

SUP

PROJECT ID: 8884-00-72

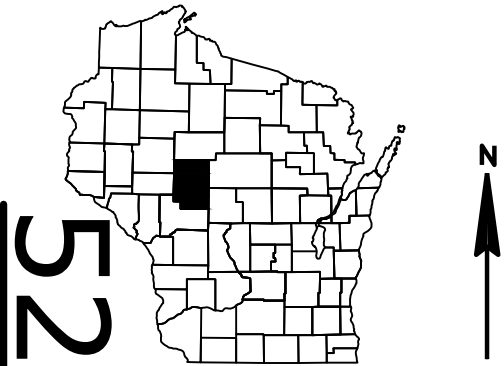
WITH: N/A

COUNTY: CLARK

FEBRUARY 2025
ORDER OF SHEETS

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

TOTAL SHEETS = 46



DESIGN DESIGNATION

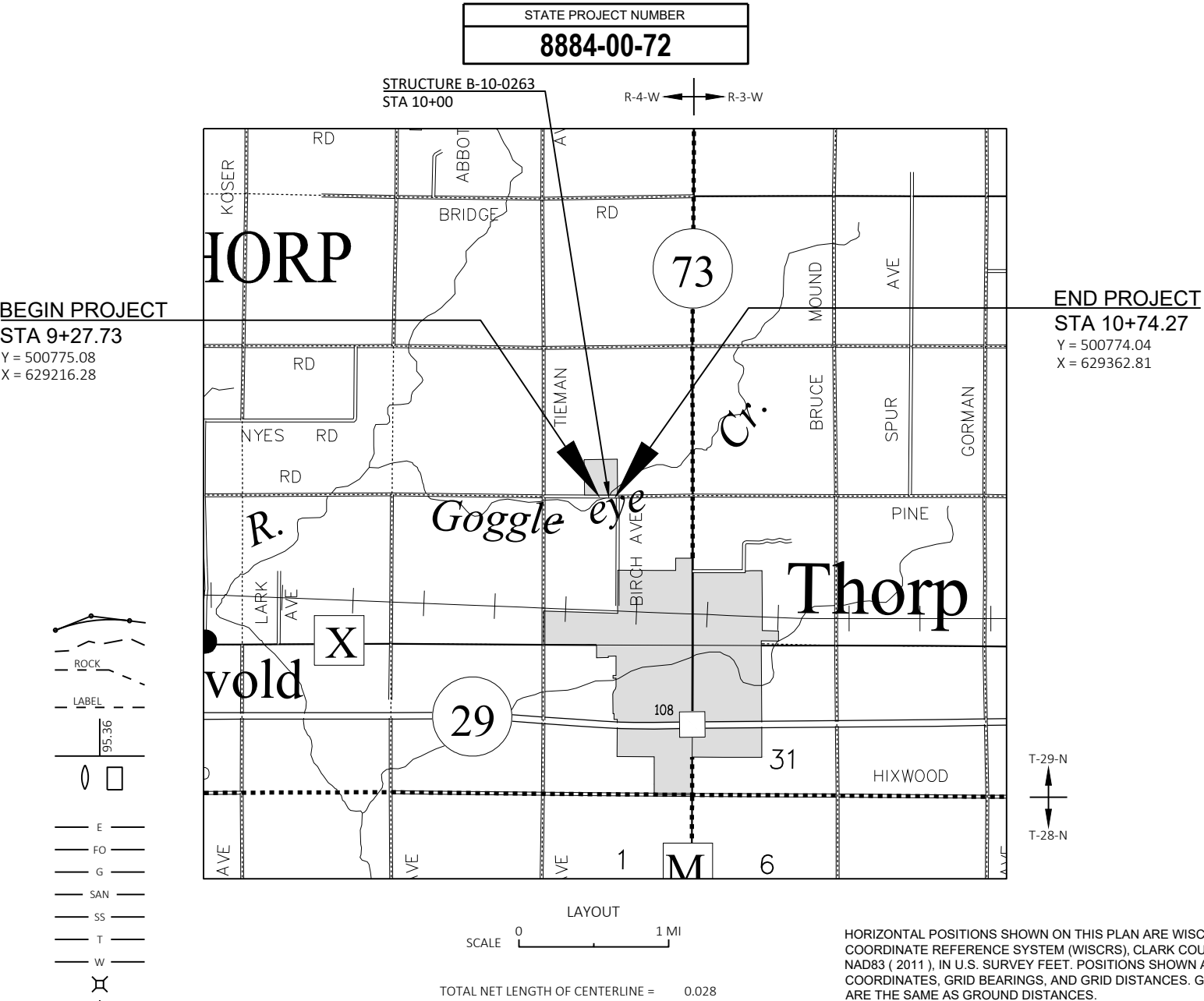
A.A.D.T.	(2025)	=	<100
A.A.D.T.	(2045)	=	<100
D.H.V.		=	10
D.D.		=	50/50
T.		=	5%
DESIGN SPEED		=	45 MPH
ESALS		=	N/A

CONVENTIONAL SYMBOLS

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

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
PLAN OF PROPOSED IMPROVEMENT
T THORP, PINE ROAD
GOGGLE-EYE CREEK BRIDGE B-10-0263
LOC STR
CLARK COUNTY



HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COORDINATE REFERENCE SYSTEM (WISCRS), CLARK COUNTY, NAD83 (2011), IN U.S. SURVEY FEET. POSITIONS SHOWN ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES ARE THE SAME AS GROUND DISTANCES.

ELEVATIONS ARE REFERENCED TO NAVD 88 (2018). GPS DERIVED ELEVATIONS ARE BASED ON GEOID 18.

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
8884-00-72	WISC 2025338	1

ACCEPTED FOR
Town of Thorp
10/17/24
(Date)
Andrew Plewicz
(Town Chairman)

ORIGINAL PLANS PREPARED BY
AYRES

10/22/2024
(Date) (Signature)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
PREPARED BY
Surveyor AYRES ASSOCIATES INC
Designer AYRES ASSOCIATES INC
Project Manager TOU YANG, PE
Regional Examiner NW REGION
Regional Supervisor TOU YANG, PE

APPROVED FOR THE DEPARTMENT
DATE: 10/28/2024
28/24
(Signature)

E

UTILITIES CONTACTS

BRIGHT SPEED
BRIAN HUHN
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HAWKINS, WI 54530
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CELL: 715-563-8294
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WISCONSIN DNR LIAISON

BRAD BETTHAUSER
WDNR
910 HWY 54 E
BLACK RIVER FALLS, WI 54615
PHONE: 715-213-9064
EMAIL: Bradley.Betthauser@wisconsin.gov

TOWN CONTACT

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DESIGN PROJECT MANAGER

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WISDOT NW REGION
718 W. CLAIREMONT AVENUE
EAU CLAIRE, WI 54701
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DESIGN PROJECT LEADER

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AYRES ASSOCIATES
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EAU CLAIRE, WI 54701
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EMAIL: sydowd@AyresAssociates.com

GENERAL NOTES

THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS AS SHOWN ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN.

FILL EXPANSION FACTOR IS 30%

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

RIGHT OF WAY INFORMATION SHOWN ON THE PLANS IS APPROXIMATE.

EROSION CONTROL FEATURES AS SHOWN IN THE PLANS ARE AT APPROXIMATE LOCATIONS. EXACT LOCATIONS WILL BE DETERMINED BY THE CONTRACTOR'S EROSION CONTROL IMPLEMENTATION PLAN (ECIP) AND APPROVED BY THE ENGINEER. MAINTAIN EROSION CONTROL MEASURES UNTIL SUCH A TIME AS THE ENGINEER DETERMINES THE MEASURE IS NO LONGER NECESSARY.

SEED MIXTURE NO. 20 AND SEEDING TEMPORARY SHALL BE USED IN THE PROJECT AND SHALL BE PLACED AS SHOWN IN THE PLANS AND/OR DIRECTED BY THE ENGINEER.

THE PROPOSED SHOULDER WIDTH SHOWN IN THE TYPICAL SECTIONS ARE MINIMUM WIDTH. PERPETUATE EXISTING SHOULDERS THAT ARE WIDER THAN WHAT IS SHOWN IN THE TYPICAL SECTIONS.

TRAFFIC CONTROL DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.

DO NOT DRIVE OR STORE EQUIPMENT, OR STORE CONSTRUCTION MATERIALS IN ENVIRONMENTALLY SENSITIVE AREAS, WETLANDS OR WATERWAYS.

THE DEPARTMENT OF TRANSPORTATION WILL FURNISH THE CONTRACTOR WITH A MONUMENT TO BE INSTALLED BY THE CONTRACTOR AS DIRECTED BY THE ENGINEER.

RUNOFF COEFFICIENT TABLE

LAND USE:	HYDROLOGIC SOIL GROUP											
	A			B			C			D		
	SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)		
	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER
ROW CROPS:	.08	.16	.22	.12	.20	.27	.15	.24	.33	.19	.28	.38
	.22	.30	.38	.26	.34	.44	.30	.37	.50	.34	.41	.56
MEDIAN STRIPTURF:	.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 SLOPETURF:			.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 = 0.222 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 0.151 ACRES

PROJECT NO: 8884-00-72

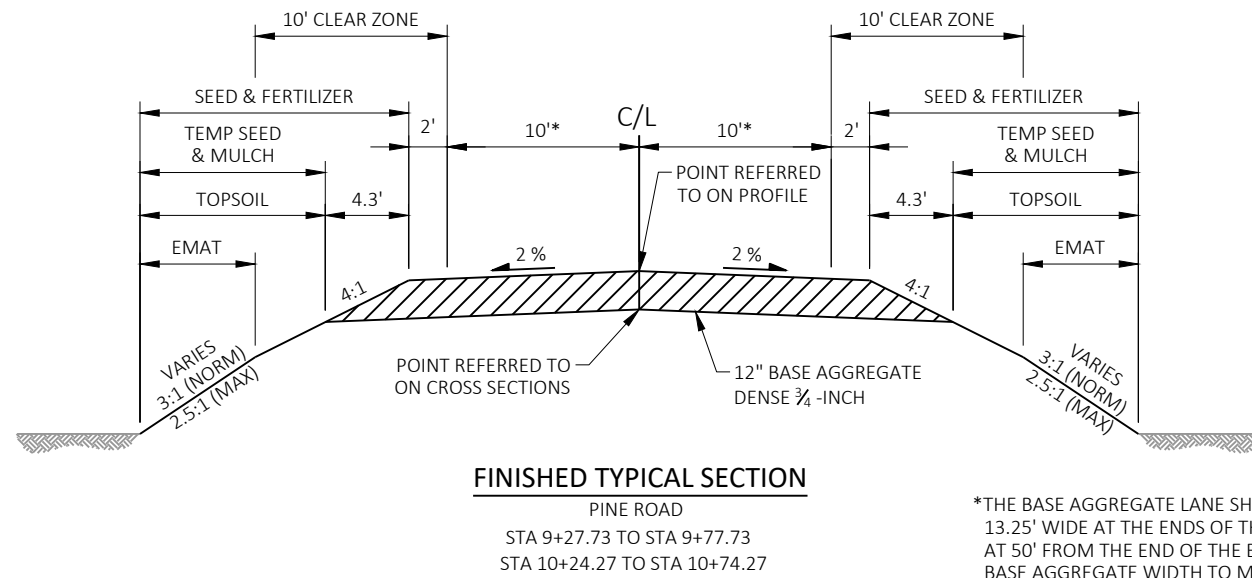
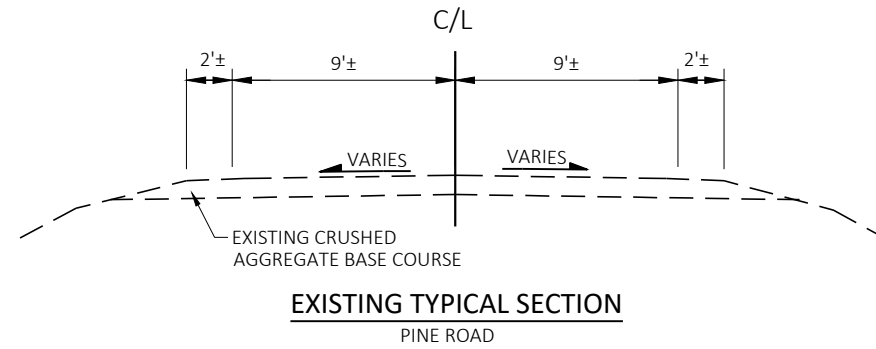
HWY: PINE ROAD

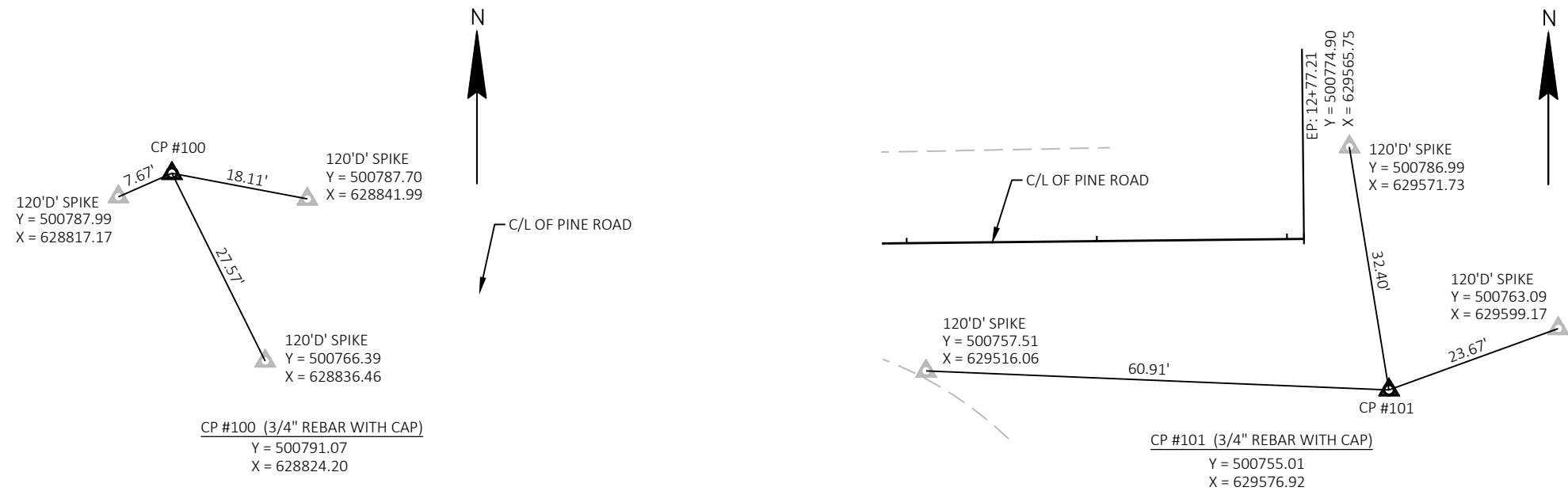
COUNTY: CLARK

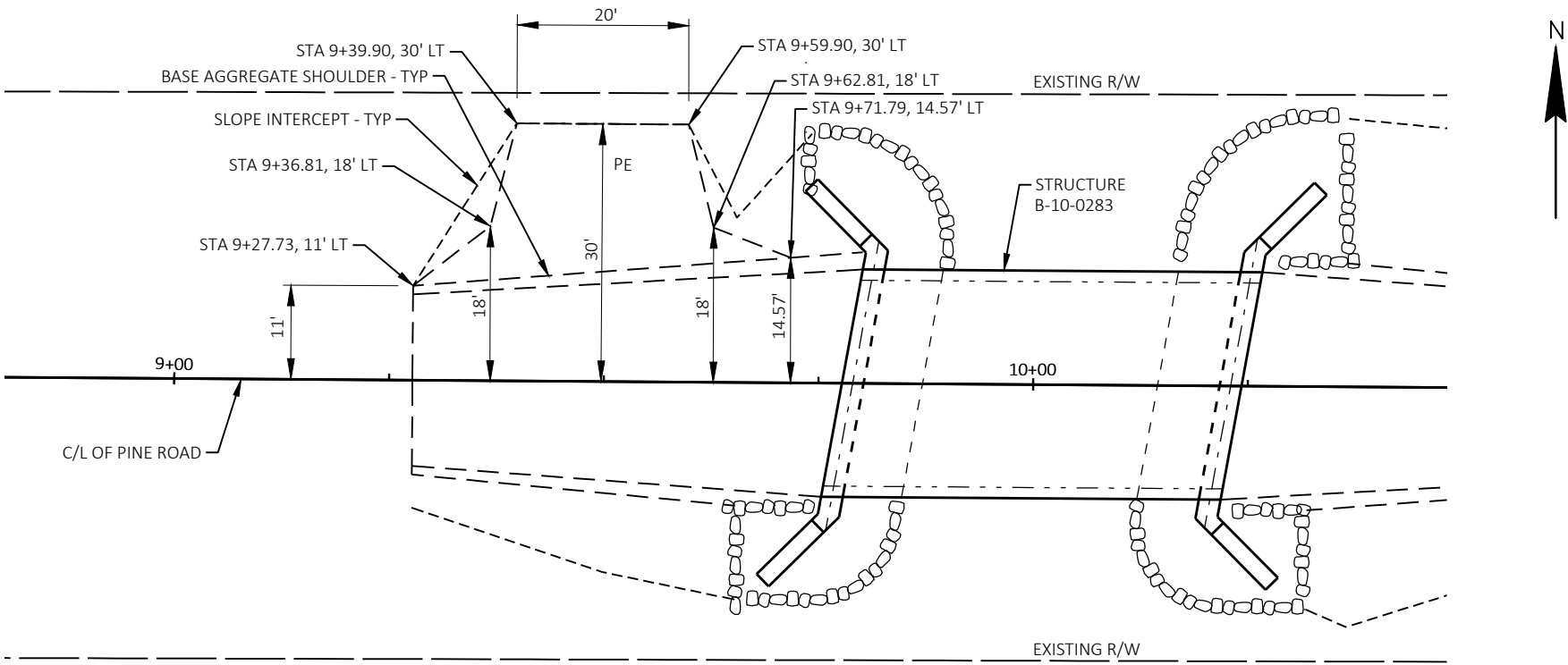
GENERAL NOTES

SHEET

E

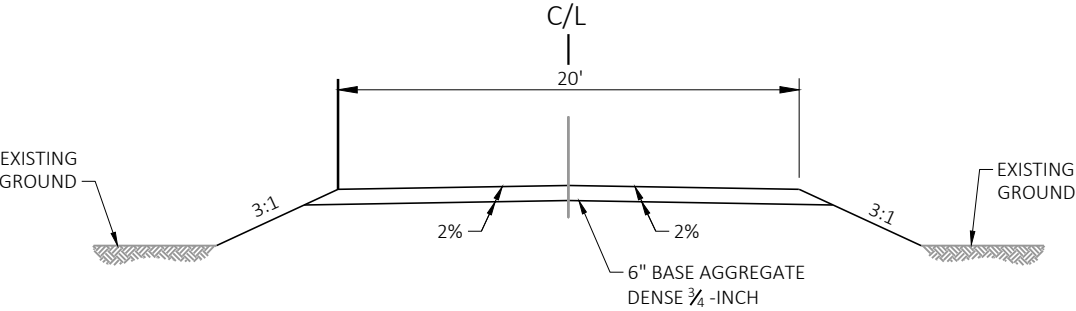






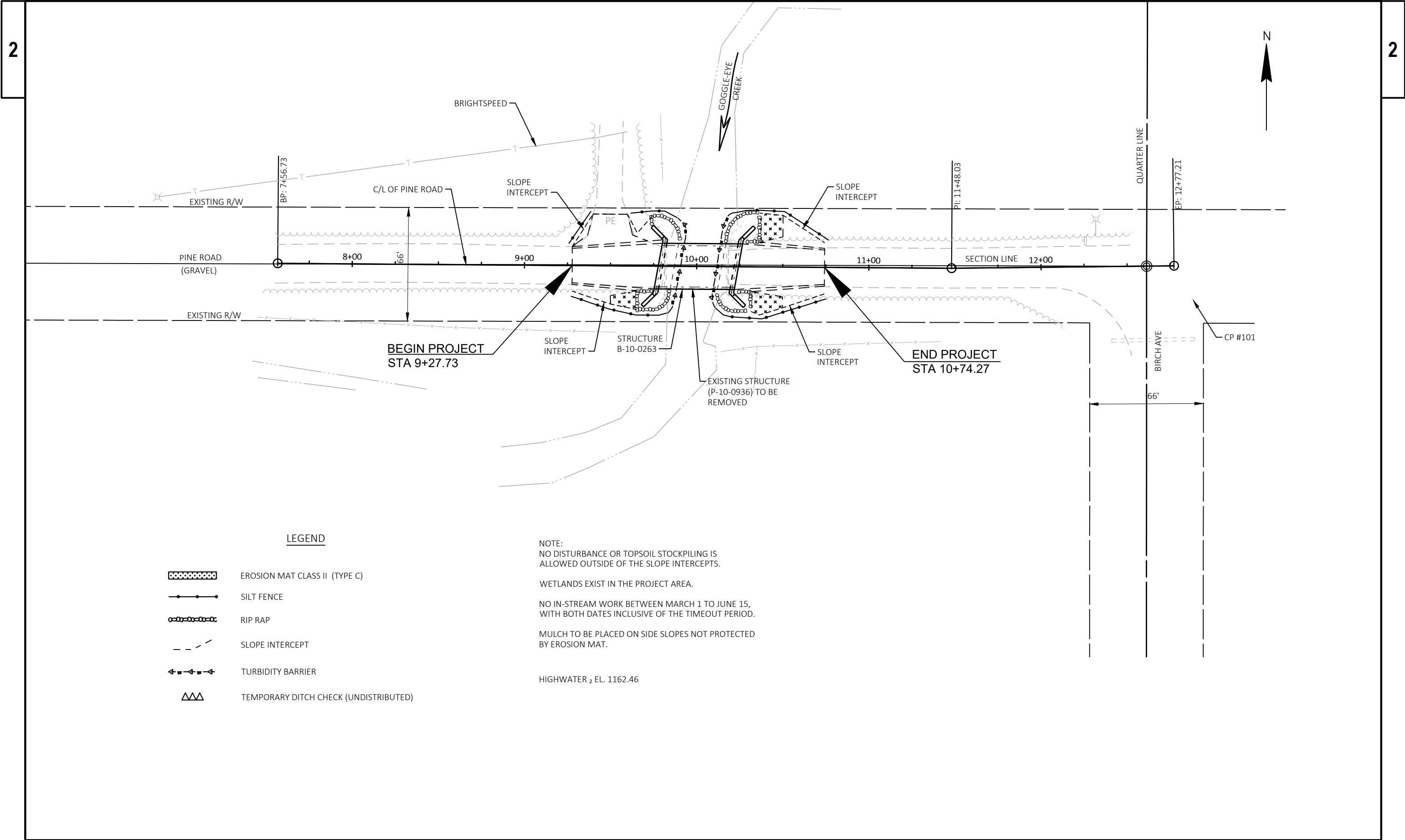
PLAN

STA 9+50, LT


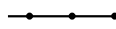






TYPICAL CROSS SECTION

PRIVATE ENTRANCE DETAILS



LEGEND

-  EROSION MAT CLASS II (TYPE C)
-  SILT FENCE
-  RIP RAP
-  SLOPE INTERCEPT
-  TURBIDITY BARRIER
-  TEMPORARY DITCH CHECK (UNDISTRIBUTED)

NOTE:
NO DISTURBANCE OR TOPSOIL STOCKPILING IS ALLOWED OUTSIDE OF THE SLOPE INTERCEPTS.

WETLANDS EXIST IN THE PROJECT AREA.

NO IN-STREAM WORK BETWEEN MARCH 1 TO JUNE 15, WITH BOTH DATES INCLUSIVE OF THE TIMEOUT PERIOD.

MULCH TO BE PLACED ON SIDE SLOPES NOT PROTECTED BY EROSION MAT.

HIGHWATER ₂ EL. 1162.46

Estimate Of Quantities

8884-00-72

Line	Item	Item Description	Unit	Total	Qty
0002	201.0105	Clearing	STA	2.000	2.000
0004	201.0205	Grubbing	STA	2.000	2.000
0006	203.0260	Removing Structure Over Waterway Minimal Debris (structure) 01. P-10-0936	EACH	1.000	1.000
0008	205.0100	Excavation Common	CY	99.000	99.000
0010	205.0508.S	Excavation, Hauling, and Disposal of Potential Creosote Contaminated Soil	TON	102.000	102.000
0012	206.1001	Excavation for Structures Bridges (structure) 01. B-10-0263	EACH	1.000	1.000
0014	210.1500	Backfill Structure Type A	TON	330.000	330.000
0016	213.0100	Finishing Roadway (project) 01. 8884-00-72	EACH	1.000	1.000
0018	305.0110	Base Aggregate Dense 3/4-Inch	TON	245.000	245.000
0020	502.0100	Concrete Masonry Bridges	CY	150.000	150.000
0022	502.3200	Protective Surface Treatment	SY	195.000	195.000
0024	505.0400	Bar Steel Reinforcement HS Structures	LB	4,140.000	4,140.000
0026	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	20,030.000	20,030.000
0028	506.0105	Structural Steel Carbon	LB	500.000	500.000
0030	513.4061	Railing Tubular Type M	LF	97.700	97.700
0032	516.0500	Rubberized Membrane Waterproofing	SY	14.000	14.000
0034	550.1100	Piling Steel HP 10-Inch X 42 Lb	LF	300.000	300.000
0036	606.0300	Riprap Heavy	CY	115.000	115.000
0038	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	160.000	160.000
0040	618.0100	Maintenance and Repair of Haul Roads (project) 01. 8884-00-72	EACH	1.000	1.000
0042	619.1000	Mobilization	EACH	1.000	1.000
0044	624.0100	Water	MGAL	7.000	7.000
0046	625.0100	Topsoil	SY	155.000	155.000
0048	627.0200	Mulching	SY	175.000	175.000
0050	628.1504	Silt Fence	LF	305.000	305.000
0052	628.1520	Silt Fence Maintenance	LF	610.000	610.000
0054	628.1905	Mobilizations Erosion Control	EACH	4.000	4.000
0056	628.1910	Mobilizations Emergency Erosion Control	EACH	4.000	4.000
0058	628.2027	Erosion Mat Class II Type C	SY	70.000	70.000
0060	628.6005	Turbidity Barriers	SY	200.000	200.000
0062	628.7504	Temporary Ditch Checks	LF	56.000	56.000
0064	629.0210	Fertilizer Type B	CWT	0.300	0.300
0066	630.0120	Seeding Mixture No. 20	LB	14.000	14.000
0068	630.0200	Seeding Temporary	LB	8.000	8.000
0070	630.0500	Seed Water	MGAL	6.000	6.000
0072	634.0614	Posts Wood 4x6-Inch X 14-FT	EACH	4.000	4.000
0074	637.2230	Signs Type II Reflective F	SF	12.000	12.000
0076	638.2602	Removing Signs Type II	EACH	4.000	4.000
0078	638.3000	Removing Small Sign Supports	EACH	4.000	4.000
0080	642.5001	Field Office Type B	EACH	1.000	1.000
0082	643.0420	Traffic Control Barricades Type III	DAY	1,620.000	1,620.000
0084	643.0705	Traffic Control Warning Lights Type A	DAY	2,160.000	2,160.000
0086	643.0900	Traffic Control Signs	DAY	1,080.000	1,080.000
0088	643.5000	Traffic Control	EACH	1.000	1.000
0090	645.0111	Geotextile Type DF Schedule A	SY	100.000	100.000
0092	645.0120	Geotextile Type HR	SY	210.000	210.000
0094	650.4500	Construction Staking Subgrade	LF	148.000	148.000
0096	650.5000	Construction Staking Base	LF	148.000	148.000
0098	650.6501	Construction Staking Structure Layout (structure) 01. B-10-0263	EACH	1.000	1.000

Estimate Of Quantities

8884-00-72

Line	Item	Item Description	Unit	Total	Qty
0100	650.9911	Construction Staking Supplemental Control (project) 01. 8884-00-72	EACH	1.000	1.000
0102	650.9920	Construction Staking Slope Stakes	LF	148.000	148.000
0104	715.0502	Incentive Strength Concrete Structures	DOL	900.000	900.000
0106	999.2005.S	Maintaining Bird Deterrent System (station) 01. 10+00	EACH	1.000	1.000
0108	ASP.1T0A	On-the-Job Training Apprentice at \$5.00/HR	HRS	300.000	300.000
0110	ASP.1T0G	On-the-Job Training Graduate at \$5.00/HR	HRS	300.000	300.000
0112	SPV.0090	Special 01. Removing Existing Timber Piling	LF	75.000	75.000

CLEARING & GRUBBING

				201.0105 CLEARING STA	201.0205 GRUBBING STA
STATION	TO	STATION	LOCATION		
9+00	-	11+00	MAINLINE	2	2
TOTAL 0010				2	2

NOTE: CUTTING TREES TO BE DONE BY OTHERS PRIOR TO CONSTRUCTION. CLEAR CUT TREES.

EXCAVATION, HAULING, AND DISPOSAL OF POTENTIAL CREOSOTE
CONTAMINATED SOIL

				205.0508.S EXCAVATION, HAULING, AND DISPOSAL OF POTENTIAL CREOSOTE CONTAMINATED SOIL TON
STATION	TO	STATION	LOCATION	
9+98	-	10+24	MAINLINE	102
TOTAL 0010				102

FINISHING ROADWAY

		213.0100.01 FINISHING ROADWAY (PROJECT) (01. 8884-00-72) EACH
PROJECT		
8884-00-72		1
TOTAL 0010		1

BASE AGGREGATE DENSE 3/4-INCH

				305.0110 BASE AGGREGATE DENSE 3/4-INCH TON
STATION	TO	STATION	LOCATION	
9+28	-	9+78	MAINLINE	110
10+24	-	10+74	MAINLINE	115
		9+50	DRWY, LT	20
TOTAL 0010				245

MAINTENANCE AND REPAIR OF HAUL ROADS

		618.0100.01 MAINTENANCE AND REPAIR OF HAUL ROADS (PROJECT) (01. 8884-00-72) EACH
CATEGORY	LOCATION	
0030	PROJECT LIMITS	1
TOTAL 0030		1

WATER

		624.0100 WATER MGAL
LOCATION		
COMPACTION		4
DUST CONTROL		3
TOTAL 0010		7

MOBILIZATIONS EROSION CONTROL

		628.1905 MOBILIZATIONS EROSION CONTROL EACH	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL EACH
LOCATION			
PROJECT LIMITS		4	4
TOTAL 0010		4	4

PINE ROAD EARTHWORK SUMMARY

From/To Station	Location	Excavation Common (1) 205.0100 Cut	Unexpanded Fill	Expanded Fill (2)	Mass Ordinate +/- (3)	Waste
				Factor 1.30		
9+27.73 - 9+77.73	PINE ROAD	54	6	8	47	47
10+24.27 - 10+74.27	PINE ROAD	45	29	38	7	7
TOTAL		99	35	46		

- 1) Excavation Common is the Cut. Item number 205.0100.
2) Expanded Fill. Factor = 1.30; Expanded Fill = Unexpanded Fill * Fill Factor
3) The Mass Ordinate + or - Qty calculated for the Division. Plus quantity indicates an excess of material on the project.
4) All quantities shown in CY.

MOBILIZATION

		619.1000 MOBILIZATION EACH
LOCATION		
PROJECT LIMITS		1
TOTAL 0010		1

EROSION CONTROL ITEMS

				628.1504 SILT FENCE LF	628.1520 SILT FENCE MAINTENANCE LF	628.2027 EROSION MAT CLASS II TYPE C SY	628.6005 TURBIDITY BARRIERS SY	628.7504 TEMPORARY DITCH CHECKS LF
STATION	TO	STATION	LOCATION					
9+28	-	10+74	MAINLINE	245	490	55	160	--
			UNDISTRIBUTED	60	120	15	40	56
TOTAL 0010				305	610	70	200	56

RESTORATION ITEMS

				625.0100 TOPSOIL SY	627.0200 MULCHING SY	629.0210 FERTILIZER TYPE B CWT	630.0120 SEEDING MIXTURE NO. 20 LB	630.0200 SEEDING TEMPORARY LB	630.0500 SEED WATER MGAL
STATION	TO	STATION	LOCATION						
9+28	-	9+78	MAINLINE	45	25	0.1	4	2	2
10+24	-	10+74	MAINLINE	80	115	0.1	7	4	3
			UNDISTRIBUTED	30	35	0.1	3	2	1
TOTAL 0010				155	175	0.3	14	8	6

ALL ITEMS ON THIS SHEET
ARE CATEGORY 0010
UNLESS OTHERWISE NOTED

SIGNS TYPE II							
STATION	LOCATION	SIGN CODE	SIGN SIZE (INCHES)	634.0614	637.2230	638.2602	638.3000
				POSTS WOOD	SIGNS TYPE II REFLECTIVE F	REMOVING	REMOVING
				4X6-INCH X 14-FT EACH		SIGNS TYPE II EACH	SMALL SIGN SUPPORTS EACH
9+80	LT	W5-52L	12x36	1	3	1	1
9+75	RT	W5-52R	12x36	1	3	1	1
10+27	LT	W5-52L	12x36	1	3	1	1
10+22	RT	W5-52R	12x36	1	3	1	1
TOTAL 0010				4	12	4	4

TRAFFIC CONTROL											
FIELD OFFICE TYPE B											
LOCATION	642.5001 FIELD OFFICE TYPE B EACH	LOCATION	DURATION DAYS	EACH	643.0420 TRAFFIC CONTROL BARRICADES TYPE III DAY	EACH	643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A DAY	EACH	643.0900 TRAFFIC CONTROL SIGNS DAY	643.5000 TRAFFIC CONTROL EACH	
PROJECT LIMITS	1	PER SDD 15C02 UNDISTRIBUTED	75	18	1,350	24	1,800	12	900	1	
TOTAL 0010	1				270	--	360	--	180	--	
TOTAL 0010					1,620		2,160		1,080	1	

CONSTRUCTION STAKING						
STATION	TO	STATION	LOCATION	650.4500	650.5000	650.9920
				CONSTRUCTION STAKING SUBGRADE LF	CONSTRUCTION STAKING BASE LF	CONSTRUCTION STAKING SLOPE STAKES LF
				LF	LF	LF
9+27	-	10+75	MAINLINE	148	148	148
TOTAL 0010				148	148	148

CONSTRUCTION STAKING STRUCTURE LAYOUT				
CATEGORY	STATION	LOCATION	650.6501.01 CONSTRUCTION STAKING STRUCTURE LAYOUT (STRUCTURE) (01. B-10-0263)	
			EACH	
0020	10+00	MAINLINE	1	
TOTAL 0020			1	

CONSTRUCTION STAKING SUPPLEMENTAL CONTROL	
PROJECT	650.9911.01 CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (PROJECT) (01. 8884-00-72)
	EACH
8884-00-72	1
TOTAL 0010	1

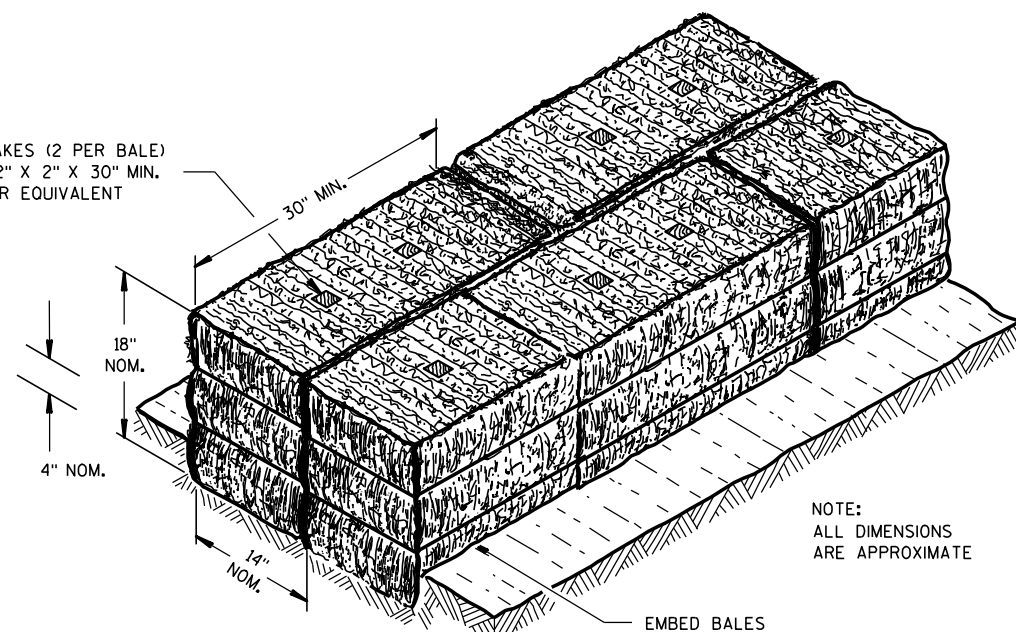
MAINTAINING BIRD DETERRENT SYSTEM		
STATION	LOCATION	999.2005.S.01 MAINTAINING BIRD DETERRENT SYSTEM (STATION) (01. STA 10+00)
		EACH
10+00	MAINLINE	1
TOTAL 0010		1

ALL ITEMS ON THIS SHEET
ARE CATEGORY 0010
UNLESS OTHERWISE NOTED

Standard Detail Drawing List

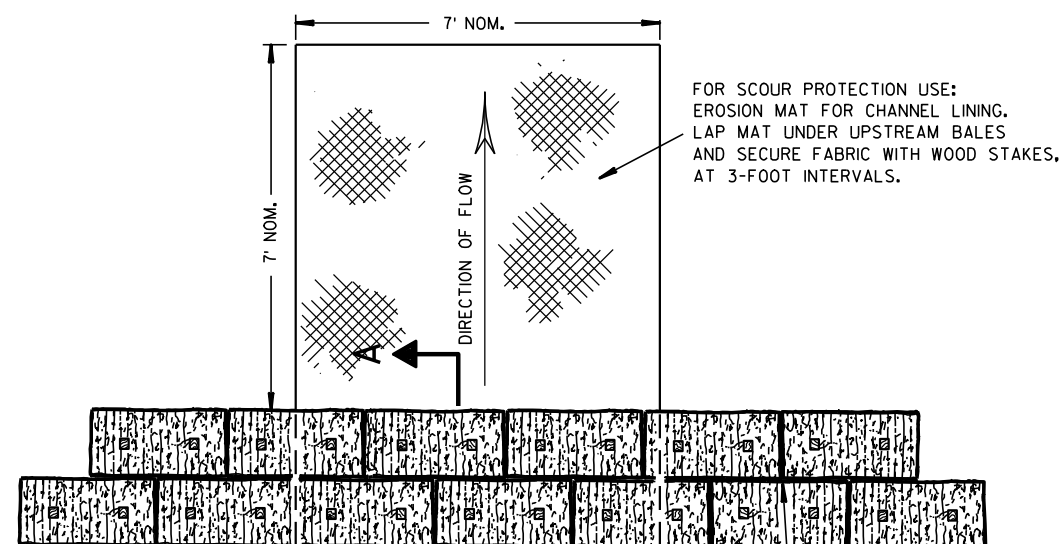
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E11-02	TURBIDITY BARRIER
12A03-10	NAME PLATE (STRUCTURES)
15C02-09A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-09B	BARRICADES AND SIGNS FOR VARIOUS CLOSURES
15C06-12	SIGNING & MARKING FOR TWO LANE BRIDGES

WOOD STAKES (2 PER BALE)
NOMINAL 2" X 2" X 30" MIN.
LENGTH OR EQUIVALENT

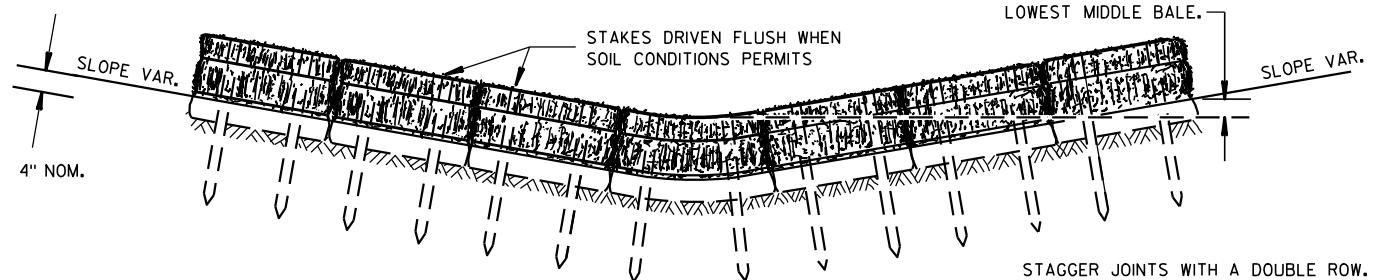


NOTE:
ALL DIMENSIONS
ARE APPROXIMATE

SECTION A-A



PLAN VIEW



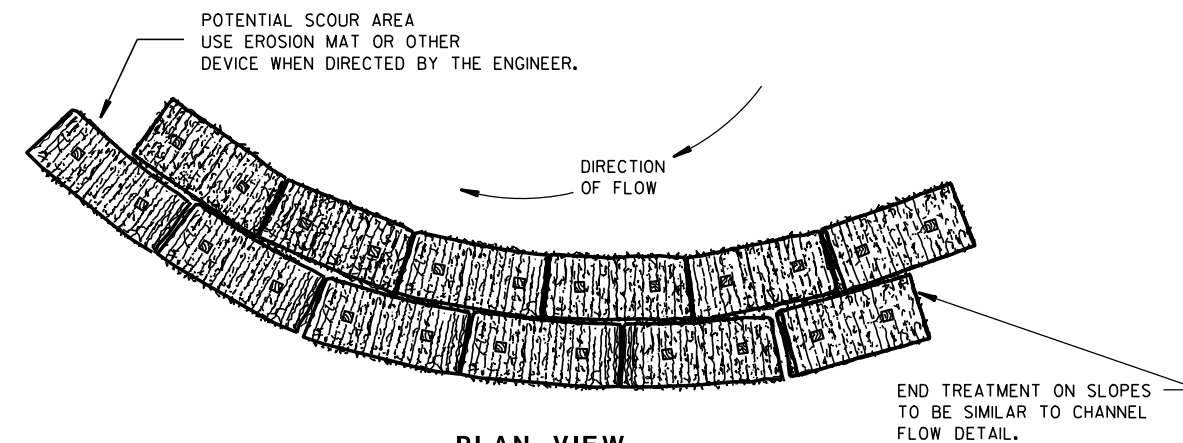
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES ①

GENERAL NOTES

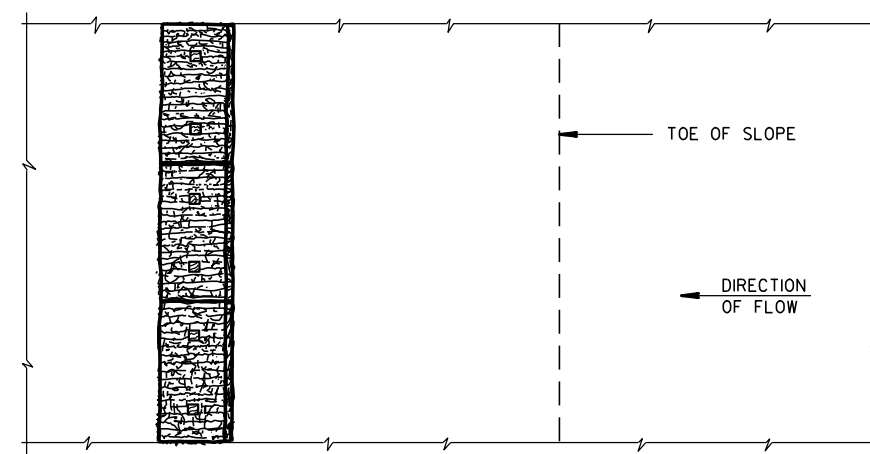
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

- ① TEMPORARY DITCH CHECKS EITHER EROSION BALES OR MANUFACTURED SHALL BE PAID FOR UNDER THE BID ITEM OF TEMPORARY DITCH CHECK. THE DEPARTMENT WILL NOT PAY FOR TEMPORARY DITCH CHECKS CONSTRUCTED OF A SINGLE ROW OF EROSION BALES.

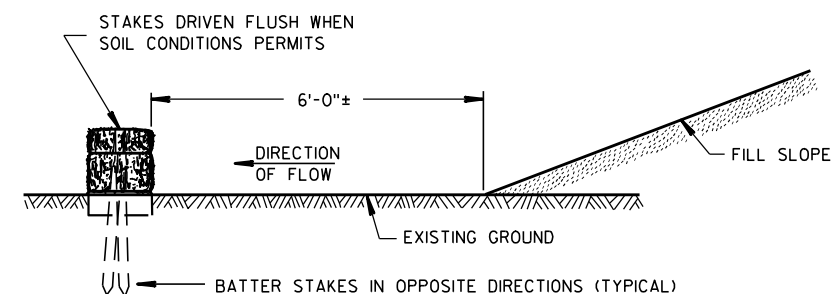


PLAN VIEW

WHEN ALTERING THE DIRECTION OF FLOW



PLAN VIEW



FRONT ELEVATION

WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE

EROSION BALES FOR SHEET FLOW

TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

6/04/02
DATE

/S/ Beth Canestra
CHIEF ROADWAY DEVELOPMENT ENGINEER

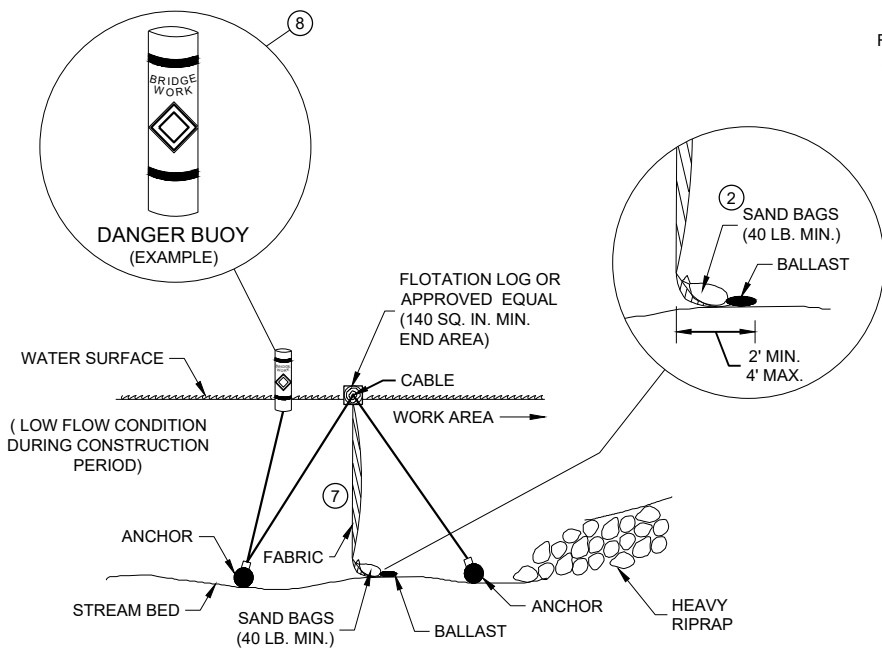
FHWA



- ① HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
- ② FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
- ③ WOOD POSTS SHALL BE A MINIMUM SIZE OF 1½" X 1½" OF OAK OR HICKORY.
- ④ SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.
- ⑤ CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.

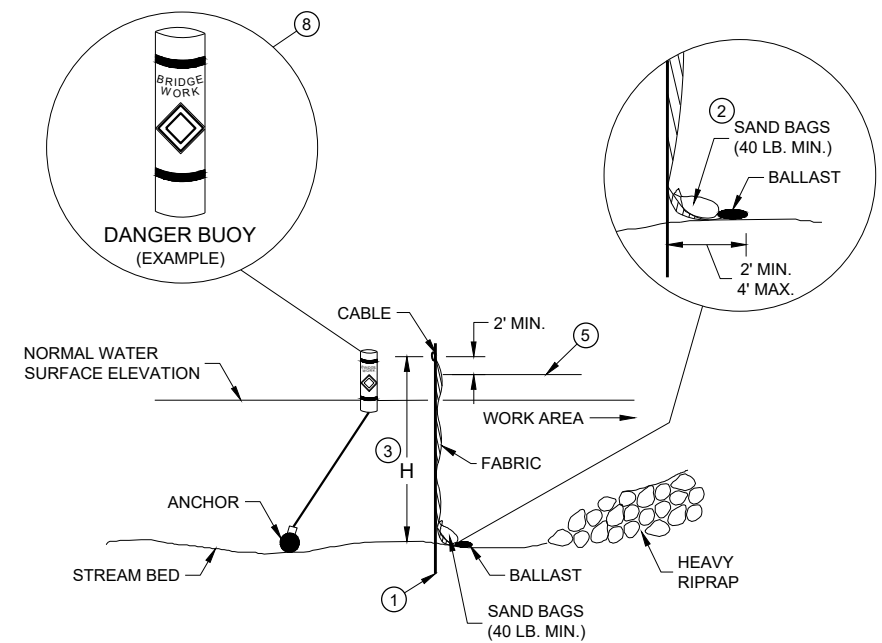


<p>SILT FENCE</p>	
<p>STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION</p>	
<p>APPROVED 4-29-05 DATE</p>	<p>/s/ Beth Cannestra CHIEF ROADWAY DEVELOPMENT ENGINEER</p>



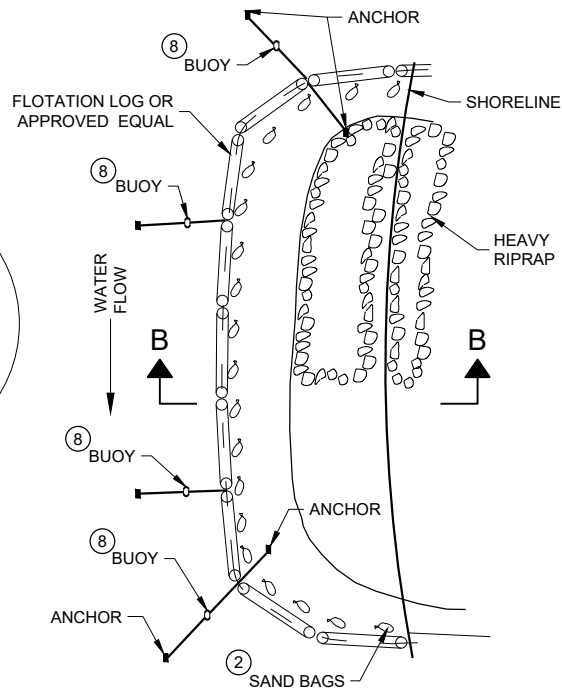
SECTION B - B

TURBIDITY BARRIER - FLOAT ALTERNATIVE
CAUTION - SEE NOTE 6

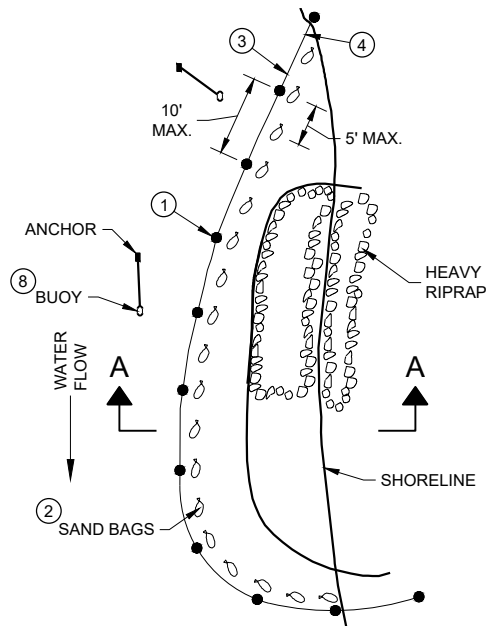


SECTION A - A

TURBIDITY BARRIER - STANDARD POST INSTALLATION



PLAN VIEW



PLAN VIEW

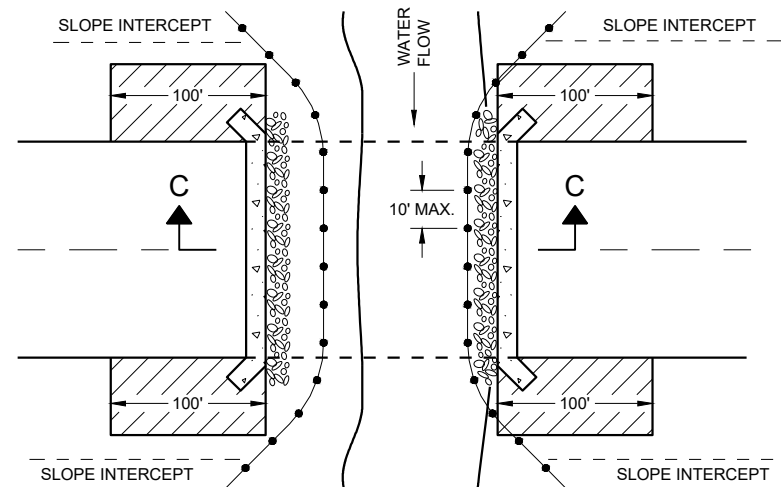
TURBIDITY BARRIER PLACEMENT DETAILS

GENERAL NOTES

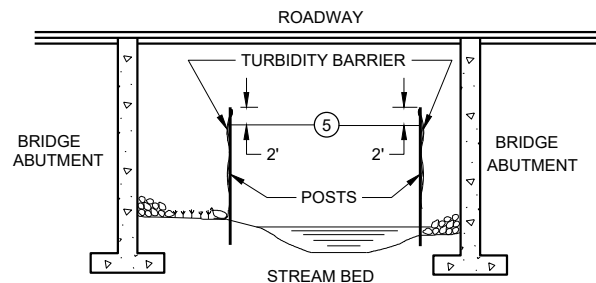
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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



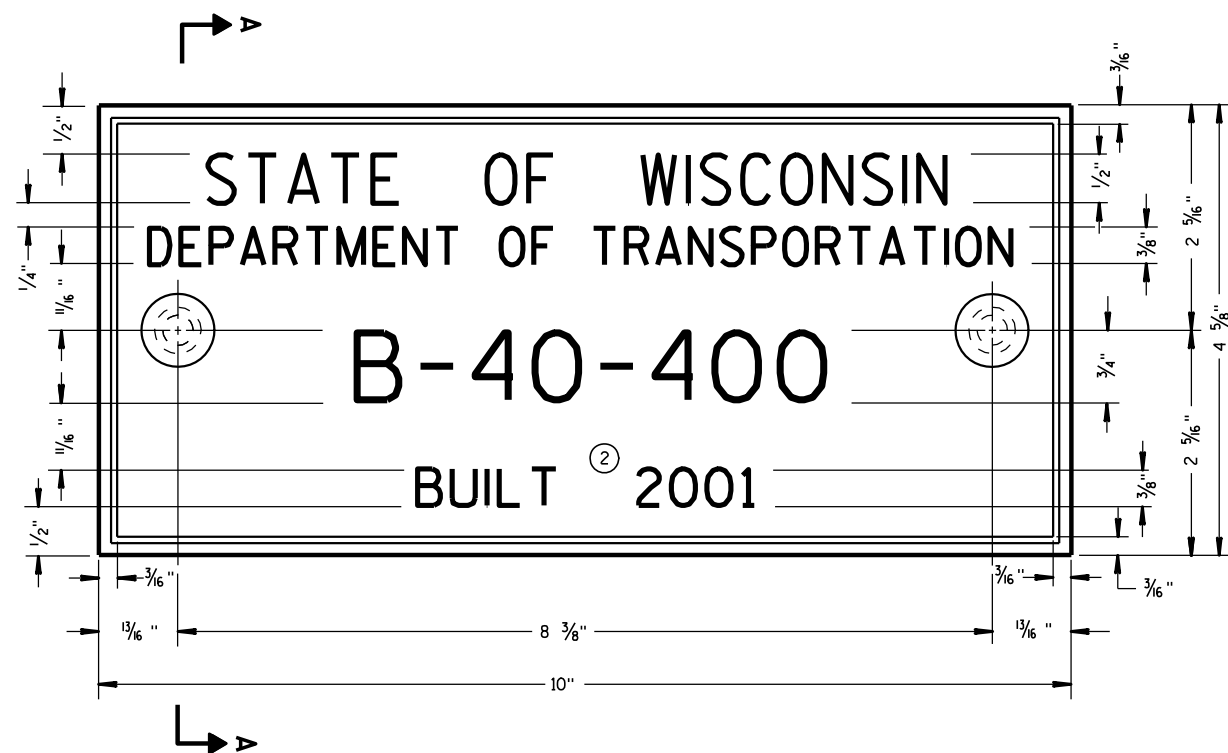
SECTION C - C

TURBIDITY BARRIER DETAIL SHOWING
TYPICAL PLACEMENT AT STRUCTURES

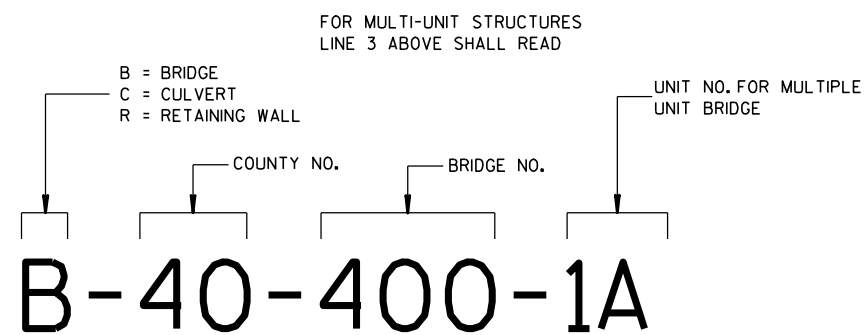
TURBIDITY BARRIER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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



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



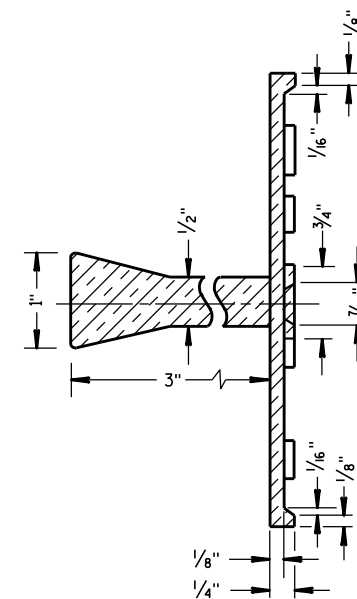
**NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES**

GENERAL NOTES

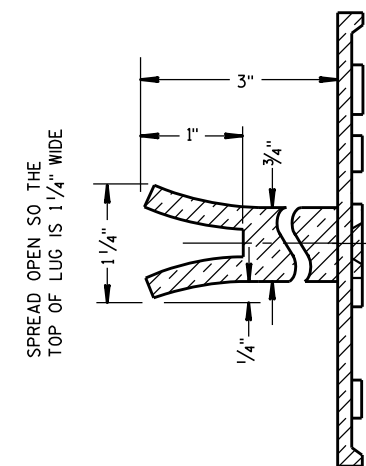
NAME PLATES TO BE INSTALLED ON BRIDGES, CULVERTS, AND RETAINING WALLS SHALL CONFORM TO THE REQUIREMENTS OF SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS.

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

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

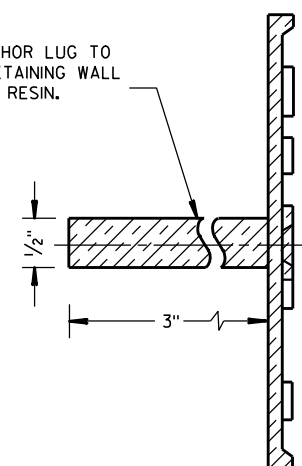


SECTION A-A



ALTERNATE LUG

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



ALTERNATE LUG
(FOR ATTACHMENT TO PRECAST STRUCTURES)

**NAME PLATE
(STRUCTURES)**

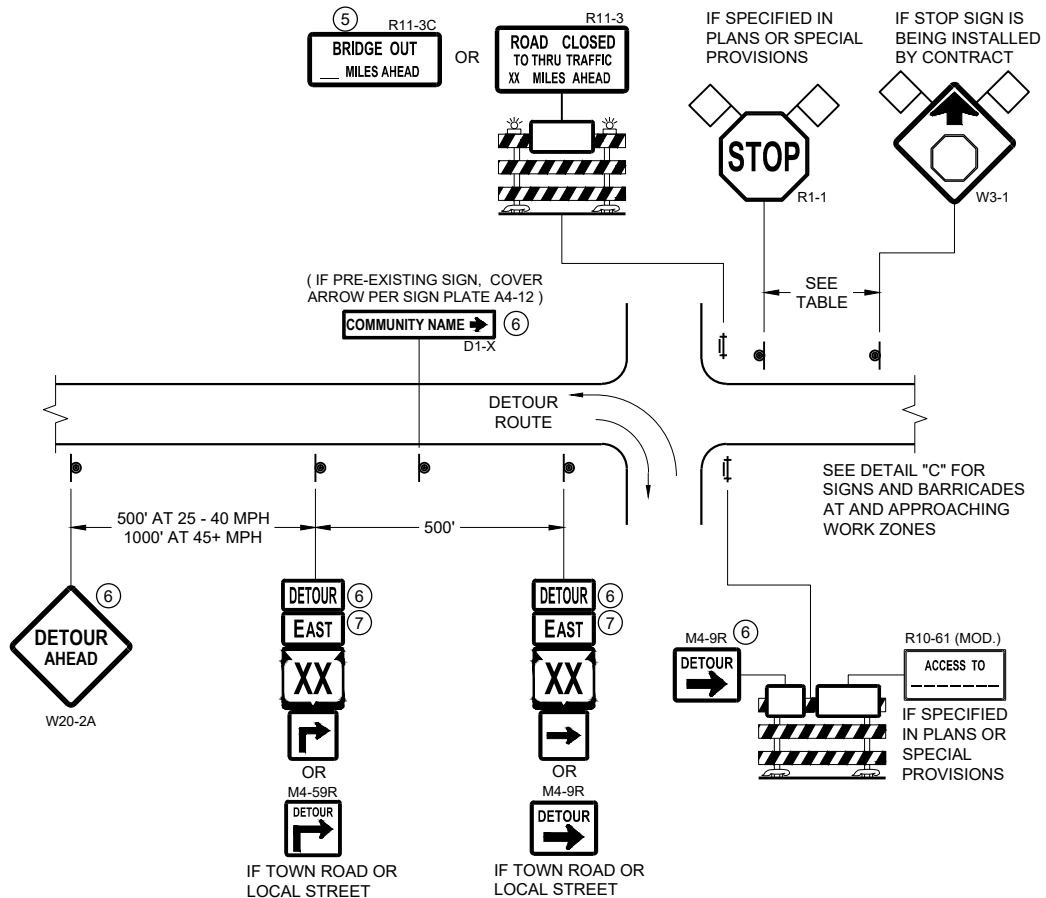
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

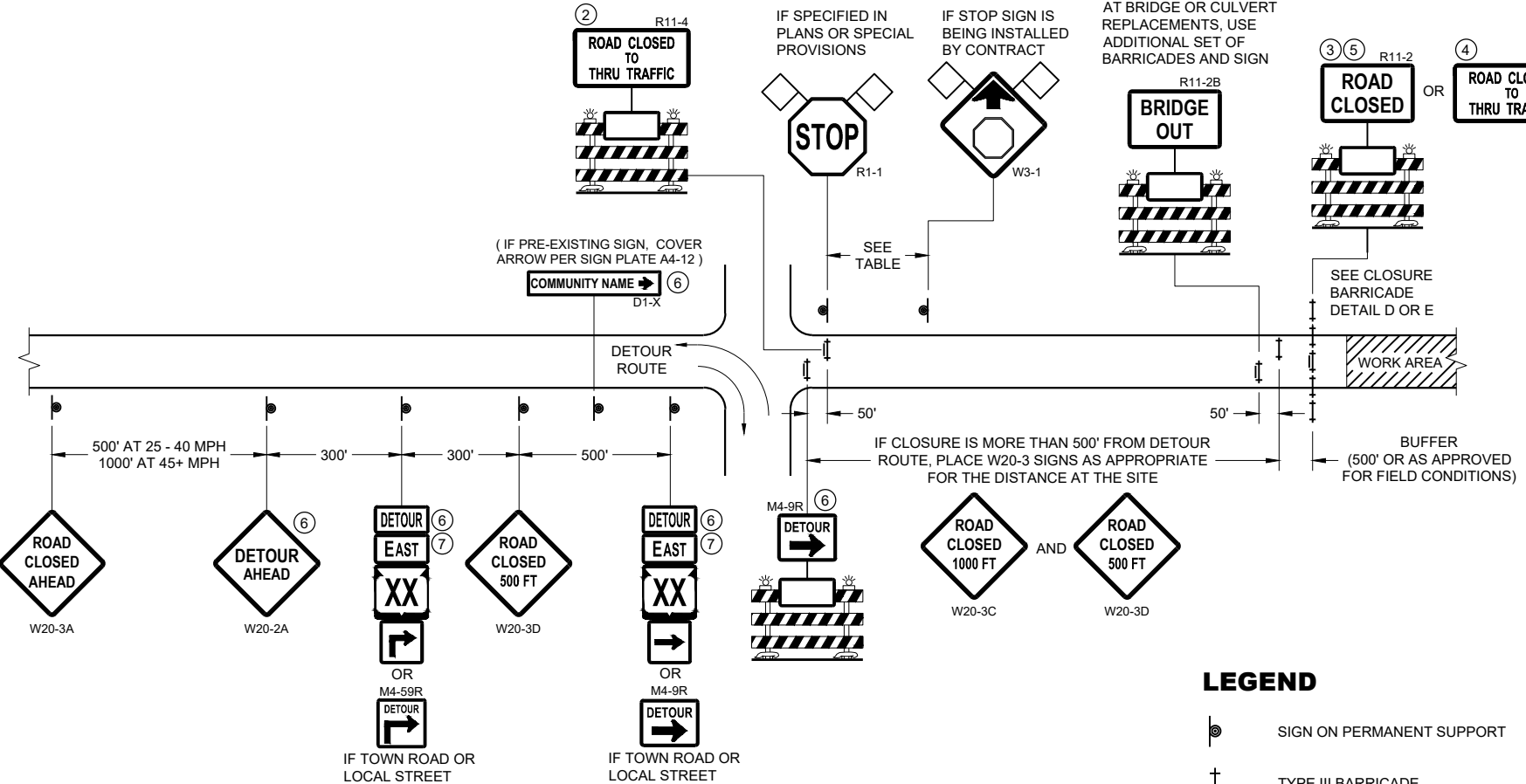
3/26/10
DATE

FHWA

/S/ Scot Becker
CHIEF STRUCTURAL DEVELOPMENT ENGINEER



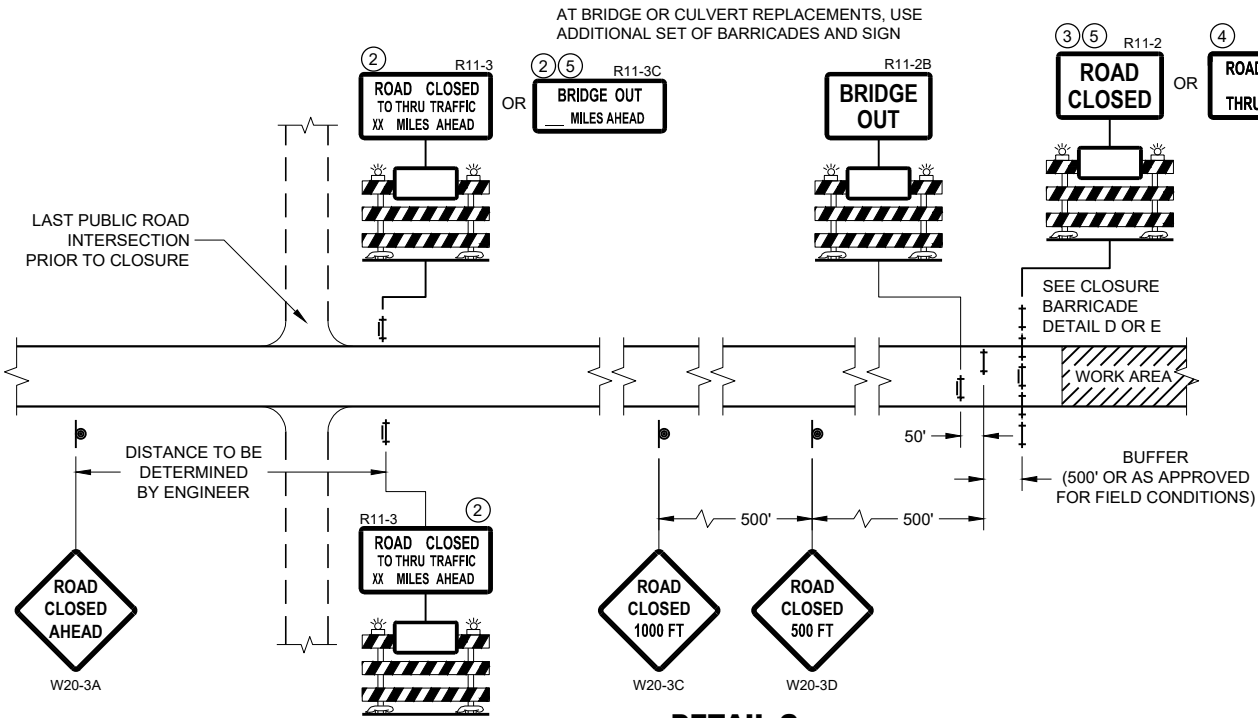
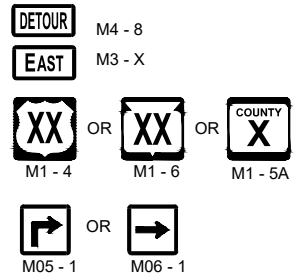
DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR
WORK ZONE GREATER THAN OR EQUAL TO ½ MILE FROM
DETOUR ROUTE (1000 FEET IF URBAN)



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

- 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



DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR

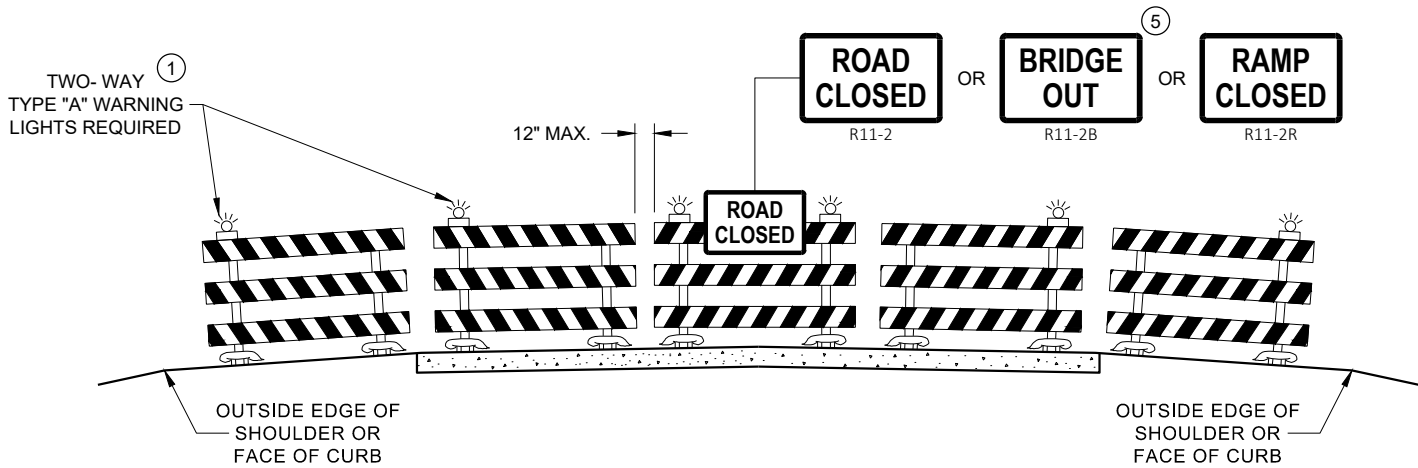
SEE SDD 15C2-SHEET "b"
FOR GENERAL NOTES
AND FOOTNOTES ① THROUGH ⑦

**BARRICADES AND SIGNS
FOR MAINLINE CLOSURES**

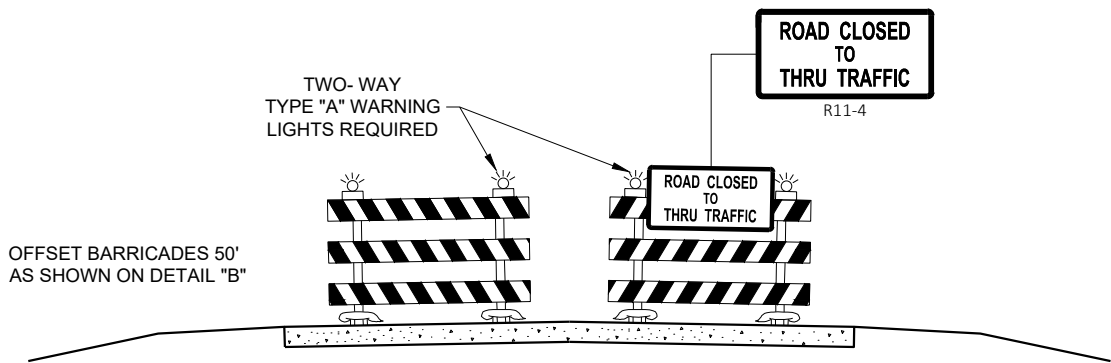
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER

FHWA



DETAIL D
ROAD CLOSURE BARRICADE DETAIL
APPROACH VIEW



DETAIL E
LANE CLOSURE BARRICADE DETAIL
APPROACH VIEW

SEE SDD 15C2 - SHEET "a" FOR LEGEND

GENERAL NOTES

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

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE", SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

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

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

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

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

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

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"

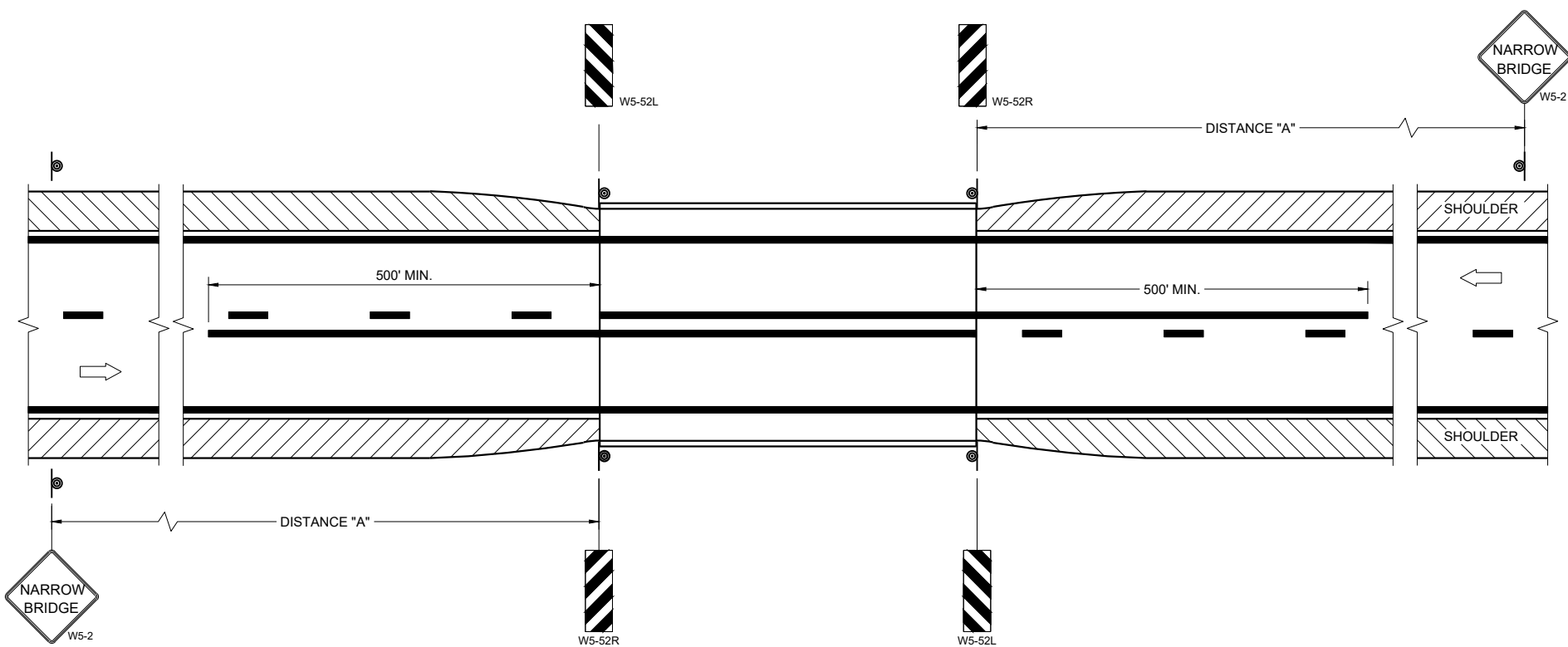
- ① TWO WARNING LIGHTS SHALL BE PROVIDED ON THE CENTER BARRICADE AND A MINIMUM OF ONE WARNING LIGHT SHALL BE PROVIDED ON EACH OF THE OTHER BARRICADES WITHIN THE ROADWAY LIMITS. SPACING OF THE WARNING LIGHTS SHALL BE UNIFORM TO THE EDGE OF ROADWAY AS SHOWN (APPROX. 8 FOOT LIGHT SPACING).
- ② THESE SIGNS 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

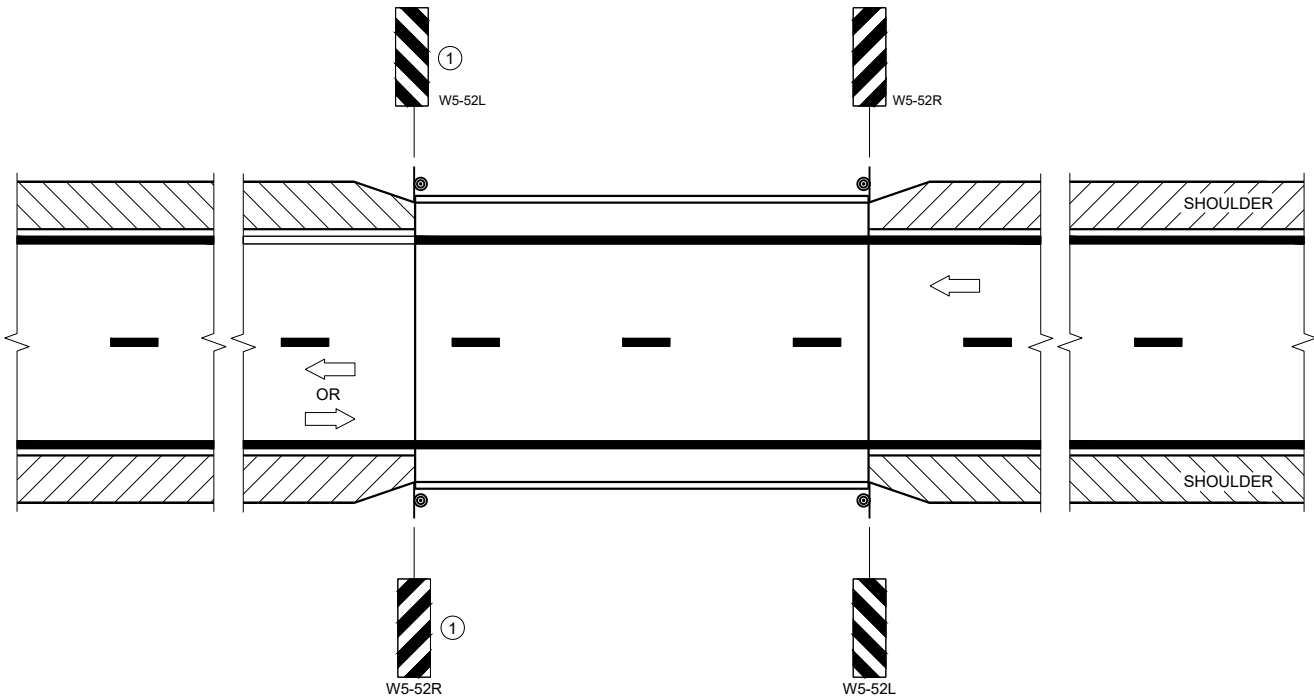
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER

FHWA



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



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

GENERAL NOTES

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

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

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

ON BRIDGE ONLY PROJECTS, PLACE 300 FEET OF EDGELINE.

OMIT EDGELINES ON ROADWAYS WITHOUT EXISTING EDGELINES.

① OMIT ON ONE-WAY TRAVELED WAYS.

LEGEND

⊙ SIGN ON PERMANENT SUPPORT

➡ DIRECTION OF TRAFFIC

DISTANCE TABLE

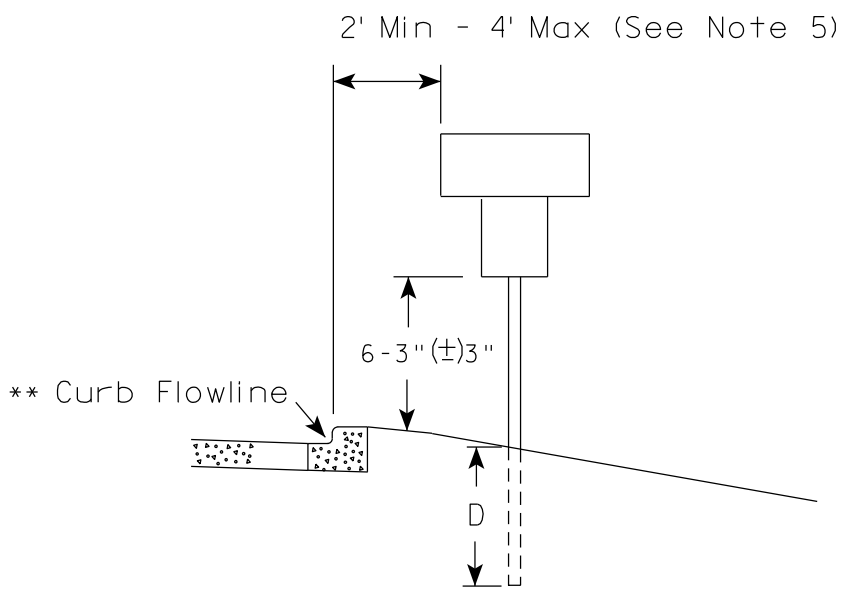
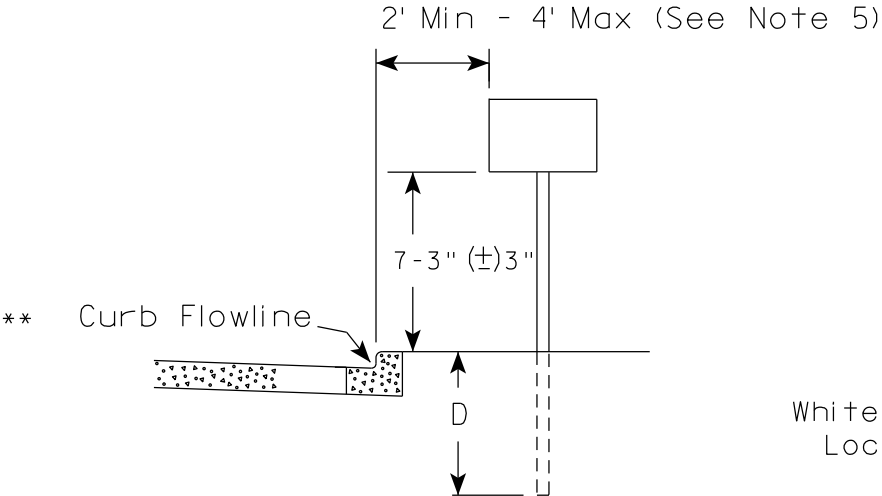
POSTED OR 85TH PERCENTILE SPEED	DISTANCE "A"
25	150'
30	200'
35	250'
40	300'
45	400'
50	550'
55	700'

**SIGNING AND MARKING
FOR TWO LANE BRIDGES**

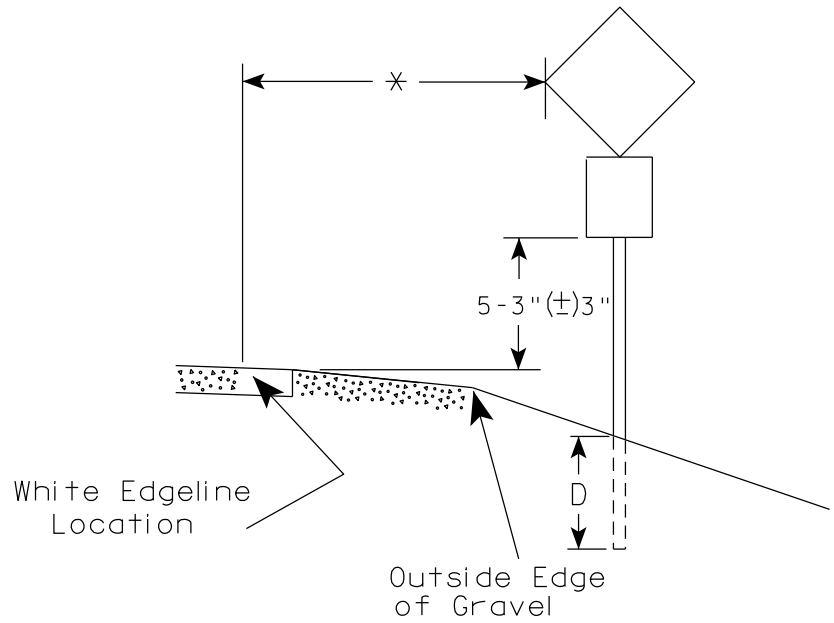
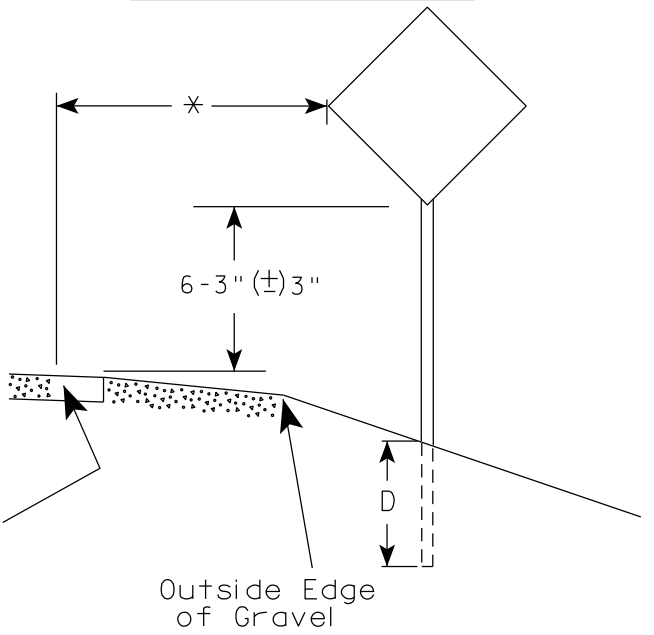
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023 /S/ Jeannie Silver
DATE Statewide Pavement Marking Engineer
FHWA

URBAN AREA



RURAL AREA (See Note 2)



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" (±) 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".
3. For expressways and freeways, mounting height is 7'- 3" (±) 3" or 6'-3" (±) 3" depending upon existence of a sub-sign.
4. Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±) 3".
5. Offset distance shall be consistent with existing signs or consistent throughout length of project.
6. Folding signs shall be mounted at a height of 5'-3" (±) 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.

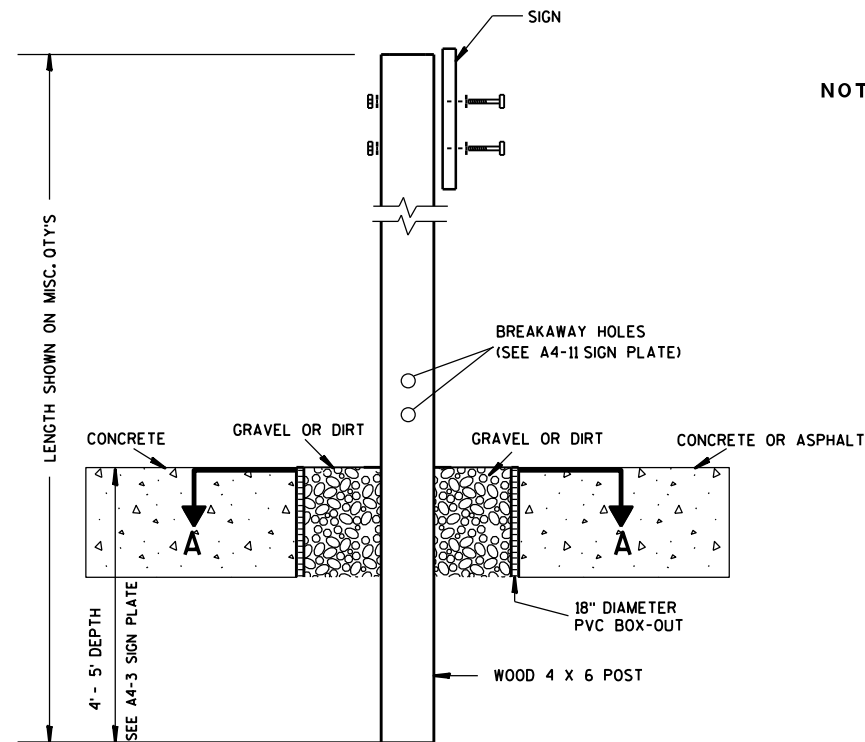
* 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.

TYPICAL INSTALLATION
OF PERMANENT TYPE II
SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED 
for State Traffic Engineer

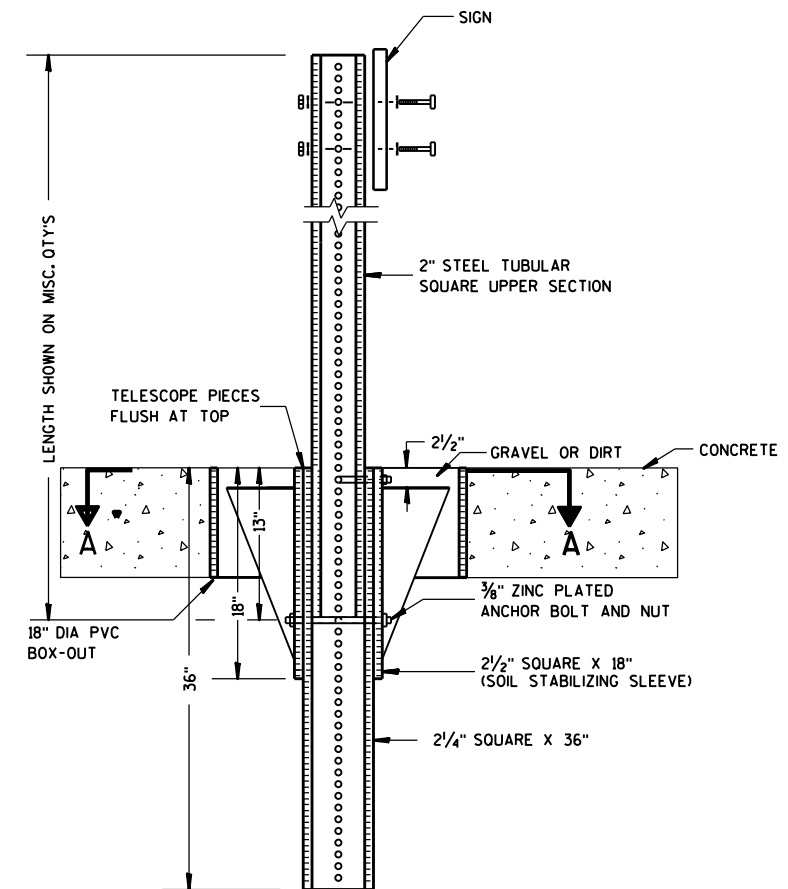
DATE 12/6/23 PLATE NO. A4-3.23



ELEVATION VIEW

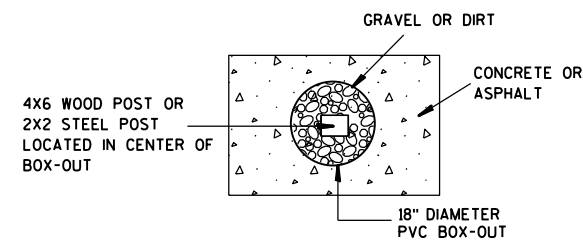
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

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



ELEVATION VIEW

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



PLAN VIEW

FOR NEW CONCRETE/ASPHALT INSTALLATIONS

SIGN POST
BOX-OUTS
A4-3B

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

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

PROJECT NO:

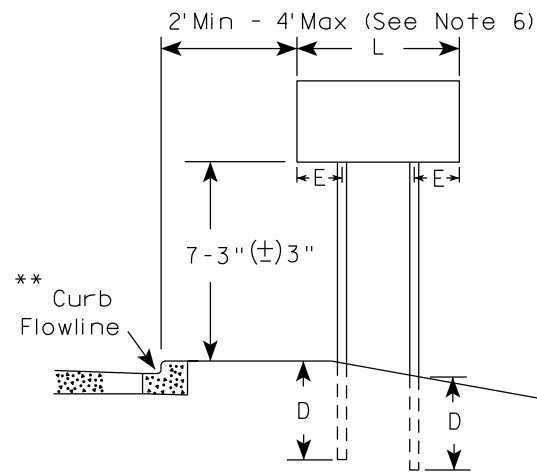
HWY:

COUNTY:

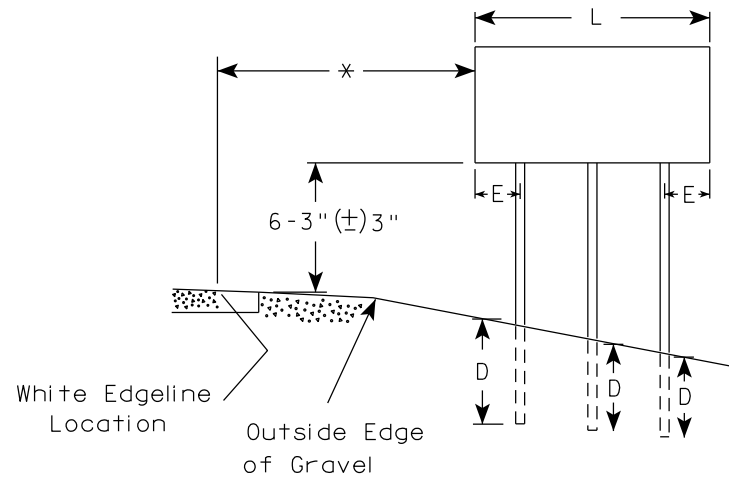
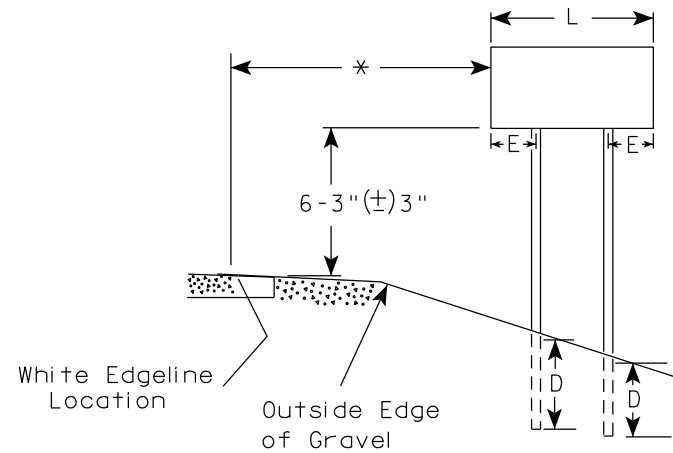
SHEET NO:

E

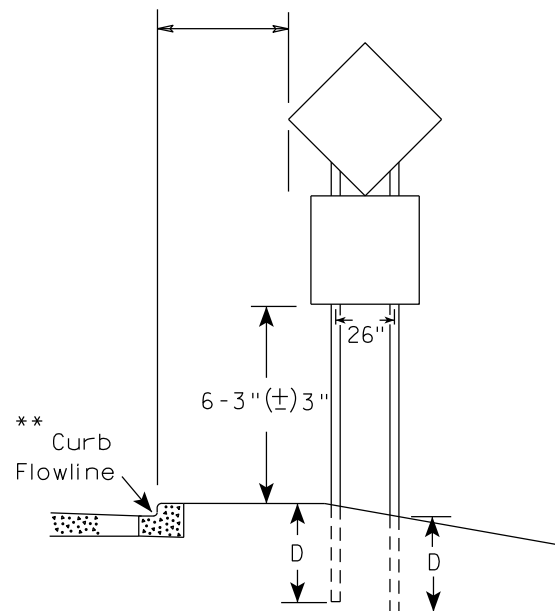
URBAN AREA



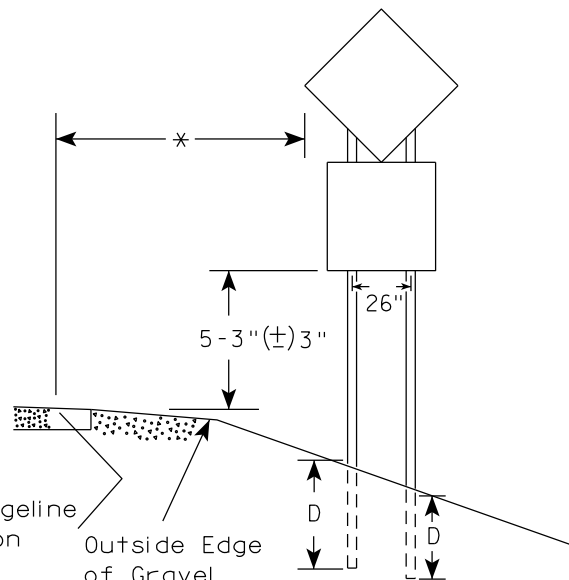
RURAL AREA (See Note 3)



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



48" DIAMOND WARNING SIGN



48" DIAMOND WARNING SIGN

GENERAL NOTES

1. For 3 or 4 post installations, individual post spacing shall be greater than 3'-6".
2. See tables below for required number of posts.
3. For expressways and freeways, mounting height is 7'-3" (±) 3" or 6'-3" (±) 3" depending upon existence of sub-sign.
4. The (±) tolerance for mounting height is 3 inches.
5. J-Assemblies are considered to be one sign for mounting height.
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. Folding signs shall be mounted at a height of 5'-3" (±) 3" or as directed by the engineer.
8. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±) 3". The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4'-3" (±) 3".

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

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

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

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

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

POST EMBEDMENT DEPTH

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

TYPICAL INSTALLATION
OF TYPE II SIGNS
ON MULTIPLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

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

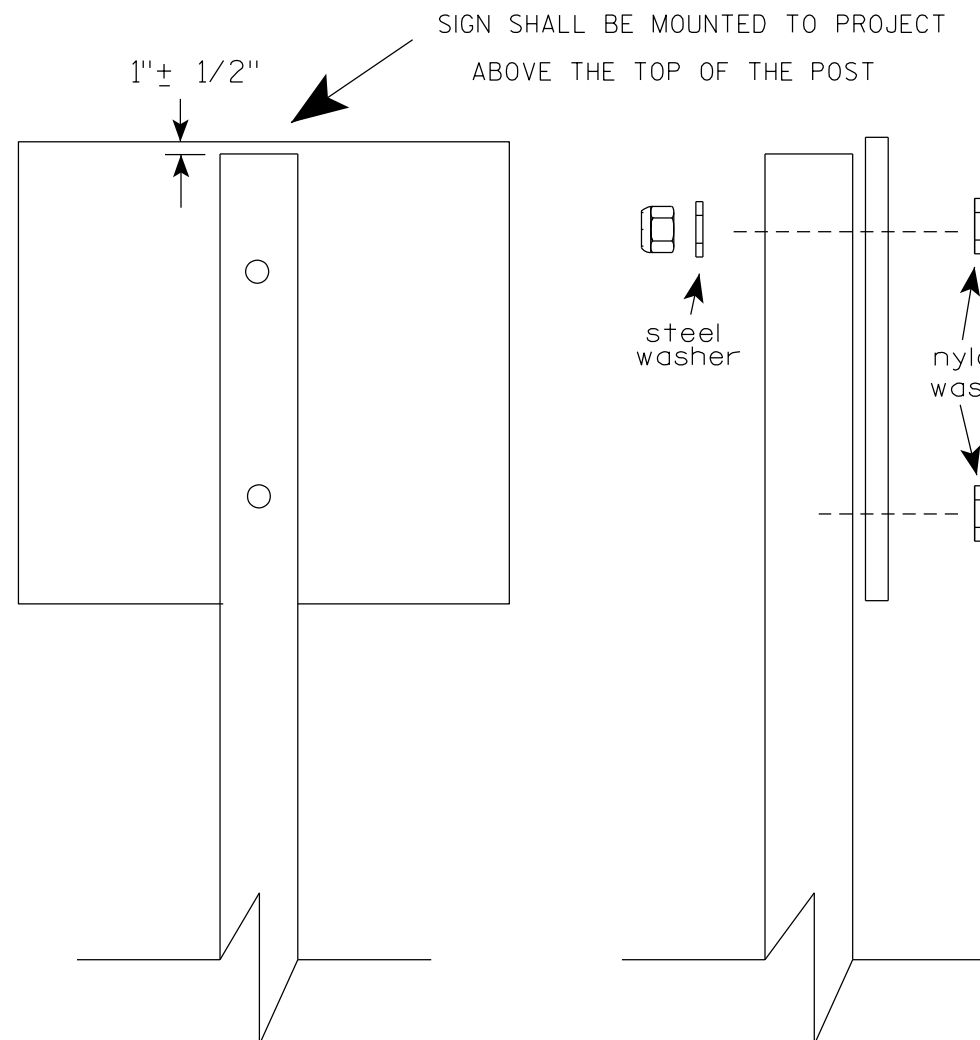
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E



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

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

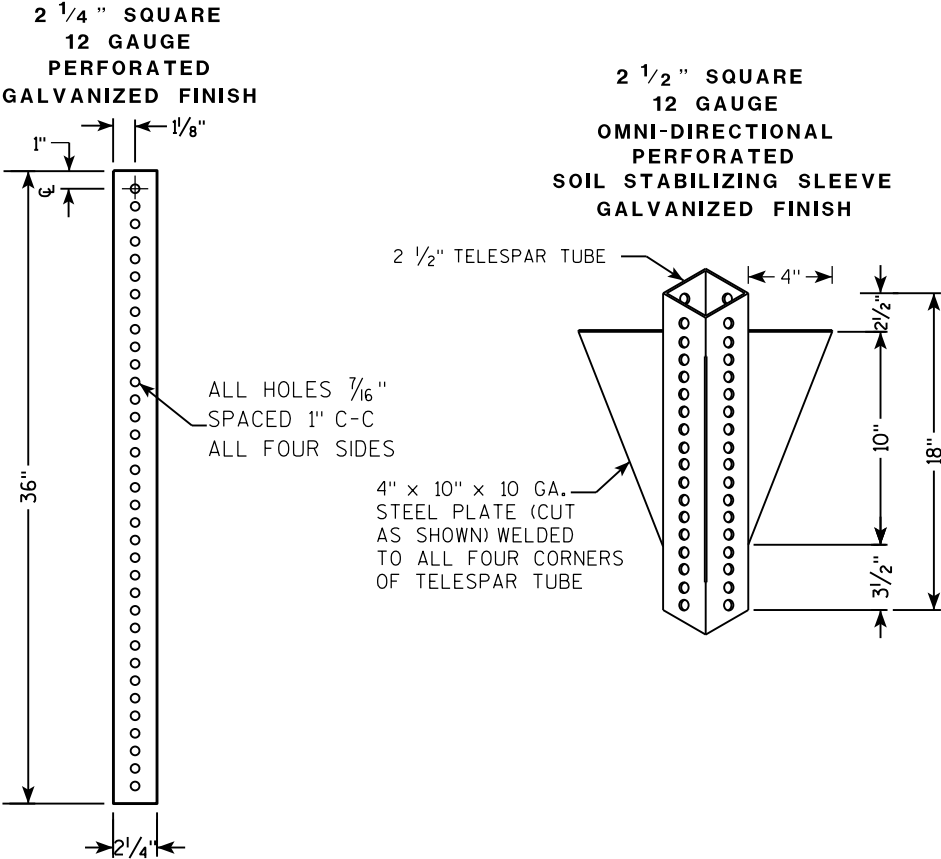
Threads on bolts and nuts shall be manufactured with sufficient allowance for the cadmium plate or galvanized coating to permit the nuts to run freely on the bolts.

- STRINGER BOLTING TO ALUMINUM SIGNS (SEE SIGN PLATE A4-18)
- MACHINE BOLTS - $\frac{5}{16}$ " X 1-3/4" Length w/ lock nuts
- WOOD POSTS (4" x 6")
- LAG SCREWS - $\frac{3}{8}$ " X 3" (NO STRINGERS ON BACK OF SIGN)
 $\frac{3}{8}$ " X 4" (STRINGERS ON BACK OF SIGN)
- SQUARE STEEL POSTS (2" x 2")
- MACHINE BOLTS - $\frac{3}{8}$ " X 3-1/4" Length w/ nuts (NO STRINGER ON BACK OF SIGN)
 $\frac{3}{8}$ " X 5" Length w/ nuts (STRINGERS ON BACK OF SIGN)
- RIVETS - $\frac{9}{32}$ " (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL
O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH
- WASHERS (ALL POSTS) -
- 1-1/4" O.D. X $\frac{3}{8}$ " I.D. X $\frac{1}{16}$ " STEEL
- 1-1/4" O.D. X $\frac{3}{8}$ " I.D. X .080 NYLON

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

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

TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM



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



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



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

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

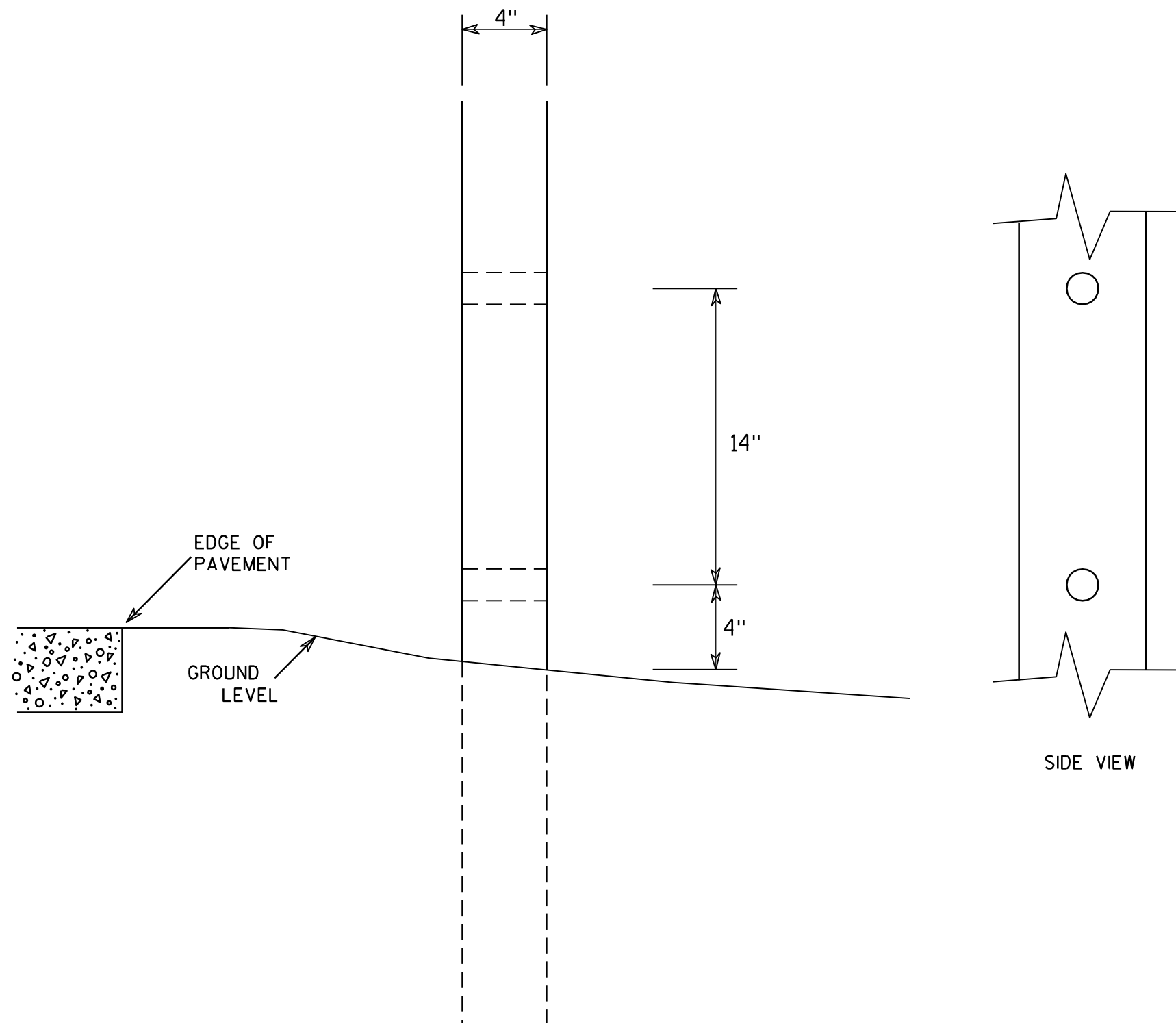
TUBULAR STEEL
SIGN POST
A4-9

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

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

7



GENERAL NOTES

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

7

4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

Chester J. Spang
for State Traffic Engineer

DATE 3/27/97

PLATE NO. A4-11.2

PROJECT NO:

HWY:

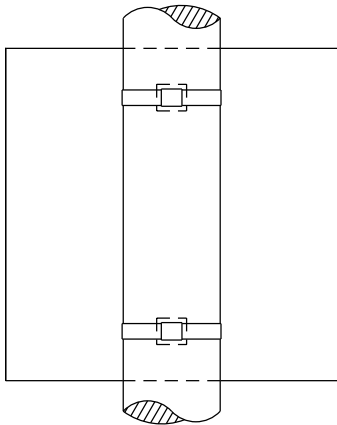
COUNTY:

SHEET NO:

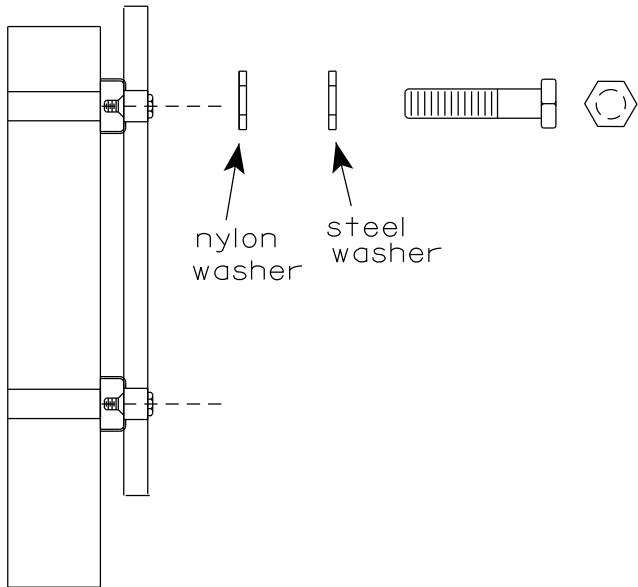
E

BANDING

SINGLE SIGN



WASHER PLACEMENT

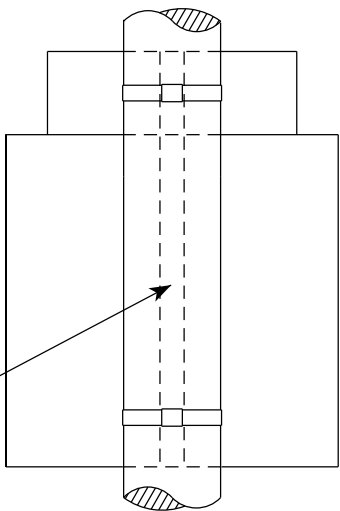


WASHERS (ALL POSTS) -
1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON
FOR ALL TYPE H SIGNS

GENERAL NOTES

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

"J" ASSEMBLY



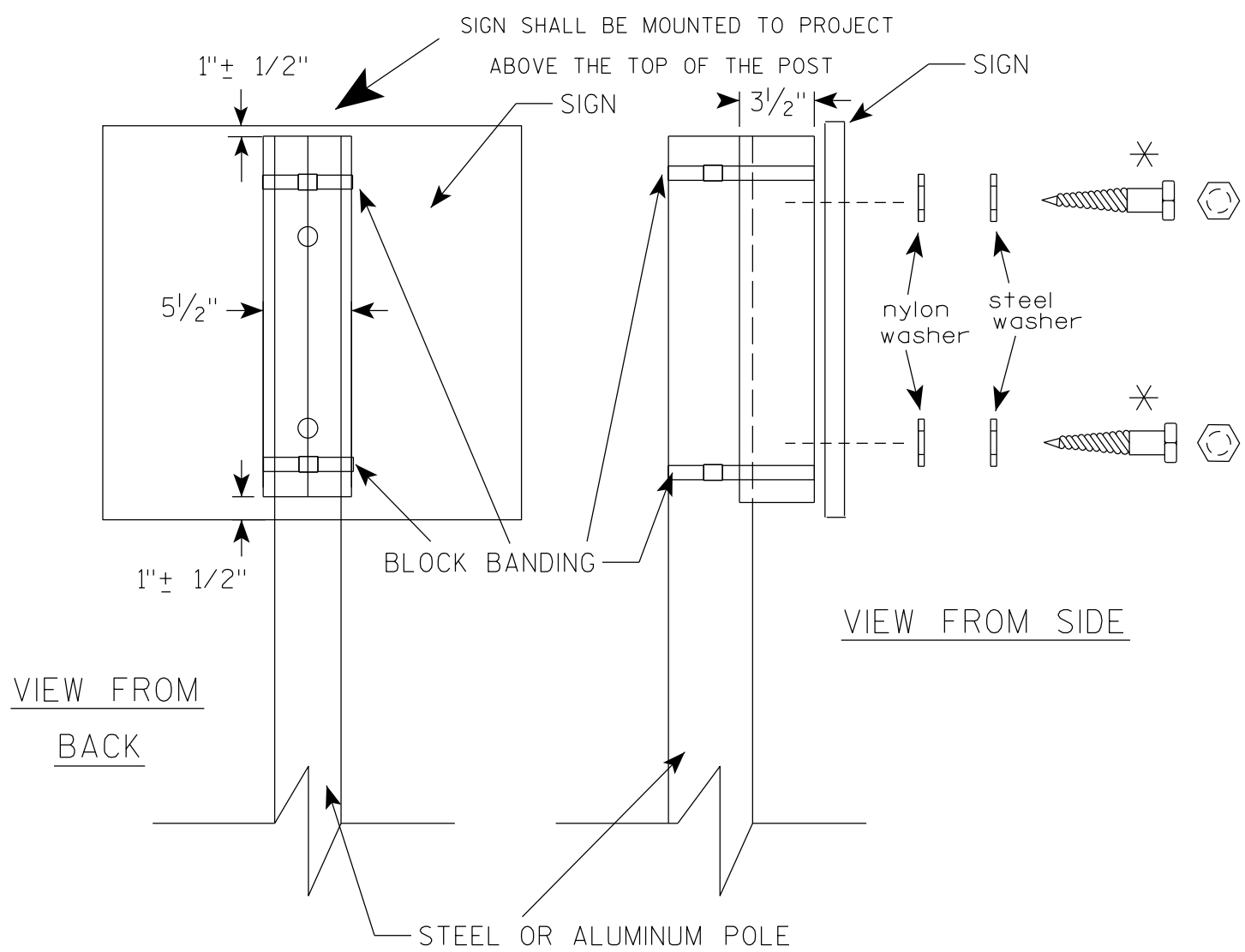
SEE DETAIL B

STANDARD SIGN
SIGN BANDING DETAILS

WISCONSIN DEPT OF TRANSPORTATION

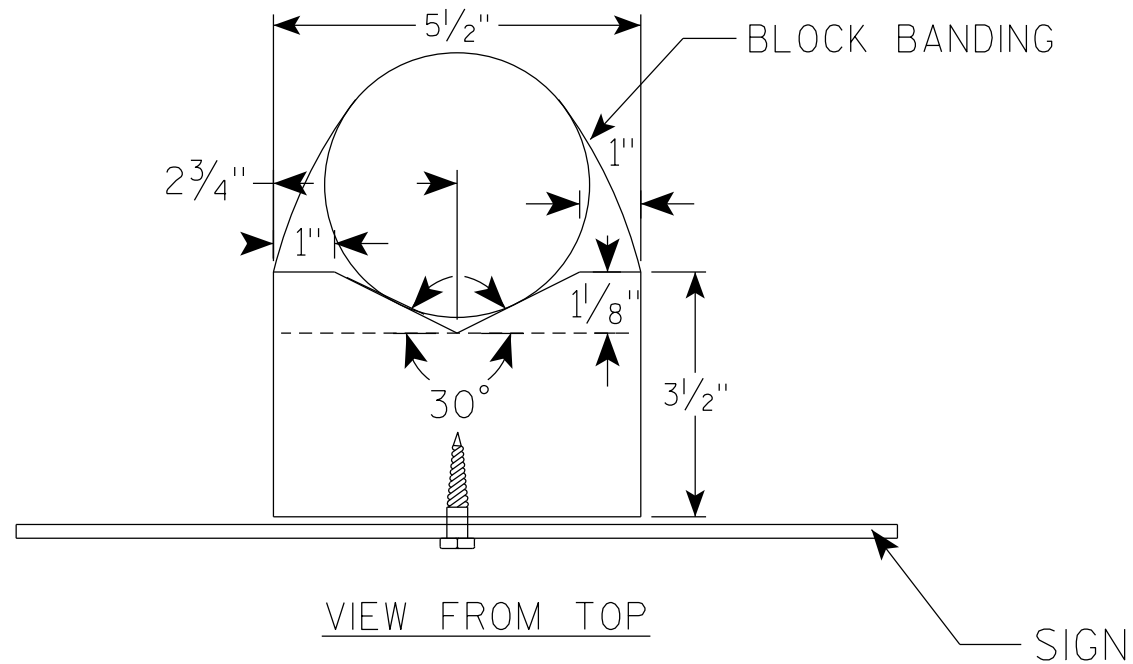
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 6/10/19 PLATE NO. A5-9.4



VIEW FROM
BACK

VIEW FROM SIDE



VIEW FROM TOP

GENERAL NOTES

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

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

BLOCK BANDING DETAIL
(V-BLOCK OPTION)

WISCONSIN DEPT OF TRANSPORTATION

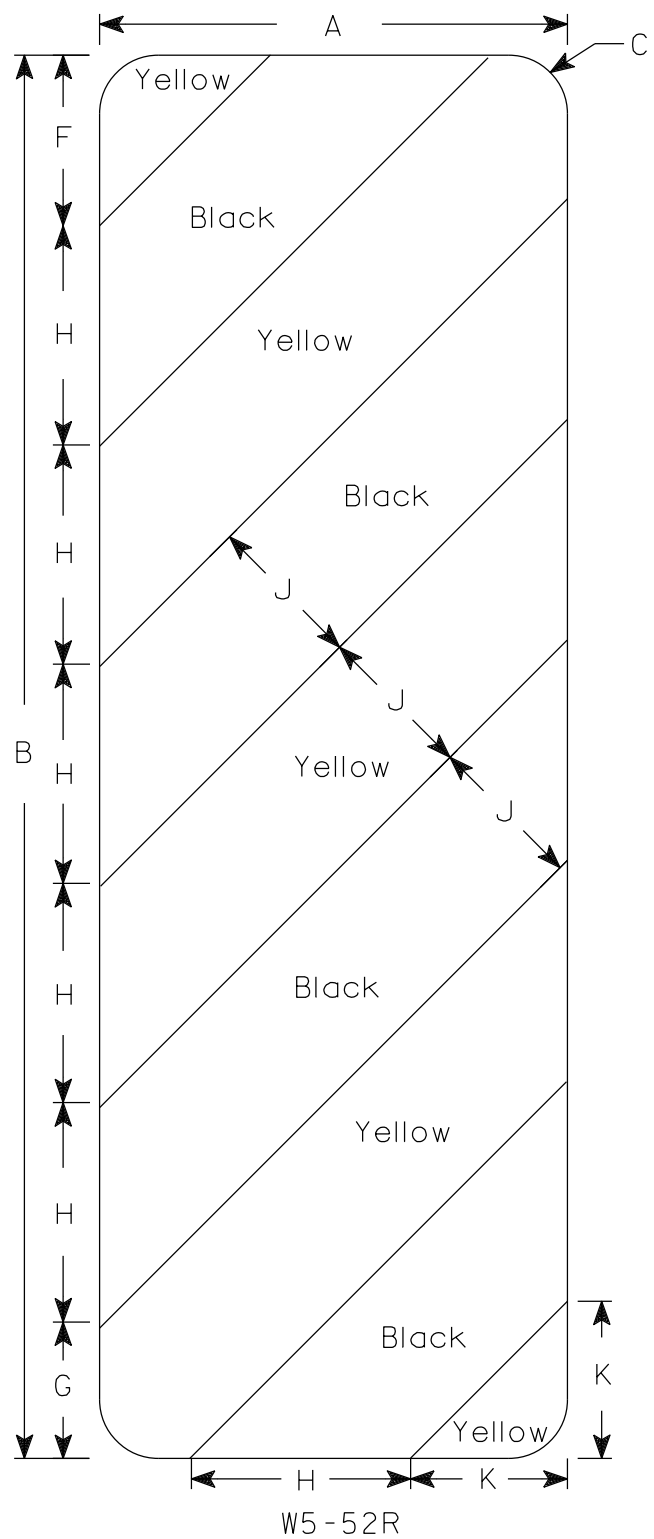
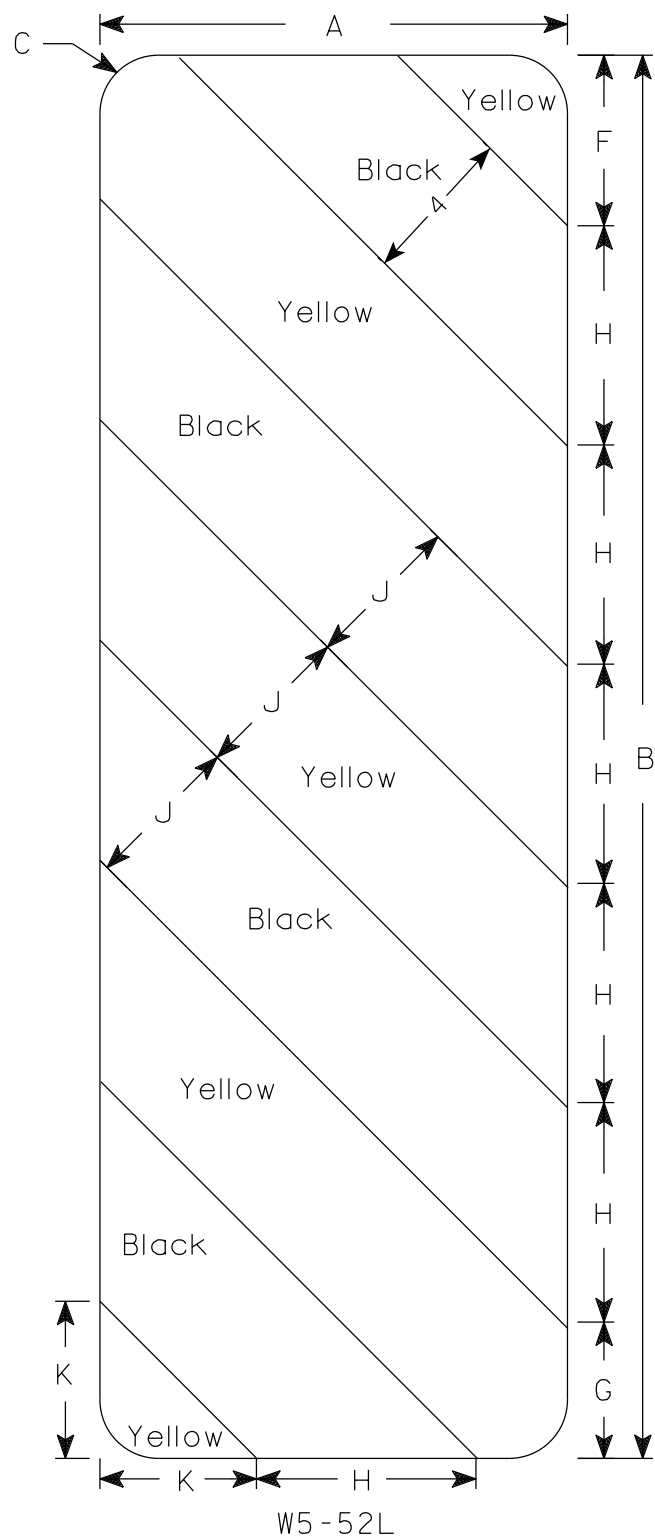
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

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

PROJECT NO:

SHEET NO:

E



NOTES

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

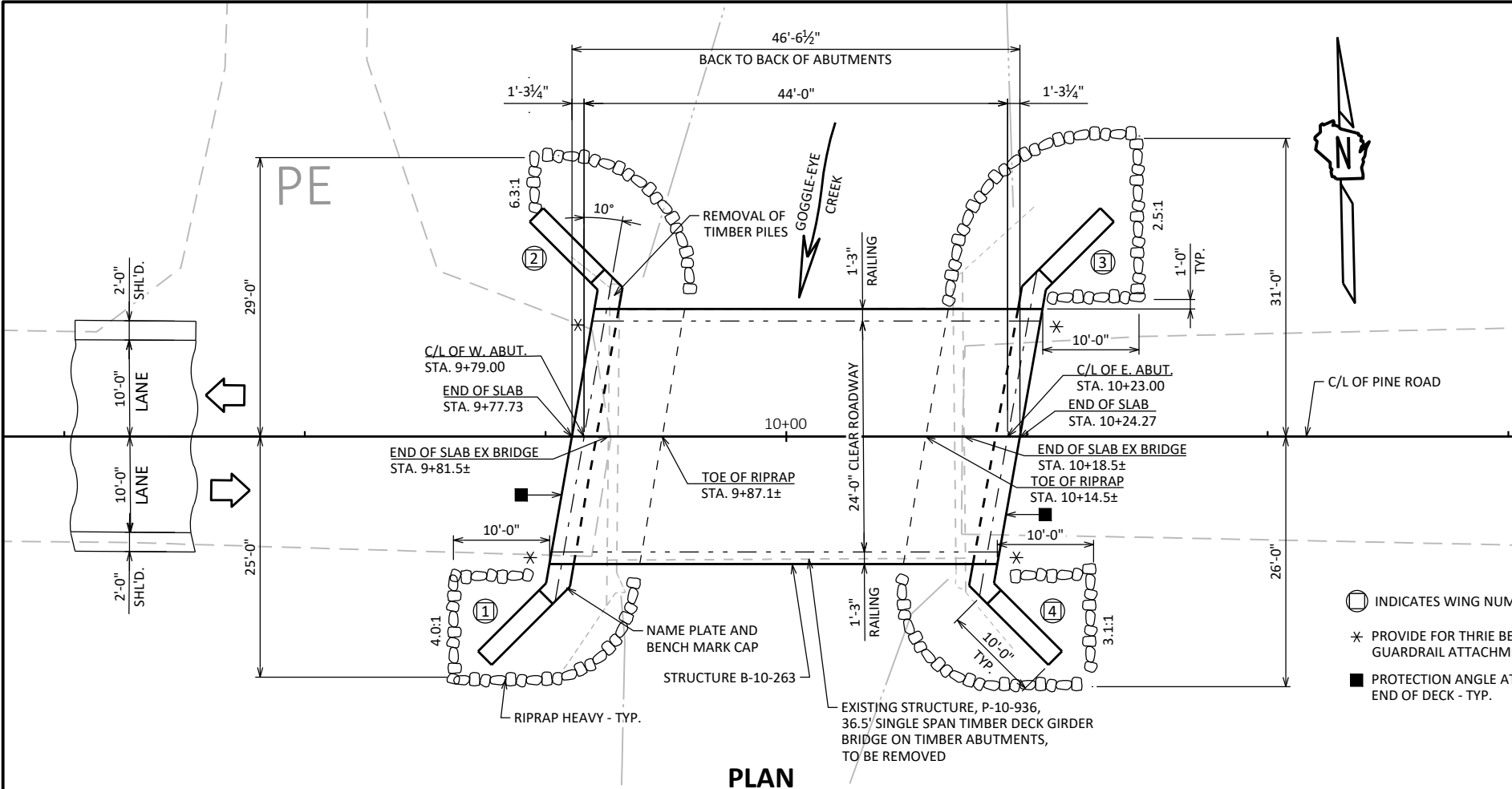
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	12	36	1 1/2			4 3/8	3 1/2	5 5/8	45°	4	4																3.0
2M	12	36	1 1/2			4 3/8	3 1/2	5 5/8	45°	4	4																3.0
3	18	54	1 1/2			6	5 1/2	8 1/2	45°	6	6 9/16																6.75
4													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

STANDARD SIGN
W5-52L & W5-52R

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer

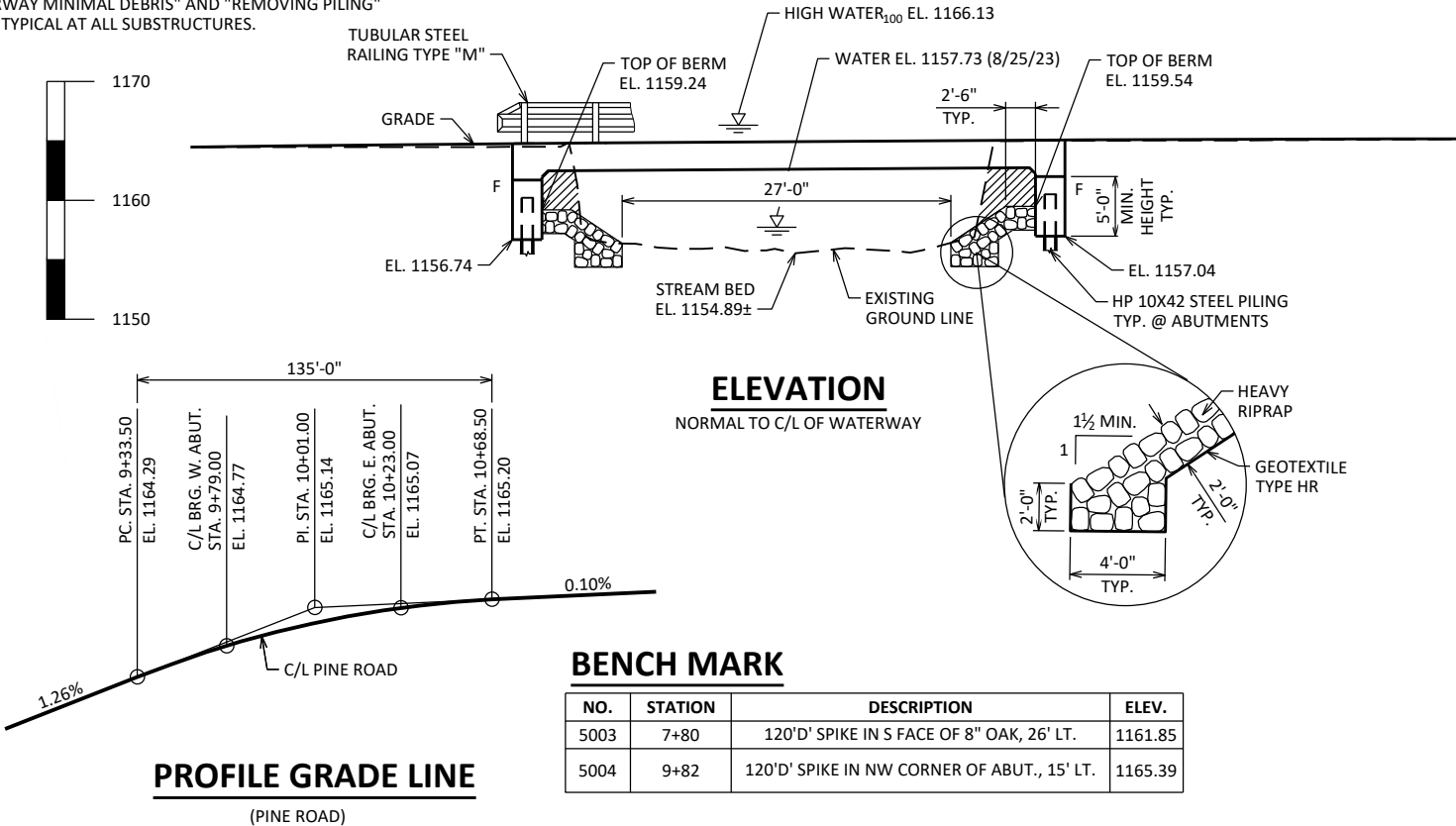
DATE 3/4/2024 PLATE NO. W5-52.10



SINGLE SPAN CONCRETE FLAT SLAB BRIDGE

COST OF EXCAVATION OR FILL IN THE HATCHED AREAS SHALL BE INCLUDED IN THE CONTRACT PRICE FOR "EXCAVATION FOR STRUCTURES BRIDGES B-10-263".

REMOVE EXISTING STRUCTURE AS NEEDED. COST INCLUDED IN "REMOVING STRUCTURE OVER WATERWAY MINIMAL DEBRIS" AND "REMOVING PILING" ITEMS. TYPICAL AT ALL SUBSTRUCTURES.



DESIGN DATA

LIVE LOAD:

DESIGN LOADING: HL-93
INVENTORY RATING: 1.05
OPERATING RATING: 1.36
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV): 250 (KIPS)

STRUCTURE IS DESIGNED FOR A FUTURE WEARING SURFACE OF 20 POUNDS PER SQUARE FOOT.

MATERIAL PROPERTIES:

CONCRETE MASONRY: _____ $f_c = 4,000$ PSI
SUPERSTRUCTURE _____ $f_c = 3,500$ PSI
ALL OTHER _____

BAR STEEL REINFORCEMENT
GRADE 60 _____ $f_y = 60,000$ PSI

FOUNDATION DATA

ABUTMENTS TO BE SUPPORTED ON 10x42 STEEL PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 180 TONS ** PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA.

ESTIMATED 25'-0" LONG AT WEST ABUTMENT.
ESTIMATED 25'-0" LONG AT EAST ABUTMENT.

**THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS THE REQUIRED DRIVING RESISTANCE MULTIPLIED BY A RESISTANCE FACTOR OF 0.5 USING MODIFIED GATES TO DETERMINE PILE CAPACITY.

HYDRAULIC DATA

100-YEAR FREQUENCY:

$Q_{100} = 2,900$ C.F.S.
 $Q_{BRIDGE} = 1,884$ C.F.S.
 $Q_{ROADWAY} = 1,016$ C.F.S.

$V_{100} = 9.2$ F.P.S.
 $HW_{100} = EL. 1166.13$
WATERWAY AREA = 205 SQ. FT.
DRAINAGE AREA = 7.15 SQ. MI.
SCOUR CRITICAL CODE = 5

ROADWAY OVERTOPPING

FREQUENCY = 10 YEARS
 $Q = 1620$ C.F.S.
HW. = EL. 1163.61

2-YEAR FREQUENCY:

$Q_2 = 690$ C.F.S.
 $V_2 = 4.3$ F.P.S.
 $HW_2 = EL. 1162.01$

TRAFFIC DATA

FEATURE ON:

ADT = <100 (2025)
ADT = <100 (2045)
R.D.S. = 45 MPH

LIST OF DRAWINGS:

- GENERAL PLAN
- QUANTITIES AND NOTES
- GENERAL DETAILS
- SUBSURFACE EXPLORATION
- WEST ABUTMENT
- WEST ABUTMENT WING DETAILS
- WEST ABUTMENT DETAILS AND BILL OF BARS
- EAST ABUTMENT
- EAST ABUTMENT WING DETAILS
- EAST ABUTMENT DETAILS AND BILL OF BARS
- SUPERSTRUCTURE
- SUPERSTRUCTURE PLAN
- TUBULAR STEEL RAILING TYPE "M"



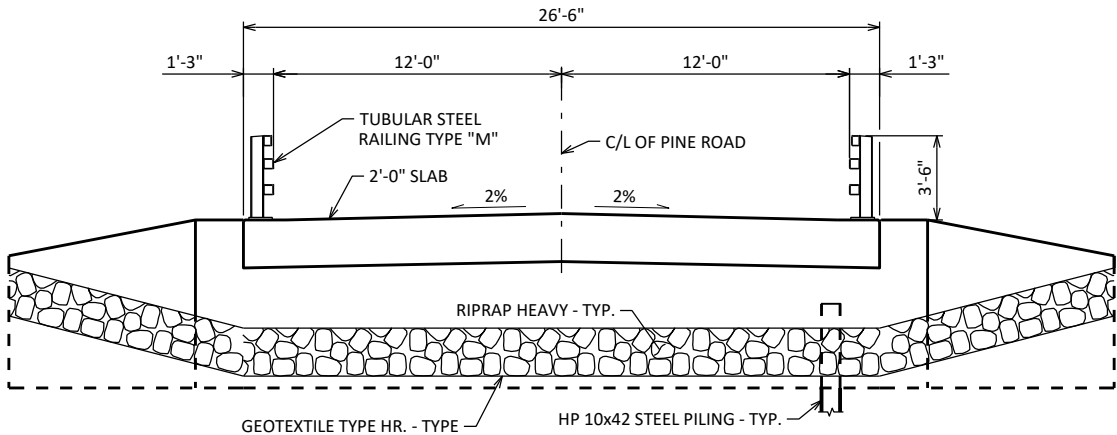
10/30/2024

STRUCTURE DESIGN CONTACTS:
AARON BONK 608-261-0261
DANIEL SYDOW 715-834-3161

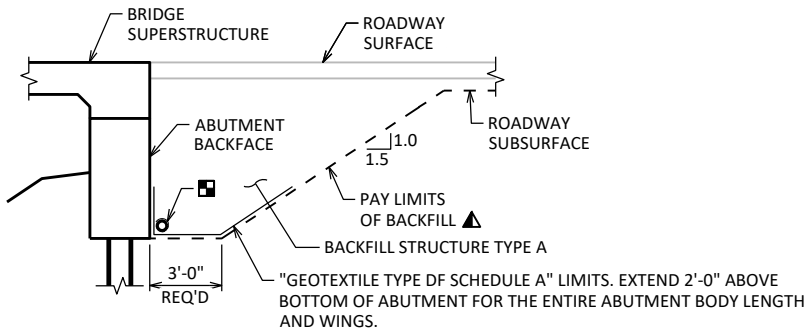
NO.	DATE	REVISION	BY
ORIGINAL PLANS PREPARED BY			
AYRES 3433 Oakwood Hills Parkway Eau Claire, WI 54701 www.AyresAssociates.com			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
ACCEPTED	<i>[Signature]</i> SDR	12/04/24	DATE
CHIEF STRUCTURES DESIGN ENGINEER			
STRUCTURE B-10-263			
PINE ROAD OVER GOGGLE-EYE CREEK			
COUNTY	CLARK	TOWN	THORP
DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPECIFICATION			
DESIGNED BY	NBE	DESIGNED CK'D	ZSS
DRAWN BY	JMC	PLANS CK'D	DNS
GENERAL PLAN			SHEET 1 OF 13

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	SUPER	W ABUT.	E ABUT.	TOTALS
203.0260	REMOVING STRUCTURE OVER WATERWAY MINIMAL DEBRIS (P-10-936)	EACH	---	---	---	1
206.1001	EXCAVATION FOR STRUCTURES BRIDGES B-10-263	EACH	---	---	---	1
210.1500	BACKFILL STRUCTURE TYPE A	TON	---	165	165	330
502.0100	CONCRETE MASONRY BRIDGES	CY	96	27	27	150
502.3200	PROTECTIVE SURFACE TREATMENT	SY	165	15	15	195
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	---	2,070	2,070	4,140
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	16,970	1,530	1,530	20,030
506.0105	STRUCTURAL STEEL CARBON	LB	500	---	---	500
513.4061	RAILING TUBULAR TYPE M	LF	97.7	---	---	97.7
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	---	7	7	14
550.1100	PILING STEEL HP 10-INCH X 42 LB	LF	--	150	150	300
606.0300	RIPRAP HEAVY	CY	---	55	60	115
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	---	80	80	160
645.0111	GEOTEXTILE TYPE DF SCHEDULE A	SY	---	50	50	100
645.0120	GEOTEXTILE TYPE HR	SY	---	100	110	210
SPV.0090.01	REMOVE EXISTING TIMBER PILES	LF	---	50	25	75
	NON-BID ITEMS					
	FILLER	SIZE	---	---	---	$\frac{1}{2}"$, $\frac{3}{4}"$



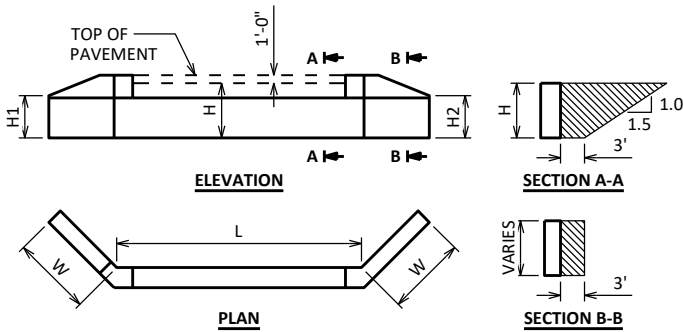
TYPICAL SECTION THRU BRIDGE



TYPICAL SECTION THRU ABUTMENT

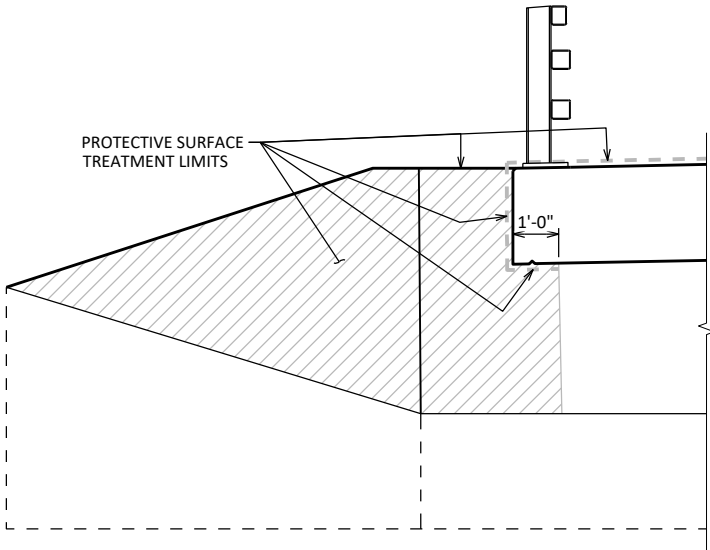
▲ BACKFILL PAY LIMITS. BACKFILL BEYOND PAY LIMITS SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES. LIMITS OF EXCAVATION SHALL BE DETERMINED BY THE CONTRACTOR.

▣ PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN.



ABUTMENT BACKFILL DIAGRAM

L = ABUTMENT BODY LENGTH AT BACKFACE (FT)
H = AVERAGE ABUTMENT FILL HEIGHT (FT)
H1 = WING 1 HEIGHT AT TIP (FT)
H2 = WING 2 HEIGHT AT TIP (FT)
W = WING LENGTH (FT)
EF = EXPANSION FACTOR (1.20 FOR CY BID ITEMS AND 1.00 FOR TON BID ITEMS)
 $V_{CF} = (L)(3.0')(H) + (L)(0.5)(1.5H)(H) + (3')(0.5)(H1+H2+H+H)(W)$
 $V_{CY} = V_{CF}(EF)/27$
 $V_{TON} = V_{CY}(2.0)$



PROTECTIVE SURFACE TREATMENT DETAIL

STATE PROJECT NUMBER

8884-00-72

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.

BEVEL EXPOSED EDGES OF CONCRETE $\frac{3}{4}"$ UNLESS OTHERWISE NOTED.

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 THE ABUTMENT DETAILS.

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

THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES BRIDGES B-10-263 SHALL BE THE EXISTING GROUNDLINE.

PROTECTIVE SURFACE TREATMENT TO BE APPLIED AS SHOWN IN DETAIL ON THIS SHEET AND APPLY TO THE TOP AND EXTERIOR EXPOSED FACE OF WINGS, AND THE END 1'-0" OF THE FRONT FACE OF ABUTMENTS.

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

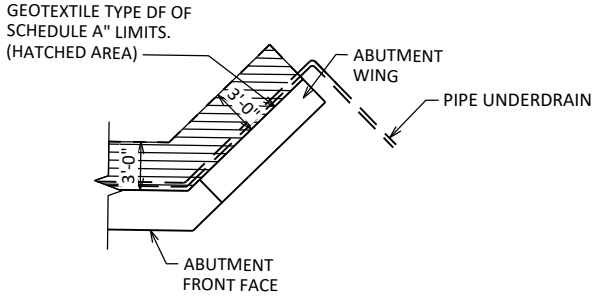
AT THE BACK FACE OF ABUTMENT ALL VOLUME WHICH CANNOT BE PLACED BEFORE ABUTMENT CONSTRUCTION AND IS NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH STRUCTURE BACKFILL TYPE A.

EXISTING SUBSTRUCTURE LOCATIONS ARE BASED ON SURVEY. EXTENT OF BELOW GRADE SUBSTRUCTURE ARE NOT KNOWN. REMOVE EXISTING SUBSTRUCTURE AS NEEDED TO BUILD NEW SUBSTRUCTURE. COST OF SUBSTRUCTURE REMOVAL IS CONSIDERED INCIDENTAL TO "REMOVING STRUCTURE OVER WATERWAY WITH MINIMAL DEBRIS" AND "REMOVING PILING" ITEMS.

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.

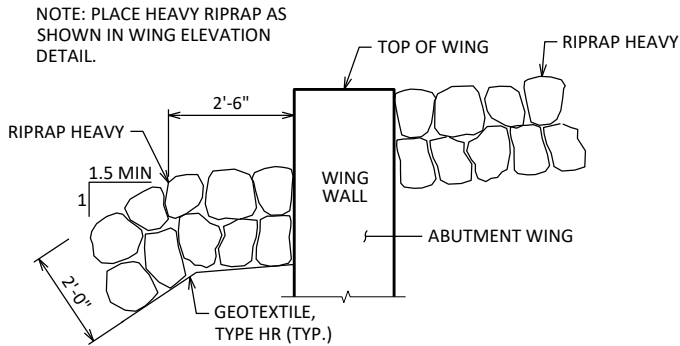
THE BACKFILL QUANTITIES ARE BASED ON THE PAY LIMITS SHOWN ON THE PLAN AND MAY NOT REFLECT ACTUAL PLACED QUANTITIES. "BACKFILL STRUCTURE TYPE A" REQUIRED DIRECTLY BEHIND ABUTMENTS AND ABUTMENT WINGS FOR 3 FEET. BACKFILL PLACED BEYOND PAY LIMITS OR EXCEEDING PLAN QUANTITIES SHALL BE INCIDENTAL TO EXCAVATION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

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-10-263			
	DRAWN BY	JMC	PLANS CK'D NBE
QUANTITIES AND NOTES		SHEET 2 OF 13	

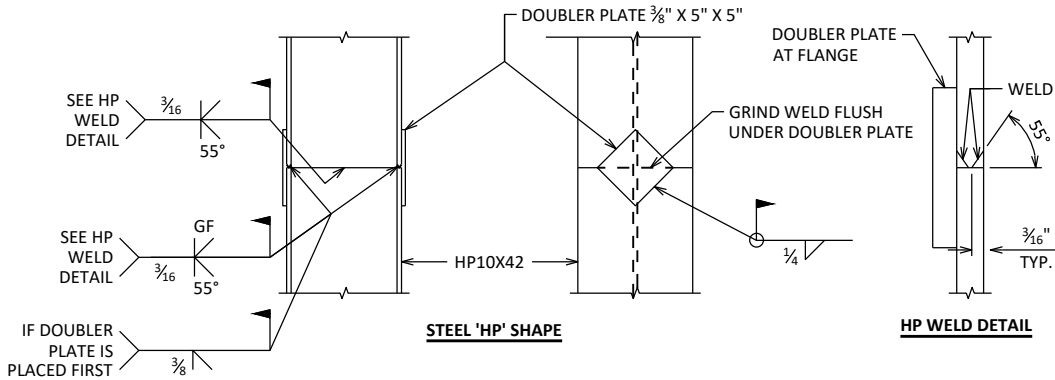


BACKFILL STRUCTURE LIMITS

ABUTMENT PLAN WITH WING

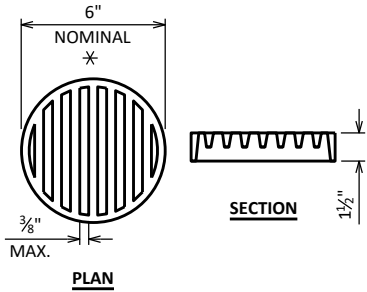


TYPICAL FILL SECTION AT WING



'HP' PILE DETAILS

FLANGE SHOWN, WEB SIMILAR

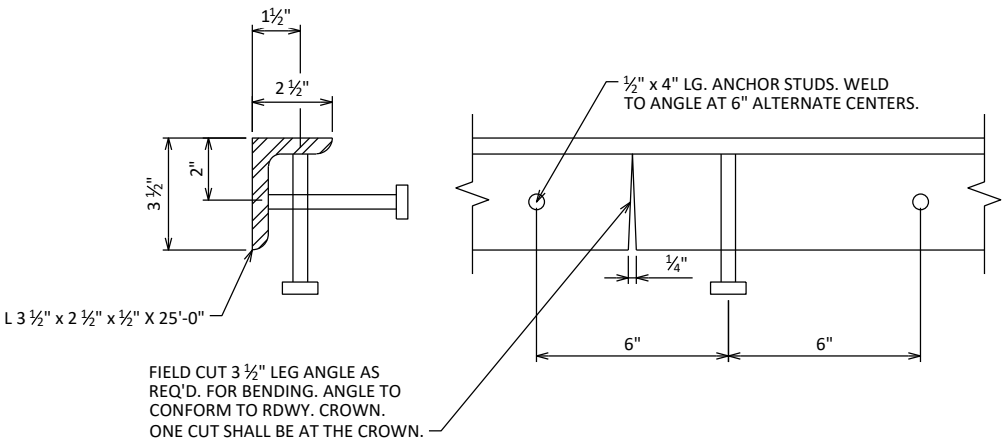


RODENT SHIELD DETAIL

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



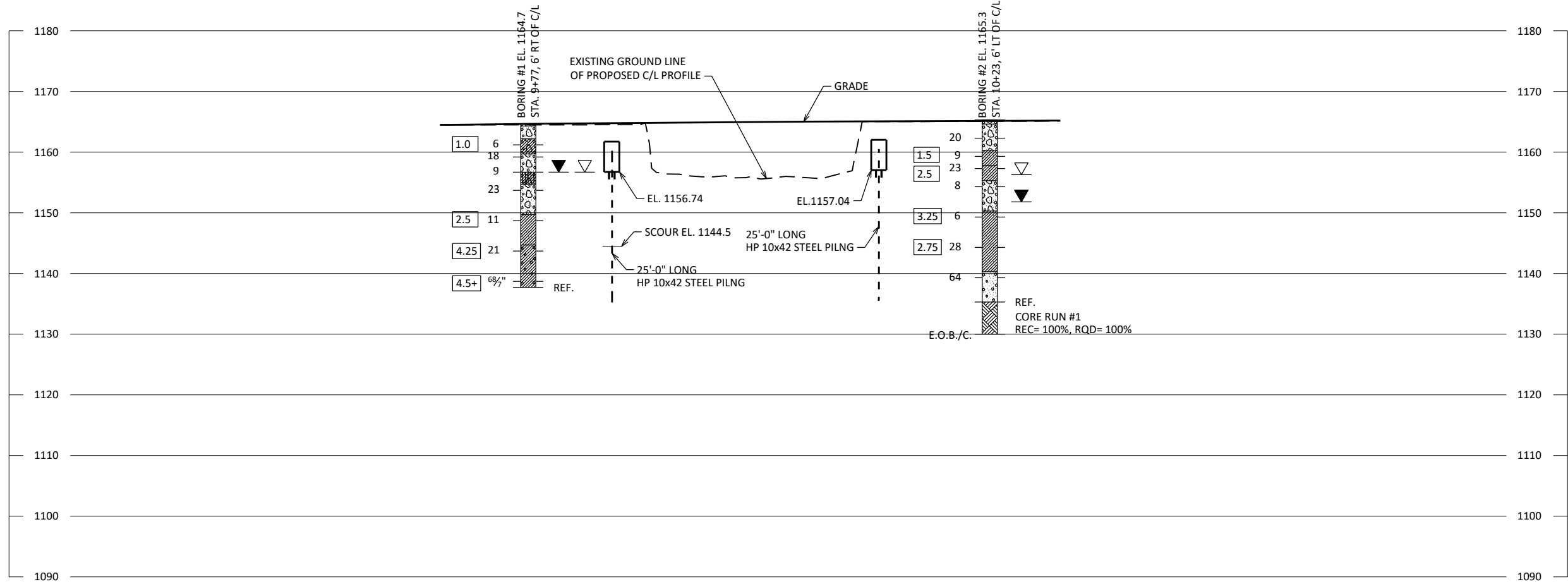
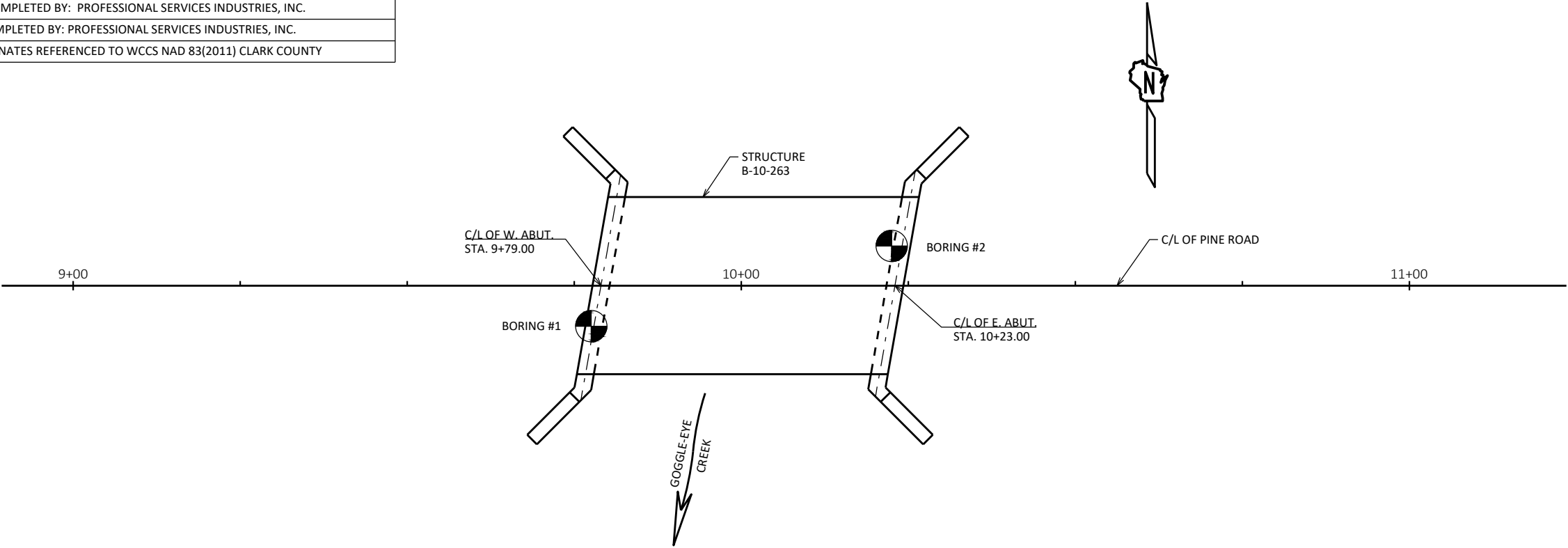
PROTECTION ANGLE DETAIL

(ANGLE AND STUDS TO BE PAID FOR AT THE UNIT PRICE BID FOR "STRUCTURAL STEEL CARBON". (NO PAINT REQ'D.)

SANDBLAST PROTECTION ANGLE AFTER FABRICATION IN ACCORDANCE WITH SSPC SP. #6 "COMMERCIAL BLAST CLEANING" AFTER BLAST CLEANING. THE PROTECTION ANGLE SHALL BE HOT DIPPED GALVANIZED.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-10-263			
DRAWN BY JMC		PLANS CK'D NBE	
GENERAL DETAILS		SHEET 3 OF 13	

BORING #	DATE COMPLETED	NORTHING (Y)	EASTING (X)
1	NOVEMBER 28, 2023	500768.53	629266.05
2	NOVEMBER 28, 2023	500780.56	629311.05
BORINGS COMPLETED BY: PROFESSIONAL SERVICES INDUSTRIES, INC.			
REPORT COMPLETED BY: PROFESSIONAL SERVICES INDUSTRIES, INC.			
ALL COORDINATES REFERENCED TO WCCS NAD 83(2011) CLARK COUNTY			



STATE PROJECT NUMBER

8884-00-72

MATERIAL SYMBOLS

ASPHALT

CONCRETE

SAND

BOULDERS OR COBBLES

SHALE

TOPSOIL

FILL

CLAY

LIMESTONE

SANDSTONE

PEAT

GRAVEL

SILT

BEDROCK (UNKNOWN)

IGNEOUS/META

LEGEND OF BORING

BORING #/EL. STA./OFFSET

ST

0.25

17

F-C

COBBLE OR BOULDER

WEATHERED LIMESTONE

CORE RUN #1 - 24'-29'

REC=80%, RQD=72%

⁽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

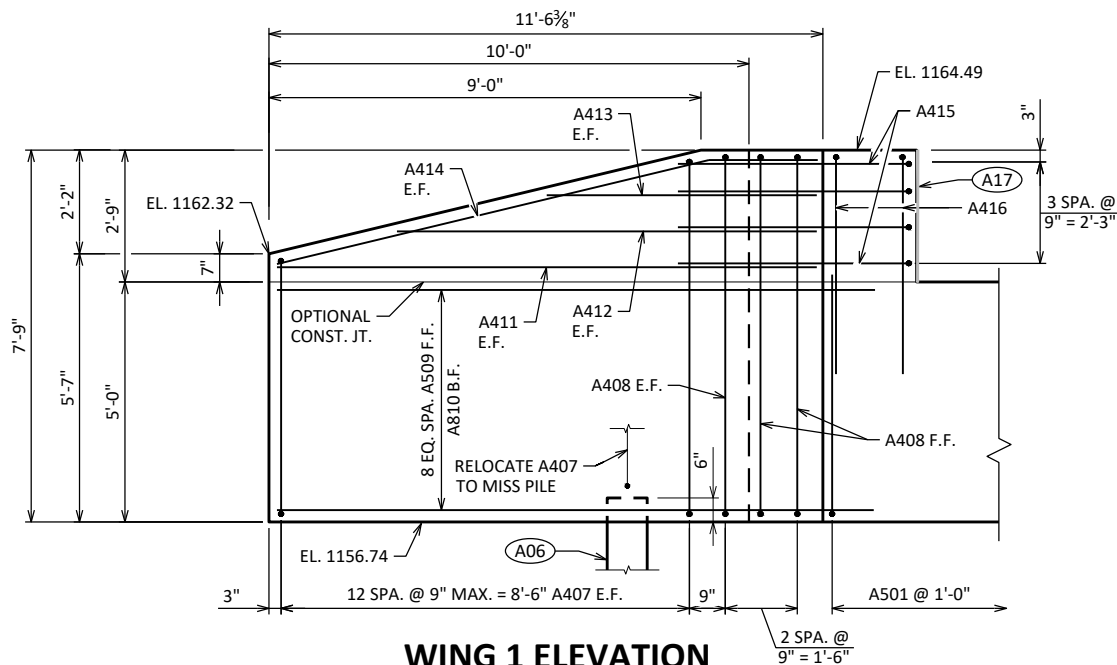
BORINGS WERE COMPLETED AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING TO OBTAIN INFORMATION CONCERNING THE CHARACTER OF SUBSURFACE MATERIALS FOUND AT THE SITE. BECAUSE THE INVESTIGATED DEPTHS ARE LIMITED AND THE AREA OF THE BORINGS IS VERY SMALL IN RELATION TO THE ENTIRE SITE, THE WISCONSIN DEPARTMENT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

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-10-263			
DRAWN BY JMC		PLANS CK'D NBE	
SUBSURFACE EXPLORATION		SHEET 4 OF 13	

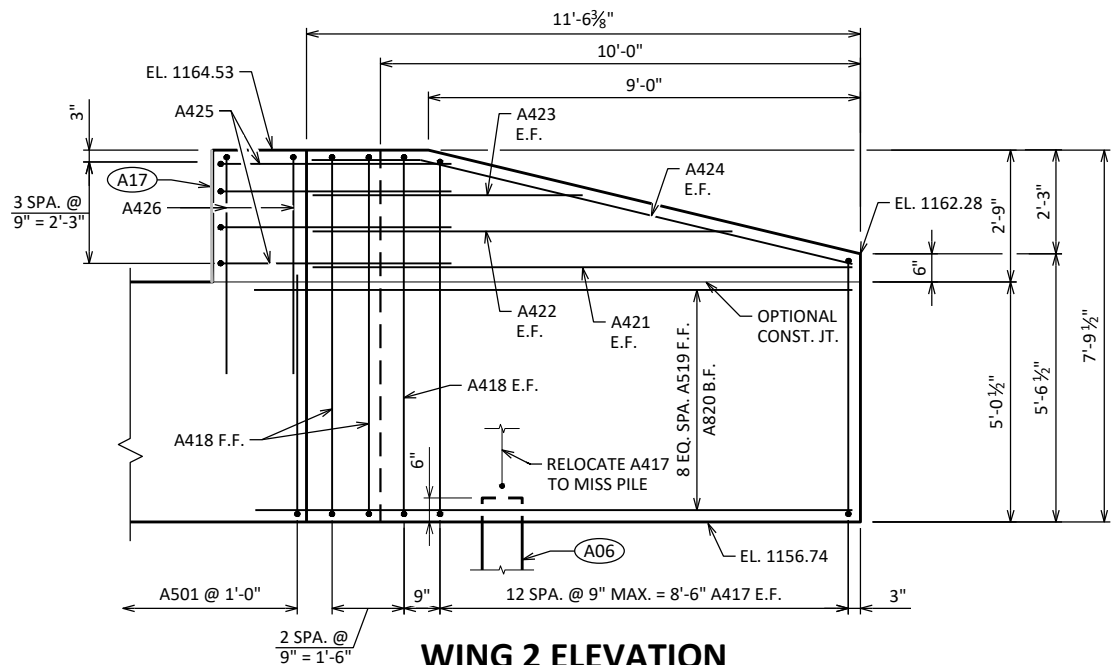


- 8

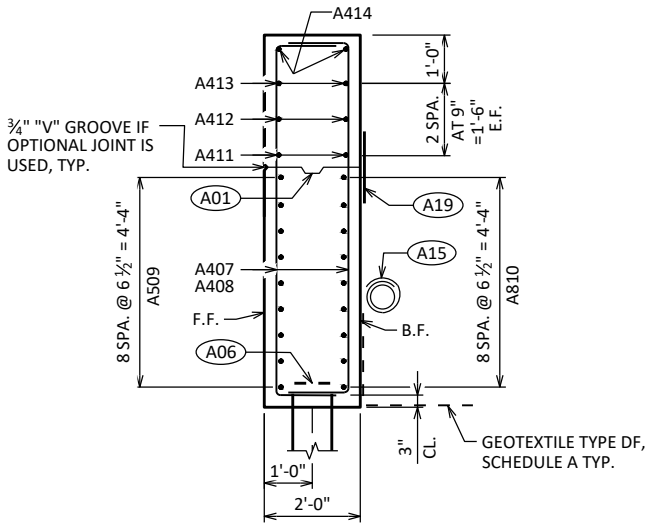
NO.	DATE	REVISION			BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION					
STRUCTURE B-10-263					
			DRAWN BY	CLP	PLANS CK'D NBE
WEST ABUTMENT				SHEET 5 OF 13	



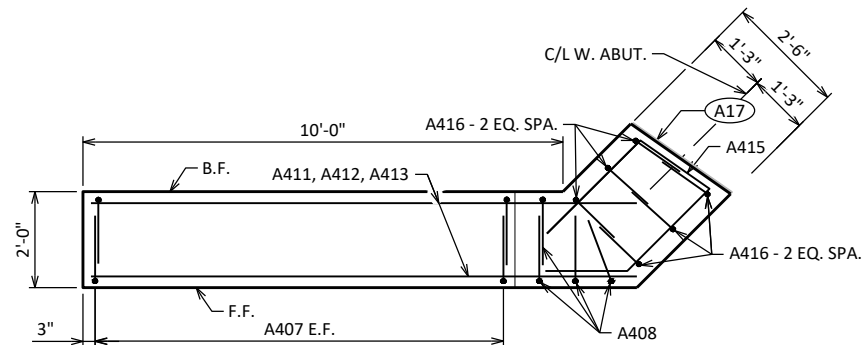
WING 1 ELEVATION
SHOWING F.F. WING



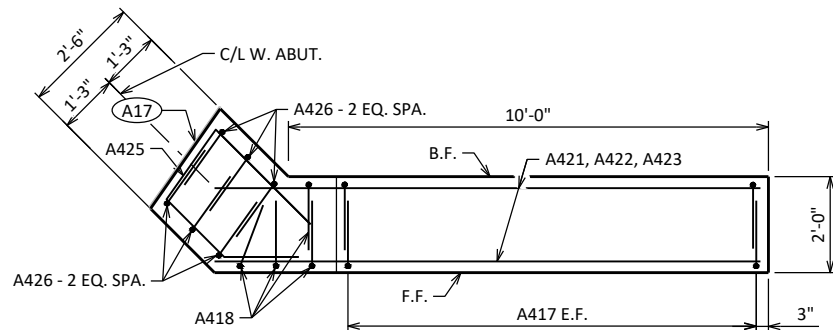
WING 2 ELEVATION
SHOWING F.F. WING



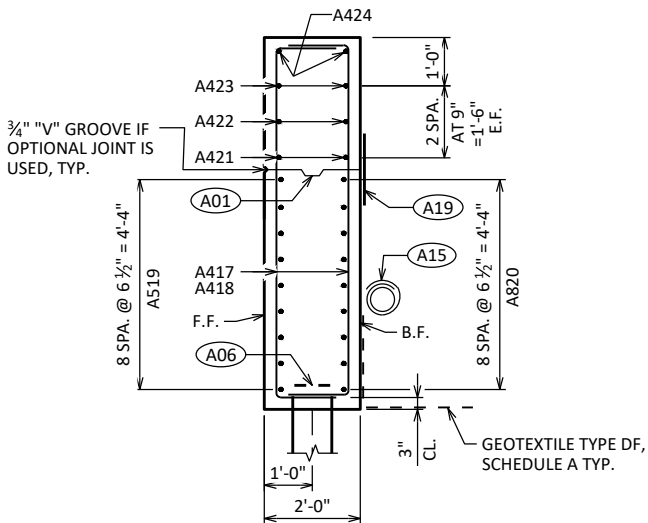
SECTION THRU WING 1



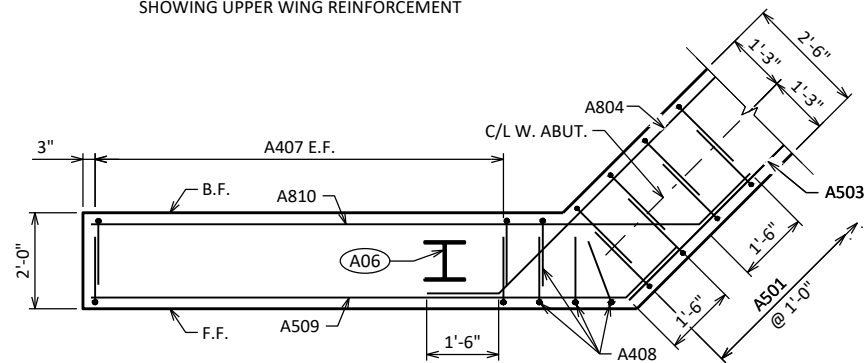
WING 1 PLAN
SHOWING UPPER WING REINFORCEMENT



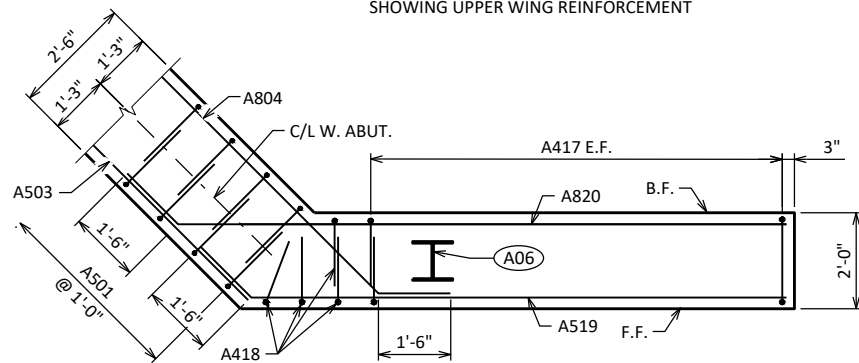
WING 2 PLAN
SHOWING UPPER WING REINFORCEMENT



SECTION THRU WING 2



WING 1 PLAN
SHOWING LOWER WING REINFORCEMENT



WING 2 PLAN
SHOWING LOWER WING REINFORCEMENT

- (A01)** OPTIONAL CONST. JOINT: KEYWAY FORMED BY A BEVELED 2X6. PROVIDE 3/4" "V" GROOVE ON F.F. OF WINGWALL IF JOINT IS USED.
- (A06)** SUPPORT ABUTMENT ON HP 10 x 42 STEEL PILING. ESTIMATED 25' LONG WITH A REQUIRED DRIVING RESISTANCE OF 180 TONS PER PILE.
- (A15)** PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. RODENT SHIELD REQUIRED.

- (A17)** 1/2" FILLER: SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 3/8" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.
- (A19)** 18" RUBBERIZED MEMBRANE WATERPROOFING, ONLY IF OPTIONAL CONSTRUCTION JOINT IS USED. COST INCIDENTAL TO BID ITEM "CONCRETE MASONRY STRUCTURES".

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-10-263			
DRAWN BY		CLP	PLANS CK'D NBE
WEST ABUTMENT WING DETAILS			SHEET 6 OF 13

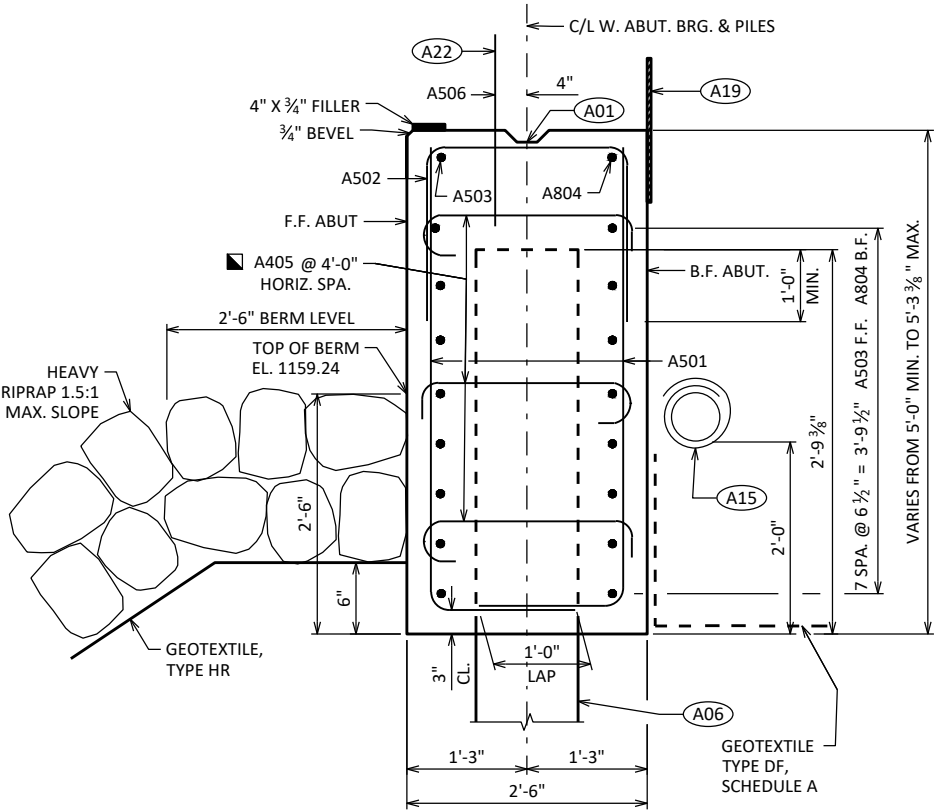
BILL OF BARS

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

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
A501		64	5'-11"	X		ABUT BODY STIRRUPS
A502		32	8'-5"	X		ABUT BODY STIRRUPS - TOP U-BAR
A503		9	31'-3"			ABUT BODY HORIZ. - F.F.
A804		18	21'-11"	X		ABUT BODY HORIZ. - B.F.
A405		24	2'-11"	X		ABUT BODY TIE BARS
A506	X	25	2'-0"			ABUT BODY DOWEL BARS
A407	X	26	8'-10"	X	▲	WING 1 STIRRUPS
A408	X	4	9'-11"	X		WING 1 STIRRUPS
A509	X	9	12'-9"	X		WING 1 LOWER HORIZ. - F.F.
A810	X	9	14'-7"	X		WING 1 LOWER HORIZ. - B.F.
A411	X	2	11'-2"			WING 1 UPPER HORIZ.
A412	X	2	8'-9"			WING 1 UPPER HORIZ.
A413	X	2	5'-7"			WING 1 UPPER HORIZ.
A414	X	2	10'-6"	X		WING 1 UPPER DIAG.
A415	X	4	8'-8"	X		WING 1 TOP HORIZ. CORNER
A416	X	6	5'-1"	X		WING 1 TOP VERT. CORNER
A417	X	26	8'-10"	X	▲	WING 2 STIRRUPS
A418	X	4	9'-11"	X		WING 2 STIRRUPS
A519	X	9	12'-9"	X		WING 2 LOWER HORIZ. - F.F.
A820	X	9	14'-7"	X		WING 2 LOWER HORIZ. - B.F.
A421	X	2	11'-2"			WING 2 UPPER HORIZ.
A422	X	2	8'-9"			WING 2 UPPER HORIZ.
A423	X	2	5'-7"			WING 2 UPPER HORIZ.
A424	X	2	10'-6"	X		WING 2 UPPER DIAG.
A425	X	4	7'-10"	X		WING 2 TOP HORIZ. CORNER
A426	X	6	5'-1"	X		WING 2 TOP VERT. CORNER

BENDING DIMENSIONS ARE OUT TO OUT OF BARS.

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



SECTION THRU BODY

A501

A502, A408, A418

A407, A417

A416, A426

A405

A804, A509, A810
A519, A820

A414

A424

A415

A425

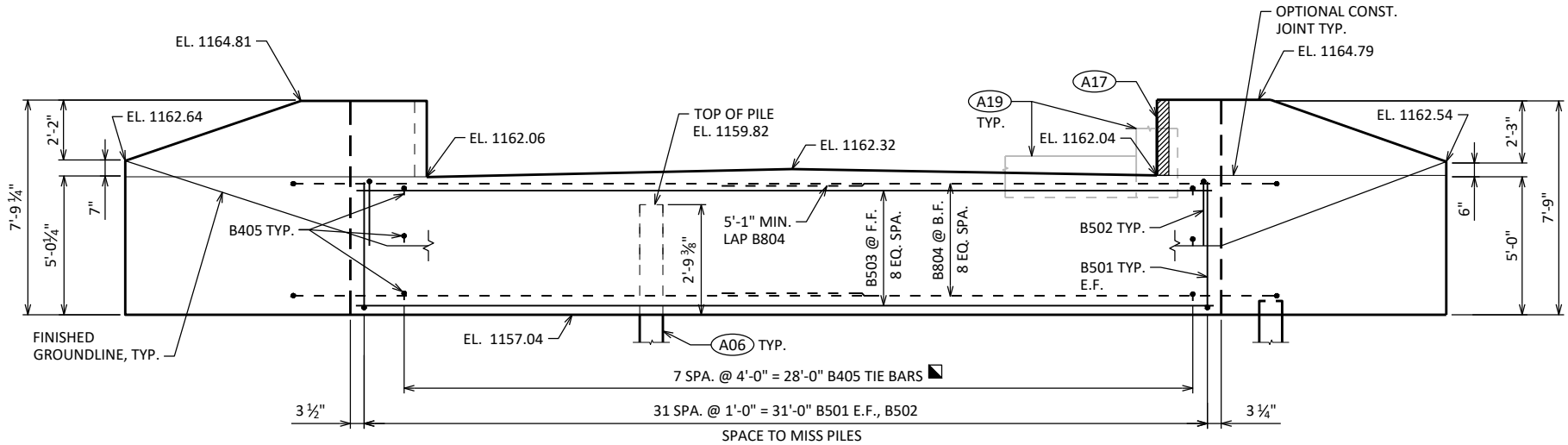
BAR SERIES TABLE

BUNDLE AND TAG EACH SERIES SEPARATELY.

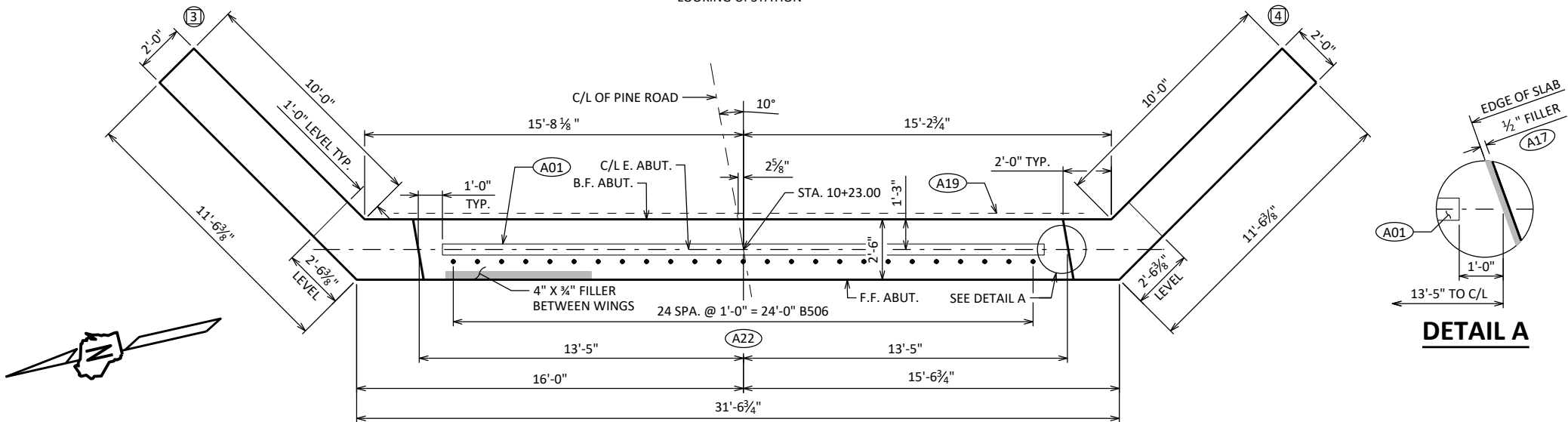
BAR MARK	NO. REQ'D.	LENGTH
A407	2 SERIES OF 13	7'-10" TO 9'-10"
A417	2 SERIES OF 13	7'-10" TO 9'-10"

- A01 CONST. JOINT: KEYWAY FORMED BY A BEVELED 2X6.
- A06 SUPPORT ABUTMENT ON HP 10 x 42 STEEL PILING. ESTIMATED 25' LONG WITH A REQUIRED DRIVING RESISTANCE OF 180 TONS PER PILE.
- A15 PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. RODENT SHIELD REQUIRED.
- A19 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.
- A22 A506 BARS SPACED @ 1'-0" CNTRS. MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. (EMBED 1'-0" INTO CONC.)
- ALTERNATE THE POSITION OF THE 90° AND 180° HOOKS AT EACH VERTICAL LAYER OF TIES.

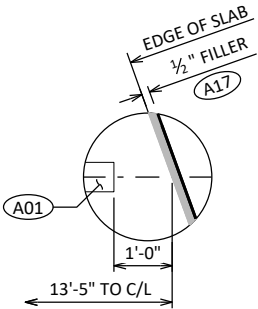
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-10-263			
DRAWN BY		CLP	PLANS CK'D NBE
WEST ABUTMENT DETAILS AND BILL OF BARS		SHEET 7 OF 13	



ELEVATION
LOOKING UPSTATION

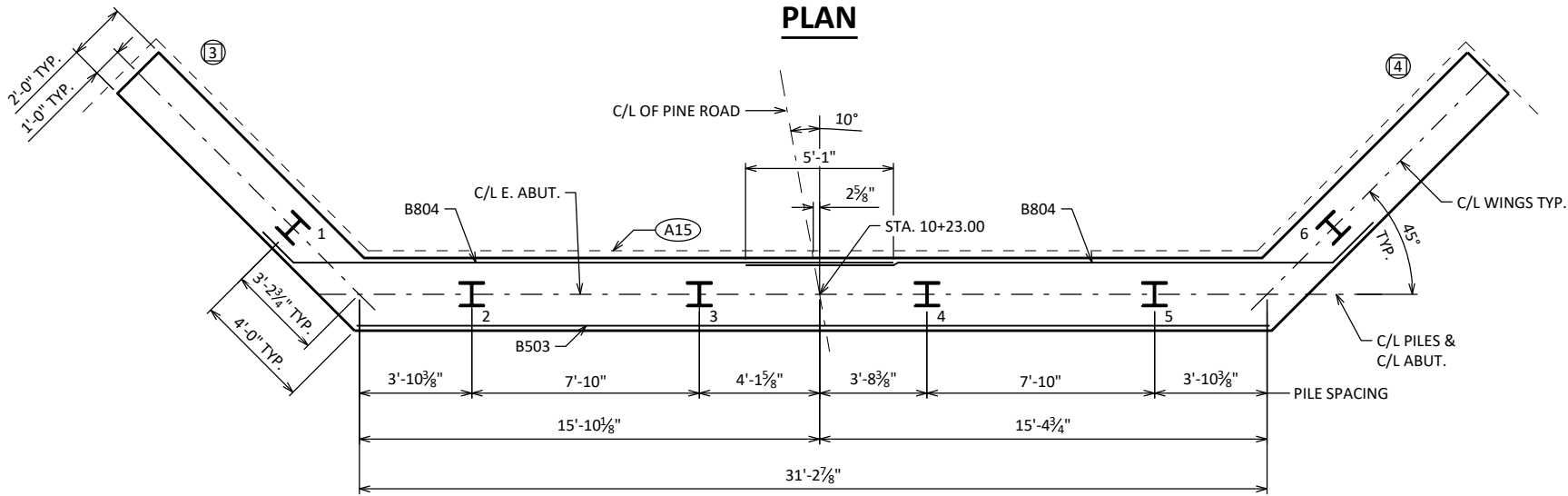


PLAN



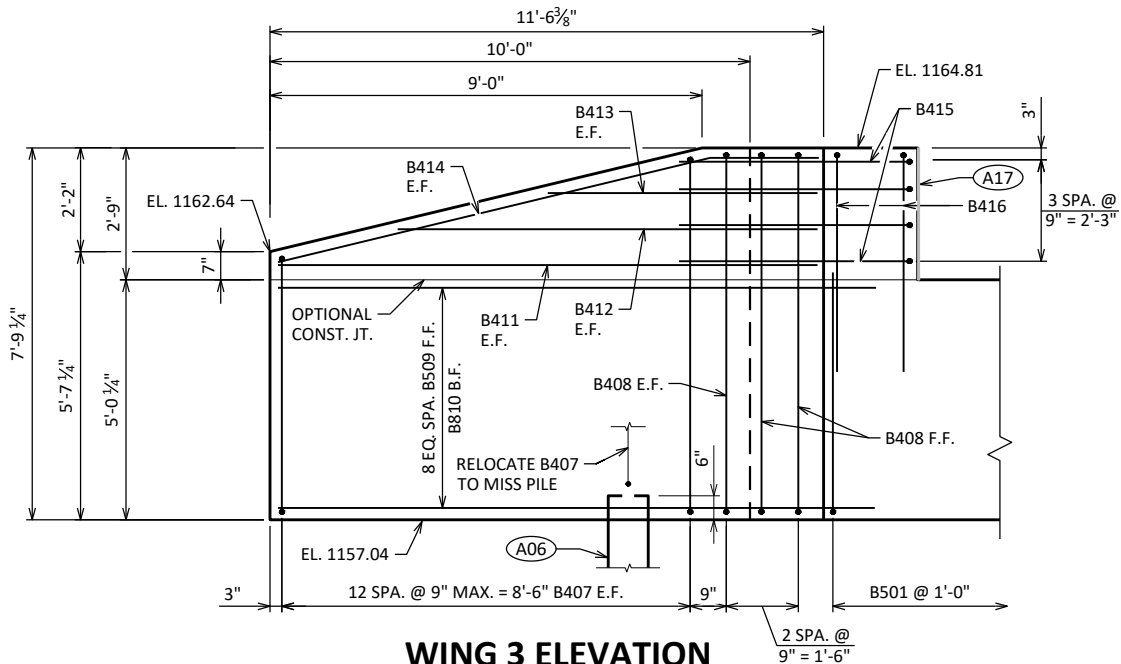
DETAIL A

- (A01) CONST. JOINT: KEYWAY FORMED BY A BEVELED 2X6.
- (A06) SUPPORT ABUTMENT ON HP 10 x 42 STEEL PILING. ESTIMATED 25' LONG WITH A REQUIRED DRIVING RESISTANCE OF 180 TONS PER PILE.
- (A15) PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. RODENT SHIELD REQUIRED.
- (A17) 1/2" FILLER: SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.
- (A19) 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.
- (A22) B506 BARS SPACED @ 1'-0" CNTRS. MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. (EMBED 1'-0" INTO CONC.)
- ALTERNATE THE POSITION OF THE 90° AND 180° HOOKS AT EACH VERTICAL LAYER OF TIES.



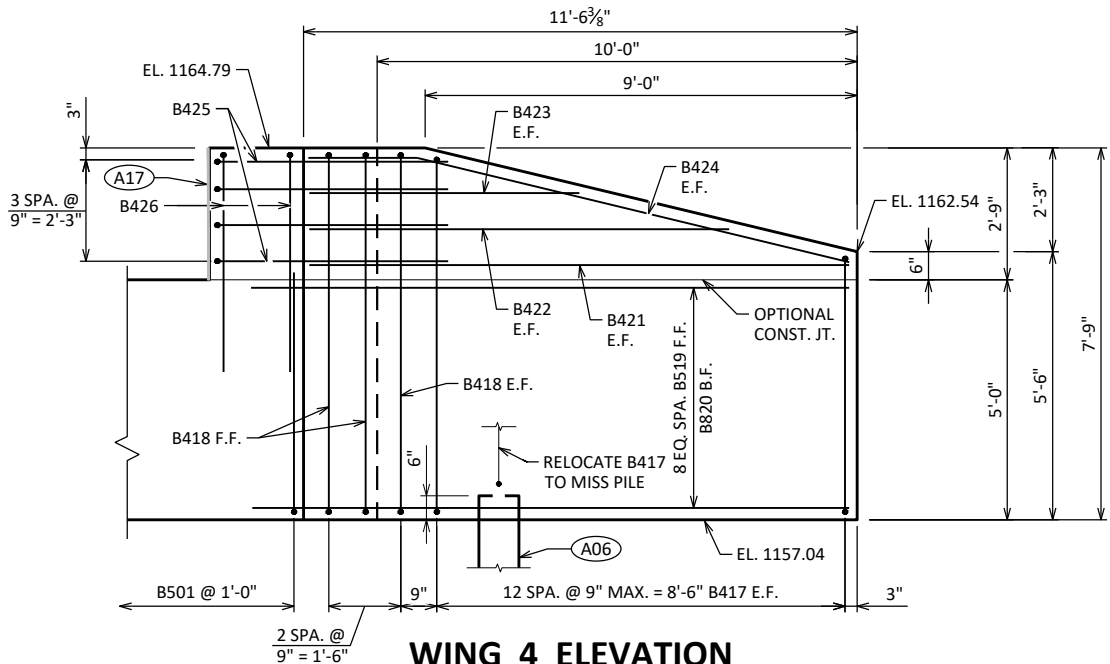
PILE PLAN

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-10-263			
DRAWN BY		CLP	PLANS CK'D NBE
EAST ABUTMENT		SHEET 8 OF 13	



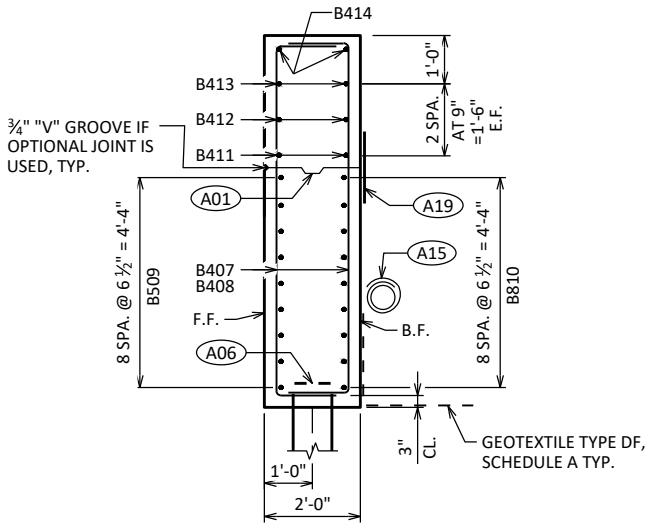
WING 3 ELEVATION

SHOWING F.F. WING

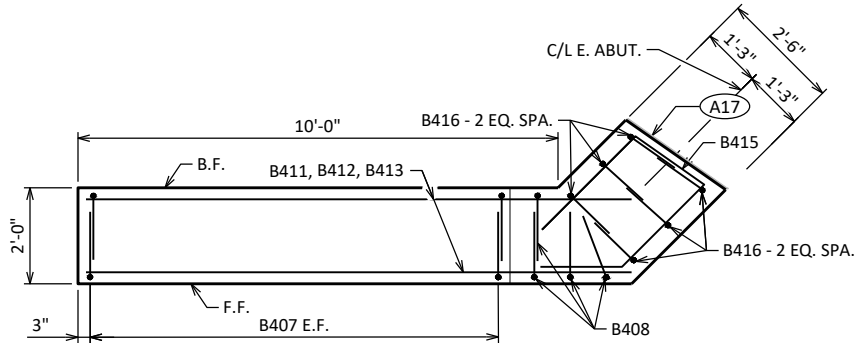


WING 4 ELEVATION

SHOWING F.F. WING

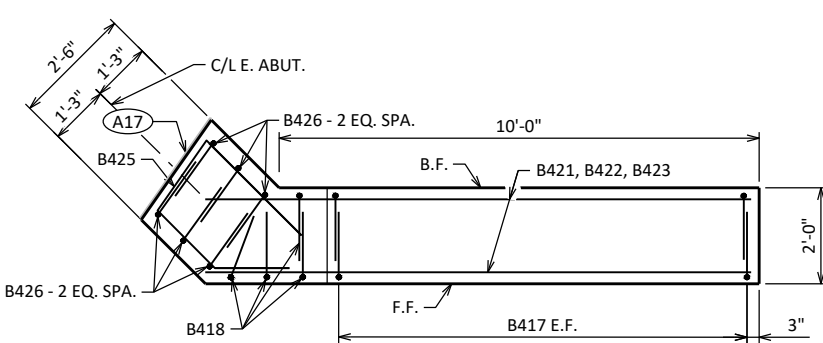


SECTION THRU WING 3



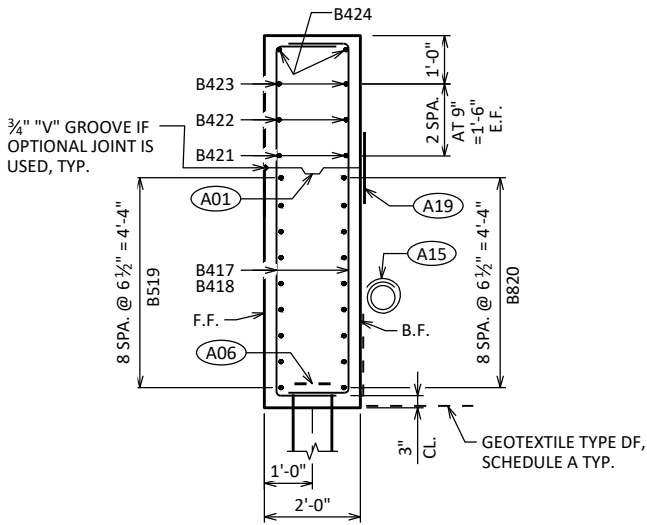
WING 3 PLAN

SHOWING UPPER WING REINFORCEMENT

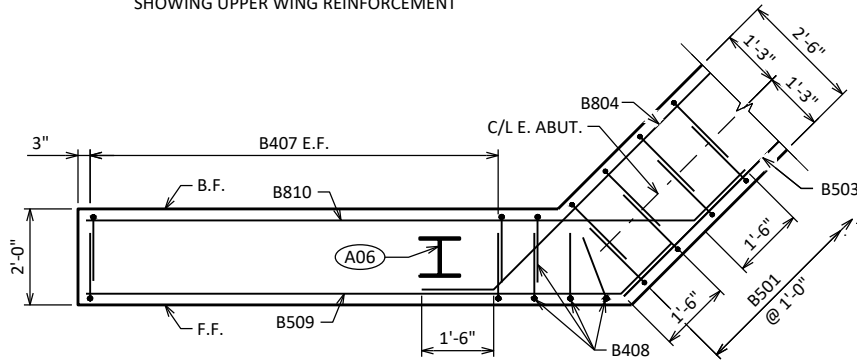


WING 4 PLAN

SHOWING UPPER WING REINFORCEMENT

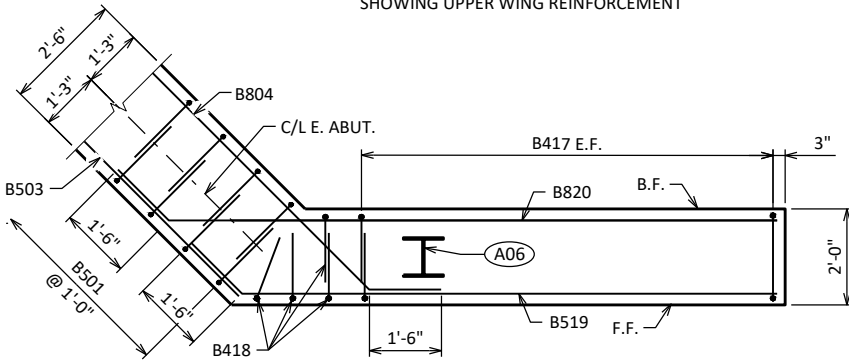


SECTION THRU WING 4



WING 3 PLAN

SHOWING LOWER WING REINFORCEMENT



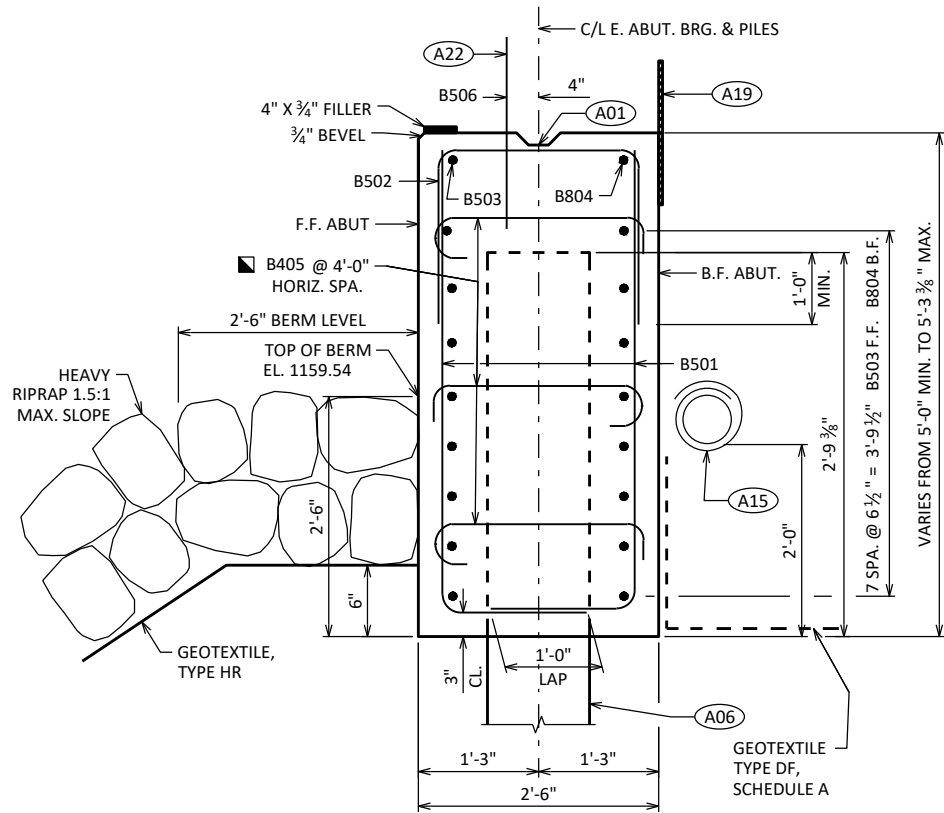
WING 4 PLAN

SHOWING LOWER WING REINFORCEMENT

- (A01) OPTIONAL CONST. JOINT: KEYWAY FORMED BY A BEVELED 2X6. PROVIDE 3/4" "V" GROOVE ON F.F. OF WINGWALL IF JOINT IS USED.
- (A06) SUPPORT ABUTMENT ON HP 10 x 42 STEEL PILING. ESTIMATED 25' LONG WITH A REQUIRED DRIVING RESISTANCE OF 180 TONS PER PILE.
- (A15) PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. RODENT SHIELD REQUIRED.

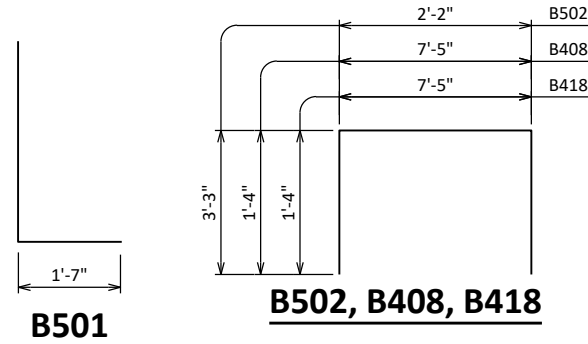
- (A17) 1/2" FILLER: SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.
- (A19) 18" RUBBERIZED MEMBRANE WATERPROOFING, ONLY IF OPTIONAL CONSTRUCTION JOINT IS USED. COST INCIDENTAL TO BID ITEM "CONCRETE MASONRY STRUCTURES".

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-10-263			
DRAWN BY		CLP	PLANS CK'D NBE
EAST ABUTMENT WING DETAILS		SHEET 9 OF 13	



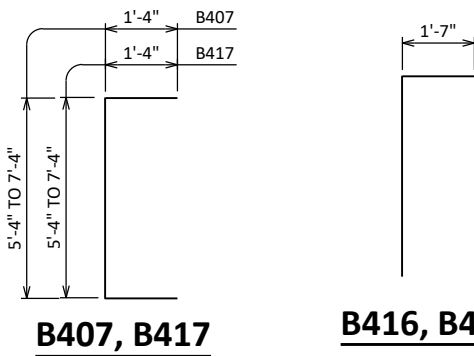
SECTION THRU BODY

- A01** CONST. JOINT: KEYWAY FORMED BY A BEVELED 2X6.
- A06** SUPPORT ABUTMENT ON HP 10 x 42 STEEL PILING. ESTIMATED 25' LONG WITH A REQUIRED DRIVING RESISTANCE OF 180 TONS PER PILE.
- A15** PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. RODENT SHIELD REQUIRED.
- A19** 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.
- A22** B506 BARS SPACED @ 1'-0" CNTRS. MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. (EMBED 1'-0" INTO CONC.)
- ALTERNATE THE POSITION OF THE 90° AND 180° HOOKS AT EACH VERTICAL LAYER OF TIES.



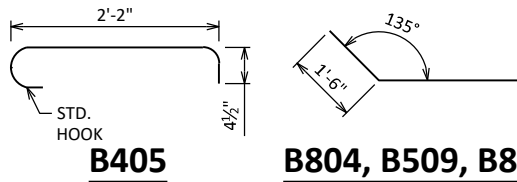
B501

B502, B408, B418



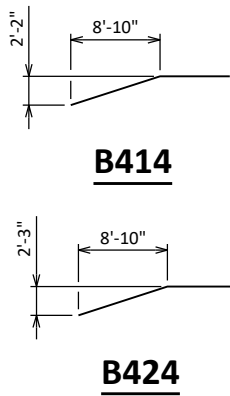
B407, B417

B416, B426



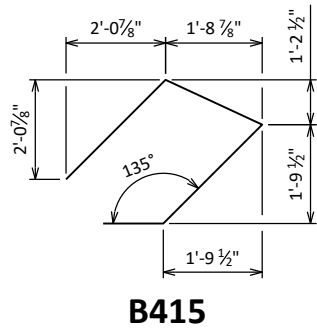
B405

B804, B509, B810
B519, B820

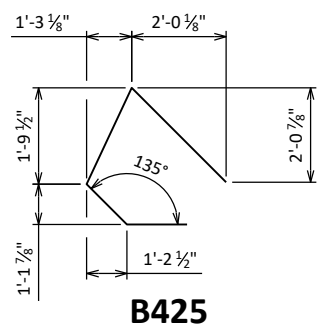


B414

B424



B415



B425

BILL OF BARS

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

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
B501		64	5'-11"	X		ABUT BODY STIRRUPS
B502		32	8'-5"	X		ABUT BODY STIRRUPS - TOP U-BAR
B503		9	31'-3"			ABUT BODY HORIZ. - F.F.
B804		18	21'-11"	X		ABUT BODY HORIZ. - B.F.
B405		24	2'-11"	X		ABUT BODY TIE BARS
B506	X	25	2'-0"			ABUT BODY DOWEL BARS
B407	X	26	8'-10"	X	▲	WING 3 STIRRUPS
B408	X	4	9'-11"	X		WING 3 STIRRUPS
B509	X	9	12'-9"	X		WING 3 LOWER HORIZ - F.F.
B810	X	9	14'-7"	X		WING 3 LOWER HORIZ. - B.F.
B411	X	2	11'-2"			WING 3 UPPER HORIZ.
B412	X	2	8'-9"			WING 3 UPPER HORIZ.
B413	X	2	5'-7"			WING 3 UPPER HORIZ.
B414	X	2	10'-6"	X		WING 3 UPPER DIAG.
B415	X	4	8'-8"	X		WING 3 TOP HORIZ. CORNER
B416	X	6	5'-1"	X		WING 3 TOP VERT. CORNER
B417	X	26	8'-10"	X	▲	WING 4 STIRRUPS
B418	X	4	9'-11"	X		WING 4 STIRRUPS
B519	X	9	12'-9"	X		WING 4 LOWER HORIZ - F.F.
B820	X	9	14'-7"	X		WING 4 LOWER HORIZ. - B.F.
B421	X	2	11'-2"			WING 4 UPPER HORIZ.
B422	X	2	8'-9"			WING 4 UPPER HORIZ.
B423	X	2	5'-7"			WING 4 UPPER HORIZ.
B424	X	2	10'-6"	X		WING 4 UPPER DIAG.
B425	X	4	7'-10"	X		WING 4 TOP HORIZ. CORNER
B426	X	6	5'-1"	X		WING 4 TOP VERT. CORNER

BENDING DIMENSIONS ARE OUT TO OUT OF BARS.

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

BAR SERIES TABLE

BUNDLE AND TAG EACH SERIES SEPARATELY.

BAR MARK	NO. REQ'D.	LENGTH
B407	2 SERIES OF 13	7'-10" TO 9'-10"
B417	2 SERIES OF 13	7'-10" TO 9'-10"

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-10-263			
DRAWN BY		CLP	PLANS CK'D NBE
EAST ABUTMENT DETAILS AND BILL OF BARS		SHEET 10 OF 13	



TYPICAL SECTION THRU BRIDGE



	TOP OF SLAB ELEVATION AT FINAL GRADE
LESS	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

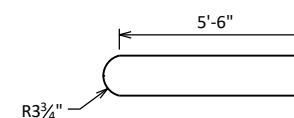
LOCATION	C/L W. ABUT.	1/10 PT.	2/10 PT.	3/10 PT.	4/10 PT.	5/10 PT.	6/10 PT.	7/10 PT.	8/10 PT.	9/10 PT.	C/L E. ABUT.
N. EDGE OF SLAB	1164.53	1164.56	1164.60	1164.63	1164.66	1164.69	1164.72	1164.75	1164.77	1164.79	1164.82
C/L OF PINE ROAD	1164.77	1164.81	1164.85	1164.88	1164.91	1164.94	1164.97	1165.00	1165.02	1165.05	1165.07
S. EDGE OF SLAB	1164.49	1164.53	1164.56	1164.60	1164.63	1164.66	1164.69	1164.72	1164.75	1164.77	1164.79

	<u>ABUTMENT</u>	<u>5/10 PT.</u>	<u>ABUTMENT</u>
N. EDGE OF SLAB			
C/L OF PINE ROAD			
S. EDGE OF SLAB			

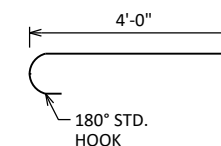
BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
S1001	x	58	40'-6"			SLAB LONG. BOT.
S502	x	70	26'-7"			SLAB TRANS. BOT.
S503	x	70	26'-7"			SLAB TRANS. TOP
S504	x	27	46'-2"			SLAB LONG. TOP
S505	x	54	7'-11"	X		SLAB @ ABUT. DIAPHRAGM STIRRUPS
S506	x	4	26'-7"			SLAB @ ABUT. DIAPHRAGM TRANS.
S607	x	32	12'-0"	X		SLAB @ RAIL POSTS
S608	x	48	6'-0"			SLAB @ INT. RAIL POSTS
S609	x	16	4'-8"	X		SLAB @ END RAIL POSTS

Diagram of a stepped profile with dimensions: 1'-6" (top horizontal), 2'-4" (left vertical), 2'-0" (bottom horizontal), and a 135-degree angle at the bottom right corner.

S505



S607

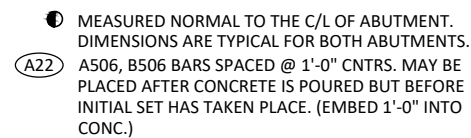


S609

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-10-263			
DRAWN BY		CLP	PLANS CK'D NBE
SUPERSTRUCTURE		SHEET 11 OF 13	



8



DIMENSIONS ARE GIVEN PARALLEL TO C/L
ROADWAY UNLESS OTHERWISE NOTED.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-10-263			
		DRAWN BY	PLANS CK'D NBE
SUPERSTRUCTURE PLAN		SHEET 12 OF 13	

- ① W6 X 25 WITH 1½" X 1½" HORIZ. SLOTS ON EACH SIDE OF POST FOR BOLT NO. 6. CUT BOTTOM OF POST TO MATCH CROSS SLOPE OF ROADWAY. PLACE POST VERTICAL. PLACE POSTS NORMAL TO GRADE LINE.
- ② PLATE 1¼" X 11¾" X 1'-8" WITH 1¼" DIA. OVERSIZED HOLES FOR ANCHOR BOLTS NO. 3. WELD TO NO. 1 AS SHOWN.
- ③ ASTM A449 - 1½" DIA. ANCHOR BOLTS WITH NUT AND HARDENED WASHER (ALL GALVANIZED). 5 REQ'D. PER POST. THREAD 3" AND PLACE NORMAL TO PLATE NO. 2. CHAMFER TOP OF BOLTS BEFORE THREADING. USE 1'-9" LONG IN ABUTMENT WINGS. AT POSTS ON CONCRETE SLAB SUPERSTRUCTURES WHERE THE SLAB THICKNESS IS > 16" USE 1'-3" LONG. (AN EQUIVALENT THREADED ROD WITH NUTS AND HARDENED WASHERS MAY BE SUBSTITUTED FOR ANCHOR BOLTS IN WINGS IF REQ'D. FOR CONSTRUCTABILITY.)

- (4) $\frac{3}{8}$ " X 11" X 1'-8" ANCHOR PLATE (GALVANIZED) WITH 1 $\frac{1}{16}$ " DIA. HOLES FOR ANCHOR BOLTS NO. 3.
- (5) TS 5 X 4 X 0.25 STRUCTURAL TUBING. ATTACH TO NO. 1 WITH NO. 6.
- (5A) TS 5 X 5 X 0.25 STRUCTURAL TUBING. ATTACH TO NO. 1 WITH NO. 6.
- (6) $\frac{7}{8}$ " DIA. A325 SLOTTED ROUND HEAD BOLT WITH NUT, $\frac{3}{16}$ " X 1 $\frac{3}{8}$ " X 1 $\frac{3}{8}$ " MIN. WASHER, AND LOCK WASHER (2 REQ'D. AT EACH RAIL TO POST LOCATION.)
- (7) $\frac{1}{2}$ " THK. BACK-UP PLATE WITH 2 - $\frac{7}{8}$ " X 1 $\frac{1}{2}$ " THREADED SHOP WELDED STUDS (NO. 12). BOLT TO RAIL AS SHOWN IN DETAIL. REQUIRED AT THRIE BEAM GUARD RAIL ATTACHMENTS ONLY. PLACE SYMMETRICALLY ABOUT TUBES NO. 5A.
- (8) 1" DIA. HOLES IN PLATE NO. 7 & TUBES NO. 5A FOR $\frac{7}{8}$ " DIA. A325 BOLTS WITH HEX NUTS AND WASHERS. 6 HOLES IN TUBES AND PLATE NO. 7.
- (9) SPLICE SLEEVE FABRICATED FROM $\frac{1}{4}$ " PLATE. PROVIDE "SLIDING FIT".
- (10) $\frac{3}{8}$ " X 3 $\frac{3}{8}$ " X 2'-4" PLATE. 2 PER RAIL. USED IN NO. 5 & 5A.
- (10A) $\frac{3}{8}$ " X 2 $\frac{5}{8}$ " X 2'-4" PLATE USED IN NO. 5, $\frac{3}{8}$ " X 3 $\frac{3}{8}$ " X 2'-4" PLATE USED IN NO. 5A. 2 PER RAIL.
- (11) $\frac{7}{8}$ " DIA. A325 ROUND HEAD BOLT WITH NUT, WASHER, AND LOCK WASHER. USE 1 $\frac{5}{16}$ " X 1 $\frac{1}{4}$ " LONGIT. SLOTTED HOLES AT FIELD JOINTS AND 1 $\frac{5}{16}$ " X 2 $\frac{1}{4}$ " MIN. LONGIT. SLOTTED HOLES AT EXP. JOINTS IN PLATE NO. 10A.
- (12) $\frac{7}{8}$ " DIA. X 1 $\frac{1}{2}$ " LONG THREADED SHOP WELDED STUDS (2 REQ'D).
- (13) $\frac{3}{8}$ " X 8" X 1'-6" PLATE. BOLT TO RAIL AS SHOWN IN DETAIL. REQ'D. AT THRIE BEAM GUARD RAIL ATTACHMENTS ONLY. PLACE SYM. ABOUT TUBES NO. 5A.
- (14) $\frac{7}{8}$ " DIA. X 2" LONG A325 HEX BOLT WITH NUT AND WASHER (5 REQ'D.).
- (15) 1" DIA. HOLES IN TUBES NO. 5A FOR $\frac{7}{8}$ " DIA. A325 ROUND HEAD BOLT WITH NUT, WASHER AND LOCK WASHER (4 REQ'D.). 4 HOLES IN TUBES.

1. BID ITEM SHALL BE "RAILING TUBULAR TYPE M" WHICH INCLUDES ALL ITEMS SHOWN.
2. RAIL POST AND BASE PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A709 GRADE 50. HOLLOW RAILING STRUCTURAL TUBING SHALL CONFORM TO THE REQUIREMENTS OF ASTM A500 GRADE B OR C WITH A CERTIFIED FY = 50 KSI. ANCHOR PLATES, AND SPLICE TUBE PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A709 GRADE 36.
3. THE NUT SECURING THE POST BASE PLATE TO THE CONCRETE SHALL BE TIGHTENED TO A SNUG FIT AND GIVEN AN ADDITIONAL $\frac{1}{8}$ TURN.
4. RAILS SHALL BE CONTINUOUS OVER A MINIMUM OF THREE (3) POSTS WITHOUT SPLICES WHERE POSSIBLE. RAILS SHALL BE SPLICED IN A PANEL OVER EXPANSION JOINTS.
5. ENDS OF TUBE SECTIONS SHALL BE SAWED. GRIND SMOOTH EXPOSED EDGES. ALL CUT ENDS SHALL BE TRUE AND SMOOTH.
6. WELD IS THE SAME ON BOTH FLANGES. FLANGE WELD DOES NOT REQUIRE MAGNETIC PARTICLE TESTING.
7. FILL BOLT SLOT OPENINGS IN POST SHIMS AND PLATE NO. 2 AND CAULK AROUND PERIMETER OF PLATE NO. 2 WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. STEEL POST SHIMS MAY BE USED UNDER POSTS WHERE REQ'D. FOR ALIGNMENT.
8. POST BASE PLATES SHALL BE FLAT WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT AND VERTICAL. ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUT.
9. ALL MATERIAL SHALL BE GALVANIZED AFTER FABRICATION. PRIOR TO GALVANIZING, ALL STEEL RAILING POSTS & STEEL TUBING SHALL BE GIVEN A NO. 6 BLAST CLEANING BY SSPC SPECIFICATIONS.



LOCATION MUST BE SHOWN
ON SHOP DRAWINGS



AT BEAM GUARD ATTACHMENT



THREE BEAM RAIL ATTACHMENT



THREE BEAM RAIL ATTACHMENT



NOTE: CONNECTIONS AT LOWER RAILS SHOWN.
CONNECTIONS AT TOP RAIL SIMILAR.



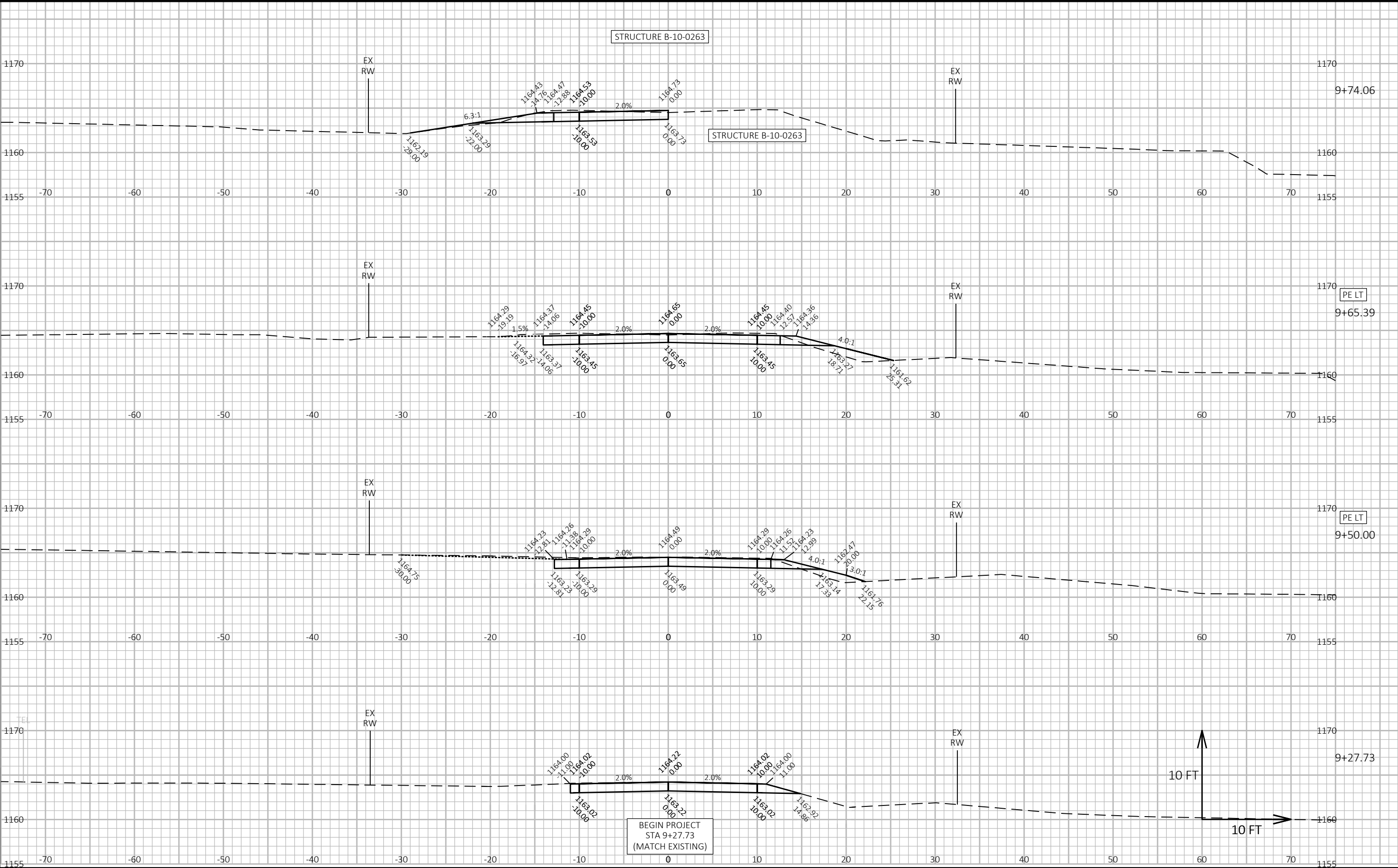
AT BEAM GUARD ATTACHMENT

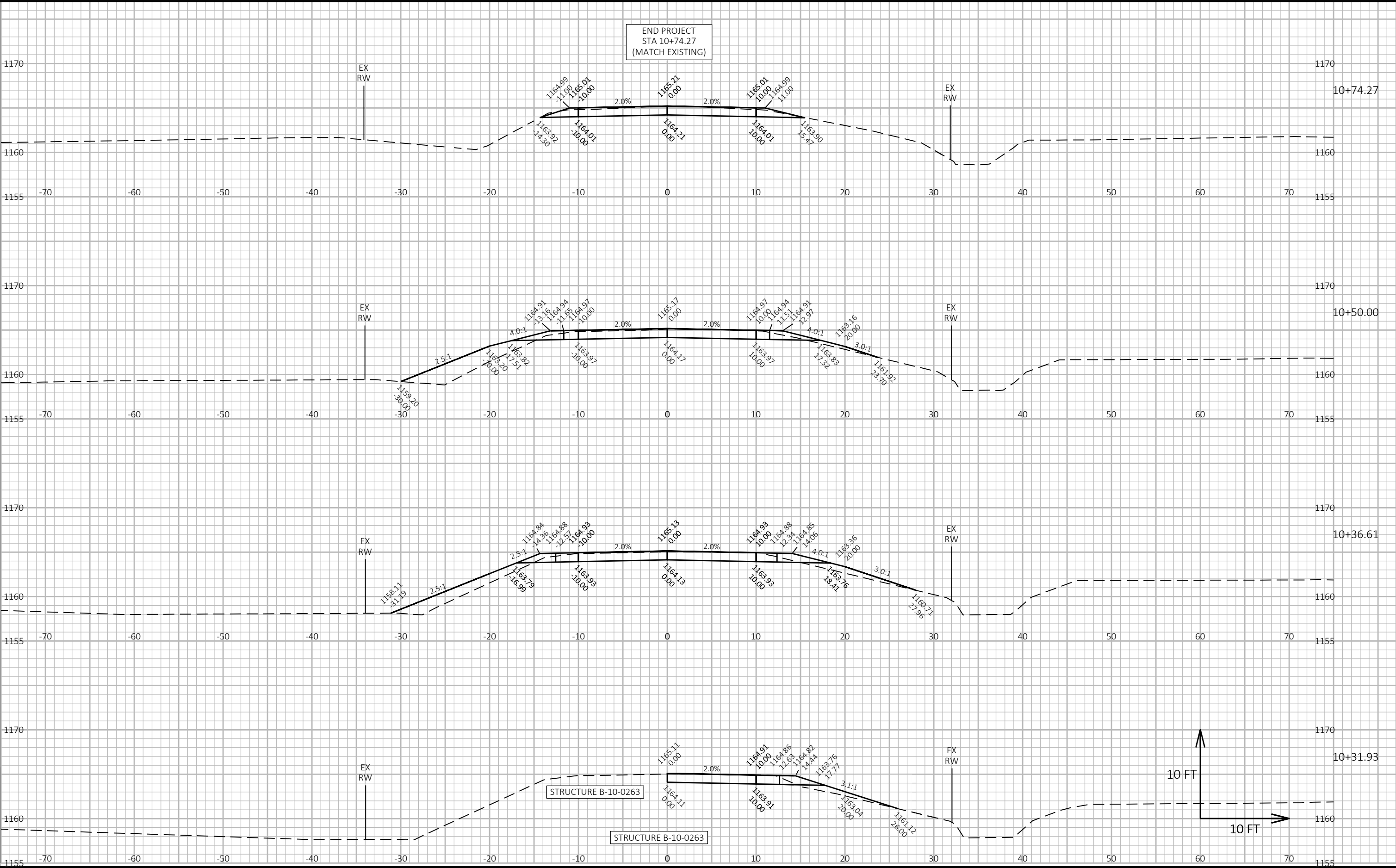
▲ TIE TO TOP MAT OF STEEL.

✱ ANCHOR BOLT ASSEMBLY MAY BE TACK WELDED, EITHER IN THE SHOP, OR IN THE FIELD AFTER THE ANCHOR PLATE IS PLACED.

PINE ROAD COMPUTER EARTHWORK

	ance	Area (SF)		Incremental Vol (CY) (Unadjusted)		Cumulative Vol (CY)		Mass Ordinate
		Cut	Fill	Cut	Fill	Expanded		
						Cut 1.00	Fill 1.30	
				Note 1	Note 2	Note 5		Note 3
9+27.73	--	23.9	0.0					
9+50	22.27	28.7	4.2	23	2	23	2	21
9+65.39	15.39	31.0	6.1	17	3	40	6	34
9+77.73	12.34	31.0	0.0	14	1	54	8	47
BRIDGE	--	--	--	--	--	--	--	--
10+24.27	--	24.7	0.0	--	--	--	--	--
10+36.61	12.34	24.7	21.7	11	5	66	14	51
10+50	13.39	24.2	27.3	12	12	78	30	48
10+74.27	24.27	23.4	0.0	21	12	99	46	53
				99	35			





Notes



Wisconsin Department of Transportation

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