EAU FEBRUARY 2023

PROJECT ID: 7620-00-70

WITH: N/A

COUNTY: ST. CROIX

45

ORDER OF SHEETS

TOTAL SHEETS = 134

N

DESIGN DESIGNATION

A.A.D.T.	2023	=	2,720
A.A.D.T.	2043	=	3,180
D.H.V.	2043	=	372
D.D.		=	60/40
T.		=	22.6%
DESIGN SPEED		=	55 MPH
ESALS		=	1,140,000

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'ESE)
- 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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

ELMWOOD - STH 64

STH 29 TO USH 12

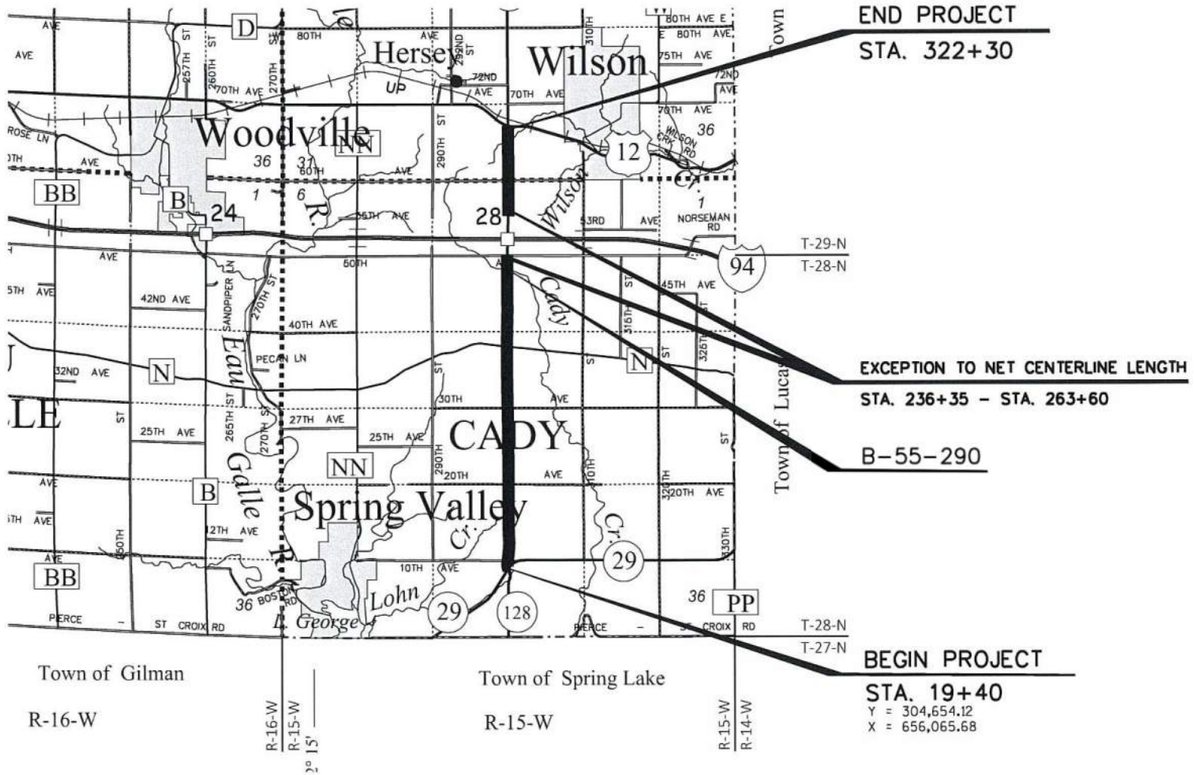
STH 128

ST. CROIX COUNTY

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
7620-00-70	———	—

STATE PROJECT NUMBER

7620-00-70



LAYOUT

SCALE 0 2 MI

TOTAL NET LENGTH OF CENTERLINE = 5.221

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COORDINATE REFERENCE SYSTEM (WISCRS), ST. CROIX COUNTY, NAD83 (2011), IN U.S. SURVEY FEET. POSITIONS SHOWN ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES ARE THE SAME AS GROUND DISTANCES. ELEVATIONS ARE REFERENCED TO NAVD 88 (1988). GPS DERIVED ELEVATIONS ARE BASED ON GEOID 12A.

ORIGINAL PLANS PREPARED BY

JEWELL associates engineers, inc.

Engineers - Architects - Surveyors

WISCONSIN JEFFREY D. SMITH E-36291 VERONA, WI PROFESSIONAL ENGINEER

DATE: 10/12/2022 (Professional Engineer Signature)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	JEWELL ASSOCIATES ENGINEERS, INC.
Designer	JEWELL ASSOCIATES ENGINEERS, INC.
Project Manager	LANCE WILLISTON, P.E.
Regional Examiner	TOU YANG, P.E.
Regional Supervisor	JAMES KOENIG, P.E.

APPROVED FOR THE DEPARTMENT

DATE: 10/12/2022 James Koenig (Signature)

E

FILE NAME : R:\PROJECTS\W11600 STH 128 CULVERT REPLACEMENT, ST CROIX CO\SHEETSPLAN\DETAILS\W11600_TITLE.DWG PLOT DATE : 9/16/2022 1:16 PM PLOT BY : JEFF SMITH PLOT NAME :

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 (SEEDING MIXTURE NO. 20), AND MULCHED AS DIRECTED BY THE ENGINEER.

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 COURSE 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.

APPLY TACK COAT TO EXISTING SURFACE PRIOR TO PLACEMENT OF HMA PAVEMENT AT A RATE OF 0.05 GAL/SY. APPLY TACK COAT AT A RATE OF 0.05 GAL/SY BETWEEN LAYERS OF HMA PAVEMENT.

3.25-INCHES OF HMA PAVEMENT SHALL BE CONSTRUCTED WITH A 1.75-INCH LOWER LAYER AND A 1.5-INCH UPPER LAYER OF HMA PAVEMENT 5 MT 58-34 V.

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.

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.

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.

CONTRACTOR TO PROTECT HEIGHT MODERNIZATION MONUMENT (HMOD) SPRING VALLEY GPS (PID: DL4116) AND KEEP CONSTRUCTION EQUIPMENT AT LEAST 10 FEET AWAY FROM SPRING VALLEY GPS.

ENSURE THAT HEIGHT MODERNIZATION MONUMENT (HMOD) SPRING VALLEY GPS IS NOT DISTURBED, BUMPED, OR MOVED DURING THE DURATION OF THE PROJECT. NOTIFY JACOB ROCKWEILER IMMEDIATELY IF SPRING VALLEY GPS IS DISTURBED, BUMPED OR MOVED DURING CONSTRUCTION OPERATIONS. JACOB ROCKWEILER, P.E., WISCONSIN HEIGHT MODERNIZATION PROGRAM MANAGER WITH THE WISCONSIN DEPARTMENT OF TRANSPORTATION WHOSE PHONE NUMBER IS (608) 516-6362 AND EMAIL IS JACOB.ROCKWEILER@DOT.WI.GOV.

CONTACTS

WISCONSIN DEPARTMENT OF TRANSPORTATION:

WISDOT CONSULTANT PROJECT MANAGER
5400 KING JAMES WAY, SUITE 200
MADISON, WI 53717
ATTN: LANCE WILLISTON, P.E.
PH: (608) 663-1218
EMAIL: lwilliston@klengineering.com

WDNR LIAISON:

STATE OF WISCONSIN
DNR WEST CENTRAL REGION
1300 W CLAIREMONT AVE
EAU CLAIRE, WI 54701
ATTN: AMY LESIK
PH: (715) 495-1903
EMAIL: Amy.Lesik@wisconsin .gov

DESIGN CONSULTANT:

JEWELL ASSOCIATES ENGINEERS, INC.
560 SUNRISE DRIVE
SPRING GREEN, WI 53588
ATTN: JEFF SMITH, P.E.
PH: (608) 459-6091
EMAIL: Jeff.Smith@jewellassoc.com

UTILITIES

ELECTRICITY

ST. CROIX ELECTRIC COOPERATIVE
ATTN: ROB DOOLEY
1925 RIDGEWAY STREET
PO BOX 108
HAMMOND, WI 54015
OFFICE: (715) 796-5637
CELL: (715) 781-2295
EMAIL: robd@scecnet.net

GAS/PETROLEUM

WE ENERGIES
ATTN: STEVEN CHAVERS
104 W SOUTH STREET
RICE LAKE, WI 54868
OFFICE: (715) 234-9605
CELL: (715) 213-4327
EMAIL: steven.chavers@we-energies.com

COMMUNICATION LINE

WEST WISCONSIN TELECOM
ATTN: BRADLEY SCHMIDTKNECHT
5808 OLD MILL PLAZA
EAU CLAIRE, WI 54703
OFFICE: (715) 231-0504
CELL: (715) 308-1914
EMAIL: brads@wwt.coop

ELECTRICITY

XCEL ENERGY
ATTN: TRAVIS WERLEIN
320 HELLER ROAD
MENOMONIE, WI 54751
OFFICE: (715) 232-7415
EMAIL: travis.a.werlein@xcelenergy.com

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

LIST OF STANDARD ABBREVIATIONS

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

ORDER OF SECTION 2 SHEETS:

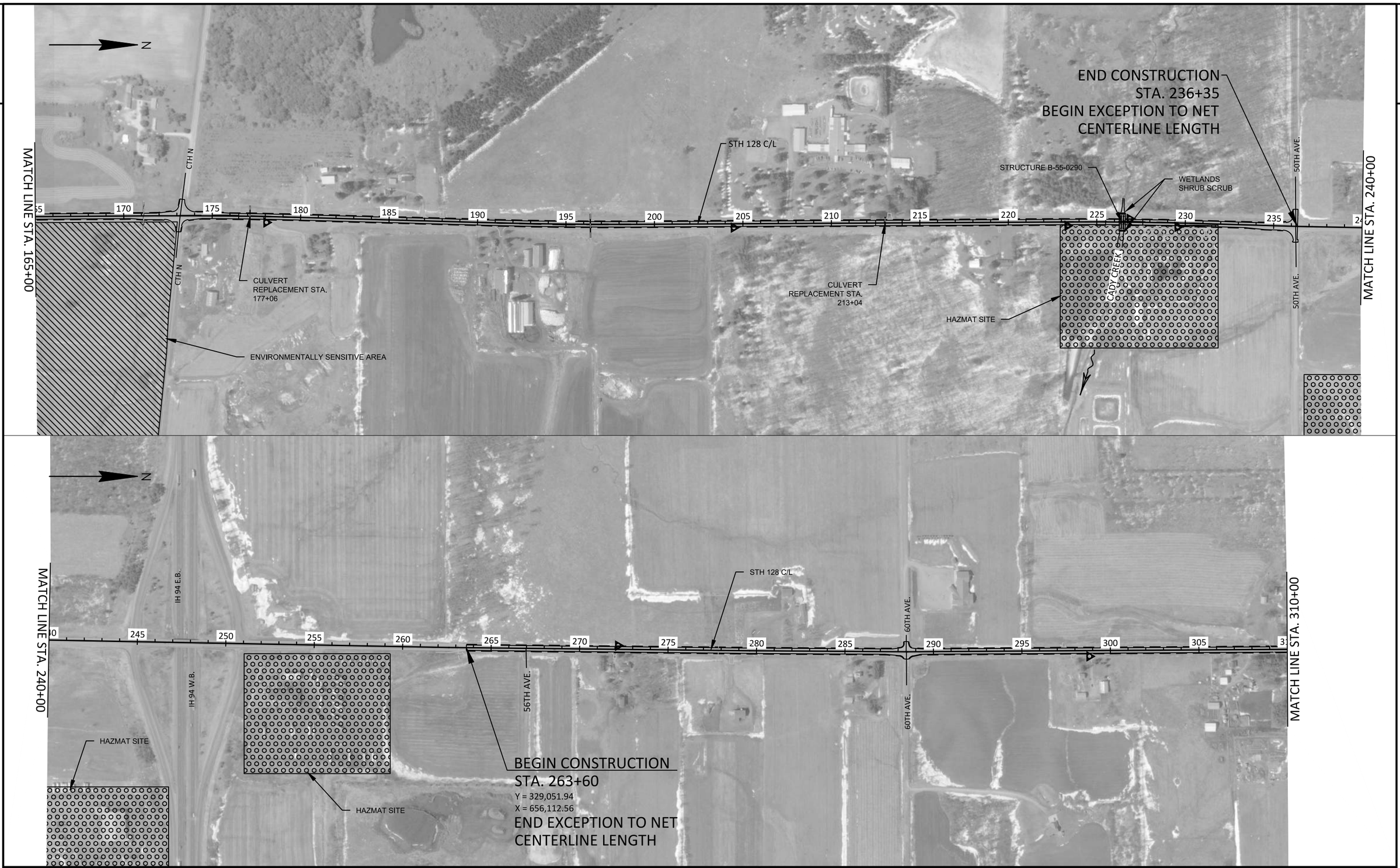
- WRITTEN MATERIAL
- PROJECT OVERVIEW
- TYPICAL SECTIONS
- CONSTRUCTION DETAILS
- DRAINAGE DETAILS (INCLUDES EROSION CONTROL PLAN)
- PAVEMENT MARKING PLAN
- TRAFFIC CONTROL
- ALIGNMENT DETAILS

	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= 84.82 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 25.20 ACRES

PROJECT NO: 7620-00-70	HWY: STH 128	COUNTY: ST. CROIX	PROJECT OVERVIEW	SHEET 3	E

2

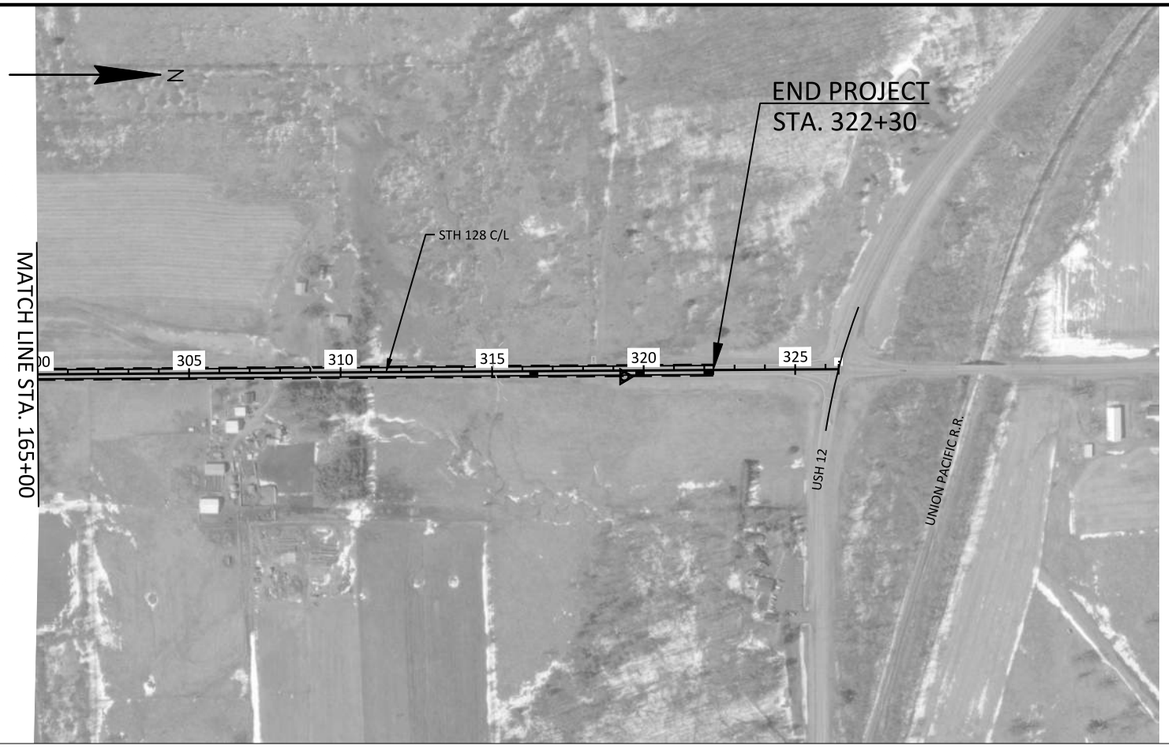


PROJECT NO: 7620-00-70	HWY: STH 128	COUNTY: ST. CROIX	PROJECT OVERVIEW	SHEET 4	E

FILE NAME : R:\PROJECTS\W11600 STH 128 CULVERT REPLACEMENT, ST CROIX CO\SHEETSPLAN\DETAILS\W11600_PROJECT OVERVIEW.DWG
LAYOUT NAME - 2

PLOT DATE : 9/9/2022 1:14 PM PLOT BY : KARTER ZAJICEK PLOT NAME : PLOT SCALE : 1 IN:500 FT

2



PROJECT NO: 7620-00-70	HWY: STH 128	COUNTY: ST. CROIX	PROJECT OVERVIEW	SHEET 5 E

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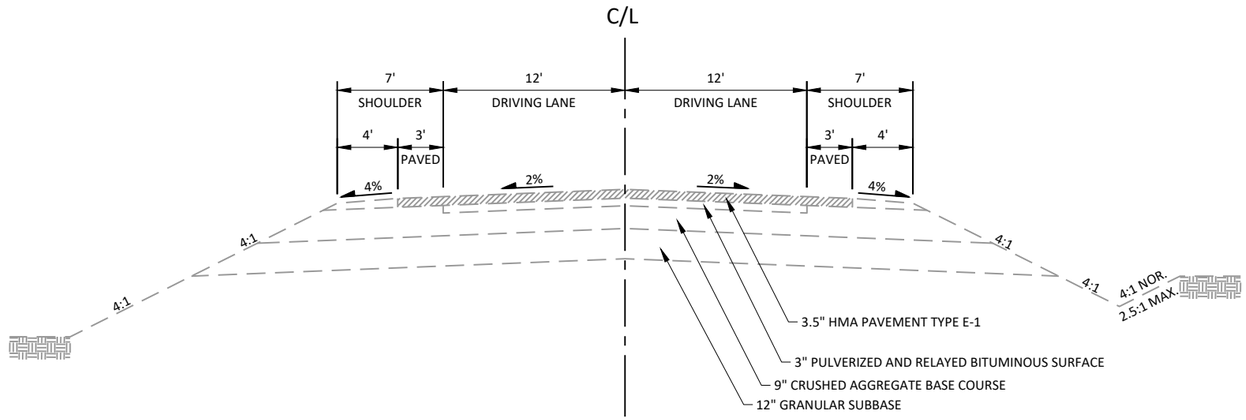
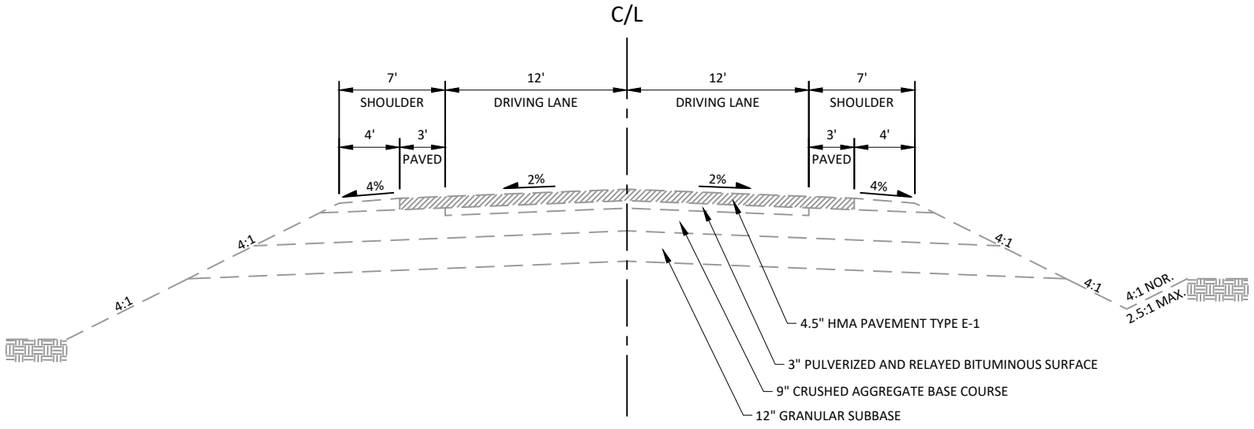
LAYOUT NAME - 3
PLOT DATE : 9/9/2022 1:14 PM
PLOT BY : KARTER ZAJICEK
PLOT NAME :
PLOT SCALE : 1 IN:500 FT
WISDOT/CADDS SHEET 42

2



TYPICAL EXISTING SECTION

STA. 19+40 - STA. 173+20



TYPICAL EXISTING SECTION

STA. 173+20 - STA. 236+35

PROJECT NO: 7620-00-70	HWY: STH 128	COUNTY: ST. CROIX	TYPICAL SECTIONS	SHEET 6	E

FILE NAME : R:\PROJECTS\W11600 STH 128 CULVERT REPLACEMENT, ST CROIX CO\SHEETSPLAN\TYPICALS\TYPICAL SECTIONS.DWG
LAYOUT NAME - 1

PLOT DATE : 9/9/2022 2:51 PM PLOT BY : KARTER ZAJICEK PLOT NAME : PLOT SCALE : ##########

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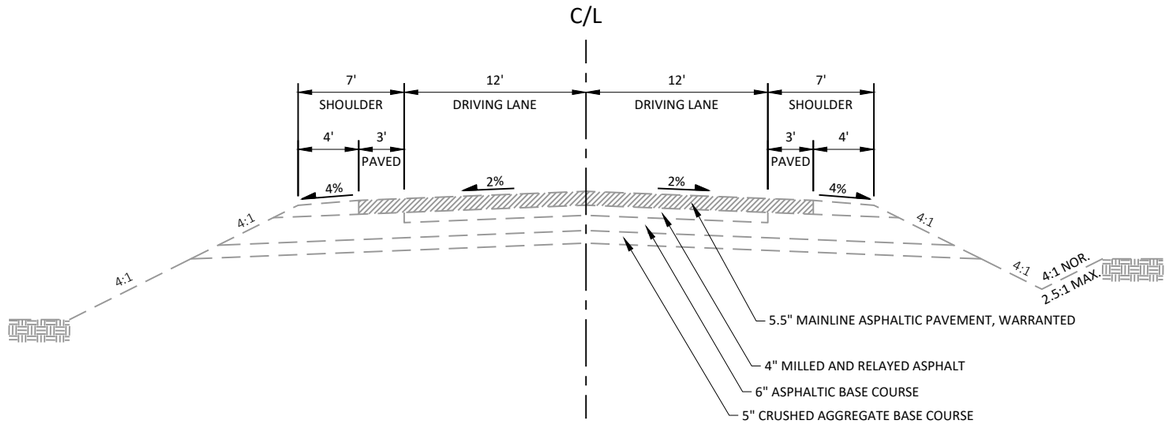
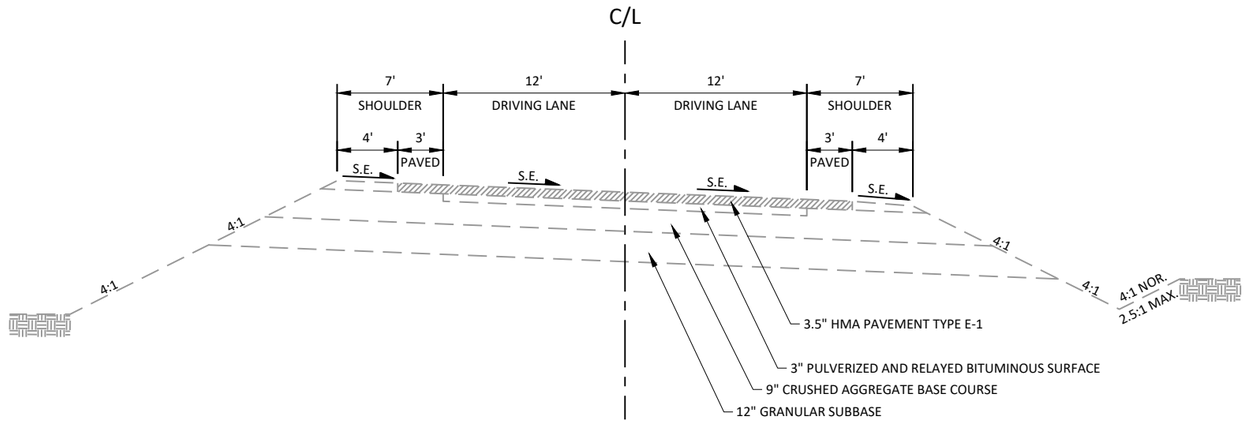


TYPICAL EXISTING SECTION

STA. 263+60 - STA. 322+30



TYPICAL EXISTING SUPERELEVATED SECTION

STA. 19+40 - STA. 23+30
STA. 34+00 - STA. 39+68
STA. 44+46 - STA. 49+50

PROJECT NO: 7620-00-70	HWY: STH 128	COUNTY: ST. CROIX	TYPICAL SECTIONS	SHEET 7	E

FILE NAME : R:\PROJECTS\W11600 STH 128 CULVERT REPLACEMENT, ST CROIX CO\SHEETSPLAN\TYPICALS\TYPICAL SECTIONS.DWG
LAYOUT NAME - 2

PLOT DATE : 9/9/2022 2:51 PM PLOT BY : KARTER ZAJICEK PLOT NAME : PLOT SCALE : ##########

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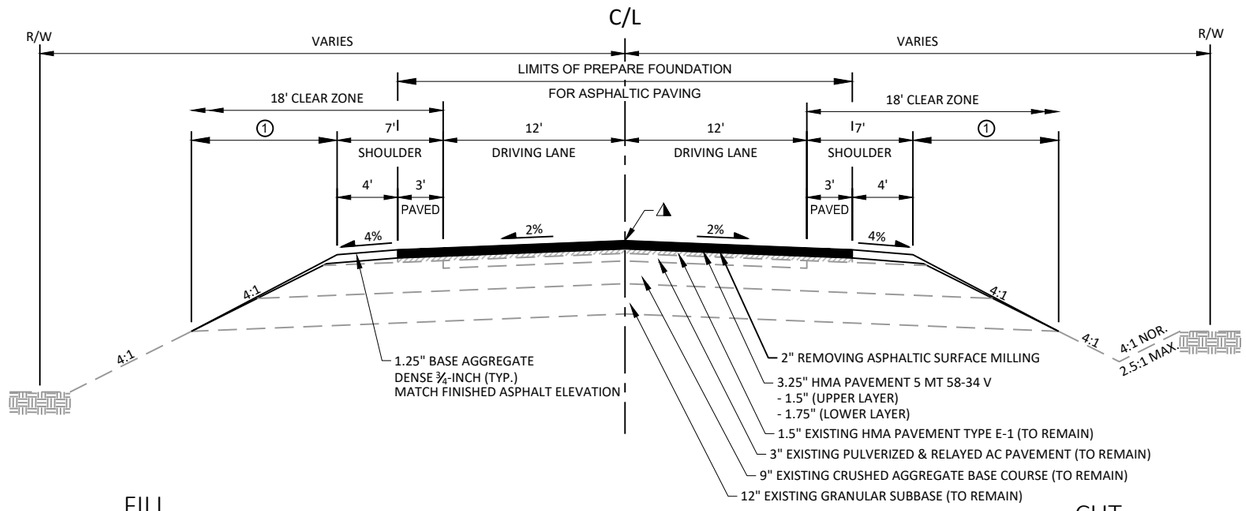
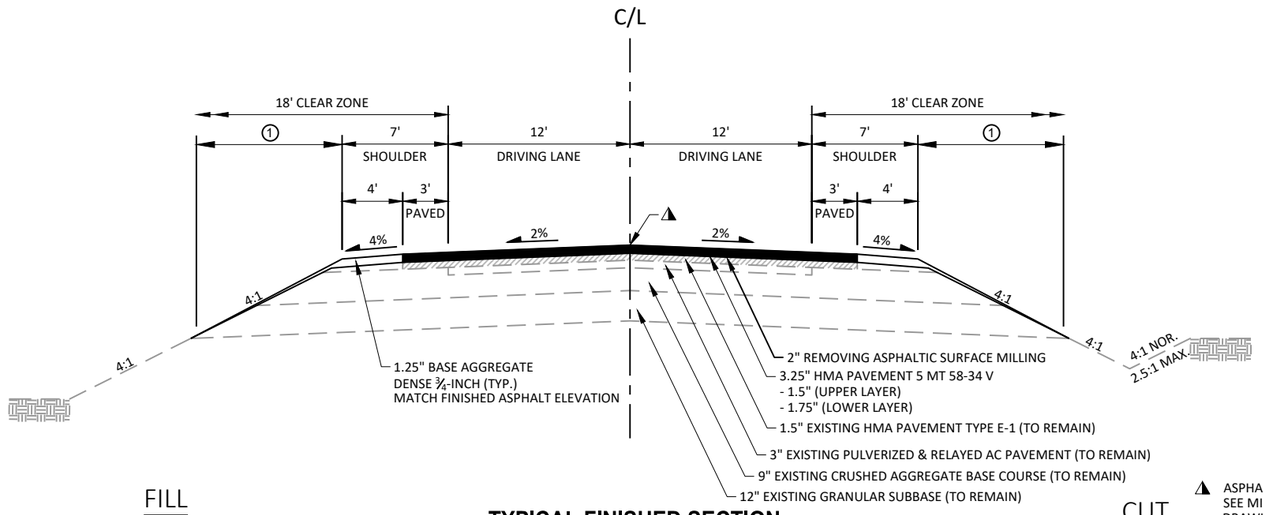


TYPICAL FINISHED SECTION

STA. 23+29.70 - STA. 33+99.78
STA. 39+67.72 - STA. 44+46.07
STA. 49+49.58 - STA. 173+20

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

① LIMITS OF SEED NO. 20 & FERTILIZER TYPE B



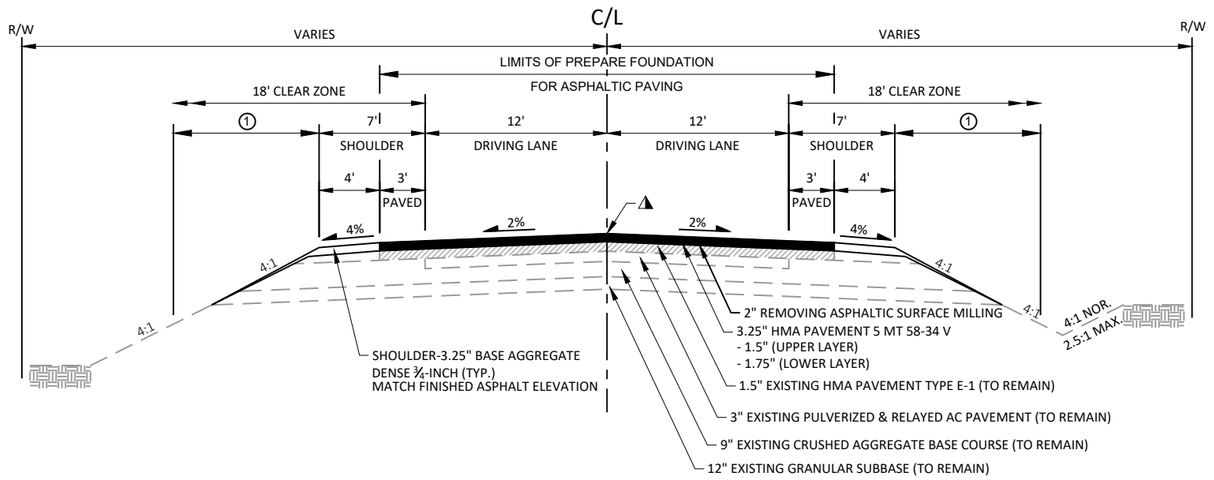
TYPICAL FINISHED SECTION

STA. 173+20 - STA. 236+35

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

① LIMITS OF SEED NO. 20 & FERTILIZER TYPE B

PROJECT NO: 7620-00-70	HWY: STH 128	COUNTY: ST. CROIX	TYPICAL SECTIONS	SHEET 8	E



FILL

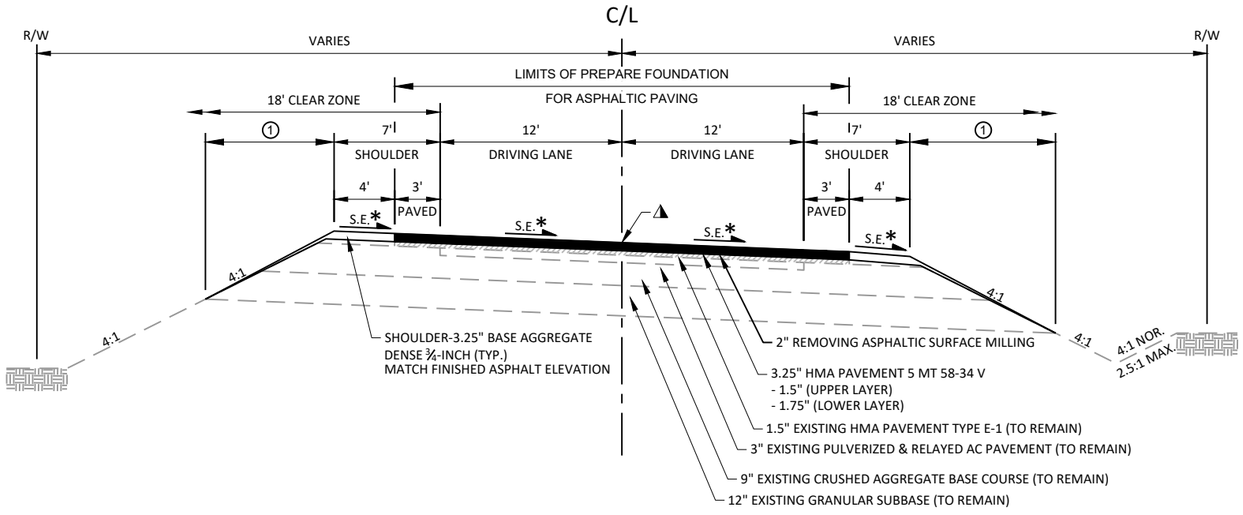
TYPICAL FINISHED SECTION

STA. 263+60 - STA. 322+30

CUT

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

(1) LIMITS OF SEED NO. 20 & FERTILIZER TYPE B



FILL

TYPICAL FINISHED SUPERELEVATED SECTION

STA. 19+40.00 - STA. 23+29.70
STA. 33+99.78 - STA. 39+67.72
STA. 44+46.07 - STA. 49+49.58

CUT

* SEE SUPERELEVATION TABLES

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

(1) LIMITS OF SEED NO. 20 & FERTILIZER TYPE B

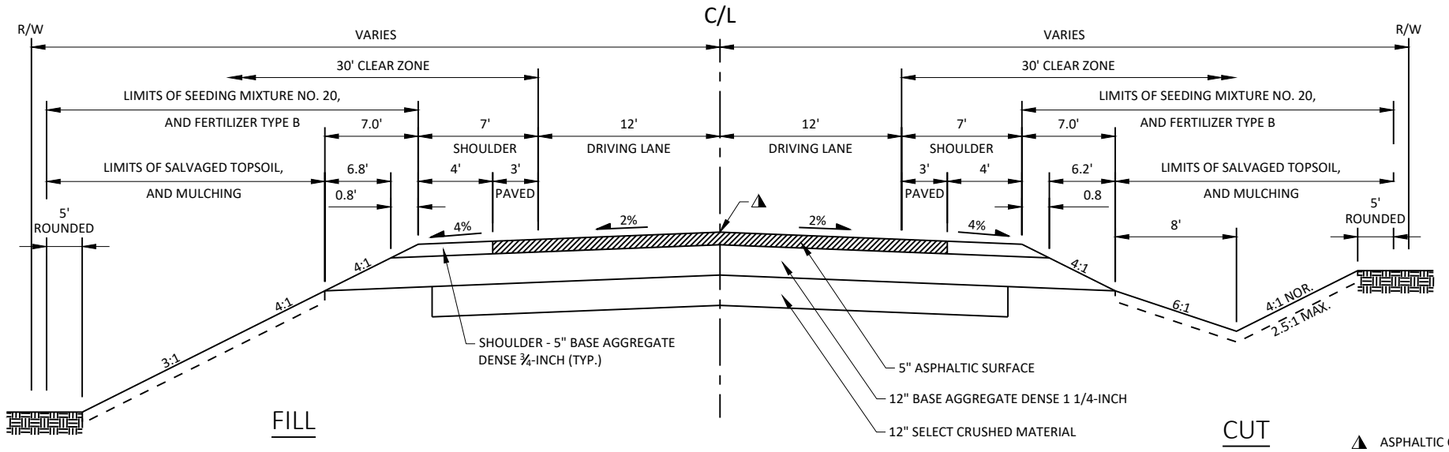
PROJECT NO: 7620-00-70	HWY: STH 128	COUNTY: ST. CROIX	TYPICAL SECTIONS	SHEET 9	E

FILE NAME : R:\PROJECTS\W11600 STH 128 CULVERT REPLACEMENT, ST CROIX CO\SHEETSPLAN\TYPICALS\TYPICAL SECTIONS.DWG
LAYOUT NAME - 4

PLOT DATE : 9/9/2022 2:51 PM PLOT BY : KARTER ZAJICEK PLOT NAME : PLOT SCALE : ##########

WISDOT/CADDS SHEET 42

2



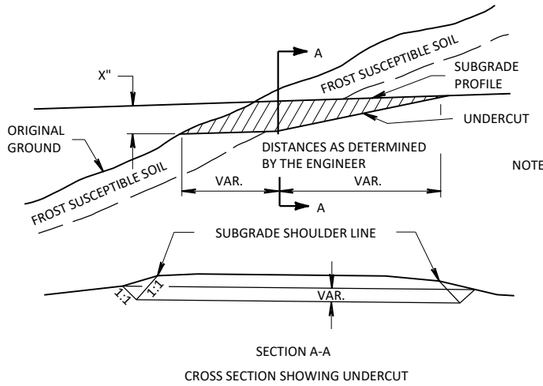
TYPICAL FINISHED SECTION

CULVERT REPLACEMENTS

STA. 106+00 - STA. 107+50
STA. 116+50 - STA. 118+00
STA. 131+69 - STA. 133+00
STA. 148+50 - STA. 150+00
STA. 176+50 - STA. 178+00
STA. 212+50 - STA. 214+00
STA. 225+50 - STA. 227+60

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

NOTE: CONSTRUCT THE CULVERT PIPE REPLACEMENTS PRIOR TO MAINLINE MILLING & PAVING OPERATIONS. AFTER CULVERT PIPE REPLACEMENT CONSTRUCT FINAL ROADWAY SURFACE BY MILLING 2" OF ASPHALTIC SURFACE AND PAVING 3.25" HMA PAVEMENT 5 MT 58-34 V. (SHOWN IN MAINLINE TYPICAL SECTIONS)



SECTION A-A

CROSS SECTION SHOWING UNDERCUT

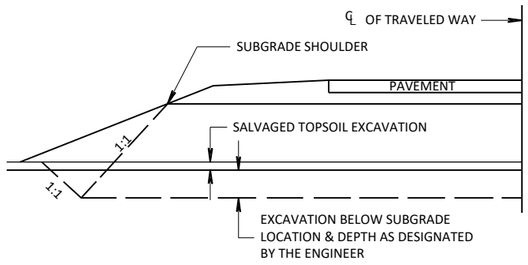
NOTE: EXACT LOCATIONS AND EXTENT OF E.B.S. SECTIONS SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.

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

BACKFILL MUST BE HOMOGENEOUS WITH ADJOINING FILL MATERIAL.

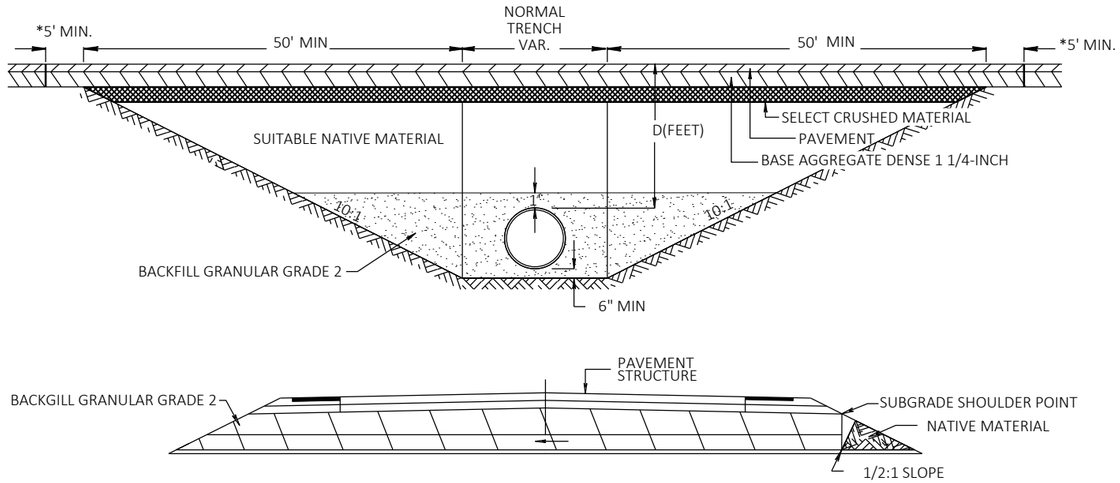
THE FILL SECTION WITHIN 100' OF THE MOUTH OF THE CUT MUST BE KEPT 2' BELOW SUBGRADE UNTIL E.B.S. IS COMPLETED.

DETAIL FOR EXCAVATION BELOW SUBGRADE AT CUTS



DETAIL FOR EXCAVATION BELOW SUBGRADE

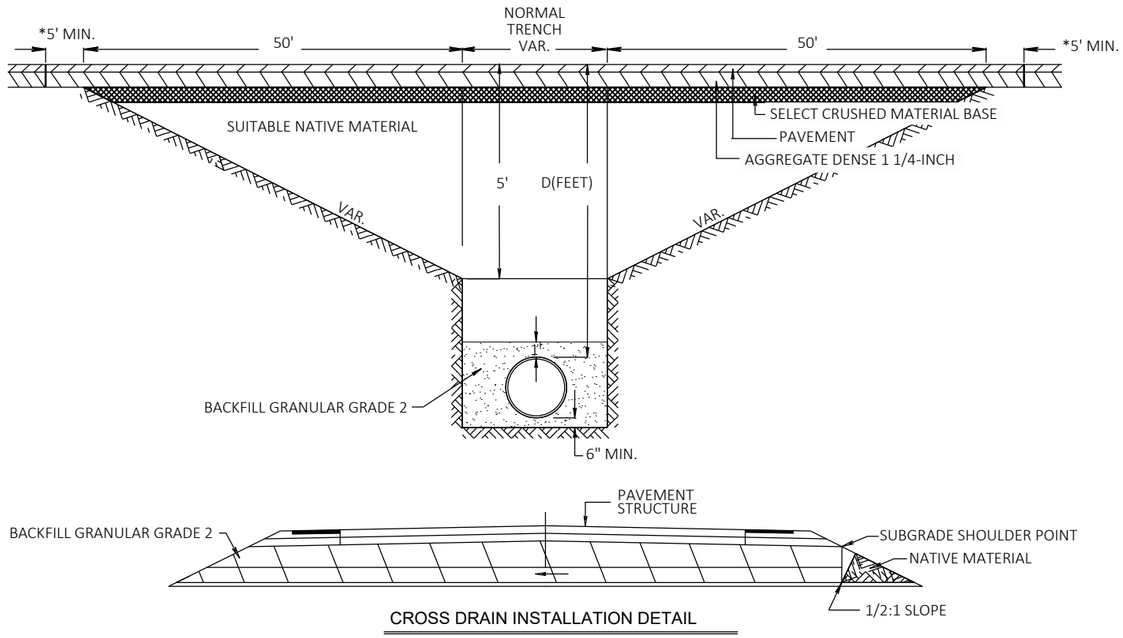
STATION	LOCATION	UPSTREAM				DOWNSTREAM			
		STATION	OFFSET	Y	X	STATION	OFFSET	Y	X
106+64	MAINLINE	106+63.59	-40.0'	313,357.44	656,040.05	106+63.46	46.0'	313,357.76	656,126.05
117+14	MAINLINE	117+13.40	-30.9'	314,407.10	656,040.23	117+14.09	41.1'	314,408.53	656,112.22
132+39	MAINLINE	132+38.69	-37.3'	315,932.47	656,022.40	132+39.33	50.7'	315,933.57	656,110.40
149+14	MAINLINE	149+13.97	60.2'	317,605.99	655,961.48	149+14.04	71.8'	317,609.19	656,093.44
177+06	MAINLINE	177+13.47	-54.7'	320,407.70	655,950.78	177+13.47	63.3'	320,405.77	656,068.77
213+04	MAINLINE	213+03.70	-29.3'	323,996.26	656,013.64	213+03.44	32.7'	323,996.36	656,075.64



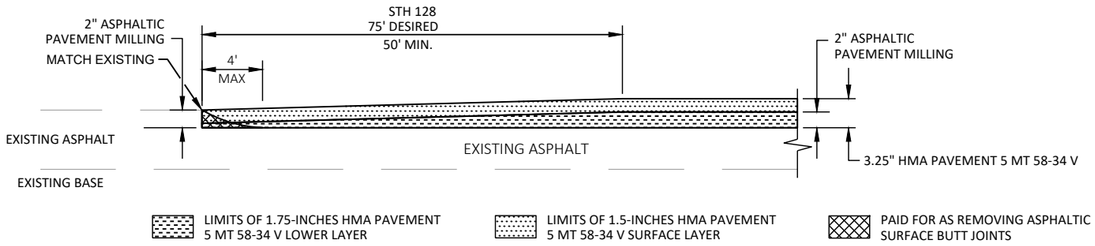
CROSS DRAIN INSTALLATION DETAIL FOR D ≤ 5'

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

* PAVEMENT REMOVAL LIMITS (TYPICAL)



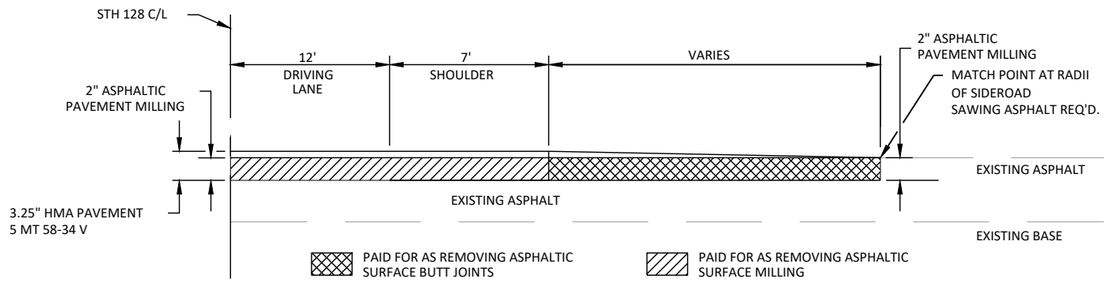
CROSS DRAIN INSTALLATION DETAIL FOR D ≥ 5'



NOTE: REQUIRED AT BEGIN AND END OF PAVING LOCATIONS

BUTT JOINT DETAILS OF HMA PAVEMENT ON MAINLINE

STA. 19+40 - STA. 20+15
STA. 235+60 - STA. 236+35
STA. 263+60 - STA. 264+35
STA. 322+55 - STA. 323+30

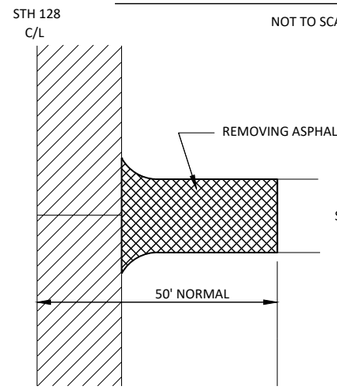


BUTT JOINT DETAILS OF HMA PAVEMENT AT SIDE ROADS

20TH AVE.
30TH AVE.
CTH N
50TH AVE.
56TH AVE.
60TH AVE.

SIDE ROAD DETAIL - NO CURB & GUTTER

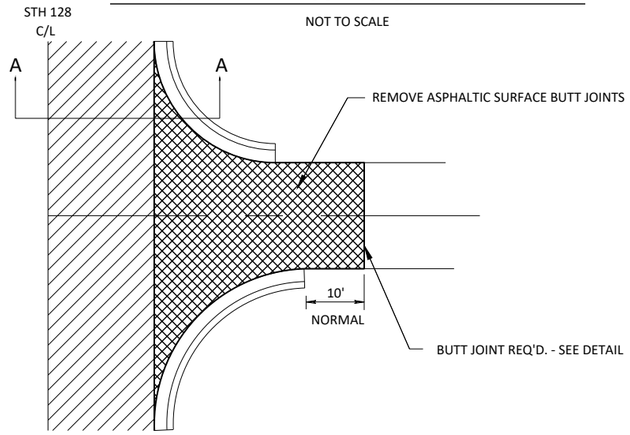
NOT TO SCALE

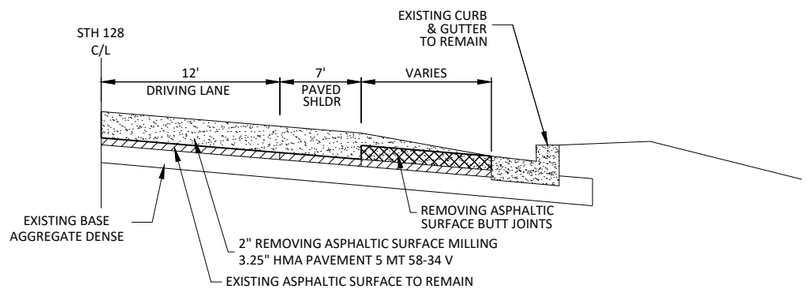


NOTE: IF THE EXISTING SIDE ROAD CONSISTS OF A BASE COURSE SURFACE, THE NEW ASPHALT SHALL BE PLACED TO THE ENDS OF THE EXISTING SIDEROAD RADIUS'.

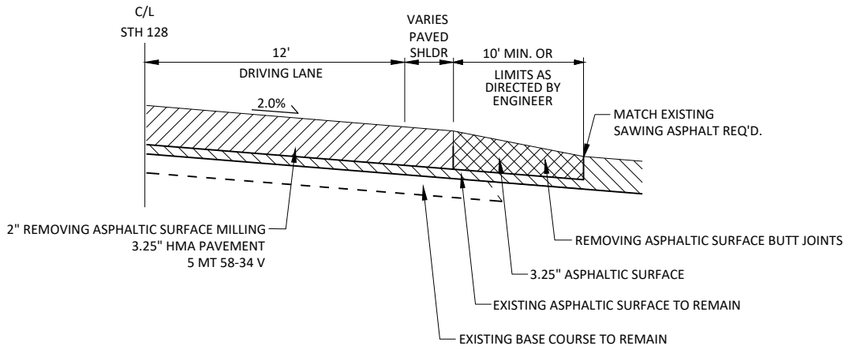
SIDE ROAD DETAIL - CURB & GUTTER TO REMAIN

NOT TO SCALE

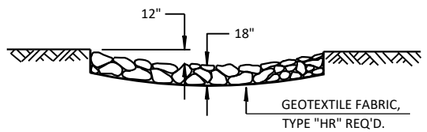




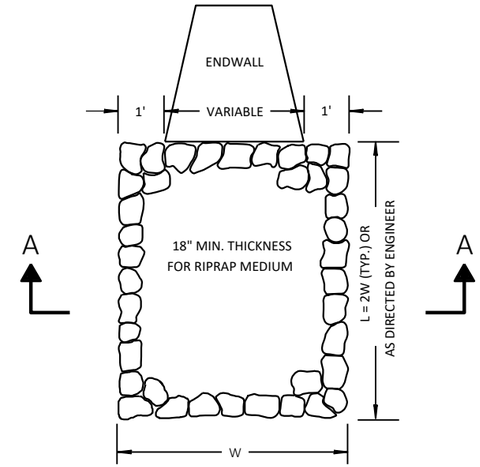
SECTION A-A



TYPICAL ASPHALT DRIVEWAY PROFILE

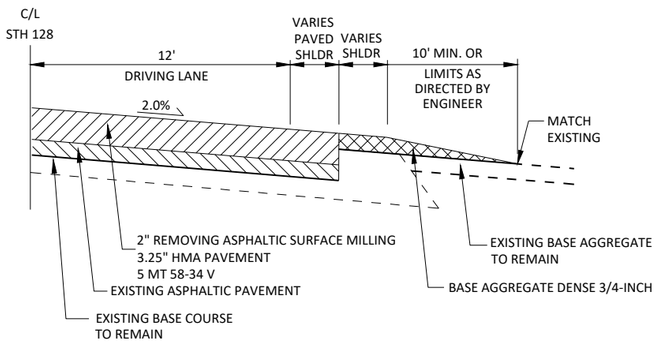


SECTION A-A

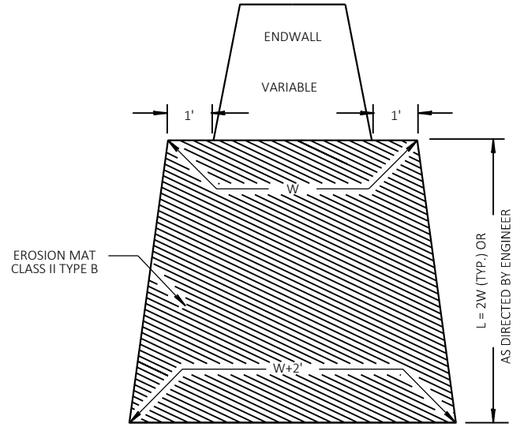


RIPRAP MEDIUM TREATMENT AT CULVERTS

SEE MISCELLANEOUS QUANTITIES FOR LOCATIONS



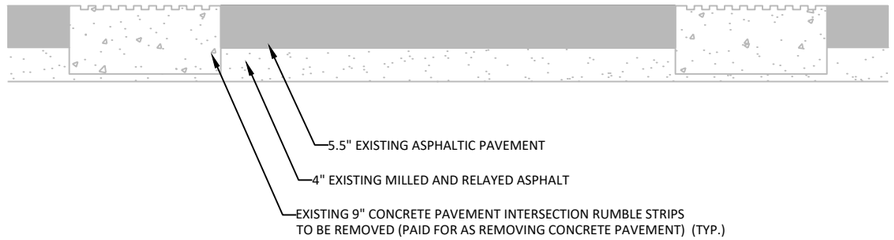
TYPICAL BASE AGGREGATE DENSE DRIVEWAY PROFILE



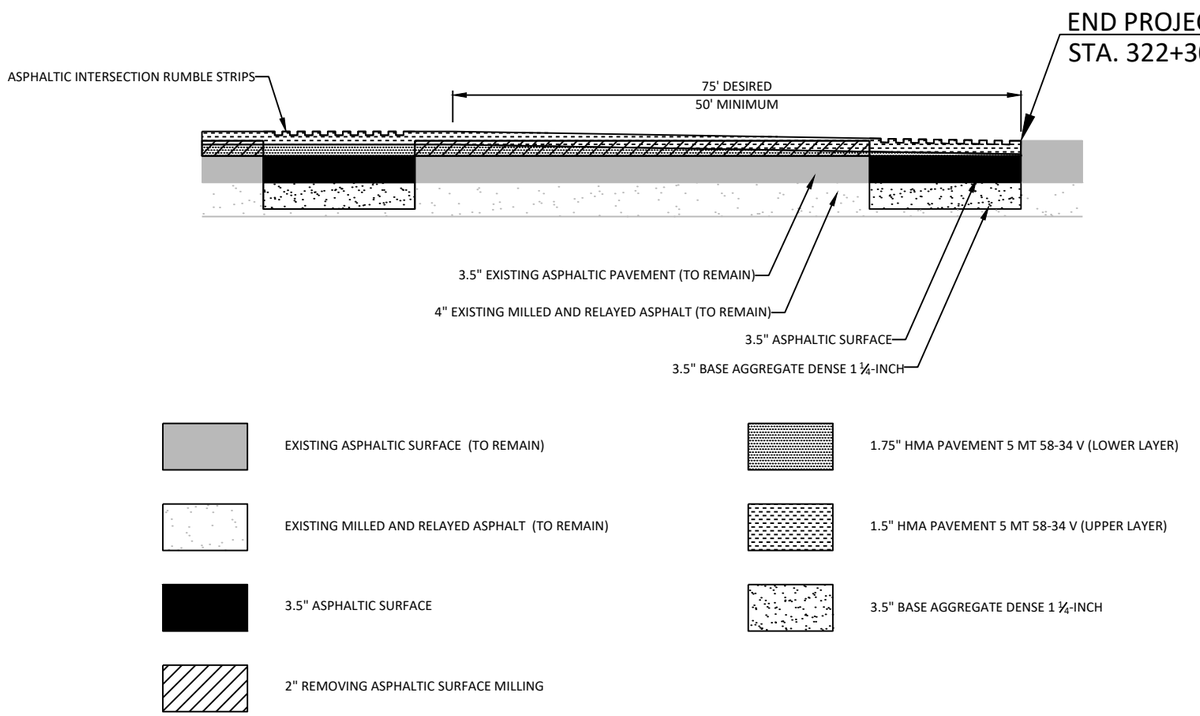
EROSION MAT TREATMENT AT CULVERTS

SEE MISCELLANEOUS QUANTITIES FOR LOCATIONS

2

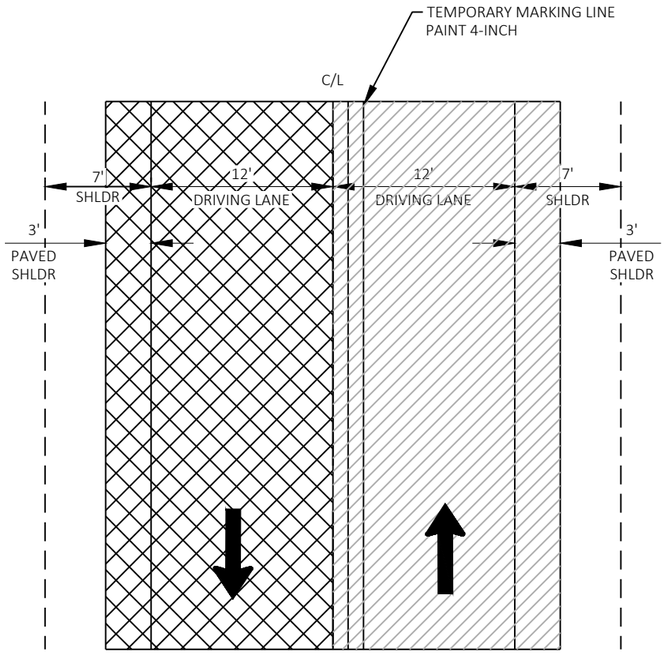


EXISTING CONCRETE PAVEMENT INTERSECTION RUMBLE STRIPS



FINISHED ASPHALTIC INTERSECTION RUMBLE STRIPS

PROJECT NO: 7620-00-70	HWY: STH 128	COUNTY: ST. CROIX	CONSTRUCTION DETAILS	SHEET 14	E



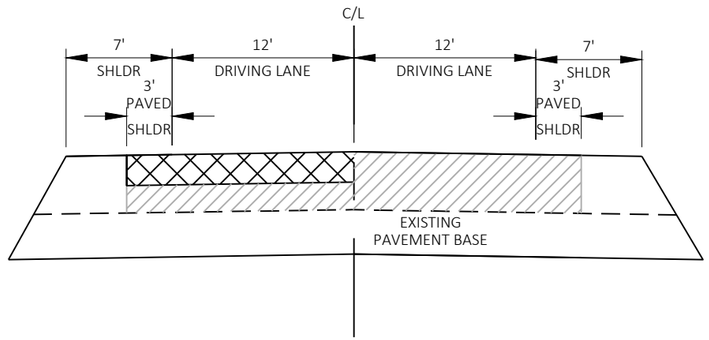
PLAN VIEW

EXISTING ASPHALTIC SURFACE TO REMAIN

REMOVING ASPHALTIC SURFACE MILLING 2-INCHES

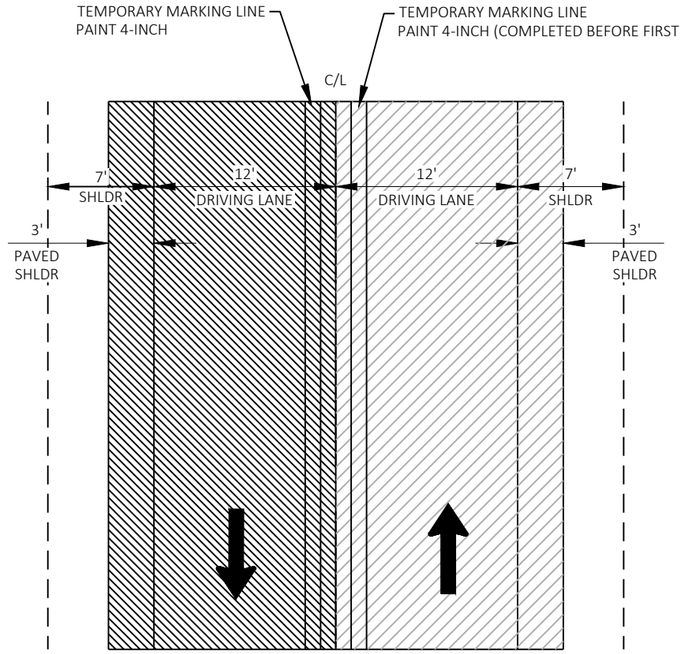
NOTE: CURB & GUTTER AREAS SIMILAR.
SEE TYPICAL FINISHED SECTIONS FOR FURTHER INFORMATION.

DOCUMENT EXISTING NO PASSING ZONES PRIOR TO MILLING OPERATIONS



CROSS SECTION VIEW

FIRST MILLING PASS DETAIL

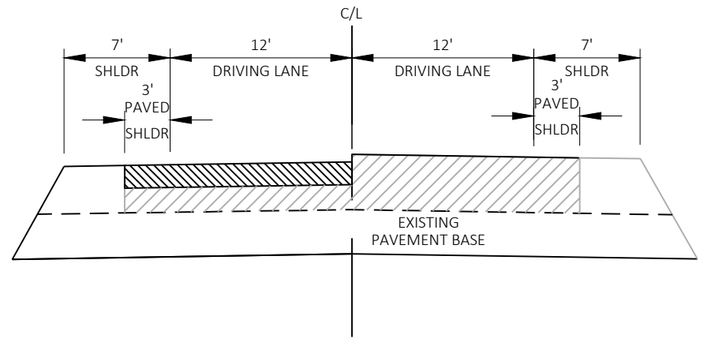


PLAN VIEW

EXISTING ASPHALTIC SURFACE TO REMAIN

LIMITS OF 1.75-INCHES HMA PAVEMENT 5 MT 58-34 V LOWER LAYER

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



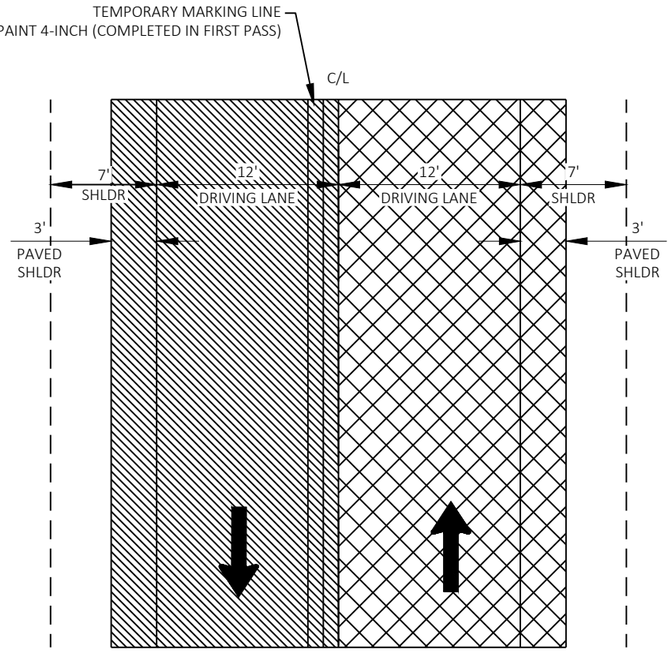
CROSS SECTION VIEW

FIRST PAVING PASS DETAIL

2

PROJECT NO: 7620-00-70	HWY: STH 128	COUNTY: ST. CROIX	CONSTRUCTION DETAILS	SHEET 15	E

FILE NAME : R:\PROJECTS\W11600 STH 128 CULVERT REPLACEMENT, ST CROIX CO\SHEETSPLAN\DETAILS\W11600_CONSTRUCTION DETAILS.DWG
LAYOUT NAME - 05
PLOT DATE : 10/5/2022 10:14 AM PLOT BY : KARTER ZAJICEK PLOT NAME : PLOT SCALE : 1 IN:10 FT
WISDOT/CADDS SHEET 42



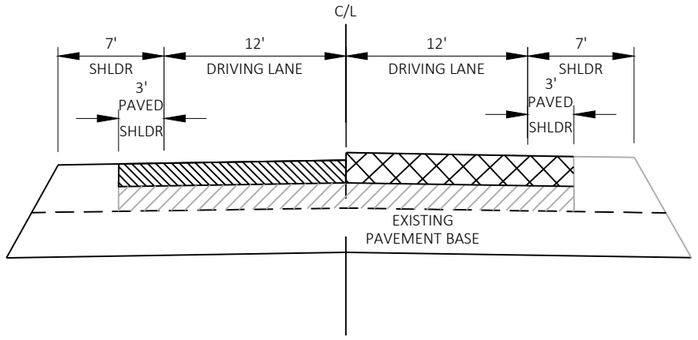
PLAN VIEW

EXISTING ASPHALTIC SURFACE TO REMAIN

LIMITS OF 1.75-INCHES HMA PAVEMENT 5 MT 58-34 V LOWER LAYER (COMPLETED IN FIRST PAVING PASS)

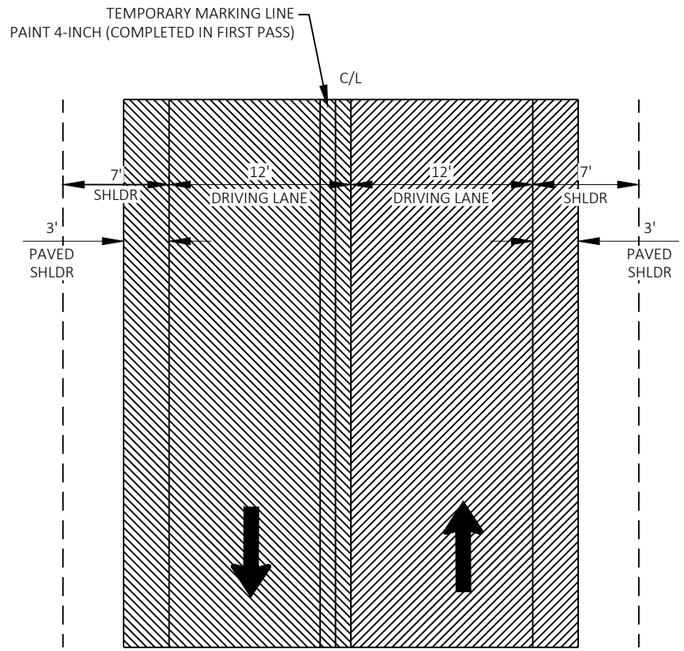
REMOVING ASPHALTIC SURFACE MILLING 2-INCHES

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



CROSS SECTION VIEW

SECOND MILLING PASS DETAIL



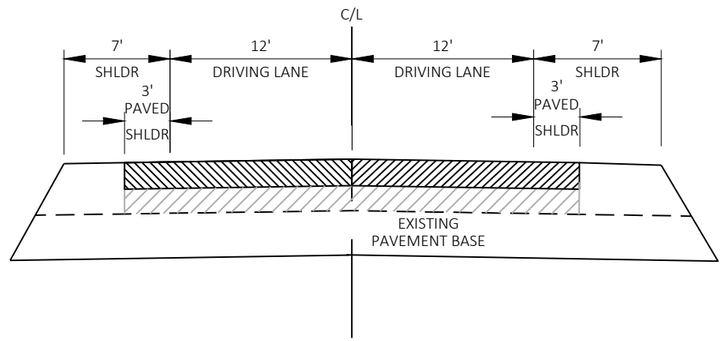
PLAN VIEW

EXISTING ASPHALTIC SURFACE TO REMAIN

LIMITS OF 1.75-INCHES HMA PAVEMENT 5 MT 58-34 V LOWER LAYER (COMPLETED IN FIRST PAVING PASS)

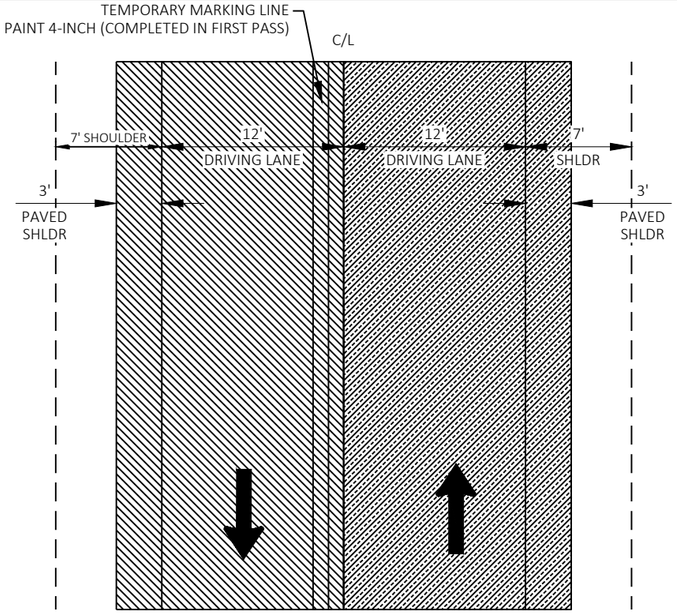
LIMITS OF 1.75-INCHES HMA PAVEMENT 5 MT 58-34 V LOWER LAYER

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



CROSS SECTION VIEW

SECOND PAVING PASS DETAIL



PLAN VIEW

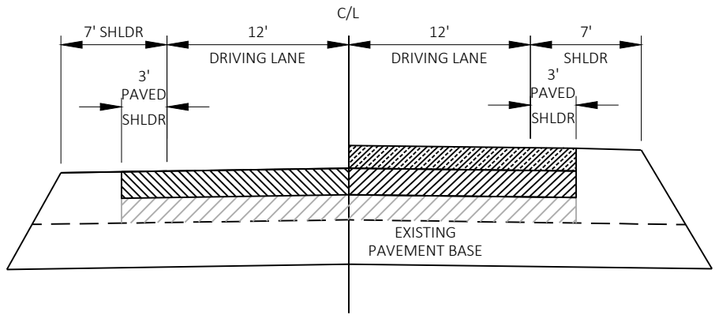
EXISTING ASPHALTIC SURFACE TO REMAIN

LIMITS OF 1.75-INCHES HMA PAVEMENT 5 MT 58-34 V LOWER LAYER (COMPLETED IN FIRST PAVING PASS)

LIMITS OF 1.75-INCHES HMA PAVEMENT 5 MT 58-34 V LOWER LAYER (COMPLETED IN SECOND PAVING PASS)

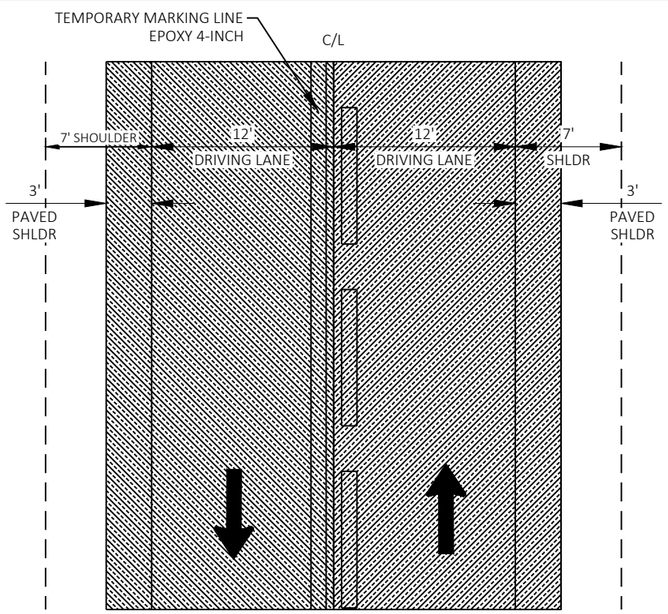
LIMITS OF 1.5-INCHES HMA PAVEMENT 5 MT 58-34 V UPPER LAYER

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



CROSS SECTION VIEW

THIRD PAVING PASS DETAIL



PLAN VIEW

EXISTING ASPHALTIC SURFACE TO REMAIN

LIMITS OF 1.75-INCHES HMA PAVEMENT 5 MT 58-34 V LOWER LAYER (COMPLETED IN FIRST PAVING PASS)

LIMITS OF 1.75-INCHES HMA PAVEMENT 5 MT 58-34 V LOWER LAYER (COMPLETED IN SECOND PAVING PASS)

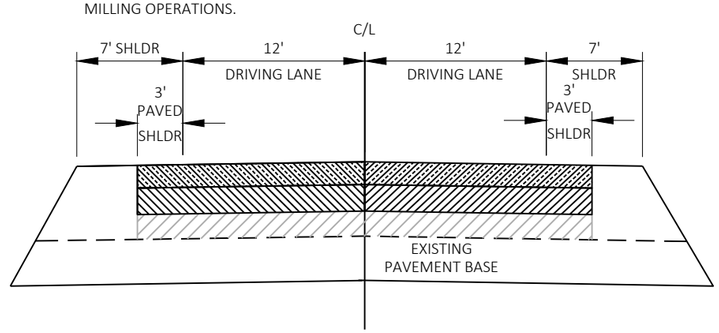
LIMITS OF 1.5-INCHES HMA PAVEMENT 5 MT 58-34 V UPPER LAYER (COMPLETED IN THIRD PAVING PASS)

LIMITS OF 1.5-INCHES HMA PAVEMENT 5 MT 58-34 V UPPER LAYER

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

TEMPORARY MARKING LINE EPOXY 4-INCH TO BE APPLIED AT CENTERLINE THE SAME DAY AS FINAL PAVING OPERATIONS IN THE LOCATION OF THE FINAL MARKING LINE SAME DAY EPOXY 4-INCH.

MARKING LINE SAME DAY EPOXY 4-INCH TO BE APPLIED SAME DAY AS CENTERLINE RUMBLE STRIP MILLING OPERATIONS.



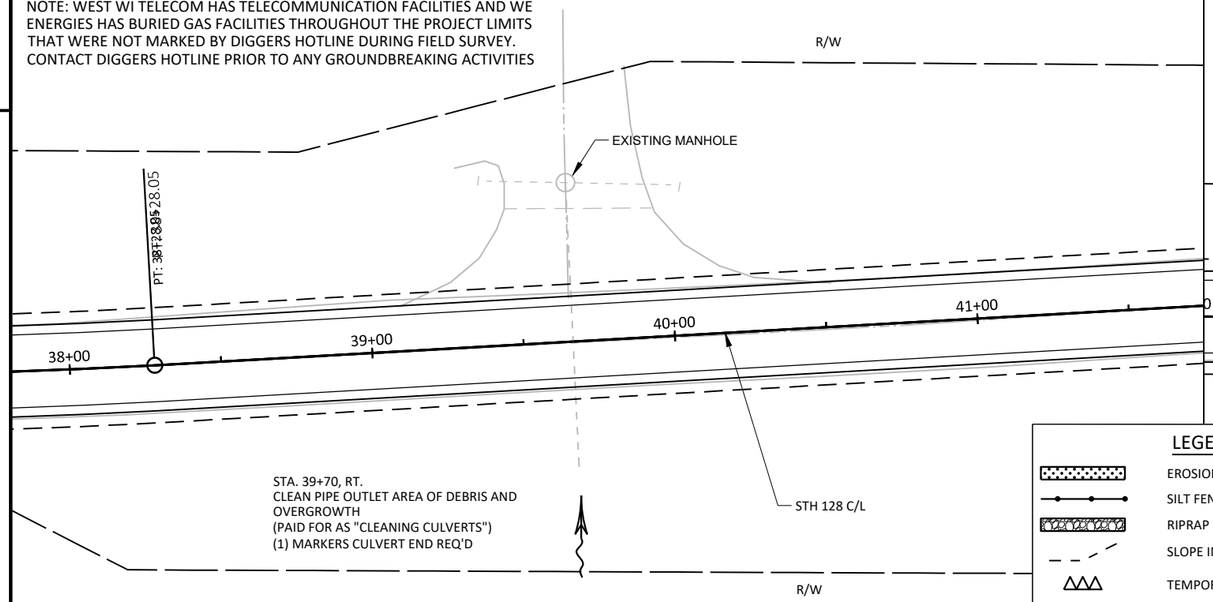
CROSS SECTION VIEW

FOURTH PAVING PASS DETAIL

2

N

NOTE: WEST WI TELECOM HAS TELECOMMUNICATION FACILITIES AND WE ENERGIES HAS BURIED GAS FACILITIES THROUGHOUT THE PROJECT LIMITS THAT WERE NOT MARKED BY DIGGERS HOTLINE DURING FIELD SURVEY. CONTACT DIGGERS HOTLINE PRIOR TO ANY GROUNDBREAKING ACTIVITIES

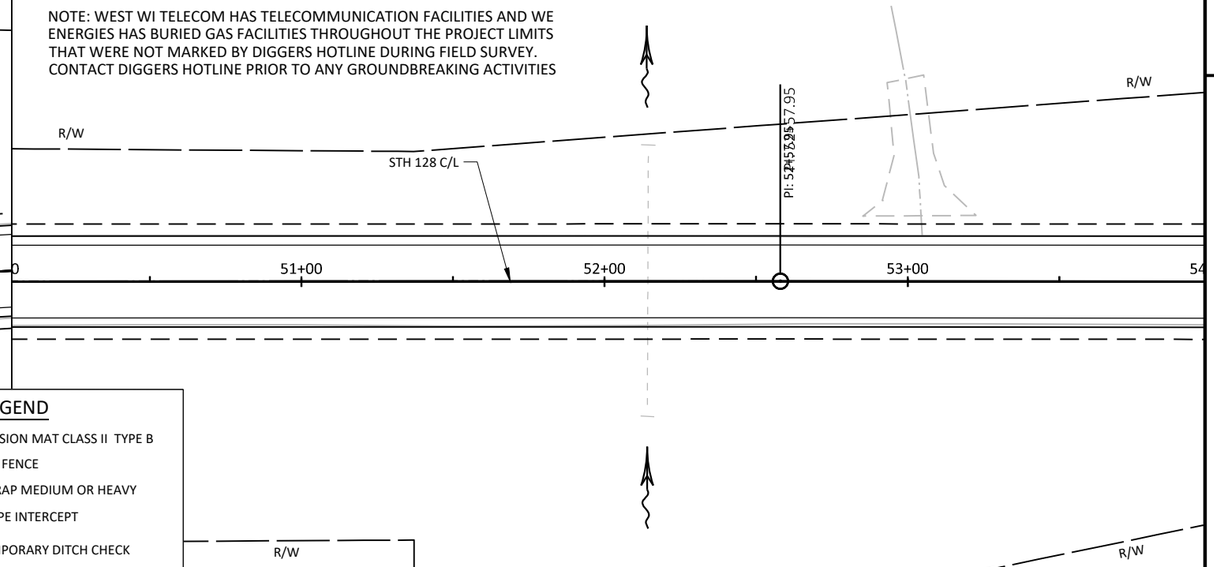


STA. 39+70, RT.
CLEAN PIPE OUTLET AREA OF DEBRIS AND OVERGROWTH
(PAID FOR AS "CLEANING CULVERTS")
(1) MARKERS CULVERT END REQ'D

N

STA. 52+14, LT.
CLEAN PIPE OUTLET AREA OF DEBRIS AND OVERGROWTH
(PAID FOR AS "CLEANING CULVERTS")
(2) MARKERS CULVERT END REQ'D

NOTE: WEST WI TELECOM HAS TELECOMMUNICATION FACILITIES AND WE ENERGIES HAS BURIED GAS FACILITIES THROUGHOUT THE PROJECT LIMITS THAT WERE NOT MARKED BY DIGGERS HOTLINE DURING FIELD SURVEY. CONTACT DIGGERS HOTLINE PRIOR TO ANY GROUNDBREAKING ACTIVITIES

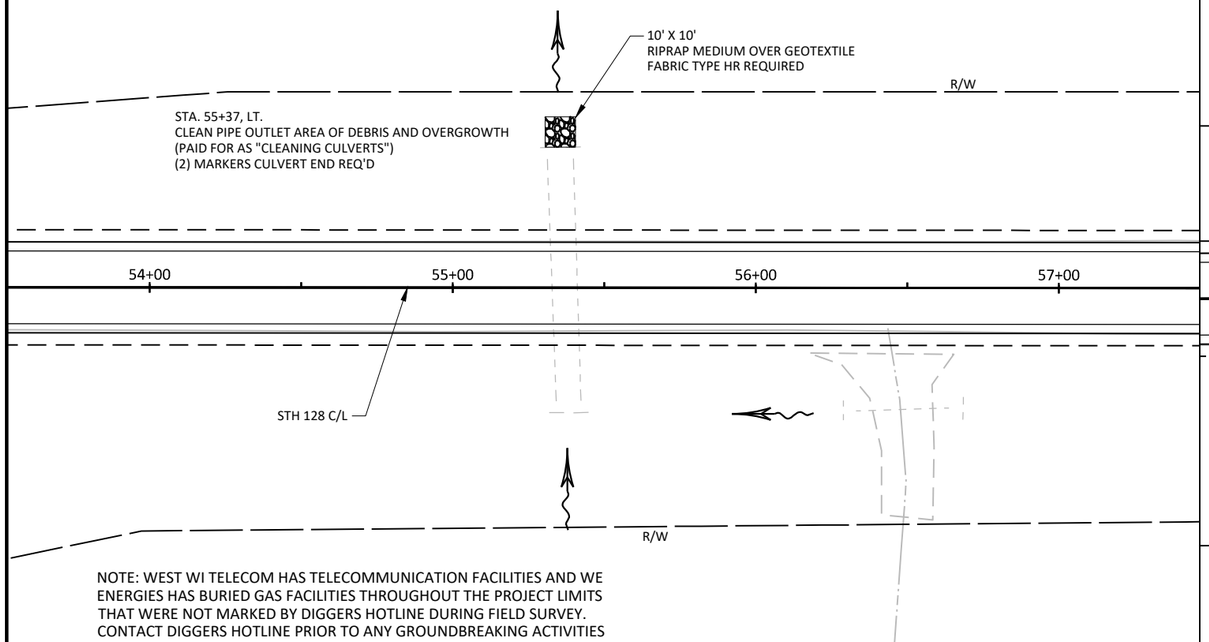


LEGEND

	EROSION MAT CLASS II TYPE B
	SILT FENCE
	RIPRAP MEDIUM OR HEAVY
	SLOPE INTERCEPT
	TEMPORARY DITCH CHECK
	CULVERT PIPE CHECK
	SURFACE WATER FLOW
XXXXXXX	SAWING ASPHALT

N

10' X 10'
RIPRAP MEDIUM OVER GEOTEXTILE
FABRIC TYPE HR REQUIRED



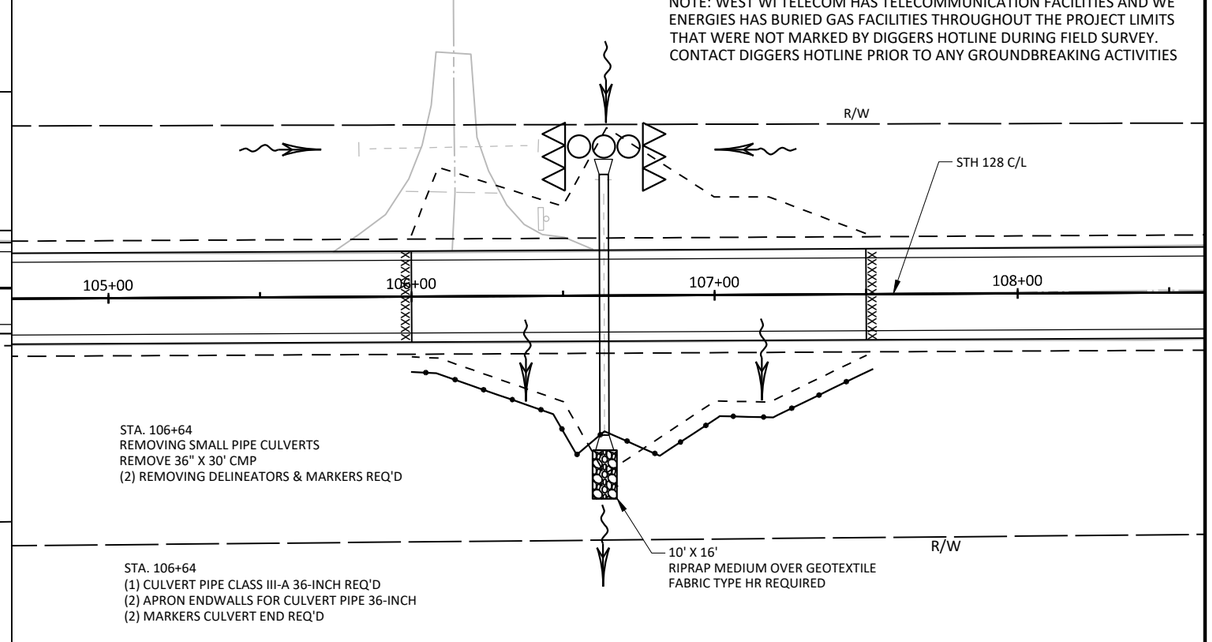
STA. 55+37, LT.
CLEAN PIPE OUTLET AREA OF DEBRIS AND OVERGROWTH
(PAID FOR AS "CLEANING CULVERTS")
(2) MARKERS CULVERT END REQ'D

NOTE: WEST WI TELECOM HAS TELECOMMUNICATION FACILITIES AND WE ENERGIES HAS BURIED GAS FACILITIES THROUGHOUT THE PROJECT LIMITS THAT WERE NOT MARKED BY DIGGERS HOTLINE DURING FIELD SURVEY. CONTACT DIGGERS HOTLINE PRIOR TO ANY GROUNDBREAKING ACTIVITIES

N

STA. 106+45, LT.
MOVING SIGNS TYPE II & MOVING
SMALL SIGN SUPPORTS REQ'D

NOTE: WEST WI TELECOM HAS TELECOMMUNICATION FACILITIES AND WE ENERGIES HAS BURIED GAS FACILITIES THROUGHOUT THE PROJECT LIMITS THAT WERE NOT MARKED BY DIGGERS HOTLINE DURING FIELD SURVEY. CONTACT DIGGERS HOTLINE PRIOR TO ANY GROUNDBREAKING ACTIVITIES

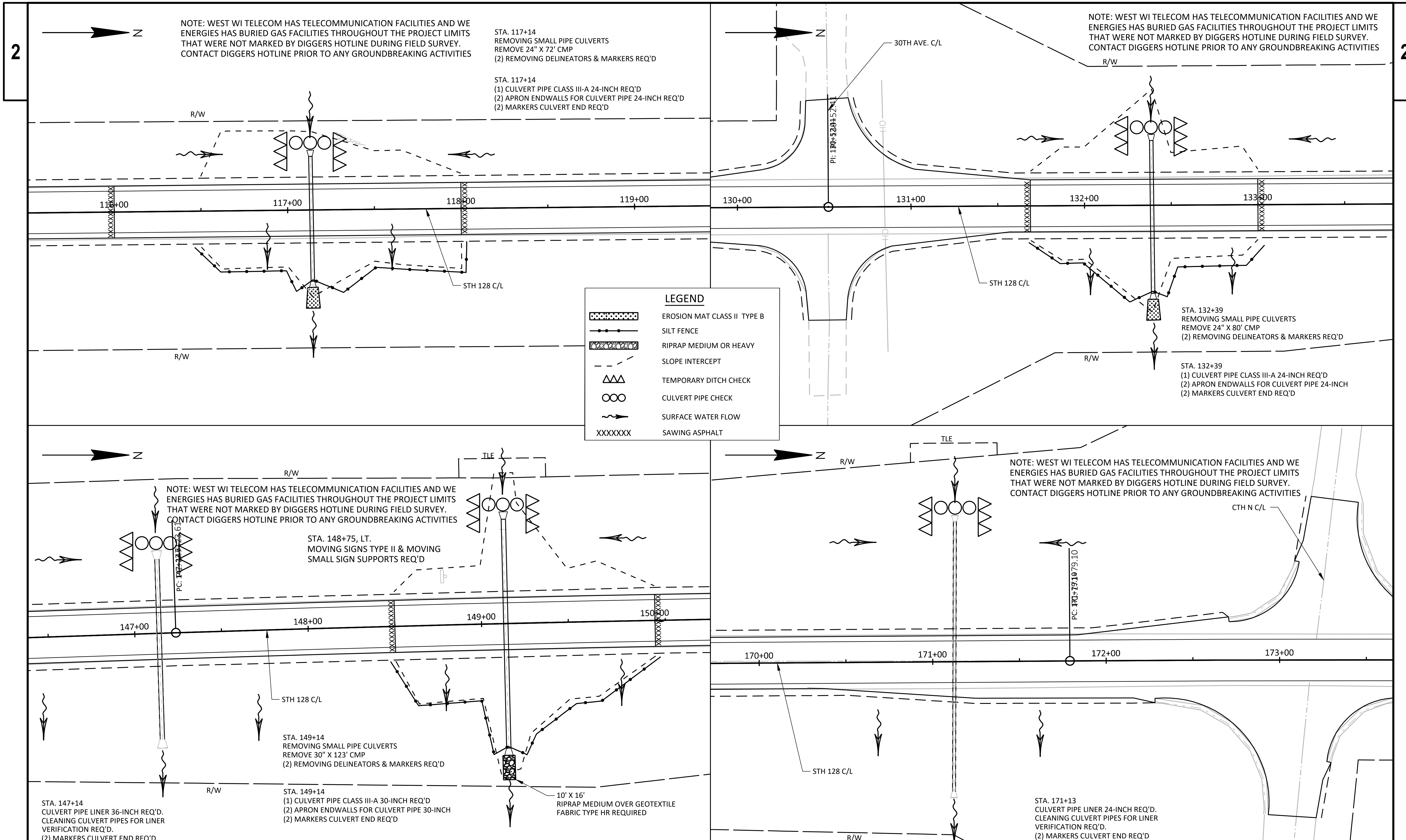


STA. 106+64
REMOVING SMALL PIPE CULVERTS
REMOVE 36" X 30' CMP
(2) REMOVING DELINEATORS & MARKERS REQ'D

10' X 16'
RIPRAP MEDIUM OVER GEOTEXTILE
FABRIC TYPE HR REQUIRED

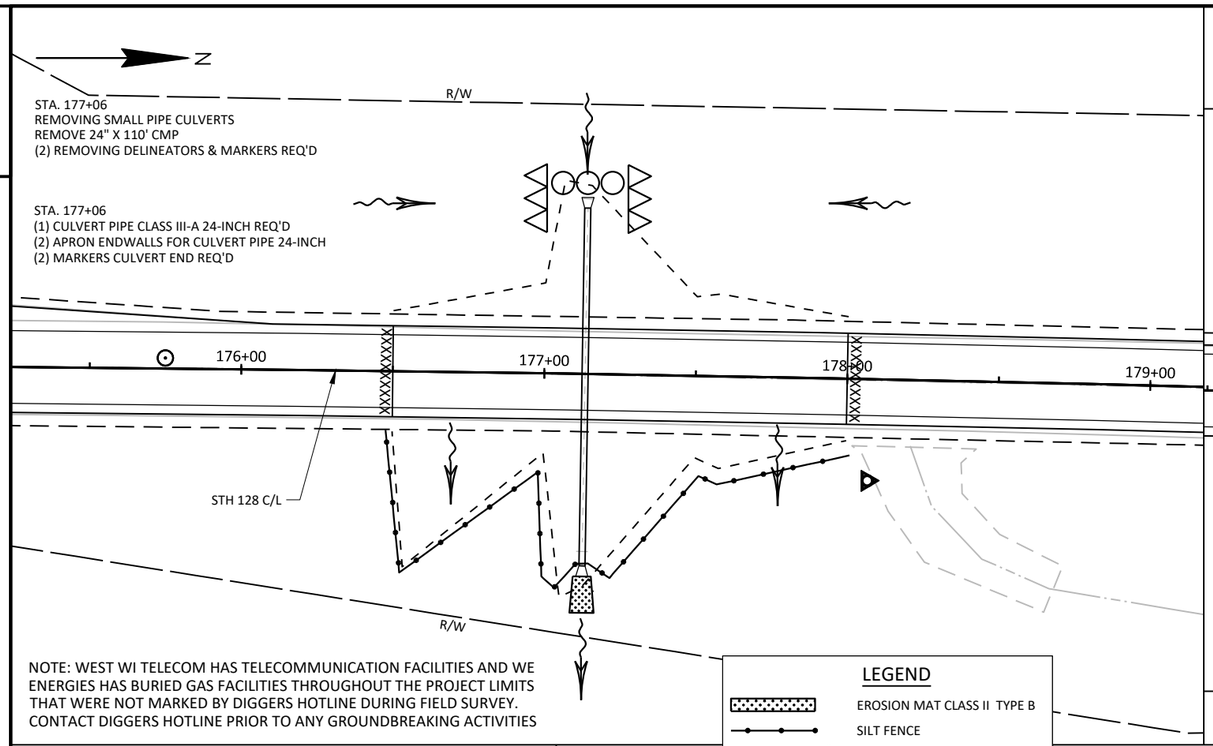
STA. 106+64
(1) CULVERT PIPE CLASS III-A 36-INCH REQ'D
(2) APRON ENDWALLS FOR CULVERT PIPE 36-INCH
(2) MARKERS CULVERT END REQ'D

PROJECT NO: 7620-00-70	HWY: STH 128	COUNTY: ST. CROIX	DRAINAGE DETAILS	SHEET 18	E

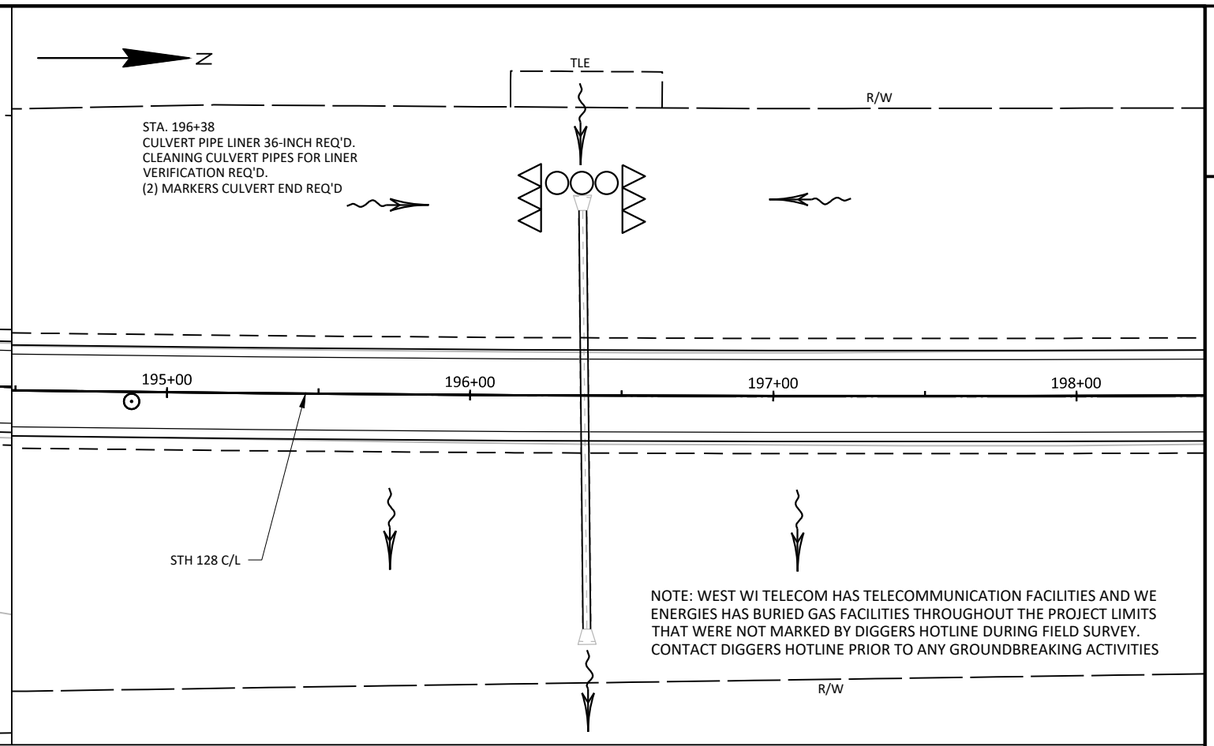

2
NOTE: WEST WI TELECOM HAS TELECOMMUNICATION FACILITIES AND WE ENERGIES HAS BURIED GAS FACILITIES THROUGHOUT THE PROJECT LIMITS THAT WERE NOT MARKED BY DIGGERS HOTLINE DURING FIELD SURVEY. CONTACT DIGGERS HOTLINE PRIOR TO ANY GROUNDBREAKING ACTIVITIES
STA. 117+14
REMOVING SMALL PIPE CULVERTS
REMOVE 24" X 72' CMP
(2) REMOVING DELINEATORS & MARKERS REQ'D
STA. 117+14
(1) CULVERT PIPE CLASS III-A 24-INCH REQ'D
(2) APRON ENDWALLS FOR CULVERT PIPE 24-INCH REQ'D
(2) MARKERS CULVERT END REQ'D
R/W
116+00
117+00
118+00
119+00
STH 128 C/L
R/W
30TH AVE. C/L
R/W
130+00
131+00
132+00
133+00
STH 128 C/L
STA. 132+39
REMOVING SMALL PIPE CULVERTS
REMOVE 24" X 80' CMP
(2) REMOVING DELINEATORS & MARKERS REQ'D
R/W
STA. 132+39
(1) CULVERT PIPE CLASS III-A 24-INCH REQ'D
(2) APRON ENDWALLS FOR CULVERT PIPE 24-INCH
(2) MARKERS CULVERT END REQ'D
LEGEND
EROSION MAT CLASS II TYPE B
SILT FENCE
RIPRAP MEDIUM OR HEAVY
SLOPE INTERCEPT
TEMPORARY DITCH CHECK
CULVERT PIPE CHECK
SURFACE WATER FLOW
XXXXXXX SAWING ASPHALT
TLE
R/W
STA. 148+75, LT.
MOVING SIGNS TYPE II & MOVING SMALL SIGN SUPPORTS REQ'D
147+00
148+00
149+00
150+00
STH 128 C/L
STA. 149+14
REMOVING SMALL PIPE CULVERTS
REMOVE 30" X 123' CMP
(2) REMOVING DELINEATORS & MARKERS REQ'D
R/W
STA. 149+14
(1) CULVERT PIPE CLASS III-A 30-INCH REQ'D
(2) APRON ENDWALLS FOR CULVERT PIPE 30-INCH
(2) MARKERS CULVERT END REQ'D
10' X 16'
RIPRAP MEDIUM OVER GEOTEXTILE FABRIC TYPE HR REQUIRED
STA. 147+14
CULVERT PIPE LINER 36-INCH REQ'D.
CLEANING CULVERT PIPES FOR LINER VERIFICATION REQ'D.
(2) MARKERS CULVERT END REQ'D
TLE
R/W
CTH N C/L
170+00
171+00
172+00
173+00
STH 128 C/L
STA. 171+13
CULVERT PIPE LINER 24-INCH REQ'D.
CLEANING CULVERT PIPES FOR LINER VERIFICATION REQ'D.
(2) MARKERS CULVERT END REQ'D
R/W
2

PROJECT NO: 7620-00-70	HWY: STH 128	COUNTY: ST. CROIX	DRAINAGE DETAILS	SHEET 19	E

FILE NAME : R:\PROJECTS\W11600 STH 128 CULVERT REPLACEMENT, ST CROIX CO\SHEETSPLAN\DETAILS\W11600_DRAINAGE DETAILS.DWG
LAYOUT NAME - 2
PLOT DATE : 11/28/2022 12:32 PM PLOT BY : JEFF SMITH PLOT NAME : PLOT SCALE : ##########
WISDOT/CADDS SHEET 42



NOTE: WEST WI TELECOM HAS TELECOMMUNICATION FACILITIES AND WE ENERGIES HAS BURIED GAS FACILITIES THROUGHOUT THE PROJECT LIMITS THAT WERE NOT MARKED BY DIGGERS HOTLINE DURING FIELD SURVEY. CONTACT DIGGERS HOTLINE PRIOR TO ANY GROUNDBREAKING ACTIVITIES



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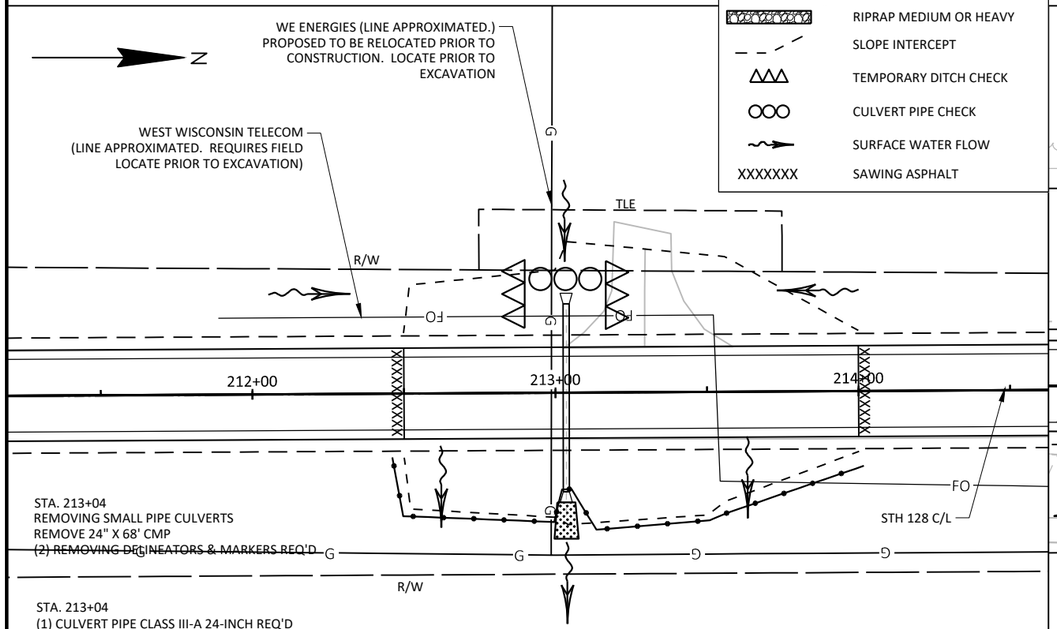
LEGEND

- EROSION MAT CLASS II TYPE B
- SILT FENCE
- RIPRAP MEDIUM OR HEAVY
- SLOPE INTERCEPT
- TEMPORARY DITCH CHECK
- CULVERT PIPE CHECK
- SURFACE WATER FLOW
- XXXXXXX SAWING ASPHALT



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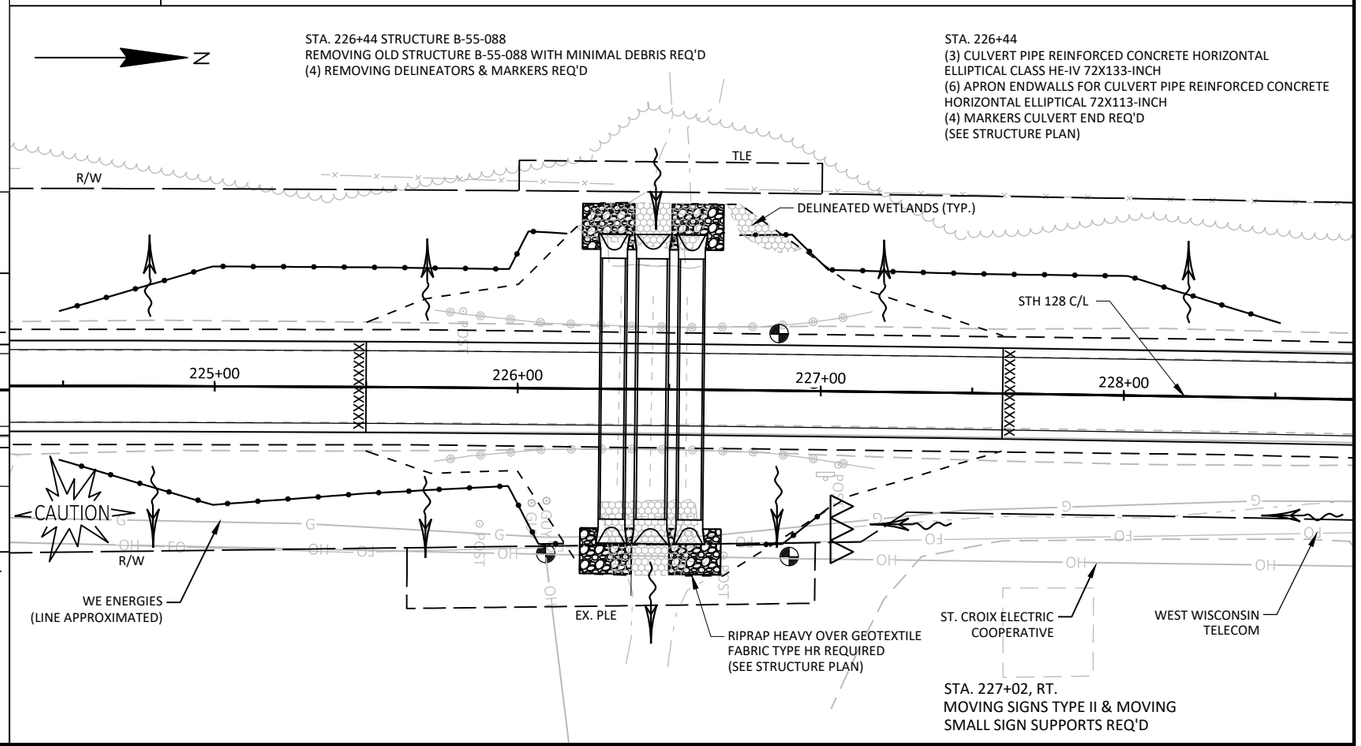
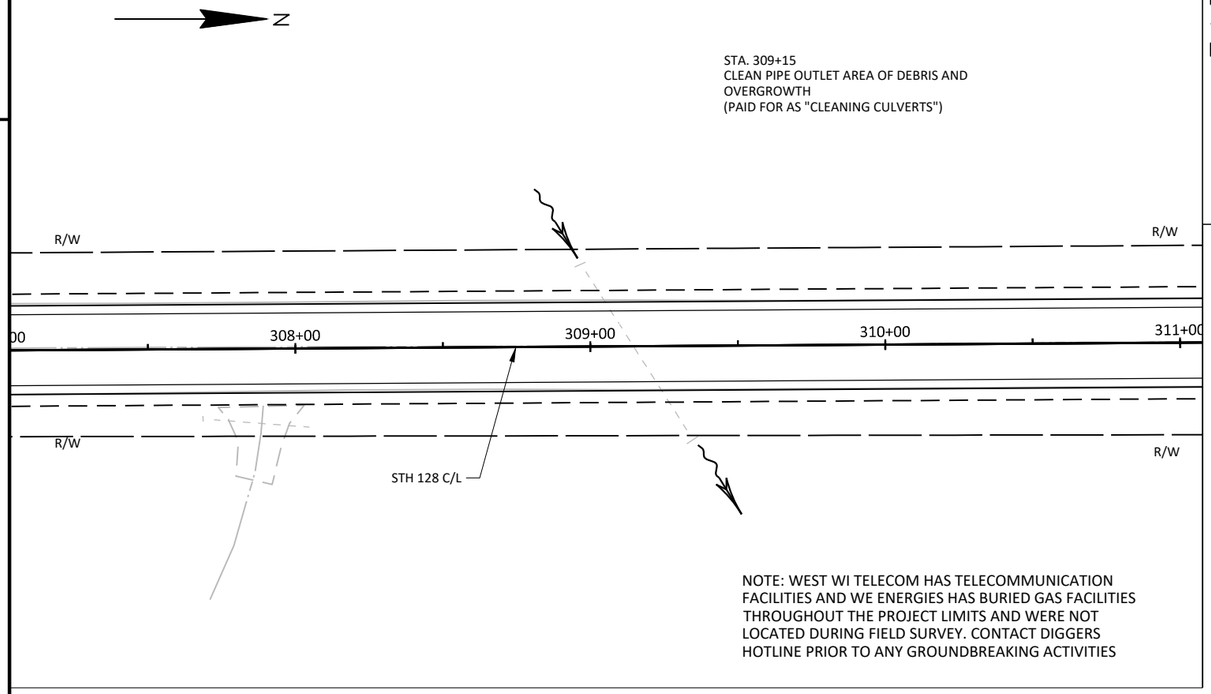


PROJECT NO: 7620-00-70	HWY: STH 128	COUNTY: ST. CROIX	DRAINAGE DETAILS	SHEET 20	E



NOTE: WEST WI TELECOM HAS TELECOMMUNICATION FACILITIES AND WE ENERGIES HAS BURIED GAS FACILITIES THROUGHOUT THE PROJECT LIMITS AND WERE NOT LOCATED DURING FIELD SURVEY. CONTACT DIGGERS HOTLINE PRIOR TO ANY GROUNDBREAKING ACTIVITIES

LEGEND

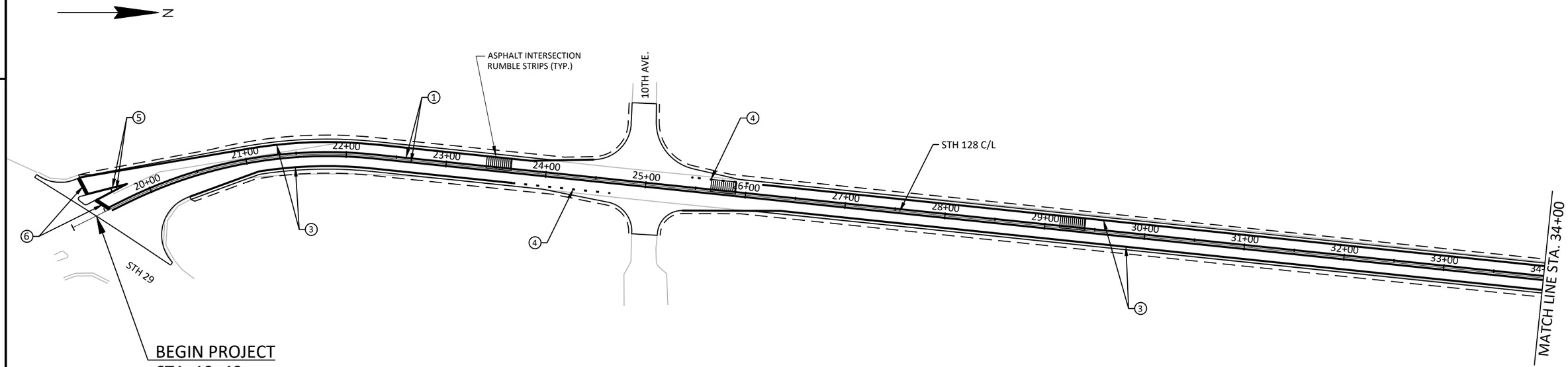
- EROSION MAT CLASS II TYPE B
- SILT FENCE
- RIPRAP MEDIUM OR HEAVY
- SLOPE INTERCEPT
- TEMPORARY DITCH CHECK
- CULVERT PIPE CHECK
- SURFACE WATER FLOW
- XXXXXXX SAWING ASPHALT

2

PROJECT NO: 7620-00-70	HWY: STH 128	COUNTY: ST. CROIX	DRAINAGE DETAILS	SHEET 21	E

FILE NAME : R:\PROJECTS\W11600 STH 128 CULVERT REPLACEMENT, ST CROIX CO\SHEETSPLAN\DETAILS\W11600_DRAINAGE DETAILS.DWG
LAYOUT NAME - 4 - Drainage Details
PLOT DATE : 11/28/2022 12:33 PM PLOT BY : JEFF SMITH PLOT NAME : PLOT SCALE : ##########
WISDOT/CADDS SHEET 42

2



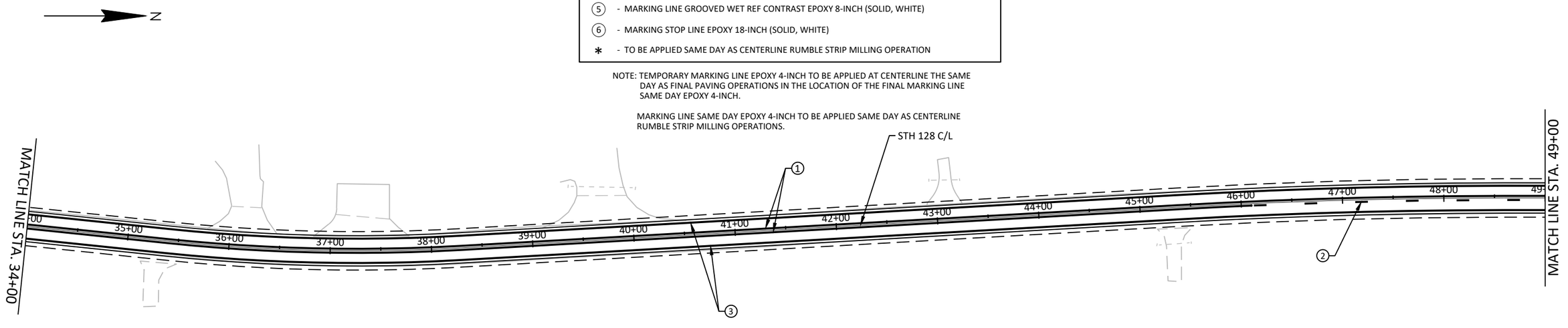
LEGEND

1. - MARKING LINE SAME DAY EPOXY 4-INCH (SOLID, YELLOW) *
2. - MARKING LINE SAME DAY EPOXY 4-INCH (DASHED, YELLOW) *
3. - MARKING LINE GROOVED WET REF EPOXY 4-INCH (SOLID, WHITE)
4. - MARKING LINE GROOVED WET REF EPOXY 4-INCH (DOTTED, WHITE - 3' DASH 9' SKIP)
5. - MARKING LINE GROOVED WET REF CONTRAST EPOXY 8-INCH (SOLID, WHITE)
6. - MARKING STOP LINE EPOXY 18-INCH (SOLID, WHITE)

* - TO BE APPLIED SAME DAY AS CENTERLINE RUMBLE STRIP MILLING OPERATION

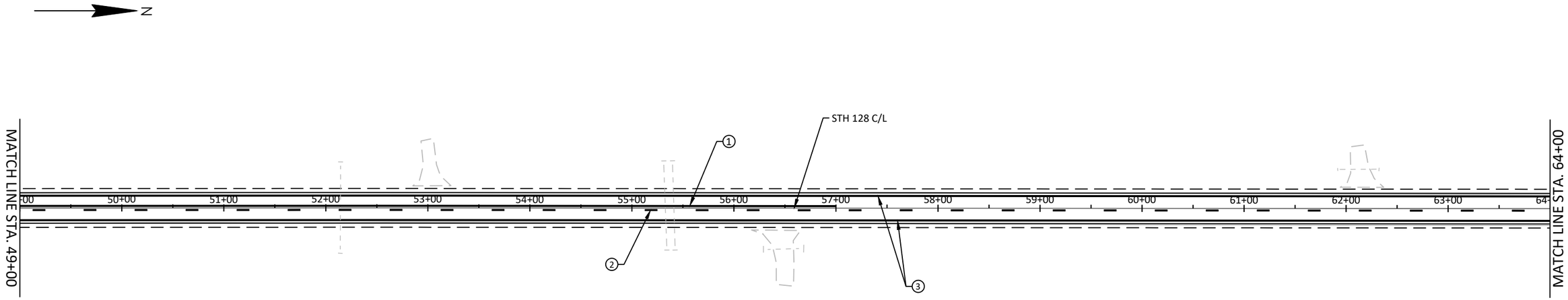
NOTE: TEMPORARY MARKING LINE EPOXY 4-INCH TO BE APPLIED AT CENTERLINE THE SAME DAY AS FINAL PAVING OPERATIONS IN THE LOCATION OF THE FINAL MARKING LINE SAME DAY EPOXY 4-INCH.

MARKING LINE SAME DAY EPOXY 4-INCH TO BE APPLIED SAME DAY AS CENTERLINE RUMBLE STRIP MILLING OPERATIONS.



PROJECT NO: 7620-00-70	HWY: STH 128	COUNTY: ST. CROIX	PAVEMENT MARKING PLAN	SHEET 22	E

2



LEGEND

(1)	- MARKING LINE SAME DAY EPOXY 4-INCH (SOLID, YELLOW) *
(2)	- MARKING LINE SAME DAY EPOXY 4-INCH (DASHED, YELLOW) *
(3)	- MARKING LINE GROOVED WET REF EPOXY 4-INCH (SOLID, WHITE)
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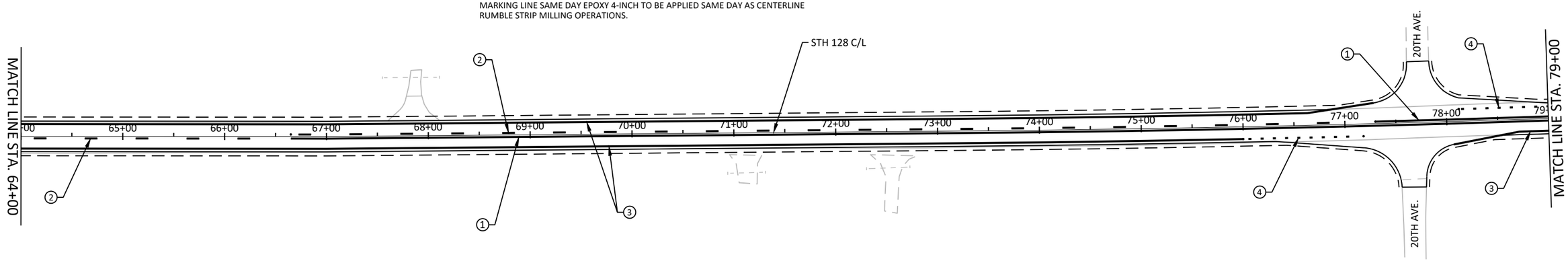
MARKING LINE SAME DAY EPOXY 4-INCH TO BE APPLIED SAME DAY AS CENTERLINE RUMBLE STRIP MILLING OPERATIONS.

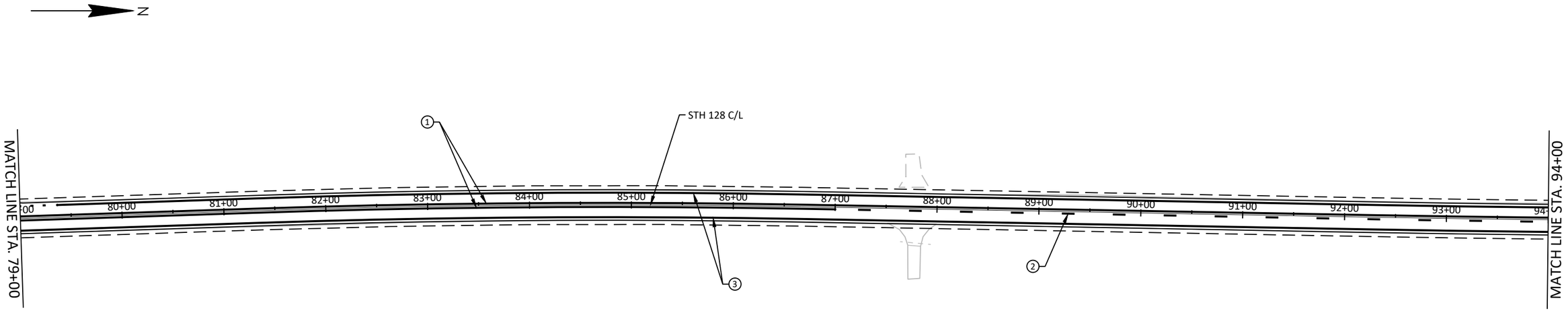


PROJECT NO: 7620-00-70	HWY: STH 128	COUNTY: ST. CROIX	PAVEMENT MARKING PLAN	SHEET 23 E

FILE NAME : R:\PROJECTS\W11600 STH 128 CULVERT REPLACEMENT, ST CROIX CO\SHEETSPLAN\DETAILS\W11600_PAVEMENT MARKING.DWG
LAYOUT NAME - 2

PLOT DATE : 10/5/2022 10:20 AM PLOT BY : KARTER ZAJICEK PLOT NAME : PLOT SCALE : 1 IN:100 FT

2



LEGEND

(1)	- MARKING LINE SAME DAY EPOXY 4-INCH (SOLID, YELLOW) *
(2)	- MARKING LINE SAME DAY EPOXY 4-INCH (DASHED, YELLOW) *
(3)	- MARKING LINE GROOVED WET REF EPOXY 4-INCH (SOLID, WHITE)
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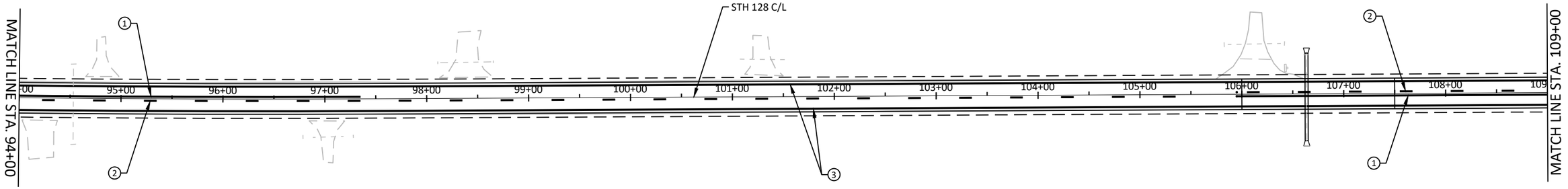
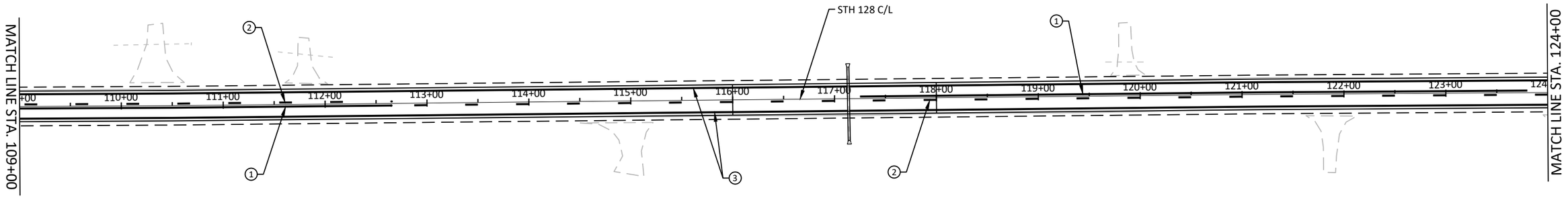
MARKING LINE SAME DAY EPOXY 4-INCH TO BE APPLIED SAME DAY AS CENTERLINE RUMBLE STRIP MILLING OPERATIONS.



PROJECT NO: 7620-00-70	HWY: STH 128	COUNTY: ST. CROIX	PAVEMENT MARKING PLAN	SHEET 24	E

2

N



LEGEND

(1)	- MARKING LINE SAME DAY EPOXY 4-INCH (SOLID, YELLOW) *
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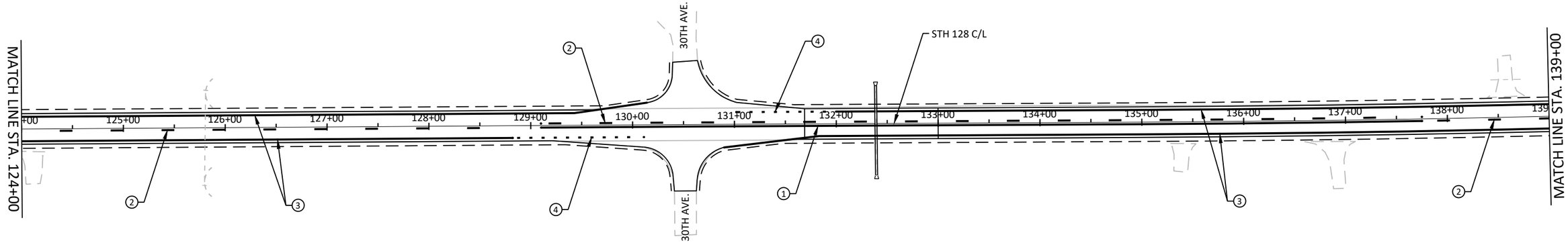
N

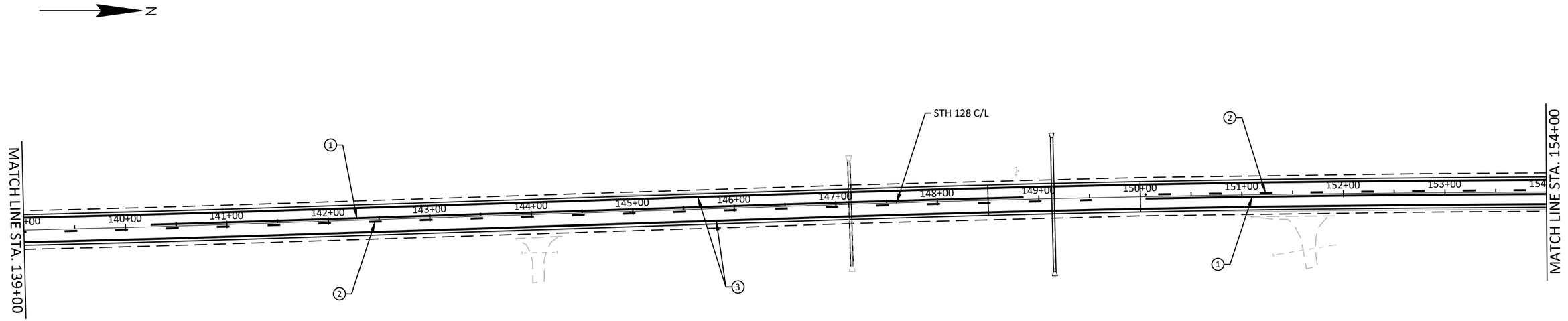


PROJECT NO: 7620-00-70	HWY: STH 128	COUNTY: ST. CROIX	PAVEMENT MARKING PLAN	SHEET 25	E

FILE NAME : R:\PROJECTS\W11600 STH 128 CULVERT REPLACEMENT, ST CROIX CO\SHEETSPLAN\DETAILS\W11600_PAVEMENT MARKING.DWG
LAYOUT NAME - 4

PLOT DATE : 10/5/2022 10:21 AM PLOT BY : KARTER ZAJICEK PLOT NAME : PLOT SCALE : 1 IN:100 FT

2



LEGEND

(1)	- MARKING LINE SAME DAY EPOXY 4-INCH (SOLID, YELLOW) *
(2)	- MARKING LINE SAME DAY EPOXY 4-INCH (DASHED, YELLOW) *
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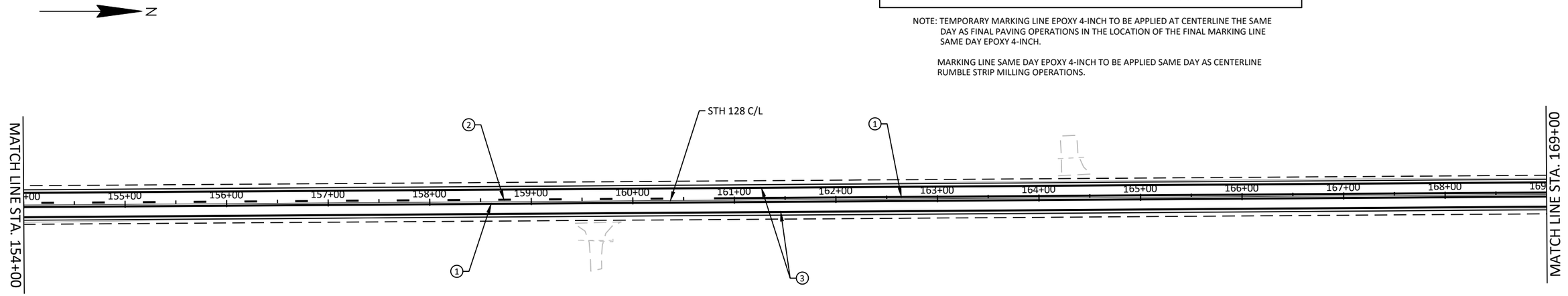
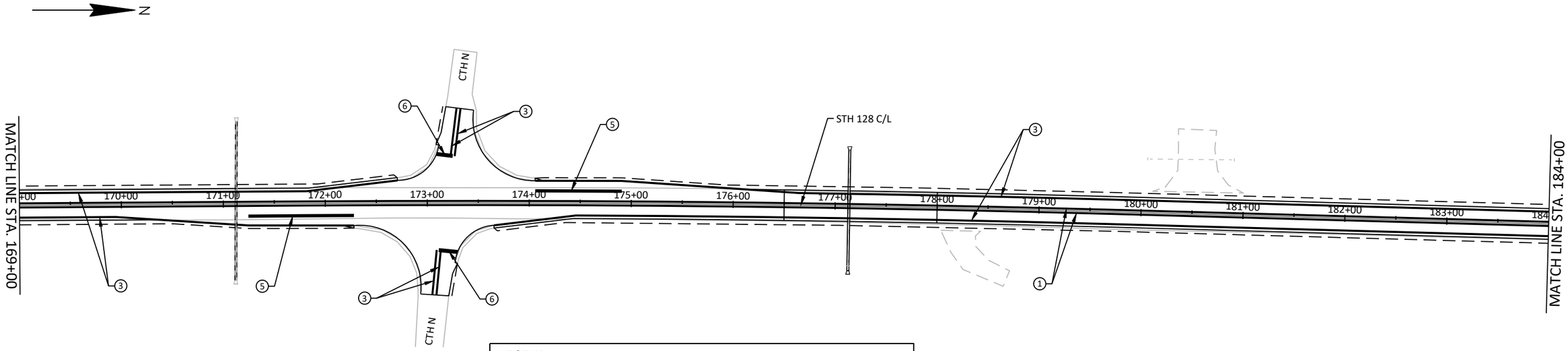


PROJECT NO: 7620-00-70	HWY: STH 128	COUNTY: ST. CROIX	PAVEMENT MARKING PLAN	SHEET 26 E

2



LEGEND

1. - MARKING LINE SAME DAY EPOXY 4-INCH (SOLID, YELLOW) *
2. - MARKING LINE SAME DAY EPOXY 4-INCH (DASHED, YELLOW) *
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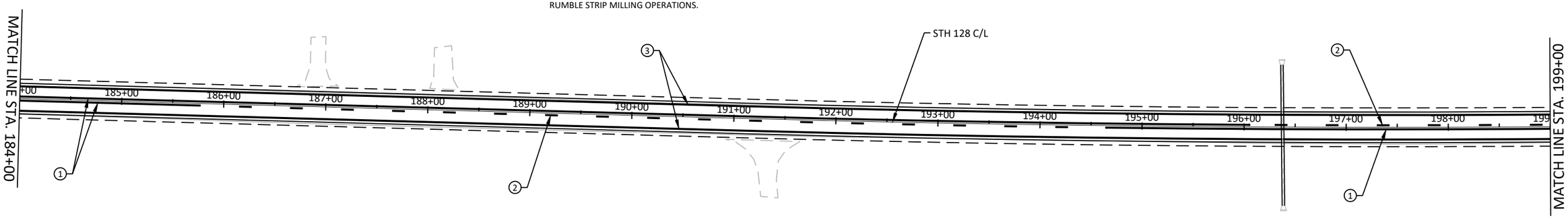
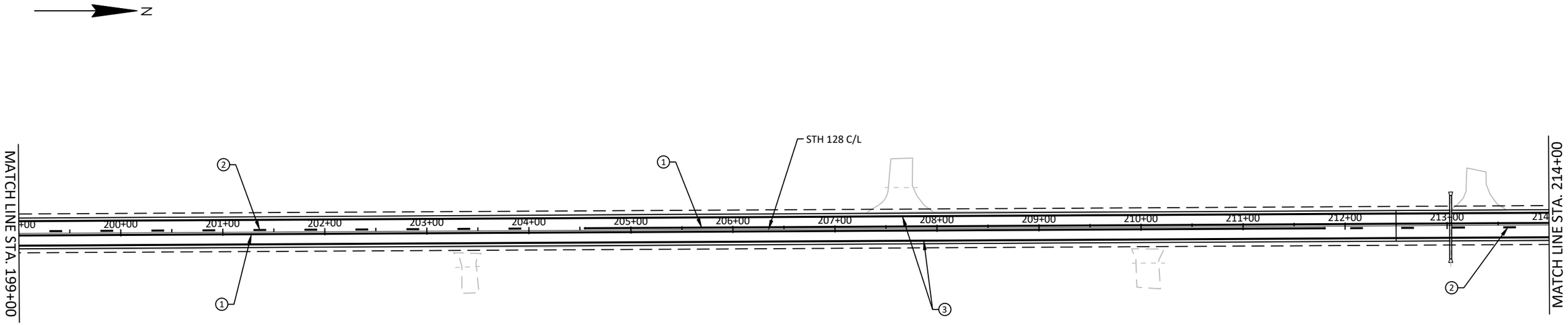


PROJECT NO: 7620-00-70	HWY: STH 128	COUNTY: ST. CROIX	PAVEMENT MARKING PLAN	SHEET 27	E

2



LEGEND

(1)	- MARKING LINE SAME DAY EPOXY 4-INCH (SOLID, YELLOW) *
(2)	- MARKING LINE SAME DAY EPOXY 4-INCH (DASHED, YELLOW) *
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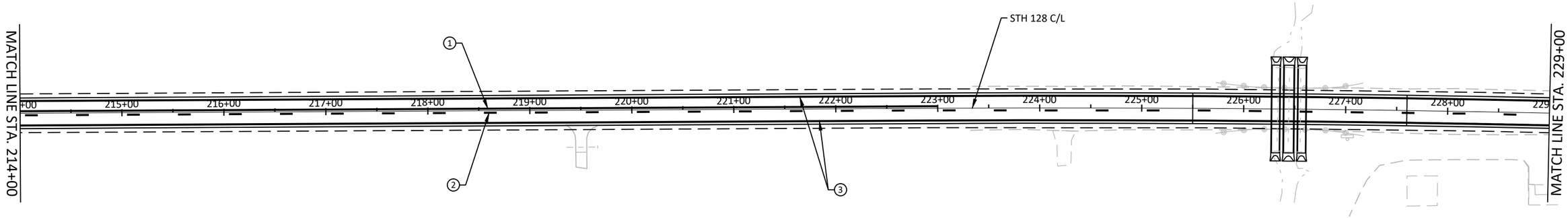
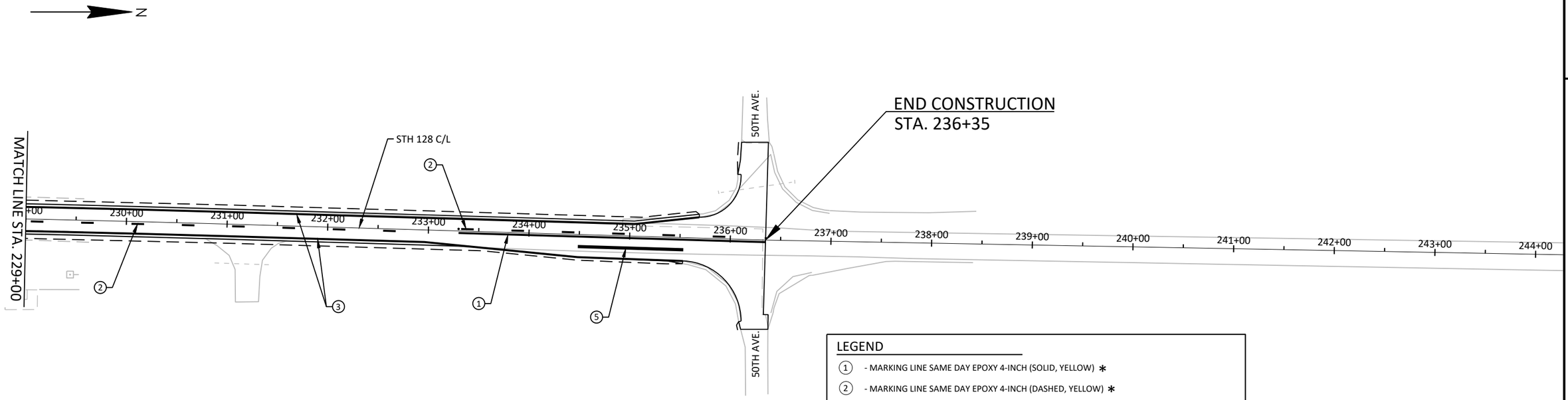


PROJECT NO: 7620-00-70	HWY: STH 128	COUNTY: ST. CROIX	PAVEMENT MARKING PLAN	SHEET 28 E



LEGEND

(1)	- MARKING LINE SAME DAY EPOXY 4-INCH (SOLID, YELLOW) *
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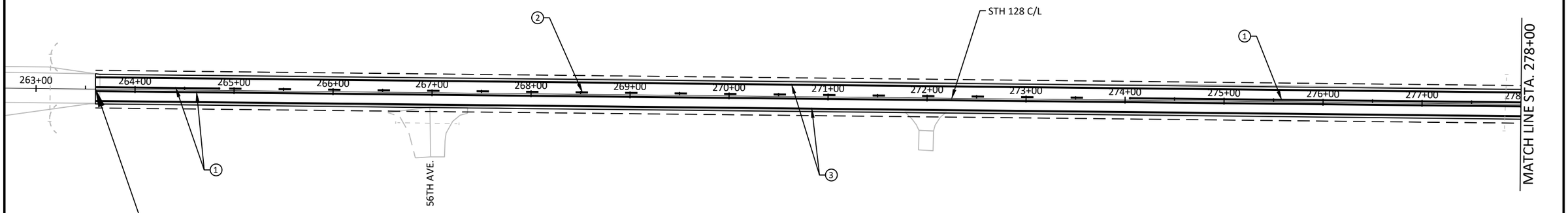
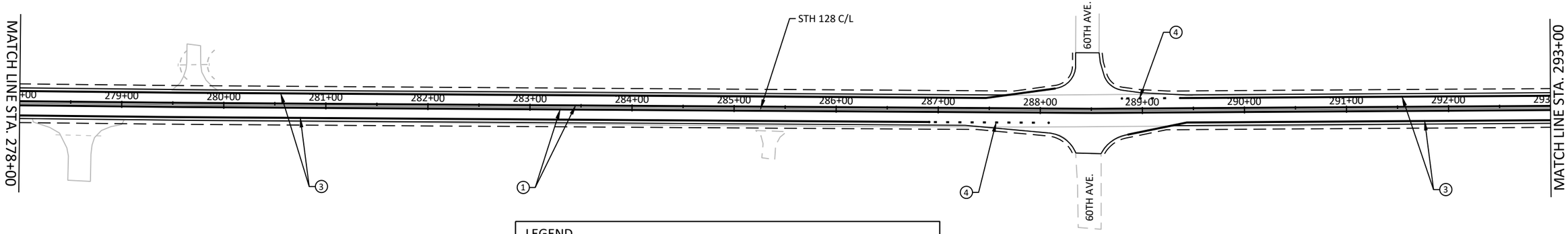


2

N



LEGEND

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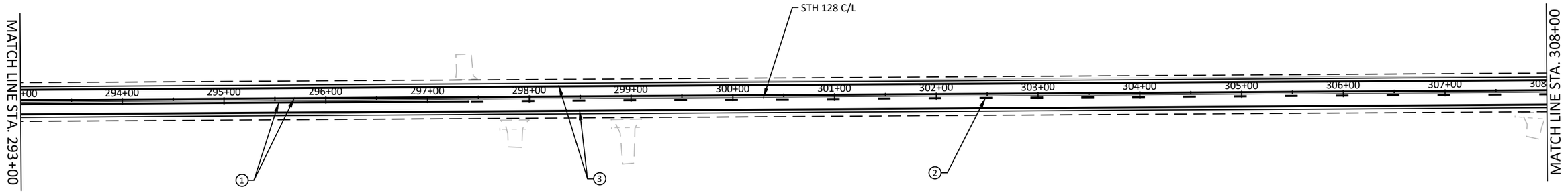
N

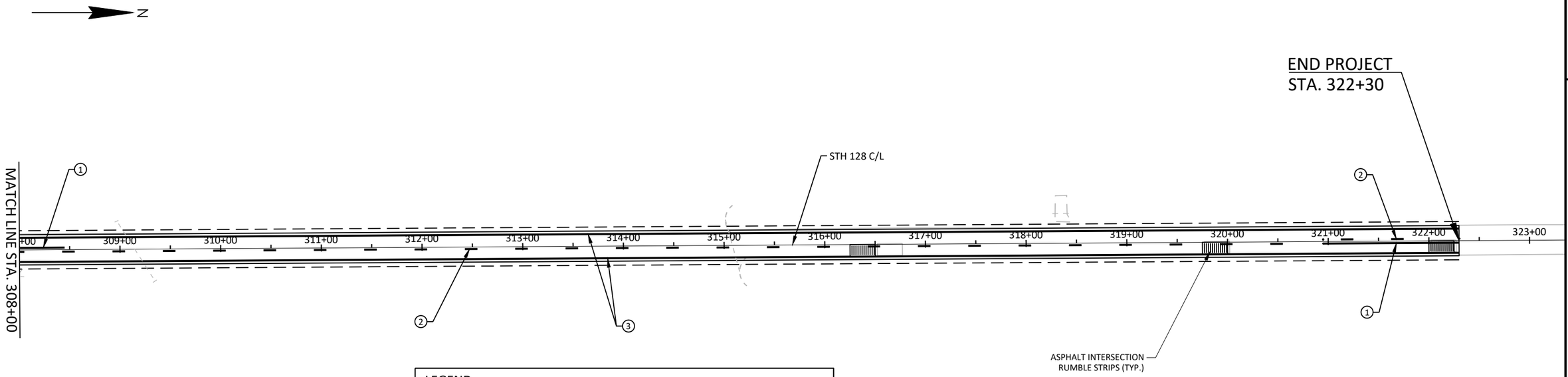


PROJECT NO: 7620-00-70	HWY: STH 128	COUNTY: ST. CROIX	PAVEMENT MARKING PLAN	SHEET 30	E

FILE NAME : R:\PROJECTS\W11600 STH 128 CULVERT REPLACEMENT, ST CROIX CO\SHEETSPLAN\DETAILS\W11600_PAVEMENT MARKING.DWG
LAYOUT NAME - 9

PLOT DATE : 10/5/2022 10:21 AM PLOT BY : KARTER ZAJICEK PLOT NAME : PLOT SCALE : 1 IN:100 FT

2



LEGEND

(1) - MARKING LINE SAME DAY EPOXY 4-INCH (SOLID, YELLOW) *

(2) - MARKING LINE SAME DAY EPOXY 4-INCH (DASHED, YELLOW) *

(3) - MARKING LINE GROOVED WET REF EPOXY 4-INCH (SOLID, WHITE)

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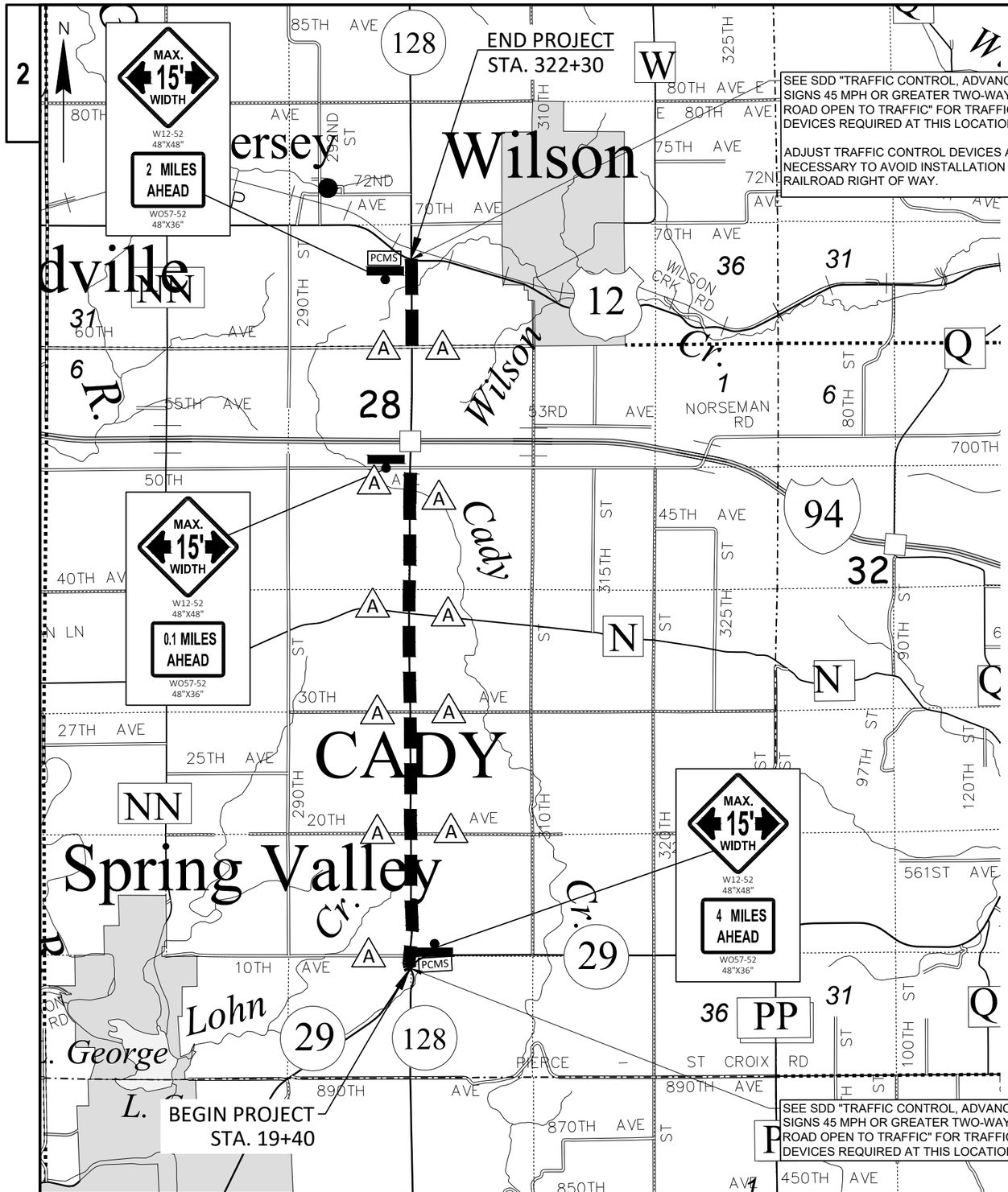


GENERAL NOTES FOR TRAFFIC CONTROL

STH 128 WILL REMAIN OPEN TO TRAFFIC DURING CONSTRUCTION.

THE EXACT 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 WORK ZONE, INCLUDING PRE-EXISTING SIGNING IN THE VICINITY, SHALL BE COVERED OR REMOVED AS DIRECTED BY THE ENGINEER.

"WO" AND "MO" SIGNS ARE THE SAME AS "W" AND "M" SIGNS, EXCEPT THE BACKGROUND IS ORANGE.
ALL "W" AND "WO" SIGNS SHALL BE 48" x 48" UNLESS OTHERWISE NOTED.

ALL ROADS AND STREETS WITHIN THE WORK ZONES SHALL BE KEPT ACCESSIBLE FOR EMERGENCY VEHICLES, RESIDENTS AND BUSINESSES.

ANY STOP SIGNS WHICH ARE REMOVED FOR A CONSTRUCTION OPERATION SHALL BE IMMEDIATELY RE-ESTABLISHED.

LAYOUT IS NOT TO SCALE.

ALL SIGN LAYOUT SHALL BE IN ACCORDANCE WITH THE WISCONSIN MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE AND MAINTAIN ACCESS TO ALL PROPERTY ABUTTING THE ROADWAY CONSTRUCTION WORK THROUGHOUT THE LIFE OF THE PROJECT.

THE CONTRACTOR SHALL PROVIDE AND MAINTAIN ALL NECESSARY BARRICADES, SIGNS, LIGHTS, TEMPORARY MARKINGS, FLAGGERS, AND SUCH OTHER SAFETY DEVICES AS CALLED FOR ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

THE SPACING BETWEEN SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200' CLEARANCE TO EXISTING SIGNS.

DURING NIGHT SHUTDOWN, ONE LANE IN EACH DIRECTION MUST REMAIN OPEN. (ON A HARD SURFACE, OR BASE AGGREGATE DENSE).

DRAWINGS SHOW TRAFFIC CONTROL FOR A TYPICAL SITUATION. ADDITIONAL TRAFFIC CONTROL DEVICES MAY BE REQUIRED AND/OR LAYOUT DETAILS MODIFIED DEPENDING ON CONTRACTOR'S METHODS OR SEQUENCES OF OPERATION.

ADDITIONAL TRAFFIC CONTROL DEVICES (AS NOTED IN SECTION 104.6.1.2.3 OF THE STANDARD SPECS OR AS DIRECTED BY THE ENGINEER IN THE FIELD) MAY BE REQUIRED ADJACENT TO DROP-OFFS, OPEN TRENCHES, OR PROTRUSIONS (INCLUDING MANHOLE COVERS AND WATER VALVES). COST TO BE INCIDENTAL TO OPERATION WHICH CREATES THE HAZARD.

ROADWORK BEGINS XX/XX/XX

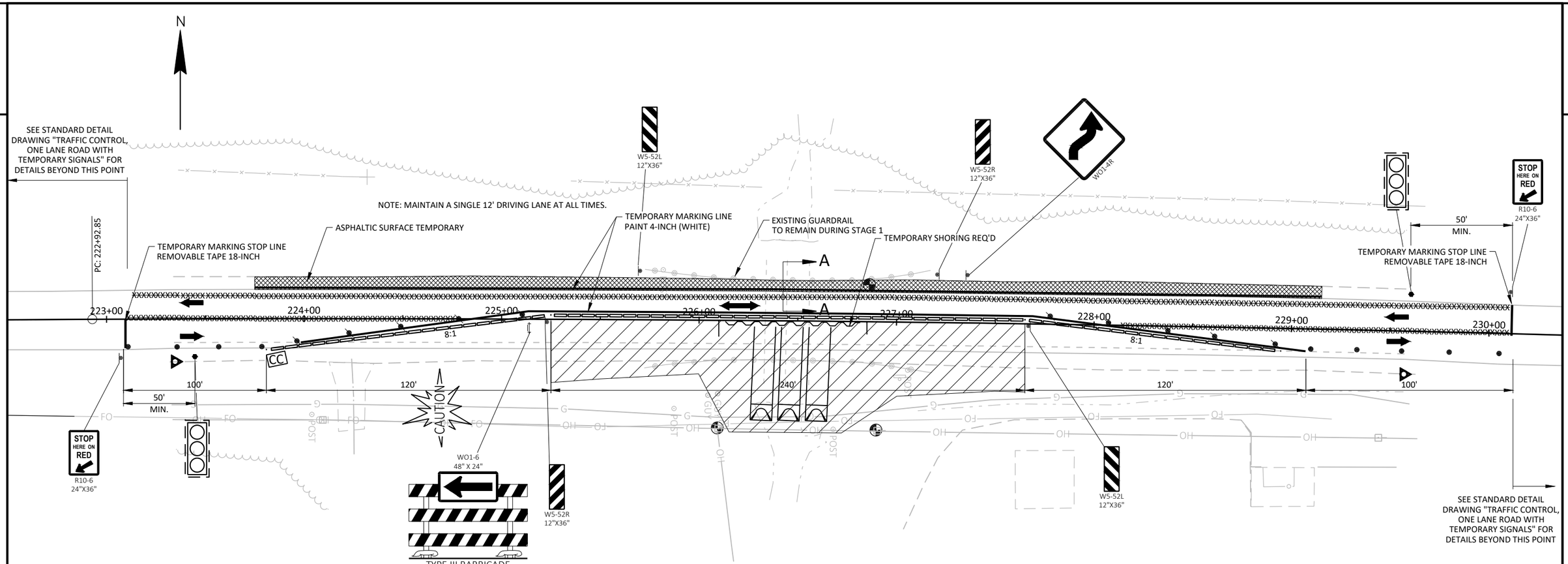
PLACE PCMS AT THE INTERSECTION OF STH 128 AND STH 29 AND AT THE INTERSECTION OF STH 128 AND USH 12 FOR 7 CALENDAR DAYS PRIOR TO BEGINNING WORK ON STH 128

A

ROAD WORK AHEAD W20-1A

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

PROJECT NO: 7620-00-70	HWY: STH 128	COUNTY: ST. CROIX	TRAFFIC CONTROL	SHEET 32	E



TYPE III BARRICADE

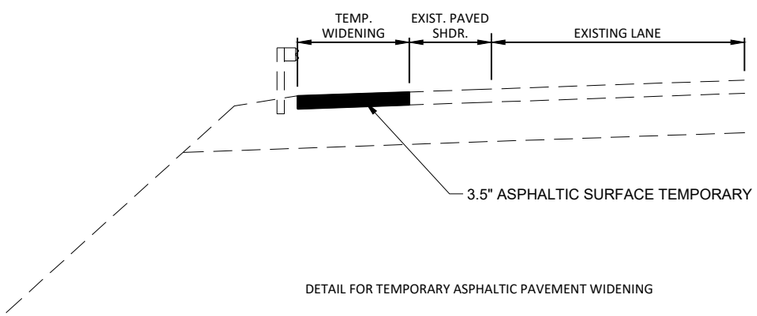
LEGEND

- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- MARKING REMOVAL LINE 4-INCH
- SIGN ON PERMANENT SUPPORT
- CONCRETE BARRIER TEMPORARY PRECAST
- ASPHALTIC PAVEMENT WIDENING
- DIRECTION OF TRAFFIC
- TEMPORARY SIGNAL (TRAILER MOUNTED)
- CC — CRASH CUSHION TEMPORARY
- WORK AREA

SIGNAL SEQUENCE				
INTERVAL	PHASE TIME (SECONDS)	CUMULATIVE TIME (SECONDS)	PHASE 1 DIRECTON	PHASE 2 DIRECTION
1	20	20	GREEN	RED
2	4	24	YELLOW	RED
3	18	42	RED	RED
4	20	62	RED	GREEN
5	4	66	RED	YELLOW
6	18	84	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.

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.

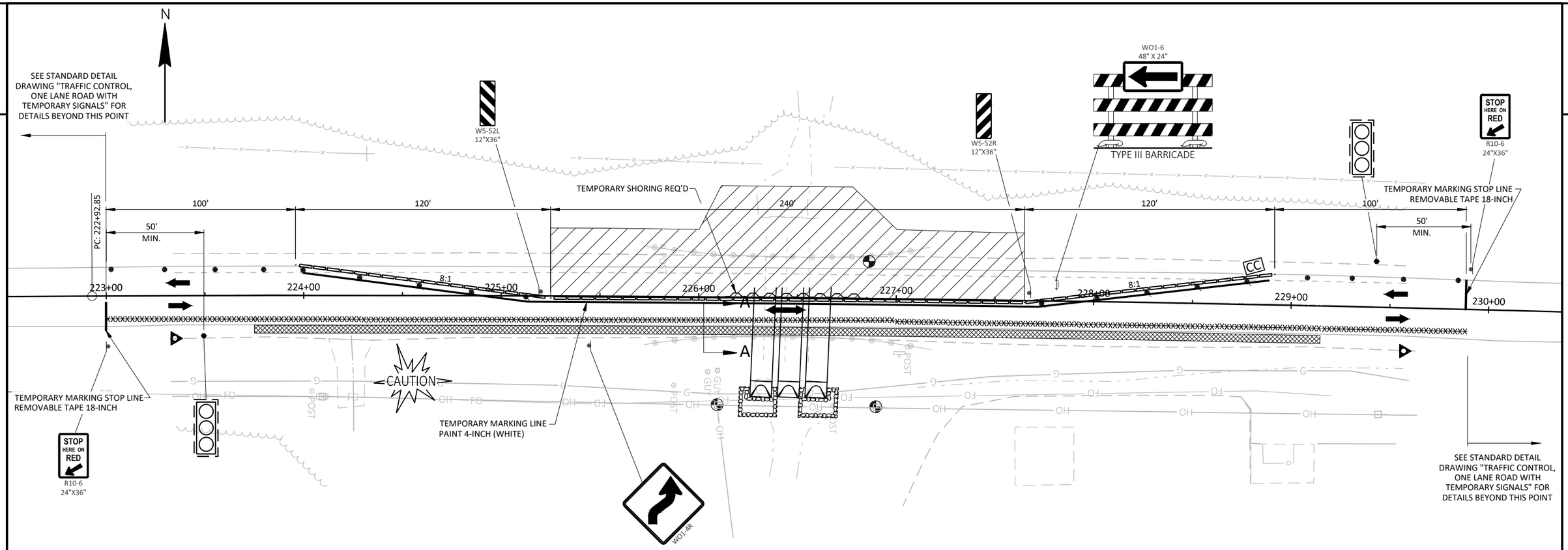


DETAIL FOR TEMPORARY ASPHALTIC PAVEMENT WIDENING

SECTION A-A

PROJECT NO: 7620-00-70	HWY: STH 128	COUNTY: ST. CROIX	TRAFFIC CONTROL - STAGE 1	SHEET 33	E

FILE NAME : R:\PROJECTS\W11600 STH 128 CULVERT REPLACEMENT, ST CROIX CO\SHEETSPLAN\DETAILS\W11600_STAGING PLANS.DWG
LAYOUT NAME - Stage 1
PLOT DATE : 9/16/2022 3:02 PM
PLOT BY : JEFF SMITH
PLOT NAME :
PLOT SCALE : 1 IN:50 FT



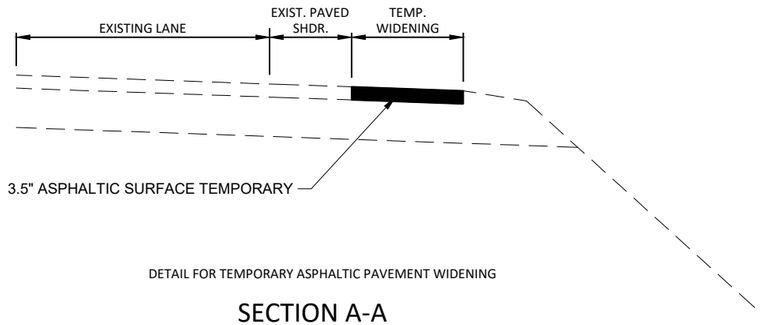
LEGEND

- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- MARKING REMOVAL LINE 4-INCH
- SIGN ON PERMANENT SUPPORT
- CONCRETE BARRIER TEMPORARY PRECAST
- ASPHALTIC PAVEMENT WIDENING
- DIRECTION OF TRAFFIC
- TEMPORARY SIGNAL (TRAILER MOUNTED)
- CC — CRASH CUSHION TEMPORARY
- WORK AREA

SIGNAL SEQUENCE

INTERVAL	PHASE TIME (SECONDS)	CUMULATIVE TIME (SECONDS)	PHASE 1 DIRECTON	PHASE 2 DIRECTION
1	20	20	GREEN	RED
2	4	24	YELLOW	RED
3	18	42	RED	RED
4	20	62	RED	GREEN
5	4	66	RED	YELLOW
6	18	84	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.

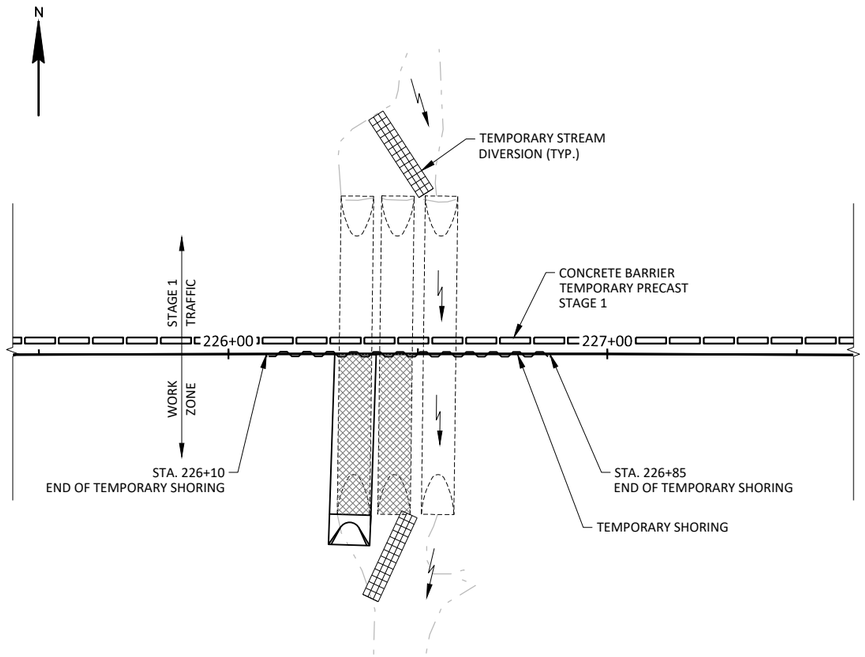


DETAIL FOR TEMPORARY ASPHALTIC PAVEMENT WIDENING

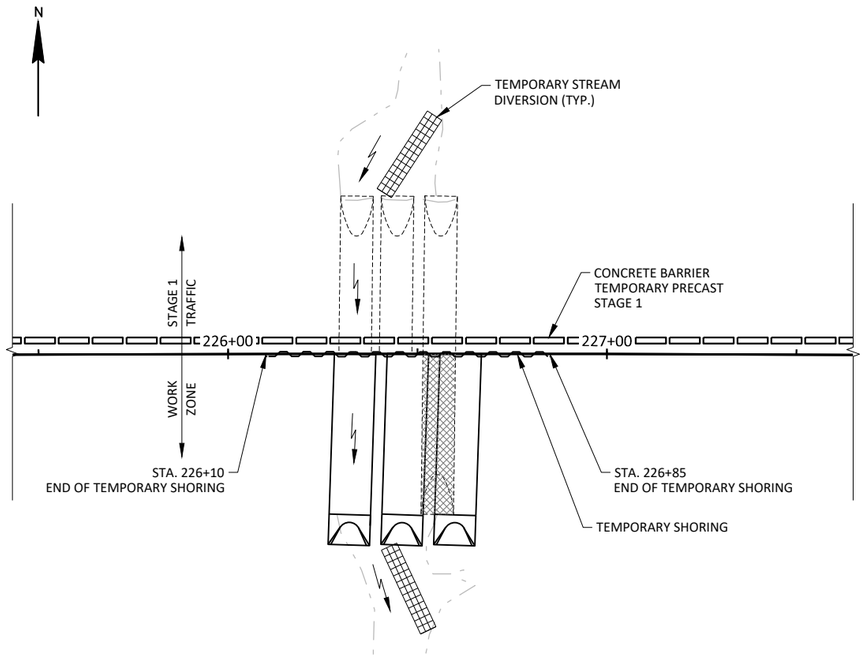
SECTION A-A

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.

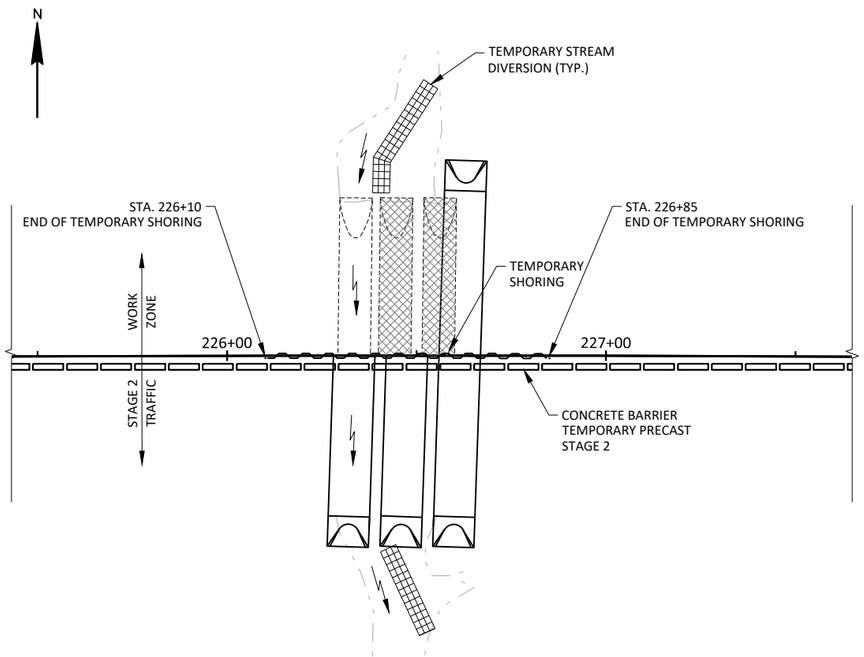
PROJECT NO: 7620-00-70	HWY: STH 128	COUNTY: ST. CROIX	TRAFFIC CONTROL - STAGE 2	SHEET 34	E



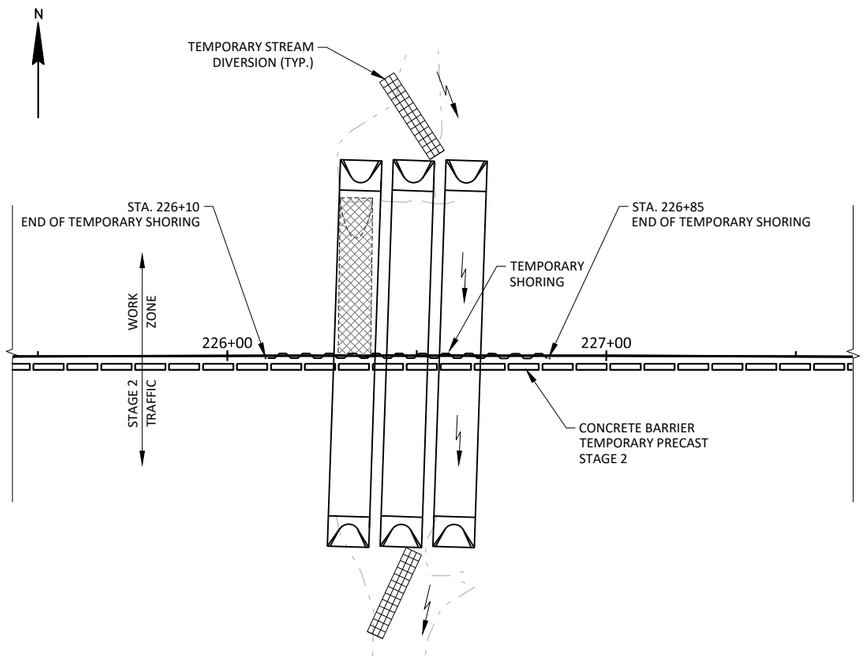
STAGE 1A



STAGE 1B



STAGE 2A



STAGE 2B

NOTES:

SEE ROADWAY PLANS FOR TRAFFIC STAGING DETAILS INCLUDING LOCATION AND DIRECTION OF TRAFFIC LANES AND LOCATION OF CONCRETE BARRIER TEMPORARY PRECAST.

INTERMITTENT FLOW POSSIBLE DURING CONSTRUCTION, TAKE NECESSARY PRECAUTIONS TO DIVERT FLOW AWAY FROM WORK AREAS.

STREAM DIVERSION CONSTRUCTION DETAILS AND TEMPORARY SHORING LOCATION 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. PAYMENT FOR STREAM DIVERSION IS INCIDENTAL TO PAY ITEM "TRAFFIC CONTROL".

TEMPORARY SHORING QUANTITIES CALCULATED USING FINISHED GRADE ELEVATIONS.

STAGE 1A

TRAFFIC
1. TRAFFIC WILL UTILIZE EXISTING WESTBOUND LANE AND SHOULDER UTILIZING TEMPORARY TRAFFIC SIGNALS. INSTALL TEMPORARY CONCRETE BARRIER TO SHIELD CULVERT CONSTRUCTION AREA IN ACCORDANCE WITH SDD 14B07-16. SEE ROADWAY PLANS FOR LOCATIONS.

CONSTRUCTION
1. INSTALL TEMPORARY SHORING AT LOCATION INDICATED ON CONSTRUCTION STAGING DETAILS (THIS SHEET).

2. CONSTRUCT TEMPORARY STREAM DIVERSION TO DIRECT FLOW THROUGH PIPE 3.

3. REMOVE DOWNSTREAM PORTION OF EXISTING PIPE 1 & 2 TO THE TEMPORARY SHORING.

4. CONSTRUCT DOWNSTREAM PORTION OF PROPOSED PIPE 1.

STAGE 1B

1. CONSTRUCT TEMPORARY STREAM DIVERSION TO DIRECT FLOW THROUGH PIPE 1 (CONSTRUCTED DURING STAGE 1A.)

2. REMOVE DOWNSTREAM PORTION OF PIPE 3 TO THE TEMPORARY SHORING.

3. CONSTRUCT DOWNSTREAM PORTION OF PIPES 2 & 3.

4. CONSTRUCT ROADWAY OVER PARTIALLY COMPLETED STRUCTURE B-55-290. IT IS PRESUMED THAT TEMPORARY SHORING WILL REMAIN IN SAME POSITION FOR STAGE 1 AND STAGE 2. MINOR ADJUSTMENTS MAY BE NECESSARY DIRECTLY ADJACENT TO PIPES.

STAGE 2A

TRAFFIC
1. TRAFFIC WILL UTILIZE NEW EASTBOUND LANE AND SHOULDER. INSTALL TEMPORARY CONCRETE BARRIER TO SHIELD CULVERT CONSTRUCTION AREA IN ACCORDANCE WITH SDD 14B07-16. SEE ROADWAY PLANS FOR LOCATIONS.

CONSTRUCTION
1. REMOVE REMAINING UPSTREAM PORTION OF EXISTING PIPES 2 & 3.

2. CONSTRUCT REMAINING PORTION OF PROPOSED PIPE 3.

STAGE 2B

CONSTRUCTION
1.CONSTRUCT TEMPORARY STREAM DIVERSION TO DIRECT FLOW THROUGH FINISHED PIPE 3.

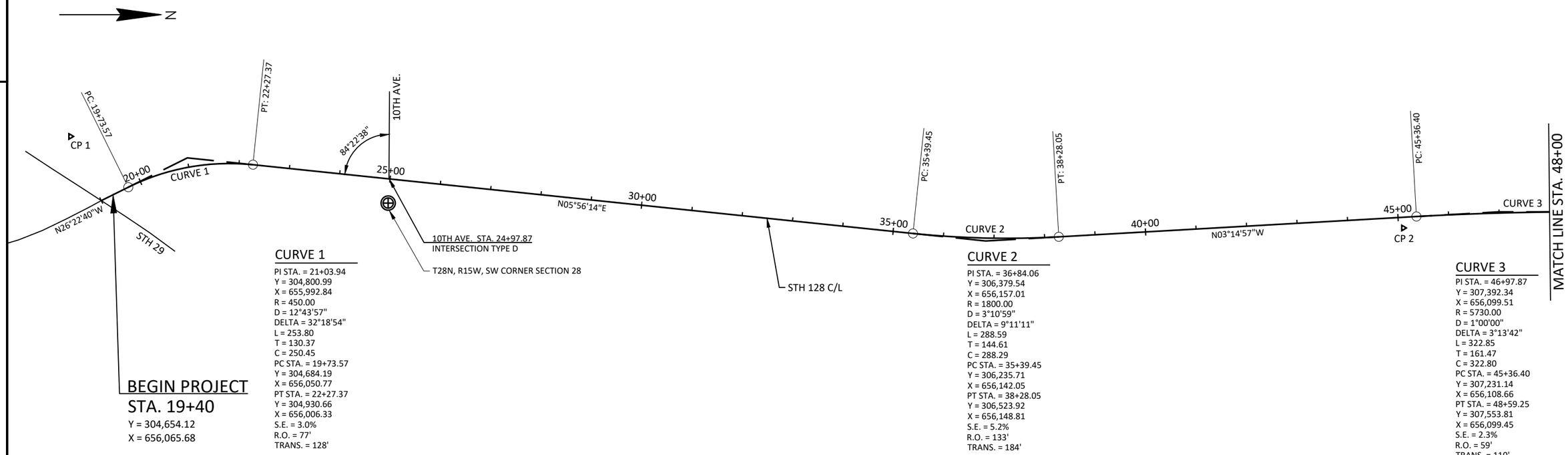
2. REMOVE REMAINING PORTION OF PIPE 1.

3. CONSTRUCT REMAINING PORTION OF PROPOSED PIPES 1 & 2.

4. CONSTRUCT ROADWAY OVER INLET PORTION OF STRUCTURE B-55-0088

5. REMOVE TEMPORARY STREAM DIVERSION & TEMPORARY SHORING.

2



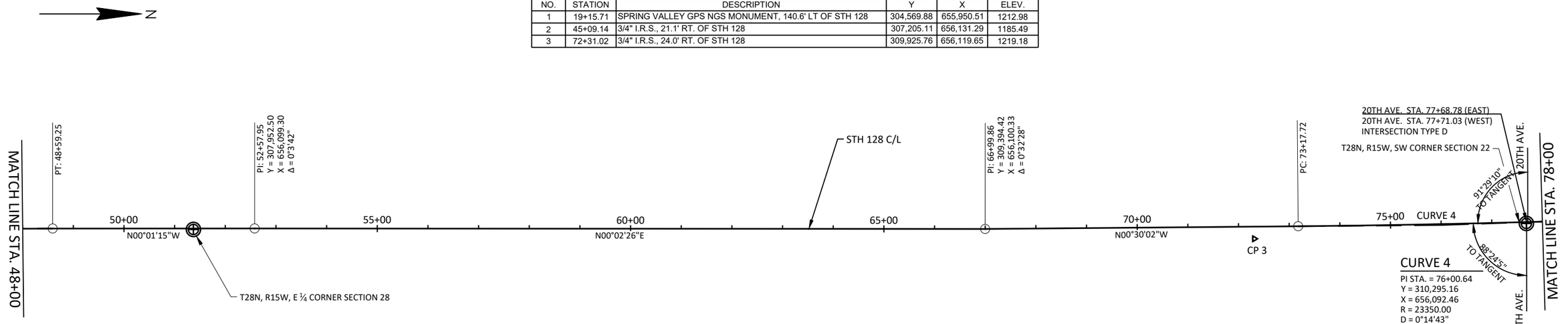
CURVE 1
PI STA. = 21+03.94
Y = 304,800.99
X = 655,992.84
R = 450.00
D = 12°43'57"
DELTA = 32°18'54"
L = 253.80
T = 130.37
C = 250.45
PC STA. = 19+73.57
Y = 304,684.19
X = 656,050.77
PT STA. = 22+27.37
Y = 304,930.66
X = 656,006.33
S.E. = 3.0%
R.O. = 77'
TRANS. = 128'

CURVE 2
PI STA. = 36+84.06
Y = 306,379.54
X = 656,157.01
R = 1800.00
D = 3°10'59"
DELTA = 9°11'11"
L = 288.59
T = 144.61
C = 288.29
PC STA. = 35+39.45
Y = 306,235.71
X = 656,142.05
PT STA. = 38+28.05
Y = 306,523.92
X = 656,148.81
S.E. = 5.2%
R.O. = 133'
TRANS. = 184'

CURVE 3
PI STA. = 46+97.87
Y = 307,392.34
X = 656,099.51
R = 5730.00
D = 1°00'00"
DELTA = 3°13'42"
L = 322.85
T = 161.47
C = 322.80
PC STA. = 45+36.40
Y = 307,231.14
X = 656,108.66
PT STA. = 48+59.25
Y = 307,553.81
X = 656,099.45
S.E. = 2.3%
R.O. = 59'
TRANS. = 110'

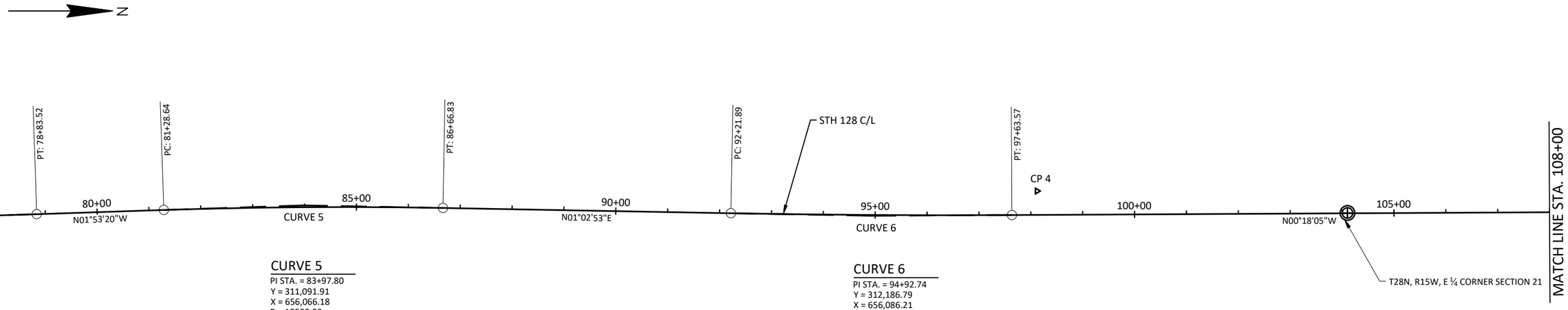
CONTROL POINTS

NO.	STATION	DESCRIPTION	Y	X	ELEV.
1	19+15.71	SPRING VALLEY GPS NGS MONUMENT, 140.6' LT OF STH 128	304,569.88	655,950.51	1212.98
2	45+09.14	3/4" I.R.S., 21.1' RT. OF STH 128	307,205.11	656,131.29	1185.49
3	72+31.02	3/4" I.R.S., 24.0' RT. OF STH 128	309,925.76	656,119.65	1219.18



CURVE 4
PI STA. = 76+00.64
Y = 310,295.16
X = 656,092.46
R = 23350.00
D = 0°14'43"
DELTA = 1°23'18"
L = 565.80
T = 282.92
C = 565.79
PC STA. = 73+17.72
Y = 310,012.25
X = 656,094.93
PT STA. = 78+83.52
Y = 310,577.92
X = 656,083.13
S.E. = N.C.
R.O. = N/A
TRANS. = N/A

PROJECT NO: 7620-00-70	HWY: STH 128	COUNTY: ST. CROIX	ALIGNMENT DETAILS	SHEET 36	E



CURVE 5

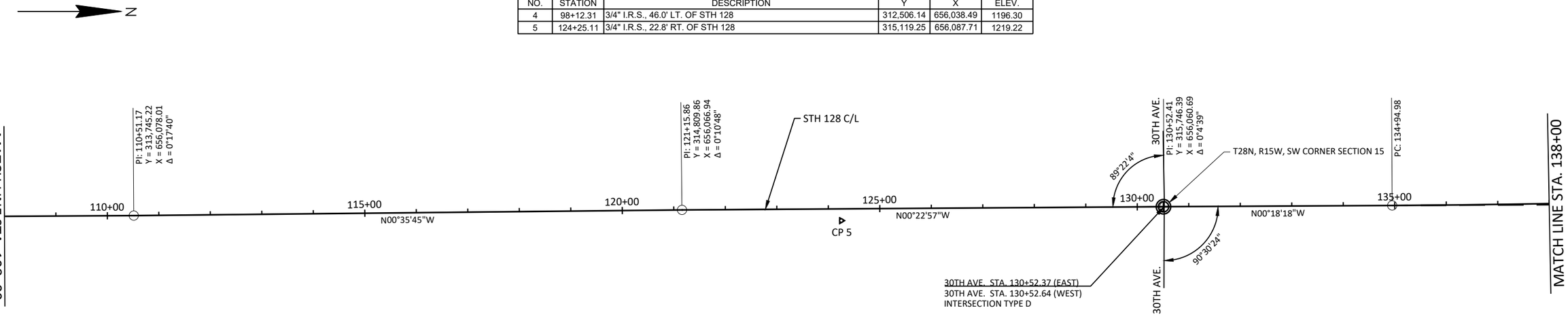
PI STA. = 83+97.80
Y = 311,091.91
X = 656,066.18
R = 10500.00
D = 0°32'44"
DELTA = 2°56'12"
L = 538.19
T = 269.16
C = 538.13
PC STA. = 81+28.64
Y = 310,822.90
X = 656,075.05
PT STA. = 86+66.83
Y = 311,361.02
X = 656,071.11
S.E. = N.C.
R.O. = N/A
TRANS. = N/A

CURVE 6

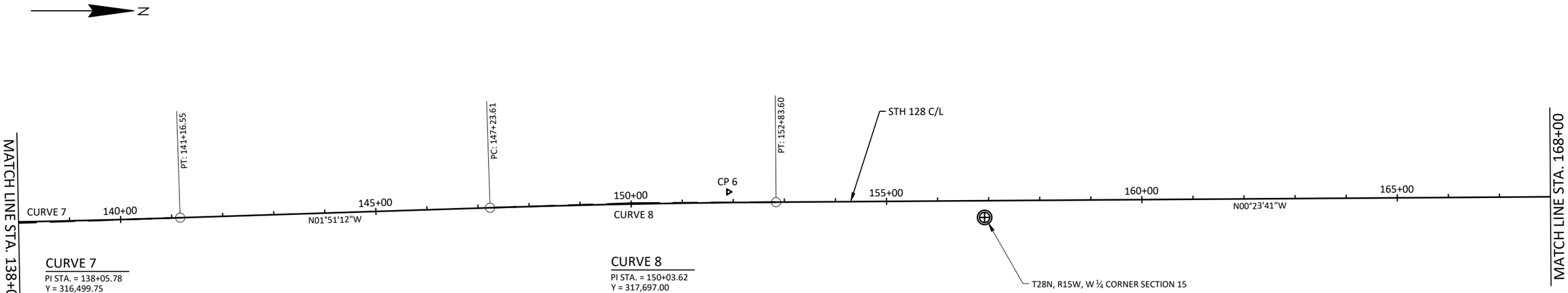
PI STA. = 94+92.74
Y = 312,186.79
X = 656,086.21
R = 23000.00
D = 0°14'57"
DELTA = 1°20'58"
L = 541.68
T = 270.85
C = 541.66
PC STA. = 92+21.89
Y = 311,915.98
X = 656,081.26
PT STA. = 97+63.57
Y = 312,457.64
X = 656,084.79
S.E. = N.C.
R.O. = N/A
TRANS. = N/A

CONTROL POINTS

NO.	STATION	DESCRIPTION	Y	X	ELEV.
4	98+12.31	3/4" I.R.S., 46.0' LT. OF STH 128	312,506.14	656,038.49	1196.30
5	124+25.11	3/4" I.R.S., 22.8' RT. OF STH 128	315,119.25	656,087.71	1219.22



PROJECT NO: 7620-00-70	HWY: STH 128	COUNTY: ST. CROIX	ALIGNMENT DETAILS	SHEET 37	E



CURVE 7

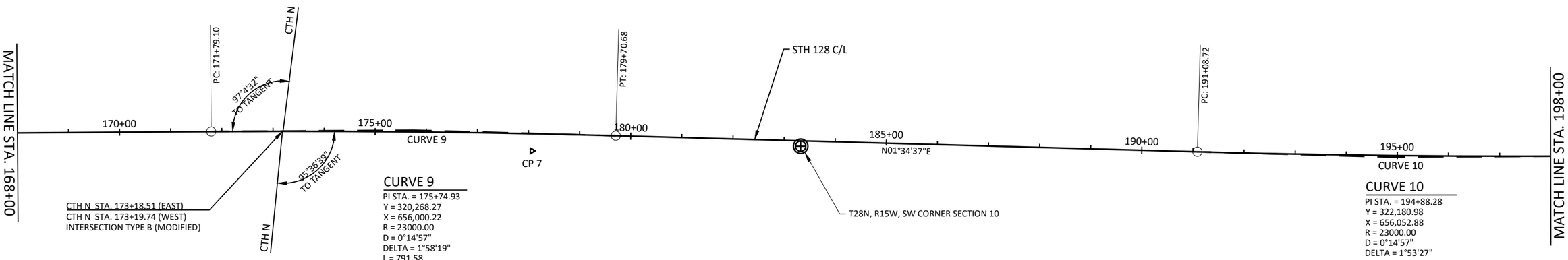
PI STA. = 138+05.78
Y = 316,499.75
X = 656,056.68
R = 23000.00
D = 0°14'57"
DELTA = 1°32'54"
L = 621.57
T = 310.80
C = 621.55
PC STA. = 134+94.98
Y = 316,188.95
X = 656,058.34
PT STA. = 141+16.55
Y = 316,810.39
X = 656,046.63
S.E. = N.C.
R.O. = N/A
TRANS. = N/A

CURVE 8

PI STA. = 150+03.62
Y = 317,697.00
X = 656,017.94
R = 22000.00
D = 0°15'38"
DELTA = 1°27'30"
L = 559.99
T = 280.01
C = 559.98
PC STA. = 147+23.61
Y = 317,417.13
X = 656,027.00
PT STA. = 152+83.60
Y = 317,977.00
X = 656,016.01
S.E. = N.C.
R.O. = N/A
TRANS. = N/A

CONTROL POINTS

NO.	STATION	DESCRIPTION	Y	X	ELEV.
6	151+90.92	3/4" I.R.S., 20.8' LT. OF STH 128	317,884.10	655,996.01	1217.54
7	178+07.21	3/4" I.R.S., 33.5' RT. OF STH 128	320,499.84	656,040.70	1237.25



CURVE 9

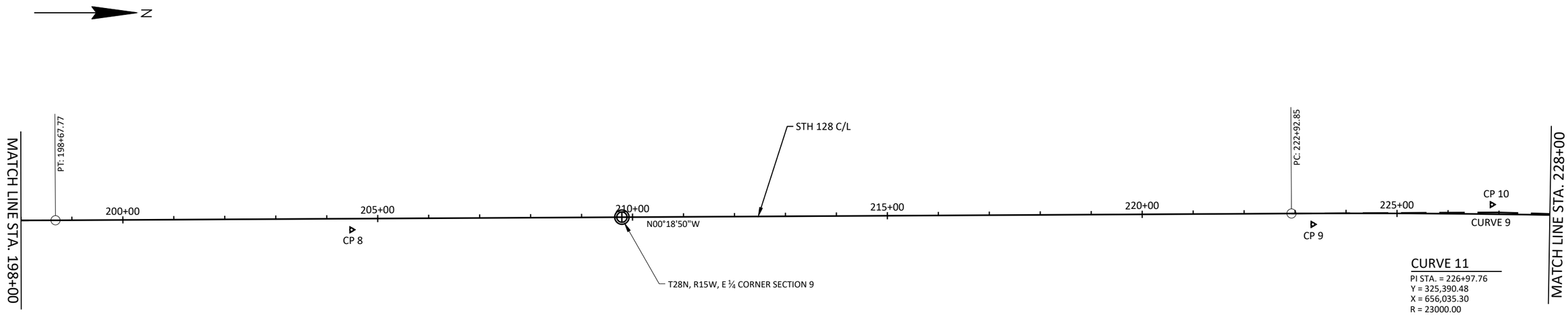
PI STA. = 175+74.93
Y = 320,268.27
X = 656,000.22
R = 23000.00
D = 0°14'57"
DELTA = 1°58'19"
L = 791.58
T = 395.83
C = 791.54
PC STA. = 171+79.10
Y = 319,872.46
X = 656,002.95
PT STA. = 179+70.68
Y = 320,663.95
X = 656,011.12
S.E. = N.C.
R.O. = N/A
TRANS. = N/A

CURVE 10

PI STA. = 194+88.28
Y = 322,180.98
X = 656,052.88
R = 23000.00
D = 0°14'57"
DELTA = 1°53'27"
L = 759.05
T = 379.56
C = 759.02
PC STA. = 191+08.72
Y = 321,801.56
X = 656,042.44
PT STA. = 198+67.77
Y = 322,560.54
X = 656,050.80
S.E. = N.C.
R.O. = N/A
TRANS. = N/A

PROJECT NO: 7620-00-70	HWY: STH 128	COUNTY: ST. CROIX	ALIGNMENT DETAILS	SHEET 38	E

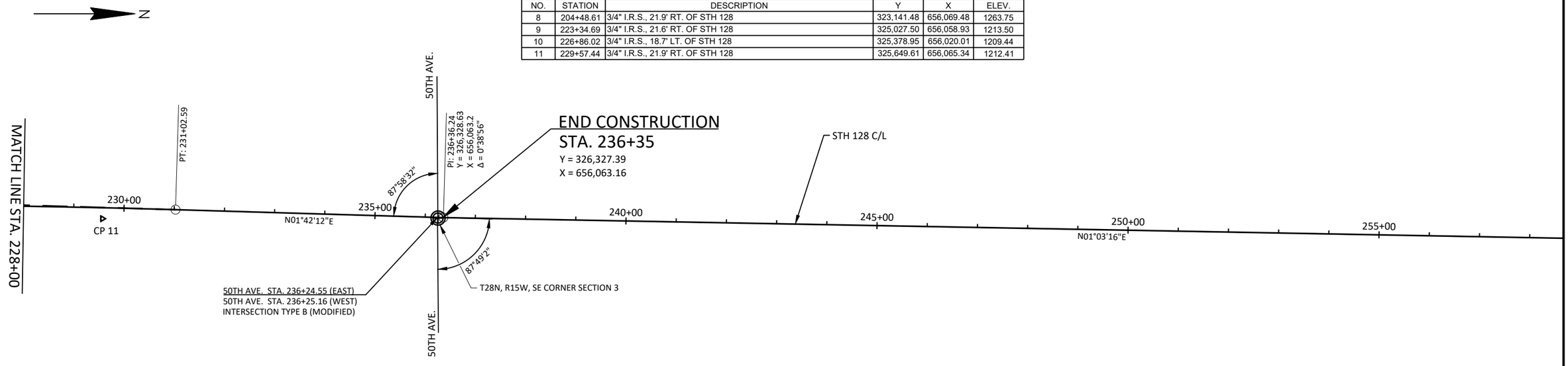
2

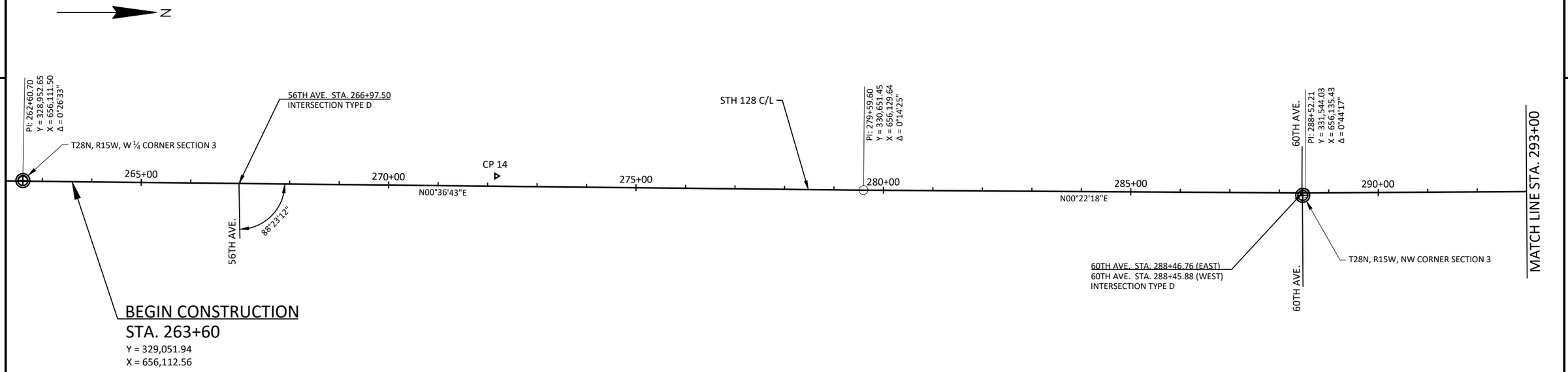


CURVE 11

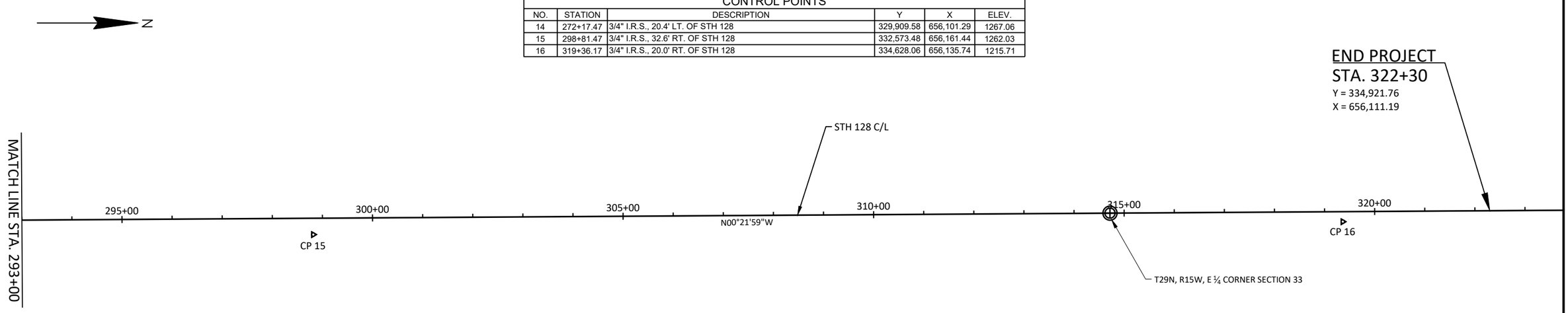
PI STA. = 226+97.76
Y = 325,390.48
X = 656,035.30
R = 23000.00
D = 0°14'57"
DELTA = 2°01'02"
L = 809.75
T = 404.92
C = 809.71
PC STA. = 222+92.85
Y = 324,985.57
X = 656,037.52
PT STA. = 231+02.59
Y = 325,795.22
X = 656,047.34
S.E. = N.C.
R.O. = N/A
TRANS. = N/A

CONTROL POINTS					
NO.	STATION	DESCRIPTION	Y	X	ELEV.
8	204+48.61	3/4" I.R.S., 21.9' RT. OF STH 128	323,141.48	656,069.48	1263.75
9	223+34.69	3/4" I.R.S., 21.6' RT. OF STH 128	325,027.50	656,058.93	1213.50
10	226+86.02	3/4" I.R.S., 18.7' LT. OF STH 128	325,378.95	656,020.01	1209.44
11	229+57.44	3/4" I.R.S., 21.9' RT. OF STH 128	325,649.61	656,065.34	1212.41

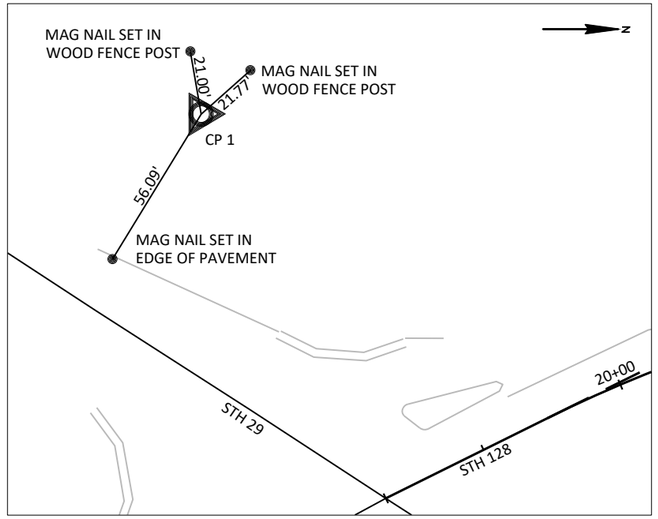




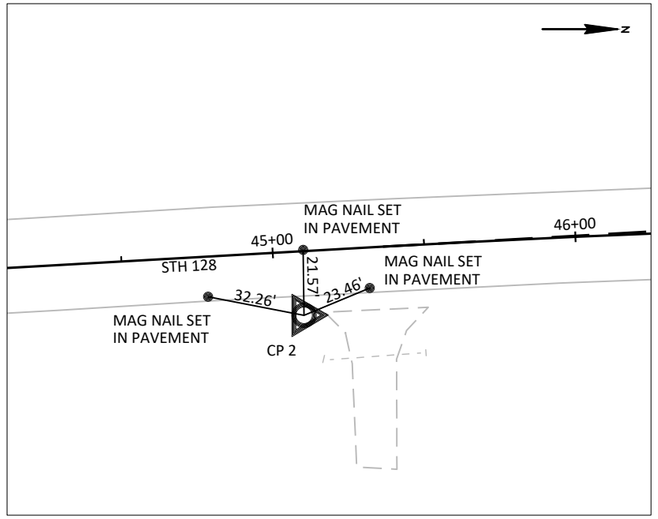
CONTROL POINTS					
NO.	STATION	DESCRIPTION	Y	X	ELEV.
14	272+17.47	3/4" I.R.S., 20.4' LT. OF STH 128	329,909.58	656,101.29	1267.06
15	298+81.47	3/4" I.R.S., 32.6' RT. OF STH 128	332,573.48	656,161.44	1262.03
16	319+36.17	3/4" I.R.S., 20.0' RT. OF STH 128	334,628.06	656,135.74	1215.71



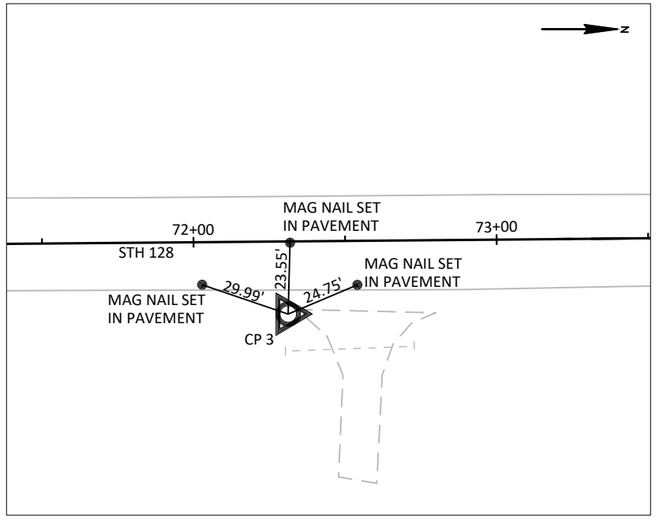
PROJECT NO: 7620-00-70	HWY: STH 128	COUNTY: ST. CROIX	ALIGNMENT DETAILS	SHEET 40	E



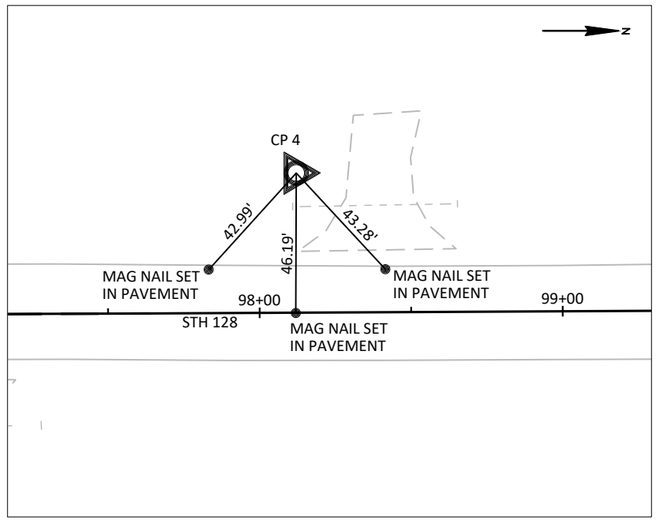
TIES TO CP #1
STATION 19+15.71, 140.6' LT.
Y = 304,569.88
X = 655,950.51



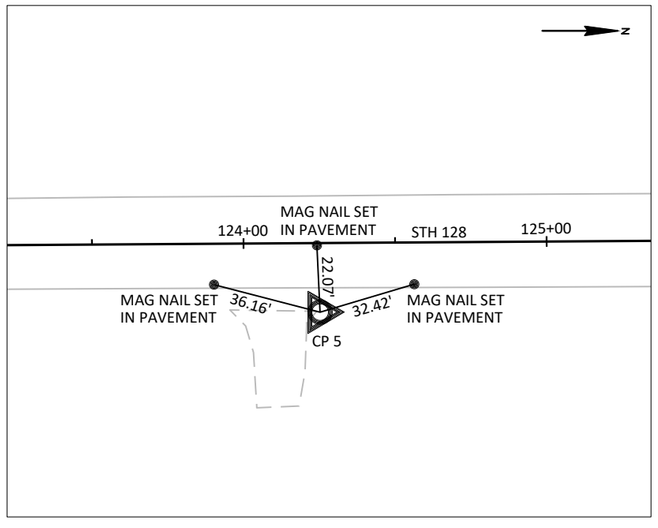
TIES TO CP #2
STATION 45+09.14, 21.1' RT.
Y = 307,205.11
X = 656,131.29



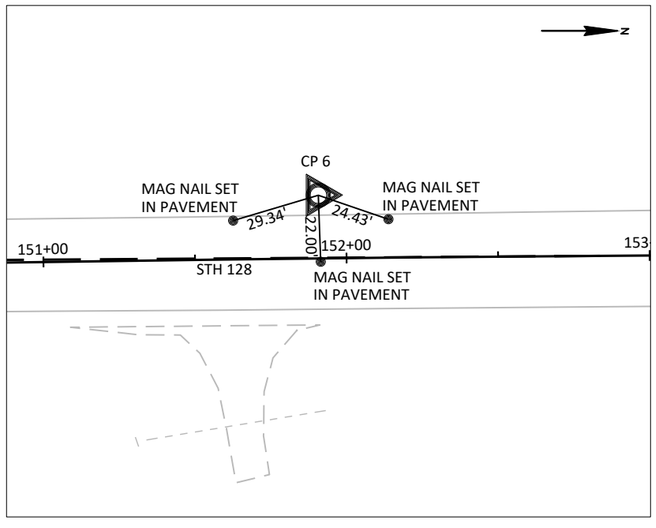
TIES TO CP #3
STATION 72+31.02, 24.0' RT.
Y = 309,925.76
X = 656,119.65



TIES TO CP #4
STATION 98+12.31, 46.0' LT.
Y = 312,506.14
X = 656,038.49



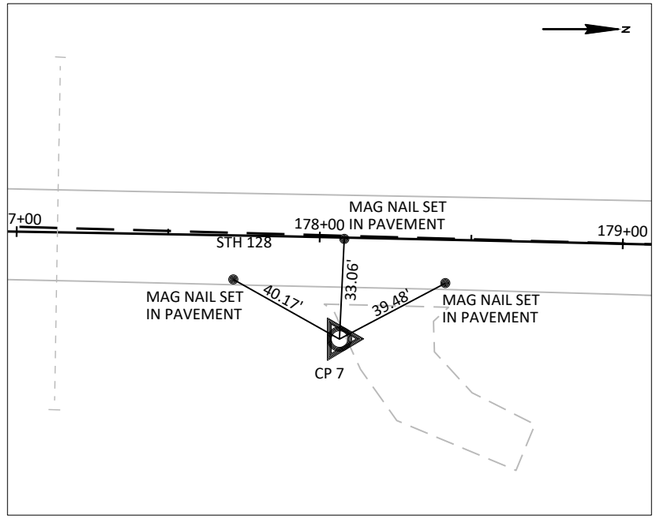
TIES TO CP #5
STATION 124+25.11, 22.8' RT.
Y = 315,119.25
X = 656,087.71



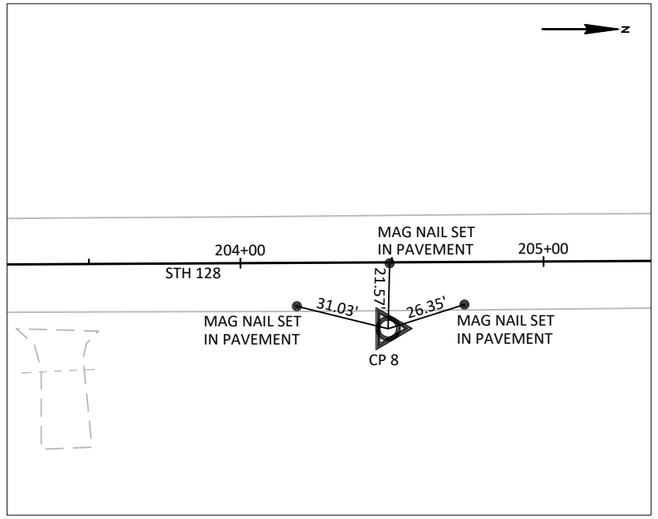
TIES TO CP #6
STATION 151+90.92, 20.8' LT.
Y = 317,884.10
X = 655,996.01

PROJECT NO: 7620-00-70	HWY: STH 128	COUNTY: ST. CROIX	CONTROL POINT TIES	SHEET 41	E

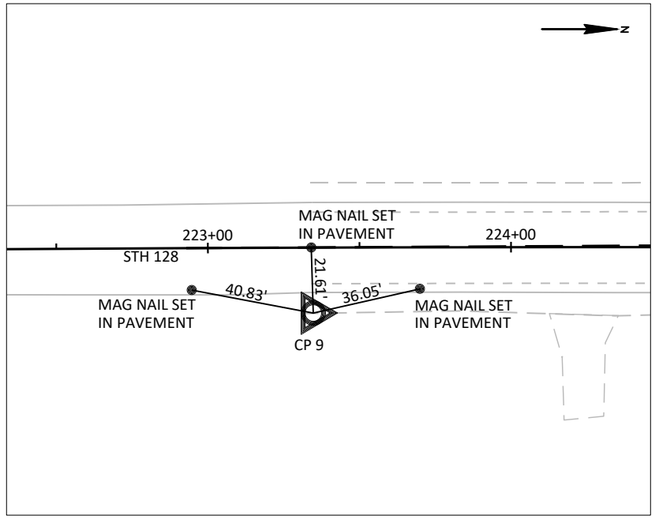
FILE NAME : R:\PROJECTS\W11600 STH 128 CULVERT REPLACEMENT, ST CROIX CO\SHEETSPLAN\DETAILS\W11600_CONTROL POINTS.DWG
LAYOUT NAME - 1 Control Point Ties
PLOT DATE : 9/9/2022 1:18 PM PLOT BY : KARTER ZAJICEK PLOT NAME : PLOT SCALE : 1 IN:50 FT



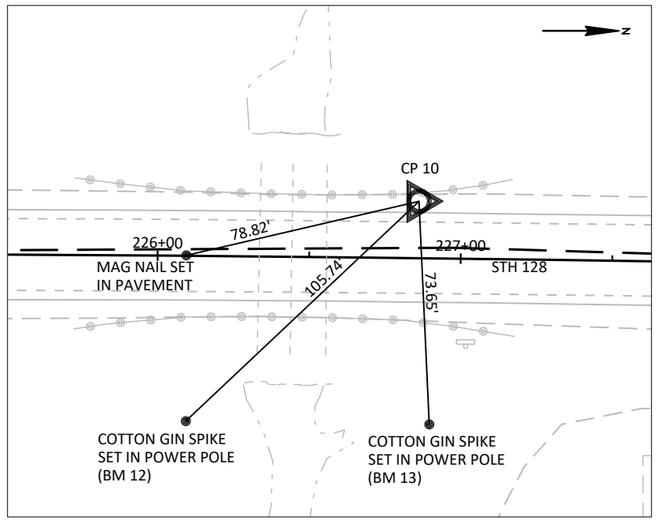
TIES TO CP #7
STATION 178+07.21, 33.5' RT.
Y = 320,499.84
X = 656,040.70



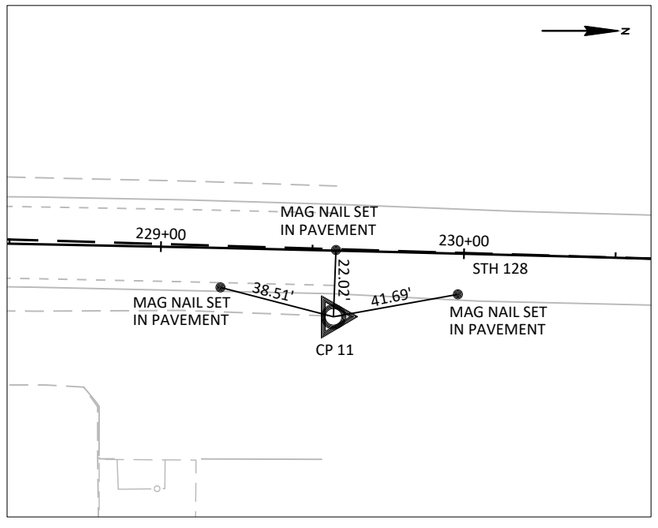
TIES TO CP #8
STATION 204+48.61, 21.9' RT.
Y = 323,141.48
X = 656,069.48



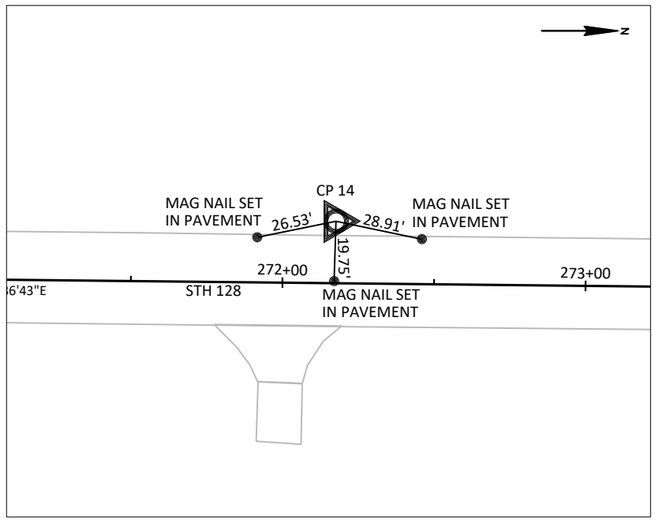
TIES TO CP #9
STATION 223+34.69, 21.6' RT.
Y = 325,027.50
X = 656,058.93



TIES TO CP #10
STATION 226+86.02, 18.7' LT.
Y = 325,378.95
X = 656,020.01

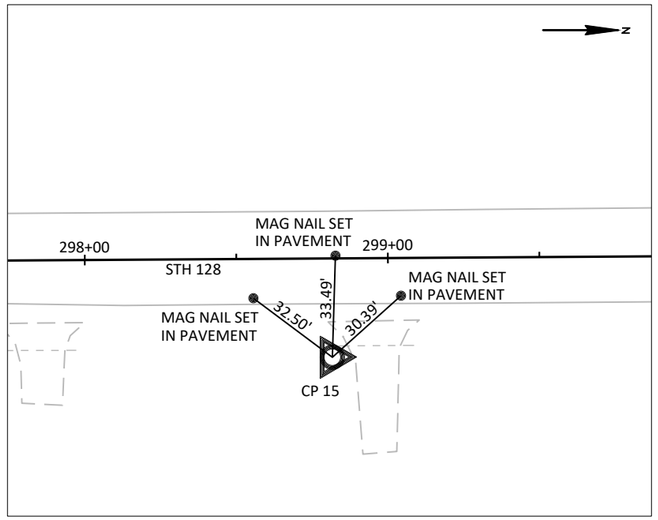


TIES TO CP #11
STATION 229+57.44, 21.9' RT.
Y = 325,649.61
X = 656,065.34

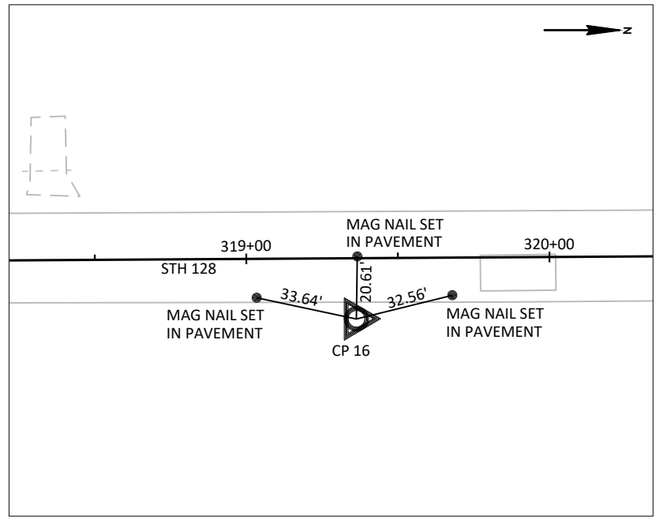


TIES TO CP #14
STATION 272+17.47, 20.4' LT.
Y = 329,909.58
X = 656,101.29

PROJECT NO: 7620-00-70	HWY: STH 128	COUNTY: ST. CROIX	CONTROL POINT TIES	SHEET 42	E



TIES TO CP #15
STATION 298+81.47, 32.6' RT.
Y = 332,573.48
X = 656,161.44



TIES TO CP #16
STATION 319+36.17, 20.0' RT.
Y = 334,628.06
X = 656,135.74

2

PROJECT NO: 7620-00-70	HWY: STH 128	COUNTY: ST. CROIX	CONTROL POINT TIES	SHEET 43	E

2

STH 128

STATION	Y	X	REMARKS
19+14.00	304,630.82	656,077.23	C/L - C/L STH 29
19+40.00	304,654.12	656,065.68	BEGIN PROJECT
19+50.00	304,663.07	656,061.24	
19+73.57	304,684.19	656,050.77	P.C. STATION
20+00.00	304,708.20	656,039.73	
20+50.00	304,755.21	656,022.78	
21+00.00	304,803.81	656,011.14	
21+03.94	304,800.99	655,992.84	P.I. STATION
21+50.00	304,853.40	656,004.97	
22+00.00	304,903.37	656,004.33	
22+27.37	304,930.66	656,006.33	P.T. STATION
22+50.00	304,953.17	656,008.67	
23+00.00	305,002.91	656,013.84	
23+50.00	305,052.64	656,019.01	
24+00.00	305,102.37	656,024.19	
24+50.00	305,152.10	656,029.36	
25+00.00	305,201.83	656,034.53	
25+50.00	305,251.57	656,039.70	
26+00.00	305,301.30	656,044.87	
26+50.00	305,351.03	656,050.05	
27+00.00	305,400.76	656,055.22	
27+50.00	305,450.49	656,060.39	
28+00.00	305,500.22	656,065.56	
28+50.00	305,549.96	656,070.73	
29+00.00	305,599.69	656,075.90	
29+50.00	305,649.42	656,081.08	
30+00.00	305,699.15	656,086.25	
30+50.00	305,748.88	656,091.42	
31+00.00	305,798.61	656,096.59	
31+50.00	305,848.35	656,101.76	
32+00.00	305,898.08	656,106.94	
32+50.00	305,947.81	656,112.11	
33+00.00	305,997.54	656,117.28	
33+50.00	306,047.27	656,122.45	
34+00.00	306,097.01	656,127.62	
34+50.00	306,146.74	656,132.79	
35+00.00	306,196.47	656,137.97	
35+39.45	306,235.71	656,142.05	P.C. STATION
35+50.00	306,246.20	656,143.11	
36+00.00	306,296.03	656,147.30	
36+50.00	306,345.95	656,150.10	
36+84.06	306,379.54	656,157.01	P.I. STATION
37+00.00	306,395.92	656,151.52	
37+50.00	306,445.92	656,151.54	
38+00.00	306,495.90	656,150.18	
38+28.05	306,523.92	656,148.81	P.T. STATION
38+50.00	306,545.83	656,147.56	
39+00.00	306,595.75	656,144.73	
39+50.00	306,645.67	656,141.90	
40+00.00	306,695.59	656,139.06	
40+50.00	306,745.51	656,136.23	
41+00.00	306,795.43	656,133.40	
41+50.00	306,845.35	656,130.56	
42+00.00	306,895.27	656,127.73	
42+50.00	306,945.19	656,124.89	
43+00.00	306,995.11	656,122.06	
43+50.00	307,045.03	656,119.23	
44+00.00	307,094.95	656,116.39	
44+50.00	307,144.87	656,113.56	
45+00.00	307,194.79	656,110.72	
45+36.41	307,231.14	656,108.66	P.C. STATION
45+50.00	307,244.71	656,107.91	
46+00.00	307,294.65	656,105.41	
46+50.00	307,344.60	656,103.35	
46+97.87	307,392.34	656,099.51	P.I. STATION
47+00.00	307,394.58	656,101.72	
47+50.00	307,444.56	656,100.53	
48+00.00	307,494.56	656,099.78	
48+50.00	307,544.56	656,099.46	

STH 128

STATION	Y	X	REMARKS
48+59.25	307,553.81	656,099.45	P.T. STATION
49+00.00	307,594.56	656,099.44	
49+50.00	307,644.56	656,099.42	
50+00.00	307,694.56	656,099.40	
50+50.00	307,744.56	656,099.38	
51+00.00	307,794.56	656,099.36	
51+50.00	307,844.56	656,099.34	
52+00.00	307,894.56	656,099.33	
52+50.00	307,944.56	656,099.31	
52+57.95	307,952.50	656,099.30	P.I. STATION
53+00.00	307,994.56	656,099.33	
53+50.00	308,044.56	656,099.37	
54+00.00	308,094.56	656,099.41	
54+50.00	308,144.56	656,099.44	
55+00.00	308,194.56	656,099.48	
55+50.00	308,244.56	656,099.51	
56+00.00	308,294.56	656,099.55	
56+50.00	308,344.56	656,099.58	
57+00.00	308,394.56	656,099.62	
57+50.00	308,444.56	656,099.65	
58+00.00	308,494.56	656,099.69	
58+50.00	308,544.56	656,099.72	
59+00.00	308,594.56	656,099.76	
59+50.00	308,644.56	656,099.79	
60+00.00	308,694.56	656,099.83	
60+50.00	308,744.56	656,099.87	
61+00.00	308,794.56	656,099.90	
61+50.00	308,844.56	656,099.94	
62+00.00	308,894.56	656,099.97	
62+50.00	308,944.56	656,100.01	
63+00.00	308,994.56	656,100.04	
63+50.00	309,044.56	656,100.08	
64+00.00	309,094.56	656,100.11	
64+50.00	309,144.56	656,100.15	
65+00.00	309,194.56	656,100.18	
65+50.00	309,244.56	656,100.22	
66+00.00	309,294.56	656,100.26	
66+50.00	309,344.56	656,100.29	
66+99.86	309,394.42	656,100.33	P.I. STATION
67+00.00	309,394.56	656,100.33	
67+50.00	309,444.55	656,099.89	
68+00.00	309,494.55	656,099.45	
68+50.00	309,544.55	656,099.02	
69+00.00	309,594.55	656,098.58	
69+50.00	309,644.55	656,098.14	
70+00.00	309,694.54	656,097.70	
70+50.00	309,744.54	656,097.27	
71+00.00	309,794.54	656,096.83	
71+50.00	309,844.54	656,096.39	
72+00.00	309,894.54	656,095.96	
72+50.00	309,944.54	656,095.52	
73+00.00	309,994.53	656,095.08	
73+17.72	310,012.25	656,094.93	P.C. STATION
73+50.00	310,044.53	656,094.63	
74+00.00	310,094.53	656,094.07	
74+50.00	310,144.52	656,093.40	
75+00.00	310,194.52	656,092.63	
75+50.00	310,244.51	656,091.75	
76+00.00	310,294.50	656,090.76	
76+00.64	310,295.16	656,092.46	P.I. STATION
76+50.00	310,344.49	656,089.66	
77+00.00	310,394.47	656,088.46	
77+50.00	310,444.46	656,087.15	
78+00.00	310,494.44	656,085.74	
78+50.00	310,544.41	656,084.21	
78+83.52	310,577.92	656,083.13	P.T. STATION
79+00.00	310,594.39	656,082.59	
79+50.00	310,644.36	656,080.94	
80+00.00	310,694.33	656,079.29	

STH 128

STATION	Y	X	REMARKS
80+50.00	310,744.31	656,077.65	
81+00.00	310,794.28	656,076.00	
81+28.64	310,822.90	656,075.06	P.C. STATION
81+50.00	310,844.25	656,074.37	
82+00.00	310,894.23	656,072.95	
82+50.00	310,944.22	656,071.76	
83+00.00	310,994.21	656,070.80	
83+50.00	311,044.20	656,070.09	
83+97.80	311,091.91	656,066.18	P.I. STATION
84+00.00	311,094.20	656,069.62	
84+50.00	311,144.20	656,069.38	
85+00.00	311,194.20	656,069.38	
85+50.00	311,244.20	656,069.62	
86+00.00	311,294.20	656,070.10	
86+50.00	311,344.19	656,070.81	
86+66.83	311,361.02	656,071.11	P.T. STATION
87+00.00	311,394.18	656,071.71	
87+50.00	311,444.18	656,072.63	
88+00.00	311,494.17	656,073.54	
88+50.00	311,544.16	656,074.46	
89+00.00	311,594.15	656,075.37	
89+50.00	311,644.14	656,076.29	
90+00.00	311,694.13	656,077.20	
90+50.00	311,744.13	656,078.11	
91+00.00	311,794.12	656,079.03	
91+50.00	311,844.11	656,079.94	
92+00.00	311,894.10	656,080.86	
92+21.89	311,915.98	656,081.26	
92+50.00	311,944.09	656,081.75	
93+00.00	311,994.09	656,082.55	
93+50.00	312,044.08	656,083.24	
94+00.00	312,094.08	656,083.83	
94+50.00	312,144.08	656,084.30	
94+92.74	312,186.79	656,086.21	P.I. STATION
95+00.00	312,194.07	656,084.66	
95+50.00	312,244.07	656,084.92	
96+00.00	312,294.07	656,085.07	
96+50.00	312,344.07	656,085.10	
97+00.00	312,394.07	656,085.03	
97+50.00	312,444.07	656,084.85	
97+63.57	312,457.64	656,084.79	
98+00.00	312,494.07	656,084.60	
98+50.00	312,544.07	656,084.33	
99+00.00	312,594.07	656,084.07	
99+50.00	312,644.07	656,083.81	
100+00.00	312,694.07	656,083.54	
100+50.00	312,744.07	656,083.28	
101+00.00	312,794.07	656,083.02	
101+50.00	312,844.07	656,082.75	
102+00.00	312,894.07	656,082.49	
102+50.00	312,944.07	656,082.23	
103+00.00	312,994.06	656,081.96	
103+50.00	313,044.06	656,081.70	
104+00.00	313,094.06	656,081.44	
104+50.00	313,144.06	656,081.18	
105+00.00	313,194.06	656,080.91	
105+50.00	313,244.06	656,080.65	
106+00.00	313,294.06	656,080.39	
106+50.00	313,344.06	656,080.12	
107+00.00	313,394.06	656,079.86	
107+50.00	313,444.06	656,079.60	
108+00.00	313,494.06	656,079.33	
108+50.00	313,544.06	656,079.07	
109+00.00	313,594.06	656,078.81	
109+50.00	313,644.06	656,078.55	
110+00.00	313,694.06	656,078.28	
110+50.00	313,744.05	656,078.02	
110+51.17	313,745.22	656,078.01	P.I. STATION
111+00.00	313,794.05	656,077.51	

STH 128

STATION	Y	X	REMARKS
111+50.00	313,844.05	656,076.99	
112+00.00	313,894.05	656,076.47	
112+50.00	313,944.04	656,075.95	
113+00.00	313,994.04	656,075.43	
113+50.00	314,044.04	656,074.91	
114+00.00	314,094.04	656,074.39	
114+50.00	314,144.03	656,073.87	
115+00.00	314,194.03	656,073.35	
115+50.00	314,244.03	656,072.83	
116+00.00	314,294.02	656,072.31	
116+50.00	314,344.02	656,071.79	
117+00.00	314,394.02	656,071.27	
117+50.00	314,444.02	656,070.75	
118+00.00	314,494.01	656,070.23	
118+50.00	314,544.01	656,069.71	
119+00.00	314,594.01	656,069.19	
119+50.00	314,644.01	656,068.67	
120+00.00	314,694.00	656,068.15	
120+50.00	314,744.00	656,067.63	
121+00.00	314,794.00	656,067.11	
121+15.86	314,809.86	656,066.94	P.I. STATION
121+50.00	314,844.00	656,066.71	
122+00.00	314,894.00	656,066.38	
122+50.00	314,943.99	656,066.05	
123+00.00	314,993.99	656,065.71	
123+50.00	315,043.99	656,065.38	
124+00.00	315,093.99	656,065.05	
124+50.00	315,143.99	656,064.71	
125+00.00	315,193.99	656,064.38	
125+50.00	315,243.99	656,064.04	
126+00.00	315,293.99	656,063.71	
126+50.00	315,343.99	656,063.38	
127+00.00	315,393.98	656,063.04	
127+50.00	315,443.98	656,062.71	
128+00.00	315,493.98	656,062.38	
128+50.00	315,543.98	656,062.04	
129+00.00	315,593.98	656,061.71	
129+50.00	315,643.98	656,061.38	
130+00.00	315,693.98	656,061.04	
130+50.00	315,743.98	656,060.71	
130+52.41	315,746.39	656,060.69	P.I. STATION
131+00.00	315,793.98	656,060.44	
131+50.00	315,843.97	656,060.17	
132+00.00	315,893.97	656,059.91	
132+50.00	315,943.97	656,059.64	
133+00.00	315,993.97	656,059.37	
133+50.00	316,043.97	656,059.11	
134+00.00	316,093.97	656,058.84	
134+50.00	316,143.97	656,058.58	
134+94.98	316,188.95	656,058.34	P.C. STATION
135+00.00	316,193.97	656,058.31	
135+50.00	316,243.97	656,057.98	
136+00.00	316,293.97	656,057.54	
136+50.00	316,343.96	656,056.99	
137+00.00	316,393.96	656,056.33	
137+50.00	316,443.95	656,055.57	
138+00.00	316,493.95	656,054.69	
138+05.78	316,499.75	656,056.68	P.I. STATION
138+50.00	316,543.94	656,053.71	
139+00.00	316,593.92	656,052.62	
139+50.00	316,643.91	656,051.41	
140+00.00	316,693.89	656,050.11	
140+50.00	316,743.87	656,048.69	
141+00.00	316,793.85	656,047.16	
141+16.55	316,810.39	656,046.63	P.T. STATION
141+50.00	316,843.82	656,045.55	
142+00.00	316,893.80	656,043.93	
142+50.00	316,943.77	656,042.32	
143+00.00	316,993.74	656,040.70	

STH 128

STATION	Y	X	REMARKS
143+50.00	317,043.72	656,039.08	
144+00.00	317,093.69	656,037.46	
144+50.00	317,143.67	656,035.85	
145+00.00	317,193.64	656,034.23	
145+50.00	317,243.61	656,032.61	
146+00.00	317,293.59	656,031.00	
146+50.00	317,343.56	656,029.38	
147+00.00	317,393.54	656,027.76	
147+23.61	317,417.13	656,027.00	P.C. STATION
147+50.00	317,443.51	656,026.16	
148+00.00	317,493.49	656,024.66	
148+50.00	317,543.47	656,023.27	
149+00.00	317,593.45	656,022.00	
149+50.00	317,643.44	656,020.84	
150+00.00	317,693.43	656,019.80	
150+03.62	317,697.00	656,017.94	P.I. STATION
150+50.00	317,743.42	656,018.86	
151+00.00	317,793.41	656,018.05	
151+50.00	317,843.41	656,017.34	
152+00.00	317,893.40	656,016.75	
152+50.00	317,943.40	656,016.27	
152+83.60	317,977.00	656,016.01	P.T. STATION
153+00.00	317,993.40	656,015.90	
153+50.00	318,043.40	656,015.56	
154+00.00	318,093.40	656,015.21	
154+50.00	318,143.40	656,014.87	
155+00.00	318,193.40	656,014.52	
155+50.00	318,243.39	656,014.18	
156+00.00	318,293.39	656,013.83	
156+50.00	318,343.39	656,013.49	
157+00.00	318,393.39	656,013.14	
157+50.00	318,443.39	656,012.80	
158+00.00	318,493.39	656,012.45	
158+50.00	318,543.39	656,012.11	
159+00.00	318,593.39	656,011.77	
159+50.00	318,643.38	656,011.42	
160+00.00	318,693.38	656,011.08	
160+50.00	318,743.38	656,010.73	
161+00.00	318,793.38	656,010.39	
161+50.00	318,843.38	656,010.04	
162+00.00	318,893.38	656,009.70	
162+50.00	318,943.38	656,009.35	
163+00.00	318,993.38	656,009.01	
163+50.00	319,043.37	656,008.66	
164+00.00	319,093.37	656,008.32	
164+50.00	319,143.37	656,007.98	
165+00.00	319,193.37	656,007.63	
165+50.00	319,243.37	656,007.29	
166+00.00	319,293.37	656,006.94	
166+50.00	319,343.37	656,006.60	
167+00.00	319,393.37	656,006.25	
167+50.00	319,443.37	656,005.91	
168+00.00	319,493.36	656,005.56	
168+50.00	319,543.36	656,005.22	
169+00.00	319,593.36	656,004.87	
169+50.00	319,643.36	656,004.53	
170+00.00	319,693.36	656,004.19	
170+50.00	319,743.36	656,003.84	
171+00.00	319,793.36	656,003.50	
171+50.00	319,843.36	656,003.15	
171+79.10	319,872.46	656,002.95	P.C. STATION
172+00.00	319,893.35	656,002.82	
172+50.00	319,943.35	656,002.57	
173+00.00	319,993.35	656,002.44	
173+50.00	320,043.35	656,002.41	
174+00.00	320,093.35	656,002.49	
174+50.00	320,143.35	656,002.68	
175+00.00	320,193.35	656,002.98	
175+50.00	320,243.35	656,003.39	

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PROJECT NO: 7620-00-70	HWY: STH 128	COUNTY: ST. CROIX	ALIGNMENT DETAILS	SHEET 44	E

STH 128

STATION	Y	X	REMARKS
175+74.93	320,268.27	656,000.22	P.I. STATION
176+00.00	320,293.35	656,003.90	
176+50.00	320,343.34	656,004.53	
177+00.00	320,393.34	656,005.26	
177+50.00	320,443.33	656,006.10	
178+00.00	320,493.32	656,007.05	
178+50.00	320,543.31	656,008.11	
179+00.00	320,593.30	656,009.28	
179+50.00	320,643.28	656,010.56	
179+70.68	320,663.95	656,011.12	P.T. STATION
180+00.00	320,693.26	656,011.92	
180+50.00	320,743.24	656,013.30	
181+00.00	320,793.23	656,014.68	
181+50.00	320,843.21	656,016.05	
182+00.00	320,893.19	656,017.43	
182+50.00	320,943.17	656,018.80	
183+00.00	320,993.15	656,020.18	
183+50.00	321,043.13	656,021.56	
184+00.00	321,093.11	656,022.93	
184+50.00	321,143.09	656,024.31	
185+00.00	321,193.07	656,025.68	
185+50.00	321,243.05	656,027.06	
186+00.00	321,293.04	656,028.44	
186+50.00	321,343.02	656,029.81	
187+00.00	321,393.00	656,031.19	
187+50.00	321,442.98	656,032.56	
188+00.00	321,492.96	656,033.94	
188+50.00	321,542.94	656,035.32	
189+00.00	321,592.92	656,036.69	
189+50.00	321,642.90	656,038.07	
190+00.00	321,692.88	656,039.44	
190+50.00	321,742.87	656,040.82	
191+00.00	321,792.85	656,042.20	
191+08.72	321,801.56	656,042.44	P.C. STATION
191+50.00	321,842.83	656,043.54	
192+00.00	321,892.81	656,044.77	
192+50.00	321,942.80	656,045.89	
193+00.00	321,992.79	656,046.91	
193+50.00	322,042.78	656,047.81	
194+00.00	322,092.78	656,048.61	
194+50.00	322,142.77	656,049.30	
194+88.28	322,180.98	656,052.88	P.I. STATION
195+00.00	322,192.77	656,049.88	
195+50.00	322,242.77	656,050.35	
196+00.00	322,292.76	656,050.71	
196+50.00	322,342.76	656,050.97	
197+00.00	322,392.76	656,051.11	
197+50.00	322,442.76	656,051.15	
198+00.00	322,492.76	656,051.08	
198+50.00	322,542.76	656,050.89	
198+67.77	322,560.54	656,050.80	P.T. STATION
199+00.00	322,592.76	656,050.63	
199+50.00	322,642.76	656,050.35	
200+00.00	322,692.76	656,050.08	
200+50.00	322,742.76	656,049.81	
201+00.00	322,792.76	656,049.53	
201+50.00	322,842.76	656,049.26	
202+00.00	322,892.76	656,048.98	
202+50.00	322,942.76	656,048.71	
203+00.00	322,992.76	656,048.44	
203+50.00	323,042.76	656,048.16	
204+00.00	323,092.75	656,047.89	
204+50.00	323,142.75	656,047.61	
205+00.00	323,192.75	656,047.34	
205+50.00	323,242.75	656,047.07	
206+00.00	323,292.75	656,046.79	
206+50.00	323,342.75	656,046.52	
207+00.00	323,392.75	656,046.25	
207+50.00	323,442.75	656,045.97	

STH 128

STATION	Y	X	REMARKS
208+00.00	323,492.75	656,045.70	
208+50.00	323,542.75	656,045.42	
209+00.00	323,592.75	656,045.15	
209+50.00	323,642.75	656,044.88	
210+00.00	323,692.75	656,044.60	
210+50.00	323,742.74	656,044.33	
211+00.00	323,792.74	656,044.05	
211+50.00	323,842.74	656,043.78	
212+00.00	323,892.74	656,043.51	
212+50.00	323,942.74	656,043.23	
213+00.00	323,992.74	656,042.96	
213+50.00	324,042.74	656,042.69	
214+00.00	324,092.74	656,042.41	
214+50.00	324,142.74	656,042.14	
215+00.00	324,192.74	656,041.86	
215+50.00	324,242.74	656,041.59	
216+00.00	324,292.74	656,041.32	
216+50.00	324,342.74	656,041.04	
217+00.00	324,392.73	656,040.77	
217+50.00	324,442.73	656,040.49	
218+00.00	324,492.73	656,040.22	
218+50.00	324,542.73	656,039.95	
219+00.00	324,592.73	656,039.67	
219+50.00	324,642.73	656,039.40	
220+00.00	324,692.73	656,039.12	
220+50.00	324,742.73	656,038.85	
221+00.00	324,792.73	656,038.58	
221+50.00	324,842.73	656,038.30	
222+00.00	324,892.73	656,038.03	
222+50.00	324,942.73	656,037.76	
222+92.85	324,985.57	656,037.52	P.C. STATION
223+00.00	324,992.73	656,037.48	
223+50.00	325,042.73	656,037.28	
224+00.00	325,092.73	656,037.18	
224+50.00	325,142.73	656,037.20	
225+00.00	325,192.73	656,037.32	
225+50.00	325,242.72	656,037.55	
226+00.00	325,292.72	656,037.89	
226+50.00	325,342.72	656,038.34	
226+97.76	325,390.48	656,038.30	P.I. STATION
227+00.00	325,392.72	656,038.89	
227+50.00	325,442.71	656,039.56	
228+00.00	325,492.71	656,040.33	
228+50.00	325,542.70	656,041.22	
229+00.00	325,592.69	656,042.21	
229+50.00	325,642.68	656,043.31	
230+00.00	325,692.66	656,044.52	
230+50.00	325,742.65	656,045.84	
231+00.00	325,792.63	656,047.26	
231+02.59	325,795.22	656,047.34	P.T. STATION
231+50.00	325,842.60	656,048.75	
232+00.00	325,892.58	656,050.23	
232+50.00	325,942.56	656,051.72	
233+00.00	325,992.54	656,053.21	
233+50.00	326,042.52	656,054.69	
234+00.00	326,092.49	656,056.18	
234+50.00	326,142.47	656,057.67	
235+00.00	326,192.45	656,059.15	
235+50.00	326,242.43	656,060.64	
236+00.00	326,292.40	656,062.12	
236+35.00	326,327.39	656,063.16	END CONSTRUCTION
236+35.24	326,328.63	656,063.20	P.I. STATION
262+60.70	328,952.65	656,111.50	P.I. STATION
263+60.00	329,051.94	656,112.56	BEGIN CONSTRUCTION
264+00.00	329,091.94	656,112.99	
264+50.00	329,141.93	656,113.52	
265+00.00	329,191.93	656,114.06	
265+50.00	329,241.93	656,114.59	
266+00.00	329,291.93	656,115.12	

STH 128

STATION	Y	X	REMARKS
266+50.00	329,341.92	656,115.66	
267+00.00	329,391.92	656,116.19	
267+50.00	329,441.92	656,116.73	
268+00.00	329,491.91	656,117.26	
268+50.00	329,541.91	656,117.79	
269+00.00	329,591.91	656,118.33	
269+50.00	329,641.91	656,118.86	
270+00.00	329,691.90	656,119.40	
270+50.00	329,741.90	656,119.93	
271+00.00	329,791.90	656,120.46	
271+50.00	329,841.89	656,121.00	
272+00.00	329,891.89	656,121.53	
272+50.00	329,941.89	656,122.07	
273+00.00	329,991.89	656,122.60	
273+50.00	330,041.88	656,123.13	
274+00.00	330,091.88	656,123.67	
274+50.00	330,141.88	656,124.20	
275+00.00	330,191.87	656,124.74	
275+50.00	330,241.87	656,125.27	
276+00.00	330,291.87	656,125.80	
276+50.00	330,341.87	656,126.34	
277+00.00	330,391.86	656,126.87	
277+50.00	330,441.86	656,127.40	
278+00.00	330,491.86	656,127.94	
278+50.00	330,541.85	656,128.47	
279+00.00	330,591.85	656,129.01	
279+59.60	330,651.45	656,129.64	P.I. STATION
279+50.00	330,641.85	656,129.54	
280+00.00	330,691.85	656,129.91	
280+50.00	330,741.85	656,130.23	
281+00.00	330,791.84	656,130.55	
281+50.00	330,841.84	656,130.88	
282+00.00	330,891.84	656,131.20	
282+50.00	330,941.84	656,131.53	
283+00.00	330,991.84	656,131.85	
283+50.00	331,041.84	656,132.18	
284+00.00	331,091.84	656,132.50	
284+50.00	331,141.84	656,132.82	
285+00.00	331,191.84	656,133.15	
285+50.00	331,241.84	656,133.47	
286+00.00	331,291.83	656,133.80	
286+50.00	331,341.83	656,134.12	
287+00.00	331,391.83	656,134.45	
287+50.00	331,441.83	656,134.77	
288+00.00	331,491.83	656,135.09	
288+50.00	331,541.83	656,135.42	
288+52.21	331,544.03	656,135.43	P.I. STATION
289+00.00	331,591.83	656,135.13	
289+50.00	331,641.83	656,134.81	
290+00.00	331,691.83	656,134.49	
290+50.00	331,741.82	656,134.17	
291+00.00	331,791.82	656,133.85	
291+50.00	331,841.82	656,133.53	
292+00.00	331,891.82	656,133.21	
292+50.00	331,941.82	656,132.89	
293+00.00	331,991.82	656,132.57	
293+50.00	332,041.82	656,132.25	
294+00.00	332,091.82	656,131.93	
294+50.00	332,141.82	656,131.61	
295+00.00	332,191.82	656,131.29	
295+50.00	332,241.81	656,130.97	
296+00.00	332,291.81	656,130.65	
296+50.00	332,341.81	656,130.33	
297+00.00	332,391.81	656,130.01	
297+50.00	332,441.81	656,129.69	
298+00.00	332,491.81	656,129.37	
298+50.00	332,541.81	656,129.05	
299+00.00	332,591.81	656,128.73	
299+50.00	332,641.81	656,128.41	

STH 128

STATION	Y	X	REMARKS
300+00.00	332,691.81	656,128.09	
300+50.00	332,741.80	656,127.77	
301+00.00	332,791.80	656,127.45	
301+50.00	332,841.80	656,127.13	
302+00.00	332,891.80	656,126.81	
302+50.00	332,941.80	656,126.49	
303+00.00	332,991.80	656,126.17	
303+50.00	333,041.80	656,125.85	
304+00.00	333,091.80	656,125.53	
304+50.00	333,141.80	656,125.21	
305+00.00	333,191.80	656,124.89	
305+50.00	333,241.79	656,124.57	
306+00.00	333,291.79	656,124.25	
306+50.00	333,341.79	656,123.93	
307+00.00	333,391.79	656,123.61	
307+50.00	333,441.79	656,123.29	
308+00.00	333,491.79	656,122.97	
308+50.00	333,541.79	656,122.65	
309+00.00	333,591.79	656,122.33	
309+50.00	333,641.79	656,122.01	
310+00.00	333,691.78	656,121.69	
310+50.00	333,741.78	656,121.37	
311+00.00	333,791.78	656,121.05	
311+50.00	333,841.78	656,120.73	
312+00.00	333,891.78	656,120.42	
312+50.00	333,941.78	656,120.10	
313+00.00	333,991.78	656,119.78	
313+50.00	334,041.78	656,119.46	
314+00.00	334,091.78	656,119.14	
314+50.00	334,141.78	656,118.82	
315+00.00	334,191.77	656,118.50	
315+50.00	334,241.77	656,118.18	
316+00.00	334,291.77	656,117.86	
316+50.00	334,341.77	656,117.54	
317+00.00	334,391.77	656,117.22	
317+50.00	334,441.77	656,116.90	
318+00.00	334,491.77	656,116.58	
318+50.00	334,541.77	656,116.26	
319+00.00	334,591.77	656,115.94	
319+50.00	334,641.77	656,115.62	
320+00.00	334,691.76	656,115.30	
320+50.00	334,741.76	656,114.98	
321+00.00	334,791.76	656,114.66	
321+50.00	334,841.76	656,114.34	
322+00.00	334,891.76	656,114.02	
322+30.00	334,921.76	656,113.83	END PROJECT
326+42.94	335,334.69	656,111.19	C/L -C/L USH 12

SUPERELEVATION TABLE-CURVE 1

STATION	LEFT(%)	RIGHT(%)
19+40	MATCH EXISTING SUPER	
19+50	◄ 3.9	◄ 3.9
19+72	◄ 2.0	◄ 2.0
19+95	0.0	0.0
20+00	0.4 ►	0.4 ►
20+19	2.0 ►	2.0 ►
20+45	3.0 ►	3.0 ►
FULL SUPERELEVATION		
22+02	3.0 ►	3.0 ►
22+27	2.0 ►	2.0 ►
22+50	1.1 ►	2.0 ►
22+79	2.0	2.0 ►
23+00	◄ 0.84	2.0 ►
23+30	◄ 2.0	2.0 ►

SUPERELEVATION TABLE-CURVE 2

STATION	LEFT(%)	RIGHT(%)
34+00	◄ 2.0	2.0 ►
34+50	◄ 2.0	0.0
35+00	◄ 2.0	◄ 1.92
35+02	◄ 2.0	◄ 2.0
35+50	◄ 3.9	◄ 3.9
35+84	◄ 5.2	◄ 5.2
FULL SUPERELEVATION		
37+84	◄ 5.2	◄ 5.2
38+00	◄ 4.6	◄ 4.6
38+50	◄ 2.6	◄ 2.6
38+66	◄ 2.0	◄ 2.0
39+00	◄ 2.0	◄ 0.7
39+17	◄ 2.0	0.0
39+50	◄ 2.0	1.3 ►
39+68	◄ 2.0	2.0 ►

SUPERELEVATION TABLE-CURVE 3

STATION	LEFT(%)	RIGHT(%)
44+46	◄ 2.0	2.0 ►
44+50	◄ 1.9	2.0 ►
44+97	0.0	2.0 ►
45+00	0.1 ►	2.0 ►
45+48	2.0 ►	2.0 ►
45+50	2.1 ►	2.1 ►
45+56	2.3 ►	2.3 ►
FULL SUPERELEVATION		
48+40	2.3 ►	2.3 ►
48+47	2.0 ►	2.0 ►
48+50	1.9 ►	2.0 ►
48+99	0.0	2.0 ►
49+00	◄ 0.1	2.0 ►
49+50	◄ 2.0	2.0 ►

SUPERELEVATION TABLE-CURVE 4

MAINTAIN NORMAL CROWN THROUGH CURVE 4

SUPERELEVATION TABLE-CURVE 5

MAINTAIN NORMAL CROWN THROUGH CURVE 5

SUPERELEVATION TABLE-CURVE 6

MAINTAIN NORMAL CROWN THROUGH CURVE 6

SUPERELEVATION TABLE-CURVE 7

MAINTAIN NORMAL CROWN THROUGH CURVE 6

SUPERELEVATION TABLE-CURVE 8

MAINTAIN NORMAL CROWN THROUGH CURVE 7

SUPERELEVATION TABLE-CURVE 9

MAINTAIN NORMAL CROWN THROUGH CURVE 8

SUPERELEVATION TABLE-CURVE 10

MAINTAIN NORMAL CROWN THROUGH CURVE 9

SUPERELEVATION TABLE-CURVE 11

MAINTAIN NORMAL CROWN THROUGH CURVE 9

7620-00-70

Line	Item	Item Description	Unit	Total	Qty
0002	201.0105	Clearing	STA	2.000	2.000
0004	201.0205	Grubbing	STA	2.000	2.000
0006	203.0100	Removing Small Pipe Culverts	EACH	6.000	6.000
0008	203.0220	Removing Structure (structure) 01. B-55-0088	EACH	1.000	1.000
0010	204.0100	Removing Concrete Pavement	SY	70.000	70.000
0012	204.0115	Removing Asphaltic Surface Butt Joints	SY	5,200.000	5,200.000
0014	204.0120	Removing Asphaltic Surface Milling	SY	96,000.000	96,000.000
0016	204.0165	Removing Guardrail	LF	290.000	290.000
0018	204.0180	Removing Delineators and Markers	EACH	16.000	16.000
0020	206.1001	Excavation for Structures Bridges (structure) 01. B-55-290	EACH	1.000	1.000
0022	208.1500.S	Temporary Lane Shift During Culvert Work	EACH	9.000	9.000
0024	210.2500	Backfill Structure Type B	TON	1,870.000	1,870.000
0026	211.0101	Prepare Foundation for Asphaltic Paving (project) 01. 7620-00-70	EACH	1.000	1.000
0028	213.0100	Finishing Roadway (project) 01. 7620-00-70	EACH	1.000	1.000
0030	305.0110	Base Aggregate Dense 3/4-Inch	TON	8,300.000	8,300.000
0032	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	4,650.000	4,650.000
0034	312.0110	Select Crushed Material	TON	2,950.000	2,950.000
0036	455.0605	Tack Coat	GAL	11,000.000	11,000.000
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	2.000	2.000
0042	460.2005	Incentive Density PWL HMA Pavement	DOL	14,750.000	14,750.000
0044	460.2007	Incentive Density HMA Pavement Longitudinal Joints	DOL	13,790.000	13,790.000
0046	460.2010	Incentive Air Voids HMA Pavement	DOL	20,100.000	20,100.000
0048	460.6645	HMA Pavement 5 MT 58-34 V	TON	20,100.000	20,100.000
0050	460.9000.S	Material Transfer Vehicle 01. 7620-00-70	EACH	1.000	1.000
0052	465.0105	Asphaltic Surface	TON	2,200.000	2,200.000
0054	465.0110	Asphaltic Surface Patching	TON	300.000	300.000
0056	465.0125	Asphaltic Surface Temporary	TON	110.000	110.000
0058	465.0450	Asphaltic Intersection Rumble Strips	SY	200.000	200.000
0060	465.0475	Asphalt Centerline Rumble Strips 2-Lane Rural	LF	23,050.000	23,050.000
0062	511.1100	Temporary Shoring	SF	845.000	845.000
0064	520.1024	Apron Endwalls for Culvert Pipe 24-Inch	EACH	8.000	8.000
0066	520.1030	Apron Endwalls for Culvert Pipe 30-Inch	EACH	2.000	2.000
0068	520.1036	Apron Endwalls for Culvert Pipe 36-Inch	EACH	2.000	2.000
0070	520.3324	Culvert Pipe Class III-A 24-Inch	LF	340.000	340.000
0072	520.3330	Culvert Pipe Class III-A 30-Inch	LF	132.000	132.000
0074	520.3336	Culvert Pipe Class III-A 36-Inch	LF	86.000	86.000
0076	520.8700	Cleaning Culvert Pipes	EACH	7.000	7.000
0078	520.9700.S	Culvert Pipe Liners (size) 01. 24-Inch	LF	156.000	156.000
0080	520.9700.S	Culvert Pipe Liners (size) 02. 36-Inch	LF	242.000	242.000
0082	520.9750.S	Cleaning Culvert Pipes for Liner Verification	EACH	3.000	3.000
0084	603.8000	Concrete Barrier Temporary Precast Delivered	LF	550.000	550.000
0086	603.8125	Concrete Barrier Temporary Precast Installed	LF	1,100.000	1,100.000
0088	606.0200	Riprap Medium	CY	24.000	24.000
0090	606.0300	Riprap Heavy	CY	70.000	70.000
0092	614.0905	Crash Cushions Temporary	EACH	2.000	2.000
0094	619.1000	Mobilization	EACH	1.000	1.000
0096	624.0100	Water	MGAL	200.000	200.000
0098	625.0500	Salvaged Topsoil	SY	4,800.000	4,800.000

7620-00-70

Line	Item	Item Description	Unit	Total	Qty
0100	627.0200	Mulching	SY	4,800.000	4,800.000
0102	628.1504	Silt Fence	LF	2,100.000	2,100.000
0104	628.1520	Silt Fence Maintenance	LF	4,200.000	4,200.000
0106	628.1905	Mobilizations Erosion Control	EACH	5.000	5.000
0108	628.1910	Mobilizations Emergency Erosion Control	EACH	3.000	3.000
0110	628.2023	Erosion Mat Class II Type B	SY	40.000	40.000
0112	628.7504	Temporary Ditch Checks	LF	240.000	240.000
0114	628.7555	Culvert Pipe Checks	EACH	50.000	50.000
0116	629.0210	Fertilizer Type B	CWT	5.000	5.000
0118	630.0120	Seeding Mixture No. 20	LB	200.000	200.000
0120	630.0200	Seeding Temporary	LB	200.000	200.000
0122	630.0500	Seed Water	MGAL	160.000	160.000
0124	633.5200	Markers Culvert End	EACH	27.000	27.000
0126	638.2102	Moving Signs Type II	EACH	3.000	3.000
0128	638.4000	Moving Small Sign Supports	EACH	3.000	3.000
0130	642.5001	Field Office Type B	EACH	1.000	1.000
0132	643.0300	Traffic Control Drums	DAY	270.000	270.000
0134	643.0420	Traffic Control Barricades Type III	DAY	15.000	15.000
0136	643.0715	Traffic Control Warning Lights Type C	DAY	150.000	150.000
0138	643.0900	Traffic Control Signs	DAY	5,605.000	5,605.000
0140	643.1050	Traffic Control Signs PCMS	DAY	14.000	14.000
0142	643.3105	Temporary Marking Line Paint 4-Inch	LF	59,000.000	59,000.000
0144	643.3120	Temporary Marking Line Epoxy 4-Inch	LF	36,800.000	36,800.000
0146	643.3850	Temporary Marking Stop Line Removable Tape 18-Inch	LF	30.000	30.000
0148	643.5000	Traffic Control	EACH	1.000	1.000
0150	645.0120	Geotextile Type HR	SY	211.000	211.000
0152	646.1040	Marking Line Grooved Wet Ref Epoxy 4-Inch	LF	53,800.000	53,800.000
0154	646.3545	Marking Line Grooved Wet Ref Contrast Epoxy 8-Inch	LF	370.000	370.000
0156	646.4520	Marking Line Same Day Epoxy 4-Inch	LF	36,800.000	36,800.000
0158	646.6120	Marking Stop Line Epoxy 18-Inch	LF	80.000	80.000
0160	646.9000	Marking Removal Line 4-Inch	LF	1,800.000	1,800.000
0162	650.4500	Construction Staking Subgrade	LF	1,150.000	1,150.000
0164	650.5000	Construction Staking Base	LF	1,150.000	1,150.000
0166	650.6000	Construction Staking Pipe Culverts	EACH	6.000	6.000
0168	650.8000	Construction Staking Resurfacing Reference	LF	27,600.000	27,600.000
0170	650.9911	Construction Staking Supplemental Control (project) 01. 7620-00-70	EACH	1.000	1.000
0172	650.9920	Construction Staking Slope Stakes	LF	1,150.000	1,150.000
0174	661.0101	Temporary Traffic Signals for Bridges (structure) 01. B-55-0088	EACH	1.000	1.000
0176	690.0150	Sawing Asphalt	LF	1,250.000	1,250.000
0178	740.0440	Incentive IRI Ride	DOL	20,900.000	20,900.000
0180	SPV.0060	Special 01. Apron Endwalls for Culvert Pipe RCHE 72x113-Inch	EACH	6.000	6.000
0182	SPV.0060	Special 02. Landmark Reference Monuments Special	EACH	12.000	12.000
0184	SPV.0060	Special 03. Verify Landmark Reference Monuments Special	EACH	12.000	12.000
0186	SPV.0090	Special 01. Culvert Pipe RCHE Class HE-IV 72x113-Inch	LF	258.000	258.000

CLEARING & GRUBBING

STATION	LOCATION	201.0105 (STA)	201.0205 (STA)
225+00 - 227+00	STH 128	2	2
	TOTALS =	2	2

REMOVING ASPHALTIC SURFACE MILLING

STATION - STATION	LOCATION	204.0120 (SY)
20+35 - 235+54	STH 128	75,000
263+60 - 322+30	STH 128	21,000
	TOTAL =	96,000

REMOVING GUARDRAIL

STATION - STATION	LOCATION	204.0165 (LF)
225+72 - 227+17	STH 128, LT	145
225+72 - 227+17	STH 128, RT	145
	TOTAL =	290

BASE AGGREGATE DENSE

STATION - STATION	LOCATION	305.0110 3/4-INCH (TON)	305.0120 1 1/4-INCH (TON)
19+40 - 173+20	STH 128, LT & RT	4,330	--
106+00 - 107+50	STH 128	50	640
116+50 - 118+00	STH 128	50	640
131+69 - 133+00	STH 128	40	560
148+50 - 150+00	STH 128	45	640
173+20 - 236+35	STH 128, LT & RT	1,750	--
176+50 - 178+00	STH 128	90	640
212+50 - 214+00	STH 128	90	640
225+50 - 227+60	STH 128	60	890
263+60 - 322+30	STH 128, LT & RT	1,630	--
--	DRIVEWAYS	145	--
--	SIDEROADS	20	--
	TOTALS =	8,300	4,650

REMOVING SMALL PIPE CULVERTS

STATION	LOCATION	TYPE	203.0100 (EACH)
106+64	STH 128	36" X 80' CMP	1
117+14	STH 128	24" X 72' CMP	1
132+39	STH 128	24" X 80' CMP	1
149+14	STH 128	30" X 123' CMP	1
177+06	STH 128	24" X 110' CMP	1
213+04	STH 128	24" X 68' CMP	1
		TOTAL =	6

REMOVING DELINEATORS AND MARKERS

STATION	LOCATION	204.0180 (EACH)
106+64	STH 128	2
117+14	STH 128	2
132+39	STH 128	2
149+14	STH 128	2
177+06	STH 128	2
213+04	STH 128	2
226+44	STH 128	4
	TOTAL =	16

PREPARE FOUNDATION FOR ASPHALTIC PAVING

STATION - STATION	LOCATION	211.0101 (EACH)
19+40 - 322+30	STH 128	1

REMOVING CONCRETE PAVEMENT

STATION	LOCATION	204.0100 (SY)
316+65	STH 128, RT.	35
319+90	STH 128, RT.	35
		70

REMOVING ASPHALTIC SURFACE BUTT JOINTS

STATION - STATION	LOCATION	204.0115 (SY)
19+40 - 20+35	STH 128	70
25+00	STH 128, LT (10TH AVE)	340
25+00	STH 128, RT (C.E.)	200
36+20	STH 128, LT (C.E.)	150
37+31	STH 128, LT (C.E.)	200
39+65	STH 128, LT (C.E.)	250
43+12	STH 128, LT (P.E.)	70
67+84	STH 128, LT (P.E.)	90
77+70	STH 128, LT (20TH AVE)	250
77+70	STH 128, RT (20TH AVE)	280
87+78	STH 128, RT (P.E.)	75
97+00	STH 128, RT (P.E.)	80
106+15	STH 128, LT (P.E.)	80
130+53	STH 128, RT (30TH AVE)	250
130+53	STH 128, LT (30TH AVE)	280
173+19	STH 128, RT (CTH N)	520
173+19	STH 128, LT (CTH N)	530
207+63	STH 128, LT (C.E.)	130
213+29	STH 128, LT (P.E.)	50
219+49	STH 128, RT (P.E.)	50
231+22	STH 128, RT (C.E.)	150
235+54 - 236+35	STH 128	195
263+60 - 264+35	STH 128	15
267+00	STH 128, RT (56TH AVE.)	200
271+99	STH 128, RT (P.E.)	70
278+60	STH 128, RT (C.E.)	165
279+70	STH 128, LT (P.E.)	80
288+47	STH 128, RT (60TH AVE)	180
288+47	STH 128, LT (60TH AVE)	190
321+55 - 322+30	STH 128	10
	TOTAL =	5,200

SELECT CRUSHED MATERIAL

STATION - STATION	LOCATION	SELECT CRUSHED MATERIAL 312.0110 (TON)
106+00 - 107+50	STH 128	405
116+50 - 118+00	STH 128	405
131+69 - 133+00	STH 128	355
148+50 - 150+00	STH 128	405
176+50 - 178+00	STH 128	405
212+50 - 214+00	STH 128	405
225+50 - 227+60	STH 128	570
	TOTAL =	2950

ASPHALT ITEMS

STATION - STATION	LOCATION	455.0605 TACK COAT (GAL)	460.8645 HMA PAVEMENT 5 MT 58-34 V (TON)	465.0105 ASPHALTIC SURFACE (TON)	465.0110 ASPHALTIC SURFACE PATCHING (TON)	465.0125 ASPHALTIC SURFACE TEMPORARY (TON)
19+40 - 236+35	STH 128	8,200	15,200	--	--	--
106+00 - 107+50	STH 128	80	100	153	--	--
116+50 - 118+00	STH 128	80	100	153	--	--
131+69 - 133+00	STH 128	70	90	133	--	--
148+50 - 150+00	STH 128	80	100	153	--	--
176+50 - 178+00	STH 128	80	100	153	--	--
212+50 - 214+00	STH 128	80	100	153	--	--
223+45 - 229+45	STH 128, LT & RT	--	--	--	--	110
225+50 - 227+60	STH 128	115	140	227	--	--
263+60 - 322+30	STH 128	2,215	4,170	30	--	--
--	DRIVEWAYS	--	--	45	--	--
--	MISC REPAIRS	--	--	1,000	300	--
--	PROJECT	--	--	--	--	--
	TOTALS =	11,000	20,100	2,200	300	110

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	QUALITY MANAGEMENT PROGRAM TO BE USED FOR: DENSITY ACCEPTANCE
12 foot Driving Lanes	19+40 - 322+30	Upper & Lower Layer	Milled Existing HMA Surface	5 MT 58-34 V	14,750	3.25" Total	PWL Incentive Air Voids HMA Pavement 460.2010	Incentive Density PWL HMA Pavement 460.2005
3 foot Paved Shoulders	19+40 - 322+30	Upper & Lower Layer	Milled Existing HMA Surface	5 MT 58-34 V	6,250	3.25" Total	PWL Incentive Air Voids HMA Pavement 460.2010	Acceptance testing by the department; Not eligible for incentive or disincentive

ASPHALT INTERSECTION RUMBLE STRIPS

STATION - STATION	LOCATION	465.0450 (SY)
23+40 - 29+40	STH 128, LT	100
316+25 - 322+25	STH 128, RT	100
	TOTAL =	200

TEMPORARY SHORING

STATION - STATION	LOCATION	511.1100 (SF)
226+10 - 226+85	STH 128	845
	TOTAL =	845

MOBILIZATIONS EROSION CONTROL

PROJECT	628.1905 MOBILIZATIONS EROSION CONTROL (EACH)	628.1910 MOBILIZATIONS EMERGENC EROSION CONTROL (EACH)
7620-00-70	5	3
TOTALS =	5	3

ASPHALTIC CENTERLINE RUMBLE STRIPS 2-LANE RURAL

STATION - STATION	LOCATION	465.0475 (LF)
21+15 - 23+00	STH 128	185
27+00 - 35+20	STH 128	820
40+65 - 75+70	STH 128	3,505
79+70 - 97+40	STH 128	1,770
99+40 - 128+50	STH 128	2,910
132+50 - 171+20	STH 128	3,870
175+20 - 179+50	STH 128	430
181+50 - 206+65	STH 128	2,515
208+65 - 212+30	STH 128	365
214+30 - 230+20	STH 128	1,590
232+20 - 234+25	STH 128	205
263+60 - 265+00	STH 128	140
269+00 - 277+60	STH 128	860
279+60 - 286+45	STH 128	685
290+45 - 322+30	STH 128	3,200
	TOTAL =	23,050

CONCRETE BARRIER TEMPORARY PRECAST

STAGE	STATION - STATION	LOCATION	603.8000 DELIVERED (LF)	603.8125 INSTALLED (LF)
1	223+75 - 229+25	STH 128, RT	550	550
2	223+75 - 229+25	STH 128, LT	--	550
		TOTALS =	550	1100

RIPRAP MEDIUM & GEOTEXTILE FABRIC TYPE HR

STATION	LOCATION	606.0200 RIPRAP MEDIUM (CY)	645.0120 GEOTEXTILE FABRIC TYPE HR (SY)
55+37	STH 128, LT	6	15
106+64	STH 128, RT	9	23
149+14	STH 128, RT	9	23
	TOTALS =	24	61

WATER

STATION - STATION	LOCATION	624.0100 (MGAL)
19+40 - 173+20	STH 128, LT & RT	65
106+00 - 107+50	STH 128	11
116+50 - 118+00	STH 128	11
131+69 - 133+00	STH 128	11
148+50 - 150+00	STH 128	11
173+20 - 236+35	STH 128, LT & RT	27
176+50 - 178+00	STH 128	11
212+50 - 214+00	STH 128	10
225+50 - 227+60	STH 128	15
263+60 - 322+30	STH 128, LT & RT	25
--	DRIVEWAY	2
--	SIDEROADS	1
	TOTAL =	200

CULVERT PIPES

STATION	LOCATION	206.1500.S TEMPORARY LANE SHIFT DURING CULVERT WORK (EACH)	520.8700 CLEANING CULVERT PIPES (EACH)	520.9700.S CULVERT PIPE LINERS 01. 24-INCH (LF)	520.9700.S CULVERT PIPE LINERS 02. 36-INCH (LF)	520.9750.S CLEANING CULVERT PIPES FOR LINER VERIFICATION (EACH)	520.1024 APRON ENDWALLS FOR CULVERT PIPES 24-INCH (EACH)	520.1030 APRON ENDWALLS FOR CULVERT PIPES 30-INCH (EACH)	520.1036 APRON ENDWALLS FOR CULVERT PIPES 36-INCH (EACH)	520.3324* CULVERT PIPE CLASS III-A 24-INCH (LF)	520.333* CULVERT PIPE CLASS III-A 30-INCH (LF)	520.3336* CULVERT PIPE CLASS III-A 36-INCH (LF)	650.6000 CONSTRUCTION STAKING PIPE CULVERTS (EACH)
39+70	STH 128	--	1	--	--	--	--	--	--	--	--	--	--
52+14	STH 128	--	1	--	--	--	--	--	--	--	--	--	--
55+37	STH 128	--	1	--	--	--	--	--	--	--	--	--	--
106+64	STH 128	1	--	--	--	--	--	--	2	--	--	86	1
117+14	STH 128	1	--	--	--	--	2	--	--	72	--	--	1
132+39	STH 128	1	--	--	--	--	2	--	--	88	--	--	1
147+14	STH 128	1	1	--	104	1	--	--	--	--	--	--	--
149+14	STH 128	1	--	--	--	--	--	2	--	--	132	--	1
171+13	STH 128	1	1	156	--	1	--	--	--	--	--	--	--
177+06	STH 128	1	--	--	--	--	2	--	--	118	--	--	1
196+38	STH 128	1	1	--	138	1	--	--	--	--	--	--	--
213+04	STH 128	1	--	--	--	--	2	--	--	62	--	--	1
309+15	STH 128	--	1	--	--	--	--	--	--	--	--	--	--
	TOTALS =	9	7	156	242	3	8	2	2	340	132	86	6

* ALL PIPE JOINTS SHALL BE TIED.

CRASH CUSHION

STAGE	STATION	LOCATION	614.0905 TEMPORARY (EACH)	BACK WIDTH (FT)	OBJECT MARKING PATTERN	CRASH TEST LEVEL	TRAFFIC DIRECTION	TRAFFIC LOCATION	CRASH CUSION SHIELDS
1	224+50	STH 128, RT.	1	4	OM3-R (WO5-58R)	TL-3	BIDIRECTIONAL	LEFT	SINGLE TEMPORARY BARRIER
2	228+40	STH 128, LT.	1	4	OM3-L (WO5-58L)	TL-3	BIDIRECTIONAL	RIGHT	SINGLE TEMPORARY BARRIER
		TOTAL =	2						

PAVEMENT MARKING

STATION - STATION	LOCATION	DESCRIPTION	643.3105 TEMPORARY MARKING LINE PAINT 4-INCH (LF)	643.3120 TEMPORARY MARKING LINE EPOXY 4-INCH (LF)	646.1040 MARKING LINE GROOVED WET REF EPOXY 4-INCH SOLID WHITE (LF)	646.1040 MARKING LINE GROOVED WET REF EPOXY 4-INCH DASHED WHITE (LF)	646.3545 MARKING LINE GROOVED WET REF CONTRAST EPOXY 8-INCH (LF)	646.4520 MARKING LINE SAME DAY EPOXY 4-INCH SOLID YELLOW (LF)	646.4520 MARKING LINE SAME DAY EPOXY 4-INCH DASHED YELLOW (LF)	646.6120 MARKING STOP LINE EPOXY 18-INCH (LF)
19+41	MAINLINE, LT.	STOP LINE	--	--	--	--	--	--	--	20
19+42 - 19+81	MAINLINE, LT.	LANE EDGE	--	--	--	--	41	--	--	--
19+42 - 24+47	MAINLINE, LT.	WHITE EDGELINE	--	--	520	--	--	--	--	--
19+47 - 19+81	MAINLINE, LT.	LANE EDGE	--	--	--	--	35	--	--	--
19+51	MAINLINE, LT.	STOP LINE	--	--	--	--	--	--	--	20
19+55 - 46+10	MAINLINE	NO PASSING	--	6,300	--	--	--	6300	--	--
20+35 - 23+70	MAINLINE, RT.	WHITE EDGELINE	--	--	340	--	--	--	--	--
23+67 - 24+65	MAINLINE, RT.	WHITE EDGELINE	--	--	--	25	--	--	--	--
25+39 - 26+16	MAINLINE, LT.	WHITE EDGELINE	--	--	--	20	--	--	--	--
25+46 - 76+00	MAINLINE, RT.	WHITE EDGELINE	--	--	5,063	--	--	--	--	--
26+16 - 77+29	MAINLINE, LT.	WHITE EDGELINE	--	--	5,120	--	--	--	--	--
46+10 - 57+00	MAINLINE	NB PASSING ONLY	--	1,380	--	--	--	1090	290	--
57+00 - 66+65	MAINLINE	PASSING	--	250	--	--	--	--	250	--
66+65 - 77+20	MAINLINE	SB PASSING ONLY	--	1,370	--	--	--	1090	280	--
76+00 - 77+18	MAINLINE, RT.	LANE EDGE	--	--	--	30	--	--	--	--
77+20 - 87+35	MAINLINE	NO PASSING	--	1,050	--	--	--	1050	--	--
78+06 - 128+82	MAINLINE, RT.	WHITE EDGELINE	--	--	5,080	--	--	--	--	--
78+12 - 79+37	MAINLINE, LT.	WHITE EDGELINE	--	--	--	35	--	--	--	--
79+37 - 130+15	MAINLINE, LT.	WHITE EDGELINE	--	--	5,080	--	--	--	--	--
87+35 - 97+35	MAINLINE	NB PASSING ONLY	--	1,250	--	--	--	1000	250	--
97+35 - 105+72	MAINLINE	PASSING	--	210	--	--	--	--	210	--
105+72 - 113+00	MAINLINE	SB PASSING ONLY	--	940	--	--	--	750	190	--
113+00 - 117+25	MAINLINE	PASSING	--	110	--	--	--	--	110	--
117+25 - 123+80	MAINLINE	NB PASSING ONLY	--	840	--	--	--	670	170	--
123+80 - 128+87	MAINLINE	PASSING	--	130	--	--	--	--	130	--
128+82 - 130+11	MAINLINE, RT.	WHITE EDGELINE	--	--	--	35	--	--	--	--
128+87 - 138+03	MAINLINE	SB PASSING ONLY	--	1,170	--	--	--	930	240	--
130+89 - 172+28	MAINLINE, RT.	WHITE EDGELINE	--	--	4,140	--	--	--	--	--
131+02 - 132+00	MAINLINE, LT.	WHITE EDGELINE	--	--	--	25	--	--	--	--
132+00 - 172+71	MAINLINE, LT.	WHITE EDGELINE	--	--	4,072	--	--	--	--	--
138+03 - 140+25	MAINLINE	PASSING	--	60	--	--	--	--	60	--
140+25 - 148+85	MAINLINE	NB PASSING ONLY	--	1,090	--	--	--	870	220	--
148+85 - 149+90	MAINLINE	PASSING	--	30	--	--	--	--	30	--
149+90 - 160+67	MAINLINE	SB PASSING ONLY	--	1,360	--	--	--	1090	270	--
160+67 - 185+78	MAINLINE	NO PASSING	--	5,100	--	--	--	5100	--	--
171+25 - 172+28	MAINLINE, RT.	LANE EDGE	--	--	--	--	104	--	--	--
173+05 - 173+09	CTH N, RT	WHITE EDGELINE	--	--	45	--	--	--	--	--
173+09 - 173+13	CTH N, RT.	WHITE EDGELINE	--	--	45	--	--	--	--	--
173+15	CTH N, RT.	STOP LINE	--	--	--	--	--	--	--	20
173+15	CTH N, LT.	STOP LINE	--	--	--	--	--	--	--	20
173+23 - 173+29	CTH N, LT.	WHITE EDGELINE	--	--	50	--	--	--	--	--
173+27 - 173+32	CTH N, LT.	WHITE EDGELINE	--	--	50	--	--	--	--	--
173+65 - 235+54	MAINLINE, RT	WHITE EDGELINE	--	--	6,200	--	--	--	--	--
174+06 - 174+91	MAINLINE, LT.	LANE EDGE	--	--	--	--	85	--	--	--
174+06 - 174+91	MAINLINE, LT.	WHITE EDGELINE	--	--	85	--	--	--	--	--
174+06 - 235+69	MAINLINE, LT.	WHITE EDGELINE	--	--	6,200	--	--	--	--	--
185+78 - 194+65	MAINLINE	NB PASSING ONLY	--	1,130	--	--	--	900	230	--
194+65 - 196+43	MAINLINE	NO PASSING	--	360	--	--	--	360	--	--
196+43 - 204+30	MAINLINE	SB PASSING ONLY	--	980	--	--	--	780	200	--
204+30 - 212+18	MAINLINE	NO PASSING	--	1,600	--	--	--	1600	--	--
212+18 - 223+00	MAINLINE	NB PASSING ONLY	--	1,390	--	--	--	1100	290	--
223+00 - 233+05	MAINLINE	PASSING	--	260	--	--	--	--	260	--
224+50 - 228+50	STAGE 1	WHITE EDGELINE	3,400	--	--	--	--	--	--	--
224+50 - 228+50	STAGE 2	WHITE EDGELINE	400	--	--	--	--	--	--	--
233+05 - 236+35	MAINLINE	SB PASSING ONLY	--	430	--	--	--	330	100	--
234+49 - 235+54	MAINLINE, RT.	LANE EDGE	--	--	--	--	105	--	--	--
263+60 - 265+08	MAINLINE	NO PASSING	--	300	--	--	--	300	--	--
263+60 - 286+91	MAINLINE, RT.	WHITE EDGELINE	--	--	2,340	--	--	--	--	--
263+60 - 288+15	MAINLINE, LT.	WHITE EDGELINE	--	--	2,455	--	--	--	--	--
265+08 - 273+95	MAINLINE	SB PASSING ONLY	--	1,120	--	--	--	890	230	--
	SUBTOTALS =		3,800	30,210	46,865	170	370	26200	4010	80

-CONTINUED NEXT PAGE-

FINISHING ITEMS

STATION - STATION	LOCATION	625.0500 SALVAGED TOPSOIL (SY)	627.0200 MULCHING (SY)	629.0210 FERTILIZER TYPE B (CWT)	630.0120 SEEDING MIXTURE NO. 20 (LB)	630.0200 SEEDING MIXTURE TEMPORARY (LB)	630.0500 SEED WATER (MGAL)
106+00 - 107+50	STH 128, LT & RT	451	451	0.5	18	-	16
116+50 - 118+00	STH 128, LT & RT	417	417	0.5	18	-	16
131+69 - 133+00	STH 128, LT & RT	458	458	0.5	18	-	16
148+50 - 150+00	STH 128, LT & RT	624	624	0.6	26	-	20
176+50 - 178+00	STH 128, LT & RT	444	444	0.5	19	-	16
212+50 - 214+00	STH 128, LT & RT	484	484	0.5	21	-	17
225+50 - 227+60	STH 128, LT & RT	929	929	0.9	38	-	29
--	UNDISTRIBUTED	993	993	1.0	39	200	30
	TOTALS =	4,800	4,800	5.0	200	200	160

SILT FENCE

STATION - STATION	LOCATION	628.1504 SILT FENCE (LF)	628.1520 SILT FENCE MAINTENANCE (LF)
106+00 - 107+50	STH 128, RT	175	350
116+50 - 118+00	STH 128, RT	166	332
131+50 - 133+00	STH 128, RT	182	364
148+50 - 150+00	STH 128, RT	207	414
176+50 - 178+00	STH 128, RT	205	410
212+50 - 214+00	STH 128, RT	173	346
224+50 - 226+16	STH 128, RT	181	362
226+73 - 227+04	STH 128, RT	35	70
224+50 - 226+16	STH 128, LT	178	356
226+73 - 228+52	STH 128, LT	187	374
--	UNDISTRIBUTED	411	822
	TOTAL =	2,100	4,200

CULVERT PIPE CHECKS

STATION	LOCATION	628.7555 (EACH)
106+64	STH 128, LT	7
117+14	STH 128, LT	3
132+39	STH 128, LT	3
147+14	STH 128, LT	3
149+14	STH 128, LT	5
171+13	STH 128, LT	3
177+06	STH 128, LT	3
196+38	STH 128, LT	7
213+04	STH 128, LT	3
--	UNDISTRIBUTED	13
	TOTAL =	50

TEMPORARY DITCH CHECKS

STATION	LOCATION	628.7504 (LF)
106+60	STH 128, LT	10
106+70	STH 128, LT	10
117+10	STH 128, LT	10
117+20	STH 128, LT	10
132+35	STH 128, LT	10
132+45	STH 128, LT	10
147+10	STH 128, LT	10
147+20	STH 128, LT	10
149+10	STH 128, LT	10
149+20	STH 128, LT	10
171+08	STH 128, LT	10
171+18	STH 128, LT	10
177+01	STH 128, LT	10
177+11	STH 128, LT	10
196+33	STH 128, LT	10
196+43	STH 128, LT	10
213+00	STH 128, LT	10
213+10	STH 128, LT	10
227+00	STH 128, RT	10
--	UNDISTRIBUTED	50
	TOTAL =	240

EROSION MAT CLASS II TYPE B

STATION	LOCATION	628.2023 (SY)
117+14	STH 128, RT	8
132+39	STH 128, RT	8
177+06	STH 128, RT	8
213+04	STH 128, RT	8
--	UNDISTRIBUTED	8
	TOTAL =	40

MARKERS CULVERT END

STATION	LOCATION	633.5200 (EACH)
39+70	STH 128, RT	1
52+14	STH 128, LT & RT	2
55+37	STH 128, LT & RT	2
106+64	STH 128, LT & RT	2
117+14	STH 128, LT & RT	2
132+39	STH 128, LT & RT	2
147+14	STH 128, LT & RT	2
149+14	STH 128, LT & RT	2
171+13	STH 128, LT & RT	2
177+06	STH 128, LT & RT	2
196+38	STH 128, LT & RT	2
213+04	STH 128, LT & RT	2
226+44	STH 128, LT & RT	4
	TOTAL =	27

CONSTRUCTION STAKING

STATION - STATION	LOCATION	650.4500 SUBGRADE (LF)	650.5000 BASE (LF)	650.8000 RESURFACING REFERENCE (LF)	650.9911 SUPPLEMENTAL CONTROL 01.7620-00-70 (LS)	650.9920 SLOPE STAKES (LF)
19+40 - 322+30	STH 128	--	--	27,600	--	--
106+00 - 107+50	STH 128	150	150	--	--	150
116+00 - 118+00	STH 128	200	200	--	--	200
131+60 - 133+00	STH 128	140	140	--	--	140
148+50 - 150+00	STH 128	150	150	--	--	150
176+50 - 178+00	STH 128	150	150	--	--	150
212+50 - 214+00	STH 128	150	150	--	--	150
225+50 - 227+60	STH 128	210	210	--	--	210
-	PROJECT	--	--	--	1	--
	TOTALS =	1,150	1,150	27,600	1	1,150

PAVEMENT MARKING (CONTINUED)

STATION - STATION	LOCATION	DESCRIPTION	643.3105 TEMPORARY MARKING LINE PAINT 4-INCH (LF)	643.3120 TEMPORARY MARKING LINE EPOXY 4-INCH (LF)	646.1040 MARKING LINE GROOVED WET REF EPOXY 4-INCH SOLID WHITE (LF)	646.1040 MARKING LINE GROOVED WET REF EPOXY 4-INCH DASHED WHITE (LF)	646.3545 MARKING LINE GROOVED WET REF CONTRAST EPOXY 8-INCH (LF)	646.6120 MARKING LINE SAME DAY EPOXY 4-INCH SOLID YELLOW (LF)	646.6120 MARKING LINE SAME DAY EPOXY 4-INCH DASHED YELLOW (LF)	646.6120 MARKING STOP LINE EPOXY 18-INCH (LF)
273+95 - 297+55	MAINLINE	NO PASSING	--	4705	--	--	--	4705	--	--
286+91 - 288+08	MAINLINE, RT.	WHITE EDGELINE	--	--	--	30	--	--	--	--
288+80 - 289+37	MAINLINE, LT	WHITE EDGELINE	--	--	--	15	--	--	--	--
288+85 - 322+30	MAINLINE, RT.	WHITE EDGELINE	--	--	3,400	--	--	--	--	--
289+37 - 322+30	MAINLINE, LT.	WHITE EDGELINE	--	--	3,300	--	--	--	--	--
297+55 - 308+45	MAINLINE	NB PASSING ONLY	--	1,390	--	--	--	1,090	300	--
308+45 - 320+92	MAINLINE	PASSING	--	315	--	--	--	--	315	--
320+92 - 322+30	MAINLINE	SB PASSING ONLY	--	180	--	--	--	140	40	--
-	PROJECT	YELLOW	55,200	--	--	--	--	--	--	--
	SUBTOTALS =		55,200	6,590	6,700	45	0	5,935	655	0
	PROJECT TOTALS =		59,000	36,800	53,800		370	36,800		80

MARKING REMOVAL LINE 4-INCH

STATION - STATION	LOCATION	646.9000 (LF)
223+75 - 229+25	STAGE 1	1100
223+75 - 229+25	STAGE 2	700
	TOTAL =	1,800

MOVING SIGNS AND SMALL SIGN SUPPORTS

STATION	LOCATION	SIGN CODE	SIGN MESSAGE	638.2102 MOVING SIGNS TYPE II (EACH)	638.4000 MOVING SMALL SIGN SUPPORTS (EACH)
106+45	STH 128, LT	W14-3	NO PASSING ZONE	1	1
148+75	STH 128, LT	W14-3	NO PASSING ZONE	1	1
227+02	STH 128, RT	W3-5	REDUCED SPEED AHEAD 45 MPH	1	1
			TOTALS =	3	3

SAWING ASPHALT

STATION - STATION	LOCATION	690.0150 (LF)
19+40	STH 128 - BEGIN PROJECT	160
236+35	STH 128 - END CONSTRUCTION	240
263+60	STH 128 - BEGIN CONSTRUCTION	30
322+30	STH 128 - END CONSTRUCTION	30
DWYS & SIDE ROADS	STH 128	590
CULVERT REPLACEMENTS	STH 128	200
	TOTAL =	1,250

TRAFFIC CONTROL

STATION	LOCATION	643.0300 TRAFFIC CONTROL DRUMS (DAY)	643.0420 TRAFFIC CONTROL BARRICADES TYPE III (DAY)	643.0715 TRAFFIC CONTROL WARNING LIGHTS TYPE C (DAY)	643.1050 SIGNS PCMS (DAY)	643.0900 TRAFFIC CONTROL SIGNS (DAY)	643.3850 TEMPORARY MARKING STOP LINE REMOVABLE TAPE 18-INCH (LF)	643.5000 TRAFFIC CONTROL (EACH)	661.0101 TEMPORARY TRAFFIC SIGNALS FOR BRIDGES 01.B-55-290 (EACH)
PROJECT	STH 128	-	-	-	14	1,120	-	1	-
PROJECT	ADVANCE WARNING	-	-	-	-	4,080	-	-	-
STAGE 1	STH 25	135	8	75	-	202.5	15	-	-
STAGE 2	STH 25	135	8	75	-	202.5	15	-	-
PROJECT	BRIDGE	-	-	-	-	-	-	-	1
	TOTALS =	270	16	150	14	5,605	30	1	1

LANDMARK REFERENCE MONUMENTS

APPROXIMATE STATION	APPROXIMATE OFFSET	SPV.0060.02 LANDMARK REFERENCE MONUMENTS SPECIAL (EACH)	SPV.0060.03 VERIFY LANDMARK REFERENCE MONUMENTS SPECIAL (EACH)	REMARKS
25+01	49' RT.	1	1	T28N, R15W, SW CORNER SECTION 28
51+37	2' RT.	1	1	T28N, R15W, E 1/4 CORNER SECTION 28
77+66	3' RT.	1	1	T28N, R15W, SW CORNER SECTION 22
104+10	1' LT.	1	1	T28N, R15W, E 1/4 CORNER SECTION 21
130+51	0'	1	1	T28N, R15W, SW CORNER SECTION 15
156+92	33' RT.	1	1	T28N, R15W, W 1/4 CORNER SECTION 15
183+33	11' RT.	1	1	T28N, R15W, SW CORNER SECTION 10
209+79	0'	1	1	T28N, R15W, E 1/4 CORNER SECTION 9
236+26	1' RT.	1	1	T28N, R15W, SE CORNER SECTION 3
262+61	1' LT.	1	1	T28N, R15W, W 1/4 CORNER SECTION 3
288+47	5' RT.	1	1	T28N, R15W, NW CORNER SECTION 3
314+72	0'	1	1	T29N, R15W, E 1/4 CORNER SECTION 33
	TOTALS =	12	12	

NOTES:
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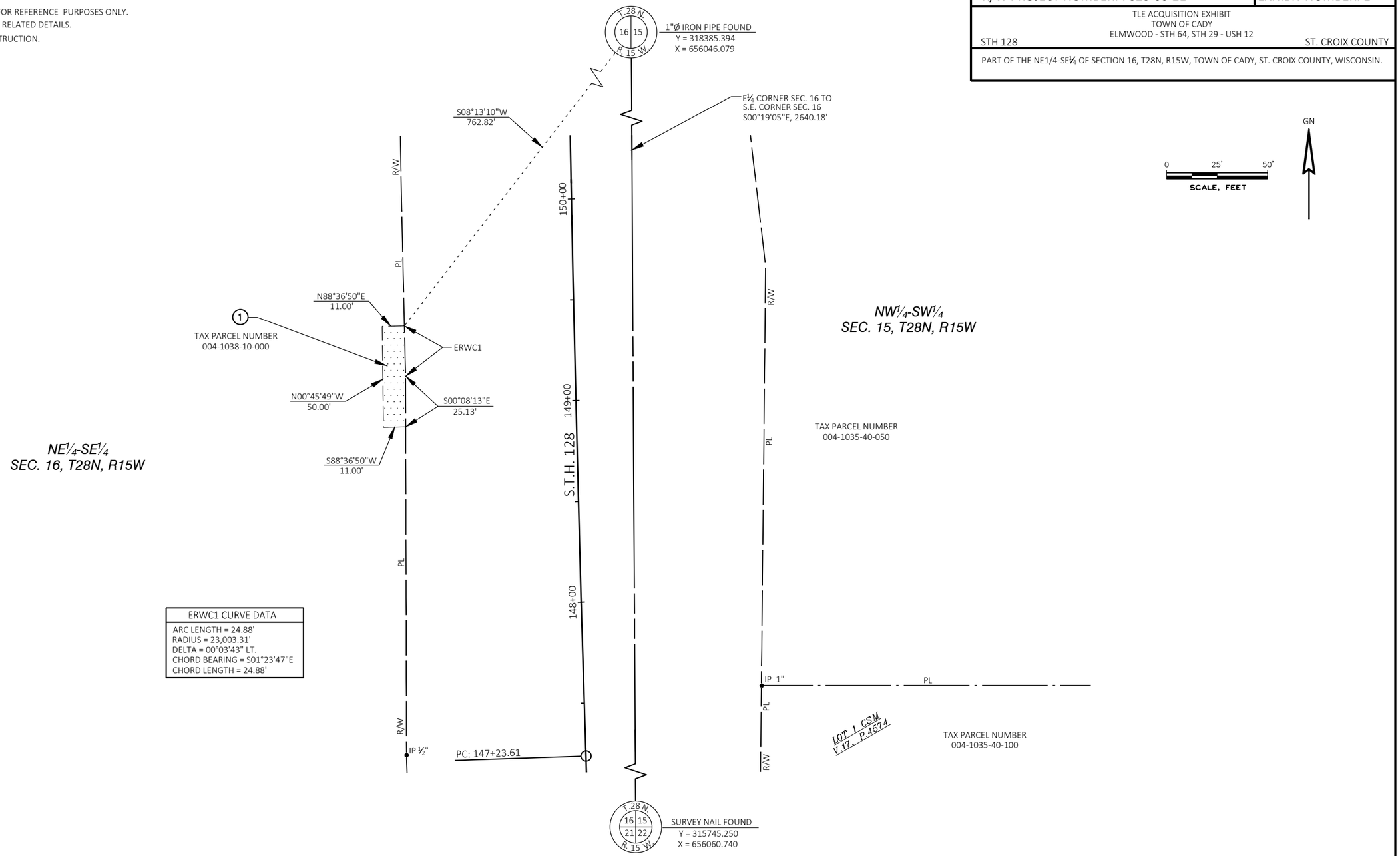
REFER TO THE CONVEYANCE DOCUMENT FOR PARCEL RELATED DETAILS.
THE PURPOSE OF THE TLE IS FOR CULVERT PIPE CONSTRUCTION.

R/W PROJECT NUMBER: 7620-00-21	EXHIBIT NUMBER: 1
TLE ACQUISITION EXHIBIT TOWN OF CADY ELMWOOD - STH 64, STH 29 - USH 12	
STH 128	ST. CROIX COUNTY
PART OF THE NE1/4-SE¼ OF SECTION 16, T28N, R15W, TOWN OF CADY, ST. CROIX COUNTY, WISCONSIN.	



ERWC1 CURVE DATA
ARC LENGTH = 24.88'
RADIUS = 23,003.31'
DELTA = 00°03'43" LT.
CHORD BEARING = S01°23'47"E
CHORD LENGTH = 24.88'

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 THE WISCONSIN DEPARTMENT OF TRANSPORTATION.

PARCEL NUMBER	OWNER(S)	INTEREST REQUIRED	TLE ACRES
1	JOSEFINA PROPERTIES, L.L.C., A MINNESOTA LIMITED LIABILITY COMPANY	TLE	0.013

UTILITY INTERESTS REQUIRED

UTILITY NUMBER	UTILITY OWNER	INTEREST REQUIRED
202	WEST WISCONSIN TELECOM	TEMPORARY CONSTRUCTION EASEMENT

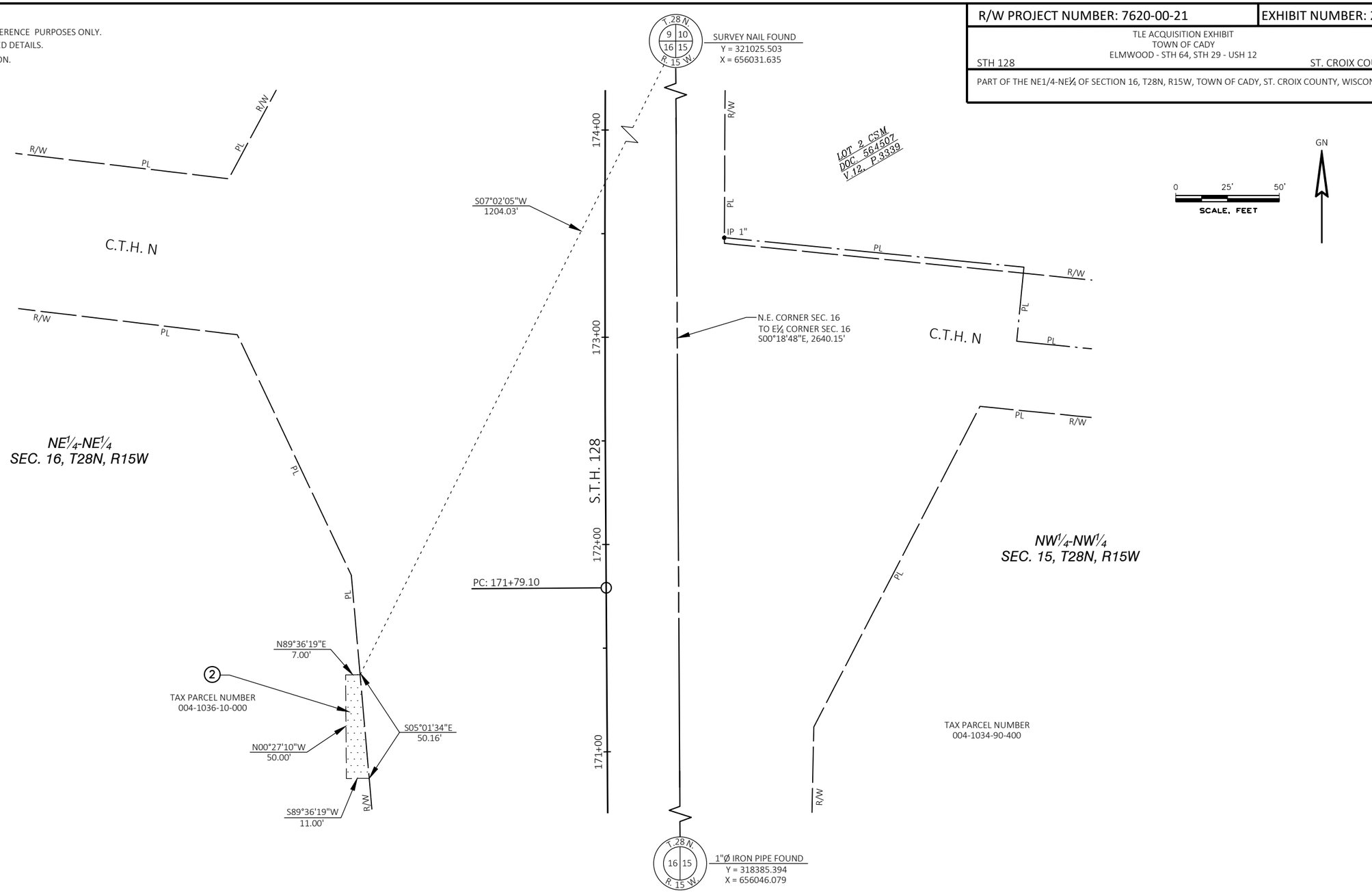
UTILITY EASEMENT TABLE

UTILITY NUMBER	OWNER	RECORDING INFORMATION	DESCRIPTION
202	WEST WISCONSIN TELECOM	DOC. 301111, V. 462, P. 492	30' WIDE EASEMENT CENTERED ON FIRST LINE INSTALLED IN THE E½-SE¼ OF SEC. 16
202	WEST WISCONSIN TELECOM	DOC. 374821, V. 639, P. 30	BLANKET EASEMENT E½-SE¼ OF SEC. 16

APPRAISAL PLAT DATE:
FILENAME: R:\Projects\W11600 STH 128 Culvert Replacement, St Croix Co\RW\7620-00-21 STH 128 TLE exhibit.dwg
PLOT DATE: 9/2/2021 6:42 PM
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 CULVERT PIPE CONSTRUCTION.

R/W PROJECT NUMBER: 7620-00-21	EXHIBIT NUMBER: 2
TLE ACQUISITION EXHIBIT TOWN OF CADY ELMWOOD - STH 64, STH 29 - USH 12	
STH 128	ST. CROIX COUNTY
PART OF THE NE1/4-NE¼ OF SECTION 16, T28N, R15W, TOWN OF CADY, ST. CROIX 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 THE WISCONSIN DEPARTMENT OF TRANSPORTATION.

PARCEL NUMBER	OWNER(S)	INTEREST REQUIRED	TLE ACRES
2	BEE COUNTY ROAD N HOLDINGS, LLC	TLE	0.010

UTILITY INTERESTS REQUIRED

UTILITY NUMBER	UTILITY OWNER	INTEREST REQUIRED
201	ST. CROIX ELECTRIC COOPERATIVE	TEMPORARY CONSTRUCTION EASEMENT
202	WEST WISCONSIN TELECOM	TEMPORARY CONSTRUCTION EASEMENT

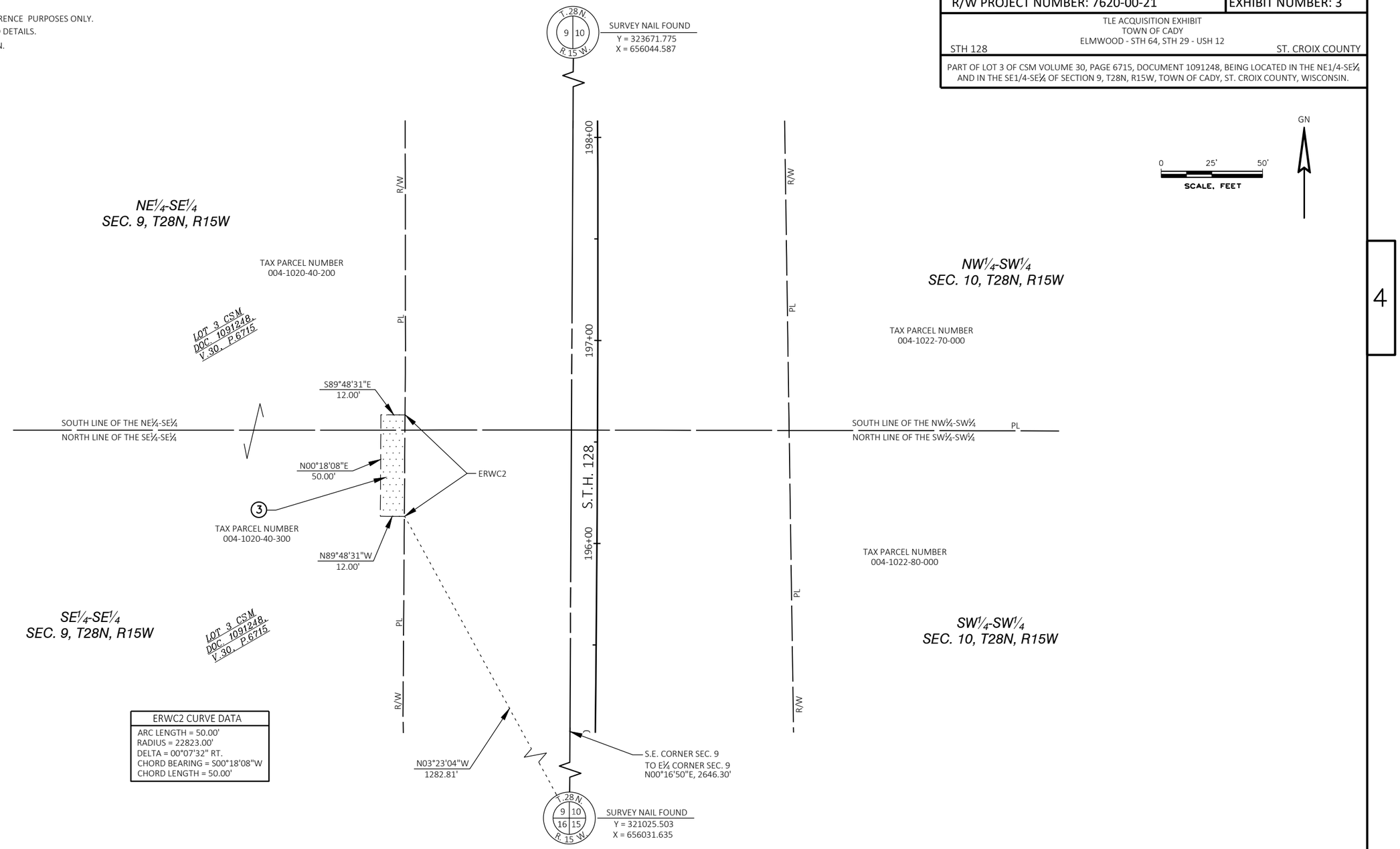
UTILITY EASEMENT TABLE

UTILITY NUMBER	OWNER	RECORDING INFORMATION	DESCRIPTION
201	ST. CROIX ELECTRIC COOPERATIVE	DOC. 1020305	BLANKET EASEMENT E½-NE¼ OF SEC. 16
202	WEST WISCONSIN TELECOM	DOC. 301110, V. 462, P. 491	30' WIDE EASEMENT CENTERED ON FIRST LINE INSTALLED IN THE E½-NE¼ OF SEC. 16
202	WEST WISCONSIN TELECOM	DOC. 374809, V. 639, P. 18	20' WIDE EASEMENT CENTERED ON FIRST LINE INSTALLED IN THE E½-NE¼ OF SEC. 16

APPRAISAL PLAT DATE:
FILENAME: R:\Projects\W11600 STH 128 Culvert Replacement, St Croix Co\RW\7620-00-21 STH 128 TLE exhibit.dwg
PLOT DATE: 9/2/2021 6:41 PM
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 CULVERT PIPE CONSTRUCTION.

R/W PROJECT NUMBER: 7620-00-21	EXHIBIT NUMBER: 3
TLE ACQUISITION EXHIBIT TOWN OF CADY ELMWOOD - STH 64, STH 29 - USH 12	
STH 128	ST. CROIX COUNTY
PART OF LOT 3 OF CSM VOLUME 30, PAGE 6715, DOCUMENT 1091248, BEING LOCATED IN THE NE1/4-SE¼ AND IN THE SE1/4-SE¼ OF SECTION 9, T28N, R15W, TOWN OF CADY, ST. CROIX COUNTY, WISCONSIN.	



ERWC2 CURVE DATA
ARC LENGTH = 50.00'
RADIUS = 22823.00'
DELTA = 00°07'32" RT.
CHORD BEARING = S00°18'08"W
CHORD LENGTH = 50.00'

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 THE WISCONSIN DEPARTMENT OF TRANSPORTATION.

PARCEL NUMBER	OWNER(S)	INTEREST REQUIRED	TLE ACRES
3	J&L SAILER'S PROPERTIES, LLC, A WISCONSIN LIMITED LIABILITY COMPANY	TLE	0.014

UTILITY INTERESTS REQUIRED

UTILITY NUMBER	UTILITY OWNER	INTEREST REQUIRED
202	WEST WISCONSIN TELECOM	TEMPORARY CONSTRUCTION EASEMENT

UTILITY EASEMENT TABLE

UTILITY NUMBER	OWNER	RECORDING INFORMATION	DESCRIPTION
202	WEST WISCONSIN TELECOM	DOC. 374819, V. 639, P. 28	BLANKET EASEMENT E½-SE¼ OF SEC. 9 EXCEPT THE SOUTH 452 FEET THEREOF

APPRAISAL PLAT DATE:
FILENAME: R:\Projects\W11600 STH 128 Culvert Replacement, St Croix Co\RW\7620-00-21 STH 128 TLE exhibit.dwg
PLOT DATE: 9/2/2021 6:41 PM
PLOT BY: Kraemer, Wes

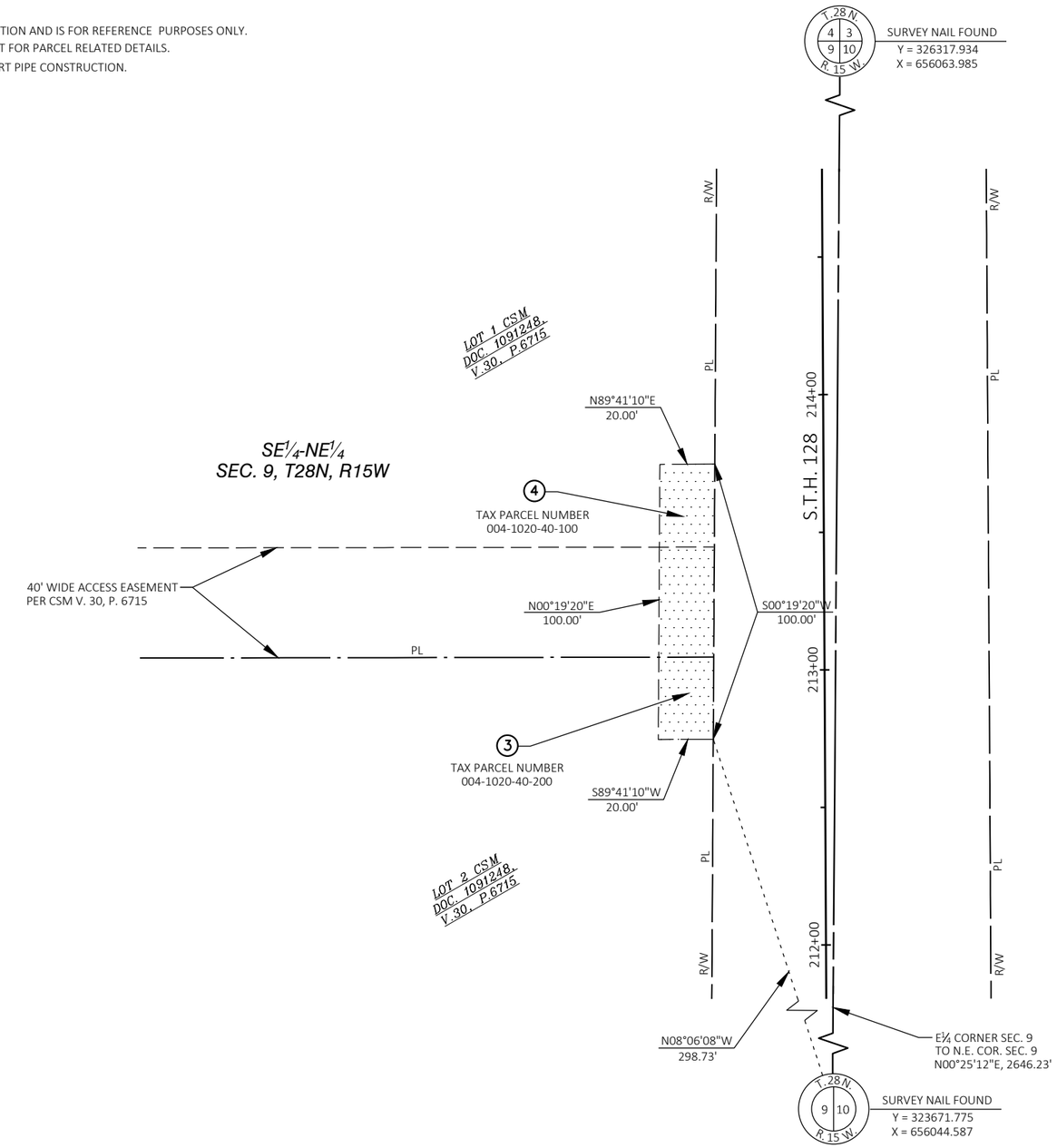
NOTES:
THIS EXHIBIT IS A GRAPHIC REPRESENTATION AND IS FOR REFERENCE PURPOSES ONLY.
REFER TO THE CONVEYANCE DOCUMENT FOR PARCEL RELATED DETAILS.
THE PURPOSE OF THE TLE IS FOR CULVERT PIPE CONSTRUCTION.

R/W PROJECT NUMBER: 7620-00-21	EXHIBIT NUMBER: 4

TLE ACQUISITION EXHIBIT
TOWN OF CADY
ELMWOOD - STH 64, STH 29 - USH 12

STH 128 — ST. CROIX COUNTY

PART OF LOTS 1 AND 2 OF CSM VOLUME 30, PAGE 6715, DOCUMENT 1091248, BEING LOCATED IN THE SE1/4-NE1/4 OF SECTION 9, T28N, R15W, TOWN OF CADY, ST. CROIX COUNTY, WISCONSIN.



GN

0 25' 50'
SCALE. FEET

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 THE WISCONSIN DEPARTMENT OF TRANSPORTATION.

PARCEL NUMBER	OWNER(S)	INTEREST REQUIRED	TLE ACRES
3	J&L SAILER'S PROPERTIES, LLC, A WISCONSIN LIMITED LIABILITY COMPANY	TLE	0.014
4	STOCKMAN DEVELOPMENT, INC. A WISCONSIN CORPORATION	TLE	0.032

UTILITY INTERESTS REQUIRED

UTILITY NUMBER	UTILITY OWNER	INTEREST REQUIRED
201	ST. CROIX ELECTRIC COOPERATIVE	TEMPORARY CONSTRUCTION EASEMENT
202	WEST WISCONSIN TELECOM	TEMPORARY CONSTRUCTION EASEMENT

UTILITY EASEMENT TABLE

UTILITY NUMBER	OWNER	RECORDING INFORMATION	DESCRIPTION
201	ST. CROIX ELECTRIC COOPERATIVE	DOC. 190178A, V. 251, P. 288	BLANKET EASEMENT NE¼ OF SEC. 9 & SW¼-NW¼ OF SEC. 10
202	WEST WISCONSIN TELECOM	DOC. 374819, V. 639, P. 28	BLANKET EASEMENT E½-NE¼ C

APPRAISAL PLAT DATE:

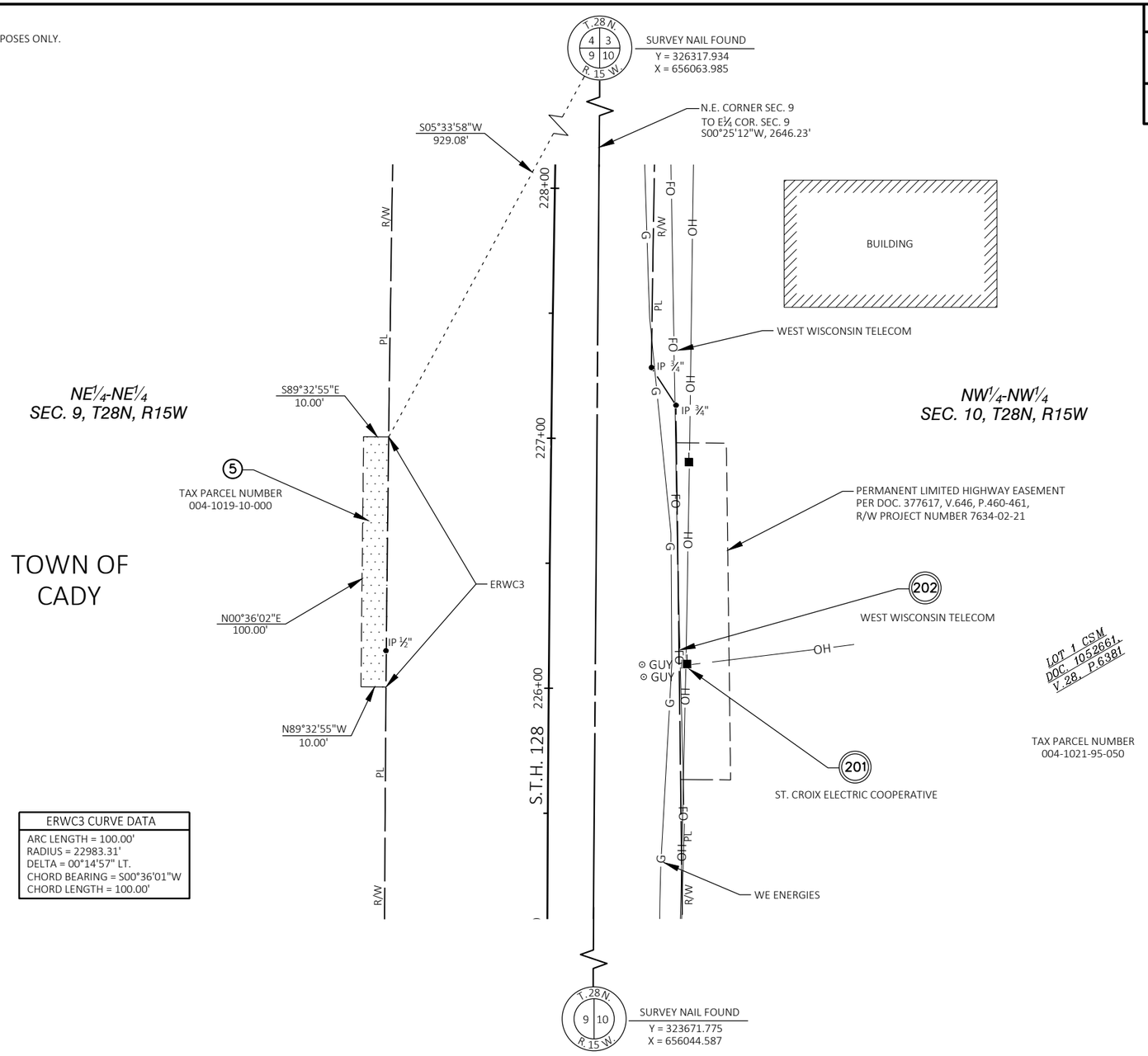
FILENAME: R:\Projects\W11600 STH 128 Culvert Replacement, St Croix Co\RW\7620-00-21 STH 128 TLE exhibit.dwg

PLOT DATE: 9/2/2021 6:34 PM

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 CULVERT PIPE CONSTRUCTION.

R/W PROJECT NUMBER: 7620-00-21	EXHIBIT NUMBER: 5
TLE ACQUISITION EXHIBIT TOWN OF CADY ELMWOOD - STH 64, STH 29 - USH 12	
STH 128	ST. CROIX COUNTY
PART OF THE NE1/4-NE1/4 OF SECTION 9, T28N, R15W, TOWN OF CADY, ST. CROIX COUNTY, WISCONSIN.	



ERWC3 CURVE DATA
ARC LENGTH = 100.00'
RADIUS = 22983.31'
DELTA = 00°14'57" LT.
CHORD BEARING = S00°36'01"W
CHORD LENGTH = 100.00'

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 THE WISCONSIN DEPARTMENT OF TRANSPORTATION.

PARCEL NUMBER	OWNER(S)	INTEREST REQUIRED	TLE ACRES
5	MERRY STOCKMAN, INDIVIDUALLY	TLE	0.023

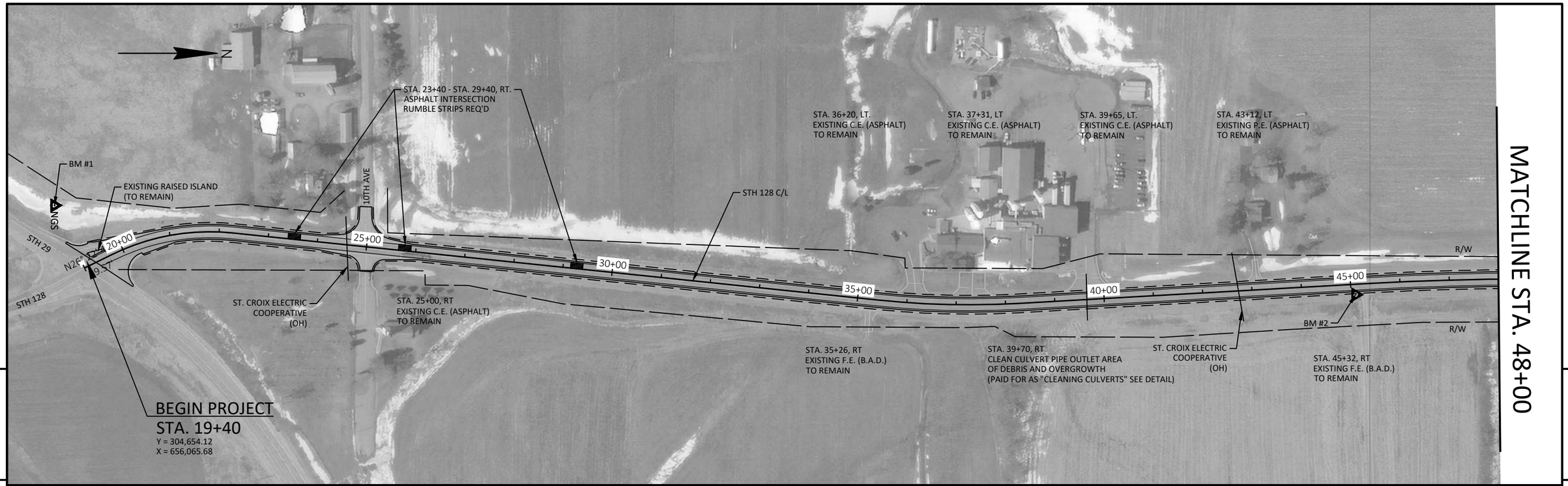
UTILITY INTERESTS REQUIRED

UTILITY NUMBER	UTILITY OWNER	INTEREST REQUIRED
201	ST. CROIX ELECTRIC COOPERATIVE	RELEASE OF RIGHTS
202	WEST WISCONSIN TELECOM	RELEASE OF RIGHTS

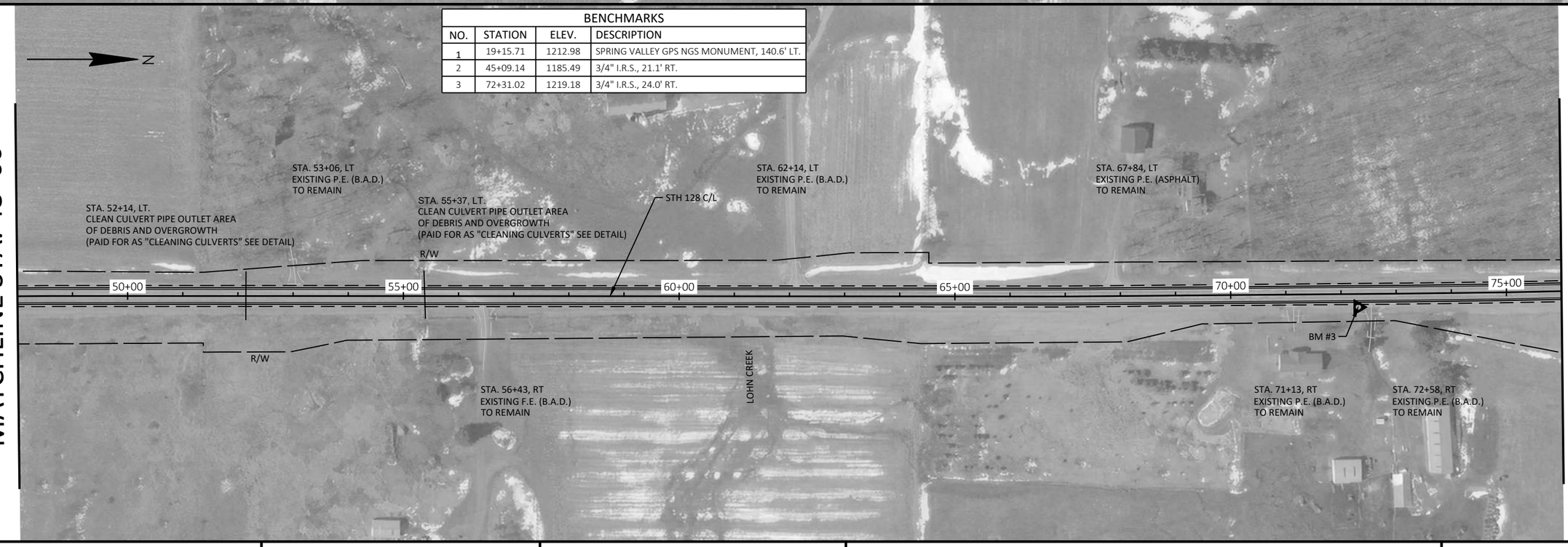
UTILITY EASEMENT TABLE

UTILITY NUMBER	OWNER	RECORDING INFORMATION	DESCRIPTION
201	ST. CROIX ELECTRIC COOPERATIVE	DOC. 190918A, V. 256, P. 13	BLANKET EASEMENT NW¼-NW¼ OF SEC. 10
201	ST. CROIX ELECTRIC COOPERATIVE	DOC. 1037585	BLANKET EASEMENT NW¼-NW¼ OF SEC. 10
201	ST. CROIX ELECTRIC COOPERATIVE	DOC. 190178A, V. 251, P. 288	BLANKET EASEMENT NE¼ OF SEC. 9
202	WEST WISCONSIN TELECOM	DOC. 374819, V. 639, P. 28	BLANKET EASEMENT E½-NE¼ C

APPRAISAL PLAT DATE:
FILENAME: R:\Projects\W11600 STH 128 Culvert Replacement, St Croix Co\RW\7620-00-21 STH 128 TLE exhibit.dwg
PLOT DATE: 9/2/2021 6:34 PM
PLOT BY: Kraemer, Wes



BENCHMARKS			
NO.	STATION	ELEV.	DESCRIPTION
1	19+15.71	1212.98	SPRING VALLEY GPS NGS MONUMENT, 140.6' LT.
2	45+09.14	1185.49	3/4" I.R.S., 21.1' RT.
3	72+31.02	1219.18	3/4" I.R.S., 24.0' RT.



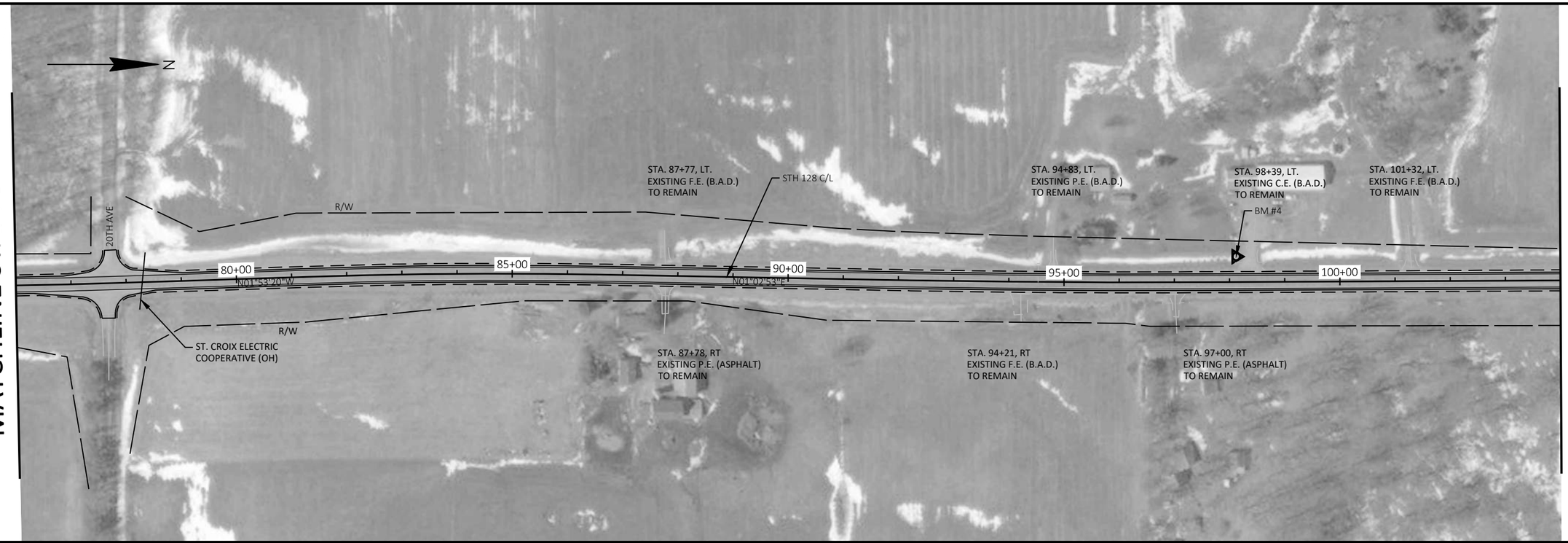
PROJECT NO: 7620-00-70	HWY: STH 128	COUNTY: ST. CROIX	PLAN DETAILS	SHEET 58	E

MATCHLINE STA. 76+00

MATCHLINE STA. 104+00

5

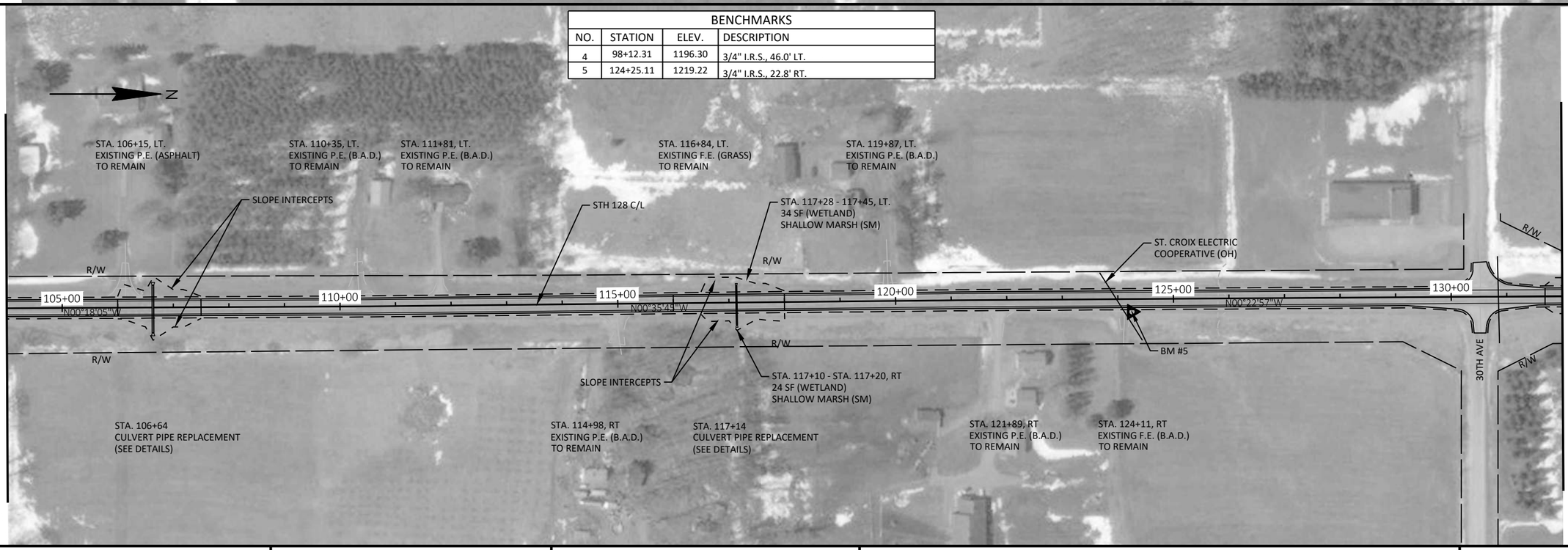
5



BENCHMARKS			
NO.	STATION	ELEV.	DESCRIPTION
4	98+12.31	1196.30	3/4" I.R.S., 46.0' LT.
5	124+25.11	1219.22	3/4" I.R.S., 22.8' RT.

MATCHLINE STA. 104+00

MATCHLINE STA. 132+00



PROJECT NO: 7620-00-70	HWY: STH 128	COUNTY: ST. CROIX	PLAN DETAILS	SHEET 59	E

MATCHLINE STA. 132+00

MATCHLINE STA. 160+00

N

STA. 138+59, LT.
EXISTING P.E. (B.A.D.)
TO REMAIN

STA. 149+14
CULVERT PIPE REPLACEMENT
SEE DETAILS

STH 128 C/L

TLE

BM #6

R/W

135+00

140+00

145+00

150+00

155+00

160

N01°51'12"W

N00°18'18"W

SLOPE INTERCEPTS

STA. 135+41, RT
EXISTING P.E. (B.A.D.)
TO REMAIN

STA. 136+87, RT
EXISTING P.E. (B.A.D.)
TO REMAIN

STA. 132+39
CULVERT PIPE REPLACEMENT
(SEE DETAILS)

STA. 144+05, RT
EXISTING P.E. (B.A.D.)
TO REMAIN

STA. 147+14
CLEANING CULVERT PIPES FOR LINER VERIFICATION REQ'D
CULVERT PIPE LINER 24-INCH REQ'D
(SEE DETAILS)

STA. 151+61, RT
EXISTING P.E. (B.A.D.)
TO REMAIN

STA. 159+65, RT
EXISTING P.E. (B.A.D.)
TO REMAIN

5

5

BENCHMARKS			
NO.	STATION	ELEV.	DESCRIPTION
6	151+90.92	1217.54	3/4" I.R.S., 20.8' LT
7	178+07.21	1237.25	3/4" I.R.S., 33.5' RT

MATCHLINE STA. 160+00

MATCHLINE STA. 188+00

N

STA. 177+06
CULVERT PIPE REPLACEMENT
(SEE DETAILS)

STA. 164+35, LT.
EXISTING F.E. (B.A.D.)
TO REMAIN

STH 128 C/L

TLE

CTH N

SLOPE INTERCEPTS

STA. 180+51, LT.
EXISTING C.E. (B.A.D.)
TO REMAIN

STA. 186+92, LT.
EXISTING P.E. (B.A.D.)
TO REMAIN

R/W

+00

165+00

170+00

175+00

180+00

185+00

N00°23'41"W

N01°34'37"E

GPS

BM #7

STA. 171+13
CLEANING CULVERT PIPES FOR LINER VERIFICATION REQ'D
CULVERT PIPE LINER 24-INCH REQ'D
(SEE DETAILS)

STA. 178+20, RT
EXISTING P.E. (B.A.D.)
TO REMAIN

PROJECT NO: 7620-00-70	HWY: STH 128	COUNTY: ST. CROIX	PLAN DETAILS	SHEET 60	E

MATCHLINE STA. 188+00

MATCHLINE STA. 216+00

5

5

N

STA. 188+12, LT.
EXISTING F.E. (B.A.D.)
TO REMAIN

PC: 191+08.72

PT: 198+67.77

TLE

R/W

190+00

195+00

200+00

205+00

210+00

215+00

STH 128 C/L

STA. 207+63, LT.
EXISTING C.E. (ASPHALT)
TO REMAIN

SLOPE INTERCEPTS

STA. 213+29, LT.
EXISTING C.E. (ASPHALT)
TO REMAIN

N00°18'50"W

R/W

STA. 191+29, RT
EXISTING P.E. (B.A.D.)
TO REMAIN

STA. 196+38
CLEANING CULVERT PIPES FOR LINER VERIFICATION REQ'D
CULVERT PIPE LINER 36-INCH REQ'D
(SEE DETAILS)

ST. CROIX ELECTRIC
COOPERATIVE (OH)

STA. 203+41, RT
EXISTING F.E. (B.A.D.)
TO REMAIN

BM #8

STA. 210+05, RT
EXISTING F.E. (B.A.D.)
TO REMAIN

STA. 213+04
CULVERT PIPE REPLACEMENT
SEE DETAILS

N

BENCHMARKS			
NO.	STATION	ELEV.	DESCRIPTION
8	204+48.61	1263.75	3/4" I.R.S., 21.9' RT.
9	223+34.69	1213.50	3/4" I.R.S., 21.6' RT.
10	226+86.02	1209.44	3/4" I.R.S., 18.7' LT.
11	229+57.44	1212.41	3/4" I.R.S., 21.9' RT.
12	226+09.72	1204.01	COTTON GIN SPIKE IN POWER POLE, 54.6' RT.
13	226+90.24	1204.04	COTTON GIN SPIKE IN POWER POLE, 54.8' RT.

STA. 225+72 - STA. 227+17, LT. & RT.
REMOVING GUARDRAIL REQ'D.

PC: 222+92.85

CADY CREEK

STH 128 C/L

STA. 226+00 - STA. 227+00, LT.
CLEARING & GRUBBING REQUIRED

BM #10

SLOPE INTERCEPTS

PT: 231+02.59

PI: 236+36.24

R/W

220+00

225+00

230+00

N01°43'12"E

235+00

240+00

245+0

FO

FO

FO

CAUTION

WE ENERGIES

R/W

PLHE

BM #9

BM #11

WEST WISCONSIN TELECOM

BM #13

STA. 219+49, RT
EXISTING P.E. (ASPHALT)
TO REMAIN

ST. CROIX ELECTRIC
COOPERATIVE (OH)

BM #12

CADY CREEK

STA. 225+00 - STA. 227+00, RT.
CLEARING & GRUBBING REQUIRED

STA. 231+22, RT
EXISTING C.E. (ASPHALT)
TO REMAIN

50TH AVE.

END CONSTRUCTION
STA 236+35
BEGIN EXCEPTION TO NET
CENTERLINE LENGTH

STA. 224+24, RT
EXISTING F.E. (B.A.D.)
TO REMAIN

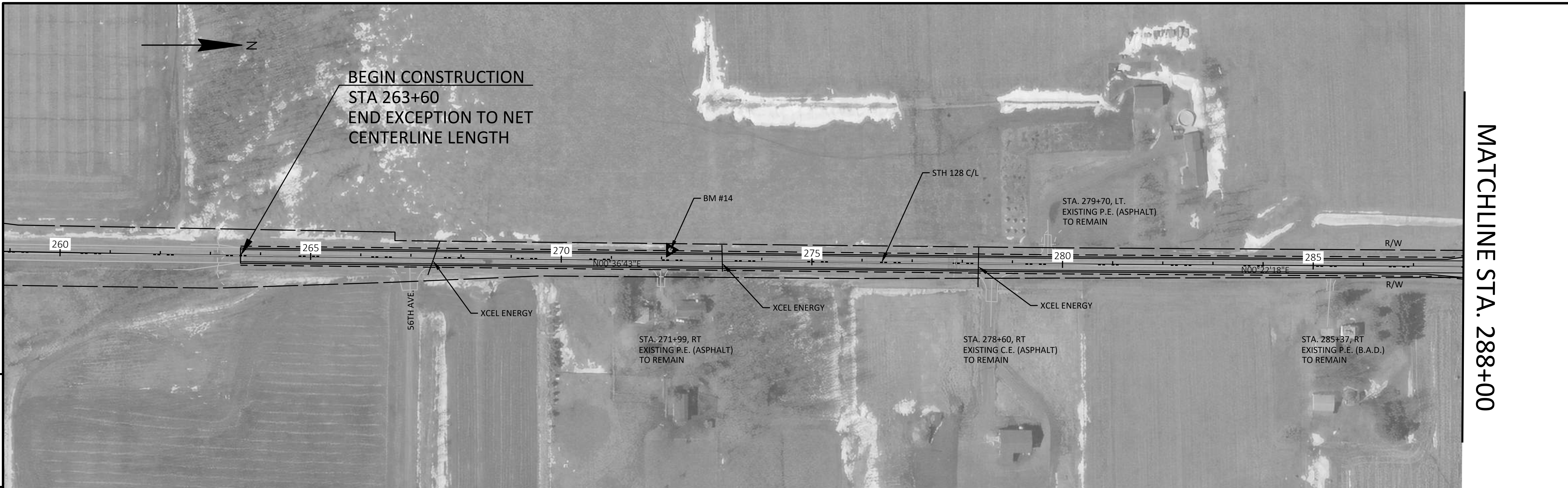
STA. 226+44
(3) CULVERT PIPE REINFORCED CONCRETE HORIZONTAL
ELLIPTICAL CLASS HE-IV 72X113-INCH
(6) APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE
HORIZONTAL ELLIPTICAL 72X113-INCH REQ'D
(4) MARKERS CULVERT END REQ'D
(SEE DETAIL & STRUCTURE PLAN)

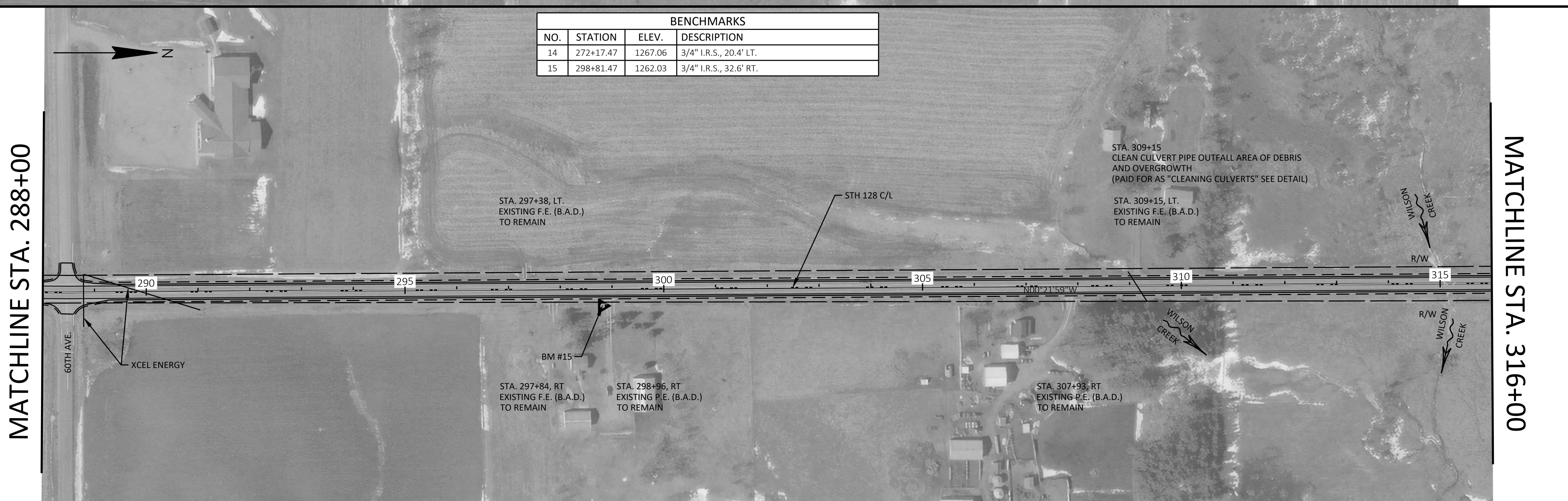
PROJECT NO: 7620-00-70	HWY: STH 128	COUNTY: ST. CROIX	PLAN DETAILS	SHEET 61	E

FILE NAME : R:\PROJECTS\W11600 STH 128 CULVERT REPLACEMENT, ST CROIX CO\SHEETSPLAN\PLAN & PROFILE SHEETS\MAINLINE P&P 4.DWG
LAYOUT NAME - STH 128 P&P

PLOT DATE : 11/28/2022 1:08 PM PLOT BY : JEFF SMITH PLOT NAME : PLOT SCALE : 1 IN:200 FT

WISDOT/CADDS SHEET 44



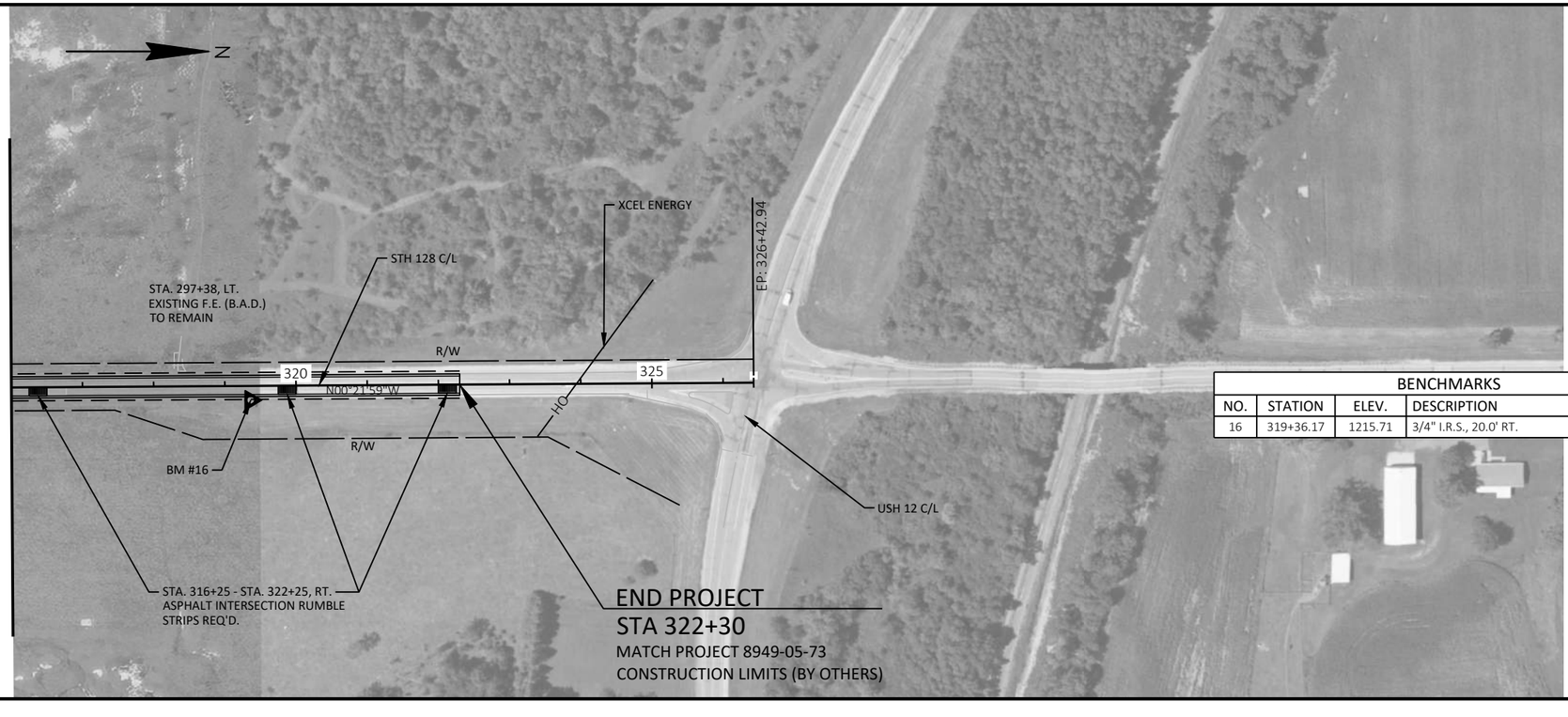


BENCHMARKS

NO.	STATION	ELEV.	DESCRIPTION
14	272+17.47	1267.06	3/4" I.R.S., 20.4' LT.
15	298+81.47	1262.03	3/4" I.R.S., 32.6' RT.

PROJECT NO: 7620-00-70	HWY: STH 128	COUNTY: ST. CROIX	PLAN DETAILS	SHEET 62	E

MATCHLINE STA. 316+00



BENCHMARKS			
NO.	STATION	ELEV.	DESCRIPTION
16	319+36.17	1215.71	3/4" I.R.S., 20.0' RT.

5

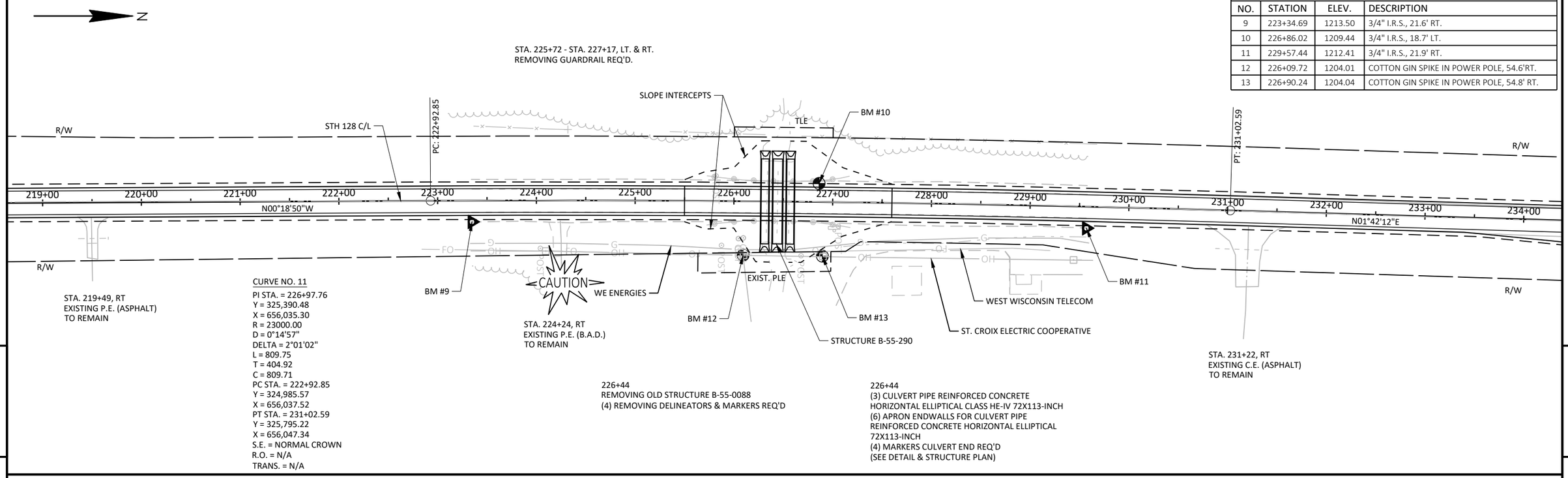
5

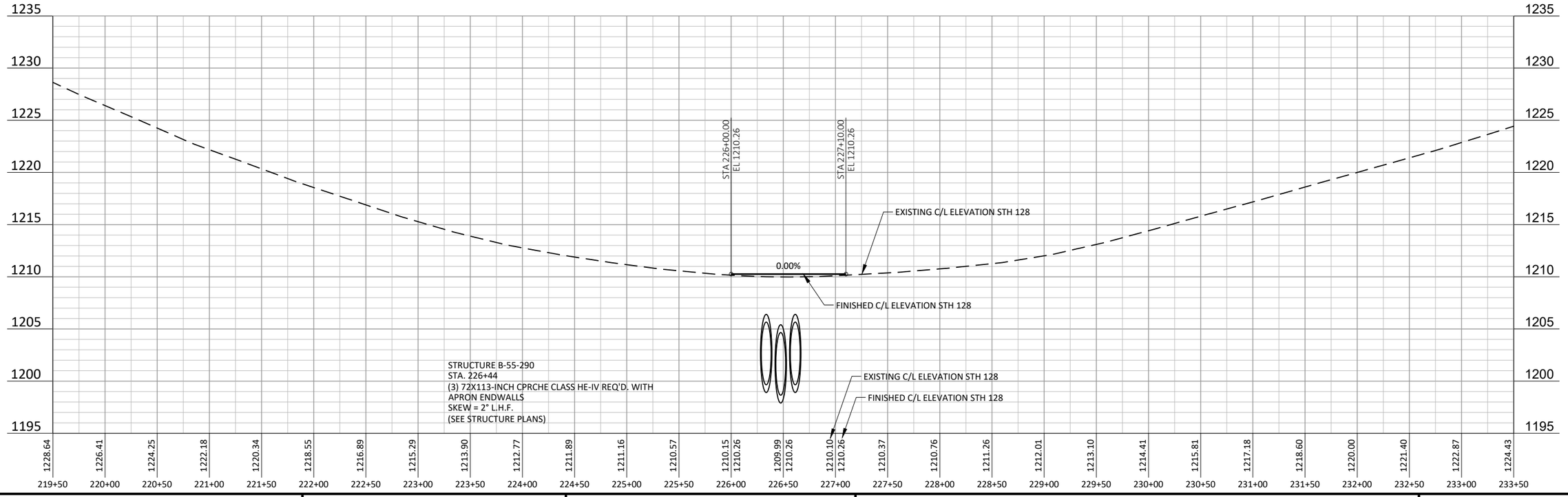
PROJECT NO: 7620-00-70	HWY: STH 128	COUNTY: ST. CROIX	PLAN DETAILS	SHEET 63	E

FILE NAME : R:\PROJECTS\W11600 STH 128 CULVERT REPLACEMENT, ST CROIX CO\SHEETSPLAN\PLAN & PROFILE SHEETS\MAINLINE P&P 6.DWG
LAYOUT NAME - Mainline P&P 6

PLOT DATE : 9/9/2022 1:24 PM PLOT BY : KARTER ZAJICEK PLOT NAME : PLOT SCALE : ###########

BENCHMARKS			
NO.	STATION	ELEV.	DESCRIPTION
9	223+34.69	1213.50	3/4" I.R.S., 21.6' RT.
10	226+86.02	1209.44	3/4" I.R.S., 18.7' LT.
11	229+57.44	1212.41	3/4" I.R.S., 21.9' RT.
12	226+09.72	1204.01	COTTON GIN SPIKE IN POWER POLE, 54.6'RT.
13	226+90.24	1204.04	COTTON GIN SPIKE IN POWER POLE, 54.8' RT.





PROJECT NO: 7620-00-70	HWY: STH 128	COUNTY: ST. CROIX	PLAN AND PROFILE: STRUCTURE B-55-290	SHEET 64	E

FILE NAME : R:\PROJECTS\W11600 STH 128 CULVERT REPLACEMENT, ST CROIX CO\SHEETSPLAN\PLAN & PROFILE SHEETS\PLAN PROFILE B-55-0088.DWG
LAYOUT NAME - 1
PLOT DATE : 9/9/2022 1:24 PM
PLOT BY : KARTER ZAJICEK
PLOT NAME :
PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 44

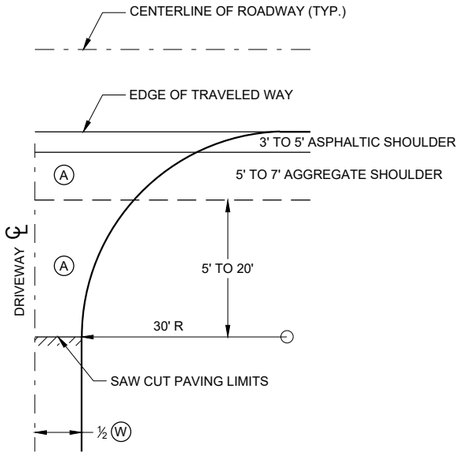
Standard Detail Drawing List

08D22-01	DRIVEWAYS WITHOUT CURB & GUTTER RESURFACING PROJECTS RURAL
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E15-01	CULVERT PIPE CHECK
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
09G02-05A	BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION
09G02-05B	BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION
09G02-05C	BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION
13A08-01	ASPHALTIC RUMBLE STRIPS AT INTERSECTION
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"
14B07-16N	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B08-02A	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-02B	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-02C	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-02D	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-02E	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
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
15C08-22A	LONGITUDINAL MARKING (MAINLINE)
15C08-22C	PAVEMENT MARKING (TURN LANES)
15C08-22D	PAVEMENT MARKING (TURN LANES)
15C11-09A	CHANNELIZING DEVICES FLEXIBLE TUBULAR MARKER POST
15C11-09B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS
15C12-09A	TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION
15C19-07A	MOVING PAVEMENT MARKING OPERATION TWO-LANE TWO-WAY ROADWAY
15C33-04	STOP LINE AND CROSSWALK PAVEMENT MARKING
15C35-05A	PAVEMENT MARKING (INTERSECTIONS)
15D33-07	TRAFFIC CONTROL, ONE LANE ROAD WITH TEMPORARY SIGNALS
15D44-02	TRAFFIC CONTROL, SIGNING ON ROADWAYS WITH MILLED SURFACES
15D48-01	TRAFFIC CONTROL, LANE SHIFT IN FLAGGING OPERATION

6

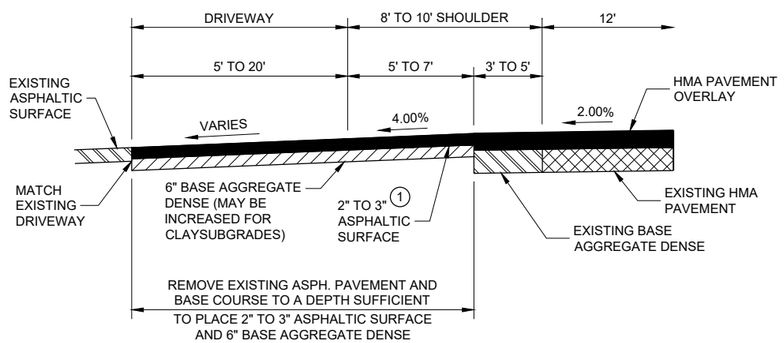
GENERAL NOTES

(1) DESIGN WILL DETERMINE FINAL DRIVEWAY ASPHALTIC THICKNESS BASED ON TYPE OF USAGE AND LOADINGS.



PLAN VIEW

HALF SECTION



PROFILE VIEW

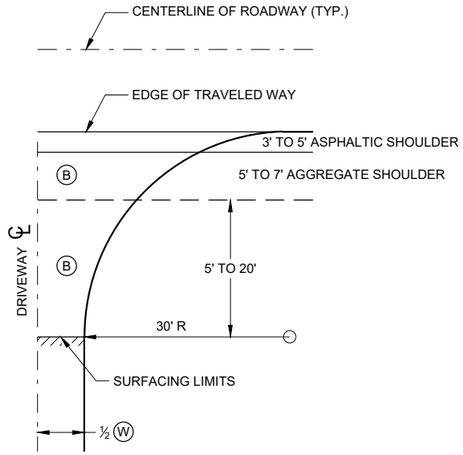
RURAL ENTRANCE WITH ASPHALTIC SURFACE

RESURFACING PROJECTS

(A) : PAID FOR AS ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES. (TON)

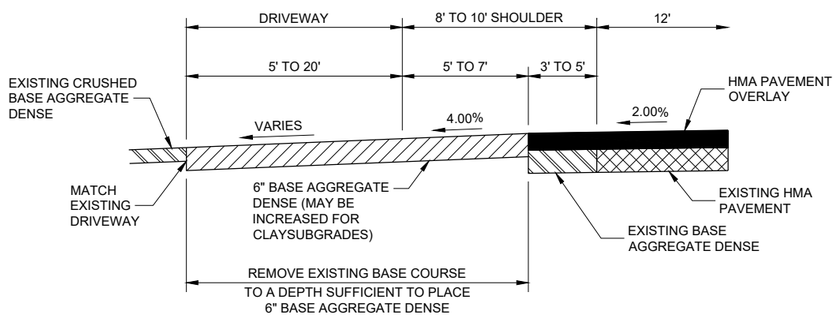
(B) : PAID FOR AS BASE AGGREGATE DENSE 1 ¼" (TON)

(W) : DRIVEWAY WIDTH 16' MIN. - 24' MAX.



PLAN VIEW

HALF SECTION



PROFILE VIEW

RURAL ENTRANCE WITH AGGREGATE SURFACE

6" BASE AGGREGATE DENSE

RESURFACING PROJECTS

DRIVEWAYS WITHOUT CURB AND GUTTER RESURFACING PROJECTS RURAL

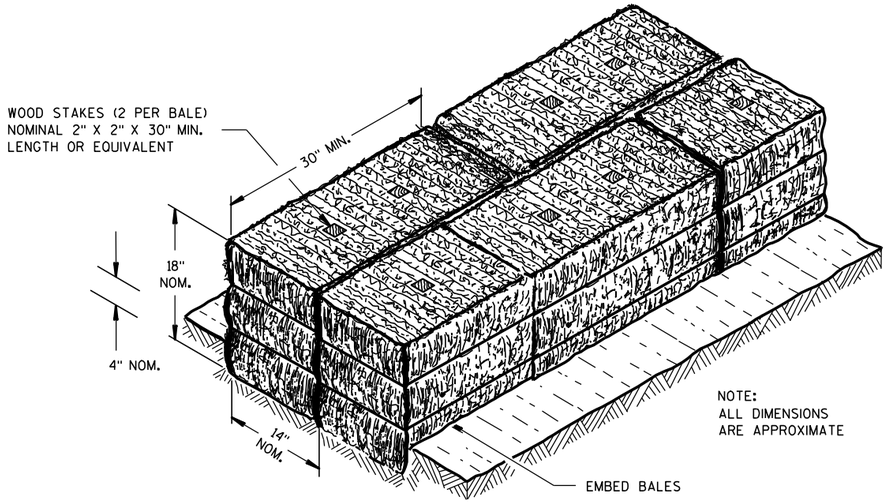
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
December 2016 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVE ENGINEER

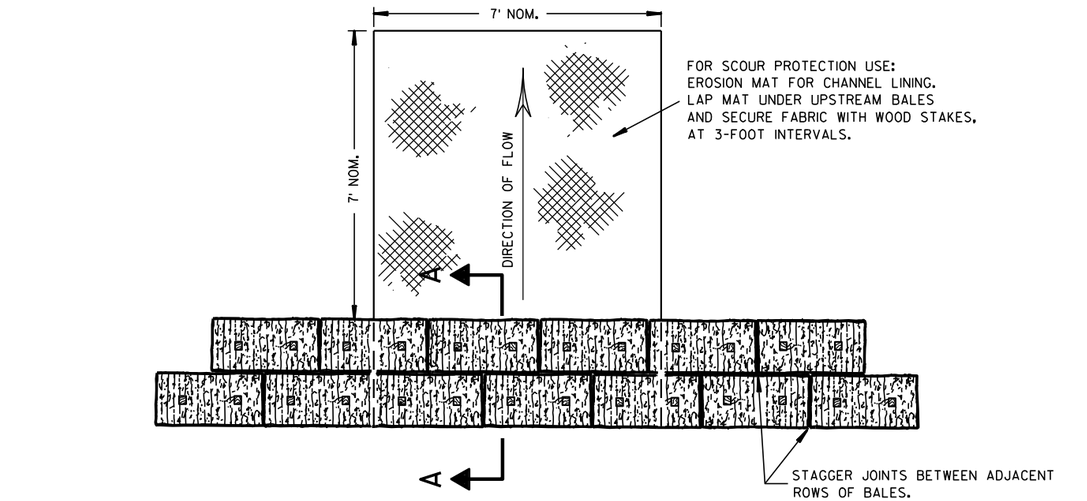
FHWA

6

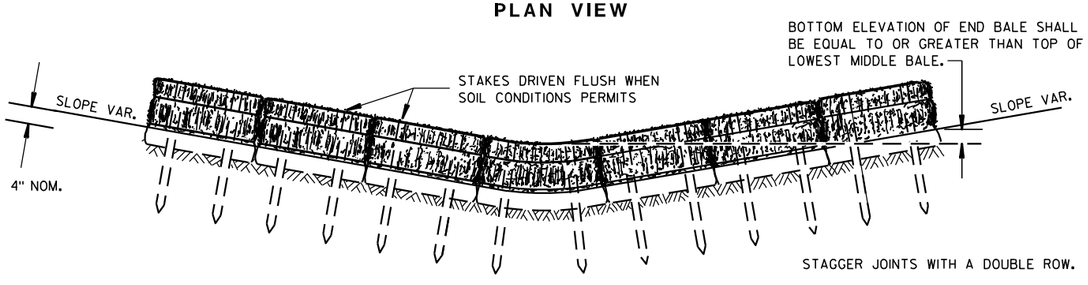
SDD 08D22 - 01



SECTION A-A



PLAN VIEW



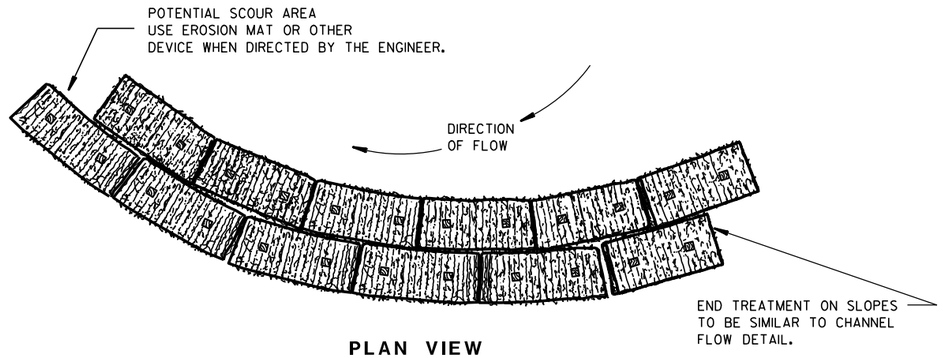
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES (1)

GENERAL NOTES

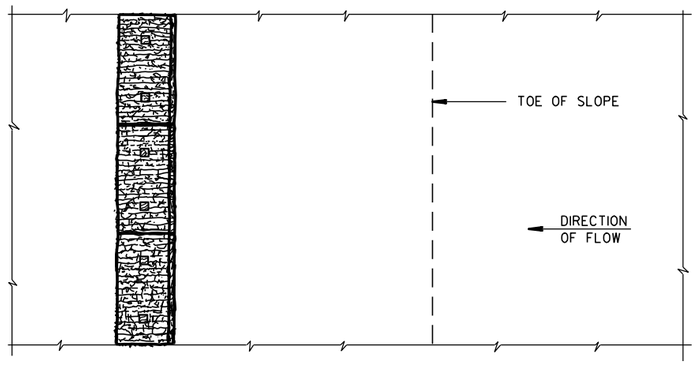
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

(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.

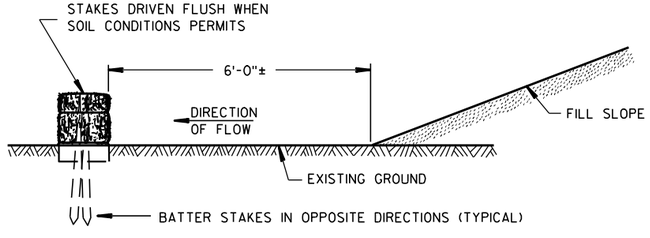


PLAN VIEW

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 Cannestra — CHIEF ROADWAY DEVELOPMENT ENGINEER

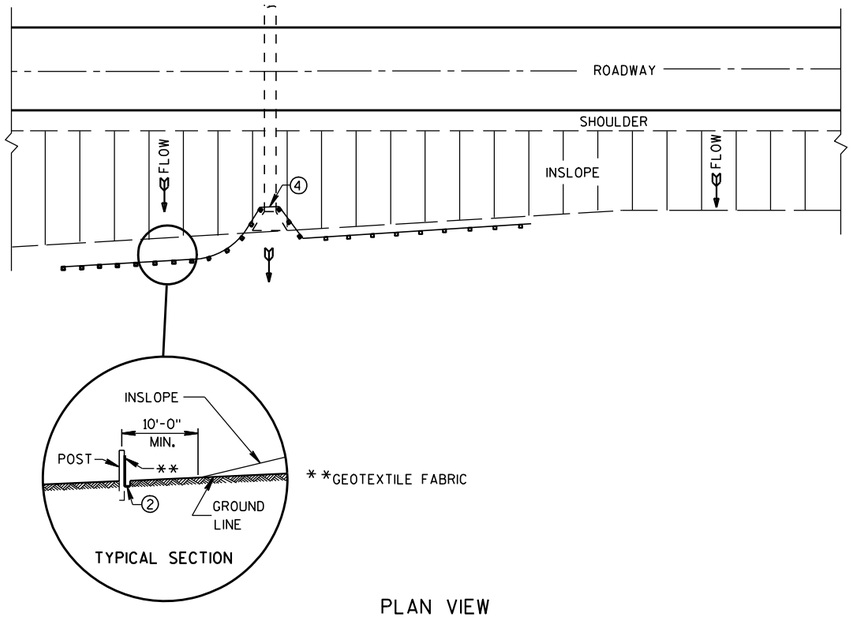
FHWA

6

S.D.D. 8 E 8-3

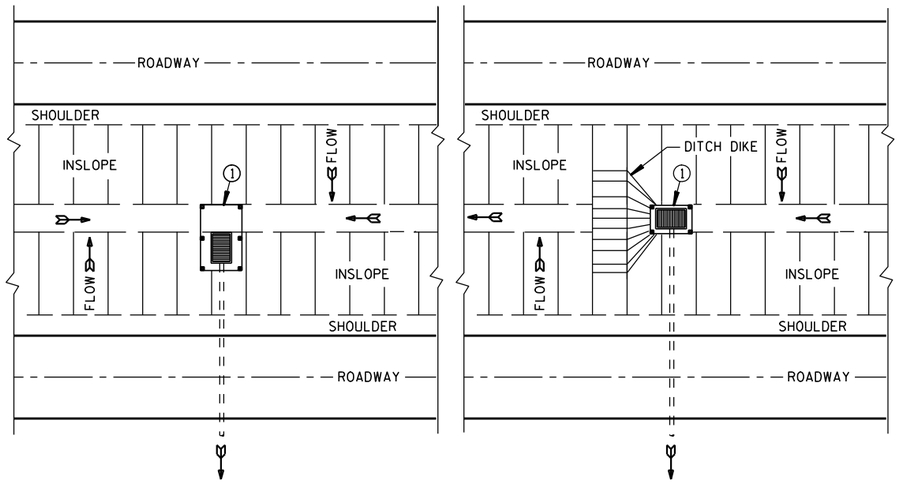
6

S.D.D. 8 E 8-3



PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



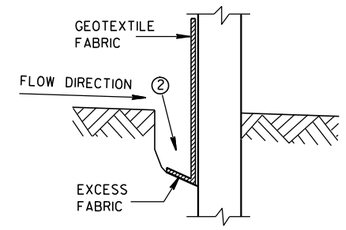
PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

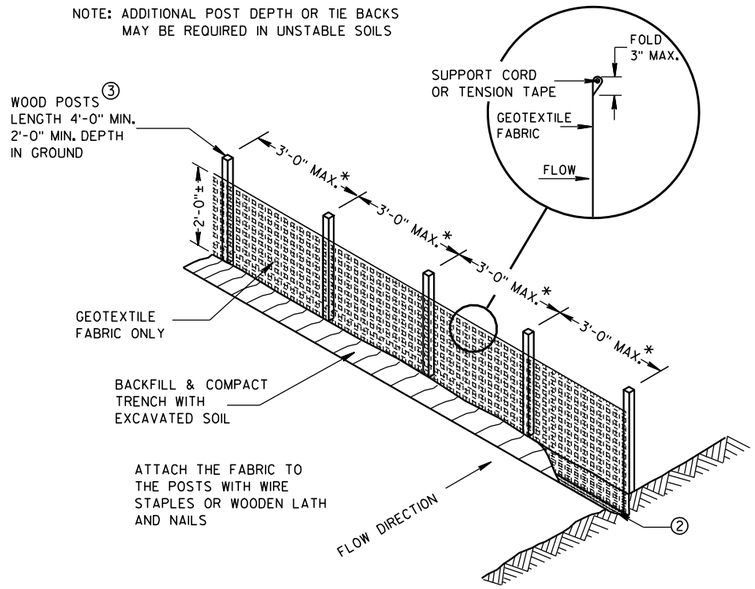
GENERAL NOTES

DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

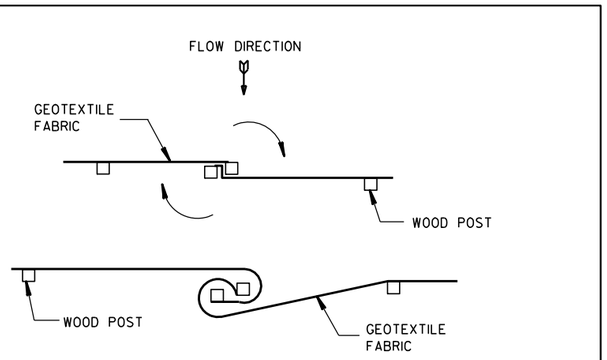
1. HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
2. FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
3. WOOD POSTS SHALL BE A MINIMUM SIZE OF 1⅛" X 1⅛" 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.



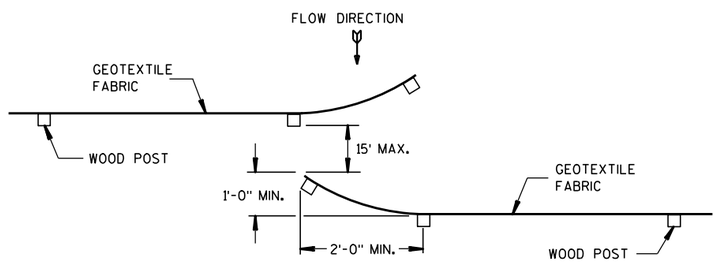
TRENCH DETAIL



SILT FENCE

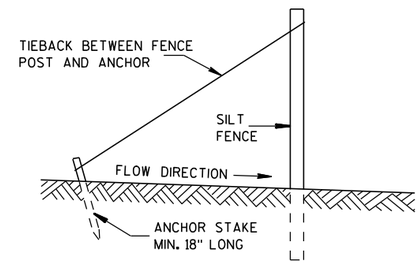


TWIST METHOD



HOOK METHOD

JOINING TWO LENGTHS OF SILT FENCE 5



SILT FENCE TIE BACK

(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
4-29-05 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

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S.D.D. 8 E 9-6

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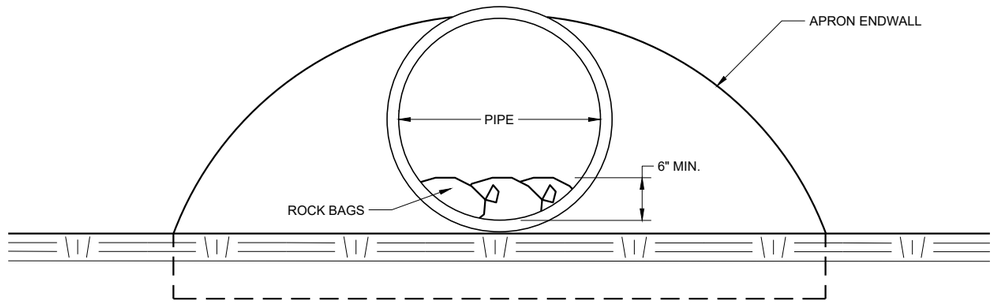
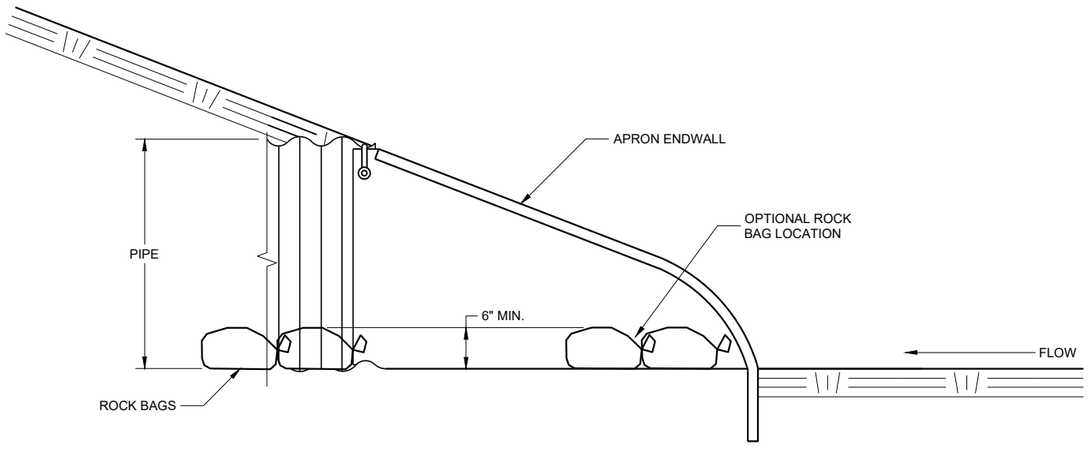
S.D.D. 8 E 9-6



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	

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SDD 08E15 - 01

METAL APRON ENDWALLS

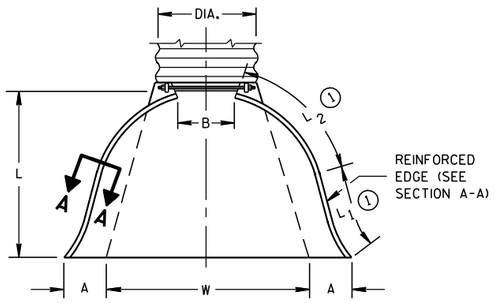
PIPE DIA. (IN.)	MIN. THICK. (Inches) STEEL	MIN. THICK. (Inches) ALUM.	DIMENSIONS (Inches) A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")	APPROX. SLOPE	BODY
12	.064	.060	6	6	6	21	12	17 1/2	24	2 1/2 to 1	1 Pc.
15	.064	.060	7	8	6	26	14	21 3/4	30	2 1/2 to 1	1 Pc.
18	.064	.060	8	10	6	31	15	28 1/4	36	2 1/2 to 1	1 Pc.
21	.064	.060	9	12	6	36	18	29 5/8	42	2 1/2 to 1	1 Pc.
24	.064	.075	10	13	6	41	18	37 1/4	48	2 1/2 to 1	1 Pc.
30	.079	.075	12	16	8	51	18	52 1/4	60	2 1/2 to 1	1 Pc.
36	.079	.105	14	19	9	60	24	59 3/4	72	2 1/2 to 1	2 Pc.
42	.109	.105	16	22	11	69	24	75 5/8	84	2 1/2 to 1	2 Pc.
48	.109	.105	18	27	12	78	24	81	90	2 1/4 to 1	3 Pc.
54	.109	.105	18	30	12	84	30	85 1/2	102	2 1/4 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	1 1/2 to 1	3 Pc.
84	.109×	.105×	18	45	12	87	—	—	138	1 1/2 to 1	3 Pc.
90	.109×	.105×	18	37	12	87	—	—	144	1 1/2 to 1	3 Pc.
96	.109×	.105×	18	35	12	87	—	—	150	1 1/2 to 1	3 Pc.

× EXCEPT CENTER PANEL SEE GENERAL NOTES

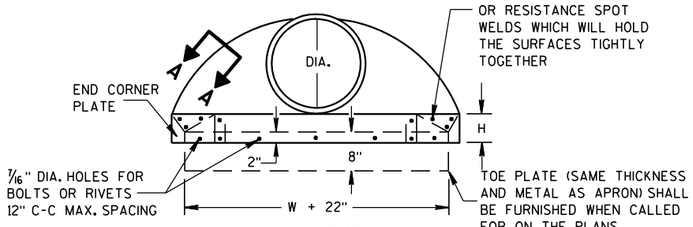
REINFORCED CONCRETE APRON ENDWALLS

PIPE DIA. (IN.)	DIMENSIONS (Inches) T	A	B	C	D	E	G	APPROX. SLOPE
12	2	4	24	48 7/8	72 1/8	24	2	3 to 1
15	2 1/4	6	27	46	73	30	2 1/4	3 to 1
18	2 1/2	9	27	46	73	36	2 1/2	3 to 1
21	2 3/4	9	36	37 1/2	73 1/2	42	2 3/4	3 to 1
24	3	9 1/2	43 1/2	30	73 1/2	48	3	3 to 1
27	3 1/4	10 1/2	49 1/2	24	73 1/2	54	3 1/4	3 to 1
30	3 1/2	12	54	19 3/4	73 1/2	60	3 1/2	3 to 1
36	4	15	63	34 3/4	97 3/4	72	4	3 to 1
42	4 1/2	21	63	35	98	78	4 1/2	3 to 1
48	5	24	72	26	98	84	5	3 to 1
54	5 1/2	27	65	* 33 1/4 - ** 35	* 98 1/4 - ** 100	90	5 1/2	2 2/5 to 1
60	6	* 30 - ** 35	60	39	99	96	5	2 to 1
66	6 1/2	* 24 - ** 30	* 72 - ** 78	* 21 - ** 27	99	102	5 1/2	2 to 1
72	7	* 24 - ** 36	78	21	99	108	6	2 to 1
78	7 1/2	* 24 - ** 36	78	21	99	114	6 1/2	2 to 1
84	8	36	90 1/2	21	111 1/2	120	6 1/2	1 1/2 to 1
90	8 1/2	41	87 1/2	24	111 1/2	132	6 1/2	1 1/2 to 1

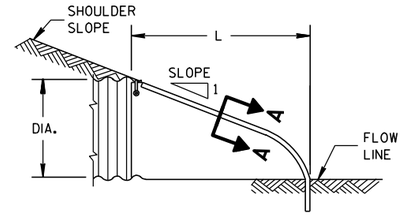
*MINIMUM
**MAXIMUM



PLAN VIEW

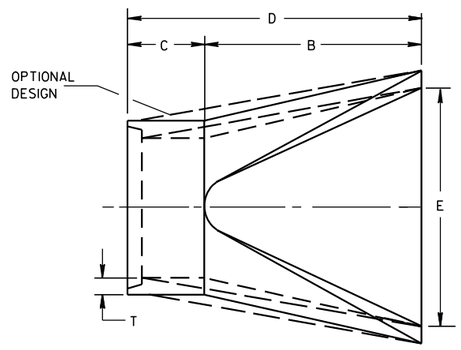


END VIEW

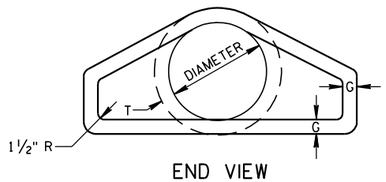


SIDE ELEVATION

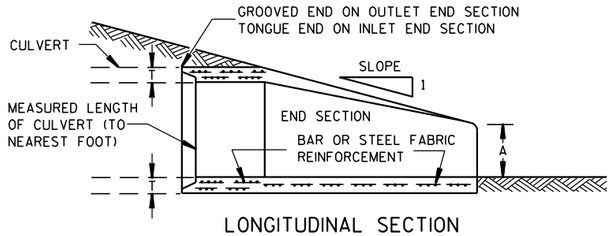
METAL ENDWALLS



PLAN

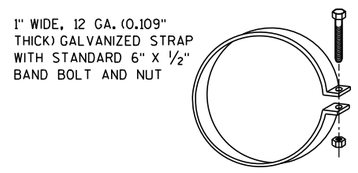


END VIEW



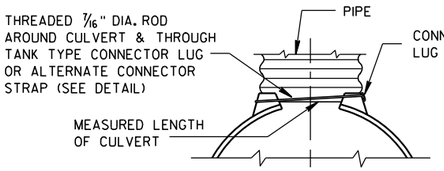
LONGITUDINAL SECTION

CONCRETE ENDWALLS

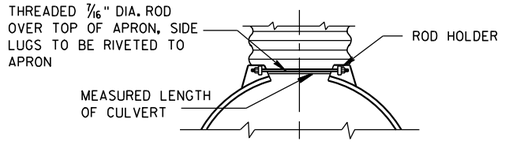


ALTERNATE FOR TYPE 1 CONNECTION

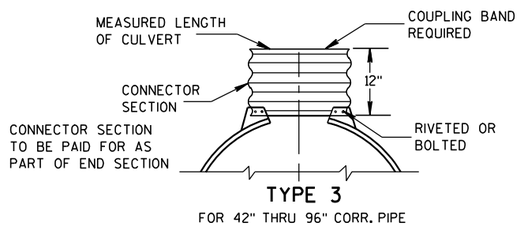
END SECTION CONNECTOR STRAP



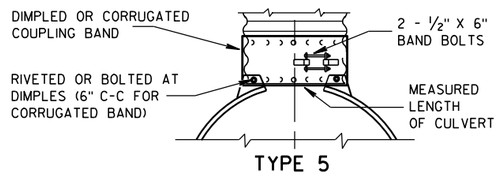
TYPE 1
FOR 12" THRU 24" CORR. PIPE



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

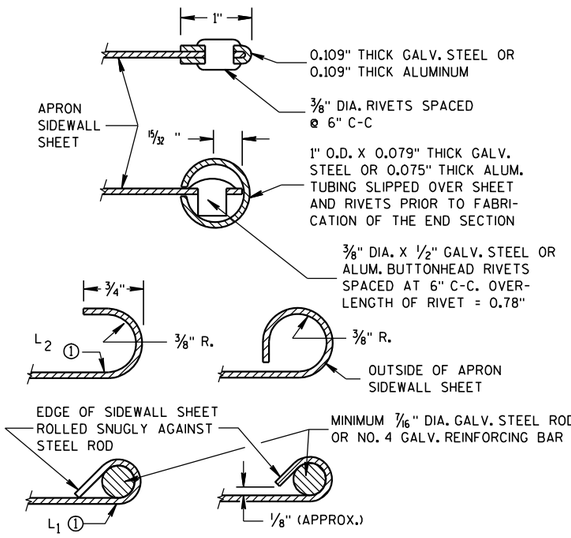
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL. AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

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.

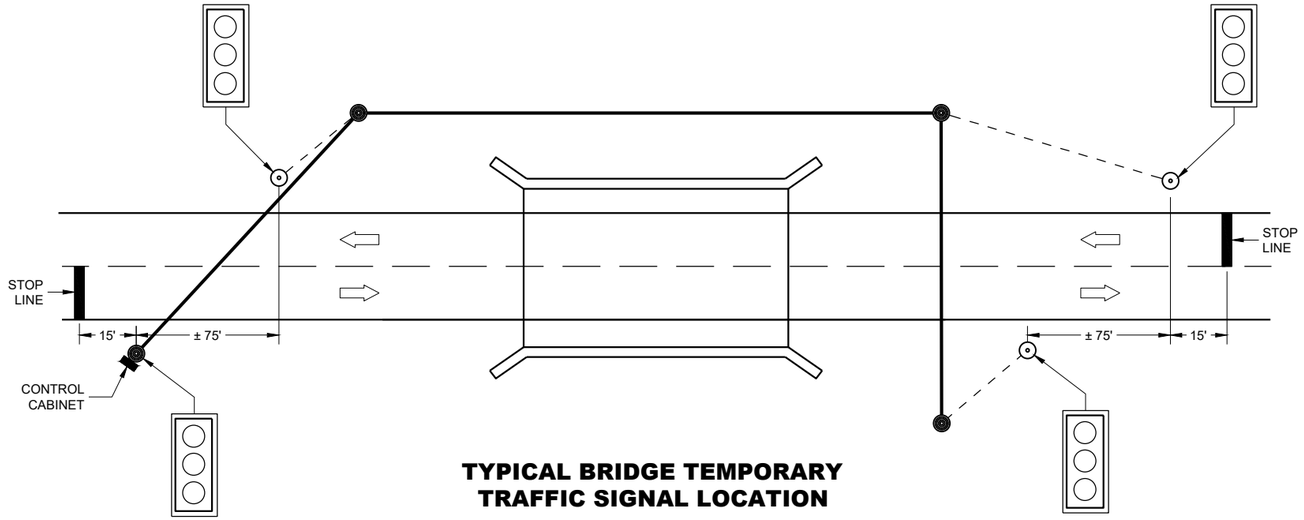
① FOR PIPE SIZES UP TO 60" DIAMETER, A 180° ROLLED EDGE MAY BE USED INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.

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

6
S.D.D. 8 F 1-11



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.).

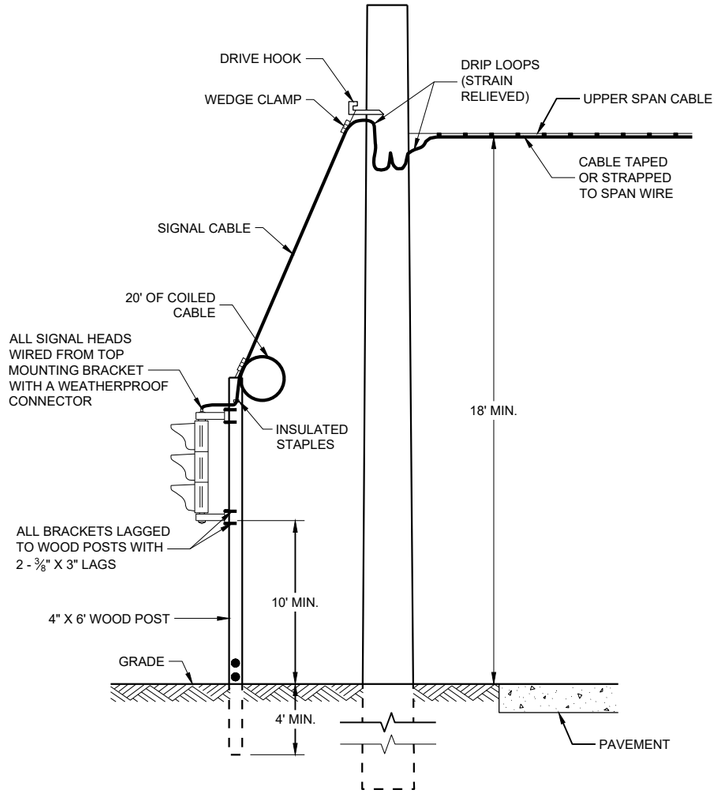
WOOD POSTS (BREAKAWAY) SHALL BE NO CLOSER THAN 2 FEET OUTSIDE OF SHOULDER.

VERTICAL CLEARANCE ETC. PER NEC.

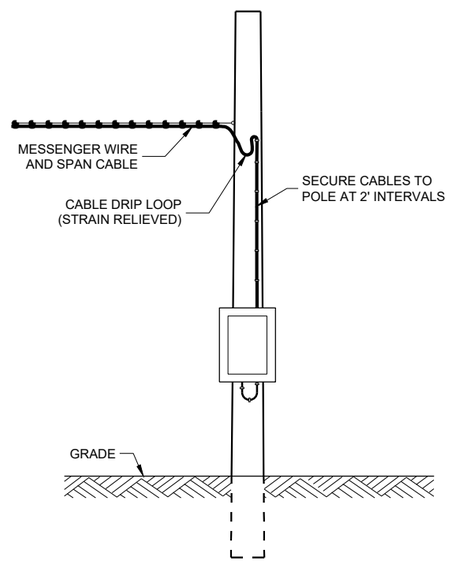
TRAFFIC SIGNAL FACES SHALL BE TYPICALLY PLACED 12 FEET FROM EDGE OF PAVEMENT.

EACH TRAFFIC SIGNAL SHALL HAVE A BACKPLATE.

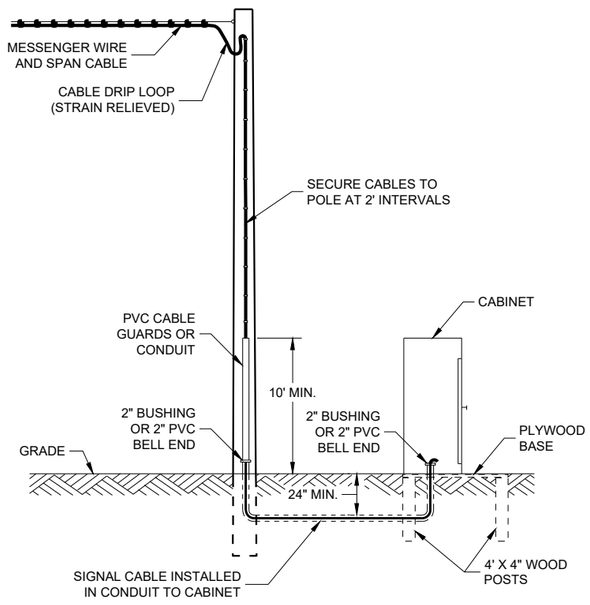
SIGNING, PAVEMENT MARKING AND LANE CONTROL REQUIREMENTS SHALL CONFORM TO STANDARD DETAIL DRAWING 15D33.



TYPICAL DROP TO TRAFFIC SIGNAL FACE



POLE MOUNT CABINET INSTALLATION



GROUND MOUNT CABINET INSTALLATION

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.

BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
March 2018 — DATE
/S/ Ahmet Demirbilek — ROADWAY STANDARDS DEVE ENGINEER
FHWA

6

SDD09G02 - 05a

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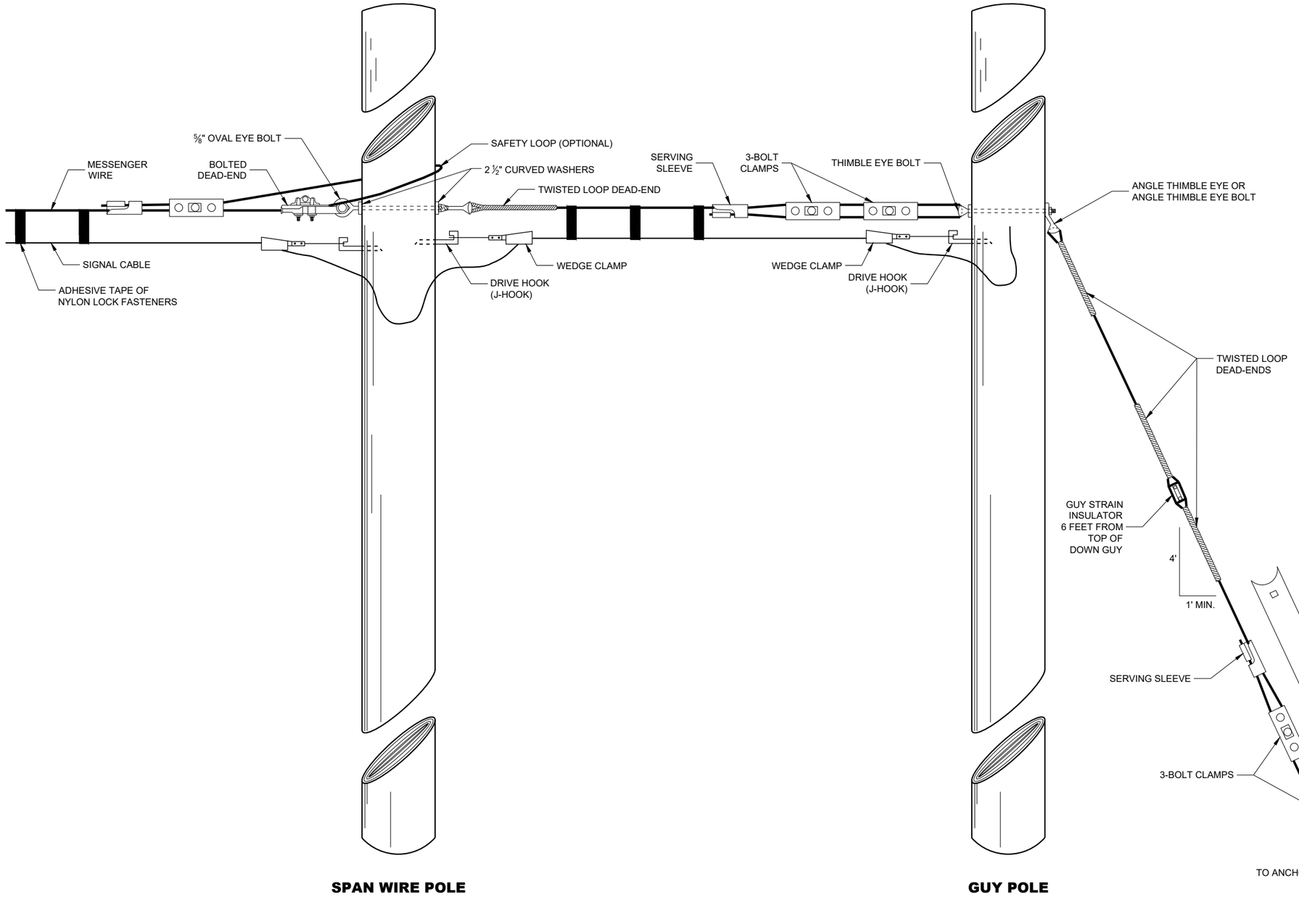
SDD09G02 - 05a

GENERAL NOTES

USE ¾" DRILL IN WOOD POLE TO PROVIDE FOR ⅝" BOLTS.



SPAN WIRE POLE

GUY POLE

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

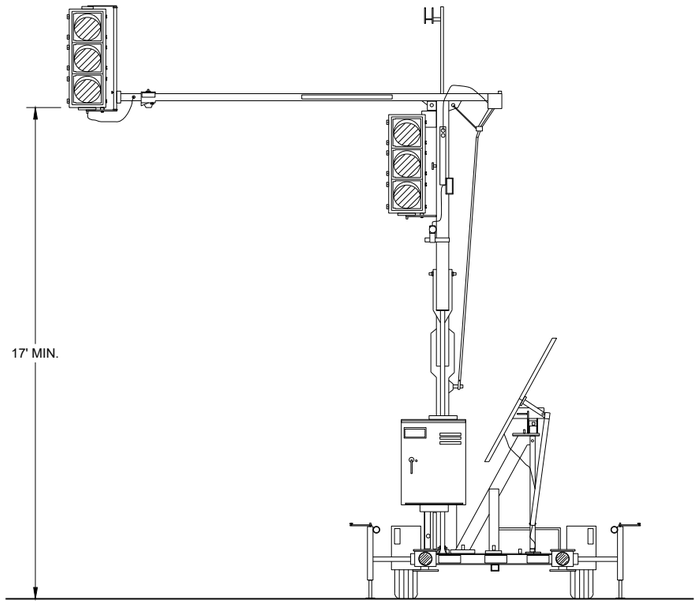
FHWA

6

SDD09G02 - 05b

6

SDD09G02 - 05b

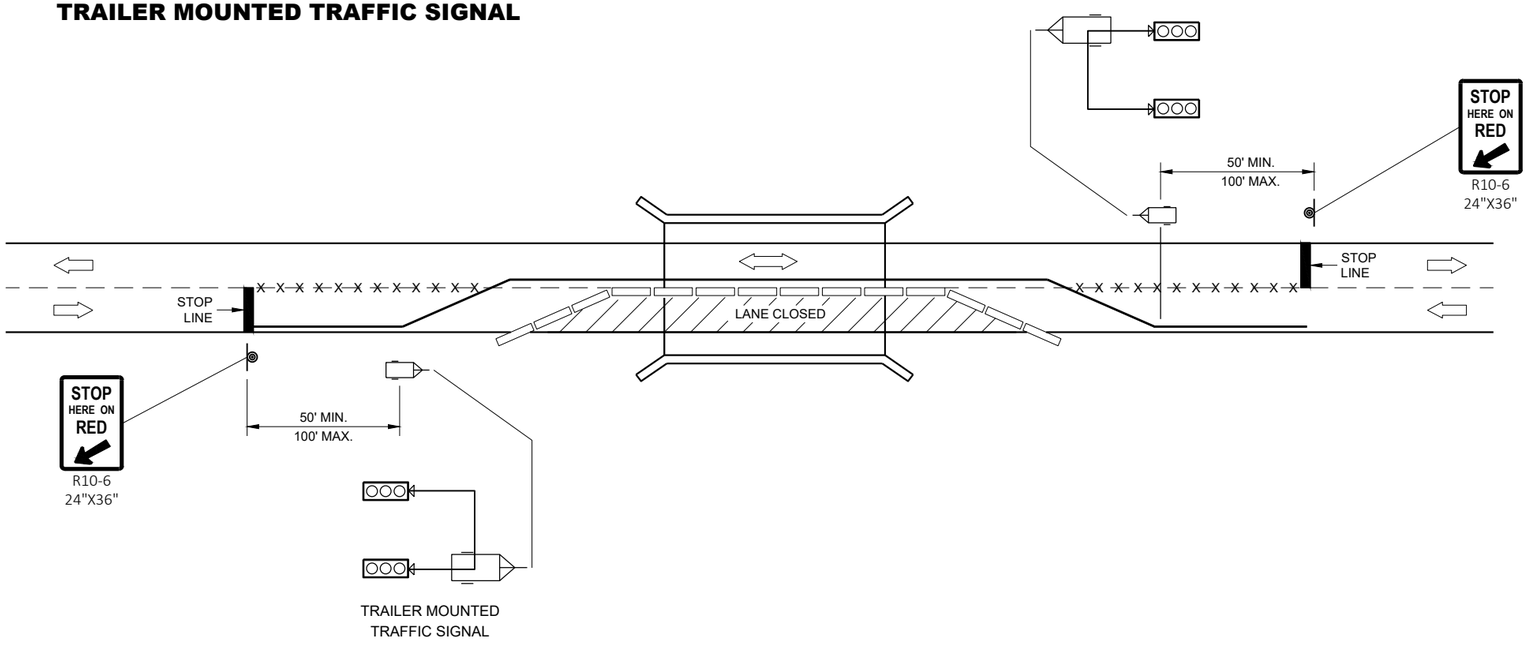


TRAILER MOUNTED TRAFFIC SIGNAL

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.



TYPICAL TRAILER MOUNTED TRAFFIC SIGNAL LOCATION

LEGEND

- POST MOUNTED SIGN
- TEMPORARY PRECAST CONCRETE BARRIER
- TRAILER MOUNTED TRAFFIC SIGNAL
- REMOVE PAVEMENT MARKINGS
- DIRECTION OF TRAFFIC

BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

June 2015
DATE

/S/ Ahmet Demerbilek
ROADWAY STANDARDS DEVE ENGINEER

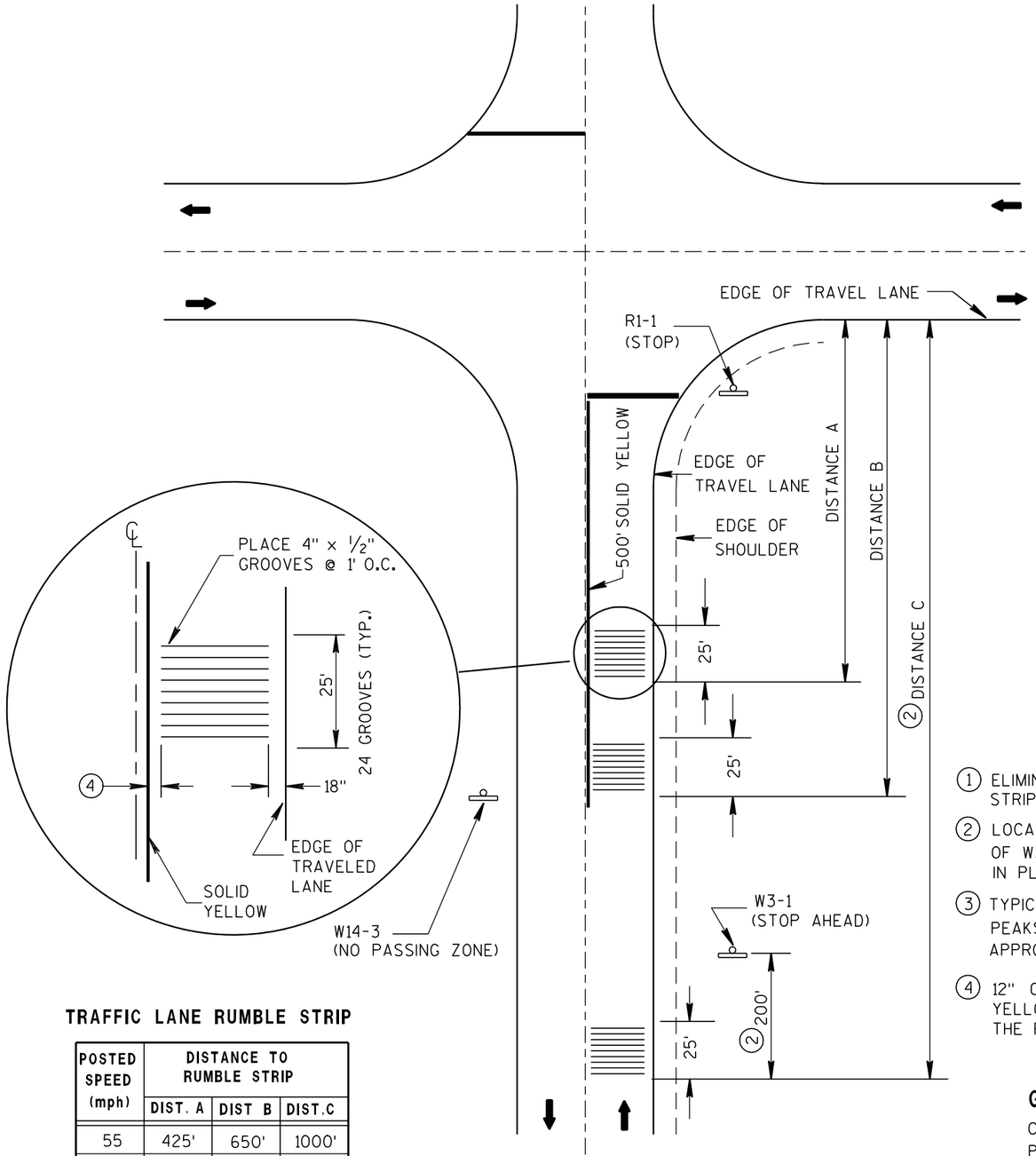
FHWA

6

SDD09G02 - 05c

6

SDD09G02 - 05c



ARROW SYMBOL (➡) SHOWS DIRECTION OF TRAVEL

PLAN VIEW

RUMBLE STRIP LOCATION

TRAFFIC LANE RUMBLE STRIP

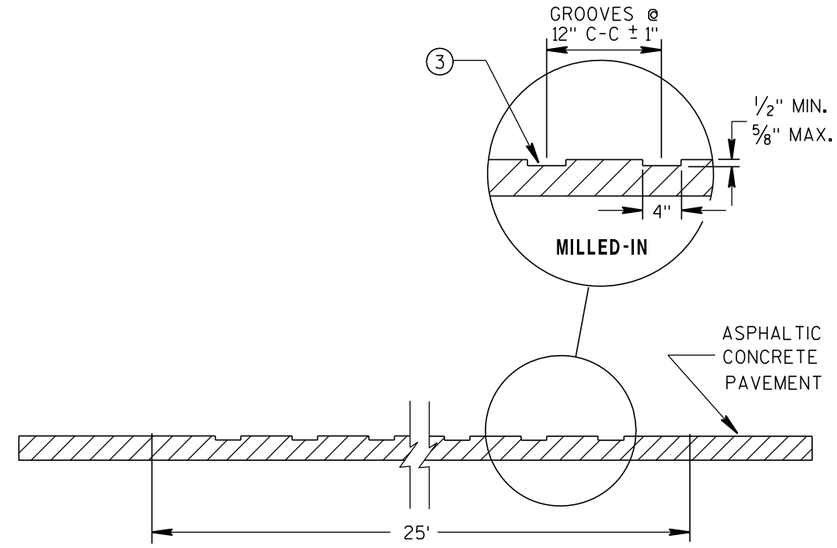
POSTED SPEED (mph)	DISTANCE TO RUMBLE STRIP		
	DIST. A	DIST B	DIST.C
55	425'	650'	1000'
50	325'	450'	800'
45	275'	400'	650'
40	225'	(1)	550'
35	175'	(1)	475'
≤ 30	125'	(1)	425'

(1) ELIMINATE THE MIDDLE SET OF RUMBLE STRIPS.

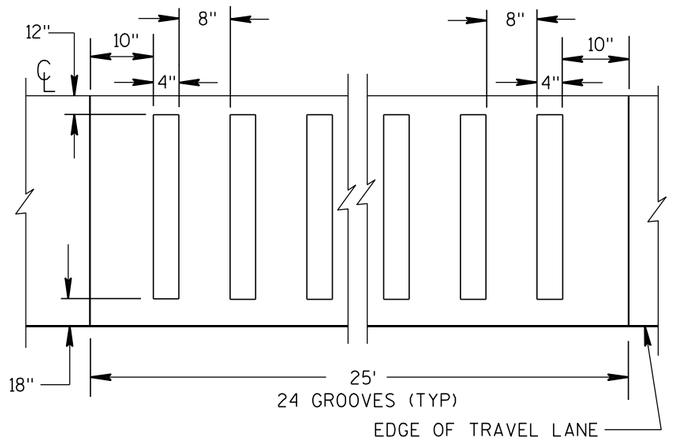
(2) LOCATE RUMBLE STRIP 200' IN ADVANCE OF W3-1 SIGN AS SHOWN. IF W3-1 IS NOT IN PLACE, USE DISTANCE C.

(3) TYPICAL VERTICAL VARIATION BETWEEN PEAKS AND VALLEYS WITHIN THE CUT APPROXIMATELY 1/16"

(4) 12" CLEAR BETWEEN THE SOLID YELLOW LINE AND THE EDGE OF THE RUMBLE.



ELEVATION VIEW



PLAN VIEW

ASPHALTIC PAVEMENT MILLED-IN

GENERAL NOTES

CONTRACTOR SHALL CONFIRM RUMBLE STRIP LOCATION WITH THE ENGINEER PRIOR TO INSTALLATION. THE ENGINEER MAY MODIFY THE RUMBLE STRIP LOCATION AS FIELD CONDITIONS DICTATE.

WHEN ASPHALTIC PAVEMENT IS NEW IN THE RUMBLE AREA THE CONTRACTOR SHALL ALLOW THE PAVEMENT TO CURE A MINIMUM OF 7 DAYS PRIOR TO RUMBLE INSTALLATION.

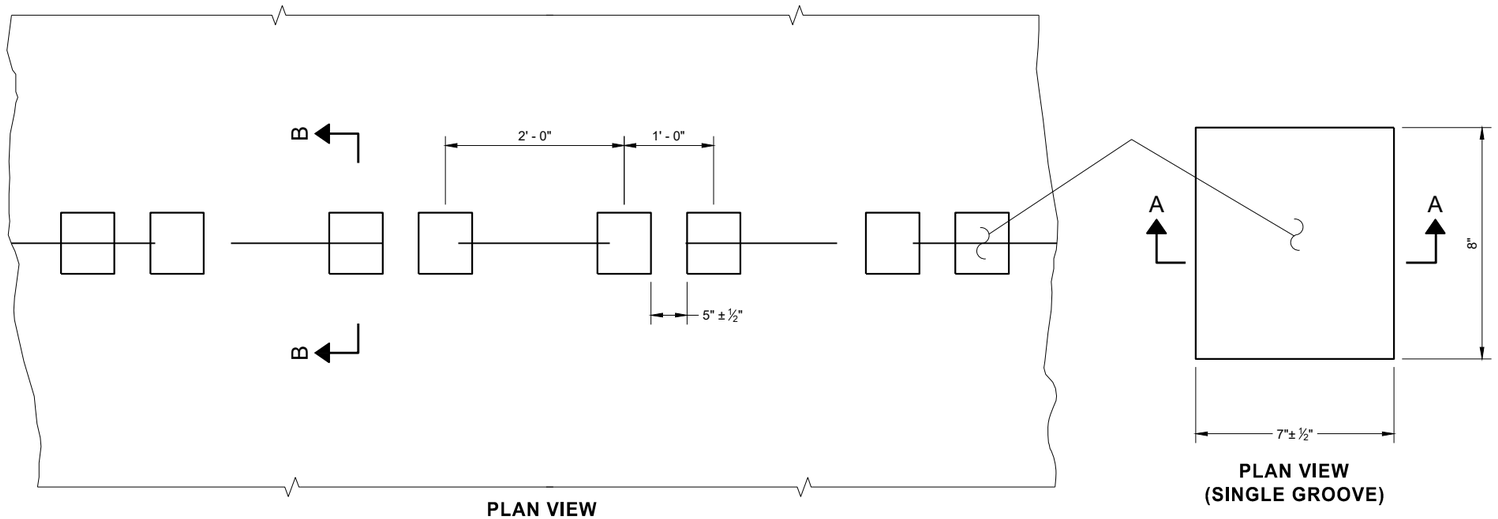
PAVEMENT MARKING AND SIGNING DETAILS AND SPECIFICATIONS ARE PROVIDED ELSEWHERE IN THE CONTRACT.

ASPHALTIC RUMBLE STRIPS AT INTERSECTION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8/17/2011
DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS 174
ENGINEER
FHWA

6
S.D.D. 13 A 8-1



PLAN VIEW
SHOULDER WITH GROOVES

PLAN VIEW
(SINGLE GROOVE)

PLACEMENT DETAIL FOR TYPE 1 MILLED RUMBLE STRIP

GENERAL NOTES

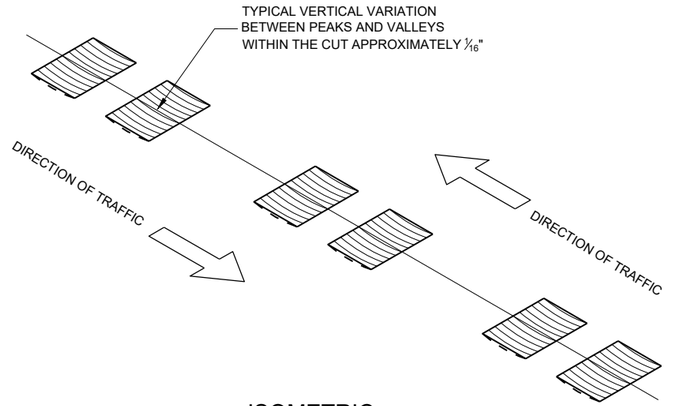
DETAILS OF CONSTRUCTION NO SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

DO NOT MILL CENTERLINE GROOVES THROUGH ANY INTERSECTION, MARKED CROSSWALK, NON-MOTORIZED PATH CROSSING, OR SNOWMOBILE CROSSING.

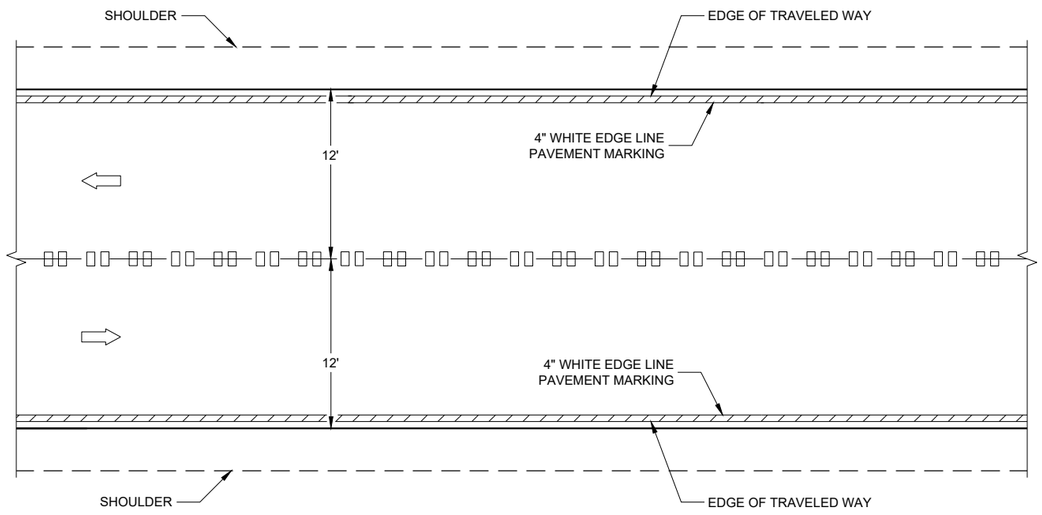
INSTALL PAVEMENT MARKING AFTER THE GROOVES ARE INSTALLED.

SEE SIGNING PLAN FOR SIGN REQUIREMENTS THAT MAY BE NEEDED.

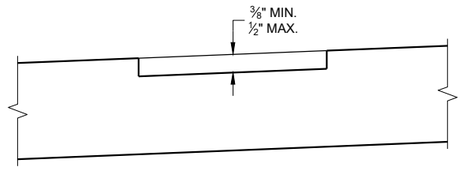
(1) CENTERLINE GROOVES MAY BE OMITTED IN AREAS WITH HIGH CONCENTRATIONS OF DRIVEWAYS. WHEN DIRECTED BY THE ENGINEER.



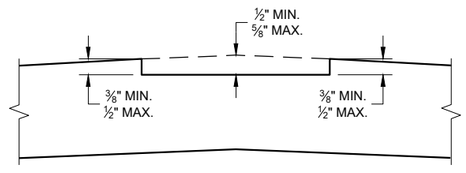
ISOMETRIC



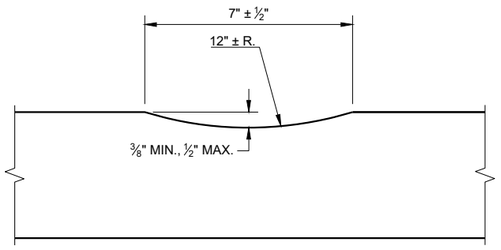
CENTERLINE GROOVES ON TWO-WAY ROADWAYS



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 TRANSPORTATION

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SDD 13A11 - 03a

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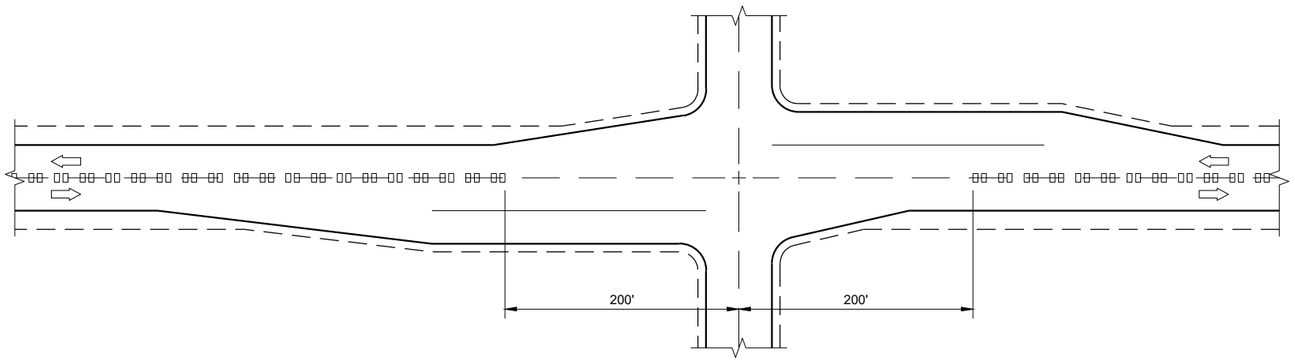
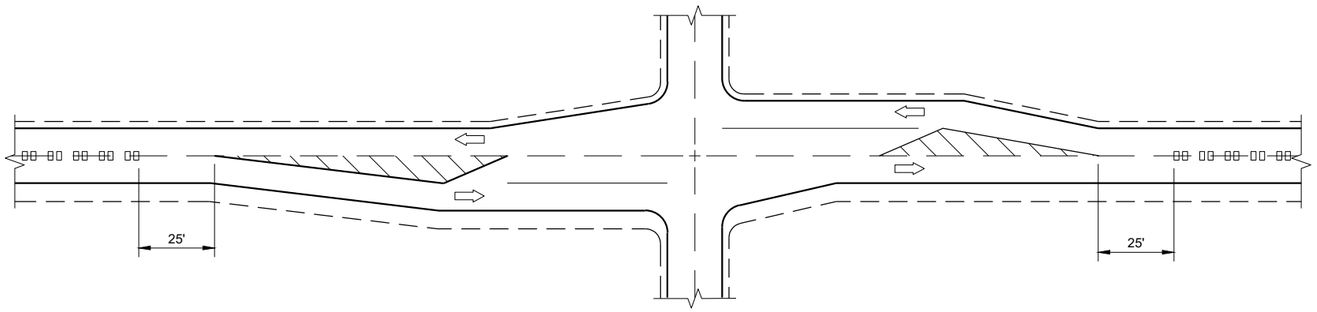
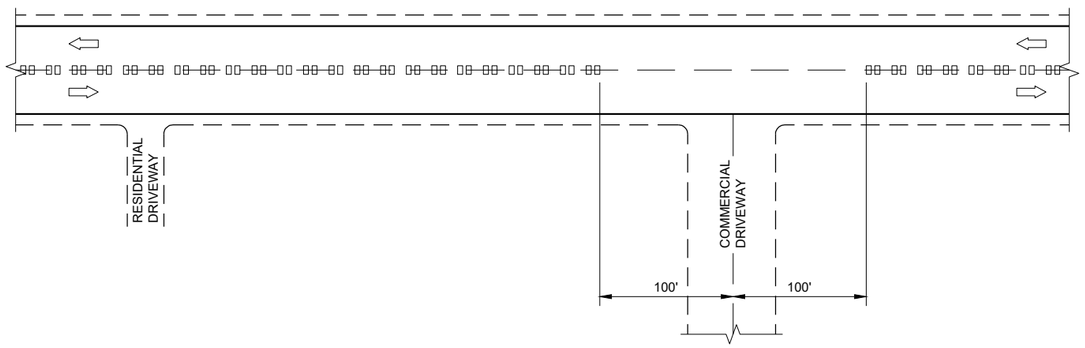
SDD 13A11 - 03a



CENTERLINE GROOVES AT INTERSECTIONS



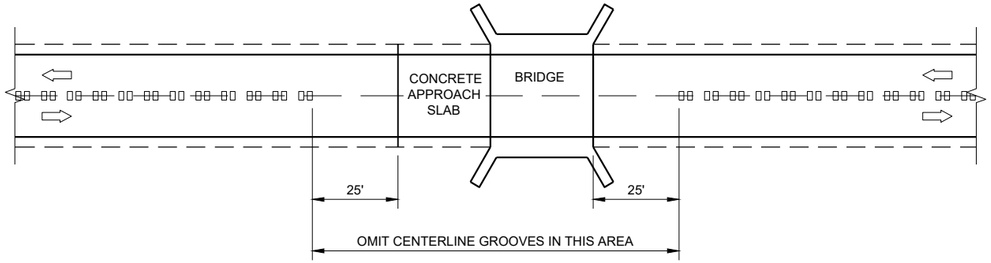
CENTERLINE GROOVES AT INTERSECTIONS (WITH LEFT TURN LANES)



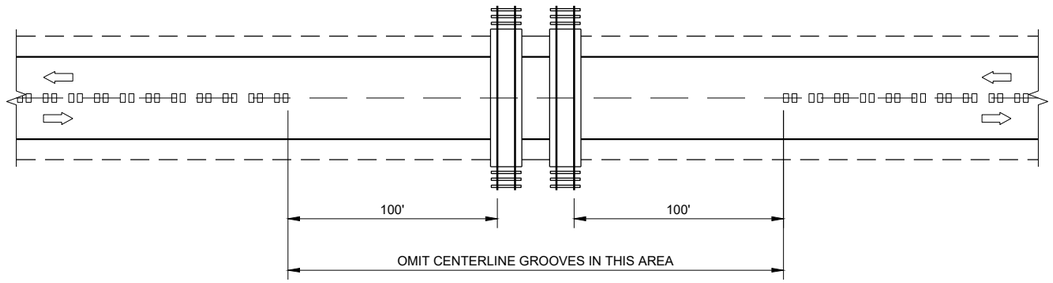
CENTERLINE GROOVES AT DRIVEWAYS (1)

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

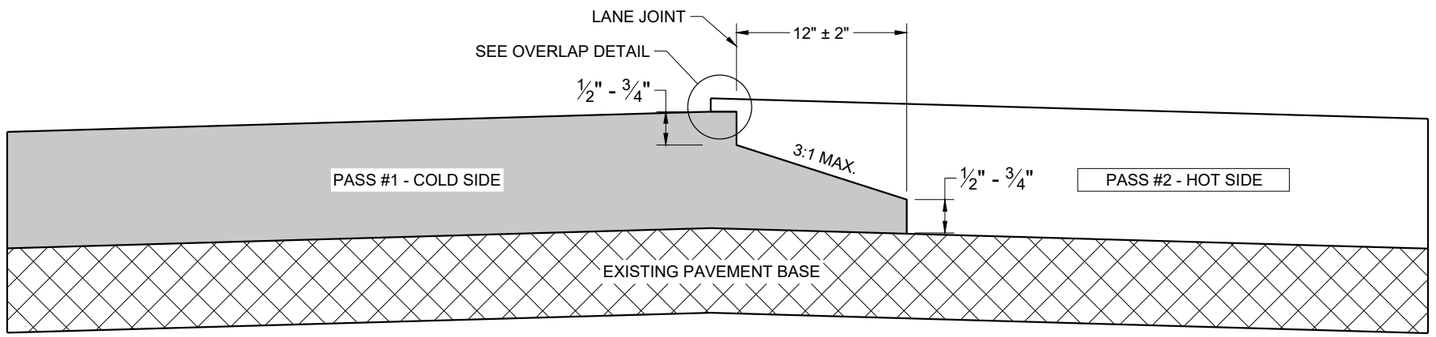
2-LANE RURAL CENTERLINE RUMBLE STRIP, MILLING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

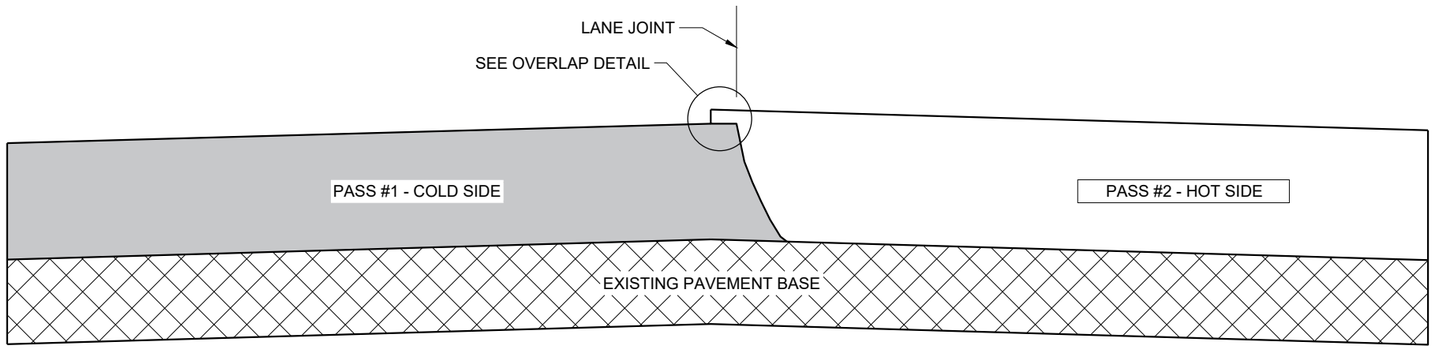
APPROVED
7/2018
DATE
/S/ Rodney Taylor
ROADWAY STANDARDS DEVE ENGINEER

FHWA

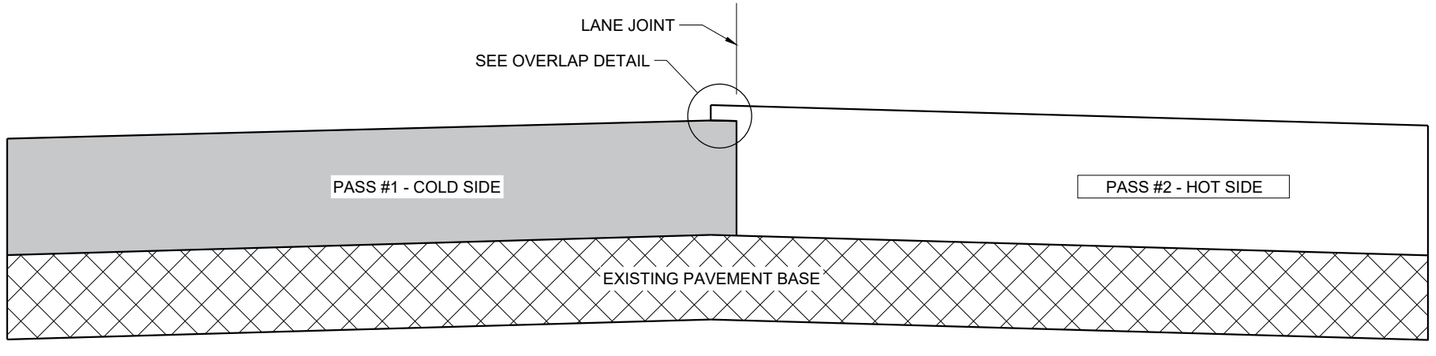
6
SDD 13A11 - 03b



TYPICAL PAVEMENT CROSS SECTION
NOTCHED WEDGE JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT (MILLED)

GENERAL NOTES

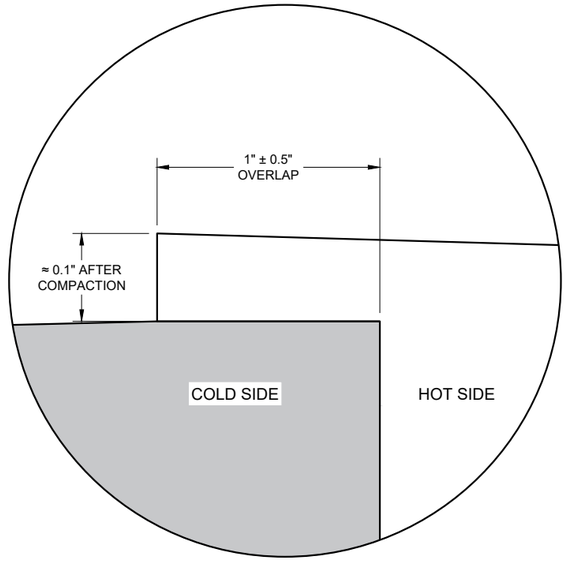
IN ADDITION TO THE DETAILS PROVIDED IN THIS DRAWING, CONFORM TO STANDARD SPECIFICATION 450.3.2.8 FOR WHEN A NOTCHED WEDGE JOINT IS REQUIRED AND FOR GENERAL JOINT CONSTRUCTION REQUIREMENTS.

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)

6

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SDD 13C19 - 03

SDD 13C19 - 03

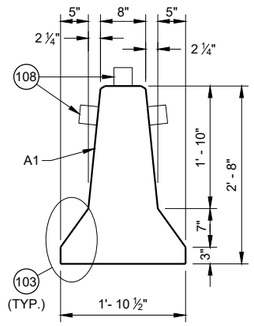
HMA LONGITUDINAL JOINTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

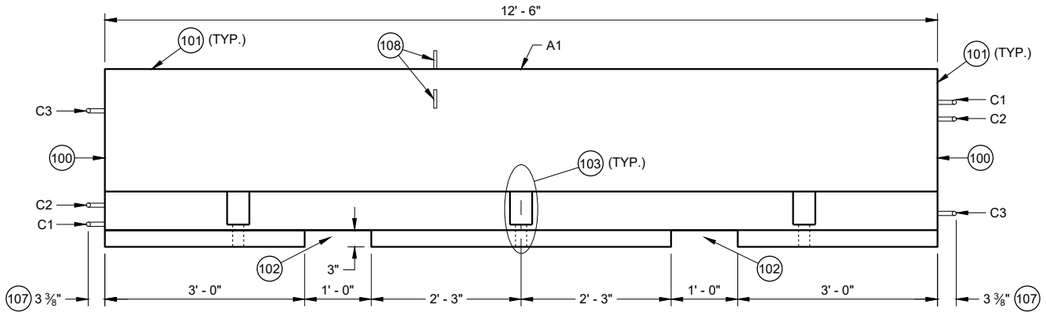
APPROVED
November 2020
DATE

/S/ Steven Hefel
HMA PAVEMENT ENGIN

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

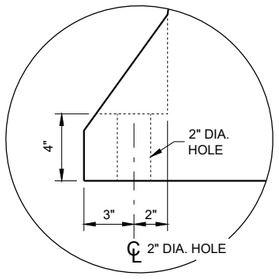
(104) 1 ¾" MIN. CLEAR COVER

(105) 2" MIN. CLEAR COVER

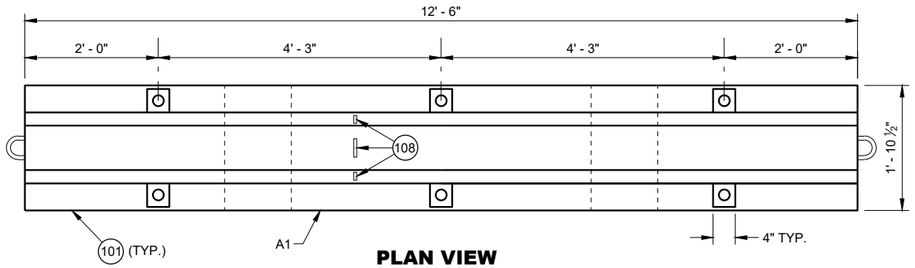
(106) 1" MIN. CLEAR COVER

(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.

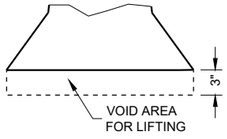


ANCHOR BLOCK DETAIL

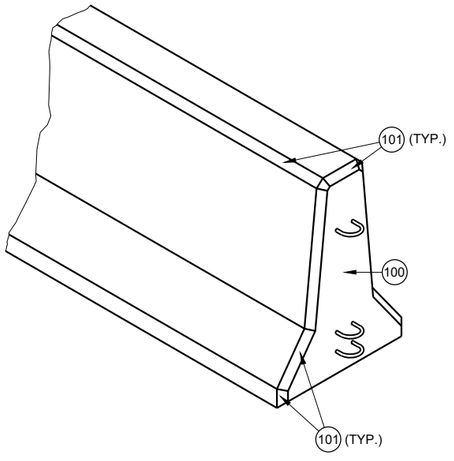


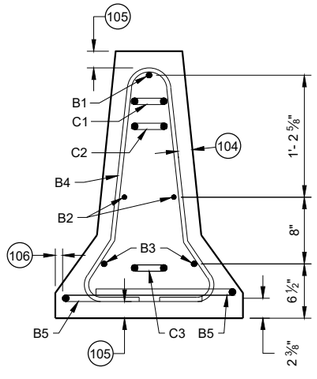
PLAN VIEW

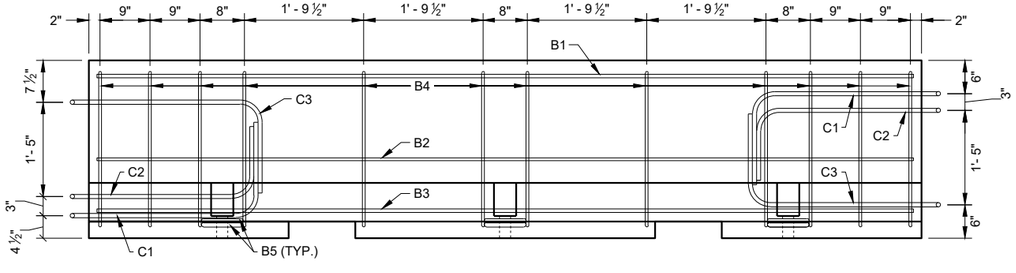
TEMPORARY BARRIER



LIFTING SLOT DETAIL (TYP.)







PROFILE VIEW

TEMPORARY BARRIER REINFORCEMENT

CONCRETE BARRIER TEMPORARY PRECAST, 12' - 6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTA

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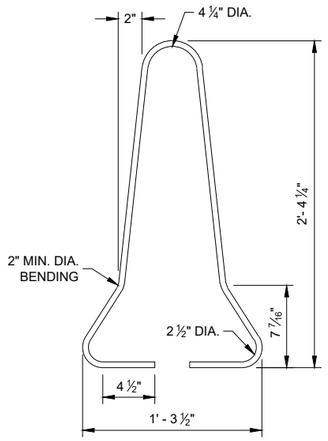
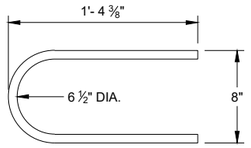
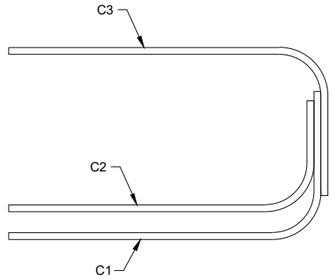
SDD14B07 - 16a



B4 BAR DETAIL

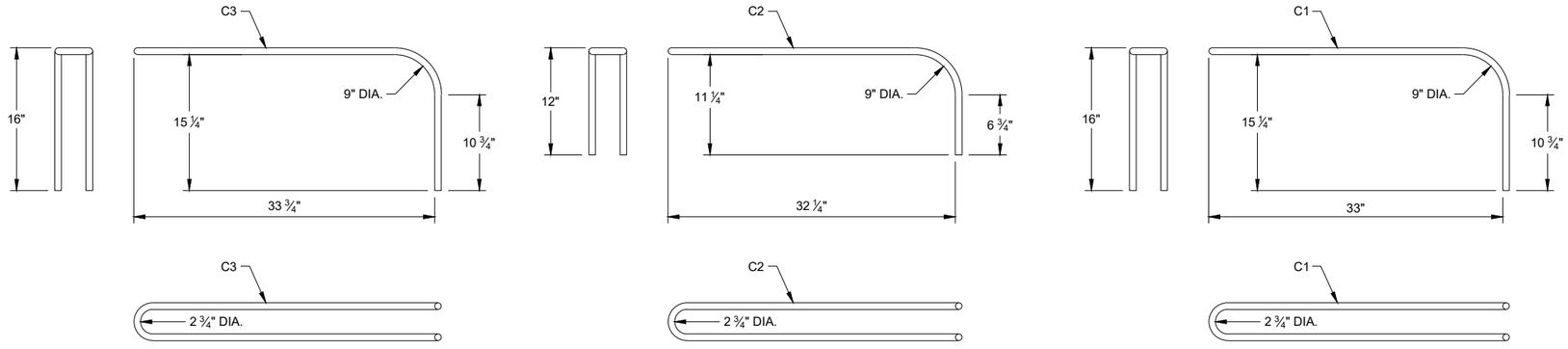


B5 BAR DETAIL



PROFILE VIEW

LOOP BAR ASSEMBLY



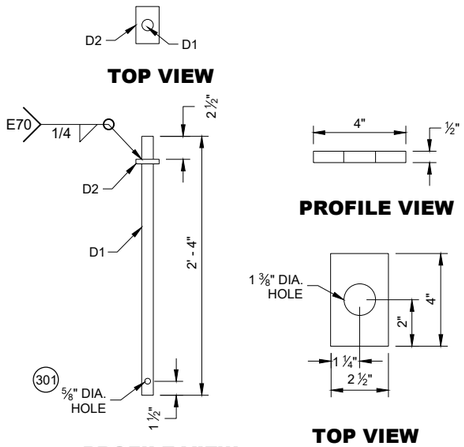
C BAR DETAILS

CONCRETE BARRIER TEMPORARY PRECAST, 12' - 6"

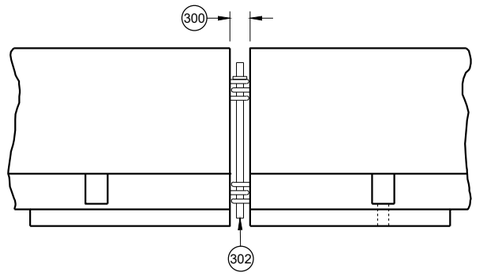
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

SDD 14B07 - 16b



CONNECTOR PIN ASSEMBLY



CONNECTING TEMPORARY BARRIER SECTIONS

GENERAL NOTES

300 SET WITH 3 ⅝" WOOD BLOCK.

301 HOLE IS OPTIONAL.

302 CONNECTOR PIN ASSEMBLY.

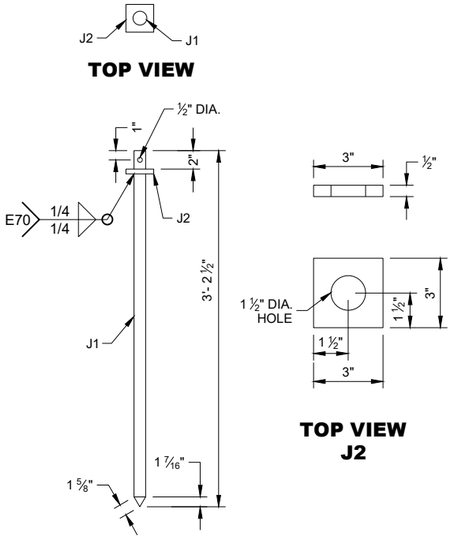
303 CONCRETE PAVEMENT, APPROACH SLAB, OR DECK.

304 CONCRETE DECK.

305 DO NOT USE ON CONCRETE BRIDGE DECK WITH ASPHALT OVERLAY OR CONCRETE PAVEMENT WITH ASPHALT OVERLAY.

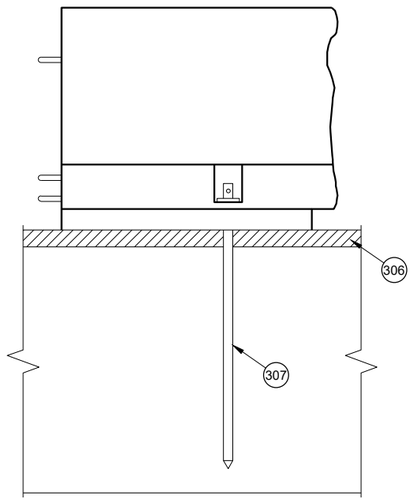
306 MINIMUM OF 2" OF ASPHALT.

307 ASPHALT ANCHOR PIN ASSEMBLY



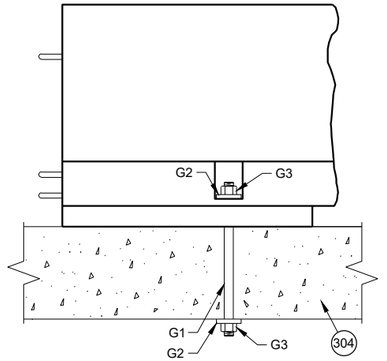
PROFILE VIEW

ASPHALT ANCHOR PIN ASSEMBLY



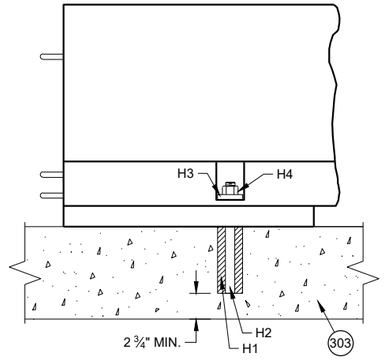
SIDE VIEW

ASPHALT ANCHOR INSTALLATION



SIDE VIEW

THROUGH BOLT ANCHOR INSTALLATION 305



SIDE VIEW

ADHESIVE ANCHOR INSTALLATION 305

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SDD 14B07 - 16c

CONCRETE BARRIER TEMPORARY PRECAST, 12' - 6"

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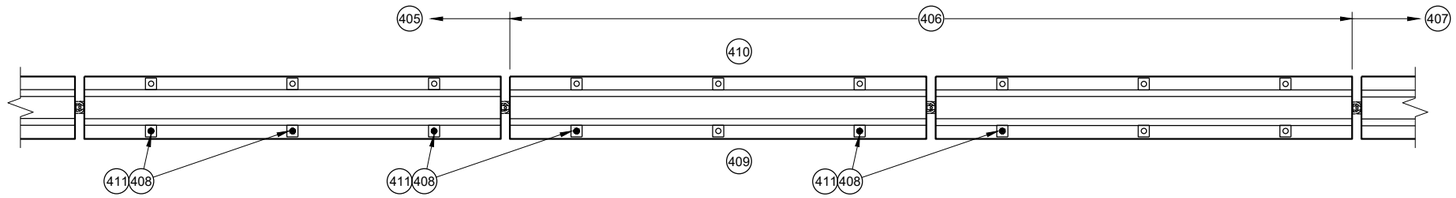
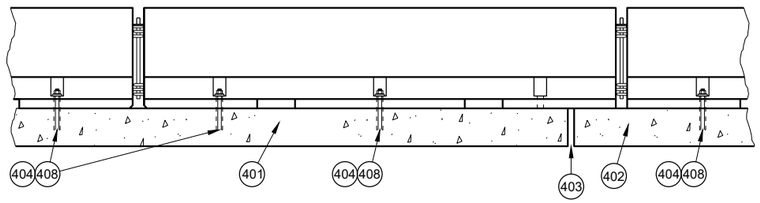
SDD 14B07 - 16c



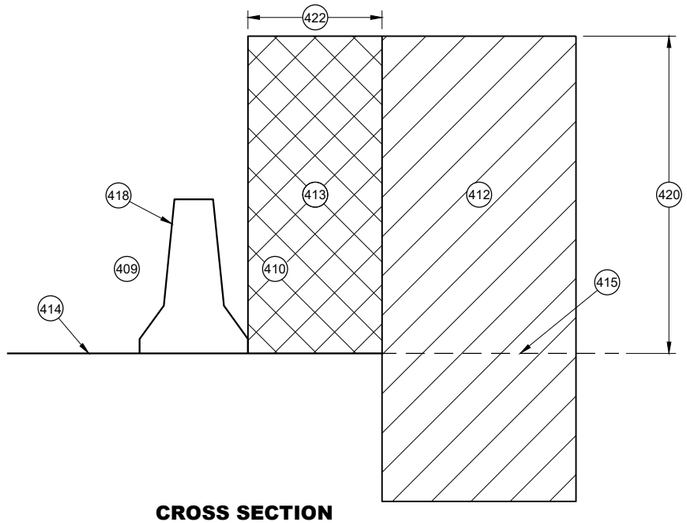
PLAN VIEW

TRANSITION FROM FREE STANDING TO ANCHORED BARRIER



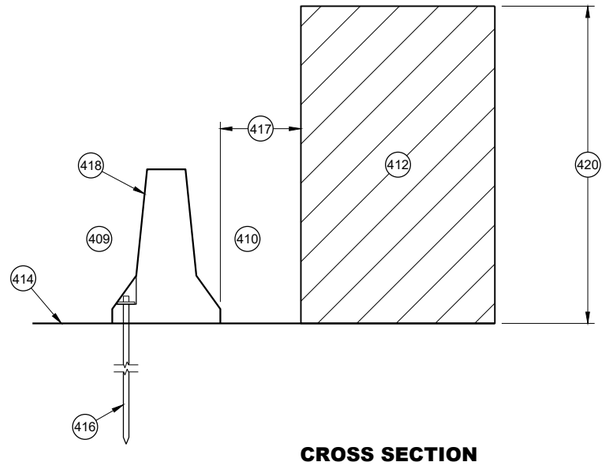
PROFILE VIEW

ANCHORED BARRIER NEAR EXPANSION JOINT (400)



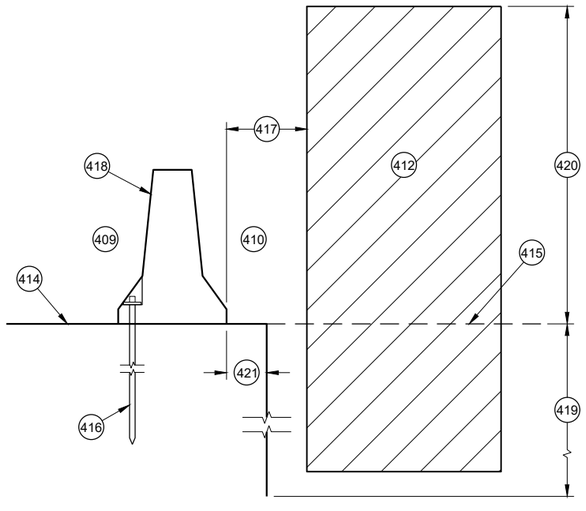
CROSS SECTION

FREE STANDING BARRIER



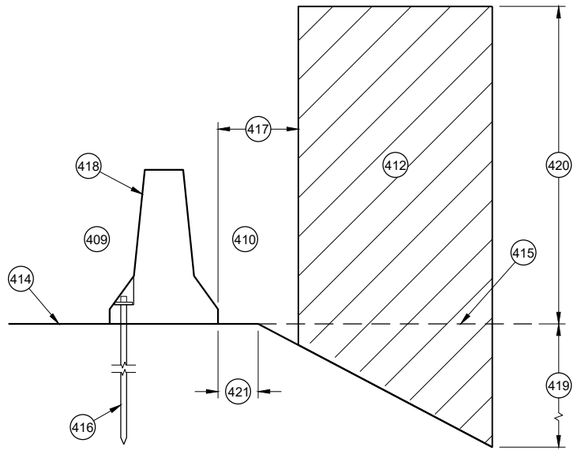
CROSS SECTION

ANCHORED BARRIER FOR OBJECTS ABOVE THE GRADE LINE AND NEAR THE BARRIER



CROSS SECTION

ANCHORED BARRIER NEAR VERTICAL DROP OFF



CROSS SECTION

ANCHORED BARRIER NEAR A SLOPE

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'

CONCRETE BARRIER TEMPORARY PRECAST, 12' - 6"

6

SDD 14B07 - 16d

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 ¼" 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

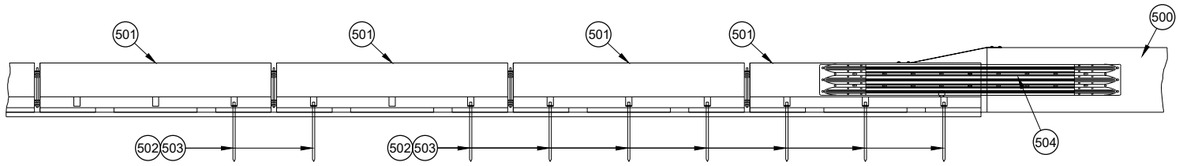
(516) CUT WOOD BLOCK TO FIT.

(517) SEE THRIE BEAM RAIL TERMINAL CONNECTOR DETAIL ASSEMBLY.

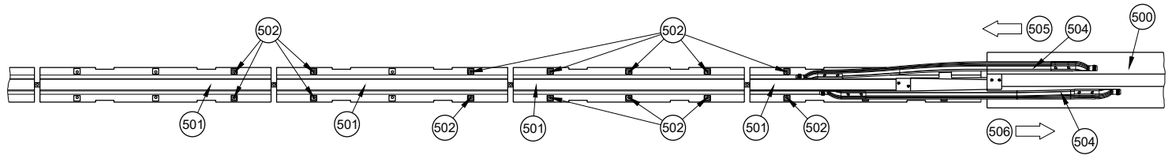
(518) CAP ASSEMBLY

(519) 4" MAX. GAP BETWEEN TEMPORARY BARRIER AND RIGID BARRIER.

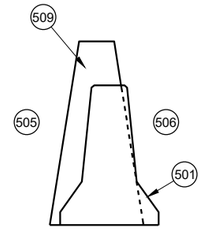
(520) ALL TWELVE SPLICE HOLES REQUIRE M1 AND M2



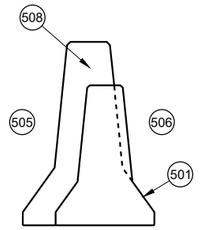
PROFILE VIEW



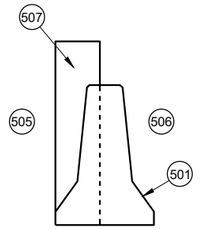
PLAN VIEW
TRANSITION TO RIGID BARRIER



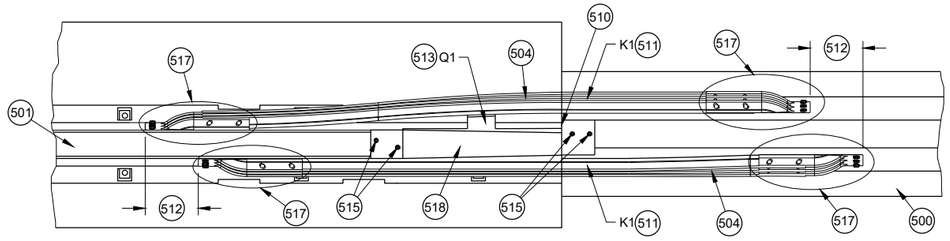
CROSS SECTION TEMPORARY BARRIER PLACEMENT SINGLE SLOPE



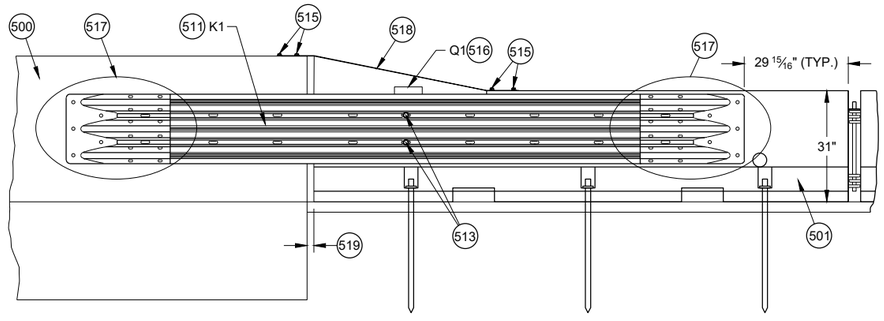
CROSS SECTION TEMPORARY BARRIER PLACEMENT SAFETY SHAPE



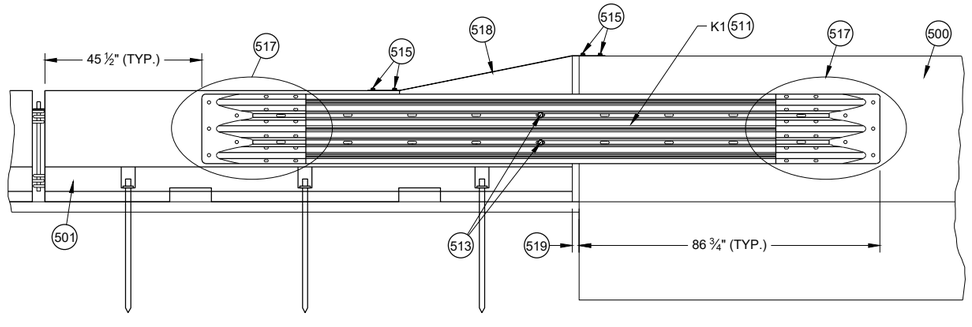
CROSS SECTION TEMPORARY BARRIER PLACEMENT VERTICAL



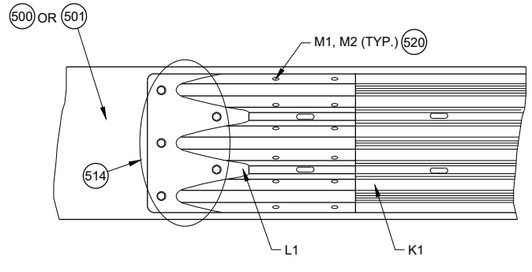
PLAN DETAIL VIEW
TRANSITION TO RIGID BARRIER



BACK DETAIL VIEW
TRANSITION TO RIGID BARRIER



FRONT DETAIL VIEW
TRANSITION TO RIGID BARRIER



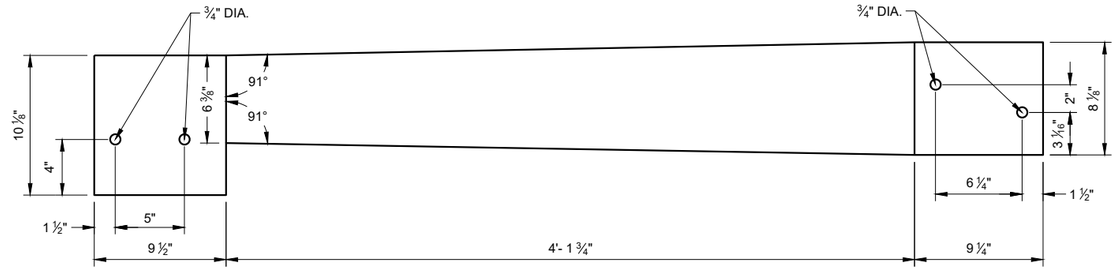
(517) **DETAIL PLAN VIEW**
THRIE BEAM RAIL TERMINAL CONNECTOR ASSEMBLY

CONCRETE BARRIER TEMPORARY PRECAST, 12' - 6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

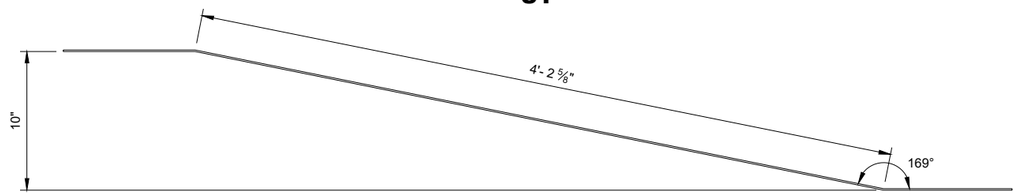
6

SDD 14B07 - 16e



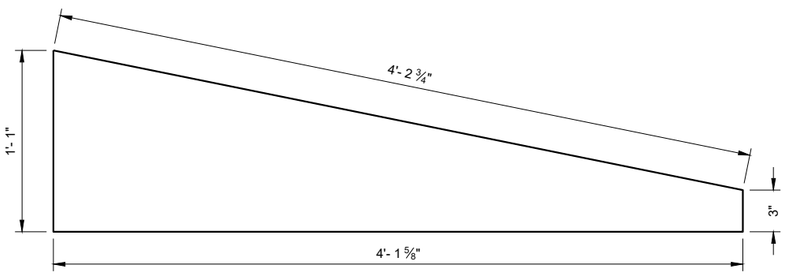
TOP VIEW

S1



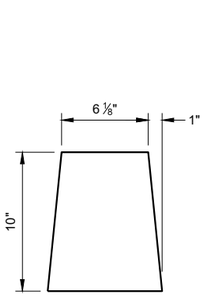
ELEVATION VIEW

S1

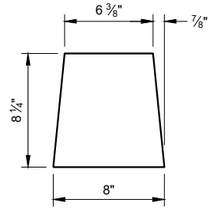


SIDE VIEW

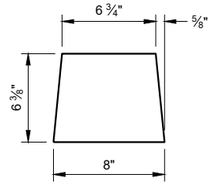
S3



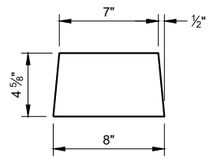
S2



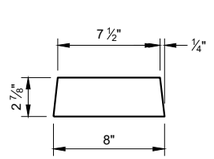
S4



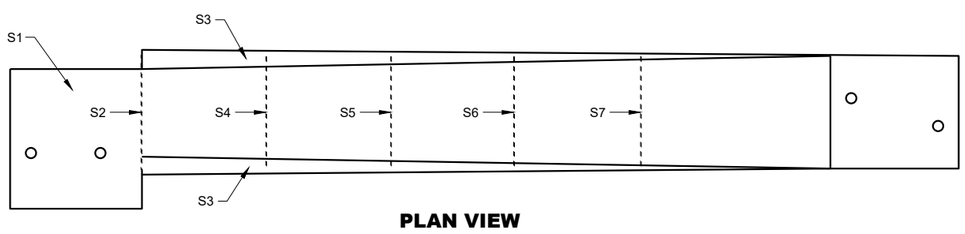
S5



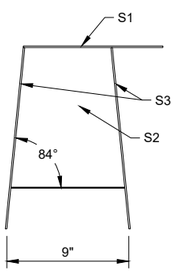
S6



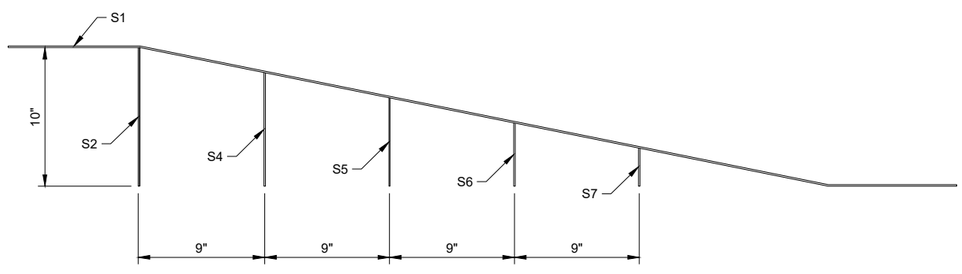
S7



PLAN VIEW



BACK VIEW



SIDE VIEW (600)

42" TOP CAP ASSEMBLY

GENERAL NOTES

STITCH WELD GUSSET PLATES AND END PLATES ON THREE SIDES

STITCH WELD TWO SIDE PLATES TO TOP PLATE, END PLATE AND GUSSETS.

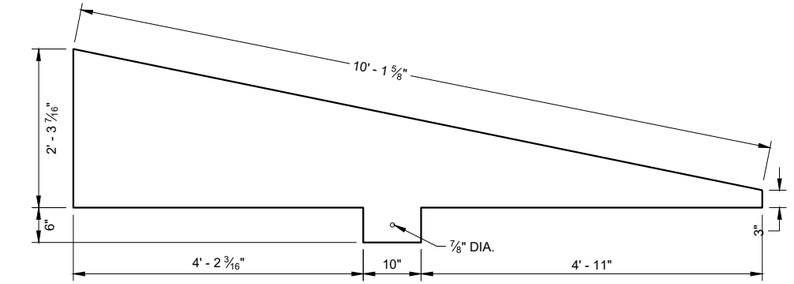
(600) SIDE PLATES (S3) NOT SHOWN FOR CLARITY.

CONCRETE BARRIER TEMPORARY PRECAST, 12' - 6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

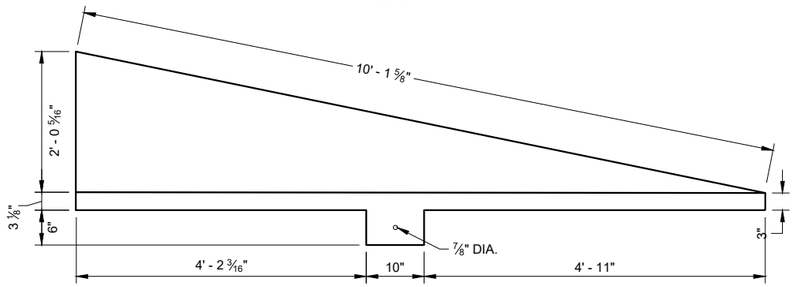
6

SDD 14B07 - 16f



SIDE VIEW
T4

END VIEW



SIDE VIEW
T3

END VIEW

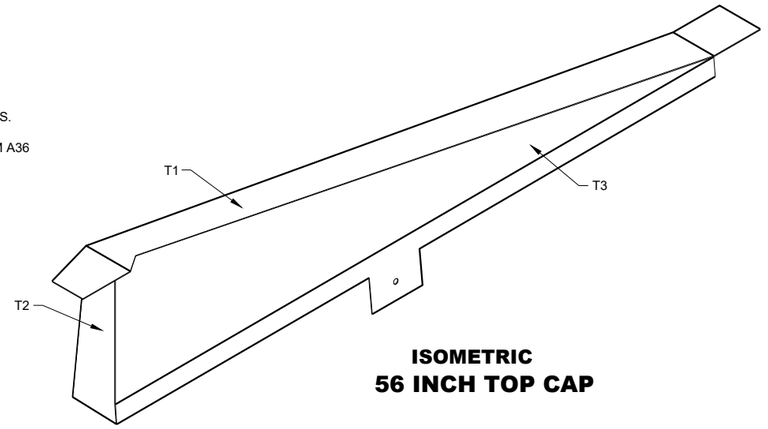
GENERAL NOTES

STITCH WELD GUSSET PLATES AND END PLATES ON THRIE SIDES

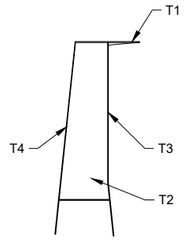
STITCH WELD TWO SIDE PLATES TO TOP PLATE, END PLATE AND GUSSETS.

SIDE PLATES, TOP PLATE, END PLATE AND GUSSETS ARE 12 GAUGE ASTM A36 GALVANIZED STEEL.

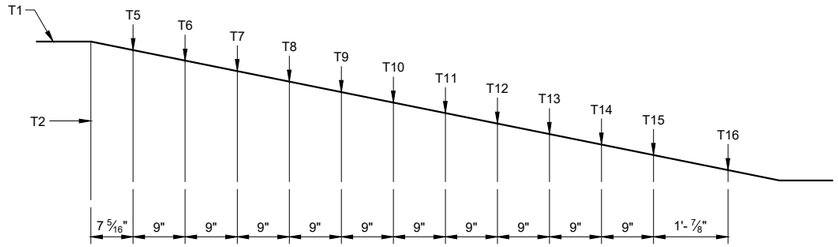
(700) SIDE PLATES (T3 AND T4) NOT SHOWN FOR CLARITY.



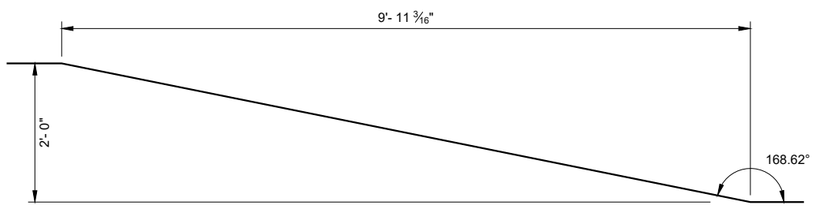
ISOMETRIC
56 INCH TOP CAP



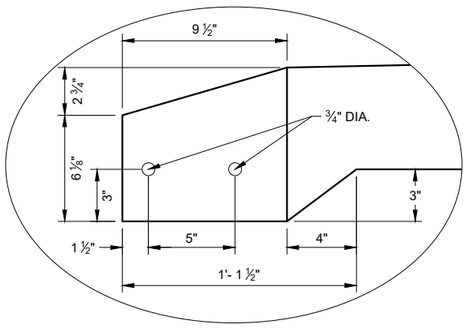
END VIEW
56 INCH TOP CAP



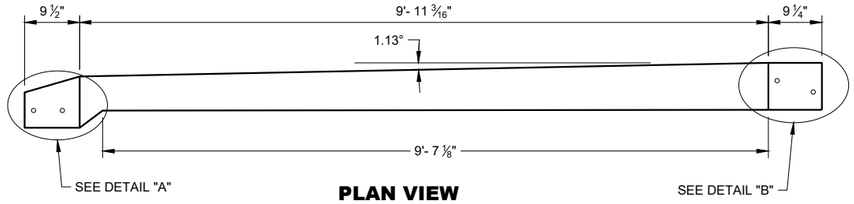
SIDE VIEW
56 INCH TOP CAP (700)



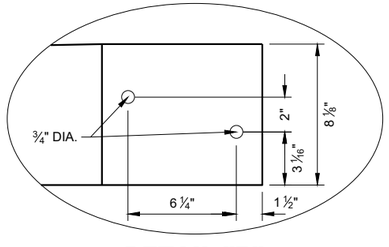
SIDE VIEW
TOP PLATE T1



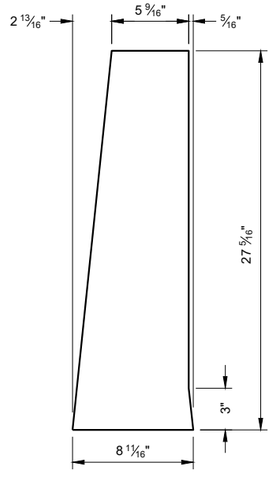
DETAIL "A"



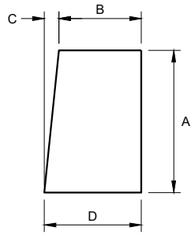
PLAN VIEW
TOP PLATE T1



DETAIL "B"



END PLATE T2



GUSSET PLATES
T5 - T16

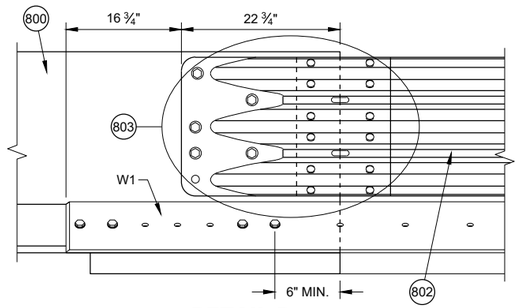
GUSSET DIMENSIONS				
GUSSET NO.	A	B	C	D
T5	22 13/16"	5 1/16"	2 5/16"	8 1/16"
T6	21"	5 7/8"	2 3/16"	8 1/16"
T7	19 3/16"	6 1/16"	1 15/16"	8 1/16"
T8	17 3/8"	6 1/4"	1 13/16"	8 1/16"
T9	15 5/16"	6 7/16"	1 9/16"	8 1/16"
T10	13 3/4"	6 5/8"	1 7/16"	8 1/16"
T11	11 15/16"	6 13/16"	1 1/4"	8 1/16"
T12	10 1/8"	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"	1 1/16"	8 1/16"
T15	4 11/16"	7 9/16"	1/2"	8"
T16	2 7/8"	7 3/4"	1/4"	8"

CONCRETE BARRIER TEMPORARY PRECAST, 12' - 6"

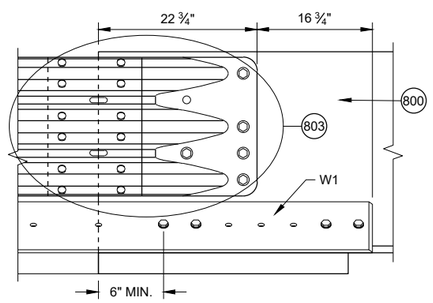
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

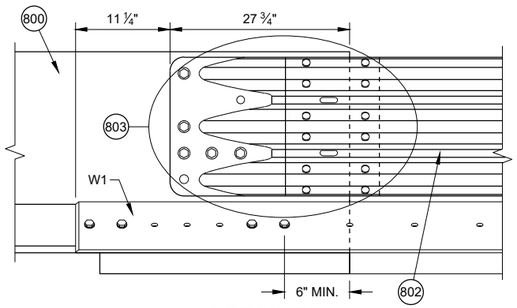
SDD 14B07 - 16g



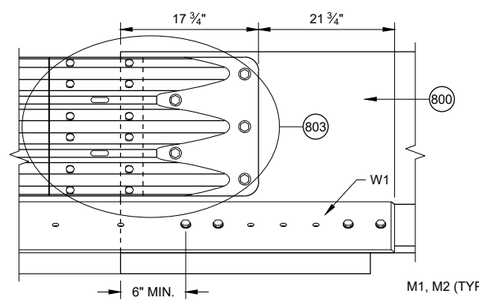
DETAIL D



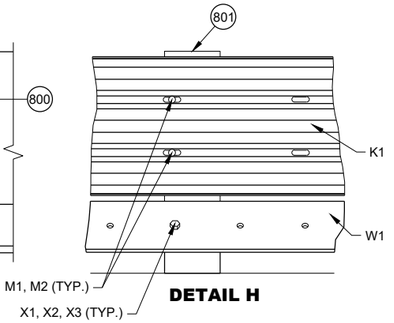
DETAIL E



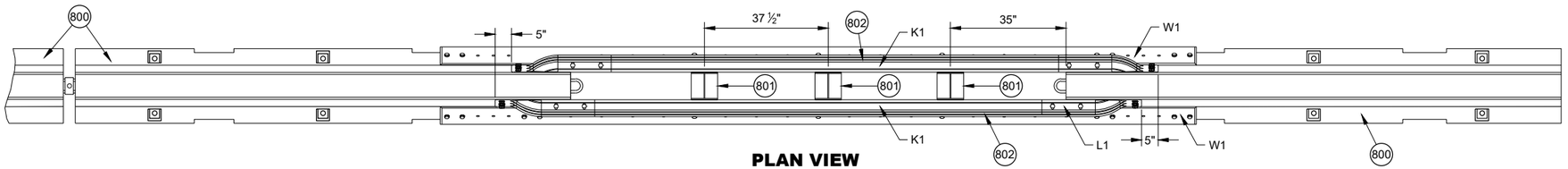
DETAIL F



DETAIL G



DETAIL H



PLAN VIEW

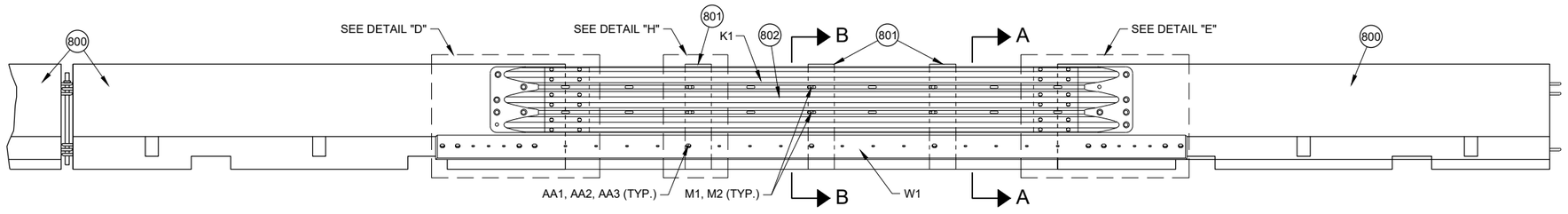
GENERAL NOTES

(800) FREE STANDING TEMPORARY BARRIER

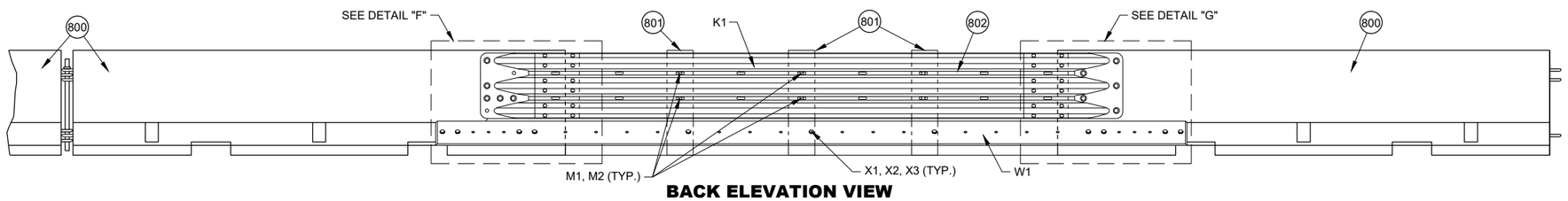
(801) GAP STIFFENER ASSEMBLY

(802) THRIE BEAMS ARE NESTED ON BOTH SIDES OF THE TEMPORARY BARRIER.

(803) SEE THRIE BEAM RAIL TERMINAL CONNECTOR DETAIL



FRONT ELEVATION VIEW



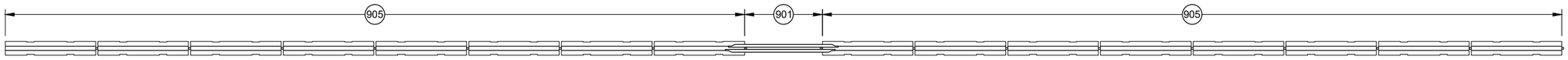
BACK ELEVATION VIEW

PORTABLE CONCRETE BARRIER GAP THRIE BEAM COVER

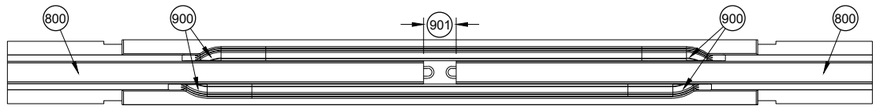
CONCRETE BARRIER TEMPORARY PRECAST, 12' - 6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6
SDD 14B07 - 16h



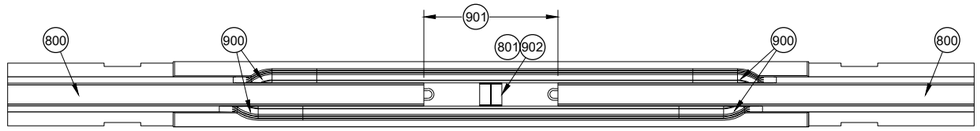
PLAN VIEW
GAP WITHIN SPACING



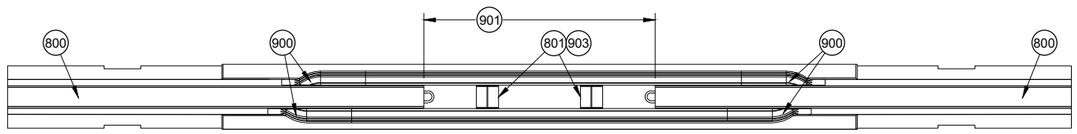
PLAN VIEW
TEMPORARY BARRIER GAP OVER 4" TO 1' MAX. (904)

GENERAL NOTES

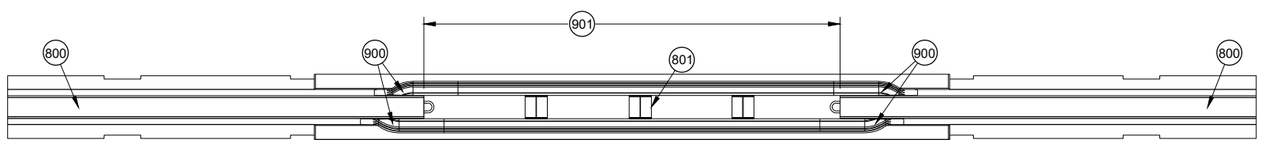
(900) SEE OTHER DETAILS FOR TEMPORARY GAP HARDWARE (TYP.)
(901) TEMPORARY BARRIER GAP
(902) GAP STIFFENER ASSEMBLY CENTERED IN THE GAP.
(903) GAP STIFFENER ASSEMBLY IS OFFSET 18 ¾" FROM CENTER
(904) MINIMUM NUMBER OF GAP STIFFENERS SHOWN FOR THE GAP RANGE SHOWN.
(905) MINIMUM OF 8 CONTINUOUS FREE STANDING TEMPORARY BARRIERS



PLAN VIEW
TEMPORARY BARRIER GAP OVER 1' TO 4' MAX. (904)



PLAN VIEW
TEMPORARY BARRIER GAP OVER 4' TO 7' MAX. (904)

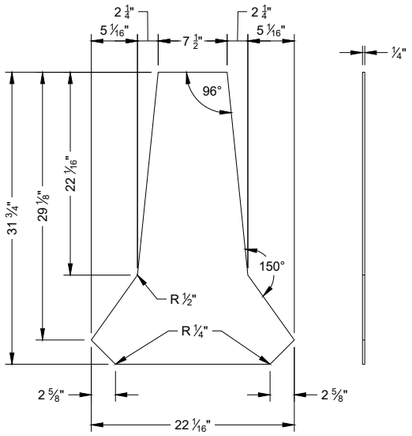


PLAN VIEW
TEMPORARY BARRIER GAP OVER 7' TO 12.5' MAX. (904)

CONCRETE BARRIER TEMPORARY PRECAST, 12' - 6"

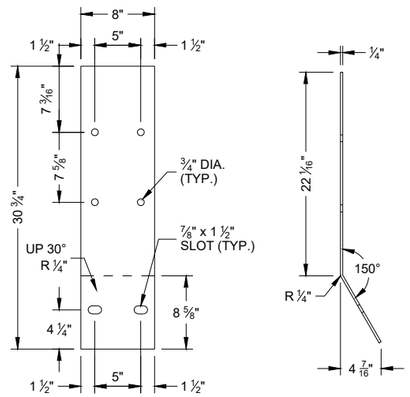
6

SDD 14B07 - 16i



PROFILE VIEW SIDE VIEW

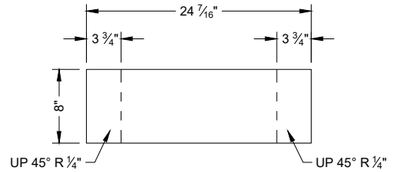
STIFFENER ASSEMBLY CENTER PANEL U1



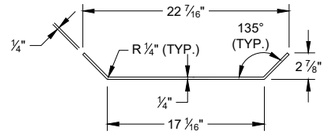
FLAT PATTERN

SIDE VIEW

STIFFENER ASSEMBLY SIDE PANEL U2

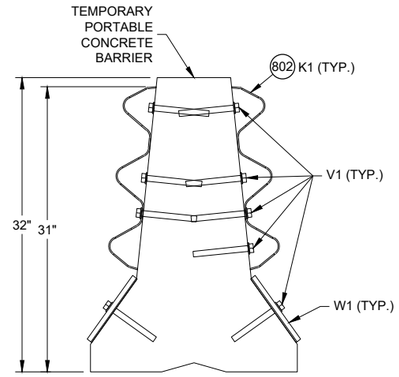


FLAT PATTERN

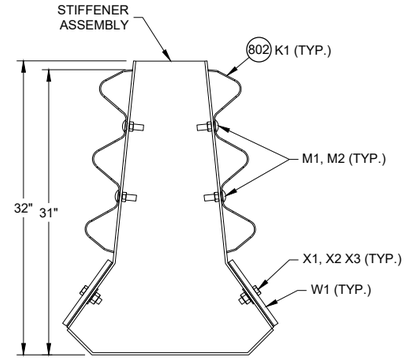


PROFILE VIEW

STIFFENER ASSEMBLY BOTTOM PANEL U3

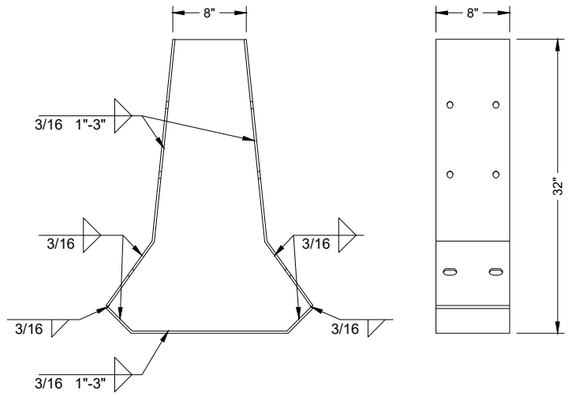


SECTION A - A



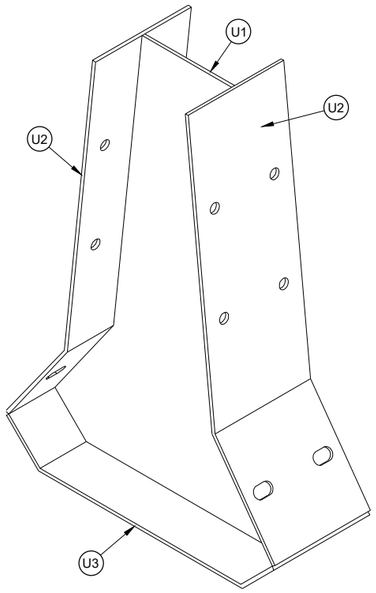
SECTION B - B

PLAN VIEW



PROFILE VIEW

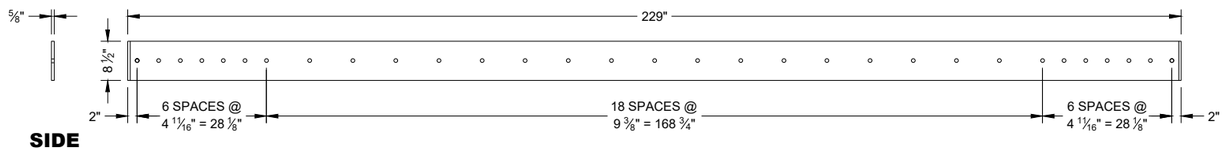
SIDE VIEW



ISOMETRIC

GAP STIFFENER ASSEMBLY

PLAN VIEW



SIDE VIEW

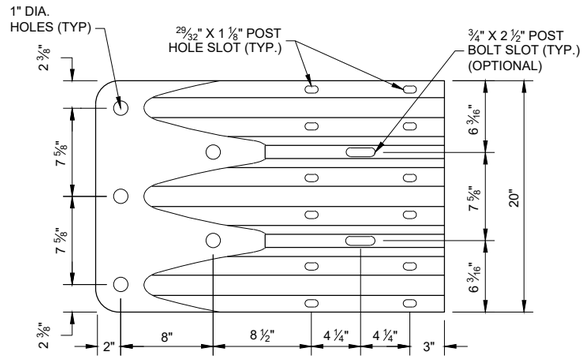
ELEVATION VIEW

W1 TOE PLATE

CONCRETE BARRIER TEMPORARY PRECAST, 12' - 6"

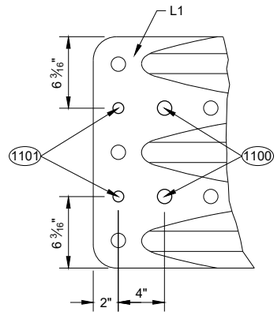
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6
SDD 14B07 - 16j



ELEVATION VIEW

THRIE BEAM TERMINAL CONNECTOR



ELEVATION VIEW

ADDITIONAL THRIE BEAM (1102) TERMINAL CONNECTOR HOLE DETAIL

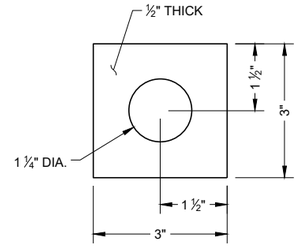


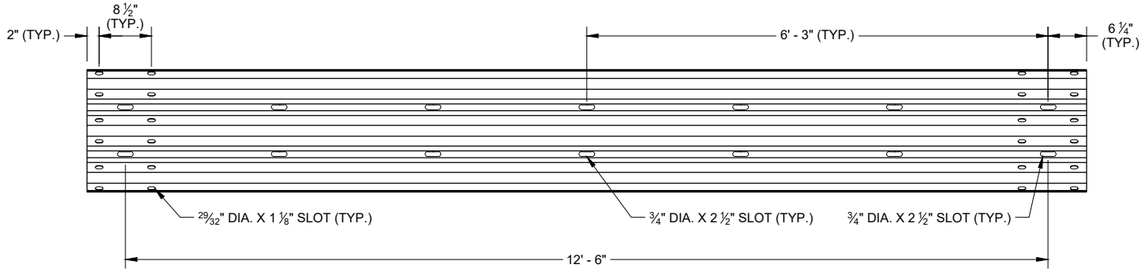
PLATE WASHER DETAIL G2, H3

GENERAL NOTES

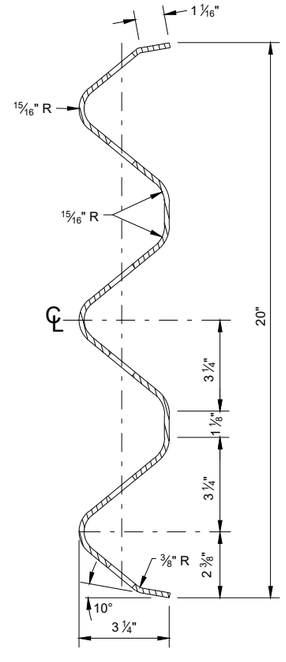
(1100) 1" DIA. HOLE

(1101) 3/4" 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.



SLOTTED THRIE BEAM RAIL K1



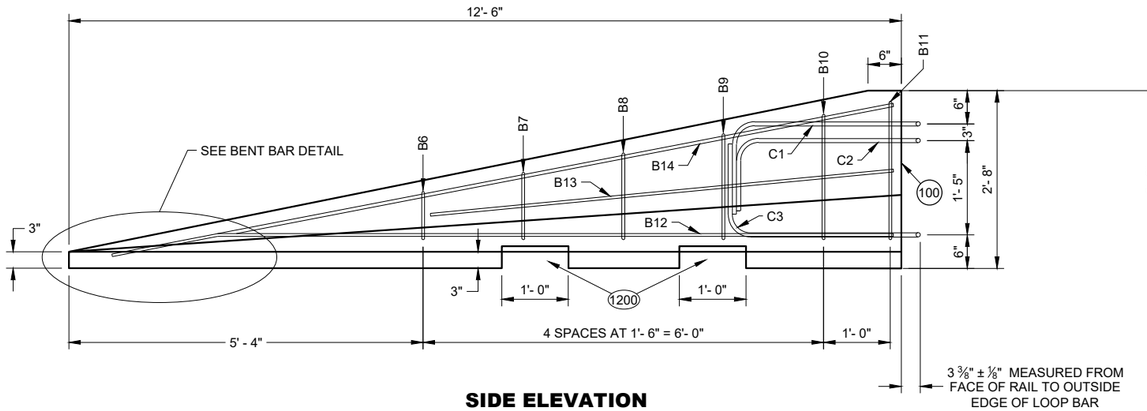
SECTION THROUGH BEAM K1

CONCRETE BARRIER TEMPORARY PRECAST, 12' - 6"

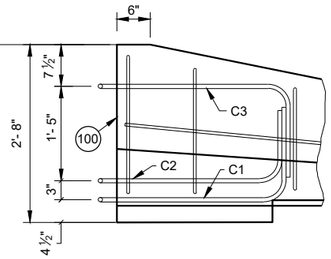
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

SDD 14B07 - 16k



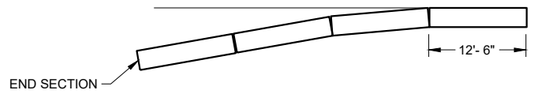
SIDE ELEVATION
(FOR CONNECTION TO LEFT END OF BARRIER)



SIDE ELEVATION
LOOP BAR ASSEMBLY INVERTED FOR OPPOSITE END
(FOR CONNECTION TO RIGHT END OF BARRIER)

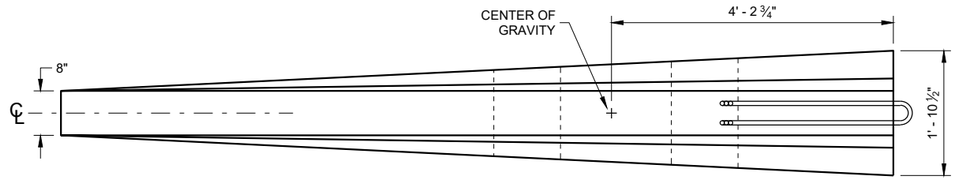
GENERAL NOTES

(1200) SEE LIFTING SLOT DETAIL. LOCATION OF LIFTING SLOTS DETERMINED BY CONTRACTOR.

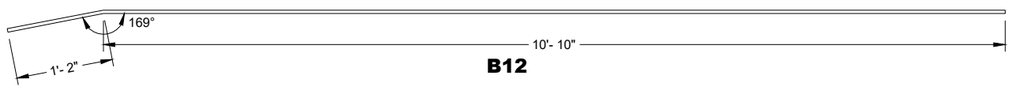


FLARE AT BARRIER END

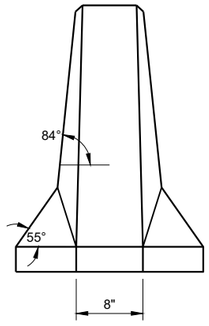
POSTED SPEED, (MPH)	FLARE RATE
40 OR LESS	6:1
45 OR GREATER	8:1



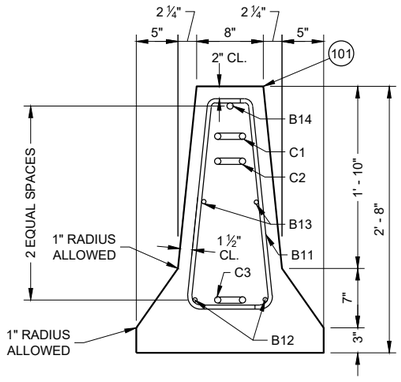
PLAN VIEW



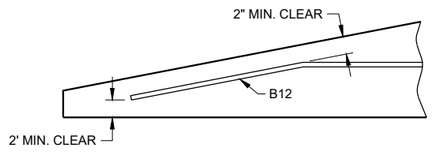
B12



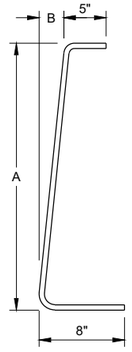
FRONT ELEVATION



END SECTION



BENT BAR DETAIL



BAR	A	B
B6	10"	1"
B7	1'- 1"	1 ¼"
B8	1'- 5"	1 ⅝"
B9	1'- 8"	1 ⅞"
B10	2'- 0 ½"	2 ⅜"
B11	2'- 3"	2 ¾"

B BARS
2 OF EACH SIZE REQUIRED FOR STIRRUP ASSEMBLY

DETAILS OF BARRIER TAPER SECTION

CONCRETE BARRIER TEMPORARY PRECAST, 12' - 6"

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

PART	DESCRIPTION	MATERIALS SPECIFICATIONS	NOTES
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

6

SDD14B07 - 16m

MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

SDD14B07 - 16m

BILL OF MATERIALS - CONCRETE BARRIER PRECAST

PART	DESCRIPTION	MATERIALS SPECIFICATIONS	NOTES
T1	CAP 56-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
T2	CAP 56-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
T3	CAP 56-INCH SIDE PLATE 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
T4	CAP 56-INCH SIDE PLATE 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
T5	CAP 56-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
T6	CAP 56-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
T7	CAP 56-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
T8	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
T9	CAP 42-INCH GUSSET 5	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
T10	CAP 42-INCH GUSSET 6	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
T11	CAP 42-INCH GUSSET 7	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
T12	CAP 42-INCH GUSSET 8	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
T13	CAP 42-INCH GUSSET 9	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
T14	CAP 42-INCH GUSSET 10	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
T15	CAP 42-INCH GUSSET 11	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
T16	CAP 42-INCH GUSSET 12	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
U1	GAP STIFFENER	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	
U2	GAP STIFFENER - CONNECTOR PLATE 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	
U3	GAP STIFFENER - CONNECTOR PLATE 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	

PART	DESCRIPTION	MATERIALS SPECIFICATIONS	NOTES
V1	THRIE BEAM RAIL TERMINAL MECHANICAL OR ADHESIVE ANCHOR	MINIMUM MECHANICAL OR ADHESIVE ANCHOR STRENGTH REQUIREMENTS ULTIMATE TENSILE LOAD 24.0 KIPS AND ULTIMATE SHEAR LOAD 21.5 KIPS. SEE 603.2 AND 603.3.1.2 OF THE WISCONSIN STANDARD SPECIFICATIONS FOR MORE INFORMATION ON ADHESIVE ANCHORS.	¾" DIA.
V2	GAP STIFFENER - BOLT - NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C O R MECHANICAL GALVANIZE TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291/ASTM A 563 HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5	
W1	TOE 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	
X1	TOE PLATE - CONNECTION 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 TYPE 2 UNC HEAVY HEX HEAD OR AASTHO M180 HEAD, ASTM F3125 GRADE A325 TYPE 1 HEAVY HEX HEAD OR SAE J429 GRADE 5 HEAVY HEX HEAD / ASTM A449 TYPE 1 HEAVY HEX HEAD. BOLTS MAY BE FULLY THREADED. PROVIDE ENOUGH THREADING FOR PROPER TIGHTENING OF BOLT.	¾" DIA.
X2	TOE PLATE - CONNECTION BOLT - 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 (HARDEN WASHER ONLY)	
X3	TOE PLATE - CONNECTION 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 HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5	

6

SDD 14B07 - 16n

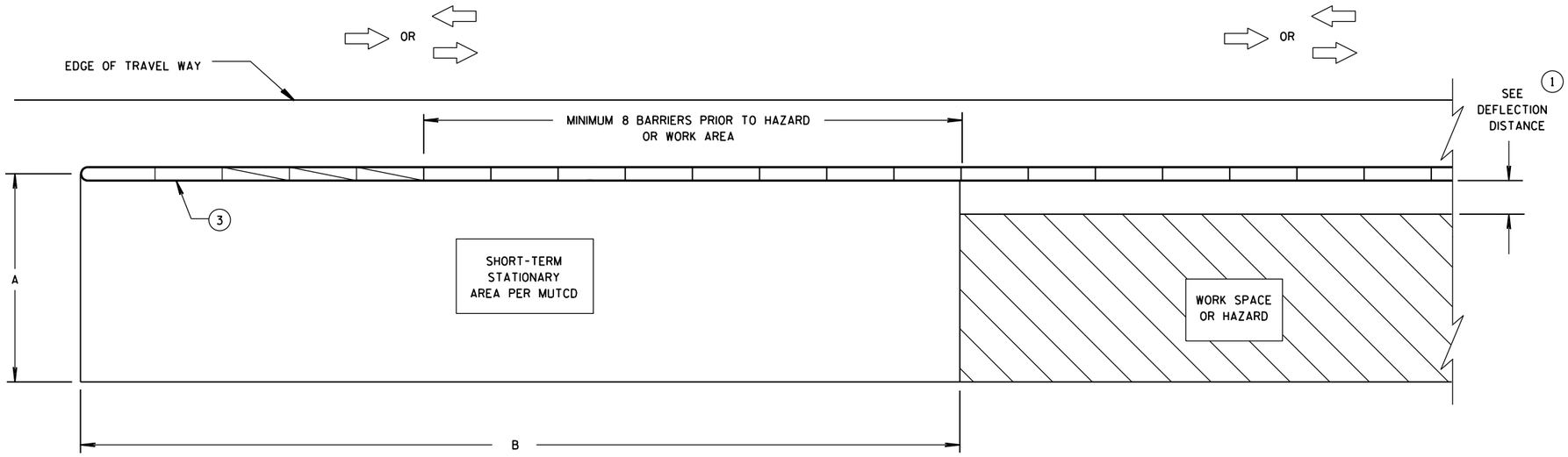
CONCRETE BARRIER TEMPORARY PRECAST, 12' - 6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2022 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVE ENGINEER
FHWA

6

SDD 14B07 - 16n



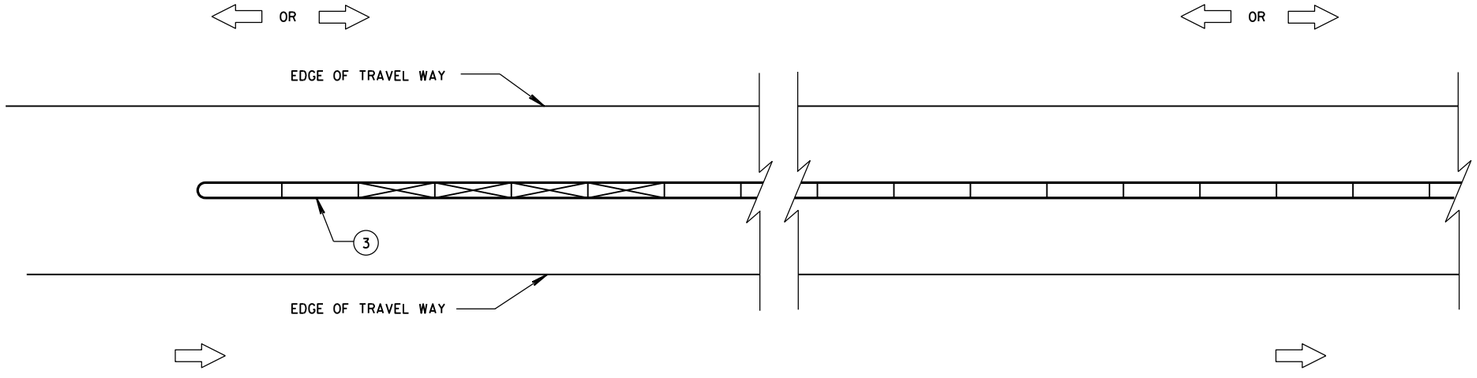
CRASH CUSHION/SAND BARREL ARRAY AND TEMPORARY BARRIER INSTALLATION FOR TRAFFIC ON ONE SIDE OF BARRIER

DIMENSION A TABLE (2)

FACILITY	POSTED SPEED MPH	DIMENSION A	
		MIN. FT	MAX. FT
FREEWAY/EXPRESSWAY	ALL	15	20
NON-FREEWAY/EXPRESSWAY	GREATER THAN OR EQUAL TO 45	10	15
NON-FREEWAY/EXPRESSWAY	LESS THAN 45	8	10
AADT LESS THAN 1,500	ALL	8	10

DIMENSION B TABLE (2)

POSTED SPEEDS MPH	DIMENSION B FT
20	115
25	155
30	200
35	250
40	305
45	360
50	425
55	495
60	570
65	645



CRASH CUSHION/SAND BARREL ARRAY AND TEMPORARY BARRIER INSTALLATION FOR TRAFFIC ON BOTH SIDES OF BARRIER

LEGEND

- DIRECTION OF TRAVEL
- CRASH CUSHION OR SAND BARREL ARRAY
- SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS
- SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS
- 3 PINS PLACED ON TRAFFIC SIDE OF BARRIER
- PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET
- FREE STANDING TEMPORARY BARRIER

GENERAL NOTES

SEE STANDARD DETAIL DRAWING 14B7 FOR MORE INFORMATION.

DETAILS PROVIDE A GENERAL LAYOUT OF TEMPORARY CONCRETE BARRIER, CRASH CUSHIONS, SAND BARREL ARRAYS AND TIE DOWN TRANSITIONS. DETAILS PROVIDED MAY NOT FIT ALL POSSIBLE SITUATIONS OR SITE CONDITIONS. SEE OTHER SECTIONS OF THE CONTRACT OR PROJECT ENGINEER FOR MORE DETAILS.

ADDITIONAL TEMPORARY BARRIER MAY BE REQUIRED TO PROTECT TRAVELING PUBLIC FROM HAZARDS, CONTRACTOR'S OPERATIONS OR TO CONTROL TRAFFIC.

TEMPORARY BARRIER MAY BE REQUIRED TO BE ANCHORED TO PAVEMENT OR BRIDGE DECK.

FOR DETAILS ON CRASH CUSHION OR SAND BARREL ARRAYS SEE OTHER SECTIONS OF THE PLAN AND MANUFACTURE'S DETAILS.

SLOPES LEADING TO TEMPORARY BARRIER, CRASH CUSHION OR SAND BARREL ARRAY ARE 10:1 OR LESS.

(1) FOR DEFLECTION INFORMATION SEE STANDARD DETAIL DRAWING 14B7.

(2) VALUES PROVIDED MAY NOT FIT ALL POSSIBLE SITUATIONS OR SITE CONDITIONS. SEE OTHER SECTIONS OF THE CONTRACT OR PROJECT ENGINEER FOR MORE DETAILS.

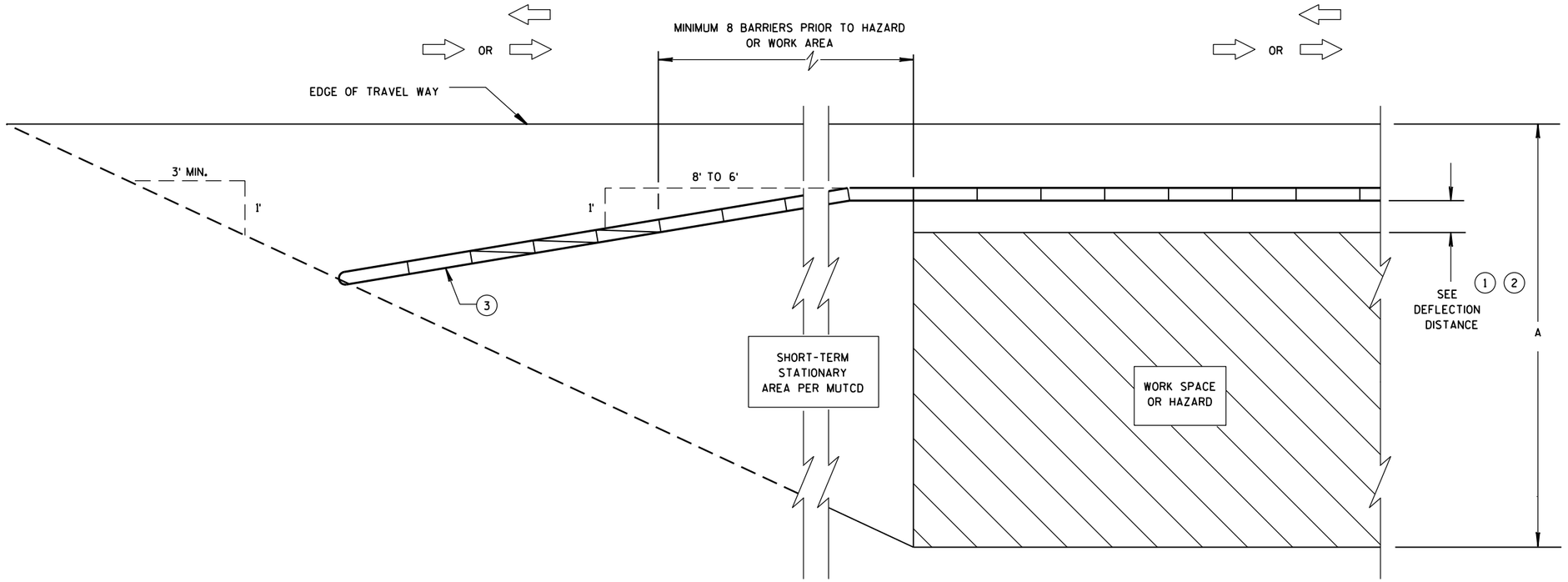
(3) ANCHOR TEMPORARY BARRIER ACCORDING TO CRASH CUSHION OR SAND BARREL MANUFACTURER'S RECOMMENDATIONS. IF MANUFACTURER'S RECOMMENDATIONS ARE NOT PROVIDED, ANCHOR 3 PINS ON TRAFFIC SIDE.

CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS

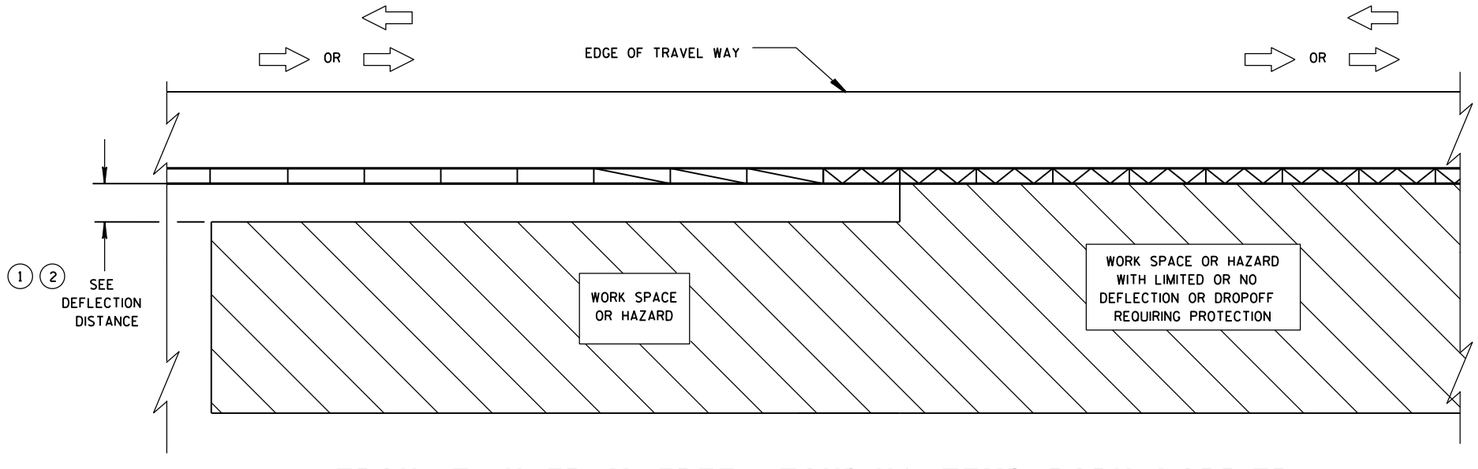
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

S.D.D. 14 B 8-2a
S.D.D. 14 B 8-2a



CRASH CUSHION/SAND BARREL ARRAY AND TEMPORARY BARRIER INSTALLATION FOR TRAFFIC ON ONE SIDE - FLARED INSTALLATION



TRANSITION FROM FREE STANDING TEMPORARY BARRIER TO ANCHORED BARRIER

LEGEND

- DIRECTION OF TRAVEL
- CRASH CUSHION OR SAND BARREL ARRAY
- SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS
- SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS
- 3 PINS PLACED ON TRAFFIC SIDE OF BARRIER
- PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET
- FREE STANDING TEMPORARY BARRIER

CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS

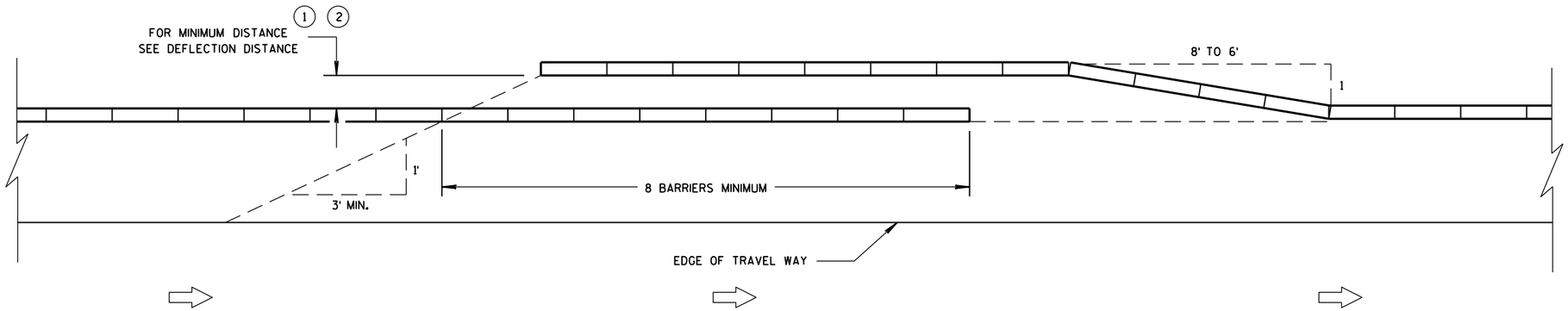
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

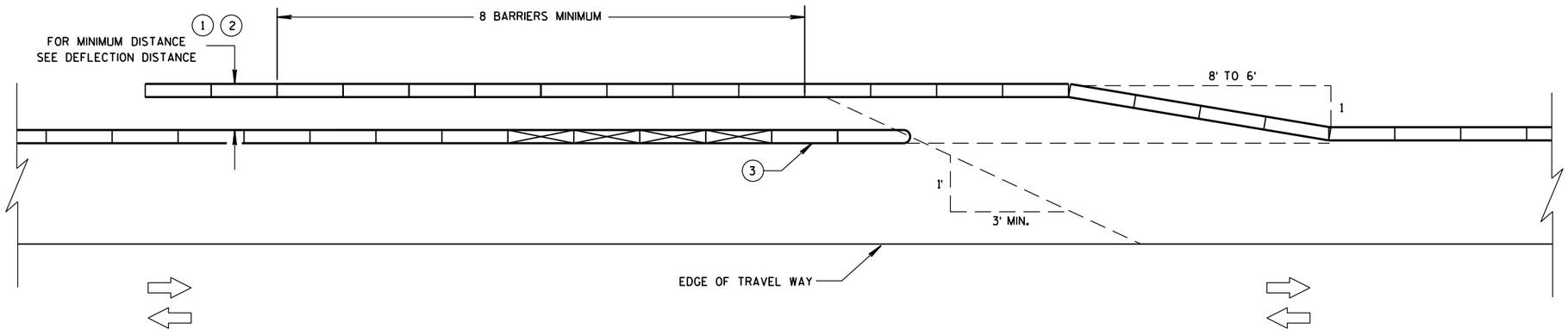
S.D.D. 14 B 8-2b

6

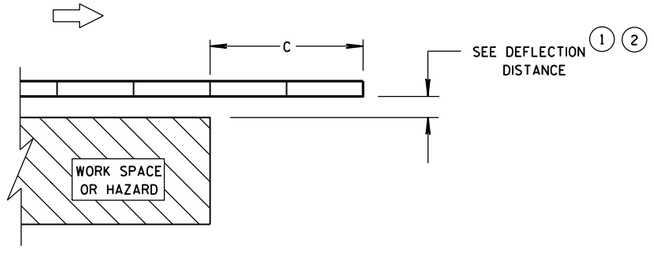
S.D.D. 14 B 8-2b



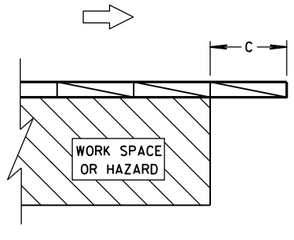
TEMPORARY BARRIER OVERLAP - ONE-WAY TRAFFIC



TEMPORARY BARRIER OVERLAP - TWO-WAY TRAFFIC



ENDING TEMPORARY BARRIER DOWNSTREAM - UNANCHORED



ENDING TEMPORARY BARRIER DOWNSTREAM - ANCHORED

LEGEND

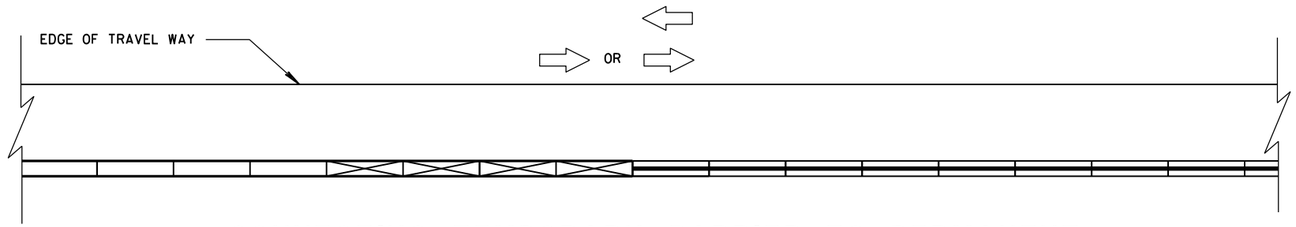
- DIRECTION OF TRAVEL
- CRASH CUSHION OR SAND BARREL ARRAY
- SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS
- SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS
- 3 PINS PLACED ON TRAFFIC SIDE OF BARRIER
- PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET
- FREE STANDING TEMPORARY BARRIER

CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS

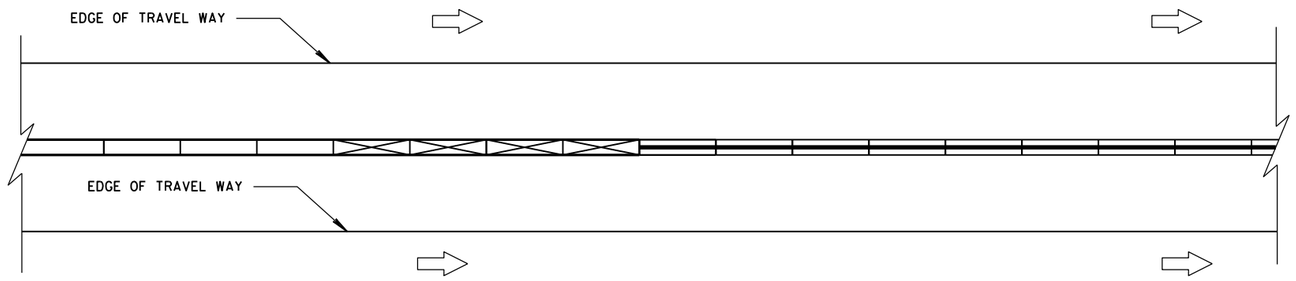
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

S.D.D. 14 B 8-2c



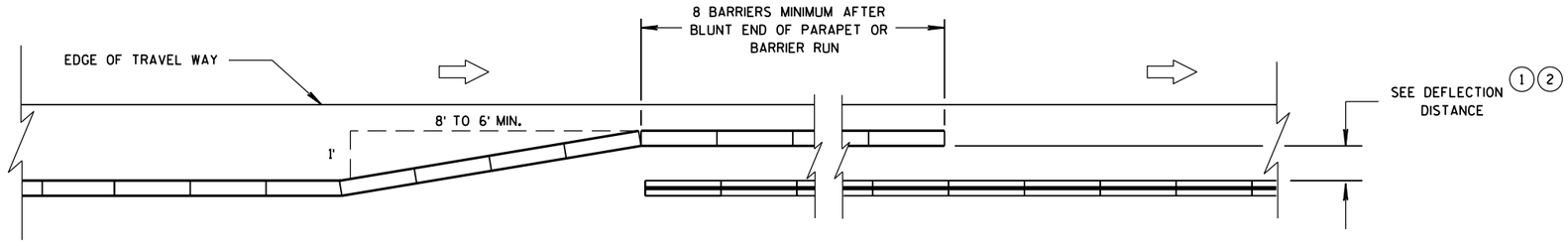
CONNECTING TEMPORARY BARRIER TO PERMANENT
CONCRETE BARRIER-TRAFFIC ON ONE SIDE



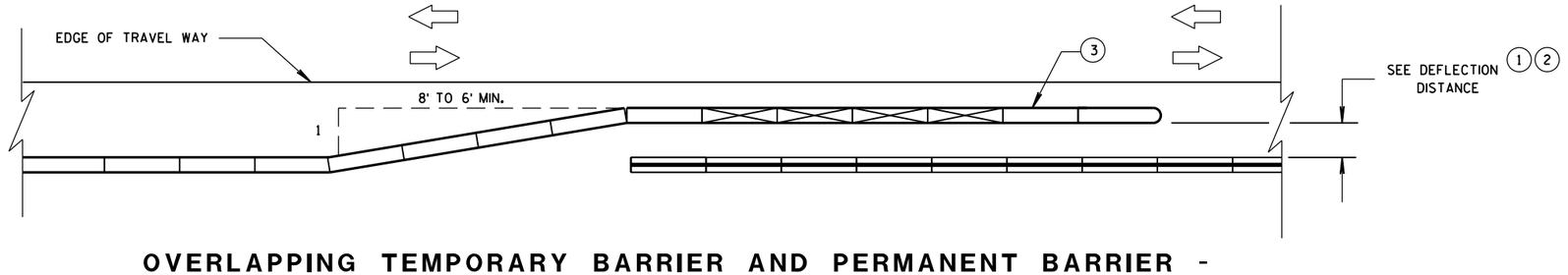
CONNECTING TEMPORARY BARRIER TO PERMANENT
CONCRETE BARRIER-TRAFFIC ON BOTH SIDES

LEGEND

- DIRECTION OF TRAVEL
- CRASH CUSHION OR SAND BARREL ARRAY
- SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS
- SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS
- 3 PINS PLACED ON TRAFFIC SIDE OF BARRIER
- PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET
- FREE STANDING TEMPORARY BARRIER



OVERLAPPING TEMPORARY BARRIER AND PERMANENT BARRIER -
ONE WAY TRAFFIC



OVERLAPPING TEMPORARY BARRIER AND PERMANENT BARRIER -
TWO WAY TRAFFIC

CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

S.D.D. 14 B 8-2d

LEGEND

DIRECTION OF TRAVEL

CRASH CUSHION OR SAND BARREL ARRAY

SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS

SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS

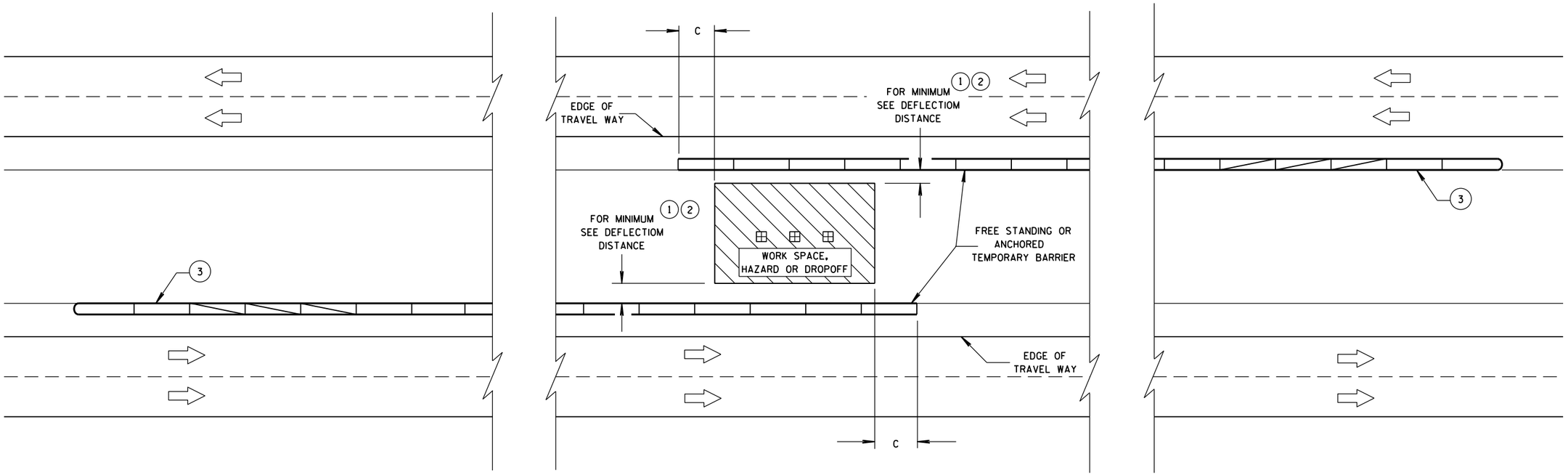
3 PINS PLACED ON TRAFFIC SIDE OF BARRIER

PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET

FREE STANDING TEMPORARY BARRIER

DIMENSION C TABLE (2)

AVAILABLE DEFLECTION DISTANCE	MINIMUM LENGTH OF BARRIER BEYOND HAZARD FT
GREATER THAN 8'	12.5
LESS THAN OR EQUAL TO 8' BUT GREATER THAN 4'	50
LESS THAN OR EQUAL TO 4'	100



CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June, 2015 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINNER
FHWA

6

S.D.D. 14 B 8-2e

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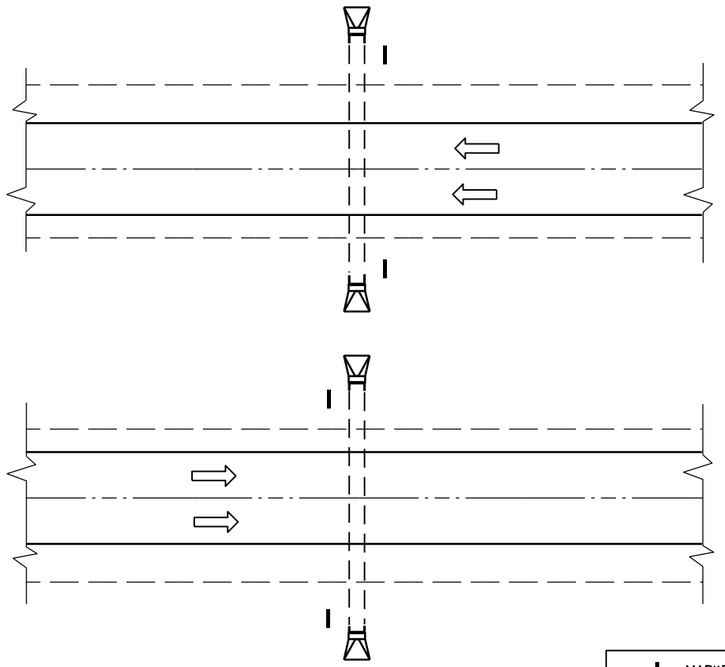
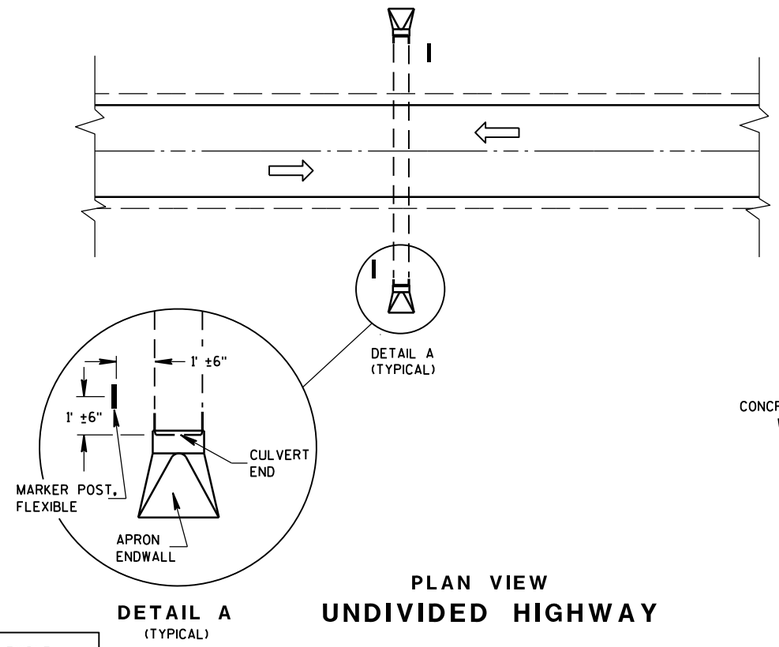
S.D.D. 14 B 8-2e



PLAN VIEW

DIVIDED HIGHWAY



DETAIL A
(TYPICAL)

PLAN VIEW

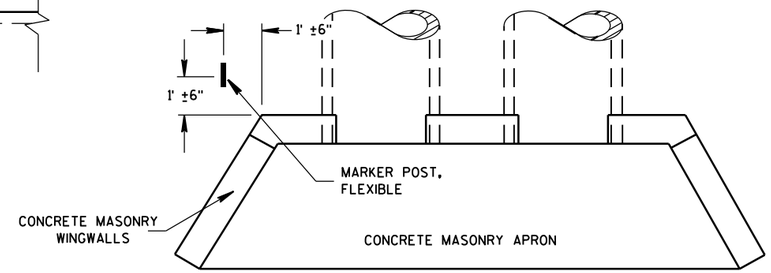
UNDIVIDED HIGHWAY

MARKER POST, FLEXIBLE

DIRECTION OF TRAFFIC FLOW

GENERAL NOTES

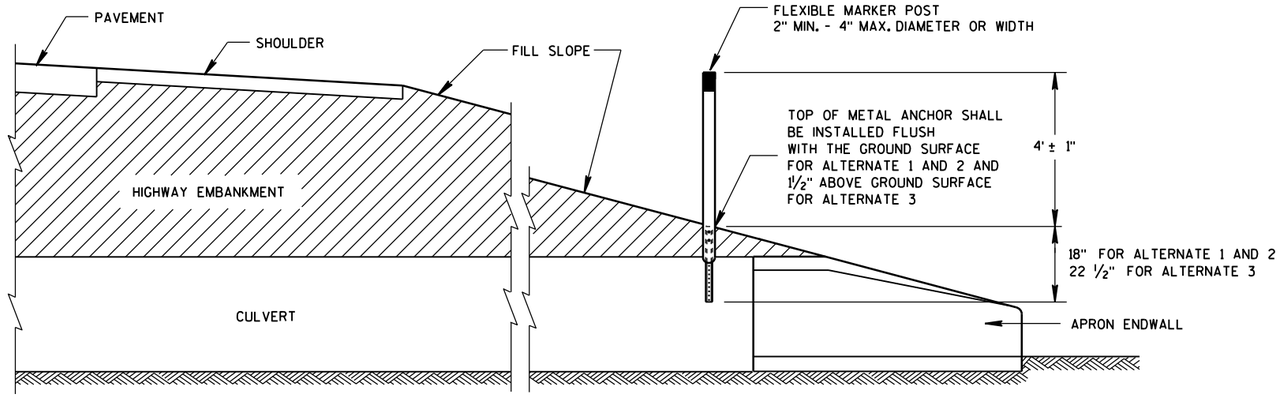
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.



PLAN VIEW

CONCRETE MASONRY ENDWALLS FOR CULVERT PIPE AND PIPE ARCH

FLEXIBLE MARKER POST LOCATION



CROSS SECTION

FLEXIBLE MARKER POST

FLEXIBLE MARKER POST FOR CULVERT END

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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S.D.D. 15 A 3-2a

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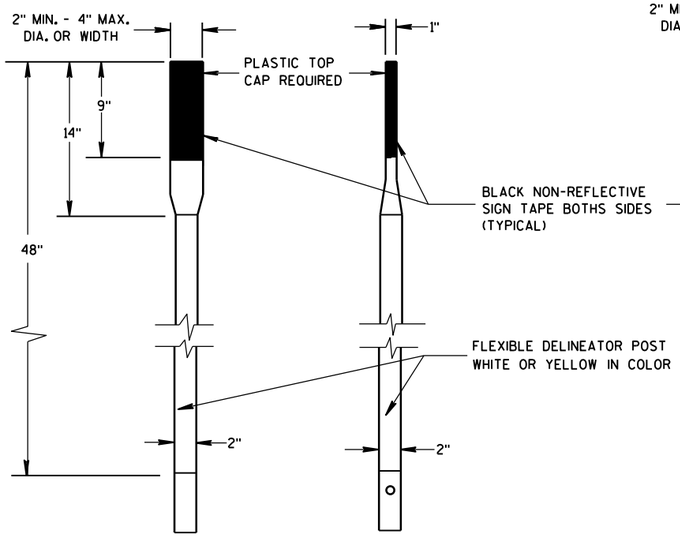
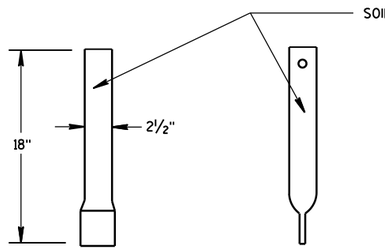
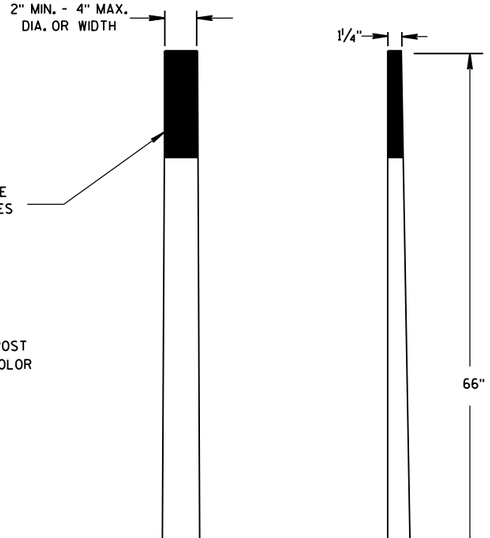
S.D.D. 15 A 3-2a





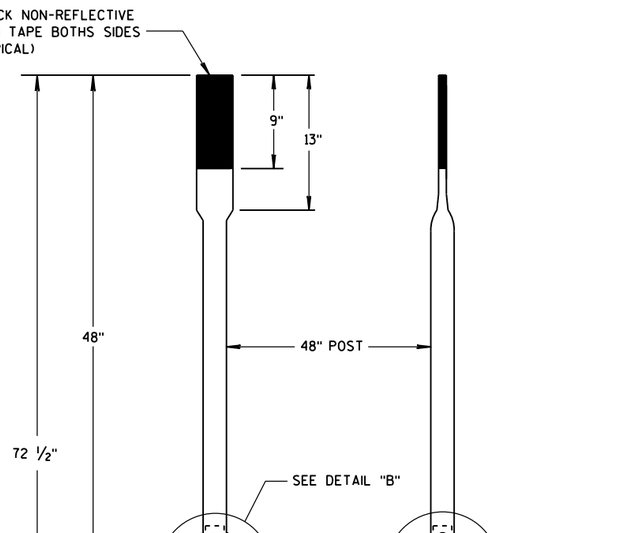
FRONT VIEW SIDE VIEW

ALTERNATE 1



FRONT VIEW SIDE VIEW

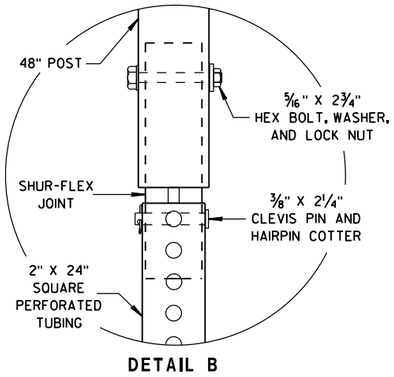
ALTERNATE 2



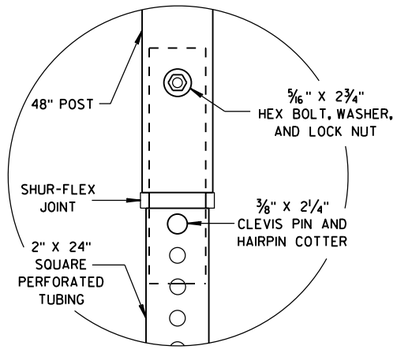
FRONT VIEW SIDE VIEW

ALTERNATE 3

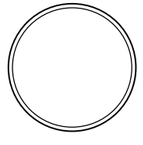
FLEXIBLE MARKER POSTS



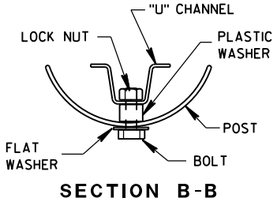
DETAIL B



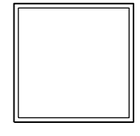
DETAIL C



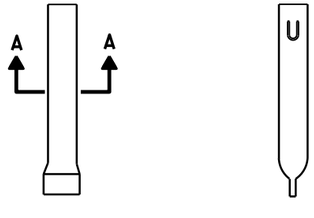
SECTION A-A



SECTION B-B

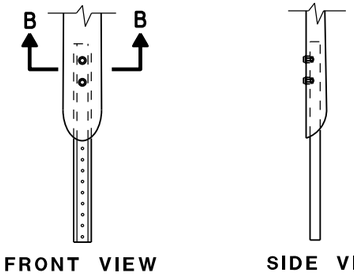


SECTION C-C



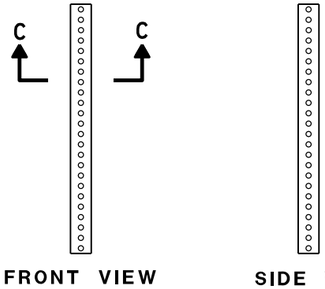
FRONT VIEW SIDE VIEW

ALTERNATE 1



FRONT VIEW SIDE VIEW

ALTERNATE 2



FRONT VIEW SIDE VIEW

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
FHWA	

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S.D.D. 15 A 3-2b

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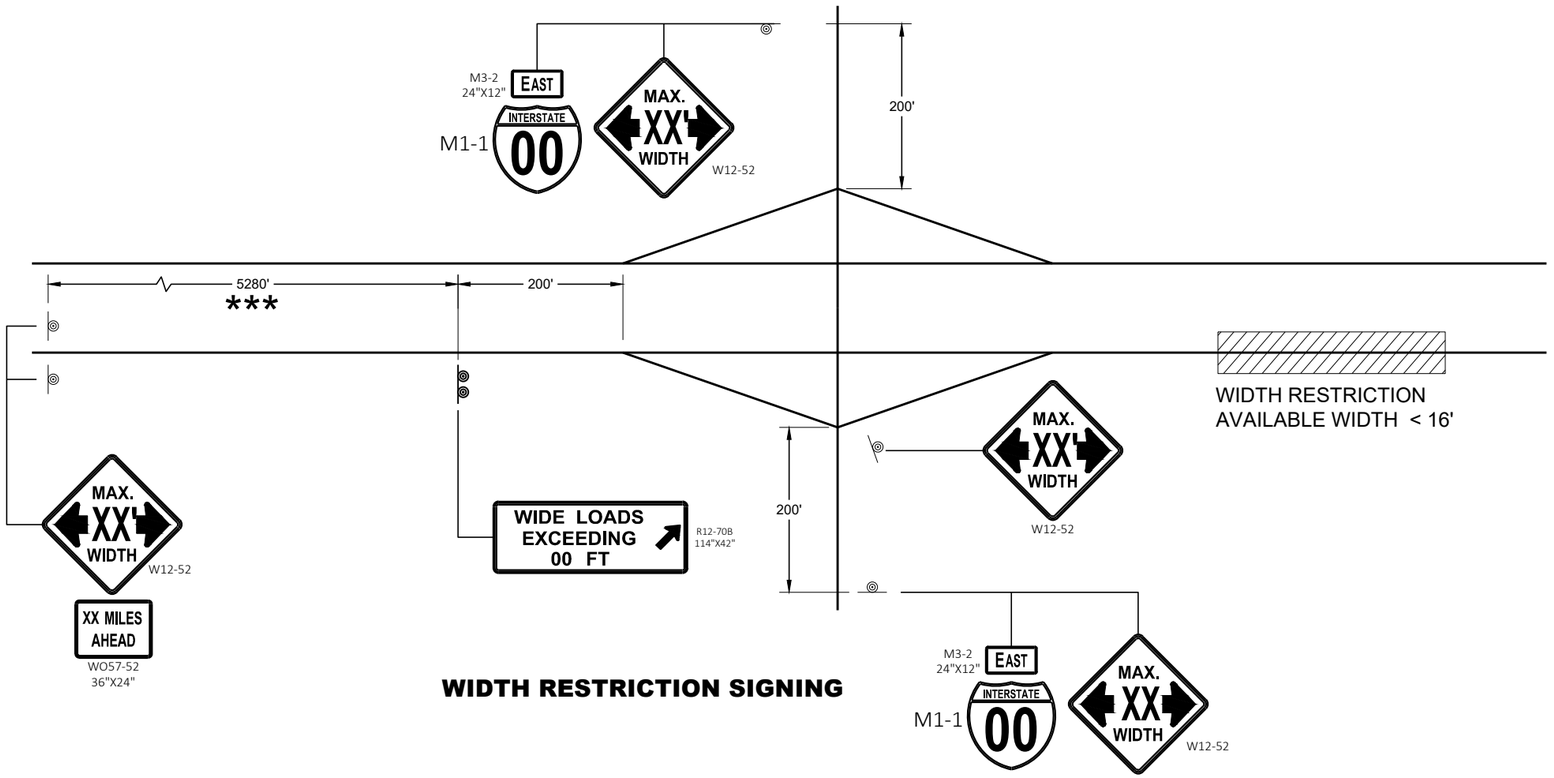
S.D.D. 15 A 3-2b



WIDTH RESTRICTION SIGNING

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.

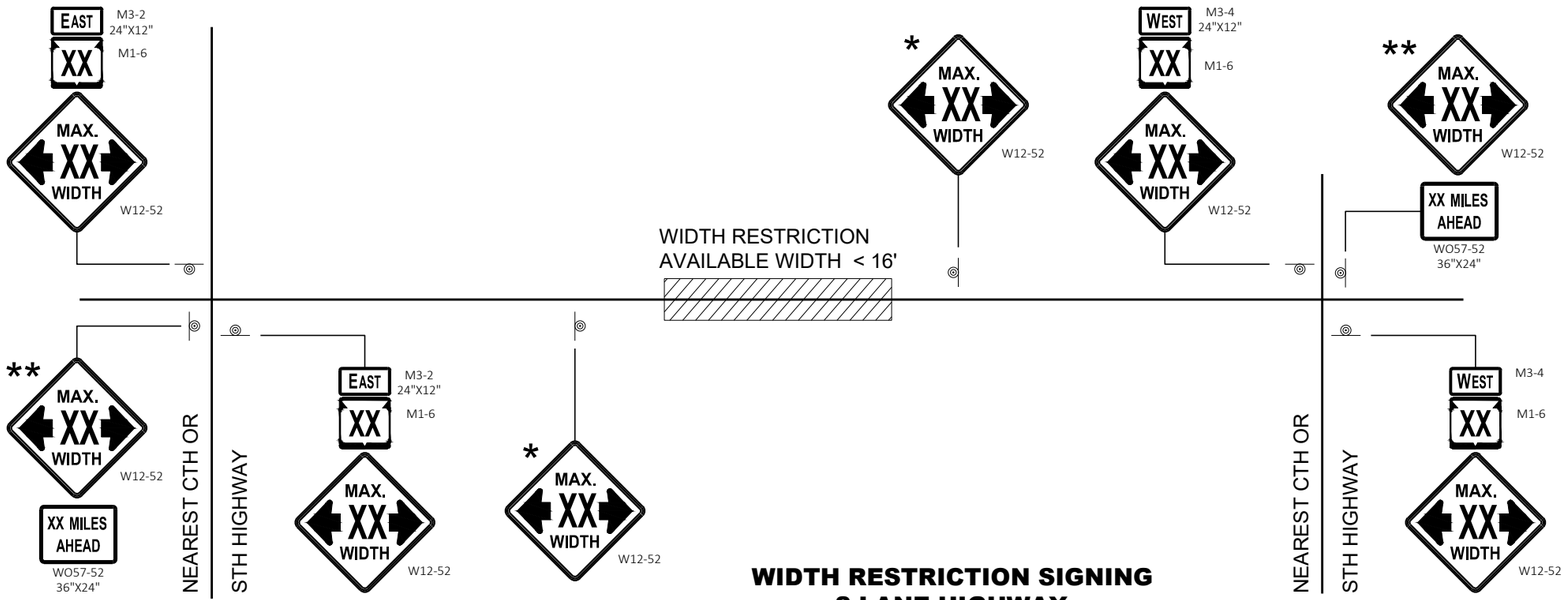
WIDTH ON SIGN TO BE APPROXIMATELY ONE FOOT LESS THAN AVAILABLE WIDTH.

* 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



WIDTH RESTRICTION SIGNING
2 LANE HIGHWAY

ADVANCED WIDTH RESTRICTION SIGNING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2020
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

6

SDD 15C02 - 08f

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.

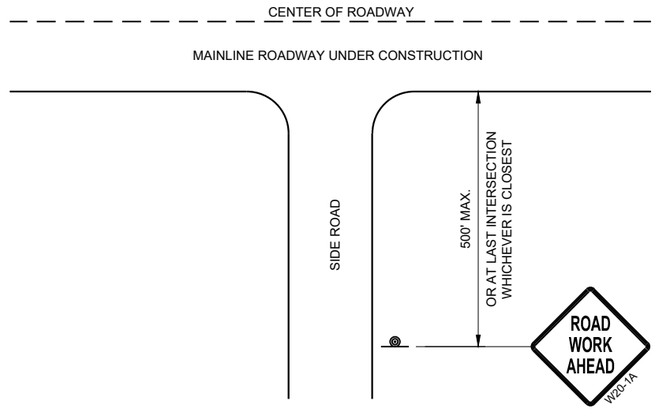
ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

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.



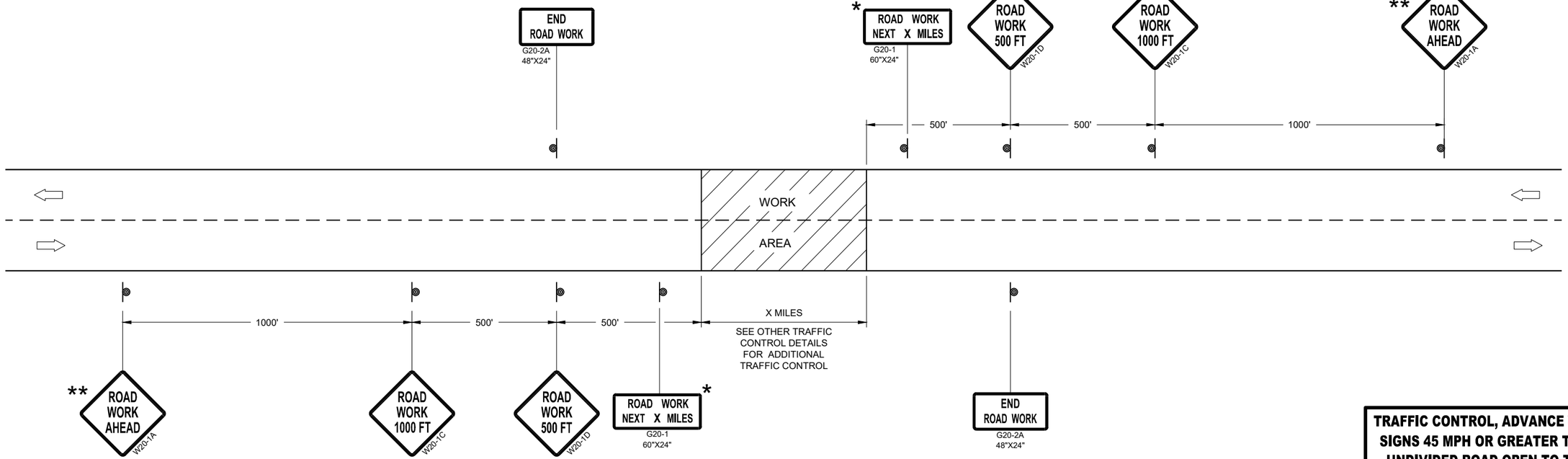
TYPICAL SIDE ROAD APPROACH WARNING SIGN DETAIL

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
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

6

SDD 15C04 - 05

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

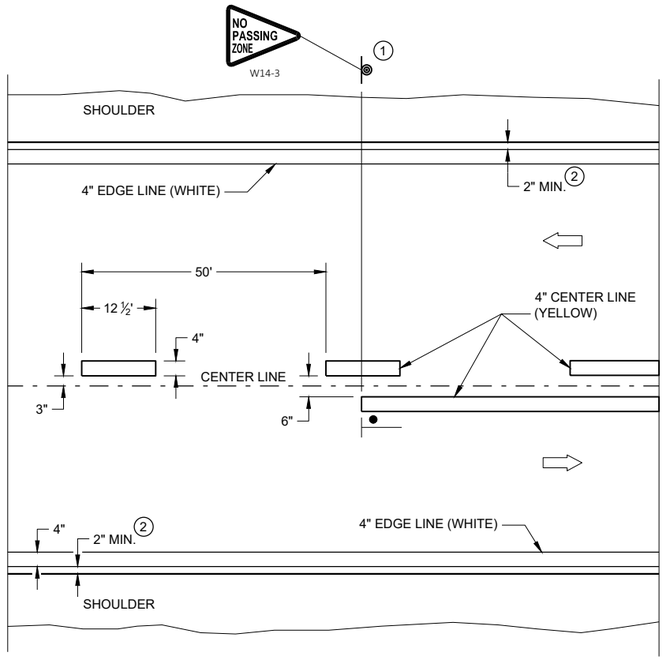
(2) MEASURE FROM EDGE OF MARKING TO JOINT LINE. THIS DOES NOT INCLUDE SPACE NEEDED FOR GROOVING OPERATIONS.

LEGEND

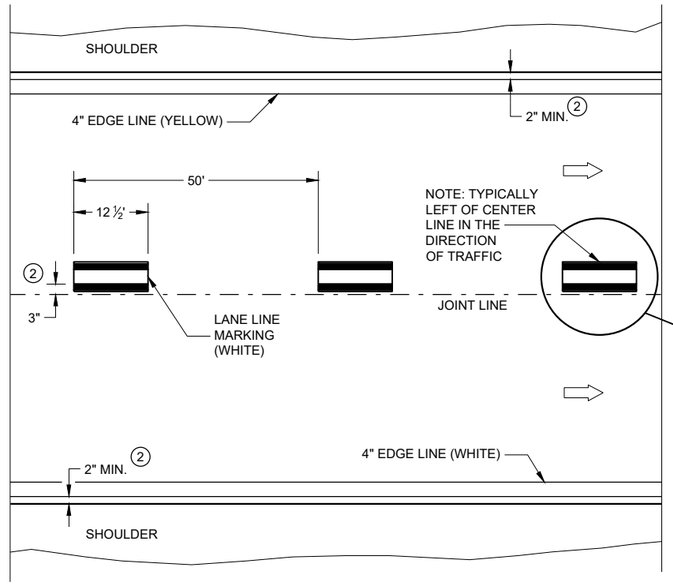
"T" MARKING

SIGN ON PERMANENT SUPPORT

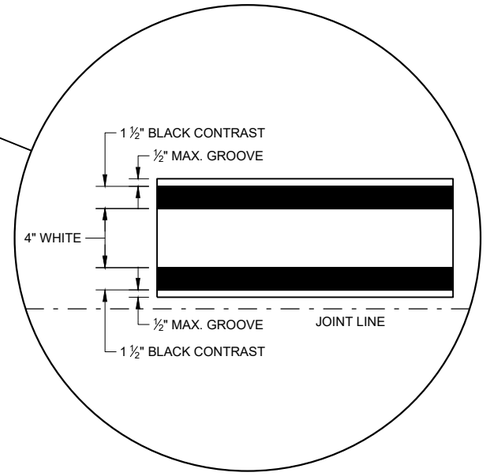
DIRECTION OF TRAFFIC



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

6

SDD 15C08 - 22a

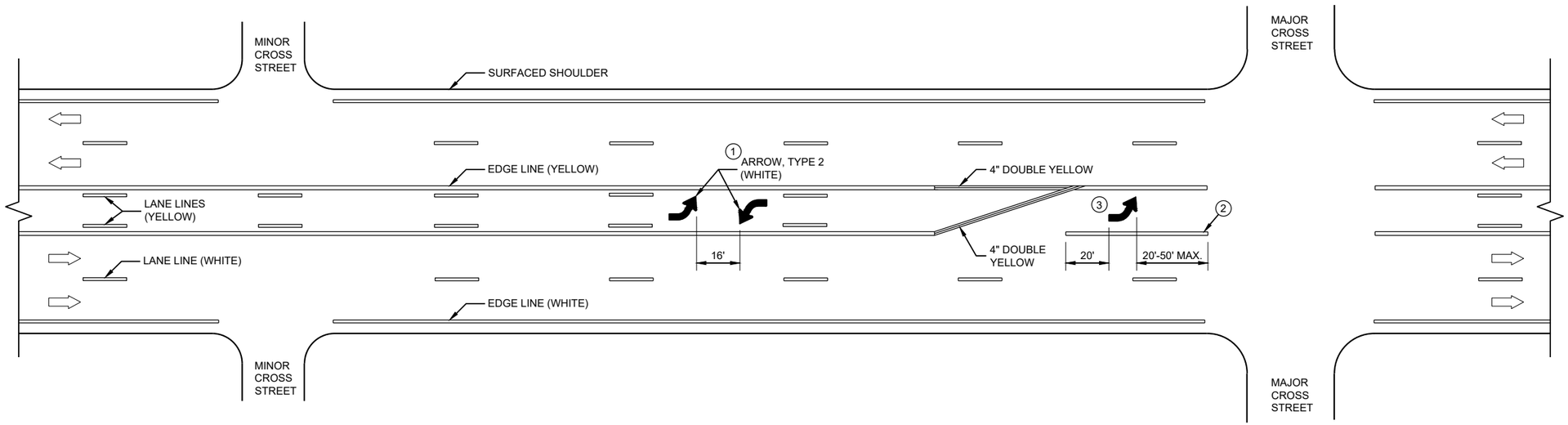
6

SDD 15C08 - 22a

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

6

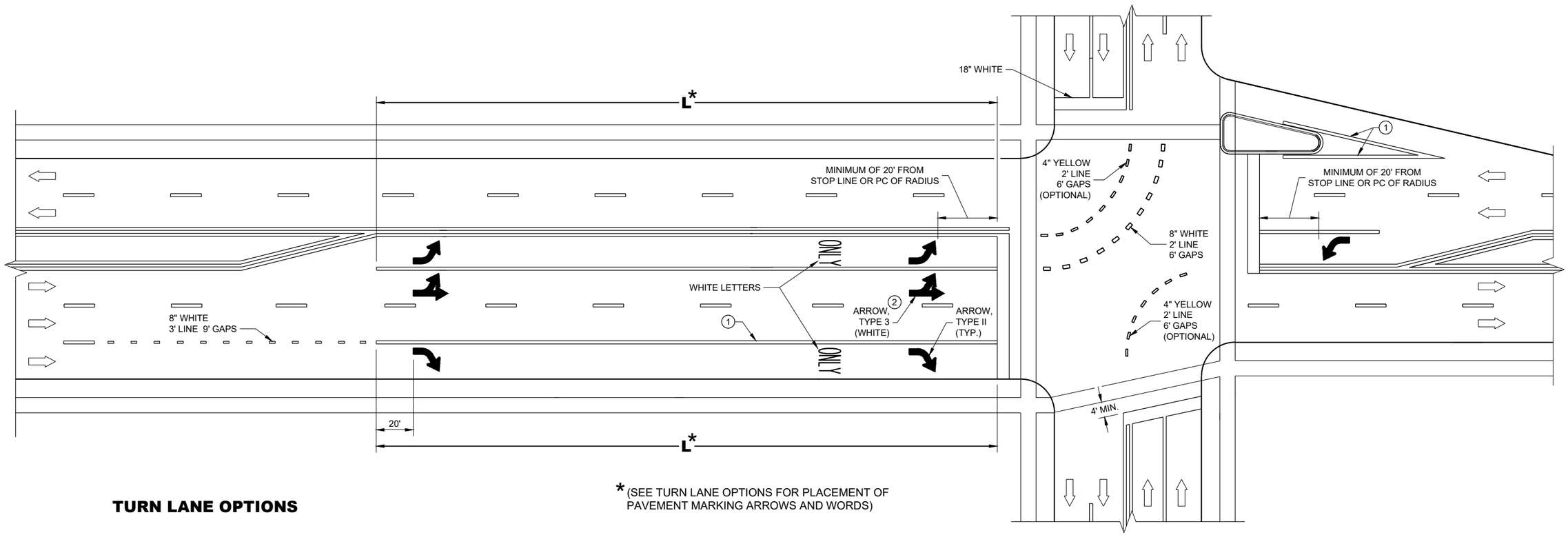
SDD 15C08 - 22c

PAVEMENT MARKING (TURN LANES)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

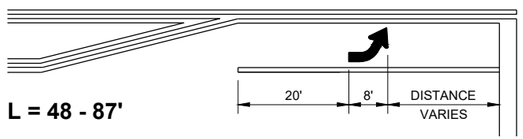
SDD 15C08 - 22c



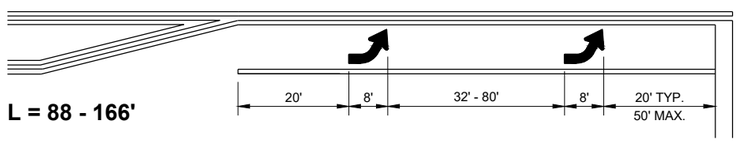
* (SEE TURN LANE OPTIONS FOR PLACEMENT OF PAVEMENT MARKING ARROWS AND WORDS)

TURN LANE OPTIONS

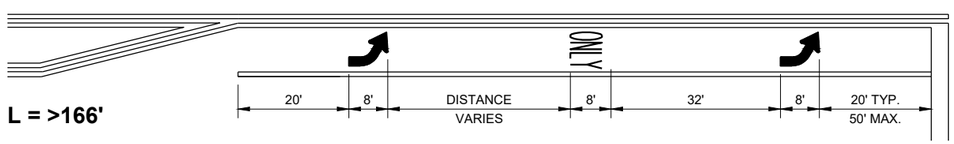
LENGTH OF TURN BAY (**L**) OF 0 - 47' DOES NOT REQUIRE PAVEMENT MARKING ARROWS OR WORDS



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

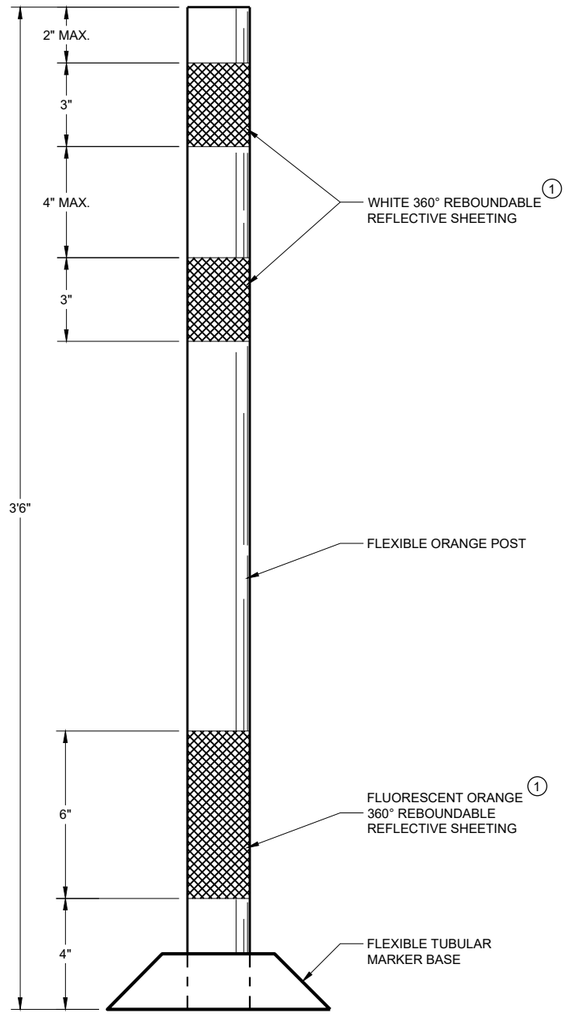
L = LENGTH OF TURN BAY

PAVEMENT MARKING (TURN LANES)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

SDD 15C08 - 22d

6
SDD 15C08 - 22d



FLEXIBLE TUBULAR MARKER POST WORK ZONE

GENERAL NOTES

DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

SURFACE MOUNTED BASES SHALL BE FURNISHED IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS TO BE COMPATIBLE WITH FLEXIBLE TUBULAR MARKER POSTS TO A SIZE AND SHAPE THAT WILL PROVIDE A STABLE POST FOUNDATION WHEN SECURED TO THE PAVEMENT.

THE ASPHALTIC ADHESIVE OR BUTYL PAD FURNISHED SHALL BE IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS, UNLESS DIRECTED BY THE ENGINEER TO USE BOLTS.

(1) REFLECTIVE SHEETING SHALL FOLLOW THE REQUIREMENTS IN THE APPROVED PRODUCTS LISTING FOR SIGN SHEETING.

6

SDD 15C11 - 09a

CHANNELIZING DEVICES
FLEXIBLE TUBULAR MARKER POST

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

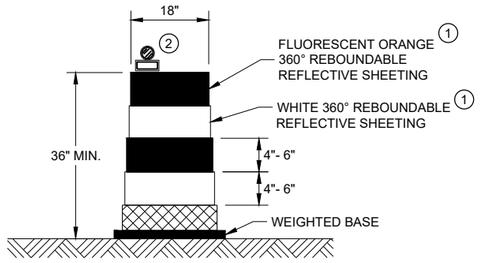
APPROVED
May 2021 — DATE
/S/ Andrew Heidtke — WORK ZONE ENGINEER
FHWA

6

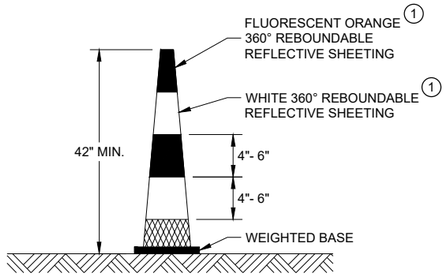
SDD 15C11 - 09a

GENERAL NOTES

1. REFLECTIVE SHEETING SHALL FOLLOW THE REQUIREMENTS IN THE APPROVED PRODUCTS LISTING FOR SIGN SHEETING.
2. LOCATION OF WARNING LIGHTS WHEN SHOWN ON THE PLAN.

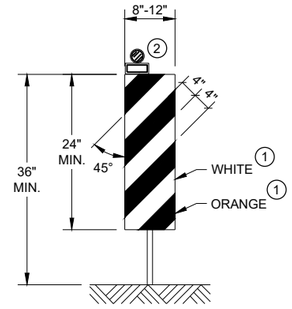


DRUM



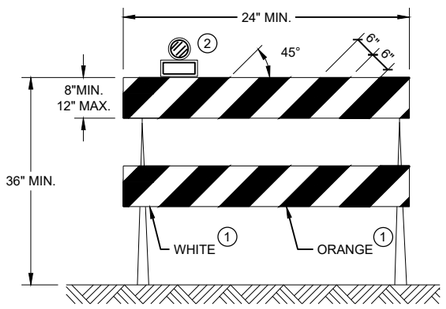
42" CONE

DO NOT USE IN TAPERS
½ SPACING OF DRUMS



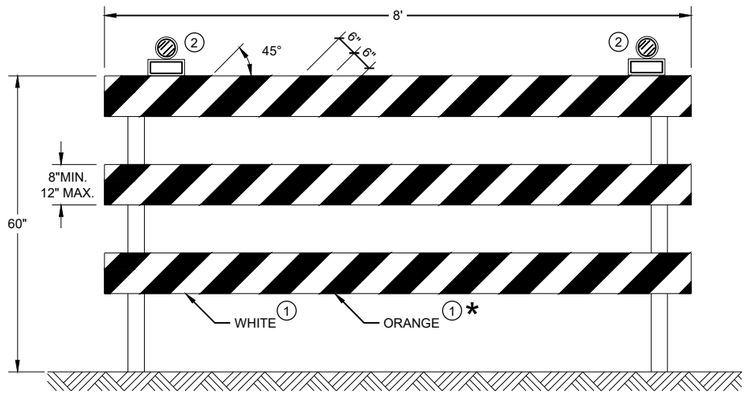
VERTICAL PANEL

THE STRIPES SHALL SLOPE DOWNWARD TO
THE TRAFFIC SIDE FOR CHANNELIZATION.



TYPE II BARRICADE

FOR RAILS LESS THAN 36" LONG, 4" WIDE STRIPES
MAY BE USED. ALL STRIPES SHALL SLOPE DOWNWARD
TO THE TRAFFIC SIDE FOR CHANNELIZATION.



TYPE III BARRICADE

IF SIGN MOUNTED, DO NOT COVER MORE THAN 50% OF THE TOP
TWO RAILS OR 33% OF THE TOTAL AREA OF THE THREE RAILS.

* IF USED FOR A PERMANENT APPLICATION USE RED SHEETING.

CHANNELIZING DEVICES
DRUMS, CONES, BARRICADES
AND VERTICAL PANELS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2021
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

6

SDD 15C11 - 09b

6

SDD 15C11 - 09b

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.

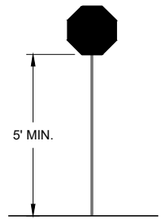
(3) EACH TEMPORARY PORTABLE RUMBLE STRIP ARRAY CONSISTS OF THREE RUMBLE STRIPS PLACED TRANSVERSE ACROSS THE LANE AT THE LOCATIONS SHOWN. WITHIN EACH ARRAY, SPACING BETWEEN RUMBLE STRIPS SHALL BE 15 FEET ON CENTER

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.



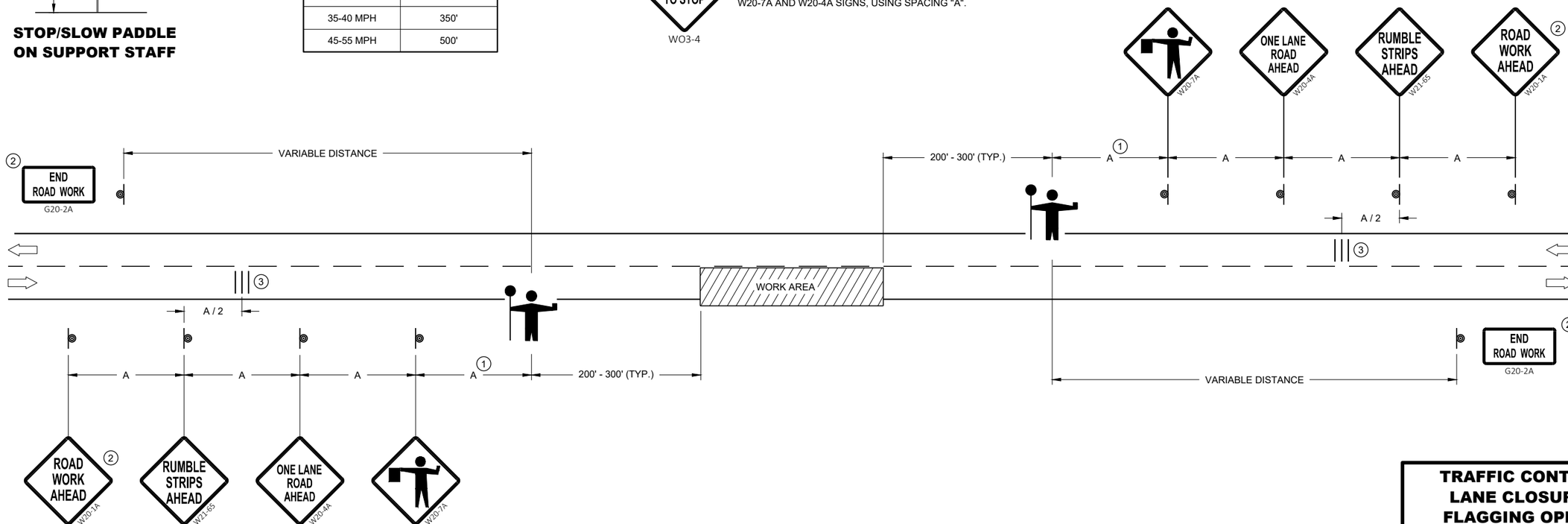
STOP/SLOW PADDLE ON SUPPORT STAFF

SIGN AND TEMPORARY RUMBLE STRIP ARRAY SPACING TABLE

SPEED LIMIT	SPACING "A"
25-30 MPH	200'
35-40 MPH	350'
45-55 MPH	500'

WO3-4

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
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

6

SDD 15C12 - 09a

6

SDD 15C12 - 09a

LEGEND

V1 LEAD VEHICLE

V2 MARKING VEHICLE

V3 SHADOW VEHICLE

TRUCK MOUNTED ATTENUATOR (TMA)

SIGN ON TEMPORARY SUPPORT

DIRECTION OF TRAFFIC

FLASHING ARROW PANEL (CAUTION)

GENERAL NOTES

ALL VEHICLES SHALL BE EQUIPPED WITH TWO 360 DEGREE HIGH INTENSITY YELLOW FLASHING LIGHTS OR STROBE LIGHTS AND OPERATED WITH HEADLIGHTS TURNED ON.

ALL VEHICLES SHALL BE EQUIPPED WITH REAR FACING TYPE B OR C FLASHING ARROW PANEL OPERATING IN CAUTION MODE. SIGNS PLACED ON VEHICLES MUST NOT OBSCURE THE ARROW PANEL.

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE SPECIFIED.

DISTANCE BETWEEN VEHICLES MAY VARY ACCORDING TO TERRAIN, SIGHT DISTANCE, PAINT DRYING TIME, AND OTHER FACTORS. WHENEVER ADEQUATE STOPPING SIGHT DISTANCE EXISTS TO THE REAR, SHADOW VEHICLES SHOULD MAINTAIN THE MINIMUM DISTANCE FROM THE WORK VEHICLE AND PROCEED AT THE SAME SPEED AS THE WORK VEHICLE. SHADOW VEHICLES SHOULD SLOW DOWN IN ADVANCE OF VERTICAL AND HORIZONTAL CURVES THAT RESTRICT SIGHT DISTANCE.

THE WORK AND SHADOW VEHICLES SHOULD PULL OVER PERIODICALLY TO ALLOW TRAFFIC TO PASS.

WHEN NO WORK ACTIVITY IS TAKING PLACE, REMOVE OR LAY STATIONARY SIGNS AND SUPPORTS FLAT ON THE GRADE WITH UPRIGHTS ORIENTED PARALLEL TO AND DOWNSTREAM FROM TRAFFIC.

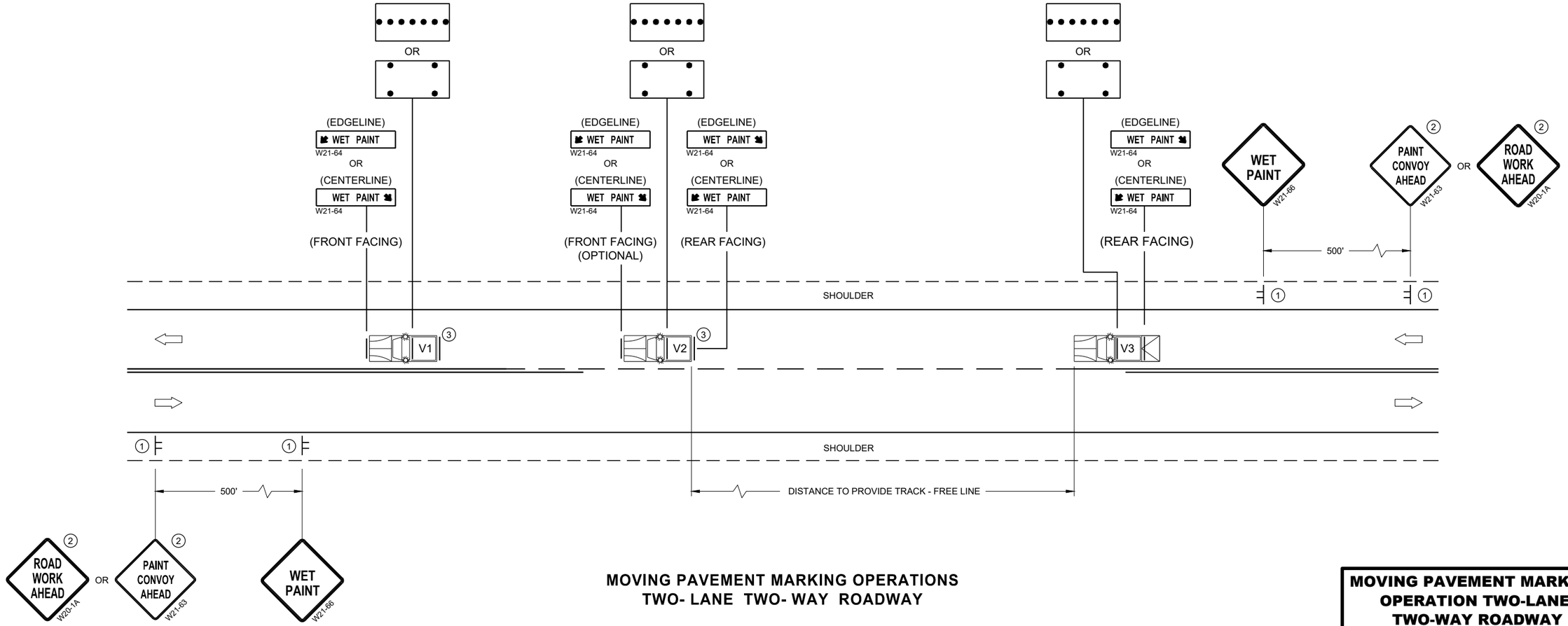
CONES SHOULD BE USED BETWEEN THE MARKING AND SHADOW VEHICLE AT 100 FOOT SPACING. CONES MAY BE OMITTED ON PAINTED LINE IF APPROVED BY THE ENGINEER. CONSIDER PAVEMENT MARKING DRY OR CURE TIMES AND TRAFFIC VOLUME.

CONES SHALL BE A MINIMUM OF 28" FOR WET PAVEMENT MARKING .

(1) SIGNS SHALL BE REPEATED APPROXIMATELY EVERY THREE MILES.

(2) IF CONSTRUCTION WORK ZONE SIGNS ARE IN PLACE, W20-1A OR W21-63 ARE NOT REQUIRED.

(3) V1 AND V2 CAN BE SWITCHED SO THAT THE MARKER IS THE LEAD VEHICLE.



MOVING PAVEMENT MARKING OPERATIONS TWO- LANE TWO- WAY ROADWAY

MOVING PAVEMENT MARKING OPERATION TWO-LANE TWO-WAY ROADWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2022 — DATE
/S/ Andrew Heidtke — WORK ZONE ENGINEER

FHWA

6

SDD 15C19 - 07a

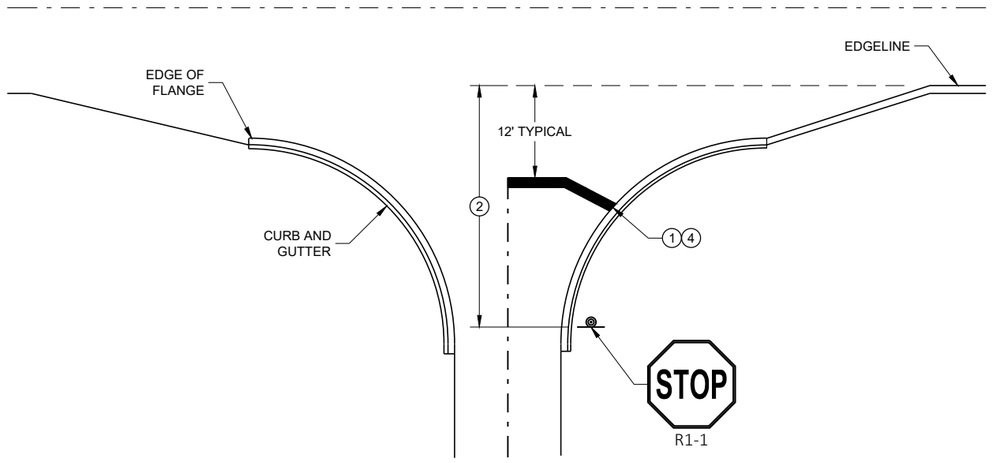
6

SDD 15C19 - 07a

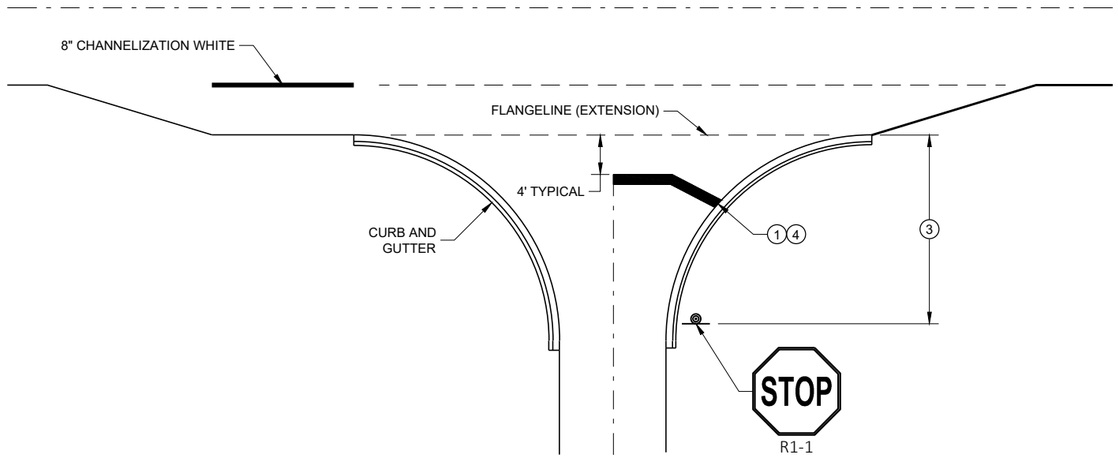
GENERAL NOTES

STOP SIGN SHALL BE PLACED A MINIMUM OF 6 FEET TO A MAXIMUM OF 50 FEET FROM THE EDGELINE LOCATION.

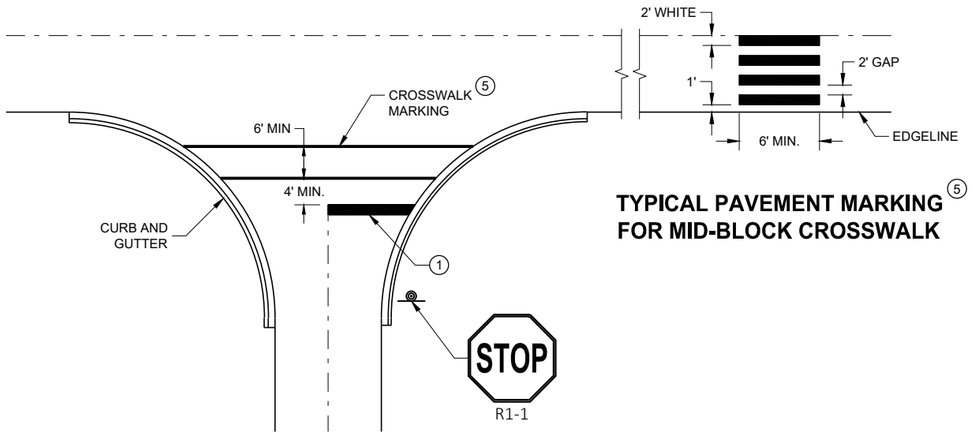
1. 18-INCH STOP LINES MAY BE DELETED OR ADDED BY THE REGION MARKING ENGINEER BASED ON VISIBILITY AND SIGHT LINES.
2. NO STOP LINE IS REQUIRED IF STOP SIGN IS LESS THAN OR EQUAL TO 40 FEET FROM THE EDGELINE.
3. NO STOP LINE IS REQUIRED IF STOP SIGN IS LESS THAN OR EQUAL TO 30 FEET FROM THE FLANGELINE 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

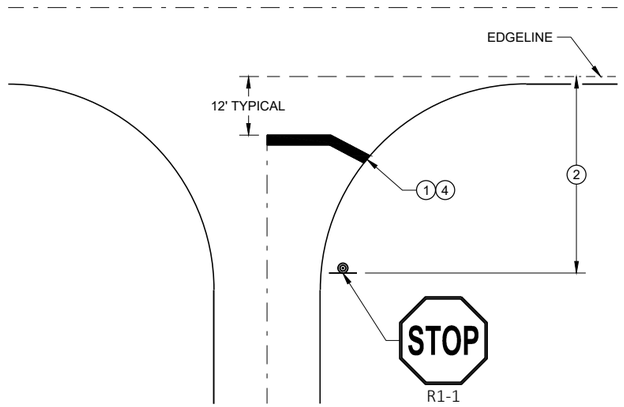


TYPICAL STOP LINE PAVEMENT MARKING FOR SIDEROADS WITH RIGHT TURN LANE



TYPICAL PAVEMENT MARKING FOR MID-BLOCK CROSSWALK 5

TYPICAL STOP LINE PAVEMENT MARKING FOR SIDEROADS WITH CROSSWALK MARKING



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 MAF ENGINEER

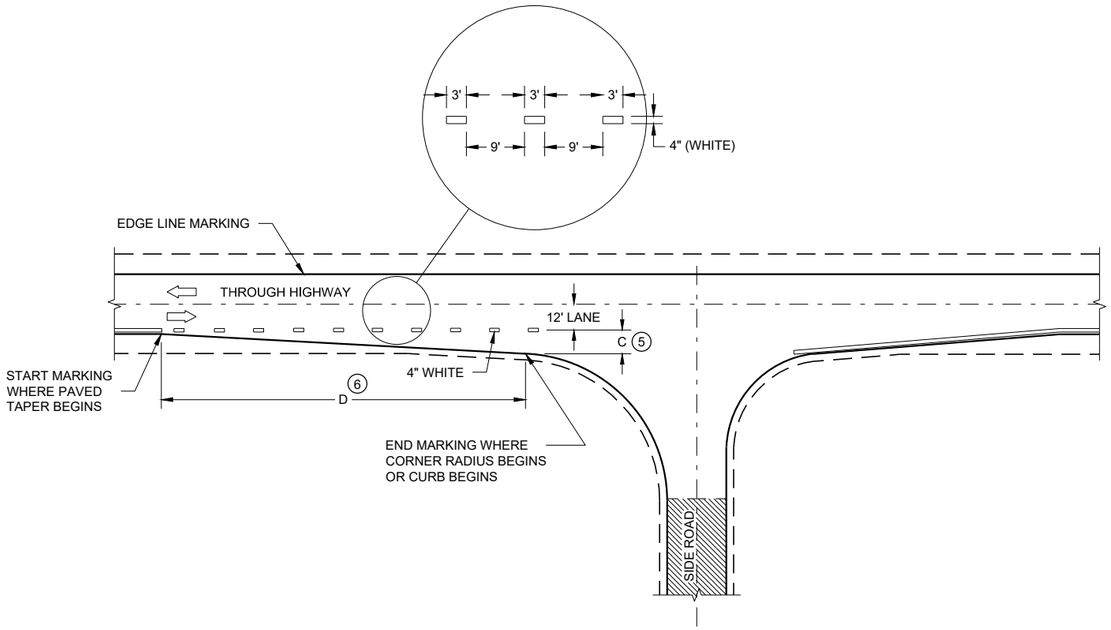
FHWA

6

SDD 15C33 - 04

6

SDD 15C33 - 04



MINOR INTERSECTION

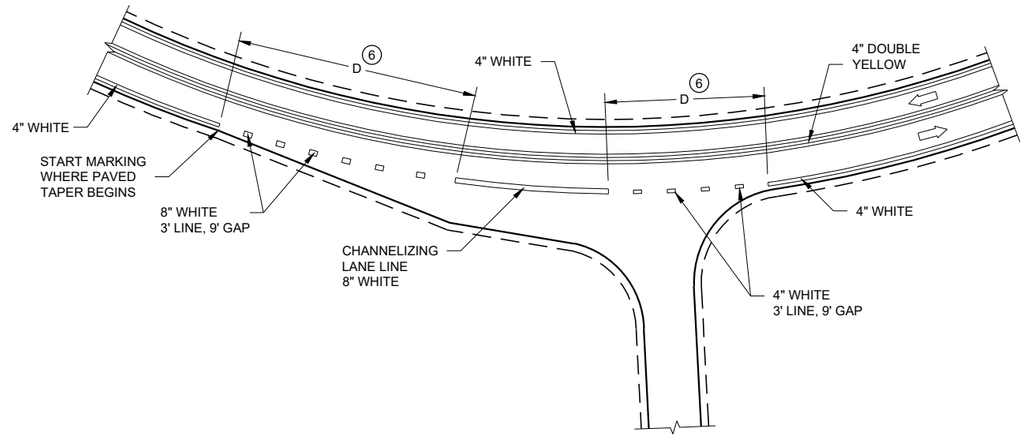
GENERAL NOTES

OMIT EDGE LINES THROUGH INTERSECTIONS. CONTINUE EDGE LINES THROUGH DRIVEWAYS.

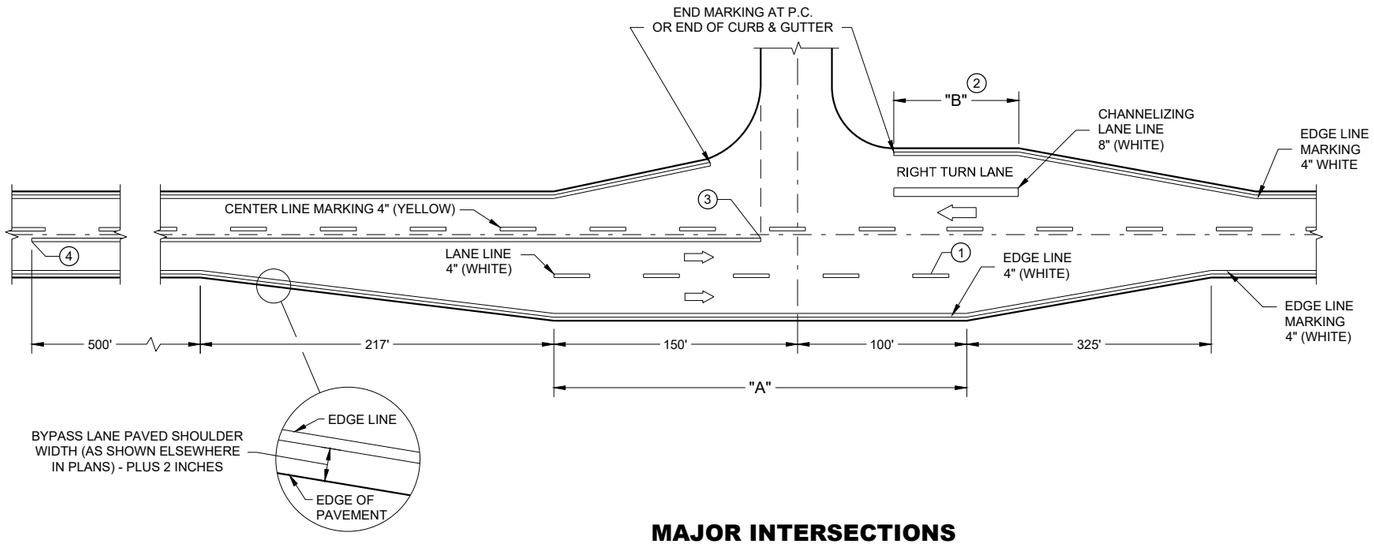
1. WHEN DISTANCE "A" IS LESS THAN 250 FEET, OMIT LANE LINE.
2. WHEN DISTANCE "B" IS LESS THAN 100 FEET, OMIT CHANNELIZING LANE LINE.
3. BARRIER LINE ENDS AT SIDE ROAD PAVEMENT / SURFACE EDGE EXTENSION.
4. BARRIER LINE STARTS 500 FEET PRIOR TO THE BYPASS TAPER.
5. WHEN DISTANCE "C" IS LESS THAN 4 FEET, OMIT DOTTED EXTENSION.
6. WHEN DISTANCE "D" IS LESS THAN 50 FEET, OMIT DOTTED EXTENSION.

LEGEND

DIRECTION OF TRAVEL



INTERSECTION ON OUTSIDE OF CURVE



MAJOR INTERSECTIONS

(INTERSECTION WITH FULL RIGHT TURN LANE OR BYPASS LANE)

PAVEMENT MARKING (INTERSECTIONS)

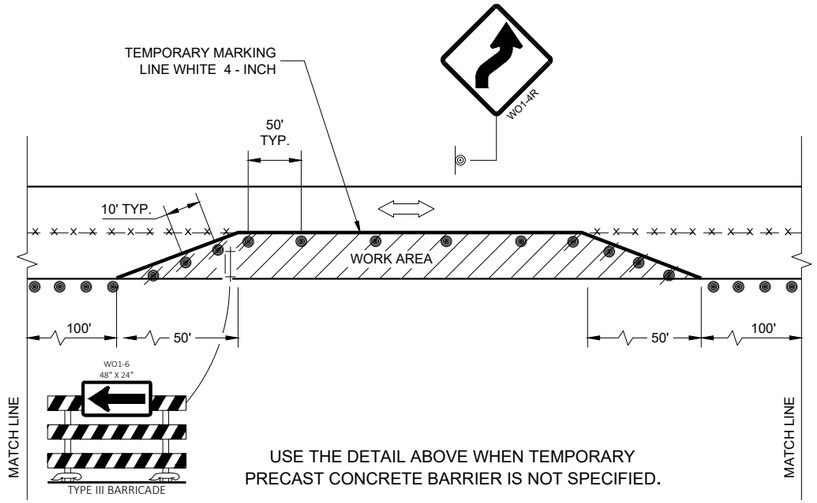
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTA

6

SDD 15C35 - 05a
SDD 15C35 - 05a

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)
- 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.

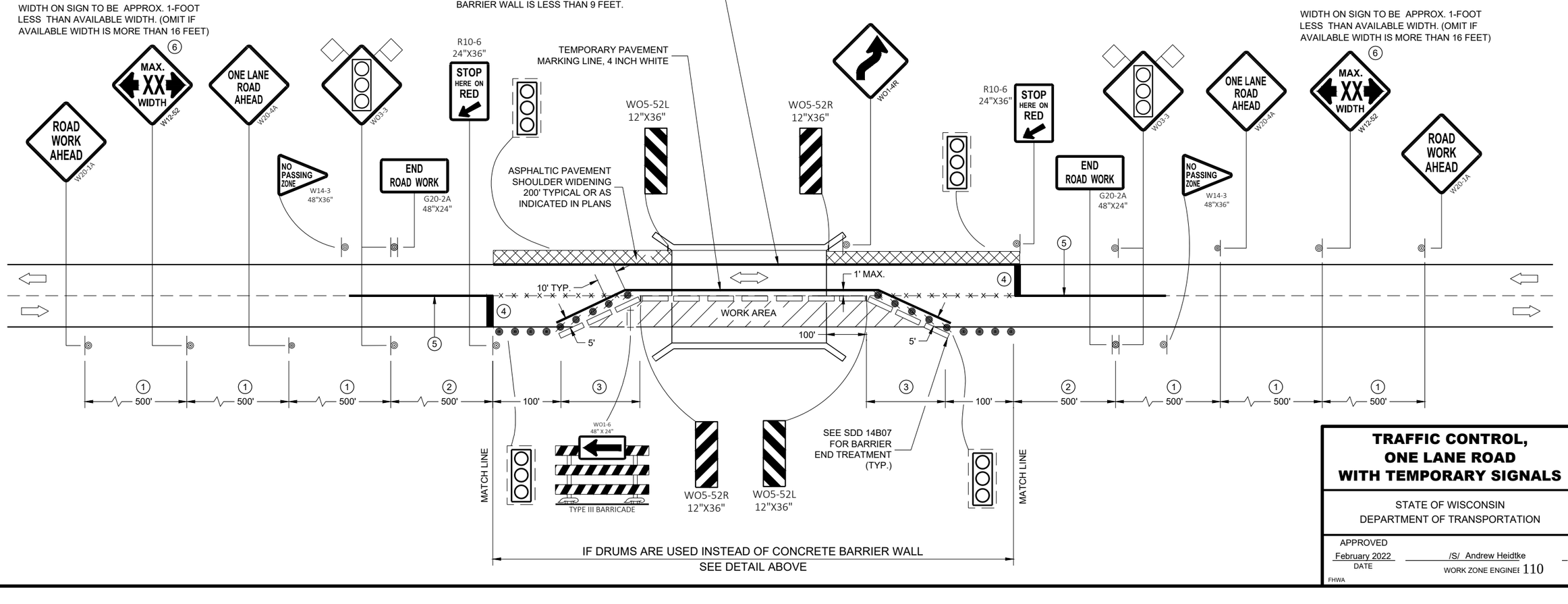
ALL SIGNS ARE 48" x 48" UNLESS OTHERWISE NOTED.

"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.



TRAFFIC CONTROL, ONE LANE ROAD WITH TEMPORARY SIGNALS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2022
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA

SDD 15D33 - 07

SDD 15D33 - 07

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.

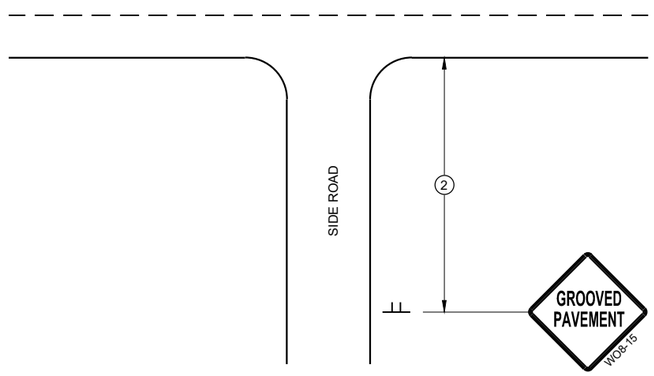
(1) PLACE SIGNS 350' IN ADVANCE OF MILLED SURFACES AND AT 1 MILE INTERVALS, OR AS DIRECTED BY THE ENGINEER.

(2) PLACE SIGN 200' MIN. FROM INTERSECTION AND 200' MIN. AFTER ADVANCE WARNING SIGN SHOWN IN SDD 15C04.

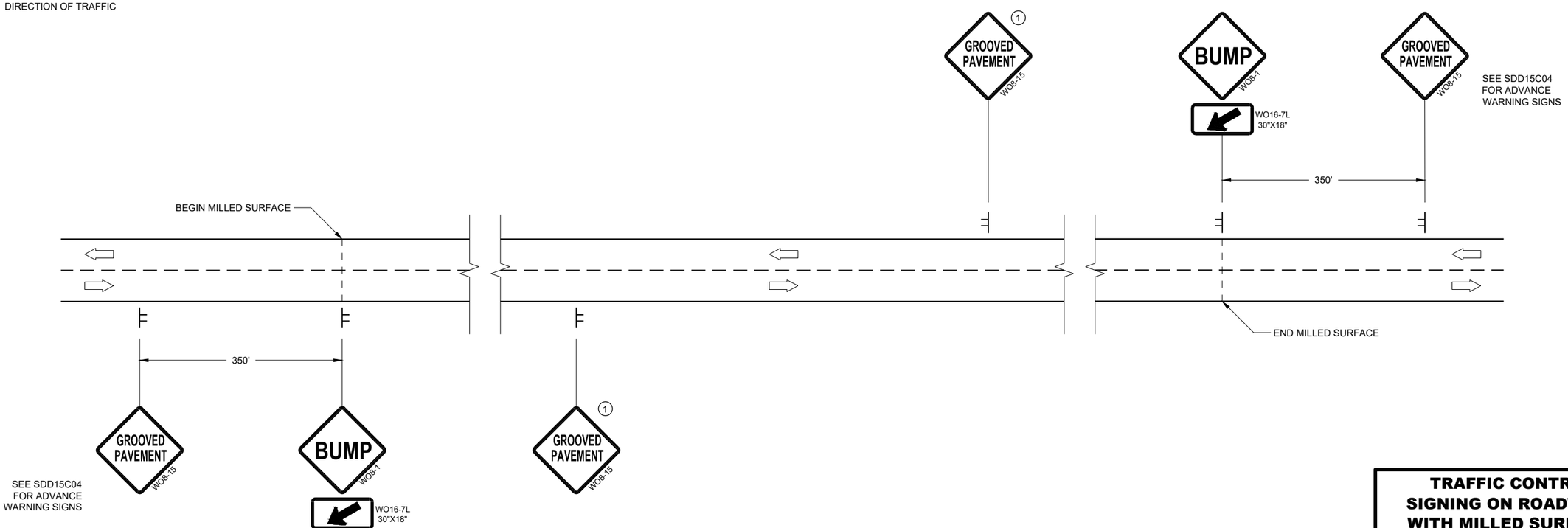
LEGEND

SIGN ON TEMPORARY SUPPORT

DIRECTION OF TRAFFIC



TYPICAL SIDE ROAD APPROACH SIGN DETAIL



DETAIL FOR SIGNING ON MILLED SURFACES

TRAFFIC CONTROL, SIGNING ON ROADWAYS WITH MILLED SURFACES

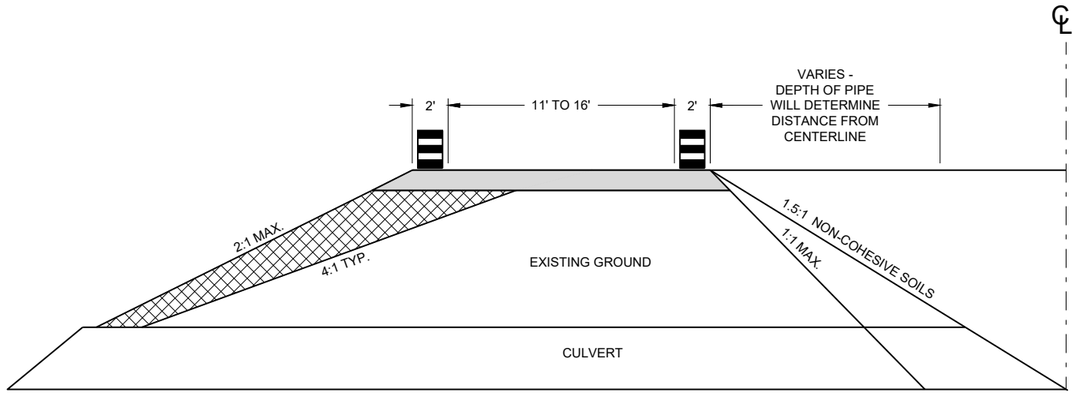
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2020
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA

6
SDD 15D44 - 02



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.

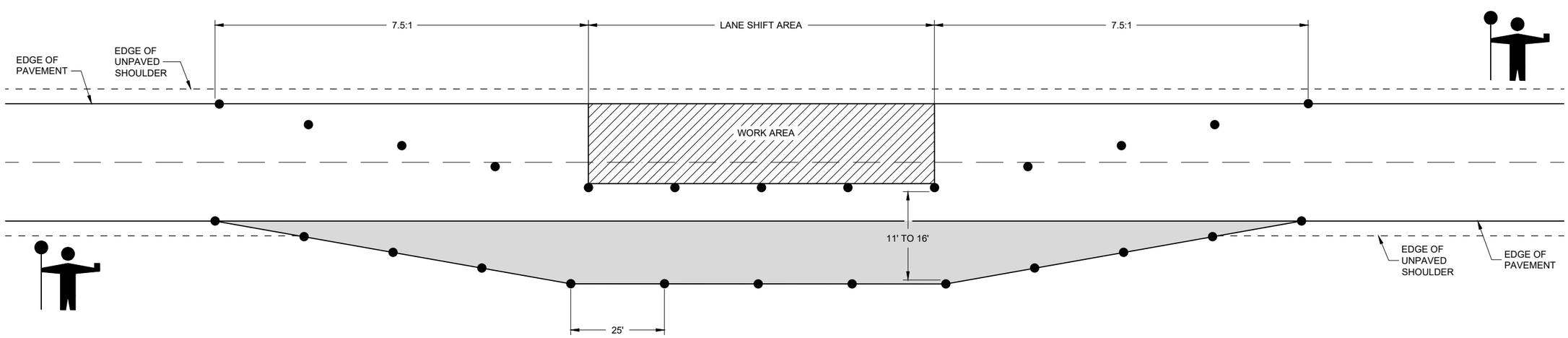
CHANNELIZING DEVICES PLACED ADJACENT TO WORK AREA SHALL BE PULLED BACK FROM TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

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
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEER

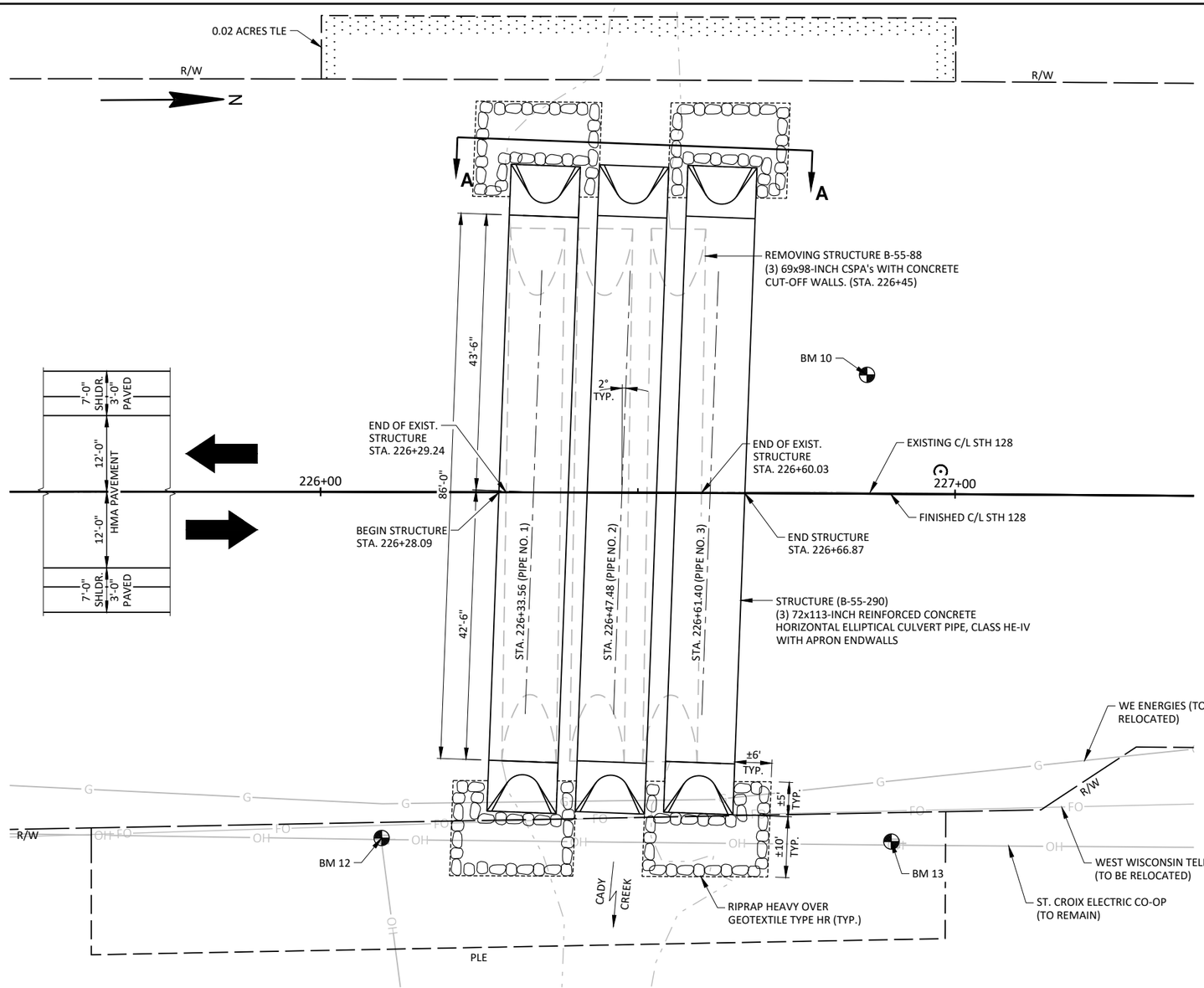
FHWA

6

SDD 15D48 - 01

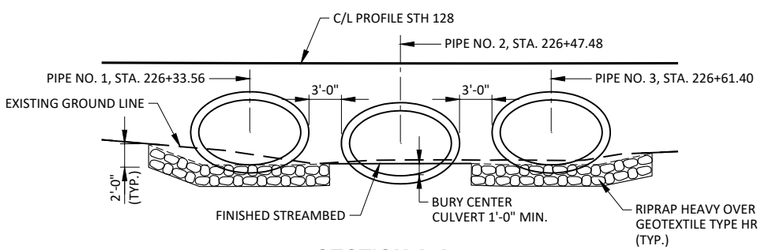
6

SDD 15D48 - 01



PLAN B-55-290

(THREE-SPAN REINFORCED CONCRETE HORIZONTAL
ELLIPTICAL CULVERT PIPES)



SECTION A-A

DESIGN DATA

STATE PROJECT NUMBER

7620-00-70

LIVE LOAD:

DESIGN LOADING	HL-93
INVENTORY RATING FACTOR	RF=1.0
OPERATING RATING FACTOR	RF=1.67
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV)	190 KIPS

TRAFFIC DATA

A.D.T. (2023)	2720
A.D.T. (2043)	3180
DESIGN SPEED	55 M.P.H.

HYDRAULIC DATA

100 YEAR FREQUENCY	
DRAINAGE AREA	1.6 SQ. MI.
Q_{100} TOTAL	280 C.F.S.
THROUGH STRUCTURE	280 C.F.S.
OVERTOPPING ROADWAY	N/A
VELOCITY - THROUGH STRUCTURE	3.9 F.P.S.
WATERWAY AREA - THROUGH STRUCTURE	71.0 SQ. FT.
HIGH WATER$_{100}$ ELEVATION	1203.39
SCOUR CRITICAL CODE	8
EROSION CONTROL	
Q_2	80 C.F.S.
VELOCITY$_2$	2.4 F.P.S.
HIGH WATER$_2$ ELEVATION	1201.77

LIST OF DRAWINGS

BENCH MARKS

NO.	STA.	DESCRIPTION	ELEV.
10	226+86	3/4" IRON REBAR SET, 18.7' LT.	1209.44
12	226+10	COTTON GIN SPIKE IN POWER POLE, 54.6' RT.	1204.01
13	226+90	COTTON GIN SPIKE IN POWER POLE, 54.8' RT.	1204.04

WISCONSIN
PATRICK
T. BOLAND
E-36303
HILLPOINT
WIS
Patrick Boland 11-28-22
PROFESSIONAL ENGINEER

DESIGN CONSULTANT
PATRICK BOLAND, PE
(608) 588-7484

BRIDGE OFFICE CONTACT
AARON BONK, PE
(608) 261-0261

NO.	DATE	REVISION	BY

JEWELL associates engineers, inc.
Engineers - Architects - Surveyors
560 SUNRISE DRIVE
SPRING GREEN, WI 53588
OFFICE: (608) 588-7484
www.jewellassoc.com

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED SDR 11/29/22
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE B-55-290

STH 128 OVER CADY CREEK

COUNTY	TOWN/~~CITY/VILLAGE~~
ST. CROIX	CADY

DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
PMF	PTB	PMF	PTB

GENERAL PLAN

SHEET 1 OF 2

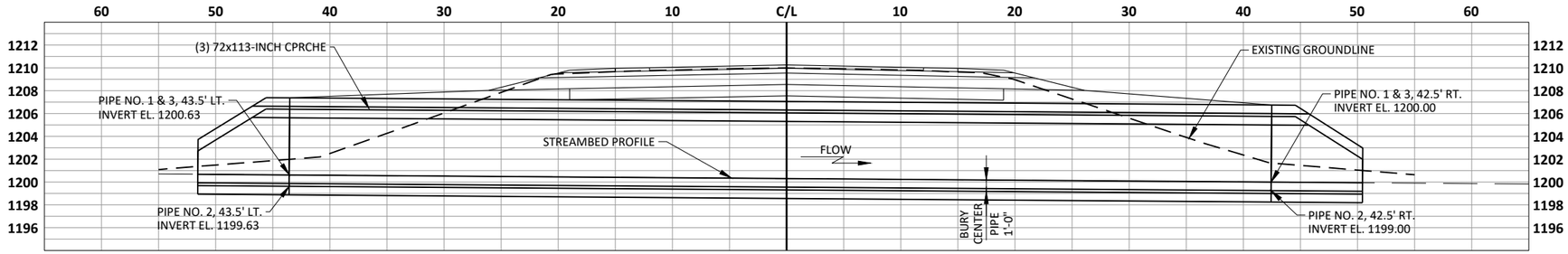
113

8

8

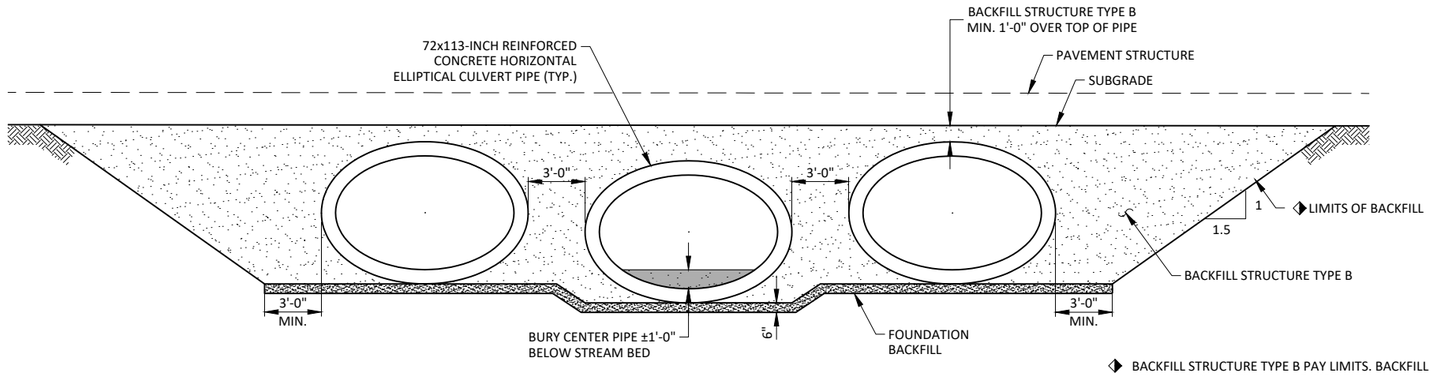
STATE PROJECT NUMBER

7620-00-70



SECTION AT PROPOSED STRUCTURE

NORMAL TO C/L OF PIPES



◆ BACKFILL STRUCTURE TYPE B PAY LIMITS. BACKFILL BEYOND PAY LIMITS SHALL BE INCIDENTAL TO THE BID ITEM "EXCAVATION FOR STRUCTURES B-55-290". LIMITS OF EXCAVATION SHALL BE DETERMINED BY THE CONTRACTOR.

SECTION THROUGH PROPOSED STRUCTURE

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

ELEVATIONS SHOWN ON THE PLAN ARE REFERENCED TO THE NORTH AMERICA VERTICAL DATUM OF 1988 (NAVD 88).

WITHIN THE LENGTH OF THE STRUCTURE, ALL SPACES EXCAVATED AND NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH BACKFILL STRUCTURE TYPE B TO THE ELEVATION AND SECTION EXISITNG PRIOR TO EXCAVATION WITHIN THE LENGTH OF THE STRUCTURE. SEE THIS SHEET FOR DETAIL.

THE EXISTING STRUCTURE (B-55-88) CONSISTS OF A SET OF THREE NESTED 69x98-INCH STRUCTURAL PLATE PIPE ARCHES WITH CONCRETE CUT-OFF WALLS AT BOTH ENDS. THE PIPE ARCHES ARE 84' LONG WITH A TOTAL WIDTH OF 30.5' ALONG THE ROADWAY CENTERLINE AND SHALL BE REMOVED.

ALL STATIONS AND ELEVATIONS SHOWN ARE IN FEET.

THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES BRIDGES B-55-290" SHALL BE THE EXISTING GROUNDLINE.

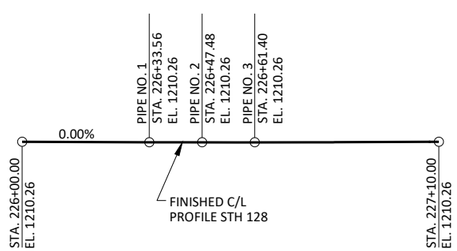
FOUNDATION BACKFILL SHALL BE INCIDENTAL TO REINFORCED CONCRETE HORIZONTAL ELLIPTICAL CULVERT PIPE AND SHALL CONFORM TO SECTION 520.2.5.2 OF THE STANDARD SPECIFICATION.

SEE ROADWAY PLANS FOR CONSTRUCTION STAGING DETAILS INCLUDING TEMPORARY SHORING LAYOUT.

TOTAL ESTIMATED QUANTITIES

	ITEM NUMBER	ITEM DESCRIPTION	UNIT	TOTALS
	203.0220	REMOVING STRUCTURE B-55-88	EACH	1
	206.1001	EXCAVATION FOR STRUCTURES BRIDGES B-55-290	EACH	1
	210.2500	BACKFILL STRUCTURE TYPE B	TON	1,870
	606.0300	RIPRAP HEAVY	CY	70
	645.0120	GEOTEXTILE TYPE HR	SY	150
	SPV.0060.01	APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL 72x113-INCH	EACH	6
◑	SPV.0090.01	CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL CLASS HE-IV 72x113-INCH	LF	258
		NON-BID ITEMS		
◑		JOINT TIES	EACH	36

◑ JOINT TIES FOR CONCRETE PIPE SHALL BE INCIDENTAL TO "CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL CLASS HE-IV 72x113-INCH". FIRST THREE JOINTS AT EACH END OF EACH CULVERT PIPE (APRON ENDWALL JOINT AND TWO PIPE JOINTS) SHALL BE JOINED WITH JOINT TIES.



PROFILE GRADE LINE

STH 128

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-55-290

DRAWN BY PMF | PLANS CK'D. PTB

CROSS SECTION AND QUANTITIES

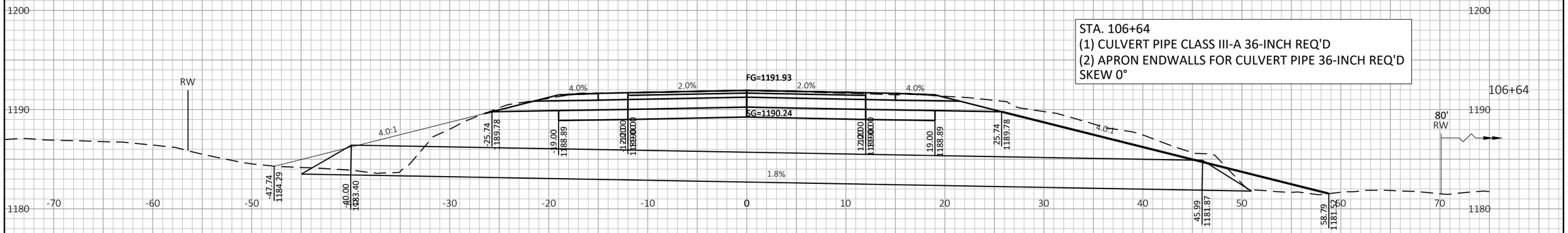
SHEET 2 OF 2

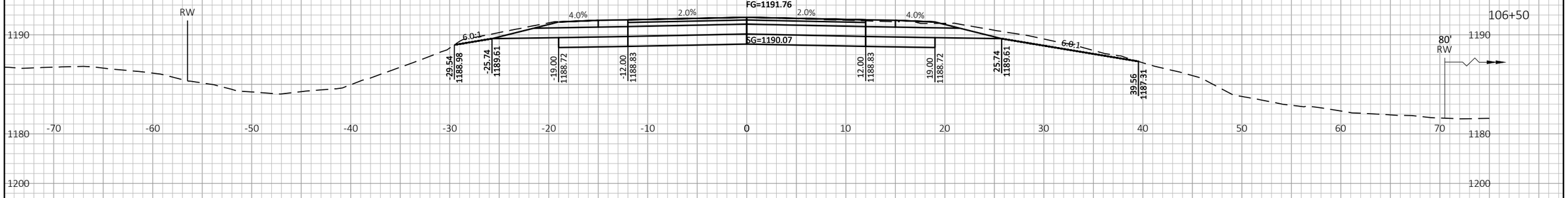
114

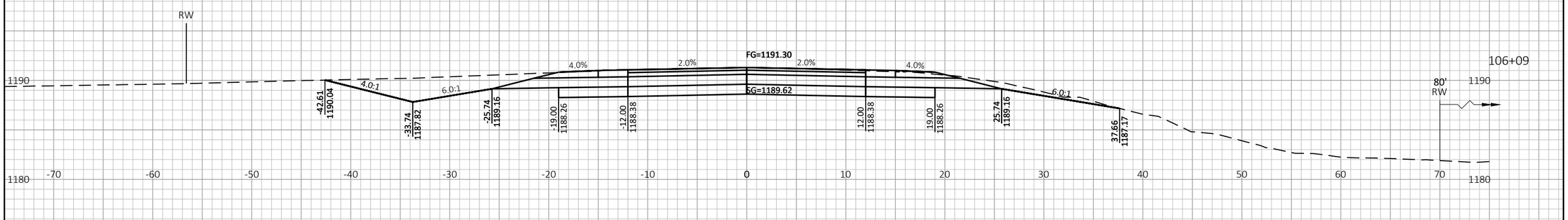
8

8

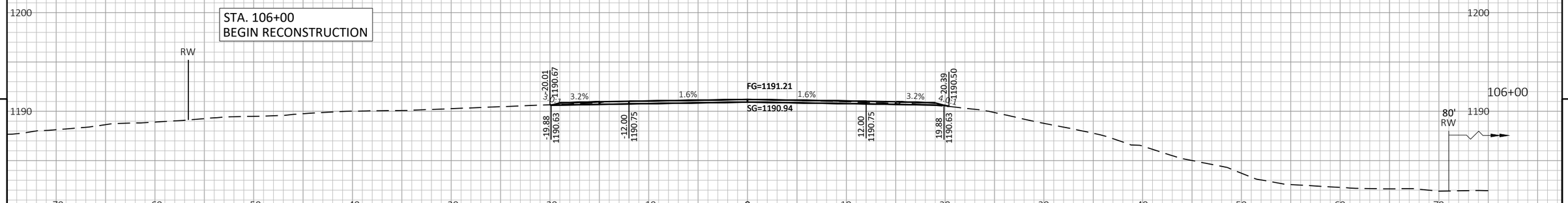
STA. 106+64
(1) CULVERT PIPE CLASS III-A 36-INCH REQ'D
(2) APRON ENDWALLS FOR CULVERT PIPE 36-INCH REQ'D
SKEW 0°







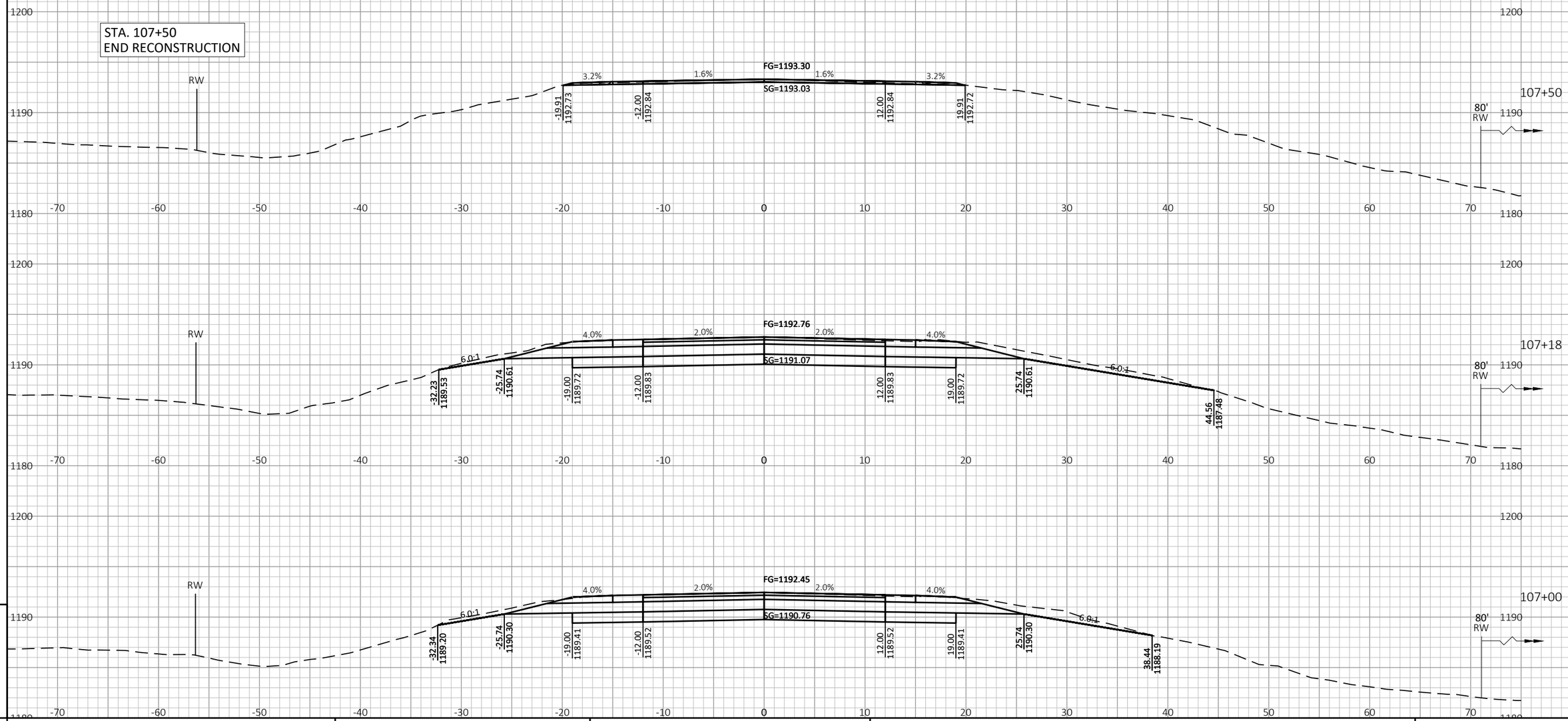
STA. 106+00
BEGIN RECONSTRUCTION



PROJECT NO: 7620-00-70	HWY: STH 128	COUNTY: ST. CROIX	CROSS SECTIONS: STH 128 - PIPE REPLACEMENT AREAS	SHEET	
				115	E

FILE NAME : R:\PROJECTS\W11600 STH 128 CULVERT REPLACEMENT, ST CROIX CO\DESIGN\CORRIDORS\STH 128 CORRIDOR_PIPE IMPACTS.DWG PLOT DATE : 9/12/2022 11:49:55 AM PLOT BY : KARTER ZAJICEK PLOT SCALE : 1" = 1' LAYOUT : 1

STA. 107+50
END RECONSTRUCTION



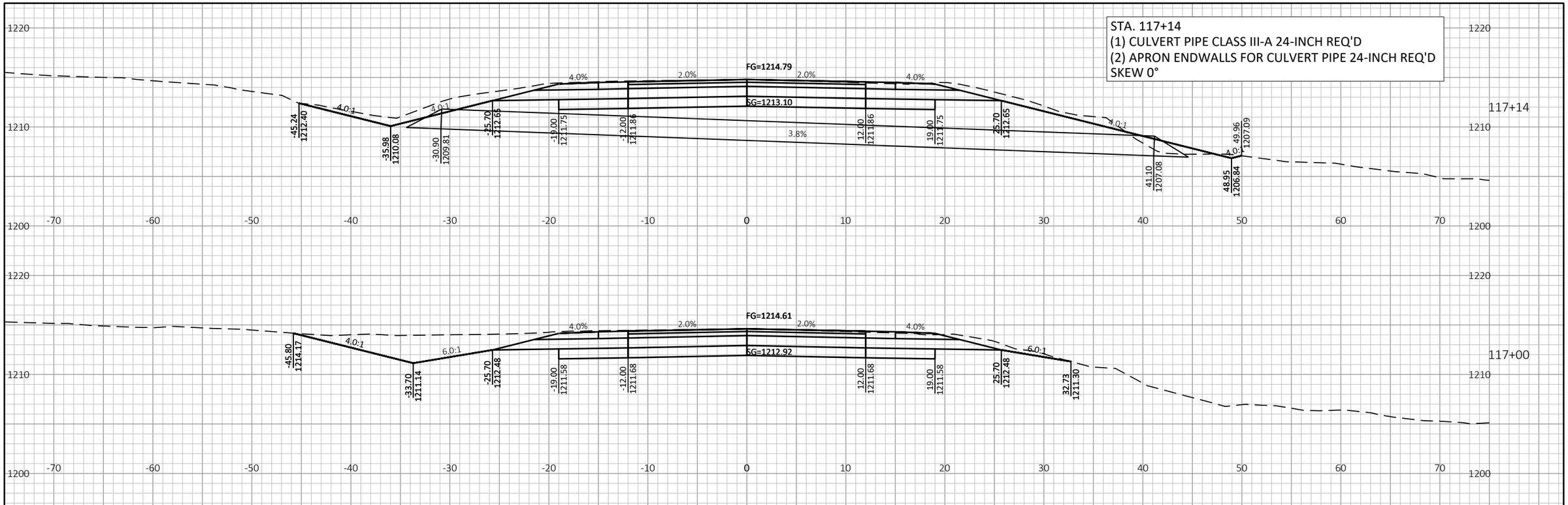
9

9

PROJECT NO: 7620-00-70	HWY: STH 128	COUNTY: ST. CROIX	CROSS SECTIONS: STH 128 - PIPE REPLACEMENT AREAS	SHEET 116	E

FILE NAME : R:\PROJECTS\W11600 STH 128 CULVERT REPLACEMENT, ST CROIX CO\DESIGN\CORRIDORS\STH 128 CORRIDOR_PIPE IMPACTS.DWG
PLOT DATE : 9/12/2022 11:07:18 AM
PLOT BY : KARTER ZAJICEK
PLOT SCALE : 1" = 1'
LAYOUT : 2

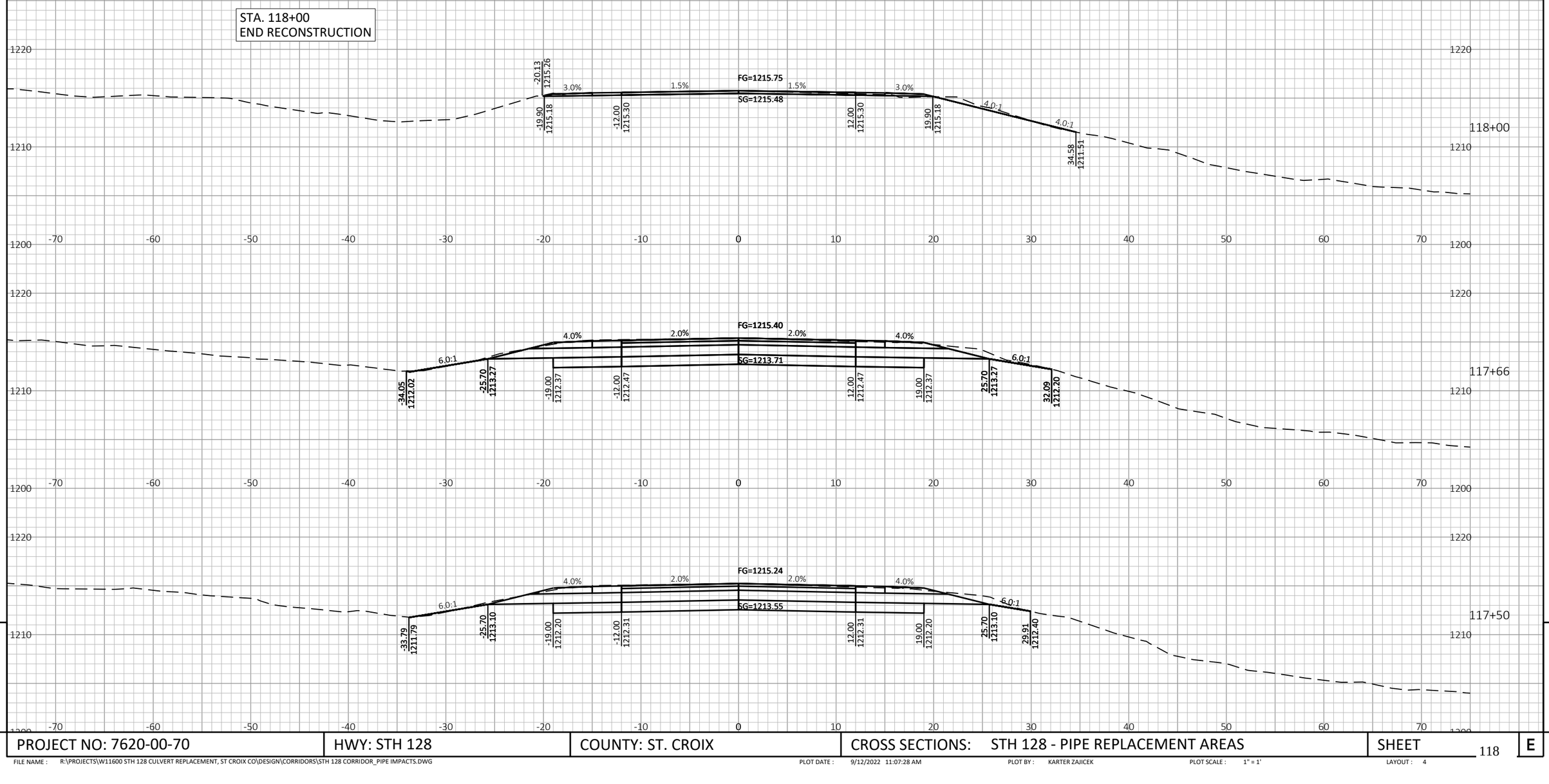
STA. 117+14
(1) CULVERT PIPE CLASS III-A 24-INCH REQ'D
(2) APRON ENDWALLS FOR CULVERT PIPE 24-INCH REQ'D
SKEW 0°



PROJECT NO: 7620-00-70	HWY: STH 128	COUNTY: ST. CROIX	CROSS SECTIONS: STH 128 - PIPE REPLACEMENT AREAS	SHEET 117	E

FILE NAME : R:\PROJECTS\W11600 STH 128 CULVERT REPLACEMENT, ST CROIX CO\DESIGN\CORRIDORS\STH 128 CORRIDOR_PIPE IMPACTS.DWG
PLOT DATE : 9/12/2022 11:07:23 AM
PLOT BY : KARTER ZAJICEK
PLOT SCALE : 1" = 1'
LAYOUT : 3

STA. 118+00
END RECONSTRUCTION

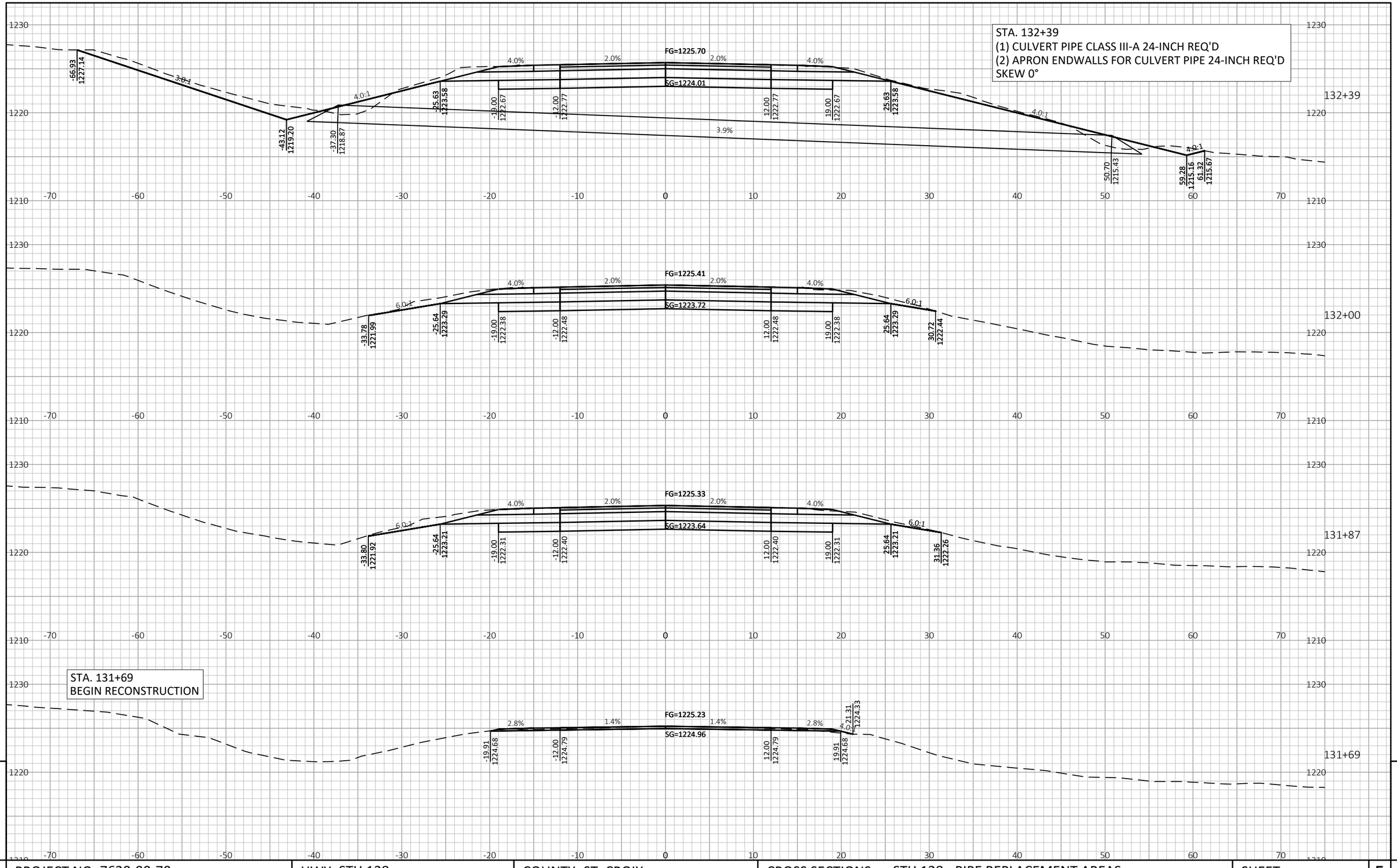


9

9

PROJECT NO: 7620-00-70	HWY: STH 128	COUNTY: ST. CROIX	CROSS SECTIONS: STH 128 - PIPE REPLACEMENT AREAS	SHEET 118	E

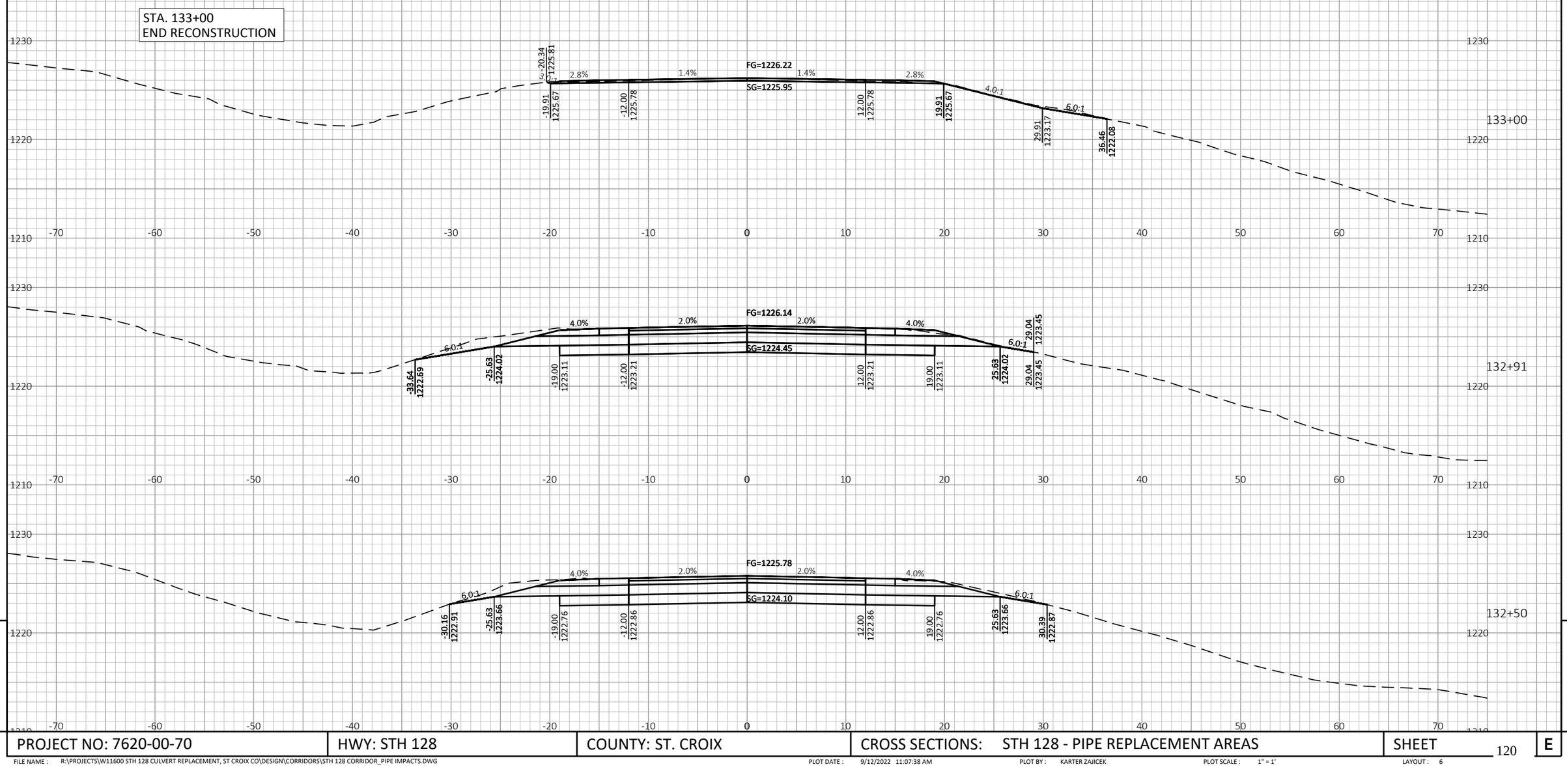
FILE NAME : R:\PROJECTS\W11600 STH 128 CULVERT REPLACEMENT, ST CROIX CO\DESIGN\CORRIDORS\STH 128 CORRIDOR_PIPE IMPACTS.DWG
PLOT DATE : 9/12/2022 11:07:28 AM
PLOT BY : KARTER ZAJICEK
PLOT SCALE : 1" = 1'
LAYOUT : 4



PROJECT NO: 7620-00-70	HWY: STH 128	COUNTY: ST. CROIX	CROSS SECTIONS: STH 128 - PIPE REPLACEMENT AREAS	SHEET 119 E

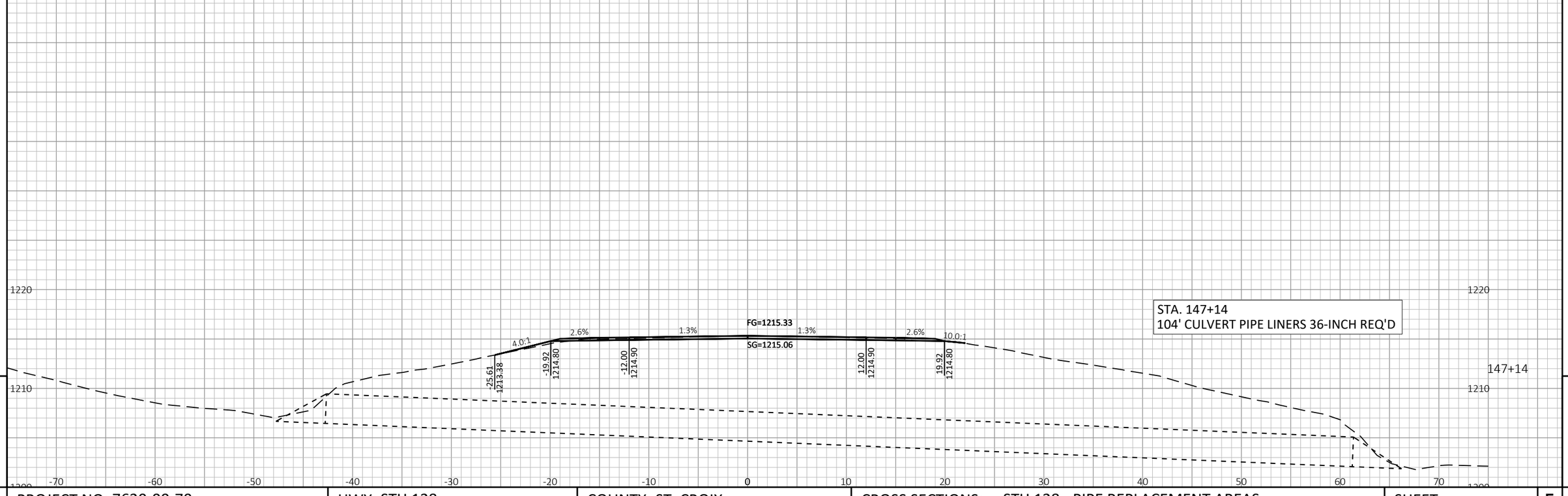
FILE NAME : R:\PROJECTS\W11600 STH 128 CULVERT REPLACEMENT, ST CROIX CO\DESIGN\CORRIDORS\STH 128 CORRIDOR_PIPE IMPACTS.DWG
PLOT DATE : 9/12/2022 11:07:33 AM
PLOT BY : KARTER ZAJICEK
PLOT SCALE : 1" = 1'
LAYOUT : 5

STA. 133+00
END RECONSTRUCTION



PROJECT NO: 7620-00-70	HWY: STH 128	COUNTY: ST. CROIX	CROSS SECTIONS: STH 128 - PIPE REPLACEMENT AREAS	SHEET 120

FILE NAME : R:\PROJECTS\W11600 STH 128 CULVERT REPLACEMENT, ST CROIX CO\DESIGN\CORRIDORS\STH 128 CORRIDOR_PIPE IMPACTS.DWG
PLOT DATE : 9/12/2022 11:07:38 AM PLOT BY : KARTER ZAJICEK PLOT SCALE : 1" = 1' LAYOUT : 6

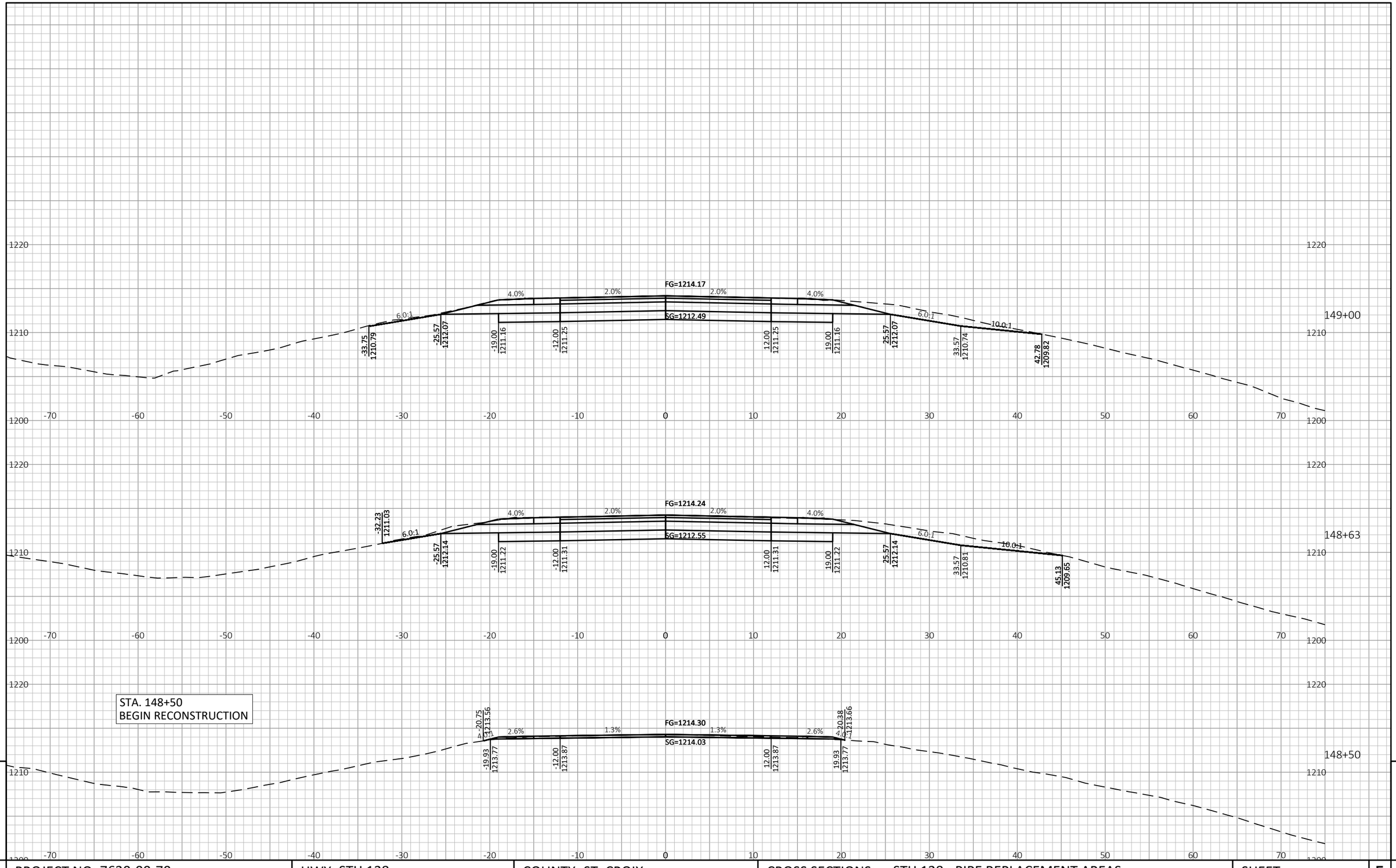


9

9

PROJECT NO: 7620-00-70	HWY: STH 128	COUNTY: ST. CROIX	CROSS SECTIONS: STH 128 - PIPE REPLACEMENT AREAS	SHEET	E

FILE NAME : R:\PROJECTS\W11600 STH 128 CULVERT REPLACEMENT, ST CROIX CO\DESIGN\CORRIDORS\STH 128 CORRIDOR_PIPE IMPACTS.DWG PLOT DATE : 9/12/2022 11:07:43 AM PLOT BY : KARTER ZAJICEK PLOT SCALE : 1" = 1' LAYOUT : 7

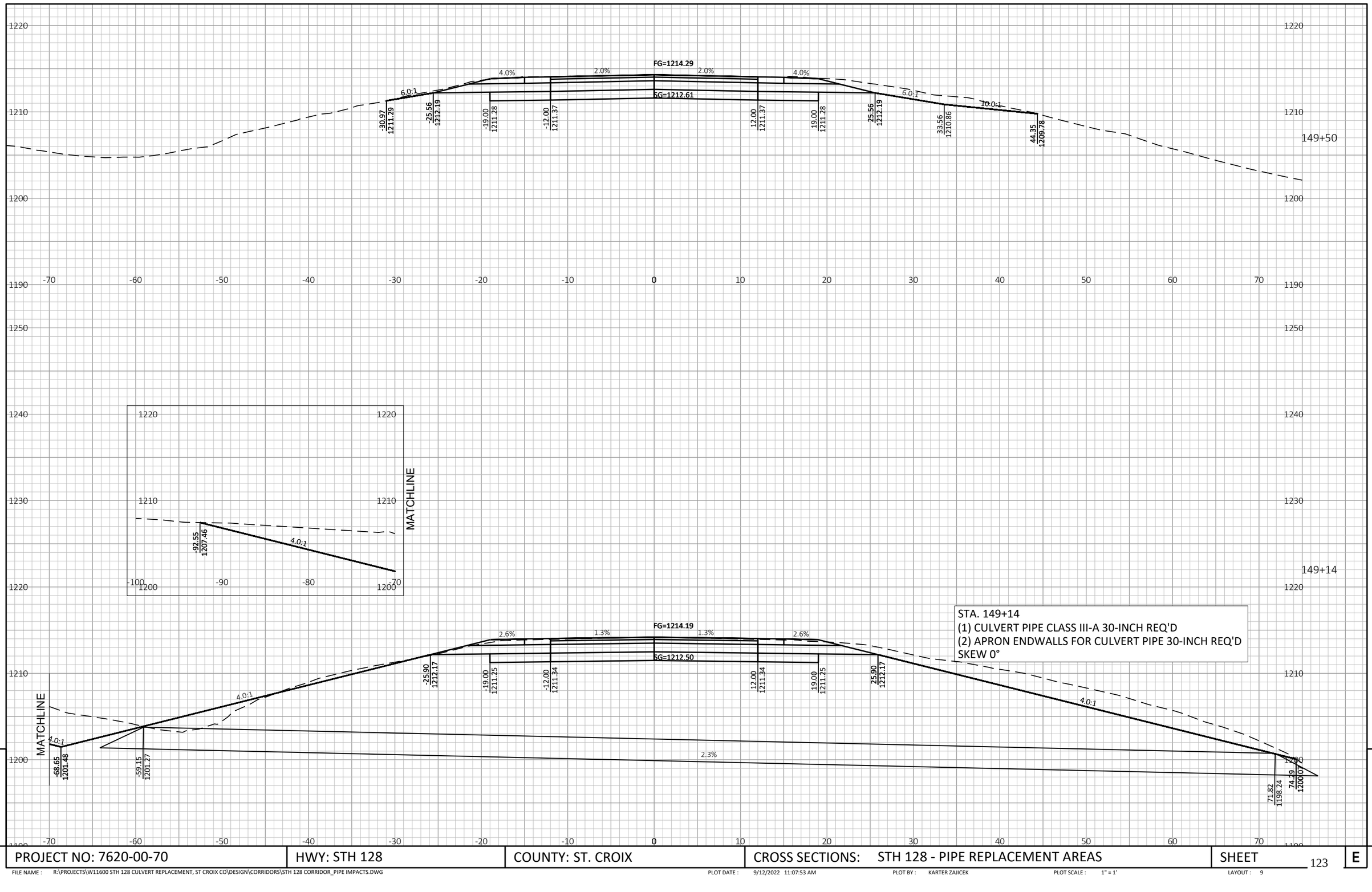


9

9

PROJECT NO: 7620-00-70	HWY: STH 128	COUNTY: ST. CROIX	CROSS SECTIONS: STH 128 - PIPE REPLACEMENT AREAS	SHEET 122	E

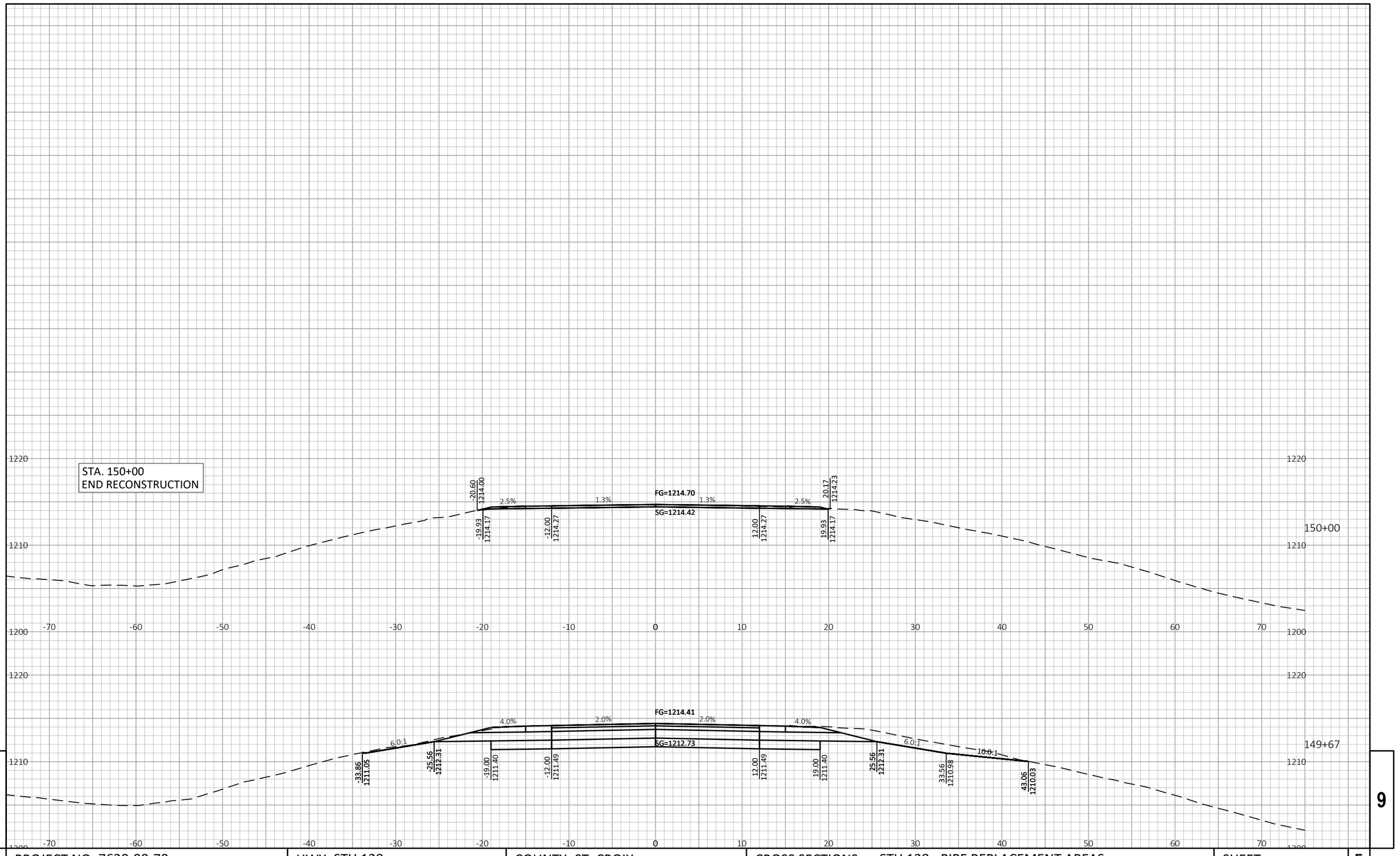
FILE NAME : R:\PROJECTS\W11600 STH 128 CULVERT REPLACEMENT, ST CROIX CO\DESIGN\CORRIDORS\STH 128 CORRIDOR_PIPE IMPACTS.DWG PLOT DATE : 9/12/2022 11:07:48 AM PLOT BY : KARTER ZAJICEK PLOT SCALE : 1" = 1' LAYOUT : 8



PROJECT NO: 7620-00-70	HWY: STH 128	COUNTY: ST. CROIX	CROSS SECTIONS: STH 128 - PIPE REPLACEMENT AREAS	SHEET	
				123	E

FILE NAME : R:\PROJECTS\W11600 STH 128 CULVERT REPLACEMENT, ST CROIX CO\DESIGN\CORRIDORS\STH 128 CORRIDOR_PIPE IMPACTS.DWG PLOT DATE : 9/12/2022 11:07:53 AM PLOT BY : KARTER ZAJICEK PLOT SCALE : 1" = 1' LAYOUT : 9

STA. 150+00
END RECONSTRUCTION

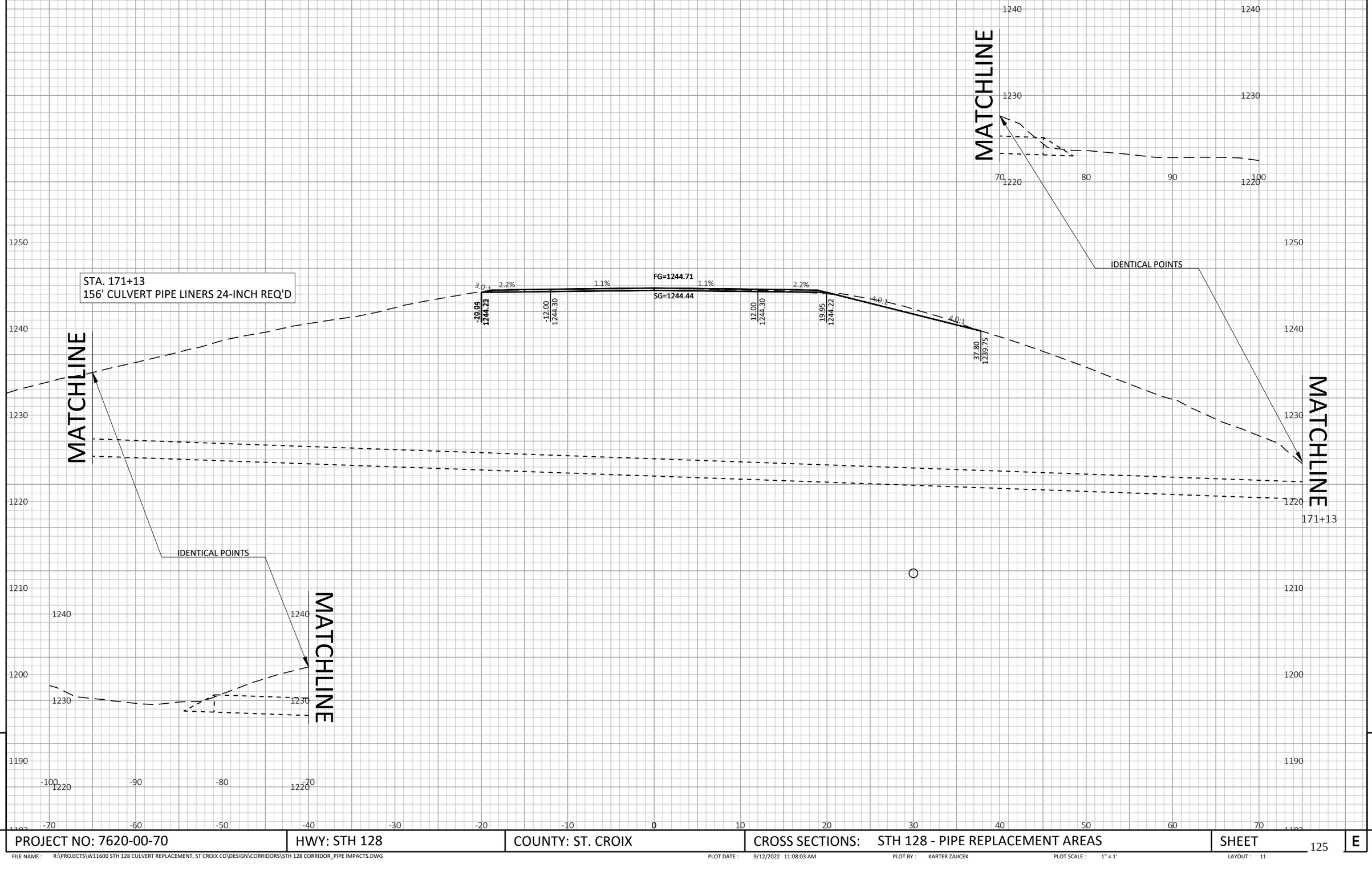


9

9

PROJECT NO: 7620-00-70	HWY: STH 128	COUNTY: ST. CROIX	CROSS SECTIONS: STH 128 - PIPE REPLACEMENT AREAS	SHEET 124	E

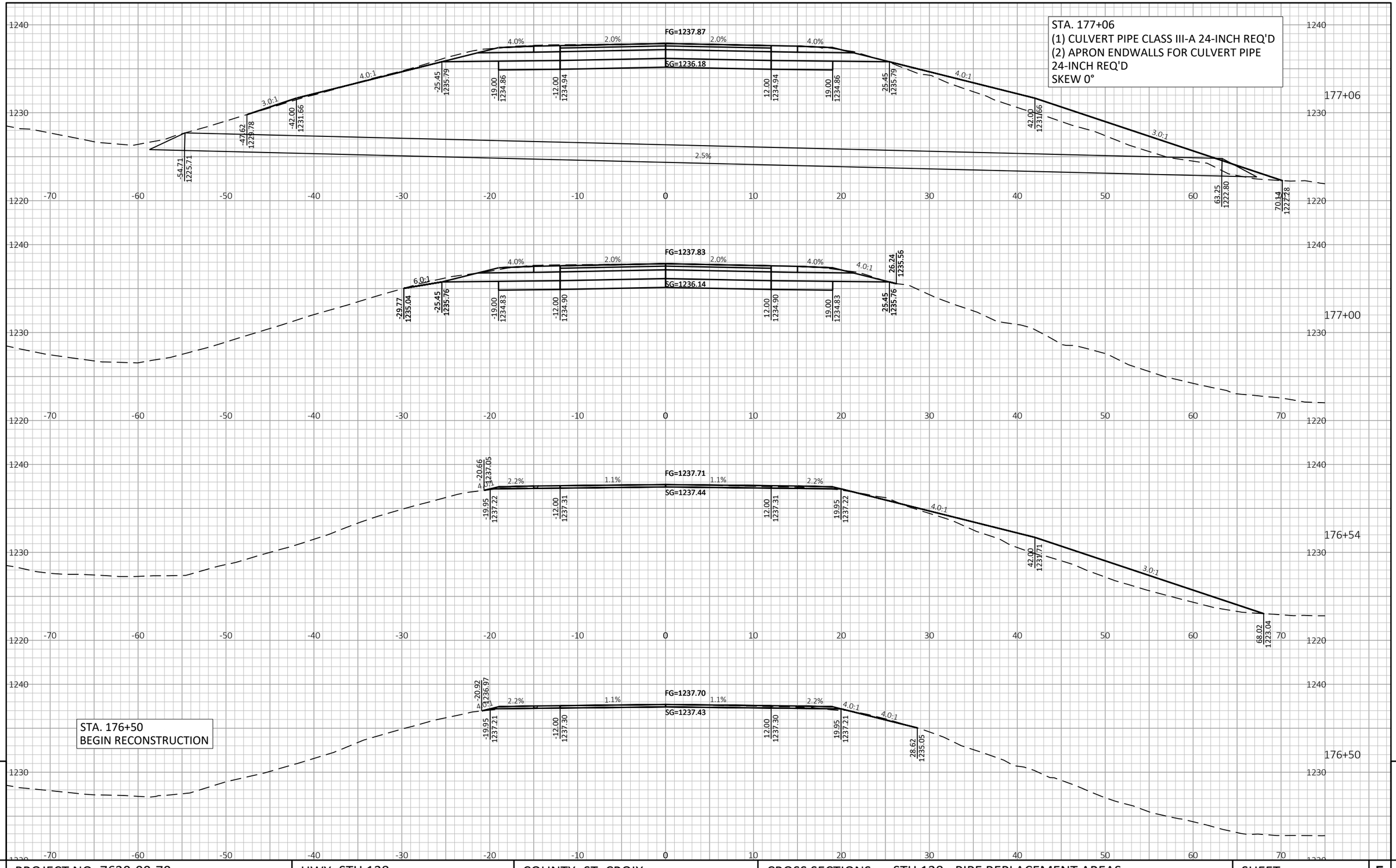
STA. 171+13
156' CULVERT PIPE LINERS 24-INCH REQ'D



9

9

PROJECT NO: 7620-00-70	HWY: STH 128	COUNTY: ST. CROIX	CROSS SECTIONS: STH 128 - PIPE REPLACEMENT AREAS	SHEET 125	E



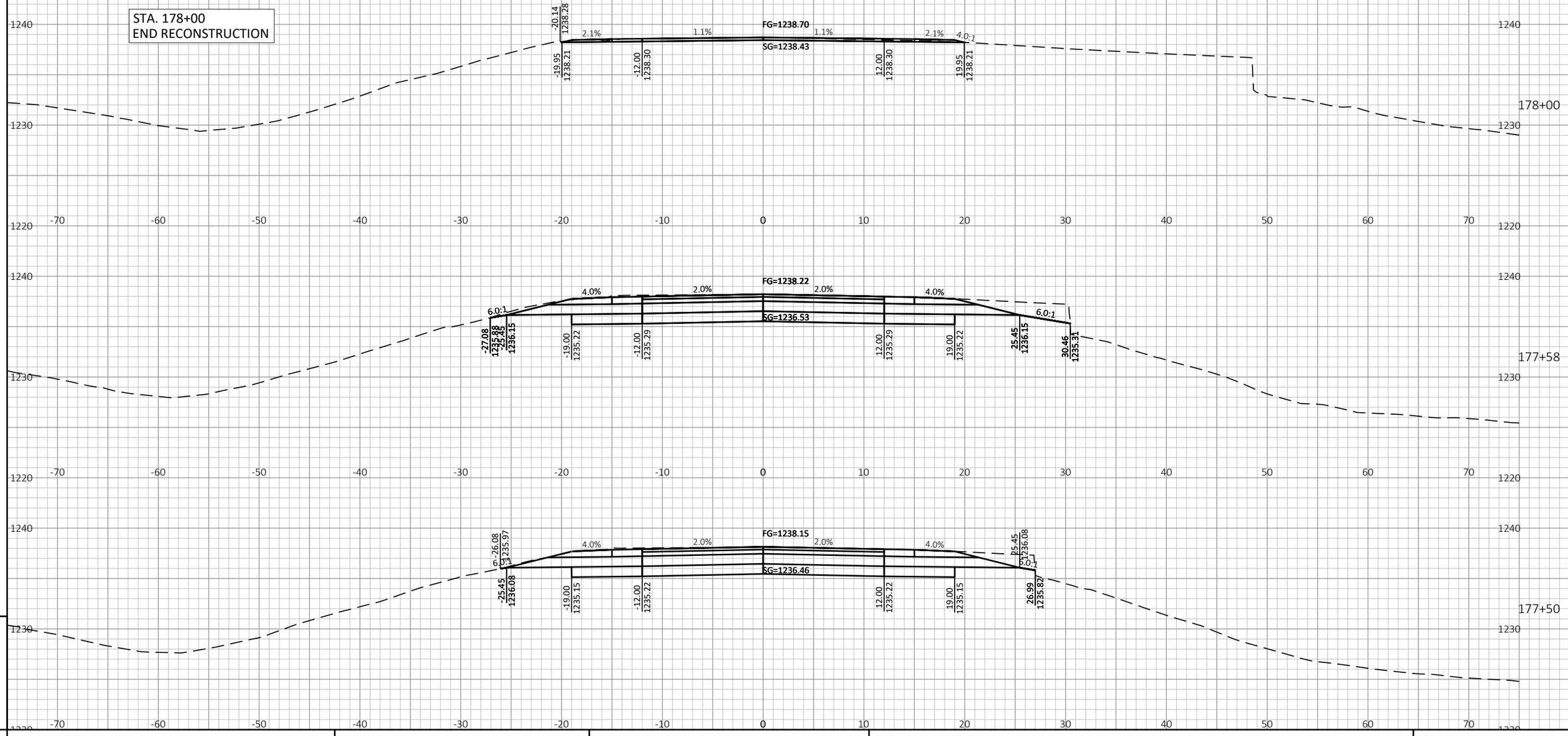
9

9

PROJECT NO: 7620-00-70	HWY: STH 128	COUNTY: ST. CROIX	CROSS SECTIONS: STH 128 - PIPE REPLACEMENT AREAS	SHEET 126	E

FILE NAME : R:\PROJECTS\W11600 STH 128 CULVERT REPLACEMENT, ST CROIX CO\DESIGN\CORRIDORS\STH 128 CORRIDOR_PIPE IMPACTS.DWG PLOT DATE : 9/12/2022 11:08:08 AM PLOT BY : KARTER ZAJICEK PLOT SCALE : 1" = 1' LAYOUT : 12

STA. 178+00
END RECONSTRUCTION



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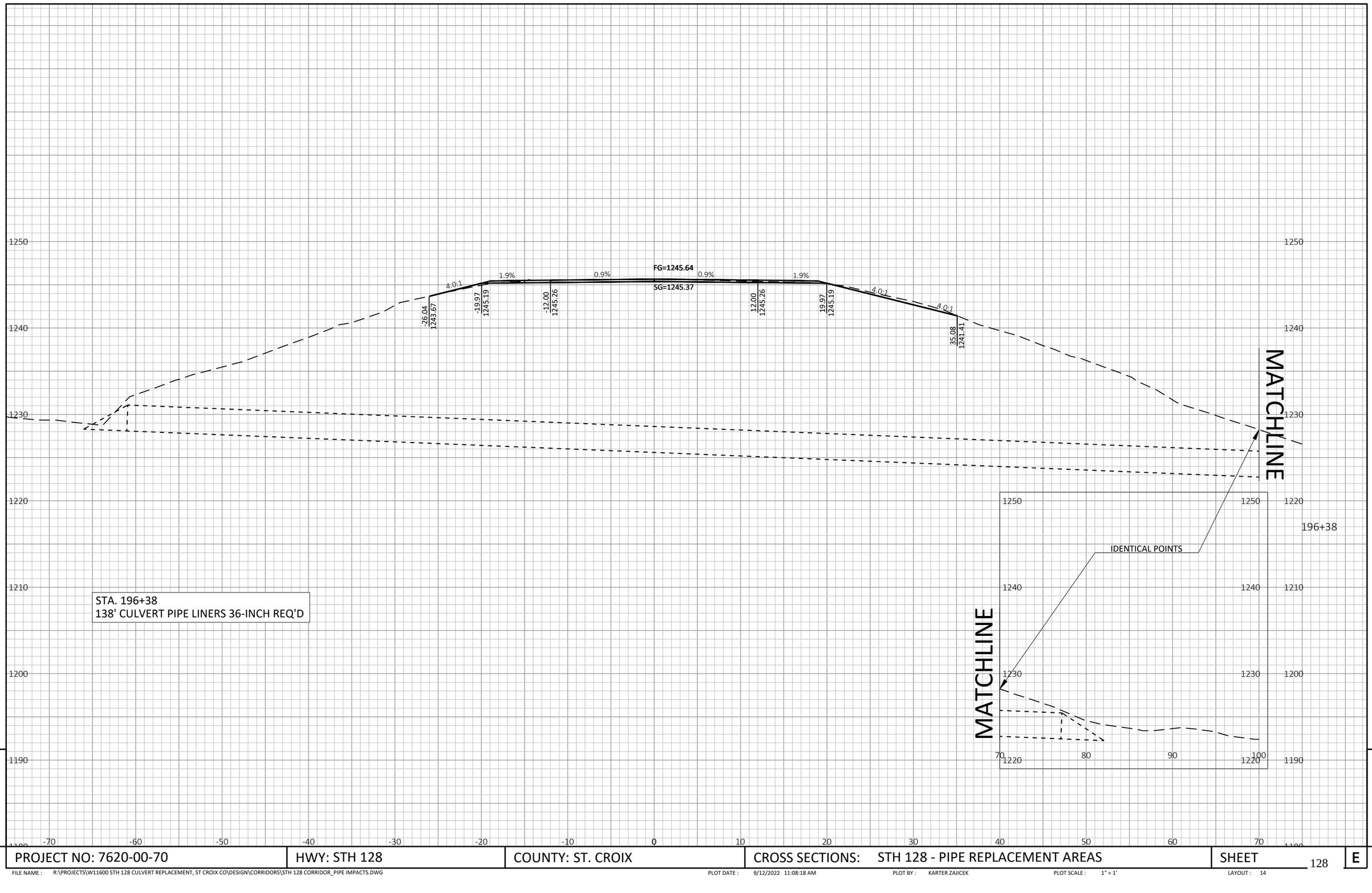
9

PROJECT NO: 7620-00-70	HWY: STH 128	COUNTY: ST. CROIX	CROSS SECTIONS: STH 128 - PIPE REPLACEMENT AREAS	SHEET	E

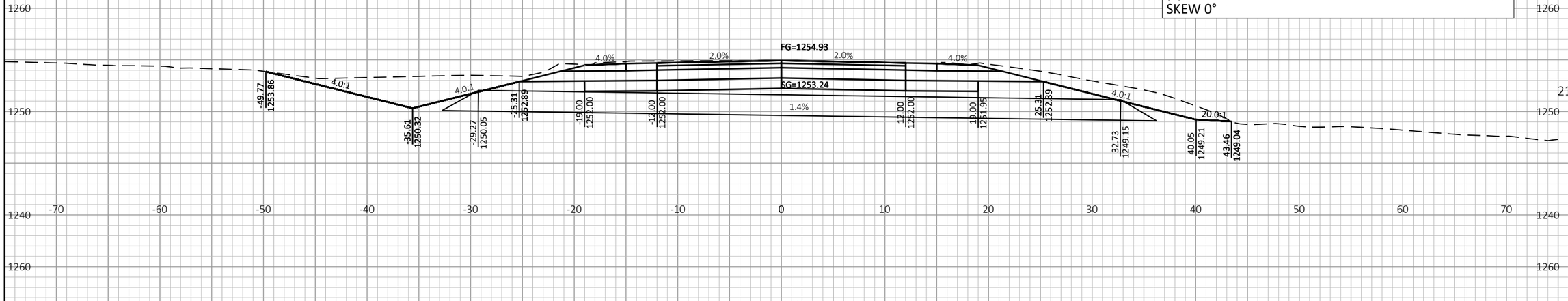
FILE NAME : R:\PROJECTS\W11600 STH 128 CULVERT REPLACEMENT, ST CROIX CO\DESIGN\CORRIDORS\STH 128 CORRIDOR_PIPE IMPACTS.DWG PLOT DATE : 9/12/2022 11:08:13 AM PLOT BY : KARTER ZAJICEK PLOT SCALE : 1" = 1' LAYOUT : 13



PROJECT NO: 7620-00-70	HWY: STH 128	COUNTY: ST. CROIX	CROSS SECTIONS: STH 128 - PIPE REPLACEMENT AREAS	SHEET 128	E

FILE NAME : R:\PROJECTS\W11600 STH 128 CULVERT REPLACEMENT, ST CROIX CO\DESIGN\CORRIDORS\STH 128 CORRIDOR_PIPE IMPACTS.DWG PLOT DATE : 9/12/2022 11:08:18 AM PLOT BY : KARTER ZAJICEK PLOT SCALE : 1" = 1' LAYOUT : 14

STA. 213+04
(1) CULVERT PIPE CLASS III-A 24-INCH REQ'D
(2) APRON ENDWALLS FOR CULVERT PIPE 24-INCH REQ'D
SKEW 0°

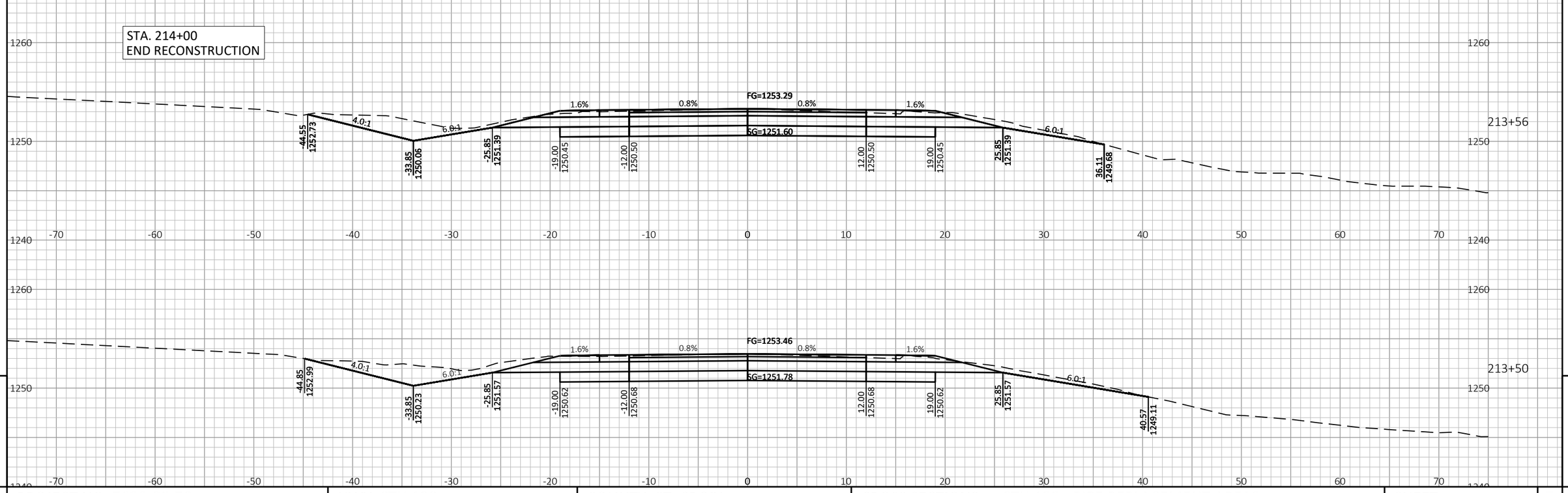


STA. 212+50
BEGIN RECONSTRUCTION

PROJECT NO: 7620-00-70	HWY: STH 128	COUNTY: ST. CROIX	CROSS SECTIONS: STH 128 - PIPE REPLACEMENT AREAS	SHEET 129	E

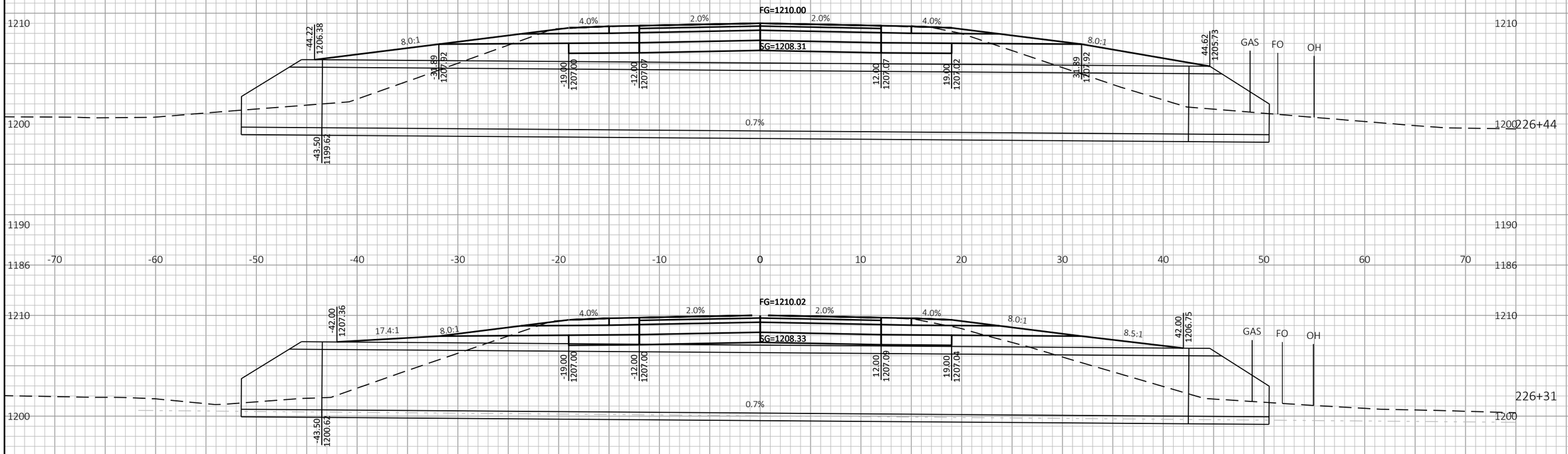
FILE NAME : R:\PROJECTS\W11600 STH 128 CULVERT REPLACEMENT, ST CROIX CO\DESIGN\CORRIDORS\STH 128 CORRIDOR_PIPE IMPACTS.DWG
PLOT DATE : 9/12/2022 11:08:23 AM PLOT BY : KARTER ZAJICEK PLOT SCALE : 1" = 1' LAYOUT : 15

STA. 214+00
END RECONSTRUCTION

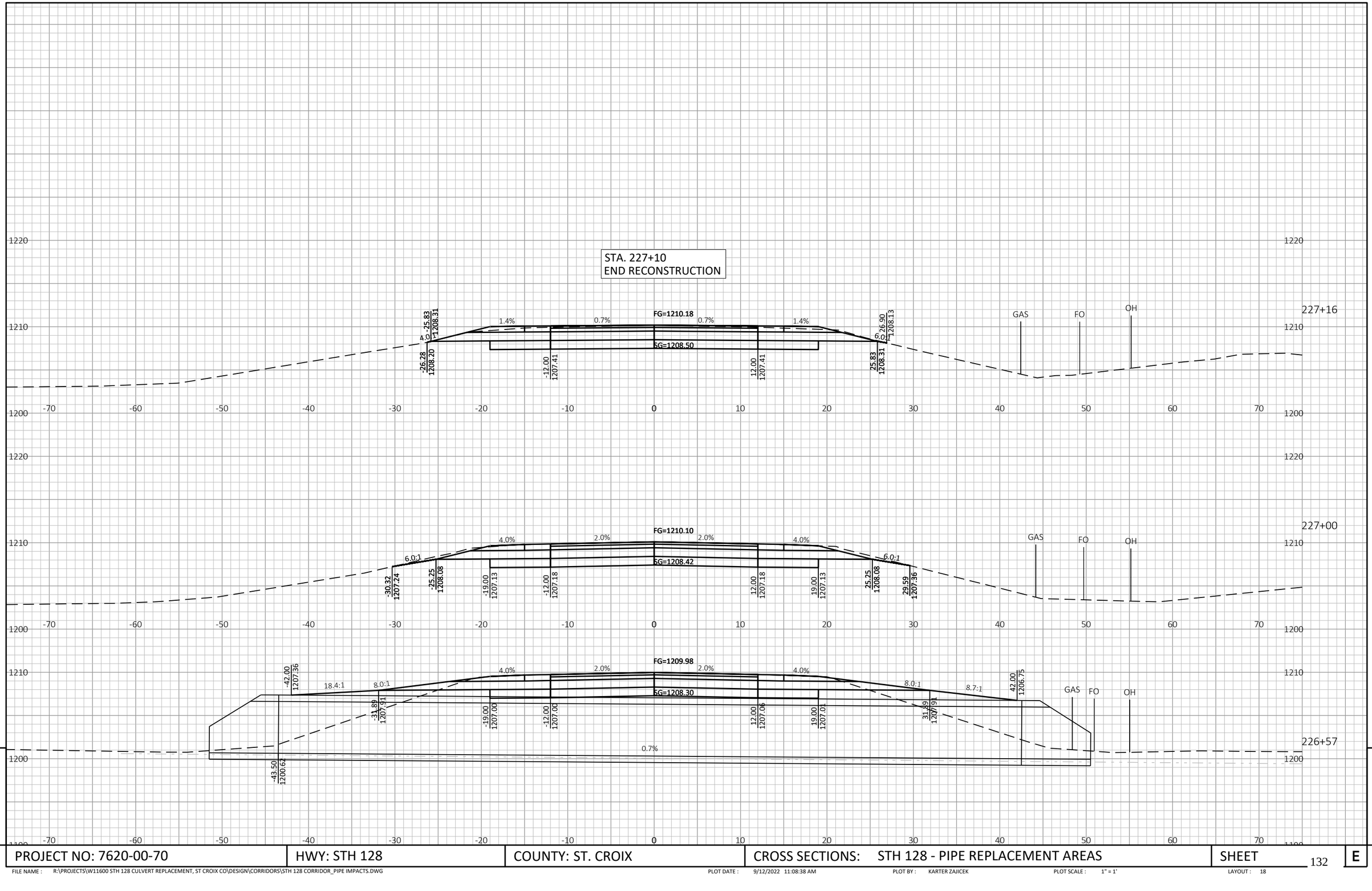


PROJECT NO: 7620-00-70	HWY: STH 128	COUNTY: ST. CROIX	CROSS SECTIONS: STH 128 - PIPE REPLACEMENT AREAS	SHEET 130	E

STA. 226+44
(3) CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL CLASS HE-IV 72X113-INCH REQ'D
(6) APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL 72X113-INCH
(SEE STRUCTURE PLAN DETAILS)



PROJECT NO: 7620-00-70	HWY: STH 128	COUNTY: ST. CROIX	CROSS SECTIONS: STH 128 - PIPE REPLACEMENT AREAS	SHEET 131	E



PROJECT NO: 7620-00-70	HWY: STH 128	COUNTY: ST. CROIX	CROSS SECTIONS: STH 128 - PIPE REPLACEMENT AREAS	SHEET 132 E

FILE NAME : R:\PROJECTS\W11600 STH 128 CULVERT REPLACEMENT, ST CROIX CO\DESIGN\CORRIDORS\STH 128 CORRIDOR_PIPE IMPACTS.DWG
PLOT DATE : 9/12/2022 11:08:38 AM PLOT BY : KARTER ZAJICEK PLOT SCALE : 1" = 1' LAYOUT : 18

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Notes

Wisconsin Department of Transportation

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