

WIS
PROJECT ID: 6340-00-62
WITH: N/A
COUNTY: WOOD

SEPTEMBER 2026
ORDER OF SHEETS

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

TOTAL SHEETS = 126

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

WISCONSIN RAPIDS - MARSHFIELD

WIS 13 & 80 BRIDGES B-71-62,79

VAR HWY
WOOD

STATE PROJECT NUMBER
6340-00-62

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
6340-00-62		

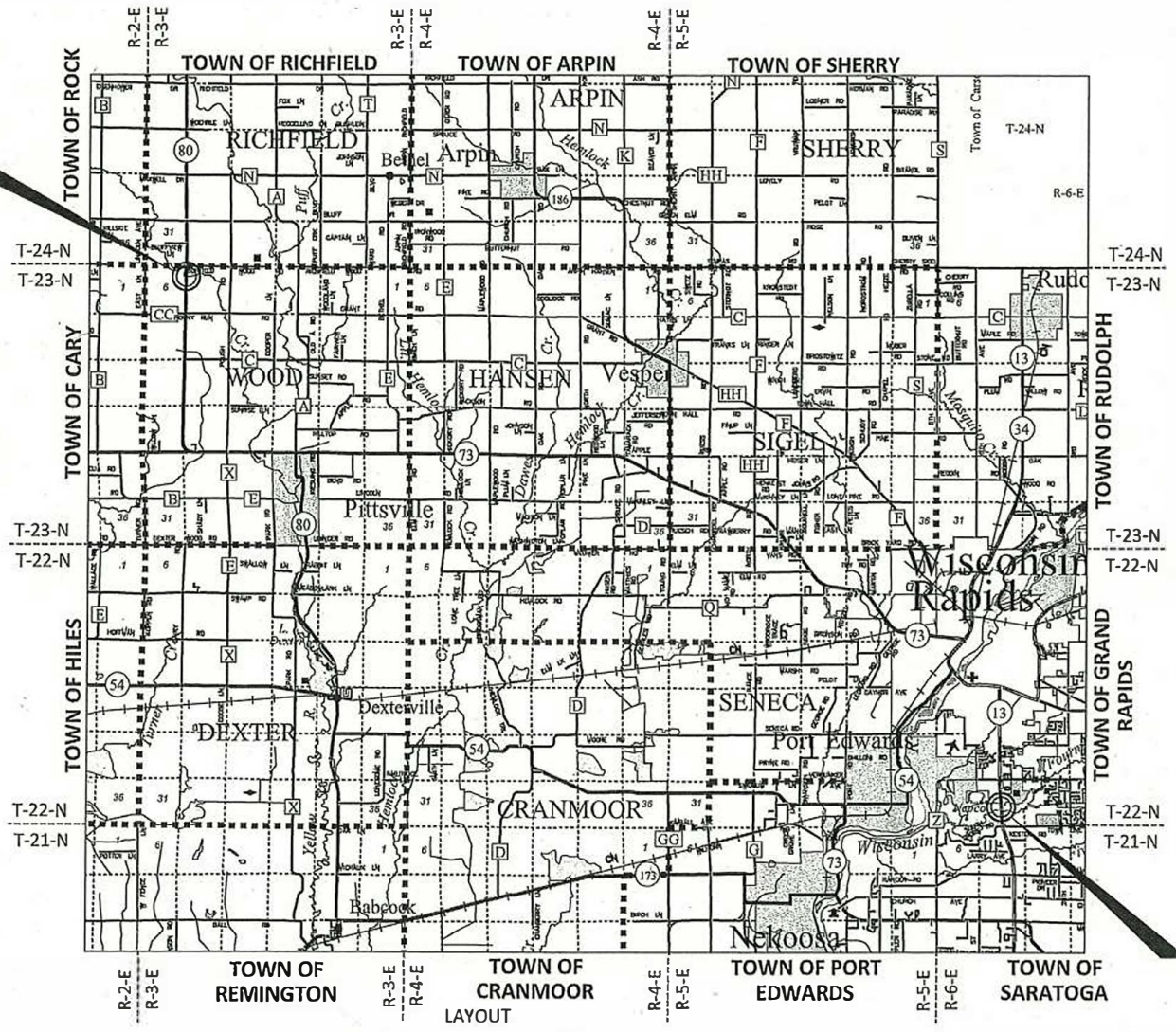


DESIGN DESIGNATION	6340-00-32
	STH 13 STH 80
A.A.D.T.	2024 14,734 2,185
A.A.D.T.	
D.H.V.	
D.D.	
T.	
DESIGN SPEED	45 MPH 55 MPH
ESALS	

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	---
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)	---
SPECIAL DITCH	---
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	---



STH 13 TOTAL NET LENGTH OF CENTERLINE = 0.06 MI
STH 80 TOTAL NET LENGTH OF CENTERLINE = 0.10 MI
TOTAL NET LENGTH OF CENTERLINE = 0.16 MI

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COORDINATE REFERENCE SYSTEM (WISCRS), WOOD 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 (2012). GPS DERIVED ELEVATIONS ARE BASED ON GEOID 12A.

ORIGINAL PLANS PREPARED BY

JEWELL
associates engineers, inc
Engineers - Architects - Surveyors



DATE: 4-29-25
(Professional Engineer Signature)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY	
Surveyor	JEWELL ASSOCIATES ENGINEERS, INC.
Designer	JEWELL ASSOCIATES ENGINEERS, INC.
Project Manager	KOREY BOEHM
Regional Examiner	FRED SCHUNK
Regional Supervisor	KEVIN KUJAWA

APPROVED FOR THE DEPARTMENT
DATE: 4-29-2025
(Signature)

2

GENERAL NOTES

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.

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.

CONTACTS

DESIGN CONSULTANT:

JEWELL ASSOCIATES ENGINEERS, INC.
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SUITE 100
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PH: (715) 318-8565
EMAIL: nick.pehler@jewellassoc.com

WISCONSIN DEPARTMENT OF TRANSPORTATION

WISDOT PROJECT MANAGER
1681 2ND AVE SOUTH
WISCONSIN RAPIDS, WI 54495
ATTN: KOREY BOEHM, P.E.
PH: (715) 459-2943
EMAIL: korey.boehm@dot.wi.gov

WDNR LIASION:

WISCONSIN DEPARTMENT OF NATURAL RESOURCES
910 HWY 54 EAST
BLACK RIVER HALLS, WI 54615
ATTN: BRAD BETTHAUSER
PH: (715) 213-9064
EMAIL: bradley.bethauser@wisconsin.gov

UTILITIES

ALLIANT ENERGY - ELECTRICITY

ATTN: MICHAEL PEETERS
2710 JEFFERSON ST
WISCONSIN RAPIDS, WI 54494
PH: (715) 459-1581
EMAIL: michaelpeeters@alliantenergy.com

BUG TUSSEL WIRELESS, LLC - COMMUNICATIONS

ATTN: DUSTIN TEAFF
1262 CAMBER CT
DE PERE, WI 54115
PH: (920) 254-3539
EMAIL: dustin.teaff@btusssel.com

SOLARUS - COMMUNICATIONS

ATTN: DENNIS PIERCE
440 E GRAND AVE
WISCONSIN RAPIDS, WI 54494
PH: (715) 572-0152
EMAIL: pierce@solarus.net

WE ENERGIES - GAS

ATTN: TANNER CASE
1921 8TH ST S
WISCONSIN RAPIDS, WI 54494
PH: (715) 421-7235
EMAIL: tanner.case@we-energies.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	Linear Foot	S	South
BAD	Base Aggregate Dense	or LF		SQ	Square
BK	Back	LC	Long Chord of Curve	SF or SQ FT	Square Feet
BF	Back Face	MH	Manhole	SV or SQ YD	Square Yard
BM	Bench Mark	MB	Mailbox	STD	Standard
BR	Bridge	ML or M/L	Match Line	SDD	Standard Detail Drawings
C or C/L	Center Line	N	North	STH	State Trunk Highways
CC	Center to Center	Y	North Grid Coordinate	STA	Station
C.E.	Commercial Entrance	OD	Outside Diameter	SS	Storm Sewer
CTH	County Trunk Highway	PLE	Permanent Limited Easement	SG	Subgrade
CR	Creek	PT	Point	SE	Superelevation
CR	Crushed	PC	Point of Curvature	SL or S/L	Survey Line
CY or CU YD	Cubic Yard	PI	Point of Intersection	SV	Septic Vent
CP	Culvert Pipe	PRC	Point of Reverse Curvature	T	Tangent
C & G	Curb and Gutter			TEL	Telephone
D	Degree of Curve	PT	Point of Tangency	TEMP	Temporary
DHV	Design Hour Volume	POC	Point On Curve	TI	Temporary Interest
DIA	Diameter	POT	Point on Tangent	TLE	Temporary Limited Easement
E	East	PVC	Polyvinyl Chloride		Ton
X	East Grid Coordinate	PCC	Portland Cement Concrete	t	Town
ELEC	Electric (al)	LB	Pound	T or TN	Transition
EL or ELEV	Elevation	PSI	Pounds Per Square Inch	TRANS	Transit Line
ESALS	Equivalent Single Axle Loads	P.E.	Private Entrance	T	Trucks (percent of)
		R	Radius	TYP	Typical
EBS	Excavation Below Subgrade	RR	Railroad	UNCL	Unclassified
		R	Range	UG	Underground Cable
FF	Face to Face	RL or R/L	Reference Line	USH	United States Highway
F.E.	Field Entrance	RP	Reference Point	VAR	Variable
F	Fill	RCCP	Reinforced Concrete Culvert Pipe	V	Velocity or Design Speed
FG	Finished Grade			VERT	Vertical
FL or F/L	Flow Line	REQD	Required	VC	Vertical Curve
FT	Foot	RES	Residence or Residential	VOL	Volume
FTG	Footing	RW	Retaining Wall	WM	Water Main
GN	Grid North	RT	Right	WV	Water Valve
HT	Height	RHF	Right-Hand Forward	W	West
CWT	Hundredweight	R/W	Right-of-Way	WB	Westbound
HYD	Hydrant	RD	Road	YD	Yard
INL	Inlet	R	River		
ID	Inside Diameter				

ORDER OF SECTION 2 SHEETS:

- PROJECT OVERVIEW

- TYPICAL SECTIONS

- CONSTRUCTION DETAILS

- PAVEMENT DETAILS

- BEAM GUARD DETAILS

- EROSION CONTROL

- STORM SEWER DETAILS

- PAVEMENT MARKING DETAILS

-TRAFFIC CONTROL 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= 18.19 ACRES																			
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 0.66 ACRES																			

2

GENERAL NOTES, UTILITIES, CONTACTS, & ABBREVIATIONS

SHEET

2

E

PROJECT NO: 6340-00-62

HWY: STH 13/80

COUNTY: WOOD

FILE NAME : R:\PROJECTS\W11702 WISDOT - STH 13 & 80 BRIDGES, WOOD CO\SHEETS\PLAN\DETAILS\W11702_GENNOTES.DWG

PLOT DATE : 4/21/2026 2:05:08 PM

PLOT BY : HANNAH SCHUH

PLOT SCALE : N/A

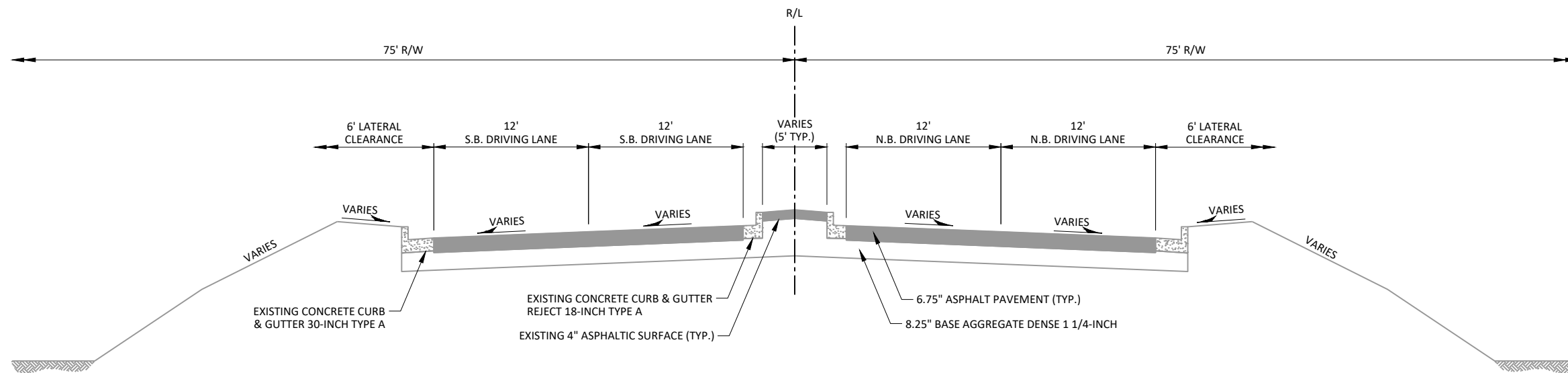
LAYOUT : 2.0 GENERAL NOTES



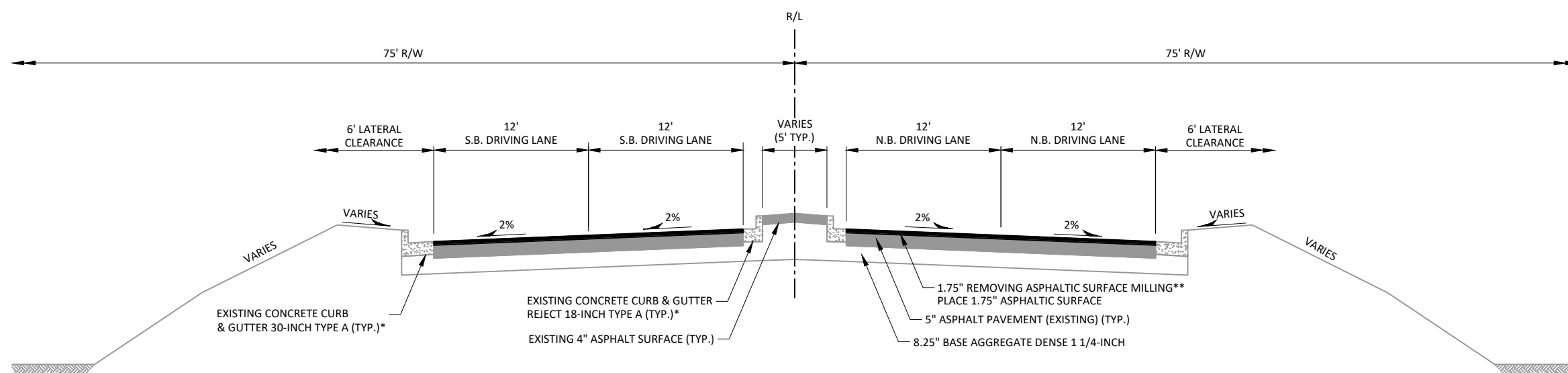
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2



**TYPICAL EXISTING SECTION**

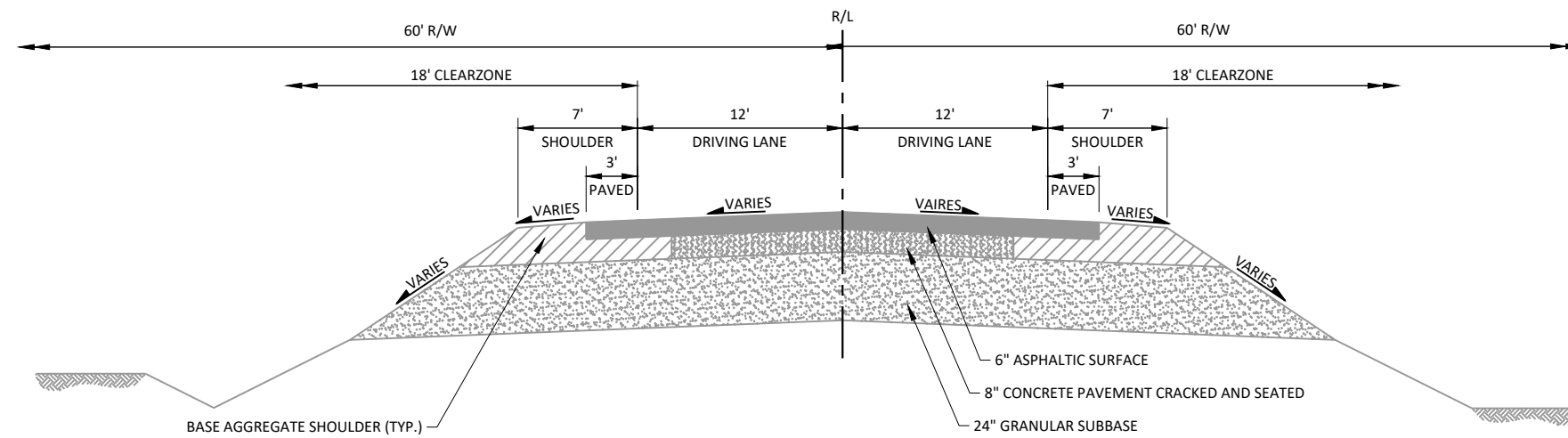
STH 13
STA. 412+20.25 - STA. 413+20.25
STA. 414+56.75 - STA. 415+56.75

**TYPICAL FINISHED SECTION**

STH 13
STA. 412+20.25 - STA. 413+20.25
STA. 414+56.75 - STA. 415+56.75

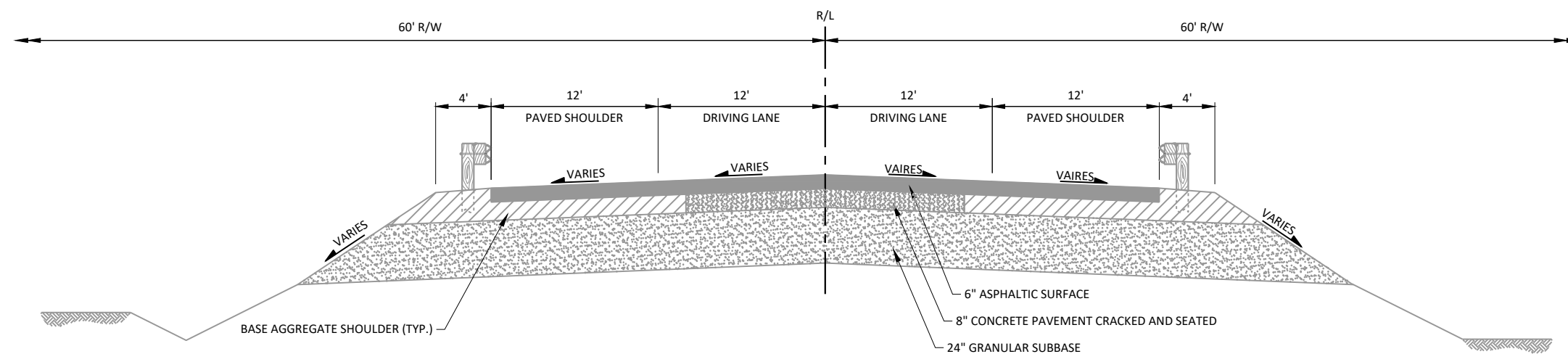
*REPLACE CONCRETE CURB & GUTTER 30-INCH TYPE A AND REJECT 18-INCH TYPE A AT STA. 413+15.25 - STA. 413+40.25 AND STA. 415+36.75 - STA. 415+61.75. MATCH CURB & GUTTER TO BRIDGE DECK OVERLAY.

**USE VARIABLE DEPTH WHEN MILLING TO REMOVING ASPHALTIC SURFACE SO ASPHALTIC SURFACE OVERLAY HAS CONSISTENT DEPTH THROUGHOUT PAVING LIMITS.



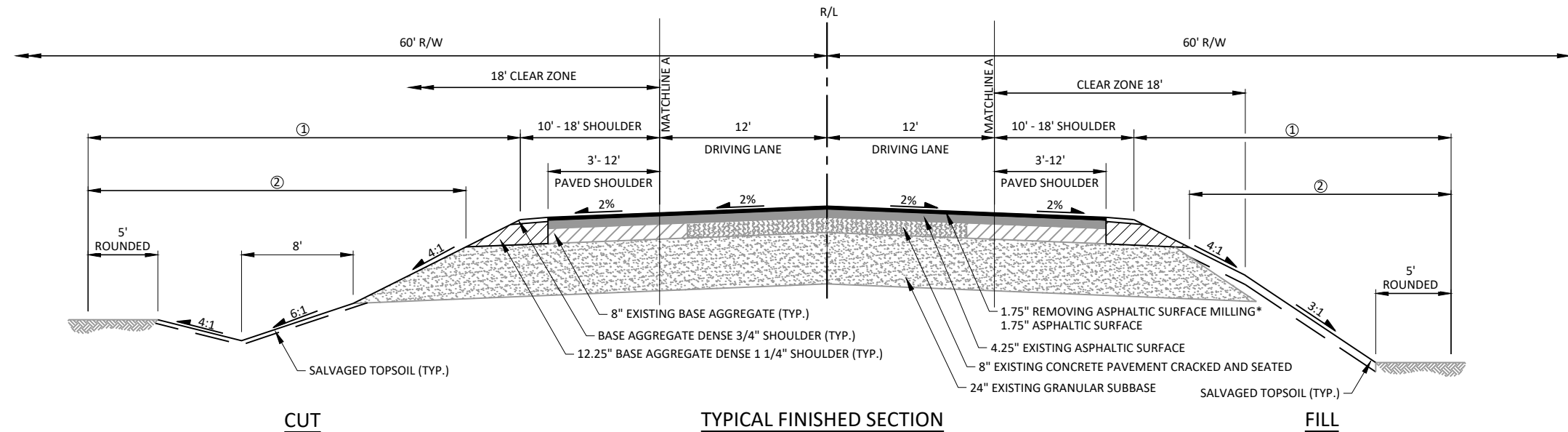
TYPICAL EXISTING SECTION

STH 80
STA. 11+35.00 - STA. 12+28.40
STA. 15+06.81 - STA. 16+50.00



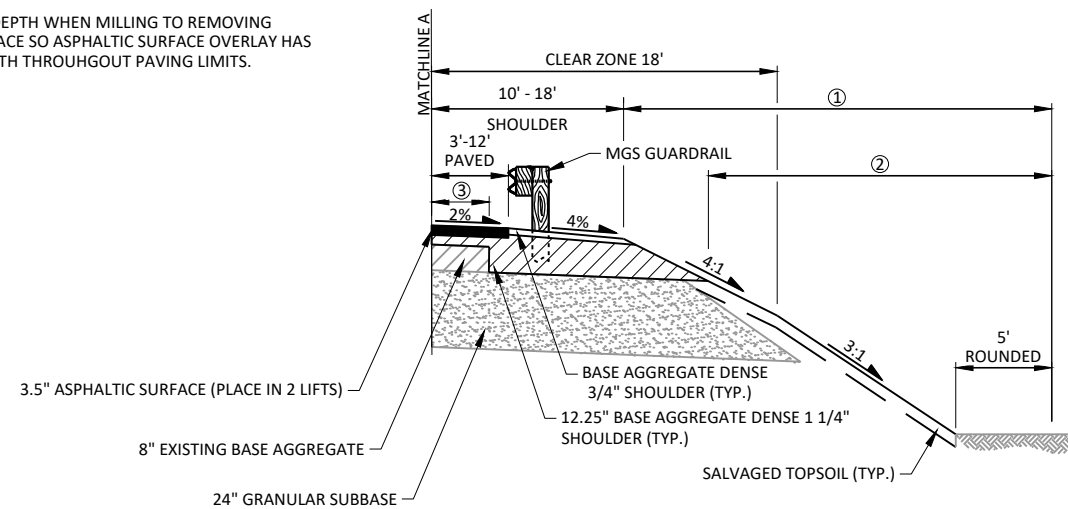
TYPICAL EXISTING SECTION

STH 80
STA. 12+28.40 - STA. 13+59.83
STA. 14+26.16 - STA. 15+06.81



- ① LIMITS OF SEEDING MIXTURE NO. 20, SEEDING TEMPORARY FERTILIZER TYPE B
- ② LIMITS OF SALVAGED TOPSOIL AND MULCHING OR EROSION MAT URBAN CLASS 1 TYPE B
- ③ LIMITS OF REMOVING ASPHALTIC SURFACE

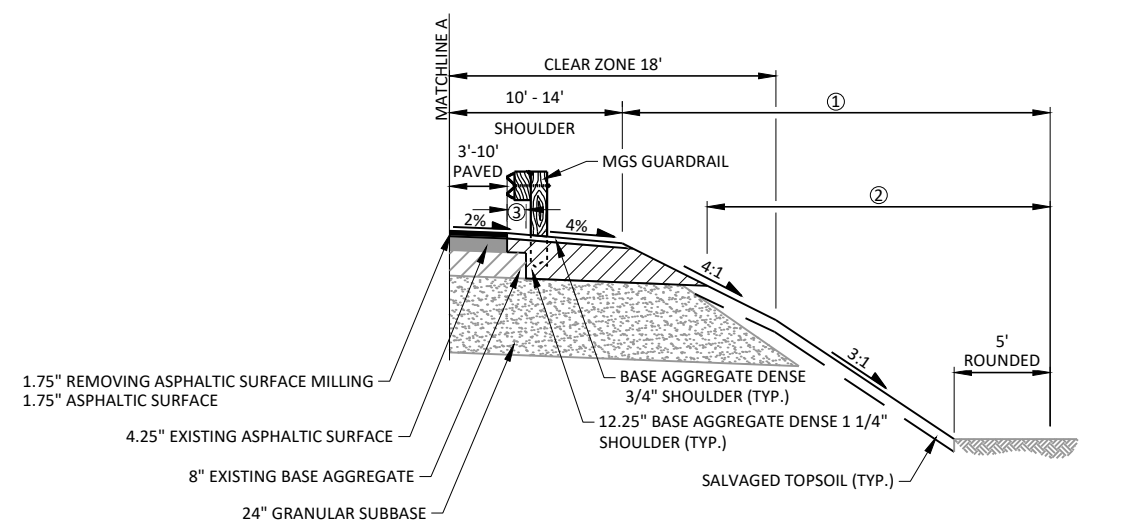
*USE VARIABLE DEPTH WHEN MILLING TO REMOVING ASPHALTIC SURFACE SO ASPHALTIC SURFACE OVERLAY HAS CONSISTENT DEPTH THROUGHOUT PAVING LIMITS.



TYPICAL FINISHED SECTION

STH 80
STA. 11+69.00 - STA. 12+80.00, LT
STA. 14+26.16 - STA. 16+17.17, LT
STA. 14+26.16 - STA. 16+17.17, RT

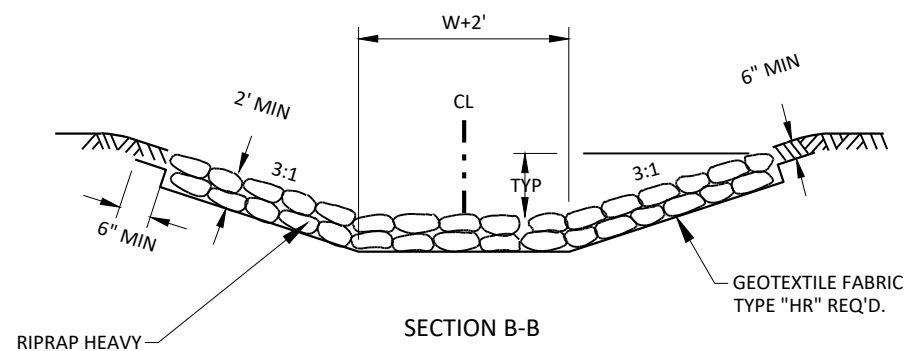
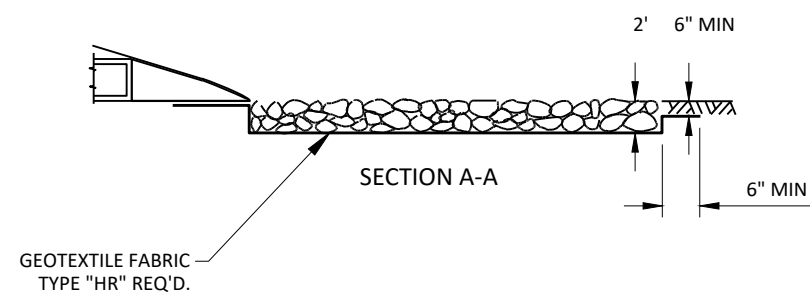
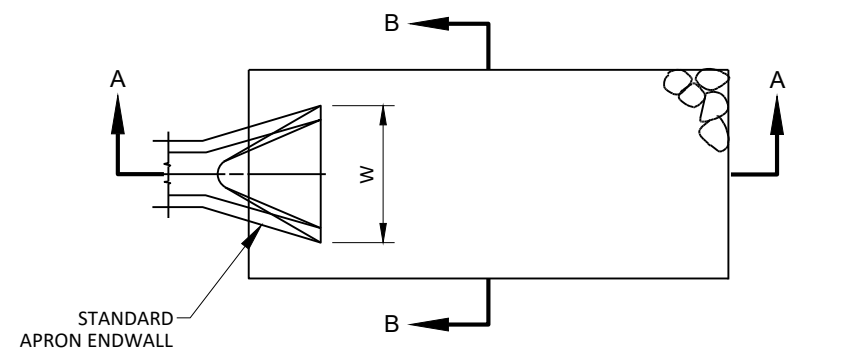
STH 80 - MGS GUARDRAIL REQ'D
STA. 12+58.74 - STA. 13+59.83, LT
STA. 14+26.16 - STA. 15+27.17, LT
STA. 14+26.16 - STA. 15+27.17, RT



TYPICAL FINISHED SECTION

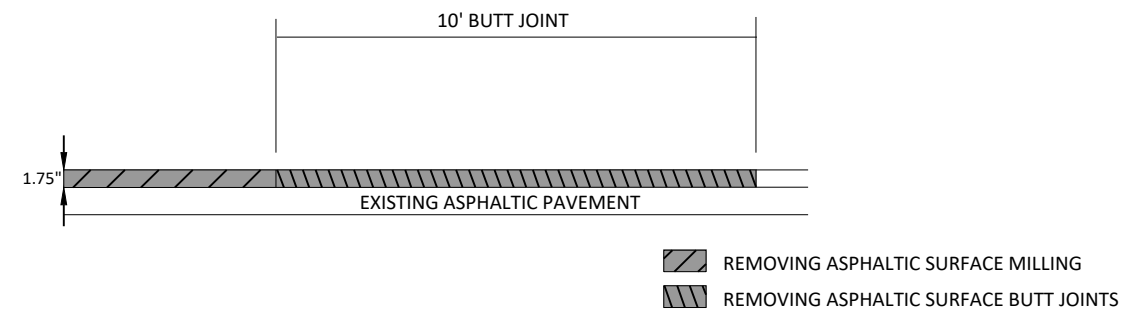
STH 80
STA. 11+35.00 - STA. 13+59.00, RT

STH 80 - MGS GUARDRAIL REQ'D
STA. 12+33.86 - STA. 13+59.83, RT



RIPRAP HEAVY TREATMENT AT STORM SEWER OUTFALLS

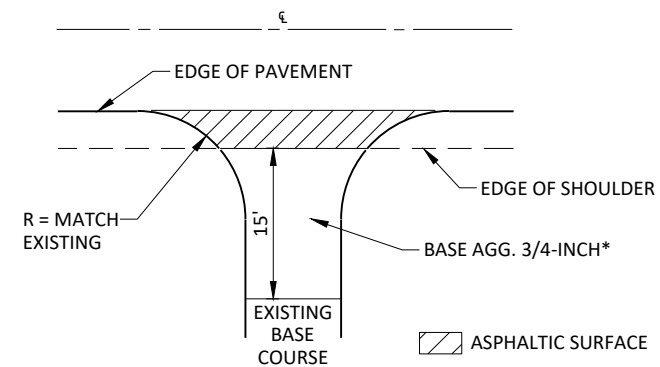
STH 13
STA. 412+43, RT.
STA. 413+26, LT.
STA. 413+26, RT.
STA. 416+50, LT.
STA. 416+50, RT.
STA. 419+96, LT.
STA. 420+06, LT.



REMOVING ASPHALTIC SURFACE BUTT JOINT

STH 13
STA. 412+20.25 - STA. 412+30.25
STA. 413+30.25 - STA. 413+40.25
STA. 414+36.75 - STA. 414+46.75
STA. 415+46.75 - STA. 415+56.75

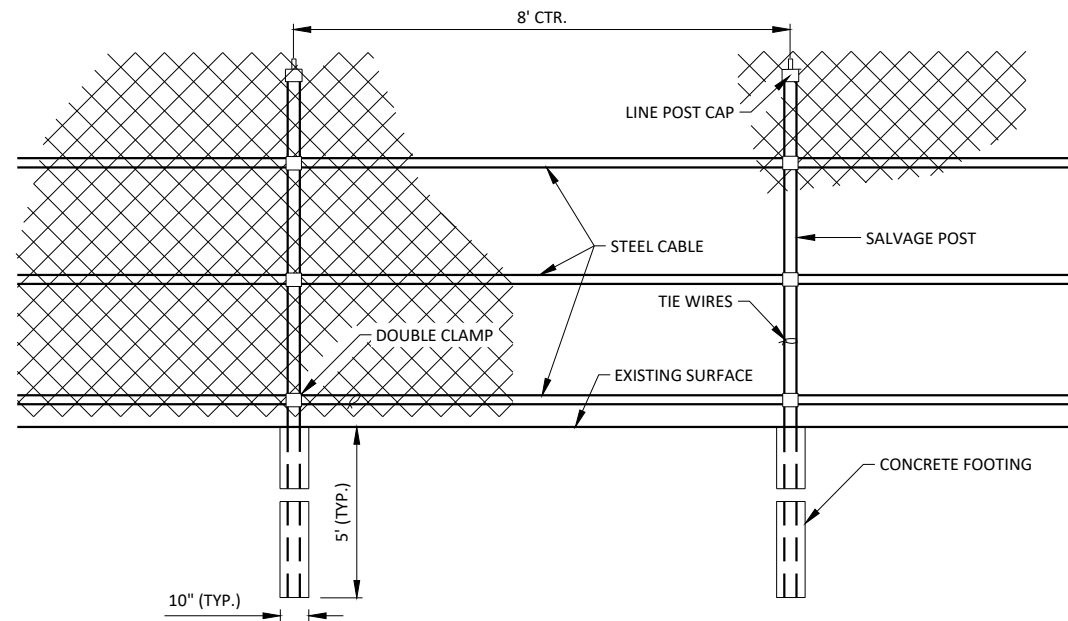
STH 80
STA. 11+35.00 - STA. 11+45.00
STA. 13+49.83 - STA. 13+59.83
STA. 14+26.16 - STA. 14+36.16
STA. 16+40.00 - STA. 16+50.00



*NOTE: TAPER BASE AGGREGATE DENSE 3/4-INCH TO CREATE A SMOOTH PROFILE TRANSITION FROM THE EDGE OF ASPHALT TO THE EXISTING DRIVEWAY.

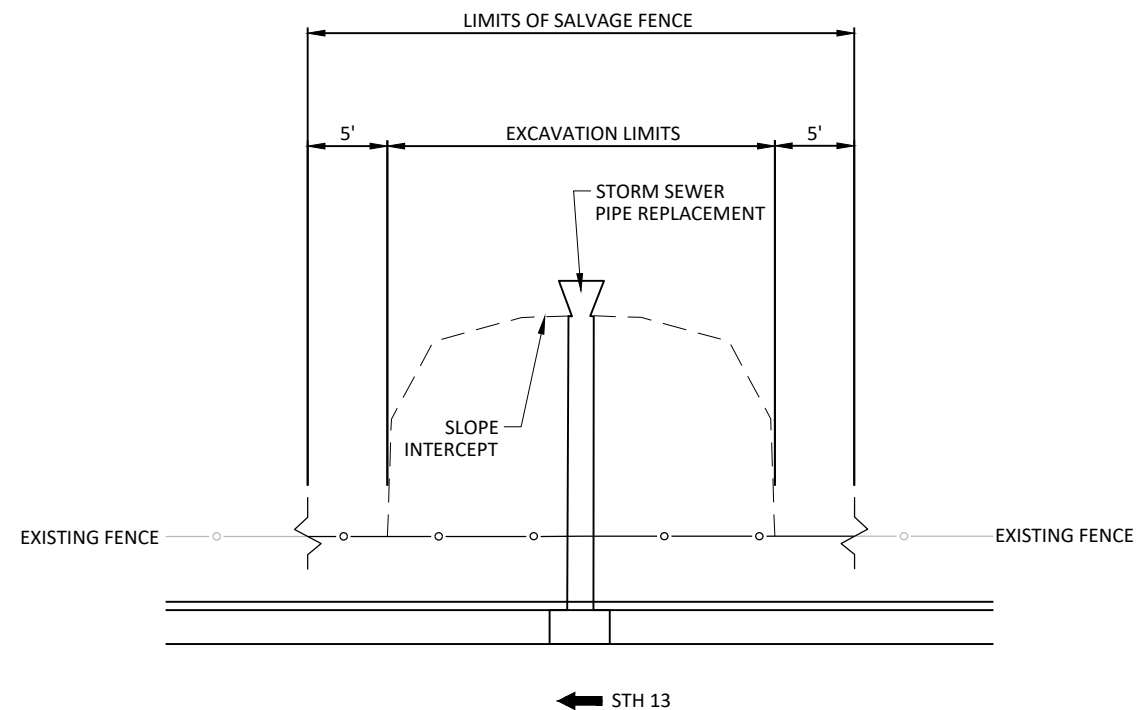
RURAL DRIVEWAY INTERSECTION DETAIL

STH 80
STA. 11+59.00, RT.



FENCE ELEVATION VIEW

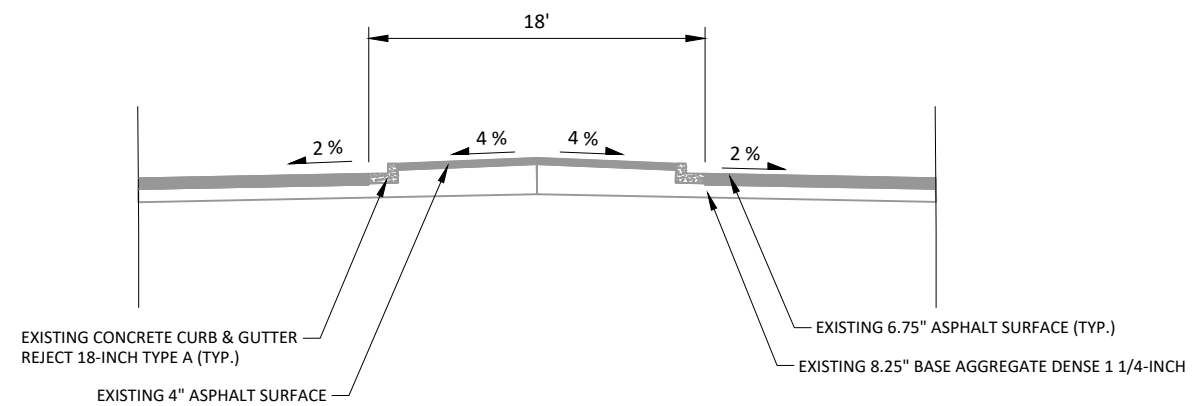
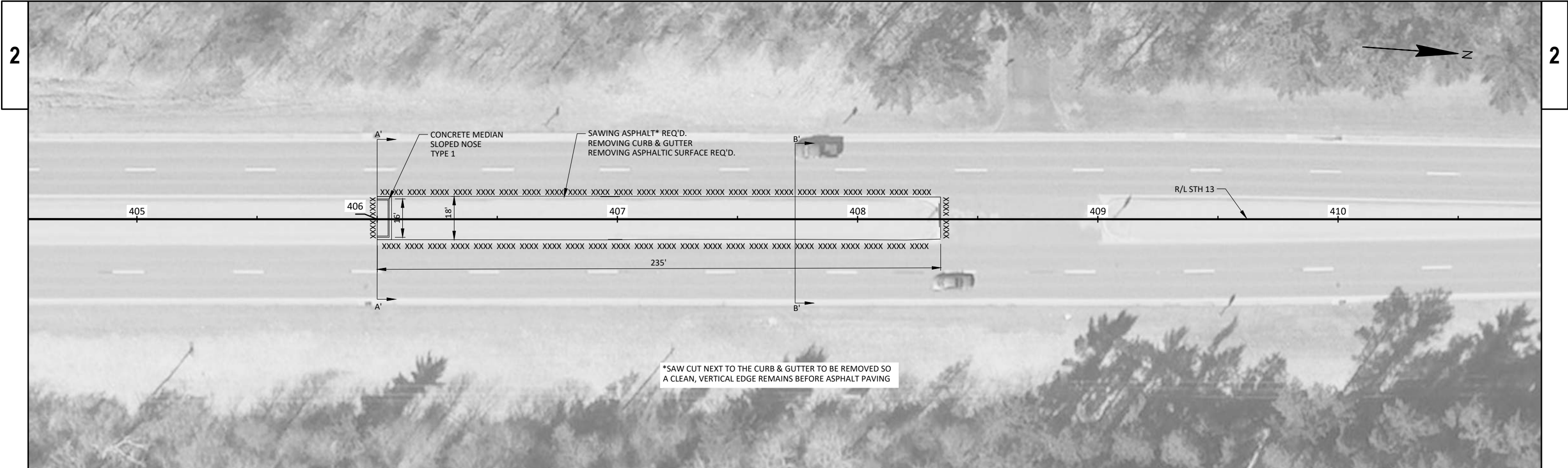
VIEWING FABRIC SIDE



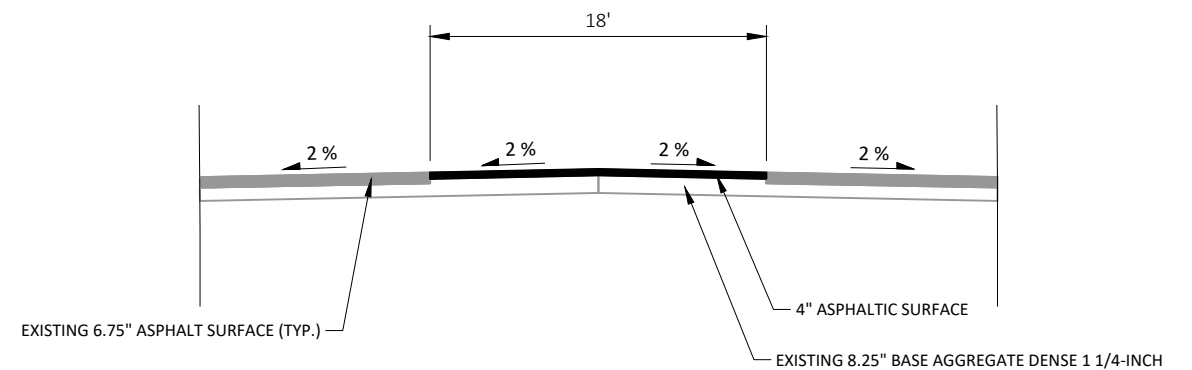
SALVAGE FENCE

STH 13

STA. 413+26, LT.
STA. 413+26, RT.
STA. 416+50, LT.
STA. 416+50, RT.
STA. 419+96, LT.
STA. 420+06, LT.

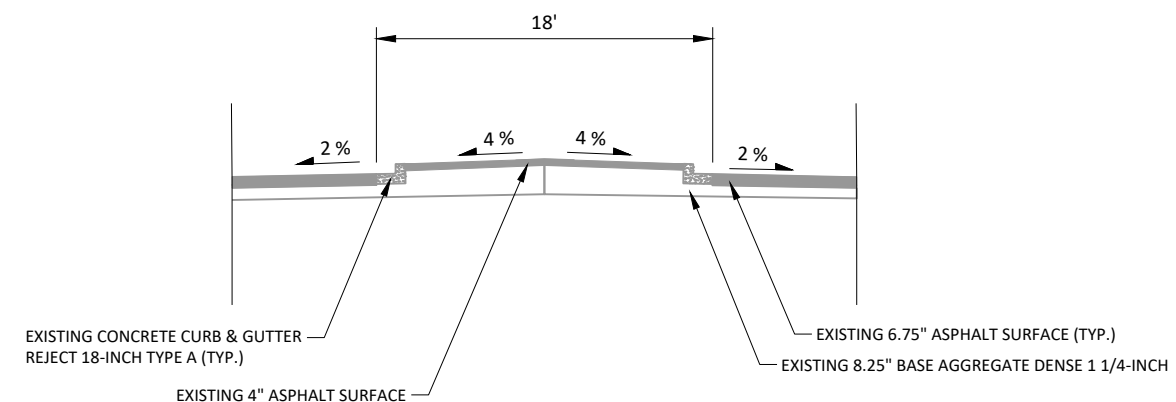
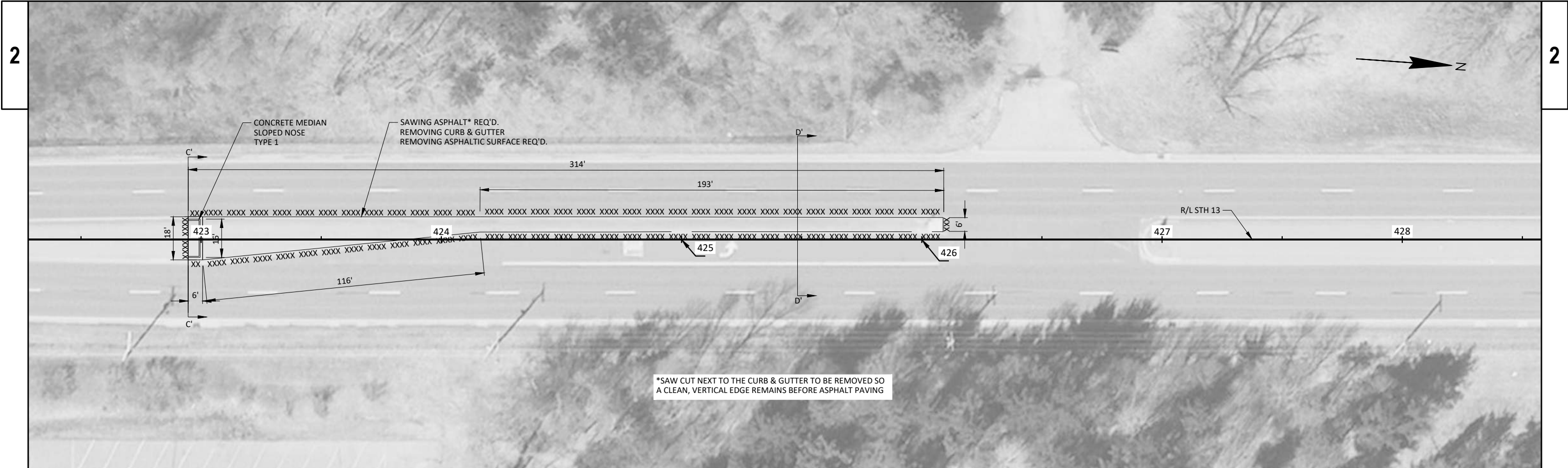


CROSS SECTION A' - A'
STH 13 (EXISTING)

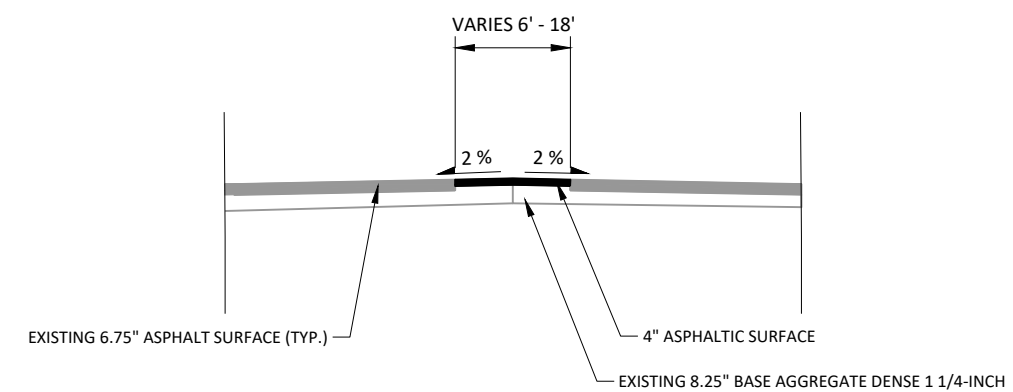


CROSS SECTION B' - B'
STH 13
STA. 406+00.00 - STA. 408+34.30

NOTE: REMOVE ASPHALT MEDIAN PAID AS REMOVING ASPHALTIC SURFACE AND COMMON EXCAVATION. SHAPE THE REMAINING BASE AGGREGATE PAID AS PREPARE FOUNDATION FOR ASPHALTIC PAVING.

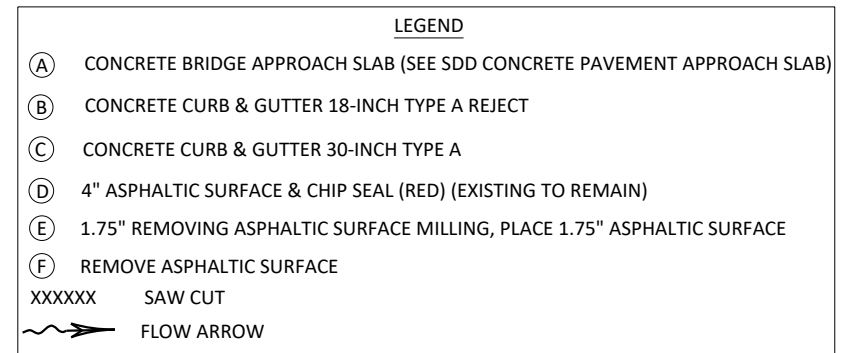


CROSS SECTION C' - C'
STH 13 (EXISTING)

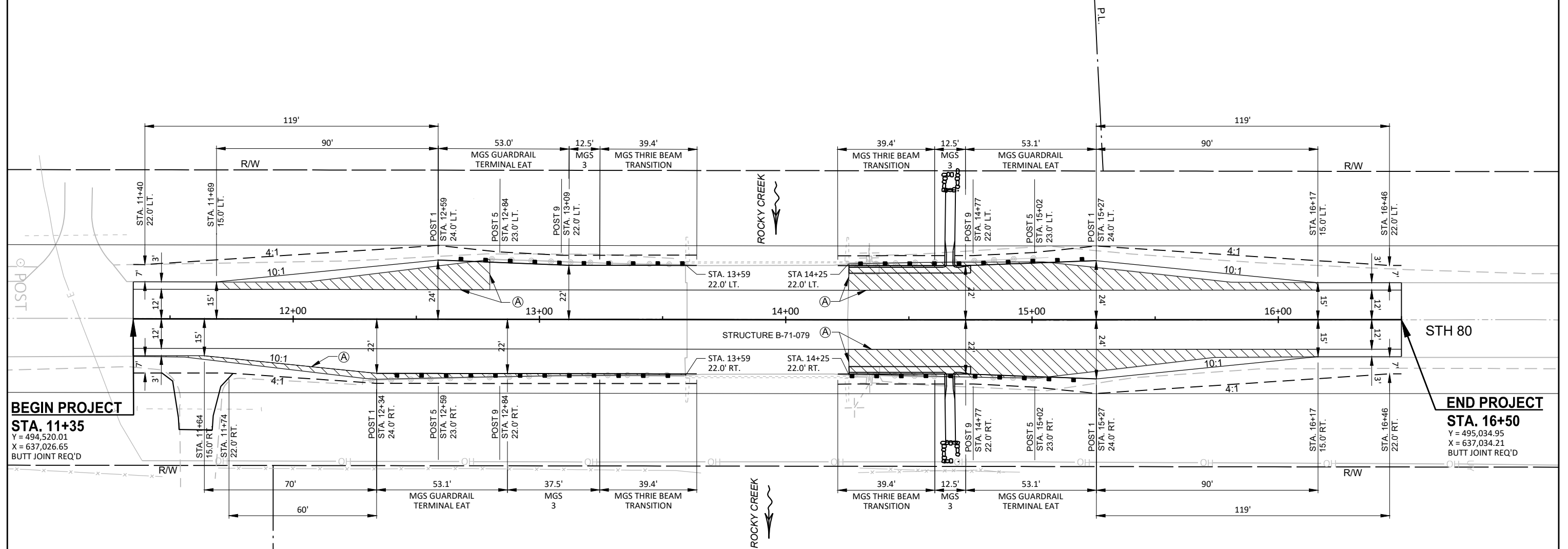


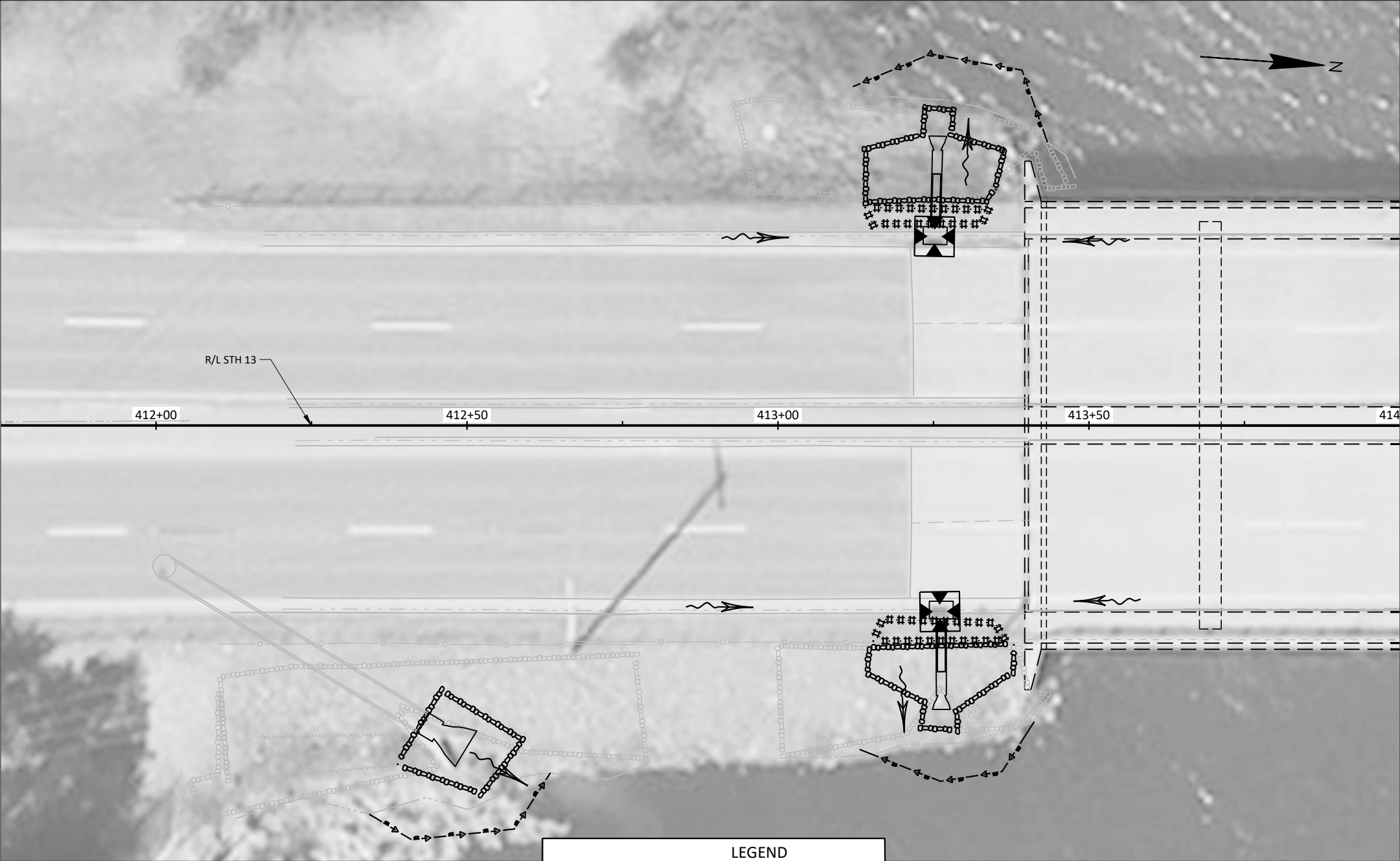
CROSS SECTION D' - D'
STH 13
STA. 422+95.00 - STA. 426+09.00

NOTE: REMOVE ASPHALT MEDIAN PAID AS REMOVING ASPHALTIC SURFACE AND COMMON EXCAVATION. SHAPE THE REMAINING BASE AGGREGATE PAID AS PREPARE FOUNDATION FOR ASPHALTIC PAVING.



USE VARIABLE DEPTH MILLING TO REMOVE ASPHALTIC SURFACE SO ASPHALTIC SURFACE OVERLAY HAS CONSISTENT DEPTH THROUGHOUT PAVING LIMITS.

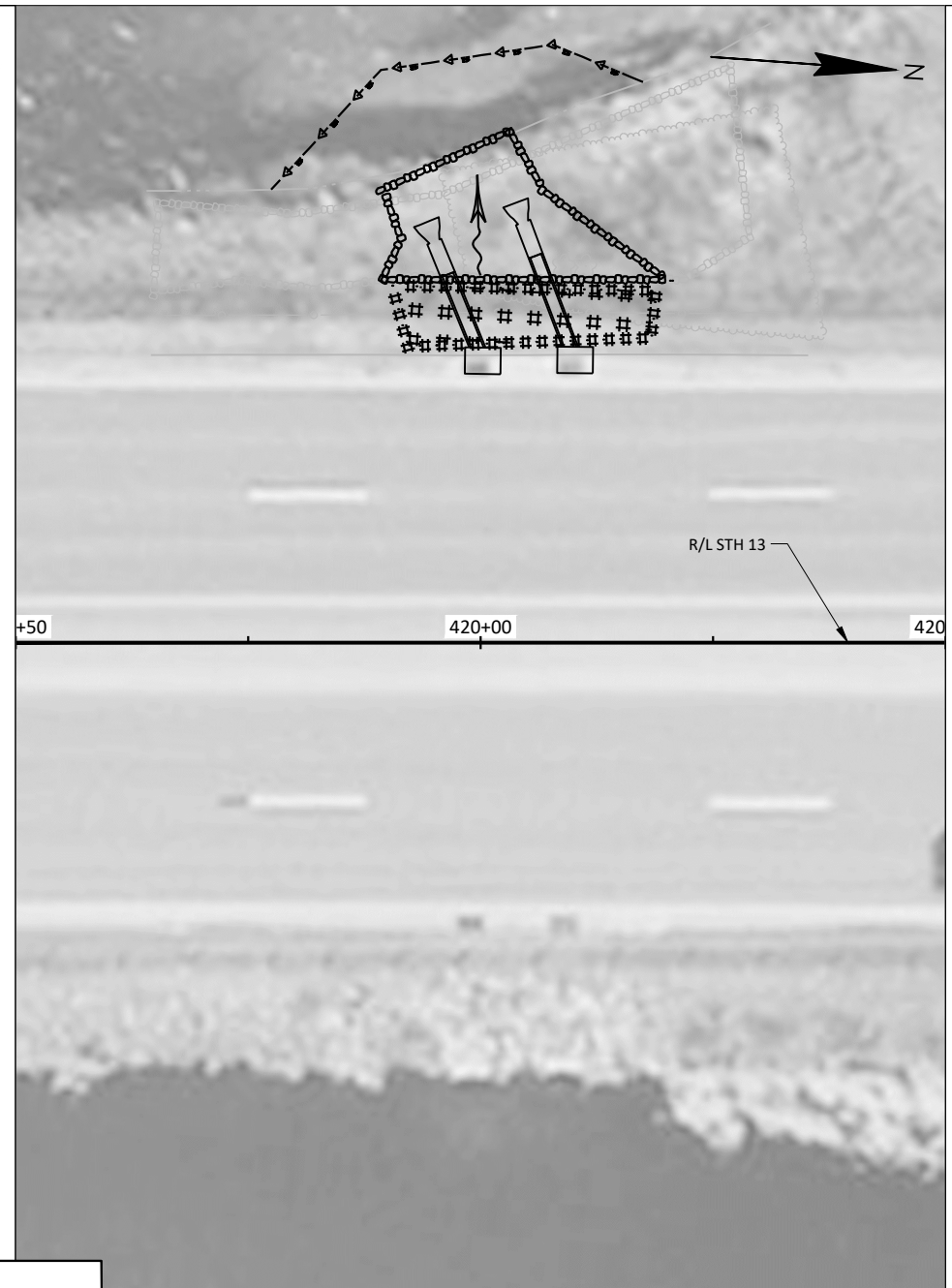




LEGEND

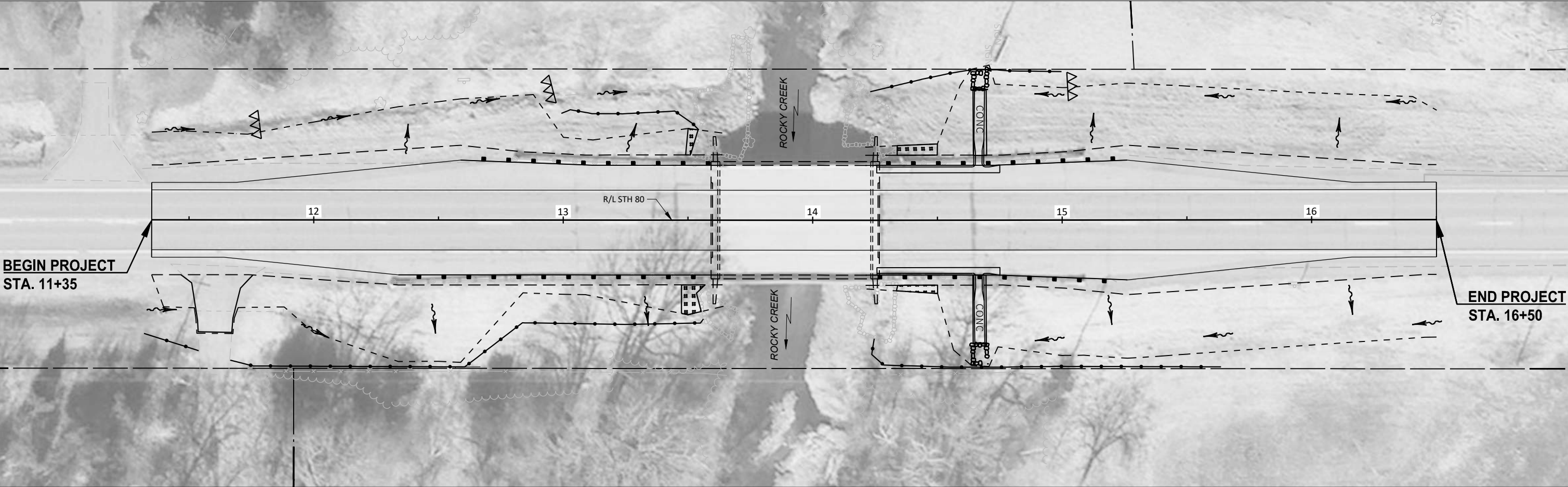
#####	EROSION MAT CLASS I URBAN TYPE B
←-□-□-□-→	TURBIDITY BARRIER
○-○-○-○-○	RIPRAP HEAVY
- - -	SLOPE INTERCEPT
⊠	INLET PROTECTION TYPE C
~>	SURFACE WATER FLOW

NOTE: REPLACE RIPRAP
IN EXCAVATION AREAS.

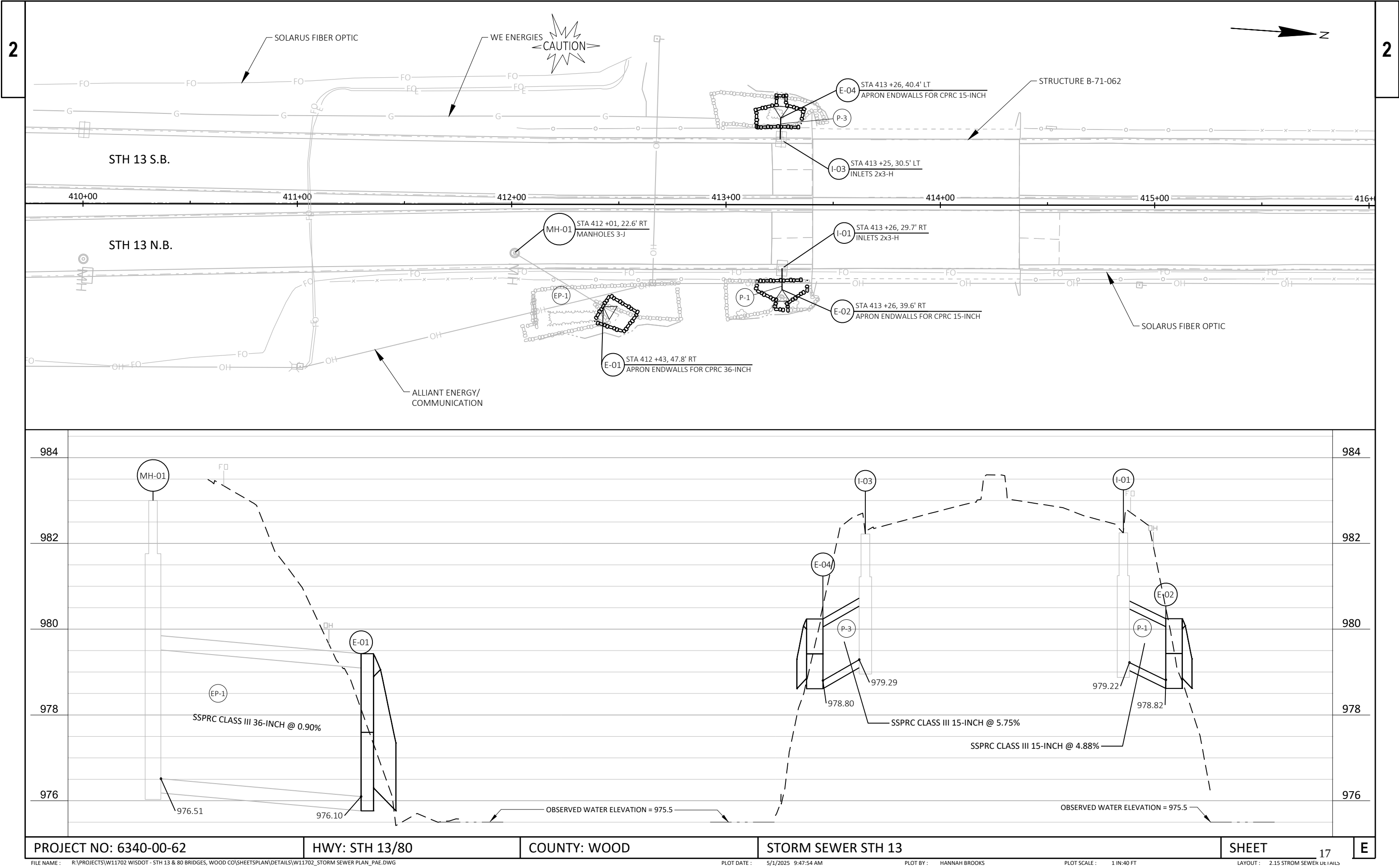
**LEGEND**

#####	EROSION MAT CLASS I URBAN TYPE B
--->--->--->---	TURBIDITY BARRIER
--->--->--->---	RIPRAP HEAVY
---	SLOPE INTERCEPT
⊗	INLET PROTECTION TYPE C
~>	SURFACE WATER FLOW

NOTE: REPLACE RIPRAP
IN EXCAVATION AREAS.



LEGEND	
#####	EROSION MAT CLASS I URBAN TYPE B
—●—●—●—	SILT FENCE
—○—○—○—	RIPRAP MEDIUM
- - - -	SLOPE INTERCEPT
CONC	CONCRETE FLUME
△△△	TEMPORARY DITCH CHECK
~>	SURFACE WATER FLOW



PROJECT NO: 6340-00-62

HWY: STH 13/80

COUNTY: WOOD

STORM SEWER STH 13

SHEET 17

E

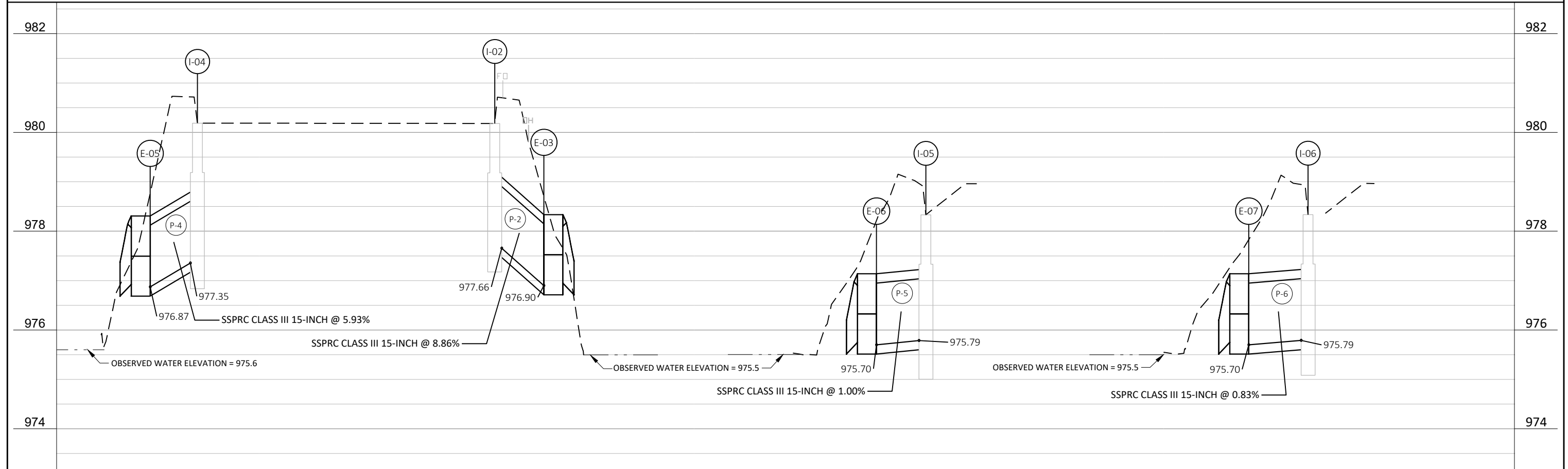
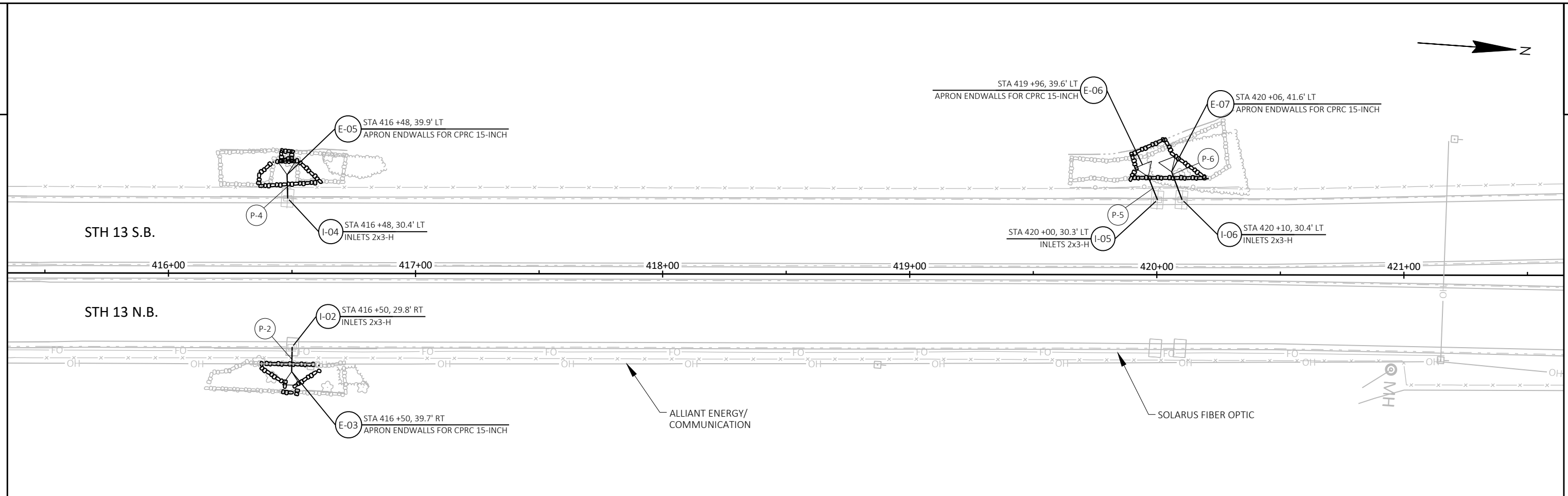
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PLOT DATE: 5/1/2025 9:47:54 AM

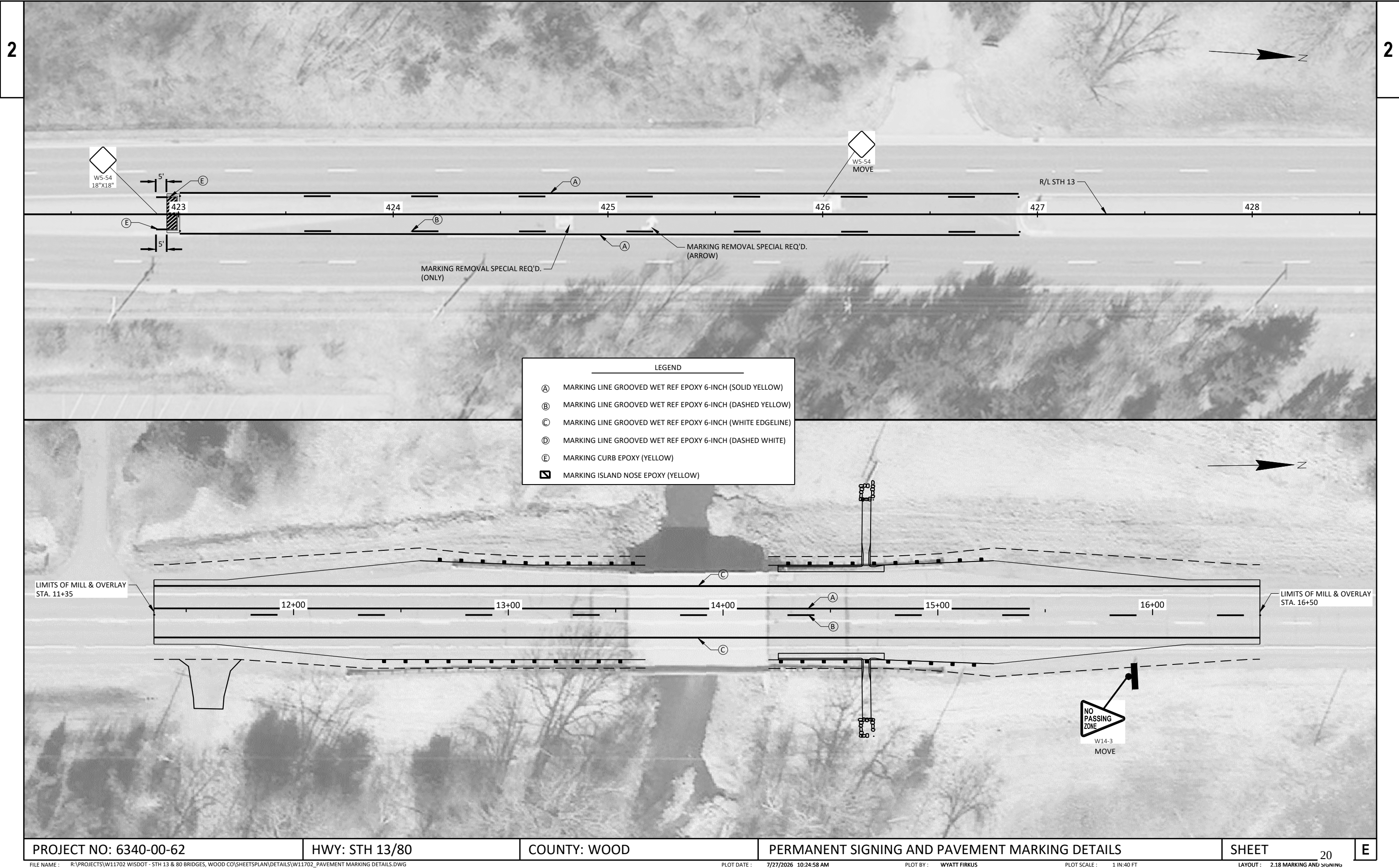
PLOT BY: HANNAH BROOKS

PLOT SCALE: 1 IN=40 FT

LAYOUT: 2.15 STORM SEWER DETAILS







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 SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS.

ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED.

"WO" IS THE SAME AS "W" EXCEPT THE BACKGROUND IS ORANGE.

FOR A LANE CLOSURE THAT IS IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, THE ADVANCED WARNING SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS.

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.

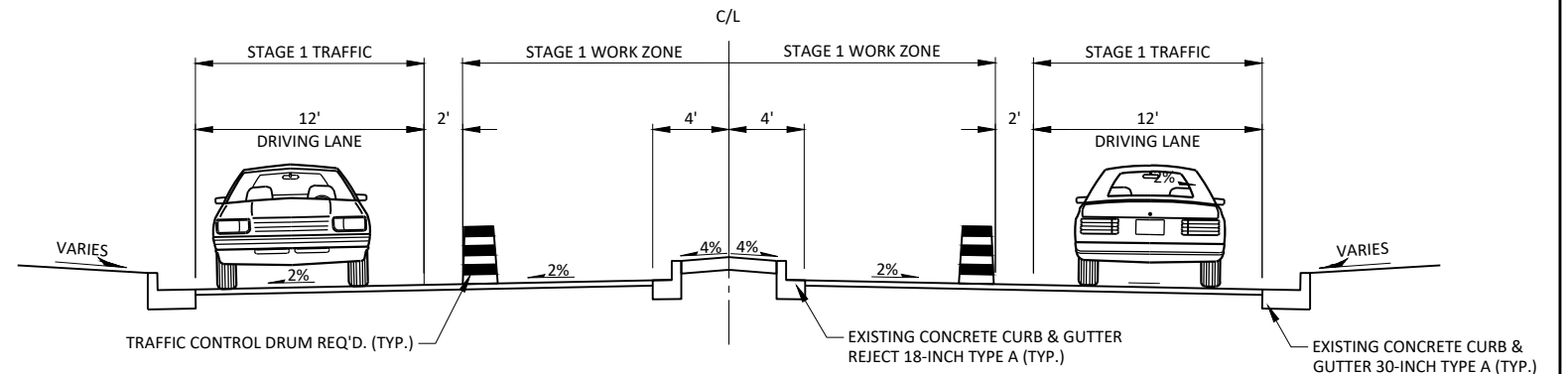
ALL SIGN LAYOUT SHALL BE IN ACCORDANCE WITH THE FEDERAL HIGHWAY ADMINISTRATION MANUAL OF STANDARD HIGHWAY SIGNS.

ADDITIONAL DRUMS OR TYPE III BARRICADES MAY BE REQUIRED ADJACENT TO DROP-OFFS, OPEN TRENCHES, OR PROTRUSIONS. COST TO BE INCLUDED WITH OPERATION WHICH CREATES THE HAZARD.

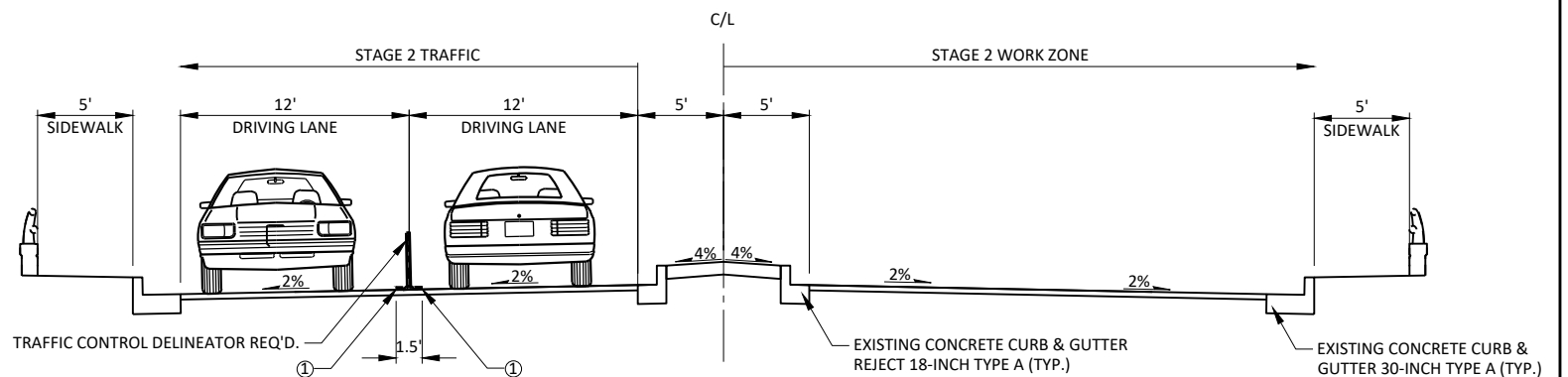
DRUMS PLACED ADJACENT TO WORK AREAS SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

BARRICADES IN A CLOSED LANE THAT MUST BE MOVED FOR A WORK OPERATION SHALL BE IMMEDIATELY RE-ESTABLISHED UPON COMPLETION OF THE OPERATION OR, FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKING DAY.

WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

**TYPICAL STAGING SECTION AT B-71-62**

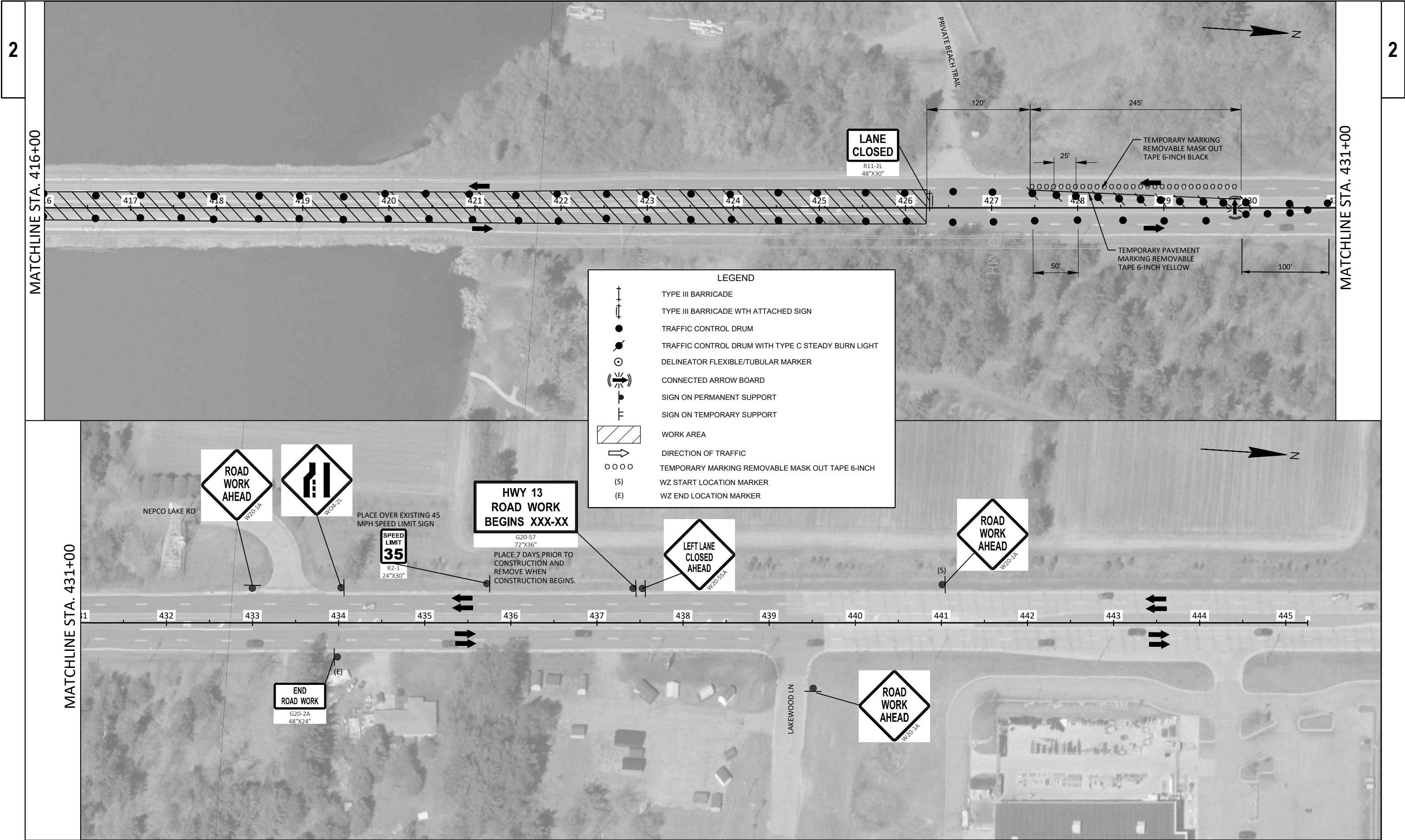
STAGE 1 MEDIAN CROSSOVERS

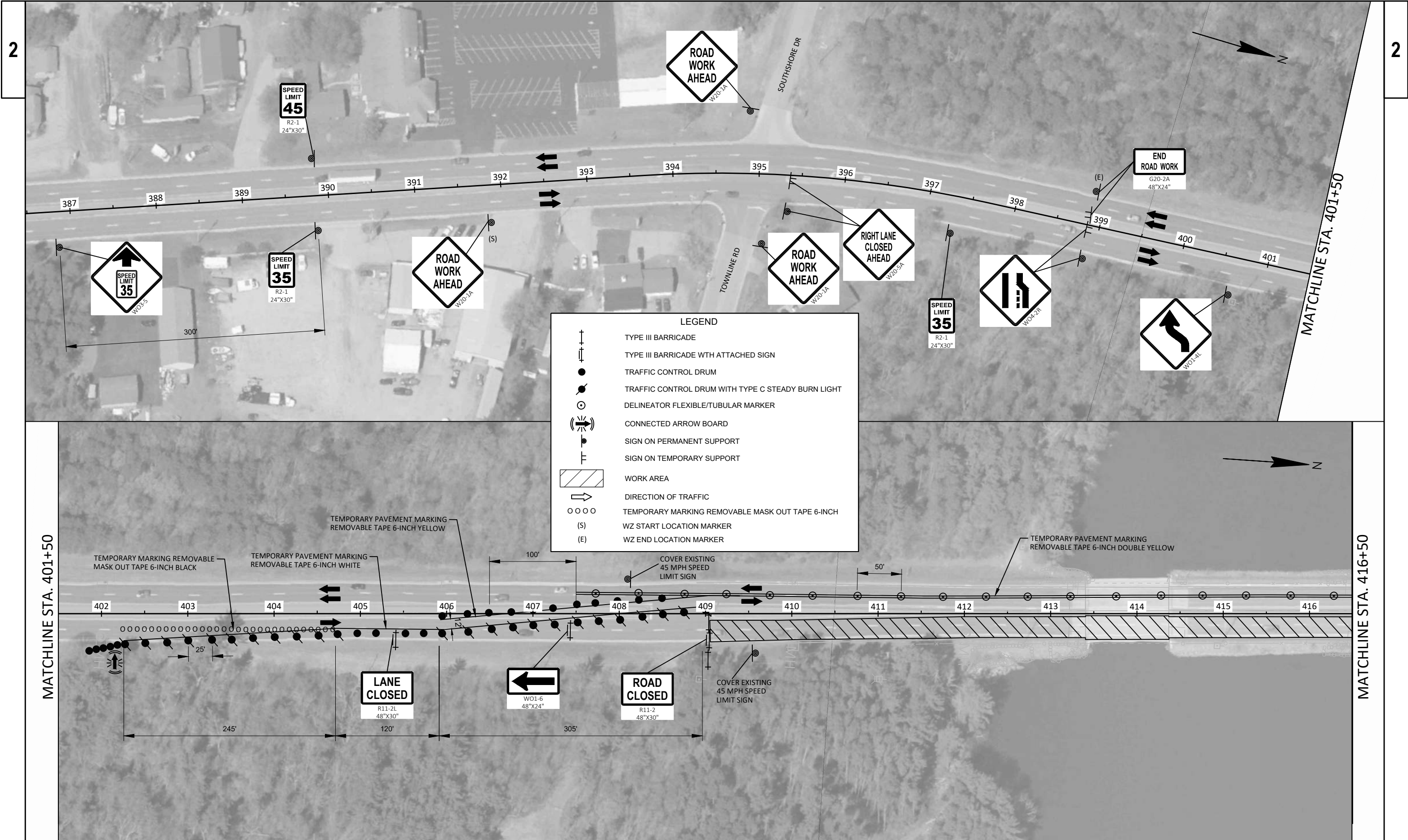
**TYPICAL STAGING SECTION AT B-71-62**

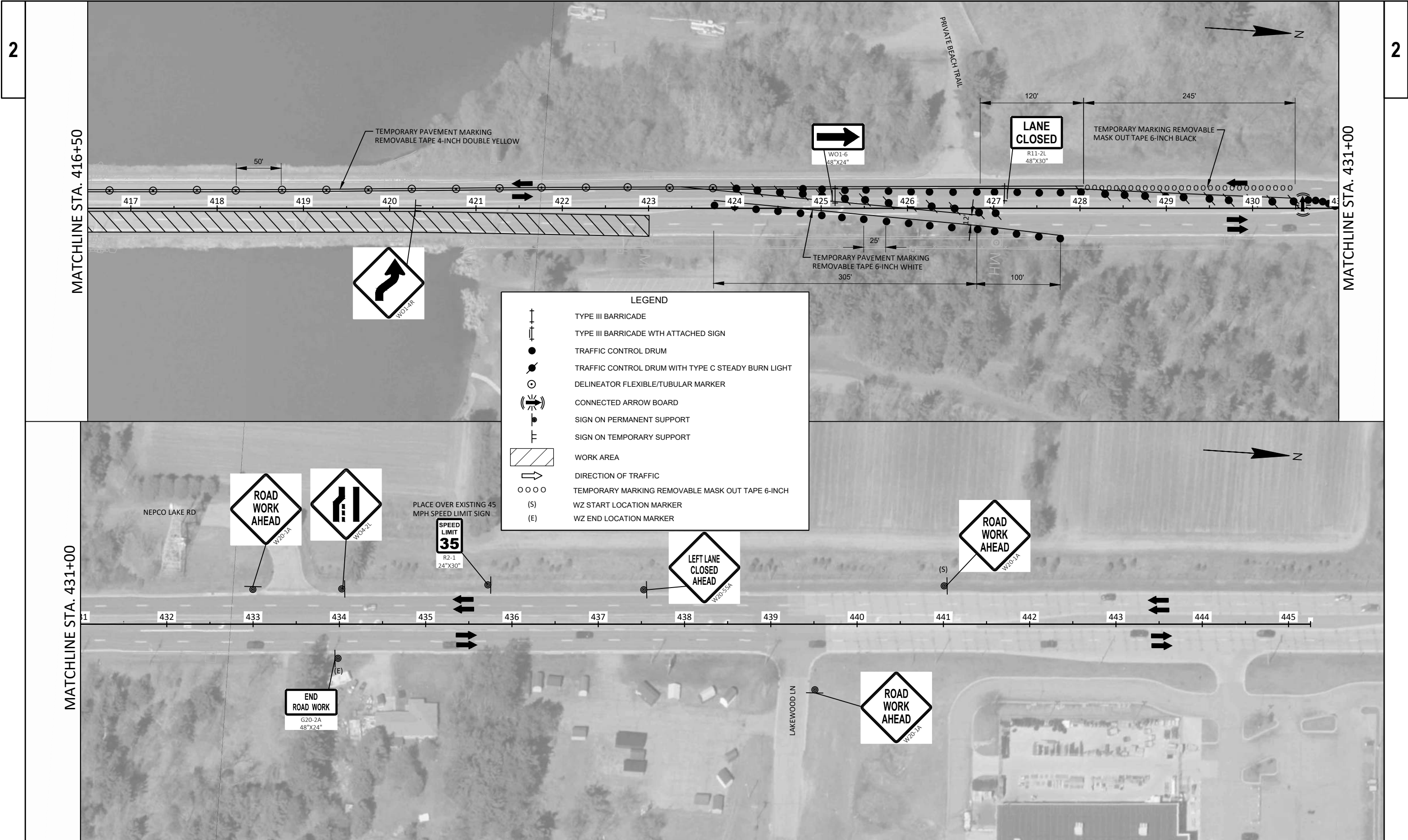
STAGE 2/3*

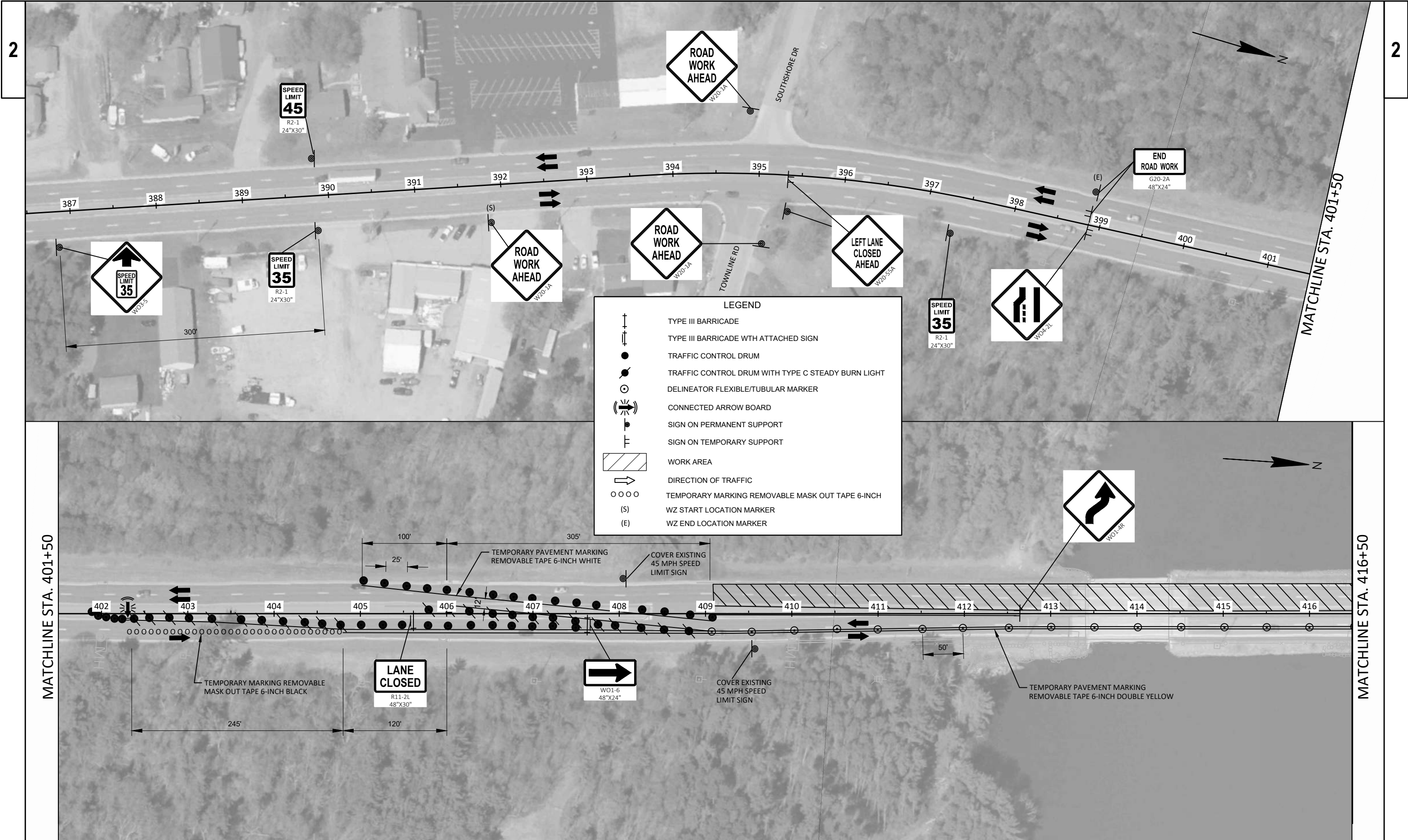
① TEMPORARY MARKING LINE REMOVABLE TAPE 6-INCH

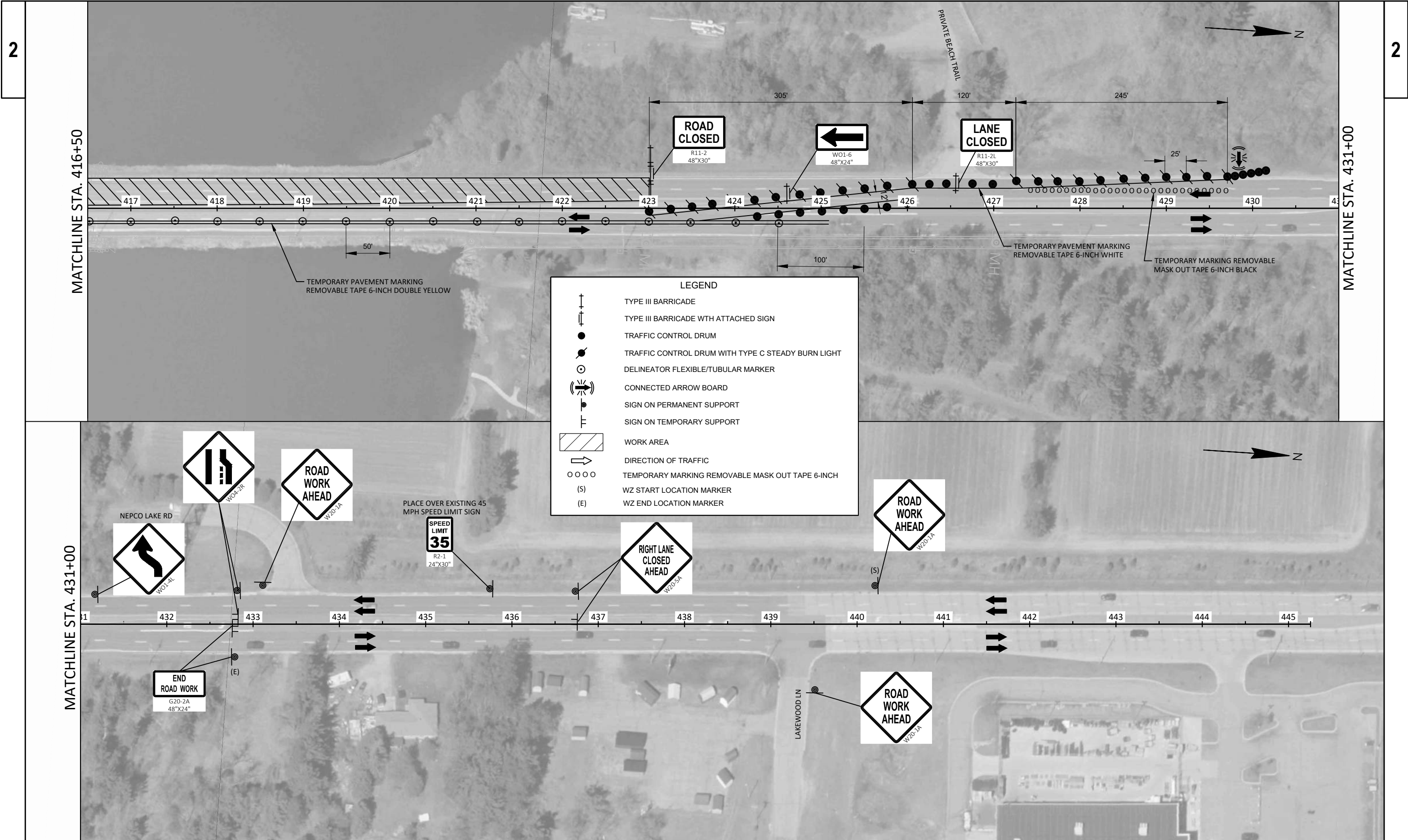
*STAGE 2 IS SHOWN. MOVE TRAFFIC CONTROL DEVICES TO NORTHBOUND LANES FOR STAGE 3.











LEGEND

	TYPE III BARRICADE WITH ATTACHED SIGN
	TRAFFIC CONTROL DRUM
	TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
	SIGN ON PERMANENT SUPPORT
	SIGN ON TEMPORARY SUPPORT
	TRAILER MOUNTED TRAFFIC SIGNAL (TEMPORARY SIGNAL FOR BRIDGE B-71-79)
	DRIVEWAY ASSISTANCE DEVICE (DAD)
	PORTABLE CRASH CUSHION
	FLAGS, 16" X 16" MIN. (ORANGE)
	CONCRETE BARRIER TEMPORARY PRECAST
	WORK AREA
	DIRECTION OF TRAFFIC
	PAVEMENT MARKING REMOVAL
	TEMPORARY MARKING REMOVABLE MASK OUT TAPE 6-INCH

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 SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS.

ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED.

"WO" IS THE SAME AS "W" EXCEPT THE BACKGROUND IS ORANGE.

FOR A LANE CLOSURE THAT IS IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, THE ADVANCED WARNING SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS.

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.

ALL SIGN LAYOUT SHALL BE IN ACCORDANCE WITH THE FEDERAL HIGHWAY ADMINISTRATION MANUAL OF STANDARD HIGHWAY SIGNS.

ADDITIONAL DRUMS OR TYPE III BARRICADES MAY BE REQUIRED ADJACENT TO DROP-OFFS, OPEN TRENCHES, OR PROTRUSIONS. COST TO BE INCLUDED WITH OPERATION WHICH CREATES THE HAZARD.

DRUMS PLACED ADJACENT TO WORK AREAS SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

BARRICADES IN A CLOSED LANE THAT MUST BE MOVED FOR A WORK OPERATION SHALL BE IMMEDIATELY RE-ESTABLISHED UPON COMPLETION OF THE OPERATION OR, FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKING DAY.

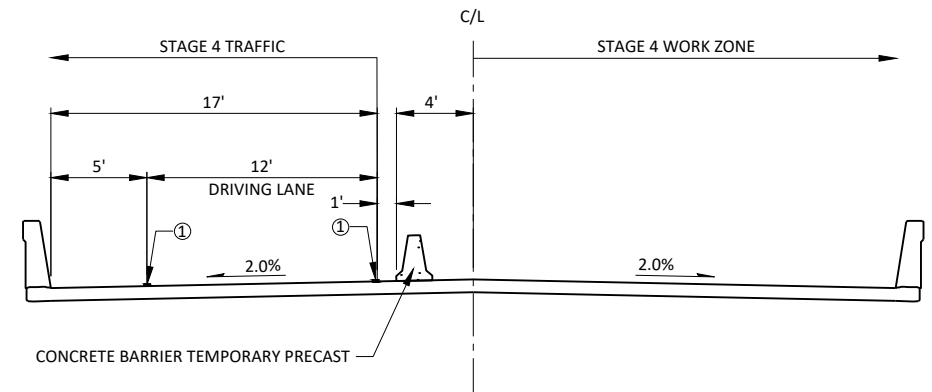
WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

STAGE 4 IS SHOWN.

STAGE 5 IS REVERSED FOR SOUTHBOUND LANE CLOSURE.

SDD

TRAFFIC CONTROL, ONE LANE ROAD WITH TEMPORARY SIGNALS
CONCRETE BARRIER TEMPORARY PRECAST
END TREATMENTS AND GENERAL NOTES

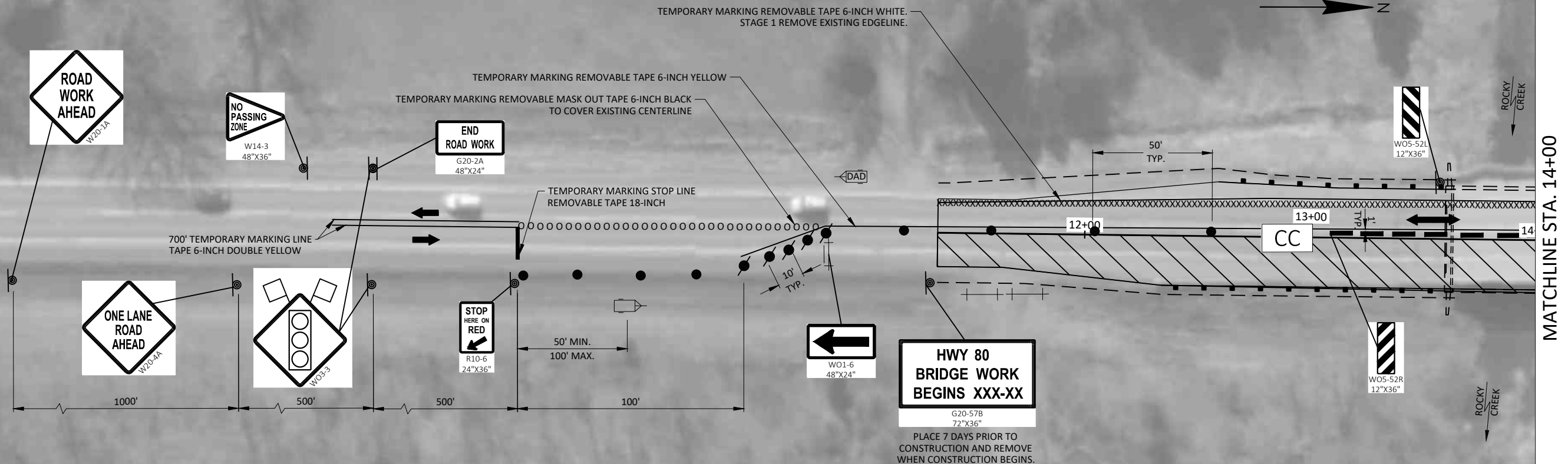


TYPICAL STAGING SECTION AT B-71-79

STAGE 4/5*

① TEMPORARY MARKING LINE REMOVABLE TAPE 6-INCH

*STAGE 4 IS SHOWN. MOVE TRAFFIC CONTROL DEVICES TO NORTHBOUND LANE FOR STAGE 5.



Estimate Of Quantities

6340-00-62

Line	Item	Item Description	Unit	Total	Qty
0002	201.0205	Grubbing	STA	5.000	5.000
0004	204.0100	Removing Concrete Pavement	SY	205.000	205.000
0006	204.0110	Removing Asphaltic Surface	SY	1,050.000	1,050.000
0008	204.0115	Removing Asphaltic Surface Butt Joints	SY	385.000	385.000
0010	204.0120	Removing Asphaltic Surface Milling	SY	2,190.000	2,190.000
0012	204.0150	Removing Curb & Gutter	LF	1,350.000	1,350.000
0014	204.0165	Removing Guardrail	LF	370.000	370.000
0016	204.0190	Removing Surface Drains	EACH	2.000	2.000
0018	204.0245	Removing Storm Sewer (size) 01. 15-Inch	LF	90.000	90.000
0020	204.0245	Removing Storm Sewer (size) 02. 36-Inch	LF	8.000	8.000
0022	205.0100	Excavation Common	CY	400.000	400.000
0024	208.0100	Borrow	CY	360.000	360.000
0026	211.0101	Prepare Foundation for Asphaltic Paving (project) 01. 6340-00-62	EACH	1.000	1.000
0028	213.0100	Finishing Roadway (project) 01. 6340-00-62	EACH	1.000	1.000
0030	305.0110	Base Aggregate Dense 3/4-Inch	TON	130.000	130.000
0032	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	590.000	590.000
0034	415.0410	Concrete Pavement Approach Slab	SY	215.000	215.000
0036	455.0605	Tack Coat	GAL	191.000	191.000
0038	465.0105	Asphaltic Surface	TON	530.000	530.000
0040	502.3200	Protective Surface Treatment	SY	1,125.000	1,125.000
0042	502.3205	Pigmented Surface Sealer Reseal	SY	162.000	162.000
0044	509.0301	Preparation Decks Type 1	SY	47.000	47.000
0046	509.0302	Preparation Decks Type 2	SY	24.000	24.000
0048	509.0500	Cleaning Decks	SY	905.000	905.000
0050	509.1200	Curb Repair	LF	3.000	3.000
0052	509.2000	Full-Depth Deck Repair	SY	12.000	12.000
0054	509.2500	Concrete Masonry Overlay Decks	CY	60.000	60.000
0056	522.1015	Apron Endwalls for Culvert Pipe Reinforced Concrete 15-Inch	EACH	6.000	6.000
0058	522.1036	Apron Endwalls for Culvert Pipe Reinforced Concrete 36-Inch	EACH	1.000	1.000
0060	601.0405	Concrete Curb & Gutter 18-Inch Type A	LF	100.000	100.000
0062	601.0409	Concrete Curb & Gutter 30-Inch Type A	LF	100.000	100.000
0064	601.0588	Concrete Curb & Gutter 4-Inch Sloped 36-Inch Type TBT	LF	98.000	98.000
0066	602.3010	Concrete Surface Drains	CY	5.000	5.000
0068	603.8000	Concrete Barrier Temporary Precast Delivered	LF	400.000	400.000
0070	603.8125	Concrete Barrier Temporary Precast Installed	LF	800.000	800.000
0072	606.0200	Riprap Medium	CY	20.000	20.000
0074	606.0300	Riprap Heavy	CY	280.000	280.000
0076	608.0315	Storm Sewer Pipe Reinforced Concrete Class III 15-Inch	LF	62.000	62.000
0078	614.0905	Crash Cushions Temporary	EACH	2.000	2.000
0080	614.2300	MGS Guardrail 3	LF	75.000	75.000
0082	614.2500	MGS Thrie Beam Transition	LF	160.000	160.000
0084	614.2610	MGS Guardrail Terminal EAT	EACH	4.000	4.000
0086	618.0100	Maintenance and Repair of Haul Roads (project) 01. 6340-00-62	EACH	1.000	1.000
0088	619.1000	Mobilization	EACH	1.000	1.000
0090	620.0300	Concrete Median Sloped Nose	SF	220.000	220.000
0092	624.0100	Water	MGAL	11.000	11.000
0094	625.0500	Salvaged Topsoil	SY	2,500.000	2,500.000
0096	627.0200	Mulching	SY	2,370.000	2,370.000
0098	628.1504	Silt Fence	LF	581.000	581.000

Estimate Of Quantities

6340-00-62

Line	Item	Item Description	Unit	Total	Qty
0100	628.1520	Silt Fence Maintenance	LF	1,162.000	1,162.000
0102	628.1905	Mobilizations Erosion Control	EACH	8.000	8.000
0104	628.1910	Mobilizations Emergency Erosion Control	EACH	4.000	4.000
0106	628.2008	Erosion Mat Urban Class I Type B	SY	130.000	130.000
0108	628.6005	Turbidity Barriers	SY	360.000	360.000
0110	628.7015	Inlet Protection Type C	EACH	4.000	4.000
0112	628.7504	Temporary Ditch Checks	LF	40.000	40.000
0114	629.0210	Fertilizer Type B	CWT	2.000	2.000
0116	630.0120	Seeding Mixture No. 20	LB	130.000	130.000
0118	630.0500	Seed Water	MGAL	70.000	70.000
0120	638.4000	Moving Small Sign Supports	EACH	3.000	3.000
0122	642.5001	Field Office Type B	EACH	1.000	1.000
0124	643.0300	Traffic Control Drums	DAY	8,634.000	8,634.000
0126	643.0420	Traffic Control Barricades Type III	DAY	584.000	584.000
0128	643.0500	Traffic Control Flexible Tubular Marker Posts	EACH	65.000	65.000
0130	643.0600	Traffic Control Flexible Tubular Marker Bases	EACH	65.000	65.000
0132	643.0715	Traffic Control Warning Lights Type C	DAY	3,580.000	3,580.000
0134	643.0810	Traffic Control Connected Arrow Boards	DAY	140.000	140.000
0136	643.0900	Traffic Control Signs	DAY	2,870.000	2,870.000
0138	643.0920	Traffic Control Covering Signs Type II	EACH	3.000	3.000
0140	643.1000	Traffic Control Signs Fixed Message	SF	72.000	72.000
0142	643.1220	Traffic Control Connected Work Zone Start and End Location Markers	DAY	280.000	280.000
0144	643.3180	Temporary Marking Line Removable Tape 6-Inch	LF	20,360.000	20,360.000
0146	643.3850	Temporary Marking Stop Line Removable Tape 18-Inch	LF	48.000	48.000
0148	643.3960	Temporary Marking Removable Mask Out Tape 6-Inch	LF	1,610.000	1,610.000
0150	643.5000	Traffic Control	EACH	1.000	1.000
0152	645.0120	Geotextile Type HR	SY	114.000	114.000
0154	646.2040	Marking Line Grooved Wet Ref Epoxy 6-Inch	LF	4,799.000	4,799.000
0156	646.8120	Marking Curb Epoxy	LF	20.000	20.000
0158	646.8220	Marking Island Nose Epoxy	EACH	2.000	2.000
0160	646.9000	Marking Removal Line 4-Inch	LF	515.000	515.000
0162	646.9300	Marking Removal Special Marking	EACH	2.000	2.000
0164	650.4000	Construction Staking Storm Sewer	EACH	7.000	7.000
0166	650.9911	Construction Staking Supplemental Control (project) 01. 6340-00-62	EACH	2.000	2.000
0168	650.9920	Construction Staking Slope Stakes	LF	896.000	896.000
0170	661.0101	Temporary Traffic Signals for Bridges (structure) 01. B-71-79	EACH	1.000	1.000
0172	690.0150	Sawing Asphalt	LF	1,987.000	1,987.000
0174	690.0250	Sawing Concrete	LF	22.000	22.000
0176	715.0720	Incentive Compressive Strength Concrete Pavement	DOL	500.000	500.000
0178	SPV.0045	Special 01. Driveway Assistance Device System	DAY	48.000	48.000
0180	SPV.0090	Special 01. Paving Notch Repair	LF	120.000	120.000
0182	SPV.0090	Special 02. Salvage and Reinstall Fence	LF	169.000	169.000

3

GRUBBING		
STATION - STATION	LOCATION	201.0205 (STA)
413+18 - 413+26	STH 13, LT.	1
413+29 - 413+35	STH 13, RT.	1
416+40 - 416+44	STH 13, RT.	1
416+48 - 416+51	STH 13, LT.	1
420+00 - 420+21	STH 13, LT.	1
TOTAL=		5

REMOVING CURB AND GUTTER		
STATION - STATION	LOCATION	204.0150 (LF)
406+00 - 408+34	STH 13, RT. & LT.	515
413+15 - 413+40	STH 13, RT. & LT.	100
414+37 - 414+62	STH 13, RT. & LT.	100
422+95 - 426+09	STH 13, RT. & LT.	635
TOTAL=		1350

REMOVING STORM SEWER (SIZE)			
STATION	LOCATION	204.0245 15-INCH (LF)	204.0245 36-INCH (LF)
412+43	STH 13, RT.	-	8
413+25	STH 13, LT.	14	-
413+26	STH 13, RT.	14	-
416+48	STH 13, LT.	10	-
416+50	STH 13, RT.	9	-
420+00	STH 13, LT.	19	-
420+10	STH 13, LT.	24	-
TOTALS=		90	8

PREPARE FOUNDATION FOR ASPHALTIC PAVING			
PROJECT	STATION - STATION	LOCATION	211.0101 (EACH)
-	406+00 - 408+34	STH 13	-
-	422+95 - 426+09	STH 13	-
6340-00-62	-	-	1
TOTAL=			1

CONCRETE PAVEMENT APPROACH SLAB		
STATION - STATION	LOCATION	415.0410 (SY)
413+20 - 413+40	STH 13, RT. & LT.	108
414+37 - 414+57	STH 13, RT. & LT.	107
TOTAL=		215

REMOVING PAVEMENT					
		204.0100 REMOVING CONCRETE PAVEMENT (SY)	204.0110 REMOVING ASPHALTIC SURFACE (SY)	204.0115 REMOVING ASPHALTIC SURFACE BUTT JOINTS (SY)	204.0120 REMOVING ASPHALTIC SURFACE MILLING (SY)
STATION - STATION	LOCATION				
406+00 - 408+34	STH 13	-	392	-	-
412+20 - 412+30	STH 13, RT. & LT.	-	-	54	-
412+30 - 413+10	STH 13, RT. & LT.	-	-	-	426
413+10 - 413+20	STH 13, RT. & LT.	-	-	54	-
413+20 - 413+40	STH 13, RT. & LT.	103	7	-	-
414+37 - 414+57	STH 13, RT. & LT.	102	4	-	-
414+57 - 414+67	STH 13, RT. & LT.	-	-	54	-
414+67 - 415+47	STH 13, RT. & LT.	-	-	-	426
415+47 - 415+57	STH 13, RT. & LT.	-	-	54	-
422+95 - 426+09	STH 13	-	195	-	-
11+35 - 11+45	STH 80, RT. & LT.	-	-	35	-
11+35 - 13+59	STH 80, RT.	-	34	-	-
11+35 - 13+49	STH 80	-	-	-	798
13+49 - 13+59	STH 80	-	-	50	-
11+69 - 12+80	STH 80, LT.	-	76	-	-
14+26 - 14+36	STH 80	-	-	50	-
14+36 - 16+17	STH 80, RT. & LT.	-	342	-	-
14+26 - 16+50	STH 80	-	-	-	540
16+40 - 16+50	STH 80, RT. & LT.	-	-	34	-
TOTALS=		205	1050	385	2190

EARTHWORK SUMMARY

CATEGORY	STATION - STATION	LOCATION	205.0100 COMMON EXCAVATION (1) (CY)		SALVAGED/ UNUSABLE PAVEMENT MATERIAL (4)	AVAILABLE MATERIAL (5)	UNEXPANDED FILL	EXPANDED FILL (6)	MASS ORDINATE +/- (7)	208.0100 BORROW (CY)	COMMENT
			CUT (2)	EBS EXCAVATION (3)				FACTOR			
								1.25			
10	406+00 - 408+34	STH 13	65	0	65	0	0	0	0	0	-
10	422+95 - 426+09	STH 13	35	0	35	0	0	0	0	0	-
10	11+35 - 16+50	STH 80	300	0	0	300	527	660	-360	360	-
TOTAL COMMON EXC			400		TOTAL BORROW: 360						

NOTES:

(1) COMMON EXCAVATION IS THE SUM OF THE CUT AND EBS EXCAVATION COLUMNS. ITEM NUMBER 205.0100

(2) SALVAGED/UNSUABLE PAVEMENT MATERIAL IS INCLUDED IN CUT.

(3) EBS EXCAVATION TO BE BACKFILLED WITH SELECT BORROW MATERIAL. NOTE: THIS IS DESIGNERS CHOICE, CAN BE BACKFILLED WITH BORROW, OR CUT AS WELL.

(4) SALVAGED/UNUSABLE PAVEMENT MATERIAL

(5) AVAILABLE MATERIAL = CUT - SALVAGED/UNUSUABLE PAVEMENT MATERIAL

(6) EXPANDED FILL FACTOR = 1.25

(7) THE MASS ORDINATE + OR - QTY CALCULATED FOR THE DIVISION. PLUS QUANTITY INDICATES AN EXCESS OF MATERIAL WITHIN THE DIVISION.

MINUS INDICATES A SHORTAGE OF MATERIAL WITHIN THE DIVISION.

REMOVING GUARDRAIL		
STATION - STATION	LOCATION	204.0165 (LF)
12+28 - 13+59	STH 80, RT.	130
12+78 - 13+59	STH 80, LT.	80
14+25 - 15+07	STH 80, RT. & LT.	160
TOTAL=		370

REMOVING SURFACE DRAINS		
STATION	LOCATION	204.0190 (EACH)
14+34	STH 80, RT. & LT.	2
TOTAL=		2

BASE AGGREGATE DENSE				
STATION - STATION	LOCATION	305.0110 BASE AGGREGATE DENSE 3/4-INCH (TON)	305.0120 BASE AGGREGATE DENSE 1 1/4-INCH (TON)	624.0100 WATER (MGAL)
11+35 - 11+64	STH 80, RT.	3	-	0.1
11+35 - 12+29	STH 80, RT.	-	50	0.8
11+35 - 11+69	STH 80, LT.	8	-	0.1
11+64 - 12+34	STH 80, RT.	10	-	0.2
11+69 - 12+59	STH 80, LT.	15	92	1.6
12+34 - 13+59	STH 80, RT.	12	65	1.2
12+59 - 13+59	STH 80, LT.	12	55	1.0
14+26 - 15+27	STH 80, RT.	12	92	1.6
14+26 - 15+27	STH 80, LT.	12	92	1.6
15+27 - 16+17	STH 80, RT.	16	60	1.1
15+27 - 16+17	STH 80, LT.	16	60	1.1
16+17 - 16+50	STH 80, RT.	8	12	0.3
16+17 - 16+50	STH 80, LT.	3	12	0.2
11+59	STH 80 DRIVEWAY	3	-	0.1
TOTALS=		130	590	11

ASPHALTIC SURFACE				
STATION - STATION	LOCATION	455.0605 TACK COAT (GAL)	465.0105 ASPHALTIC SURFACE (TON)	
406+05 - 408+35	STH 13, CROSSOVER	5	103	
412+20 - 413+40	STH 13, RT. & LT.	27	55	
414+57 - 415+57	STH 13, RT. & LT.	27	55	
423+00 - 426+09	STH 13, CROSSOVER	3	65	
11+35 - 13+59	STH 80, RT. & LT.	48	100	
11+69 - 12+80	STH 80, LT.	11	20	
14+26 - 16+17	STH 80, RT. & LT.	37	70	
14+26 - 16+50	STH 80, RT. & LT.	33	62	
TOTALS=		191	530	

STORM SEWER							
STATION	LOCATION	522.1015	522.1036	606.0300	608.0315	645.0120	650.4000
		APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 15-INCH (EACH)	APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 36-INCH (EACH)		RIPRAP HEAVY (CY)		STORM SEWER PIPE REINFORCED CONCRETE CLASS III 15-INCH (LF)
412+43	STH 13, RT.	-	1	37	-	18	1
413+26	STH 13, LT.	1	-	60	10	5	1
413+26	STH 13, RT.	1	-	52	10	22	1
416+48	STH 13, LT.	1	-	40	10	9	1
416+50	STH 13, RT.	1	-	34	10	14	1
419+96	STH 13, LT.	1	-	29	10	16	1
420+06	STH 13, LT.	1	-	28	12	16	1
TOTALS=		6	1	280	62	100	7
*MORE LISTED ELSEWHERE							

3

CURB & GUTTER

		601.0405 CONCRETE CUBR & GUTTER 18-INCH TYPE A (LF)	601.0409 CONCRETE CUBR & GUTTER 30-INCH TYPE A (LF)	601.0588 CONCRETE CUBR & GUTTER 4-INCH SLOPED 36-INCH TYPE TBT (LF)
STATION - STATION	LOCATION			
413+15 - 413+40	STH 13, RT. & LT.	50	50	-
414+37 - 414+62	STH 13, RT. & LT.	50	50	-
14+26 - 14+75	STH 80, RT. & LT.	-	-	98
TOTALS=		100	100	98

CONCRETE SURFACE DRAINS

		602.3010 CONCRETE SURFACE DRAINS (CY)	606.0200 RIPRAP MEDIUM (CY)	645.0120 GEOTEXTILE TYPE HR* (SY)
STATION	LOCATION			
14+67	STH 80, RT.	2.5	10	7
14+67	STH 80, LT.	2.5	10	7
TOTALS=		5	20	14
*MORE LISTED ELSEWHERE				

CRASH CUSHIONS TEMPORARY

STATION	LOCATION	CRASH CUSHIONS TEMPORARY 614.0905 (EACH)	STAGE	BACK WIDTH (FT)	OBJECT MARKING PATTERN	CRASH TEST LEVEL	TRAFFIC DIRECTION	TRAFFIC LOCATION	CRASH CUSHION SHIELDS
13+00	STH 80	1	STAGE 4	2	OM-3L (W05-58L)	TL-3	BIDIRECTIONAL	LT	TEMPORARY CONCRETE BARRIER
13+00	STH 80	1	STAGE 5	2	OM-3R (W05-58R)	TL-3	BIDIRECTIONAL	RT	TEMPORARY CONCRETE BARRIER
TOTAL =		2							

3

GUARDRAIL

		614.2300 MGS GUARDRAIL 3 (LF)	614.2500 MGS THRIE BEAM TRANSITION (LF)	614.2610 MGS GUARDRAIL TERMINAL EAT (EACH)
STATION - STATION	LOCATION			
12+34 - 12+87	STH 80, RT.	-	-	1
12+59 - 13+12	STH 80, LT.	-	-	1
12+87 - 13+24	STH 80, RT.	37.5	-	-
13+12 - 13+24	STH 80, LT.	12.5	-	-
13+24 - 13+64	STH 80, RT. & LT.	-	80	-
14+21 - 14+60	STH 80, RT. & LT.	-	80	-
14+60 - 14+73	STH 80, RT. & LT.	25	-	-
14+73 - 15+26	STH 80, RT. & LT.	-	-	2
TOTALS=		75	160	4

CONCRETE MEDIAN SLOPED NOSE

		620.0300 (SF)
STA - STA	LOCATION	
406+00 - 406+06	STH 13, CROSSOVER	110
422+94 - 423+00	STH 13, CROSSOVER	110
TOTAL=		220

SILT FENCE

		628.1504 SILT FENCE (LF)	628.1520 SILT FENCE MAINTENANCE (LF)
STATION - STATION	LOCATION		
11+35 - 13+59	STH 80, RT.	211	422
13+00 - 13+59	STH 80, LT.	58	116
14+26 - 15+64	STH 80, RT.	148	296
14+26 - 15+00	STH 80, LT.	48	96
-	UNDISTRIBUTED	116	232
TOTALS=		581	1162

MOBILIZATION EROSION CONTROL

		628.1905 MOBILIZATION EROSION CONTROL (EACH)	628.1910 MOBILIZATION EMERGENCY EROSION CONTROL (EACH)
PROJECT			
6340-00-62		8	4
TOTALS=		8	4

EROSION MAT

		628.2008 EROSION MAT URBAN CLASS 1 TYPE B (SY)
STATION - STATION	LOCATION	
413+14 - 413+36	STH 13, LT.	11
413+15 - 413+38	STH 13, RT.	10
416+38 - 416+57	STH 13, LT.	14
416+41 - 416+59	STH 13, RT.	14
419+90 - 420+18	STH 13, LT.	25
13+47 - 13+57	STH 80, RT.	9
13+49 - 13+54	STH 80, LT.	3
14+33 - 14+49	STH 80, RT.	5
14+34 - 14+50	STH 80, LT.	8
-	UNDISTRIBUTED	31
TOTAL=		130

TURBIDITY BARRIERS

		628.6005 (SY)
STATION - STATION	LOCATION	
412+00 - 412+50	STH 13, RT.	39
413+14 - 413+36	STH 13, LT.	50
413+15 - 413+38	STH 13, RT.	44
416+38 - 416+57	STH 13, LT.	47
416+41 - 416+59	STH 13, RT.	50
419+90 - 420+18	STH 13, LT.	57
-	UNDISTRIBUTED	73
TOTAL=		360

INLET PROTECTION TYPE C

		628.7015 (EACH)
STATION	LOCATION	
413+25	STH 13, LT.	1
413+26	STH 13, RT.	1
416+48	STH 13, LT.	1
416+50	STH 13, RT.	1
TOTAL=		4

TEMPORARY DITCH CHECKS

		628.7504 (LF)
STATION	LOCATION	
11+78	STH 80, LT.	10
12+96	STH 80, LT.	10
15+06	STH 80, LT.	10
-	UNDISTRIBUTED	10
TOTAL=		40

FINISHING ITEMS

		625.0500 SALVAGED TOPSOIL (SY)	627.0200 MULCHING (SY)	629.0210 FERTILIZER TYPE B (CWT)	630.0120 SEEDING MIXTURE NO. 20 (LB)	630.0500 SEED WATER (MGAL)
STATION - STATION	LOCATION					
413+14 - 413+36	STH 13, LT.	12	-	0.01	0.5	0.2
413+15 - 413+38	STH 13, RT.	13	-	0.01	0.5	0.2
416+38 - 416+57	STH 13, LT.	20	-	0.01	0.6	0.3
416+41 - 416+59	STH 13, RT.	20	-	0.01	0.6	0.3
419+90 - 420+18	STH 13, LT.	30	-	0.02	1.1	0.6
11+35 - 13+47	STH 80, RT.	391	380	0.29	22	11
11+35 - 13+49	STH 80, LT.	347	342	0.29	21	10
13+47 - 13+57	STH 80, RT.	9	-	0.01	0.4	0.2
13+49 - 13+54	STH 80, LT.	3	-	0.01	0.1	0.1
14+33 - 14+49	STH 80, RT.	5	-	0.01	0.2	0.1
14+34 - 14+50	STH 80, LT.	8	-	0.01	0.4	0.2
14+49 - 16+50	STH 80, RT.	569	569	0.42	31	15
14+50 - 16+50	STH 80, LT.	578	579	0.43	31	16
-	UNDISTRIBUTED	495	500	0.47	21	15.8
TOTALS=		2500	2370	2	130	70

MOVING SIGNS

				638.4000	
				MOVING	
				SMALL SIGN	
APPROX.		SIGN		SUPPORTS	
STATION	LOCATION	CODE	SIGN DESCRIPTION	(EACH)	COMMENT
408+27	STH 13	W5-54	-	1	MOVE TO STA. 405+96
426+00	STH 13	W5-54	-	1	MOVE TO STA. 422+90
15+89	STH 80, RT.	W14-3	NO PASSING ZONE	1	REINSTALL IN EXISTING LOCATION AFTER GRADING
TOTAL =				3	

PROJECT NO: 6340-00-62

HWY: STH 13/80

COUNTY: WOOD

MISCELLANEOUS QUANTITIES

SHEET

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E

TRAFFIC CONTROL SUMMARY

	603.8000	603.8125	643.0300	643.0420	643.0500	643.0600	643.0715	643.0810	643.0900	643.0920	643.1000	643.1220	643.3180	643.3850	643.3960	661.0101	SPV.0045.01
	CBTP	CBTP	DRUMS	BARRICADES	FLEXIBLE	FLEXIBLE	WARNING	CONNECTED		COVERING	SIGNS	CONNECTED WORK ZONE	TEMPORARY	TEMPORARY	TEMPORARY	TEMPORARY	
LOCATION	DELIVERED	INSTALLED	(DAY)	TYPE III	TUBULAR	TUBULAR	TYPE C	BOARD	SIGNS	SIGNS*	FIXED	START AND END	REMOVABLE	REMOVABLE	REMOVABLE	TRAFFIC SIGNALS	DRIVEWAY
	(LF)	(LF)		(DAY)	MARKING	MARKER	TYPE C	TYPE C	TYPE II	MESSAGE	MESSAGE	LOCATION MARKERS	TAPE 6 INCH	TAPE 18-INCH	TAPE 6-INCH	FOR BRIDGES	ASSISTANCE
					(EACH)	(EACH)	(DAY)	(DAY)	(EACH)	(SF)	(SF)	(DAY)	(LF)	(LF)	(LF)	(EACH)	SYSTEM
STH 13 STAGE 1 SUBTOTALS =	-	-	1,500	20	-	-	220	20	230	3	36	40	490	-	490	-	-
STH 13 STAGE 2 SUBTOTALS =	-	-	3,090	210	33	33	1,440	60	810	-	-	120	6,030	-	-	-	-
STH 13 STAGE 3 SUBTOTALS =	-	-	2,940	210	32	32	1,440	60	870	-	-	120	5,930	-	-	-	-
STH 13 SUBTOTALS =	-	-	7,530	440	65	65	3,100	140	1,910	3	36	280	12,450	-	490	-	-
STH 80 STAGE 4 SUBTOTALS =	400	400	552	72	-	-	240	-	480	-	36	-	3,955	24	560	1	24
STH 80 STAGE 5 SUBTOTALS =	-	400	552	72	-	-	240	-	480	-	-	-	3,955	24	560	-	24
STH 80 SUBTOTALS =	400	800	1,104	144	-	-	480	-	960	-	36	-	7,910	48	1,120	1	48
PROJECT TOTALS=	400	800	8,634	584	65	65	3,580	140	2,870	3	72	280	20,360	48	1,610	1	48

*SIGNS COVERED DURING
PHASE 1 REMIAN COVERED
FOR PHASE 2 AND 3

STH 13 TRAFFIC CONTROL STAGE 1

		643.0300	643.0420	643.0715	643.0810	643.0900	643.0920	643.1000	643.1220	643.3180	643.3960	
		DRUMS	BARRICADES	WARNING	CONNECTED	SIGNS	COVERING	SIGNS	CONNECTED WORK ZONE	TEMPORARY	TEMPORARY	
		(DAY)	TYPE III	TYPE C	BOARD	TYPE II	TYPE II	MESSAGE	START AND END	REMOVABLE	REMOVABLE	
		(DAY)	(DAY)	(DAY)	(DAY)	(EACH)	(EACH)	(SF)	LOCATION MARKERS	TAPE 6 INCH	TAPE 6-INCH	
STATION	LOCATION								(DAY)	(LF)	(LF)	COMMENT
386+80	STH 13: NB, RT	-	-	-	-	10	-	-	-	-	-	(1) W03-5
389+80	STH 13: NB, RT	-	-	-	-	10	-	-	-	-	-	(1) R2-1
389+80	STH 13: SB, LT	-	-	-	-	10	-	-	-	-	-	(1) R2-1
391+80	STH 13: NB, RT	-	-	-	-	10	-	-	10	-	-	(1) W20-1A
395+40	STH 13: NB, RT & LT	-	-	-	-	20	-	-	-	-	-	(2) W20-5A
395+50	STH 13: NB, RT	-	-	-	-	-	-	18	-	-	-	(1) G20-57
397+30	STH 13: NB, RT	-	-	-	-	20	-	-	-	-	-	(1) R2-1
398+85	STH 13: NB, RT & LT	-	-	-	-	20	-	-	-	-	-	(2) W04-2R
398+85	STH 13: SB, RT & LT	-	-	-	-	20	-	-	10	-	-	(2) G20-2A
401+30 - 431+00	STH 13: NB, RT	670	-	110	-	-	-	-	-	-	-	-
401+50 - 430+75	STH 13: NB, LT	670	-	110	-	-	-	-	-	-	-	-
402+30	STH 13: NB, RT	-	-	-	10	-	-	-	-	-	-	-
402+30 - 404+75	STH 13: NB, LT	-	-	-	-	-	-	-	-	-	245	BLACK TAPE
402+30 - 404+75	STH 13: NB, LT	-	-	-	-	-	-	-	-	245	-	YELLOW TAPE
405+90	STH 13: NB, LT	-	10	-	-	10	-	-	-	-	-	(1) R11-2L
406+00 - 407+50	STH 13: NB, LT	70	-	-	-	-	-	-	-	-	-	-
406+50 - 408+50	STH 13: SB, RT	90	-	-	-	-	-	-	-	-	-	-
408+10	STH 13: SB, LT	-	-	-	-	-	1	-	-	-	-	-
409+50	STH 13: NB, RT	-	-	-	-	-	1	-	-	-	-	-
411+00	STH 13: NB, RT	-	-	-	-	10	-	-	-	-	-	(1) R2-1
426+25	STH 13: SB, RT	-	10	-	-	10	-	-	-	-	-	(1) R2-1
427+45 - 429+90	STH 13: SB, RT	-	-	-	-	-	-	-	-	-	245	BLACK TAPE
427+45 - 429+90	STH 13: SB, RT	-	-	-	-	-	-	-	-	245	-	YELLOW TAPE
429+90	STH 13: SB, RT	-	-	-	10	-	-	-	-	-	-	-
434+00	STH 13: NB, RT	-	-	-	-	10	-	-	10	-	-	(1) G20-2A
434+00	STH 13: SB, LT	-	-	-	-	10	-	-	-	-	-	(1) W04-2L
435+75	STH 13: SB, LT	-	-	-	-	10	1	-	-	-	-	(1) R2-1
437+40	STH 13: SB, LT	-	-	-	-	-	-	18	-	-	-	(1) G20-57
437+50	STH 13: SB, LT	-	-	-	-	10	-	-	-	-	-	(1) W20-55A
441+00	STH 13: SB, LT	-	-	-	-	10	-	-	10	-	-	(1) W20-1A
-	SOUTHSHORE DRIVE	-	-	-	-	10	-	-	-	-	-	(1) W20-1A
-	TOWNLINE ROAD	-	-	-	-	10	-	-	-	-	-	(1) W20-1A
-	LAKEWOOD LANE	-	-	-	-	10	-	-	-	-	-	(1) W20-1A
STAGE 1 SUBTOTALS =		1,500	20	220	20	230	3	36	40	490	490	

STH 13 TRAFFIC CONTROL STAGE 2

				643.0500	643.0600								
				FLEXIBLE	FLEXIBLE	643.0715	643.0810		643.0920	643.1220	643.3180		
		643.0300	643.0420	TUBULAR	TUBULAR	WARNING	CONNECTED		COVERING	CONNECTED WORK ZONE	TEMPORARY		
		DRUMS	BARRICADES	MARKING	MARKER	LIGHTS	ARROW	643.0900	SIGNS	START AND END	MARKING LINE	REMOVABLE	
		(DAY)	TYPE III	POSTS	BASES	TYPE C	BOARD	SIGNS	TYPE II	LOCATION MARKERS	TAPE 6 INCH	(LF)	COMMENT
		(DAY)	(DAY)	(EACH)	(EACH)	(DAY)	(DAY)	(DAY)	(EACH)	(DAY)			
386+80	STH 13: NB, RT	-	-	-	-	-	-	30	-	-	-	-	(1) W03-5
389+80	STH 13: NB, RT & LT	-	-	-	-	-	-	60	-	-	-	-	(2) R2-1
391+80	STH 13: NB, RT	-	-	-	-	-	-	30	-	30	-	-	(1) W20-1A
395+40	STH 13: NB, RT & LT	-	-	-	-	-	-	60	-	-	-	-	(2) W20-5A
397+30	STH 13: NB, RT	-	-	-	-	-	-	30	-	-	-	-	(1) R2-1
398+85	STH 13: NB, RT & LT	-	-	-	-	-	-	60	-	-	-	-	(2) W04-2R
398+85	STH 13: SB, RT & LT	-	-	-	-	-	-	60	-	30	-	-	(2) G20-2A
400+60	STH 13: NB, RT	-	-	-	-	-	-	30	-	-	-	-	(1) W01-4L
402+00 - 409+00	STH 13: NB, RT	990	-	-	-	720	-	-	-	-	-	-	-
402+30	STH 13: NB, RT	-	-	-	-	-	30	-	-	-	-	-	-
402+30 - 409+00	STH 13: NB, RT	-	-	-	-	-	-	-	-	-	670	-	WHITE TAPE
405+40	STH 13: NB, RT	-	30	-	-	-	-	30	-	-	-	-	(1) R11-2L
406+00 - 408+50	STH 13: NB, LT	330	-	-	-	-	-	-	-	-	-	-	-
405+90 - 409+00	STH 13: NB, LT	-	-	-	-	-	-	-	-	-	305	-	YELLOW TAPE
407+40	STH 13: NB, RT	-	30	-	-	-	-	30	-	-	-	-	(1) W01-6
407+50 - 428+00	STH 13	-	-	-	-	-	-	-	-	-	4,100	-	YELLOW TAPE
408+10	STH 13: SB, LT	-	-	-	-	-	-	-	1	-	-	-	-
409+00	STH 13: NB, RT	-	90	-	-	-	-	30	-	-	-	-	(1) R11-2
407+75 - 423+75	STH 13	-	-	33	33	-	-	-	-	-	-	-	-
409+50	STH 13: NB, RT	-	-	-	-	-	-	-	1	-	-	-	-
420+25	STH 13: NB, RT	-	-	-	-	-	-	30	-	-	-	-	(1) W01-4R
423+75 - 428+75	STH 13: NB, RT & LT	900	-	-	-	390	-	-	-	-	-	-	-
423+75 - 426+80	STH 13: NB, LT	-	-	-	-	-	-	-	-	-	305	-	YELLOW TAPE
423+75 - 427+80	STH 13: NB, RT	-	-	-	-	-	-	-	-	-	405	-	WHITE TAPE
424+75 - 430+00	STH 13: SB, RT	870	-	-	-	330	-	-	-	-	-	-	-
425+10	STH 13: SB, RT	-	30	-	-	-	-	30	-	-	-	-	(1) W01-6
427+10	STH 13: SB, RT	-	30	-	-	-	-	30	-	-	-	-	(1) R11-2L
428+00 - 430+45	STH 13: SB, RT	-	-	-	-	-	-	-	-	-	245	-	YELLOW TAPE
430+45	STH 13: SB, RT	-	-	-	-	-	30	-	-	-	-	-	-
433+00	STH 13: SB, LT	-	-	-	-	-	-	30	-	-	-	-	(1) W20-1A
434+00	STH 13: NB, RT	-	-	-	-	-	-	30	-	30	-	-	(1) G20-2A
434+00	STH 13: SB, LT	-	-	-	-	-	-	30	-	-	-	-	(1) W04-2L
435+75	STH 13: SB, LT	-	-	-	-	-	-	30	1	-	-	-	(1) R2-1
437+50	STH 13: SB, LT	-	-	-	-	-	-	30	-	-	-	-	(1) W20-55A
441+00	STH 13: SB, LT	-	-	-	-	-	-	30	-	30	-	-	(1) W20-1A
-	SOUTHSHORE DRIVE	-	-	-	-	-	-	30	-	-	-	-	(1) W20-1A
-	TOWNLINE ROAD	-	-	-	-	-	-	30	-	-	-	-	(1) W20-1A
-	LAKEWOOD LANE	-	-	-	-	-	-	30	-	-	-	-	(1) W20-1A
STAGE 2 SUBTOTALS =		3,090	210	33	33	1,440	60	810	3	120	6,030		

STH 13 TRAFFIC CONTROL STAGE 3

STATION	LOCATION	643.0300	643.0420	643.0500	643.0600	643.0715	643.0810	643.0900	643.0920	643.1220	643.3180	COMMENT
		DRUMS (DAY)	BARRICADES TYPE III (DAY)	FLEXIBLE TUBULAR MARKING POSTS (EACH)	FLEXIBLE TUBULAR MARKER BASES (EACH)	WARNING LIGHTS TYPE C (DAY)	CONNECTED ARROW BOARD (DAY)	SIGNS (DAY)	COVERING SIGNS TYPE II (EACH)	CONNECTED WORK ZONE START AND END LOCATION MARKERS (DAY)	TEMPORARY MARKING LINE REMOVABLE TAPE 6 INCH (LF)	
386+80	STH 13: NB, RT	-	-	-	-	-	-	30	-	-	-	(1) W03-5
389+80	STH 13: NB, RT & LT	-	-	-	-	-	-	60	-	-	-	(2) R2-1
391+80	STH 13: NB, RT	-	-	-	-	-	-	30	-	30	-	(1) W20-1A
395+40	STH 13: NB, RT & LT	-	-	-	-	-	-	60	-	-	-	(2) W20-55A
397+30	STH 13: NB, RT	-	-	-	-	-	-	30	-	-	-	(1) R2-1
398+85	STH 13: NB, LT	-	-	-	-	-	-	30	-	-	-	(1) W04-2L
398+85	STH 13: SB, RT	-	-	-	-	-	-	60	-	30	-	(2) G20-2A
402+00 - 408+50	STH 13: NB, LT	810	-	-	-	330	-	-	-	-	-	-
402+30	STH 13: NB, LT	-	-	-	-	-	30	-	-	-	-	-
402+35 - 404+80	STH 13: NB, LT	-	-	-	-	-	-	-	-	-	245	YELLOW TAPE
404+75 - 425+00	STH 13	-	-	-	-	-	-	-	-	-	4,050	YELLOW TAPE
405+00 - 409+00	STH 13: SB, RT & LT	900	-	-	-	390	-	-	-	-	-	-
405+00 - 409+05	STH 13: SB, LT	-	-	-	-	-	-	-	-	-	405	WHITE TAPE
405+55	STH 13: NB, LT	-	30	-	-	-	-	30	-	-	-	(1) R11-2L
406+00 - 409+05	STH 13: SB, RT	-	-	-	-	-	-	-	-	-	305	YELLOW TAPE
407+55	STH 13: SB, RT	-	30	-	-	-	-	30	-	-	-	(1) W01-6
408+10	STH 13: SB, LT	-	-	-	-	-	-	-	1	-	-	-
409+00 - 425+00	STH 13	-	-	32	32	-	-	-	-	-	-	-
409+50	STH 13: NB, RT	-	-	-	-	-	-	-	1	-	-	-
412+50	STH 13: SB, LT	-	-	-	-	-	-	30	-	-	-	(1) W01-4R
423+00	STH 13: SB, LT	-	90	-	-	-	-	30	-	-	-	(1) R11-2
423+00 - 429+70	STH 13: NB, RT	-	-	-	-	-	-	-	-	-	670	WHITE TAPE
423+00 - 430+00	STH 13: SB, LT	990	-	-	-	720	-	-	-	-	-	-
423+50 - 426+00	STH 13: SB, RT	240	-	-	-	-	-	-	-	-	-	-
423+50 - 426+05	STH 13: NB, LT	-	-	-	-	-	-	-	-	-	255	YELLOW TAPE
424+60	STH 13: SB, LT	-	30	-	-	-	-	30	-	-	-	(1) W01-6
426+60	STH 13: SB, LT	-	30	-	-	-	-	30	-	-	-	(1) R11-2L
429+90	STH 13: SB, LT	-	-	-	-	-	30	-	-	-	-	-
431+10	STH 13: SB, LT	-	-	-	-	-	-	30	-	-	-	(1) W01-4L
432+75	STH 13: NB, RT & LT	-	-	-	-	-	-	60	-	30	-	(2) G20-2A
432+75	STH 13: SB, RT & LT	-	-	-	-	-	-	60	-	-	-	(2) W04-2R
433+00	STH 13: SB, LT	-	-	-	-	-	-	30	-	-	-	(1) W20-1A
435+75	STH 13: SB, LT	-	-	-	-	-	-	30	1	-	-	(1) R2-1
436+75	STH 13: SB, RT & LT	-	-	-	-	-	-	60	-	-	-	(2) W20-5A
440+25	STH 13: SB, LT	-	-	-	-	-	-	30	-	30	-	(1) W20-1A
-	SOUTHSHORE DRIVE	-	-	-	-	-	-	30	-	-	-	(1) W20-1A
-	TOWNLINE ROAD	-	-	-	-	-	-	30	-	-	-	(1) W20-1A
-	LAKEWOOD LANE	-	-	-	-	-	-	30	-	-	-	(1) W20-1A
STAGE 3 SUBTOTALS =		2,940	210	32	32	1,440	60	870	3	120	5,930	

STH 80 TRAFFIC CONTROL

STATION	LOCATION	603.8000	603.8125	643.0300	643.0420	643.0715	643.0900	643.1000	643.3180	643.3850	643.3960	661.0101	SPV.0045.01	COMMENT
		CBTP DELIVERED (LF)	CBTP INSTALLED (LF)	DRUMS (DAY)	BARRICADES TYPE III (DAY)	WARNING LIGHTS TYPE C (DAY)	SIGNS (DAY)	FIXED MESSAGE (SF)	TEMPORARY MARKING LINE REMOVABLE TAPE 6-INCH (LF)	TEMPORARY MARKING LINE REMOVABLE TAPE 18-INCH (LF)	TEMPORARY MARKING REMOVABLE MASK OUT TAPE TAPE 6-INCH (LF)	TEMPORARY TRAFFIC SIGNALS FOR BRIDGES B-71-79 (EA)	DRIVEWAY ASSISTANCE DEVICE SYSTEM (DAY)	
-	STH 80: RT	-	-	-	-	-	24	-	-	-	-	-	-	(1) W20-1A
-	STH 80: RT	-	-	-	-	-	24	-	-	-	-	-	-	(1) W20-4A
-	STH 80: LT	-	-	-	-	-	24	-	-	-	-	-	-	(1) W14-3
02+50 - 9+50	STH 80	-	-	-	-	-	-	-	1,400	-	-	-	-	YELLOW TAPE
04+50	STH 80: RT & LT	-	-	-	-	-	72	-	-	-	-	-	-	(1) G20-2A, (2) W03-3
9+50	STH 80: RT	-	-	-	-	-	24	-	-	12	-	-	-	(1) R10-6
9+50 - 10+90	STH 80	-	-	-	-	-	-	-	-	-	280	-	-	BLACK TAPE
9+50 - 12+50	STH 80	-	-	312	-	120	-	-	-	-	-	-	-	-
10+00	STH 80: RT	-	-	-	-	-	-	-	-	-	-	0.5	-	-
10+90	STH 80: RT	-	-	-	24	-	24	-	-	-	-	-	-	(1) W01-6
10+50 - 16+90	STH 80	-	-	-	-	-	-	-	640	-	-	-	-	YELLOW TAPE
11+14	STH 80: LT	-	-	-	-	-	-	-	-	-	-	-	24	-
11+32	STH 80: RT	-	-	-	-	-	-	18	-	-	-	-	-	(1) G20-57B
11+35 - 16+50	STH 80: LT	-	-	-	-	-	-	-	515	-	-	-	-	WHITE TAPE
11+48 - 11+68	STH 80: RT	-	-	-	48	-	-	-	-	-	-	-	-	-
13+00	STH 80	-	-	-	-	-	24	-	-	-	-	-	-	(1) W05-52R
12+00 - 16+00	STH 80: RT	400	400	-	-	-	-	-	-	-	-	-	-	-
13+57	STH 80: LT	-	-	-	-	-	24	-	-	-	-	-	-	(1) W05-52L
14+25	STH 80: LT	-	-	-	-	-	24	-	-	-	-	-	-	(1) W05-52R
14+46	STH 80: LT	-	-	-	-	-	24	-	-	-	-	-	-	(1) W01-4R
16+44	STH 80: RT	-	-	-	-	-	24	-	-	-	-	-	-	(1) W05-52L
16+50 - 17+90	STH 80: RT	-	-	-	-	-	-	-	-	-	280	-	-	BLACK TAPE
16+50 - 17+40	STH 80: RT	-	-	240	-	120	-	-	-	-	-	-	-	-
16+57	STH 80: LT	-	-	-	-	-	-	18	-	-	-	-	-	(1) G20-57B
17+40	STH 80: LT	-	-	-	-	-	-	-	-	-	-	0.5	-	-
17+90	STH 80: LT	-	-	-	-	-	24	-	-	12	-	-	-	(1) R10-6
17+90 - 24+90	STH 80	-	-	-	-	-	-	-	1,400	-	-	-	-	YELLOW TAPE
22+90	STH 80: RT & LT	-	-	-	-	-	72	-	-	-	-	-	-	(1) G20-2A, (2) W03-3
25+40	STH 80: RT	-	-	-	-	-	24	-	-	-	-	-	-	(1) W14-3
27+90	STH 80: LT	-	-	-	-	-	24	-	-	-	-	-	-	(1) W20-4A
28+90	STH 80: LT	-	-	-	-	-	24	-	-	-	-	-	-	(1) W20-1A
STAGE 4 SUBTOTALS =		400	400	552	72	240	480	36	3,955	24	560	1	24	
-	STH 80: RT	-	-	-	-	-	24	-	-	-	-	-	-	(1) W20-1A
-	STH 80: RT	-	-	-	-	-	24	-	-	-	-	-	-	(1) W20-4A
-	STH 80: LT	-	-	-	-	-	24	-	-	-	-	-	-	(1) W14-3
02+50 - 9+50	STH 80	-	-	-	-	-	-	-	1,400	-	-	-	-	YELLOW TAPE
04+50	STH 80: RT & LT	-	-	-	-	-	72	-	-	-	-	-	-	(1) G20-2A, (2) W03-3
9+50	STH 80: RT	-	-	-	-	-	24	-	-	12	-	-	-	(1) R10-6
9+50 - 10+90	STH 80	-	-	-	-	-	-	-	-	-	280	-	-	BLACK TAPE
9+50 - 12+50	STH 80	-	-	312	-	120	-	-	-	-	-	-	-	-
10+90	STH 80: RT	-	-	-	24	-	24	-	-	-	-	-	-	(1) W01-6
10+50 - 16+90	STH 80	-	-	-	-	-	-	-	640	-	-	-	-	YELLOW TAPE
11+14	STH 80: LT	-	-	-	-	-	-	-	-	-	-	-	24	-
11+35 - 16+50	STH 80: LT	-	-	-	-	-	-	-	515	-	-	-	-	WHITE TAPE
11+48 - 11+68	STH 80: RT	-	-	-	48	-	-	-	-	-	-	-	-	-
13+00	STH 80	-	-	-	-	-	24	-	-	-	-	-	-	(1) W05-52L
12+00 - 16+00	STH 80: RT	-	400	-	-	-	-	-	-	-	-	-	-	-
13+57	STH 80: LT	-	-	-	-	-	24	-	-	-	-	-	-	(1) W05-52R
14+25	STH 80: LT	-	-	-	-	-	24	-	-	-	-	-	-	(1) W05-52R
14+46	STH 80: LT	-	-	-	-	-	24	-	-	-	-	-	-	(1) W01-4R
16+44	STH 80: RT	-	-	-	-	-	24	-	-	-	-	-	-	(1) W05-52L
16+50 - 17+90	STH 80: RT	-	-	-	-	-	-	-	-	-	280	-	-	BLACK TAPE
16+50 - 17+40	STH 80: RT	-	-	240	-	120	-	-	-	-	-	-	-	-
17+90	STH 80: LT	-	-	-	-	-	24	-	-	12	-	-	-	(1) R10-6
17+90 - 24+90	STH 80	-	-	-	-	-	-	-	1,400	-	-	-	-	YELLOW TAPE
22+90	STH 80: RT & LT	-	-	-	-	-	72	-	-	-	-	-	-	(1) G20-2A, (2) W03-3
25+40	STH 80: RT	-	-	-	-	-	24	-	-	-	-	-	-	(1) W14-3
27+90	STH 80: LT	-	-	-	-	-	24	-	-	-	-	-	-	(1) W20-4A
28+90	STH 80: LT	-	-	-	-	-	24	-	-	-	-	-	-	(1) W20-1A
STAGE 5 SUBTOTALS =		0	400	552	72	240	480	0	3,955	24	560	0	24	

PAVEMENT MARKING

		646.2040 MARKING LINE GROOVED WET REF EPOXY 6-INCH				646.8120	646.8220	646.9000	646.9300
		SOLID YELLOW (LF)	DASHED YELLOW (LF)	SOLID WHITE (LF)	DASHED WHITE (LF)	MARKING CURB EPOXY (LF)	MARKING ISLAND NOSE EPOXY (EACH)	MARKING REMOVAL LINE 4-INCH (LF)	MARKING REMOVAL SPECIAL MARKING (EACH)
STATION - STATION	LOCATION								
405+95 - 406+00	STH 13	-	-	-	-	10	-	-	-
406+00 - 406+05	STH 13	-	-	-	-	-	1	-	-
406+06 - 409+03	STH 13	592	148	-	-	-	-	-	-
412+20 - 415+57	STH 13	672	-	672	168	-	-	-	-
422+89 - 422+94	STH 13	-	-	-	-	10	-	-	-
422+94 - 422+99	STH 13	-	-	-	-	-	1	-	-
423+00 - 426+91	STH 13	782	196	-	-	-	-	-	-
424+81	STH 13	-	-	-	-	-	-	-	1
425+20	STH 13	-	-	-	-	-	-	-	1
11+35 - 15+45	STH 80	410	-	-	-	-	-	-	-
11+35 - 16+50	STH 80	-	129	1030	-	-	-	515	-
SUBTOTALS =		2456	473	1702	168	20	2	515	2
TOTAL =			4799			20	2	515	2

CONSTRUCTION STAKING

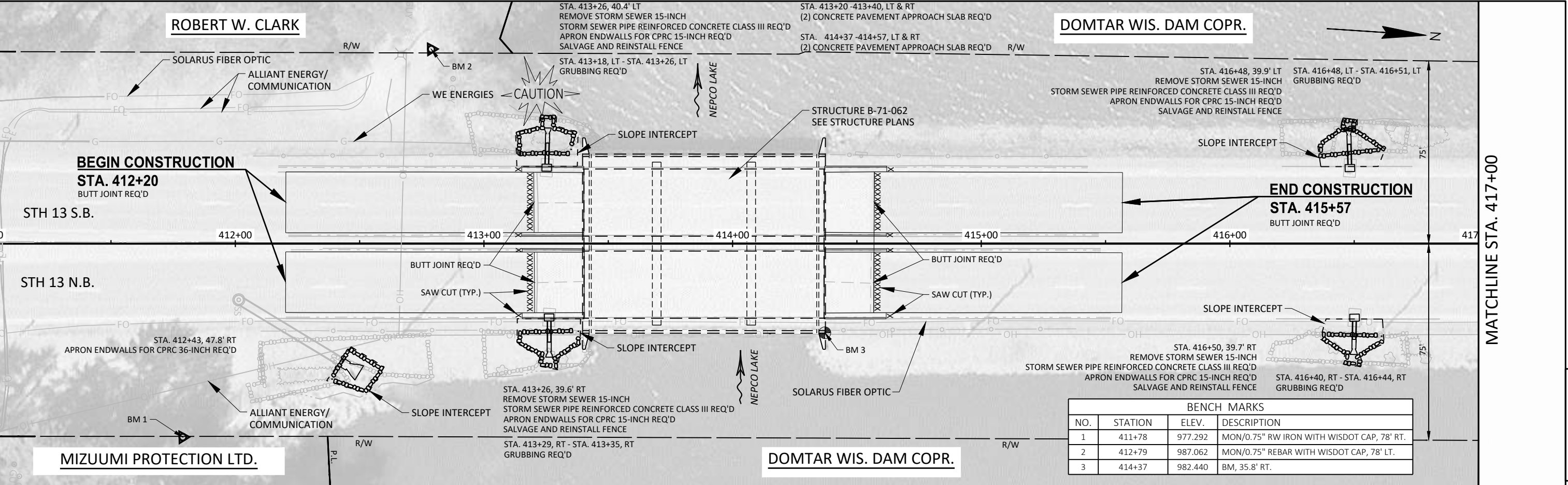
		650.9911 SUPPLEMENTAL CONTROL (6340-00-62) (EACH)	650.9920 SLOPE STAKES (LF)
STATION - STATION	LOCATION		
-	STH 13 & STH 80	2	-
11+35 - 13+59	STH 80, RT. & LT.	-	448
14+26 - 16+50	STH 80, RT. & LT.	-	448
TOTALS=		2	896

SAWING

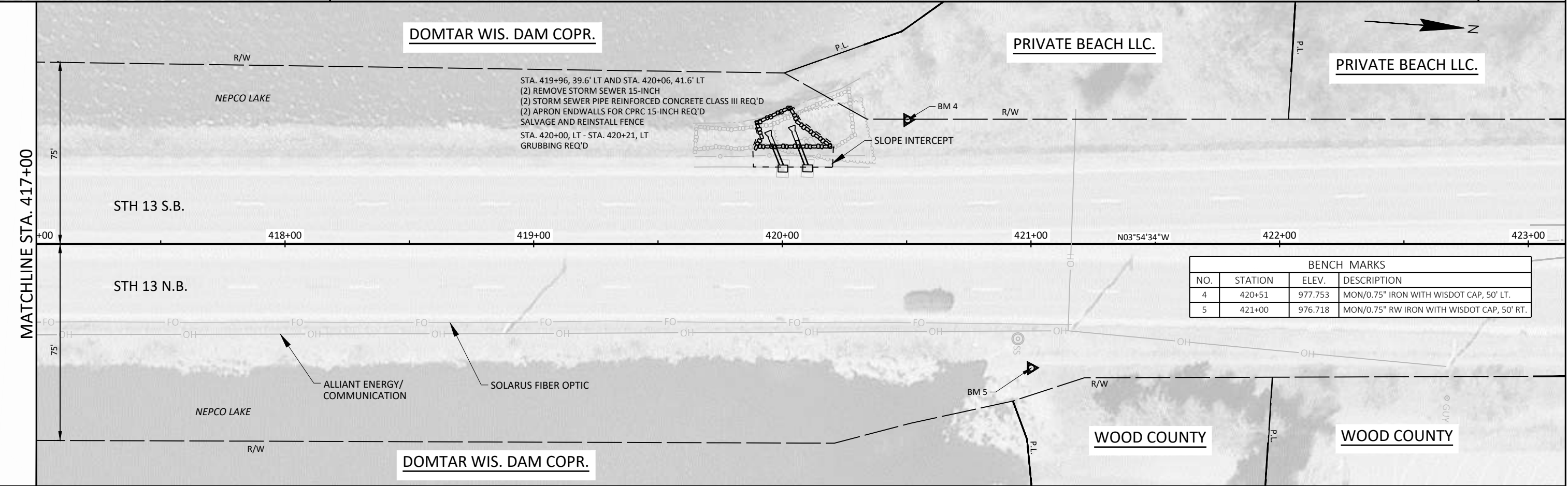
		690.0150 SAWING ASPHALT (LF)	690.0250 SAWING CONCRETE (LF)
STATION - STATION	LOCATION		
406+00	STH 13 CROSSOVER	-	3
406+00 - 408+34	STH 13 CROSSOVER	502	-
413+15	STH 13, RT. & LT.	-	8
413+20	STH 13, RT. & LT.	48	-
422+95 - 426+09	STH 13 CROSSOVER	650	-
414+57	STH 13, RT. & LT.	48	-
414+62	STH 13, RT. & LT.	-	8
423+00	STH 13 CROSSOVER	-	3
11+69 - 12+80	STH 80, LT.	126	-
11+35 - 13+59	STH 80, RT.	225	-
14+26 - 16+17	STH 80, RT. & LT.	388	-
TOTALS=		1987	22

SALVAGE AND REINSTALL FENCE

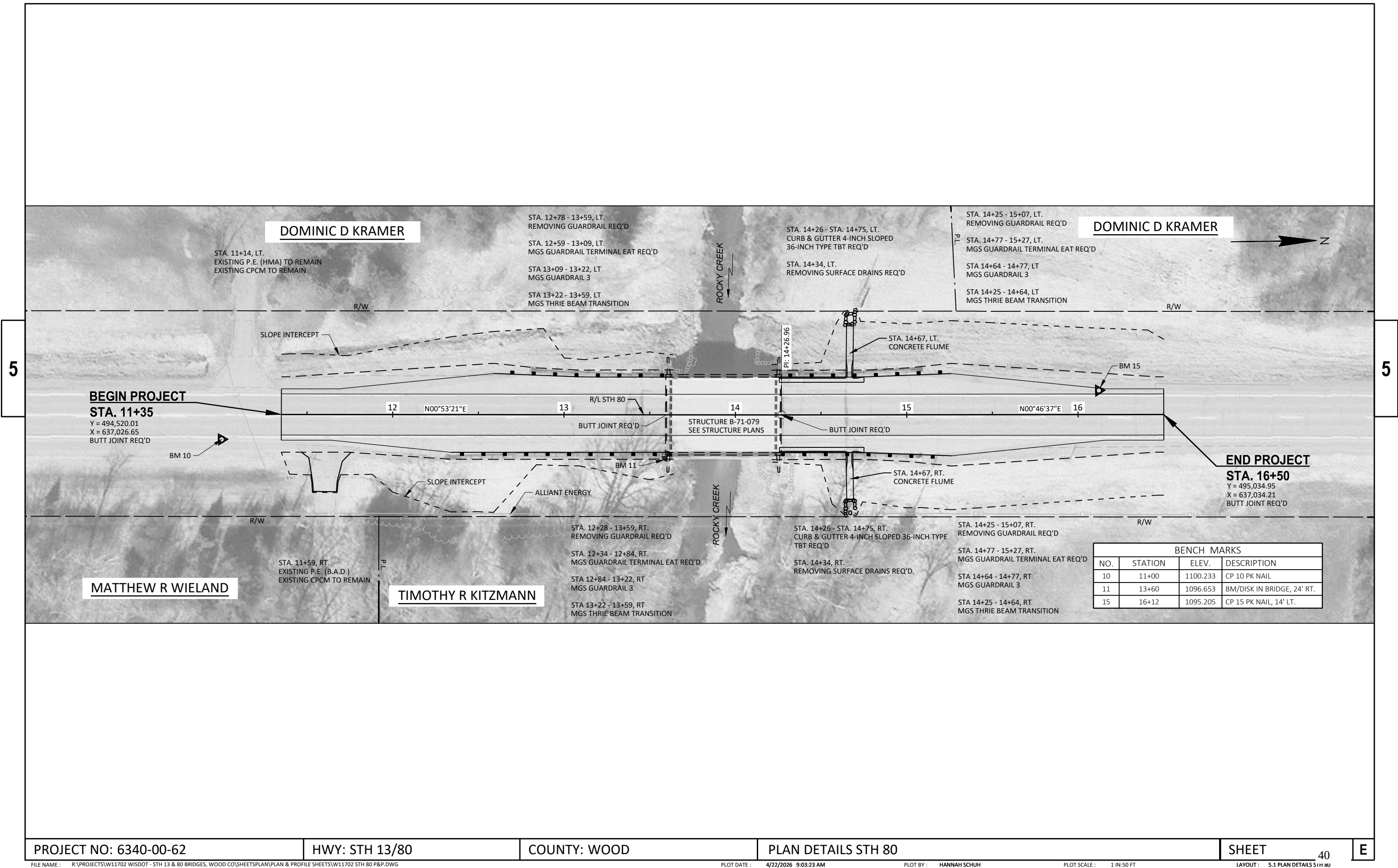
STA - STA	LOCATION	SPV.0090.02 (LF)
413+09 - 413+40	STH 13, LT.	31
413+10 - 413+40	STH 13, RT.	30
416+31 - 416+64	STH 13, LT.	33
416+34 - 416+67	STH 13, RT.	33
419+84 - 420+25	STH 13, LT.	42
TOTAL=		169



BENCH MARKS			
NO.	STATION	ELEV.	DESCRIPTION
1	411+78	977.292	MON/0.75" RW IRON WITH WISDOT CAP, 78' RT.
2	412+79	987.062	MON/0.75" REBAR WITH WISDOT CAP, 78' LT.
3	414+37	982.440	BM, 35.8' RT.

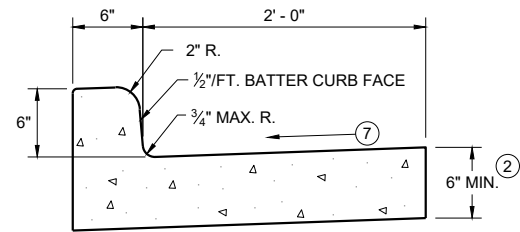


BENCH MARKS			
NO.	STATION	ELEV.	DESCRIPTION
4	420+51	977.753	MON/0.75" IRON WITH WISDOT CAP, 50' LT.
5	421+00	976.718	MON/0.75" RW IRON WITH WISDOT CAP, 50' RT.

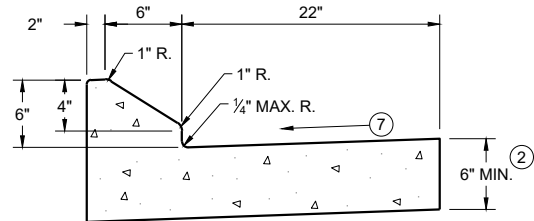


Standard Detail Drawing List

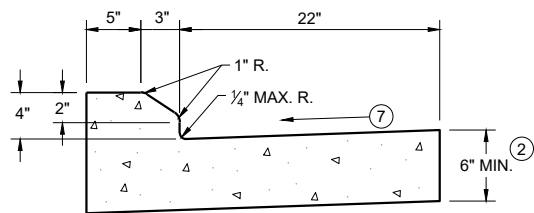
08D01-24A	CONCRETE CURB & GUTTER
08D01-24B	CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS
08D02-08A	CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES
08D02-08B	CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES
08D02-08C	CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E10-02	INLET PROTECTION TYPE A, B, C AND D
08E11-02	TURBIDITY BARRIER
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
08F04-08	JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL
09G02-05C	BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION
11B02-02	CONCRETE MEDIAN NOSE
13B02-09A	CONCRETE PAVEMENT APPROACH SLAB
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"
14B07-16M	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
14B08-02E	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B42-07A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07D	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B44-04A	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-04B	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-04C	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B45-05A	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05B	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05C	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05F	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
15C08-24A	PERMANENT LONGITUDINAL PAVEMENT MARKINGS
15C08-24C	PAVEMENT MARKING (TURN LANES)
15C11-11A	CHANNELIZING DEVICES FLEXIBLE TUBULAR MARKER POST
15C11-11B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS
15C18-09B	PAVEMENT MARKINGS, MEDIAN ISLAND NOSE
15D06-07	TRAFFIC CONTROL, TWO LANE TWO WAY OPERATION
15D20-11A	TRAFFIC CONTROL, SINGLE LANE CLOSURE, DIVIDED NON-FREEWAY/EXPRESSWAY
15D33-10A	TRAFFIC CONTROL, ONE LANE ROAD WITH TEMPORARY SIGNALS
15D40-07A	TRAFFIC CONTROL, FULL LANE SHIFT NON-FREEWAY/EXPRESSWAY OR MULTILANE DIVIDED 45 MPH AND UNDER
15D51-02	TRAFFIC CONTROL, MOBILE OPERATIONS ON AN UNDIVIDED ROADWAY



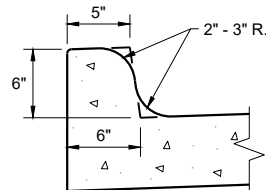
TYPES A^① & D



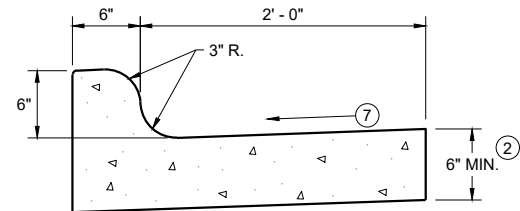
6" SLOPED CURB TYPES G^① & J



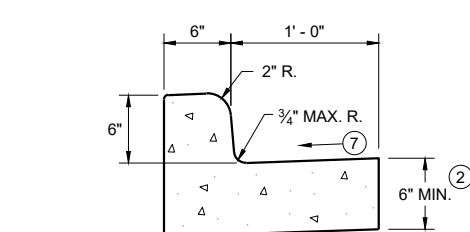
4" SLOPED CURB TYPES G^① & J



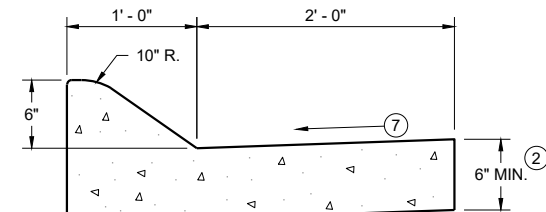
TYPES K^① & L
(OPTIONAL CURB SHAPE)



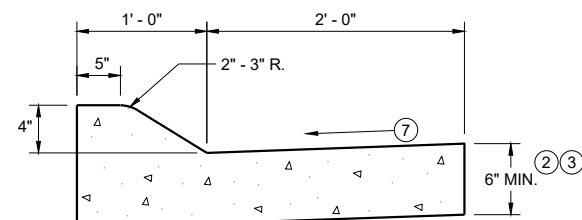
TYPES K^① & L
CONCRETE CURB AND GUTTER 30"



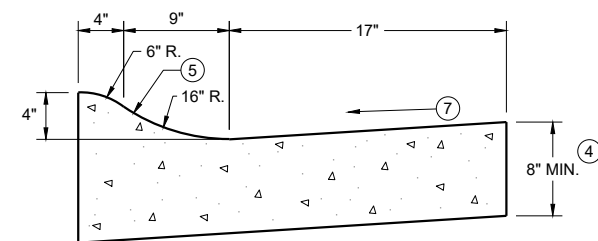
TYPES A^① & D
CONCRETE CURB AND GUTTER 18"



6" SLOPED CURB TYPES A^① & D

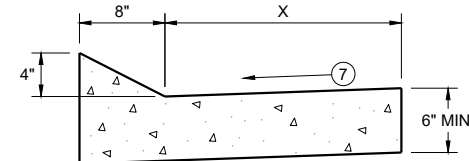


4" SLOPED CURB TYPES A^① & D
CONCRETE CURB AND GUTTER 36"



4" SLOPED CURB TYPES R^① & T
CONCRETE CURB AND GUTTER 30"

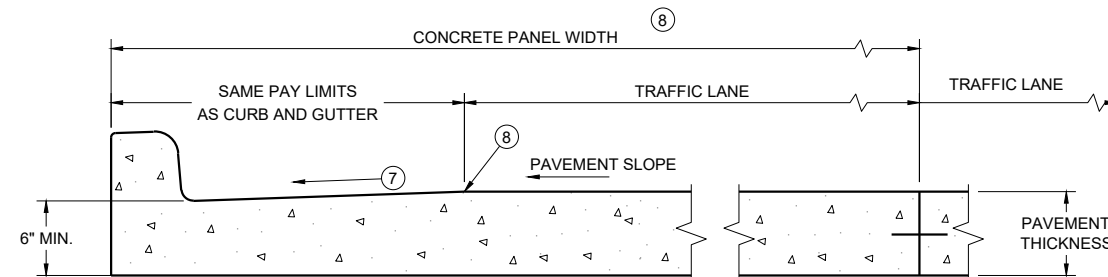
TBT & TBTT	X
30"	22"
36"	28"



TYPES TBT & TBTT^①
CONCRETE CURB AND GUTTER

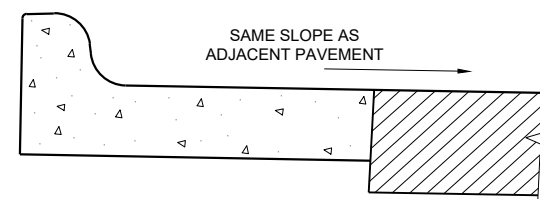
PAVEMENT THICKNESS
AND MAXIMUM CONCRETE
PANEL WIDTH TABLE

PAVEMENT THICKNESS	MAXIMUM PANEL WIDTH
LESS THAN 10"	12'
10" & ABOVE	15'

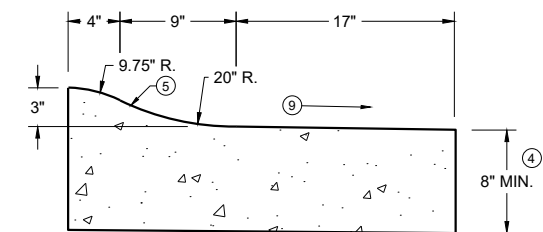


PARTIAL SECTION OF PAVEMENT
WITH INTEGRAL CURB AND GUTTER

* BIKE LANE IS NOT SHOWN



REVERSE SLOPE GUTTER^⑥
(TYPICAL FOR ALL CURB & GUTTER TYPES)



3" SLOPED CURB TYPES R^① & T

CONCRETE CURB AND GUTTER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

GENERAL NOTES

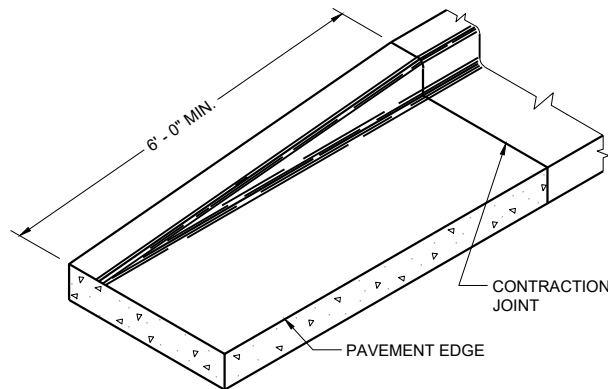
DETAILS OF CONSTRUCTION AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

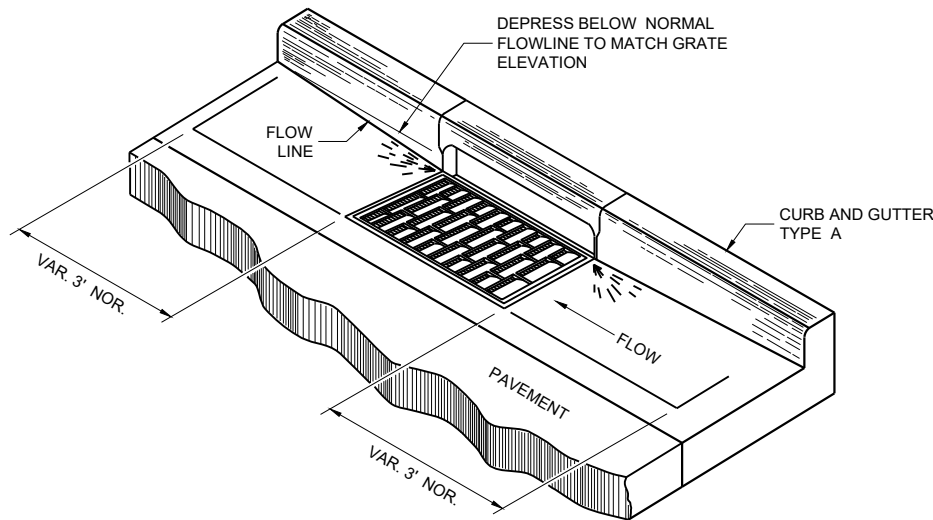
INTEGRAL CURB AND GUTTER SHALL CONFORM TO THE DETAILS SHOWN FOR CONCRETE CURB AND GUTTER INCLUDING THE TRANSVERSE GUTTER SLOPE.

UNLESS OTHERWISE SHOWN ON THE TYPICAL CROSS SECTIONS, THE BASE AGGREGATE AND COMMON EXCAVATION LIMITS ARE 2' - 0" BEHIND THE BACK OF CURBS.

- ① TIE BARS ARE REQUIRED FOR CURB AND GUTTERS TYPES A, G, K, R, AND TBTT.
- ② THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.
- ③ USE 8" MINIMUM GUTTER THICKNESS WHEN USED WITH AN ADJACENT CONCRETE TRUCK APRON PLACED BEHIND BACK OF CURB.
- ④ THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 8" MINIMUM GUTTER THICKNESS IS MAINTAINED.
- ⑤ UNLESS OTHERWISE NOTED, FOR STAKING PURPOSES THE FACE OF CURB IS 6" FROM THE BACK OF CURB.
- ⑥ WHEN REVERSE SLOPE GUTTER IS REQUIRED, THE LOCATION(S) WILL BE SHOWN ELSEWHERE IN THE PLAN.
- ⑦ USE 4% GUTTER CROSS SLOPE UNLESS OTHERWISE NOTED IN THE PLANS.
- ⑧ INCLUDE LONGITUDINAL JOINT AND TIE BARS ALONG LANE EDGE WHEN CONCRETE PANEL WIDTH EXCEEDS THE MAXIMUM WIDTH PER TABLE BELOW. LONGITUDINAL JOINT(S) ARE NOT ALLOWED WITHIN TRAFFIC LANES AND BIKE LANES. LONGITUDINAL JOINT MAY BE SAWED.
- ⑨ SLOPE TO BE REVERSE SLOPE MATCHING THE SLOPE OF THE PAVEMENT AND THE CIRCULATORY ROADWAY

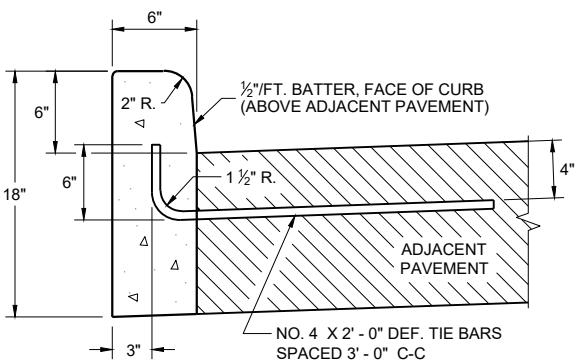


END SECTION CURB AND GUTTER

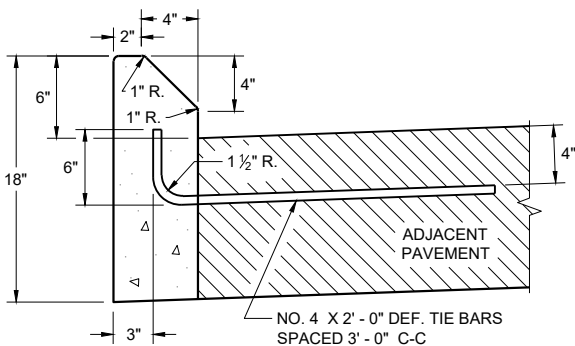


DETAIL OF CURB AND GUTTER AT INLETS

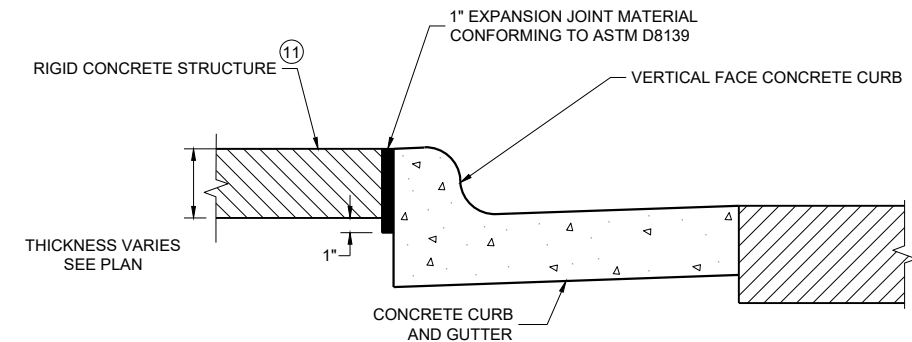
(TYPICAL H INLET COVER SHOWN)



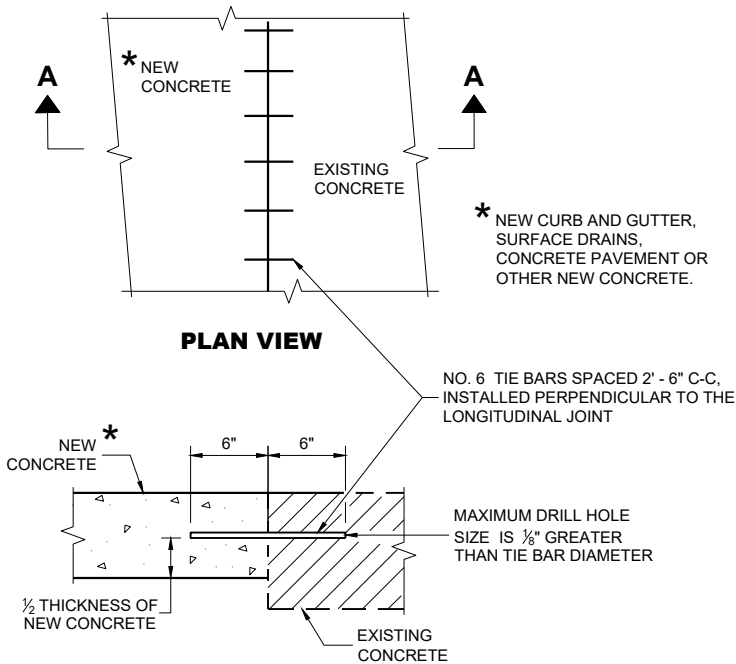
TYPES A^① & D



TYPES G^① & J
CONCRETE CURB



EXPANSION JOINT DETAIL FOR VERTICAL CURB ABUTTING A RIGID STRUCTURE^⑪



SECTION A - A
TIE BARS DRILLED INTO EXISTING PAVEMENT

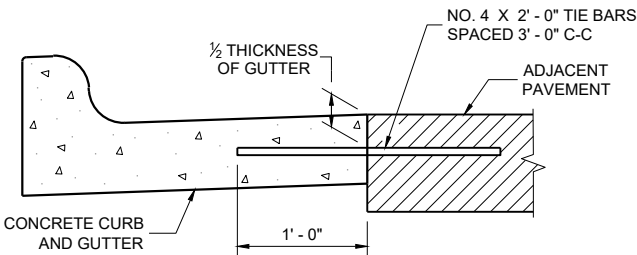
GENERAL NOTES

DETAILS OF CONSTRUCTION AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

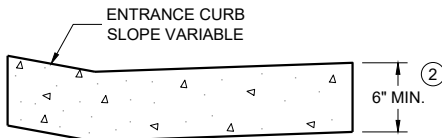
PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

UNLESS OTHERWISE SHOWN ON THE TYPICAL CROSS SECTIONS, THE BASE AGGREGATE AND COMMON EXCAVATION LIMITS ARE 2' - 0" BEHIND THE BACK OF CURBS.

- ① TIE BARS ARE REQUIRED FOR CURB AND GUTTERS TYPES A, G, K, R, AND TBTT.
- ② THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.
- ⑩ REFER TO SDD 08D18 AND 08D19 FOR ADDITIONAL DRIVEWAY ENTRANCE CURB DETAILS.
- ⑪ PLACE 1" THICK EXPANSION JOINT MATERIAL BETWEEN VERTICAL FACE CURB TYPES EXTENDING FROM THE TOP OF CURB TO 1 INCH BELOW THE ADJOINING CONCRETE SURFACE. RIGID CONCRETE STRUCTURES INCLUDE RAISED CONCRETE MEDIANS, CONCRETE SAFETY ISLANDS, SPLITTER ISLANDS, OR LOCATIONS IDENTIFIED ON THE PLANS.



TYPICAL TIE BAR LOCATION^①



DRIVEWAY ENTRANCE CURB^⑩
(WHEN DIRECTED BY THE ENGINEER)

CONCRETE CURB, TIES
AND CURB AND GUTTER
APPLICATIONS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2025
DATE /S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT
UNIT SUPERVISOR

FHWA

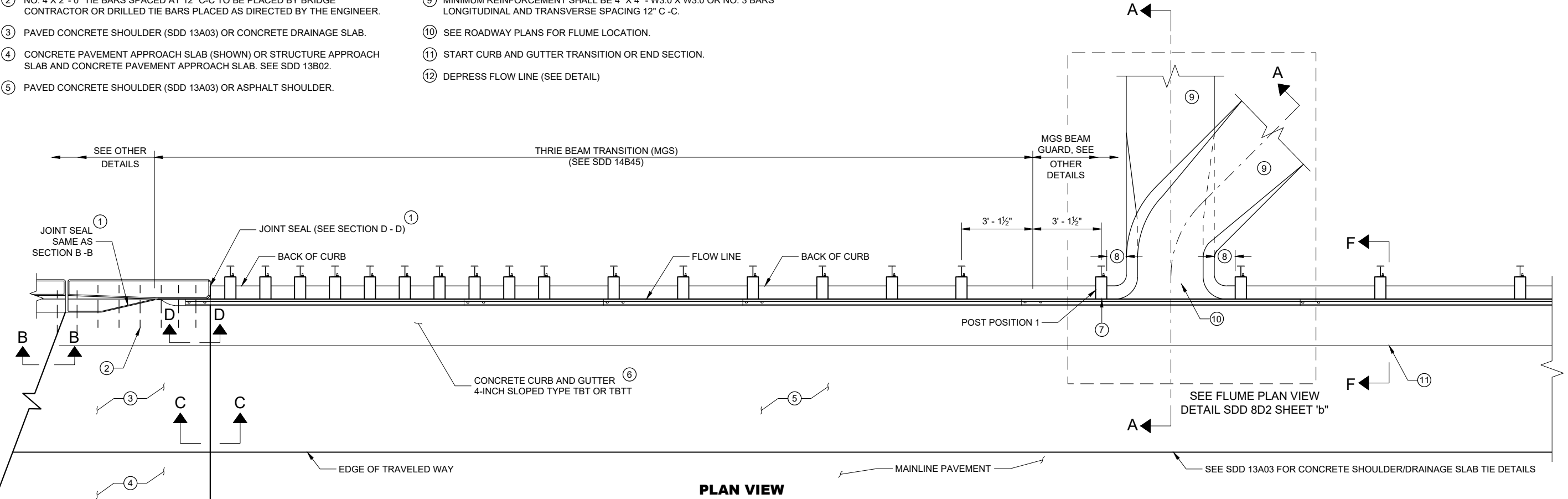
GENERAL NOTES

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

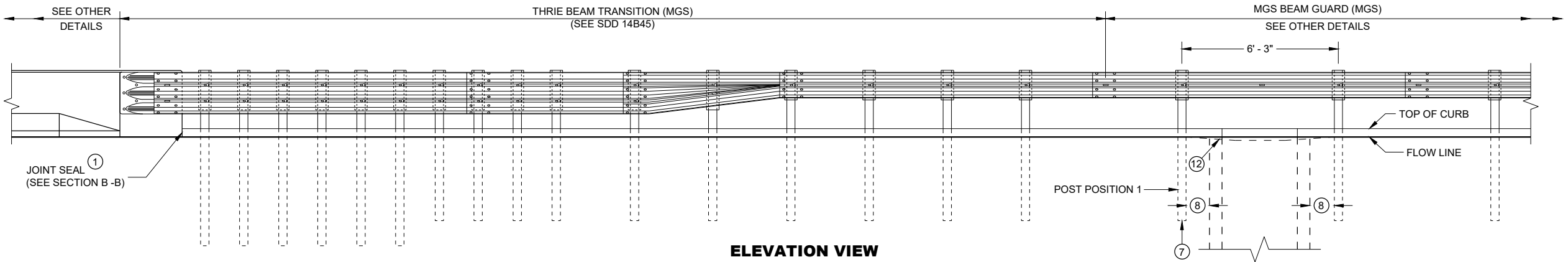
ALL STEEL REINFORCEMENT SHALL BE EMBEDDED 2 INCHES CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

- 1 USE A JOINT SEALANT CONFORMING TO STANDARD SPECIFICATION 415.2.6.
- 2 NO. 4 X 2' - 0" TIE BARS SPACED AT 12" C-C TO BE PLACED BY BRIDGE CONTRACTOR OR DRILLED TIE BARS PLACED AS DIRECTED BY THE ENGINEER.
- 3 PAVED CONCRETE SHOULDER (SDD 13A03) OR CONCRETE DRAINAGE SLAB.
- 4 CONCRETE PAVEMENT APPROACH SLAB (SHOWN) OR STRUCTURE APPROACH SLAB AND CONCRETE PAVEMENT APPROACH SLAB. SEE SDD 13B02.
- 5 PAVED CONCRETE SHOULDER (SDD 13A03) OR ASPHALT SHOULDER.

- 6 CONCRETE CURB AND GUTTER 4-INCH SLOPED 36-INCH TYPE TBT OR TBTT. USE TYPE TBTT CURB WITH NO. 4 X 2' - 0" TIE BARS SPACED AT 3' - 0" C-C ONLY WHEN ADJACENT TO CONCRETE PAVEMENTS.
- 7 PLACE FLUME BEFORE MSG THRIE BEAM TRANSITION POST 1 (SEE SDD 14B45)
- 8 CENTER FLUME BETWEEN POSTS. 6-INCH MINIMUM SEPARATION FROM OUTSIDE EDGE OF FLUME TO POSTS.
- 9 MINIMUM REINFORCEMENT SHALL BE 4" X 4" - W3.0 X W3.0 OR NO. 3 BARS LONGITUDINAL AND TRANSVERSE SPACING 12" C-C.
- 10 SEE ROADWAY PLANS FOR FLUME LOCATION.
- 11 START CURB AND GUTTER TRANSITION OR END SECTION.
- 12 DEPRESS FLOW LINE (SEE DETAIL)



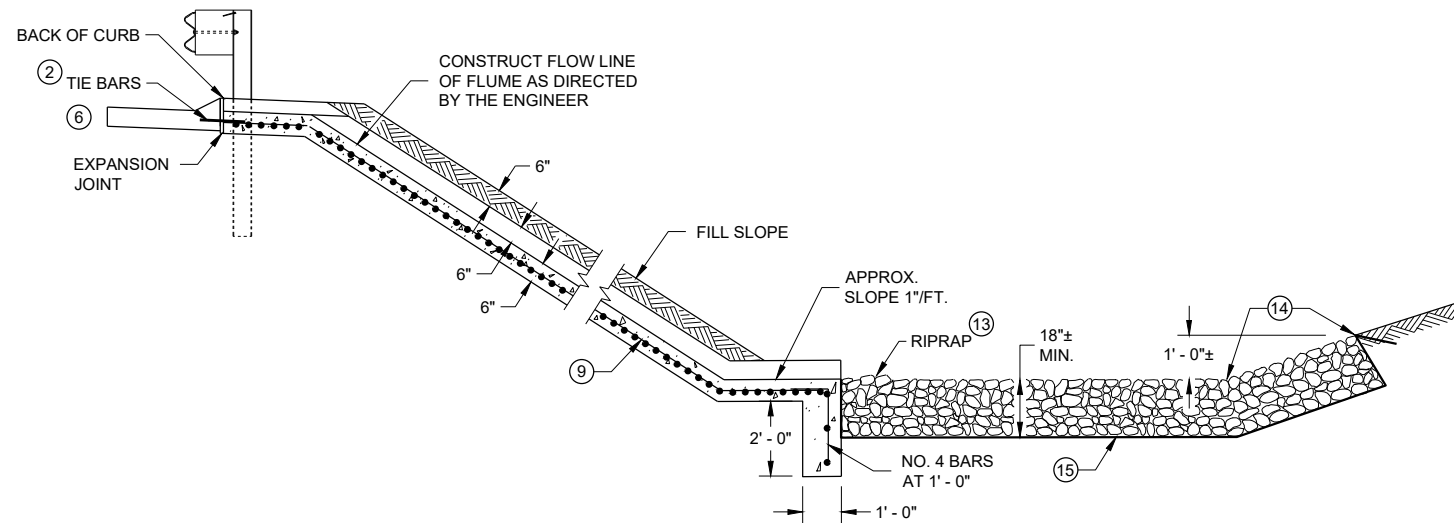
PLAN VIEW



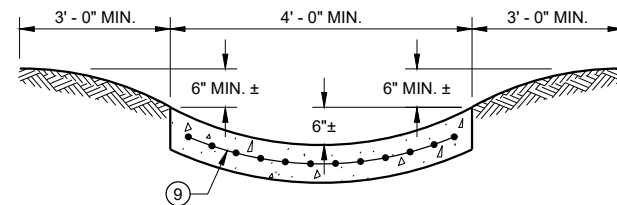
ELEVATION VIEW

CONCRETE SURFACE
DRAINS FLUME TYPE
AT STRUCTURES

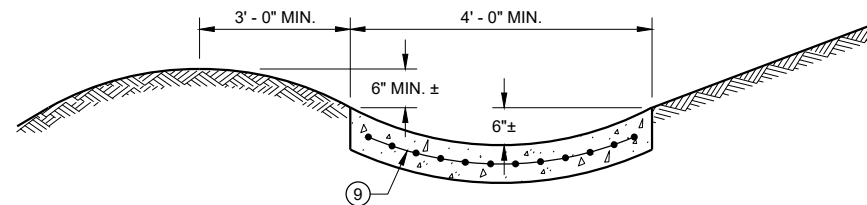
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



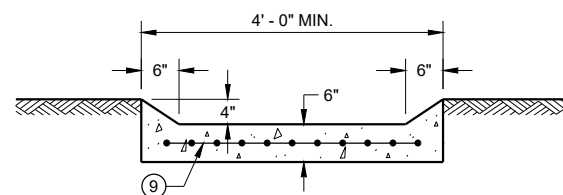
SECTION A - A



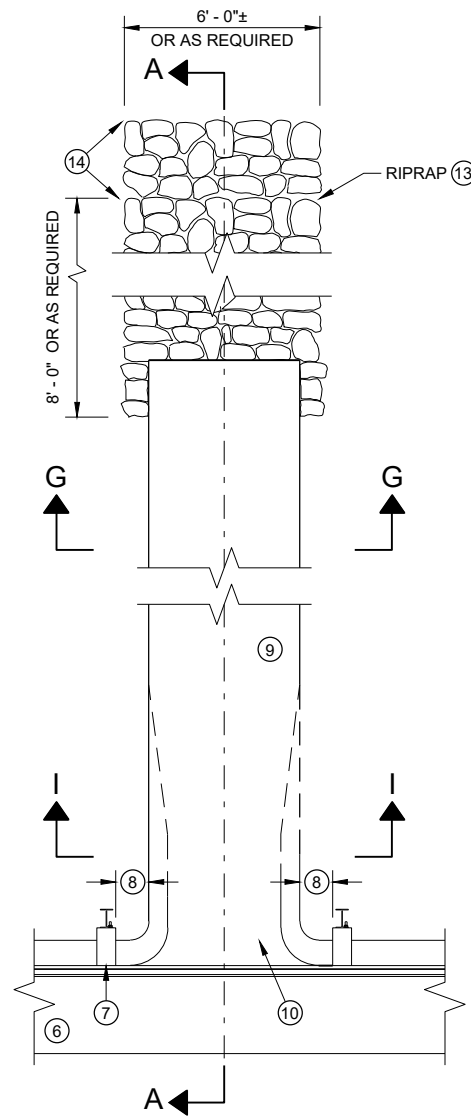
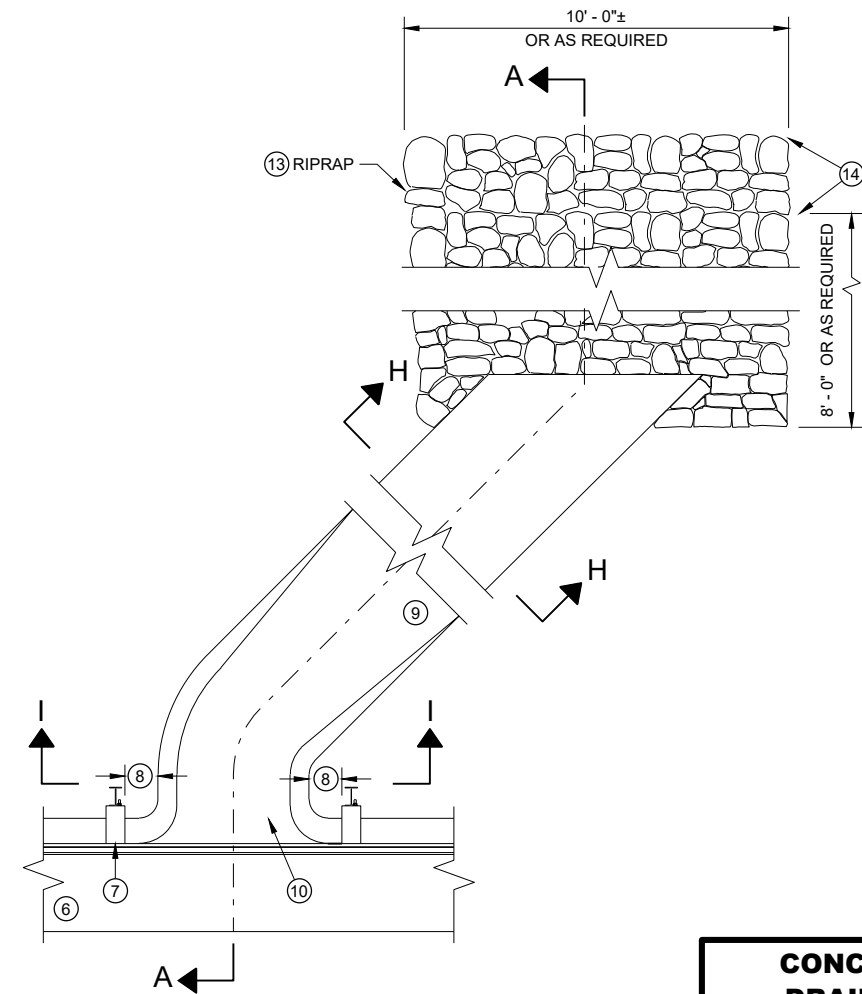
SECTION G - G



SECTION H - H



SECTION I - I

PLAN VIEW
PERPENDICULAR FLUMEPLAN VIEW
SKEWED FLUME

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.

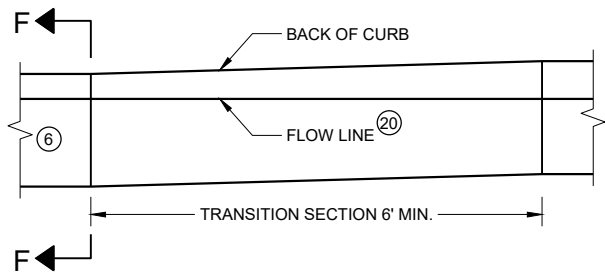
ALL STEEL REINFORCEMENT SHALL BE EMBEDDED 2 INCHES CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

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- ④ CONCRETE PAVEMENT APPROACH SLAB (SHOWN) OR STRUCTURE APPROACH SLAB AND CONCRETE PAVEMENT APPROACH SLAB. SEE SDD 13B02 AND STRUCTURE PLANS.
- ⑤ PAVED CONCRETE SHOULDER (SDD 13A03) OR ASPHALT SHOULDER.
- ⑥ CONCRETE CURB AND GUTTER 4-INCH SLOPED 36-INCH TYPE TBT OR TBT. USE TYPE TBT CURB WITH NO. 4 X 2' - 0" TIE BARS SPACED AT 3' - 0" C-C ONLY WHEN ADJACENT TO CONCRETE PAVEMENTS.

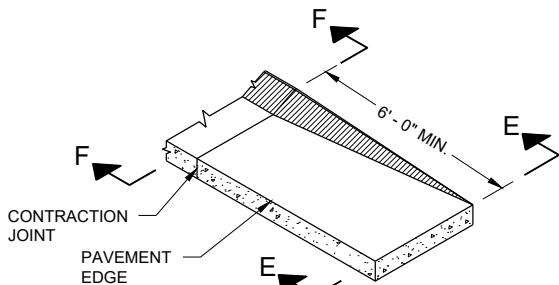
- ⑦ PLACE FLUME BEFORE MSG THRIE BEAM TRANSITION POST 1 (SEE SDD 14B45)
- ⑧ CENTER FLUME BETWEEN POSTS. 6-INCH MINIMUM SEPARATION FROM OUTSIDE EDGE OF FLUME TO POSTS.
- ⑨ MINIMUM REINFORCEMENT SHALL BE 4" X 4" - W3.0 X W3.0 OR NO. 3 BARS LONGITUDINAL AND TRANSVERSE SPACING 12" C - C.
- ⑩ SEE ROADWAY PLANS FOR FLUME LOCATION.
- ⑪ START CURB AND GUTTER TRANSITION OR END SECTION.
- ⑫ DEPRESS FLOW LINE (SEE DETAIL)
- ⑬ MEDIUM RIPRAP UNLESS OTHERWISE SPECIFIED.
- ⑭ LIMITS OF ADDITIONAL RIPRAP WHEN SPECIAL DITCH AS REQUIRED.
- ⑮ GEOTEXTILE TYPE HR.

**CONCRETE SURFACE
DRAINS FLUME TYPE
AT STRUCTURES**

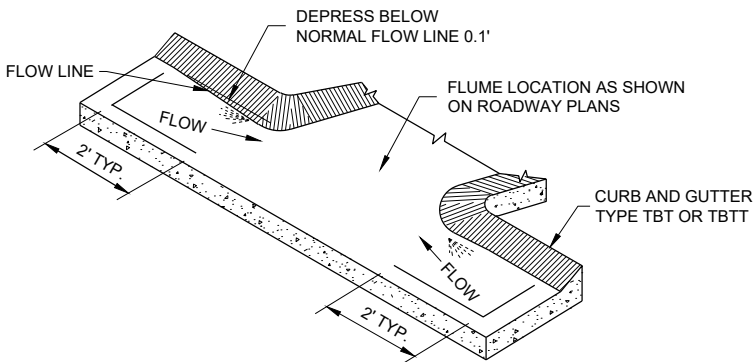
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION 45



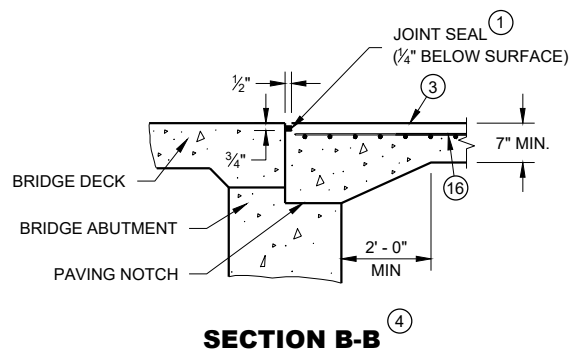
**CURB AND GUTTER TRANSITION SECTION
CONCRETE CURB AND GUTTER 4-INCH SLOPED
36 INCH TYPE TBT OR TBTT**



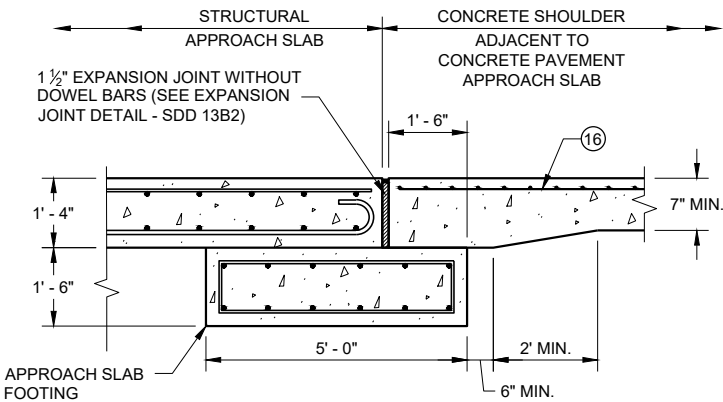
**CURB AND GUTTER END SECTION
CONCRETE CURB AND GUTTER 4-INCH SLOPED
36 INCH TYPE TBT OR TBTT**



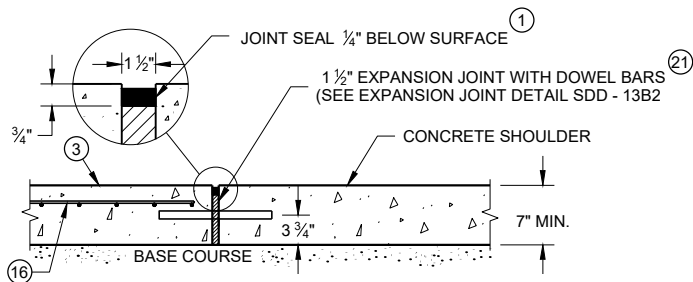
**CURB AND GUTTER FLOW LINE DEPRESSION
AT FLUMES CONCRETE CURB AND GUTTER
4-INCH SLOPED 36 INCH TYPE TBT OR TBTT**



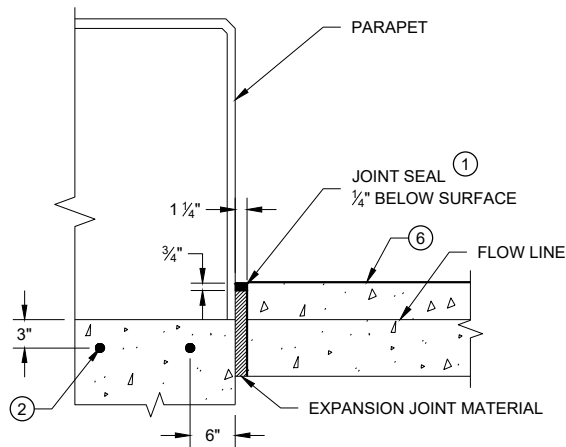
SECTION B-B



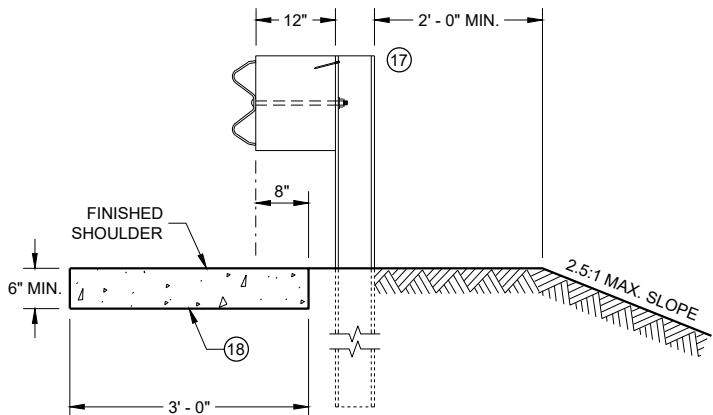
**SECTION C - C
JOINT DETAIL FOR BRIDGE WITH STRUCTURAL
APPROACH SLAB AND CONCRETE APPROACH SLAB**



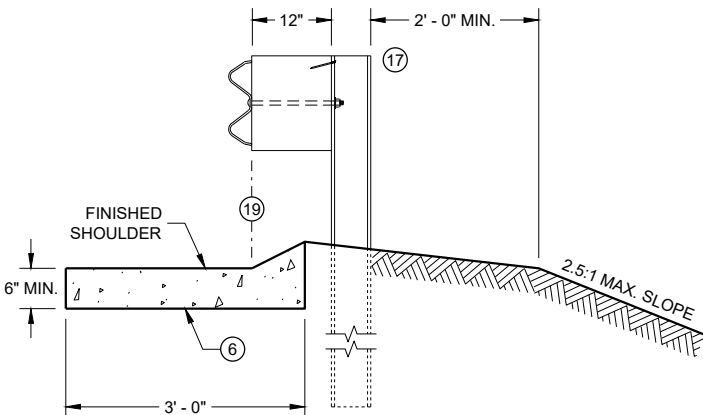
**SECTION C - C
JOINT DETAIL FOR BRIDGE APPROACH
WITH CONCRETE SHOULDERS**



SECTION D - D



SECTION E - E



SECTION F - F

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.

ALL STEEL REINFORCEMENT SHALL BE EMBEDDED 2 INCHES CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

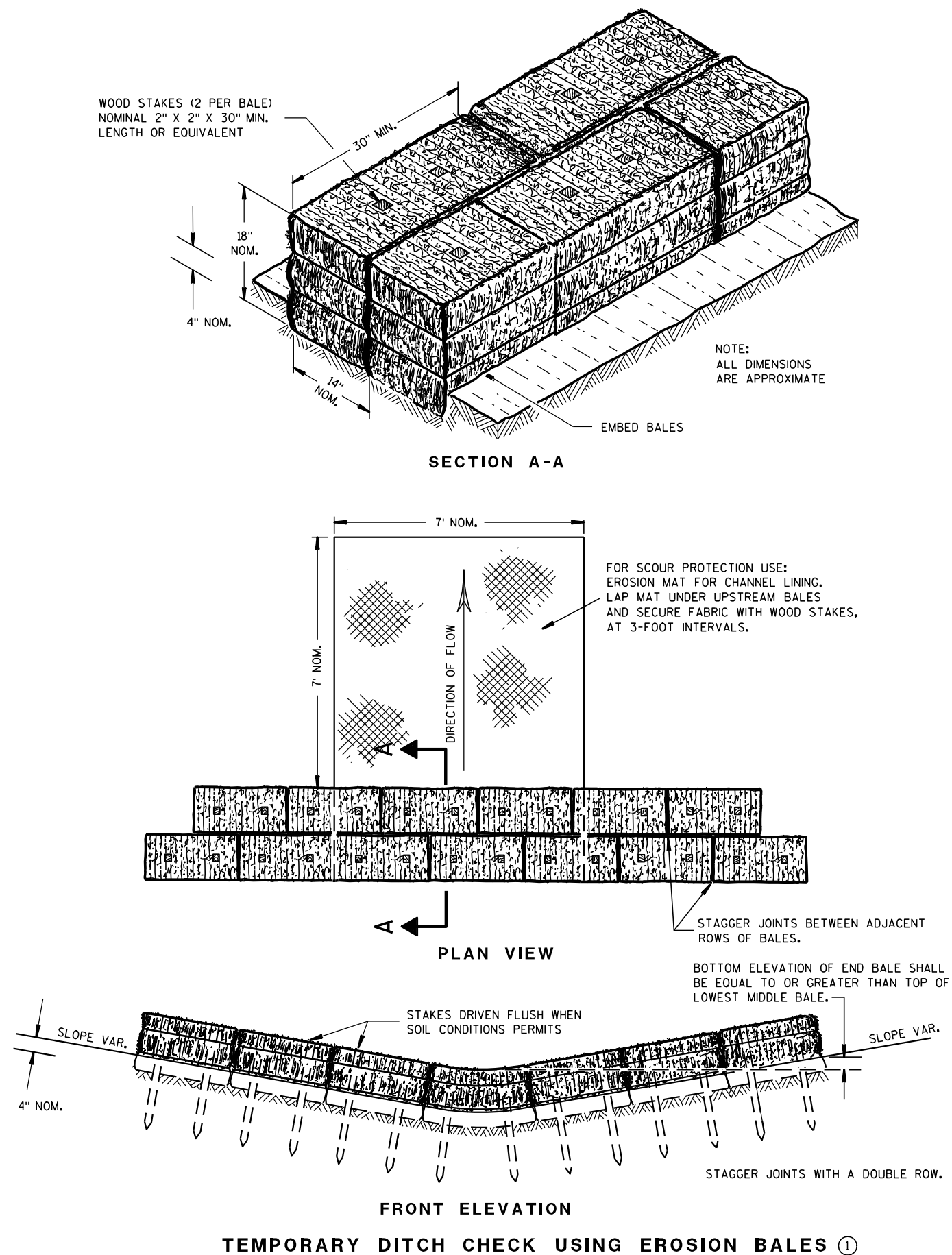
- USE A JOINT SEALANT CONFORMING TO STANDARD SPECIFICATION 415.2.6.
- NO. 4 X 2' - 0" TIE BARS SPACED AT 12" C-C TO BE PLACED BY BRIDGE CONTRACTOR OR DRILLED TIE BARS PLACED AS DIRECTED BY THE ENGINEER.
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- CONCRETE PAVEMENT APPROACH SLAB (SHOWN) OR STRUCTURE APPROACH SLAB AND CONCRETE PAVEMENT APPROACH SLAB. SEE SDD 13B02 AND STRUCTURE PLANS.
- PAVED CONCRETE SHOULDER (SDD 13A03) OR ASPHALT SHOULDER.
- CONCRETE CURB AND GUTTER 4-INCH SLOPED 36-INCH TYPE TBT OR TBTT. USE TYPE TBTT CURB WITH NO. 4 X 2' - 0" TIE BARS SPACED AT 3' - 0" C-C ONLY WHEN ADJACENT TO CONCRETE PAVEMENTS.
- PLACE FLUME BEFORE MSG THRIE BEAM TRANSITION POST 1 (SEE SDD 14B45)
- CENTER FLUME BETWEEN POSTS. 6-INCH MINIMUM SEPARATION FROM OUTSIDE EDGE OF FLUME TO POSTS.
- MINIMUM REINFORCEMENT SHALL BE 4" X 4" - W3.0 X W3.0 OR NO. 3 BARS LONGITUDINAL AND TRANSVERSE SPACING 12" C - C.
- SEE ROADWAY PLANS FOR FLUME LOCATION.
- START CURB AND GUTTER TRANSITION OR END SECTION.
- DEPRESS FLOW LINE (SEE DETAIL)
- MEDIUM RIPRAP UNLESS OTHERWISE SPECIFIED.
- LIMITS OF ADDITIONAL RIPRAP WHEN SPECIAL DITCH IS REQUIRED.
- GEOTEXTILE TYPE HR.
- MINIMUM REINFORCEMENT SHALL BE 6" X 6" - W4.0 X W4.0 OR NO. 3 BARS LONGITUDINAL AND TRANSVERSE SPACING 12" C - C.
- MSG THRIE BEAM TRANSITION POST 1. SEE SDD 14B45 FOR ADDITIONAL CONSTRUCTION DETAILS AND ACCEPTABLE MATERIALS.
- MAINTAIN WIDTH, THICKNESS AND CROSS SLOPE OF ADJACENT TYPE TBT OR TBTT CURB. SEE NOTE 6 FOR TIE BAR SPACING.
- ALIGN FACE OF POST BLOCK WITH FLOW LINE.
- MAINTAIN FLOW LINE AT EDGE OF PAVEMENT/FACE OF BEAM GUARD AS APPLICABLE.
- DO NOT CONSTRUCT AN EXPANSION JOINT OR INSTALL DOWEL BARS WHEN ABUTTING HMA PAVEMENTS.

CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023 /S/ Rodney Taylor
DATE ROADWAY STANDARDS DEVE 46
ENGINEER

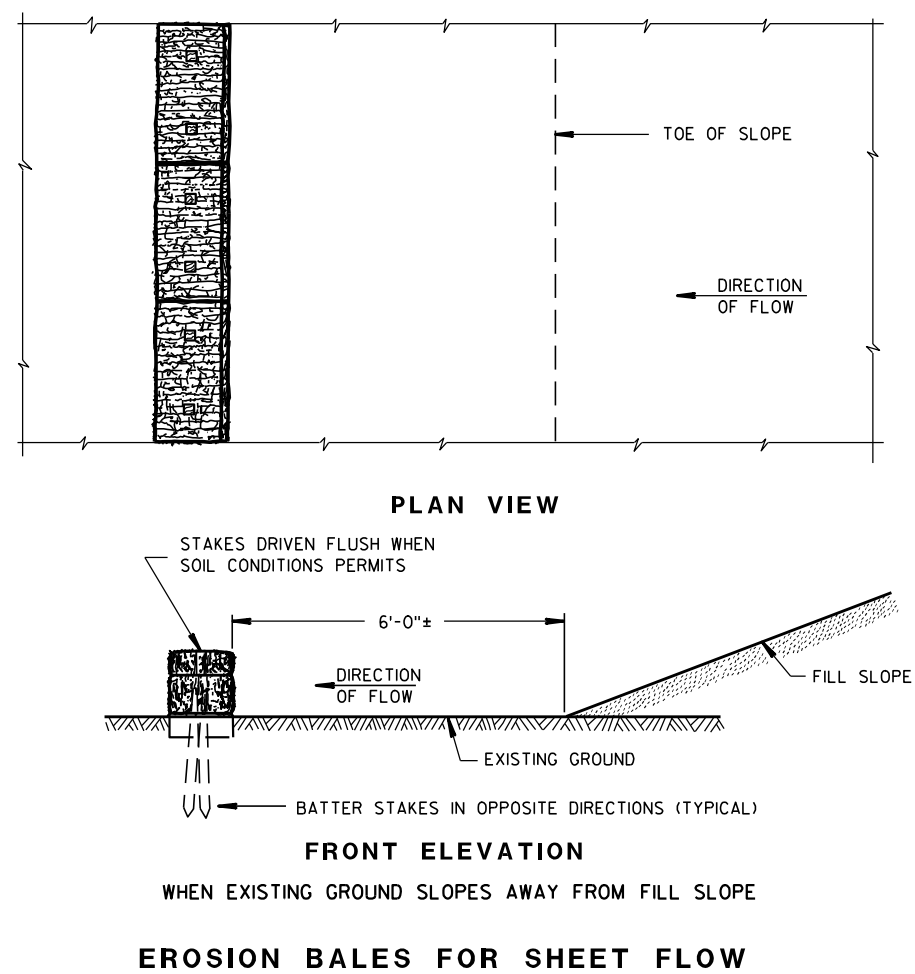
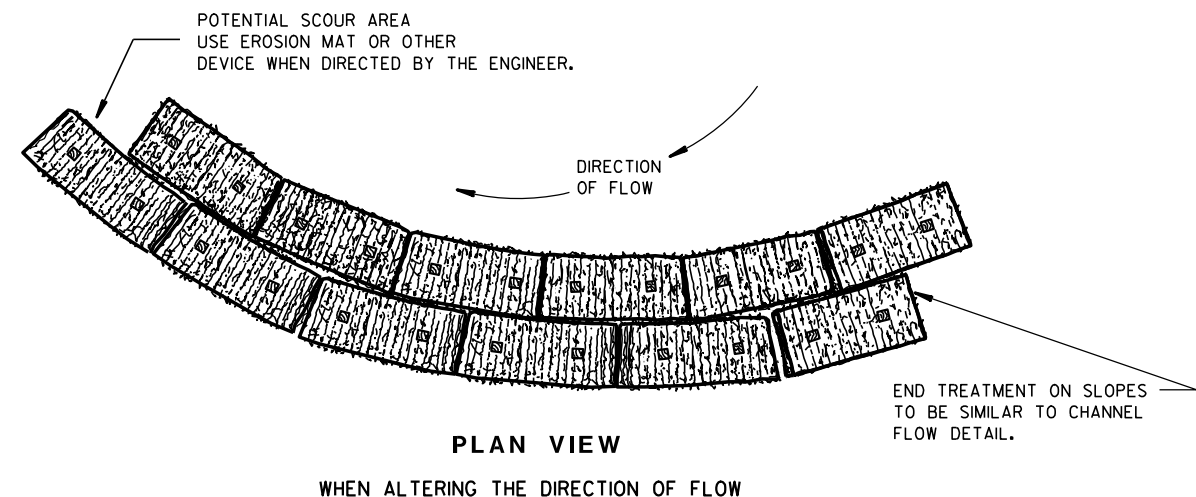
FHWA



GENERAL NOTES

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

- 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.



TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

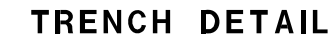
6/04/02
DATE

/S/ Beth Conn-----
CHIEF ROADWAY DEVELOPER 47 ENGINEER

FHWA



- 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 1½" X 1½" 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.

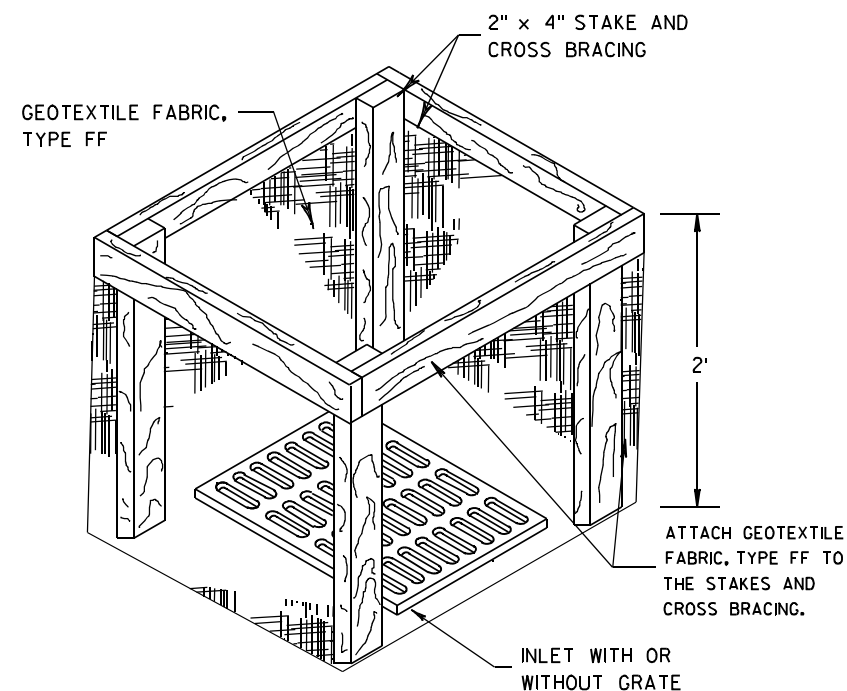
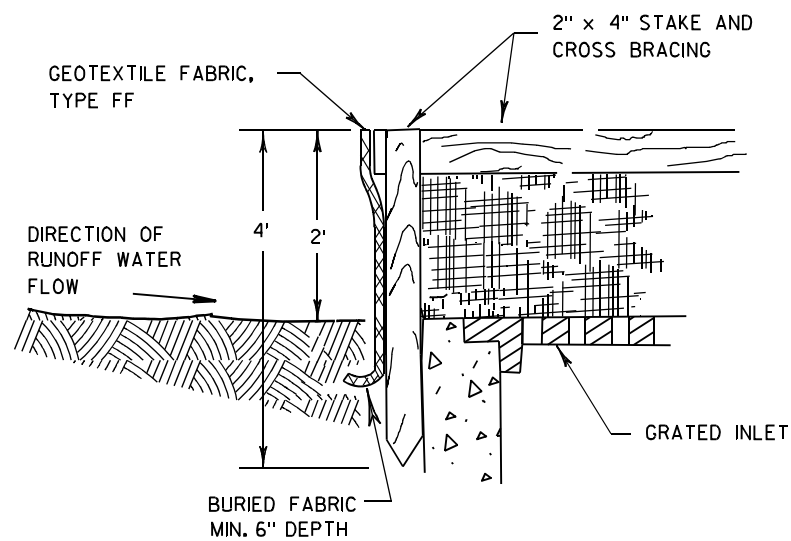


SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
4-29-05
DATE _____ /S/ Beth Cannata _____
CHIEF ROADWAY DEVELOPMENT 48 INCHES

FHWA



INLET PROTECTION, TYPE A

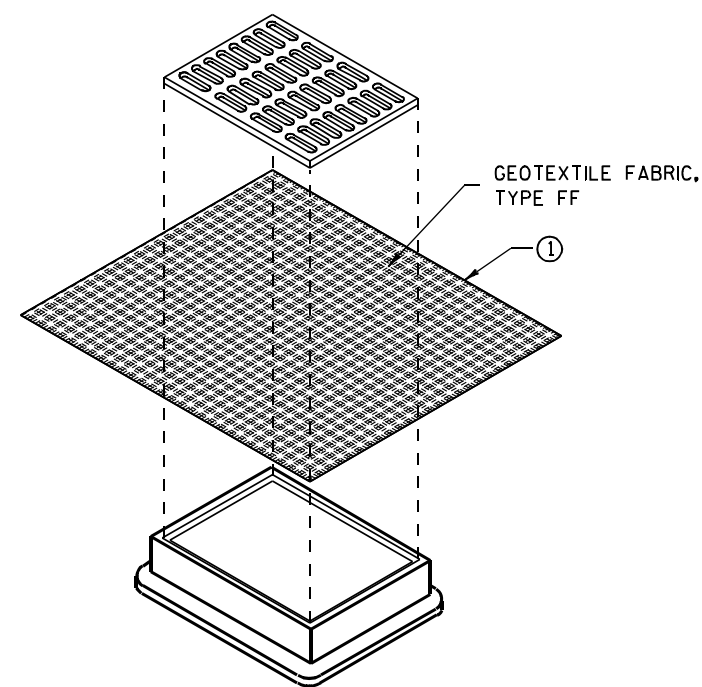
GENERAL NOTES

INLET PROTECTION DEVICES SHALL BE MAINTAINED OR REPLACED AT THE DIRECTION OF THE ENGINEER.

MANUFACTURED ALTERNATIVES APPROVED AND LISTED ON THE DEPARTMENT'S EROSION CONTROL PRODUCT ACCEPTABILITY LIST MAY BE SUBSTITUTED.

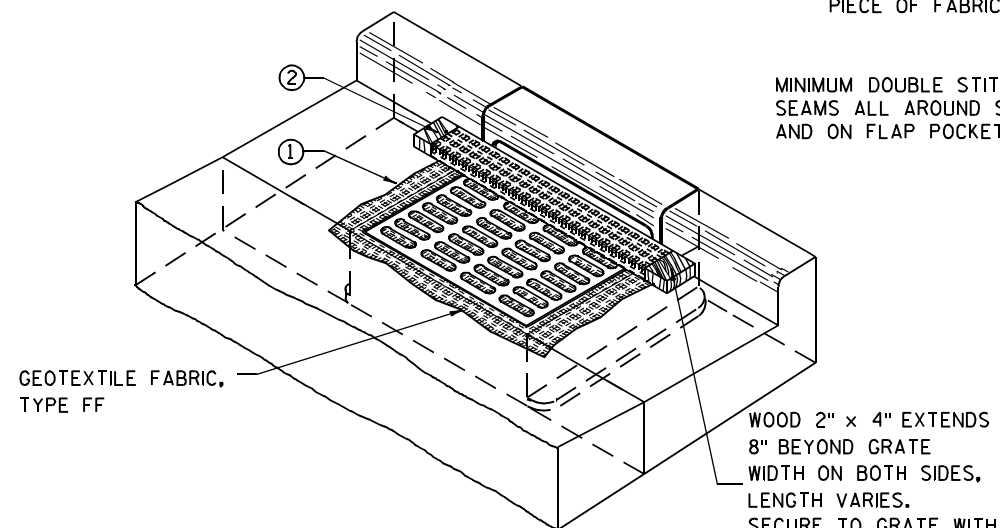
WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.

- ① FINISHED SIZE, INCLUDING FLAP POCKETS WHERE REQUIRED, SHALL EXTEND A MINIMUM OF 10" AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.
- ② FOR INLET PROTECTION, TYPE C (WITH CURB BOX), AN ADDITIONAL 18" OF FABRIC IS WRAPPED AROUND THE WOOD AND SECURED WITH STAPLES. THE WOOD SHALL NOT BLOCK THE ENTIRE HEIGHT OF THE CURB BOX OPENING.
- ③ FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2X4.



**INLET PROTECTION, TYPE B
(WITHOUT CURB BOX)**

(CAN BE INSTALLED IN ANY INLET WITHOUT A CURB BOX)



INLET PROTECTION, TYPE C (WITH CURB BOX)

INSTALLATION NOTES

TYPE B & C

TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.

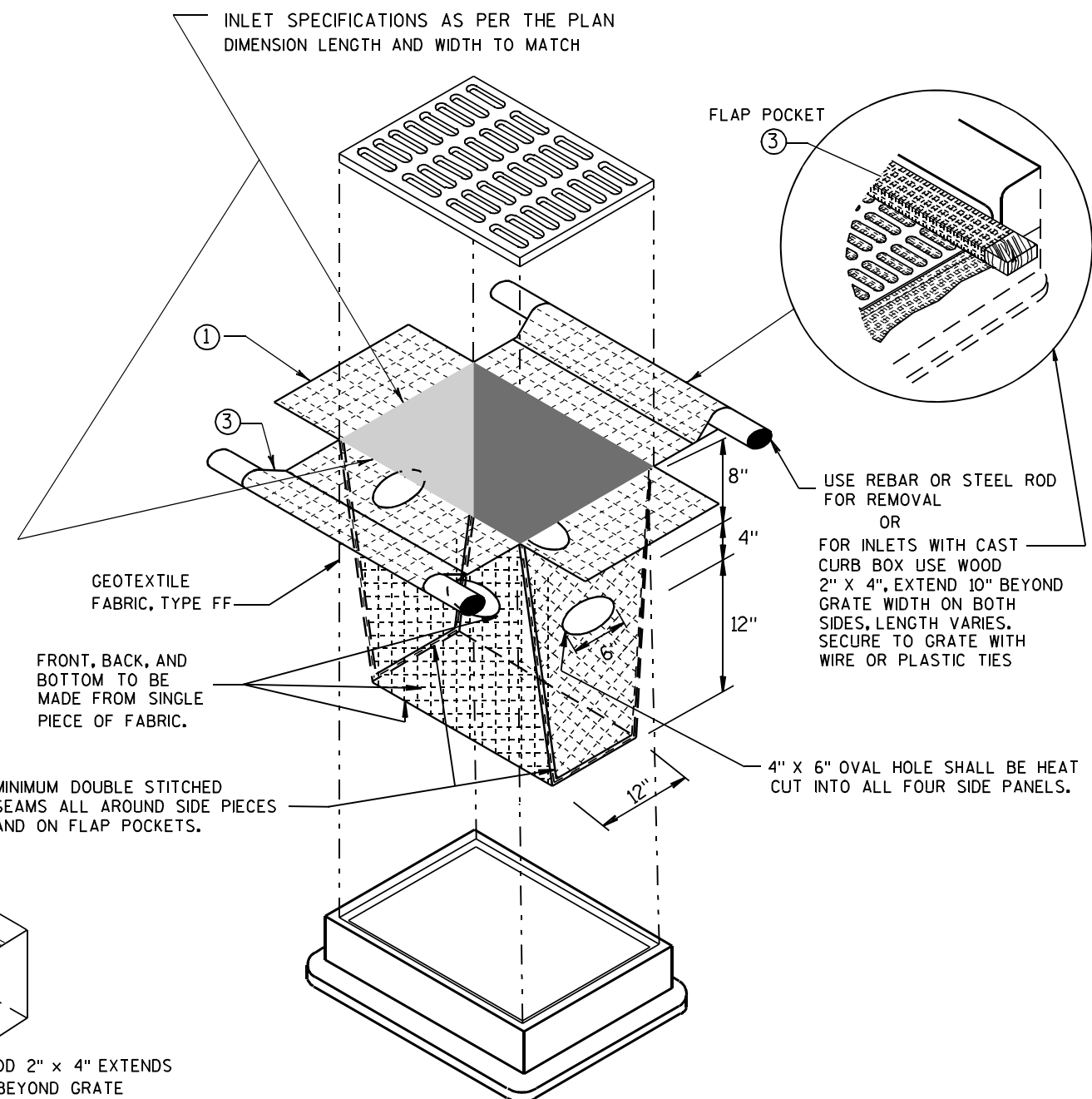
THE CONTRACTOR SHALL DEMONSTRATE A METHOD OF MAINTENANCE, USING A SEWN FLAP, HAND HOLDS OR OTHER METHOD TO PREVENT ACCUMULATED SEDIMENT FROM ENTERING THE INLET.

TYPE D

DO NOT INSTALL INLET PROTECTION TYPE D IN INLETS SHALLower THAN 30", MEASURED FROM THE BOTTOM OF THE INLET TO THE TOP OF THE GRATE.

TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.

THE INSTALLED BAG SHALL HAVE A MINIMUM SIDE CLEARANCE, BETWEEN THE INLET WALLS AND THE BAG, MEASURED AT THE BOTTOM OF THE OVERFLOW HOLES, OF 3". WHERE NECESSARY THE CONTRACTOR SHALL CINCH THE BAG, USING PLASTIC ZIP TIES, TO ACHIEVE THE 3" CLEARANCE. THE TIES SHALL BE PLACED AT A MAXIMUM OF 4" FROM THE BOTTOM OF THE BAG.



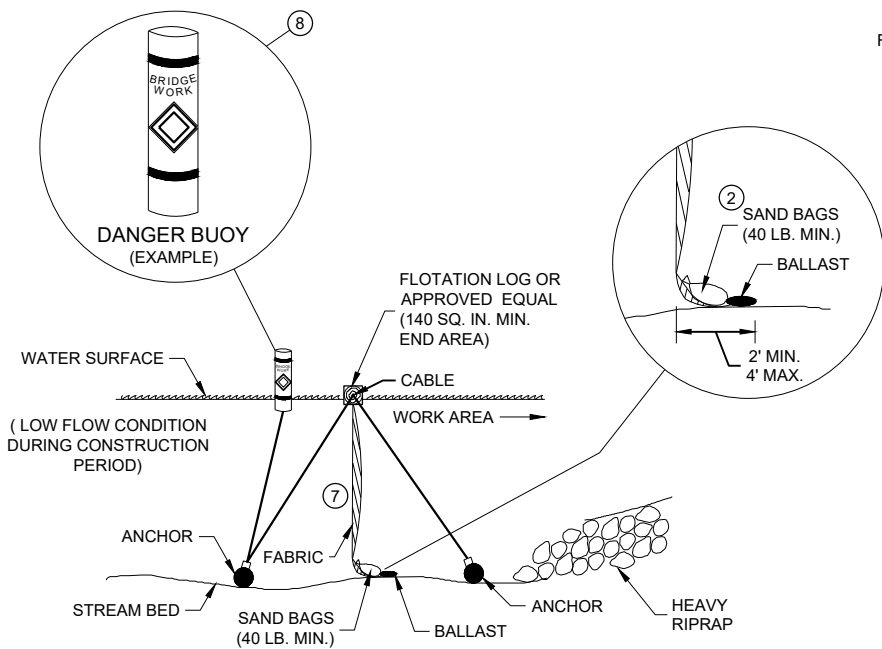
INLET PROTECTION, TYPE D

(CAN BE INSTALLED IN ANY INLET TYPE WITH OR WITHOUT A CURB BOX AS PER NOTE ②)

**INLET PROTECTION
TYPE A, B, C, AND D**

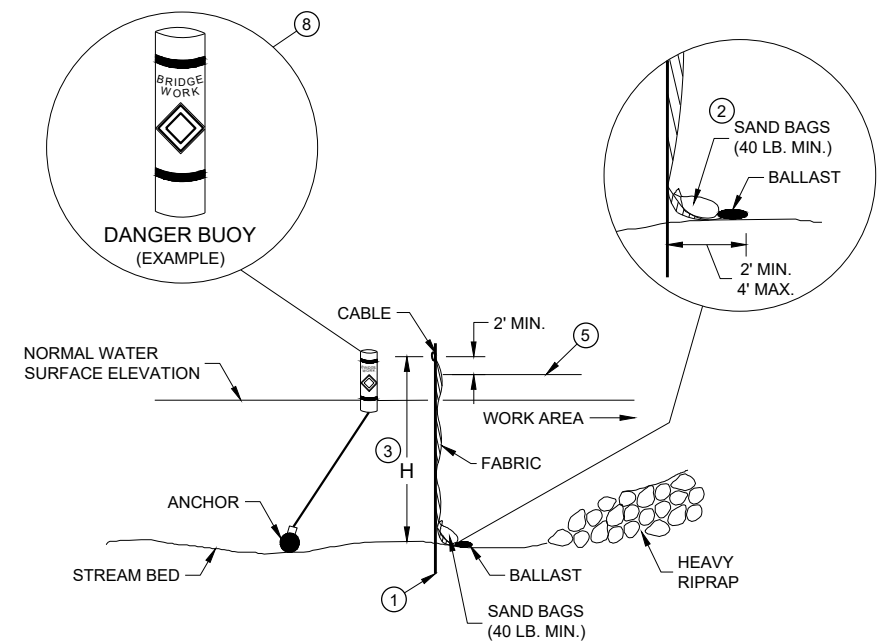
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
10/16/02 /S/ Beth Connolly
DATE 49
FHWA CHIEF ROADWAY DEVELOPMENT ENGINEER



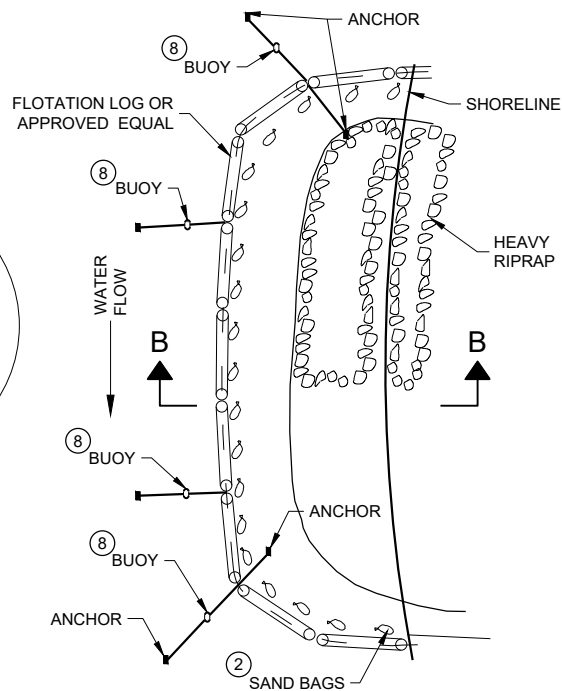
SECTION B - B

TURBIDITY BARRIER - FLOAT ALTERNATIVE
CAUTION - SEE NOTE 6

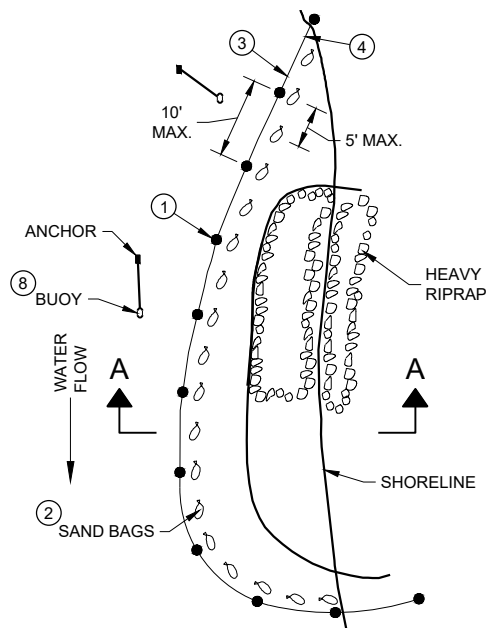


SECTION A - A

TURBIDITY BARRIER - STANDARD POST INSTALLATION



PLAN VIEW



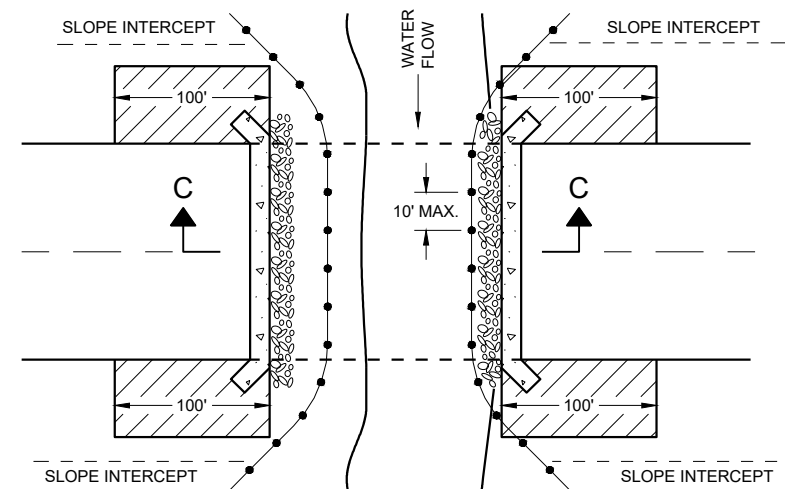
PLAN VIEW

GENERAL NOTES

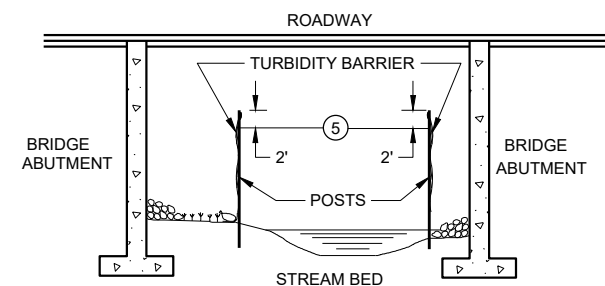
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

TURBIDITY BARRIER MAY BE REMOVED AT THE ENGINEERS DISCRETION, WHEN PERMANENT EROSION CONTROL MEASURES HAVE BEEN ESTABLISHED.

- 1 DRIVEN STEEL POSTS, PIPES, OR CHANNELS. LENGTH SHALL BE SUFFICIENT TO SECURELY SUPPORT BARRIER AT HIGH WATER ELEVATIONS.
- 2 SAND BAGS TO BE USED AS ADDITIONAL BALLAST WHEN ORDERED BY THE ENGINEER TO MEET ADVERSE FIELD CONDITIONS. SPACE AS APPROPRIATE FOR SITE CONDITIONS.
- 3 WHEN BARRIER HEIGHT "H" EXCEEDS 8 FEET, POST SPACING MAY NEED TO BE DECREASED.
- 4 IN WATERWAYS SUBJECT TO FLUCTUATING WATER ELEVATIONS, PROVISIONS SHOULD BE MADE TO ALLOW THE WATER TO EQUALIZE ON EACH SIDE OF THE BARRIER. THIS MAY BE ACCOMPLISHED BY LEAVING A PORTION OF THE BARRIER OPEN ON THE UPSTREAM END.
- 5 ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION PERIOD. MINIMUM BARRIER HEIGHT SHALL BE 2' GREATER THAN EITHER THE Q2 ELEVATION OR THE ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION, WHICHEVER IS GREATER.
- 6 FLOAT ALTERNATIVE WILL ONLY BE ALLOWED WITH WRITTEN APPROVAL OF THE ENGINEER, AND IS MEANT FOR LOCATIONS WHERE BEDROCK PREVENTS THE INSTALLATION OF POSTS.
- 7 ALLOW SUFFICIENT SLACK VERTICALLY AND HORIZONTALLY SO THAT SEDIMENT BUILD UP WILL NOT SEPARATE OR LOWER THE TURBIDITY BARRIER.
- 8 USE AS DIRECTED BY COAST GUARD OR DNR PERMIT WHEN WORKING IN NAVIGABLE WATERWAYS.



PLAN VIEW



SECTION C - C

TURBIDITY BARRIER DETAIL SHOWING
TYPICAL PLACEMENT AT STRUCTURES

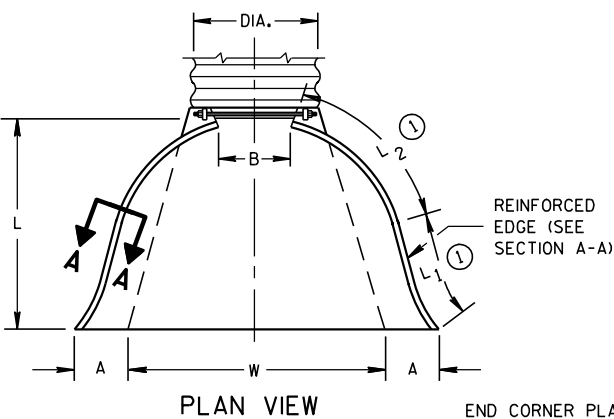
TURBIDITY BARRIER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
6/4/02 DATE /S/ Beth Cannestra
DATE CHIEF ROADWAY DEVELOPMENT ENGINEER 50
FHWA

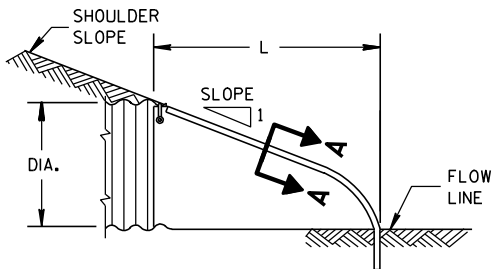
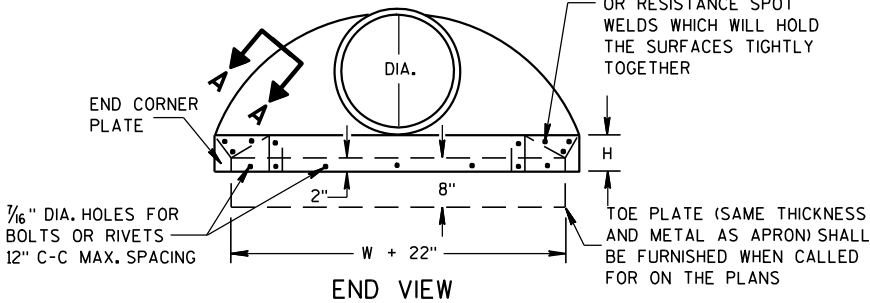
METAL APRON ENDWALLS											
PIPE DIA. (IN.)	MIN. THICK. (Inches)		DIMENSIONS (Inches)							APPROX. SLOPE	BODY
	STEEL	ALUM.	A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")		
12	.064	.060	6	6	6	21	12	17 1/2	24	2 1/2 to 1	1 Pc.
15	.064	.060	7	8	6	26	14	21 3/4	30	2 1/2 to 1	1 Pc.
18	.064	.060	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	.109x	.105x	18	33	12	87	—	—	114	2 to 1	3 Pc.
66	.109x	.105x	18	36	12	87	—	—	120	2 to 1	3 Pc.
72	.109x	.105x	18	39	12	87	—	—	126	2 to 1	3 Pc.
78	.109x	.105x	18	42	12	87	—	—	132	1 1/2 to 1	3 Pc.
84	.109x	.105x	18	45	12	87	—	—	138	1 1/2 to 1	3 Pc.
90	.109x	.105x	18	37	12	87	—	—	144	1 1/2 to 1	3 Pc.
96	.109x	.105x	18	35	12	87	—	—	150	1 1/2 to 1	3 Pc.

* EXCEPT CENTER PANEL
SEE GENERAL NOTES



END CORNER PLATES MAY BE FASTENED TO APRON PROPER BY BOLTS, RIVETS, OR RESISTANCE SPOT WELDS WHICH WILL HOLD THE SURFACES TIGHTLY TOGETHER

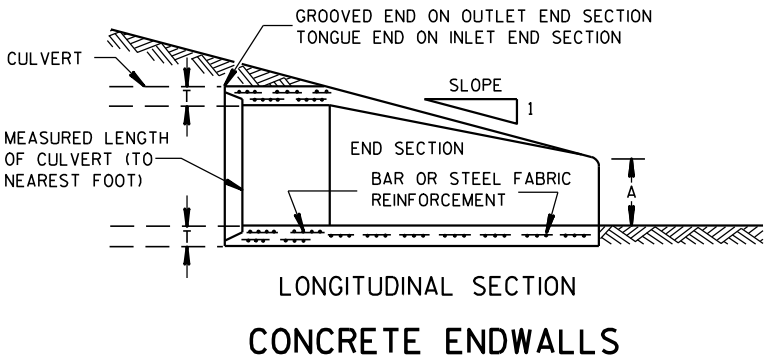
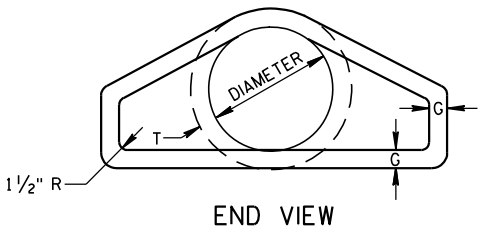
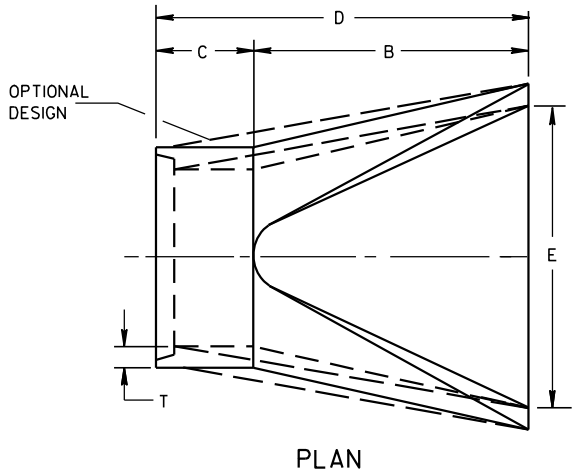
TOE PLATE (SAME THICKNESS AND METAL AS APRON) SHALL BE FURNISHED WHEN CALLED FOR ON THE PLANS



SIDE ELEVATION
METAL ENDWALLS

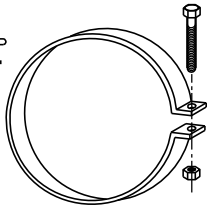
REINFORCED CONCRETE APRON ENDWALLS											
PIPE DIA. (IN.)	DIMENSIONS (Inches)							APPROX. SLOPE			
	T	A	B	C	D	E	G				
12	2	4	24	48 1/8	72 1/8	24	2	3 to 1			
15	2 1/4	6	27	46	73	30	2 1/4	3 to 1			
18	2 1/2	9	27	46	73	36	2 1/2	3 to 1			
21	2 3/4	9	36	37 1/2	73 1/2	42	2 3/4	3 to 1			
24	3	9 1/2	43 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 1/2 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

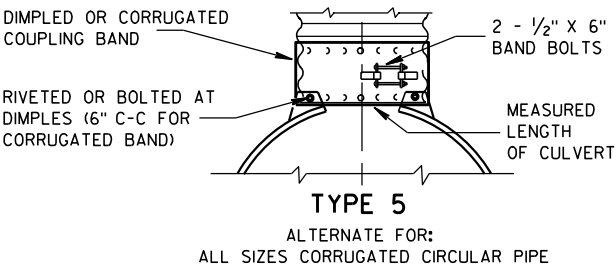
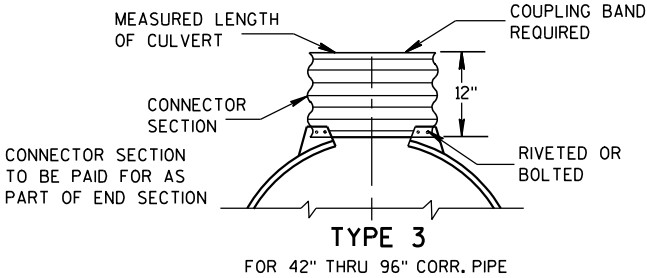
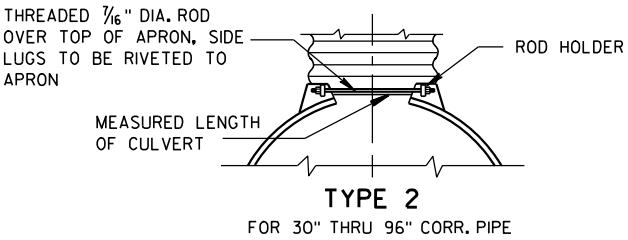
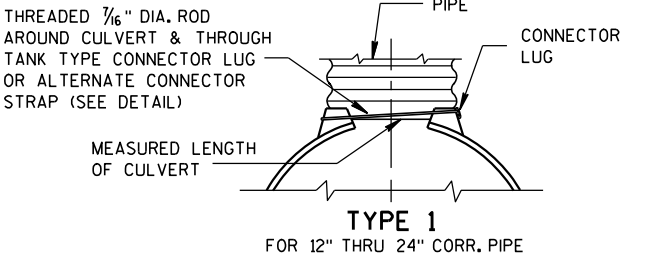


LONGITUDINAL SECTION
CONCRETE ENDWALLS

1" WIDE, 12 GA. (0.109" THICK) GALVANIZED STRAP WITH STANDARD 6" X 1/2" BAND BOLT AND NUT



ALTERNATE FOR TYPE 1 CONNECTION
END SECTION CONNECTOR STRAP



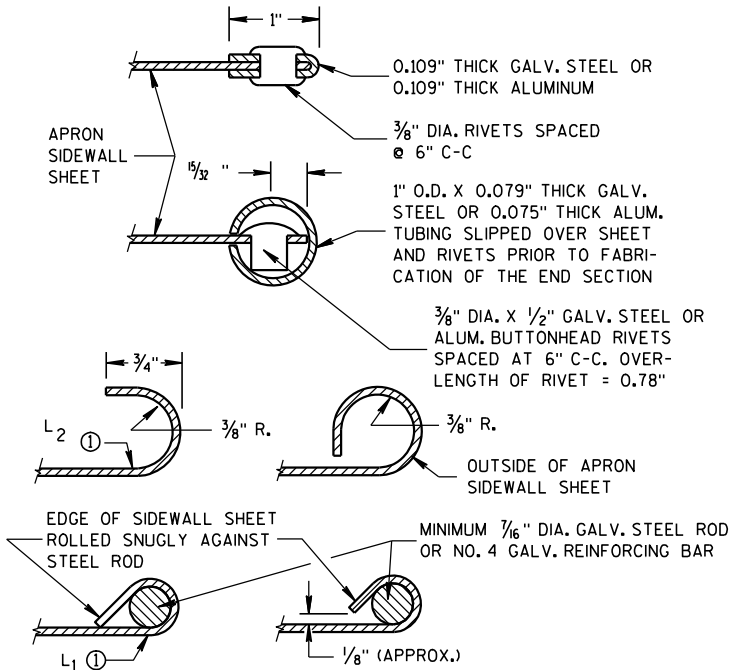
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL, AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

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 VICE VERSA. GALVANIZED STEEL OR ALUMINUM ENDWALLS SHALL NORMALLY BE INSTALLED ON CULVERT PIPE OF THE SAME METAL.

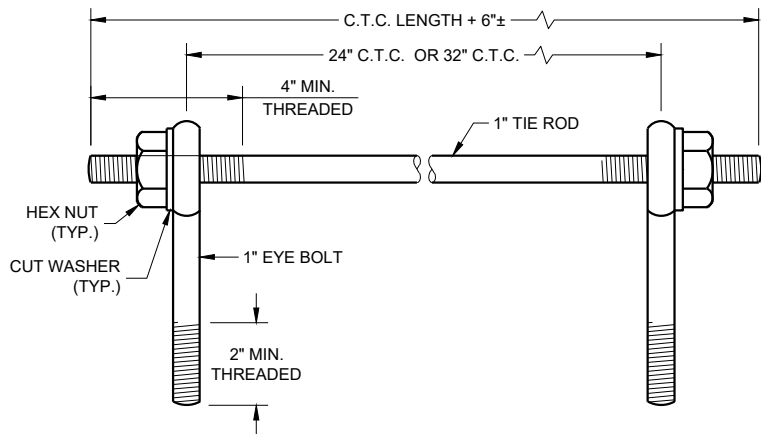
ALL THREE PIECE STEEL APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.109" SIDES AND 0.138" CENTER PANELS. ALL THREE PIECE ALUMINUM APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.105" SIDES AND 0.134" CENTER PANELS. THE WIDTH OF CENTER PANELS SHALL BE GREATER THAN 20 PERCENT 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.

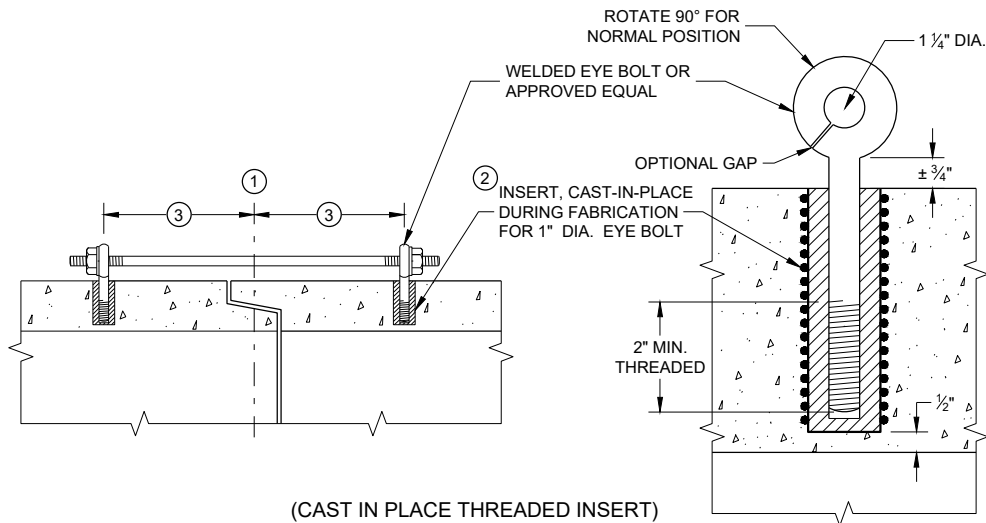
① FOR PIPE SIZES UP TO 60" DIAMETER, A 180° ROLLED EDGE MAY BE USED INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.

APRON ENDWALLS FOR CULVERT PIPE	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 11/30/94 DATE	/S/ Rory L. Rhinehart CHIEF ROADWAY DEVELOP 51 NEER
FHWA	



EYE BOLTS AND TIE ROD

EYE BOLT AND TIE ROD ASSEMBLY (ALTERNATE NO. 1)



(CAST IN PLACE THREADED INSERT)

LONGITUDINAL SECTIONS

GENERAL NOTES

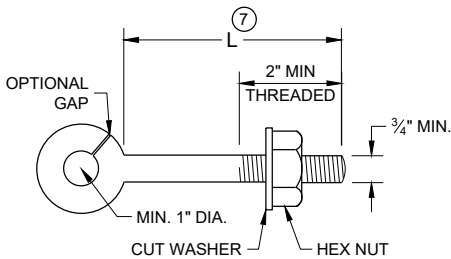
DETAILS OF CONSTRUCTION, MATERIALS, AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

CONCRETE CULVERT AND STORM SEWER PIPE SHALL BE TIED TOGETHER IN THE MANNER ILLUSTRATED BY THIS DETAIL AT LOCATIONS DESIGNATED IN THE STANDARD SPECIFICATIONS AND THE PLAN. THE CONTRACTOR MAY USE EITHER ALTERNATE 1, 2 OR 3 FOR DRAINAGE STRUCTURES. ONLY ALTERNATE 1 AND 3 MAY BE USED FOR CATTLE PASSES, UNLESS OTHERWISE STATED IN THE CONTRACT. THE MATERIALS, FABRICATION AND WORK NECESSARY TO TIE THE PIPE BY THIS DETAIL WILL BE CONSIDERED INCIDENTAL TO THE PIPE AND APRON ENDWALLS IF REQUIRED.

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR JOINT TIES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.

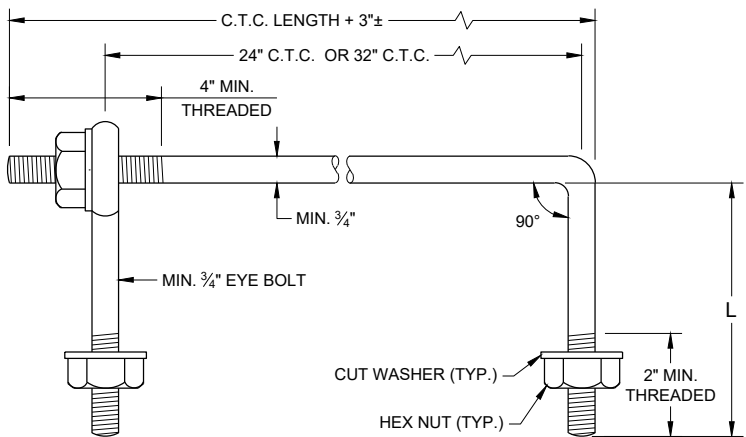
JOINT TIES TO BE HOT-DIP GALVANIZED PER ASTM A 153.

- 1 CENTER LINE OF TONGUE AND GROOVE OR BELL AND SPIGOT JOINTS.
- 2 THE INSIDE OF THE THREADED INSERTS SHALL BE CLEAN TO ALLOW THE INSERTION OF THREADED EYE BOLTS.
- 3 HOLES SHALL BE CAST-IN-PLACE OR DRILLED PER THE APPLICABLE DETAIL, AND EQUAL DISTANCE FROM THE CENTERLINE OF THE JOINT.
- 4 BOLT PROJECTION INSIDE OF PIPE SHALL NOT EXCEED 2 INCHES.
- 5 OPENING TO BE ROD DIAMETER PLUS 1 INCH.
- 6 LENGTH ADEQUATE TO EXTEND TO WITHIN 1/2 INCH OF THE INNER SURFACE OF THE PIPE.
- 7 EYE BOLT LENGTH DETERMINED BY WALL THICKNESS, BELL THICKNESS AND BOLT PROJECTION INSIDE PIPE.

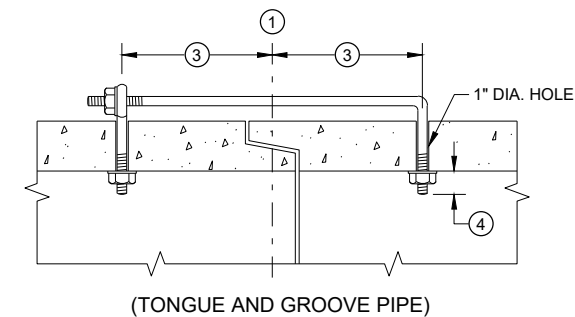


EYE BOLT 7

NOTE: TWO EYE BOLTS MAY BE USED WITH A 30" OR 38" LONG THREADED ROD IN LIEU OF THE 90° BENT TIE ROD.



EYE BOLT AND TIE ROD

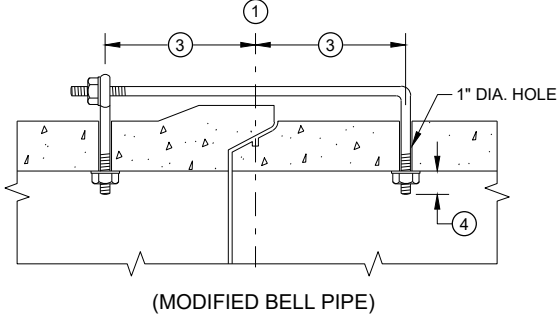


(TONGUE AND GROOVE PIPE)

LONGITUDINAL SECTION

(JOINT TIES FOR 18" TO 66" DIA. CONCRETE PIPE)

EYE BOLT AND TIE ROD ASSEMBLY (ALTERNATE NO. 2)

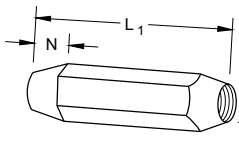


(MODIFIED BELL PIPE)

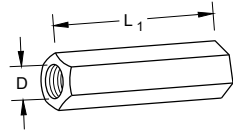
ADJUSTABLE TIE ROD TABLE

PIPE DIAMETER	TIE ROD DIAMETER	D	L ₁	N
12 - 60	5/8	5/8	5	1/2
66 - 84	3/4	3/4	5	1/2
90 - 144	1	1	7	1 1/16

DIMENSIONS SHOWN ARE IN INCHES

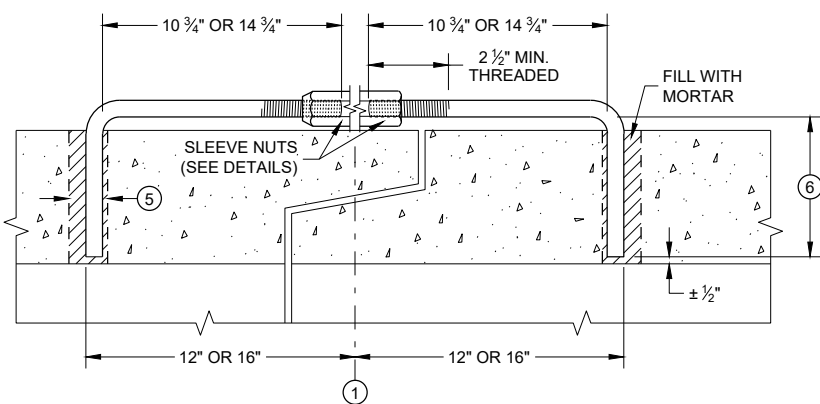


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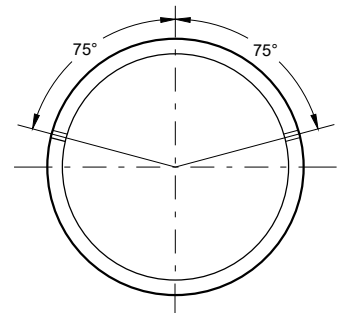
PLAIN

RIGHT AND LEFT THREADS
SLEEVE NUTS



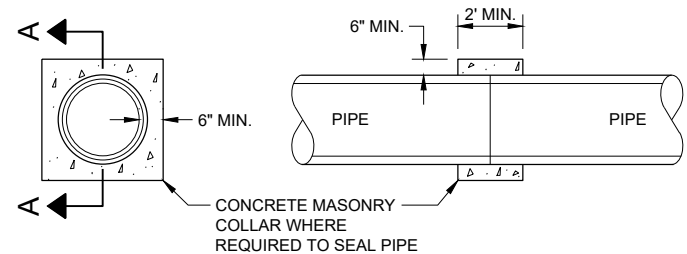
LONGITUDINAL SECTION

ADJUSTABLE TIE ROD (ALTERNATE NO. 3)



PLACEMENT OF (2) CAST-IN-PLACE INSERTS OR HOLES DURING FABRICATION FOR PIPE SECTIONS REQUIRING TIE RODS

TRANSVERSE SECTION



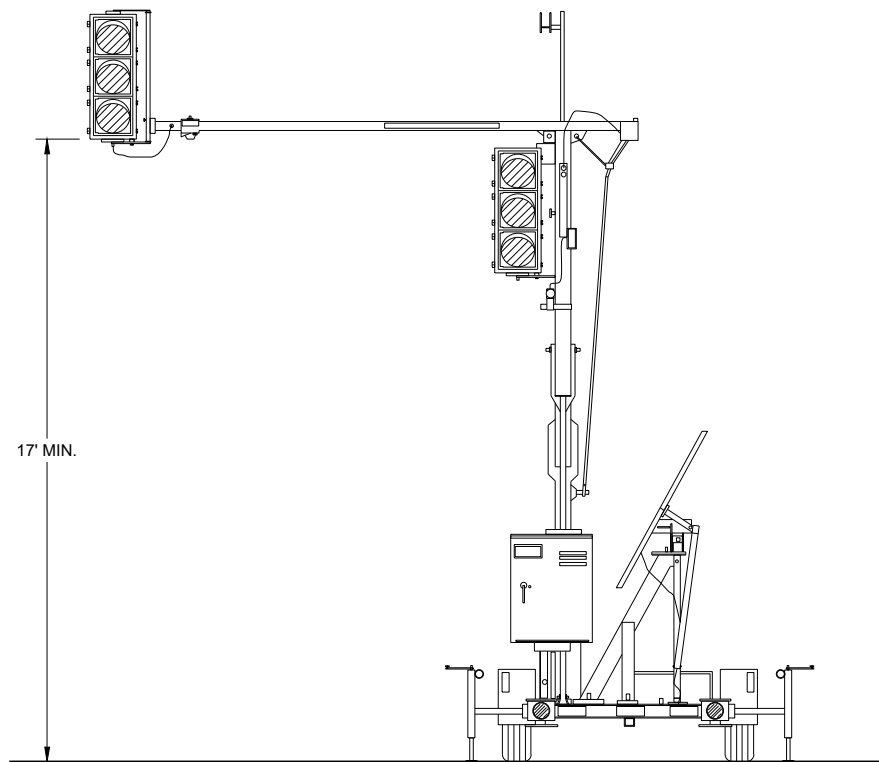
SECTION A - A

CONCRETE COLLAR DETAIL

JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2021 /S/ Rodney Taylor
DATE ROADWAY STANDARDS DEVE 52
ENGINEER
FHWA

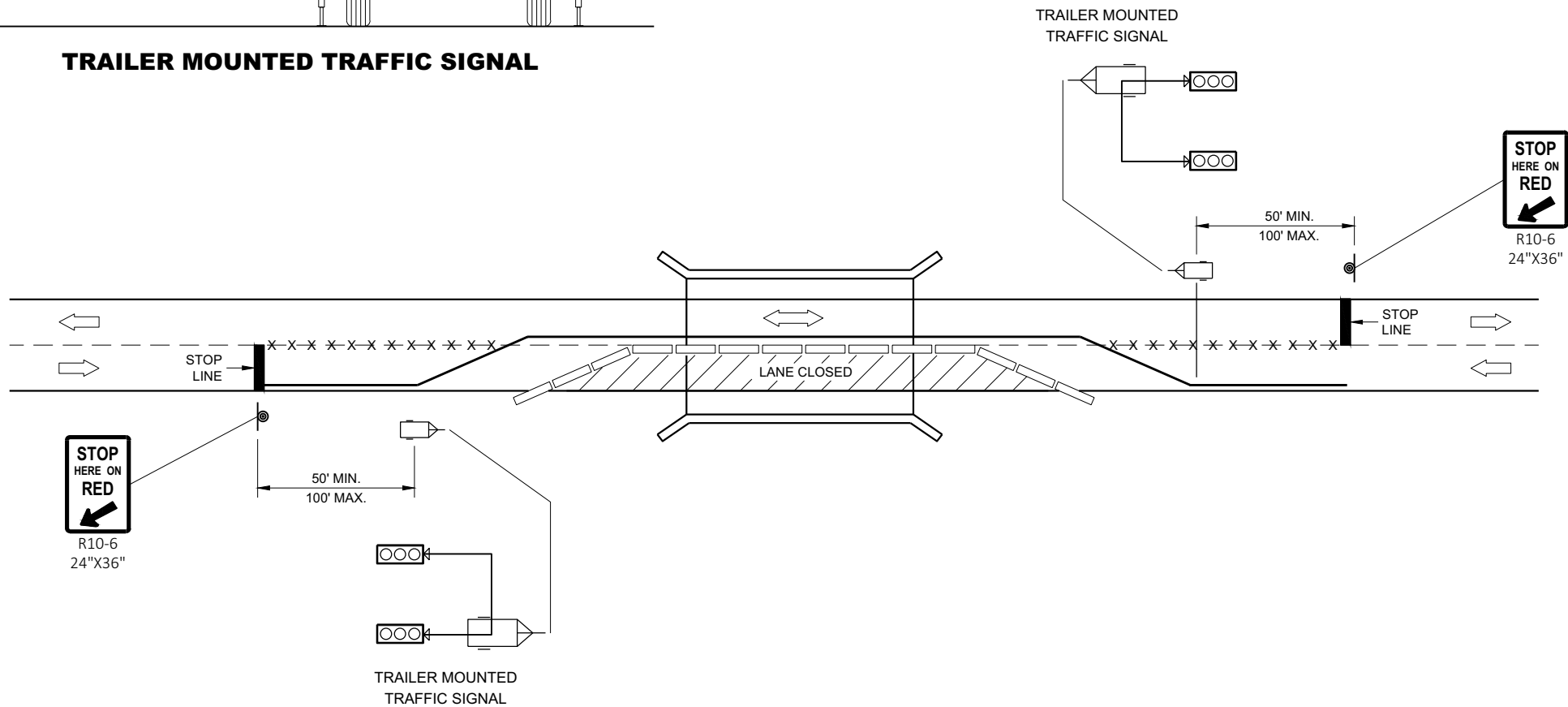


TRAILER MOUNTED TRAFFIC SIGNAL

GENERAL NOTES

DETAIL OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

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



TYPICAL TRAILER MOUNTED TRAFFIC SIGNAL LOCATION

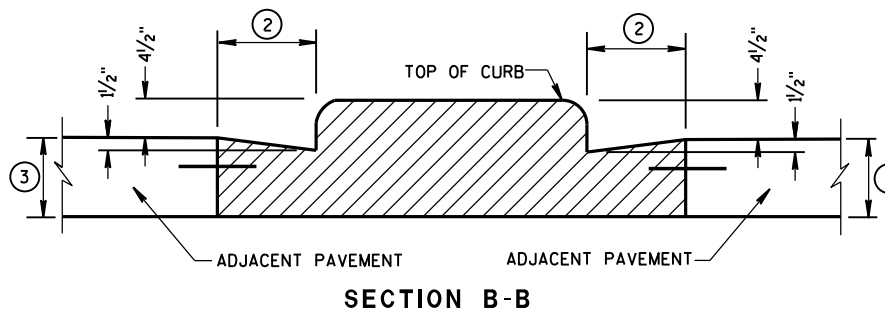
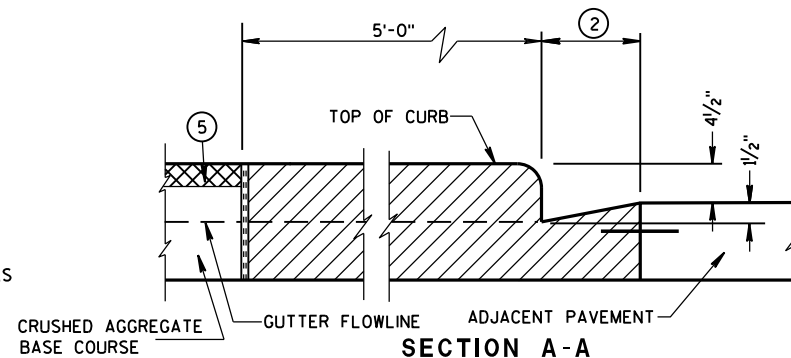
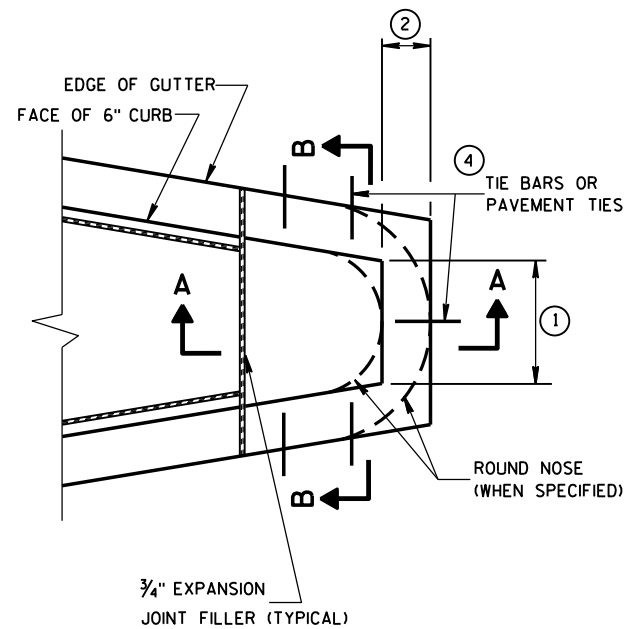
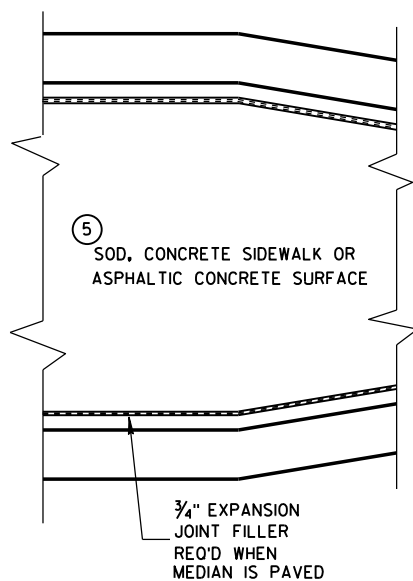
LEGEND

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

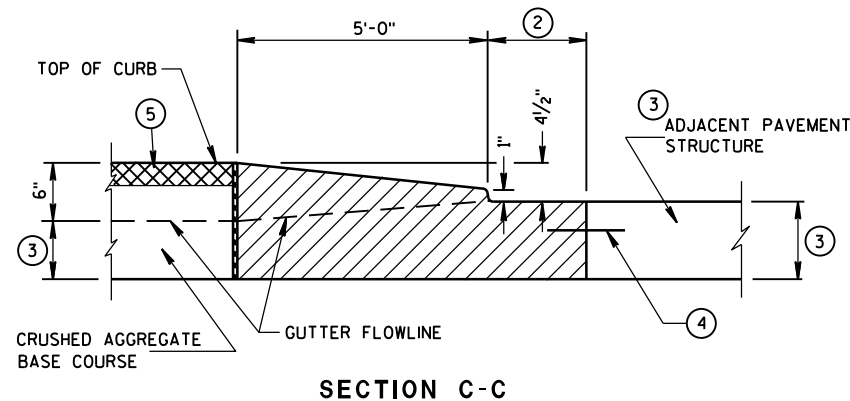
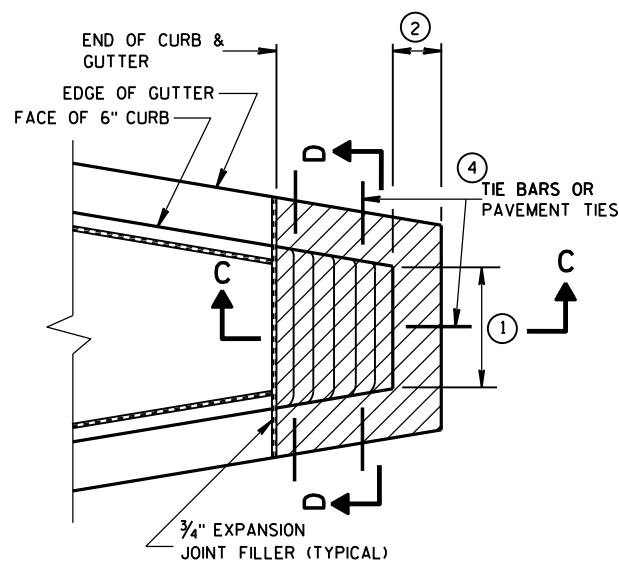
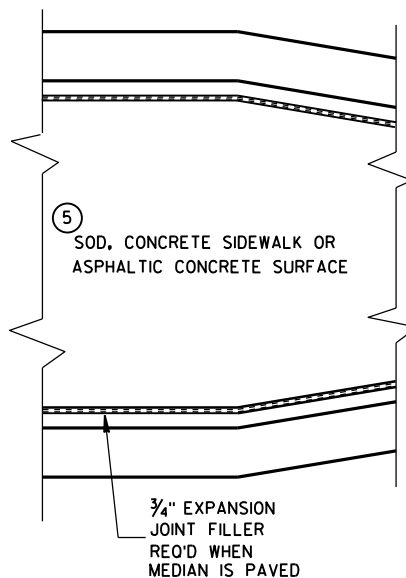
BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

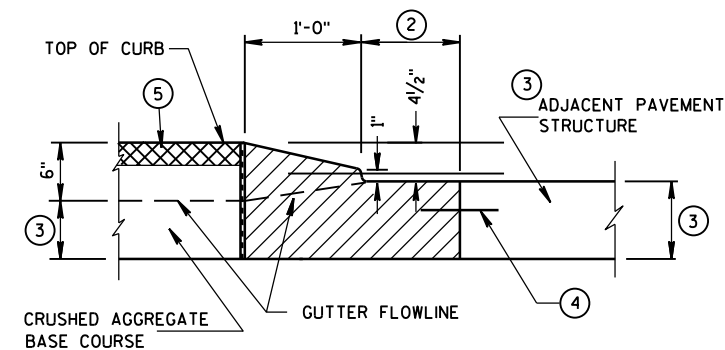
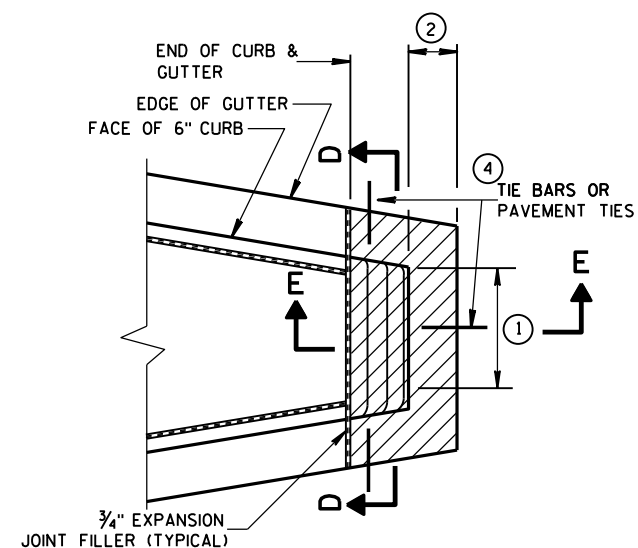
APPROVED
June 2015
DATE
/S/ Ahmet Demerbilek
ROADWAY STANDARDS DEVELOPMENT ENGINEER
53
FHWA



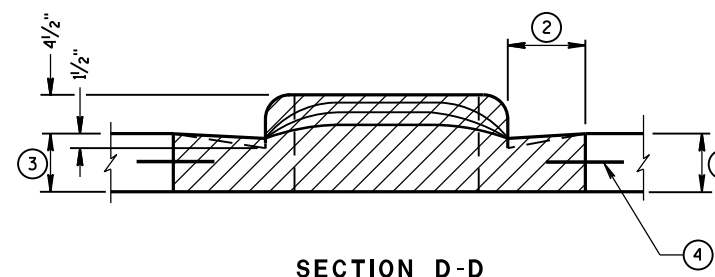
CONCRETE MEDIAN BLUNT NOSE DETAIL



CONCRETE MEDIAN SLOPED NOSE TYPE 1



CONCRETE MEDIAN SLOPED NOSE TYPE 2



GENERAL NOTES

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

- ① SEE PLAN FOR MEDIAN NOSE WIDTH AND RADIUS (FOR ROUND NOSE ALTERNATE).
- ② WIDTH OF GUTTER TO MATCH EXISTING ADJACENT GUTTER OR AS SPECIFIED ELSEWHERE IN THE PLAN.
- ③ DEPTH EQUAL TO ADJACENT PAVEMENT. ADJACENT PAVEMENT STRUCTURE DETAILS ARE SHOWN ON THE PLAN. TYPICAL OPTIONS ARE:
 - (1) NEW OR EXISTING CONCRETE PAVEMENT.
 - (2) ASPHALTIC CONCRETE PAVEMENT OVER NEW OR EXISTING CONCRETE BASE COURSE.
 - (3) ASPHALTIC CONCRETE PAVEMENT OVER CRUSHED AGGREGATE BASE COURSE.

- ④ TIE BARS OR PAVEMENT TIES REQUIRED IN NEW CONCRETE PAVEMENT OR CONCRETE BASE COURSE. TIE BARS SHALL BE NO. 4 X 2'-0" SPACED AT 2'-0" C-C.

PAVEMENT TIES REQUIRED IN EXISTING CONCRETE BASE COURSE. PAVEMENT TIES SHALL BE NO. 6 X 1'-0" SPACED AT 3'-0" C-C INSTALLED ON A HORIZONTAL SKEW OF 6:1. THE DIRECTION OF SKEW SHALL ALTERNATE AFTER EVERY ONE OR TWO BARS.

- ⑤ SURFACE TYPE AND DETAILS ARE SHOWN ELSEWHERE IN THE PLAN.

CONCRETE MEDIAN NOSE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

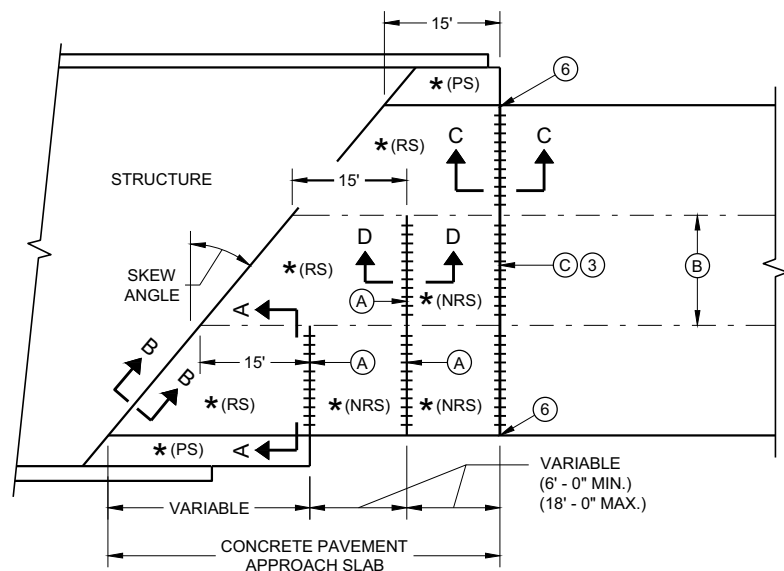
6/8/2006

DATE

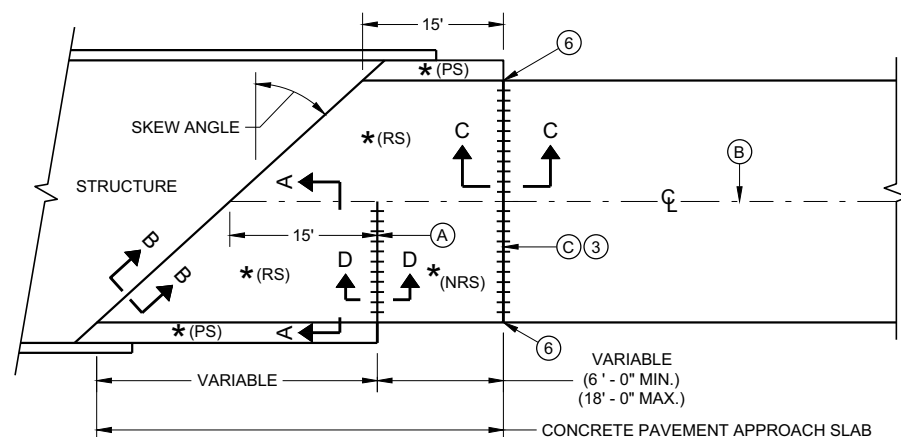
FHWA

/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER

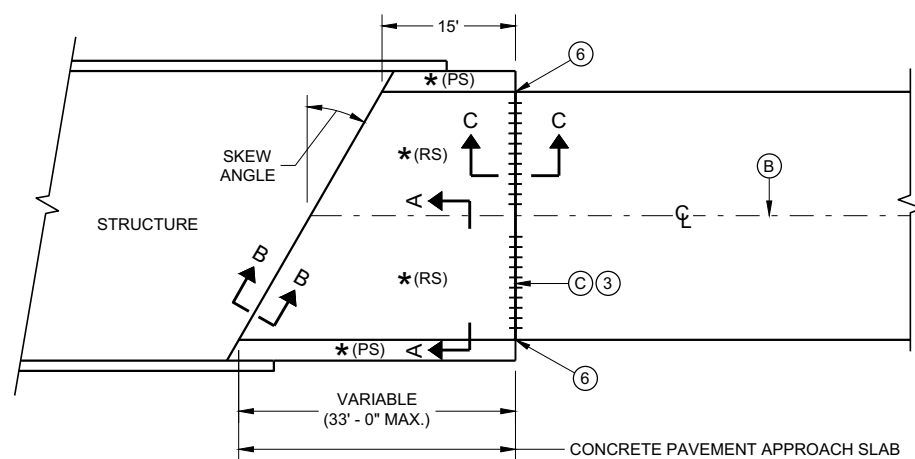
4T



SKewed APPROACH
(PAVEMENT MORE THAN TWO LANES)



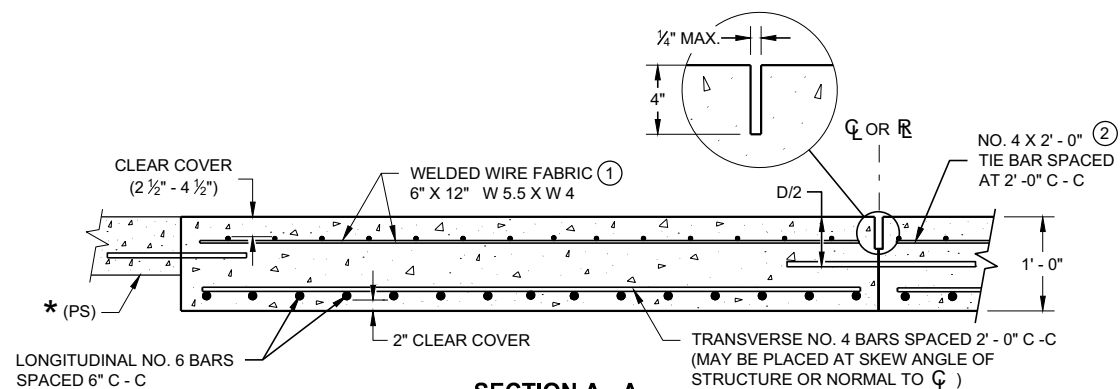
SKews > 20°
(PAVEMENT WIDTH ≤ 30')



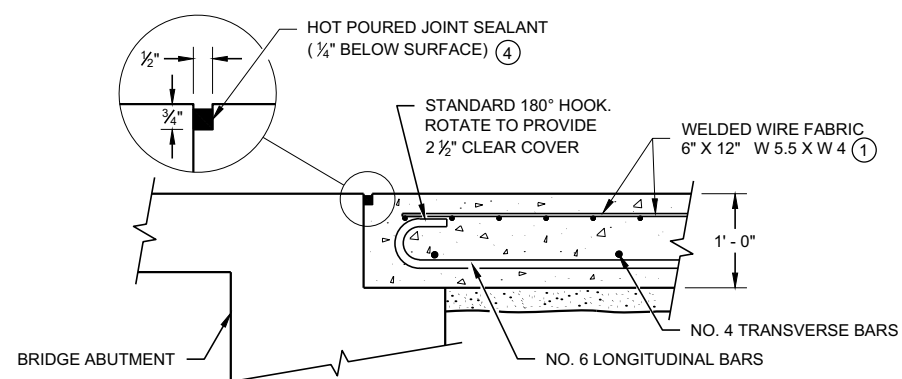
SKews ≤ 20°
(PAVEMENT WIDTH ≤ 30')

APPROACH SLAB AND ADJACENT PAVEMENT

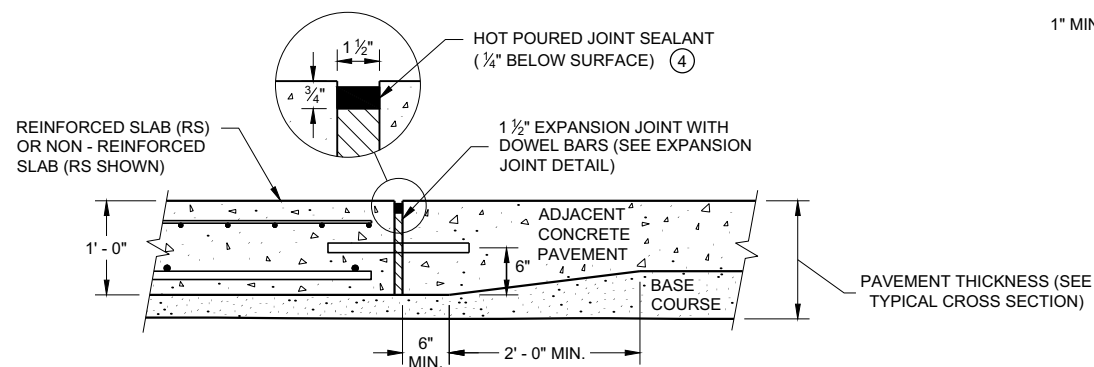
- * (RS) = REINFORCED CONCRETE SLAB
- * (PS) = PAVED CONCRETE SHOULDER OR CONCRETE DRAINAGE SLAB
- * (NRS) = NON - REINFORCED CONCRETE SLAB
- *** STANDARD DOWEL BAR DIAMETER (SEE SDD 13C11 AND SDD 13C13)



SECTION A - A
REINFORCEMENT POSITIONING DETAIL



SECTION B - B
BEND DETAIL
BOTTOM REINFORCEMENT



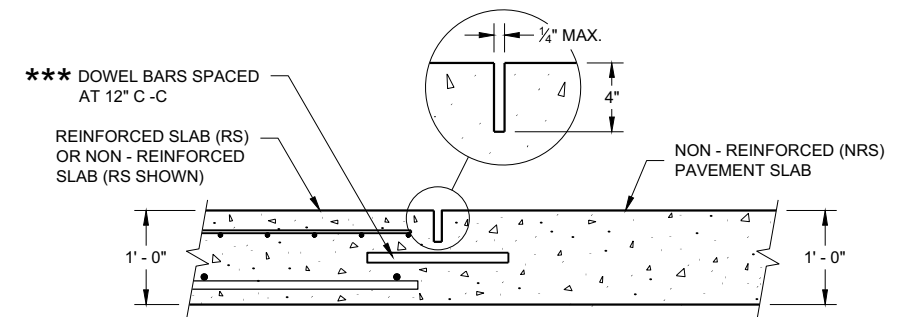
SECTION C - C
TRANSITION DETAIL
APPROACH SLAB TO ADJACENT PAVEMENT

GENERAL NOTES

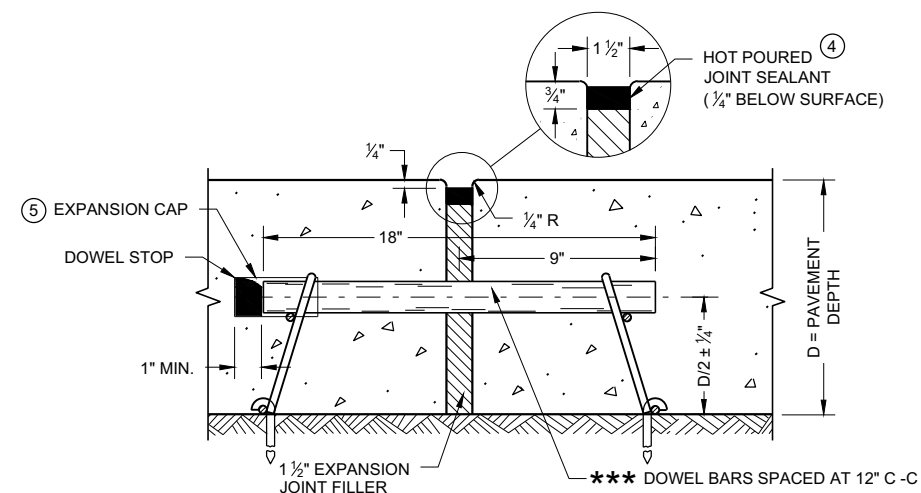
THE CONTRACTOR MAY SPLICE NO. 6 BARS IN THE APPROACH SLAB FOR SKEWED STRUCTURES ONLY. STAGGER SPLICES WITH A MAXIMUM OF ONE SPLICE PER BAR. THE LENGTH OF LAP IS 20 INCHES.

TACK WELD DOWEL BARS TO THE BASKETS ON ALTERNATE ENDS.

- ① THE CONTRACTOR MAY USE NO. 4 BARS SPACED AT 2' - 0" C - C IN BOTH THE LONGITUDINAL AND TRANSVERSE DIRECTIONS FOR TOP REINFORCEMENT AS AN ALTERNATIVE TO THE WELDED WIRE FABRIC.
- ② THE CONTRACTOR MAY OMIT THE BARS BETWEEN REINFORCED SLABS WHERE SLAB REINFORCEMENT BARS EXTEND ACROSS THE CENTERLINE OR REFERENCE LINE.
- ③ DO NOT CONSTRUCT AN EXPANSION JOINT OR INSTALL DOWEL BARS WHEN ABUTTING AN HMA PAVEMENT.
- ④ USE A JOINT SEALANT CONFORMING TO STANDARD SPECIFICATION 415.2.6.
- ⑤ PLACE EXPANSION CAP ON THE END OF THE DOWEL THAT IS NOT TACK WELDED TO THE BASKET. DO NOT FORCE DOWEL BAR PAST THE DOWEL STOP.
- ⑥ EXTEND EXPANSION JOINT THROUGH ANY ADJACENT TIED CONCRETE.
- (A) STANDARD CONTRACTION JOINT NORMAL TO $\mathcal{C}$ OR $\mathcal{R}$.
- (B) STANDARD LONGITUDINAL JOINT WITH TIE BARS.
- (C) 1 1/2" EXPANSION JOINT WITH DOWEL BARS NORMAL TO $\mathcal{C}$ OR $\mathcal{R}$.



SECTION D - D
CONTRACTION JOINT



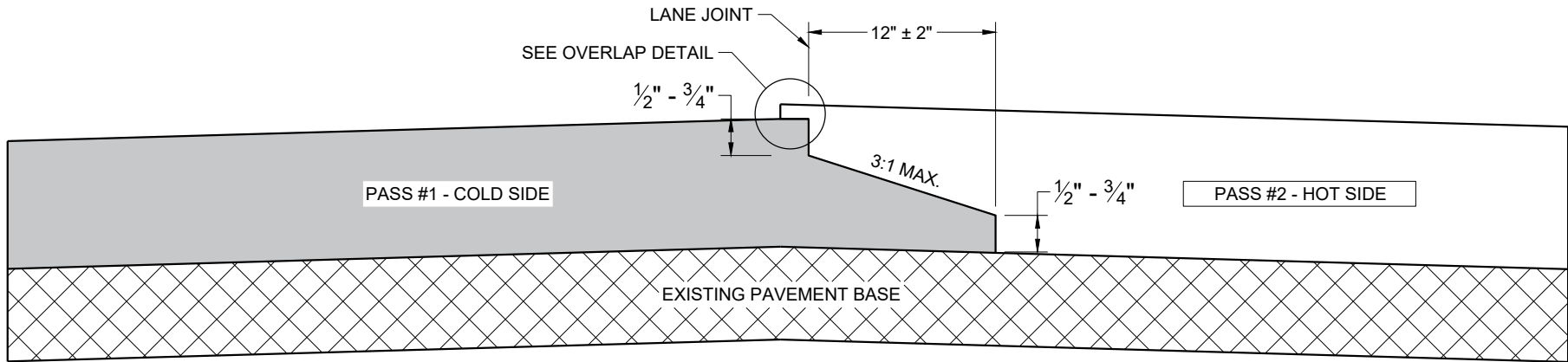
EXPANSION JOINT DETAIL

CONCRETE PAVEMENT APPROACH SLAB

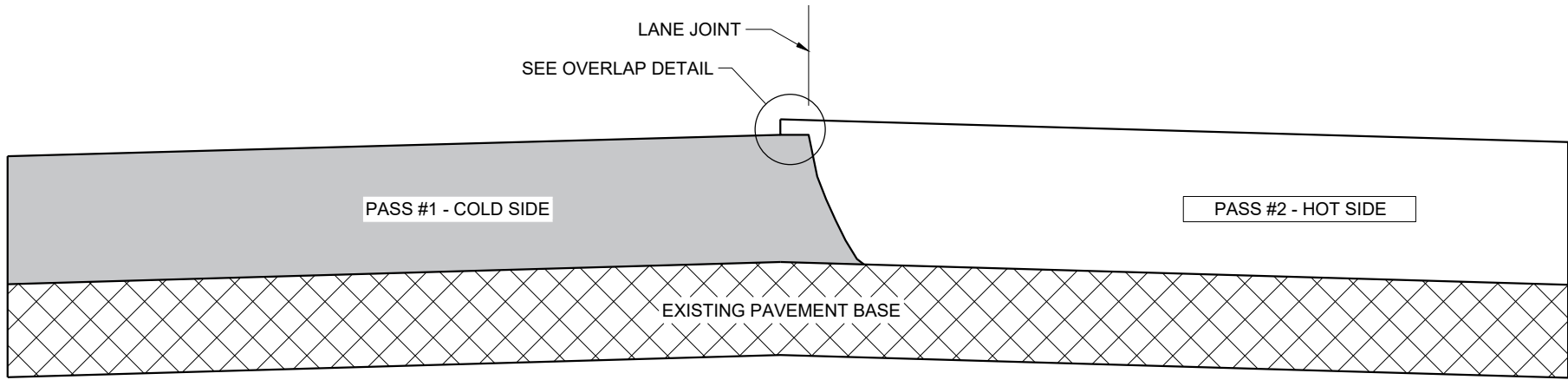
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2018 /S/ Peter Kemp, P.E.
DATE PAVEMENT SUPERVISOR 55

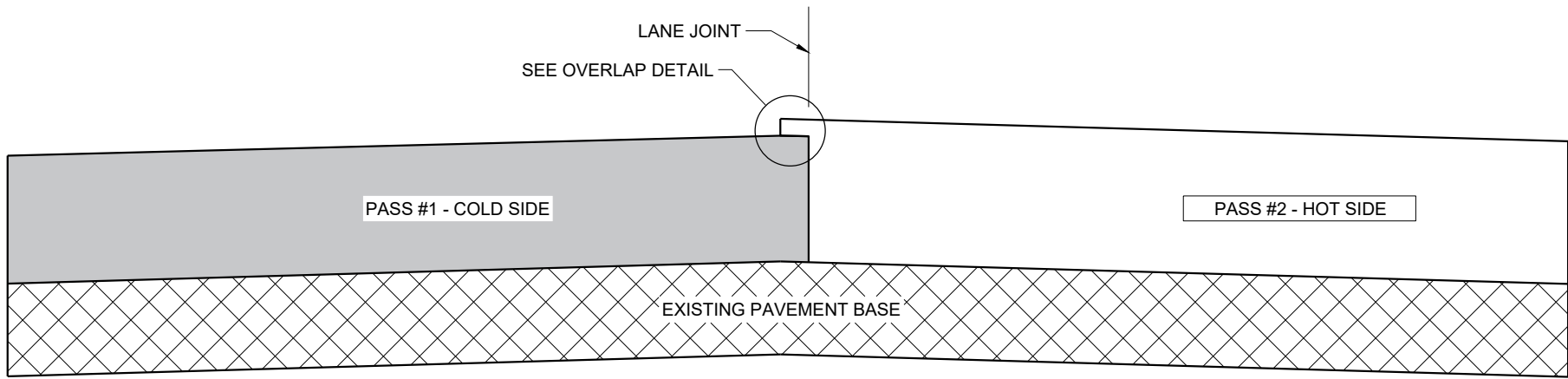
FHWA



TYPICAL PAVEMENT CROSS SECTION
NOTCHED WEDGE JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT (MILLED)

GENERAL NOTES

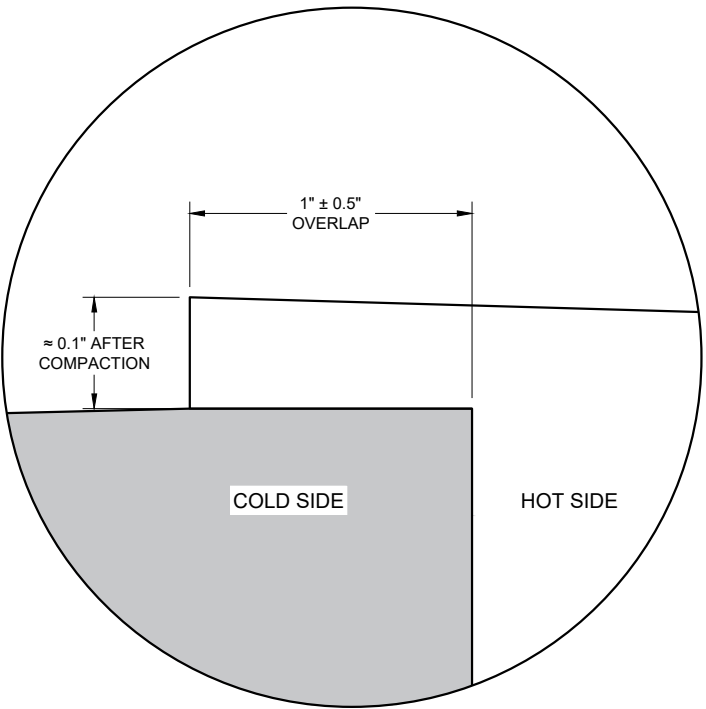
IN ADDITION TO THE DETAILS PROVIDED IN THIS DRAWING, CONFORM TO STANDARD SPECIFICATION 450.3.2.8 FOR WHEN A NOTCHED WEDGE JOINT IS REQUIRED AND FOR GENERAL JOINT CONSTRUCTION REQUIREMENTS.

FOR ALL LONGITUDINAL JOINTS, ENSURE THE PAVER SCREED OVERLAPS THE PREVIOUSLY PLACED PAVEMENT BY $1" \pm 0.5"$ AND THE HOT SIDE OF THE JOINT REMAINS HIGHER THAN THE COLD SIDE BY APPROXIMATELY $0.1"$ AFTER FINAL COMPACTION. (IT WILL BE FLUSH WHEN PAVING IN ECHELON.)

ONLY REMOVE THE LONGITUDINAL NOTCHED WEDGE JOINT FOR SMA PAVEMENT OR AS DIRECTED BY THE ENGINEER TO ADDRESS SPECIFIC LENGTHS OF JOINT DAMAGED BY TRAFFIC.

WHEN MILLING BACK OR REMOVING ANY LONGITUDINAL JOINT, LIMIT THE MATERIAL REMOVED TO $2"$ FROM THE TOP NOTCH OR FROM THE VERTICAL JOINT EDGE ON THE COLD SIDE OF THE JOINT.

USE LONGITUDINAL MILLED JOINT AS PLANS SHOW OR THE AS THE ENGINEER DIRECTS.



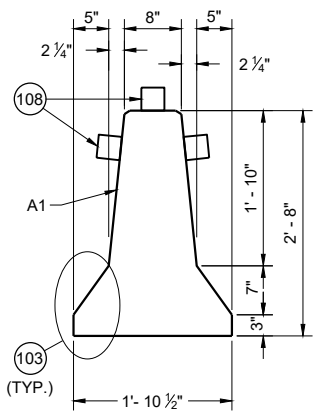
OVERLAP DETAIL (TYPICAL)

HMA LONGITUDINAL JOINTS

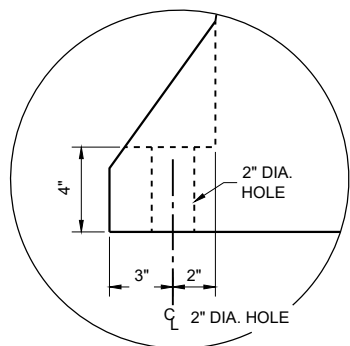
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2020 /S/ Steven Hefel
DATE HMA PAVEMENT ENGIN 56

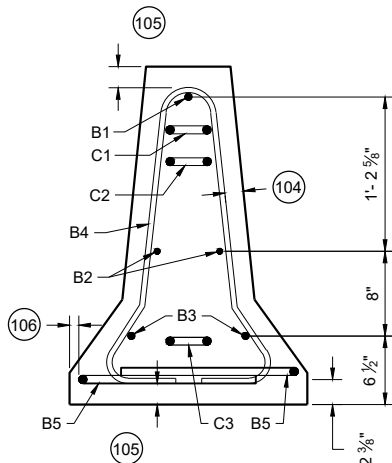
FHWA



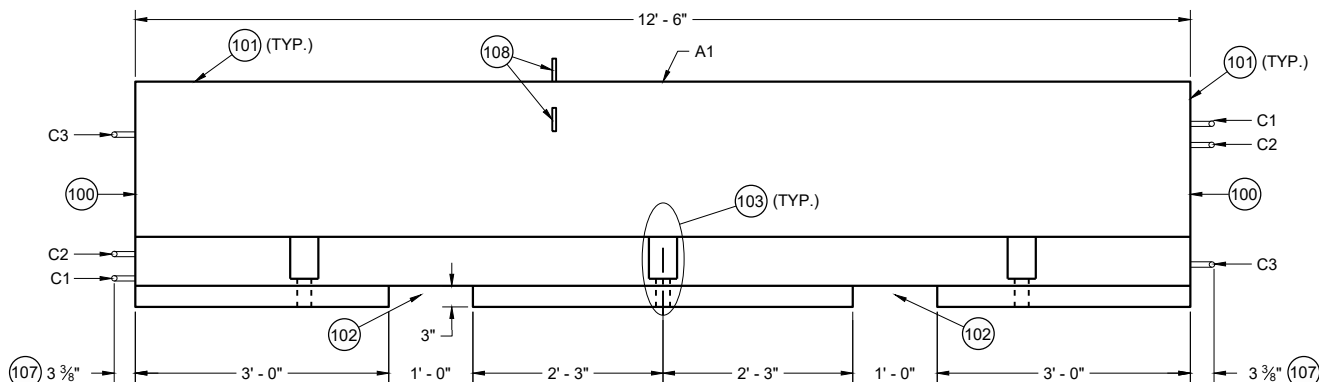
CROSS SECTION



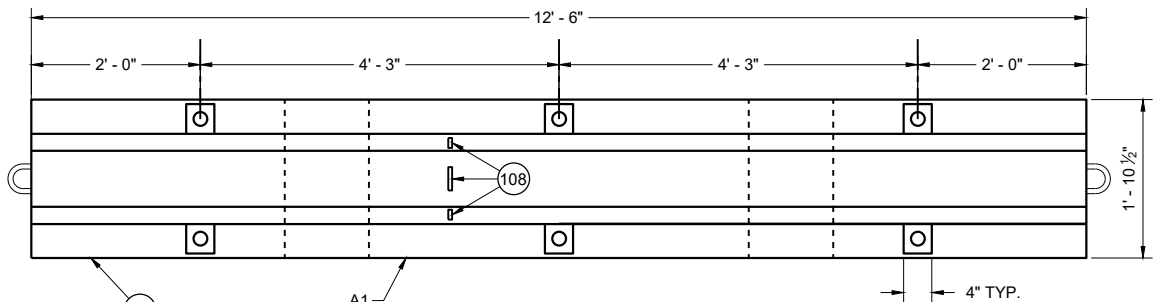
ANCHOR BLOCK
DETAIL



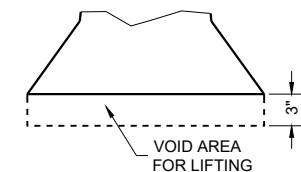
PROFILE VIEW
TEMPORARY BARRIER REINFORCEMENT



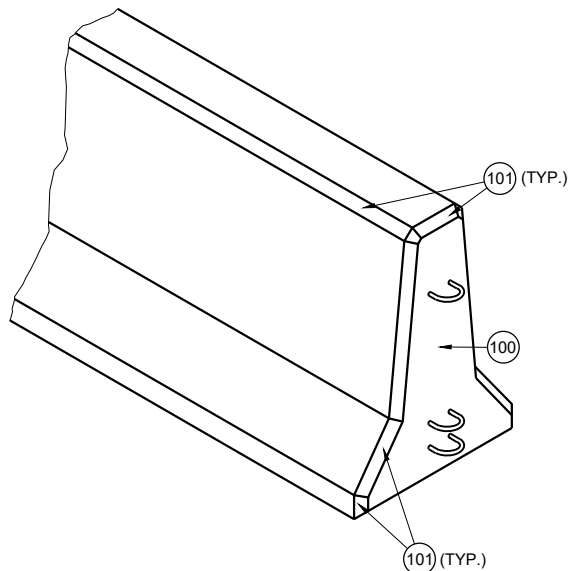
PROFILE VIEW



PLAN VIEW
TEMPORARY BARRIER



LIFTING SLOT DETAIL
(TYP.)



GENERAL NOTES

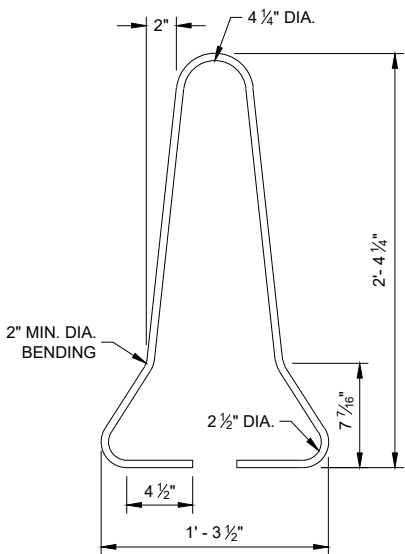
PLACE BARRIER ON PAVED SURFACE. BEFORE PLACEMENT OF TEMPORARY BARRIER, REMOVE ALL LOOSE MATERIAL FROM PAVED SURFACE.

LOOP BARS C1, C2 AND C3 ARE NOT FOR PLACEMENT OR MOVEMENT OF BARRIER.

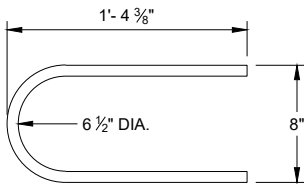
- 100 PERMANENTLY FORM INTO ONE END OF BARRIER THE FOLLOWING INFORMATION:
 - A. TYPE OF BARRIER: WI-CBTP
 - B. MANUFACTURER
 - C. DATE OF MANUFACTURE (MONTH AND YEAR)
- 101 1" OPTIONAL CHAMFER
- 102 SEE LIFTING SLOT DETAIL
- 103 SEE ANCHOR BLOCK DETAIL
- 104 1 3/4" MIN. CLEAR COVER
- 105 2" MIN. CLEAR COVER
- 106 1" MIN. CLEAR COVER
- 107 ± 1/8" 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 TOP 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.

CONCRETE BARRIER
TEMPORARY PRECAST,
12' - 6"

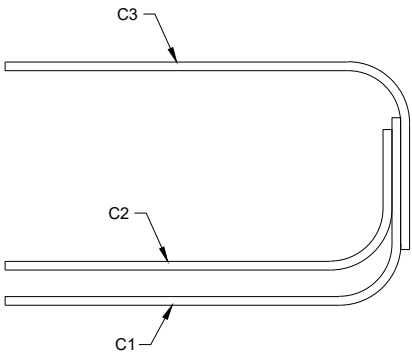
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



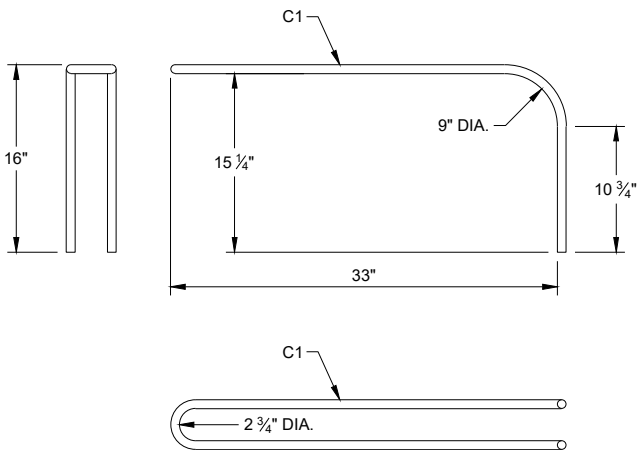
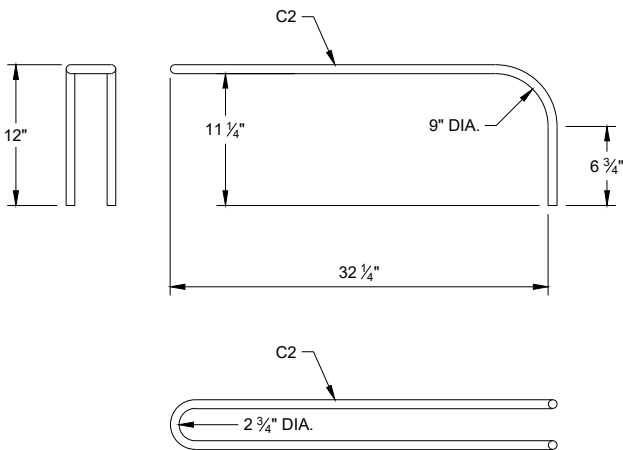
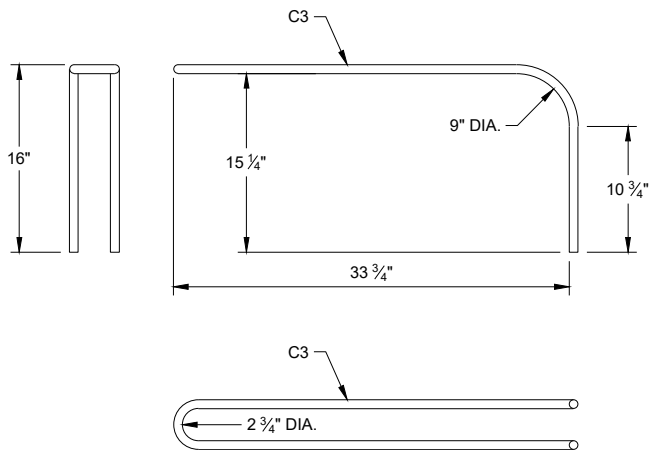
B4 BAR DETAIL



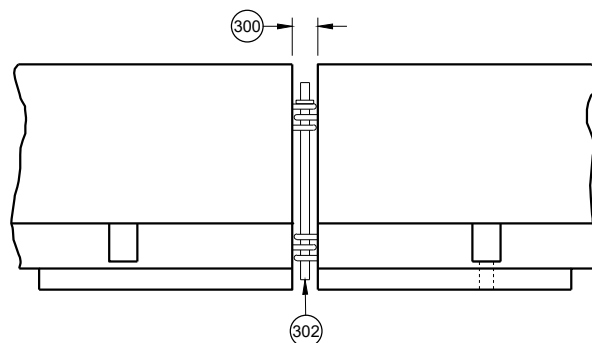
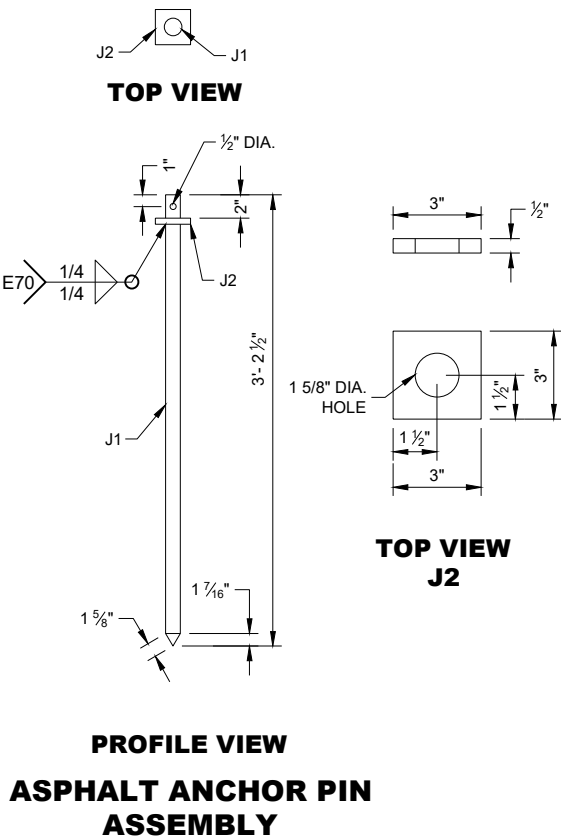
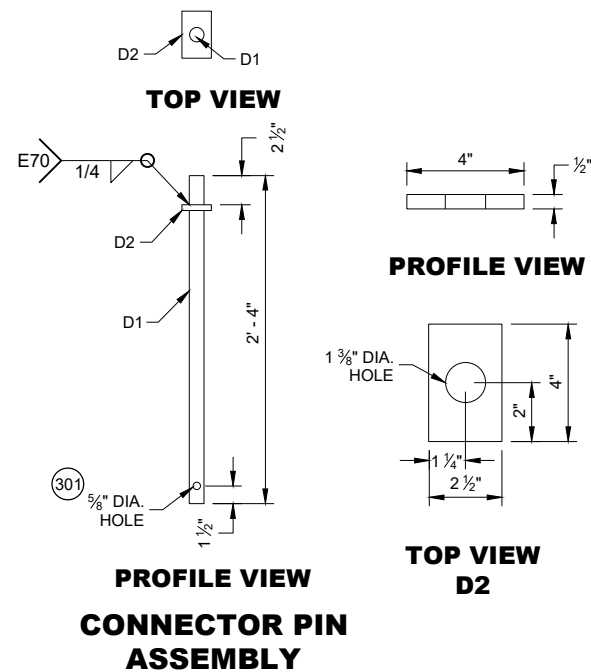
B5 BAR DETAIL



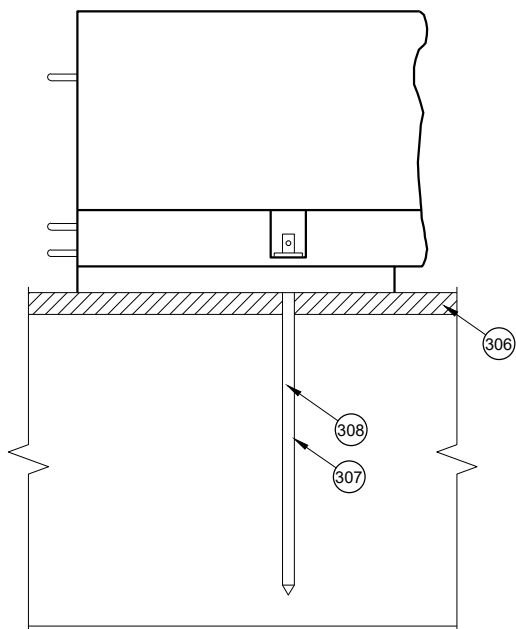
PROFILE VIEW
LOOP BAR ASSEMBLY



C BAR DETAILS

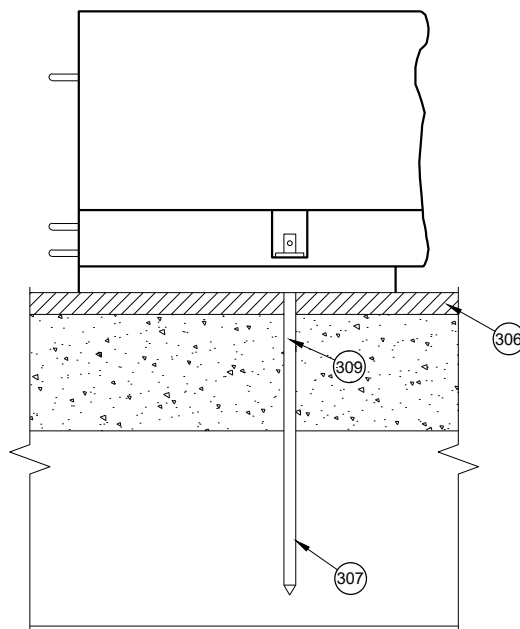


**CONNECTING TEMPORARY
BARRIER SECTIONS**



SIDE VIEW

**ASPHALT ANCHOR
INSTALLATION
THROUGH
ASPHALT PAVEMENT**

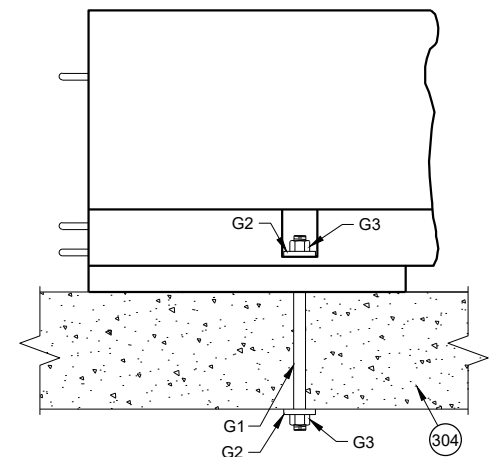


SIDE VIEW

**ASPHALT ANCHOR
INSTALLATION
THROUGH
ASPHALT OVERLAY
ON TOP OF
CONCRETE PAVEMENT**

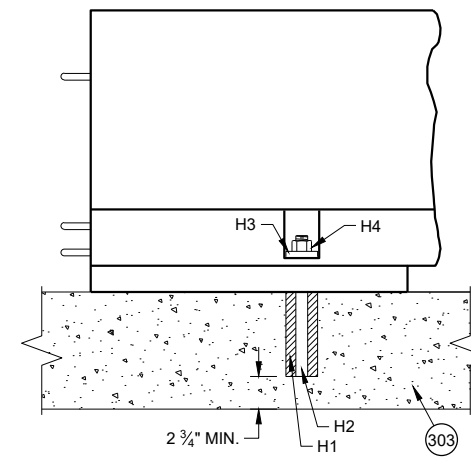
GENERAL NOTES

- (300) SET WITH 3 5/8" 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
- (308) IF DRILLING A PILOT HOLE, THE MAX. DIA. OF THE HOLE IS 3/4"
- (309) WHEN THERE IS ASPHALT OVERLAYING CONCRETE PAVEMENT, A 1 5/8" DIA. PILOT HOLE CAN BE DRILLED INTO THE OVERLAY AND CONCRETE. IF NEEDED DRILL A 3/4" PILOT HOLE IN BASE COURSE.



SIDE VIEW

**THROUGH BOLT ANCHOR
INSTALLATION**

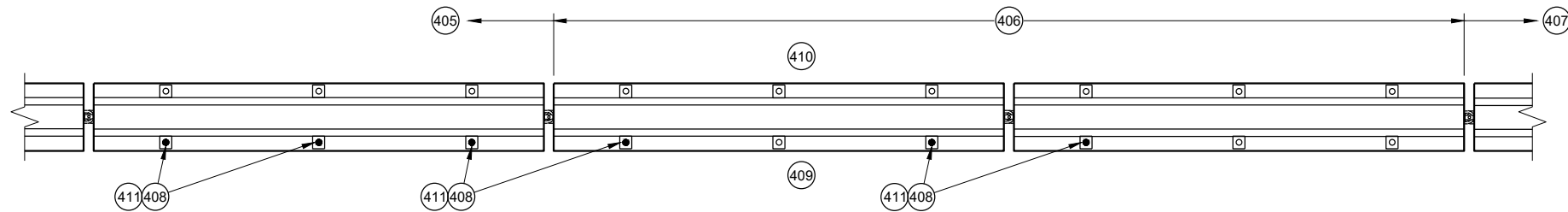


SIDE VIEW

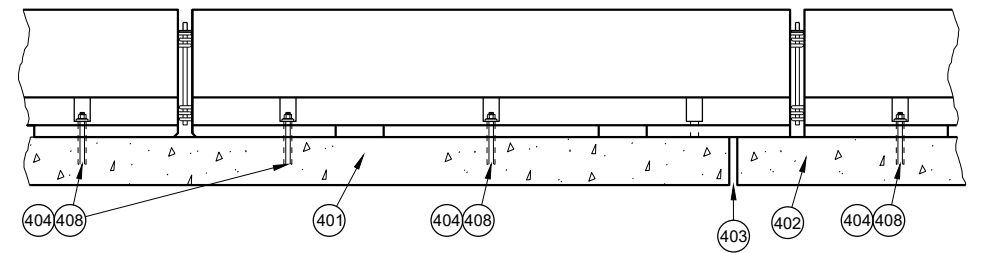
**ADHESIVE ANCHOR
INSTALLATION**

**CONCRETE BARRIER
TEMPORARY PRECAST,
12' - 6"**

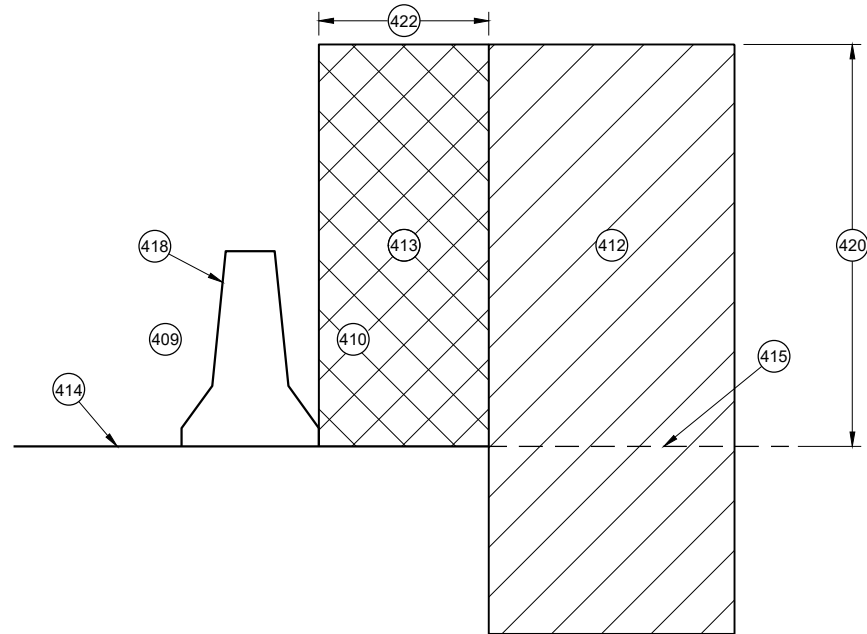
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



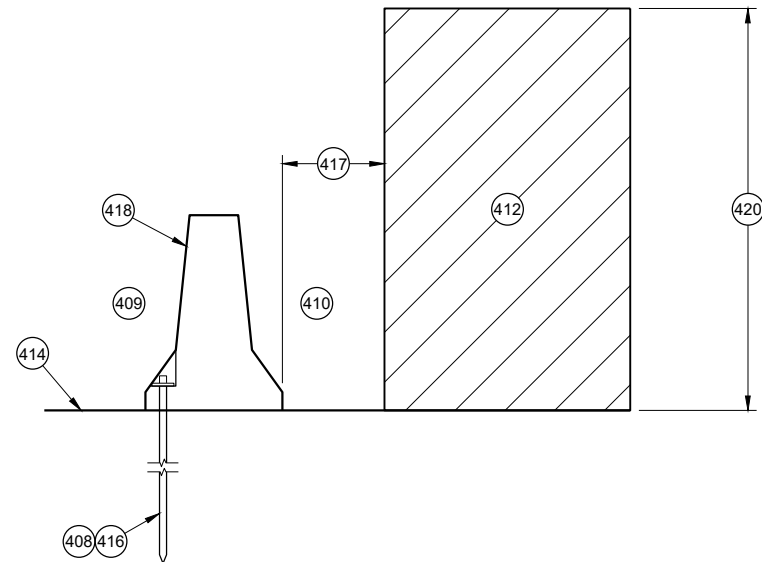
PLAN VIEW
TRANSITION FROM FREE STANDING TO ANCHORED BARRIER



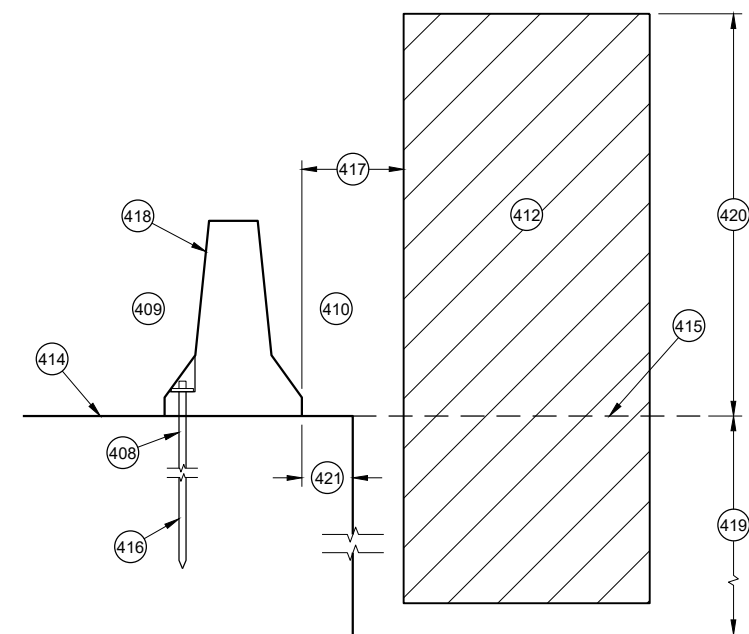
PROFILE VIEW
ANCHORED BARRIER NEAR EXPANSION JOINT



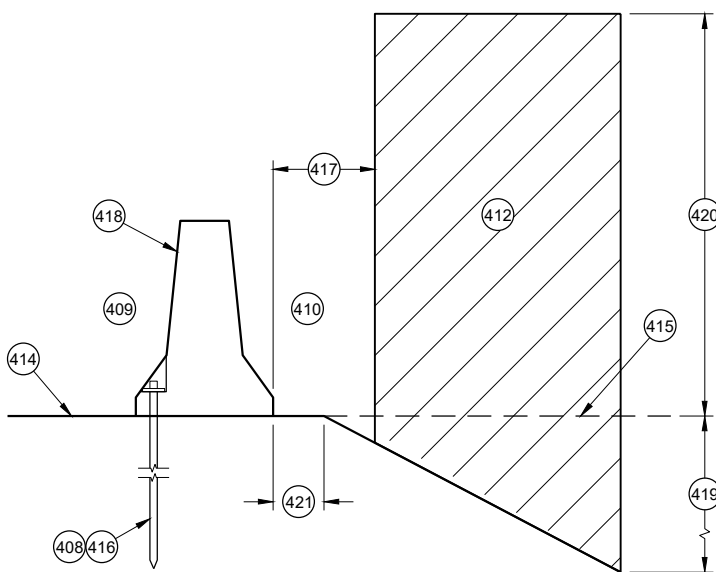
CROSS SECTION
FREE STANDING BARRIER



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"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

SDD 14B07-16m

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 ⅝" 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. BOND STRENGTH OF 1,650 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 ⅝" 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

SDD 14B07-16m

CONCRETE BARRIER
TEMPORARY PRECAST,
12' - 6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTA161

BILL OF MATERIALS - CONCRETE BARRIER PRECAST

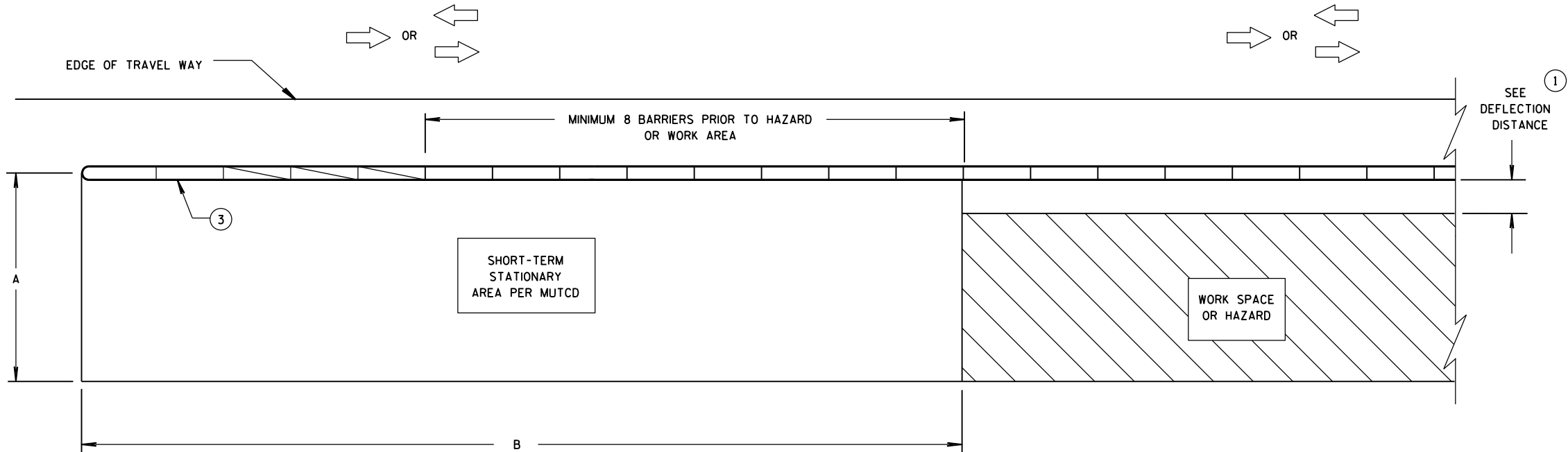
PART	DESCRIPTION	MATERIALS SPECIFICATIONS	NOTES
T1	CAP 56-INCH TOP PLATE	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
T2	CAP 56-INCH END PLATE	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	

CONCRETE BARRIER
TEMPORARY PRECAST,
12' - 6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2023
DATE
/S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT ENGINEER 62
FHWA



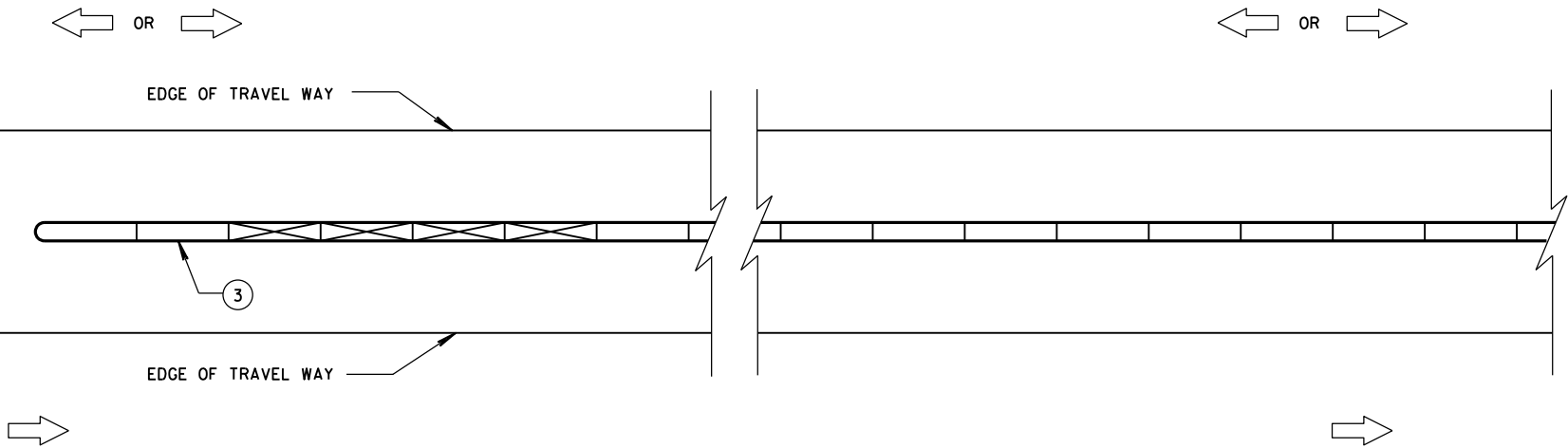
CRASH CUSHION/SAND BARREL ARRAY AND TEMPORARY BARRIER
INSTALLATION FOR TRAFFIC ON ONE SIDE OF BARRIER

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 TRANSPORTATION

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

6

6

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

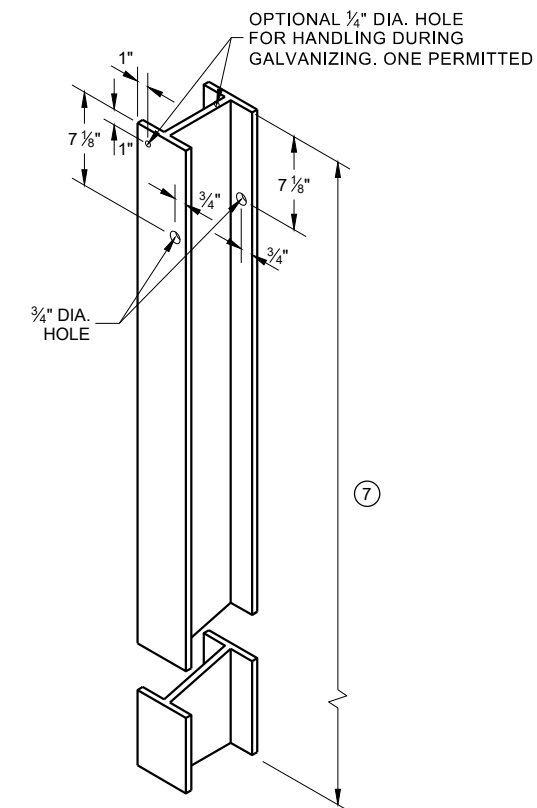
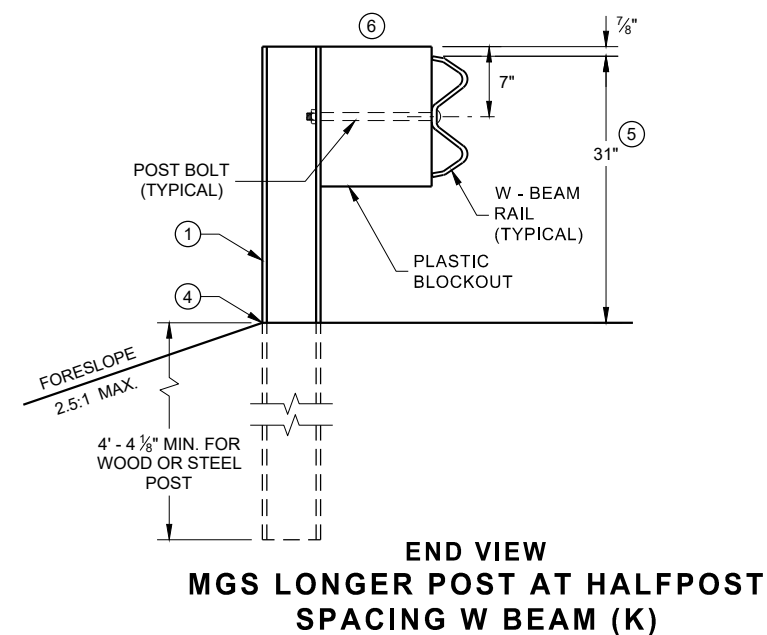
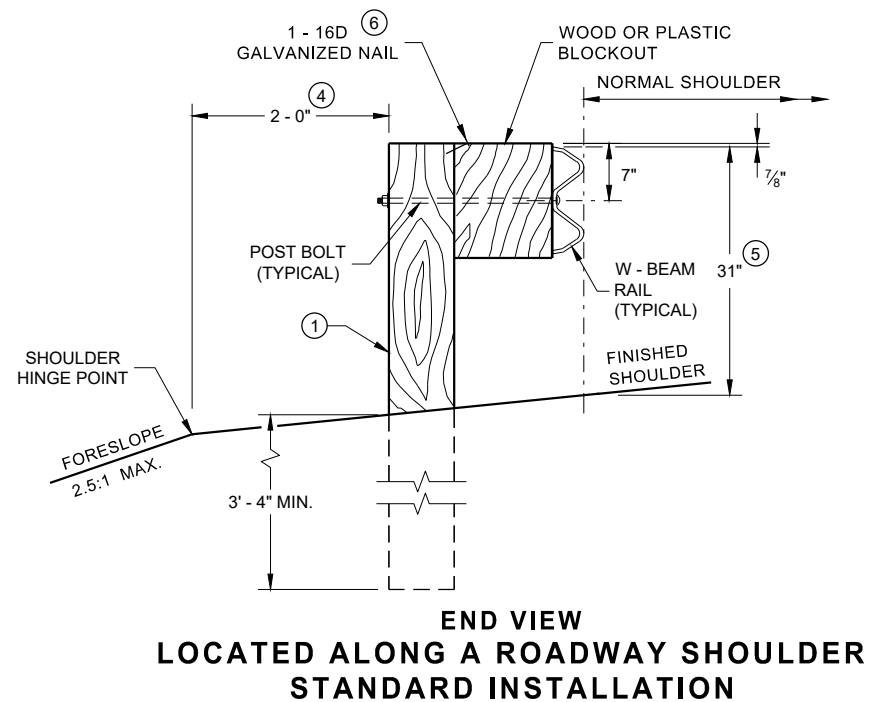
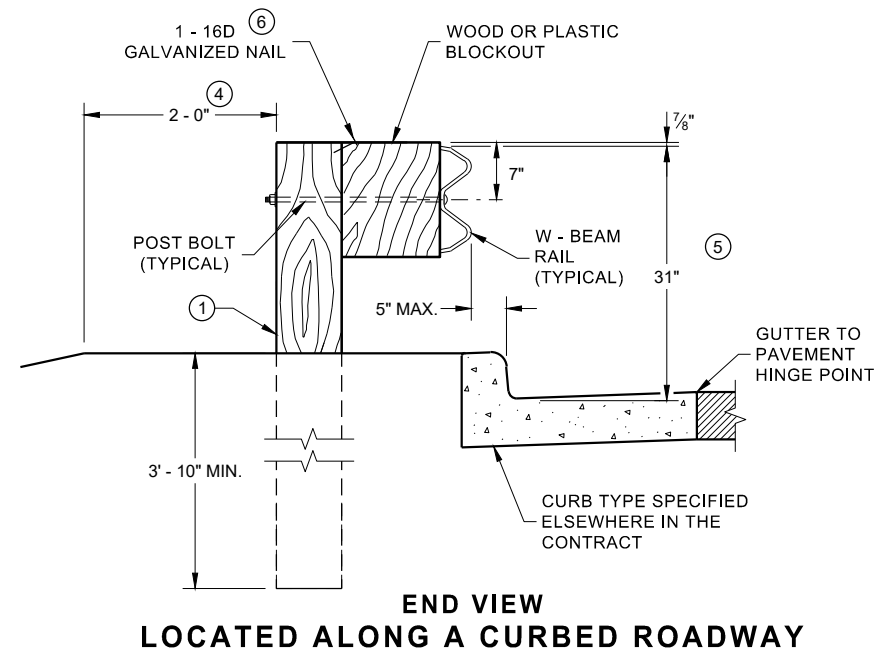
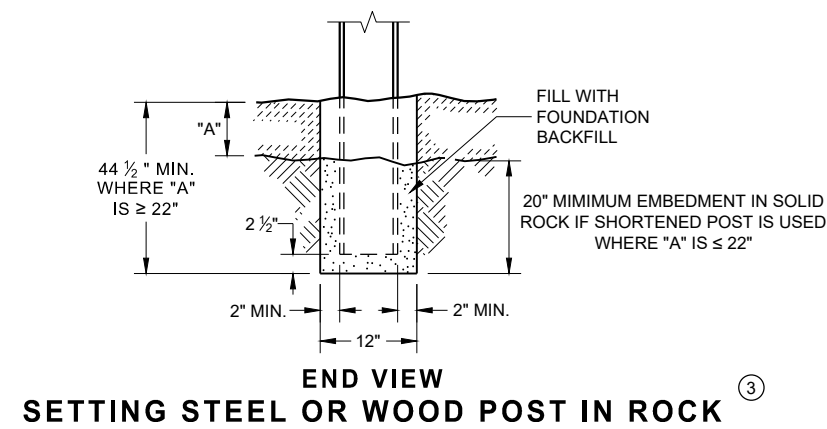
ROADWAY STANDARDS ENGINEER

64

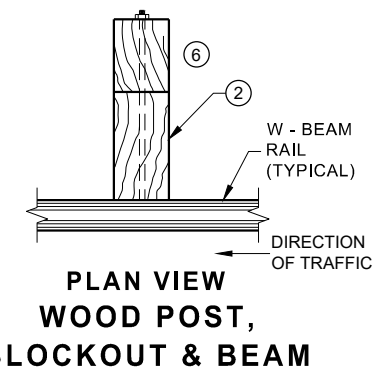
ENT

FHWA

- ① WOOD OR STEEL POSTS (w6X9 OR w6X8.5) MAY BE USED. DO NOT INTERMIX WOOD AND STEEL POSTS. INSTALL STEEL POSTS WITH HOLES ON APPROACHING TRAFFIC SIDE.
- ② USE WOOD OR APPROVED PLASTIC BLOCKOUTS. WOOD BLOCKOUTS MAY BE CONSTRUCTED OUT OF TWO OR MORE WOOD BLOCKOUTS. SEE ALTERNATE WOOD BLOCKOUT DETAIL. DIMENSIONS OF APPROVED PLASTIC BLOCKOUTS MAY VARY.
- ③ IF ROCK IS ENCOUNTERED DURING EXCAVATION, PROVIDE A HOLE 12 INCHES IN DIAMETER EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2 1/2" INCHES OF GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE. CUT THE POSTS THE TO LENGTH AND INSTALL. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT. BACKFILL IS TO BE FREE OF LARGE ROCKS.
- ④ WHEN THE DISTANCE FROM BACK OF POST TO SHOULDER HINGE POINT IS LESS THAN 2 FEET INSTALL LONGER POST AT HALF POST SPACING (K).
- ⑤ FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS $\pm 1"$. FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27 3/4" TO 32".
- ⑥ WHEN USING STEEL POST AND WOOD BLOCKOUTS INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.
- ⑦ TOTAL POST LENGTH FOR TYPE K IS 7' - 0". TOTAL POST LENGTH FOR OTHER MGS TYPES IS 6' - 0".

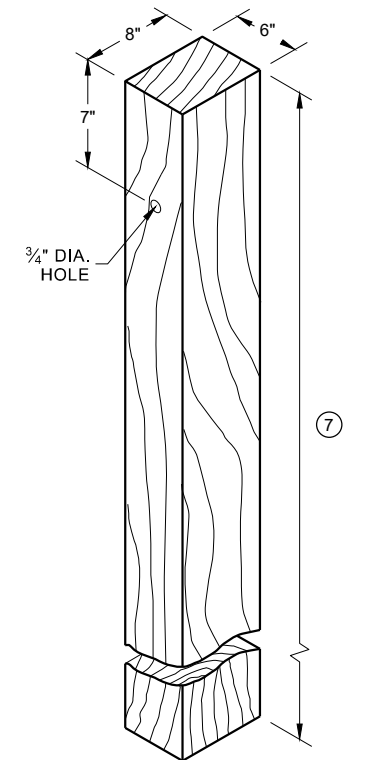


**STEEL POST & HOLE
PUNCHING DETAIL
(W 6 X 9) ①**

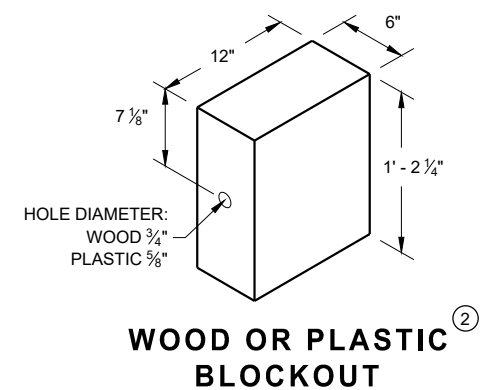


The diagram shows a plan view of a steel post, plastic blockout, and beam assembly. A vertical steel post is shown with a horizontal line through its center, labeled '1'. A plastic blockout is shown as a rectangular shape with a dashed line through its center, labeled '2'. The blockout is positioned on top of a horizontal beam, which is labeled 'W - BEAM RAIL (TYPICAL)'. The beam has a width of 1 1/4". An arrow points to the right, labeled 'DIRECTION OF TRAFFIC'.

PLAN VIEW
STEEL POST,
PLASTIC BLOCKOUT & BEAM



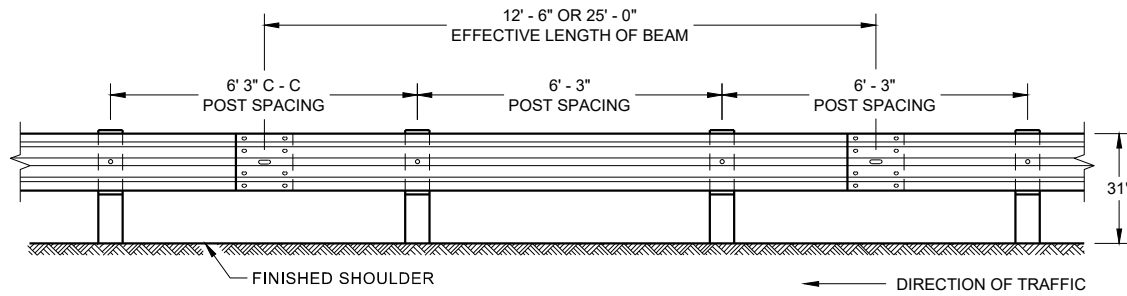
WOOD POST (6" X 8") NOMINAL ⁽¹⁾



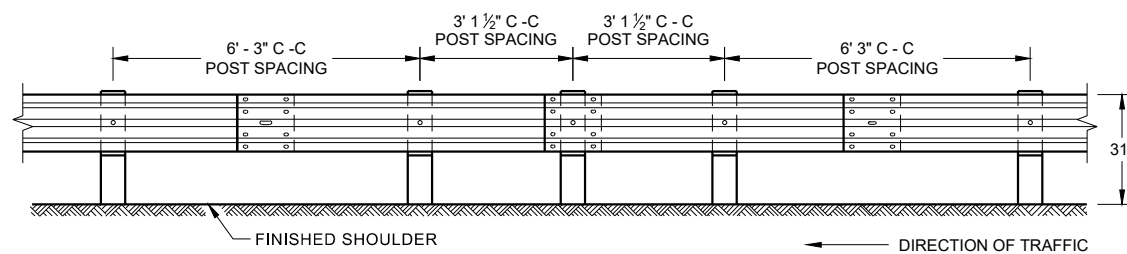
WOOD OR PLASTIC BLOCKOUT ⁽²⁾

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

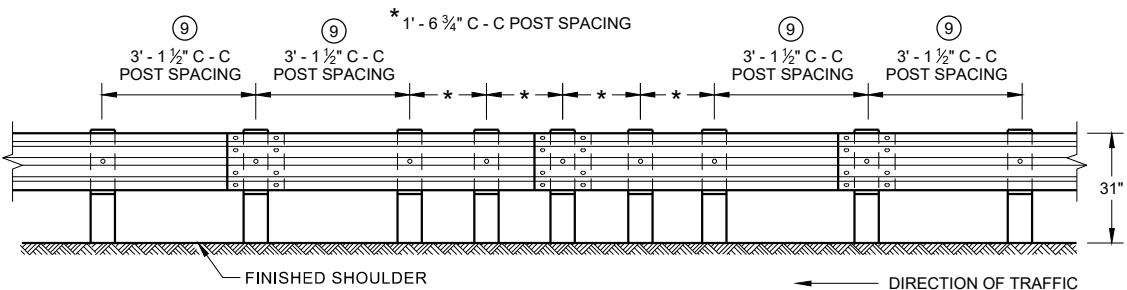
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION 65



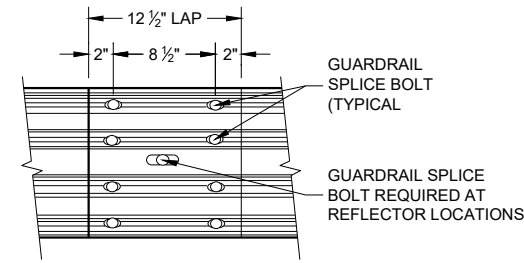
**FRONT VIEW
POST SPACING STANDARD INSTALLATION**



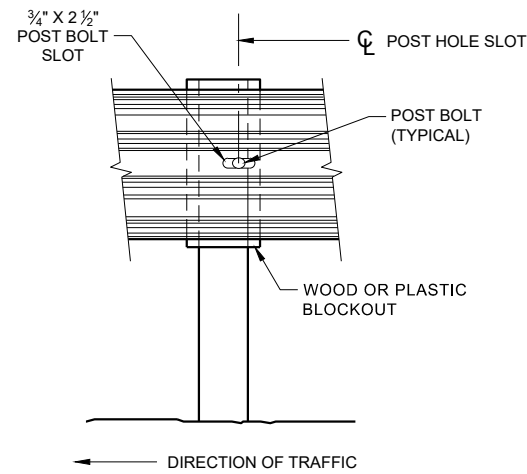
**FRONT VIEW
HALF POST SPACING (HS) AND
HALF POST SPACING WITH LONGER POSTS (K)**



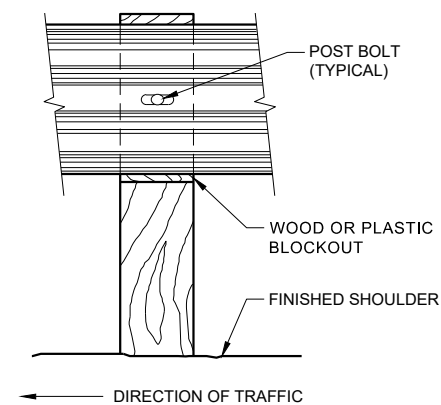
**FRONT VIEW
QUARTER POST SPACING (QS)**



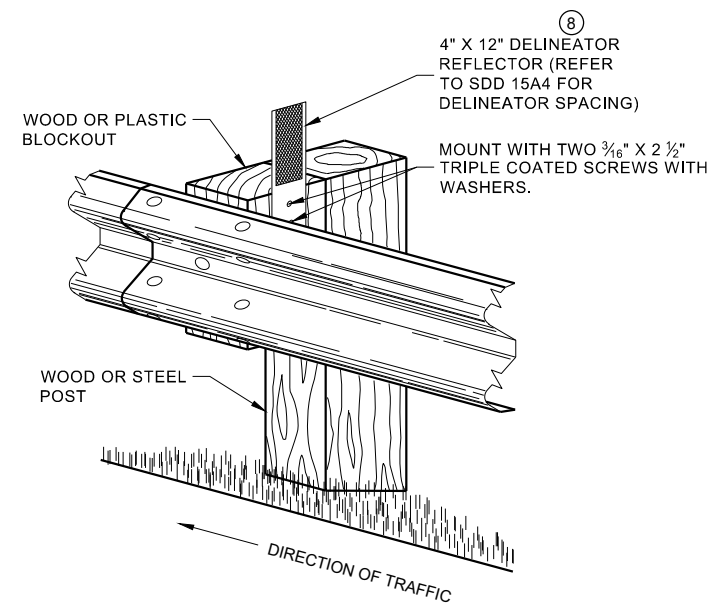
**FRONT VIEW
MID-SPAN BEAM SPLICE**



FRONT VIEW AT STEEL POST



FRONT VIEW AT WOOD POST



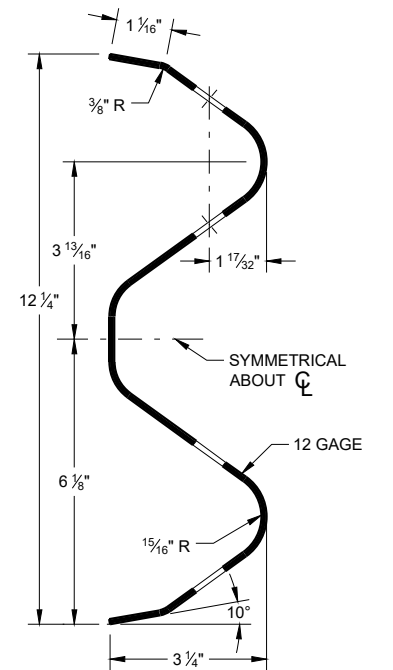
**ONE SIDED REFLECTOR DETAIL
AND TYPICAL INSTALLATION**

GENERAL NOTES

- 8 DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.
- 9 25 FEET OF HALF POST SPACING IS REQUIRED ON APPROACH AND DEPARTURE ENDS OF QUARTER POST SPACING.

POST BOLTS ARE A 3/8" DIAMETER ASTM A307 GUARDRAIL BOLT. A POST BOLT REQUIRES 3/4" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT AND 3/8" DIAMETER F844 FLAT WASHER. POST BOLTS MAY BE LONGER IF MULTIPLE BLOCKOUTS ARE BEING USED.

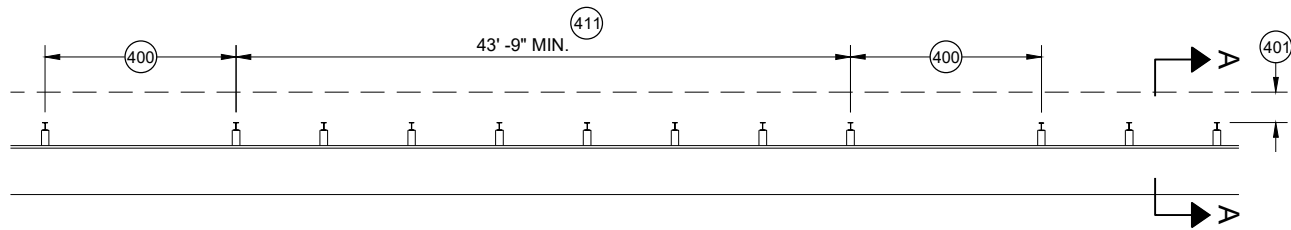
GUARD RAIL SPLICE BOLTS ARE A 3/8" DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES 3/8" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.



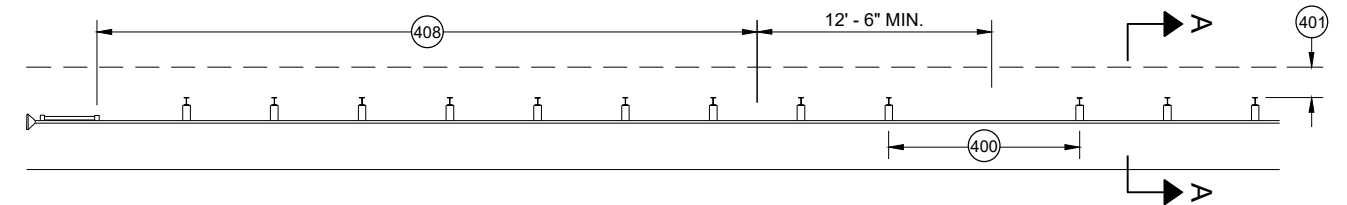
SECTION THRU W-BEAM RAIL

**MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL**

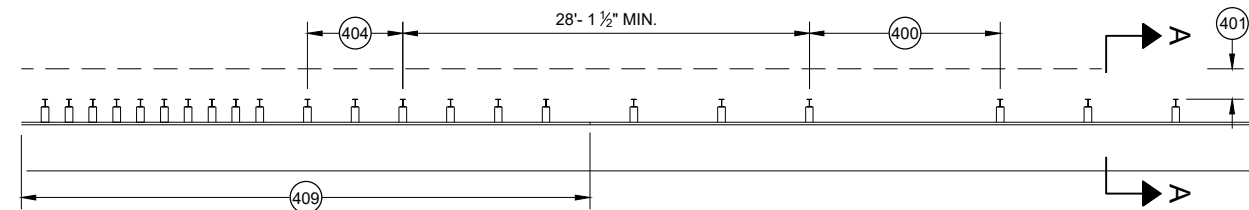
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



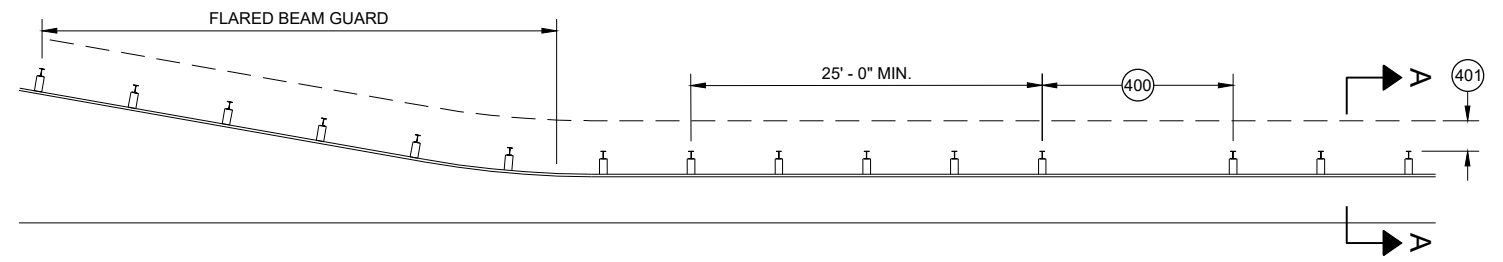
MISSING POST IN MGS GUARDRAIL



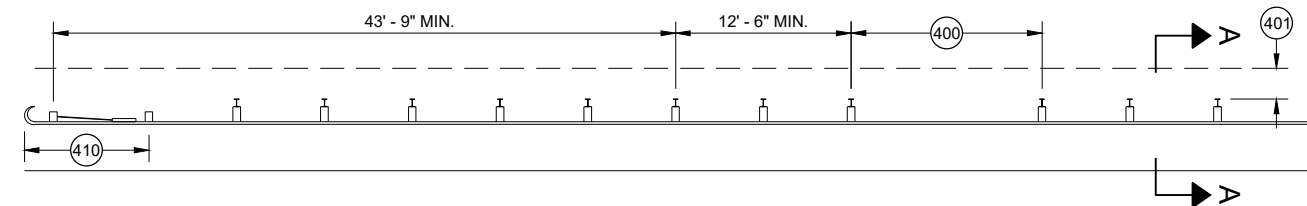
MISSING POST IN MGS GUARDRAIL NEAR EAT



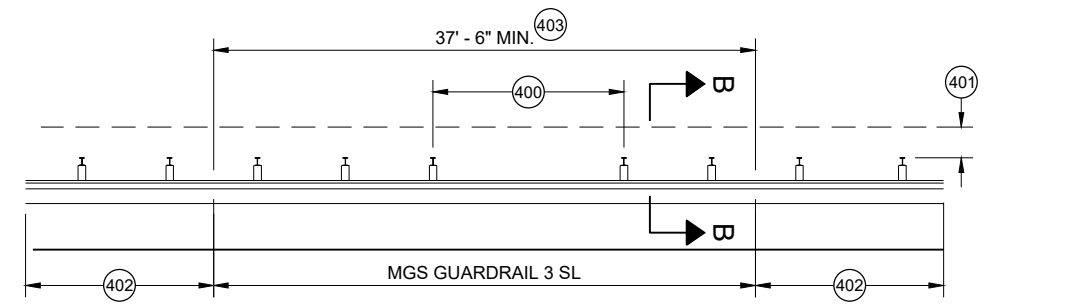
MISSING POST IN MGS GUARDRAIL NEAR AN APPROACH TRANSITION



MISSING POST IN MGS GUARDRAIL NEAR FLARED BEAM GUARD

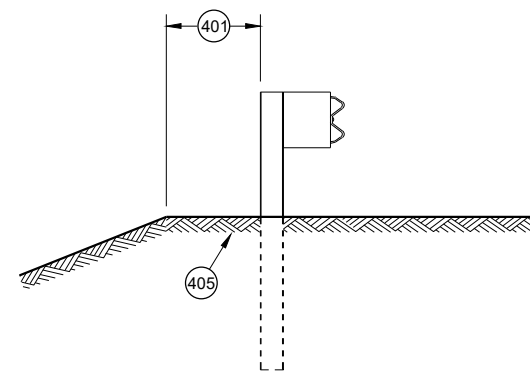


MISSING POST IN MGS GUARDRAIL NEAR A TYPE 2 END TERMINAL

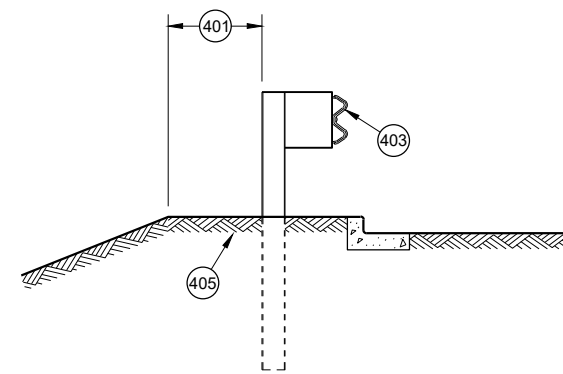


MISSING POST IN SHORT SPAN MGS GUARDRAIL NEAR CURB (SL)

- (400) MAX SPAN 12' - 6"
- (401) 2' MIN.
- (402) MGS GUARDRAIL 3
- (403) NESTING BEAM GUARD
- (404) ASYMMETRIC TRANSITION
- (405) SOIL WELL DRAINED AND COMPACTED
- (406) SEE OTHER DRAWINGS IN THIS SDD
- (407) SEE OTHER DRAWINGS FOR MIN. SPACING BETWEEN SPANS
- (408) SEE SDD 14B44
- (409) SEE SDD 14B45
- (410) SEE SDD 14B47
- (411) MINIMUM DISTANCE BETWEEN MISSING POST SPANS.



SECTION A - A



SECTION B - B

**MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2021
DATE
/S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT
UNIT SUPERVISOR

FHWA

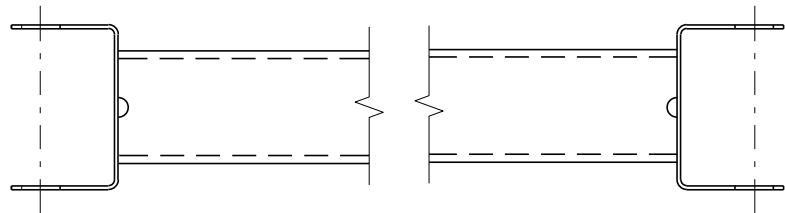
- (A) THE SLOPE IN THE AREA BOUNDED BY THE GRADELINE, THE HINGE POINT LINE (HPL) AND THE CLEAR ZONE LIMITS (CZL) SHALL BE 4:1 OR FLATTER.
- (B) AFTER FINAL ASSEMBLY, RECHECK CABLE TO BE SURE IT IS TAUT AND HAS NOT RELAXED
- (C) DIFFERENT MANUFACTURERS REQUIRE DIFFERENT PERFORATED W - BEAM RAIL END PANELS. SEE MANUFACTURER'S INFORMATION.
- (D) ATTACH ALUMINUM SHEET TO E.A.T. HEAD USING 4 STAINLESS STEEL SELF - TAPPING SCREWS. ONE SCREW PER CORNER.
- (E) HARDWARE MAY VARY BETWEEN MANUFACTURER. SEE MANUFACTURER'S DRAWING FOR INFORMATION.

DIMENSIONS MAY VARY, MANUFACTURER'S INFORMATION.

THE CENTER OF THE UPPER 3 1/2" DIAMETER HOLE ON POST NUMBER 3 THROUGH POST 9 IS TO BE FLUSH WITH THE GROUND LINE UP TO A MAXIMUM OF 2" ABOVE GROUND LINE. WOOD BLOCKS ON POSTS NUMBERED 3 THROUGH 9 MAY BE ADJUSTED UP TO 3" ABOVE THE TOP OF POST.

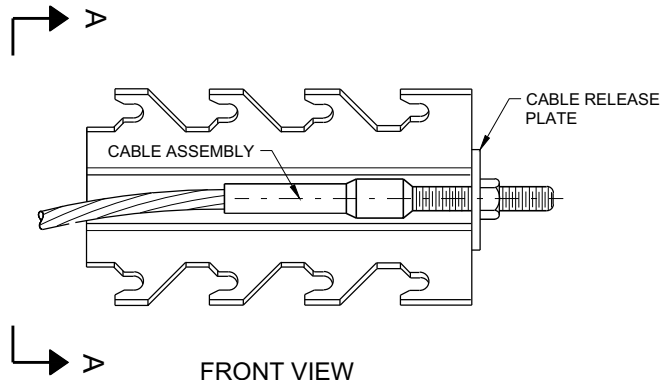


STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION 69

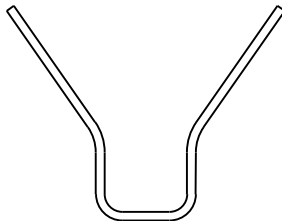


GENERIC GROUND STRUT⁹ ^E

BILL OF MATERIALS	
PART NO.	DESCRIPTION MATERIALS PROVIDED BY MGS EAT MANUFACTURER. SEE MANUFACTURER'S DETAILS FOR MORE INFORMATION.
①	UPPER POST NO. 1 6" X 6" TUBE
②	LOWER POST NO. 1
③	WOOD CRT
④	WOOD BLOCKOUT
⑤	PIPE SLEEVE
⑥	BEARING PLATE
⑦	BCT CABLE ASSEMBLY
⑧	ANCHOR CABLE BOX
⑨	GROUND STRUT
⑩	PERFORATED W-BEAM RAIL END PANEL, 12'-6" LONG.
⑪	STANDARD W-BEAM RAIL. MULTIPLE SECTIONS REQUIRED. SECTIONS VARY IN LENGTH.
⑫	IMPACT HEAD
⑬	EAT MARKER POST - YELLOW (SEE APPROVED PRODUCTS LIST)
⑭	SOIL PLATE
⑮	UPPER POST NO. 2
⑯	LOWER POST NO. 2

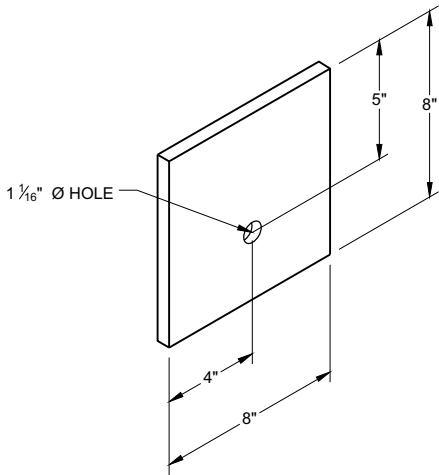


FRONT VIEW

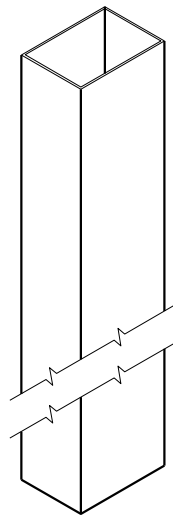


SECTION A - A

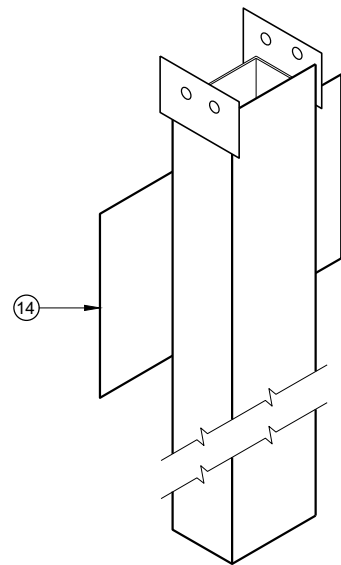
GENERIC ANCHOR CABLE BOX⁹ ^E



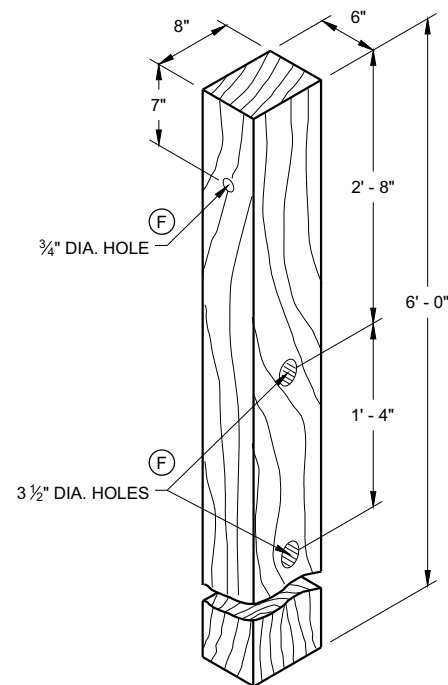
BEARING PLATE⁶ ^E



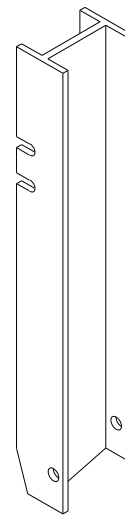
UPPER POST NO. 1 ⁽¹⁾ (E)



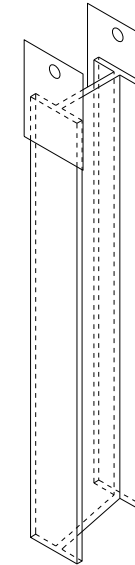
LOWER POST NO. 1 ⁽²⁾ (E)



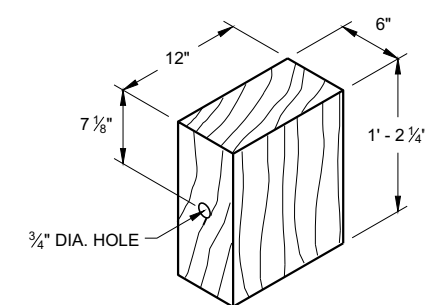
WOOD CRT POST ⁽³⁾ (E)
POSTS NUMBER 3-9



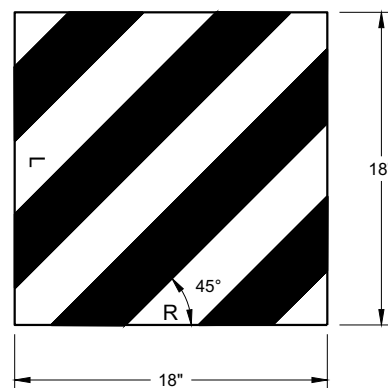
UPPER POST NO. 2 ⁽¹⁵⁾ (E)



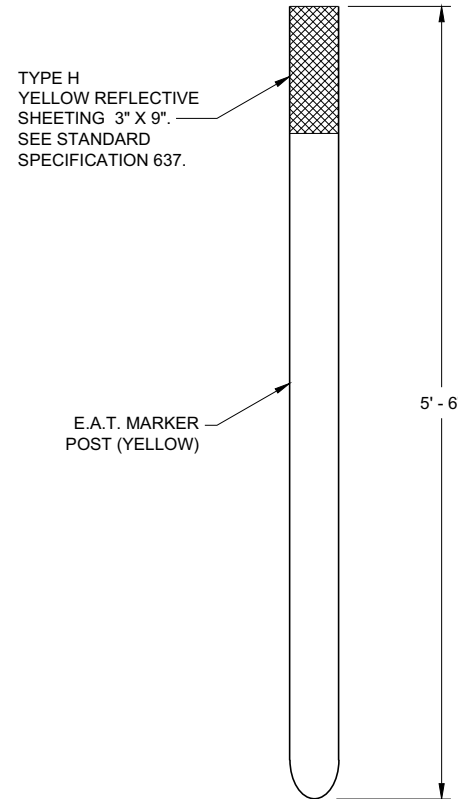
LOWER POST NO. 2 ⁽¹⁶⁾ (E)



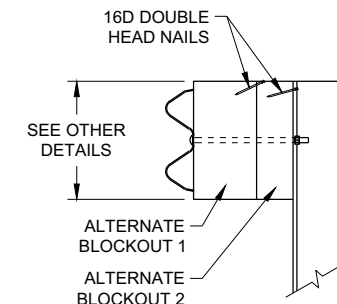
WOOD BLOCKOUT ⁽⁴⁾
REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2



REFLECTIVE SHEETING DETAIL ^(E)

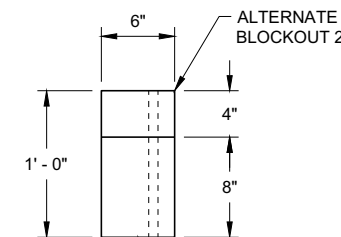


E.A.T. MARKER POST ⁽¹³⁾



SIDE VIEW

ALTERNATE WOOD
BLOCKOUT DETAIL

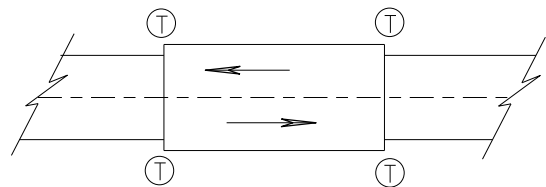


TOP VIEW

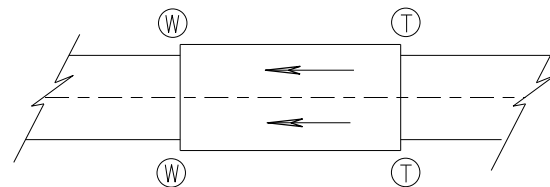
**MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7/2018 DATE /S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR
FHWA



TWO WAY TRAFFIC



ONE WAY TRAFFIC

(T) THRIE BEAM CONNECTION

(W) W-BEAM CONNECTION WHEN REQUIRED

TYPICAL LOCATIONS OF THRIE BEAM AND W-BEAM CONNECTIONS TO BRIDGE

GENERAL NOTES

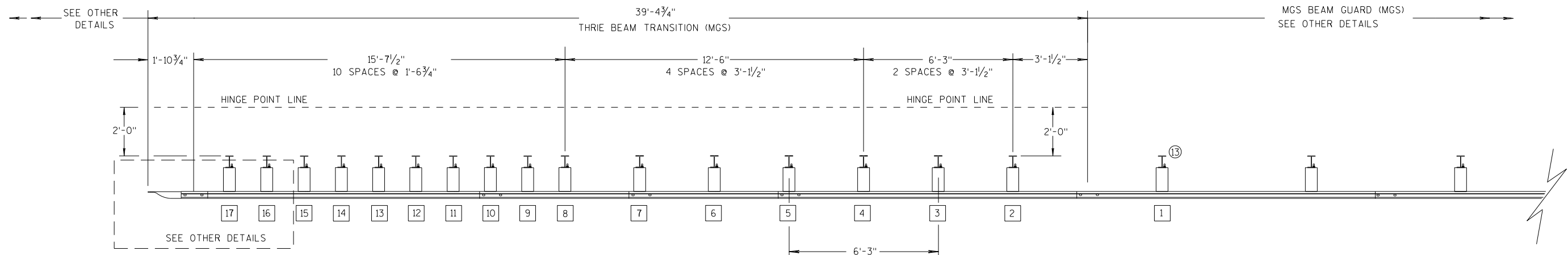
IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2 1/2", AND 12" DIAMETER AROUND POST. SEE 14B42 FOR MORE DETAILS.

TRANSITION USES STEEL POSTS ONLY.

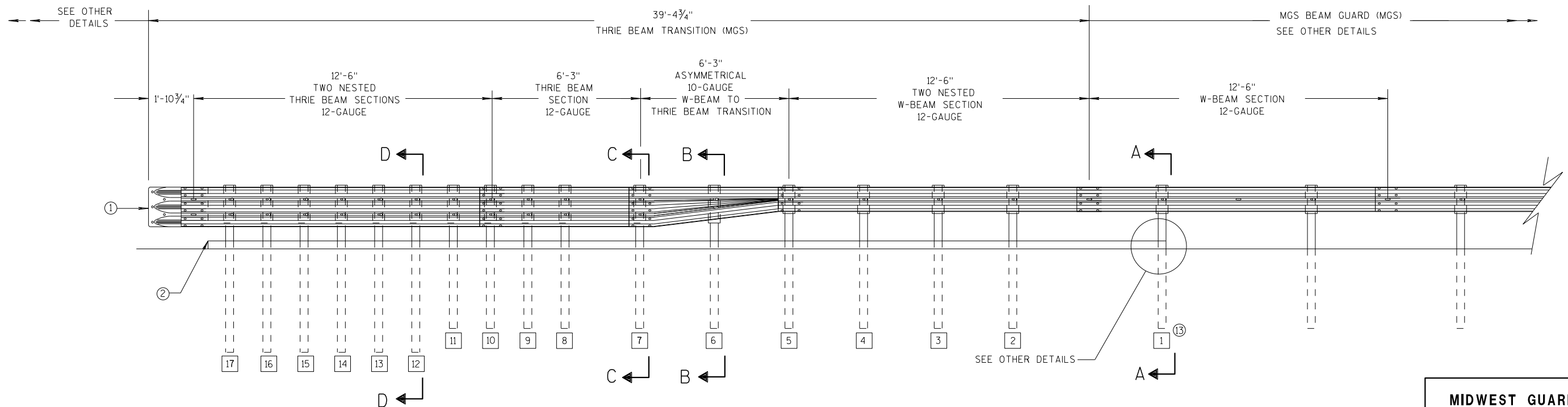
SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

POST 2 THROUGH 17 USES STEEL POST ONLY

- ① BRIDGE RAILING TYPE "W" DOES NOT REQUIRE A TERMINAL CONNECTOR.
- ② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.
- ⑬ STEEL OR WOOD POST IS ACCEPTABLE AT POST 1. SEE SDD14B42



PLAN VIEW



ELEVATION VIEW

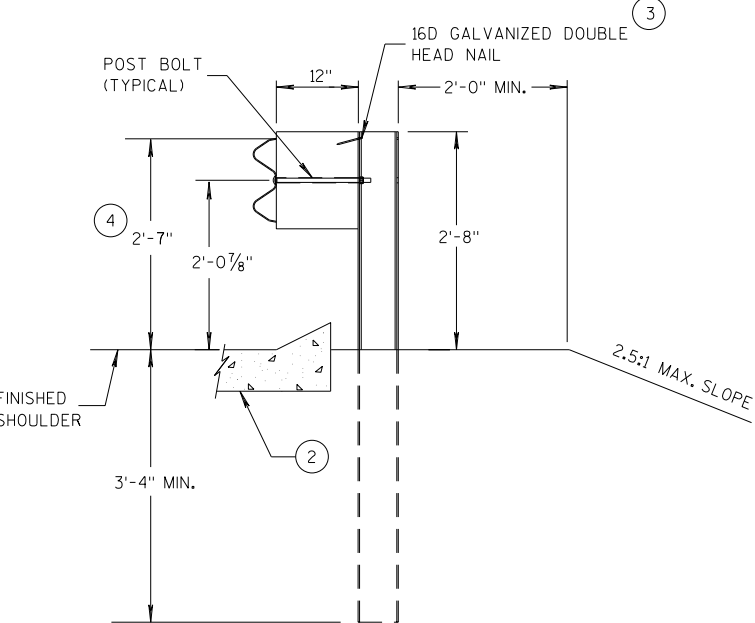
MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION

**MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)**

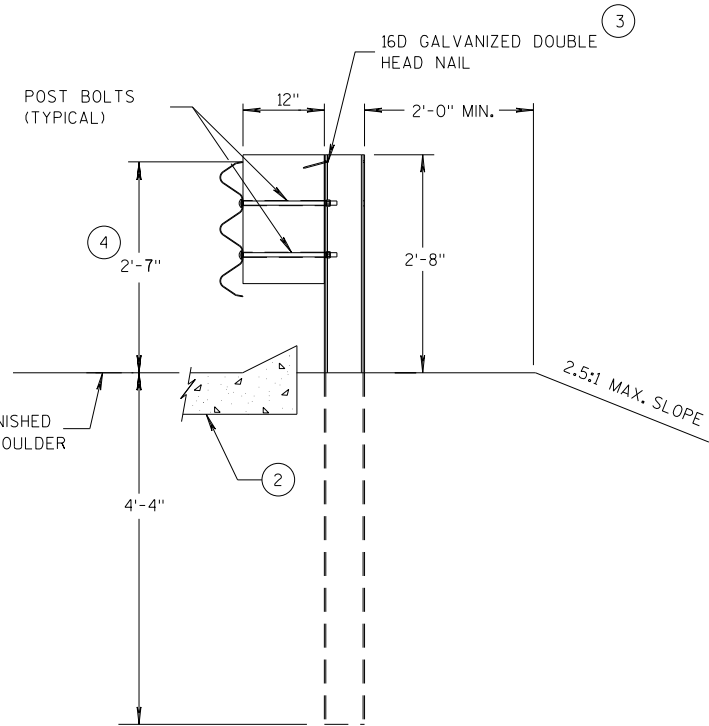
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

GENERAL NOTES

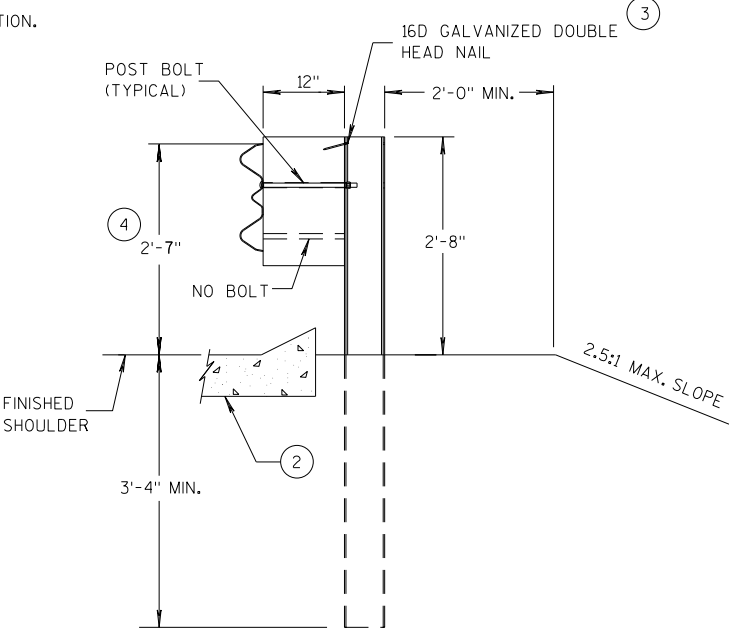
- 2 OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.
- 3 WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 10D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.
- 4 TOLERANCE FOR TOP OF W-BEAM RAIL IS $\pm 1"$.
- 13 STEEL OR WOOD POST IS ACCEPTABLE AT POST 1. SEE SDD 14B42



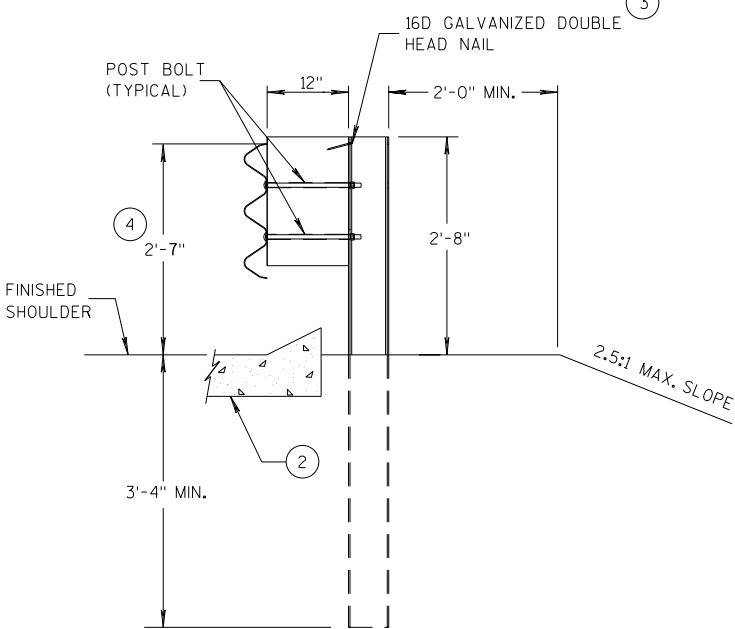
SECTION A-A
POSTS 1-5



SECTION D-D
POSTS 12-17



SECTION B-B
POST 6



SECTION C-C
POSTS 7-11

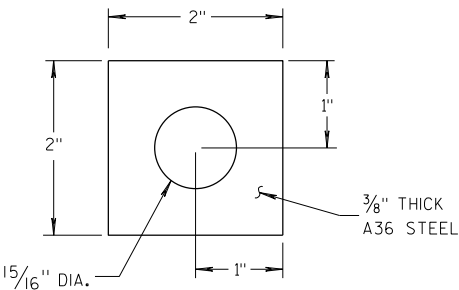
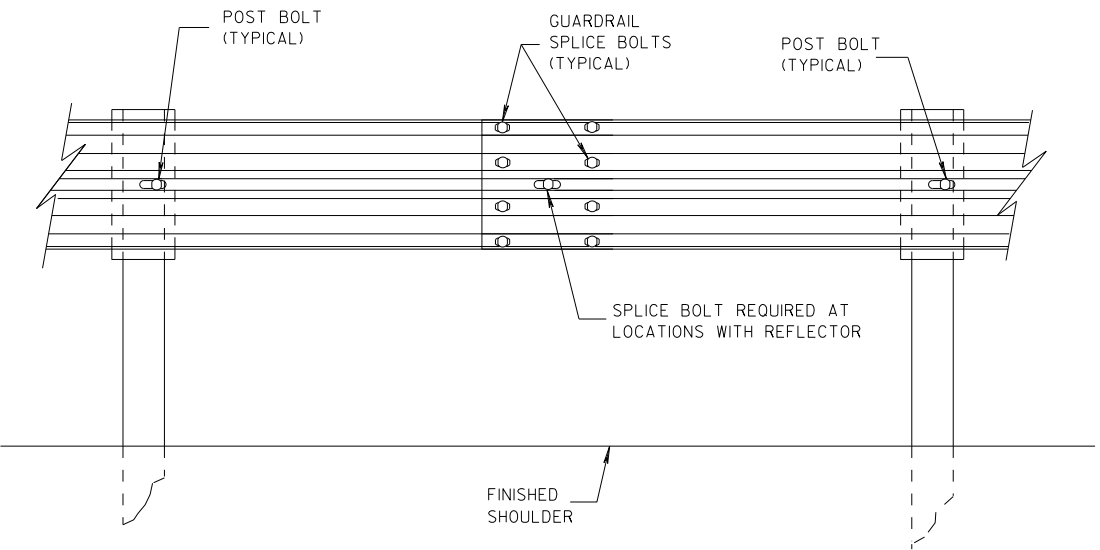
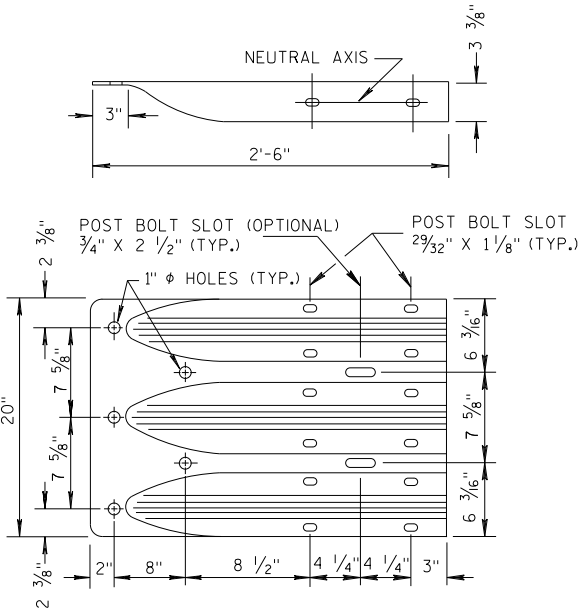


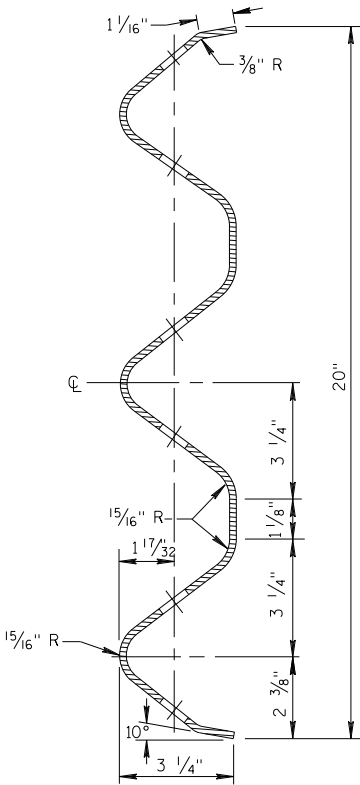
PLATE WASHER DETAIL



SPlice DETAIL



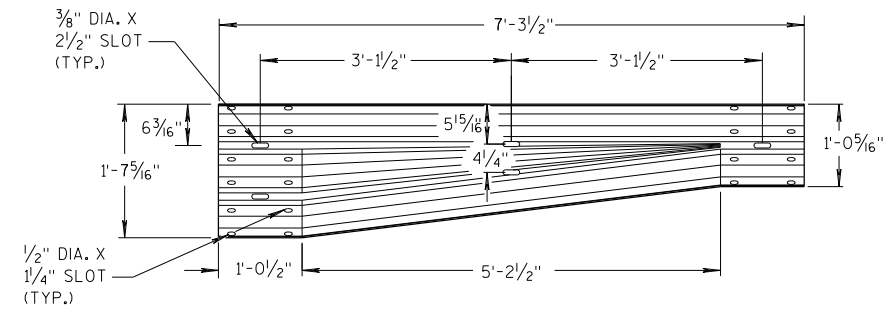
THRIE BEAM
TERMINAL CONNECTOR



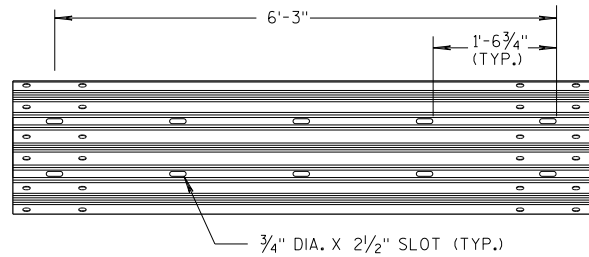
SECTION THRU THRIE
BEAM RAIL ELEMENT

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

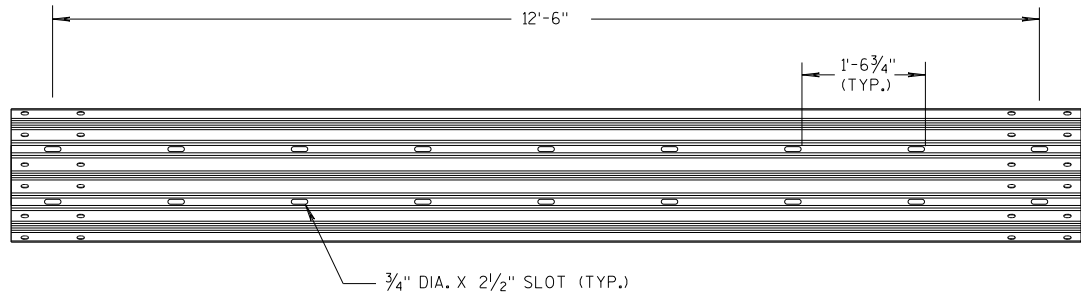
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



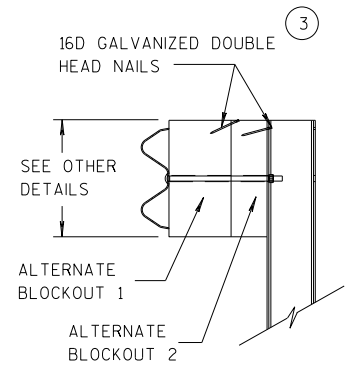
W-BEAM TO THRIE BEAM TRANSITION SECTION



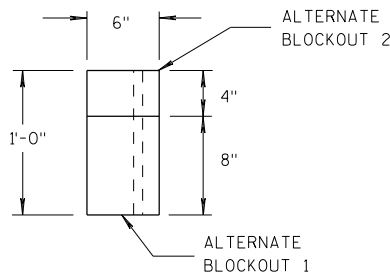
6'-3" THRIE BEAM SECTION



12'-6" THRIE BEAM SECTION

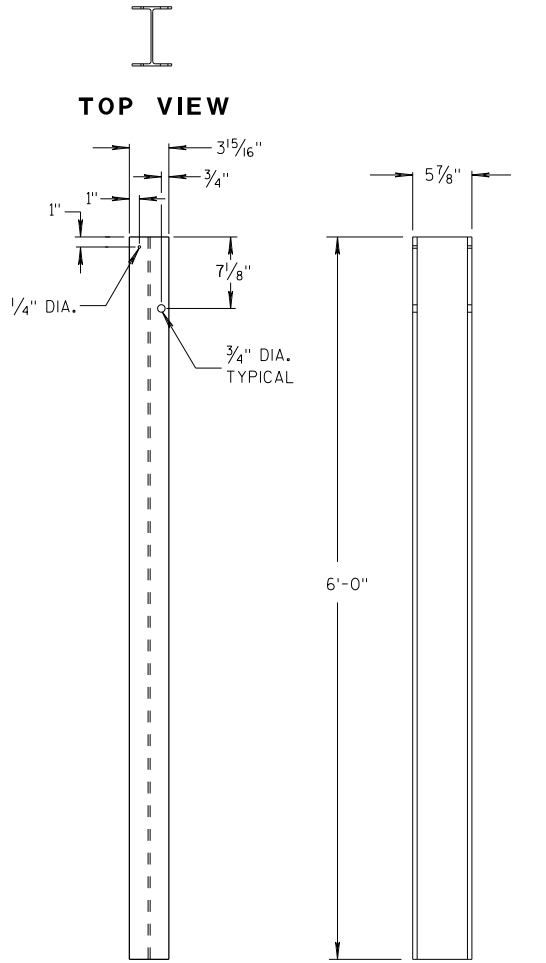


SIDE VIEW



TOP VIEW

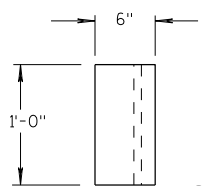
ALTERNATE WOOD BLOCKOUT DETAIL



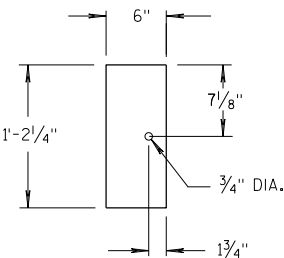
FRONT VIEW

SIDE VIEW

STEEL POSTS 1-5

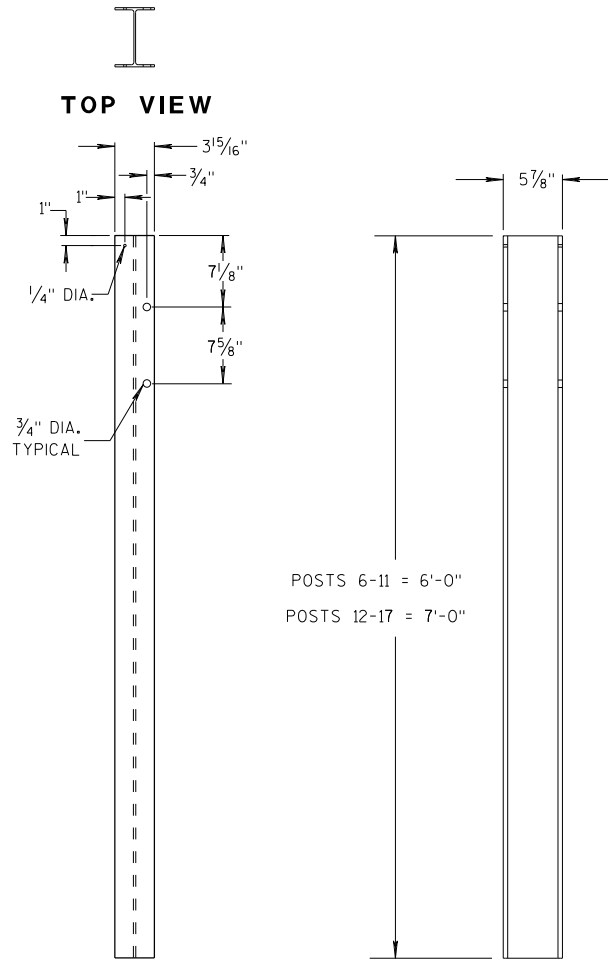


TOP VIEW



FRONT VIEW

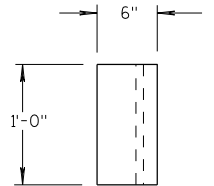
BLOCKOUT POSTS 1-5



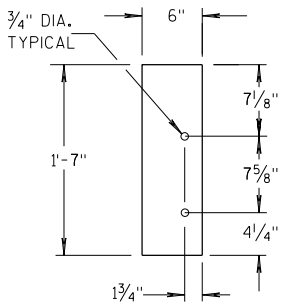
FRONT VIEW

SIDE VIEW

STEEL POSTS 6-17



TOP VIEW



FRONT VIEW

BLOCKOUT POSTS 6-17

GENERAL NOTES

STEEL POSTS ARE W6X9 OR W6X8.5.

BOLT HOLES FOR POST ARE ON FRONT AND OF SIDE OF POST.

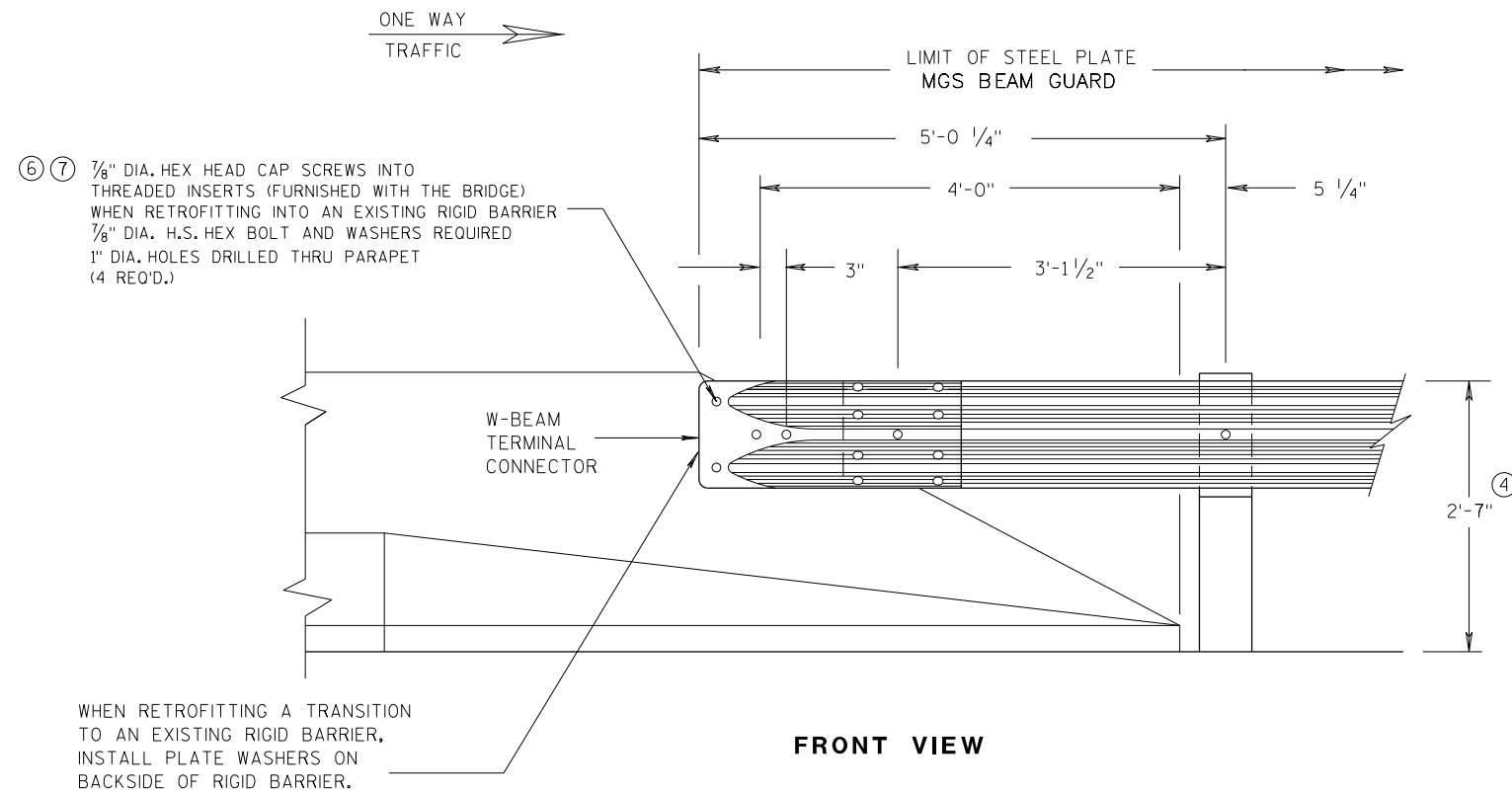
③ WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

⑤ WOOD BLOCKS MAY BE CONSTRUCTED OUT OF 2 WOOD BLOCKS. SEE ALTERNATE WOOD BLOCK DETAIL.

⑬ STEEL OR WOOD POST IS ACCEPTABLE AT POST 1. SEE SDD 14B42.

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

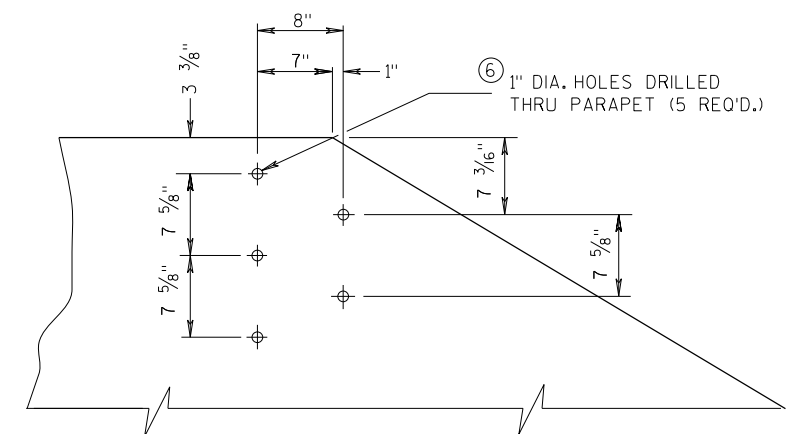
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



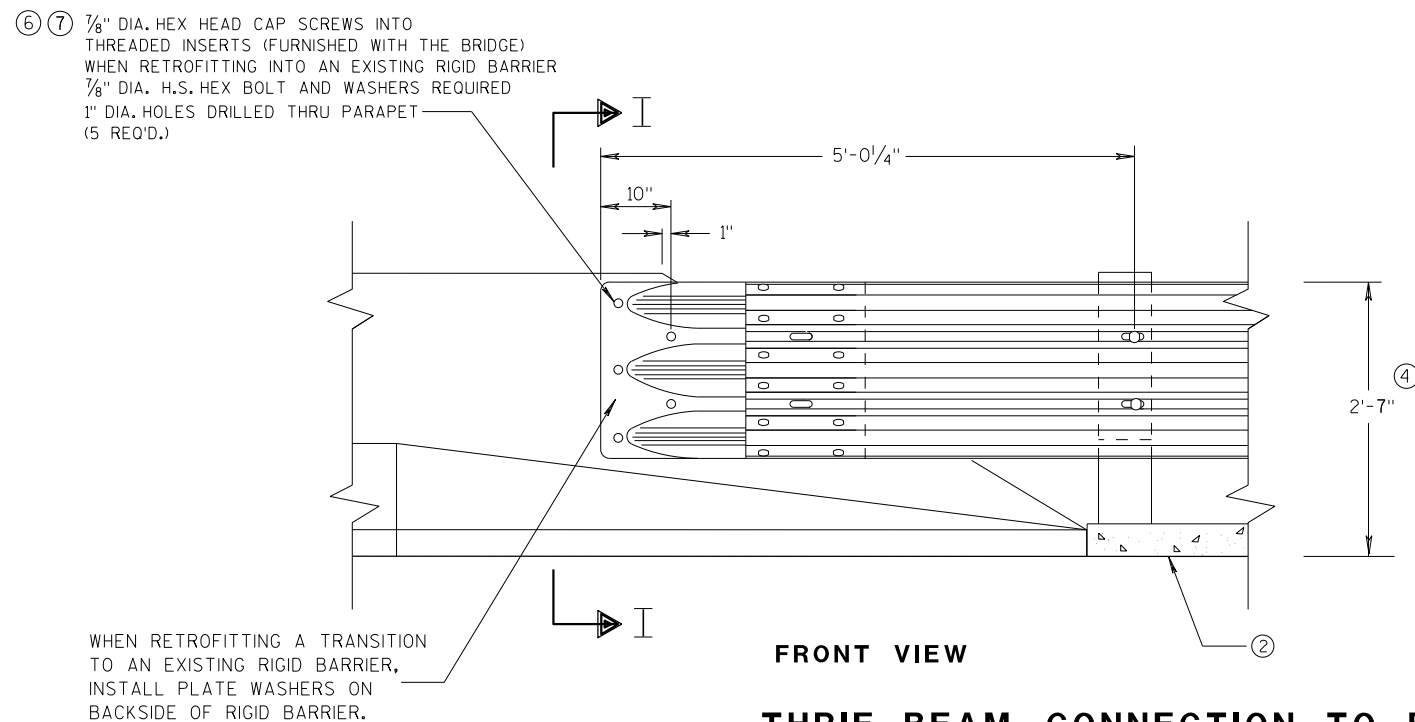
**W BEAM CONNECTION TO
PARAPETS WITH SLOPED ENDS**
(USE ONLY AT TRAFFIC EXIT END OF ONE WAY BRIDGE)

GENERAL NOTES

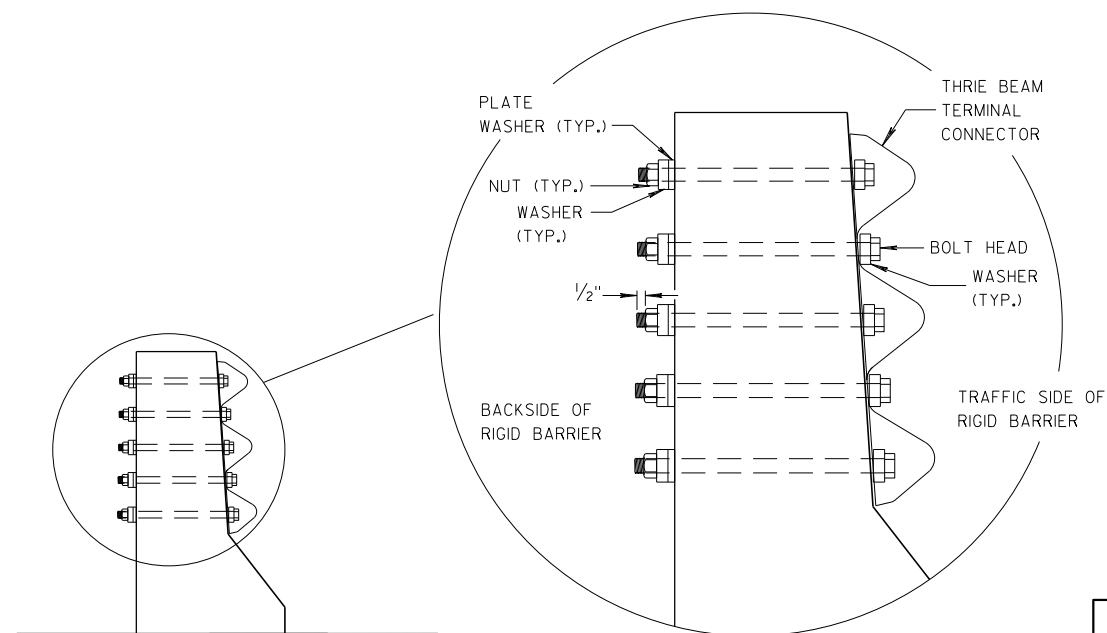
- ② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.
- ④ TOLERANCE FOR TOP OF BEAM IS $\pm 1"$.
- ⑥ DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.
- ⑦ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/32" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.



**DRILL HOLE LOCATION AND PATTERN
FOR THRIE BEAM CONNECTION**



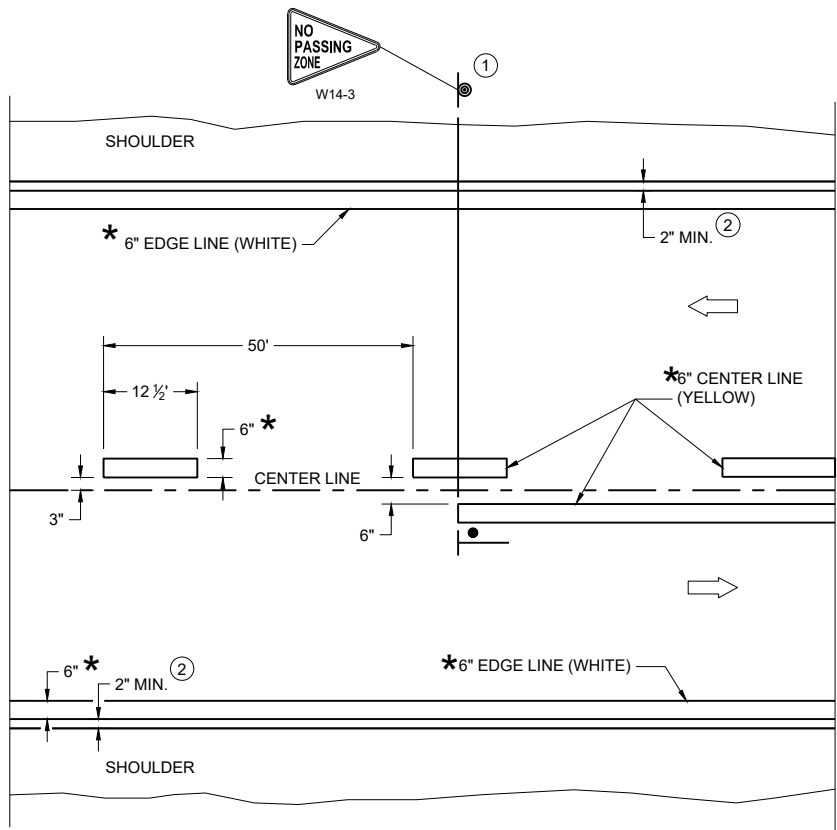
**THRIE BEAM CONNECTION TO BRIDGE
PARAPETS WITH SLOPED ENDS**



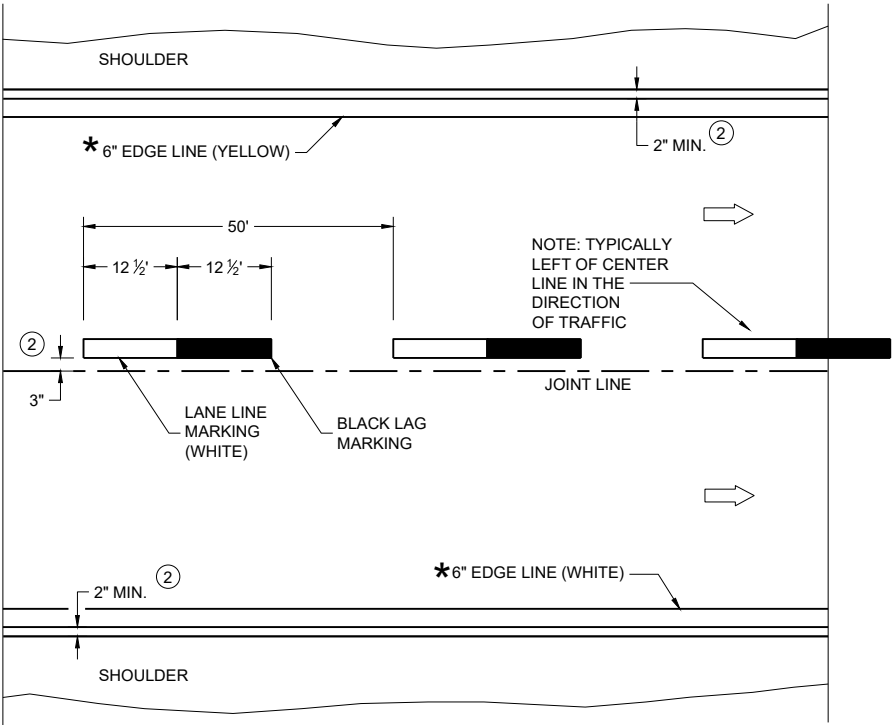
**MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
07/2018
DATE
/S/ Rodney Taylor
ROADWAY STANDARDS UNIT SUPERVISOR
75
FHWA



TWO WAY TRAFFIC



ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING

* CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES

GENERAL NOTES

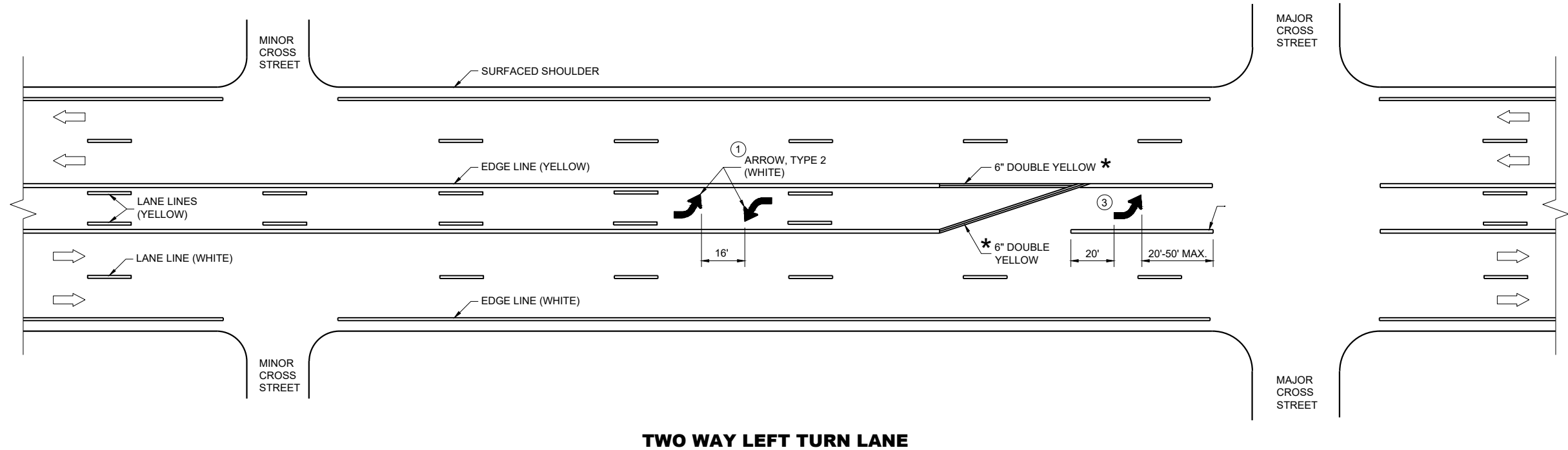
DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS.

- 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

PERMANENT LONGITUDINAL PAVEMENT MARKINGS	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED December 2024 DATE	/S/ Jeannie Silver Statewide Pavement Marking Engineer
FHWA 76	

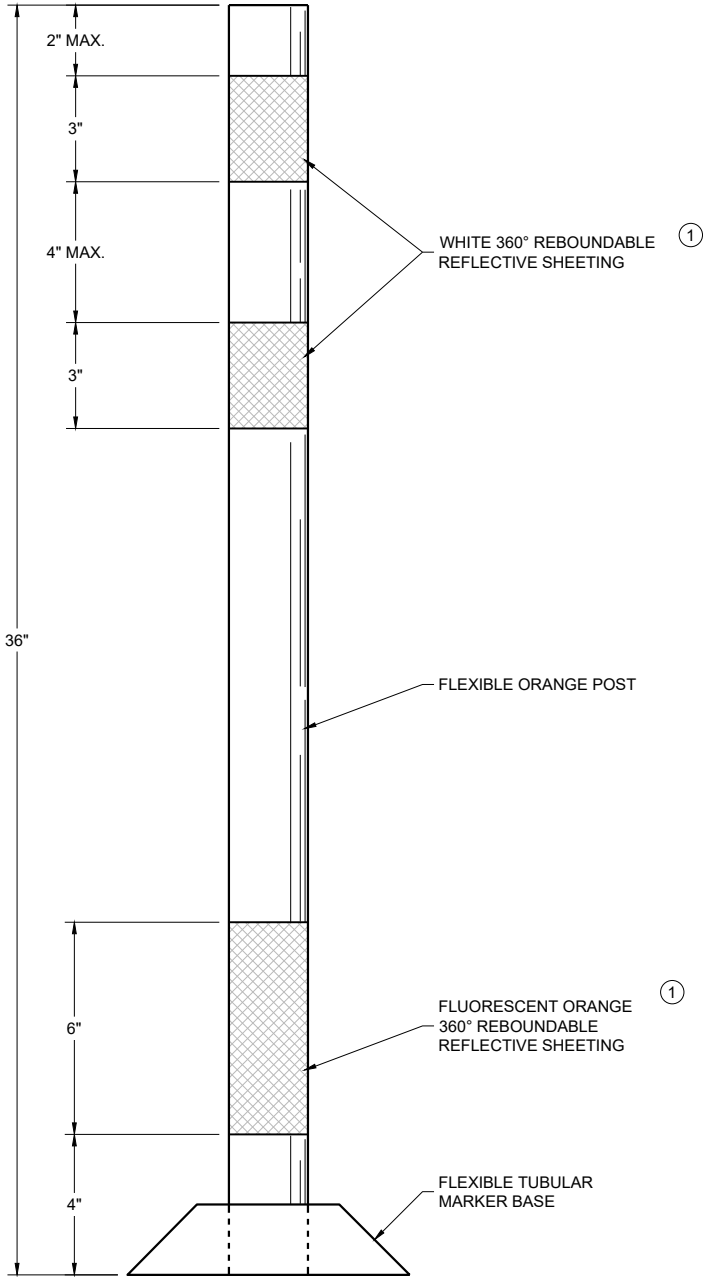


GENERAL NOTES

- ① A SET OF ARROWS IS REQUIRED EVERY 400 FEET OR NEAR INTERSECTIONS OR DRIVEWAYS WITH TURNING TRAFFIC.
- ② 10" WHITE
- ③ TURN BAY LENGTH OF LESS THAN 48' DOES NOT REQUIRE PAVEMENT ARROWS OR TEXT.

➡ DIRECTION OF TRAFFIC

*CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES



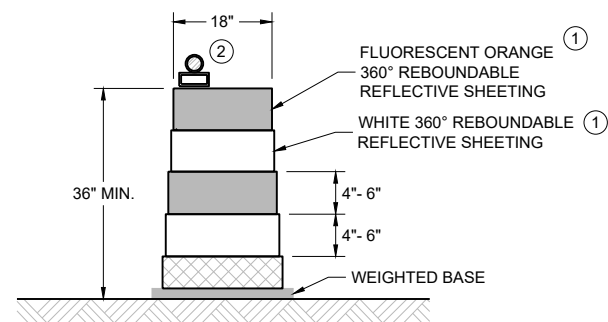
**FLEXIBLE TUBULAR
MARKER POST
WORK ZONE**

GENERAL NOTES

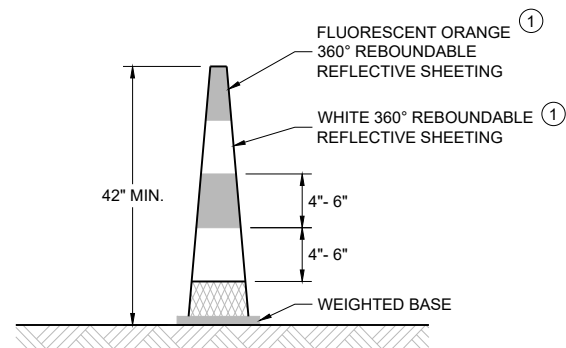
- DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.
- SURFACE MOUNTED BASES SHALL BE FURNISHED IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS TO BE COMPATIBLE WITH FLEXIBLE TUBULAR MARKER 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.

**CHANNELIZING DEVICES
FLEXIBLE TUBULAR
MARKER POST**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

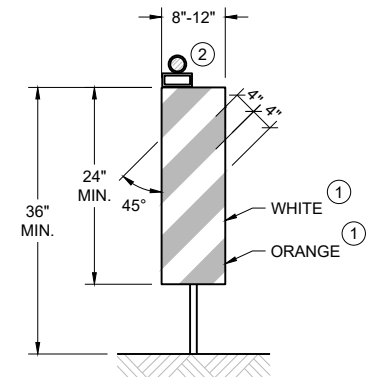
**DRUM**

BALLAST WIDTHS
RANGE FROM 24"-36"

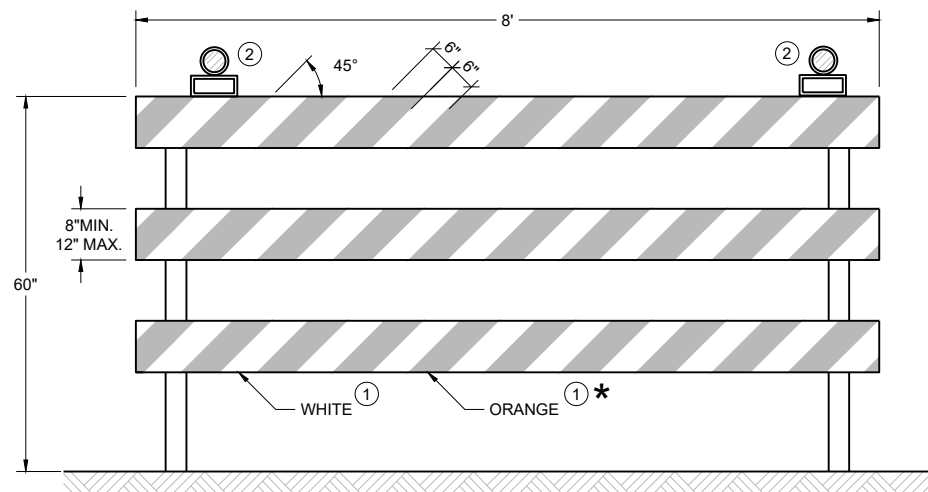
**42" CONE**

DO NOT USE IN TAPERS
 $\frac{1}{2}$ SPACING OF DRUMS

BALLAST WIDTHS
RANGE FROM 14"-20"

**VERTICAL PANEL**

THE 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.

GENERAL NOTES

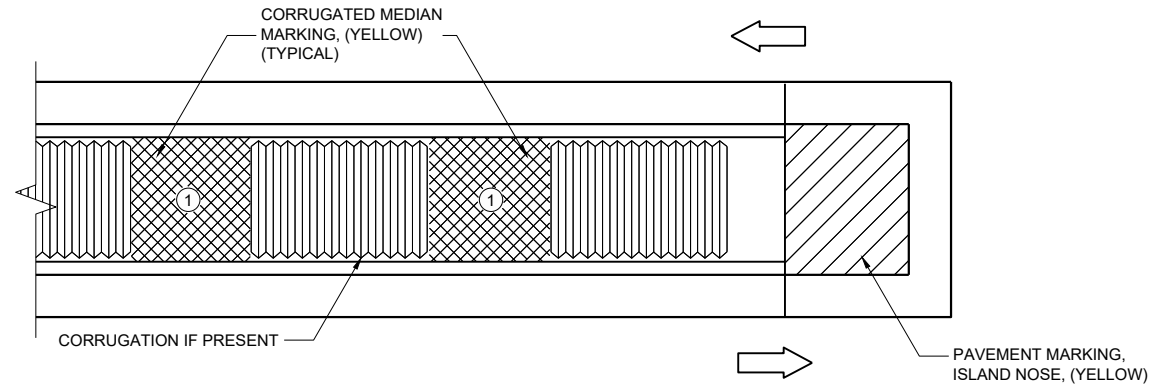
- ① REFLECTIVE SHEETING SHALL FOLLOW THE REQUIREMENTS IN THE APPROVED PRODUCTS LISTING FOR SIGN SHEETING.
- ② LOCATION OF WARNING LIGHTS WHEN SHOWN ON THE PLAN.

**CHANNELIZING DEVICES
DRUMS, CONES, BARRICADES
AND VERTICAL PANELS**

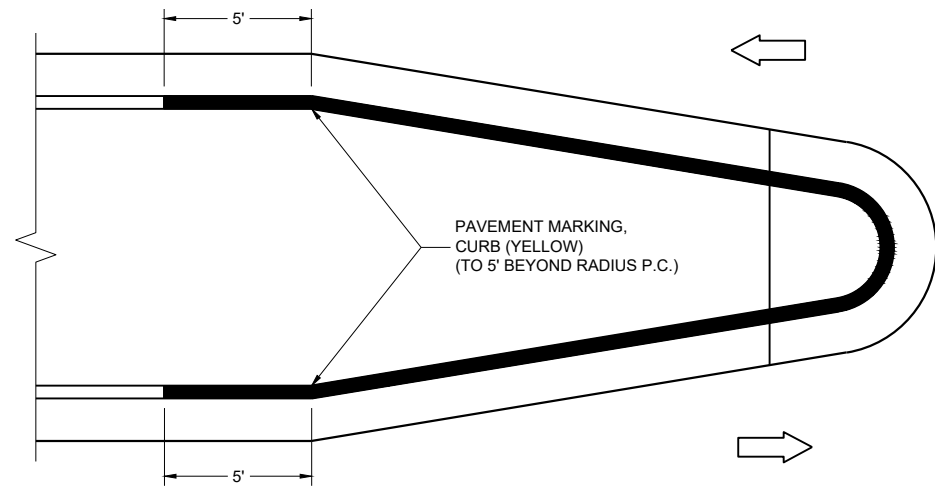
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2026 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER

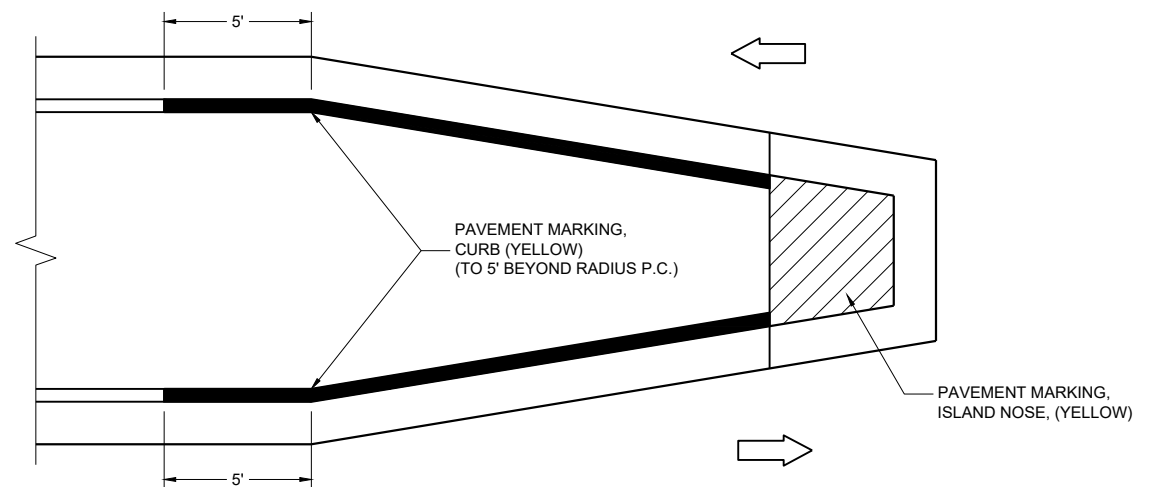
FHWA



MEDIAN ISLAND WITH SQUARE BLUNT NOSE



MEDIAN ISLAND WITH ROUND BLUNT NOSE



MEDIAN ISLAND WITH SLOPED NOSE

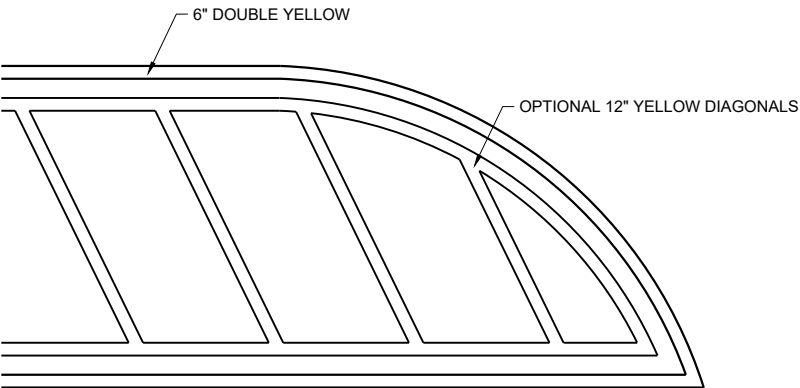
**TYPICAL PLACEMENT OF
PAVEMENT MARKING ON MEDIAN ISLANDS**

GENERAL NOTES

WHEN CONCRETE CORRUGATED MEDIAN IS CONSTRUCTED TO SEPARATE TRAFFIC OPERATING IN THE OPPOSING DIRECTION, YELLOW PAVEMENT MARKING SHALL BE APPLIED TO THE FLAT PORTION OF THE CONCRETE CORRUGATED MEDIAN. THE ITEM OF PAVEMENT MARKING, CONCRETE CORRUGATED MEDIAN, WILL BE MEASURED IN PLACE AND ACCEPTED IN ACCORDANCE WITH THE CONTRACT AND PAID FOR AT THE CONTRACT UNIT PRICE PER SQUARE FOOT.

① APPLY PAVEMENT MARKING TO THE FLAT PORTION OF CORRUGATED MEDIAN.

-  ISLAND NOSE MARKING
-  CURB MARKING
-  CORRUGATED MEDIAN MARKING
-  DIRECTION OF TRAVEL



FLUSH MEDIAN ISLAND NOSE

**PAVEMENT MARKINGS,
MEDIAN ISLAND NOSE**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
August 2024 /S/ Jeannie Silver
DATE Statewide Pavement Marking Engineer
FHWA

LEGEND



SIGN ON PERMANENT SUPPORT



DELINEATOR, FLEXIBLE/TUBULAR MARKER



DIRECTION OF TRAFFIC

GENERAL NOTES

ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED.

"WO" SIGN IS THE SAME AS "W" SIGN EXCEPT THE BACKGROUND IS ORANGE.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH THE TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER. NO WARNING LIGHTS SHALL BE WORKING ON COVERED OR "DOWNED" SIGNS.

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 SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET (500' DESIRABLE) DISTANCE TO EXISTING SIGNS.

A SINGLE ROW OF FLEXIBLE TUBULAR MARKERS ON CENTERLINE EXTEND FOR THE ENTIRE LENGTH OF TWO-WAY TRAFFIC AT 50 FOOT SPACING.

COVER EXISTING CENTERLINE STRIPE WITH TEMPORARY PAVEMENT MARKING LINE, 6 INCH DOUBLE YELLOW.

PARTIAL NUMBERS ON SIGNS SHALL BE DISPLAYED AS A WHOLE NUMBER(AS NEEDED) FOLLOWED BY A FRACTION. SIGNS SHALL NOT DISPLAY NUMBERS IN DECIMAL FORM.



①



W057-51
48"X24"



②

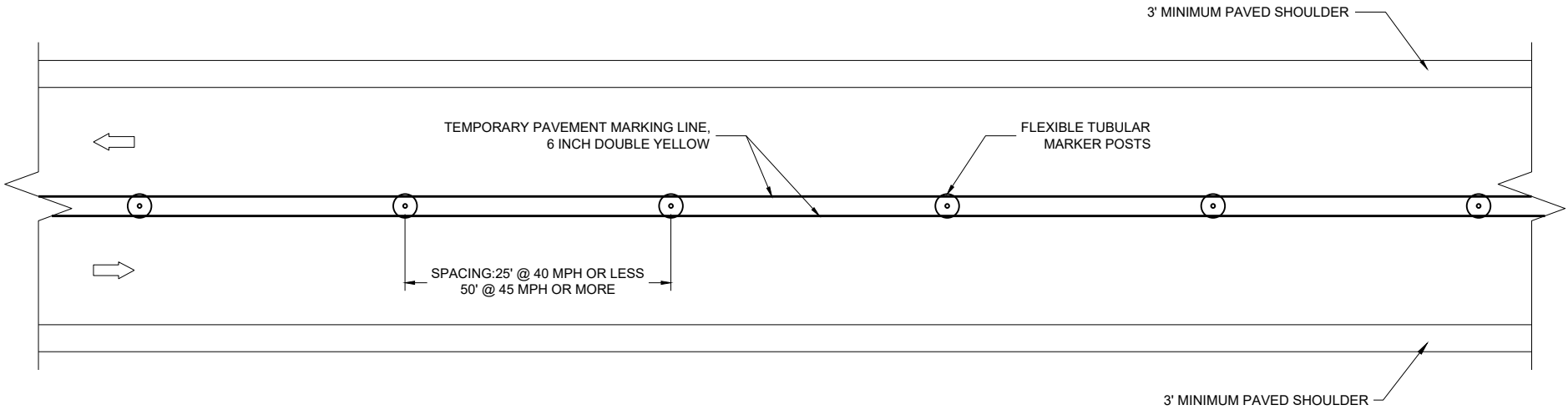
R4-1

①

THE WO6-3 AND WO57-51 SHALL BE LOCATED 200 FEET BEYOND THE END OF THE ACCELERATION LANE OF EACH ENTRANCE RAMP AND / OR 500 FEET BEYOND ANY SIDE ROAD. THE R4-1 SHALL BE LOCATED 1000 FEET BEYOND THE WO6-3 AND THE WO57-51 AND THE SIGNS SHALL BE ALTERNATED WITH ONE MILE INTERVALS BETWEEN THE SIGNS.

②

CONVENTIONAL: 24" X 30"
FREEWAY AND EXPRESSWAY: 36" X 48"



TWO LANE, TWO WAY OPERATION

**TRAFFIC CONTROL
TWO LANE TWO WAY
OPERATION**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2025 /S/ Andrew Heidtke
DATE WORK ZONE TRAFFIC SAFETY ENGINEER

FHWA

	SIGN ON PERMANENT SUPPORT
	TRAFFIC CONTROL DRUM
	TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
	TYPE III BARRICADE WITH ATTACHED SIGN
	TYPE "A" WARNING LIGHT (FLASHING)
	REMOVING PAVEMENT MARKINGS
	DIRECTION OF TRAFFIC
	WORK AREA
	CONNECTED ARROW BOARD
	WZ START LOCATION MARKER
	WZ END LOCATION MARKER

FOR WORK ON ROADWAYS WITH SPEEDS GREATER THAN 45MPH, USE SDD 15D12.

THIS LANE CLOSURE DETAIL IS TYPICAL FOR CLOSING THE LEFT LANE. FOR A RIGHT LANE CLOSURE, REVERSE THE TRAFFIC CONTROL.

THIS DETAIL MAY BE USED FOR ROADWAYS WITH EITHER TWO OR THREE LANES IN EACH DIRECTION.

ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS IN URBAN AREAS, 36"X 36" SIGNS MAY BE USED IF APPROVED BY REGIONAL TRAFFIC UNIT.

"WO" SIGN IS THE SAME AS "W" SIGN EXCEPT THE BACKGROUND IS ORANGE.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH THE TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER. NO WARNING LIGHTS SHALL BE WORKING ON COVERED OR "DOWNED" SIGNS.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS OR THAT WILL BE PLACED IN A CLOSED LANE MAY BE MOUNTED ON TEMPORARY SUPPORTS.

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

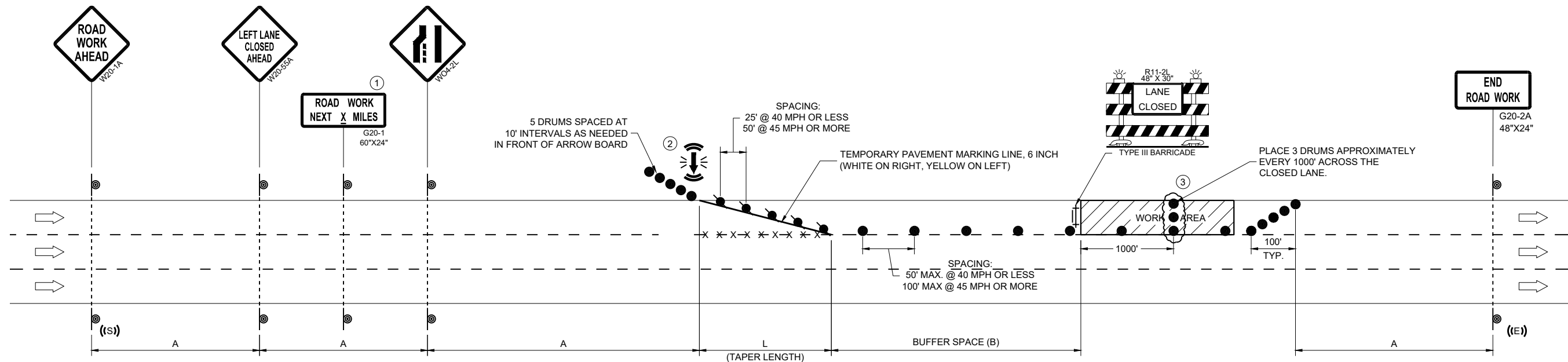
THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET (500' DESIRABLE) DISTANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE

W20-1A, G20-1 AND G20-2A SIGNS ARE NOT REQUIRED IF THE LANE CLOSURE IS WITHIN A LARGER WORK ZONE WHERE THESE SIGNS ARE ALREADY PRESENT.

REMOVE PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKING LINE IF LANE CLOSURE IS TO BE IN

WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

- ① OMIT G20-1 SIGNS IF LENGTH OF WORK AREA IS 2 MILES OR LESS.
- ② WHERE THE SHOULDER OR TERRACE HAS INSUFFICIENT SPACE TO PLACE THE ARROW BOARD AS SHOWN, PLACE THE ARROW BOARD AT THE END OF THE TAPER.
- ③ DRUMS IN A CLOSED LANE THAT MUST BE MOVED FOR A WORK OPERATION SHALL BE IMMEDIATELY REESTABLISHED UPON COMPLETION OF THE OPERATION, OR FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKING DAY.



POSTED SPEED LIMIT PRIOR TO WORK STARTING (MPH)	ADVANCE WARNING SIGN SPACING (A) FEET	TAPER LENGTH (12 FT. LANE) (L) FEET	BUFFER SPACE (B) FEET
25	200'	125'	155'
30	200'	180'	200'
35	350'	245'	250'
40	350'	320'	305'
45	500'	540'	360'

APPROVED	
November 2025	/S/ Andrew Heidtke
DATE	WORK ZONE ENGINEER

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

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.

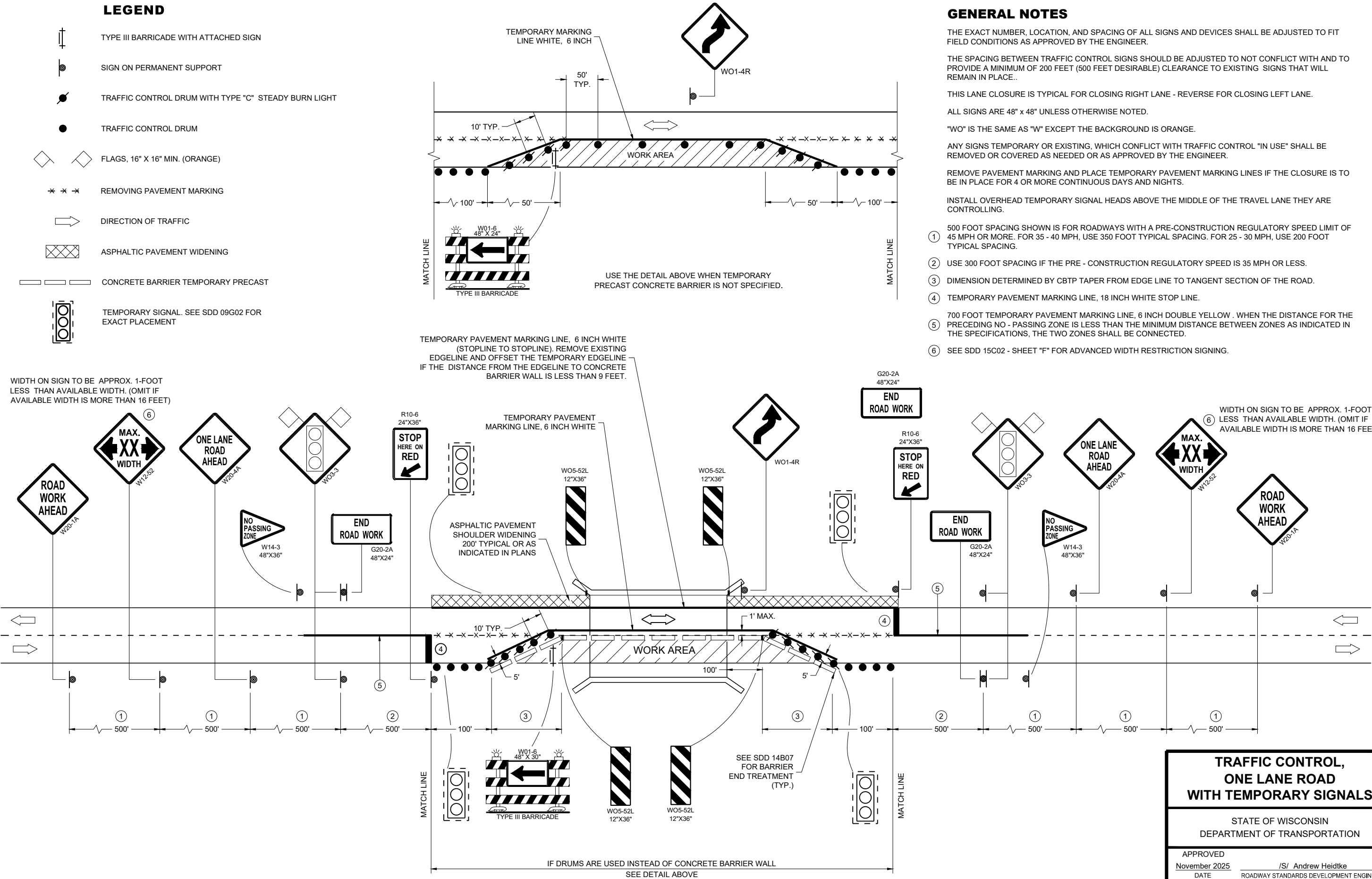
REMOVE PAVEMENT MARKING AND PLACE TEMPORARY PAVEMENT MARKING LINES IF THE CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

INSTALL OVERHEAD TEMPORARY SIGNAL HEADS ABOVE THE MIDDLE OF THE TRAVEL LANE THEY ARE CONTROLLING.

- 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.
- USE 300 FOOT SPACING IF THE PRE - CONSTRUCTION REGULATORY SPEED IS 35 MPH OR LESS.
- DIMENSION DETERMINED BY CBTP TAPER FROM EDGE LINE TO TANGENT SECTION OF THE ROAD.
- TEMPORARY PAVEMENT MARKING LINE, 18 INCH WHITE STOP LINE.
- 700 FOOT TEMPORARY PAVEMENT MARKING LINE, 6 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.
- SEE SDD 15C02 - SHEET "F" FOR ADVANCED WIDTH RESTRICTION SIGNING.

WIDTH ON SIGN TO BE APPROX. 1-FOOT LESS THAN AVAILABLE WIDTH. (OMIT IF AVAILABLE WIDTH IS MORE THAN 16 FEET)

WIDTH ON SIGN TO BE APPROX. 1-FOOT LESS THAN AVAILABLE WIDTH. (OMIT IF AVAILABLE WIDTH IS MORE THAN 16 FEET)



TRAFFIC CONTROL,
ONE LANE ROAD
WITH TEMPORARY SIGNALS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2025 /S/ Andrew Heidtke
DATE ROADWAY STANDARDS DEVELOPMENT ENGINEER

FHWA

	TYPE III BARRICADE WITH ATTACHED SIGN
	SIGN ON PERMANENT SUPPORT
	TRAFFIC CONTROL DRUM
	TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
	TYPE "A" WARNING LIGHT (FLASHING)
	DIRECTION OF TRAFFIC
	WORK AREA
	REMOVING PAVEMENT MARKING (SEE 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 SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET, (500 FEET DESIRABLE) DISTANCE TO EXISTING SIGNS.

THIS LANE CLOSURE IS TYPICAL FOR LANE SHIFT RIGHT - REVERSE FOR SHIFTING LEFT.

ALL SIGNS ARE 48"x48" 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 AND AS APPROVED BY THE ENGINEER. NO WARNING LIGHTS SHALL BE WORKING ON ANY "COVERED" OR "DOWNED" SIGNS.

CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARDS SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS FOR A MINIMUM 1500 FEET FRONT OF DRUMS.

FOR A LANE CLOSURE THAT IS IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, THE ADVANCED WARNING SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS.

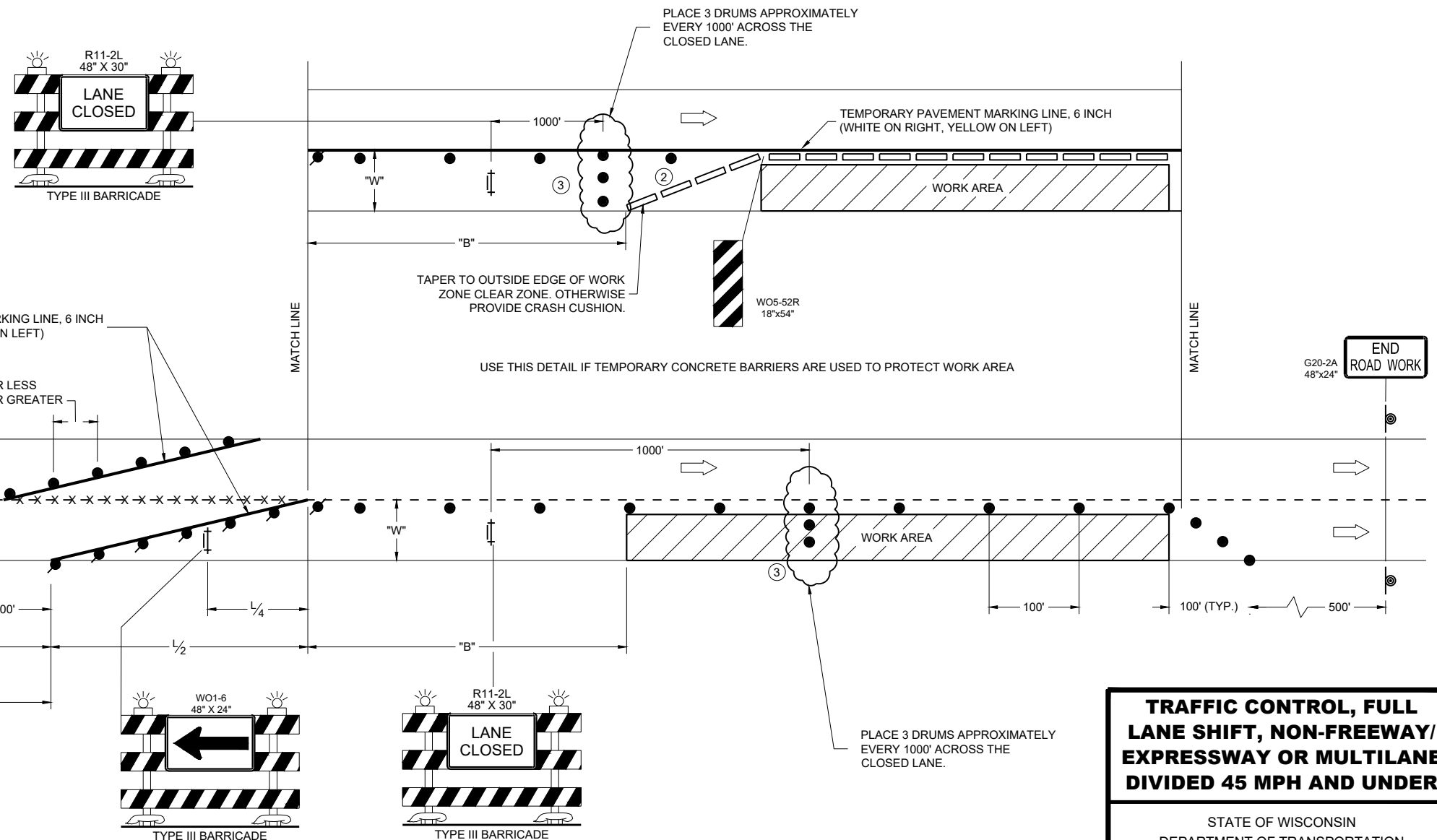
WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

IF THE HORIZONTAL ALIGNMENT IS SUCH THAT A CURVE MAY REQUIRE ADDITIONAL DELINEATION, THE DEVICE SPACING MAY BE DECREASED TO 50 FEET.

ADJUSTMENTS IN BUFFER SPACE NEED TO BE INCORPORATED WHEN THE LANE SHIFT OCCURS NEAR AN INTERCHANGE EXIT OR ENTRANCE RAMP. THE LANE SHIFT MUST TAKE PLACE FAR ENOUGH IN ADVANCE OF AN EXIT OR ENTRANCE RAMP TO STILL ALLOW FOR ADEQUATE BUFFER

- ① USE ONLY IF DESIGN SPEED IS 10 MPH BELOW POSTED SPEED.
- ② BARRIER FLARE RATE: 6:1 @ 40 MPH OR LESS
8:1 @ 45 MPH OR GREATER
- ③ DRUMS IN A CLOSED LANE THAT MUST BE MOVED FOR A WORK OPERATION SHALL BE IMMEDIATELY REESTABLISHED UPON COMPLETION OF THE OPERATION, OR FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKING DAY.

POSTED SPEED LIMIT PRIOR TO WORK STARTING (MPH)	ADVANCE WARNING SIGN SPACING (A) FEET	SHIFTING TAPER $\frac{L}{2}$					BUFFER SPACE (B) FEET
		W, LATERAL OFFSET (FT)					
		10	11	12	13	14	
25	200	52	57	63	68	73	155
30	200	75	83	90	98	105	200
35	350	102	112	123	133	143	250
40	350	133	147	160	173	187	305
45	500	225	248	270	293	315	360



**TRAFFIC CONTROL, FULL
LANE SHIFT, NON-FREEWAY/
EXPRESSWAY OR MULTILANE
DIVIDED 45 MPH AND UNDER**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2025 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER

LEGEND

- V1

WORK VEHICLE
- V2

SHADOW VEHICLE
- 

TRUCK MOUNTED ATTENUATOR (TMA)
- 

FLASHING ARROW PANEL (CAUTION)
- 

WORK AREA
- 

DIRECTION OF TRAFFIC

POSTED SPEED PRIOR TO WORK STARTING (MPH)	DECISION SIGHT DISTANCE (D)
0 - 25	550'
30	550'
35	700'
40	700'
45	900'
50	900'
55	1200'

GENERAL NOTES

ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED.

MOBILE IS WORK THAT MOVES CONTINUOUSLY OR MOVES AT LEAST THE DECISION SIGHT DISTANCE EVERY 15 MINUTES.

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

ALL ARROW PANELS SHALL BE REAR FACING, TYPE "B" OR "C", AND DISPLAYING THE FLASHING CAUTION MODE. SIGNS PLACED ON VEHICLES MUST NOT OBSCURE THE ARROW PANEL.

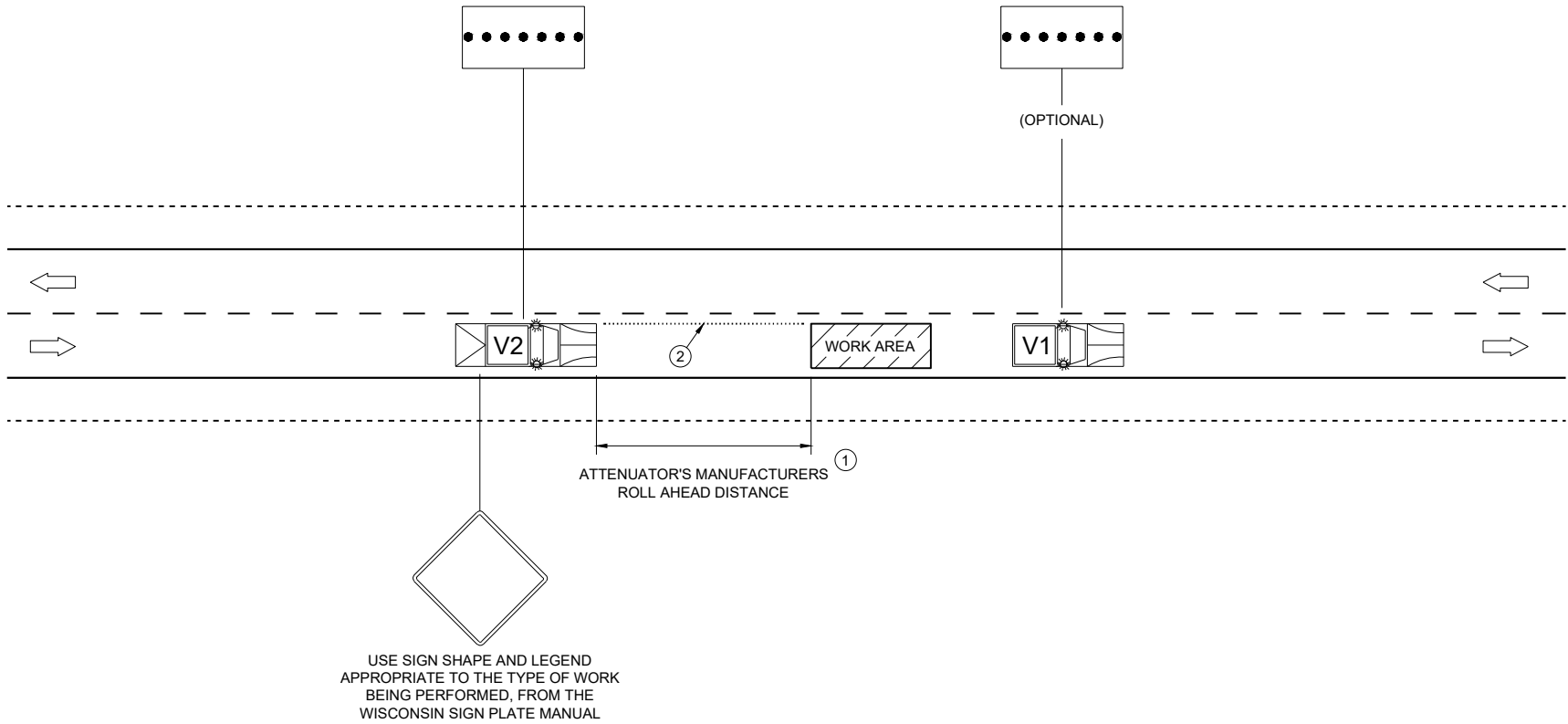
USE AN ATTENUATOR ON THE REARMOST VEHICLE THAT BLOCKS ALL OR PART OF THE TRAFFIC LANE.

WORKERS SHALL NOT PERFORM WORK FROM ANY SHADOW OR PROTECTION VEHICLES.

- ①

DISTANCE BETWEEN VEHICLES MAY INCREASE FROM THE ATTENUATOR'S ROLL AHEAD BASED ON TERRAIN, SIGHT DISTANCE, 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 OR HORIZONTAL CURVES THAT RESTRICT SIGHT DISTANCE.
- ②

ALIGN LEFT SIDE OF SHADOW VEHICLE WITH EDGE OF WORK AREA.



TRAFFIC CONTROL,
MOBILE OPERATIONS ON
AN UNDIVIDED ROADWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

November 2025

DATE

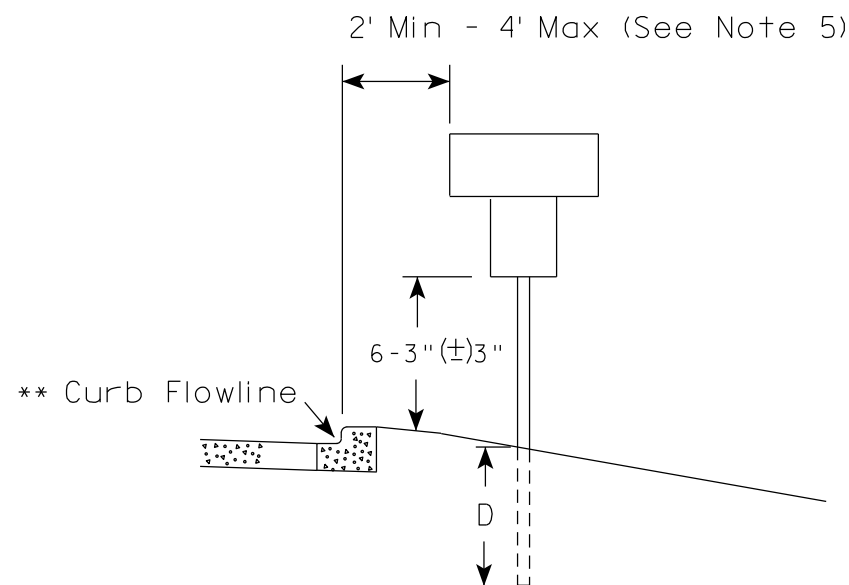
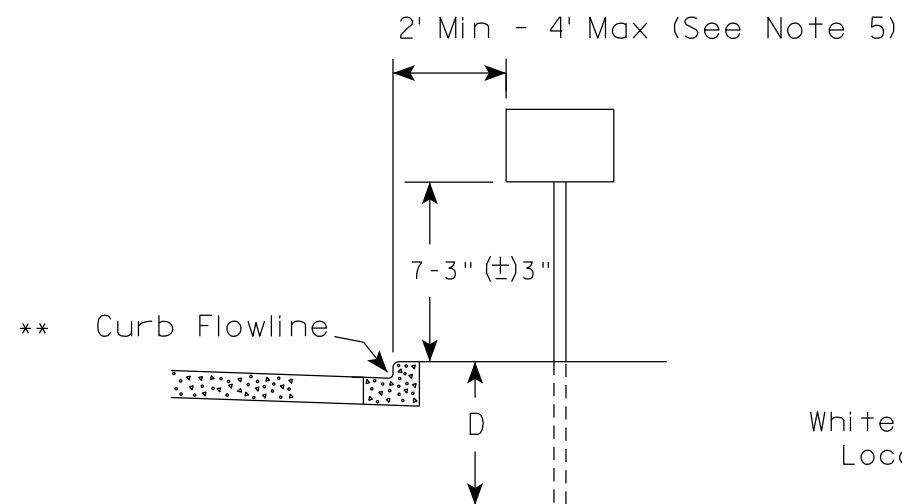
/S/ Andrew Heidtke

STATEWIDE WORK ZONE TRAFFIC SAFETY ENGINEER

FHWA

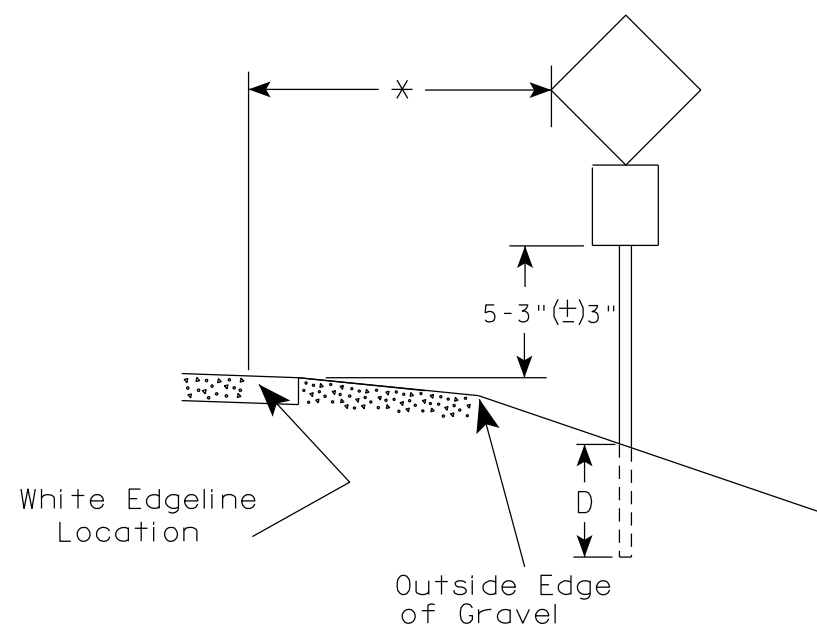
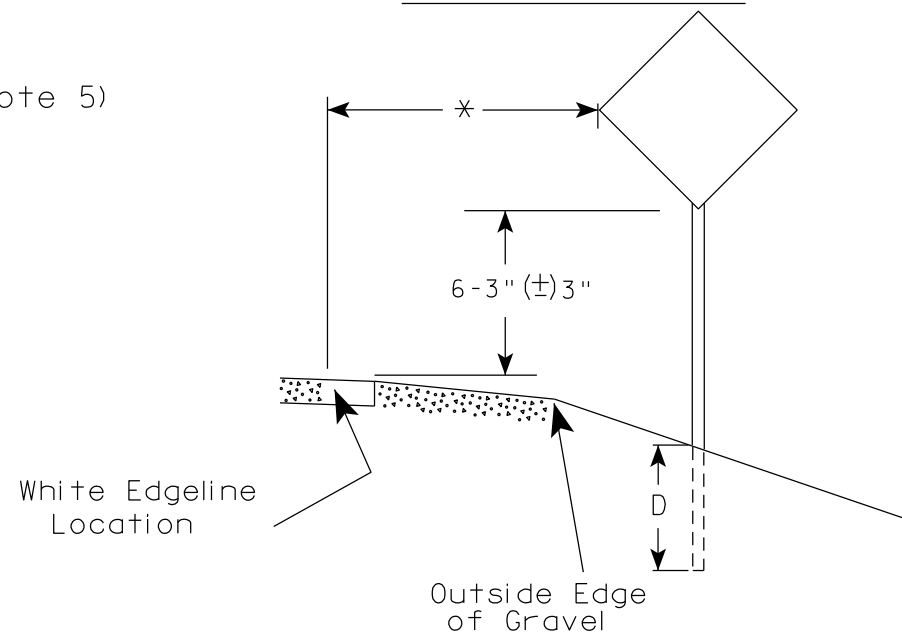
85

URBAN AREA



* * The existence of curb and gutter does not in itself mandate the vertical clearance illustrated. That height is typically measured where there is sidewalk adjacent to the roadway or parking is permitted. In the absence of sidewalk vertical clearance is measured from the top of the curb. Offset of signs is measured from the flow line.

RURAL AREA (See Note 2)



* 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.

POST EMBEDMENT DEPTH

Area of Sign Installation (Sq. Ft.)	D (Min)
20 or Less	4'
Greater than 20	5'

GENERAL NOTES

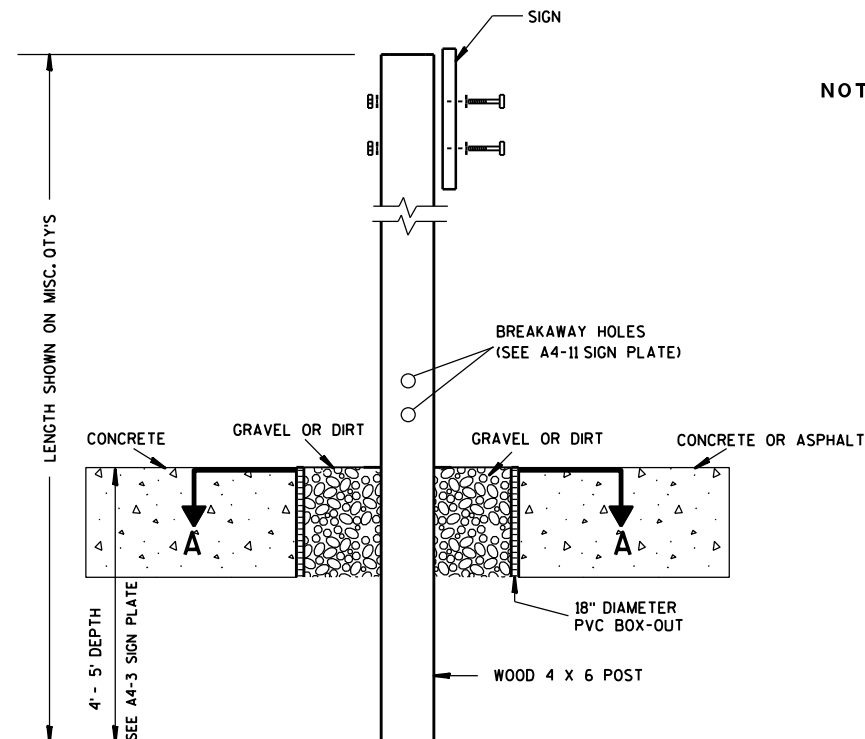
- Signs wider than 4 feet or 20 sq.ft or larger, shall be mounted on multiple posts. Refer to plate A4-4.
- If signs are mounted on or behind barrier wall, see A4-10 sign plate.
The Double Arrow sign (W12-1D) shall be mounted at a height of 2'-3" (±) 3". The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Enhanced Reference Markers, Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4'-3" (±) 3".
- For expressways and freeways, mounting height is 7'- 3" (±) 3" or 6'-3" (±) 3" depending upon existence of a sub-sign.
- Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±) 3".
- Offset distance shall be consistent with existing signs or consistent throughout length of project.
- Folding signs shall be mounted at a height of 5'-3" (±) 3" or as directed by the Engineer.

TYPICAL INSTALLATION
OF PERMANENT TYPE II
SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

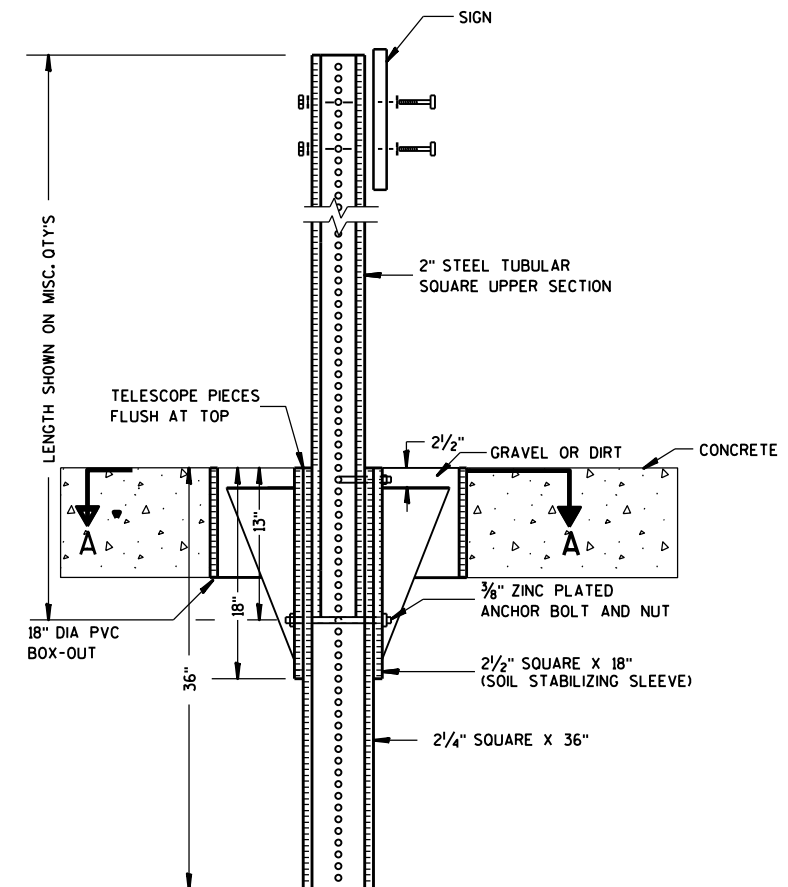
DATE 12/6/23 PLATE NO. A4-3.23



ELEVATION VIEW

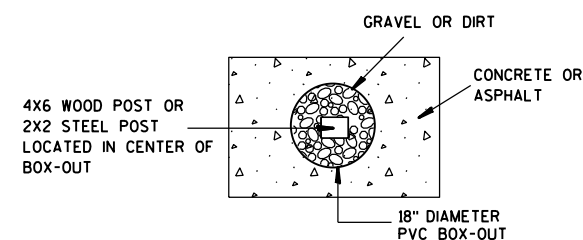
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

- NOTES: 1. ALL MATERIAL TO BE APPROVED BY ENGINEER PRIOR TO INSTALLATION
2. SEE SIGN PLATE A4-8 FOR SIGN HARDWARE REQUIREMENTS
3. 18 INCH X 18 INCH SQUARE BOX-OUTS MAY BE USED FOR INSTALLATIONS IN EXISTING CONCRETE OR ASPHALT LOCATIONS.



ELEVATION VIEW

DETAIL OF STEEL 2 X 2 SIGN POST IN BOX-OUT



PLAN VIEW

FOR NEW CONCRETE/ASPHALT INSTALLATIONS

SIGN POST
BOX-OUTS
A4-3B

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 1/27/14 PLAT 87 A4-3B.1

PROJECT NO:

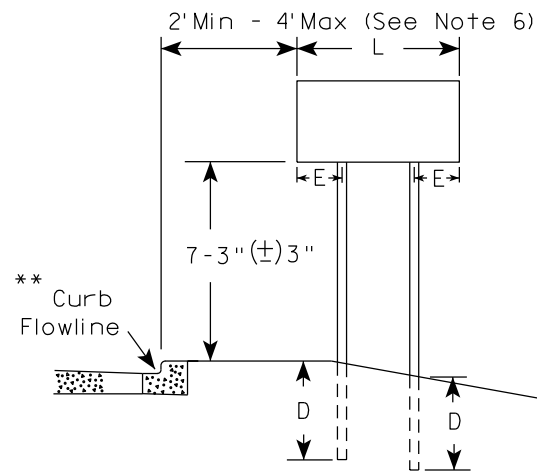
HWY:

COUNTY:

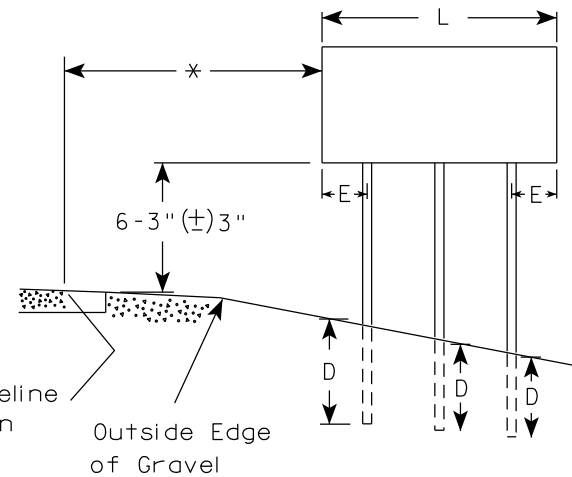
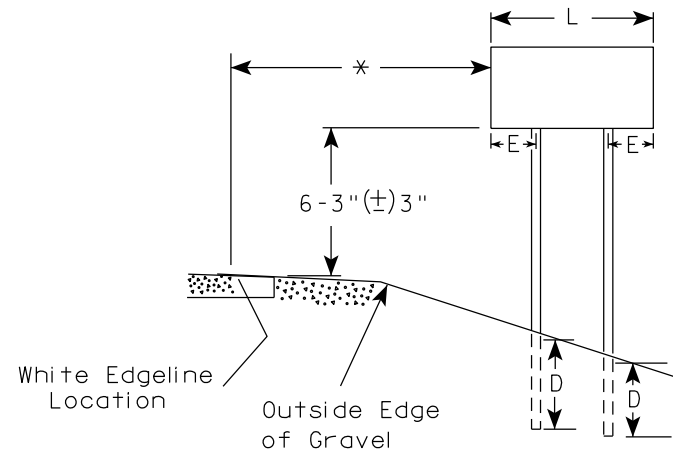
SHEET NO:

E

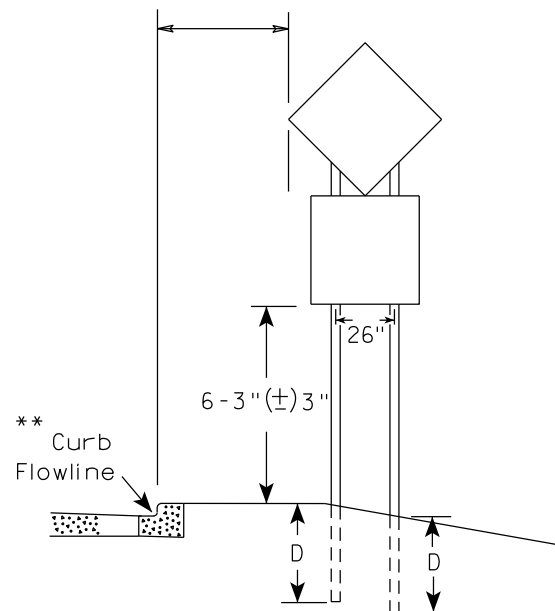
URBAN AREA



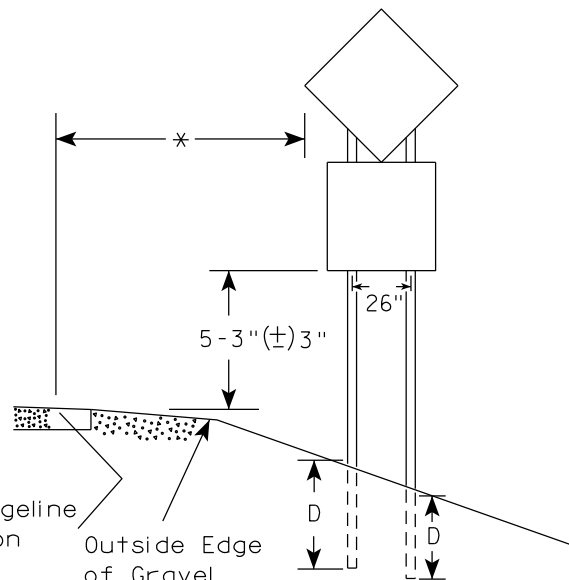
RURAL AREA (See Note 3)



2' Min - 4' Max (See Note 6)



48" DIAMOND WARNING SIGN



48" DIAMOND WARNING SIGN

SIGN SHAPE OTHER THAN DIAMOND (TWO POSTS REQUIRED)	
L	E
Greater than 48" Less than 60"	12"
60" to 108"	L/5

SIGN SHAPE OTHER THAN DIAMOND (THREE POSTS REQUIRED)	
L	E
Greater than 108" to 144"	12"

POST EMBEDMENT DEPTH

Area of Sign Installation (Sq.Ft.)	D (Min)
20 or Less	4'
Greater than 20	5'

TYPICAL INSTALLATION
OF TYPE II SIGNS
ON MULTIPLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 12/6/23 PLATE NO. A4-4.16

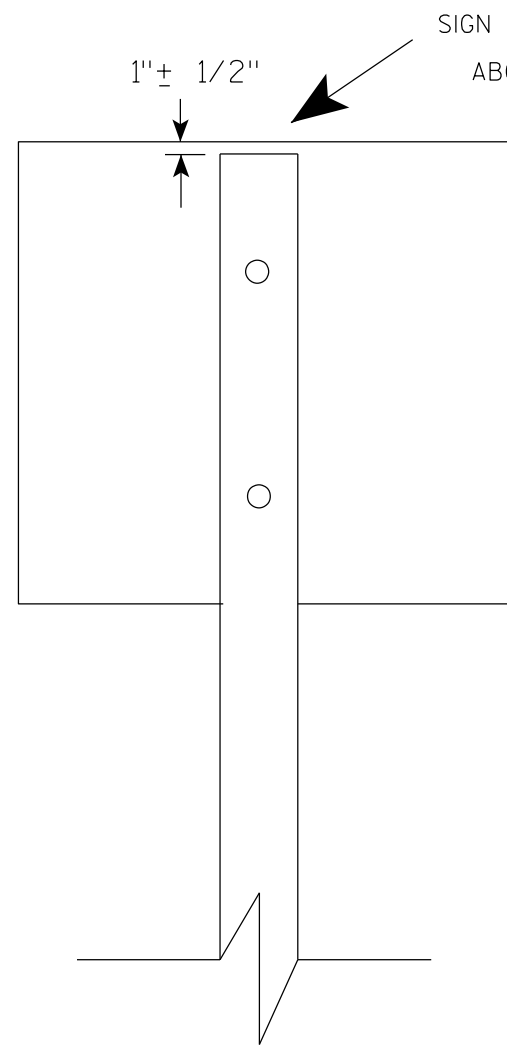
PROJECT NO:

HWY:

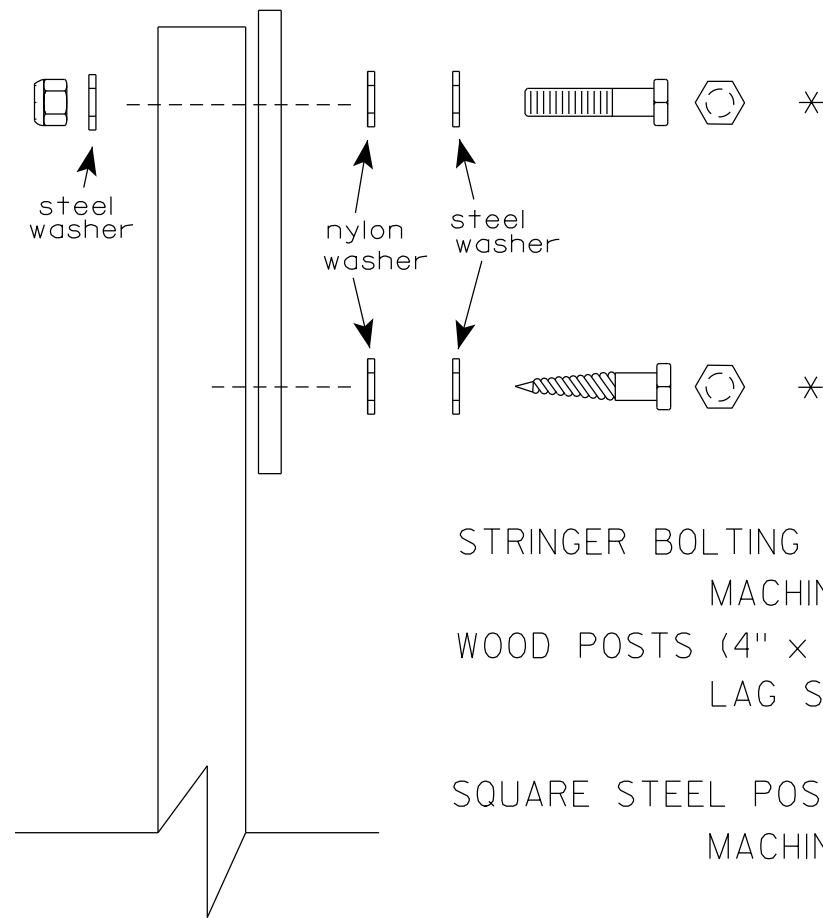
COUNTY:

SHEET NO: 88

E



SIGN SHALL BE MOUNTED TO PROJECT
ABOVE THE TOP OF THE POST



Nuts, bolts and lags used for mounting signs shall have hexagonal heads and shall be either :

- a. Hot dip galvanized in accordance with ASTM Designation: A 153, Class D, or SC 3
- b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.

Threads on bolts and nuts shall be manufactured with sufficient allowance for the cadmium plate or galvanized coating to permit the nuts to run freely on the bolts.

STRINGER BOLTING TO ALUMINUM SIGNS (SEE SIGN PLATE A4-18)

MACHINE BOLTS - $\frac{5}{16}$ " X 1-3/4" Length w/ lock nuts

WOOD POSTS (4" x 6")

LAG SCREWS - $\frac{3}{8}$ " X 3" (NO STRINGERS ON BACK OF SIGN)
 $\frac{3}{8}$ " X 4" (STRINGERS ON BACK OF SIGN)

SQUARE STEEL POSTS (2" x 2")

MACHINE BOLTS - $\frac{3}{8}$ " X 3-1/4" Length w/ nuts (NO STRINGER ON BACK OF SIGN)
 $\frac{3}{8}$ " X 5" Length w/ nuts (STRINGERS ON BACK OF SIGN)

RIVETS - $\frac{9}{32}$ " (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL
O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH

WASHERS (ALL POSTS) -

1-1/4" O.D. X $\frac{3}{8}$ " I.D. X $\frac{1}{16}$ " STEEL

1-1/4" O.D. X $\frac{3}{8}$ " I.D. X .080 NYLON

* Two different fastening systems are shown for illustration purposes. On any individual sign, either one or the other system shall be used. Actual number of fasteners per sign varies with the sign area, but normally there are two. For a single post installation, all signs greater than 9 sq. ft. require the use of 3 fasteners.

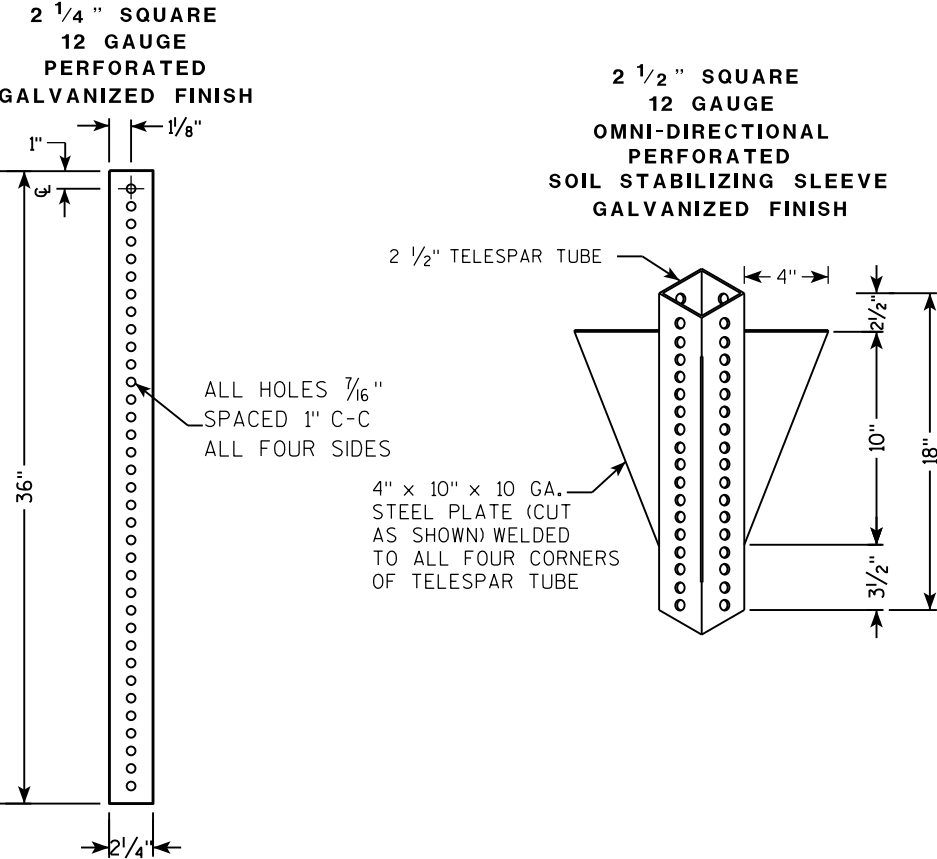
ATTACHMENT OF SIGNS TO POSTS

WISCONSIN DEPT OF TRANSPORTATION

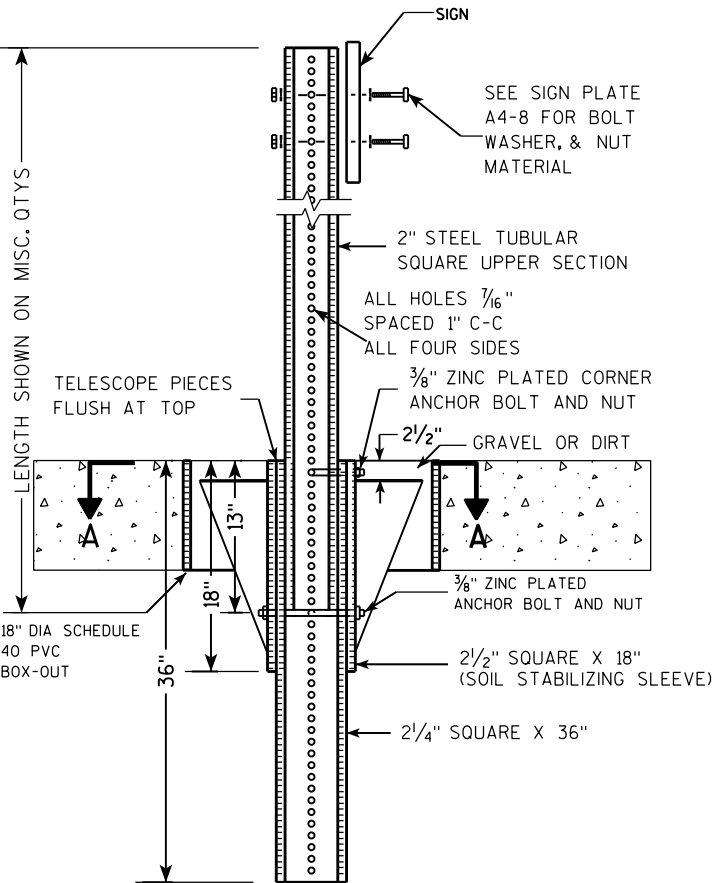
APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 4/1/2020 PLATE NO. A4-8.9

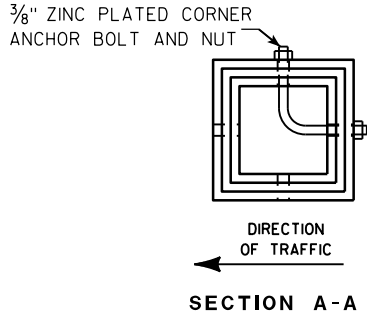
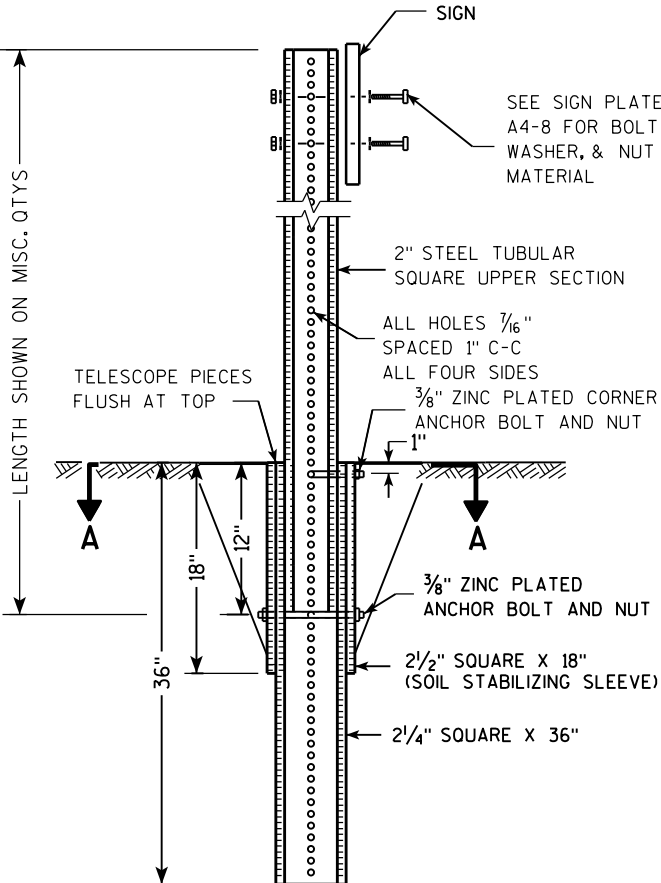
TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM



DETAIL OF TUBULAR STEEL SIGN POST
(IN POURED CONCRETE OR ASPHALT)



DETAIL OF TUBULAR STEEL SIGN POST
(IN LOCATIONS OTHER THAN POURED CONCRETE OR ASPHALT)



Area of Sign Installation (Sq. Ft.)	Number of Required Posts
9 or less	1
Greater than 9 less than or equal to 18	2
Greater than 18 less than or equal to 27	3

Signs wider than 3 feet or larger than 9 sq. ft shall be mounted on multiple posts (see above table).

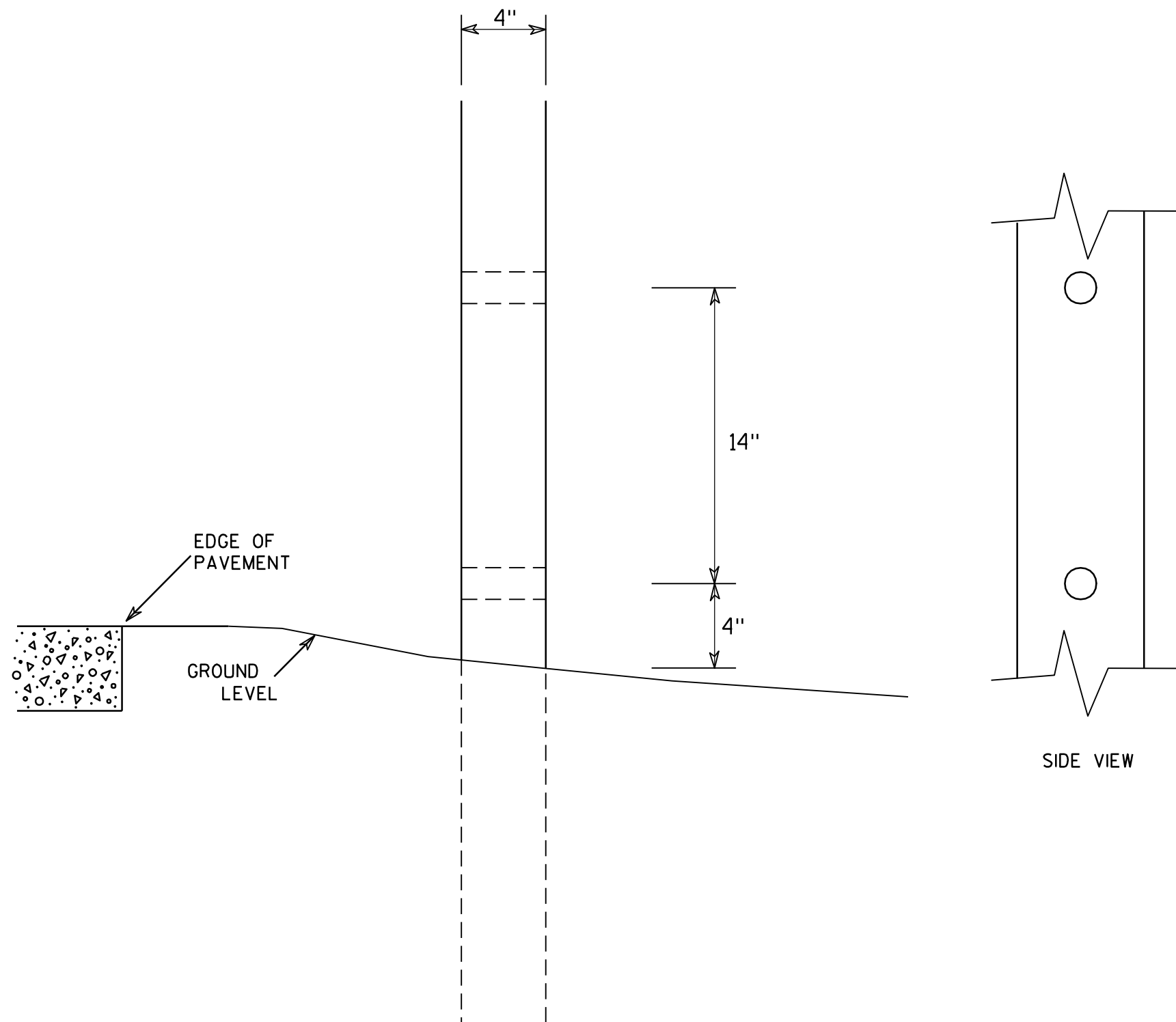
TUBULAR STEEL
SIGN POST
A4-9

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 2/05/15 PLAT 90 14-9.9

7

GENERAL NOTES

1. All 4 x 6 Wood Posts shall be modified by having two 1½" diameter holes drilled perpendicular to the roadway centerline.

7

**4 X 6 WOOD POST
MODIFICATIONS**

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

Chester J. Spang
for State Traffic Engineer

DATE 3/27/97

PLATE NO. A4-11.2

PROJECT NO:

HWY:

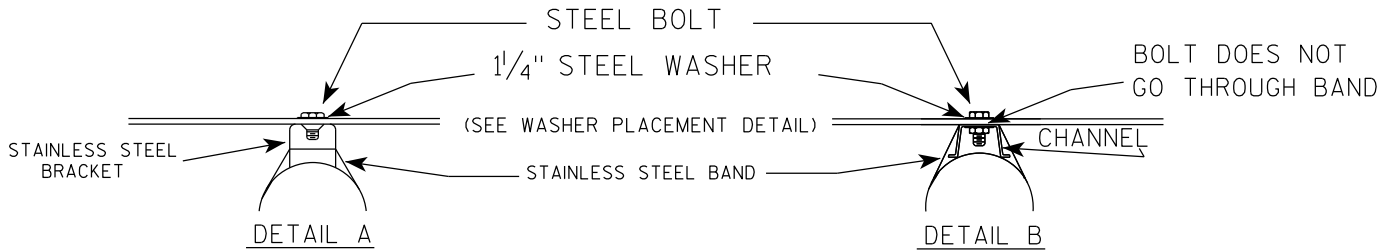
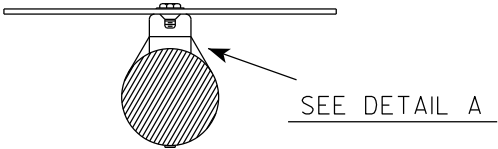
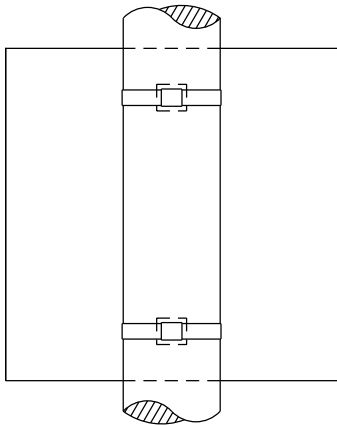
COUNTY:

SHEET NO: 91

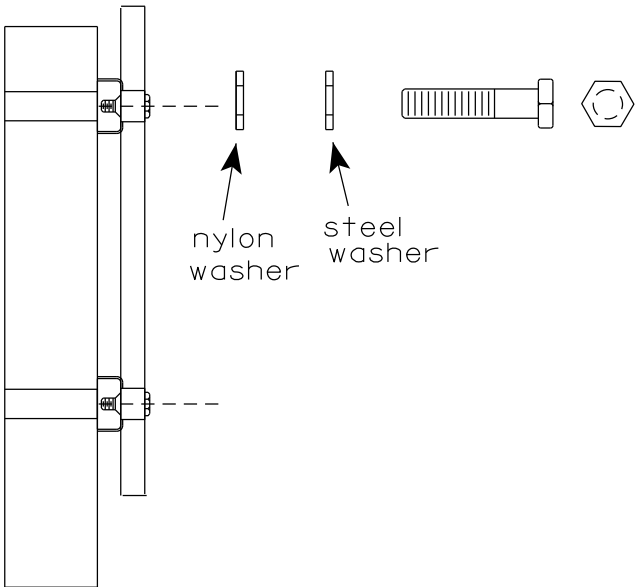
E

BANDING

SINGLE SIGN



WASHER PLACEMENT

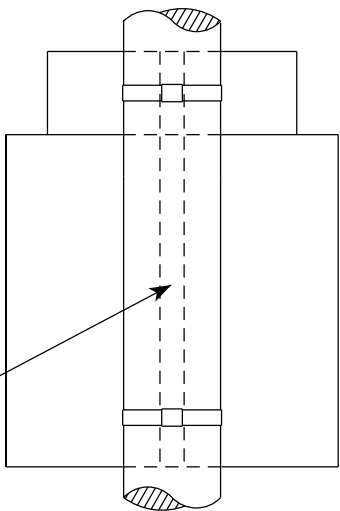


WASHERS (ALL POSTS) -
1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON
FOR ALL TYPE H SIGNS

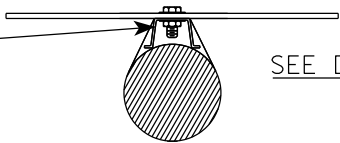
GENERAL NOTES

1. Any sign over 3 feet in width shall use the V-Block banding method. See A5-10 standard plate.
2. Signs 3 feet or greater in height shall have three bracket bands installed. Signs less than 3 feet in height shall have two bracket bands installed.
3. Banding and assembly bracket shall be stainless steel. All bands shall be 3/4" in width and 0.025" thickness.
4. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
 - a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D
 - b. Electro-galvanized in accordance with ASTM designation: B 633, Type III, SC 3

"J" ASSEMBLY



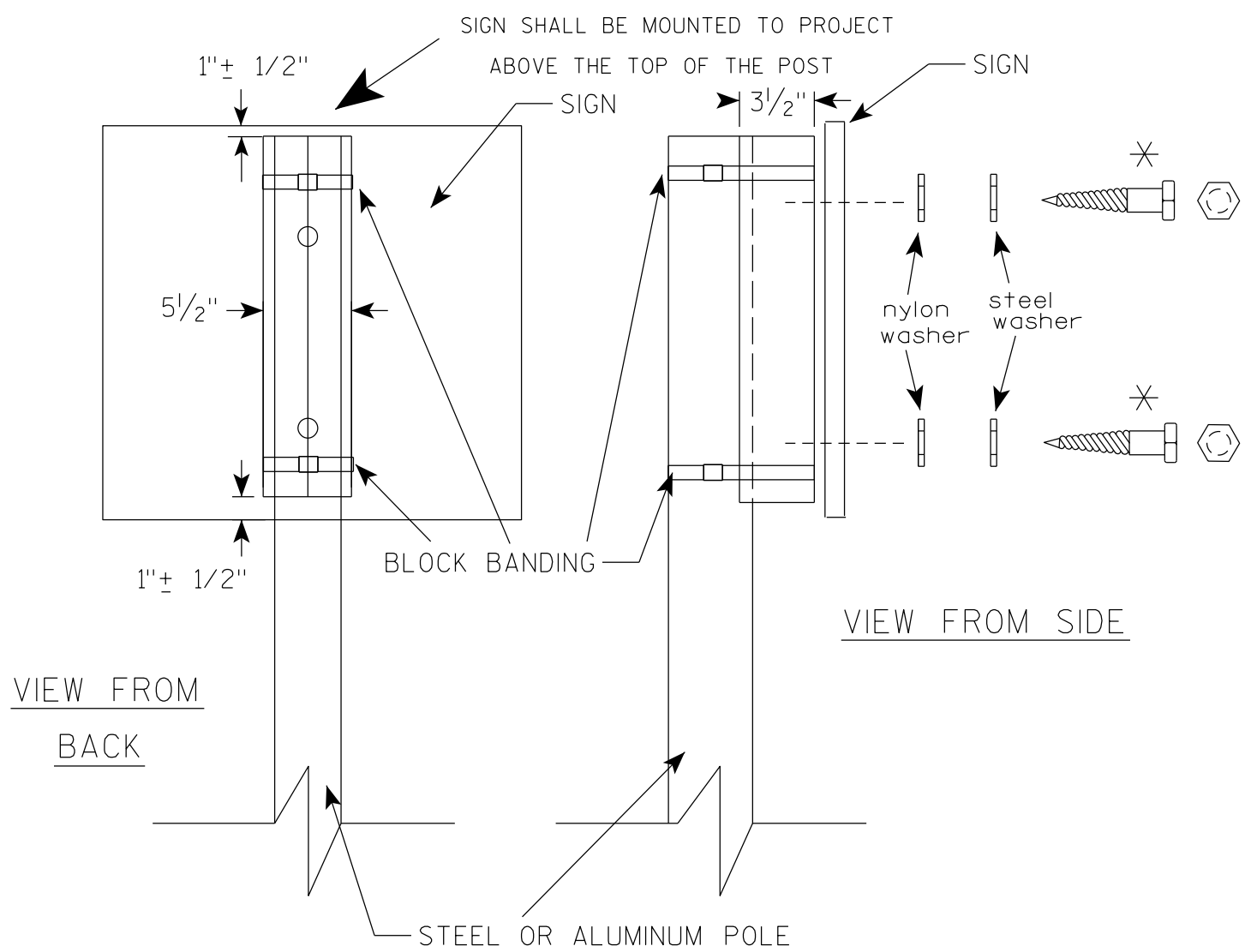
CHANNEL
SEE TYPICAL PANEL
INSTALLATION SHEET



STANDARD SIGN
SIGN BANDING DETAILS

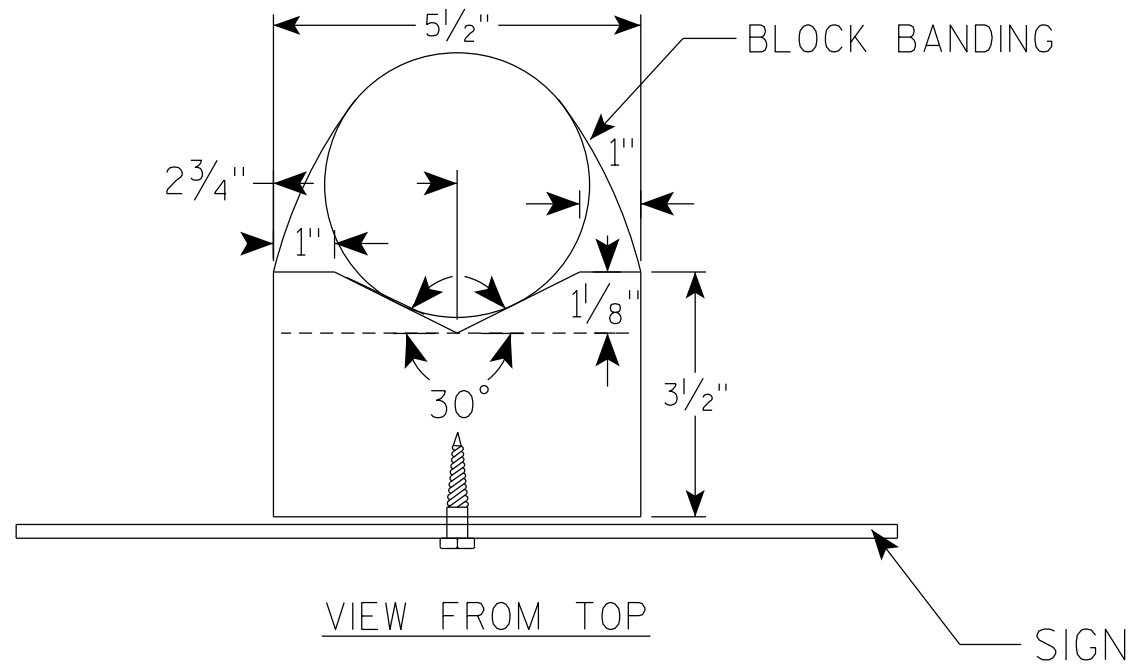
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer
DATE 6/10/19 PLATE NO. A5-9.4



VIEW FROM
BACK

VIEW FROM SIDE



VIEW FROM TOP

GENERAL NOTES

1. WOOD 4"X6" POST MATERIAL SHALL CONFORM TO 507.2.2 OF THE WISDOT STANDARD SPECIFICATIONS
2. BLOCK BANDING AND CLIPS SHALL BE STAINLESS STEEL, $\frac{3}{4}$ " WIDTH AND 0.025" THICKNESS
3. SIGNS 3' OR GREATER IN HEIGHT SHALL UTILIZE 3 BLOCK BANDS. SIGNS UNDER 3' IN HEIGHT SHALL UTILIZE 2 BLOCK BANDS
4. ACTUAL NUMBER OF FASTENERS PER SIGN VARIES WITH THE SIGN AREA, BUT NORMALLY THERE ARE TWO. FOR SIGNS GREATER THAN 9 S.F. 3 FASTENERS SHALL BE USED.
5. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
 - a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D
 - b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3
6. ALL BOLTS SHALL HAVE HEXAGONAL HEADS.
7. STEEL WASHERS SHALL BE $\frac{1}{4}$ " O.D. X $\frac{3}{8}$ " I.D. X $\frac{1}{16}$ "
8. NYLON WASHERS SHALL BE $\frac{1}{4}$ " O.D. X $\frac{3}{8}$ " I.D. X .080 FOR TYPE H OR TYPE F FACE SIGN

✱ LAG BOLTS SHALL BE $\frac{3}{8}$ " X $2\frac{1}{2}$ "

BLOCK BANDING DETAIL
(V-BLOCK OPTION)

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 4/19/2022 PLATE NO. A5-10.3

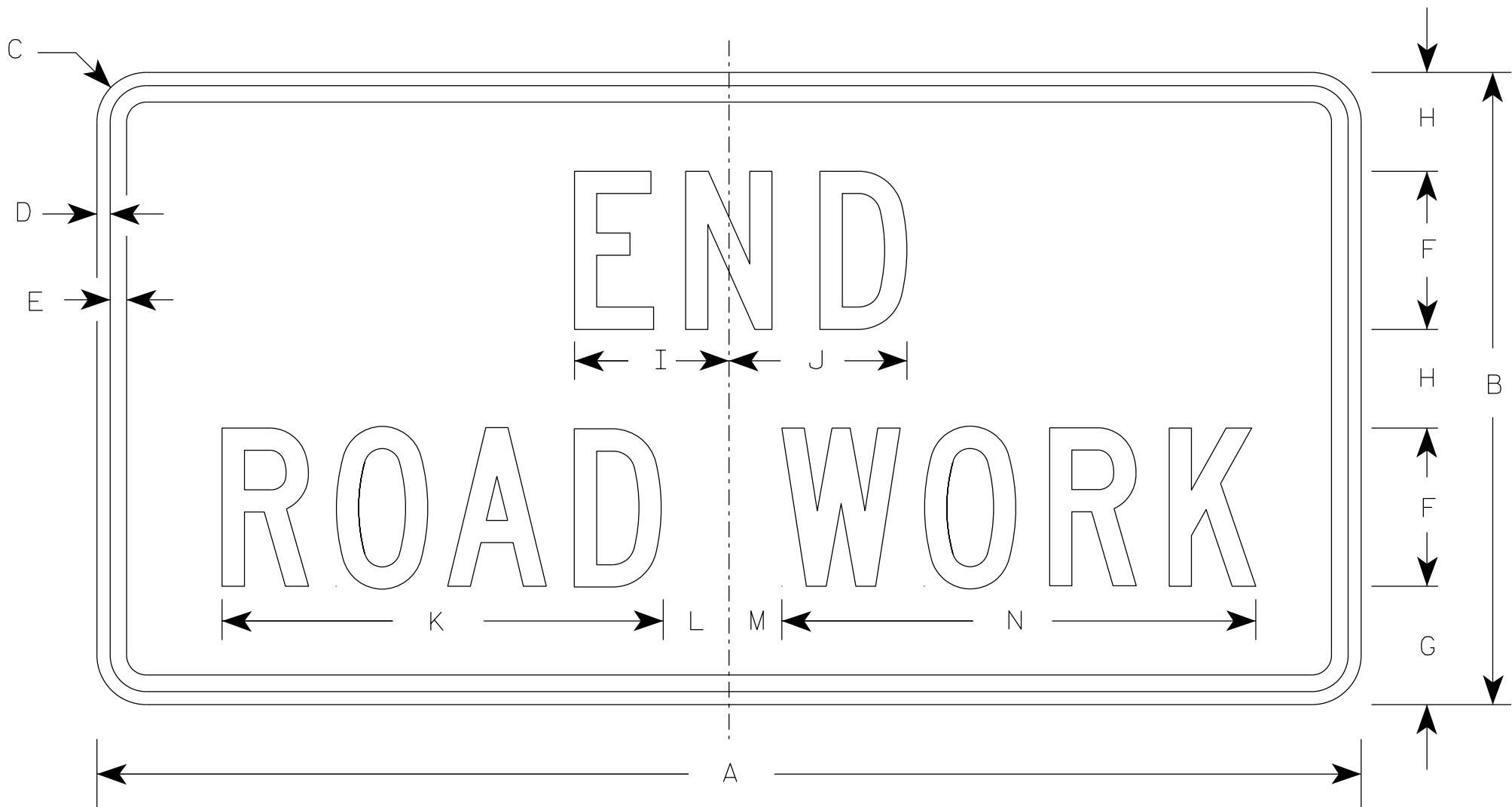
PROJECT NO:

SHEET NO: 93

E

NOTES

- 1. Sign is Type II - Type F Reflective
- 2. Color:
 - Background - Orange
 - Message - Black
- 3. Message Series - C
- 4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.



G20-2A

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36	18	1 1/2	3/8	1/2	4	3 3/4	2 1/2	4 1/8	4 1/8	11 1/8	2	1	12 1/8													4.5
2	48	24	1 7/8	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0
2M	48	24	1 7/8	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0
3	48	24	1 7/8	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0
4	48	24	1 7/8	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0
5	48	24	1 7/8	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0

STANDARD SIGN

G20-2A

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 1/26/2023 PLATE NO. G20-2A.10

PROJECT NO:

HWY:

COUNTY:

SHEET NO: 94

E

NOTES

- 1. Sign is Type II - Type F Reflective
- 2. Color:
 - Background - Orange
 - Message - Black
- 3. Message Series - D
- 4. Substitute appropriate numeral and adjust spacing to achieve proper balance.



G20-57

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2																											
3	72	36	1 1/8	1/2	5/8	6	5	4	15 5/8	1 5/8	5	9 1/4	21 1/4	3 1/2	1 1/2	23 1/4		29 7/8	1 3/4	3 1/4	28 1/2						18.0
4	96	48	2 1/4	3/4	1	8	6 1/2	5 1/2	20 5/8	2 1/4	6	12 1/4	28 1/4	4 3/8	1 5/8	31		39 1/4	2	4	37 7/8						32.0
5																											

STANDARD SIGN
G20-57

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer

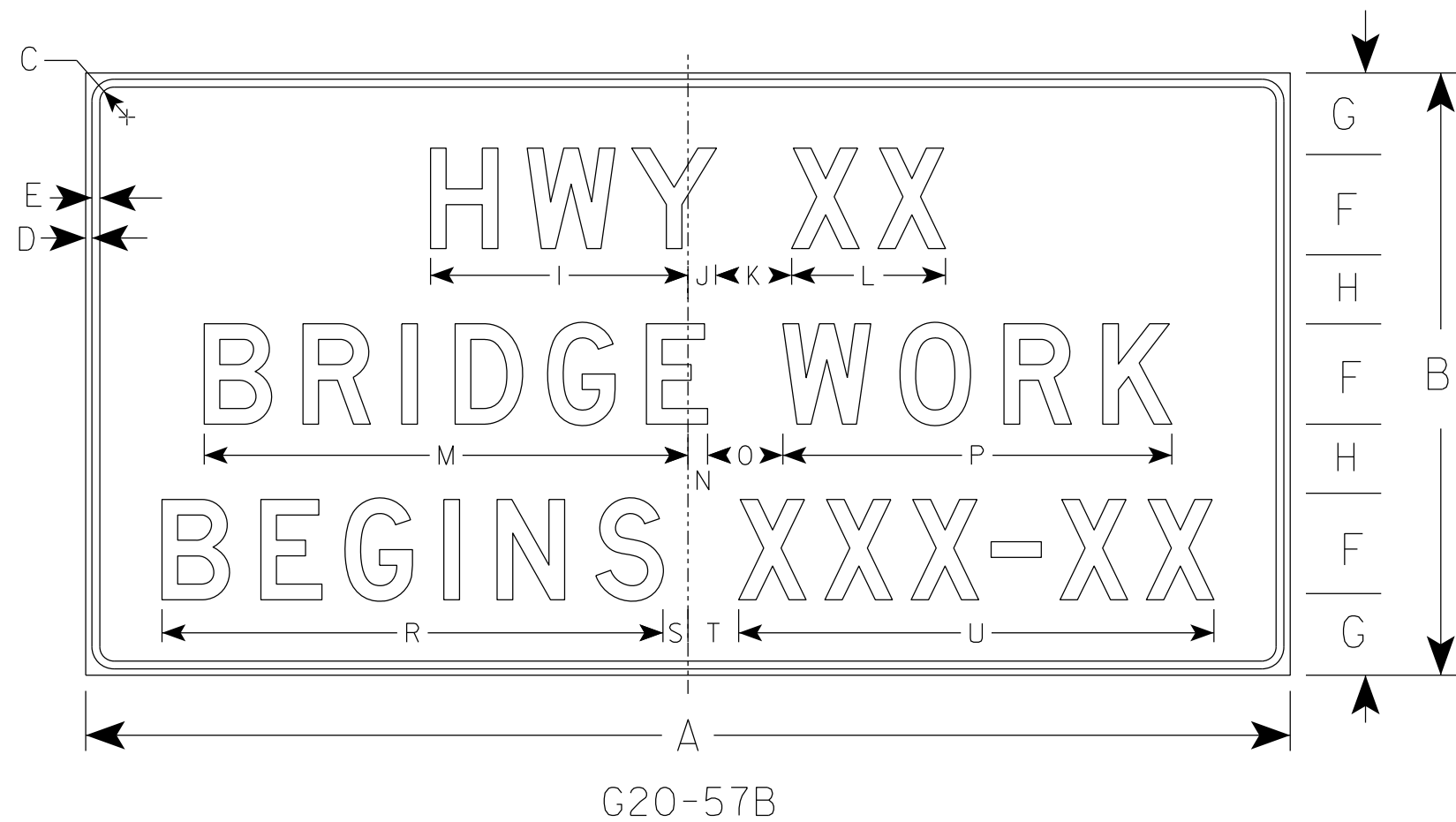
DATE 1/22/19 PLATE NO. G20-57.3

7

7

NOTES

- 1. Sign is Type II - Type F Reflective
- 2. Color:
 - Background - Orange
 - Message - Black
- 3. Message Series - D
- 4. Substitute appropriate numeral and adjust spacing to achieve proper balance.



G20-57B

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2																											
3	72	36	1 1/8	1/2	5/8	6	5	4	15 5/8	1 5/8	5	9 1/4	29 1/8	7/8	5	23 1/4		29 7/8	1 3/4	3 1/4	28 1/2						18.0
4	96	48	2 1/4	3/4	1	8	6 1/2	5 1/2	20 5/8	2 1/4	6	12 1/4	38 1/2	1 1/2	6	31		39 1/4	2	4	37 7/8						32.0
5																											

PROJECT NO:

HWY:

COUNTY:

SHEET NO: 96

E

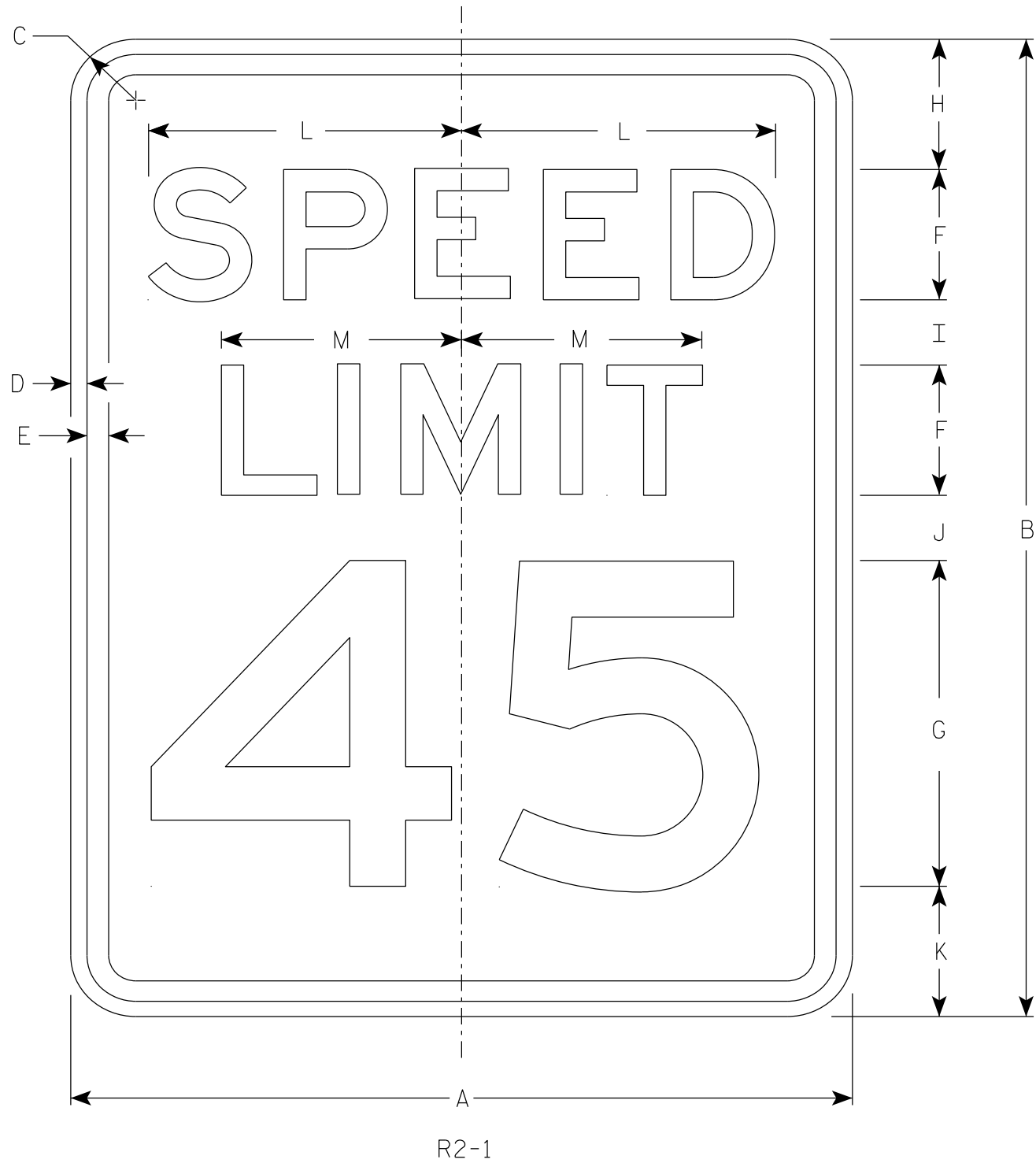
STANDARD SIGN
G20-57B

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 1/22/19 PLATE NO. G20-57B.1

7



NOTES

- 1. Sign is Type II - Type H Reflective
- 2. Color:
 - Background - White
 - Message - Black
- 3. Message Series - E
- 4. Substitute appropriate numerals and optically adjust spacing to achieve proper balance.

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	18	24	1 1/2	3/8	1/2	3	8	3	2	2	3	7 1/4	5 1/2														3.0
2S	24	30	1 1/2	3/8	1/2	4	10	3	2 1/4	3 3/8	3 3/8	9 5/8	7 3/8														5.0
2M	30	36	1 7/8	1/2	5/8	5	12	5	2 1/2	2 1/2	4	12	9 1/4														7.5
3	36	48	1 7/8	1/2	5/8	6	14	6	5	5	6	14 3/8	11														12.0
4	36	48	1 7/8	1/2	5/8	6	14	6	5	5	6	14 3/8	11														12.0
5	48	60	3	3/4	1	8	20	6	4 1/2	6 3/4	6 3/4	19 1/4	14 5/8														20.0

STANDARD SIGN

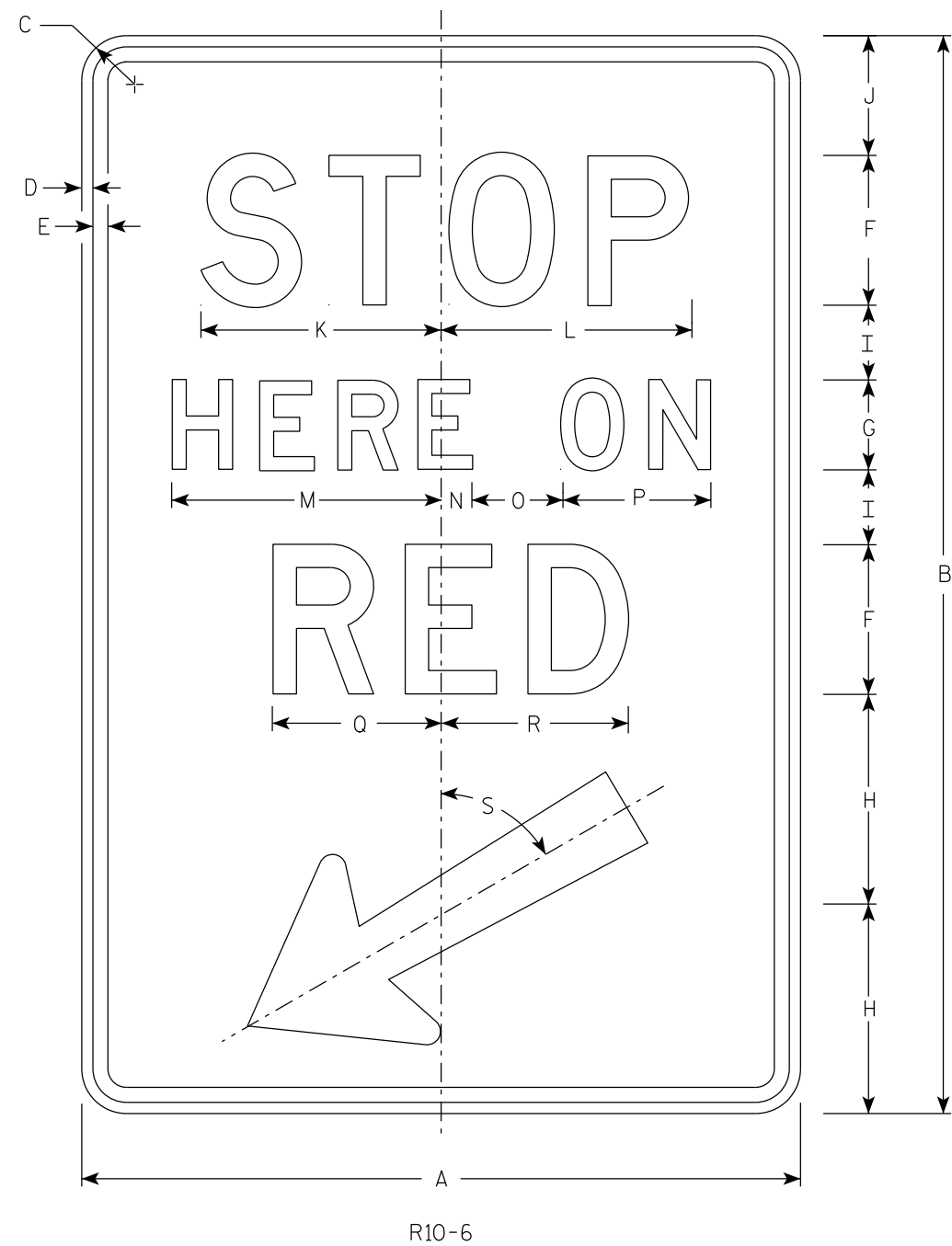
R2 - 1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

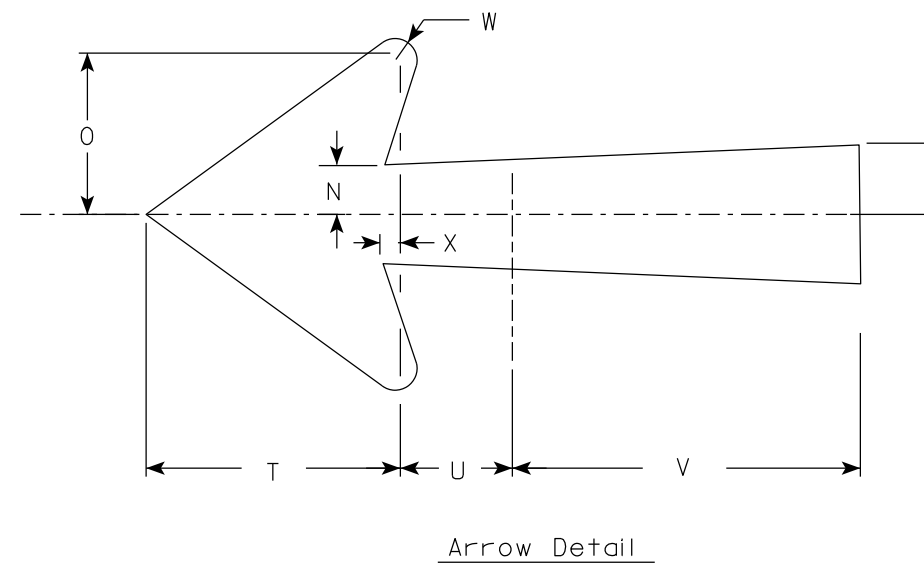
DATE 2/1/23 PLATE NO. R2-1.14

7



NOTES

- 1. Sign is Type II - Type H Reflective
- 2. Color:
Background - White
Message - Black
- 3. Message Series - D



7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Areq sq. ft.
1																											
2S	24	36	1 1/2	3/8	1/2	5	3	7	2 1/2	4	8	8 3/8	9	1	3	5	5 5/8	6 1/4	60°	5 1/4	2 1/4	7 1/8	1/2	3/8	1 3/8		6.0
2M	24	36	1 1/2	3/8	1/2	5	3	7	2 1/2	4	8	8 3/8	9	1	3	5	5 5/8	6 1/4	60°	5 1/4	2 1/4	7 1/8	1/2	3/8	1 3/8		6.0
3																											
4																											
5																											

PROJECT NO:

HWY:

COUNTY:

SHEET NO: 98

E

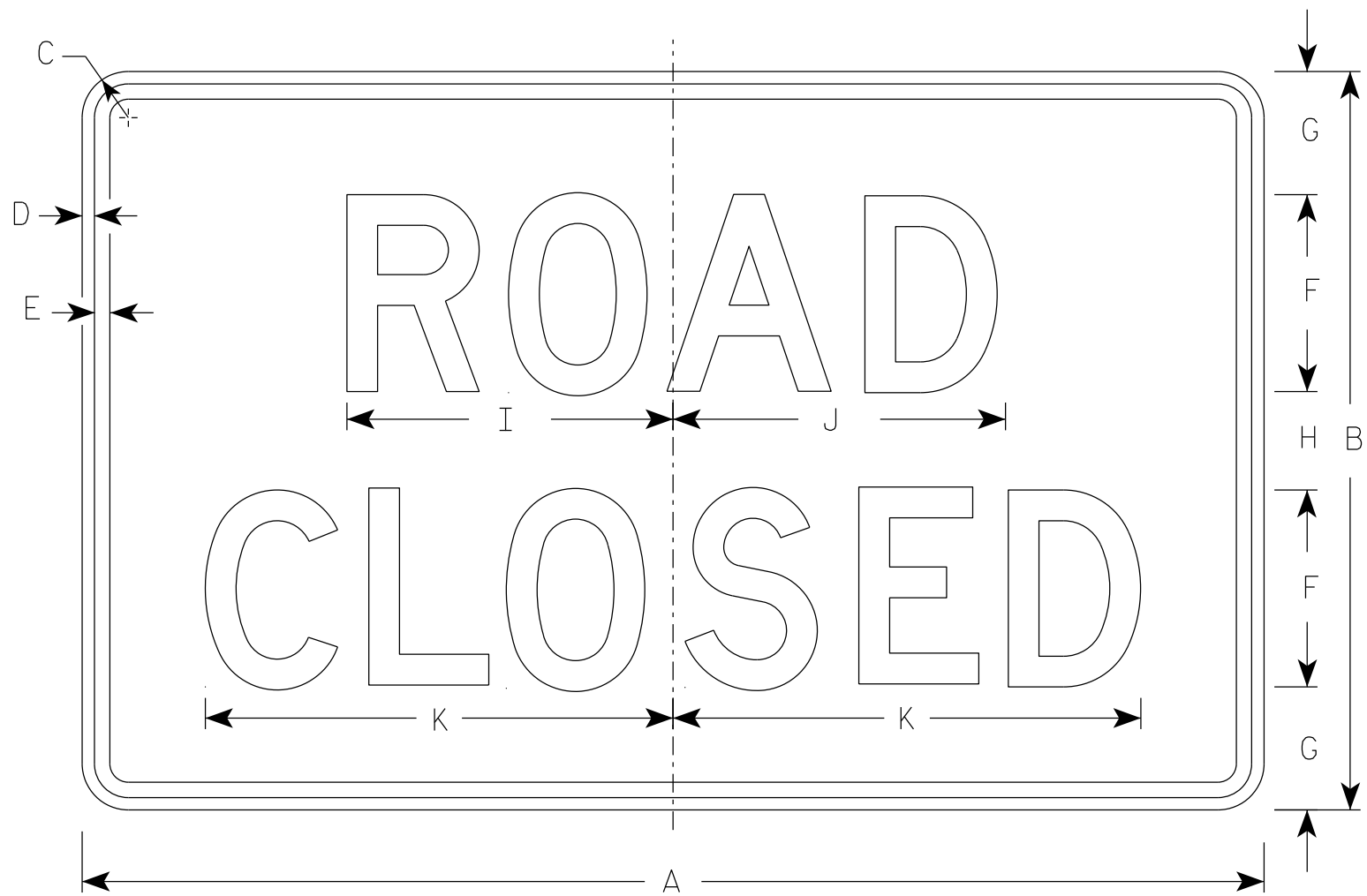
FILE NAME : C:\CAEfiles\Projects\tr_stdplate\R106.dgn

PLOT DATE : 25-JAN 2024 11:01

PLOT BY : mscj9h

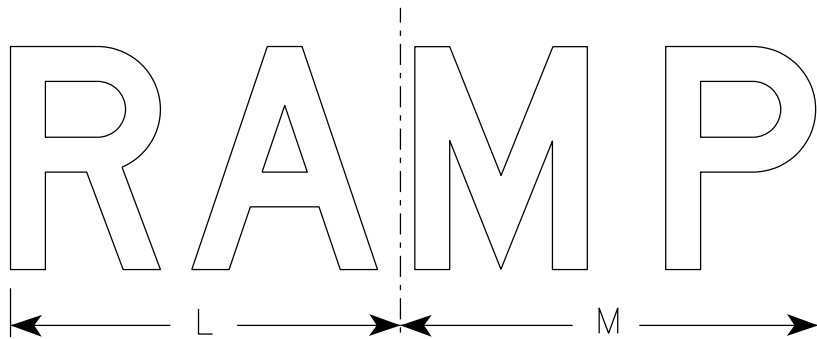
PLOT NAME :

PLOT SCALE : \$\$.....plotscale.....\$\$WISDOT/CADDs SHEET 42

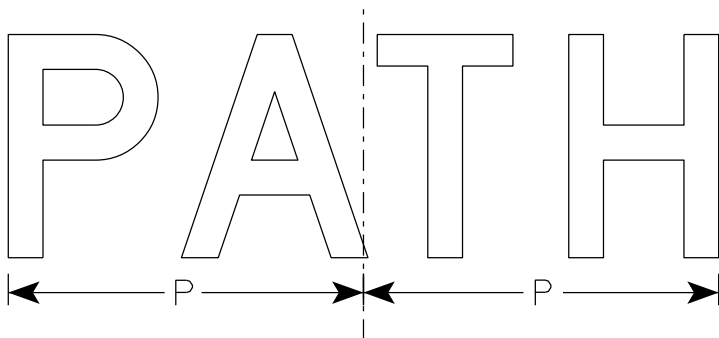


R11-2

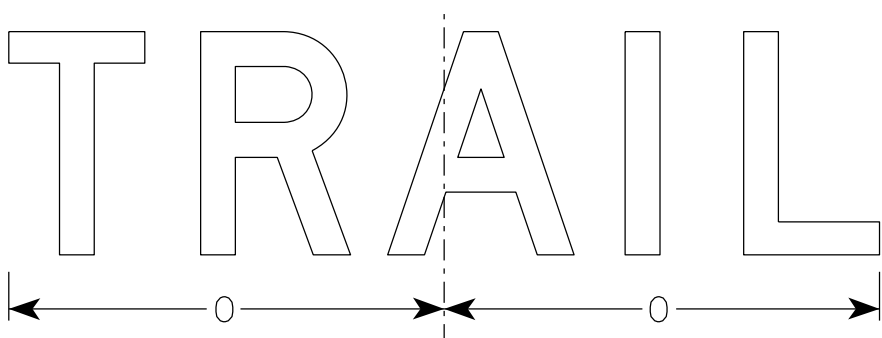
- NOTES
1. Sign is Type II - Type H Reflective
 2. Color:
Background - White
Message - Black
 3. Message Series - D
 4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
 5. Modify the message as required.



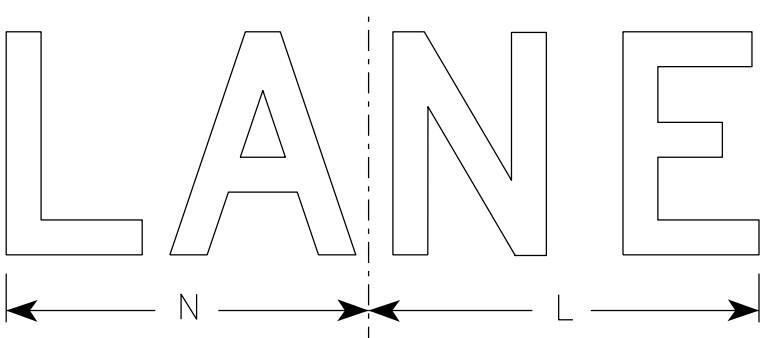
R11-2R



R11-2C



R11-2T



R11-2L

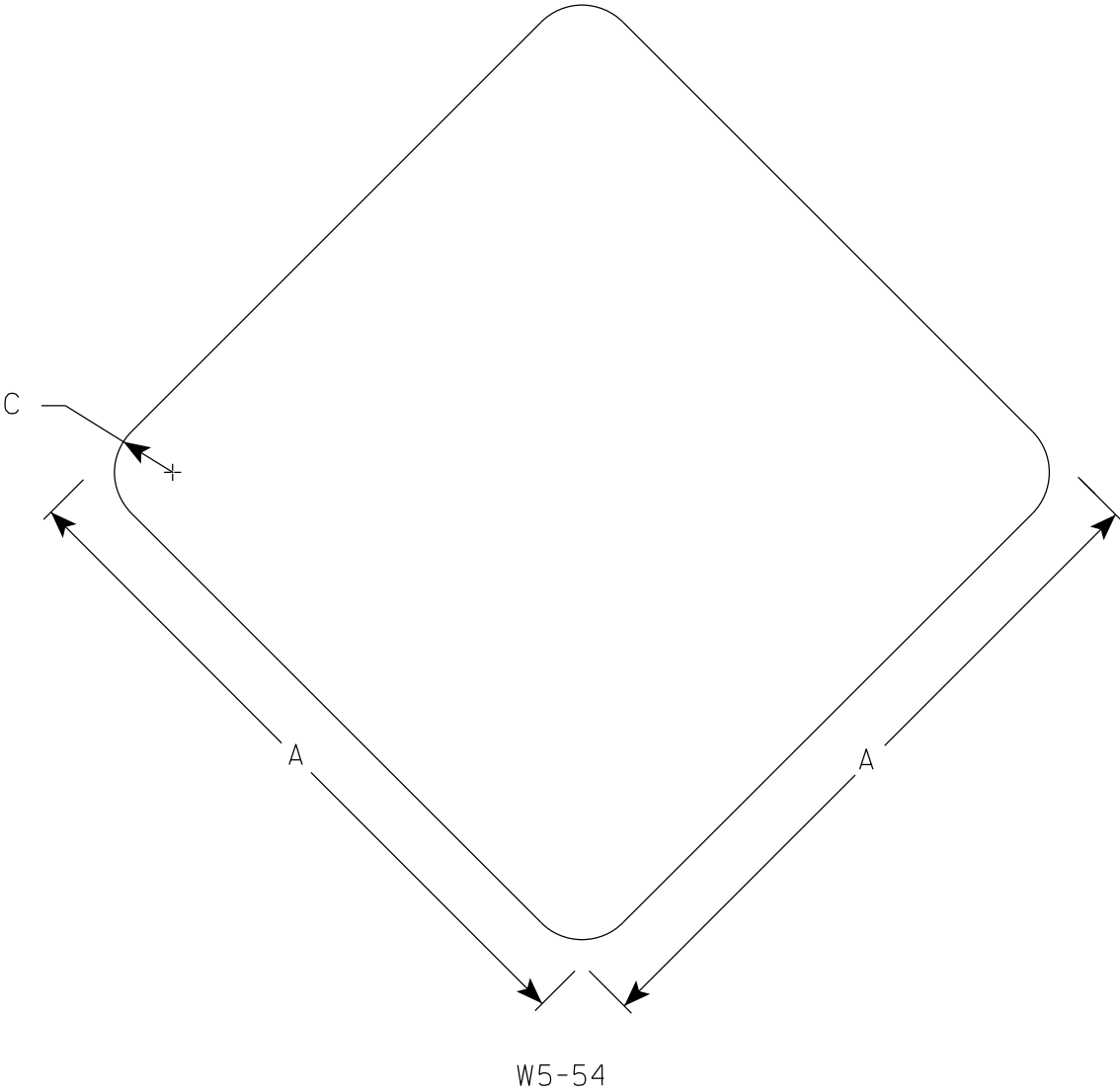
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	48	30	1 7⁄8	1⁄2	5⁄8	8	5	4	13 1⁄4	13 1⁄2	19	14	15	13	15 5⁄8	12 3⁄4											10.0
2M	48	30	1 7⁄8	1⁄2	5⁄8	8	5	4	13 1⁄4	13 1⁄2	19	14	15	13	15 5⁄8	12 3⁄4											10.0
3	48	30	1 7⁄8	1⁄2	5⁄8	8	5	4	13 1⁄4	13 1⁄2	19	14	15	13	15 5⁄8	12 3⁄4											10.0
4	48	30	1 7⁄8	1⁄2	5⁄8	8	5	4	13 1⁄4	13 1⁄2	19	14	15	13	15 5⁄8	12 3⁄4											10.0
5	48	30	1 7⁄8	1⁄2	5⁄8	8	5	4	13 1⁄4	13 1⁄2	19	14	15	13	15 5⁄8	12 3⁄4											10.0

STANDARD SIGN R11-2	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> For State Traffic Engineer
DATE 2/3/26	PLATE NO. R11-2.13

NOTES

1. Sign is Type II - Type F Reflective
2. Color:

Background - Yellow



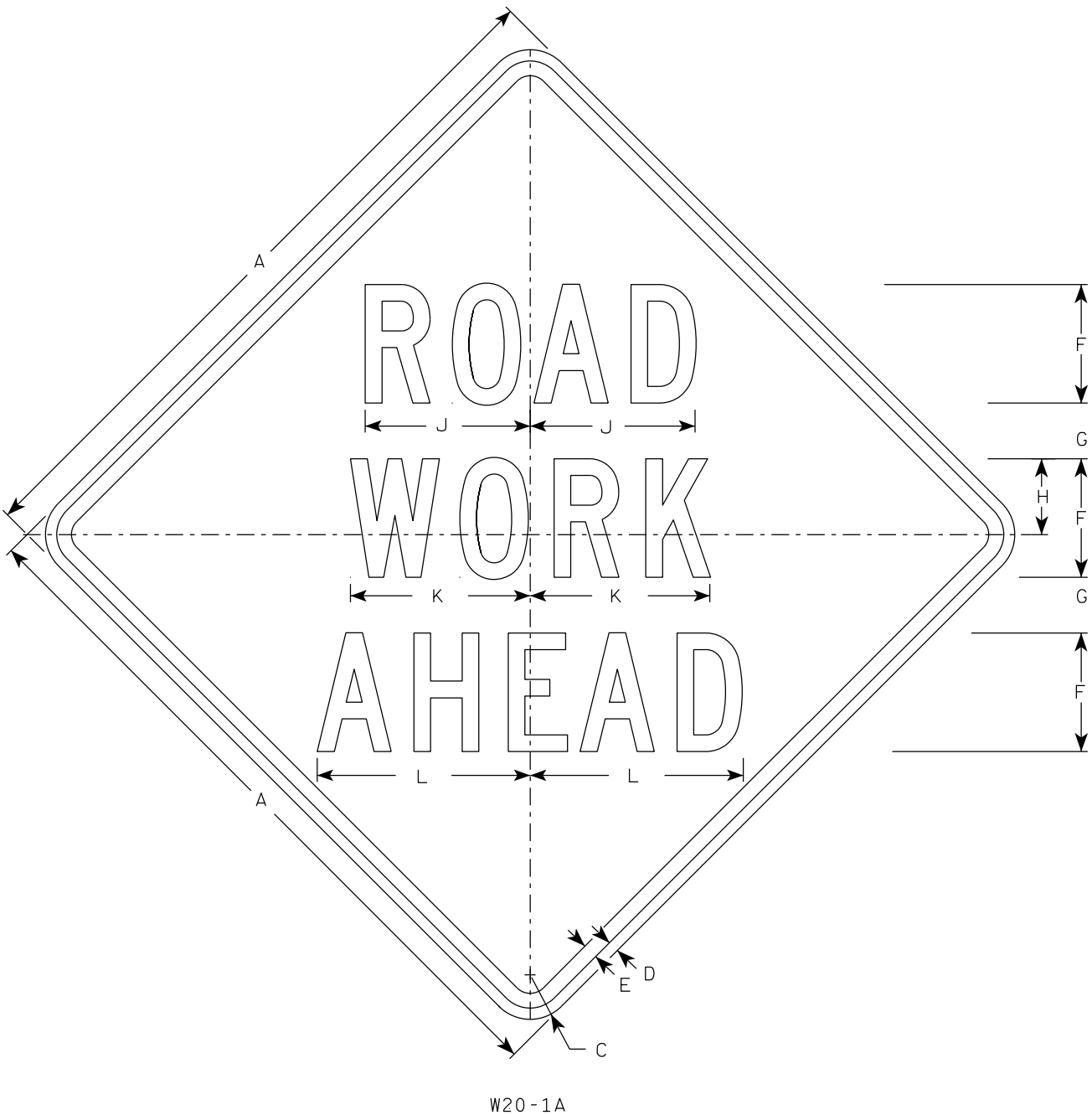
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	12		1 1/2																								1.0
2S	18		1 1/2																								2.25
2M	18		1 1/2																								2.25
3																											
4																											
5																											

STANDARD SIGN
W5-54

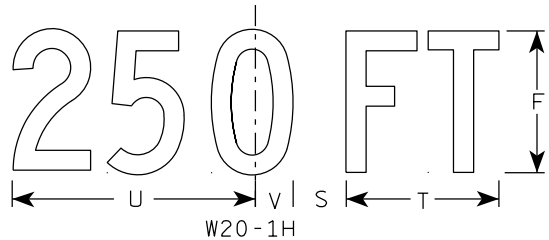
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

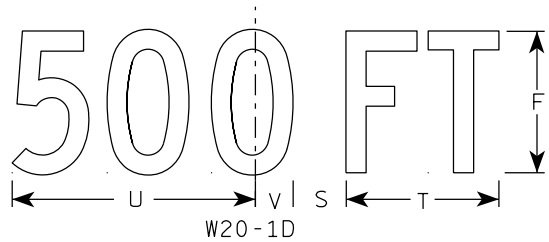
DATE 3/5/2024 PLATE NO. W5-54.9



W20-1A



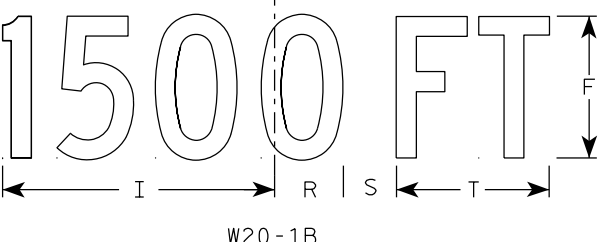
W20-1H



W20-1D

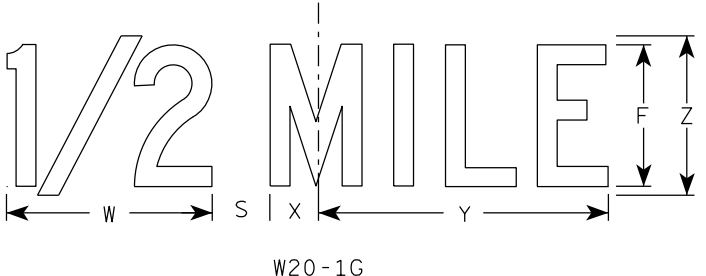


W20-1C

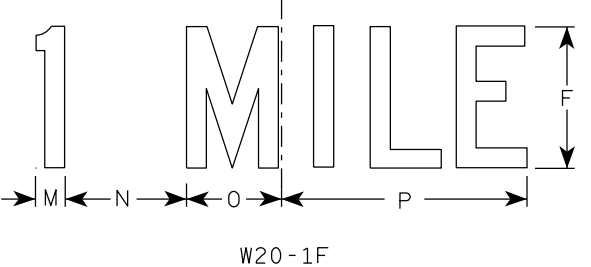


W20-1B

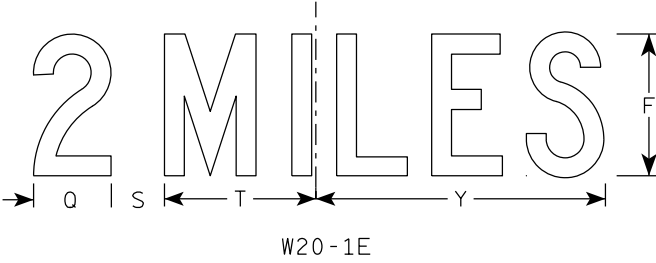
- NOTES
- 1. Sign is Type II - Type F Reflective
 - 2. Color:
 - Background - Orange
 - Message - Black
 - 3. Message Series - C
 - 4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.



W20-1G



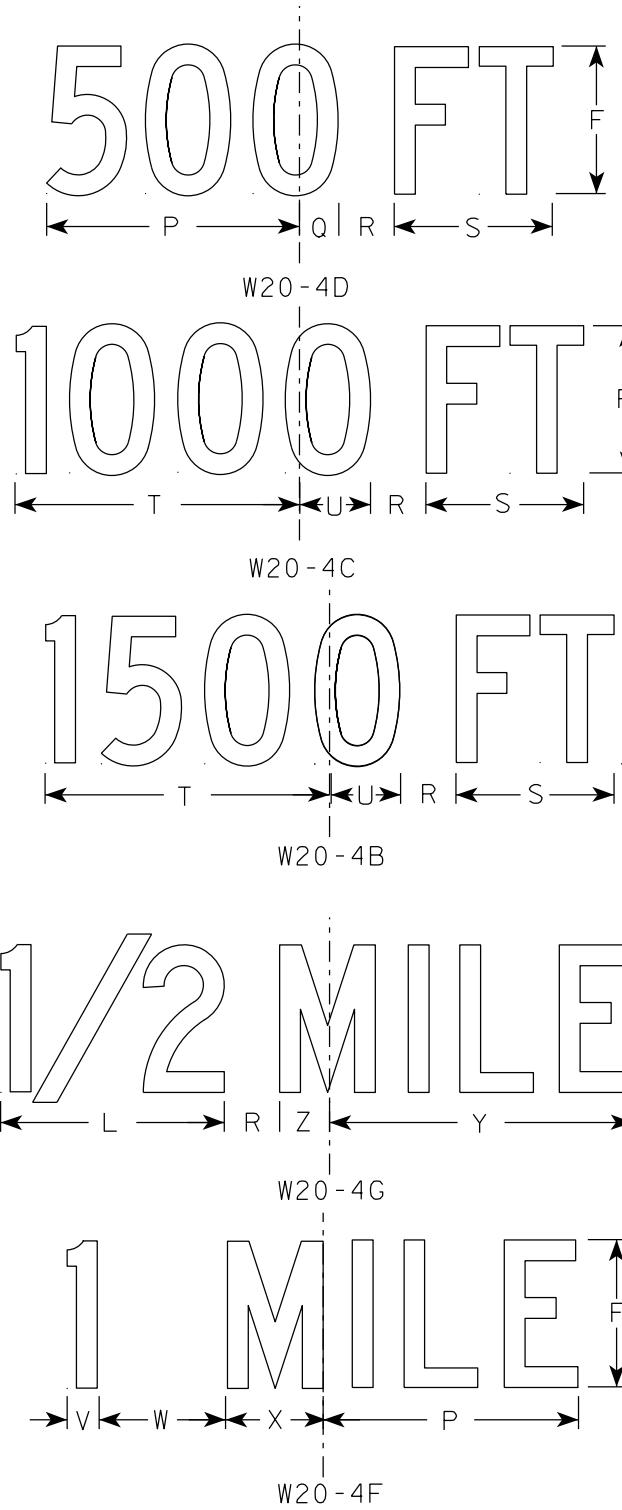
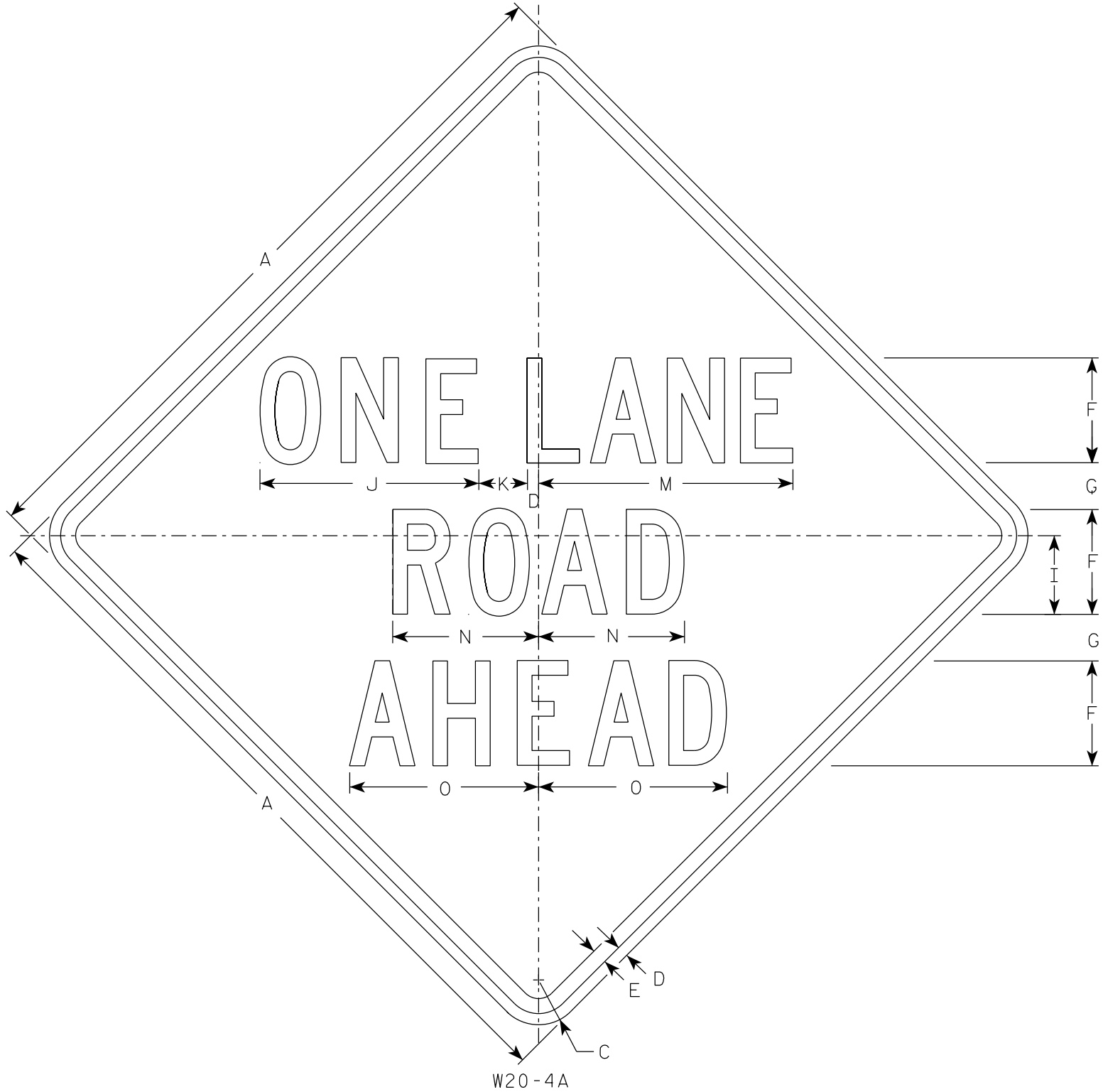
W20-1F



W20-1E

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	v	W	X	Y	Z	Area sq. ft.
1	36		2 1/4	5/8	3/4	5	2 5/8	3 1/4	10 1/8	7	7 5/8	8 7/8	1 1/8	4 1/2	3 1/2	9	3 1/4	2 1/2	2 1/4	5 5/8	9	1 3/8	8	1 3/4	10 3/4	6	9.0
2S	48		3	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
2M	48		3	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
3	48		3	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
4	48		3	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
5	48		3	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0

7



- NOTES
- Sign is Type II - Type F Reflective
 - Color:
Background - Orange
Message - Black
 - Message Series - C
 - Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

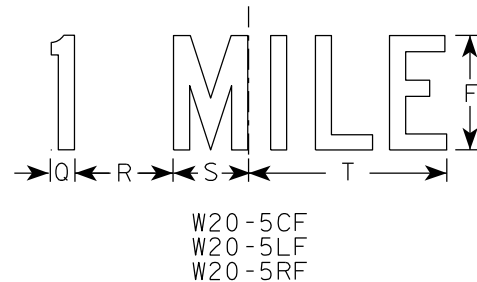
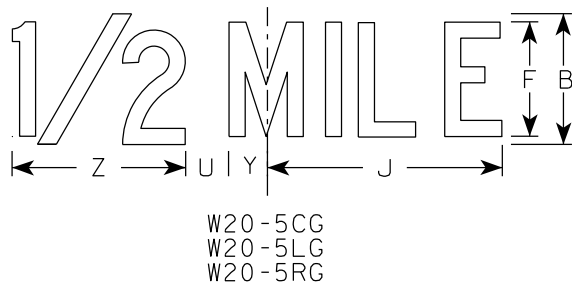
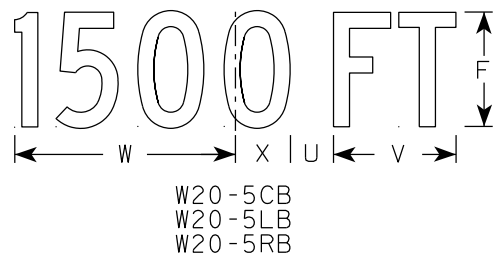
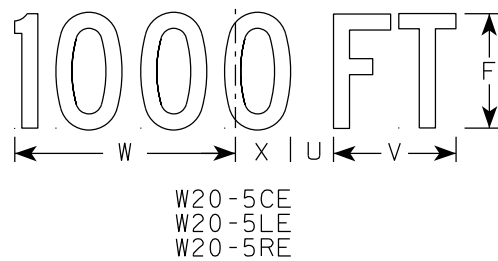
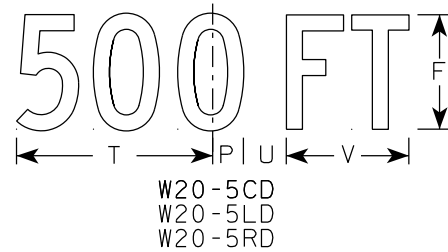
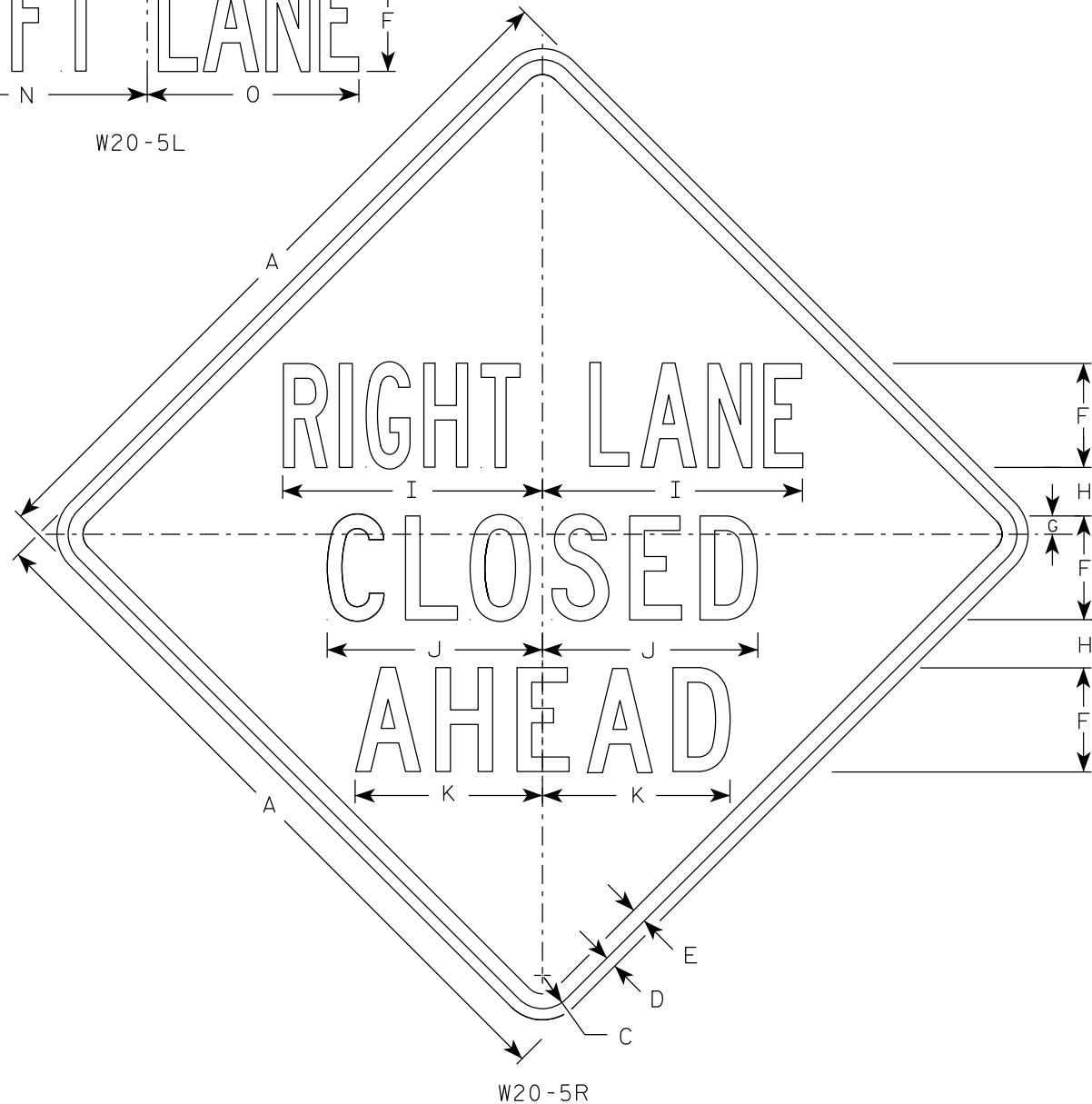
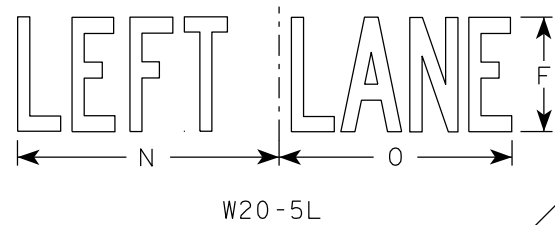
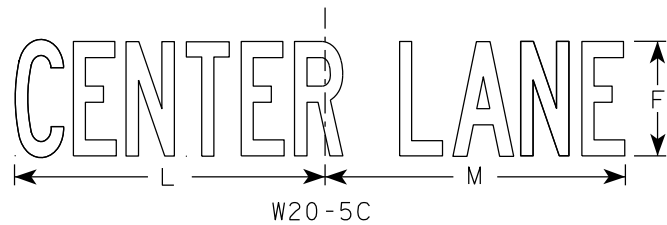
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		2 1/4	5/8	3/4	5	2 3/8	6	3 3/4	10 3/8	2 3/8	8	13 1/2	7	8 7/8	9	1 3/8	1 7/8	5 5/8	10 1/8	2 1/2	1 1/8	4 1/2	3 1/2	10 3/4	1 3/4	9.0
2S	48		3	3/4	1	7	3 1/8	8	5 1/4	14 5/8	3 1/4	10 5/8	17 3/4	9 3/4	12 5/8	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	14 3/8	2 3/8	16.0
2M	48		3	3/4	1	7	3 1/8	8	5 1/4	14 5/8	3 1/4	10 5/8	17 3/4	9 3/4	12 5/8	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	14 3/8	2 3/8	16.0
3	48		3	3/4	1	7	3 1/8	8	5 1/4	14 5/8	3 1/4	10 5/8	17 3/4	9 3/4	12 5/8	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	14 3/8	2 3/8	16.0
4	48		3	3/4	1	7	3 1/8	8	5 1/4	14 5/8	3 1/4	10 5/8	17 3/4	9 3/4	12 5/8	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	14 3/8	2 3/8	16.0
5	48		3	3/4	1	7	3 1/8	8	5 1/4	14 5/8	3 1/4	10 5/8	17 3/4	9 3/4	12 5/8	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	14 3/8	2 3/8	16.0

STANDARD SIGN
W20-4A, B, C, D, F & G

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 1/10/2024 PLATE NO. W20-4.10



NOTES

1. Sign is Type II - Type F Reflective
2. Color:
Background - Orange
Message - Black
3. Message Series - See Note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. " _____ LANE" is Series B.
All other copy is Series C.

7

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36	6	2 1/4	5/8	3/4	5	7/8	2 1/2	13 1/8	10 3/4	9 1/2	14 1/4	13 5/8	12	12	1 3/8	1 1/8	4 1/2	3 1/2	9	1 7/8	5 5/8	10 1/8	2 1/2	1 3/4	8	9.0
2S	48	8	3	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
2M	48	8	3	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
3	48	8	3	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
4	48	8	3	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
5	48	8	3	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0

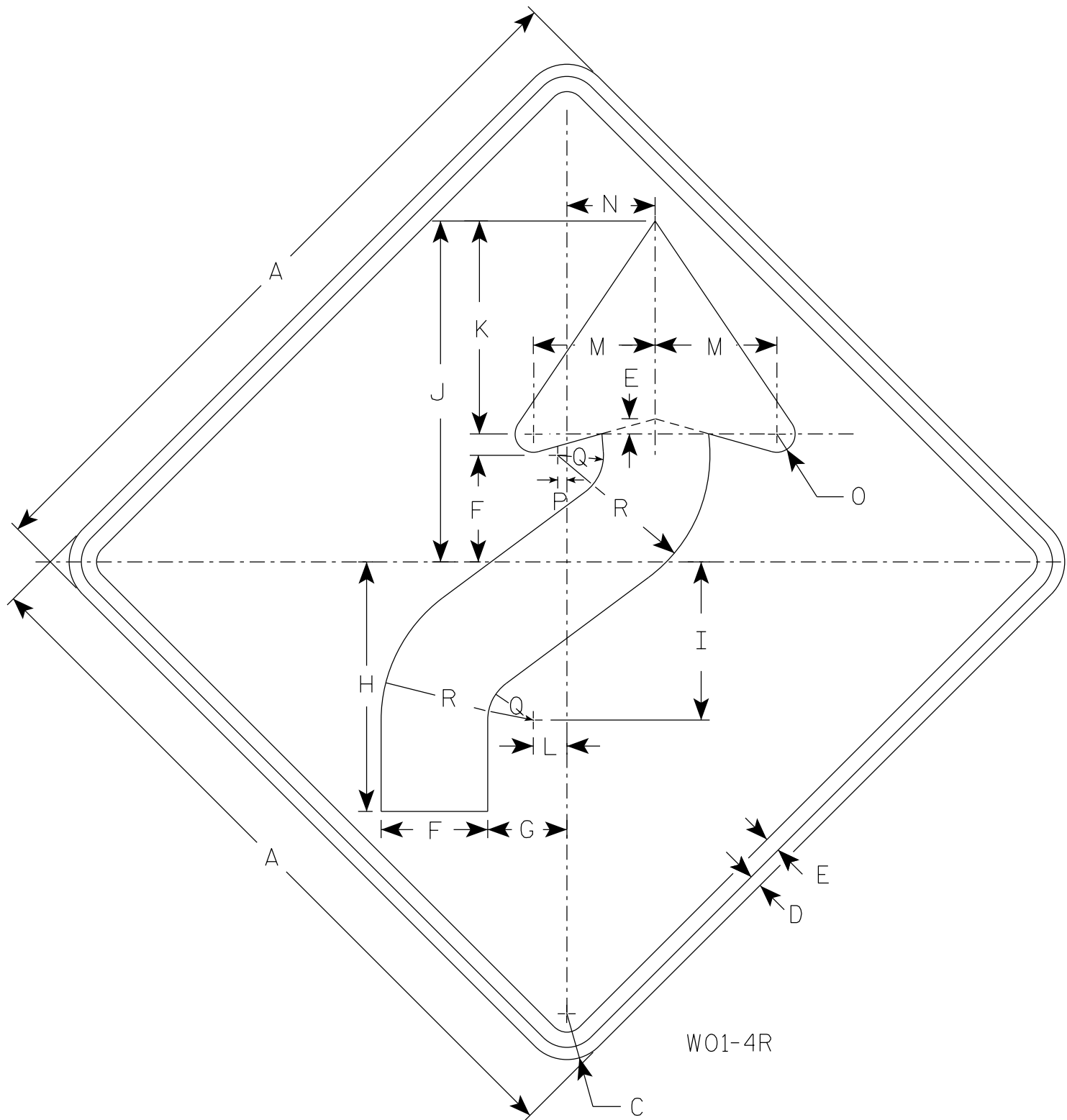
PROJECT NO:

HWY:

COUNTY:

SHEET NO: 103

E



NOTES

1. Sign is Type II - Type F Reflective
2. Color:
Background - Orange
Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. W01-4L is the same as W01-4R except the arrow is reversed along the vertical centerline.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		2 1/4	5/8	3/4	5 1/4	4	12 3/8	7 7/8	16 7/8	10 1/2	1 5/8	6	4 1/2	1	1/2	2 1/4	7 1/2									9.0
2S	48		3	3/4	1	7	5 1/4	16 1/2	10 1/2	22 1/2	14	2 1/4	8	6	1 1/4	5/8	3	10									16.0
2M	48		3	3/4	1	7	5 1/4	16 1/2	10 1/2	22 1/2	14	2 1/4	8	6	1 1/4	5/8	3	10									16.0
3	48		3	3/4	1	7	5 1/4	16 1/2	10 1/2	22 1/2	14	2 1/4	8	6	1 1/4	5/8	3	10									16.0
4	48		3	3/4	1	7	5 1/4	16 1/2	10 1/2	22 1/2	14	2 1/4	8	6	1 1/4	5/8	3	10									16.0
5	48		3	3/4	1	7	5 1/4	16 1/2	10 1/2	22 1/2	14	2 1/4	8	6	1 1/4	5/8	3	10									16.0

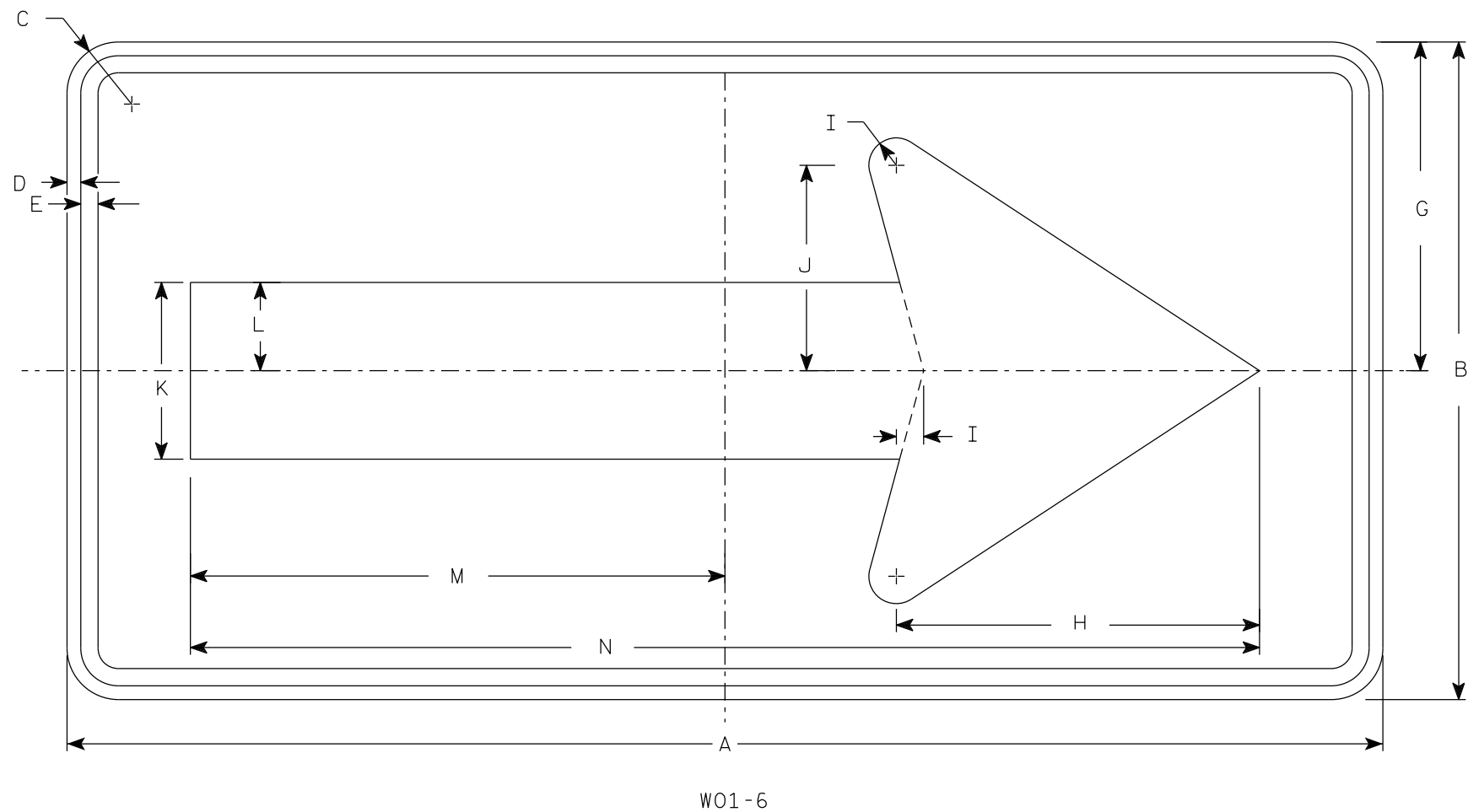
STANDARD SIGN
W01-4

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 1/24/2024 PLATE NO. W01-4.2

7



NOTES

- 1. Sign is Type II - Type F Reflective
- 2. Color:
Background - Orange
Message - Black
- 3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	48	24	1 7/8	1/2	5/8		12	13 1/4	1	7 1/2	6 1/2	3 1/4	19 1/2	39													8.0
2M	48	24	1 7/8	1/2	5/8		12	13 1/4	1	7 1/2	6 1/2	3 1/4	19 1/2	39													8.0
3	60	30	1 7/8	1/2	5/8		15	16 1/4	1 1/4	9 1/4	8	4	24 3/8	48 3/4													12.5
4	60	30	1 7/8	1/2	5/8		15	16 1/4	1 1/4	9 1/4	8	4	24 3/8	48 3/4													12.5
5	60	30	1 7/8	1/2	5/8		15	16 1/4	1 1/4	9 1/4	8	4	24 3/8	48 3/4													12.5

STANDARD SIGN

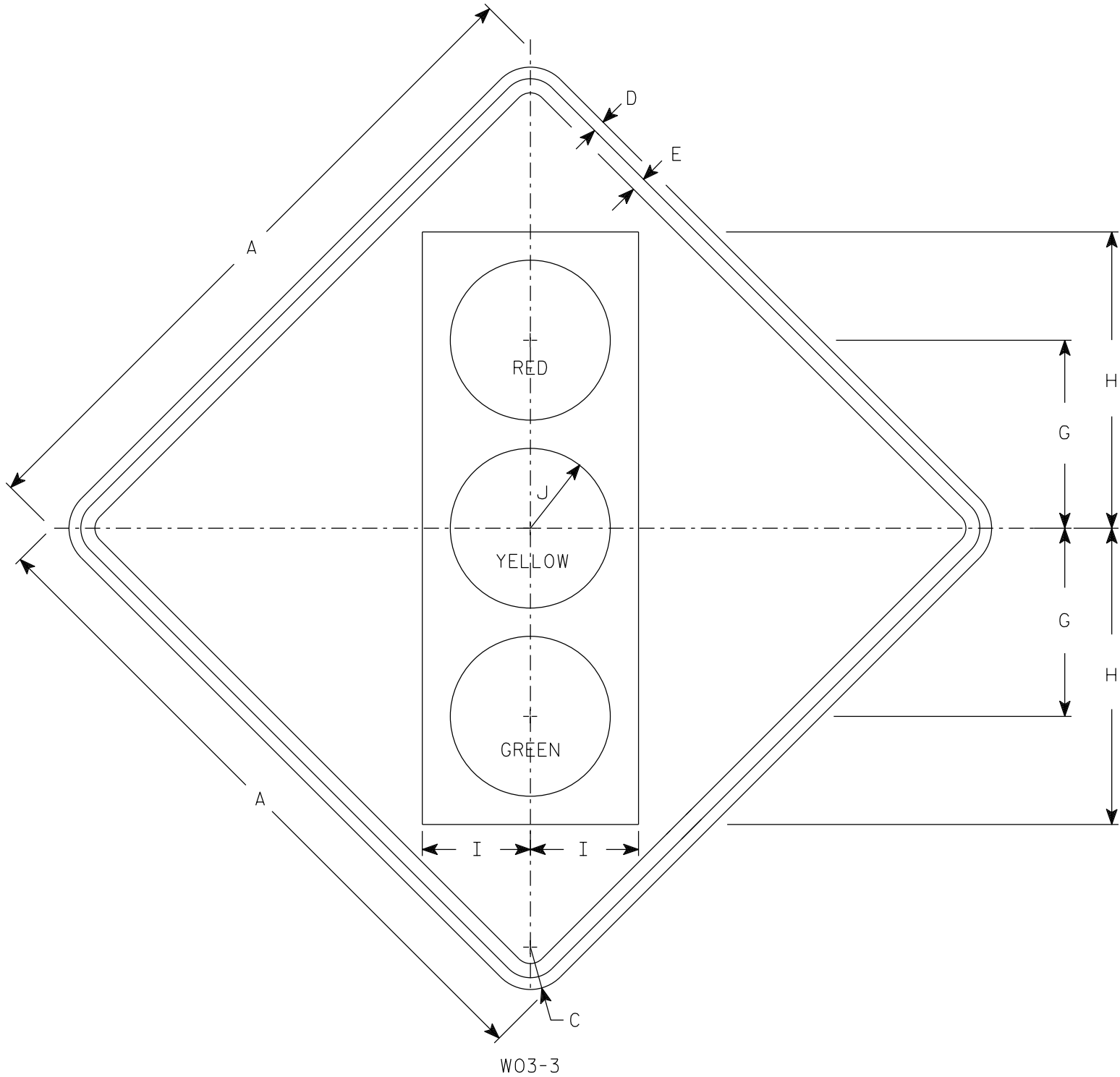
W01-6

WISCONSIN DEPT OF TRANSPORTATION

APPROVED
Matthew R. Rauch
for State Traffic Engineer

DATE 1/24/2024 PLATE NO. W01-6.2

7



NOTES

- 1. Sign is Type II - Type F Reflective
- 2. Color:
 - Background - Orange
 - Message - See Note 4
- 3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
- 4. Symbol and border are non-reflective black.
 - Top circle - Type H Reflectorized Red
 - Center circle - Same as background
 - Bottom circle - Type H Reflectorized Green

7

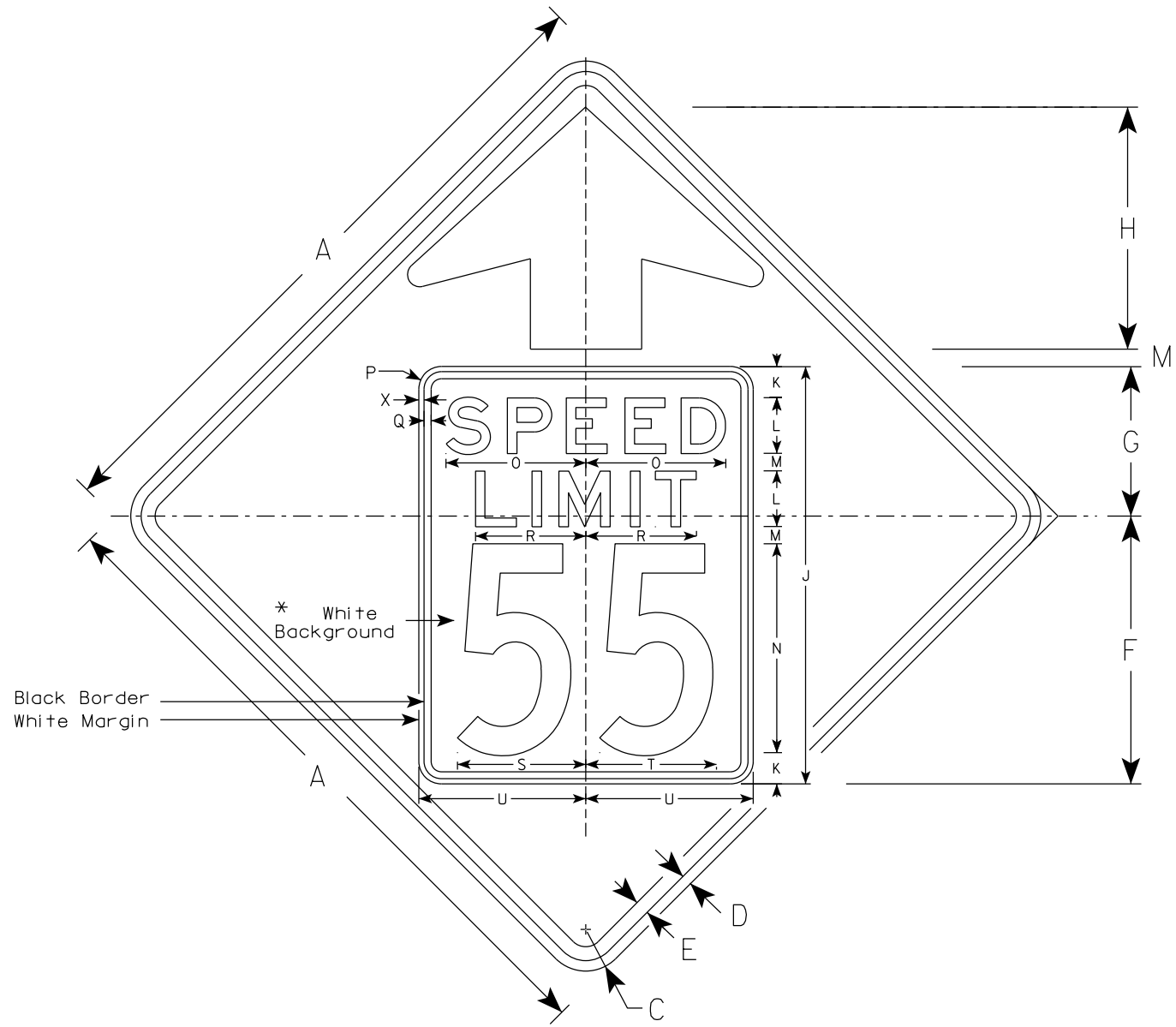
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		2 1/4	5/8	3/4		10	15 3/4	5 3/4	4 1/4																	9.0
2S	48		3	3/4	1		12 1/2	20	7 1/2	5																	16.0
2M	48		3	3/4	1		12 1/2	20	7 1/2	5																	16.0
3	48		3	3/4	1		12 1/2	20	7 1/2	5																	16.0
4	48		3	3/4	1		12 1/2	20	7 1/2	5																	16.0
5	48		3	3/4	1		12 1/2	20	7 1/2	5																	16.0

STANDARD SIGN
W03-3

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 1/24/2024 PLATE NO. W03-3.2

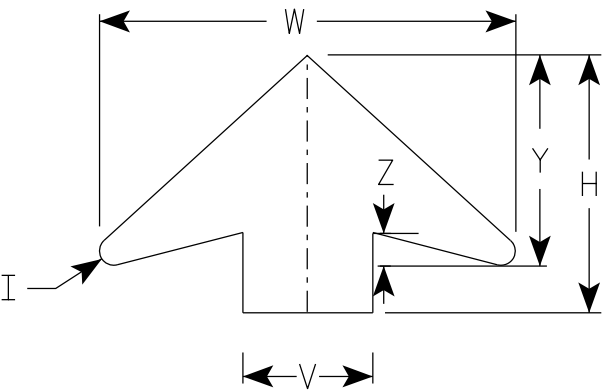


W03-5

NOTES

- 1. Sign is Type II - Type F Reflective
- 2. Color: *
Background - ORANGE*
Message - BLACK
- 3. Message Series - C for numbers Series E for wording
- 4. Substitute appropriate numerals and optically adjust spacing to achieve proper balance

*Speed Limit Sign shall have a White Background



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		2 1/4	5/8	3/4	14 1/2	9 1/2	11 1/2	5/8	24	2	3	1	12	7 1/8	1 1/2	3/8	5 3/4	7 1/4	7 1/8	9	6	19 1/4	3/8	9 3/4	1 5/8	9.0
2S	48		3	3/4	1	19 1/4	10 3/4	17 3/8	7/8	30	2 1/4	4	1 1/4	15	10	1 5/8	1/2	8	9 1/4	9 3/8	12	8	25 5/8	3/8	13	2	16.0
2M	48		3	3/4	1	19 1/4	10 3/4	17 3/8	7/8	30	2 1/4	4	1 1/4	15	10	1 5/8	1/2	8	9 1/4	9 3/8	12	8	25 5/8	3/8	13	2	16.0
3	48		3	3/4	1	19 1/4	10 3/4	17 3/8	7/8	30	2 1/4	4	1 1/4	15	10	1 5/8	1/2	8	9 1/4	9 3/8	12	8	25 5/8	3/8	13	2	16.0
4	48		3	3/4	1	19 1/4	10 3/4	17 3/8	7/8	30	2 1/4	4	1 1/4	15	10	1 5/8	1/2	8	9 1/4	9 3/8	12	8	25 5/8	3/8	13	2	16.0
5	48		3	3/4	1	19 1/4	10 3/4	17 3/8	7/8	30	2 1/4	4	1 1/4	15	10	1 5/8	1/2	8	9 1/4	9 3/8	12	8	25 5/8	3/8	13	2	16.0

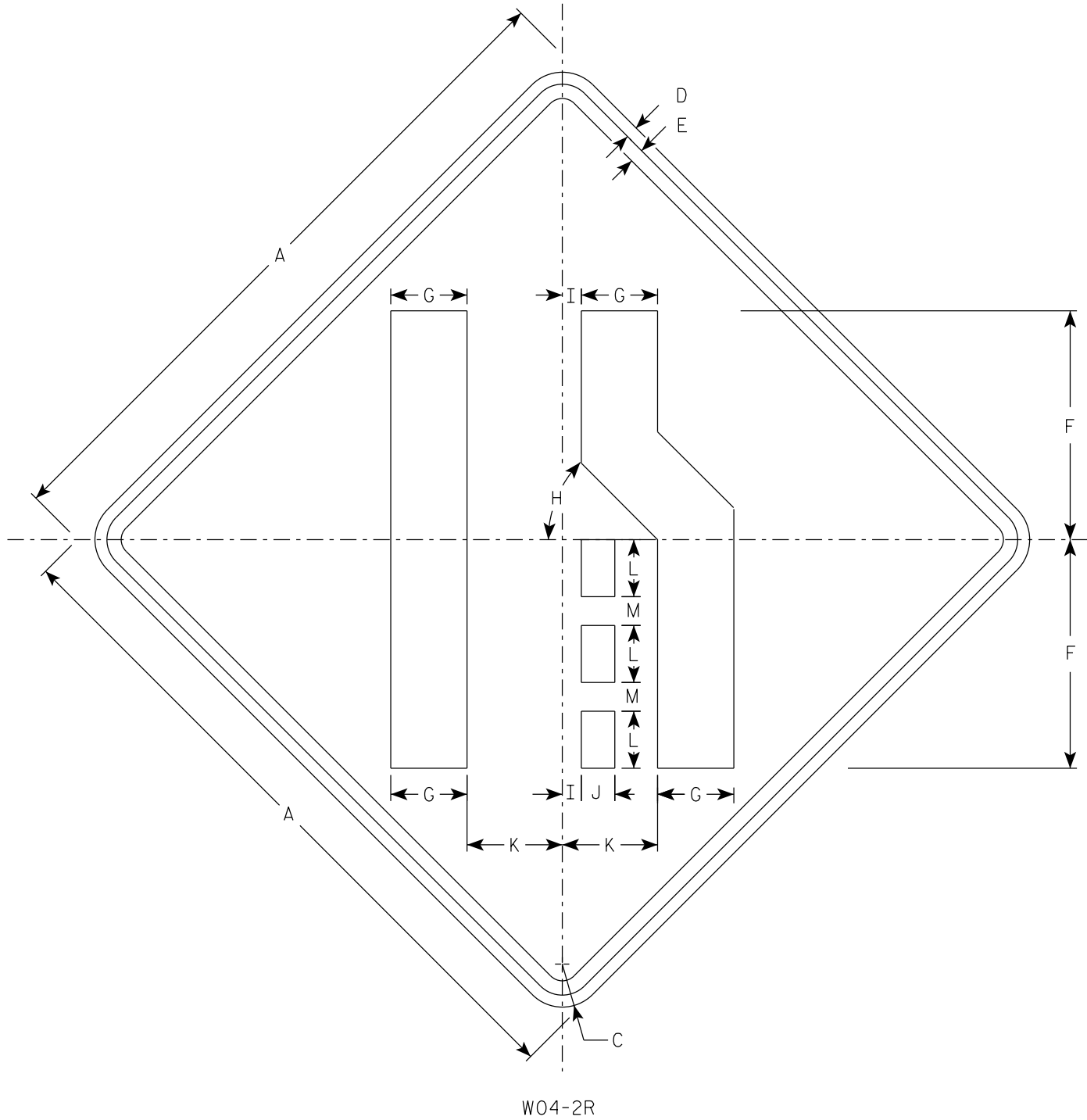
STANDARD SIGN
W03-5

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 1/24/2024 PLATE NO. W03-5.2

7

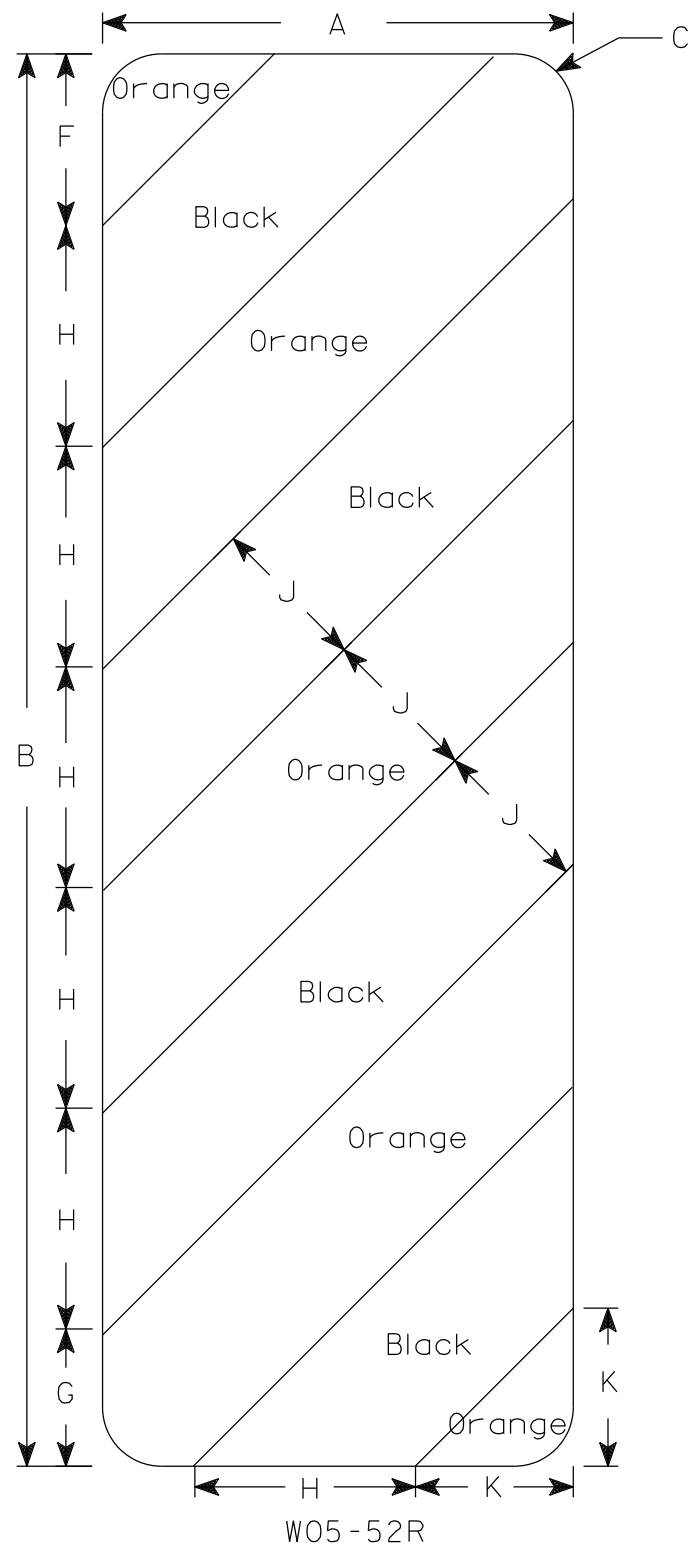
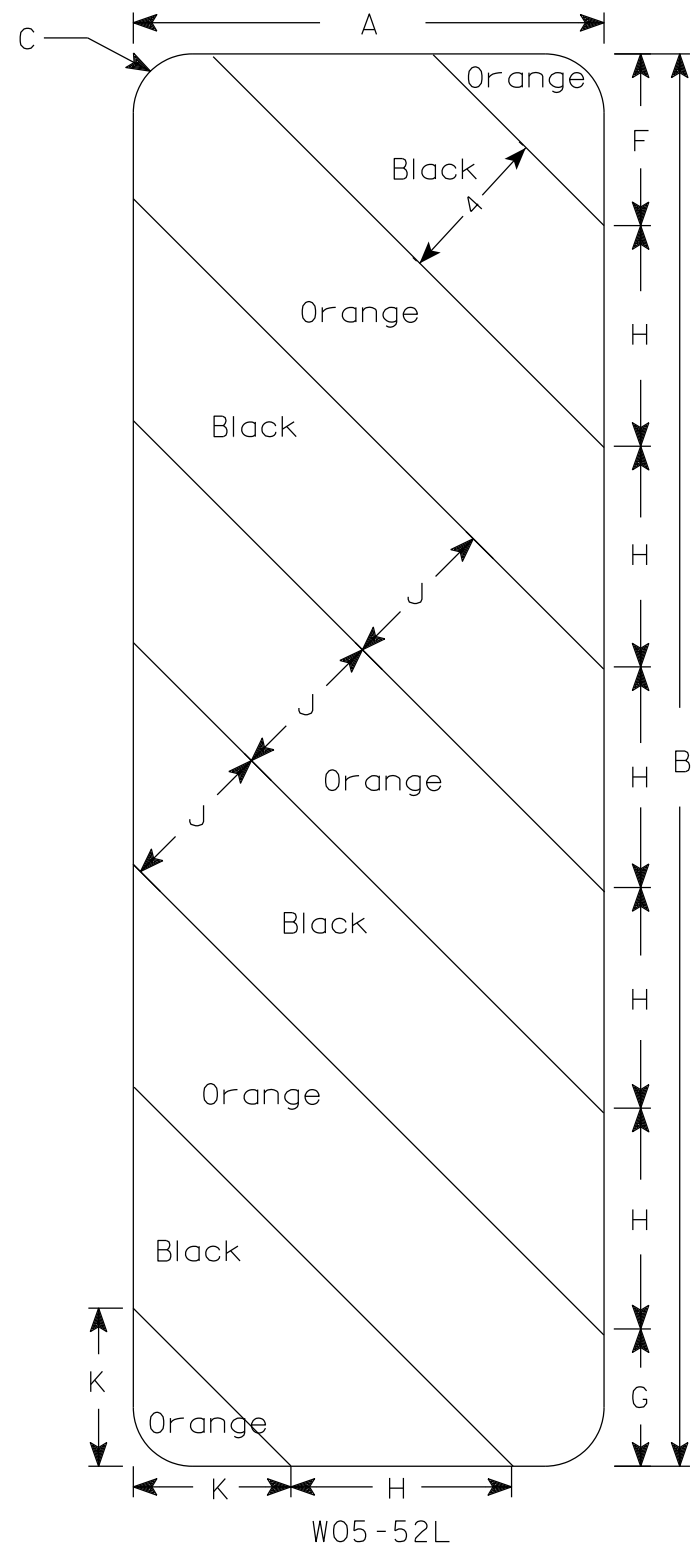


NOTES

- 1. Sign is Type II - Type F Reflective
- 2. Color:
Background - Orange
Message - Black
- 3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
- 4. W04-2L is the same as W04-2R except the symbol is reversed along the vertical centerline.

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		2 1/4	5/8	3/4	12	4	45°	1	1 3/4	5	3	1 1/2														9.0
2S	48		3	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
2M	48		3	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
3	48		3	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
4	48		3	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
5	48		3	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0



NOTES

1. Sign is Type II - Type F Reflective
2. Color:
Background - Orange
Message - Black
4. Alternate colors of stripes as shown.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	v	W	X	Y	Z	Areg sq. ft.
1																											
2S	12	36	1 1/2			4 3/8	3 1/2	5 5/8	45°	4	4																3.0
2M	12	36	1 1/2			4 3/8	3 1/2	5 5/8	45°	4	4																3.0
3	18	54	1 1/2			6	5 1/2	8 1/2	45°	6	6 9/16																6.75
4																											
5																											

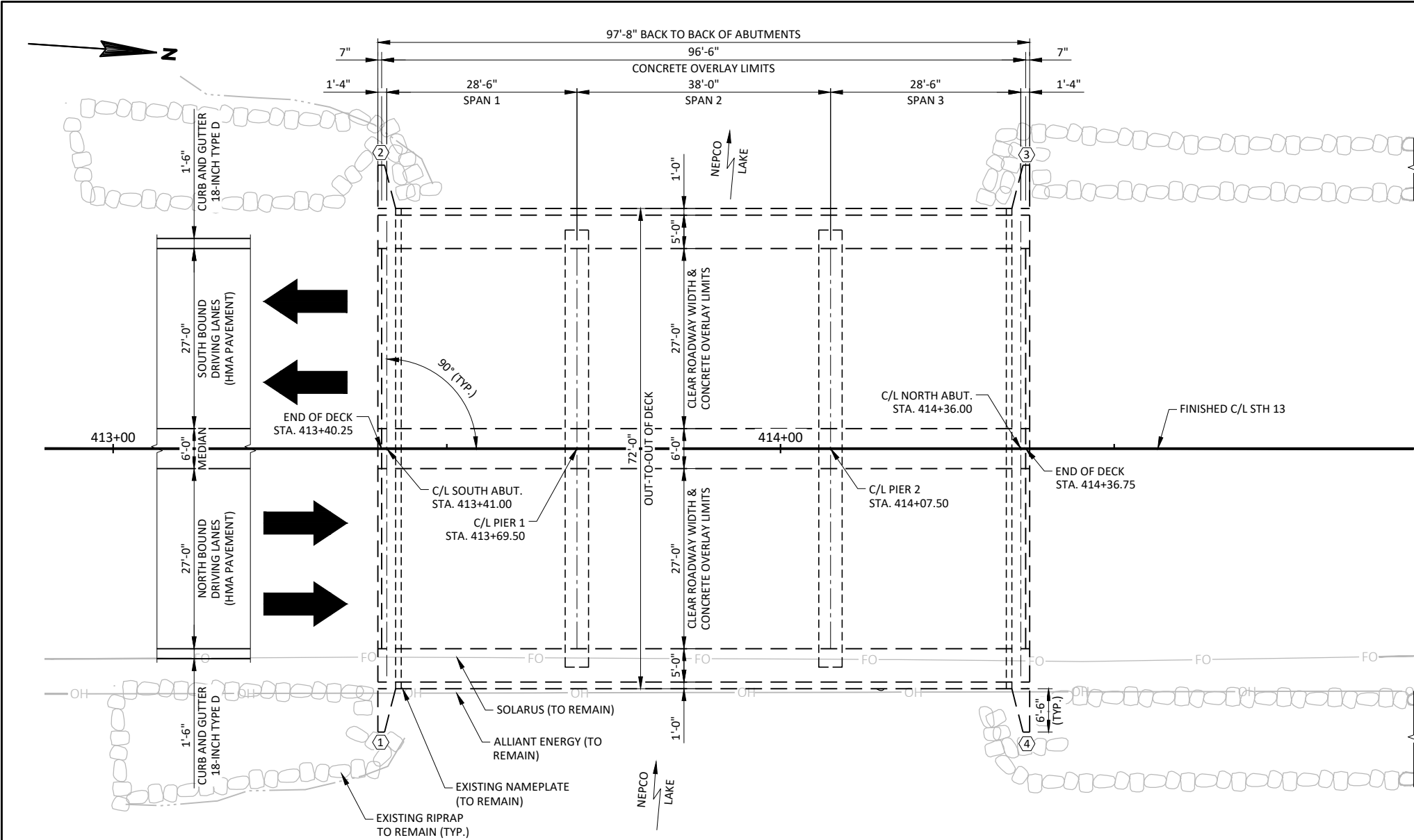
PROJECT NO:	HWY:	COUNTY:	SHEET NO: 109	E
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STANDARD SIGN
W05-52L & W05-52R

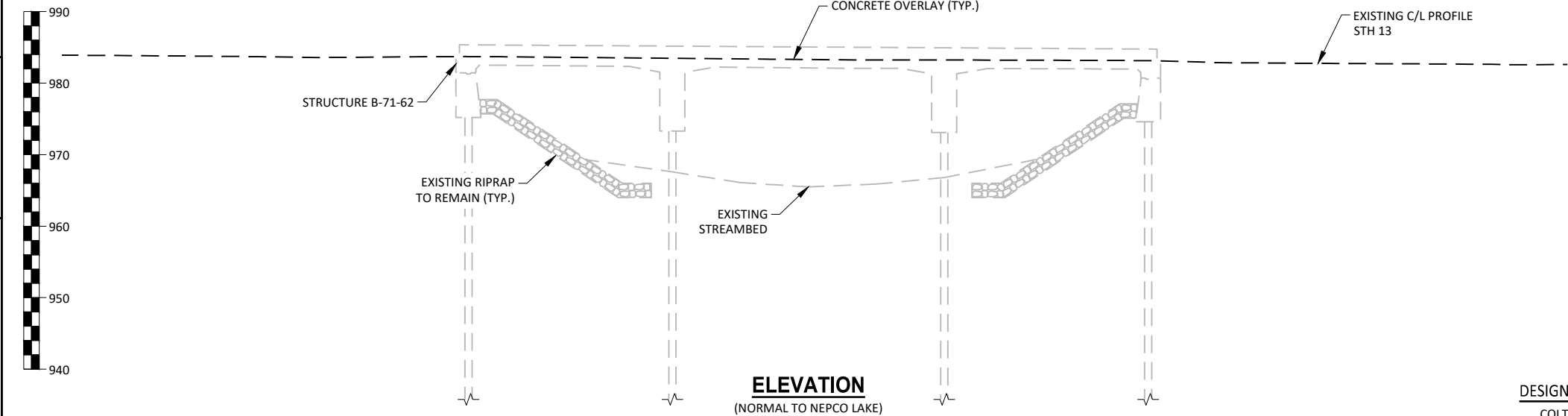
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 3/13/2024 PLATE NO. W05-52.2



PLAN B-71-62
(THREE-SPAN REINFORCED CONCRETE HAUNCHED SLAB)
◇ INDICATES WING NUMBER



ELEVATION
(NORMAL TO NEPCO LAKE)

DESIGN DATA

LIVE LOAD:	
DESIGN LOADING	HS20
INVENTORY RATING	HS-24
OPERATING RATING	HS-40
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV)	250 KIPS

MATERIAL PROPERTIES:	
CONCRETE MASONRY, OVERLAY AND SLAB	f'c = 4,000 P.S.I.

TRAFFIC DATA

A.D.T. (2024)	14,734
DESIGN SPEED	45 M.P.H.

GENERAL NOTES

- DRAWINGS SHALL NOT BE SCALED.
- DIMENSIONS SHOWN ON THE PLANS ARE BASED ON THE ORIGINAL STRUCTURE PLANS, INSPECTION REPORTS, AND FIELD SURVEY.
- A MINIMUM OF 1" OF CONCRETE SHALL BE REMOVED FROM THE ENTIRE BRIDGE DECK UNDER BID ITEM "CLEANING DECKS".
- PROFILE GRADE LINE SHALL BE DETERMINED IN THE FIELD BASED ON A MINIMUM OVERLAY THICKNESS OF 1½" PLACED ABOVE THE DECK SURFACE AFTER SURFACE PREPARATION. EXPECTED AVERAGE OVERLAY THICKNESS IS 2". IF THE EXPECTED AVERAGE OVERLAY THICKNESS IS EXCEEDED BY MORE THAN ½", CONTACT THE STRUCTURE DESIGN SECTION.
- THE AVERAGE OVERLAY THICKNESS IS BASED ON THE MINIMUM OVERLAY THICKNESS PLUS ½" TO ACCOUNT FOR VARIATIONS IN THE DECK SURFACE.
- ALL CONCRETE REMOVAL NOT COVERED WITH A CONCRETE OVERLAY SHALL BE DEFINED BY A ½" DEEP SAWCUT.
- BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR UNLESS OTHERWISE SHOWN OR NOTED.
- AT THE DECK, APPLY PROTECTIVE SURFACE TREATMENT TO THE ENTIRE TOP SURFACE OF THE NEW CONCRETE OVERLAY, VERTICAL FACES OF THE CURBS, CONCRETE SIDEWALK, MEDIAN, AND THE HORIZONTAL AND VERTICAL FACES OF THE PAVING NOTCH.
- APPLY PIGMENTED SURFACE SEALER RESEAL TO THE INSIDE FACE, TOP FACE, UPPER BACK FACE, AND END FACES OF PARAPETS (CONCRETE MATERIAL ONLY).

- PREPARATION DECKS TYPE 1, PREPARATION DECKS TYPE 2, FULL-DEPTH DECK REPAIR, CURB REPAIR, AND PAVING NOTCH REPAIR ARE BASED ON THE PLANS AND AS DETERMINED BY THE ENGINEER. DECK PREPARATION, FULL-DEPTH DECK REPAIRS, CURB REPAIR, AND PAVING NOTCH REPAIR SHALL BE FILLED WITH "CONCRETE MASONRY OVERLAY DECKS".
- FOR PAVING NOTCH REPAIR ONLY, PULL EXISTING MATERIAL AWAY FROM ABUTMENT AND REPLACE AFTER CONCRETE IS PLACED. ADD ADDITIONAL MATERIAL AS DIRECTED BY THE ENGINEER IN THE FILED. MATERIAL SHALL BE REPLACED IN KIND.
- ANY EXCAVATION REQUIRED TO COMPLETE THE OVERLAY AND PAVING NOTCH REPAIR IS TO BE CONSIDERED INCIDENTAL TO THE BID ITEM "CONCRETE MASONRY OVERLAY DECKS".

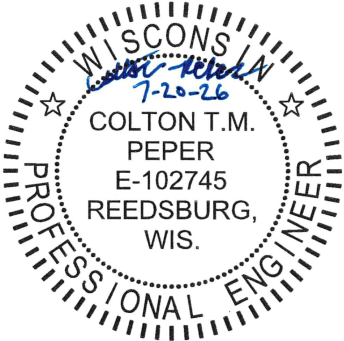
SEE ROADWAY PLANS FOR TRAFFIC STAGING DETAILS.

SCOPE OF WORK

THE WORK PREFORMED INCLUDES REMOVAL OF THE TOP LAYER OF THE CONCRETE DECK, THE PLACEMENT OF A NEW CONCRETE OVERLAY, AND CONCRETE SURFACE REPAIR AT CURBS AND THE PAVING NOTCHES.

LIST OF DRAWINGS

GENERAL PLAN	1.
CROSS SECTION AND QUANTITIES AND DECK REPAIR AREAS	2.

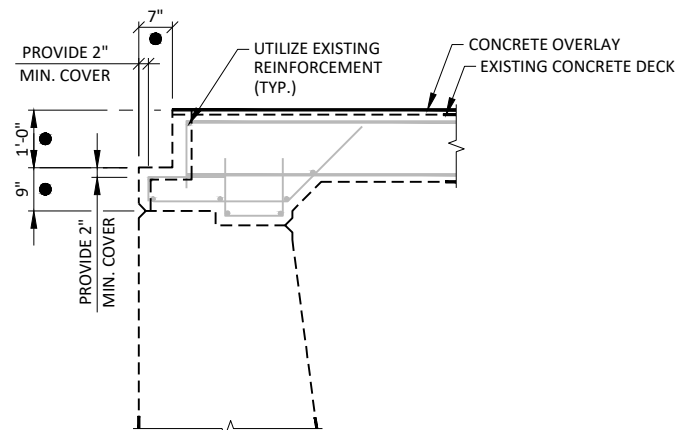
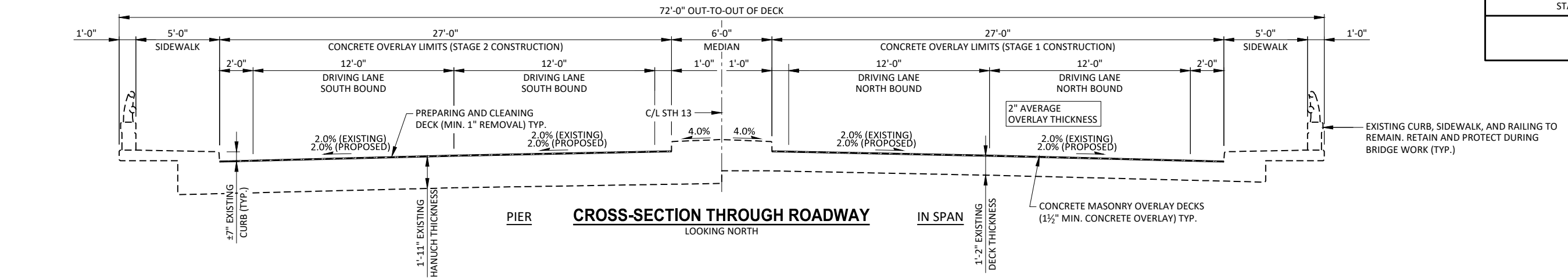


DESIGN CONSULTANT	BRIDGE OFFICE CONTACT
COLTON PEPER, PE (608) 588-7484	AARON BONK, PE (608) 261-0261

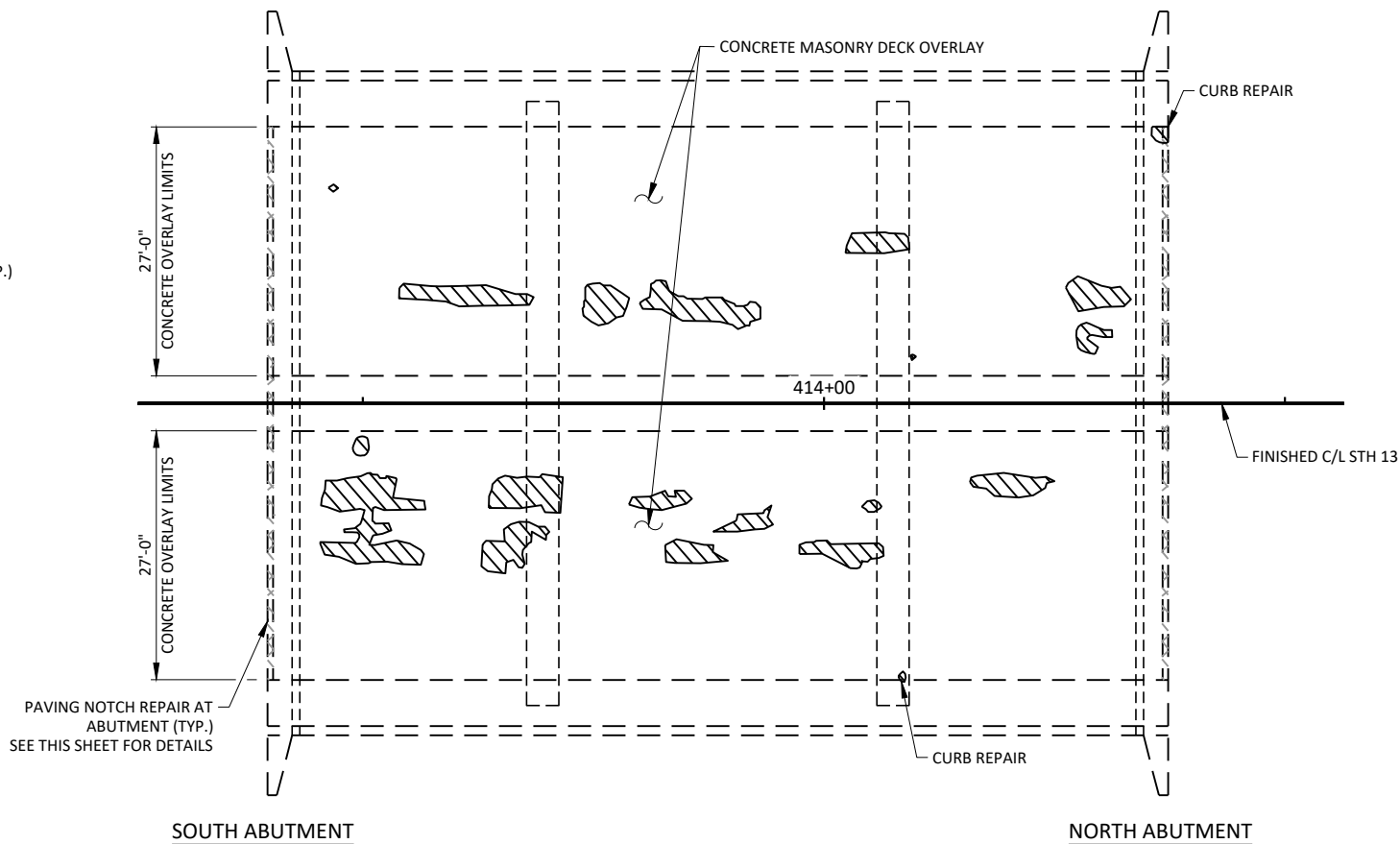
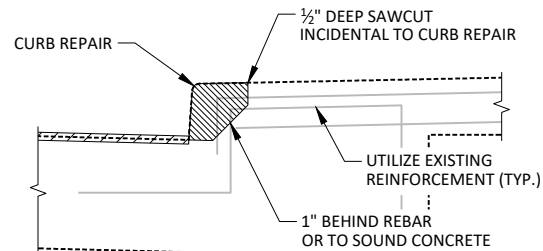
STATE PROJECT NUMBER

6340-00-62

NO.	DATE	REVISION	BY
JEWELL STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION ACCEPTED  J.T.P. 07/20/26 CHIEF STRUCTURES DESIGN ENGINEER DATE			
STRUCTURE B-71-62			
STH 13 OVER NEPCO LAKE			
COUNTY	WOOD	TOWNSHIP/VILLAGE	PORT EDWARDS
DESIGN SPEC. REHABILITATION N/A			
DESIGNED BY	CTMP	DESIGN CK'D.	PTB
DRAWN BY	CTMP	PLANS CK'D.	PTB
GENERAL PLAN			SHEET 1 OF 2 110



- REMOVE CONCRETE TO SOUND CONCRETE OR AT LEAST 1" BEHIND EXISTING REINFORCEMENT.



TOTAL ESTIMATED QUANTITIES

ITEM NUMBER	ITEM DESCRIPTION	UNIT	TOTALS
502.3200	PROTECTIVE SURFACE TREATMENT	SY	800
502.3205	PIGMENTED SURFACE SEALER RESEAL	SY	96
509.0301	PREPARATION DECKS TYPE 1	SY	31
509.0302	PREPARATION DECKS TYPE 2	SY	16
509.0500	CLEANING DECKS	SY	580
509.1200	CURB REPAIR	LF	3
509.2000	FULL DEPTH DECK REPAIR	SY	8
509.2500	CONCRETE MASONRY OVERLAY DECKS	CY	40
SPV.0090	PAVING NOTCH REPAIR	LF	120

* QUANTITY INCLUDES VOLUME OF CONCRETE FOR CONCRETE OVERLAY, PREPARATION DECKS TYPE 1, PREPARATION DECKS TYPE 2, FULL DEPTH DECK REPAIR, CURB REPAIR, AND PAVING NOTCH REPAIR.

BRIDGE REPAIR OUTLINE

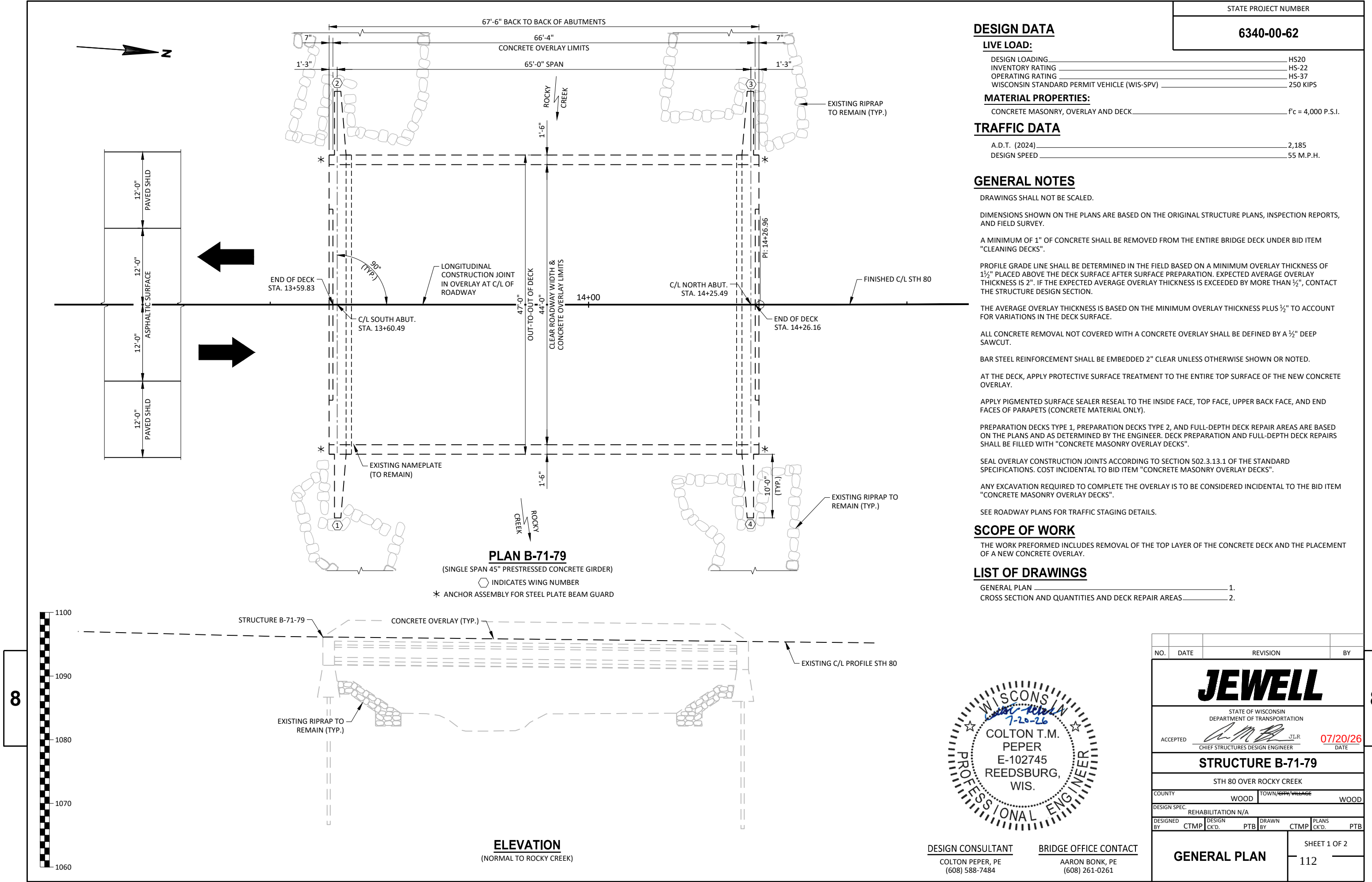
DECK REPAIR AREAS

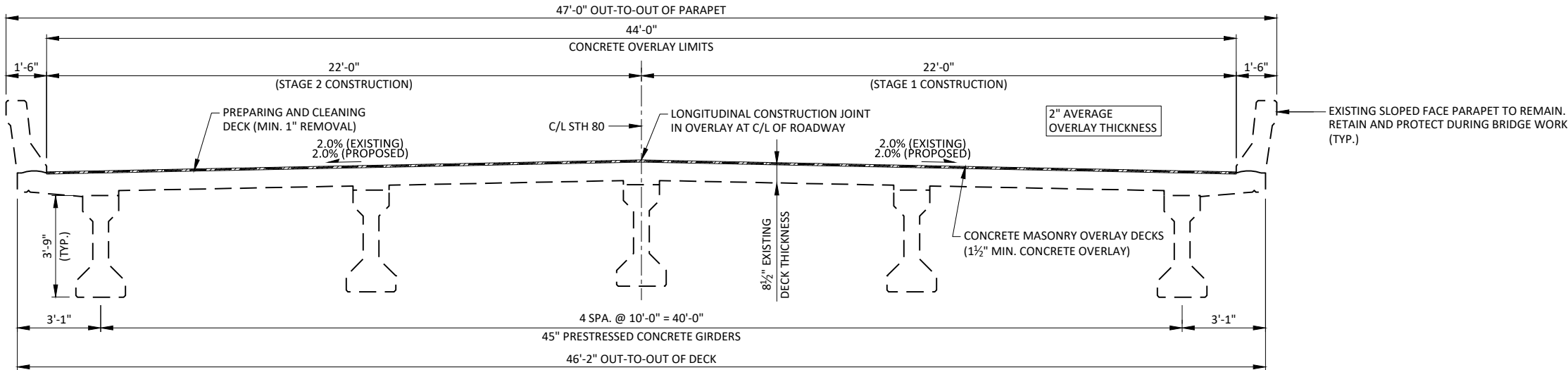
FIELD OBSERVATION SUMMARY				STRUCTURE NO. B-71-62		LEGEND	
ITEM	UNIT	QUANTITY	%				
TOTAL AREA	SY	579	100				
DELAMINATED AREA	SY	31	5.4				
DECK PREPARATION TYPE 1	SY	31	5.4				
DECK PREPARATION TYPE 2	SY	16	2.8				
FULL DEPTH DECK REPAIR	SY	8	1.4				

NOTES:

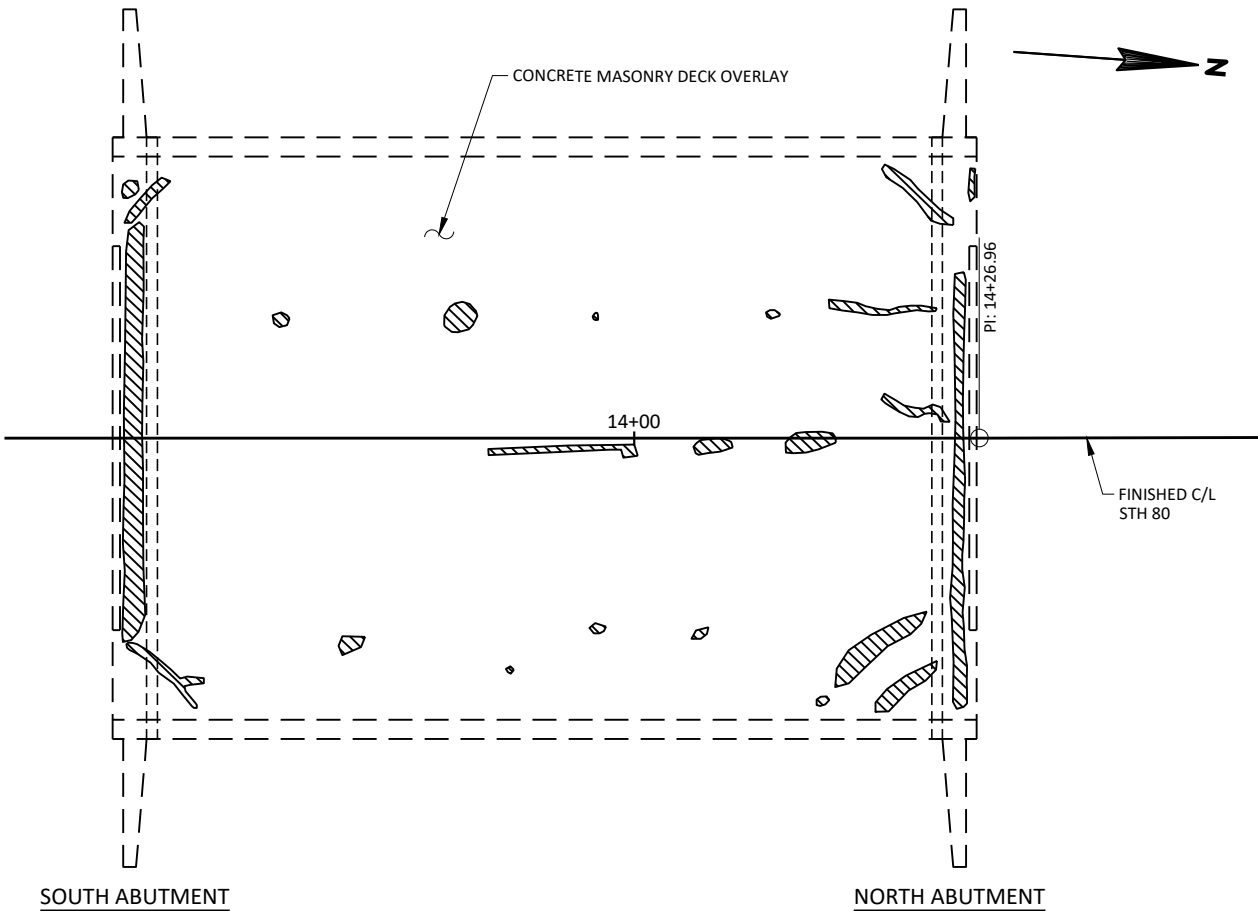
DECK INSPECTION AND DECK REPAIR AREAS SHOWN ARE FOR REFERENCE ONLY. ENGINEER IN THE FIELD TO VERIFY REPAIR AREAS. DECK REPAIRS SHALL BE MADE ONLY AS DIRECTED BY THE ENGINEER IN THE FIELD.

NO.	DATE	REVISION	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-71-62			
DRAWN BY		CTMP	PLANS CK'D. PTB
CROSS SECTION AND QUANTITIES AND DECK REPAIR AREAS			SHEET 2 OF 2 111





CROSS-SECTION THROUGH ROADWAY
LOOKING NORTH



BRIDGE REPAIR OUTLINE

DECK REPAIR AREAS

FIELD OBSERVATION SUMMARY		STRUCTURE NO. B-71-79		LEGEND	
ITEM	UNIT	QUANTITY	%		DECK PREPARATION AREA
TOTAL AREA	SY	325	100		
DELAMINATED AREA	SY	16	5.0		
DECK PREPARATION TYPE 1	SY	16	5.0		
DECK PREPARATION TYPE 2	SY	8	2.5		
FULL DEPTH DECK REPAIR	SY	4	1.2		

NOTES:

DECK INSPECTION AND DECK REPAIR AREAS SHOWN ARE FOR REFERENCE ONLY. ENGINEER IN THE FIELD TO VERIFY REPAIR AREAS. DECK REPAIRS SHALL BE MADE ONLY AS DIRECTED BY THE ENGINEER IN THE FIELD.

TOTAL ESTIMATED QUANTITIES

ITEM NUMBER	ITEM DESCRIPTION	UNIT	TOTALS
502.3200	PROTECTIVE SURFACE TREATMENT	SY	325
502.3205	PIGMENTED SURFACE SEALER RESEAL	SY	66
509.0301	PREPARATION DECKS TYPE 1	SY	16
509.0302	PREPARATION DECKS TYPE 2	SY	8
509.0500	CLEANING DECKS	SY	325
509.2000	FULL DEPTH DECK REPAIR	SY	4
509.2500	CONCRETE MASONRY OVERLAY DECKS	CY	20

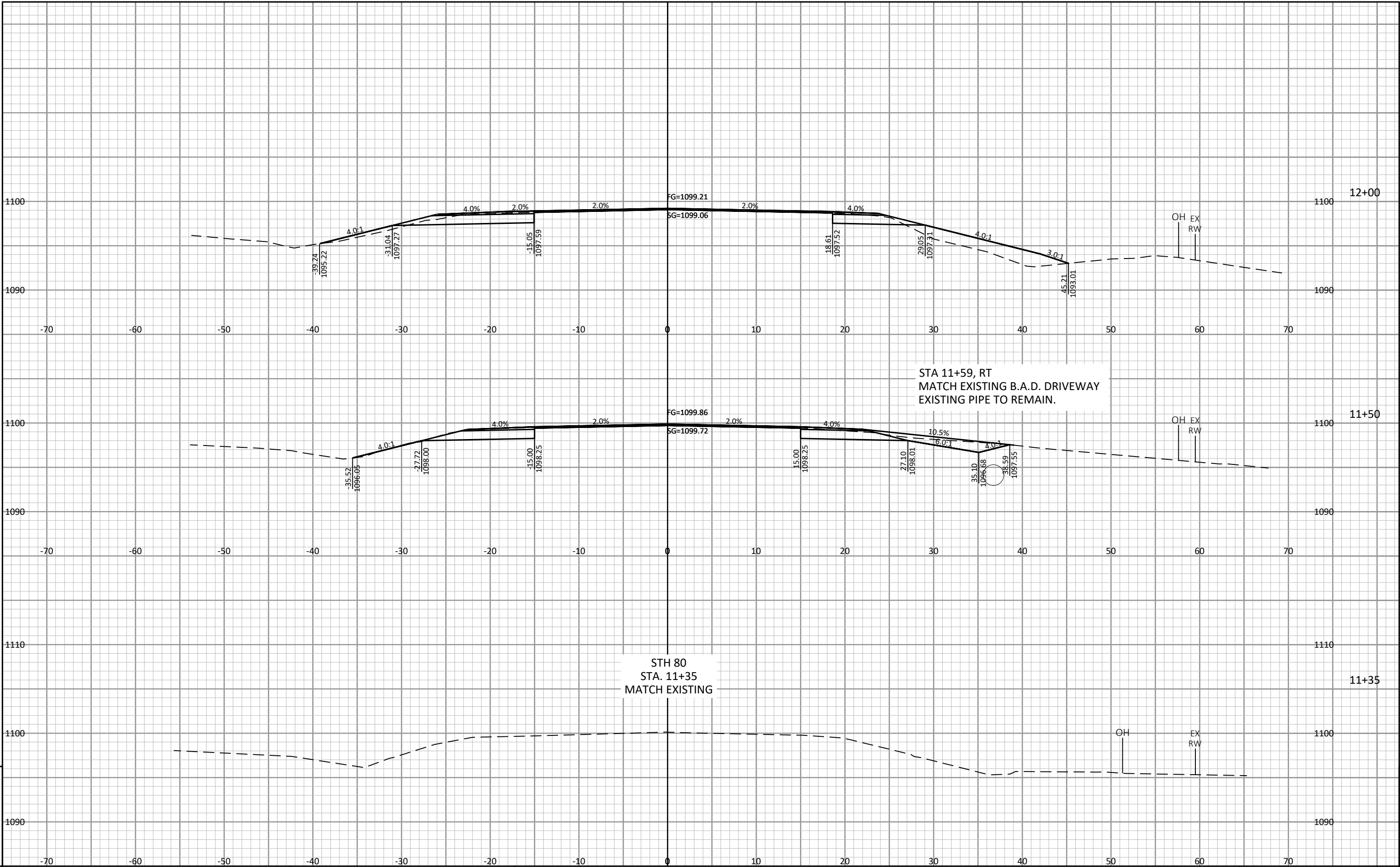
* QUANTITY INCLUDES VOLUME OF CONCRETE FOR CONCRETE OVERLAY, PREPARATION DECKS TYPE 1, PREPARATION DECKS TYPE 2, AND FULL DEPTH DECK REPAIR

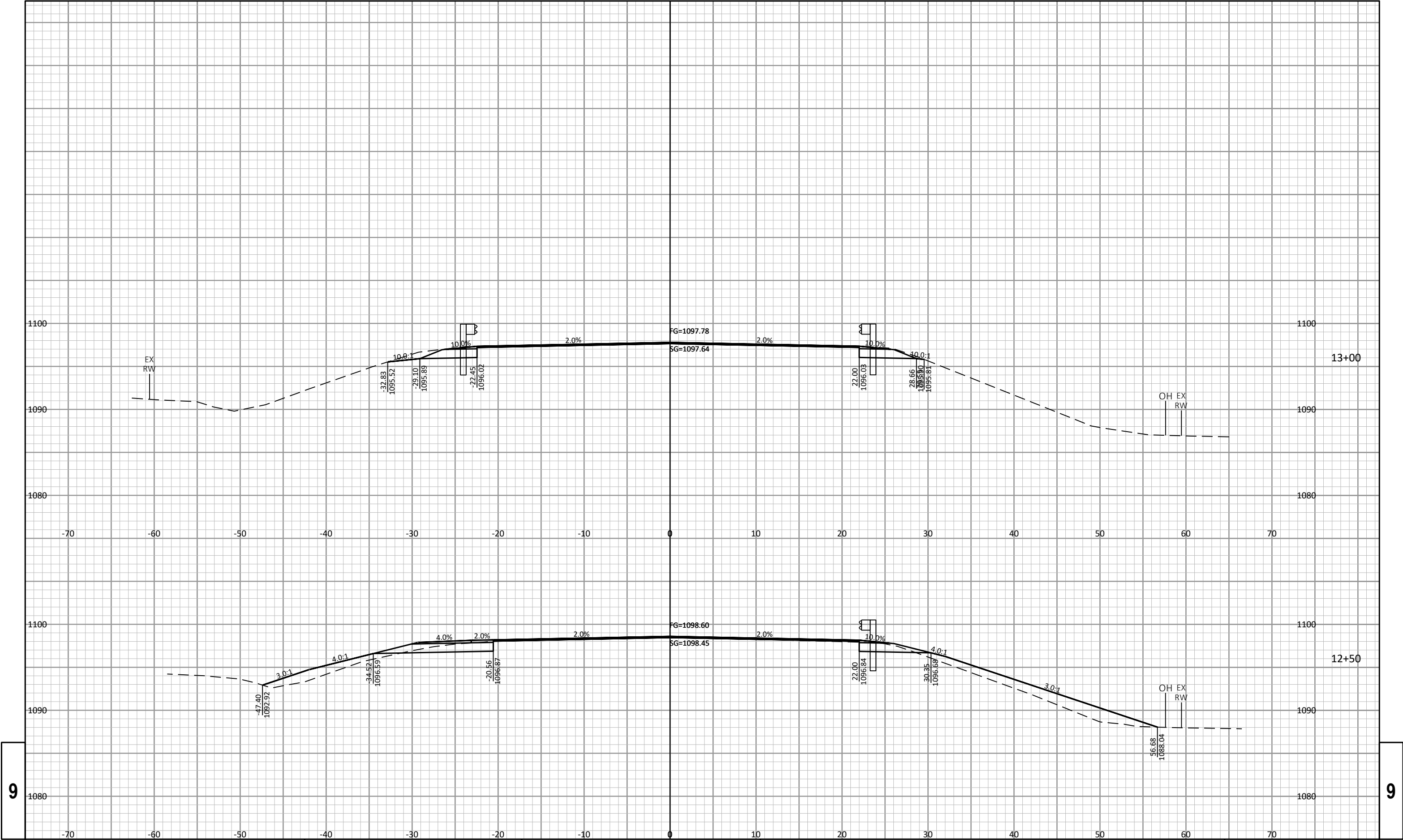
NO.	DATE	REVISION	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-71-79			
		DRAWN BY	CTMP
		PLANS CK'D.	PTB
CROSS SECTION AND QUANTITES AND DECK REPAIR AREAS			SHEET 2 OF 2 113

EARTHWORK - STH 80

STATION	AREA (SF)		INCREMENTAL VOLUME (CY)			CUMULATIVE VOLUME (CY)			
	CUT	FILL	CUT NOTE 1	FILL NOTE 2	FILL 1.25 NOTE 3	CUT 1.00 NOTE 1	FILL NOTE 2	FILL 1.25 NOTE 3	MASS ORDINATE NOTE 4
11+35.00	0	0	0	0	0	0	0	0	0
11+50.00	34	0	9	0	0	9	0	0	9
11+75.00	38	0	33	0	0	42	0	0	42
12+00.00	22	24	28	11	14	70	11	14	56
12+25.00	16	34	18	27	34	88	38	48	40
12+50.00	14	40	14	34	43	102	72	91	11
12+75.00	14	8	13	22	28	115	94	119	-4
13+00.00	17	0	14	4	5	129	98	124	5
13+25.00	14	0	14	0	0	143	98	124	19
13+50.00	8	5	10	2	3	153	100	127	26
13+60.00	0	77	1	15	19	154	115	146	8
13+60.00	0	0	0	0	0	154	115	146	8
14+25.00	0	0	0	0	0	154	115	146	8
14+50.00	14	0	6	0	0	160	115	146	14
14+75.00	17	0	14	0	0	174	115	146	28
15+00.00	18	36	16	17	21	190	132	167	23
15+25.00	18	84	17	56	70	207	188	237	-30
15+50.00	18	91	17	81	101	224	269	338	-114
15+75.00	21	84	18	81	101	242	350	439	-197
16+00.00	19	74	19	73	91	261	423	530	-269
16+25.00	17	67	17	65	81	278	488	611	-333
16+50.00	0	0	8	31	39	286	519	650	-364
STH 80 COLUMN TOTALS =			286	519	650	286	519	650	-364

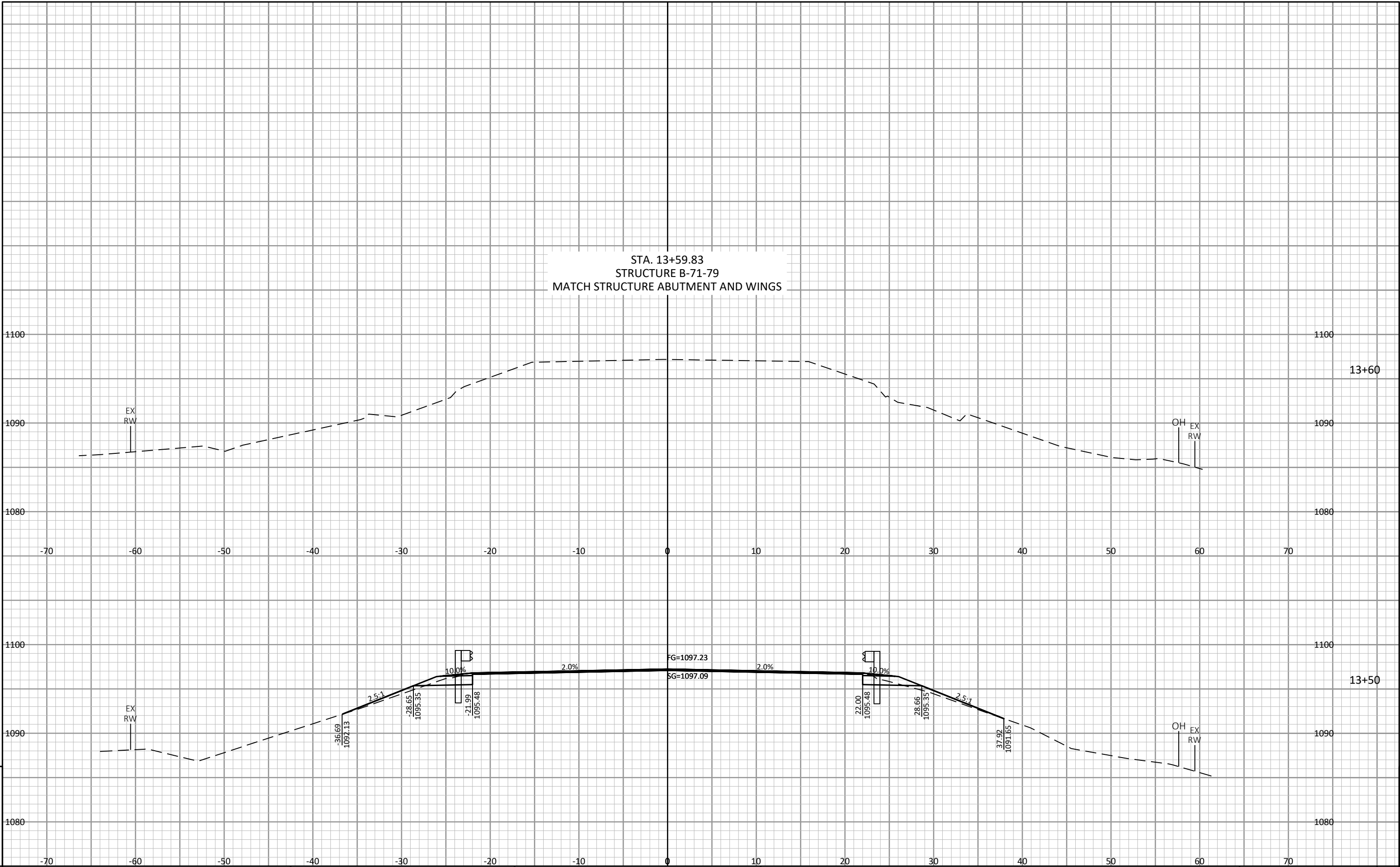
NOTES:	
1 - CUT	CUT INCLUDES SALVAGED/UNUSABLE MATERIAL
2 - FILL	DOES NOT INCLUDE UNUSABLE PAVEMENT EXCAVATION VOLUMES
3 - FILL (25%)	FILL 25% = FILL*1.25
4 - MASS ORDINATE	CUT - FILL (25%)

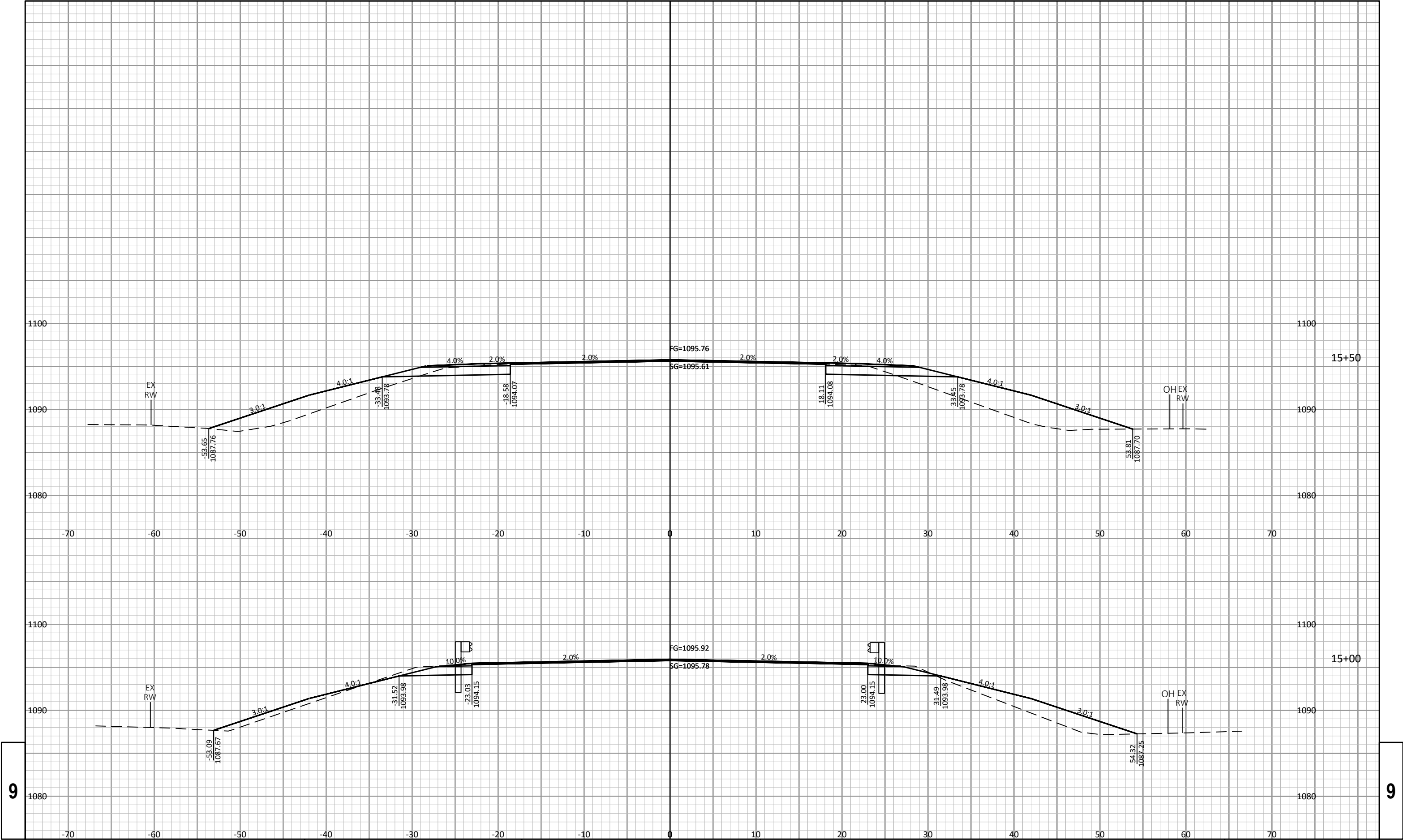




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PROJECT NO: 6340-00-62

HWY: STH 13/80

COUNTY: WOOD

CROSS SECTIONS: STH 80

SHEET

119

E

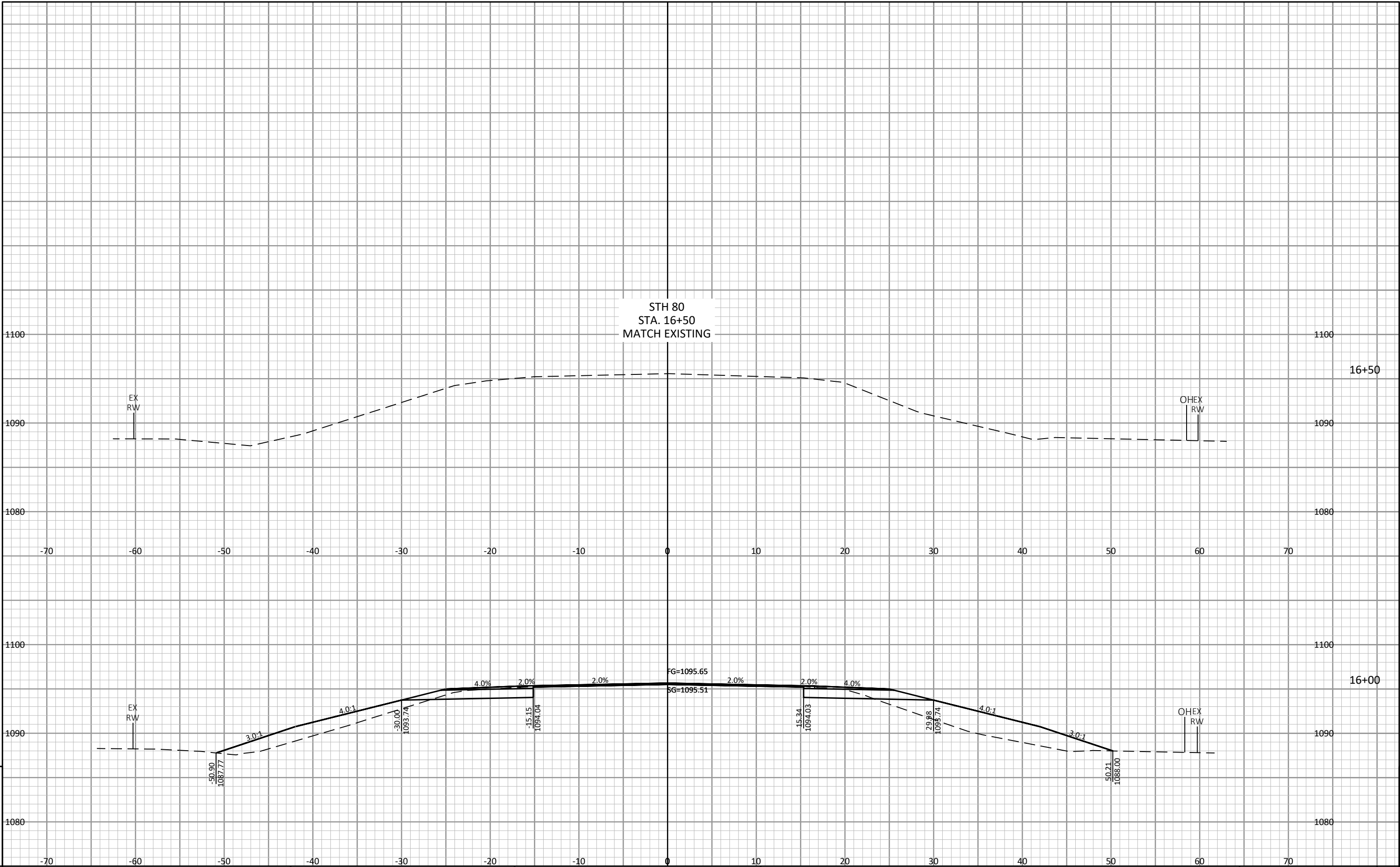
FILE NAME : R:\PROJECTS\W11702 WISDOT - STH 13 & 80 BRIDGES, WOOD CO\DESIGN\STH 80 - DESIGN\CORRIDORS\CRDR-80.DWG

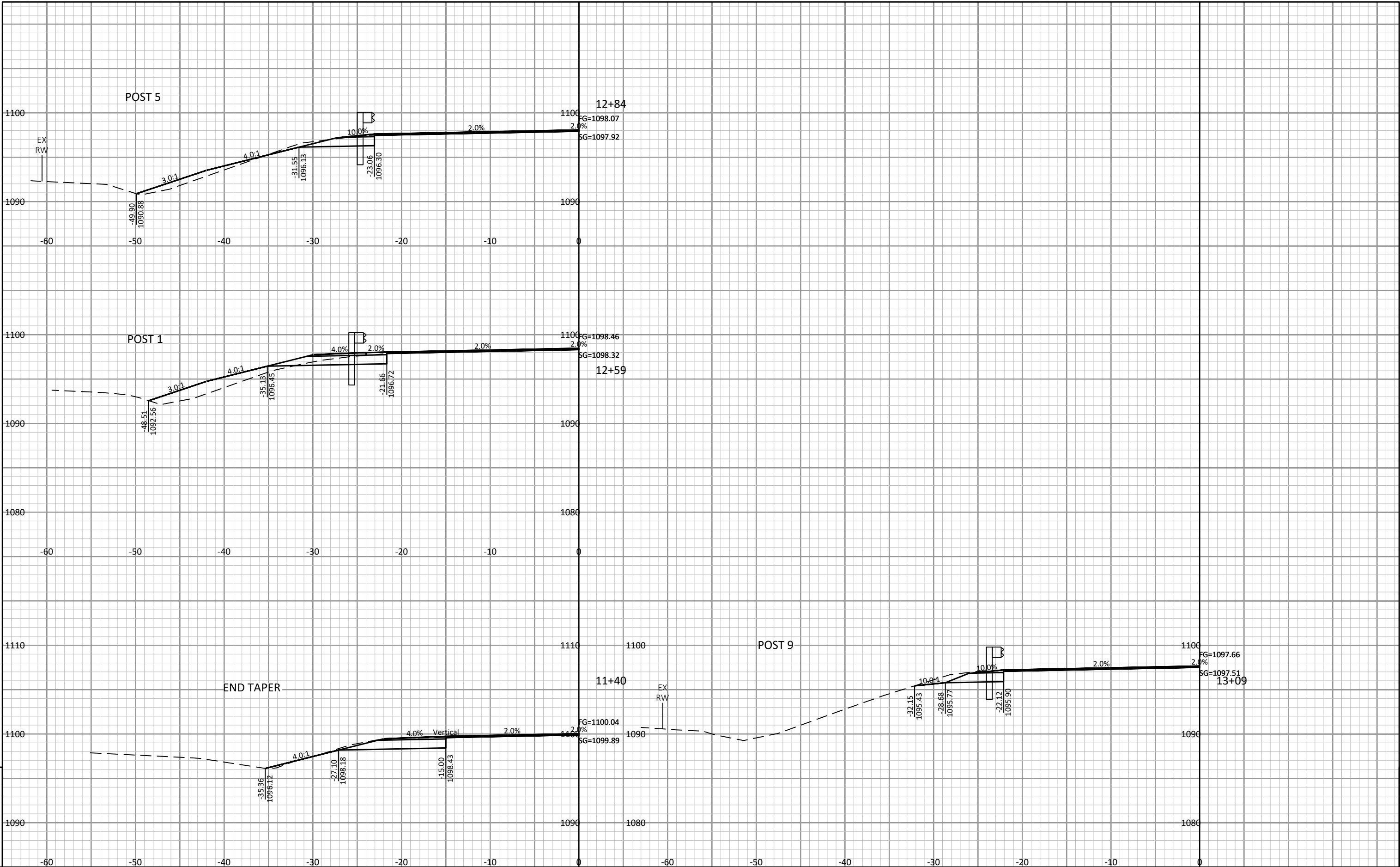
PLOT DATE : 4/23/2026 4:22:46 PM

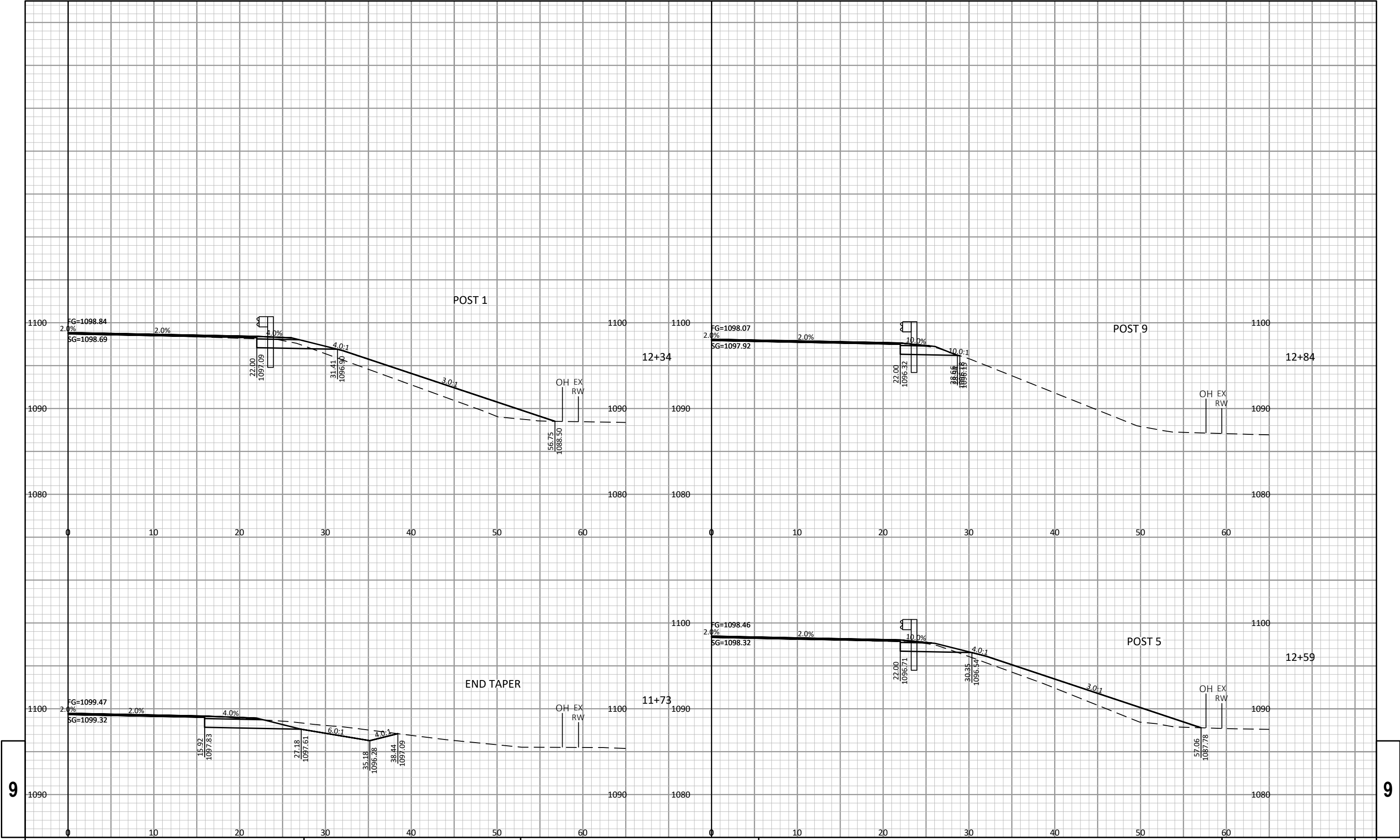
PLOT BY : HANNAH SCHUH

PLOT SCALE : 1 IN:10 FT

LAYOUT : 9.5 CROSS SECTIONS

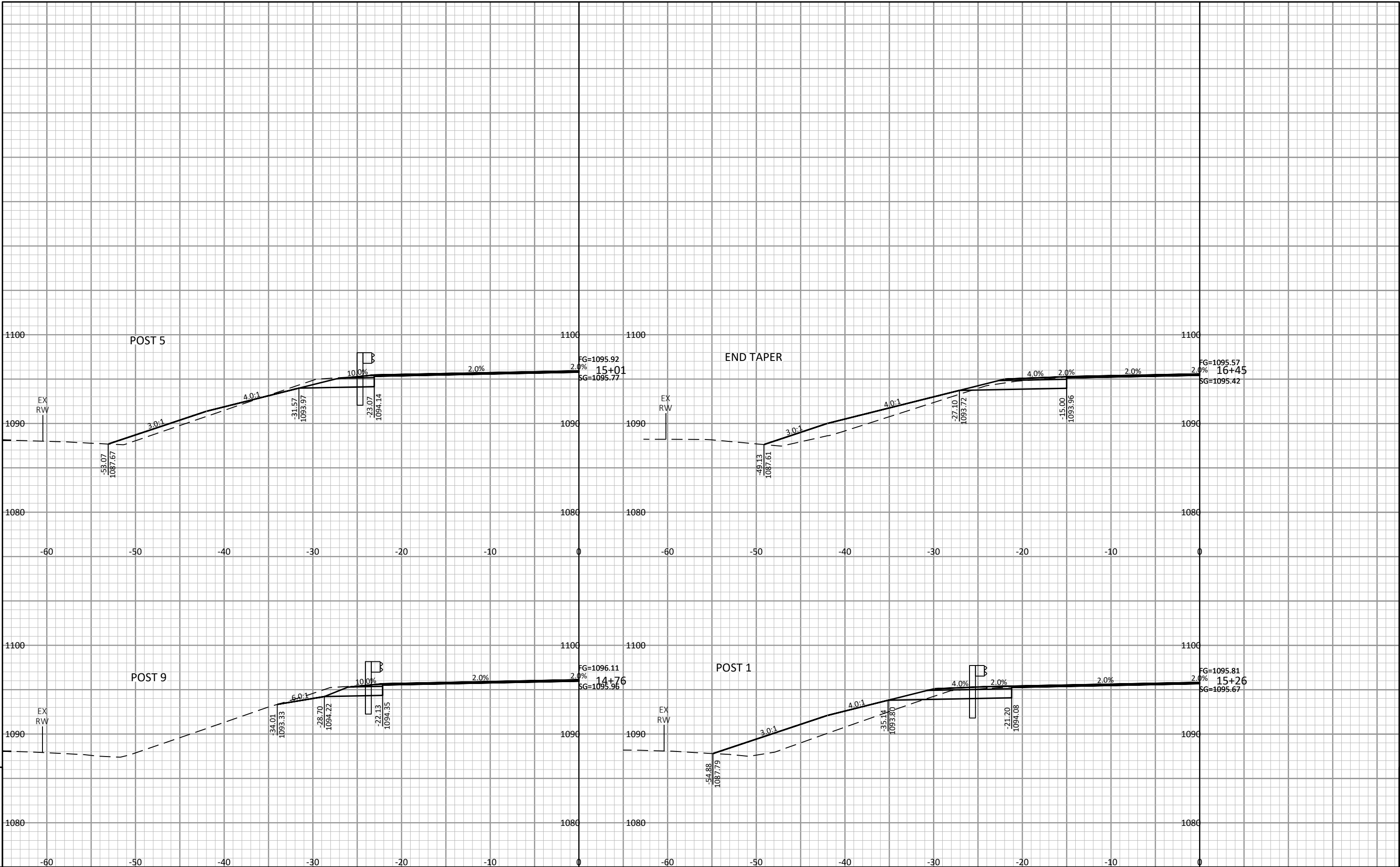


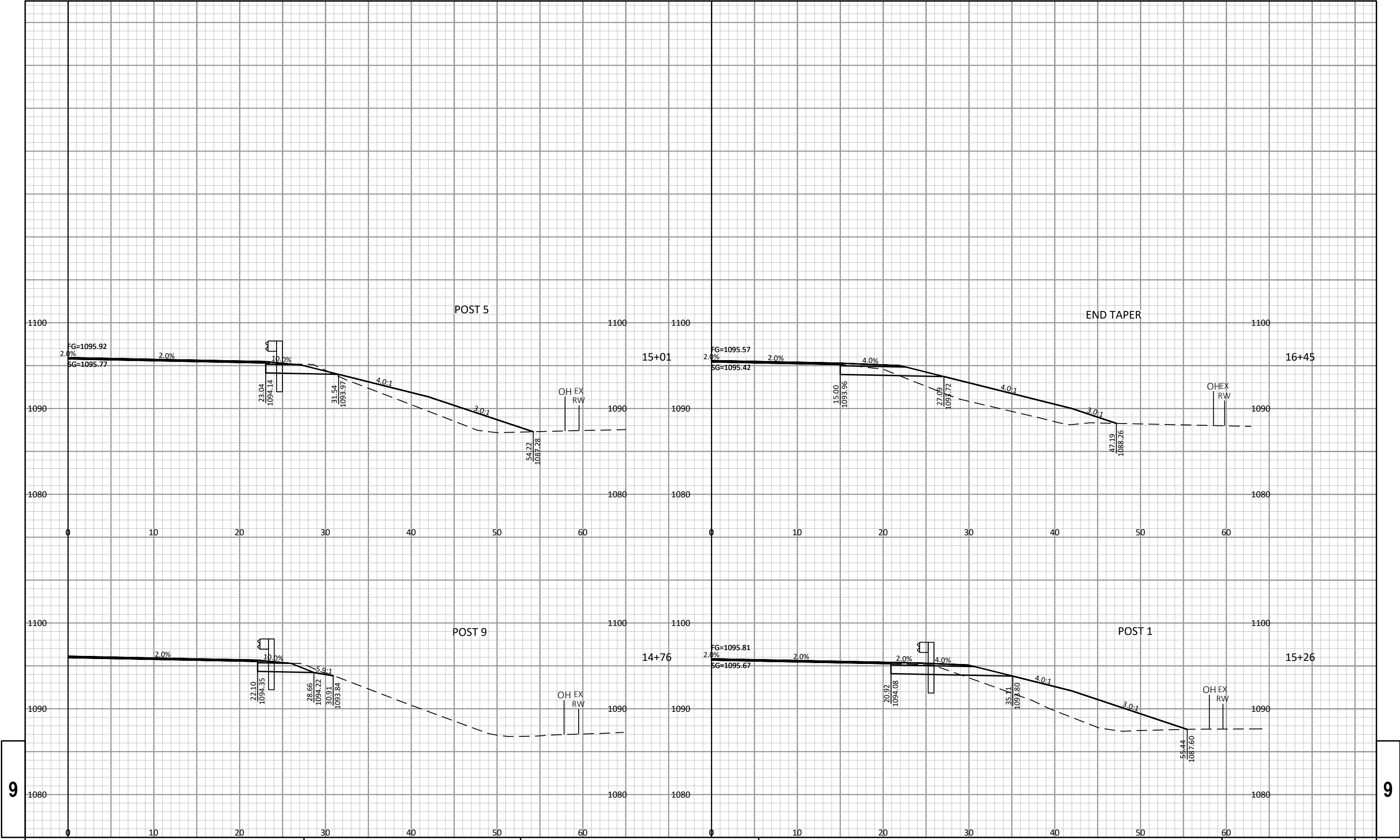




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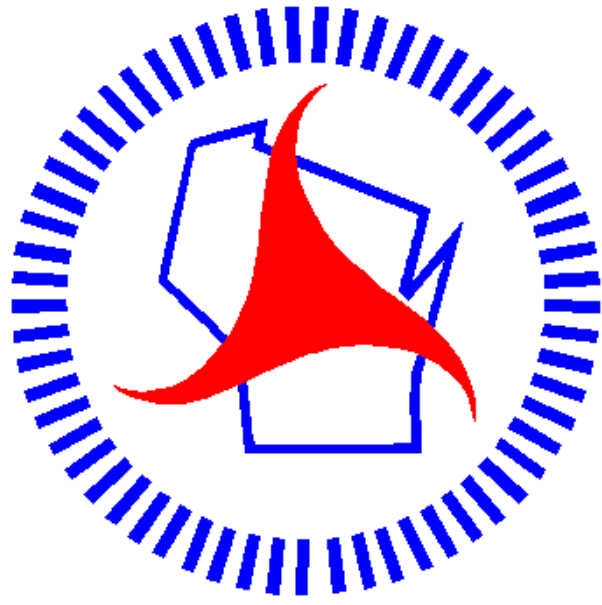




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Notes



Wisconsin Department of Transportation

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