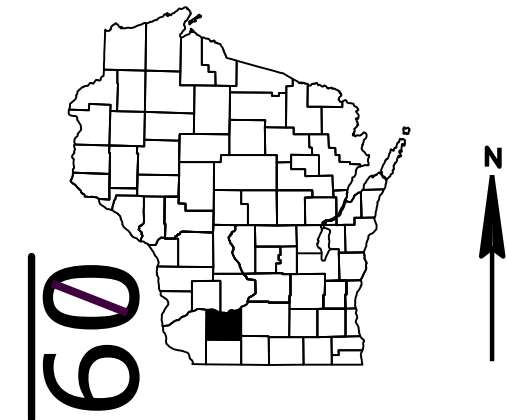


ORDER OF SHEETS

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 = 112



DESIGN DESIGNATION 5952-03-04

A.A.D.T.	2027	=	1,100
A.A.D.T.	2047	=	1,300
D.H.V.		=	120
D.D.		=	60/40
T.		=	7.8%
DESIGN SPEED		=	60 M.P.H.
ESALS		=	300,000

CONVENTIONAL SYMBOLS

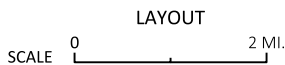
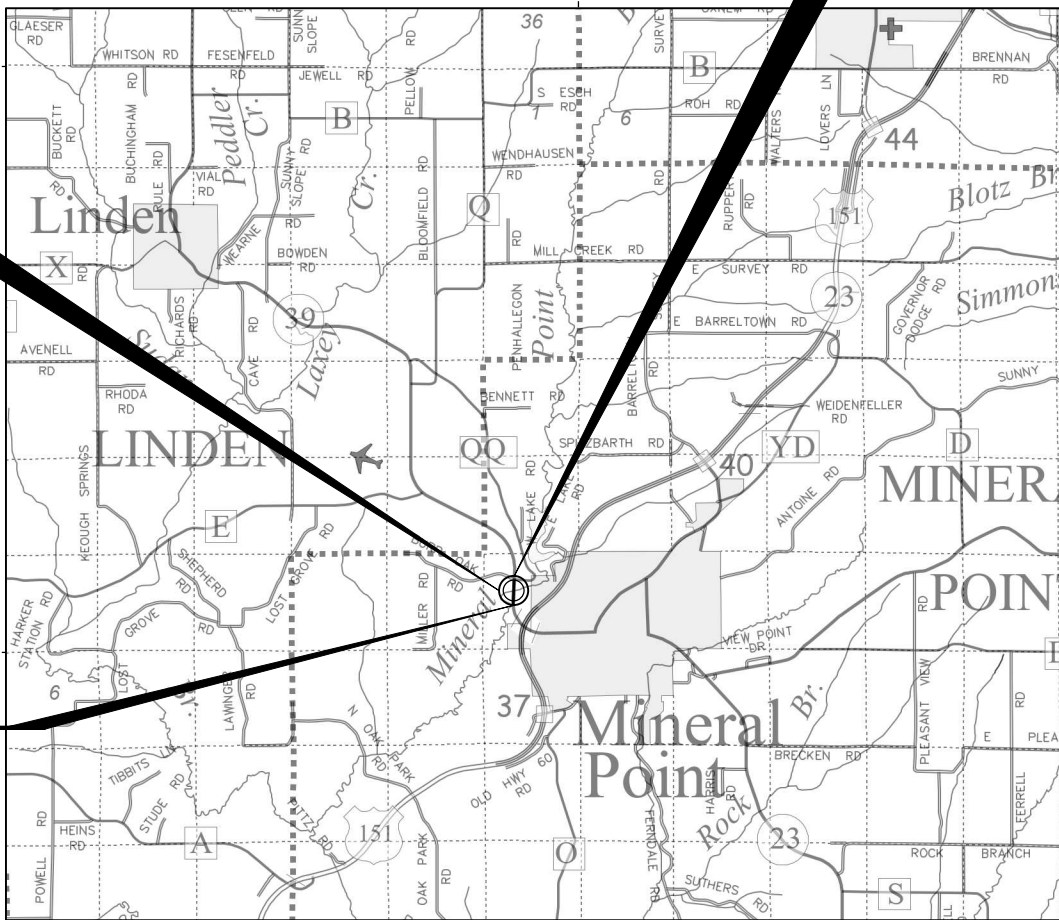
PLAN	
CORPORATE LIMITS	
PROPERTY LINE	
LOT LINE	
LIMITED HIGHWAY EASEMENT	
EXISTING RIGHT OF WAY	
PROPOSED OR NEW R/W LINE	
SLOPE INTERCEPT	
REFERENCE LINE	
EXISTING CULVERT	
PROPOSED CULVERT (Box or Pipe)	
COMBUSTIBLE FLUIDS	
MARSH AREA	
WOODED OR SHRUB AREA	

PROFILE	
GRADE LINE	
ORIGINAL GROUND	
MARSH OR ROCK PROFILE (To be noted as such)	
SPECIAL DITCH	
GRADE ELEVATION	
CULVERT (Profile View)	
UTILITIES	
ELECTRIC	
FIBER OPTIC	
GAS	
SANITARY SEWER	
STORM SEWER	
TELEPHONE	
WATER	
UTILITY PEDESTAL	
POWER POLE	
TELEPHONE POLE	

STRUCTURE B-25-198

BEGIN PROJECT

STA. 9+80
Y=119,206.01
X=359,279.71



TOTAL NET LENGTH OF CENTERLINE = 0.144 MI.

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COORDINATE REFERENCE SYSTEM (WISCRS), IOWA 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 (18).

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

EDMUND - MINERAL POINT

MINERAL POINT BRANCH BR B-25-198

STH 39
IOWA COUNTY

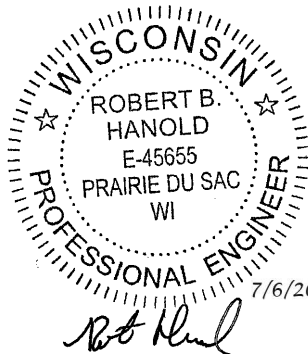
STATE PROJECT NUMBER
5952-03-84

END PROJECT
STA. 17+40

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
5952-03-84	WISC 2027029	1

ORIGINAL PLANS PREPARED BY

JEWELL



STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY	JEWELL ASSOCIATES ENGINEERS, INC.
Surveyor	JEWELL ASSOCIATES ENGINEERS, INC.
Designer	DEREK POTTER, P.E.
Project Manager	SW REGION
Regional Examiner	CHAD SCHROEDER, P.E.
Regional Supervisor	

APPROVED FOR THE DEPARTMENT
Derek Potter
DATE: 7/6/2026
(Signature)

E

GENERAL NOTES

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.

EXCAVATION BELOW SUBGRADE (EBS) IS NOT USED TO BALANCE YARDAGE, AND IS NOT SHOWN ON THE CROSS SECTIONS BUT IS MEASURED AND PAID FOR AS COMMON EXCAVATION. EXACT LOCATIONS OF EBS WILL BE DETERMINED BY THE ENGINEER IN THE FIELD.

UNLESS SHOWN OTHERWISE, DISTURBED AREAS SHOWN WITHIN THE RIGHT-OF-WAY, EXCEPT THE AREAS WITHIN THE FINISHED SHOULDER POINTS ARE TO BE FERTILIZED (TYPE B), SEEDED (USE SEED MIX NO. 20 & SEED MIX NO. 75), AND EROSION MATTED AS DIRECTED BY THE ENGINEER. ALL AREAS WITHIN 75 FEET OF THE MINERAL POINT BRANCH OR UNNAMED STREAM SHALL BE SEEDED WITH SEED MIX NO. 75.

SILT FENCE AND TEMPORARY DITCH CHECKS SHALL BE PLACED AS SHOWN ON THE PLAN OR AS DIRECTED BY THE ENGINEER IN THE FIELD. SILT FENCE SHALL BE PLACED PRIOR TO CONSTRUCTION AND SHALL BE IN PLACE PRIOR TO STRUCTURE REMOVAL.

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

WETLAND, WATERWAYS, AND OTHER ENVIRONMENTALLY SENSITIVE AREAS SHALL BE PROTECTED AT ALL TIMES. DO NOT STORE OR OPERATE EQUIPMENT OR STORE MATERIALS NEAR THESE SITES UNLESS APPROVED BY THE ENGINEER.

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

ADD TACK COAT AT A RATE OF 0.05 GAL/SY.

PLACE SALVAGED TOPSOIL OR TOPSOIL IN ALL GRADED AREAS AS DESIGNATED BY THE ENGINEER IMMEDIATELY AFTER GRADING HAS BEEN COMPLETED. SEED, MULCH, AND FERTILIZE ALL AREAS 5 DAYS AFTER PLACEMENT OF SALVAGE TOPSOIL OR TOPSOIL.

CONTACTS

DESIGN CONSULTANT:

JEWELL ASSOCIATES ENGINEERS, INC.
560 SUNRISE DRIVE
SPRING GREEN, WI 53588
ATTN: ROBERT HANOLD, P.E.
PHONE: (608) 588-7484
CELL: (608) 606-3568
EMAIL: robert.hanold@jewellassoc.com

DNR LIAISON:

DNR SOUTH CENTRAL REGION HEADQUARTERS
3911 FISH HATCHERY ROAD
FITCHBURG, WI 53711
ATTN: ERIC HEGGELUND
PHONE: (608) 228-7927
EMAIL: eric.heggelund@wisconsin.gov

WISCONSIN DEPT. OF TRANSPORTATION

WISDOT PROJECT MANAGER
2101 WRIGHT ST
MADISON, WI 53704
ATTN: DEREK POTTER, P.E.
PHONE: (608) 246-3861
EMAIL: derek.potter@dot.wi.gov

UTILITIES

COMMUNICATION

BUG TUSSEL
ATTN: GEREMIAH YOUNG
417 PINE STREET
GREEN BAY, WI 54301
PHONE: (920) 328-3442
EMAIL: geremiah.young@btussel.com

FIBER OPTIC

FRONTIER COMMUNICATIONS
ATTN: CHRISTOPHER BLUMER
451 BROADWAY
SUN PRAIRIE, WI 53590
PHONE: (608) 622-3807
EMAIL: christopher.blumer@verizon.com



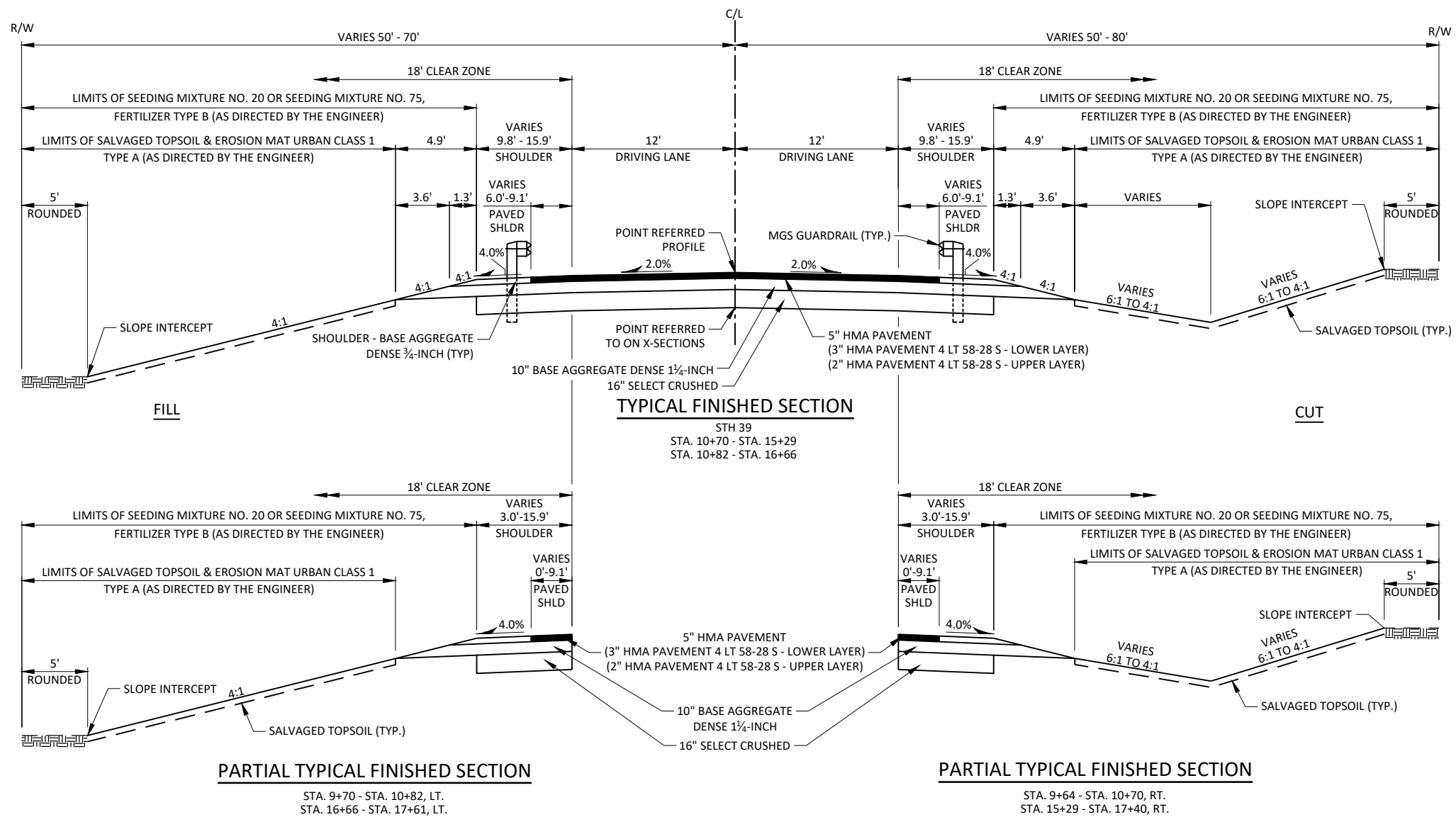
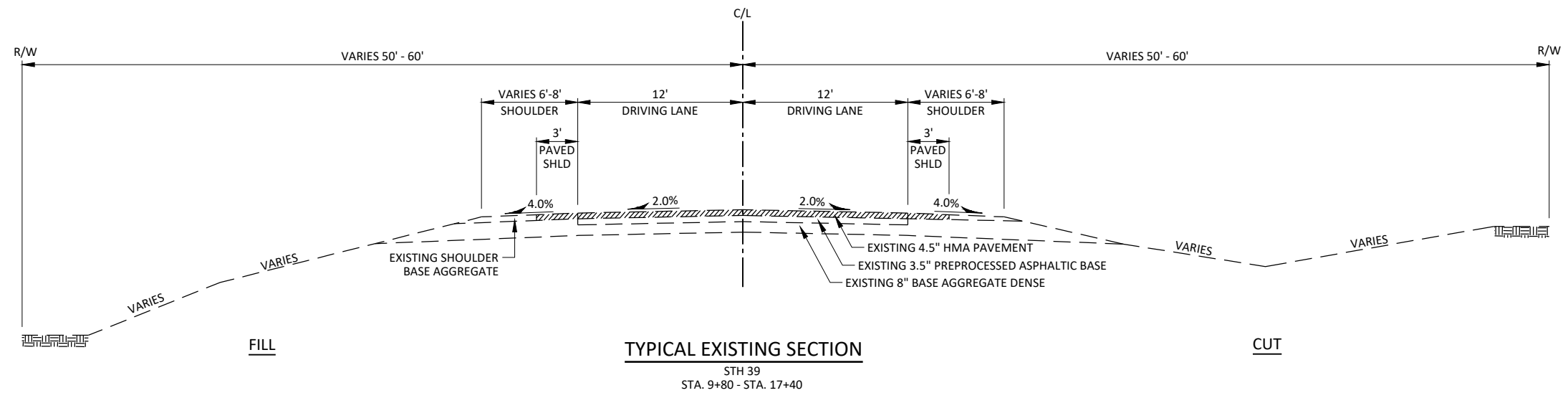
ORDER OF SECTION 2 SHEETS:

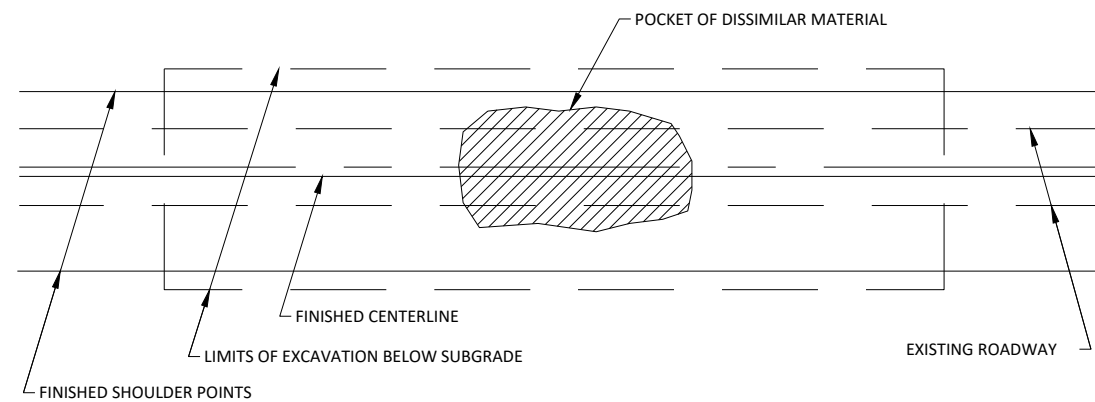
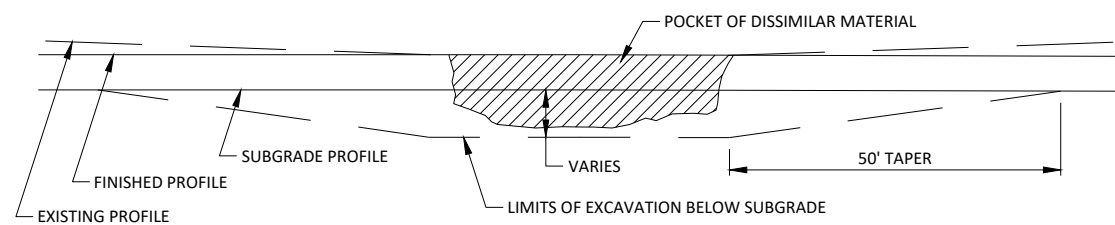
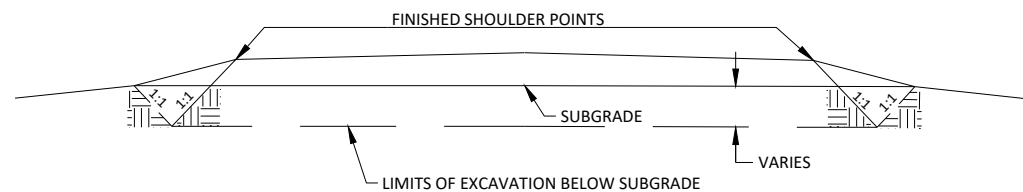
- PROJECT OVERVIEW
- TYPICAL SECTIONS
- CONSTRUCTION DETAILS
- EROSION CONTROL PLAN
- PAVEMENT MARKING AND PERMANENT SIGNING
- DETOUR ROUTE

LIST OF STANDARD ABBREVIATIONS

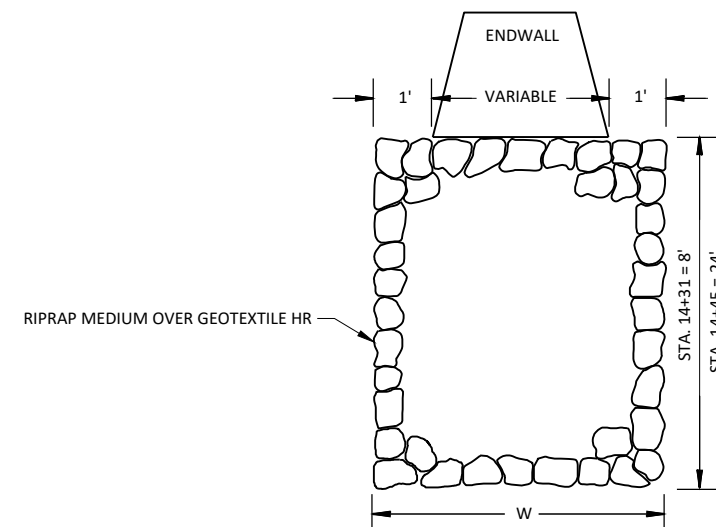
ABUT	Abutment	INV	Invert	RDWY	Roadway
AC	Acre	IP	Iron Pipe or Pin	SALV	Salvaged
AGG	Aggregate	IRS	Iron Rod Set	SAN S	Sanitary Sewer
AH	Ahead	JT	Joint	SEC	Section
<	Angle	JCT	Junction	SHLDR	Shoulder
ASPH	Asphaltic	LHF	Left-Hand Forward	SHR	Shrinkage
AVG	Average	L	Length of Curve	SW	Sidewalk
ADT	Average Daily Traffic	LIN FT or LF	Linear Foot	S	South
BAD	Base Aggregate Dense	LC	Long Chord of Curve	SQ	Square
BK	Back	MH	Manhole	SF or SQ FT	Square Feet
BF	Back Face	MB	Mailbox	SY or SQ YD	Square Yard
BM	Bench Mark	ML or M/L	Match Line	STD	Standard
BR	Bridge	N	North	SDD	Standard Detail Drawings
C or C/L	Center Line	Y	North Grid Coordinate	STH	State Trunk Highways
CC	Center to Center	O.A.L.	Overall Length	STA	Station
CTH	County Trunk Highway	OD	Outside Diameter	SS	Storm Sewer
CR	Creek	PLE	Permanent Limited Easement	SG	Subgrade
CR	Crushed	PT	Point	SE	Superelevation
CY or CU YD	Cubic Yard	PC	Point of Curvature	SL or S/L	Survey Line
CP	Culvert Pipe	PI	Point of Intersection	SV	Septic Vent
C & G	Curb and Gutter	PRC	Point of Reverse Curvature	T	Tangent
D	Degree of Curve	PT	Point of Tangency	TEL	Telephone
DHV	Design Hour Volume	POC	Point On Curve	TEMP	Temporary
DIA	Diameter	POT	Point on Tangent	TI	Temporary Interest
E	East	PVC	Polyvinyl Chloride	TLE	Temporary Limited Easement
X	East Grid Coordinate	PCC	Portland Cement Concrete	t	Ton
ELEC	Electric (al)	LB	Pound	T or TN	Town
EL or ELEV	Elevation	PSI	Pounds Per Square Inch	TRANS	Transition
ESALS	Equivalent Single Axle Loads	PE	Private Entrance	TL or T/L	Transit Line
EBS	Excavation Below Subgrade	R	Radius	T	Trucks (percent of)
ESTR	Existing Sign to Remain	RR	Railroad	TYP	Typical
FF	Face to Face	R	Range	UNCL	Unclassified
FE	Field Entrance	RL or R/L	Reference Line	UG	Underground Cable
F	Fill	RP	Reference Point	USH	United States Highway
FG	Finished Grade	RCCP	Reinforced Concrete Culvert	VAR	Variable
FL or F/L	Flow Line		Pipe	V	Velocity or Design Speed
FT	Foot	REQ'D	Required	VERT	Vertical
FTG	Footing	RES	Residence or Residential	VC	Vertical Curve
GN	Grid North	RW	Retaining Wall	VOL	Volume
HT	Height	RT	Right	WM	Water Main
CWT	Hundredweight	RHF	Right-Hand Forward	WV	Water Valve
HYD	Hydrant	R/W	Right-of-Way	W	West
INL	Inlet	R	River	WB	Westbound
ID	Inside Diameter	RD	Road	YD	Yard



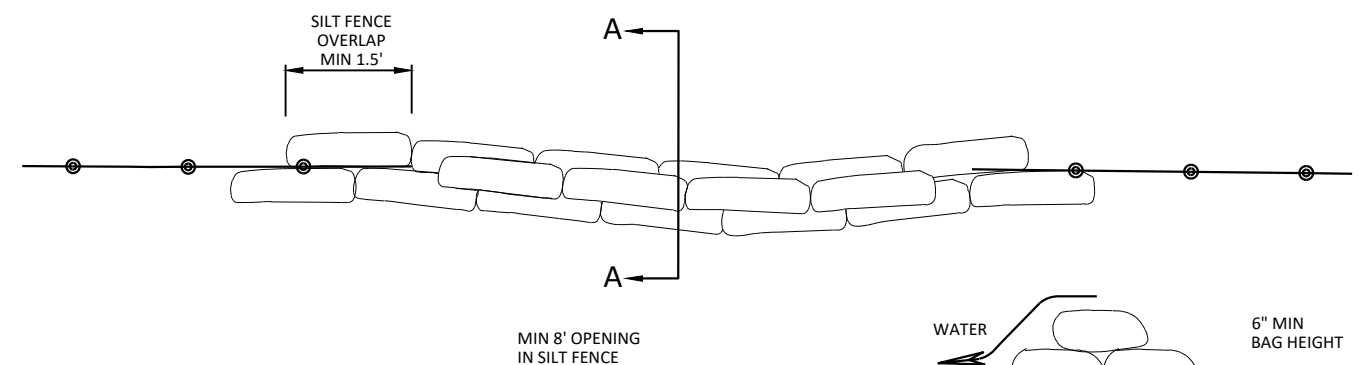


**PLAN VIEW****PROFILE VIEW****CROSS SECTION VIEW**

1. EXACT LOCATION OF E.B.S. (EXCAVATION BELOW SUBGRADE) SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.
2. E.B.S. AREA TO BE BACKFILLED WITH MATERIAL ACCEPTABLE TO THE ENGINEER. BACKFILL MUST BE HOMOGENEOUS WITH ADJOINING FILL MATERIAL.
3. THE FILL SECTION WITHIN 100' OF THE MOUTH OF THE CUT MUST BE KEPT 2' BELOW SUBGRADE UNTIL E.B.S. IS COMPLETED. LATERAL LIMITS OF EXCAVATION SHALL BE THE SUBGRADE SHOULDER POINTS.

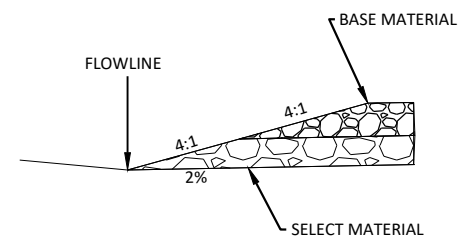
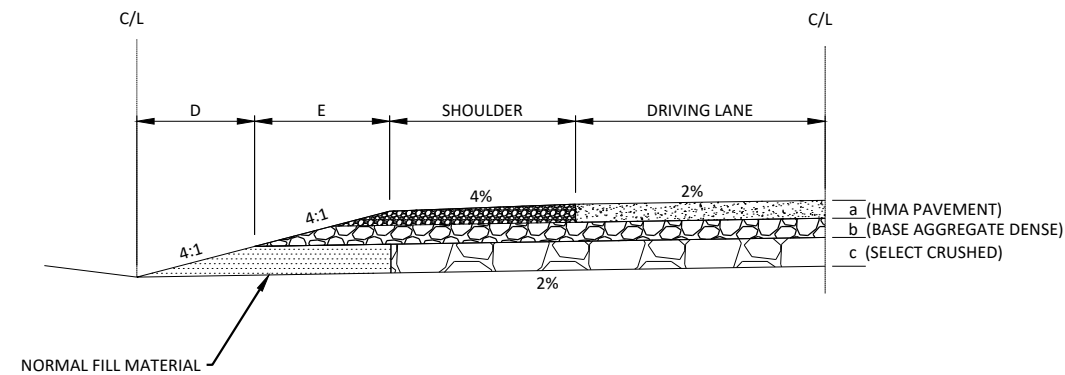
EXCAVATION BELOW SUBGRADE (E.B.S.) DETAIL**RIPRAP MEDIUM TREATMENT AT CULVERTS**

(TYPICAL RIPRAP MEDIUM AT DRAINAGE STRUCTURE OUTFALL UNLESS NOTED OTHERWISE)

**TOP VIEW****ROCK BAGS USED FOR SILT FENCE RELIEF**

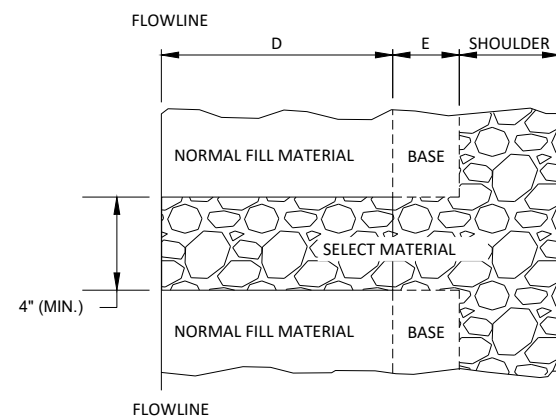
NOTE: LOCATION AND NUMBER OF ROCK BAGS TO BE DETERMINED BY THE ENGINEER IN THE FIELD.

TYPICAL HALF SECTION WITH SELECT MATERIALS (OUTSIDE DITCH)

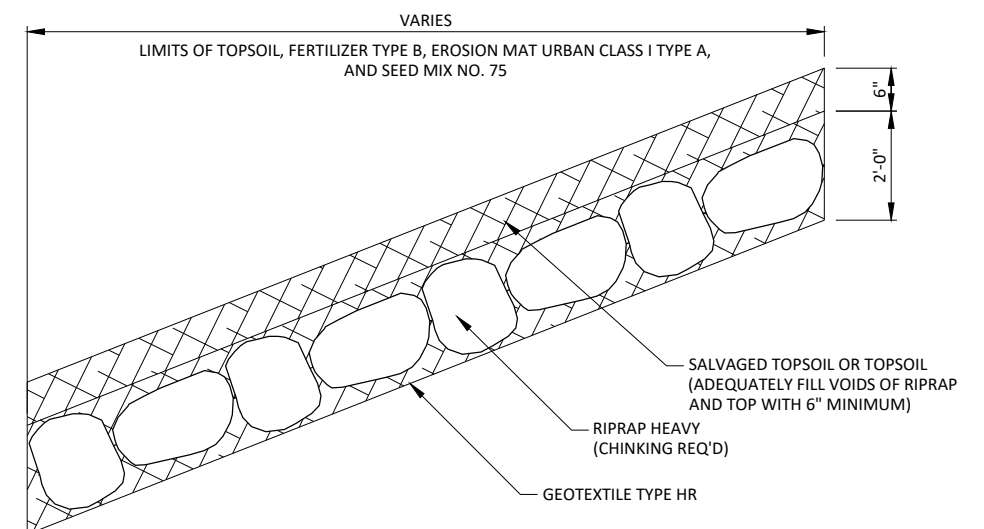


* RELIEF TRENCH DETAIL
PROFILE VIEW

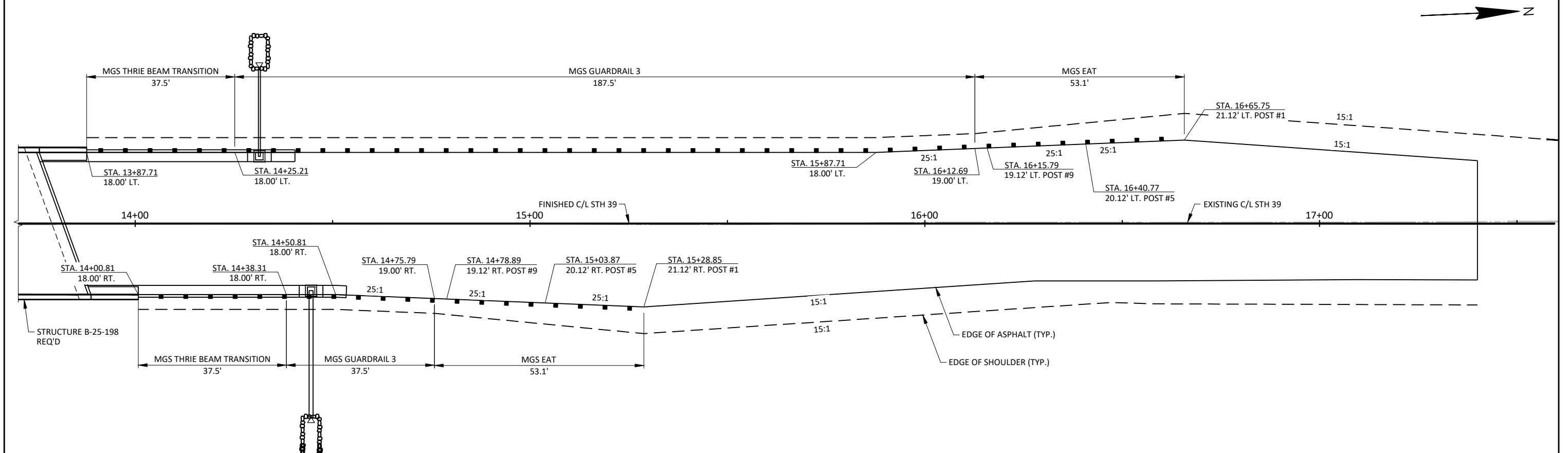
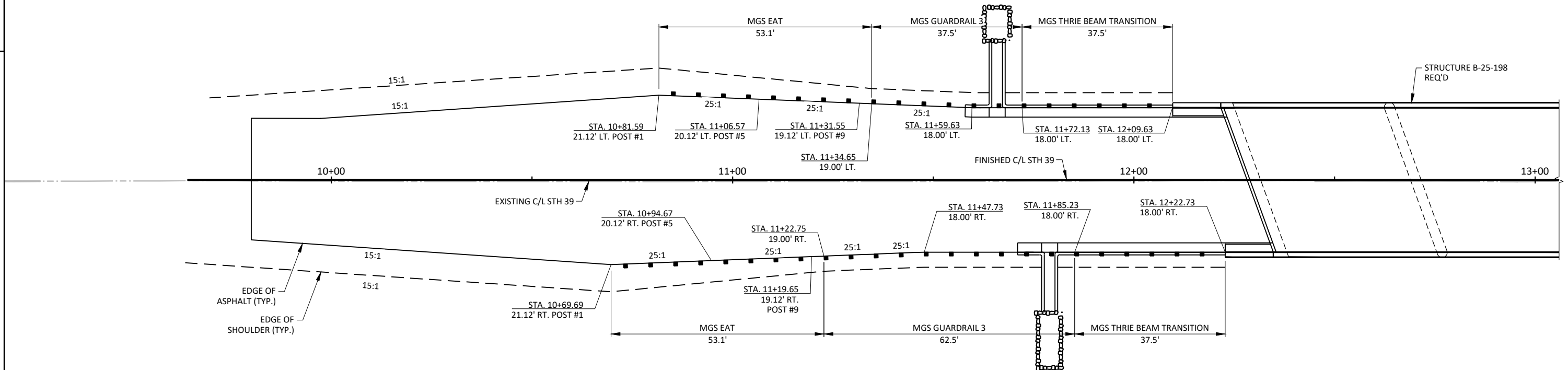
* CONSTRUCT RELIEF TRENCH AT SAG POINTS

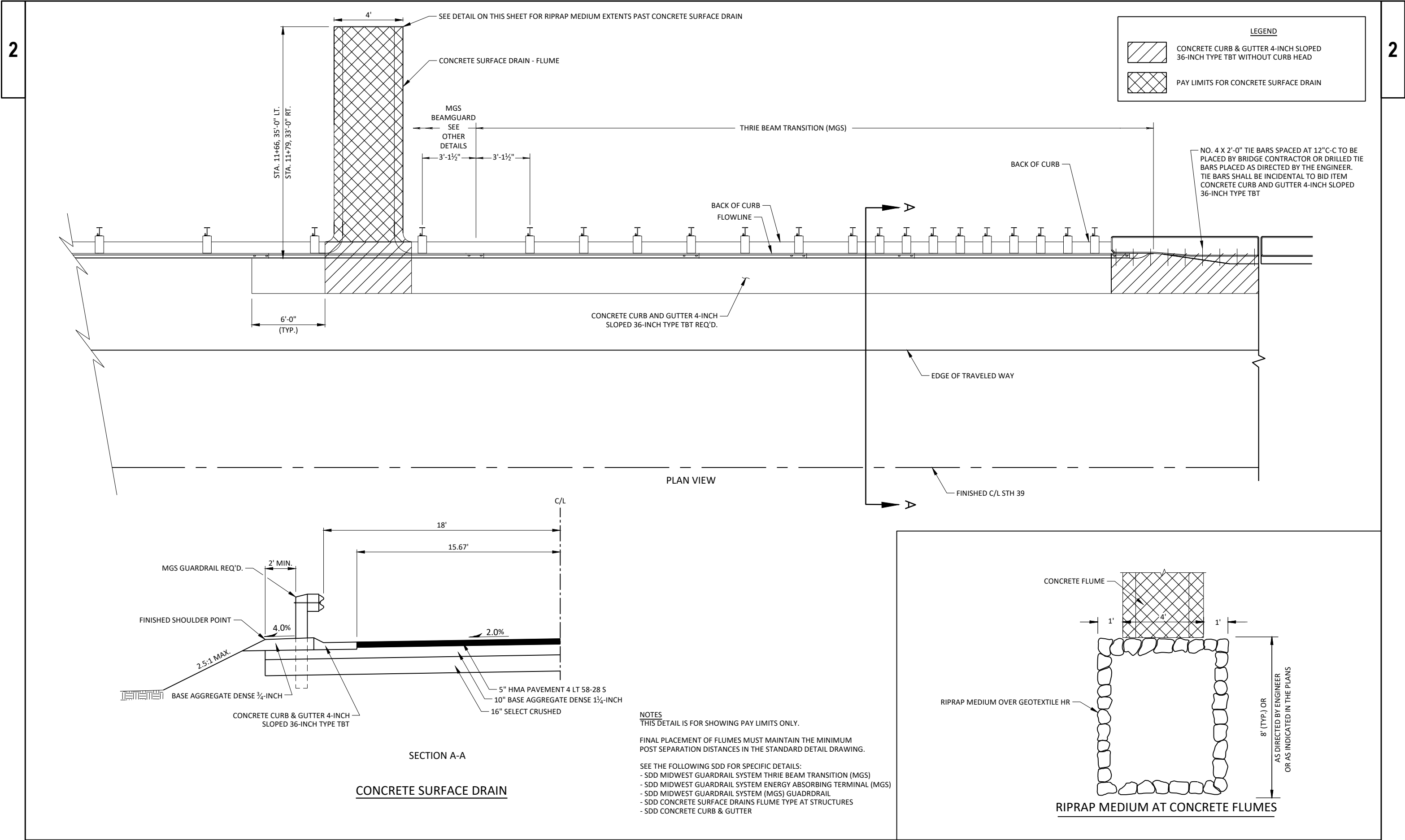


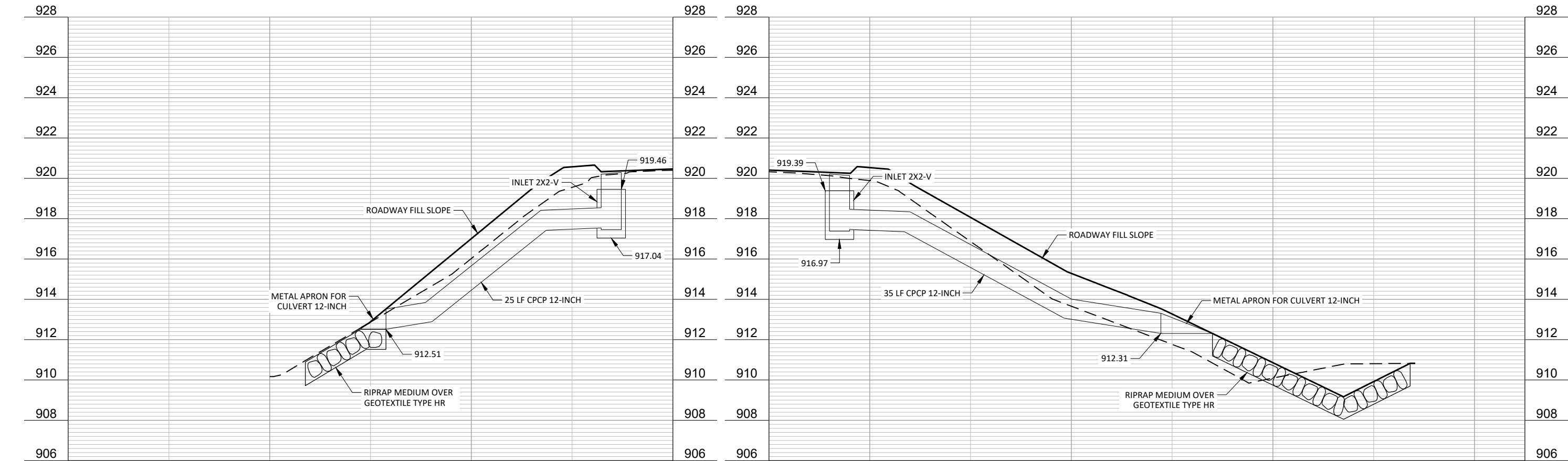
RELIEF TRENCH DETAIL PLAN VIEW
THROUGH SELECT MATERIAL

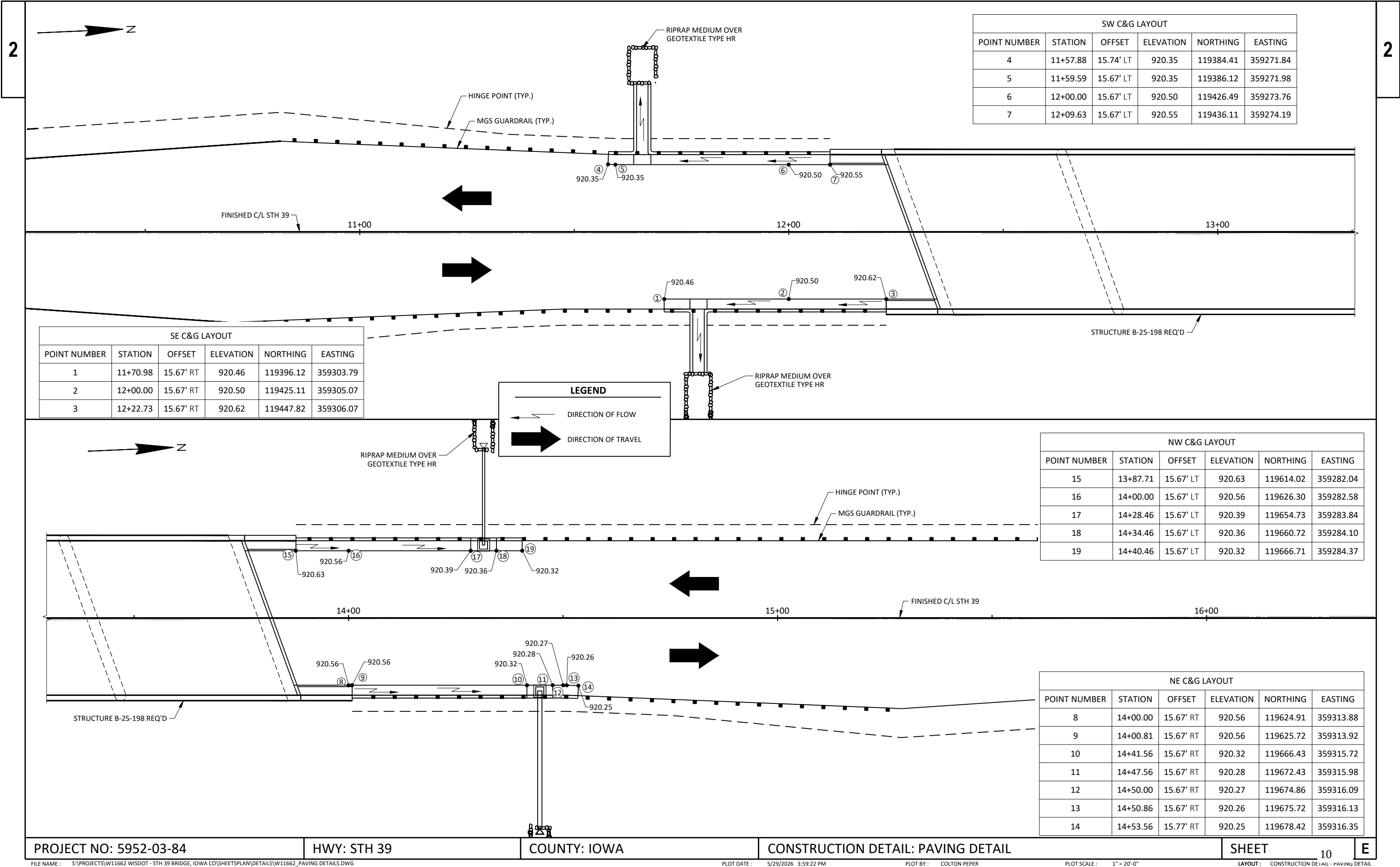


VEGETATED RIPRAP DETAIL
(SEE EROSION CONTROL PLAN FOR LOCATION)





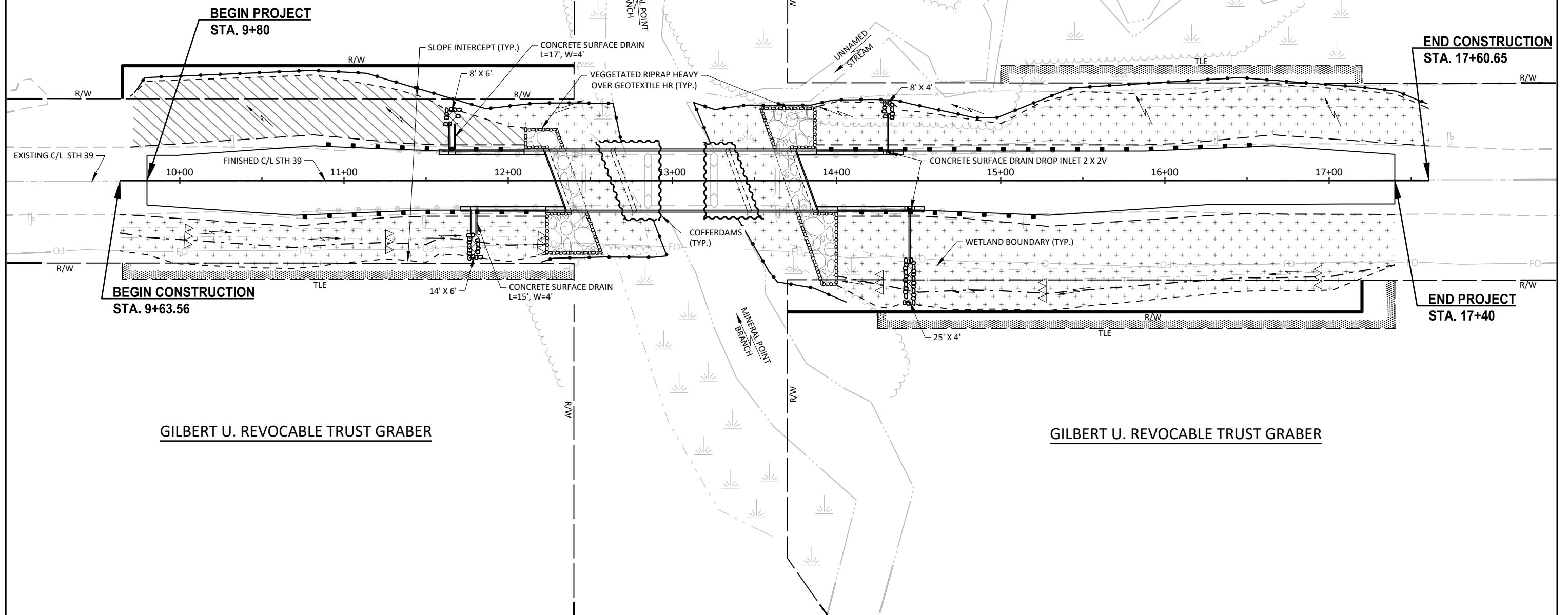




RICK F. LONIGRO

RICK F. LONIGRO

LEGEND	
	DIRECTION OF FLOW
	EDGE OF WATER
	RIPRAP MEDIUM OVER GEOTEXTILE TYPE HR
	WETLANDS
	WETLAND BOUNDARY
	TEMPORARY DITCH CHECKS
	COFFERDAMS
	SILT FENCE
	SEED MIXTURE NO. 75 LIMITS
	SEED MIXTURE NO. 20 LIMITS
	LIMITS OF VEGETATED RIPRAP (SEE CONSTRUCTION DETAIL)



PROJECT NO: 5952-03-84

HWY: STH 39

COUNTY: IOWA

EROSION CONTROL PLAN

SHEET

11

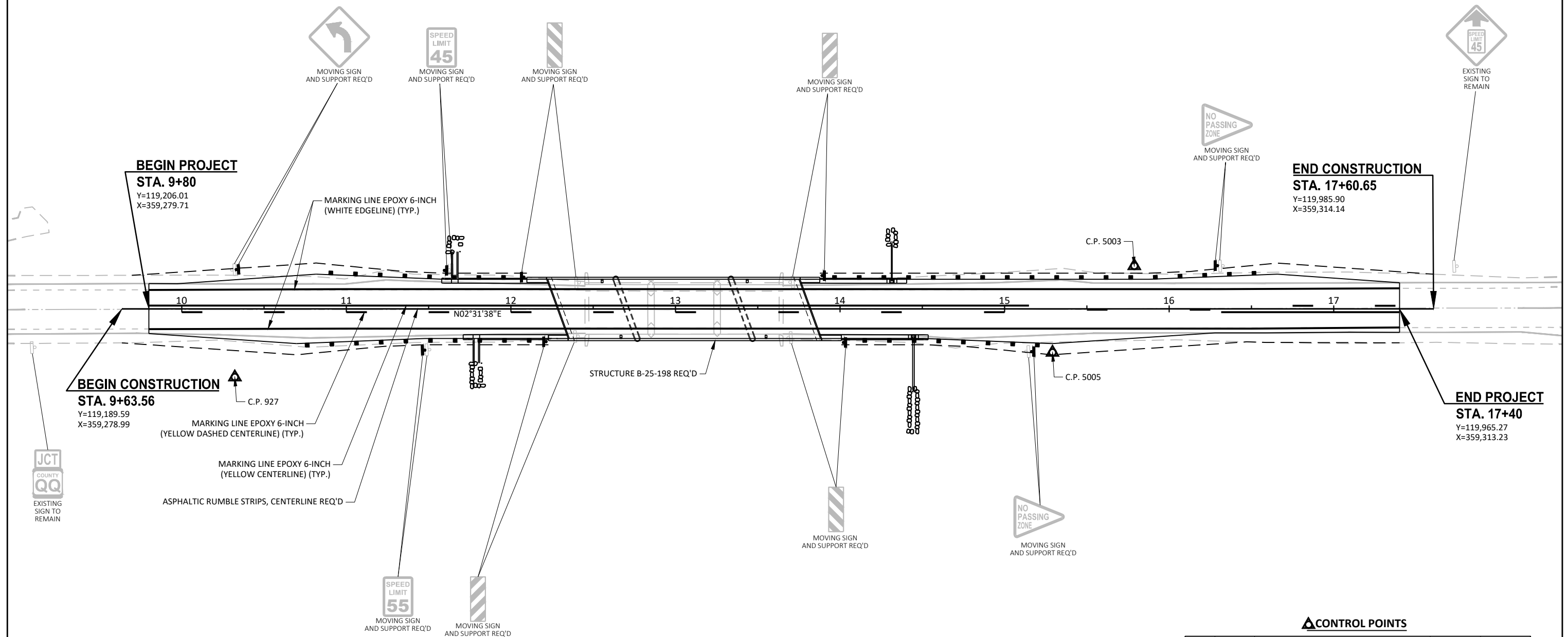
E

EXISTING SIGN

PROPOSED SIGN



SEE STANDARD DETAIL DRAWINGS LONGITUDINAL
MARKING (MAINLINE)



CONTROL POINTS

NO.	STA.	DESCRIPTION	Y	X
927	10+32	CAPPED IRON ROD FOUND, 41.5' RT.	119,256.32	359,323.43
5005	15+29	CAPPED IRON ROD FOUND, 26.5' RT.	119,753.41	359,330.35
5003	15+79	CAPPED IRON ROD FOUND, 26.2' LT.	119,805.37	359,279.97



GENERAL NOTES

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

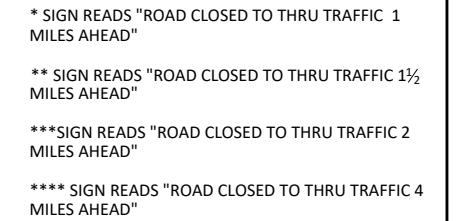
ALL SIGNS INAPPROPRIATE TO THE STATUS OF THE CONTROL ZONE, INCLUDING PRE-EXISTING SIGNING IN THE VICINITY, SHALL BE COVERED OR REMOVED AS SPECIFIED IN THE PLANS AND/OR THE SPECIAL PROVISIONS OR AS DIRECTED BY THE ENGINEER.

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

"MO" SIGNS ARE THE SAME AS "M" SIGNS EXCEPT BACKGROUND IS ORANGE.

ALL "WO" AND "W" SIGNS SHALL BE 48"X48" UNLESS OTHERWISE NOTE.

IMMEDIATELY RE-ESTABLISH "STOP" SIGNS THAT ARE REMOVED FOR A CONSTRUCTION OPERATION.

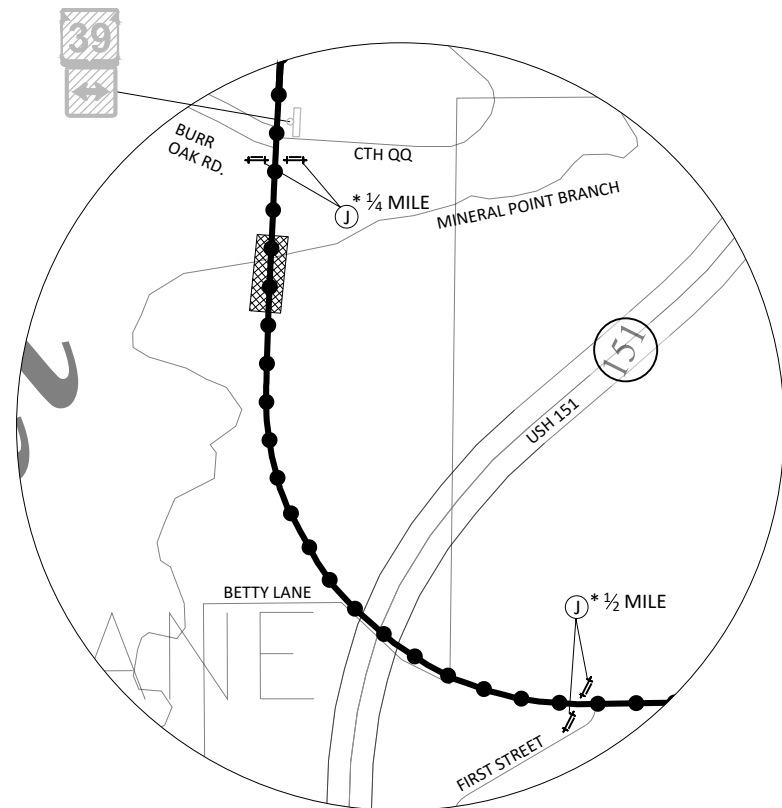


ROAD	{DAY}
CLOSED	{DATE}
BEGINS	

NOTE: FOR SIDEROAD SIGNING WITHIN THE WORK ZONE, REFER TO SDD BARRICADES AND SIGNS FOR SIDEROAD CLOSURES.

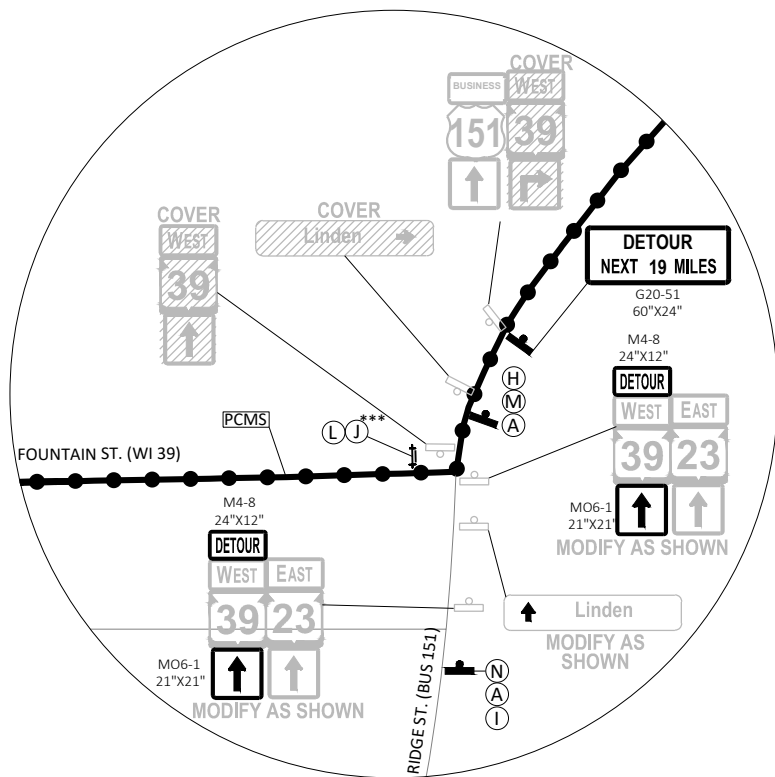
Diagram showing various traffic signs and their dimensions:

- M06-2: 30"X30"
- M5-2R: 30"X30"
- M1-6: 36"X36"
- M06-1: 30"X30"
- DETOUR: 36"X18"
- EAST: 24"X12"
- WEST: 24"X12"
- 48"X48"

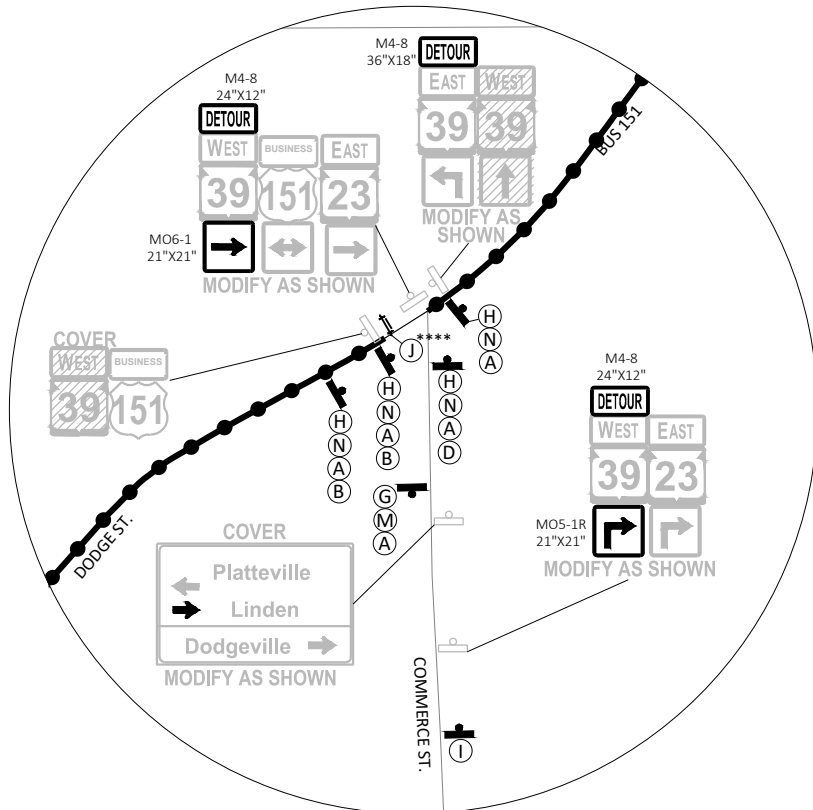


DETAIL A

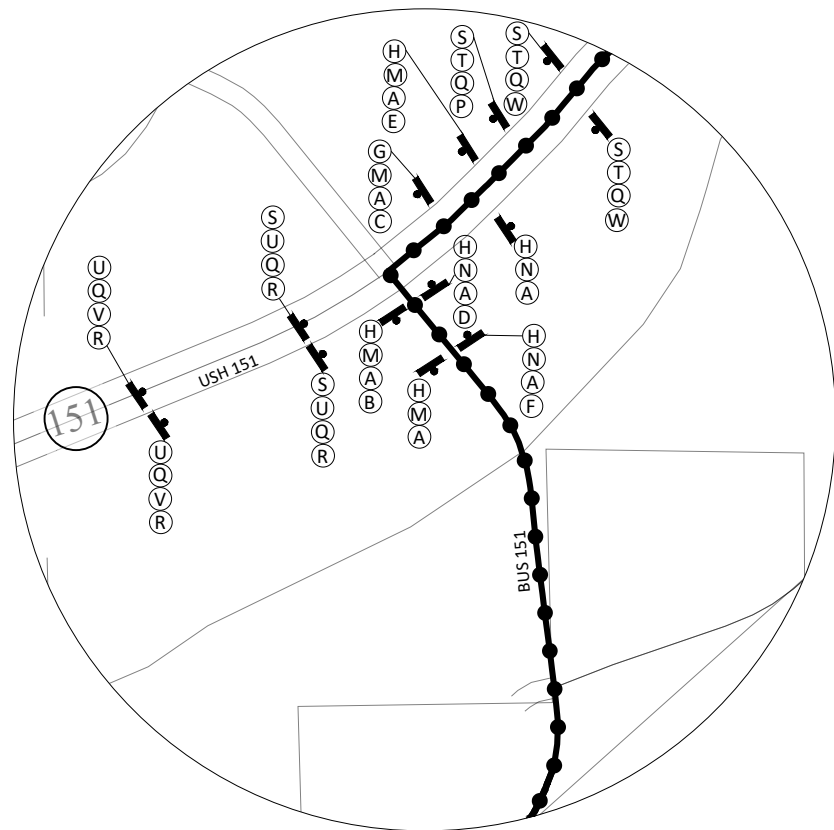
NOTE: SEE SDD 15C2-10A "BARRICADES AND SIGNS FOR MAINLINE CLOSURES" AND SDD 15C2-10B "BARRICADES AND SIGNS FOR VARIOUS CLOSURES", DETAIL A, C, AND D FOR ADDITIONAL TRAFFIC CONTROL AT AND APPROACHING WORK ZONES



DETAIL B



DETAIL C



DETAIL D

LEGEND

- DETOUR ROUTE
- WORK ZONE
- COVER SIGN
- SIGN ON PERMANENT SUPPORT
- EXISTING SIGN ON SINGLE POST
- EXISTING SIGN ON DOUBLE POST
- BARRICADES TYPE III WITH ATTACHED SIGN AND WITH TRAFFIC CONTROL LIGHTS TYPE A
- BARRICADES TYPE III

GENERAL NOTES

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

ALL SIGNS INAPPROPRIATE TO THE STATUS OF THE CONTROL ZONE, INCLUDING PRE-EXISTING SIGNING IN THE VICINITY, SHALL BE COVERED OR REMOVED AS SPECIFIED IN THE PLANS AND/OR THE SPECIAL PROVISIONS OR AS DIRECTED BY THE ENGINEER.

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

"MO" SIGNS ARE THE SAME AS "M" SIGNS EXCEPT BACKGROUND IS ORANGE.

ALL "WO" AND "W" SIGNS SHALL BE 48"X48" UNLESS OTHERWISE NOTE.

IMMEDIATELY RE-ESTABLISH "STOP" SIGNS THAT ARE REMOVED FOR A CONSTRUCTION OPERATION.

* SIGN READS "BRIDGE OUT 1 MILES AHEAD"

** SIGN READS "BRIDGE OUT 1.5 MILES AHEAD"

***SIGN READS "BRIDGE OUT 2 MILES AHEAD"

**** SIGN READS "BRIDGE OUT 4 MILES AHEAD"

TRAFFIC CONTROL SIGNS PCMS PLACED AT BEGIN AND END OF PROJECT LIMITS FOR 7 CALENDAR DAYS PRIOR TO BEGINNING OF PROJECT

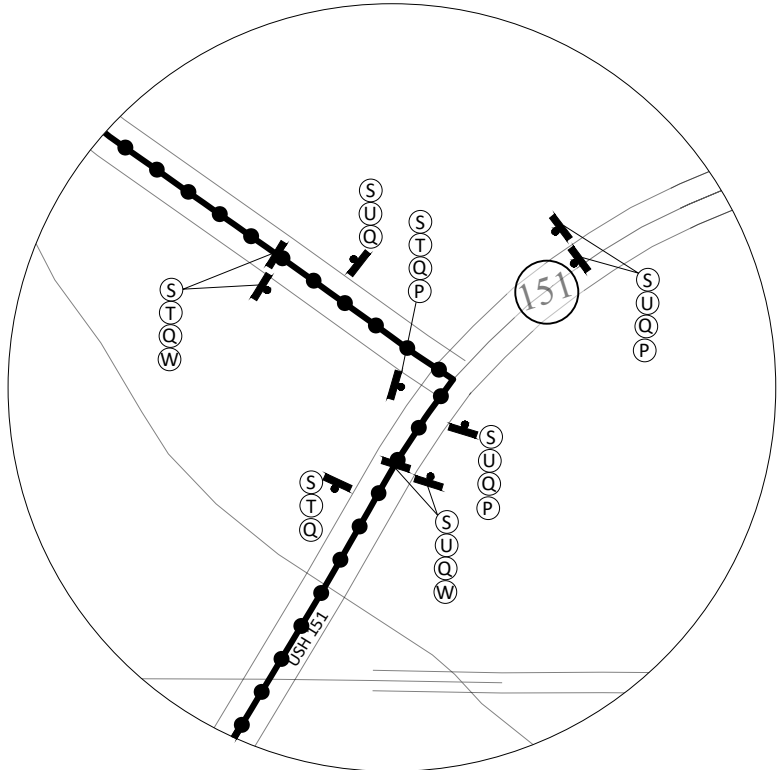
ROAD {DAY}
CLOSED {DATE}
BEGINS

NOTE: FOR SIDEROAD SIGNING WITHIN THE WORK ZONE, REFER TO SDD BARRICADES AND SIGNS FOR SIDEROAD CLOSURES.

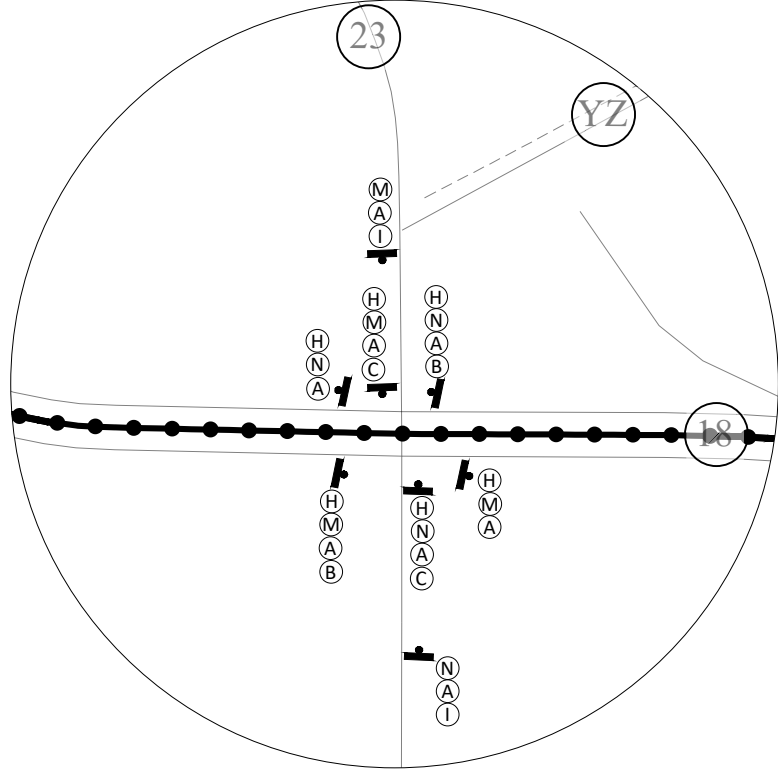
SIZE 3 SIGNS

- M06-2 30"X30"
- M1-6 36"X36"
- M06-1 30"X30"
- M4-8 36"X18"
- EAST M3-2 24"X12"
- WEST M3-4 24"X12"
- M5-2R 30"X30"
- DETOUR AHEAD

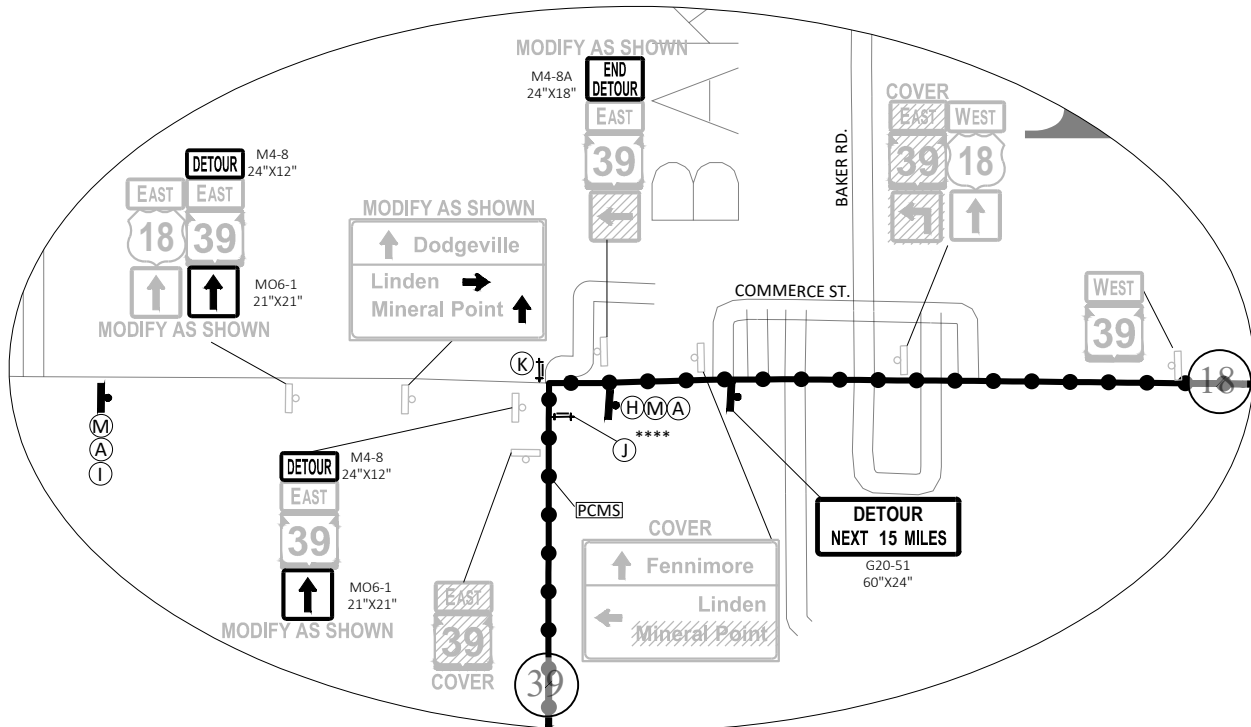
2



DETAIL E



DETAIL F



DETAIL G

LEGEND

- | | |
|---|---|
|  | DETOUR ROUTE |
|  | WORK ZONE |
|  | COVER SIGN |
|  | SIGN ON PERMANENT SUPPORT |
|  | EXISTING SIGN ON SINGLE POST |
|  | EXISTING SIGN ON DOUBLE POST |
|  | BARRICADES TYPE III WITH ATTACHED
SIGN AND WITH TRAFFIC CONTROL LIGHTS
TYPE A |
|  | BARRICADES TYPE III |

GENERAL NOTES

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

ALL SIGNS INAPPROPRIATE TO THE STATUS OF THE CONTROL ZONE, INCLUDING PRE-EXISTING SIGNING IN THE VICINITY, SHALL BE COVERED OR REMOVED AS SPECIFIED IN THE PLANS AND/OR THE SPECIAL PROVISIONS OR AS DIRECTED BY THE ENGINEER.

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

"MO" SIGNS ARE THE SAME AS "M" SIGNS EXCEPT BACKGROUND IS ORANGE.

ALL "WO" AND "W" SIGNS SHALL BE 48"X48"
UNLESS OTHERWISE NOTE.

IMMEDIATELY RE-ESTABLISH "STOP" SIGNS THAT ARE REMOVED FOR A CONSTRUCTION OPERATION.

* SIGN READS "BRIDGE OUT 1 MILES AHEAD"

**** SIGN READS "BRIDGE OUT 1.5 MILES AHEAD"**

***SIGN READS "BRIDGE OUT 2 MILES AHEAD"

**** SIGN READS "BRIDGE OUT 4 MILES AHEAD"

PCMS TRAFFIC CONTROL SIGNS PCMS PLACED AT BEGIN AND END OF PROJECT LIMITS FOR 7 CALENDAR DAYS PRIOR TO BEGINNING OF PROJECT

ROAD	{DAY}
CLOSED	{DATE}
BEGINS	

NOTE: FOR SIDEROAD SIGNING WITHIN THE WORK ZONE, REFER TO SDD BARRICADES AND SIGNS FOR SIDEROAD CLOSURES.

SIZE 3 SIGNS

-

Estimate Of Quantities

5952-03-84					
Line	Item	Item Description	Unit	Total	Qty
0002	201.0105	Clearing	STA	3.000	3.000
0004	201.0205	Grubbing	STA	3.000	3.000
0006	203.0260	Removing Structure Over Waterway Minimal Debris (structure) 01. B-25-0250	EACH	1.000	1.000
0008	205.0100	Excavation Common	CY	2,830.000	2,830.000
0010	206.1001	Excavation for Structures Bridges (structure) 01. B-25-0198	EACH	1.000	1.000
0012	206.5001	Cofferdams (structure) 01. B-25-0198	EACH	1.000	1.000
0014	210.1500	Backfill Structure Type A	TON	300.000	300.000
0016	213.0100	Finishing Roadway (project) 01. 5952-03-84	EACH	1.000	1.000
0018	305.0110	Base Aggregate Dense 3/4-Inch	TON	260.000	260.000
0020	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	1,900.000	1,900.000
0022	312.0110	Select Crushed Material	TON	2,650.000	2,650.000
0024	455.0605	Tack Coat	GAL	120.000	120.000
0026	460.2000	Incentive Density HMA Pavement	DOL	731.000	731.000
0028	460.5224	HMA Pavement 4 LT 58-28 S	TON	731.000	731.000
0030	465.0560	Asphaltic Rumble Strips, Centerline	LF	610.000	610.000
0032	502.0100	Concrete Masonry Bridges	CY	514.000	514.000
0034	502.3200	Protective Surface Treatment	SY	630.000	630.000
0036	502.3210	Pigmented Surface Sealer	SY	175.000	175.000
0038	502.9000.S	Underwater Substructure Inspection (structure) 01. B-25-0198	EACH	2.000	2.000
0040	503.0137	Prestressed Girder Type I 36W-Inch	LF	602.000	602.000
0042	505.0400	Bar Steel Reinforcement HS Structures	LB	12,160.000	12,160.000
0044	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	64,910.000	64,910.000
0046	506.2605	Bearing Pads Elastomeric Non-Laminated	EACH	24.000	24.000
0048	506.4000	Steel Diaphragms (structure) 01. B-25-0198	EACH	9.000	9.000
0050	514.0445	Floor Drains Type GC	EACH	4.000	4.000
0052	514.2625	Downspout 6-Inch	LF	13.000	13.000
0054	516.0500	Rubberized Membrane Waterproofing	SY	16.000	16.000
0056	520.1012	Apron Endwalls for Culvert Pipe 12-Inch	EACH	2.000	2.000
0058	530.0112	Culvert Pipe Corrugated Polyethylene 12-Inch	LF	60.000	60.000
0060	550.0020	Pre-Boring Rock or Consolidated Materials	LF	550.000	550.000
0062	550.1120	Piling Steel HP 12-Inch x 53 Lb	LF	1,000.000	1,000.000
0064	601.0588	Concrete Curb & Gutter 4-Inch Sloped 36-Inch Type TBT	LF	260.000	260.000
0066	602.3010	Concrete Surface Drains	CY	4.000	4.000
0068	606.0200	Riprap Medium	CY	16.000	16.000
0070	606.0300	Riprap Heavy	CY	330.000	330.000
0072	611.0654	Inlet Covers Type V	EACH	2.000	2.000
0074	611.3220	Inlets 2x2-FT	EACH	2.000	2.000
0076	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	250.000	250.000
0078	614.0150	Anchor Assemblies for Steel Plate Beam Guard	EACH	4.000	4.000
0080	614.0920	Salvaged Rail	LF	360.000	360.000
0082	614.0925	Salvaged Guardrail End Treatments	EACH	4.000	4.000
0084	614.2300	MGS Guardrail 3	LF	325.000	325.000
0086	614.2500	MGS Thrie Beam Transition	LF	160.000	160.000
0088	614.2610	MGS Guardrail Terminal EAT	EACH	4.000	4.000
0090	618.0100	Maintenance and Repair of Haul Roads (project) 01. 5952-03-84	EACH	1.000	1.000
0092	619.1000	Mobilization	EACH	1.000	1.000
0094	624.0100	Water	MGAL	70.000	70.000
0096	625.0105	Topsoil	CY	75.000	75.000
0098	625.0500	Salvaged Topsoil	SY	6,420.000	6,420.000

Estimate Of Quantities

5952-03-84

Line	Item	Item Description	Unit	Total	Qty
0100	628.1504	Silt Fence	LF	1,300.000	1,300.000
0102	628.1520	Silt Fence Maintenance	LF	2,600.000	2,600.000
0104	628.1905	Mobilizations Erosion Control	EACH	6.000	6.000
0106	628.1910	Mobilizations Emergency Erosion Control	EACH	5.000	5.000
0108	628.2006	Erosion Mat Urban Class I Type A	SY	6,870.000	6,870.000
0110	628.7005	Inlet Protection Type A	EACH	2.000	2.000
0112	628.7015	Inlet Protection Type C	EACH	2.000	2.000
0114	628.7504	Temporary Ditch Checks	LF	64.000	64.000
0116	628.7570	Rock Bags	EACH	30.000	30.000
0118	629.0210	Fertilizer Type B	CWT	4.000	4.000
0120	630.0120	Seeding Mixture No. 20	LB	53.000	53.000
0122	630.0175	Seeding Mixture No. 75	LB	43.000	43.000
0124	630.0200	Seeding Temporary	LB	53.000	53.000
0126	630.0500	Seed Water	MGAL	180.000	180.000
0128	633.5200	Markers Culvert End	EACH	2.000	2.000
0130	638.2102	Moving Signs Type II	EACH	9.000	9.000
0132	638.4000	Moving Small Sign Supports	EACH	9.000	9.000
0134	642.5001	Field Office Type B	EACH	1.000	1.000
0136	643.0420	Traffic Control Barricades Type III	DAY	3,224.000	3,224.000
0138	643.0705	Traffic Control Warning Lights Type A	DAY	5,456.000	5,456.000
0140	643.0900	Traffic Control Signs	DAY	22,320.000	22,320.000
0142	643.0920	Traffic Control Covering Signs Type II	EACH	21.000	21.000
0144	643.1050	Traffic Control Signs PCMS	DAY	14.000	14.000
0146	643.5000	Traffic Control	EACH	1.000	1.000
0148	645.0111	Geotextile Type DF Schedule A	SY	80.000	80.000
0150	645.0120	Geotextile Type HR	SY	574.000	574.000
0152	646.2020	Marking Line Epoxy 6-Inch	LF	2,360.000	2,360.000
0154	650.4000	Construction Staking Storm Sewer	EACH	2.000	2.000
0156	650.4500	Construction Staking Subgrade	LF	606.000	606.000
0158	650.5000	Construction Staking Base	LF	606.000	606.000
0160	650.5500	Construction Staking Curb Gutter and Curb & Gutter	LF	260.000	260.000
0162	650.6000	Construction Staking Pipe Culverts	EACH	2.000	2.000
0164	650.6501	Construction Staking Structure Layout (structure) 01. B-25-0198	EACH	1.000	1.000
0166	650.9911	Construction Staking Supplemental Control (project) 01. 5952-03-84	EACH	1.000	1.000
0168	650.9920	Construction Staking Slope Stakes	LF	606.000	606.000
0170	690.0150	Sawing Asphalt	LF	60.000	60.000
0172	715.0502	Incentive Strength Concrete Structures	DOL	3,084.000	3,084.000
0174	999.2000.S	Installing and Maintaining Bird Deterrent System (station) 01. 13+05	EACH	1.000	1.000
0176	ASP.1T0A	On-the-Job Training Apprentice at \$5.00/HR	HRS	1,200.000	1,200.000
0178	ASP.1T0G	On-the-Job Training Graduate at \$5.00/HR	HRS	600.000	600.000
0180	SPV.0060	Special 01. Site Mowing	EACH	1.000	1.000

CLEARING AND GRUBBING

STATION - STATION	LOCATION	201.0105 CLEARING (STA)	201.0205 GRUBBING (STA)
12+00 - 15+00	MAINLINE	3	3
TOTALS =		3	3

EARTHWORK SUMMARY

STATION - STATION	LOCATION	205.0100 COMMON EXCAVATION (CY)	AVAILABLE MATERIAL (CY) (1)	UNEXPANDED FILL	EXPANDED FILL FACTOR 1.25 (CY)	MASS ORDINATE +/- (CY) (2)	WASTE (CY) (3)
9+63.56 - 17+60.65	MAINLINE	2,830	2,830	1,512	1,890	940	940
TOTALS =		2,830	2,830	1,512	1,890	940	940

NOTES:
(1) AVAILABLE MATERIAL = CUT - SALVAGED/UNUSUABLE PAVEMENT MATERIAL
(2) 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.
(3) FACTORS USED TO COMPUTE ANTICIPATED WASTE AND THE COMPUTED WASTE VOLUME IDENTIFIED ARE FOR GENERAL INFORMATION ONLY.

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)	312.0110 SELECT CRUSHED MATERIAL (TON)	624.0100 WATER (MGAL)
9+63.56 - 12+28	MAINLINE	110	790	1,110	30
13+82 - 17+60.65	MAINLINE	150	1,110	1,540	40
TOTALS =		260	1,900	2,650	70

CULVERT PIPES AND INLETS

STATION	LOCATION	INLET ELEVATION	OUTLET ELEVATION	520.1012 APRON ENDWALLS FOR CULVERT PIPE 12-INCH (EACH)	530.0112 CULVERT PIPE CORRUGATED POLYETHYLENE 12-INCH (LF)	633.5200 MARKERS CULVERT END (EACH)	650.6000 CONSTRUCTION STAKING PIPE CULVERT (EACH)
14+31	MAINLINE, LT.	917.54	912.51	1	25	1	1
14+45	MAINLINE, RT.	917.47	912.31	1	35	1	1
TOTALS =				2	60	2	2

NOTES: PIPE LENGTHS ARE MEASURED FROM CENTER OF INLET TO APRON ENDWALL

STORM DRAIN STRUCTURES

STATION	LOCATION	RIM ELEVATIONS (FT)	TOP STRUCTURE ELEVATION	BOTTOM STRUCTURE ELEVATION	611.0654 INLET COVERS TYPE V (EACH)	611.3220 INLETS 2x2-FT (EACH)	628.7005 INLET PROTECTION TYPE A (EACH)	628.7015 INLET PROTECTION TYPE C (EACH)	650.4000 CONSTRUCTION STAKING STORM SEWER (EACH)
14+31	MAINLINE, LT.	920.29	919.46	917.04	1	1	1	1	1
14+45	MAINLINE, RT.	920.22	919.39	916.97	1	1	1	1	1
TOTALS =					2	2	2	2	2

NOTE:
ALL RIM ELEVATIONS FOR INLET COVERS TYPE V ARE MEASURED TO THE FLANGE OF THE INLET

HMA PAVEMENT

STATION - STATION	LOCATION	455.0605 TACK COAT (GAL)	460.5224 HMA PAVEMENT 4 LT 58-28 S (TON)	465.0560 ASPHALTIC RUMBLE STRIPS CENTERLINE (LF)
9+80 - 12+28	MAINLINE	50	304	250
13+82 - 17+40	MAINLINE	70	427	360
TOTALS =		120	731	610

CURB & GUTTER

STATION - STATION	LOCATION	601.0588 CONCRETE CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE TBT (LF)	650.5500 CONSTRUCTION STAKING CURB GUTTER AND CURB & GUTTER (LF)
11+57.88 - 12+23.19	MAINLINE, LT.	65	65
11+70.98 - 12+34.59	MAINLINE, RT.	64	64
13+75.85 - 14+40.46	MAINLINE, LT.	65	65
13+87.25 - 14+53.56	MAINLINE, RT.	66	66
TOTALS =		260	260

GUARDRAIL

STATION - STATION	LOCATION	614.0920 SALVAGED RAIL (LF)	614.0925 SALVAGED GUARDRAIL END TREATMENTS (EACH)	614.2300 MGS GUARDRAIL 3 (LF)	614.2500 MGS THRIE BEAM TRANSITION (LF)	614.2610 MGS GUARDRAIL TERMINAL EAT (EACH)
10+70 - 12+23	MAINLINE, RT.	120	1	62.5	40	1
10+82 - 12+10	MAINLINE, LT.	65	1	37.5	40	1
13+88 - 16+66	MAINLINE, LT.	120	1	187.5	40	1
14+01 - 15+29	MAINLINE, RT.	55	1	37.5	40	1
TOTALS =		360	4	325	160	4

SILT FENCE AND ROCK BAGS

STATION - STATION	LOCATION	628.1504 SILT FENCE (LF)	628.1520 SILT FENCE MAINTENANCE (LF)	628.7570 ROCK BAGS (EACH)
9+63.56 - 12+89.34	MAINLINE	450	900	-
13+25.35 - 17+60.65	MAINLINE	590	1,180	-
-	UNDISTRIBUTED	260	520	30
TOTALS =		1,300	2,600	30

MOBILIZATION EROSION CONTROL

PROJECT	628.1905 MOBILIZATION EROSION CONTROL (EACH)	628.1910 MOBILIZATION EMERGENCY EROSION CONTROL (EACH)
5952-03-84	6	5
TOTALS =		5

TEMPORARY DITCH CHECKS

STATION	LOCATION	628.7504 (LF)
10+03	MAINLINE, RT.	8
11+25	MAINLINE, RT.	8
12+18	MAINLINE, RT.	8
14+28	MAINLINE, RT.	8
15+28	MAINLINE, RT.	8
16+96	MAINLINE, RT.	8
-	UNDISTRIBUTED	16
TOTAL =		64

CONCRETE SURFACE DRAINS

STATION	LOCATION	602.3010 (CY)
11+66	MAINLINE, LT.	2
11+79	MAINLINE, RT.	2
TOTALS =		4

RIPRAP & GEOTEXTILE

STATION	LOCATION	606.0200 RIPRAP MEDIUM (CY)	645.0120 GEOTEXTILE TYPE HR (SY)
11+66	MAINLINE, LT.	3	10
11+79	MAINLINE, RT.	5	14
14+31	MAINLINE, LT.	2	8
14+45	MAINLINE, RT.	6	22
TOTALS =		16	54

PROJECT NO: 5952-03-84

HWY: STH 39

COUNTY: IOWA

MISCELLANEOUS QUANTITIES

SHEET

18

E

FILE NAME : S:\PROJECTS\W11662 WISDOT - STH 39 BRIDGE, IOWA CO\PSE\QUANTITIES\90%-FINAL\W11662_MISC QTYS.DWG

PLOT DATE : 9/24/2026 2:43:00 PM

PLOT BY : COLTON PEPER

LAYOUT : 01

3

FINISHING ITEMS									
STATION - STATION		625.0105 TOPSOIL (CY)	625.0500 SALVAGED TOPSOIL (SY)	628.2006 EROSION MAT URBAN CLASS I TYPE A (SY)	629.0210 FERTILIZER TYPE B (CWT)	630.0120 SEEDING MIXTURE NO. 20 (LB)	630.0175 SEEDING MIXTURE NO. 75 (LB)	630.0200 SEEDING TEMPORARY (LB)	630.0500 SEED WATER (MGAL)
9+63.56 - 12+25.18		-	730	730	0.4	-	6	-	20
9+71.27 - 12+11.17		-	860	860	0.6	43	5	43	20
12+11.17 - 13+99.27		60	-	360	0.2	-	2	-	10
13+85.25 - 17+60.65		-	1,120	1,120	0.5	-	8	-	30
13+99.27 - 17+40.00		-	1,850	1,850	1.0	-	13	-	45
-		-	UNDISTRIBUTED	1,950	1.3	10	9	10	55
TOTALS =		75	6,420	6,870	4.0	53	43	53	180

PERMANENT SIGNING				
APPROX. STATION	LOCATION	SIGN CODE	638.2102 MOVING SIGNS TYPE II (EACH)	638.4000 MOVING SMALL SIGN SUPPORTS (EACH)
10+32	MAINLINE, LT	W1-2L	1	1
11+48	MAINLINE, RT	R2-1	1	1
11+62	MAINLINE, LT	R2-1	1	1
12+41	MAINLINE, RT	W5-52L	1	1
12+41	MAINLINE, LT	W5-52R	1	1
13+68	MAINLINE, RT	W5-52L	1	1
13+70	MAINLINE, LT	W5-52R	1	1
15+13	MAINLINE, RT	W14-3	1	1
16+33	MAINLINE, LT	W14-3	1	1
TOTAL =			9	9

3

CONSTRUCTION STAKING					
STATION - STATION	LOCATION	650.4500 SUBGRADE (LF)	650.5000 BASE (LF)	*650.6501 STRUCTURE LAYOUT (B-25-0198) (EACH)	650.9911 SUPPLEMENTAL CONTROL (5952-03-84) (EACH)
9+80 - 12+28	MAINLINE, LT.	248	248	-	-
13+82 - 17+40	MAINLINE, LT.	358	358	-	-
5952-03-84	PROJECT	-	-	1	1
TOTALS =		606	606	1	1
* CATEGORY 020					

MARKING LINE EPOXY 6-INCH			
STATION - STATION	LOCATION	DESCRIPTION	646.2020 (LF)
9+80 -17+40	MAINLINE, LT. & RT.	WHITE EDGE LINE	1,520
9+80 -17+40	MAINLINE, LT.	C/L SOLID YELLOW	650
9+80 -17+40	MAINLINE, LT. & RT.	C/L DASHED YELLOW	190
TOTALS =			2,360

SAWING ASPHALT		
STATION	LOCATION	690.0150 (LF)
9+80	MAINLINE	30
17+40	MAINLINE	30
TOTALS =		60

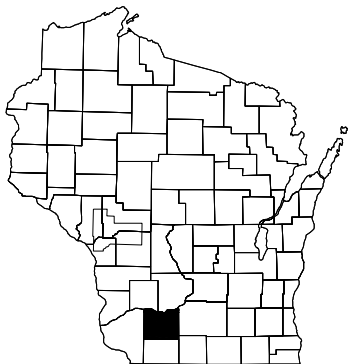
TRAFFIC CONTROL													
LOCATION		CALENDAR DAY DURATION		643.0420 TRAFFIC CONTROL BARRICADES TYPE III		643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A		643.0900 TRAFFIC CONTROL SIGNS		643.0920 TRAFFIC CONTROL COVERING SIGNS TYPE II		643.1050 SIGNS PCMS	643.5000 TRAFFIC CONTROL
				(COUNT)	(DAY)	(COUNT)	(DAY)	(COUNT)	(DAY)	(CYCLES)	(EACH)	(DAY)	(EACH)
-		124		-	-	-	-	101	12,524	-	-	14	-
STH 39		124		4	496	8	992	4	496	1	2	-	-
STH 39 - BUS 151		124		1	124	2	248	14	1,736	1	7	-	-
BUS 151 - COMMERCE STREET		124		1	124	2	248	26	3,224	1	5	-	-
BUS 151 - USH 151		124		-	-	-	-	54	6,696	-	-	-	-
USH 151 - USH 18		124		-	-	-	-	38	4,712	-	-	-	-
USH 18 - STH 23		124		-	-	-	-	28	3,472	-	-	-	-
USH 18 - STH 39		124		2	248	4	496	16	1,984	1	7	-	-
PROJECT		124		18	2,232	28	3,472	-	-	-	-	-	1
TOTALS =				3,224		5,456		22,320		21		14	1

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
TRANSPORTATION PROJECT PLAT TITLE SHEET

5952-03-24
EDMUND - MINERAL POINT

MINERAL POINT BRANCH BRIDGE

STH 39
IOWA COUNTY



CONVENTIONAL SYMBOLS

SECTION LINE	---	SECTION CORNER SYMBOL		R/W MONUMENT (TO BE SET)	•
QUARTER LINE	---	NON-MONUMENTED R/W POINT	○		
SIXTEENTH LINE	---	SECTION CORNER MONUMENT	⊕	FOUND IRON PIN (SEE FOUND MONUMENT TABLE)	IP
NEW REFERENCE LINE	---	GEODETIC SURVEY MONUMENT			
NEW R/W LINE	---	SIXTEENTH CORNER MONUMENT			
EXISTING R/W OR HE LINE	---	SIGN		OFF-PREMISE SIGN	
PROPERTY LINE	---				
LOT, TIE & OTHER MINOR LINES	---				
SLOPE INTERCEPT	---				
CORPORATE LIMITS	---				
UNDERGROUND FACILITY (COMMUNICATIONS, ELECTRIC, ETC)	---				
NEW R/W (FEE OR HE) (HATCHING VARIES BY OWNER)	---				
TEMPORARY LIMITED EASEMENT AREA	---				
EASEMENT AREA (PERMANENT LIMITED OR RESTRICTED DEVELOPMENT)	---				
TRANSMISSION STRUCTURES	---				
BUILDING	---				
BRIDGE	---				
TO BE REMOVED	---				
CULVERT	---				
PARALLEL OFFSETS	---				

CONVENTIONAL ABBREVIATIONS

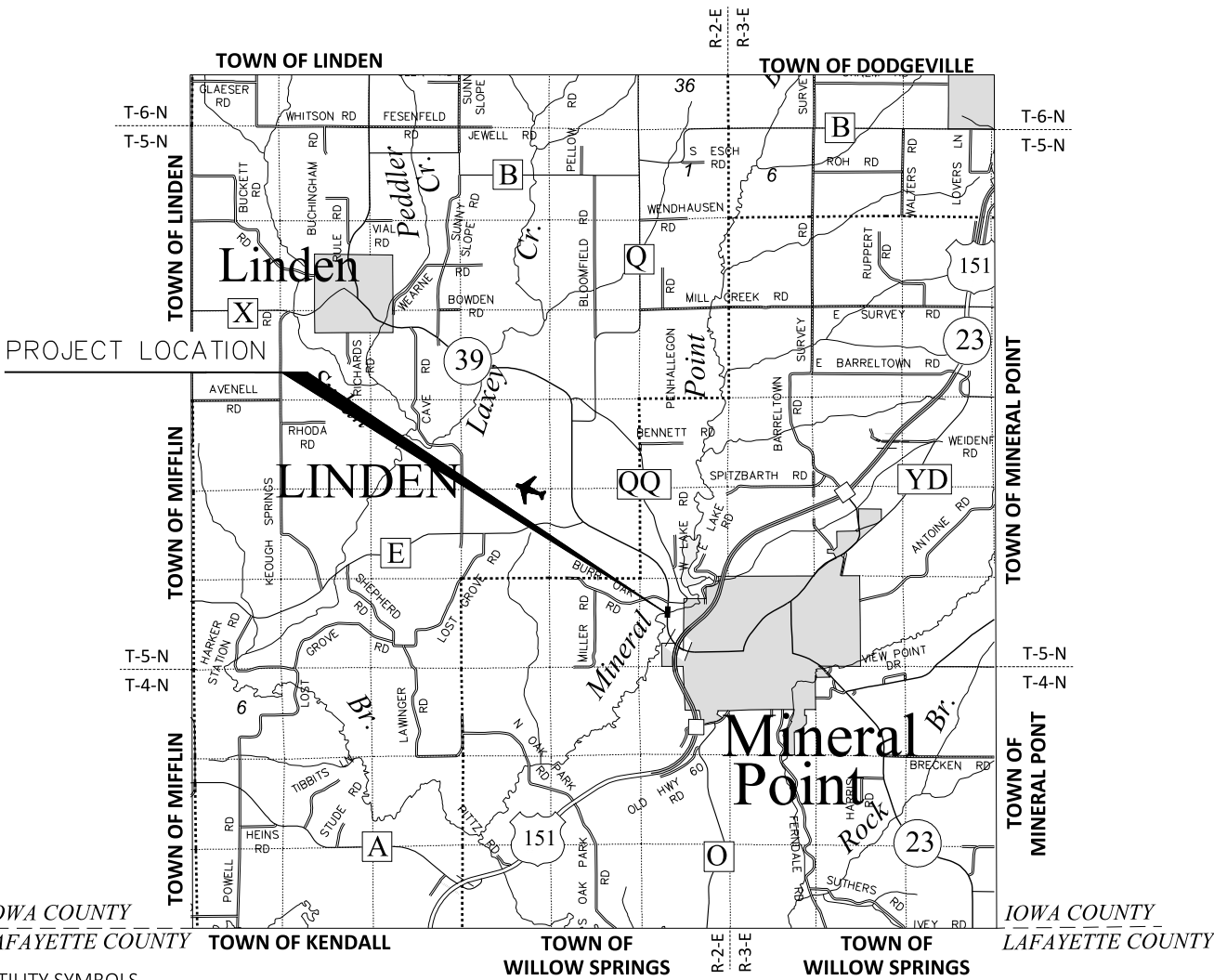
ACCESS RIGHTS	AR	POINT OF INTERSECTION	PI
ACRES	AC	PROPERTY LINE	PL
AHEAD	AH	RECORDED AS	(100')
ALUMINUM	ALUM	REEL / IMAGE	R/I
AND OTHERS	ET AL	REFERENCE LINE	R/L
BACK	BK	REMAINING	REM
BLOCK	BLK	RESTRICTIVE DEVELOPMENT	RDE
CENTERLINE	C/L	EASEMENT	
CERTIFIED SURVEY MAP	CSM	RIGHT	RT
CONCRETE	CONC	RIGHT OF WAY	R/W
COUNTY	CO	SECTION	SEC
COUNTY TRUNK HIGHWAY	CTH	SEPTIC VENT	SEPV
DISTANCE	DIST	SQUARE FEET	SF
CORNER	COR	STATE TRUNK HIGHWAY	STH
DOCUMENT NUMBER	DOC	STATION	STA
EASEMENT	EASE	TELEPHONE PEDESTAL	TP
EXISTING	EX	TEMPORARY LIMITED EASEMENT	TLE
GAS VALVE	GV		
GRID NORTH	GN	TRANSPORTATION PROJECT	TPP
HIGHWAY EASEMENT	HE	PLAT	
IDENTIFICATION	ID	UNITED STATES HIGHWAY	USH
LAND CONTRACT	LC	VOLUME	V
LEFT	LT		
MONUMENT	MON		
NATIONAL GEODETIC SURVEY	NGS		
NUMBER	NO		
OUTLOT	OL		
PAGE	P		
POINT OF TANGENCY	PT		
PERMANENT LIMITED EASEMENT	PLE		
POINT OF BEGINNING	POB		
POINT OF CURVATURE	PC		
POINT OF COMPOUND CURVE	PCC		

CURVE DATA

LONG CHORD	LCH
LONG CHORD BEARING	LCB
RADIUS	R
DEGREE OF CURVE	D
CENTRAL ANGLE	Δ/DELTA
LENGTH OF CURVE	L
TANGENT	T
DIRECTION AHEAD	DA
DIRECTION BACK	DB

CONVENTIONAL UTILITY SYMBOLS

WATER	---
GAS	---
TELEPHONE	---
OVERHEAD TRANSMISSION LINES	---
ELECTRIC	---
CABLE TELEVISION	---
FIBER OPTIC	---
SANITARY SEWER	---
STORM SEWER	---
ELECTRIC TOWER	---



THE NOTES, CONVENTIONAL SYMBOLS, AND ABBREVIATIONS ARE ASSOCIATED WITH EACH TRANSPORTATION PROJECT PLAT FOR PROJECT 5952-03-24
NOTES:
POSITIONS SHOWN ON THIS PLAT ARE WISCONSIN COORDINATE REFERENCE SYSTEM COORDINATES (WISCRS), IOWA COUNTY, NAD83(2011), IN U.S. SURVEY FEET. VALUES SHOWN ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

ALL NEW RIGHT-OF-WAY MONUMENTS WILL BE TYPE 2 (TYPICALLY 3/4" X 24" IRON REBARS), UNLESS OTHERWISE NOTED, AND WILL BE PLACED PRIOR TO THE COMPLETION OF THE PROJECT.

ALL RIGHT-OF-WAY LINES DEPICTED IN THE NON-ACQUISITION AREAS ARE INTENDED TO RE-ESTABLISH EXISTING RIGHT-OF-WAY LINES AS DETERMINED FROM PREVIOUS PROJECTS, OTHER RECORDED DOCUMENTS, CENTERLINE OF EXISTING PAVEMENTS AND/OR EXISTING OCCUPATIONAL LINES.

RIGHT-OF-WAY BOUNDARIES ARE DEFINED WITH COURSES OF THE PERIMETER OF THE HIGHWAY LANDS REFERENCED TO THE U.S. PUBLIC LAND SURVEY SYSTEM OR OTHER "SURVEYS" OF PUBLIC RECORD.

DIMENSIONING FOR THE NEW RIGHT-OF-WAY IS MEASURED ALONG AND PERPENDICULAR TO THE NEW REFERENCE LINES.

A TEMPORARY LIMITED EASEMENT (TLE) IS A RIGHT FOR CONSTRUCTION PURPOSES, AS DEFINED HEREIN, INCLUDING THE RIGHT TO OPERATE NECESSARY EQUIPMENT THEREON, THE RIGHT OF INGRESS AND EGRESS, AS LONG AS REQUIRED FOR SUCH PUBLIC PURPOSE, INCLUDING THE RIGHT TO PRESERVE, PROTECT, REMOVE, OR PLANT THEREON ANY VEGETATION THAT THE HIGHWAY AUTHORITIES MAY DEEM DESIRABLE. ALL (TLEs) ON THIS PLAT EXPIRE AT THE COMPLETION OF THE CONSTRUCTION PROJECT FOR WHICH THIS INSTRUMENT IS GIVEN.

A PERMANENT LIMITED EASEMENT (PLE) IS A RIGHT FOR CONSTRUCTION AND MAINTENANCE PURPOSES, AS DEFINED HEREIN, INCLUDING THE RIGHT TO OPERATE NECESSARY EQUIPMENT THEREON AND THE RIGHT OF INGRESS AND EGRESS, AS LONG AS REQUIRED FOR SUCH PUBLIC PURPOSE, INCLUDING THE RIGHT TO PRESERVE, PROTECT, REMOVE, OR PLANT THEREON ANY VEGETATION THAT THE HIGHWAY AUTHORITIES MAY DEEM DESIRABLE.

AN EASEMENT FOR HIGHWAY PURPOSES (HE), AS LONG AS SO USED, INCLUDING THE RIGHT TO PRESERVE, PROTECT, REMOVE, OR PLANT THEREON ANY VEGETATION THAT THE HIGHWAY AUTHORITIES MAY DEEM DESIRABLE.

PROPERTY LINES SHOWN ON THIS PLAT FOR PROPERTIES BEING IMPACTED ARE DRAWN FROM DATA DERIVED FROM FILED/RECORDED MAPS AND DOCUMENTS OF PUBLIC RECORD. THIS PLAT MAY NOT BE A TRUE REPRESENTATION OF EXISTING PROPERTY LINES, EXCLUDING RIGHT-OF-WAY, AND SHOULD NOT BE USED AS A SUBSTITUTE FOR AN ACCURATE FIELD SURVEY

FOR CURRENT ACCESS/DRIVEWAY INFORMATION, CONTACT THE PLANNING UNIT OF THE WISCONSIN DEPARTMENT OF TRANSPORTATION OFFICE IN MADISON.

PARCEL AND UTILITY IDENTIFICATION NUMBERS MAY NOT POINT TO ALL AREAS OF ACQUISITION, AS NOTED ON THE TPP DETAIL PAGES.

INFORMATION FOR THE BASIS OF EXISTING HIGHWAY RIGHT-OF-WAY POINTS OF REFERENCE AND ACCESS CONTROL ARE LISTED ON THE TPP DETAIL PAGES.

PROJECT NUMBER 5952-03-24 - 4. 01
SHEET 2 OF 2

ACCEPTED FOR RECORDING AND FILING IN
THE OFFICE OF THE REGISTER OF DEEDS IN
Iowa COUNTY, WISCONSIN AT
9:00AM ON May 31, 2021
AS DOCUMENT # 387324 AI
FILED IN Plat C&B B Pg 135

21

SIGNATURE OF REGISTER OF DEEDS

RESERVED FOR REGISTER OF DEEDS
PROJECT NUMBER 5952-03-24-01
SHEET 1 OF 2

PROJECT NUMBER 5952-03-24-4.01

PROJECT NUMBER 5952-03-24-4.01
SHEET 1 OF 2

GN

ANCE

→

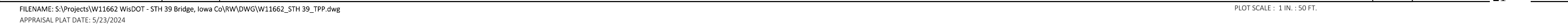
20'

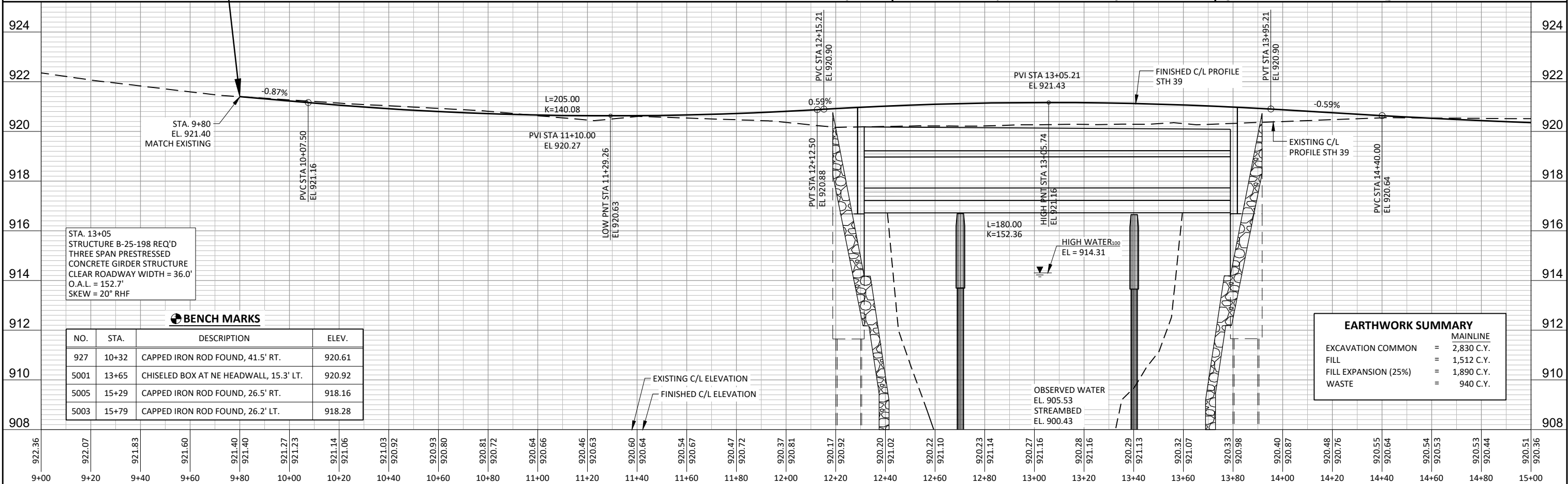
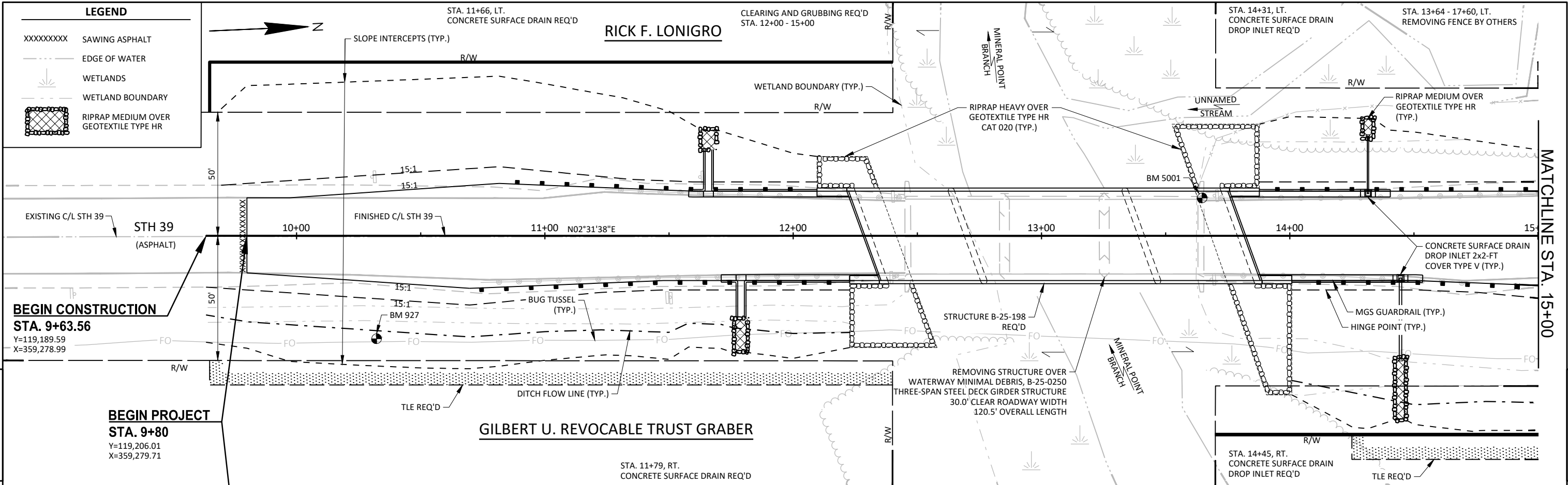
13	
14	

R/W COURSE TABLE			
() = RECORDED AS			
POINT TO POINT	COURSE BEARING	DISTANCE	
1 TO 100	N02° 33' 34"E	187.95'	
100 TO 101	N87° 28' 34"W	20.20'	
101 TO 102	N02° 31' 38"E	275.13'	
102 TO 103	N87° 26' 26"W	160.09'	
103 TO 3	S59° 03' 34"W	80.44'	
3 TO 4	N30° 56' 26"W (S30° 36' 30"E)	130.00'	
4 TO 5	N59° 03' 34"E (S59° 03' 40"W)	119.56'	
5 TO 6	S87° 26' 26"E (N87° 26' 20"W)	209.56'	
6 TO 104	N02° 33' 34"E	369.88'	
104 TO 105	S87° 28' 26"E	59.38'	
105 TO 106	S87° 28' 26"E	60.63'	
106 TO 107	S02° 33' 34"W	20.00'	
107 TO 108	S87° 28' 34"E	19.38'	
108 TO 109	S02° 31' 38"W	349.97'	
109 TO 110	S87° 26' 26"E	149.92'	
110 TO 111	N57° 33' 34"E	79.51'	
111 TO 112	S52° 26' 26"E	130.00'	
112 TO 113	S57° 33' 34"W	120.50'	
113 TO 114	N87° 26' 26"W	220.49'	
114 TO 115	S02° 33' 34"W	456.93'	
115 TO 116	S89° 03' 30"W	48.80'	
116 TO 1	S89° 03' 30"W	51.38'	

SCHEDULE OF LANDS AND INTERESTS						
PARCEL NUMBER	OWNERS)	INTERESTS	R/W ACRES REQUIRED		TILE ACRES REQUIRED	
			NEW	EXISTING		TOTAL
1	RICK F. LONGRO AND AMIA L. LONGRO, HUSBAND AND WIFE	FEE, TLE	0.13	-	0.13	0.05
2	GILBERT U. GRABER REVOCABLE TRUST DATED 4/02/19	FEE, TLE	0.16	-	0.16	0.14

SCHEDULE OF LANDS AND INTERESTS				
INTERESTS	R/W ACRES REQUIRED		TOTAL	TILE ACRES REQUIRED
	NEW	EXISTING		
NO AND AMIA L. BAND AND WIFE	0.13	-	0.13	0.05
NUMBER REVOCABLE				
ATED 4/02/19	FEE, TILE	0.16	-	0.16
				0.14
OWN FOR REFERENCE PURPOSES ONLY AND ARE SUBJECT TO THE DEPARTMENT.				
PEER OF LAND INTERESTS TO THE DEPARTMENT.				
MONUMENT				
ATION CALCULATED				
MM KNOW CORNERS				
D PREVIOUS SURVEY				
INFORMATION				
= 119022.475				
K = 360255.685				





BENCH MARKS

NO.	STA.	DESCRIPTION	ELEV.
927	10+32	CAPPED IRON ROD FOUND, 41.5' RT.	920.61
5001	13+65	CHISELED BOX AT NE HEADWALL, 15.3' LT.	920.92
5005	15+29	CAPPED IRON ROD FOUND, 26.5' RT.	918.16
5003	15+79	CAPPED IRON ROD FOUND, 26.2' LT.	918.28

EARTHWORK SUMMARY

	MAINLINE
EXCAVATION COMMON	= 2,830 C.Y.
FILL	= 1,512 C.Y.
FILL EXPANSION (25%)	= 1,890 C.Y.
WASTE	= 940 C.Y.

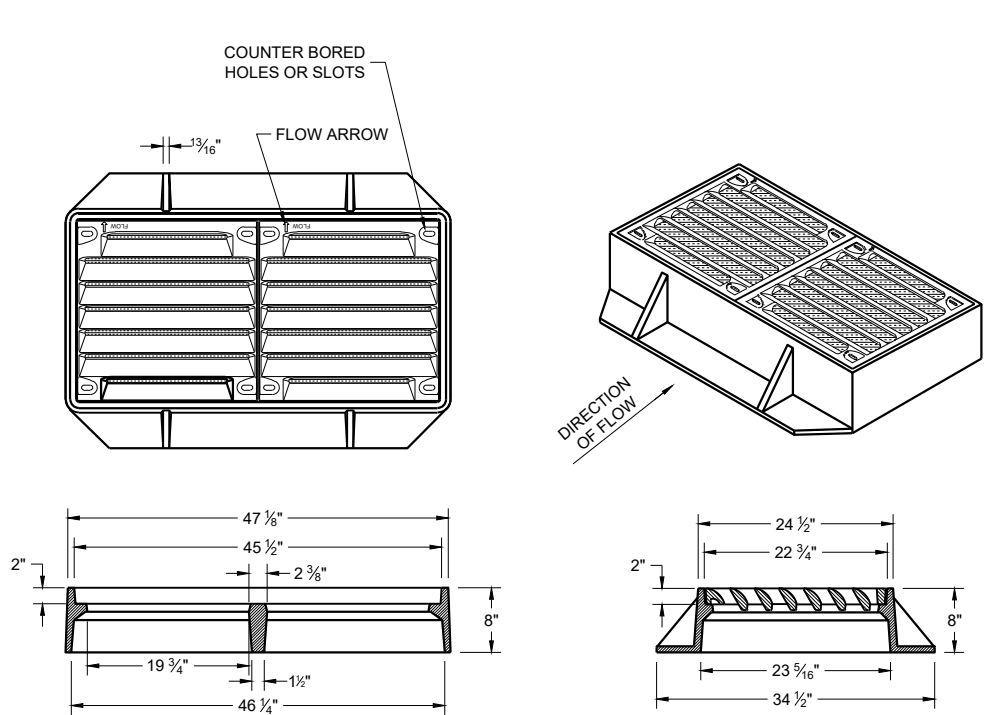
Standard Detail Drawing List

08A05-22D	INLET COVERS TYPE V, V-B, AND VV-B
08C07-03	INLETS 2X2-FT, 2X2.5-FT, 2X3-FT, 2.5X3-FT & 2X3.5-FT
08D01-24A	CONCRETE CURB AND 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
08D03-09A	CONCRETE SURFACE DRAINS DROP INLET TYPE AT STRUCTURES
08D03-09B	CONCRETE SURFACE DRAINS DROP INLET TYPE AT STRUCTURES
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E10-02	INLET PROTECTION TYPES A, B, C AND D
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
12A03-10	NAME PLATE (STRUCTURES)
13A11-04A	CENTERLINE RUMBLE STRIPS - ASPHALT
13A11-04D	CENTERLINE RUMBLE STRIPS - INTERSECTIONS, DRIVEWAYS, BRIDGES, RAILROADS
13C19-03	HMA LONGITUDINAL JOINTS
14B42-07A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07D	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B44-04A	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-04B	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-04C	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B45-05A	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05B	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05C	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05D	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05J	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
15A03-02A	FLEXIBLE MARKER POST FOR CULVERT END
15A03-02B	FLEXIBLE MARKER POST FOR CULVERT END
15C02-10A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-10B	BARRICADES AND SIGNS FOR VARIOUS CLOSURES
15C02-10C	DETOUR SIGNING FOR MAINLINE CLOSURES
15C03-05	BARRICADES AND SIGNS FOR SIDEROAD CLOSURES
15C06-12	SIGNING AND MARKING FOR TWO LANE BRIDGES
15C08-24A	PERMANENT LONGITUDINAL PAVEMENT MARKINGS
15C11-11B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS

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.

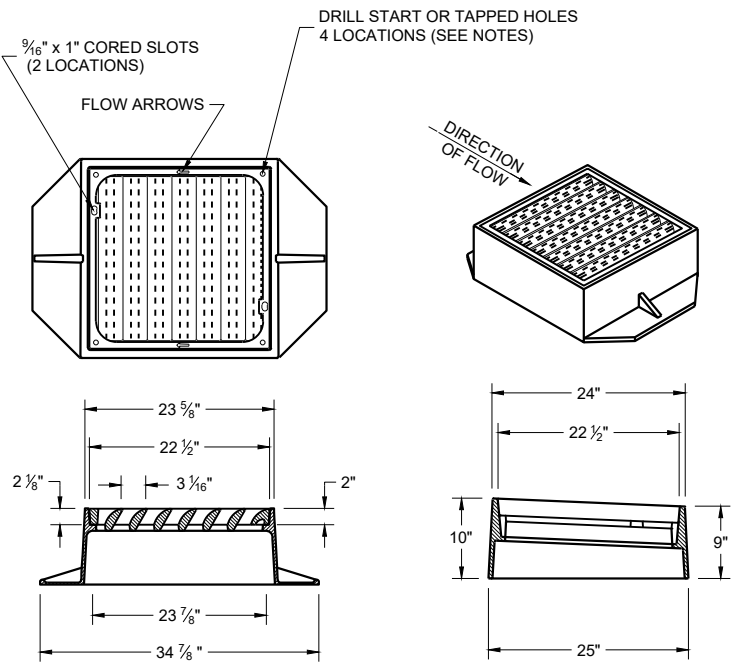
DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR INLET COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.



TYPE "VV-B"

NOTES: ALL HARDWARE TO BE SUPPLIED BY CASTING MANUFACTURER
ALL DRILLING AND TAPPING GRATES AND FRAMES BY CASTING MANUFACTURER

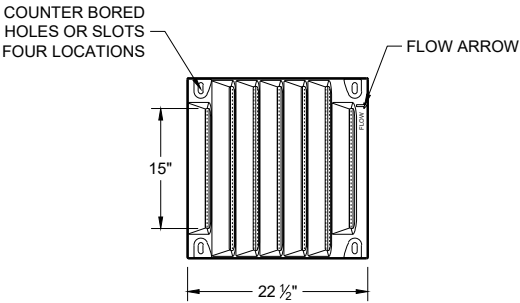
TYPE V
FRAME - CAST GRAY IRON ASTM A48 CLASS 35B
3/8" DIA. X 1/16" DRILL START IN 8 LOCATIONS
GRATE - CAST GRAY IRON ASTM A-48, CLASS 35B



TYPE "V"

NOTES: ALL HARDWARE TO BE SUPPLIED BY CASTING MANUFACTURER ALL DRILLING AND TAPPING GRATES AND FRAMES BY CASTING MANUFACTURER

TYPE V
FRAME - CAST GRAY IRON ASTM A48 CLASS 40A
3/8" DIA. X 1/16" DRILL START IN 4 LOCATIONS
GRATE - CAST GRAY IRON ASTM A-48, CLASS 35B



BOLT DOWN GRATE FOR
TYPE "V" AND "VV-B" COVER

NOTES: ALL HARDWARE TO BE SUPPLIED BY CASTING MANUFACTURER
NOTED AS TYPE "V-B" OR "VV-B" (FOR DOUBLE GRATE) ON DRAINAGE TABLE

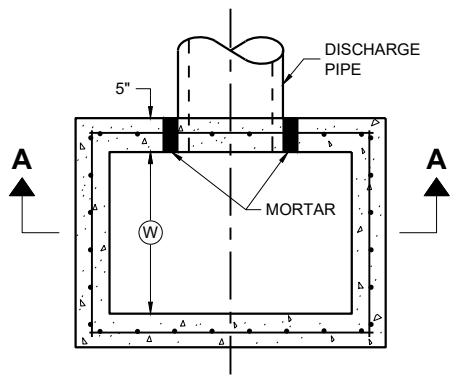
TAP 1/2" -13 HOLES IN FOUR LOCATIONS PER GRATE IN FRAME TO BOLT GRATE(S).
FRAME - CAST GRAY IRON ASTM A48 CLASS 40A

GRATE - CAST DUCTILE IRON ASTM A536, 55+KSI YIELD
BOLTS - 1/2" -13 STAINLESS STEEL BOLTS WITH WASHERS
TORQUE BOLTS TO MANUFACTURER SPECIFICATION DO NOT OVERTIGHTEN.

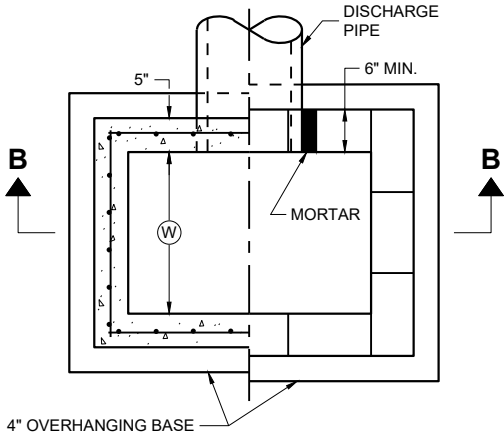
INLET COVERS
TYPES V, V-B, AND VV-B

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

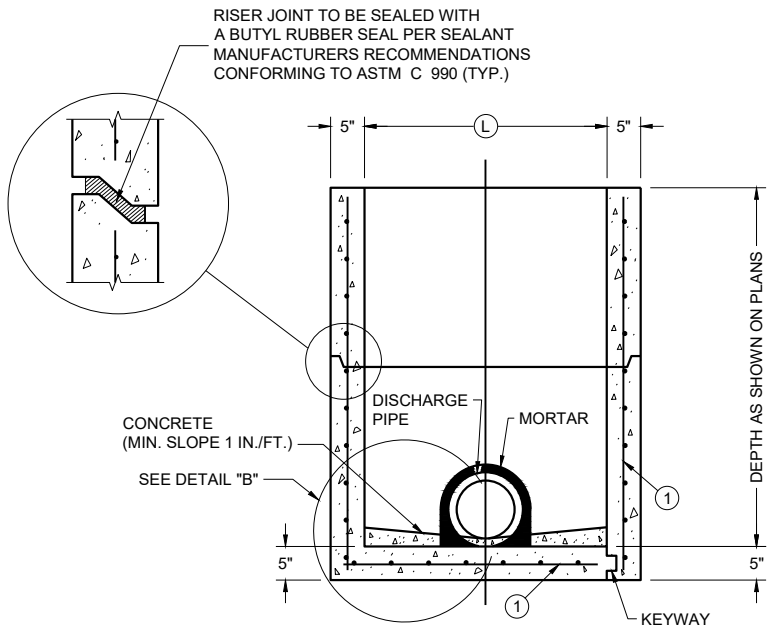
APPROVED
February 2025 DATE /S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT
UNIT SUPERVISOR
FHWA



PLAN VIEW



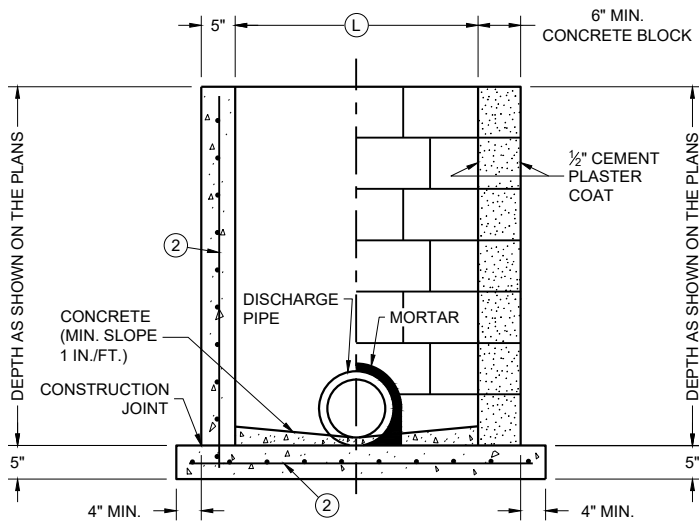
PLAN VIEW



PRECAST REINFORCED
CONCRETE WITH
MONOLITHIC BASE

PRECAST REINFORCED
CONCRETE WITH
INTEGRAL BASE

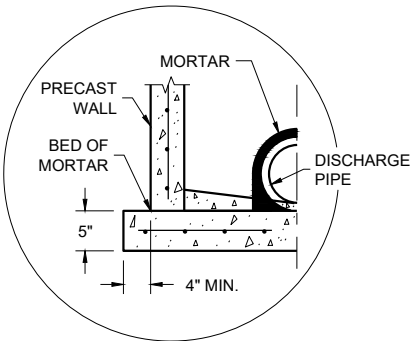
SECTION A - A



CAST IN PLACE
REINFORCED
CONCRETE

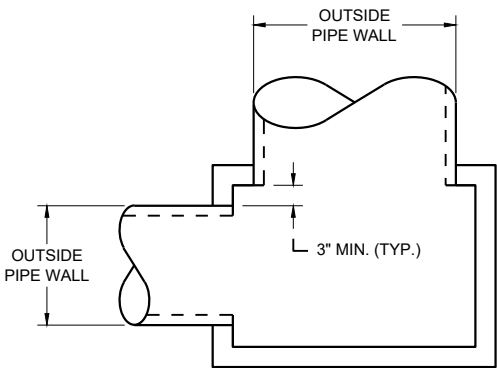
CONCRETE BLOCK WITH
CAST IN PLACE OR
PRECAST REINFORCED
CONCRETE BASE ①

SECTION B - B



SEPARATE PRECAST REINFORCED
CONCRETE BASE OPTION

DETAIL "B"



DETAIL "A"

INLETS 2 X 2-FT, 2 X 2.5-FT, 2 X 3-FT, 2.5 X 3-FT AND 2X3.5-FT

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.

UNLESS OTHERWISE AUTHORIZED IN WRITING BY THE ENGINEER, THE CONTRACTOR SHALL NOT ORDER AND DELIVER PRECAST INLET UNITS REQUIRED FOR THE PROJECT UNTIL A LIST OF SIZES IS FURNISHED BY THE ENGINEER.

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR UNDERGROUND DRAINAGE STRUCTURES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ALL PRECAST INLET UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF ASTM C 913.

ALL DRAINAGE STRUCTURES ARE DESIGNATED ON THE PLANS AS "MANHOLES 3X3-L", "CATCH BASINS 4-B", "INLETS 2X3-H", ETC. THE FIRST NUMBERS DESIGNATES THE SIZE OF THE STRUCTURE, AND THE FOLLOWING LETTER DESIGNATES THE TYPE OF COVER TO BE USED TO COMPRISE THE COMPLETE UNIT.

BASES SHALL BE PLACED ON A BED OF MATERIAL AT LEAST 6 INCHES IN DEPTH, WHICH MEETS THE REQUIREMENTS OF FOUNDATION BACKFILL. THIS BEDDING SHALL BE COMPACTED AND PROVIDE UNIFORM SUPPORT FOR THE ENTIRE AREA OF THE BASE.

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

PRECAST REINFORCED RISERS SHALL HAVE A TONGUE AND GROOVE JOINT WITH TONGUE UP OR DOWN.

4" OVERHANGING BASES ARE REQUIRED FOR CAST-IN-PLACE REINFORCED CONCRETE AND CONCRETE BLOCK INSTALLATIONS. 4" OVERHANG IS REQUIRED WHEN SEPARATE PRECAST BASE IS PROVIDED. OVERHANG IS NOT REQUIRED ON PRECAST STRUCTURES WITH AN INTEGRAL OR MONOLITHIC BASE.

MAXIMUM INSIDE PIPE DIAMETER DETERMINED BY 3" CLEARANCE ON EACH SIDE OF THE OUTSIDE WALL OF THE PIPE. SEE DETAIL "A". ASSUMES PIPE ENTERS PERPENDICULAR TO THE STRUCTURE.

- ① FOR PRECAST INLETS AND REINFORCED CONCRETE BASES PROVIDE REINFORCING STEEL IN ACCORDANCE TO ASTM C 913
- ② CONTRACTOR TO PROVIDE DRAWING(S) STAMPED BY A PROFESSIONAL ENGINEER FOR STEEL REINFORCING DESIGN FOR CAST-IN-PLACE STRUCTURES.

CATCH BASIN COVER MATRIX

INLET SIZE	WIDTH (W) (FT.)	LENGTH (L) (FT.)	INLET COVER TYPE										
			ALL A'S	ALL B'S	BW	F	ALL H'S	S	T	V	WM	V V-B	
2 X 2-FT	2	2	X	X				X					
2 X 2.5-FT	2	2.5			X			X	X	X	X		
2 X 3-FT	2	3					X						
2.5 X 3-FT	2.5	3				X							
2 X 3.5-FT	2	3.5										X	

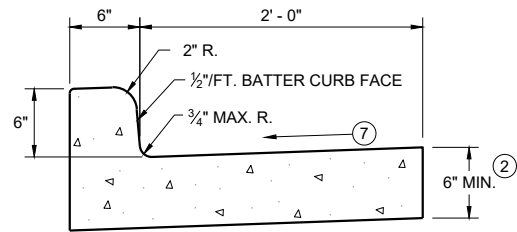
PIPE MATRIX

CATCH BASIN SIZE	MAXIMUM INSIDE PIPE DIAMETER FOR TWO PIPES	
	WIDTH (IN)	LENGTH (IN)
2 X 2-FT	12	12
2 X 2.5-FT	12	18
2 X 3-FT	12	24
2.5 X 3-FT	18	24
2 X 3.5-FT	12	30

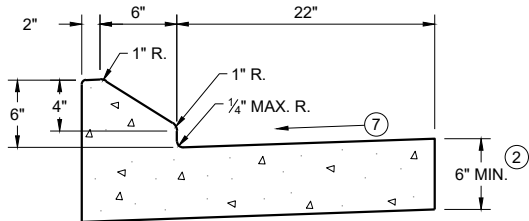
INLETS 2 X 2-FT, 2 X 2.5-FT,
2 X 3-FT, 2.5 X 3-FT
AND 2 X 3.5-FT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

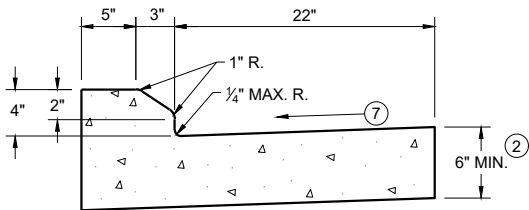
APPROVED
December 2023 /S/ Rodney Taylor
DATE ROADWAY STANDARDS DEVELOPMENT
FHWA UNIT SUPERVISOR



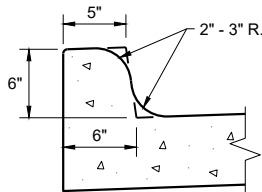
TYPES A^① & D



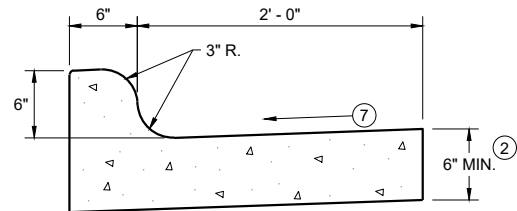
6" SLOPED CURB TYPES G^① & J



4" SLOPED CURB TYPES G^① & J

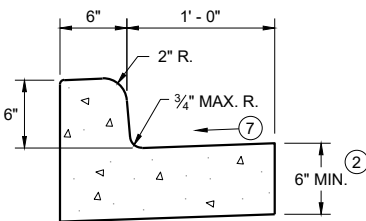


TYPES K^① & L
(OPTIONAL CURB SHAPE)



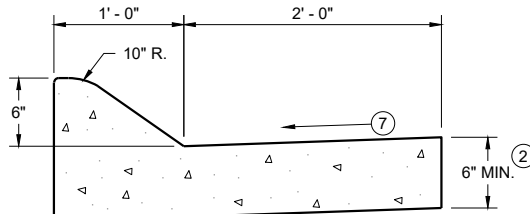
TYPES K^① & L

CONCRETE CURB AND GUTTER 30"

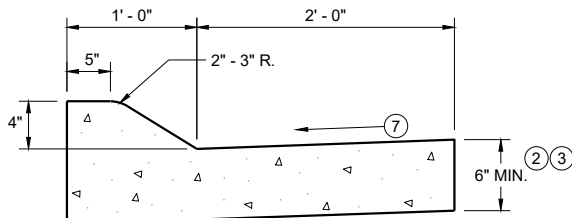


TYPES A^① & D

CONCRETE CURB AND GUTTER 18"

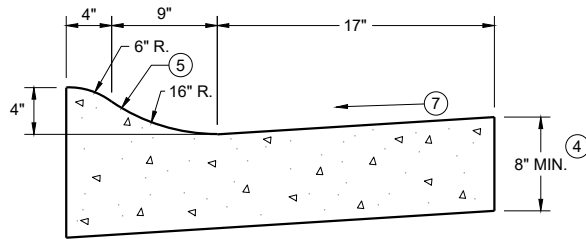


6" SLOPED CURB TYPES A^① & D



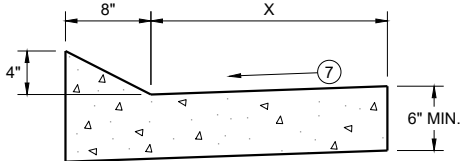
4" SLOPED CURB TYPES A^① & D

CONCRETE CURB AND GUTTER 36"



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

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

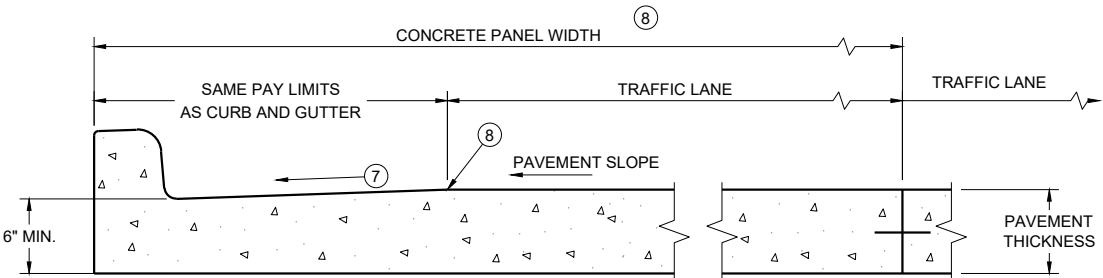


TYPES TBT & TBTT^①

CONCRETE CURB AND GUTTER

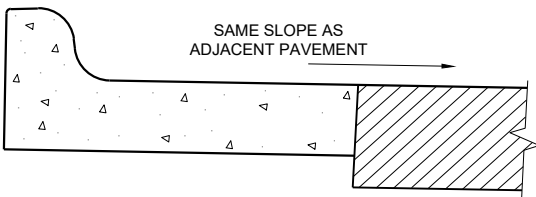
PAVEMENT THICKNESS
AND MAXIMUM CONCRETE
PANEL WIDTH TABLE

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

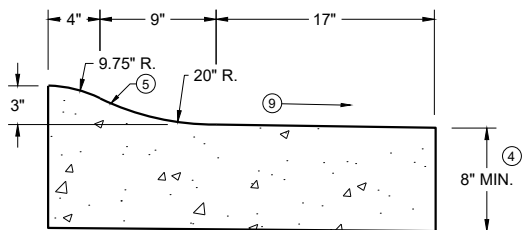


PARTIAL SECTION OF PAVEMENT
WITH INTEGRAL CURB AND GUTTER

* 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

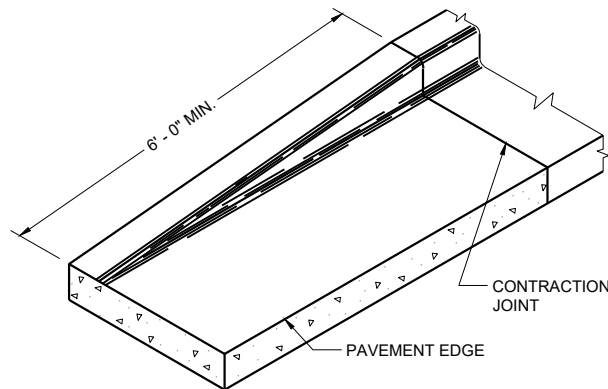
DETAILS OF CONSTRUCTION AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

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

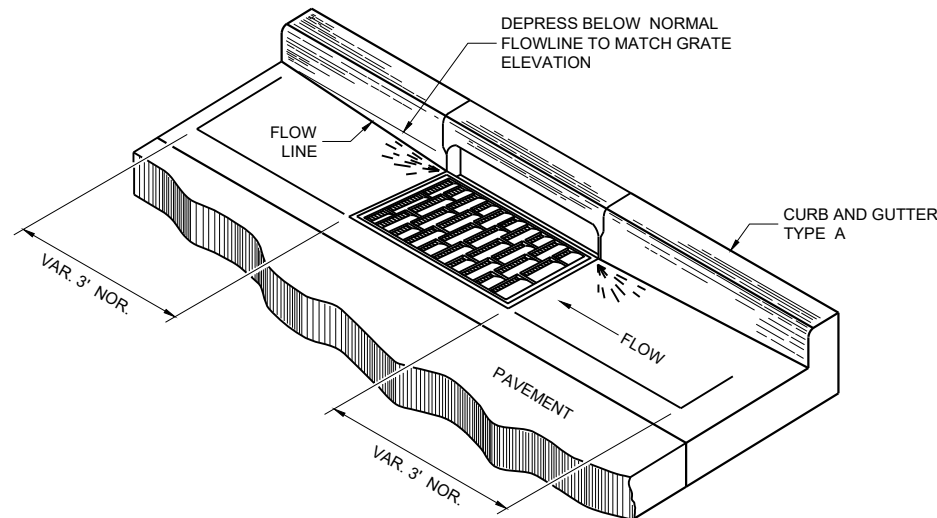
INTEGRAL CURB AND GUTTER SHALL CONFORM TO THE DETAILS SHOWN FOR CONCRETE CURB AND GUTTER INCLUDING THE TRANSVERSE GUTTER SLOPE.

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

- TIE BARS ARE REQUIRED FOR CURB AND GUTTERS TYPES A, G, K, R, AND TBTT.
- 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.
- USE 8" MINIMUM GUTTER THICKNESS WHEN USED WITH AN ADJACENT CONCRETE TRUCK APRON PLACED BEHIND BACK OF CURB.
- 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.
- UNLESS OTHERWISE NOTED, FOR STAKING PURPOSES THE FACE OF CURB IS 6" FROM THE BACK OF CURB.
- WHEN REVERSE SLOPE GUTTER IS REQUIRED, THE LOCATION(S) WILL BE SHOWN ELSEWHERE IN THE PLAN.
- USE 4% GUTTER CROSS SLOPE UNLESS OTHERWISE NOTED IN THE PLANS.
- 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.
- SLOPE TO BE REVERSE SLOPE MATCHING THE SLOPE OF THE PAVEMENT AND THE CIRCULATORY ROADWAY

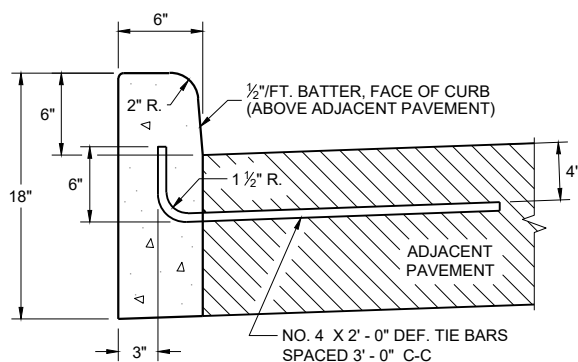


END SECTION CURB AND GUTTER

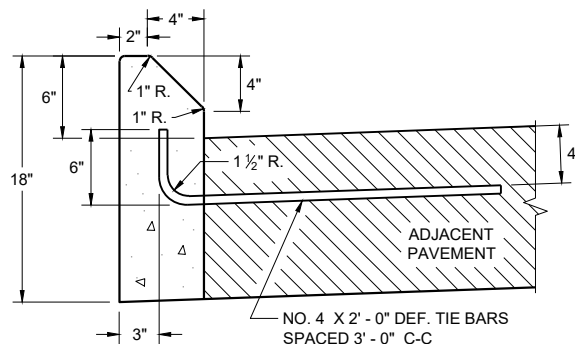


DETAIL OF CURB AND GUTTER AT INLETS

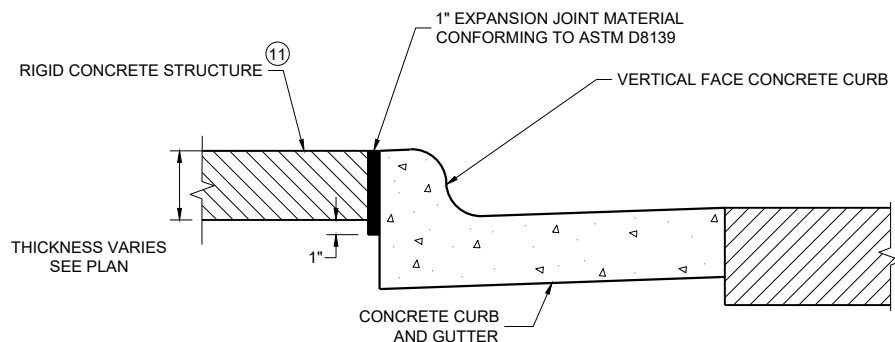
(TYPICAL H INLET COVER SHOWN)



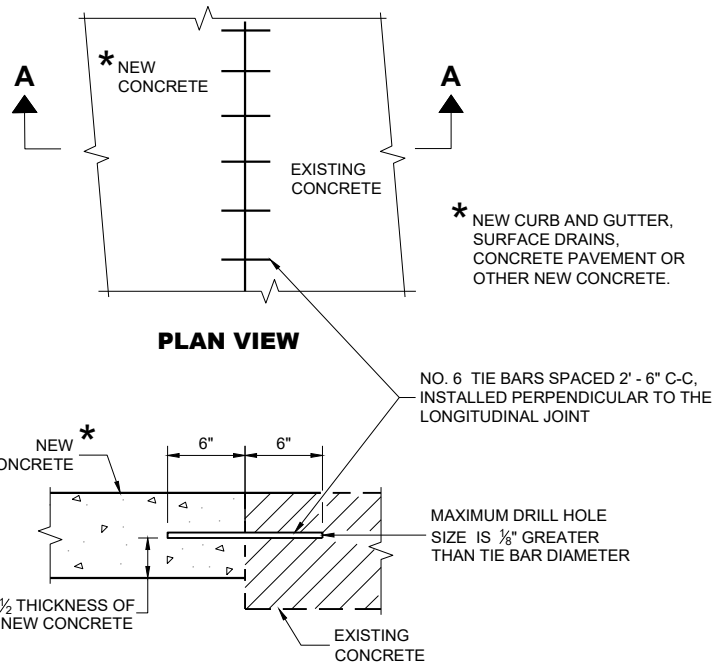
TYPES A^① & D



**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**

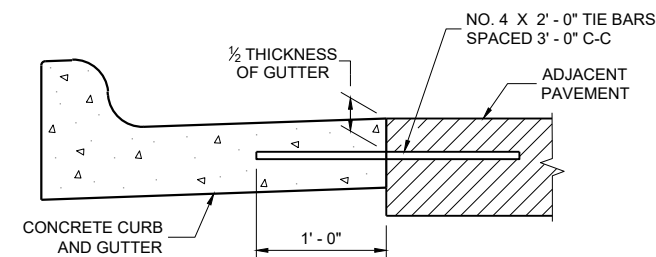
GENERAL NOTES

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

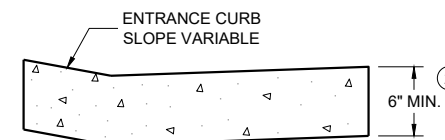
PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

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

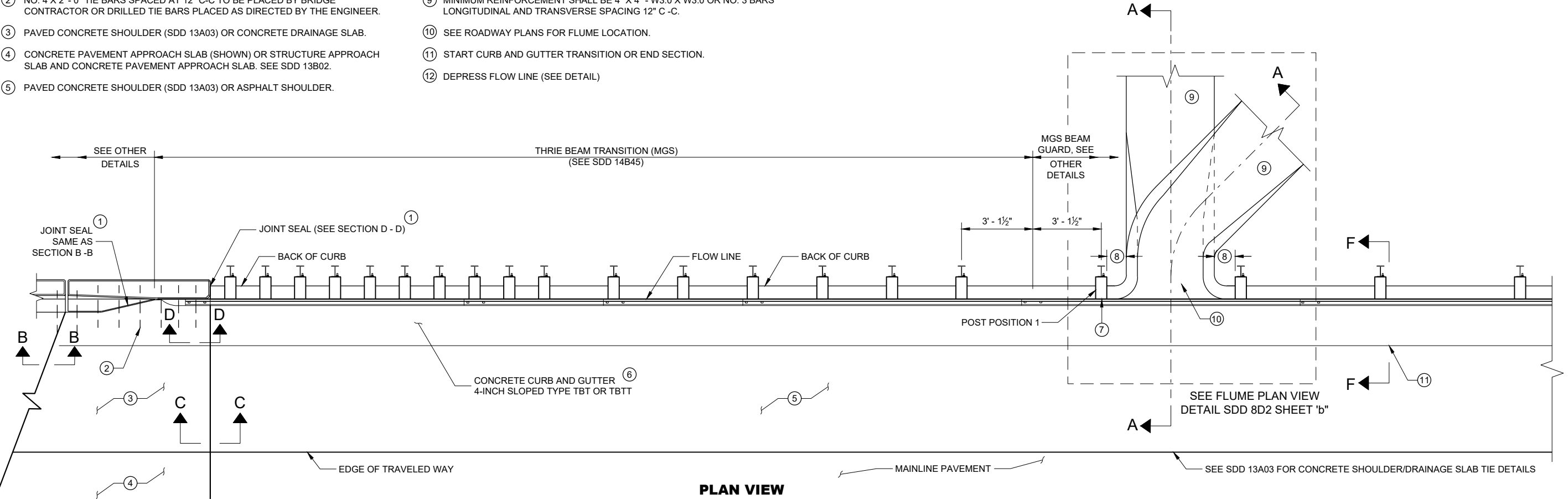
GENERAL NOTES

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.

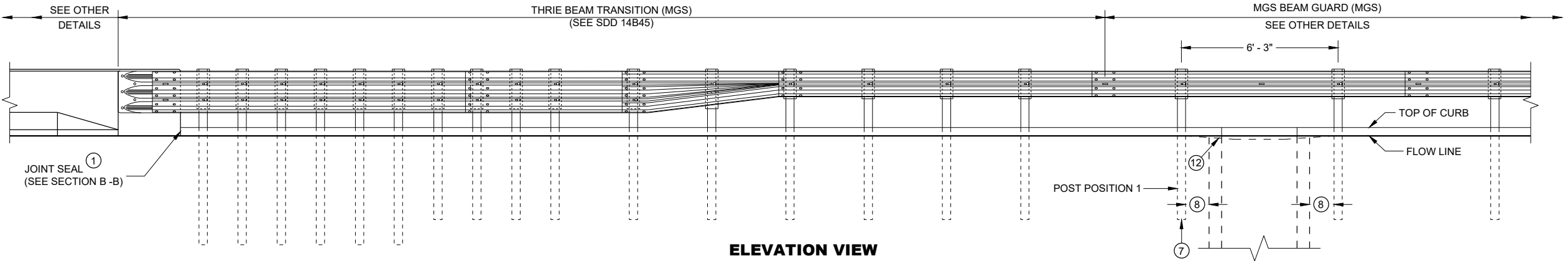
ALL STEEL REINFORCEMENT SHALL BE EMBEDDED 2 INCHES CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

- 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)



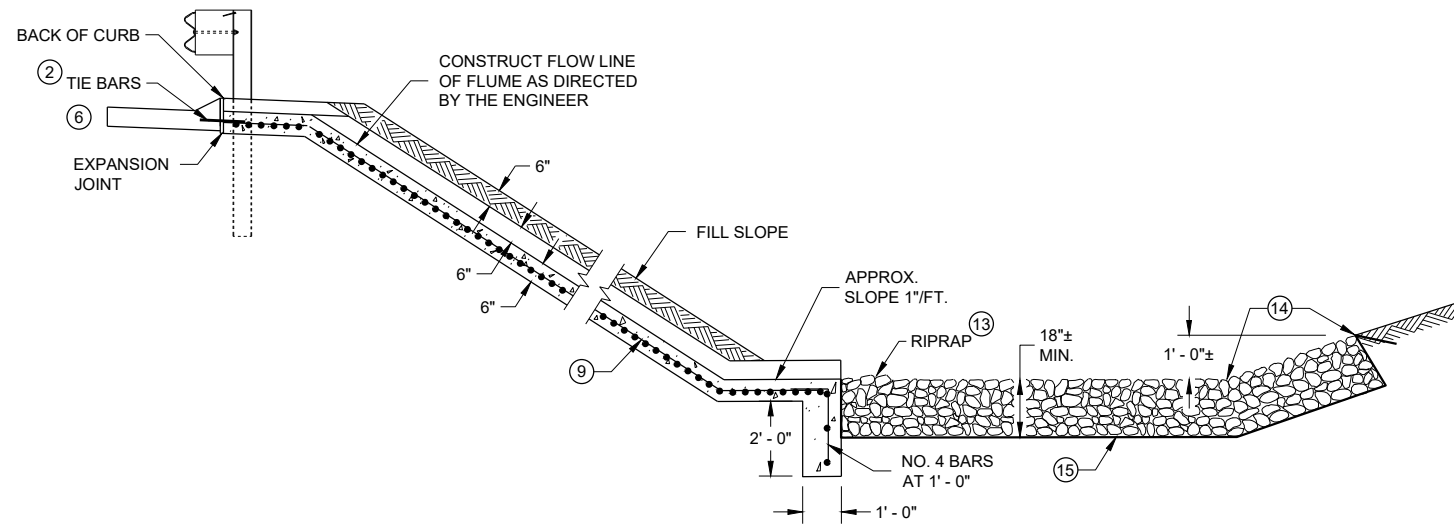
PLAN VIEW



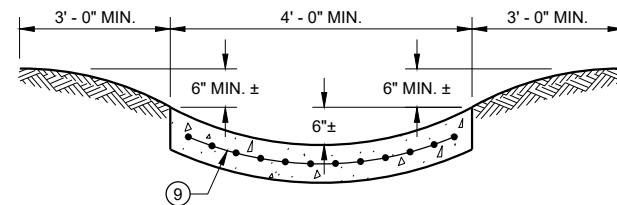
ELEVATION VIEW

CONCRETE SURFACE
DRAINS FLUME TYPE
AT STRUCTURES

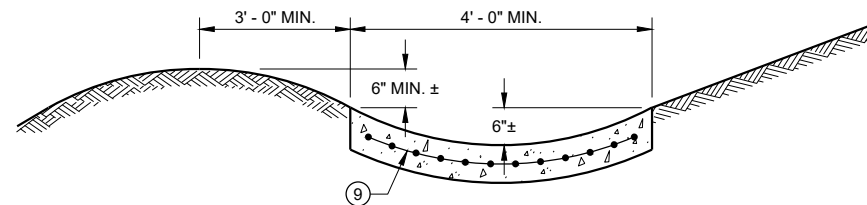
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



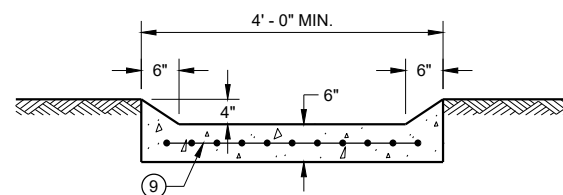
SECTION A - A



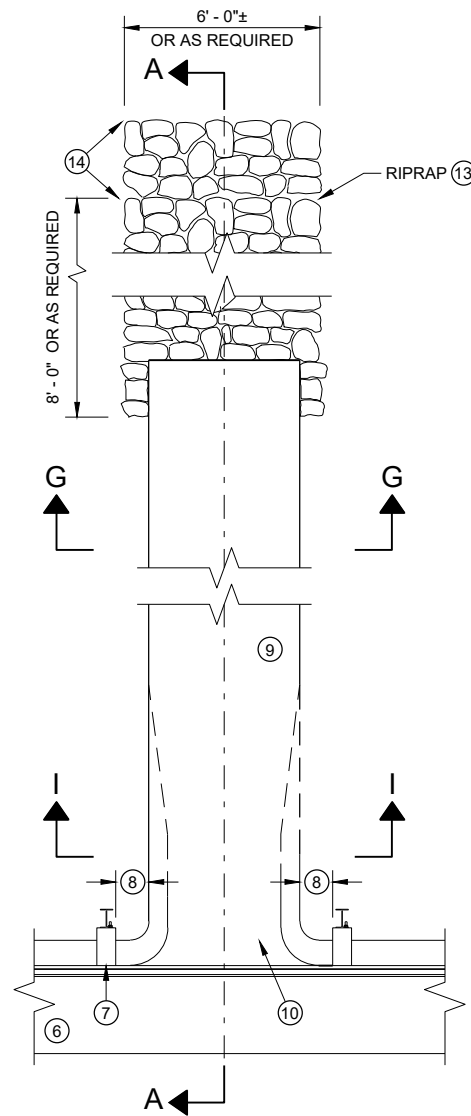
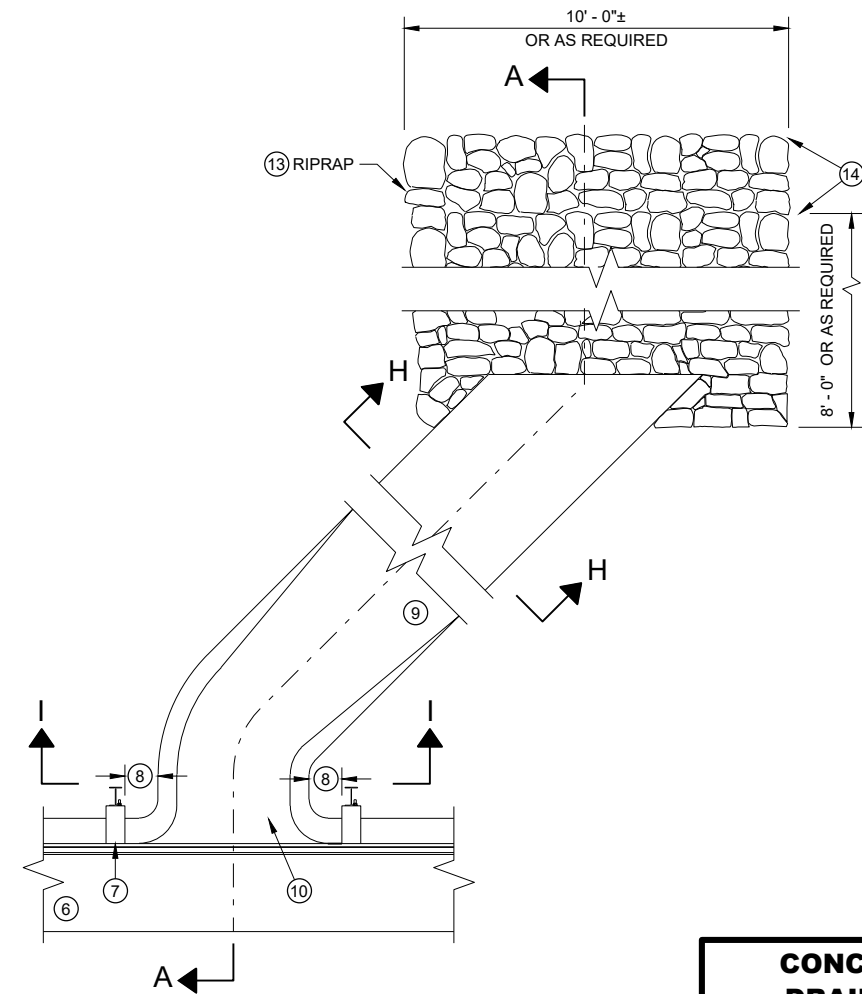
SECTION G - G



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.

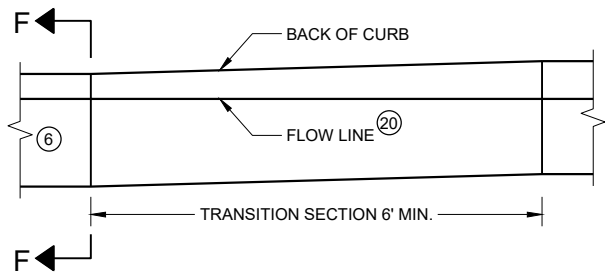
ALL STEEL REINFORCEMENT SHALL BE EMBEDDED 2 INCHES CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

- 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 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.

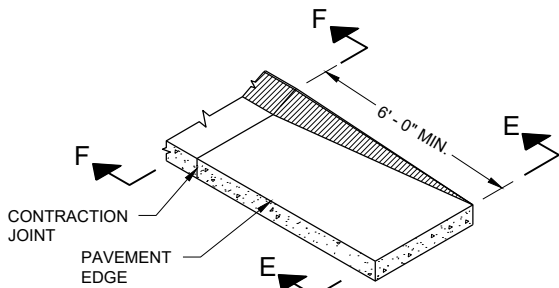
- ⑦ PLACE FLUME BEFORE MSG THRIE BEAM TRANSITION POST 1 (SEE SDD 14B45)
- ⑧ CENTER FLUME BETWEEN POSTS. 6-INCH MINIMUM SEPARATION FROM OUTSIDE EDGE OF FLUME TO POSTS.
- ⑨ MINIMUM REINFORCEMENT SHALL BE 4" X 4" - W3.0 X W3.0 OR NO. 3 BARS LONGITUDINAL AND TRANSVERSE SPACING 12" C - C.
- ⑩ SEE ROADWAY 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**

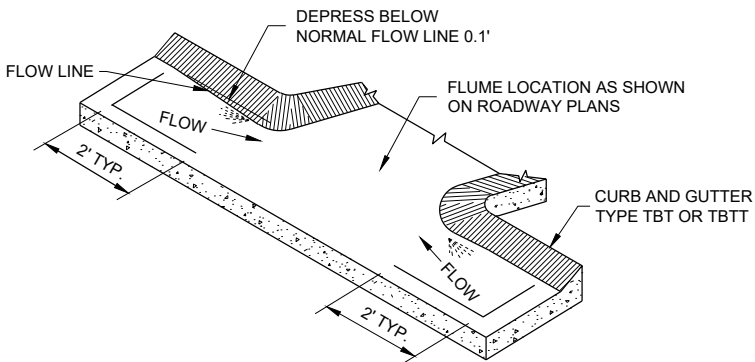
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION 30



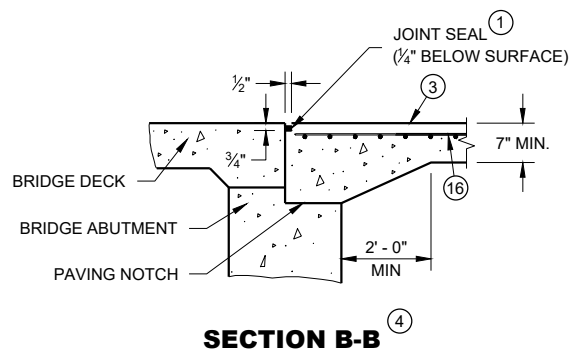
**CURB AND GUTTER TRANSITION SECTION
CONCRETE CURB AND GUTTER 4-INCH SLOPED
36 INCH TYPE TBT OR TBTT**



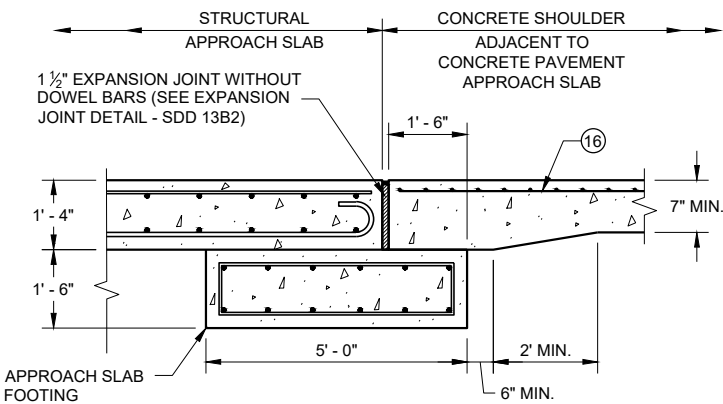
**CURB AND GUTTER END SECTION
CONCRETE CURB AND GUTTER 4-INCH SLOPED
36 INCH TYPE TBT OR TBTT**



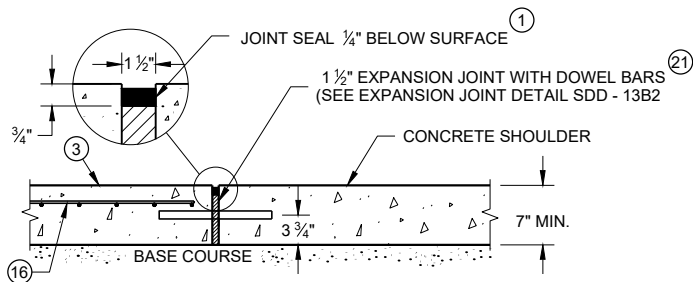
**CURB AND GUTTER FLOW LINE DEPRESSION
AT FLUMES CONCRETE CURB AND GUTTER
4-INCH SLOPED 36 INCH TYPE TBT OR TBTT**



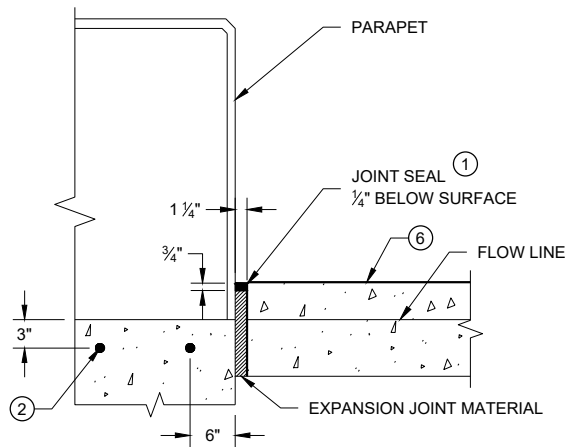
SECTION B-B



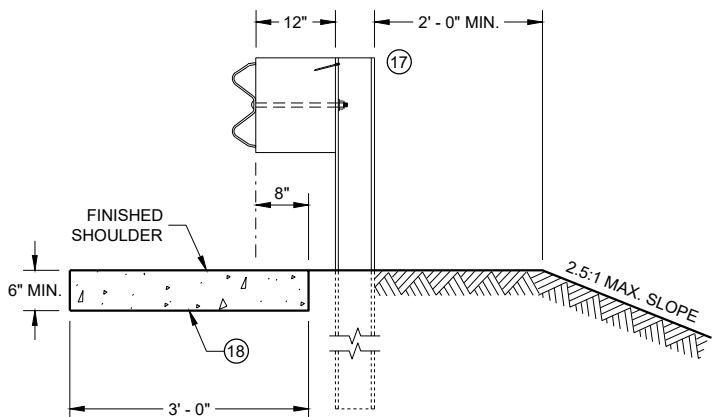
**SECTION C - C
JOINT DETAIL FOR BRIDGE WITH STRUCTURAL
APPROACH SLAB AND CONCRETE APPROACH SLAB**



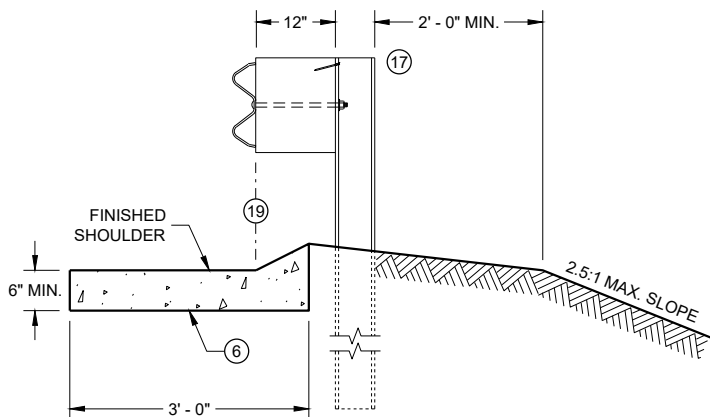
**SECTION C - C
JOINT DETAIL FOR BRIDGE APPROACH
WITH CONCRETE SHOULDERS**



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.
- PAVED CONCRETE SHOULDER (SDD 13A03) OR CONCRETE DRAINAGE SLAB.
- 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

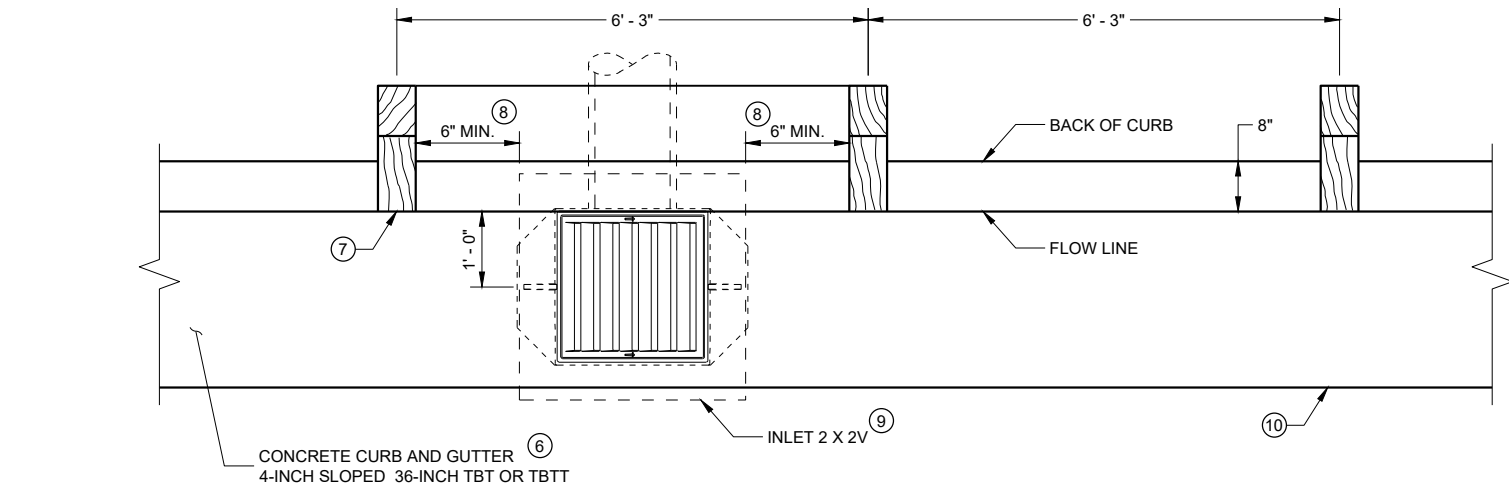
APPROVED
May 2023 /S/ Rodney Taylor
DATE ROADWAY STANDARDS DEVELOPMENT ENGINEER 31
FHWA

GENERAL NOTES

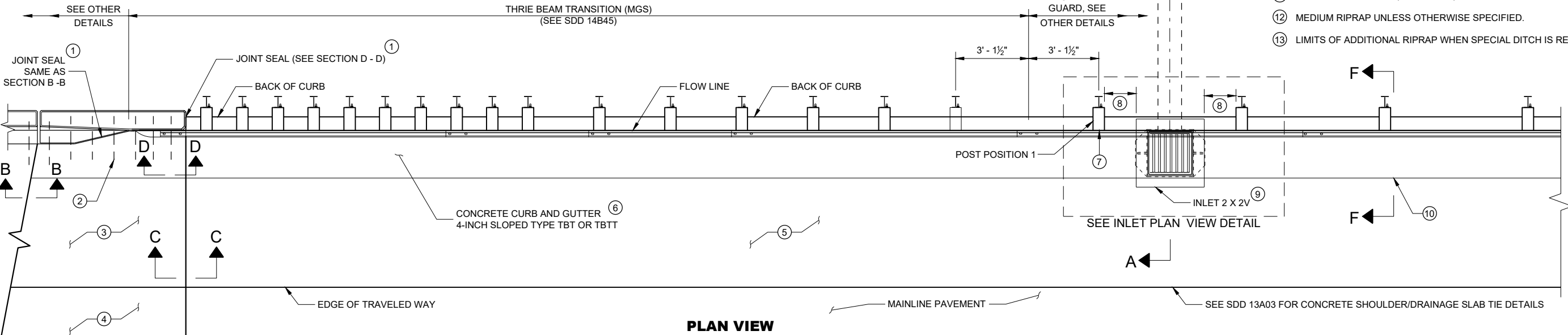
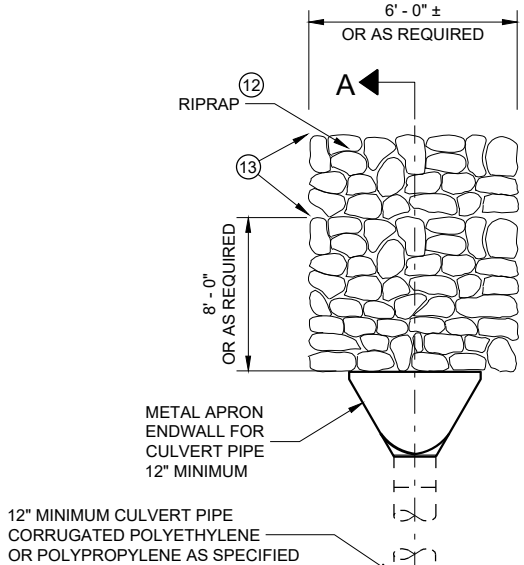
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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

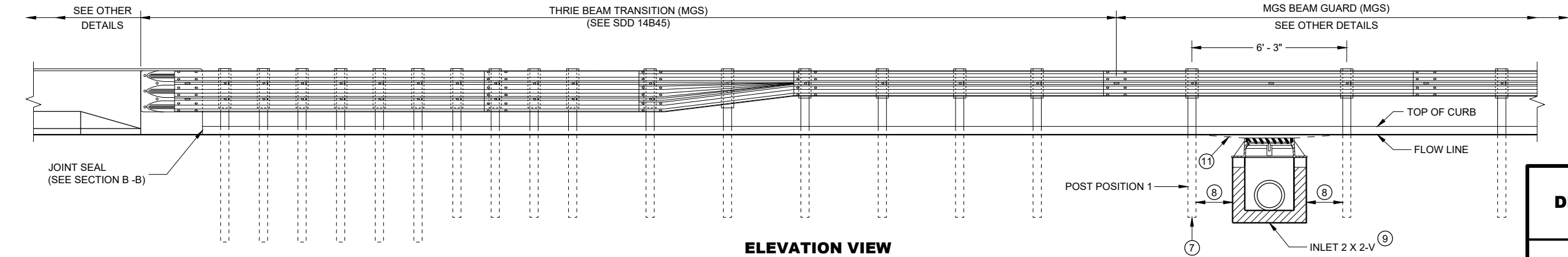
- 1 USE A JOINT SEALANT CONFORMING TO STANDARD SPECIFICATION 415.2.6.
- 2 NO. 4 X 2' - 0" TIE BARS SPACED AT 12" C-C TO BE PLACED BY BRIDGE CONTRACTOR OR DRILLED TIE BARS PLACED AS DIRECTED BY THE ENGINEER.
- 3 PAVED CONCRETE SHOULDER (SDD 13A03) OR CONCRETE DRAINAGE SLAB.
- 4 CONCRETE PAVEMENT APPROACH 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 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 DRAINAGE STRUCTURE BEFORE MSG THRIE BEAM TRANSITION POST 1 (SEE SDD 14B45)
- 8 CENTER DRAINAGE STRUCTURE BETWEEN POSTS. 6-INCH MINIMUM SEPARATION FROM OUTSIDE WALL OF DRAINAGE STRUCTURE TO POSTS.
- 9 SEE SDD 08A05 AND 08C07 FOR DETAILS. SEE ROADWAY PLANS FOR LOCATION.
- 10 START CURB AND GUTTER TRANSITION OR END SECTION.
- 11 DEPRESS FLOW LINE (SEE DETAIL)
- 12 MEDIUM RIPRAP UNLESS OTHERWISE SPECIFIED.
- 13 LIMITS OF ADDITIONAL RIPRAP WHEN SPECIAL DITCH IS REQUIRED.



INLET PLAN VIEW
(NOTE: RAIL NOT SHOWN FOR CLARITY)



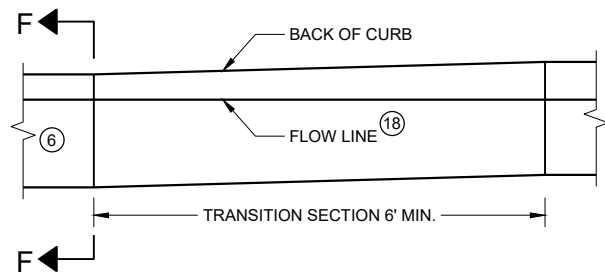
PLAN VIEW



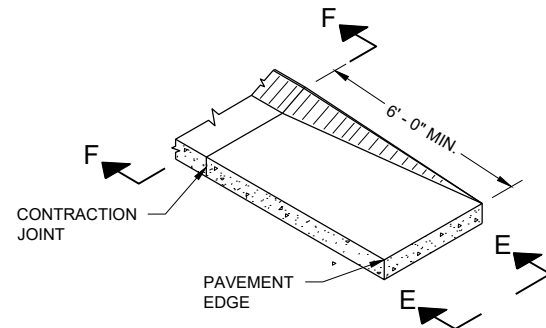
ELEVATION VIEW

CONCRETE SURFACE
DRAINS DROP INLET TYPE
AT STRUCTURES

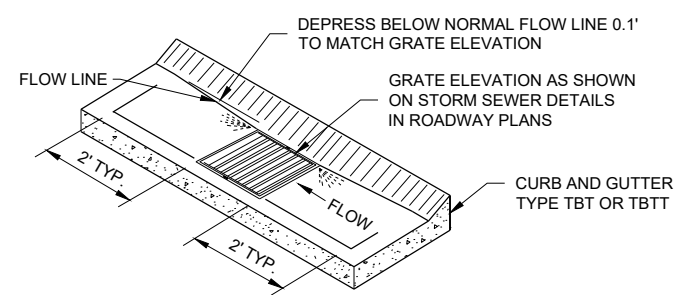
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



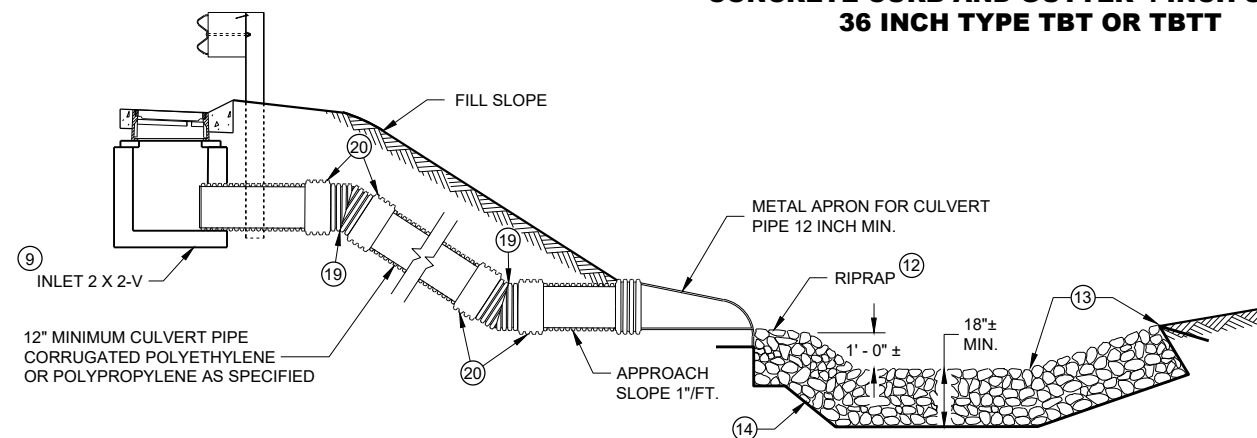
**CURB AND GUTTER TRANSITION SECTION
CONCRETE CURB AND GUTTER 4-INCH SLOPED
36 INCH TYPE TBT OR TBTT**



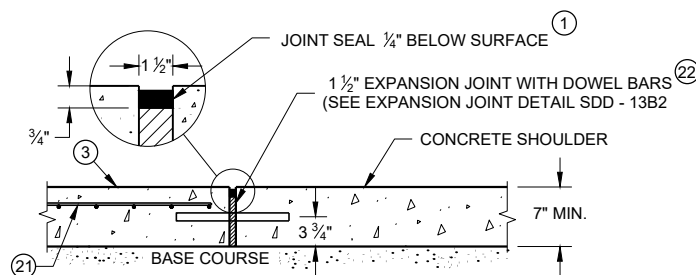
**CURB AND GUTTER END SECTION
CONCRETE CURB AND GUTTER 4-INCH SLOPED
36 INCH TYPE TBT OR TBTT**



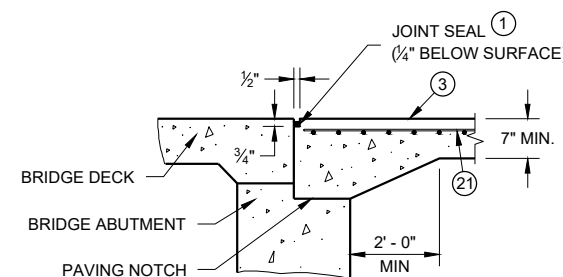
**CURB AND GUTTER FLOW LINE DEPRESSION
AT INLETS CONCRETE CURB AND GUTTER
4-INCH SLOPED 36 INCH TYPE TBT OR TBTT**



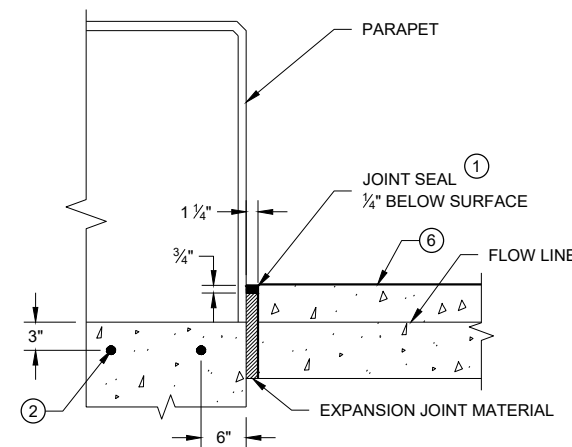
SECTION A - A



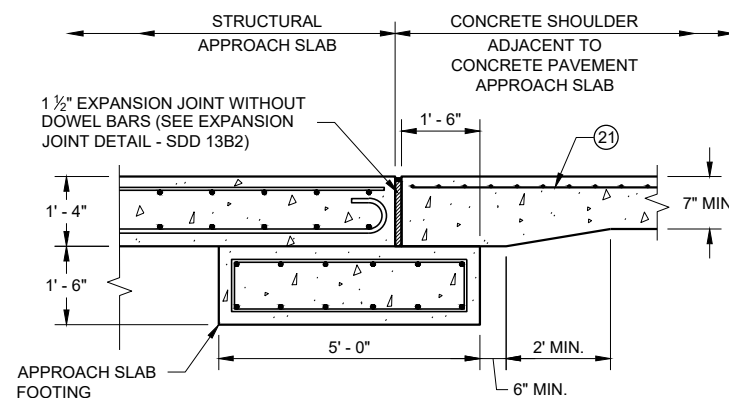
**SECTION C - C
JOINT DETAIL FOR BRIDGE APPROACH
WITH CONCRETE SHOULDERS**



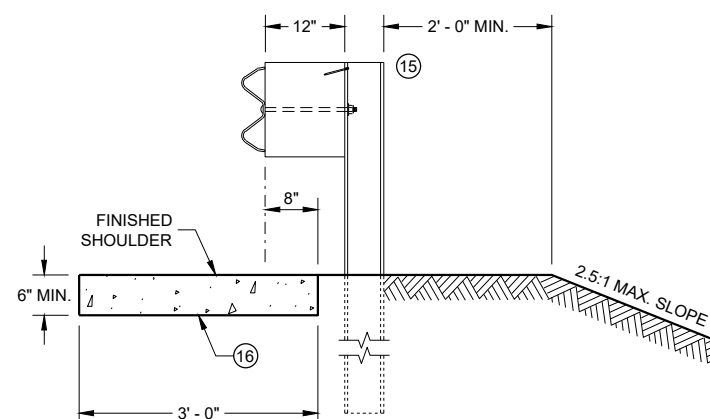
SECTION B-B



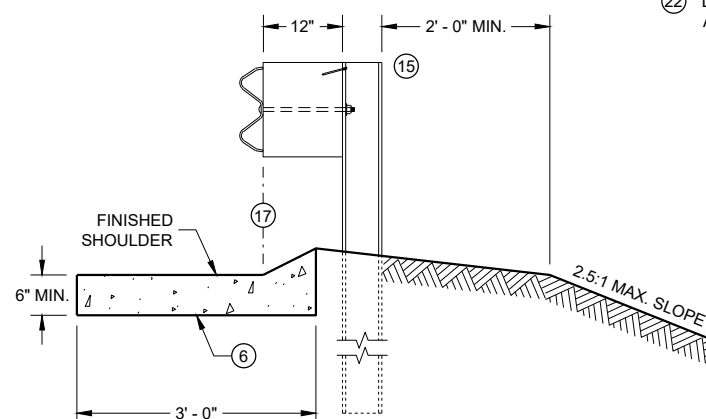
SECTION D - D



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



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.

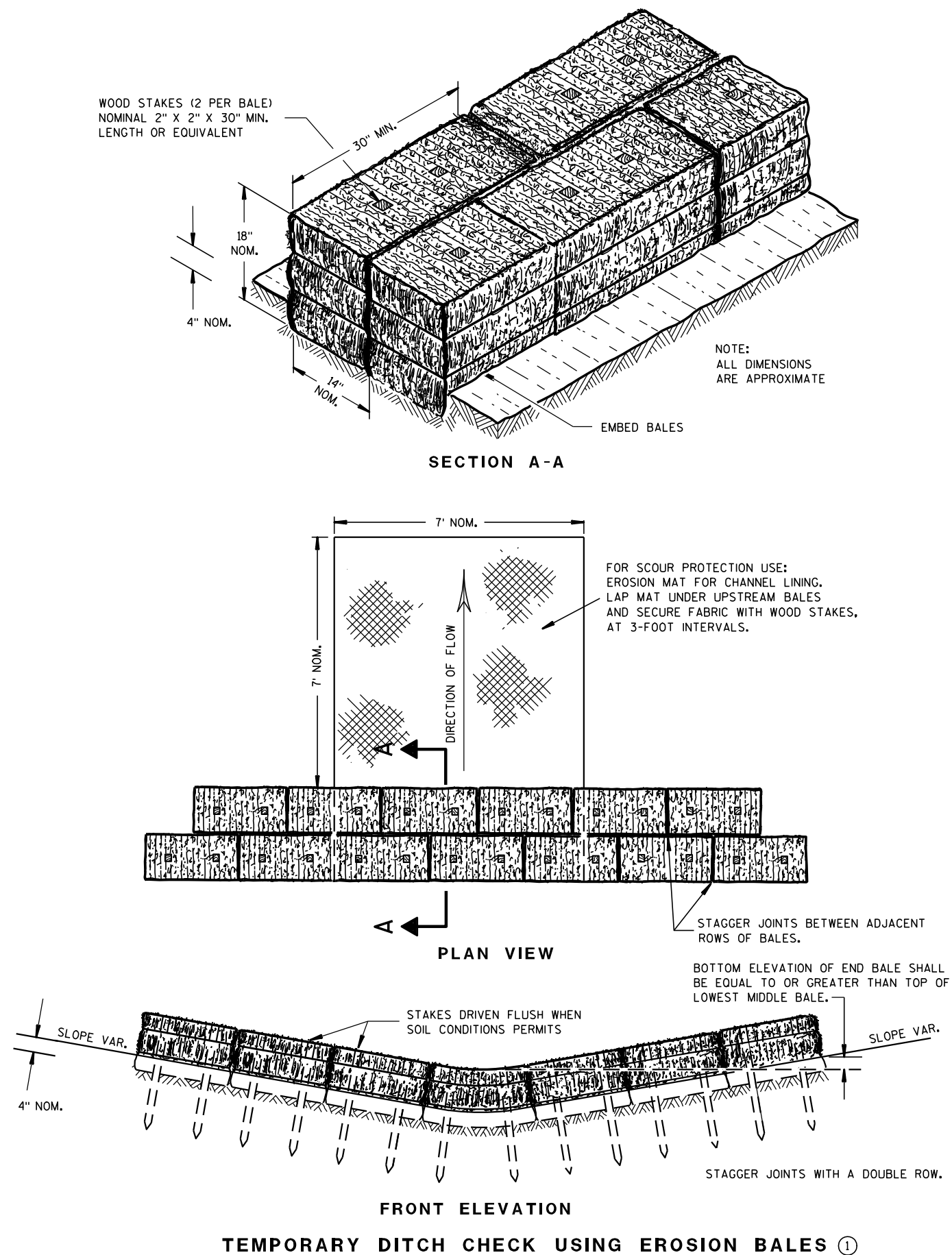
ALL STEEL REINFORCEMENT SHALL BE EMBEDDED 2 INCHES CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

- 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 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 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 DRAINAGE STRUCTURE BEFORE MSG THRIE BEAM TRANSITION POST 1 (SEE SDD 14B45)
- ⑧ CENTER DRAINAGE STRUCTURE BETWEEN POSTS. 6-INCH MINIMUM SEPARATION FROM OUTSIDE WALL OF DRAINAGE STRUCTURE TO POSTS.
- ⑨ SEE SDD 08A05 AND 08C07 FOR DETAILS. SEE ROADWAY PLANS FOR LOCATION.
- ⑩ START CURB AND GUTTER TRANSITION OR END SECTION.
- ⑪ DEPRESS FLOW LINE (SEE DETAIL)
- ⑫ MEDIUM RIPRAP UNLESS OTHERWISE SPECIFIED.
- ⑬ LIMITS OF ADDITIONAL RIPRAP WHEN SPECIAL DITCH IS REQUIRED.
- ⑭ GEOTEXTILE TYPE HR.
- ⑮ MSG THRIE BEAM TRANSITION POST 1. SEE SDD 14B45 FOR ADDITIONAL CONSTRUCTION DETAILS AND ACCEPTABLE MATERIALS.
- ⑯ MAINTAIN WIDTH, THICKNESS AND CROSS SLOPE OF ADJACENT TYPE TBT OR TBTT CURB. SEE NOTE 6 FOR TIE BAR SPACING.
- ⑰ ALIGN FACE OF POST BLOCK WITH FLOW LINE.
- ⑱ MAINTAIN FLOW LINE AT EDGE OF PAVEMENT/FACE OF BEAM GUARD AS APPLICABLE.
- ⑲ MANUFACTURER SUPPLIED BEND.
- ⑳ MANUFACTURER SUPPLIED EXTERNAL MECHANICAL COUPLING OR A MANUFACTURER RECOMMENDED COUPLING WITH A MASTIC IMPREGNATED GEOTEXTILE WRAP AND MECHANICAL FASTENING BANDS.
- ㉑ MINIMUM REINFORCEMENT SHALL BE 6" X 6" - W4.0 X W4.0 OR NO. 3 BARS LONGITUDINAL AND TRANSVERSE SPACING 12" C - C.
- ㉒ DO NOT CONSTRUCT AN EXPANSION JOINT OR INSTALL DOWEL BARS WHEN ABUTTING HMA PAVEMENTS.

CONCRETE SURFACE DRAINS DROP INLET TYPE AT STRUCTURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

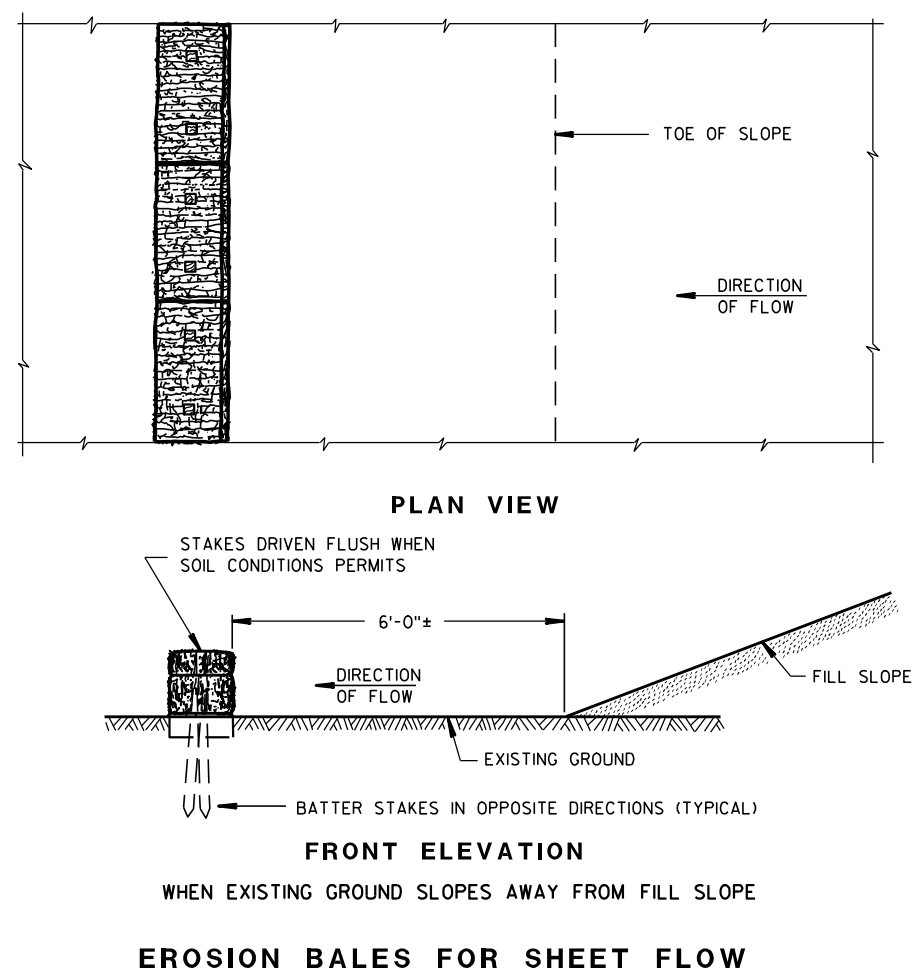
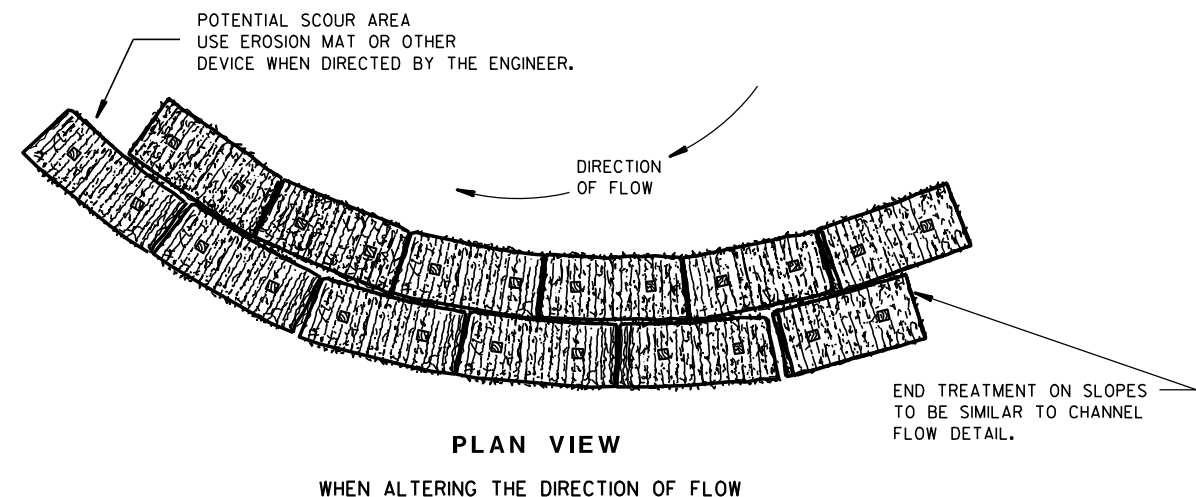
APPROVED
May 2023 /S/ Rodney Taylor
DATE ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA



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 Connors
CHIEF ROADWAY DEVELOPER

ENGINEER

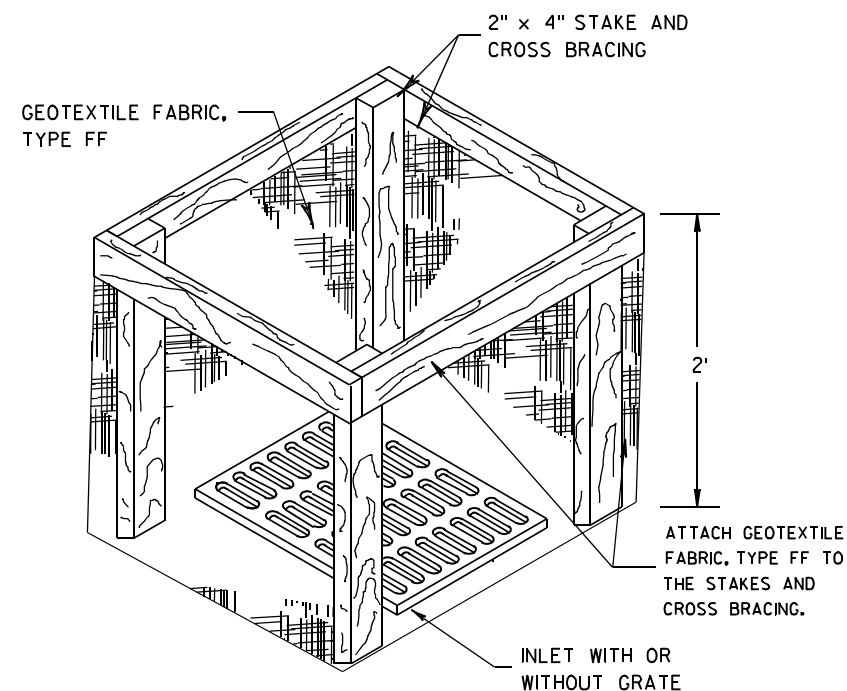
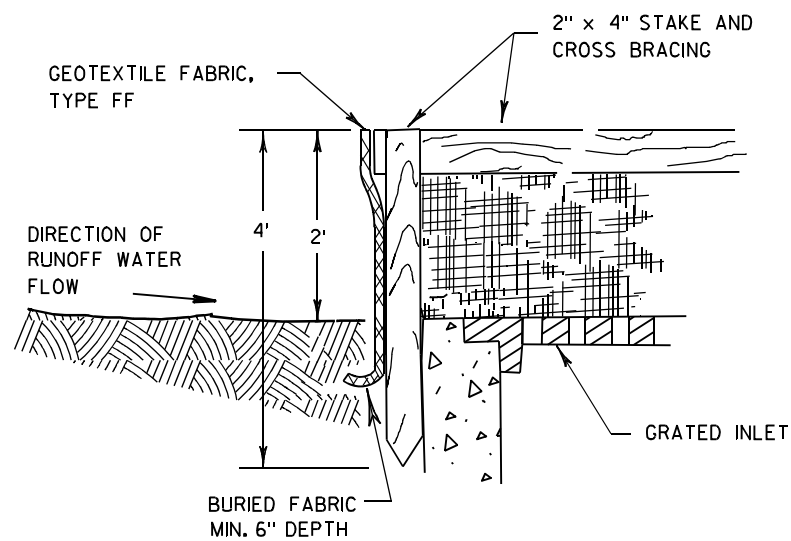
FHWA



- 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 <u>4-29-05</u> <u>DATE</u> <u>/S/ Beth Connolly</u> CHIEF ROADWAY DEVELOP <u>35</u> ENGINEER FHWA



INLET PROTECTION, TYPE A

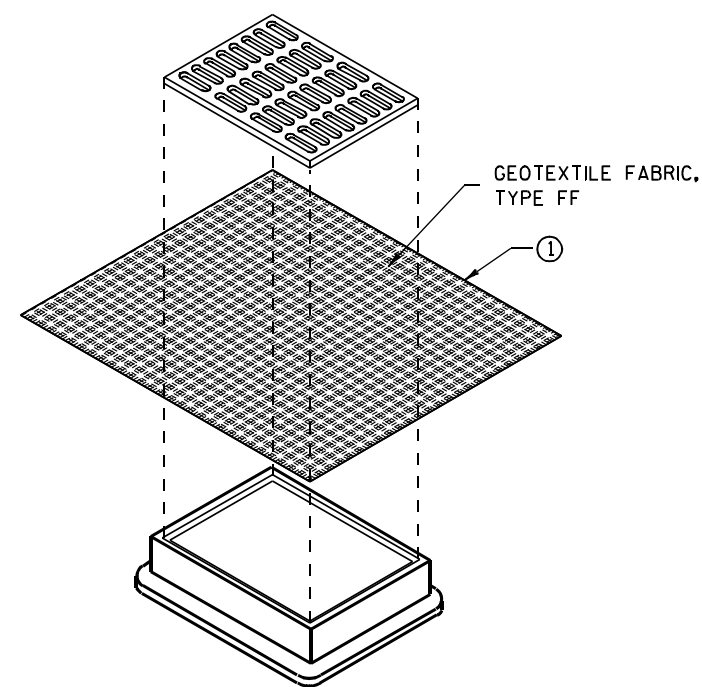
GENERAL NOTES

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.

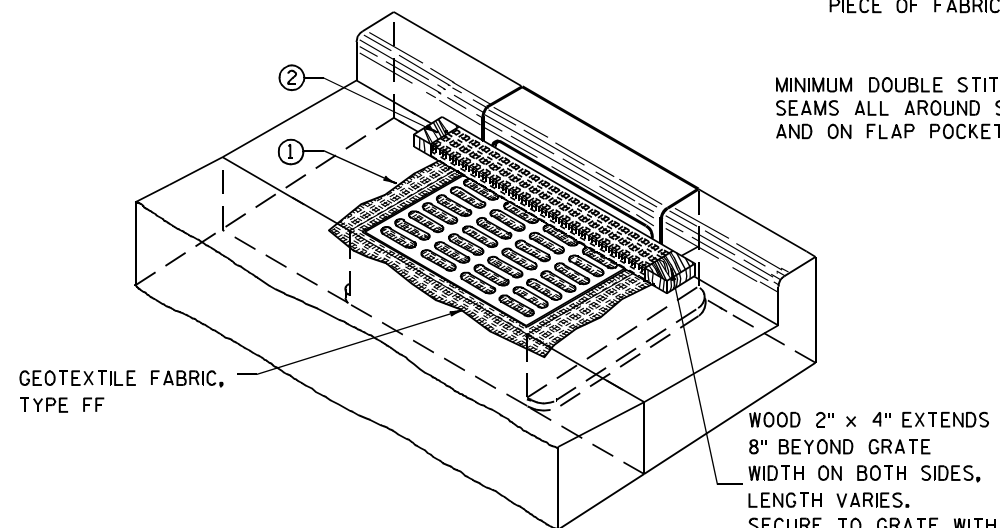
WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.

- 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.

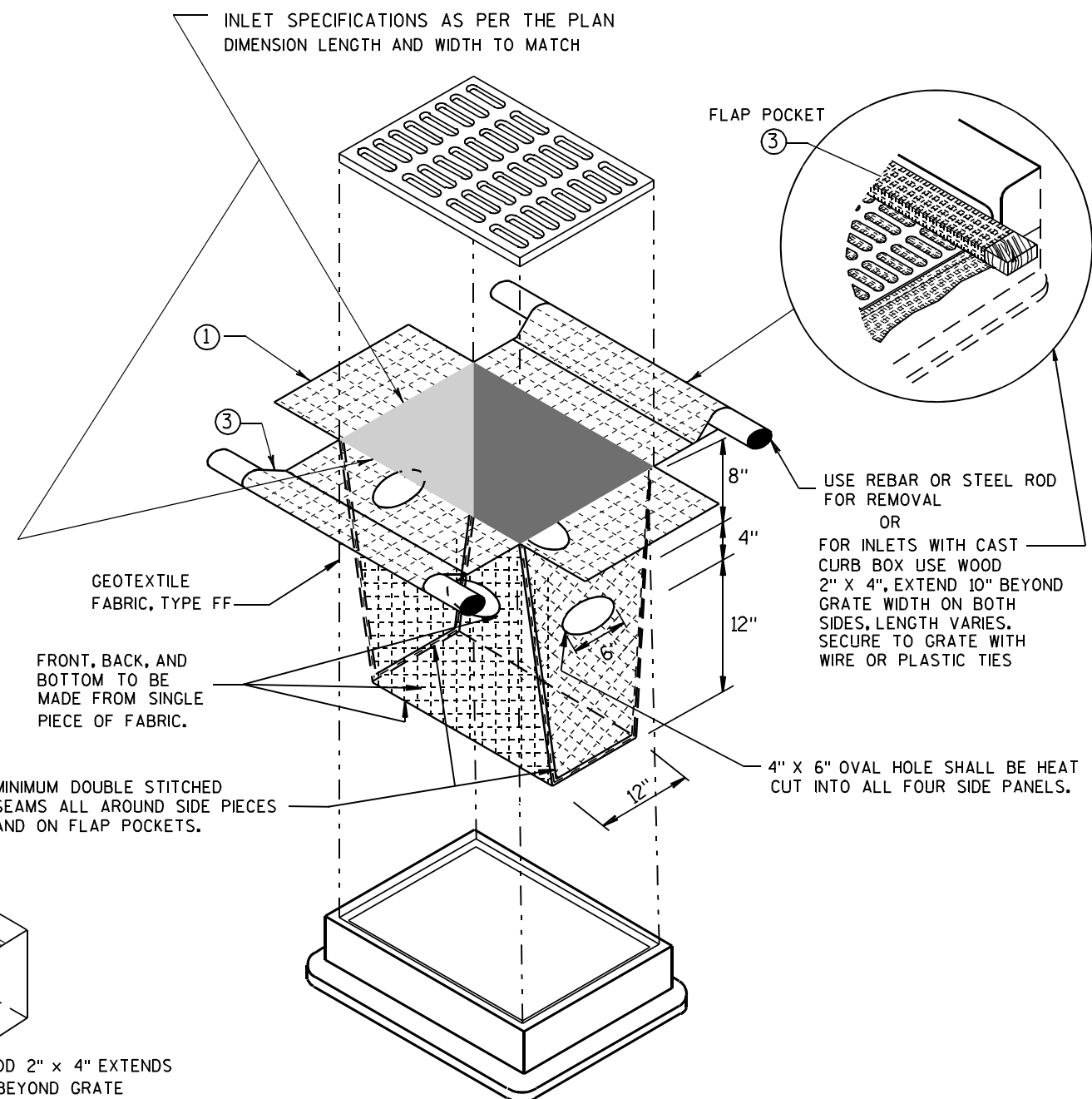
THE CONTRACTOR SHALL DEMONSTRATE A METHOD OF MAINTENANCE, USING A SEWN FLAP, HAND HOLDS OR OTHER METHOD TO PREVENT ACCUMULATED SEDIMENT FROM ENTERING THE INLET.

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)

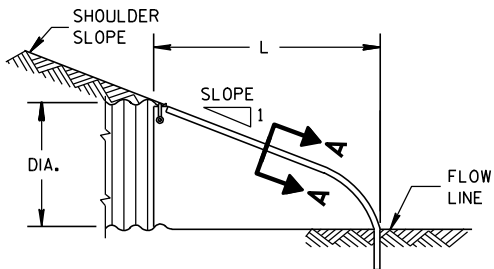
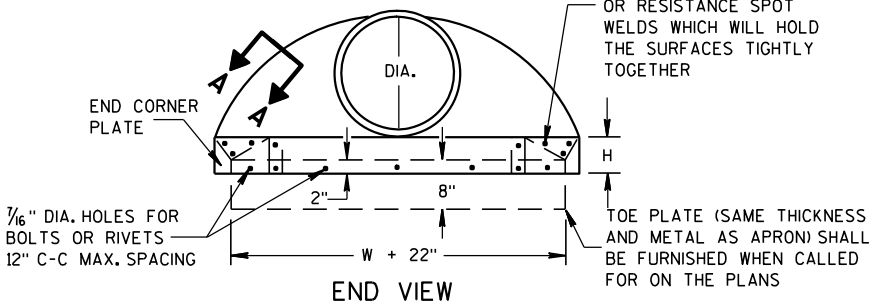
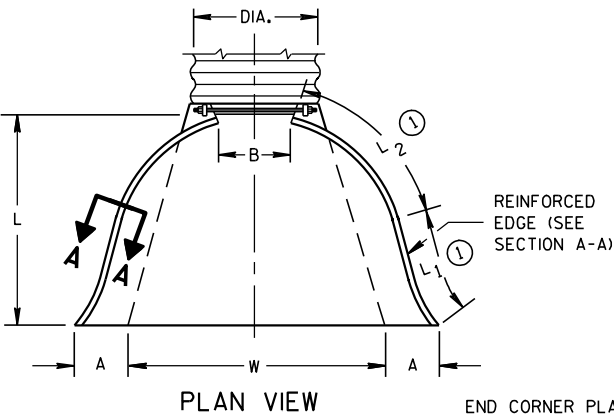
**INLET PROTECTION
TYPE A, B, C, AND D**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
10/16/02 /S/ Beth Connolly
DATE 36
FHWA CHIEF ROADWAY DEVELOPMENT ENGINEER

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	1 Pc.
15	.064	.060	7	8	6	26	14	21 3/4	30	2 1/2 to 1	1	1 Pc.
18	.064	.060	8	10	6	31	15	28 1/4	36	2 1/2 to 1	1	1 Pc.
21	.064	.060	9	12	6	36	18	29 5/8	42	2 1/2 to 1	1	1 Pc.
24	.064	.075	10	13	6	41	18	37 1/4	48	2 1/2 to 1	1	1 Pc.
30	.079	.075	12	16	8	51	18	52 1/4	60	2 1/2 to 1	1	1 Pc.
36	.079	.105	14	19	9	60	24	59 3/4	72	2 1/2 to 1	2	2 Pc.
42	.109	.105	16	22	11	69	24	75 5/8	84	2 1/2 to 1	2	2 Pc.
48	.109	.105	18	27	12	78	24	81	90	2 1/4 to 1	3	3 Pc.
54	.109	.105	18	30	12	84	30	85 1/2	102	2 1/4 to 1	3	3 Pc.
60	.109x	.105x	18	33	12	87	—	—	114	2 to 1	3	3 Pc.
66	.109x	.105x	18	36	12	87	—	—	120	2 to 1	3	3 Pc.
72	.109x	.105x	18	39	12	87	—	—	126	2 to 1	3	3 Pc.
78	.109x	.105x	18	42	12	87	—	—	132	1 1/2 to 1	3	3 Pc.
84	.109x	.105x	18	45	12	87	—	—	138	1 1/2 to 1	3	3 Pc.
90	.109x	.105x	18	37	12	87	—	—	144	1 1/2 to 1	3	3 Pc.
96	.109x	.105x	18	35	12	87	—	—	150	1 1/2 to 1	3	3 Pc.

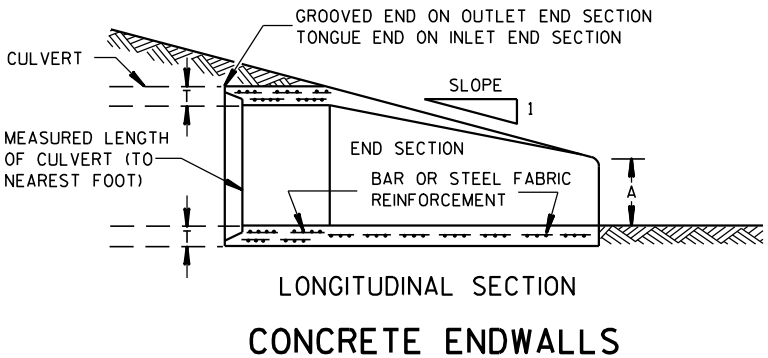
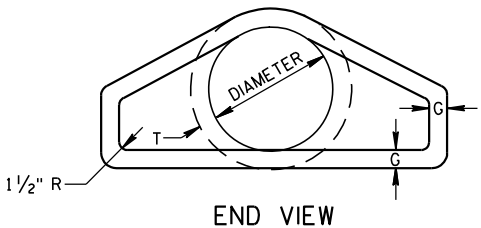
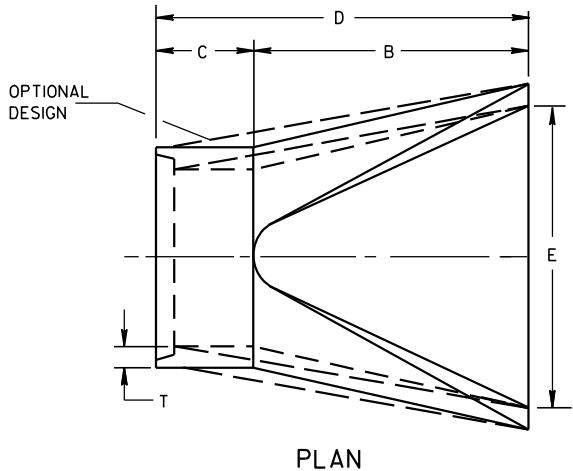
* EXCEPT CENTER PANEL
SEE GENERAL NOTES



SIDE ELEVATION
METAL ENDWALLS

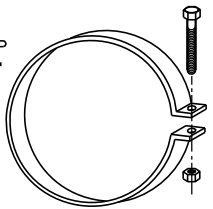
REINFORCED CONCRETE APRON ENDWALLS												
PIPE DIA. (IN.)	DIMENSIONS (Inches)							APPROX. SLOPE				
	T	A	B	C	D	E	G					
12	2	4	24	48 1/8	72 1/8	24	2	3 to 1				
15	2 1/4	6	27	46	73	30	2 1/4	3 to 1				
18	2 1/2	9	27	46	73	36	2 1/2	3 to 1				
21	2 3/4	9	36	37 1/2	73 1/2	42	2 3/4	3 to 1				
24	3	9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

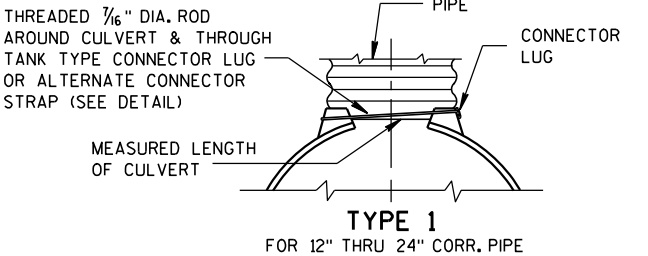


LONGITUDINAL SECTION
CONCRETE ENDWALLS

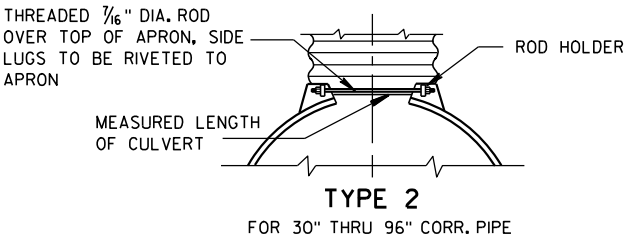
1" WIDE, 12 GA. (0.109" THICK) GALVANIZED STRAP WITH STANDARD 6" X 1/2" BAND BOLT AND NUT



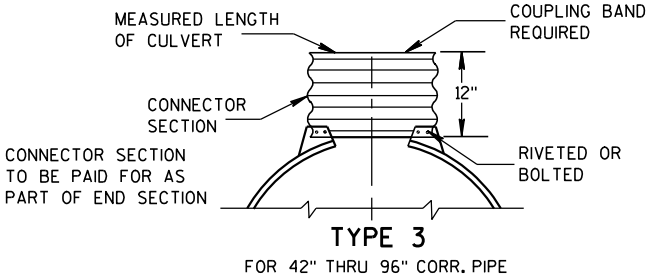
ALTERNATE FOR TYPE 1 CONNECTION
END SECTION CONNECTOR STRAP



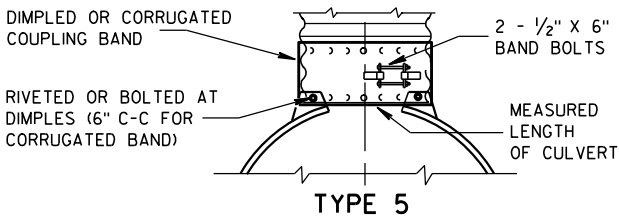
TYPE 1
FOR 12" THRU 24" CORR. PIPE



TYPE 2
FOR 30" THRU 96" CORR. PIPE



TYPE 3
FOR 42" THRU 96" CORR. PIPE



TYPE 5
ALTERNATE FOR:
ALL SIZES CORRUGATED CIRCULAR PIPE

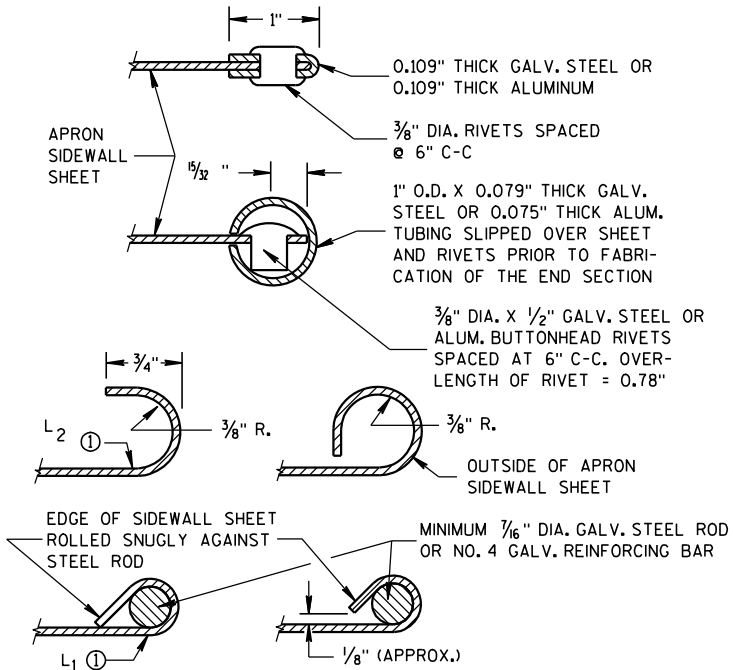
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL, AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

FOR CIRCUMFERENTIALLY CORRUGATED PIPE USE ENDWALL CONNECTION DETAILS 1, 2, 3 OR 5 AS APPLICABLE.

FOR HELICALLY CORRUGATED PIPE USE ENDWALL CONNECTION DETAILS 1, 2 OR 5.

FOR HELICALLY CORRUGATED PIPES WITH TWO CIRCUMFERENTIAL CORRUGATIONS AT EACH END USE ENDWALL CONNECTION DETAILS 1, 2 OR 3.

CONNECTION DETAILS



SECTION A-A

GENERAL NOTES

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

CONCRETE CULVERT ENDWALLS MAY NOT BE USED WITH GALVANIZED STEEL OR ALUMINUM CULVERT PIPE OR VISE VERSA. GALVANIZED STEEL OR ALUMINUM ENDWALLS SHALL NORMALLY BE INSTALLED ON CULVERT PIPE OF THE SAME METAL.

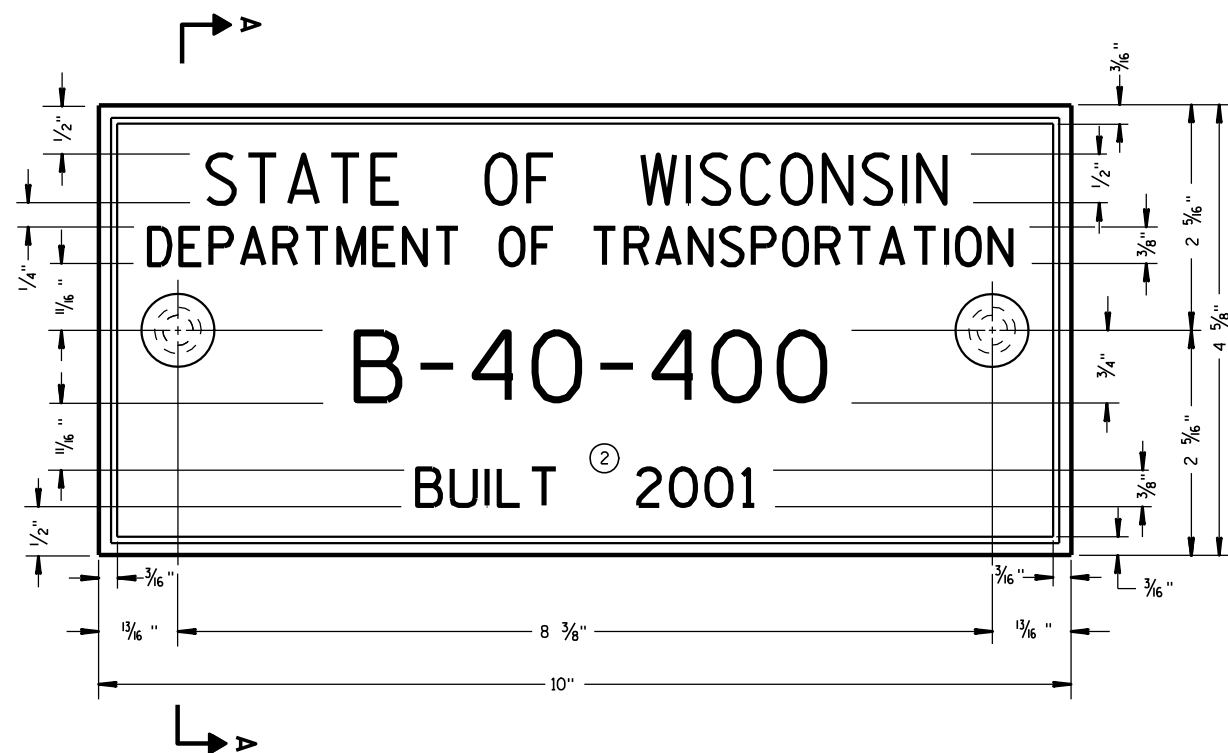
ALL THREE PIECE STEEL APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.109" SIDES AND 0.138" CENTER PANELS. ALL THREE PIECE ALUMINUM APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.105" SIDES AND 0.134" CENTER PANELS. THE WIDTH OF CENTER PANELS SHALL BE GREATER THAN 20 PERCENT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

LAP SEAMS SHALL BE TIGHTLY JOINED BY GALVANIZED RIVETS OR BOLTS FOR STEEL UNITS AND ALUMINUM RIVETS AND BOLTS FOR ALUMINUM UNITS. FOR THE 60" THROUGH 96" DIAMETER APRON ENDWALL SIZES, THE REINFORCED EDGES AND CENTER PANEL SEAMS SHALL BE FURTHER REINFORCED WITH GALVANIZED STEEL OR ALUMINUM STIFFENER ANGLES. THE ANGLES SHALL BE ATTACHED BY GALVANIZED NUTS AND BOLTS FOR STEEL UNITS AND ALUMINUM NUTS AND BOLTS FOR ALUMINUM UNITS.

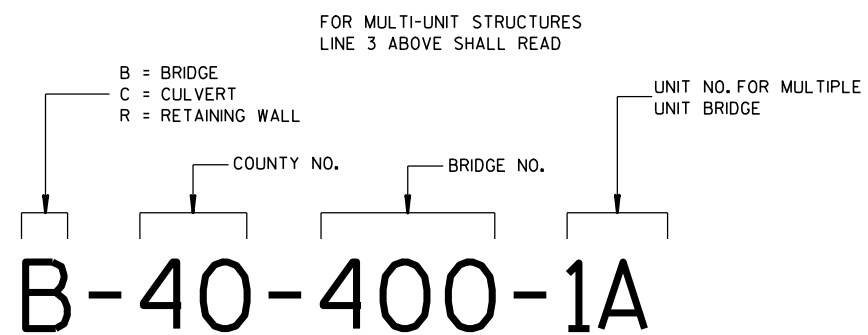
WHERE TWO OR MORE PIPES WITH APRON ENDWALLS ARE LAID ADJACENT TO EACH OTHER, THEY SHALL BE SEPARATED BY A DISTANCE SUFFICIENT TO PROVIDE A MINIMUM CLEARANCE OF 6 INCHES BETWEEN APRON ENDWALLS.

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

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



TYPICAL NAME PLATE
(BRIDGES, CULVERTS, AND RETAINING WALLS)



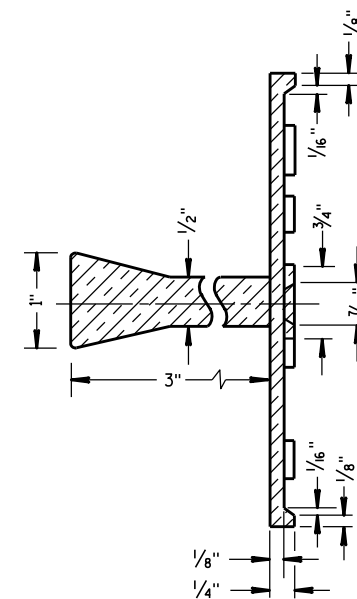
**NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES**

GENERAL NOTES

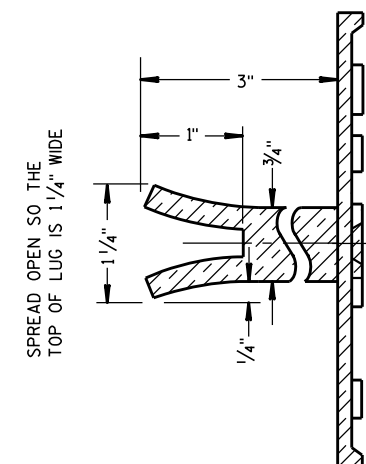
NAME PLATES TO BE INSTALLED ON BRIDGES, CULVERTS, AND RETAINING WALLS SHALL CONFORM TO THE REQUIREMENTS OF SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS.

THE BRIDGE NUMBER AND YEAR BUILT SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND YEAR BUILT.

- ① EPOXY RESIN SHALL BE FROM AN APPROVED MANUFACTURER AND USED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
- ② REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.

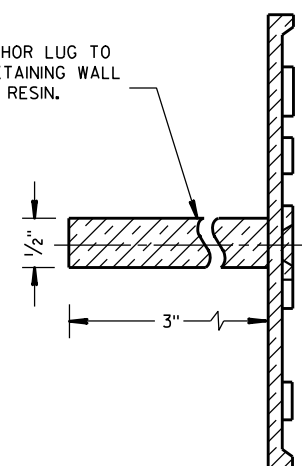


SECTION A-A



ALTERNATE LUG

- ① ADHERE ANCHOR LUG TO PRECAST RETAINING WALL WITH EPOXY RESIN.



ALTERNATE LUG
(FOR ATTACHMENT TO PRECAST STRUCTURES)

**NAME PLATE
(STRUCTURES)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

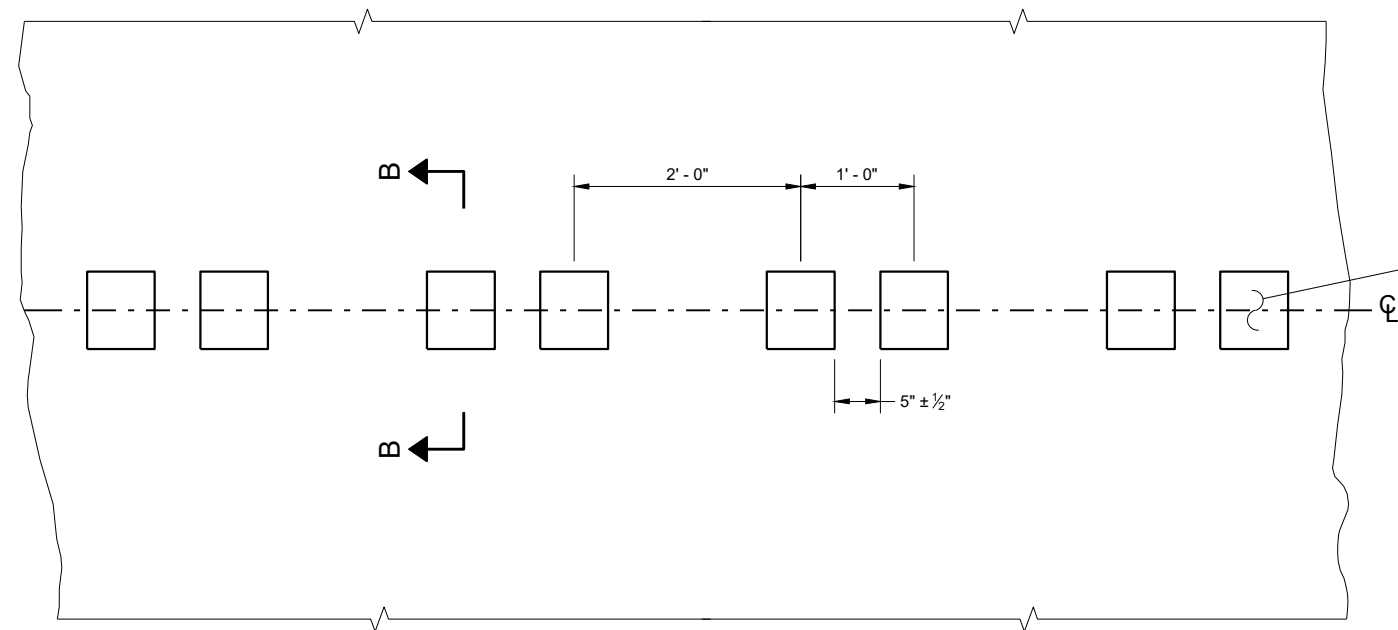
APPROVED

3/26/10
DATE

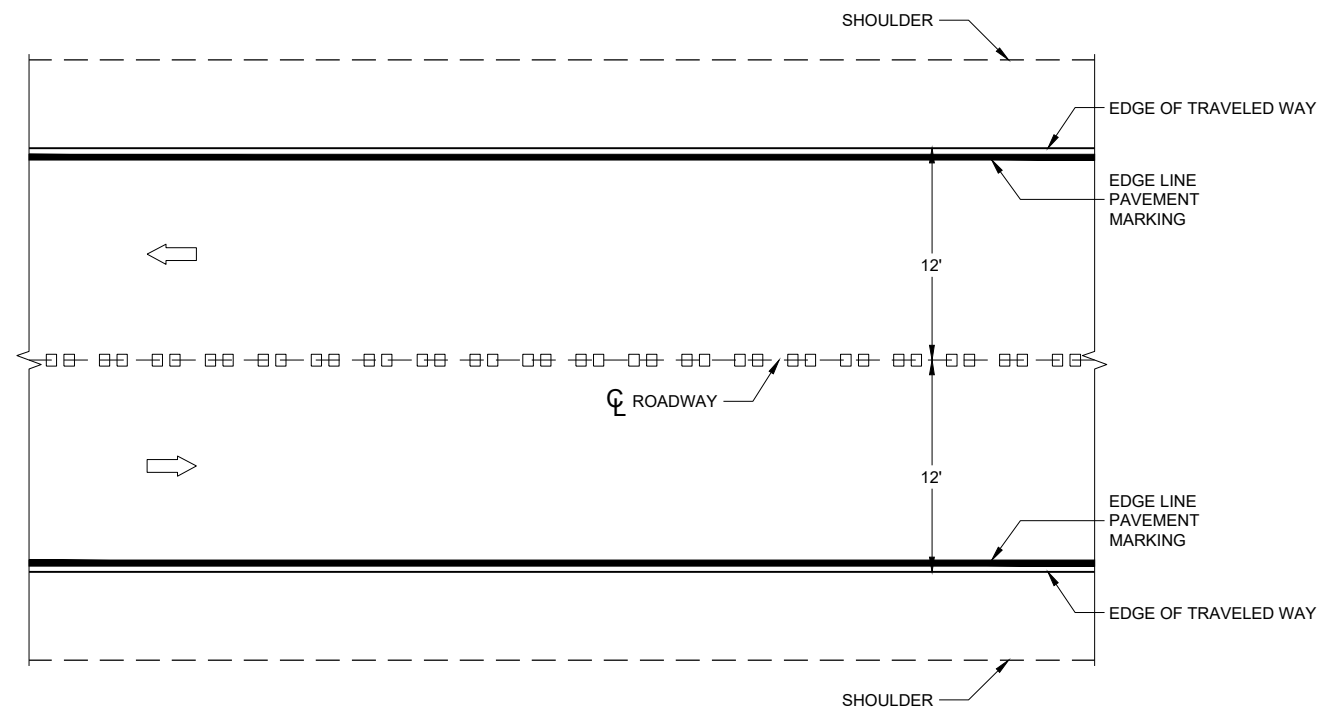
FHWA

/S/ Scot Beck
CHIEF STRUCTURAL DEVELOPER

JEER

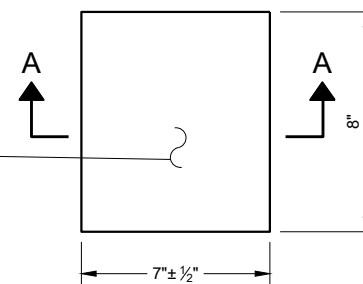


PLAN DETAIL VIEW

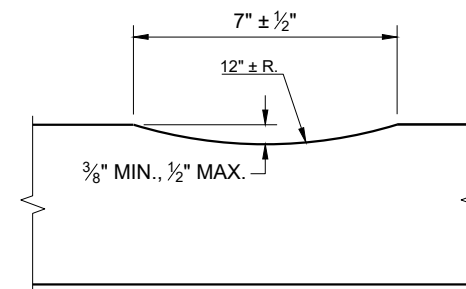


PLAN VIEW

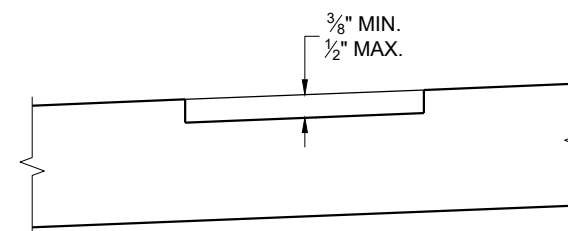
CENTERLINE RUMBLE STRIPS - ASPHALT



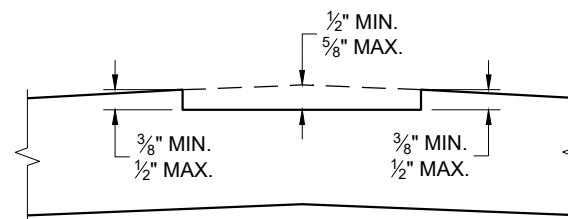
PLAN VIEW
(SINGLE GROOVE)



SECTION A - A



SECTION B - B
SUPERELEVATED ROADWAY

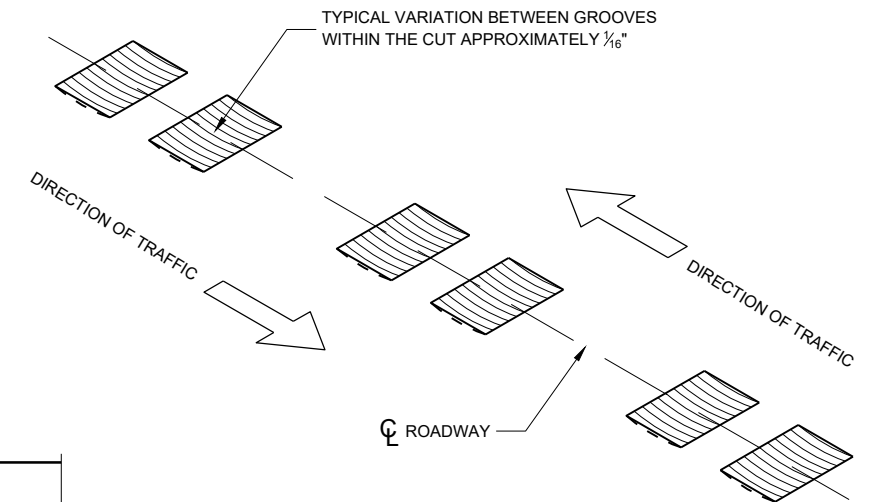


SECTION B - B
CROWNED ROADWAY

GENERAL NOTES

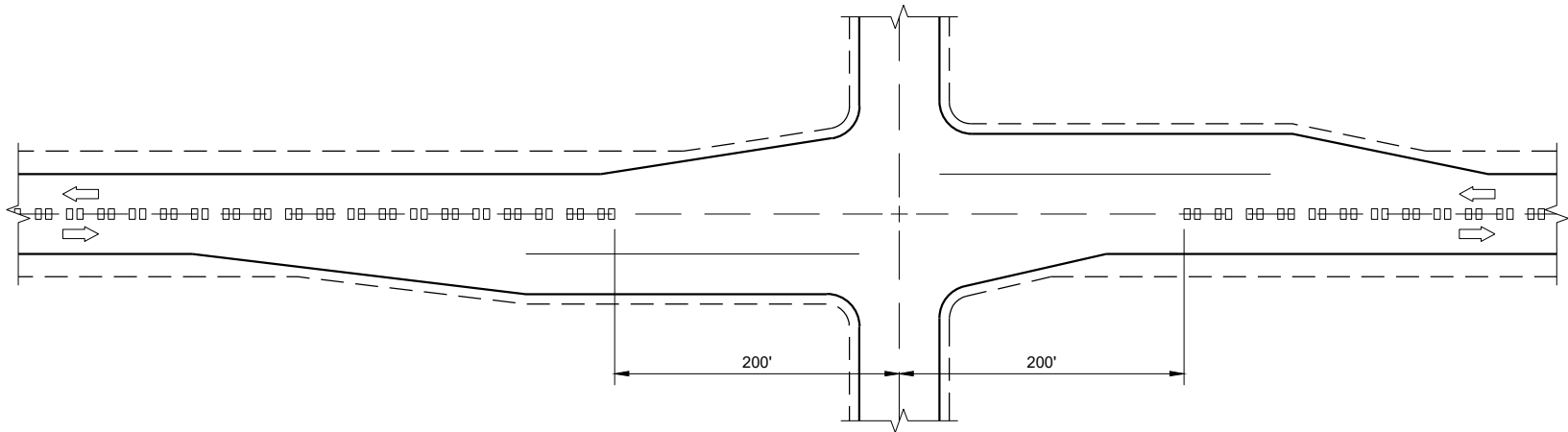
DO NOT MILL SHOULDER GROOVES THROUGH INTERSECTIONS, MARKED CROSSWALKS, NON-MOTORIZED PATH CROSSINGS, ETC. REFER TO SDD 13A11 SHEETS "d" AND "e".

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

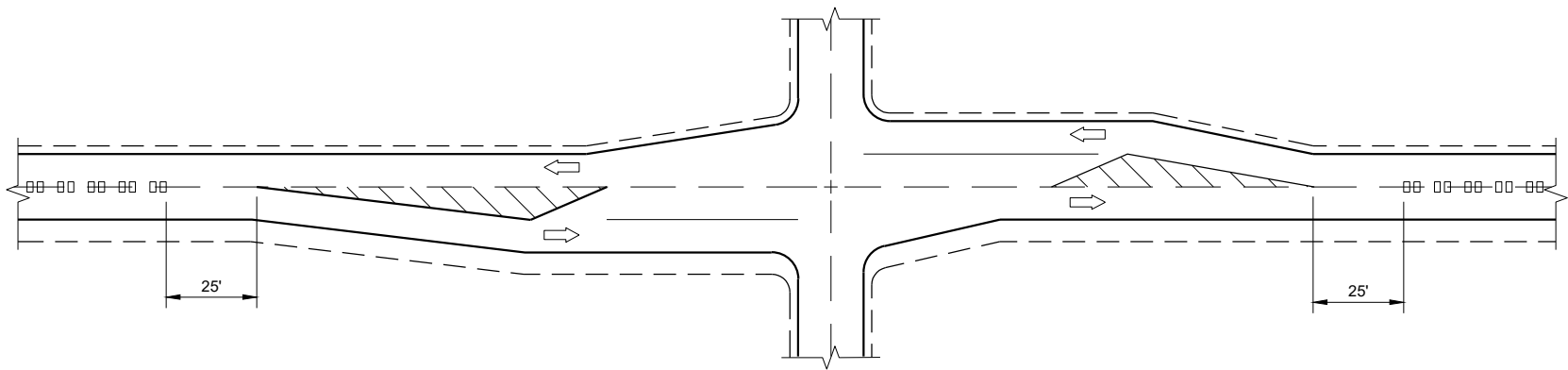


CENTERLINE RUMBLE
STRIPS - ASPHALT

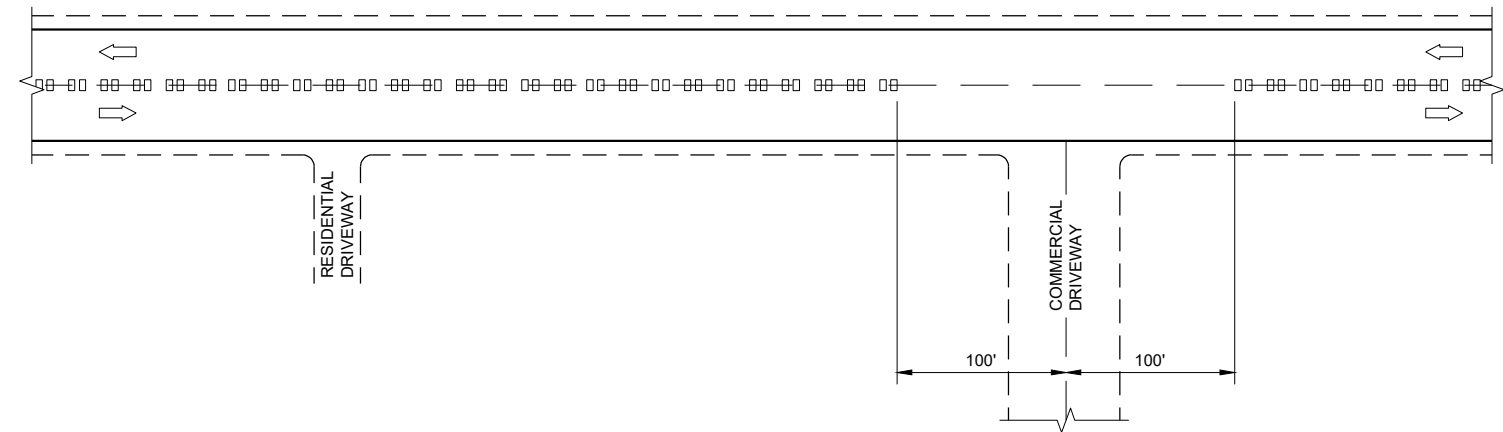
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



CENTERLINE GROOVES AT INTERSECTIONS



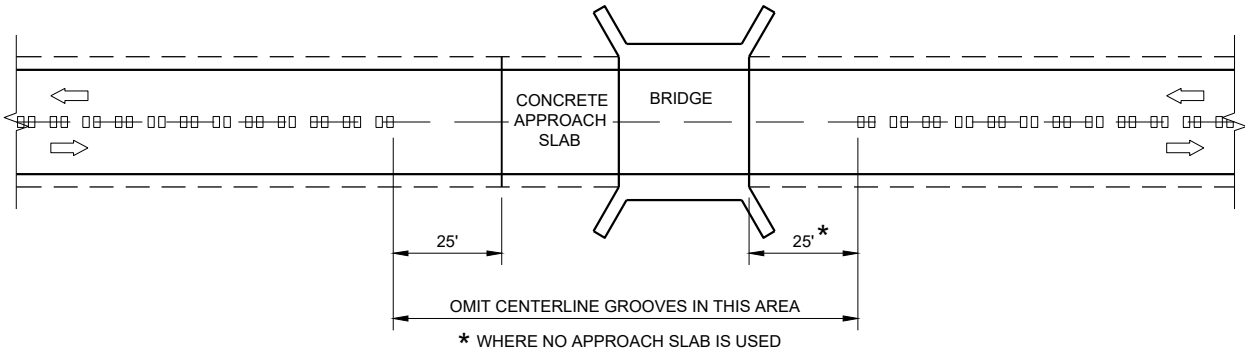
CENTERLINE GROOVES AT INTERSECTIONS
(WITH LEFT TURN LANES)



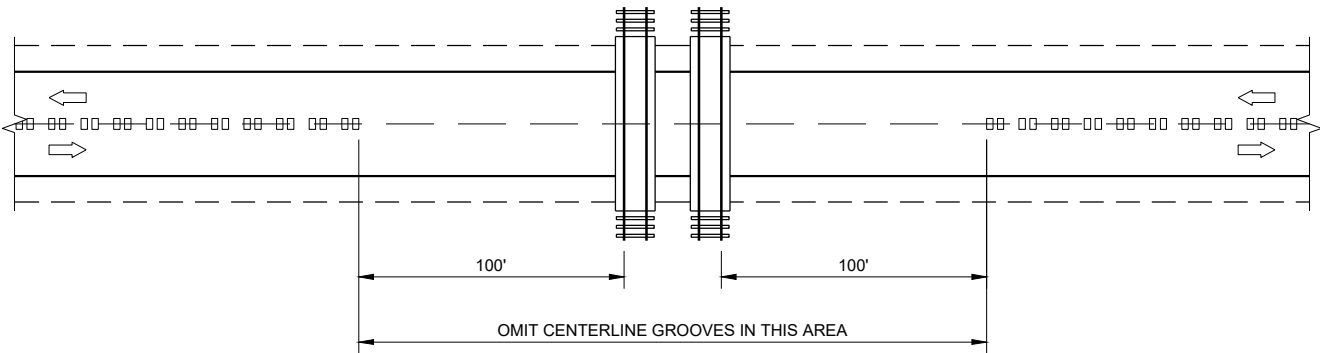
CENTERLINE GROOVES AT DRIVEWAYS^①

GENERAL NOTES

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



CENTERLINE GROOVES AT BRIDGES

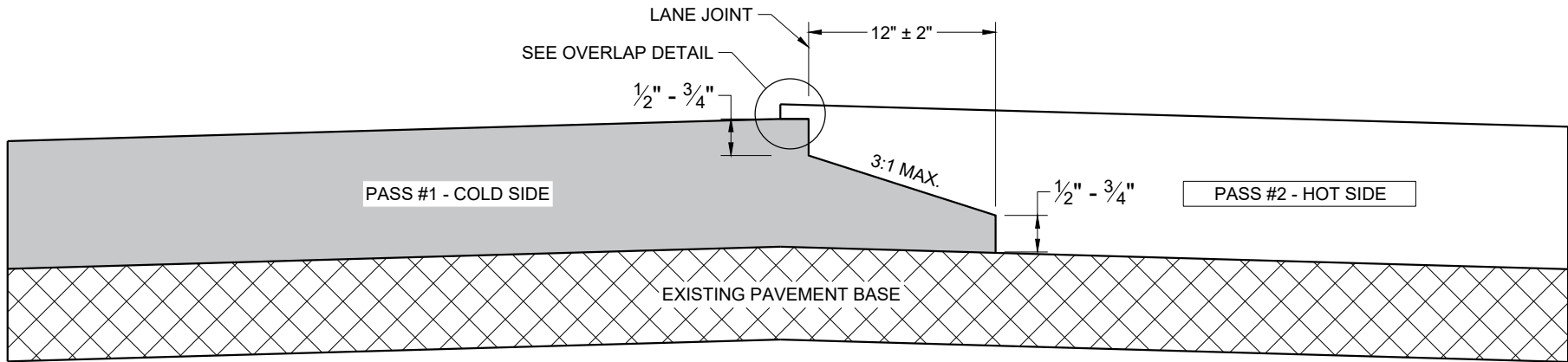


CENTERLINE GROOVES AT RAILROADS

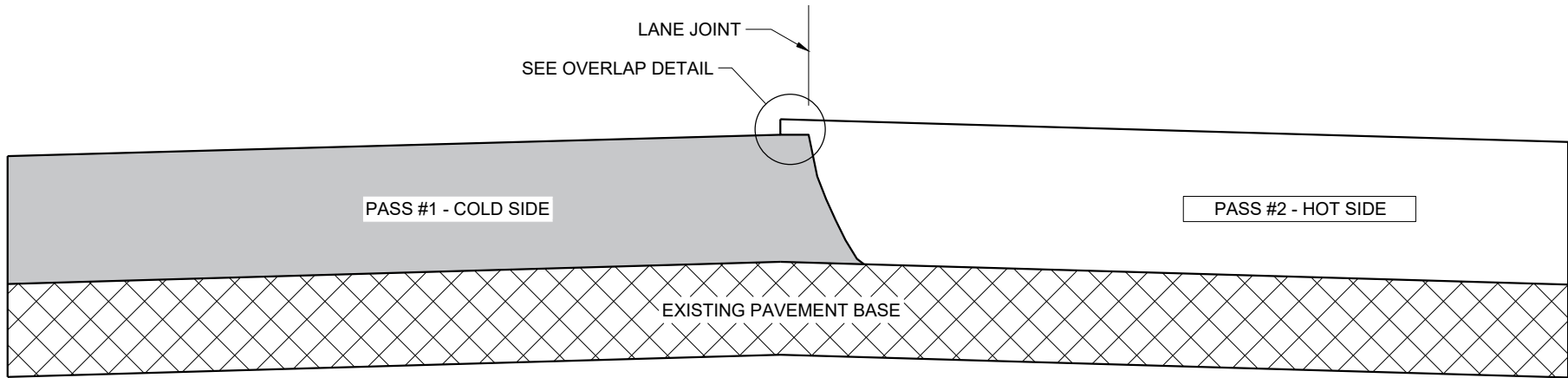
CENTER LINE
RUMBLE STRIPS -
INTERSECTIONS, DRIVEWAYS,
BRIDGES, RAIL ROADS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

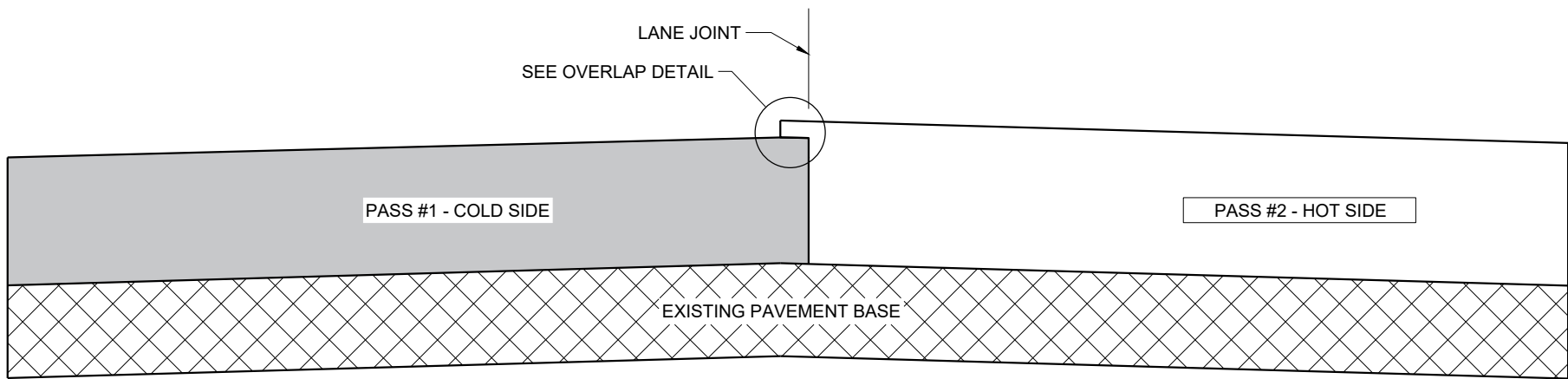
APPROVED
May 2023 /S/ John Jenkins
DATE ROADWAY STANDARDS DEVELOPMENT ENGINEER 40
FHWA



**TYPICAL PAVEMENT CROSS SECTION
NOTCHED WEDGE JOINT**



**TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT**



**TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT (MILLED)**

GENERAL NOTES

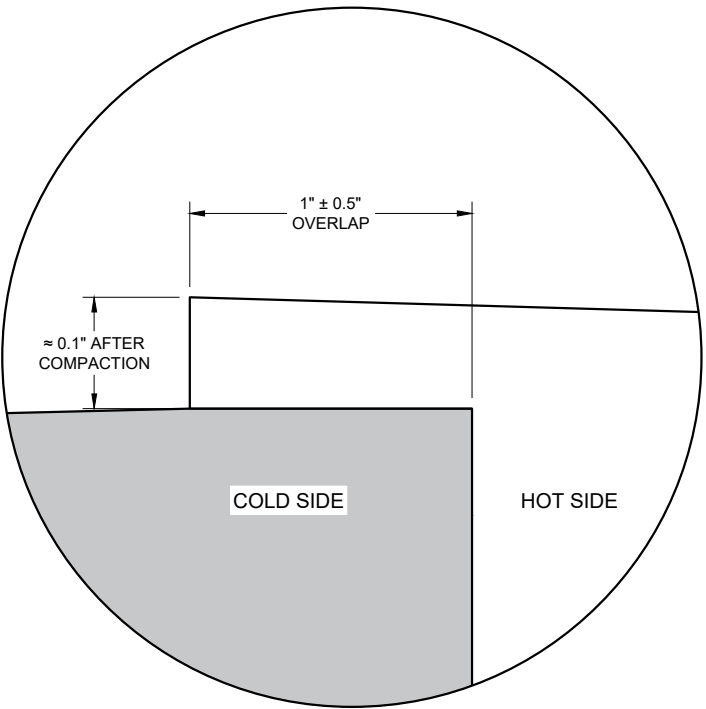
IN ADDITION TO THE DETAILS PROVIDED IN THIS DRAWING, CONFORM TO STANDARD SPECIFICATION 450.3.2.8 FOR WHEN A NOTCHED WEDGE JOINT IS REQUIRED AND FOR GENERAL JOINT CONSTRUCTION REQUIREMENTS.

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

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

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

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



OVERLAP DETAIL (TYPICAL)

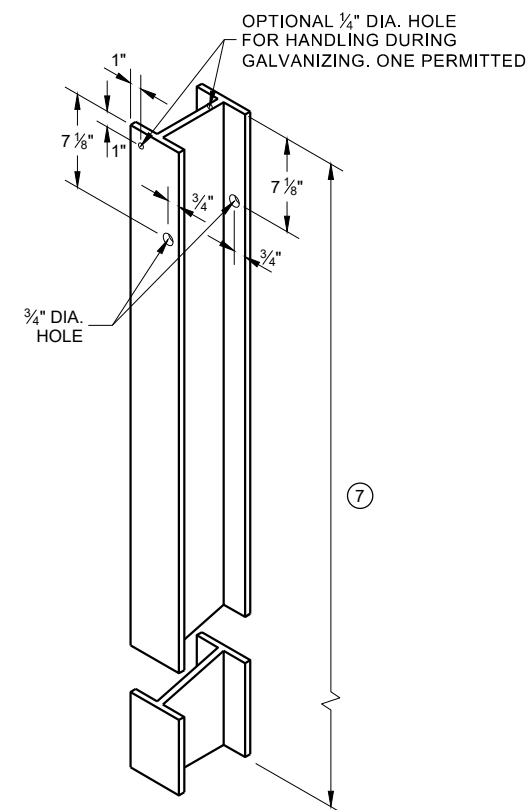
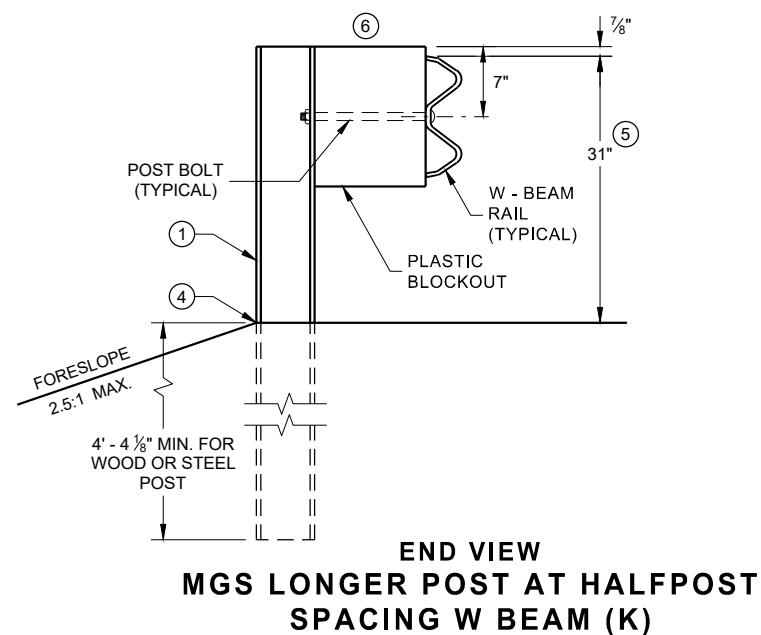
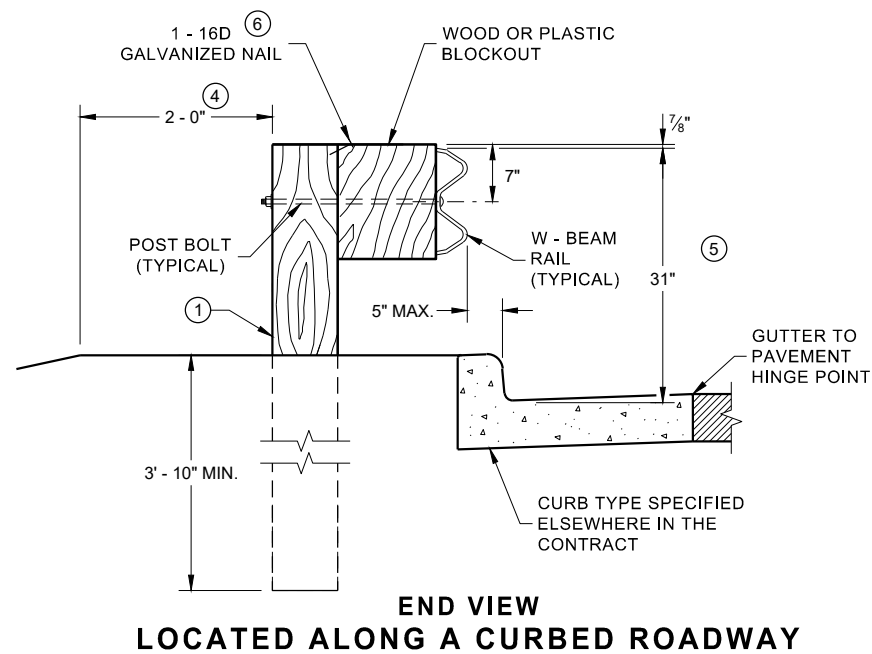
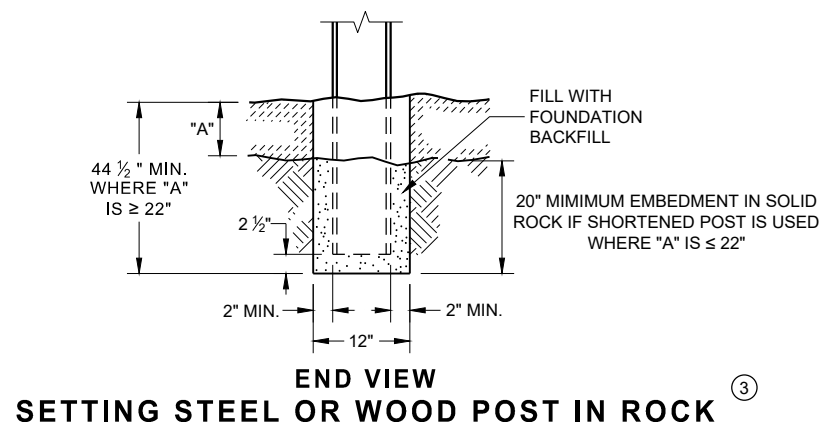
HMA LONGITUDINAL JOINTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

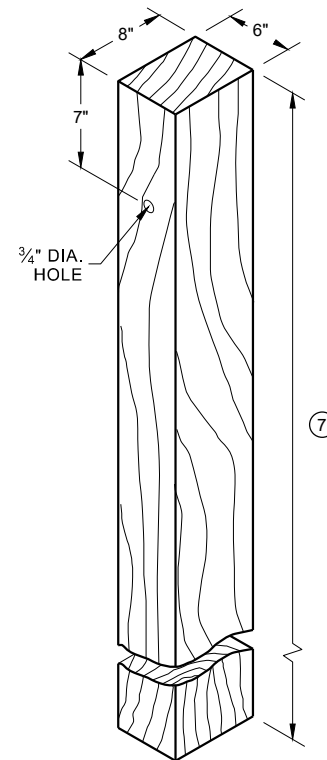
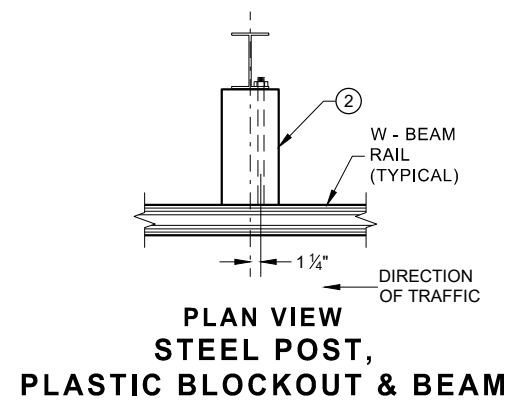
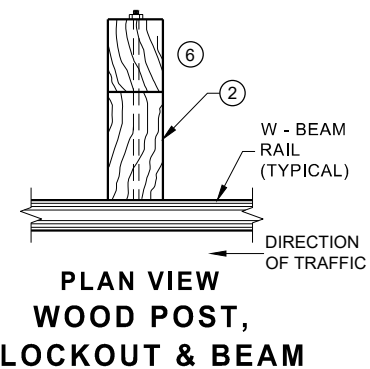
APPROVED
November 2020 /S/ Steven Hefel
DATE HMA PAVEMENT ENGIN 41

FHWA

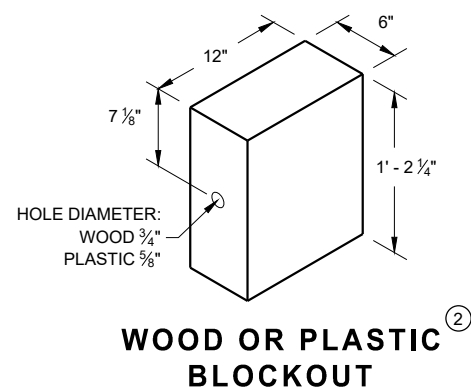
- WOOD OR STEEL POSTS (w6X9 OR w6X8.5) MAY BE USED. DO NOT INTERMIX WOOD AND STEEL POSTS. INSTALL STEEL POSTS WITH HOLES ON APPROACHING TRAFFIC SIDE.
- USE WOOD OR APPROVED PLASTIC BLOCKOUTS. WOOD BLOCKOUTS MAY BE CONSTRUCTED OUT OF TWO OR MORE WOOD BLOCKOUTS. SEE ALTERNATE WOOD BLOCKOUT DETAIL. DIMENSIONS OF APPROVED PLASTIC BLOCKOUTS MAY VARY.
- IF ROCK IS ENCOUNTERED DURING EXCAVATION, PROVIDE A HOLE 12 INCHES IN DIAMETER EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2 1/2" INCHES OF GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE. CUT THE POSTS THE TO LENGTH AMD INSTALL. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT. BACKFILL IS TO BE FREE OF LARGE ROCKS.
- WHEN THE DISTANCE FROM BACK OF POST TO SHOULDER HINGE POINT IS LESS THAN 2 FEET INSTALL LONGER POST AT HALF POST SPACING (K).
- 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".
- 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.
- 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)



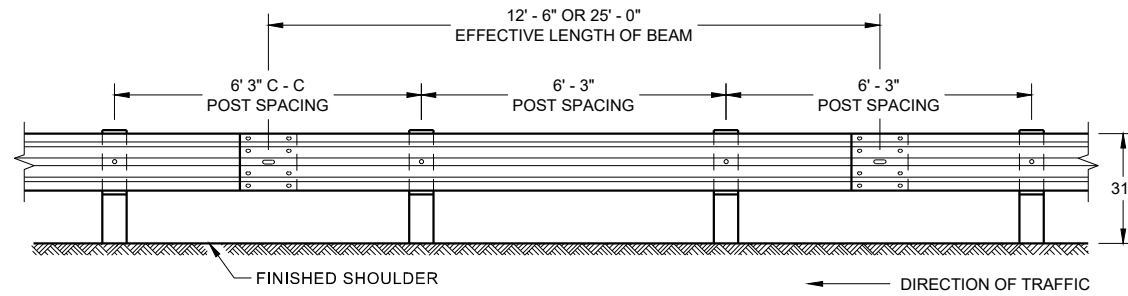
WOOD POST (6" X 8") NOMINAL



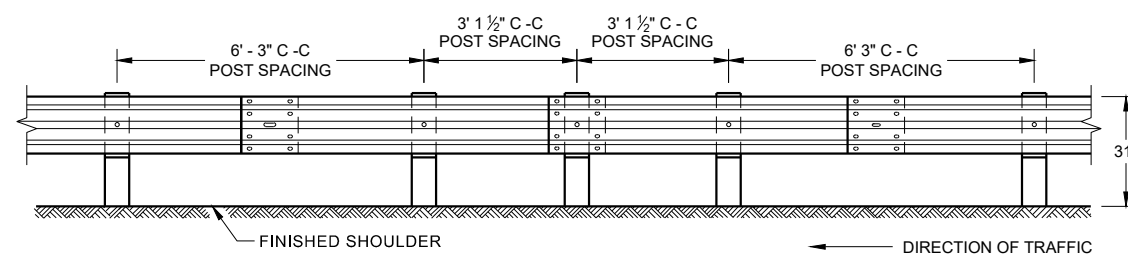
WOOD OR PLASTIC BLOCKOUT

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

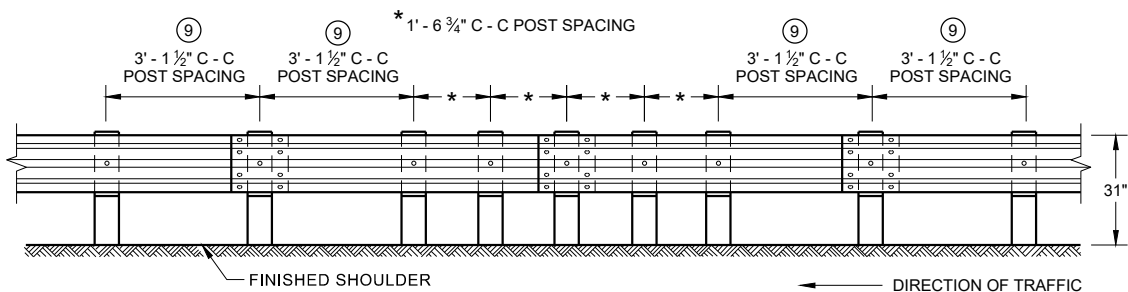
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



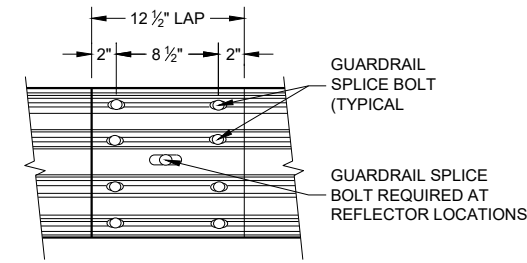
**FRONT VIEW
POST SPACING STANDARD INSTALLATION**



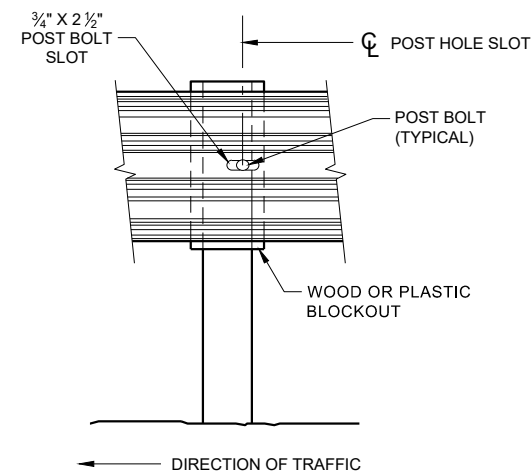
**FRONT VIEW
HALF POST SPACING (HS) AND
HALF POST SPACING WITH LONGER POSTS (K)**



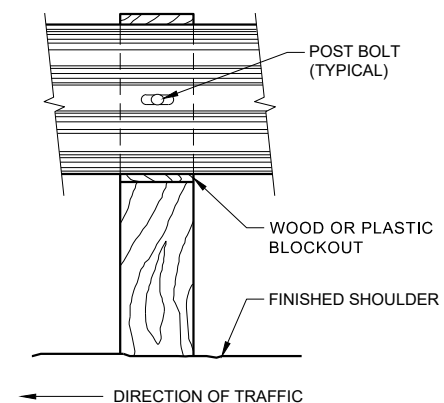
**FRONT VIEW
QUARTER POST SPACING (QS)**



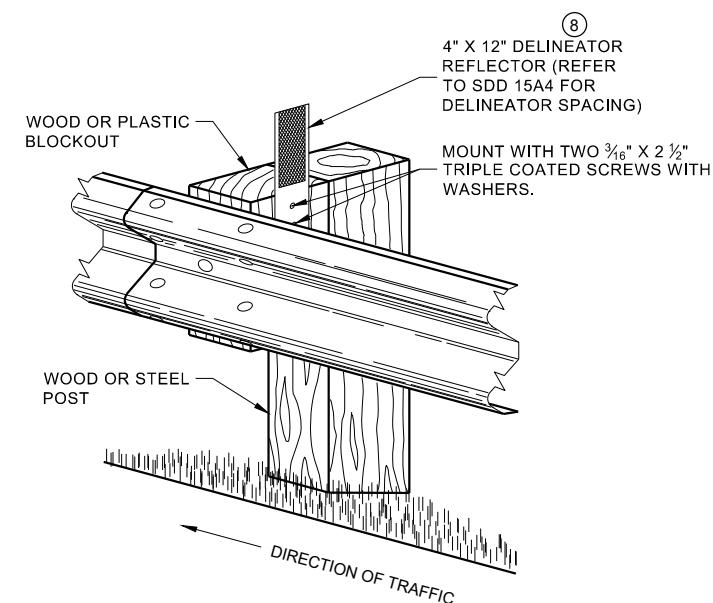
**FRONT VIEW
MID-SPAN BEAM SPLICE**



FRONT VIEW AT STEEL POST



FRONT VIEW AT WOOD POST



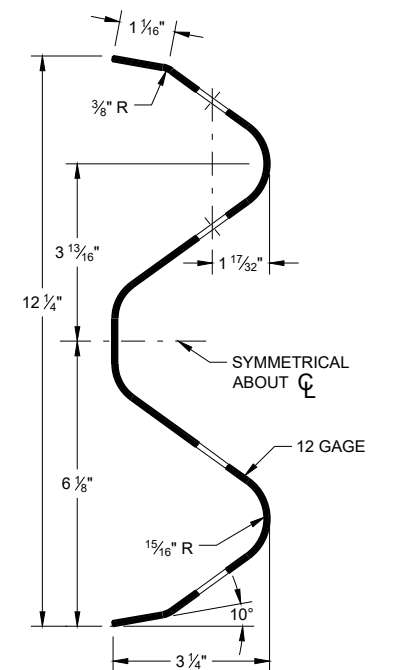
**ONE SIDED REFLECTOR DETAIL
AND TYPICAL INSTALLATION**

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

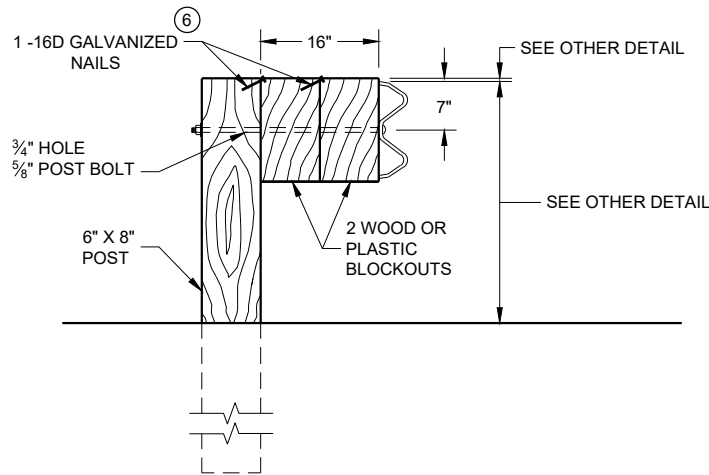
GUARD RAIL SPLICE BOLTS ARE A $\frac{3}{8}$ " DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES $\frac{3}{8}$ " DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.



SECTION THRU W-BEAM RAIL

**MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL**

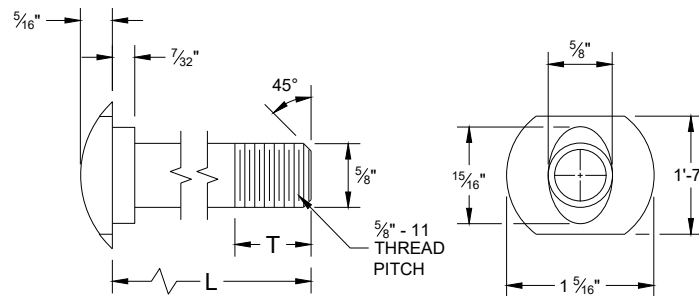
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION 43



DETAIL FOR 16" BLOCKOUT DEPTH

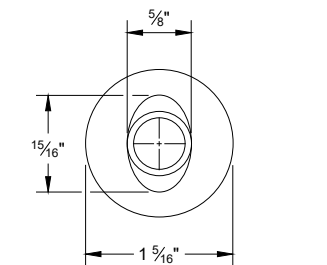
IT IS ACCEPTABLE TO USE BLOCKOUTS UP TO 16" DEEP TO INCREASE THE POST OFFSET TO AVOID UNDERGROUND OBSTACLES. THERE IS NO LIMIT TO THE NUMBER OF POSTS THAT CAN HAVE ADDITIONAL BLOCKOUTS UP TO 16" DEEP.

- NOTE:
1. ALL FILLETS SHALL HAVE A MINIMUM RADIUS OF $\frac{3}{16}$ ".
 2. IF THE BOLT EXTENDS MORE THAN $\frac{1}{4}$ " FROM THE NUT THE BOLT SHOULD BE TRIMMED BACK.

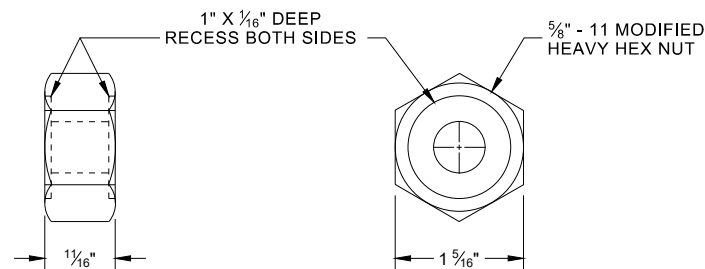


POST BOLT TABLE

L	T (MIN.)
1 1/4"	1 1/8"
2"	1 3/4"
10"	4"
14"	4 1/16"
18"	4"
21"	4 1/16"
25"	4"

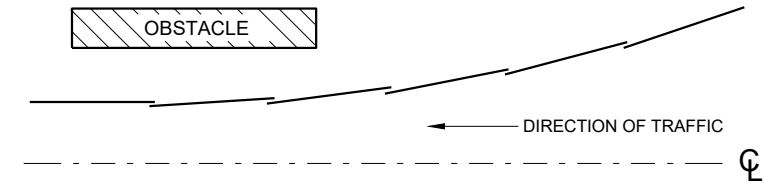


ALTERNATE BOLT HEAD

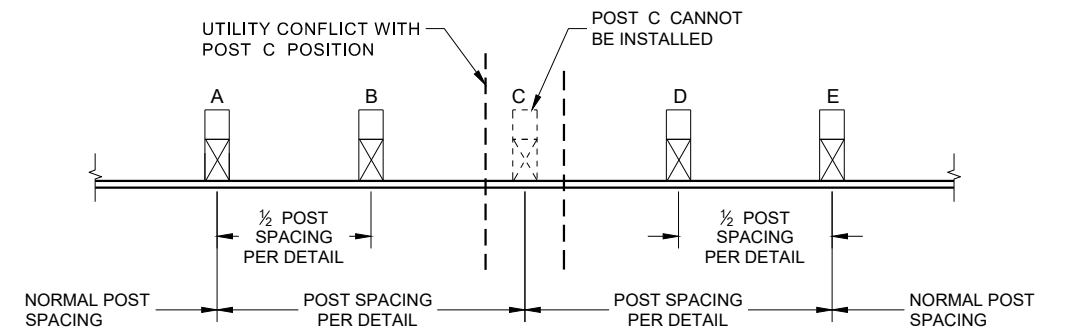


POST BOLT, SPLICE BOLT AND RECESS NUT

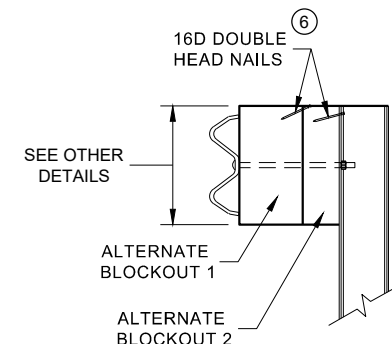
- 6 WHEN USING STEEL POST AD WOOD BLOCKOUTS, INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.



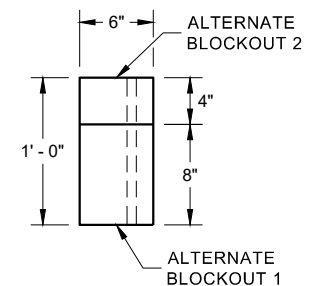
PLAN VIEW
BEAM LAPPING DETAIL



POST DRIVING FOR CONTINUOUS
UNDERGROUND OBSTRUCTION



SIDE VIEW



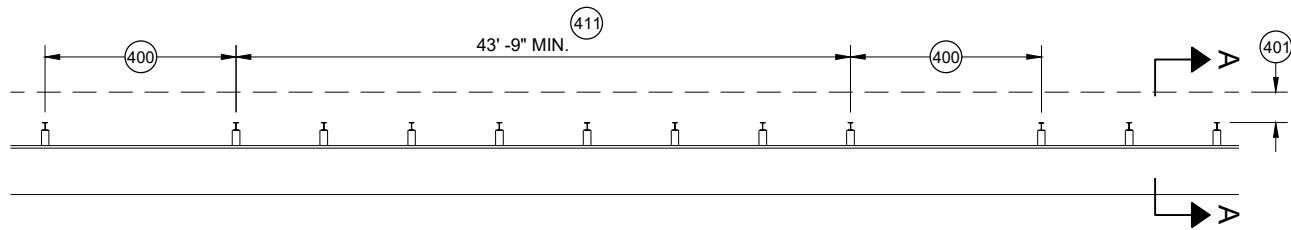
PLAN VIEW

ALTERNATE WOOD
BLOCKOUT DETAIL

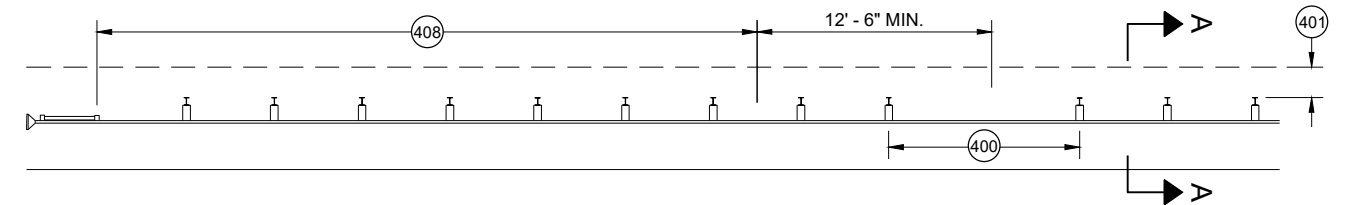
- NOTES: UNDER SPECIAL CIRCUMSTANCES, SUCH AS AVOIDING OBSTACLES THAT ARE NOT RELOCATED, IT IS ACCEPTABLE TO INSTALL ADDITIONAL BLOCKOUTS TO OBTAIN UP TO 36" DEPTH FOR ONE OR TWO POSTS IN A SECTION OF GUARDRAIL.
- DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

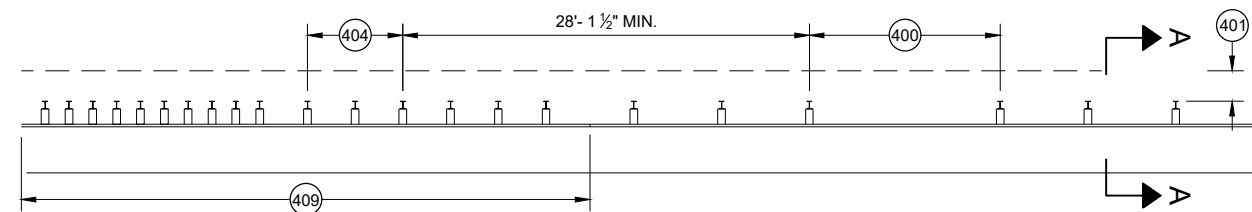
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



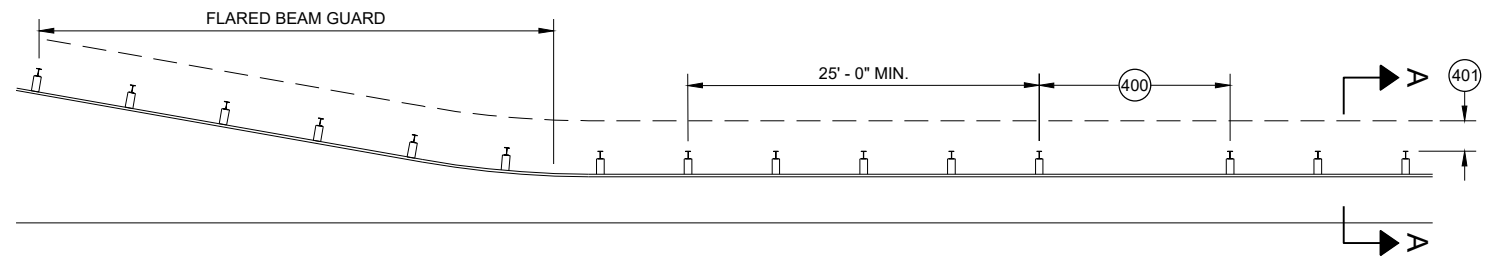
MISSING POST IN MGS GUARDRAIL



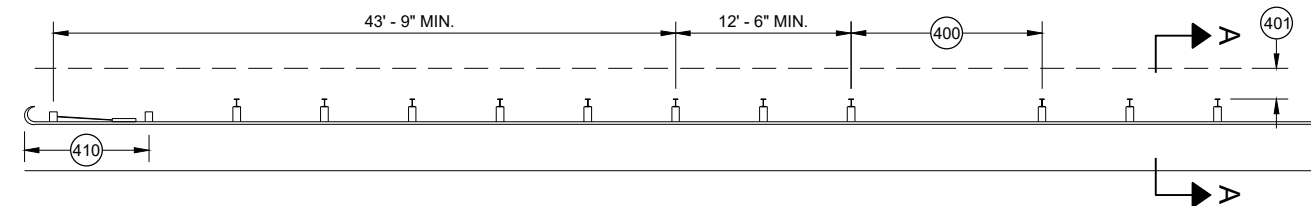
MISSING POST IN MGS GUARDRAIL NEAR EAT



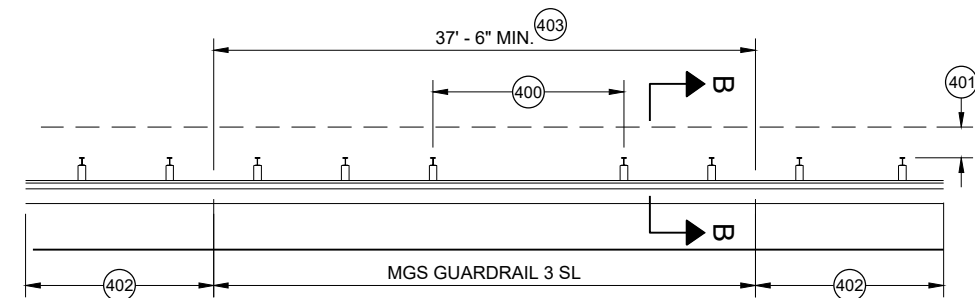
MISSING POST IN MGS GUARDRAIL NEAR AN APPROACH TRANSITION



MISSING POST IN MGS GUARDRAIL NEAR FLARED BEAM GUARD

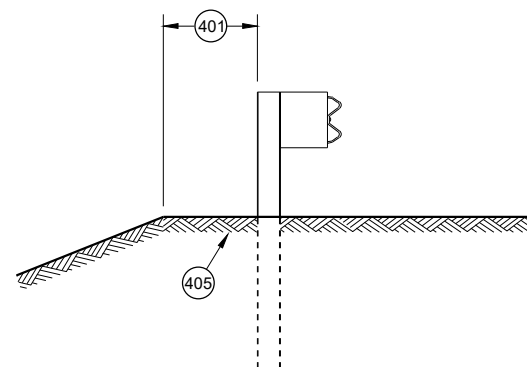


MISSING POST IN MGS GUARDRAIL NEAR A TYPE 2 END TERMINAL

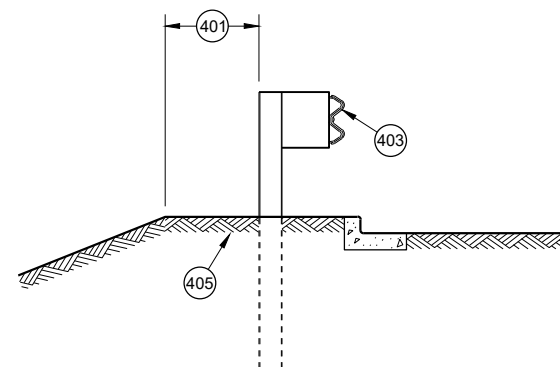


MISSING POST IN SHORT SPAN MGS GUARDRAIL NEAR CURB (SL)

- (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 /S/ Rodney Taylor
DATE ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR

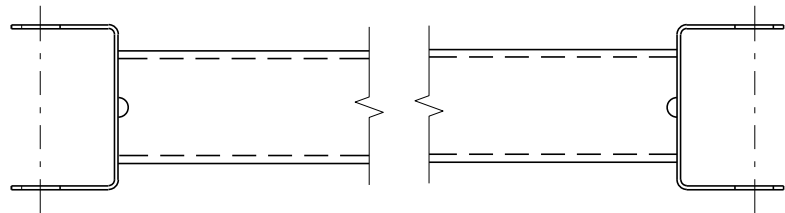
FHWA

- (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.

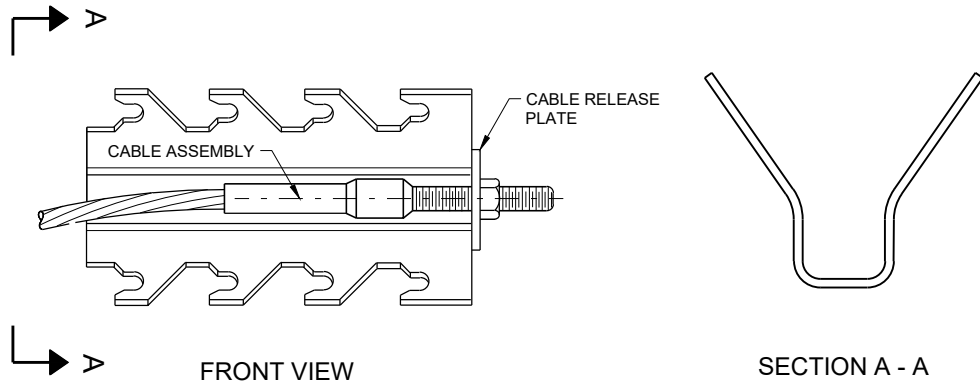
THE CENTER OF THE UPPER 3 1/2" DIAMETER HOLE ON POST NUMBER 3 THROUGH POST 9 IS TO BE FLUSH WITH THE GROUND LINE UP TO A MAXIMUM OF 2" ABOVE GROUND LINE. WOOD BLOCKS ON POSTS NUMBERED 3 THROUGH 9 MAY BE ADJUSTED UP TO 3" ABOVE THE TOP OF POST.

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION 46

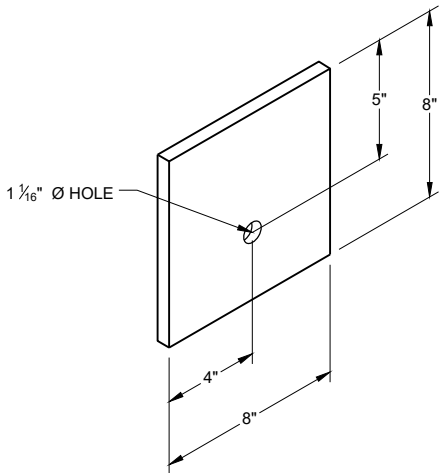


GENERIC GROUND STRUT⁹ E

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



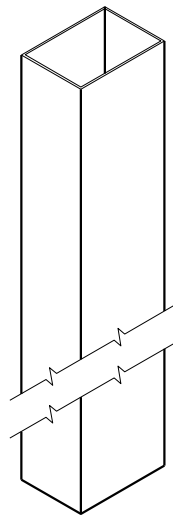
GENERIC ANCHOR CABLE BOX⁹ E



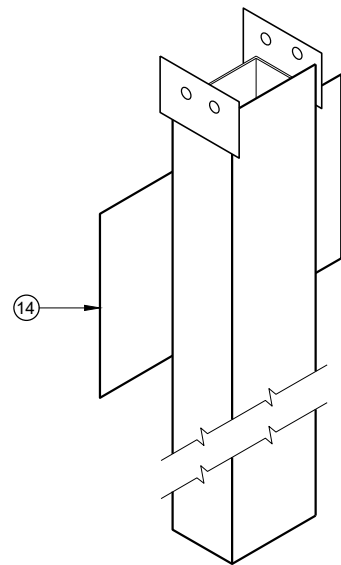
BEARING PLATE⁶ E

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

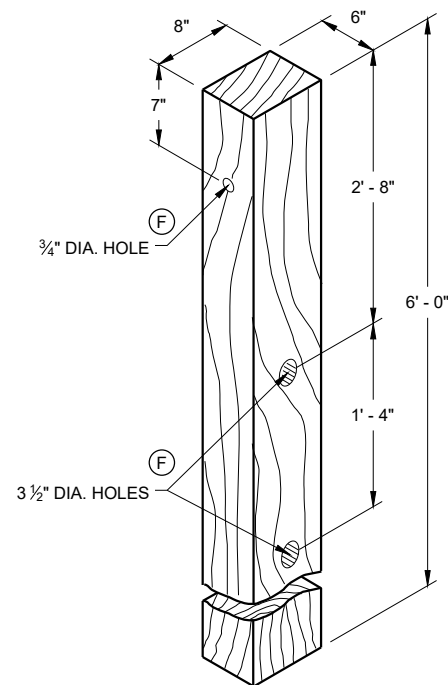
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



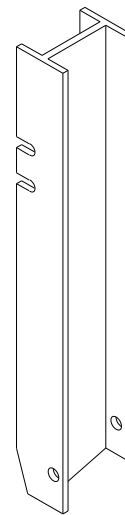
UPPER POST NO. 1 ⁽¹⁾ (E)



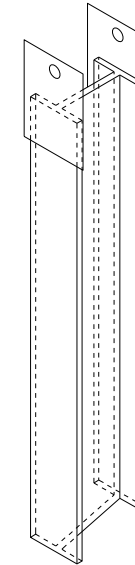
LOWER POST NO. 1 ⁽²⁾ (E)



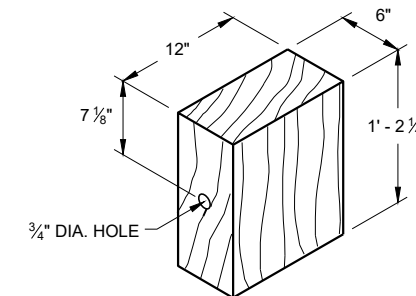
WOOD CRT POST ⁽³⁾ (E)
POSTS NUMBER 3-9



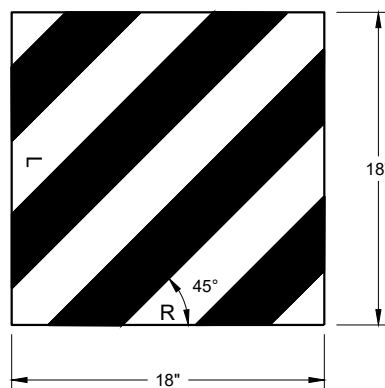
UPPER POST NO. 2 ⁽¹⁵⁾ (E)



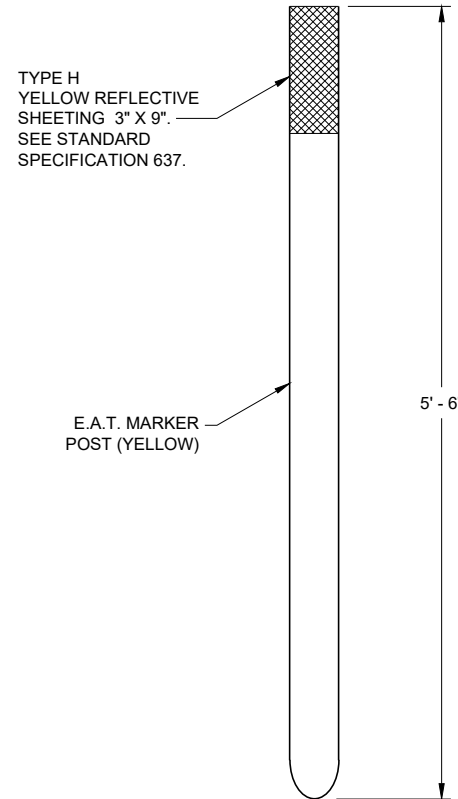
LOWER POST NO. 2 ⁽¹⁶⁾ (E)



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



REFLECTIVE SHEETING DETAIL ^(E)

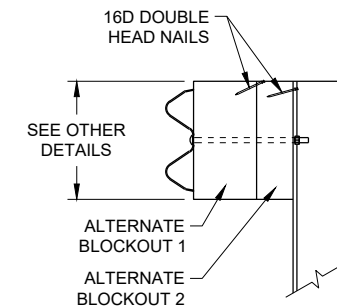


FRONT VIEW

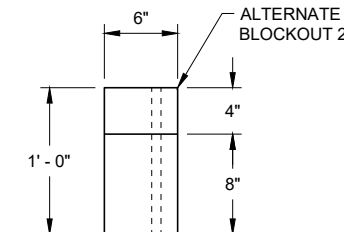


SIDE VIEW

E.A.T. MARKER POST ⁽¹³⁾



SIDE VIEW



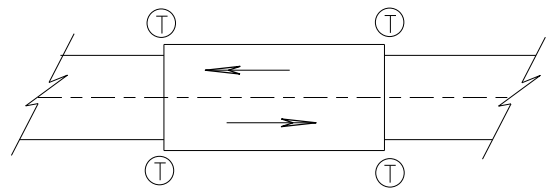
TOP VIEW

ALTERNATE WOOD
BLOCKOUT DETAIL

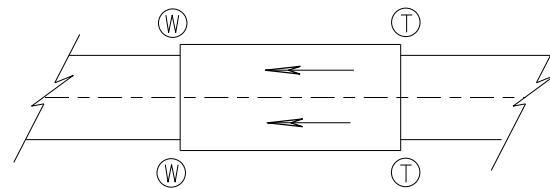
**MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7/2018 DATE /S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR
FHWA 48



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.

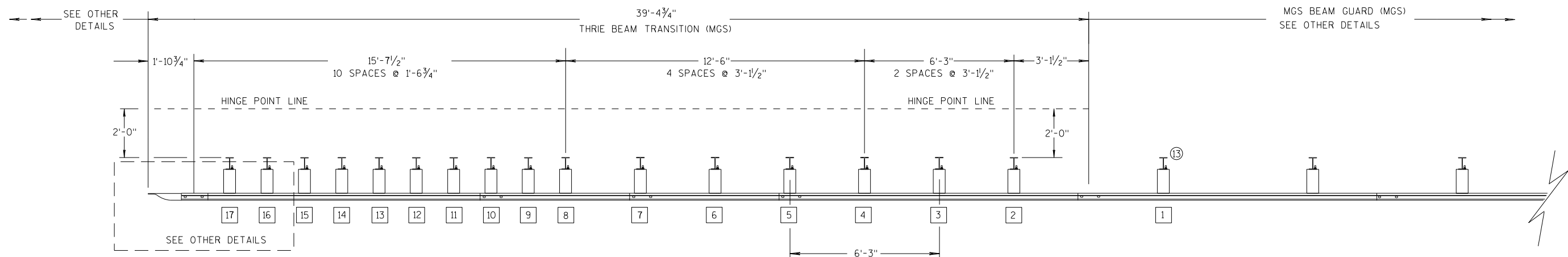
SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

POST 2 THROUGH 17 USES STEEL POST ONLY

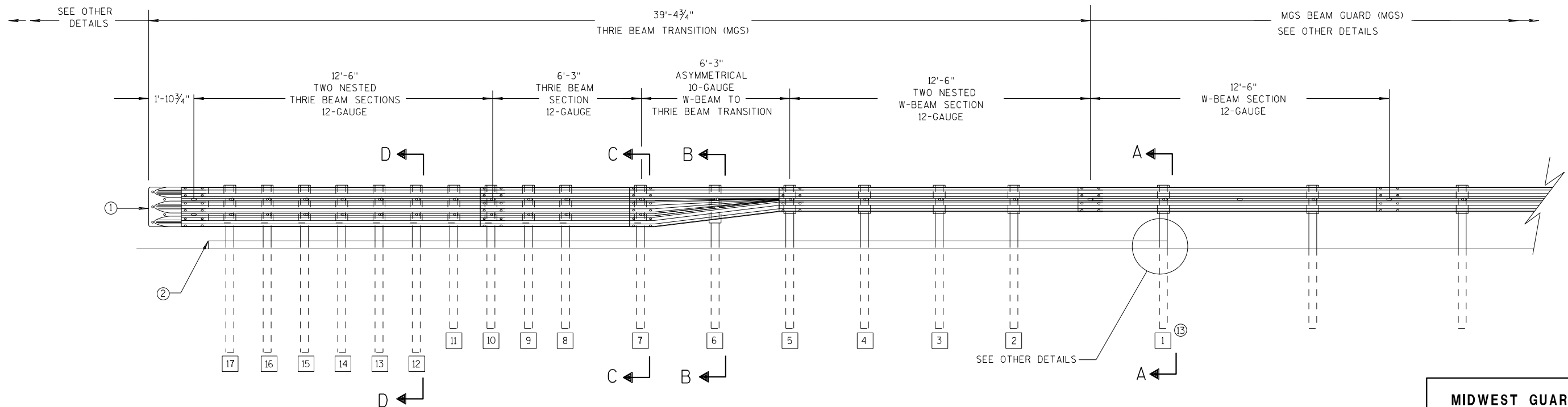
① BRIDGE RAILING TYPE "W" DOES NOT REQUIRE A TERMINAL CONNECTOR.

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

6

- S.D.D. 14 B 45-5b**

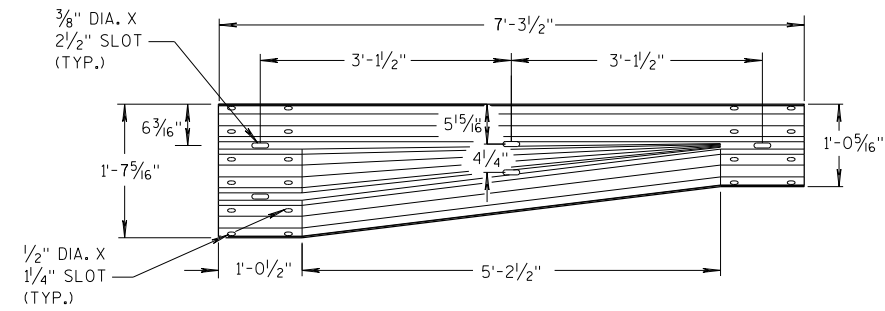


S.D.D. 14 B 45-5b

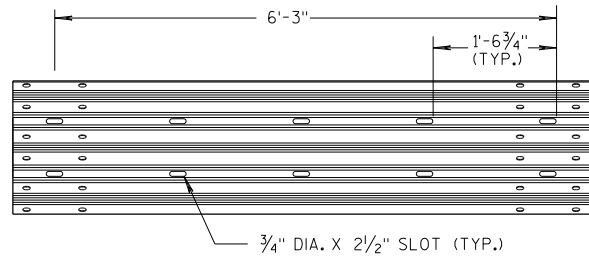


S.D.D. 14 B 45-5b

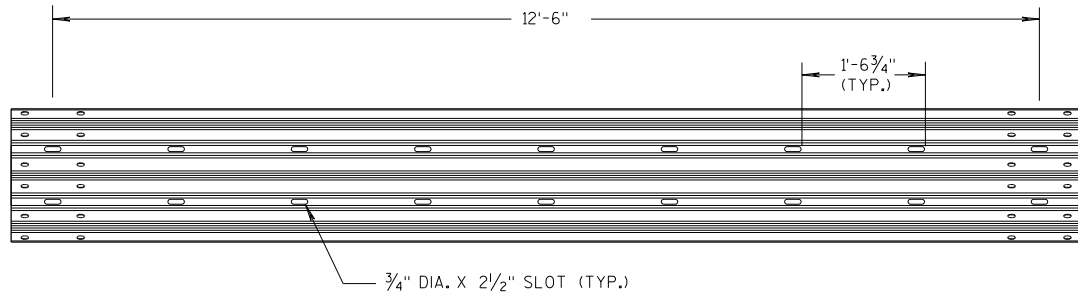




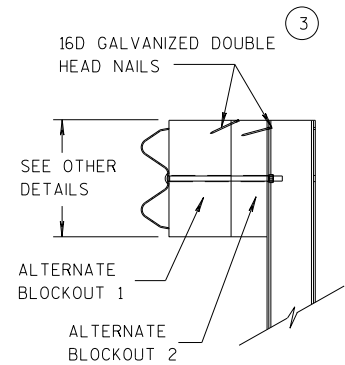
W-BEAM TO THRIE BEAM TRANSITION SECTION



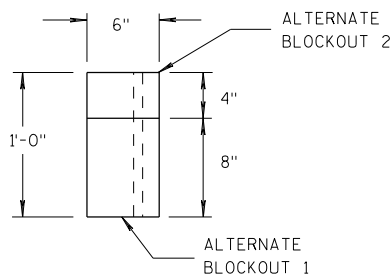
6'-3" THRIE BEAM SECTION



12'-6" THRIE BEAM SECTION

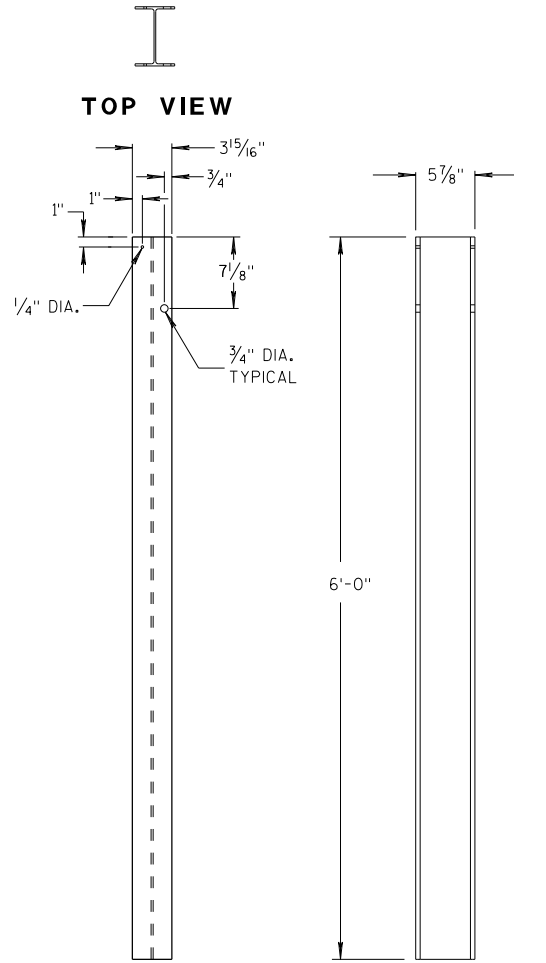


SIDE VIEW



TOP VIEW

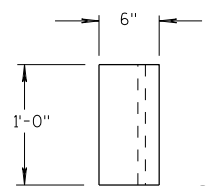
ALTERNATE WOOD BLOCKOUT DETAIL



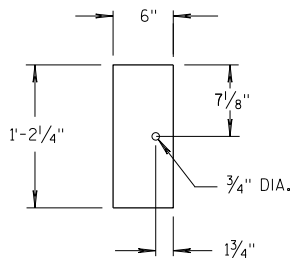
FRONT VIEW

SIDE VIEW

STEEL POSTS 1-5

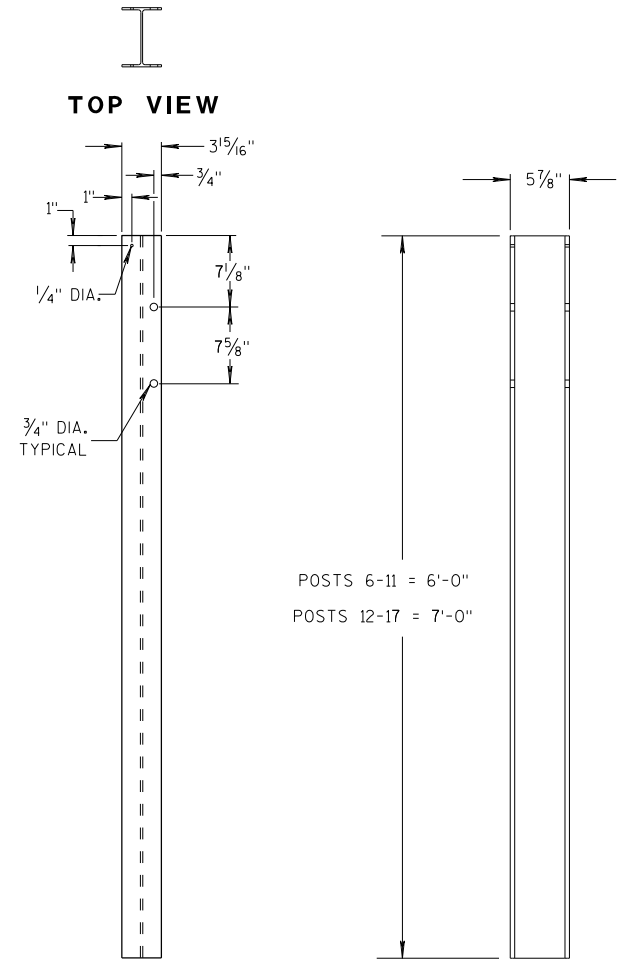


TOP VIEW



FRONT VIEW

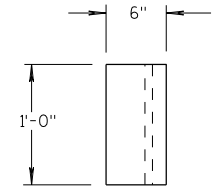
BLOCKOUT POSTS 1-5



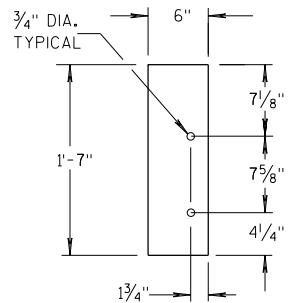
FRONT VIEW

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.

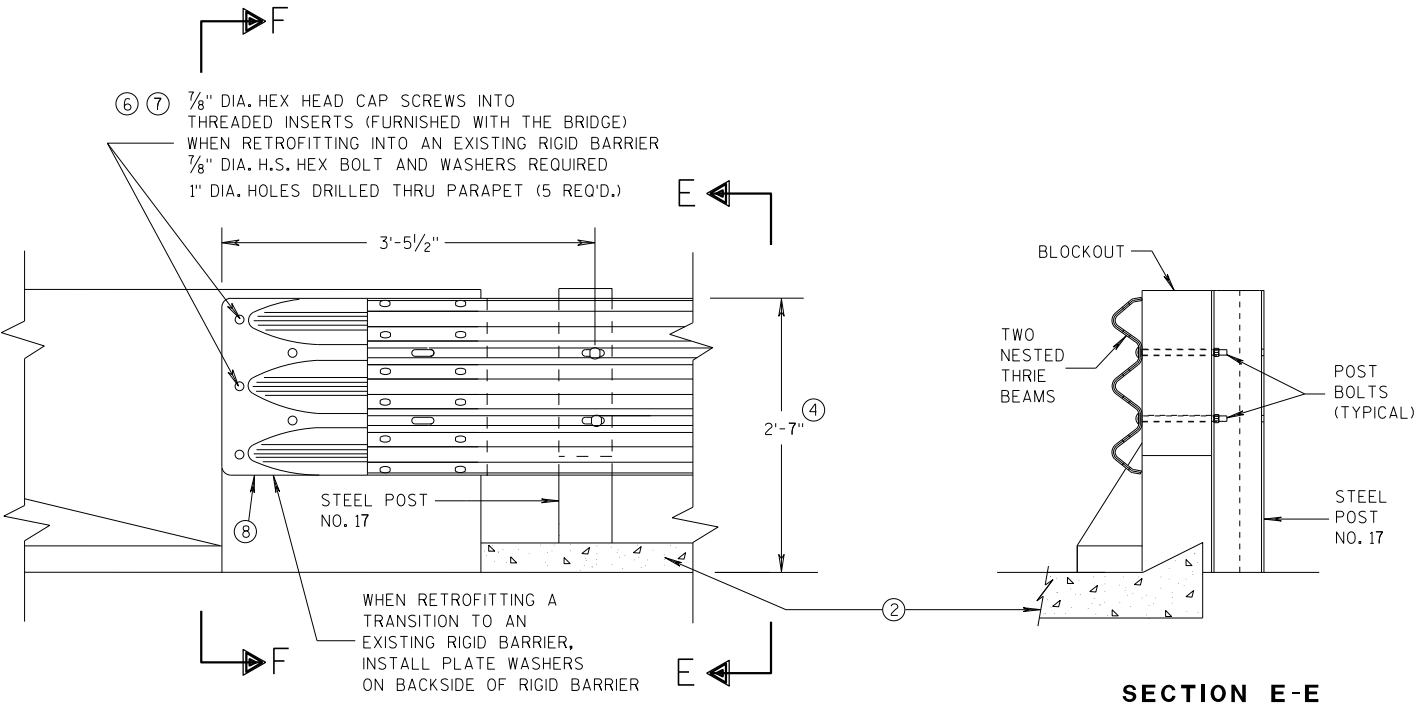
③ WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

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.

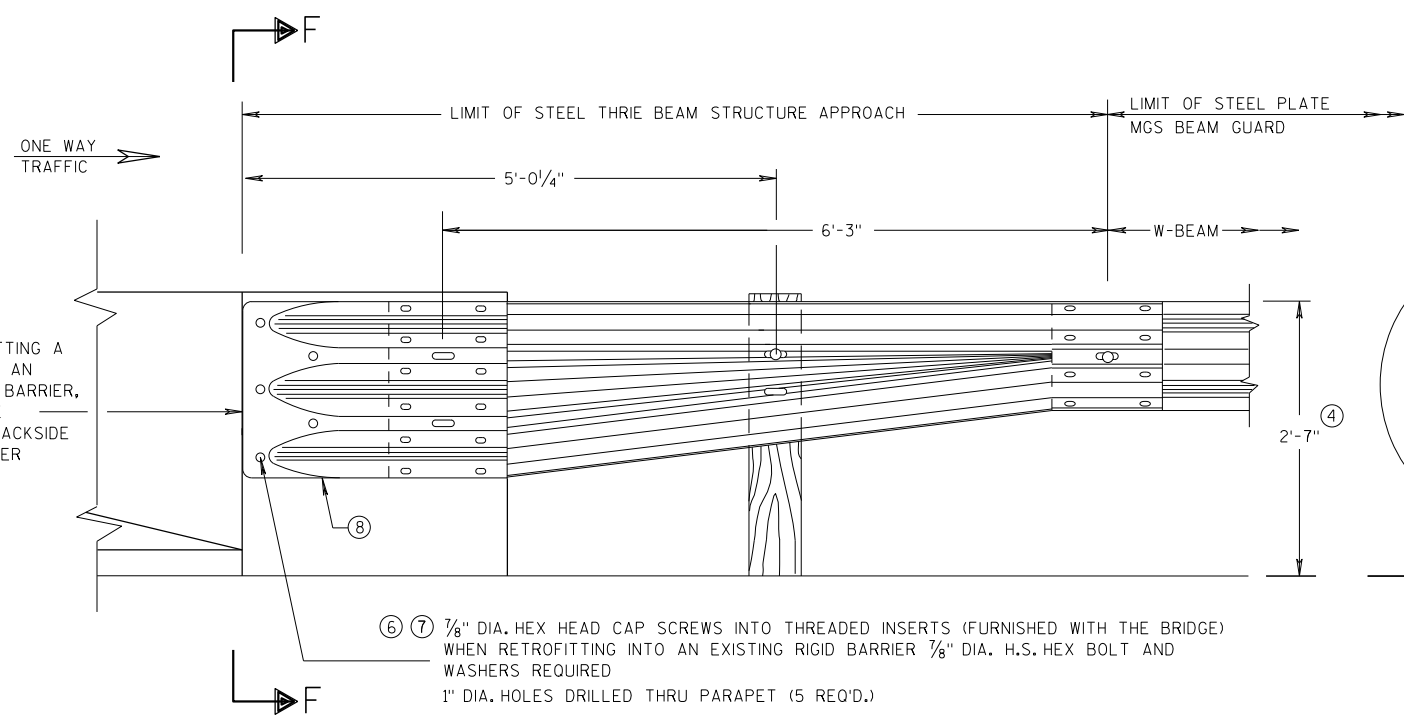
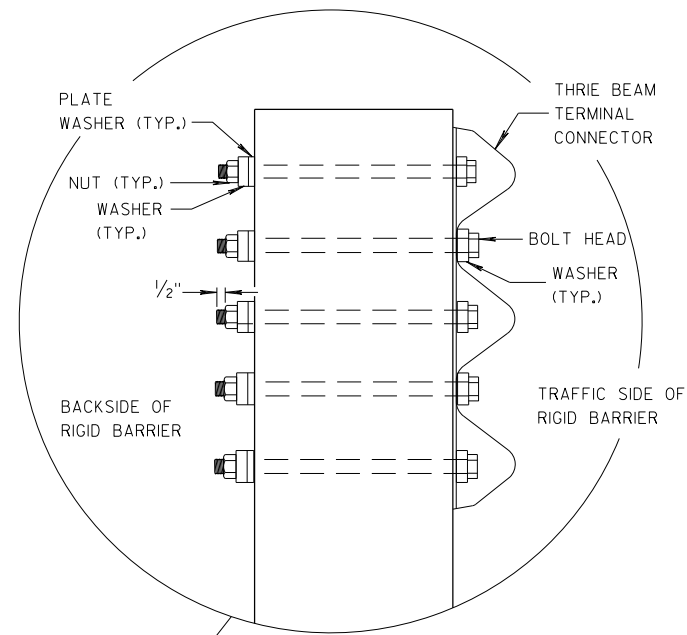
**MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

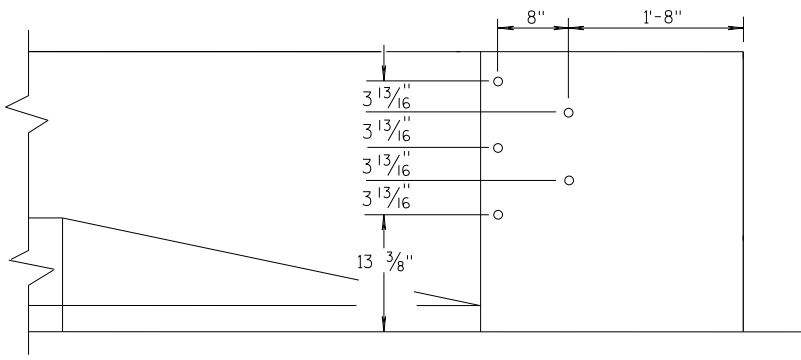


GENERAL NOTES

- THESE ARE TYPICAL CONNECTION DETAILS. ADJUST THE POSTION OF CONNECTIONS TO EXISTING BRIDGES TO FIT THE ACTUAL BRIDGE AND SITE DIMENSIONS.
- ② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.
- ④ TOLERANCE FOR TOP OF BEAM IS $\pm 1"$.
- 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.
- ⑧ THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 1/2".

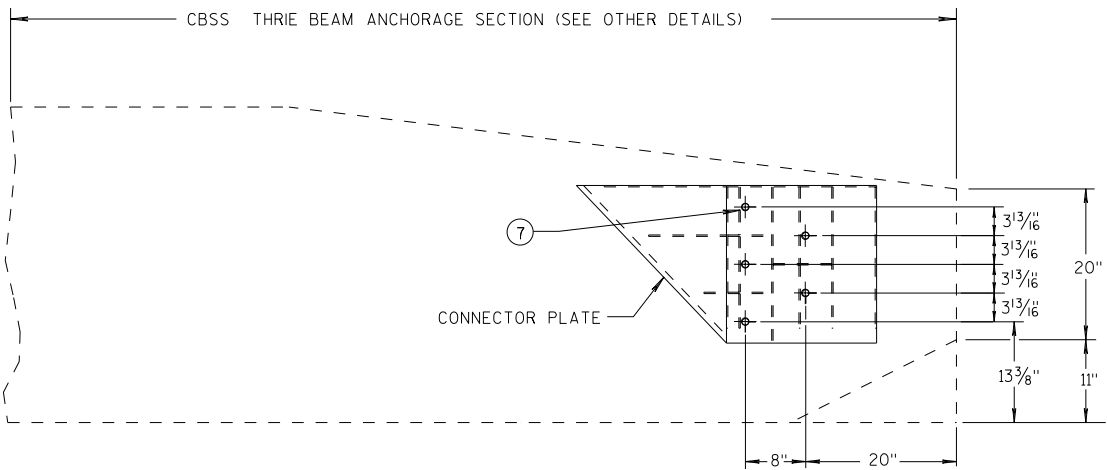
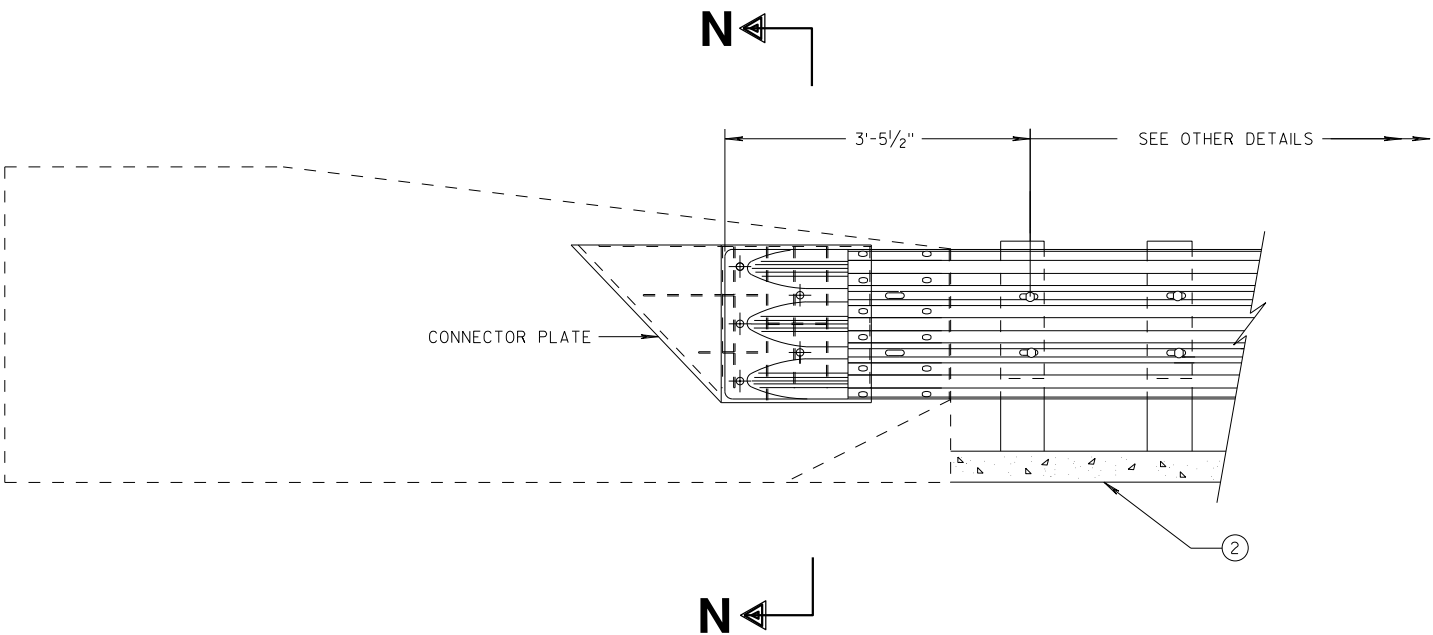


SECTION F-F



MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
APPROVED 07/2018 DATE	/S/ Rodney Taylor ROADWAY STANDARDS UNIT SUPERVISOR		
FHWA	52	NT	

THRIE BEAM CONNECTION TO SINGLE SLOPE BARRIER



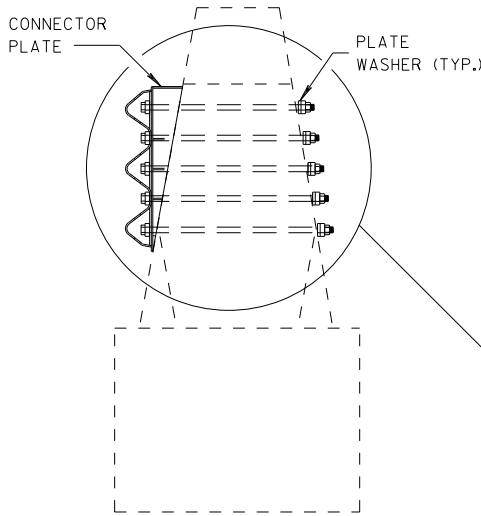
SINGLE SLOPE CONNECTION PLATE PLACEMENT

GENERAL NOTES

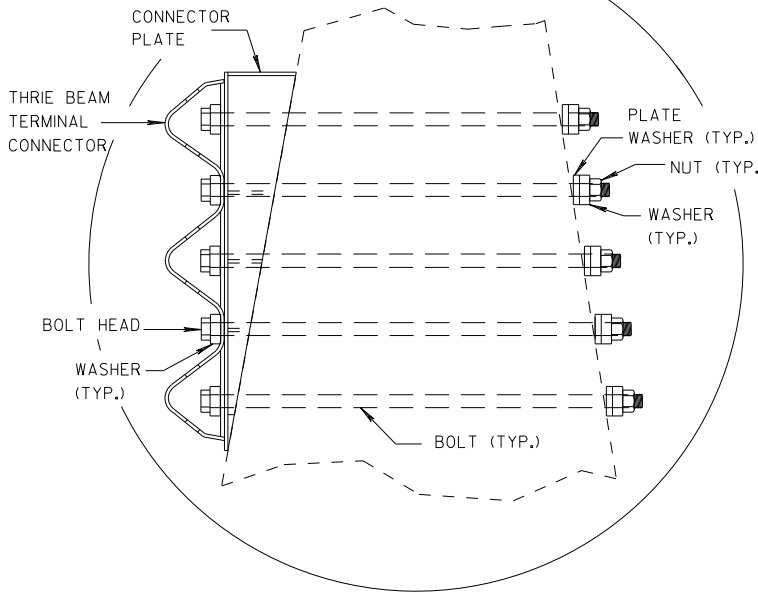
CONNECTOR PLATE, DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

⑦ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTION PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/32" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.



SECTION N-N

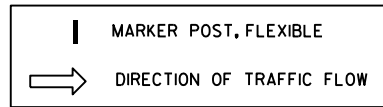
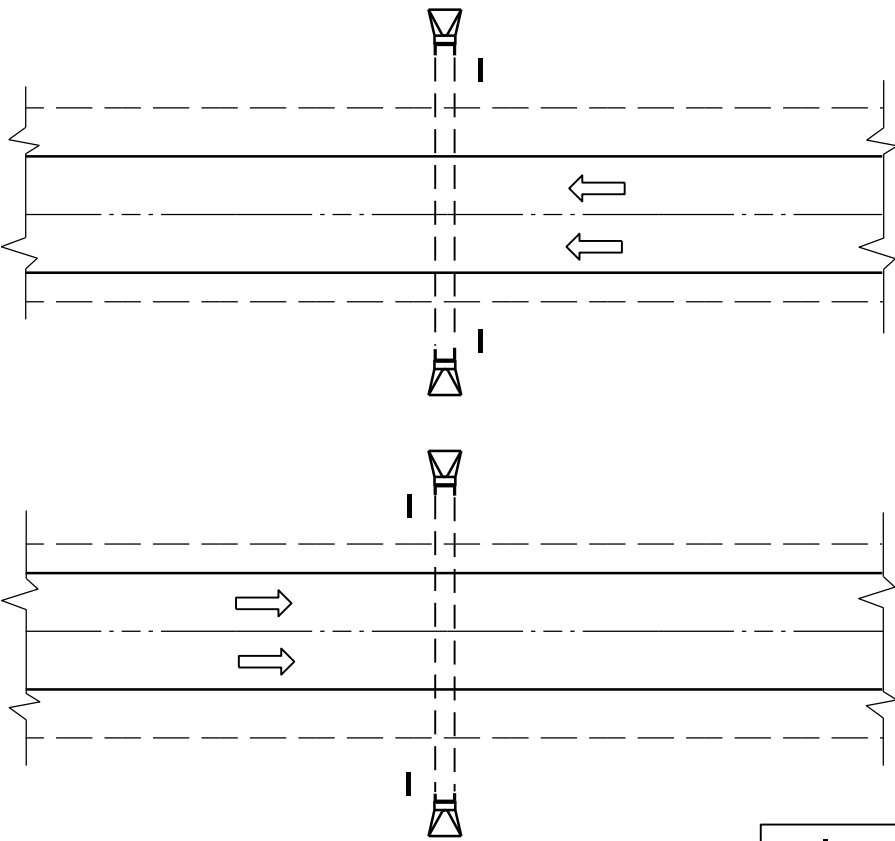


MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

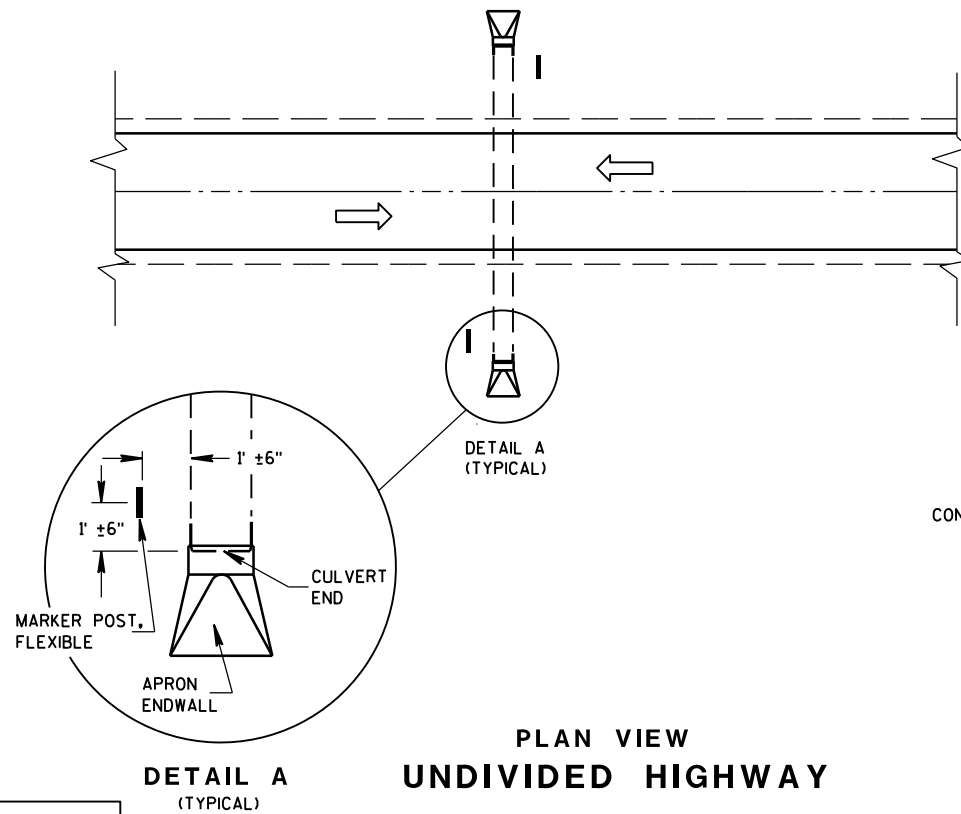
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
DATE 7/2018
ROADWAY STANDARDS DISTRICT SUPERVISOR /S/ Rodney Taylor
FHWA UNIT SUPERVISOR 53

PLAN VIEW
DIVIDED HIGHWAY

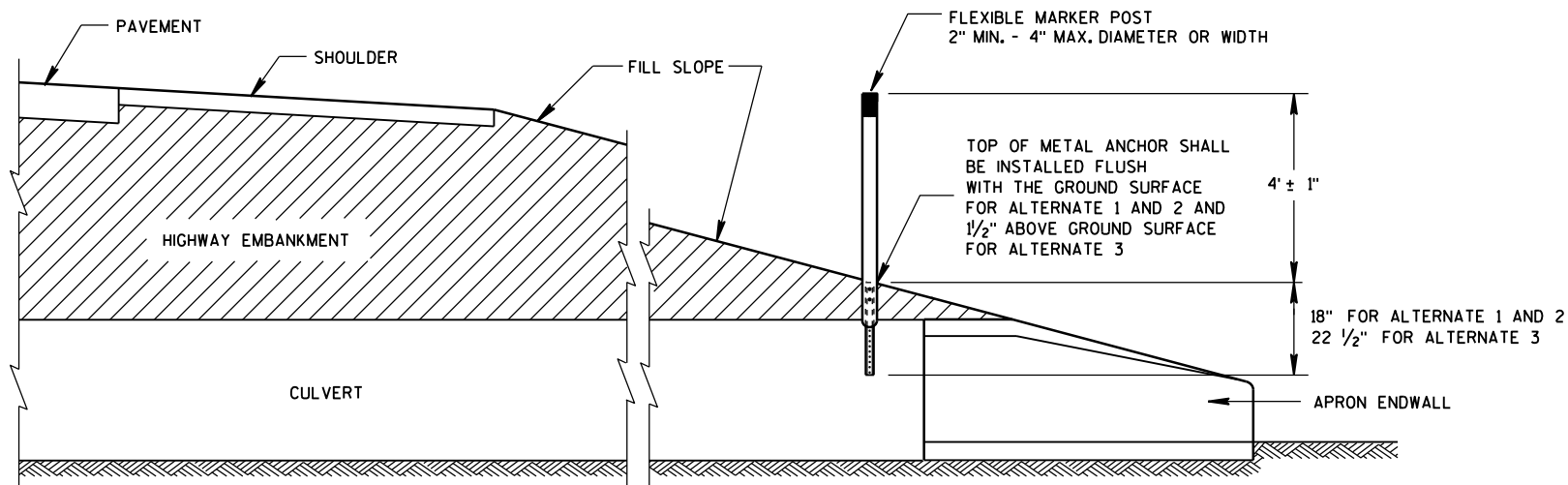


PLAN VIEW
UNDIVIDED HIGHWAY



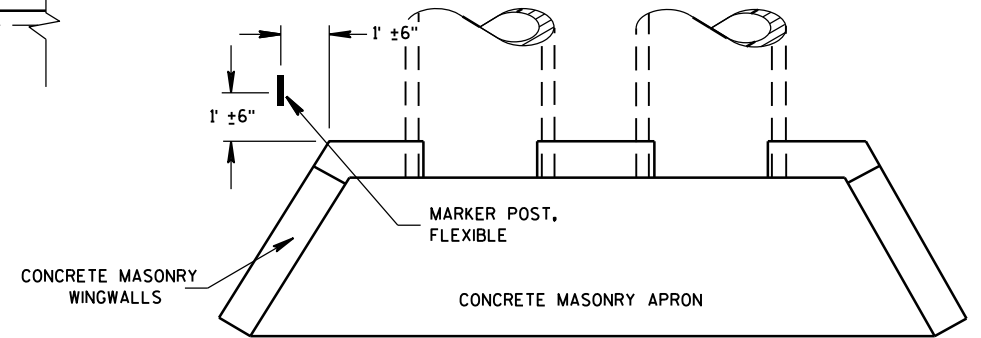
FLEXIBLE MARKER POST LOCATION

CROSS SECTION
FLEXIBLE MARKER POST



GENERAL NOTES

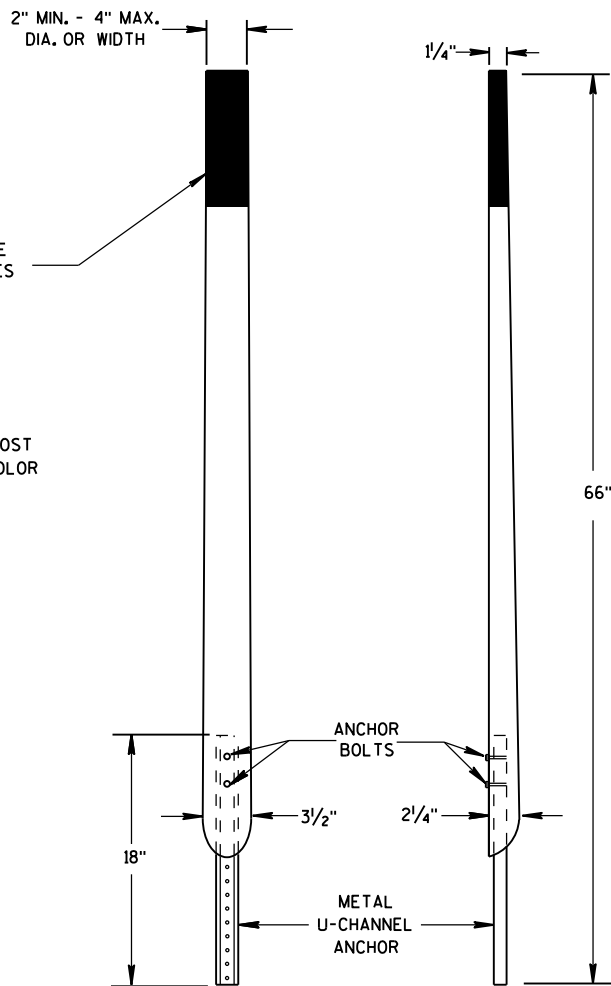
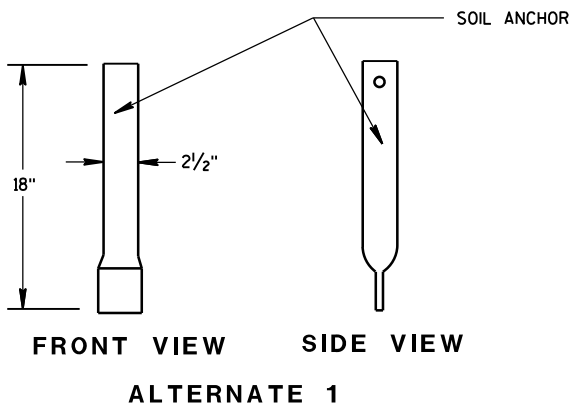
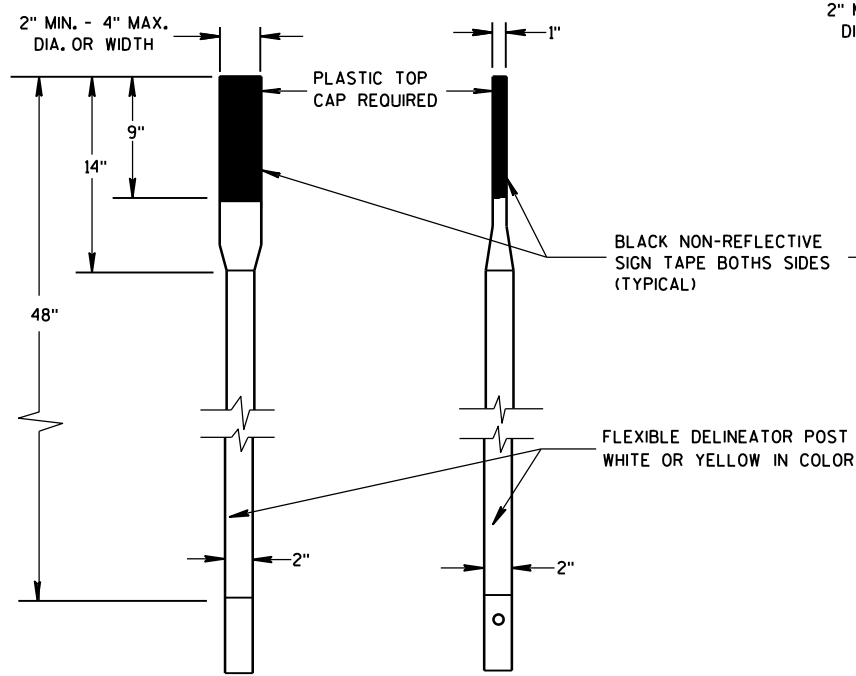
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.



PLAN VIEW
CONCRETE MASONRY ENDWALLS FOR
CULVERT PIPE AND PIPE ARCH

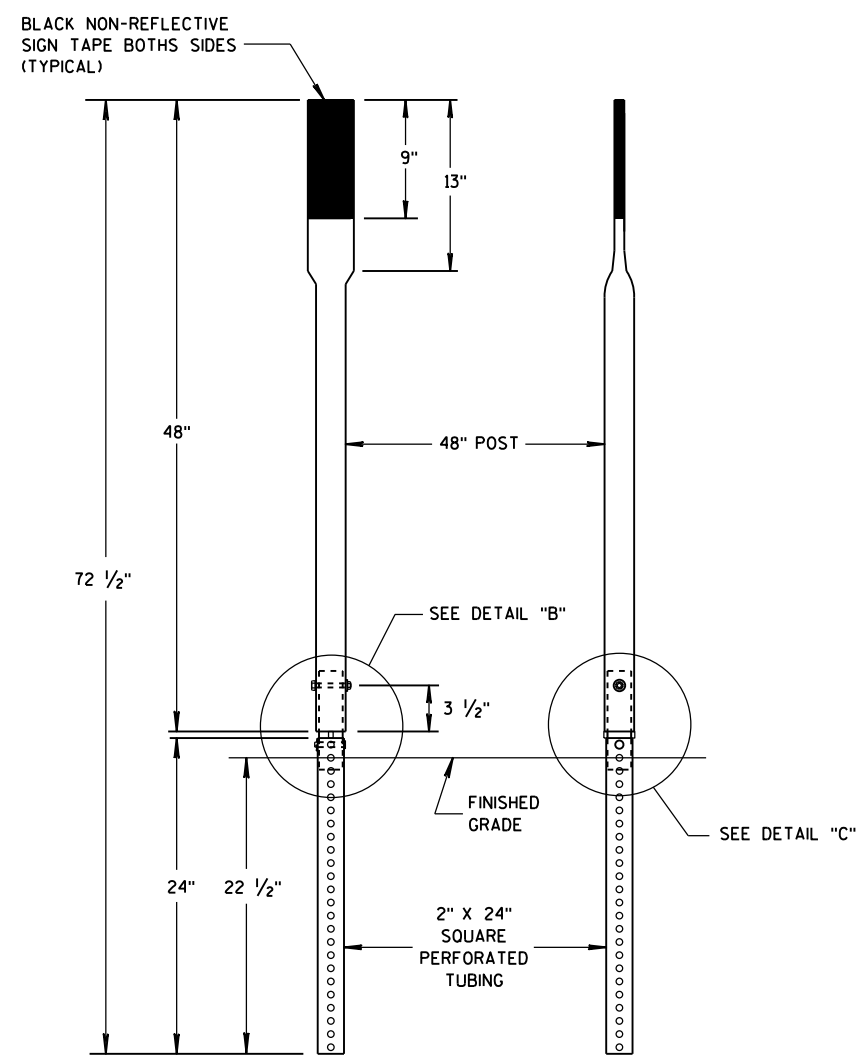
FLEXIBLE MARKER POST
FOR CULVERT END

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

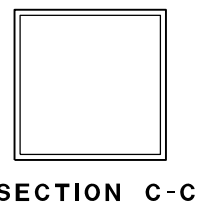


FRONT VIEW SIDE VIEW
ALTERNATE 2

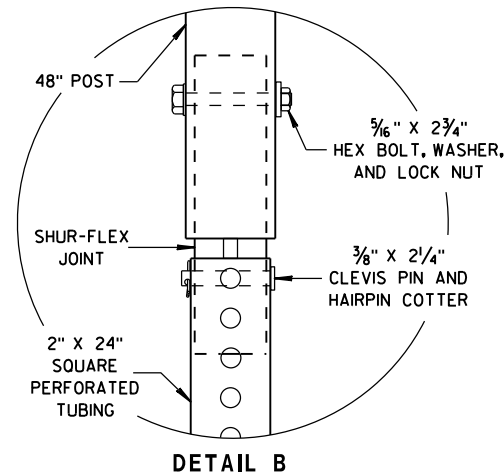
FLEXIBLE MARKER POSTS



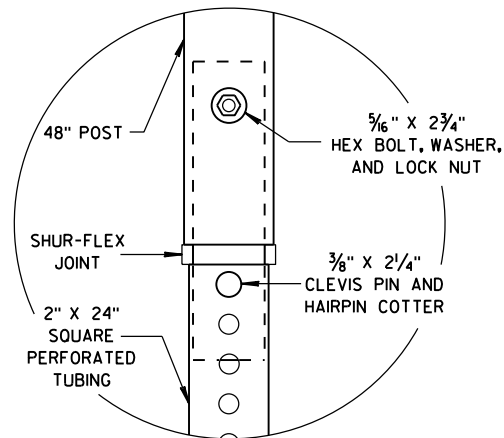
FRONT VIEW SIDE VIEW
ALTERNATE 3



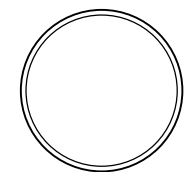
SECTION C-C



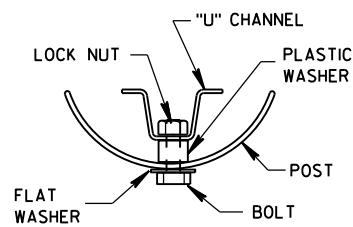
DETAIL B



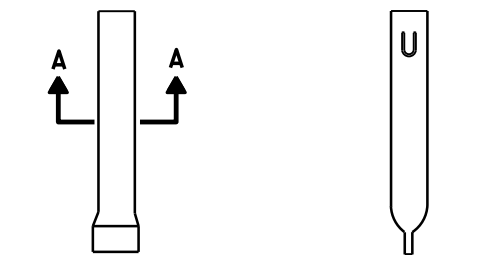
DETAIL C



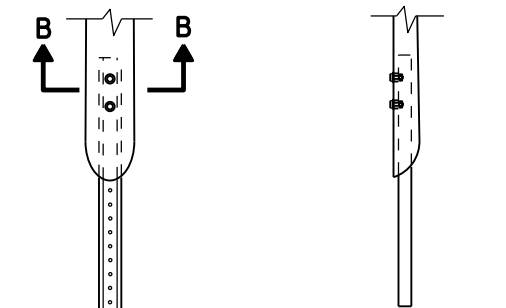
SECTION A-A



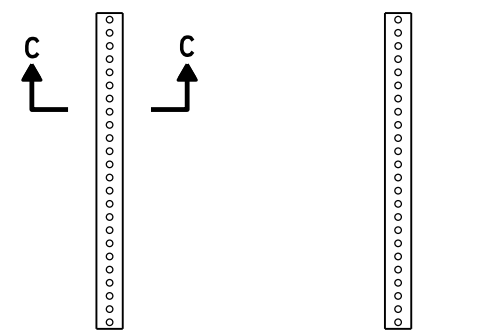
SECTION B-B



FRONT VIEW SIDE VIEW
ALTERNATE 1



FRONT VIEW SIDE VIEW
ALTERNATE 2



FRONT VIEW SIDE VIEW
ALTERNATE 3

FLEXIBLE MARKER POST ANCHORS

FLEXIBLE MARKER POST
FOR CULVERT END

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

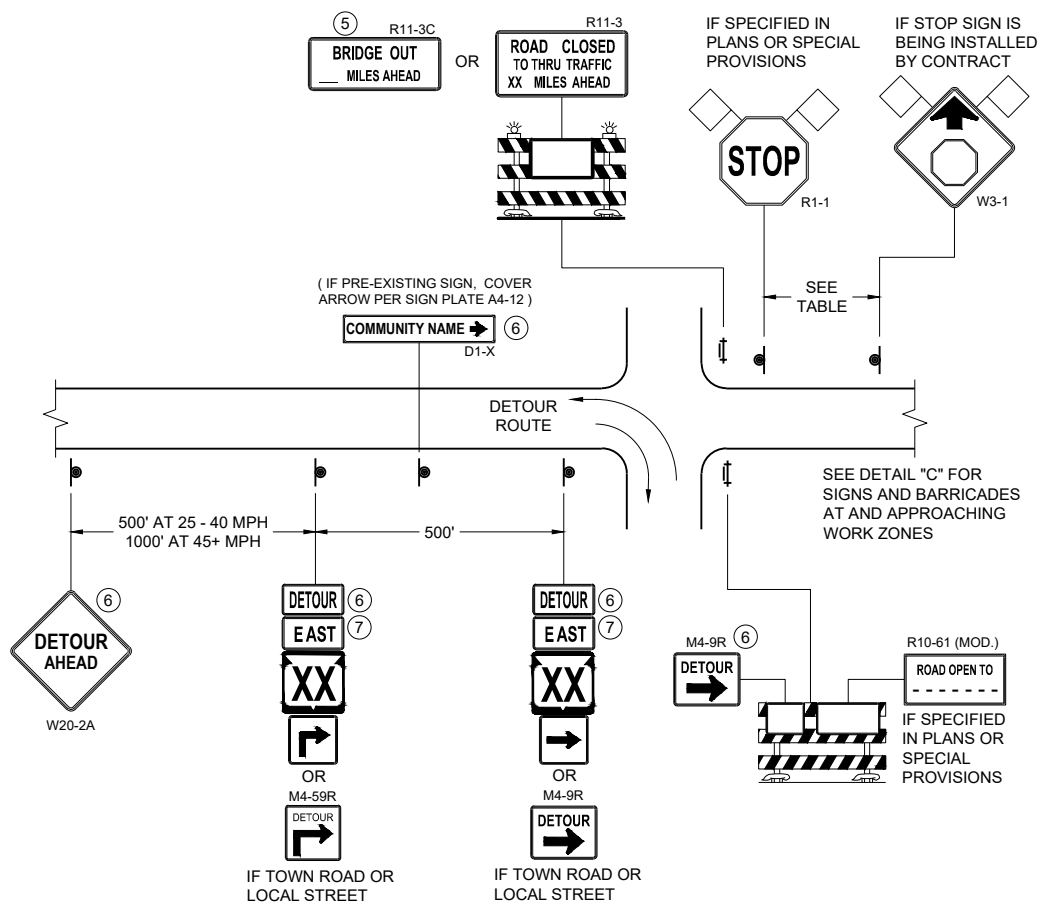
10/1/2012

DATE

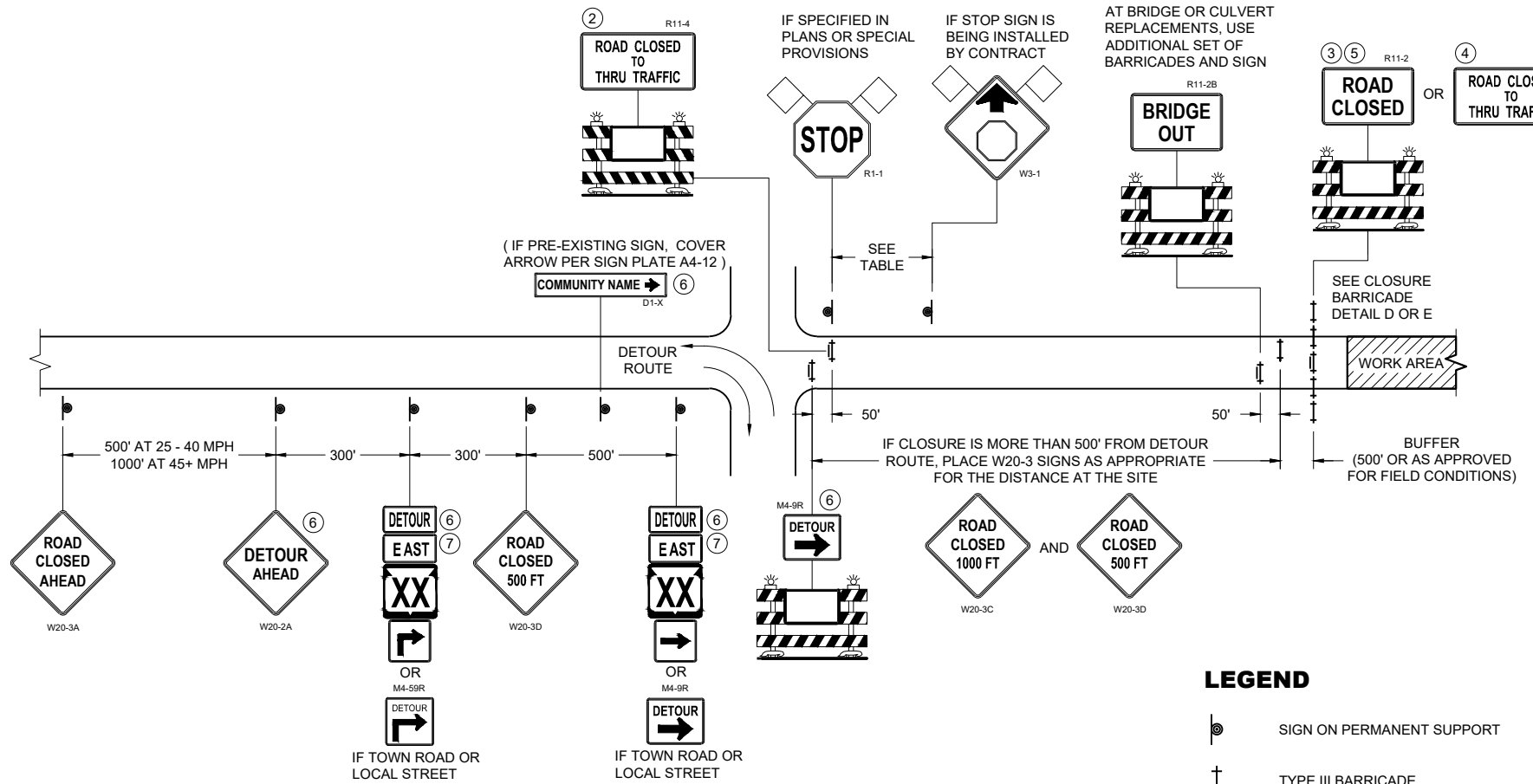
FHWA

/S/ Travis Feltes
STATE TRAFFIC ENGINEER 55

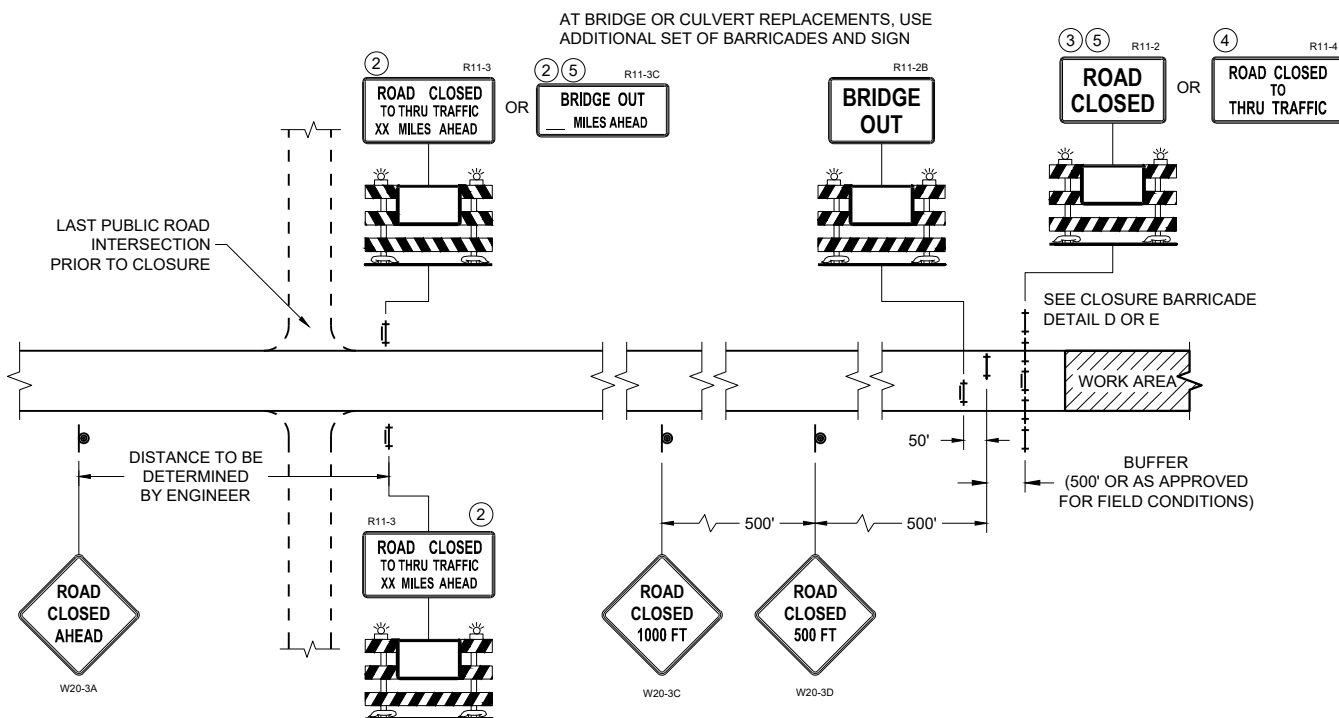
IGN



DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR
WORK ZONE GREATER THAN OR EQUAL TO ½ MILE FROM
DETOUR ROUTE (1000 FEET IF URBAN)



DETAIL B
MAINLINE CLOSURE WITH POSTED DETOUR
WORK ZONE LESS THAN ½ MILE FROM
DETOUR ROUTE (1000 FEET IF URBAN)



DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR

SPEED LIMIT (MPH)	"STOP AHEAD" ADVANCE WARNING DISTANCE (FT)
25	200
30	200
35	350
40	350
45	500
50	550
55	750

SEE SDD 15C2-SHEET "b"
FOR GENERAL NOTES
AND FOOTNOTES ① THROUGH ⑦

LEGEND

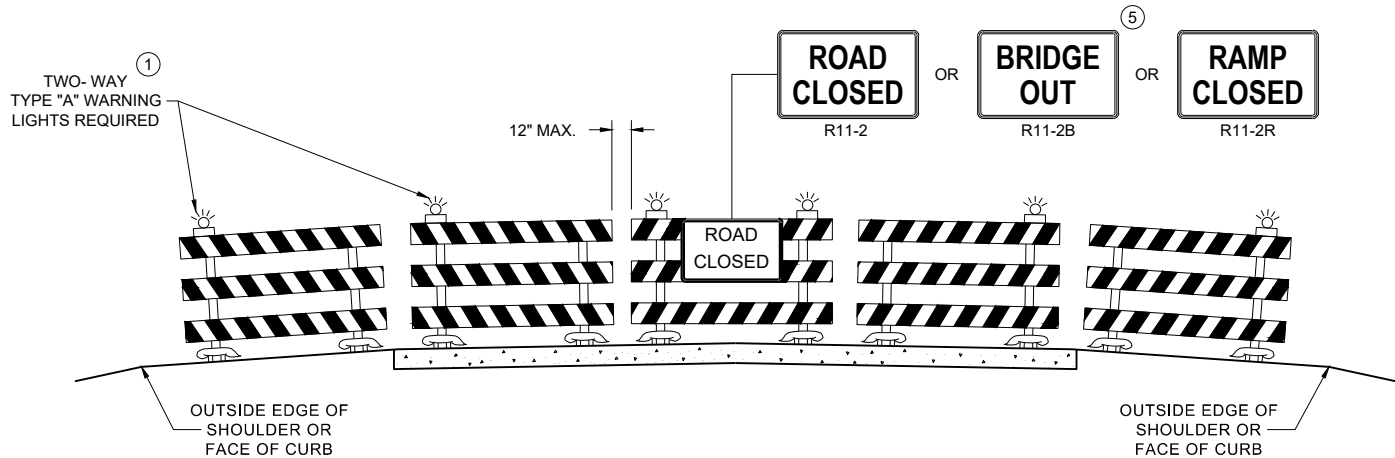
- SIGN ON PERMANENT SUPPORT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TYPE "A" WARNING LIGHT (FLASHING)
- WORK AREA
- FLAGS, 16" X 16" MIN. (ORANGE)
- DETOUR M4 - 8
- EAST M3 - X
- XX M1 - 4 OR XX M1 - 6 OR COUNTY M1 - 5A
- M05 - 1 OR M06 - 1

**BARRICADES AND SIGNS
FOR MAINLINE CLOSURES**

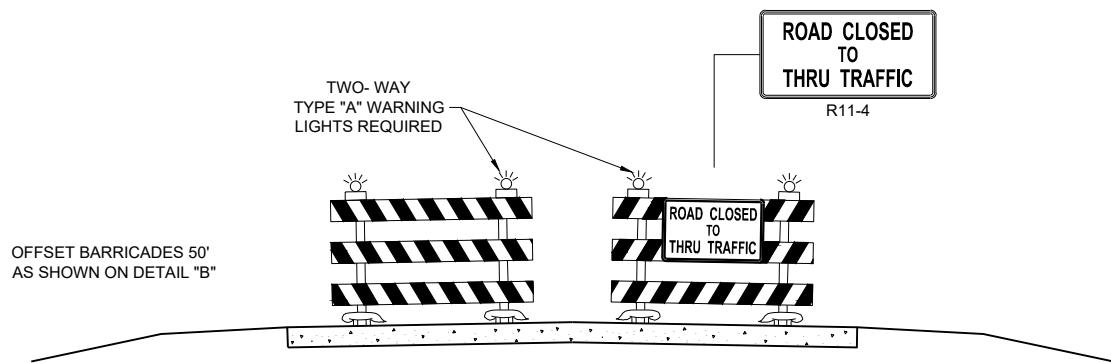
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA



DETAIL D
ROAD CLOSURE BARRICADE DETAIL
APPROACH VIEW



DETAIL E
LANE CLOSURE BARRICADE DETAIL
APPROACH VIEW

SEE SDD 15C2 - SHEET "a" FOR LEGEND

GENERAL NOTES

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

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.

THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

BARRICADES 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.

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

ALL TYPE III BARRICADES SHALL HAVE RAILS REFLECTORIZED ON BOTH FACES. STRIPES SHALL BE PROPERLY SLOPED DOWN TOWARD THE TRAFFIC SIDE OR AS SHOWN IN THE ROAD CLOSURE BARRICADE DETAIL "D" FOR FULL ROAD CLOSURES.

TYPE "A" LOW - INTENSITY FLASHING WARNING LIGHTS SHALL BE VISIBLE ON BOTH SIDES OF THE BARRICADE.

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.

"WO" AND "MO" SIGNS ARE THE SAME AS "W" AND "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:

- R11 - 2 SHALL BE 48" X 30"
- R11 - 3 SHALL, R11 - 4 AND R10 - 61 SHALL BE 60" X 30"
- M4 - 9 SHALL BE 30" X 24"
- M3 - X SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M4 - 8 SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M1 - 4, M1 - 5A AND M1 - 6 SHALL BE 24" X 24" (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS)
- MO5 - 1 AND MO6 - 1 SHALL BE 21" X 21" (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS)
- D1 - X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.
- R1 - 1 SHALL BE 36" X 36"

SIGNS PLACED ON TYPE III BARRICADES THAT ARE SIZES OTHER THAN 48"X30" SHALL HAVE A CORRUGATED POLYPROPYLENE OR POLYETHYLENE PLASTIC SIGN BASE.

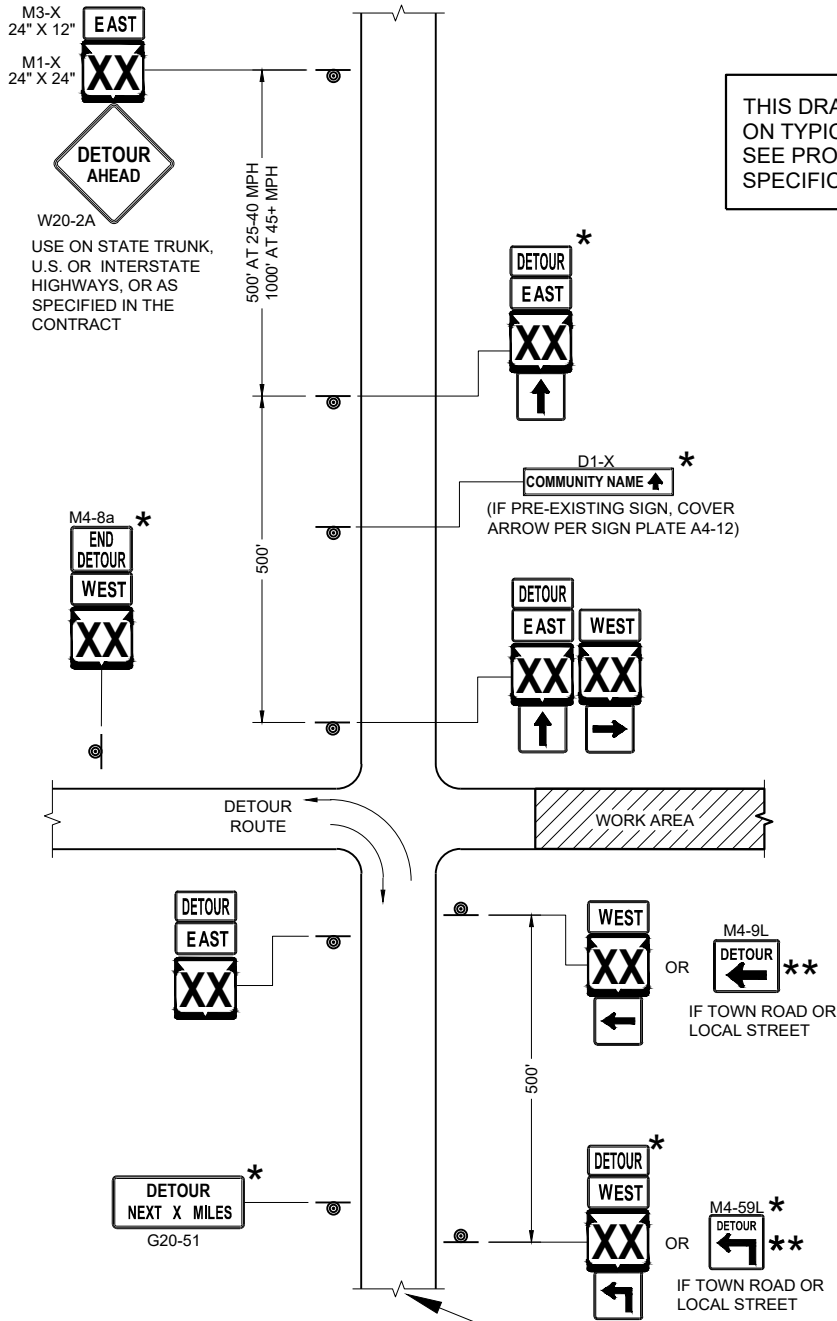
- 1 TWO WARNING LIGHTS SHALL BE PROVIDED ON THE CENTER BARRICADE AND A MINIMUM OF ONE WARNING LIGHT SHALL BE PROVIDED ON EACH OF THE OTHER BARRICADES WITHIN THE ROADWAY LIMITS. SPACING OF THE WARNING LIGHTS SHALL BE UNIFORM TO THE EDGE OF ROADWAY AS SHOWN (APPROX. 8 FOOT LIGHT SPACING).
- 2 THESE SIGNS AND BARRICADES ARE NOT REQUIRED IF ROAD CLOSURE BEGINS AT AN INTERSECTION.
- 3 FOR ROAD CLOSURE WITHOUT LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL "D".
- 4 FOR ROAD CLOSURE WITH LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL "E".
- 5 FOR BRIDGE OR CULVERT REPLACEMENTS, SUBSTITUTE "BRIDGE OUT" INSTEAD OF "ROAD CLOSED" ON R11 - 2 AND R11 - 3 SIGNS.
- 6 INSTALL DETOUR AND COMMUNITY GUIDE SIGNS AND ARROWS ONLY IF SPECIFIED IN THE CONTRACT. IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. MODIFY EXISTING SIGNS WHERE POSSIBLE. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. IF DETOUR SIGNS ARE BEING INSTALLED BY OTHERS, PLACE THE CONTRACTED TRAFFIC CONTROL SIGNS TO ALLOW FOR PLACEMENT OF ALL WARNING, DETOUR AND GUIDE SIGNS AS SHOWN.
- 7 "EAST" CARDINAL DIRECTION MARKERS AND RIGHT TURN ARROWS ARE SHOWN. USE OTHER CARDINAL DIRECTIONS AND ARROWS AS APPROPRIATE.

BARRICADES AND SIGNS FOR VARIOUS CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

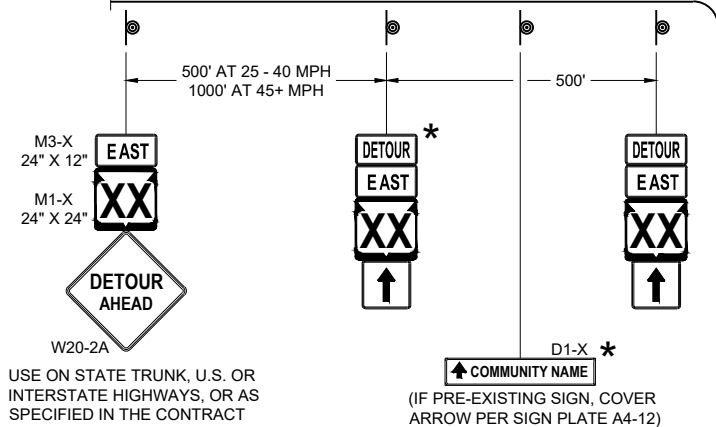
FHWA



SEE SPECIFIC PROJECT DETOUR
SIGNING DETAIL SHEETS AND
DETAIL A OR B ON SDD SHEET 15C02 - SHEET "a"

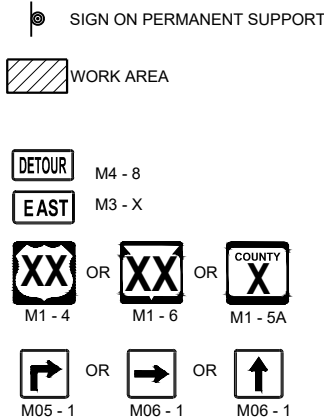
THIS DRAWING PROVIDES GENERAL GUIDANCE
ON TYPICAL DETOUR SIGN LAYOUT AND SPACING.
SEE PROJECT DETOUR SIGNING SHEETS FOR
SPECIFIC DETAILS FOR EACH PROJECT.

MATCH POINT



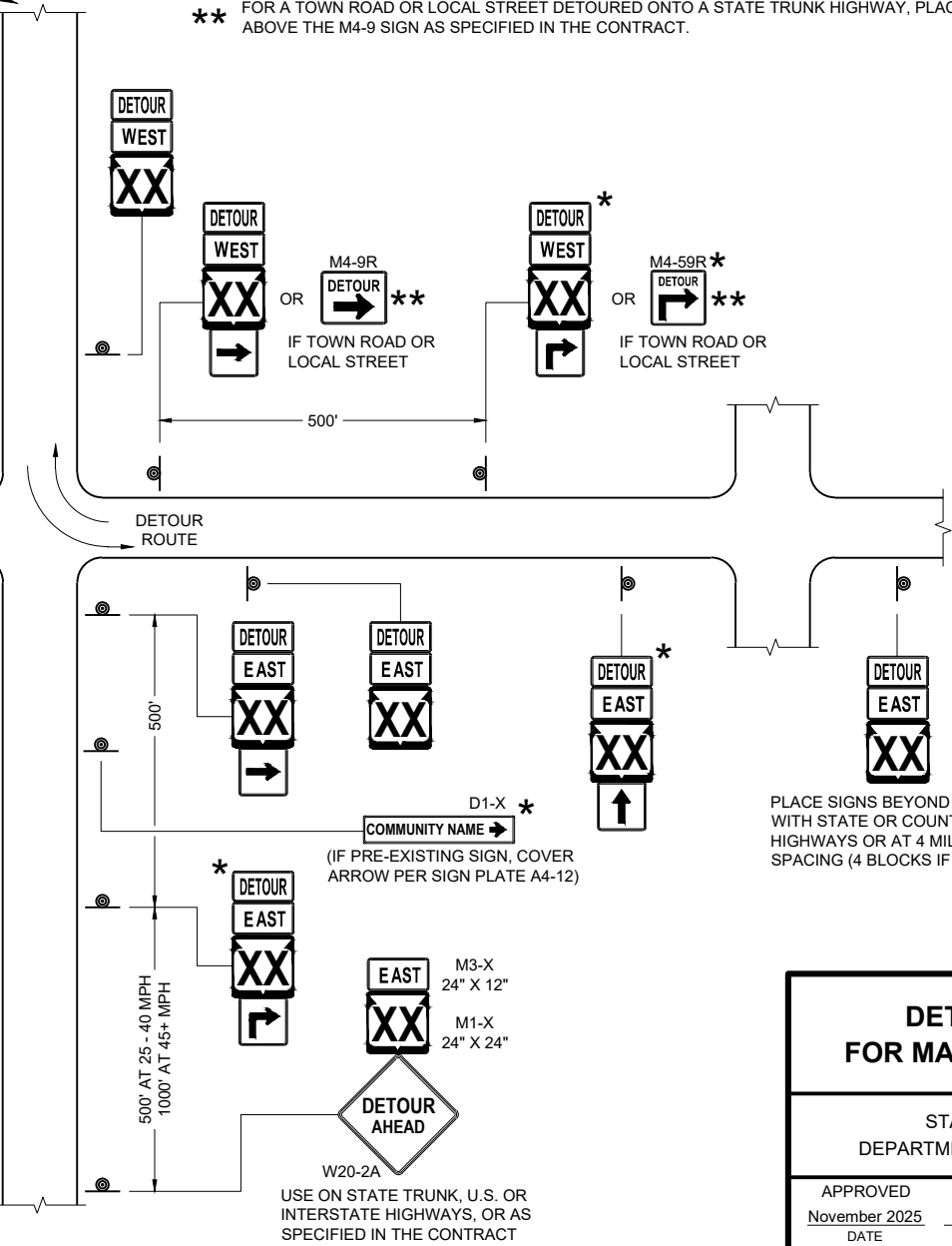
DETAIL F
DETOUR SIGNING

LEGEND



GENERAL NOTES

- THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.
- IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. MODIFY EXISTING SIGNS WHERE POSSIBLE.
- THE SPACING BETWEEN TRAFFIC CONTROL AND DETOUR SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.
- ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.
- SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.
- "MO" SIGNS ARE THE SAME AS "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.
- SIGN SIZES SHALL BE AS FOLLOWS:
- M3-X SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
 - M4-8 SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
 - M1-4, M1-5A AND M1-6 SHALL BE 24" X 24" (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS)
 - M05-1 AND M06-1 SHALL BE 21" X 21" (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS)
 - M4-9 AND M4-59 SHALL BE 30" X 24"
 - M4-8a SHALL BE 24" X 18"
 - G20-51 SHALL BE 60" X 24"
 - W20-2A SHALL BE 48" X 48"
 - D1-X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.
- * OPTIONAL SIGNS. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS.
- ** FOR A TOWN ROAD OR LOCAL STREET DETOURED ONTO A STATE TRUNK HIGHWAY, PLACE A ROAD NAME PLAQUE ABOVE THE M4-9 SIGN AS SPECIFIED IN THE CONTRACT.



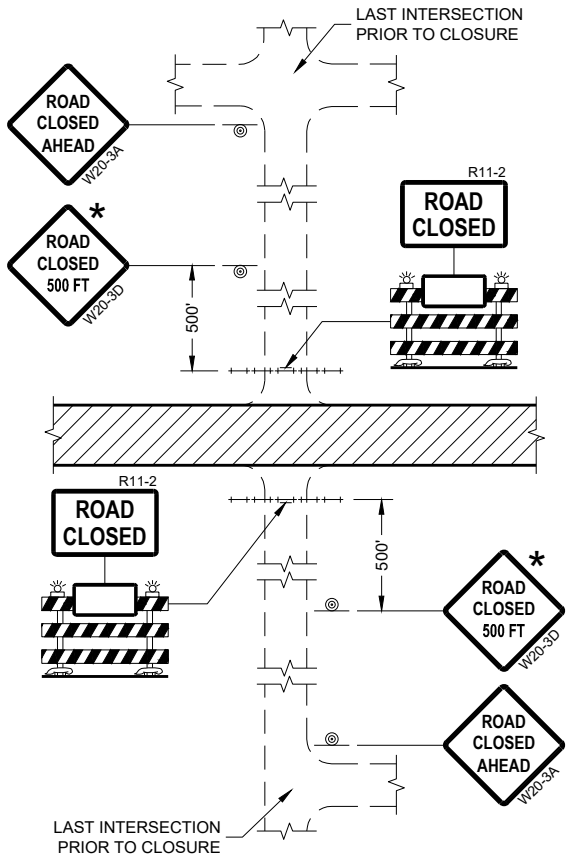
DETOUR SIGNING
FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

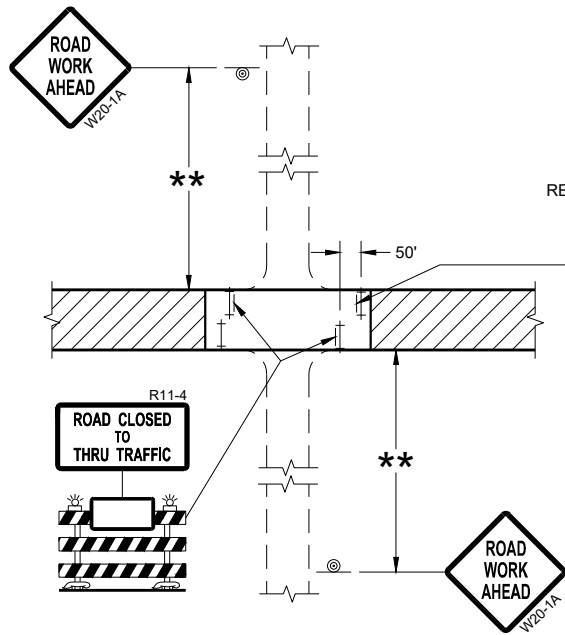
APPROVED
November 2025
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEER

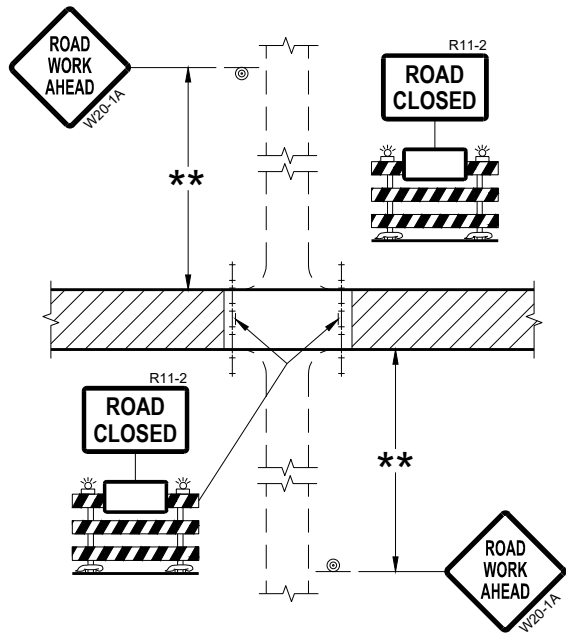
FHWA



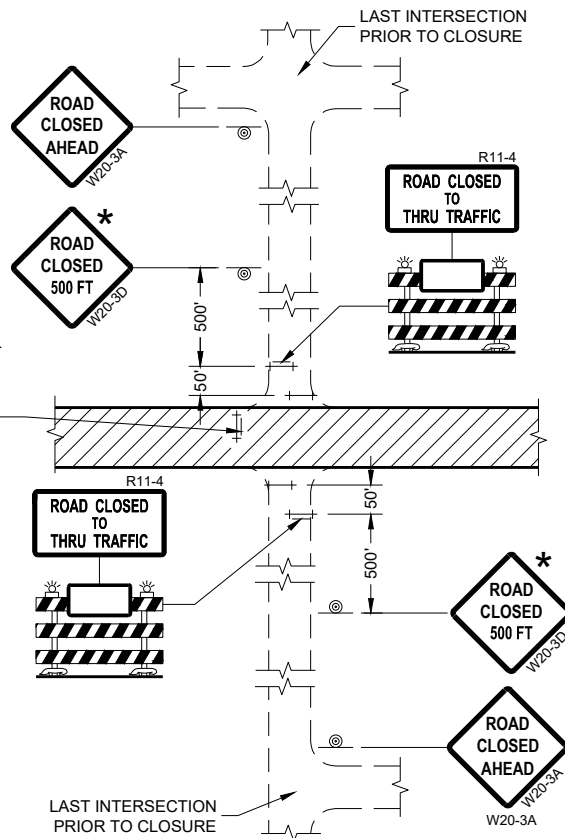
DETAIL 1
(NO ACCESS TO PROJECT)



DETAIL 3
(PUBLIC CROSS-TRAFFIC MAINTAINED.
CONTRACTOR, LOCAL BUSINESS AND
RESIDENT ACCESS TO PROJECT)



DETAIL 2
(PUBLIC CROSS-TRAFFIC MAINTAINED.
NO ACCESS TO PROJECT)



DETAIL 4
(CONTRACTOR, LOCAL BUSINESS AND
RESIDENT ACCESS TO PROJECT)

GENERAL NOTES

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

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.

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

IF A "STOP" SIGN MUST BE REMOVED FOR A WORK OPERATION, A TEMPORARY "STOP" SIGN SHALL BE PLACED PRIOR TO THE SIGN REMOVAL, OR A FLAGGER SHALL BE PROVIDED UNTIL THE SIGN IS REESTABLISHED.

BARRICADES 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.

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

ALL TYPE III BARRICADES SHALL HAVE RAILS REFLECTORIZED ON BOTH FACES. STRIPES SHALL BE PROPERLY SLOPED DOWN TOWARD THE TRAFFIC SIDE OR AS SHOWN IN THE ROAD CLOSURE BARRICADE DETAIL "D" FOR FULL ROAD CLOSURES.

TYPE "A" LOW-INTENSITY FLASHING WARNING LIGHTS SHALL BE VISIBLE ON BOTH SIDES OF THE BARRICADE.

THE R11-2, R11-3, AND R11-4 SIGNS PLACED ON BARRICADES SHALL COVER NO MORE THAN THE TOP RAIL. THE SIGNS SHALL NOT COVER ANY PORTION OF THE MIDDLE OR BOTTOM RAILS.

ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:
R11-2 SHALL BE 48" X 30".
R11-4 AND R11-3 SHALL BE 60" X 30".

- * OMIT THE "ROAD CLOSED 500 FT." SIGN IF THE LAST INTERSECTION IS 500 FEET OR LESS FROM THE WORK ZONE.
- ** 500' MAX. OR AT LAST INTERSECTION, WHICHEVER IS CLOSEST.

LEGEND

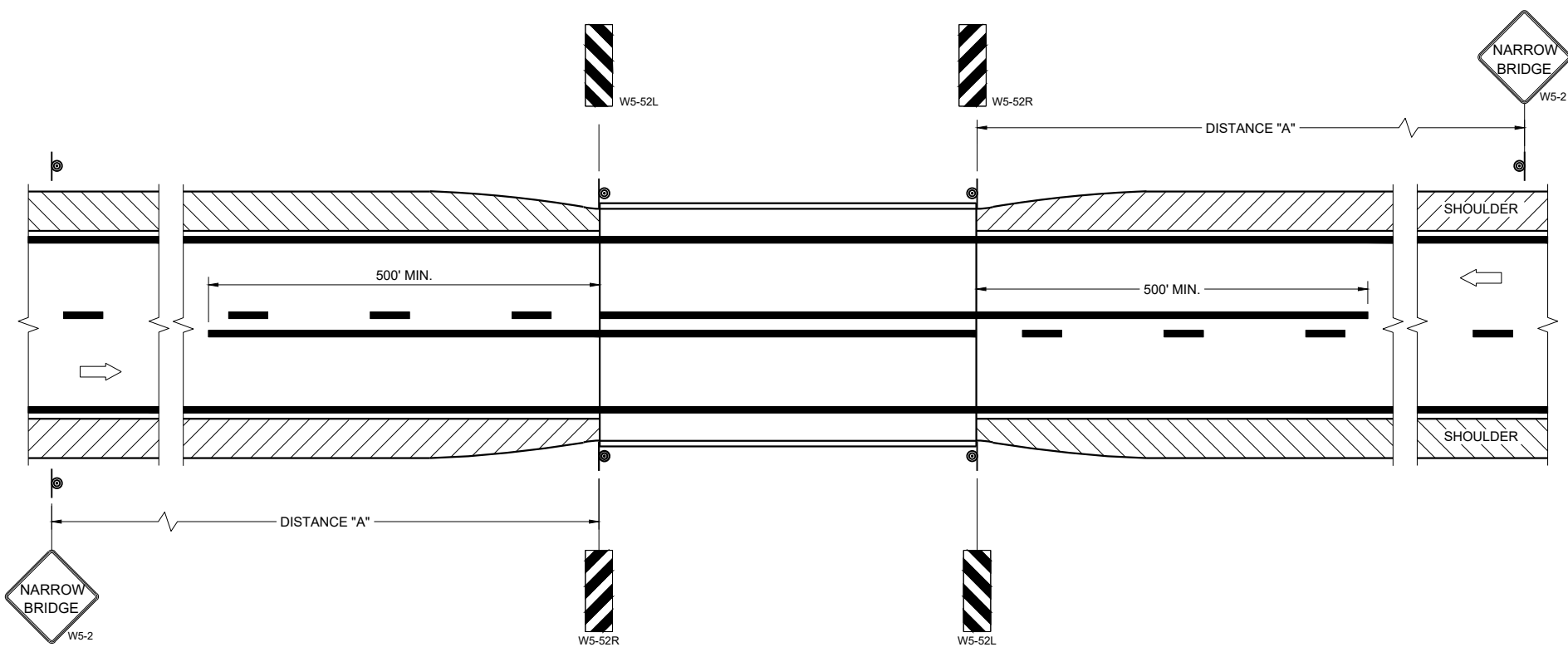
- SIGN ON PERMANENT SUPPORT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TYPE "A" WARNING LIGHT (FLASHING)
- WORK AREA

BARRICADES AND SIGNS FOR SIDEROAD CLOSURES

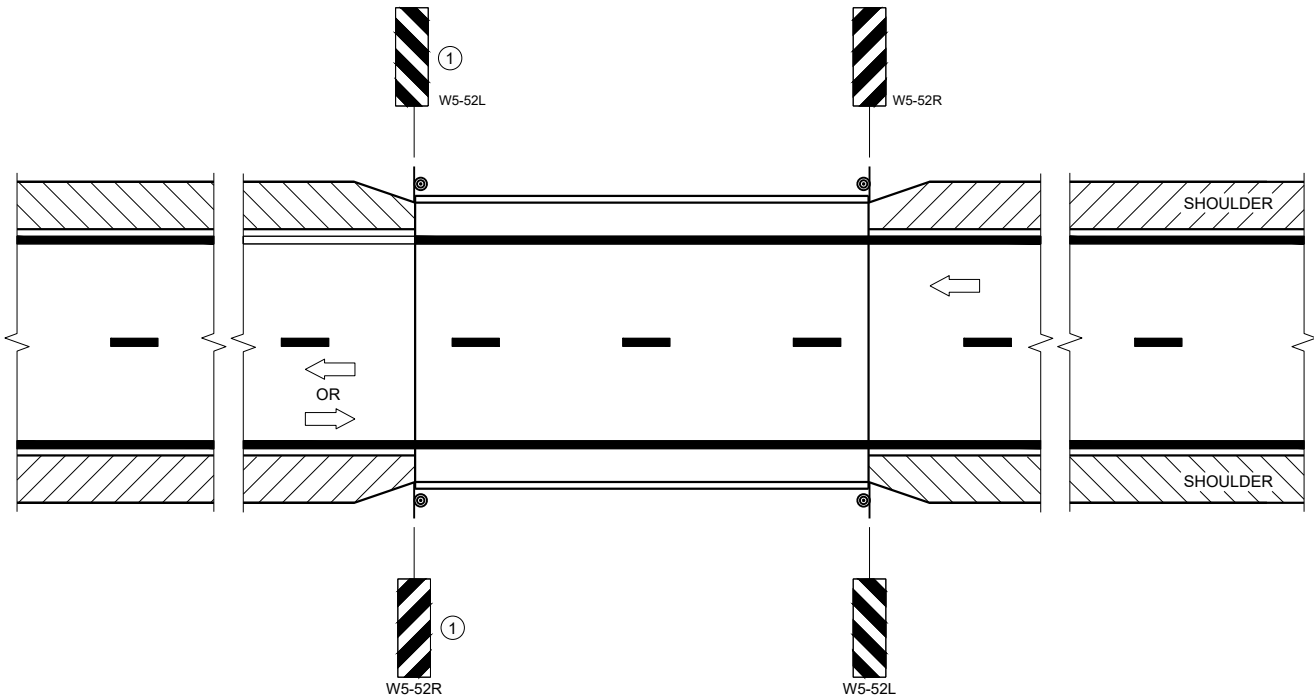
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
July 2018 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER 59

FHWA



SITUATION 1
WARRANTING CRITERIA:
BRIDGE WIDTH IS AT LEAST 16 FEET BUT LESS THAN 24 FEET.



SITUATION 2
WARRANTING CRITERIA:
1. BRIDGE WIDTH IS AT LEAST 24 FEET AND
2. BRIDGE SHOULDER WIDTH IS LESS THAN 6 FEET

GENERAL NOTES

DETAILS OF TRAFFIC CONTROL DEVICES AND INSTALLATION NOT SHOWN ON THE DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

LOCATE W5-52 SIGN POST(S) BEHIND GUARDRAIL WHEN PRESENT.

PLACE THE EDGE OF THE W5-52 SIGN IN LINE WITH FACE OF CURB OR PARAPET.

ON BRIDGE ONLY PROJECTS, PLACE 300 FEET OF EDGELINE.

OMIT EDGELINES ON ROADWAYS WITHOUT EXISTING EDGELINES.

① OMIT ON ONE-WAY TRAVELED WAYS.

LEGEND

⊙ SIGN ON PERMANENT SUPPORT

➡ DIRECTION OF TRAFFIC

DISTANCE TABLE

POSTED OR 85TH PERCENTILE SPEED	DISTANCE "A"
25	150'
30	200'
35	250'
40	300'
45	400'
50	550'
55	700'

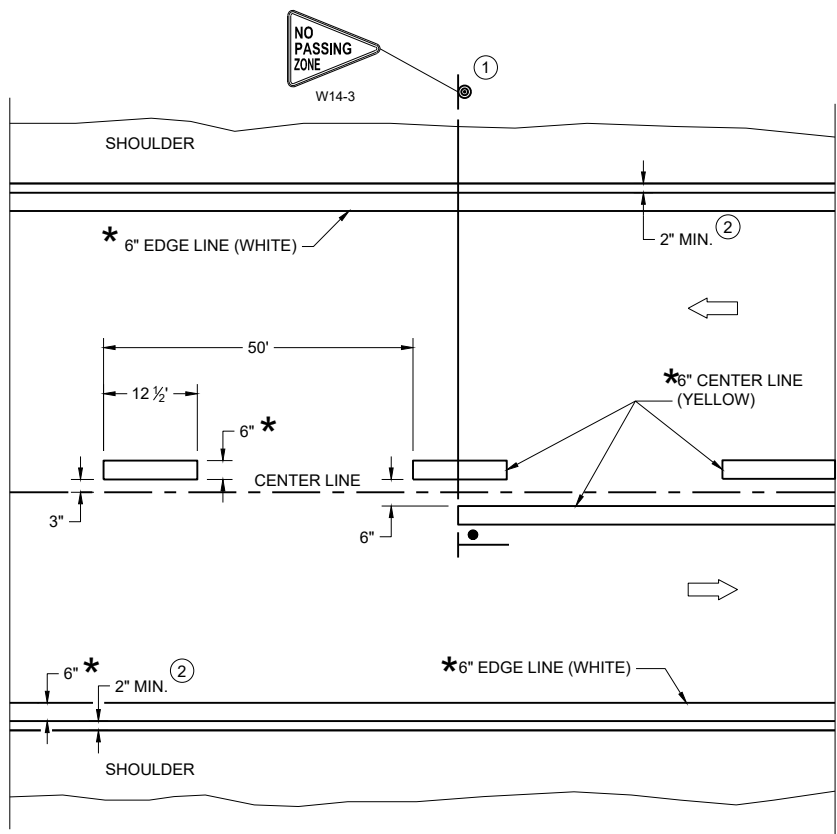
**SIGNING AND MARKING
FOR TWO LANE BRIDGES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

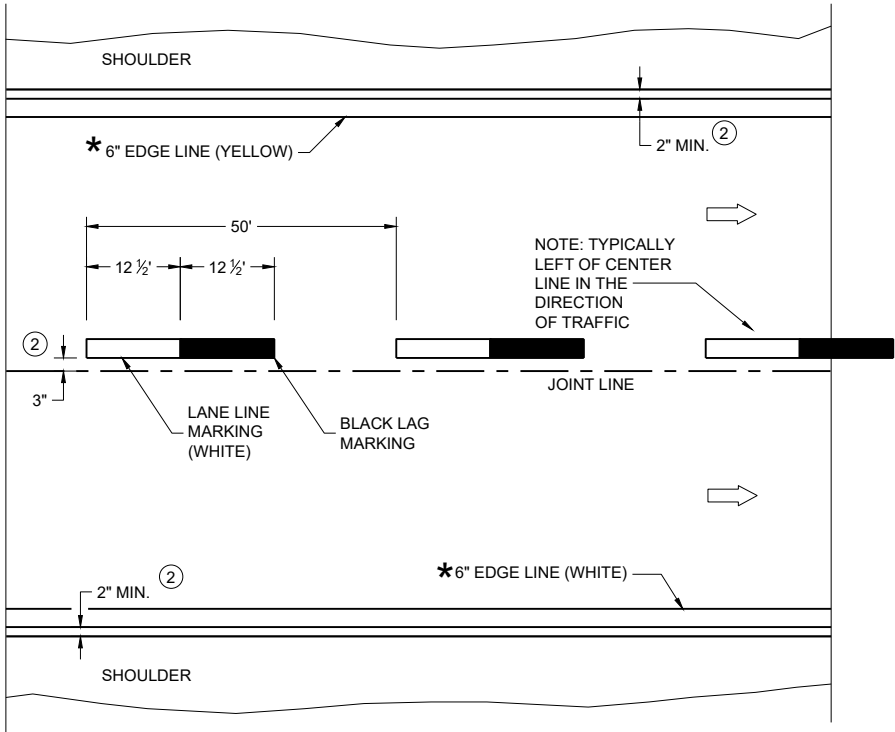
APPROVED
May 2023
DATE

/S/ Jeannie Silver
Statewide Pavement Marking Engineer

FHWA 60



TWO WAY TRAFFIC



ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING

*CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES

GENERAL NOTES

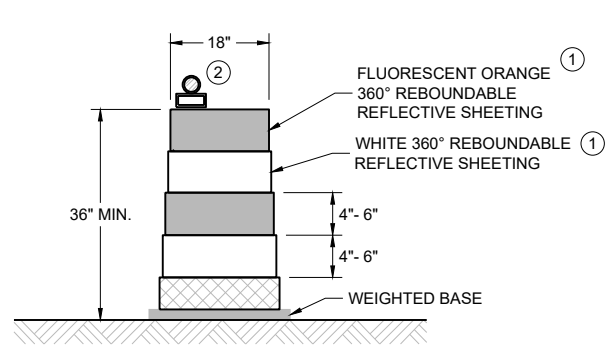
DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS.

- 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.

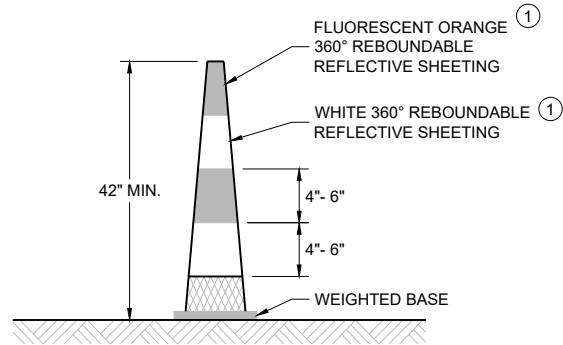
LEGEND

- "T" MARKING
- SIGN ON PERMANENT SUPPORT
- DIRECTION OF TRAFFIC

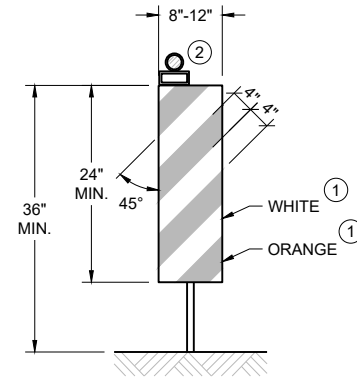
PERMANENT LONGITUDINAL PAVEMENT MARKINGS	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED December 2024 DATE	/S/ Jeannie Silver Statewide Pavement Marking Engineer



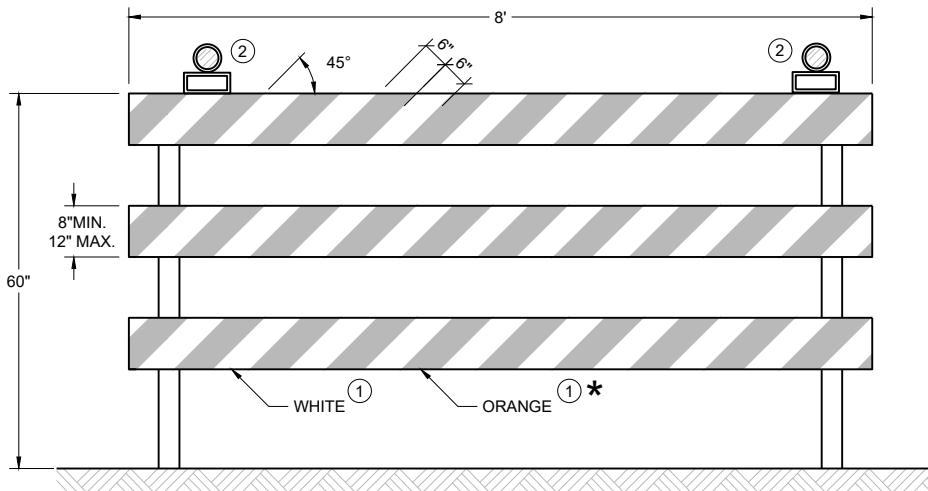
DRUM
BALLAST WIDTHS
RANGE FROM 24"-36"



42" CONE
DO NOT USE IN TAPERS
½ 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

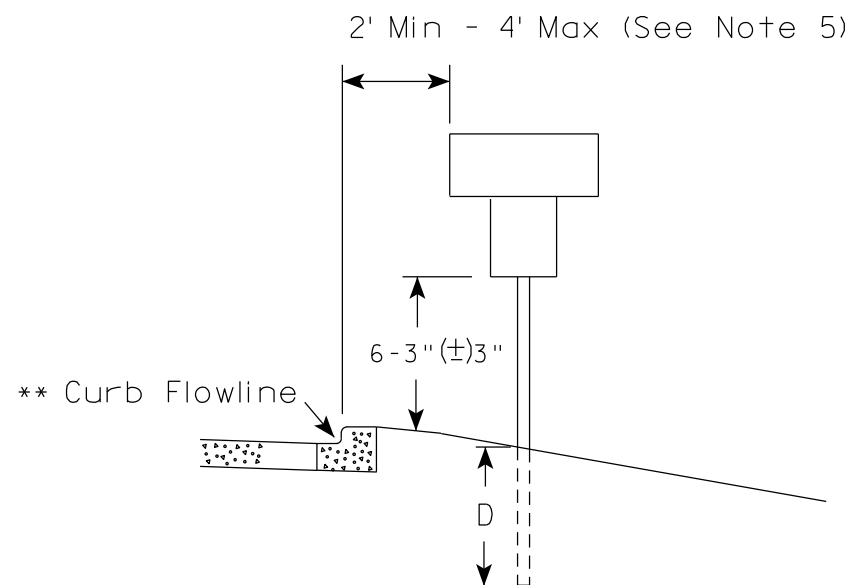
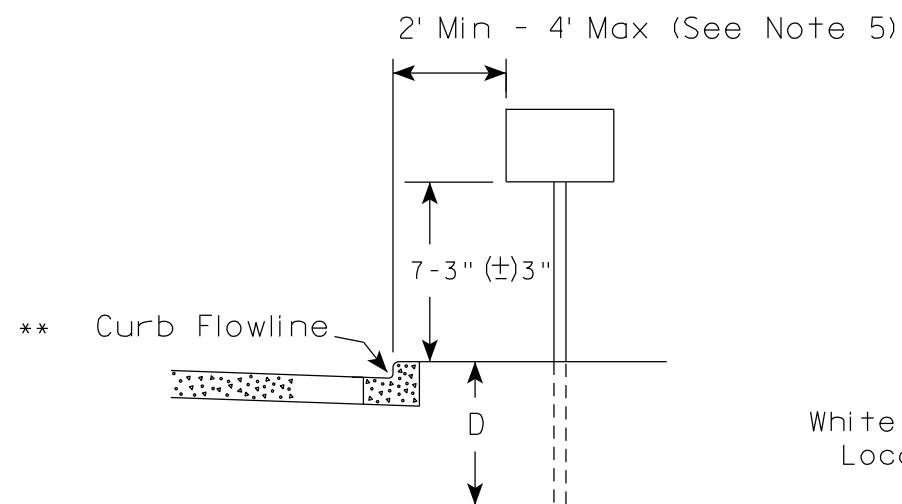
- ① REFLECTIVE SHEETING SHALL FOLLOW THE REQUIREMENTS IN THE APPROVED PRODUCTS LISTING FOR SIGN SHEETING.
- ② LOCATION OF WARNING LIGHTS WHEN SHOWN ON THE PLAN.

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

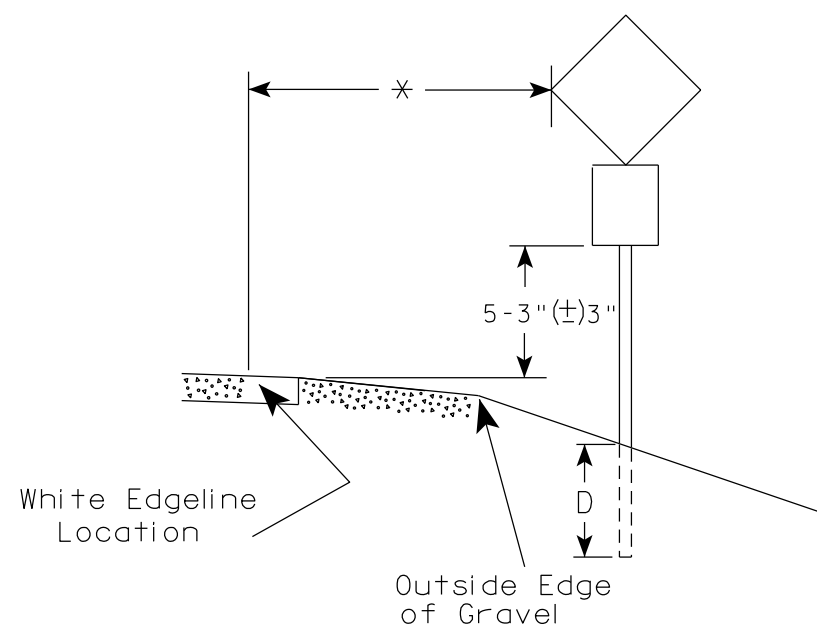
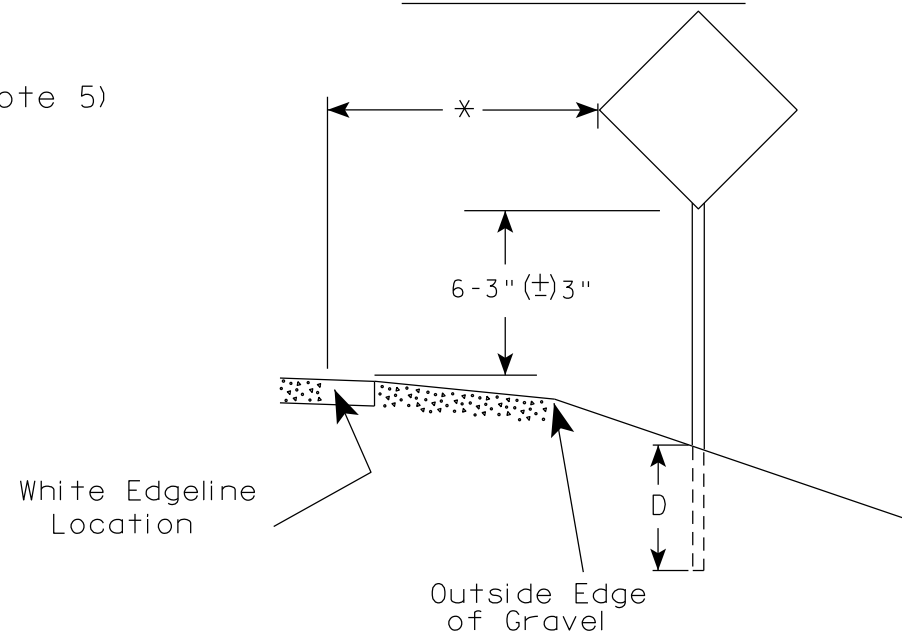
APPROVED
February 2026 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER
FHWA

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

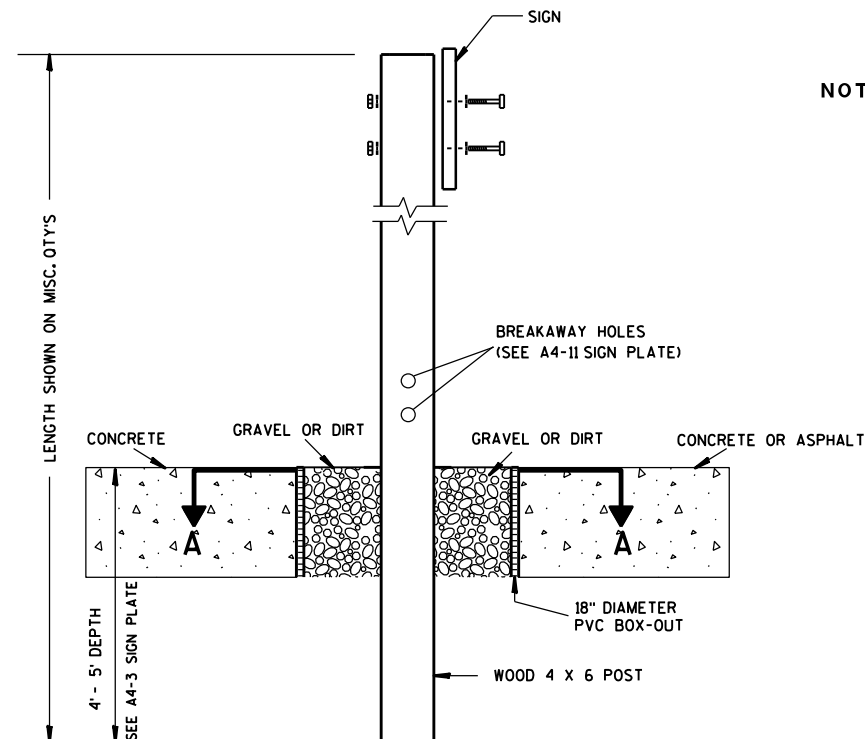
- Signs wider than 4 feet or 20 sq.ft or larger, shall be mounted on multiple posts. Refer to plate A4-4.
- If signs are mounted on or behind barrier wall, see A4-10 sign plate.
The Double Arrow sign (W12-1D) shall be mounted at a height of 2'-3" (±) 3". The Chevron sign (W1-8), Roundabout Chevron panel (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

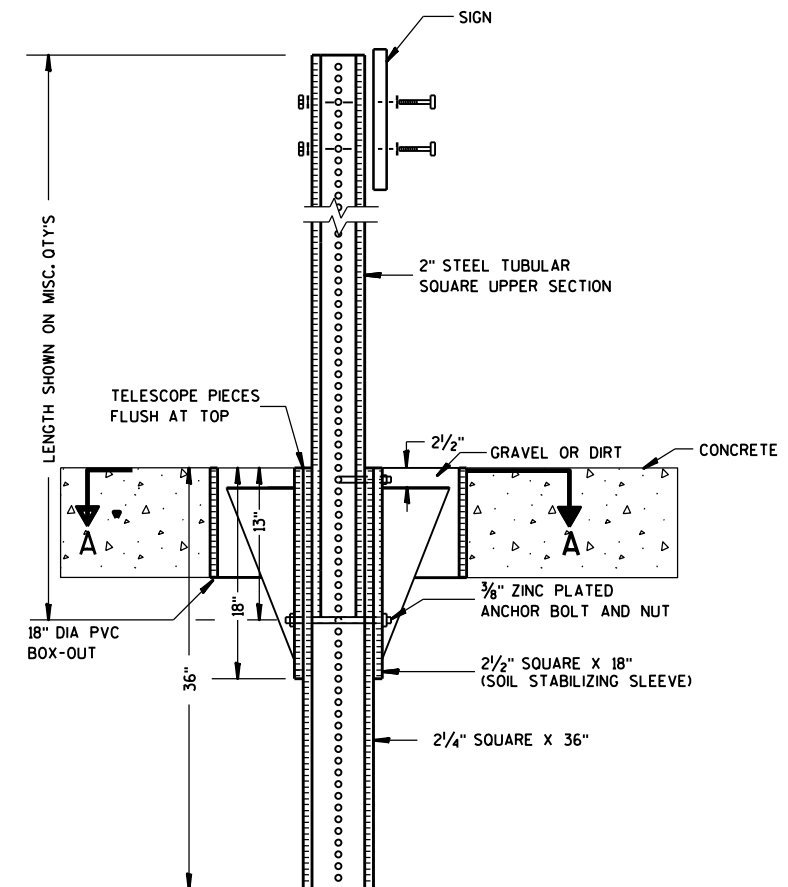
DATE 12/6/23 PLATE NO. A4-3.23



ELEVATION VIEW

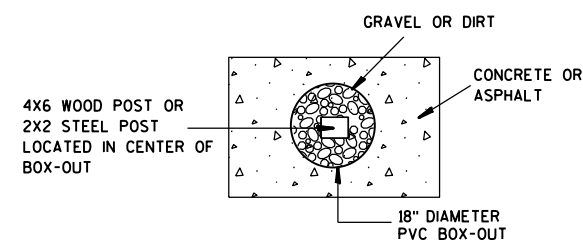
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

- 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 64 A4-3B.1

PROJECT NO:

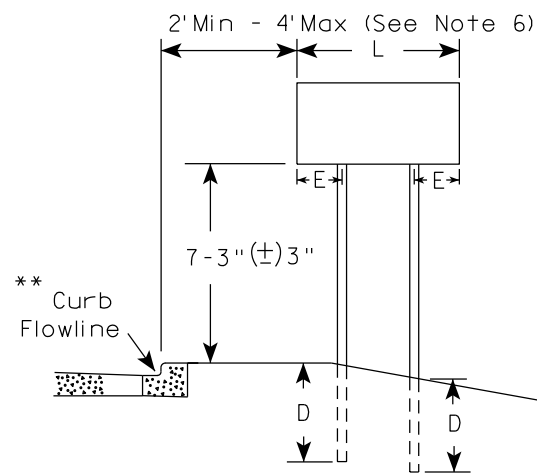
HWY:

COUNTY:

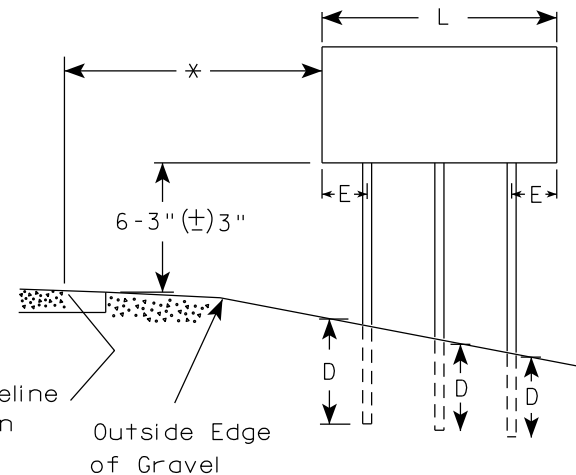
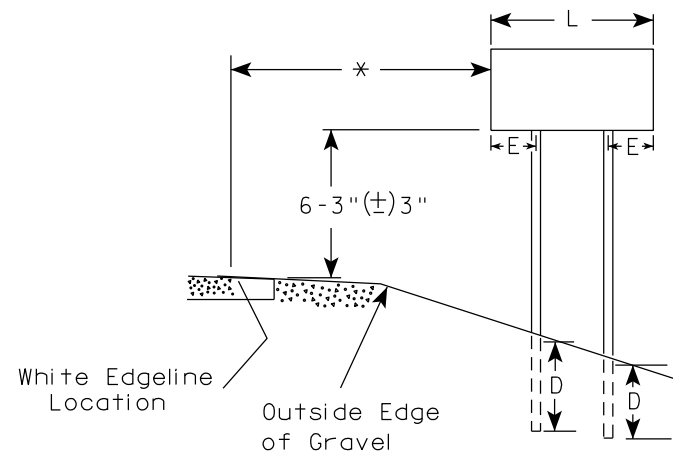
SHEET NO:

E

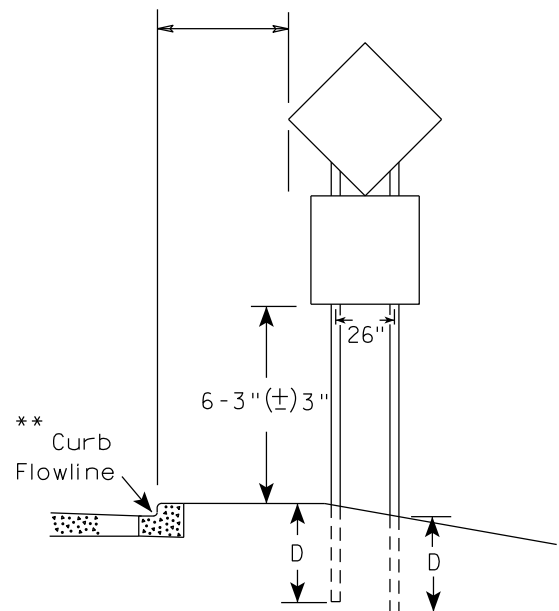
URBAN AREA



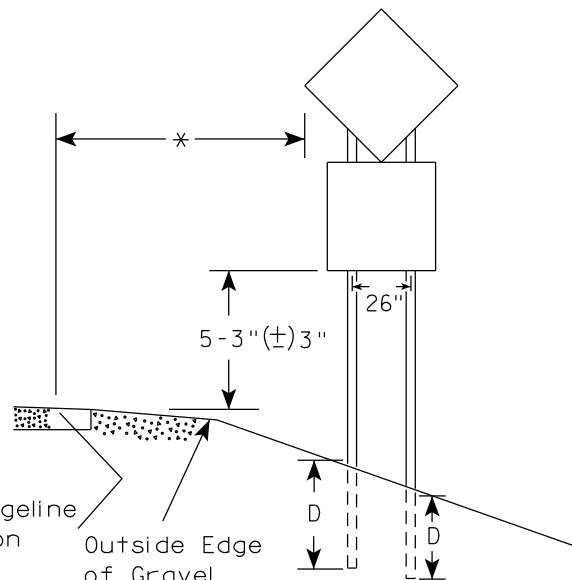
RURAL AREA (See Note 3)



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



48" DIAMOND WARNING SIGN



48" DIAMOND WARNING SIGN

GENERAL NOTES

1. For 3 or 4 post installations, individual post spacing shall be greater than 3'-6".
2. See tables below for required number of posts.
3. For expressways and freeways, mounting height is 7'-3" (±) 3" or 6'-3" (±) 3" depending upon existence of sub-sign.
4. The (±) tolerance for mounting height is 3 inches.
5. J-Assemblies are considered to be one sign for mounting height.
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. Folding signs shall be mounted at a height of 5'-3" (±) 3" or as directed by the engineer.
8. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±) 3". The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), 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".

* 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.

** 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.

*** See A4-3 sign plate for signs 4' or less in width and less than 20 S.F. in area.

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

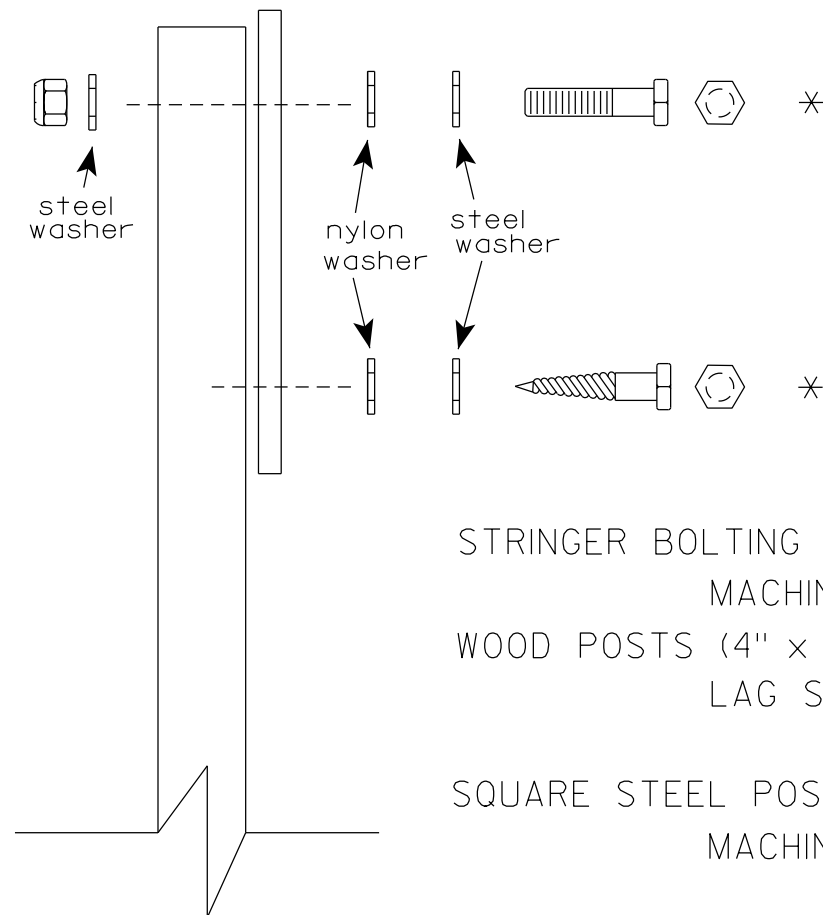
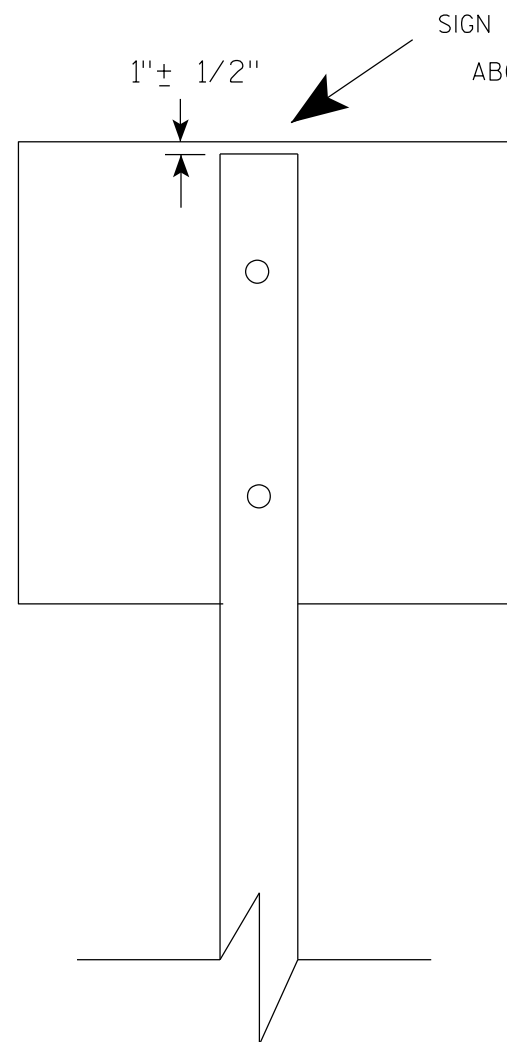
PROJECT NO:

HWY:

COUNTY:

SHEET NO: 65

E



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	<i>Matthew R. Rauch</i> For State Traffic Engineer
DATE 4/1/2020	PLATE NO. A4-8.9

**2 1/4 " SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH**

4" x 10" x 10 GA. — 
STEEL PLATE (CUT
AS SHOWN) WELDED
TO ALL FOUR CORNERS
OF TELESPAR TUBE

**2 1/2" SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH**

LENGTH SHOWN ON MISC. QTY'S

18" DIA SCHEDULE 40 PVC BOX-OUT

TELESCOPE PIECES FLUSH AT TOP

2" STEEL TUBULAR SQUARE UPPER SECTION

ALL HOLES $\frac{7}{16}$ " SPACED 1" C-C ALL FOUR SIDES

$\frac{3}{8}$ " ZINC PLATED CORNER ANCHOR BOLT AND NUT

2 1/2" GRAVEL OR DIRT

$\frac{3}{8}$ " ZINC PLATED ANCHOR BOLT AND NUT

2 1/2" SQUARE X 18" (SOIL STABILIZING SLEEVE)

2 1/4" SQUARE X 36"

SIGN

SEE SIGN PLATE A4-8 FOR BOLT WASHER, & NUT MATERIAL

36"

18"

13"

18"

LENGTH SHOWN ON MISC. QTY'S

SEE SIGN PLATE A4-8 FOR BOLT WASHER, & NUT MATERIAL

2" STEEL TUBULAR SQUARE UPPER SECTION

ALL HOLES $\frac{7}{16}$ " SPACED 1" C-C ALL FOUR SIDES

$\frac{3}{8}$ " ZINC PLATED CORNER ANCHOR BOLT AND NUT

1"

TELESCOPE PIECES FLUSH AT TOP

18"

12"

36"

$\frac{3}{8}$ " ZINC PLATED ANCHOR BOLT AND NUT

2 1/2" SQUARE X 18" (SOIL STABILIZING SLEEVE)

2 1/4" SQUARE X 36"

A

B

C

Diagram illustrating the corner detail of the guardrail. The assembly consists of a 3/8" zinc plated corner anchor bolt and nut. The diagram shows the corner of the guardrail structure, with an arrow indicating the direction of traffic flow.

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

TUBULAR STEEL
SIGN POST
A4-9

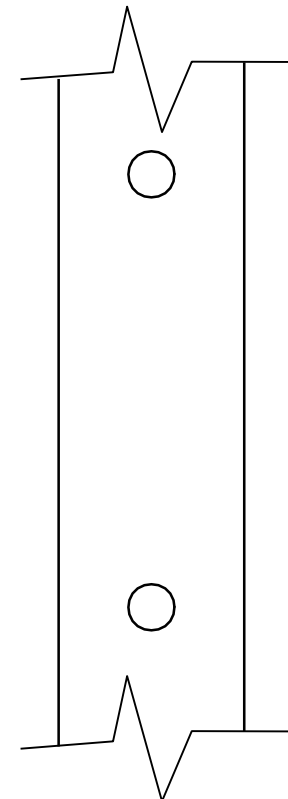
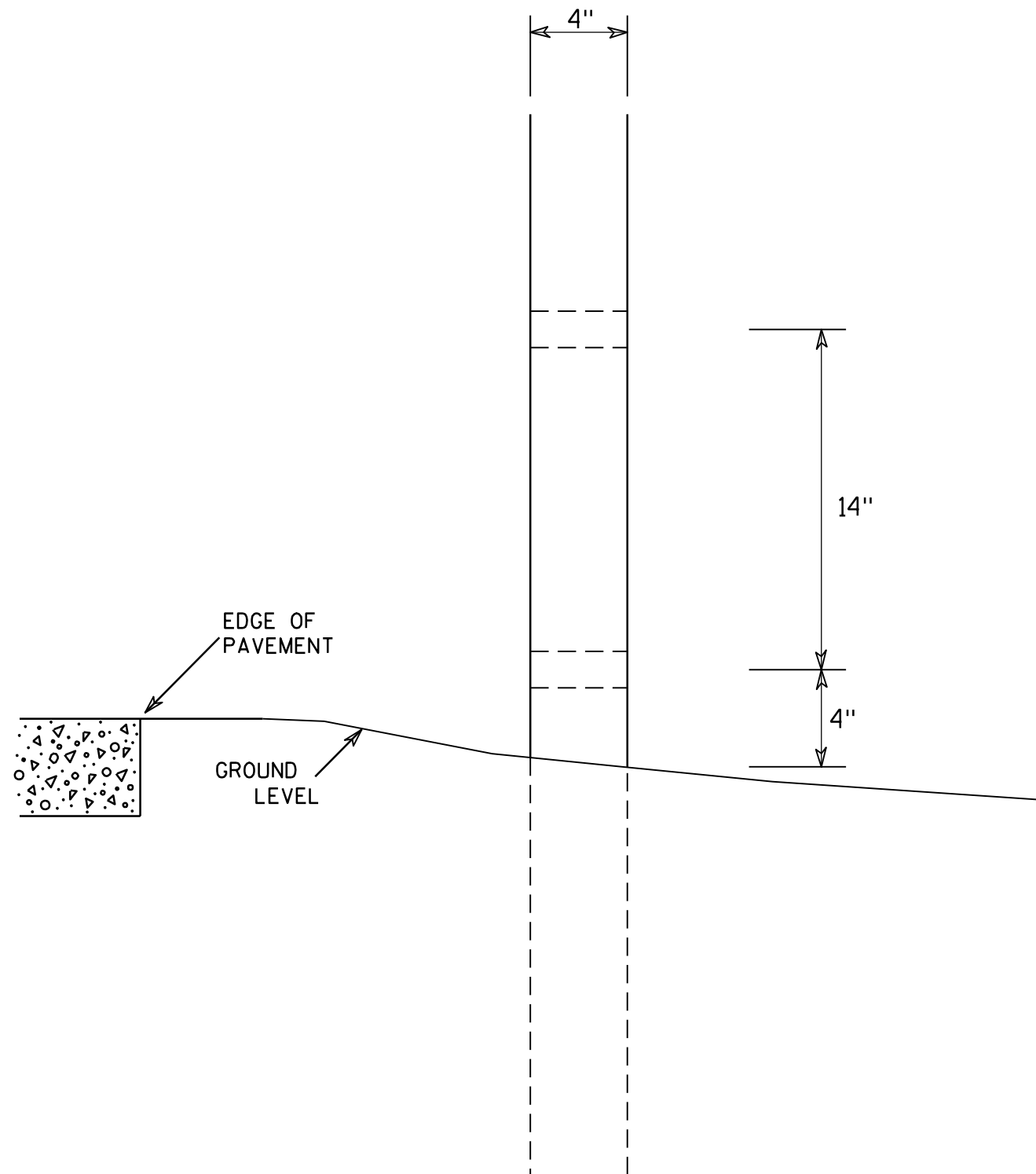
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch

for State Traffic Engineer

DATE 2/05/15 PLAT 67 14-9.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	
-------------	------	---------	--	-----------	--



SIDE VIEW

GENERAL NOTES

1. All 4 x 6 Wood Posts shall be modified by having two 1 1/2" diameter holes drilled perpendicular to the roadway centerline.

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:

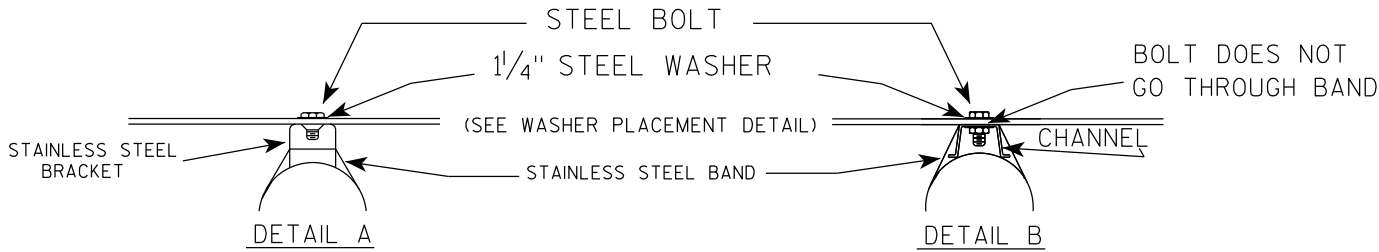
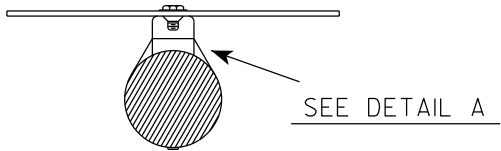
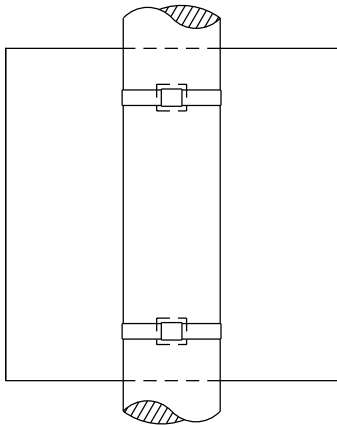
COUNTY:

SHEET NO: 68

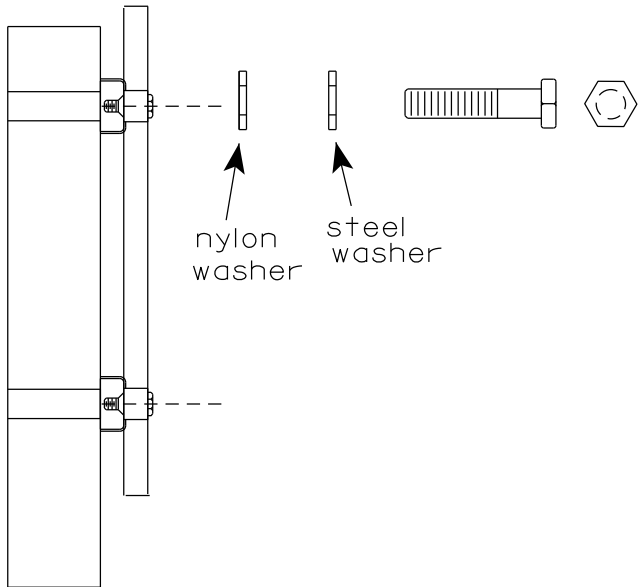
E

BANDING

SINGLE SIGN



WASHER PLACEMENT

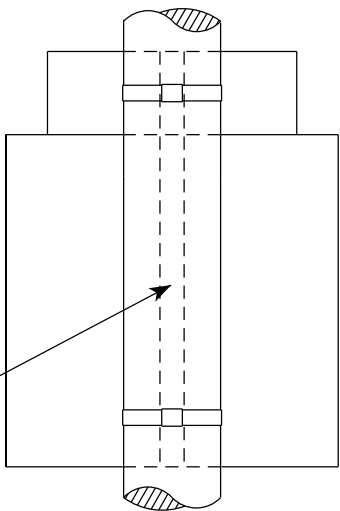


WASHERS (ALL POSTS) -
1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON
FOR ALL TYPE H SIGNS

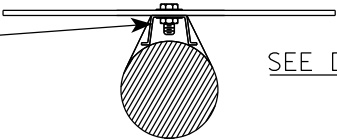
GENERAL NOTES

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



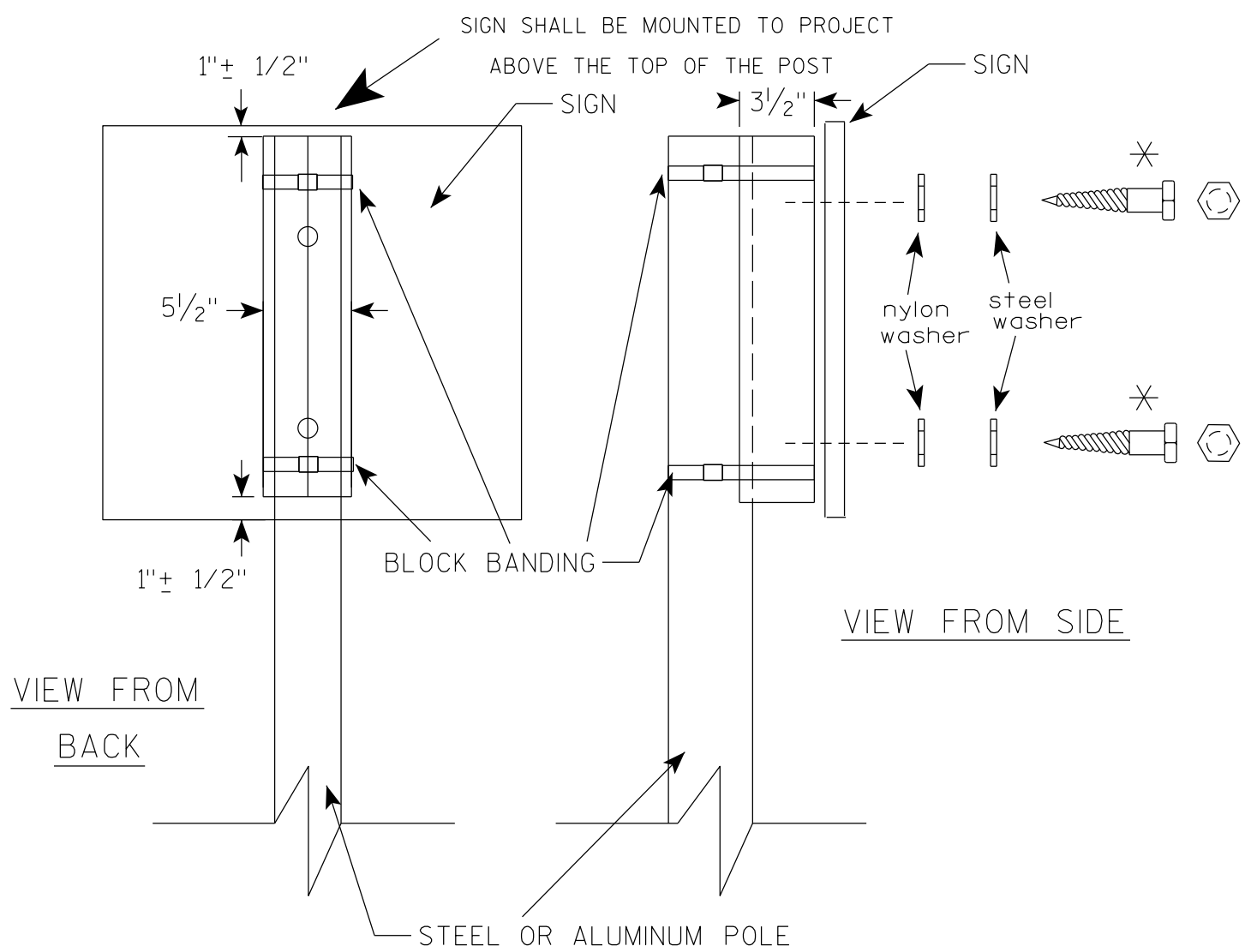
CHANNEL
SEE TYPICAL PANEL
INSTALLATION SHEET



STANDARD SIGN
SIGN BANDING DETAILS

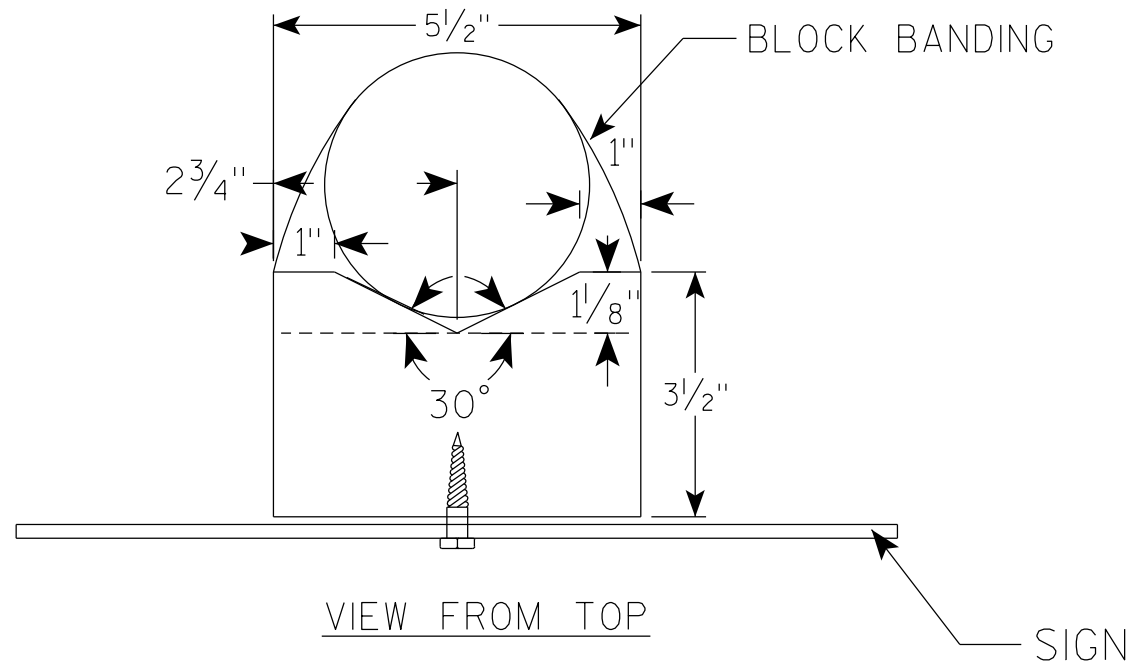
WISCONSIN DEPT OF TRANSPORTATION

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

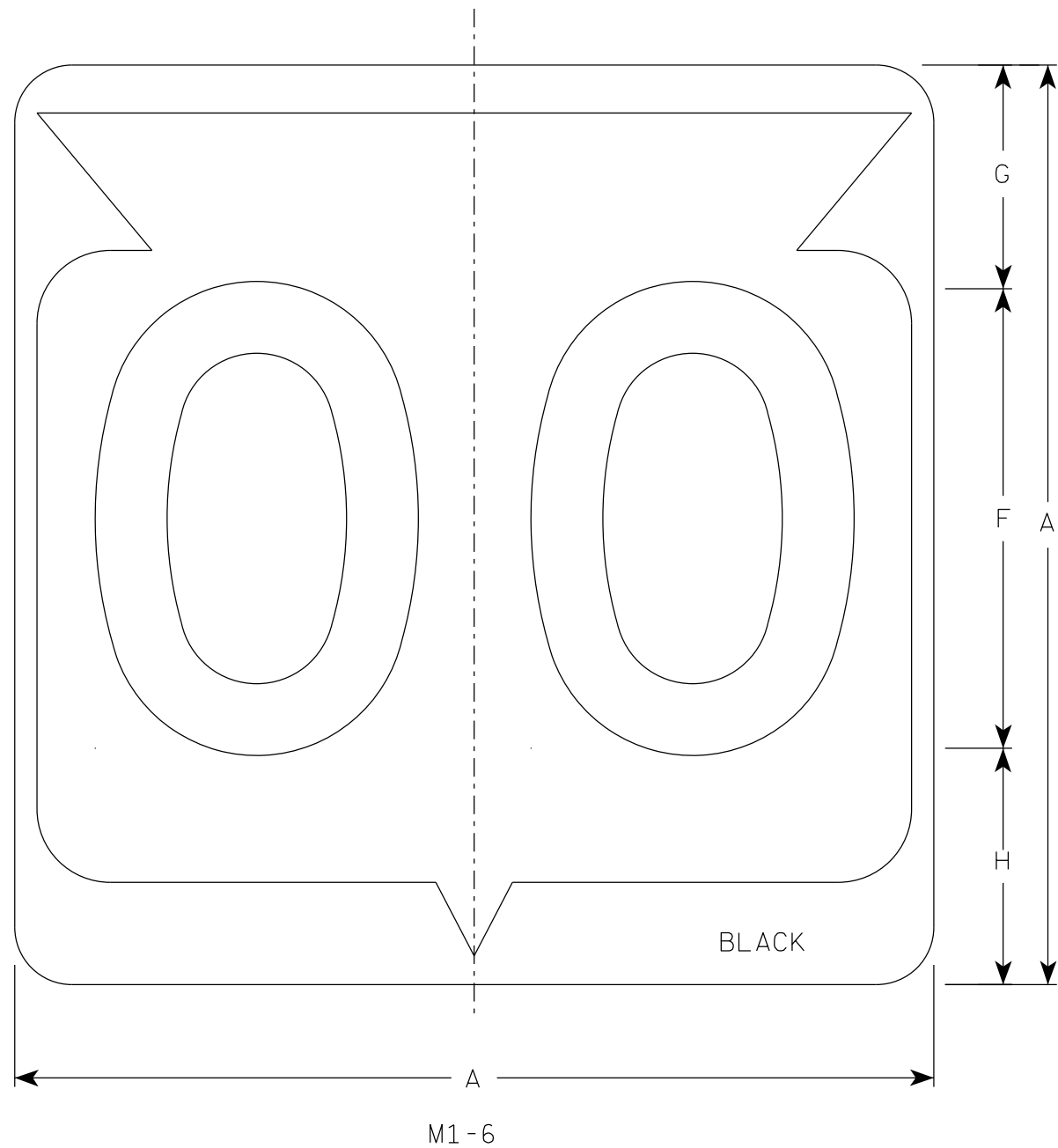
DATE 4/19/2022 PLATE NO. A5-10.3

PROJECT NO:

SHEET NO: 70

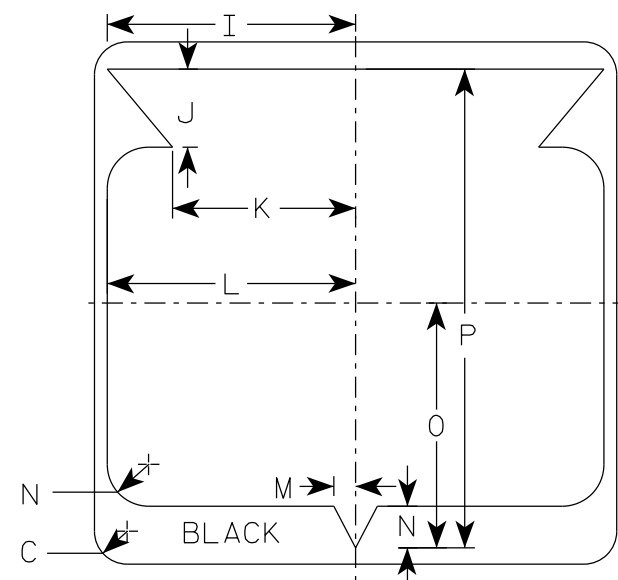
E

7



NOTES

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



7

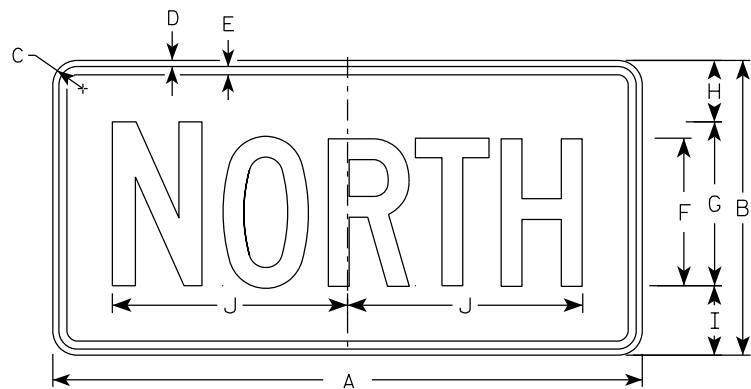
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	v	W	X	Y	Z	Area sq. ft.
1																											
2	24		1 1/2			12	5 1/2	6 1/2	10 1/4	2 1/2	8 7/8	11 1/2	1	1 7/8	11 1/4	21 7/8											4.0
2M	24		1 1/2			12	5 1/2	6 1/2	10 1/4	2 1/2	8 7/8	11 1/2	1	1 7/8	11 1/4	21 7/8											4.0
3	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0
4	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0
5	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0

STATE ROUTE MARKER
M1-6 FOR ASSEMBLIES

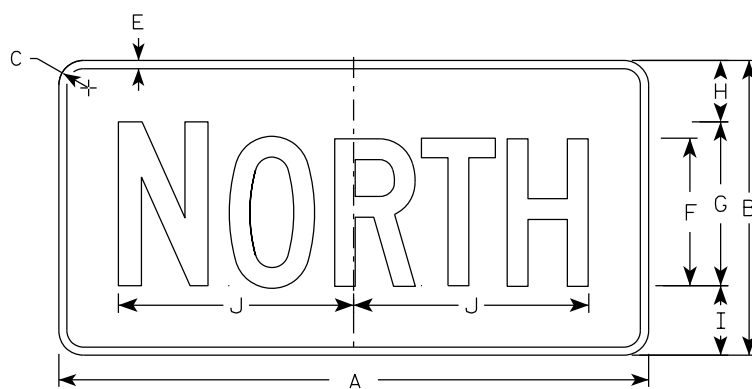
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

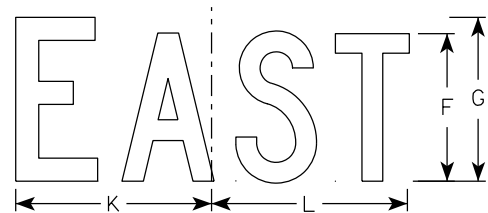
DATE 11/8/2022 PLATE NO. M1-6.11



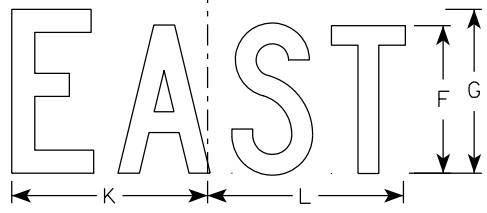
M3-1
MM3-1
MP3-1



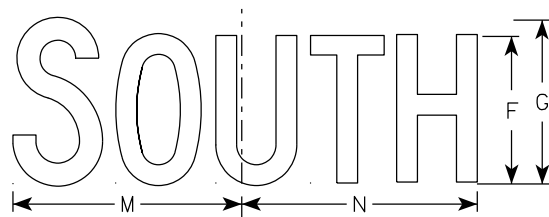
MB3-1
MK3-1
MN3-1



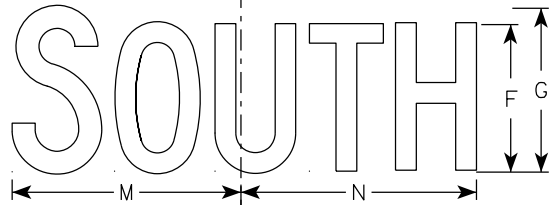
M3-2
MM3-2
MP3-2



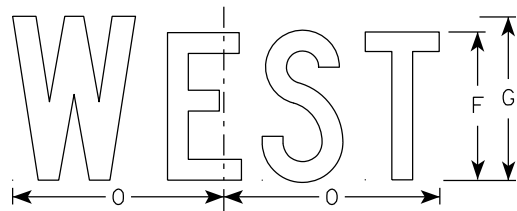
MB3-2
MK3-2
MN3-2



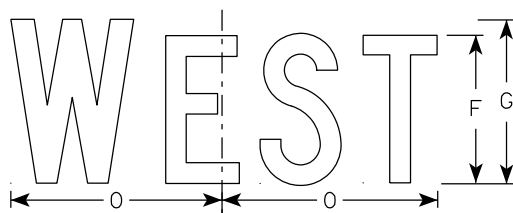
M3-3
MM3-3
MP3-3



MB3-3
MK3-3
MN3-3



M3-4
MM3-4
MP3-4



MB3-4
MK3-4
MN3-4

NOTES

- All Signs Type II - Type H Reflective
- Color:
Background - See note 5
Message - See note 5
- 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.
- M3-1 thru M3-4 Background - White
Message - Black
MB3-1 thru MB3-4 Background - Blue
Message - White
MK3-1 thru MK3-4 Background - Green
Message - White
MM3-1 thru MM3-4 Background - White
Message - Green
MN3-1 thru MN3-4 Background - Brown
Message - White
MP3-1 thru MP3-4 Background - White
Message - Blue
- Note the first letter of each direction is larger than the remainder of the message.

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	24	12	1 1/2	3/8	3/8	6	7	2 1/4	2 3/4	10 1/4	7 7/8	8 3/8	10 1/4	9 3/4	8 3/4												2.00
2M	24	12	1 1/2	3/8	3/8	6	7	2 1/4	2 3/4	10 1/4	7 7/8	8 3/8	10 1/4	9 3/4	8 3/4												2.00
3	36	18	1 1/2	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13												4.5
4	36	18	1 1/2	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13												4.5
5	36	18	1 1/2	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13												4.5

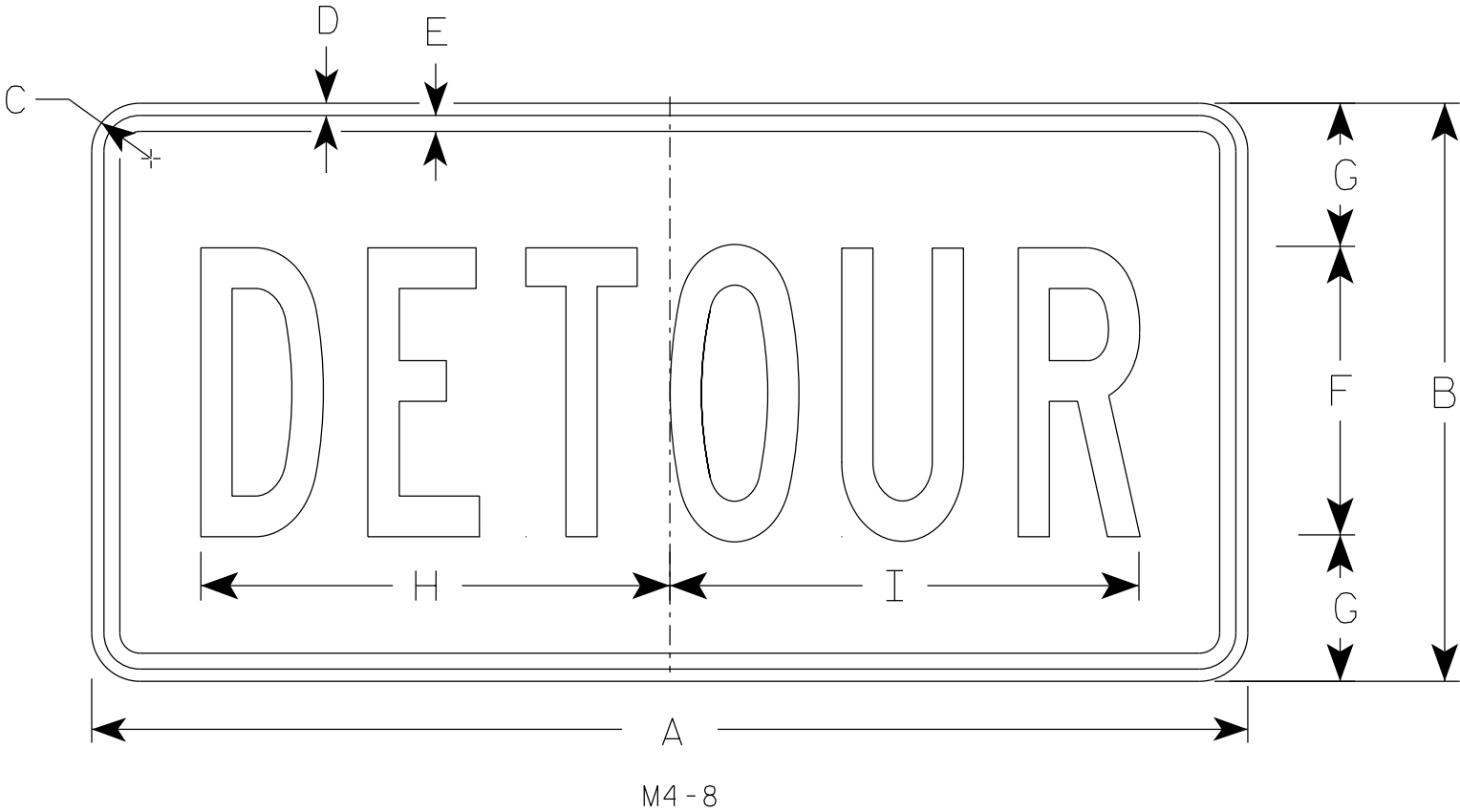
PROJECT NO:	HWY:	COUNTY:	SHEET NO: 72	E
-------------	------	---------	--------------	---

7

7

NOTES

- 1. Sign is Type II - Type F Reflective
- 2. Color:
Background - Orange
Message - Black
- 3. Message Series - B
- 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.



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	24	12	1 1/2	3/8	3/8	6	3	10	10 1/4																		2.0
2M	24	12	1 1/2	3/8	3/8	6	3	10	10 1/4																		2.0
3	36	18	1 1/2	3/8	1/2	9	4 1/2	14 5/8	14 1/2																		4.5
4	36	18	1 1/2	3/8	1/2	9	4 1/2	14 5/8	14 1/2																		4.5
5	36	18	1 1/2	3/8	1/2	9	4 1/2	14 5/8	14 1/2																		4.5

STANDARD SIGN

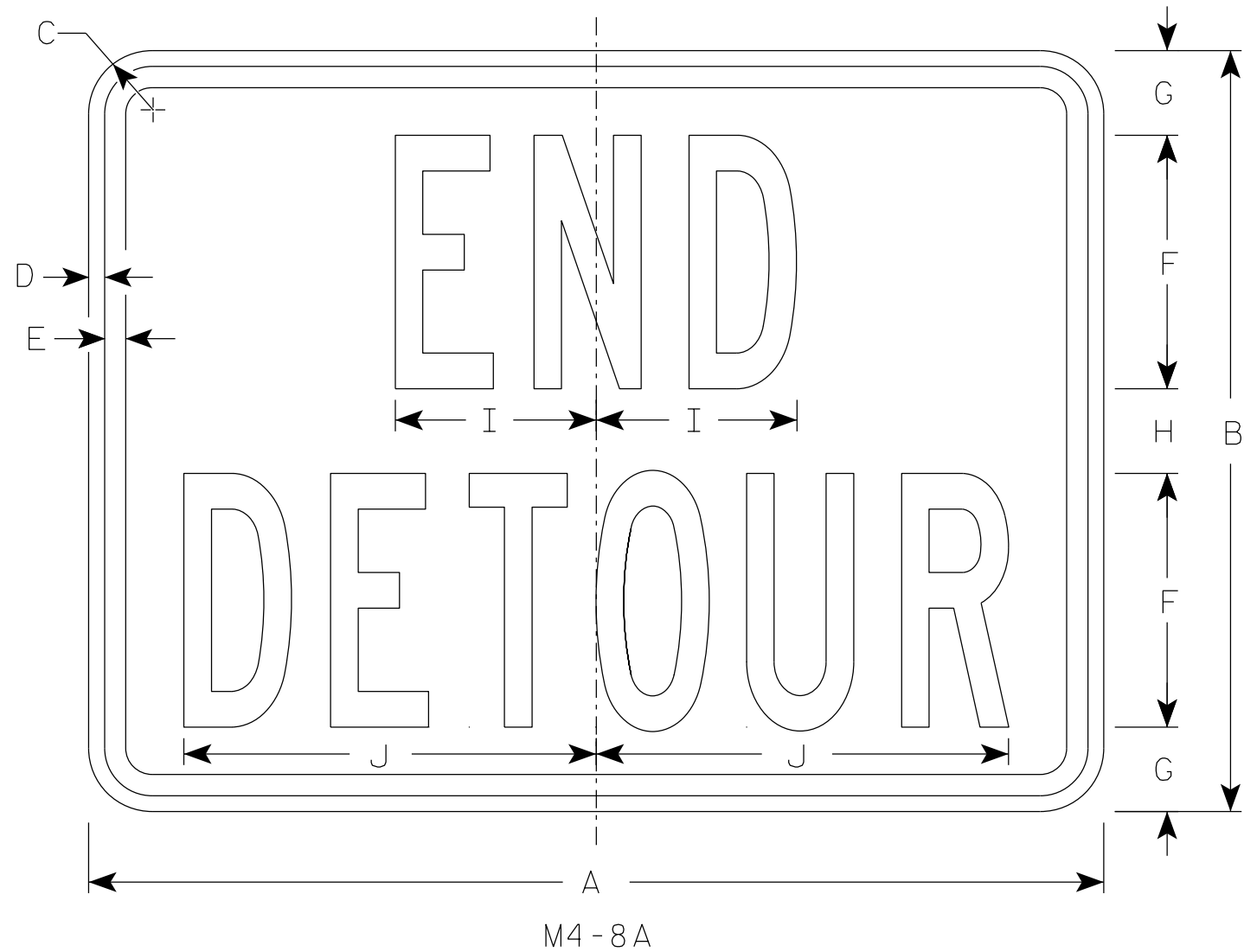
M4-8

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 2/9/2023 PLATE NO. M4-8.4

7



NOTES

- 1. Sign is Type II - Type F Reflective
- 2. Color:
 - Background - Orange
 - Message - Black
- 3. Message Series - B
- 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.

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																											
2	24	18	1 1/2	3/8	1/2	6	2	2	4 3/4	9 3/4																	3.0
2M	24	18	1 1/2	3/8	1/2	6	2	2	4 3/4	9 3/4																	3.0
3	30	24	1 1/2	3/8	1/2	8	2 1/2	3	6 3/4	13																	5.0
4	30	24	1 1/2	3/8	1/2	8	2 1/2	3	6 3/4	13																	5.0
5	30	24	1 1/2	3/8	1/2	8	2 1/2	3	6 3/4	13																	5.0

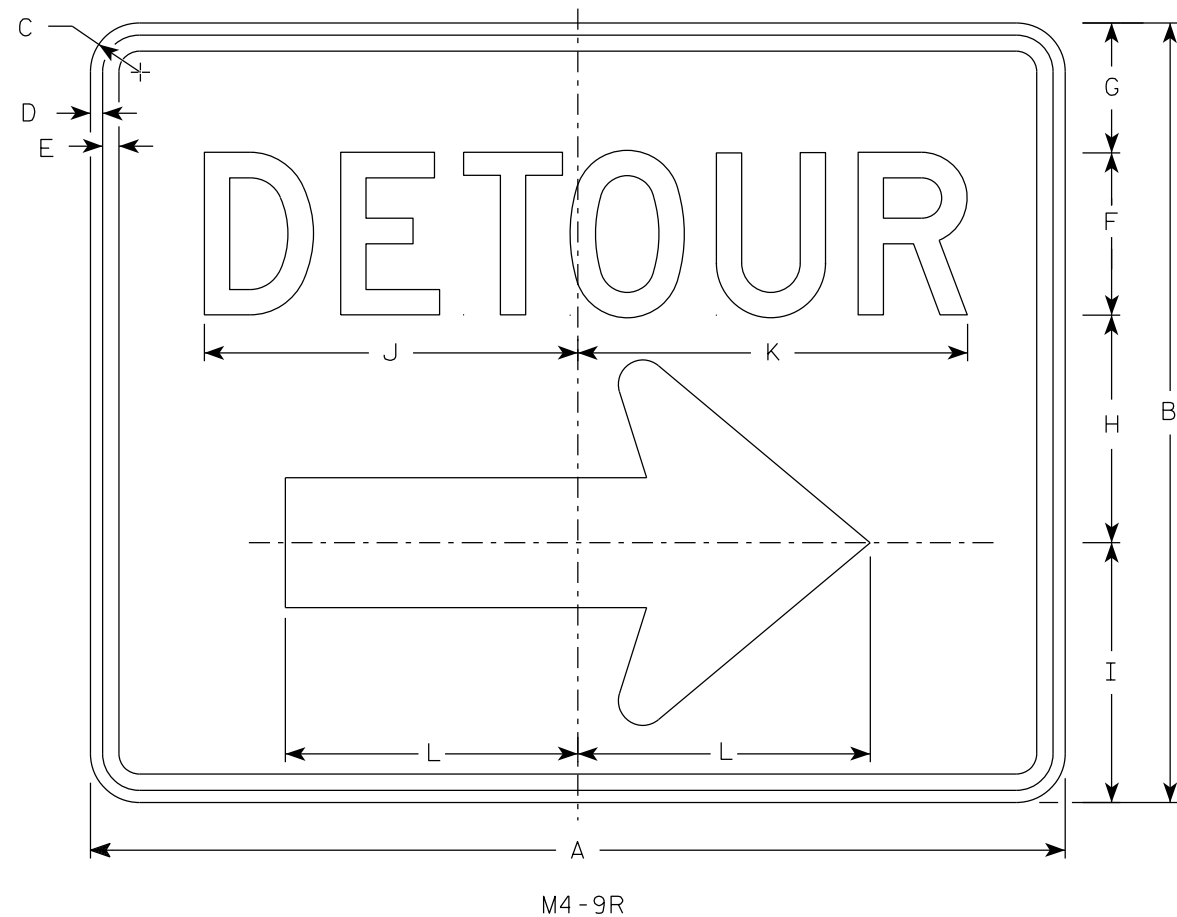
STANDARD SIGN

M4-8A

WISCONSIN DEPT OF TRANSPORTATION

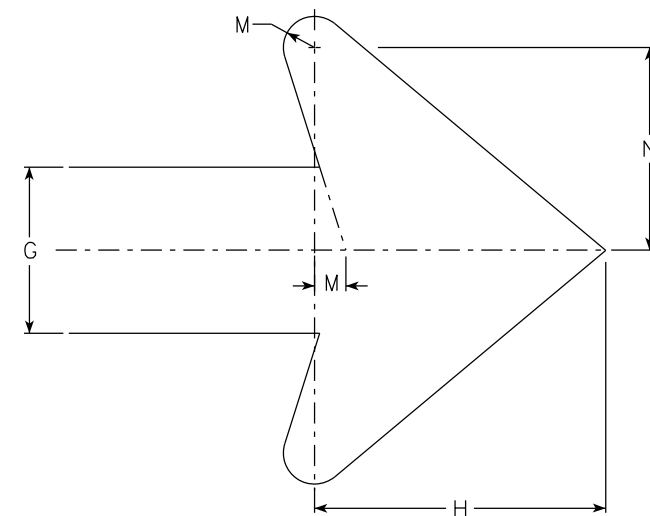
APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 2/9/2023 PLATE NO. M4-8A.4



NOTES

1. Sign is Type II - Type F Reflective
2. Color:
Background - Orange
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.
4. M4-9L is the same as M4-9R except the arrow is reversed.



Arrow Detail

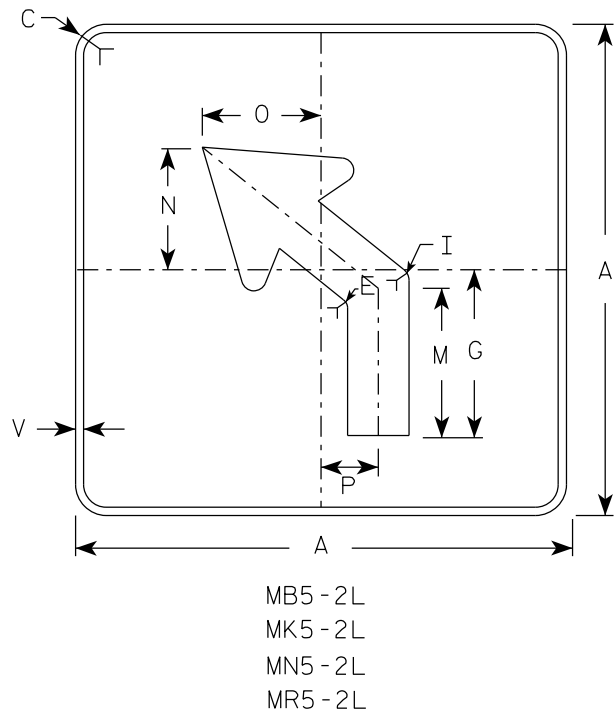
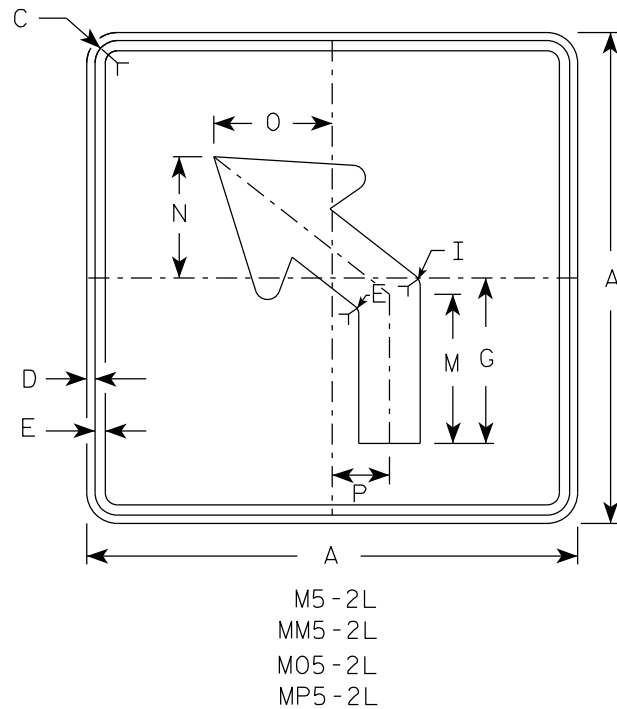
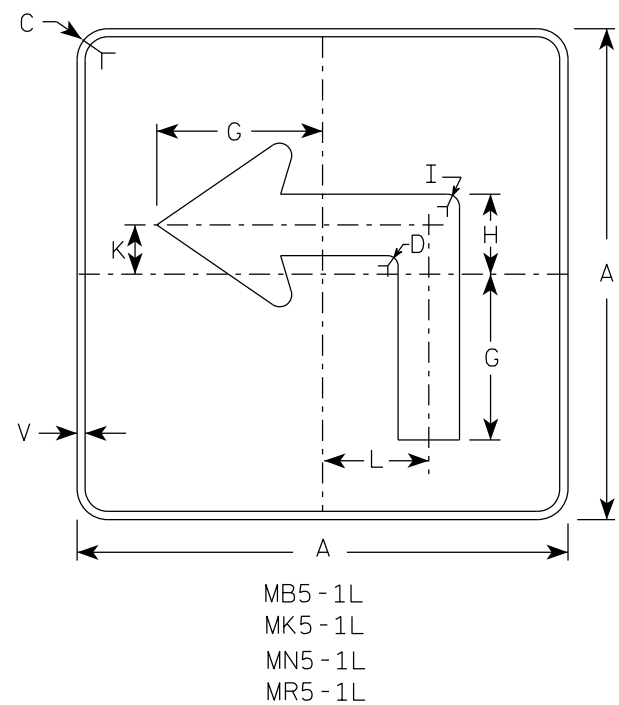
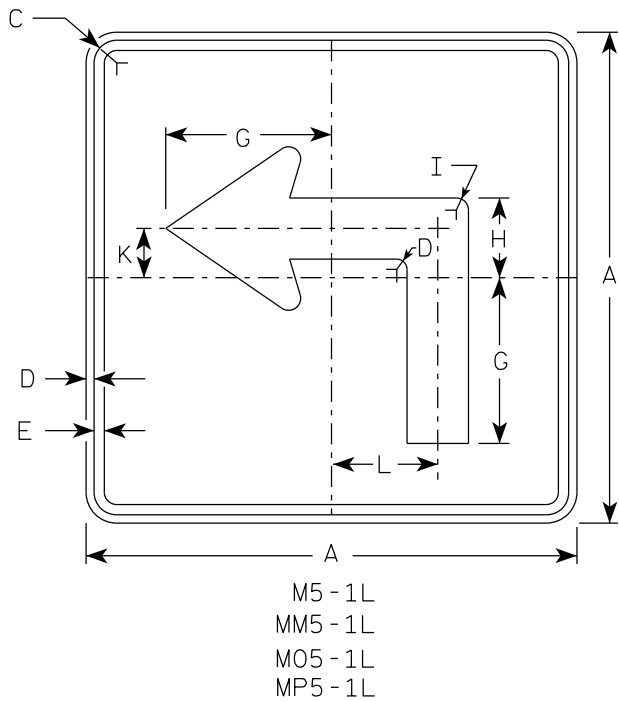
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	30	24	1 1/2	3/8	1/2	5	4	7	8	11 1/2	12	9	3/4	4 7/8													5.00
2M	30	24	1 1/2	3/8	1/2	5	4	7	8	11 1/2	12	9	3/4	4 7/8													5.00
3	30	24	1 1/2	3/8	1/2	5	4	7	8	11 1/2	12	9	3/4	4 7/8													5.00
4	48	36	1 7/8	1/2	5/8	8	6	10 1/2	11 5/8	20 5/8	20 1/2	13 1/4	1 1/8	6 7/8													12.0
5	48	36	1 7/8	1/2	5/8	8	6	10 1/2	11 5/8	20 5/8	20 1/2	13 1/4	1 1/8	6 7/8													12.0

STANDARD SIGN
M4-9 R & L

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer

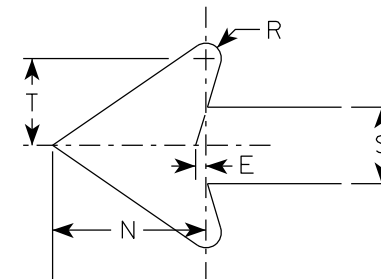
DATE 2/9/2023 PLATE NO. M4-9R.6



NOTES

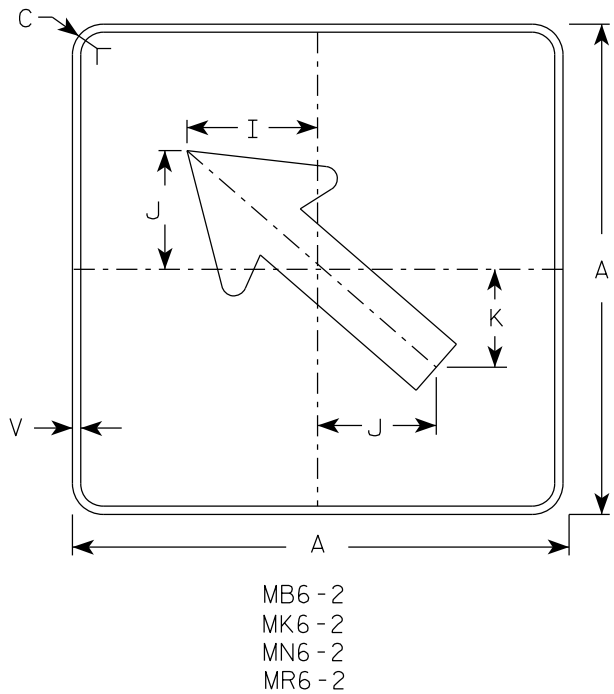
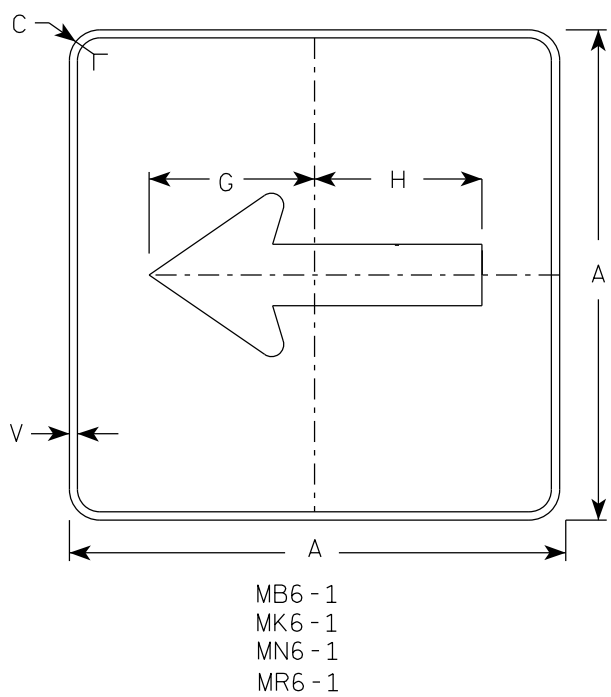
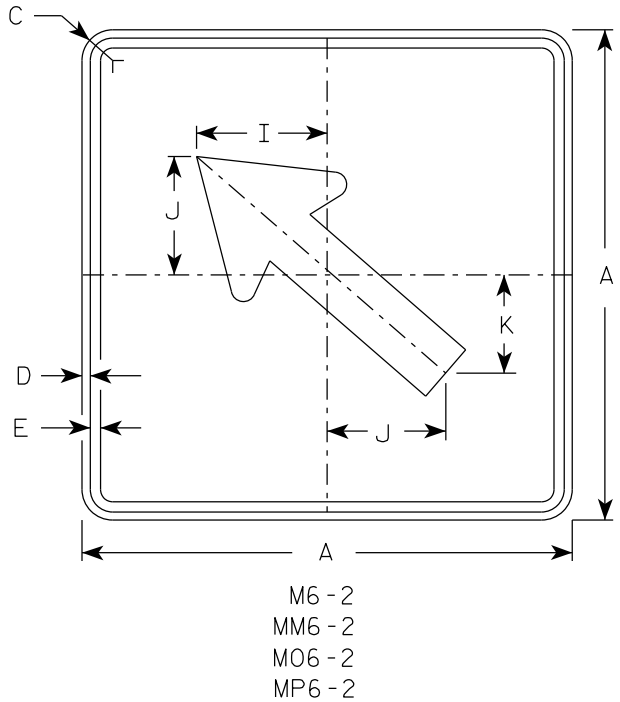
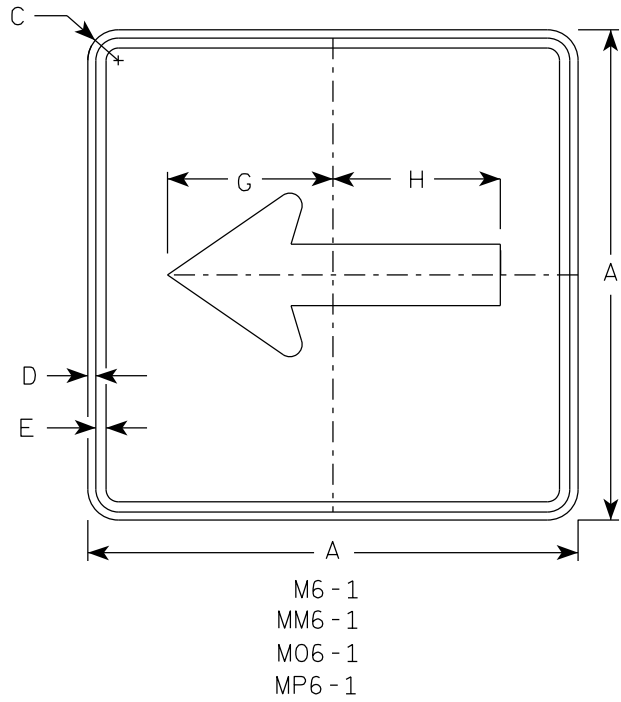
- Signs are Type II - Type H reflective except as shown
- Color:
Background - See note 4
Message - See note 4
- Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
- | | | |
|-----------|-------|---|
| M5-1 and | M5-2 | Background - White |
| | | Message - Black |
| MB5-1 and | MB5-2 | Background - Blue |
| | | Message - White |
| MK5-1 and | MK5-2 | Background - Green |
| | | Message - White |
| MM5-1 and | MM5-2 | Background - White |
| | | Message - Green |
| MN5-1 and | MN5-2 | Background - Brown |
| | | Message - White |
| M05-1 and | M05-2 | Background - Orange - Type F Reflective |
| | | Message - Black |
| MP5-1 and | MP5-2 | Background - White |
| | | Message - Blue |
| MR5-1 and | MR5-2 | Background - Brown |
| | | Message - Yellow |
- M5-1R same as M5-1L except arrow points right.
- M5-2R same as M5-2L except arrow tilts right.

ARROW DETAIL

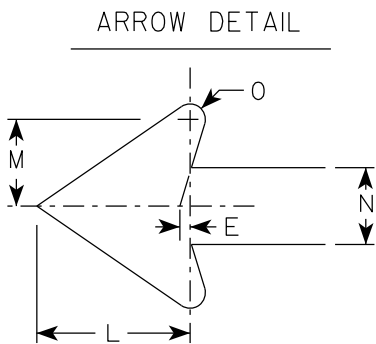


SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	21		1 1/2	3/8	3/8		7	3 3/8	5/8		2 1/8	4 1/2	6 3/8	5 1/4	5	2 1/2		1/2	2 5/8	3		1/2					3.06
2M	21		1 1/2	3/8	3/8		7	3 3/8	5/8		2 1/8	4 1/2	6 3/8	5 1/4	5	2 1/2		1/2	2 5/8	3		1/2					3.06
3	30		1 7/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4		1/2					6.25
4	30		1 7/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4		1/2					6.25
5	30		1 7/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4		1/2					6.25

PROJECT NO:	HWY:	COUNTY:	SHEET NO: 76	E
-------------	------	---------	--------------	---



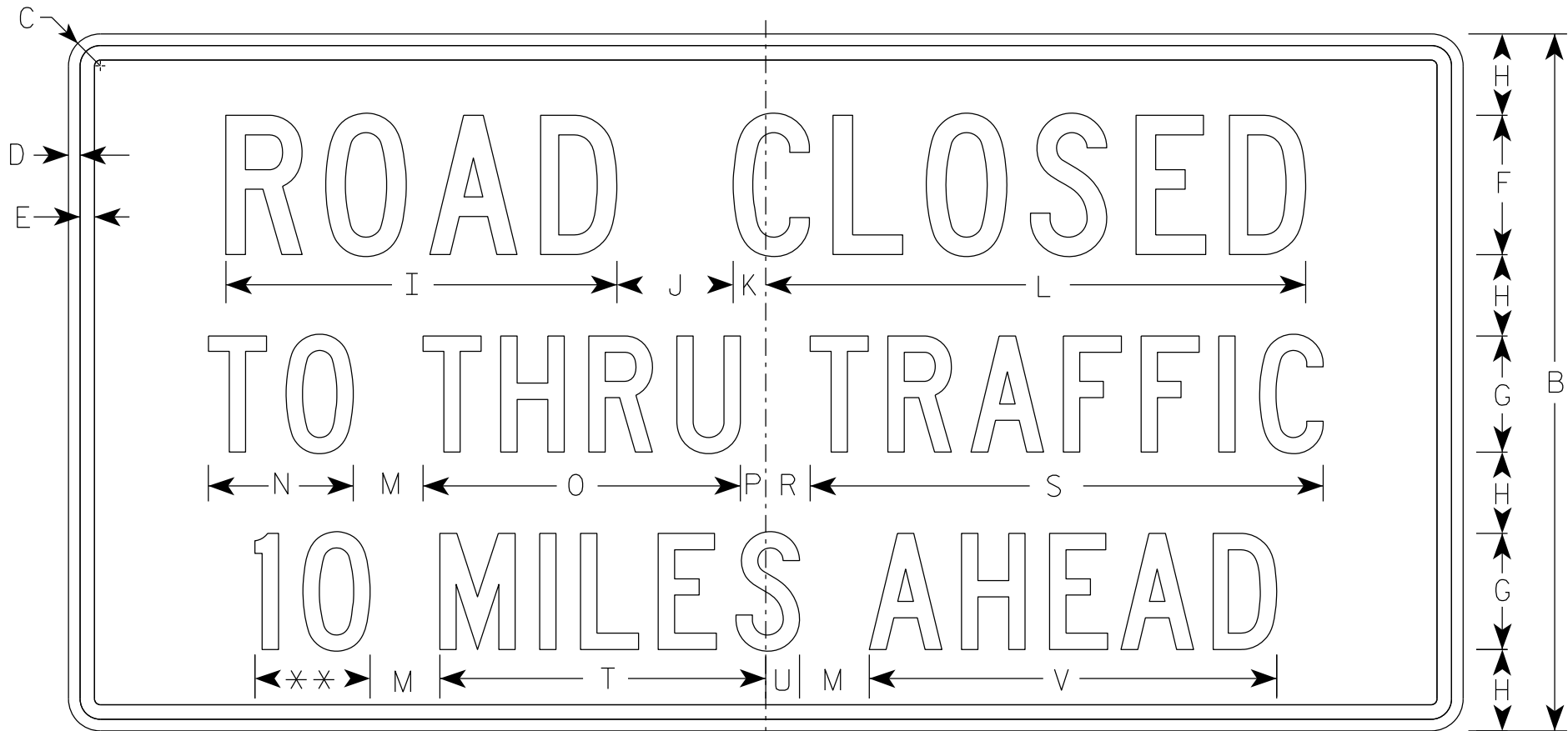
- NOTES**
- Signs are Type II - Type H Reflective except as Shown
 - Color:
Background - See note 4
Message - See note 4
 - Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
 - M6-1 and M6-2 Background - White
Message - Black
MB6-1 and MB6-2 Background - Blue
Message - White
MK6-1 and MK6-2 Background - Green
Message - White
MM6-1 and MM6-2 Background - White
Message - Green
MN6-1 and MN6-2 Background - Brown
Message - White
M06-1 and M06-2 Background - Orange - Type F Reflective
Message - Black
MP6-1 and MP6-2 Background - White
Message - Blue
MR6-1 and MR6-2 Background - Brown
Message - 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																											
2S	21		1 1/2	3/8	3/8		7 1/2	7 1/8	5 5/8	5	4 1/4	5 1/4	3	2 5/8	1/2							1/2					3.06
2M	21		1 1/2	3/8	3/8		7 1/2	7 1/8	5 5/8	5	4 1/4	5 1/4	3	2 5/8	1/2							1/2					3.06
3	30		1 7/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4							1/2					6.25
4	30		1 7/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4							1/2					6.25
5	30		1 7/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4							1/2					6.25

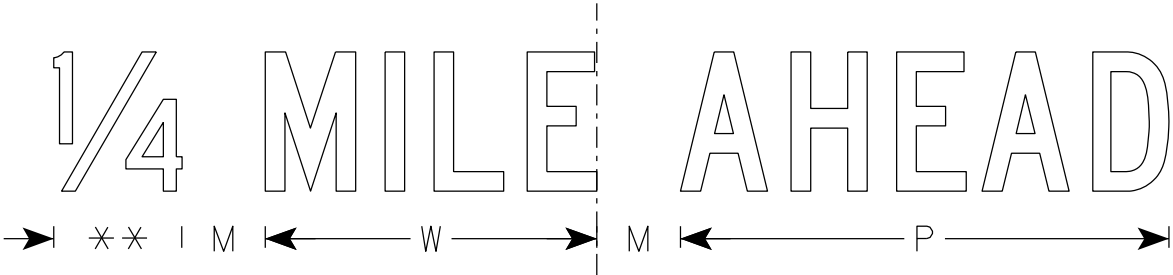
NOTES

- 1. Sign is Type II - Type H Reflective
- 2. Color:
Background - White
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.
- 5. Substitute appropriate numerals to nearest quarter mile and optically adjust spacing to achieve proper balance.



R11-3

** See Note 5



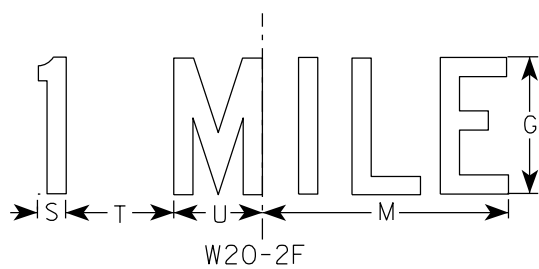
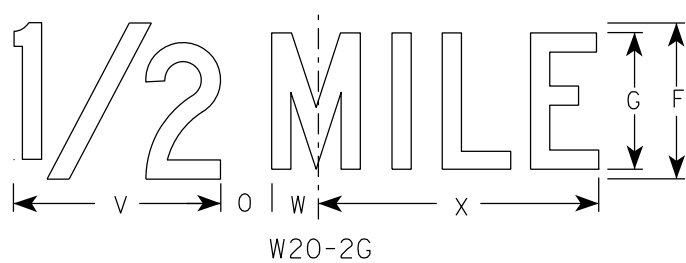
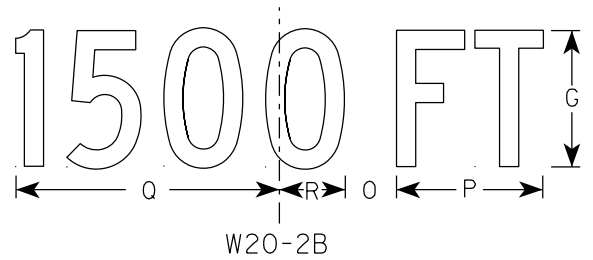
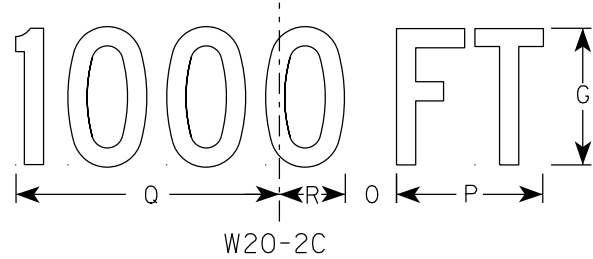
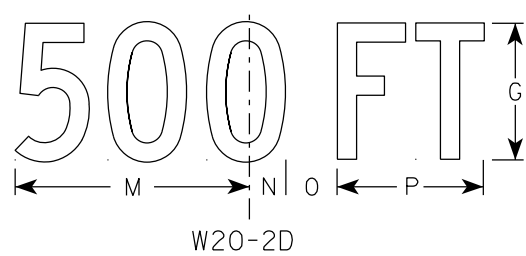
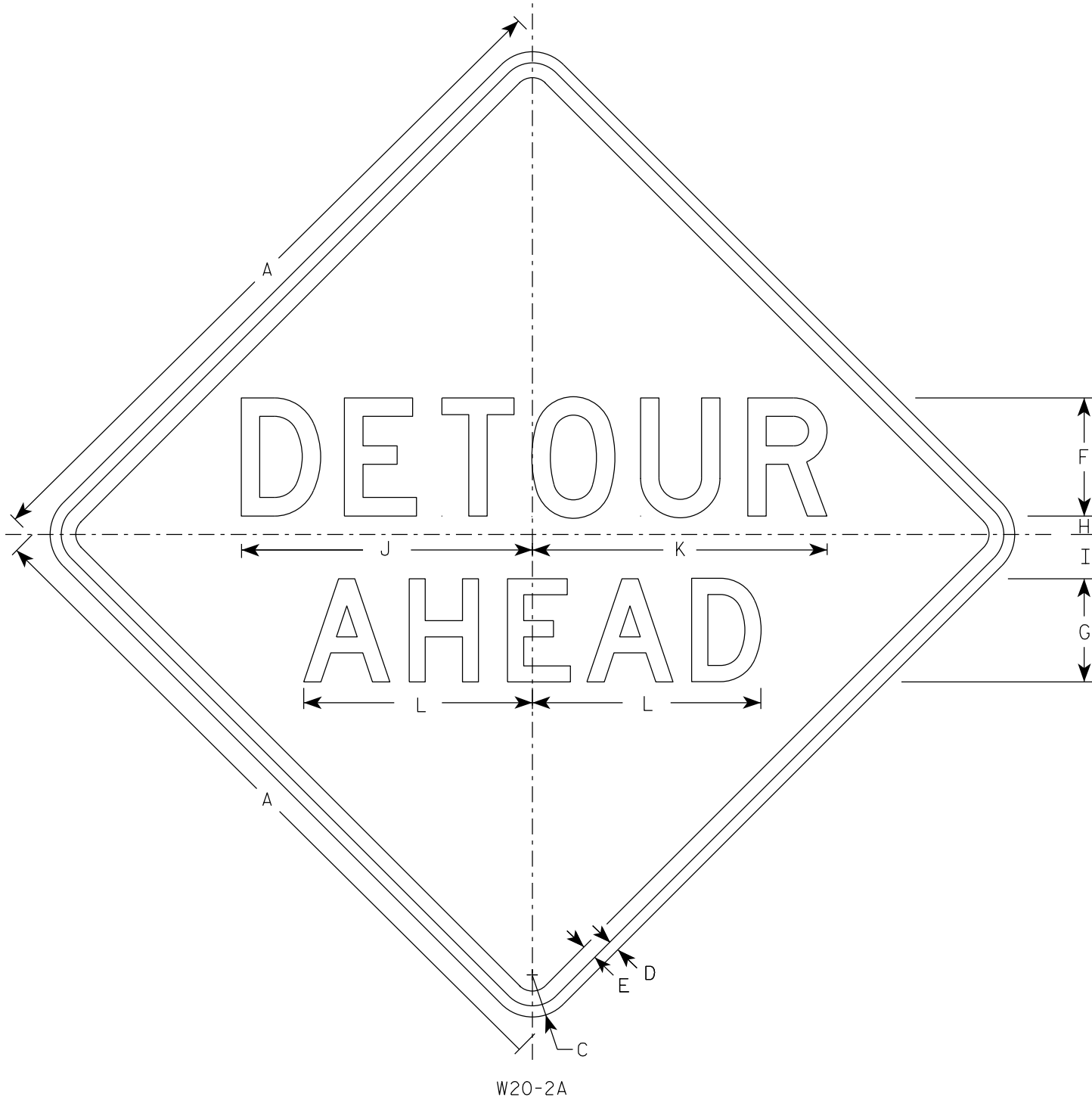
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36	18	1 1/2	3/8	3/8	4	3	2	11 1/4	3	1 1/8	15 3/8	2	3 3/4	8 1/4	5/8		1 3/8	13 1/4	8 3/8	7/8	10 1/2	7 1/8				4.5
2S	60	30	1 7/8	1/2	5/8	6	5	3 1/2	16 7/8	5	1 3/8	23 1/4	3	6 1/4	13 5/8	1 1/8		1 7/8	22 1/8	14	1 1/2	17 1/2	11 7/8				12.5
2M	60	30	1 7/8	1/2	5/8	6	5	3 1/2	16 7/8	5	1 3/8	23 1/4	3	6 1/4	13 5/8	1 1/8		1 7/8	22 1/8	14	1 1/2	17 1/2	11 7/8				12.5
3																											
4																											
5																											

STANDARD SIGN
R11-3

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 2/5/24 PLATE NO. R11-3.10



NOTES

- Sign is Type II - Type F Reflective
- Color:
Background - Orange
Message - Black
- Message Series - See note 5
- 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.
- Line 1 is Series D.
Line 2 is Series D for AHEAD and Series C for all other distances.

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	6	5	1	2 1/4	14 3/4	15	11 5/8	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	8	1 3/4	10 3/4			9.0
2S	48		3	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
2M	48		3	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
3	48		3	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
4	48		3	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
5	48		3	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0

STANDARD SIGN W20-2A,B,C,D,F & G	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> For State Traffic Engineer
DATE 1/10/2024	PLATE NO. W20-2.7

PROJECT NO:	HWY:	COUNTY:	SHEET NO: 79	E
-------------	------	---------	--------------	---

DESIGN DATA

LIVE LOAD:

DESIGN LOADING	HL-93
INVENTORY RATING FACTOR	RF=1.21
OPERATING RATING FACTOR	RF=1.57
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV)	250 KIPS

STRUCTURE IS DESIGNED FOR A FUTURE WEARING SURFACE OF 20 P.S.F.

MATERIAL PROPERTIES:

CONCRETE MASONRY, SUPERSTRUCTURE	$f'_c = 4,000$ P.S.I.
ALL OTHER	$f'_c = 3,500$ P.S.I.

HIGH-STRENGTH BAR STEEL REINFORCEMENT, GRADE 60	$f_y = 60,000$ P.S.I.
36W-INCH PRESTRESSED GIRDER	
CONCRETE MASONRY	$f'_c = 8,000$ P.S.I.
STRANDS 0.6-INCH DIA.	
ULTIMATE TENSILE STRENGTH	$F_y = 270,000$ P.S.I.

FOUNDATION DATA

ABUTMENTS AND PIERS TO BE SUPPORTED ON PILING STEEL HP 12-INCH X 53 LB SEATED IN PRE-BORED HOLED CORED 5 FEET MINIMUM INTO ROCK. PILE DRIVING IS NOT REQUIRED. THE FACTORED AXIAL RESISTANCE OF THE PILES IN COMPRESSION USED FOR DESIGN IS 130** TONS AT THE ABUTMENT AND 210** TONS AT THE PIERS. ESTIMATED PILE LENGTHS ARE 25 FT. AT BOTH ABUTMENTS AND 30 FT. AT BOTH PIERS.

**THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS MULTIPLIED BY A RESISTANCE FACTOR OF 0.5.

TRAFFIC DATA

A.D.T. (2027)	1,100
A.D.T. (2047)	1,300
DESIGN SPEED	60 M.P.H.

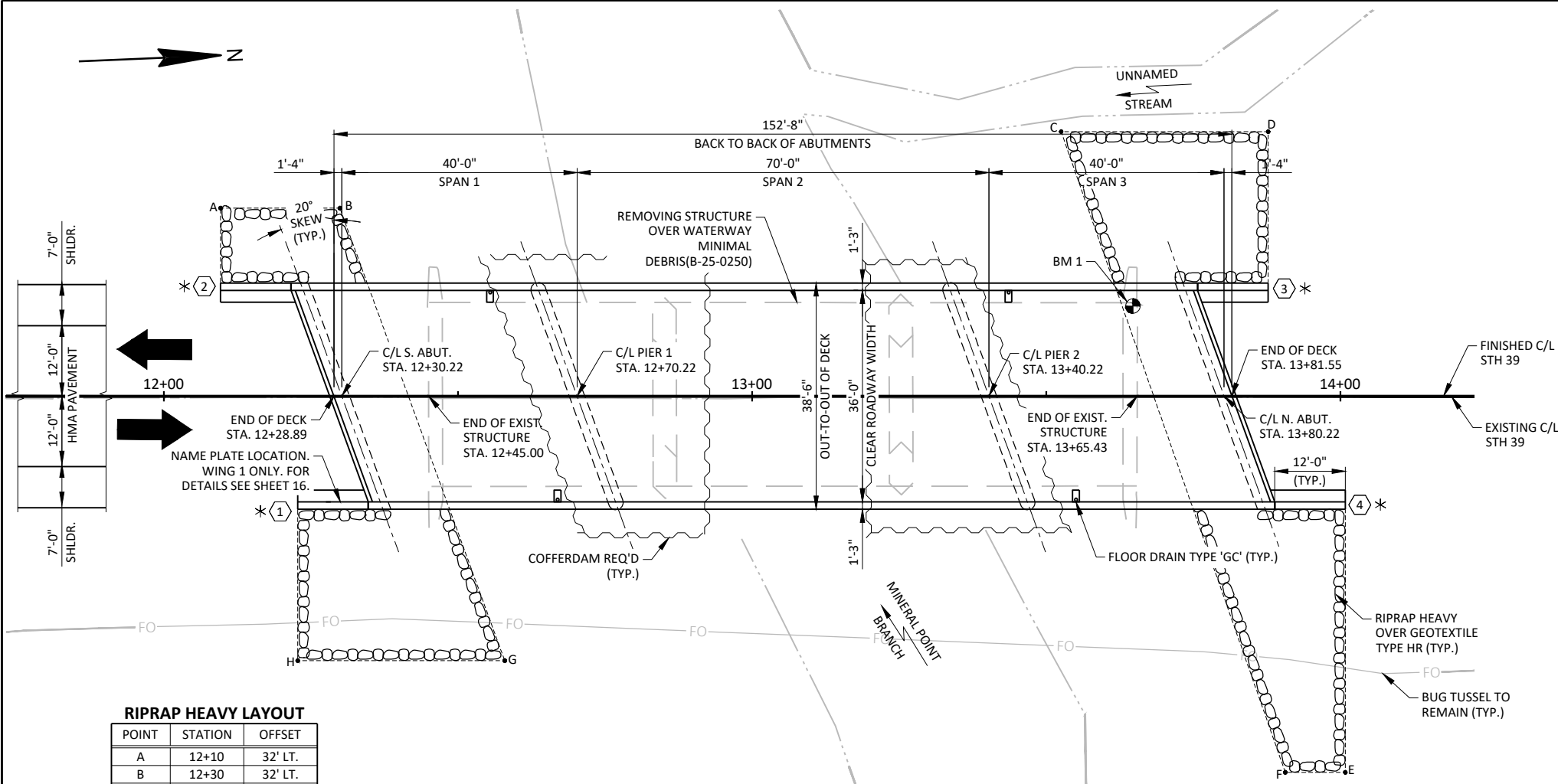
HYDRAULIC DATA

100 YEAR FREQUENCY DRAINAGE AREA	24.1 SQ. MI.
Q ₁₀₀ TOTAL	5,400 C.F.S.
THROUGH STRUCTURE	5,400 C.F.S.
OVERTOPPING ROADWAY	N.A.
VELOCITY - THROUGH STRUCTURE	5.8 F.P.S.
WATERWAY AREA - THROUGH STRUCTURE	931 SQ. FT.
HIGH WATER ₁₀₀ ELEVATION	914.31
SCOUR CRITICAL CODE	5

Q ₂	1,230 C.F.S.
VELOCITY ₂	2.2 F.P.S.
HIGH WATER ₂ ELEVATION	910.88

LIST OF DRAWINGS

GENERAL PLAN	1.
CROSS SECTION AND QUANTITIES	2.
SUBSURFACE EXPLORATION	3.
SOUTH ABUTMENT	4.
SOUTH ABUTMENT DETAILS	5.
NORTH ABUTMENT	6.
NORTH ABUTMENT DETAILS	7.
ABUTMENT DETAILS	8.
PIER 1	9.
PIER 2	10.
GIRDER LAYOUT	11.
36W PRESTRESSED GIRDER DETAILS	12.
STEEL DIAPHRAGM	13.
SUPERSTRUCTURE	14.
SUPERSTRUCTURE DETAILS	15.
SINGLE SLOPE PARAPET 42SS	16.
FLOOR DRAIN TYPE 'GC'	17.



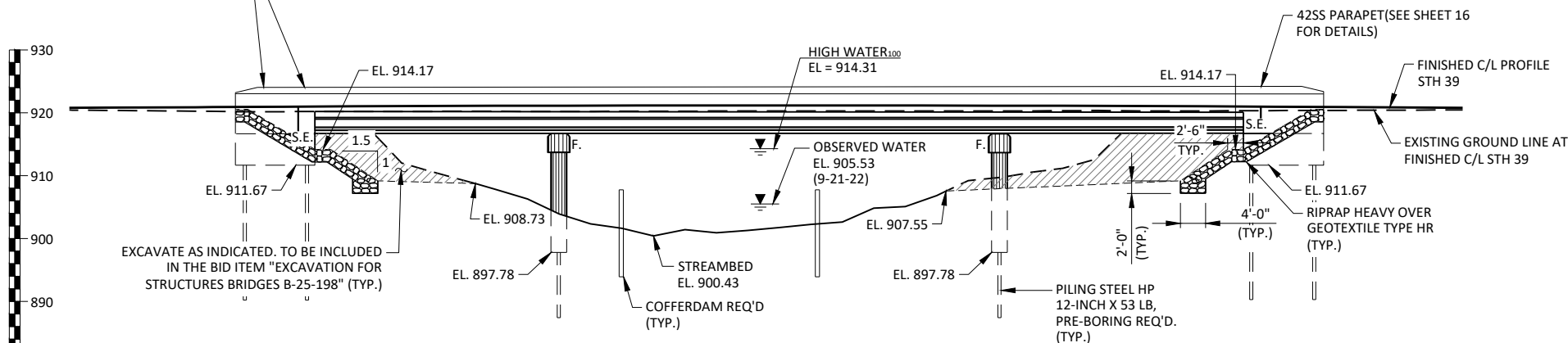
RIPRAP HEAVY LAYOUT

POINT	STATION	OFFSET
A	12+10	32' LT.
B	12+30	32' LT.
C	13+53	45' LT.
D	13+88	45' LT.
E	14+01	64' RT.
F	13+91	64' RT.
G	12+58	45' RT.
H	12+23	45' RT.

BENCH MARKS

NO.	STA.	DESCRIPTION	ELEV.
927	10+32	CAPPED IRON ROD FOUND, 41.6' RT.	920.61
5001	13+65	CHISELED BOX AT NE HEADWALL, 15.3' LT.	920.92
5005	15+29	CAPPED IRON ROD FOUND, 26.5' RT.	918.16
5003	15+79	CAPPED IRON ROD FOUND, 26.2' LT.	918.28

NAME PLATE LOCATION AND BENCHMARK CAP (WHEN SUPPLIED). WING 1 ONLY. FOR DETAILS SEE SHEET 16.



DESIGN CONSULTANT

COLTON PEPER, PE
(608) 588-7484

BRIDGE OFFICE CONTACT

AARON BONK, PE
(608) 261-0261

NO.	DATE	REVISION	BY
JEWELL			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
ACCEPTED			JLR 08/12/26 DATE
CHIEF STRUCTURES DESIGN ENGINEER			
STRUCTURE B-25-198			
STH 39 OVER MINERAL POINT BRANCH			
COUNTY	IOWA	TOWN/VILLAGE	MINERAL POINT
DESIGN SPEC.	AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS		
DESIGNED BY	CTMP	DESIGN CK'D.	PTB
DRAWN BY	CTMP	PLANS CK'D.	PTB
GENERAL PLAN			SHEET 1 OF 17
			80

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

ELEVATIONS SHOWN ON THE PLAN ARE REFERENCED TO THE NAVD 88 (2012 ADJUSTMENT).

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

JOINT FILLER SHALL CONFORM TO A.A.S.H.T.O. DESIGNATION M153, TYPE I, II OR III OR A.A.S.H.T.O. DESIGNATION M213.

THE HAUNCH CONCRETE QUANTITY IS BASED ON THE AVERAGE HAUNCH SHOWN ON THE PRESTRESSED GIRDER DETAILS SHEET, WHICH IS THE MAXIMUM HAUNCH QUANTITY FOR WHICH THE CONTRACTOR WILL BE PAID.

THE SLOPE OF FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH RIPRAP HEAVY AND GEOTEXTILE TYPE HR TO THE EXTENT SHOWN ON SHEET 1 AND IN THE ABUTMENT DETAILS, OR AS DIRECTED BY THE ENGINEER IN THE FIELD.

AT THE BACK FACE OF ABUTMENTS, ALL VOLUME WHICH CANNOT BE PLACED BEFORE ABUTMENT CONSTRUCTION AND IS NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH BACKFILL STRUCTURE TYPE A. SEE THIS SHEET FOR DETAIL.

ANY EXCAVATION BELOW THE ABUTMENT AND ASSOCIATED ABUTMENT BEDDING MATERIALS REQUIRE THE APPROVAL OF THE ENGINEER IN THE FIELD.

APPLY PROTECTIVE SURFACE TREATMENT TO THE TOP OF THE DECK AND THE VERTICAL AND HORIZONTAL FACES OF ALL PAVING NOTCHES.

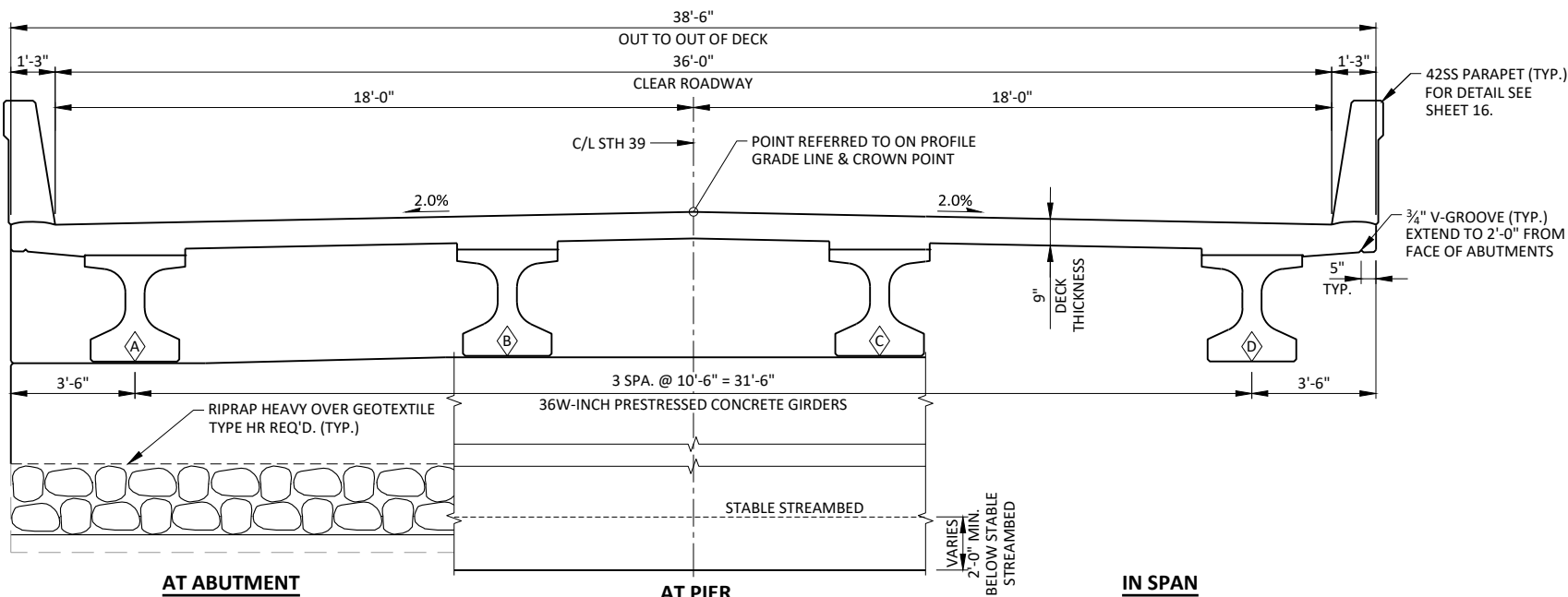
APPLY PIGMENTED SURFACE SEALER TO THE FRONT FACE, TOP, AND ENDS OF PARAPETS.

ALL STATIONS AND ELEVATIONS SHOWN ARE IN FEET.

THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES BRIDGES B-25-198" SHALL BE THE EXISTING GROUNDLINE.

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

THE EXISTING STRUCTURE (B-25-250) IS A THREE SPAN STEEL DECK GIRDER STRUCTURE WITH CONCRETE PIERS AND ABUTMENTS. THE STRUCTURE HAS A 30' CLEAR BRIDGE WIDTH AND IS 120.5' LONG AND SHALL BE REMOVED.



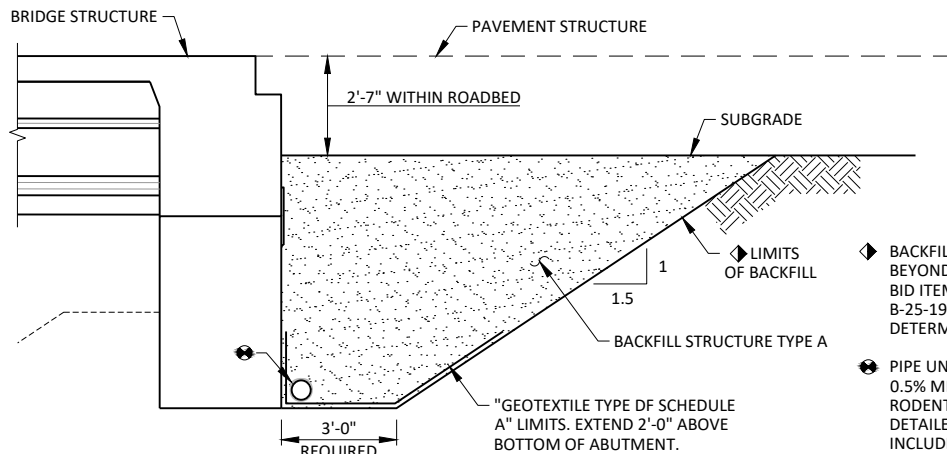
AT ABUTMENT

AT PIER

IN SPAN

PROPOSED CROSS-SECTION THROUGH ROADWAY

LOOKING NORTH

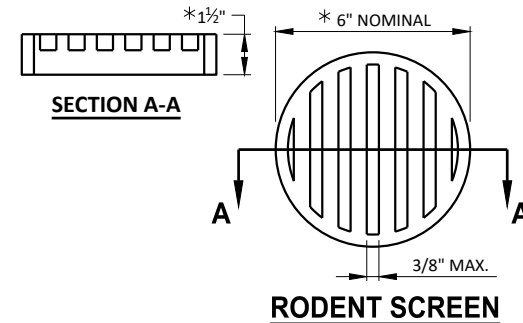


BACKFILL STRUCTURE DETAIL

(TYPICAL AT ABUTMENTS. ABUTMENT BODY SHOWN - WING WALLS SIMILAR)

BACKFILL STRUCTURE TYPE A PAY LIMITS. BACKFILL BEYOND PAY LIMITS SHALL BE INCIDENTAL TO THE BID ITEM "EXCAVATION FOR STRUCTURES B-25-198". LIMITS OF EXCAVATION SHALL BE DETERMINED BY THE CONTRACTOR.

PIPE UNDERDRAIN WRAPPED (6-INCH), SLOPED 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SCREEN AT ENDS OF PIPE UNDERDRAIN AS DETAILED ON THIS SHEET. RODENT SCREEN TO BE INCLUDED IN THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH."



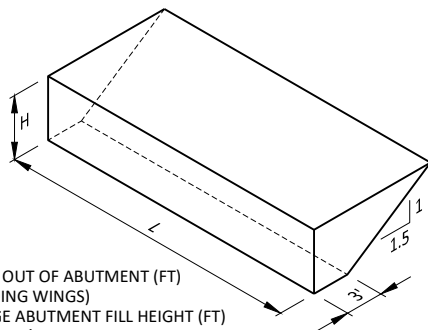
NOTES:

* DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING.

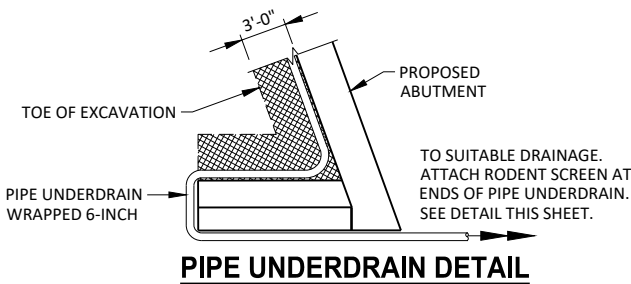
ORIENT SCREEN SO SLOTS ARE VERTICAL.

THE RODENT SCREEN, PIPE COUPLING AND SCREWS SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".

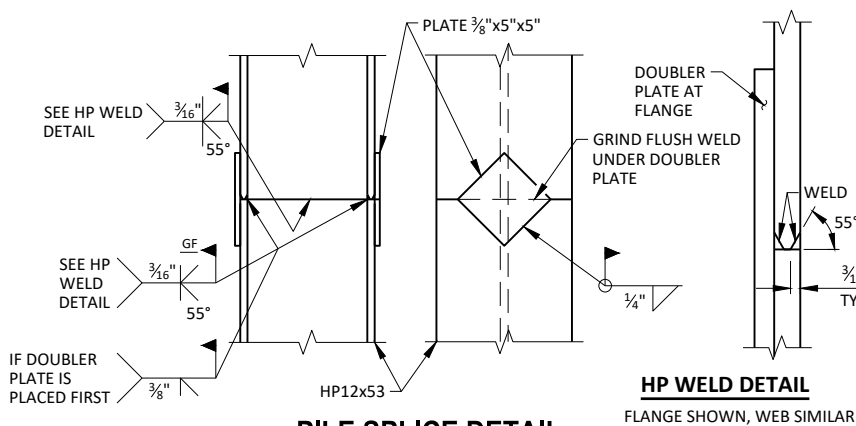
THE RODENT SCREEN SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SCREEN TO THE EXPOSED ENDS OF THE PIPE UNDERDRAIN. THE SCREEN SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X 1-INCH STAINLESS STEEL SHEET METAL SCREWS.



ABUTMENT BACKFILL DIAGRAM

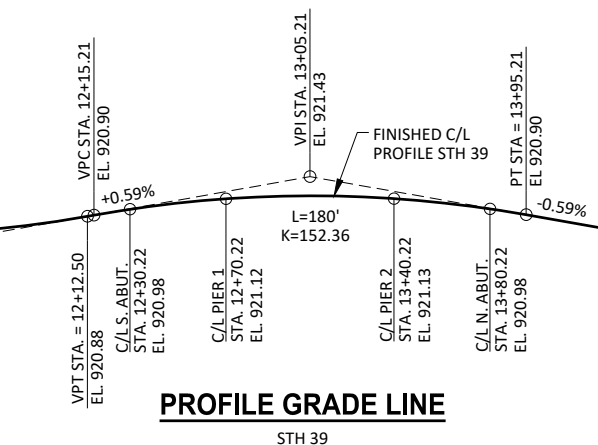


PIPE UNDERDRAIN DETAIL



PILE SPLICE DETAIL

STEEL "HP" PILE MATERIAL SHALL BE ASTM A 572 GRADE 50.



PROFILE GRADE LINE

STH 39

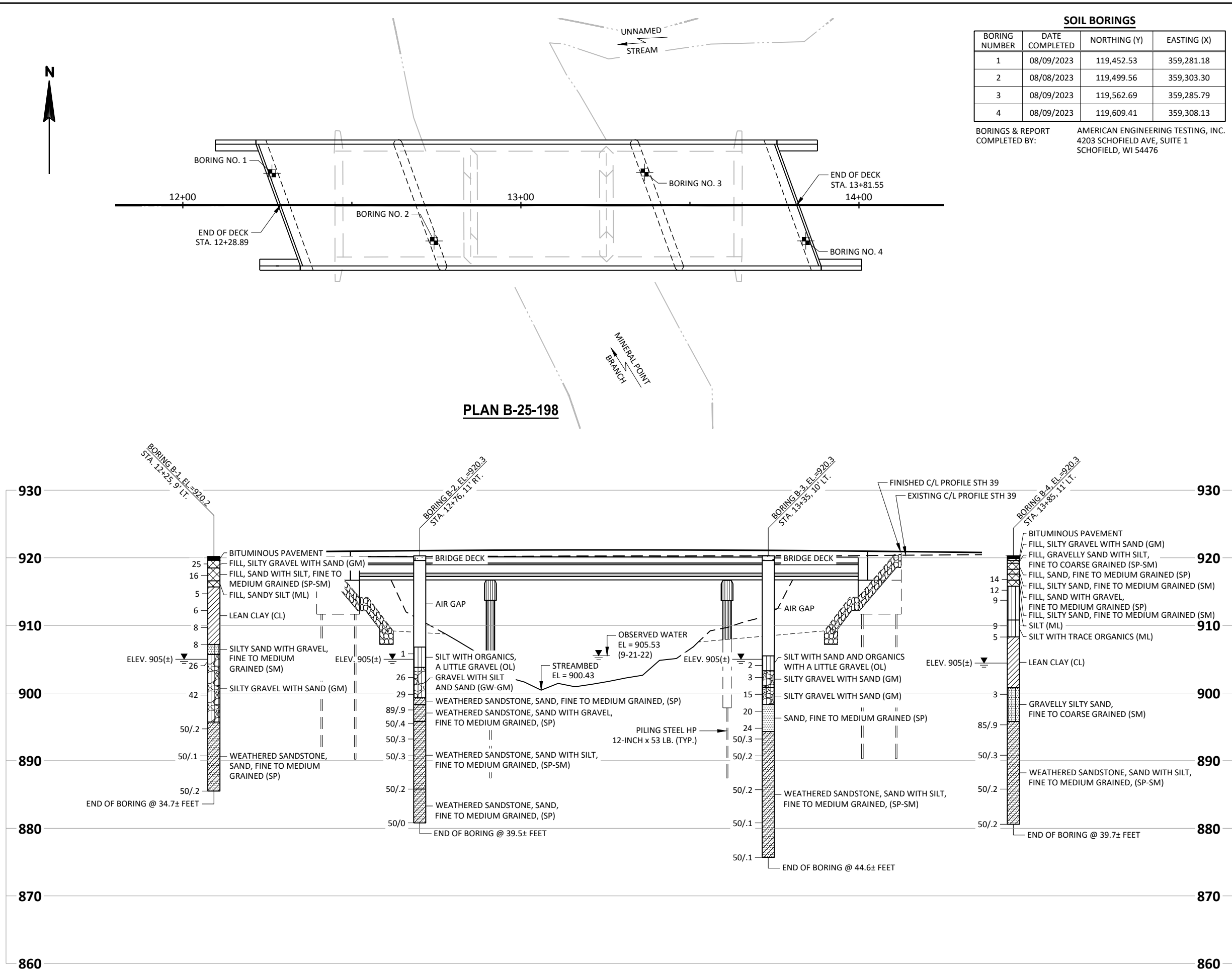
ITEM NUMBER	ITEM DESCRIPTION	UNIT	SOUTH ABUT.	PIER 1	PIER 2	NORTH ABUT.	SUPER	TOTALS
203.0260	REMOVING STRUCTURE OVER WATERWAY MINIMAL DEBRIS (B-25-250)	EACH	--	--	--	--	--	1
206.1001	EXCAVATION FOR STRUCTURES BRIDGES B-25-198	EACH	--	--	--	--	--	1
206.5001	COFFERDAMS B-25-198	EACH	--	--	--	--	--	1
210.1500	BACKFILL STRUCTURE TYPE A	TON	150	--	--	150	--	300
502.0100	CONCRETE MASONRY BRIDGES	CY	46.8	76.7	76.7	46.8	267.0	514
502.3200	PROTECTIVE SURFACE TREATMENT	SY	--	--	--	--	630	630
502.3210	PIGMENTED SURFACE SEALER	SY	10	--	--	10	155	175
502.9000.S	UNDERWATER SUBSTRUCTURE INSPECTION B-25-198	EACH	--	1	1	--	--	2
503.0137	PRESTRESSED GIRDER TYPE I 36W-INCH	LF	--	--	--	--	602	602
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	2,230	3,850	3,850	2,230	--	12,160
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	2,270	40	40	2,270	60,290	64,910
506.2605	BEARING PADS ELASTOMERIC NON-LAMINATED	EACH	4	8	8	4	--	24
506.4000	STEEL DIAPHRAGMS B-25-198	EACH	--	--	--	--	9	9
514.0445	FLOOR DRAINS TYPE GC	EACH	--	--	--	--	4	4
514.2625	DOWNSPOUT 6-INCH	LF	--	--	--	--	13	13
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	8	--	--	8	--	16
550.0020	PRE-BORING ROCK OR CONSOLIDATED MATERIAL	LF	172	104	103	171	--	550
550.1120	PIILING STEEL HP 12-INCH X 53 LB	LF	200	300	300	200	--	1,000
606.0300	RIPRAP HEAVY	CY	140	--	--	190	--	330
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	110	--	--	140	--	250
614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	EACH	--	--	--	--	4	4
645.0111	GEOTEXTILE TYPE DF SCHEDULE A	SY	40	--	--	40	--	80
645.0120	GEOTEXTILE TYPE HR	SY	220	--	--	300	--	520
NON-BID ITEMS								
	FILLER	SIZE					1/2" & 3/4"	
	NAME PLATE							

STRUCTURE B-25-198

CROSS SECTION AND QUANTITIES

SHEET 2 OF 17

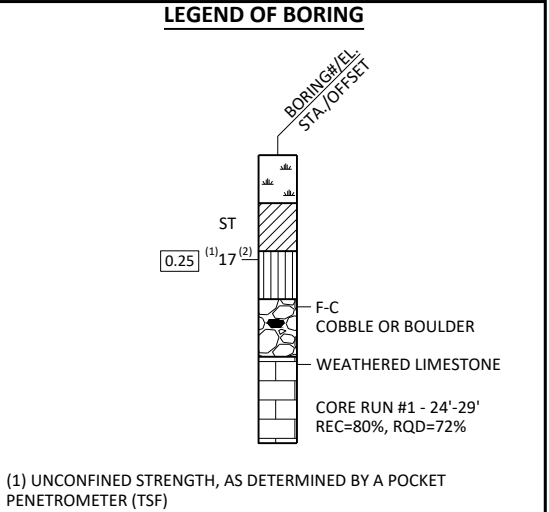
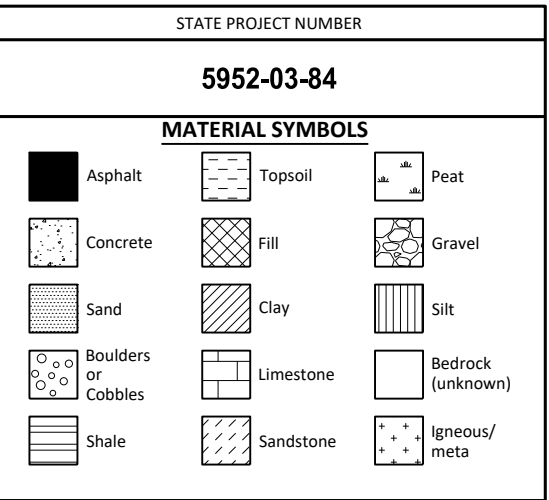
81



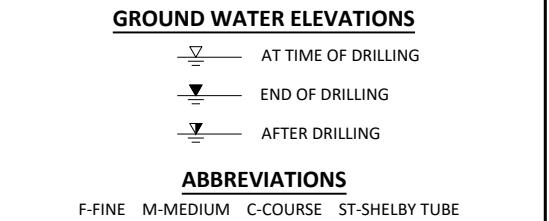
<u>SOIL BORINGS</u>			
BORING NUMBER	DATE COMPLETED	NORTHING (Y)	EASTING (X)
1	08/09/2023	119,452.53	359,281.18
2	08/08/2023	119,499.56	359,303.30
3	08/09/2023	119,562.69	359,285.79
4	08/09/2023	119,609.41	359,308.13

BORINGS & REPORT
COMPLETED BY:

AMERICAN ENGINEERING TESTING, INC.
4203 SCHOFIELD AVE, SUITE 1
SCHOFIELD, WI 54476



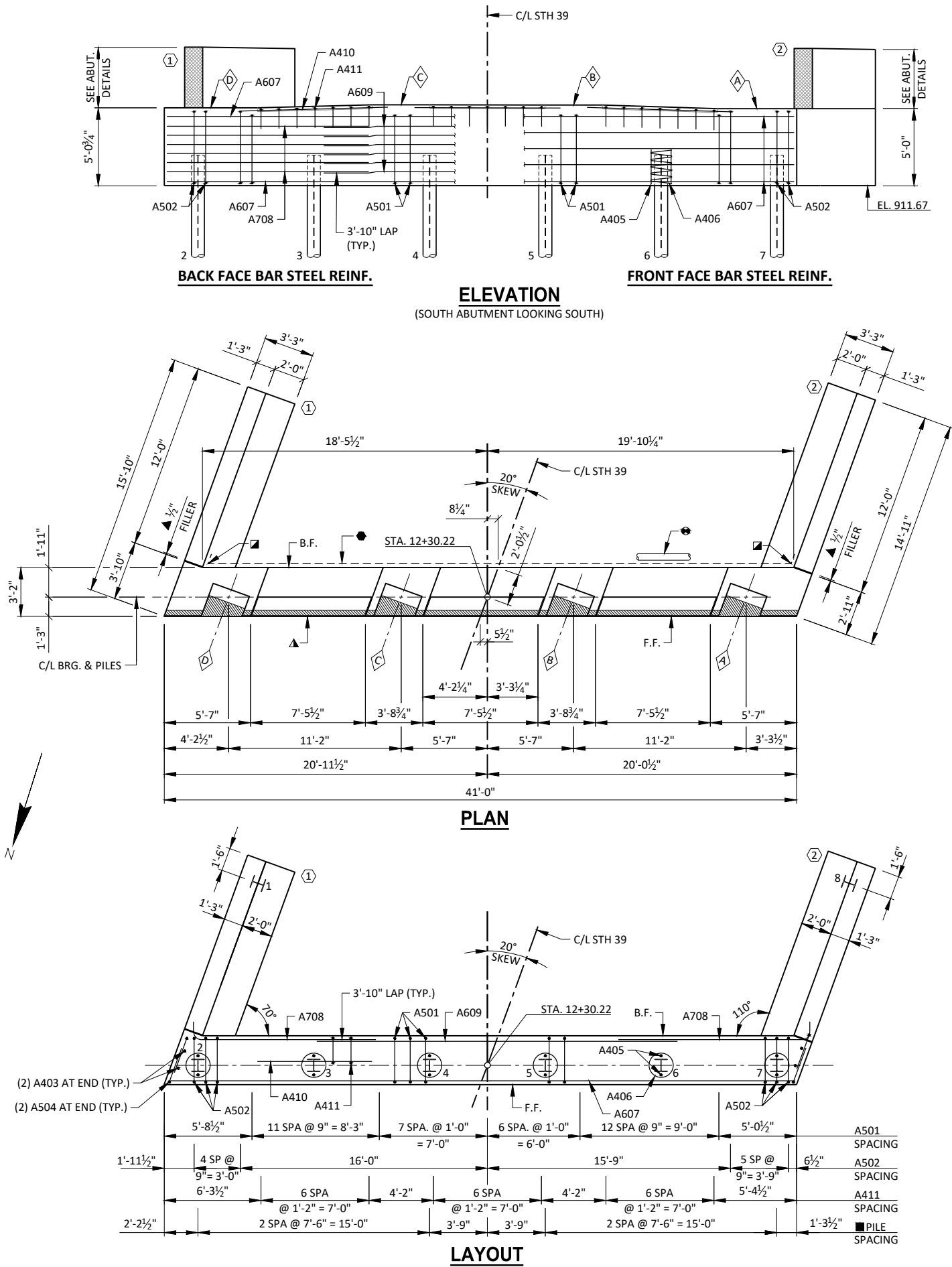
(2) UNLESS OTHERWISE SPECIFIED, THE SPT 'N' VALUE IS BASED ON AASHTO T-206 STANDARD PENETRATION TEST. THE SPT 'N' VALUE PRESENTED HAS NOT BEEN CORRECTED FOR OVERBURDEN PRESSURE OR HAMMER EFFICIENCY.



**SUBSURFACE EXPLORATION FOR FOUNDATION
DESIGN AND BIDDERS INFORMATION**

BORINGS WERE COMPLETED AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING TO OBTAIN INFORMATION CONCERNING THE CHARACTER OF SUBSURFACE MATERIALS FOUND AT THE SITE. BECAUSE THE INVESTIGATED DEPTHS ARE LIMITED AND THE AREA OF THE BORINGS IS VERY SMALL IN RELATION TO THE ENTIRE SITE, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT SIMILAR SUBSURFACE CONDITIONS BELOW, BETWEEN, OR BEYOND THESE BORINGS. VARIATIONS IN SOIL CONDITIONS SHOULD BE EXPECTED AND FLUCTUATIONS IN GROUNDWATER LEVELS MAY OCCUR.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-25-198			
DRAWN BY		CTMP	PLANS CK'D. PTB
SUBSURFACE EXPLORATION		SHEET 3 OF 17 82	



NOTES

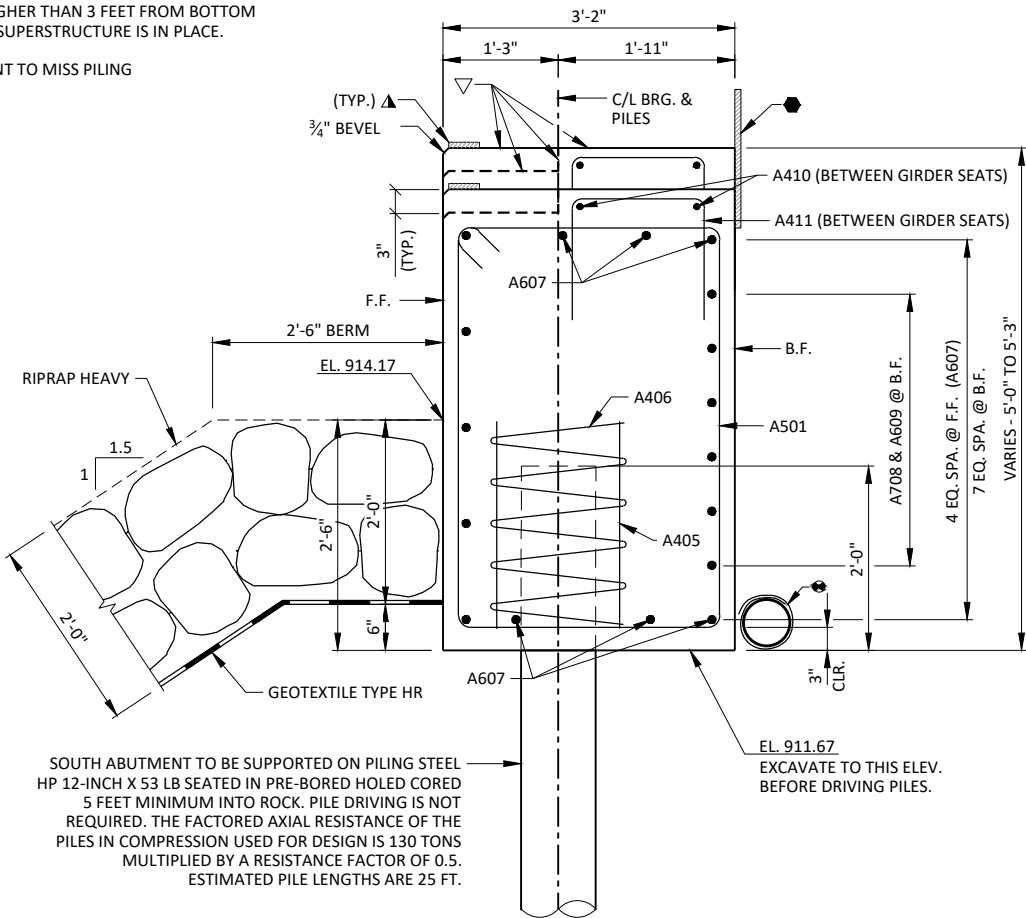
SOME BARS HAVE BEEN OMITTED FOR CLARITY. SEE SHEET 8 FOR BILL OF BARS.

DO NOT PLACE FILL HIGHER THAN 3 FEET FROM BOTTOM OF ABUTMENT UNTIL SUPERSTRUCTURE IS IN PLACE.

SPACE REINFORCEMENT TO MISS PILING

F.F. - FRONT FACE

B.F. - BACK FACE

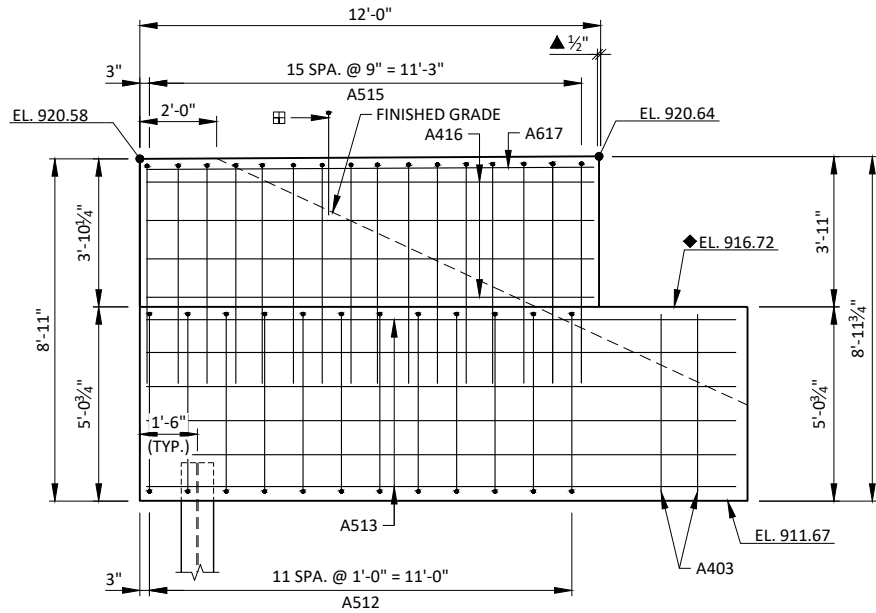


TYPICAL SECTION THROUGH ABUTMENT BODY

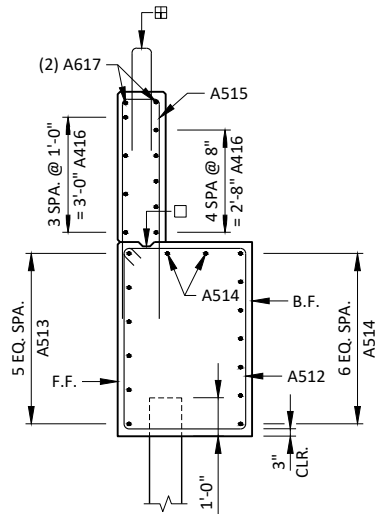
LEGEND

- VERTICAL 18" RUBBERIZED MEMBRANE WATERPROOFING EXTEND FROM 9" BELOW BRIDGE SEAT TO 1" BELOW TOP OF WINGS.
- 18" RUBBERIZED MEMBRANE WATERPROOFING. (HORIZONTAL)
- 1/2" FILLER EXTEND AS SHOWN. SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING GRAY, NON-BITUMINOUS JOINT SEALER. (1" DEEP & HOLD 1/8" BELOW SURFACE OF CONCRETE)
- 1/2" x 4" PREFORMED FILLER, EXTEND FULL LENGTH OF ABUTMENTS BETWEEN EDGES OF DIAPHRAGM. USE 1/2" PREFORMED FILLER UNDER GIRDERS.
- PILE SPACING MEASURED AT BASE OF ABUTMENT BODY.
- STEEL TROWEL TOP SURFACE OF ABUTMENT. PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE ABUTMENT TOP BEFORE PLACING BEARING PADS AND/OR SUPERSTRUCTURE. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03".
- PIPE UNDERDRAIN WRAPPED (6-INCH), SLOPED 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SCREEN AT ENDS OF PIPE UNDERDRAIN AS DETAILED ON SHEET 2. RODENT SCREEN TO BE INCLUDED IN THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH."
- INDICATES WING NUMBER.
- INDICATES GIRDER LINE.

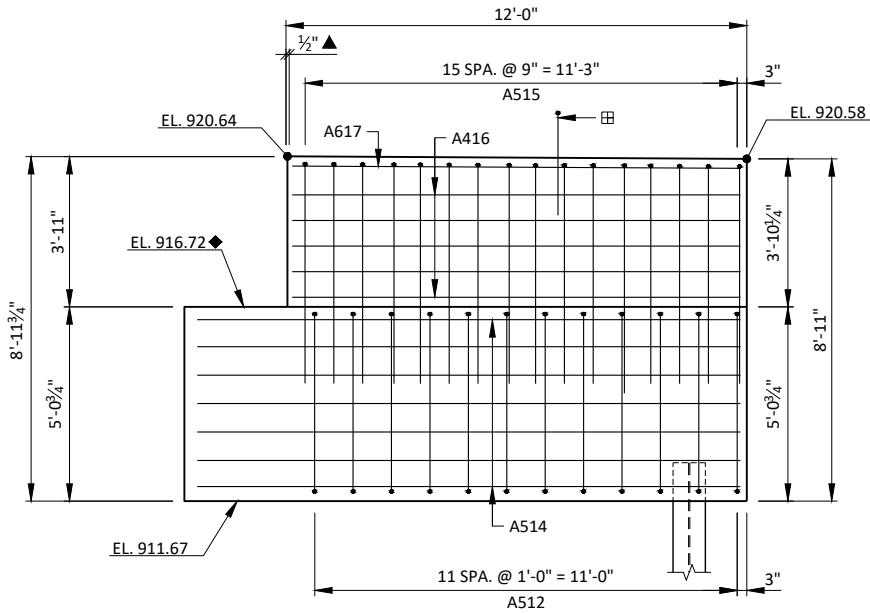
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-25-198			
DRAWN BY		CTMP	PLANS CK'D. PTB
SOUTH ABUTMENT		SHEET 4 OF 17	
		83	



F.F. ELEVATION - WING 1



SECTION A-A



B.F. ELEVATION - WING 1

LEGEND

OPTIONAL KEYED CONSTRUCTION JOINT FORMED BY SURFACED & BEVELED 2x6. 3/4" "V" GROOVE AT FRONT FACE OF WING WALL AND HORIZONTAL 18" RUBBERIZED MEMBRANE WATERPROOFING AT BACK FACE IF CONSTRUCTION JOINT IS USED. COST IS INCIDENTAL TO THE BID ITEM "CONCRETE MASONRY BRIDGES".

GIRDER SEAT. SEE SHEET 8 FOR ELEVATIONS.

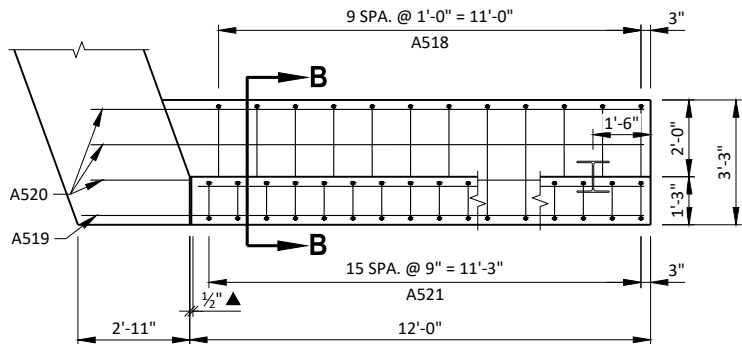
1/2" FILLER EXTEND AS SHOWN. SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING GRAY, NON-BITUMINOUS JOINT SEALER (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE).

R502 AND R503 BARS TO BE TIED TO WING STEEL BEFORE WING IS POURED. SEE SHEET 16 FOR PLACEMENT.

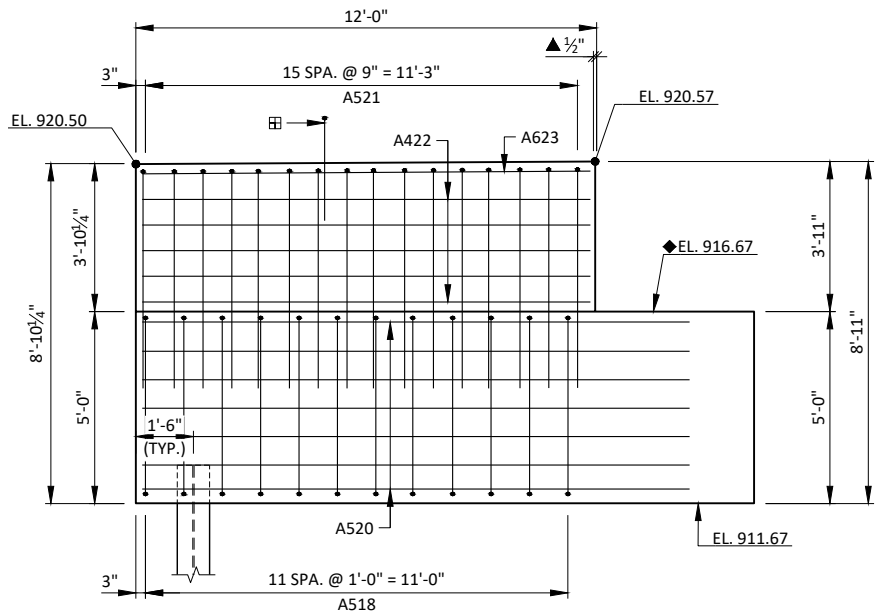
NOTES

SOME BARS HAVE BEEN OMITTED FOR CLARITY. SEE SHEET 8 FOR BILL OF BARS.

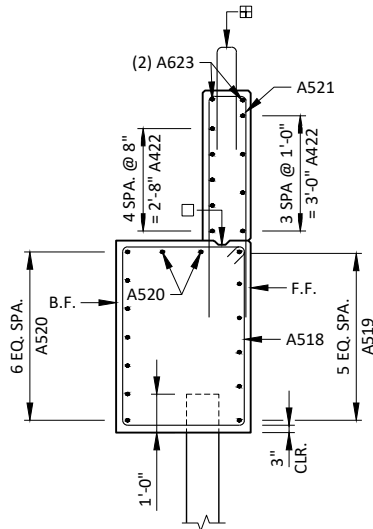
SPACE REINFORCEMENT TO MISS PILING



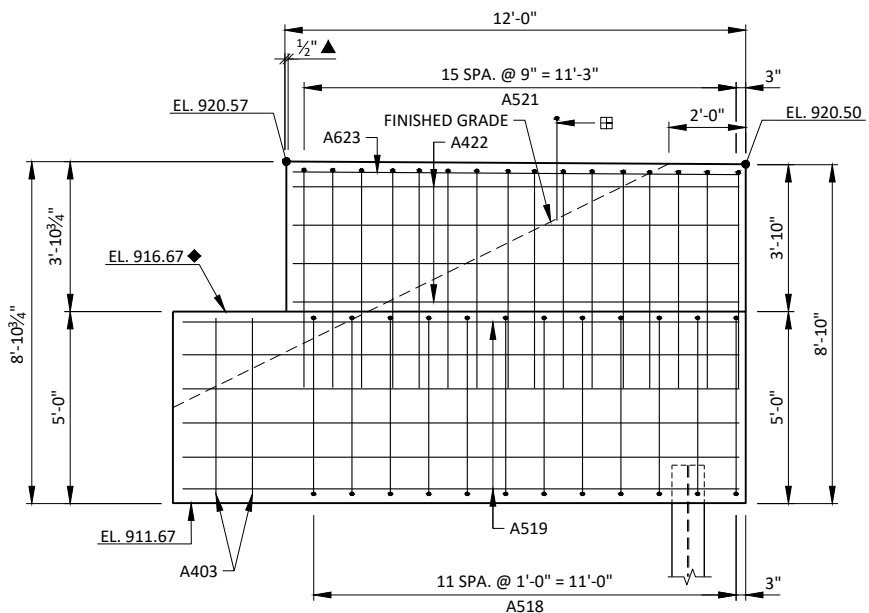
PLAN VIEW - WING 2



B.F. ELEVATION - WING 2



SECTION B-B



F.F. ELEVATION - WING 2

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-25-198			
DRAWN BY		CTMP	PLANS CK'D. PTB
SOUTH ABUTMENT DETAILS		SHEET 5 OF 17 84	



(NORTH ABUTMENT LOOKING NORTH)



NORTH ABUTMENT TO BE SUPPORTED ON PILING STEEL
HP 12-INCH X 53 LB SEATED IN PRE-BORED HOLED CORED
5 FEET MINIMUM INTO ROCK. PILE DRIVING IS NOT
REQUIRED. THE FACTORED AXIAL RESISTANCE OF THE
PILES IN COMPRESSION USED FOR DESIGN IS 130 TONS
MULTIPLIED BY A RESISTANCE FACTOR OF 0.5.
ESTIMATED PILE LENGTHS ARE 25 FT.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-25-198			
DRAWN BY		CTMP	PLANS CK'D. PTB
NORTH ABUTMENT		SHEET 6 OF 17 85	



SECTION B-B



NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-25-198			
DRAWN BY		CTMP	PLANS CK'D. PTB
NORTH ABUTMENT DETAILS		SHEET 7 OF 17 86	

BILL OF BARS
SOUTH ABUTMENT

BAR MARK	NO. REQ'D.	LENGTH	BENT	COAT	LOCATION
A501	37	15-0	X		BODY - VERT. - STIRRUP
A502	11	15-6	X		BODY - VERT. - STIRRUP - ENDS
A403	4	4-7			BODY - VERT. - ENDS
A504	4	9-0	X		BODY - VERT. - END STIRRUPS
A405	12	2-3			BODY - VERT. - 2 PER PILE
A406	6	28-0	X		BODY - VERT. - SPIRAL - 1 PER PILE
A607	11	40-7			BODY - HORIZ. F.F., TOP, AND BOTTOM
A708	12	12-10	X		BODY - HORIZ. B.F. - CENTER
A609	6	23-5			BODY - HORIZ. B.F. - ENDS
A410	6	9-6			BODY - HORIZ. - TOP BETWEEN SEATS
A411	21	4-5	X		BODY - VERT. - TOP BETWEEN SEATS
A512	12	15-8	X	X	WING 1 - VERT. - STIRRUP
A513	6	15-4		X	WING 1 - HORIZ. F.F.
A514	9	13-10		X	WING 1 - HORIZ. B.F. & TOP
A515	16	12-2	X	X	WING 1 - VERT. - TOP
A416	9	11-7		X	WING 1 - HORIZ. - F.F. & B.F.
A617	2	11-7		X	WING 1 - HORIZ. - TOP
A518	12	15-8	X	X	WING 2 - VERT. - STIRRUP
A519	6	15-4		X	WING 2 - HORIZ. F.F.
A520	9	14-5		X	WING 2 - HORIZ. B.F. & TOP
A521	16	12-2	X	X	WING 2 - VERT. - TOP
A422	9	11-7		X	WING 2 - HORIZ. - F.F. & B.F.
A623	2	11-7		X	WING 2 - HORIZ. - TOP

NOTES: THE FIRST DIGIT OF A BAR MARK SIGNIFIES THE BAR SIZE.
DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

GIRDER SEAT ELEVATIONS

(SOUTH ABUTMENT)

GIRDER LINE	ELEV. (A)	ELEV. (B)	ELEV. (C)	ELEV. (D)	ELEV. (E)
A	916.67	916.67	916.67	916.67	916.67
B	916.90	916.90	916.90	916.90	916.90
C	916.91	916.91	916.91	916.91	916.91
D	916.72	916.72	916.72	916.72	916.72

BILL OF BARS
NORTH ABUTMENT

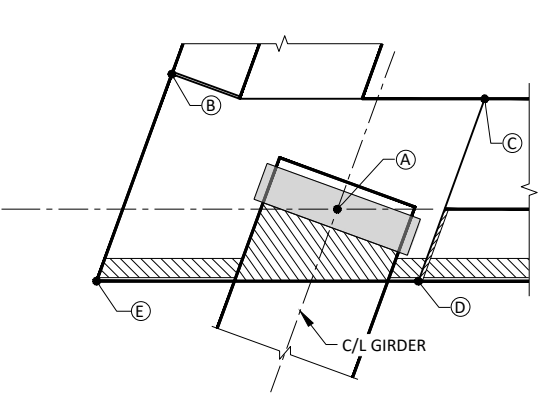
BAR MARK	NO. REQ'D.	LENGTH	BENT	COAT	LOCATION
B501	37	15-0	X		BODY - VERT. - STIRRUP
B502	11	15-6	X		BODY - VERT. - STIRRUP - ENDS
B403	4	4-7			BODY - VERT. - ENDS
B504	4	9-0	X		BODY - VERT. - END STIRRUPS
B405	12	2-3			BODY - VERT. - 2 PER PILE
B406	6	28-0	X		BODY - VERT. - SPIRAL - 1 PER PILE
B607	11	40-7			BODY - HORIZ. F.F., TOP, AND BOTTOM
B708	12	12-10	X		BODY - HORIZ. B.F. - CENTER
B609	6	23-5			BODY - HORIZ. B.F. - ENDS
B410	6	9-6			BODY - HORIZ. - TOP BETWEEN SEATS
B411	21	4-5	X		BODY - VERT. - TOP BETWEEN SEATS
B512	12	15-8	X	X	WING 3 - VERT. - STIRRUP
B513	6	15-4		X	WING 3 - HORIZ. F.F.
B514	9	13-10		X	WING 3 - HORIZ. B.F. & TOP
B515	16	12-2	X	X	WING 3 - VERT. - TOP
B416	9	11-7		X	WING 3 - HORIZ. - F.F. & B.F.
B617	2	11-7		X	WING 3 - HORIZ. - TOP
B518	12	15-8	X	X	WING 4 - VERT. - STIRRUP
B519	6	15-4		X	WING 4 - HORIZ. F.F.
B520	9	14-5		X	WING 4 - HORIZ. B.F. & TOP
B521	16	12-2	X	X	WING 4 - VERT. - TOP
B422	9	11-7		X	WING 4 - HORIZ. - F.F. & B.F.
B623	2	11-7		X	WING 4 - HORIZ. - TOP

NOTES: THE FIRST DIGIT OF A BAR MARK SIGNIFIES THE BAR SIZE.
DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

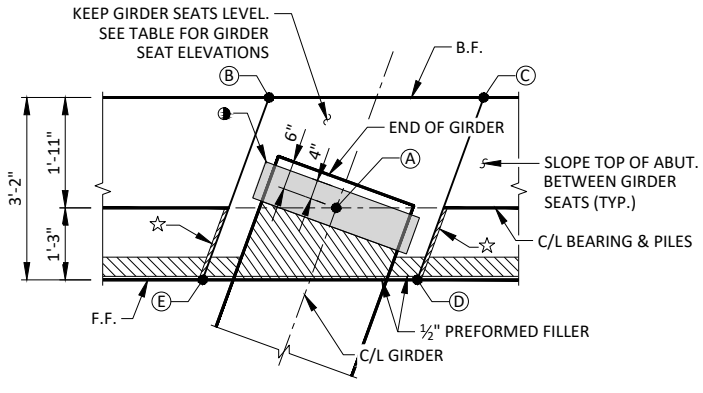
GIRDER SEAT ELEVATIONS

(NORTH ABUTMENT)

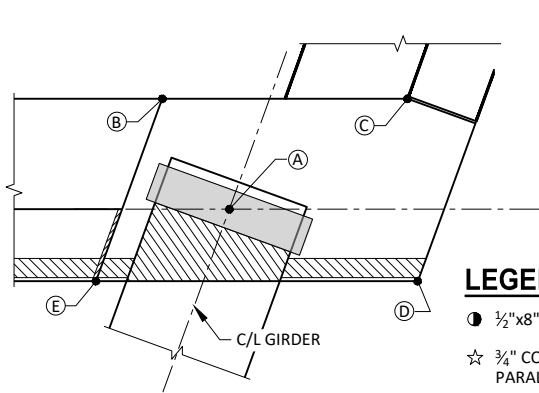
GIRDER LINE	ELEV. (A)	ELEV. (B)	ELEV. (C)	ELEV. (D)	ELEV. (E)
A	916.73	916.73	916.73	916.73	916.73
B	916.92	916.92	916.92	916.92	916.92
C	916.90	916.90	916.90	916.90	916.90
D	916.67	916.67	916.67	916.67	916.67



GIRDER SEAT AT EXTERIOR WING
(WING 1 SHOWN, WING 3 SIMILAR)



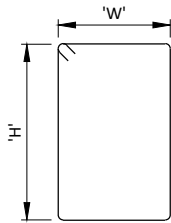
INTERIOR GIRDER SEAT DETAIL



GIRDER SEAT AT EXTERIOR WING
(WING 2 SHOWN, WING 4 SIMILAR)

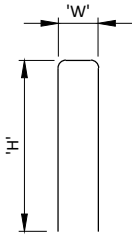
LEGEND

- ½"x8"x2'-10" NON-LAMINATED ELASTOMERIC BEARING PAD.
- ☆ ¾" CORK FILLER ON VERTICAL GIRDER SEAT FACES THAT RUN PARALLEL WITH GIRDER.



BAR MARK	'W'	'H'
A501	2-10	4-4
A502	2-10	4-7
A512	2-11	4-7
A518	2-11	4-7
B501	2-10	4-4
B512	2-11	4-7
B518	2-11	4-7

A501, A502, A512, A518
B501, B502, B512, B518



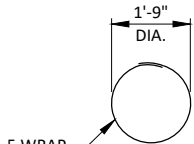
BAR MARK	'W'	'H'
A411	1-7	1-6
A515	0-11	5-9
A521	0-11	5-9
B411	1-7	1-6
B515	0-11	5-9
B521	0-11	5-9

A411, A515, A521
B411, B515, B521

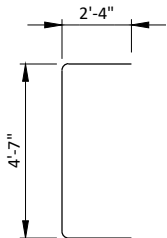


BAR MARK	'L'
A708	1-2
B708	1-2

A708 & B708



5 WRAP SPIRAL
A406, B406



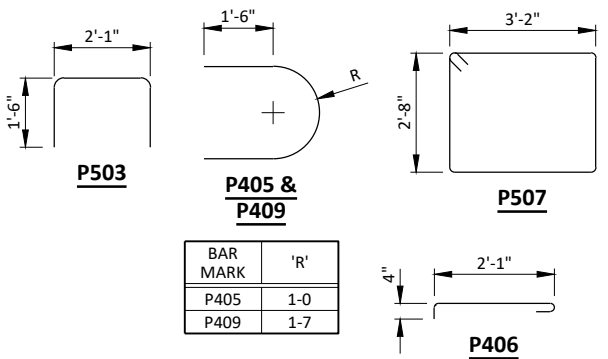
A504, B504

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-25-198			
DRAWN BY		CTMP	PLANS CK'D. PTB
ABUTMENT DETAILS		SHEET 8 OF 17	
		87	

40 LB (COATED)
3,850 LB (UNCOATED)

BAR MARK	NO. REQ'D.	LENGTH	BENT	COAT	LOCATION
P501	84	18-4			BODY - VERT. - E.F. & BOTH ENDS
P502	21	2-0		X	VERT. - DOWELS
P503	20	4-10	X		BODY - VERT. - TOP
P404	32	38-6			BODY - HORIZ. - E.F.
P405	32	6-2	X		BODY - HORIZ. - ENDS
P406	170	2-9	X		TIE BARS
P507	27	12-4	X		CAP - VERT.
P508	12	38-6			CAP - HORIZ.
P409	8	8-0	X		CAP - HORIZ. - ENDS

NOTES: THE FIRST DIGIT OF A BAR MARK SIGNIFIES THE BAR SIZE.
DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

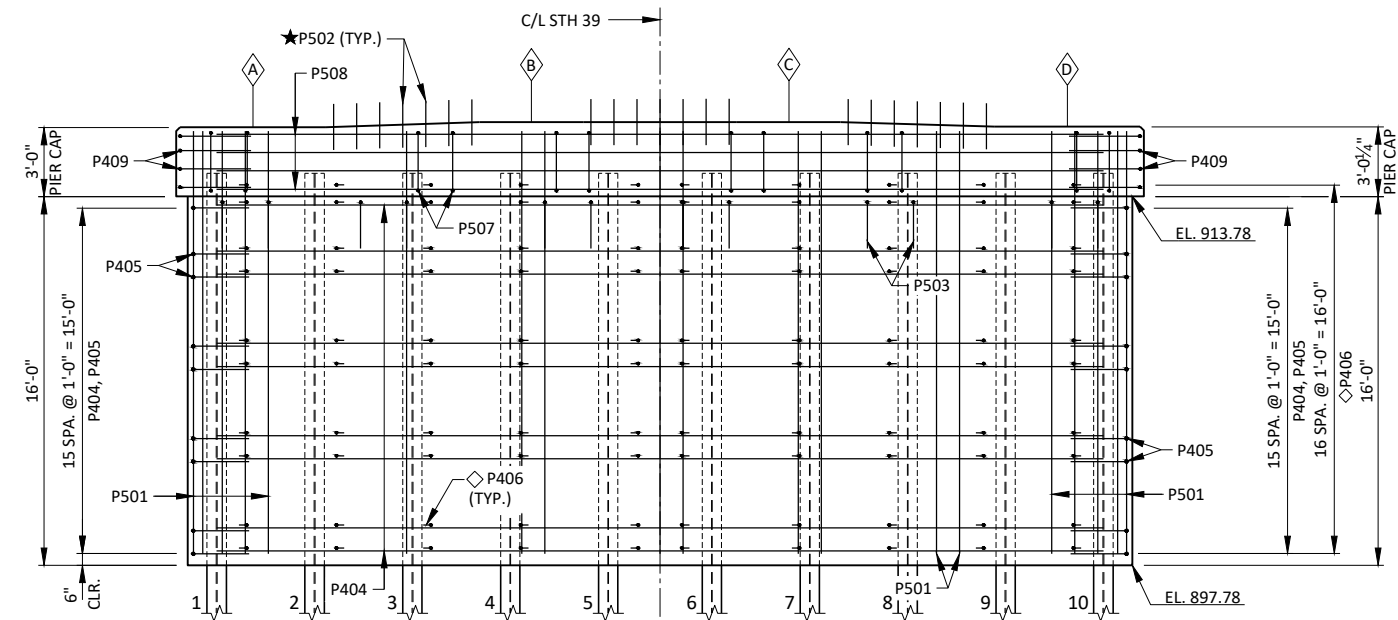


SOME BARS HAVE BEEN OMITTED FOR CLARITY. SEE THIS SHEET FOR BILL OF BARS.

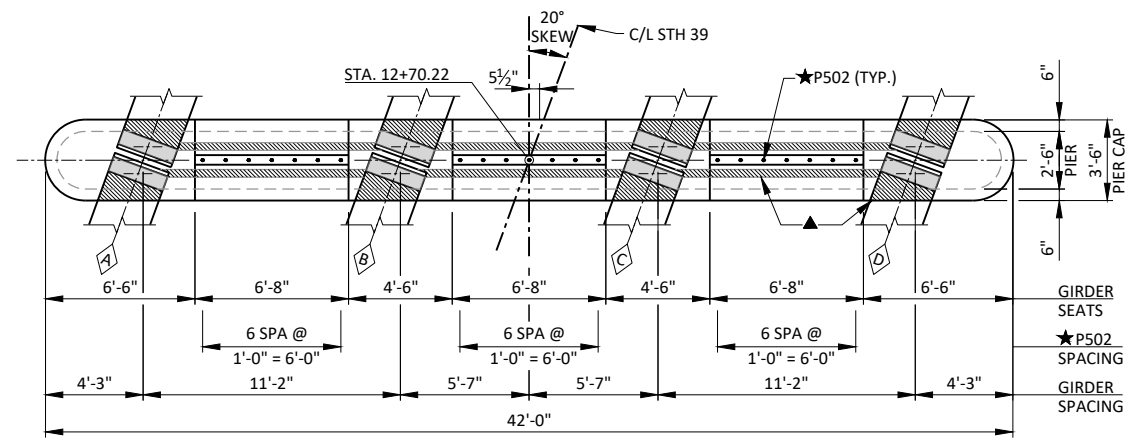
E.F. - EACH FACE

AT PIER 1, COFFERDAM REQUIRED. CONCRETE POURED UNDERWATER WILL BE ALLOWED AND SHALL BE DONE IN ACCORDANCE WITH STANDARD SPEC. 502.3.5.3. CONCRETE POURED UNDERWATER SHALL NOT EXCEED 10.0 FEET IN DEPTH, UNLESS APPROVED OTHERWISE.

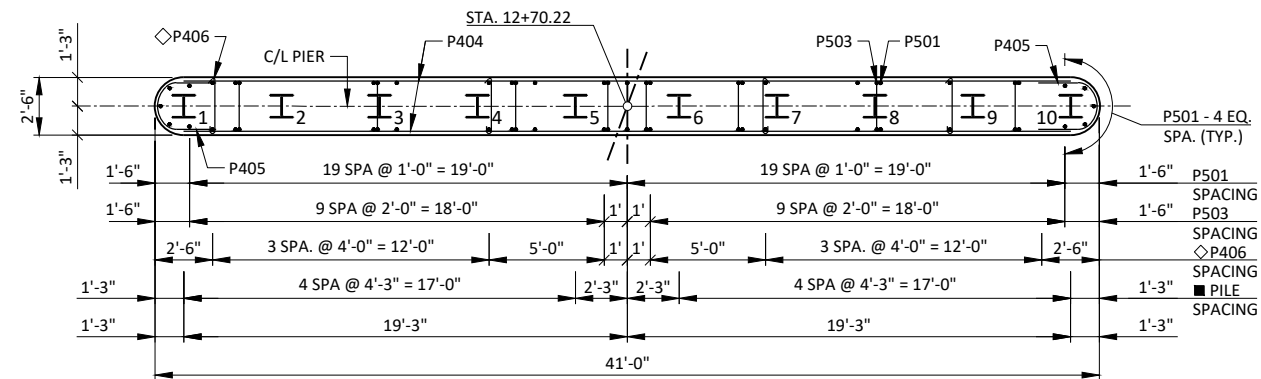
- ▶ KEYED CONSTRUCTION JOINT FORMED BY SURFACED & BEVELED 2x6.
- ▲ ½" PREFORMED JOINT FILLER EXTEND AS SHOWN BETWEEN GIRDERS AND BELOW GIRDERS ADJACENT TO BEARING PADS
- ★ P502 BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE IT HAS TAKEN ITS INITIAL SET. EMBED BAR 1'-0".
- PILE SPACING MEASURED AT BASE OF SHAFT.
- ◇ PLACE P406 BARS ADJACENT TO EACH PILE ONLY. TIE TO NEAREST VERTICAL NO. 5 BAR. VERTICAL SPACING @ 1'-0" TO MATCH NO. 4 OUTSIDE BARS FROM BASE OF SHAFT TO TOP OF PILING. ALTERNATE THE POSITION OF THE 90° AND 180° HOOKS AT EACH VERTICAL LAYER OF TIES.
- ◆ ½" X 8" X 30" NON-LAMINATED ELASTOMERIC BEARING PAD



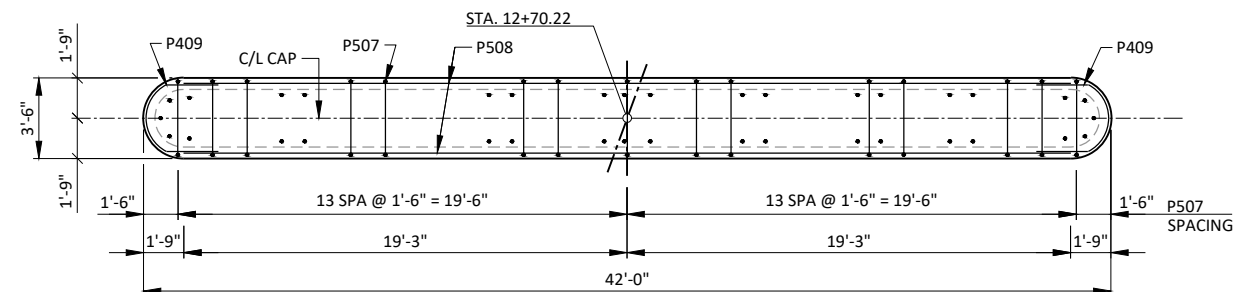
ELEVATION
(PIER 1 LOOKING NORTH)



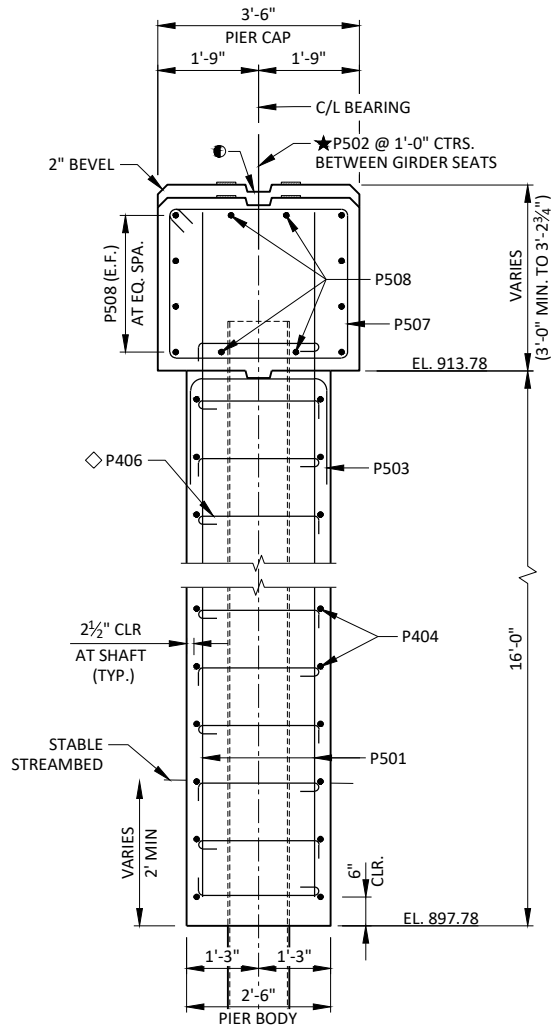
PLAN



LAYOUT - PIER SHAFT

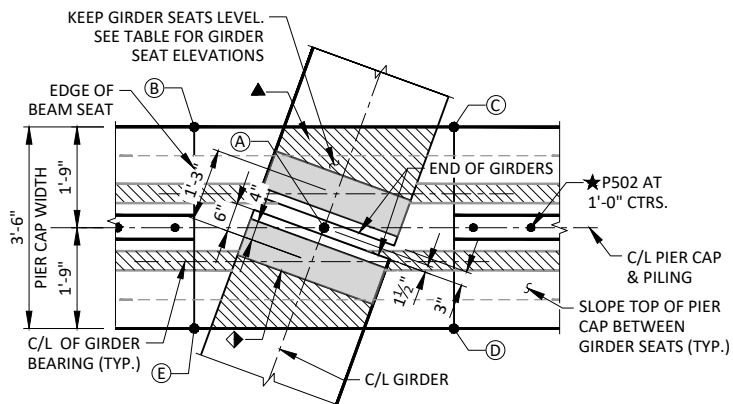


LAYOUT - PIER CAP



TYPICAL SECTION THROUGH PIER

PIER 1 TO BE SUPPORTED ON PILING STEEL HP 12-INCH X 53 LB
SEATED IN PRE-BORED HOLED CORED 5 FEET MINIMUM INTO
ROCK. PILE DRIVING IS NOT REQUIRED. THE FACTORED AXIAL
RESISTANCE OF THE PILES IN COMPRESSION USED FOR DESIGN
IS 210 TONS MULTIPLIED BY A RESISTANCE FACTOR OF 0.5.
ESTIMATED PILE LENGTHS 30 FT.



GIRDER SEAT DETAIL

INTERIOR GIRDER SHOWN - EXTERIOR GIRDER SIMILAR

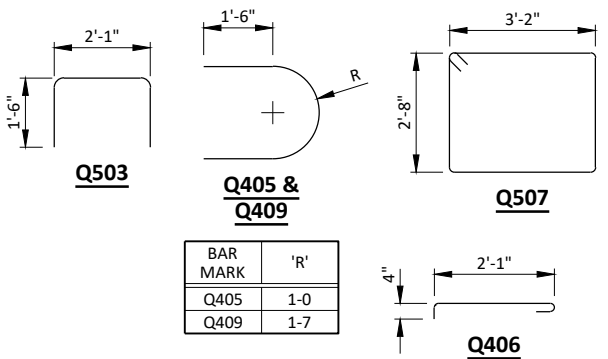
GIRDER SEAT ELEVATIONS

GIRDER LINE	ELEV. (A)	ELEV. (B)	ELEV. (C)	ELEV. (D)	ELEV. (E)
A	916.78	916.78	916.78	916.78	916.78
B	917.00	917.00	917.00	917.00	917.00
C	917.01	917.01	917.01	917.01	917.01
D	916.81	916.81	916.81	916.81	916.81

40 LB (COATED)
3,850 LB (UNCOATED)

BAR MARK	NO. REQ'D.	LENGTH	BENT	COAT	LOCATION
Q501	84	18-4			BODY - VERT. - E.F. & BOTH ENDS
Q502	21	2-0		X	VERT. - DOWELS
Q503	20	4-10	X		BODY - VERT. - TOP
Q404	32	38-6			BODY - HORIZ. - E.F.
Q405	32	6-2	X		BODY - HORIZ. - ENDS
Q406	136	2-9	X		TIE BARS
Q507	27	12-4	X		CAP - VERT.
Q508	12	38-6			CAP - HORIZ.
Q409	8	8-0	X		CAP - HORIZ. - ENDS

NOTES: THE FIRST DIGIT OF A BAR MARK SIGNIFIES THE BAR SIZE.
DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.



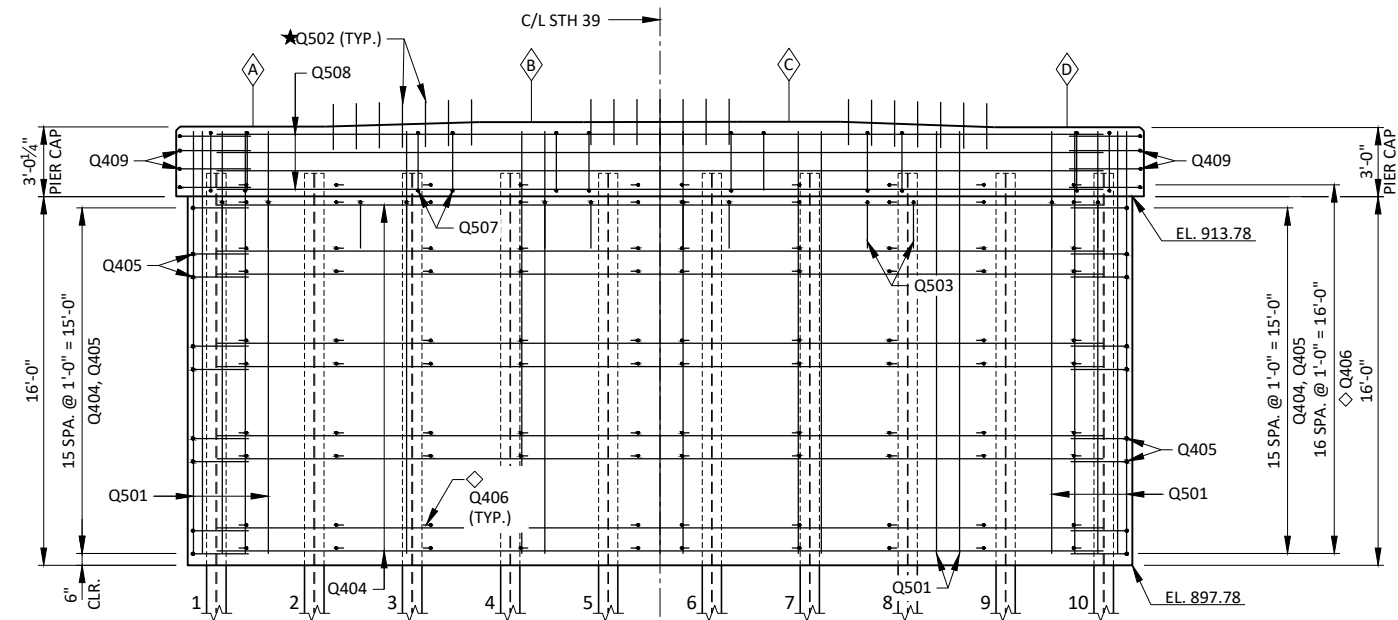
SOME BARS HAVE BEEN OMITTED FOR CLARITY. SEE THIS SHEET FOR BILL OF BARS.

E.F. - EACH FACE

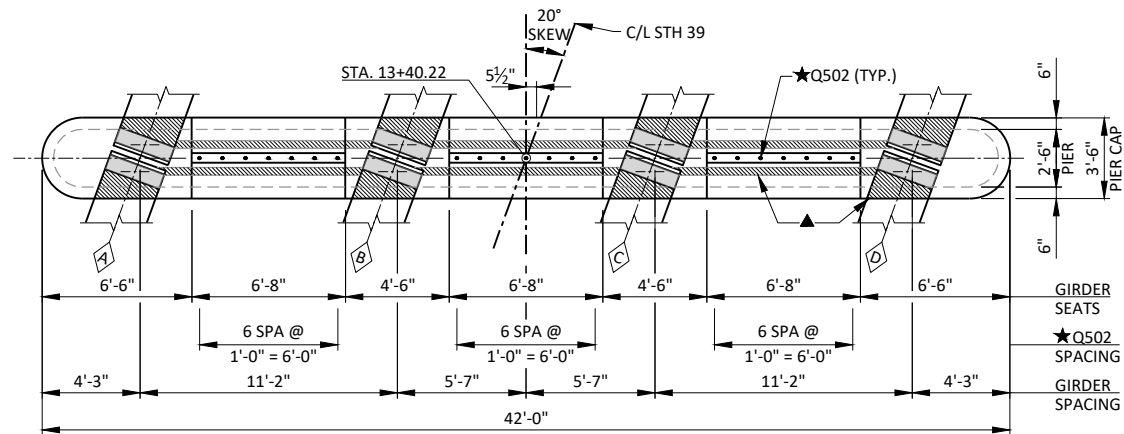
AT PIER 2, COFFERDAM REQUIRED. CONCRETE POURED UNDERWATER WILL BE ALLOWED AND SHALL BE DONE IN ACCORDANCE WITH STANDARD SPEC. 502.3.5.3. CONCRETE POURED UNDERWATER SHALL NOT EXCEED 10.0 FEET IN DEPTH, UNLESS APPROVED OTHERWISE.

- ① KEYED CONSTRUCTION JOINT FORMED BY SURFACED & BEVELED 2x6.
- ▲ ½" PREFORMED JOINT FILLER EXTEND AS SHOWN BETWEEN GIRDERS AND BELOW GIRDERS ADJACENT TO BEARING PADS
- ★ Q502 BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE IT HAS TAKEN ITS INITIAL SET. EMBED BAR 1'-0".
- PILE SPACING MEASURED AT BASE OF SHAFT.
- ◇ PLACE Q406 BARS ADJACENT TO EACH PILE ONLY. TIE TO NEAREST VERTICAL NO. 5 BAR. VERTICAL SPACING @ 1'-0" TO MATCH NO. 4 OUTSIDE BARS FROM BASE OF SHAFT TO TOP OF PILING. ALTERNATE THE POSITION OF THE 90° AND 180° HOOKS AT EACH VERTICAL LAYER OF TIES.
- ◆ ½" X 8" X 30" NON-LAMINATED ELASTOMERIC BEARING PAD

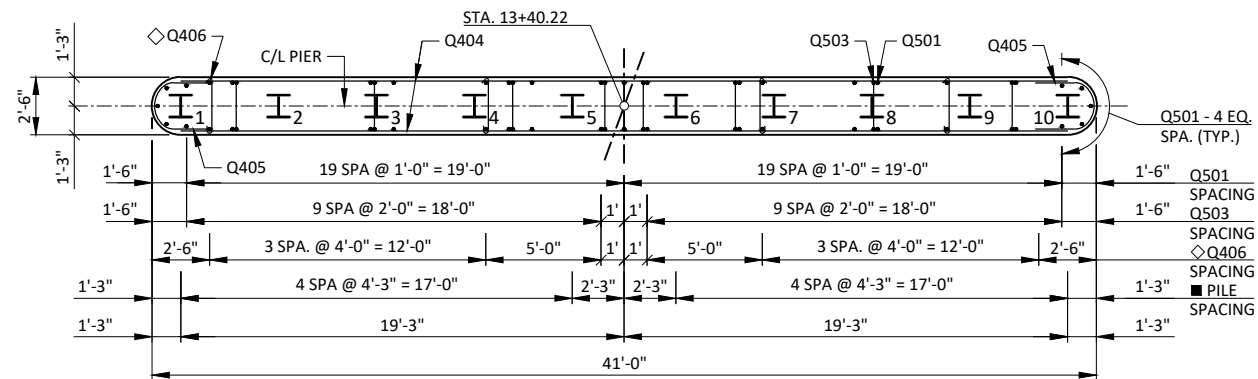
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-25-198			
DRAWN BY		CTMP	PLANS CK'D. PTB
PIER 2		SHEET 10 OF 17	
		89	



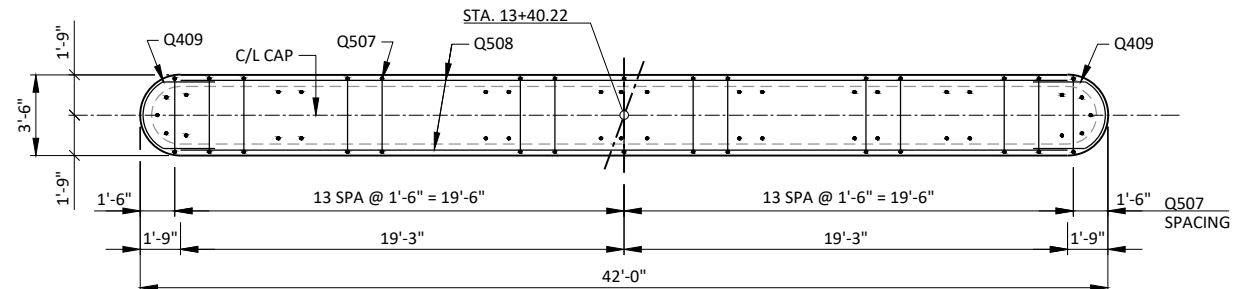
ELEVATION
(PIER 2 LOOKING NORTH)



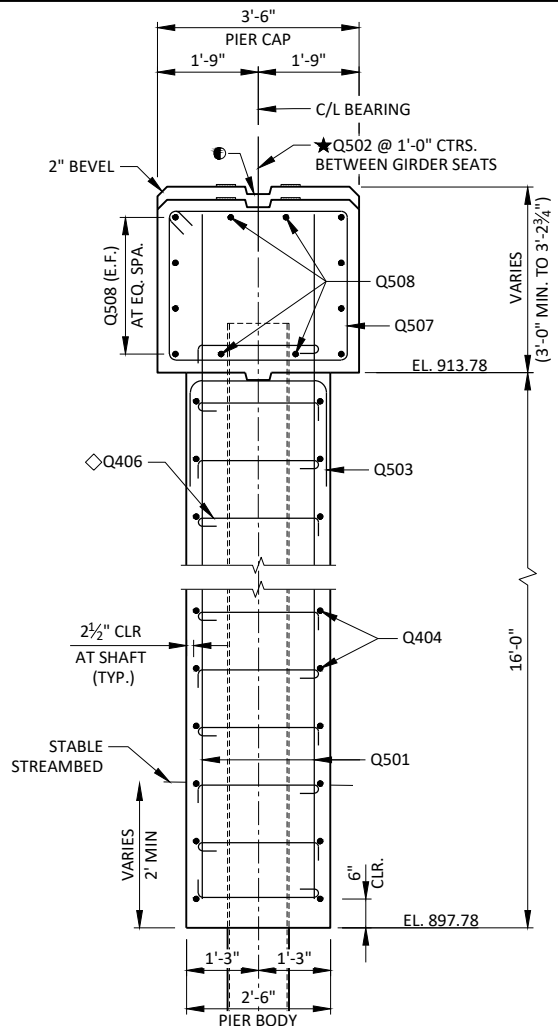
PLAN



LAYOUT - PIER SHAFT

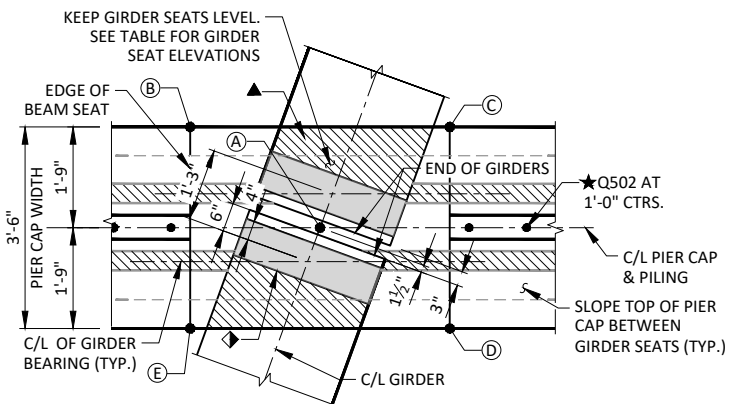


LAYOUT - PIER CAP



TYPICAL SECTION THROUGH PIER

PIER 2 TO BE SUPPORTED ON PILING STEEL HP 12-INCH X 53 LB.
SEATED IN PRE-BORED HOLED CORED 5 FEET MINIMUM INTO
ROCK. PILE DRIVING IS NOT REQUIRED. THE FACTORED AXIAL
RESISTANCE OF THE PILES IN COMPRESSION USED FOR DESIGN
IS 210 TONS MULTIPLIED BY A RESISTANCE FACTOR OF 0.5.
ESTIMATED PILE LENGTHS 30 FT.



GIRDER SEAT DETAIL

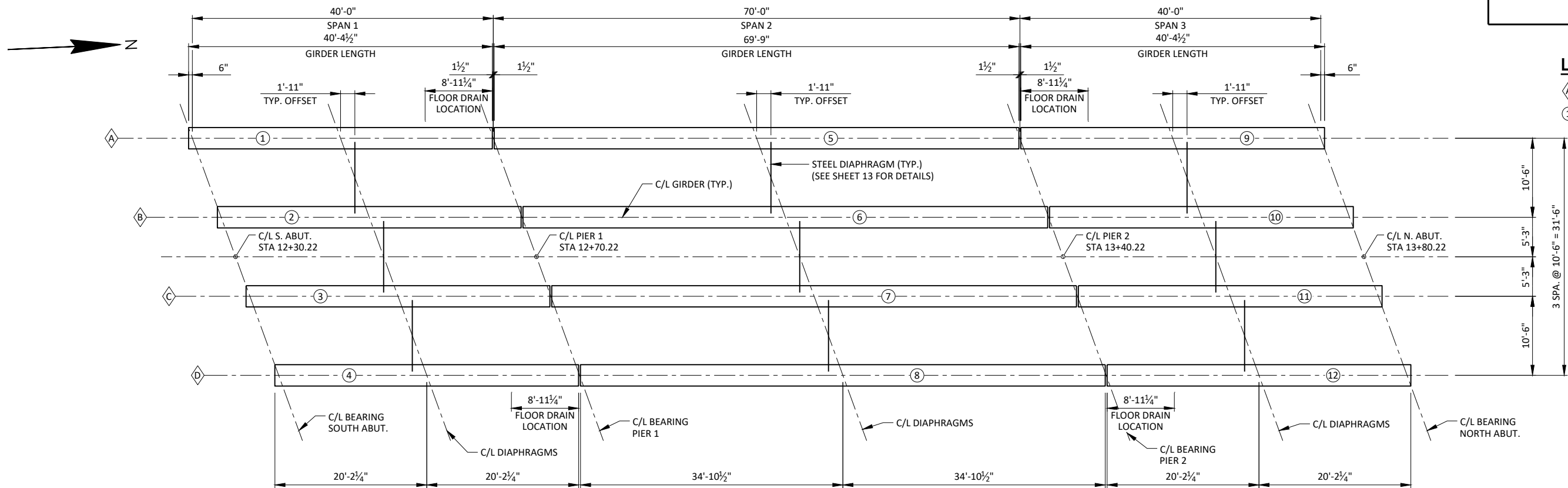
INTERIOR GIRDER SHOWN - EXTERIOR GIRDER SIMILAR

GIRDER SEAT ELEVATIONS

GIRDER LINE	ELEV. (A)	ELEV. (B)	ELEV. (C)	ELEV. (D)	ELEV. (E)
A	916.81	916.81	916.81	916.81	916.81
B	917.01	917.01	917.01	917.01	917.01
C	917.00	917.00	917.00	917.00	917.00
D	916.78	916.78	916.78	916.78	916.78

LEGEND

- ⬠ INDICATES GIRDER LINE
① INDICATES GIRDER NUMBER.



GIRDER LAYOUT

TOP OF DECK ELEVATIONS

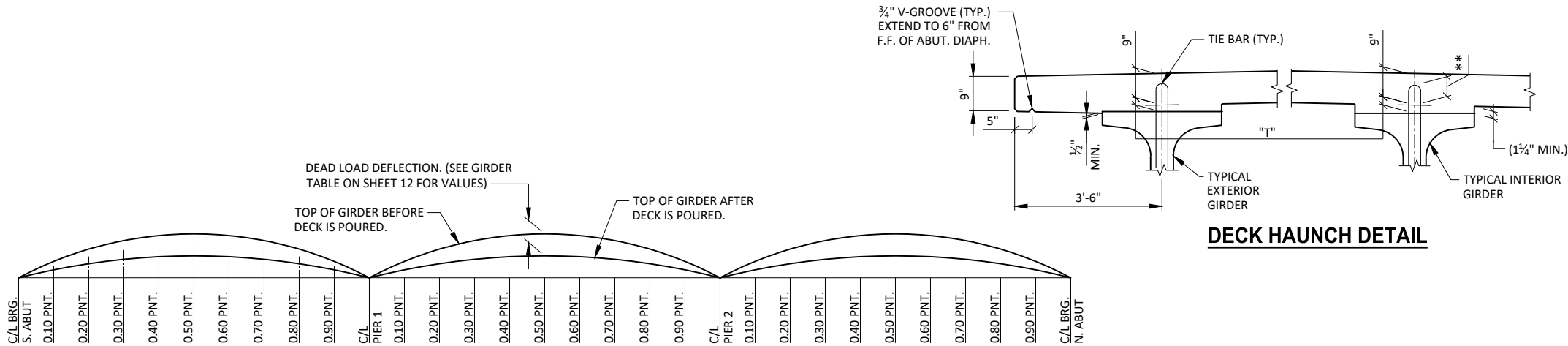
GIRDER LINE	C/L BRG. S. ABUT.	0.10 PNT.	0.20 PNT.	0.30 PNT.	0.40 PNT.	0.50 PNT.	0.60 PNT.	0.70 PNT.	0.80 PNT.	0.90 PNT.	C/L PIER 1	0.10 PNT.	0.20 PNT.	0.30 PNT.	0.40 PNT.	0.50 PNT.	0.60 PNT.	0.70 PNT.	0.80 PNT.	0.90 PNT.	C/L PIER 2	0.10 PNT.	0.20 PNT.	0.30 PNT.	0.40 PNT.	0.50 PNT.	0.60 PNT.	0.70 PNT.	0.80 PNT.	0.90 PNT.	C/L BRG. N. ABUT.
W. FLOW LINE & EDGE DECK	920.58	920.60	920.62	920.64	920.66	920.68	920.69	920.71	920.72	920.74	920.75	920.76	920.78	920.79	920.80	920.80	920.80	920.80	920.80	920.79	920.78	920.77	920.76	920.75	920.74	920.73	920.72	920.70	920.69	920.67	920.65
⬡	920.63	920.65	920.67	920.69	920.71	920.73	920.74	920.76	920.77	920.78	920.79	920.81	920.83	920.84	920.84	920.85	920.85	920.85	920.84	920.83	920.82	920.81	920.81	920.80	920.78	920.77	920.76	920.74	920.73	920.71	920.69
⬢	920.86	920.88	920.90	920.92	920.94	920.95	920.97	920.98	920.99	921.00	921.01	921.03	921.04	921.05	921.06	921.06	921.06	921.06	921.05	921.04	921.02	921.02	921.01	920.99	920.98	920.97	920.95	920.94	920.92	920.91	920.89
C/L	920.98	921.00	921.02	921.03	921.05	921.06	921.08	921.09	921.10	921.11	921.12	921.14	921.15	921.16	921.16	921.16	921.16	921.16	921.15	921.14	921.13	921.12	921.11	921.09	921.08	921.07	921.05	921.04	921.02	921.00	920.98
⬢	920.88	920.90	920.92	920.94	920.95	920.97	920.98	920.99	921.00	921.01	921.02	921.04	921.05	921.05	921.06	921.06	921.06	921.05	921.04	921.03	921.02	921.01	921.00	920.98	920.97	920.96	920.94	920.92	920.91	920.89	920.87
⬢	920.69	920.71	920.72	920.74	920.75	920.77	920.78	920.79	920.80	920.81	920.82	920.83	920.84	920.85	920.85	920.85	920.84	920.84	920.83	920.81	920.80	920.79	920.77	920.76	920.75	920.73	920.71	920.70	920.68	920.66	920.64
E. FLOW LINE & EDGE DECK	920.65	920.67	920.68	920.70	920.71	920.73	920.74	920.75	920.76	920.77	920.78	920.79	920.80	920.80	920.80	920.80	920.80	920.79	920.78	920.77	920.75	920.74	920.73	920.71	920.70	920.68	920.67	920.65	920.63	920.61	920.59

IF 1 1/4" MINIMUM HAUNCH HEIGHT AT EDGE OF GIRDER CANNOT BE MAINTAINED, THE GRADE LINE MAY BE REVISED BY THE ENGINEER AT THE OPTION OF THE CONTRACTOR, THE PLAN DECK THICKNESS SHALL BE HELD. NOTIFY BUREAU OF STRUCTURES IF THE GRADE LINE IS RAISED FROM THE PLAN PROFILE BY MORE THAN 1/2" OR, ** IF 3" MINIMUM DECK EMBEDMENT OF TIE BAR CANNOT BE OBTAINED.

TO DETERMINE "T" (AFTER GIRDERS ARE IN PLACE): OBTAIN THE ELEVATIONS OF THE TOP OF GIRDER AT THE C/L OF SUBSTRUCTURE UNITS AND AT 1/10 POINTS FOR EVERY GIRDER AND ALL SPANS, THEN PROCEED WITH THE PROCESS SHOWN BELOW.

TOP OF DECK ELEVATION AT THE FINAL GRADE
-TOP OF GIRDER ELEVATION
+DEAD LOAD DEFLECTION
-DECK THICKNESS
=HAUNCH HEIGHT "T"

NOTE: AN AVERAGE HAUNCH "T" OF 2.25" WAS USED IN THE QUANTITY "CONCRETE MASONRY BRIDGES".



DECK HAUNCH DETAIL

DEAD LOAD DEFLECTION DIAGRAM

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-25-198			
DRAWN BY		CTMP	PLANS CK'D. PTB
GIRDER LAYOUT		SHEET 11 OF 17	
		90	

TOP OF GIRDER TO BE ROUGH FLOATED AND BROOMED TRANSVERSELY, EXCEPT THE OUTSIDE 8" OF GIRDER, WHICH SHALL RECEIVE A SMOOTH FINISH. AN APPROVED CONCRETE SEALER SHALL BE APPLIED TO ALL SMOOTH SURFACES INCLUDING THE OUTSIDE 8" OF THE TOP FLANGE.

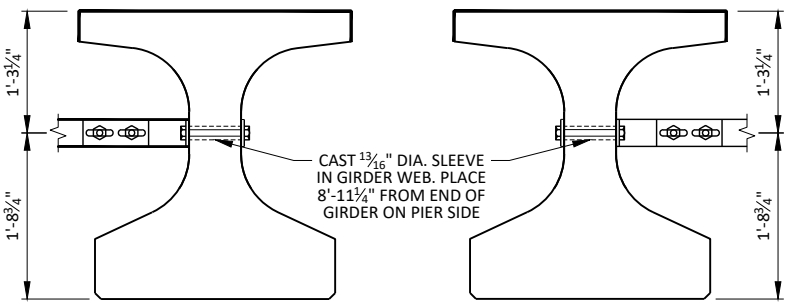
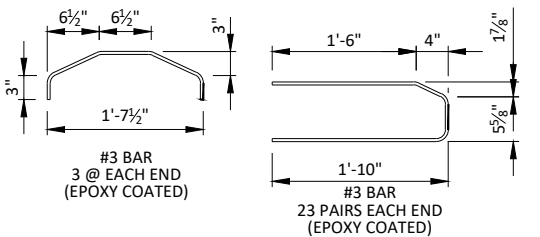
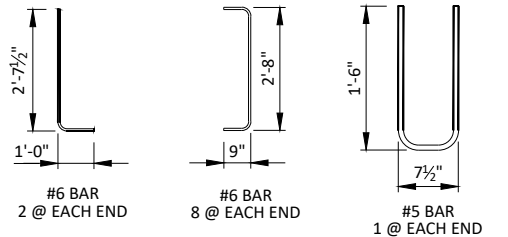
THE GIRDERS SHALL BE PROVIDED WITH A SUITABLE LIFTING DEVICE FOR HANDLING AND ERECTING THE GIRDERS. SEE SECTION 503.3.4 OF STANDARD SPECIFICATION FOR GUIDANCE.

STRANDS SHALL BE FLUSH WITH END OF GIRDER. FOR GIRDER ENDS EMBEDDED COMPLETELY IN CONCRETE, END OF STRANDS SHALL BE COATED WITH NON-BITUMINOUS JOINT SEALER. FOR GIRDER ENDS THAT ARE FINALLY EXPOSED, COAT THE GIRDER ENDS, EXPOSED STRAND ENDS AND ALL NON-BONDING SURFACES WITHIN 2 FEET OF THE GIRDER ENDS WITH A NON-POLYMERIZED EPOXY CONFORMING TO AASHTO M-23 TYPE III, GRADE 2, CLASS B OR C. THE EPOXY SHALL BE APPLIED AT LEAST 3 DAYS AFTER MOIST CURING HAS CEASED AND PRIOR TO THE APPLICATION OF THE SEALER.

SPACING SHOWN FOR #4 STIRRUPS IS FOR GRADE 60 REINFORCEMENT.

AN EQUIVALENT OF WELDED WIRE FABRIC (WWF) ASTM A1064 MAY BE SUBSTITUTED FOR THE STIRRUP REINFORCEMENT SHOWN, UPON APPROVAL OF THE STRUCTURES MAINTENANCE SECTION. IF USED, WWF SUBSTITUTION DETAILS SHALL BE SUBMITTED ELECTRONICALLY TO THE WISDOT FABRICATION LIBRARY AND ACCEPTED PRIOR TO SHOP DRAWING SUBMITTAL.

FOR DIAPHRAGM INSERT & CONNECTION DETAILS SEE "STEEL DIAPHRAGM"
SHEET. SEE SHEET 11 FOR LOCATIONS ALONG THE GIRDERS.



FLOOR DRAIN ATTACHMENT INSERT LOCATIONS

NO.	DATE	REVISION	BY

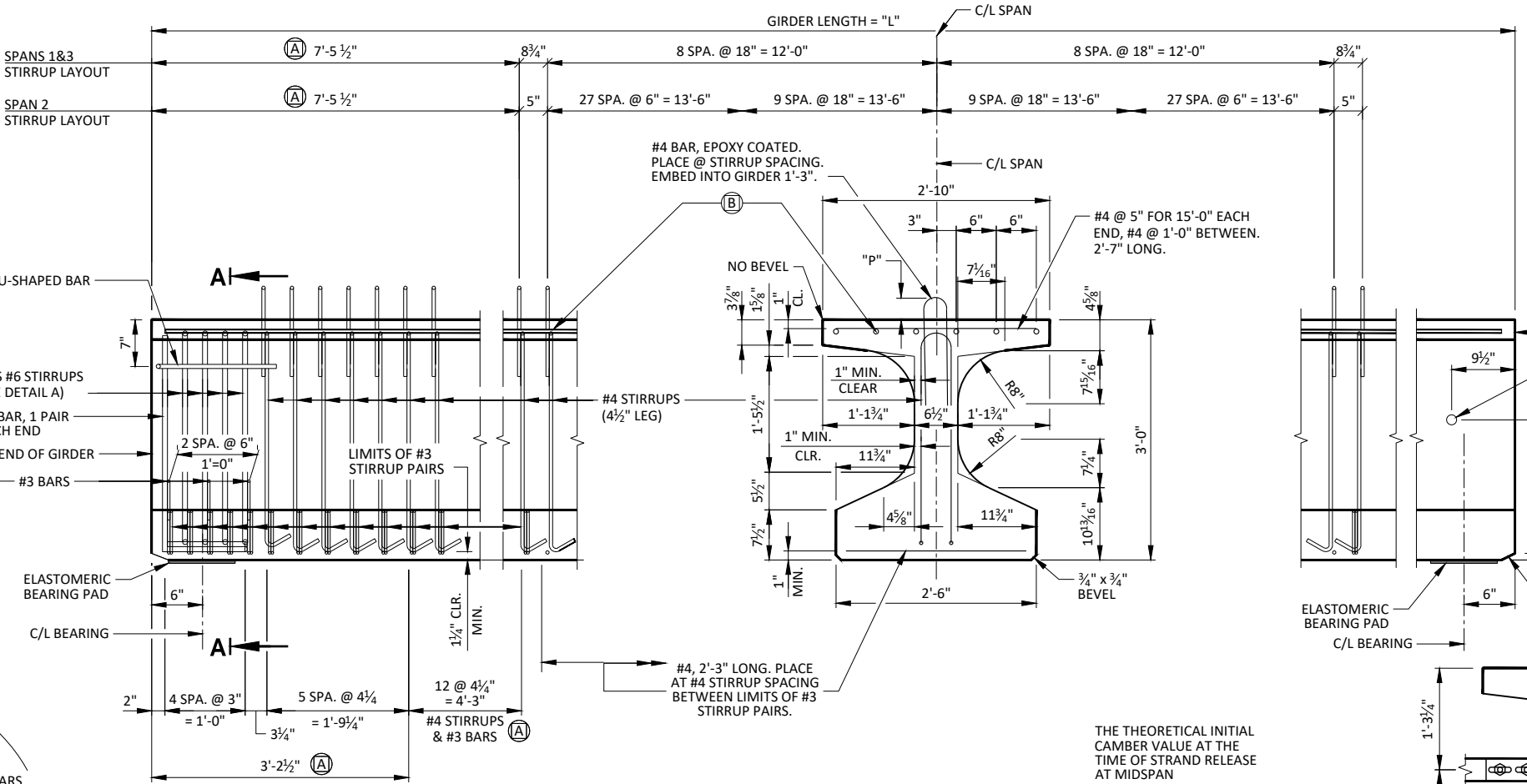
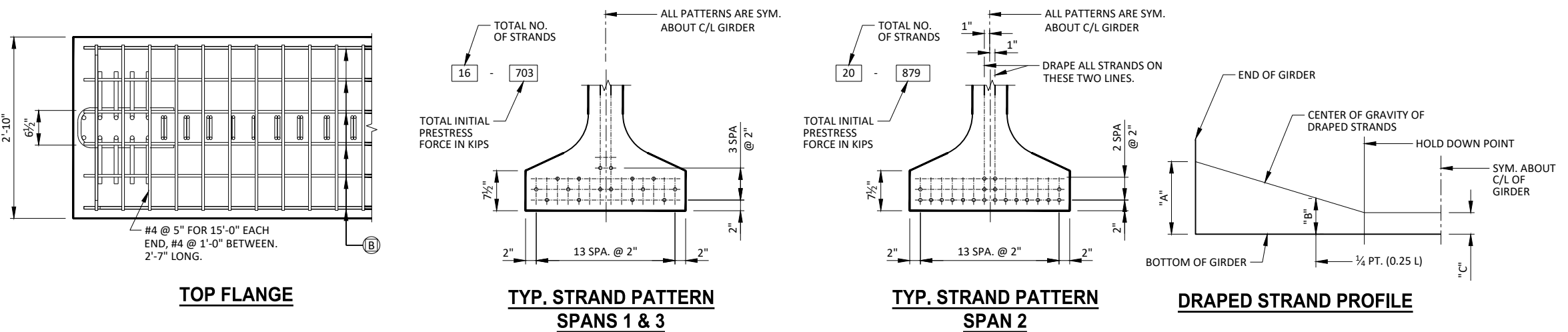
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-25-198

36W PRESTRESSED GIRDER DETAILS

SHEET 12 OF 17

1



(A) DETAIL TYP. AT EACH END

(B) 6 #5 BARS, FULL LENGTH, MAY BE SPLICED, USE 36" MIN. LAP (SPANS 1 & 3)

(B) 6 #4 BARS, FULL LENGTH, MAY BE SPLICED, USE 36" MIN. LAP (SPAN 2)

SPAN	CAMBER (IN.)
1	0.4"
2	1.1"
3	0.4"

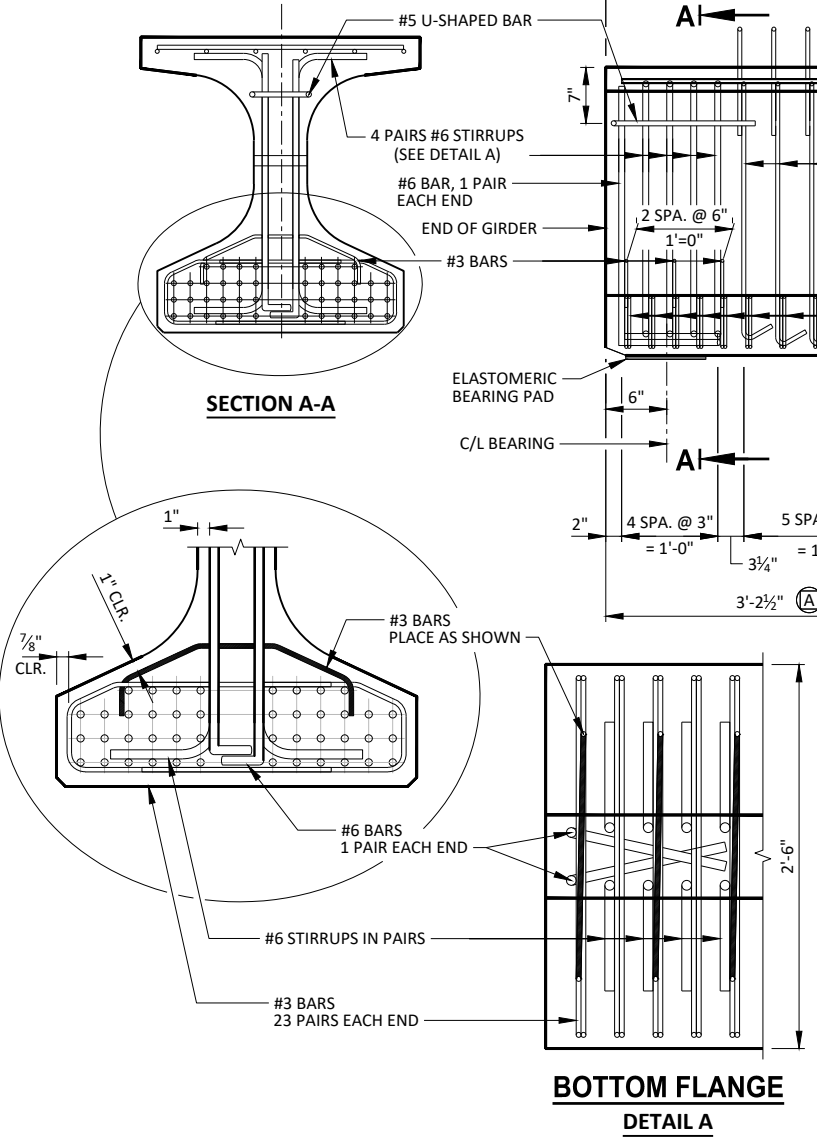
THESE VALUES ARE NOT TO BE USED IN DETERMINING 'T', USE ACTUAL GIRDER SHOTS. THESE VALUES ARE FOR INFORMATIONAL PURPOSES ONLY.

GIRDER DATA

GIRDER DATA																									
SPAN	GIRDER LENGTH "L"	QUANT.	DEAD LOAD DEFL. (IN.)										CONC. STRGTH. f'c (KSI)	STIRRUP PROJECTION "P"			DIA. OF STRAND (IN.)	DRAPED PATTERN					UNDRAPED PATTERN		GIRDER NO.
			1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10	10/10		TOTAL NO. OF STRANDS	f'ci (KSI) *	(INCHES)			TOTAL NO. OF STRANDS	f'ci (KSI) *					
													1ST 1/2	MID 1/2	END 1/2		"A"	"B" MIN.	"B" MAX.	"C"					
1,3	40'-4 1/2"	8	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	8.0	8"	7"	8"	0.6	--	--	--	--	16	6.8	1-4, 9-12		
2	69'-9"	4	0.4	0.7	1.0	1.1	1.2	1.1	1.0	0.7	0.4	8.0	8"	7"	8"	0.6	20	6.8	32	11	14	4	5-8		

*MINIMUM CYLINDER STRENGTH OF CONCRETE @ TIME OF TRANSFER OF PRESTRESS FORCE.

NOTE: SEE SHEET 11 FOR DEAD LOAD DEFLECTION DIAGRAM.



NOTES

ALL DIAPHRAGM MATERIAL NOT EMBEDDED IN THE CONCRETE GIRDER SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "STEEL DIAPHRAGMS B-25-198", EACH.

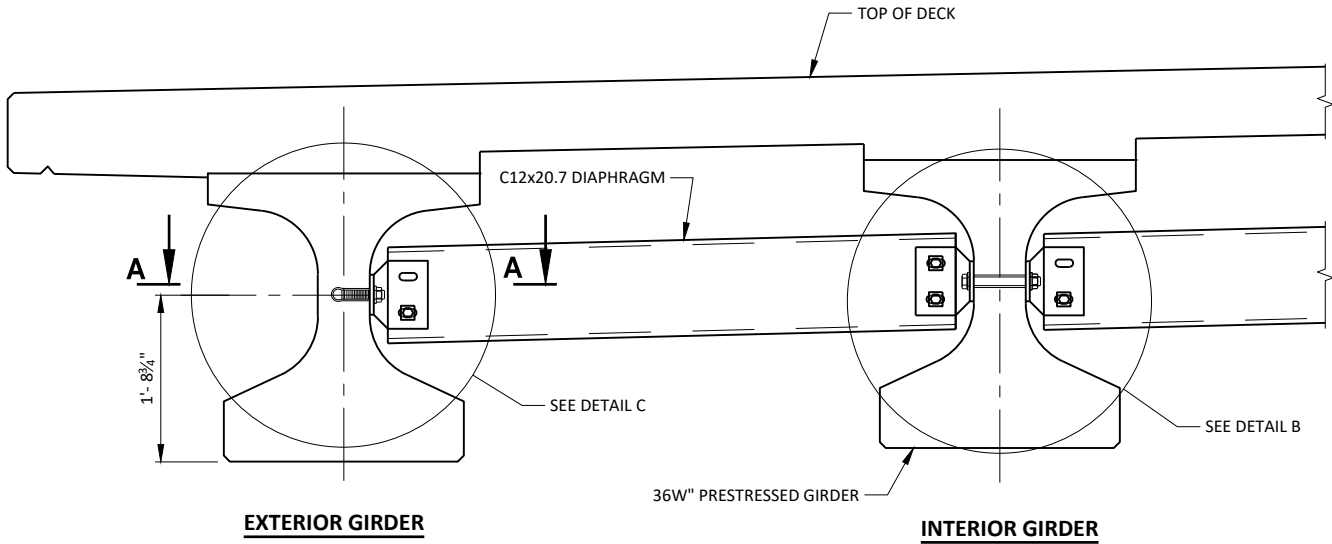
EACH DIAPHRAGM BETWEEN GIRDERS SHALL CONSTITUTE ONE UNIT.

ALL DIAPHRAGM STRUCTURAL STEEL SHALL BE ASTM A709 GRADE 36.

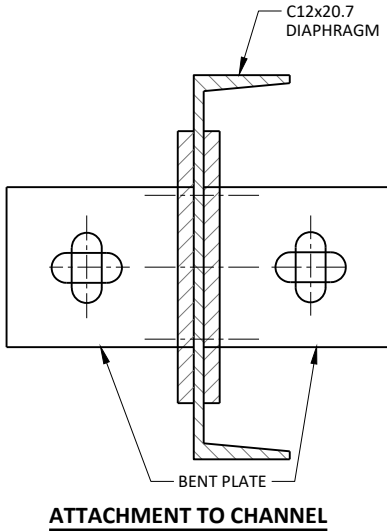
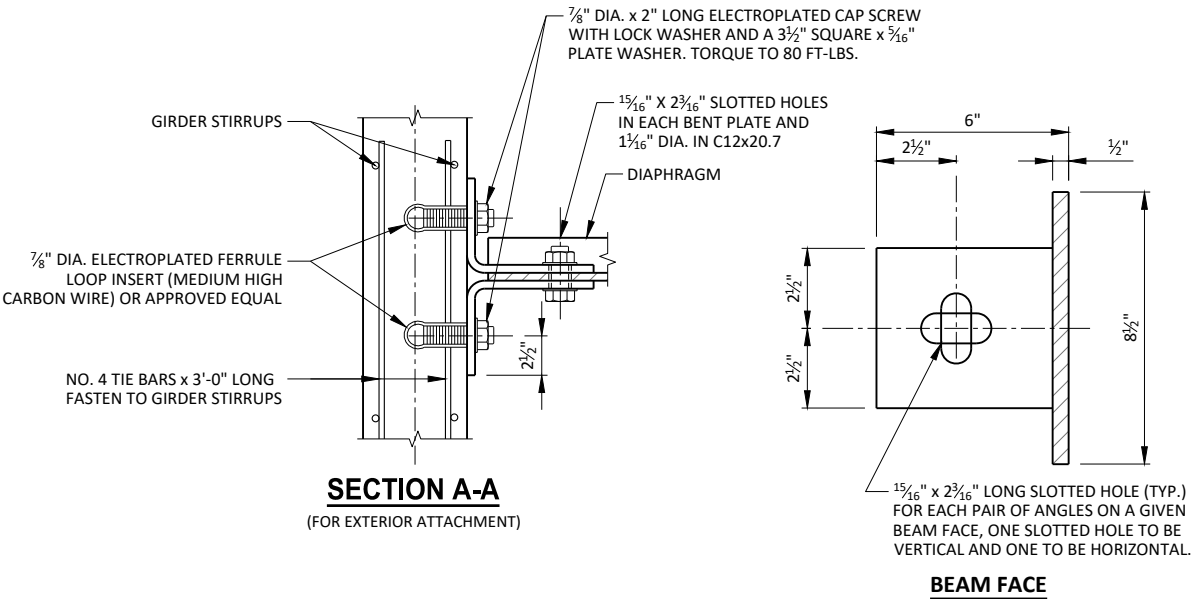
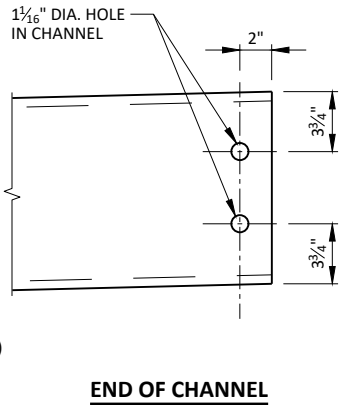
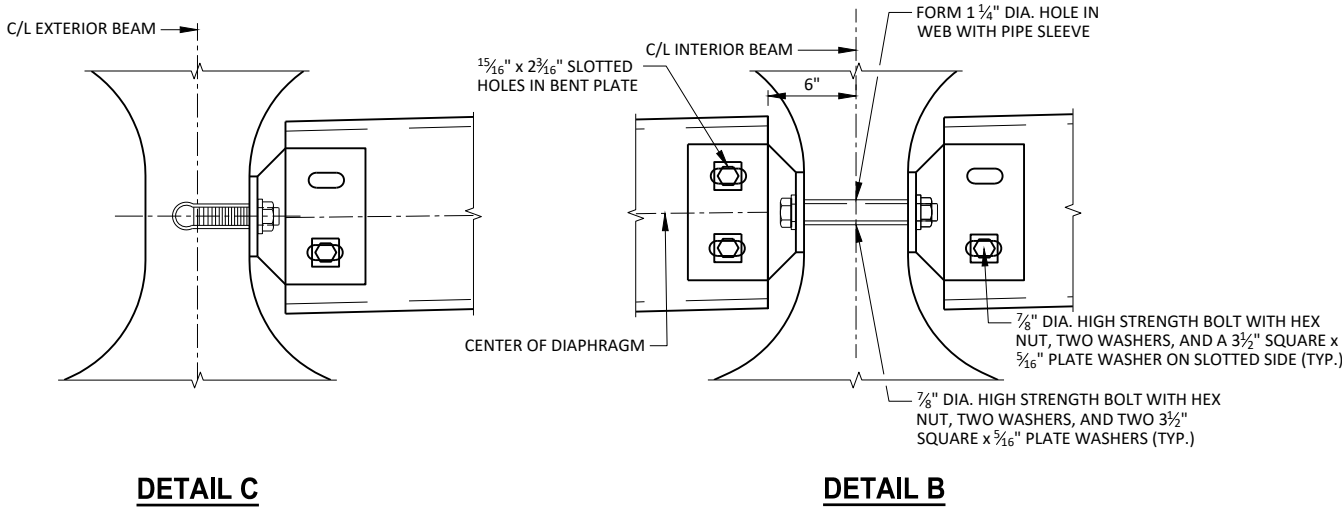
ALL DIAPHRAGM MATERIAL INCLUDING BOLTS, NUTS, AND WASHERS SHALL BE GALVANIZED AFTER FABRICATION.

STEEL DIAPHRAGM TO CONCRETE WEB CONNECTION SHALL BE SNUG-TIGHT PLUS $\frac{1}{4}$ TURN UNLESS NOTED OTHERWISE. HIGH STRENGTH BOLTS FOR WEB CONNECTION SHALL MEET THE REQUIREMENTS FOR ASTM A325 OR ASTM A449.

PLACE ONE DIAPHRAGM NEAR MID-LENGTH OF GIRDERS FOR ALL GIRDERS.



PART TRANSVERSE SECTION AT DIAPHRAGM



NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-25-198			
DRAWN BY		CTMP	PLANS CK'D. PTB
STEEL DIAPHRAGM		SHEET 13 OF 17 92	



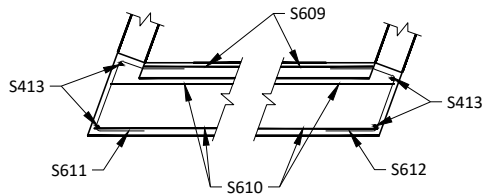
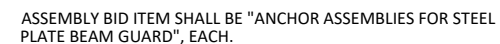
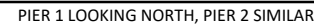
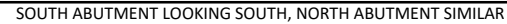
52,220 LB (COATED)

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.



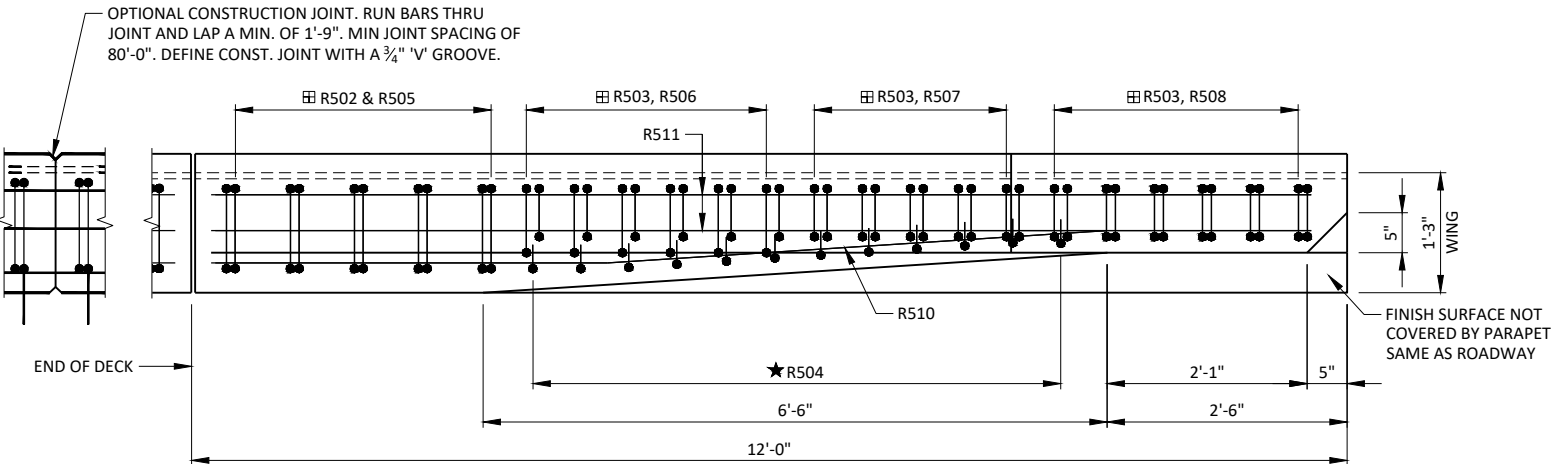
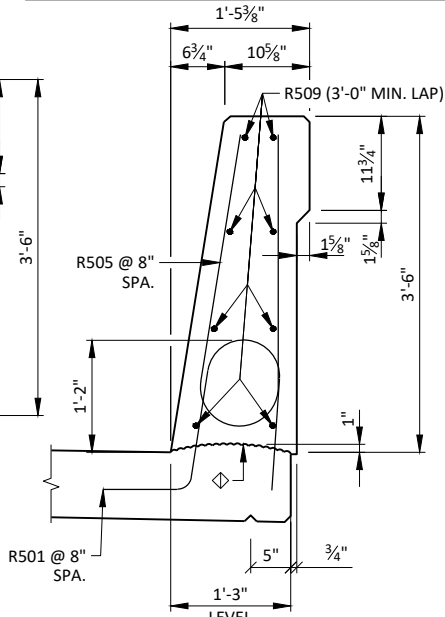
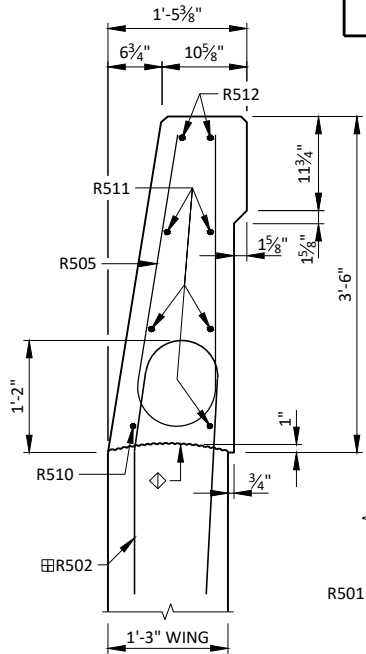
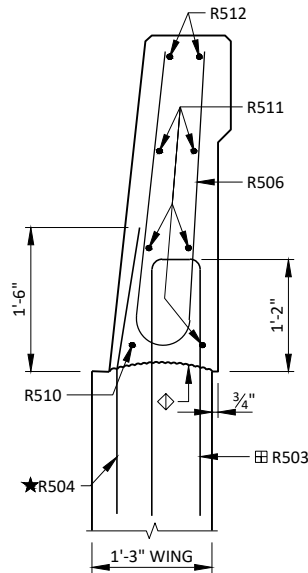
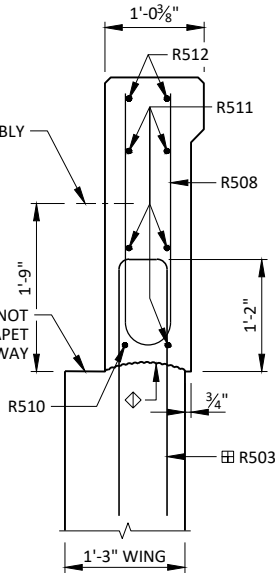
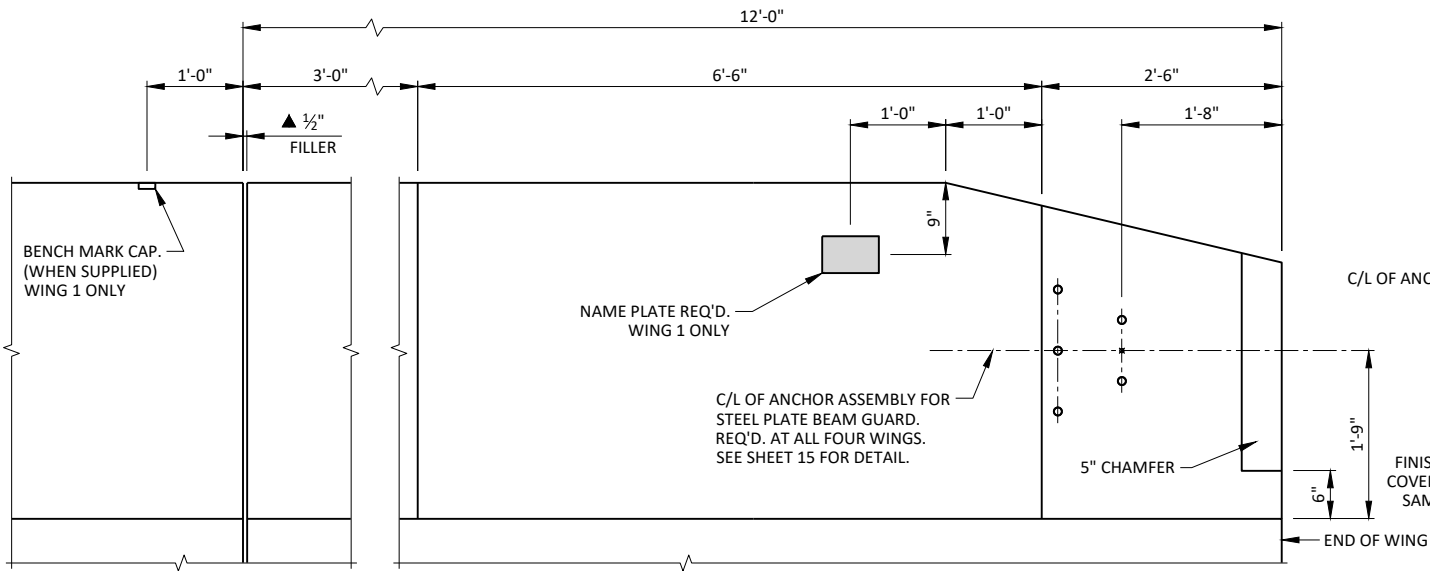
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-25-198			
		DRAWN BY	CTMP PLANS CK'D. PTB
SUPERSTRUCTURE		SHEET 14 OF 17 93	

- 18" RUBBERIZED MEMBRANE WATERPROOFING (HORIZONTAL)
- KEYED CONSTRUCTION JOINT FORMED BY SURFACED & BEVELED 2X6.
- ☆ ½" NON-LAMINATED ELASTOMERIC BEARING PAD AND ½" PREFORMED FILLER.
- ▲ 4"x ½" PREFORMED FILLER, EXTEND FULL LENGTH OF ABUTMENTS BETWEEN EDGES OF DIAPHRAGM.
- ◆ (1) 1½" DIAMETER HOLE IN WEB FOR (2) S518 HORIZONTAL BARS. BARS TO BE PLACED SYMMETRICAL ABOUT C/L OF INTERIOR GIRDS.
- DIMENSION IS PARALLEL TO C/L OF GIRDER
- ◆ DIMENSION IS NORMAL TO THE C/L OF SUBSTRUCTURE UNIT.
- ▼ OPTIONAL CONSTRUCTION JOINT 1'-2" BELOW TOP OF GIRDER. IF USED, DECK POUR MUST BE WITHIN 2 WEEKS FROM THE TIME OF THE DIAPHRAGM POUR. IF OPTIONAL JOINT IS USED, PLACE RUBBERIZED MEMBRANE WATERPROOFING BEHIND JOINT AT ABUTMENT ONLY. COST IS INCIDENTAL TO BID ITEM "CONCRETE MASONRY BRIDGES"
- ✕ BARS PLACED PARALLEL TO GIRDS, SPACING IS PERPENDICULAR TO C/L OF GIRDS.



PLAN - DIAPHRAGM ENDS

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-25-198			
DRAWN BY		CTMP	PLANS CK'D. PTB
SUPERSTRUCTURE DETAILS		SHEET 15 OF 17	
		94	



BILL OF BARS
PARAPETS

9,690 LB (COATED)

BAR MARK	NO. REQ'D.	LENGTH	BENT	COAT	BAR SERIES	LOCATION
R501	462	4-5	X	X		PARAPET - VERT.
R502	20	5-10	X	X		PARAPET - VERT.
R503	68	5-7	X	X		PARAPET - VERT.
R504	48	3-0	X	X		PARAPET - VERT.
R505	482	6-8	X	X		PARAPET - VERT.
R506	24	6-6	X	X		PARAPET - VERT.
R507	20	6-5	X	X		PARAPET - VERT.
R508	24	5-5	X	X	*	PARAPET - VERT.
R509	64	40-9		X		PARAPET - HORIZ.
R510	4	11-4	X	X		PARAPET - HORIZ. - WINGS
R511	20	11-7	X	X		PARAPET - HORIZ. - WINGS
R512	8	11-6	X	X		PARAPET - HORIZ. - WINGS

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

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

NOTES

SOME BARS HAVE BEEN OMITTED FOR CLARITY. SEE THIS SHEET FOR BILL OF BARS.

BAR SERIES TABLE

BAR MARK	NO. REQ'D.	LENGTH
R508	4 SERIES OF 6	4-9 TO 6-1

BUNDLE AND TAG EACH SERIES SEPARATELY

LEGEND

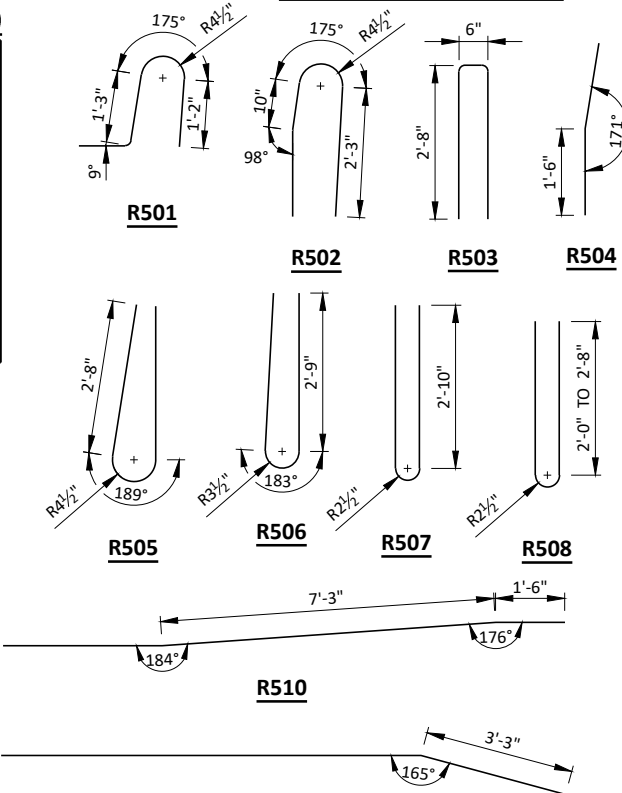
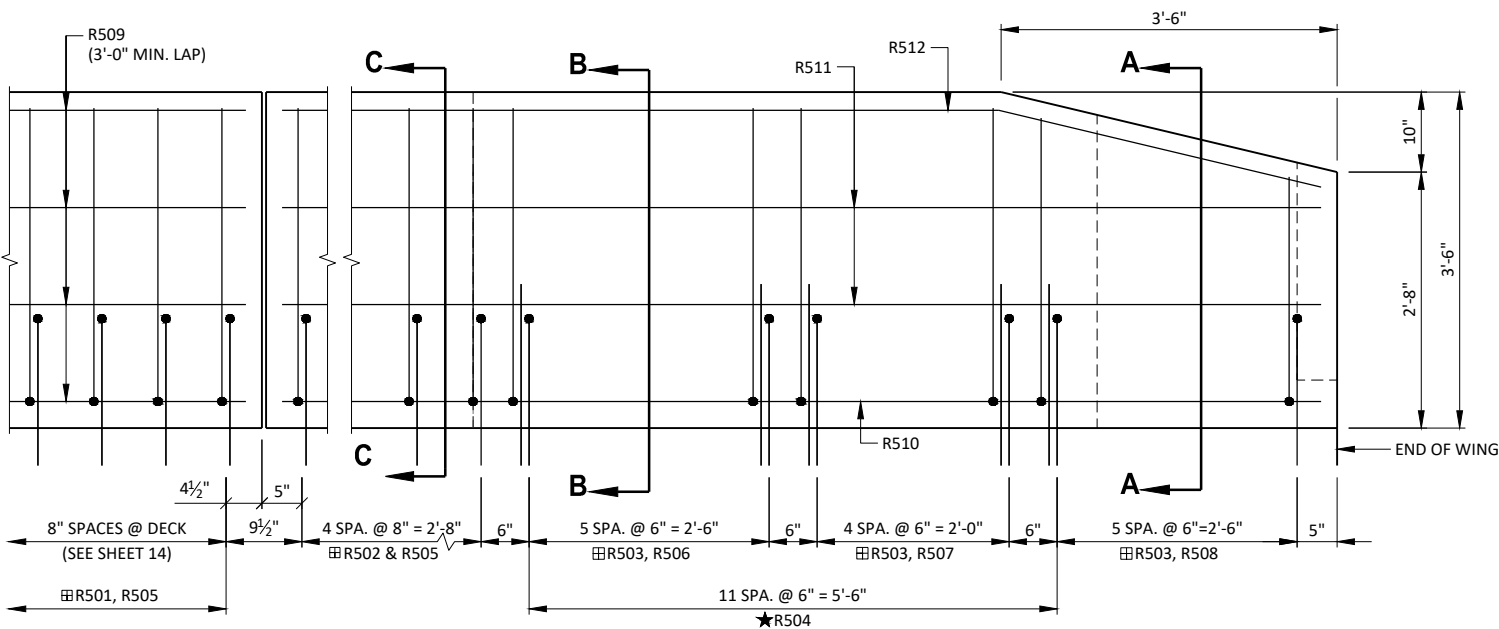
◇ CONSTRUCTION JOINT. STRIKE OFF AS SHOWN.

▲ 1/2" FILLER EXTEND AS SHOWN. SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING GRAY, NON-BITUMINOUS JOINT SEALER. (1" DEEP & HOLD 1/2" BELOW SURFACE OF CONCRETE)

★ R504 BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. USE CARE TO PLACE R504 BARS CORRECTLY ALONG TRANSITION OF PARAPET.

⊞ R501 BARS TO BE TIED TO DECK BEFORE IT IS POURED. R502 AND R503 BARS TO BE TIED TO THE WING STEEL BEFORE WING IS POURED.

● SLOPE FOR DRAINAGE.



NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-25-198			
DRAWN BY		CTMP	PLANS CK'D. PTB
SINGLE SLOPE PARAPET 42SS		SHEET 16 OF 17 95	

NOTES

ALL MATERIAL FOR TYPE "GC" CASTING, EXCLUDING GRATE HOLD DOWN SCREWS, SHALL BE GRAY IRON CONFORMING TO ASTM A48, CLASS 30. (APPROXIMATE WEIGHT = 225#)

MATERIAL FOR BRACKETS SHALL CONFORM TO ASTM A36.

ALL MATERIAL FOR FLOOR DRAINS TO BE INCLUDED IN THE BID ITEM "FLOOR DRAINS TYPE GC".

ALL MATERIAL FOR DOWNSPOUTS, DOWNSPOUT CONNECTIONS, AND BRACKETS TO BE INCLUDED IN THE BID ITEM "DOWNSPOUT 6-INCH".

ALTERNATE BRACKETS ARE NOT ALLOWED.

FLANGED 6" DIA. DOWNSPOUTS SHALL BE REINFORCED THERMOSETTING RESIN PIPE (RTRP) OR GALVANIZED STANDARD PIPE CONFORMING TO ASTM A53.

GRATE CASTING DETAIL

ATTACH GRATE TO FRAME FOR SHIPMENT

BRACKET DETAIL

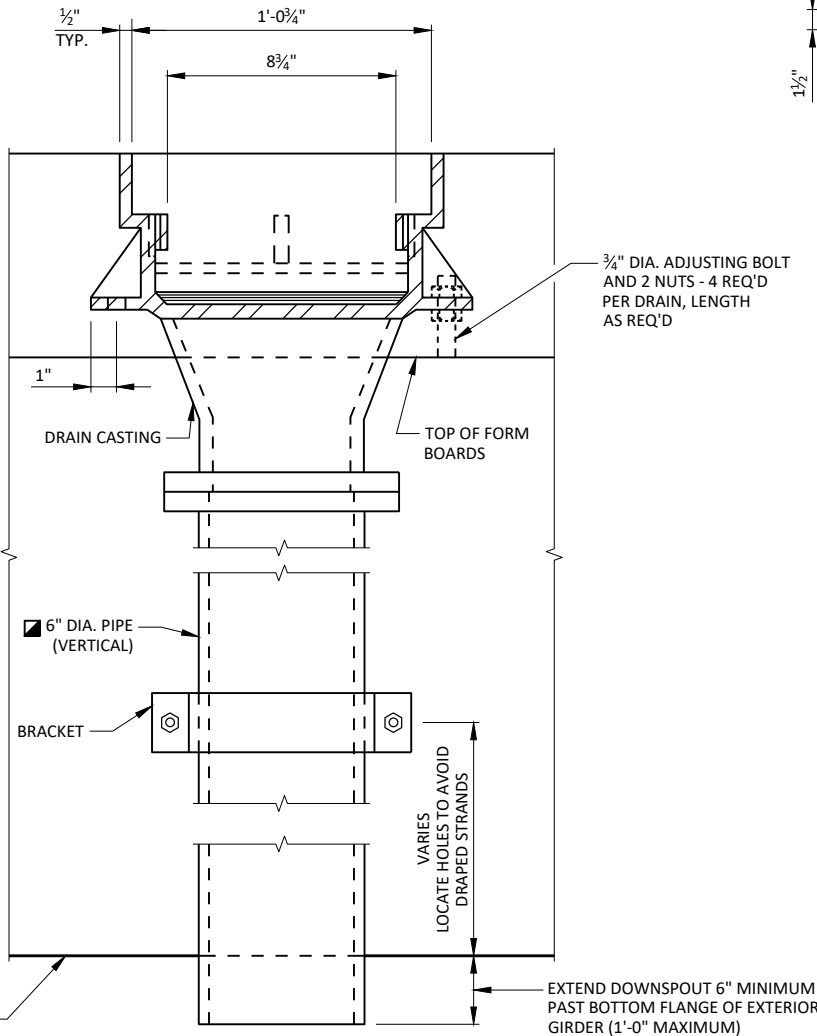
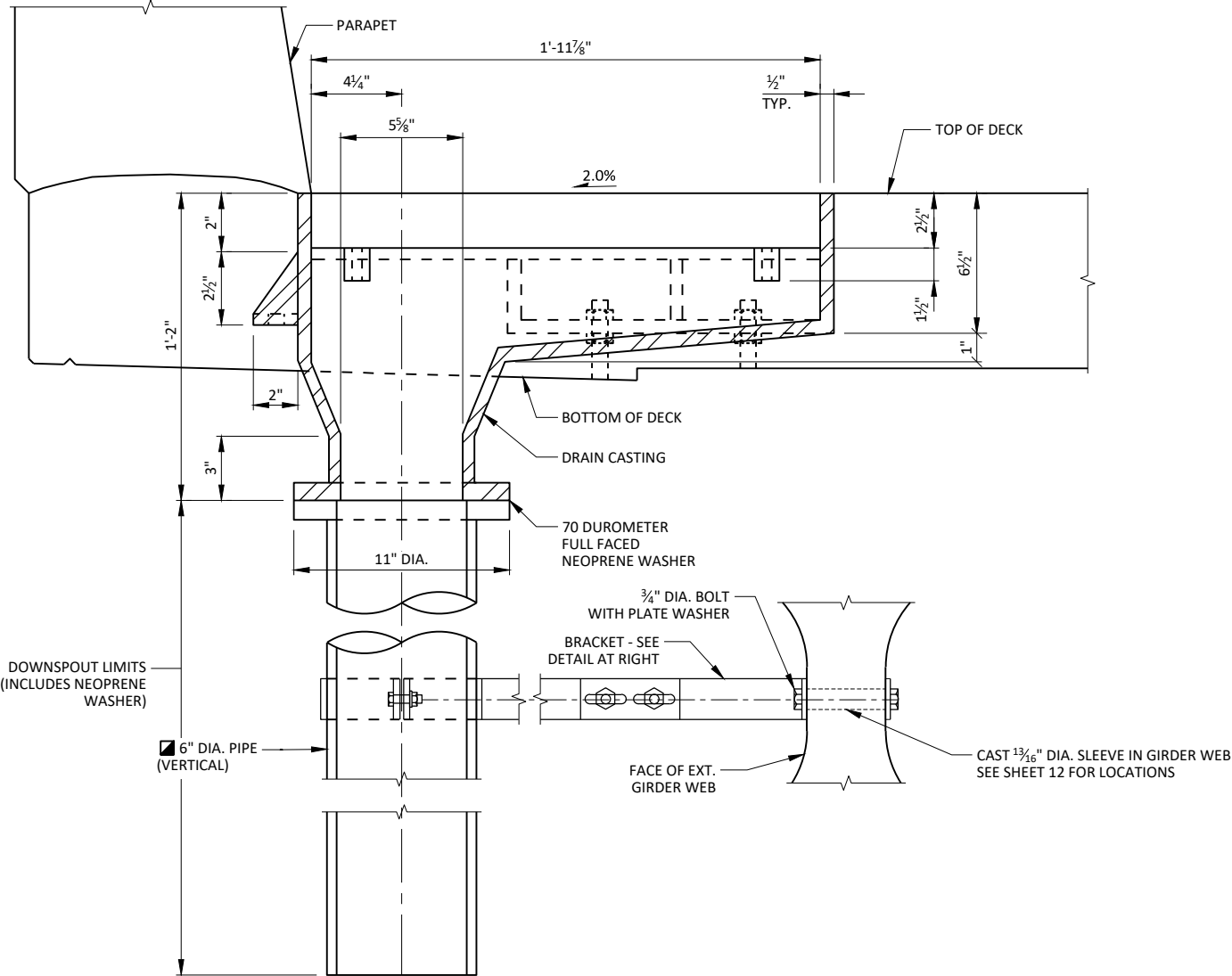
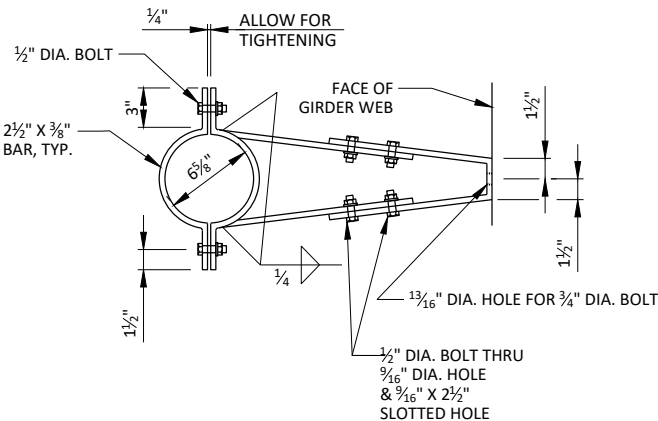
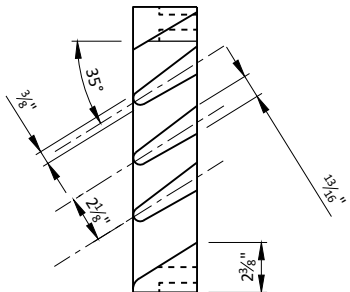
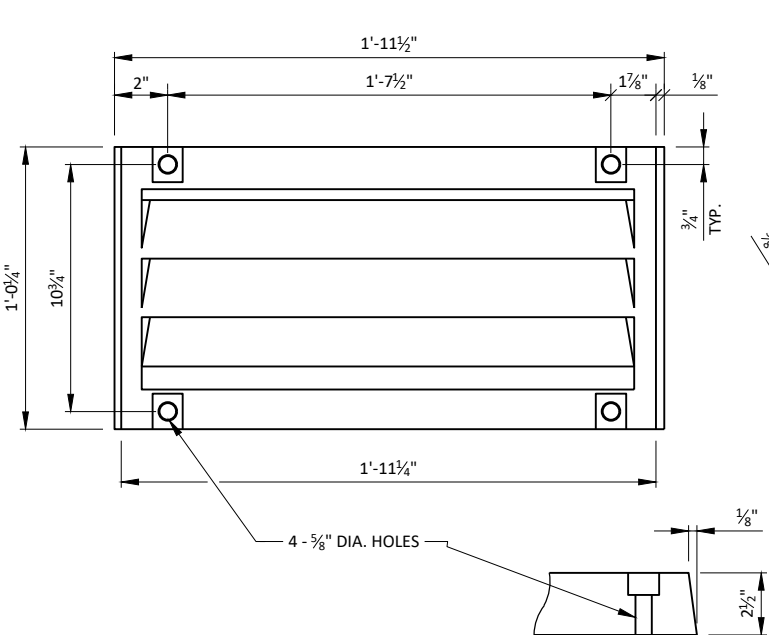
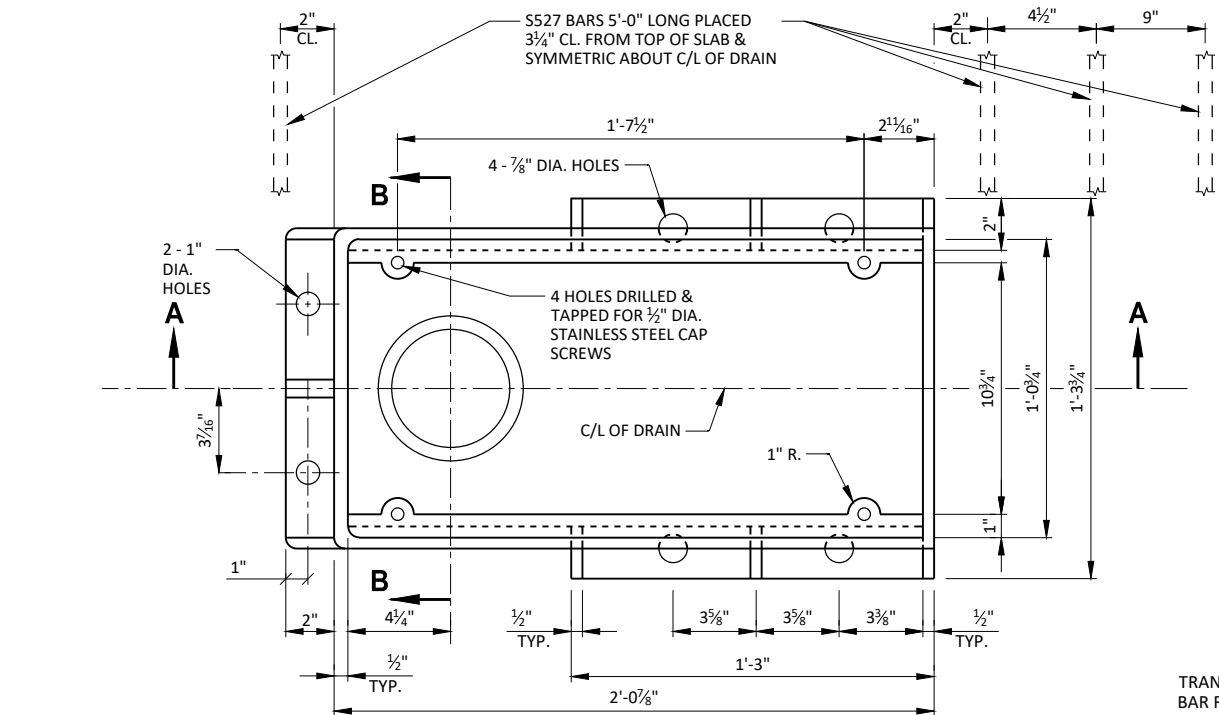
PLAN

SECTION A-A

SECTION B-B

TRANS. AND LONGIT. SLAB BAR REINF. TO BE CUT A MAX. 1" CL. FROM DRAIN FRAME DISPLACE BARS WHERE POSSIBLE

3/4" DIA. ADJUSTING BOLT AND 2 NUTS - 4 REQ'D PER DRAIN, LENGTH AS REQ'D

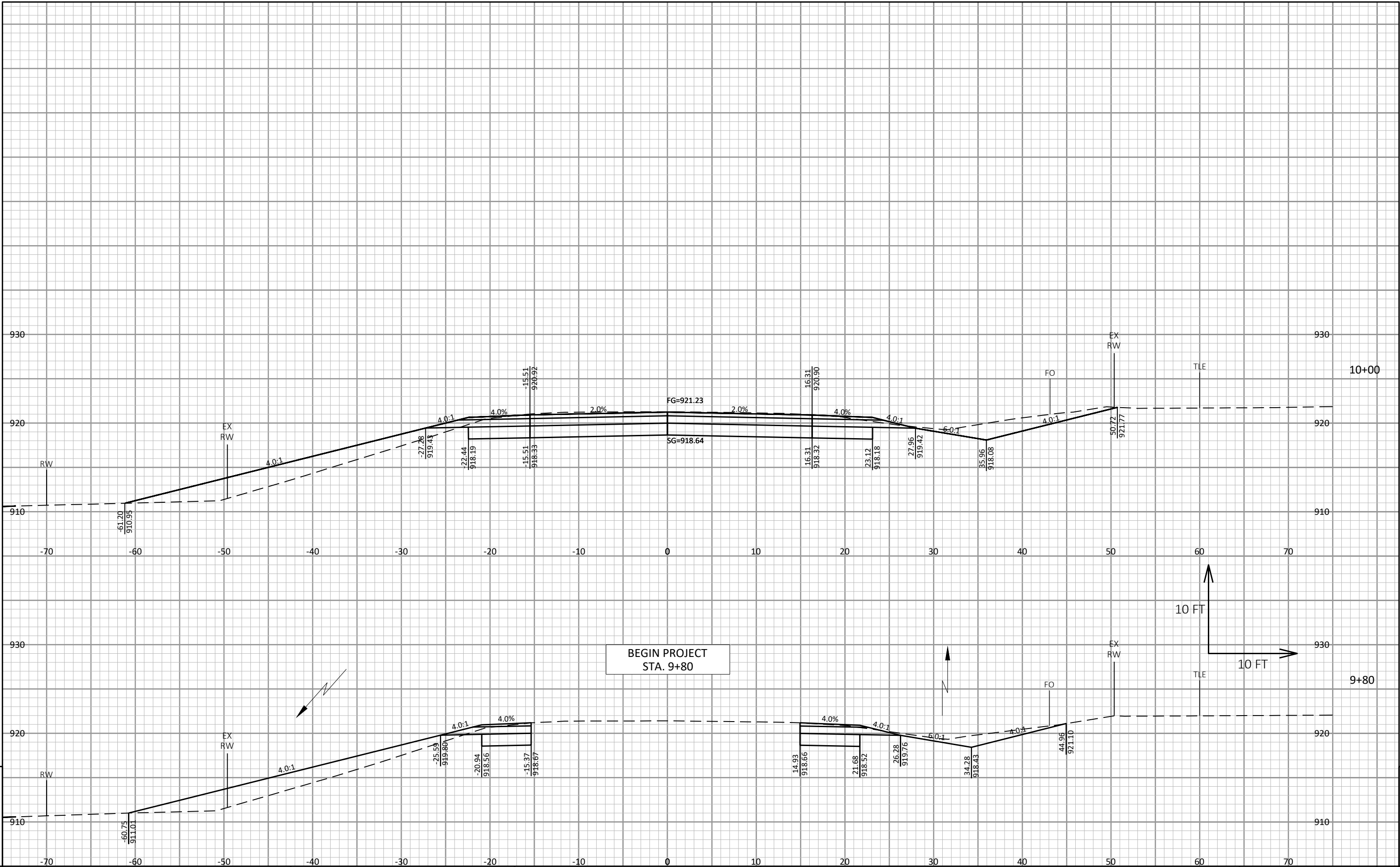


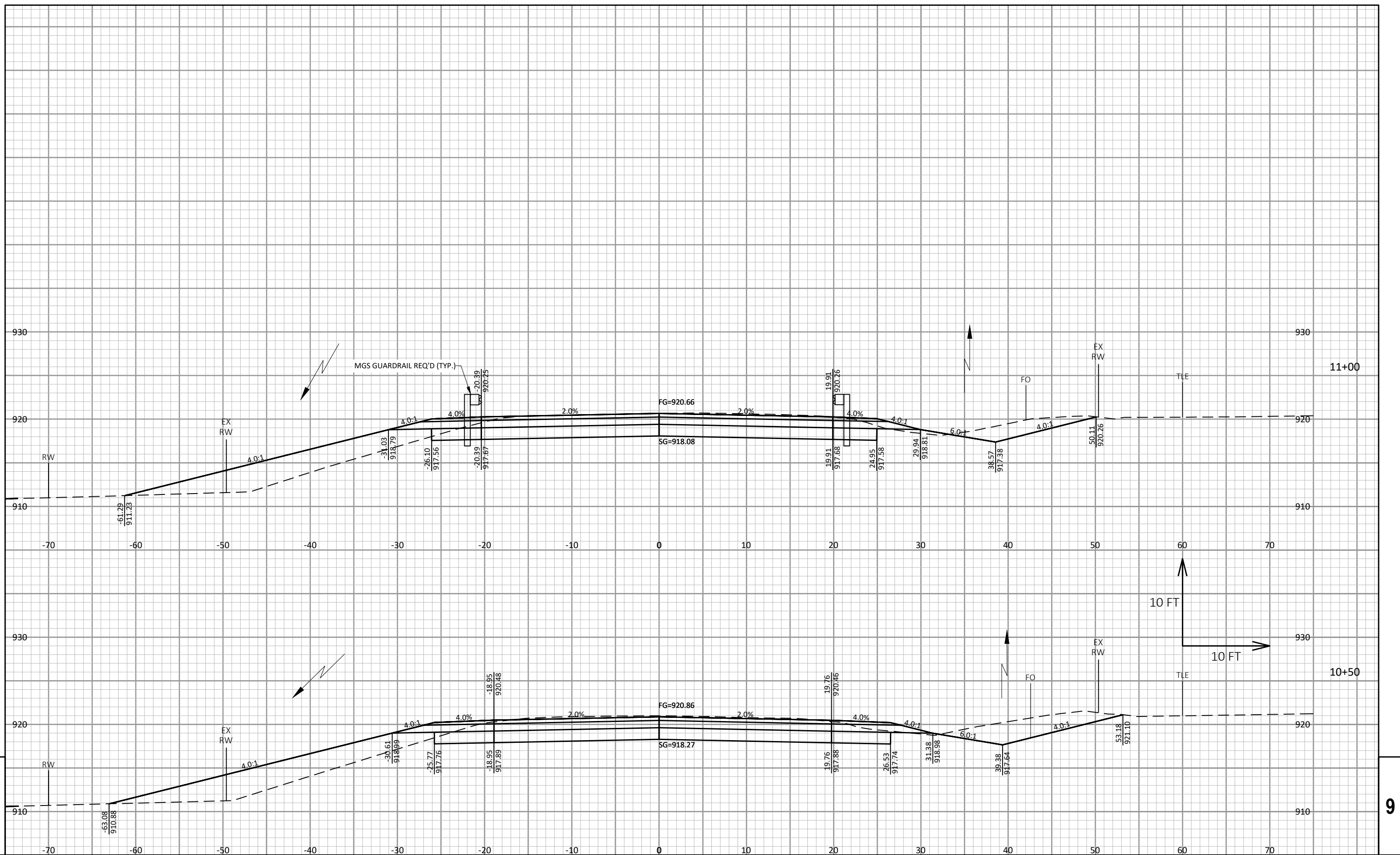
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-25-198			
DRAWN BY		CTMP	PLANS CK'D. PTB
FLOOR DRAIN TYPE 'GC'		SHEET 17 OF 17 96	

EARTHWORK-STH 39

STATION	AREA (SF)		INCREMENTAL VOL (CY)			CUMMULATIVE VOLUME (CY)			
	CUT	FILL	CUT NOTE 1	FILL	FILL (25%) NOTE 2	CUT 1.00 NOTE 1	FILL	FILL (25%) NOTE 2	MASS ORDINATE NOTE 3
9+80	43	53	0	0	0	0	0	0	0
10+00	141	56	16	20	25	16	20	25	-9
10+50	161	76	68	41	51	84	60	75	9
11+00	143	75	280	123	153	364	183	229	135
11+50	127	12	281	140	175	645	322	403	242
12+00	109	28	250	80	100	895	403	503	391
12+28	109	28	218	37	46	1,113	439	549	564
13+82	95	97	113	29	36	1,226	468	585	641
14+00	95	97	63	65	81	1,289	533	666	623
14+50	124	66	203	150	188	1,491	683	854	638
15+00	142	61	246	117	147	1,737	800	1,000	737
15+50	141	97	262	145	181	2,000	945	1,181	818
16+00	132	76	253	157	196	2,253	1,102	1,378	875
16+50	125	85	239	146	183	2,492	1,248	1,560	931
17+00	120	84	230	156	195	2,722	1,404	1,890	832
17+40	15	32	108	108	135	2,830	1,512	1,890	940
COLUMN TOTALS =			2,830	1,512	1,890	940			

NOTES:	
1 - CUT	CUT INCLUDES SALVAGED/UNUSABLE PAVEMENT MATERIAL
2 - FILL 25%	(UNEXPANDED FILL)*1.25
3 - MASS ORDINATE	CUT + ROCK (10%) +REDUCED MARSH (60%) - FILL (25%)





PROJECT NO: 5952-03-84

HWY: STH 39

COUNTY: IOWA

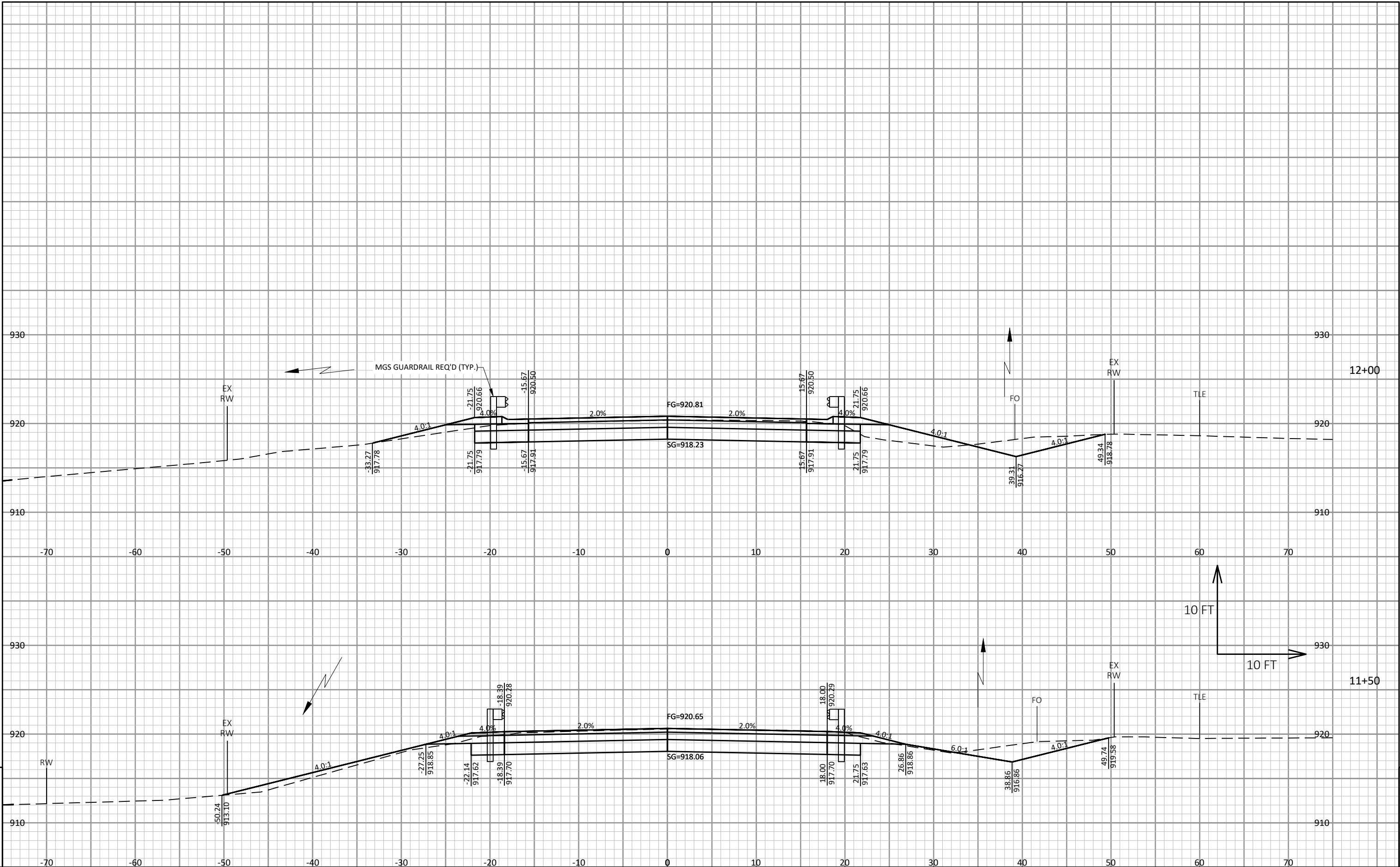
CROSS SECTIONS:	MAINLINE
-----------------	----------

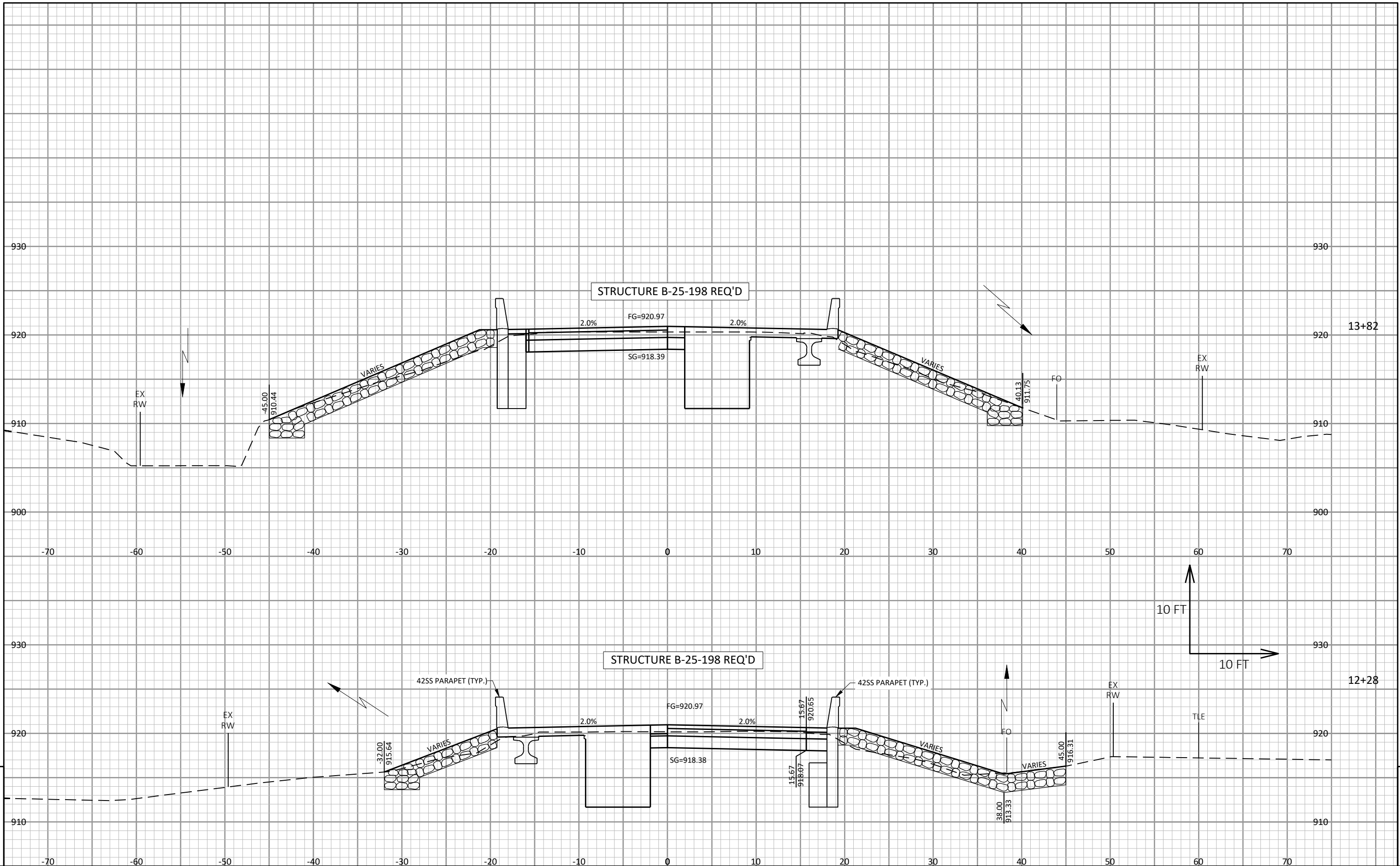
SHEET

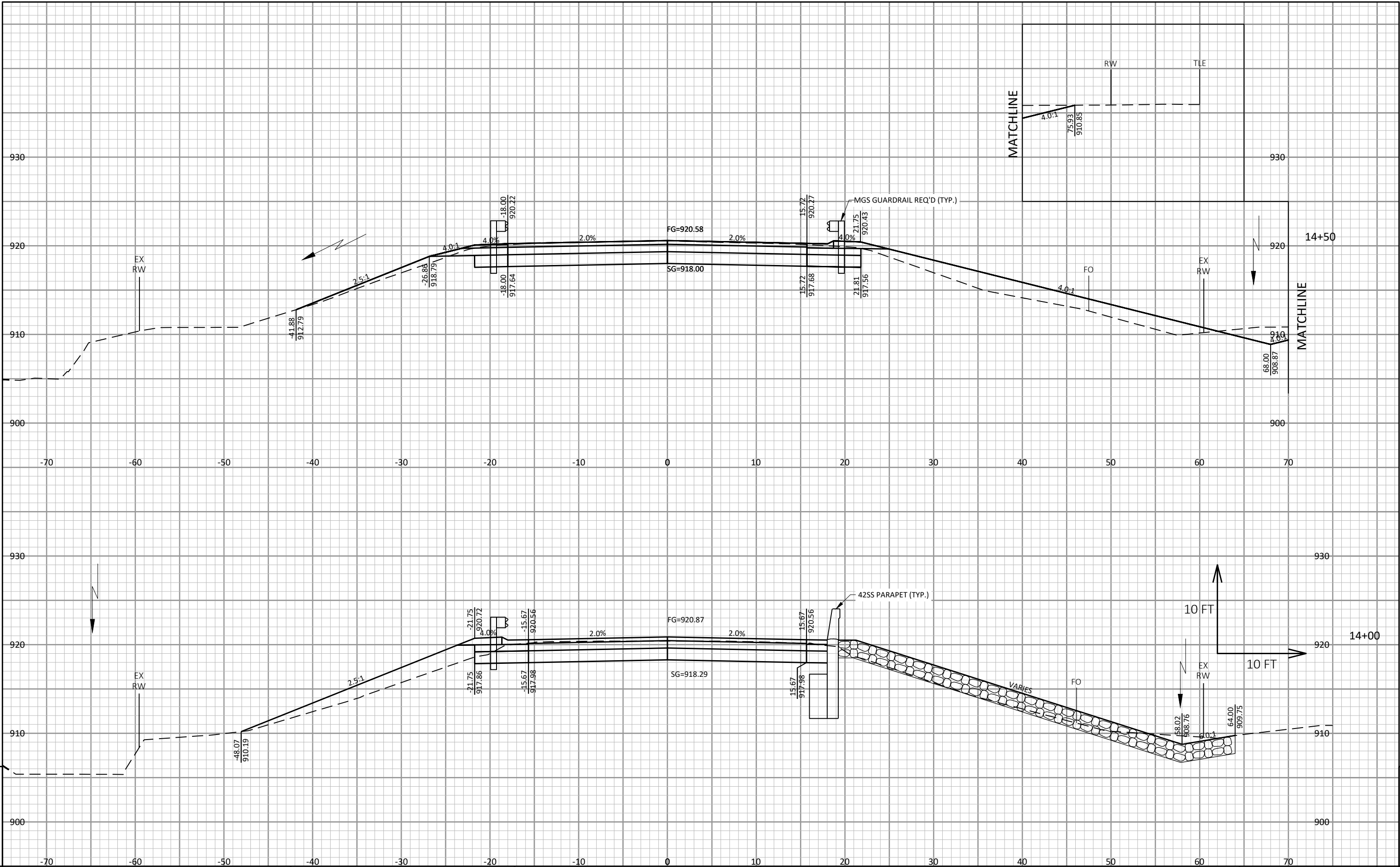
9

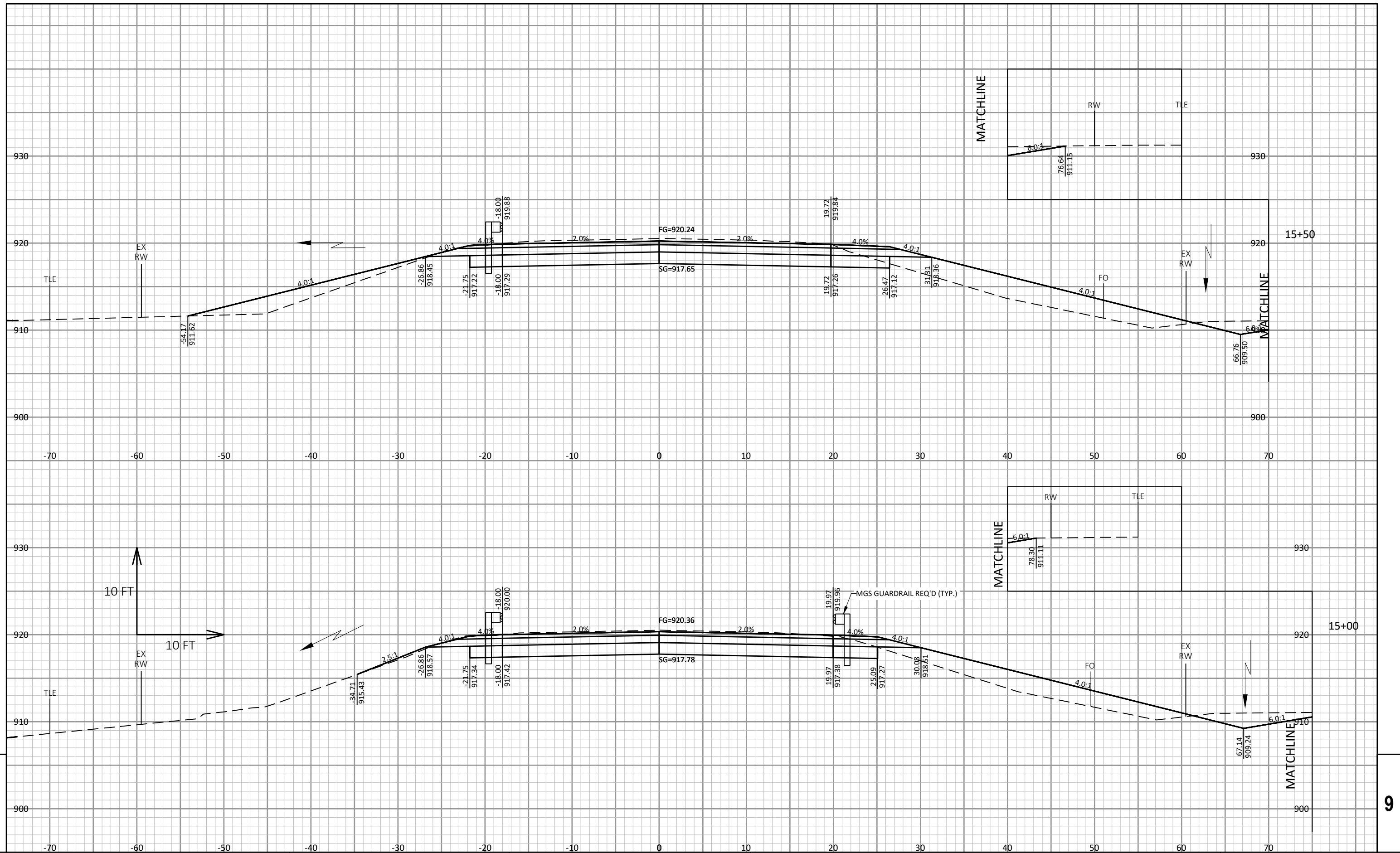
9

--	--









PROJECT NO: 5952-03-84

HWY: STH 39

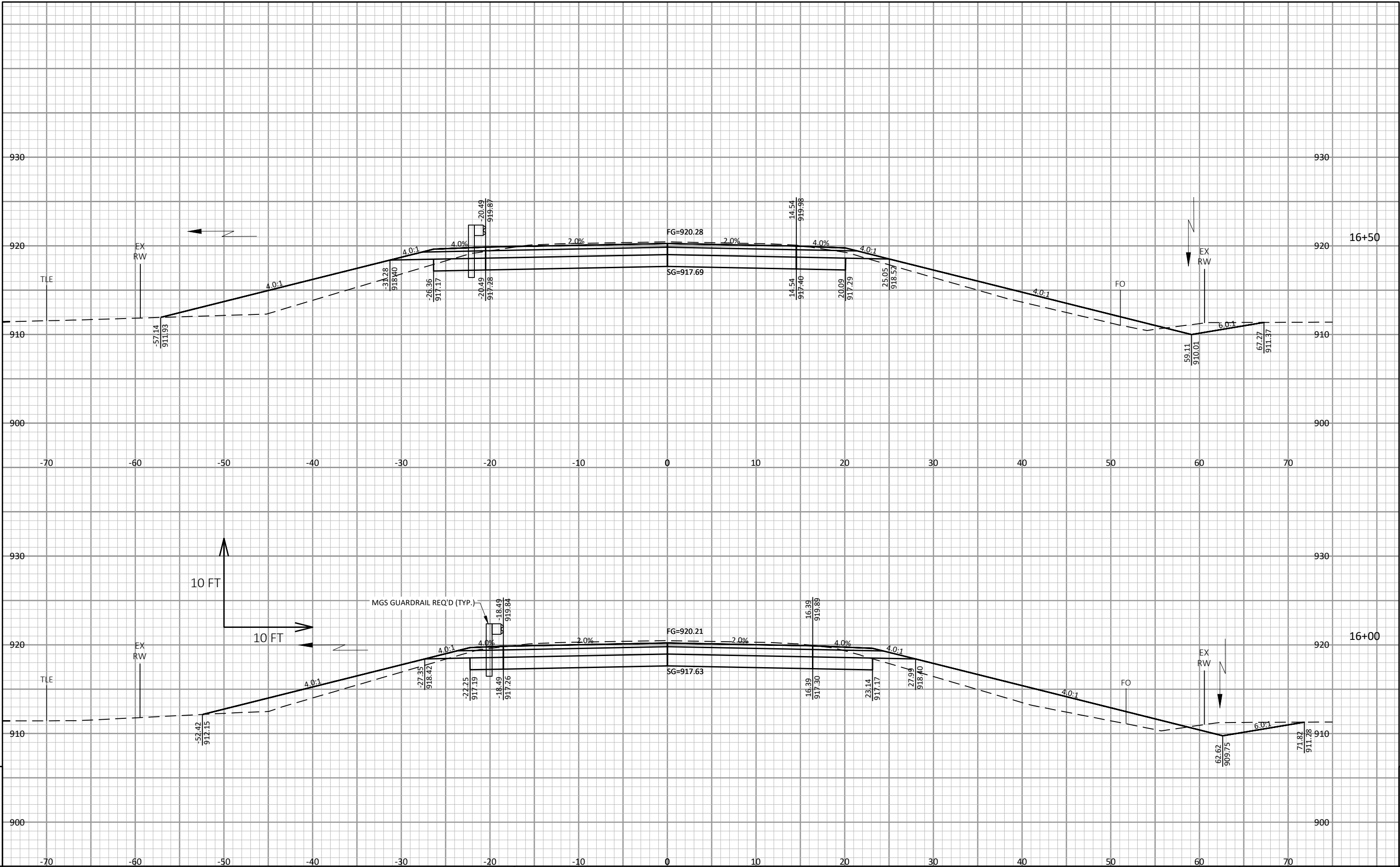
COUNTY: IOWA

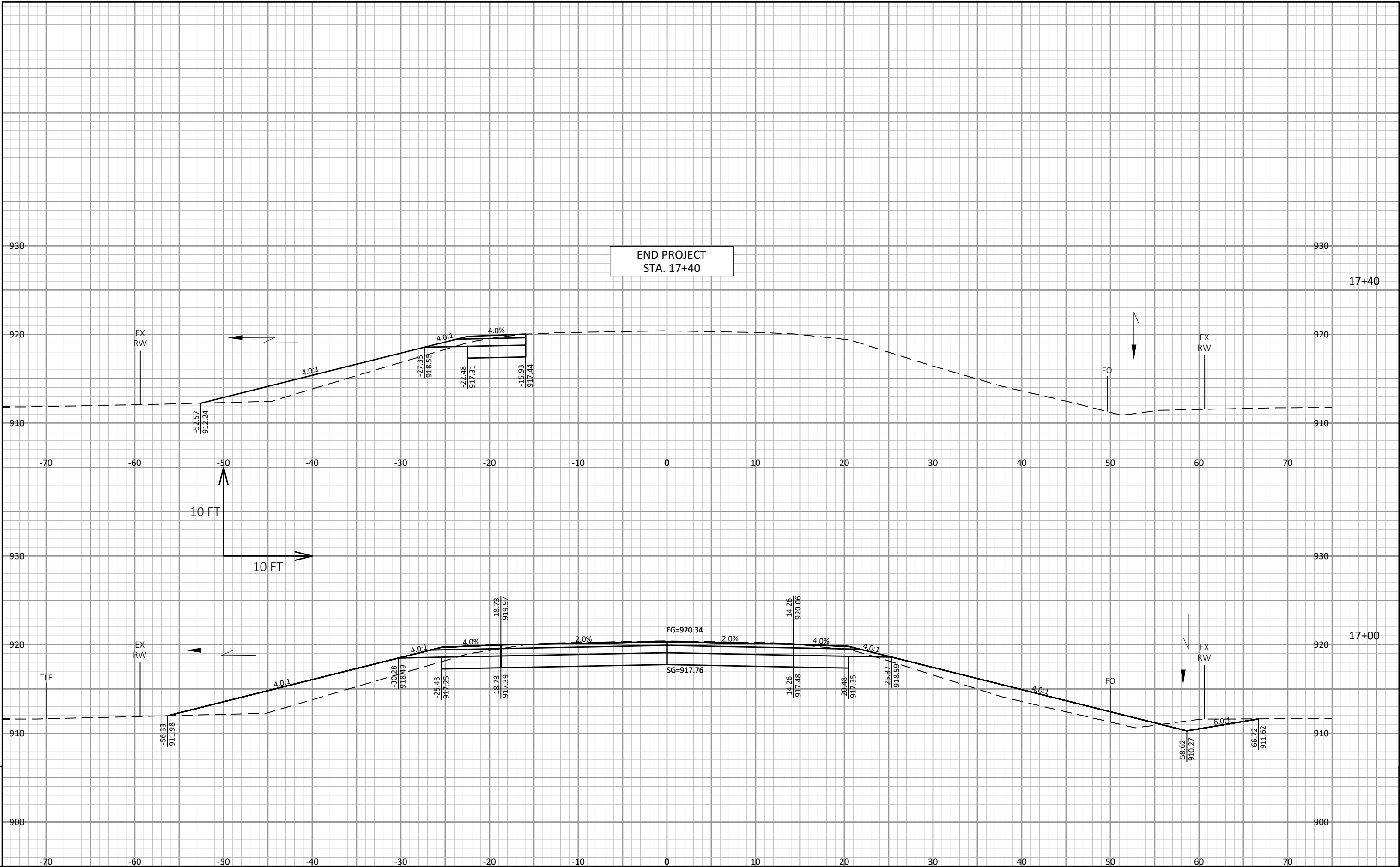
CROSS SECTIONS:	MAINLINE
-----------------	----------

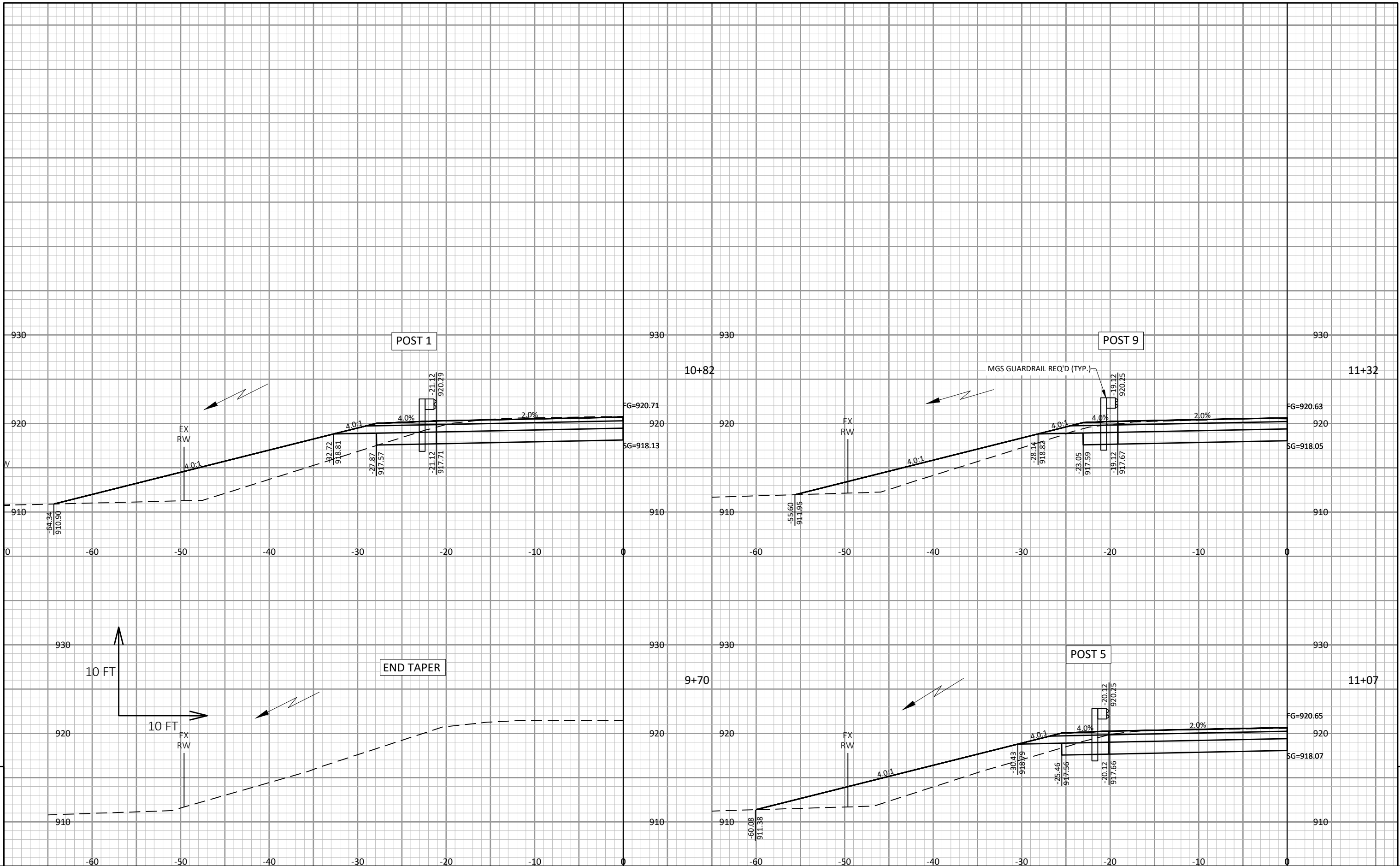
SHEET

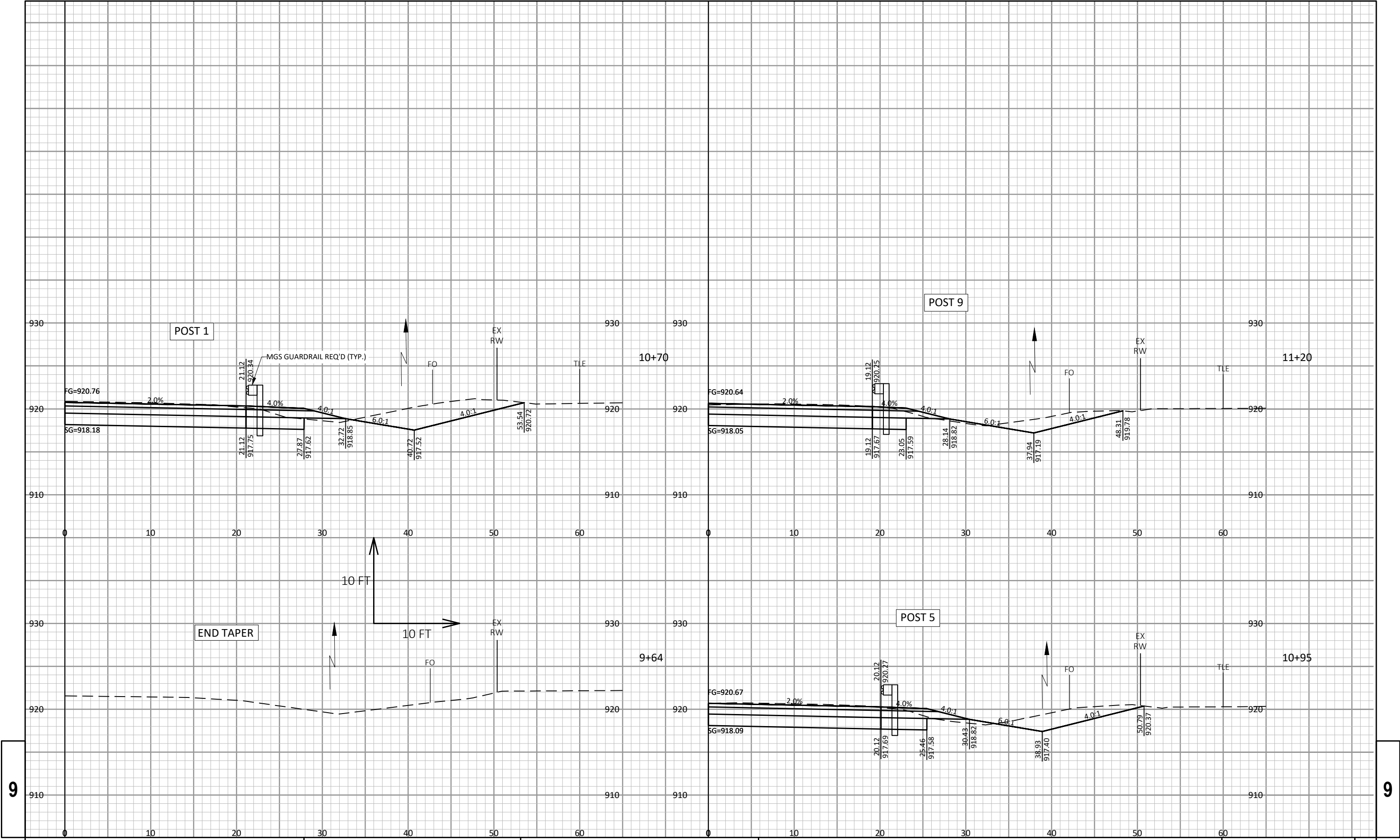
03

9



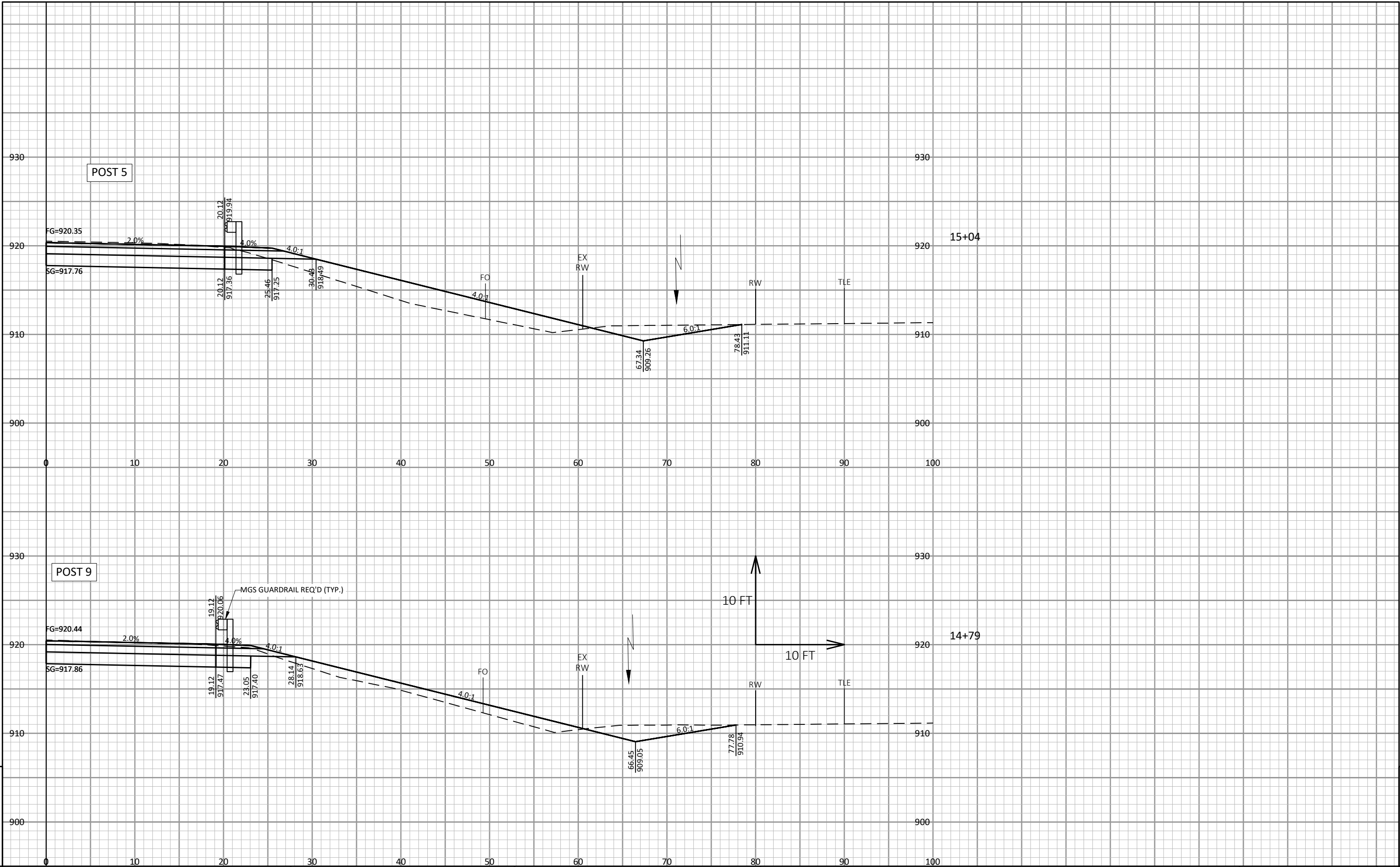


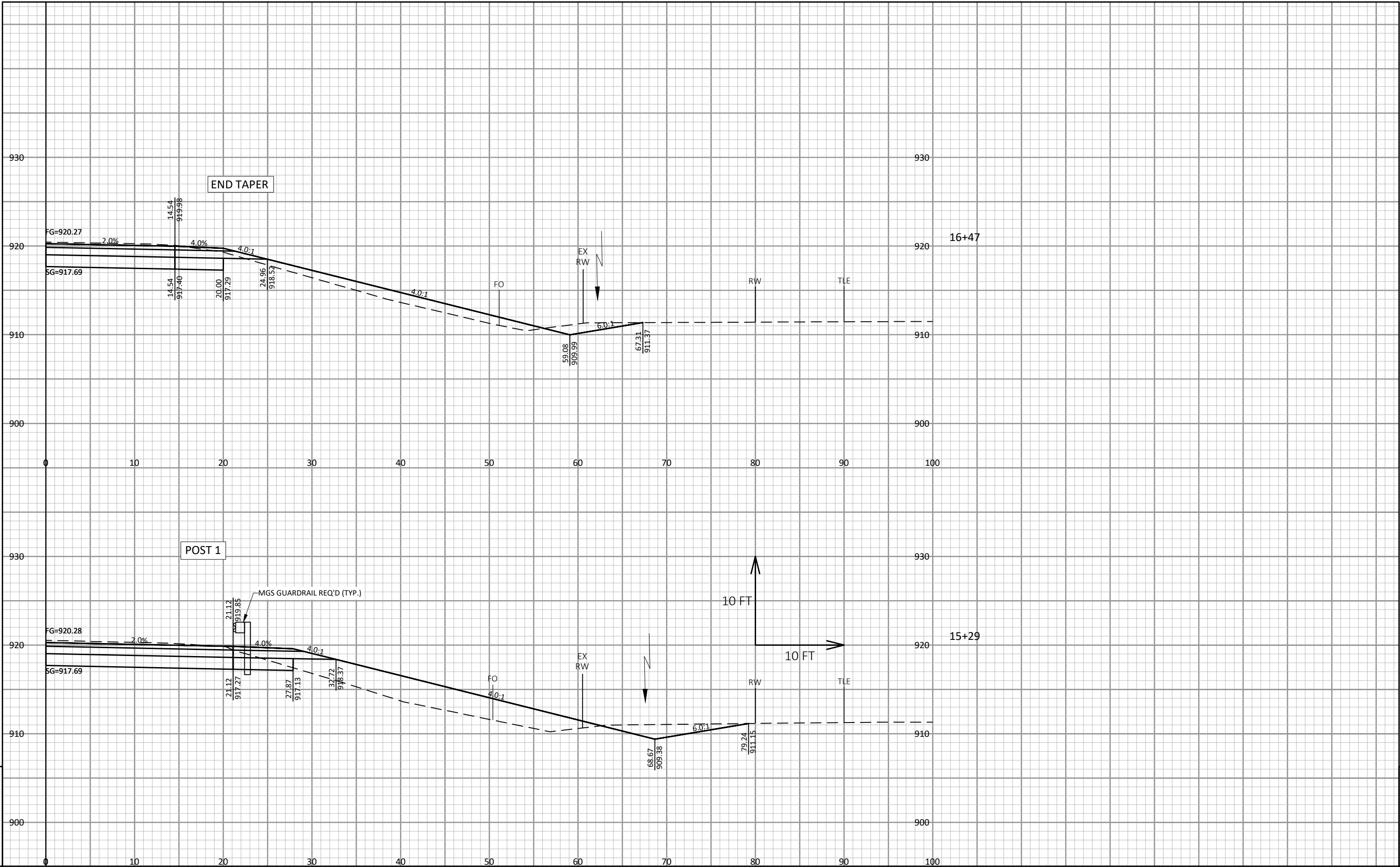


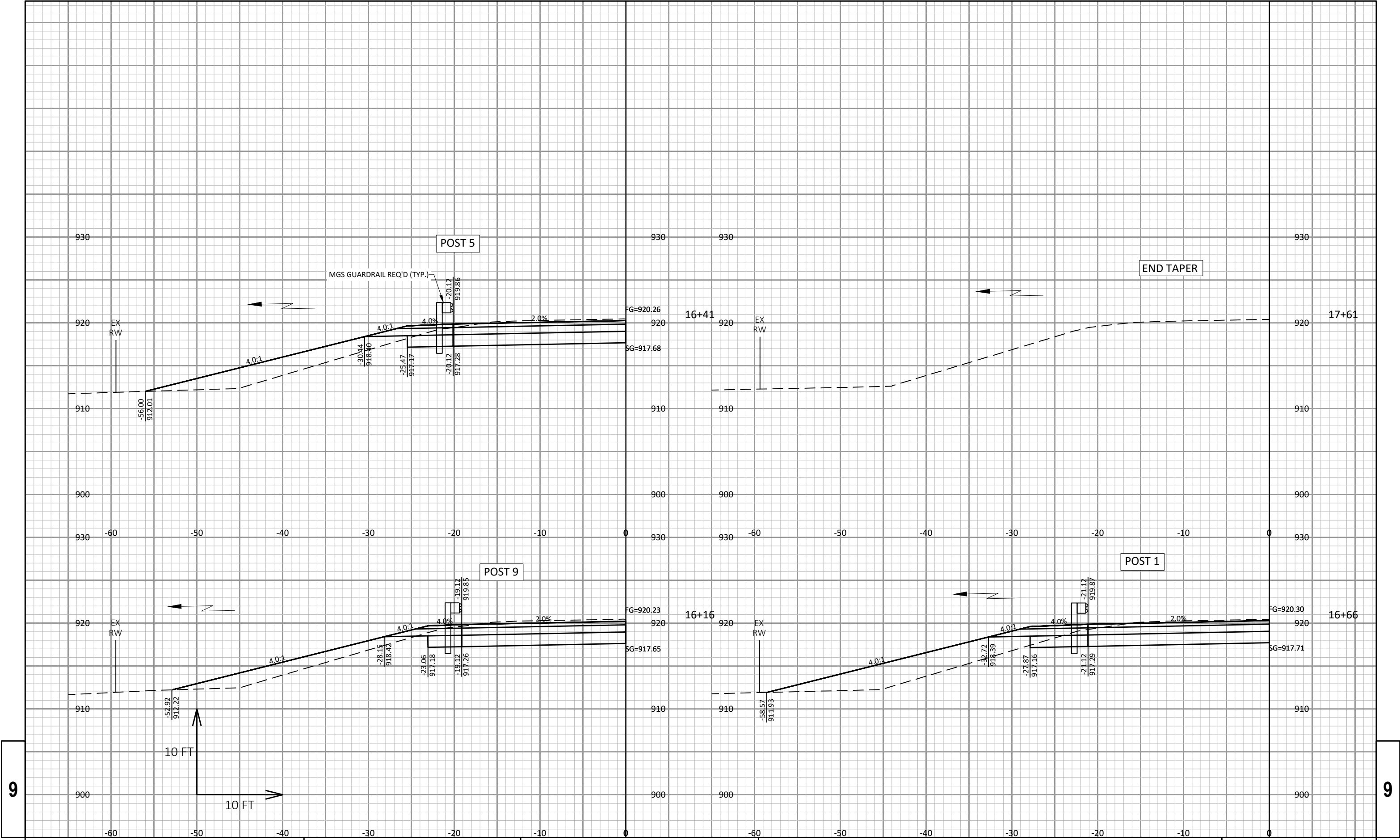


9

9



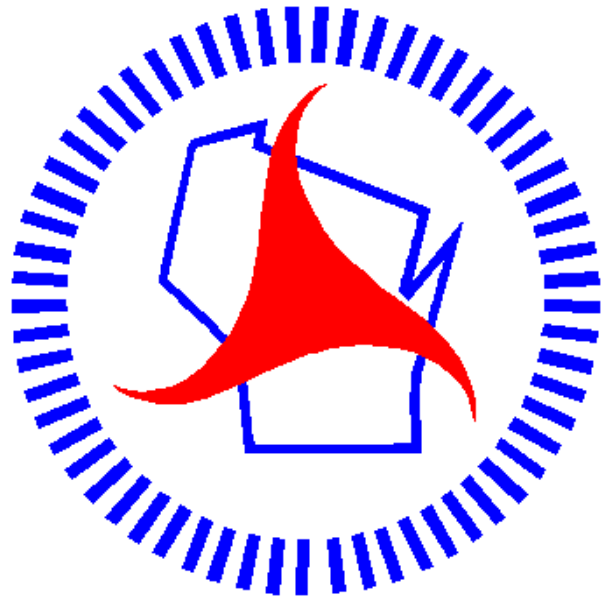




9

9

Notes



Wisconsin Department of Transportation

Dedicated people creating transportation solutions through innovation and exceptional service.

<http://www.dot.wisconsin.gov>