± 1".

⑫ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. ON BACKSIDE OF PARAPET ONE ROUND WASHER, AND NUT REQUIRED. BOLT THREAD IS TO EXTEND $1/2$-INCH BEYOND NUT.



FRONT VIEW

W BEAM TRANSITION AND CONNECTION TO BRIDGE RAILING TYPE "NY4"

(USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)

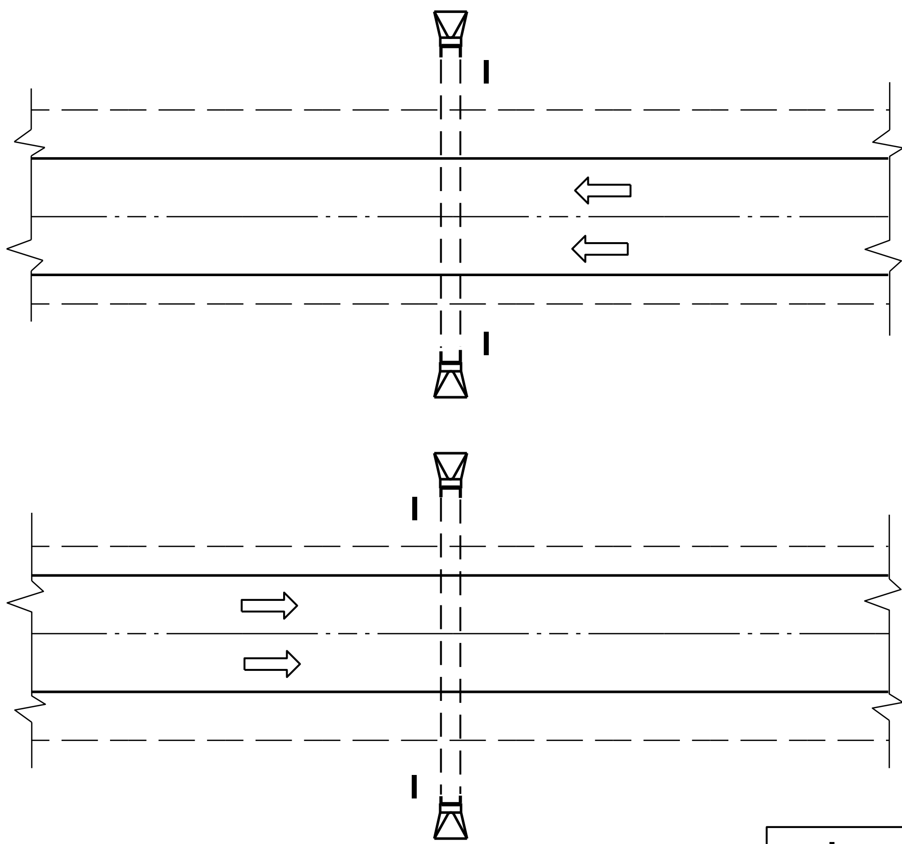
MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7/2018
DATE
/S/ Rodney Taylor
ROADWAY STANDARDS D
UNIT SUPERVIS
NT
FHWA

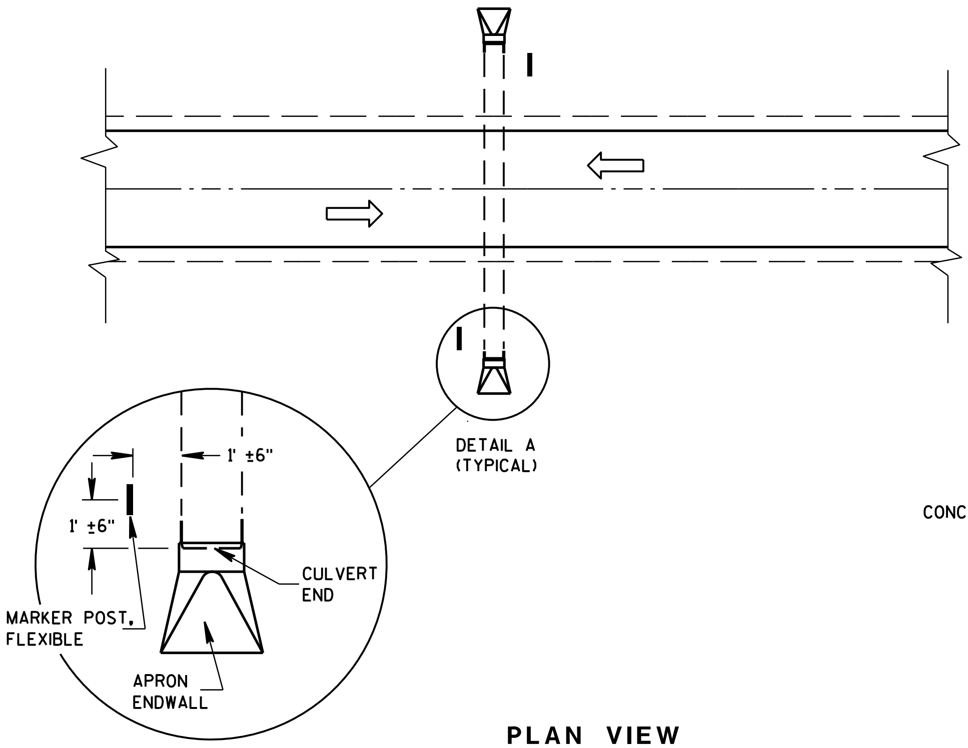
GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.



PLAN VIEW

DIVIDED HIGHWAY

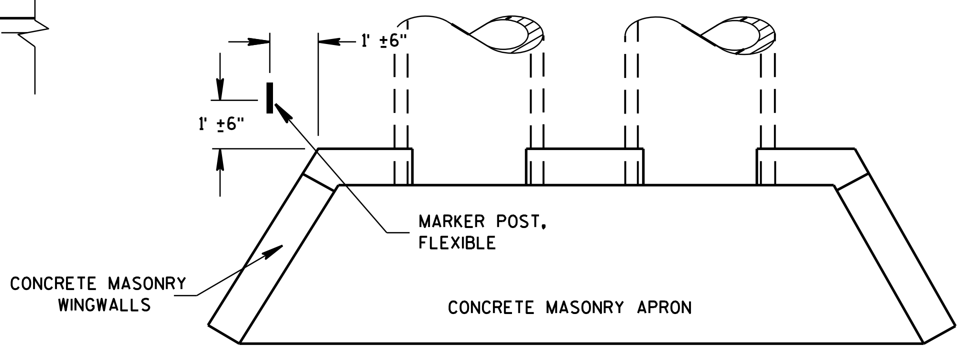


DETAIL A
(TYPICAL)

PLAN VIEW

UNDIVIDED HIGHWAY

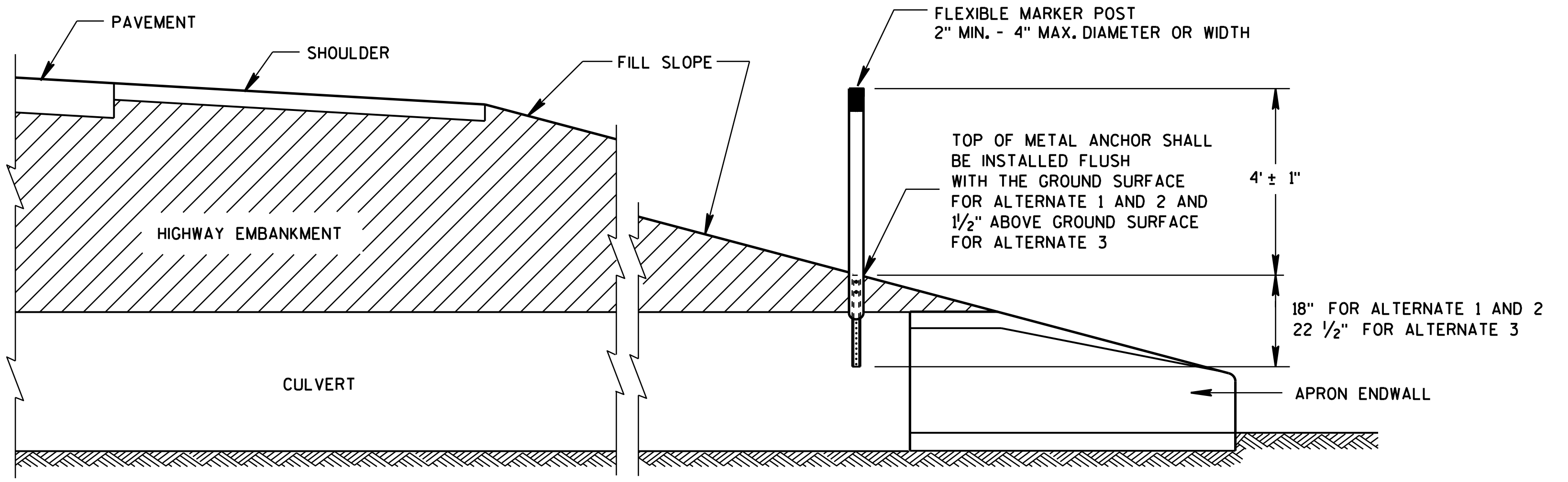
❙	MARKER POST, FLEXIBLE
⇨	DIRECTION OF TRAFFIC FLOW



PLAN VIEW

CONCRETE MASONRY ENDWALLS FOR CULVERT PIPE AND PIPE ARCH

FLEXIBLE MARKER POST LOCATION



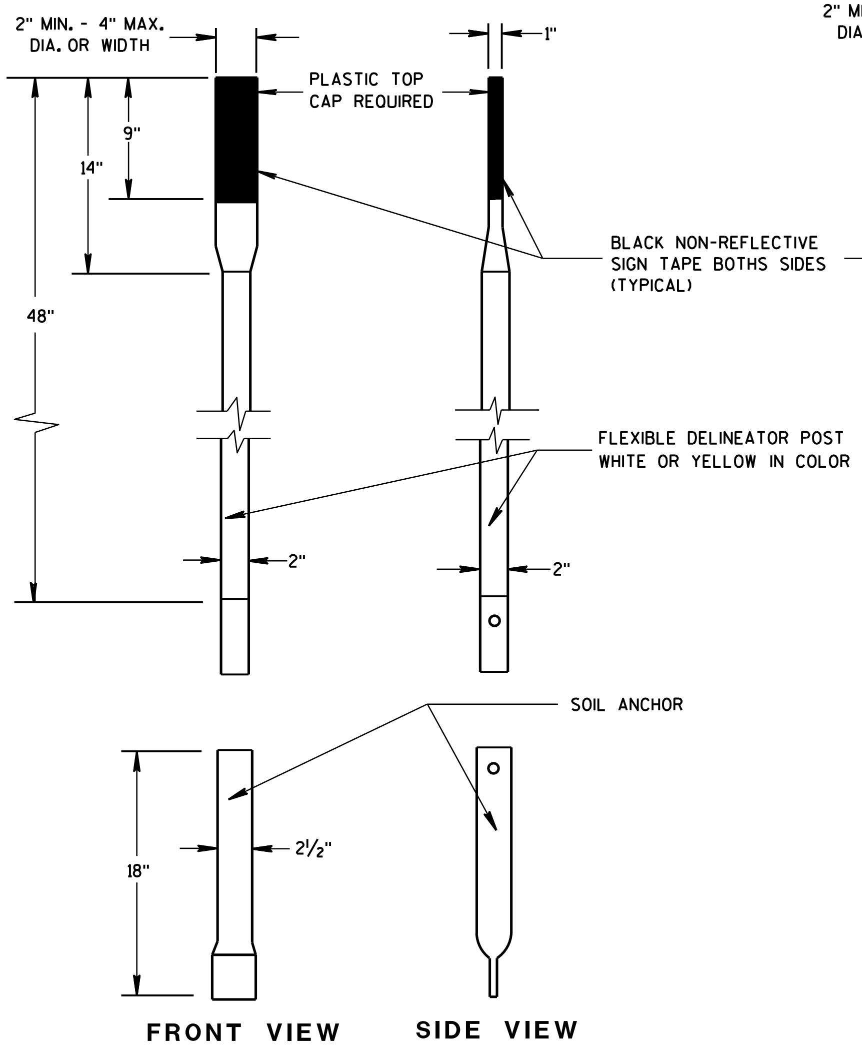
TOP OF METAL ANCHOR SHALL BE INSTALLED FLUSH WITH THE GROUND SURFACE FOR ALTERNATE 1 AND 2 AND 1½" ABOVE GROUND SURFACE FOR ALTERNATE 3

CROSS SECTION

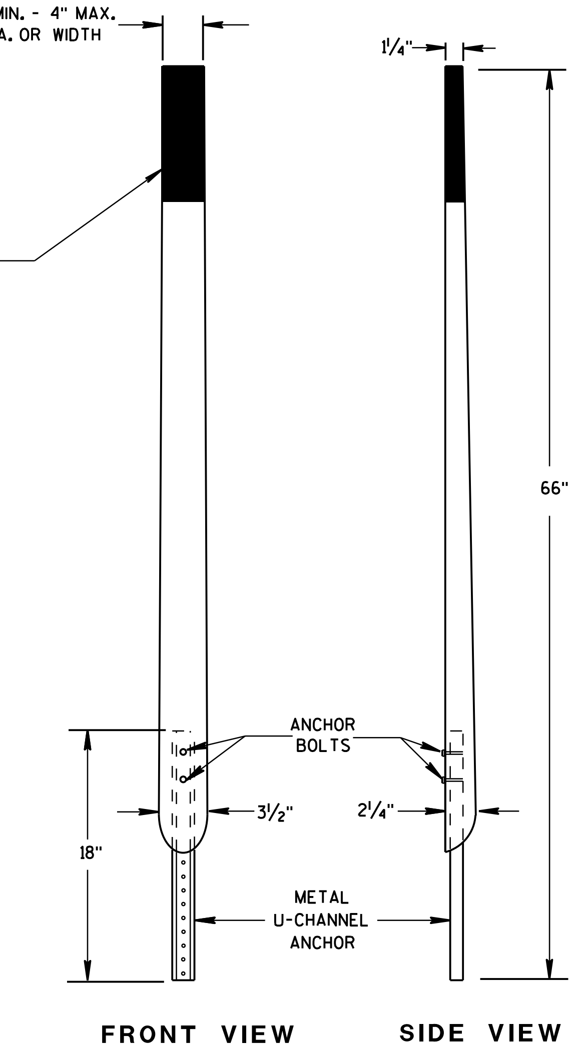
FLEXIBLE MARKER POST

FLEXIBLE MARKER POST
FOR CULVERT END

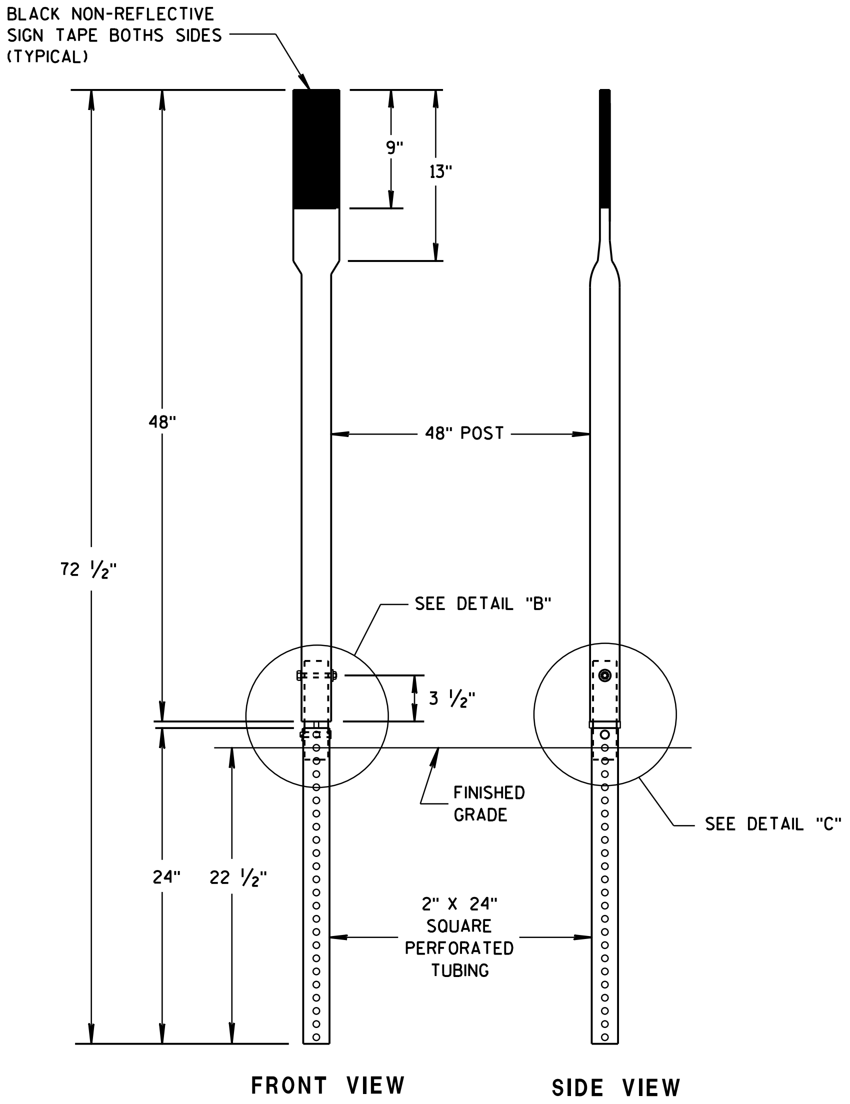
STATE OF WISCONSIN
DEPARTMENT OF TRANSPO



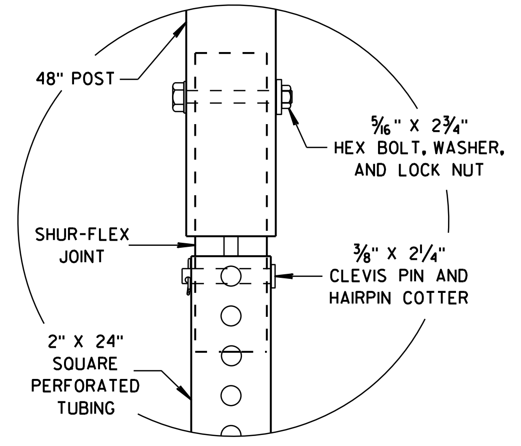
ALTERNATE 1



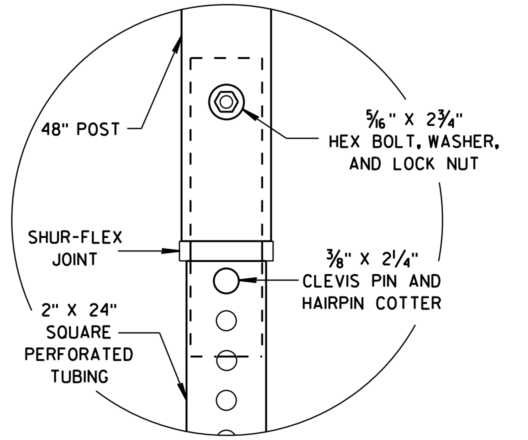
ALTERNATE 2



ALTERNATE 3

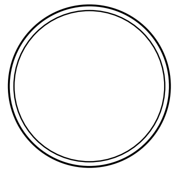


DETAIL B

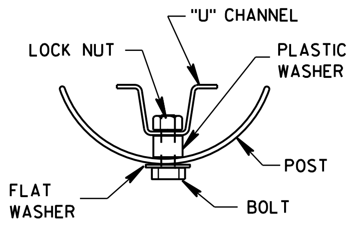


DETAIL C

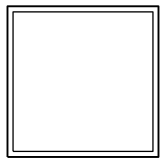
FLEXIBLE MARKER POSTS



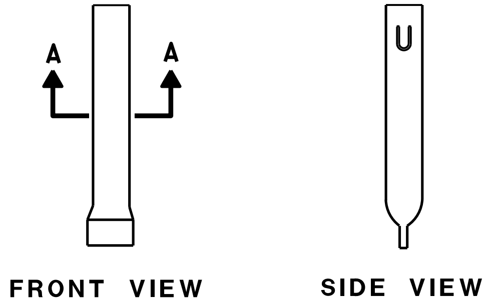
SECTION A-A



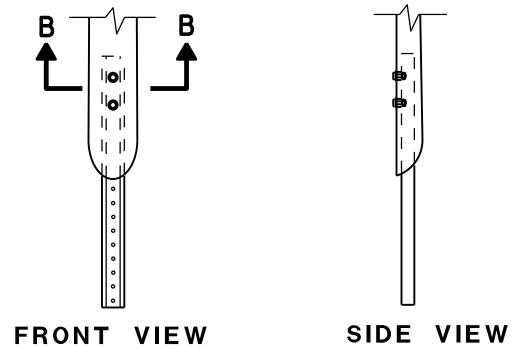
SECTION B-B



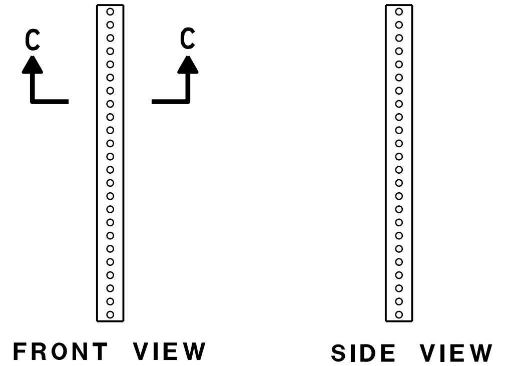
SECTION C-C



ALTERNATE 1



ALTERNATE 2



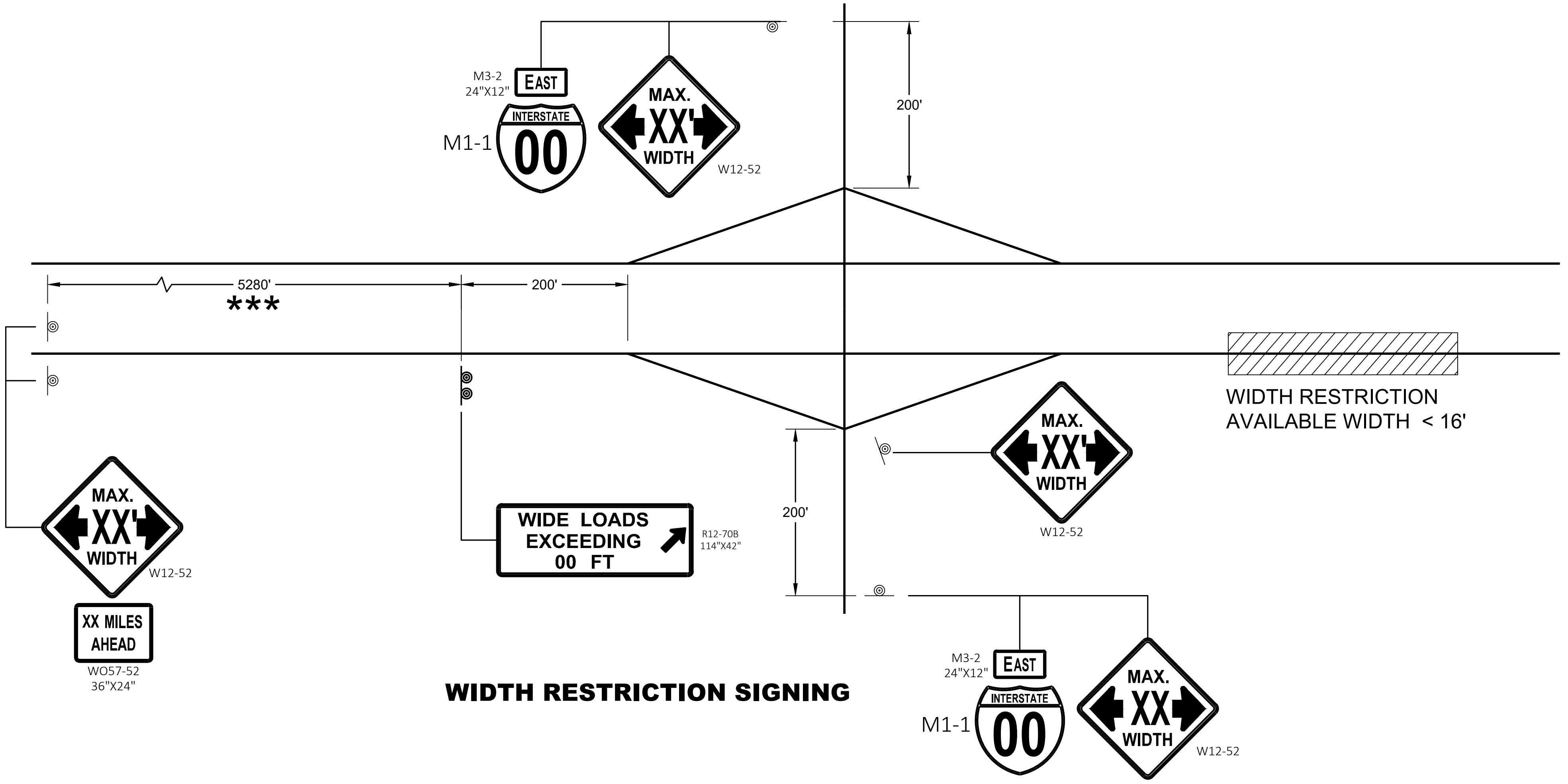
ALTERNATE 3

FLEXIBLE MARKER POST ANCHORS

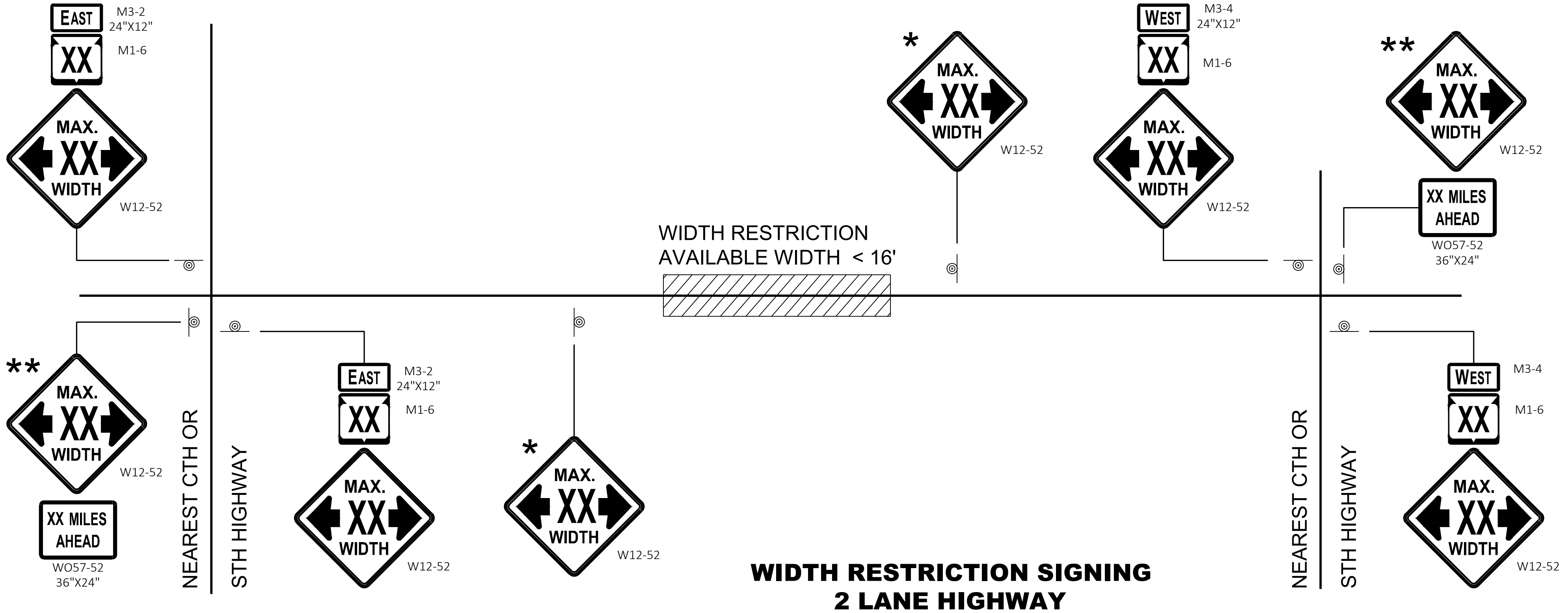
FLEXIBLE MARKER POST
FOR CULVERT END

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
10/1/2012
DATE
/S/ Travis Feltes
STATE TRAFFIC ENGINEER
IGN
FHWA



WIDTH RESTRICTION SIGNING



WIDTH RESTRICTION SIGNING
2 LANE HIGHWAY

LEGEND

SIGN ON PERMANENT SUPPORT

GENERAL NOTES

THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

THE SPACING BETWEEN SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL " IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

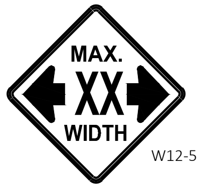
"WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

WIDTH ON SIGN TO BE APPROXIMATELY ONE FOOT LESS THAN AVAILABLE WIDTH.

* PLACE 500 FEET AFTER THE W20 - 1A AND 500 FEET BEFORE ADDITIONAL SIGNS FOR ROADWAYS WITH A PRE - CONSTRUCTION SPEED LIMIT OF 45 MPH OR MORE. FOR 35-40 MPH, USE 350 FOOT TYPICAL SPACING. FOR 25-30 MPH, USE 200 FOOT TYPICAL SPACING.

** SIGN SHALL BE VISIBLE FROM ROADWAY.

*** ADDITIONAL SIGNS NEEDED IF THERE IS AN ON RAMP BETWEEN SIGNS.



WIDTH ON SIGN TO BE
APPROX. 1 - FOOT LESS
THAN AVAILABLE WIDTH

**ADVANCED WIDTH
RESTRICTION SIGNING**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2020
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEE
FHWA

GENERAL NOTES

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS.

THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

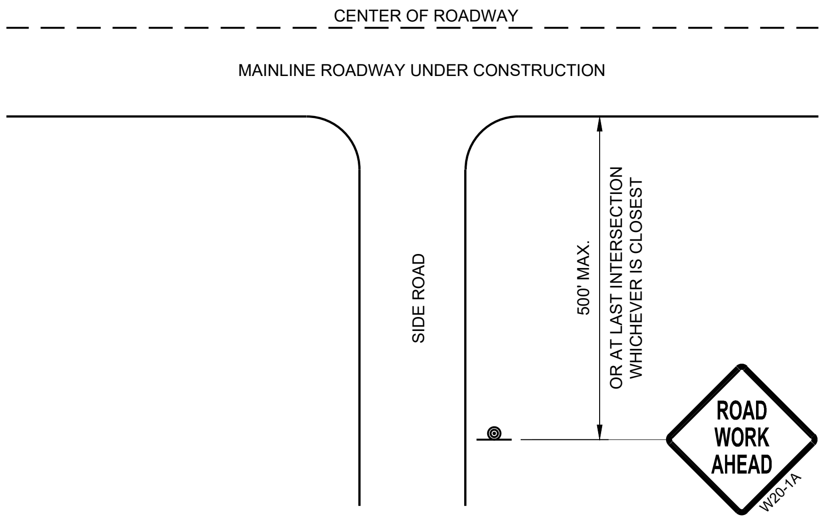
ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

SIGNS THAT WILL BE IN PLACE LESS THAN SEVEN CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

IF A "STOP" SIGN MUST BE REMOVED FOR A WORK OPERATION, A TEMPORARY "STOP" SIGN SHALL BE PLACED PRIOR TO THE SIGN REMOVAL, OR A FLAGGER SHALL BE PROVIDED UNTIL THE SIGN IS REESTABLISHED.

* OMIT G20-1 SIGNS IF LENGTH OF WORK AREA IS 2 MILES OR LESS

** PLACE AN ADDITIONAL W20-1A "ROAD WORK AHEAD" SIGN IF WORK AREA WITHIN THE PROJECT IS SEPARATED BY MORE THAN 2 MILES FROM PREVIOUS WORK AREA.



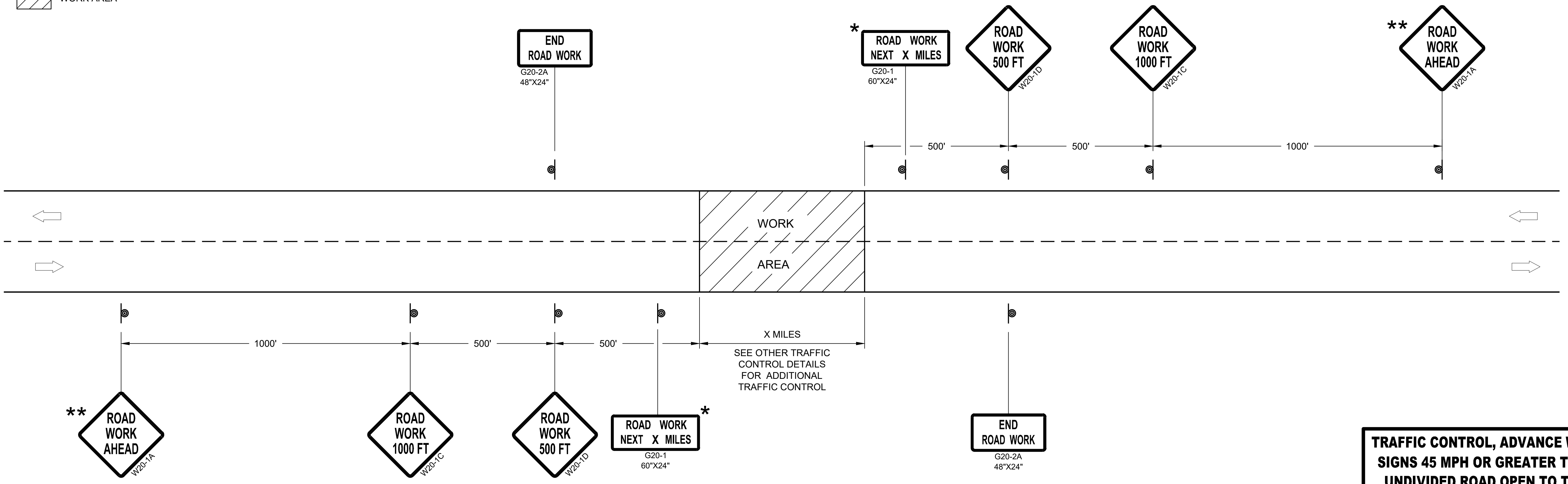
TYPICAL SIDE ROAD APPROACH WARNING SIGN DETAIL

LEGEND

◉ SIGN ON PERMANENT SUPPORT

⇨ DIRECTION OF TRAFFIC

▨ WORK AREA



TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45MPH OR GREATER

TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 MPH OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
July 2018 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEE
FHWA

GENERAL NOTES

DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS.

① LOCATE THE NO PASSING ZONE W14-3 SIGN WITHIN 50 FEET OF THE "T" MARKING

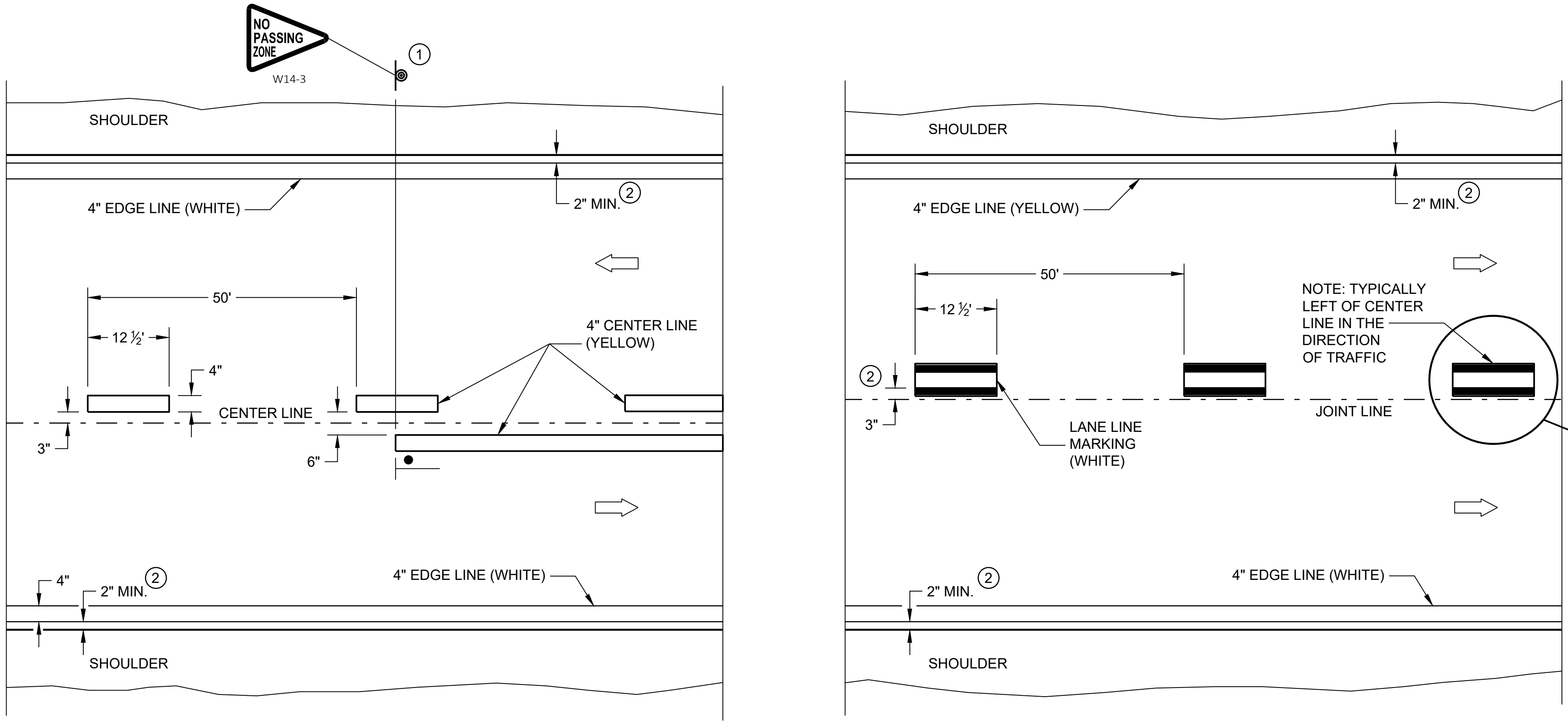
② MEASURE FROM EDGE OF MARKING TO JOINT LINE. THIS DOES NOT INCLUDE SPACE NEEDED FOR GROOVING OPERATIONS.

LEGEND

⊢● "T" MARKING

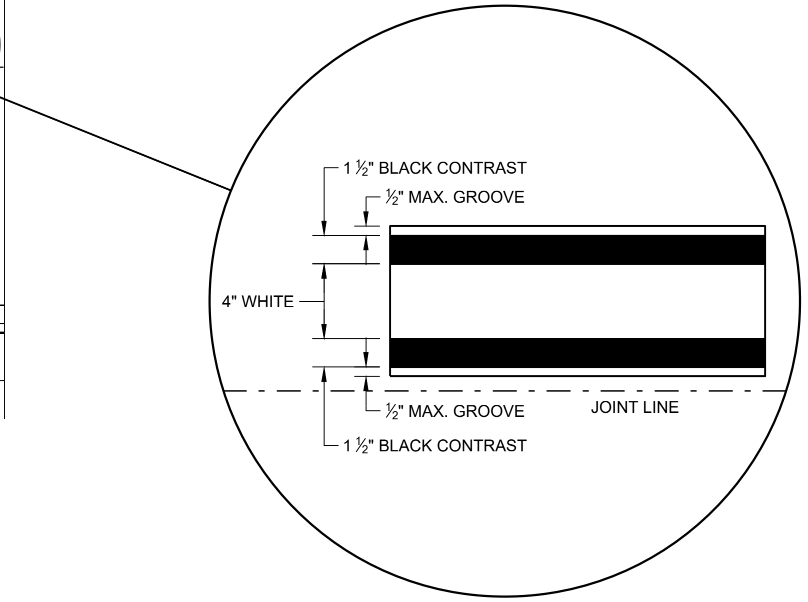
◎ SIGN ON PERMANENT SUPPORT

⇨ DIRECTION OF TRAFFIC



TWO WAY TRAFFIC

ONE WAY TRAFFIC

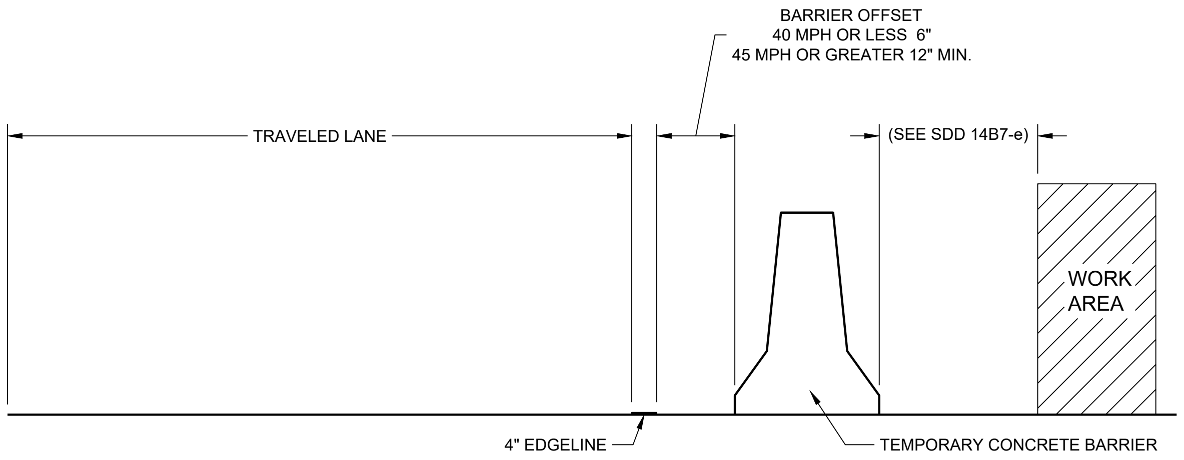


PERMANENT PAVEMENT MARKING

PERMANENT LONGITUDINAL PAVEMENT MARKINGS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2022
DATE
/S/ Jeannie Silver
STATEWIDE SIGNING AND M
ENGINEER
FHWA



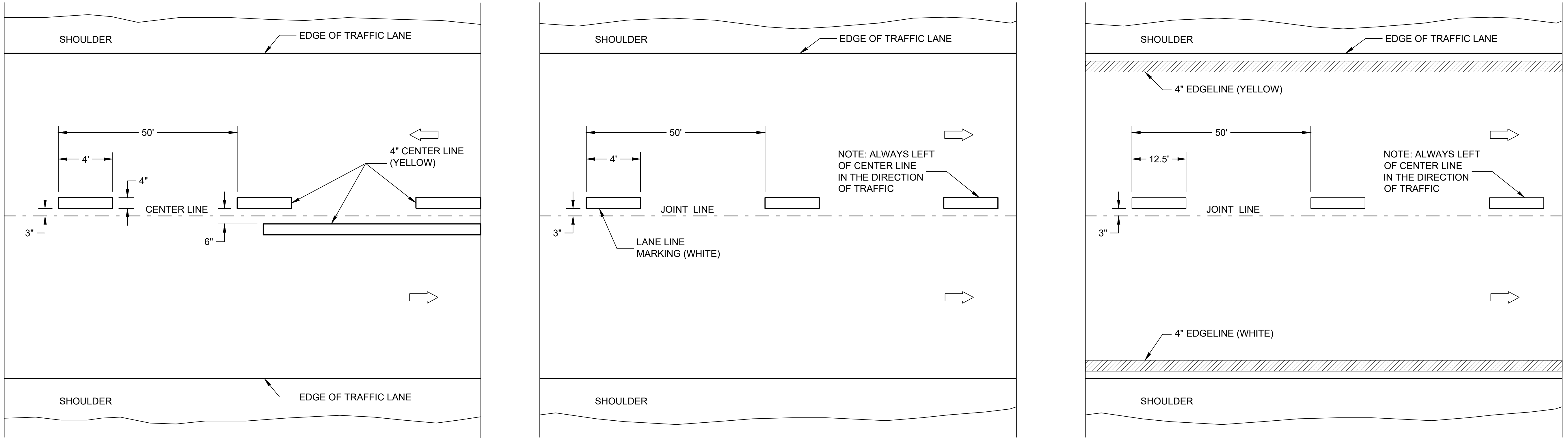
TEMPORARY BARRIER OFFSET FROM EDGELINE

GENERAL NOTES

DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS.

LEGEND

⇨ DIRECTION OF TRAFFIC



TWO WAY TRAFFIC

ONE WAY TRAFFIC

FREEWAYS AND EXPRESSWAYS

TEMPORARY PAVEMENT MARKING

TEMPORARY LONGITUDINAL PAVEMENT MARKING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2022
DATE
/S/ Jeannie Silver
STATEWIDE SIGNING AND M
ENGINEER
FHWA

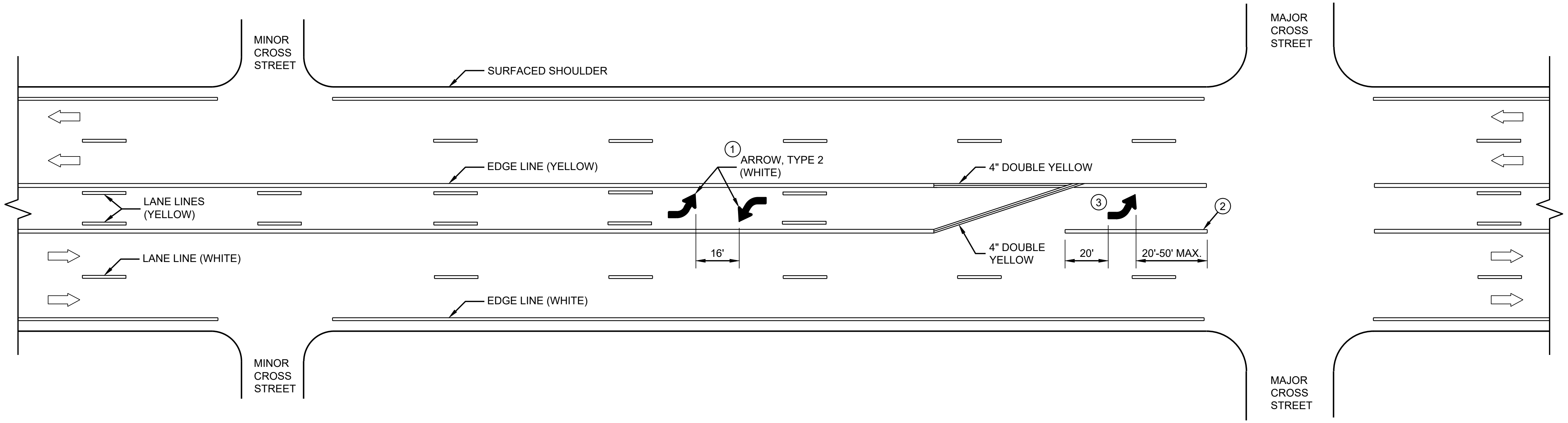
GENERAL NOTES

① A SET OF ARROWS IS REQUIRED EVERY 400 FEET OR NEAR INTERSECTIONS OR DRIVEWAYS WITH TURNING TRAFFIC.

② 8" WHITE

③ TURN BAY LENGTH OF LESS THAN 48' DOES NOT REQUIRE PAVEMENT ARROWS OR TEXT.

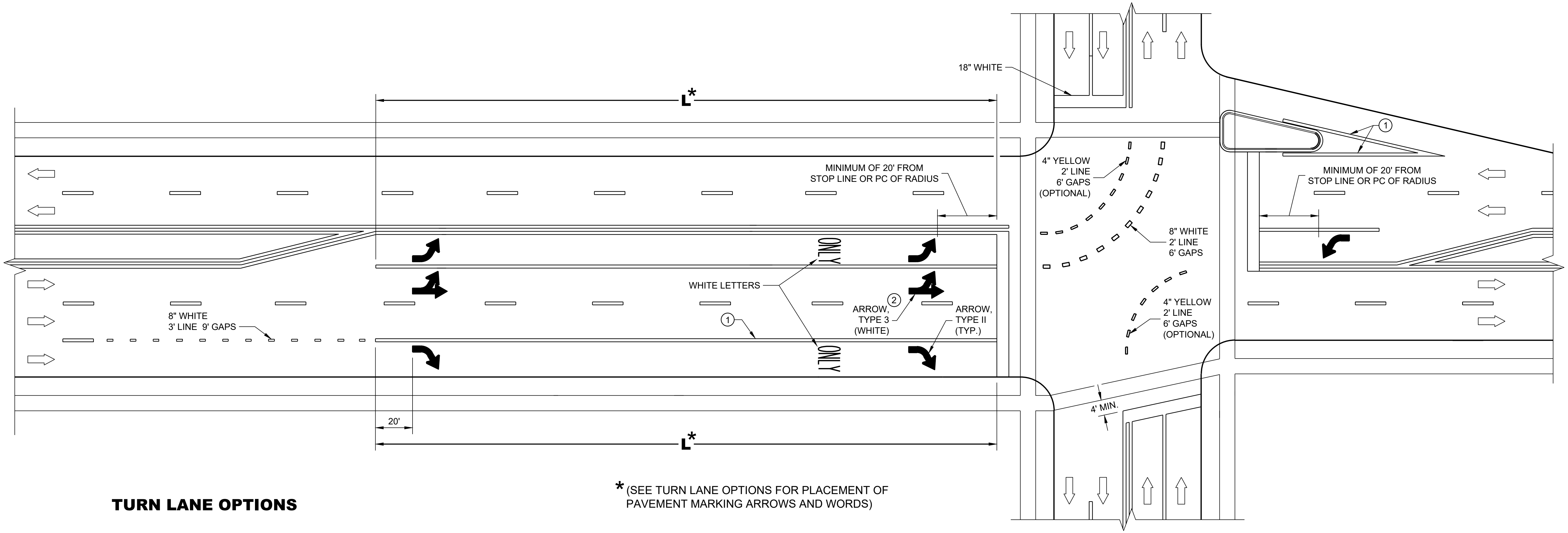
⇨ DIRECTION OF TRAFFIC



TWO WAY LEFT TURN LANE

PAVEMENT MARKING (TURN LANES)

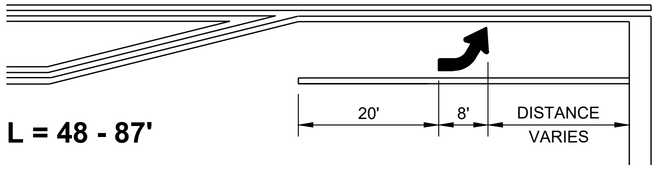
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTAT



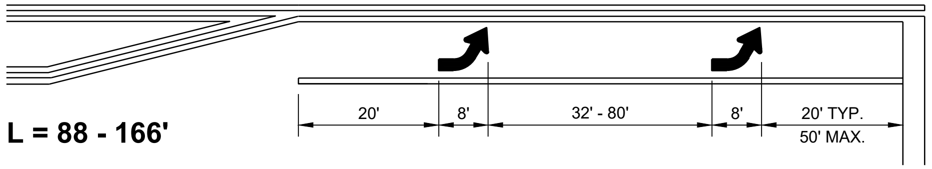
* (SEE TURN LANE OPTIONS FOR PLACEMENT OF PAVEMENT MARKING ARROWS AND WORDS)

TURN LANE OPTIONS

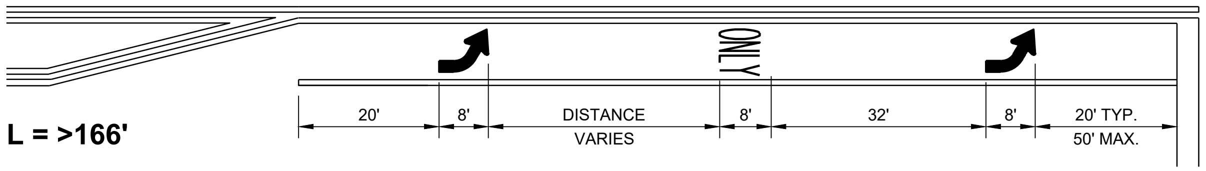
LENGTH OF TURN BAY (**L**) OF 0 - 47' DOES NOT REQUIRE PAVEMENT MARKING ARROWS OR WORDS



L = 48 - 87'



L = 88 - 166'



L = >166'

GENERAL NOTES

① 8" WHITE

② QUANTITY AND LOCATION OF TYPE 3 ARROWS ARE THE SAME AS THE TYPE II ARROWS IN THE ADJACENT TURN LANE. FOR TURN LANES WITH A PHYSICAL SEPARATION IN THE SAME DIRECTION OF TRAVEL, THE ARROWS AND "ONLY" MARKING MAY BE ELIMINATED.

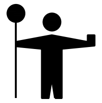
⇨ DIRECTION OF TRAFFIC

L = LENGTH OF TURN BAY

PAVEMENT MARKING
(TURN LANES)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

LEGEND

◉	SIGN ON PORTABLE OR PERMANENT SUPPORT
|||	TEMPORARY PORTABLE RUMBLE STRIP ARRAY
⇨	DIRECTION OF TRAFFIC
▨	WORK AREA
	FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF

GENERAL NOTES

DETAILS OF TRAFFIC CONTROL DEVICES AND INSTALLATION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

"WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS, DEVICES, AND LOCATION OF ALL FLAGGERS SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

THE FIRST ADVANCE WARNING SIGN SHOULD TYPICALLY BE LOCATED IN ADVANCE OF THE ANTICIPATED TRAFFIC BACKUP OR QUEUE.

WHEN A SIDE ROAD OR RAMP INTERSECTS THE FACILITY ON WHICH THE WORK IS BEING PERFORMED, ADDITIONAL TRAFFIC CONTROLS SHALL BE PROVIDED AS SPECIFIED IN THE PLANS AND/OR THE SPECIAL PROVISIONS OR AS APPROVED BY THE ENGINEER.

FLAGGING

FLAGGERS SHALL BE IN SIGHT OF EACH OTHER OR IN DIRECT COMMUNICATION AT ALL TIMES. THEY SHALL BE EQUIPPED WITH STOP/SLOW PADDLES FASTENED ON SUPPORT STAFFS. WHEN THE FLAGGING OPERATION IS NOT IN EFFECT REMOVE TEMPORARY PORTABLE RUMBLE STRIPS PRIOR TO COVERING OR REMOVING ALL ADVANCE SIGNING.

① FOR MOVING WORK OPERATIONS, POST ADDITIONAL W20-7A FLAGGER SIGNS AT APPROXIMATELY 3,500' INTERVALS IN THE MOVING WORK OPERATION OR AS APPROVED BY THE ENGINEER.

② SIGN NOT REQUIRED IF FLAGGING OPERATION OCCURS WITHIN A SIGNED ROAD WORK ZONE AREA.

WHEN THE DISTANCE BETWEEN FLAGGERS EXCEEDS 2 MILES, A PILOT CAR IS REQUIRED. WHEN CURVES REDUCE SIGHT DISTANCE BELOW 400', A PILOT CAR IS REQUIRED.

TEMPORARY PORTABLE RUMBLE STRIPS

UTILIZE TEMPORARY PORTABLE RUMBLE STRIPS ON ALL FLAGGING OPERATIONS.

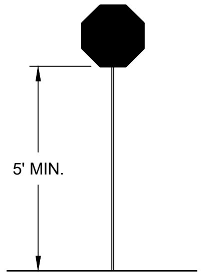
③ EACH TEMPORARY PORTABLE RUMBLE STRIP ARRAY CONSISTS OF THREE RUMBLE STRIPS PLACED TRANSVERSE ACROSS THE LANE AT THE LOCATIONS SHOWN. WITHIN EACH ARRAY, SPACING BETWEEN RUMBLE STRIPS SHALL BE 15 FEET ON CENTER

ONLY USE TEMPORARY PORTABLE RUMBLE STRIPS FROM THE APPROVED PRODUCTS LIST.

INSTALL TEMPORARY RUMBLE STRIPS PER MANUFACTURER'S RECOMMENDATIONS.

PLACE ADVANCE SIGNING PRIOR TO INSTALLING TEMPORARY RUMBLE STRIPS.

DO NOT INSTALL TEMPORARY PORTABLE RUMBLE STRIPS ON GRAVEL, MILLED SURFACES, OR ASPHALT THAT HAS BEEN PAVED LESS THAN 12 HOURS.

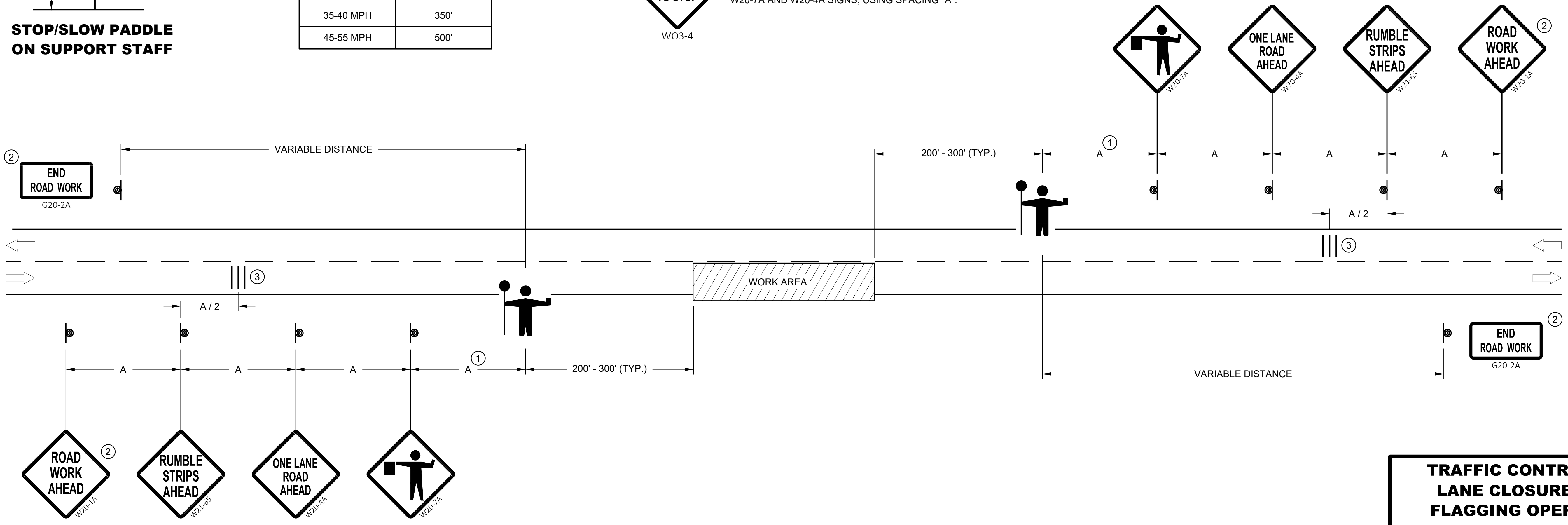


STOP/SLOW PADDLE ON SUPPORT STAFF

SIGN AND TEMPORARY RUMBLE STRIP ARRAY SPACING TABLE

SPEED LIMIT	SPACING "A"
25-30 MPH	200'
35-40 MPH	350'
45-55 MPH	500'

USE OF WO3-4 SIGN IS OPTIONAL. WHEN USED, THIS SIGN SHALL BE LOCATED BETWEEN THE W20-7A AND W20-4A SIGNS, USING SPACING "A".



TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2022 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER
FHWA

GENERAL NOTES

STOP SIGN SHALL BE PLACED A MINIMUM OF 6 FEET TO A MAXIMUM OF 50 FEET FROM THE EDGELINE LOCATION.

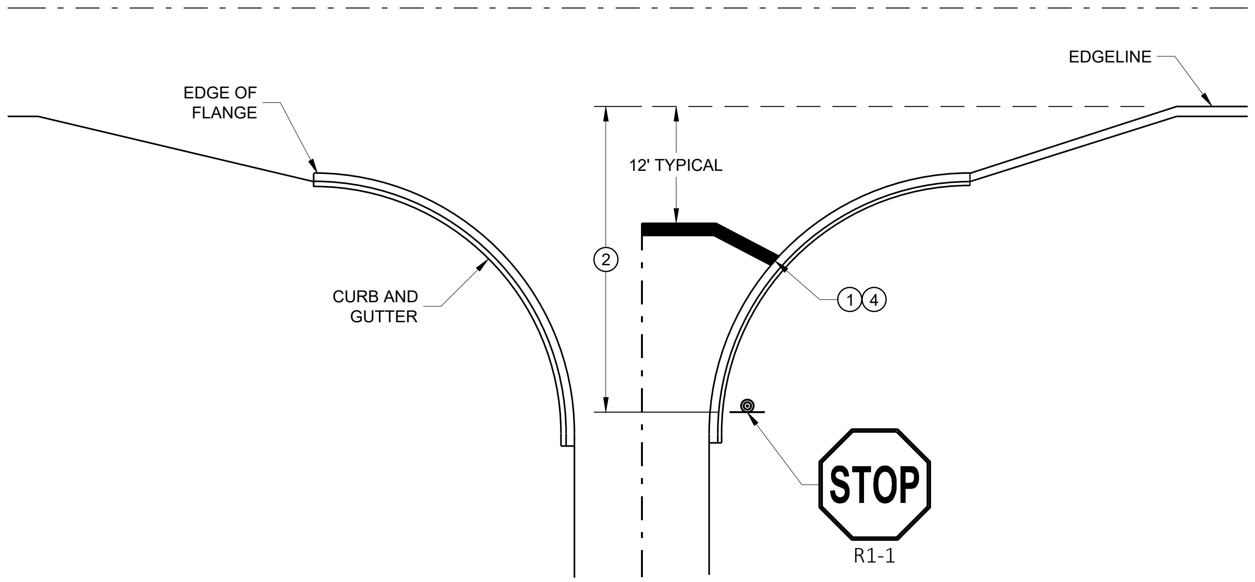
① 18-INCH STOP LINES MAY BE DELETED OR ADDED BY THE REGION MARKING ENGINEER BASED ON VISIBILITY AND SIGHT LINES.

② NO STOP LINE IS REQUIRED IF STOP SIGN IS LESS THAN OR EQUAL TO 40 FEET FROM THE EDGELINE.

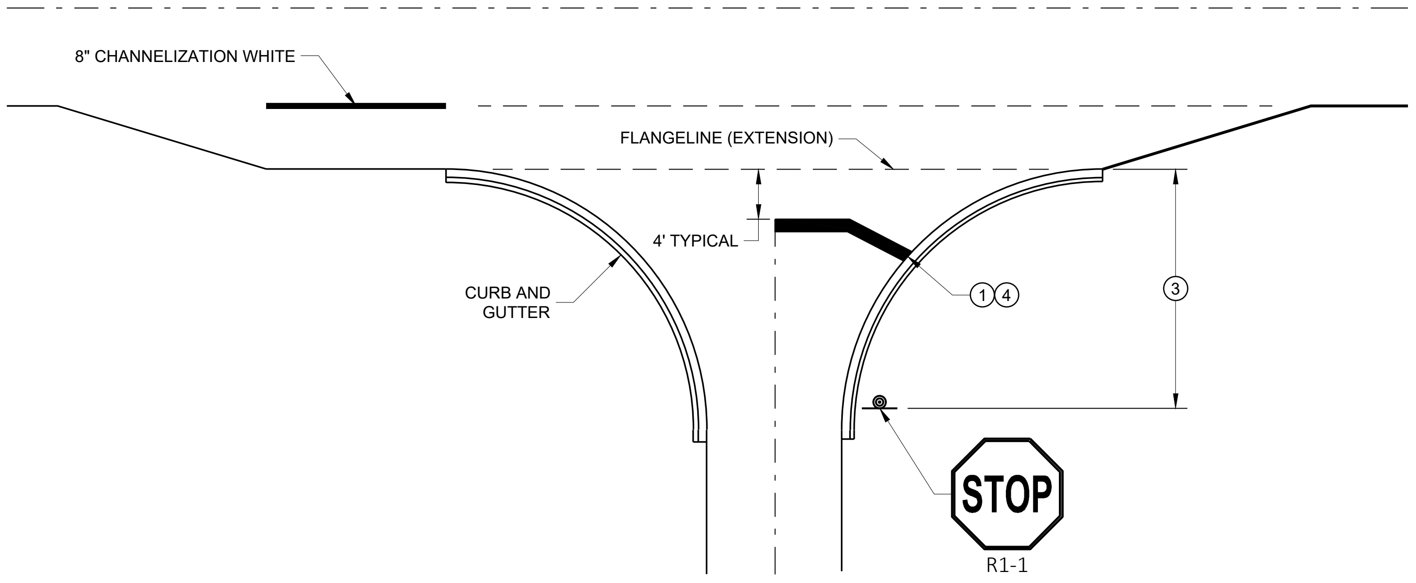
③ NO STOP LINE IS REQUIRED IF STOP SIGN IS LESS THAN OR EQUAL TO 30 FEET FROM THE FLANGELINE EXTENSION.

④ MOVE CLOSER TO THE EDGE OF TRAVEL LINE AS NEEDED FOR VISIBILITY AND SIGHT LINES (NO CLOSER THAN 4 FEET).

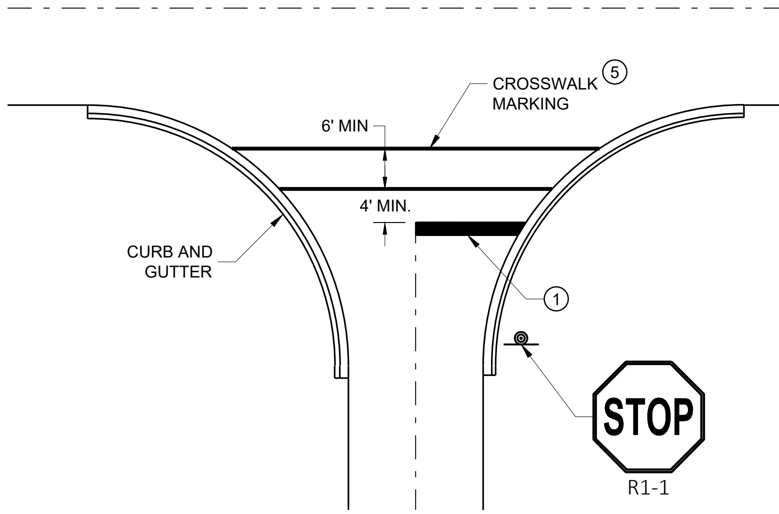
⑤ LADDER BAR CROSSWALKS SHOULD ONLY BE USED FOR MID BLOCK CROSSINGS. USE 2 - 6" TRANSVERSE LINES INSTEAD.



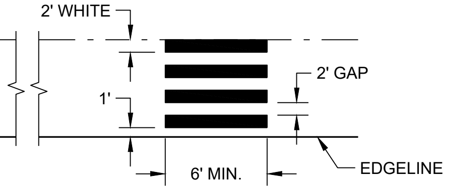
TYPICAL STOP LINE PAVEMENT MARKING
WITH CURB AND GUTTER



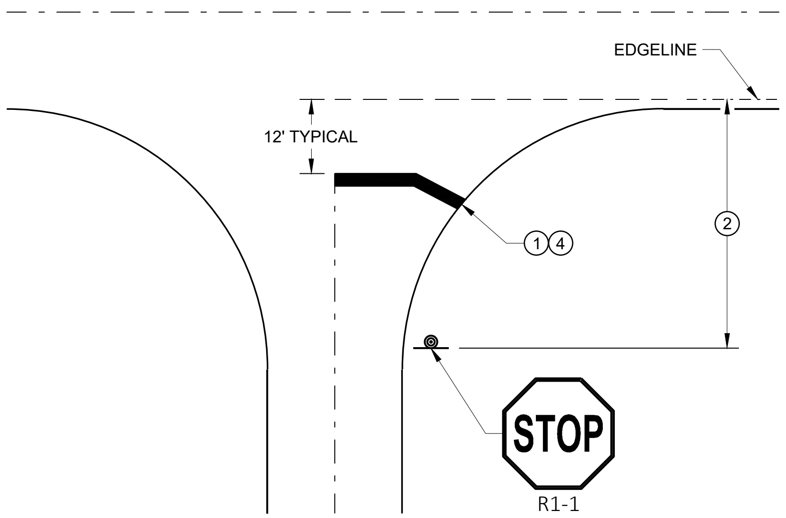
TYPICAL STOP LINE PAVEMENT MARKING
FOR SIDEROADS WITH RIGHT TURN LANE



TYPICAL STOP LINE PAVEMENT MARKING FOR
SIDEROADS WITH CROSSWALK MARKING



TYPICAL PAVEMENT MARKING ⑤
FOR MID-BLOCK CROSSWALK



TYPICAL STOP LINE PAVEMENT MARKING
WITHOUT CURB AND GUTTER

STOP LINE AND CROSSWALK PAVEMENT MARKING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2019
DATE
/S/ Matthew Rauch
STATE SIGNING AND MARKING ENGINEER
FHWA

GENERAL NOTES

OMIT EDGE LINES THROUGH INTERSECTIONS. CONTINUE EDGE LINES THROUGH DRIVEWAYS.

① WHEN DISTANCE "A" IS LESS THAN 250 FEET, OMIT LANE LINE.

② WHEN DISTANCE "B" IS LESS THAN 100 FEET, OMIT CHANNELIZING LANE LINE.

③ BARRIER LINE ENDS AT SIDE ROAD PAVEMENT / SURFACE EDGE EXTENSION.

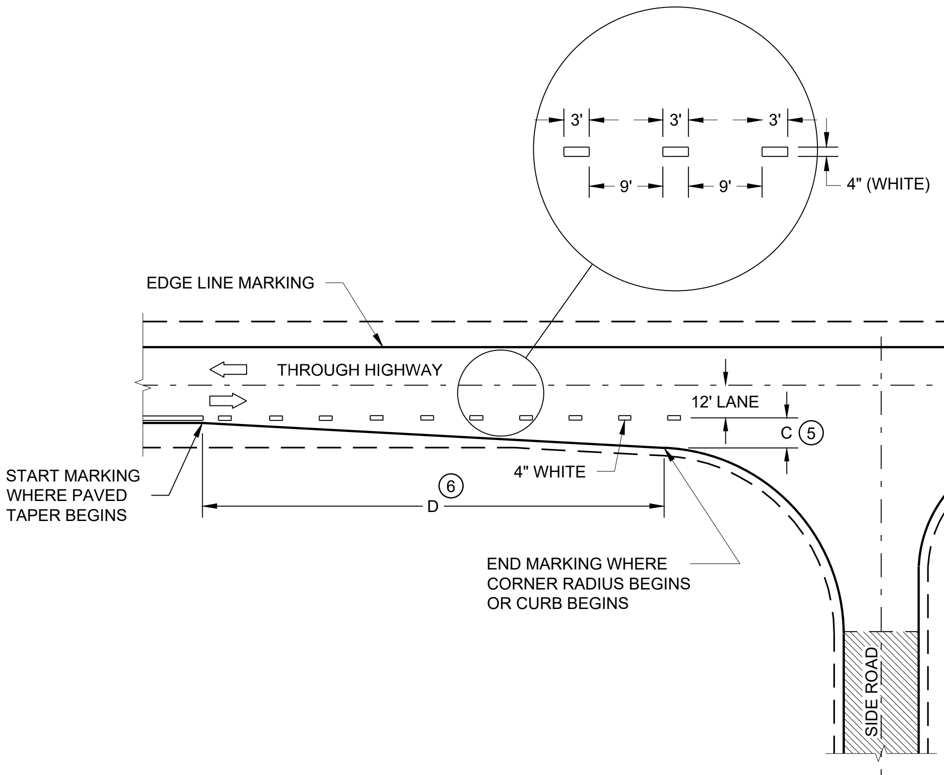
④ BARRIER LINE STARTS 500 FEET PRIOR TO THE BYPASS TAPER.

⑤ WHEN DISTANCE "C" IS LESS THAN 4 FEET, OMIT DOTTED EXTENSION.

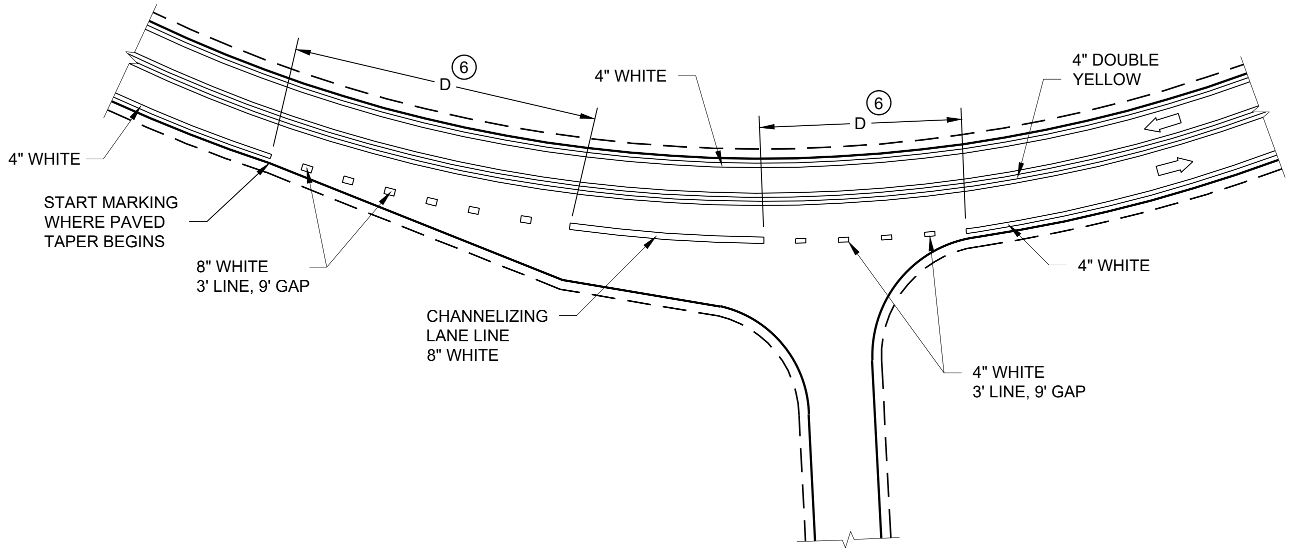
⑥ WHEN DISTANCE "D" IS LESS THAN 50 FEET, OMIT DOTTED EXTENSION.

LEGEND

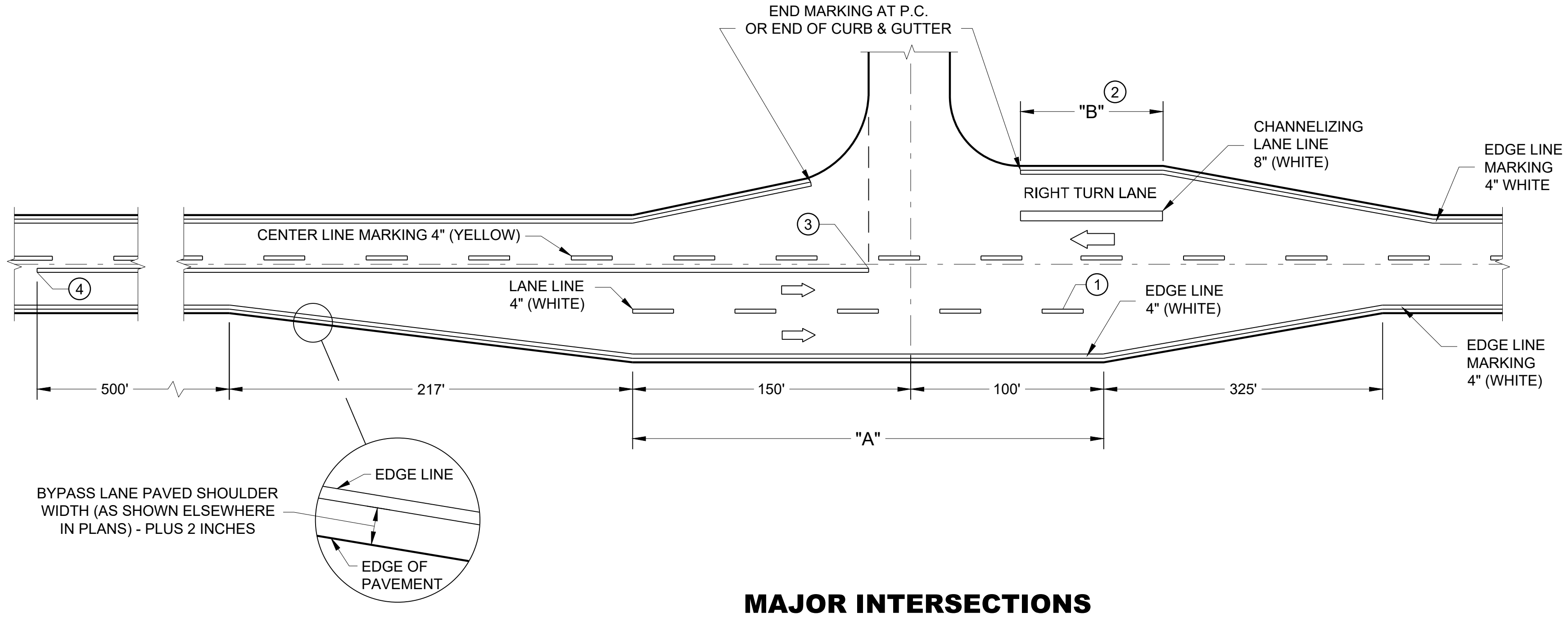
⇨ DIRECTION OF TRAVEL



MINOR INTERSECTION



INTERSECTION ON OUTSIDE OF CURVE



MAJOR INTERSECTIONS

(INTERSECTION WITH FULL RIGHT TURN LANE OR BYPASS LANE)

PAVEMENT MARKING
(INTERSECTIONS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTAT

LEGEND

⊚	SIGN ON PERMANENT SUPPORT
●	TRAFFIC CONTROL DRUM
⇨	DIRECTION OF TRAFFIC
▨	WORK ZONE

GENERAL NOTES

ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS IN URBAN AREAS, 36" X 36" SIGNS MAY BE USED IF APPROVED BY THE REGIONAL TRAFFIC UNIT.

"WO" SIGN IS THE SAME AS "W" SIGN EXCEPT THE BACKGROUND IS ORANGE.

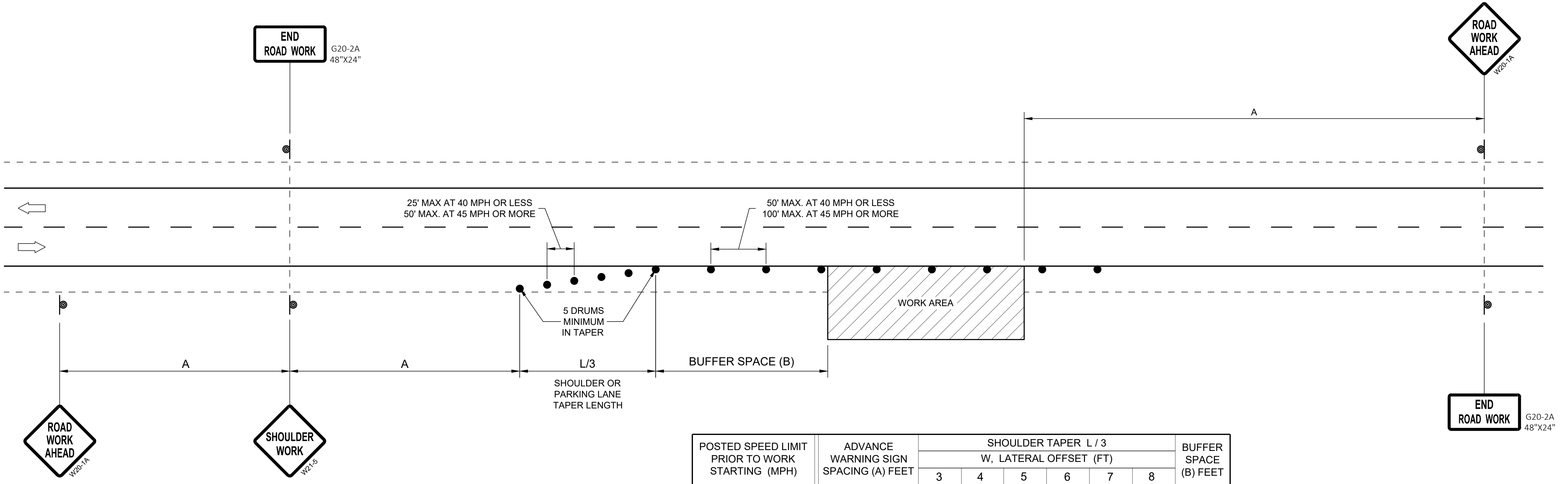
ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH THE TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

CHANNELIZING DEVICES PLACED ADJACENT TO WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

W20-1A AND G20-2A SIGNS ARE NOT REQUIRED IF THE WORK AREA IS WITHIN A LARGER WORK ZONE WHERE THESE SIGNS ARE ALREADY PRESENT. G20-2A SIGNS MAY ALSO BE OMITTED IF DURATION OF WORK IS LESS THAN 7 CONTINUOUS DAYS AND NIGHTS.



OR
IF TRAFFIC CONTROL DEVICES
ENCROACH ONTO TRAVELED WAY, USE

POSTED SPEED LIMIT PRIOR TO WORK STARTING (MPH)	ADVANCE WARNING SIGN SPACING (A) FEET	SHOULDER TAPER L / 3						BUFFER SPACE (B) FEET
		W, LATERAL OFFSET (FT)						
		3	4	5	6	7	8	
25	200'	10	14	17	21	24	28	55
30	200'	15	20	25	30	35	40	85
35	350'	20	27	34	40	47	54	120
40	350'	26	35	44	53	62	70	170
45	500'	45	59	74	89	104	119	220
50	500'	50	66	83	99	116	132	280
55	500'	54	73	91	109	127	145	335'

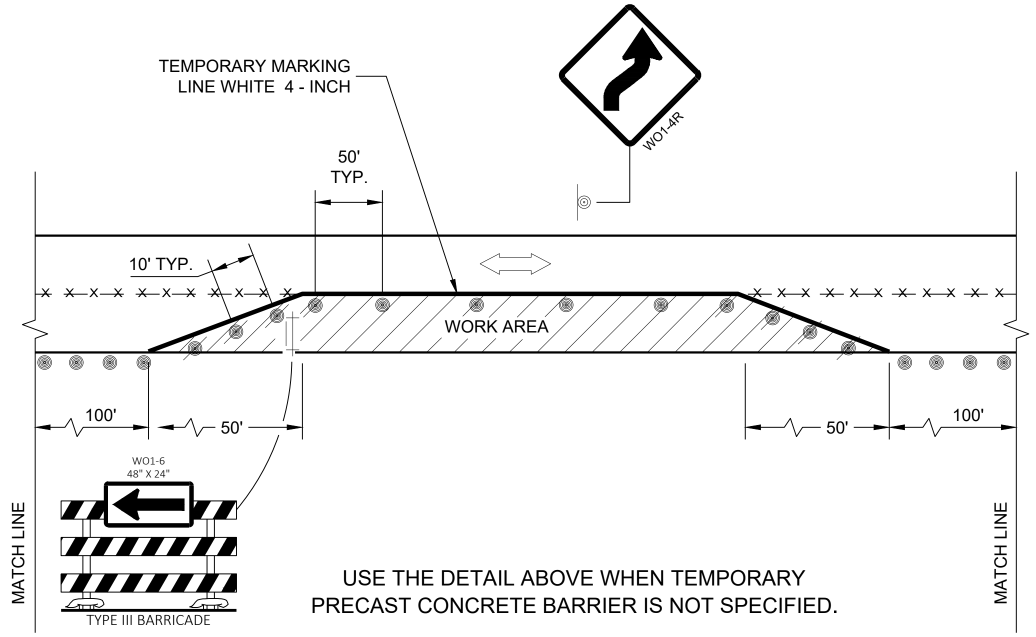
TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2020
DATE
/S/ Andrew Heidtke
STATEWIDE WORK ZONE T
SAFETY ENGINEER
FHWA

LEGEND

⌶	TYPE III BARRICADE WITH ATTACHED SIGN
◎	SIGN ON PERMANENT SUPPORT
⊘	TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
●	TRAFFIC CONTROL DRUM
◇ ◇	FLAGS, 16" X 16" MIN. (ORANGE)
X X X	REMOVING PAVEMENT MARKING
⇨	DIRECTION OF TRAFFIC
▨	ASPHALTIC PAVEMENT WIDENING
▭ ▭ ▭	CONCRETE BARRIER TEMPORARY PRECAST
🚦	TEMPORARY SIGNAL. SEE SDD 09G02 FOR EXACT PLACEMENT



USE THE DETAIL ABOVE WHEN TEMPORARY PRECAST CONCRETE BARRIER IS NOT SPECIFIED.

GENERAL NOTES

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE..

THIS LANE CLOSURE IS TYPICAL FOR CLOSING RIGHT LANE - REVERSE FOR CLOSING LEFT LANE.

ALL SIGNS ARE 48" x 48" UNLESS OTHERWISE NOTED.

"WO" IS THE SAME AS "W" EXCEPT THE BACKGROUND IS ORANGE.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED OR AS APPROVED BY THE ENGINEER.

REMOVE PAVEMENT MARKING AND PLACE TEMPORARY PAVEMENT MARKING LINES IF THE CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

① 500 FOOT SPACING SHOWN IS FOR ROADWAYS WITH A PRE-CONSTRUCTION REGULATORY SPEED LIMIT OF 45 MPH OR MORE. FOR 35 - 40 MPH, USE 350 FOOT TYPICAL SPACING. FOR 25 - 30 MPH, USE 200 FOOT TYPICAL SPACING.

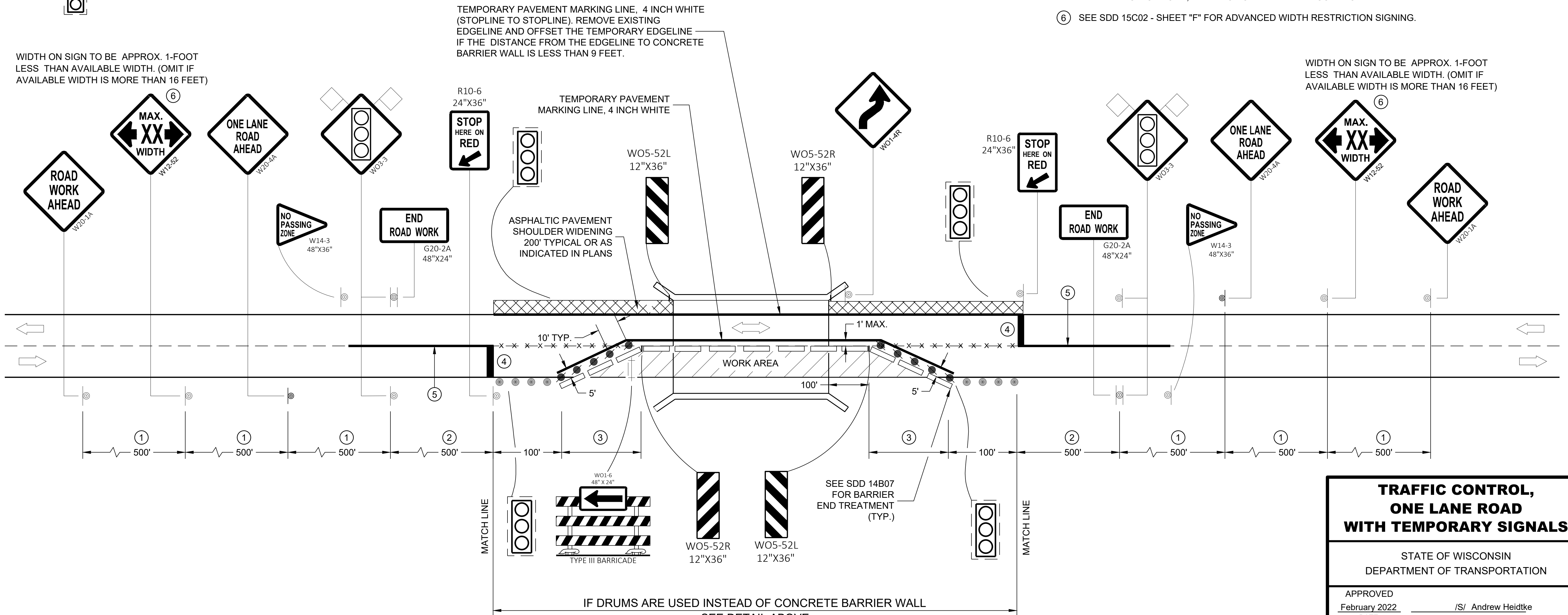
② USE 300 FOOT SPACING IF THE PRE - CONSTRUCTION REGULATORY SPEED IS 35 MPH OR LESS.

③ DIMENSION DETERMINED BY CBTP TAPER FROM EDGE LINE TO TANGENT SECTION OF THE ROAD.

④ TEMPORARY PAVEMENT MARKING LINE, 18 INCH WHITE STOP LINE.

⑤ 700 FOOT TEMPORARY PAVEMENT MARKING LINE, 4 INCH DOUBLE YELLOW . WHEN THE DISTANCE FOR THE PRECEDING NO - PASSING ZONE IS LESS THAN THE MINIMUM DISTANCE BETWEEN ZONES AS INDICATED IN THE SPECIFICATIONS, THE TWO ZONES SHALL BE CONNECTED.

⑥ SEE SDD 15C02 - SHEET "F" FOR ADVANCED WIDTH RESTRICTION SIGNING.



IF DRUMS ARE USED INSTEAD OF CONCRETE BARRIER WALL
SEE DETAIL ABOVE

TRAFFIC CONTROL, ONE LANE ROAD WITH TEMPORARY SIGNALS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2022
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEE
FHWA

GENERAL NOTES

DRAWING NOT TO SCALE. ALL SIGNS AND POSTS ON THIS SHEET SHALL BE PAID FOR WITH 'TRAFFIC CONTROL SIGNS' BID ITEM. ALL SIDE ROADS WHICH ARE UNDER CONSTRUCTION OF CURB AND GUTTER AND/OR GRADING SHALL BE ADEQUATELY SIGNED.

ALL SIGNS AND DEVICES SHALL BE IN CONFORMANCE WITH THE WISCONSIN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (WMUTCD). SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE WISDOT STANDARD SIGN PLATES.

"WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THAT THE BACKGROUND IS ORANGE.

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

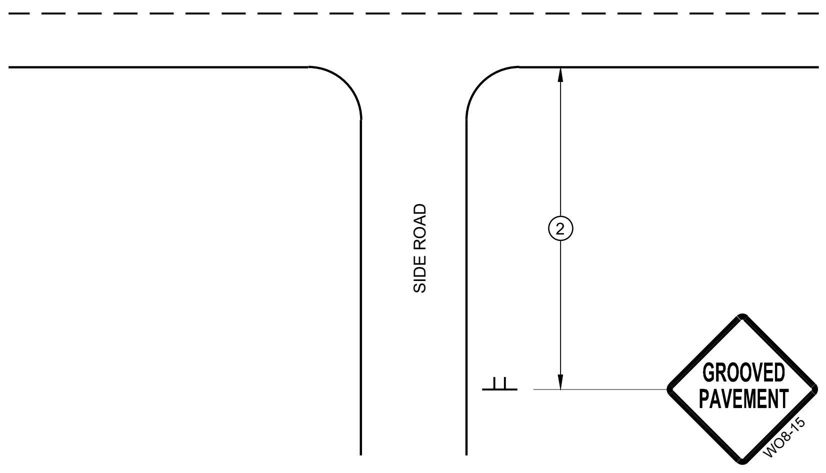
THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.

ALL SIGNS INAPPROPRIATE TO THE STATUS OF THE CONTROL ZONE, INCLUDING PRE-EXISTING SIGNS IN THE VICINITY, SHALL BE COVERED OR REMOVED AS DIRECTED BY THE ENGINEER.

SEE 15C34 FOR ADDITIONAL TRAFFIC CONTROL SIGNING WHEN CENTERLINE PAVEMENT MAKINGS ARE MISSING. 'DO NOT PASS' SIGNS MUST BE INSTALLED ON THE SAME DAY AS MILLING OPERATIONS.

① PLACE SIGNS 350' IN ADVANCE OF MILLED SURFACES AND AT 1 MILE INTERVALS, OR AS DIRECTED BY THE ENGINEER.

② PLACE SIGN 200' MIN. FROM INTERSECTION AND 200' MIN. AFTER ADVANCE WARNING SIGN SHOWN IN SDD 15C04.

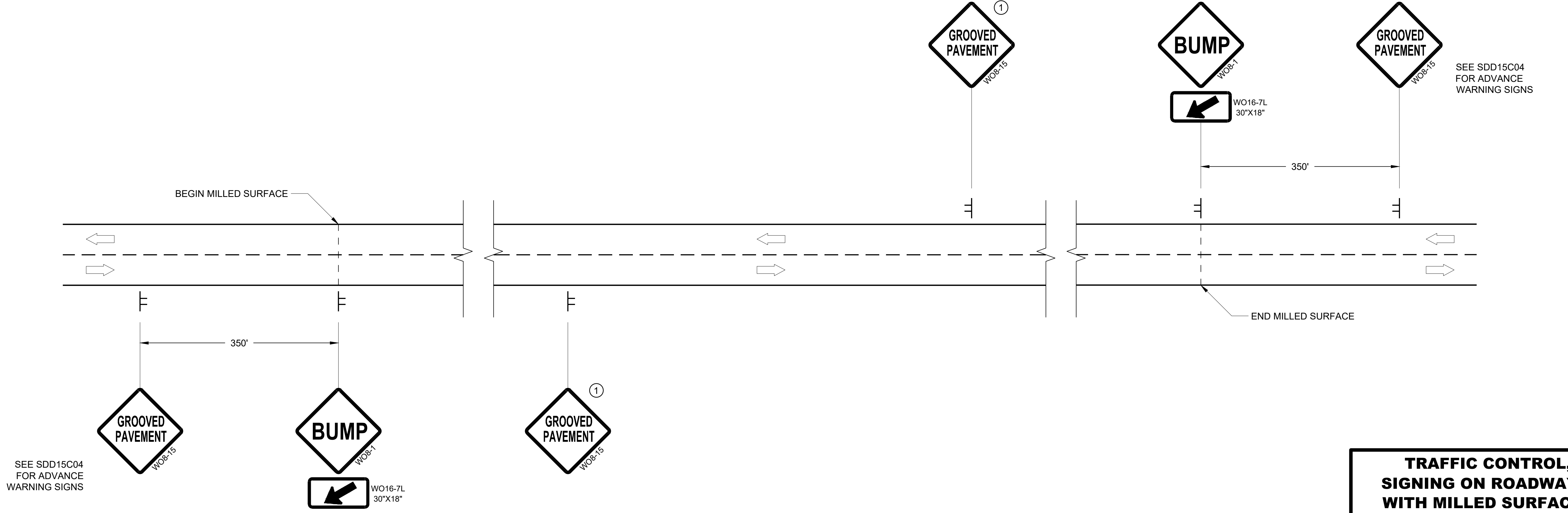


TYPICAL SIDE ROAD APPROACH SIGN DETAIL

LEGEND

⊢ SIGN ON TEMPORARY SUPPORT

⇨ DIRECTION OF TRAFFIC



DETAIL FOR SIGNING ON MILLED SURFACES

TRAFFIC CONTROL,
SIGNING ON ROADWAYS
WITH MILLED SURFACES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2020
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEE
FHWA

GENERAL NOTES

DRAWING NOT TO SCALE. ALL SIGNS AND POSTS ON THIS SHEET SHALL BE PAID FOR WITH 'TRAFFIC CONTROL SIGNS' BID ITEM. ALL SIDE ROADS WHICH ARE UNDER CONSTRUCTION OF CURB AND GUTTER AND/OR GRADING SHALL BE ADEQUATELY SIGNED.

ALL SIGNS AND DEVICES SHALL BE IN CONFORMANCE WITH THE WISCONSIN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (WMUTCD). SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE WISDOT STANDARD SIGN PLATES.

"WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THAT THE BACKGROUND IS ORANGE.

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THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.

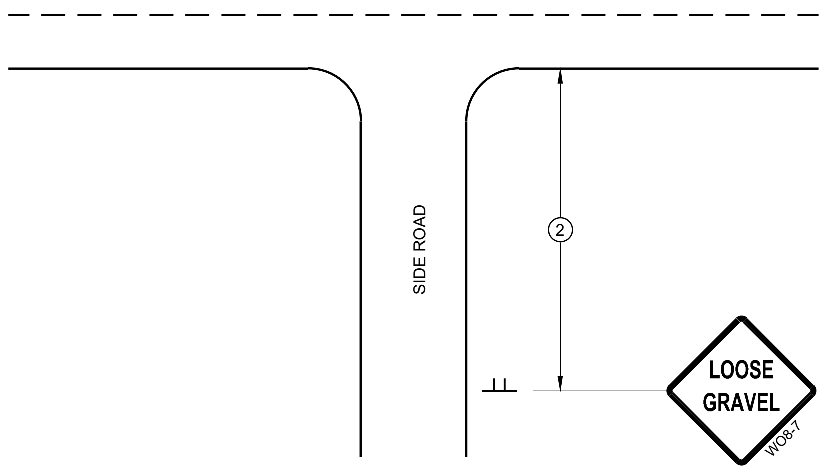
ALL SIGNS INAPPROPRIATE TO THE STATUS OF THE CONTROL ZONE, INCLUDING PRE-EXISTING SIGNS IN THE VICINITY, SHALL BE COVERED OR REMOVED AS DIRECTED BY THE ENGINEER.

SEE 15C34 FOR ADDITIONAL TRAFFIC CONTROL SIGNING WHEN CENTERLINE PAVEMENT MAKINGS ARE MISSING. 'DO NOT PASS' SIGNS MUST BE INSTALLED ON THE SAME DAY AS MILLING OPERATIONS.

① PLACE SIGNS 350' IN ADVANCE OF CHIP SEALED OR LOOSE GRAVEL SURFACES AND AT 1 MILE INTERVALS, OR AS DIRECTED BY THE ENGINEER.

② PLACE SIGN 200' MIN. FROM INTERSECTION AND 200' MIN. AFTER ADVANCE WARNING SIGN SHOWN IN SDD 15C04.

③ ADD WO8-1 OR WO8-2 SIGN WHEN THE CONDITION IS PRESENT.

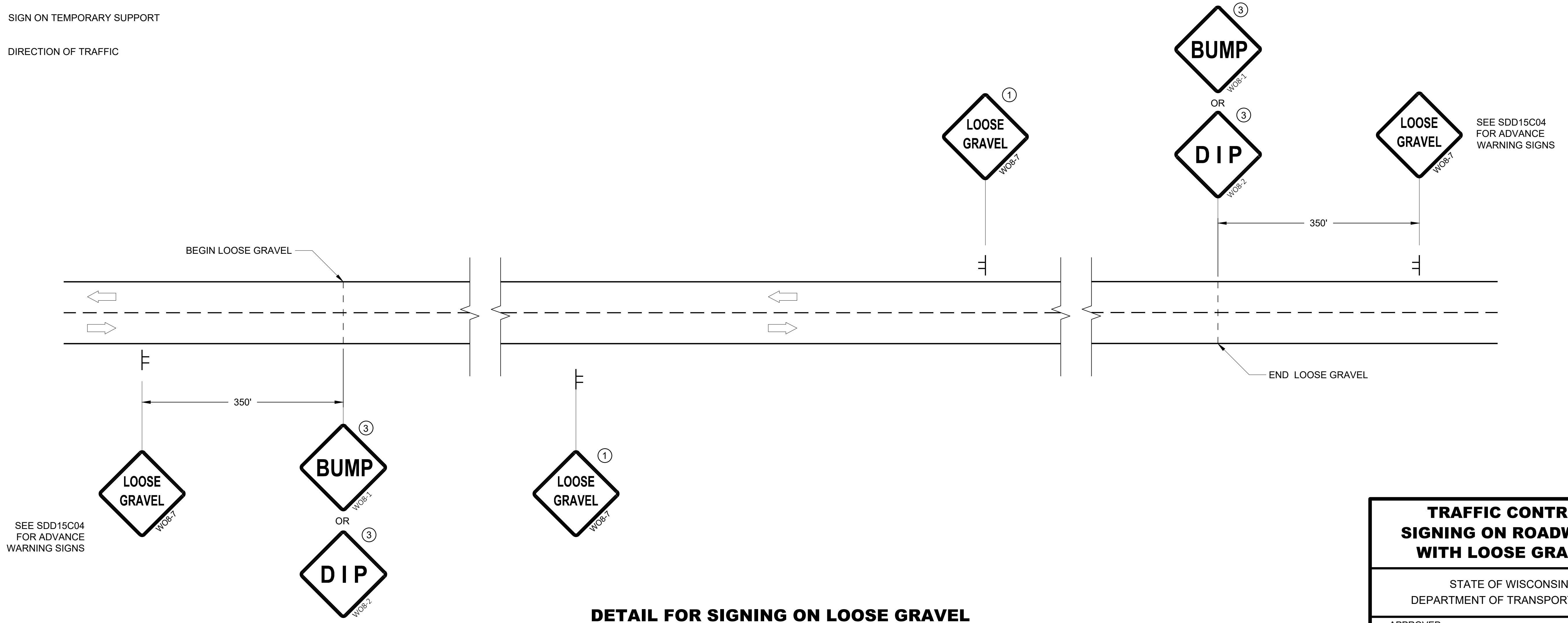


TYPICAL SIDE ROAD APPROACH SIGN DETAIL

LEGEND

╞ SIGN ON TEMPORARY SUPPORT

⇨ DIRECTION OF TRAFFIC



DETAIL FOR SIGNING ON LOOSE GRAVEL OR CHIP SEALED SURFACES

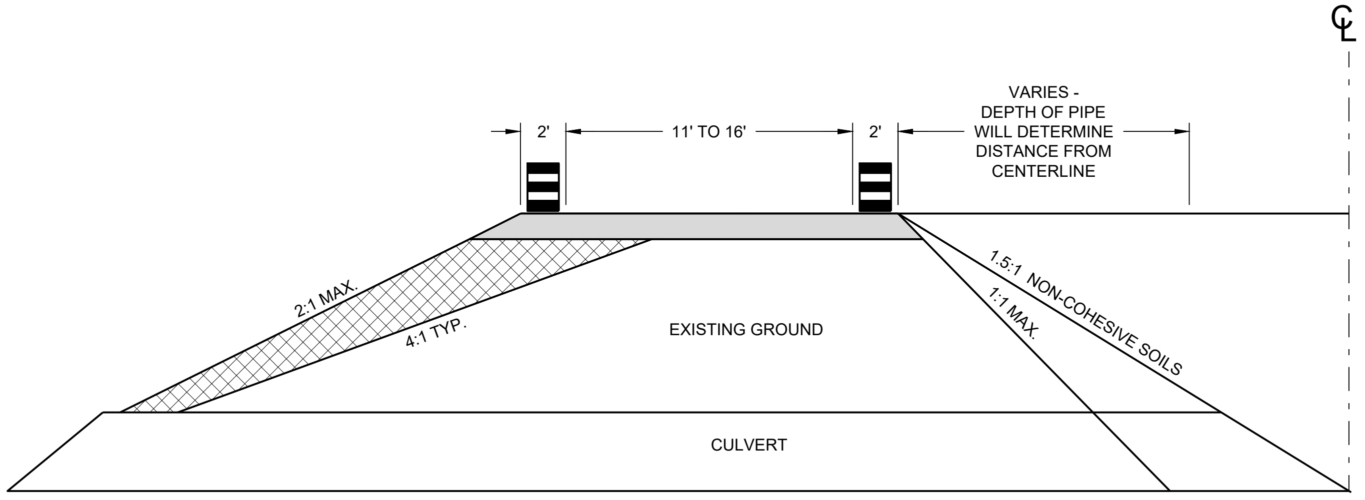
6

6

TRAFFIC CONTROL SIGNING ON ROADWAYS WITH LOOSE GRAVEL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2021
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEE
FHWA



CROSS SECTION

GENERAL NOTES

USE 1:1 FOR COHESIVE CLAYS AND SILTS, LOAMS, SANDY CLAYS AND ANGULAR GRAVEL SOILS.
USE 1.5:1 FOR NON-COHESIVE SOILS.

THE TAPER SHOULD EXTEND ACROSS THE SHOULDER UNLESS DOING SO WOULD GREATLY CONFLICT WITH THE WORK OPERATION.

ALL LANE CLOSURE SIGNS SHALL BE REMOVED OR COVERED AND ALL DEVICES REMOVED BEYOND THE SHOULDER WHEN WORK IS NOT IN PROGRESS AND THE LANE IS RESTORED TO A SAFE OPERATING CONDITION.

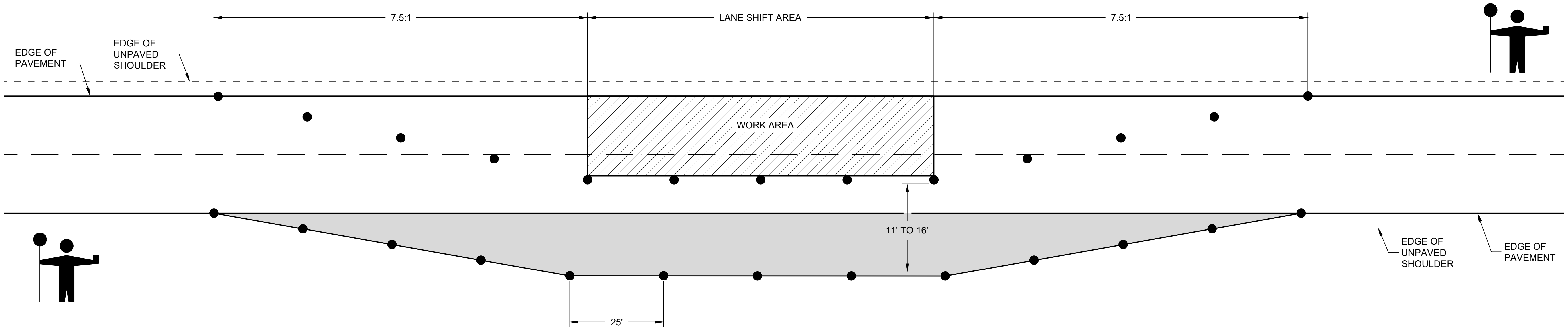
CHANNELIZING DEVICES PLACED ADJACENT TO WORK AREA SHALL BE PULLED BACK FROM TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

USE WITH SDD 15C12 "TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATIONS"

USE WITH SDD 15D45 "SIGNING ON ROADWAYS WITH LOOSE GRAVEL"

LEGEND

●	DRUM WITHOUT WARNING LIGHT
▭	6" BASE AGGREGATE DENSE 1 ¼" -INCIDENTAL TO LANE SHIFT ITEM
▩	FILL - INCIDENTAL TO LANE SHIFT ITEM
▨	WORK AREA
	FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF

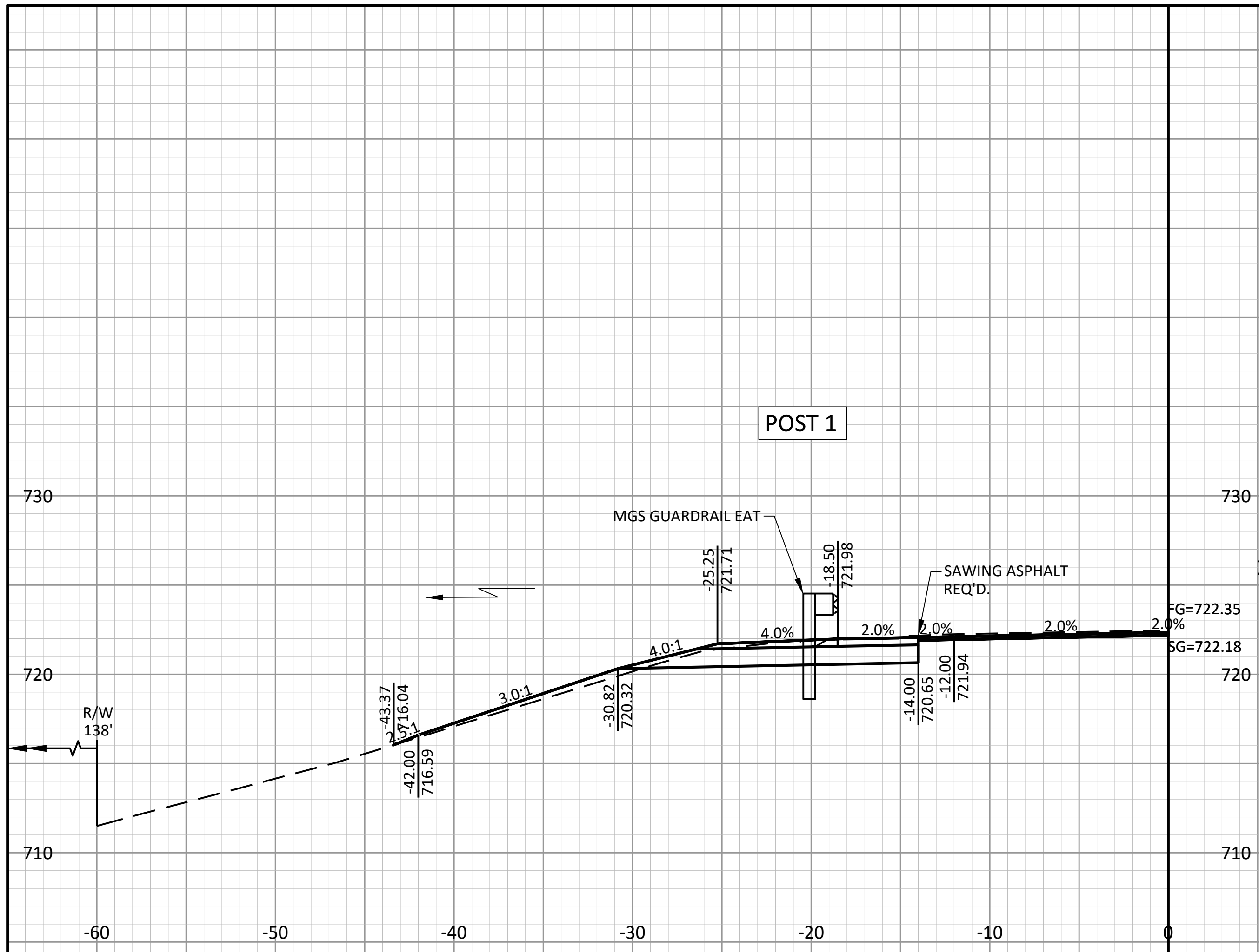


LANE SHIFT IN FLAGGING OPERATION

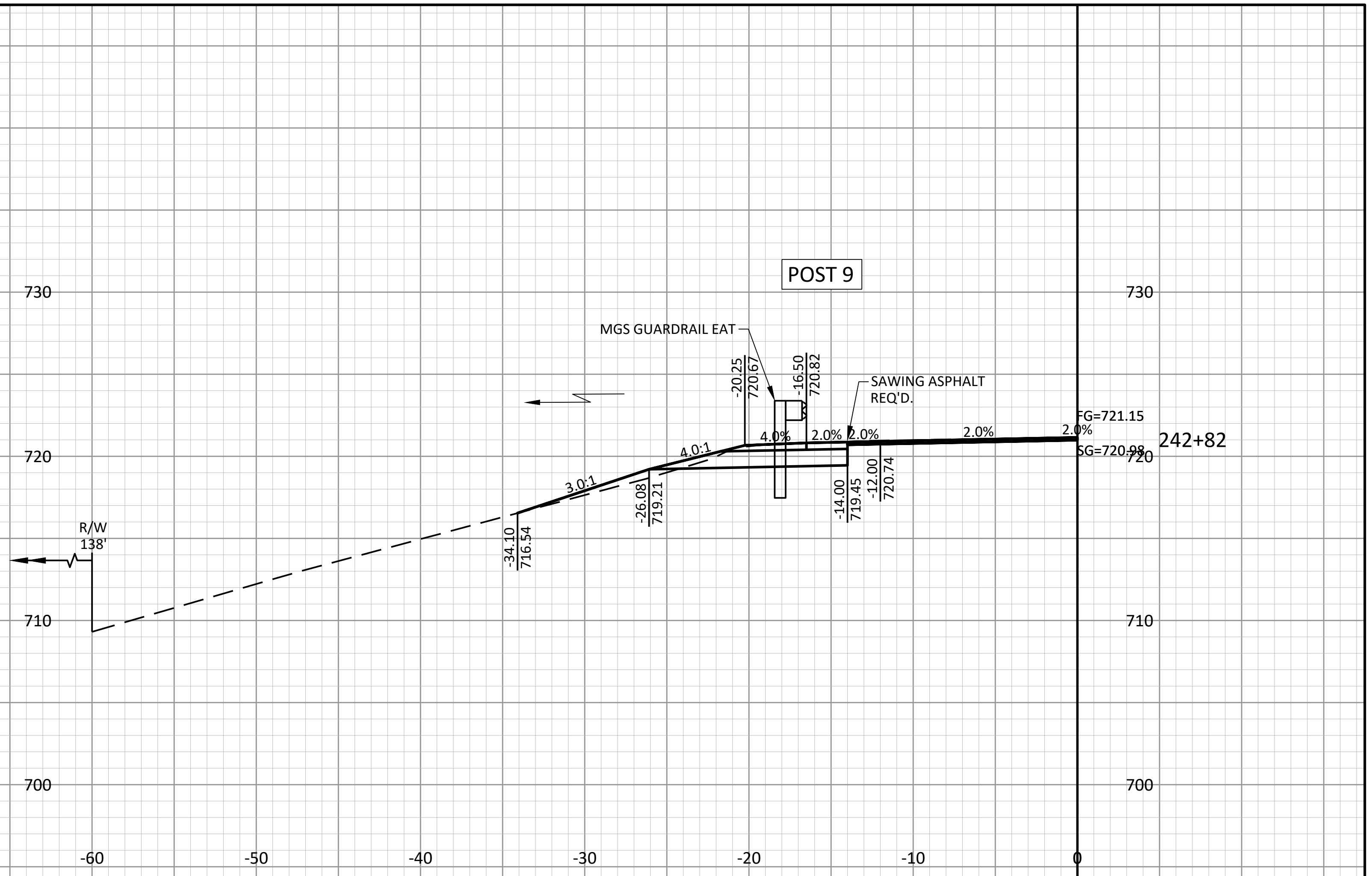
TRAFFIC CONTROL, TEMPORARY LANE SHIFT DURING CULVERT WORK

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2021 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER
FHWA



242+32



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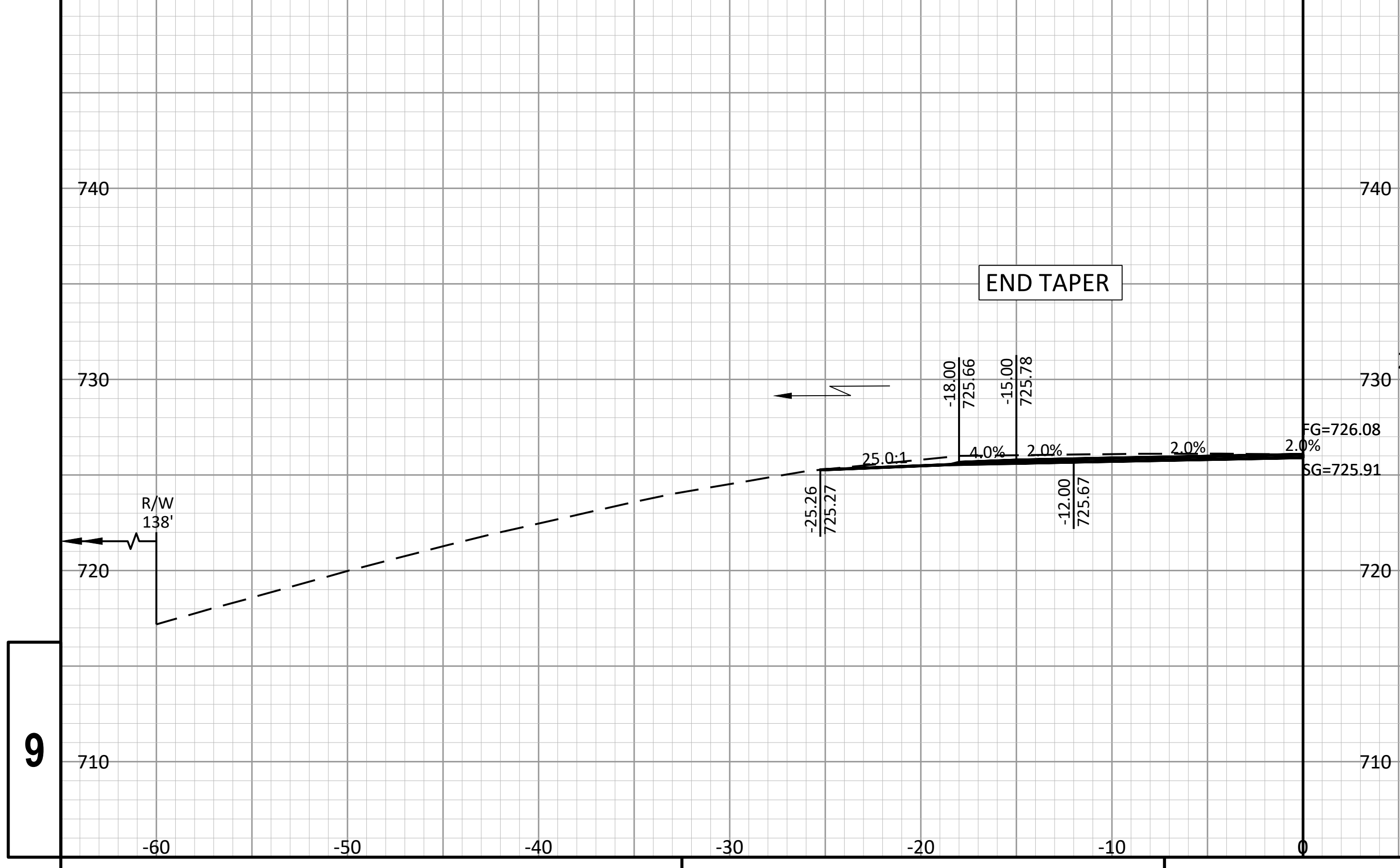

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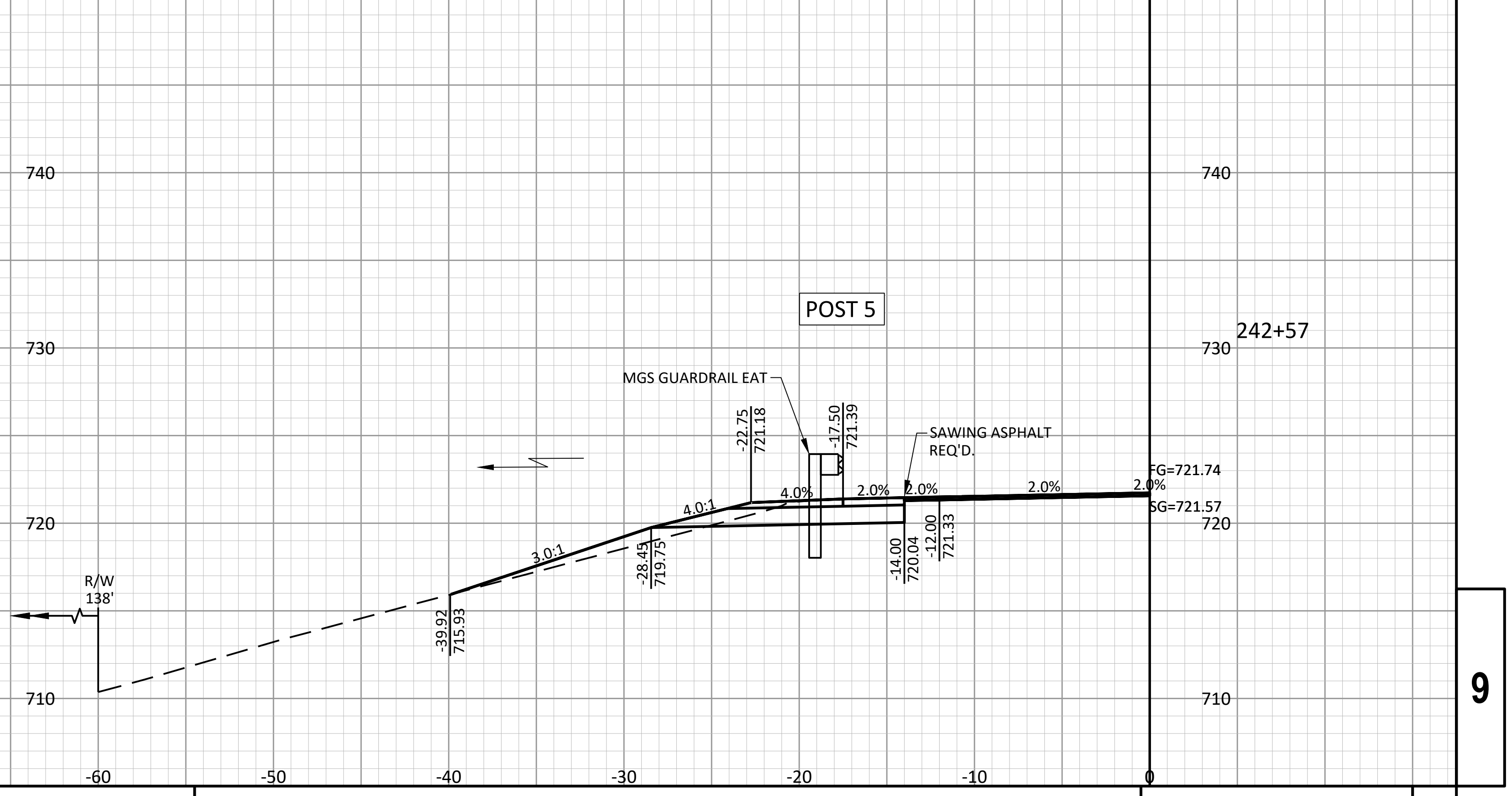


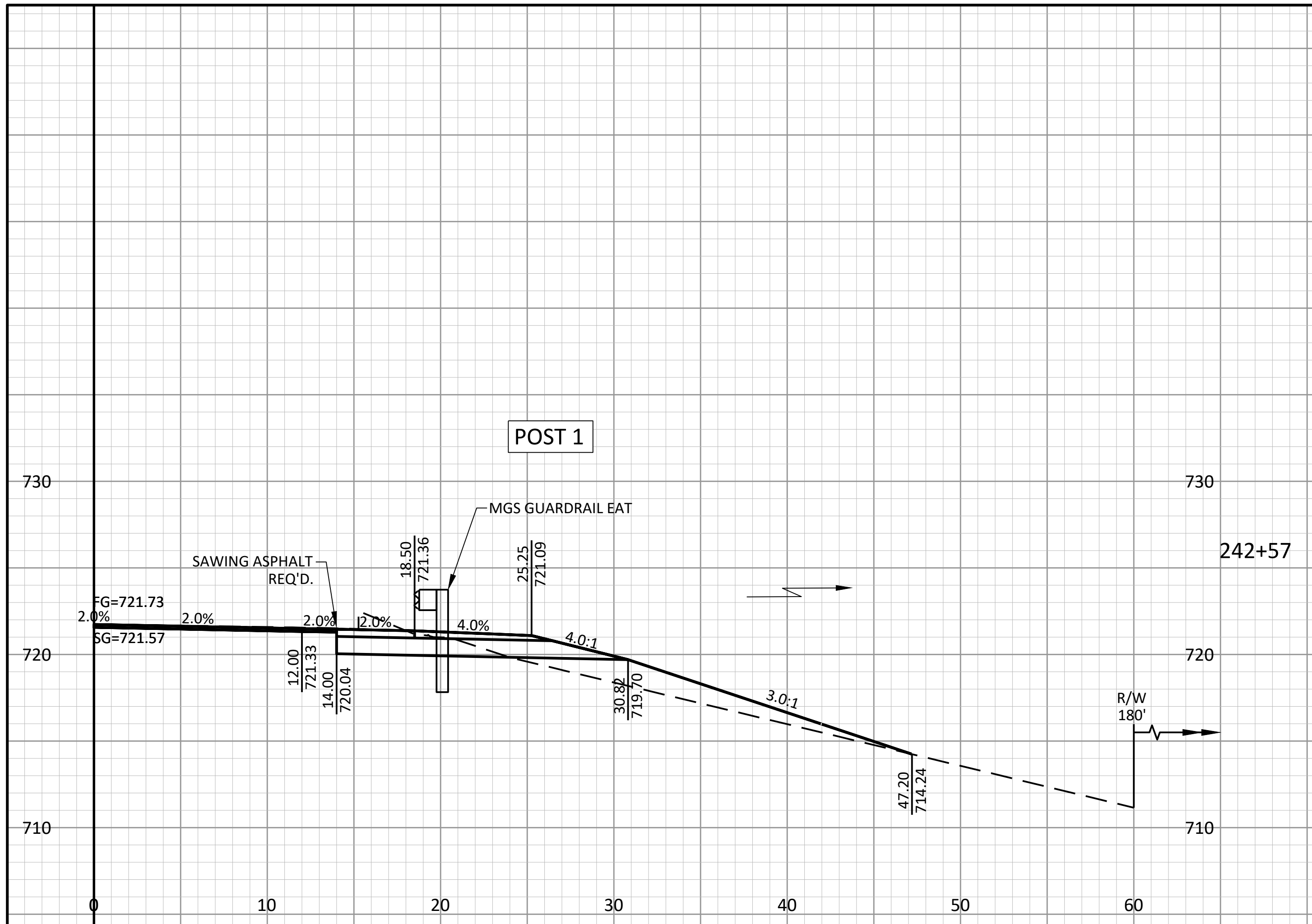
242+57

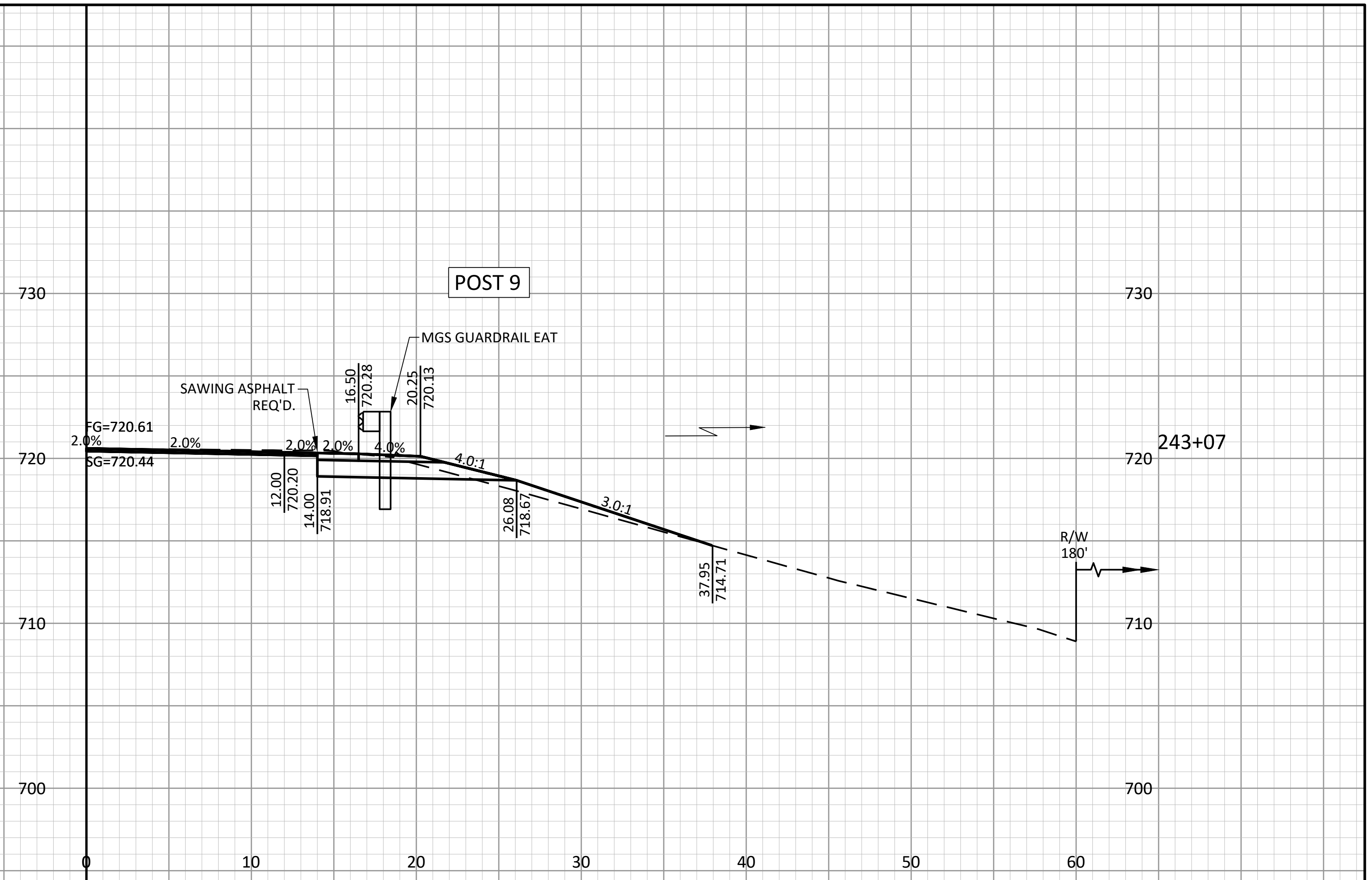
9

9

PROJECT NO: 8510-01-70	HWY: STH 13	COUNTY: DOUGLAS	CROSS SECTIONS: MAINLINE (MGS GUARDRAIL)	SHEET 197 E

FILE NAME : S:\PROJECTS\W11599 WISDOT STH 13, CTH H TO ENGDAHL ROAD DOUGLAS CO\DESIGN\CORRIDORS\STH 13_CORRIDOR.DWG PLOT DATE : 2/4/2022 10:17:57 AM PLOT BY : KARTER ZAJICEK PLOT SCALE : 1" = 1' LAYOUT : B1614 NW BG


POST 1
730
720
710
FG=721.73
SG=721.57
2.0%
2.0%
2.0%
2.0%
4.0%
4.0:1
3.0:1
SAWING ASPHALT REQ'D.
MGS GUARDRAIL EAT
18.50 721.36
25.25 721.09
12.00 721.33
14.00 720.04
30.82 719.70
47.20 714.24
R/W 180'
242+57
0
10
20
30
40
50
60


POST 9
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710
700
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SG=720.44
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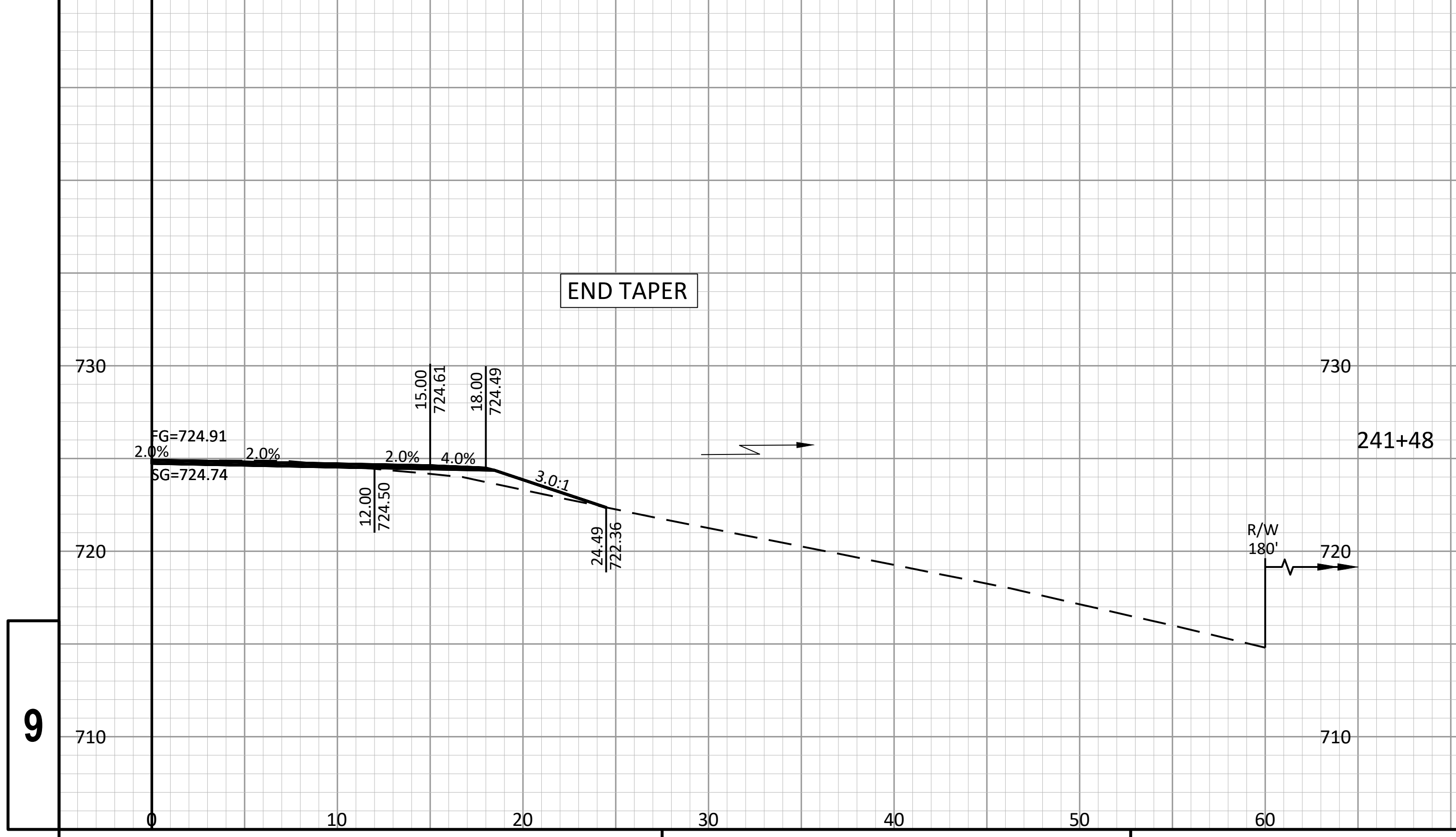
2.0%
2.0%
2.0%
4.0%
4.0:1
3.0:1
SAWING ASPHALT REQ'D.
MGS GUARDRAIL EAT
16.50 720.28
20.25 720.13
12.00 720.20
14.00 718.91
26.08 718.67
37.95 714.71
R/W 180'
243+07
0
10
20
30
40
50
60


END TAPER
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710
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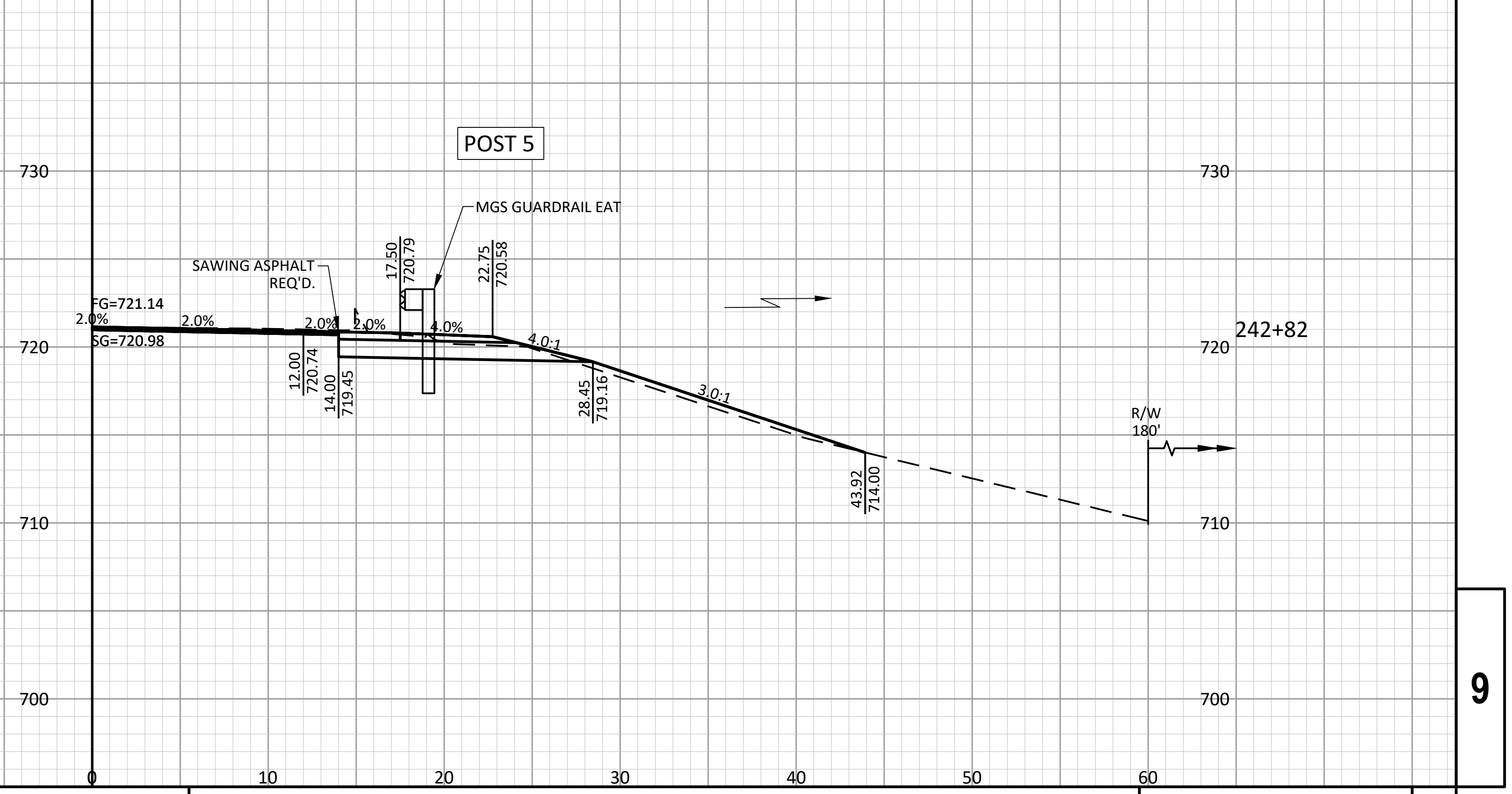
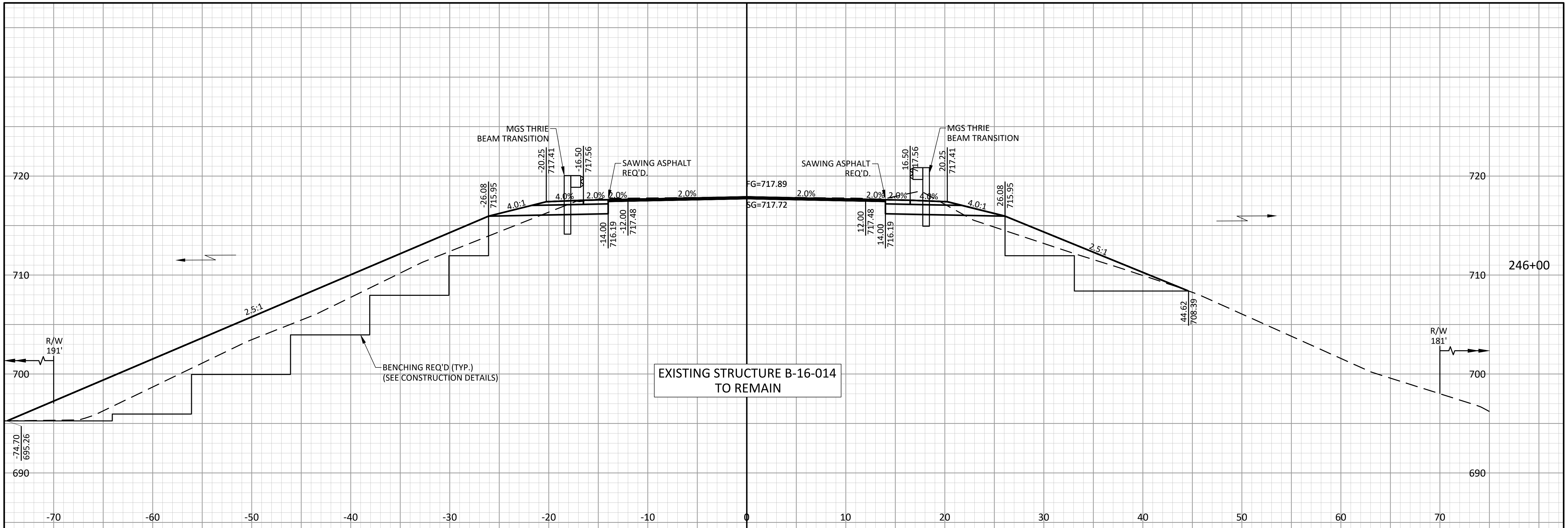
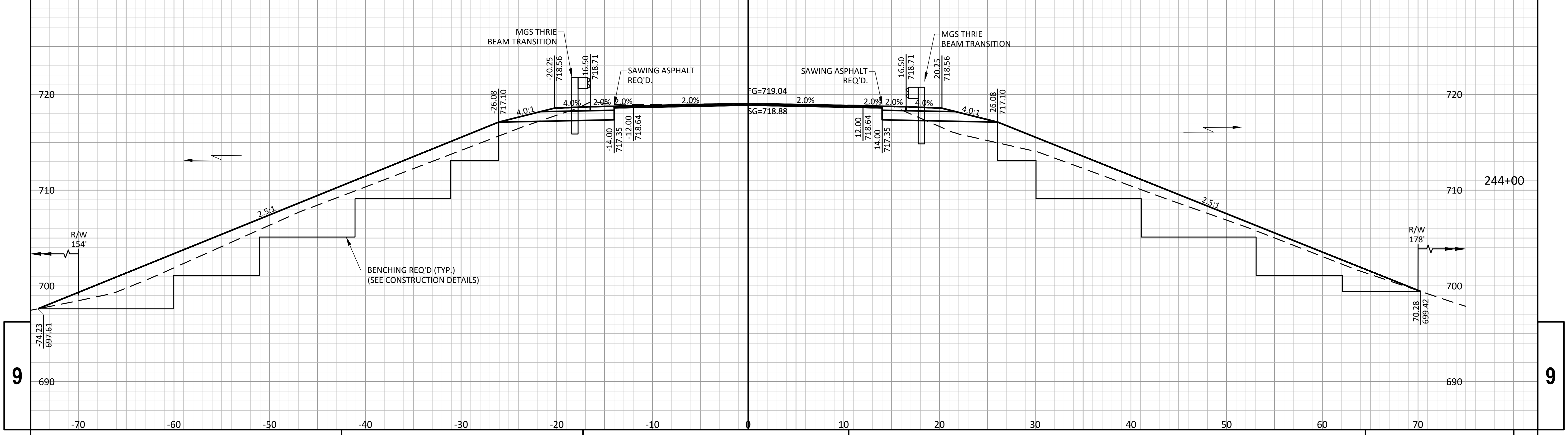
SG=724.74
2.0%
2.0%
2.0%
4.0%
3.0:1
15.00 724.61
18.00 724.49
12.00 724.50
24.49 722.36
R/W 180'
241+48
0
10
20
30
40
50
60


POST 5
730
720
710
700
FG=721.14
SG=720.98
2.0%
2.0%
2.0%
2.0%
4.0%
4.0:1
3.0:1
SAWING ASPHALT REQ'D.
MGS GUARDRAIL EAT
17.50 720.79
22.75 720.58
12.00 720.74
14.00 719.45
28.45 719.16
43.92 714.00
R/W 180'
242+82
0
10
20
30
40
50
60





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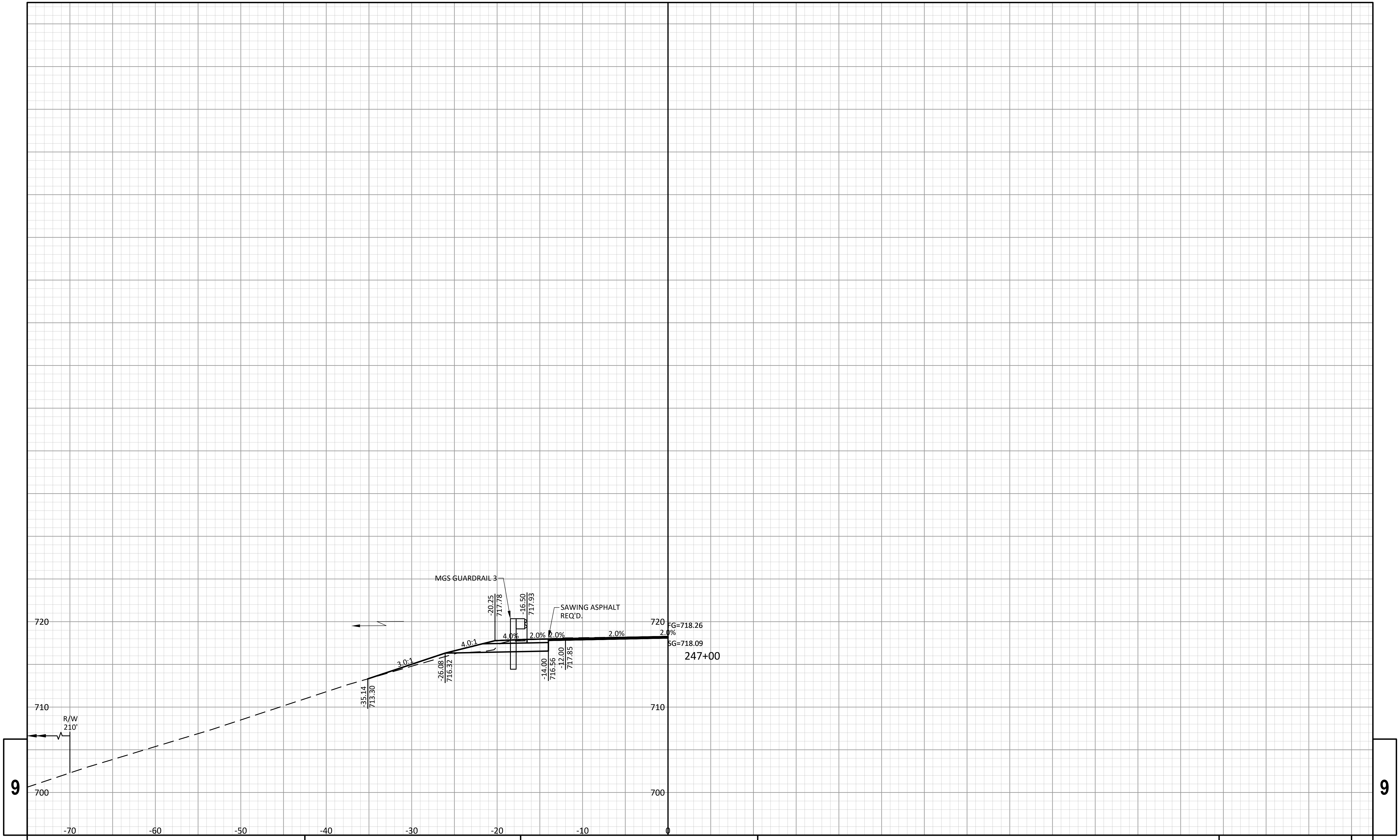
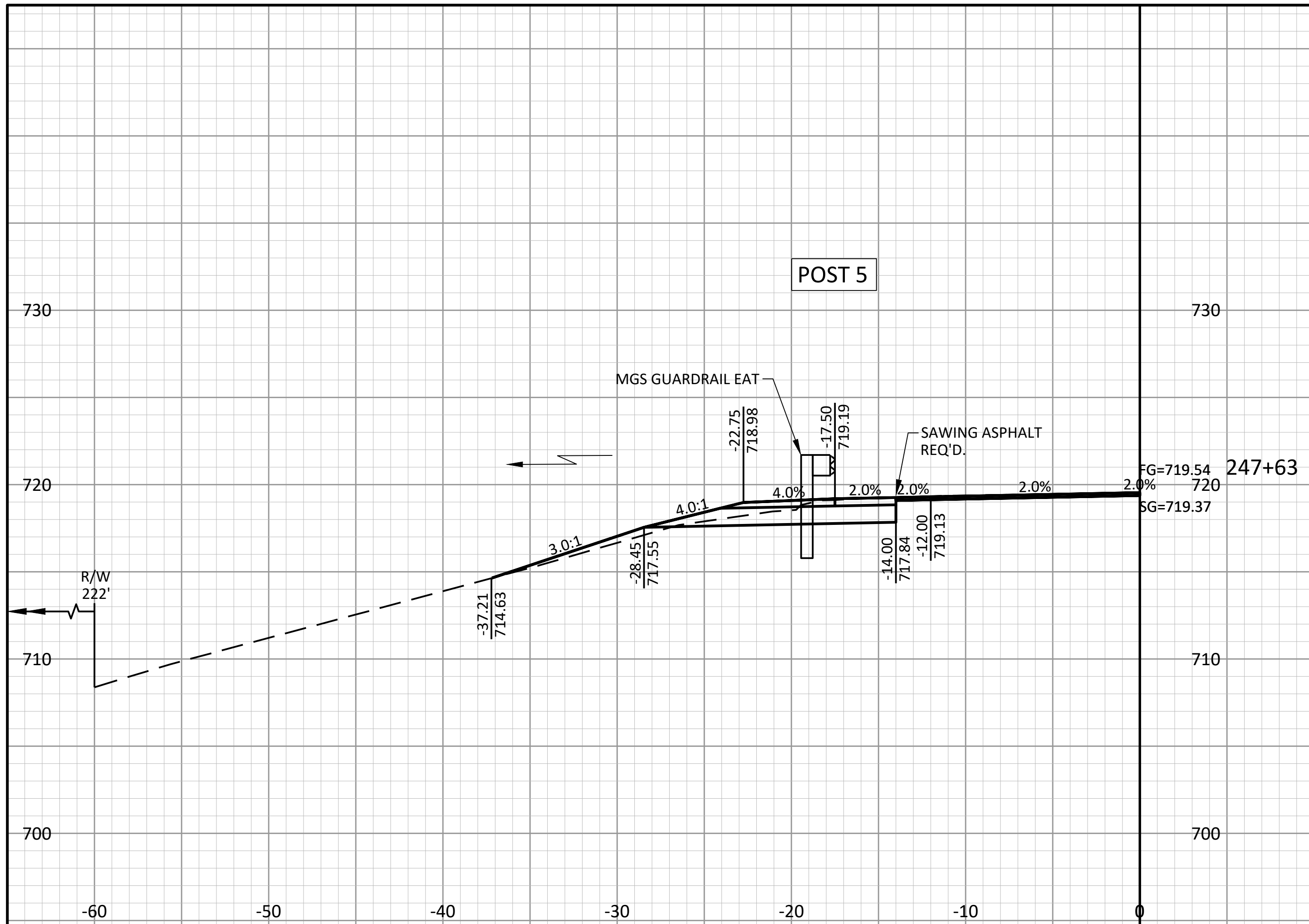
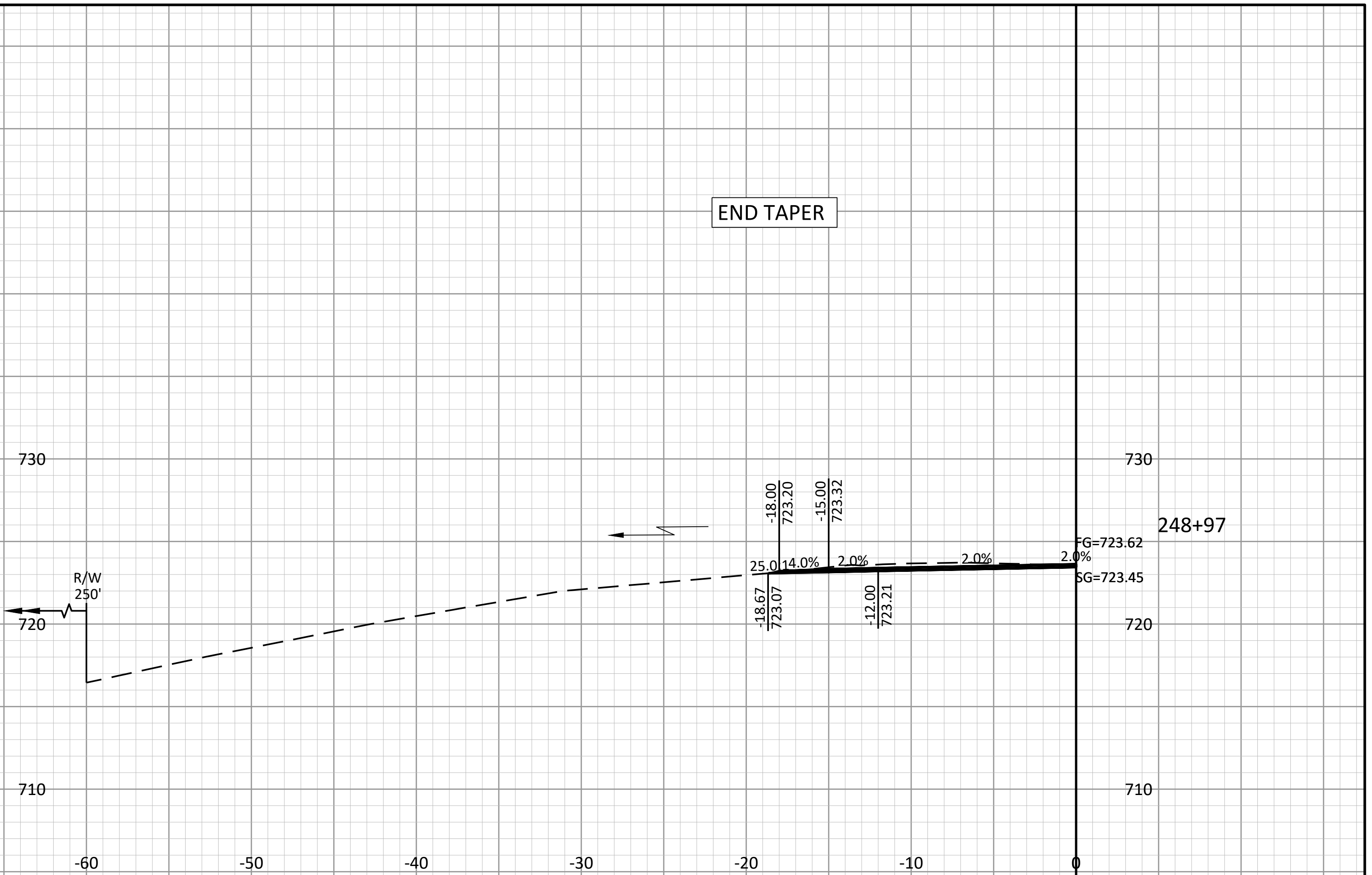
PROJECT NO: 8510-01-70	HWY: STH 13	COUNTY: DOUGLAS	CROSS SECTIONS: MAINLINE (MGS GUARDRAIL)	SHEET	E

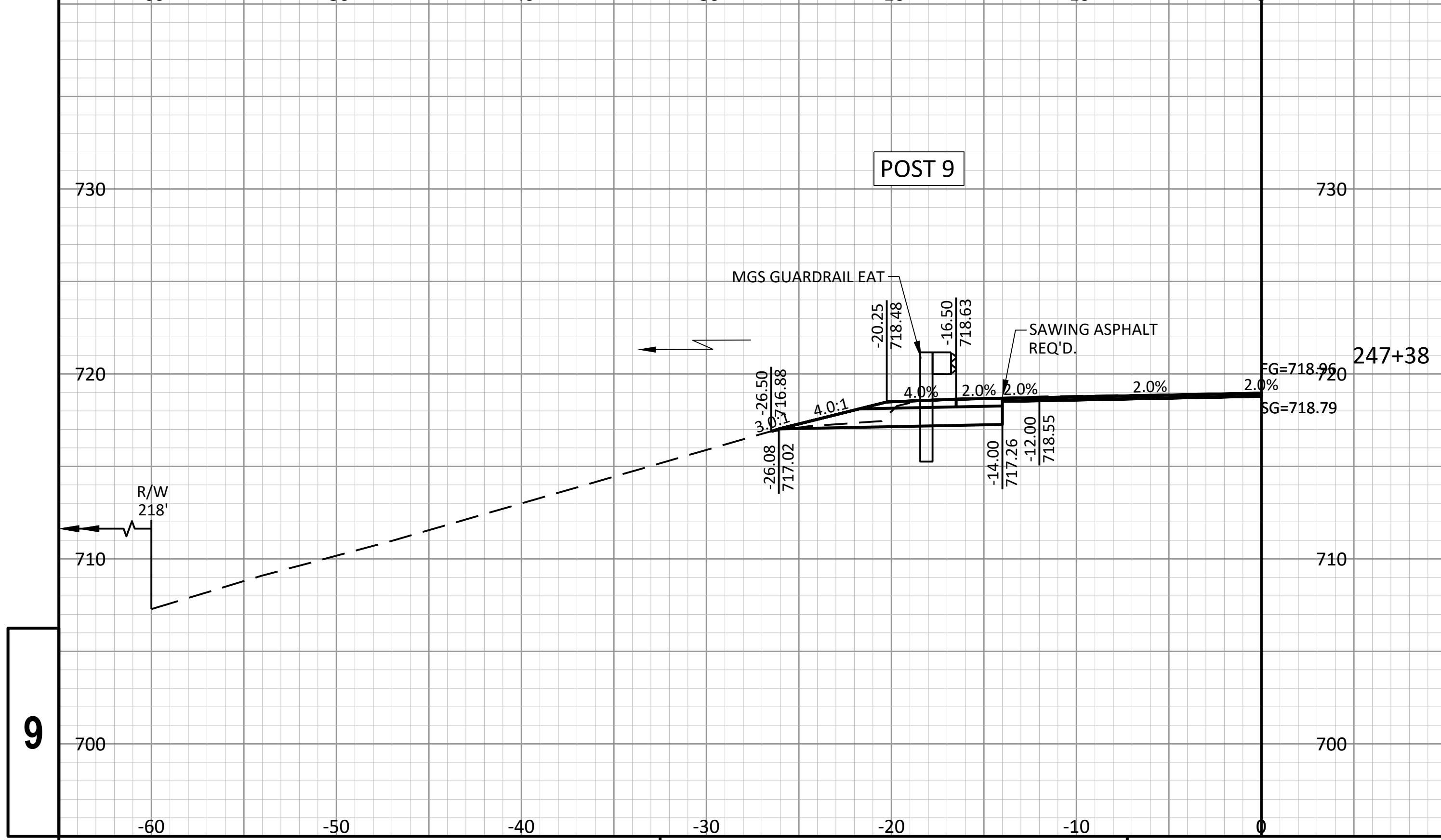


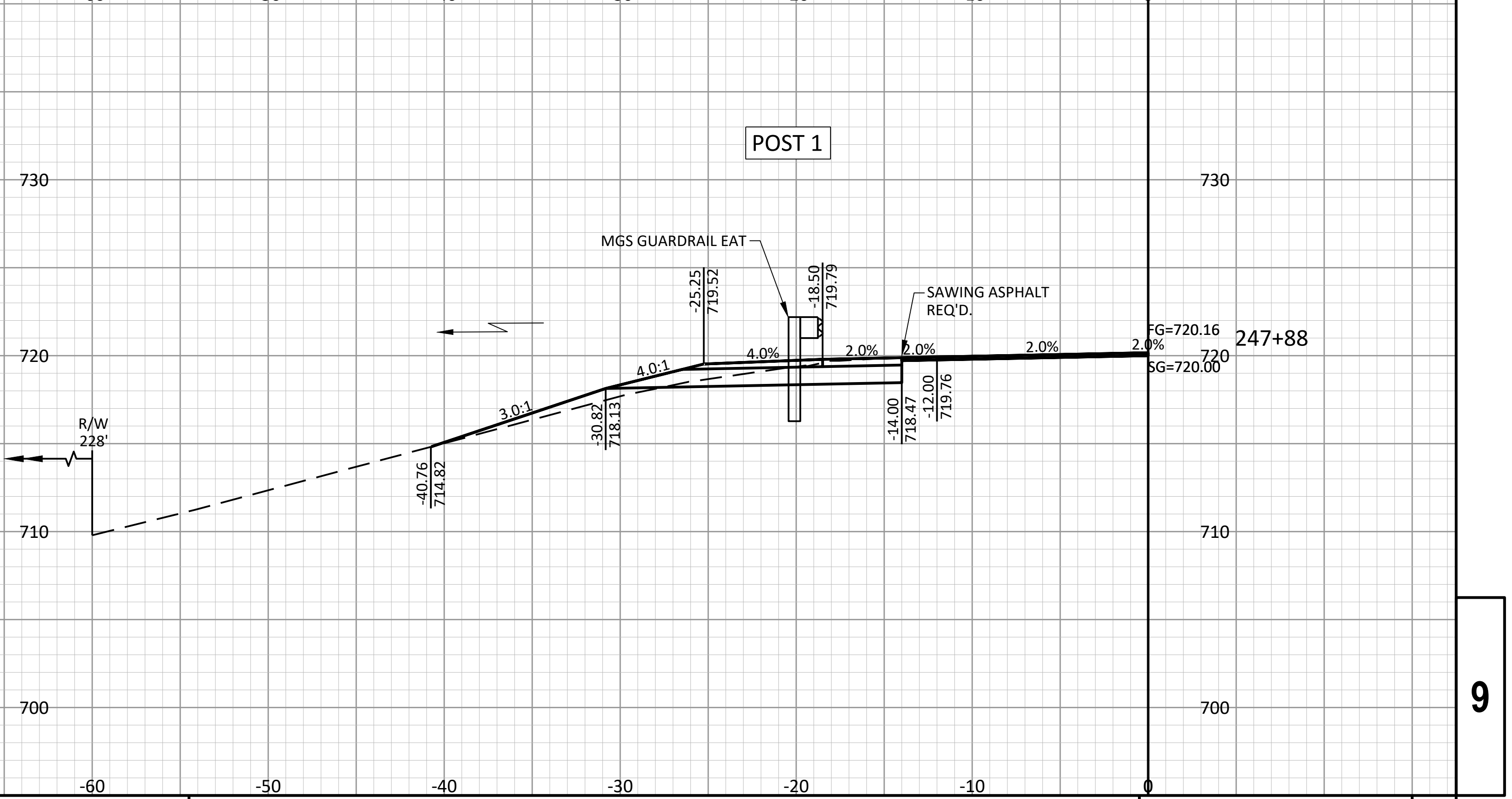
PROJECT NO: 8510-01-70 | HWY: STH 13 | COUNTY: DOUGLAS | CROSS SECTIONS: MAINLINE (MGS GUARDRAIL) | SHEET 200 | E

FILE NAME : S:\PROJECTS\W11599 WISDOT STH 13, CTH H TO ENGDAHL ROAD DOUGLAS CO\DESIGN\CORRIDORS\STH 13_CORRIDOR.DWG PLOT DATE : 2/4/2022 10:19:04 AM PLOT BY : KARTER ZAJICEK PLOT SCALE : 1" = 1' LAYOUT : B-16-14 MGS - 2





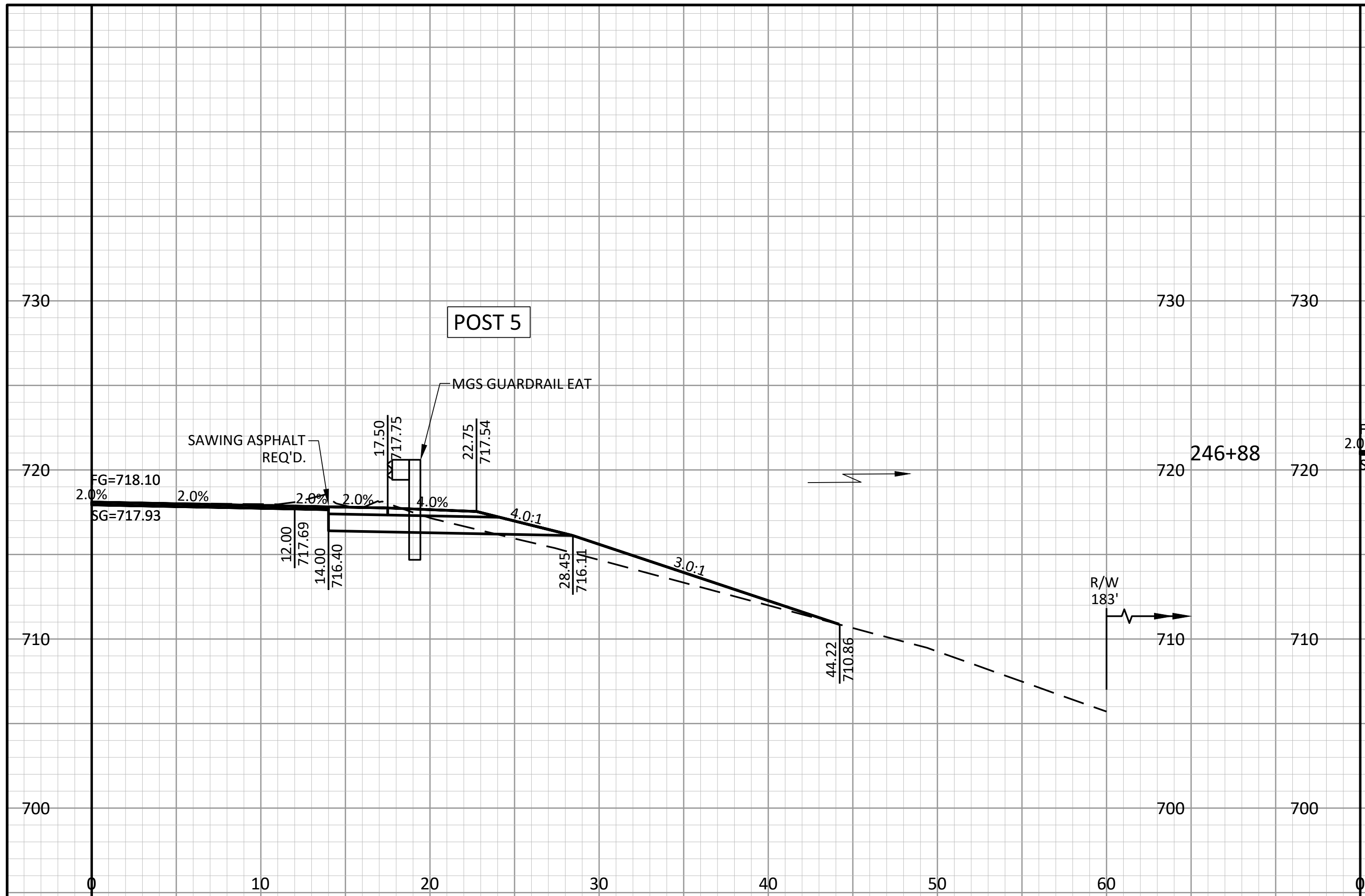


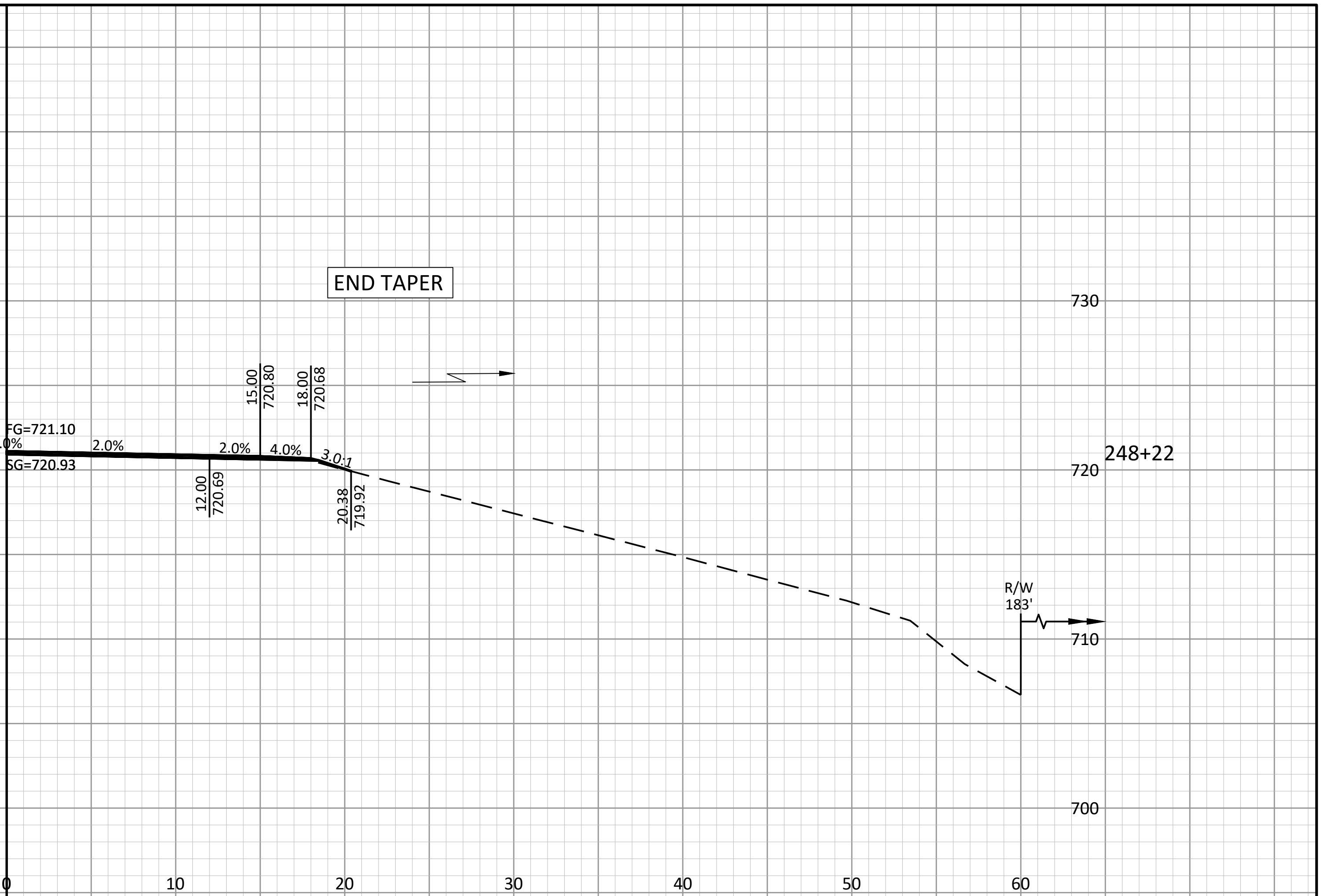


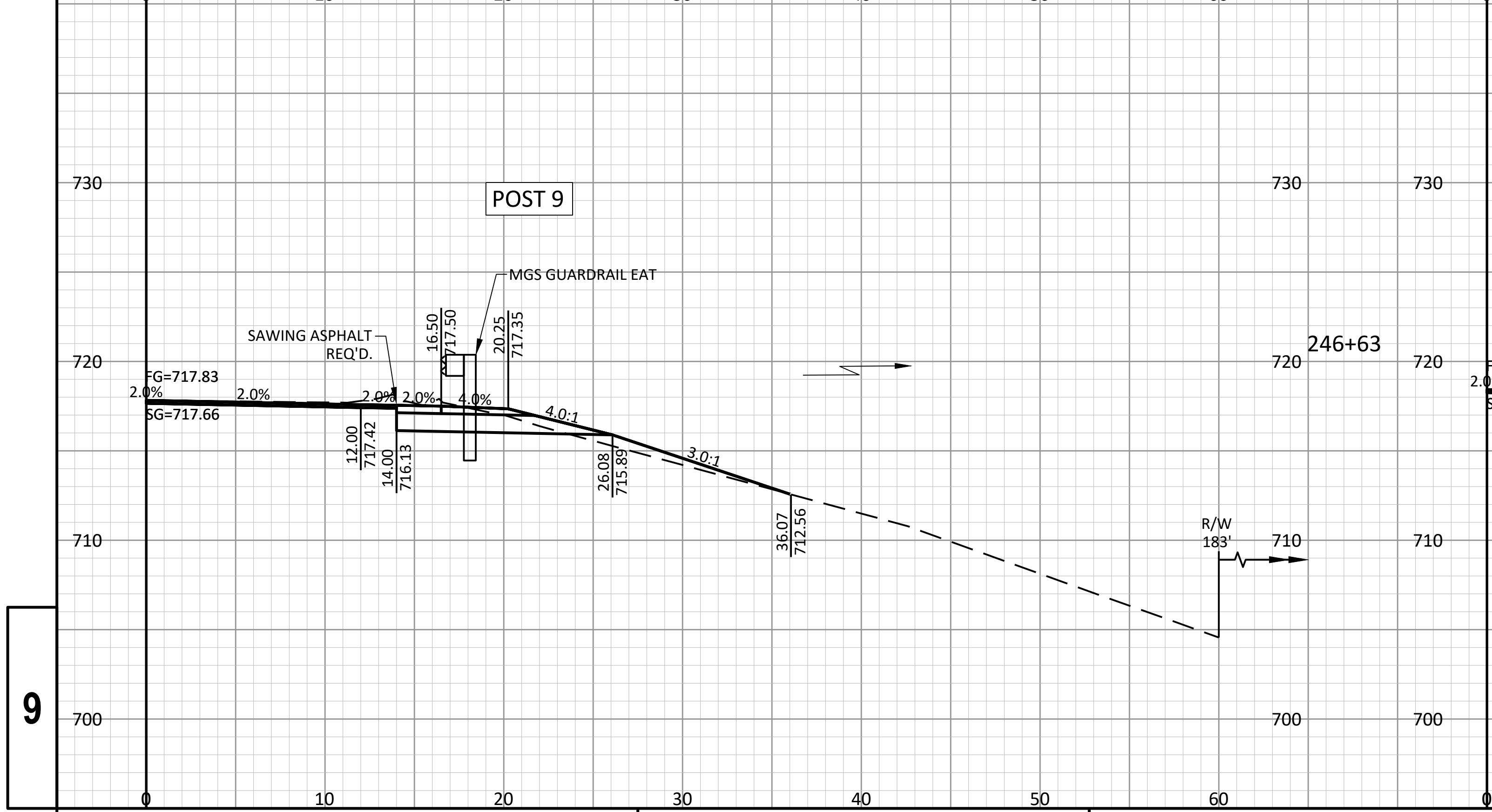
PROJECT NO: 8510-01-70	HWY: STH 13	COUNTY: DOUGLAS	CROSS SECTIONS: MAINLINE (MGS GUARDRAIL)	SHEET	E

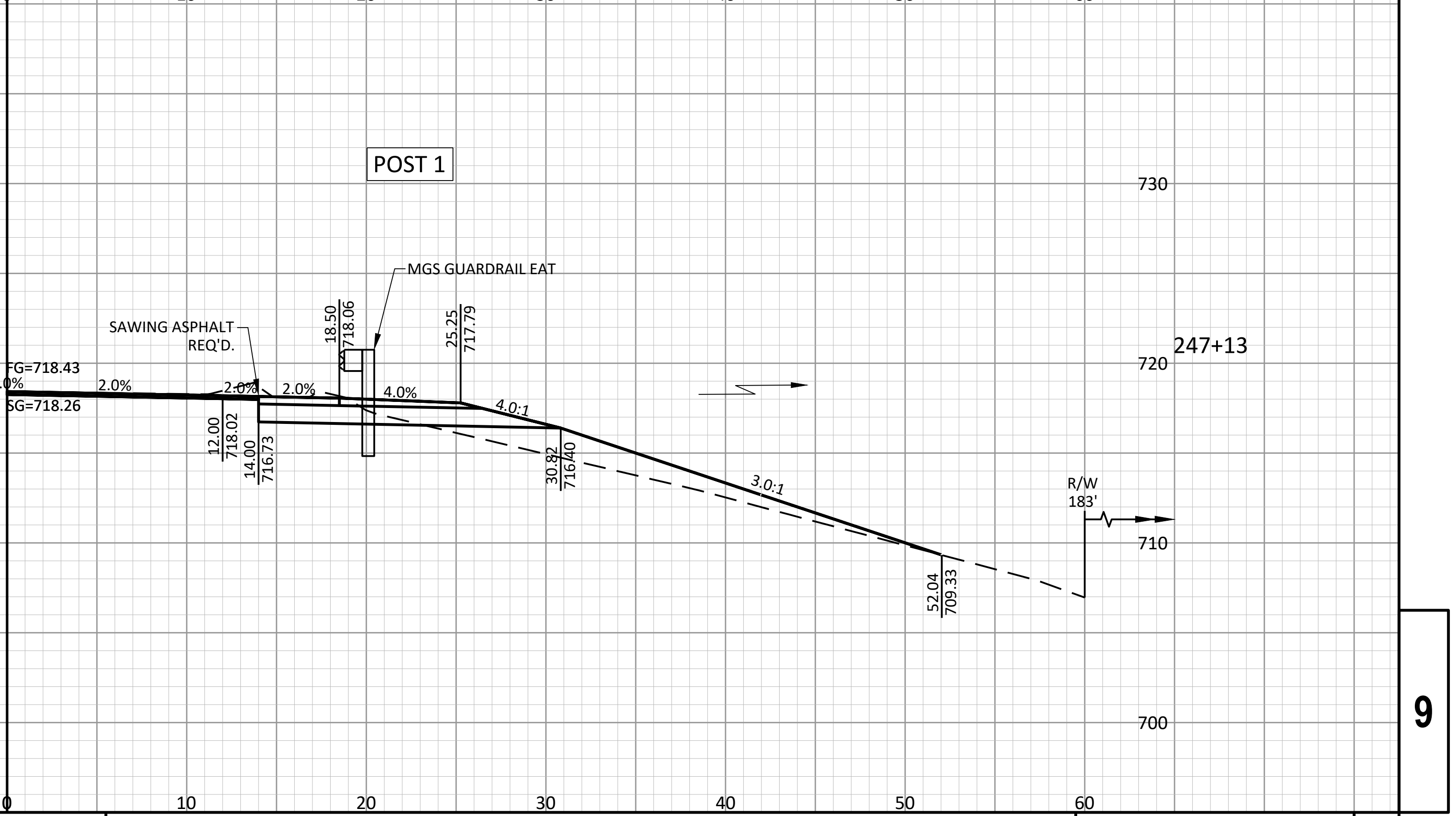
FILE NAME : S:\PROJECTS\W11599 WISDOT STH 13, CTH H TO ENGDAHL ROAD DOUGLAS CO\DESIGN\CORRIDORS\STH 13_CORRIDOR.DWG PLOT DATE : 2/4/2022 10:19:24 AM PLOT BY : KARTER ZAJICEK PLOT SCALE : 1" = 1' LAYOUT : B1614 NE BG

9









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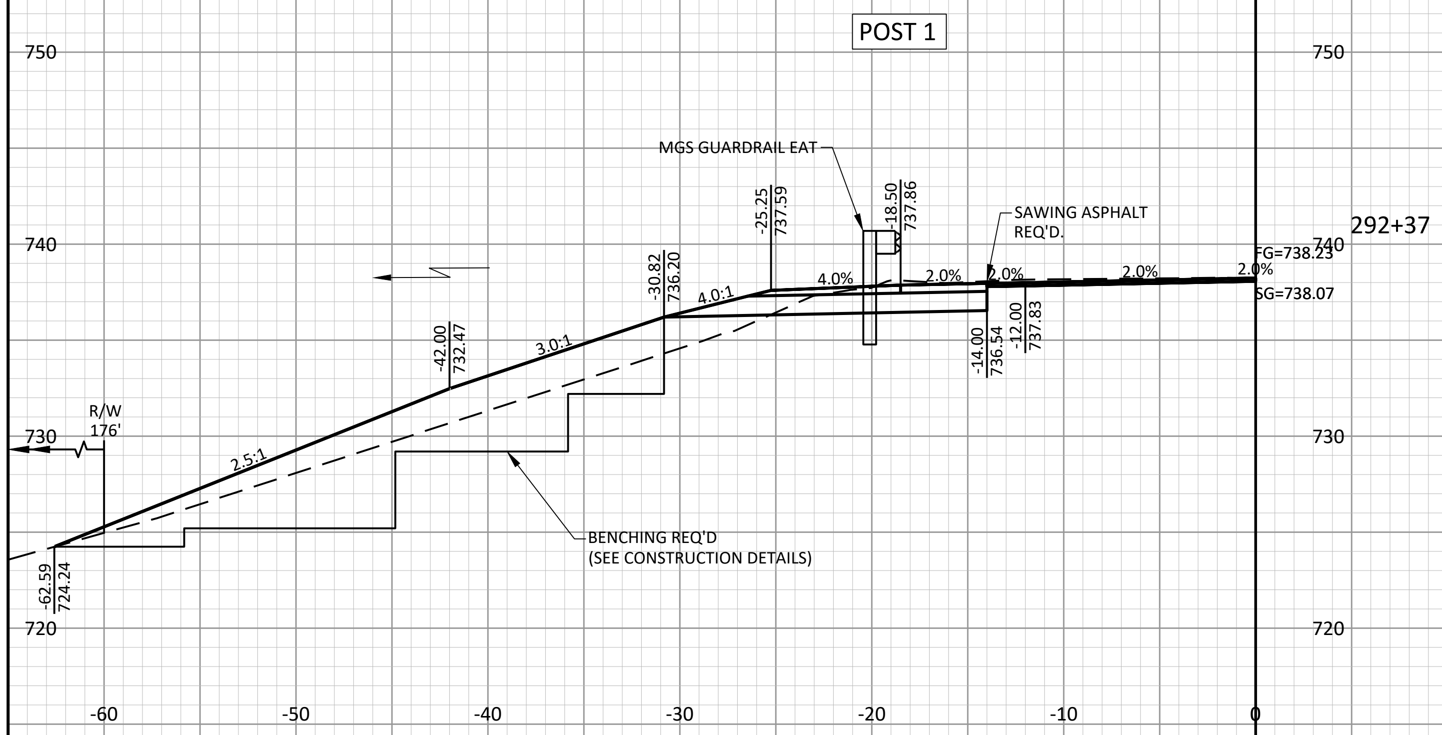
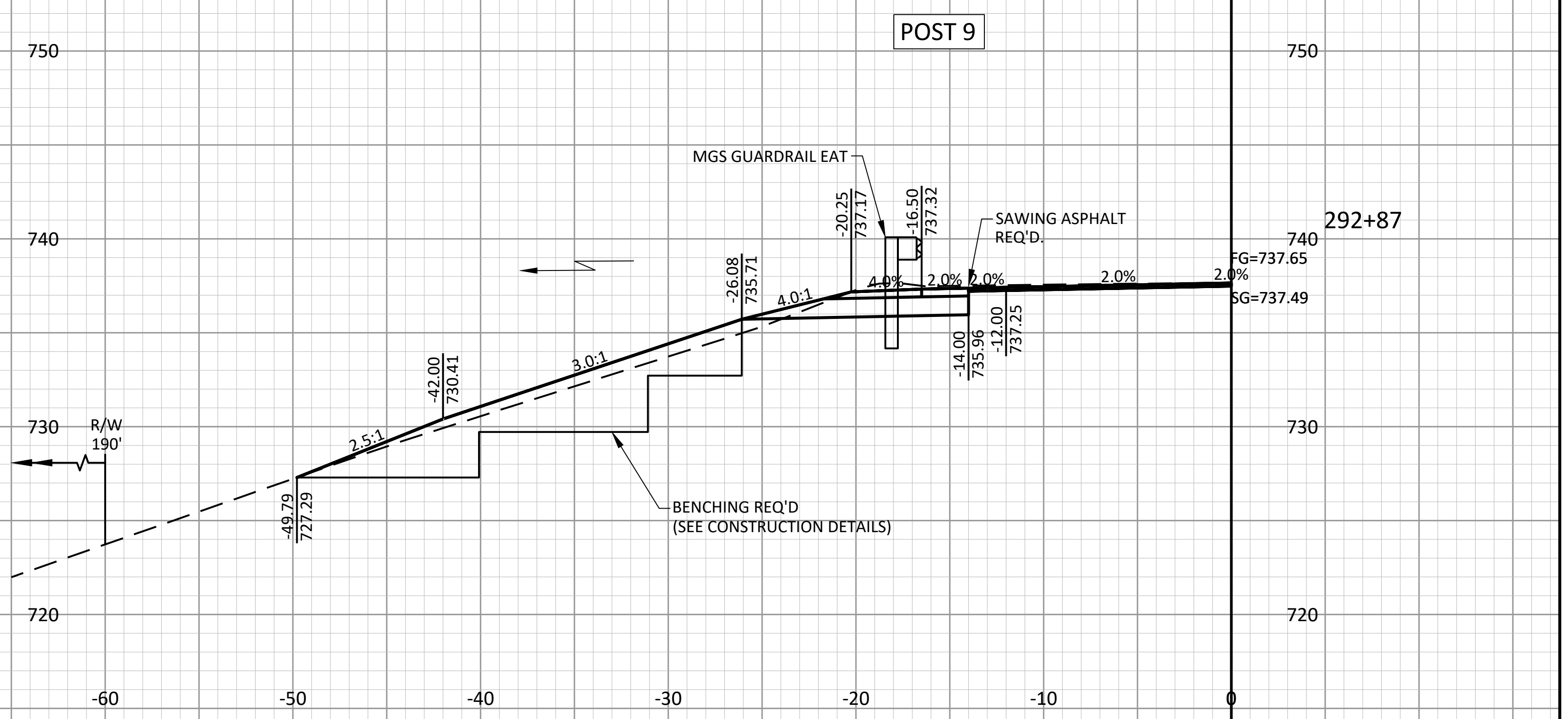
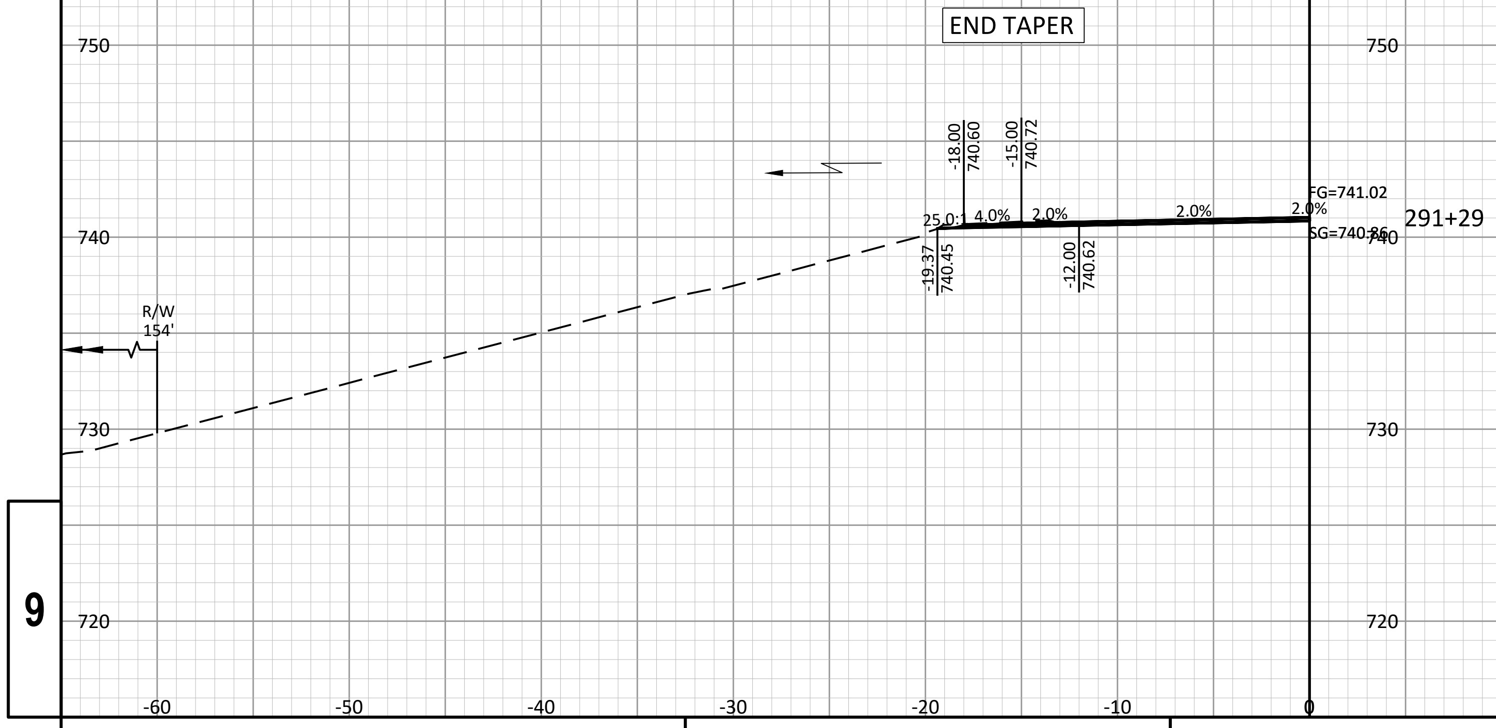
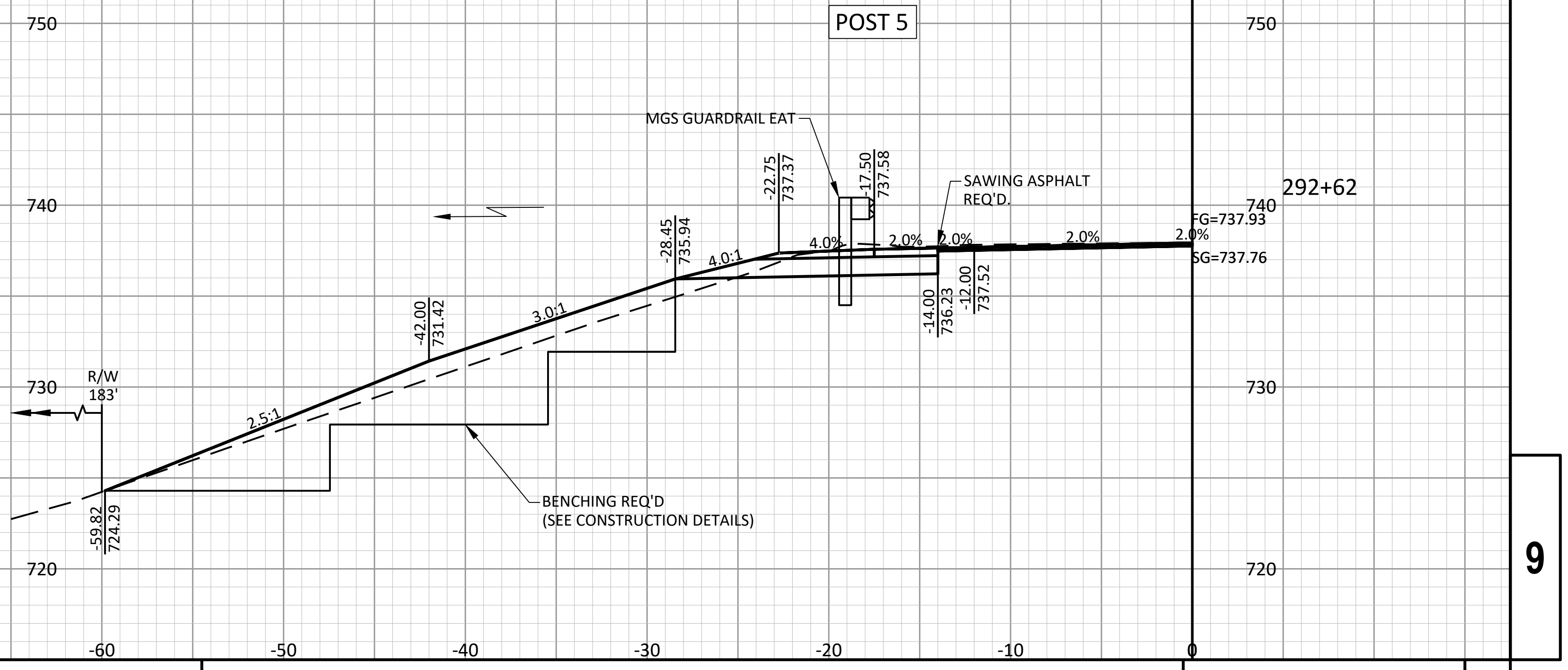
PROJECT NO: 8510-01-70	HWY: STH 13	COUNTY: DOUGLAS	CROSS SECTIONS: MAINLINE (MGS GUARDRAIL)	SHEET 202	E

FILE NAME : S:\PROJECTS\W11599 WISDOT STH 13, CTH H TO ENGDAHL ROAD DOUGLAS CO\DESIGN\CORRIDORS\STH 13_CORRIDOR.DWG PLOT DATE : 2/4/2022 10:19:44 AM PLOT BY : KARTER ZAJICEK PLOT SCALE : 1" = 1' LAYOUT : B1614 SE BG









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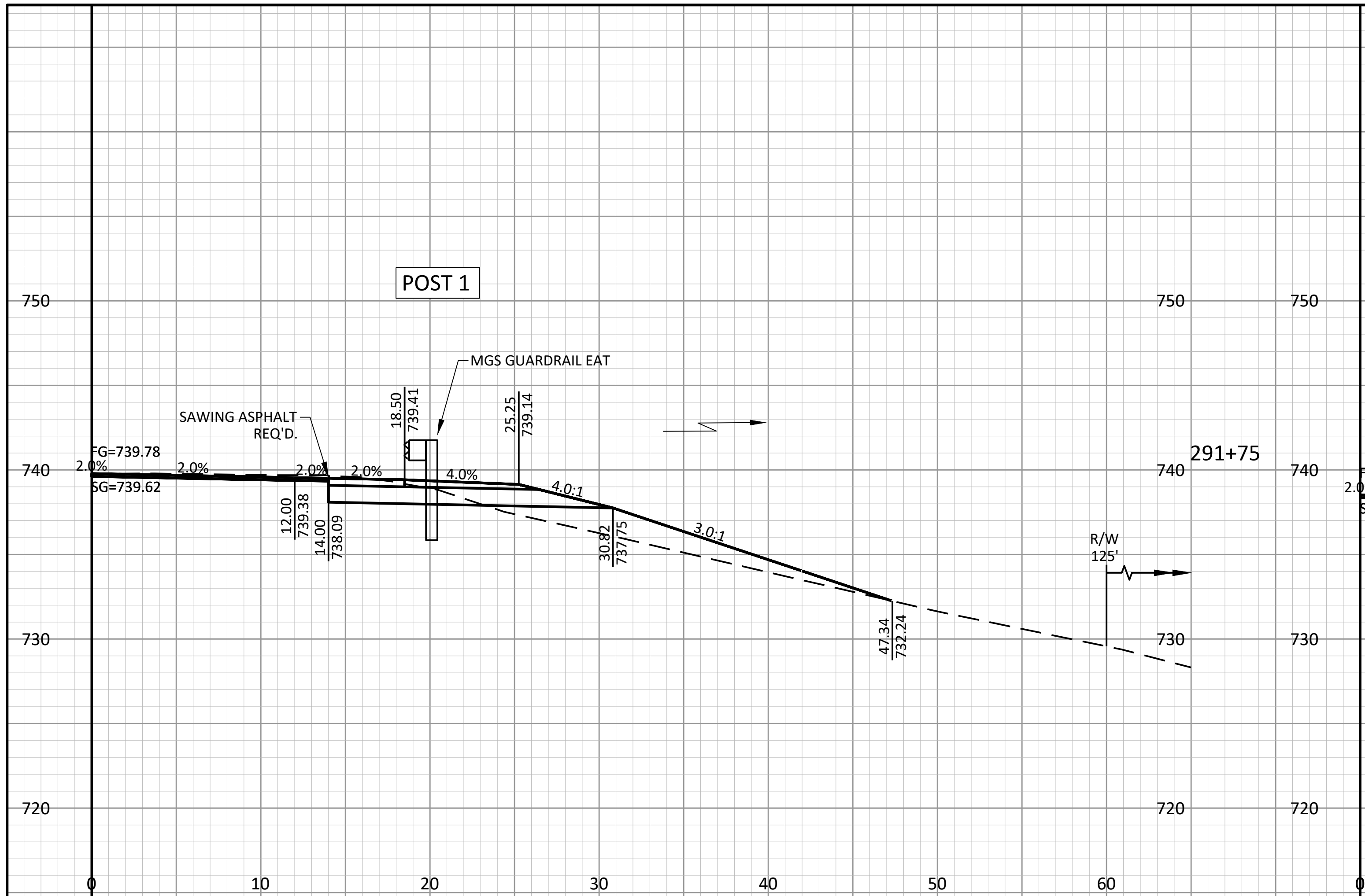
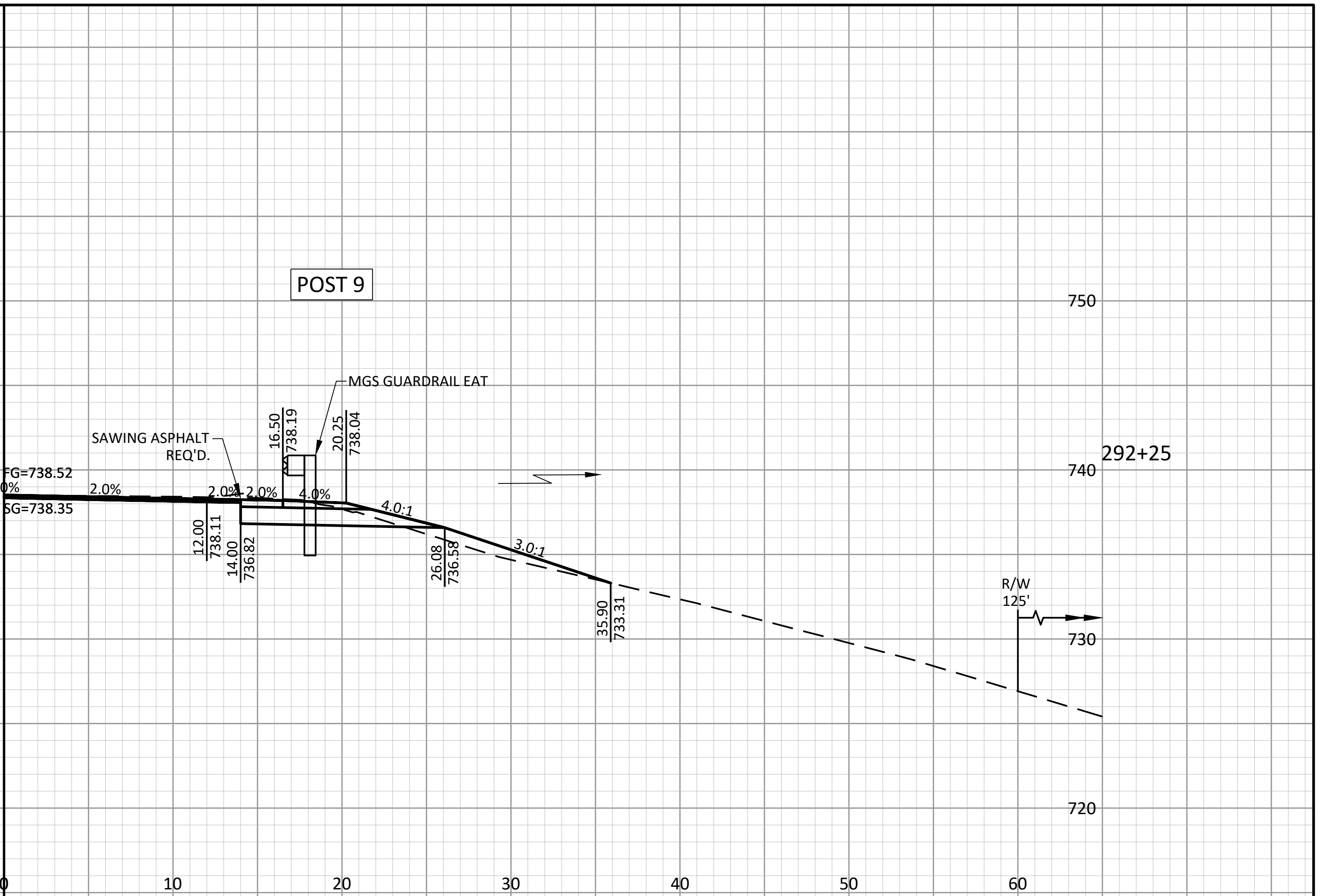
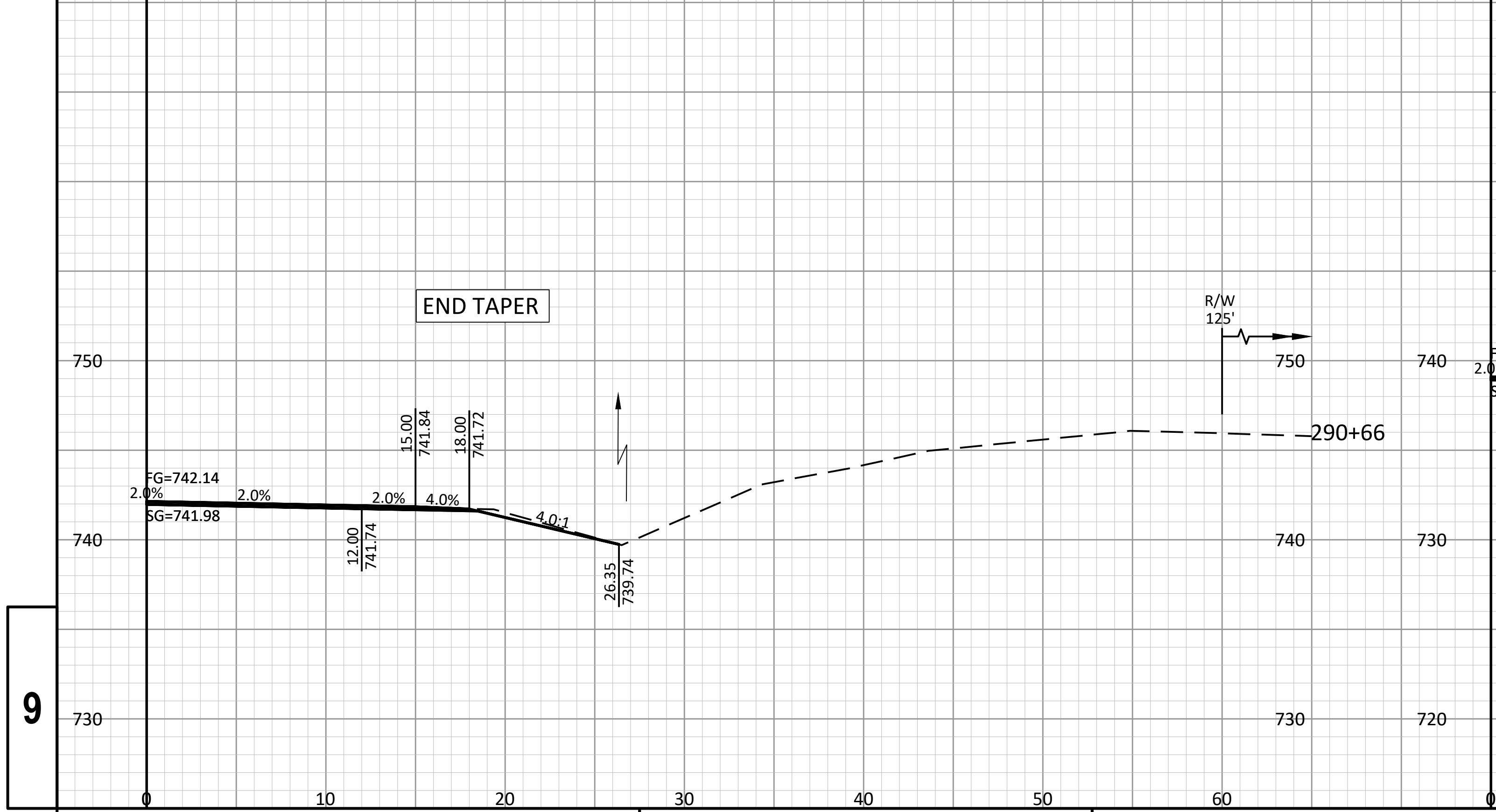
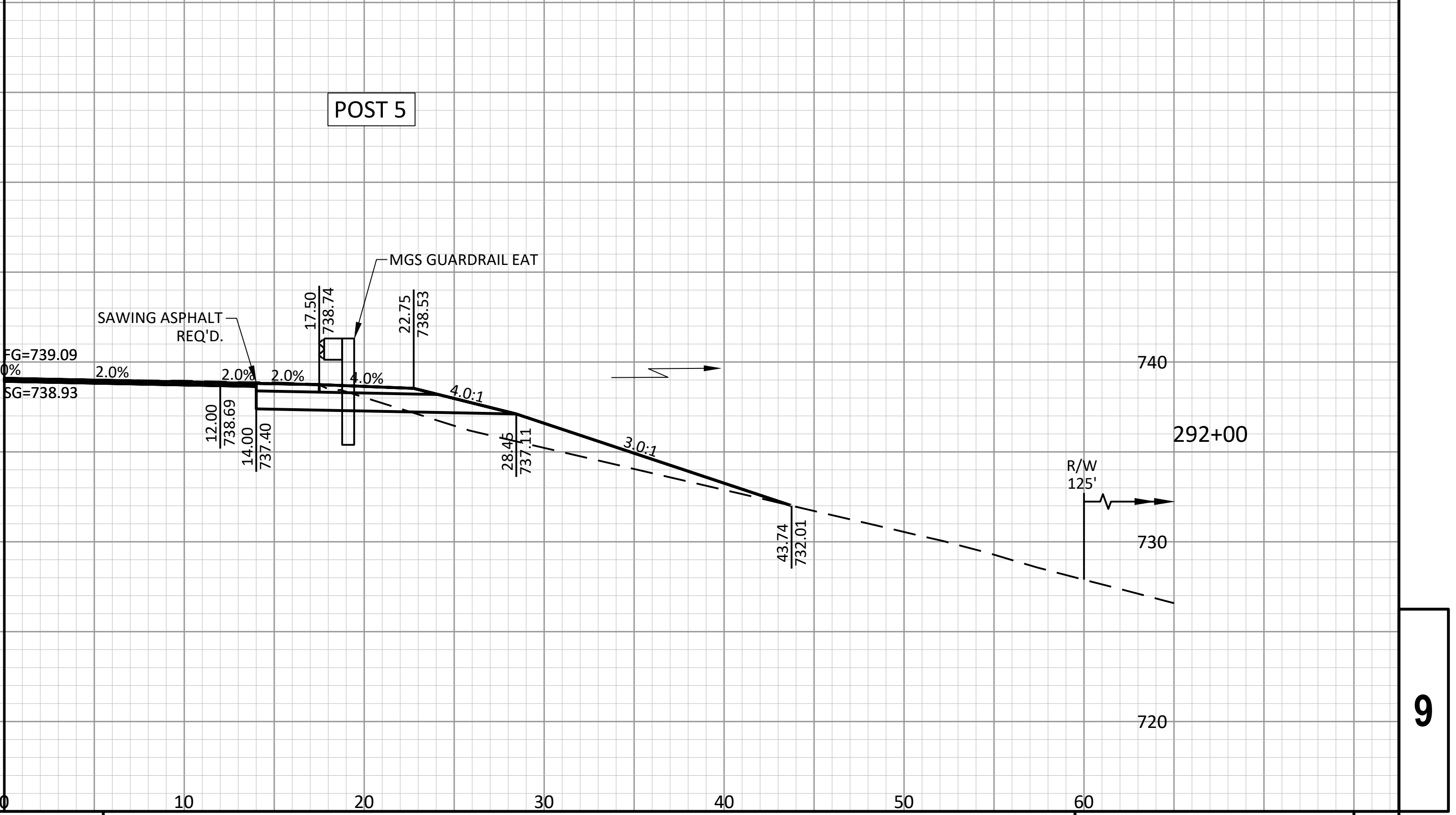
PROJECT NO: 8510-01-70 | HWY: STH 13 | COUNTY: DOUGLAS | CROSS SECTIONS: MAINLINE (MGS GUARDRAIL) | SHEET | E

FILE NAME : S:\PROJECTS\W11599 WISDOT STH 13, CTH H TO ENGDAHL ROAD DOUGLAS CO\DESIGN\CORRIDORS\STH 13_CORRIDOR.DWG PLOT DATE : 2/4/2022 10:20:09 AM PLOT BY : KARTER ZAJICEK PLOT SCALE : 1" = 1' LAYOUT : B1615 NW BG









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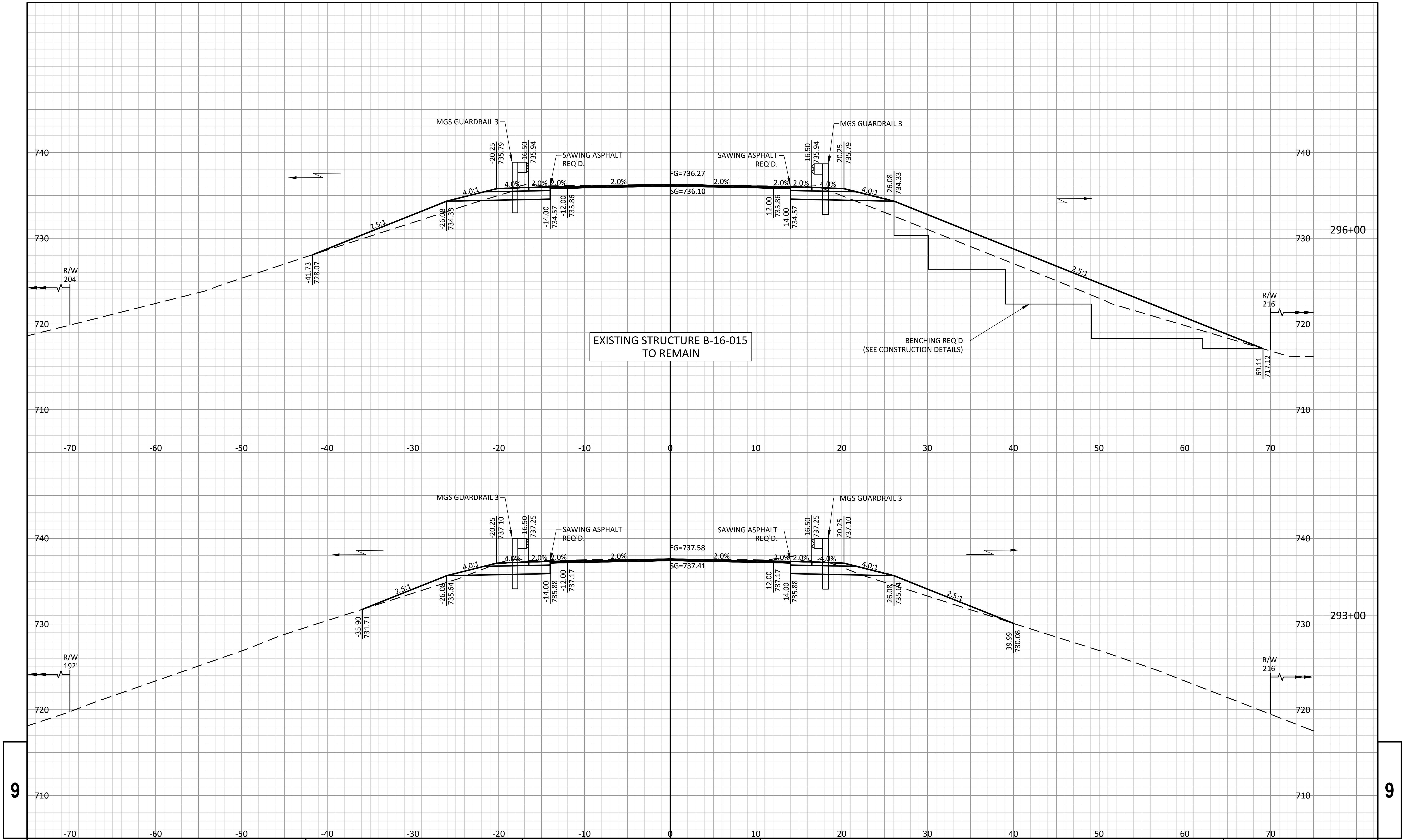
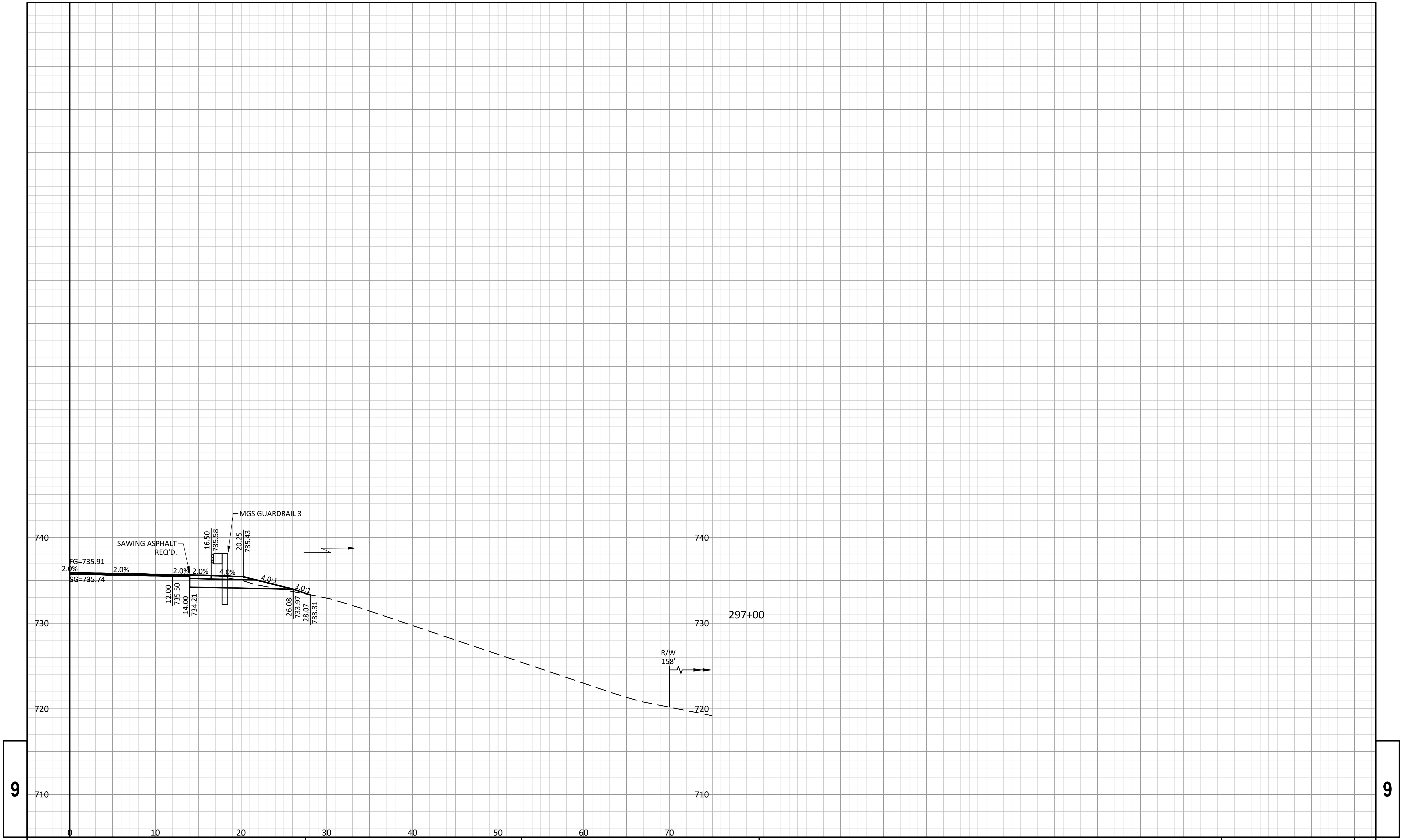
PROJECT NO: 8510-01-70 | HWY: STH 13 | COUNTY: DOUGLAS | CROSS SECTIONS: MAINLINE (MGS GUARDRAIL) | SHEET 204 | E



PROJECT NO: 8510-01-70	HWY: STH 13	COUNTY: DOUGLAS	CROSS SECTIONS: MAINLINE (MGS GUARDRAIL)	SHEET 205	E

FILE NAME : S:\PROJECTS\W11599 WISDOT STH 13, CTH H TO ENGDAHL ROAD DOUGLAS CO\DESIGN\CORRIDORS\STH 13_CORRIDOR.DWG PLOT DATE : 2/4/2022 10:20:59 AM PLOT BY : KARTER ZAJICEK PLOT SCALE : 1" = 1' LAYOUT : B-16-15 MGS - 1



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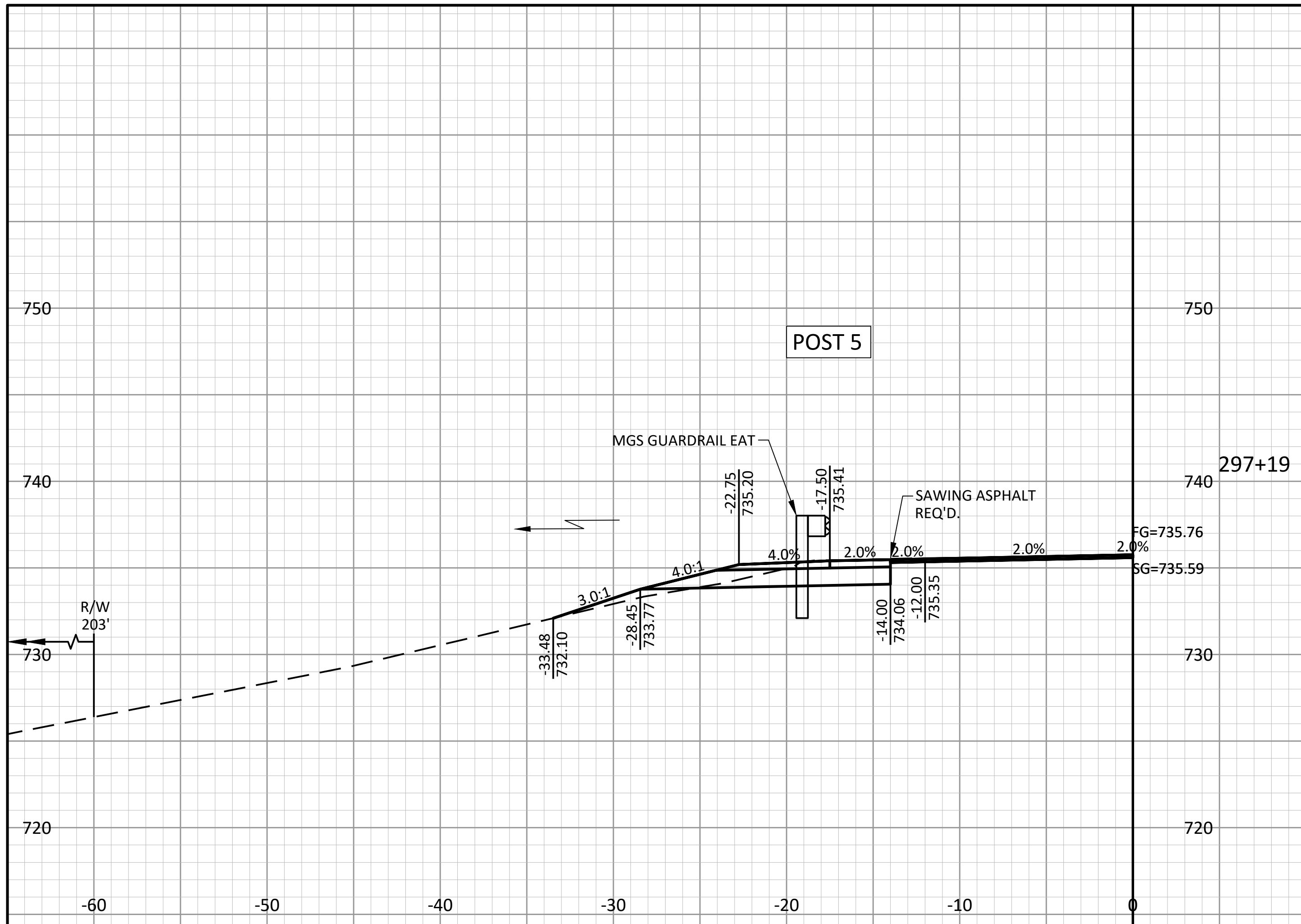
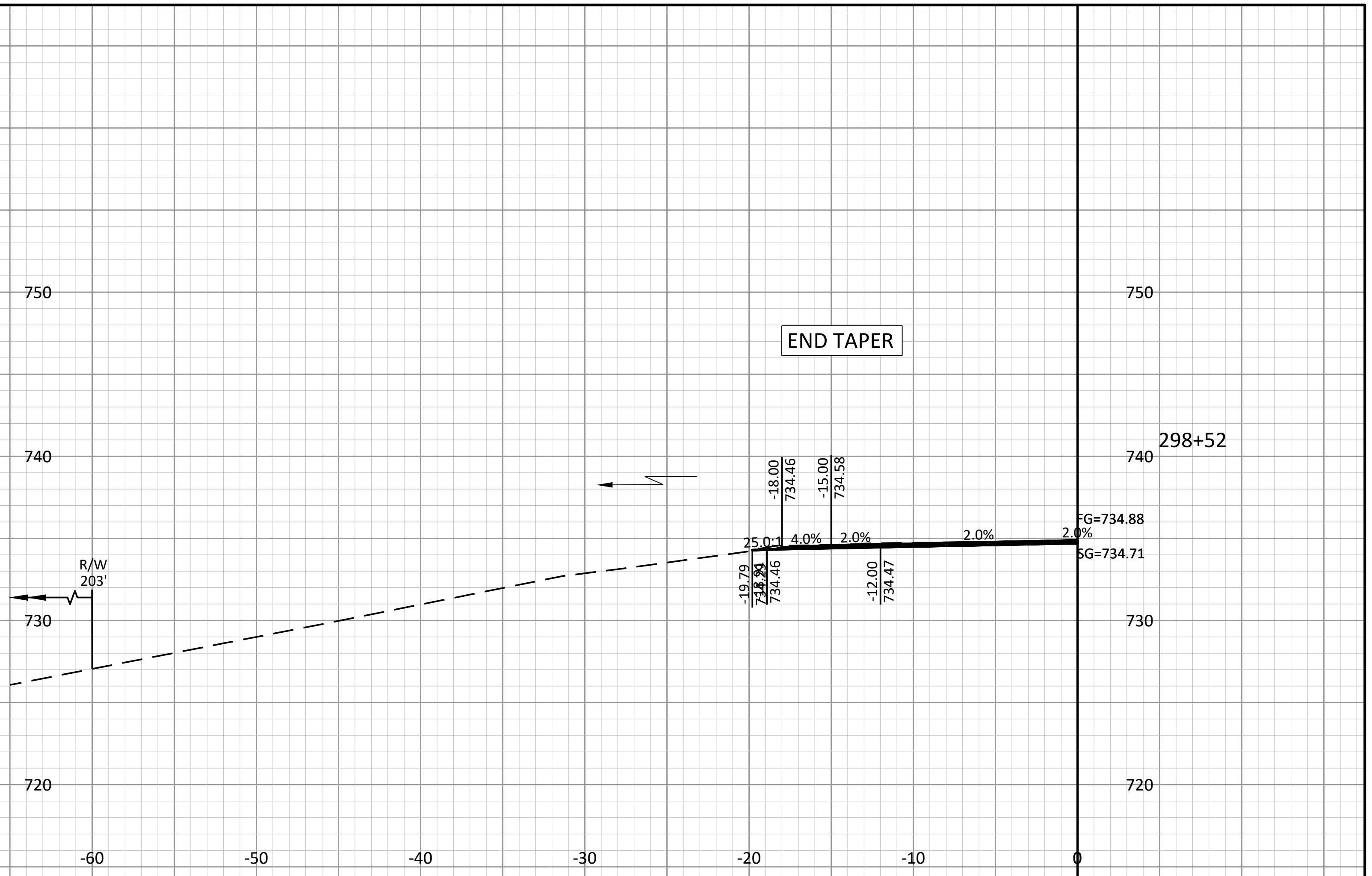
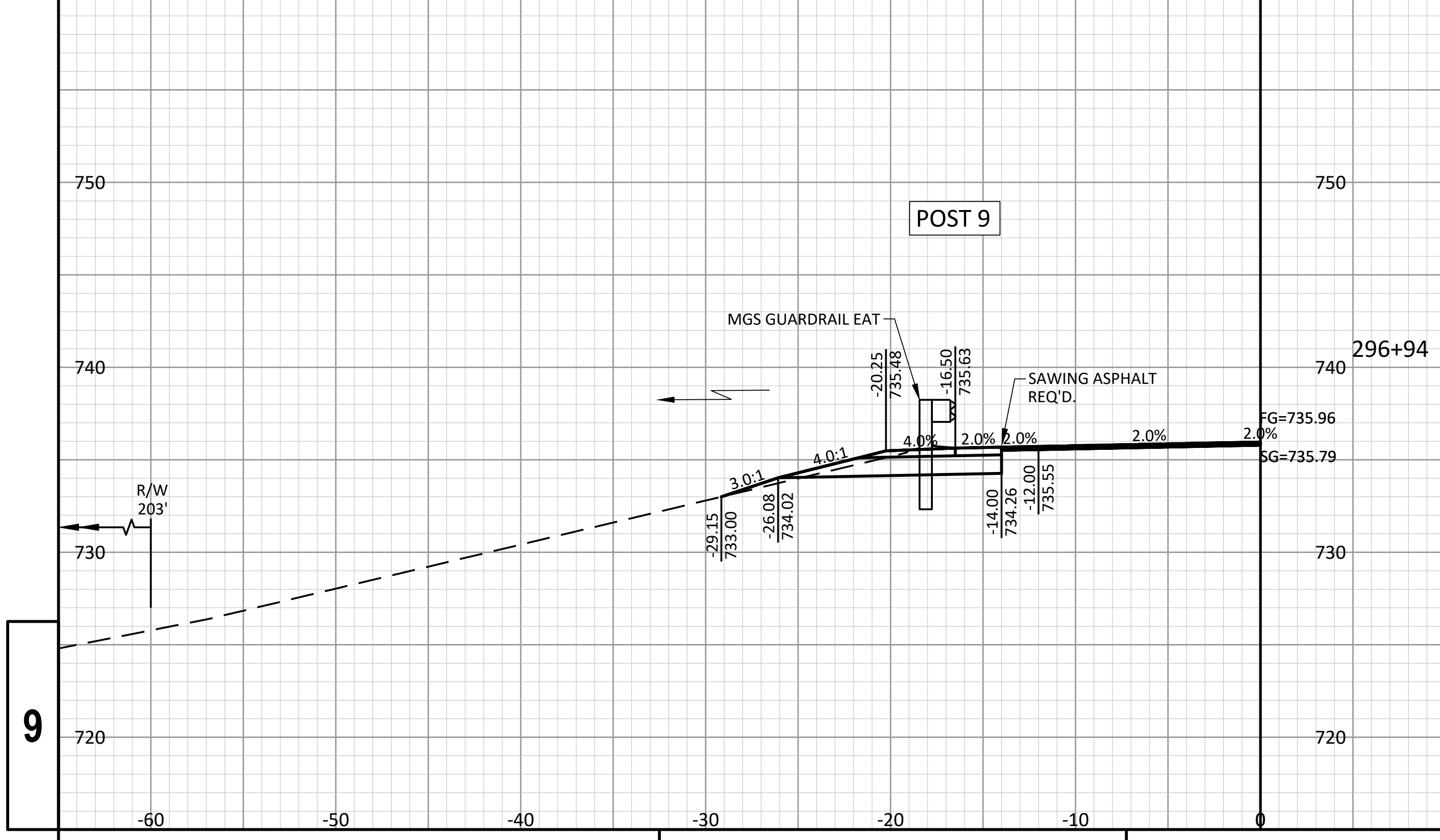
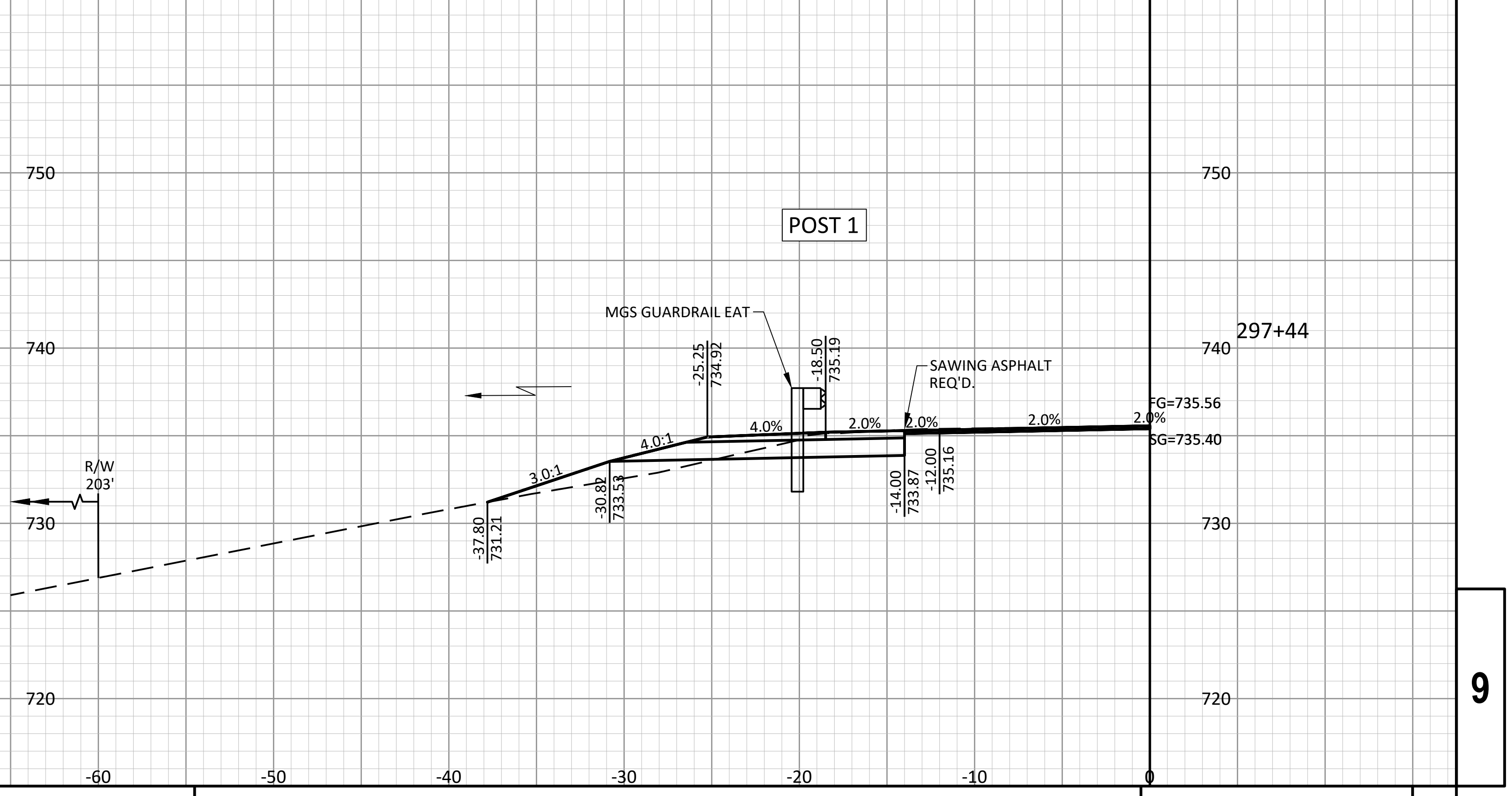
PROJECT NO: 8510-01-70 | HWY: STH 13 | COUNTY: DOUGLAS | CROSS SECTIONS: MAINLINE (MGS GUARDRAIL) | SHEET 206 | E

FILE NAME : S:\PROJECTS\W11599 WISDOT STH 13, CTH H TO ENGDAHL ROAD DOUGLAS CO\DESIGN\CORRIDORS\STH 13_CORRIDOR.DWG PLOT DATE : 2/4/2022 10:21:19 AM PLOT BY : KARTER ZAJICEK PLOT SCALE : 1" = 1' LAYOUT : B-16-15 MGS - 2









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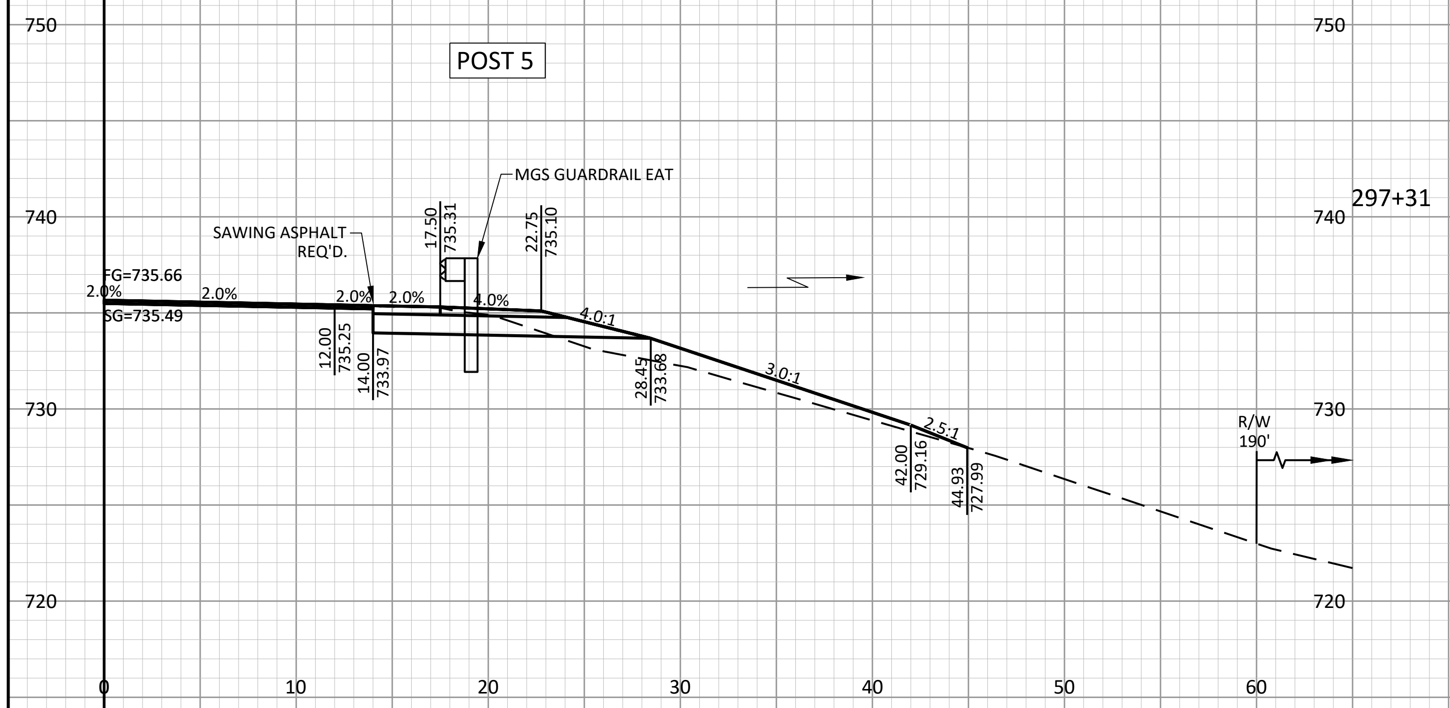
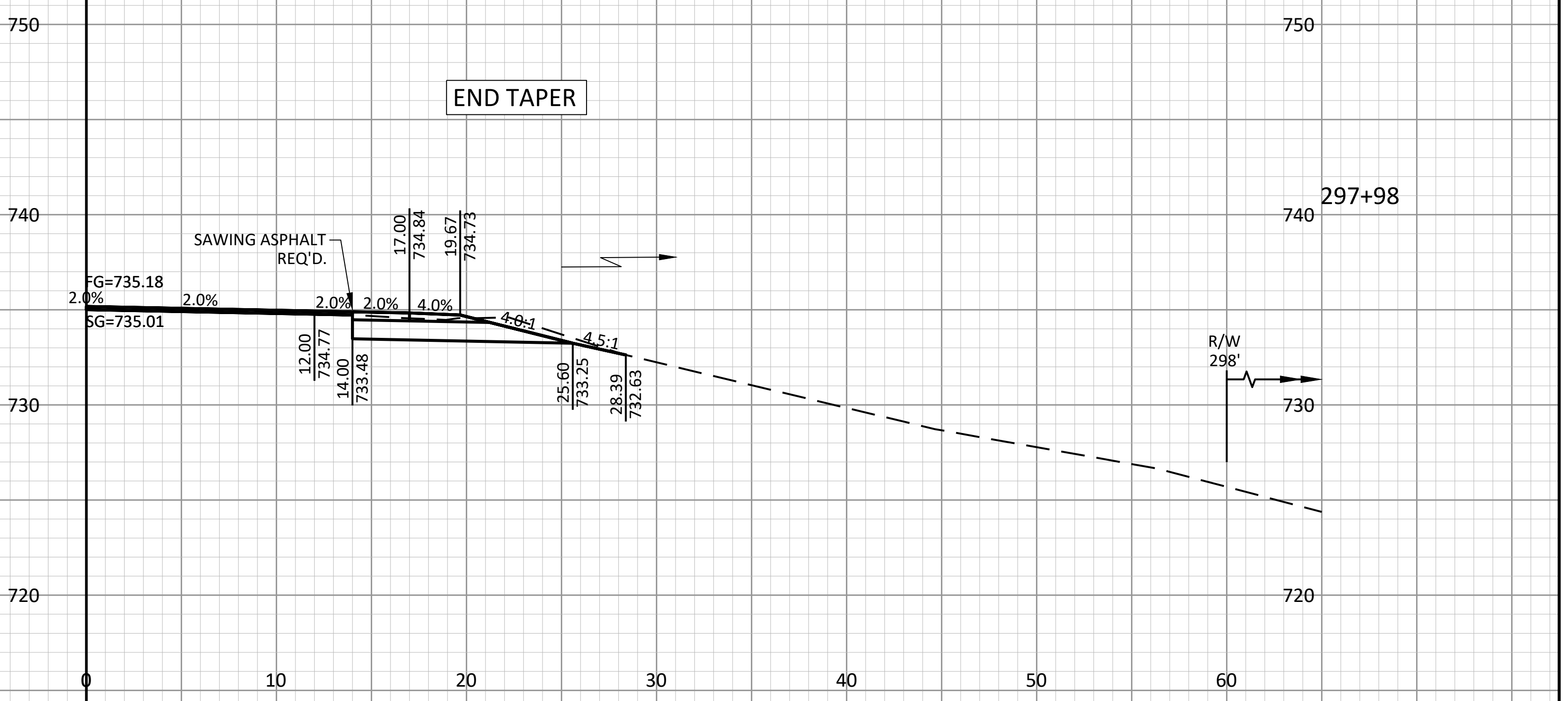
PROJECT NO: 8510-01-70	HWY: STH 13	COUNTY: DOUGLAS	CROSS SECTIONS: MAINLINE (MGS GUARDRAIL)	SHEET 207	E

FILE NAME : S:\PROJECTS\W11599 WISDOT STH 13, CTH H TO ENGDAHL ROAD DOUGLAS CO\DESIGN\CORRIDORS\STH 13_CORRIDOR.DWG PLOT DATE : 2/4/2022 10:21:39 AM PLOT BY : KARTER ZAJICEK PLOT SCALE : 1" = 1' LAYOUT : B1615 NE BG

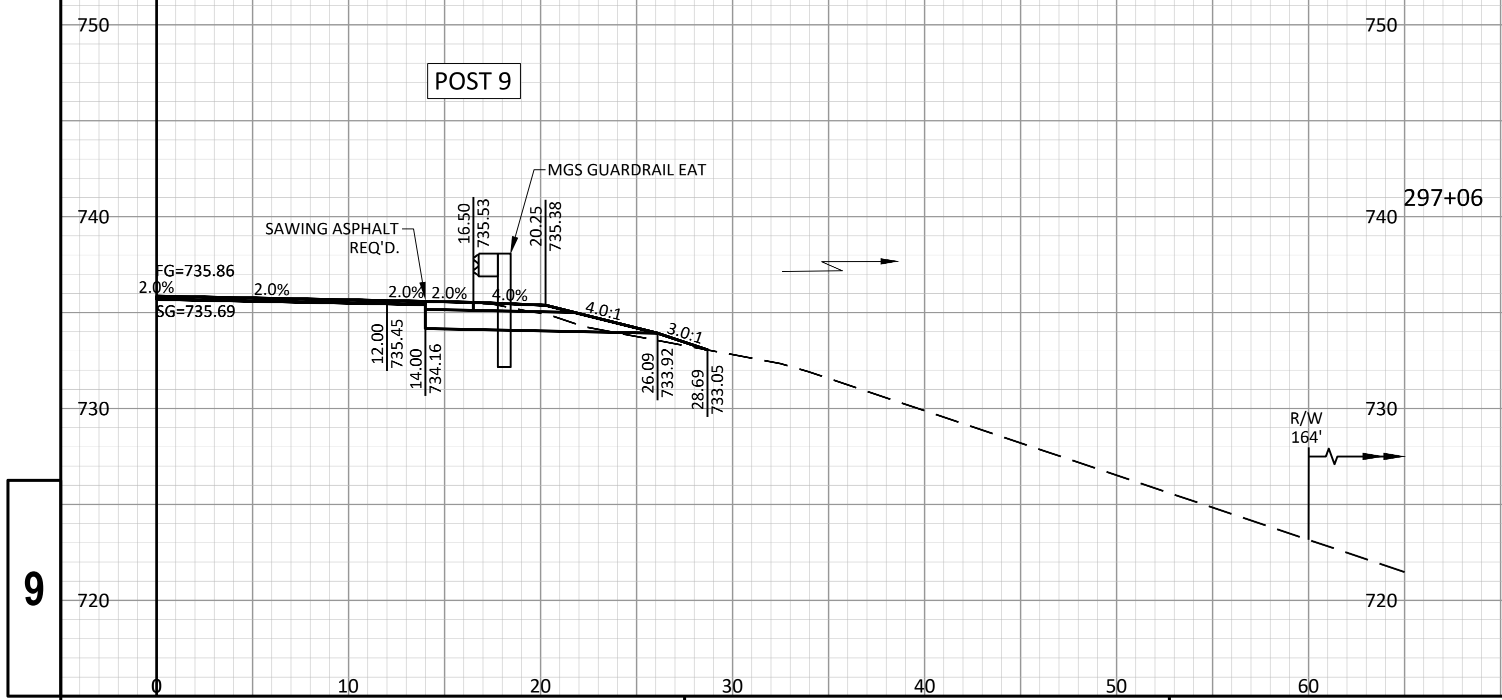
POST 5



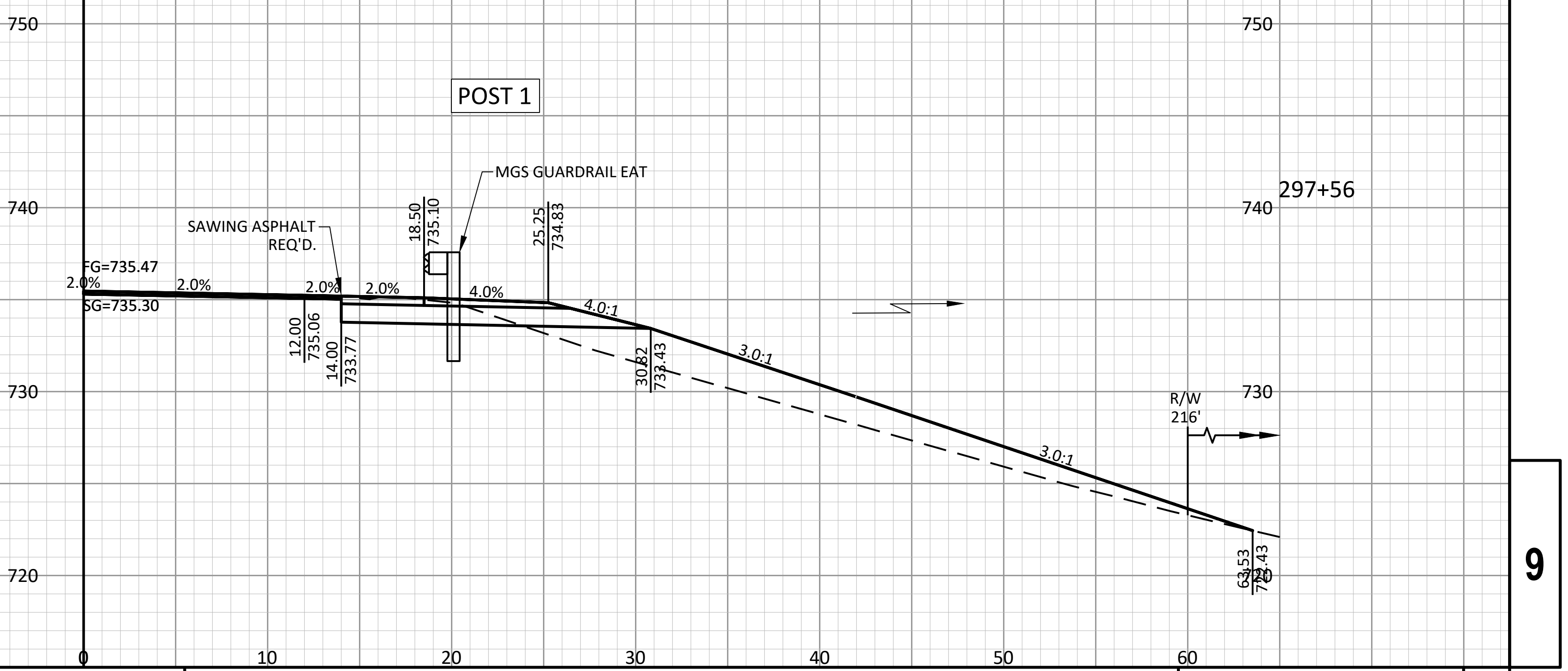
END TAPER



POST 9

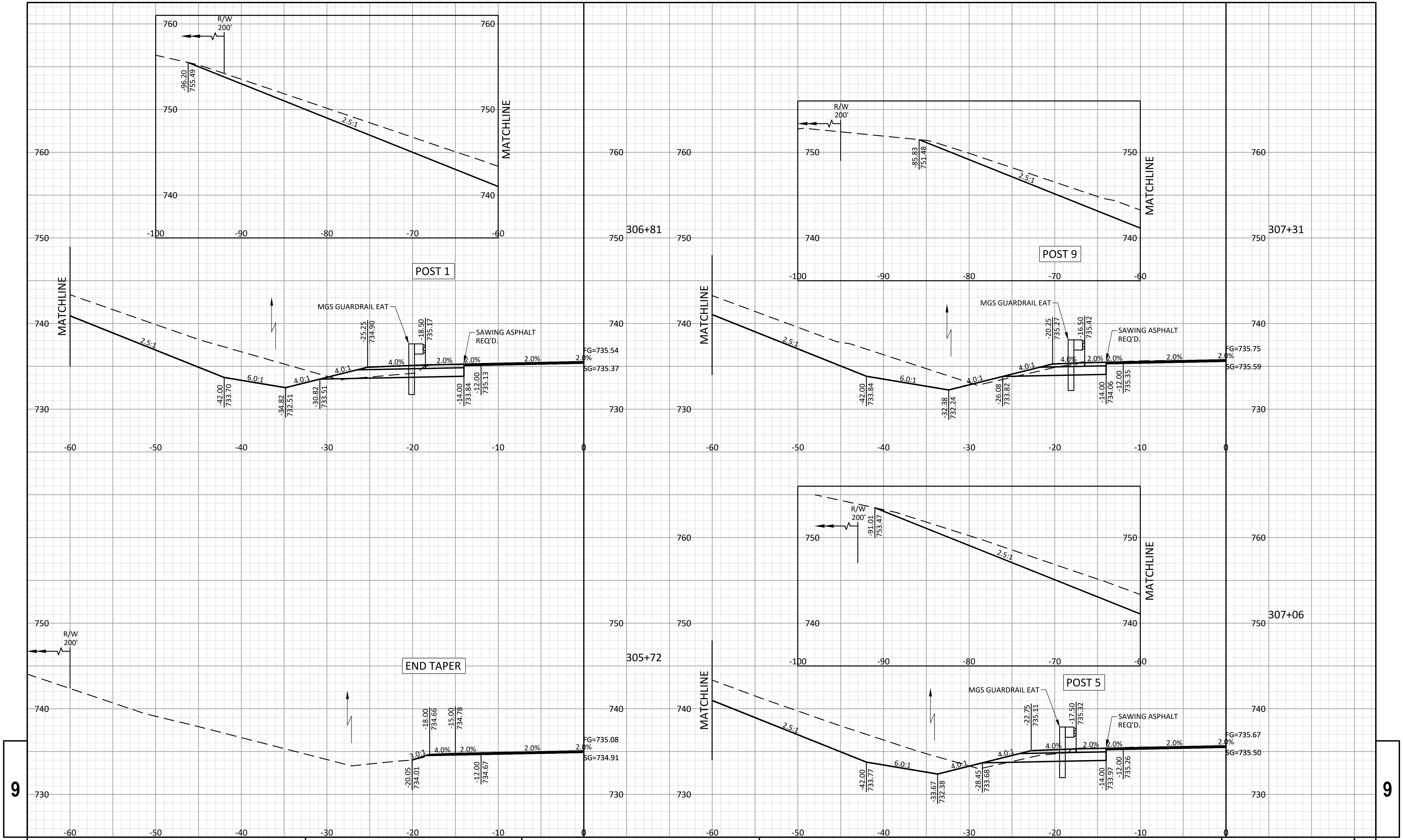


POST 1



PROJECT NO: 8510-01-70 | HWY: STH 13 | COUNTY: DOUGLAS | CROSS SECTIONS: MAINLINE (MGS GUARDRAIL) | SHEET

FILE NAME : S:\PROJECTS\W11599 WISDOT STH 13, CTH H TO ENGDAHL ROAD DOUGLAS CO\DESIGN\CORRIDORS\STH 13_CORRIDOR.DWG PLOT DATE : 2/4/2022 10:22:05 AM PLOT BY : KARTER ZAJICEK PLOT SCALE : 1" = 1' LAYOUT : B1615 SE BG



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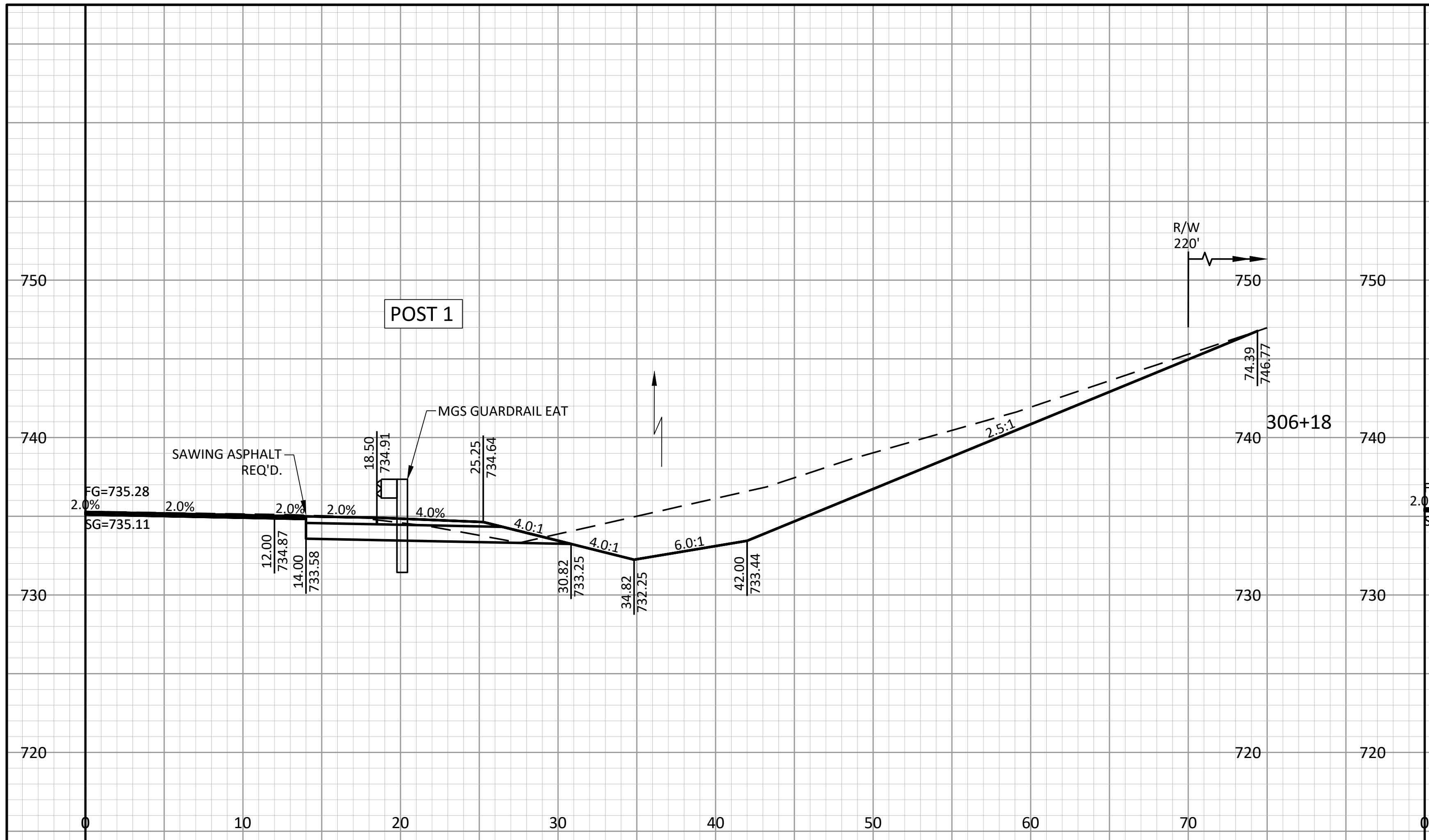
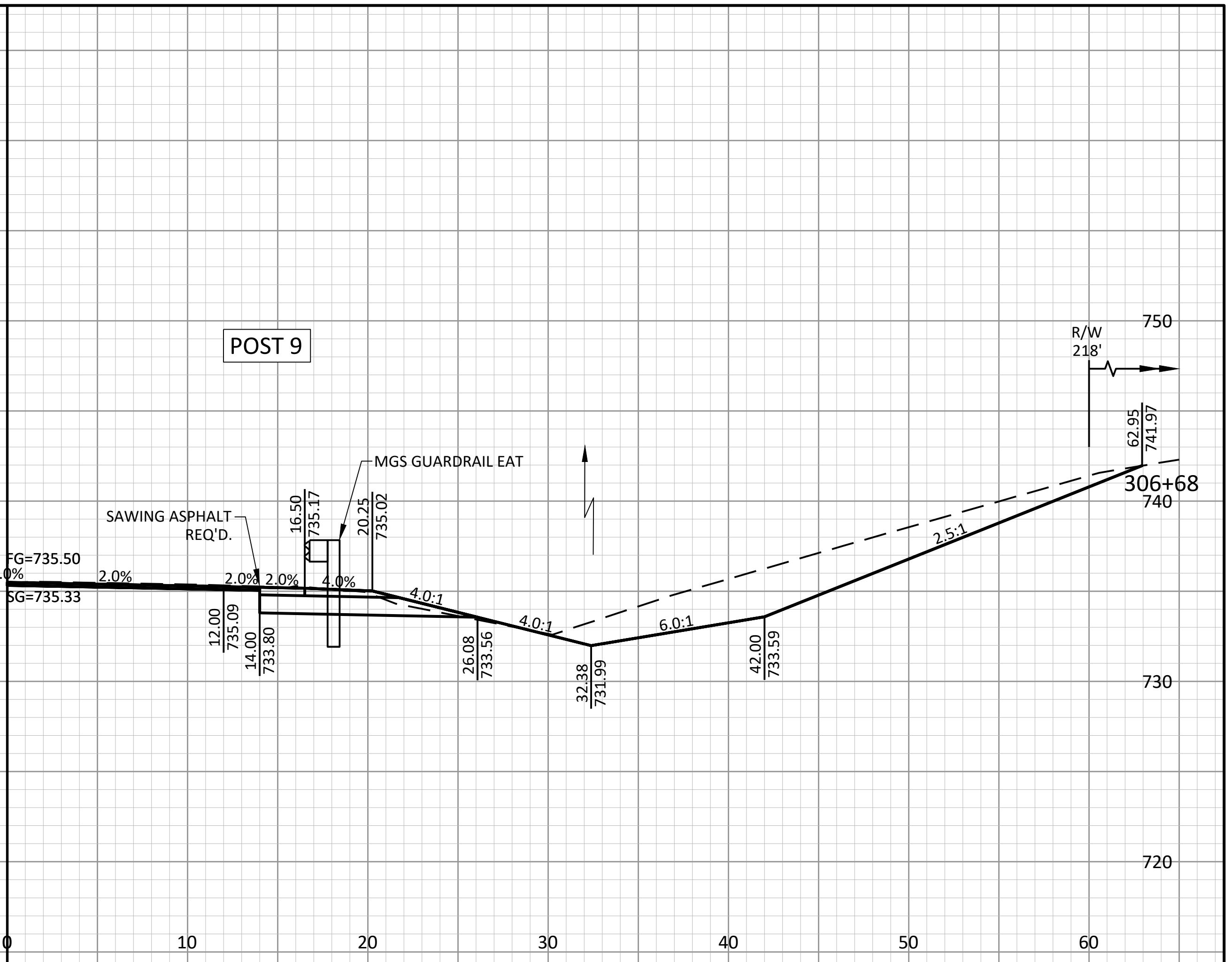
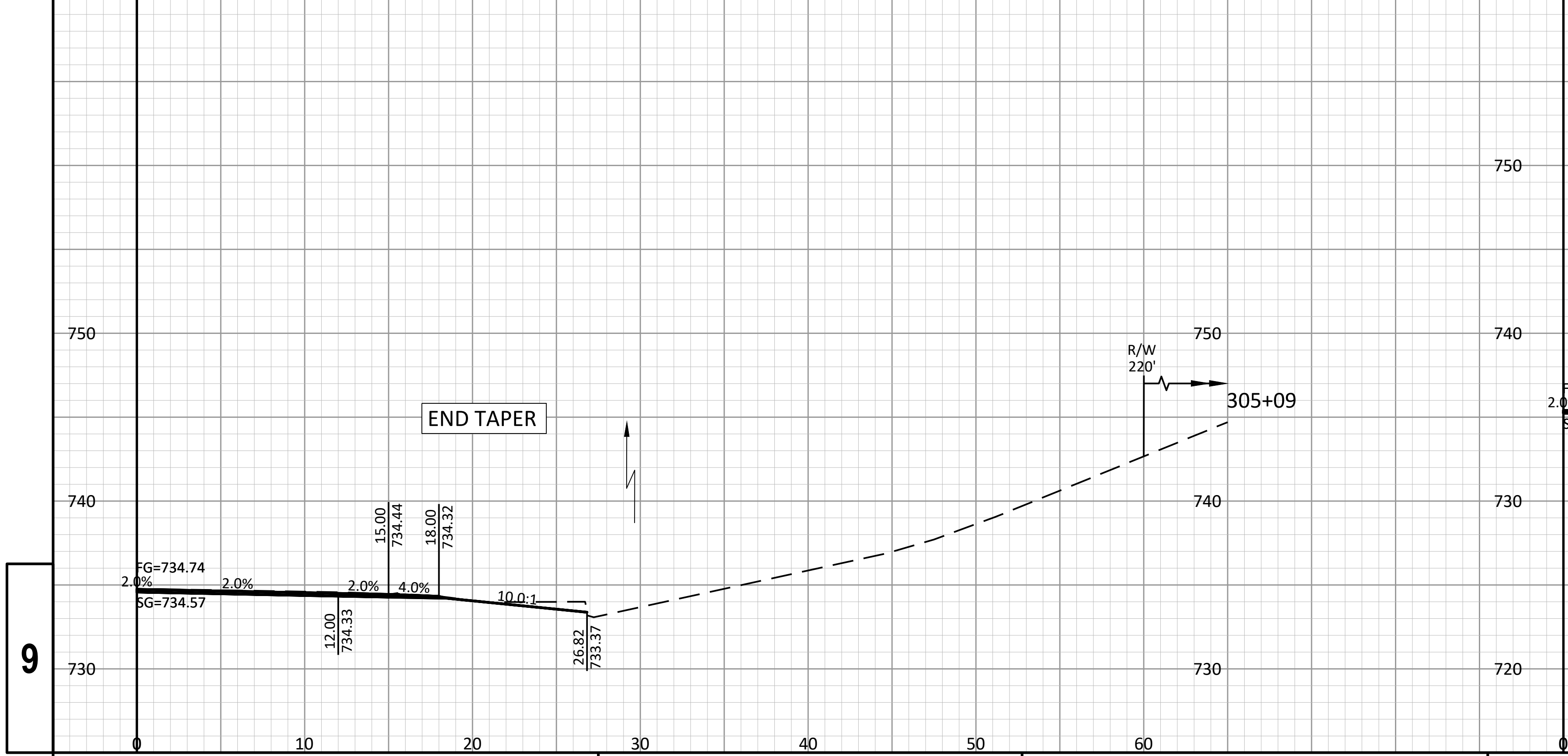
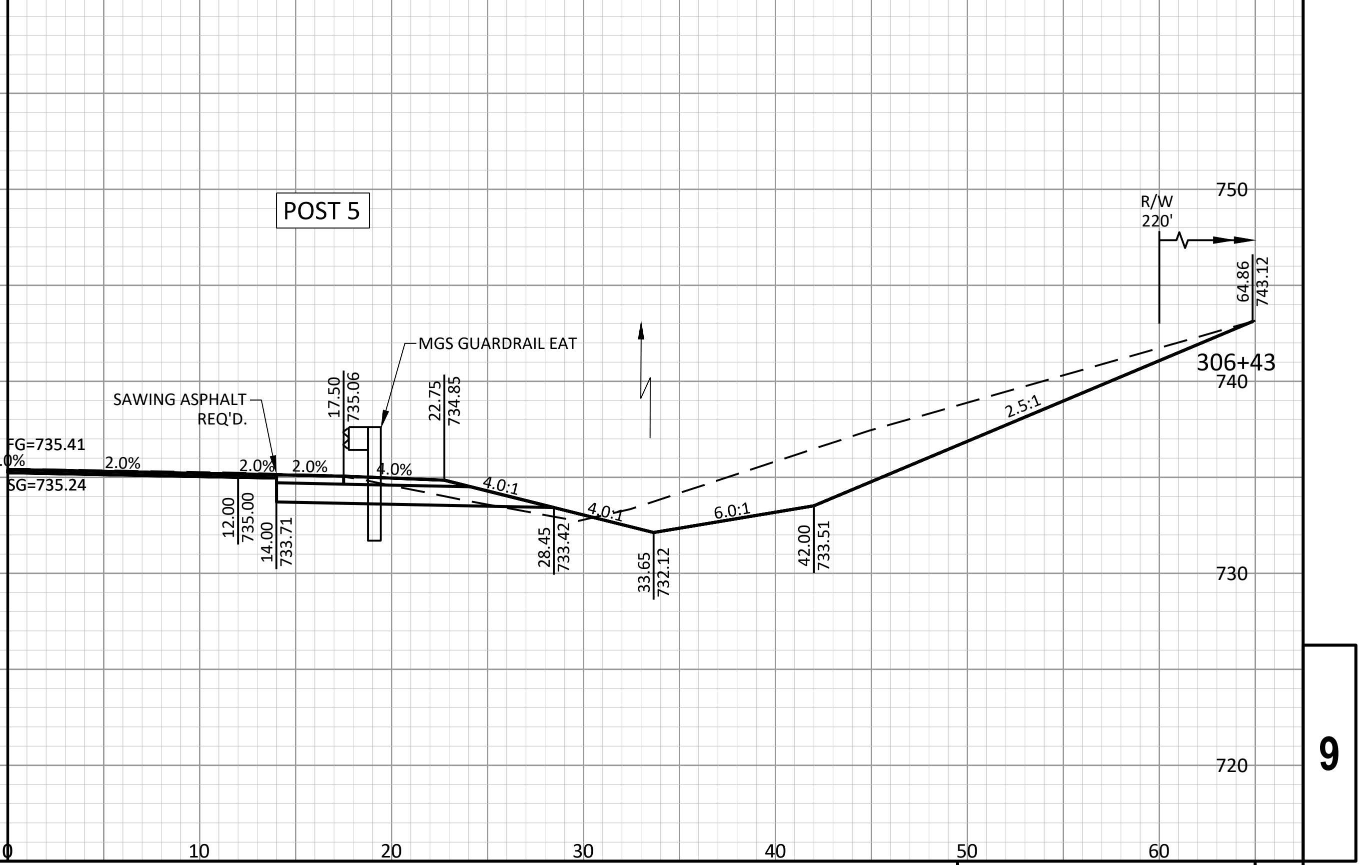
PROJECT NO: 8510-01-70	HWY: STH 13	COUNTY: DOUGLAS	CROSS SECTIONS: MAINLINE (MGS GUARDRAIL)	SHEET 209	E

FILE NAME : S:\PROJECTS\W11599 WISDOT STH 13, CTH H TO ENGDAHL ROAD DOUGLAS CO\DESIGN\CORRIDORS\STH 13_CORRIDOR.DWG PLOT DATE : 2/4/2022 10:22:30 AM PLOT BY : KARTER ZAJICEK PLOT SCALE : 1" = 1' LAYOUT : B1616 NW BG









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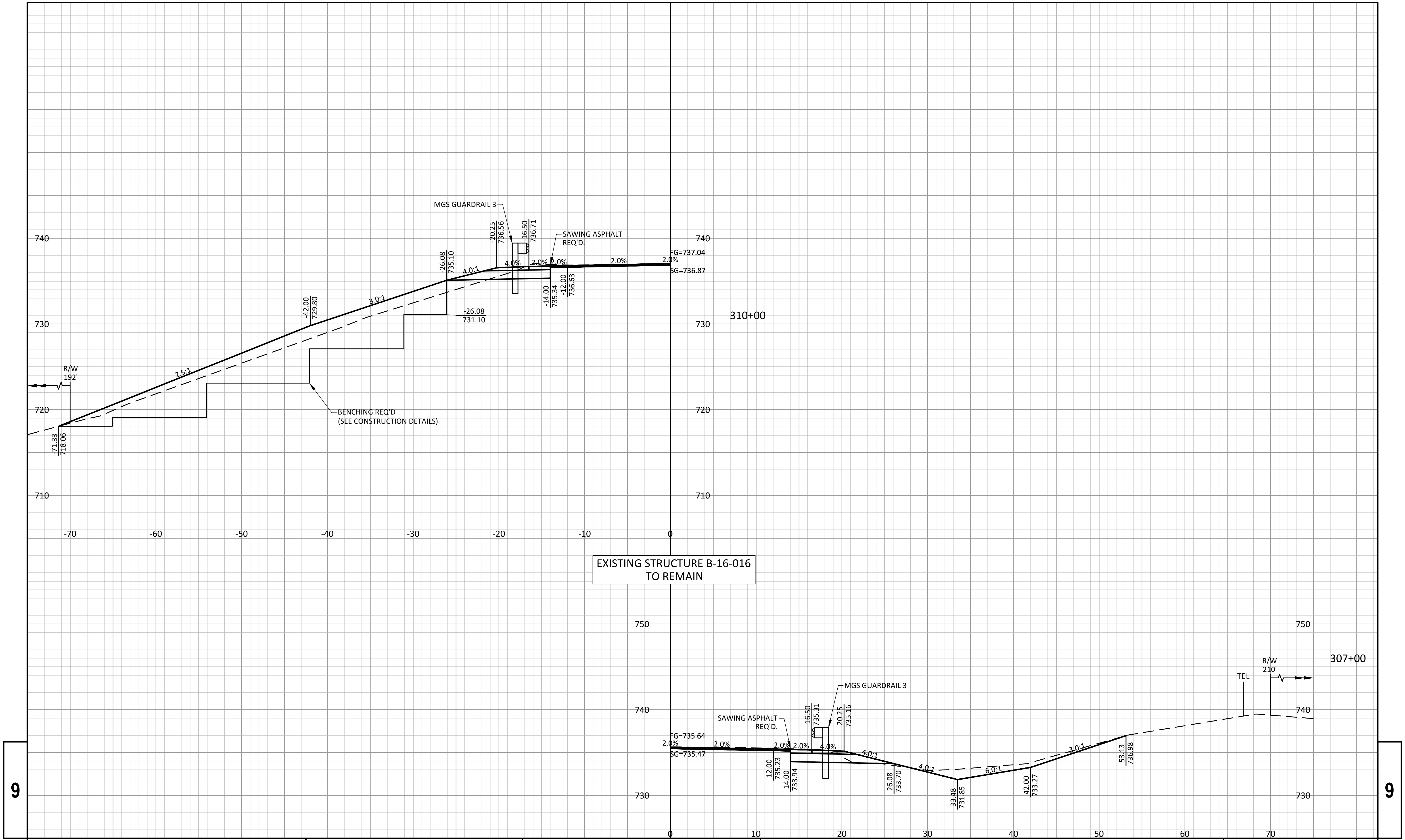
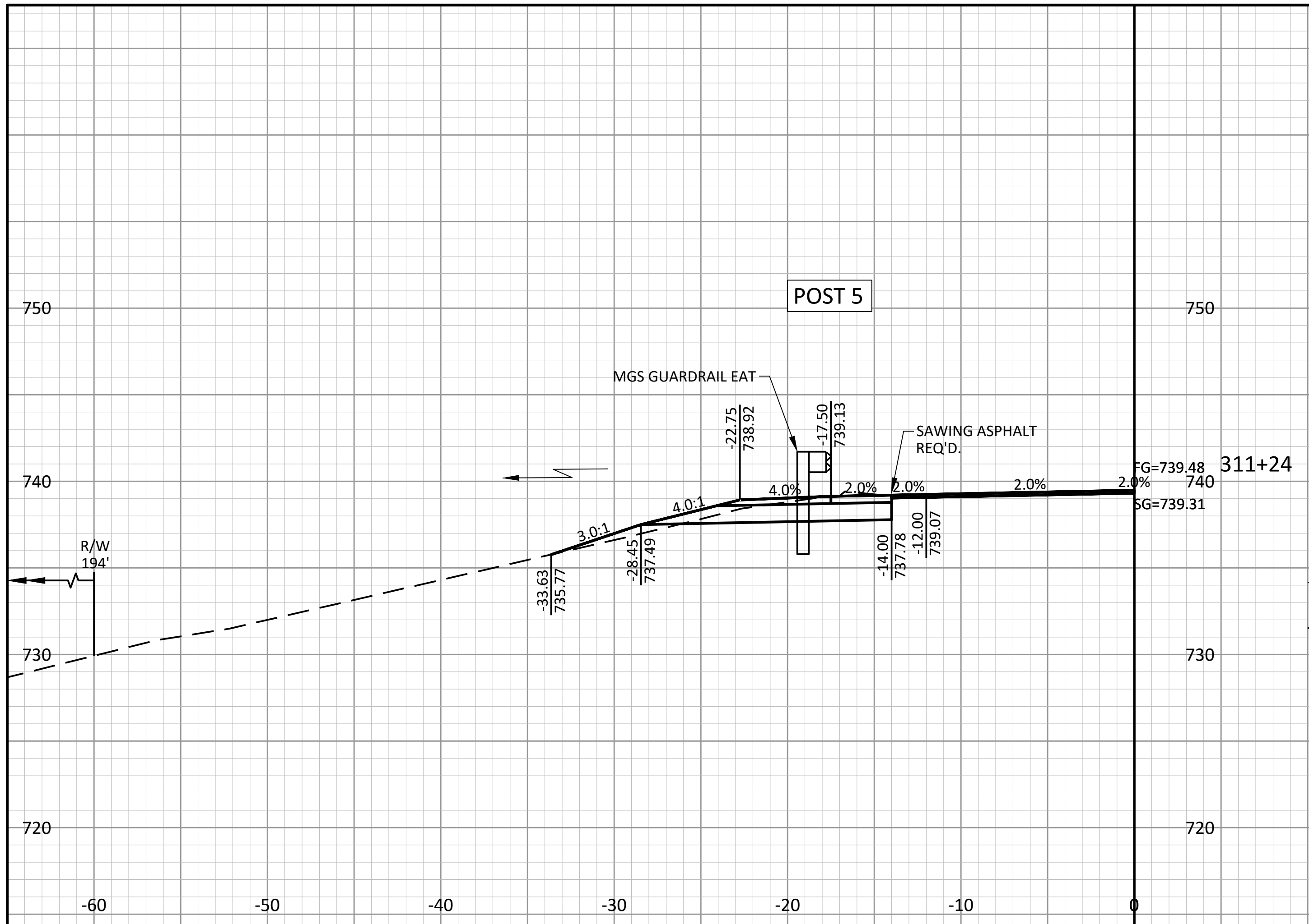
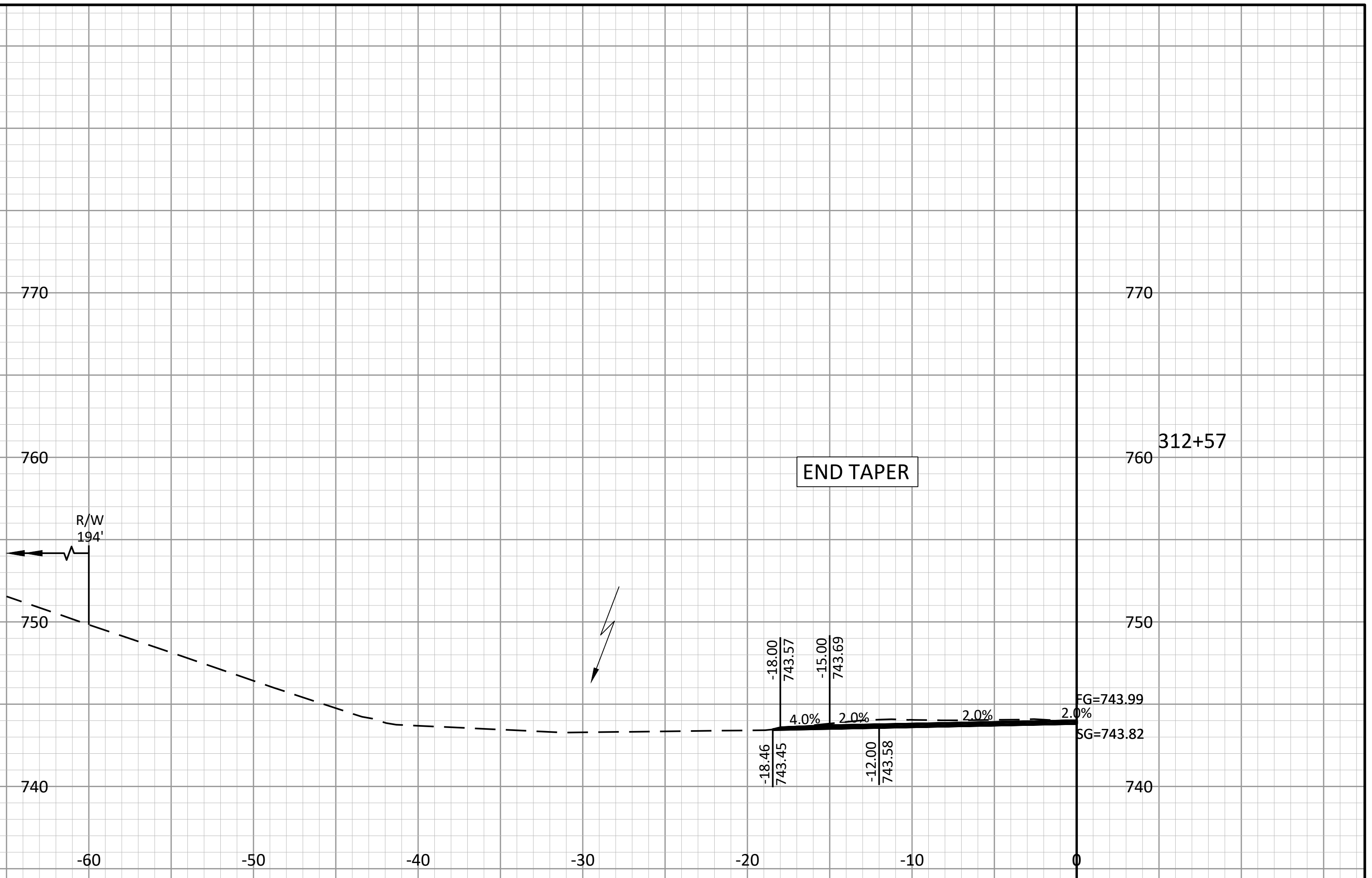
PROJECT NO: 8510-01-70	HWY: STH 13	COUNTY: DOUGLAS	CROSS SECTIONS: MAINLINE (MGS GUARDRAIL)	SHEET 210	E

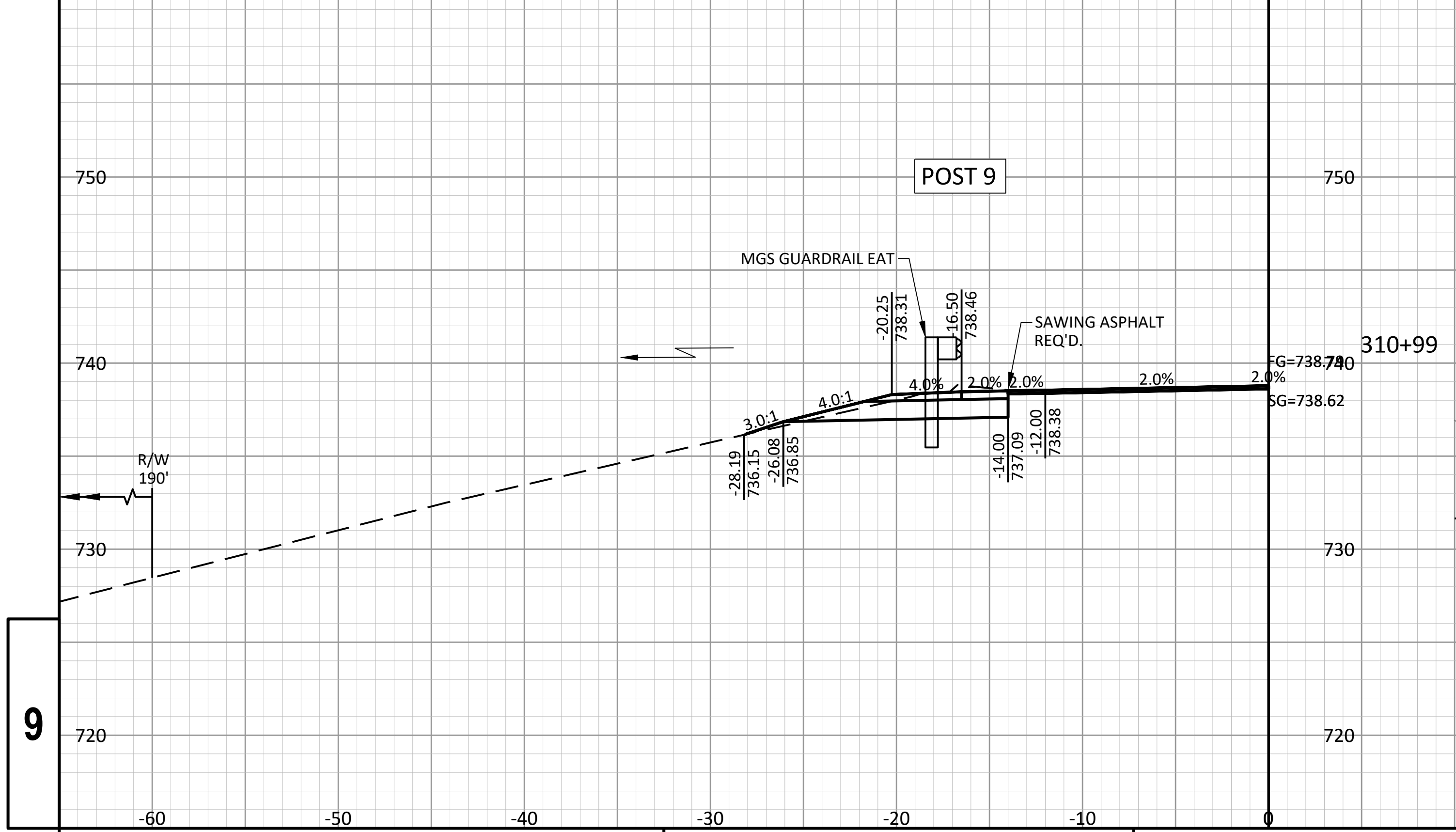
FILE NAME : S:\PROJECTS\W11599 WISDOT STH 13, CTH H TO ENGDAHL ROAD DOUGLAS CO\DESIGN\CORRIDORS\STH 13_CORRIDOR.DWG PLOT DATE : 2/4/2022 10:22:55 AM PLOT BY : KARTER ZAJICEK PLOT SCALE : 1" = 1' LAYOUT : B1616 SW BG

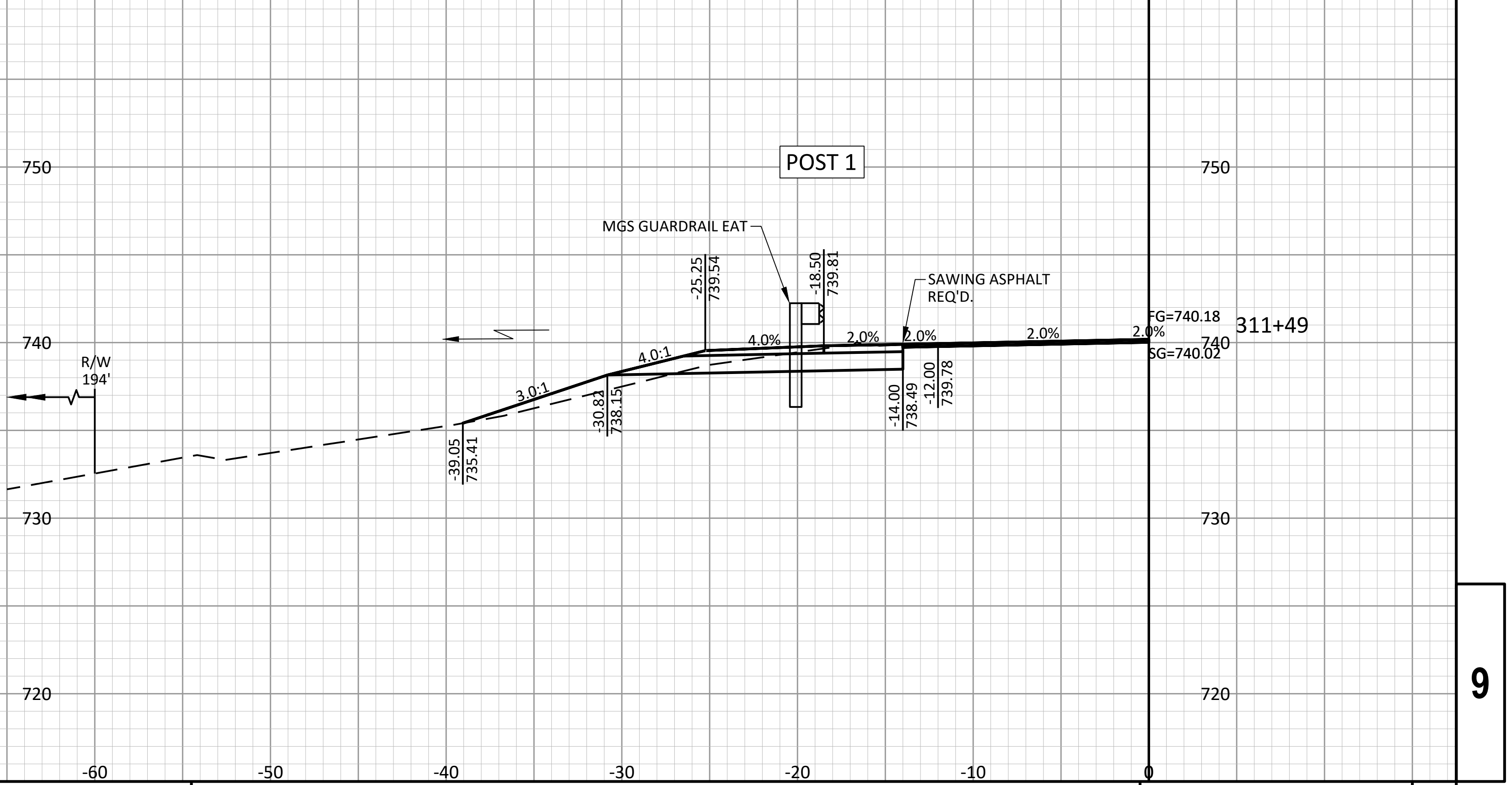


PROJECT NO: 8510-01-70
HWY: STH 13
COUNTY: DOUGLAS
CROSS SECTIONS: MAINLINE (MGS GUARDRAIL)
SHEET 211
E









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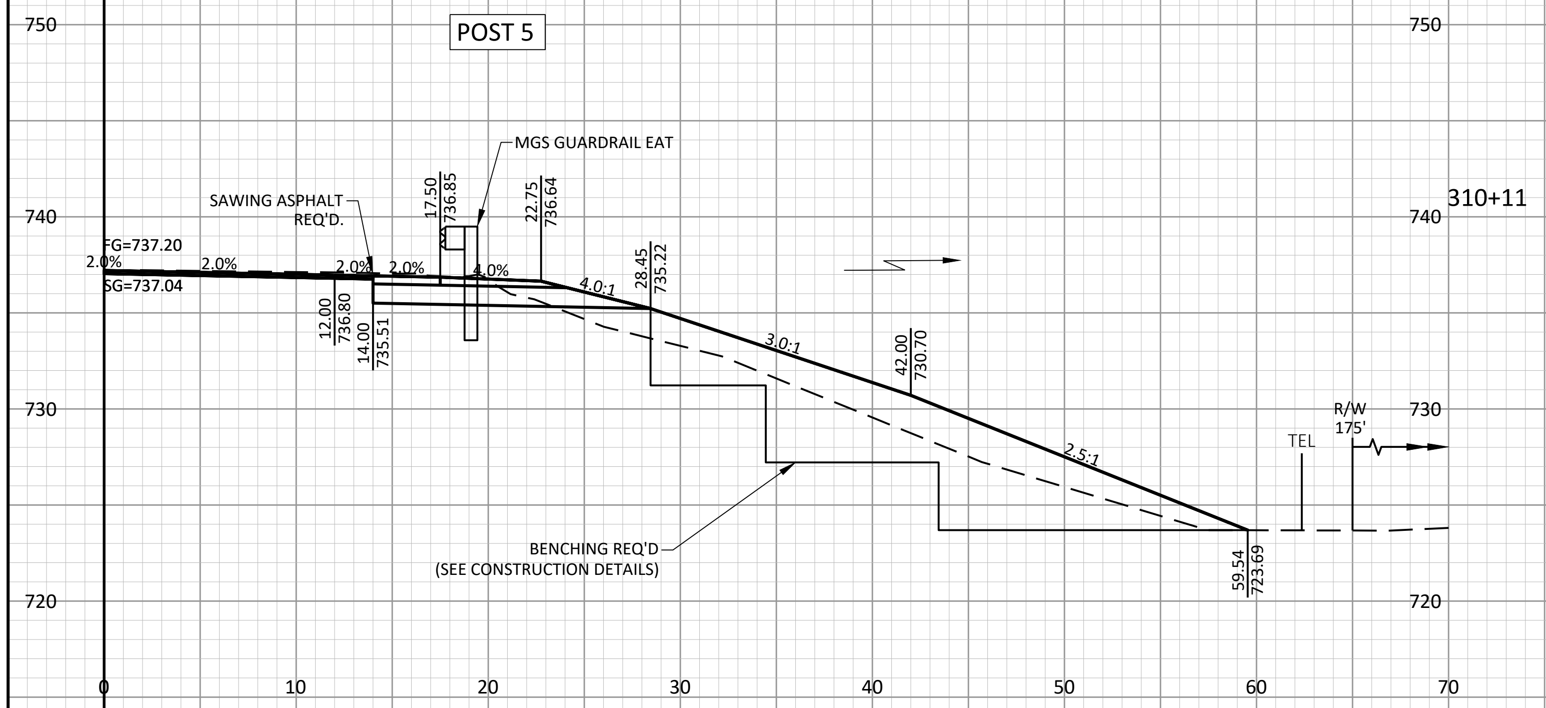
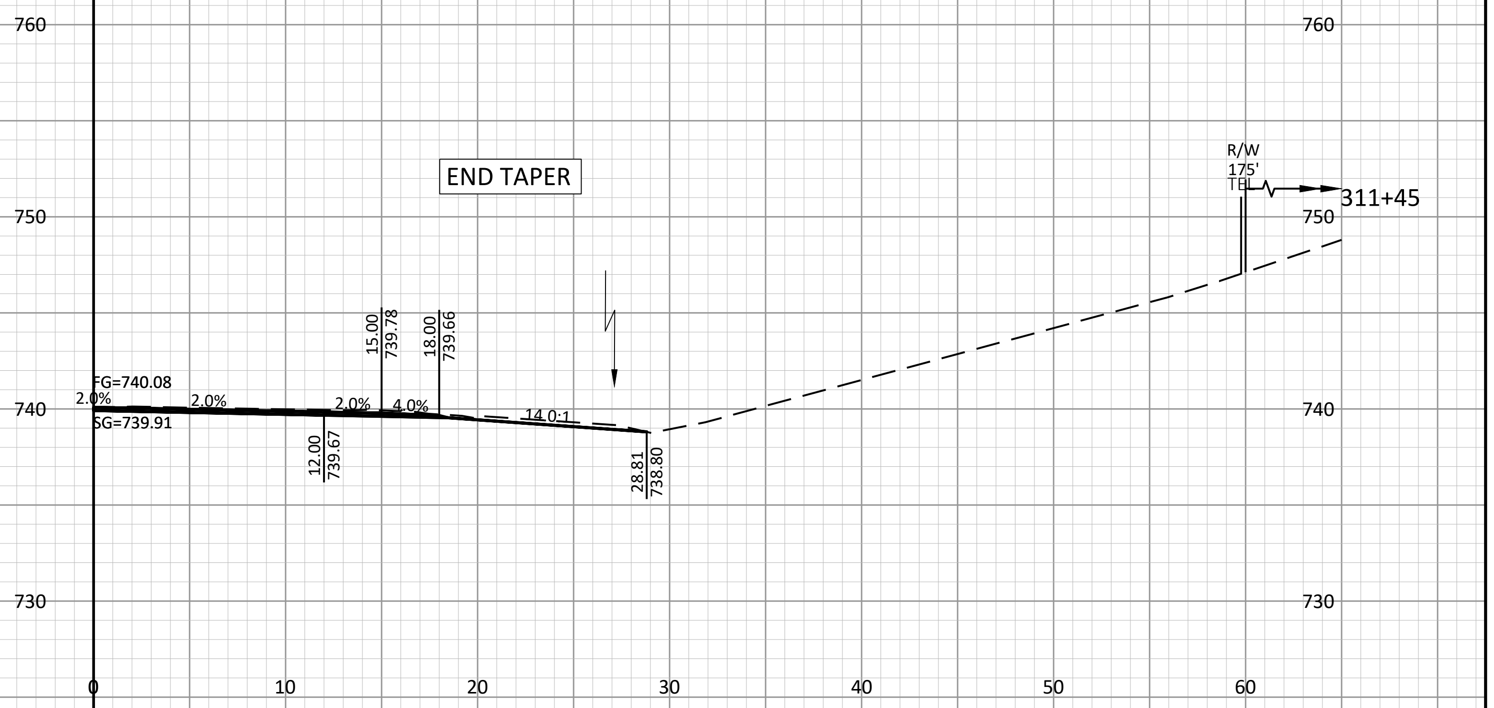
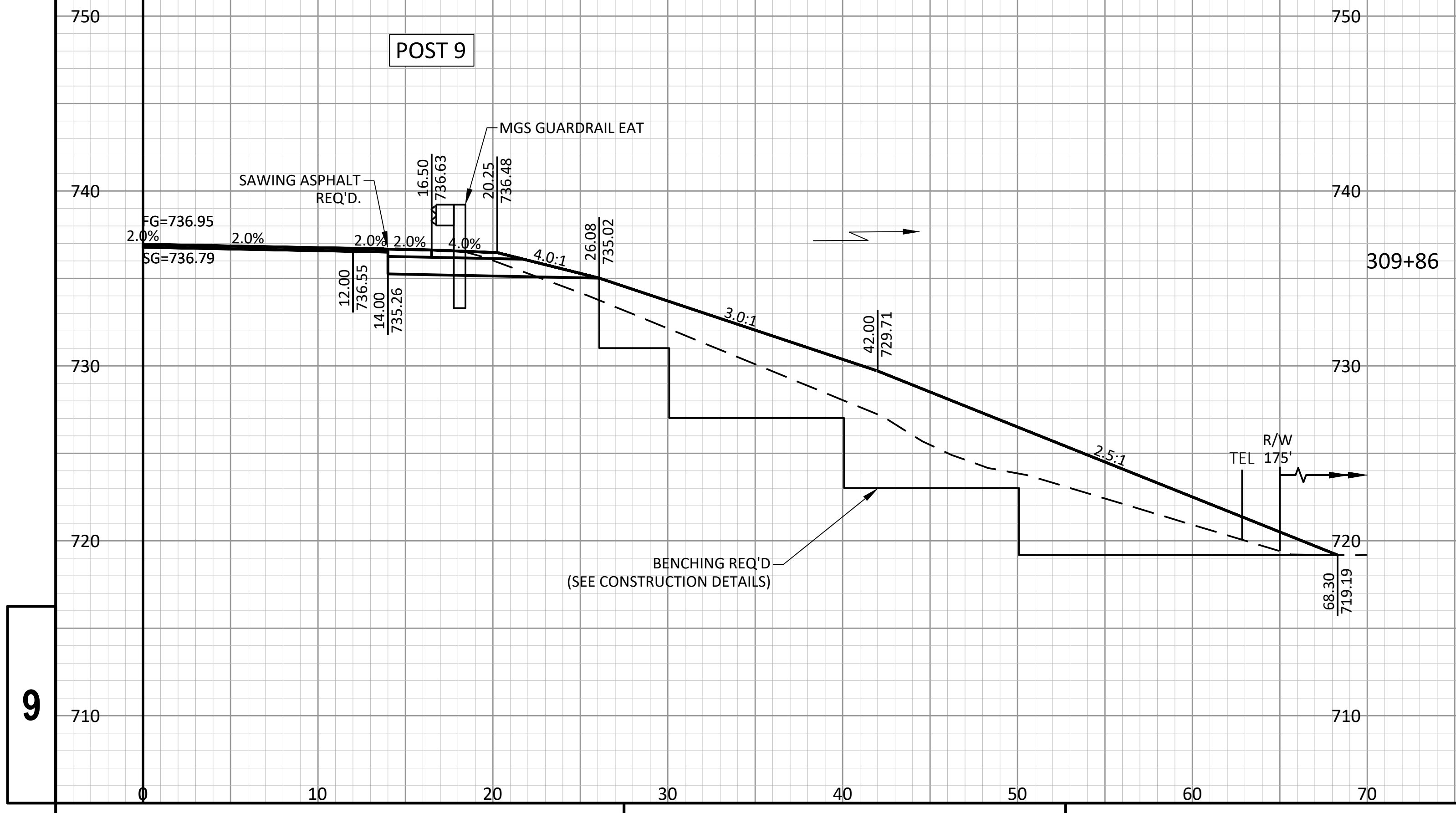
PROJECT NO: 8510-01-70 | HWY: STH 13 | COUNTY: DOUGLAS | CROSS SECTIONS: MAINLINE (MGS GUARDRAIL) | SHEET 212 | E

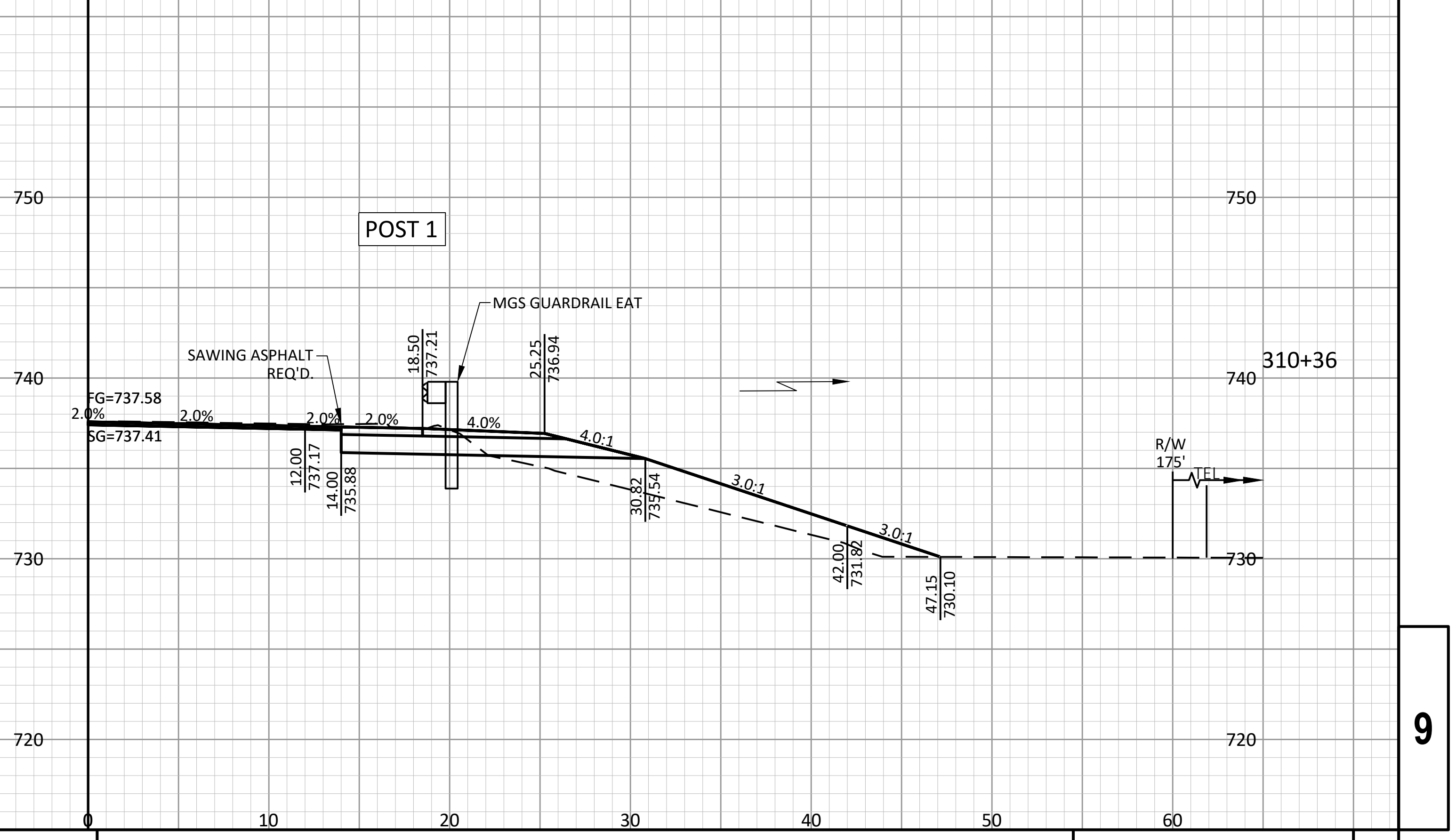
FILE NAME : S:\PROJECTS\W11599 WISDOT STH 13, CTH H TO ENGDAHL ROAD DOUGLAS CO\DESIGN\CORRIDORS\STH 13_CORRIDOR.DWG PLOT DATE : 2/4/2022 10:23:45 AM PLOT BY : KARTER ZAJICEK PLOT SCALE : 1" = 1' LAYOUT : B1616 NE BG

9









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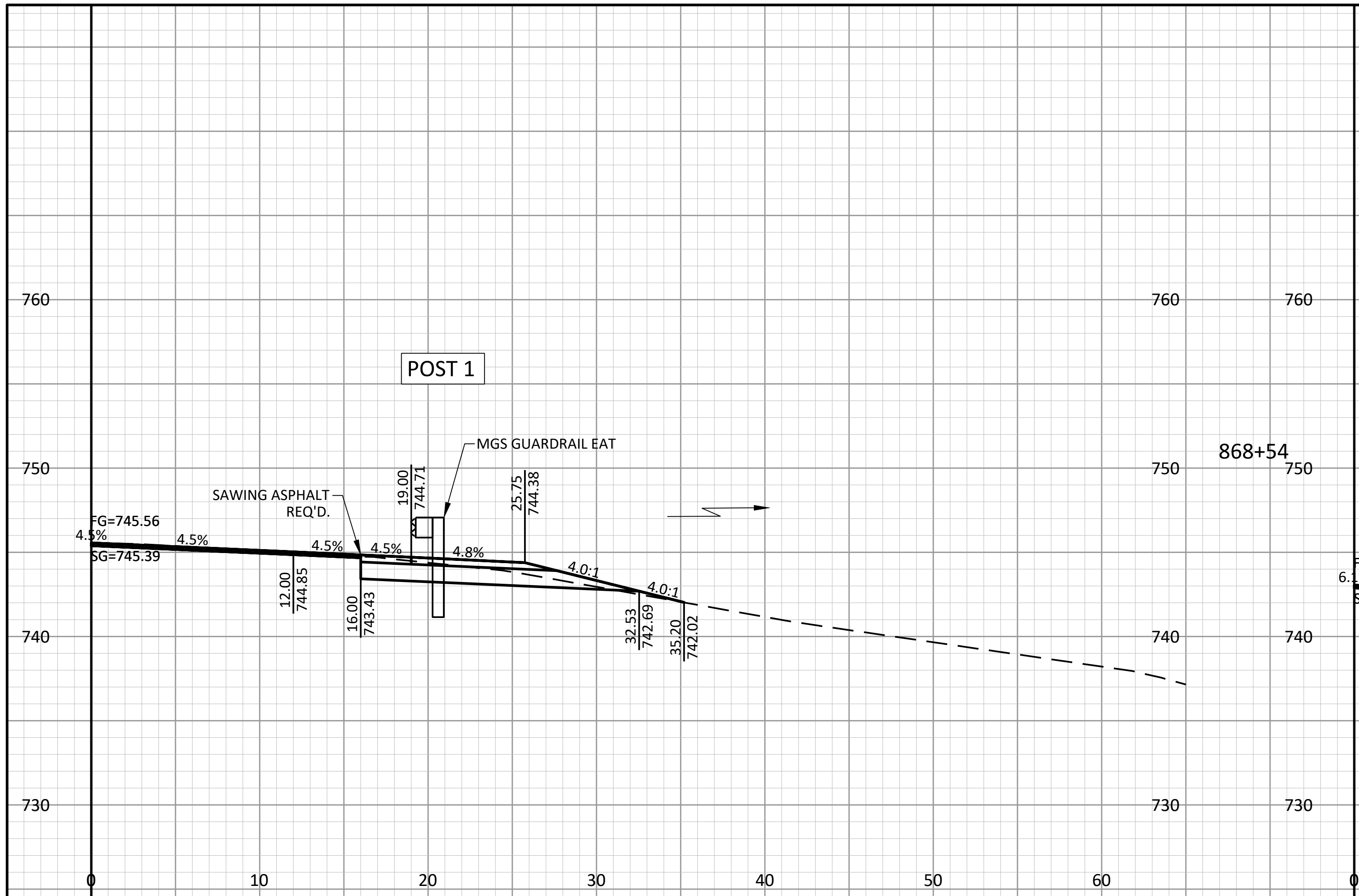
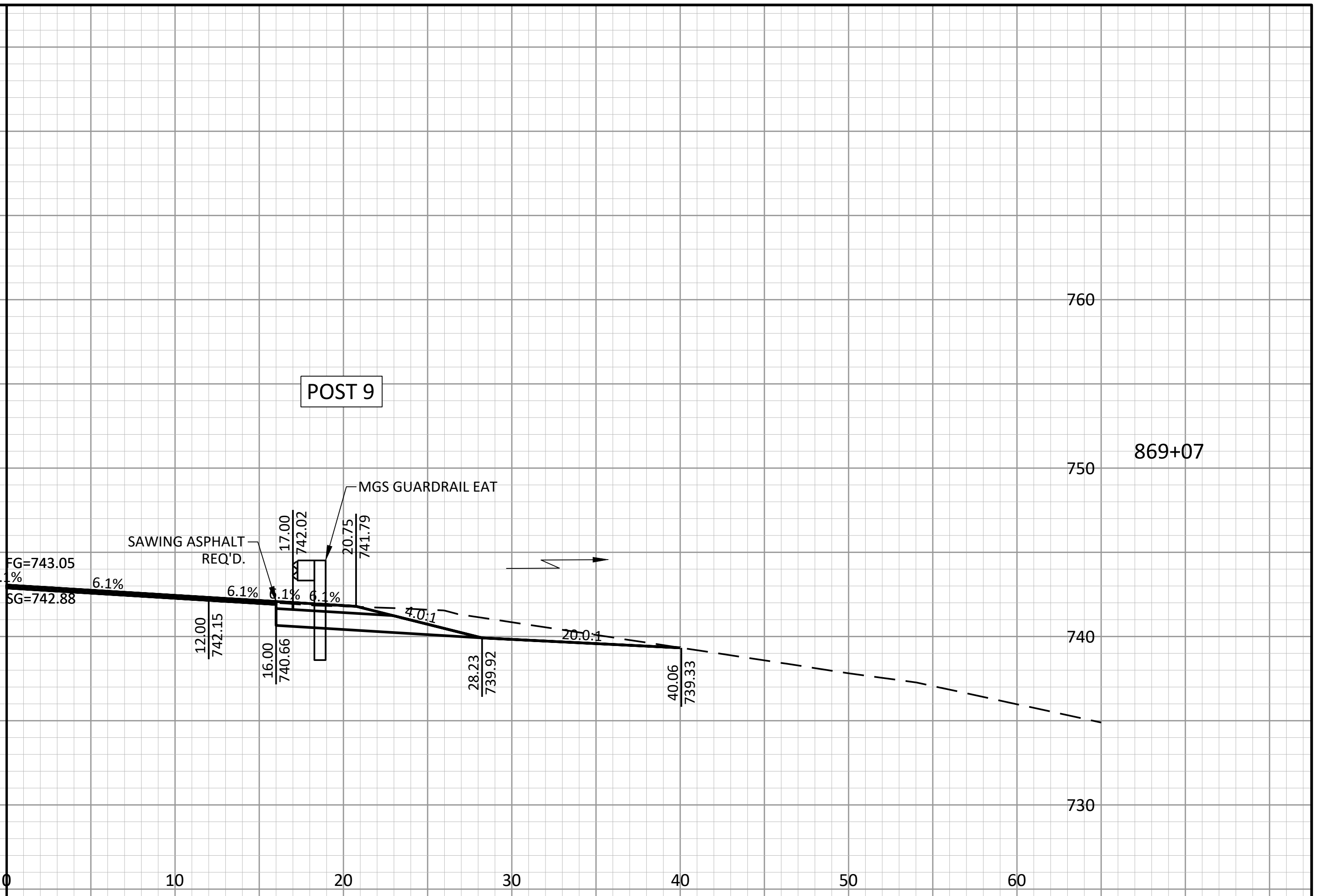
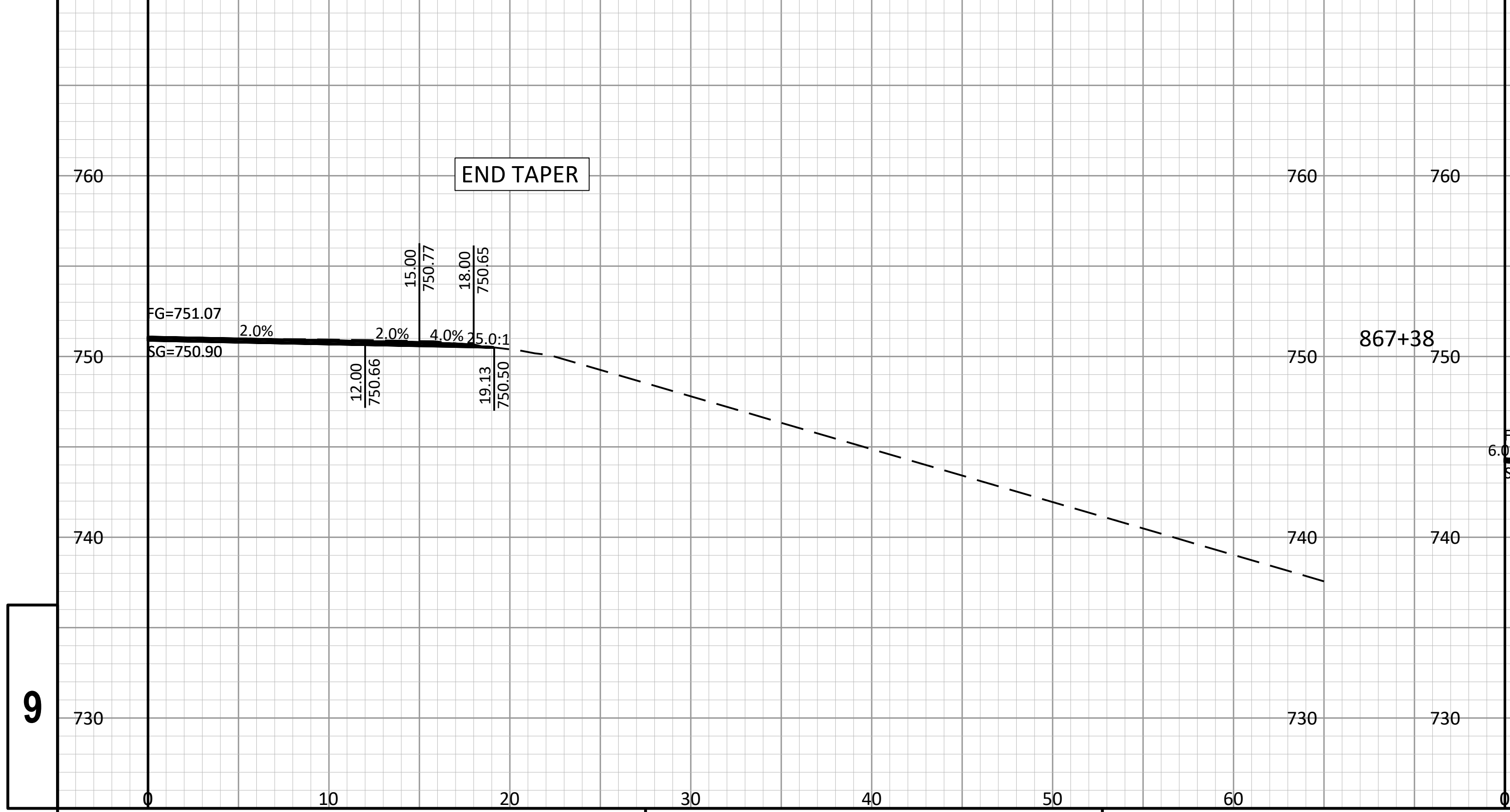
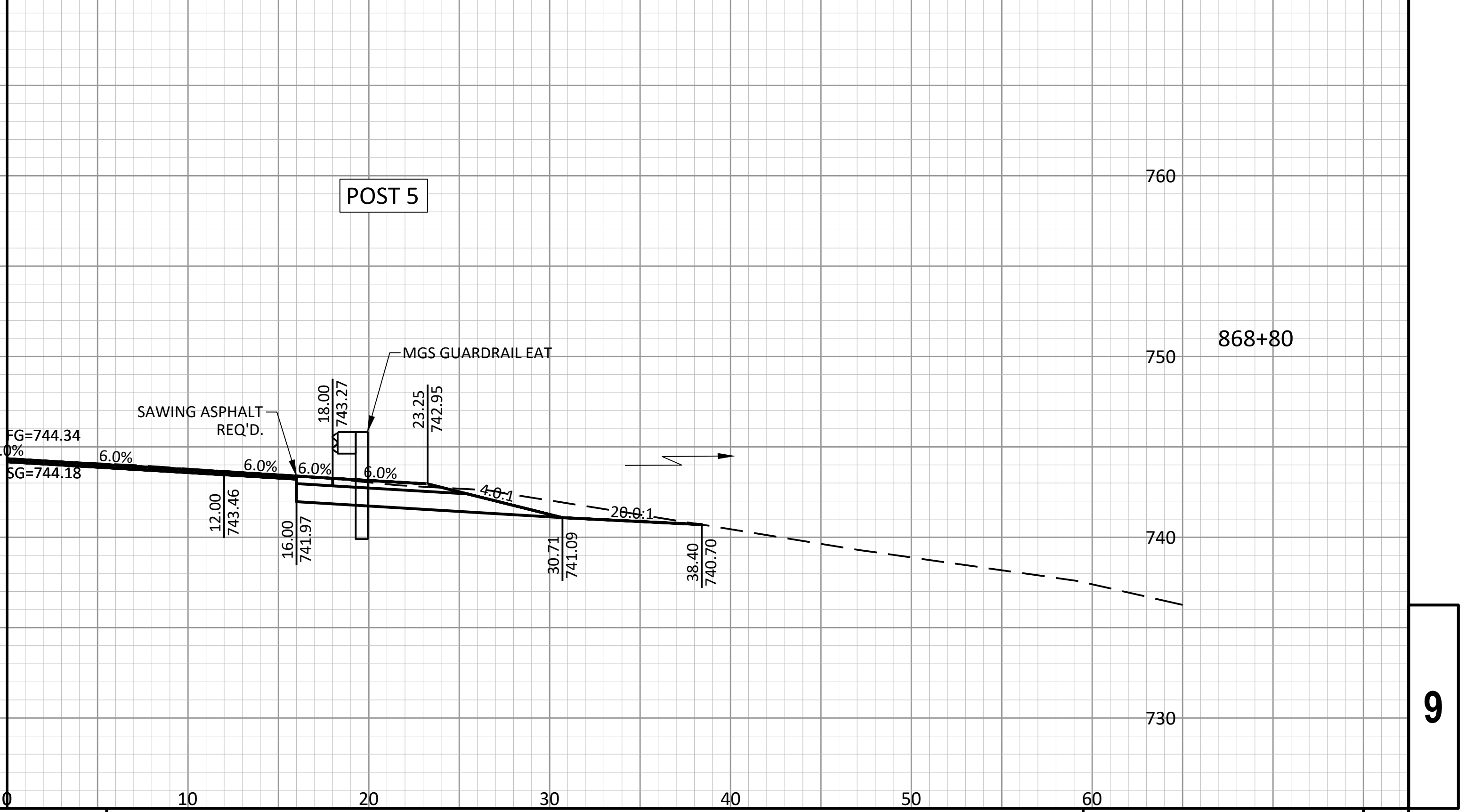
PROJECT NO: 8510-01-70 | HWY: STH 13 | COUNTY: DOUGLAS | CROSS SECTIONS: MAINLINE (MGS GUARDRAIL) | SHEET 213 | E

FILE NAME : S:\PROJECTS\W11599 WISDOT STH 13, CTH H TO ENGDAHL ROAD DOUGLAS CO\DESIGN\CORRIDORS\STH 13_CORRIDOR.DWG PLOT DATE : 2/4/2022 10:24:10 AM PLOT BY : KARTER ZAJICEK PLOT SCALE : 1" = 1' LAYOUT : B1616 SE BG



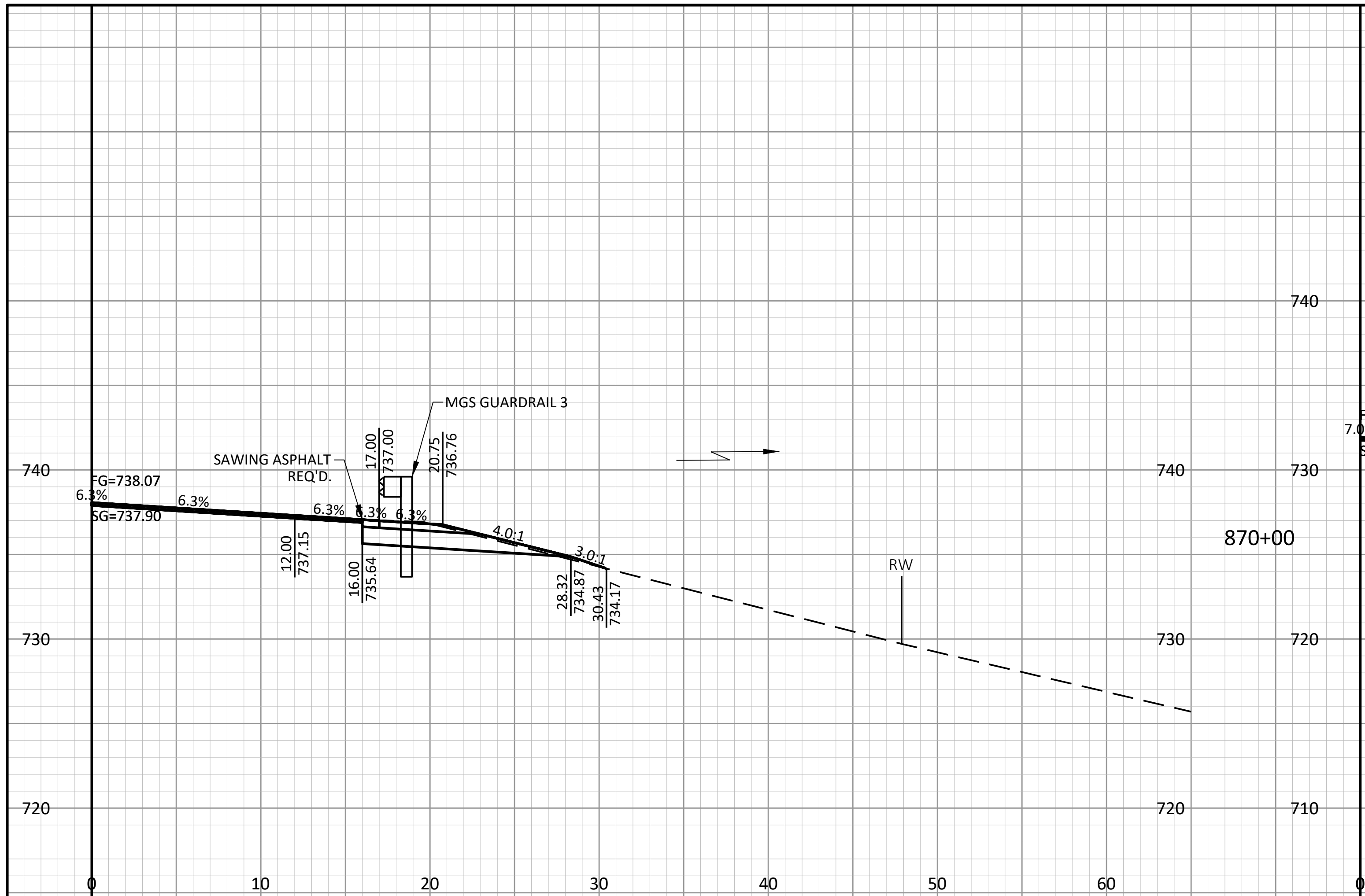


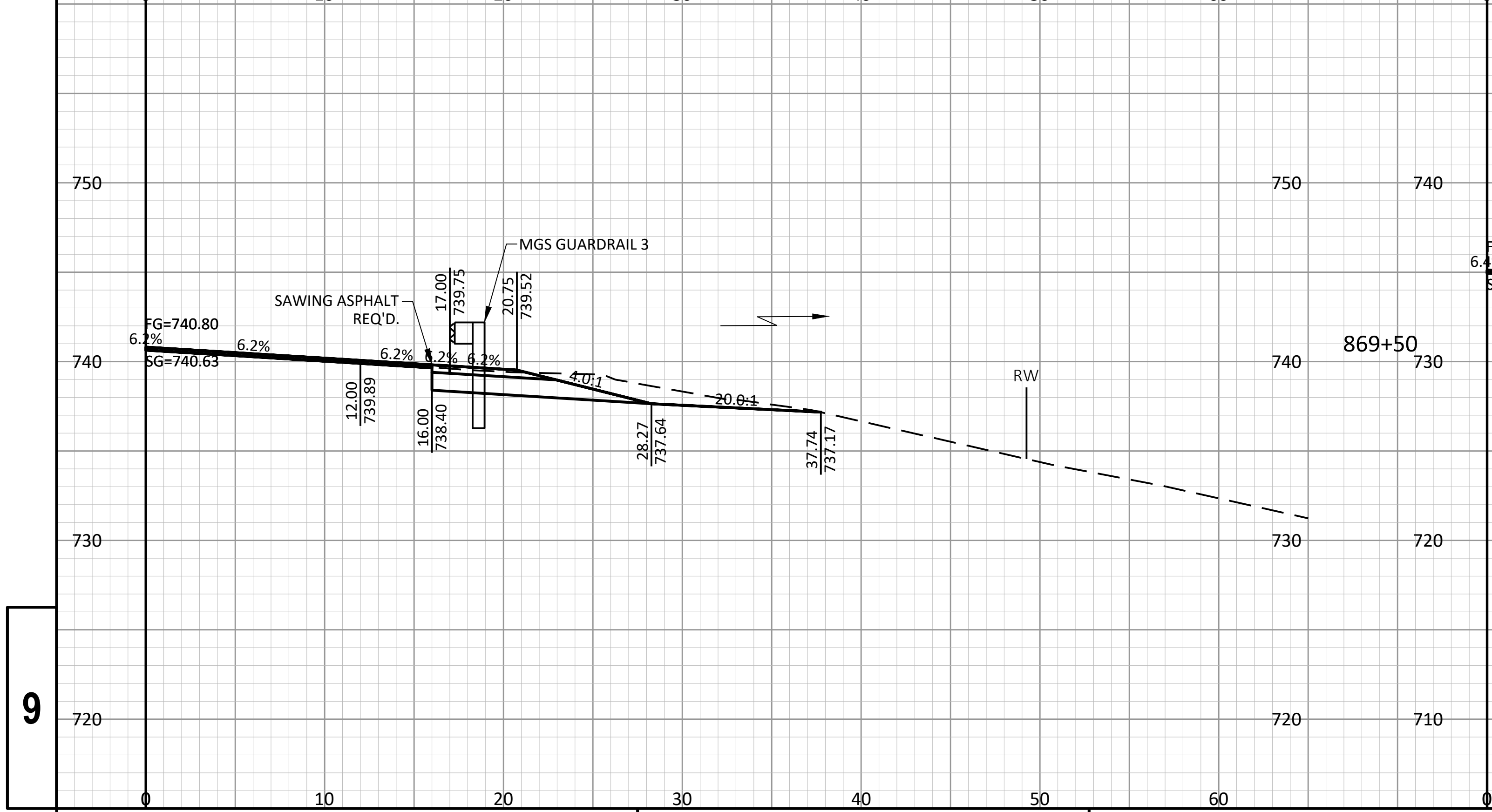


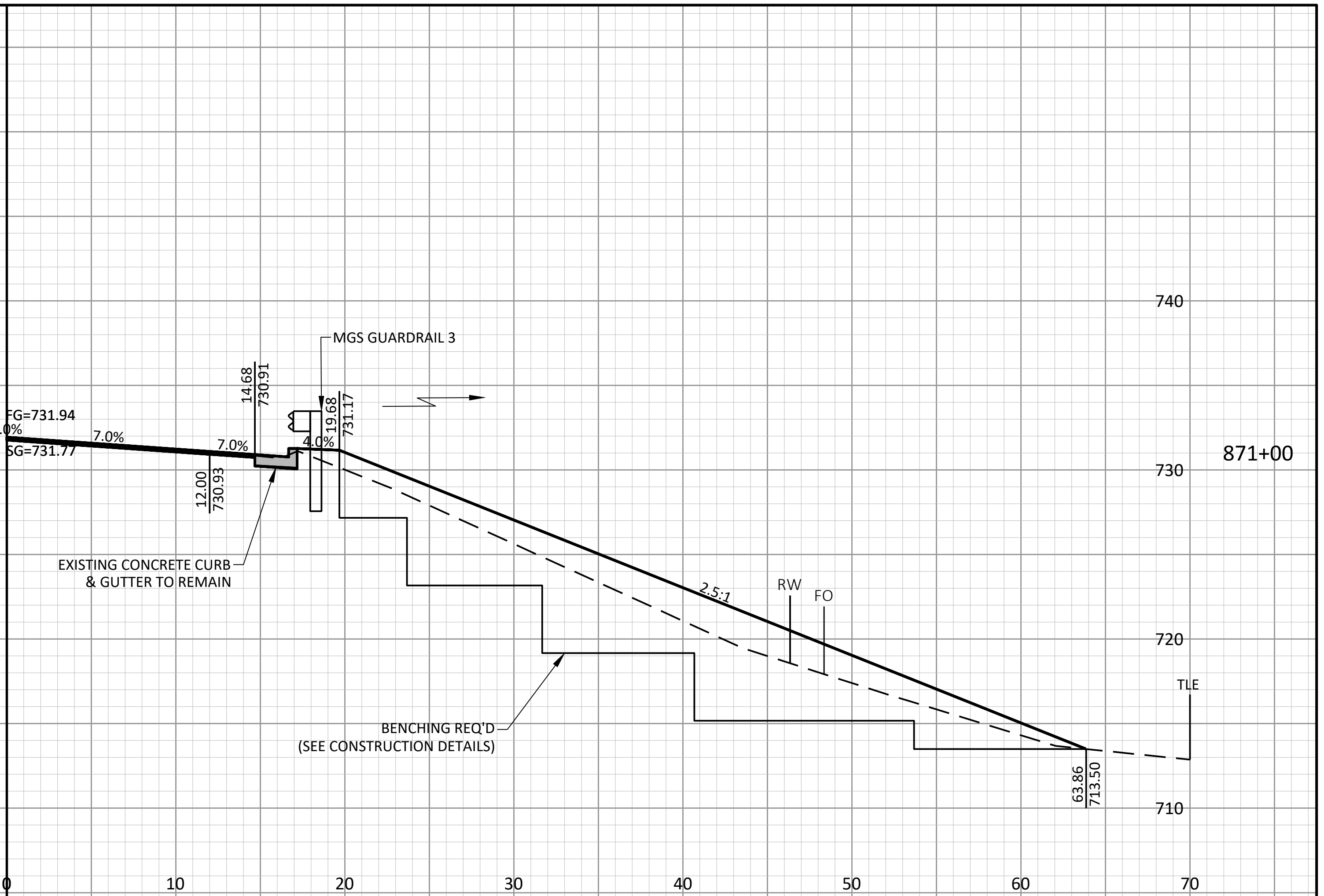


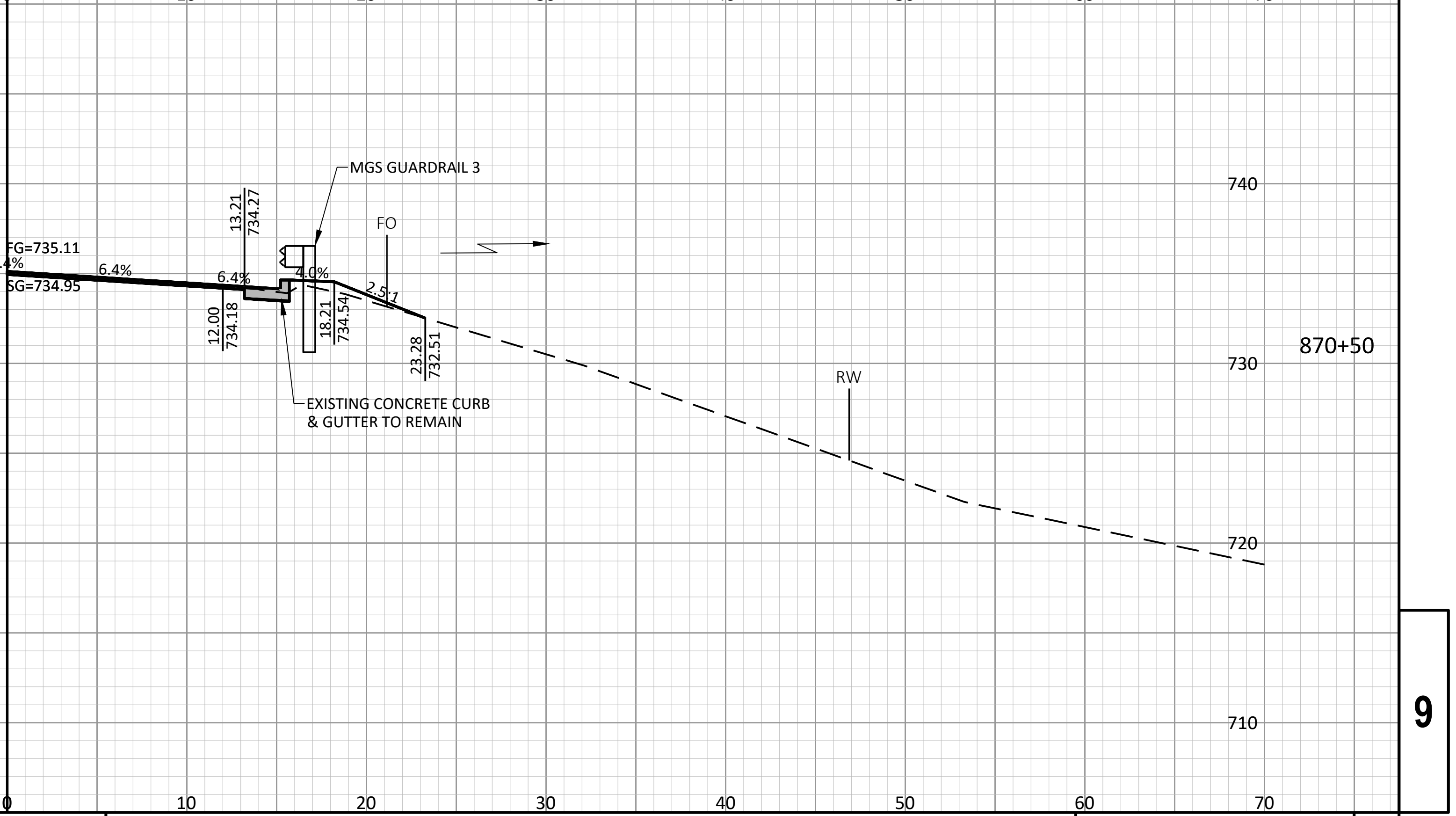
PROJECT NO: 8510-01-70	HWY: STH 13	COUNTY: DOUGLAS	CROSS SECTIONS: MAINLINE (MGS GUARDRAIL)	SHEET 214	E

FILE NAME : S:\PROJECTS\W11599 WISDOT STH 13, CTH H TO ENGDAHL ROAD DOUGLAS CO\DESIGN\CORRIDORS\STH 13_CORRIDOR.DWG PLOT DATE : 2/4/2022 10:24:35 AM PLOT BY : KARTER ZAJICEK PLOT SCALE : 1" = 1' LAYOUT : B1623 SW BG

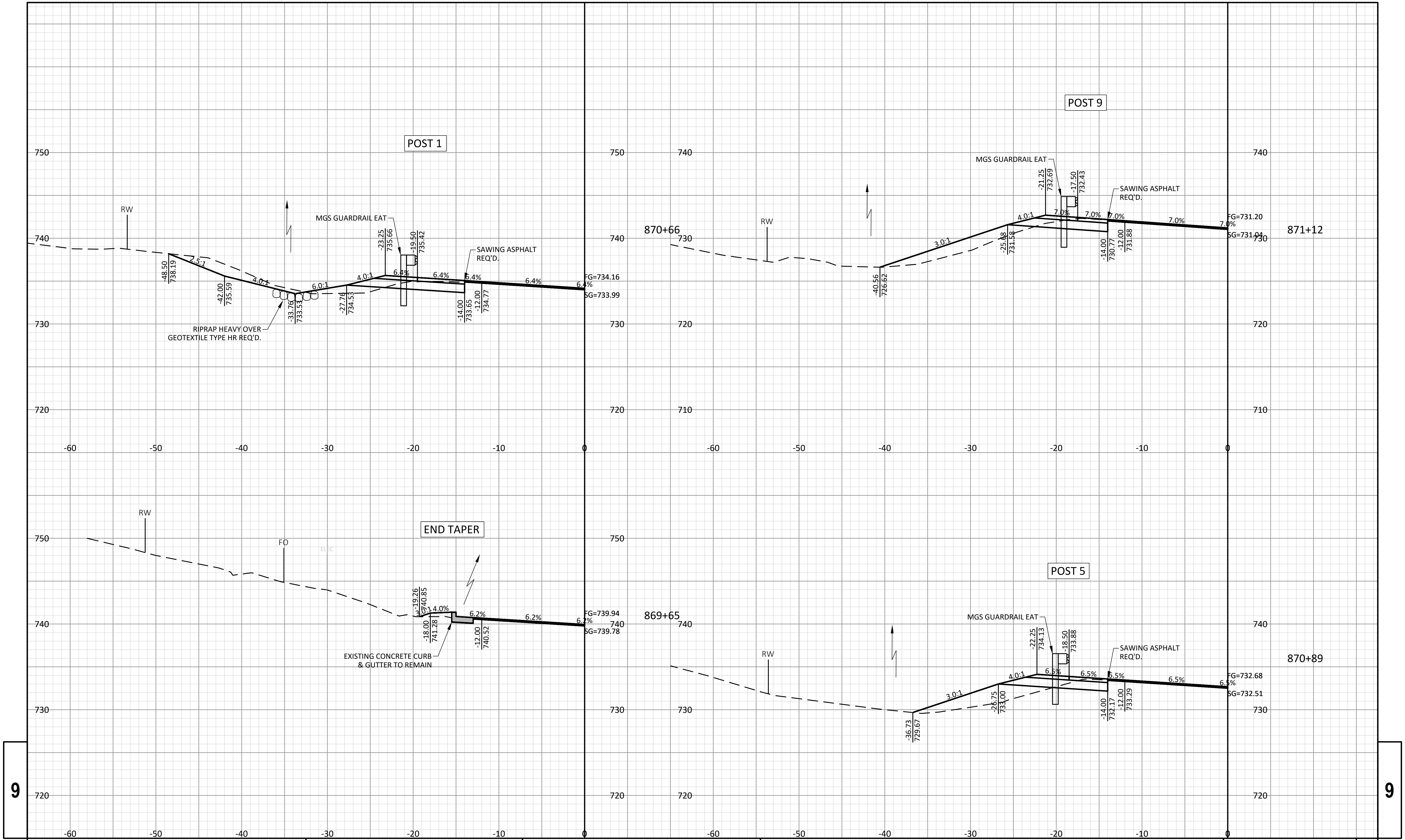








PROJECT NO: 8510-01-70	HWY: STH 13	COUNTY: DOUGLAS	CROSS SECTIONS: MAINLINE (MGS GUARDRAIL)	SHEET 215	E



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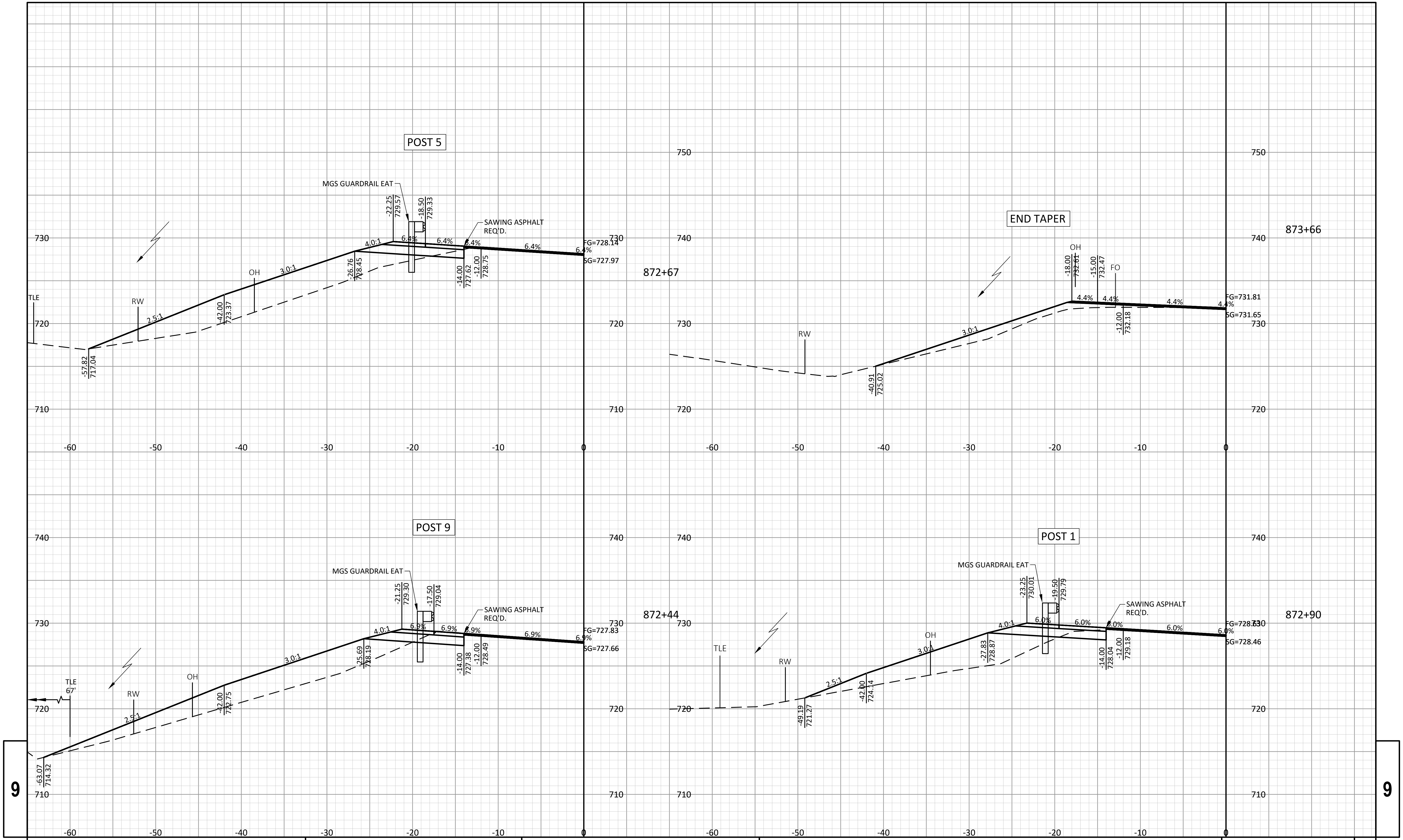
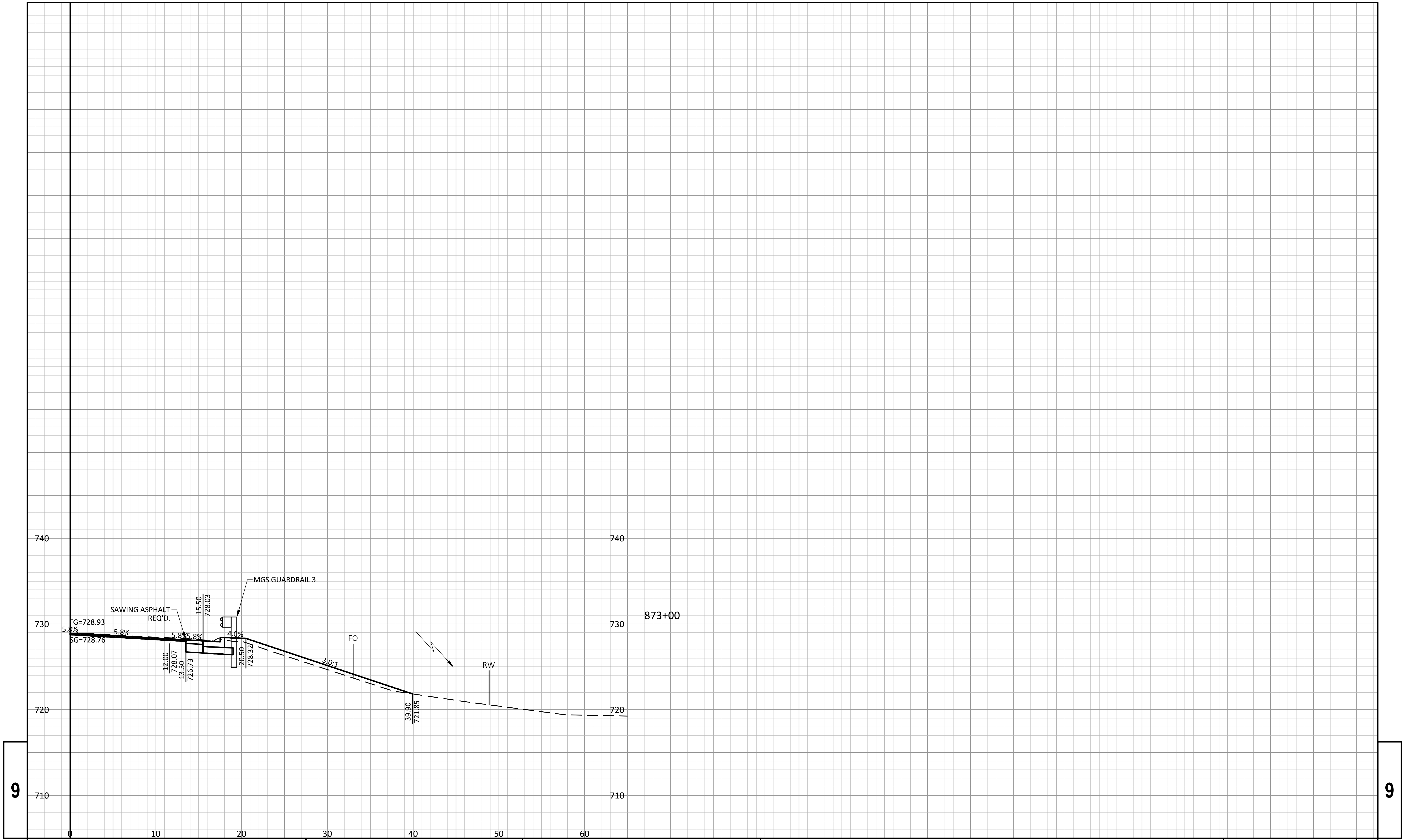
PROJECT NO: 8510-01-70 | HWY: STH 13 | COUNTY: DOUGLAS | CROSS SECTIONS: MAINLINE (MGS GUARDRAIL) | SHEET 216 | E

FILE NAME : S:\PROJECTS\W11599 WISDOT STH 13, CTH H TO ENGDAHL ROAD DOUGLAS CO\DESIGN\CORRIDORS\STH 13_CORRIDOR.DWG PLOT DATE : 2/4/2022 10:25:25 AM PLOT BY : KARTER ZAJICEK PLOT SCALE : 1" = 1' LAYOUT : B1623 NW BG



PROJECT NO: 8510-01-70 | HWY: STH 13 | COUNTY: DOUGLAS | CROSS SECTIONS: MAINLINE (MGS GUARDRAIL) | SHEET 217 | E

FILE NAME : S:\PROJECTS\W11599 WISDOT STH 13, CTH H TO ENGDAHL ROAD DOUGLAS CO\DESIGN\CORRIDORS\STH 13_CORRIDOR.DWG
PLOT DATE : 2/4/2022 10:25:50 AM
PLOT BY : KARTER ZAJICEK
PLOT SCALE : 1" = 1'
LAYOUT : B1623 NE BG



9

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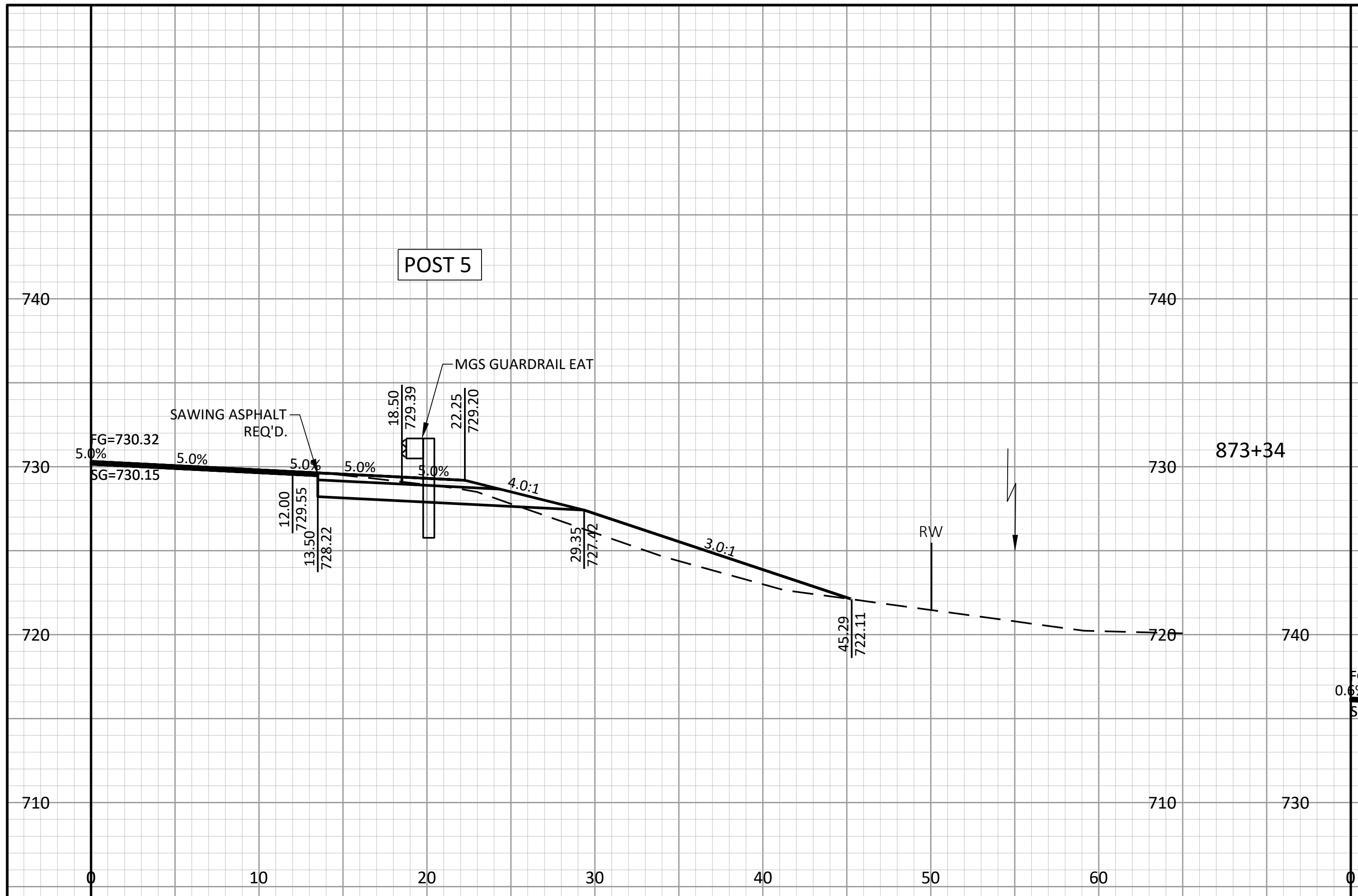
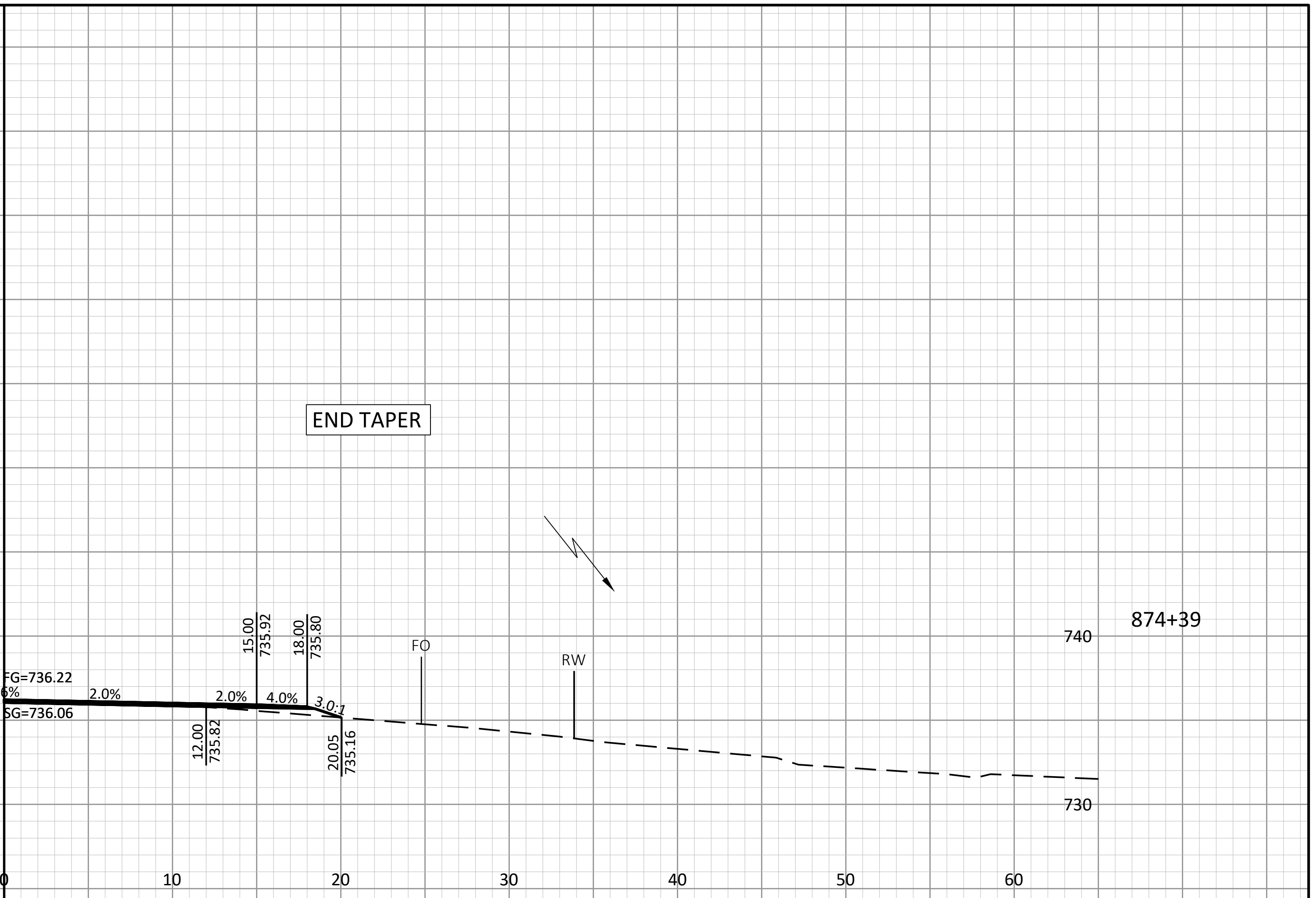
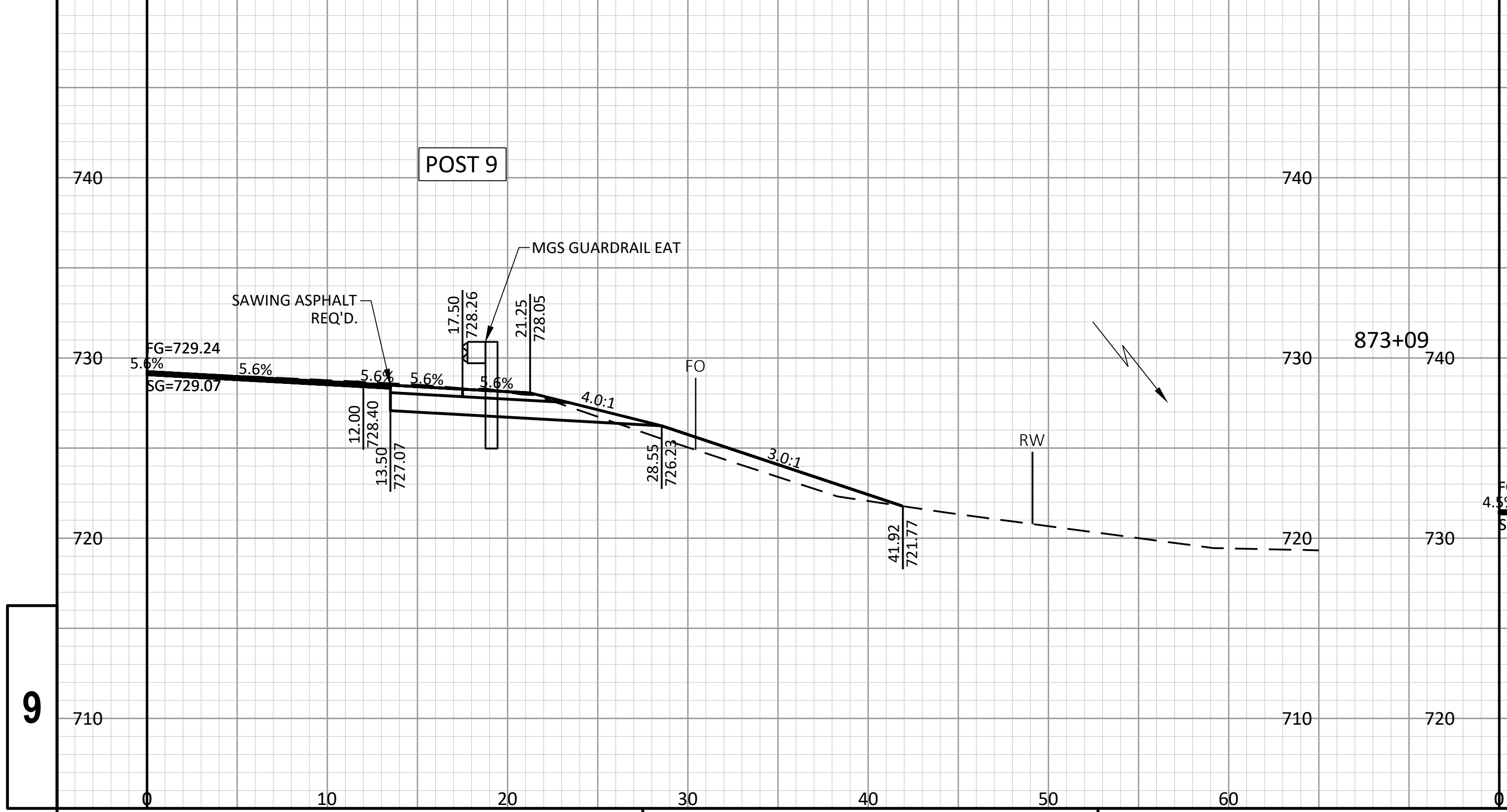
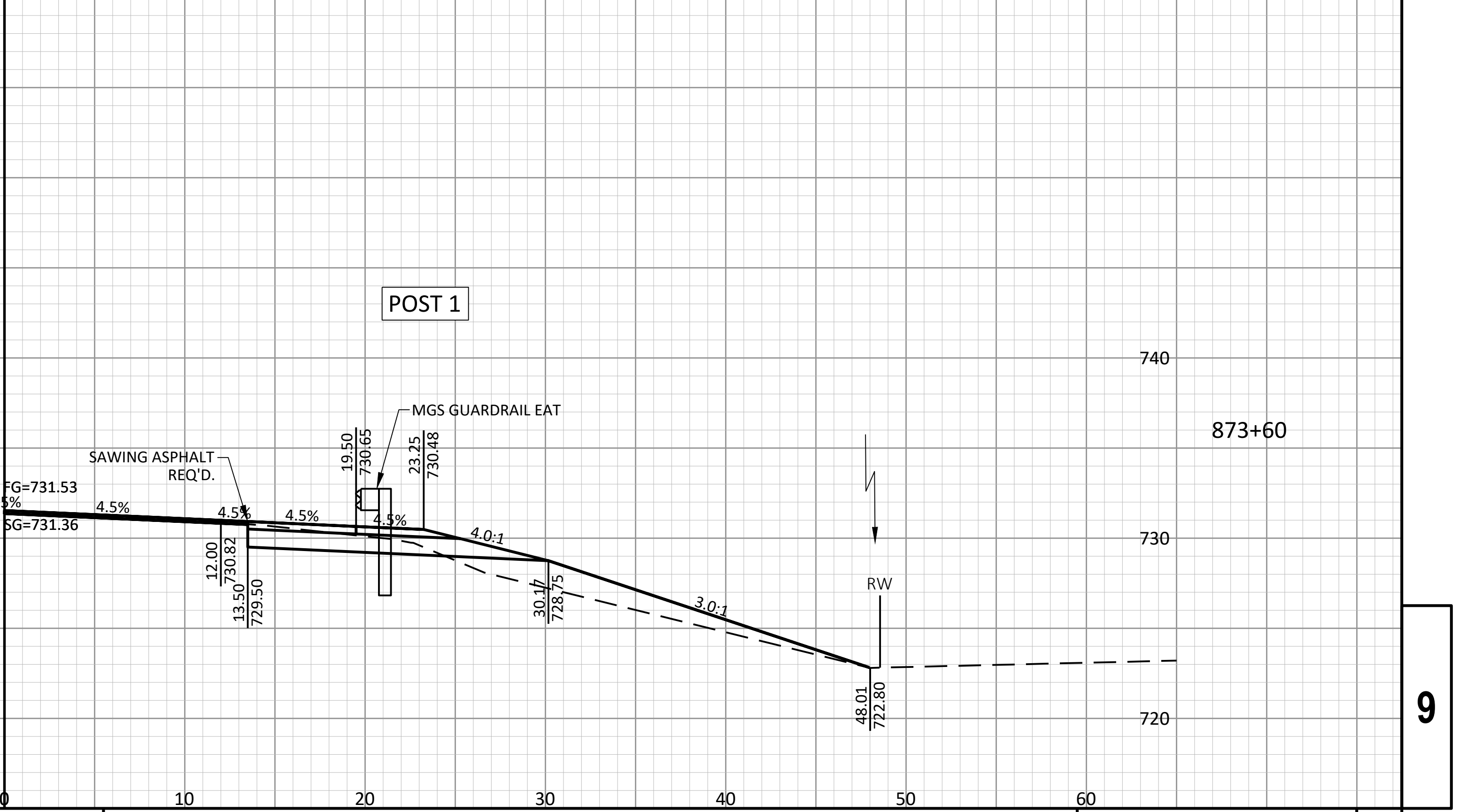
PROJECT NO: 8510-01-70 | HWY: STH 13 | COUNTY: DOUGLAS | CROSS SECTIONS: MAINLINE (MGS GUARDRAIL) | SHEET 218 | E

FILE NAME : S:\PROJECTS\W11599 WISDOT STH 13, CTH H TO ENGDAHL ROAD DOUGLAS CO\DESIGN\CORRIDORS\STH 13_CORRIDOR.DWG PLOT DATE : 2/4/2022 10:26:15 AM PLOT BY : KARTER ZAJICEK PLOT SCALE : 1" = 1' LAYOUT : B-16-23 FULL STATIONS - 2









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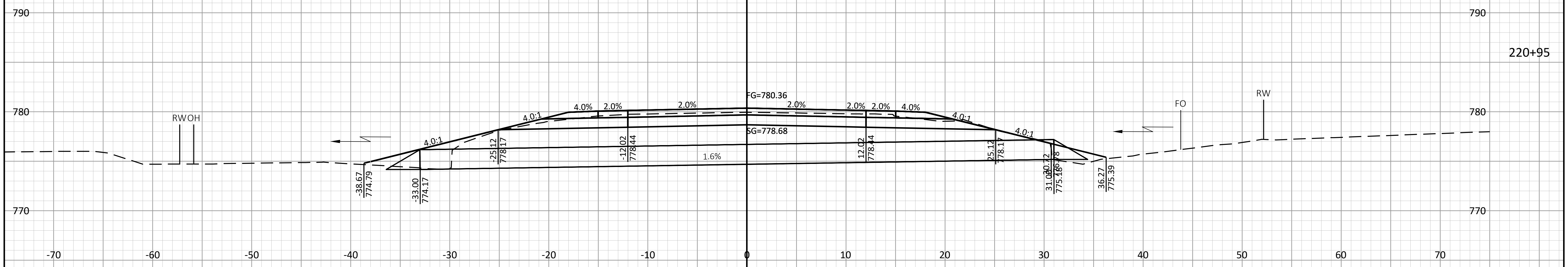
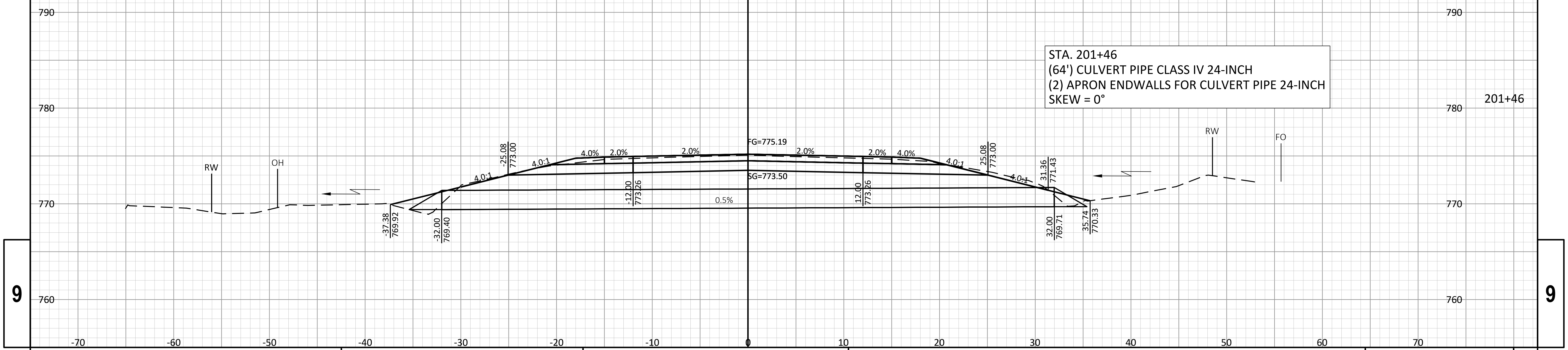
PROJECT NO: 8510-01-70 | HWY: STH 13 | COUNTY: DOUGLAS | CROSS SECTIONS: MAINLINE (MGS GUARDRAIL) | SHEET 219 | E

FILE NAME : S:\PROJECTS\W11599 WISDOT STH 13, CTH H TO ENGDAHL ROAD DOUGLAS CO\DESIGN\CORRIDORS\STH 13_CORRIDOR.DWG PLOT DATE : 2/4/2022 10:26:40 AM PLOT BY : KARTER ZAJICEK PLOT SCALE : 1" = 1' LAYOUT : B1623 SE BG

STA. 220+95
(64') CULVERT PIPE CLASS IV 24-INCH
(2) APRON ENDWALLS FOR CULVERT PIPE 24-INCH
SKEW = 3° LHF

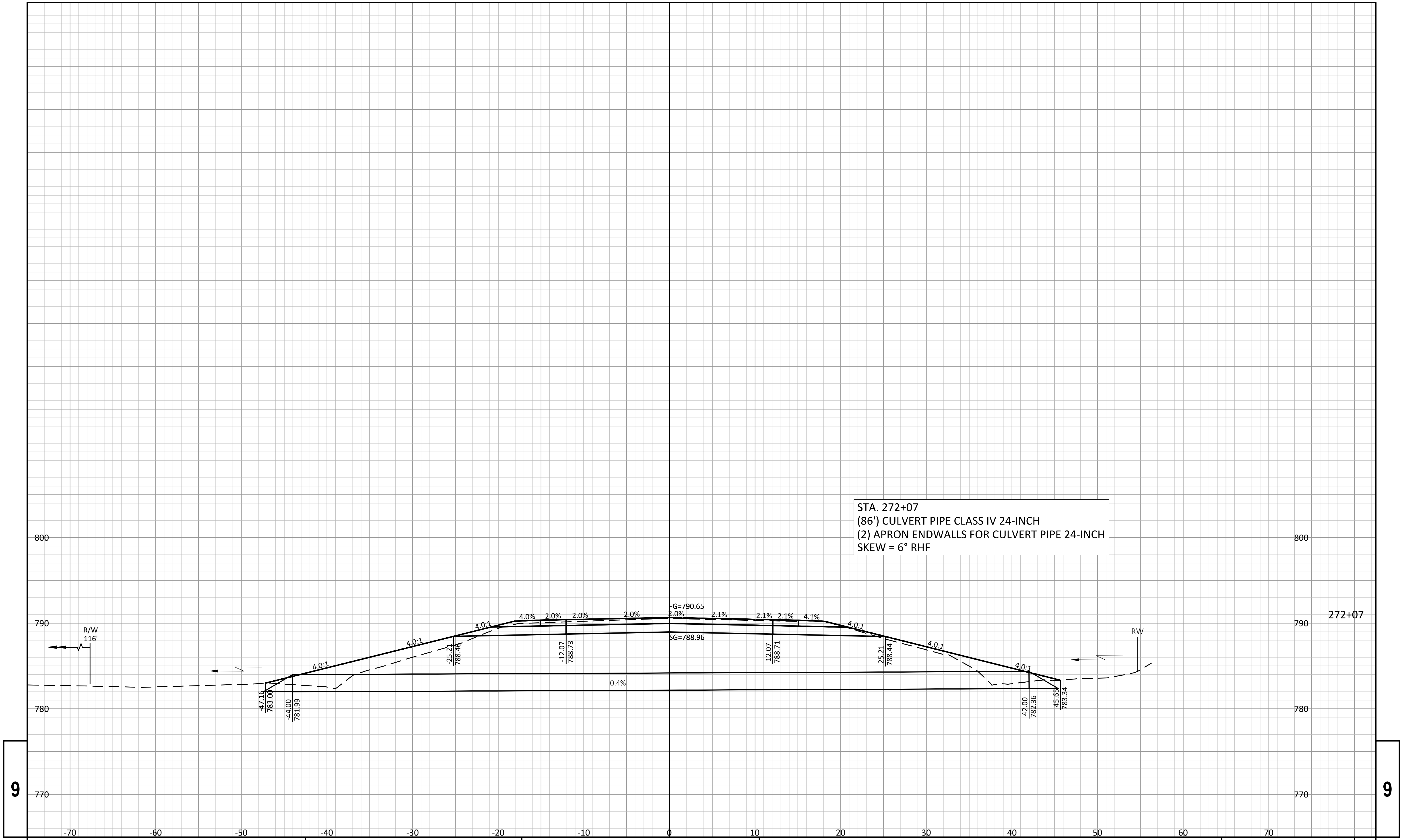


STA. 201+46
(64') CULVERT PIPE CLASS IV 24-INCH
(2) APRON ENDWALLS FOR CULVERT PIPE 24-INCH
SKEW = 0°



PROJECT NO: 8510-01-70	HWY: STH 13	COUNTY: DOUGLAS	CROSS SECTIONS: STH 13 (CULVERT PIPES)	SHEET 220	E

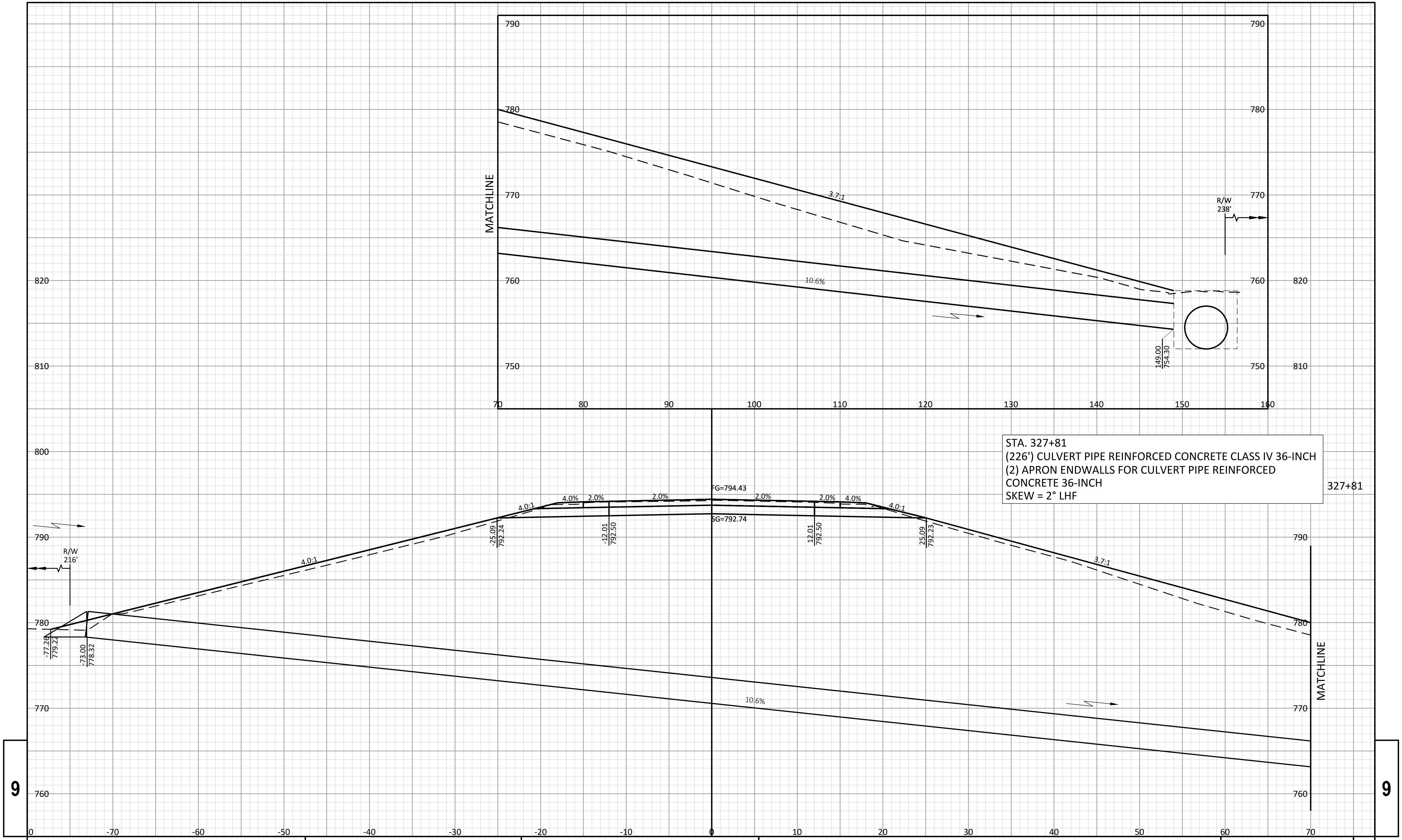
FILE NAME : S:\PROJECTS\W11599 WISDOT STH 13, CTH H TO ENGDAHL ROAD DOUGLAS CO\DESIGN\CORRIDORS\STH 13_CULVERT CORRIDOR.DWG PLOT DATE : 2/9/2022 3:05:09 PM PLOT BY : KARTER ZAJICEK PLOT SCALE : 1" = 1' LAYOUT : CULVERTS - 1



STA. 272+07
(86') CULVERT PIPE CLASS IV 24-INCH
(2) APRON ENDWALLS FOR CULVERT PIPE 24-INCH
SKEW = 6° RHF

PROJECT NO: 8510-01-70 | HWY: STH 13 | COUNTY: DOUGLAS | CROSS SECTIONS: STH 13 (CULVERT PIPES) | SHEET 221 | E

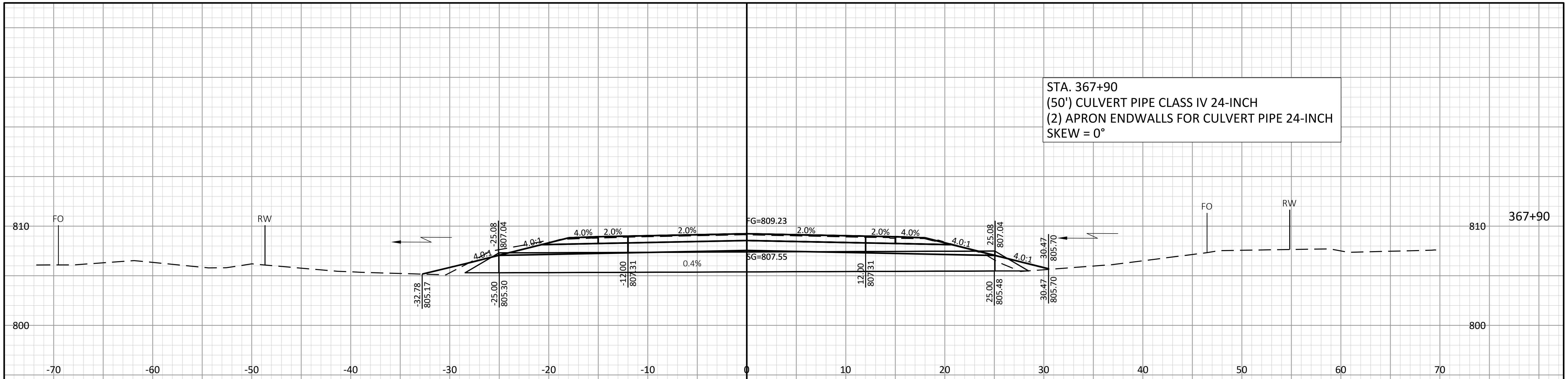
FILE NAME : S:\PROJECTS\W11599 WISDOT STH 13, CTH H TO ENGDAHL ROAD DOUGLAS CO\DESIGN\CORRIDORS\STH 13_CULVERT CORRIDOR.DWG PLOT DATE : 2/4/2022 10:27:20 AM PLOT BY : KARTER ZAJICEK PLOT SCALE : 1" = 1' LAYOUT : CULVERTS - 2



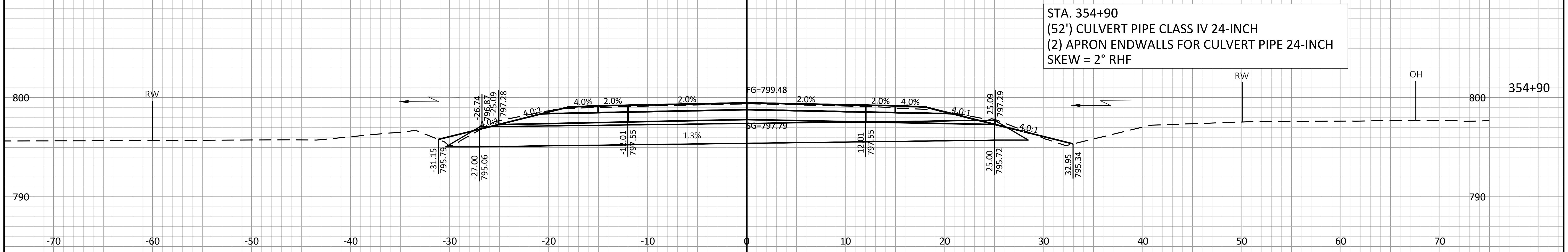
STA. 327+81
(226') CULVERT PIPE REINFORCED CONCRETE CLASS IV 36-INCH
(2) APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 36-INCH
SKEW = 2° LHF

PROJECT NO: 8510-01-70	HWY: STH 13	COUNTY: DOUGLAS	CROSS SECTIONS: STH 13 (CULVERT PIPES)	SHEET	E

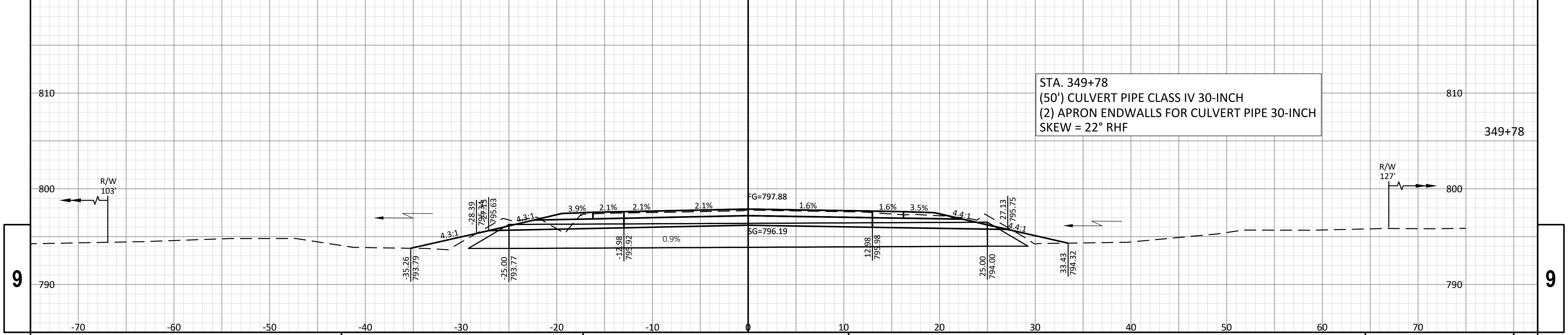
FILE NAME : S:\PROJECTS\W11599 WISDOT STH 13, CTH H TO ENGDAHL ROAD DOUGLAS CO\DESIGN\CORRIDORS\STH 13_CULVERT CORRIDOR.DWG PLOT DATE : 2/4/2022 10:27:30 AM PLOT BY : KARTER ZAJICEK PLOT SCALE : 1" = 1' LAYOUT : CULVERTS - 3



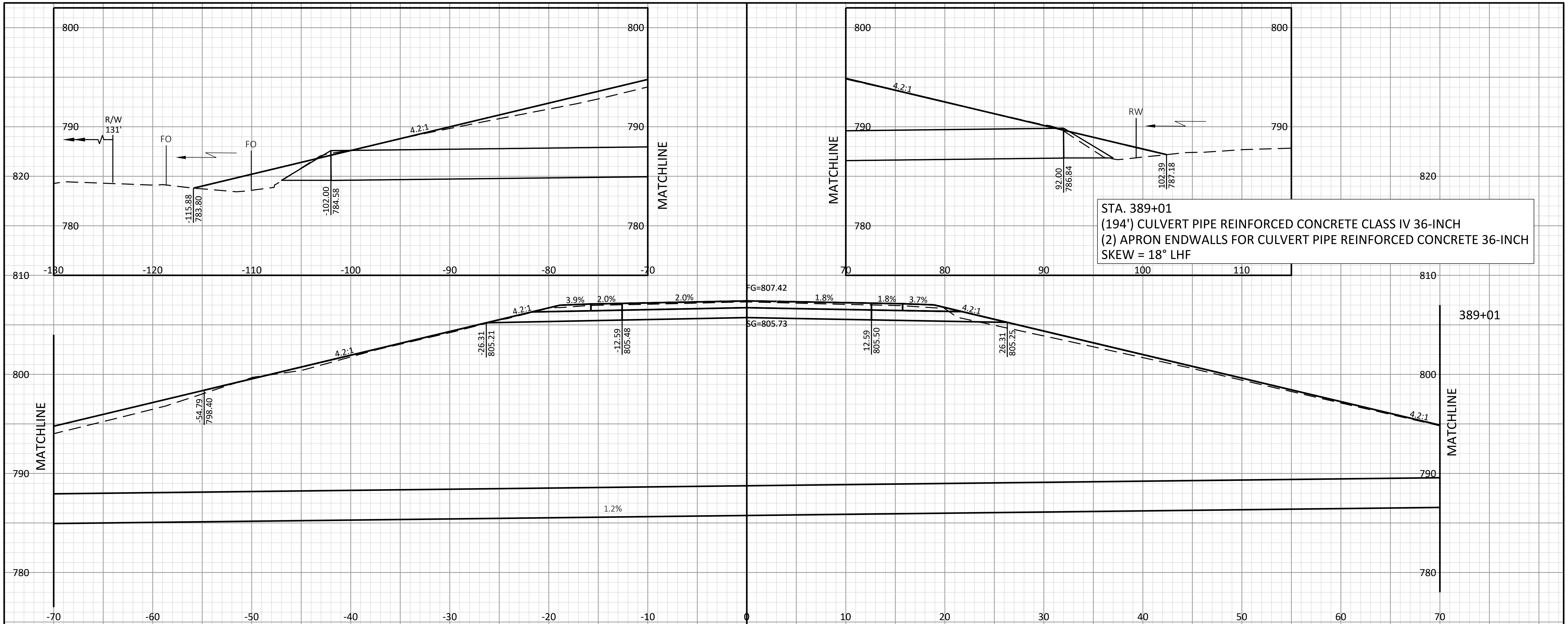
STA. 367+90
(50') CULVERT PIPE CLASS IV 24-INCH
(2) APRON ENDWALLS FOR CULVERT PIPE 24-INCH
SKEW = 0°



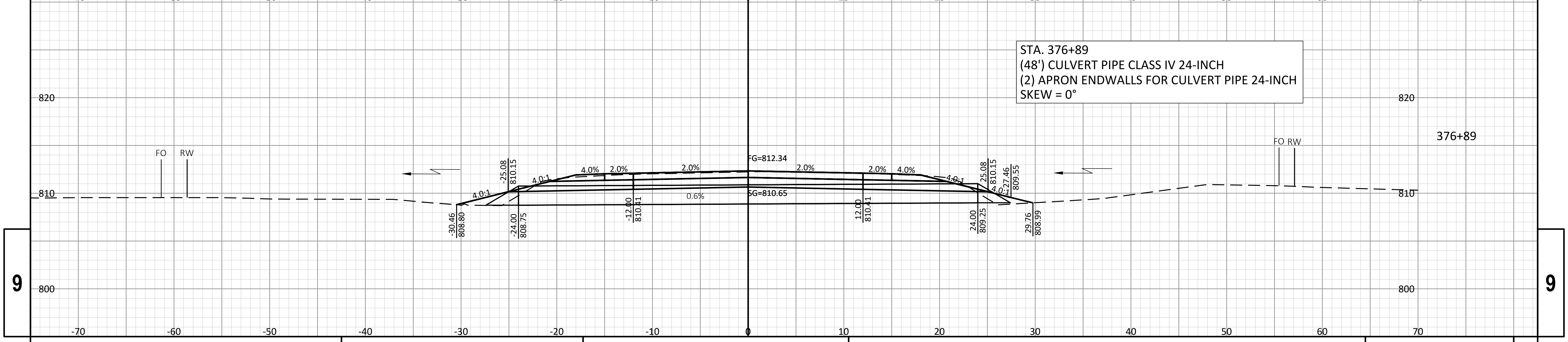
STA. 354+90
(52') CULVERT PIPE CLASS IV 24-INCH
(2) APRON ENDWALLS FOR CULVERT PIPE 24-INCH
SKEW = 2° RHF



STA. 349+78
(50') CULVERT PIPE CLASS IV 30-INCH
(2) APRON ENDWALLS FOR CULVERT PIPE 30-INCH
SKEW = 22° RHF



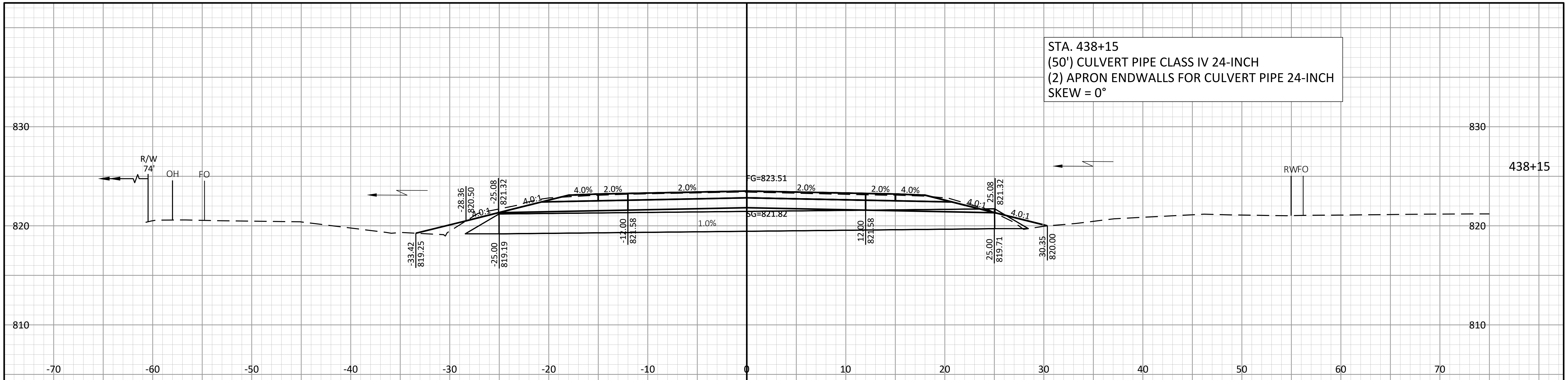
STA. 389+01
(194') CULVERT PIPE REINFORCED CONCRETE CLASS IV 36-INCH
(2) APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 36-INCH
SKEW = 18° LHF



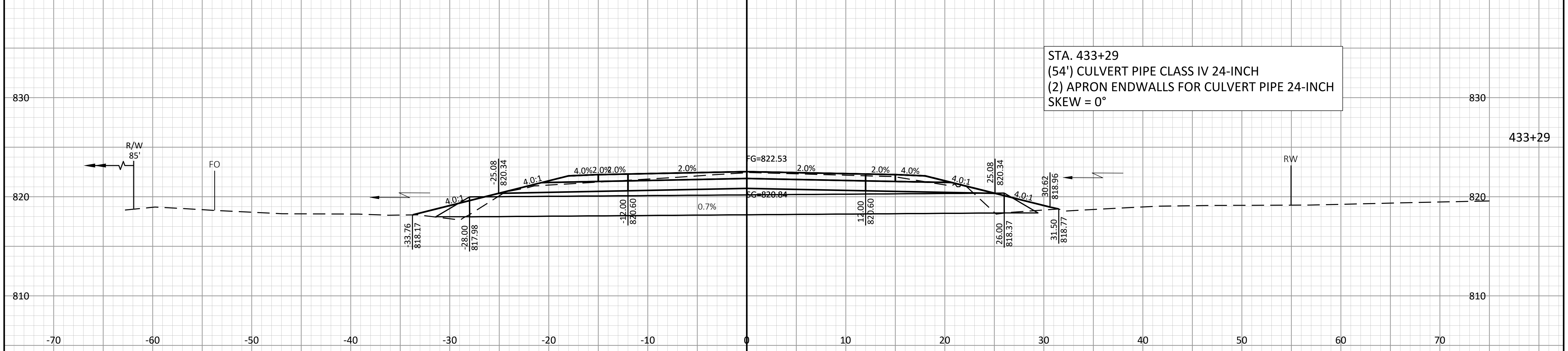
STA. 376+89
(48') CULVERT PIPE CLASS IV 24-INCH
(2) APRON ENDWALLS FOR CULVERT PIPE 24-INCH
SKEW = 0°

PROJECT NO: 8510-01-70	HWY: STH 13	COUNTY: DOUGLAS	CROSS SECTIONS: STH 13 (CULVERT PIPES)	SHEET 224	E

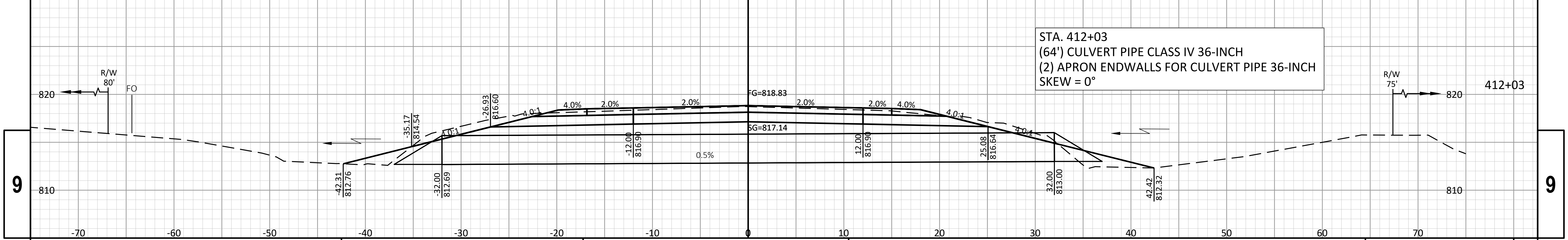
FILE NAME : S:\PROJECTS\W11599 WISDOT STH 13, CTH H TO ENGDAHL ROAD DOUGLAS CO\DESIGN\CORRIDORS\STH 13_CULVERT CORRIDOR.DWG PLOT DATE : 2/4/2022 10:27:50 AM PLOT BY : KARTER ZAJICEK PLOT SCALE : 1" = 1' LAYOUT : CULVERTS - 5



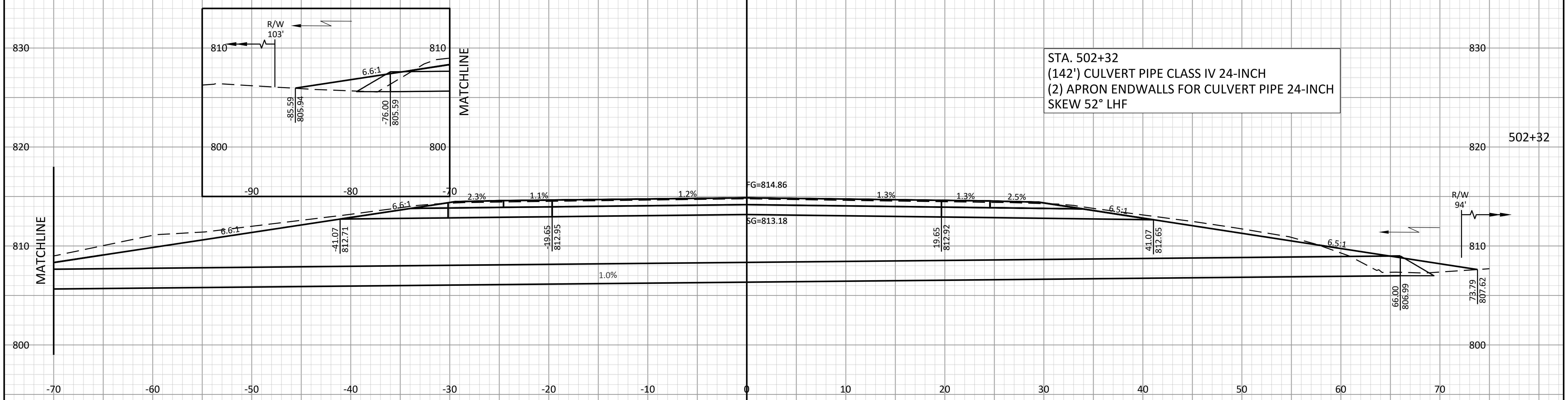
STA. 438+15
(50') CULVERT PIPE CLASS IV 24-INCH
(2) APRON ENDWALLS FOR CULVERT PIPE 24-INCH
SKEW = 0°

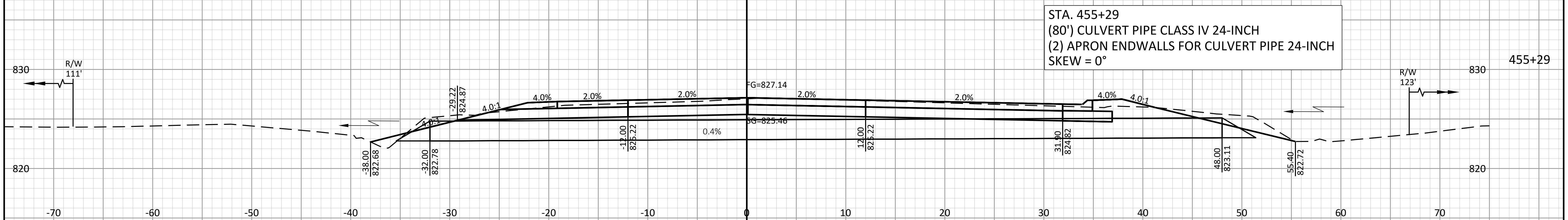


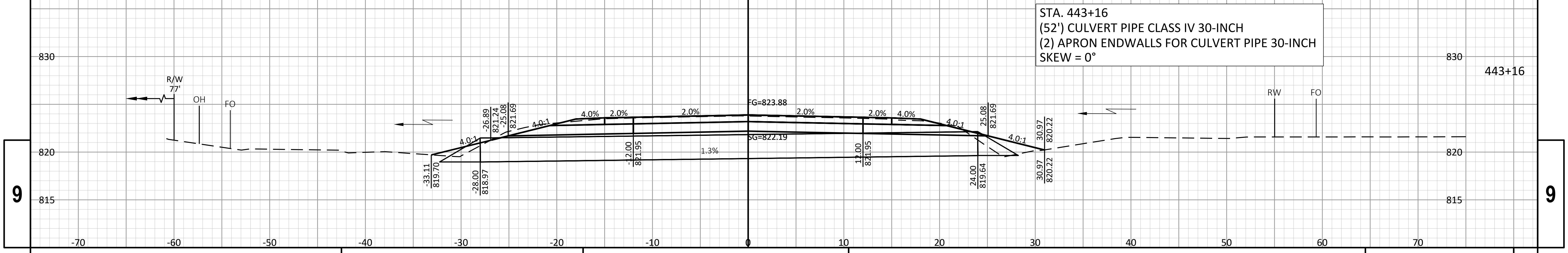
STA. 433+29
(54') CULVERT PIPE CLASS IV 24-INCH
(2) APRON ENDWALLS FOR CULVERT PIPE 24-INCH
SKEW = 0°



STA. 412+03
(64') CULVERT PIPE CLASS IV 36-INCH
(2) APRON ENDWALLS FOR CULVERT PIPE 36-INCH
SKEW = 0°


STA. 502+32
(142') CULVERT PIPE CLASS IV 24-INCH
(2) APRON ENDWALLS FOR CULVERT PIPE 24-INCH
SKEW 52° LHF


STA. 455+29
(80') CULVERT PIPE CLASS IV 24-INCH
(2) APRON ENDWALLS FOR CULVERT PIPE 24-INCH
SKEW = 0°


STA. 443+16
(52') CULVERT PIPE CLASS IV 30-INCH
(2) APRON ENDWALLS FOR CULVERT PIPE 30-INCH
SKEW = 0°

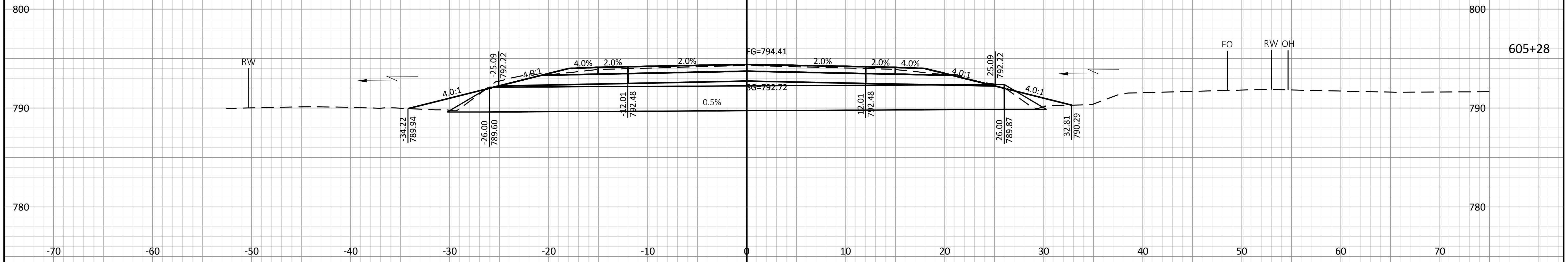
9

9

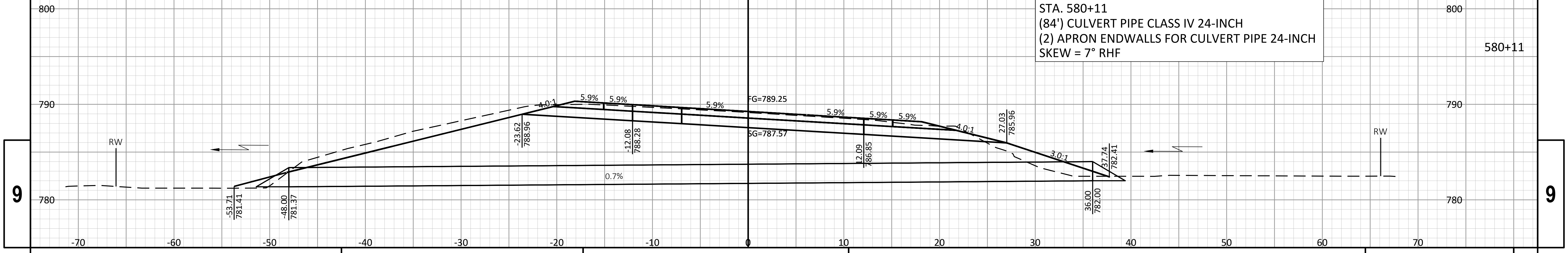
PROJECT NO: 8510-01-70	HWY: STH 13	COUNTY: DOUGLAS	CROSS SECTIONS: STH 13 (CULVERT PIPES)	SHEET	E

FILE NAME : S:\PROJECTS\W11599 WISDOT STH 13, CTH H TO ENGDAHL ROAD DOUGLAS CO\DESIGN\CORRIDORS\STH 13_CULVERT CORRIDOR.DWG PLOT DATE : 2/4/2022 10:28:11 AM PLOT BY : KARTER ZAJICEK PLOT SCALE : 1" = 1' LAYOUT : CULVERTS - 7

STA. 605+28
(52') CULVERT PIPE CLASS IV 30-INCH
(2) APRON ENDWALLS FOR CULVERT PIPE 30-INCH
SKEW = 2° LHF



STA. 580+11
(84') CULVERT PIPE CLASS IV 24-INCH
(2) APRON ENDWALLS FOR CULVERT PIPE 24-INCH
SKEW = 7° RHF



9

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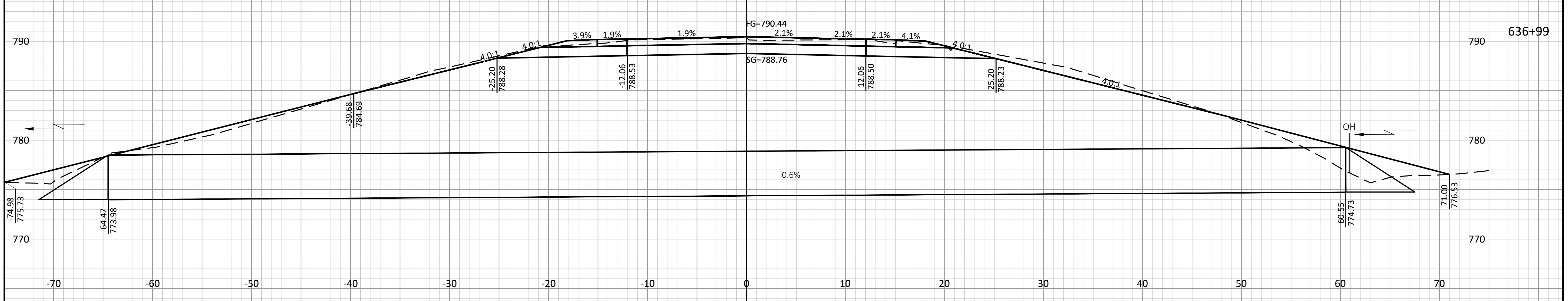
PROJECT NO: 8510-01-70	HWY: STH 13	COUNTY: DOUGLAS	CROSS SECTIONS: STH 13 (CULVERT PIPES)	SHEET 227	E

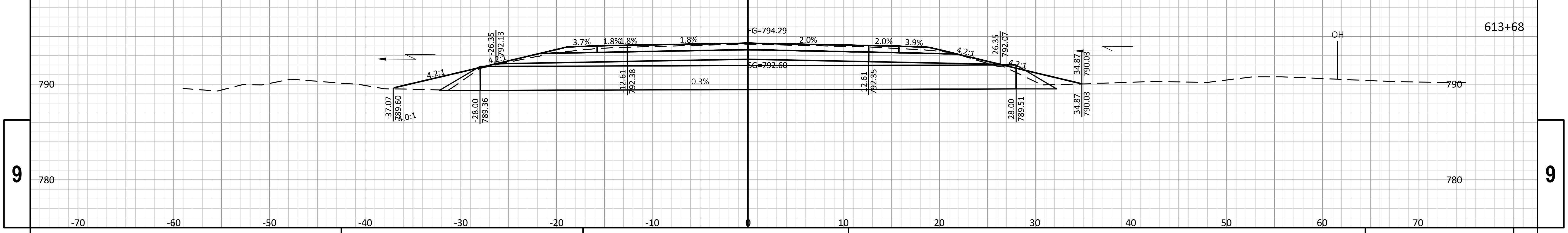
FILE NAME : S:\PROJECTS\W11599 WISDOT STH 13, CTH H TO ENGDAHL ROAD DOUGLAS CO\DESIGN\CORRIDORS\STH 13_CULVERT CORRIDOR.DWG PLOT DATE : 2/4/2022 10:28:20 AM PLOT BY : KARTER ZAJICEK PLOT SCALE : 1" = 1' LAYOUT : CULVERTS - 8

STA. 636+99
(120') CULVERT PIPE CLASS III 54-INCH
(2) APRON ENDWALLS FOR CULVERT PIPE 54-INCH
SKEW = 6° RHF

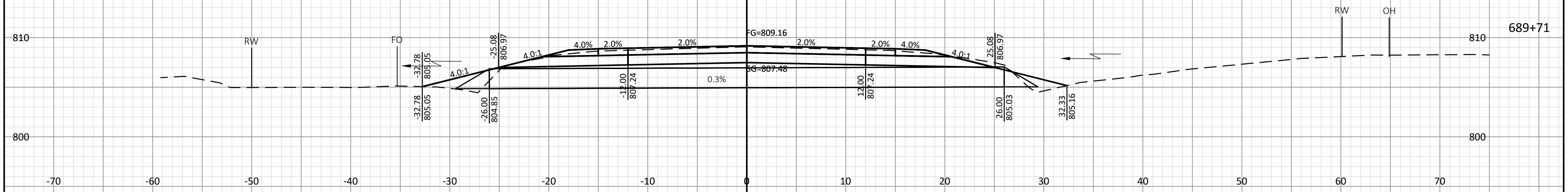
NOTE: PROPOSED CULVERT PIPE TO BE PLACED APPROXIMATELY 1.2 FT. BELOW ELEVATIONS OF EXISTING CULVERT PIPE (TO BE REMOVED) TO ALLOW FOR NATURAL STREAMBED MATERIALS TO SETTLE IN BOTTOM OF NEW PIPE.



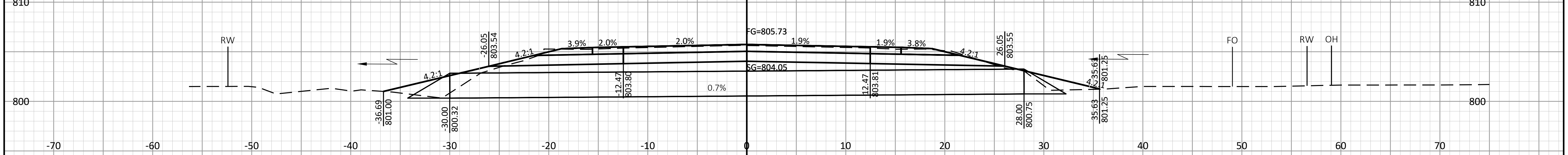
STA. 613+68
(56') CULVERT PIPE CLASS IV 30-INCH
(2) APRON ENDWALLS FOR CULVERT PIPE 30-INCH
SKEW = 18° LHF



STA. 689+71
(52') CULVERT PIPE CLASS IV 24-INCH
(2) APRON ENDWALLS FOR CULVERT PIPE 24-INCH
SKEW = 0°



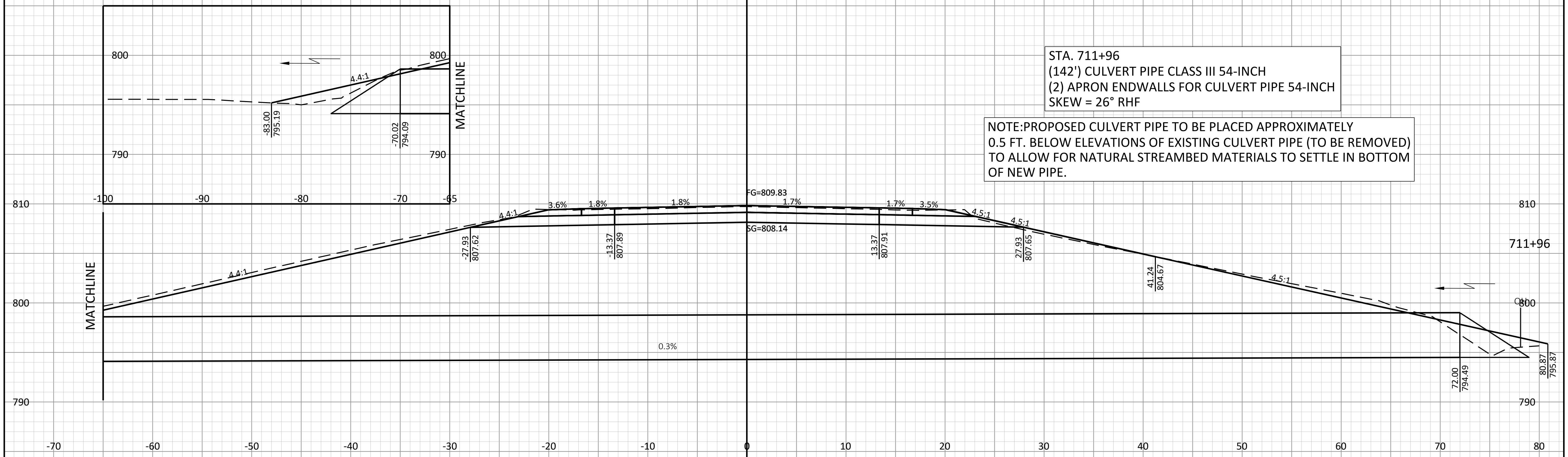
STA. 677+82
(58') CULVERT PIPE CLASS IV 30-INCH
(2) APRON ENDWALLS FOR CULVERT PIPE 30-INCH
SKEW = 16° LHF



STA. 664+28
(58') CULVERT PIPE CLASS IV 30-INCH
(2) APRON ENDWALLS FOR CULVERT PIPE 30-INCH
SKEW = 12° LHF

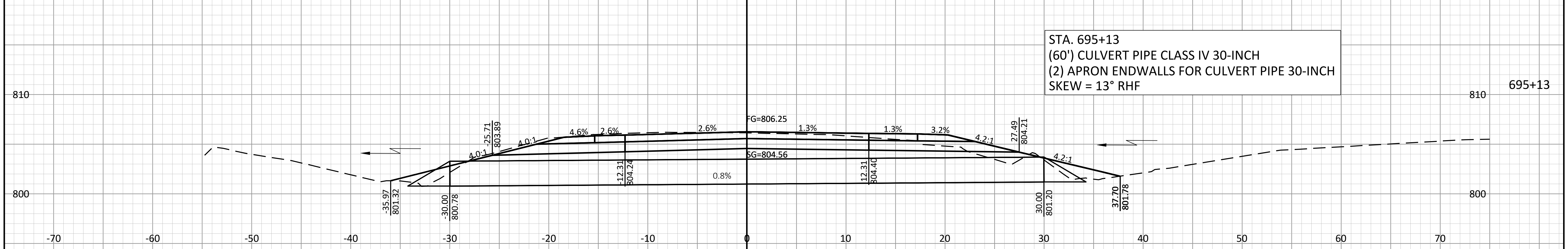
PROJECT NO: 8510-01-70	HWY: STH 13	COUNTY: DOUGLAS	CROSS SECTIONS: STH 13 (CULVERT PIPES)	SHEET 229	E

FILE NAME : S:\PROJECTS\W11599 WISDOT STH 13, CTH H TO ENGDAHL ROAD DOUGLAS CO\DESIGN\CORRIDORS\STH 13_CULVERT CORRIDOR.DWG PLOT DATE : 2/4/2022 10:28:41 AM PLOT BY : KARTER ZAJICEK PLOT SCALE : 1" = 1' LAYOUT : CULVERTS - 10

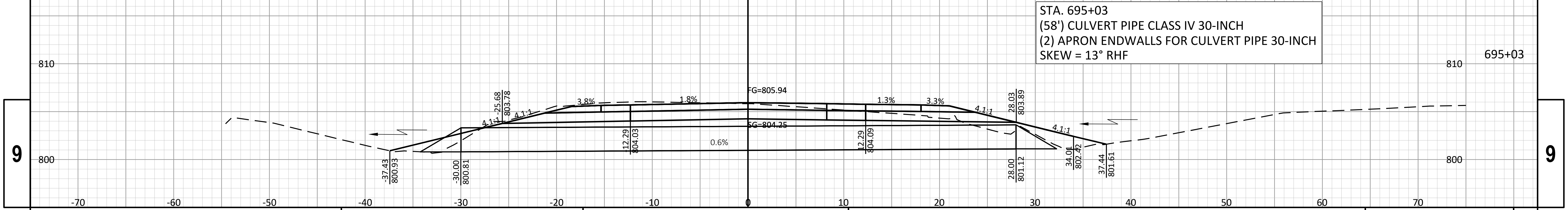


STA. 711+96
(142') CULVERT PIPE CLASS III 54-INCH
(2) APRON ENDWALLS FOR CULVERT PIPE 54-INCH
SKEW = 26° RHF

NOTE:PROPOSED CULVERT PIPE TO BE PLACED APPROXIMATELY 0.5 FT. BELOW ELEVATIONS OF EXISTING CULVERT PIPE (TO BE REMOVED) TO ALLOW FOR NATURAL STREAMBED MATERIALS TO SETTLE IN BOTTOM OF NEW PIPE.



STA. 695+13
(60') CULVERT PIPE CLASS IV 30-INCH
(2) APRON ENDWALLS FOR CULVERT PIPE 30-INCH
SKEW = 13° RHF



STA. 695+03
(58') CULVERT PIPE CLASS IV 30-INCH
(2) APRON ENDWALLS FOR CULVERT PIPE 30-INCH
SKEW = 13° RHF

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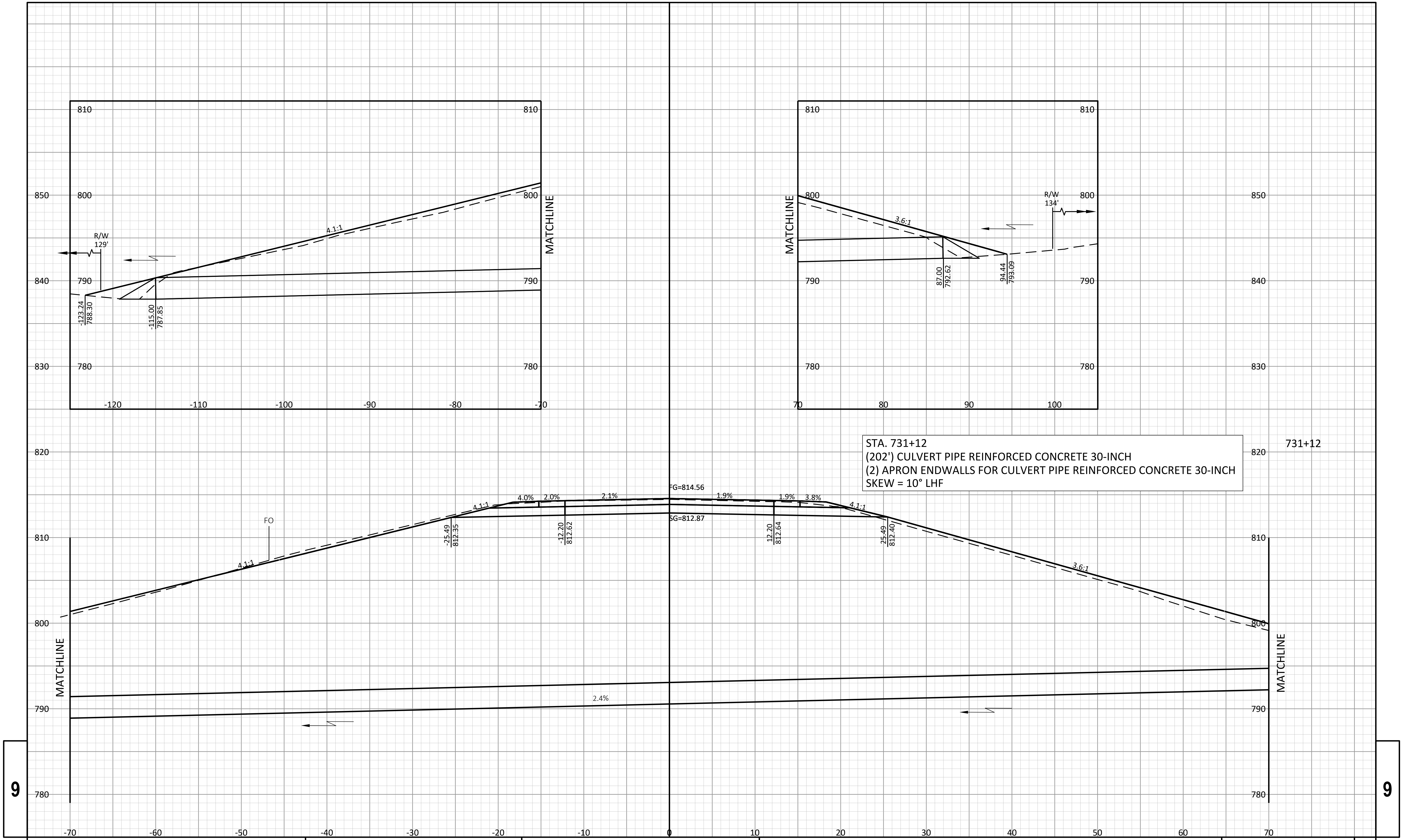
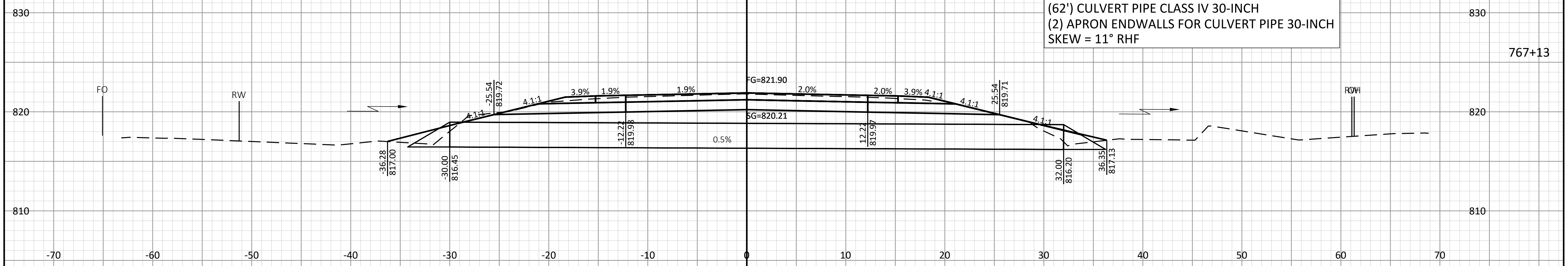
PROJECT NO: 8510-01-70	HWY: STH 13	COUNTY: DOUGLAS	CROSS SECTIONS: STH 13 (CULVERT PIPES)	SHEET 230	E

FILE NAME : S:\PROJECTS\W11599 WISDOT STH 13, CTH H TO ENGDAHL ROAD DOUGLAS CO\DESIGN\CORRIDORS\STH 13_CULVERT CORRIDOR.DWG PLOT DATE : 7/22/2022 8:54:33 AM PLOT BY : JEFF SMITH PLOT SCALE : 1" = 1' LAYOUT : CULVERTS - 11

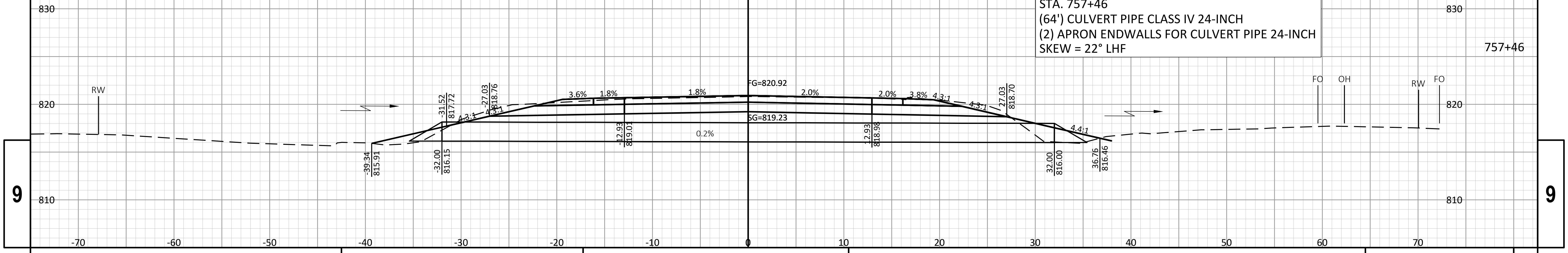


STA. 731+12
(202') CULVERT PIPE REINFORCED CONCRETE 30-INCH
(2) APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 30-INCH
SKEW = 10° LHF

PROJECT NO: 8510-01-70	HWY: STH 13	COUNTY: DOUGLAS	CROSS SECTIONS: STH 13 (CULVERT PIPES)	SHEET 231	E



STA. 767+13
(62') CULVERT PIPE CLASS IV 30-INCH
(2) APRON ENDWALLS FOR CULVERT PIPE 30-INCH
SKEW = 11° RHF



STA. 757+46
(64') CULVERT PIPE CLASS IV 24-INCH
(2) APRON ENDWALLS FOR CULVERT PIPE 24-INCH
SKEW = 22° LHF

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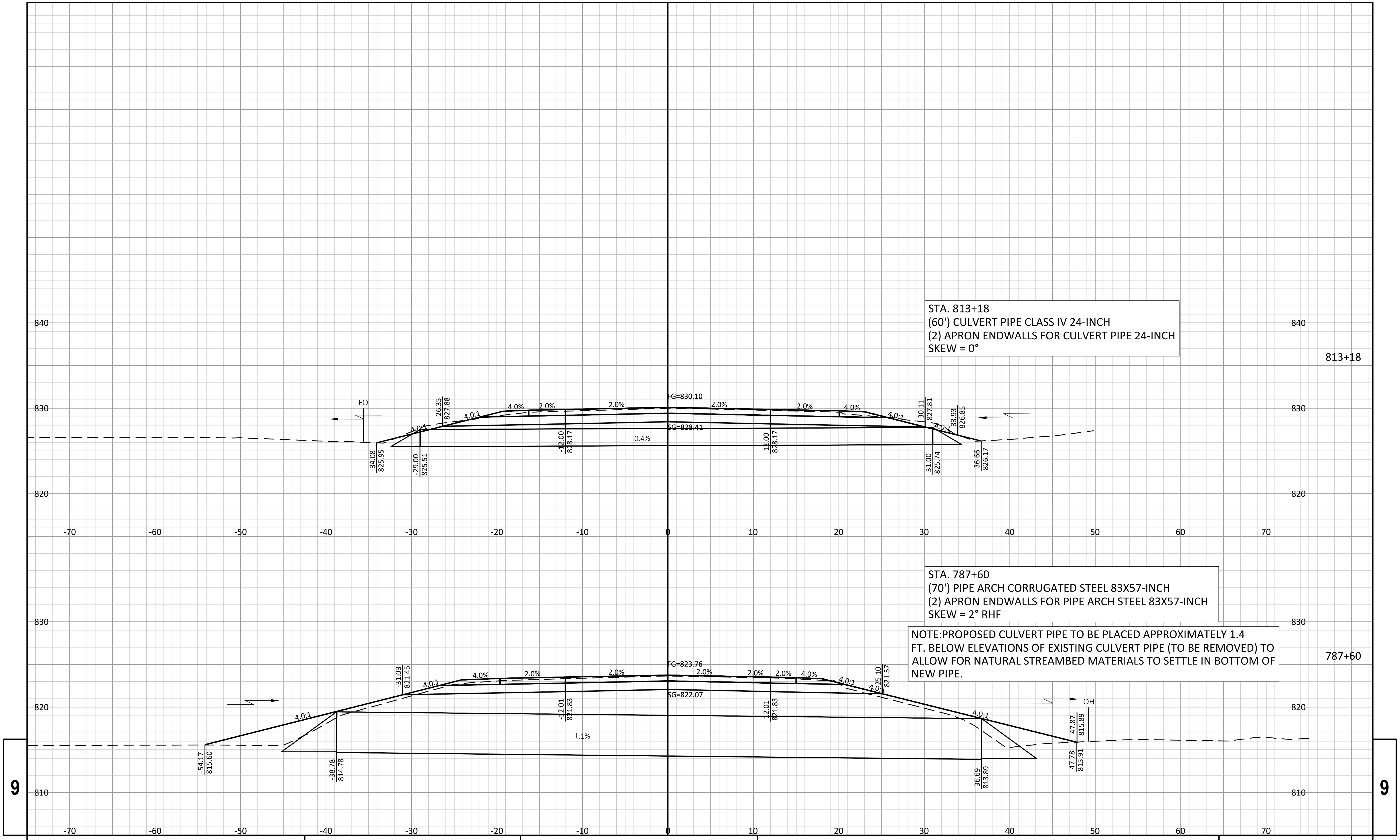
PROJECT NO: 8510-01-70	HWY: STH 13	COUNTY: DOUGLAS	CROSS SECTIONS: STH 13 (CULVERT PIPES)	SHEET 232	E

FILE NAME : S:\PROJECTS\W11599 WISDOT STH 13, CTH H TO ENGDAHL ROAD DOUGLAS CO\DESIGN\CORRIDORS\STH 13_CULVERT CORRIDOR.DWG PLOT DATE : 2/4/2022 10:29:11 AM PLOT BY : KARTER ZAJICEK PLOT SCALE : 1" = 1' LAYOUT : CULVERTS - 13

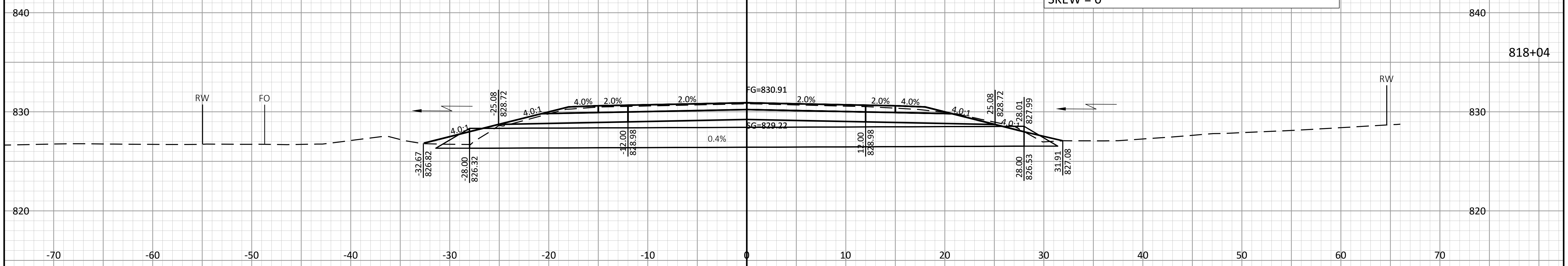


STA. 813+18
(60') CULVERT PIPE CLASS IV 24-INCH
(2) APRON ENDWALLS FOR CULVERT PIPE 24-INCH
SKEW = 0°

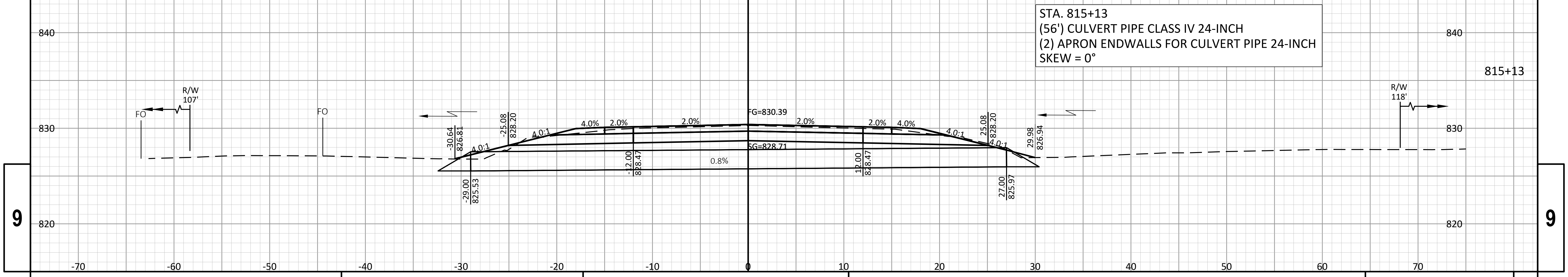
STA. 787+60
(70') PIPE ARCH CORRUGATED STEEL 83X57-INCH
(2) APRON ENDWALLS FOR PIPE ARCH STEEL 83X57-INCH
SKEW = 2° RHF

NOTE:PROPOSED CULVERT PIPE TO BE PLACED APPROXIMATELY 1.4 FT. BELOW ELEVATIONS OF EXISTING CULVERT PIPE (TO BE REMOVED) TO ALLOW FOR NATURAL STREAMBED MATERIALS TO SETTLE IN BOTTOM OF NEW PIPE.

PROJECT NO: 8510-01-70	HWY: STH 13	COUNTY: DOUGLAS	CROSS SECTIONS: STH 13 (CULVERT PIPES)	SHEET 233	E



STA. 818+04
(56') CULVERT PIPE CLASS IV 24-INCH
(2) APRON ENDWALLS FOR CULVERT PIPE 24-INCH
SKEW = 0°



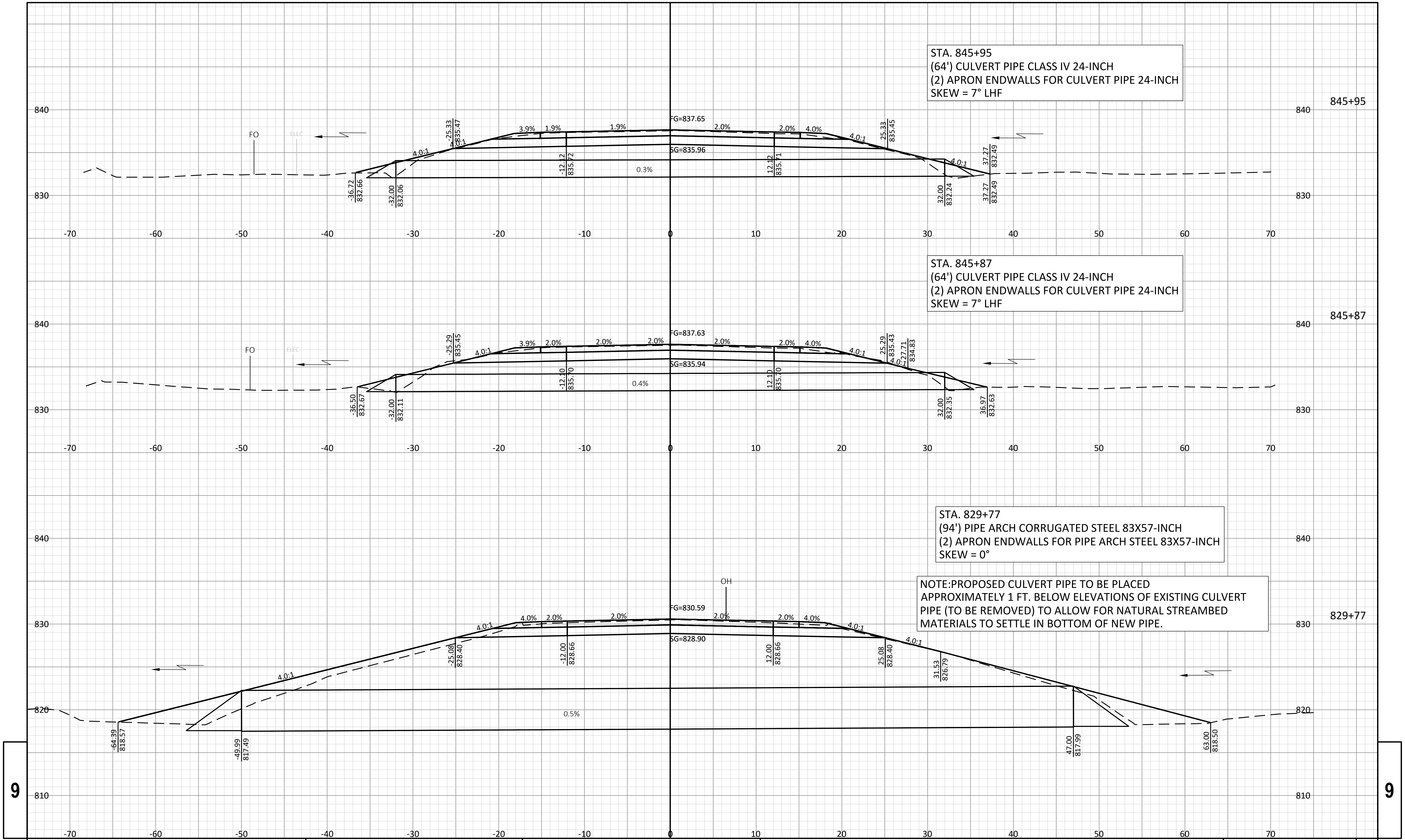
STA. 815+13
(56') CULVERT PIPE CLASS IV 24-INCH
(2) APRON ENDWALLS FOR CULVERT PIPE 24-INCH
SKEW = 0°

9

9

PROJECT NO: 8510-01-70	HWY: STH 13	COUNTY: DOUGLAS	CROSS SECTIONS: STH 13 (CULVERT PIPES)	SHEET 234	E

FILE NAME : S:\PROJECTS\W11599 WISDOT STH 13, CTH H TO ENGDAHL ROAD DOUGLAS CO\DESIGN\CORRIDORS\STH 13_CULVERT CORRIDOR.DWG PLOT DATE : 2/4/2022 10:29:31 AM PLOT BY : KARTER ZAJICEK PLOT SCALE : 1" = 1' LAYOUT : CULVERTS - 15



STA. 845+95
(64') CULVERT PIPE CLASS IV 24-INCH
(2) APRON ENDWALLS FOR CULVERT PIPE 24-INCH
SKEW = 7° LHF

STA. 845+87
(64') CULVERT PIPE CLASS IV 24-INCH
(2) APRON ENDWALLS FOR CULVERT PIPE 24-INCH
SKEW = 7° LHF

STA. 829+77
(94') PIPE ARCH CORRUGATED STEEL 83X57-INCH
(2) APRON ENDWALLS FOR PIPE ARCH STEEL 83X57-INCH
SKEW = 0°

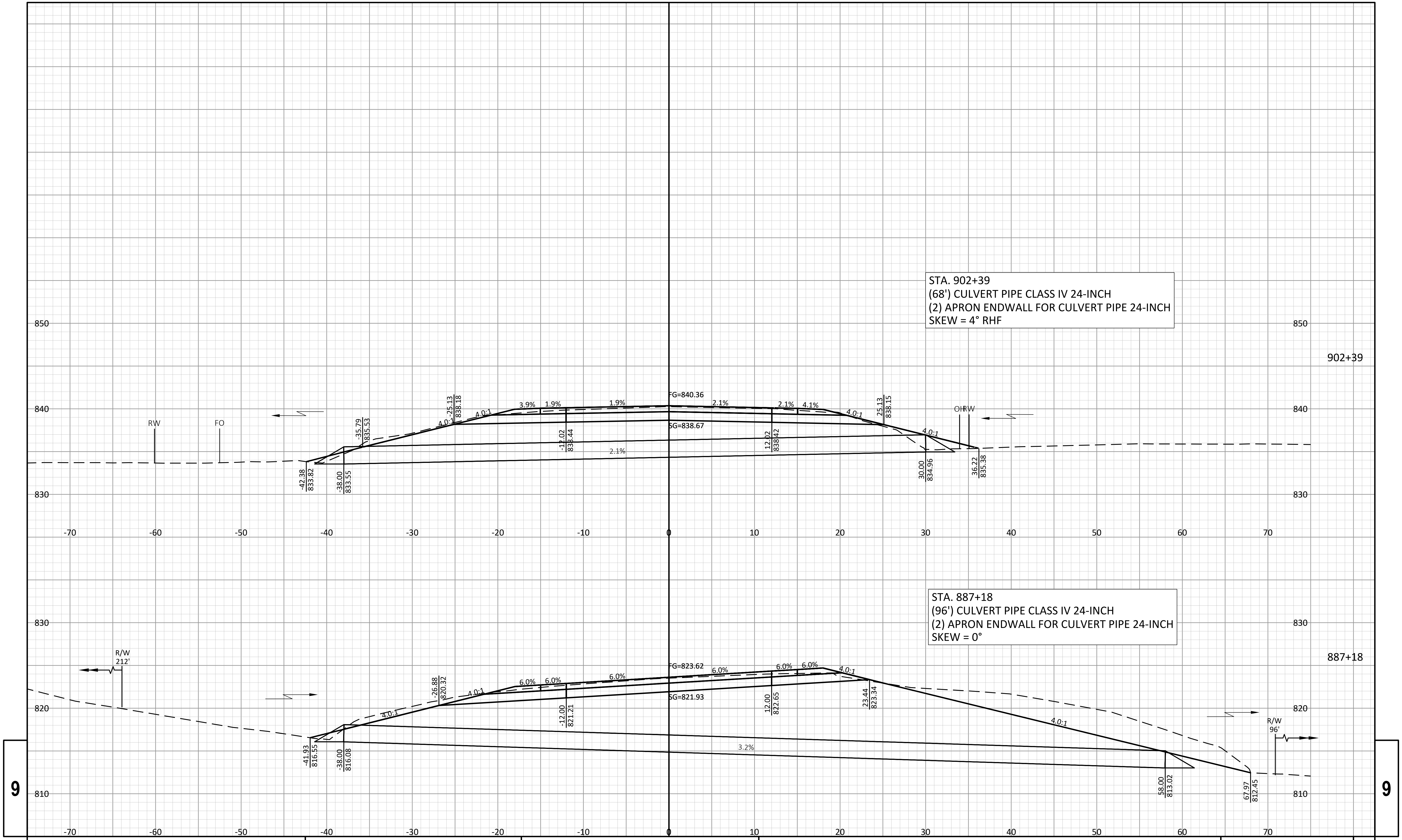
NOTE:PROPOSED CULVERT PIPE TO BE PLACED APPROXIMATELY 1 FT. BELOW ELEVATIONS OF EXISTING CULVERT PIPE (TO BE REMOVED) TO ALLOW FOR NATURAL STREAMBED MATERIALS TO SETTLE IN BOTTOM OF NEW PIPE.

9

9

PROJECT NO: 8510-01-70	HWY: STH 13	COUNTY: DOUGLAS	CROSS SECTIONS: STH 13 (CULVERT PIPES)	SHEET 235	E

FILE NAME : S:\PROJECTS\W11599 WISDOT STH 13, CTH H TO ENGDAHL ROAD DOUGLAS CO\DESIGN\CORRIDORS\STH 13_CULVERT CORRIDOR.DWG PLOT DATE : 7/22/2022 8:58:30 AM PLOT BY : JEFF SMITH PLOT SCALE : 1" = 1' LAYOUT : CULVERTS - 16



STA. 902+39
(68') CULVERT PIPE CLASS IV 24-INCH
(2) APRON ENDWALL FOR CULVERT PIPE 24-INCH
SKEW = 4° RHF

STA. 887+18
(96') CULVERT PIPE CLASS IV 24-INCH
(2) APRON ENDWALL FOR CULVERT PIPE 24-INCH
SKEW = 0°

Notes

Wisconsin Department of Transportation

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