

GENERAL NOTES

EROSION CONTROL FEATURES AS SHOWN IN THE PLANS ARE AT SUGGESTED LOCATIONS. EXACT LOCATIONS WILL BE DETERMINED BY THE CONTRACTOR'S EROSION CONTROL IMPLEMENTATION PLAN (ECIP) AND APPROVED BY THE ENGINEER IN CONSULTATION WITH THE WISCONSIN DEPARTMENT OF NATURAL RESOURCES. MAINTAIN ALL EROSION CONTROL MEASURES UNTIL SUCH TIME AS THE ENGINEER DETERMINES THE MEASURE IS NO LONGER NECESSARY.

ALL SIGN LOCATIONS SHALL BE REVIEWED BY THE ENGINEER PRIOR TO INSTALLATION.

ALL EXISTING SIGNS SHALL REMAIN IN PLACE UNTIL CONSTRUCTION OPERATIONS REQUIRE THEIR REMOVAL OR UNLESS THE ENGINEER APPROVES THEIR REMOVAL.

SILT FENCE SHALL BE PLACED AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER AND IN PLACE PRIOR TO CONSTRUCTION.

DISTURBED AREAS WITHIN THE RIGHT-OF-WAY SHALL BE RESTORED AS DIRECTED BY THE ENGINEER.

REMOVAL ITEMS SHALL BE REMOVED TO AN EXISTING JOINT, SAWCUT WHERE SHOWN ON PLANS, OR AS DIRECTED BY THE ENGINEER.

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

NO TREES OR SHRUBS ARE TO BE REMOVED WITHOUT APPROVAL OF THE ENGINEER.

THE LOCATION OF DRIVEWAYS WILL BE DETERMINED BY THE ENGINEER.

EXCAVATION BELOW SUBGRADE (EBS) IS NOT USED TO BALANCE YARDAGES BUT IS MEASURED AND PAID FOR AS EXCAVATION COMMON.

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.

A SAWED JOINT SHALL BE REQUIRED WHERE NEW PAVEMENT IS TO MEET AN EXISTING PAVED SURFACE.

UTILITY CONTACT

FRONTIER COMMUNICATIONS

NSIGHT (NET LEC, LLC)

SHAWANO LAKE SANITARY DISTRICT

SPECTRUM (CHARTER)

WE ENERGIES (ELECTRIC)

WE ENERGIES (GAS)

UTILITY CONTACT

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UTILITY TYPE

TELEPHONE

FIBER

WATER, SANITARY SEWER

FIBER

ELECTRIC

GAS

DESIGN CONTACT

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James.doperalski@WISCONSIN.GOV

ASPHALT BID/MIX SPECIFICATIONS

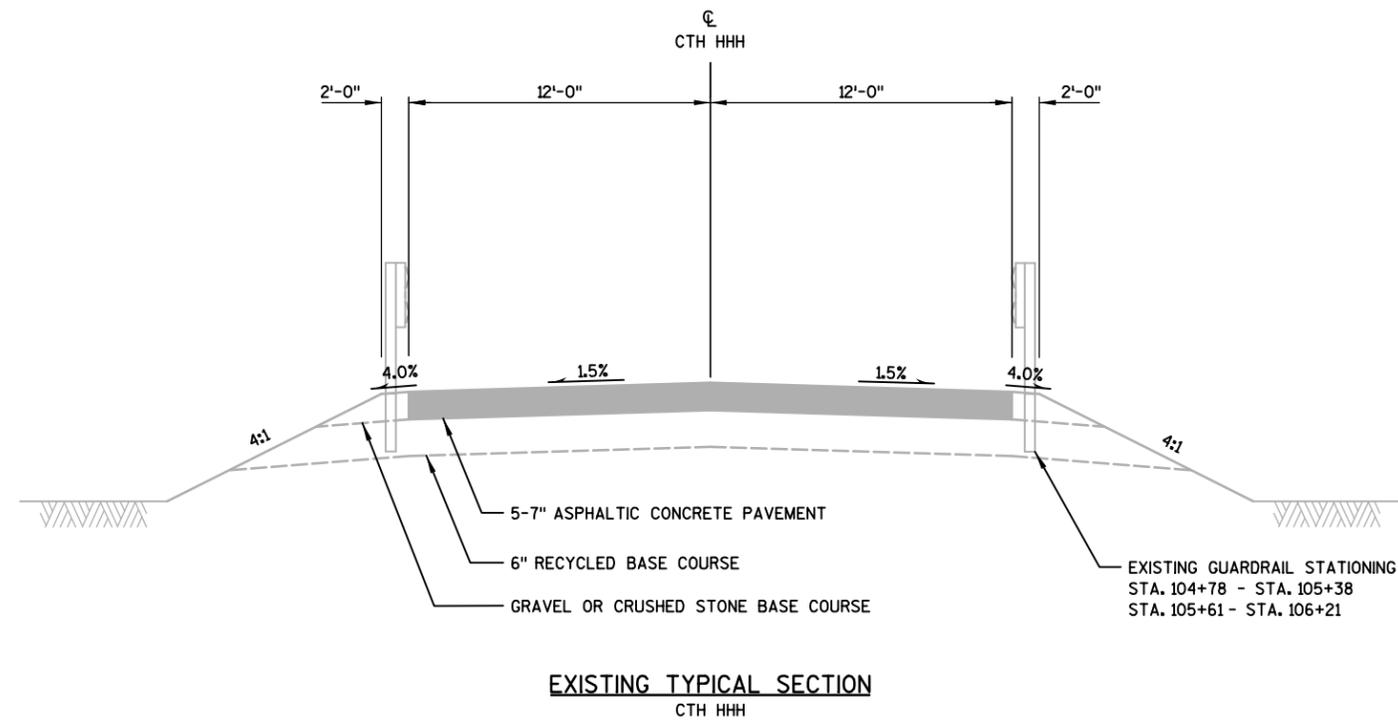
	THICKNESS	BID/MIX SPECIFICATIONS
UPPER LAYER	2-INCH	4 MT 58-28 H
LOWER LAYER	4.5-INCH	3 MT 58-28 S



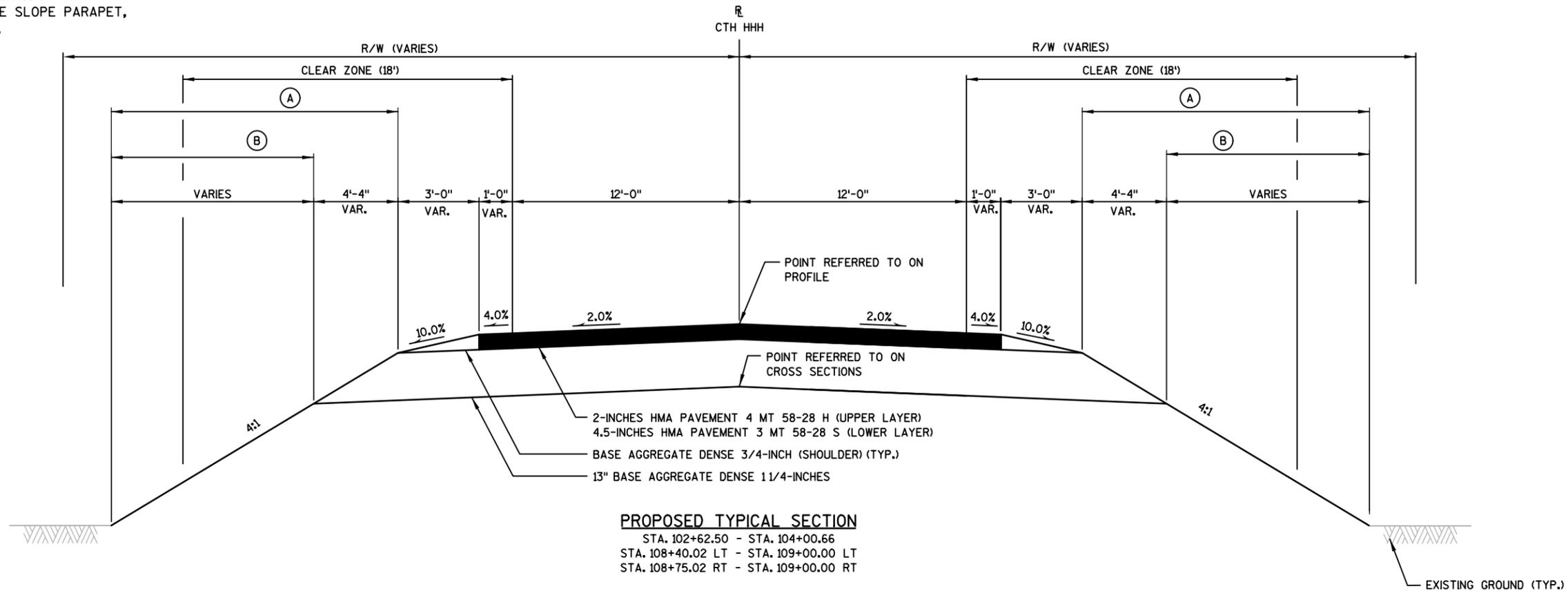
Dial **811** or (800)242-8511

www.DiggersHotline.com

** NOT A MEMBER OF DIGGERS HOTLINE

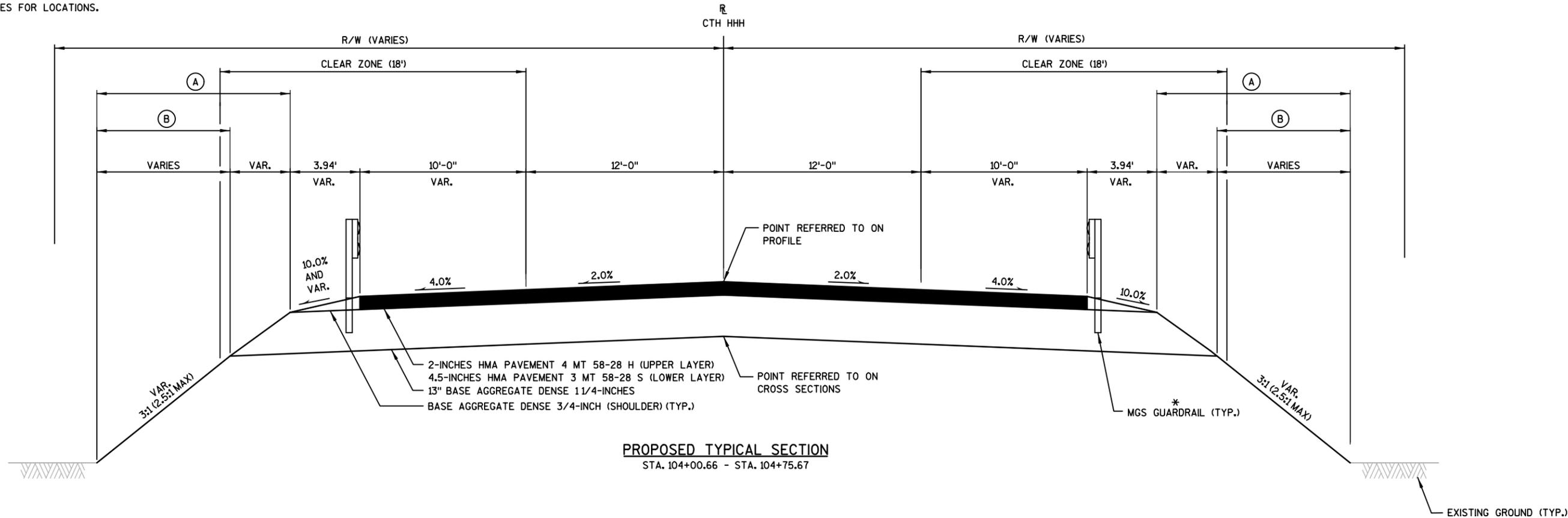


*SEE LAYOUT DETAIL FOR INFORMATION REGARDING MGS GUARDRAIL, SINGLE SLOPE PARAPET, OR ENERGY ABSORBING TERMINAL.



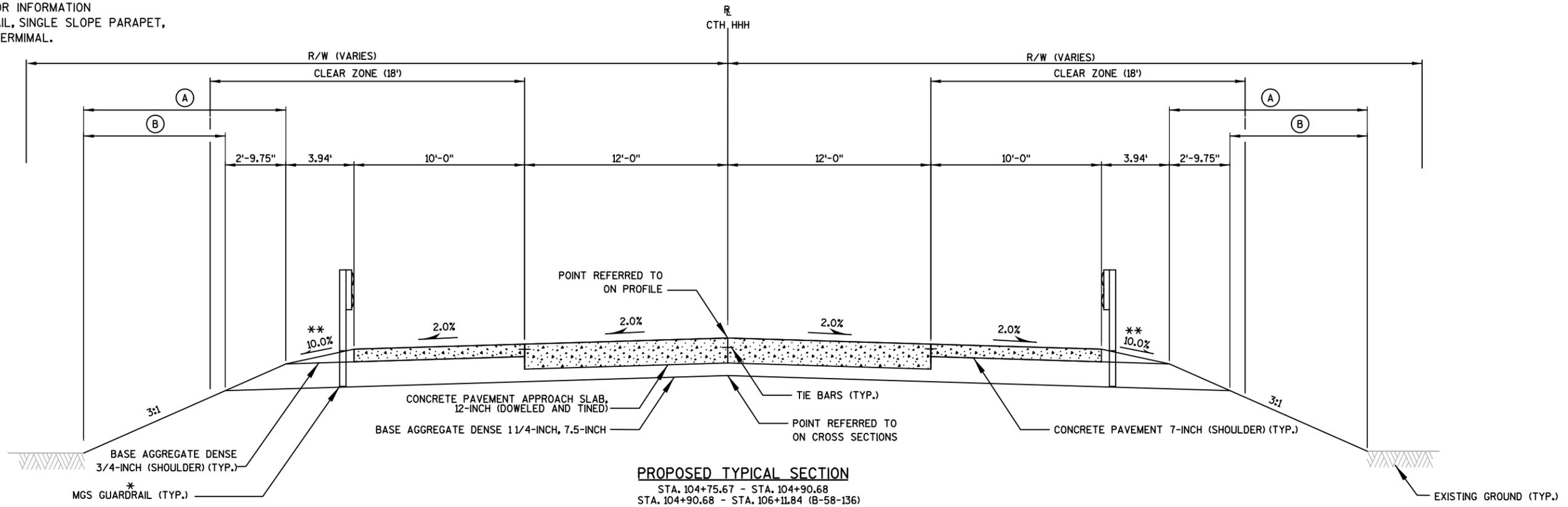
- (A) FERTILIZER TYPE B;
SEEDING MIXTURE NO. 20
- (B) SALVAGED TOPSOIL AND MULCHING
OR EROSION MAT URBAN CLASS 1
TYPE B. SEE MISCELLANEOUS
QUANTITY TABLES FOR LOCATIONS.

PROPOSED TYPICAL SECTION
 STA. 102+62.50 - STA. 104+00.66
 STA. 108+40.02 LT - STA. 109+00.00 LT
 STA. 108+75.02 RT - STA. 109+00.00 RT

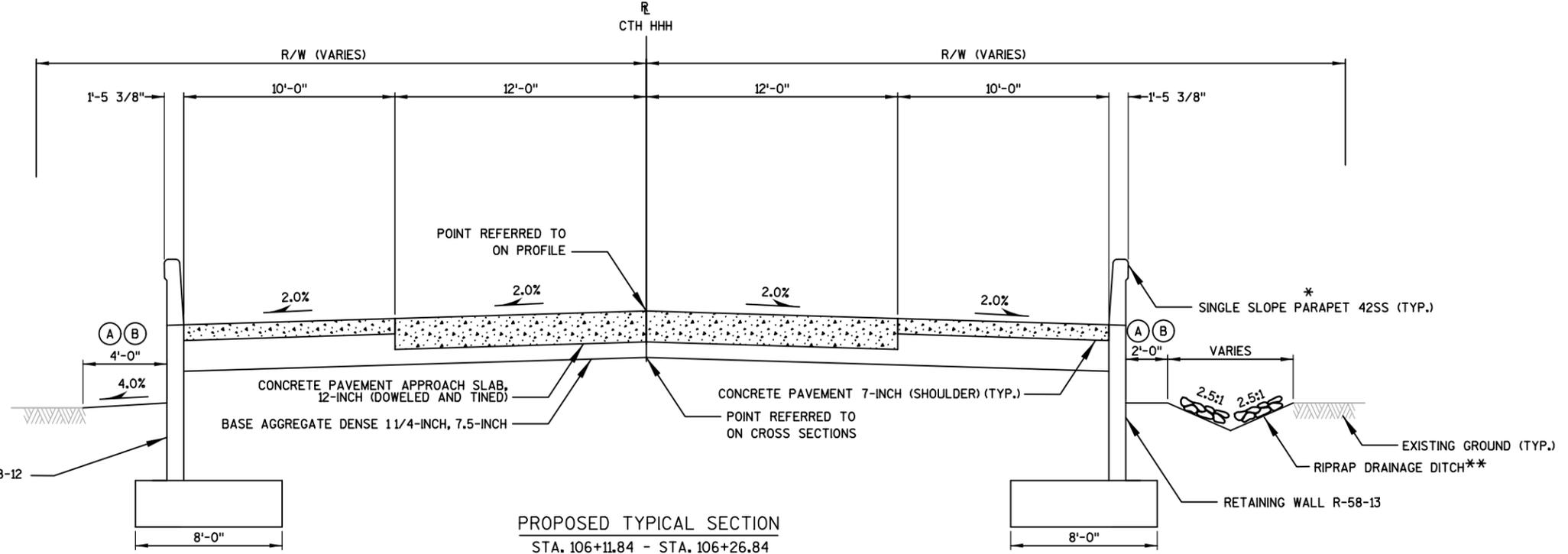


PROPOSED TYPICAL SECTION
 STA. 104+00.66 - STA. 104+75.67

*SEE LAYOUT DETAIL FOR INFORMATION REGARDING MGS GUARDRAIL, SINGLE SLOPE PARAPET, OR ENERGY ABSORBING TERMINAL.

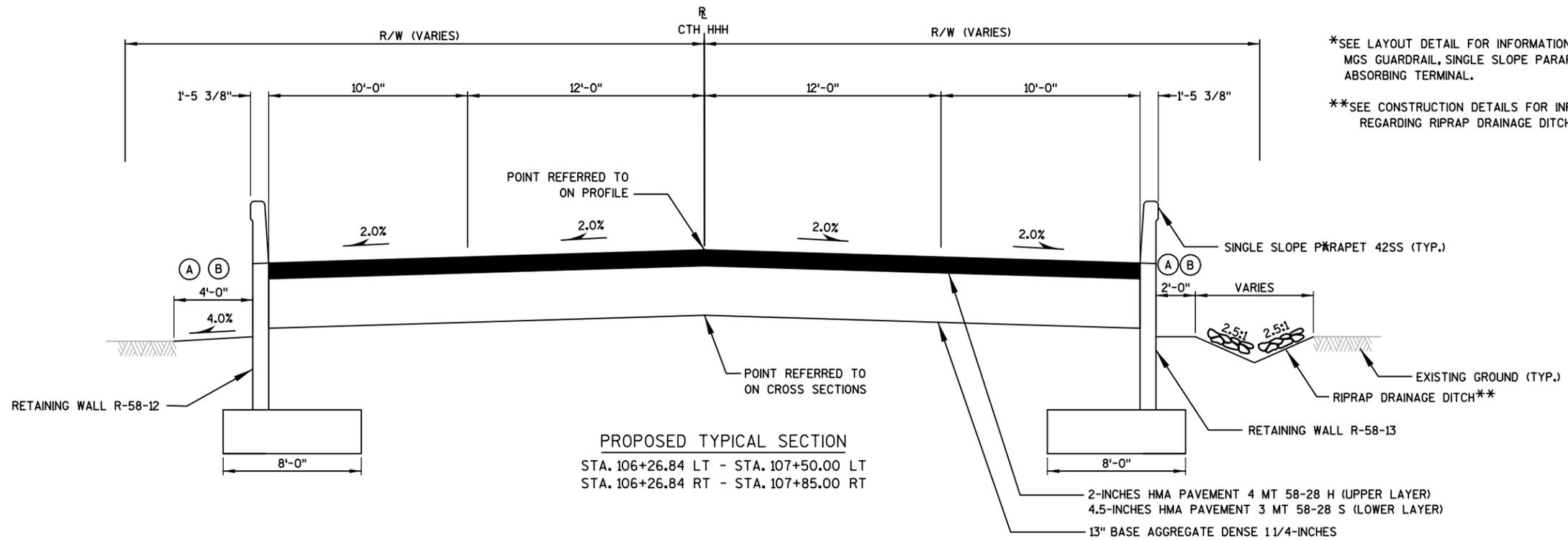


- (A) FERTILIZER TYPE B; SEEDING MIXTURE NO. 20
- (B) SALVAGED TOPSOIL AND MULCHING OR EROSION MAT URBAN CLASS 1 TYPE B. SEE MISCELLANEOUS QUANTITY TABLES FOR LOCATIONS.

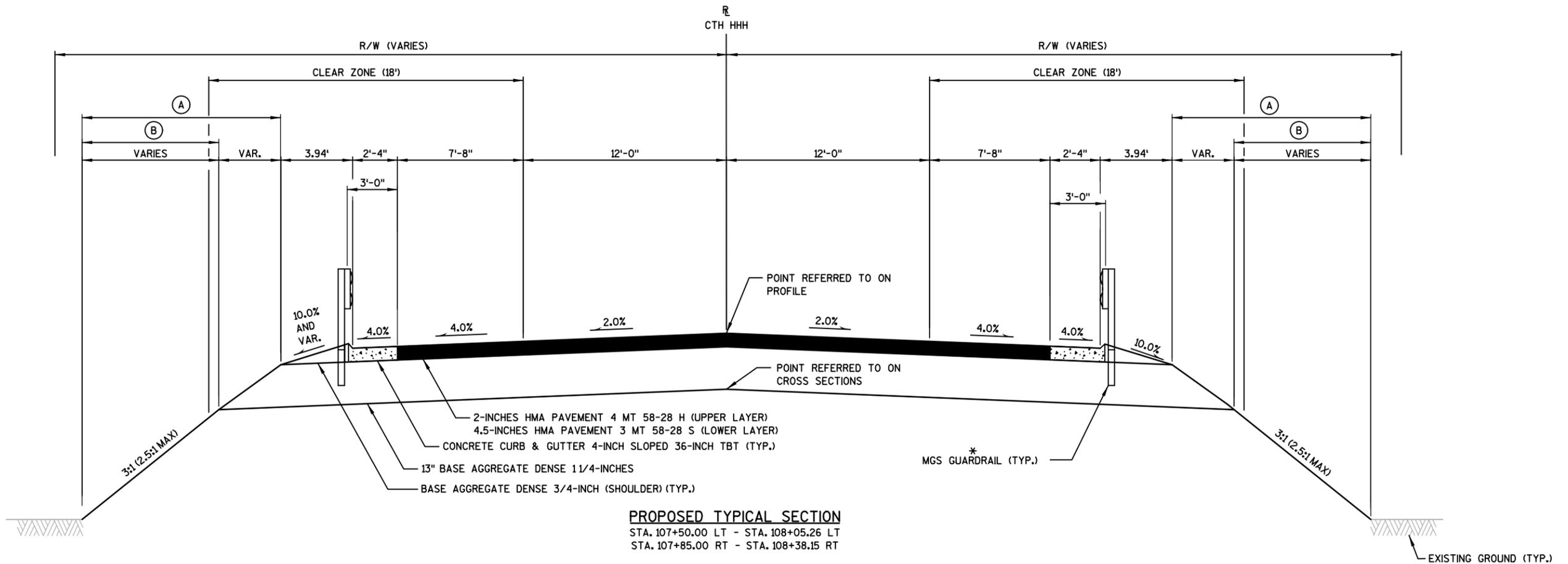


*SEE LAYOUT DETAIL FOR INFORMATION REGARDING MGS GUARDRAIL, SINGLE SLOPE PARAPET, OR ENERGY ABSORBING TERMINAL.

**SEE CONSTRUCTION DETAILS FOR INFORMATION REGARDING RIPRAP DRAINAGE DITCH.



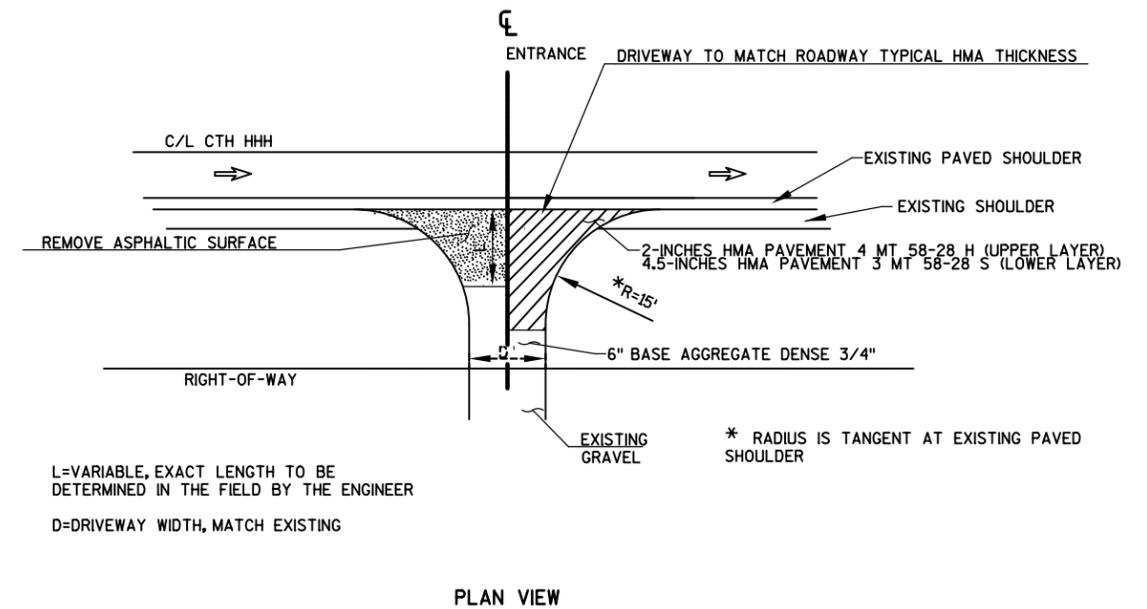
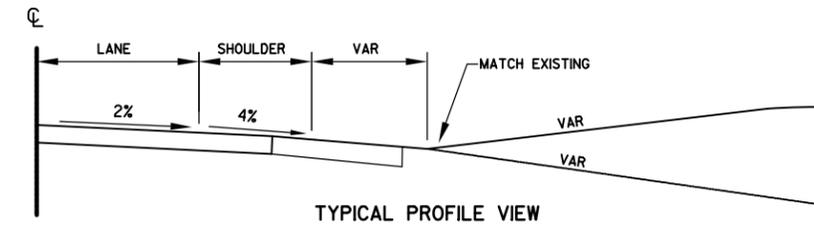
*SEE LAYOUT DETAIL FOR INFORMATION REGARDING MGS GUARDRAIL, SINGLE SLOPE PARAPET, OR ENERGY ABSORBING TERMINAL.
 **SEE CONSTRUCTION DETAILS FOR INFORMATION REGARDING RIPRAP DRAINAGE DITCH.



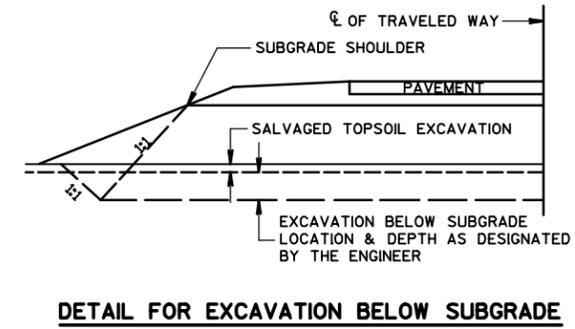
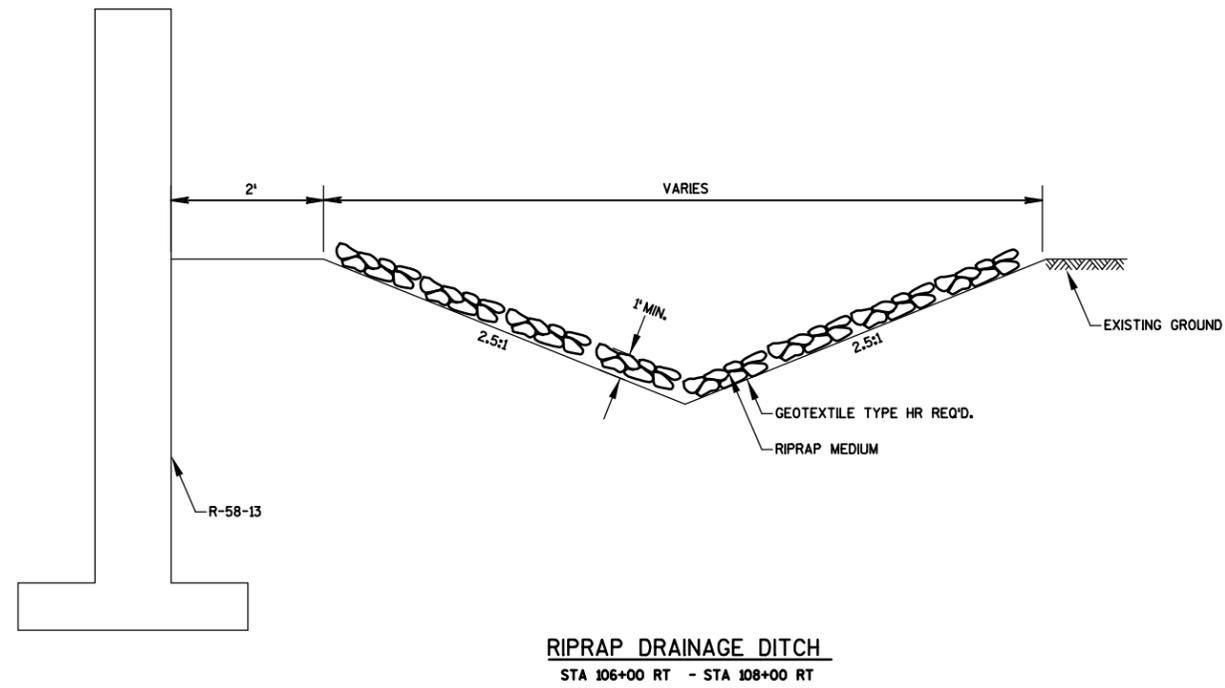
RUNOFF COEFFICIENT TABLE

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

TOTAL PROJECT AREA = 1.33 ACRES
 TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 0.98 ACRES

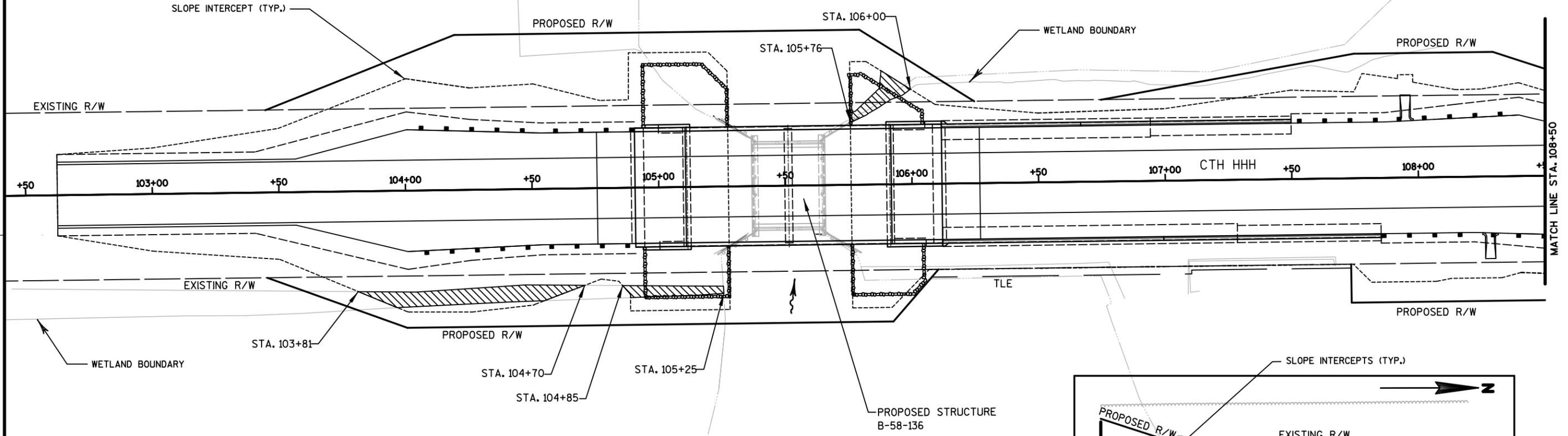


RURAL CE DRIVEWAY INTERSECTION AT STA. 109+00 RT



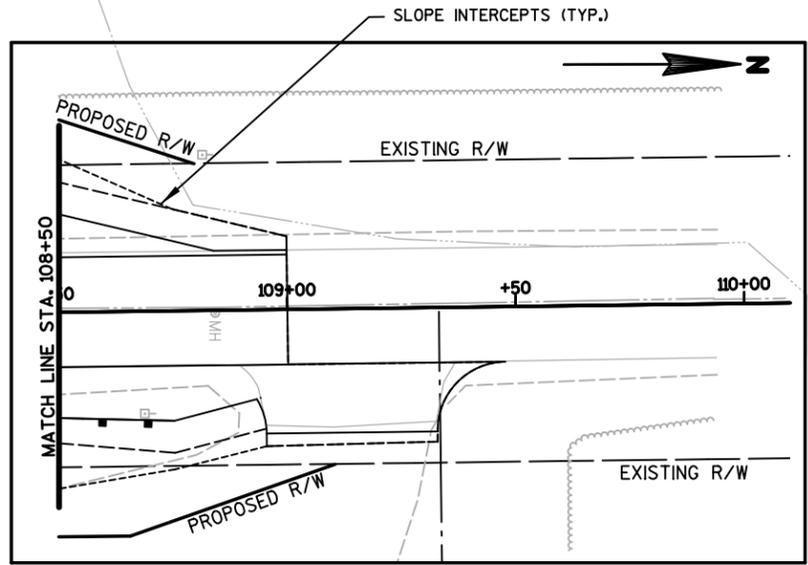


SHAWANO CREEK



WETLAND IMPACTS

IMPACT LOCATION	IMPACT TYPE	AREA (ACRES)
103+81 RT - 104+70 RT	RPE	0.013
104+85 RT - 105+25 RT	RPE	0.003
105+76 LT - 106+00 LT	RPE	0.003



MAINTAIN BOAT TRAFFIC AT ALL TIMES ON THE SHAWANO CREEK THROUGH THE WORK ZONE. SHAWANO CREEK CAN BE CLOSED TO BOAT TRAFFIC DURING SPECIFIC CONSTRUCTION TASKS OR WHEN APPROVED BY THE ENGINEER (SEE SPECIAL PROVISIONS).

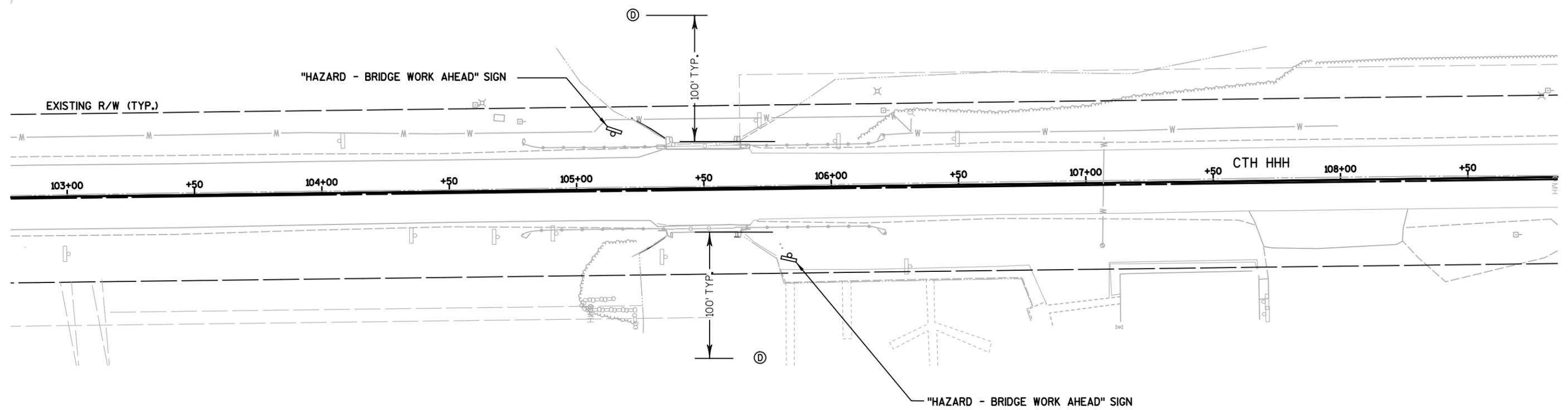
PLACE "CREEK CLOSED AT COUNTY HHH" SIGNS WHEN SHAWANO CREEK IS CLOSED TO BOAT TRAFFIC. PLACE SIGN UPSTREAM OF THE BRIDGE AT THE STH 47 (MAIN STREET) BRIDGE AND DOWNSTREAM OF THE BRIDGE (LOCATION TO BE DIRECTED BY THE ENGINEER).

LOCATION OF ACCESS UNDER THE STRUCTURE TO BE DETERMINED BY CONTRACTOR'S OPERATIONS AND AS DIRECTED BY THE ENGINEER.

THE EXACT LOCATION AND SPACING OF ALL DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS.



SHAWANO CREEK



**CREEK CLOSED
AT COUNTY HHH**

66" X 30"

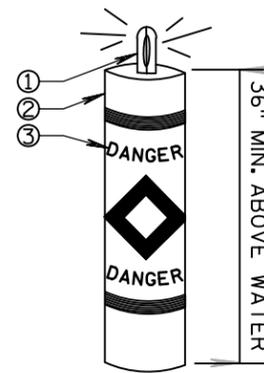
CREEK CLOSED
TRAFFIC CONTROL SIGNS
FIXED MESSAGE

FOR USE WHEN SHAWANO CREEK
IS CLOSED TO BOAT TRAFFIC
(SEE SPECIAL PROVISIONS)
NOT TO SCALE

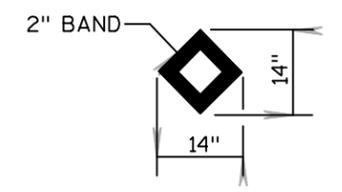
**HAZARD - BRIDGE
WORK AHEAD**

36" X 18"

HAZARD SIGN DETAIL
NOT TO SCALE



- ① FLASHING LIGHT REQ'D.
- ② WHITE BUOY WITH ORANGE MARKING
- ③ DANGER (BLACK LETTERS) (TYP.)



TYPICAL DANGER
BUOY DETAIL

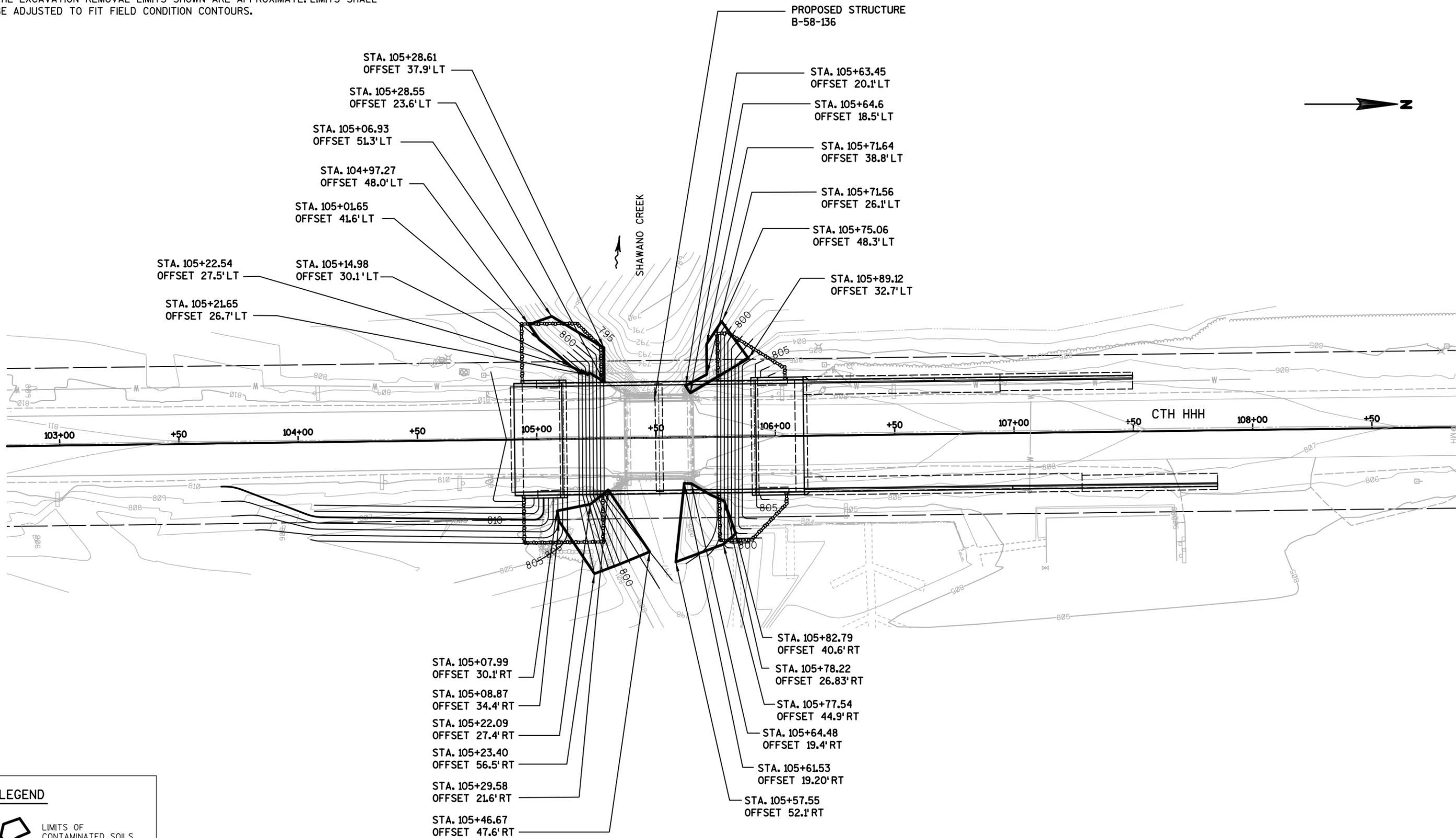
LEGEND

- Ⓧ DANGER BUOY
- Ⓟ SIGN ON POST

*DANGER BUOY IS PAID FOR AS PART OF "TRAFFIC CONTROL"

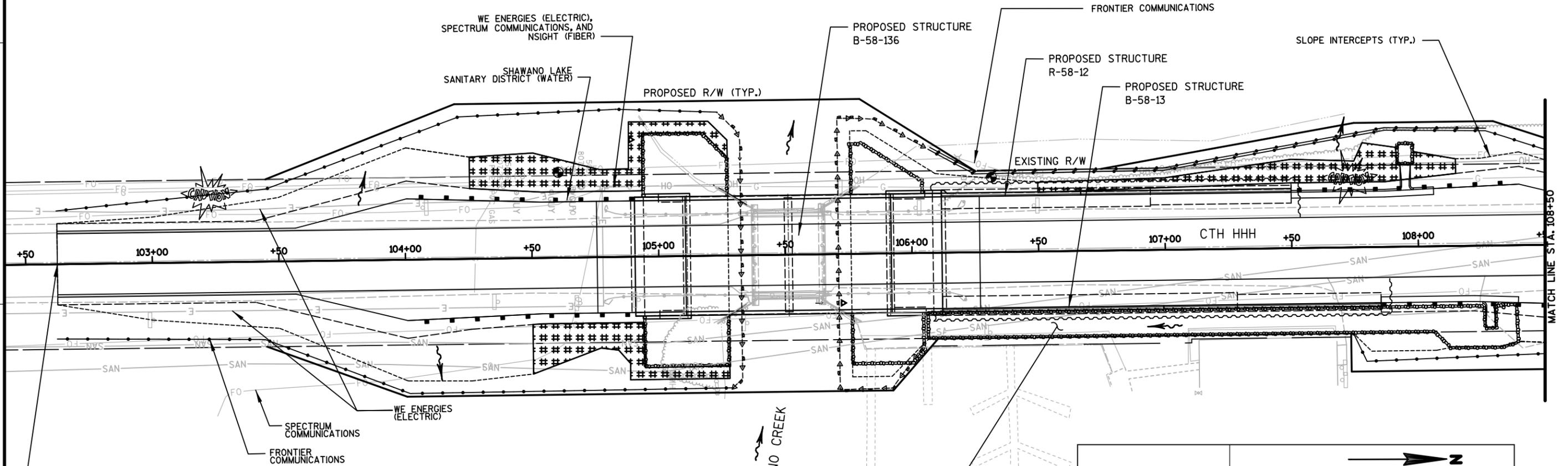
EXCAVATION, LOADING, HAULING AND DISPOSAL OF CONTAMINATED MATERIALS SHALL FOLLOW GUIDANCE IN THE SPECIAL PROVISIONS.

THE EXCAVATION REMOVAL LIMITS SHOWN ARE APPROXIMATE. LIMITS SHALL BE ADJUSTED TO FIT FIELD CONDITION CONTOURS.



LEGEND

 LIMITS OF CONTAMINATED SOILS

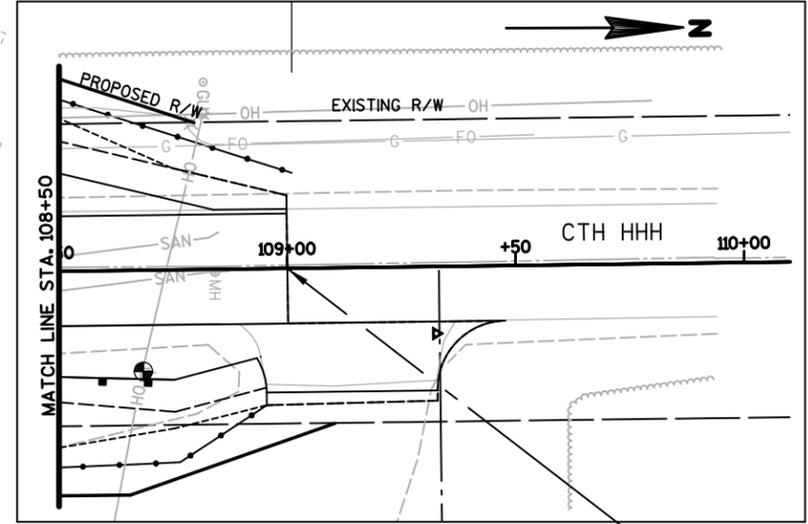


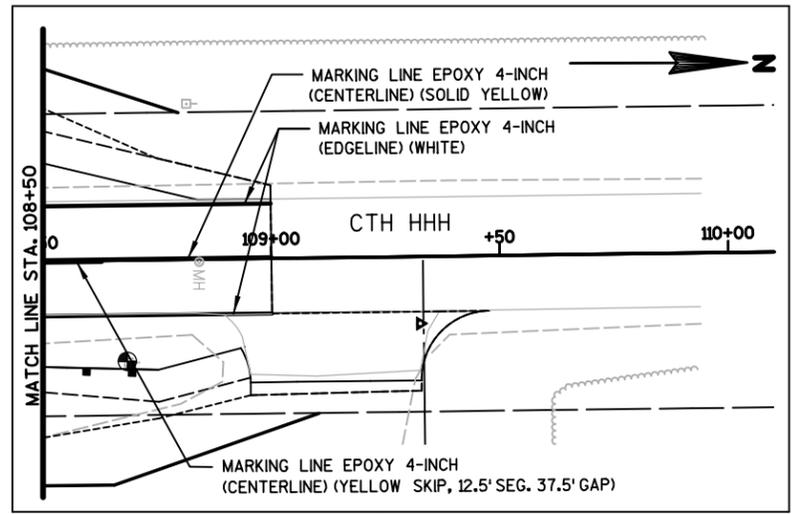
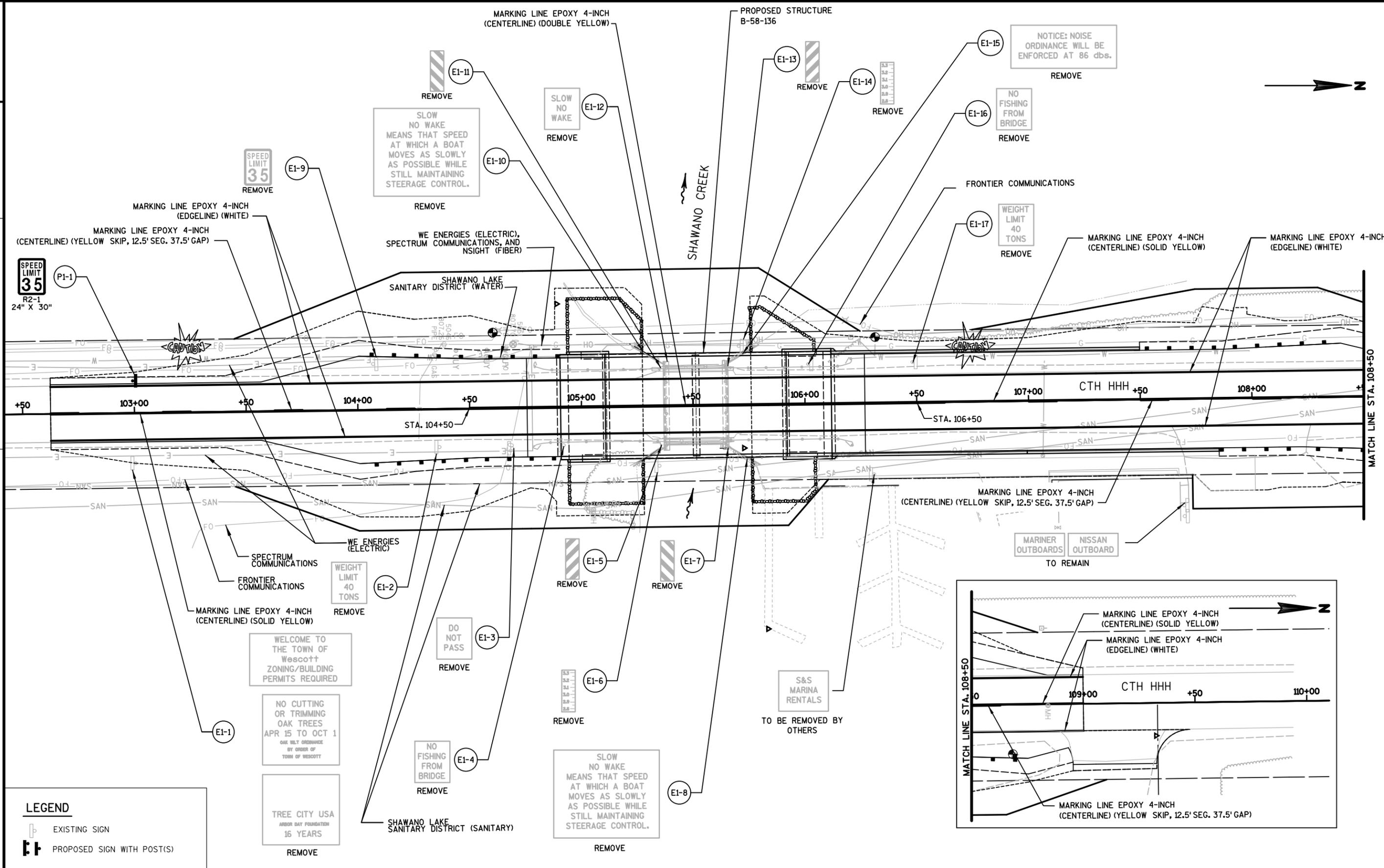
BEGIN PROJECT
STA 102+62.50

END PROJECT
STA. 109+00.00

LEGEND

- EROSION MAT URBAN CLASS I TYPE B
- SILT FENCE
- SILT FENCE DOUBLE STAKED
- RIPRAP MEDIUM
- TURBIDITY BARRIER
- SURFACE WATER FLOW





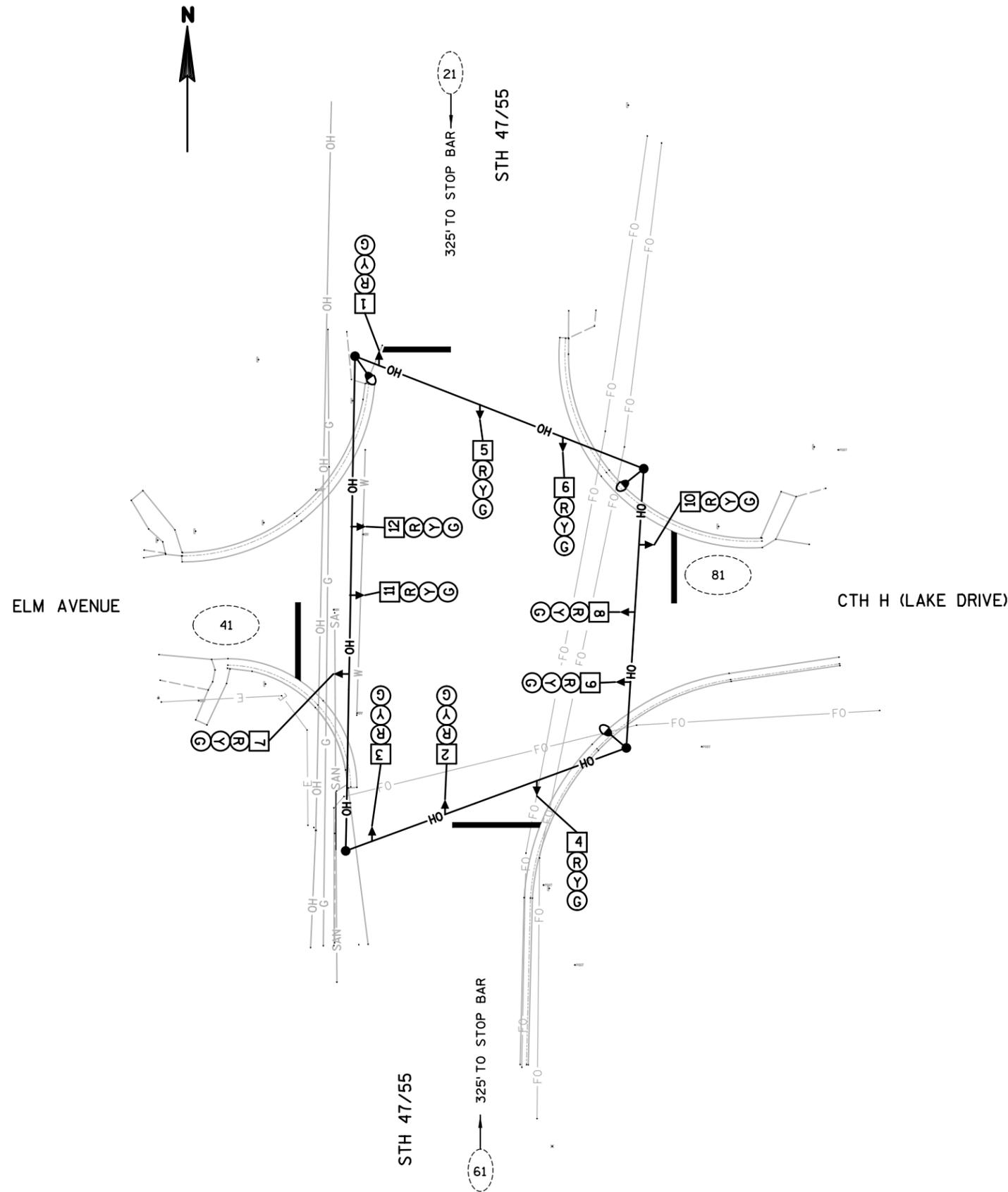
LEGEND

	EXISTING SIGN
	PROPOSED SIGN WITH POST(S)

CONSTRUCTION NOTES:

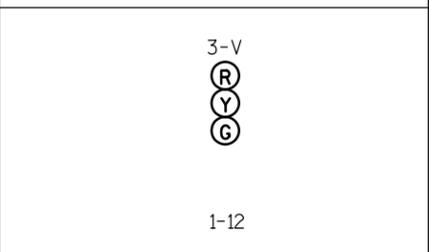
1. FINAL LOCATION OF SIGNAL POLES, SPAN WIRE, CONTROLLER AND HEADS SHALL BE APPROVED BY THE ENGINEER.
2. GUYING OF POLES SHALL BE AS APPROVED BY THE ENGINEER.
3. THE LOCATION OF EXISTING AND PROPOSED UTILITIES ARE APPROXIMATE. THERE MAY BE OTHER EXISTING UTILITIES AND PROPOSED UTILITY INSTALLATIONS WITHIN THE PROJECT THAT ARE NOT SHOWN.
4. ALL TEMPORARY TRAFFIC SIGNAL INSTALLATIONS, MATERIALS, AND OPERATIONS SHALL BE IN ACCORDANCE WITH STANDARD DESIGN DETAILS FOR "SPAN WIRE TEMPORARY TRAFFIC SIGNAL".
5. PROVIDE TEMPORARY VEHICLE DETECTION SYSTEM (VIDEO OR MICROWAVE) WHICH WILL DETECT TRAFFIC AT THE TEMPORARY STOP BAR AND OTHER LOCATIONS AS INDICATED ON THE PLANS AND AS DIRECTED BY THE ENGINEER. PROVIDE ADDITIONAL POLES AS NEEDED TO ALLOW FOR PROPER LOCATION OF VEHICLE DETECTION. INDIVIDUAL VEHICLE DETECTION ZONE LOCATIONS SHALL BE ADJUSTED TO REFLECT ACTUAL FIELD CONDITIONS.
6. PROVIDE LUMINAIRES FOR THE TEMPORARY TRAFFIC SIGNAL AS INDICATED ON THE PLANS AND AS DIRECTED BY THE ENGINEER.
7. PROVIDE TEMPORARY 18-INCH STOP BAR FOR ALL APPROACHES. FINAL LOCATION SHALL BE APPROVED BY ENGINEER. EXISTING CTH H AND ELM AVENUE STOP SIGNS SHALL BE COVERED AND STOP BARS SHALL BE REMOVED DURING TEMPORARY SIGNAL OPERATIONS.
8. UPON COMPLETION OF PROJECT AND TURN OFF OF TEMPORARY TRAFFIC SIGNAL, FULLY REMOVE TEMPORARY STOP BARS AND REESTABLISH STOP CONTROL ON CTH H AND ELM AVENUE.
9. ONE WEEK PRIOR TO TURN ON OF TEMPORARY TRAFFIC SIGNAL PROVIDE PCMS BOARDS FOR ALL FOUR APPROACHES TO NOTIFY OF THE CONTROL CHANGE AT THE INTERSECTION. THE LOCATION AND MESSAGE ON THE PCMS BOARDS SHALL BE APPROVED BY THE ENGINEER. LEAVE THE PCMS BOARDS IN OPERATION FOR TWO WEEKS AFTER THE TEMPORARY TRAFFIC SIGNAL HAS BEEN TURNED ON FOR THE EAST AND WEST APPROACHES TO THE INTERSECTION. LEAVE THE PCMS BOARDS IN OPERATION FOR THE DURATION OF THE TEMPORARY TRAFFIC SIGNAL ON THE STH 47/55 APPROACHES TO NOTIFY DRIVERS OF THE TEMPORARY TRAFFIC SIGNAL.
10. ONE WEEK PRIOR TO SHUT DOWN OF THE TEMPORARY TRAFFIC SIGNAL PROVIDE PCMS BOARDS FOR THE EAST AND WEST APPROACHES, ALL FOUR APPROACHES TO NOTIFY OF THE RESUMPTION OF TWO WAY STOP CONTROL. LEAVE THE PCMS BOARDS IN OPERATION ON ALL FOUR APPROACHES FOR TWO WEEKS PAST THE SHUT DOWN OF THE TEMPORARY SIGNAL.

EQUIPMENT SUMMARY (FOR INFORMATION ONLY)	
WOOD POLES, CLASS IV	4 EA.
GUY WIRES	8 EA.
OVERHEAD SPAN WIRE	430 LF
CONTROLLER/CABINET	1 EA.
LUMINAIRES	3 EA.



LEGEND	
— OH —	OVERHEAD SPAN WIRE
→	TEMPORARY SIGNAL HEAD
●	CLASS 4 WOOD POLE
⊙	LUMINAIRE
8	SIGNAL HEAD NUMBER
R	RED CIRCULAR INDICATOR
Y	YELLOW CIRCULAR INDICATOR
G	GREEN CIRCULAR INDICATOR
11	APPROXIMATE VEHICLE DETECTION ZONE

CONFIGURATION WITH HEAD NUMBERS



TRAFFIC CONTROL SIGNAL	
STH 47/55 AND CTH H	
SHAWANO COUNTY	
SIGNAL NO.	TEMP
CONTROLLER TYPE:	TEMP
DATE 04/09/2021	PAGE NO. 1 OF 2

SEQUENCE OF OPERATION

		NOT USED				↓				NOT USED				→			
		Ø1				Ø2				Ø3				Ø4			
		CLEAR TO				CLEAR TO				CLEAR TO				CLEAR TO			
		R/W	**			R/W	**			R/W	**			R/W	**		
RING 1	HEAD NUMBERS																
	Ø1																
	Ø2																
	Ø3																
	Ø4																
	Ø5																
	Ø6																
	Ø7																
	Ø8																
	Ø2P																
	Ø4P																
	Ø6P																
	Ø8P																

		NOT USED				↑				NOT USED				←			
		Ø5				Ø6				Ø7				Ø8			
		CLEAR TO				CLEAR TO				CLEAR TO				CLEAR TO			
		R/W	**			R/W	**			R/W	**			R/W	**		
RING 2	HEAD NUMBERS																
	Ø1																
	Ø2																
	Ø3																
	Ø4																
	Ø5																
	Ø6																
	Ø7																
	Ø8																
	Ø2P																
	Ø4P																
	Ø6P																
	Ø8P																

BARRIER

** CLEARANCE TO A PHASE IN CONFLICT WITH THIS PHASE ON (SEE CHART 1)

FLASH

N

DETECTOR LOGIC

DETECTOR NUMBER	AMPLIFIER CHANNEL NUMBER	DETECTOR OPERATION			PHASE CALLED	PHASE EXTENDED	DETECTOR DISCONNECT PHASE	CALLING DELAY	EXTENSION STRETCH	SIZE	NUMBER OF TURNS
		CALLS AND EXTENDS	CALLS ONLY	EXTENDS ONLY							
21	1			X		2					VIDEO
41	2	X			4	4					VIDEO
61	3			X		6					VIDEO
81	4	X			8	8					VIDEO

CONTROLLER LOGIC

PHASE NUMBER	PHASE LOCKING	DUAL ENTRY W / Ø	PHASE RECALL	PHASE ACTIVE
1				
2	X	6	MIN.	X
3				
4		8		X
5				
6	X	2	MIN.	X
7				
8		4		X

OVERLAPS

O.L. "A" =	
O.L. "B" =	NONE
O.L. "C" =	
O.L. "D" =	

TYPE OF INTERCONNECT COMMUNICATION	
NONE	X
TBC	
CLOSED LOOP TWISTED PAIR*	
CLOSED LOOP FIBER OPTIC*	
RADIO	
*LOCATION OF MASTER CONTROLLER NO:	S-
SIGNAL SYSTEM *:	SS- -

TYPE OF PRE-EMPT	
NONE	X
RAILROAD	
EMERGENCY VEHICLE	
3M	
TOMAR	
HARDWIRE	
OTHER	
LIFT BRIDGE	
QUEUE DETECTOR	

TYPE OF LIGHTING	
BY OTHER AGENCY	
IN TRAFFIC SIGNAL CABINET	X
IN SEPARATE DOT LIGHTING CABINET	

GENERAL NOTES:

1. ANY ACTUATED PHASE FOR WHICH THERE IS NO CALL SHALL BE SKIPPED.
2. WHEN ONE PHASE IS ON ALONE, ANY NONCONFLICTING PHASE MAY START TIMING CONCURRENTLY WITHOUT A CLEARANCE INTERVAL. (SEE CHART 1)

CHART 1

PHASE ON	NONCONFLICTING PHASE ALLOWED TO TIME CONCURRENTLY	PHASES IN CONFLICT WITH PHASE ON
1		
2	6	4,8
3		
4	8	2,6
5		
6	2	4,8
7		
8	4	2,6

TRAFFIC CONTROL SIGNAL
STH 47/55 AND CTH H
SHAWANO COUNTY

SIGNAL NO. TEMP

CONTROLLER TYPE: TEMP

DATE 04/09/2021

PAGE NO. 2 OF 2

GENERAL NOTES

DETOUR ROUTE MARKER SIGNING TO BE INSTALLED AND MAINTAINED BY CONTRACTOR.

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

REMOVE OR COVER ANY SIGN, TEMPORARY OR EXISTING, WHICH CONFLICTS WITH TRAFFIC CONTROL "IN USE", OR AS APPROVED BY THE ENGINEER.

"W0" AND "W" SIGNS SHALL BE 48"x48" UNLESS OTHERWISE NOTED.

"W0" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

"M0" SIGNS ARE THE SAME AS "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

TRAFFIC CONTROL SIGNS PORTABLE CHANGEABLE MESSAGE FOR PREWARNING TO BE INSTALLED ONE WEEK PRIOR TO IMPLEMENTATION OF DETOUR ROUTE.

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

SEE S.D.D. "DETOUR SIGNING FOR MAINLINE CLOSURES", "BARRICADES AND SIGNS FOR MAINLINE CLOSURES".

LEGEND

- ● ● DETOUR ROUTE
- ⊕ TYPE III BARRICADE WITH ATTACHED SIGN TYPE 2 (TWO WARNING LIGHTS TYPE A REQ'D)
- TRAFFIC CONTROL SIGN ON POST

 M4-8 24" X 12" COUNTY HHH M1-5A 24" X 24" MO5-1L 21" X 21" C	 M4-8 24" X 12" COUNTY HHH M1-5A 24" X 24" MO6-1 21" X 21" D	 M4-8 24" X 12" COUNTY HHH M1-5A 24" X 24" MO6-1 21" X 21" E	 M4-8A 24" X 18" COUNTY HHH M1-5A 24" X 24" F	 M4-8 24" X 12" COUNTY HHH M1-5A 24" X 24" MO5-1R 21" X 21" G
 M4-8 24" X 12" COUNTY HHH M1-5A 24" X 24" MO6-1 21" X 21" H	 BRIDGE OUT 0.7 MILES AHEAD R11-3C 60" X 24" I	 BRIDGE OUT 0.3 MILES AHEAD R11-3C 60" X 24" J	 M4-8 24" X 12" COUNTY HHH M1-5A 24" X 24" K	

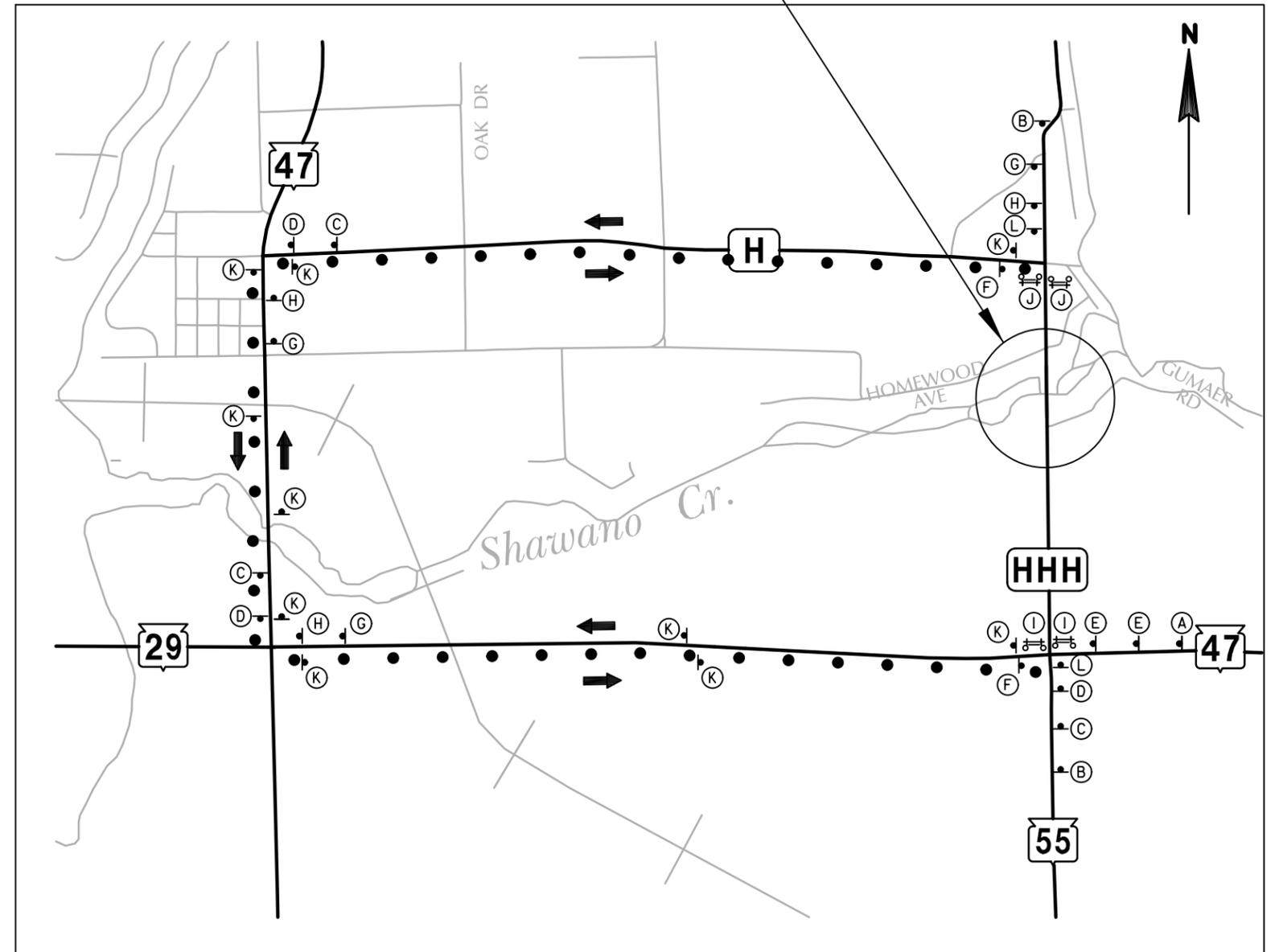
COUNTY
HHH
M1-5A
24" X 24"

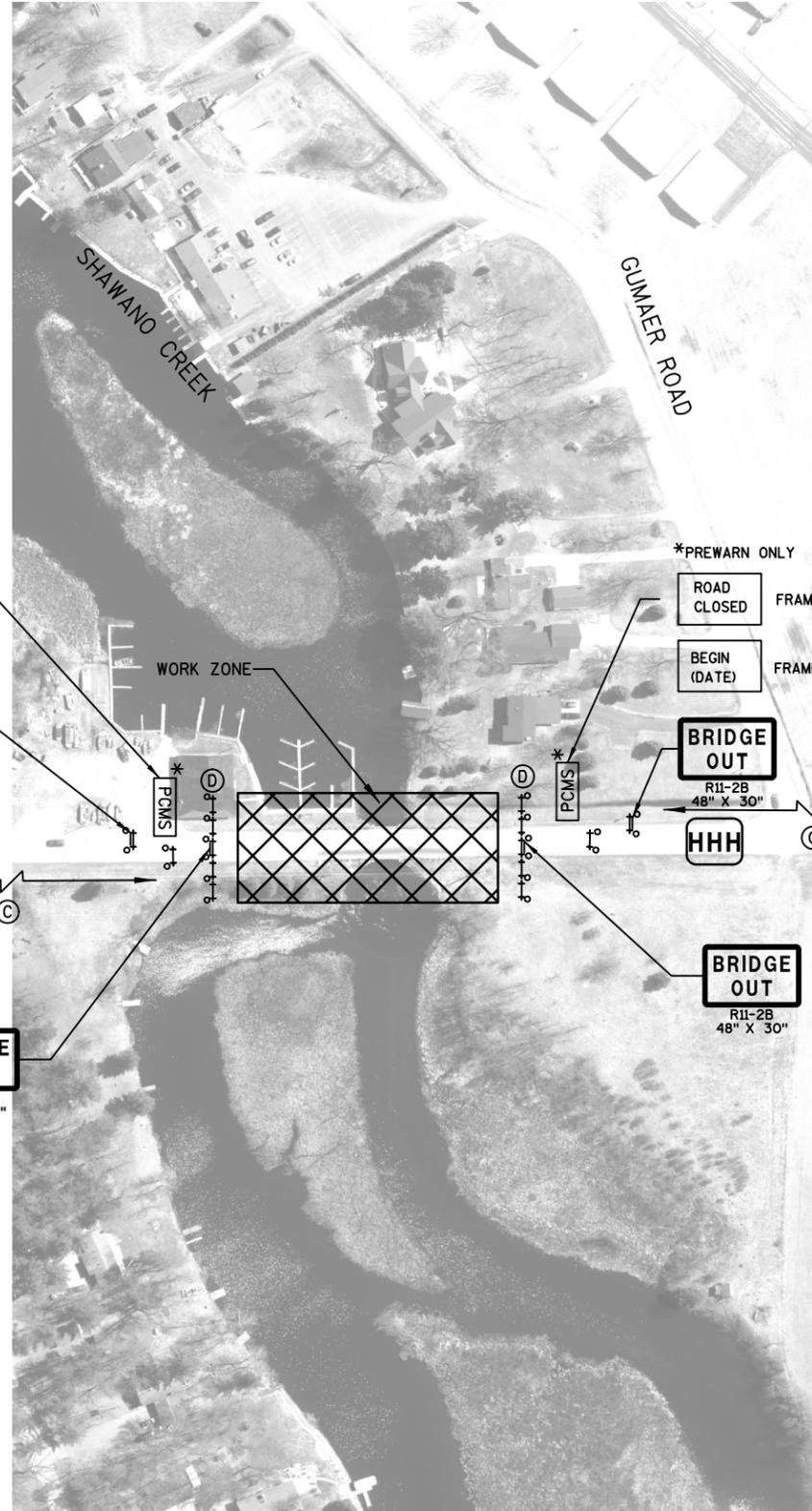
DETOUR AHEAD
W20-2
A

DETOUR AHEAD
W20-2
B

ROAD CLOSED AHEAD
W20-3
L

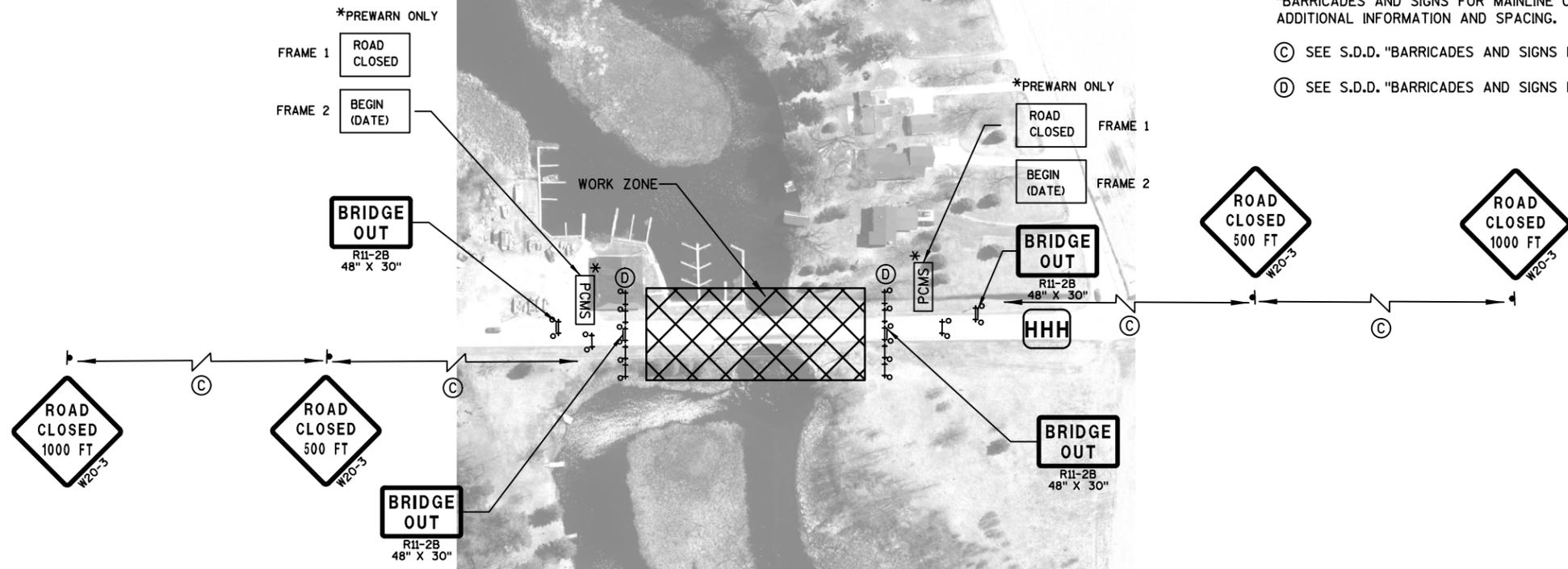
CTH HHH CLOSED AT PROJECT LOCATION (SEE DETAIL A)





LEGEND

- TYPE III BARRICADE WITH ATTACHED SIGN TYPE 2 (TWO WARNING LIGHTS TYPE A REQ'D)
 - TYPE III BARRICADE WITHOUT SIGN (TWO WARNING LIGHTS TYPE A REQ'D)
 - TYPE III BARRICADE WITHOUT SIGN (ONE WARNING LIGHT TYPE A REQ'D)
 - TRAFFIC CONTROL SIGN ON POST
 - PCMS PORTABLE CHANGABLE MESSAGE BOARD
- SEE S.D.D. "DETOUR SIGNING FOR MAINLINE CLOSURES", "BARRICADES AND SIGNS FOR MAINLINE CLOSURES" FOR ADDITIONAL INFORMATION AND SPACING.
- (C) SEE S.D.D. "BARRICADES AND SIGNS FOR MAINLINE CLOSURES" DETAIL C
 - (D) SEE S.D.D. "BARRICADES AND SIGNS FOR MAINLINE CLOSURES" DETAIL D



Estimate Of Quantities

9318-02-70

Line	Item	Item Description	Unit	Total	Qty
0002	201.0105	Clearing	STA	1.000	1.000
0004	201.0205	Grubbing	STA	1.000	1.000
0006	203.0211.S	Abatement of Asbestos Containing Material (structure) 01. B-58-19	EACH	1.000	1.000
0008	203.0260	Removing Structure Over Waterway Minimal Debris (structure) 01. B-58-19	EACH	1.000	1.000
0010	204.0165	Removing Guardrail	LF	260.000	260.000
0012	204.9060.S	Removing (item description) 02. Wood Post	EACH	2.000	2.000
0014	205.0100	Excavation Common	CY	628.000	628.000
0016	206.1000	Excavation for Structures Bridges (structure) 01. B-58-136	LS	1.000	1.000
0018	206.3000	Excavation for Structures Retaining Walls (structure) 01. R-58-12	LS	1.000	1.000
0020	206.3000	Excavation for Structures Retaining Walls (structure) 02. R-58-13	LS	1.000	1.000
0022	206.5000	Cofferdams (structure) 01. R-58-12	LS	1.000	1.000
0024	206.5000	Cofferdams (structure) 02. R-58-13	LS	1.000	1.000
0026	210.1500	Backfill Structure Type A	TON	1,942.000	1,942.000
0028	213.0100	Finishing Roadway (project) 01. 9318-02-70	EACH	1.000	1.000
0030	305.0110	Base Aggregate Dense 3/4-Inch	TON	138.000	138.000
0032	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	2,180.000	2,180.000
0034	311.0110	Breaker Run	TON	173.000	173.000
0036	312.0110	Select Crushed Material	TON	71.000	71.000
0038	415.0070	Concrete Pavement 7-Inch	SY	66.000	66.000
0040	415.0410	Concrete Pavement Approach Slab	SY	80.000	80.000
0042	416.1010	Concrete Surface Drains	CY	1.500	1.500
0044	450.4000	HMA Cold Weather Paving	TON	133.000	133.000
0046	455.0605	Tack Coat	GAL	106.000	106.000
0048	460.2000	Incentive Density HMA Pavement	DOL	520.000	520.000
0050	460.6223	HMA Pavement 3 MT 58-28 S	TON	548.000	548.000
0052	460.6424	HMA Pavement 4 MT 58-28 H	TON	246.000	246.000
0054	502.0100	Concrete Masonry Bridges	CY	549.000	549.000
0056	502.3200	Protective Surface Treatment	SY	617.000	617.000
0058	502.3210	Pigmented Surface Sealer	SY	275.000	275.000
0060	504.0500	Concrete Masonry Retaining Walls	CY	337.000	337.000
0062	505.0400	Bar Steel Reinforcement HS Structures	LB	21,640.000	21,640.000
0064	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	102,490.000	102,490.000
0066	505.0800.S	Bar Steel Reinforcement HS Stainless Structures	LB	440.000	440.000
0068	516.0500	Rubberized Membrane Waterproofing	SY	41.000	41.000
0070	550.2146	Piling CIP Concrete 14 X 0.375-Inch	LF	1,480.000	1,480.000
0072	601.0588	Concrete Curb & Gutter 4-Inch Sloped 36-Inch Type TBT	LF	110.000	110.000
0074	606.0200	Riprap Medium	CY	92.000	92.000
0076	606.0300	Riprap Heavy	CY	355.000	355.000
0078	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	530.000	530.000
0080	614.0150	Anchor Assemblies for Steel Plate Beam Guard	EACH	4.000	4.000
0082	614.2500	MGS Thrie Beam Transition	LF	157.600	157.600
0084	614.2610	MGS Guardrail Terminal EAT	EACH	4.000	4.000
0086	618.0100	Maintenance And Repair of Haul Roads (project) 01. 9318-02-70	EACH	1.000	1.000
0088	619.1000	Mobilization	EACH	1.000	1.000
0090	624.0100	Water	MGAL	35.000	35.000
0092	625.0500	Salvaged Topsoil	SY	690.000	690.000
0094	627.0200	Mulching	SY	1,610.000	1,610.000
0096	628.1504	Silt Fence	LF	935.000	935.000
0098	628.1520	Silt Fence Maintenance	LF	1,400.000	1,400.000

Estimate Of Quantities

9318-02-70

Line	Item	Item Description	Unit	Total	Qty
0100	628.1905	Mobilizations Erosion Control	EACH	5.000	5.000
0102	628.1910	Mobilizations Emergency Erosion Control	EACH	3.000	3.000
0104	628.2008	Erosion Mat Urban Class I Type B	SY	415.000	415.000
0106	628.6005	Turbidity Barriers	SY	260.000	260.000
0108	628.7560	Tracking Pads	EACH	3.000	3.000
0110	629.0210	Fertilizer Type B	CWT	1.000	1.000
0112	630.0120	Seeding Mixture No. 20	LB	15.000	15.000
0114	630.0160	Seeding Mixture No. 60	LB	3.000	3.000
0116	630.0300	Seeding Borrow Pit	LB	31.000	31.000
0118	630.0500	Seed Water	MGAL	41.000	41.000
0120	634.0614	Posts Wood 4x6-Inch X 14-FT	EACH	1.000	1.000
0122	637.2210	Signs Type II Reflective H	SF	5.000	5.000
0124	638.2602	Removing Signs Type II	EACH	19.000	19.000
0126	638.3000	Removing Small Sign Supports	EACH	13.000	13.000
0128	642.5201	Field Office Type C	EACH	1.000	1.000
0130	643.0420	Traffic Control Barricades Type III	DAY	1,944.000	1,944.000
0132	643.0705	Traffic Control Warning Lights Type A	DAY	3,024.000	3,024.000
0134	643.0900	Traffic Control Signs	DAY	9,072.000	9,072.000
0136	643.1000	Traffic Control Signs Fixed Message	SF	13.750	13.750
0138	643.1050	Traffic Control Signs PCMS	DAY	356.000	356.000
0140	643.5000	Traffic Control	EACH	1.000	1.000
0142	645.0111	Geotextile Type DF Schedule A	SY	108.000	108.000
0144	645.0120	Geotextile Type HR	SY	888.000	888.000
0146	645.0140	Geotextile Type SAS	SY	385.000	385.000
0148	646.1020	Marking Line Epoxy 4-Inch	LF	2,225.000	2,225.000
0150	646.9200	Marking Removal Line Wide	LF	96.000	96.000
0152	649.0805	Temporary Marking Stop Line Paint 18-Inch	LF	96.000	96.000
0154	650.4500	Construction Staking Subgrade	LF	520.000	520.000
0156	650.5000	Construction Staking Base	LF	520.000	520.000
0158	650.5500	Construction Staking Curb Gutter and Curb & Gutter	LF	110.000	110.000
0160	650.6500	Construction Staking Structure Layout (structure) 01. B-58-136	LS	1.000	1.000
0162	650.6500	Construction Staking Structure Layout (structure) 02. R-58-12	LS	1.000	1.000
0164	650.6500	Construction Staking Structure Layout (structure) 03. R-58-13	LS	1.000	1.000
0166	650.7000	Construction Staking Concrete Pavement	LF	30.000	30.000
0168	650.9910	Construction Staking Supplemental Control (project) 01. 9318-02-70	LS	1.000	1.000
0170	650.9920	Construction Staking Slope Stakes	LF	520.000	520.000
0172	661.0200	Temporary Traffic Signals for Intersections (location) 01. STH 47/55 and CTH H	LS	1.000	1.000
0174	715.0502	Incentive Strength Concrete Structures	DOL	5,316.000	5,316.000
0176	715.0720	Incentive Compressive Strength Concrete Pavement	DOL	500.000	500.000
0178	999.2000.S	Installing and Maintaining Bird Deterrent System (station) 01. 105+50	EACH	1.000	1.000
0180	ASP.1T0A	On-the-Job Training Apprentice at \$5.00/HR	HRS	1,200.000	1,200.000
0182	ASP.1T0G	On-the-Job Training Graduate at \$5.00/HR	HRS	600.000	600.000
0184	SPV.0090	Special 01. Silt Fence Double Staked	LF	281.000	281.000
0186	SPV.0195	Special 01. Excavation, Loading, Hauling, and Disposal of Contaminated Sediment	TON	360.000	360.000
0188	SPV.0195	Special 02. Excavation, Hauling, and Disposal of Creosote Contaminated Soil	TON	110.000	110.000

CLEARING AND GRUBBING SUMMARY

CATEGORY	STATION - STATION	LOCATION	201.0105	201.0205
			CLEARING STA	GRUBBING STA
0010	107+00 - 107+90	LT	1	1
TOTALS			1	1

REMOVING GUARDRAIL

CATEGORY	STATION - STATION	LOCATION	204.0165
			LF
0010	104+78 - 105+38	LT/RT	130
	105+61 - 106+21	LT/RT	130
TOTAL			260

FINISHING ROADWAY

CATEGORY	PROJECT	213.0100.01
		EACH
0010	9318-02-70	1

REMOVING WOOD POST

CATEGORY	STATION	OFFSET	204.9060.S.02
			EACH
0010	106+38	17' RT	1
	106+63	17' RT	1
TOTALS			2

BASE AGGREGATE SUMMARY

CATEGORY	STATION - STATION	305.0110	305.0120	REMARKS
		BASE AGGREGATE DENSE 3/4-INCH TON	BASE AGGREGATE DENSE 1 1/4-INCH TON	
0010	102+63 - 104+76	65	750	
	104+76 - 104+91	3	50	
	106+12 - 106+27	---	40	
	106+27 - 109+00	65	1,050	
	109+00	5	---	COMMERCIAL DWY
TOTALS		138	1,890	

EARTHWORK

CATEGORY	LOCATION	STATION - STATION	205.0100		UNUSABLE PAVEMENT MATERIAL	STRUCTURE EXCAVATION	AVAILABLE MATERIAL (4)	EXPANDED EBS BACKFILL (5)	UNEXPANDED FILL	EXPANDED FILL (6)	MASS ORDINATE +/- (7)	312.0110
			EXCAVATION COMMON (1)									SELECT
			CUT (2)	EBS EXCAVATION (3)								CRUSHED
			CY	5% OF CUT								MATERIAL (8)
			CY		CY		CY		CY		TON	
0010	CTH HHH	102+63 - 109+00	598	30	102	3,200	3,695	37	464	580	3,116	71
ITEM TOTAL			628									

- 1) EXCAVATION COMMON IS THE SUM OF THE CUT AND EBS EXCAVATION COLUMNS. ITEM NUMBER 205.0100.
- 2) SALVAGED/UNUSABLE PAVEMENT MATERIAL IS INCLUDED IN CUT.
- 3) EBS EXCAVATION TO BE BACKFILLED WITH SELECT CRUSHED MATERIAL.
- 4) AVAILABLE MATERIAL = CUT - UNUSABLE PAVEMENT MATERIAL.
- 5) EXPANDED EBS BACKFILL: THIS IS TO BE FILLED WITH SELECT CRUSHED MATERIAL. EBS BACKFILL EXPANSION FACTOR = 1.25.
- 6) EXPANDED FILL = (UNEXPANDED FILL)* EXPANDED FILL FACTOR. EXPANDED FILL FACTOR = 1.25.
- 7) MASS ORDINATE: MASS ORDINATE = CUT - UNUSABLE PAVEMENT MATERIAL - EXPANDED FILL
PLUS MASS ORDINATE QUANTITY INDICATES AN EXCESS OF MATERIAL WITHIN THE DIVISION. NEGATIVE MASS ORDINATE QUANTITY INDICATES A SHORTAGE OF MATERIAL WITHIN THE DIVISION.
- 8) SELECT CRUSHED MATERIAL IS USED FOR BACKFILL OF EBS.

3

3

CONCRETE PAVEMENT 7-INCH

CATEGORY	STATION - STATION	LOCATION	415.0070 SY
0010	104+76 - 104+91	LT/RT	33
	106+12 - 106+27	LT/RT	33
TOTAL			66

CONCRETE PAVEMENT APPROACH SLAB

CATEGORY	STATION - STATION	415.0410 SY
0010	104+76 - 104+91	40
	106+12 - 106+27	40
TOTAL		80

GUARDRAIL SUMMARY

CATEGORY	STATION - STATION	LOCATION	614.2500 MGS THRIE BEAM TRANSITION LF	614.2610 MGS GUARDRAIL TERMINAL EAT EACH
0010	104+01 - 104+54	RT/LT	---	2
	104+54 - 104+93	RT/LT	78.8	---
	107+48 - 107+87	LT	39.4	---
	107+83 - 108+22	RT	39.4	---
	107+87 - 108+40	LT	---	1
	108+22 - 108+75	RT	---	1
TOTALS			157.6	4

CONCRETE SURFACE DRAINS SUMMARY

CATEGORY	STATION	LOCATION	416.1010 CONCRETE SURFACE SURFACE DRAINS CY	601.0588 CONCRETE CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE TBT LF	606.0200 RIPRAP MEDIUM CY	645.0120 GEOTEXTILE TYPE HR SY	650.5500 CONSTRUCTION STAKING CURB GUTTER AND CURB & GUTTER LF
0010	107+95	LT	0.8	56	3	5	56
	108+28	RT	0.7	54	89	273	54
TOTALS			1.5	110	92	278	110

MAINTENANCE AND REPAIR OF HAUL ROADS

CATEGORY	PROJECT	618.0100.01 EACH
0050	9318-02-70	1

MOBILIZATION

CATEGORY	PROJECT	619.1000 EACH
0010	9318-02-70	1

WATER

CATEGORY	STATION - STATION	624.0100 MGAL	REMARKS
0010	96+71 - 103+14	5 30	DUST CONTROL COMPACTION
TOTAL		35	

ASPHALT ITEMS

CATEGORY	STATION - STATION	450.4000 HMA COLD WEATHER PAVING TON	455.0605 TACK COAT GAL	460.6223 HMA PAVEMENT 3 MT 58-28 S TON	460.6424 HMA PAVEMENT 4 MT 58-28 H TON
0010	102+63 - 104+76	53	42	210	93
	106+27 - 109+00	80	64	320	145
	109+00	---	---	18	8
TOTALS		133	106	548	246

FINISHING ITEMS

CATEGORY	STATION - STATION	LOCATION	625.0500 SALVAGED TOPSOIL SY	627.0200 MULCHING SY	629.0210 FERTILIZER TYPE B CWT	630.0120 SEEDING MIXTURE NO. 20 LB	630.0160 SEEDING MIXTURE NO. 60 LB	630.0300 BORROW PIT LB	630.0500 SEED WATER MGAL
0010	102+62 - 105+28	LT/RT	440	230	0.1	9	1	---	8
	105+77 - 109+41	LT/RT	250	130	0.1	3	1	---	4
	WASTE SITE		---	930	0.6	---	---	25	21
	UNDISTRIBUTED		---	320	0.2	3	1	6	8
TOTALS			690	1,610	1.0	15	3	31	41

NOTE: HMA PAVEMENT WEIGHT CALCULATIONS BASED ON 112 LB/SY/IN.

3

EROSION CONTROL

CATEGORY	STATION - STATION	LOCATION	628.1504 SILT FENCE LF	628.1520 SILT FENCE MAINTENANCE LF	628.2008 EROSION MAT URBAN CLASS I TYPE B SY	628.6005 TURBIDITY BARRIERS SY	SPV.0090.01 SILT FENCE DOUBLE STAKED LF
0010	102+62 - 105+28	LT/RT	535	805	210	88	0
	105+77 - 109+41	LT/RT	210	315	125	145	225
		UNDISTRIBUTED	190	280	80	58	56
TOTALS			935	1,400	415	291	281

MOBILIZATIONS EROSION CONTROL

CATEGORY	PROJECT	628.1905 MOBILIZATIONS EROSION CONTROL EACH	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL EACH
0010	9318-02-70	5	3

3

TRACKING PADS

CATEGORY	LOCATION	628.7560 EACH
0010	UNDISTRIBUTED	3

SIGNING SUMMARY

CATEGORY	SIGN NO.	APPROX. STA.	LOC.	SIGN CODE	SIGN MESSAGE	637.2210 634.0614 638.2602 638.3000					REMARKS
						SIGN SIZE (W x H) IN	SIGNS TYPE II REFLECTIVE H SF	POSTS WOOD 4x6-INCH x 14-FT EACH	REMOVING SIGNALS TYPE II EACH	REMOVING SMALL SIGN SUPPORTS EACH	
0010	P1-1	103+00	LT	R2-1	SPEED LIMIT_ MPH	24 x 30	5.00	1	---	---	
	E1-1	103+00	RT	---	WELCOME TO WESTCOTT/NO CUTTING TREES/TREE CITY	--- x ---	---	---	3	1	REMOVE
	E1-2	104+36	RT	R12-1	WEIGHT LIMIT_ TONS	--- x ---	---	---	1	1	REMOVE
	E1-3	104+69	RT	R4-1	DO NOT PASS	--- x ---	---	---	1	1	REMOVE
	E1-4	104+92	RT	R9-55	NO FISHING FROM BRIDGE	--- x ---	---	---	1	1	REMOVE
	E1-5	105+36	RT	W5-52R	CLEARANCE STRIPER DOWN LEFT	--- x ---	---	---	1	1	REMOVE
	E1-6	105+36	RT	---	RULER	--- x ---	---	---	1	1	REMOVE
	E1-7	105+65	RT	W5-52L	CLEARANCE STRIPER DOWN RIGHT	--- x ---	---	---	1	1	REMOVE
	E1-8	105+74	RT	---	SLOW NO WAKE	--- x ---	---	---	1	---	REMOVE
	E1-9	104+07	LT	R2-1	SPEED LIMIT_ MPH	--- x ---	---	---	1	1	REMOVE
	E1-10	105+28	LT	---	SLOW NO WAKE	--- x ---	---	---	1	---	REMOVE
	E1-11	105+36	LT	W5-52L	CLEARANCE STRIPER DOWN RIGHT	--- x ---	---	---	1	1	REMOVE
	E1-12	105+39	LT	---	SLOW NO WAKE	--- x ---	---	---	1	---	REMOVE
	E1-13	105+66	LT	W5-52R	CLEARANCE STRIPER DOWN LEFT	--- x ---	---	---	1	1	REMOVE
	E1-14	105+72	LT	---	RULER	--- x ---	---	---	1	1	REMOVE
	E1-15	105+72	LT	---	NOTICE: NOISE ORDINANCE	--- x ---	---	---	1	---	REMOVE
	E1-16	106+02	LT	R9-55	NO FISHING FROM BRIDGE	--- x ---	---	---	1	1	REMOVE
	E1-17	106+48	LT	R12-1	WEIGHT LIMIT_ TONS	--- x ---	---	---	1	1	REMOVE
TOTALS							5.00	1	19	13	

FIELD OFFICE TYPE C

CATEGORY	PROJECT	642.5201 EACH
0010	9318-02-70	1

MARKING LINE ITEMS

CATEGORY	STATION - STATION	646.1020 MARKING LINE EPOXY 4-INCH			
		(WHITE) LF	(YELLOW SKIP) (12.5' SEG., 37.5' GAP) LF	(YELLOW) LF	(DOUBLE YELLOW) LF
0010	102+63 - 104+50	375	47	190	---
	104+50 - 106+50	400	---	---	400
	106+50 - 109+00	500	63	250	---
TOTAL		2,225			

CONSTRUCTION STAKING

CATEGORY	STATION - STATION	LOCATION	650.4500 650.5000 650.7000 650.9920			
			SUBGRADE LF	BASE LF	CONCRETE PAVEMENT LF	SLOPE STAKES LF
0010	102+63 - 104+76	LT/RT	215	215	---	215
	104+76 - 104+91	LT/RT	15	15	15	15
	106+12 - 106+27	LT/RT	15	15	15	15
	106+27 - 109+00	LT/RT	275	275	---	275
TOTALS			520	520	30	520

TEMPORARY MARKING LINE ITEMS

CATEGORY	LOCATION	646.9200 MARKING REMOVAL LINE WIDE		649.0805 TEMPORARY MARKING STOP LINE PAINT 18-INCH		COMMENTS
		LF	LF	LF	LF	
0010	TEMP. TRAFFIC SIGNAL (INT. STH 47/CTH H)	96	96	---	---	ONE 24 LF STOP BAR PER APPROACH LEG
TOTALS		96	96	---	---	

TRAFFIC CONTROL

CATEGORY	TRAFFIC CONTROL OPERATIONS	DURATION (DAYS)	643.0900 SIGNS		643.0420 BARRICADES TYPE III		643.0705 WARNING LIGHTS TYPE A		643.1000 SIGNS FIXED MESSAGE		643.1050 PCMS	
			EACH	DAYS	EACH	DAYS	EACH	DAYS	SF	EACH	DAYS	
0010	PRE WARNING	7	---	---	---	---	---	---	---	---	6	42
	DETOUR AND CLOSURE	108	84	9,072	18	1,944	28	3,024	13.75	---	2	216
	TEMPORARY TRAFFIC SIGNAL - AFTER TURN ON	14	---	---	---	---	---	---	---	---	2	28
	TEMPORARY TRAFFIC SIGNAL - BEFORE TURN OFF	7	---	---	---	---	---	---	---	---	2	14
	TEMPORARY TRAFFIC SIGNAL - AFTER TURN OFF	14	---	---	---	---	---	---	---	---	4	56
TOTALS				9,072		1,944		3,024	13.75			356

TRAFFIC CONTROL

CATEGORY	PROJECT	643.5000 EACH	
		EACH	DAYS
0010	9318-02-70	1	---

EXCAVATION, LOADING, HAULING, AND DISPOSAL OF CONTAMINATED SEDIMENT

CATEGORY	STATION - STATION	LOCATION	SPV.0195.01 TON	
			TON	DAYS
0010	104+97 - 105+29	LT	75	---
	105+08 - 105+47	RT	135	---
	105+58 - 105+83	RT	100	---
	105+63 - 105+89	LT	50	---
TOTAL			360	---

EXCAVATION, HAULING, AND DISPOSAL OF CREOSOTE CONTAMINATED SOIL

CATEGORY	STATION - STATION	LOCATION	SPV.0195.02 TON	
			TON	DAYS
0010	105+21 - 105+40	LT/RT	55	---
	105+62 - 105+80	LT/RT	55	---
TOTAL			110	---

INSTALLING AND MAINTAINING BIRD DETERRENT SYSTEM

CATEGORY	PROJECT	999.2000.S EACH	
		EACH	DAYS
0010	9318-02-70	1	---

R/W PROJECT NUMBER 9318-02-00	SHEET NUMBER 4.01	TOTAL SHEETS 2
FEDERAL PROJECT NUMBER		
PLAT OF RIGHT-OF-WAY REQUIRED FOR		
STH 22 - CTH H SHAWANO CREEK BRIDGE B-58-136		
CTH HHH SHAWANO COUNTY		
CONSTRUCTION PROJECT NUMBER 9318-02-70		

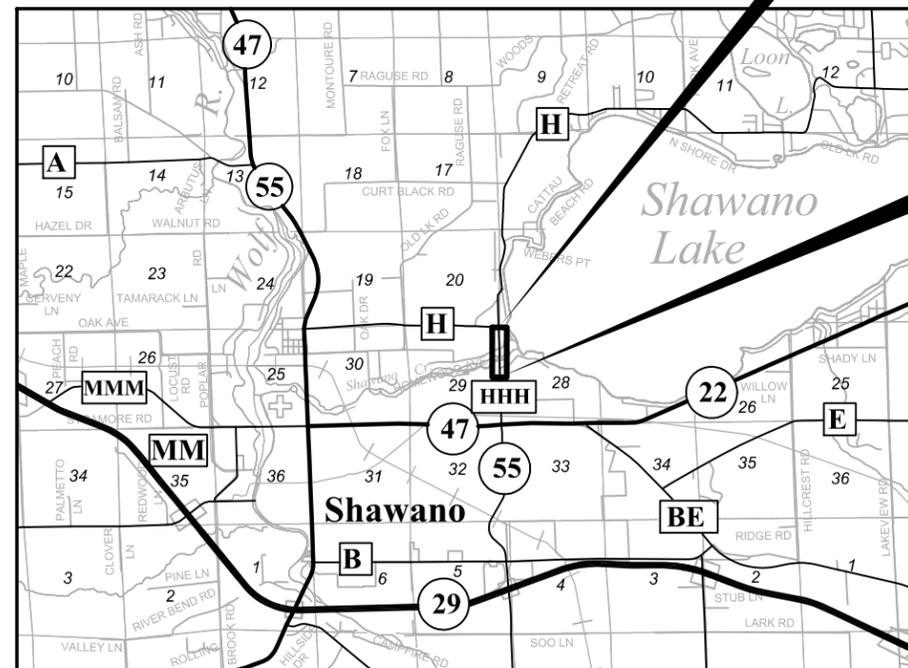
CONVENTIONAL SIGNS AND ABBREVIATIONS

STATE, COUNTY, or TOWN LINE	=====	ACCESS POINT	AP
SECTION LINE	=====	ACCESS RIGHTS	AR
QUARTER LINE	=====	ACRES	AC.
SIXTEENTH LINE	=====	AND OTHERS	ET.AL.
PROPOSED REFERENCE LINE	=====	CENTERLINE	C/L
PROPOSED R/W LINE	=====	CERTIFIED SURVEY MAP DOCUMENT	CSM DOC.
EXISTING H.E. LINE	=====	HIGHWAY EASEMENT	H.E.
PROPERTY LINE	=====	LAND CONTRACT	LC
EASEMENT LINE	=====	MONUMENT	MON.
CORPORATE LIMITS	=====	PAGE	P.
EXISTING CENTERLINE	=====	PROPERTY LINE	PL
LOT & TIE LINES	=====	PERMANENT LIMITED EASEMENT	PLE
UTILITIES	FO (TYPE)	RECORDED AS (100')	(100')
(TELEPHONE, GAS, ELECTRIC, CABLE TV, FIBER OPTIC)	=====	REFERENCE LINE	R/L
ACCESS RESTRICTED (BY PREVIOUS PROJECT/CONTROL)	=====	REMAINING	REM.
NO ACCESS (BY ACQUISITION)	=====	RIGHT-OF-WAY SECTION	R/W SEC.
NO ACCESS (BY STATUTORY AUTHORITY)	=====	SQUARE FEET	S.F.
FEE (HATCH VARIES)	=====	STATION	STA.
TEMPORARY LIMITED EASEMENT	=====	TEMPORARY LIMITED EASEMENT VOLUME	TLE V.
PERMANENT LIMITED EASEMENT	=====	CURVE DATA	
PARCEL NUMBER	(102)	LONG CHORD	LCH
ENCROACHMENT	(E-1)	LONG CHORD BEARING	LCB
BUILDING	IP	RADIUS	R
FOUND IRON PIPE/PIN	IP	DEGREE OF CURVE	D
R/W MONUMENT	○ (SET)	CENTRAL ANGLE OR DELTA	DELTA
R/W STANDARD SIGN	△ (SET)	LENGTH OF CURVE	L
L.E., P. & D.V.E.	=====	TANGENT	TAN
		NON COMPENSABLE	COMPENSABLE
		POWER POLE	=====
		TELEPHONE POLE	=====
		TELEPHONE PEDESTAL	=====
		SECTION CORNER	=====

GN



R 15 E | R 16 E



END RELOCATION ORDER

STA. 109+50

1289.87 FEET NORTH OF AND 17.12 FEET WEST OF THE WEST 1/4 CORNER OF SEC. 28, T.27N., R.16E.

BEGIN RELOCATION ORDER

STA. 102+50

589.93 FEET NORTH OF AND 7.96 FEET WEST OF THE WEST 1/4 CORNER OF SEC. 28, T.27N., R.16E.

NOTES

POSITIONS SHOWN ON THIS PLAT ARE WISCONSIN COORDINATE REFERENCE SYSTEM COORDINATES (WISCRS), SHAWANO COUNTY, NAD83(2011) IN US SURVEY FEET. VALUES SHOWN ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

RIGHT-OF-WAY MONUMENTS ARE TYPE 2 MONUMENTS (TYPICALLY 3/4" X 24" REBAR) AND WILL BE PLACED PRIOR TO THE COMPLETION OF THE PROJECT.

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".

FOR THE LATEST ACCESS/DRIVEWAY INFORMATION, CONTACT THE CITY OF SHAWANO OR THE TOWN OF WESCOTT. DIMENSIONING FOR THE NEW RIGHT-OF-WAY IS MEASURED ALONG AND PERPENDICULAR TO NEW REFERENCE LINES.

A TEMPORARY LIMITED EASEMENT (T.L.E.) 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 (T.L.E.'S) ON THIS PLAT EXPIRE AT THE COMPLETION OF THE CONSTRUCTION PROJECT FOR WHICH THIS INSTRUMENT IS GIVEN.

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

DISTANCES SHOWN FROM BUILDINGS TO RIGHT OF WAY LINES ARE APPROXIMATE.

TOTAL NET LENGTH OF CENTERLINE = 0.132 MI.



REVISION DATE

ACCEPTED FOR

SHAWANO COUNTY

11-4-21
(Date)

Heather Bartelt
County Engineer
(Signature & Title of Official)

ORIGINAL PLAT PREPARED BY



9/3/20
(Date)

Heather Bartelt
(Signature)

E

- 100 WE ENERGIES (ELECTRIC) NO RECORDED EASEMENT PARCELS 1 & 2
- 101 FRONTIER COMMUNICATIONS NO RECORDED EASEMENT PARCELS 1, 2 & 3
- 102 SHAWANO LAKE SANITARY DISTRICT NO.1 WATER AND SEWER EASE. DOC.324291, V.472,P.26 PARCEL 3
- 103 WE ENERGIES (GAS) EASEMENT DOC.687405 PARCEL 2
- 100 WE ENERGIES (ELECTRIC) (WEPCO) EASEMENT DOC.428533, V.671, P.683 PARCEL 3
- 101 FRONTIER COMMUNICATIONS (URBAN TELEPHONE CO.) BLANKET EASEMENT ENTIRE MARINA LOT V.496, P.419 DOC.338594 PARCEL 4
- 102 SHAWANO LAKE SANITARY DISTRICT NO.1 WATER AND SEWER EASE. DOC.324290, V.472, P.25 PARCEL 4
- 100 WE ENERGIES (ELECTRIC) BLANKET EASE. MICHIGAN POWER CO. INDETERMINATE LOCATION V.212, P.367-368 PARCEL 3

CLEAR UNOBSTRUCTED AIRSPACE EASEMENT DOC.272165 DOC.273713 DOC.432498

BEGIN RELOCATION ORDER STA. 102+50
589.93 FEET NORTH OF AND 7.96 FEET WEST OF THE WEST 1/4 CORNER OF SEC. 28, T.27N., R.16E.

END RELOCATION ORDER STA. 109+50
1289.87 FEET NORTH OF AND 17.12 FEET WEST OF THE WEST 1/4 CORNER OF SEC. 28, T.27N., R.16E.

POSITIONS SHOWN ON THIS PLAT ARE WISCONSIN COUNTY COORDINATES, SHAWANO COUNTY, NAD83/2011 IN US SURVEY FEET. VALUES SHOWN ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

SCHEDULE OF LANDS & INTERESTS REQUIRED

PARCEL NUMBER	OWNER(S)	INTEREST REQUIRED	R/W ACRES	NEW	EXISTING	TOTAL	TLE ACRES
1	JANE K. EBERLEIN	FEE	0.111	---	0.111	---	---
2	TODD A. & MELISSA A. GRAF	FEE	0.084	---	0.084	---	---
3	JOHN E. & JUDITH A. DEETS	FEE	0.084	---	0.084	---	---
4	AMERICAN MARINA #2, LLC	FEE, TLE	0.049	---	0.049	0.009	---

UTILITY INTERESTS REQUIRED

UTILITY NUMBER	OWNER(S)	INTEREST REQUIRED
100	WE ENERGIES (ELECTRIC)	RELEASE OF RIGHTS
101	FRONTIER COMMUNICATIONS	RELEASE OF RIGHTS
102	SHAWANO LAKE SANITARY DISTRICT NO.1	RELEASE OF RIGHTS
103	WE ENERGIES (GAS)	RELEASE OF RIGHTS

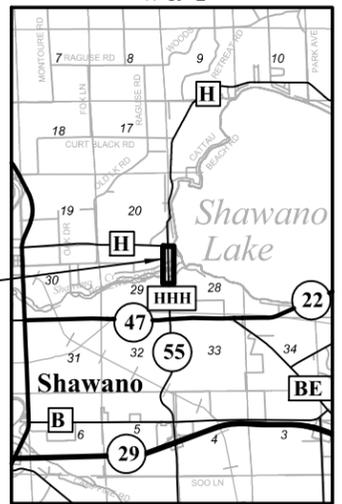
POINT #	STATION	OFFSET	Y	X
RW1	103+45.00	-32.38'	275162.83	870531.83
RW2	104+20.00	-61.00'	275237.45	870502.23
RW3	105+80.00	-61.00'	275397.43	870500.14
RW4	106+25.00	-32.23'	275442.81	870528.32
RW5	106+75.00	-32.20'	275492.80	870527.69
RW6	107+75.00	-49.00'	275592.57	870509.58
RW7	108+30.00	-49.00'	275647.57	870508.86
RW8	108+80.00	-32.08'	275697.79	870525.12
RW13	109+10.00	33.93'	275728.65	870590.74
RW14	108+65.00	49.00'	275683.85	870606.39
RW15	107+73.00	49.00'	275591.86	870607.60
RW16	107+73.00	33.86'	275591.66	870592.46
RW17	106+10.00	33.77'	275428.67	870594.50
RW18	105+92.00	54.00'	275410.94	870614.97
RW19	104+00.00	54.00'	275218.95	870617.48
RW20	103+45.00	33.62'	275163.69	870597.82

POINT #	STATION	OFFSET
TLE1	106+07.33	36.76'
TLE2	107+10.00	36.82'
TLE3	107+10.00	35.32'
TLE4	107+73.00	35.36'

COURSE	BEARING	DISTANCE
RW16-TLE4	N 89° 14' 59" E	1.50'
TLE4-TLE3	S 0° 43' 05" E	63.00'
TLE3-TLE2	N 89° 14' 59" E	1.50'
TLE2-TLE1	S 0° 43' 05" E	102.67'
TLE1-RW17	N 49° 05' 38" W	4.01'

EXISTING R/W ON CTH HHH BASED ON THE SECTION LINE BETWEEN SECTIONS 28 AND 29, CSM 398, & CSM 710
EXISTING R/W ON GUMAER ROAD BASED ON QUIT CLAIM DEED DOC.284139, V.370,P.261

PISTA. 100+00.00 Y = 274818.28 X = 870568.73
PISTA. 113+08.10 Y = 276126.27 X = 870551.60



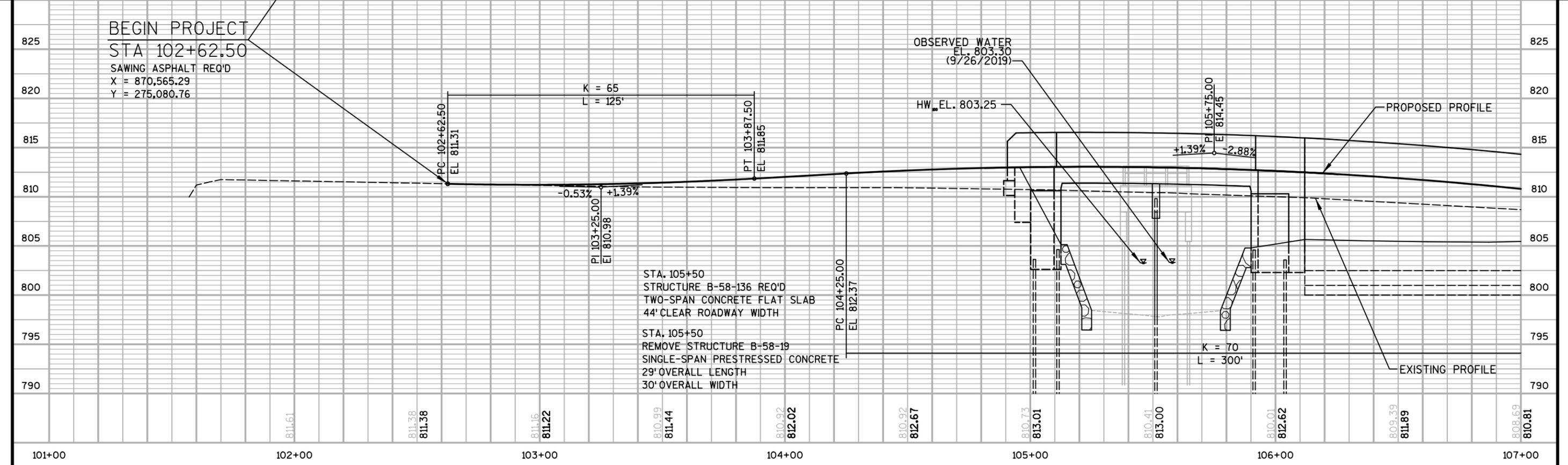
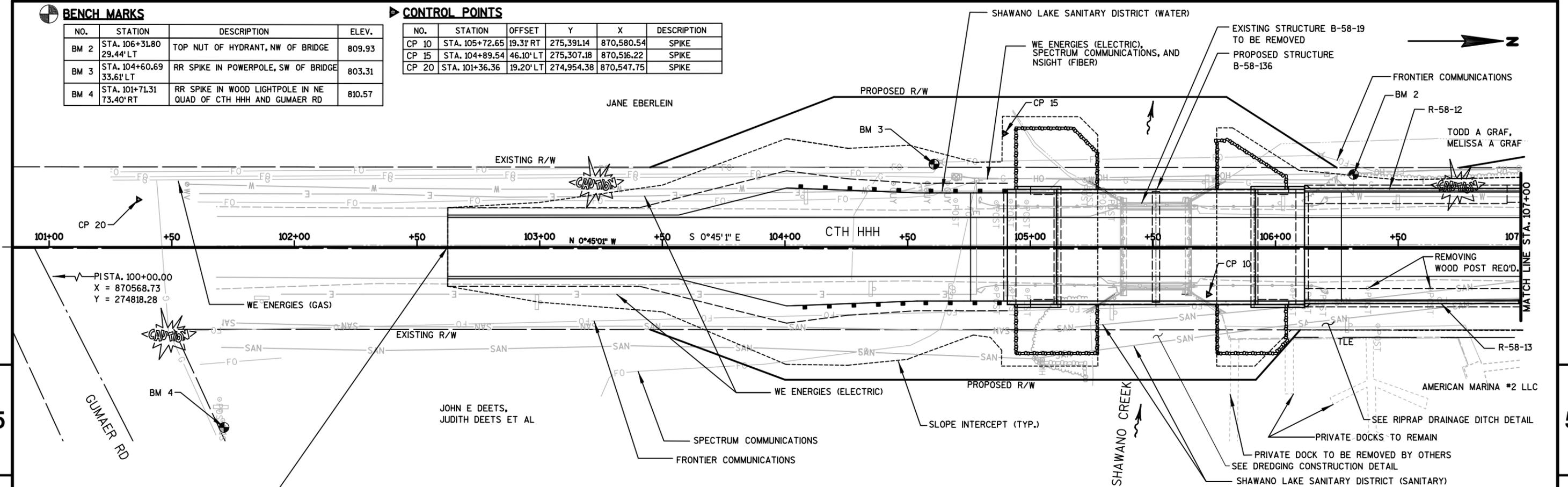
REVISION DATE	DATE 9/3/2020	SCALE, FEET 0 60	HWY: CTH HHH	STATE R/W PROJECT NUMBER 9318-02-00	PLAT SHEET 4.02
	GRID FACTOR N/A		COUNTY: SHAWANO	CONSTRUCTION PROJECT NUMBER 9318-02-70	PS&E SHEET E

BENCH MARKS

NO.	STATION	DESCRIPTION	ELEV.
BM 2	STA. 106+31.80 29.44' LT	TOP NUT OF HYDRANT, NW OF BRIDGE	809.93
BM 3	STA. 104+60.69 33.61' LT	RR SPIKE IN POWERPOLE, SW OF BRIDGE	803.31
BM 4	STA. 101+71.31 73.40' RT	RR SPIKE IN WOOD LIGHTPOLE IN NE QUAD OF CTH HHH AND GUMAER RD	810.57

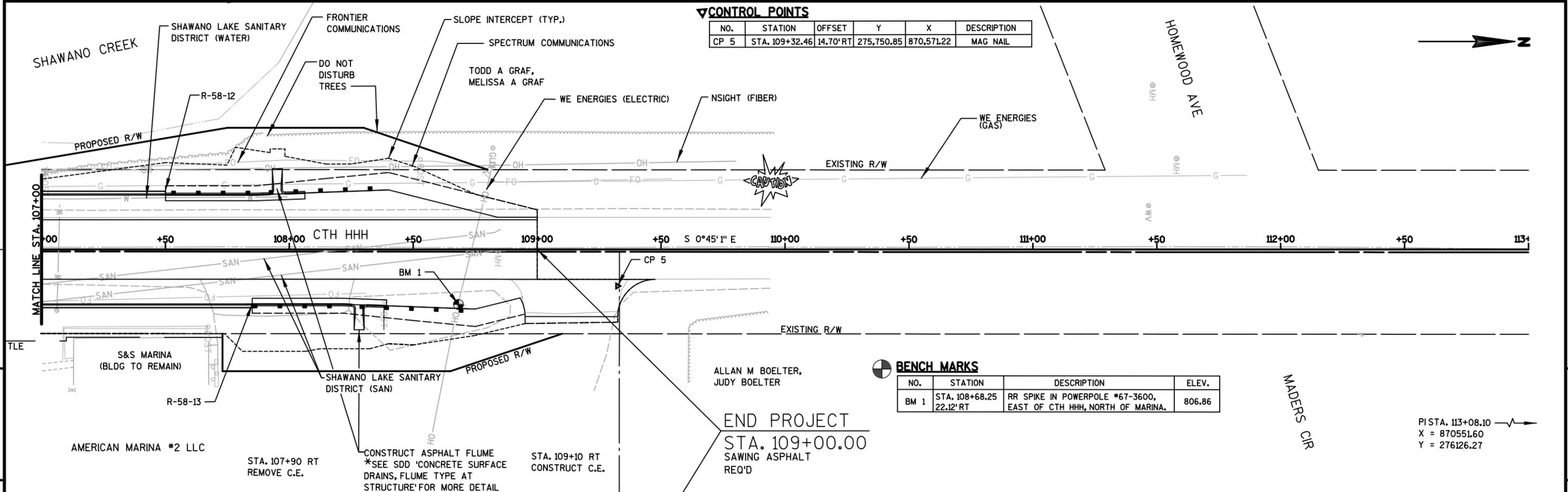
CONTROL POINTS

NO.	STATION	OFFSET	Y	X	DESCRIPTION
CP 10	STA. 105+72.65	19.31' RT	275,391.14	870,580.54	SPIKE
CP 15	STA. 104+89.54	46.10' LT	275,307.18	870,516.22	SPIKE
CP 20	STA. 101+36.36	19.20' LT	274,954.38	870,547.75	SPIKE



CONTROL POINTS

NO.	STATION	OFFSET	Y	X	DESCRIPTION
CP 5	STA. 109+32.46	14.70' RT	275,750.85	870,571.22	MAG NAIL

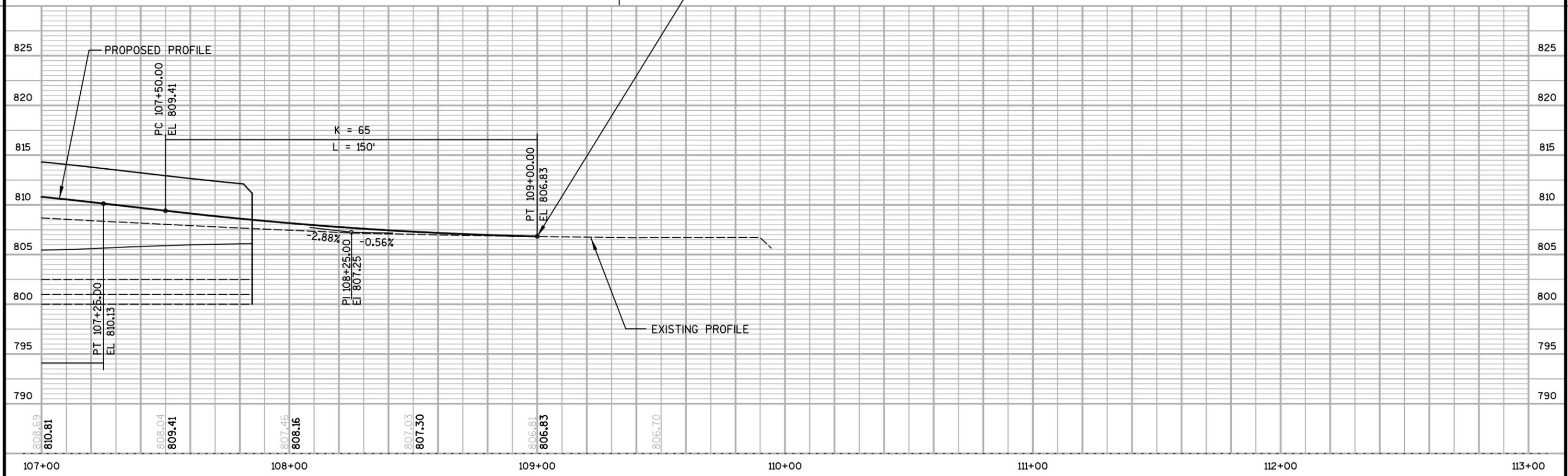


BENCH MARKS

NO.	STATION	DESCRIPTION	ELEV.
BM 1	STA. 108+68.25 22.12' RT	RR SPIKE IN POWERPOLE #67-3600, EAST OF CTH HHH, NORTH OF MARINA.	806.86

END PROJECT
STA. 109+00.00
SAWING ASPHALT
REQ'D

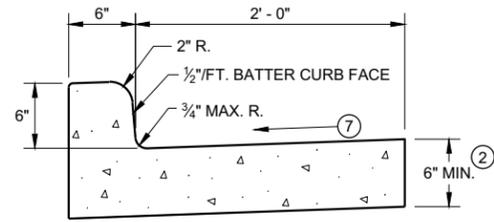
PI STA. 113+08.10
X = 870551.60
Y = 276126.27



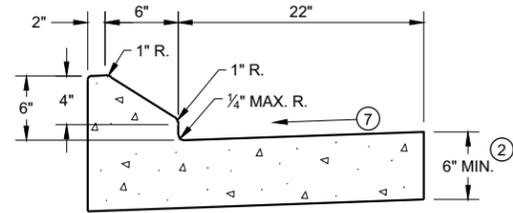
PROJECT NO: 9318-02-70	HWY: CTH HHH	COUNTY: SHAWANO	PLAN AND PROFILE	SHEET	5
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Standard Detail Drawing List

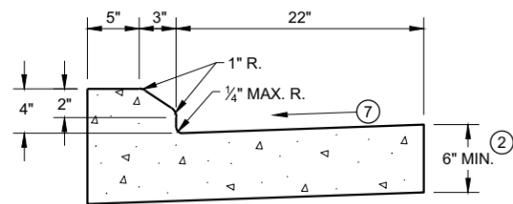
08D01-22A	CONCRETE CURB & GUTTER
08D01-22B	CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS
08D02-07A	CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES
08D02-07B	CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES
08D02-07C	CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES
08E09-06	SILT FENCE
08E11-02	TURBIDITY BARRIER
08E14-01	TRACKING PAD
09G01-04A	SPAN WIRE TEMPORARY TRAFFIC SIGNAL
09G01-04B	SPAN WIRE TEMPORARY TRAFFIC SIGNAL
09G01-04C	SPAN WIRE TEMPORARY TRAFFIC SIGNAL
09G01-04D	SPAN WIRE TEMPORARY TRAFFIC SIGNAL
09G01-04E	SPAN WIRE TEMPORARY TRAFFIC SIGNAL
09G01-04F	SPAN WIRE TEMPORARY TRAFFIC SIGNAL
09G01-04G	SPAN WIRE TEMPORARY TRAFFIC SIGNAL
12A03-10	NAME PLATE (STRUCTURES)
13A03-06	CONCRETE PAVEMENT SHOULDERS
13B02-09A	CONCRETE PAVEMENT APPROACH SLAB
13B02-09B	STRUCTURAL APPROACH SLAB AND CONCRETE PAVEMENT APPROACH SLAB
13C11-12A	RURAL DOWELED CONCRETE PAVEMENT
13C11-12B	RURAL DOWELED CONCRETE PAVEMENT
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)
15C02-08A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-08B	BARRICADES AND SIGNS FOR VARIOUS CLOSURES
15C02-08C	DETOUR SIGNING FOR MAINLINE CLOSURES
15C03-05	BARRICADES AND SIGNS FOR SIDEROAD CLOSURES
15C05-05	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 M.P.H. OR LESS
15C06-09	SIGNING & MARKING FOR TWO LANE BRIDGES
15C08-20A	LONGITUDINAL MARKING (MAINLINE)
15C11-08B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS
15D38-02B	ATTACHMENT OF SIGNS TO POSTS



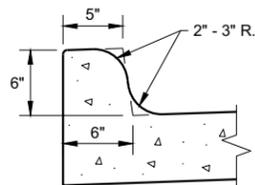
TYPES A¹ & D



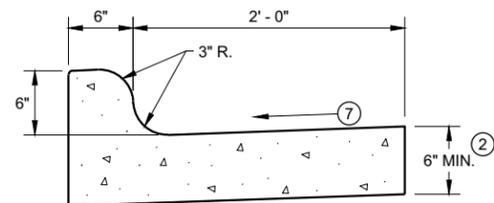
6" SLOPED CURB TYPES G¹ & J



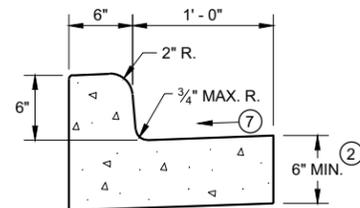
4" SLOPED CURB TYPES G¹ & J



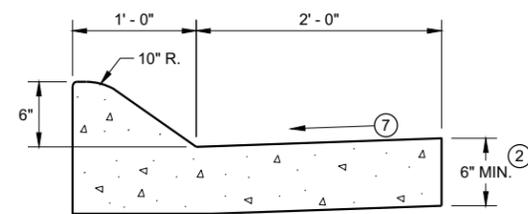
TYPES K¹ & L
(OPTIONAL CURB SHAPE)



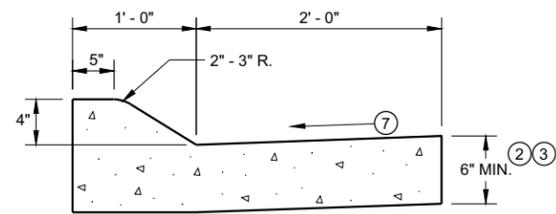
TYPES K¹ & L
CONCRETE CURB AND GUTTER 30"



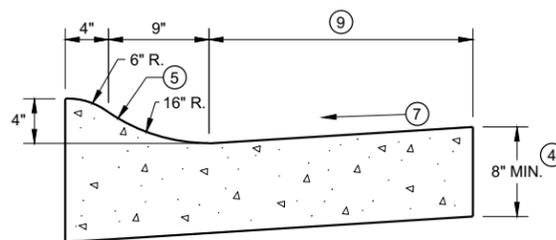
TYPES A¹ & D
CONCRETE CURB AND GUTTER 18"



6" SLOPED CURB TYPES A¹ & D

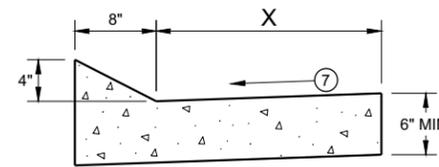


4" SLOPED CURB TYPES A¹ & D
CONCRETE CURB AND GUTTER 36"



4" SLOPED CURB TYPES R¹ & T

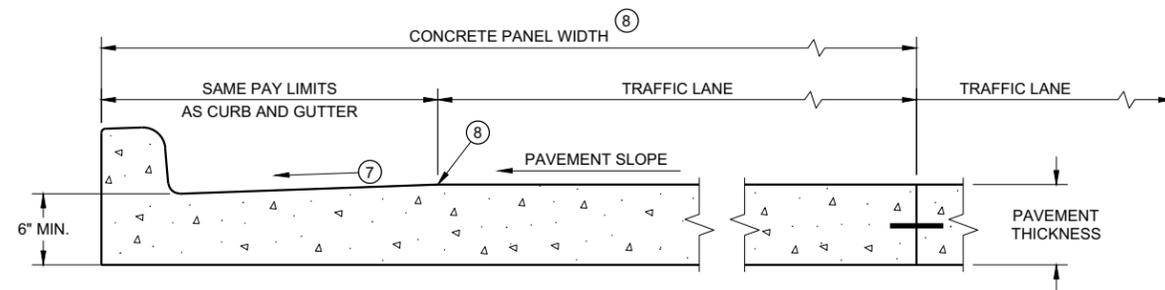
TBT & TBTT	X
30"	22"
36"	28"



TYPES TBT & TBTT¹
CONCRETE CURB AND GUTTER

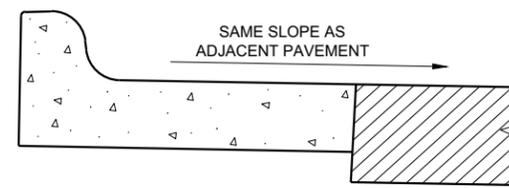
PAVEMENT THICKNESS
AND MAXIMUM CONCRETE
PANEL WIDTH TABLE

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 GUTTER⁶
(TYPICAL FOR ALL CURB & GUTTER TYPES)

GENERAL NOTES

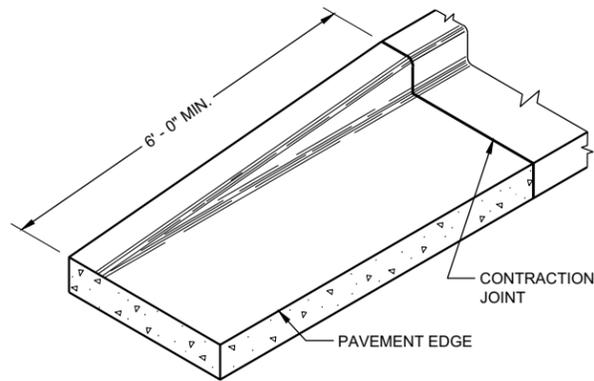
DETAILS OF CONSTRUCTION AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

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

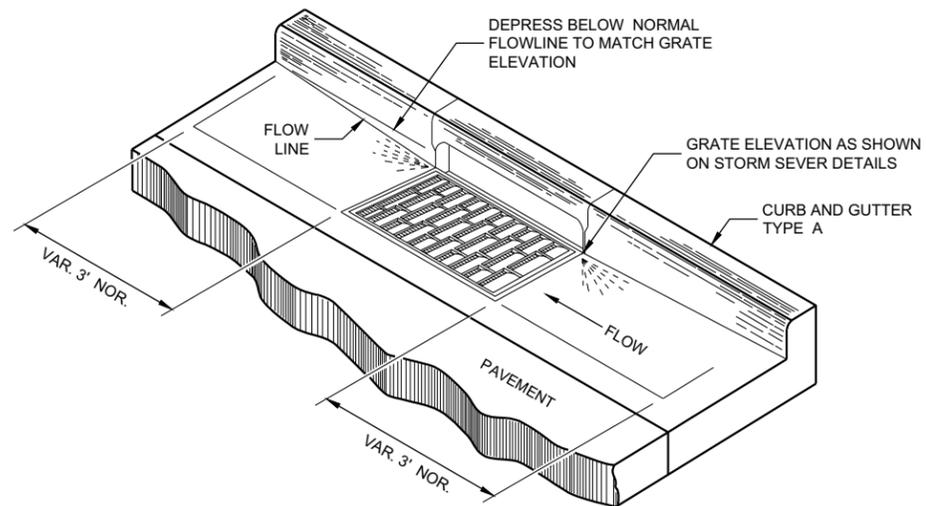
INTEGRAL CURB AND GUTTER SHALL CONFORM TO THE DETAILS SHOWN FOR CONCRETE CURB AND GUTTER INCLUDING THE TRANSVERSE GUTTER SLOPE.

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

- ① TIE BARS ARE REQUIRED FOR CURB AND GUTTERS TYPES A, G, K, R, AND TBTT.
- ② THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.
- ③ USE 8" MINIMUM GUTTER THICKNESS WHEN USED WITH AN ADJACENT CONCRETE TRUCK APRON PLACED BEHIND BACK OF CURB.
- ④ THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 8" MINIMUM GUTTER THICKNESS IS MAINTAINED.
- ⑤ UNLESS OTHERWISE NOTED, FOR STAKING PURPOSES THE FACE OF CURB IS 6" FROM THE BACK OF CURB.
- ⑥ WHEN REVERSE SLOPE GUTTER IS REQUIRED, THE LOCATION(S) WILL BE SHOWN ELSEWHERE IN THE PLAN.
- ⑦ USE 4% GUTTER CROSS SLOPE UNLESS OTHERWISE NOTED IN THE PLANS.
- ⑧ INCLUDE LONGITUDINAL JOINT AND TIE BARS ALONG LANE EDGE WHEN CONCRETE PANEL WIDTH EXCEEDS THE MAXIMUM WIDTH PER TABLE BELOW. LONGITUDINAL JOINT(S) ARE NOT ALLOWED WITHIN TRAFFIC LANES AND BIKE LANES. LONGITUDINAL JOINT MAY BE SAWED.
- ⑨ CONCRETE CURB AND GUTTER 4-INCH SLOPED 30-INCH TYPE "R" AND "T" = 17 INCHES
CONCRETE CURB AND GUTTER 4-INCH SLOPED 36-INCH TYPE "R" AND "T" = 23 INCHES



END SECTION CURB AND GUTTER



DETAIL OF CURB AND GUTTER AT INLETS
(TYPICAL H INLET COVER SHOWN)

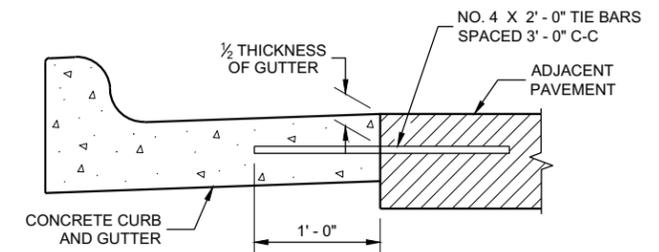
GENERAL NOTES

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

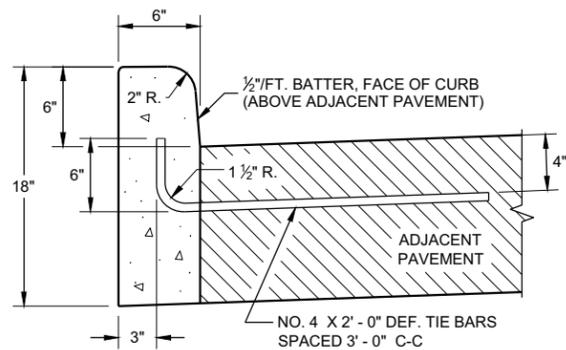
PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

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

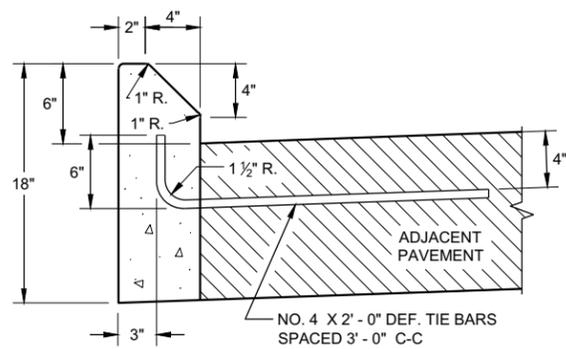
- ① TIE BARS ARE REQUIRED FOR CURB AND GUTTERS TYPES A, G, K, R, AND TBTT.
- ② THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.
- ⑨ REFER TO SDD 08D18 AND 08D19 FOR ADDITIONAL DRIVEWAY ENTRANCE CURB DETAILS.



TYPICAL TIE BAR LOCATION ①

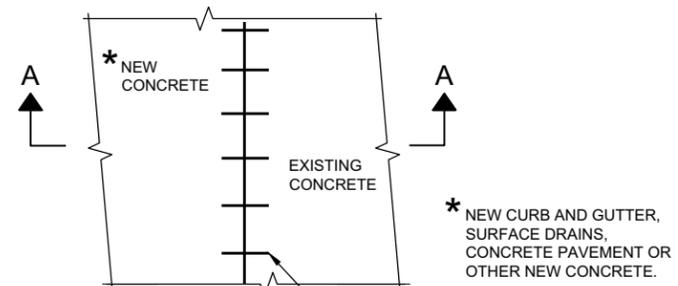


TYPES A ① & D

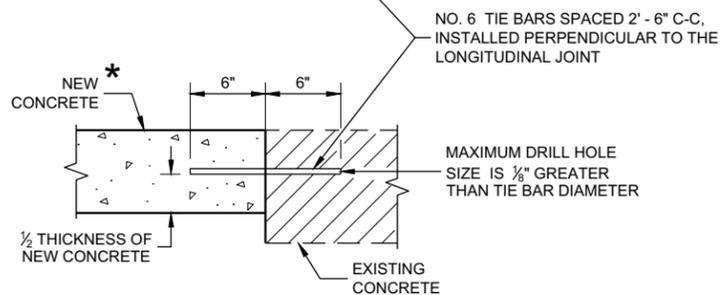


TYPES G ① & J

CONCRETE CURB

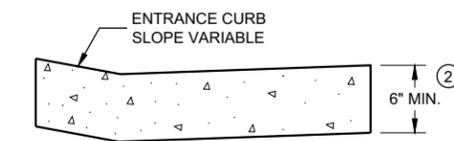


PLAN VIEW



SECTION A - A

TIE BARS DRILLED INTO EXISTING PAVEMENT



DRIVEWAY ENTRANCE CURB ⑨
(WHEN DIRECTED BY THE ENGINEER)

CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2021 /S/ Rodney Taylor
DATE ROADWAY STANDARDS DEVELOPMENT ENGINEER

FHWA

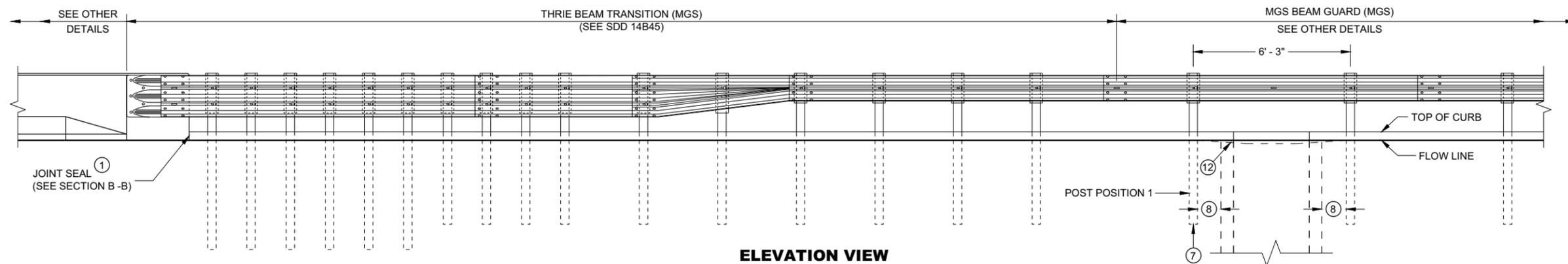
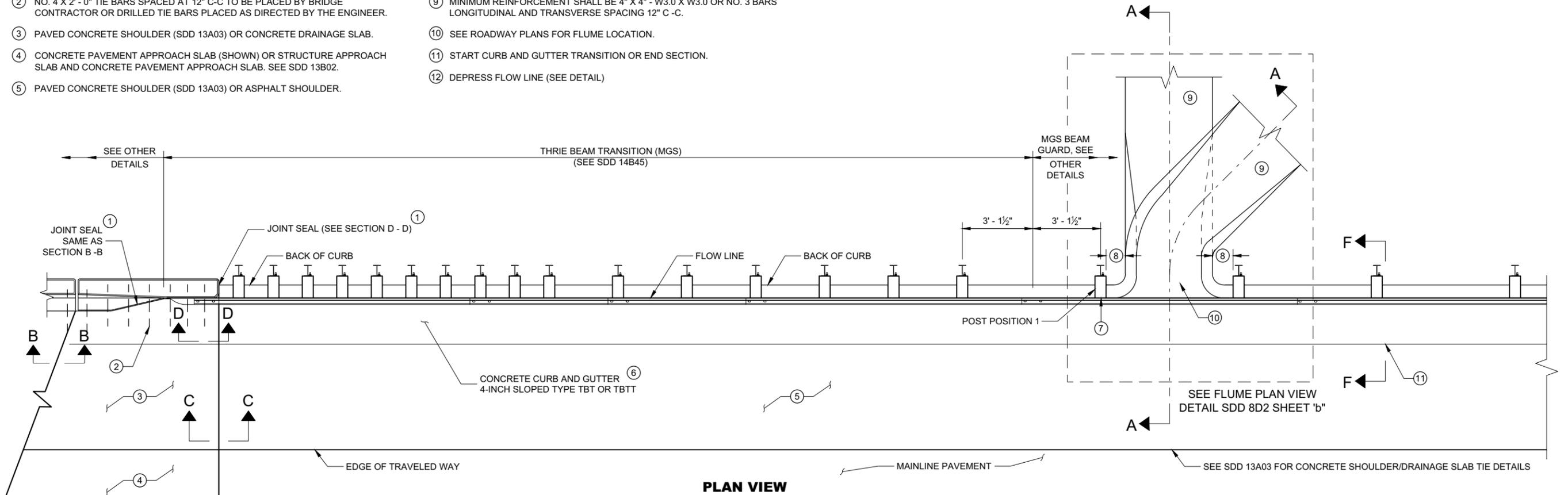
GENERAL NOTES

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.

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)



**CONCRETE SURFACE
DRAINS FLUME TYPE
AT STRUCTURES**

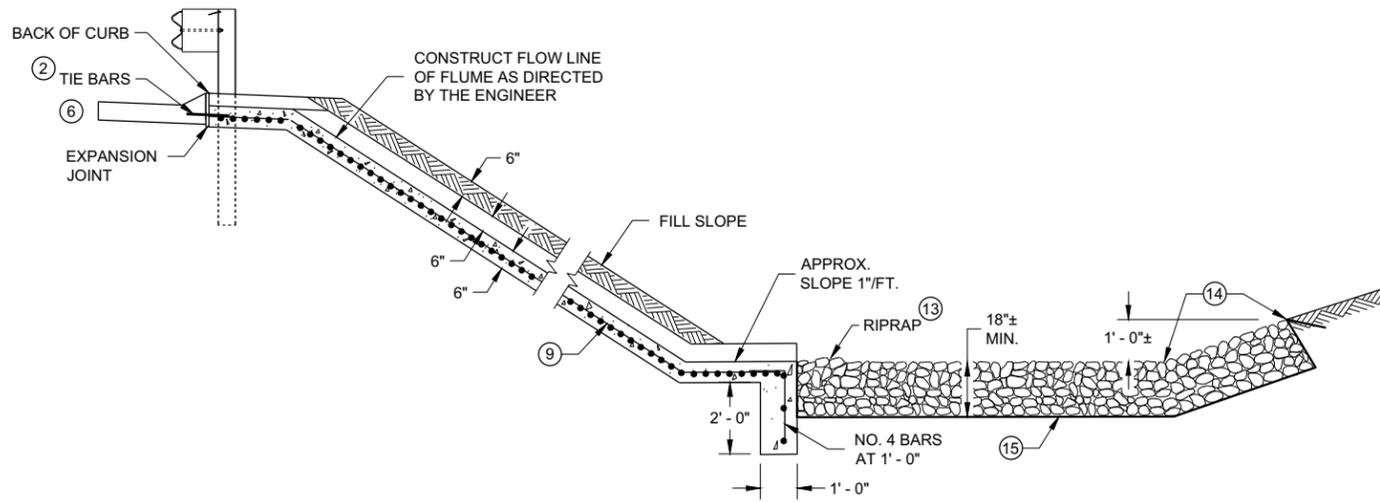
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

SDD 08D02 - 07a

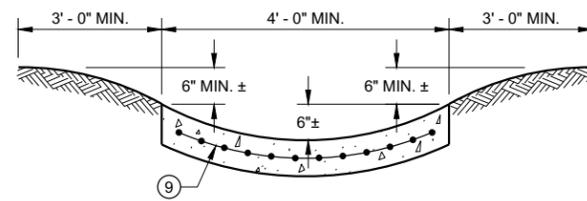
SDD 08D02 - 07a

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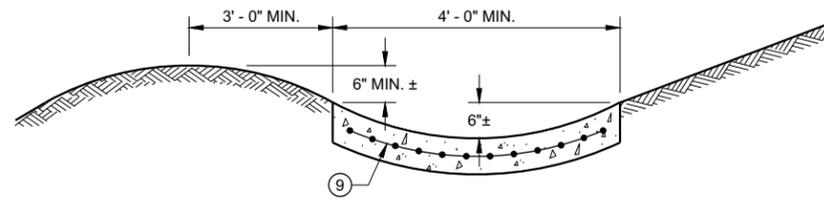
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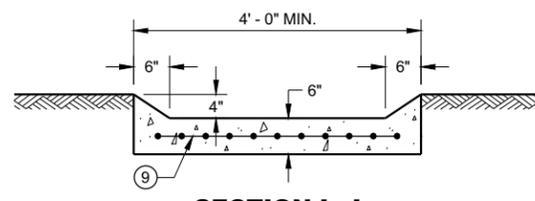
SECTION A - A



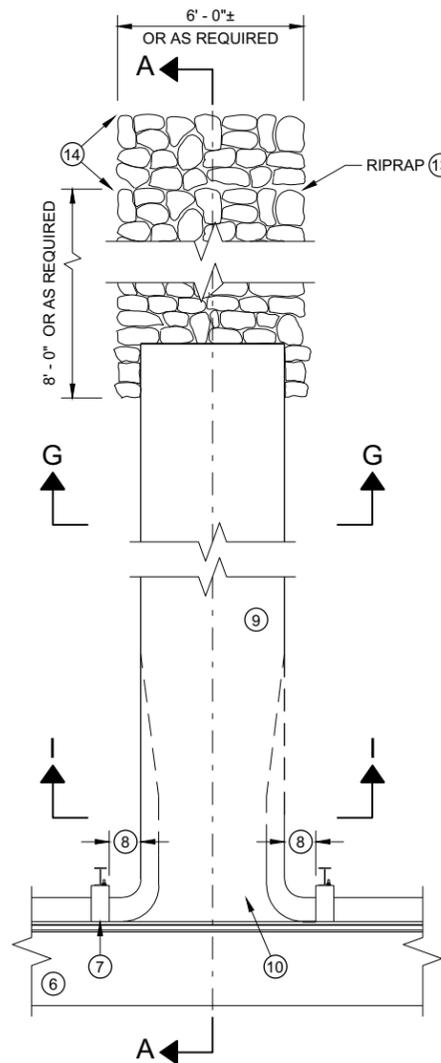
SECTION G - G



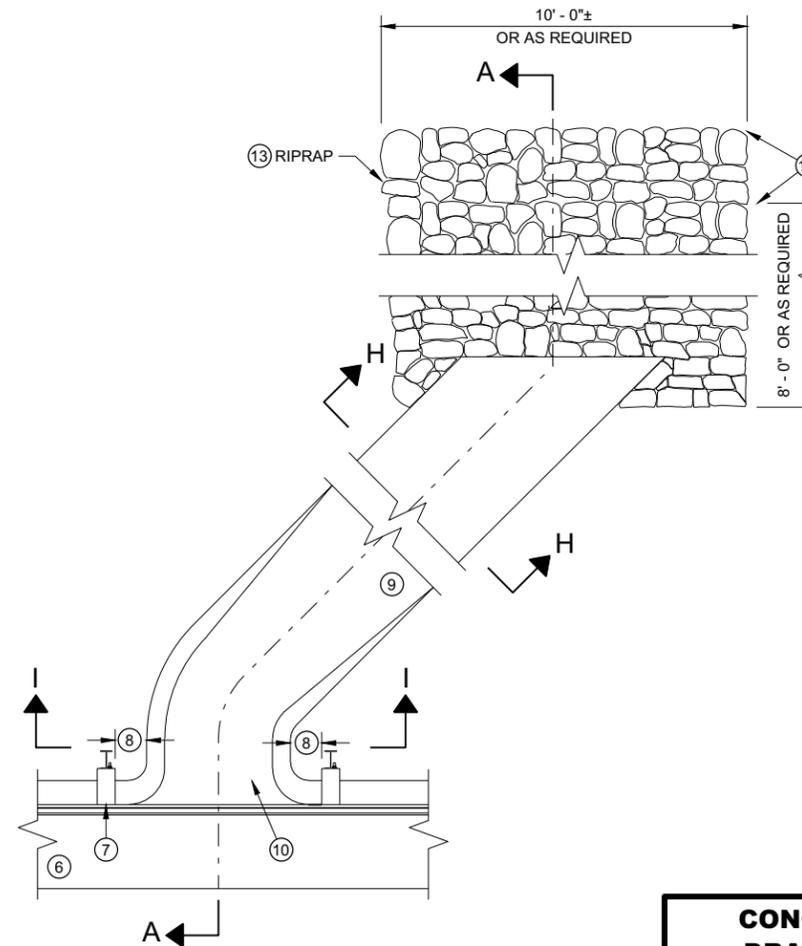
SECTION H - H



SECTION I - I



PLAN VIEW PERPENDICULAR FLUME



PLAN 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.

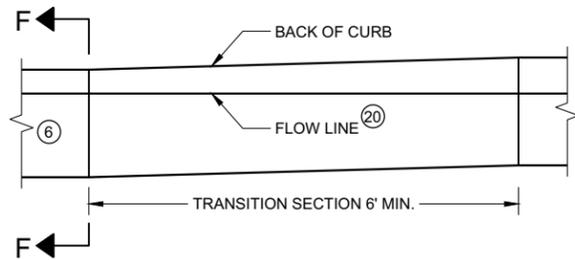
ALL STEEL REINFORCEMENT SHALL BE EMBEDDED 2 INCHES CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

- 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 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.

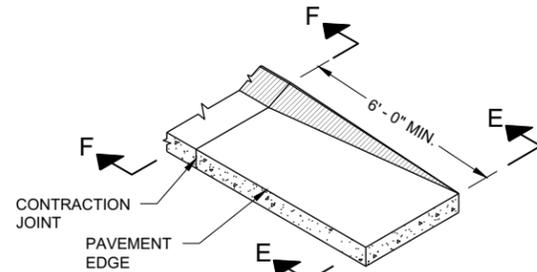
- ⑦ PLACE FLUME BEFORE MSG THRIE BEAM TRANSITION POST 1 (SEE SDD 14B45)
- ⑧ CENTER FLUME BETWEEN POSTS. 6-INCH MINIMUM SEPARATION FROM OUTSIDE EDGE OF FLUME TO POSTS.
- ⑨ MINIMUM REINFORCEMENT SHALL BE 4" X 4" - W3.0 X W3.0 OR NO. 3 BARS LONGITUDINAL AND TRANSVERSE SPACING 12" C -C.
- ⑩ SEE ROADWAY PLANS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

**CONCRETE SURFACE
DRAINS FLUME TYPE
AT STRUCTURES**

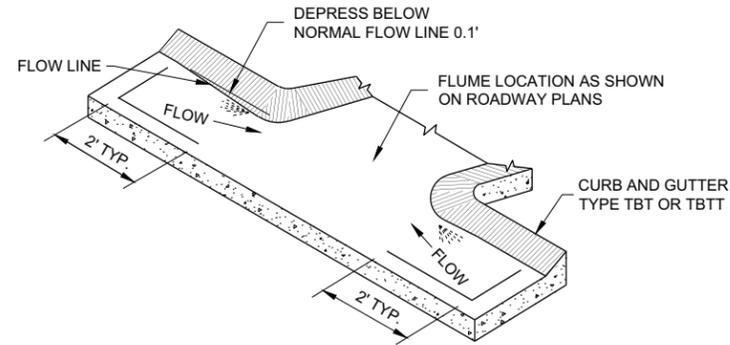
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



**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**



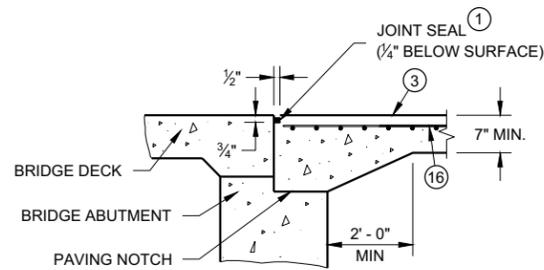
**CURB AND GUTTER FLOW LINE DEPRESSION
AT FLUMES CONCRETE CURB AND GUTTER
4-INCH SLOPED 36 INCH TYPE TBT OR TBTT**

GENERAL NOTES

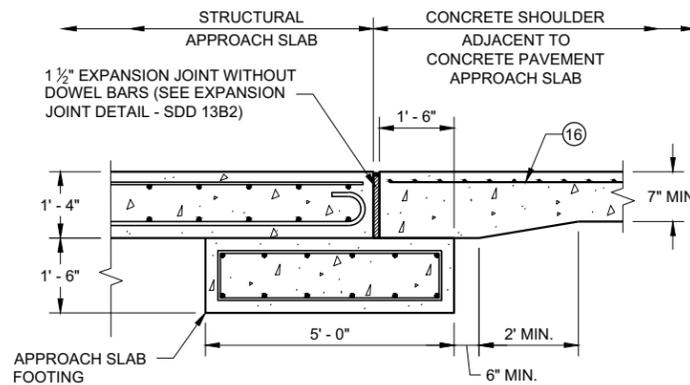
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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

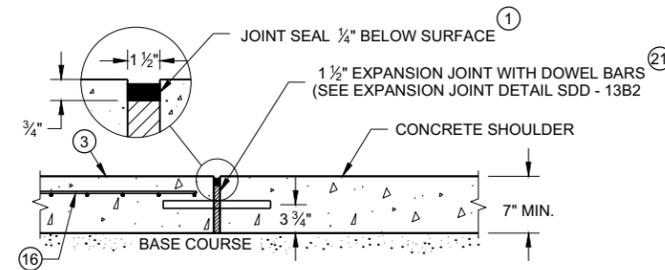
- ① USE A JOINT SEALANT CONFORMING TO STANDARD SPECIFICATION 415.2.6.
- ② NO. 4 X 2' - 0" TIE BARS SPACED AT 12" C-C TO BE PLACED BY BRIDGE CONTRACTOR OR DRILLED TIE BARS PLACED AS DIRECTED BY THE ENGINEER.
- ③ PAVED CONCRETE SHOULDER (SDD 13A03) OR CONCRETE DRAINAGE SLAB.
- ④ CONCRETE PAVEMENT APPROACH 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 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 IS REQUIRED.
- ⑮ GEOTEXTILE FABRIC TYPE HR.
- ⑯ MINIMUM REINFORCEMENT SHALL BE 6" X 6" - W4.0 X W4.0 OR NO. 3 BARS LONGITUDINAL AND TRANSVERSE SPACING 12" C-C.
- ⑰ MSG THRIE BEAM TRANSITION POST 1. SEE SDD 14B45 FOR ADDITIONAL CONSTRUCTION DETAILS AND ACCEPTABLE MATERIALS.
- ⑱ MAINTAIN WIDTH, THICKNESS AND CROSS SLOPE OF ADJACENT TYPE TBT OR TBTT CURB. SEE NOTE 6 FOR TIE BAR SPACING.
- ⑲ ALIGN FACE OF POST BLOCK WITH FLOW LINE.
- ⑳ MAINTAIN FLOW LINE AT EDGE OF PAVEMENT/FACE OF BEAM GUARD AS APPLICABLE.
- ㉑ DO NOT CONSTRUCT AN EXPANSION JOINT OR INSTALL DOWEL BARS WHEN ABUTTING HMA PAVEMENTS.



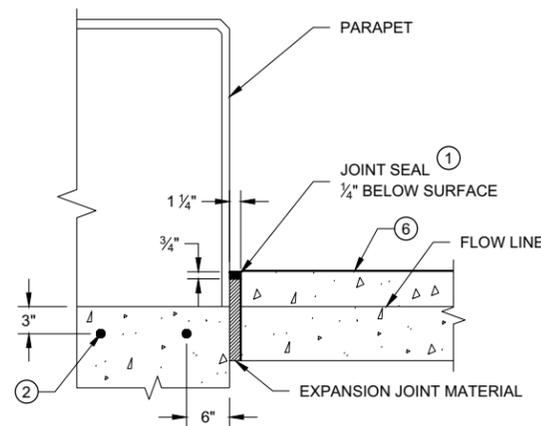
SECTION B-B



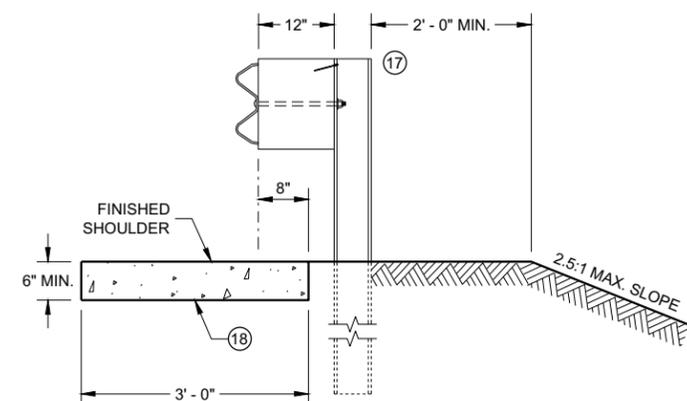
**SECTION C - C
JOINT DETAIL FOR BRIDGE WITH STRUCTURAL
APPROACH SLAB AND CONCRETE APPROACH SLAB**



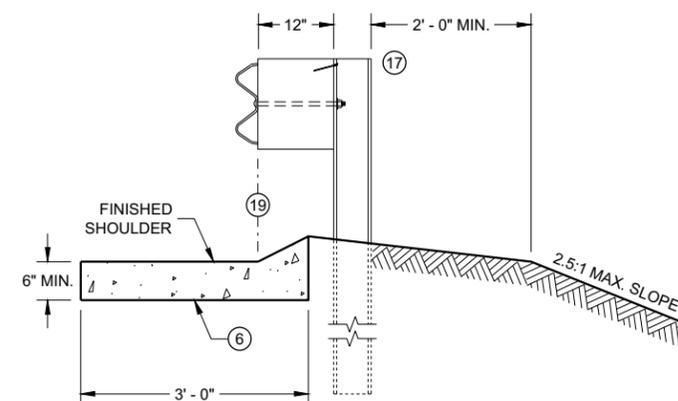
**SECTION C - C
JOINT DETAIL FOR BRIDGE APPROACH
WITH CONCRETE SHOULDERS**



SECTION D - D



SECTION E - E



SECTION F - F

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SDD08D02 - 07C

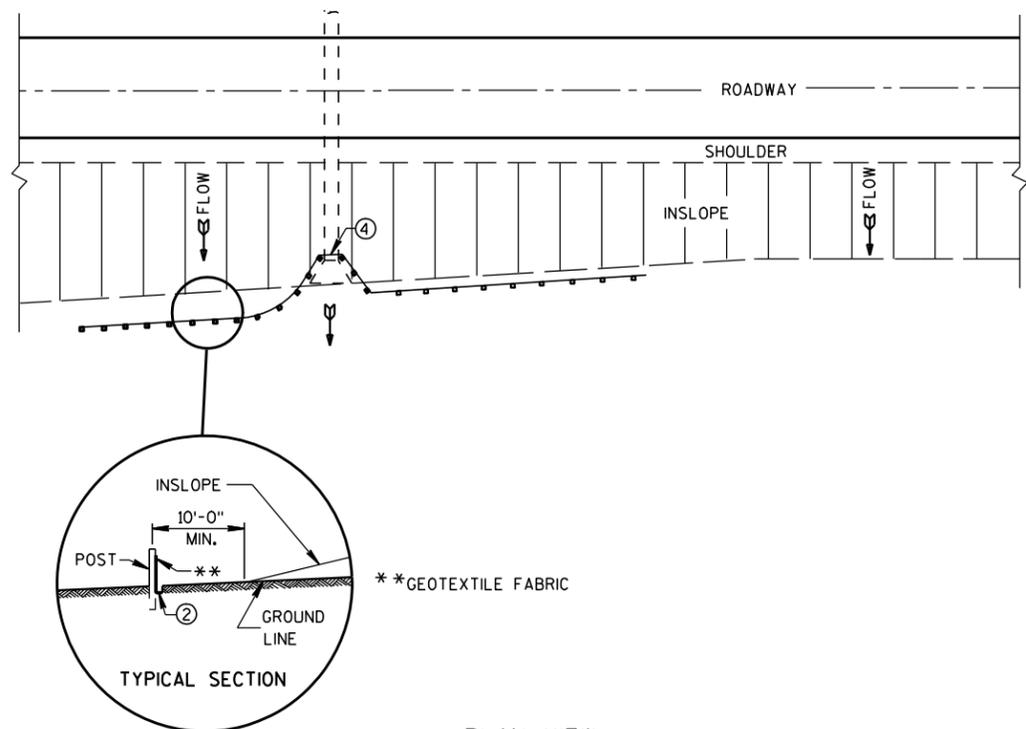
SDD08D02 - 07C

**CONCRETE SURFACE
DRAINS FLUME TYPE
AT STRUCTURES**

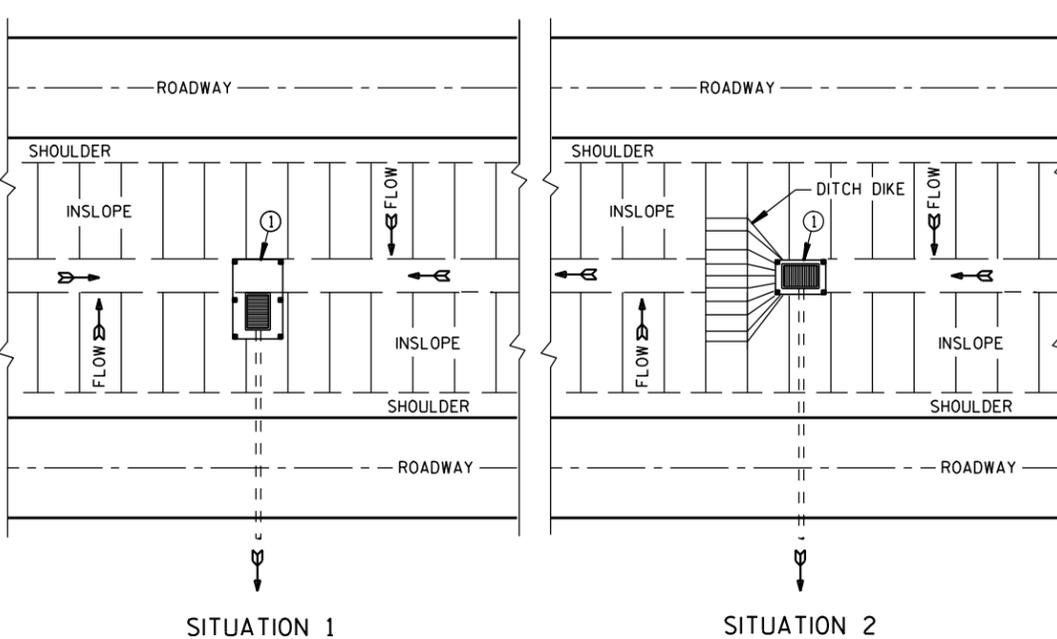
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2020 /S/ Rodney Taylor
DATE ROADWAY STANDARDS DEVELOPMENT
ENGINEER

FHWA



PLAN VIEW
TYPICAL APPLICATION OF SILT FENCE

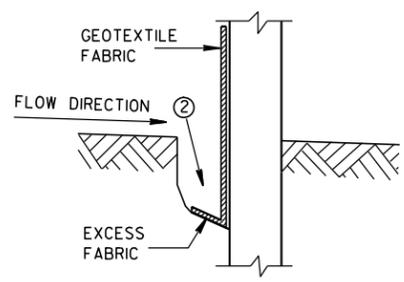


SITUATION 1 SITUATION 2
PLAN VIEW
SILT FENCE AT MEDIAN SURFACE DRAINS

GENERAL NOTES

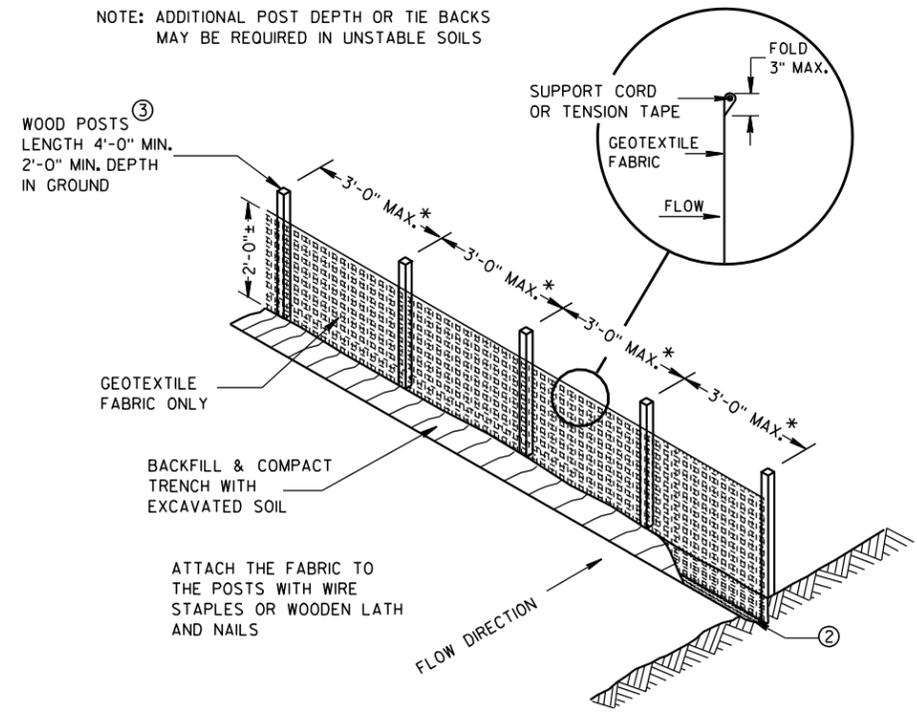
DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

- ① HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
- ② FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
- ③ WOOD POSTS SHALL BE A MINIMUM SIZE OF 1 1/8" X 1 1/8" OF OAK OR HICKORY.
- ④ SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.
- ⑤ CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.



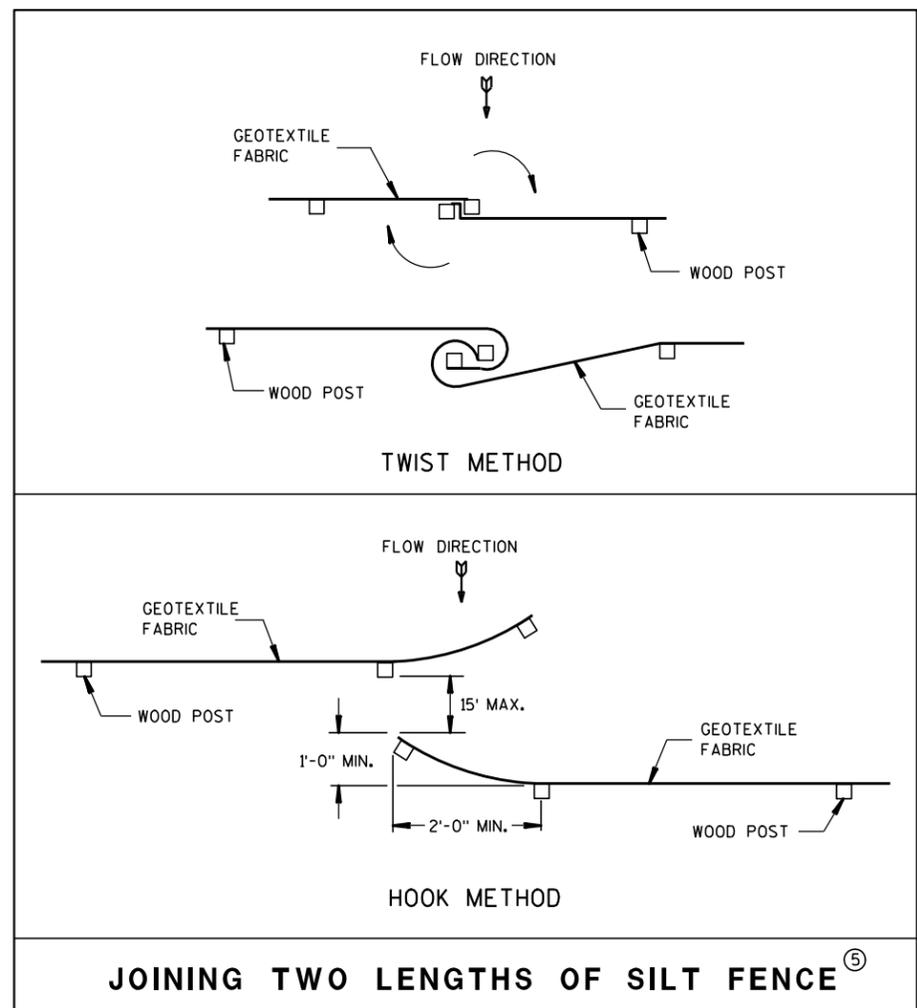
TRENCH DETAIL

NOTE: ADDITIONAL POST DEPTH OR TIE BACKS MAY BE REQUIRED IN UNSTABLE SOILS

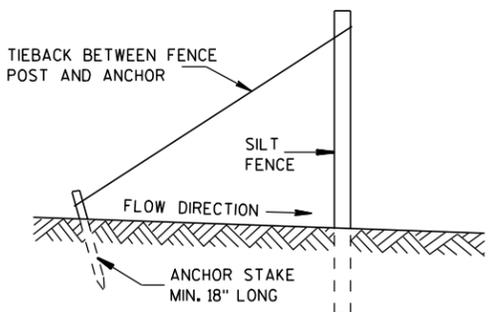


SILT FENCE

* NOTE: 8'-0" POST SPACING ALLOWED IF A WOVEN GEOTEXTILE FABRIC IS USED.

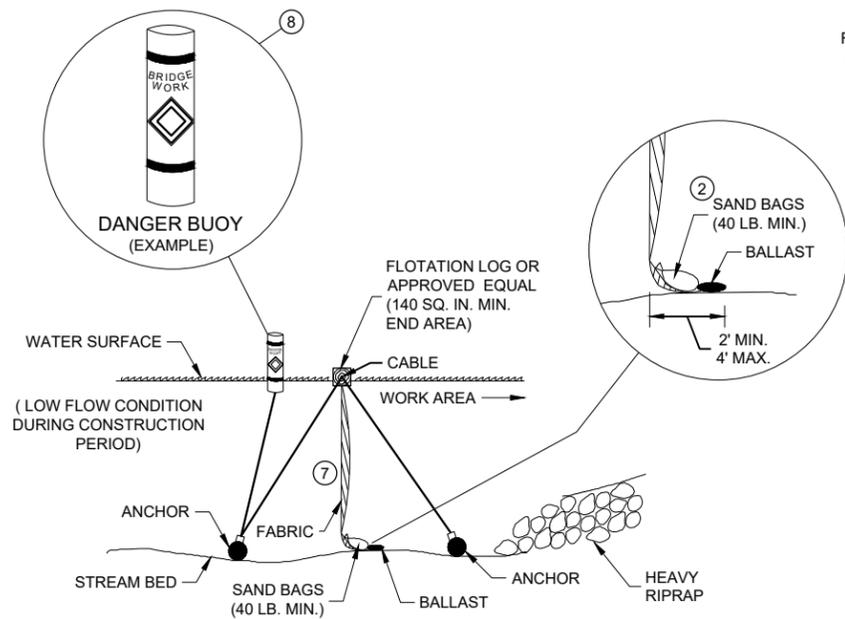


JOINING TWO LENGTHS OF SILT FENCE ⑤



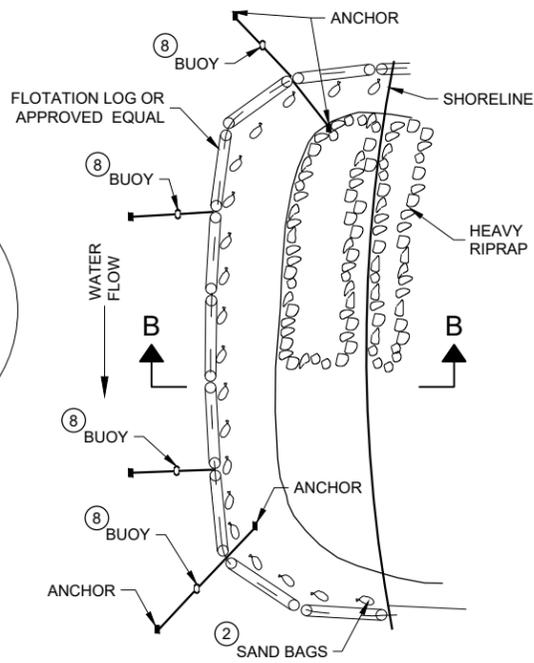
SILT FENCE TIE BACK
(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 4-29-05 DATE	/S/ Beth Canestra CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA	

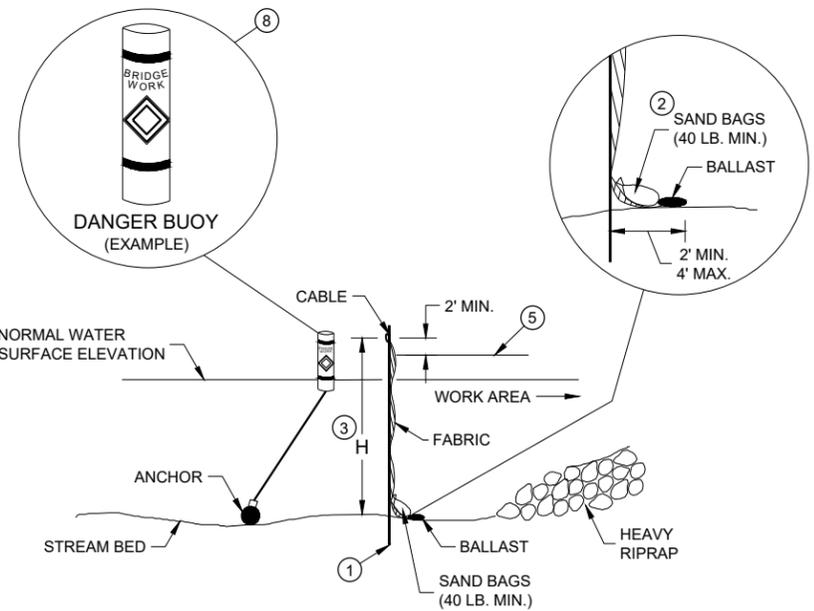


SECTION B - B

**TURBIDITY BARRIER - FLOAT ALTERNATIVE
CAUTION - SEE NOTE 6**

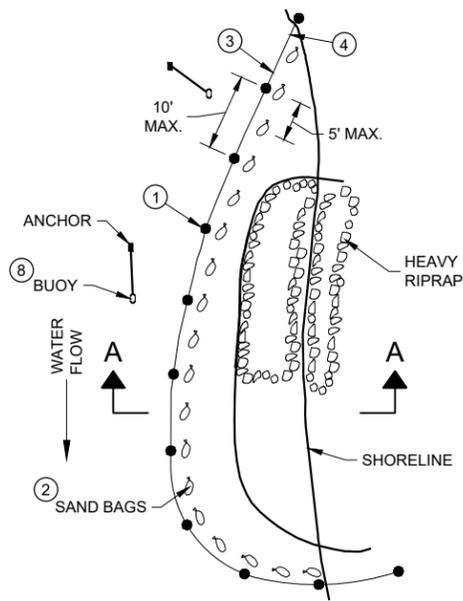


PLAN VIEW



SECTION A - A

TURBIDITY BARRIER - STANDARD POST INSTALLATION



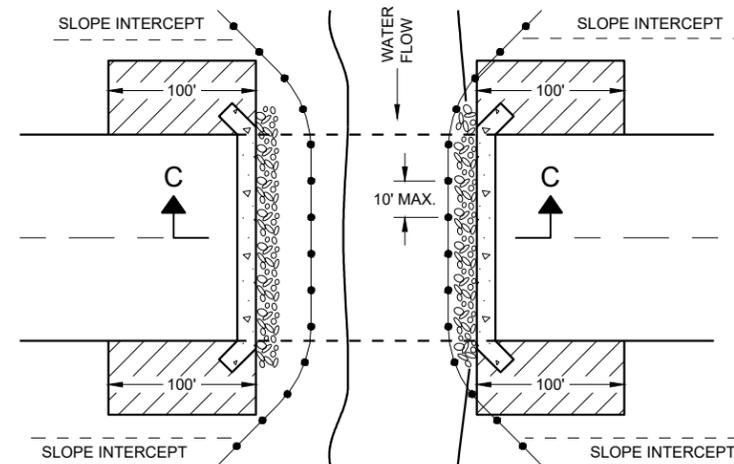
PLAN VIEW

GENERAL NOTES

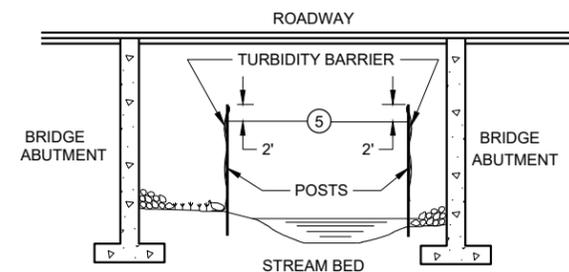
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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

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



PLAN VIEW



SECTION C - C

**TURBIDITY BARRIER DETAIL SHOWING
TYPICAL PLACEMENT AT STRUCTURES**

TURBIDITY BARRIER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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.

TRACKING PAD SHALL BE INSPECTED DAILY. DEFICIENT AREAS SHALL BE REPAIRED OR REPLACED IMMEDIATELY.

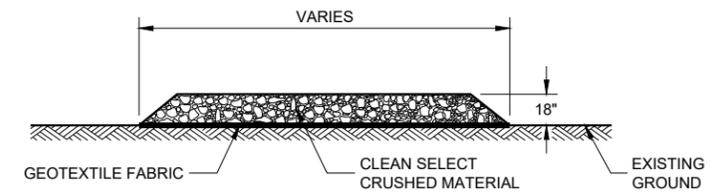
TRACKING PAD TO BE REMOVED AFTER CONSTRUCTION IS COMPLETED.

TRACKING PAD SHALL BE THE FULL WIDTH OF THE EGRESS POINT.

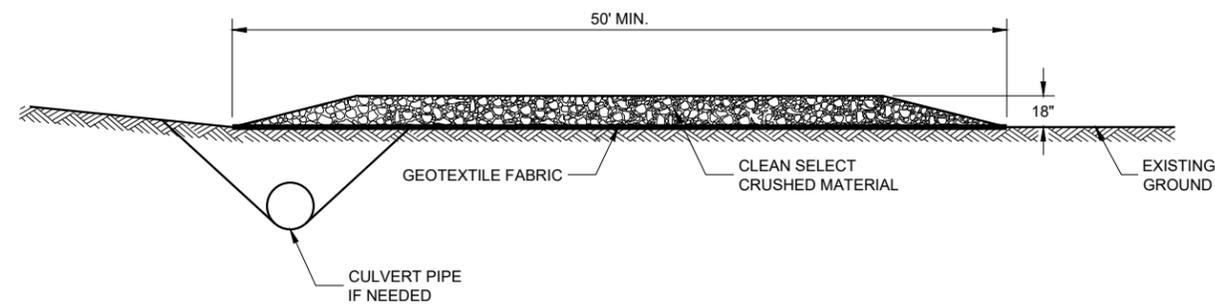
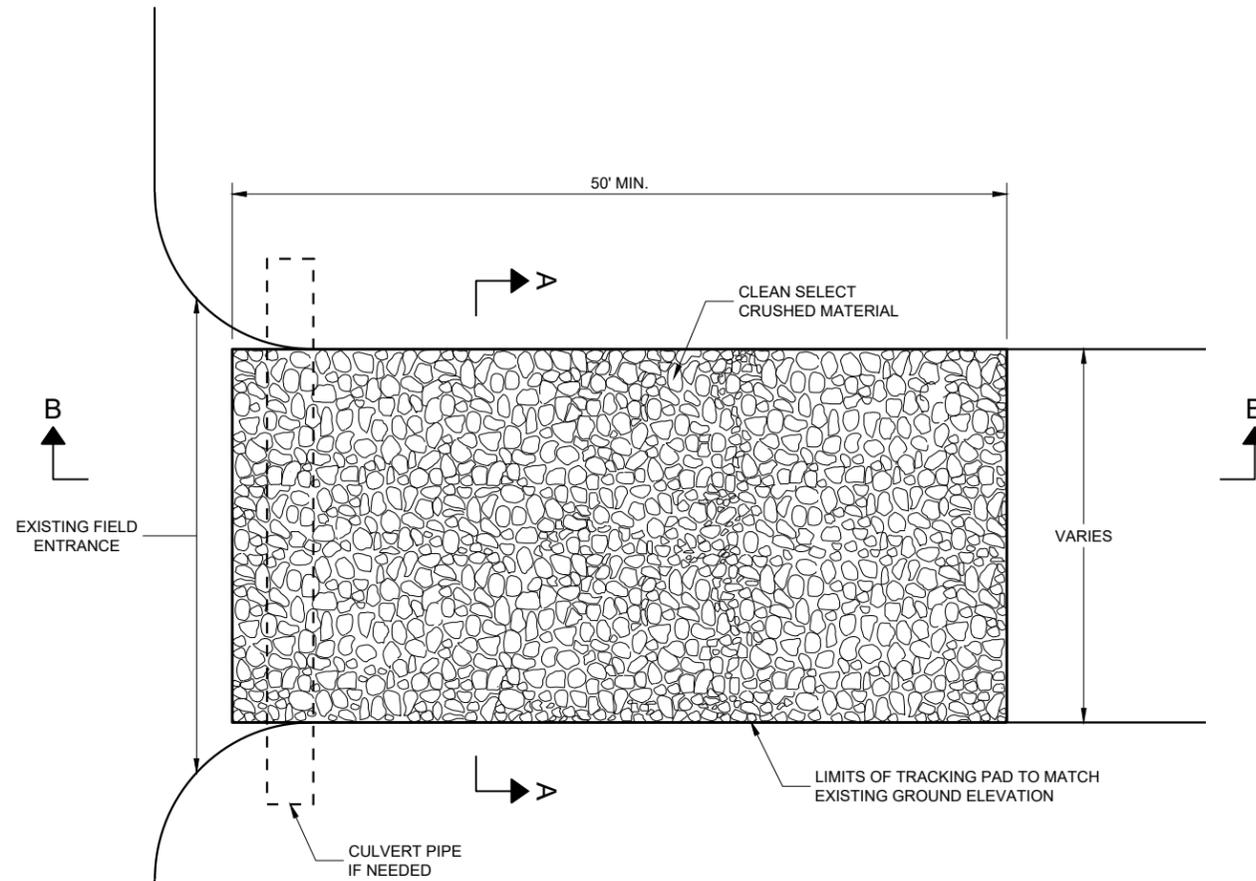
SURFACE WATER MUST BE PREVENTED FROM PASSING THROUGH THE TRACKING PAD. FLOWS SHALL BE DIVERTED AWAY, AROUND OR CONVEYED UNDER THE TRACKING PAD.

CULVERT PIPE OR OTHER BMP USED TO DIVERT WATER AWAY, AROUND OR UNDER THE TRACKING PAD SHALL BE DESIGNED TO CONVEY THE 2 YEAR - 24 HOUR EVENT.

THE COST OF ADDITIONAL BMP TO DIVERT WATER ARE INCIDENTAL TO THE TRACKING PAD BID ITEM.



SECTION A - A



SECTION B - B

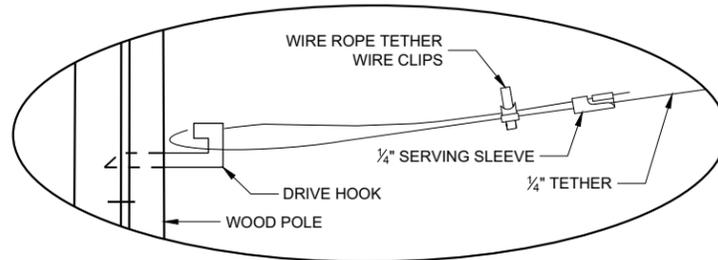
TRACKING PAD

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
3/24/2011 /S/ Jerry H. Zogg
DATE ROADWAY STANDARDS DEVELOPMENT
ENGINEER

FHWA

MINIMUM POLE LENGTHS	POLE BURIAL DEPTHS
25'	5'
30'	6'
35'	7'
40'	8'
45'	9'

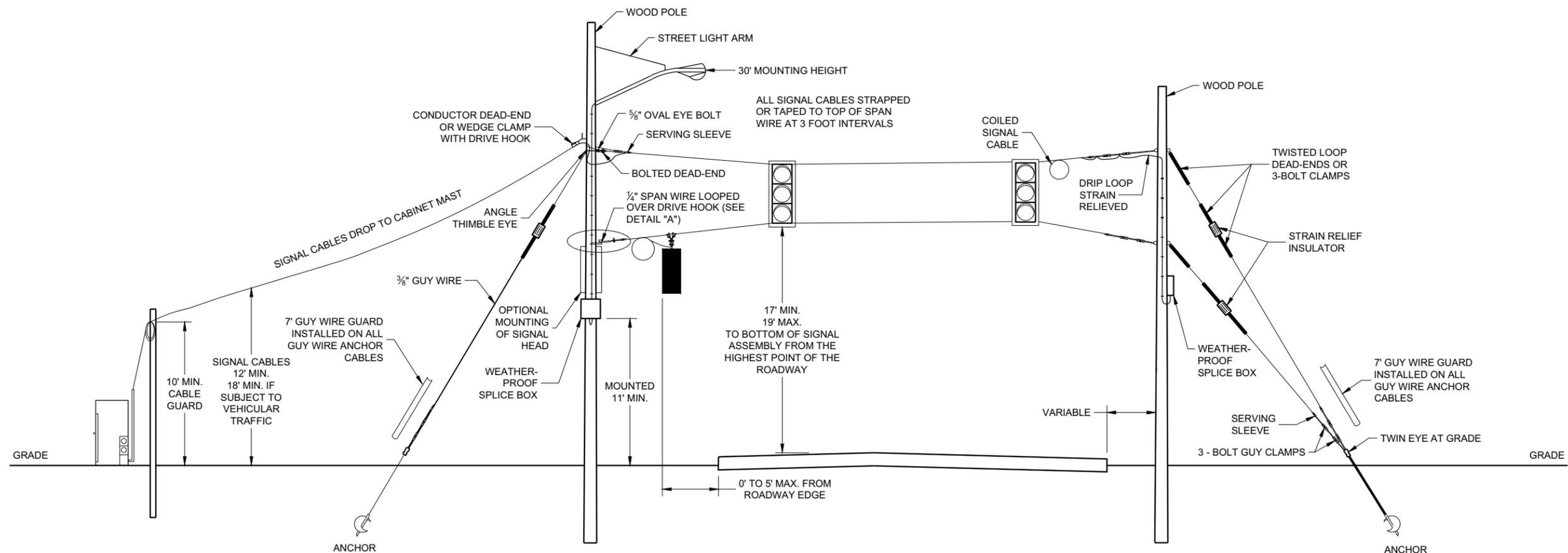


DETAIL "A"

GENERAL NOTES

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

- WOOD POLES SHALL BE CLASS 4. LENGTH DETERMINED BY SIGNAL PLAN.
- SIGNAL FACES:
 - ALL SECTIONS SHALL BE 12" AND POLYCARBONATE.
 - EACH SHALL CONTAIN A 5" WIDE DULL BLACK POLYCARBONATE BACKPLATE.
 - EACH SHALL BE WIRED FROM THE TOP SIGNAL MOUNTING BRACKET.
 - NEAR RIGHT SIGNAL FACE SUSPENDED ON THE TETHER (NO BACKPLATE) SHALL NOT BE OVER THE TRAVELED WAY. IF THE POLE IS WITHIN 5 FEET OF THE TRAVELED WAY MOUNT THE SIGNAL FACE ON THE WOOD POLE WITH BACKPLATE.
- SPAN WIRE:
 - EACH SPAN WIRE SHALL BE INDIVIDUALLY DOWN GUYED
 - SIGNAL AND LIGHTING CABLES SHALL ONLY BE ATTACHED TO THE UPPER SPAN WIRE.
 - THE SIGNAL ASSEMBLY SHALL HAVE A 17' MIN. HEIGHT ABOVE THE ROADWAY. THIS SHALL BE MEASURED AFTER THE SPAN WIRE INSTALLATION IS COMPLETED WITH ALL CABLES AND SIGNAL FACES IN PLACE. MAINTAIN MINIMUM AND MAXIMUM HEIGHTS AS ROADWAY WORK PROGRESSES.



SPAN WIRE TEMPORARY SIGNALS

SPAN WIRE TEMPORARY TRAFFIC SIGNAL	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED June 2015 DATE	/s/ Ahmet Demerbilek STATE ELECTRICAL ENGINEER
<small>FHWA</small>	

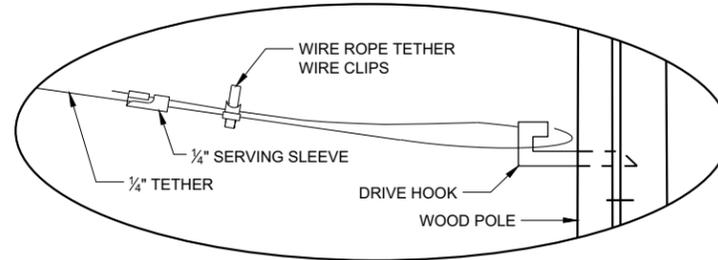
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SDD09G01 - 04a

SDD09G01 - 04a

MINIMUM POLE LENGTHS	CLASS	POLE BURIAL DEPTHS
25'	V	5'
30'	V	6'
35'	IV	7'
40'	IV	8'
45'	IV	9'

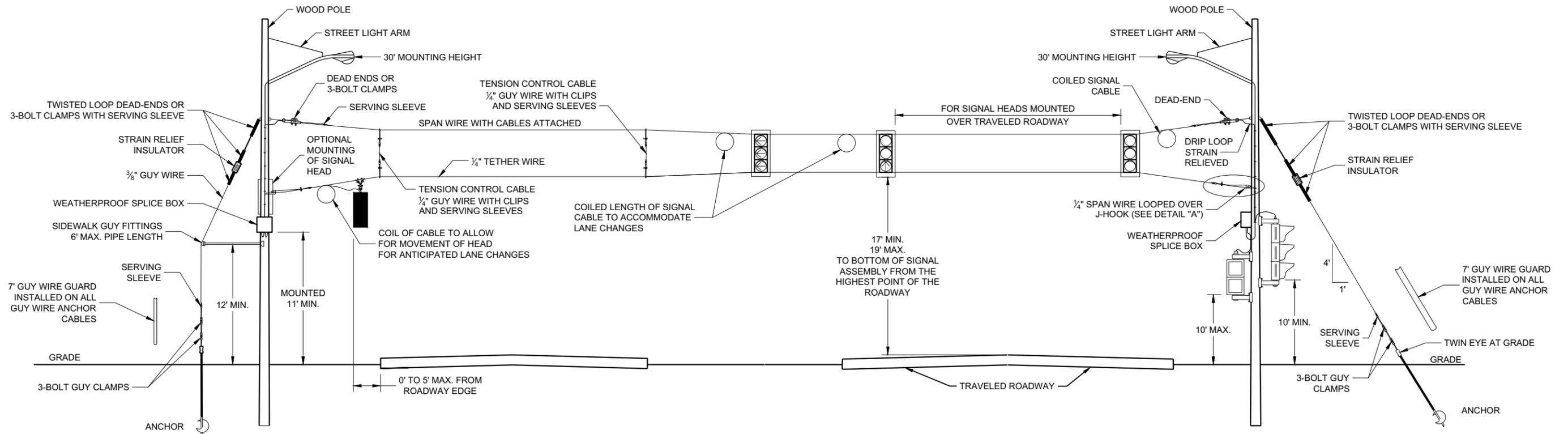


DETAIL "A"

GENERAL NOTES

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

1. WOOD POLES SHALL BE CLASS 4. LENGTH DETERMINED BY SIGNAL PLAN.
2. SIGNAL FACES:
 - A. ALL SECTIONS SHALL BE 12" AND POLYCARBONATE.
 - B. EACH SHALL CONTAIN A 5" WIDE DULL BLACK POLYCARBONATE BACKPLATE.
 - C. EACH SHALL BE WIRED FROM THE TOP SIGNAL MOUNTING BRACKET.
 - D. NEAR RIGHT SIGNAL FACE SUSPENDED ON THE TETHER (NO BACKPLATE) SHALL NOT BE OVER THE TRAVELED WAY. IF THE POLE IS WITHIN 5 FEET OF THE TRAVELED WAY MOUNT THE SIGNAL FACE ON THE WOOD POLE WITH BACKPLATE.
 - E. FAR INDICATION SHALL BE MAINTAINED OVER CENTER OF TRAFFIC LANE.
3. SPAN WIRE:
 - A. EACH SPAN WIRE SHALL BE INDIVIDUALLY DOWN GUYED
 - B. SIGNAL AND LIGHTING CABLES SHALL ONLY BE ATTACHED TO THE UPPER SPAN WIRE.
 - C. THE SIGNAL ASSEMBLY SHALL HAVE A 17' MIN. HEIGHT ABOVE THE ROADWAY. THIS SHALL BE MEASURED AFTER THE SPAN WIRE INSTALLATION IS COMPLETED WITH ALL CABLES AND SIGNAL FACES IN PLACE. MAINTAIN MINIMUM AND MAXIMUM HEIGHTS AS ROADWAY WORK PROGRESSES.



**SPAN WIRE
TEMPORARY SIGNALS
4 LANE ROADWAYS**

**SPAN WIRE TEMPORARY
TRAFFIC SIGNAL**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

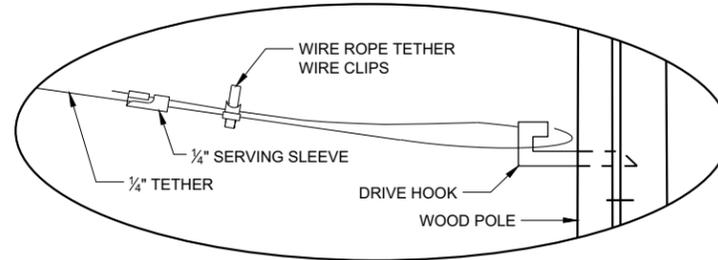
APPROVED
June 2015 /S/ Ahmet Demerbilek
DATE STATE ELECTRICAL ENGINEER

FHWA

SDD09G01 - 04b

SDD09G01 - 04b

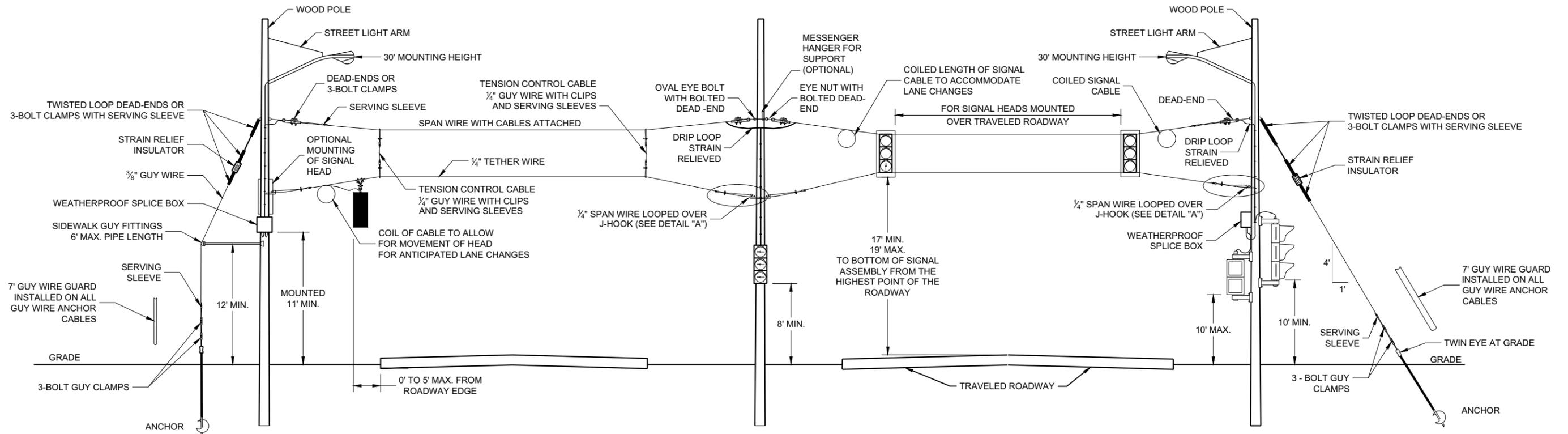
MINIMUM POLE LENGTHS	CLASS	POLE BURIAL DEPTHS
25'	V	5'
30'	V	6'
35'	IV	7'
40'	IV	8'
45'	IV	9'



DETAIL "A"

GENERAL NOTES

- DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.
- WOOD POLES SHALL BE CLASS 4. LENGTH DETERMINED BY SIGNAL PLAN.
 - SIGNAL FACES:
 - ALL SECTIONS SHALL BE 12" AND POLYCARBONATE.
 - EACH SHALL CONTAIN A 5" WIDE DULL BLACK POLYCARBONATE BACKPLATE.
 - EACH SHALL BE WIRED FROM THE TOP SIGNAL MOUNTING BRACKET.
 - NEAR RIGHT SIGNAL FACE SUSPENDED ON THE TETHER (NO BACKPLATE) SHALL NOT BE OVER THE TRAVELED WAY. IF THE POLE IS WITHIN 5 FEET OF THE TRAVELED WAY MOUNT THE SIGNAL FACE ON THE WOOD POLE WITH BACKPLATE.
 - FAR INDICATION SHALL BE MAINTAINED OVER CENTER OF TRAFFIC LANE.
 - SPAN WIRE:
 - EACH SPAN WIRE SHALL BE INDIVIDUALLY DOWN GUYED
 - SIGNAL AND LIGHTING CABLES SHALL ONLY BE ATTACHED TO THE UPPER SPAN WIRE.
 - THE SIGNAL ASSEMBLY SHALL HAVE A 17' MIN. HEIGHT ABOVE THE ROADWAY. THIS SHALL BE MEASURED AFTER THE SPAN WIRE INSTALLATION IS COMPLETED WITH ALL CABLES AND SIGNAL FACES IN PLACE. MAINTAIN MINIMUM AND MAXIMUM HEIGHTS AS ROADWAY WORK PROGRESSES.



**SPAN WIRE
TEMPORARY SIGNALS
4 LANE ROADWAYS**

**SPAN WIRE TEMPORARY
TRAFFIC SIGNAL**

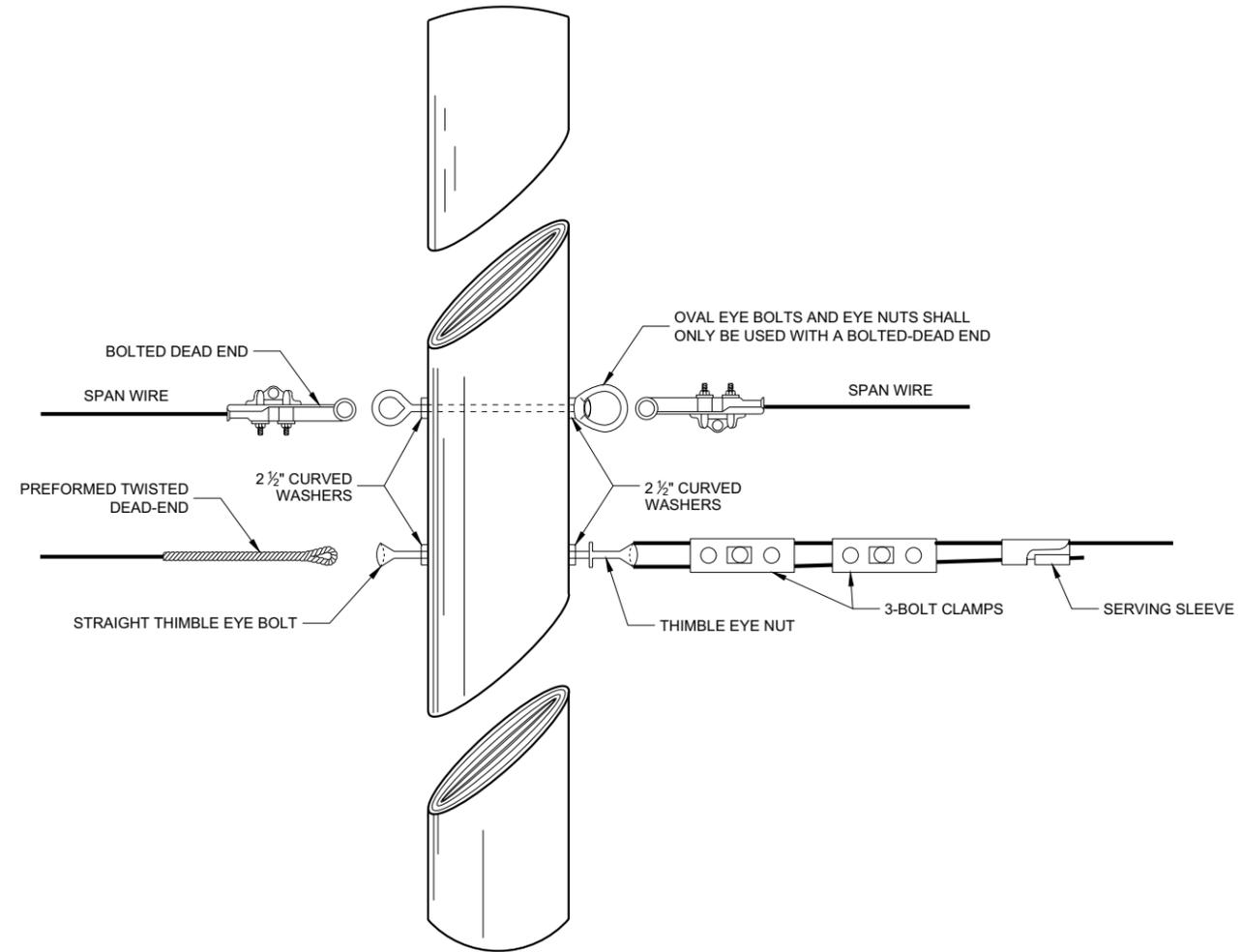
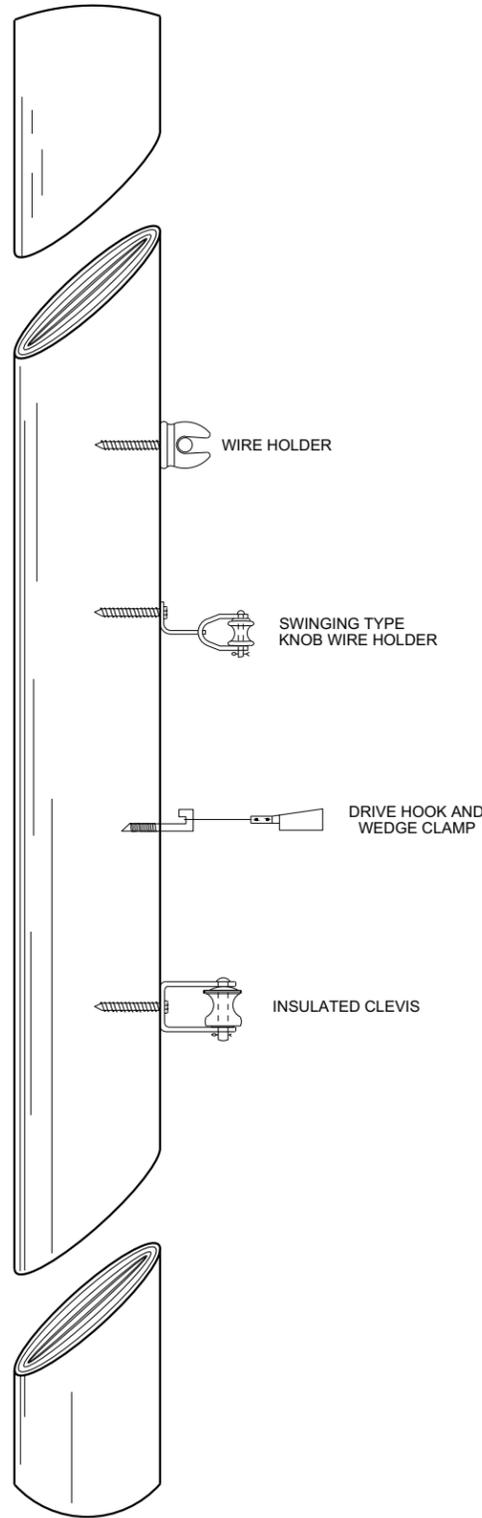
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2015 /S/ Ahmet Demerbilek
DATE STATE ELECTRICAL ENGINEER

FHWA

SDD09G01 - 04c

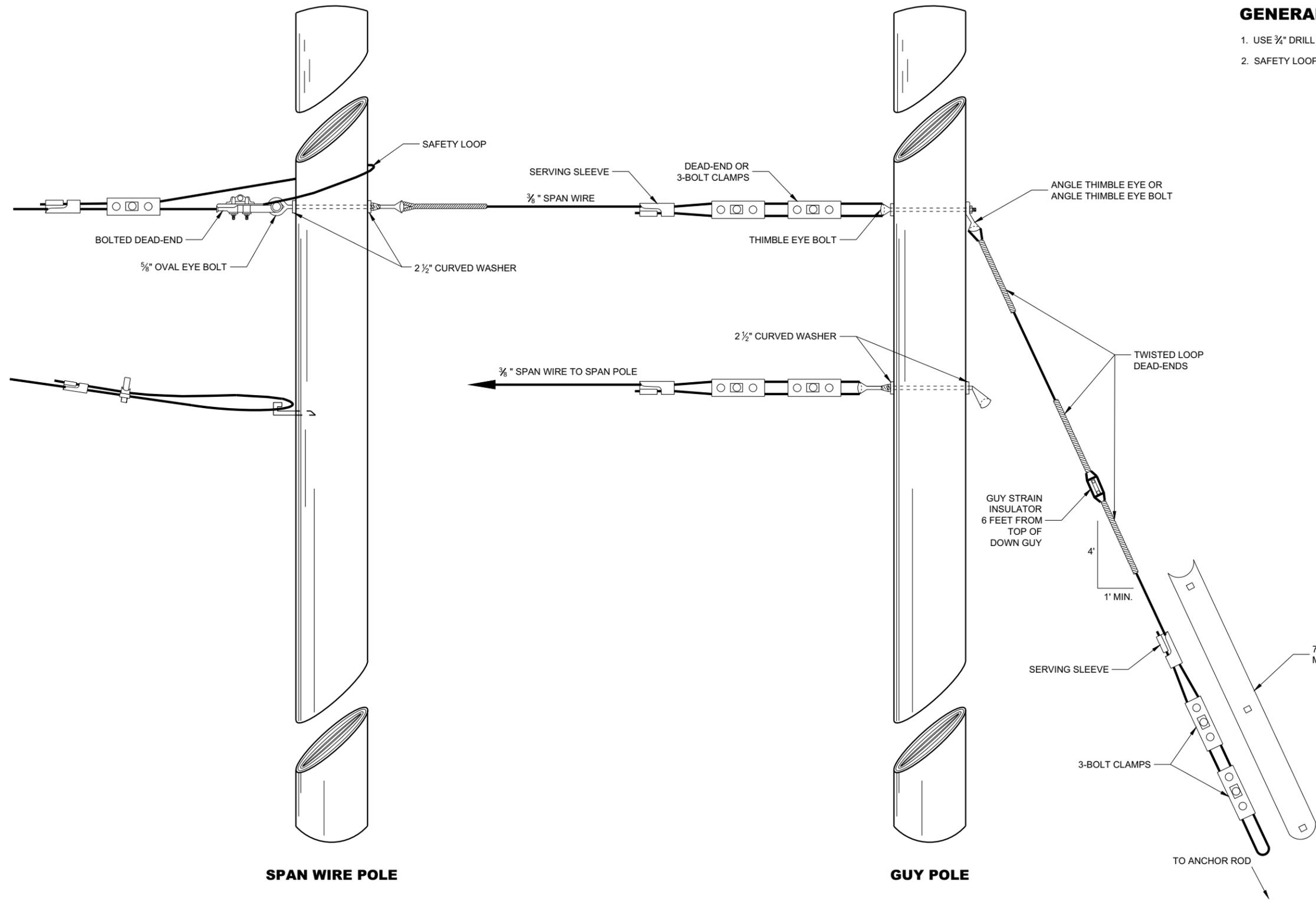
SDD09G01 - 04c



**SPAN WIRE TEMPORARY
TRAFFIC SIGNAL**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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



GENERAL NOTES

1. USE 3/4" DRILL IN WOOD POLE TO PROVIDE FOR 5/8" BOLTS.
2. SAFETY LOOP REQUIRED ON EACH END OF ALL SPAN WIRES.

SPAN WIRE POLE

GUY POLE

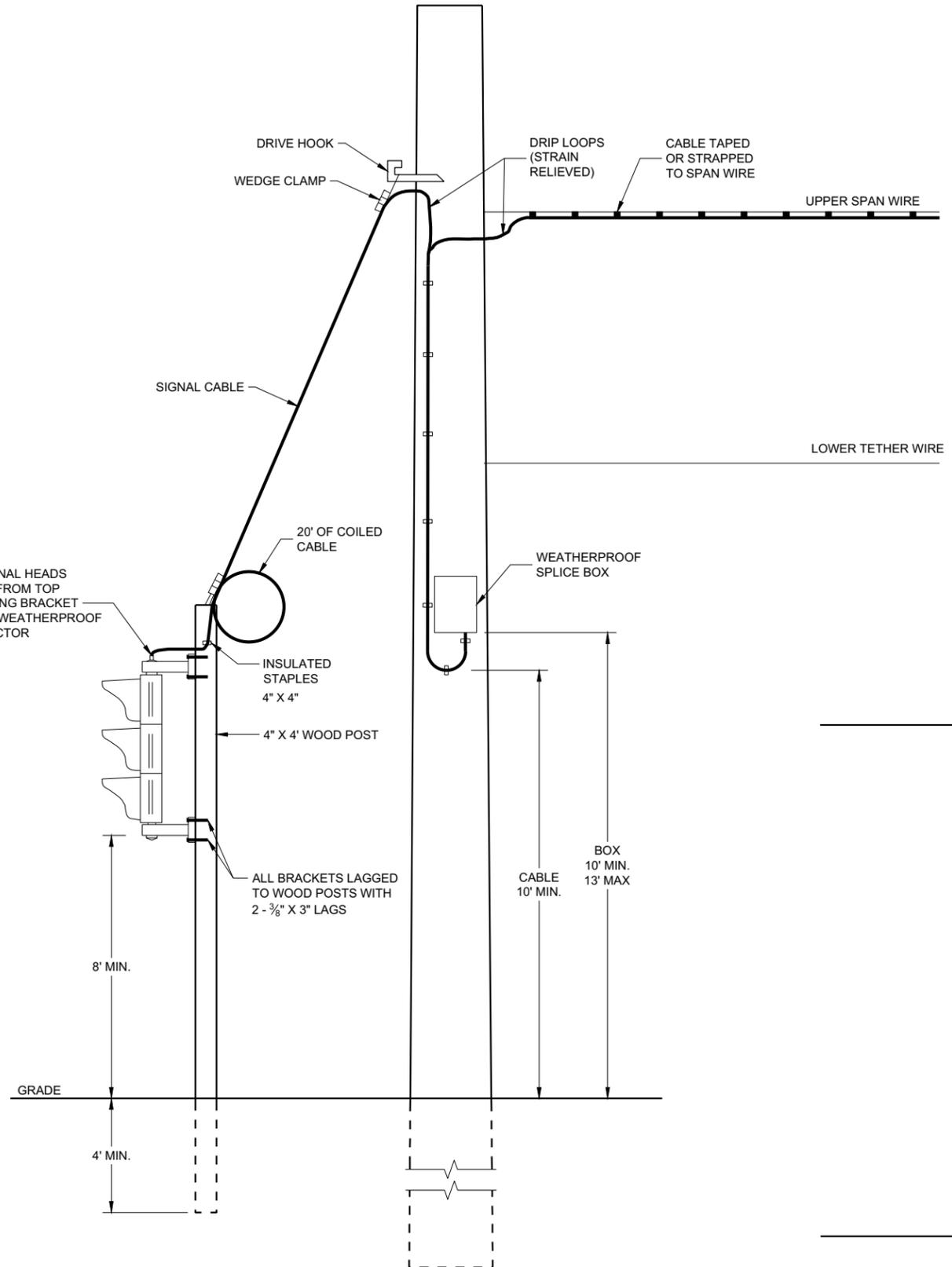
TYPICAL DEAD-ENDINGS OR GUYING

SPAN WIRE TEMPORARY TRAFFIC SIGNAL

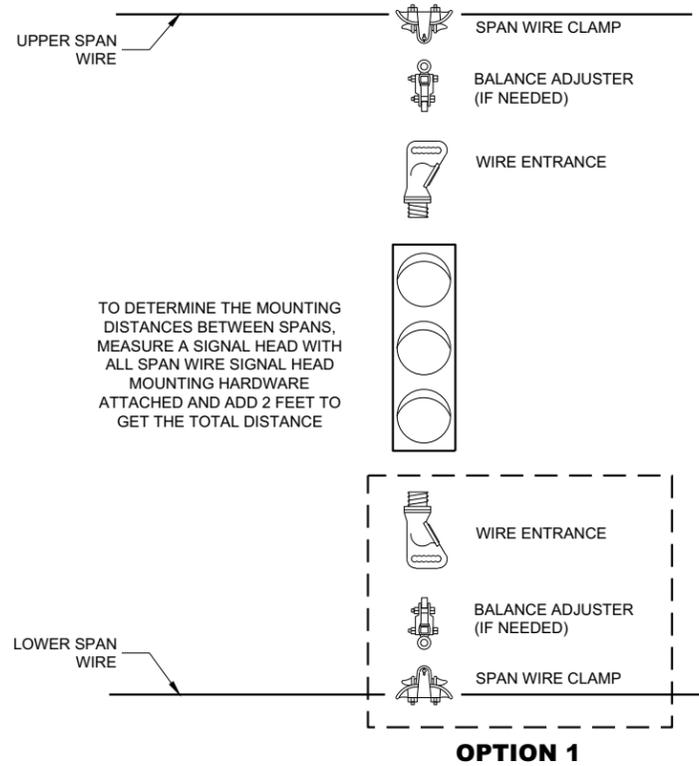
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

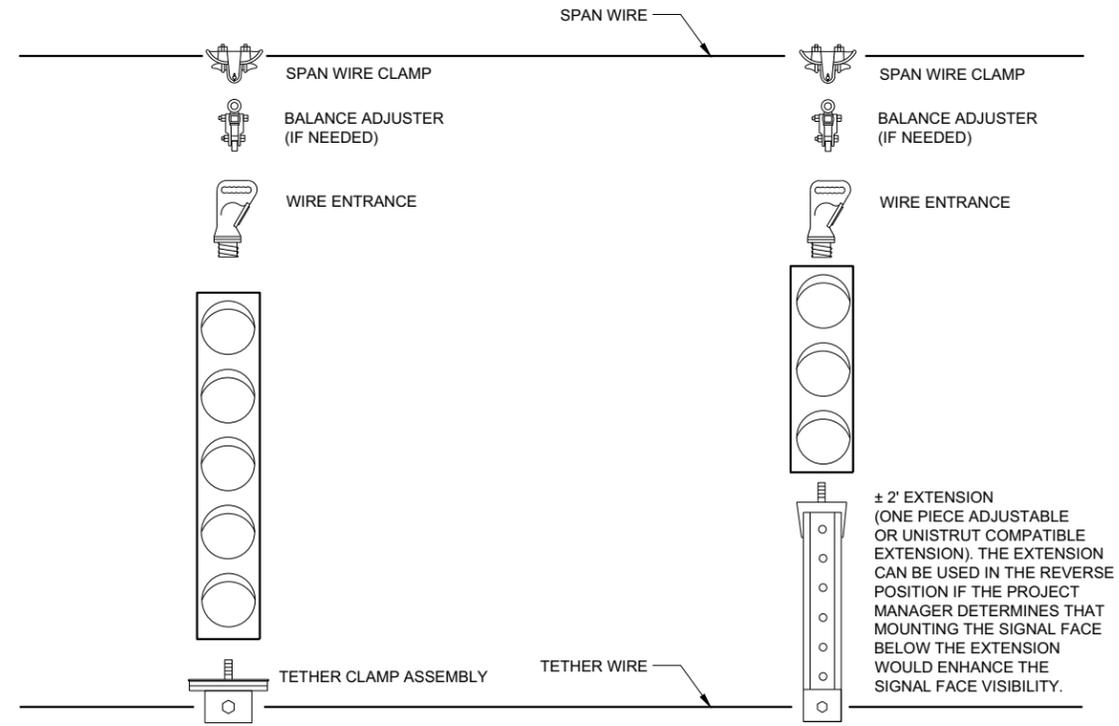
FHWA



TYPICAL DROP TO TEMPORARY MOVEABLE SIGNAL

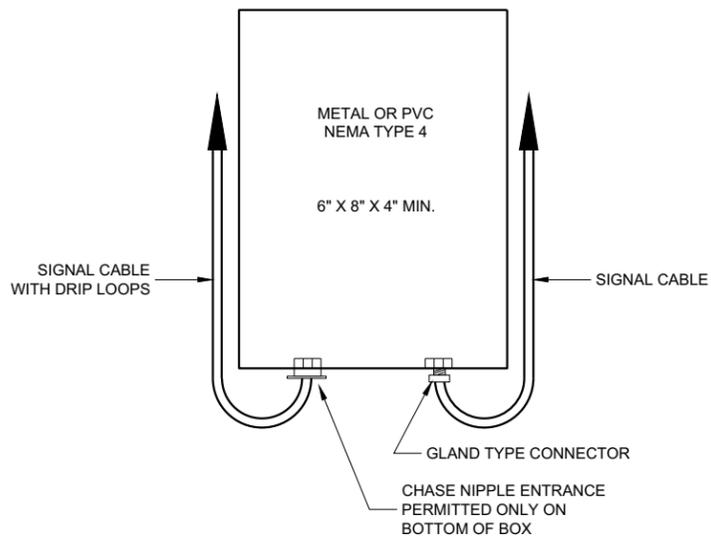
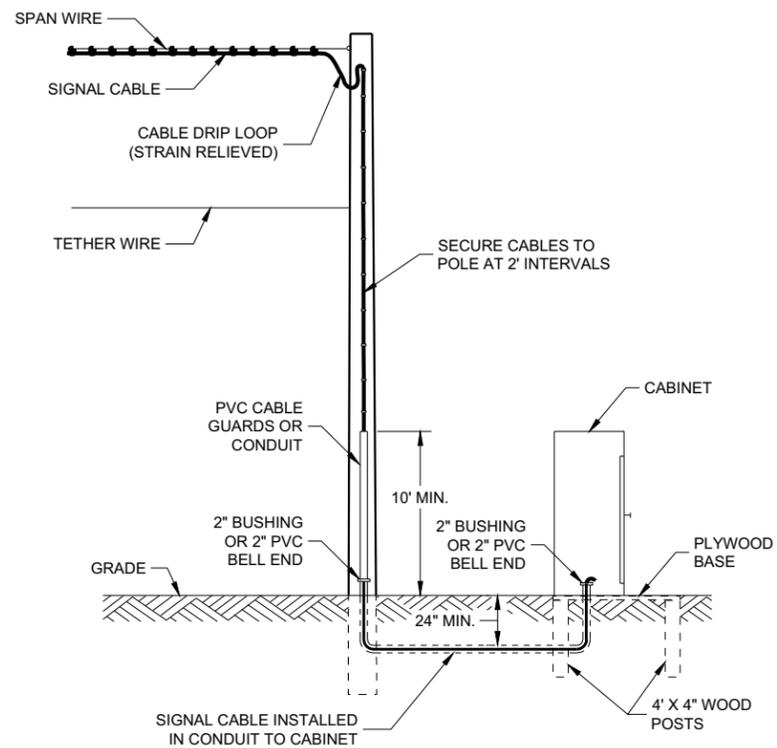


TYPICAL SPAN WIRE MOUNTING HARDWARE

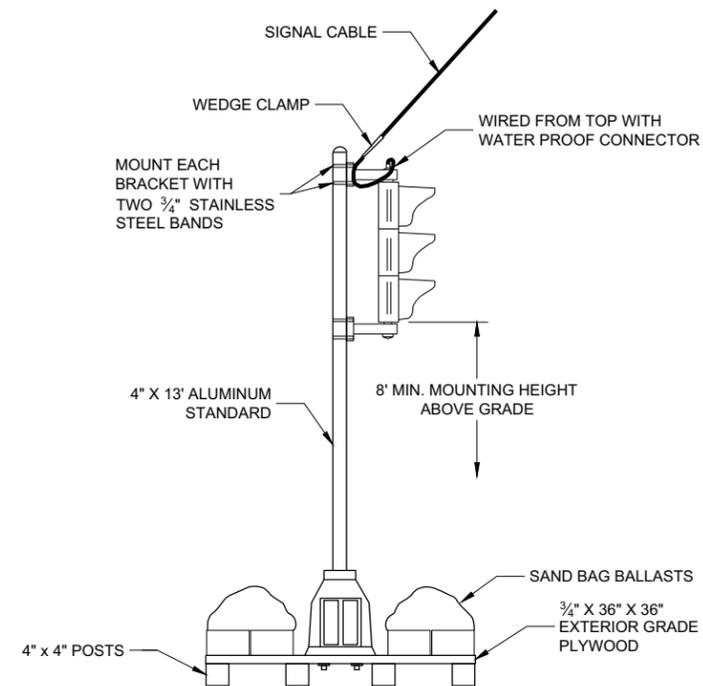


5 SECTION VERTICAL WITH 3 SECTION VERTICAL ON ONE SPAN WIRE

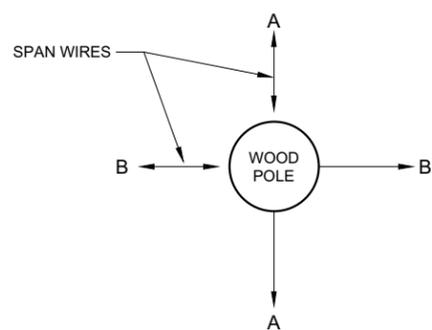
SPAN WIRE TEMPORARY TRAFFIC SIGNAL	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED June 2015 DATE	/s/ Ahmet Demerbilek ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA	



SPLICE BOX

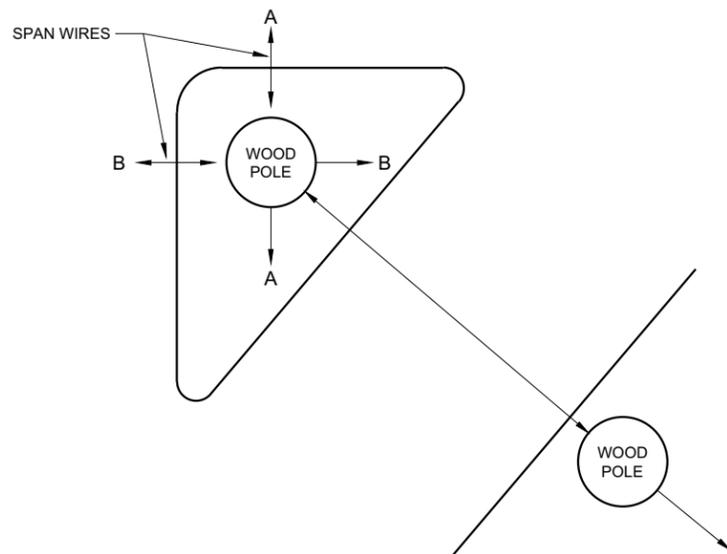


TYPICAL SKID TYPE TEMPORARY

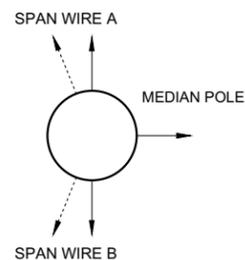


CORNER POLES

ALL DOWN OR SIDEWALK GUYS SHALL BE INSTALLED IN THE OPPOSITE DIRECTION OF THE STRAIN OF THE SPAN WIRE



ISLAND POLES



MEDIAN POLES

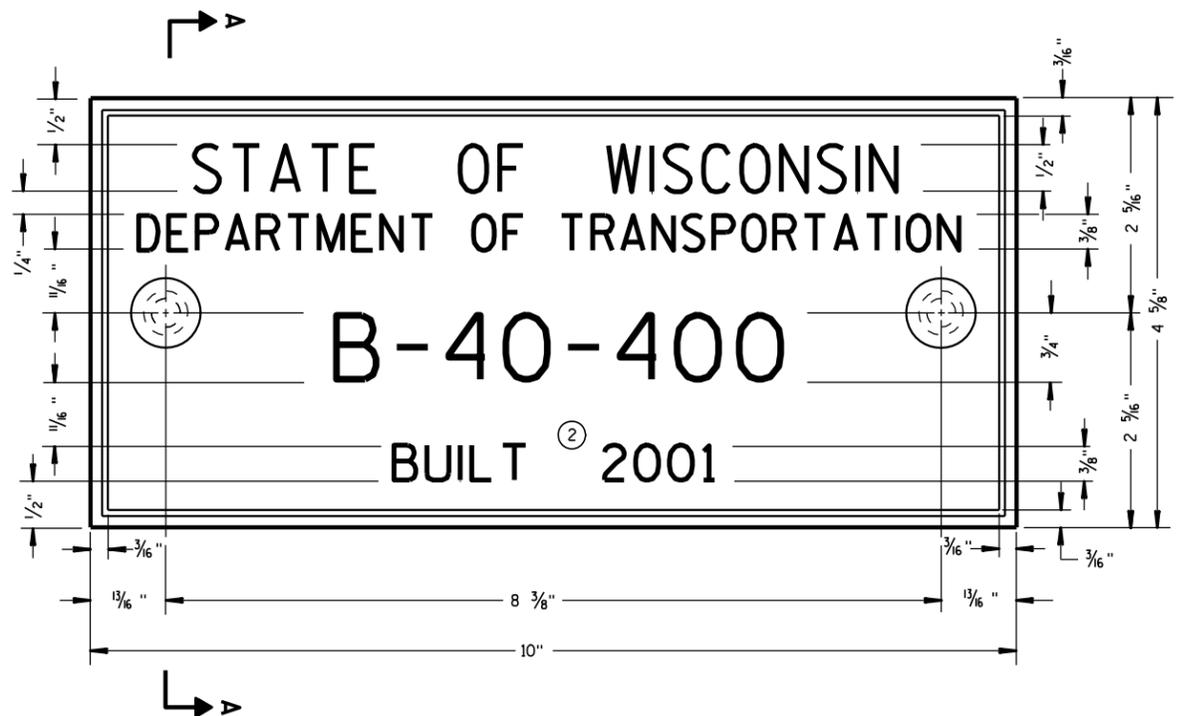
GUY AWAY FROM INTERSECTION OR IN OPPOSITE DIRECTION OF THE SPAN LOADING

SPAN WIRE TEMPORARY TRAFFIC SIGNAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA



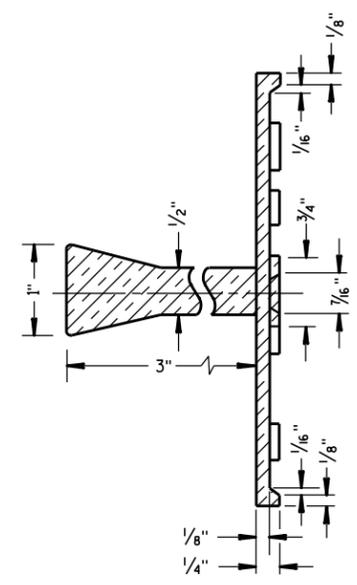
TYPICAL NAME PLATE
(BRIDGES, CULVERTS, AND RETAINING WALLS)

GENERAL NOTES

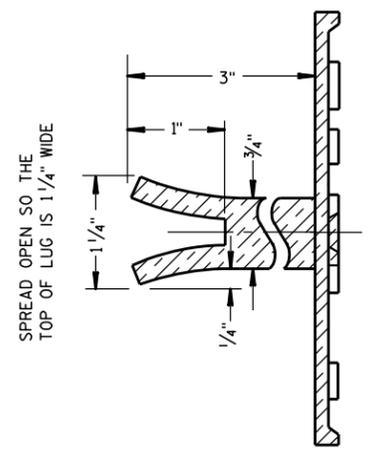
NAME PLATES TO BE INSTALLED ON BRIDGES, CULVERTS, AND RETAINING WALLS SHALL CONFORM TO THE REQUIREMENTS OF SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS.

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



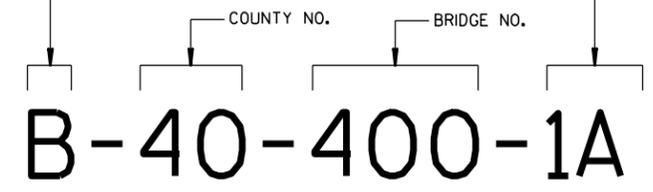
ALTERNATE LUG

6

6

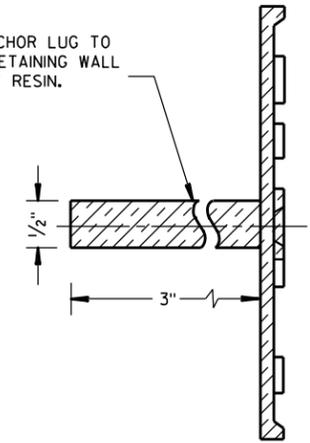
FOR MULTI-UNIT STRUCTURES
LINE 3 ABOVE SHALL READ

- B = BRIDGE
- C = CULVERT
- R = RETAINING WALL
- UNIT NO. FOR MULTIPLE UNIT BRIDGE



**NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES**

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

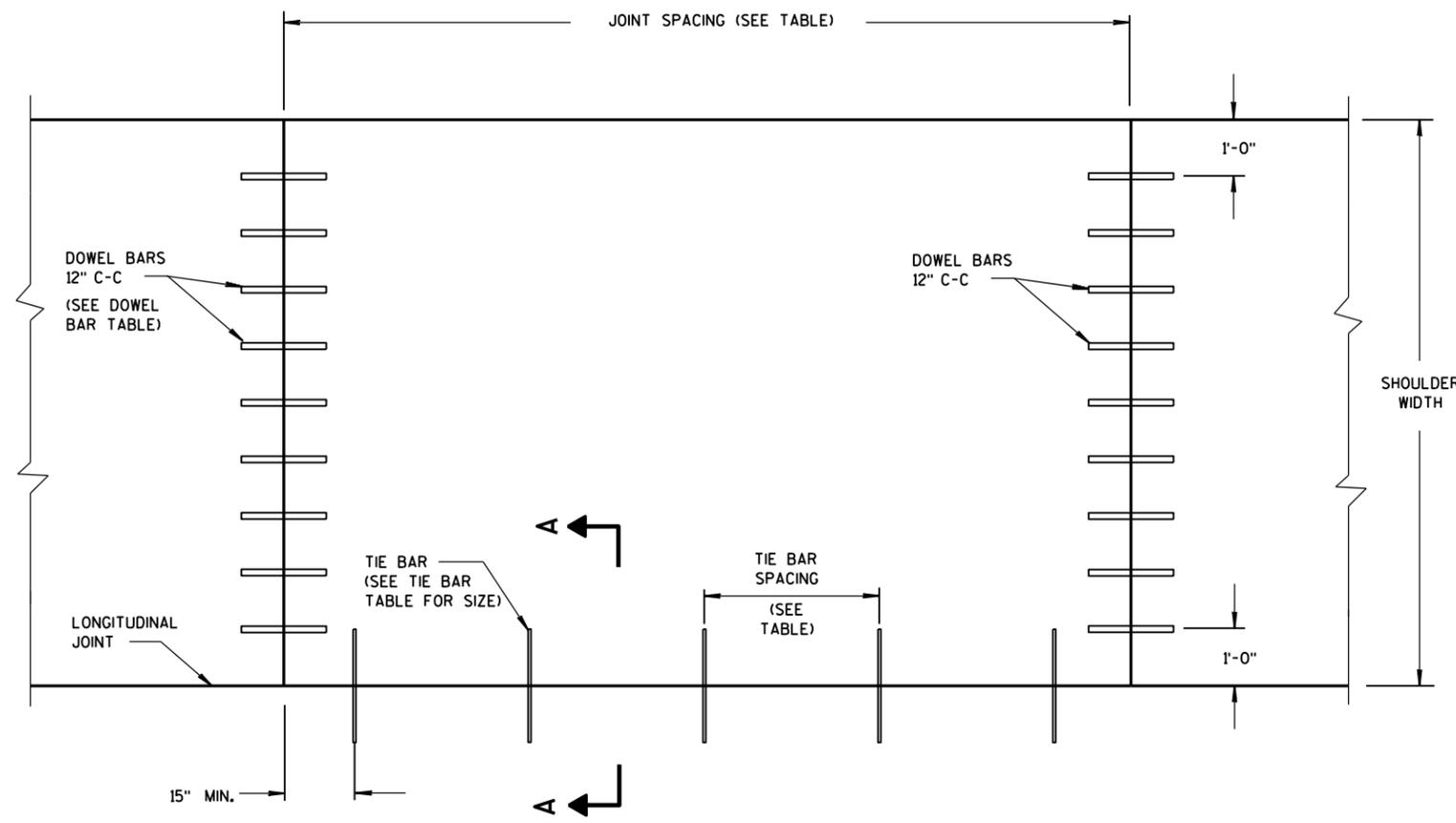


ALTERNATE LUG
(FOR ATTACHMENT TO PRECAST STRUCTURES)

S.D.D. 12 A 3-10

S.D.D. 12 A 3-10

NAME PLATE (STRUCTURES)	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED DATE 3/26/10	/S/ Scot Becker CHIEF STRUCTURAL DEVELOPMENT ENGINEER
FHWA	



PLAN VIEW
CONCRETE PAVEMENT SHOULDER

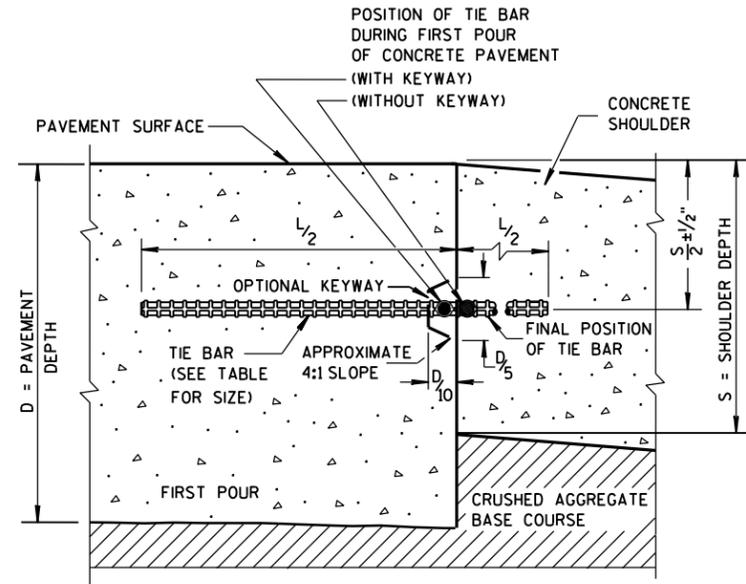
GENERAL NOTES

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.

TRANSVERSE JOINT DETAILS ARE SHOWN ELSEWHERE IN THE PLAN.

FINISH THE SHOULDER PAVEMENT CONFORMING TO SUBSECTION 415.3.8 OF THE STANDARD SPECIFICATIONS.

TIE BARS SHALL CONFORM TO SUBSECTION 505.2.4 OF THE STANDARD SPECIFICATIONS.



SECTION A-A
LONGITUDINAL CONSTRUCTION JOINT

TIE BAR TABLE

PAVEMENT DEPTH (D)	TIE BAR SIZE	TIE BAR LENGTH (L)	MAX. TIE BAR SPACING
< 10 1/2"	NO. 4	30"	36"
≥ 10 1/2"	NO. 5	36"	36"
	NO. 4*	30"	24" **

* SUBSTITUTE BENT BARS AT LONGITUDINAL JOINTS WHEN EQUIPMENT LIMITATIONS DURING CONSTRUCTION WARRANT (e.g. AUXILIARY LANES OR TURN LANES)

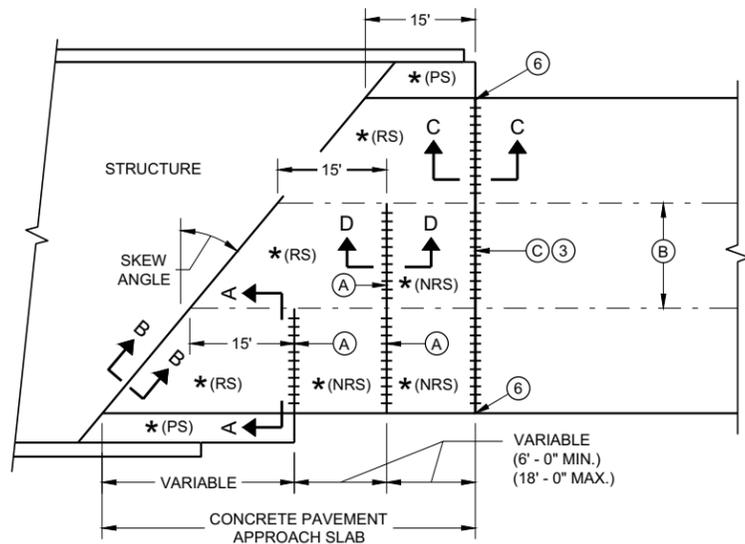
** CONFORM TO 15" MINIMUM SPACING FROM TRANSVERSE JOINTS; SPACING BETWEEN TIE BARS WILL BE 30" AT TRANSVERSE JOINTS.

PAVEMENT DEPTH, DOWEL BAR SIZE AND JOINT SPACING TABLE

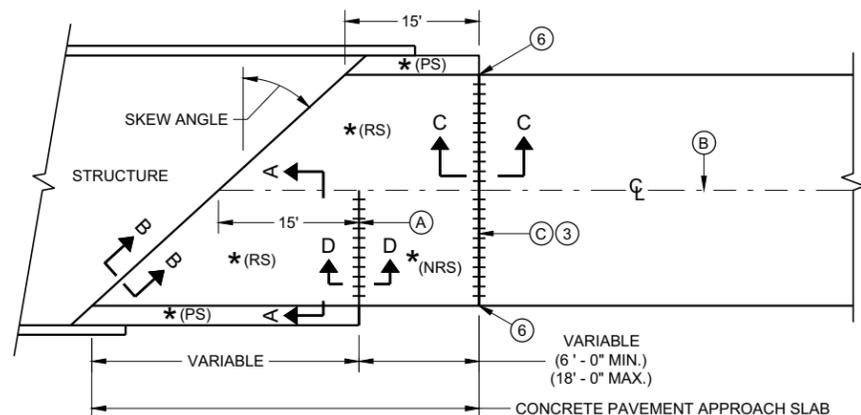
PAVEMENT DEPTH (D)	DOWEL BAR DIAMETER***	CONTRACTION JOINT SPACING
5 1/2", 6", 6 1/2"	NONE	12'
7", 7 1/2"	1"	14'
8", 8 1/2"	1 1/4"	15'
9", 9 1/2"	1 1/4"	15'
10" & ABOVE	1 1/2"	15'

*** FOR DOWELED CONCRETE SHOULDERS WITH TRAPEZOIDAL CROSS SECTIONS, CHOSE THE APPROPRIATE DOWEL BAR DIAMETER BASED ON THE SMALLER PAVEMENT DEPTH (LIKELY THE OUTSIDE EDGE OF THE SHOULDER). IF USING BASKETS, USE BASKETS FOR THE AVERAGE THICKNESS OF THE CROSS SECTION.

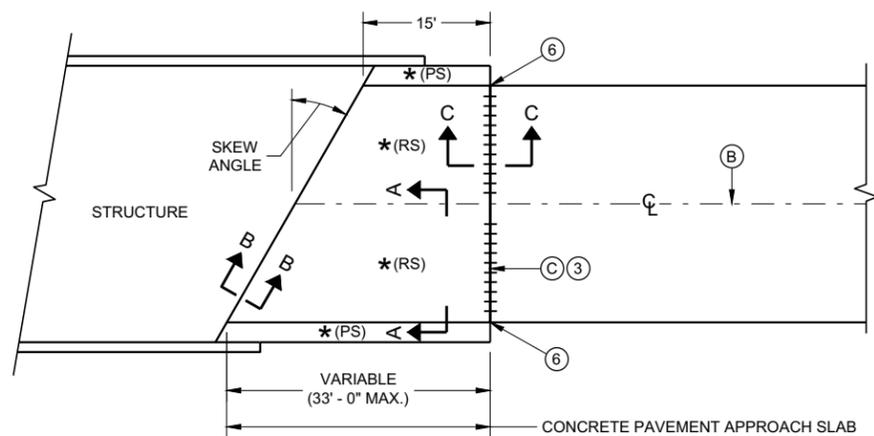
CONCRETE PAVEMENT SHOULDERS	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED June, 2015 DATE	/S/ Peter Kemp, P.E. PAVEMENT SUPERVISOR
FHWA	



**SKewed Approach
(Pavement more than two lanes)**

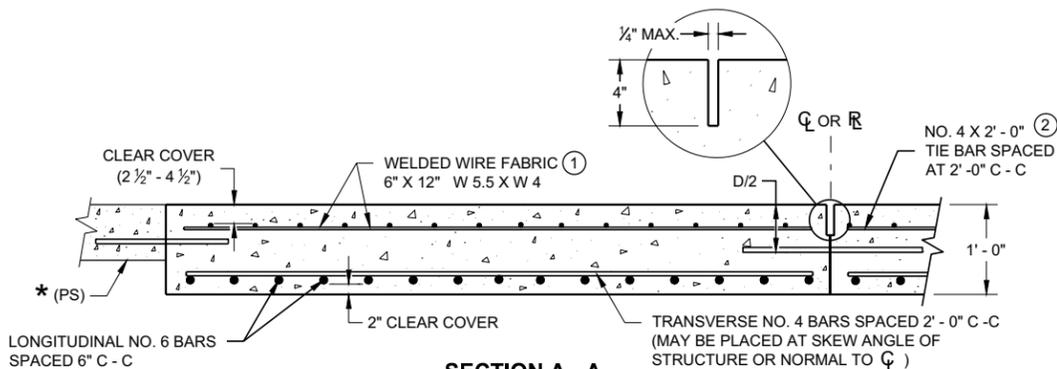


**SKews > 20°
(Pavement width ≤ 30')**

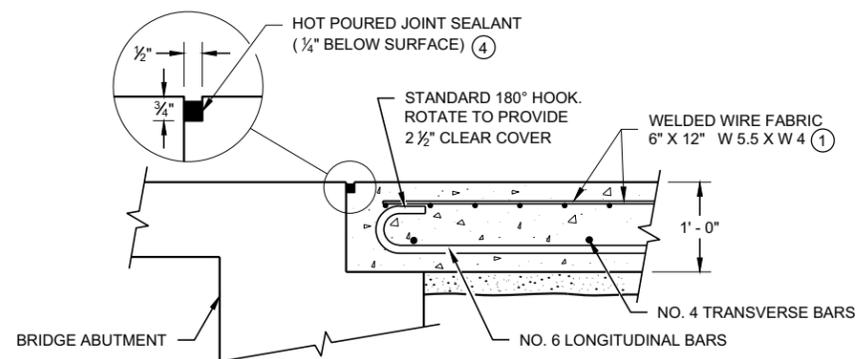


**SKews ≤ 20°
(Pavement width ≤ 30')**
Approach Slab and Adjacent Pavement

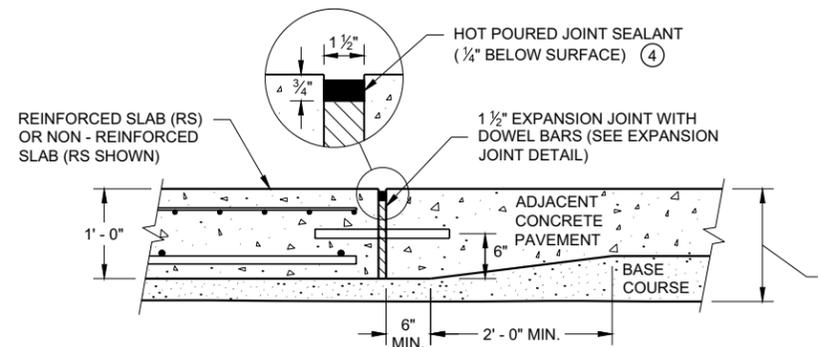
- * (RS) = REINFORCED CONCRETE SLAB
- * (PS) = PAVED CONCRETE SHOULDER OR CONCRETE DRAINAGE SLAB
- * (NRS) = NON - REINFORCED CONCRETE SLAB
- *** STANDARD DOWEL BAR DIAMETER (SEE SDD 13C11 AND SDD 13C13)



**SECTION A - A
REINFORCEMENT POSITIONING DETAIL**



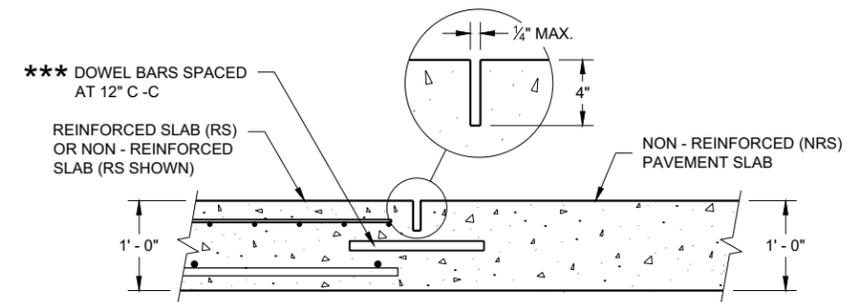
**SECTION B - B
BEND DETAIL
BOTTOM REINFORCEMENT**



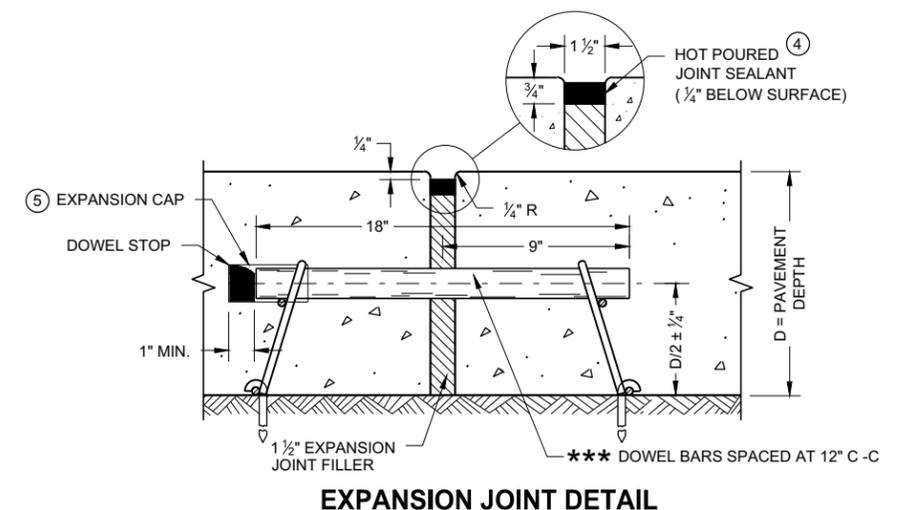
**SECTION C - C
TRANSITION DETAIL
Approach Slab to Adjacent Pavement**

GENERAL NOTES

- THE CONTRACTOR MAY SPLICE NO. 6 BARS IN THE APPROACH SLAB FOR SKEWED STRUCTURES ONLY. STAGGER SPLICES WITH A MAXIMUM OF ONE SPLICE PER BAR. THE LENGTH OF LAP IS 20 INCHES.
- TACK WELD DOWEL BARS TO THE BASKETS ON ALTERNATE ENDS.
- ① THE CONTRACTOR MAY USE NO. 4 BARS SPACED AT 2' - 0" C - C IN BOTH THE LONGITUDINAL AND TRANSVERSE DIRECTIONS FOR TOP REINFORCEMENT AS AN ALTERNATIVE TO THE WELDED WIRE FABRIC.
 - ② THE CONTRACTOR MAY OMIT THE BARS BETWEEN REINFORCED SLABS WHERE SLAB REINFORCEMENT BARS EXTEND ACROSS THE CENTERLINE OR REFERENCE LINE.
 - ③ DO NOT CONSTRUCT AN EXPANSION JOINT OR INSTALL DOWEL BARS WHEN ABUTTING AN HMA PAVEMENT.
 - ④ USE A JOINT SEALANT CONFORMING TO STANDARD SPECIFICATION 415.2.6.
 - ⑤ PLACE EXPANSION CAP ON THE END OF THE DOWEL THAT IS NOT TACK WELDED TO THE BASKET. DO NOT FORCE DOWEL BAR PAST THE DOWEL STOP.
 - ⑥ EXTEND EXPANSION JOINT THROUGH ANY ADJACENT TIED CONCRETE.
 - (A) STANDARD CONTRACTION JOINT NORMAL TO C OR R.
 - (B) STANDARD LONGITUDINAL JOINT WITH TIE BARS.
 - (C) 1 1/2" EXPANSION JOINT WITH DOWEL BARS NORMAL TO C OR R.



**SECTION D - D
CONTRACTION JOINT**



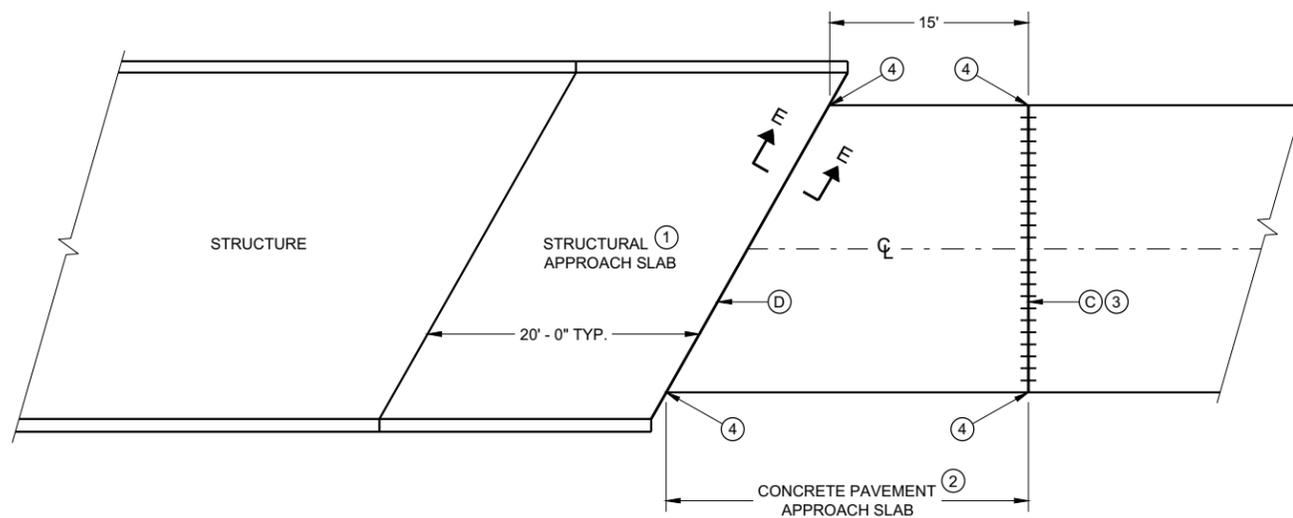
EXPANSION JOINT DETAIL

**CONCRETE PAVEMENT
APPROACH SLAB**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA

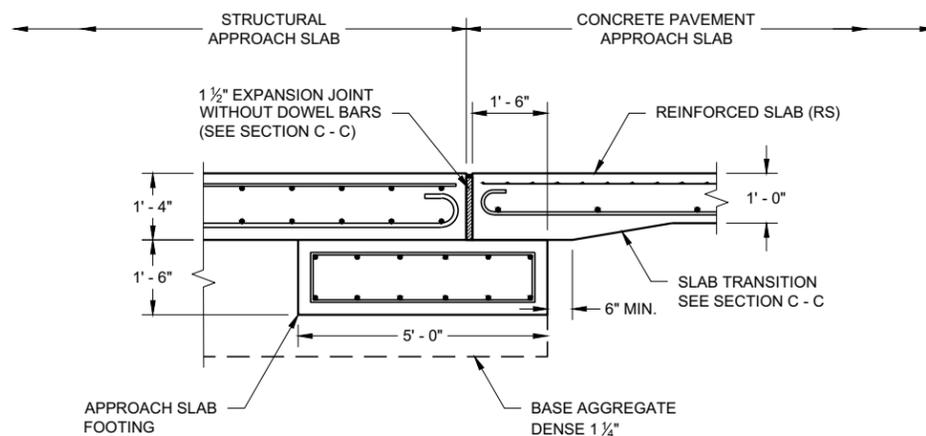


GENERAL NOTES

ALL PROJECTS THAT INVOLVE A STRUCTURAL APPROACH SLAB WILL ALSO HAVE A CONCRETE PAVEMENT APPROACH SLAB.

- ① SEE BRIDGE PLAN.
- ② CONFORM TO SDD 13B02 SHEET A FOR CONCRETE PAVEMENT APPROACH SLAB DETAILS
- ③ DO NOT CONSTRUCT AN EXPANSION JOINT OR INSTALL DOWEL BARS WHEN ABUTTING AN HMA PAVEMENT.
- ④ EXTEND EXPANSION JOINT THROUGH ANY ADJACENT TIED CONCRETE.
- Ⓒ 1½" EXPANSION JOINT WITH DOWEL BARS NORMAL TO CL OR RL .
- Ⓓ 1½" EXPANSION JOINT (NO DOWELS)

BRIDGE APPROACHES



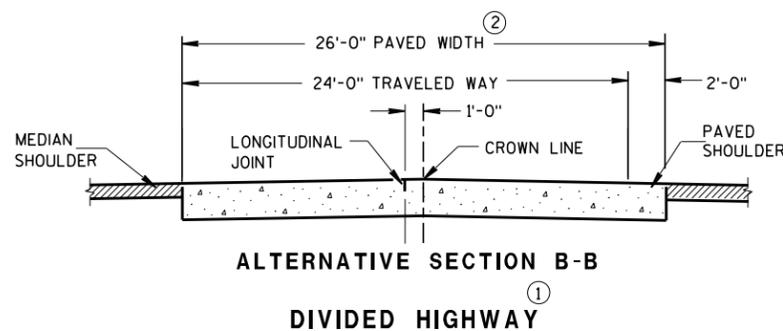
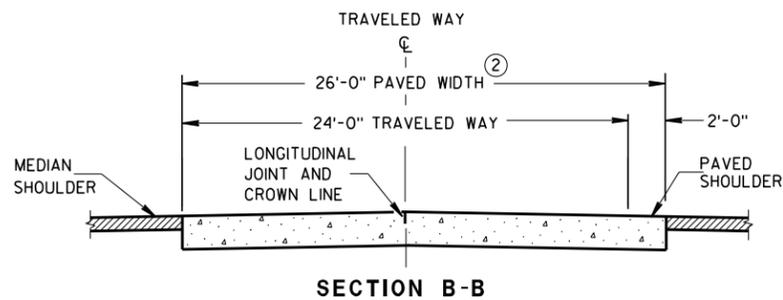
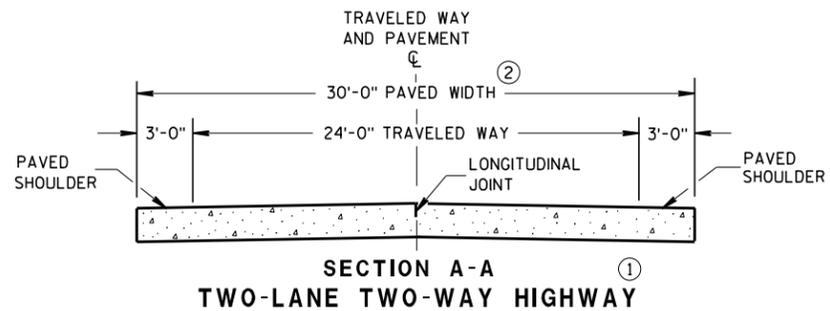
**SECTION E - E
FOOTING DETAIL
STRUCTURAL APPROACH SLAB TO CONCRETE BRIDGE APPROACH**

**STRUCTURAL APPROACH SLAB
AND CONCRETE PAVEMENT
APPROACH SLAB**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA



GENERAL NOTES

CONTRACTION JOINTS

CONSTRUCT TRANSVERSE CONTRACTION JOINTS NORMAL TO THE CENTERLINE. SHOW THE LOCATION OF CONTRACTION JOINTS THROUGH INTERSECTIONS ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

INSTALL DOWEL BARS PARALLEL TO THE PAVEMENT CENTERLINE AND PAVEMENT SURFACE.

FOR PAVEMENT SLABS OF VARYING WIDTHS, LOCATE THE OUTER MOST DOWEL BAR SO THAT THE CENTER OF THE BAR IS A MINIMUM OF 6 INCHES AND A MAXIMUM OF 18 INCHES FROM THE FREE EDGE OF PAVEMENT.

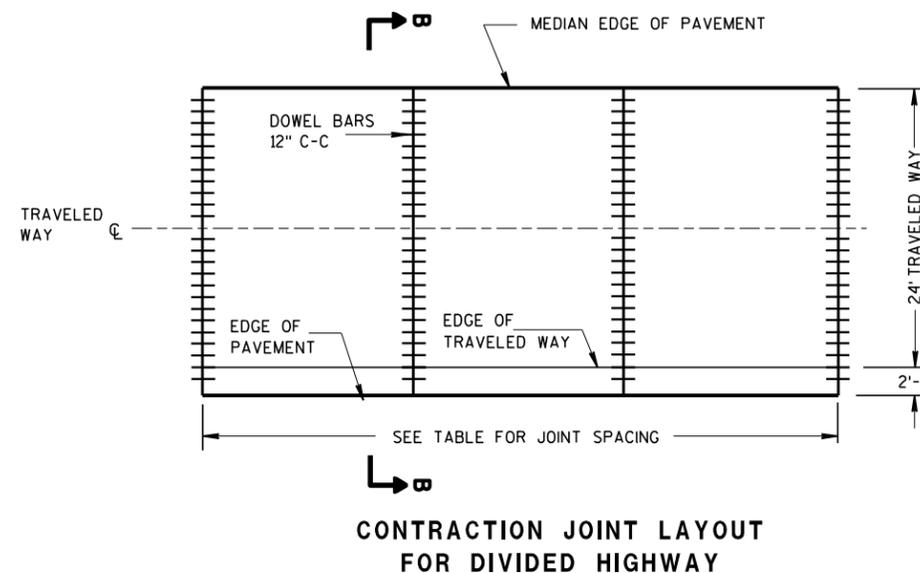
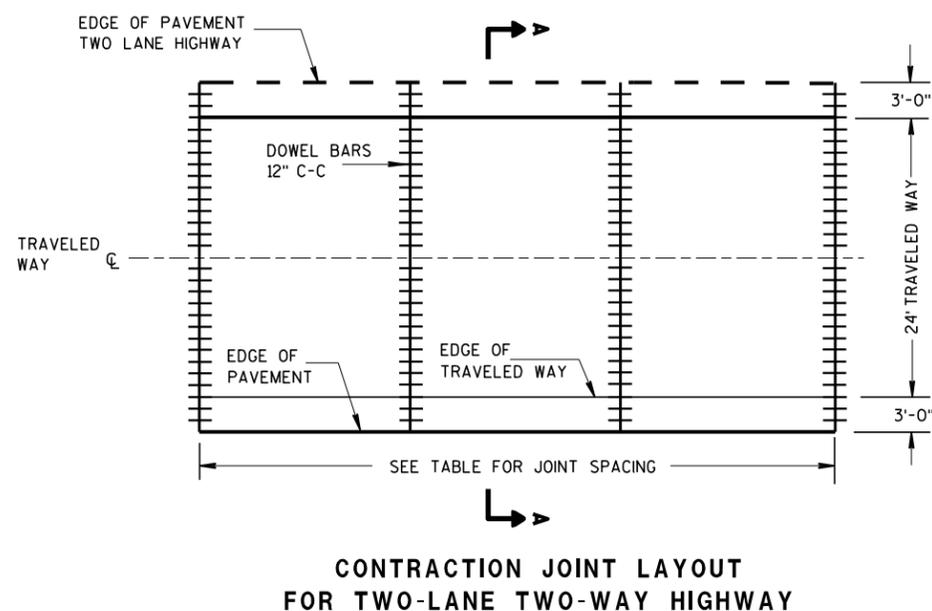
CONSTRUCTION JOINTS

LOCATE CONSTRUCTION JOINTS A MINIMUM OF 6 FEET FROM THE NEAREST CONTRACTION JOINT AND ALIGN PARALLEL TO CONTRACTION JOINTS.

- ① REFER TO TYPICAL CROSS SECTIONS FOR ADDITIONAL DETAILS.
- ② MEASURE THE ENTIRE PAVED WIDTH INCLUDING THE PORTION(S) LABELED PAVED SHOULDER AS CONCRETE PAVEMENT.

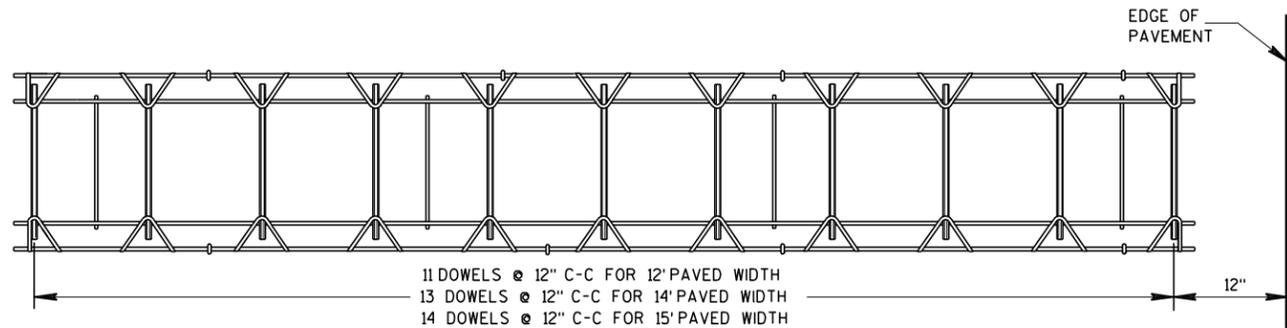
PAVEMENT DEPTH, DOWEL BAR SIZE AND JOINT SPACING TABLE

PAVEMENT DEPTH (D)	DOWEL BAR DIAMETER	CONTRACTION JOINT SPACING
5 1/2", 6", 6 1/2"	NONE	12'
7", 7 1/2"	1"	14'
8", 8 1/2"	1 1/4"	15'
9", 9 1/2"	1 1/4"	15'
10" & ABOVE	1 1/2"	15'



**RURAL DOWELED
 CONCRETE PAVEMENT**

STATE OF WISCONSIN
 DEPARTMENT OF TRANSPORTATION



11 DOWELS @ 12" C-C FOR 12' PAVED WIDTH
 13 DOWELS @ 12" C-C FOR 14' PAVED WIDTH
 14 DOWELS @ 12" C-C FOR 15' PAVED WIDTH

PLAN VIEW

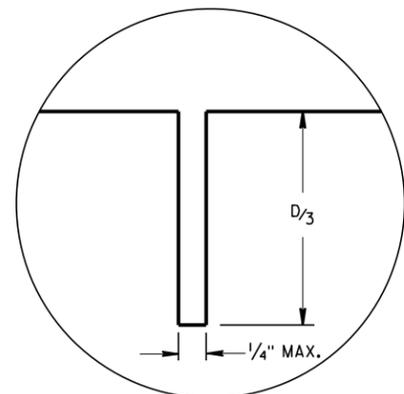


②

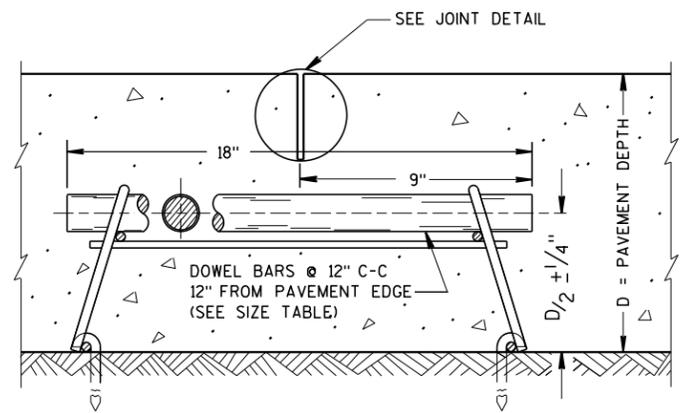
SIDE VIEW

(NORMAL TO CENTERLINE)

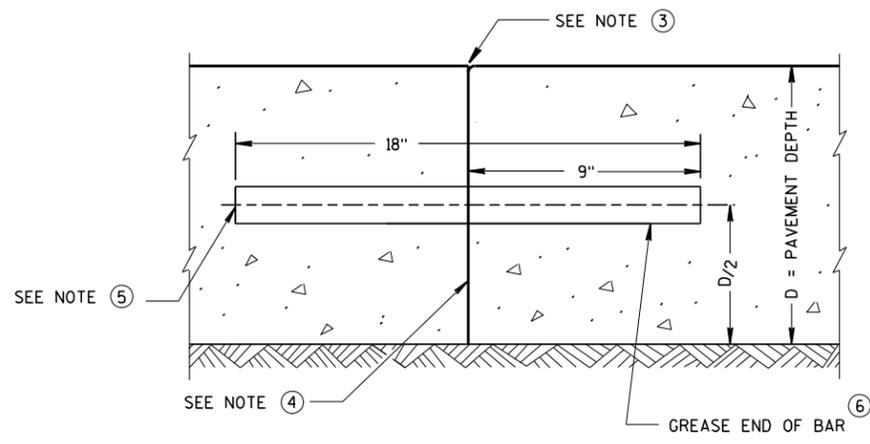
CONTRACTION JOINT DOWEL ASSEMBLY ①



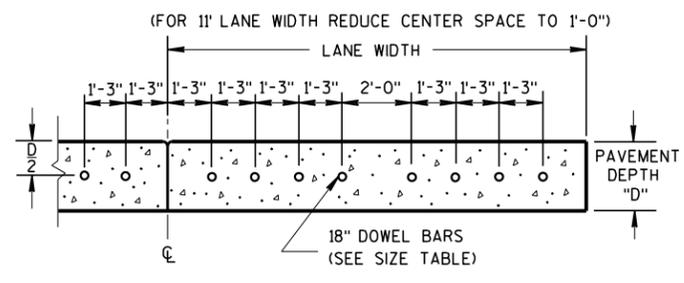
JOINT DETAIL



DOWELED CONTRACTION JOINT



TRANSVERSE CONSTRUCTION JOINT



DRILLED DOWEL BAR CONSTRUCTION JOINT ⑦

GENERAL NOTES

- ① OBTAIN THE ENGINEER'S APPROVAL FOR THE USE OF ALTERNATIVE DESIGNS OF THE DOWEL ASSEMBLY. USE MECHANICAL DOWEL BAR INSERTERS OR DOWEL ASSEMBLIES WHEN CONSTRUCTING CONTRACTION JOINTS.
- ② SECURE BASKETS WITH ANCHORS TO HOLD DOWEL BARS IN THE CORRECT POSITION AND ALIGNMENT. TYPE, LOCATION, NUMBER AND LENGTH OF ANCHORS ARE DEPENDENT UPON FIELD CONDITIONS.
- ③ FORM OR SAW CONSTRUCTION JOINTS. PROVIDE A 1/4-INCH RADIUS AT FORMED JOINTS.
- ④ PROVIDE A SMOOTH VERTICAL FACE FOR THE ENTIRE DEPTH OF THE PAVEMENT WHEN FORMING CONSTRUCTION JOINTS.
- ⑤ INSTALL DOWEL BARS AT CONSTRUCTION JOINTS BY FORMING OR DRILLING. INSTALL FORMED DOWEL BARS 12 INCHES C-C AND 12 INCHES FROM PAVEMENT EDGE. REMOVE EXCESS CONCRETE FROM THE FREE END OF THE DOWEL BAR IF DOWEL BARS ARE FORMED THROUGH A HEADER BOARD. INSTALL DRILLED DOWEL BARS ACCORDING TO *DRILLED DOWEL BAR CONSTRUCTION JOINT* DETAIL.
- ⑥ APPLY A THIN UNIFORM COATING OF SURFACE TREATMENT TO THE FREE END OF DOWEL BARS TO PREVENT BONDING.
- ⑦ ANCHOR DOWEL BARS INTO DRILLED HOLES WITH AN EPOXY. MAXIMUM DRILLED HOLE SIZE IS 1/8-INCH GREATER THAN DOWEL BAR DIAMETER, 9 INCHES IN LENGTH.

RURAL DOWELED CONCRETE PAVEMENT	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED March 2018 DATE	/s/ Peter Kemp, P.E. PAVEMENT SUPERVISOR
FHWA	

GENERAL NOTES

- (A) THE SLOPE IN THE AREA BOUNDED BY THE GRADELINE, THE HINGE POINT LINE 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.

SEE SDD 14B42 FOR MORE INFORMATION.

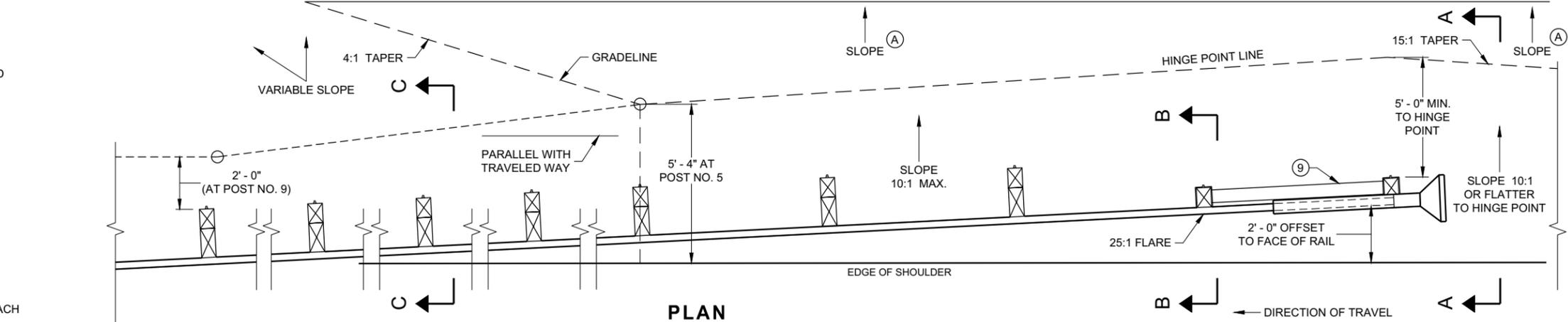
* DO NOT ATTACH BLOCKOUTS TO POST 1 AND 2.

DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

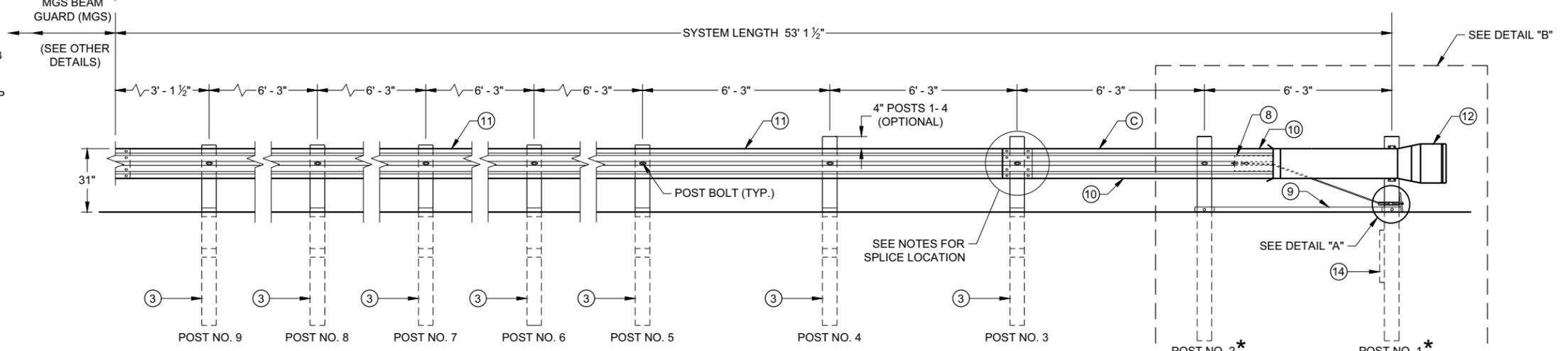
SEE MANUFACTURER'S DRAWING FOR SPLICE LOCATION, HARDWARE DIMENSIONS AND INSTALLATION INSTRUCTIONS.

THE CENTER OF THE UPPER 3 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.

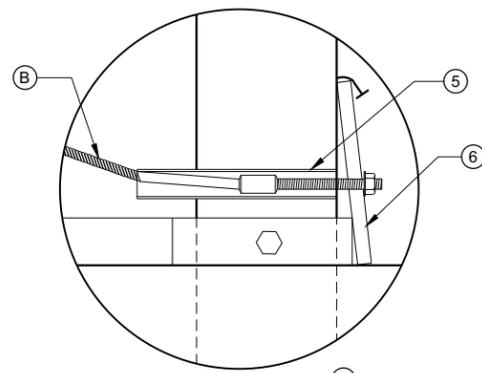
CLEAR ZONE LIMITS, EITHER AS SHOWN ELSEWHERE IN THE PLANS OR, IF NOT SHOWN ELSEWHERE IN THE PLANS, 15 FEET BEYOND THE HINGE POINT LINE



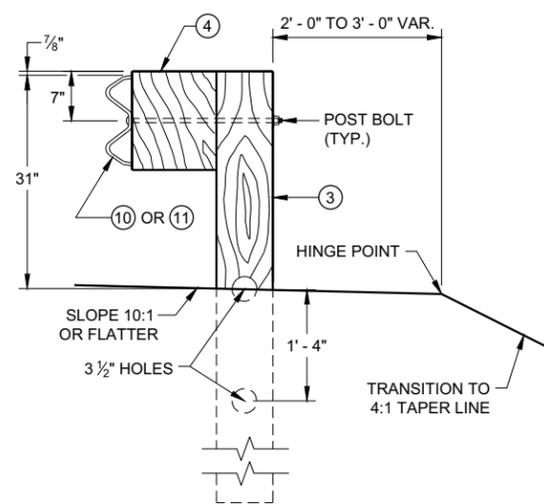
PLAN



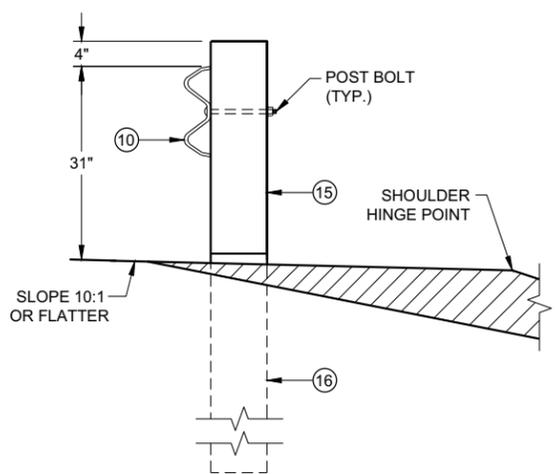
ELEVATION



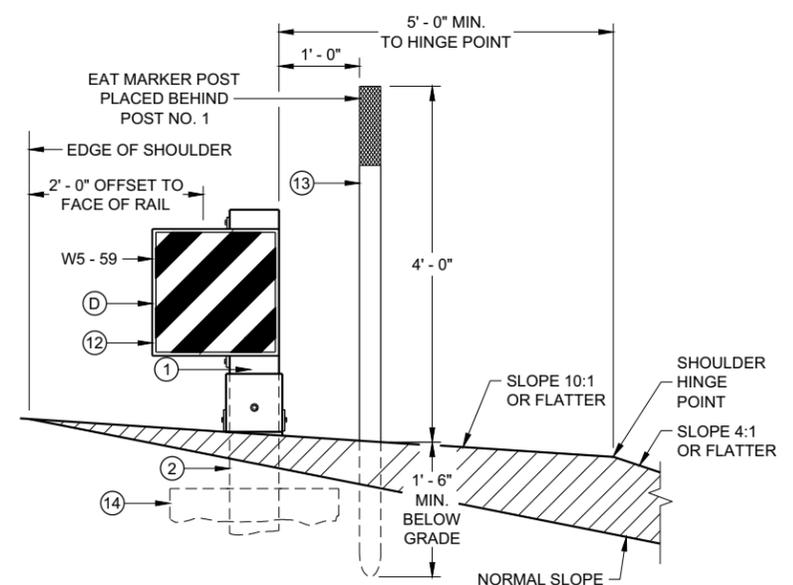
DETAIL "A"



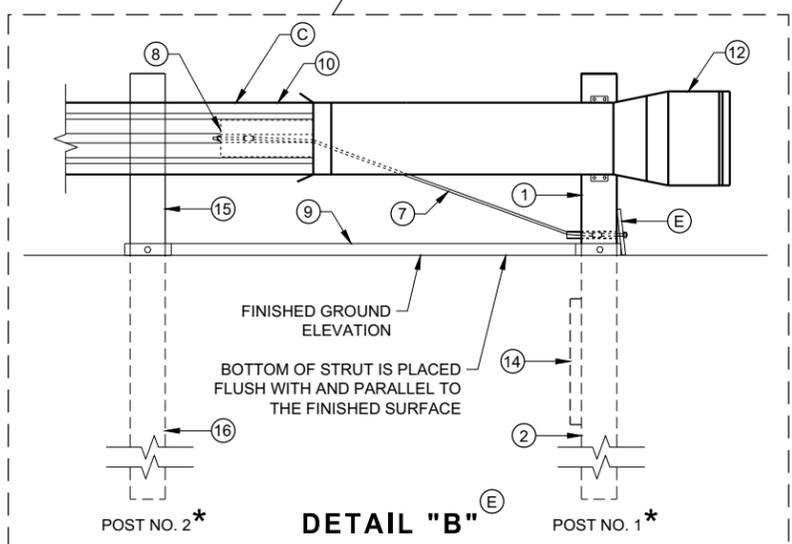
**SECTION C - C
TYPICAL AT POST NOS. 3 - 9**



**SECTION B - B
TYPICAL AT POST NO. 2***



**SECTION A - A
TYPICAL AT POST NO. 1***



DETAIL "B"

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

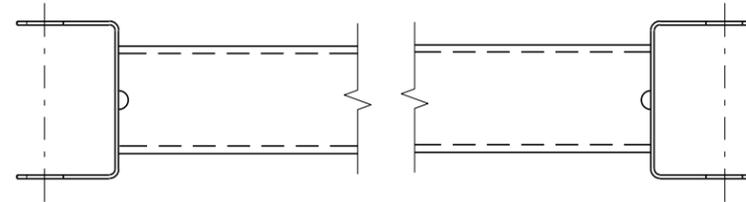
6

SDD 14B44 - 04a

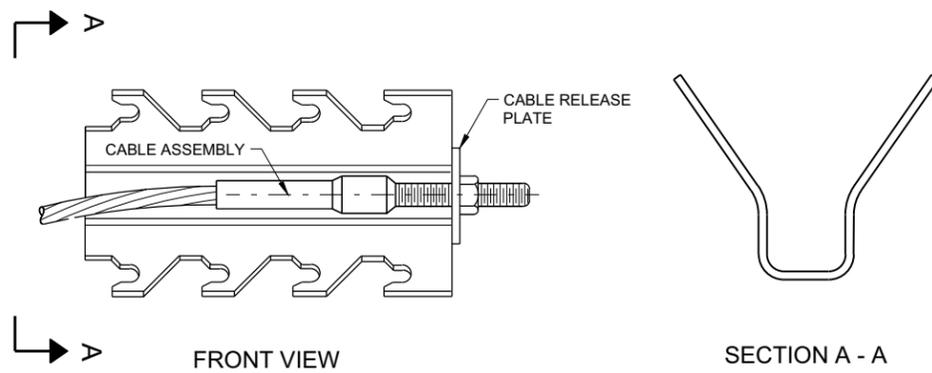
SDD 14B44 - 04a

BILL OF MATERIALS

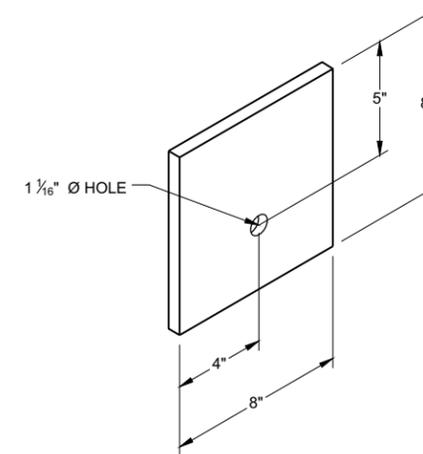
PART NO.	DESCRIPTION MATERIALS PROVIDED BY MGS EAT MANUFACTURER. SEE MANUFACTURER'S DETAILS FOR MORE INFORMATION.
①	UPPER POST NO. 1 6" X 6" TUBE
②	LOWER POST NO. 1
③	WOOD CRT
④	WOOD BLOCKOUT
⑤	PIPE SLEEVE
⑥	BEARING PLATE
⑦	BCT CABLE ASSEMBLY
⑧	ANCHOR CABLE BOX
⑨	GROUND STRUT
⑩	PERFORATED W-BEAM RAIL 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 GROUND STRUT ⑨ ⑤



GENERIC ANCHOR CABLE BOX ⑨ ⑤



BEARING PLATE ⑥ ⑤

6

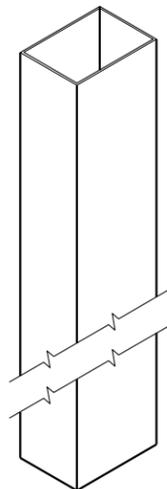
6

SDD 14B44 - 04b

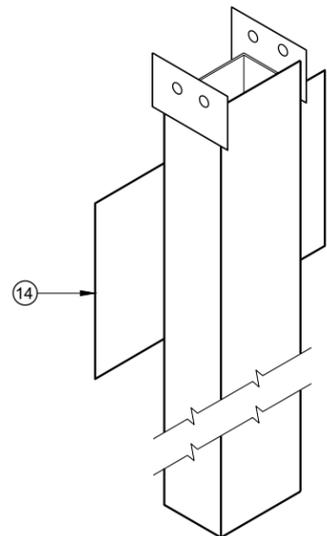
SDD 14B44 - 04b

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

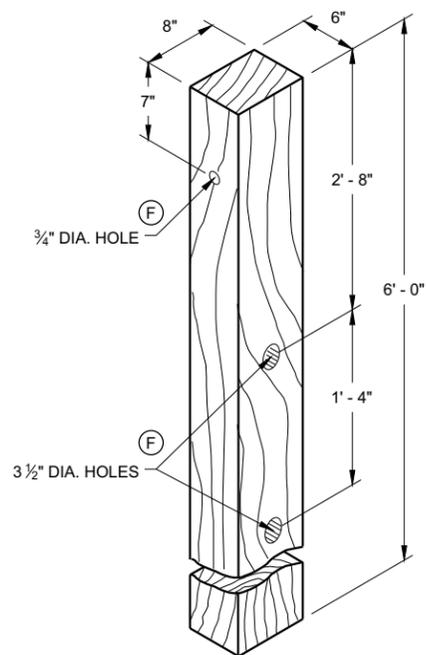
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



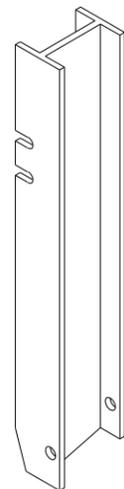
UPPER POST NO. 1 ⁽¹⁾ (E)



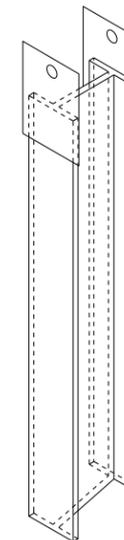
LOWER POST NO. 1 ⁽²⁾ (E)



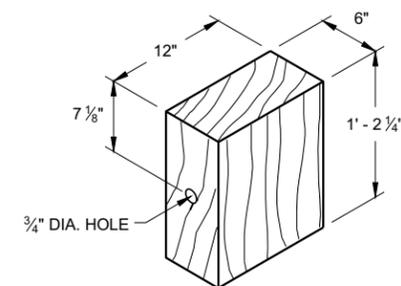
WOOD CRT POST ⁽³⁾ (E)
POSTS NUMBER 3-9



UPPER POST NO. 2 ⁽¹⁵⁾ (E)

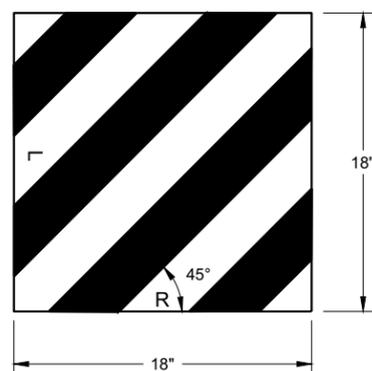


LOWER POST NO. 2 ⁽¹⁶⁾ (E)



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

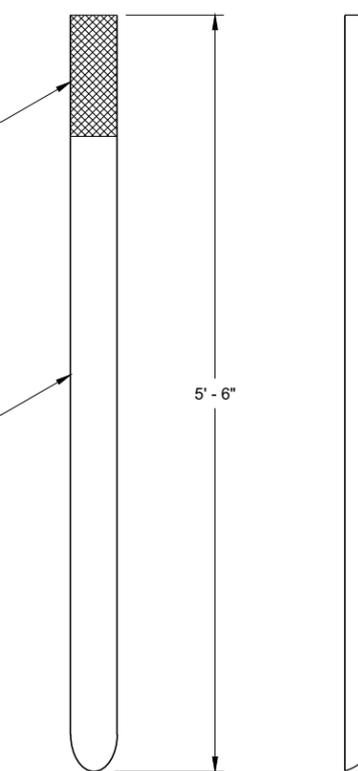
6



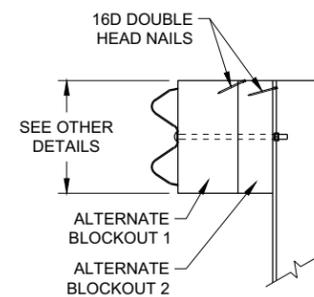
W5 - 59
REFLECTIVE SHEETING DETAIL ^(E)

TYPE H
YELLOW REFLECTIVE
SHEETING 3" X 9".
SEE STANDARD
SPECIFICATION 637.

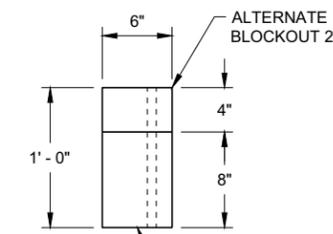
E.A.T. MARKER
POST (YELLOW)



FRONT VIEW SIDE VIEW
E.A.T. MARKER POST ⁽¹³⁾



SIDE VIEW



TOP VIEW

ALTERNATE WOOD
BLOCKOUT DETAIL

6

SDD 14B44 - 04c

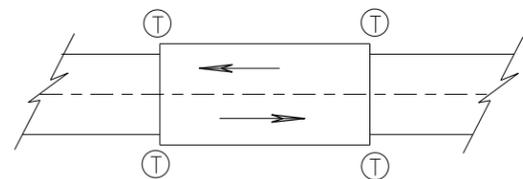
SDD 14B44 - 04c

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

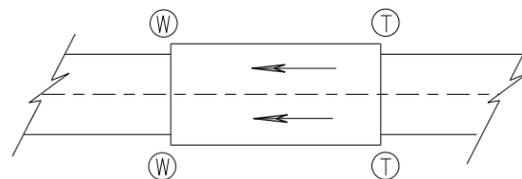
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA



TWO WAY TRAFFIC



ONE WAY TRAFFIC

Ⓣ THRIE BEAM CONNECTION

Ⓜ W-BEAM CONNECTION WHEN REQUIRED

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

GENERAL NOTES

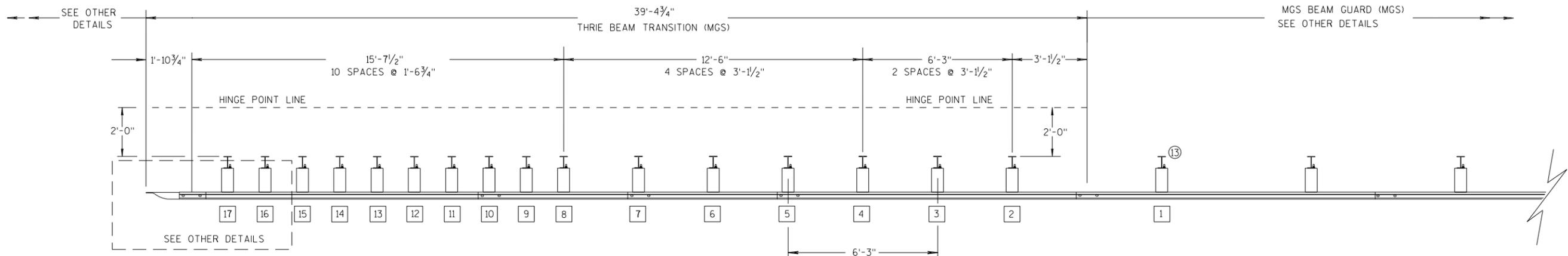
IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2 1/2", AND 12" DIAMETER AROUND POST. SEE 14B42 FOR MORE DETAILS.

TRANSITION USES STEEL POSTS ONLY.

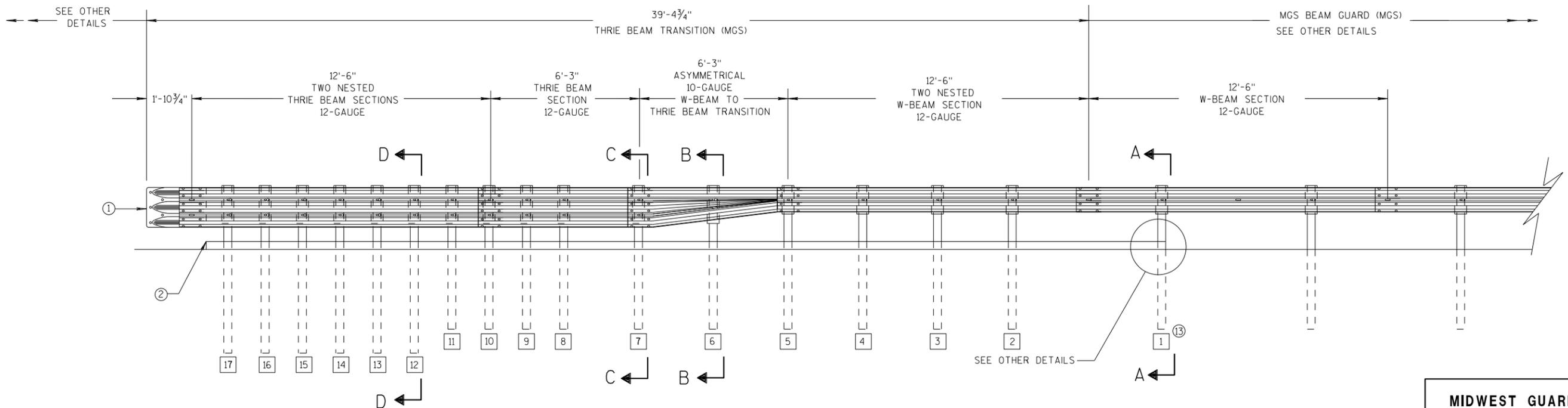
SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

POST 2 THROUGH 17 USES STEEL POST ONLY

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



PLAN VIEW



ELEVATION VIEW

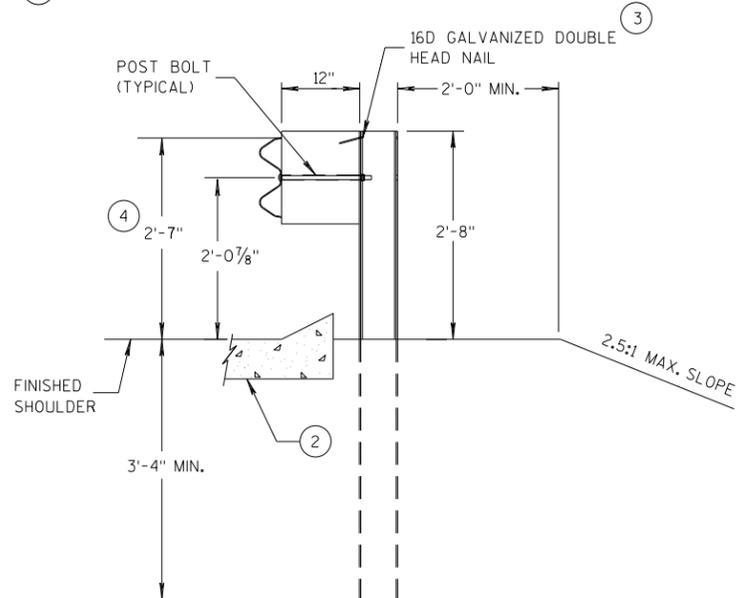
MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION

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

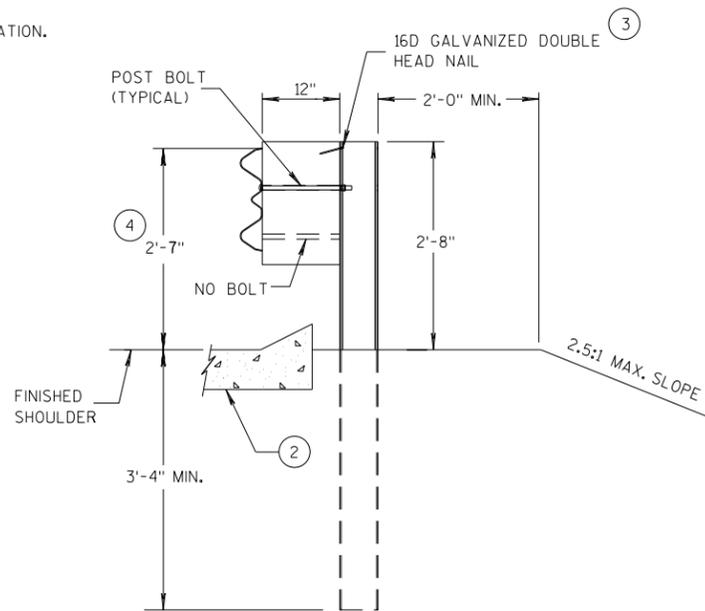
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

GENERAL NOTES

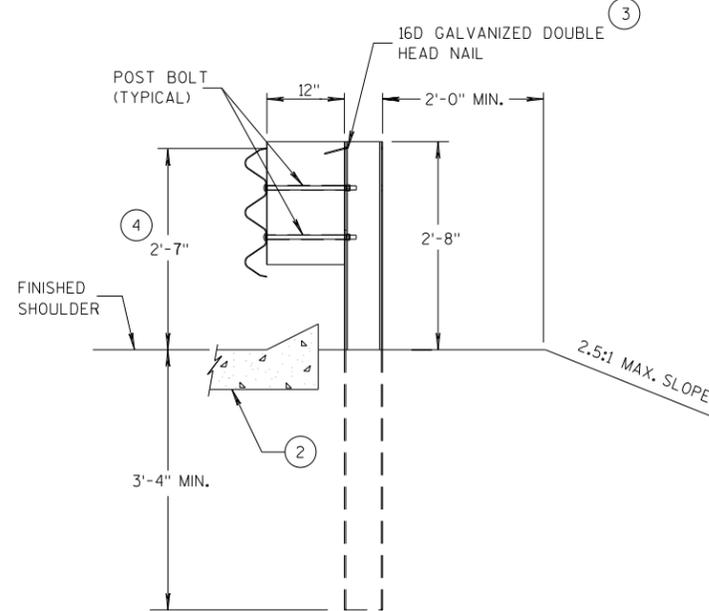
- ② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.
- ③ WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 10D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.
- ④ TOLERANCE FOR TOP OF W-BEAM RAIL IS ± 1".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



**SECTION A-A
POSTS 1-5**



**SECTION B-B
POST 6**



**SECTION C-C
POSTS 7-11**

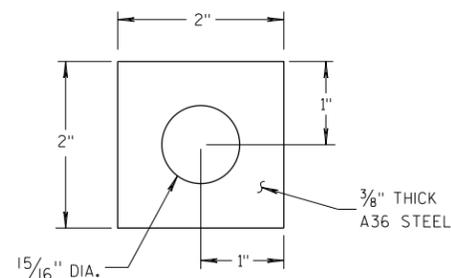
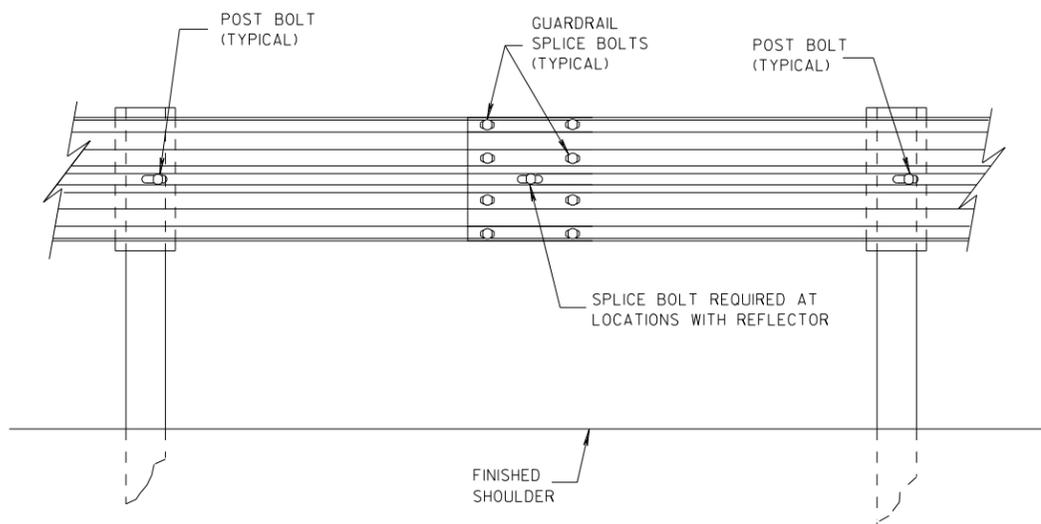
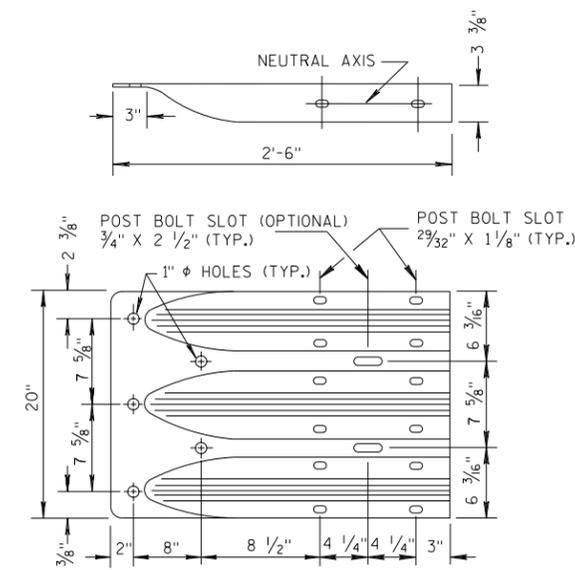


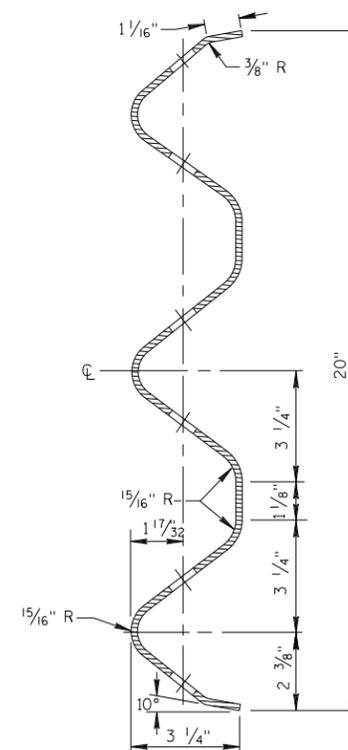
PLATE WASHER DETAIL



SPlice DETAIL



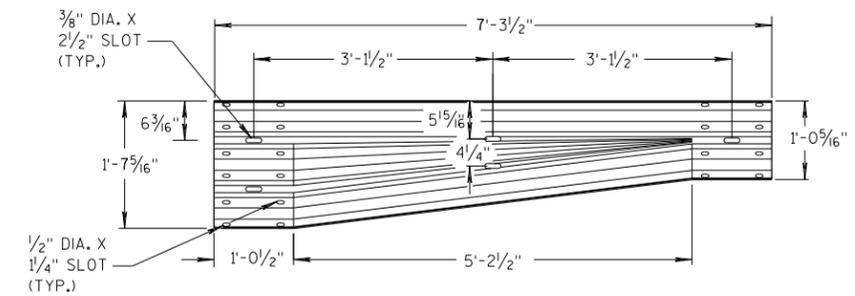
**THRIE BEAM
TERMINAL CONNECTOR**



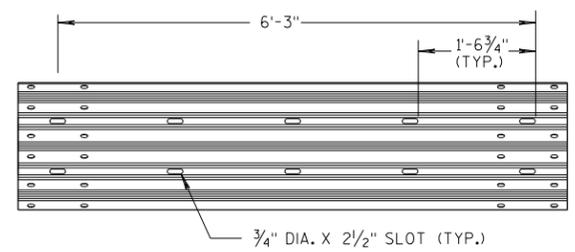
**SECTION THRU THRIE
BEAM RAIL ELEMENT**

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

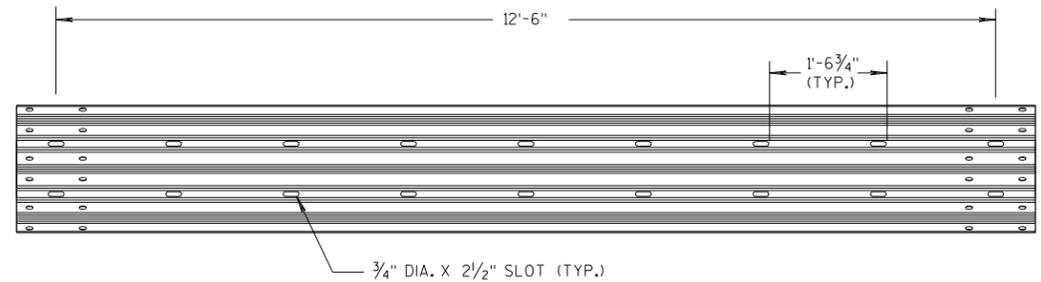
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



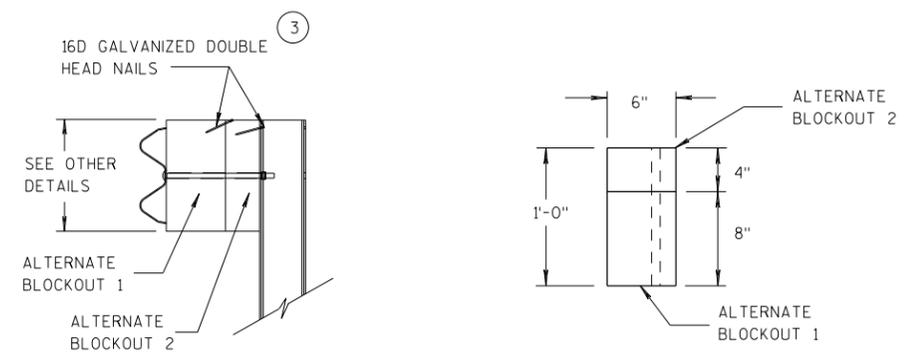
W-BEAM TO THRIE BEAM TRANSITION SECTION



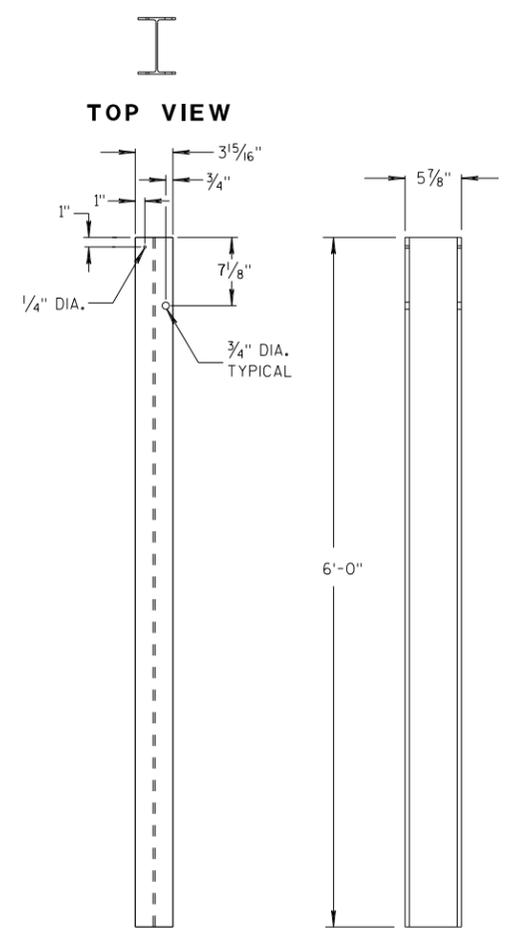
6'-3\"/>



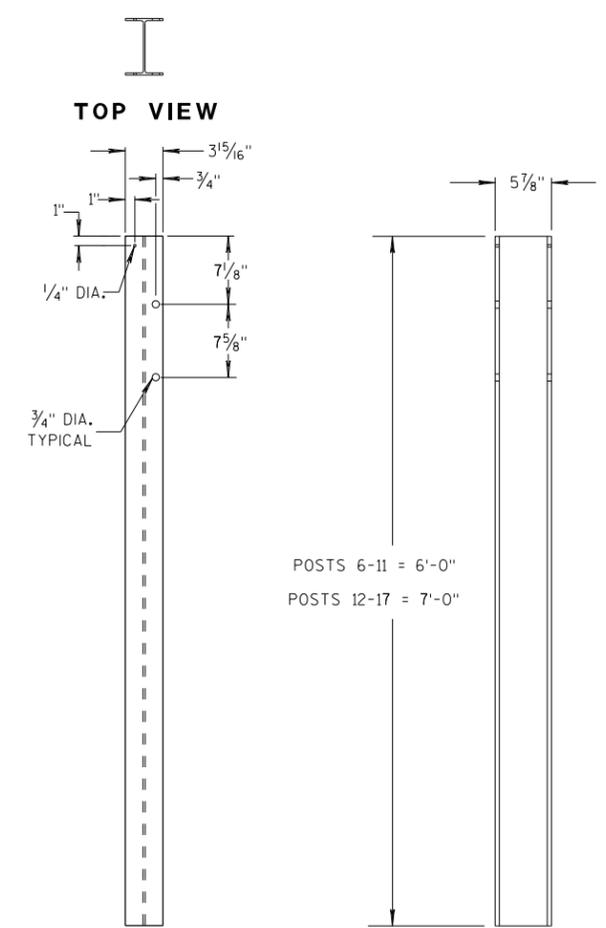
12'-6\"/>



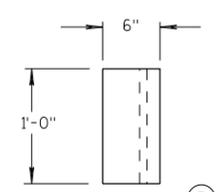
ALTERNATE WOOD BLOCKOUT DETAIL



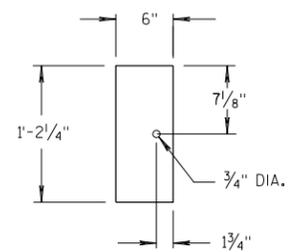
STEEL POSTS 1-5



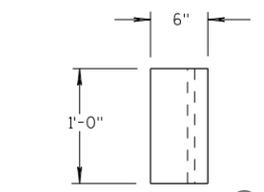
STEEL POSTS 6-17



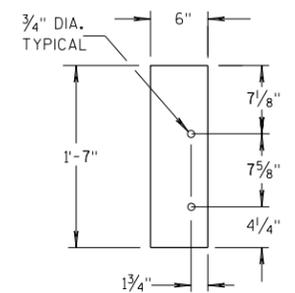
TOP VIEW



**FRONT VIEW
BLOCKOUT
POSTS 1-5**



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)**

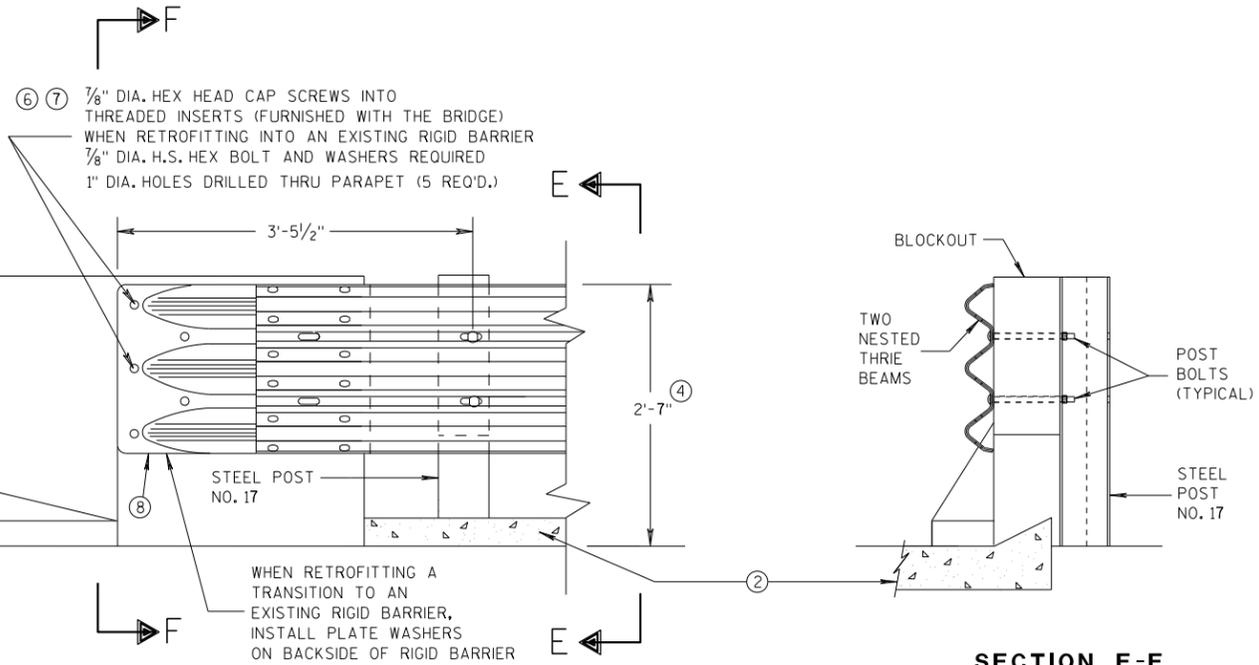
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

6

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

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



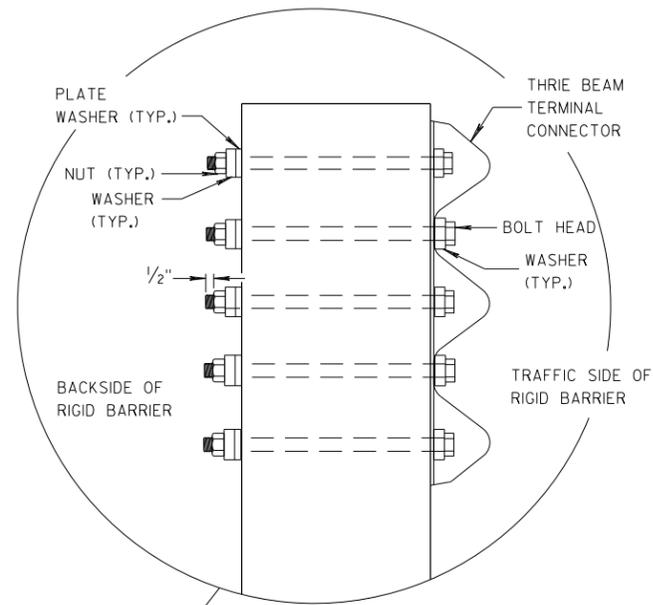
FRONT VIEW

SECTION E-E

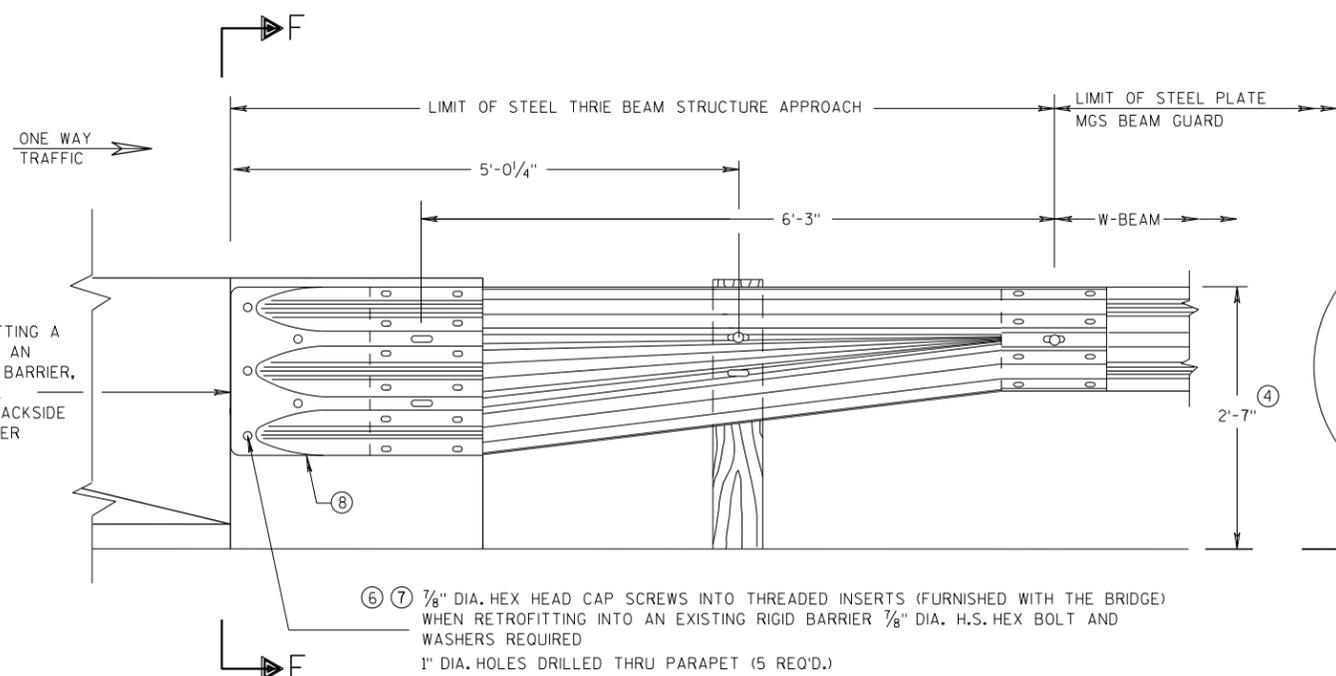
THRIE BEAM CONNECTION TO BRIDGE PARAPET WITH SQUARE ENDS

GENERAL NOTES

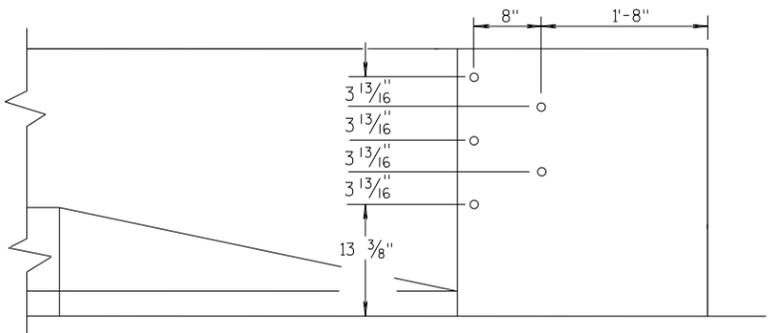
- THESE ARE TYPICAL CONNECTION DETAILS. ADJUST THE POSITION OF CONNECTIONS TO EXISTING BRIDGES TO FIT THE ACTUAL BRIDGE AND SITE DIMENSIONS.
- OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.
- TOLERANCE FOR TOP OF BEAM IS $\pm 1"$.
- DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.
- 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.
- 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



FRONT VIEW
W BEAM TRANSITION AND CONNECTION TO BRIDGE PARAPETS WITH SQUARE ENDS
 (USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)



DRILL HOLE LOCATION

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

STATE OF WISCONSIN
 DEPARTMENT OF TRANSPORTATION

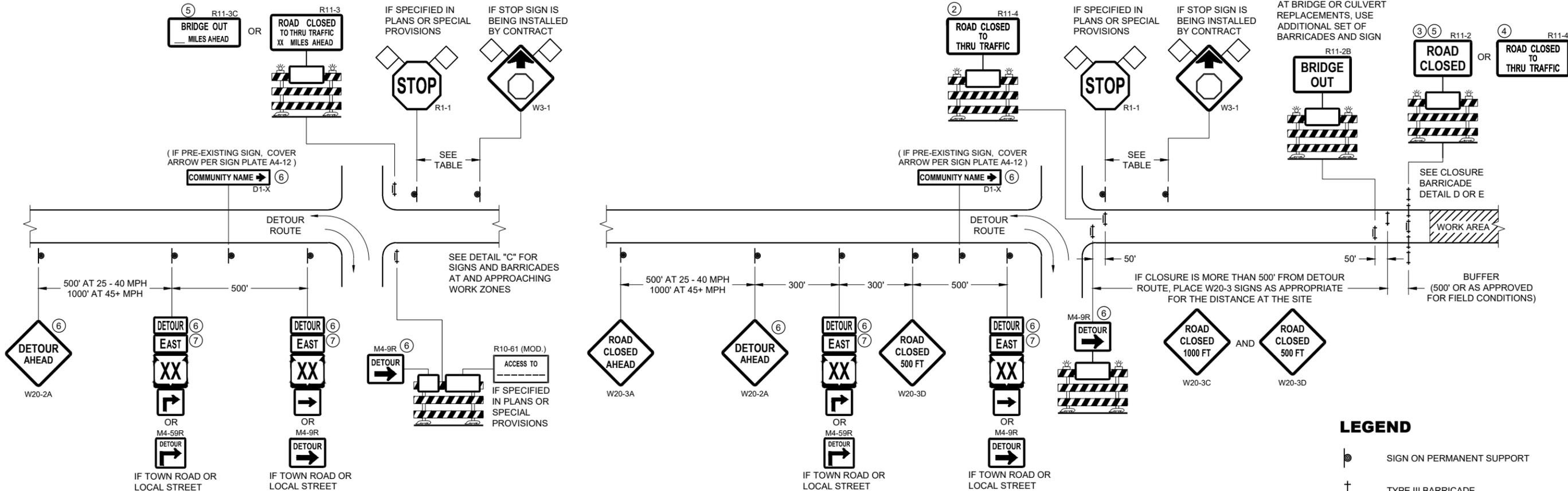
APPROVED
 07/2018 /S/ Rodney Taylor
 DATE ROADWAY STANDARDS DEVELOPMENT
 FHWA UNIT SUPERVISOR

6

6

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

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



**DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR**

WORK ZONE GREATER THAN OR EQUAL TO 1/2 MILE FROM
DETOUR ROUTE (1000 FEET IF URBAN)

**DETAIL B
MAINLINE CLOSURE WITH POSTED DETOUR**

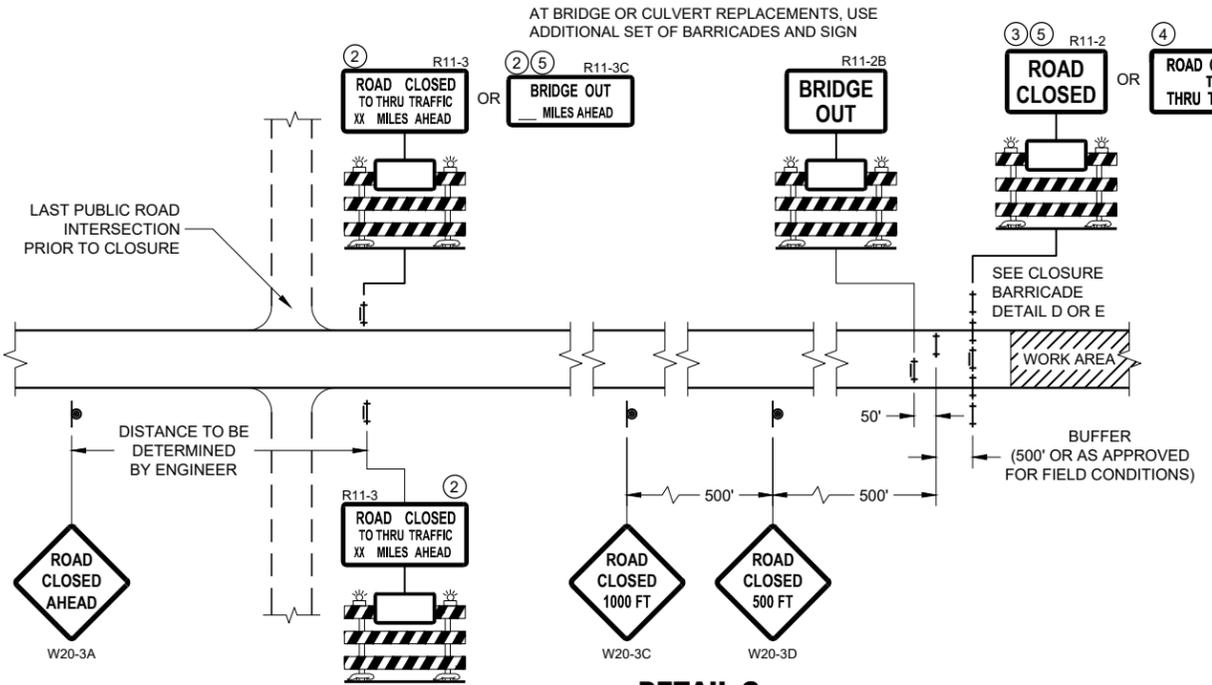
WORK ZONE LESS THAN 1/2 MILE FROM
DETOUR ROUTE (1000 FEET IF URBAN)

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)

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

- M4 - 8
- M3 - X
- M1 - 4
- M1 - 6
- M1 - 5A
- M05 - 1
- M06 - 1



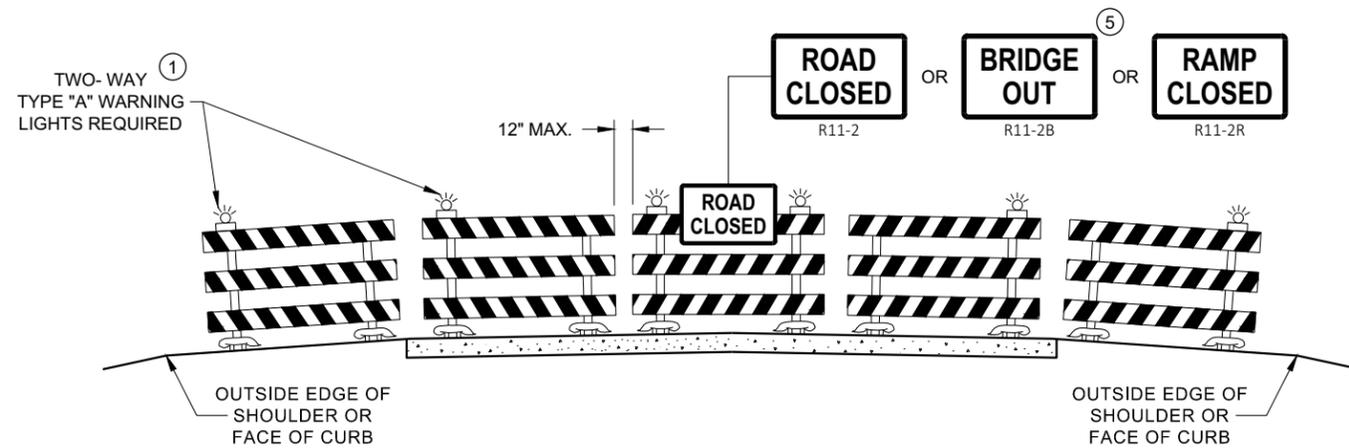
**DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR**

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

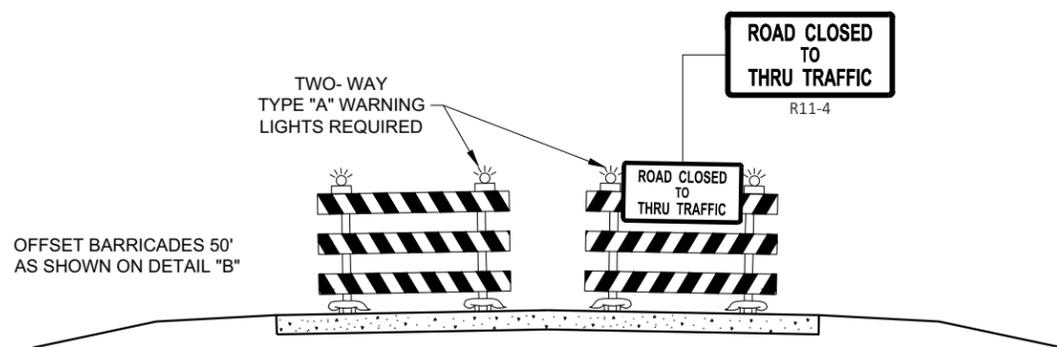
**BARRICADES AND SIGNS
FOR MAINLINE CLOSURES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2020 /S/ Andrew Heidtke
DATE 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.

THE R11 - 2, R11 - 3, M4 - 9, R11 - 4, AND R10 - 61 SIGNS PLACED ON THE BARRICADES SHALL COVER NO MORE THAN THE TOP RAIL. THE SIGNS SHALL NOT COVER ANY PORTION OF THE MIDDLE RAIL OR BOTTOM RAILS.

"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"

- 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
February 2020 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER

FHWA

LEGEND

- SIGN ON PERMANENT SUPPORT
- ▨ WORK AREA
- DETOUR M4 - 8
- EAST M3 - X
- XX OR XX OR COUNTY X M1 - 4 M1 - 6 M1 - 5A
- ↪ OR ↪ OR ↩ M05 - 1 M06 - 1 M06 - 1

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.

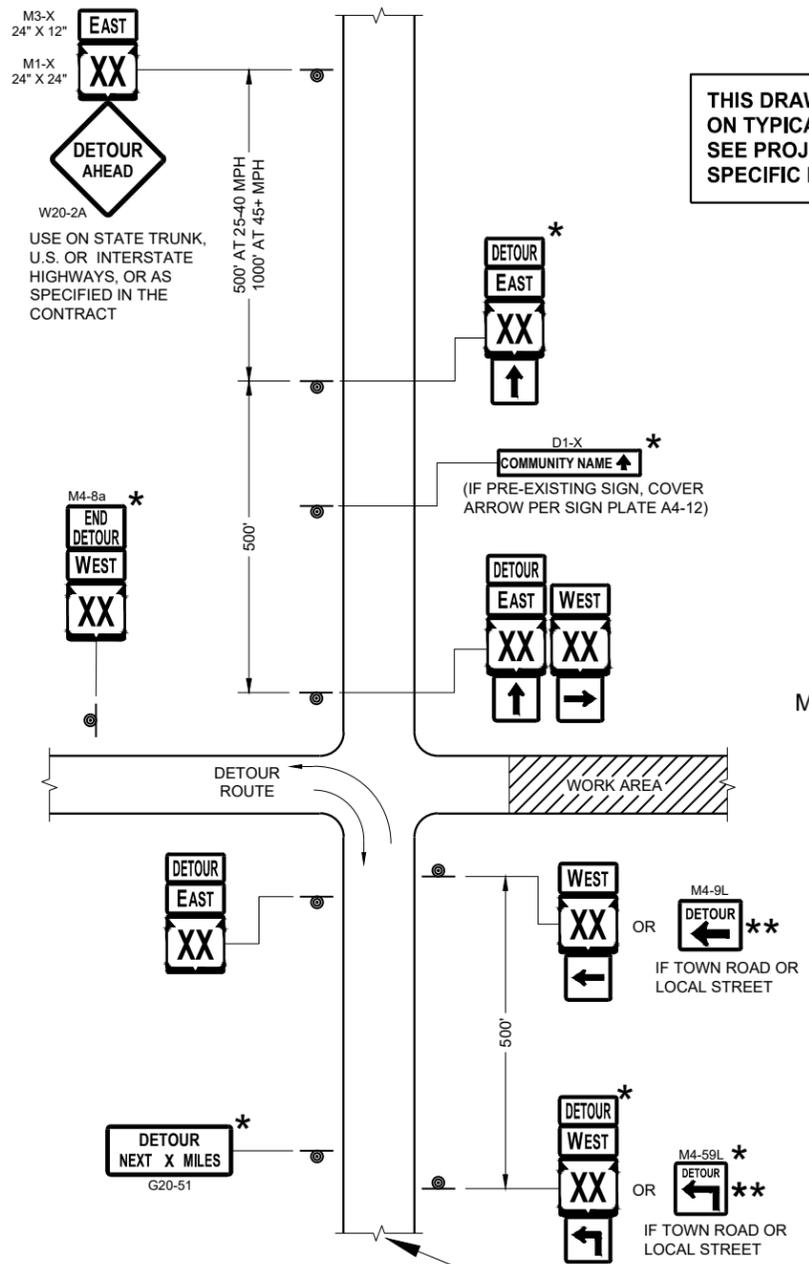
"MO" SIGNS ARE THE SAME AS "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

SIGN SIZES SHALL BE AS FOLLOWS:

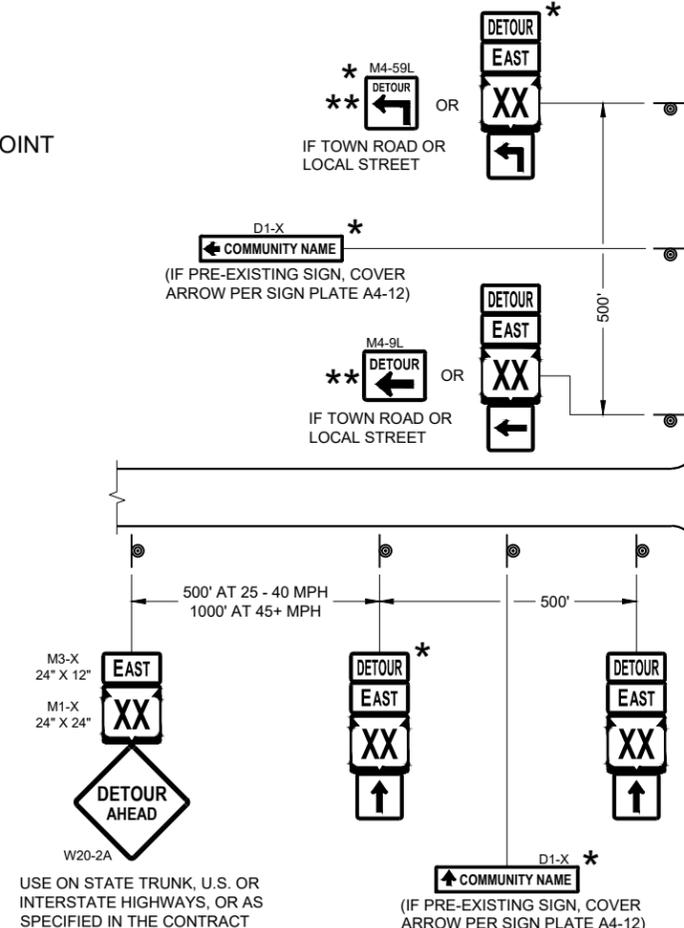
- M3-X SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M4-8 SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M1-4, M1-5A AND M1-6 SHALL BE 24" X 24" (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS)
- M05-1 AND M06-1 SHALL BE 21" X 21" (30" X 30" IF NEEDED TO MATCH EXISTING 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.

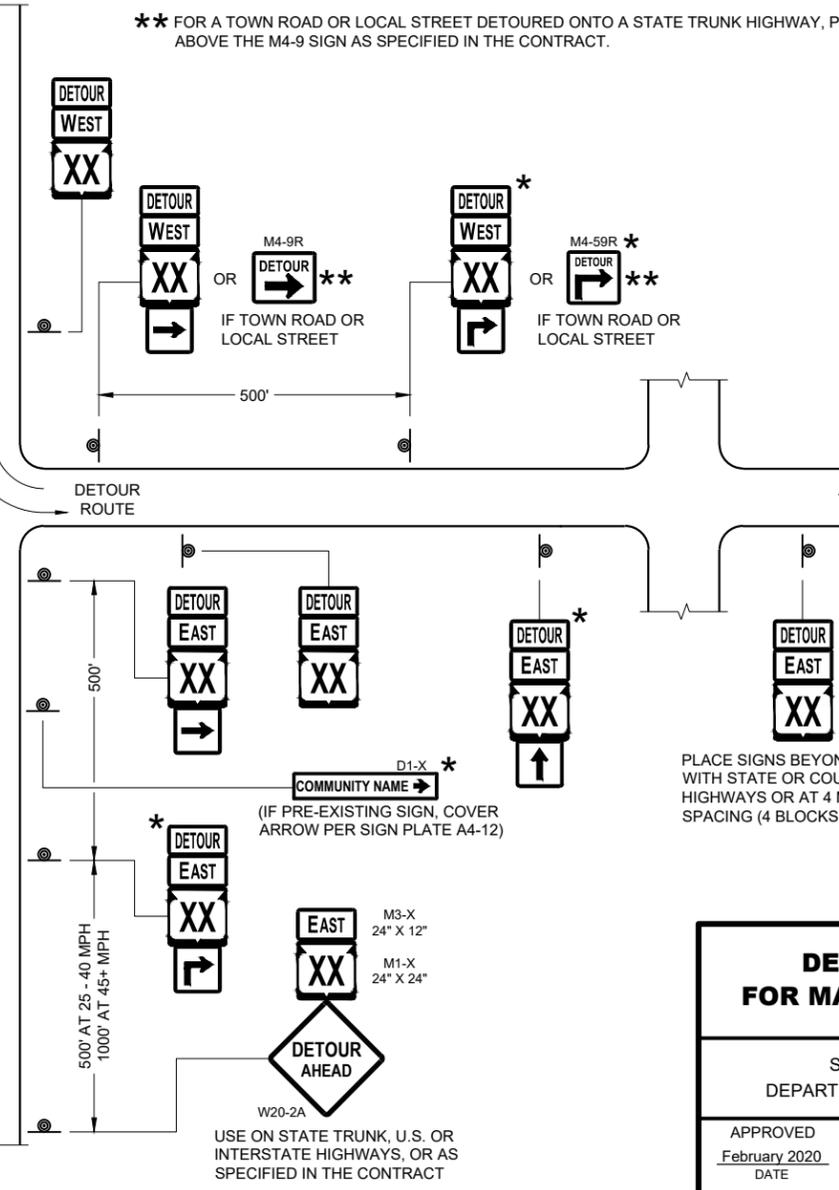
THIS DRAWING PROVIDES GENERAL GUIDANCE ON TYPICAL DETOUR SIGN LAYOUT AND SPACING. SEE PROJECT DETOUR SIGNING SHEETS FOR SPECIFIC DETAILS FOR EACH PROJECT.



MATCH POINT



DETAIL F
DETOUR SIGNING



**DETOUR SIGNING
FOR MAINLINE CLOSURES**

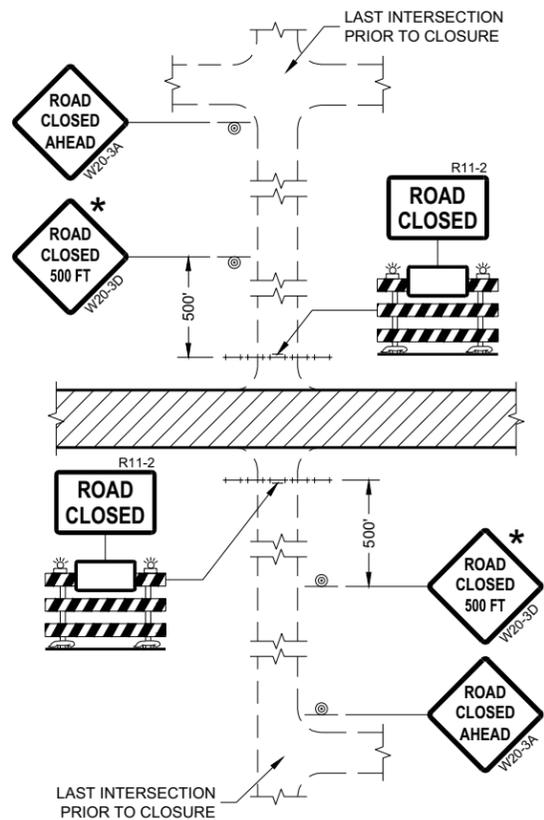
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2020 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER

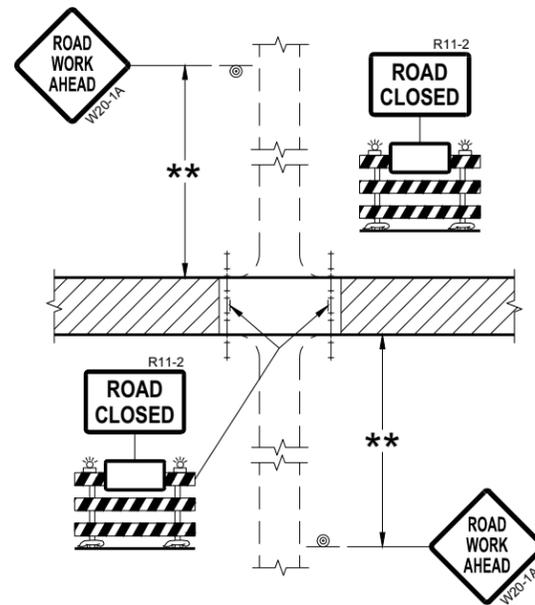
FHWA

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

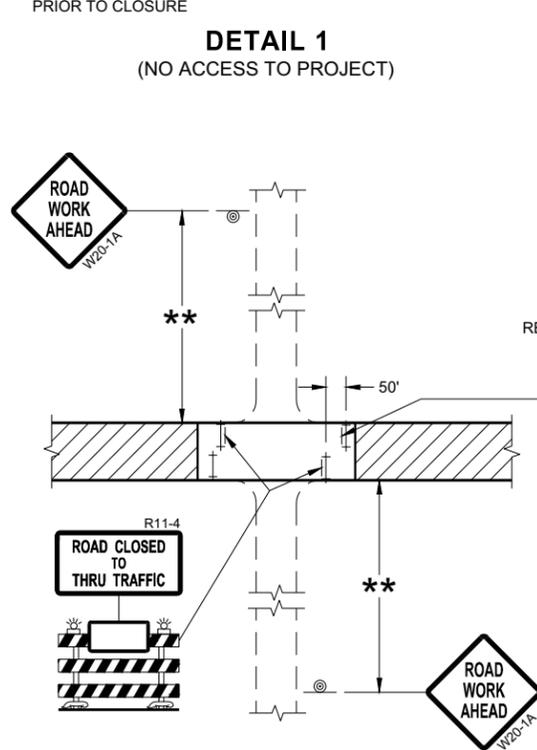
PLACE SIGNS BEYOND INTERSECTIONS WITH STATE OR COUNTY TRUNK HIGHWAYS OR AT 4 MILE MAXIMUM SPACING (4 BLOCKS IF URBAN AREA)



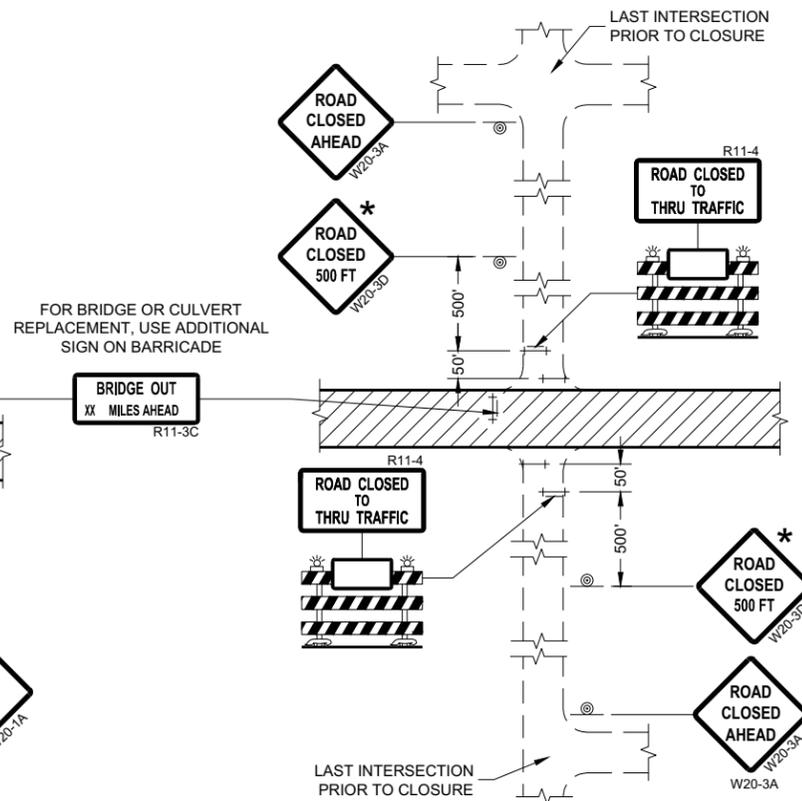
DETAIL 1
(NO ACCESS TO PROJECT)



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



DETAIL 3
(PUBLIC CROSS-TRAFFIC MAINTAINED.
CONTRACTOR, LOCAL BUSINESS AND
RESIDENT 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

GENERAL NOTES

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

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

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS, 36"X36" SIGNS MAY BE USED INSTEAD OF 48" X 48" SIGNS.

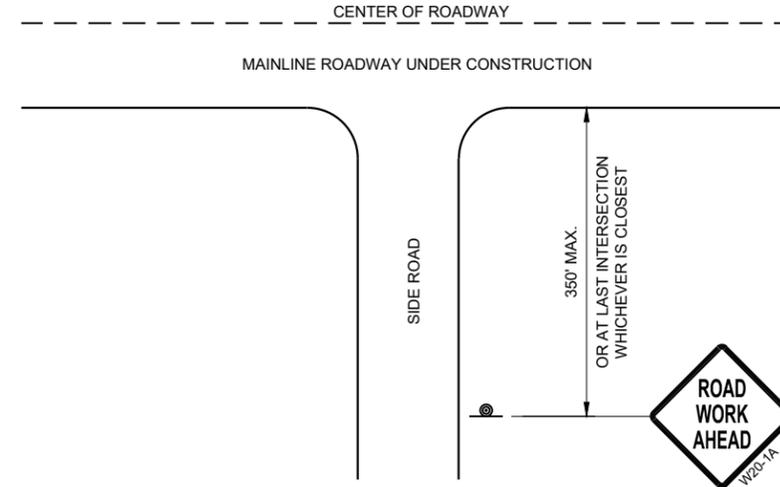
SIGNS THAT WILL BE IN PLACE LESS THAN SEVEN CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

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

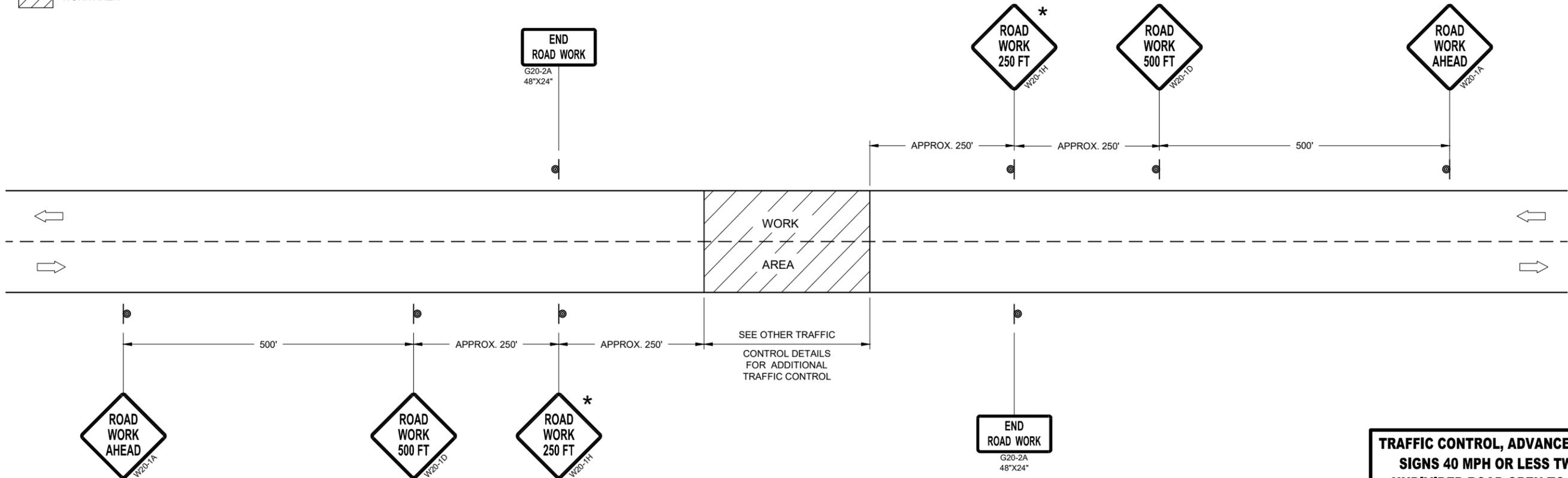
* THE THIRD W20-1 SIGN IS REQUIRED ONLY IF THERE IS AN INTERSECTION BETWEEN THE "ROAD WORK 500 FEET" SIGN AND THE WORK ZONE. ADJUST THE PLACEMENT OF THIS SIGN BASED ON INTERSECTION LOCATION AND OTHER FIELD CONDITIONS.

LEGEND

-  SIGN ON PERMANENT SUPPORT
-  DIRECTION OF TRAFFIC
-  WORK AREA



**TYPICAL SIDE ROAD APPROACH
WARNING SIGN DETAIL**



TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40MPH OR LESS

**TRAFFIC CONTROL, ADVANCE WARNING
SIGNS 40 MPH OR LESS TWO-WAY
UNDIVIDED ROAD OPEN TO TRAFFIC**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA

GENERAL NOTES

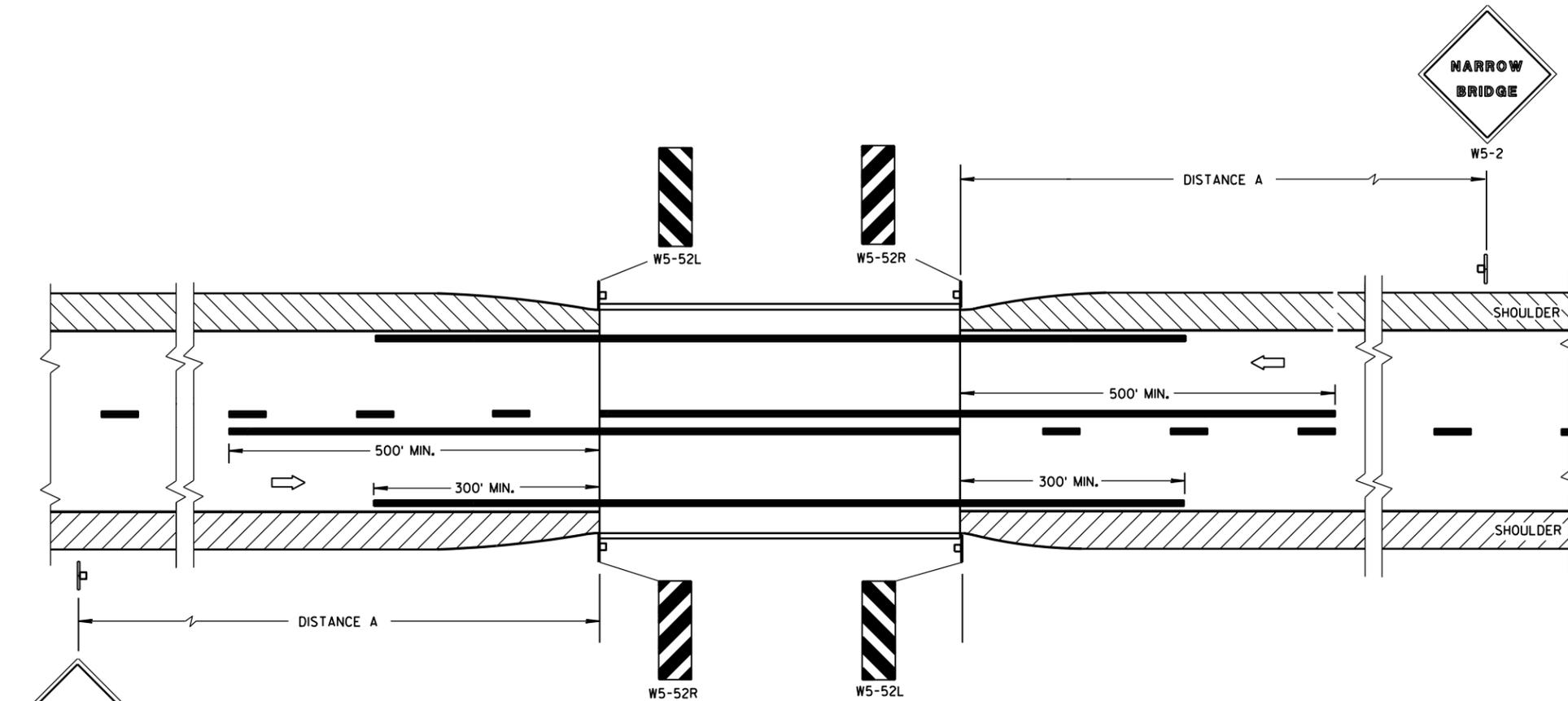
DETAILS OF TRAFFIC CONTROL DEVICES AND INSTALLATION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

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.

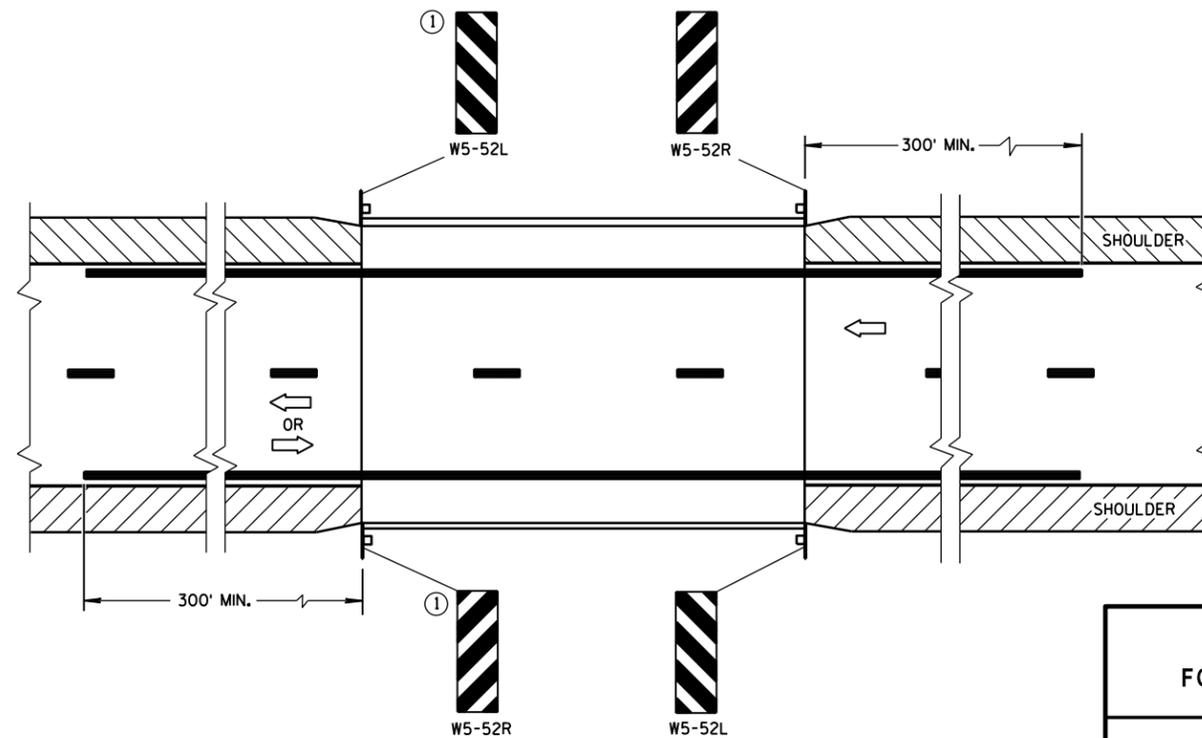
① OMIT ON ONE-WAY TRAVELLED WAYS.

➡ DIRECTION OF TRAFFIC



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.

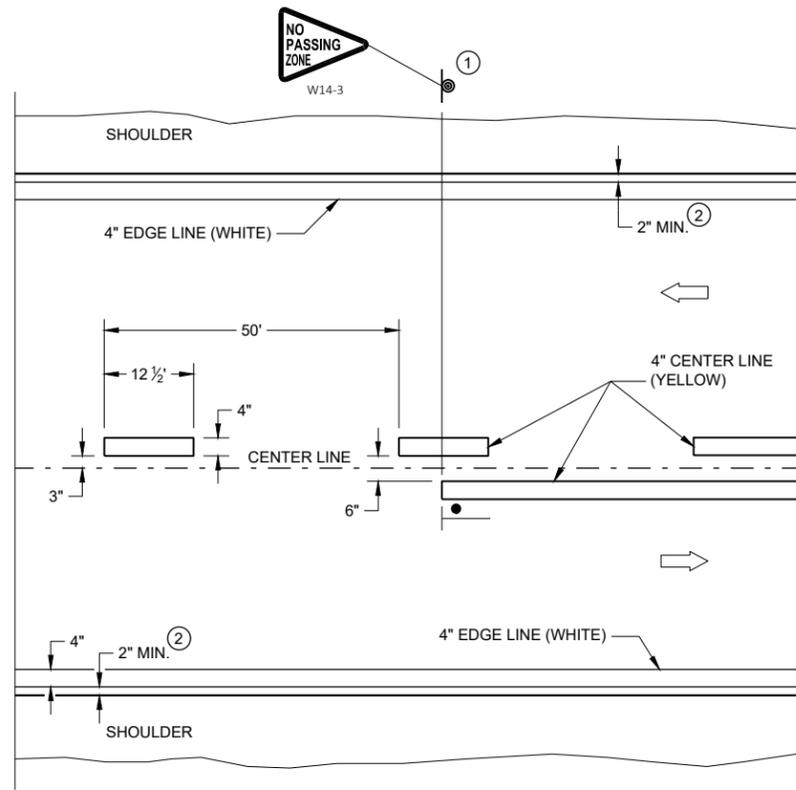
DISTANCE TABLE

POSTED OR 85th PERCENTILE SPEED	DISTANCE "A"
25	150'
30	200'
35	250'
40	300'
45	400'
50	550'
55	750'

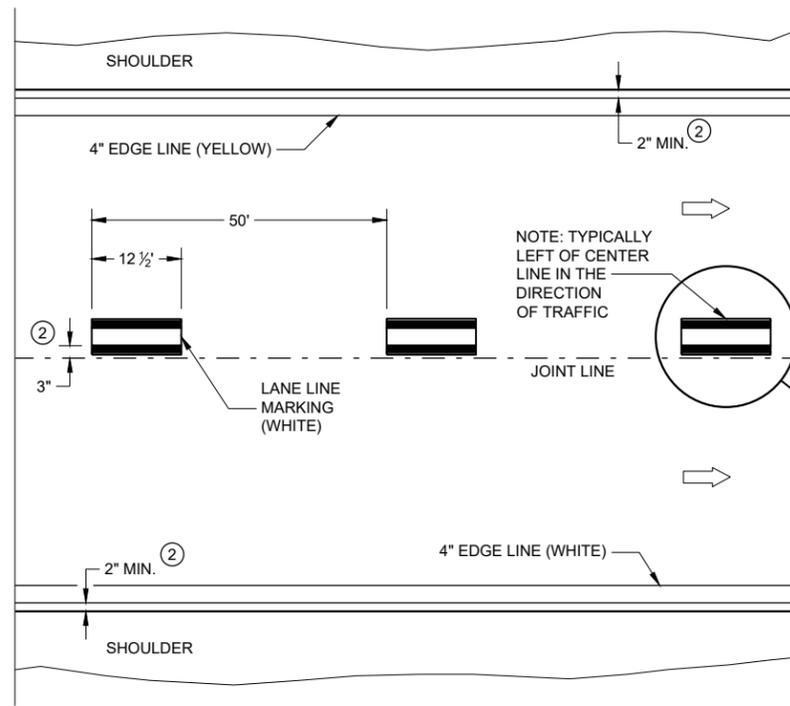
SIGNING & MARKING FOR TWO LANE BRIDGES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2017 /S/ Matthew R. Rauch
DATE STATE SIGNING AND MARKING ENGINEER
FHWA

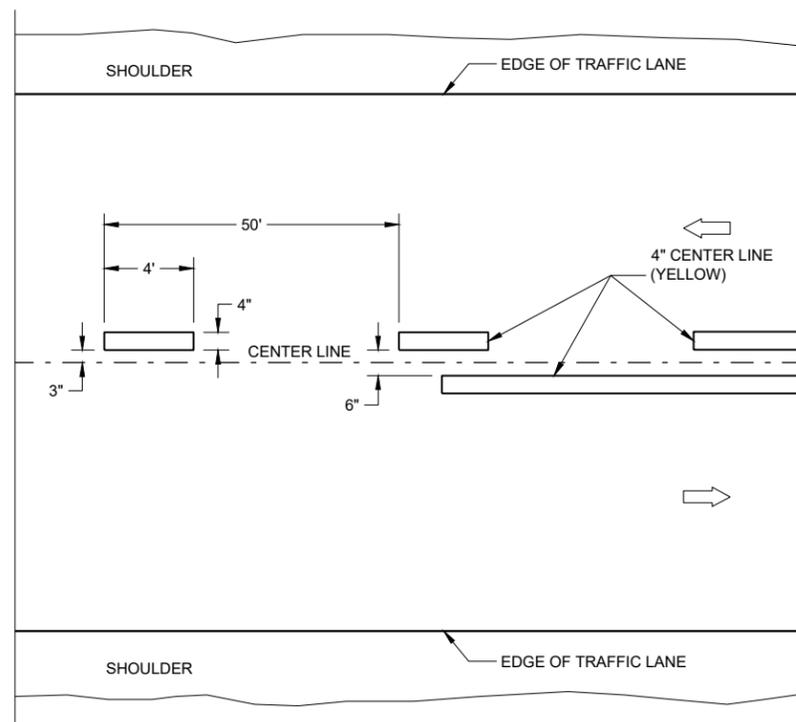


TWO WAY TRAFFIC

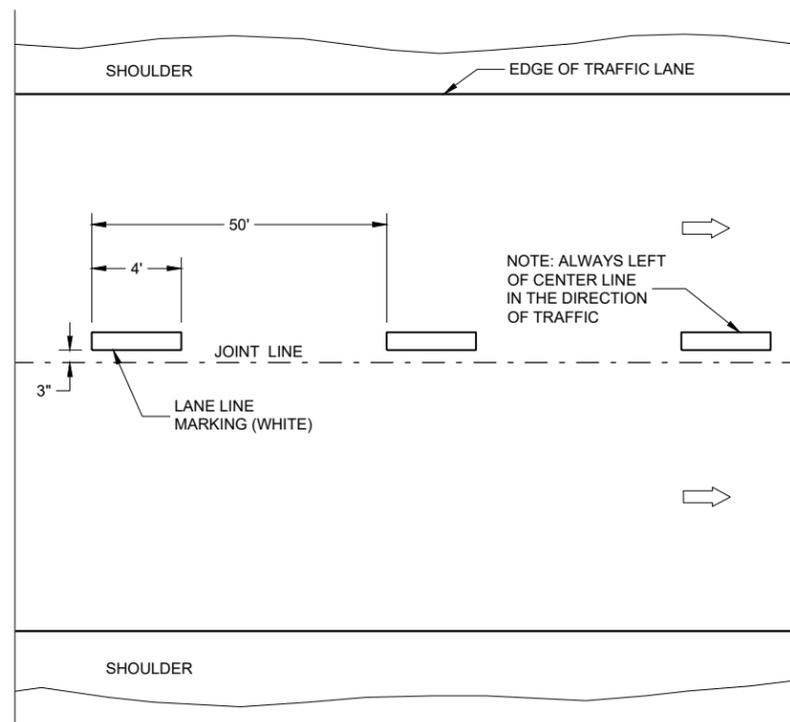


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY PAVEMENT MARKING

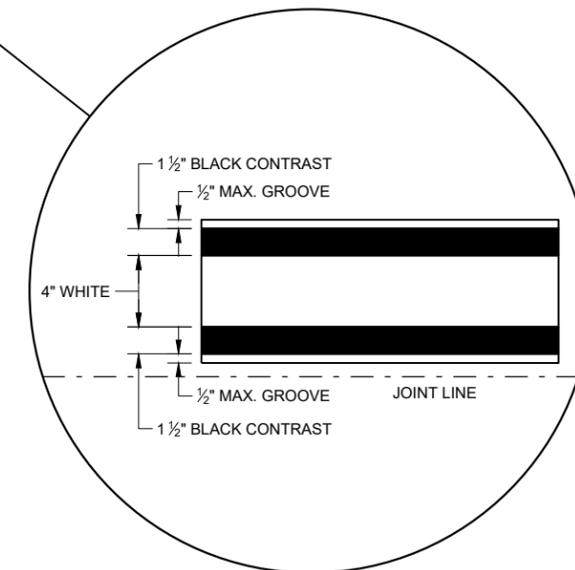
GENERAL NOTES

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

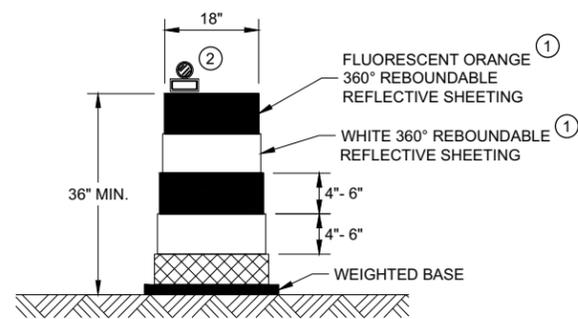
- "T" MARKING
- SIGN ON PERMANENT SUPPORT
- DIRECTION OF TRAFFIC



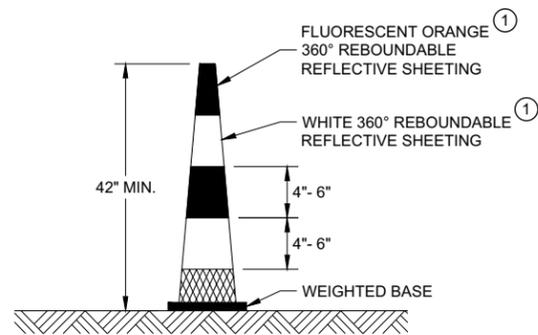
LONGITUDINAL MARKING (MAINLINE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2020 /S/ Matthew Rauch
DATE STATEWIDE SIGNING AND MARKING
ENGINEER

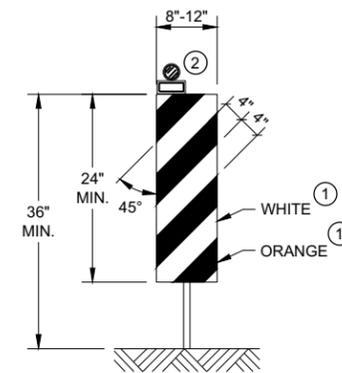


DRUM



42" CONE

DO NOT USE IN TAPERS
1/2 SPACING OF DRUMS

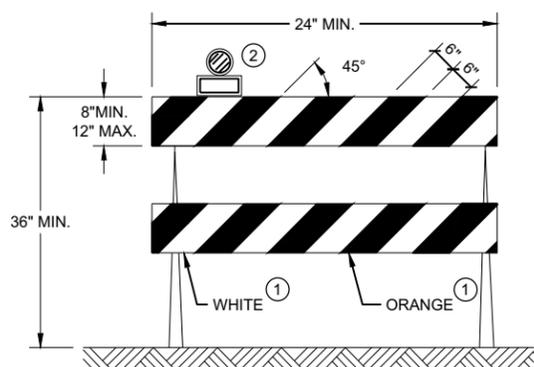


VERTICAL PANEL

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

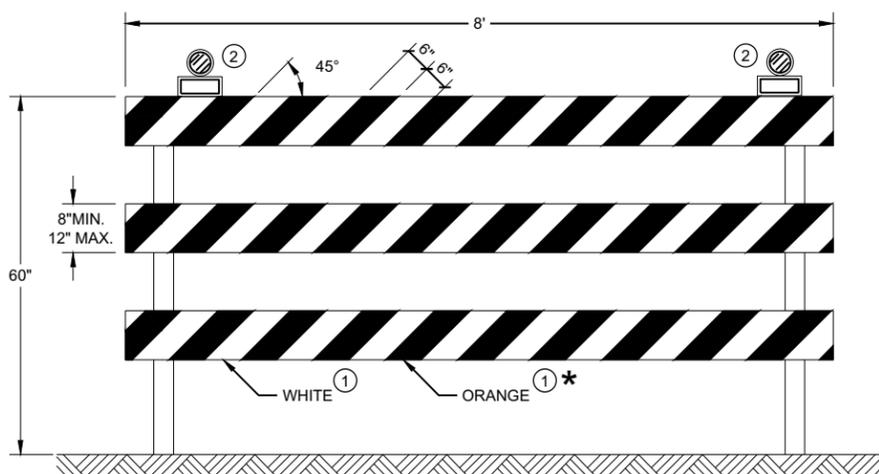
GENERAL NOTES

- 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.



TYPE II BARRICADE

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



TYPE III BARRICADE

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

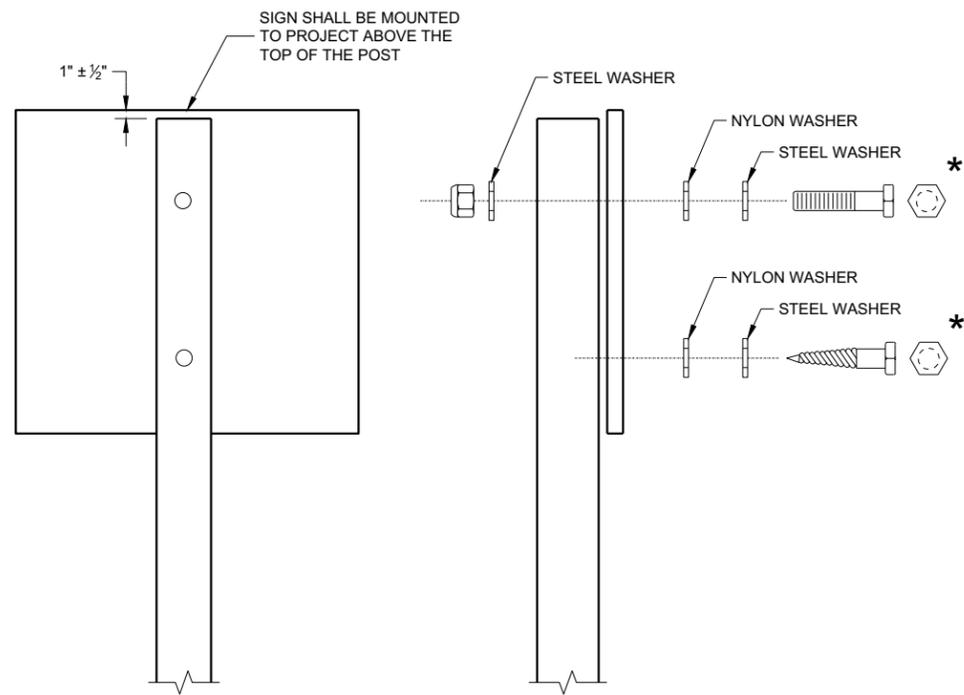
* IF USED FOR A PERMANENT APPLICATION USE RED SHEETING.

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2020 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER

FHWA



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.

WOOD POST (4" x 6")
 LAG SCREWS - 3/8" x 3"
 MACHINE BOLTS - 5/16" x 6 1/2" OR 7" LENGTH W/NUTS

SQUARE STEEL POST (2" x 2")
 MACHINE BOLTS - 3/8" x 3 1/4" LENGTH W/NUTS
 RIVETS - 3/32" (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM
 BODY/MANDREL O.D. FLANGE 0.720 - 0.765 INCH,
 GRIP RANGE 0.042 - 0.375 INCH

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 0.080 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. FOR A SINGLE POST INSTALLATION, ALL SIGNS GREATER THAN 9 SQ. FT. REQUIRE THE USE OF 3 FASTENERS.

ATTACHMENT OF SIGNS TO POSTS	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED June 2017 DATE	/S/ Andrew Heidtke WORK ZONE ENGINEER
FHWA	



66" X 30"

NOTES:

- 1. TRAFFIC CONTROL SIGNS FIXED MESSAGE - TYPE F REFLECTIVE SHEETING
- 2. COLOR:
 - BACKGROUND - ORANGE
 - MESSAGE - BLACK
- 3. MESSAGE SERIES - C
- 4. LETTER HEIGHT - 6 INCHES



36" X 18"

NOTES:

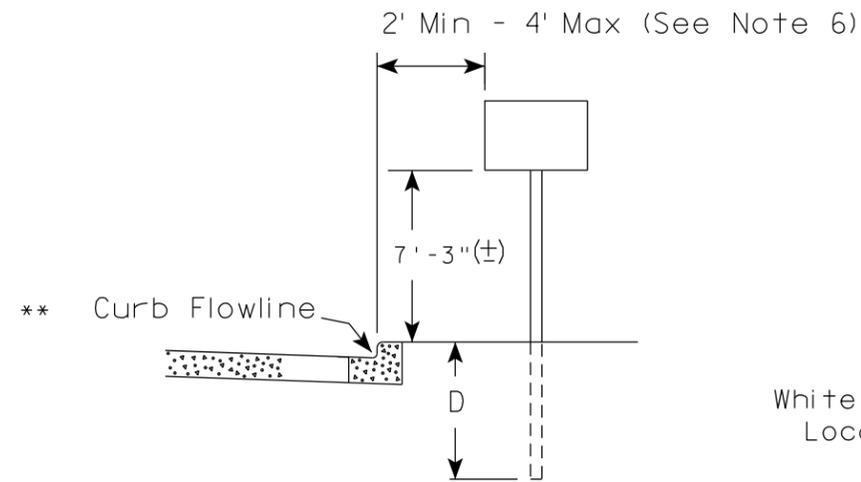
- 1. TRAFFIC CONTROL SIGN - TYPE F REFLECTIVE SHEETING
- 2. COLOR:
 - BACKGROUND - ORANGE
 - MESSAGE - BLACK
- 3. MESSAGE SERIES - C
- 4. LETTER HEIGHT - 3 INCHES

7

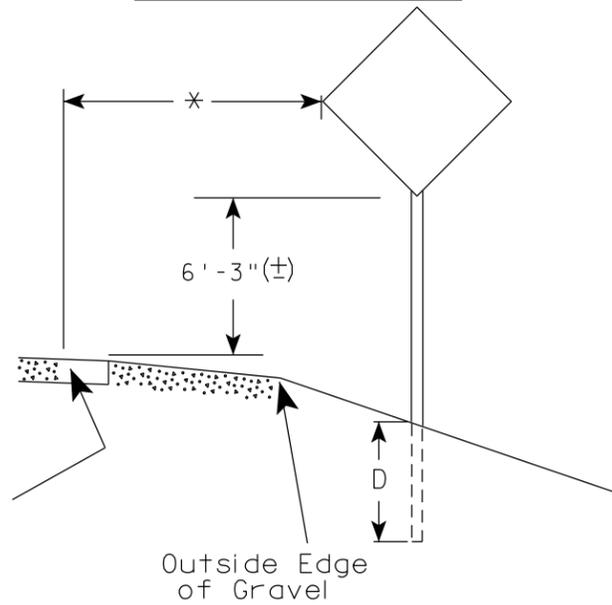
7

URBAN AREA

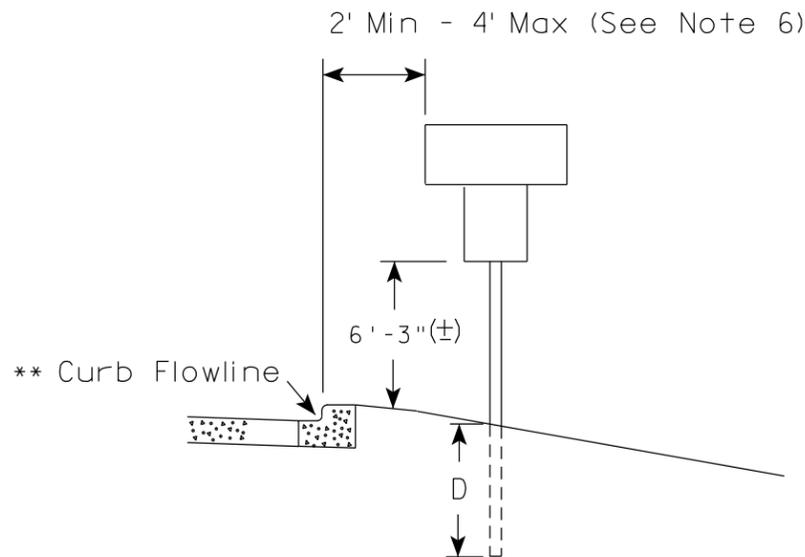
RURAL AREA (See Note 2)



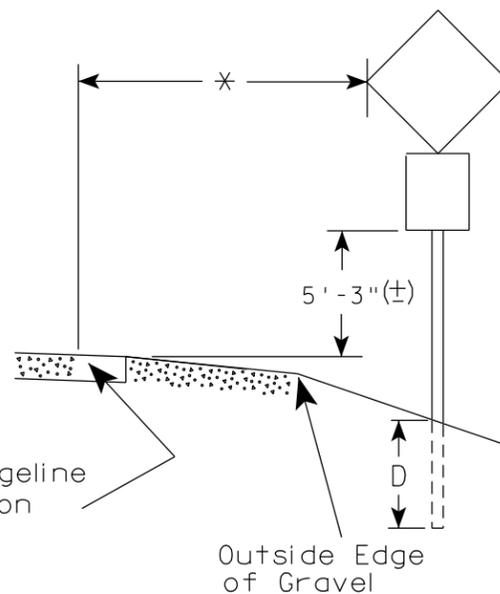
White Edgeline Location



Outside Edge of Gravel



White Edgeline Location



Outside Edge of Gravel

POST EMBEDMENT DEPTH

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

GENERAL NOTES

1. Signs wider than 4 feet or 20 sq.ft or larger, shall be mounted on multiple posts. Refer to plate A4-4.
2. 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" (±). 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" (±) or 6'-3" (±) depending upon existence of a sub-sign.
4. Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±).
5. Offset distance shall be consistent with existing signs or consistent throughout length of project.
6. The (±) tolerance for mounting height is 3 inches.
7. Folding signs shall be mounted at a height of 5'-3" (±) or as directed by the 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.

* 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.

TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

Matthew R. Rauch
for State Traffic Engineer

DATE 5/13/2020

PLATE NO. A4-3.22

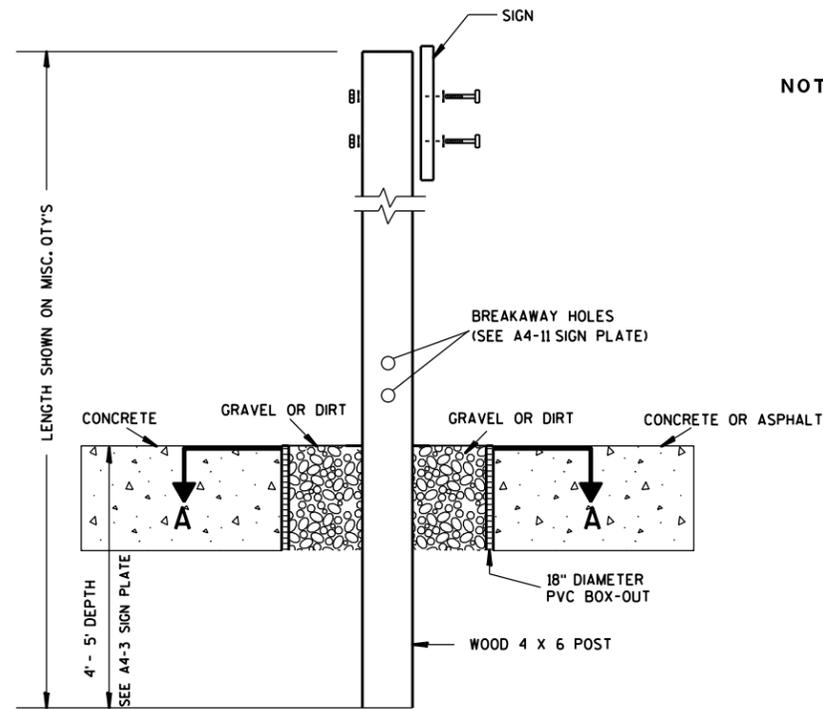
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

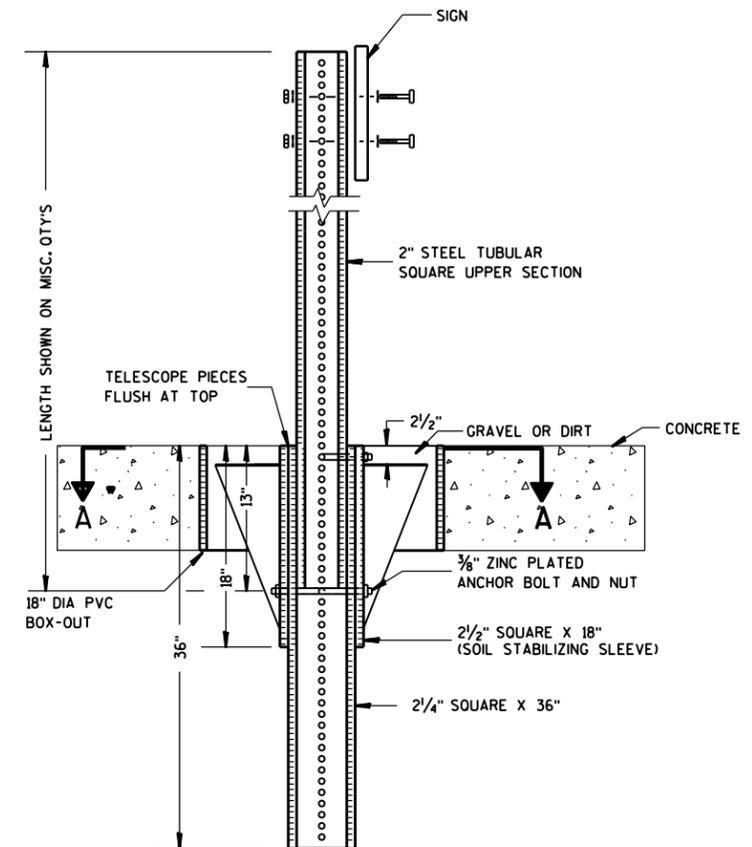
E



ELEVATION VIEW

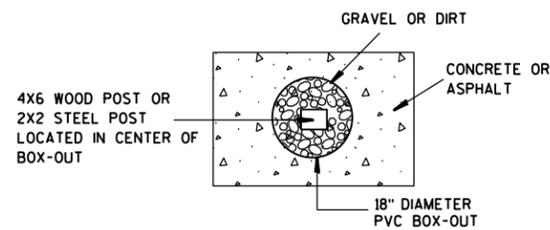
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

- 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

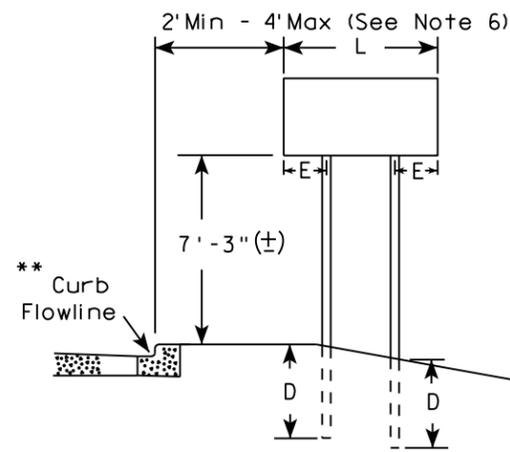
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 1/27/14 PLATE NO. A4-3B.1

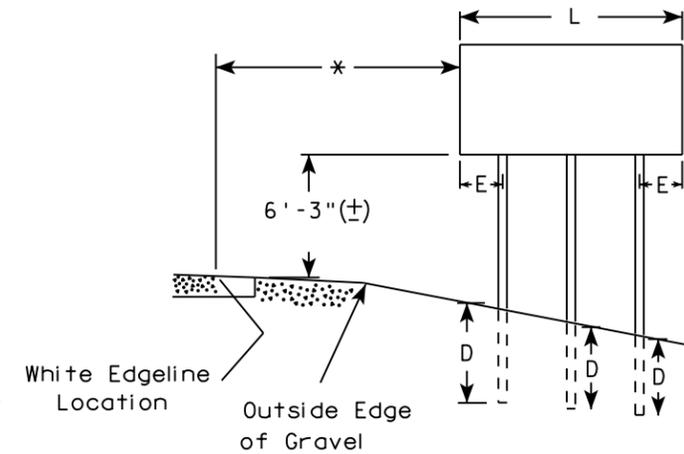
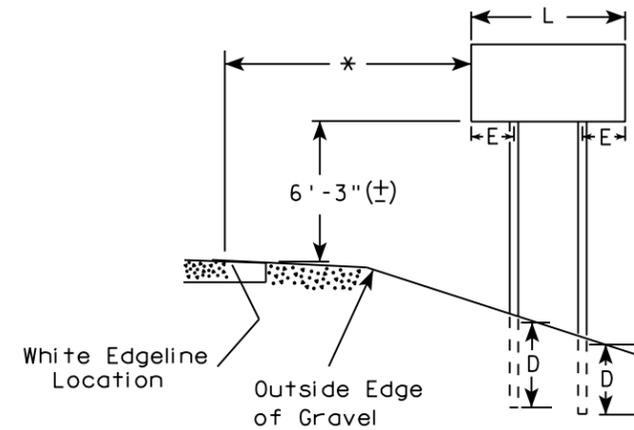
GENERAL NOTES

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" (±) or 6'-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" (±) or as directed by the engineer.
8. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-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" (±).

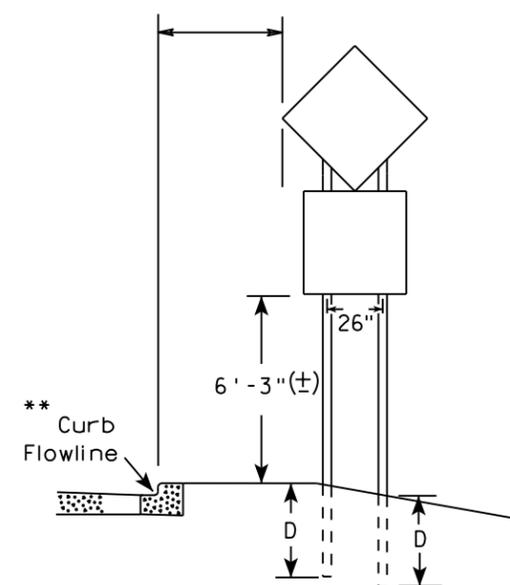
URBAN AREA



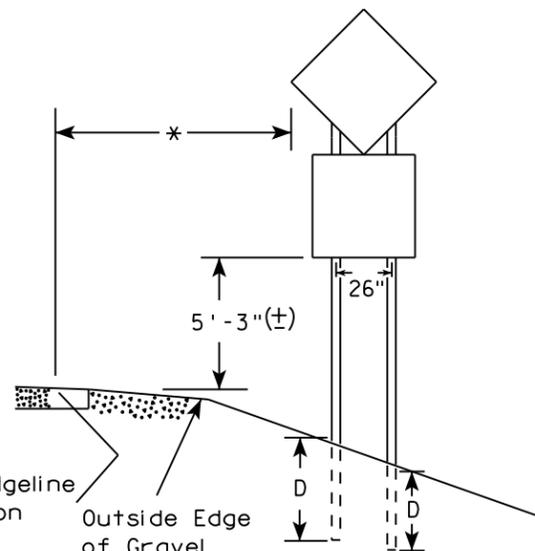
RURAL AREA (See Note 3)



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



48" DIAMOND WARNING SIGN



48" DIAMOND WARNING SIGN

* 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

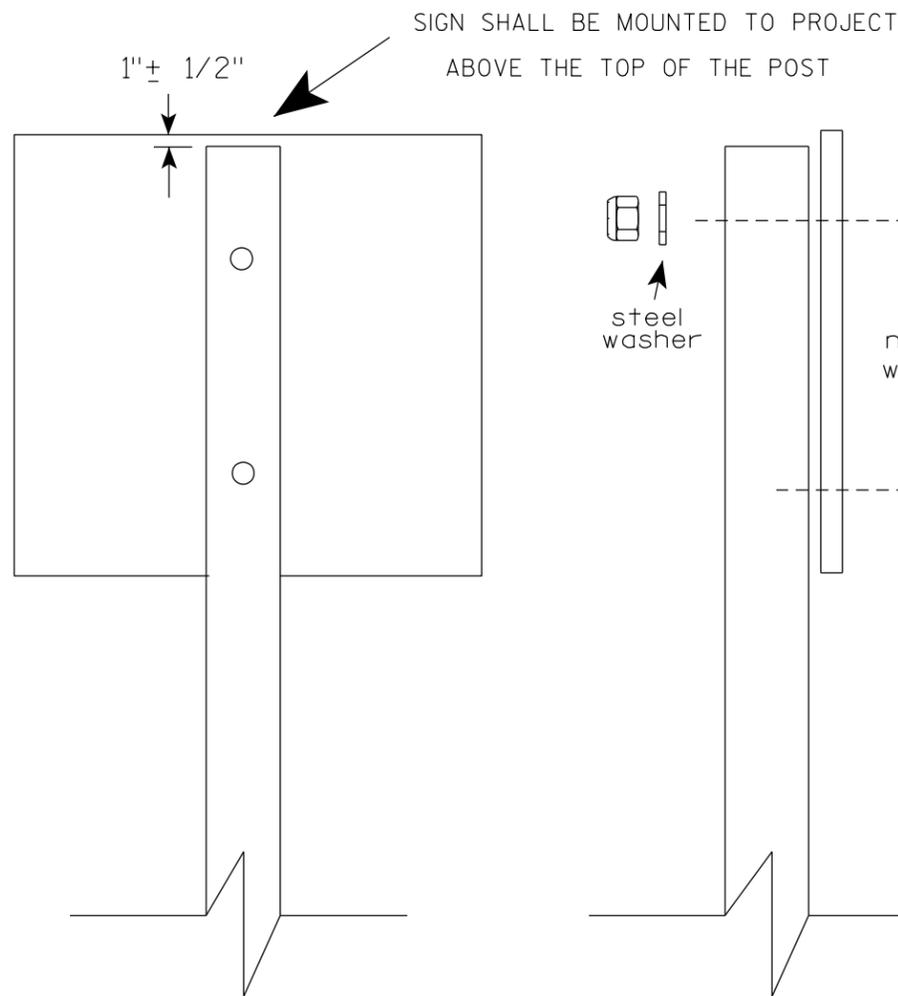
SIGN SHAPE OTHER THAN DIAMOND (THREE POSTS REQUIRED)	
L	E
Greater than 108" to 144"	12"

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 8/21/17 PLATE NO. A4-4.15



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

- Hot dip galvanized in accordance with ASTM Designation: A 153, Class D, or SC 3
- 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.

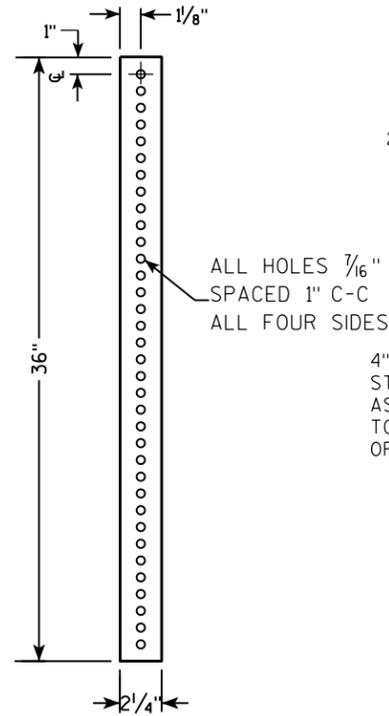
- STRINGER BOLTING TO ALUMINUM SIGNS (SEE SIGN PLATE A4-18)
- MACHINE BOLTS - $\frac{5}{16}$ " X 1-3/4" Length w/ lock nuts
- WOOD POSTS (4" x 6")
- LAG SCREWS - $\frac{3}{8}$ " X 3" (NO STRINGERS ON BACK OF SIGN)
 - $\frac{3}{8}$ " X 4" (STRINGERS ON BACK OF SIGN)
- SQUARE STEEL POSTS (2" x 2")
- MACHINE 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.

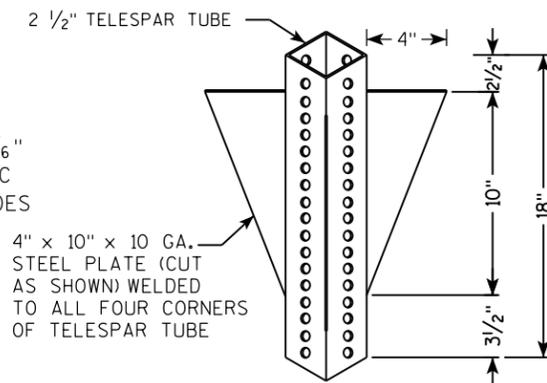
ATTACHMENT OF SIGNS TO POSTS	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R Rauch</i> For State Traffic Engineer
DATE 4/1/2020	PLATE NO. A4-8.9

**TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM**

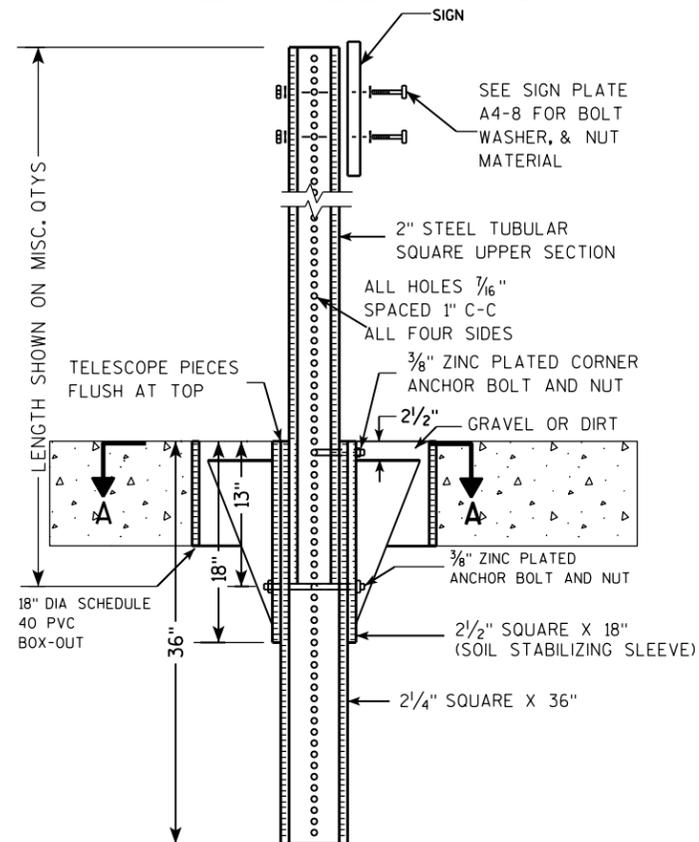
2 1/4" SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH



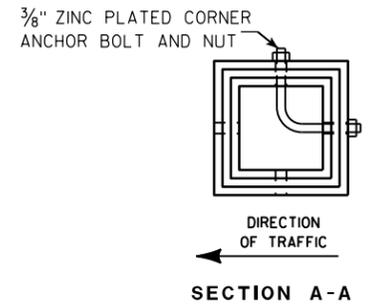
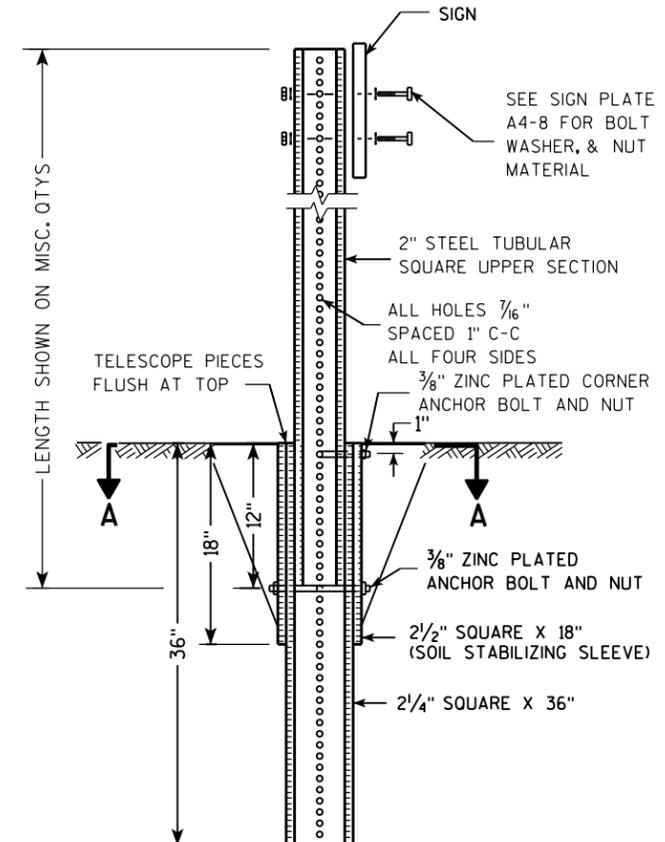
2 1/2" SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH



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



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



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

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

**TUBULAR STEEL
SIGN POST
A4-9**

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 2/05/15 PLATE NO. A4-9.9

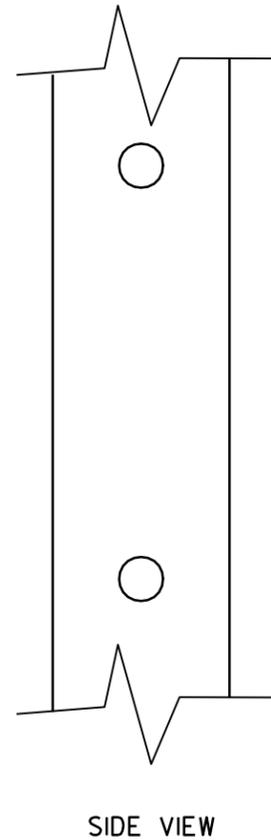
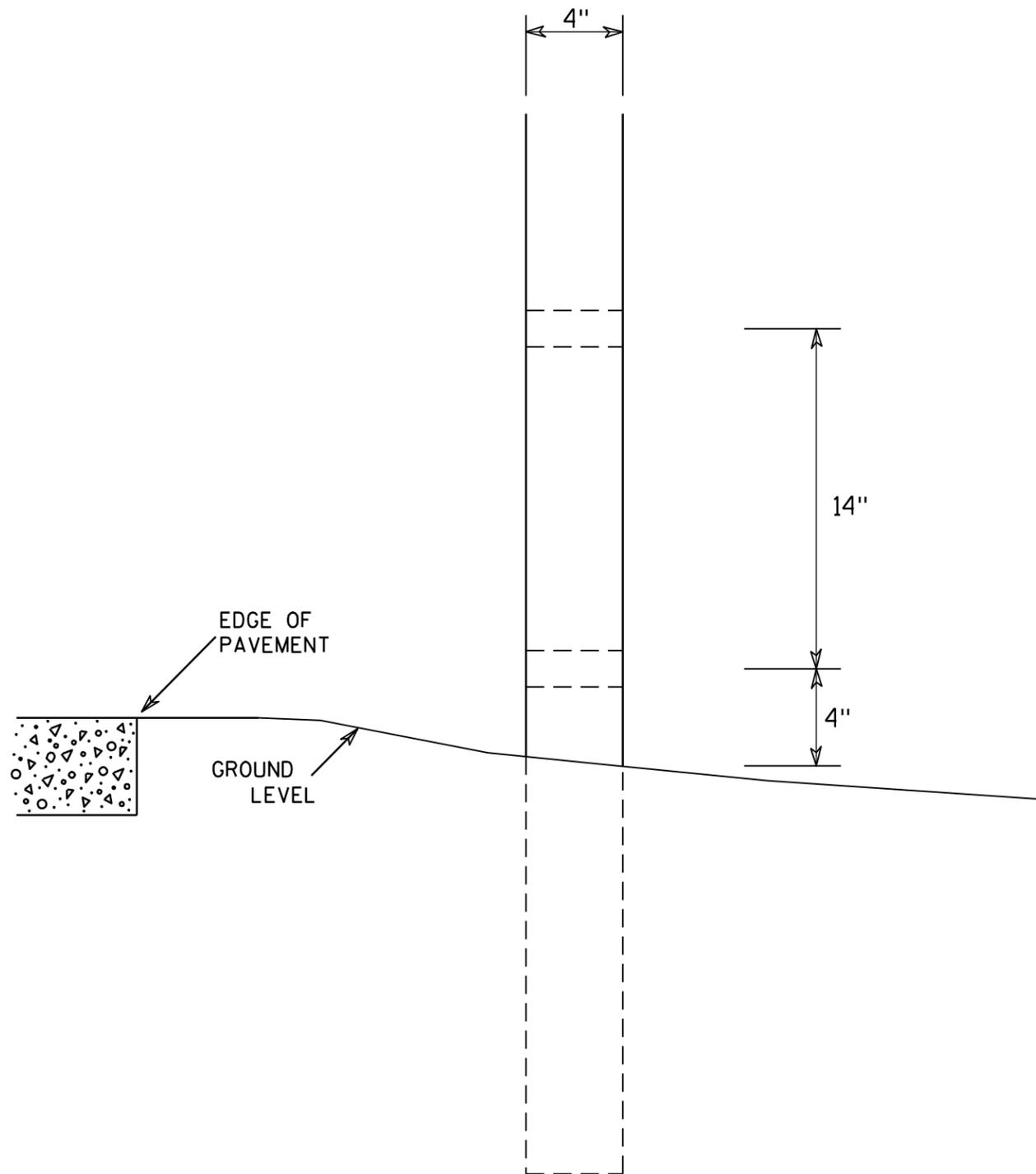
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E



GENERAL NOTES

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

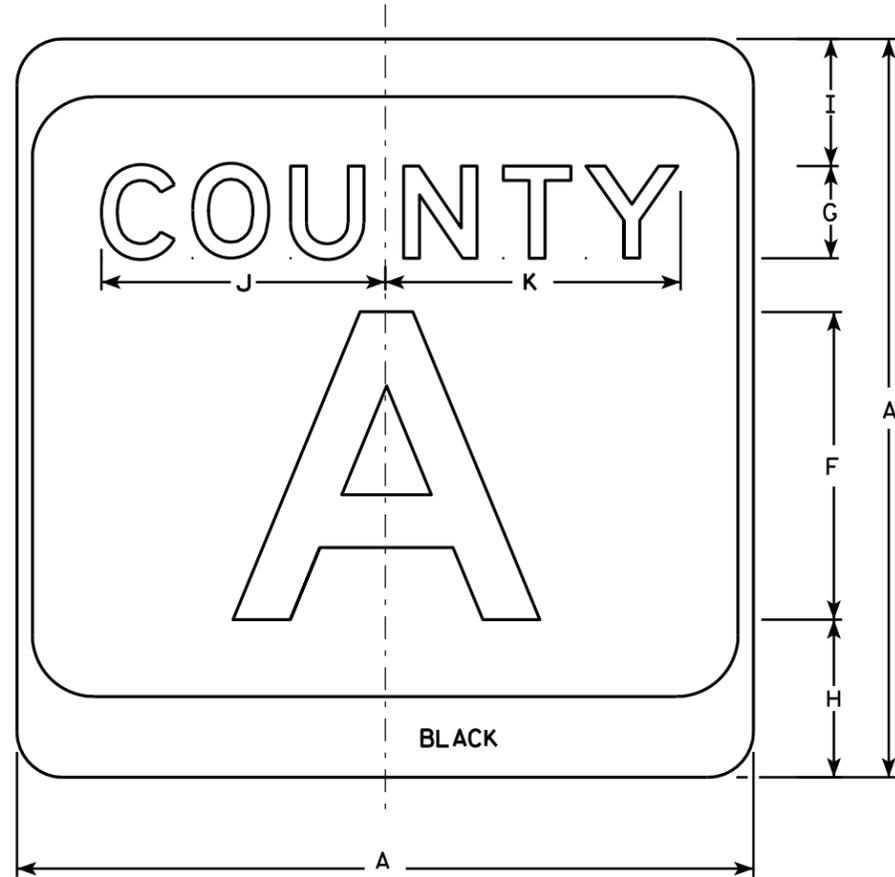
7

7

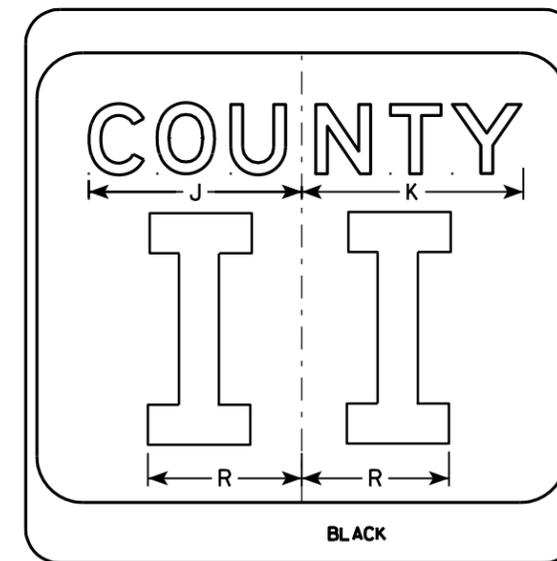
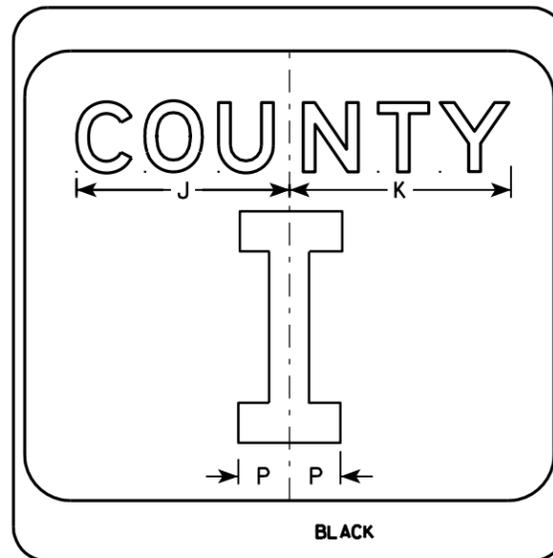
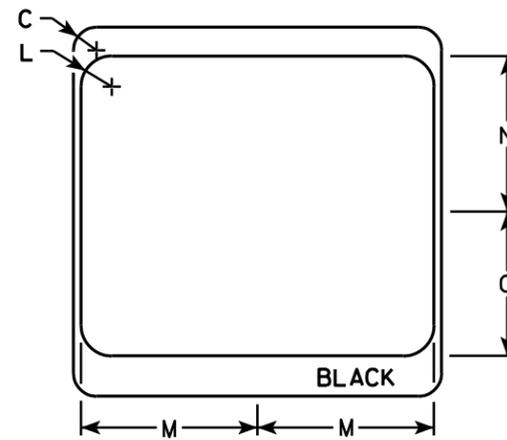
4 X 6 WOOD POST MODIFICATIONS	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Chester J. Spang</i> for State Traffic Engineer
DATE 3/27/97	PLATE NO. A4-11.2

NOTES

1. Sign is Type II - see Note 7 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - White & Black - See Note 7
Message - Black
3. Message Series - see Note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Message Series E for 1 letter.
Message Series D for 2 letters unless message is too big then Series C.
Message Series C for 3 letters unless message is too big then Series B.
6. Substitute appropriate letters & optically center to achieve proper balance.
7. Permanent Signs
Background - Type H Reflective
Detour or temporary Signs
Background - Reflective



M1-5A



7

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24		1 1/2			10	3	5 1/8	4 1/8	9 1/4	9 5/8	2	11 1/2	10 1/8	9 3/8	2 1/4		6 5/8									4.0
3	36		2 1/4			16	4	7 5/8	5 5/8	12 1/4	12 7/8	3	17 1/8	15 1/4	14	3 3/8		10									9.0
4	36		2 1/4			16	4	7 5/8	5 5/8	12 1/4	12 7/8	3	17 1/8	15 1/4	14	3 3/8		10									9.0
5	36		2 1/4			16	4	7 5/8	5 5/8	12 1/4	12 7/8	3	17 1/8	15 1/4	14	3 3/8		10									9.0

CTH MARKER
M1-5A FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

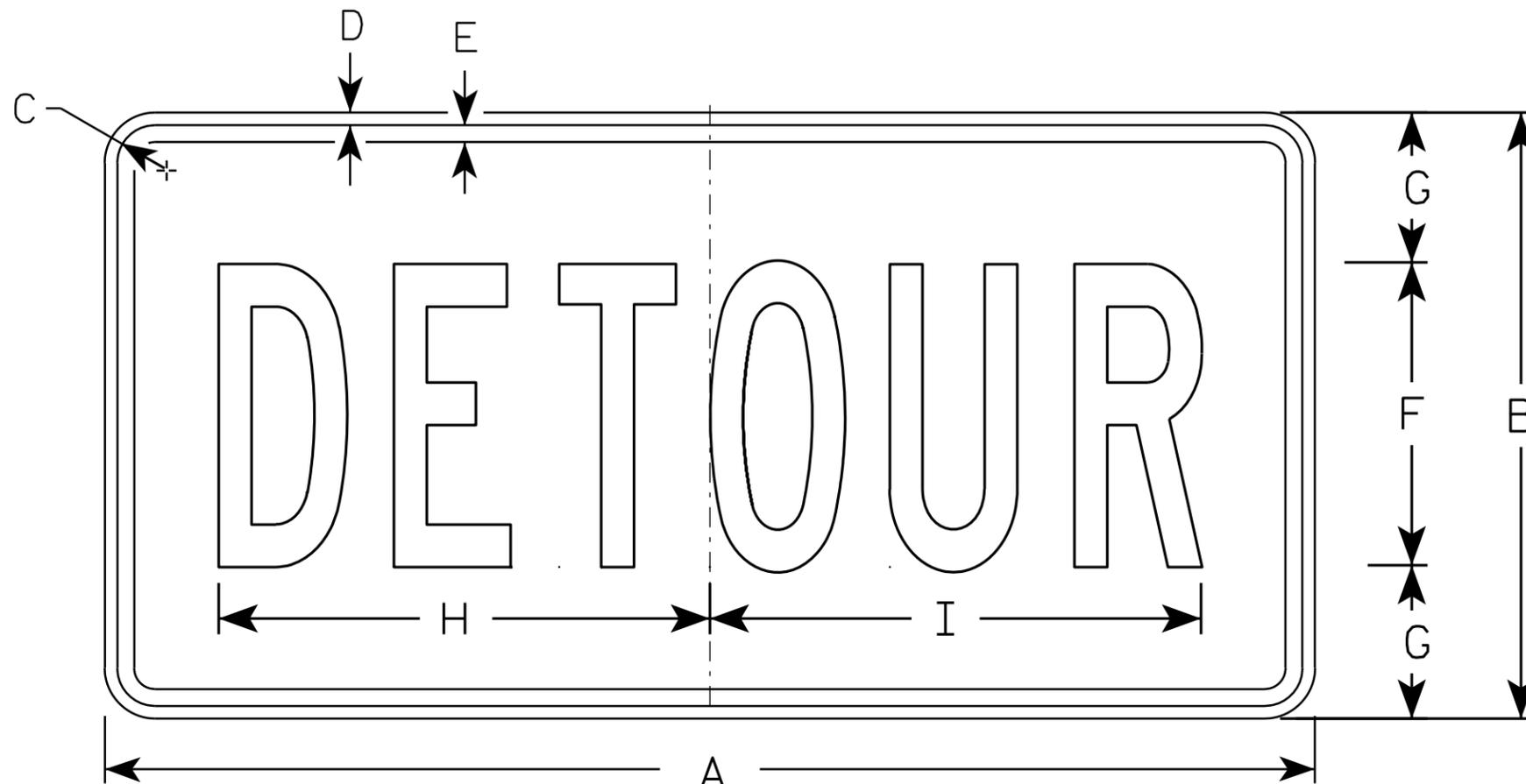
APPROVED *Matthew R. Raub*
For State Traffic Engineer

DATE 9/27/11 PLATE NO. MI-5A.8

PROJECT NO: _____ HWY: _____ COUNTY: _____ SHEET NO: **E**

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
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.



M4-8

7

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24	12	1 1/8	3/8	3/8	6	3	10	10 1/4																		2.0
3	36	18	1 1/8	3/8	1/2	9	4 1/2	14 5/8	14 1/2																		4.5
4																											
5																											

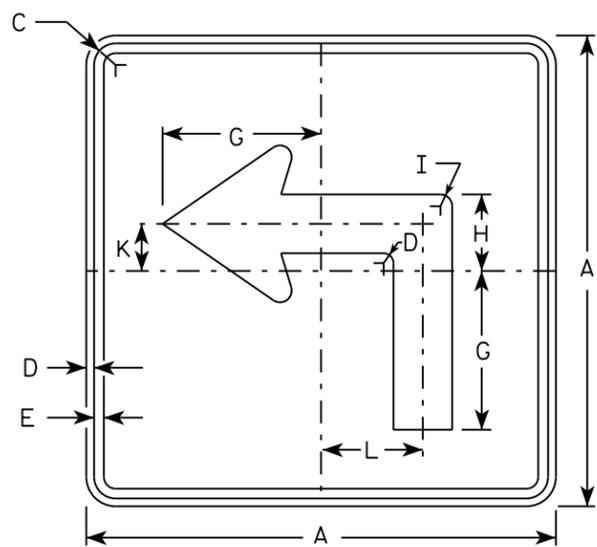
STANDARD SIGN
M4-8

WISCONSIN DEPT OF TRANSPORTATION

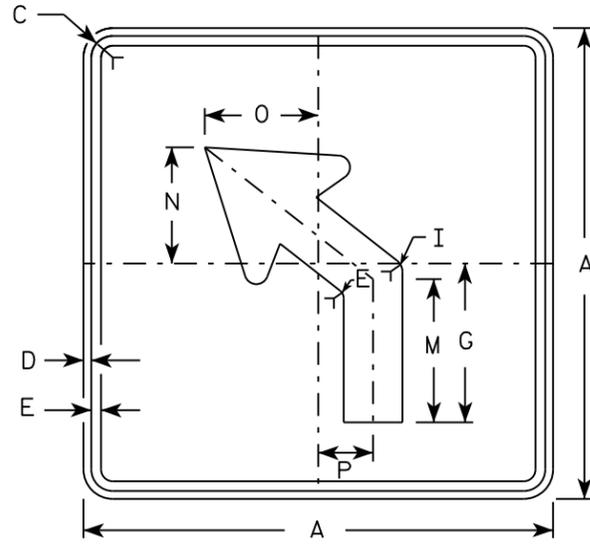
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 11/10/10 PLATE NO. M4-8.2

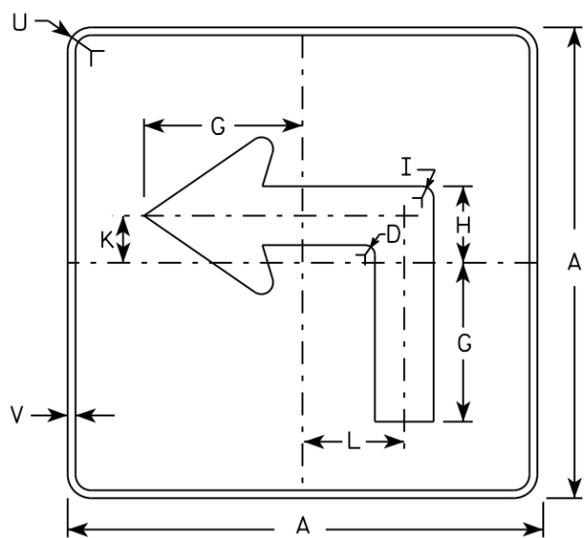
PROJECT NO: _____ HWY: _____ COUNTY: _____ SHEET NO: **E**



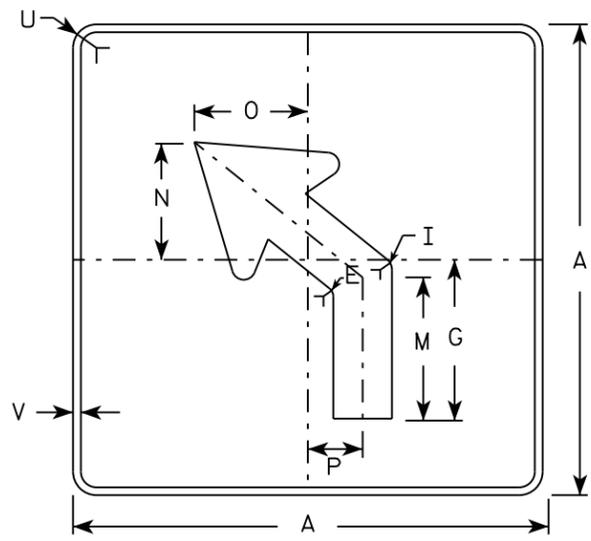
M5-1L
MM5-1L
M05-1L
MP5-1L



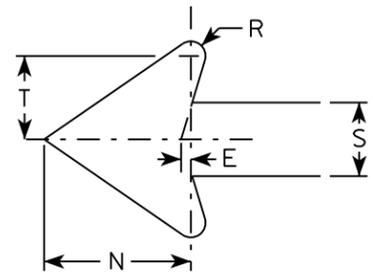
M5-2L
MM5-2L
M05-2L
MP5-2L



MB5-1L
MK5-1L
MN5-1L
MR5-1L



MB5-2L
MK5-2L
MN5-2L
MR5-2L



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 - Type H Reflective |
| | 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.

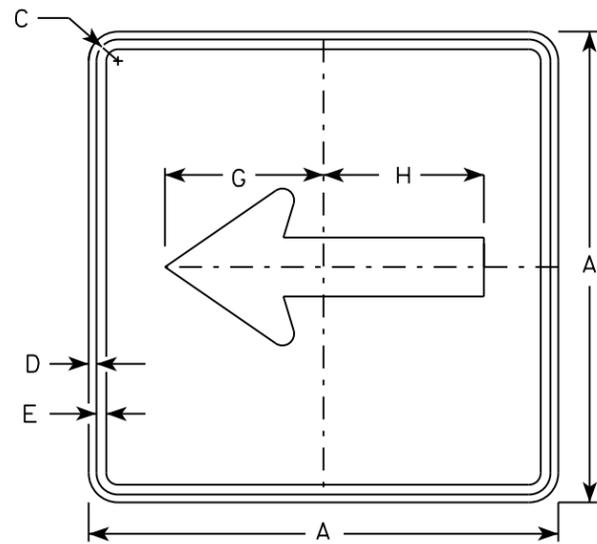
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	21		1 1/8	3/8	3/8		7	3 3/8	5/8		2 1/8	4 1/2	6 3/8	5 1/4	5	2 1/2		1/2	2 5/8	3	1 1/2	1/2					3.06
3	30		1 3/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4	1 7/8	1/2					6.25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

STANDARD SIGN
M5-1 & M5-2

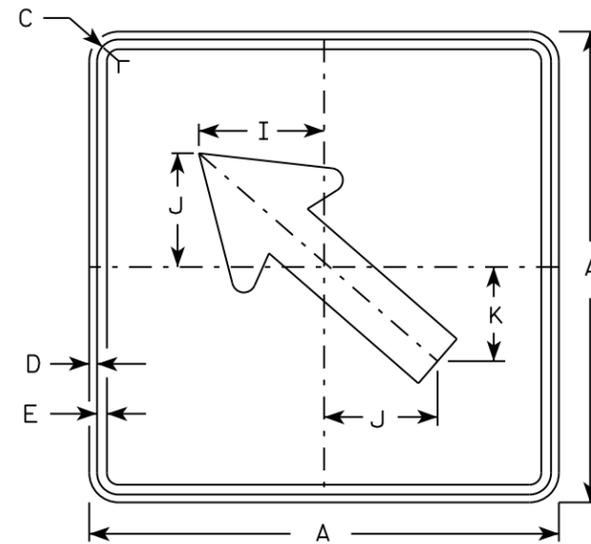
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

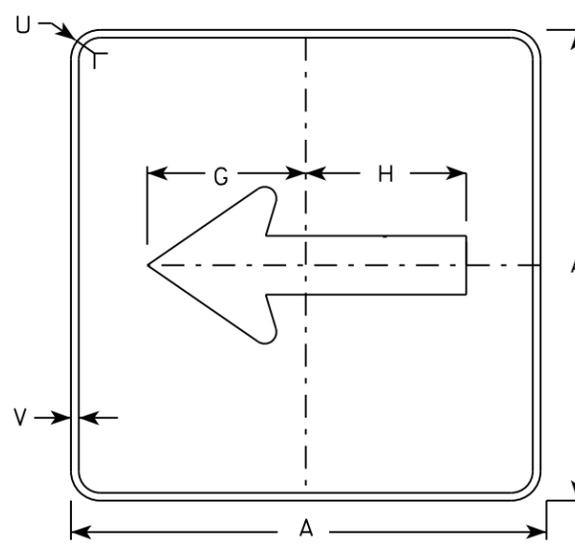
DATE 10/15/15 PLATE NO. M5-1.13



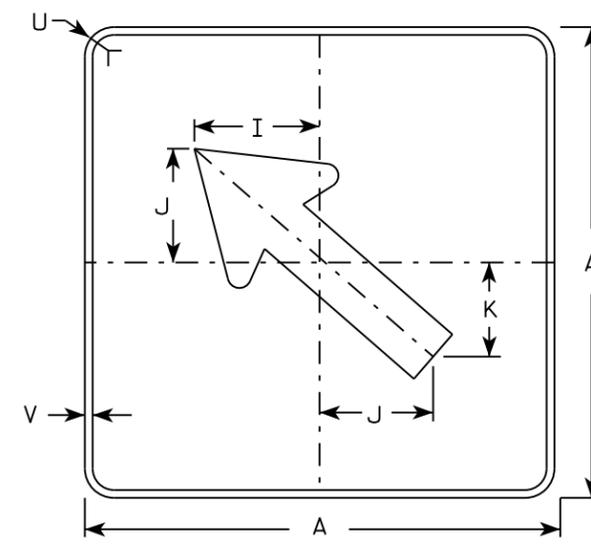
M6-1
MM6-1
M06-1
MP6-1



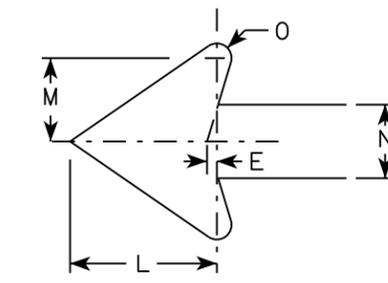
M6-2
MM6-2
M06-2
MP6-2



MB6-1
MK6-1
MN6-1
MR6-1



MB6-2
MK6-2
MN6-2
MR6-2



NOTES

- Signs are Type II - Type H 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

7

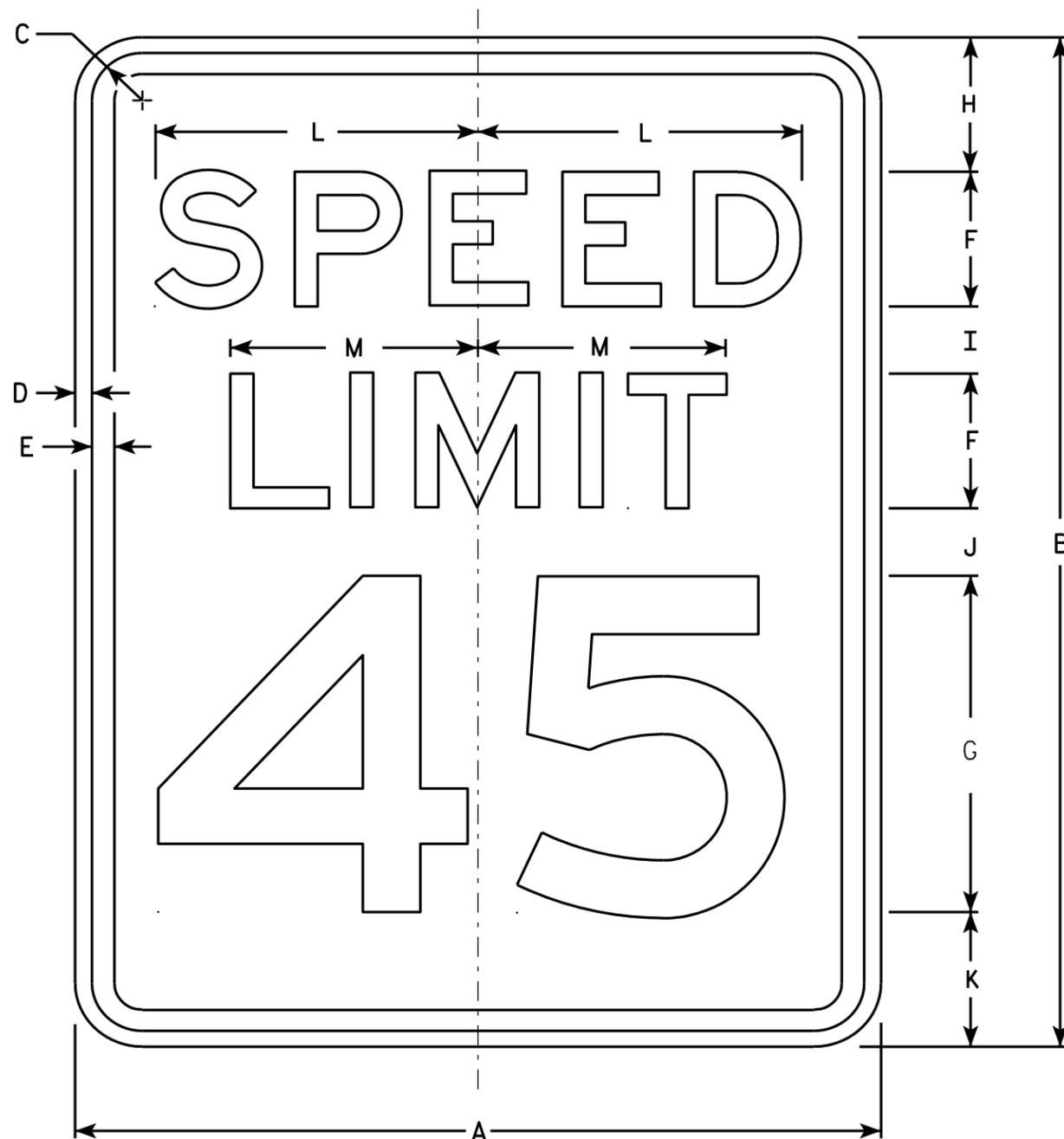
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	21		1 1/8	3/8	3/8		7 1/2	7 1/8	5 5/8	5	4 1/4	5 1/4	3	2 5/8	1/2						1 1/2	1/2					3.06
3	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2					6.25
4	30		1 3/8	1/2	5/8		10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

STANDARD SIGN
M6-1 & M6-2
SERIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 10/15/15 PLATE NO. M6-1.15



R2-1

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - White
Message - Black
3. Message Series - E
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 and optically adjust spacing to achieve proper balance.

7

7

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

STANDARD SIGN
R2-1

WISCONSIN DEPT OF TRANSPORTATION

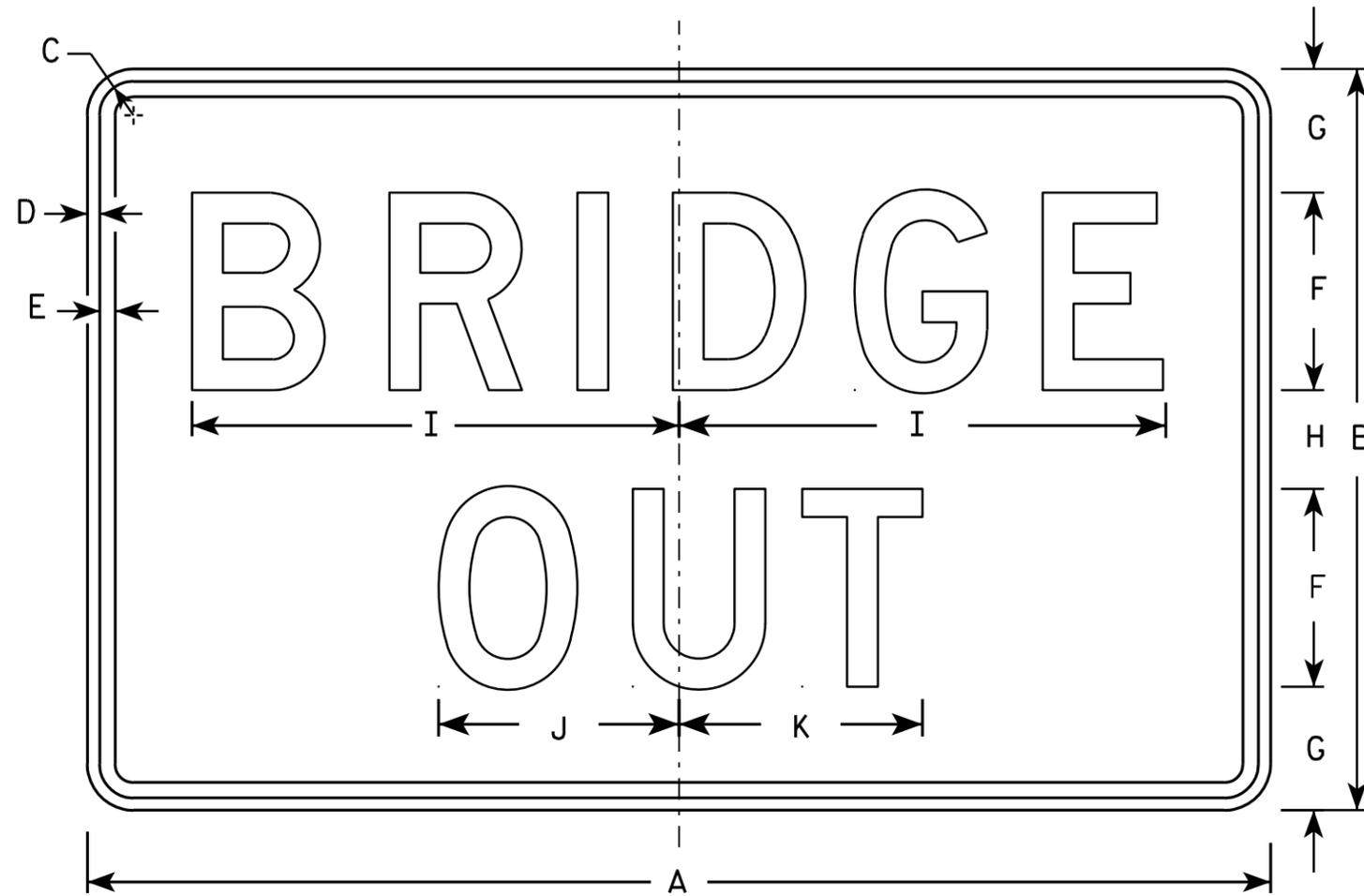
APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 5/26/10 PLATE NO. R2-1.13

PROJECT NO: _____ HWY: _____ COUNTY: _____ SHEET NO: _____ E

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
 - Background - White
 - Message - Black
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.



R11-2B

7

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	48	30	1 3/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
2M	48	30	1 3/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
3	48	30	1 3/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
4	48	30	1 3/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
5	48	30	1 3/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0

STANDARD SIGN
R11-2B

WISCONSIN DEPT OF TRANSPORTATION

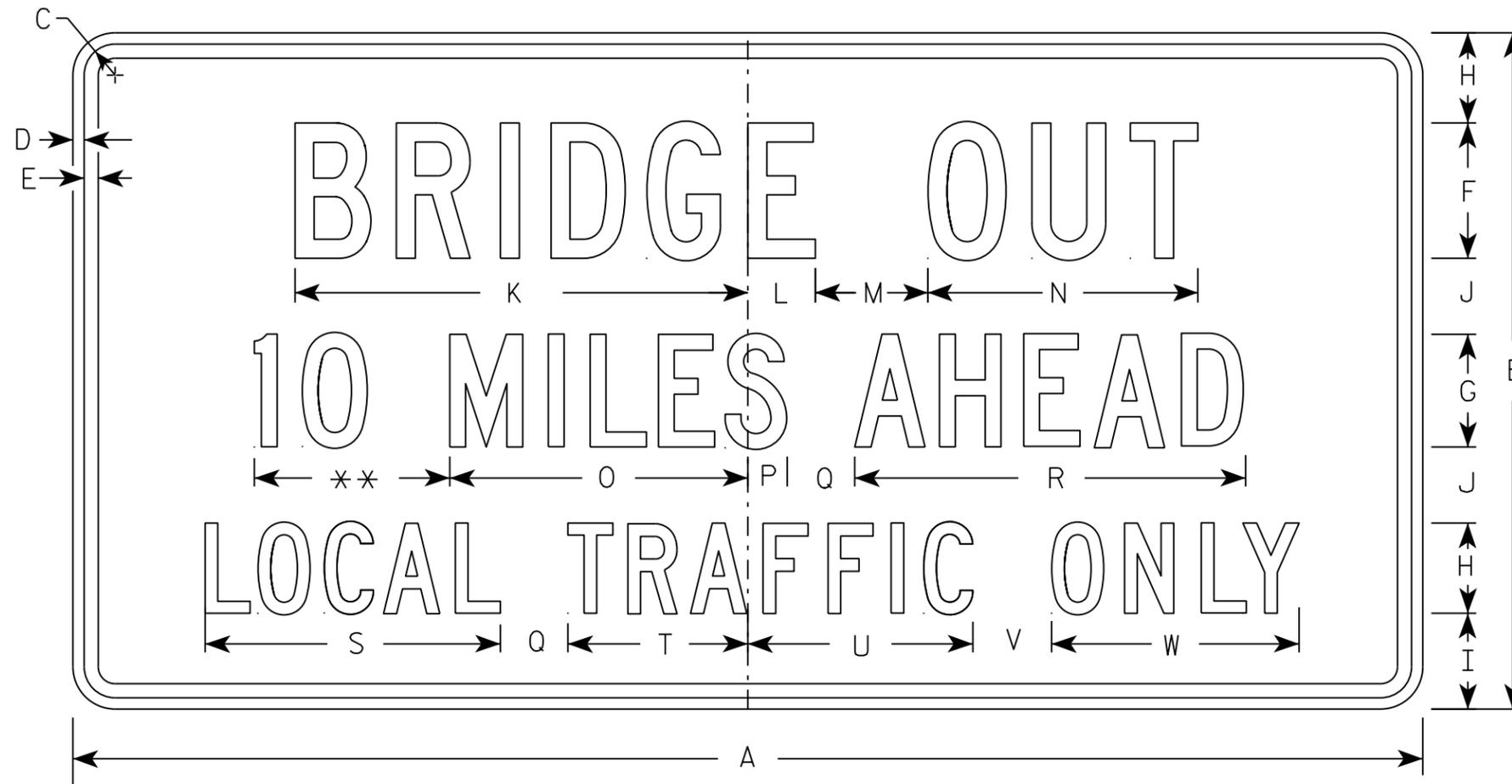
APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 4/1/11 PLATE NO. R11-2B.2

PROJECT NO: _____ SHEET NO: _____ E

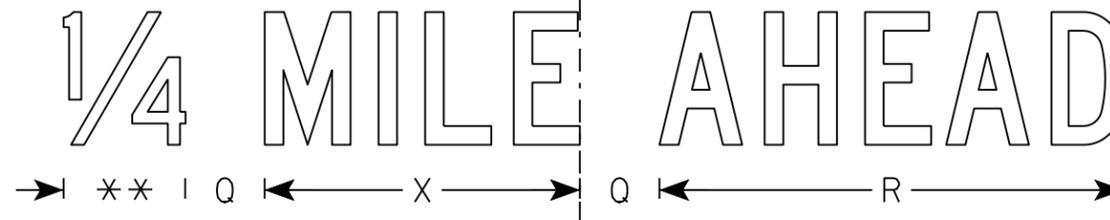
NOTES

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.



** See Note 5

R11-3B



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 3/8	1/2	5/8	4	3	2 1/2	2	2	13 1/4	2 1/4	3	8	8	1 1/2	2	10 3/4	8 3/8	4 3/4	6 1/2	2	6 3/4	7 1/8		4.5	
2S	60	30	1 3/8	1/2	5/8	6	5	4	4 1/4	3 3/8	20 1/8	3	5	12	13 1/4	1 3/4	3	17 3/8	13 1/8	8	10	3 1/2	11	11 7/8		12.5	
2M	60	30	1 3/8	1/2	5/8	6	5	4	4 1/4	3 3/8	20 1/8	3	5	12	13 1/4	1 3/4	3	17 3/8	13 1/8	8	10	3 1/2	11	11 7/8		12.5	
3																											
4																											
5																											

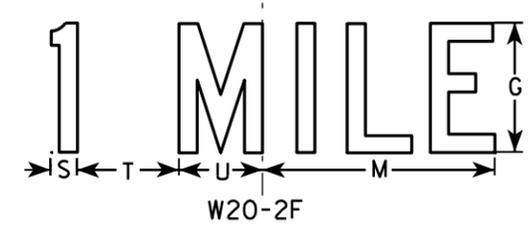
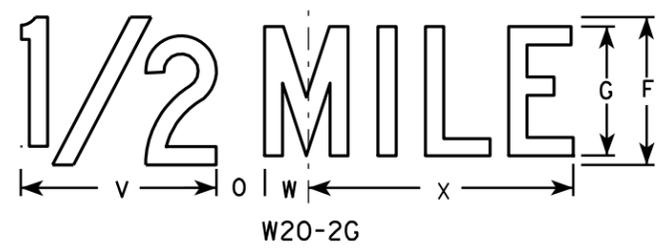
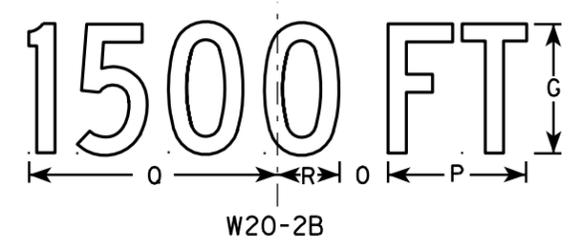
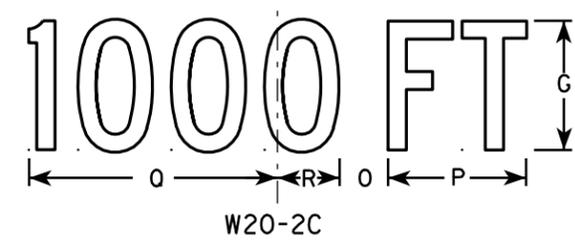
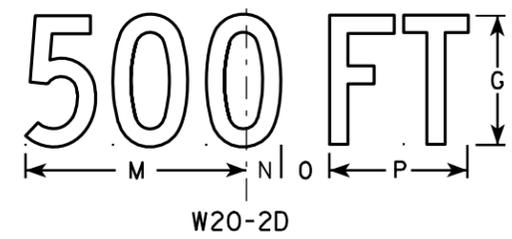
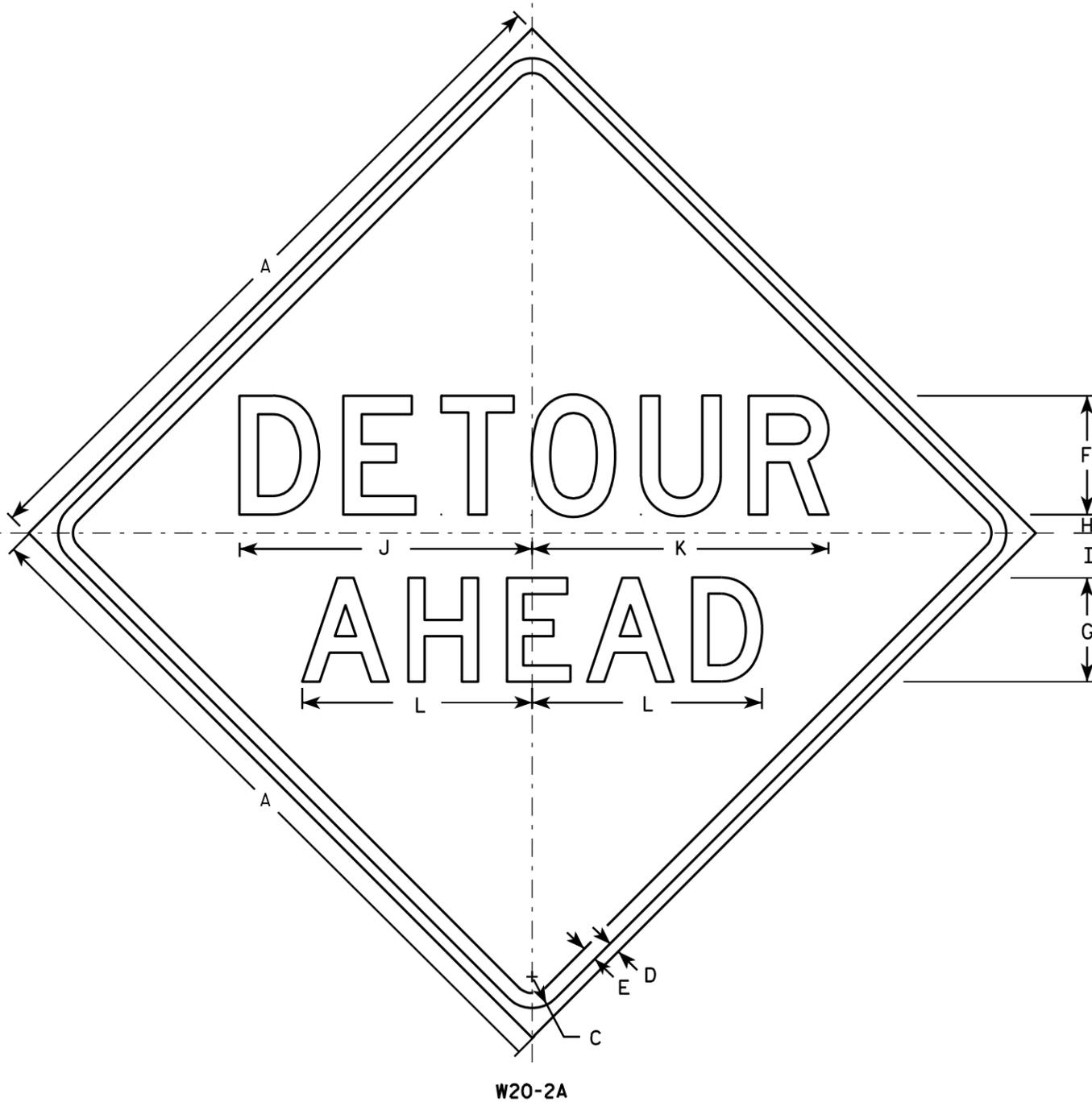
STANDARD SIGN
R11-3B

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 3/21/17 PLATE NO. R11-3B.3

PROJECT NO: _____ HWY: _____ COUNTY: _____ SHEET NO: **E**



NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - Orange
Message - Black
3. Message Series - See note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Line 1 is Series D.
Line 2 is Series D for AHEAD and Series C for all other distances.

7

7

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

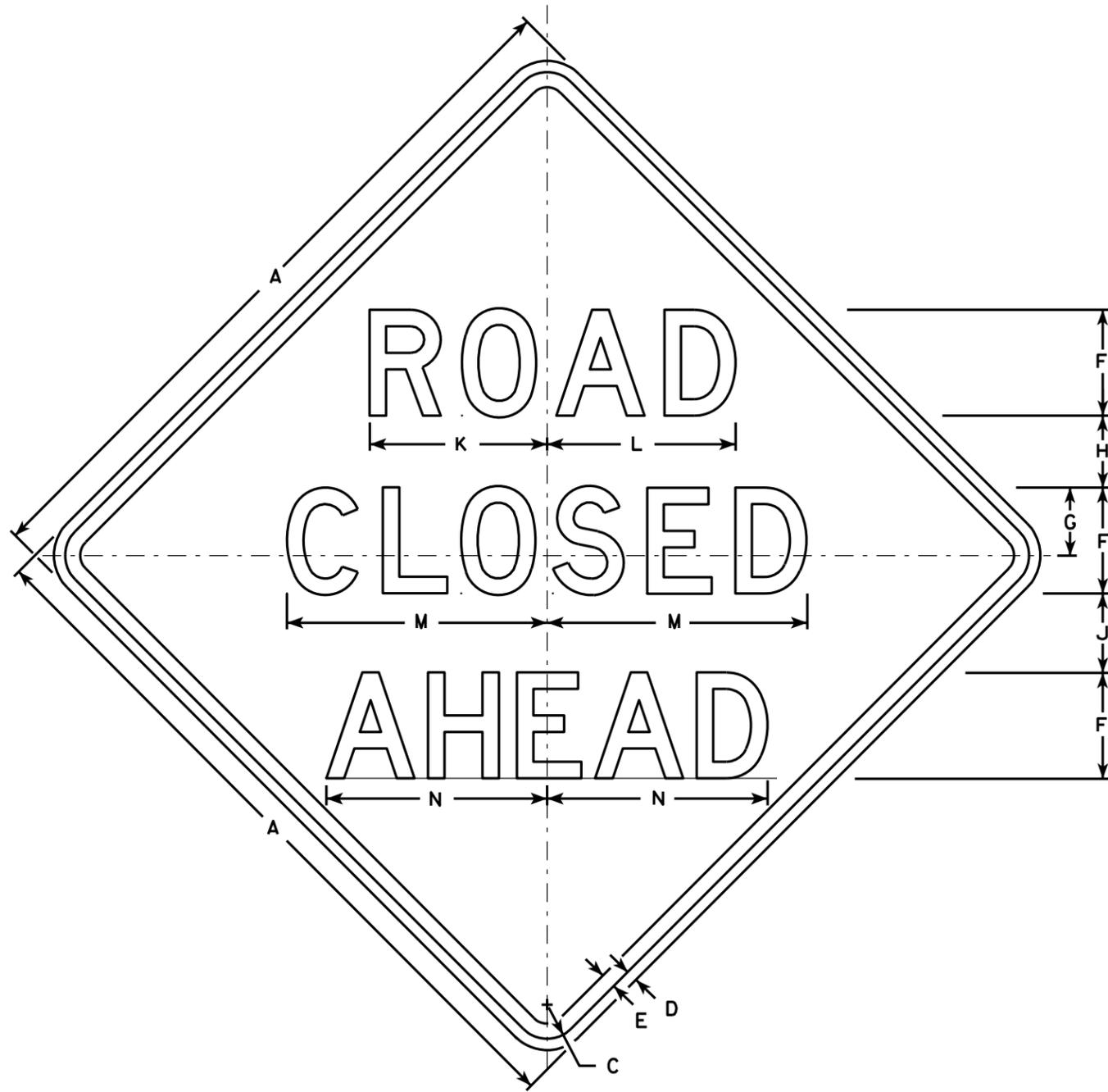
STANDARD SIGN
W20-2A, B, C, D, F & G

WISCONSIN DEPT OF TRANSPORTATION

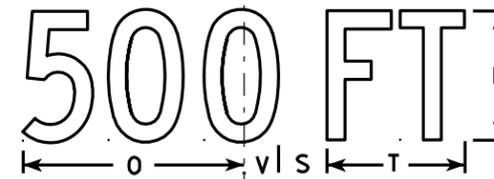
APPROVED *Matthew R. Raub*
for State Traffic Engineer

DATE 3/18/11 PLATE NO. W20-2.6

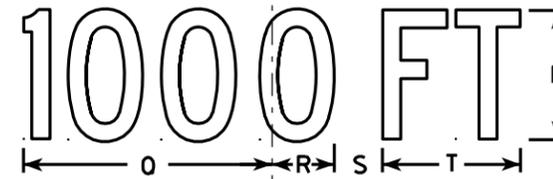
PROJECT NO: _____ HWY: _____ COUNTY: _____ SHEET NO: _____ E



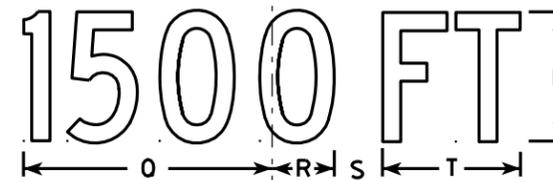
W20-3A



W20-3D



W20-3C



W20-3B



W20-3G



W20-3F

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - Orange
Message - Black
3. Message Series - see note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Lines 1 and 2 are Series D.
Line 3 is Series D for AHEAD and Series C for all other distances.

7

7

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

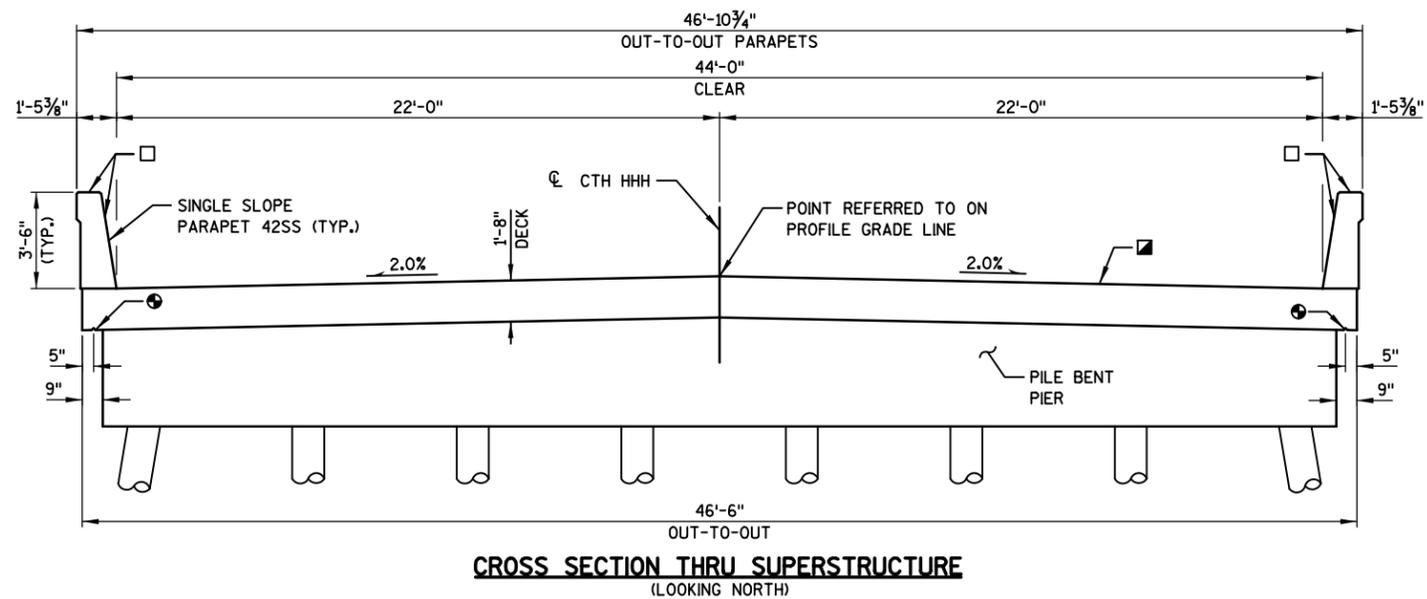
STANDARD SIGN
W20-3A, B, C, D, F & G

WISCONSIN DEPT OF TRANSPORTATION

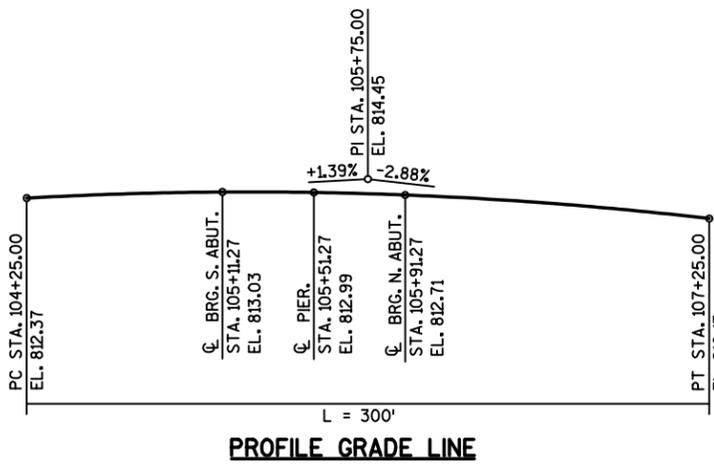
APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 3/18/11 PLATE NO. W20-3.7

PROJECT NO: _____ HWY: _____ COUNTY: _____ SHEET NO: _____ E



CROSS SECTION THRU SUPERSTRUCTURE
(LOOKING NORTH)



PROFILE GRADE LINE

NOTES

DRAWINGS SHALL NOT BE SCALED.

ALL STATIONS AND ELEVATIONS ARE IN FEET.

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

THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BAR DIMENSIONS FOR BENDING ARE OUT-TO-OUT OF BARS.

THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES BRIDGES B-58-136" SHALL BE THE EXISTING GROUND LINE.

THE SLOPE OF THE FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH HEAVY RIPRAP AND GEOTEXTILE TYPE 'HR' TO THE EXTENT SHOWN ON SHEET 1 AND IN THE ABUTMENT DETAILS.

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 BACKFILL TYPE A".

THE BACKFILL QUANTITIES ARE BASED ON THE PAY LIMITS SHOWN ON THE PLANS AND MAY NOT REFLECT ACTUAL PLACED QUANTITIES. "BACKFILL STRUCTURE TYPE A" REQUIRED DIRECTLY BEHIND ABUTMENTS AND ABUTMENT WINGS FOR 3 FEET. BACKFILL PLACED BEYOND PAY LIMITS OR EXCEEDING PLAN QUANTITIES SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES.

EXCAVATION BELOW THE ABUTMENT AND ABUTMENT BEDDING MATERIALS REQUIRES ENGINEER APPROVAL. "GEOTEXTILE TYPE DF SCHEDULE A" SHALL BE SET AT THE BOTTOM OF EXCAVATION AND EXTEND 2'-0" ABOVE BOTTOM OF ABUTMENT.

SLAB FALSEWORK SHALL BE SUPPORTED ON PILES OR THE SUBSTRUCTURE UNLESS AN ALTERNATE METHOD IS APPROVED BY THE ENGINEER.

THE EXISTING STRUCTURE B-58-19, A SINGLE-SPAN PRESTRESSED CONCRETE CHANNEL BRIDGE, IS TO BE REMOVED.

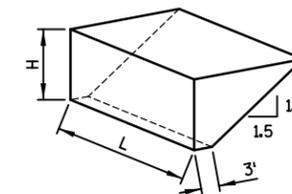
BEVEL EXPOSED EDGES OF CONCRETE 3/4" UNLESS OTHERWISE NOTED.

AT ABUTMENTS, CONCRETE POURED UNDER WATER WILL BE ALLOWED AND SHALL BE DONE IN ACCORDANCE WITH SECTION 502.3.5.3 OF THE STANDARD SPECIFICATIONS.

C.I.P. PILE SHELL MATERIAL SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS. PILE SHELL MATERIAL SHALL HAVE 45 KSI YIELD STRENGTH.

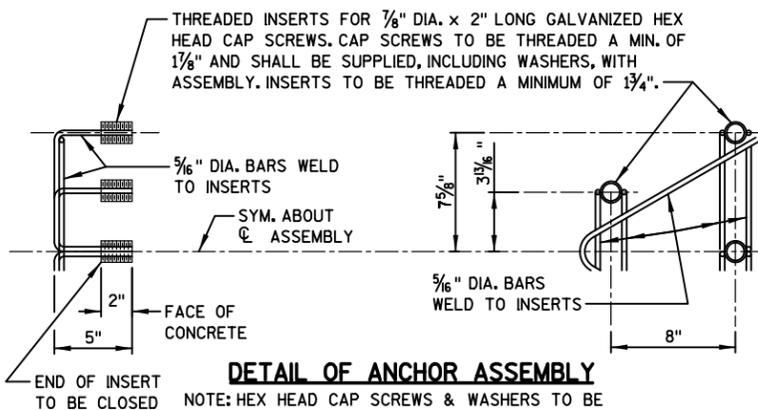
LEGEND

- ④ 3/4" V-GROOVE REQ'D. EXTEND TO 6" FROM F.F. OF ABUT. DIAPHRAGMS.
- PROTECTIVE SURFACE TREATMENT SHALL BE APPLIED TO THE DECK.
- ▲ BACKFILL PAY LIMITS. BACKFILL BEYOND BACKFILL PAY LIMITS SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES. LIMITS OF EXCAVATION SHALL BE DETERMINED BY THE CONTRACTOR.
- PIPE UNDERDRAIN WRAPPED (6-INCH), SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN. SEE DETAIL SHEET 4.
- PIGMENTED SURFACE SEALER SHALL BE APPLIED TO THE INSIDE AND TOP FACES OF PARAPETS, INCLUDING PARAPETS ON STRUCTURAL APPROACH SLABS.



ABUTMENT BACKFILL DIAGRAM FOR WINGS PARALLEL TO ROADWAY

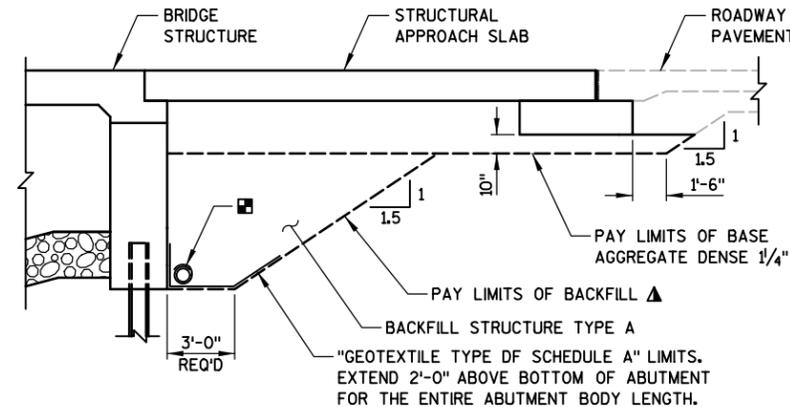
- L = OUT TO OUT OF ABUTMENT, INCLUDING WINGS (FT)
- H = AVERAGE ABUTMENT FILL HEIGHT (FT)
- EF = EXPANSION FACTOR (1.20 FOR CY BID ITEMS AND 1.00 FOR TON BID ITEMS)
- $V_{cr} = (L)(3.0')(H) + (L)(0.5)(1.5H)(H)$
- $V_{cr} = V_{cr} (EF)/27$
- $V_{TON} = V_{cr} (2.0)$



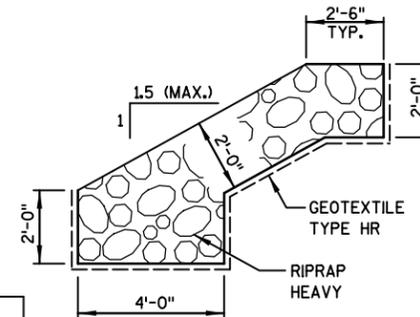
DETAIL OF ANCHOR ASSEMBLY

NOTE: HEX HEAD CAP SCREWS & WASHERS TO BE GALVANIZED IN ACCORDANCE WITH AASHTO M232 CLASS C.

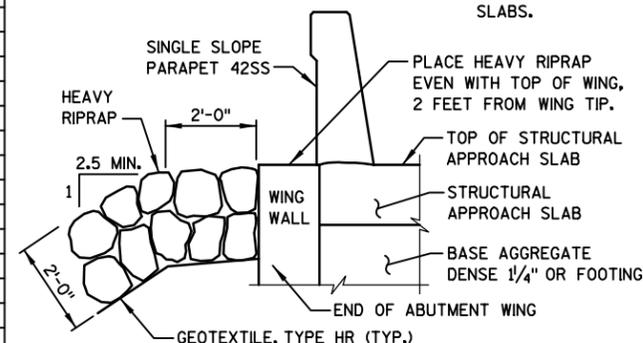
ASSEMBLY SHALL BE BID ITEM "ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD", EACH.



TYPICAL SECTION THRU ABUTMENT



RIPRAP HEAVY DETAIL



TYPICAL FILL SECTION AT WING TIPS

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	SOUTH APPROACH	SOUTH ABUTMENT	PIER	NORTH APPROACH	NORTH ABUTMENT	SUPERSTRUCTURE	TOTAL
203.021LS	ABATEMENT OF ASBESTOS CONTAINING MATERIAL B-58-19	EACH	---	---	---	---	---	1	1
203.0260	REMOVING STRUCTURE OVER WATERWAY MINIMAL DEBRIS B-58-19	EACH	---	---	---	---	---	---	1
206.1000	EXCAVATION FOR STRUCTURES BRIDGES B-58-136	LS	---	---	---	---	---	---	1
210.1500	BACKFILL STRUCTURE TYPE A	TON	---	188	---	---	188	---	376
305.0120	BASE AGGREGATE DENSE 1 1/4-INCH	TON	145	---	---	145	---	---	290
502.0100	CONCRETE MASONRY BRIDGES	CY	64	63	19	65	72	266	549
502.3200	PROTECTIVE SURFACE TREATMENT	SY	98	---	---	98	---	421	617
502.3210	PIGMENTED SURFACE SEALER	SY	20	---	---	20	---	80	120
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	---	3,370	5,680	---	3,780	---	12,830
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	11,050	1,860	90	11,050	2,890	49,020	75,960
505.0800.S	BAR STEEL REINFORCEMENT HS STAINLESS STRUCTURES	LB	220	---	---	220	---	---	440
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	---	13	---	---	13	---	26
550.2146	PIILING CIP CONCRETE 14 X 0.375-INCH	LF	---	315	850	---	315	---	1,480
606.0300	RIPRAP HEAVY	CY	---	202	---	---	153	---	355
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	---	90	---	---	90	---	180
614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	EACH	---	---	---	---	---	2	2
645.0111	GEOTEXTILE TYPE DF SCHEDULE A	SY	---	54	---	---	54	---	108
645.0120	GEOTEXTILE TYPE HR	SY	---	345	---	---	265	---	610
	NON-BID ITEMS								
	FILLER	SIZE							1/2" & 3/4"

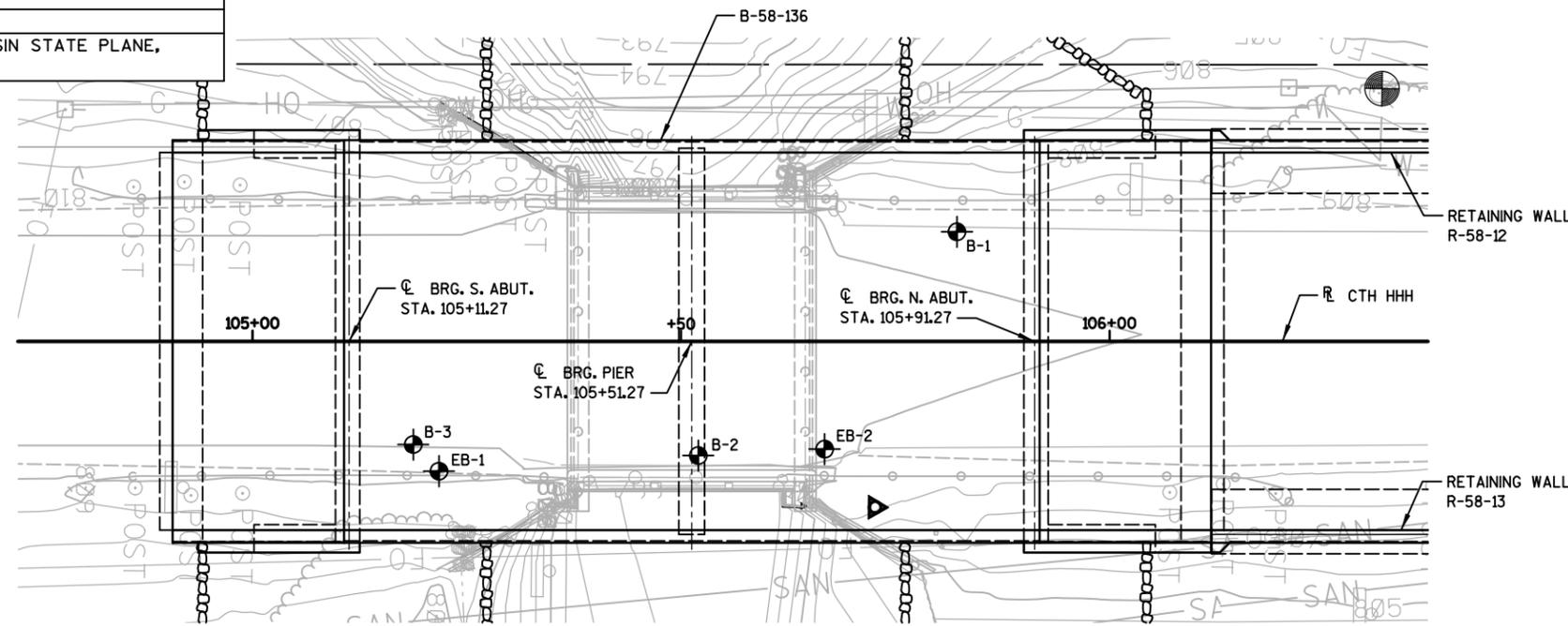
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-58-136			
DRAWN BY		DTH	PLANS CKD. BMO
CROSS SECTION, QUANTITIES, NOTES & DETAILS			SHEET 2

BORING	DATE COMPLETED	NORTHING (Y)	EASTING (X)
B-1	11/1/2019	275,400.26	870,548.34
B-2	10/30/2019	275,370.42	870,574.80
B-3	10/31/2019	275,337.15	870,573.95
EB-1	7/15/2020	275,340.19	870,577.02
EB-2	7/15/2020	275,385.15	870,573.86
EB-3	7/15/2020	275,500.19	870,590.12

BORINGS PERFORMED AND REPORT COMPLETED BY:
 PROFESSIONAL SERVICE INDUSTRIES (PSI)
 821 CORPORATE COURT
 WAUKESHA, WI 53189

BORINGS WERE PERFORMED ON 10/30/2019 THRU
 7/15/2020.

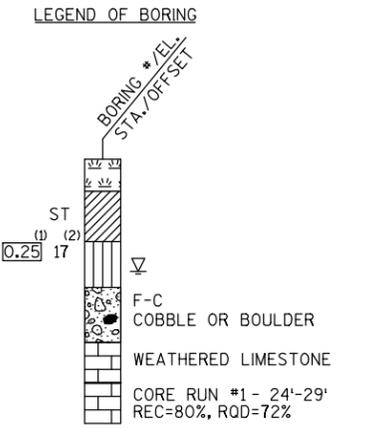
BORINGS COMPLETED BY: PSI
 REPORT COMPLETED BY: PSI
 ALL COORDINATES REFERENCED TO WISCONSIN STATE PLANE,
 SOUTH ZONE.



STATE PROJECT NUMBER
9318-02-70

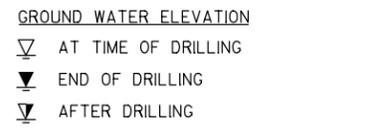
MATERIAL SYMBOLS

ASPHALT	TOPSOIL	PEAT
CONCRETE	FILL	GRAVEL
SAND	CLAY	SILT
BOULDERS OR COBBLES	LIMESTONE	BEDROCK (UNKNOWN)
SHALE	SANDSTONE	IGNEOUS/META



(1) UNCONFINED STRENGTH, AS DETERMINED BY A POCKET PENETROMETER (TSF)

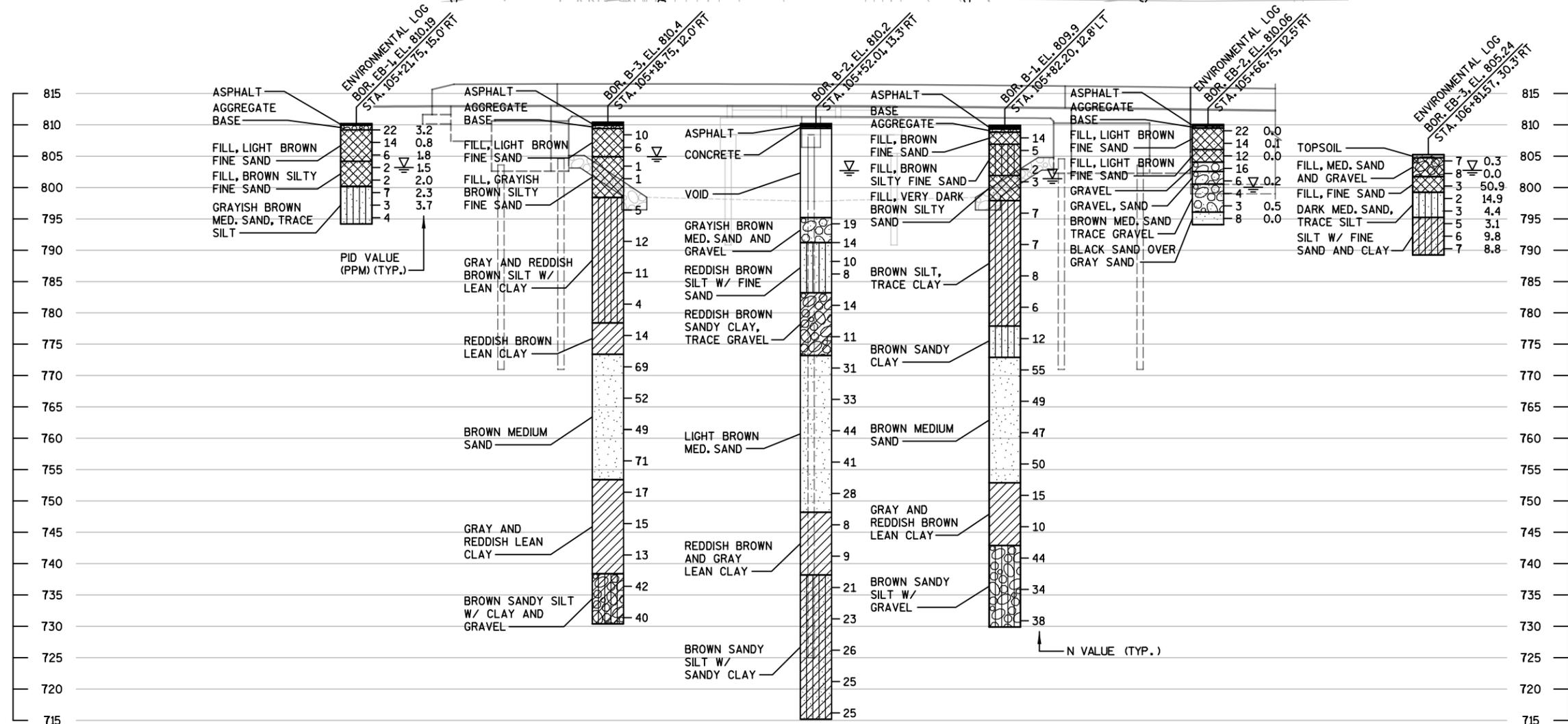
(2) UNLESS OTHERWISE, SPECIFIED THE SPT 'N' VALUE IS BASED ON AASHTO T-206, STANDARD PENETRATION TEST. THE SPT 'N' VALUE PRESENTED HAS NOT BEEN CORRECTED FOR OVERBURDEN PRESSURE OR HAMMER EFFICIENCY.



ABBREVIATIONS
 F-FINE M-MEDIUM C-COARSE ST-SHELBY TUBE

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.



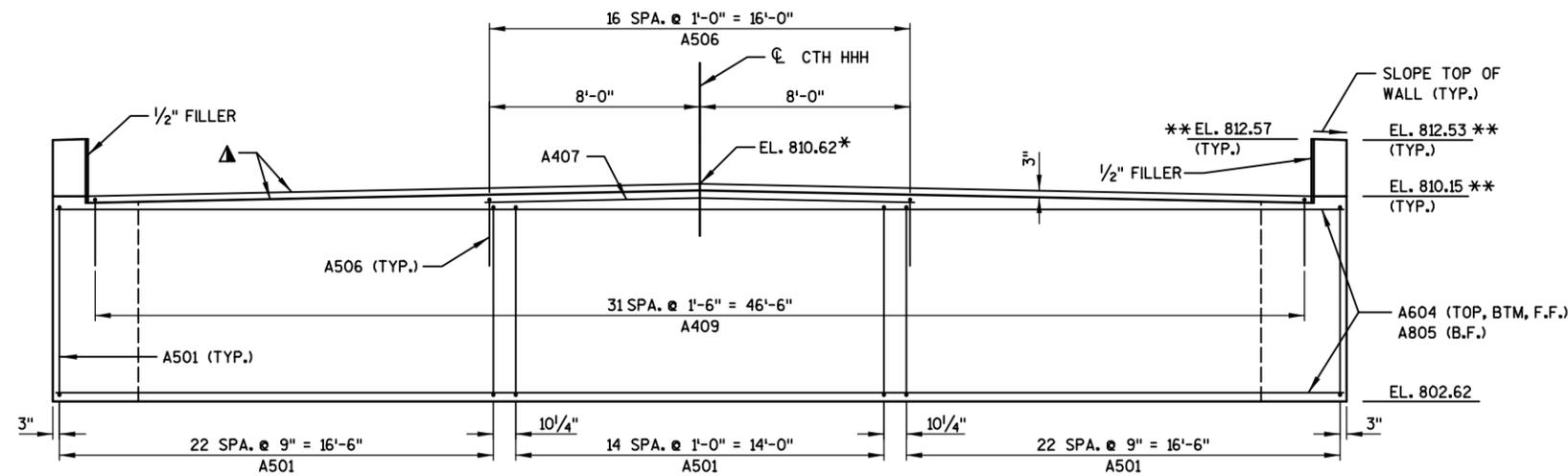
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-58-136			
DRAWN BY		DTH	PLANS CKD. BMO
SUBSURFACE EXPLORATION			SHEET 3

NOTES

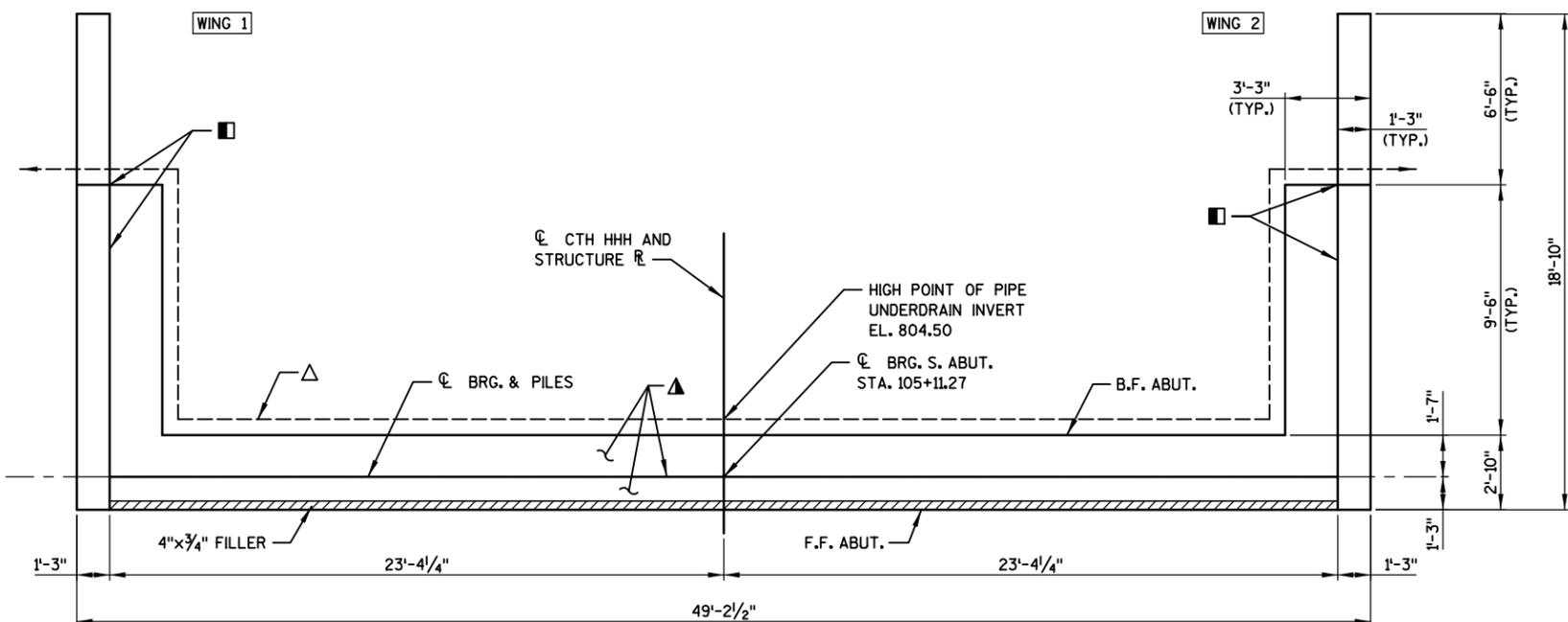
- SEE SHEET 6 FOR PILE SPLICE DETAILS.
- SEE SHEET 5 FOR REINFORCING DETAILS.
- ADJUST A501 BARS INTERFERING WITH PILES.
- SOUTH ABUTMENT TO BE SUPPORTED ON PILING CIP CONCRETE 14x0.375-INCH WITH A REQUIRED DRIVING RESISTANCE OF 175 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED 35 FEET LONG EACH.
- SEE SHEET 2 FOR TYPICAL FILL SECTION AT WING TIPS.

LEGEND

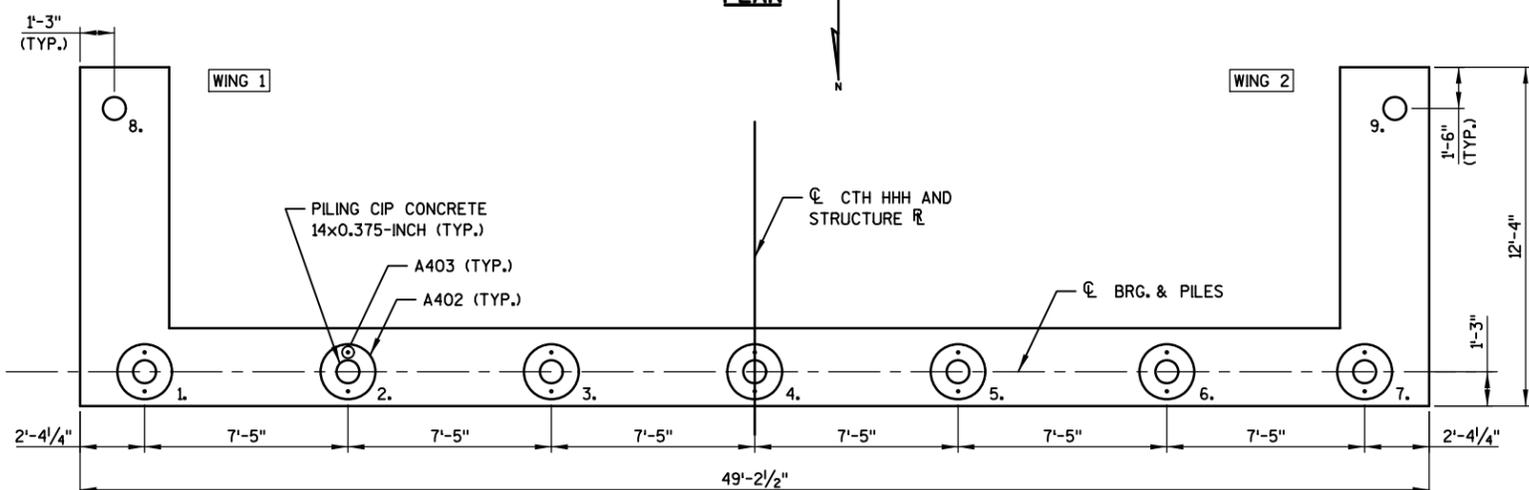
- 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE.
- ▲ STEEL TROWEL TOP SURFACE OF ABUTMENT. PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE ABUTMENT TOP BEFORE PLACING SUPERSTRUCTURE. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03".
- △ PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN. SEE DETAIL THIS SHEET.
- * THESE ELEVATIONS GIVEN AT B.F. ABUT.
- ** THESE ELEVATIONS GIVEN AT F.F. ABUT.



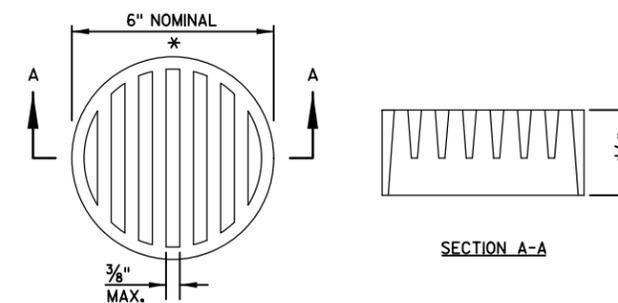
ELEVATION
(LOOKING SOUTH)



PLAN



PILE PLAN



NOTES:

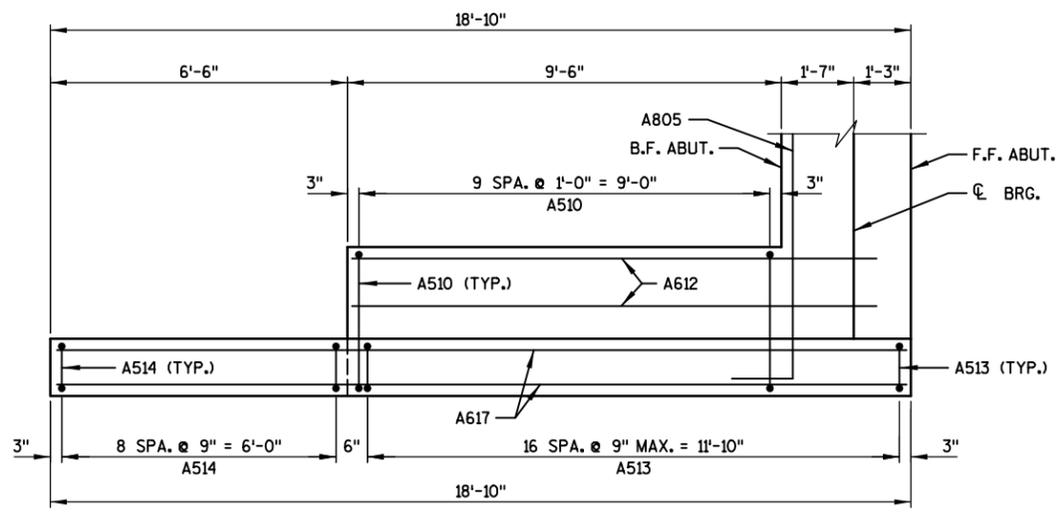
* DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING. ORIENT SHIELD SO SLOTS ARE VERTICAL.

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

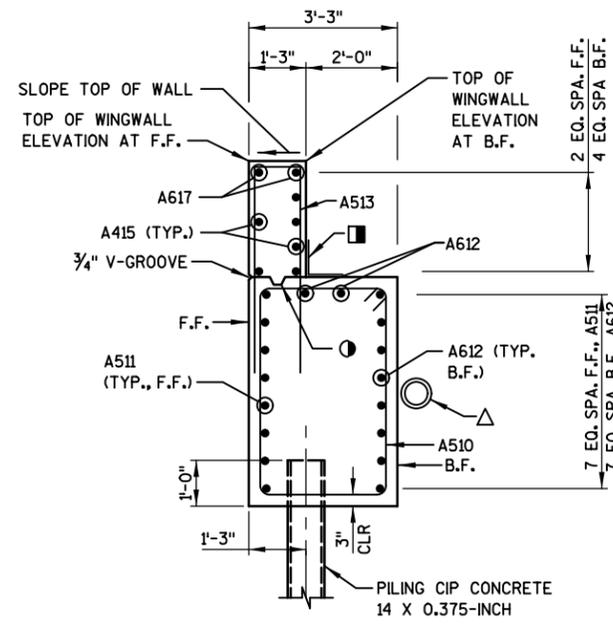
THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SHIELD TO THE EXPOSED END OF THE PIPE UNDERDRAIN. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 x 1-INCH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

RODENT SHIELD DETAIL

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-58-136			
DRAWN BY		DTH	PLANS CK'D. BMO
SOUTH ABUTMENT			SHEET 4



WING 1 PLAN
(WING 2 SIMILAR)

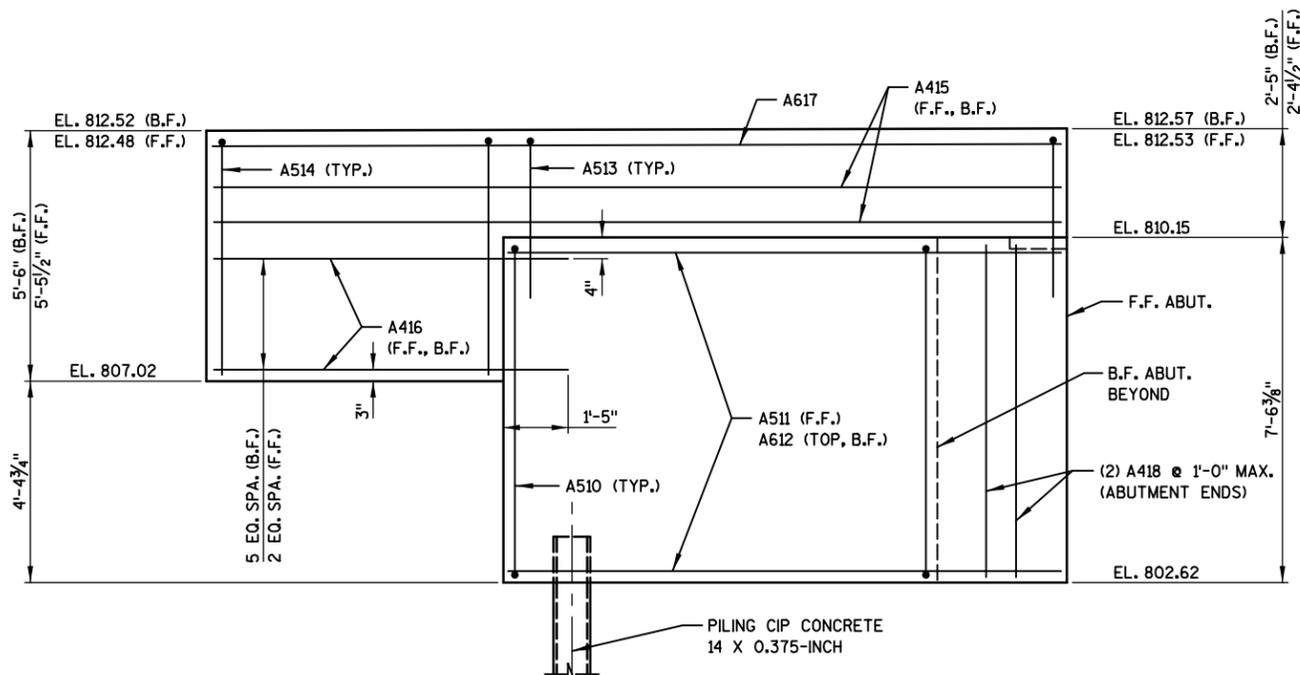


TYPICAL WING SECTION

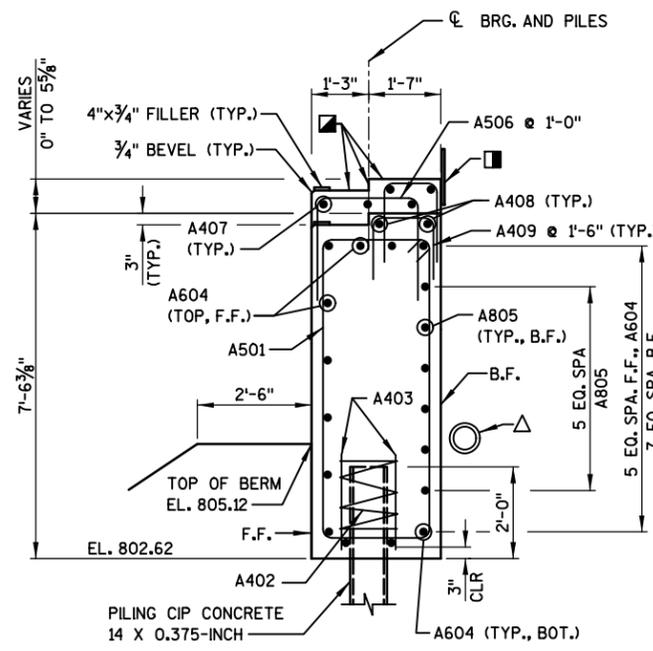
SOUTH ABUTMENT
BILL OF BARS

UNCOATED: 3.370 LBS
COATED: 1.860 LBS

BAR MARK	NO. REQ'D	LENGTH	BENT	COAT	LOCATION
A501	61	19'-2"	X		BODY - VERT.
A402	7	28'-0"	X		BODY - PILES - SPIRAL
A403	14	2'-3"			BODY - PILES - VERT.
A604	12	48'-10"			BODY - TOP, BOT., & F.F. - HORIZ.
A805	6	51'-0"	X		BODY - B.F. - HORIZ.
A506	17	5'-3"	X		BODY - VERT.
A407	3	16'-0"			BODY - TOP, HORIZ.
A408	2	46'-9"			BODY - TOP, HORIZ.
A409	32	4'-7"	X		BODY - TOP, VERT.
A510	20	20'-8"	X	X	LOWER WINGS - VERT.
A511	16	12'-0"		X	LOWER WINGS - F.F. - HORIZ.
A612	20	11'-5"		X	LOWER WINGS - B.F. - HORIZ.
A513	34	9'-2"	X	X	UPPER WINGS - VERT.
A514	18	10'-10"	X	X	UPPER WINGS - VERT. - END
A415	12	18'-6"		X	UPPER WINGS - HORIZ.
A416	18	7'-9"		X	UPPER WINGS - HORIZ. - END
A617	4	18'-6"		X	UPPER WINGS - HORIZ. - TOP
A418	4	7'-1"			BODY - ENDS - VERT.



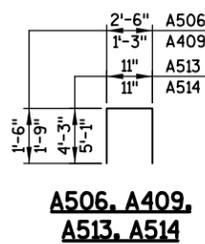
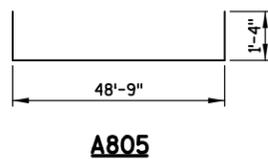
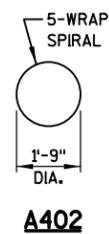
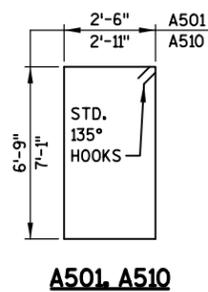
WING 1 ELEVATION
(LOOKING AT FRONT FACE)
(WING 2 SIMILAR)



TYPICAL ABUTMENT SECTION

LEGEND

- OPTIONAL CONSTRUCTION JOINT FORMED BY BEVELED 2"X6" KEYWAY WITH MEMBRANE ON BACKFACE.
- 18" RUBBERIZED MEMBRANE WATERPROOFING, SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE.
- △ PIPE UNDERDRAIN WRAPPED (6-INCH), SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. HIGH POINT EL. 804.50 AT R.L. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN PER DETAIL ON SHEET 4.
- STEEL TROWEL TOP SURFACE OF ABUTMENT. PLACE MULTIPLE LAYERS OF POLYETHELENE SHEETS OVER ENTIRE ABUTMENT TOP BEFORE PLACING SUBSTRUCTURE. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03".



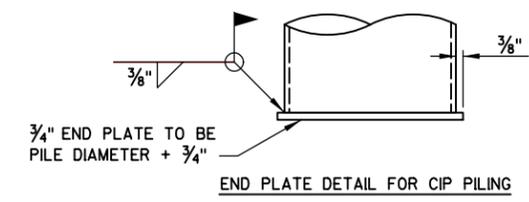
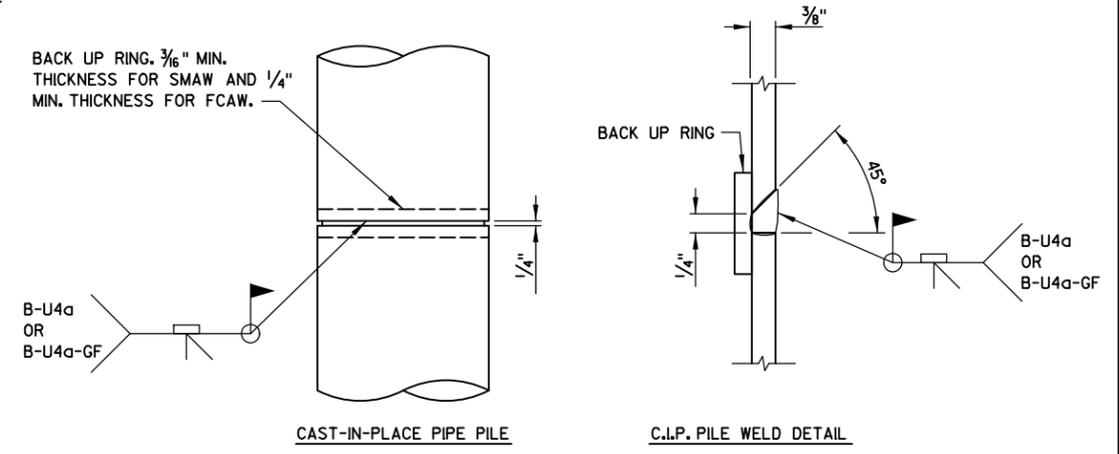
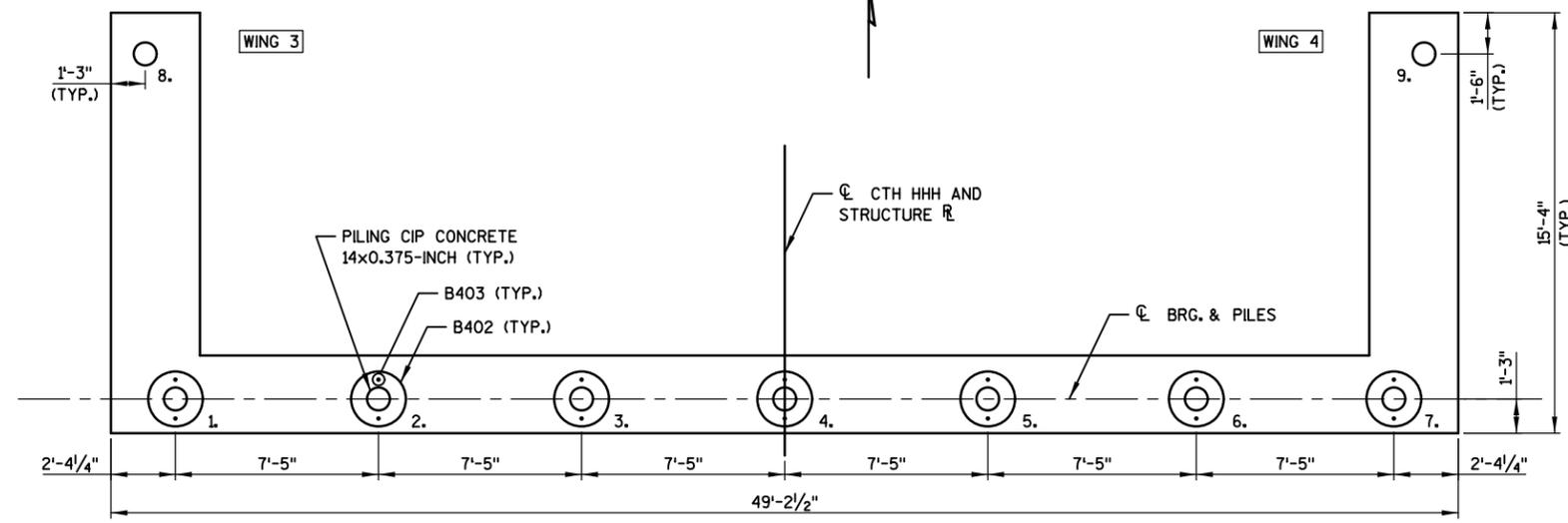
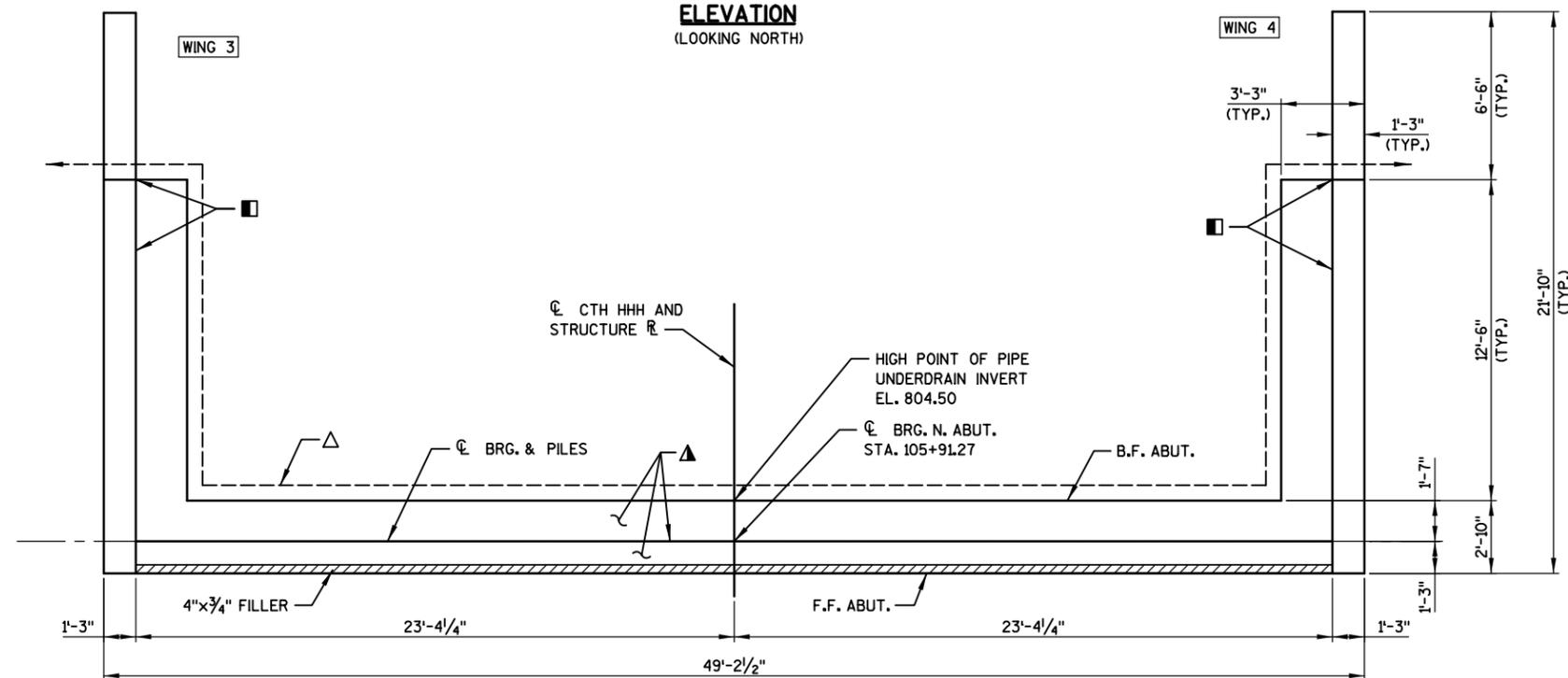
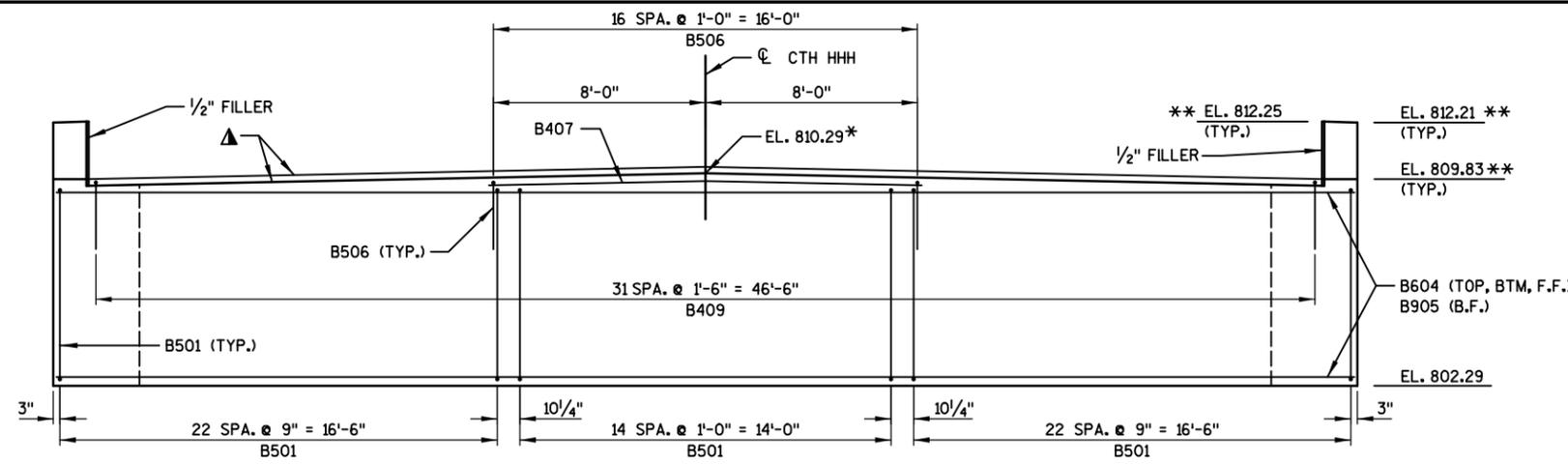
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-58-136			
DRAWN BY		DTH	PLANS CK'D. BMO
SOUTH ABUTMENT DETAILS			SHEET 5

NOTES

- SEE THIS SHEET FOR PILE SPLICE DETAILS.
- SEE SHEET 7 FOR REINFORCING DETAILS.
- ADJUST B501 BARS INTERFERING WITH PILES.
- NORTH ABUTMENT TO BE SUPPORTED ON PILING CIP CONCRETE 14x0.375-INCH WITH A REQUIRED DRIVING RESISTANCE OF 175 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED 35 FEET LONG EACH.
- SEE SHEET 2 FOR TYPICAL FILL SECTION AT WING TIPS.

LEGEND

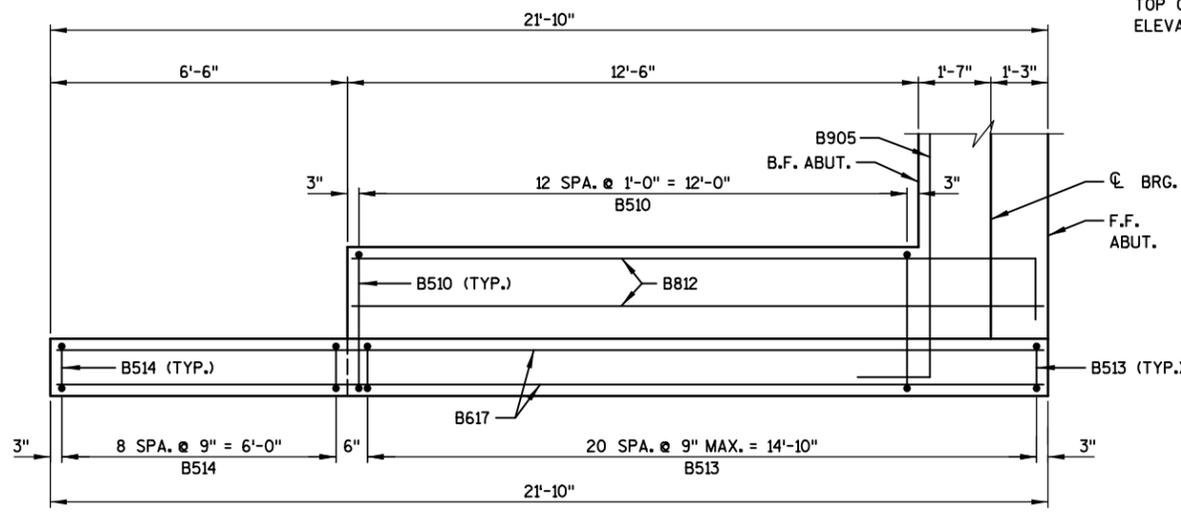
- 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE.
- ▲ STEEL TROWEL TOP SURFACE OF ABUTMENT. PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE ABUTMENT TOP BEFORE PLACING SUPERSTRUCTURE. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03".
- △ PIPE UNDERDRAIN WRAPPED (6-INCH), SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN. SEE DETAIL ON SHEET 4.
- * THESE ELEVATIONS GIVEN AT B.F. ABUT.
- ** THESE ELEVATIONS GIVEN AT F.F. ABUT.



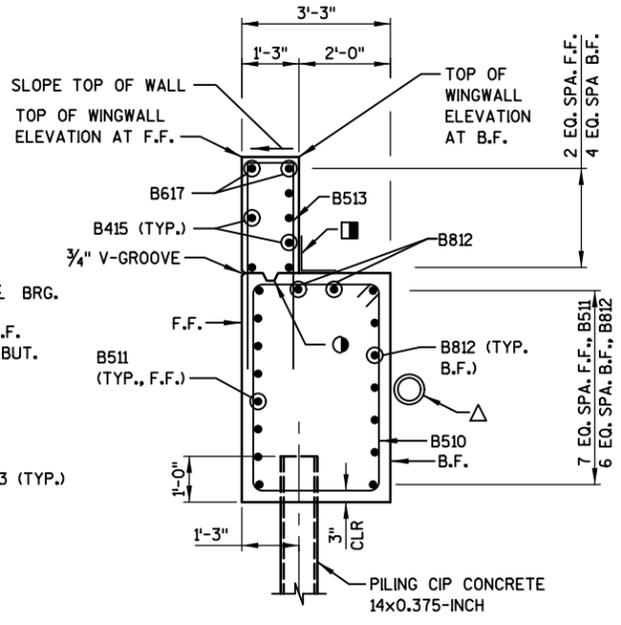
PILE DETAILS

NOTE: THESE DETAILS ARE FOR PILE SHELL THICKNESSES GREATER THAN 1/4" ONLY.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-58-136			
DRAWN BY		DTH	PLANS CK'D. BMO
NORTH ABUTMENT			SHEET 6



WING 3 PLAN
(WING 4 SIMILAR)

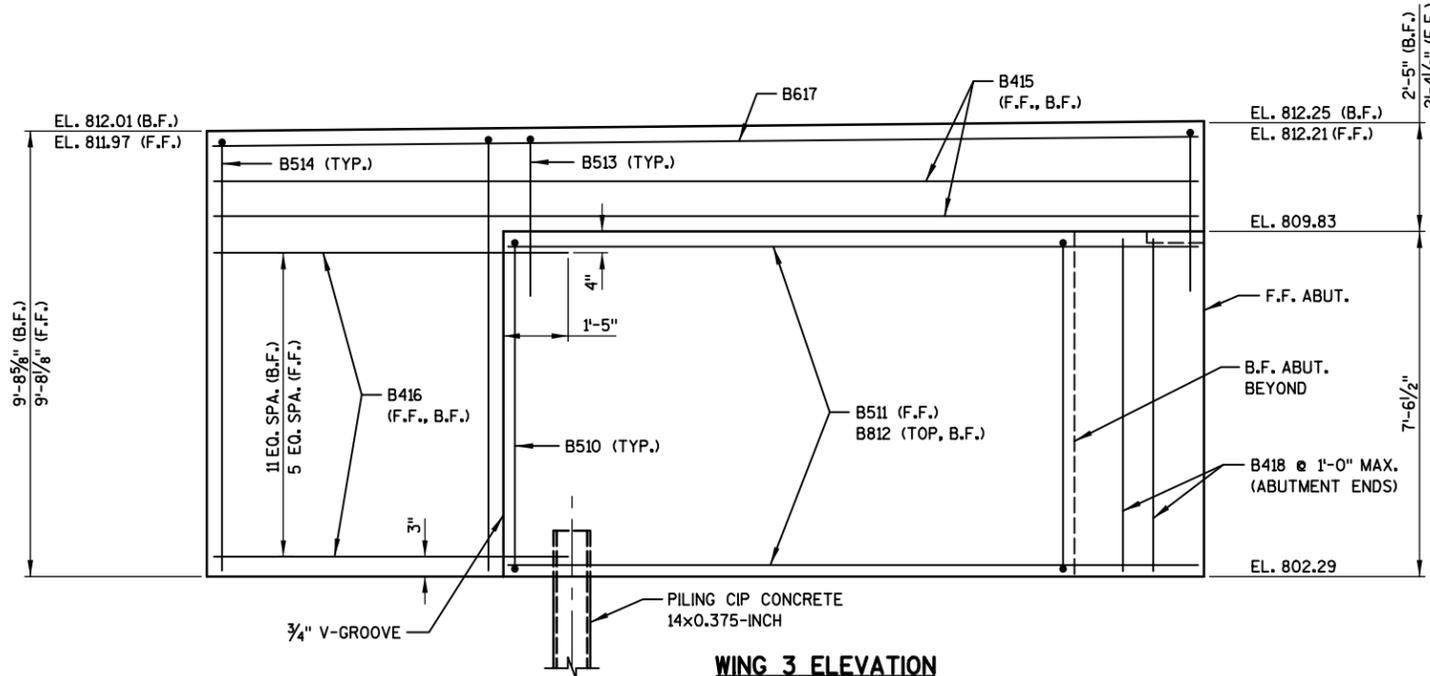


TYPICAL WING SECTION

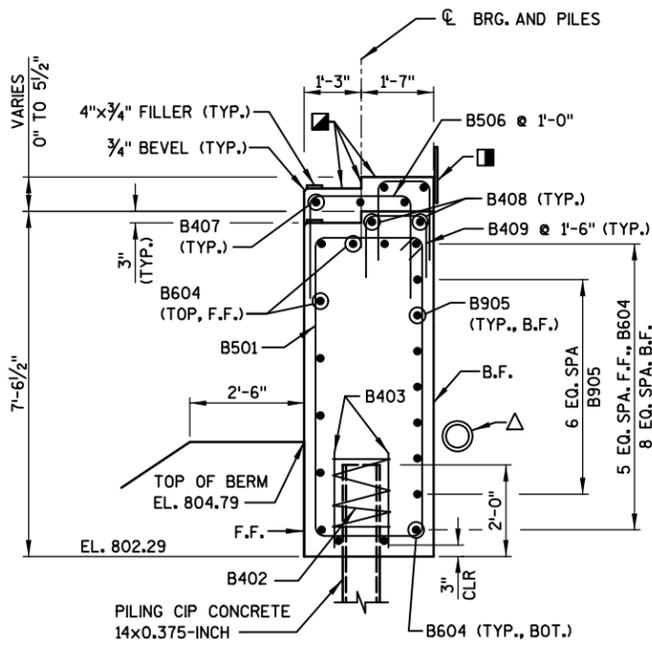
**NORTH ABUTMENT
BILL OF BARS**

**UNCOATED: 3,780 LBS
COATED: 2,890 LBS**

BAR MARK	NO. REQ'D	LENGTH	BENT	COAT	LOCATION
B501	61	19'-2"	X		BODY - VERT.
B402	7	28'-0"	X		BODY - PILES - SPIRAL
B403	14	2'-3"			BODY - PILES - VERT.
B604	12	48'-10"			BODY - TOP, BOT., & F.F. - HORIZ.
B905	7	51'-5"	X		BODY - B.F. - HORIZ.
B506	17	5'-3"	X		BODY - VERT.
B407	3	16'-0"			BODY - TOP, HORIZ.
B408	2	46'-9"			BODY - TOP, HORIZ.
B409	32	4'-7"	X		BODY - TOP, VERT.
B510	26	20'-8"	X	X	LOWER WINGS - VERT.
B511	16	15'-0"		X	LOWER WINGS - F.F. - HORIZ.
B812	18	17'-2"	X	X	LOWER WINGS - B.F. - HORIZ.
B513	42	9'-2"	X	X	UPPER WINGS - VERT.
B514	18	19'-2"	X	X	UPPER WINGS - VERT. - END
B415	12	21'-6"		X	UPPER WINGS - HORIZ.
B416	36	7'-9"		X	UPPER WINGS - HORIZ. - END
B617	4	21'-6"		X	UPPER WINGS - HORIZ. - TOP
B418	4	7'-1"			BODY - ENDS - VERT.



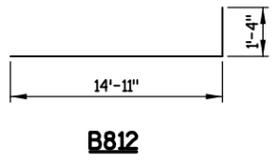
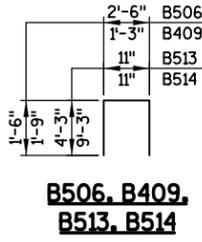
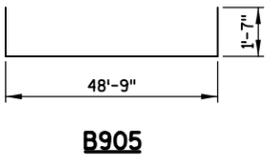
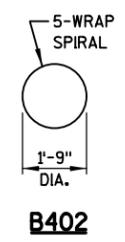
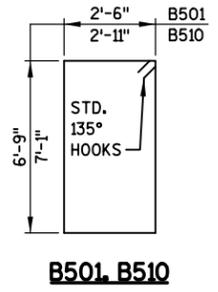
WING 3 ELEVATION
(LOOKING AT FRONT FACE)
(WING 4 SIMILAR)



TYPICAL ABUTMENT SECTION

LEGEND

- OPTIONAL CONSTRUCTION JOINT FORMED BY BEVELED 2"X6" KEYWAY WITH MEMBRANE ON BACKFACE.
- 18" RUBBERIZED MEMBRANE WATERPROOFING, SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE.
- △ PIPE UNDERDRAIN WRAPPED (6-INCH), SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. HIGH POINT EL. 804.50 AT \bar{R} . ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN PER DETAIL ON SHEET 4.
- STEEL TROWEL TOP SURFACE OF ABUTMENT. PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE ABUTMENT TOP BEFORE PLACING SUBSTRUCTURE. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03".



NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-58-136			
DRAWN BY		DTH	PLANS CK'D. BMO
NORTH ABUTMENT DETAILS			SHEET 7

LEGEND

▲ KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2" X 6".

NOTES

PILES SHALL BE PAINTED IN ACCORDANCE WITH SECTION 550.3.1L3 OF THE STANDARD SPECIFICATIONS.

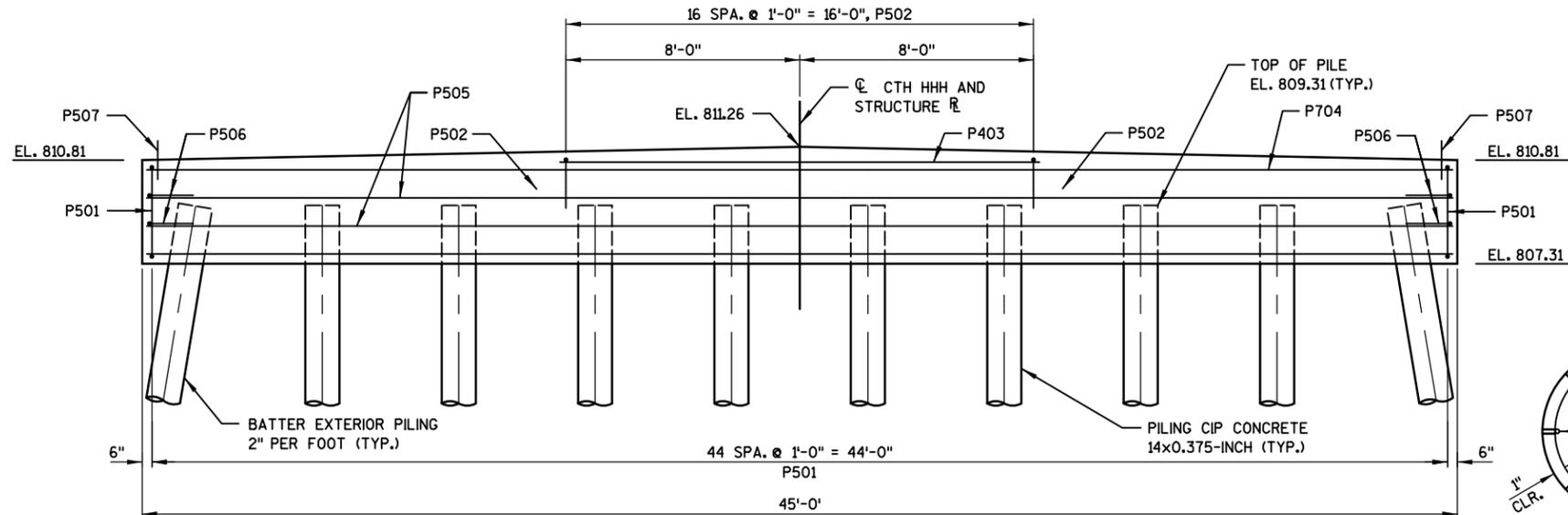
CAST-IN-PLACE PILE SHELL MATERIAL SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.

P507 BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE.

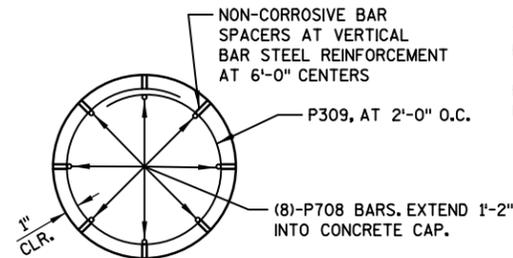
ADJUST P501 BARS INTERFERING WITH PILES.

FOR PILE SPLICE DETAILS, SEE DETAIL ON SHEET 6.

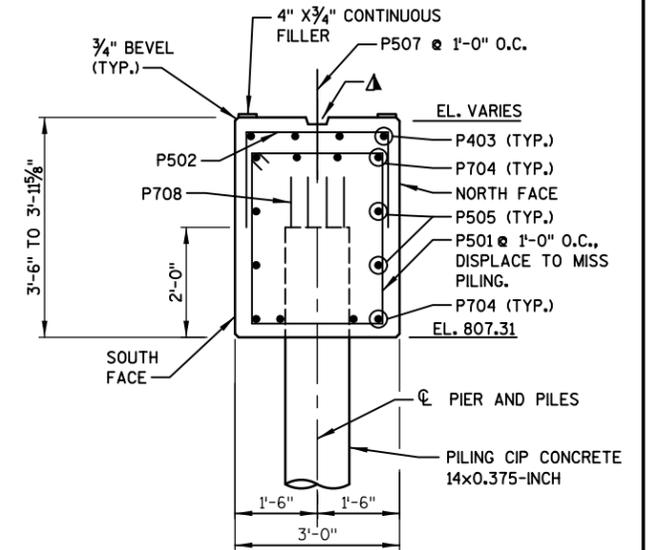
PIER TO BE SUPPORTED ON PILING CIP CONCRETE 14x0.375-INCH, WITH A REQUIRED DRIVING RESISTANCE OF 220 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC EQUATION. ESTIMATED 85' LONG EACH. PILES SHALL BE DRIVEN TO EXTEND THROUGH THE MEDIUM SAND SOILS ESTIMATED FROM EL. 774 TO EL. 748. THIS LAYER OF MEDIUM SAND SOILS MAY PROVIDE TEMPORARY ELEVATED DRIVING RESISTANCE, BUT DUE TO SOFTER SOILS BELOW IT, THE PILES MUST BE DRIVEN THROUGH THE MEDIUM SAND SOILS LAYER TO REACH THE ESTIMATED PILE DEPTH AT APPROXIMATELY EL. 725.



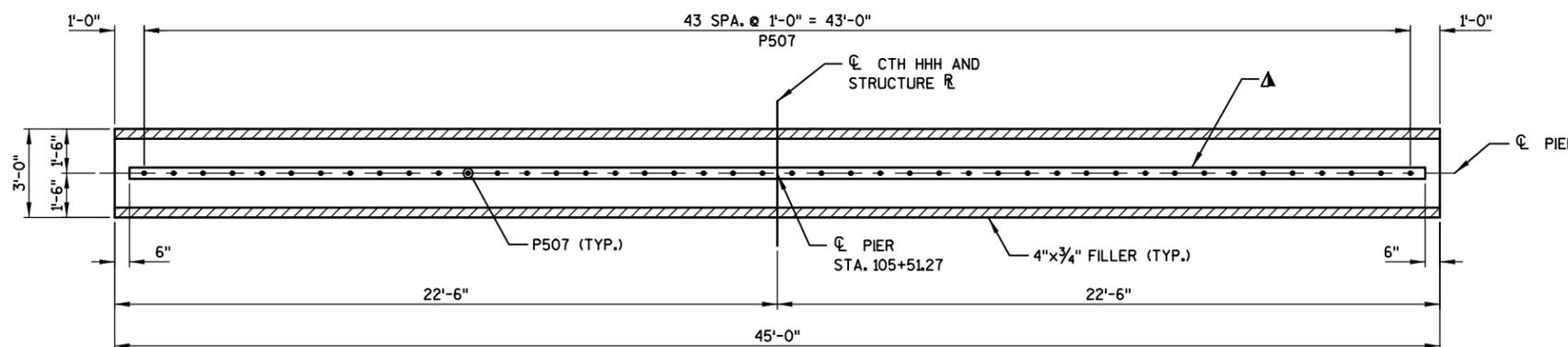
ELEVATION
(LOOKING NORTH)



SECTION THRU PILE



SECTION THRU PIER CAP

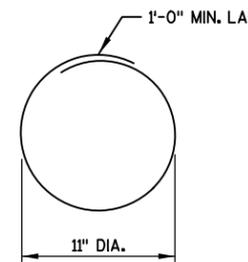


PLAN

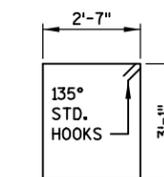
PIER BILL OF BARS

UNCOATED: 5,680 LBS
COATED: 90 LBS

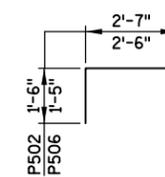
BAR MARK	NO. REQ'D	LENGTH	BENT	COAT	LOCATION
P501	45	12'-0"	X		PIER - VERT.
P502	17	5'-4"	X		PIER - TOP - VERT.
P403	4	18'-0"			PIER - TOP - HORIZ.
P704	8	44'-7"			PIER - TOP & BOTTOM - HORIZ.
P505	4	44'-7"			PIER - SIDES - HORIZ.
P506	4	5'-1"	X		PIER - ENDS - HORIZ.
P507	44	2'-0"		X	PIER - DOWELS - VERT.
P708	80	23'-6"			PILING - VERT.
P309	130	3'-11"	X		PILING - HORIZ.



P309



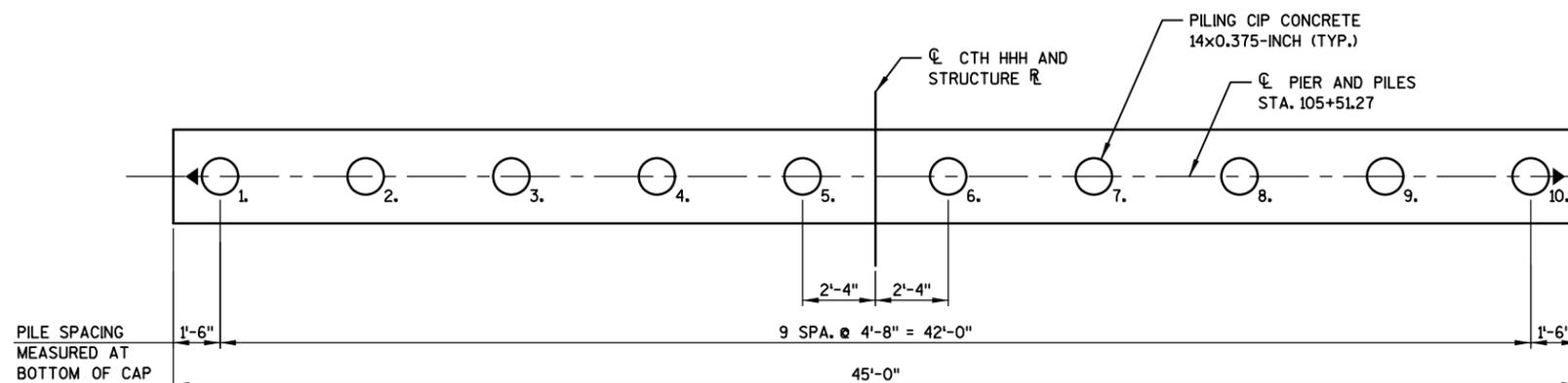
P501



P502, P506

8

8

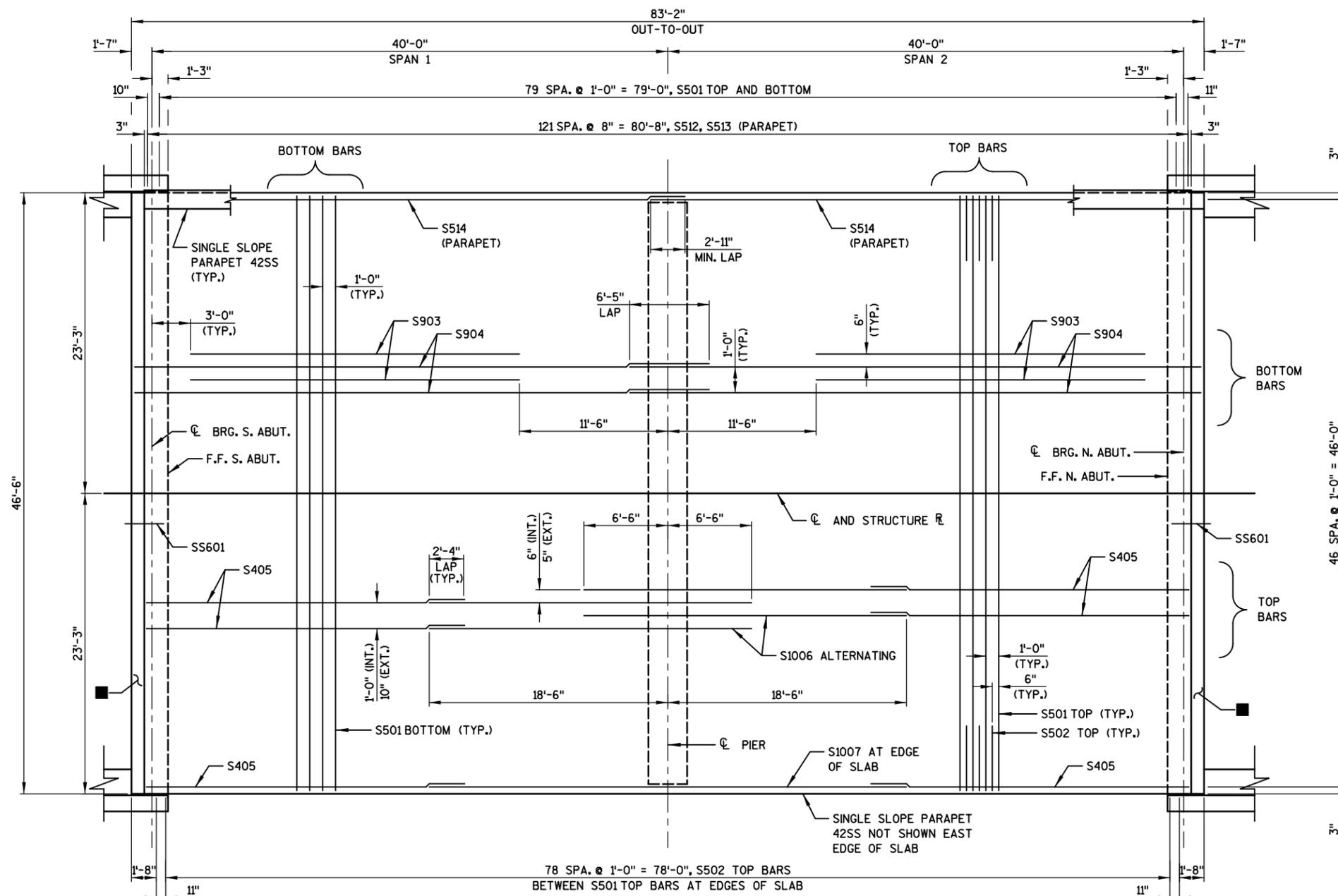


PILE PLAN

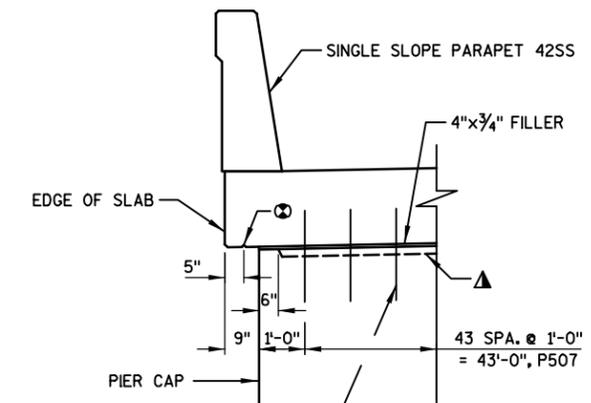
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-58-136			
DRAWN BY		DTH	PLANS CKD. BMO
PIER DETAILS			SHEET 8

LEGEND

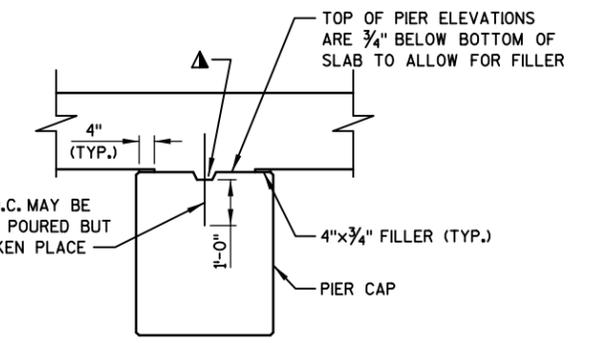
- 18" RUBBERIZED MEMBRANE WATERPROOFING.
- ▲ KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2"x6".
- ⊙ 3/4" V-GROOVE REQ'D. EXTEND TO 6" FROM F.F. OF ABUT. DIAPHRAGMS.
- 1'-0"x1'-4" DEEP PAVING NOTCH.



PLAN

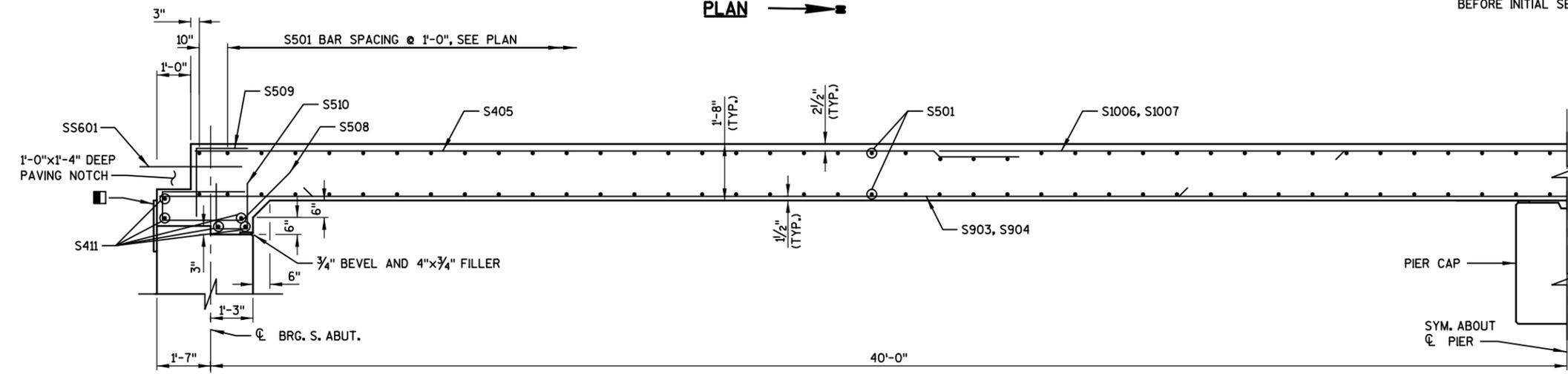


P507 PIER DOWELS @ 1'-0" O.C. MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE



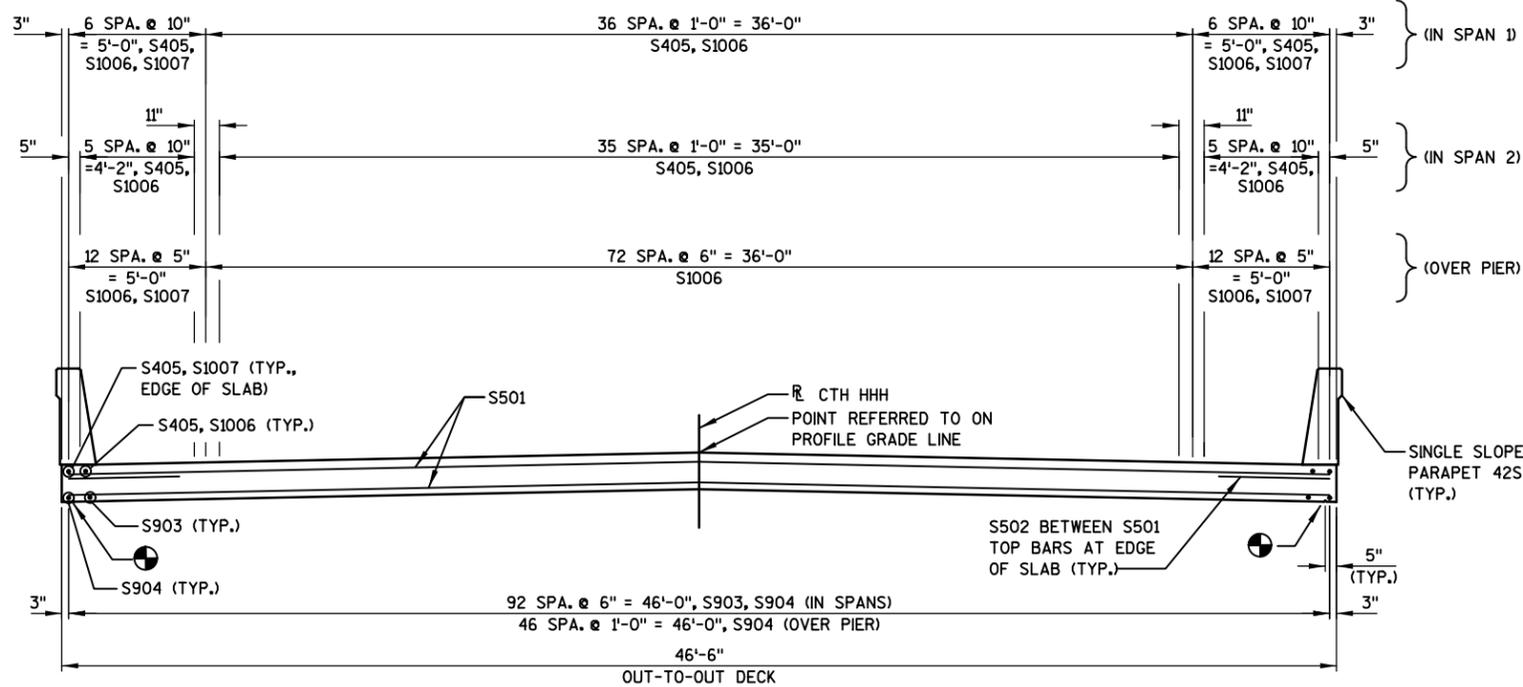
P507 PIER DOWELS @ 1'-0" O.C. MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE

PIER DETAILS



HALF LONGITUDINAL SECTION

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-58-136			
DRAWN BY		DTH	PLANS CKD. BMO
SUPERSTRUCTURE PLAN, SECTION, AND DETAILS			SHEET 9



CROSS SECTION THRU SUPERSTRUCTURE
(LOOKING NORTH)

SUPERSTRUCTURE BILL OF BARS

COATED: 49,020 LBS

BAR MARK	NO. REQ'D	LENGTH	BENT	COAT	LOCATION
S501	164	46'-2"		X	SLAB - TRANSVERSE - TOP & BOT.
S502	162	5'-0"		X	SLAB - TRANSVERSE - TOP
S903	92	25'-6"		X	SLAB - LONG. - BOTTOM
S904	94	44'-8"		X	SLAB - LONG. - BOTTOM
S405	99	24'-3"		X	SLAB - LONG. - TOP
S1006	95	25'-0"		X	SLAB - LONG. - TOP
S1007	2	37'-0"		X	SLAB - LONG. - EXT. - TOP
S508	94	7'-2"	X	X	ABUT. DIAPHRAGM - VERT.
S509	94	3'-4"	X	X	ABUT. DIAPHRAGM - VERT.
S510	94	3'-4"	X	X	ABUT. DIAPHRAGM - VERT.
S411	10	46'-2"		X	ABUT. DIAPHRAGM - HORIZ.
S512	244	4'-5"	X	X	PARAPET - VERT.
S513	244	6'-8"	X	X	PARAPET - VERT.
S514	32	41'-11"		X	PARAPET - HORIZ.

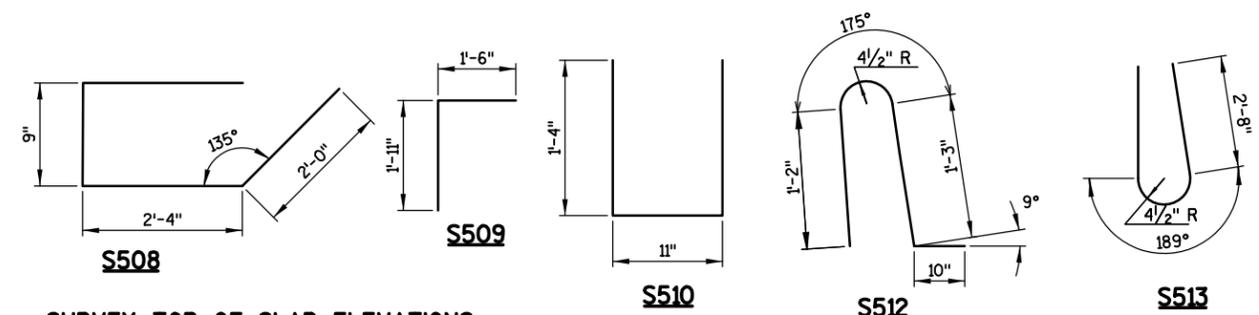
NOTES

TOP TRANSVERSE BARS IN SLAB SHALL BE SUPPORTED BY INDIVIDUAL BAR CHAIRS AT APPROXIMATELY 3'-0" CENTERS EACH WAY. BOTTOM LONGITUDINAL BARS SHALL BE SUPPORTED BY CONTINUOUS BAR CHAIRS AT APPROXIMATELY 4'-0" CENTERS.

ALL SLAB THICKNESS DIMENSIONS ARE MINIMUM. ANY TOLERANCES NECESSARY TO CORRECT CONSTRUCTION DISCREPANCIES ARE TO BE PLUS (+).

LEGEND

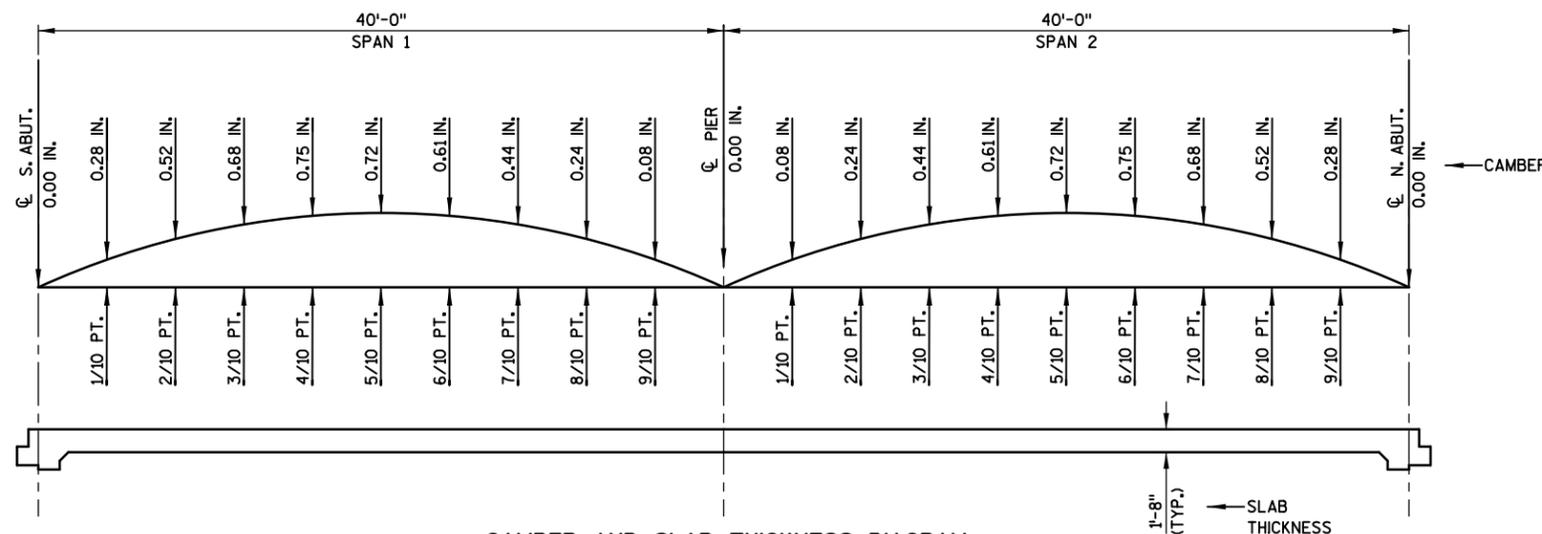
⊕ 3/4" V-GROOVE REQ'D. EXTEND TO 6" FROM F.F. OF ABUT. DIAPHRAGMS.



SURVEY TOP OF SLAB ELEVATIONS

	S. ABUT	5/10 PT.	PIER	5/10 PT.	N. ABUT.
WEST EDGE OF SLAB					
CROWN ON R/L					
EAST EDGE OF SLAB					

PRIOR TO RELEASING SLAB FALSEWORK, TAKE TOP OF DECK ELEVATIONS AT THE C/L OF ABUTMENTS, THE C/L OF PIER, AND AT 5/10 PTS. TO VERIFY CAMBER. TAKE ELEVATIONS ALONG GUTTER LINES AND CROWN OR R/L. RECORD THE ELEVATIONS IN THE ABOVE TABLE FOR THE "AS BUILT" PLANS.



CAMBER AND SLAB THICKNESS DIAGRAM

CAMBER SHOWN IS BASED ON 3 TIMES DEAD LOAD DEFLECTIONS. CAMBER SPANS AS SHOWN TO PROVIDE FOR DEAD LOAD DEFLECTION AND FUTURE CREEP. CAMBER DOES NOT INCLUDE ALLOWANCE FOR FORM SETTLEMENT.

PARAPETS, SIDEWALKS AND MEDIANS PLACED ON TOP OF THE SLAB SHALL BE POURED AFTER FALSEWORK HAS BEEN RELEASED.

TO DETERMINE FALSEWORK ELEVATION AT EDGE OF SLAB, CROWN OR REFERENCE LINE FOLLOW THIS PROCEDURE:

- LESS TOP OF SLAB ELEVATION AT FINAL GRADE
- PLUS SLAB THICKNESS
- PLUS CAMBER
- PLUS FORM SETTLEMENT/DEFLECTION DUE TO PLACEMENT OF SLAB CONCRETE (TO BE COMPUTED BY THE CONTRACTOR)
- EQUALS TOP OF SLAB FALSEWORK ELEVATION.

TOP OF DECK ELEVATIONS

LOCATION	WEST EDGE OF DECK		C/L BRIDGE		EAST EDGE OF DECK	
	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.
C/L BRG. S. ABUT.	105+11.27	812.59	105+11.27	813.03	105+11.27	812.59
0.1L POINT	105+15.27	812.60	105+15.27	813.04	105+15.27	812.60
0.2L POINT	105+19.27	812.60	105+19.27	813.04	105+19.27	812.60
0.3L POINT	105+23.27	812.60	105+23.27	813.04	105+23.27	812.60
0.4L POINT	105+27.27	812.60	105+27.27	813.04	105+27.27	812.60
0.5L POINT	105+31.27	812.60	105+31.27	813.04	105+31.27	812.60
0.6L POINT	105+35.27	812.59	105+35.27	813.03	105+35.27	812.59
0.7L POINT	105+39.27	812.58	105+39.27	813.02	105+39.27	812.58
0.8L POINT	105+43.27	812.57	105+43.27	813.01	105+43.27	812.57
0.9L POINT	105+47.27	812.56	105+47.27	813.00	105+47.27	812.56
C/L PIER	105+51.27	812.55	105+51.27	812.99	105+51.27	812.55
0.1R POINT	105+55.27	812.53	105+55.27	812.97	105+55.27	812.53
0.2R POINT	105+59.27	812.51	105+59.27	812.95	105+59.27	812.51
0.3R POINT	105+63.27	812.49	105+63.27	812.93	105+63.27	812.49
0.4R POINT	105+67.27	812.46	105+67.27	812.90	105+67.27	812.46
0.5R POINT	105+71.27	812.44	105+71.27	812.88	105+71.27	812.44
0.6R POINT	105+75.27	812.41	105+75.27	812.85	105+75.27	812.41
0.7R POINT	105+79.27	812.38	105+79.27	812.82	105+79.27	812.38
0.8R POINT	105+83.27	812.34	105+83.27	812.78	105+83.27	812.34
0.9R POINT	105+87.27	812.31	105+87.27	812.75	105+87.27	812.31
C/L BRG. N. ABUT.	105+91.27	812.27	105+91.27	812.71	105+91.27	812.27

ELEVATIONS SHOWN ARE FINISHED GRADE ELEVATIONS.

* DECK ELEVATIONS AT FACE OF PARAPET (22.00' LT & RT) ARE THE SAME AS AT EDGE OF DECK (DECK LEVEL UNDER PARAPET, SEE "SINGLE SLOPE PARAPET 42SS" SHEET FOR DETAIL).

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-58-136			
DRAWN BY		DTM	PLANS CKD. BMO
SUPERSTRUCTURE CROSS SECTION AND DETAILS			SHEET 10

STRUCTURAL APPROACH SLAB

BILL OF BARS

COATED: 19,860 LBS

BAR MARK	NO. REQ'D	LENGTH	BENT	COAT	LOCATION
T501	90	12'-2"	X	X	APPROACH SLAB FTG. - STIRRUP
T802	48	26'-1"		X	APPROACH SLAB FTG. - TRANS.
T803	156	21'-6"	X	X	APPROACH SLAB - LONG. - BOT.
T504	96	19'-7"		X	APPROACH SLAB - LONG. - TOP
T505	42	46'-2"		X	APPROACH SLAB - TRANS. - BOT.
T506	42	46'-2"		X	APPROACH SLAB - TRANS. - TOP
T507	8	9'-2"		X	APPROACH SLAB FTG. - STIRRUP - ENDS
T508	80	4'-1"	X	X	APPROACH SLAB - TRANS. - TOP - WING

STAINLESS STEEL

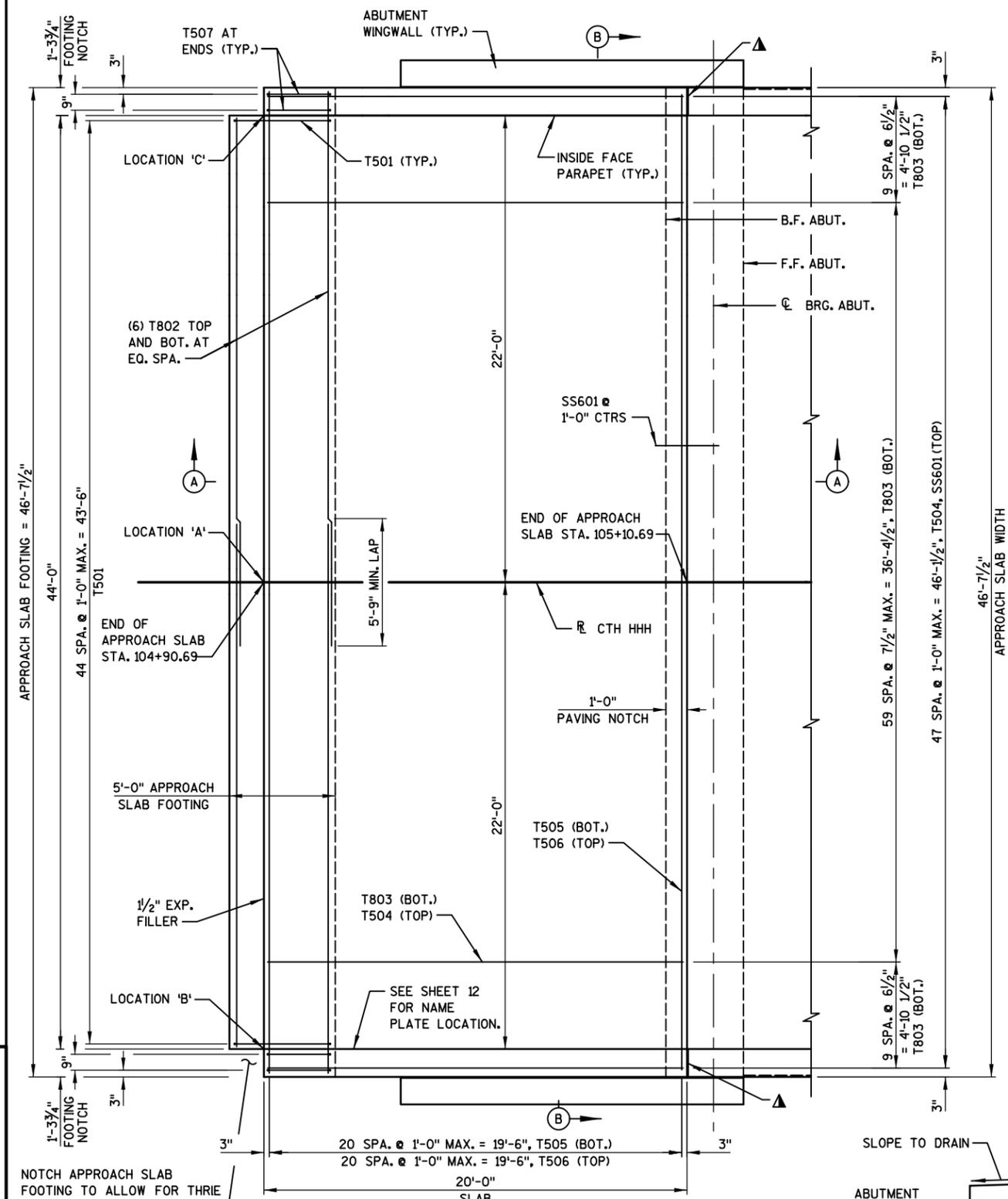
BILL OF BARS

COATED: 430 LBS

BAR MARK	NO. REQ'D	LENGTH	BENT	COAT	LOCATION
SS601	96	3'-0"			STRUCTURE SLAB TO APPROACH SLAB

LEGEND

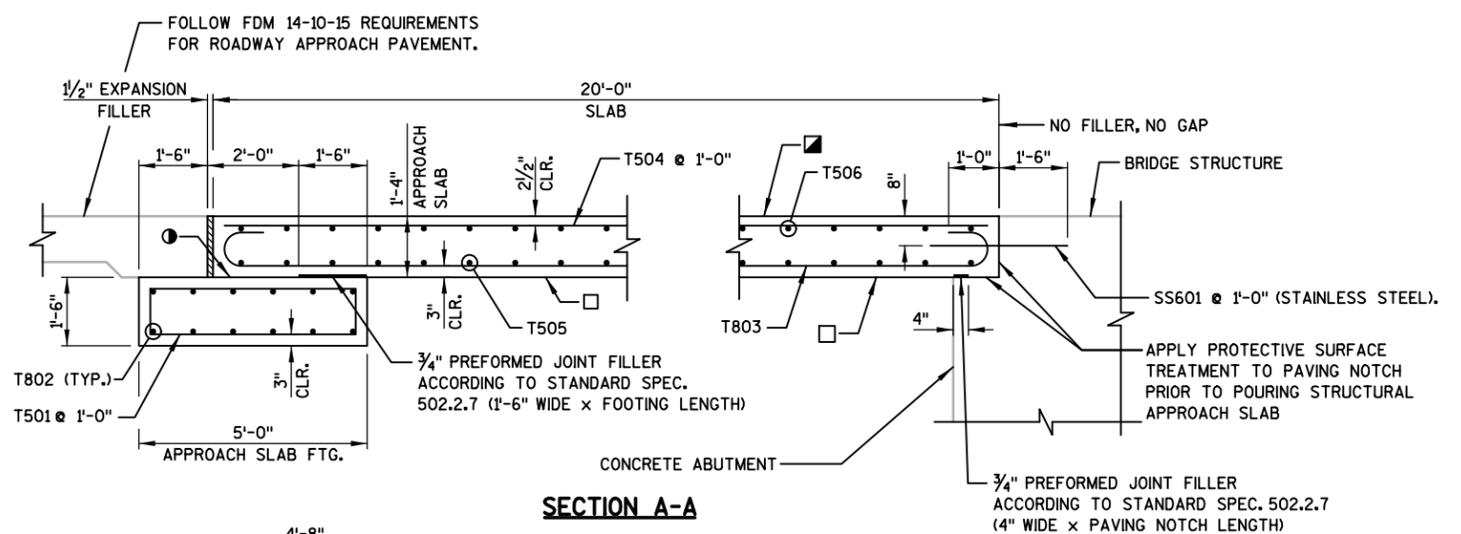
- ▲ SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE).
- STEEL TROWEL TOP SURFACE OF FOOTING AND PLACE MULTIPLE LAYERS (0.03" MIN. TOTAL THK.) OF POLYETHYLENE SHEETS OVER THE ENTIRE TOP OF FOOTING.
- PLACE MULTIPLE LAYERS (0.03" MIN. TOTAL THK.) OF POLYETHYLENE SHEETS OVER THE ENTIRE TOP OF SUBGRADE BENEATH SLAB.
- COAT WITH "PROTECTIVE SURFACE TREATMENT" AS PER THE STANDARD SPECIFICATIONS.
- COAT WITH PIGMENTED SURFACE SEALER AS PER THE SPECIFICATIONS.



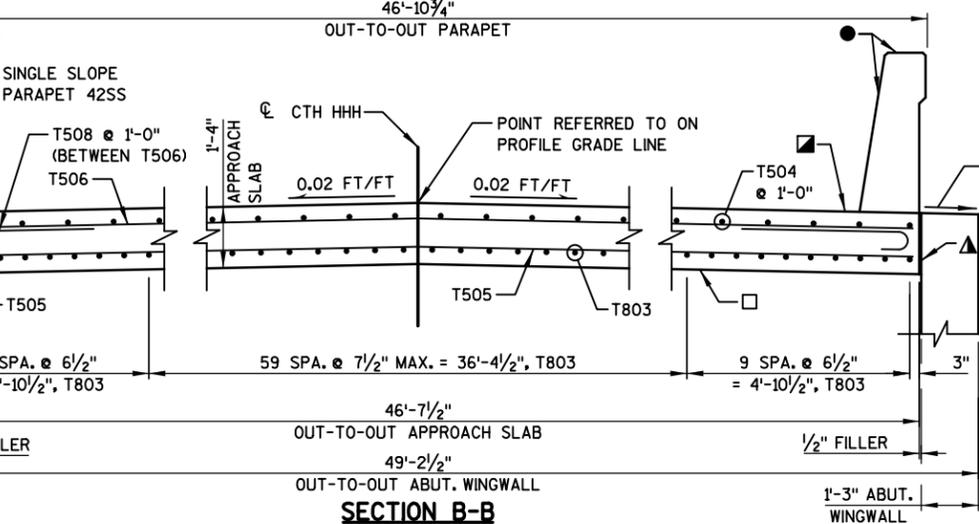
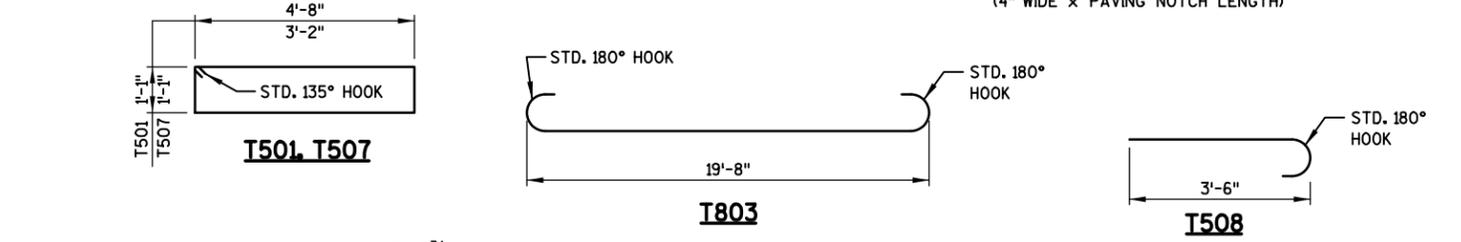
APPROACH SLAB PLAN
(SOUTH SIDE SHOWN, NORTH SIMILAR)

APPROACH SLAB ELEVATIONS

LOCATION	SOUTH APPROACH SLAB		NORTH APPROACH SLAB	
	STATION	ELEV.	STATION	ELEV.
'A'	104+90.69	812.97	106+11.85	812.48
'B'	104+90.69	812.53	106+11.85	812.04
'C'	104+90.69	812.53	106+11.85	812.04



SECTION A-A



SECTION B-B

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-58-136			
DRAWN BY: DTH		PLANS CKD: BMO	
STRUCTURAL APPROACH SLAB			SHEET 11

SINGLE SLOPE PARAPET 42SS

BILL OF BARS

COATED: 2,230 LBS

BAR MARK	NO. REQ'D S. ABUT.	NO. REQ'D N. ABUT.	LENGTH	BENT	COAT	LOCATION
R501	36	62	4'-5"	X	X	PARAPET - VERT.
R502	36	62	6'-8"	X	X	PARAPET - VERT.
R503	24		2'-9"	X	X	PARAPET - VERT.
R504	34		4'-4"	X	X	PARAPET - VERT.
R505	10		6'-5"	X	X	PARAPET - VERT.
R506	12		6'-6"	X	X	PARAPET - VERT.
R507	2		19'-6"	X	X	PARAPET - HORIZ.
R508	10	16	19'-7"		X	PARAPET - HORIZ.
R509	12		5'-5"	X	X	PARAPET - VERT.
R510	4		19'-7"	X	X	PARAPET - HORIZ.

* LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR TABLE FOR ACTUAL LENGTHS.

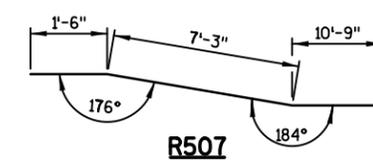
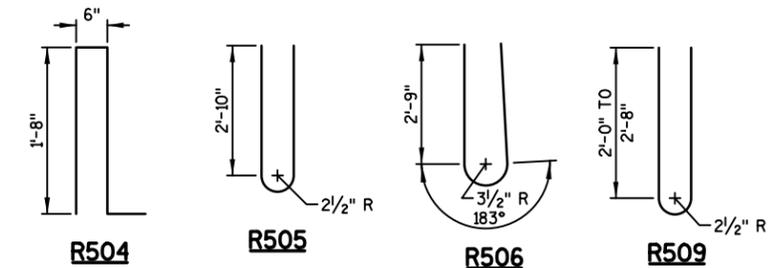
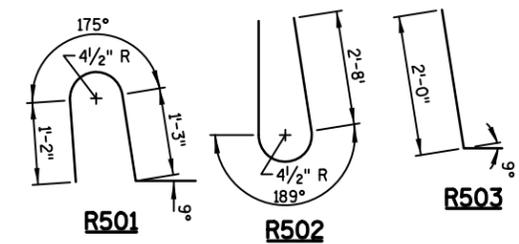
BAR SERIES TABLE

BAR MARK	NO. REQ'D	LENGTH
R509	2 SERIES OF 6	4'-9" TO 6'-1"

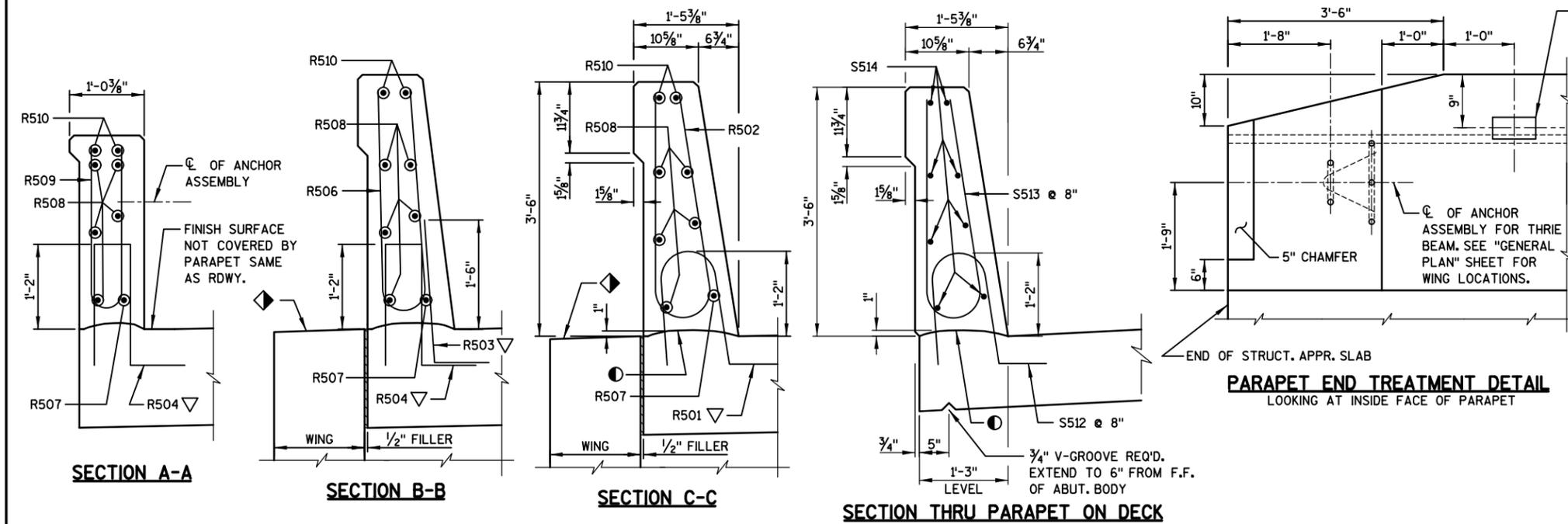
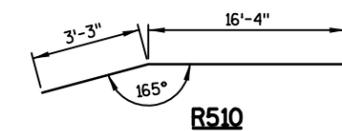
BUNDLE AND TAG EACH SERIES SEPARATELY.

LEGEND

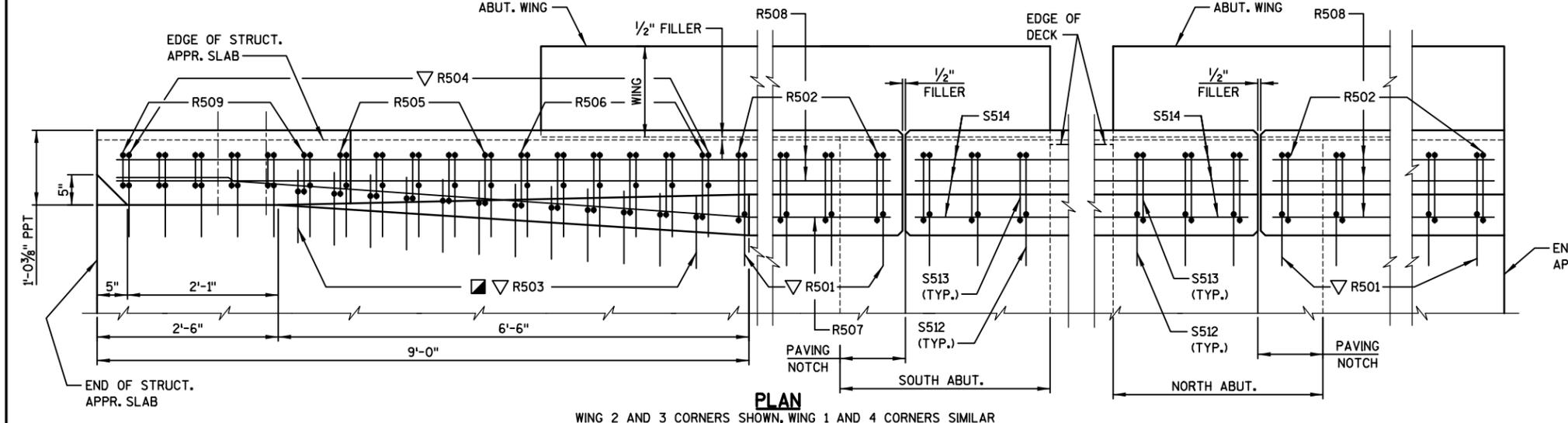
- CONSTRUCTION JOINT - STRIKE OFF AS SHOWN.
- ◊ SLOPE FOR DRAINAGE.
- ▣ USE CARE TO PLACE R503 BARS CORRECTLY ALONG TRANSITION OF PARAPET.
- ▽ R501, R503, AND R504 BARS TO BE TIED TO STRUCTURAL APPROACH SLAB STEEL BEFORE STRUCTURAL APPROACH SLAB IS POURED.
- BENCH MARK CAP (WHEN SUPPLIED). PLACE AT SOUTHEAST CORNER OF BRIDGE.



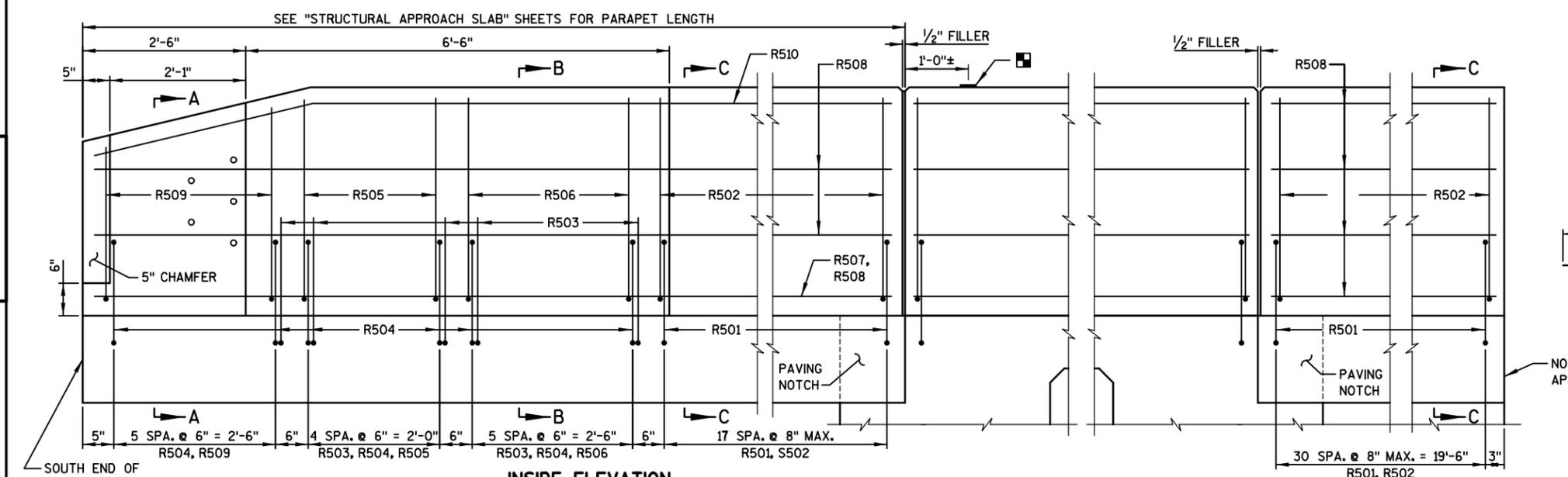
NORTH END OF STRUCTURE APPROACH SLAB



PARAPET END TREATMENT DETAIL
LOOKING AT INSIDE FACE OF PARAPET



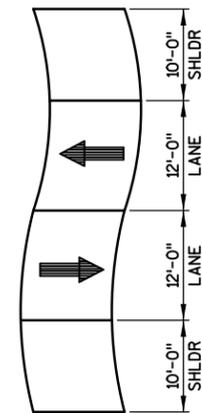
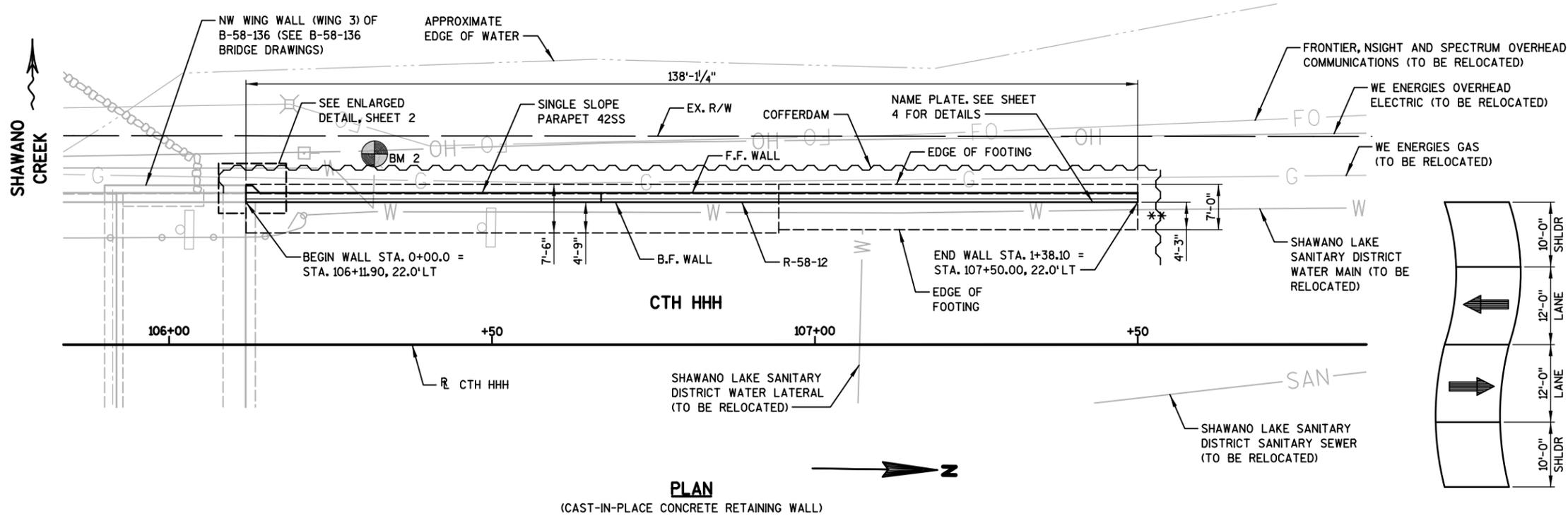
PLAN
WING 2 AND 3 CORNERS SHOWN, WING 1 AND 4 CORNERS SIMILAR



INSIDE ELEVATION

WING 2 AND 3 CORNERS SHOWN, WING 1 AND 4 CORNERS SIMILAR
WING AND STRUCTURAL APPROACH SLAB FOOTING NOT SHOWN FOR CLARITY

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-58-136			
DRAWN BY		DTH	PLANS CKD. BMO
SINGLE SLOPE PARAPET 42SS			SHEET 12



FOUNDATION DATA
 FOOTING AT THE RETAINING WALL IS DESIGNED TO PLACE A MAXIMUM LOAD OF 2 TONS PER SQUARE FOOT ON THE UNDERLYING SOIL. SOILS AT THE RETAINING WALL FOOTING ELEVATIONS ARE ESTIMATED TO HAVE A FACTORED BEARING RESISTANCE OF 3.8 TONS PER SQUARE FOOT. THE REGIONAL GEOTECHNICAL ENGINEER, WITH THREE DAYS NOTICE, WILL DETERMINE THE FACTORED BEARING RESISTANCE BY VISUAL INSPECTION PRIOR TO CONSTRUCTION OF THE RETAINING WALL FOOTING.

DESIGN DATA
 LIVE LOAD:
 LIVE LOAD SURCHARGE _____ 240 PSF
 MATERIAL PROPERTIES:
 CONCRETE PARAPET _____ f'c = 4,000 PSI
 CONCRETE RETAINING WALL _____ f'c = 3,500 PSI
 HIGH STRENGTH BAR STEEL REINFORCEMENT _____ fy = 60,000 PSI

GENERAL NOTES
 DRAWINGS SHALL NOT BE SCALED.
 BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR UNLESS OTHERWISE SHOWN OR NOTED.
 THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.
 AT THE BACKFACE OF THE WALL ALL VOLUME NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH STRUCTURE BACKFILL.

ALL RETAINING WALL STATIONS AND OFFSETS ARE MEASURED ALONG CTH HHH REFERENCE LINE.

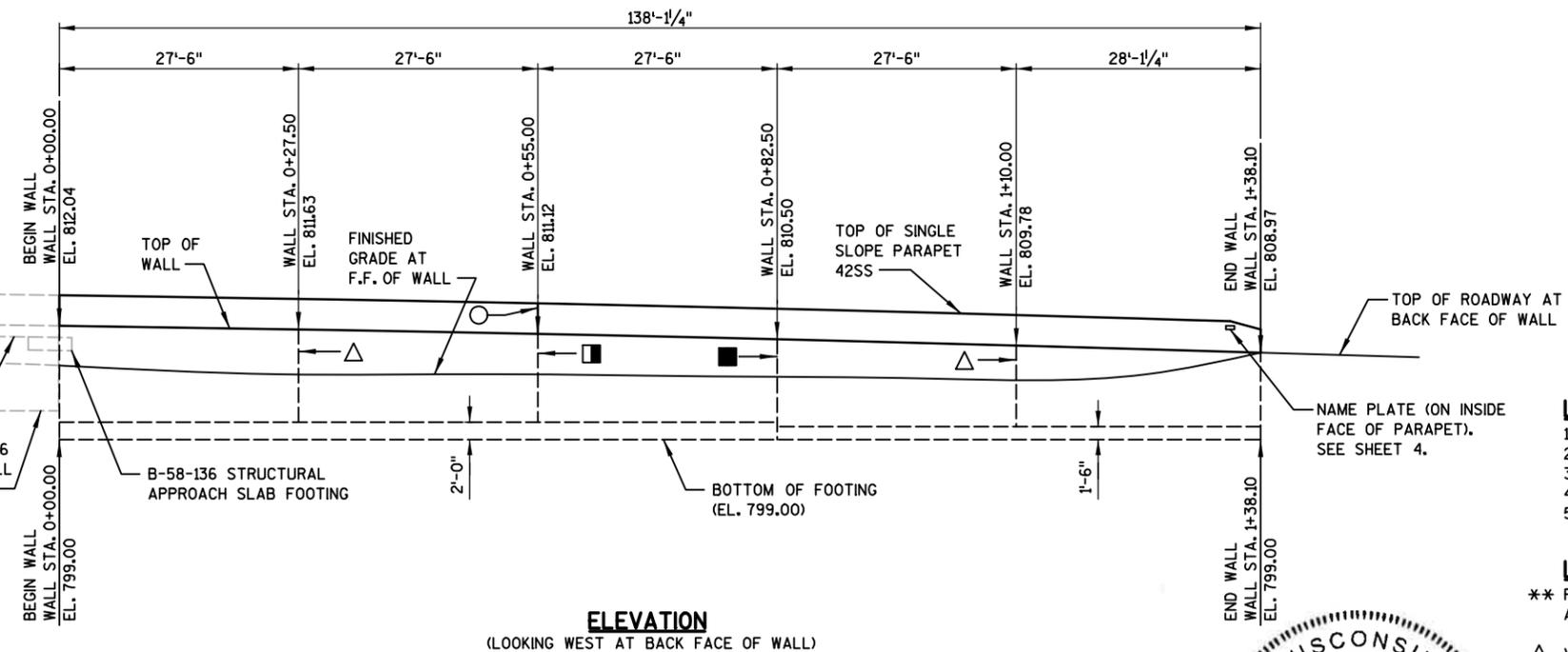
OFFSETS ARE MEASURED TO THE BACK FACE (ROADWAY SIDE) OF THE RETAINING WALL.

BEVEL EXPOSED EDGES OF CONCRETE 3/4", UNLESS NOTED OR SHOWN OTHERWISE.

BENDING DIMENSIONS FOR REINFORCING BARS ARE OUT TO OUT.

THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES RETAINING WALLS R-58-12" SHALL BE THE EXISTING GROUNDLINE.

THE BACKFILL QUANTITIES ARE BASED ON THE PAY LIMITS SHOWN ON THE PLANS AND MAY NOT REFLECT ACTUAL PLACED QUANTITIES. "BACKFILL STRUCTURE TYPE A" REQUIRED FOR THE ENTIRE WALL LENGTH. BACKFILL PLACED BEYOND PAY LIMITS OR EXCEEDING PLAN QUANTITIES SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES.



- LIST OF DRAWINGS**
1. GENERAL PLAN
 2. TYPICAL SECTION AND QUANTITIES
 3. WALL DETAILS
 4. SINGLE SLOPE PARAPET 42SS
 5. SUBSURFACE EXPLORATION

- LEGEND**
- ** PROVIDE FOR THRE BEAM GUARD RAIL ATTACHMENT.
 - △ VERTICAL CONTRACTION JOINT IN WALL.
 - VERTICAL CONTRACTION JOINT IN WALL AND FOOTING.
 - VERTICAL EXPANSION JOINT IN WALL.
 - VERTICAL EXPANSION JOINT IN PARAPET.

STRUCTURE DESIGN CONTACTS
 DESIGN CONSULTANT CONTACT:
 EVAN CONSTANT (608) 251-4843
 BUREAU OF STRUCTURES CONTACT:
 AARON BONK (608) 261-0261



Evan J. Constant
 6-1-2021

BENCH MARKS

NO.	STATION	DESCRIPTION	ELEV.
BM 1	STA. 108+68.25 22.12' RT	RR SPIKE IN POWERPOLE #67-3600, EAST OF CTH HHH, NORTH OF MARINA.	806.86
BM 2	STA. 106+31.80 29.44' LT	TOP NUT OF HYDRANT, NW OF BRIDGE	809.93
BM 3	STA. 104+60.69 33.61' LT	RR SPIKE IN POWERPOLE, SW OF BRIDGE	803.31
BM 4	STA. 101+71.31 73.40' RT	RR SPIKE IN WOOD LIGHTPOLE IN NE QUAD OF CTH HHH AND GUMAER RD	810.57

NOTE: SEE ROADWAY PLANS FOR ADDITIONAL INFORMATION ON BENCH MARKS OUTSIDE OF PLAN EXTENTS.

NO.	DATE	REVISION	BY

910 WEST WINGRA DRIVE
 MADISON, WISCONSIN 53715
 (608)-251-4843
 (608) 251-8655 FAX
 WWW.STRAND.COM

STATE OF WISCONSIN
 DEPARTMENT OF TRANSPORTATION
 ACCEPTED *[Signature]* SDR **10/13/21**
 CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE R-58-12

NW WING WALL EXTENSION OF B-58-136

COUNTY SHAWANO TOWN/CITY/VILLAGE WESCOTT

DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

DESIGNED BY	KRB	DESIGN CK'D.	BMO	DRAWN BY	DTH	PLANS CK'D.	BMO
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GENERAL PLAN SHEET 1 OF 5

TOTAL ESTIMATED QUANTITIES

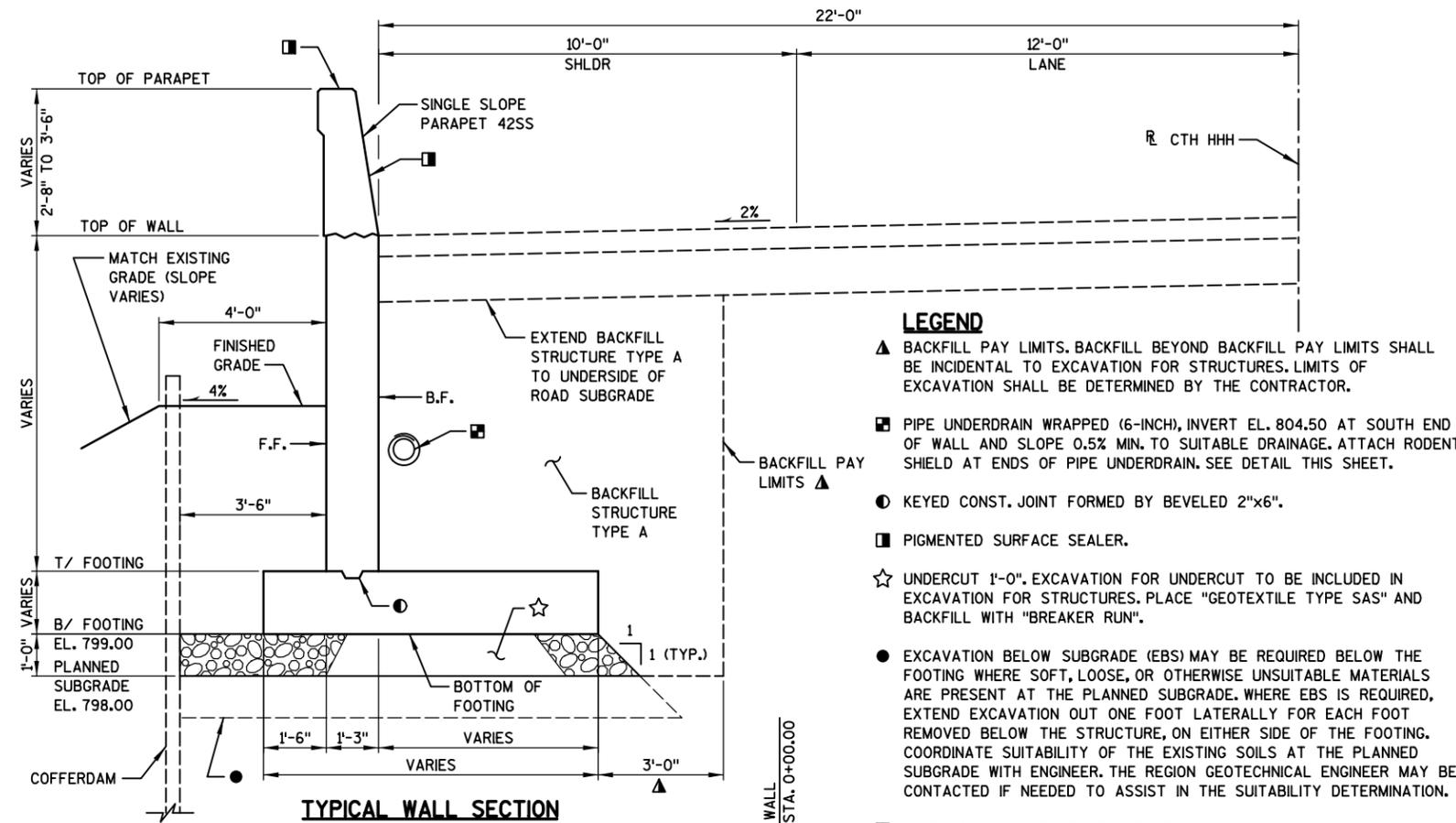
BID ITEM NUMBER	BID ITEMS	UNIT	TOTAL
206.3000	EXCAVATION FOR STRUCTURES RETAINING WALLS R-58-12	LS	1
206.5000	COFFERDAMS R-58-12	LS	1
210.1500	BACKFILL STRUCTURE TYPE A	TON	718
311.0110	BREAKER RUN	TON	77
502.3210	PIGMENTED SURFACE SEALER	SY	69
504.0500	CONCRETE MASONRY RETAINING WALLS	CY	151
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	3,920
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	11,720
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	7
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	160
614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	EACH	1
645.0140	GEOTEXTILE TYPE SAS	SY	171
NON-BID ITEMS			
	FILLER	SIZE	3/4"

STATE PROJECT NUMBER

9318-02-70

ELEVATION TABLE

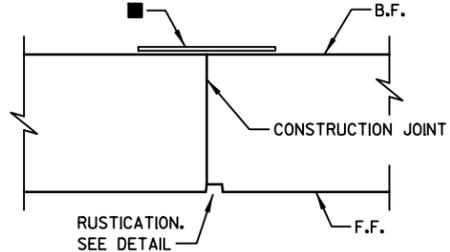
R/L CTH HHH STA.	WALL STA.	TOP OF WALL EL.	BOTTOM OF FTG. EL.	FINISHED GRADE EL.
106+11.90	0+00.00	812.04	799.00	806.84
106+36.90	0+25.00	811.67	799.00	806.69
106+39.40	0+27.50	811.63	799.00	806.67
106+61.90	0+50.00	811.22	799.00	806.46
106+66.90	0+55.00	811.12	799.00	806.40
106+86.90	0+75.00	810.68	799.00	806.16
106+94.40	0+82.50	810.50	799.00	806.25
107+11.90	1+00.00	810.06	799.00	806.77
107+21.90	1+10.00	809.78	799.00	807.41
107+36.90	1+25.00	809.35	799.00	808.38
107+50.00	1+38.10	808.97	799.00	809.23



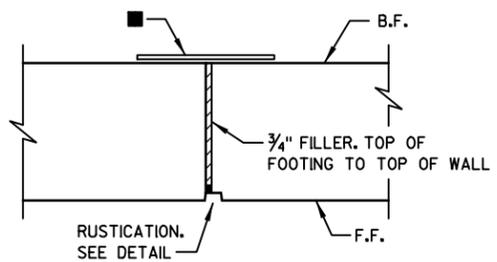
LEGEND

- ▲ BACKFILL PAY LIMITS. BACKFILL BEYOND BACKFILL PAY LIMITS SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES. LIMITS OF EXCAVATION SHALL BE DETERMINED BY THE CONTRACTOR.
- PIPE UNDERDRAIN WRAPPED (6-INCH), INVERT EL. 804.50 AT SOUTH END OF WALL AND SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN. SEE DETAIL THIS SHEET.
- KEYED CONST. JOINT FORMED BY BEVELED 2"x6".
- PIGMENTED SURFACE SEALER.
- ☆ UNDERCUT 1'-0". EXCAVATION FOR UNDERCUT TO BE INCLUDED IN EXCAVATION FOR STRUCTURES. PLACE "GEOTEXTILE TYPE SAS" AND BACKFILL WITH "BREAKER RUN".
- EXCAVATION BELOW SUBGRADE (EBS) MAY BE REQUIRED BELOW THE FOOTING WHERE SOFT, LOOSE, OR OTHERWISE UNSUITABLE MATERIALS ARE PRESENT AT THE PLANNED SUBGRADE. WHERE EBS IS REQUIRED, EXTEND EXCAVATION OUT ONE FOOT LATERALLY FOR EACH FOOT REMOVED BELOW THE STRUCTURE, ON EITHER SIDE OF THE FOOTING. COORDINATE SUITABILITY OF THE EXISTING SOILS AT THE PLANNED SUBGRADE WITH ENGINEER. THE REGION GEOTECHNICAL ENGINEER MAY BE CONTACTED IF NEEDED TO ASSIST IN THE SUITABILITY DETERMINATION.
- 18" RUBBERIZED MEMBRANE WATERPROOFING.

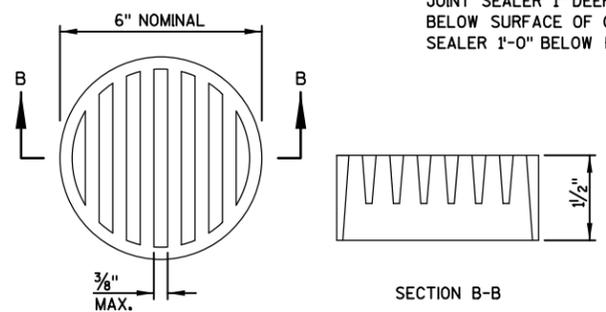
3/4" FILLER. EXTEND FROM TOP OF WALL TO TOP OF PARAPET. SEAL ALL EXPOSED HORIZONTAL AND VERTICAL FACES OF FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER 1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE.



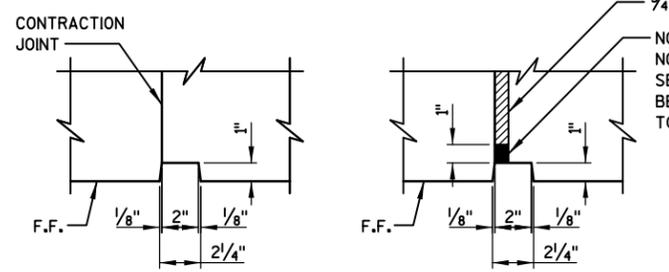
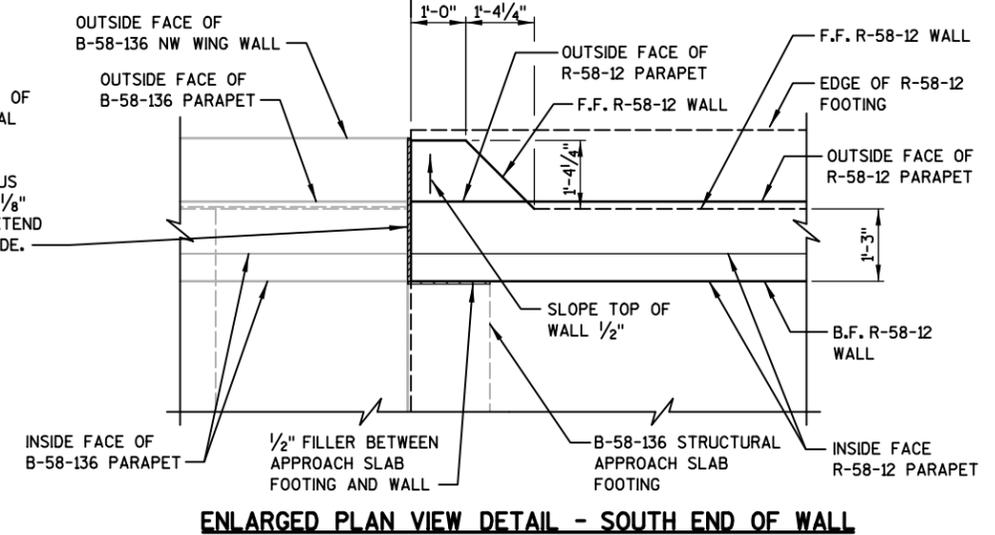
VERTICAL EXPANSION JOINT IN PARAPET



3/4" FILLER. EXTEND FROM BOTTOM OF FOOTING TO TOP OF PARAPET. SEAL ALL EXPOSED HORIZONTAL AND VERTICAL FACES OF FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER 1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE. EXTEND SEALER 1'-0" BELOW FINISHED GRADE.



NOTES:
 DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING. ORIENT SHIELD SO SLOTS ARE VERTICAL.
 THE RODENT SHIELD, PIPE COUPLING AND ATTACHMENT SCREWS SHALL BE INCLUDED WITH BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH."
 THE RODENT SHIELD 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 SHIELD TO THE EXPOSED END OF THE PIPE UNDERDRAIN. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 x 1-INCH STAINLESS STEEL SHEET METAL SCREWS.



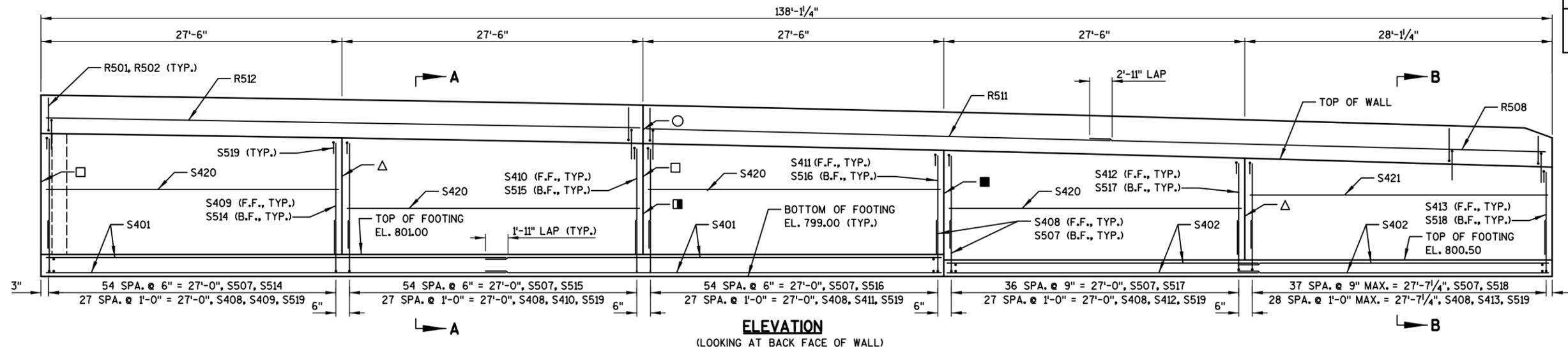
RUSTICATION DETAIL - CONTRACTION JOINT **RUSTICATION DETAIL - EXPANSION JOINT**

RODENT SHIELD DETAIL

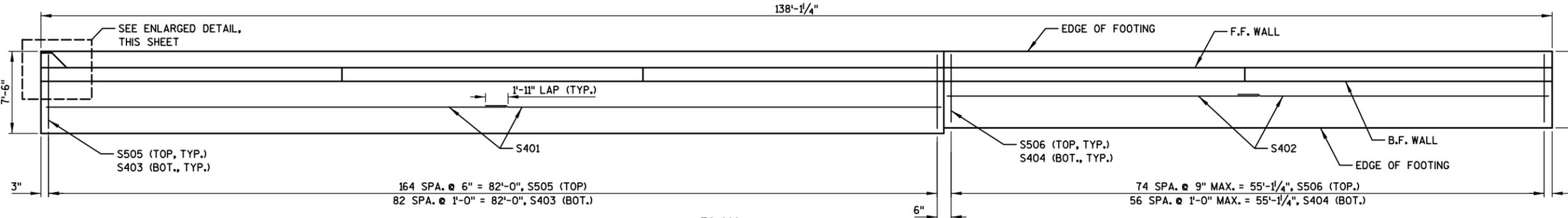
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE R-58-12			
DRAWN BY		OTH	PLANS CKD. BMO
TYPICAL SECTION AND QUANTITIES			SHEET 2

LEGEND

- △ VERTICAL CONTRACTION JOINT IN WALL.
- VERTICAL CONTRACTION JOINT IN WALL AND FOOTING.
- ▣ VERTICAL EXPANSION JOINT IN WALL.
- VERTICAL EXPANSION JOINT IN PARAPET.
- 3/4" FILLER. SEE ENLARGED PLAN VIEW DETAIL ON SHEET 2 FOR DETAILS.
- ⊙ KEYWAY FORMED BY BEVELED 2"x6".
- PIPE UNDERDRAIN WRAPPED (6-INCH), SEE SHEET 2 FOR DETAILS.



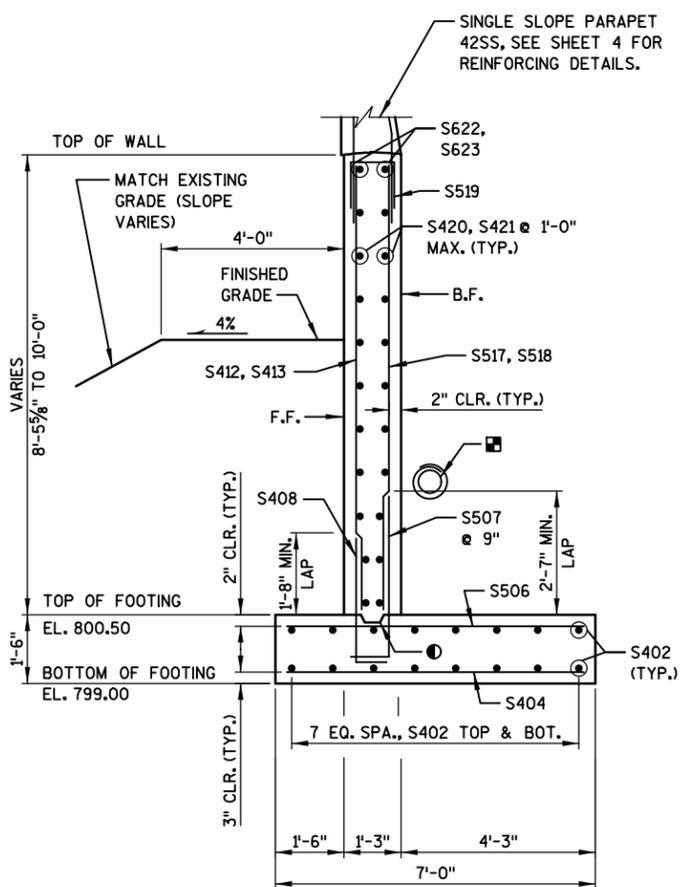
ELEVATION
(LOOKING AT BACK FACE OF WALL)



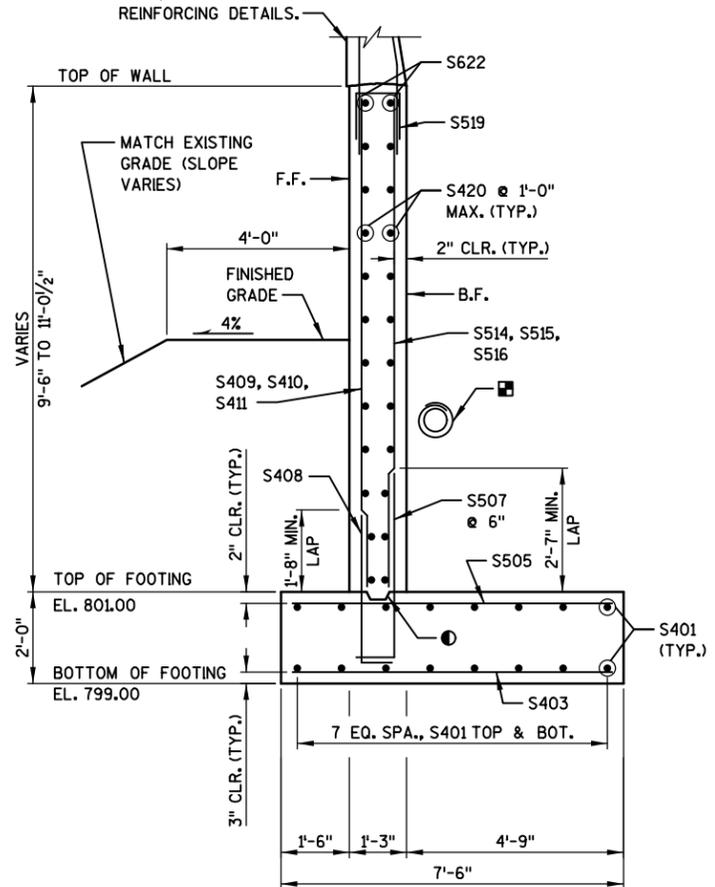
PLAN

WALL BILL OF BARS
UNCOATED: 3.920 LBS
COATED: 7.760 LBS

BAR MARK	NO. REQ'D	LENGTH	BENT	COAT	LOCATION
S401	32	42'-1"			FTG. - BOT. - LONGIT.
S402	32	28'-8"			FTG. - BOT. - LONGIT.
S403	83	7'-2"			FTG. - BOT. - TRANS.
S404	57	6'-8"			FTG. - BOT. - TRANS.
S505	165	7'-2"			FTG. - TOP - TRANS.
S506	75	6'-8"			FTG. - TOP - TRANS.
S507	240	5'-6"	X	X	FTG. - DOWELS - VERT.
S408	141	4'-6"	X	X	FTG. - DOWELS - VERT.
S409	30	10'-4"		X	WALL - F.F. - VERT.
S410	28	9'-10"		X	WALL - F.F. - VERT.
S411	28	9'-3"		X	WALL - F.F. - VERT.
S412	28	9'-0"		X	WALL - F.F. - VERT.
S413	29	8'-2"		X	WALL - F.F. - VERT.
S514	55	10'-4"		X	WALL - B.F. - VERT.
S515	55	9'-10"		X	WALL - B.F. - VERT.
S516	55	9'-3"		X	WALL - B.F. - VERT.
S517	37	9'-0"		X	WALL - B.F. - VERT.
S518	38	8'-2"		X	WALL - B.F. - VERT.
S519	141	2'-8"	X	X	WALL - TOP - VERT.
S420	84	27'-2"		X	WALL - F.F. & B.F. - HORIZ.
S421	18	27'-9"		X	WALL - F.F. & B.F. - HORIZ.
S622	8	27'-2"		X	WALL - F.F. & B.F. - TOP - HORIZ.
S623	2	27'-9"		X	WALL - F.F. & B.F. - TOP - HORIZ.
S424	12	6'-5"	X	X	WALL - STIRRUP - SOUTH END



SECTION B-B



BORING	DATE COMPLETED	NORTHING (Y)	EASTING (X)
SB-1	7/16/2020	275,445.27	870,537.92
SB-2	7/16/2020	275,593.62	870,529.64
EB-3	7/15/220	275,500.19	870,590.12

BORINGS COMPLETED BY: PSI
REPORT COMPLETED BY: PSI
ALL COORDINATES REFERENCED TO WISCONSIN STATE PLANE,
SOUTH ZONE.

BORINGS PERFORMED AND REPORT COMPLETED BY:
PROFESSIONAL SERVICE INDUSTRIES (PSI)
821 CORPORATE COURT
WAUKESHA, WI 53189

BORINGS WERE PERFORMED ON 7/15/2020 THRU
7/16/2020.



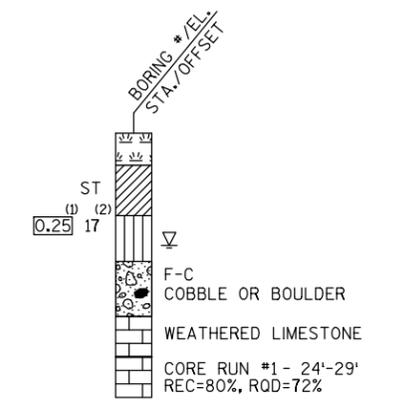
STATE PROJECT NUMBER

9318-02-70

MATERIAL SYMBOLS

	ASPHALT		TOPSOIL		PEAT
	CONCRETE		FILL		GRAVEL
	SAND		CLAY		SILT
	BOULDERS OR COBBLES		LIMESTONE		BEDROCK (UNKNOWN)
	SHALE		SANDSTONE		IGNEOUS/META

LEGEND OF BORING



(1) UNCONFINED STRENGTH, AS DETERMINED BY A POCKET PENETROMETER (TSF)

(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.

GROUND WATER ELEVATION

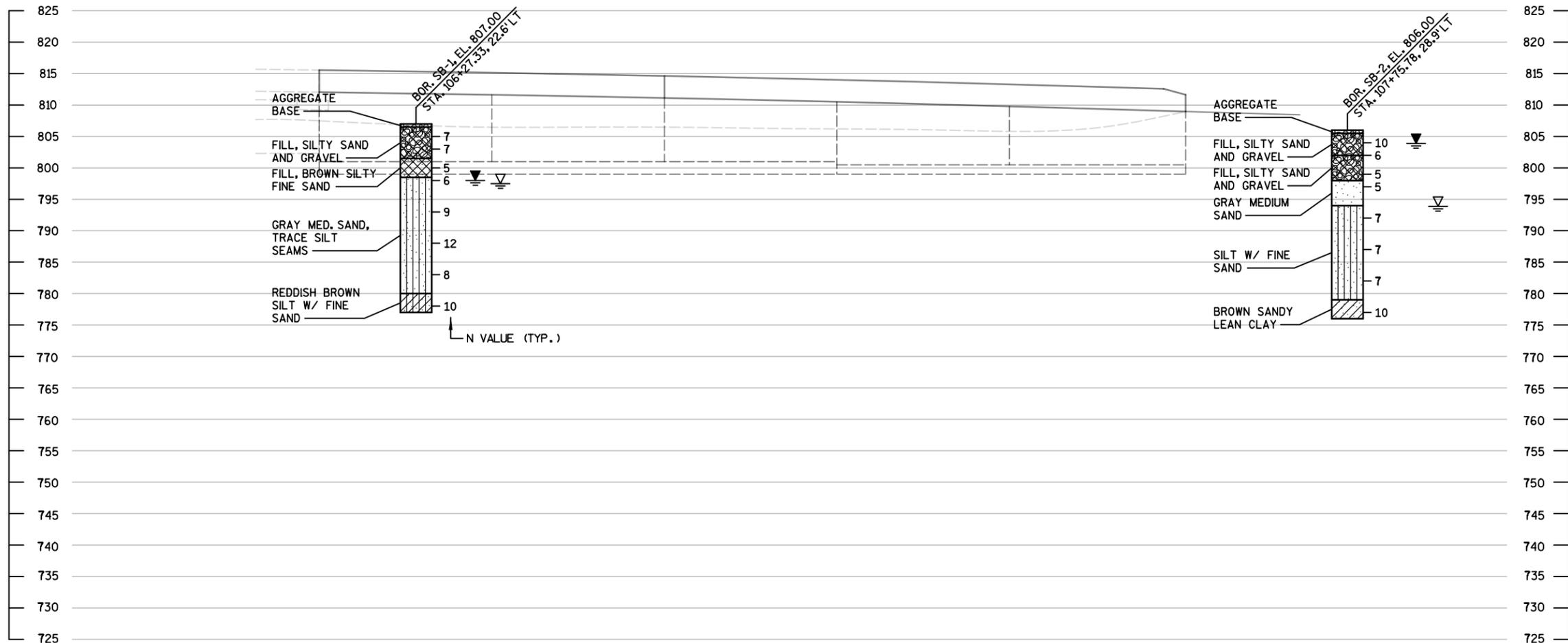
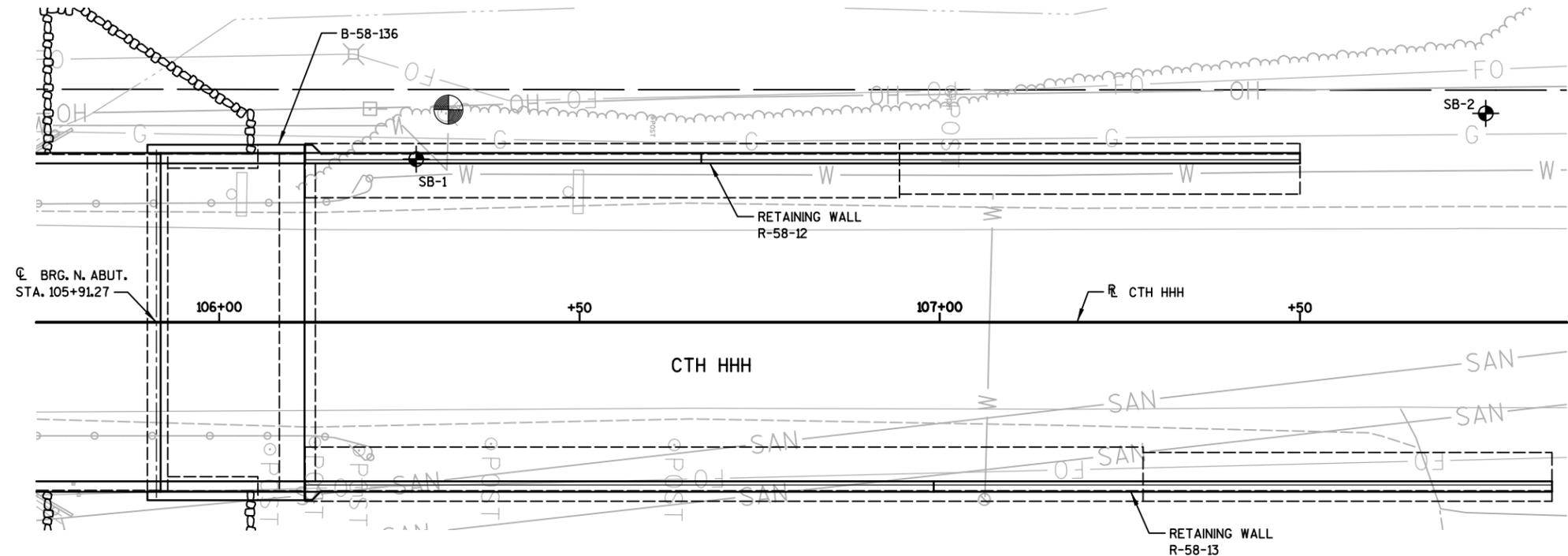
- ▽ AT TIME OF DRILLING
- ▽ END OF DRILLING
- ▽ AFTER DRILLING

ABBREVIATIONS

F-FINE M-MEDIUM C-COARSE ST-SHELBY TUBE

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

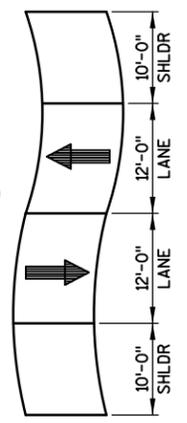
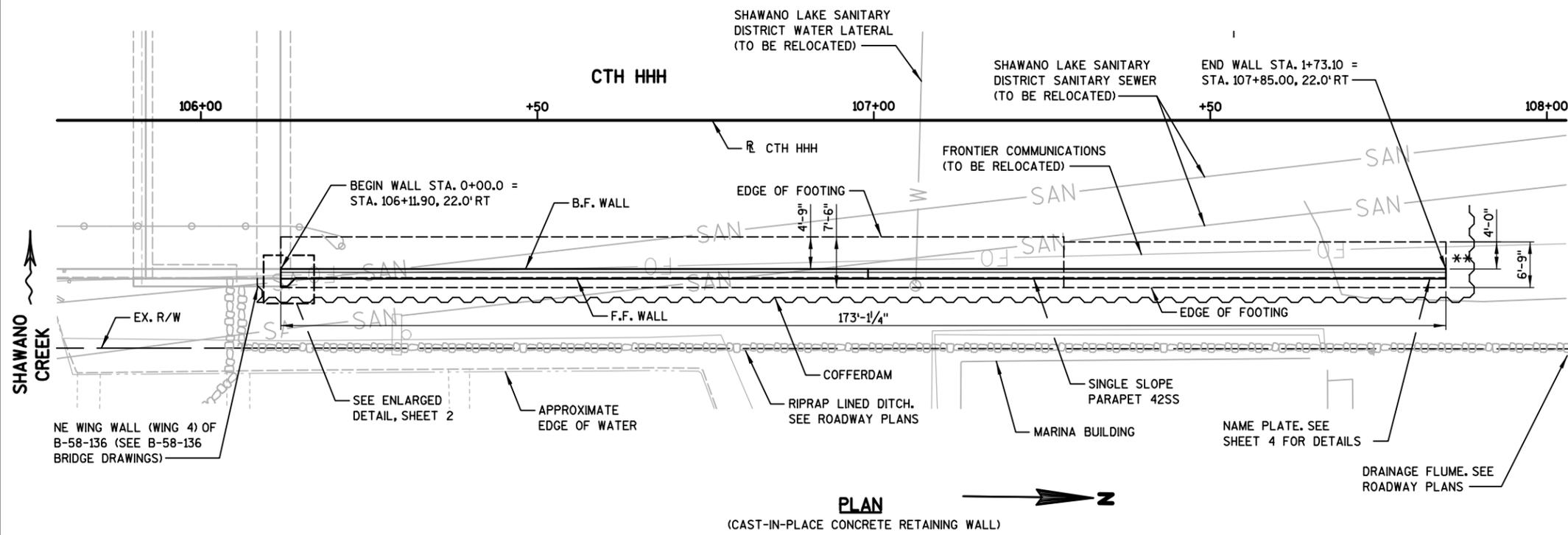
BORINGS WERE COMPLETED AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING TO OBTAIN INFORMATION CONCERNING THE CHARACTER OF SUBSURFACE MATERIALS FOUND AT THE SITE. BECAUSE THE INVESTIGATED DEPTHS ARE LIMITED AND THE AREA OF THE BORINGS IS VERY SMALL IN RELATION TO THE ENTIRE SITE, THE WISCONSIN DEPARTMENT 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.



8

8

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE R-58-12			
DRAWN BY		DTH	PLANS CKD. BMO
SUBSURFACE EXPLORATION			SHEET 5



FOUNDATION DATA

FOOTING AT THE RETAINING WALL IS DESIGNED TO PLACE A MAXIMUM LOAD OF 2 TONS PER SQUARE FOOT ON THE UNDERLYING SOIL. SOILS AT THE RETAINING WALL FOOTING ELEVATIONS ARE ESTIMATED TO HAVE A FACTORED BEARING RESISTANCE OF 3.8 TONS PER SQUARE FOOT. THE REGIONAL GEOTECHNICAL ENGINEER, WITH THREE DAYS NOTICE, WILL DETERMINE THE FACTORED BEARING RESISTANCE BY VISUAL INSPECTION PRIOR TO CONSTRUCTION OF THE RETAINING WALL FOOTING.

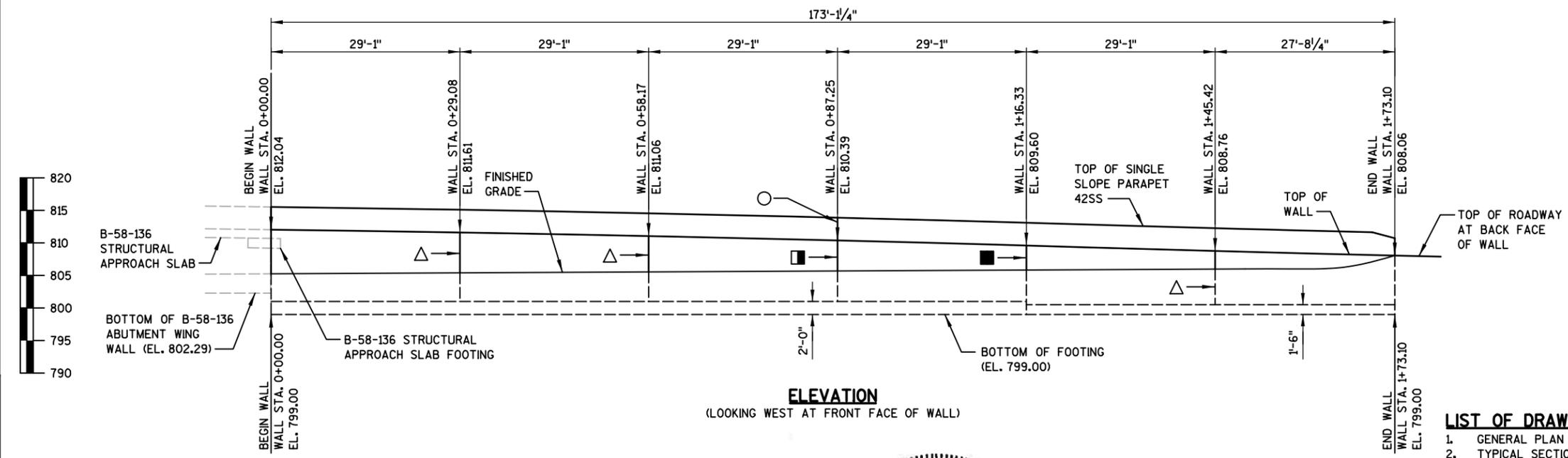
DESIGN DATA

LIVE LOAD:
LIVE LOAD SURCHARGE _____ 240 PSF

MATERIAL PROPERTIES:
CONCRETE PARAPET _____ f'c = 4,000 PSI
CONCRETE RETAINING WALL _____ f'c = 3,500 PSI
HIGH STRENGTH BAR STEEL REINFORCEMENT _____ fy = 60,000 PSI

GENERAL NOTES

- DRAWINGS SHALL NOT BE SCALED.
- BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR UNLESS OTHERWISE SHOWN OR NOTED.
- THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.
- AT THE BACKFACE OF THE WALL ALL VOLUME NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH STRUCTURE BACKFILL.
- ALL RETAINING WALL STATIONS AND OFFSETS ARE MEASURED ALONG CTH HHH REFERENCE LINE.
- OFFSETS ARE MEASURED TO THE BACK FACE (ROADWAY SIDE) OF THE RETAINING WALL.
- BEVEL EXPOSED EDGES OF CONCRETE 3/4", UNLESS NOTED OR SHOWN OTHERWISE.
- BENDING DIMENSIONS FOR REINFORCING BARS ARE OUT TO OUT.
- THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES RETAINING WALLS R-58-13" SHALL BE THE EXISTING GROUNDLINE.
- THE BACKFILL QUANTITIES ARE BASED ON THE PAY LIMITS SHOWN ON THE PLANS AND MAY NOT REFLECT ACTUAL PLACED QUANTITIES. "BACKFILL STRUCTURE TYPE A" REQUIRED FOR THE ENTIRE WALL LENGTH. BACKFILL PLACED BEYOND PAY LIMITS OR EXCEEDING PLAN QUANTITIES SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES.



BENCH MARKS

NO.	STATION	DESCRIPTION	ELEV.
BM 1	STA. 108+68.25 22.12' RT	RR SPIKE IN POWERPOLE #67-3600, EAST OF CTH HHH, NORTH OF MARINA.	806.86
BM 2	STA. 106+31.80 29.44' LT	TOP NUT OF HYDRANT, NW OF BRIDGE	809.93
BM 3	STA. 104+60.69 33.61' LT	RR SPIKE IN POWERPOLE, SW OF BRIDGE	803.31
BM 4	STA. 101+71.31 73.40' RT	RR SPIKE IN WOOD LIGHTPOLE IN NE QUAD OF CTH HHH AND GUMAER RD	810.57

NOTE: SEE ROADWAY PLANS FOR ADDITIONAL INFORMATION ON BENCH MARKS OUTSIDE OF PLAN EXTENTS.



STRUCTURE DESIGN CONTACTS

DESIGN CONSULTANT CONTACT:
EVAN CONSTANT (608) 251-4843

BUREAU OF STRUCTURES CONTACT:
AARON BONK (608) 261-0261

LIST OF DRAWINGS

1. GENERAL PLAN
2. TYPICAL SECTION AND QUANTITIES
3. WALL DETAILS
4. SINGLE SLOPE PARAPET 42SS
5. SUBSURFACE EXPLORATION

LEGEND

- ** PROVIDE FOR THREE BEAM GUARD RAIL ATTACHMENT.
- △ VERTICAL CONTRACTION JOINT IN WALL.
- VERTICAL CONTRACTION JOINT IN WALL AND FOOTING.
- VERTICAL EXPANSION JOINT IN WALL.
- VERTICAL EXPANSION JOINT IN PARAPET.

NO.	DATE	REVISION	BY
<p>910 WEST WINGRA DRIVE MADISON, WISCONSIN 53715 (608)-251-4843 (608) 251-8655 FAX WWW.STRAND.COM</p>			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION ACCEPTED: SDR 10/13/21 CHIEF STRUCTURES DESIGN ENGINEER DATE			
STRUCTURE R-58-13 NE WING WALL EXTENSION OF B-58-136			
COUNTY	SHAWANO	TOWN/CITY/VILLAGE	WESCOTT
DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS DESIGNED BY: KRB DESIGN CK'D.: BMO DRAWN BY: DTH PLANS CK'D.: BMO			
GENERAL PLAN			SHEET 1 OF 5

TOTAL ESTIMATED QUANTITIES

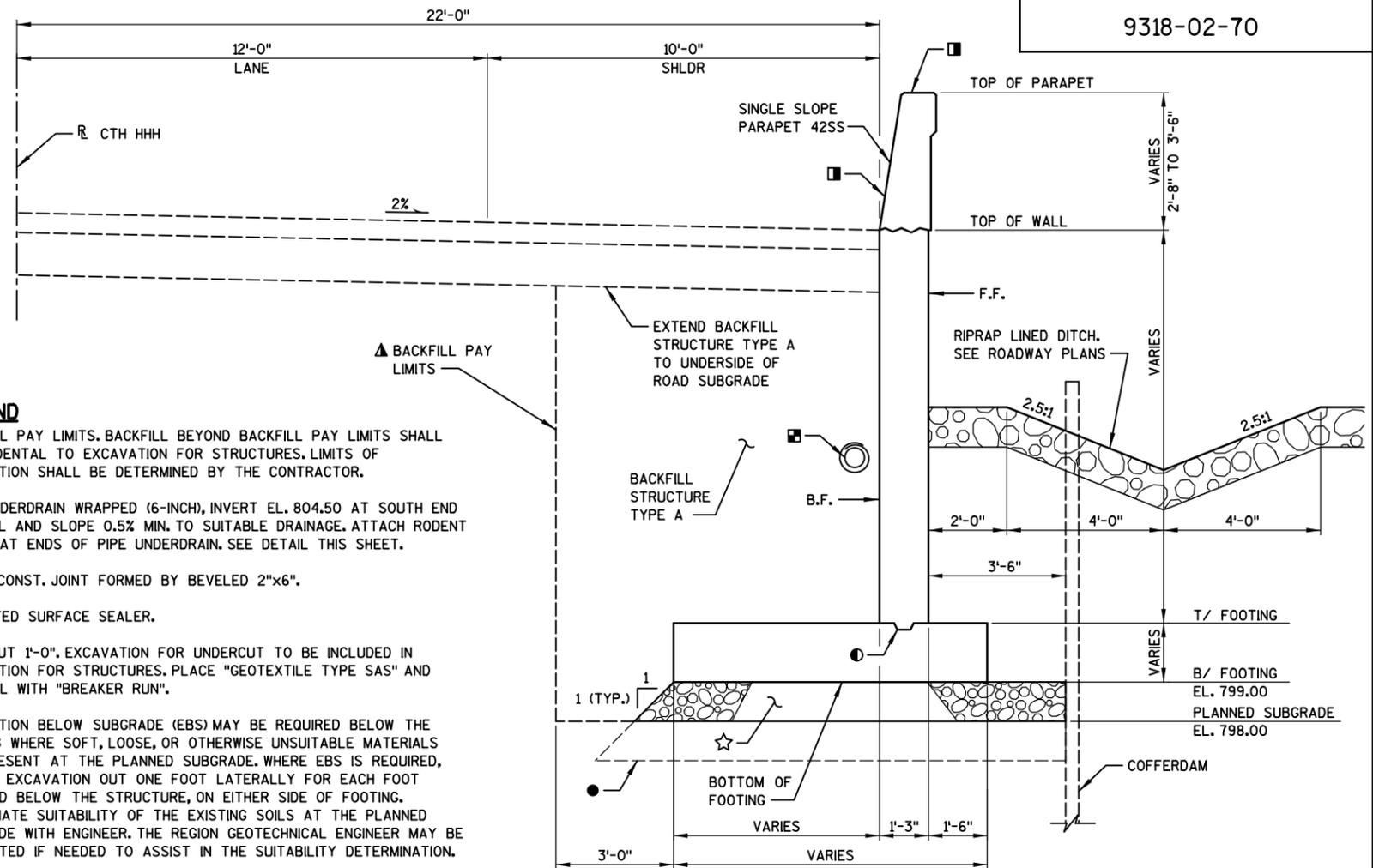
BID ITEM NUMBER	BID ITEMS	UNIT	TOTAL
206.3000	EXCAVATION FOR STRUCTURES RETAINING WALLS R-58-13	LS	1
206.5000	COFFERDAMS R-58-13	LS	1
210.1500	BACKFILL STRUCTURE TYPE A	TON	848
311.0110	BREAKER RUN	TON	96
502.3210	PIGMENTED SURFACE SEALER	SY	86
504.0500	CONCRETE MASONRY RETAINING WALLS	CY	186
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	4,890
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	14,810
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	8
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	190
614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	EACH	1
645.0140	GEOTEXTILE TYPE SAS	SY	214
	NON-BID ITEMS		
	FILLER	SIZE	3/4"

ELEVATION TABLE

R/L CTH HHH STA.	WALL STA.	TOP OF WALL EL.	BOTTOM OF FTG. EL.	FINISHED GRADE EL.
106+11.90	0+00.00	812.04	799.00	805.66
106+36.90	0+25.00	811.67	799.00	805.52
106+40.98	0+29.08	811.61	799.00	805.51
106+61.90	0+50.00	811.22	799.00	805.43
106+70.07	0+58.17	811.06	799.00	805.42
106+86.90	0+75.00	810.68	799.00	805.40
106+99.15	0+87.25	810.39	799.00	805.38
107+11.90	1+00.00	810.06	799.00	805.51
107+28.23	1+16.33	809.60	799.00	805.64
107+36.90	1+25.00	809.35	799.00	805.79
107+57.32	1+45.42	808.76	799.00	806.50
107+61.90	1+50.00	808.64	799.00	806.75
107+85.00	1+73.10	808.06	799.00	808.32

STATE PROJECT NUMBER

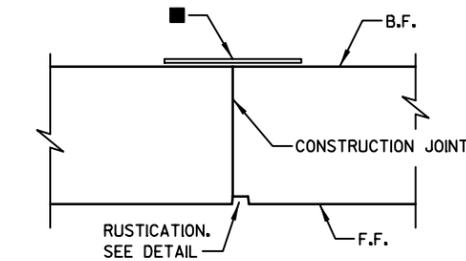
9318-02-70



LEGEND

- ▲ BACKFILL PAY LIMITS. BACKFILL BEYOND BACKFILL PAY LIMITS SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES. LIMITS OF EXCAVATION SHALL BE DETERMINED BY THE CONTRACTOR.
- PIPE UNDERDRAIN WRAPPED (6-INCH), INVERT EL. 804.50 AT SOUTH END OF WALL AND SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN. SEE DETAIL THIS SHEET.
- KEYED CONST. JOINT FORMED BY BEVELED 2"x6".
- PIGMENTED SURFACE SEALER.
- ☆ UNDERCUT 1'-0". EXCAVATION FOR UNDERCUT TO BE INCLUDED IN EXCAVATION FOR STRUCTURES. PLACE "GEOTEXTILE TYPE SAS" AND BACKFILL WITH "BREAKER RUN".
- EXCAVATION BELOW SUBGRADE (EBS) MAY BE REQUIRED BELOW THE FOOTING WHERE SOFT, LOOSE, OR OTHERWISE UNSUITABLE MATERIALS ARE PRESENT AT THE PLANNED SUBGRADE. WHERE EBS IS REQUIRED, EXTEND EXCAVATION OUT ONE FOOT LATERALLY FOR EACH FOOT REMOVED BELOW THE STRUCTURE, ON EITHER SIDE OF FOOTING. COORDINATE SUITABILITY OF THE EXISTING SOILS AT THE PLANNED SUBGRADE WITH ENGINEER. THE REGION GEOTECHNICAL ENGINEER MAY BE CONTACTED IF NEEDED TO ASSIST IN THE SUITABILITY DETERMINATION.
- 18" RUBBERIZED MEMBRANE WATERPROOFING.

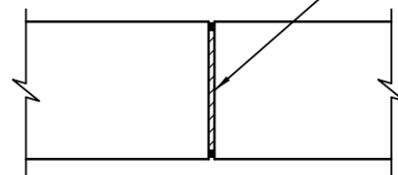
TYPICAL WALL SECTION



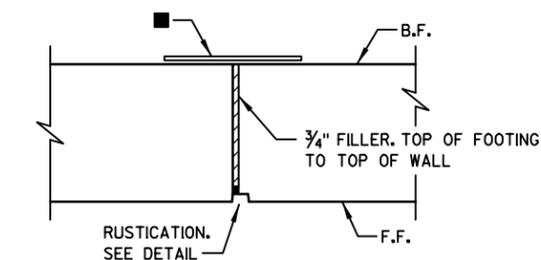
VERTICAL CONTRACTION JOINT IN WALL

NOTE: DO NOT RUN BAR STEEL THRU JOINT

3/4" FILLER. EXTEND FROM TOP OF WALL TO TOP OF PARAPET. SEAL ALL EXPOSED HORIZONTAL AND VERTICAL FACES OF FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER 1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE.

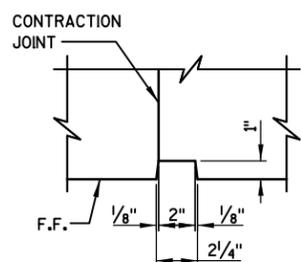


VERTICAL EXPANSION JOINT IN PARAPET

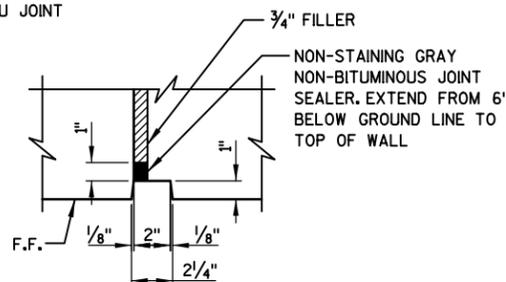


VERTICAL EXPANSION JOINT IN WALL

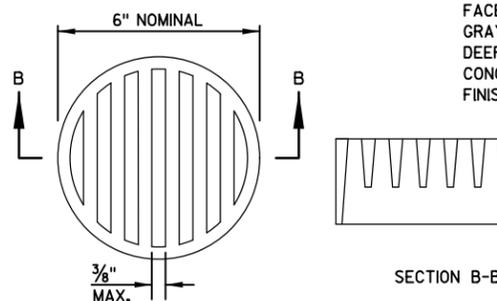
NOTE: DO NOT RUN BAR STEEL THRU JOINT



RUSTICATION DETAIL - CONTRACTION JOINT



RUSTICATION DETAIL - EXPANSION JOINT

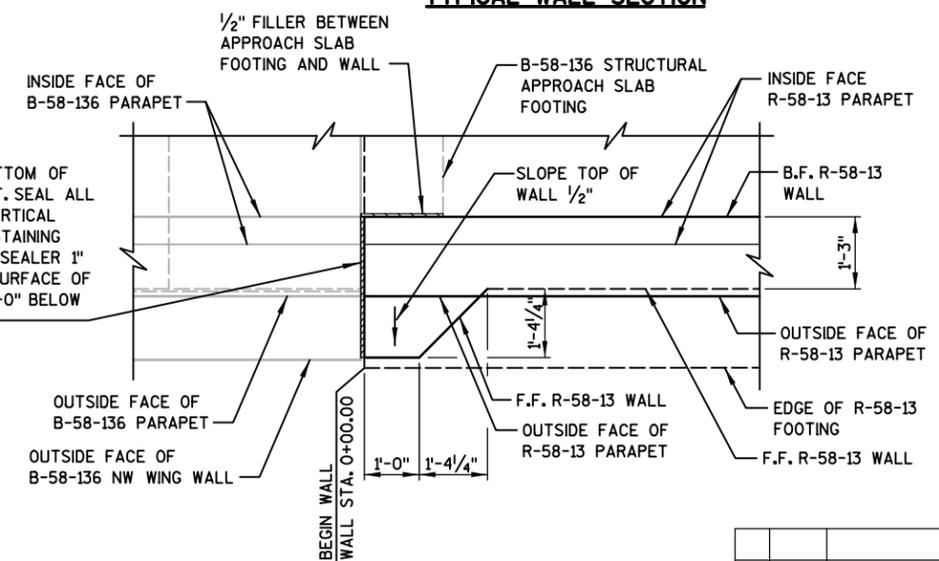


NOTES:
DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING. ORIENT SHIELD SO SLOTS ARE VERTICAL.

THE RODENT SHIELD, PIPE COUPLING AND ATTACHMENT SCREWS SHALL BE INCLUDED WITH BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH."

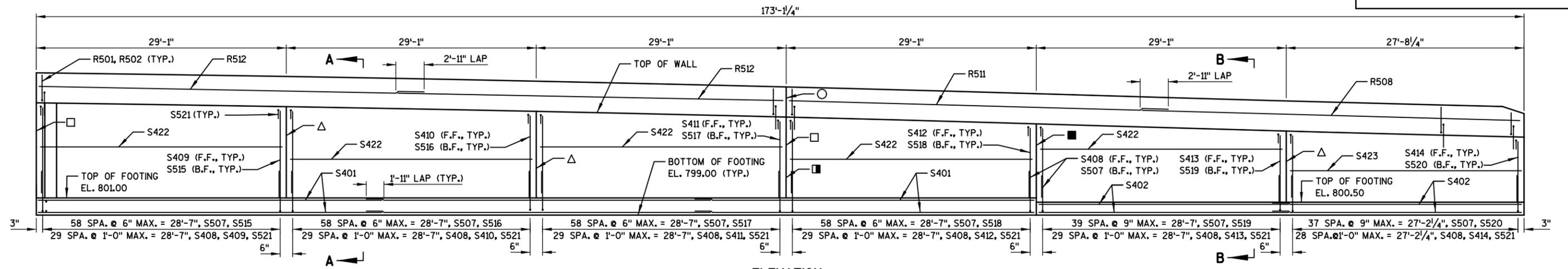
THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SHIELD TO THE EXPOSED END OF THE PIPE UNDERDRAIN. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 x 1-INCH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

RODENT SHIELD DETAIL

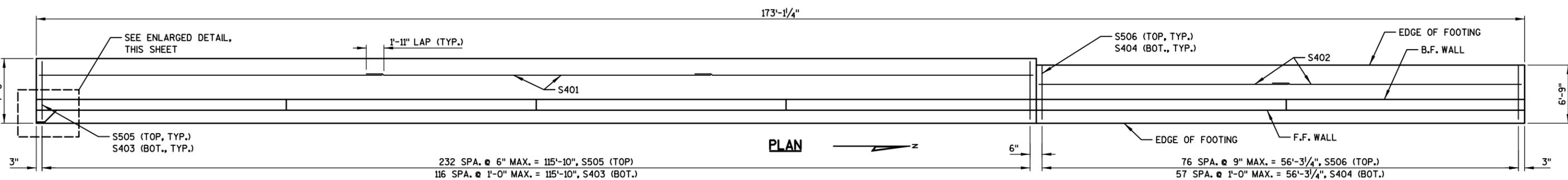


ENLARGED PLAN VIEW DETAIL - SOUTH END OF WALL

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE R-58-13			
DRAWN BY		DTM	PLANS CKD. BMO
CROSS SECTION AND QUANTITIES			SHEET 2



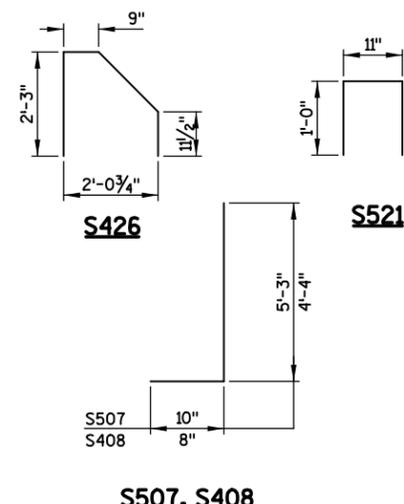
ELEVATION
(LOOKING AT FRONT FACE OF WALL)



PLAN

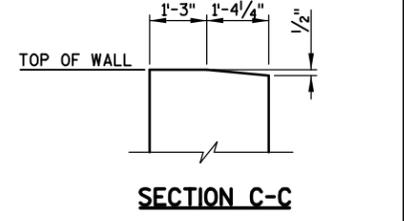
WALL BILL OF BARS
UNCOATED: 4,890 LBS
COATED: 9,850 LBS

BAR MARK	NO. REQ'D	LENGTH	BENT	COAT	LOCATION
W401	32	44'-6"			FTG. - BOT. - LONGIT.
W402	28	43'-10"			FTG. - BOT. - LONGIT.
W403	117	7'-2"			FTG. - BOT. - TRANS.
W404	58	6'-5"			FTG. - BOT. - TRANS.
W505	233	7'-2"			FTG. - TOP - TRANS.
W506	77	6'-5"			FTG. - TOP - TRANS.
W507	314	5'-10"	X	X	FTG. - DOWELS - VERT.
W408	179	4'-10"	X	X	FTG. - DOWELS - VERT.
W409	30	10'-5"		X	WALL - F.F. - VERT.
W410	30	9'-10"		X	WALL - F.F. - VERT.
W411	30	9'-2"		X	WALL - F.F. - VERT.
W412	30	8'-5"		X	WALL - F.F. - VERT.
W413	30	8'-1"		X	WALL - F.F. - VERT.
W414	29	7'-4"		X	WALL - F.F. - VERT.
W515	59	10'-5"		X	WALL - B.F. - VERT.
W516	59	9'-10"		X	WALL - B.F. - VERT.
W517	59	9'-2"		X	WALL - B.F. - VERT.
W518	59	8'-5"		X	WALL - B.F. - VERT.
W519	40	8'-1"		X	WALL - B.F. - VERT.
W520	38	7'-4"		X	WALL - B.F. - VERT.
W521	179	2'-8"	X	X	WALL - TOP - VERT.
W422	56	28'-9"		X	WALL - F.F. & B.F. - HORIZ.
W423	10	27'-4"		X	WALL - F.F. & B.F. - HORIZ.
W624	10	28'-9"		X	WALL - F.F. & B.F. - TOP - HORIZ.
W625	2	27'-4"		X	WALL - F.F. & B.F. - TOP - HORIZ.
W426	12	7'-5"	X	X	WALL - STIRRUP - SOUTH END

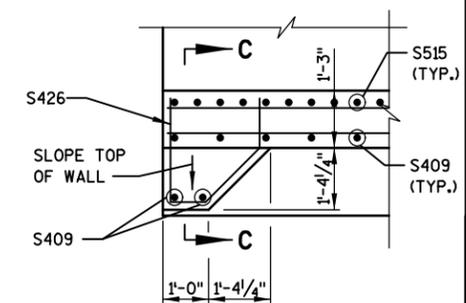


S507, S408

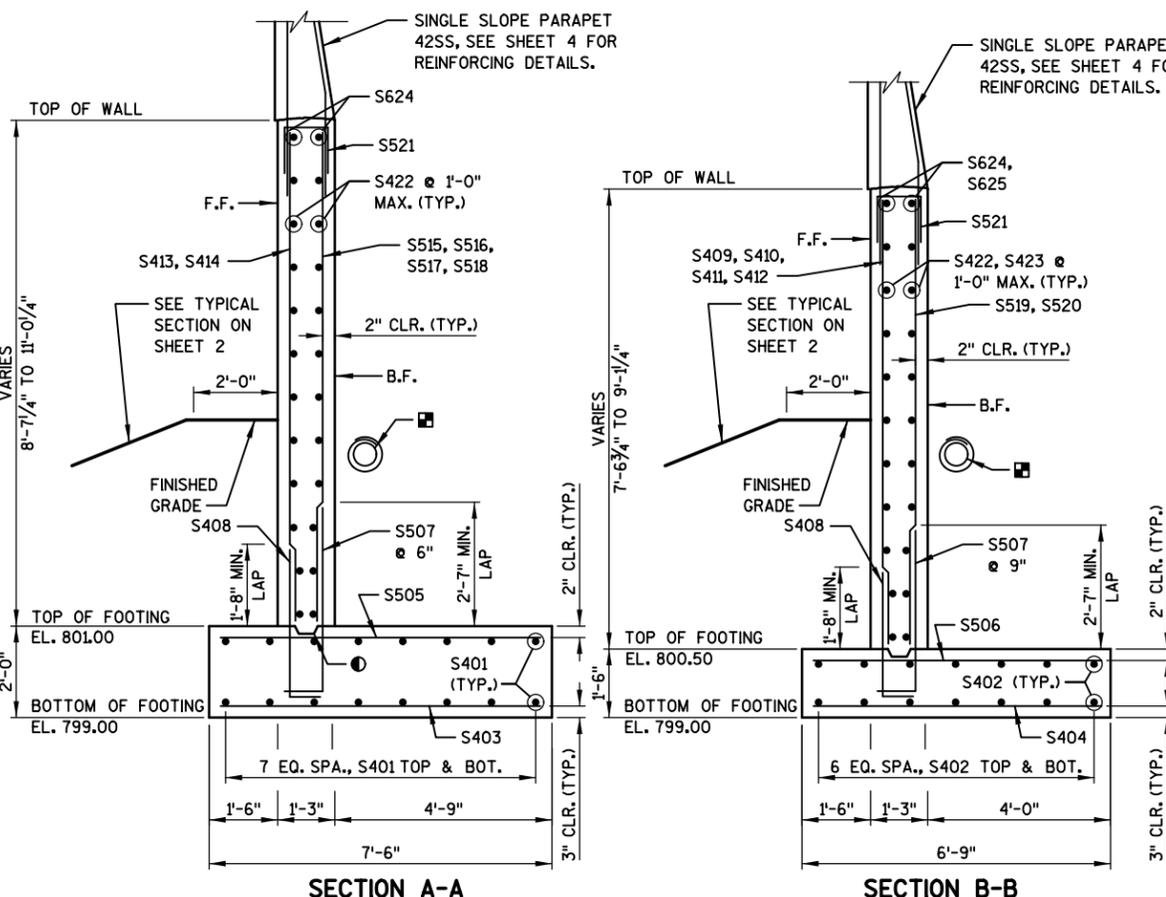
- LEGEND**
- △ VERTICAL CONTRACTION JOINT IN WALL.
 - VERTICAL CONTRACTION JOINT IN WALL AND FOOTING.
 - VERTICAL EXPANSION JOINT IN WALL.
 - VERTICAL EXPANSION JOINT IN PARAPET.
 - 3/4" FILLER. SEE ENLARGED PLAN VIEW DETAIL ON SHEET 2 FOR DETAILS.
 - ⊙ KEYWAY FORMED BY BEVELED 2"x6".
 - PIPE UNDERDRAIN WRAPPED (6-INCH), SEE SHEET 2 FOR DETAILS.



SECTION C-C



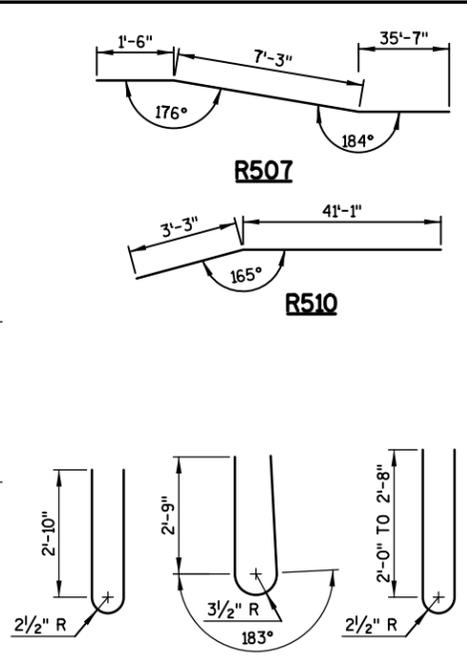
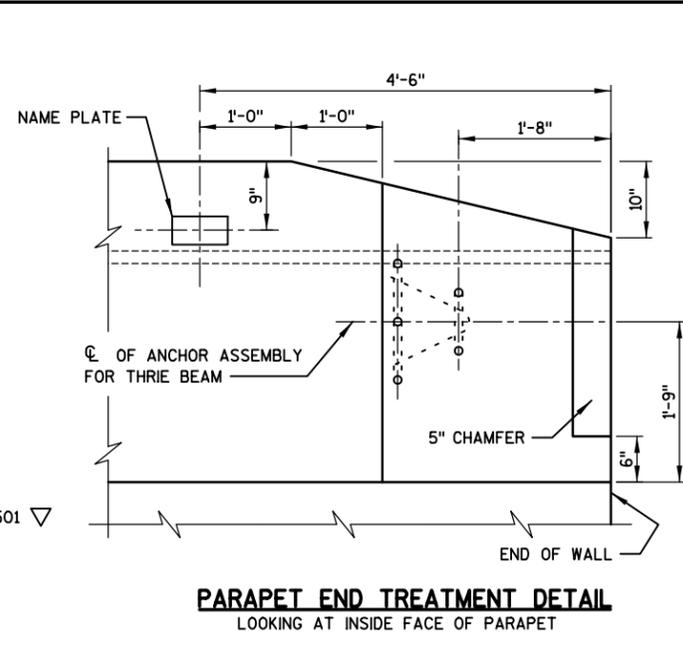
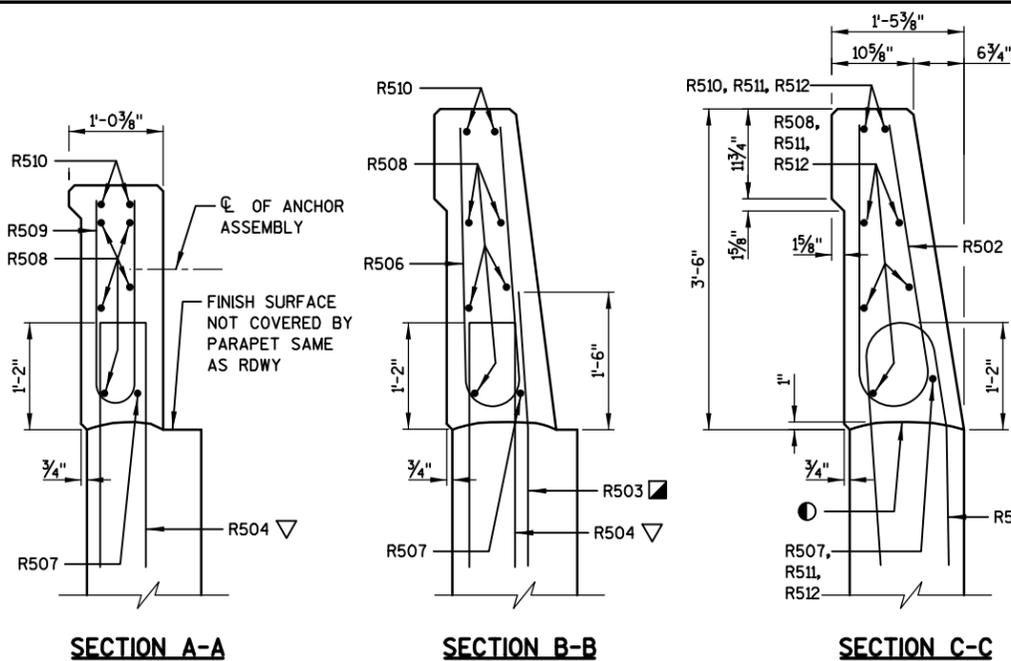
ENLARGED DETAIL - SOUTH END OF WALL



SECTION A-A

SECTION B-B

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE R-58-13			
DRAWN BY		DTM	PLANS CKD. BMO
WALL DETAILS			SHEET 3



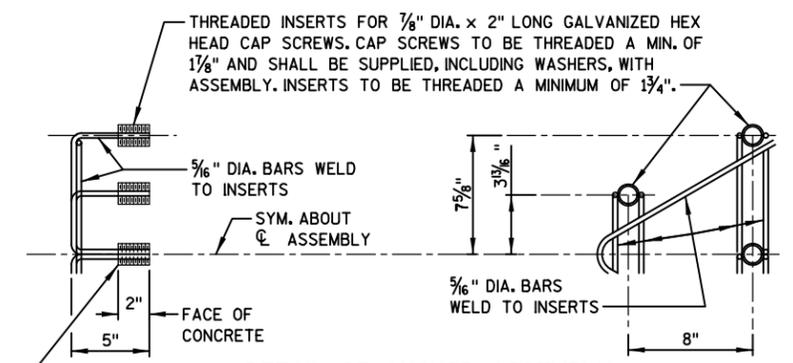
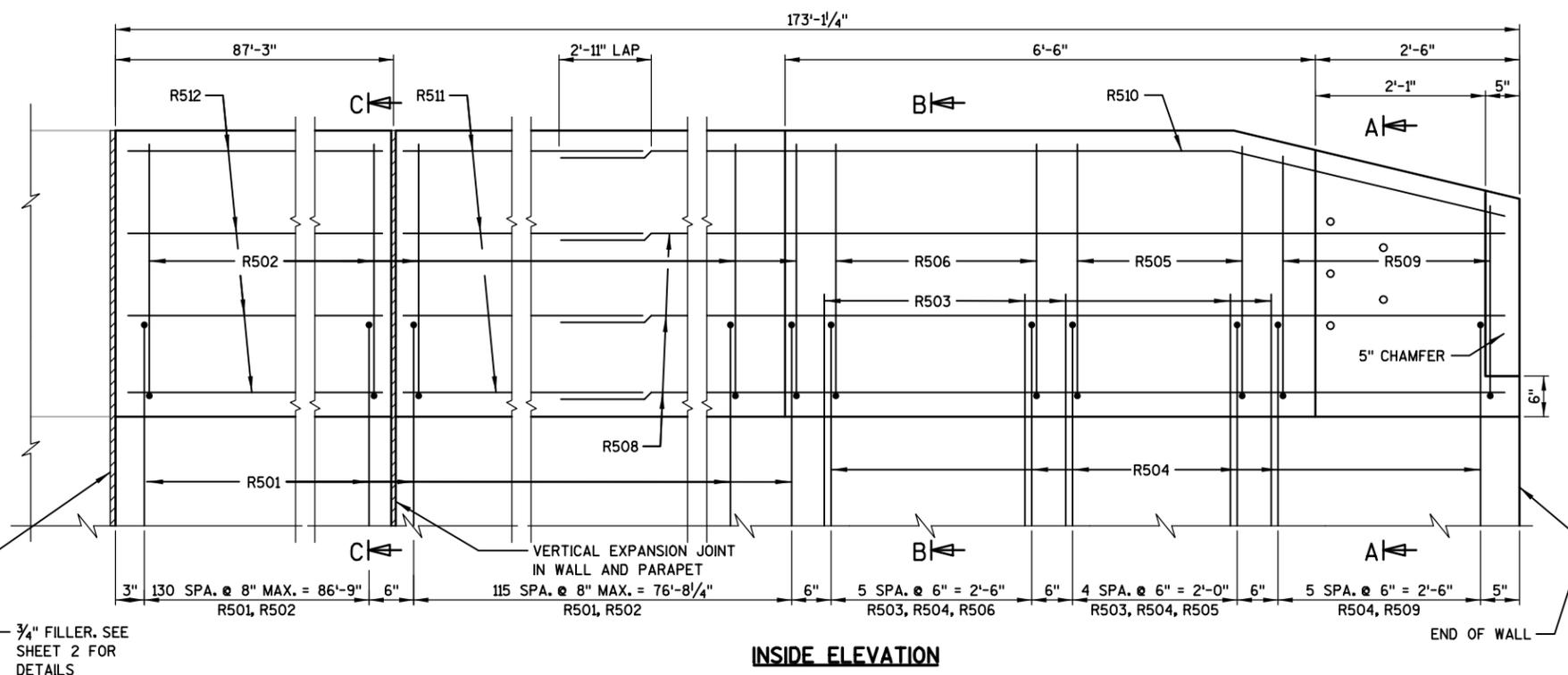
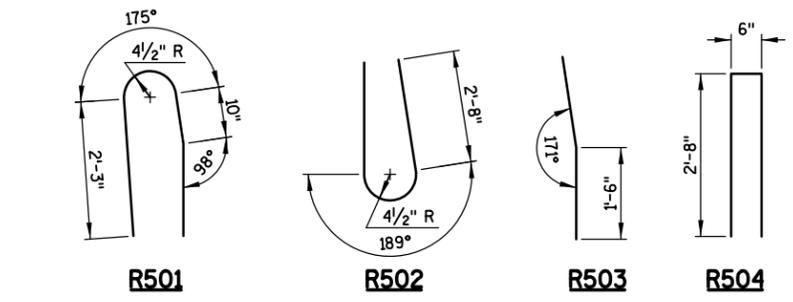
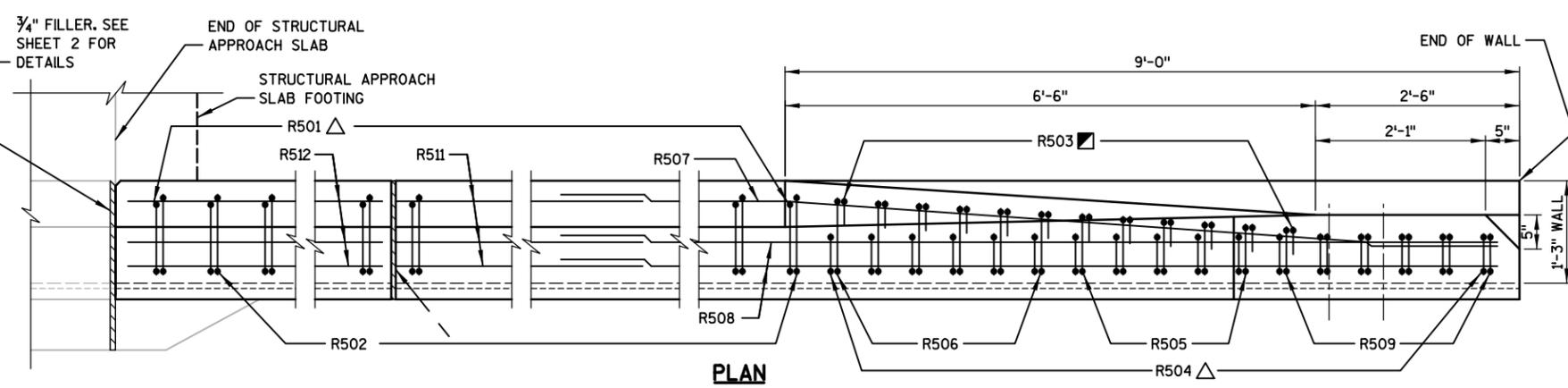
PARAPET BILL OF BARS **COATED: 4.960 LBS**

BAR MARK	NO. REQ'D	LENGTH	BENT	COAT	LOCATION
R501	249	5'-10"	X	X	PARAPET - VERT.
R502	249	6'-8"	X	X	PARAPET - VERT.
R503	12	3'-0"	X	X	PARAPET - VERT.
R504	17	5'-7"	X	X	PARAPET - VERT.
R505	5	6'-5"	X	X	PARAPET - VERT.
R506	6	6'-6"	X	X	PARAPET - VERT.
R507	1	44'-4"	X	X	PARAPET - HORIZ.
R508	5	44'-4"		X	PARAPET - HORIZ.
R509	6	5'-5"	X	X	PARAPET - VERT.
R510	2	44'-4"	X	X	PARAPET - HORIZ.
R511	8	44'-4"		X	PARAPET - HORIZ.
R512	8	45'-0"		X	PARAPET - HORIZ.

BAR SERIES TABLE

MARK	NO. REQ'D	LENGTH
R509	1 SERIES OF 6	4'-9" TO 6'-1"

BUNDLE AND TAG EACH SERIES SEPARATELY.



- LEGEND**
- CONST. JOINT - STRIKE OFF AS SHOWN.
 - R503 BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. USE CARE TO PLACE R503 BARS CORRECTLY ALONG TRANSITION OF PARAPET.
 - ▽ R501 AND R504 BARS TO BE TIED TO WALL STEEL BEFORE WALL IS POURED.
 - LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE R-58-13			
DRAWN BY		DTH	PLANS CKD. BMO
SINGLE SLOPE PARAPET 42SS			SHEET 4

BORING	DATE COMPLETED	NORTHING (Y)	EASTING (X)
SB-3	7/16/2020	275,445.85	870,582.29
SB-4	7/16/2020	275,589.94	870,580.27
EB-3	7/15/2020	275,500.19	870,590.12

BORINGS PERFORMED AND REPORT COMPLETED BY:
 PROFESSIONAL SERVICE INDUSTRIES (PSI)
 821 CORPORATE COURT
 WAUKESHA, WI 53189

BORINGS WERE PERFORMED ON 7/15/2020 THRU
 7/16/2020.

BORINGS COMPLETED BY: PSI
 REPORT COMPLETED BY: PSI
 ALL COORDINATES REFERENCED TO WISCONSIN STATE PLANE,
 SOUTH ZONE.



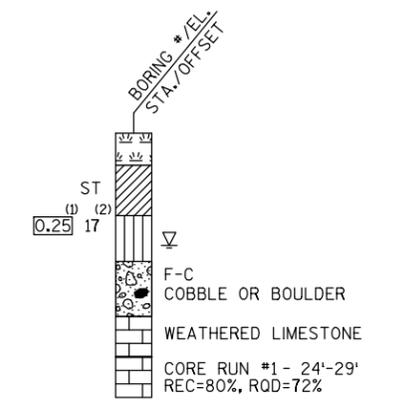
STATE PROJECT NUMBER

9318-02-70

MATERIAL SYMBOLS

	ASPHALT		TOPSOIL		PEAT
	CONCRETE		FILL		GRAVEL
	SAND		CLAY		SILT
	BOULDERS OR COBBLES		LIMESTONE		BEDROCK (UNKNOWN)
	SHALE		SANDSTONE		IGNEOUS/META

LEGEND OF BORING



(1) UNCONFINED STRENGTH, AS DETERMINED BY A POCKET PENETROMETER (TSF)

(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.

GROUND WATER ELEVATION

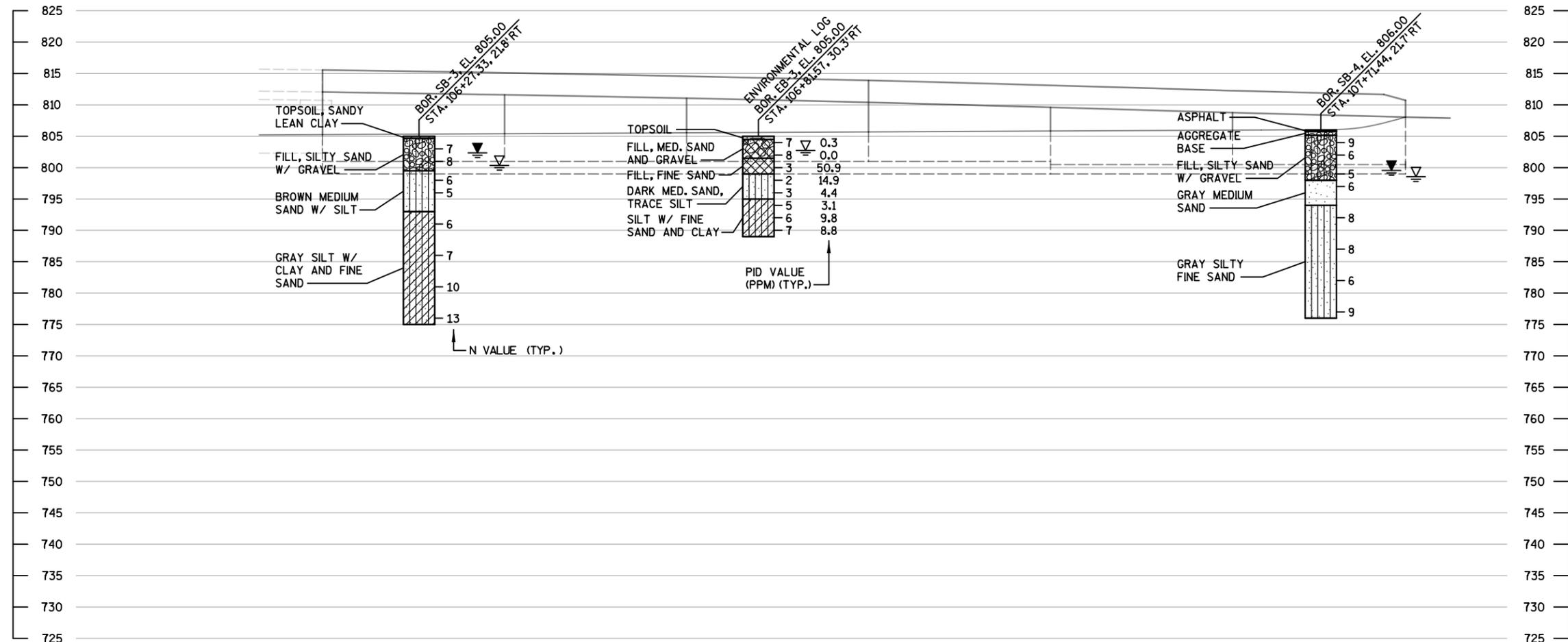
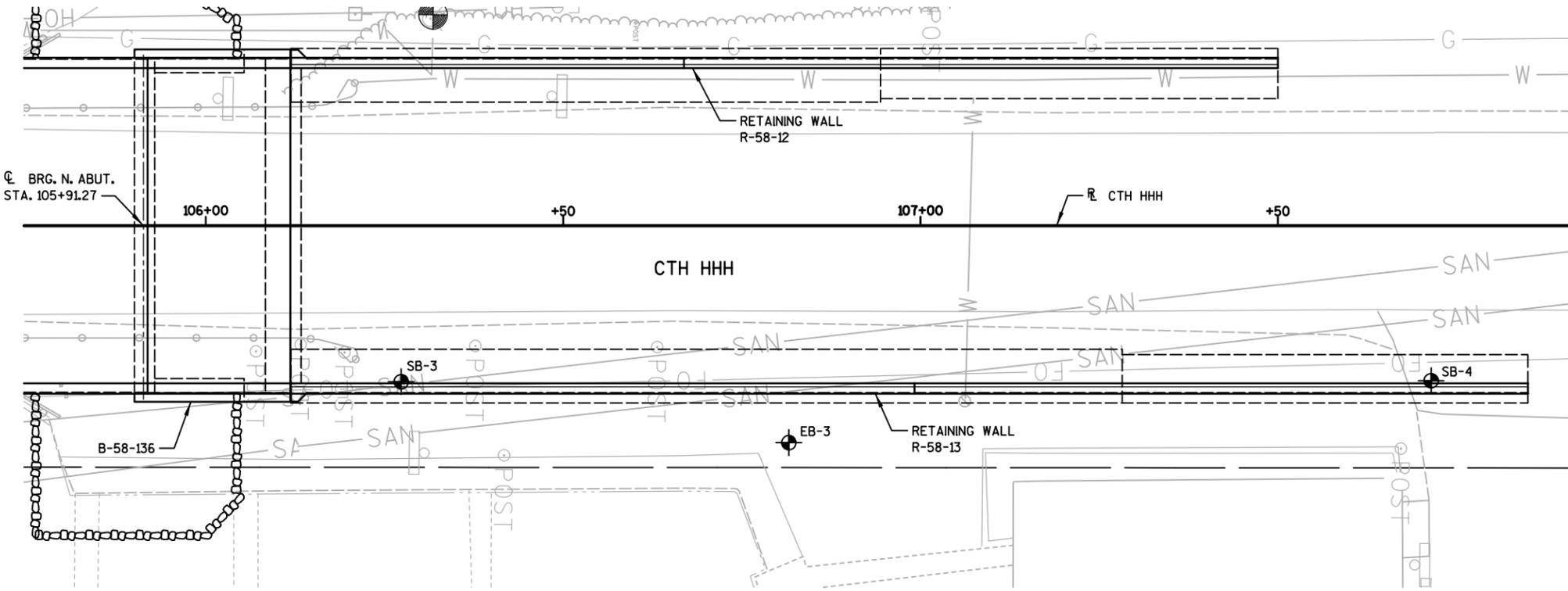
- ▽ AT TIME OF DRILLING
- ▽ END OF DRILLING
- ▽ AFTER DRILLING

ABBREVIATIONS

F-FINE M-MEDIUM C-COARSE ST-SHELBY TUBE

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.



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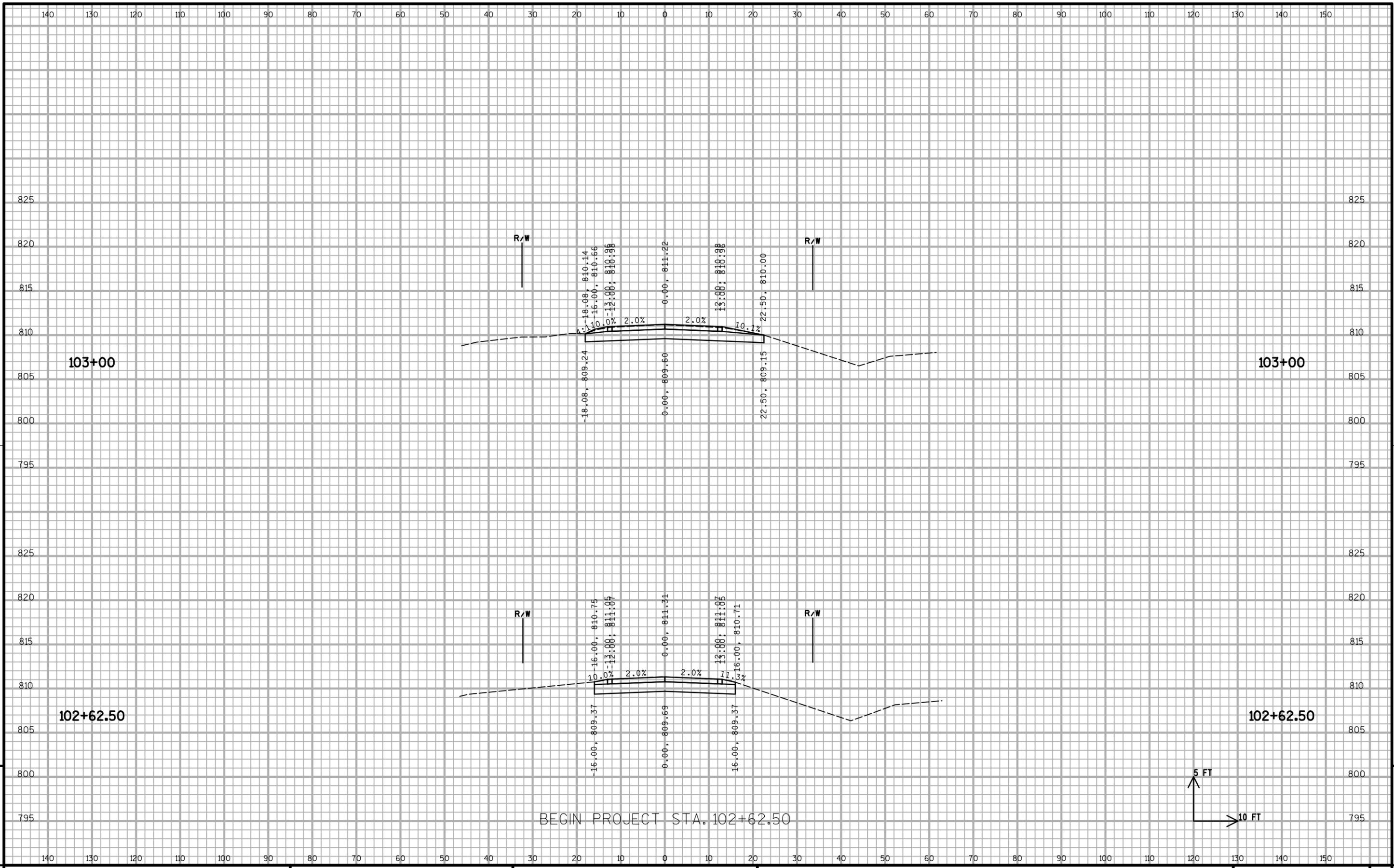
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE R-58-13			
DRAWN BY		DTH	PLANS CK'D. BMO
SUBSURFACE EXPLORATION			SHEET 5

SCALE =

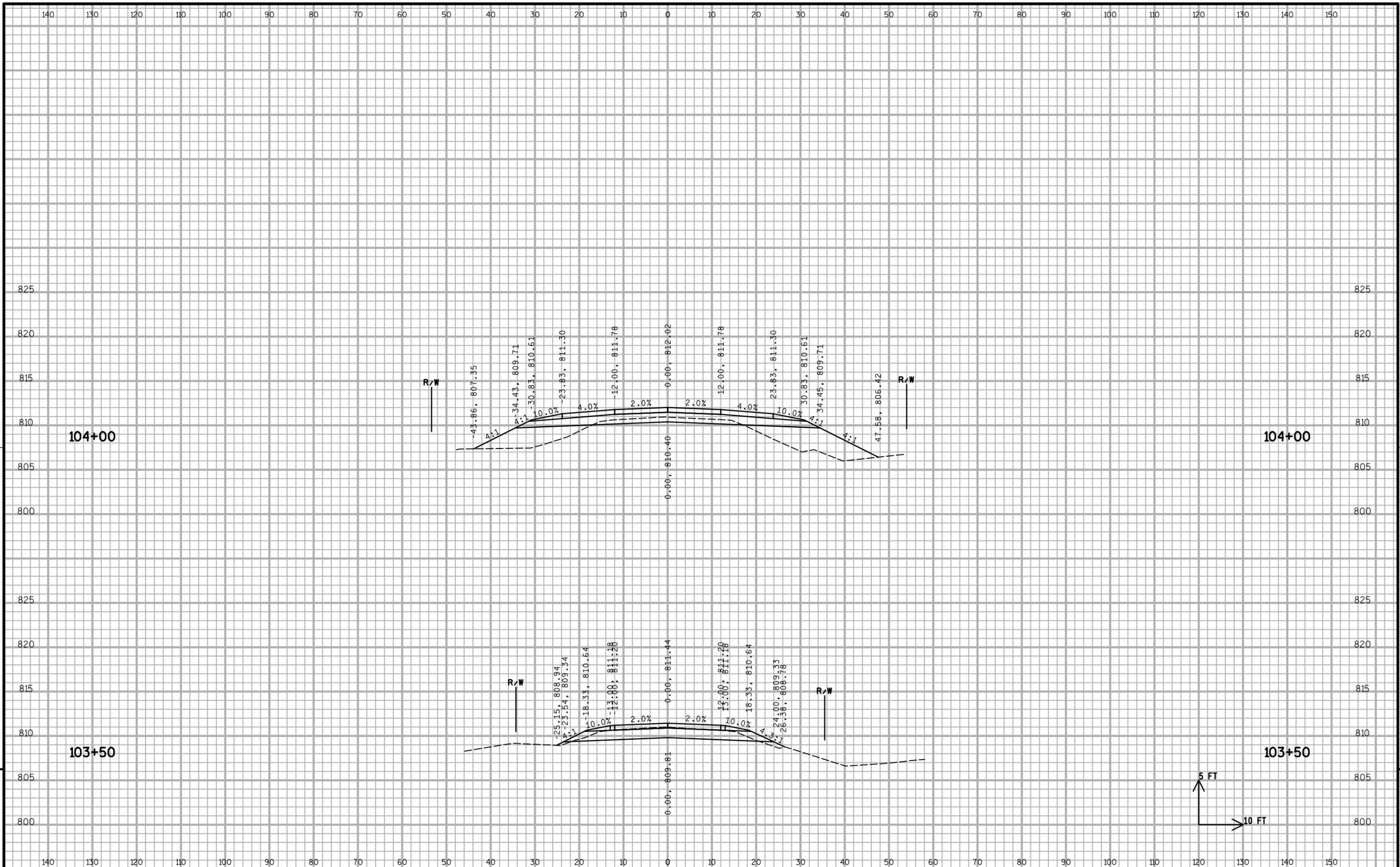
CTH HHH		AREA (SF)					INCREMENTAL VOL (CY) (UNADJUSTED)					CUMULATIVE VOL (CY)			MASS ORDINATE NOTE 5
STATION	DISTANCE	CUT NOTE 1	UNUSABLE PAVEMENT MATERIAL NOTE 2	FILL NOTE 3	EBS	AVAILABLE STRUCTURE EXCAVATION NOTE 4	CUT NOTE 1	UNUSABLE PAVEMENT MATERIAL NOTE 2	FILL NOTE 3	EBS	AVAILABLE STRUCTURE EXCAVATION NOTE 4	CUT 1.00 NOTE 1	EXPANDED FILL 1.25	STRUCTURE EXCAVATION 1.00 NOTE 4	
					(5% OF CUT)										
102+63	---	53.6	8.0	0.0	2.6	0.0	0	0	0	0	0	0	0	0	0
103+00	38	61.0	8.0	0.0	2.9	0.0	80	11	0	4	0	80	0	0	65
103+50	50	41.7	8.0	2.3	2.0	0.0	95	15	2	5	0	175	3	0	138
104+00	50	16.4	8.0	89.8	0.8	0.0	54	15	85	3	0	228	109	0	68
104+01	1	16.1	3.3	91.1	0.8	0.0	0	0	2	0	0	229	112	0	65
104+26	25	4.0	3.3	99.7	0.2	0.0	9	3	88	0	0	238	222	0	-40
104+50	24	0.0	0.0	120.2	0.0	0.0	2	1	99	0	0	240	346	0	-163
104+51	1	0.0	3.3	119.9	0.0	0.0	0	0	3	0	0	240	350	0	-167
104+91	40	51.2	3.3	0.3	2.4	22.7	38	5	89	2	17	278	461	17	-230
106+12	---	37.1	0.0	0.0	1.8	471.2	0	0	0	0	0	278	461	17	-230
106+50	38	13.3	0.0	24.9	0.6	415.0	36	0	18	2	626	313	483	643	408
107+00	50	11.2	0.0	14.7	0.5	372.9	23	0	37	1	730	336	529	1,373	1,113
107+50	50	15.5	8.0	11.8	0.7	175.7	25	7	25	1	508	361	560	1,881	1,607
107+90	40	35.1	8.0	4.2	1.7	0.0	38	12	12	2	130	399	575	2,011	1,746
108+00	10	38.8	8.0	3.7	1.8	0.0	14	3	1	1	0	412	577	2,011	1,754
108+15	15	48.0	8.0	1.0	2.3	0.0	24	4	1	1	0	436	578	2,011	1,771
108+25	10	52.1	8.0	0.3	2.5	0.0	19	3	0	1	0	455	579	2,011	1,785
108+40	15	61.1	8.0	0.9	2.9	0.0	31	4	0	1	0	486	579	2,011	1,810
108+50	10	63.6	8.0	0.4	3.0	0.0	23	3	0	1	0	509	579	2,011	1,829
108+75	25	65.7	8.0	0.0	3.1	0.0	60	7	0	3	0	569	580	2,011	1,879
109+00	25	60.3	8.0	0.0	2.9	0.0	58	7	0	3	0	628	580	2,011	1,927
COLUMN TOTALS							628	102	464	30	2,011				

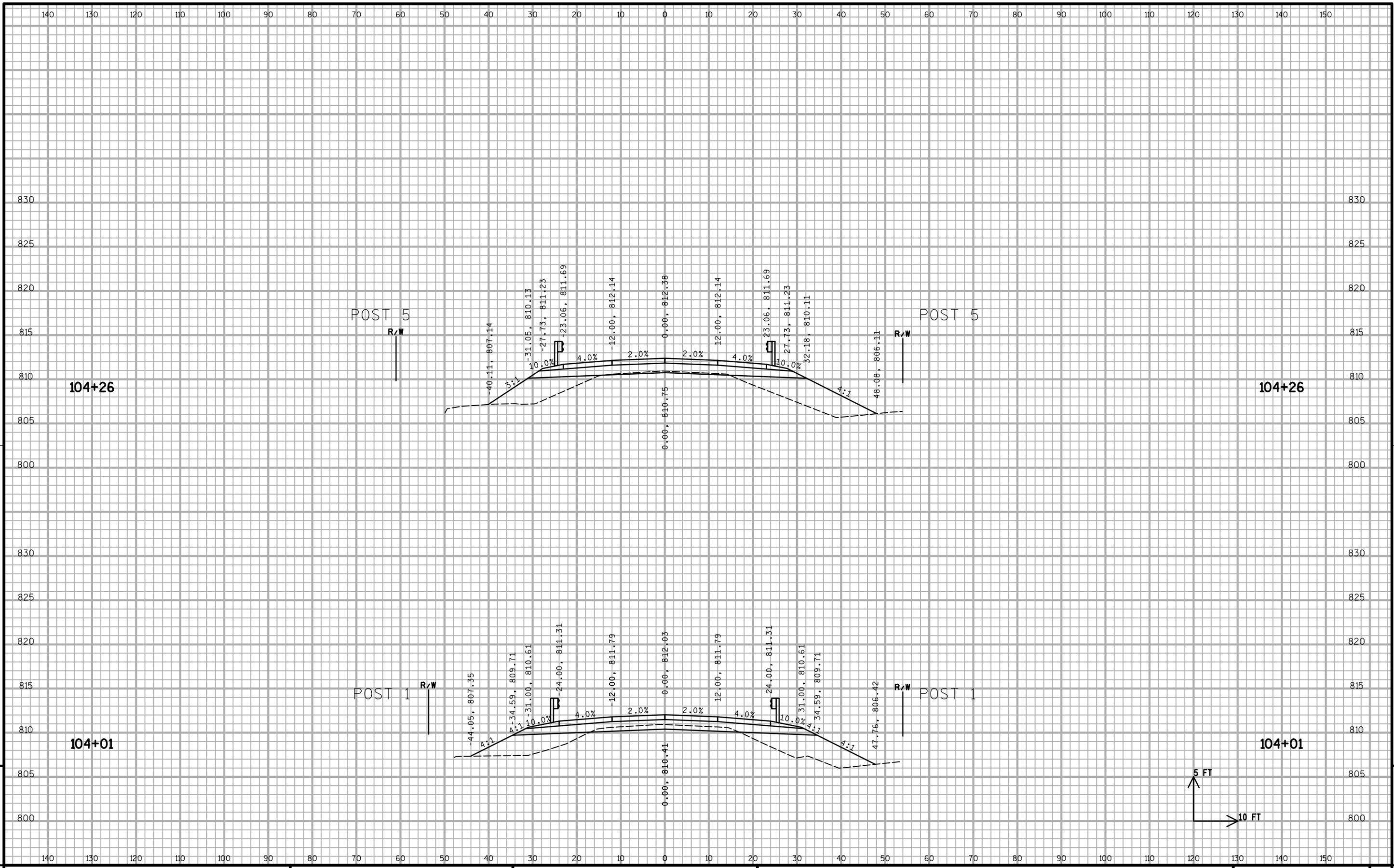
NOTES:

- 1) CUT: CUT INCLUDES EBS AND SALVAGED PAVEMENT MATERIAL. EBS = 5% OF CUT
- 2) SALVAGED/UNUSABLE PAVEMENT MATERIAL: NOT SHOWN IN CROSS SECTIONS
- 3) FILL: FILL DOES NOT INCLUDE SALVAGED/UNUSABLE PAVEMENT MATERIAL
- 4) AVAILABLE STRUCTURE EXCAVATION IS FOR INFORMATION ONLY AND IS INCLUDED IN BID ITEM "EXCAVATION FOR STRUCTURES BRIDGES B-58-136"
- 5) MASS ORDINATE: MASS ORDINATE = (CUT - SALVAGED/UNUSABLE PAVEMENT MATERIAL) - (FILL * FILL FACTOR)

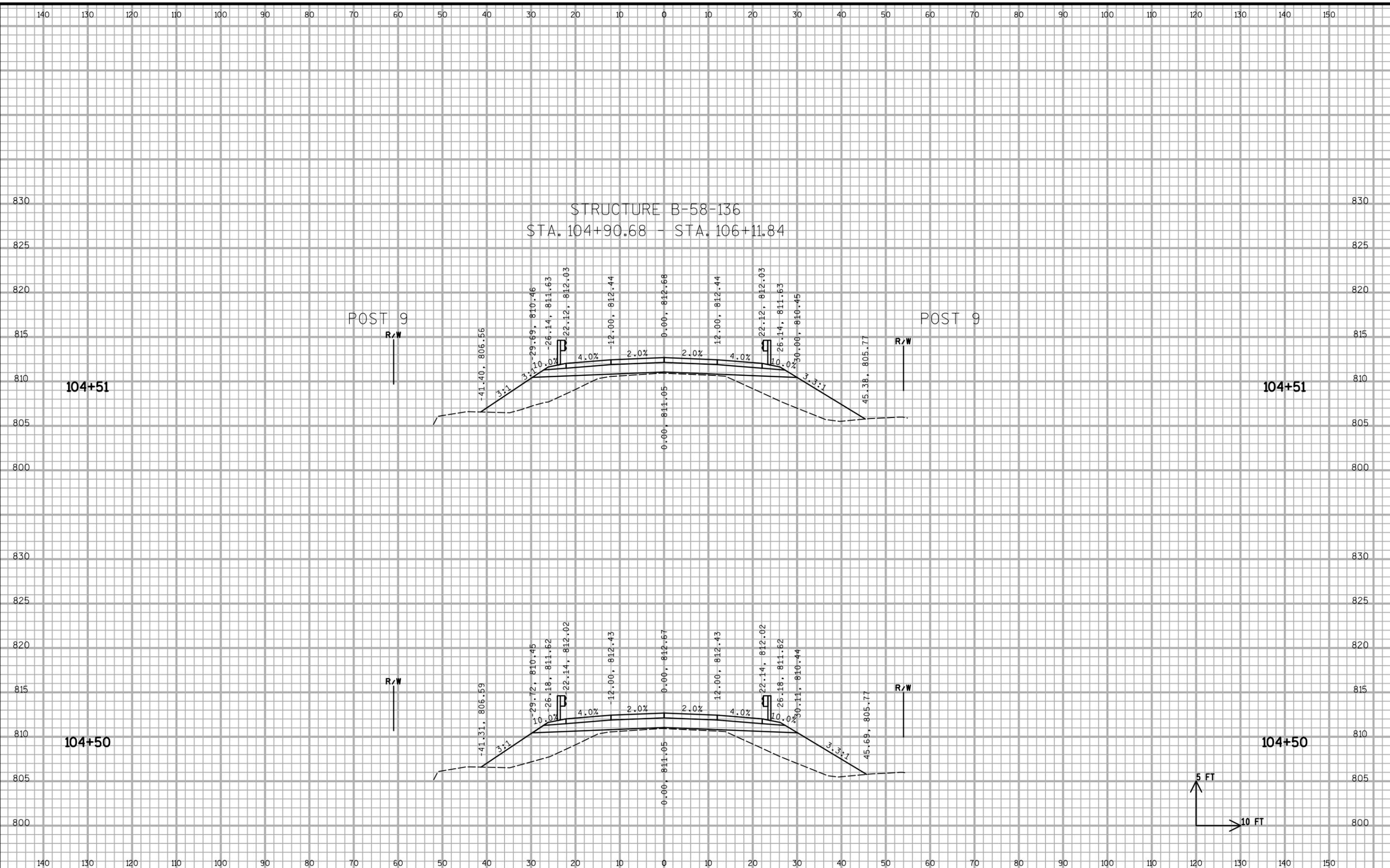


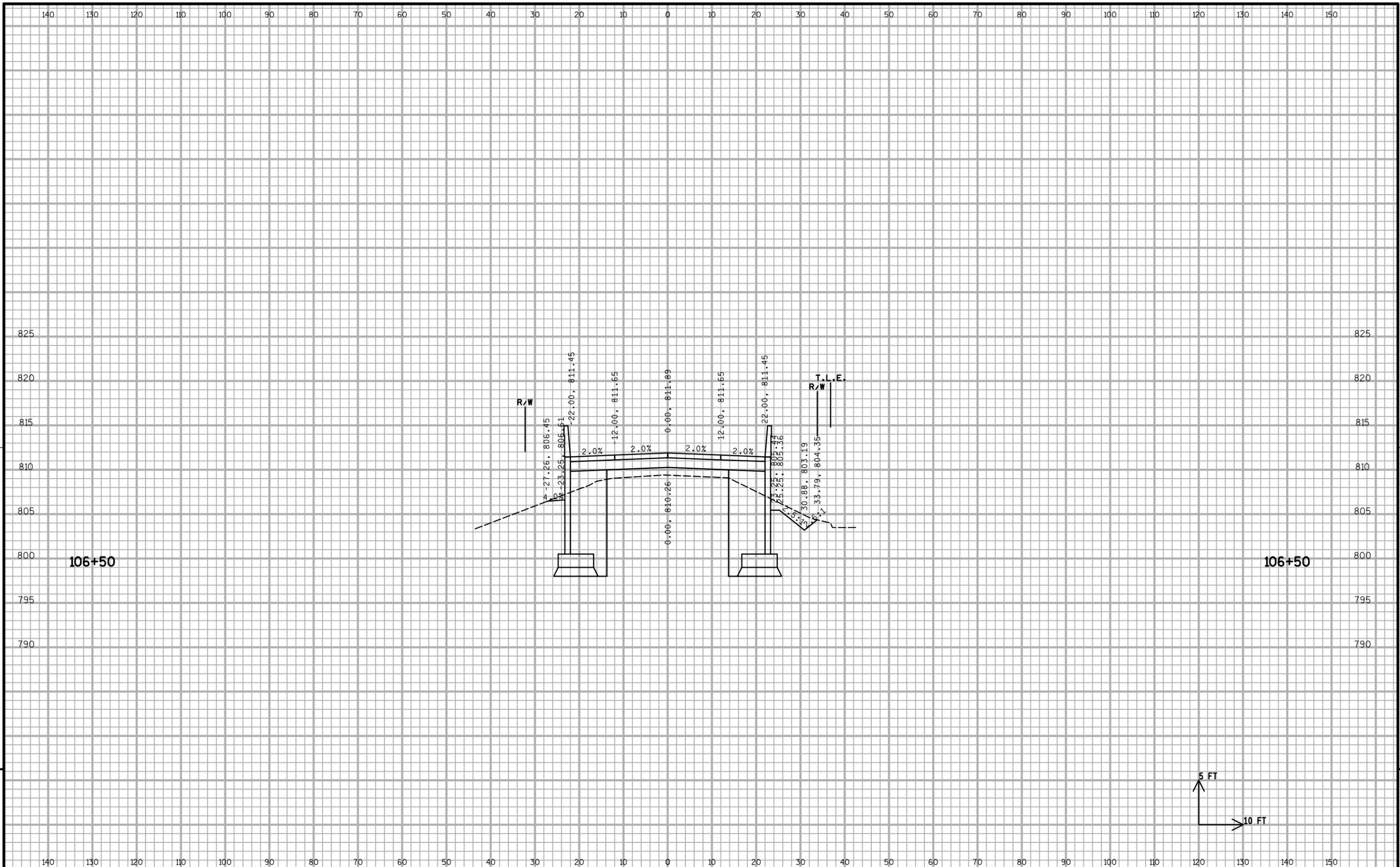
BEGIN PROJECT STA. 102+62.50





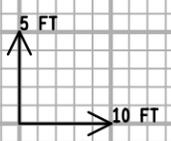
PROJECT NO: 9318-02-70 HWY: CTH HHH COUNTY: SHAWANO CROSS SECTIONS SHEET E





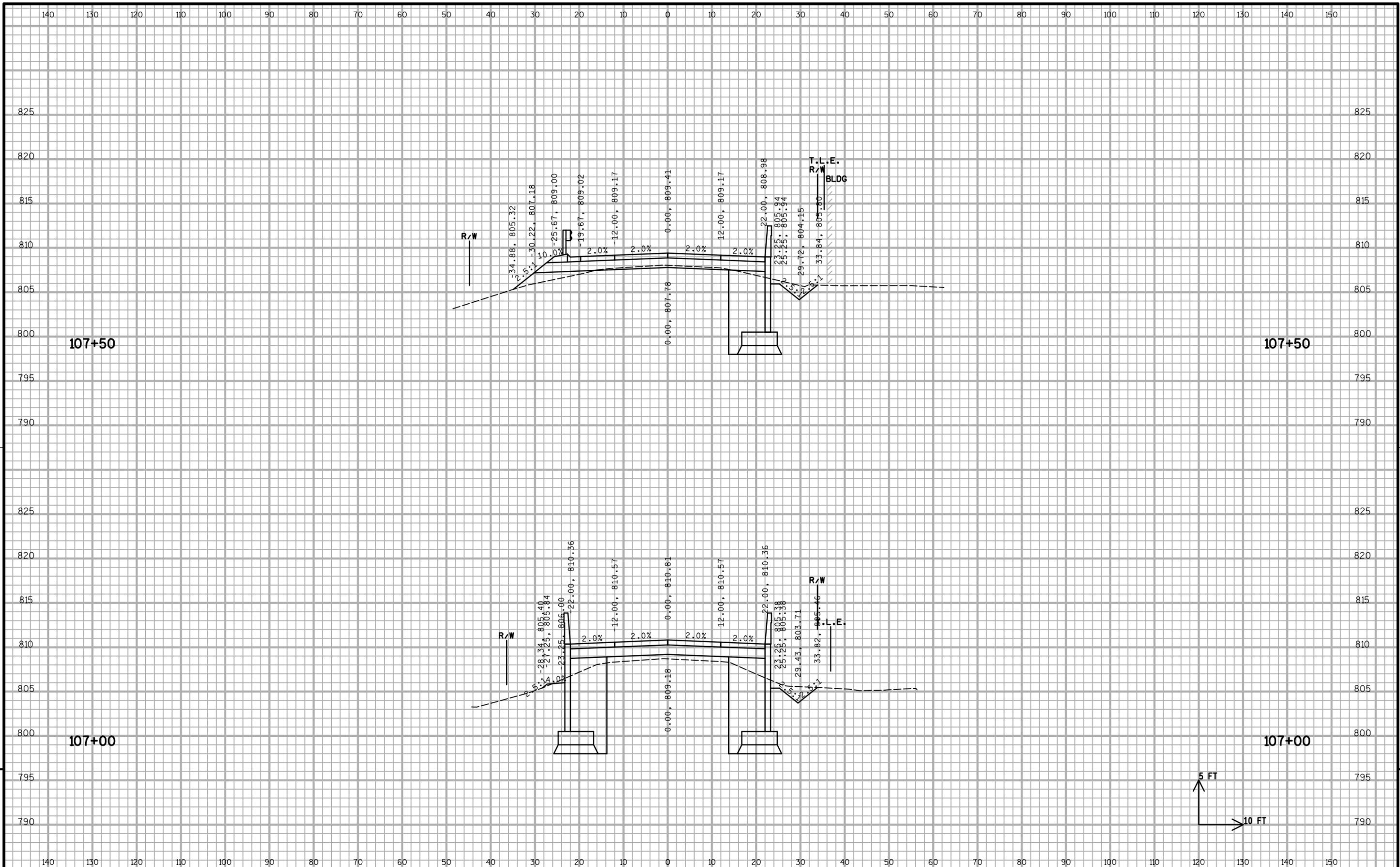
106+50

106+50



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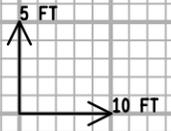


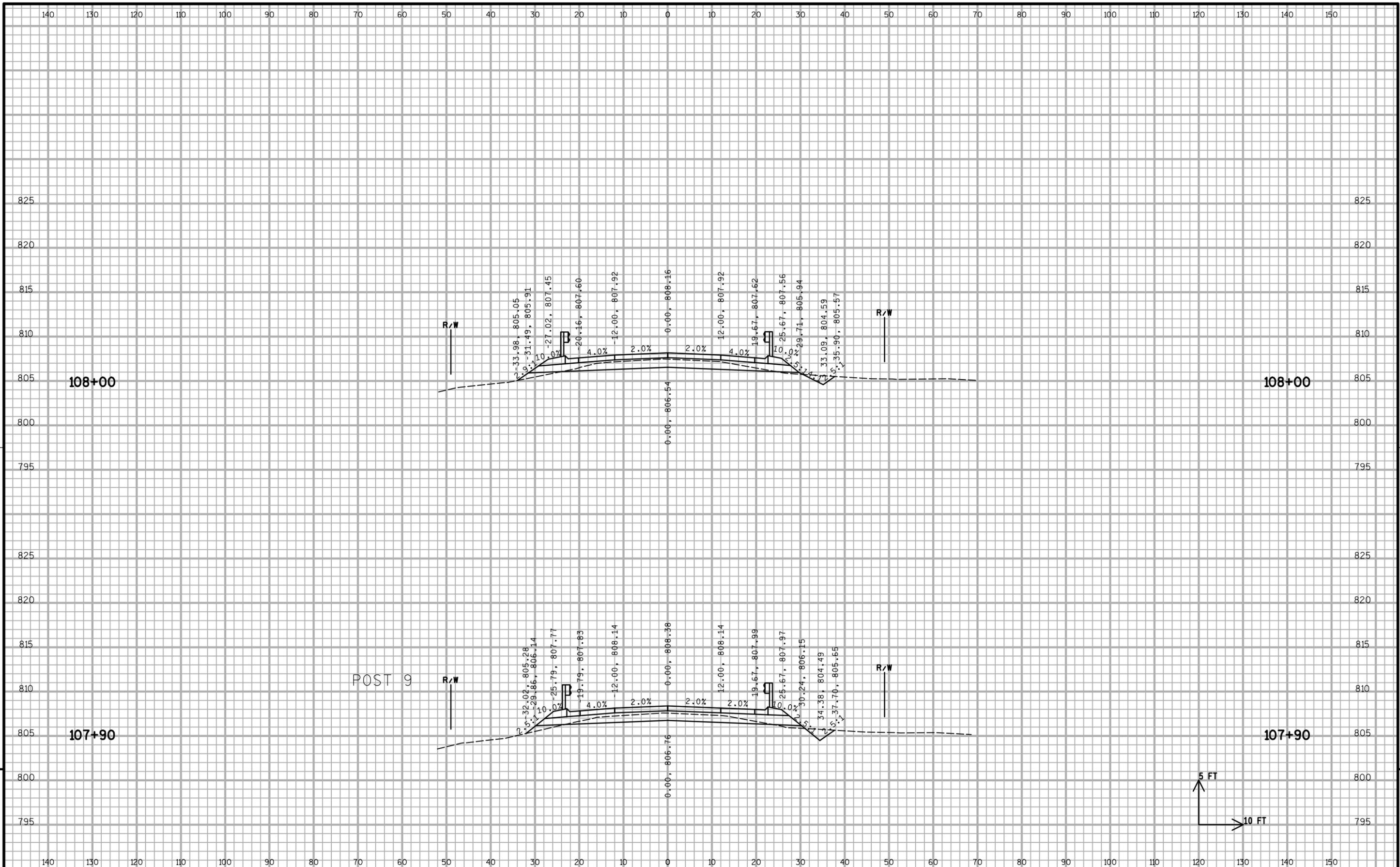
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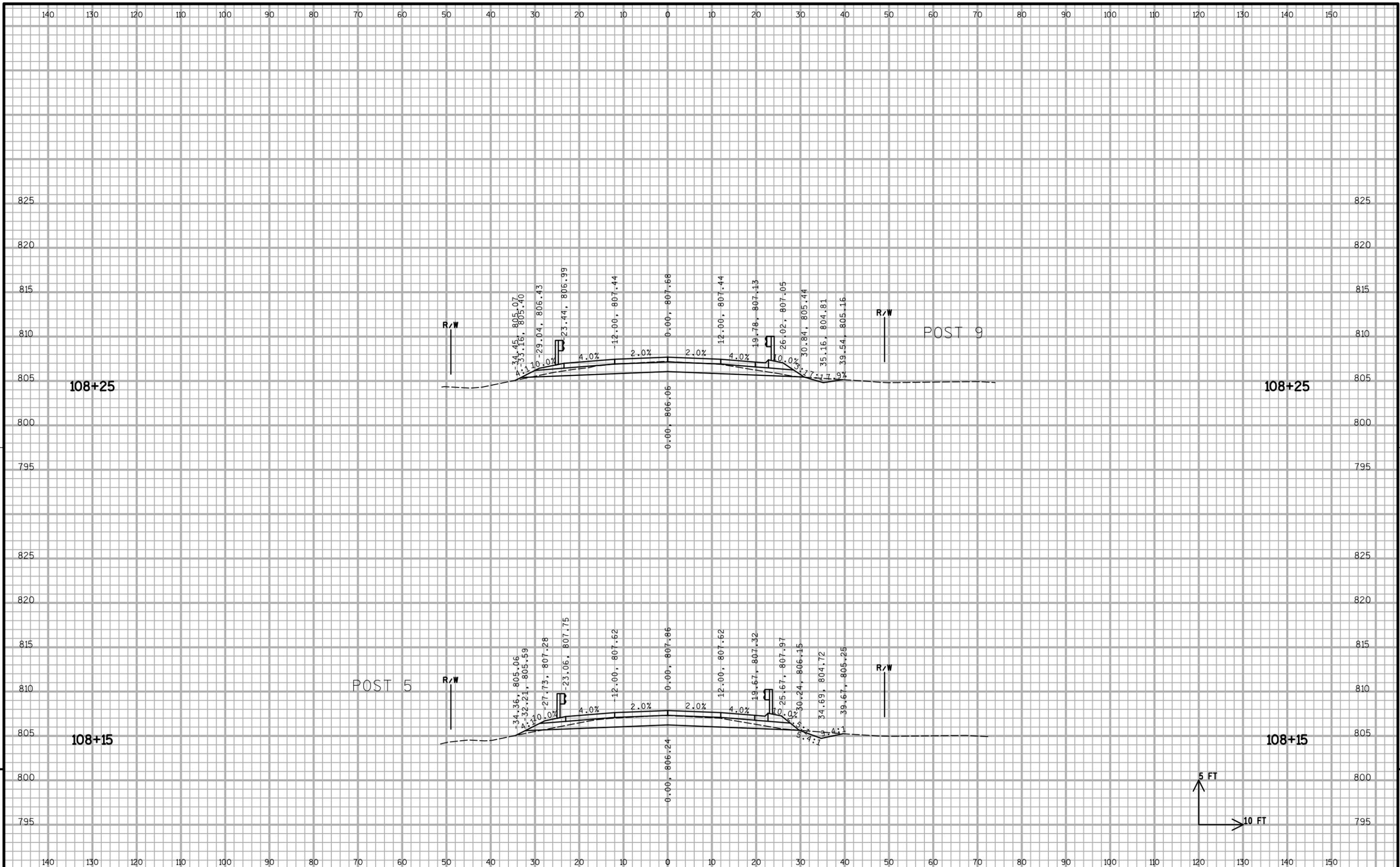
107+50

107+00

107+00







108+25

108+25

108+15

108+15

R/W

R/W

POST 9

POST 5

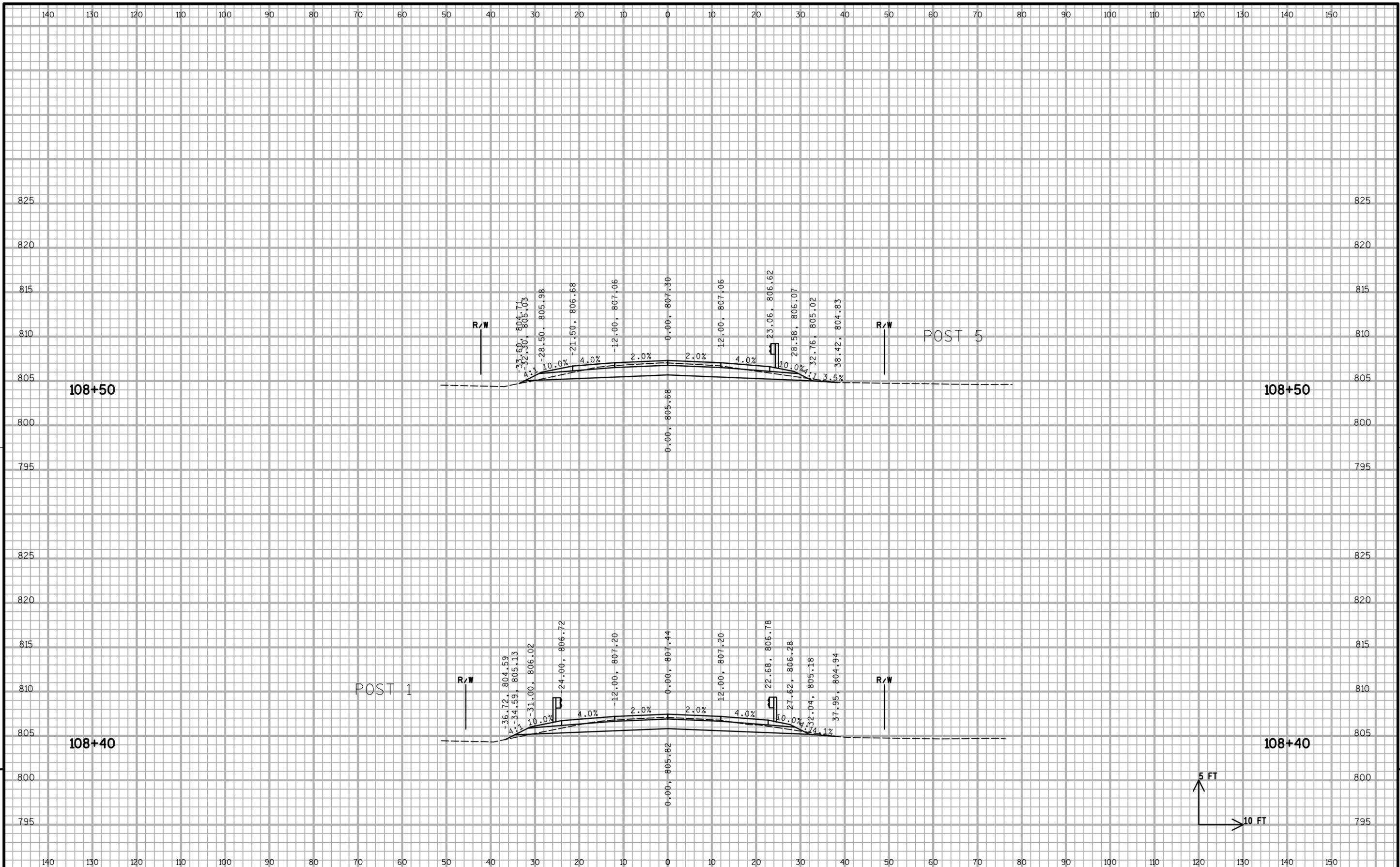
R/W

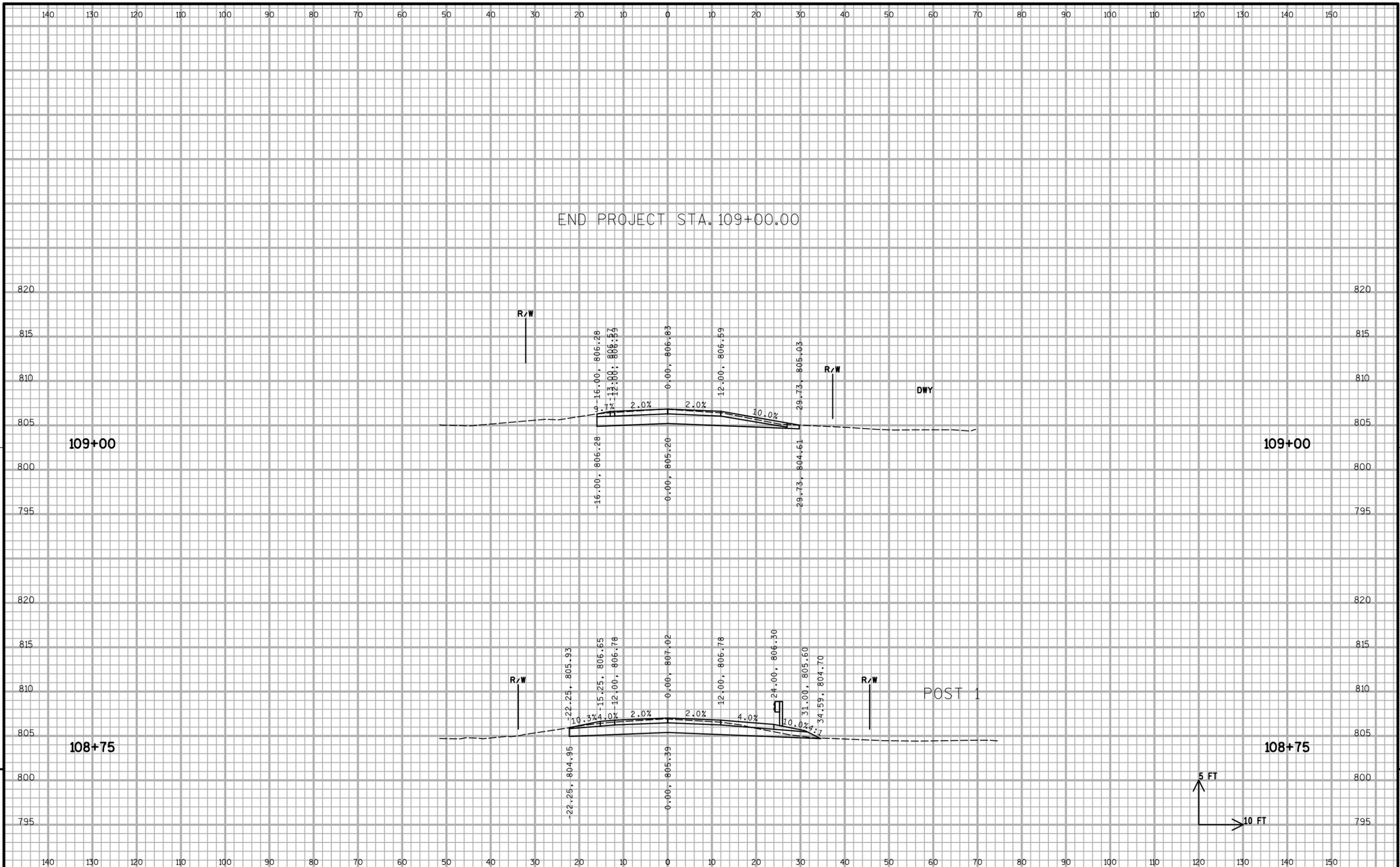
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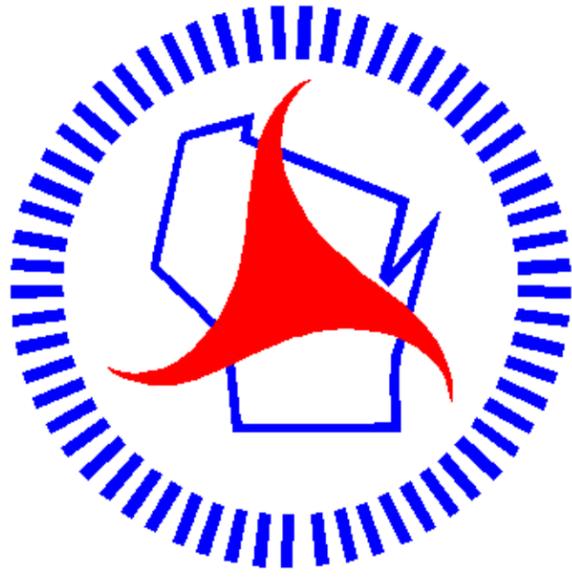
10 FT

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Wisconsin Department of Transportation

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