

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

T MEAD, STARKS ROAD

S FORK EAU CLAIRE RVR BRDG B-10-0396

LOC STR CLARK COUNTY

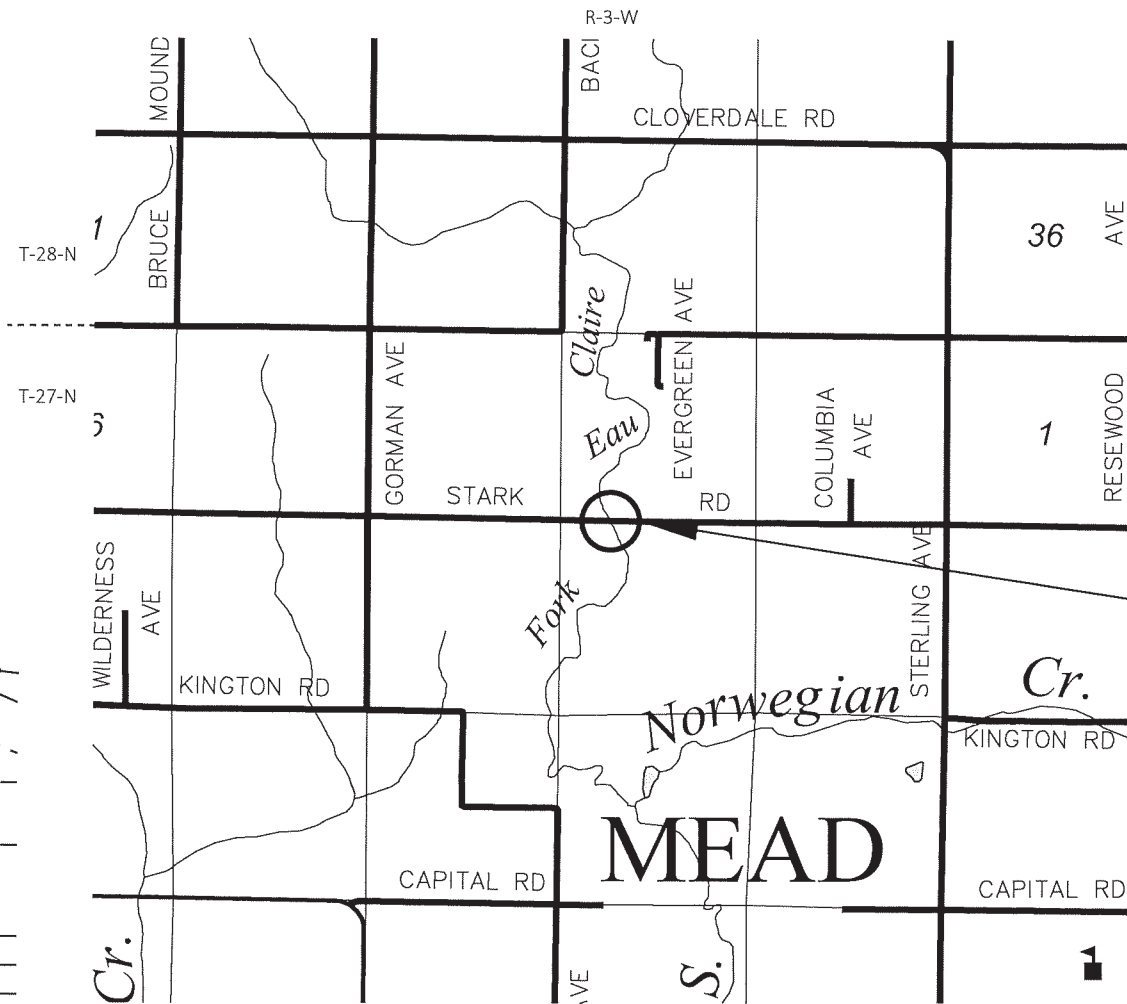
STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
7839-00-70	WISC 2024249	1

ORDER OF SHEETS

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

TOTAL SHEETS = 48

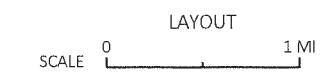
STATE PROJECT NUMBER
7839-00-70



BEGIN PROJECT
STA 9+10.00
Y = 453195.6050
X = 649039.9089

STRUCTURE B-10-0396
STA 10+02.00

END PROJECT
STA 10+94.00
Y = 453195.7693
X = 649223.9086



TOTAL NET LENGTH OF CENTERLINE = 0.035 MI

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 (1991). GPS DERIVED ELEVATIONS ARE BASED ON GEOID 12A.

DESIGN DESIGNATION 7839-00-70

A.A.D.T.	2024	=	61
A.A.D.T.	2044	=	67
D.H.V.		=	8
D.D.		=	60/40
T.		=	10%
DESIGN SPEED		=	55 MPH
ESALS		=	15,000

CONVENTIONAL SYMBOLS

PLAN	PROFILE
CORPORATE LIMITS	GRADE LINE
PROPERTY LINE	ORIGINAL GROUND
LOT LINE	MARSH OR ROCK PROFILE (To be noted as such)
LIMITED HIGHWAY EASEMENT	SPECIAL DITCH
EXISTING RIGHT OF WAY	GRADE ELEVATION
PROPOSED OR NEW R/W LINE	CULVERT (Profile View)
SLOPE INTERCEPT	UTILITIES
REFERENCE LINE	ELECTRIC
EXISTING CULVERT	FIBER OPTIC
PROPOSED CULVERT (Box or Pipe)	GAS
COMBUSTIBLE FLUIDS	SANITARY SEWER
MARSH AREA	STORM SEWER
WOODED OR SHRUB AREA	TELEPHONE
	WATER
	UTILITY PEDESTAL
	POWER POLE
	TELEPHONE POLE

ACCEPTED FOR
TOWN OF
MEAD

DATE: 10-24-23 *Rafael Eche*
(Signature)

Chairman
(Title)

ORIGINAL PLANS PREPARED BY

MENOMONIE - MADISON - GREEN BAY - CEDARBURG
www.cedarcorp.com

DATE: 10-24-23 *Troy Peterson*
(Professional Engineer Signature)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	CEDAR CORPORATION
Designer	CEDAR CORPORATION
Project Manager	TYLER RONGSTAD, P.E.
Regional Examiner	TOU YANG, P.E.
Regional Supervisor	TYLER RONGSTAD, P.E.

APPROVED FOR THE DEPARTMENT

DATE: Tyler Rongstad *Tyler Rongstad*
(Signature)

PROJECT ID: 7839-00-70

COUNTY: CLARK

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.

NO TREES OR SHRUBS ARE TO BE REMOVED UNLESS SUCH TREES OR SHRUBS HAVE FIRST BEEN INDICATED FOR REMOVAL BY THE ENGINEER IN THE FIELD AND COORDINATED WITH THE REC IF DURING SPECIFIC TIME FRAME, PER ENVIRONMENTAL COMMITMENT.

DISTURBED AREAS WITHIN THE RIGHT OF WAY ARE TO BE TOP SOILED, SEEDED, FERTILIZED, AND COVERED WITH EROSION MAT.

WETLANDS ARE PRESENT WITHIN THE PROJECT LIMITS. DO NOT OPERATE EQUIPMENT OUTSIDE OF THE SLOPE INTERCEPTS. DO NOT STORE OR STOCKPILE MATERIALS IN WETLANDS

WHEN THE QUANTITY OF ITEM BREAKER RUN OR SURFACE LAYER IS MEASURED FOR PAYMENT BY THE TON, THE THICKNESS OF THE MATERIAL THAT IS SHOWN ON THE PLANS IS APPROXIMATE AND THE ACTUAL THICKNESS WILL DEPEND ON THE DISTRIBUTION OF MATERIAL AS DIRECTED BY THE ENGINEER.

THE WISCONSIN DEPARTMENT OF TRANSPORTATION WILL FURNISH THE CONTRACTOR A MONUMENT WHICH SHALL BE SET IN THE STRUCTURE AS DESIGNATED BY ENGINEER.

RUNOFF COEFFICIENT TABLE

Table with columns for LAND USE, HYDROLOGIC SOIL GROUP (A, B, C, D), and SLOPE RANGE (PERCENT). Rows include LAND USE, ROW CROPS, MEDIAN STRIP-TURF, SIDE SLOPE TURF, and various pavement types like ASPHALT, CONCRETE, BRICK, etc.

TOTAL PROJECT AREA = 0.08 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 0.12 ACRES

STANDARD ABBREVIATIONS

Table listing standard abbreviations such as ABUT, AGG, ET AL, AADT, BF, BM, C/L OR Δ, Δ, CLR, CONC, CONST, COR, CMP, CTH, CR, CFS, CULV, D, DHV, DIA, E, EL, EST, FPS, FE, FT, FTG, FDN, FF, IP, LT, LHF, L, LF, MAX, MI, MIN, NC, N, NE, NW, NO, OFF, PC, PI, PT, POL, PE, PL, PSI, PROP, R, RR, REBAR, REQ'D, RT, RHF, R/W, RD, SEC, S, SE, SW, STH, STA, SE, T, TEL, TEMP, TI, TLE, TL OR T/L, T, TYP, U/G, USH, VAR, V, VPC, VPI, VPT, W, YB, ABUTMENT, AGGREGATE AND OTHERS, ANNUAL AVERAGE DAILY TRAFFIC, BACK FACE, BENCHMARK, CENTERLINE, CENTRAL ANGLE OR DELTA, CLEAR, CONCRETE, CONSTRUCTION, CORNER, CORRUGATED METAL PIPE, COUNTY TRUNK HIGHWAY, CREEK, CUBIC FEET/SECOND, CULVERT, DEGREE OF CURVE, DESIGN HOUR VOLUME, DIAMETER, EAST, ELEVATION, ESTIMATED, FEET PER SECOND, FIELD ENTRANCE, FOOT (FEET), FOOTING, FOUNDATION, FRONT FACE, IRON PIN, LEFT, LEFT-HAND FORWARD, LENGTH OF CURVE, LINEAR FOOT, MAXIMUM, MILE, MINIMUM, NORMAL CROWN, NORTH, NORTHEAST, NORTHWEST, NUMBER, OFFSET, POINT OF CURVATURE, POINT OF INTERSECTION, POINT OF TANGENCY, POINT ON LINE, PRIVATE ENTRANCE, PROPERTY LINE, POUNDS/SQUARE INCH, PROPOSED, RADIUS, RAILROAD, REINFORCEMENT BAR, REQUIRED, RIGHT, RIGHT-HAND FORWARD, RIGHT-OF-WAY, ROAD, SECTION, SOUTH, SOUTHEAST, SOUTHWEST, STATE TRUNK HIGHWAY, STATION, SUPER ELEVATION, TANGENT, TELEPHONE, TEMPORARY, TEMPORARY INTEREST, TEMPORARY LIMITED EASEMENT, TRANSIT LINE, TRUCKS, TYPICAL, UNDERGROUND, UNITED STATES HIGHWAY, VARIABLE, VELOCITY, VERTICAL POINT OF CURVATURE, VERTICAL POINT OF INTERSECTION, VERTICAL POINT OF TANGENCY, WEST, YARD.

DNR CONTACT

DNR BLACK RIVER FALLS SERVICE CENTER
910 STATE HIGHWAY 54
BLACK RIVER FALLS, WI 54615-5450
ATTN: BRADLEY BFTTHAUSER
PH: (715) 213-9064
EMAIL: bradley.bftthausen@wisconsin.gov

UTILITY CONTACTS

ELECTRIC
CLARK ELECTRIC COOPERATIVE
1209 W DALL-BERG RD / P.O. BOX 190
GREENWOOD, WI 54437
ATTN: KENT WEIGEL, LINE SUPERINTENDENT
PH: (715) 267-7955
EMAIL: kweigel@cecoop.com

DESIGN CONSULTANT CONTACT

CEDAR CORPORATION
604 WILSON AVENUE
MENOMONIE, WI 54751
ATTN: TROY L. PETERSON, P.E.
PH: (715) 235-9081
EMAIL: troy.peterson@cedarcorp.com

COMMUNICATION
LUMEN (CENTURYLINK)
425 FLLINGSO AVENUE
HAWKINS, WI 54530
ATTN: BRIAN HUHN
PH: (715) 563-8294
EMAIL: brian.huhn@lumen.com

MUNICIPALITY

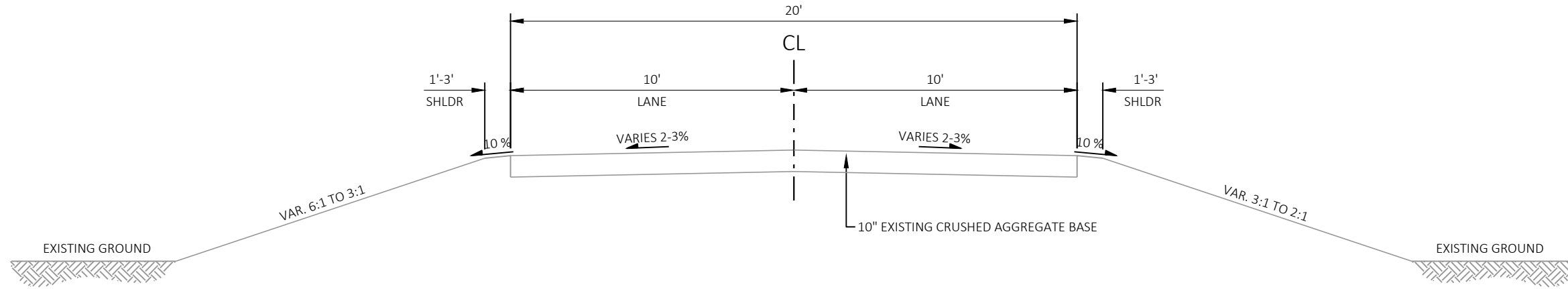
TOWN OF MEAD
110516 BACHELORS AVENUE
GREENWOOD, WI 54437
ATTN: ROBERT ECKES, TOWN CHAIRMAN
PH: (715) 267-6130
EMAIL: bobeckes@tds.net



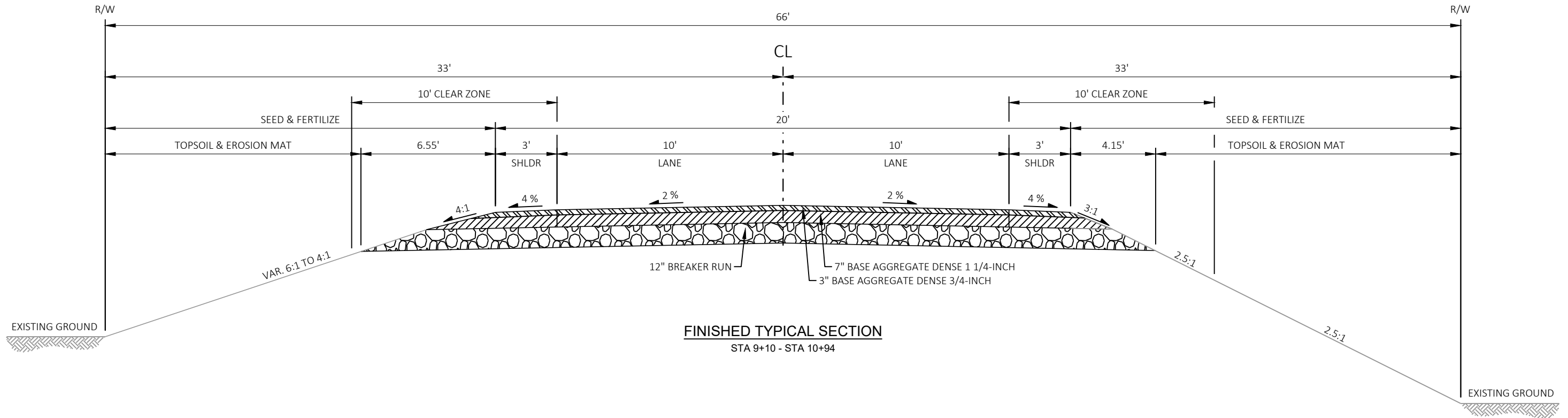
Dial 811 or (800)242-8511

www.DiggersHotline.com
**DENOTES UTILITIES THAT ARE NOT DIGGERS HOTLINE MEMBERS.

Table with columns: NO., STATION, OFFSET, DESCRIPTION, ELEV., EASTING, NORTHING. Rows include BM 1, BM 2, BM 3, CP 1, CP 2, CP 100, CP 101, CP 102, CP 300, CP 301, CP 302, CP 800.

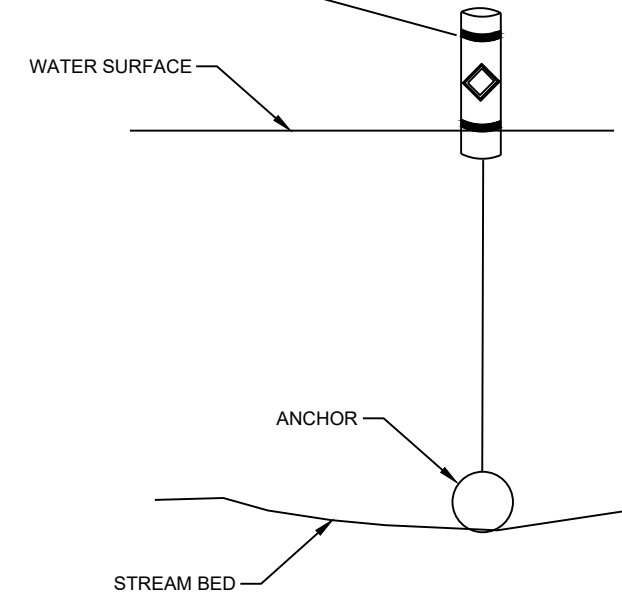
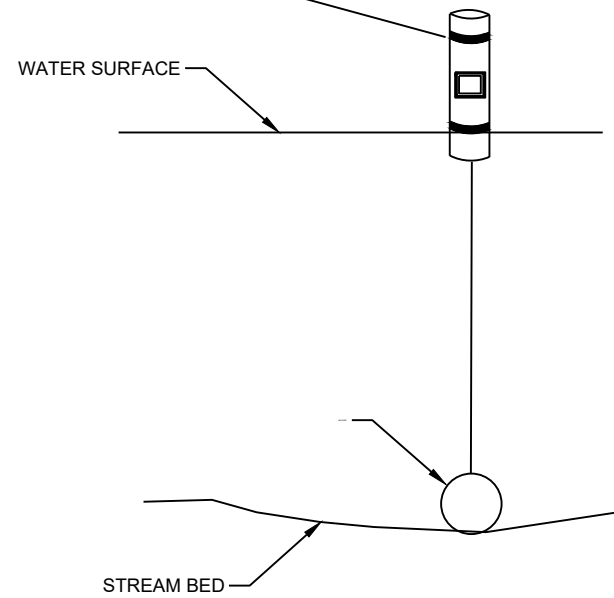
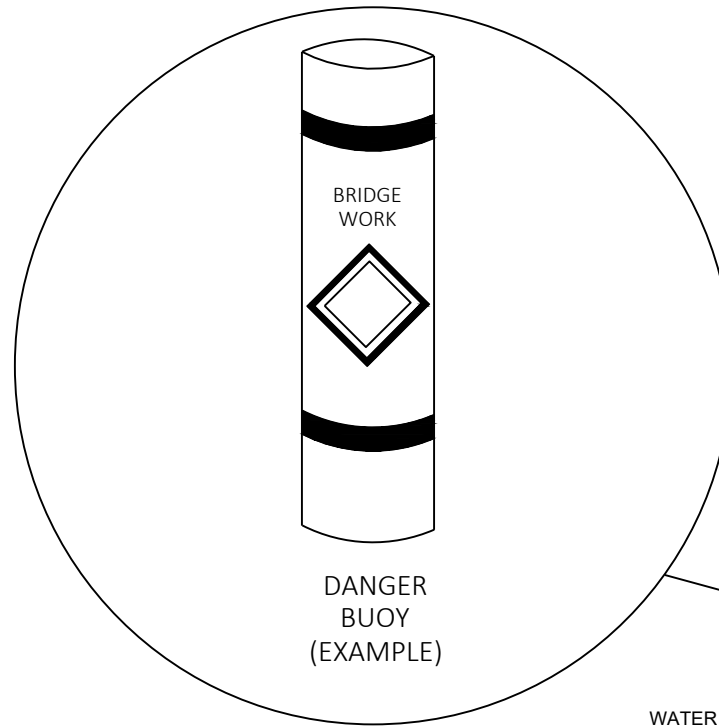
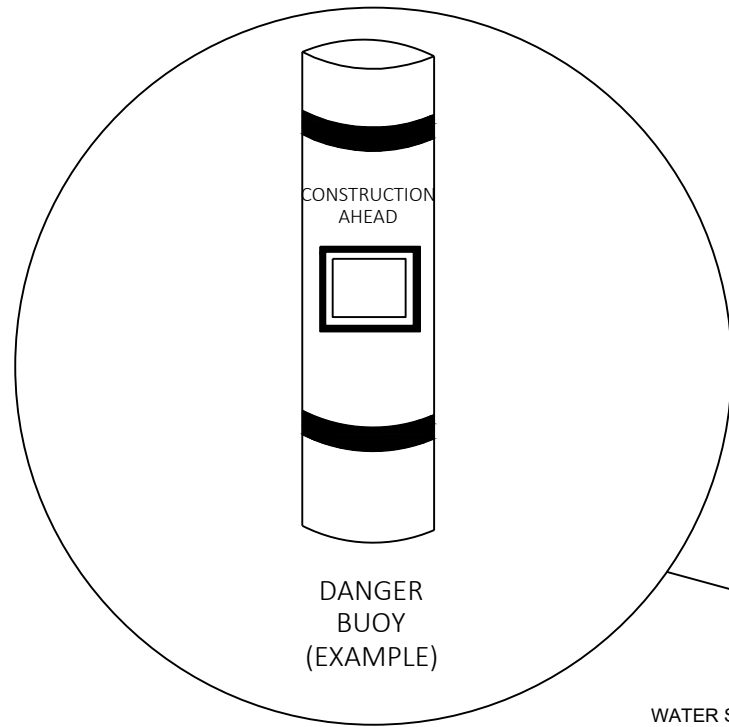


EXISTING TYPICAL SECTION
STA 9+10 - STA 10+94



FINISHED TYPICAL SECTION
STA 9+10 - STA 10+94

- NOTES:
1. INSTALL PRIOR TO CONSTRUCTION
 2. REMOVE AFTER COMPLETION



CONSTRUCTION AHEAD BUOY
(TO BE PLACED 200 FEET FROM BRIDGE)

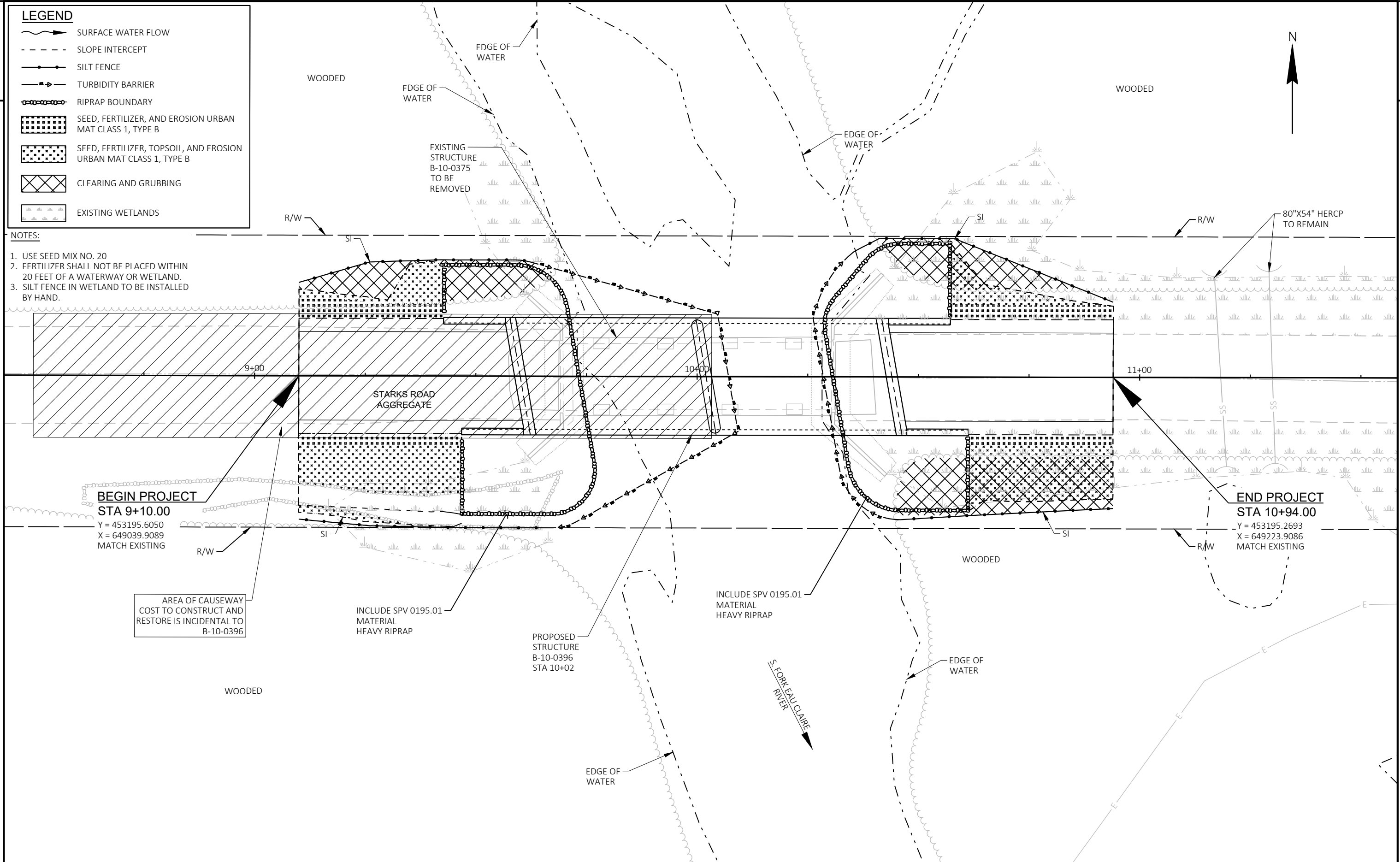
BRIDGE WORK BUOY
(TO BE PLACED 100 FEET FROM BRIDGE)

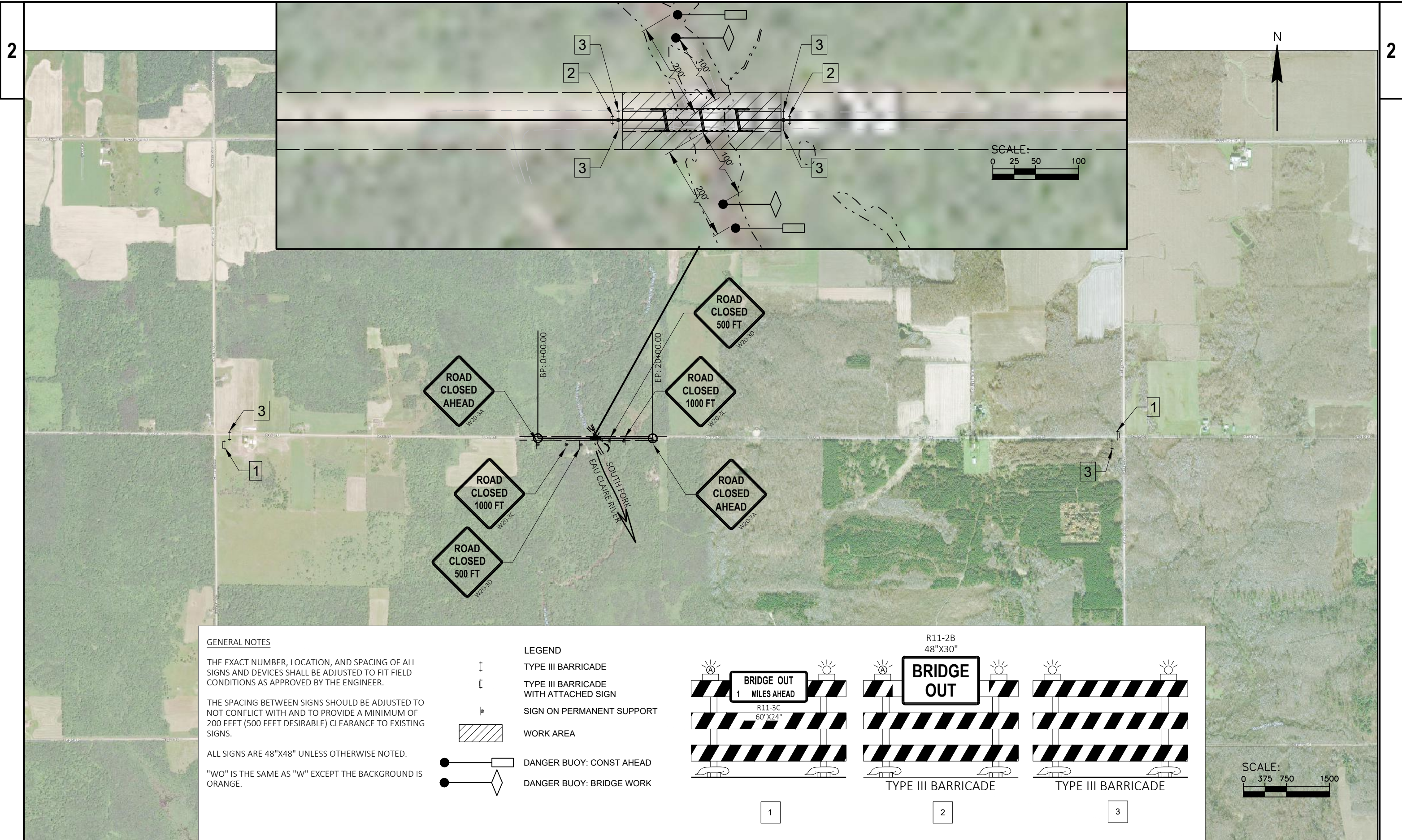
DANGER BUOY PLACEMENT DETAIL
USE AS DIRECTED BY COAST GUARD OR DNR PERMIT

LEGEND

- SURFACE WATER FLOW
- SLOPE INTERCEPT
- SILT FENCE
- TURBIDITY BARRIER
- RIPRAP BOUNDARY
- SEED, FERTILIZER, AND EROSION URBAN MAT CLASS 1, TYPE B
- SEED, FERTILIZER, TOPSOIL, AND EROSION URBAN MAT CLASS 1, TYPE B
- CLEARING AND GRUBBING
- EXISTING WETLANDS

- NOTES:**
1. USE SEED MIX NO. 20
 2. FERTILIZER SHALL NOT BE PLACED WITHIN 20 FEET OF A WATERWAY OR WETLAND.
 3. SILT FENCE IN WETLAND TO BE INSTALLED BY HAND.





GENERAL NOTES

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

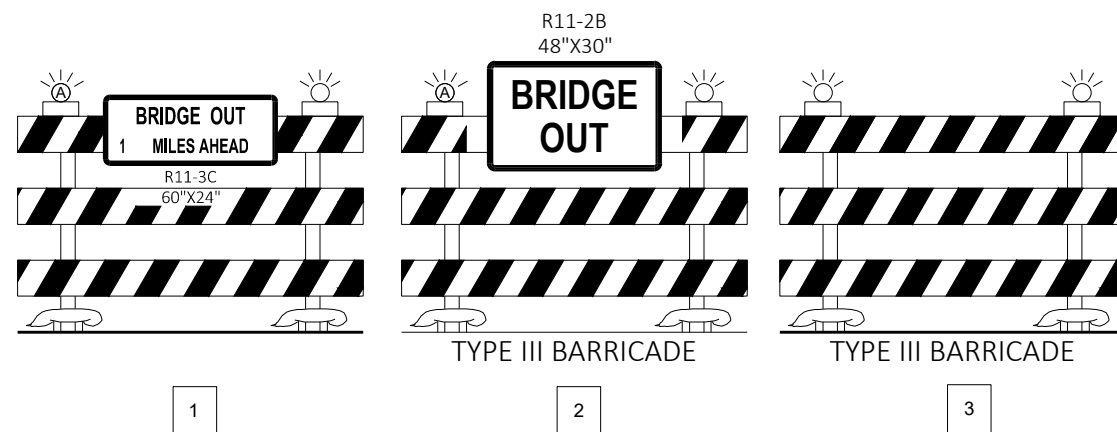
THE SPACING BETWEEN SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS.

ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED.

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

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- SIGN ON PERMANENT SUPPORT
- WORK AREA
- DANGER BUOY: CONST AHEAD
- DANGER BUOY: BRIDGE WORK



Estimate Of Quantities

7839-00-70

Line	Item	Item Description	Unit	Total	Qty
0002	201.0110	Clearing	SY	134.000	134.000
0004	201.0210	Grubbing	SY	134.000	134.000
0006	203.0260	Removing Structure Over Waterway Minimal Debris (structure) 01. B-10-375	EACH	1.000	1.000
0008	205.0100	Excavation Common	CY	52.000	52.000
0010	206.1001	Excavation for Structures Bridges (structure) 01. B-10-396	EACH	1.000	1.000
0012	208.0100	Borrow	CY	43.000	43.000
0014	210.1500	Backfill Structure Type A	TON	340.000	340.000
0016	213.0100	Finishing Roadway (project) 01. 7839-00-70	EACH	1.000	1.000
0018	305.0110	Base Aggregate Dense 3/4-Inch	TON	46.000	46.000
0020	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	108.000	108.000
0022	311.0110	Breaker Run	TON	215.000	215.000
0024	502.0100	Concrete Masonry Bridges	CY	251.000	251.000
0026	502.3200	Protective Surface Treatment	SY	305.000	305.000
0028	505.0400	Bar Steel Reinforcement HS Structures	LB	5,090.000	5,090.000
0030	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	35,730.000	35,730.000
0032	506.0105	Structural Steel Carbon	LB	490.000	490.000
0034	513.4061	Railing Tubular Type M	LF	234.000	234.000
0036	516.0500	Rubberized Membrane Waterproofing	SY	14.000	14.000
0038	550.0020	Pre-Boring Rock or Consolidated Materials	LF	60.000	60.000
0040	550.0500	Pile Points	EACH	12.000	12.000
0042	550.1100	Piling Steel HP 10-Inch X 42 Lb	LF	348.000	348.000
0044	606.0300	Riprap Heavy	CY	190.000	190.000
0046	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	160.000	160.000
0048	618.0100	Maintenance and Repair of Haul Roads (project) 01. 7839-00-70	EACH	1.000	1.000
0050	619.1000	Mobilization	EACH	1.000	1.000
0052	624.0100	Water	MGAL	5.000	5.000
0054	625.0100	Topsoil	SY	121.000	121.000
0056	628.1504	Silt Fence	LF	220.000	220.000
0058	628.1520	Silt Fence Maintenance	LF	220.000	220.000
0060	628.1905	Mobilizations Erosion Control	EACH	1.000	1.000
0062	628.1910	Mobilizations Emergency Erosion Control	EACH	1.000	1.000
0064	628.2008	Erosion Mat Urban Class I Type B	SY	168.000	168.000
0066	628.6005	Turbidity Barriers	SY	64.000	64.000
0068	629.0210	Fertilizer Type B	CWT	0.200	0.200
0070	630.0120	Seeding Mixture No. 20	LB	3.000	3.000
0072	630.0500	Seed Water	MGAL	2.000	2.000
0074	634.0614	Posts Wood 4x6-Inch X 14-FT	EACH	4.000	4.000
0076	637.2230	Signs Type II Reflective F	SF	12.000	12.000
0078	638.2602	Removing Signs Type II	EACH	4.000	4.000
0080	638.3000	Removing Small Sign Supports	EACH	4.000	4.000
0082	642.5001	Field Office Type B	EACH	1.000	1.000
0084	643.0420	Traffic Control Barricades Type III	DAY	600.000	600.000
0086	643.0705	Traffic Control Warning Lights Type A	DAY	1,200.000	1,200.000
0088	643.0900	Traffic Control Signs	DAY	600.000	600.000
0090	643.5000	Traffic Control	EACH	1.000	1.000
0092	645.0111	Geotextile Type DF Schedule A	SY	38.000	38.000
0094	645.0120	Geotextile Type HR	SY	355.000	355.000
0096	650.4500	Construction Staking Subgrade	LF	98.000	98.000
0098	650.5000	Construction Staking Base	LF	98.000	98.000
0100	650.6501	Construction Staking Structure Layout (structure) 01. B-10-396	EACH	1.000	1.000

Estimate Of Quantities

7839-00-70

Line	Item	Item Description	Unit	Total	Qty
0102	650.9911	Construction Staking Supplemental Control (project) 01. 7839-00-70	EACH	1.000	1.000
0104	650.9920	Construction Staking Slope Stakes	LF	98.000	98.000
0106	715.0502	Incentive Strength Concrete Structures	DOL	1,490.000	1,490.000
0108	999.1501.S	Crack and Damage Survey	EACH	1.000	1.000
0110	999.2005.S	Maintaining Bird Deterrent System (station) 01. 10+00	EACH	1.000	1.000
0112	ASP.1T0A	On-the-Job Training Apprentice at \$5.00/HR	HRS	300.000	300.000
0114	ASP.1T0G	On-the-Job Training Graduate at \$5.00/HR	HRS	300.000	300.000
0116	SPV.0090	Special 01. Flashing Stainless Steel	LF	173.000	173.000
0118	SPV.0195	Special 01. Select Crushed Material for Travel Corridor	TON	140.000	140.000

3

3

CLEARING GRUBBING

CATEGORY	STATION	TO	STATION	LOCATION	201.0110 CLEARING SY	201.0210 GRUBBING SY	REMARKS
0010	9+10	-	9+58.73	STARKS ROAD	36	36	
0010	10+45.27	-	10+94	STARKS ROAD	98	98	
TOTAL 0010					134	134	

EXCAVATION

CATEGORY	STATION	TO	STATION	LOCATION	205.0100 EXCAVATION COMMON CY	208.0100 BORROW CY	REMARKS
0010	9+10	-	10+94	STARKS ROAD	52	43	
TOTAL 0010					52	43	

MISCELLANEOUS

CATEGORY	STATION	TO	STATION	LOCATION	619.1000 MOBILIZATION EACH	642.5001 FIELD OFFICE TYPE B EACH	999.1501.S CRACK AND DAMAGE SURVEY EACH	999.2005.S.01 MAINTAINING BIRD DETERRENT SYSTEM (STATION) (01. 10+00) EACH	213.0100.01 FINISHING ROADWAY (7839- 00-70) (01. B-10- 396) EACH	REMARKS
0010	9+10	-	10+94	PROJECT	1	1	1	1	1	
TOTAL 0010					1	1	1	1	1	

PROJECT NO: 7839-00-70

HWY: STARKS ROAD

COUNTY: CLARK

MISCELLANEOUS QUANTITIES

SHEET

E

AGGREGATES

CATEGORY	STATION	TO	STATION	LOCATION	305.0110 BASE AGGREGATE DENSE 3/4-INCH TON	305.0120 BASE AGGREGATE DENSE 1 1/4- INCH TON	311.0110 BREAKER RUN TON	624.0100 WATER MGAL	REMARKS
0010	9+10	-	9+58.73	STARKS ROAD	23	54	108	2	
0010	10+45.27	-	10+94	STARKS ROAD	23	54	107	2	
TOTAL 0010					46	108	215	5	

EROSION CONTROL

CATEGORY	STATION	TO	STATION	LOCATION	628.1504 SILT FENCE LF	628.1520 SILT FENCE MAINTENANCE LF	628.1905 MOBILIZATIONS EROSION CONTROL EACH	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL EACH	628.6005 TURBIDITY BARRIERS SY	REMARKS
0010	9+10	-	9+58.73	STARKS ROAD	110	110	1	1	39	
0010	10+45.27	-	10+94	STARKS ROAD	110	110	-	-	24	
TOTAL 0010					220	220	1	1	64	

RESTORATION

CATEGORY	STATION	TO	STATION	LOCATION	625.0100 TOPSOIL SY	628.2008 EROSION MAT URBAN CLASS I TYPE B SY	629.0210 FERTILIZER TYPE B CWT	630.0120 SEEDING MIXTURE NO. 20 LB	630.0500 SEED WATER MGAL	REMARKS
0010	9+10	-	9+58.73	STARKS ROAD	61	84	0.1	1.5	1	
0010	10+45.27	-	10+94	STARKS ROAD	60	84	0.1	1.5	1	
TOTAL 0010					121	168	0.2	3.0	2	

3

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TYPE II SIGNING

CATEGORY	STATION	SIDE	SIGN CODE	WXH	LOCATION	634.0614 POSTS WOOD 4X6-INCH X 14- FT EACH	637.2230 SIGNS TYPE II REFLECTIVE F SF	638.2602 REMOVING SIGNS TYPE II EACH	638.3000 REMOVING SMALL SIGN SUPPORTS EACH	REMARKS
0010	9+42	LT	W5-52L	12X36	STARKS ROAD	1	3	1	1	
0010	9+46	RT	W5-52R	12X36	STARKS ROAD	1	3	1	1	
0010	10+58	LT	W5-52L	12X36	STARKS ROAD	1	3	1	1	
0010	10+62	RT	W5-52R	12X36	STARKS ROAD	1	3	1	1	
TOTAL 0010						4	12	4	4	

TRAFFIC CONTROL

CATEGORY	LOCATION	DAY	643.0420 TRAFFIC CONTROL BARRICADES TYPE III DAY	643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A DAY	643.0900 TRAFFIC CONTROL SIGNS DAY	643.5000 TRAFFIC CONTROL EACH	REMARKS
0010	GORMAN AVE	60.00	120	240	60	-	
0010	STARKS ROAD	60.00	360	720	480	1	INCLUDE RIVER NAVIGATION ITEMS
0010	STERLING AVE	60.00	120	240	60	-	
TOTAL 0010			600	1,200	600	1	

STAKING

CATEGORY	STATION	TO	STATION	LOCATION	650.4500 CONSTRUCTION STAKING SUBGRADE LF	650.5000 CONSTRUCTION STAKING BASE LF	650.6501.01 CONSTRUCTION STAKING STRUCTURE LAYOUT (STRUCTURE) (01. B-10-396) EACH	650.9911.01 CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (PROJECT) (01. 7839-00-70) EACH	650.9920 CONSTRUCTION STAKING SLOPE STAKES LF	REMARKS
0010	9+10	-	9+58.73	STARKS ROAD	49	49	1	1	49	
0010	10+45.27	-	10+94	STARKS ROAD	49	49	-	-	49	
TOTAL 0010					98	98	1	1	98	

HAUL ROADS

CATEGORY	STATION	TO	STATION	LOCATION	618.0100.01 MAINTENANCE AND REPAIR OF HAUL ROADS (PROJECT) (01. 7839-00-70) EACH	REMARKS
0030	9+10	-	10+94	PROJECT	1	
TOTAL 0030					1	

PROJECT NO: 7839-00-70

HWY: STARKS ROAD

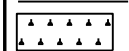



COUNTY: CLARK

MISCELLANEOUS QUANTITIES

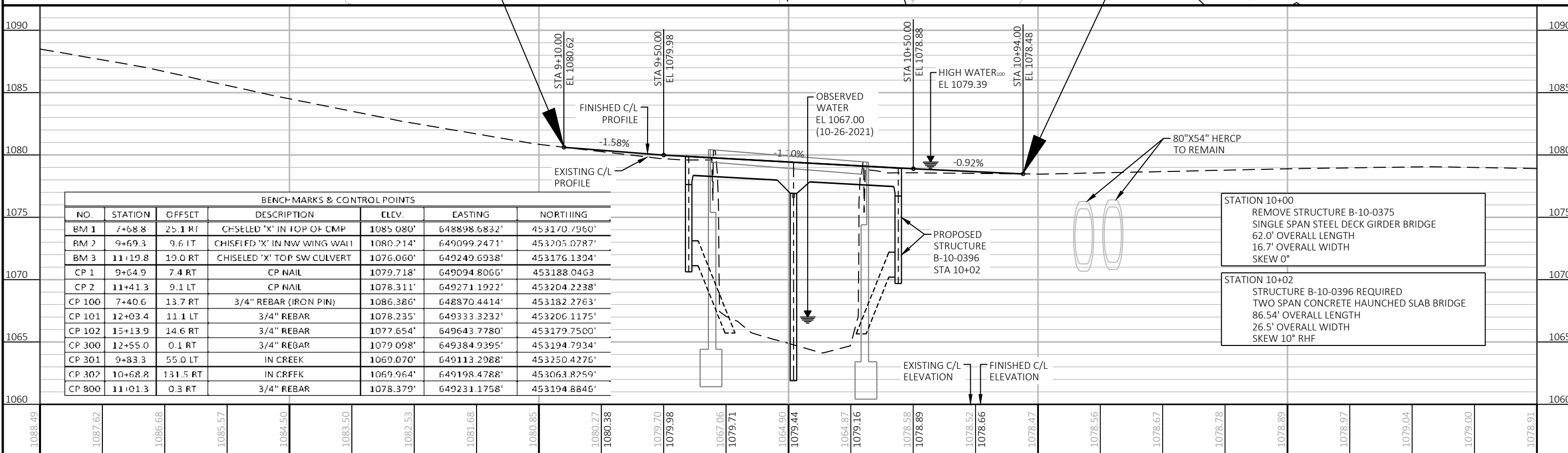
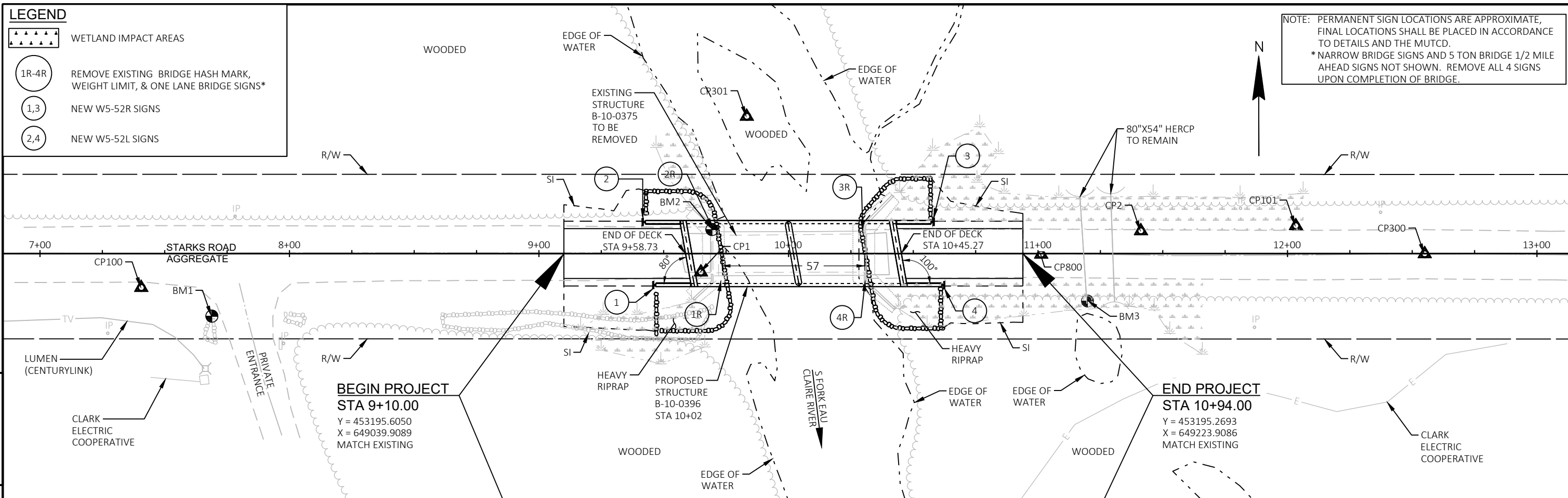
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LEGEND

-  WETLAND IMPACT AREAS
-  REMOVE EXISTING BRIDGE HASH MARK, WEIGHT LIMIT, & ONE LANE BRIDGE SIGNS*
-  NEW W5-52R SIGNS
-  NEW W5-52L SIGNS

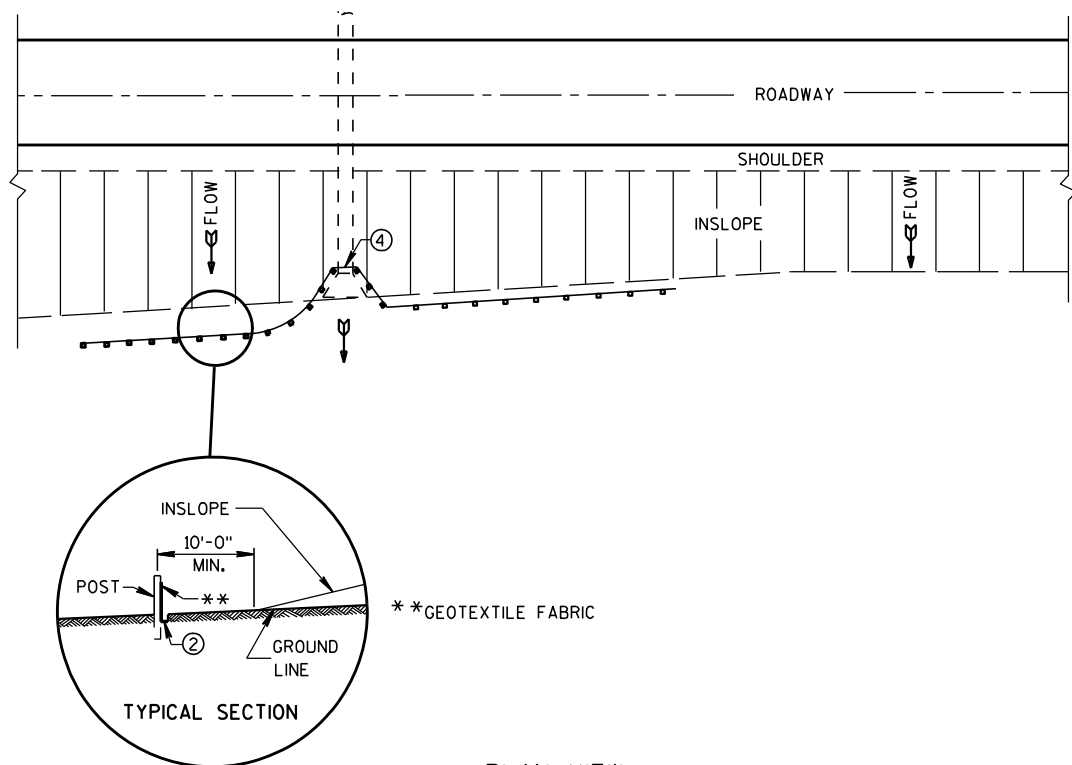
NOTE: PERMANENT SIGN LOCATIONS ARE APPROXIMATE, FINAL LOCATIONS SHALL BE PLACED IN ACCORDANCE TO DETAILS AND THE MUTCD.
 * NARROW BRIDGE SIGNS AND 5 TON BRIDGE 1/2 MILE AHEAD SIGNS NOT SHOWN. REMOVE ALL 4 SIGNS UPON COMPLETION OF BRIDGE.



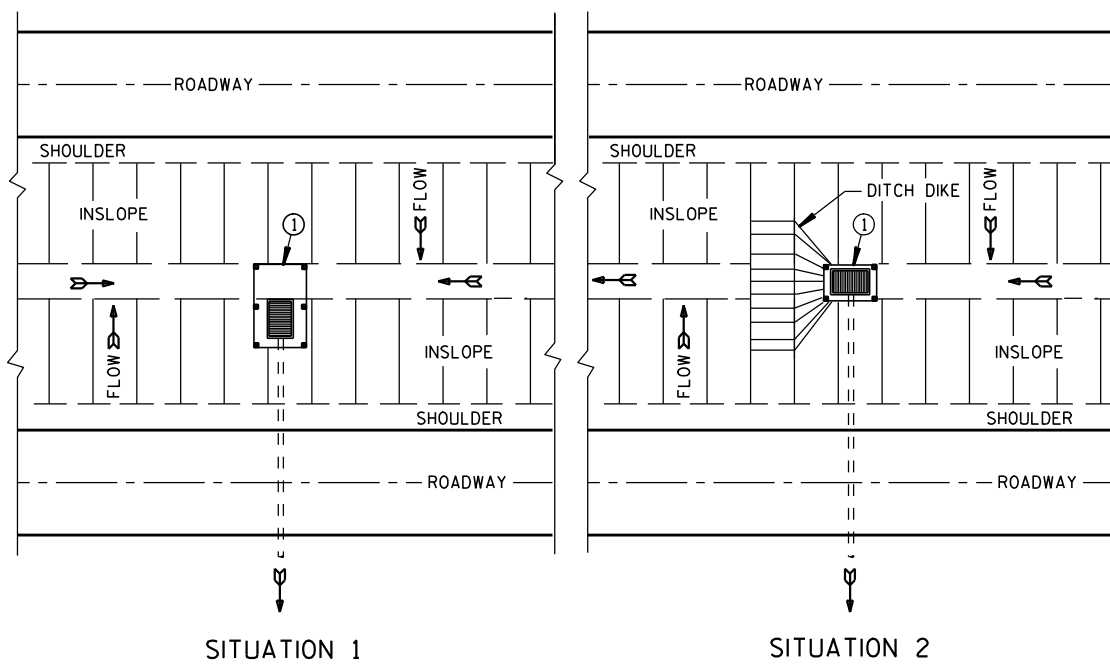
BENCH-MARKS & CONTROL POINTS						
NO.	STATION	OFFSET	DESCRIPTION	ELEV.	EASTING	NORTHING
BM 1	7+68.8	25.1 RT	CHISELED 'X' IN TOP OF CMP	1085.080'	648898.6832'	453170.7960'
BM 2	9+69.3	9.6 LT	CHISELED 'X' IN NW WING WALL	1080.214'	649099.2471'	453205.0787'
BM 3	11+19.8	19.0 RT	CHISELED 'X' TOP SW CULVERT	1076.060'	649249.6938'	453176.1394'
CP 1	9+64.9	7.4 RT	CP NAIL	1079.718'	649094.8066'	453188.0463'
CP 2	11+41.3	9.1 LT	CP NAIL	1078.311'	649271.1922'	453204.2238'
CP 100	7+40.6	13.7 RT	3/4" REBAR (IRON PIN)	1086.386'	648870.4414'	453182.2763'
CP 101	12+03.4	11.1 LT	3/4" REBAR	1078.235'	649333.3232'	453206.1175'
CP 102	15+13.9	14.6 RT	3/4" REBAR	1077.654'	649643.7780'	453179.7500'
CP 300	12+55.0	0.1 RT	3/4" REBAR	1079.098'	649384.9395'	453194.7934'
CP 301	9+83.3	55.0 LT	IN CREEK	1069.070'	649113.2988'	453250.4276'
CP 302	10+68.8	131.5 RT	IN CRFFK	1069.964'	649198.4788'	453063.8259'
CP 800	11+01.3	0.3 RT	3/4" REBAR	1078.379'	649231.1758'	453194.8845'

Standard Detail Drawing List

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
15C04-05	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 M. P. H. OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC
15C06-12	SIGNING & MARKING FOR TWO LANE BRIDGES



PLAN VIEW
TYPICAL APPLICATION OF SILT FENCE

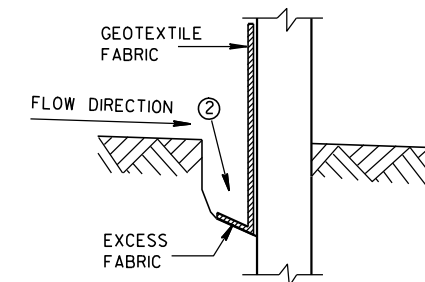


SITUATION 1 SITUATION 2
PLAN VIEW
SILT FENCE AT MEDIAN SURFACE DRAINS

GENERAL NOTES

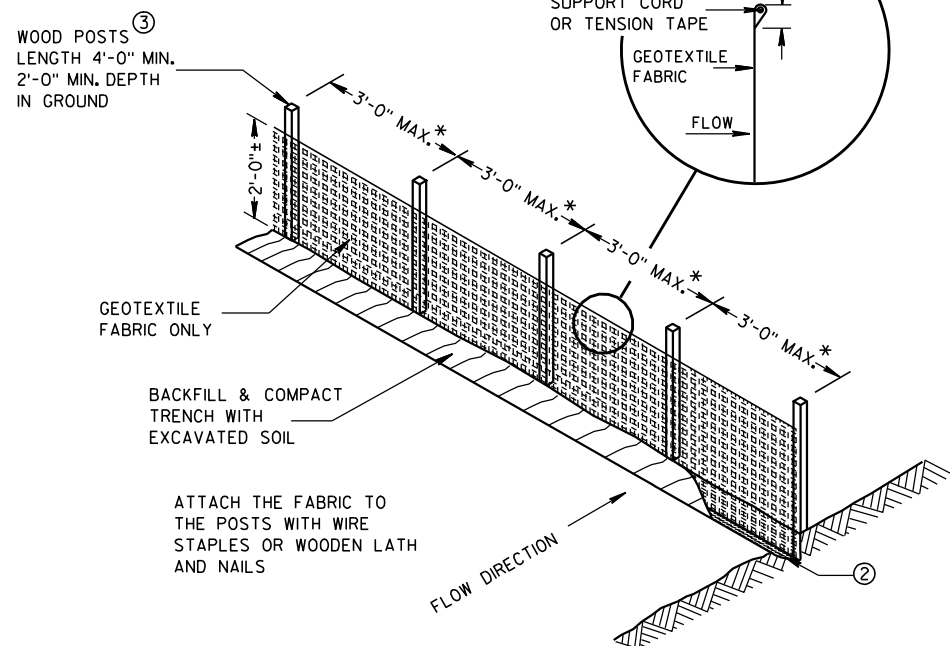
DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

- 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.



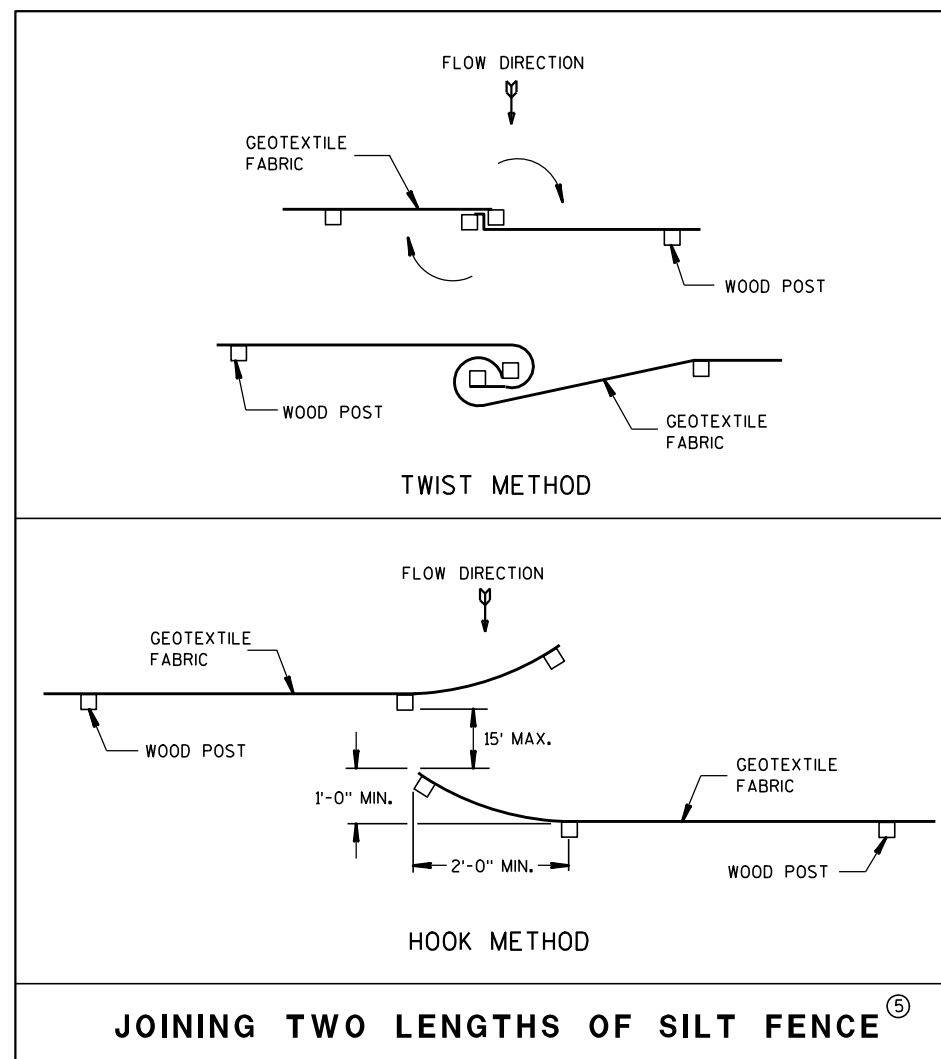
TRENCH DETAIL

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

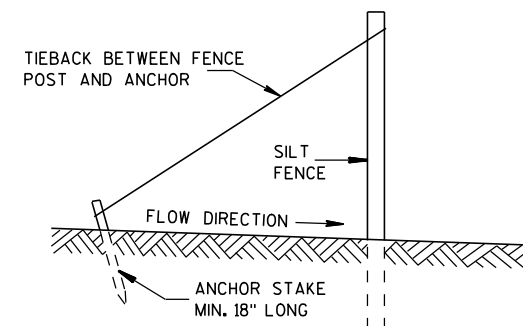


SILT FENCE

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



JOINING TWO LENGTHS OF SILT FENCE ⑤

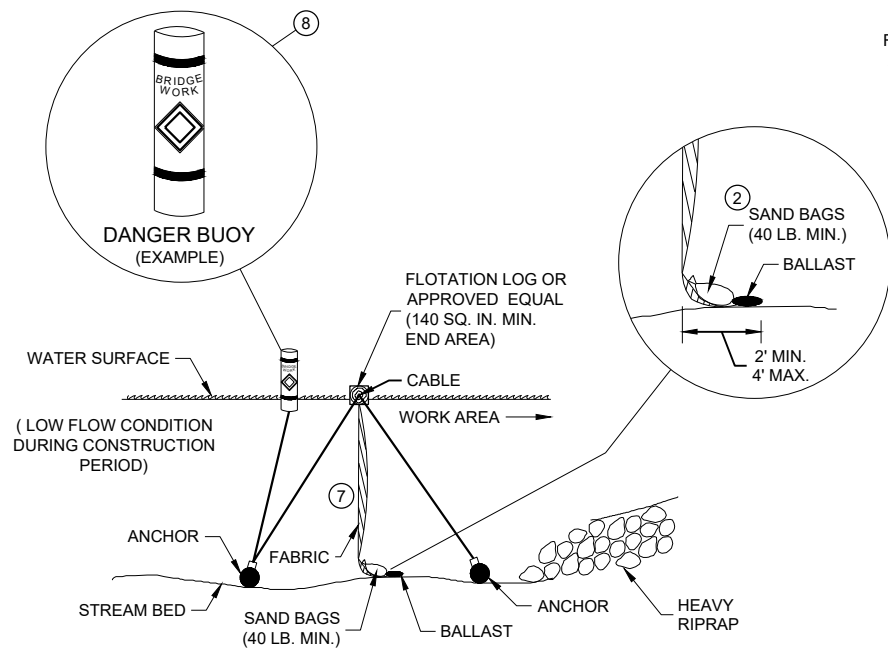


SILT FENCE TIE BACK
(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

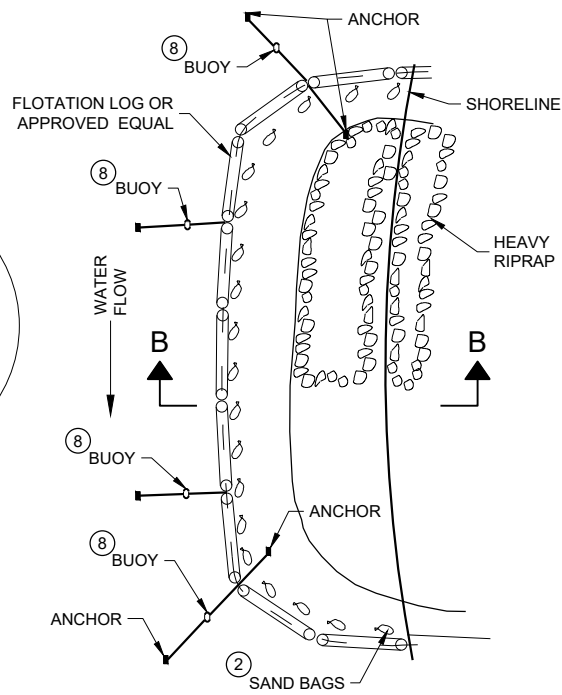
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

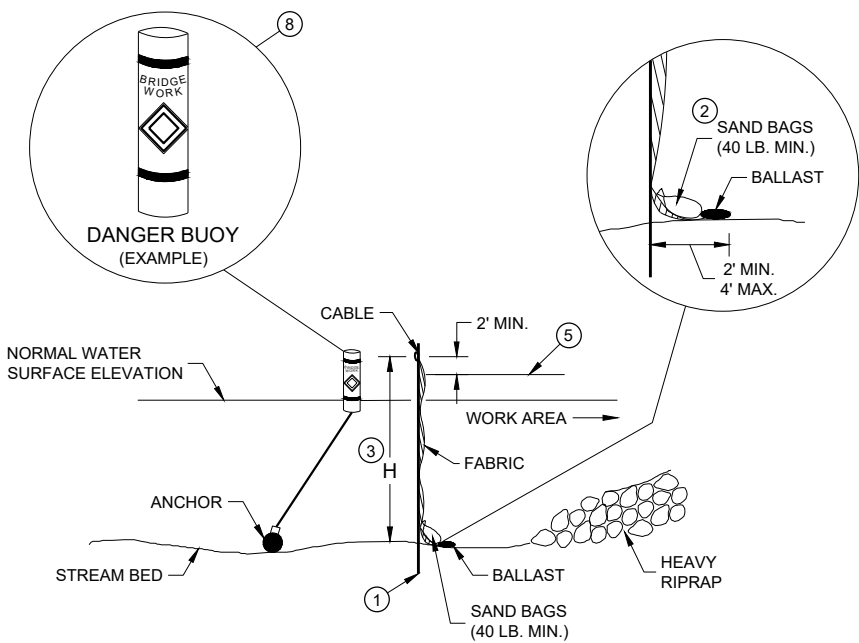


SECTION B - B

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

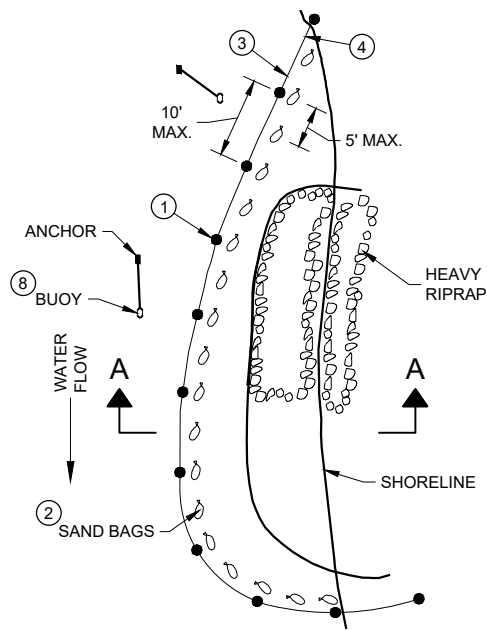


PLAN VIEW



SECTION A - A

TURBIDITY BARRIER - STANDARD POST INSTALLATION



PLAN VIEW

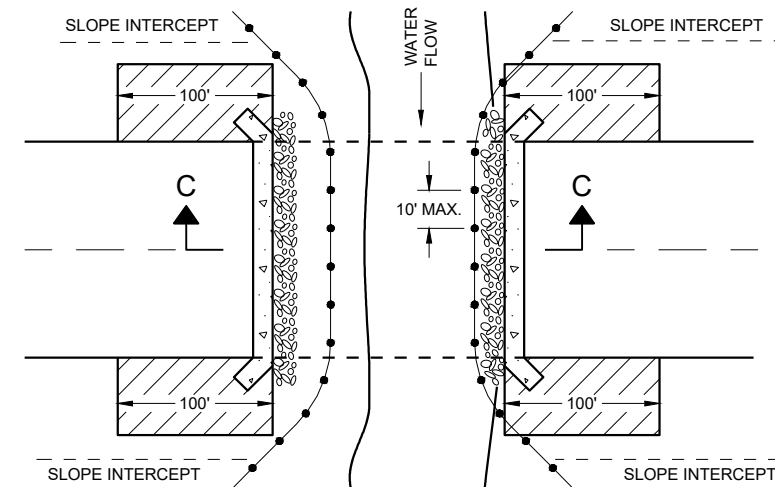
TURBIDITY BARRIER PLACEMENT DETAILS

GENERAL NOTES

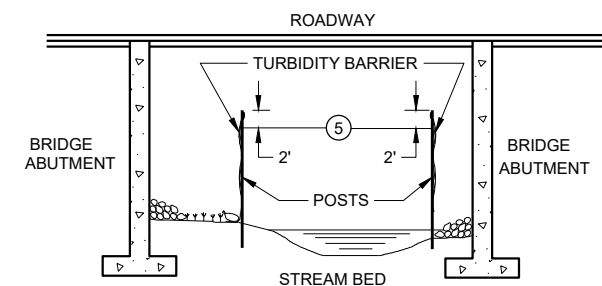
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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

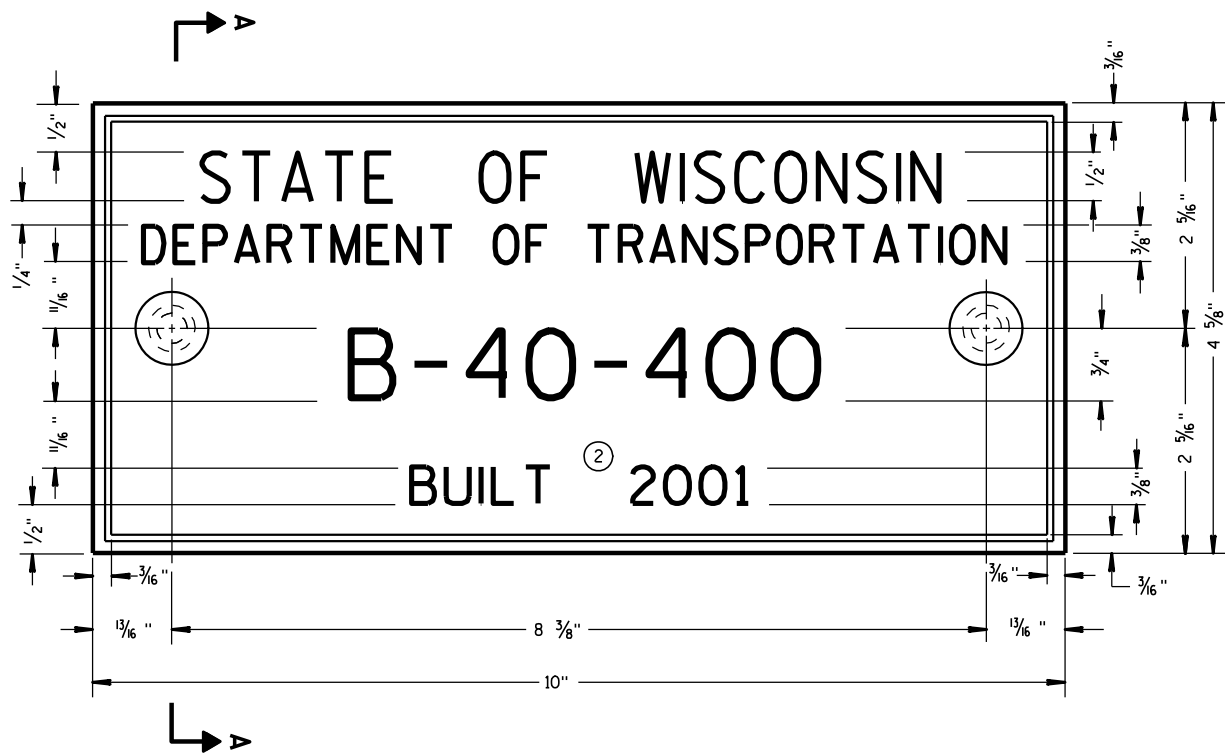
**TURBIDITY BARRIER DETAIL SHOWING
TYPICAL PLACEMENT AT STRUCTURES**

TURBIDITY BARRIER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA



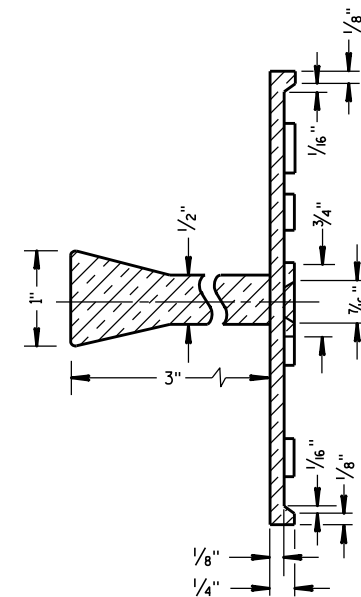
TYPICAL NAME PLATE
(BRIDGES, CULVERTS, AND RETAINING WALLS)

GENERAL NOTES

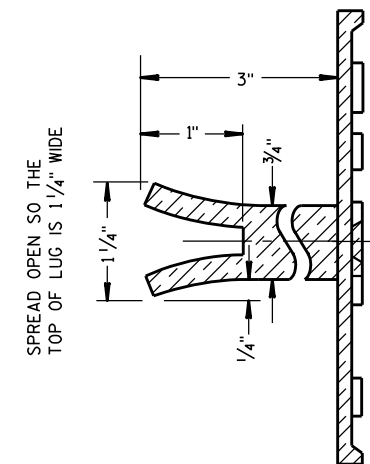
NAME PLATES TO BE INSTALLED ON BRIDGES, CULVERTS, AND RETAINING WALLS SHALL CONFORM TO THE REQUIREMENTS OF SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS.

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

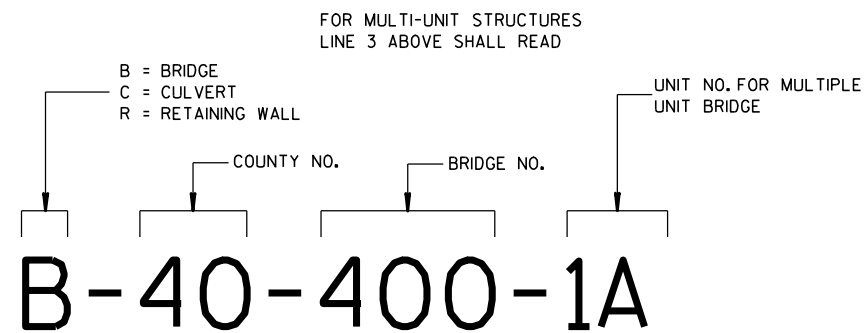
- ① EPOXY RESIN SHALL BE FROM AN APPROVED MANUFACTURER AND USED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
- ② REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.



SECTION A-A

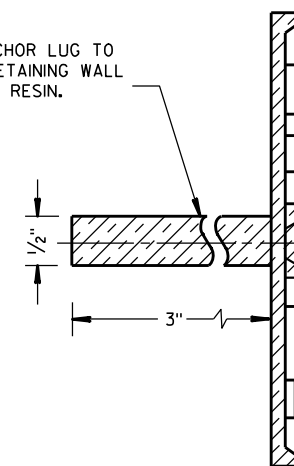


ALTERNATE LUG



**NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES**

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

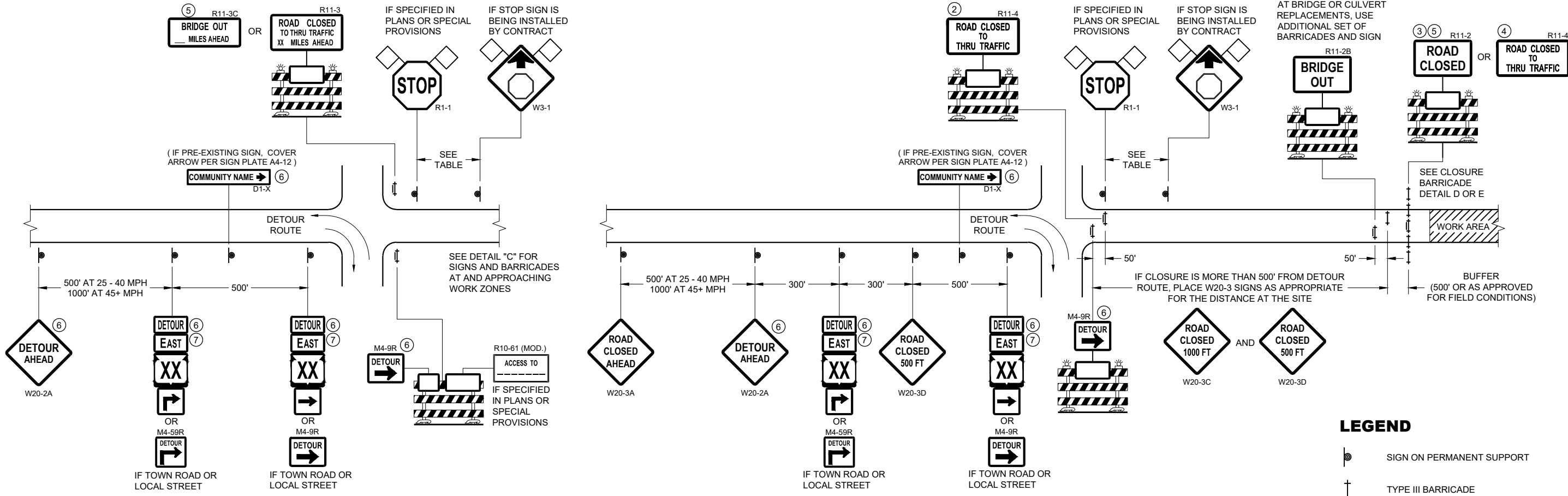


ALTERNATE LUG
(FOR ATTACHMENT TO PRECAST STRUCTURES)

**NAME PLATE
(STRUCTURES)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
DATE 3/26/10 /S/ Scot Becker
CHIEF STRUCTURAL DEVELOPMENT ENGINEER
FHWA



**DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR**

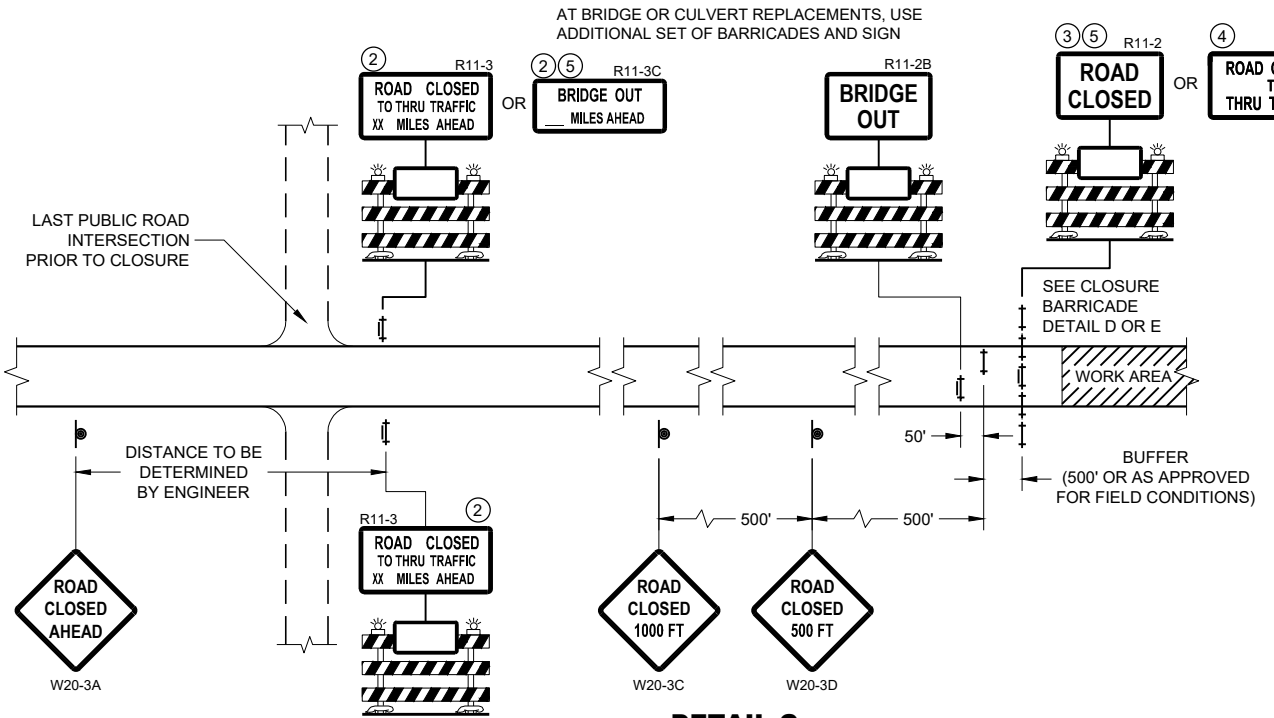
WORK ZONE GREATER THAN OR EQUAL TO 1/2 MILE FROM
DETOUR ROUTE (1000 FEET IF URBAN)

**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



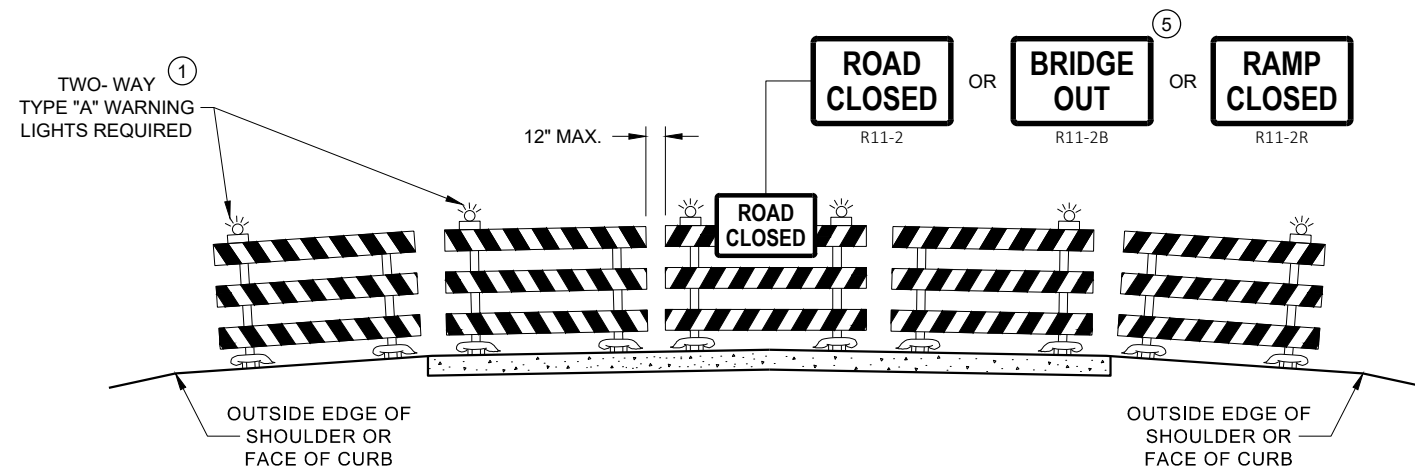
**DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR**

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

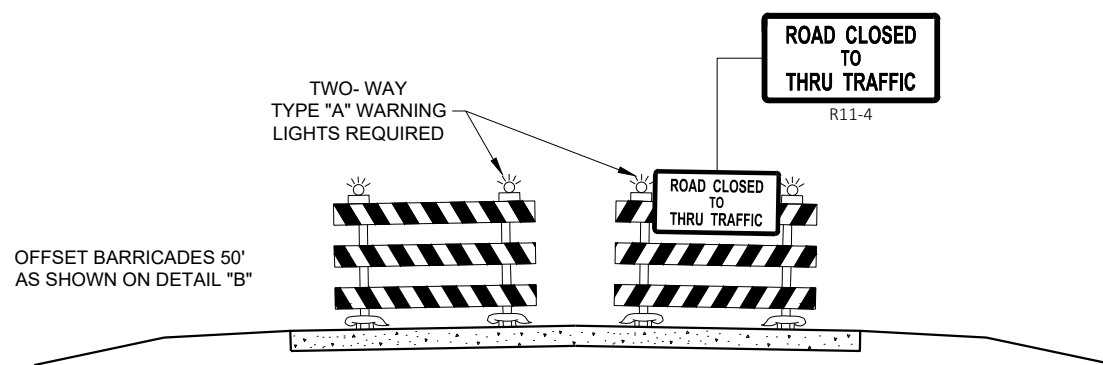
**BARRICADES AND SIGNS
FOR MAINLINE CLOSURES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023 /S/ Andrew Heidtke
DATE 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

GENERAL NOTES

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

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




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

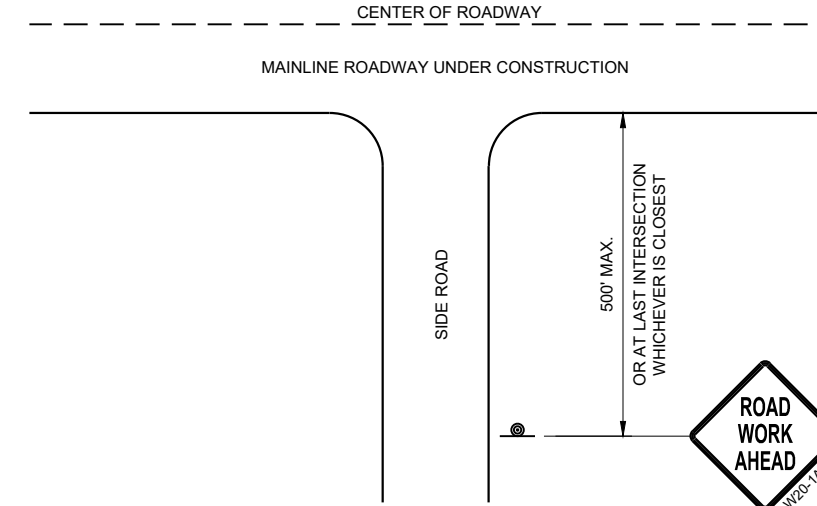
SIGNS THAT WILL BE IN PLACE LESS THAN SEVEN CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

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

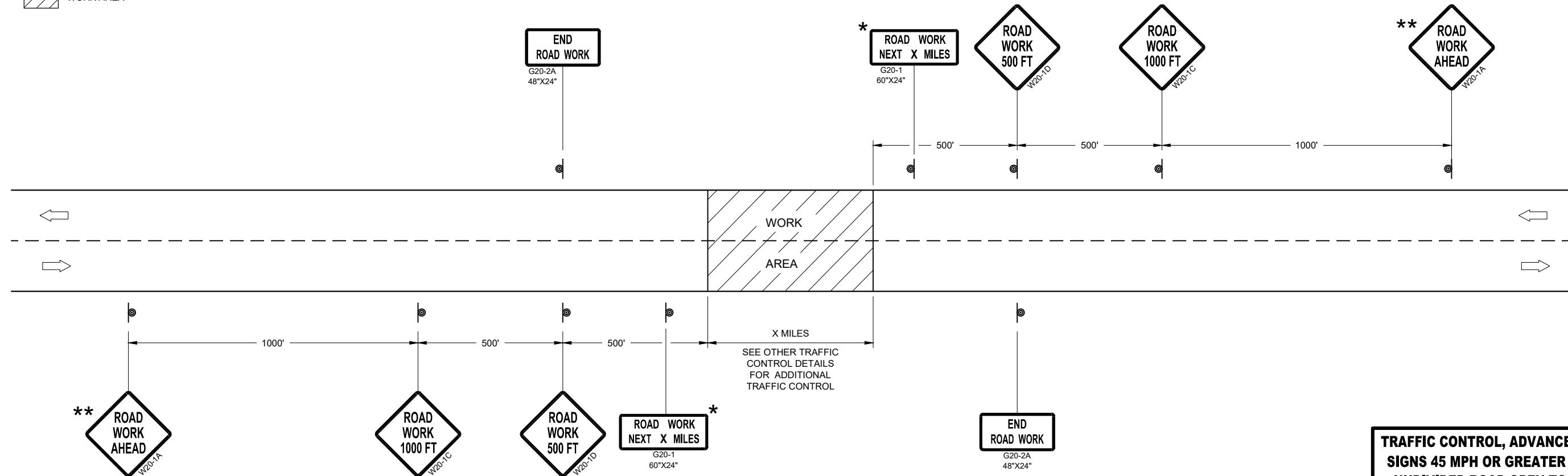
- * OMIT G20-1 SIGNS IF LENGTH OF WORK AREA IS 2 MILES OR LESS
- ** PLACE AN ADDITIONAL W20-1A "ROAD WORK AHEAD" SIGN IF WORK AREA WITHIN THE PROJECT IS SEPARATED BY MORE THAN 2 MILES FROM PREVIOUS WORK AREA.

LEGEND

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



TYPICAL SIDE ROAD APPROACH WARNING SIGN DETAIL



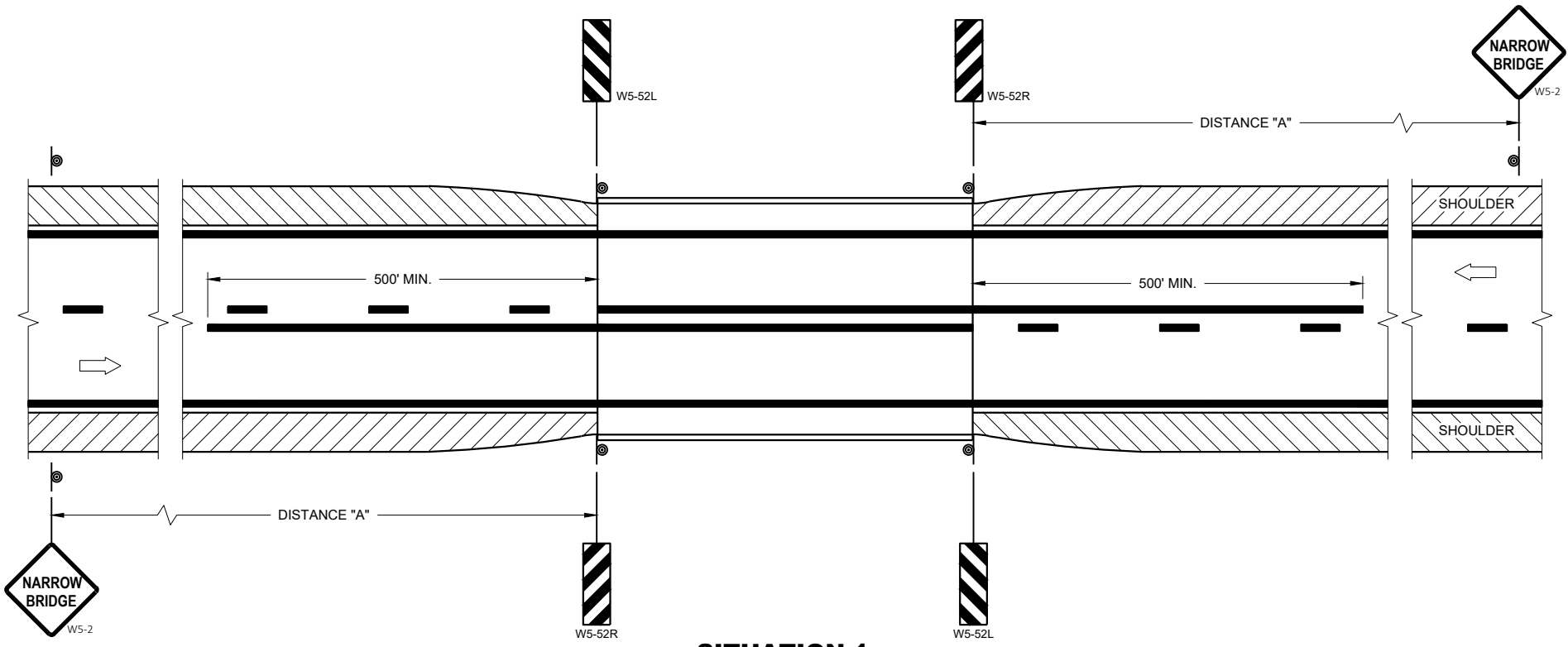
TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45MPH OR GREATER

TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 MPH OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC

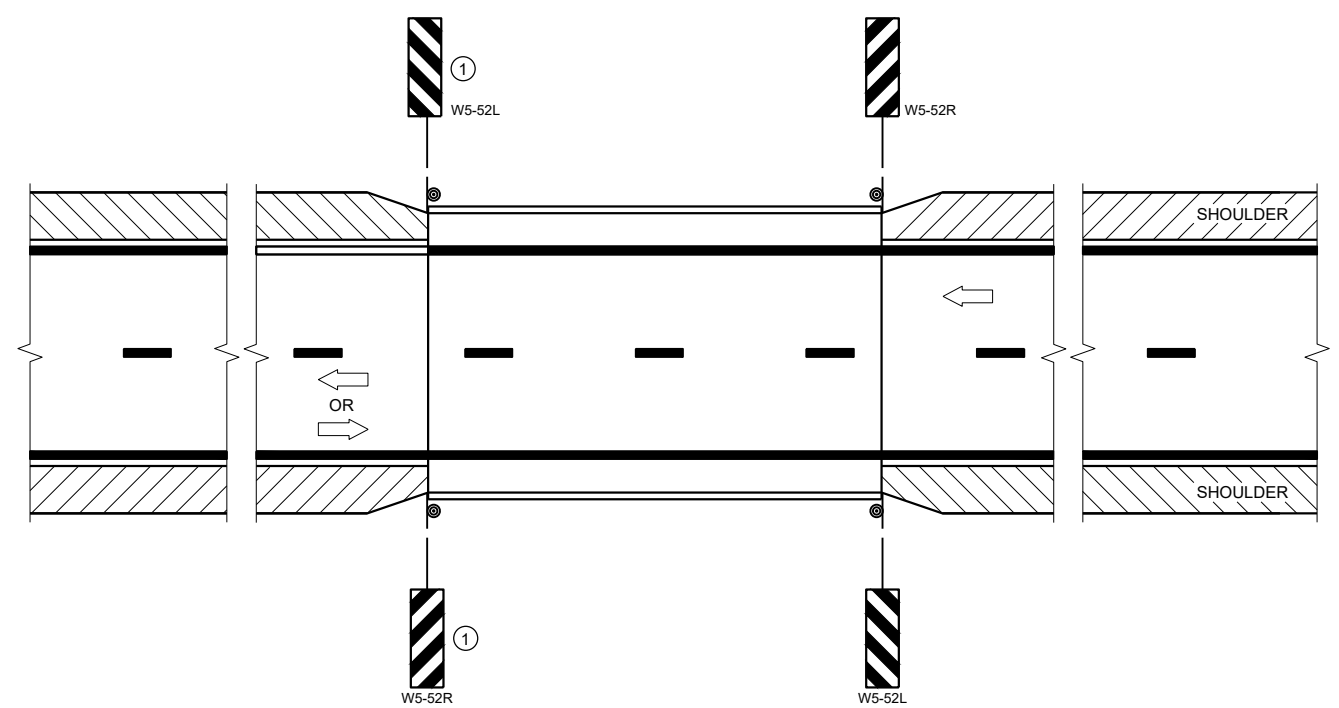
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
DATE July 2018 /S/ Andrew Heidtke
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'

6

6

SDD 15C06-12

SDD 15C06-12

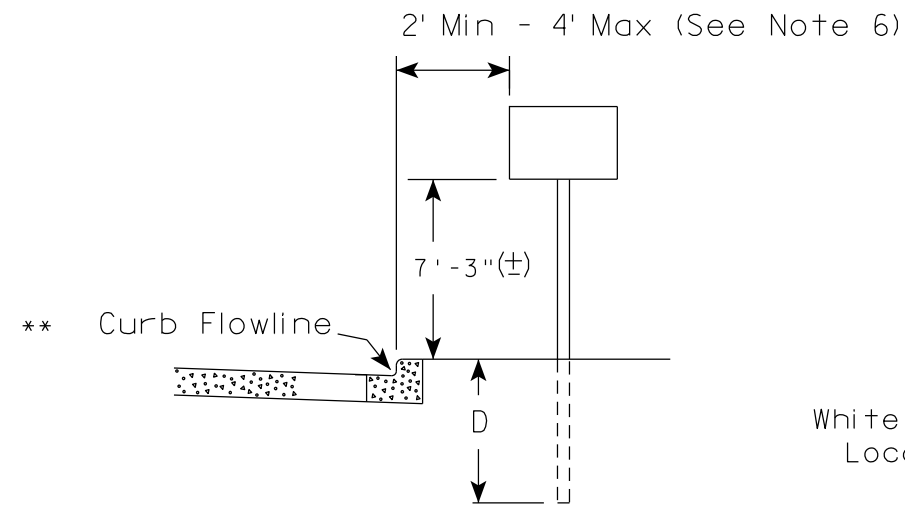
SIGNING AND MARKING FOR TWO LANE BRIDGES

STATE OF WISCONSIN
 DEPARTMENT OF TRANSPORTATION

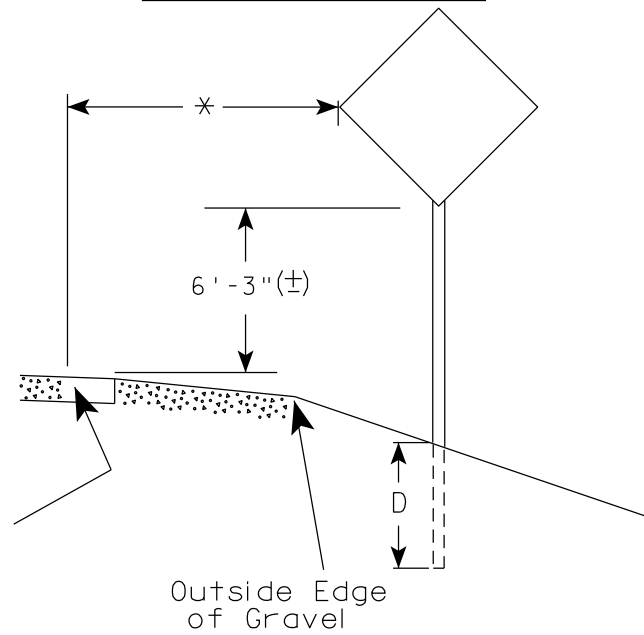
APPROVED
 May 2023 /S/ Jeannie Silver
 DATE STATE SIGNING AND MARKING ENGINEER
 FHWA

URBAN AREA

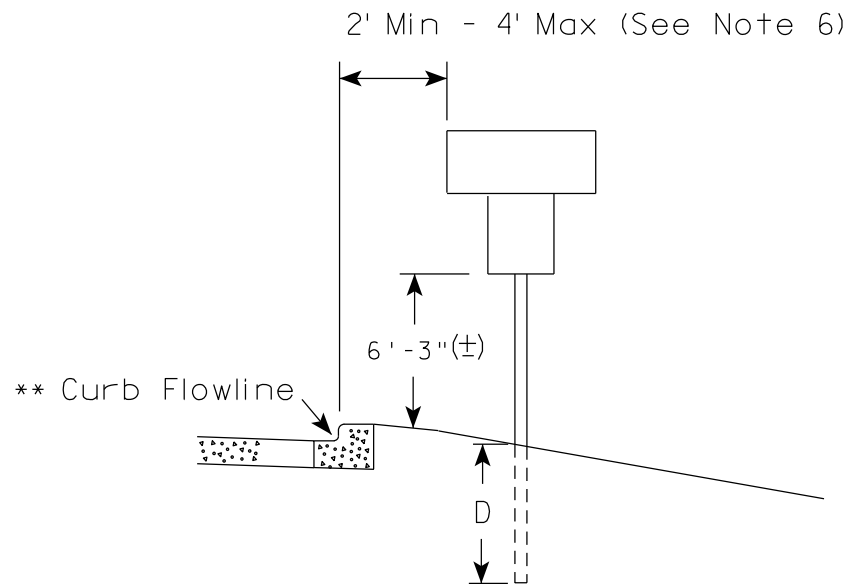
RURAL AREA (See Note 2)



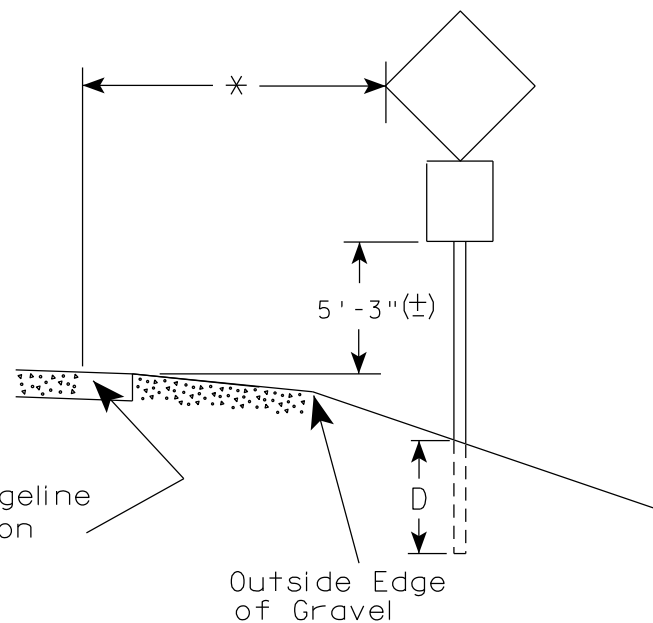
White Edgeline Location



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.

7

7

* * 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.

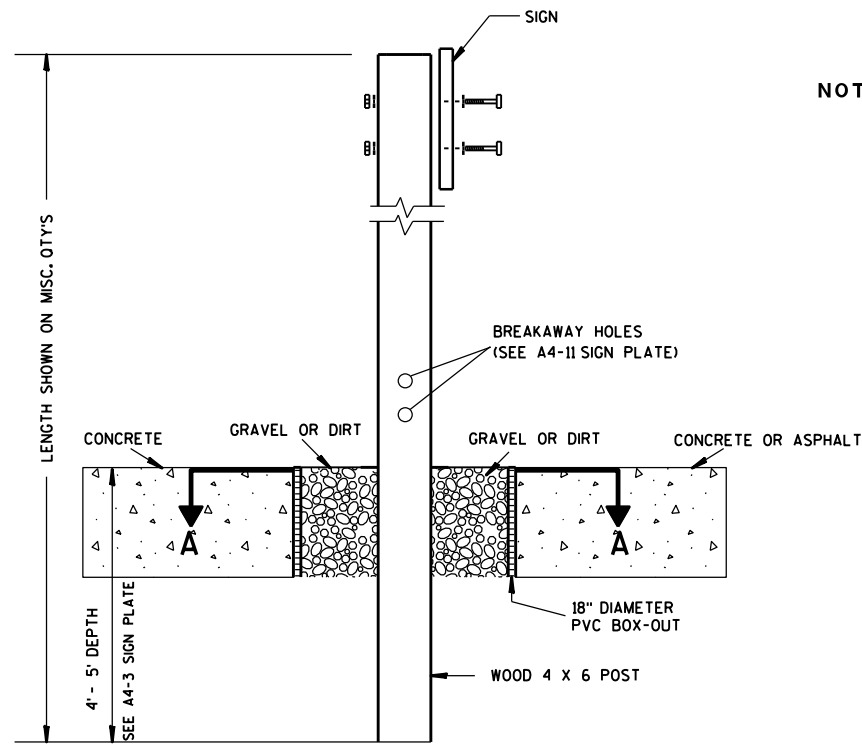
* 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.

TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

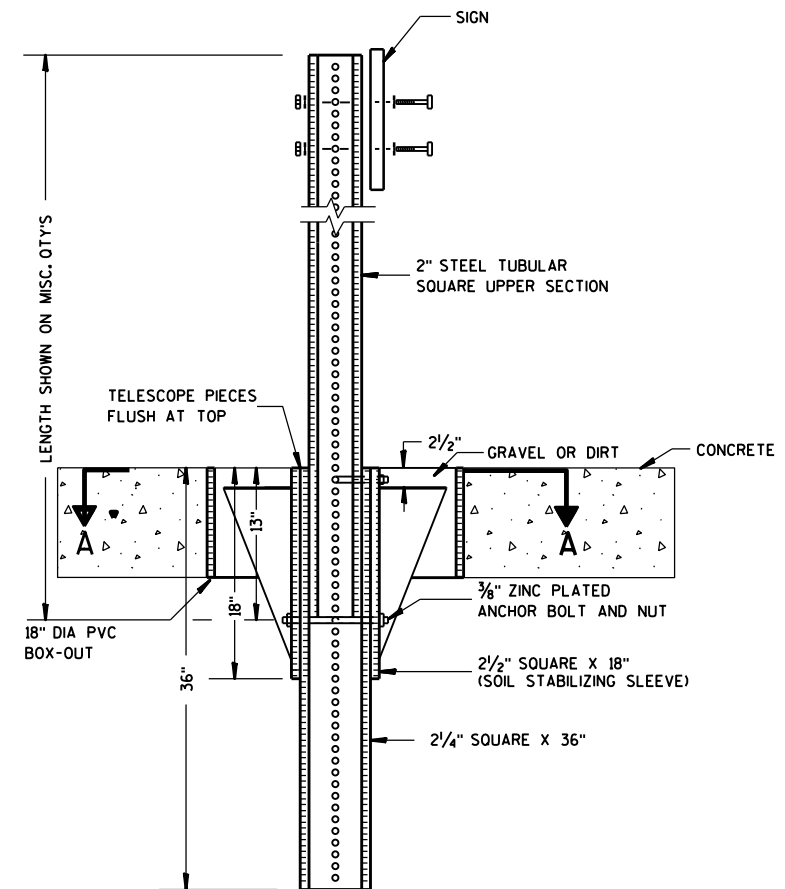
DATE 5/13/2020 PLATE NO. A4-3.22



ELEVATION VIEW

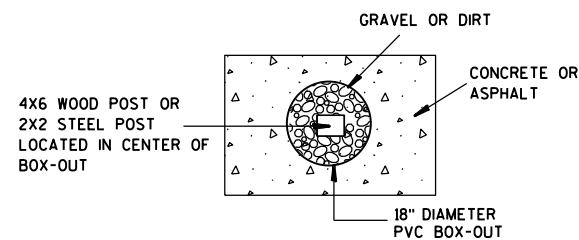
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

- 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

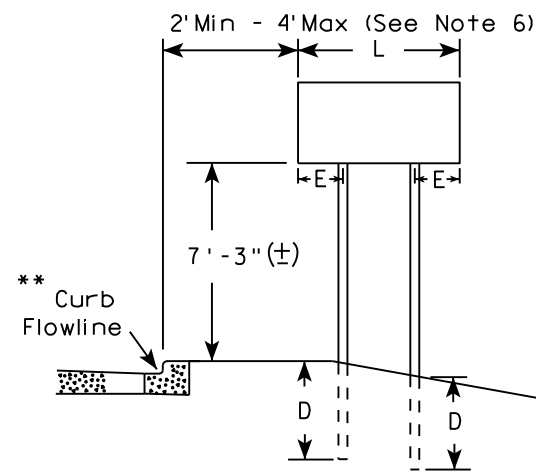
FOR NEW CONCRETE/ ASPHALT INSTALLATIONS

SIGN POST BOX-OUTS A4-3B	
<small>WISCONSIN DEPT OF TRANSPORTATION</small>	
APPROVED <i>Matthew R. Rauch</i> <small>for State Traffic Engineer</small>	
<small>DATE 1/27/14</small>	<small>PLATE NO. A4-3B.1</small>

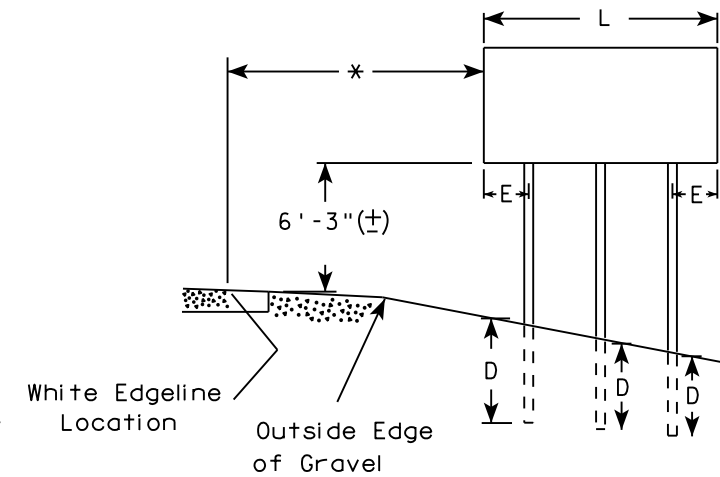
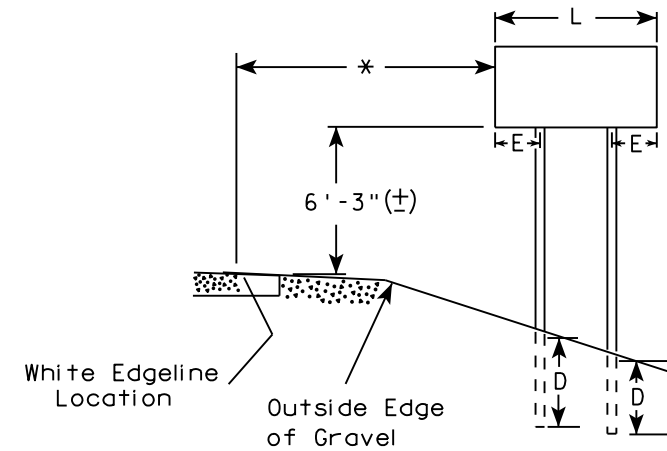
GENERAL NOTES

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" (±).

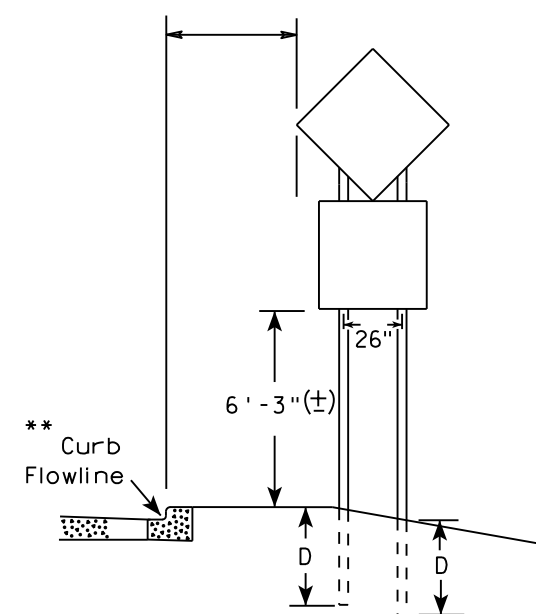
URBAN AREA



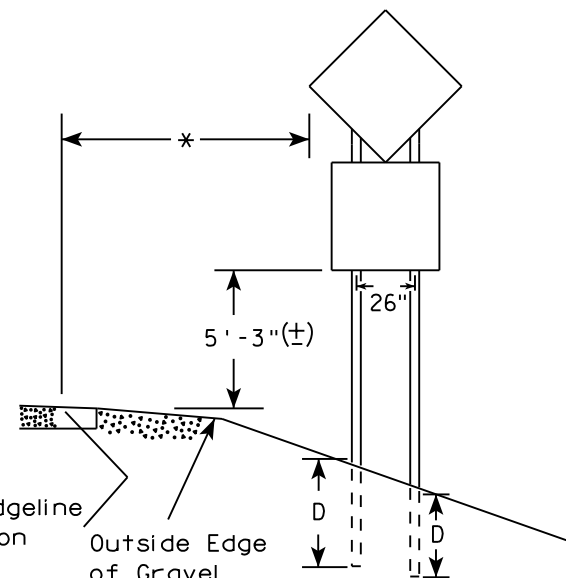
RURAL AREA (See Note 3)



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

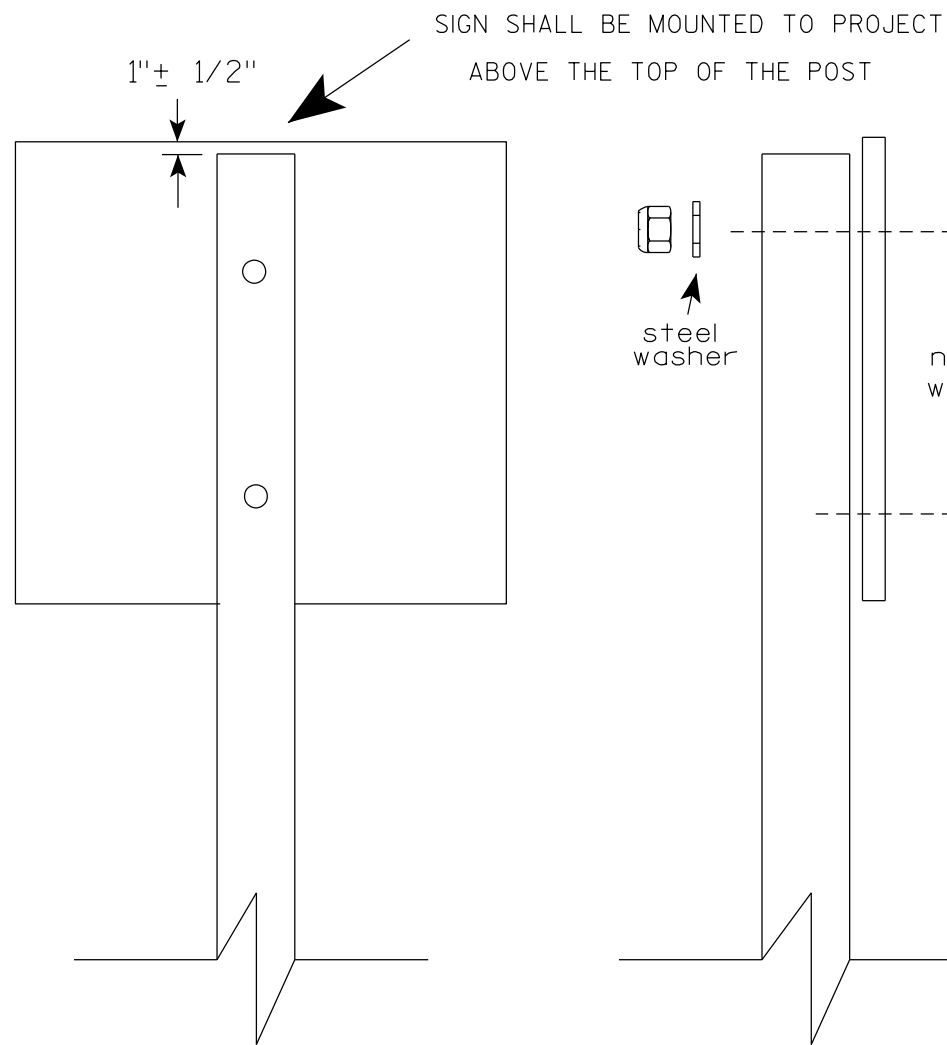
SIGN SHAPE OTHER THAN DIAMOND (THREE POSTS REQUIRED)	
L	E
Greater than 108" to 144"	12"

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.

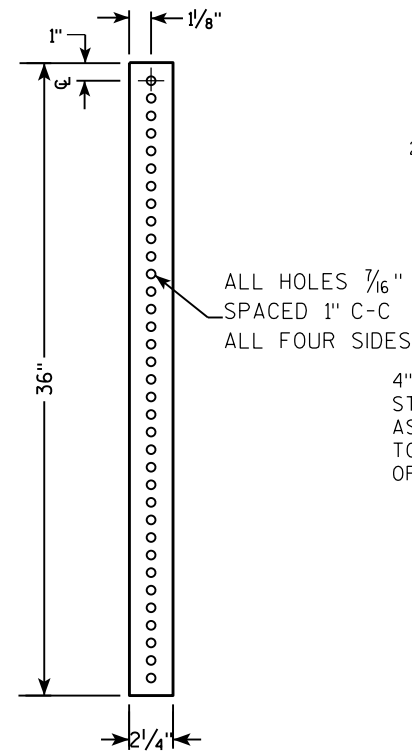
- STRINGER BOLTING TO ALUMINUM SIGNS (SEE SIGN PLATE A4-18)
- MACHINE BOLTS - $\frac{5}{16}$ " X 1-3/4" Length w/ lock nuts
- WOOD POSTS (4" x 6")
- LAG SCREWS - $\frac{3}{8}$ " X 3" (NO STRINGERS ON BACK OF SIGN)
 - $\frac{3}{8}$ " X 4" (STRINGERS ON BACK OF SIGN)
- SQUARE STEEL POSTS (2" x 2")
- MACHINE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

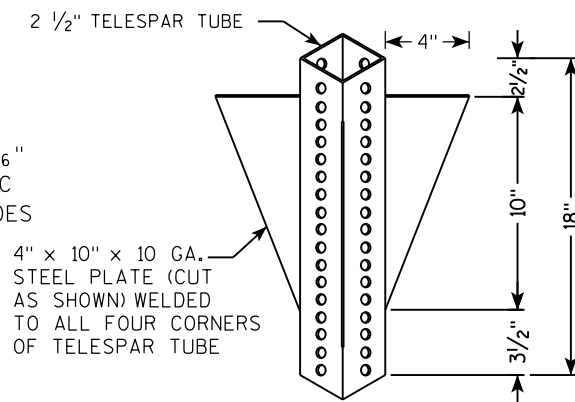
ATTACHMENT OF SIGNS TO POSTS	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R Rauch</i> For State Traffic Engineer
DATE 4/1/2020	PLATE NO. A4-8.9

**TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM**

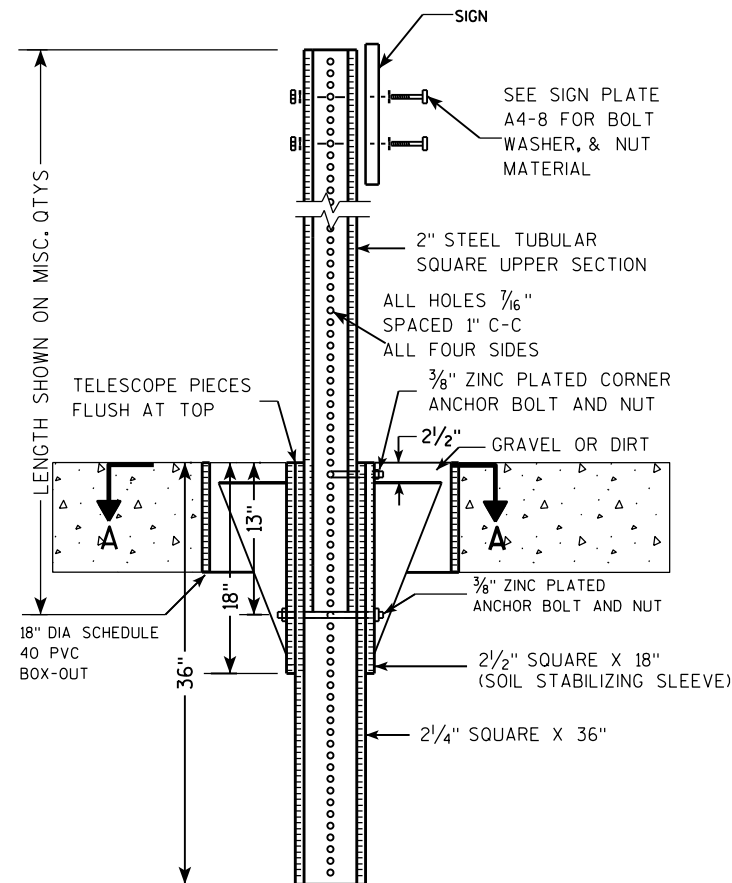
2 1/4" SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH



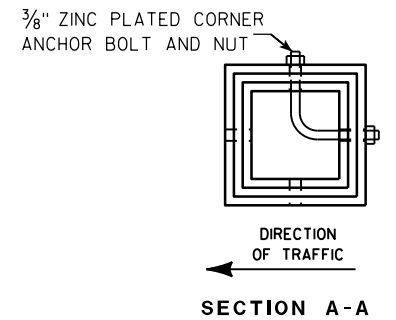
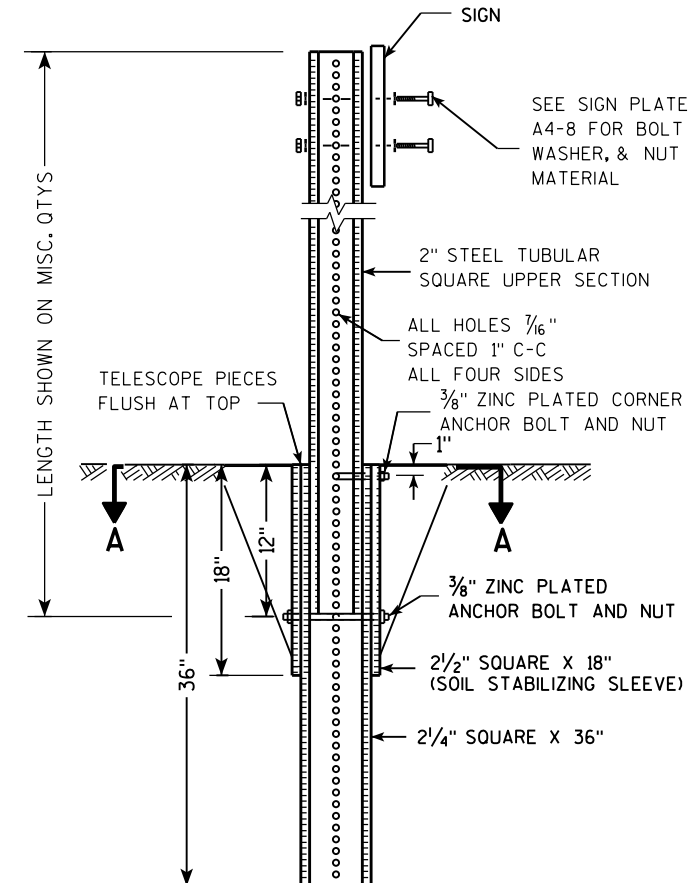
2 1/2" SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH



**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

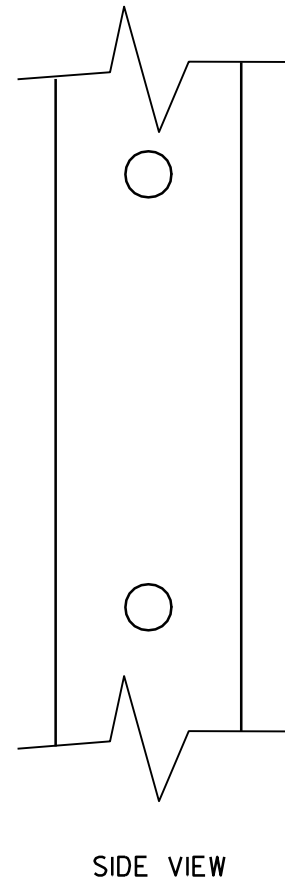
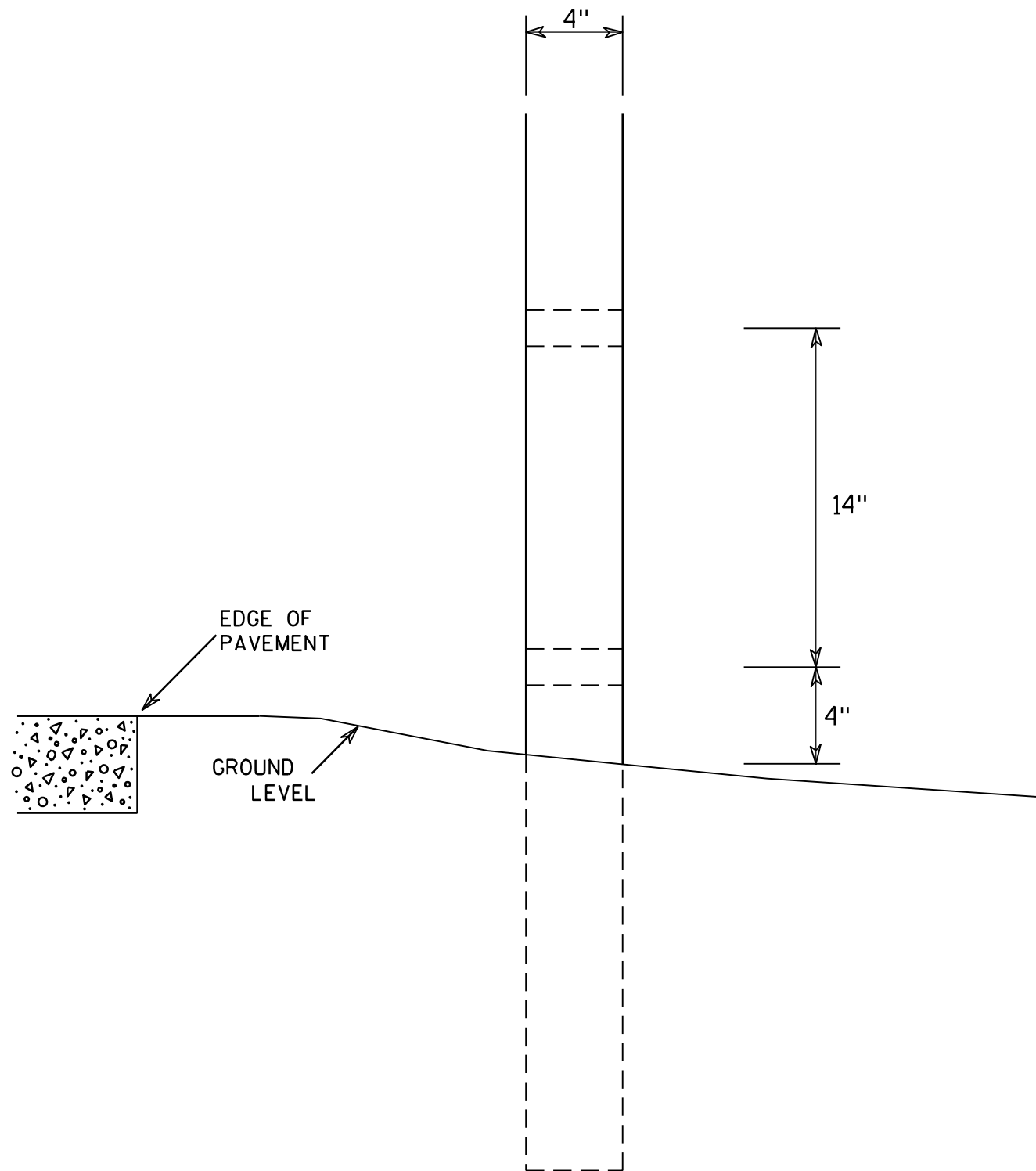
Signs wider than 3 feet or larger than 9 sq. ft shall be mounted on multiple posts (see above table).

**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



GENERAL NOTES

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

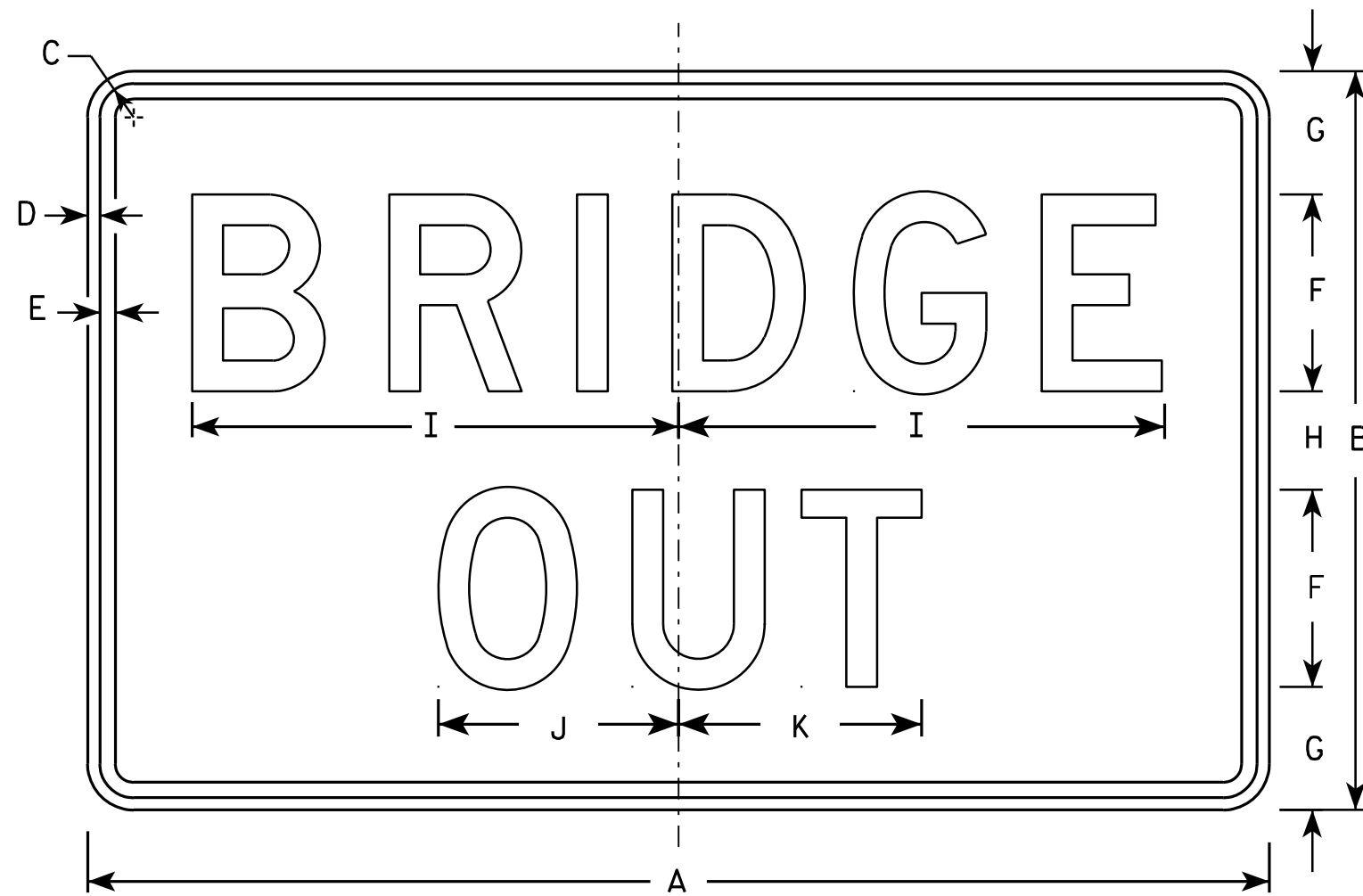
7

7

4 X 6 WOOD POST MODIFICATIONS	
<i>WISCONSIN DEPT OF TRANSPORTATION</i>	
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 - 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

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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

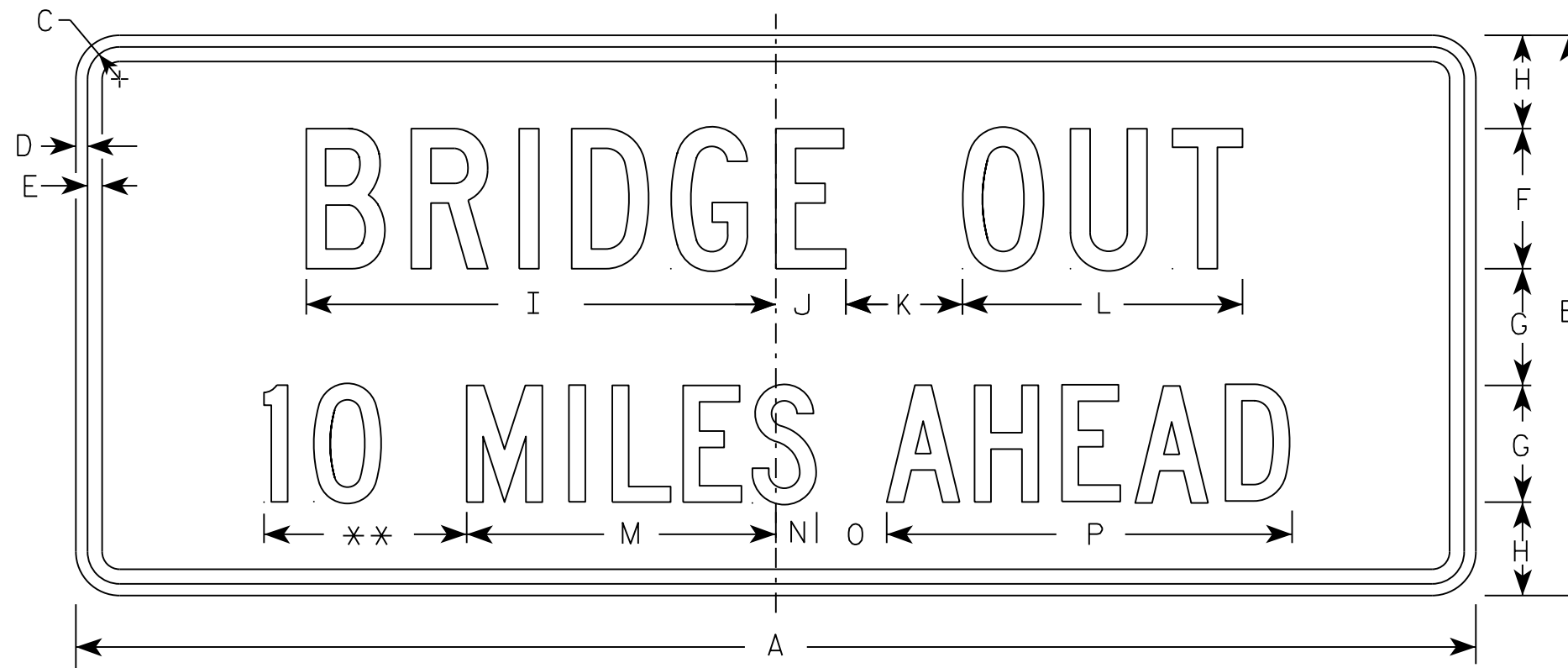
APPROVED *Matthew R. Rauch*
For State Traffic Engineer

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

PROJECT NO: _____ SHEET NO: _____ E

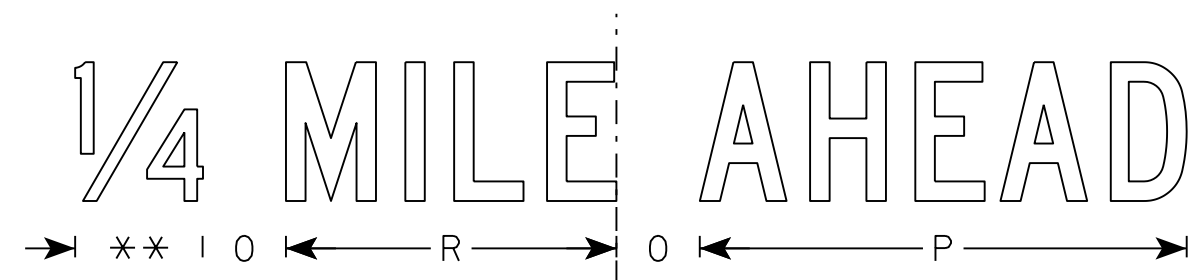
NOTES

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.



R11-3C

** See Note 5



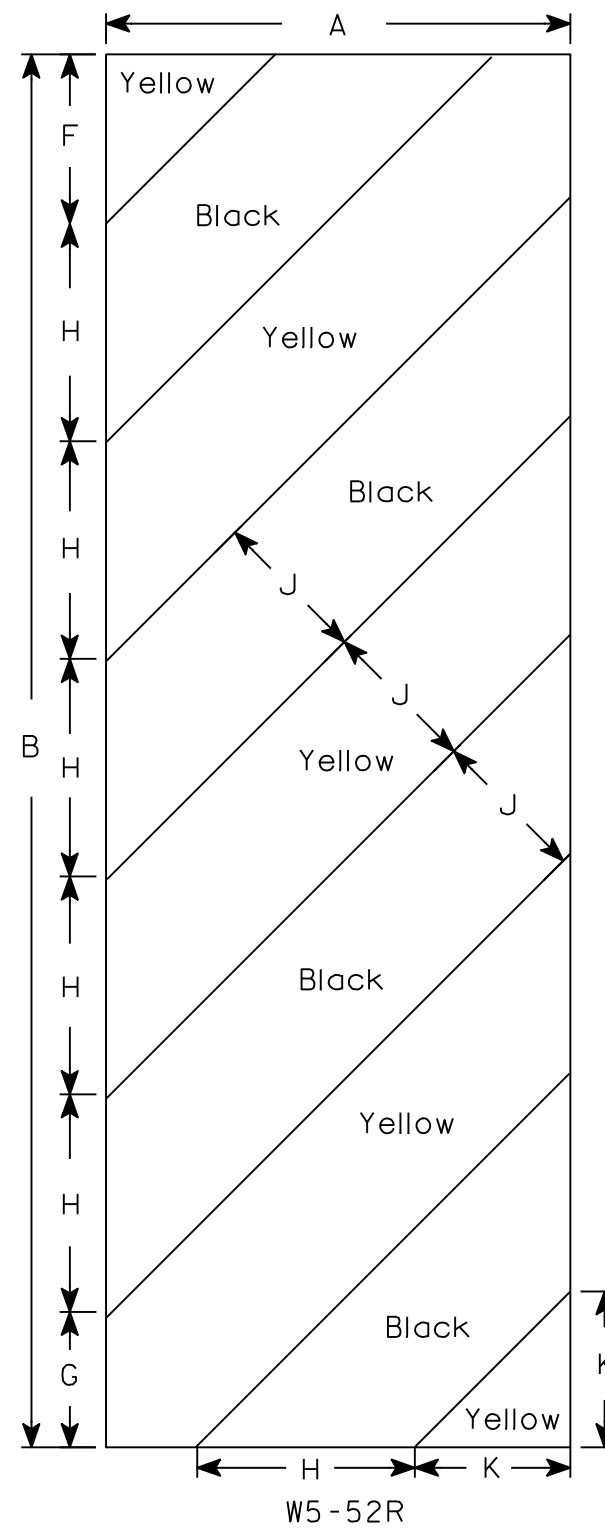
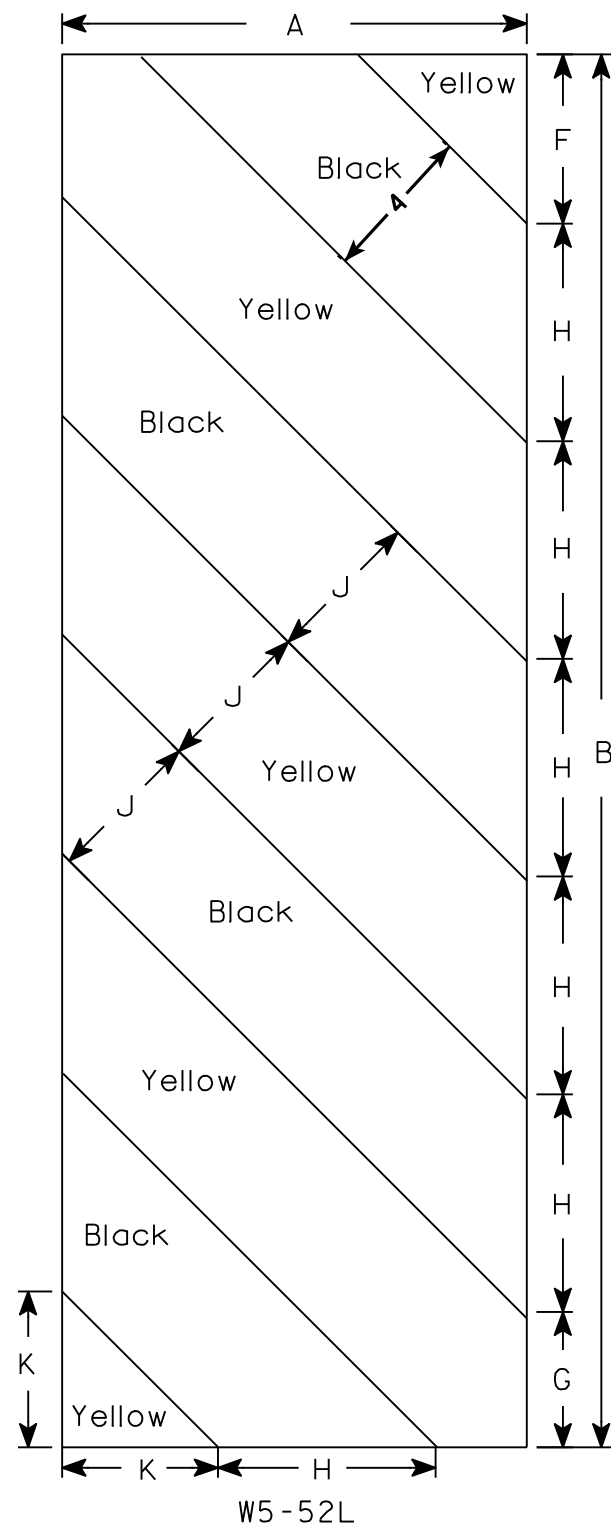
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36	15	1 3/8	1/2	5/8	4	3	2 1/2	13 1/4	2 1/4	3	8	8	1 1/2	2	10 3/4		7 1/8									3.75
2S	60	24	1 3/8	1/2	5/8	6	5	4	20 1/8	3	5	12	13 1/4	1 3/4	3	17 3/8		11 7/8									10.0
2M	60	24	1 3/8	1/2	5/8	6	5	4	20 1/8	3	5	12	13 1/4	1 3/4	3	17 3/8		11 7/8									10.0
3																											
4																											
5																											

STANDARD SIGN
R11-3C

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 7/28/16 PLATE NO. R11-3C.3



NOTES

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

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	12	36				4 3/8	3 1/2	5 5/8	45°	4	4																3.0
2M	12	36				4 3/8	3 1/2	5 5/8	45°	4	4																3.0
3	18	54				6	5 1/2	8 1/2	45°	6	6 9/16																6.75
4																											
5																											

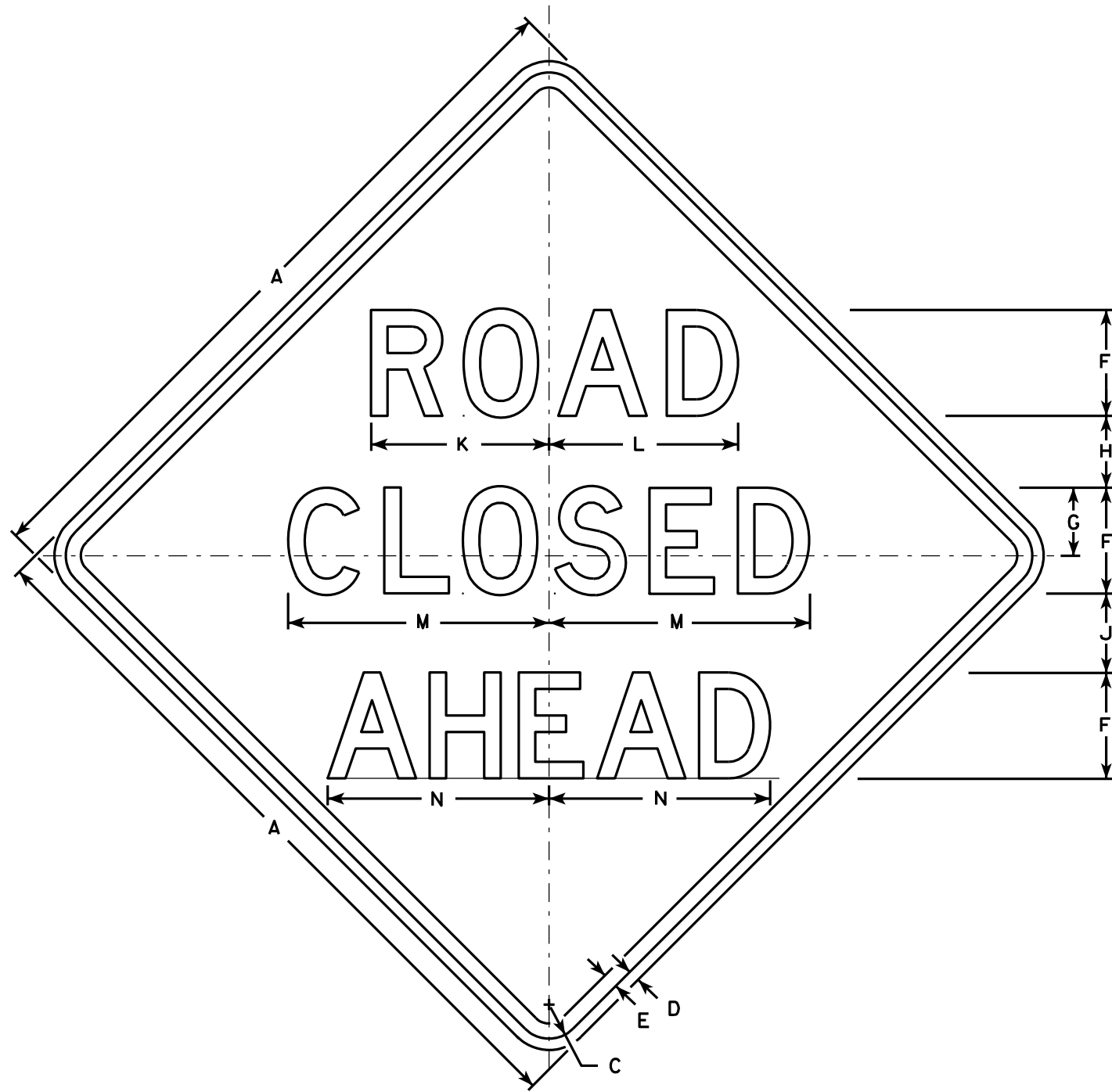
STANDARD SIGN
W5-52L & W5-52R

WISCONSIN DEPT OF TRANSPORTATION

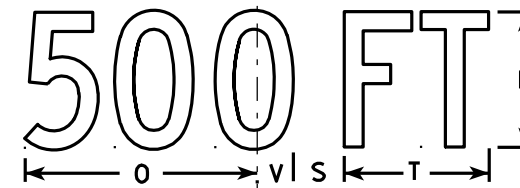
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 5/29/12 PLATE NO. W5-52.9

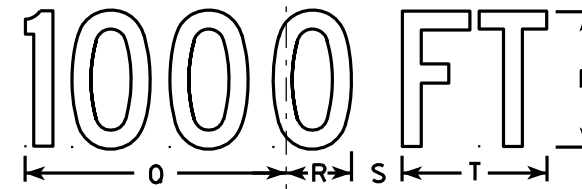
PROJECT NO: _____ HWY: _____ COUNTY: _____ SHEET NO: _____ E



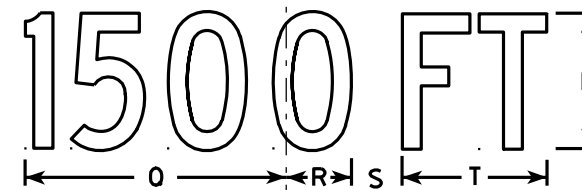
W20-3A



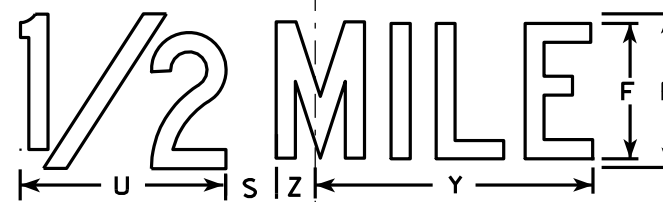
W20-3D



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

DESIGN DATA

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

LIVE LOAD:

DESIGN LOADING	HL - 93
INVENTORY RATING FACTOR	RF = 1.19
OPERATING RATING FACTOR	RF = 1.54
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV)	250 KIPS

MATERIAL PROPERTIES:

CONCRETE MASONRY	
SLAB	$f_c = 4,000$ PSI
ALL OTHER	$f_c = 3,500$ PSI
BAR STEEL REINFORCEMENT, GRADE 60	$f_y = 60,000$ PSI

HYDRAULIC DATA

100 YEAR FREQUENCY

Q_{100}	6800	C.F.S.
Q_{BRIDGE}	5939	C.F.S.
VEL.	7.30	F.P.S.
HW ₁₀₀	EL. 1079.39	
WATERWAY AREA	814.20	SQ. FT.
DRAINAGE AREA	59.50	SQ. MI.
SCOUR CRITICAL CODE	5	

2 YEAR FREQUENCY

Q_2 TOTAL	1300	C.F.S.
VEL.	3.23	F.P.S.
HW ₂	EL. 1072.18	

TRAFFIC DATA

AADT (2024)	61
AADT (2044)	67
DESIGN SPEED	55 MPH

FOUNDATION DATA

ABUTMENTS TO BE SUPPORTED ON PILING STEEL HP 10x42, WITH A REQUIRED DRIVING RESISTANCE OF 140 TONS ± PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC EQUATION.

ESTIMATED LENGTH 15'-0" WEST ABUTMENT
ESTIMATED LENGTH 20'-0" EAST ABUTMENT

PIER TO BE SUPPORTED ON PILING STEEL HP 10x42. PLACE PILES IN PRE-BORED HOLES. PILES PLACED IN PRE-BORED HOLES BORED INTO ROCK DO NOT REQUIRE DRIVING.

ESTIMATED LENGTH 23'-0" PIER

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 DRIVEN PILE CAPACITY.

BENCHMARKS			
NO	STA	DESCRIPTION	ELEV
1	7+69±	CHISELED 'X' IN TOP OF CMP, 25.2' RT. OF C/L	1085.08'
2	9+69±	CHISELED 'X' IN NW WING WALL, 9.6' LT. OF C/L	1080.21'
3	11+20±	CHISELED 'X' IN SW CULVERT, 19.1' RT. OF C/L	1076.06'

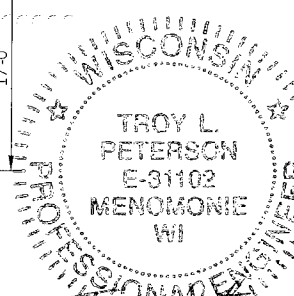
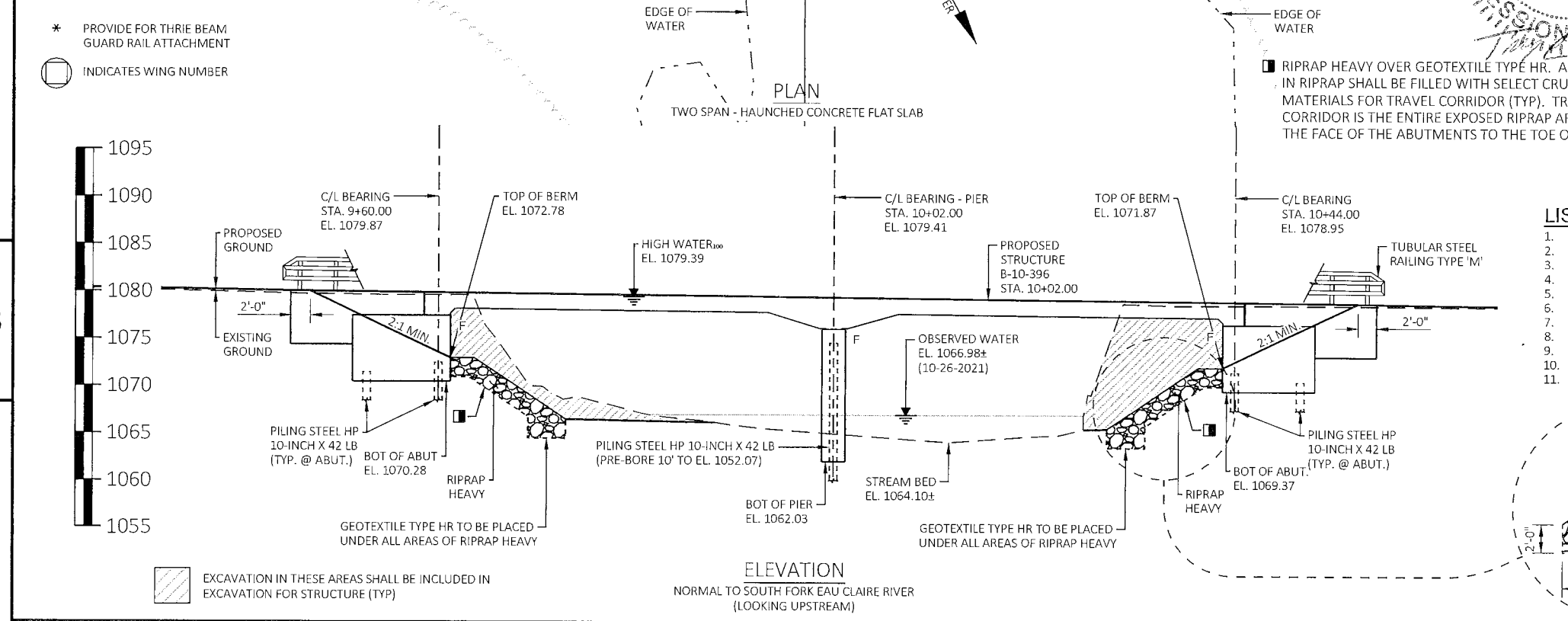
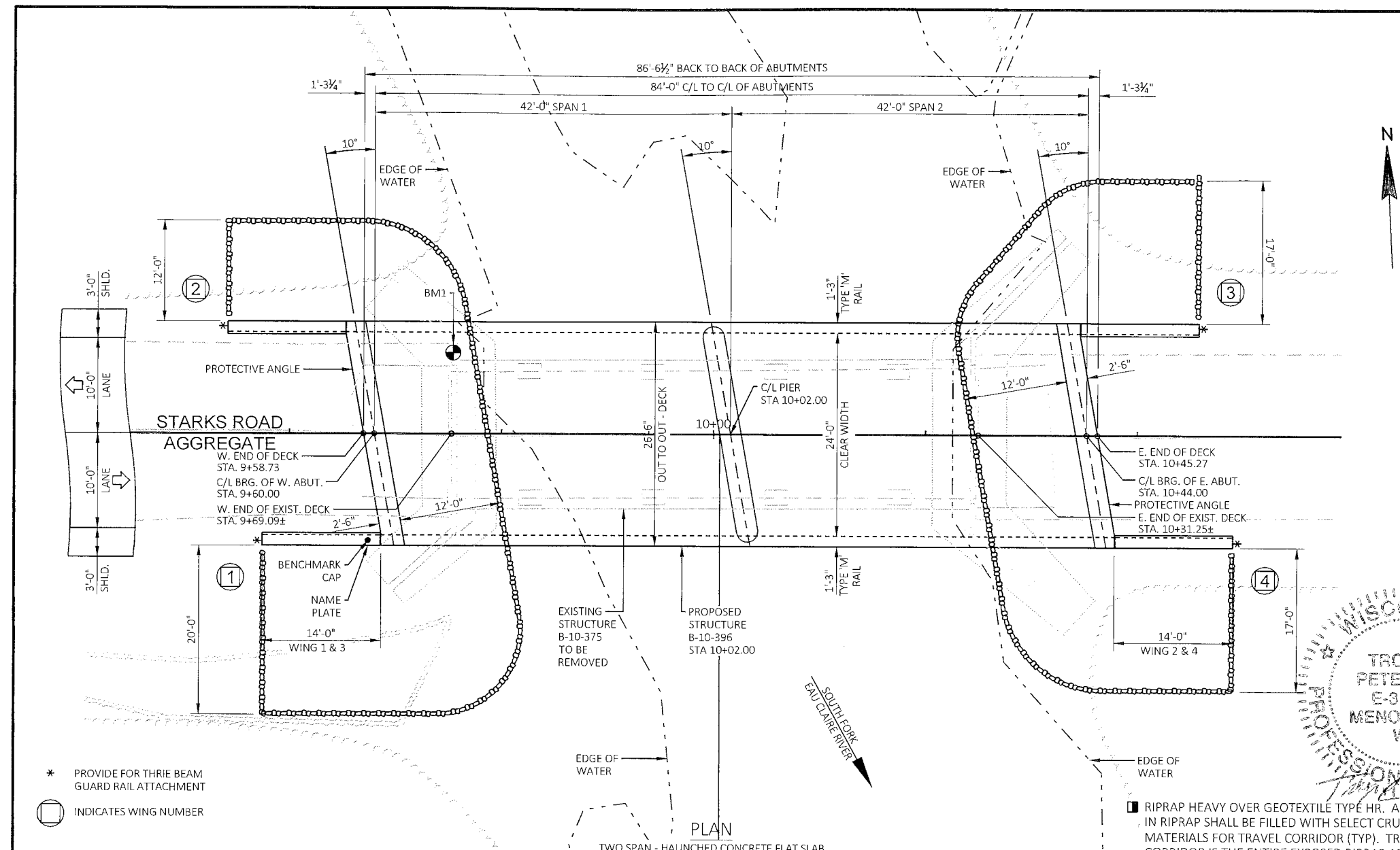
BRIDGE OFFICE CONTACT
AARON M. BONK
(608) 261-0261

CONSULTANT CONTACT
TROY L. PETERSON
(715) 235-9081

LIST OF DRAWINGS

- GENERAL PLAN
- CROSS SECTION, QUANTITIES, & NOTES
- SUBSURFACE EXPLORATION
- WEST ABUTMENT
- WEST ABUTMENT DETAILS
- EAST ABUTMENT
- EAST ABUTMENT DETAILS
- PIER
- SUPERSTRUCTURE
- SUPERSTRUCTURE DETAILS
- RAILING TUBULAR TYPE M

NO.	DATE	REVISION	BY
ORIGINAL PLANS PREPARED BY			
Cedar corporation			
www.cedarcorp.com 800-472-7372			
ACCEPTED		SDR	11/27/23
			DATE
STRUCTURE B-10-396			
STARKS ROAD BRIDGE OVER S. FORK EAU CLAIRE RIVER			
COUNTY	CLARK	TOWN/VILLAGE	MEAD
DESIGN SPEC.	AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS		
DESIGNED BY	TLP	DESIGN CK'D.	DWM
DRAWN BY	NJT	PLANS CK'D.	TLP
GENERAL PLAN			SHEET 1 OF 11



* PROVIDE FOR THREE BEAM GUARD RAIL ATTACHMENT
○ INDICATES WING NUMBER

■ RIPRAP HEAVY OVER GEOTEXTILE TYPE HR. ALL VOIDS IN RIPRAP SHALL BE FILLED WITH SELECT CRUSHED MATERIALS FOR TRAVEL CORRIDOR (TYP). TRAVEL CORRIDOR IS THE ENTIRE EXPOSED RIPRAP AREA FROM THE FACE OF THE ABUTMENTS TO THE TOE OF RIPRAP.

EXCAVATION IN THESE AREAS SHALL BE INCLUDED IN EXCAVATION FOR STRUCTURE (TYP)

ELEVATION
NORMAL TO SOUTH FORK EAU CLAIRE RIVER
(LOOKING UPSTREAM)

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

ALL STATIONS AND ALL ELEVATIONS ARE IN FEET.

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

ALL REINFORCING BARS ARE ENGLISH. THE FIRST DIGIT OF A THREE-DIGIT BAR MARK OR THE FIRST TWO DIGITS OF A FOUR-DIGIT BAR MARK SIGNIFIES THE BAR SIZE.

JOINT FILLER SHALL CONFORM TO THE REQUIREMENTS OF A.A.S.H.T.O. DESIGNATION M 153, TYPE I, II OR III OR A.A.S.H.T.O. DESIGNATION M 213.

THE SLOPE OF THE FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH RIPRAP HEAVY AND GEOTEXTILE TYPE 'HR' TO THE EXTENT SHOWN ON SHEETS 1 AND 2 AND IN THE ABUTMENT DETAILS.

THE EXISTING STRUCTURE (B-10-375) IS A 62.0' LONG BY 16.7' WIDTH STEEL THRU GIRDER/FLOOR SYSTEM BRIDGE.

** PROTECTIVE SURFACE TREATMENT SHALL BE APPLIED TO THE TOP AND EDGES OF THE SLAB AND TO THE OUTSIDE 1'-0" OF THE UNDERSIDE OF THE SLAB.

THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES BRIDGES B-10-396" SHALL BE THE EXISTING GRADE LINE.

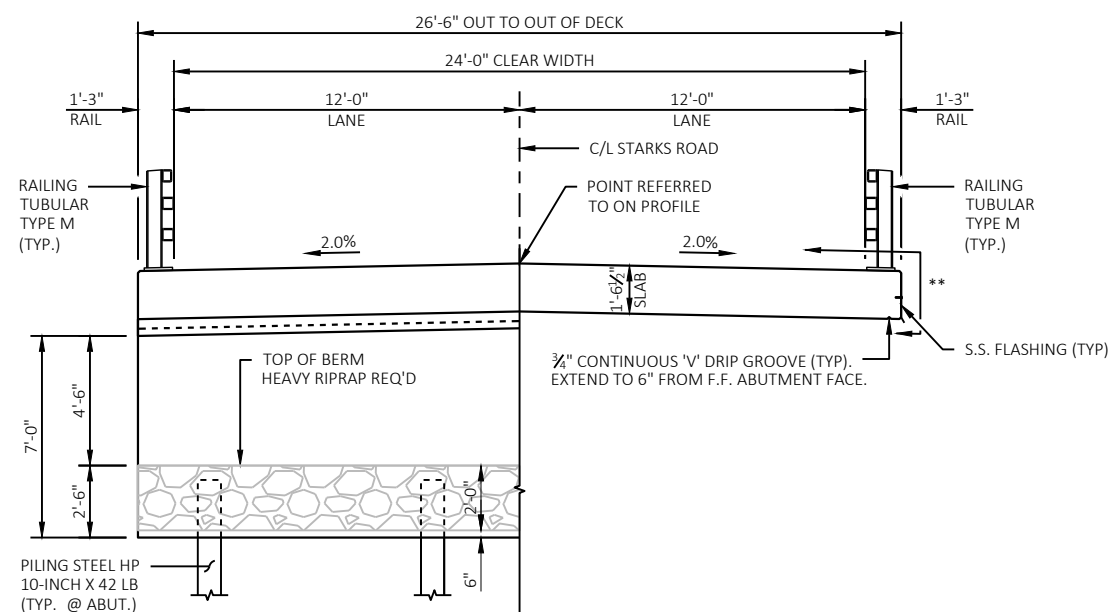
AT THE BACK FACE OF ABUTMENT ALL VOLUME WHICH CANNOT BE IN PLACE BEFORE ABUTMENT CONSTRUCTION AND NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH BACKFILL STRUCTURE.

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

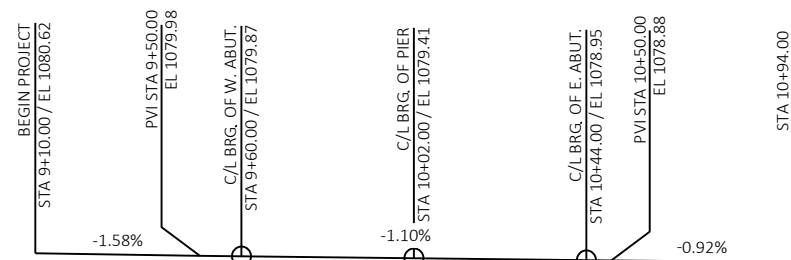
SLAB FALSE WORK SHALL BE SUPPORTED ON PILES OR THE SUBSTRUCTURE UNLESS AN ALTERNATE METHOD IS APPROVED BY THE ENGINEER.

▲ 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.



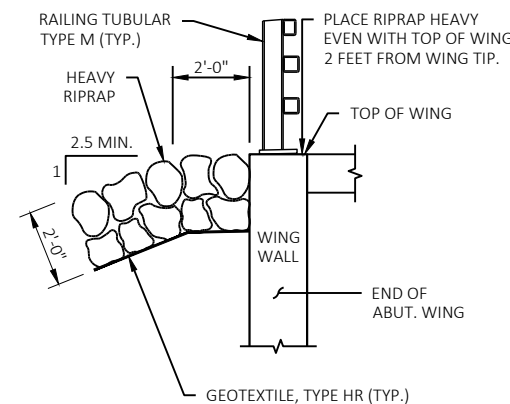
CROSS SECTION THRU STRUCTURE
(LOOKING EAST)



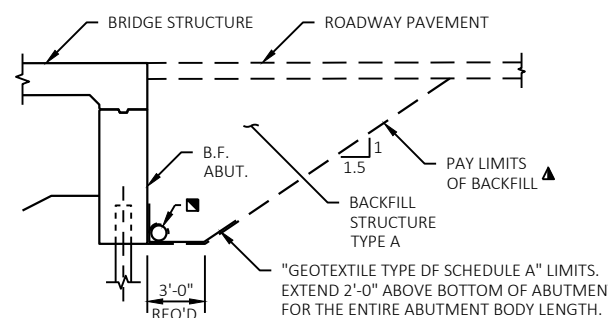
PROPOSED GRADE ON STARKS ROAD

TOTAL ESTIMATED QUANTITIES

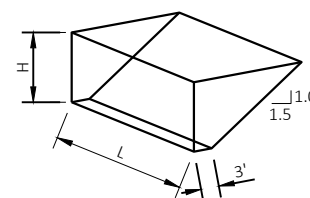
ITEM NUMBER	BID ITEMS	UNIT	WEST ABUT.	PIER	EAST ABUT.	SUPER.	TOTALS
203.0260	REMOVING STRUCTURE OVER WATERWAY REMOVE DEBRIS B-10-375	EACH	-	-	-	-	1
206.1001	EXCAVATION FOR STRUCTURES BRIDGES B-10-396	EACH	-	-	-	-	1
210.1500	BACKFILL STRUCTURE TYPE A	TON	170	-	170	-	340
502.0100	CONCRETE MASONRY BRIDGES	CY	36.5	33.8	36.3	144.4	251
502.3200	PROTECTIVE SURFACE TREATMENT	SY	-	-	-	305	305
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	1670	1750	1670	-	5090
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	1710	-	1710	32310	35730
506.0105	STRUCTURAL STEEL CARBON	LB	-	-	-	490	490
513.4061	RAILING TUBULAR TYPE M	LF	-	-	-	234	234
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	7	-	7	-	14
550.0020	PRE-BORING ROCK OR CONSOLIDATED MATERIALS	LF	-	60	-	-	60
550.0500	PILE POINTS	EACH	6	-	6	-	12
550.1100	PILING STEEL HP 10-INCH X 42 LB	LF	90	138	120	-	348
606.0300	RIPRAP HEAVY	CY	100	-	90	-	190
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	80	-	80	-	160
645.0111	GEOTEXTILE TYPE DF SCHEDULE A	SY	19	-	19	-	38
645.0120	GEOTEXTILE TYPE HR	SY	185	-	170	-	355
SPV.0090.01	FLASHING STAINLESS STEEL	LF	-	-	-	173	173
SPV.0195.01	SELECT CRUSHED MATERIAL FOR TRAVEL CORRIDOR	TON	70	-	70	-	140
NON-BID ITEMS							
	FILLER	SIZE	-	-	-	-	1/2" X 3/4"



TYPICAL FILL SECTION AT WING TIPS

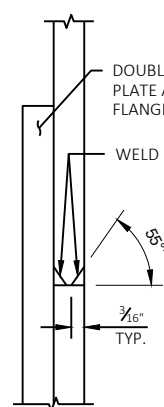


STRUCTURE BACKFILL & LIMITS

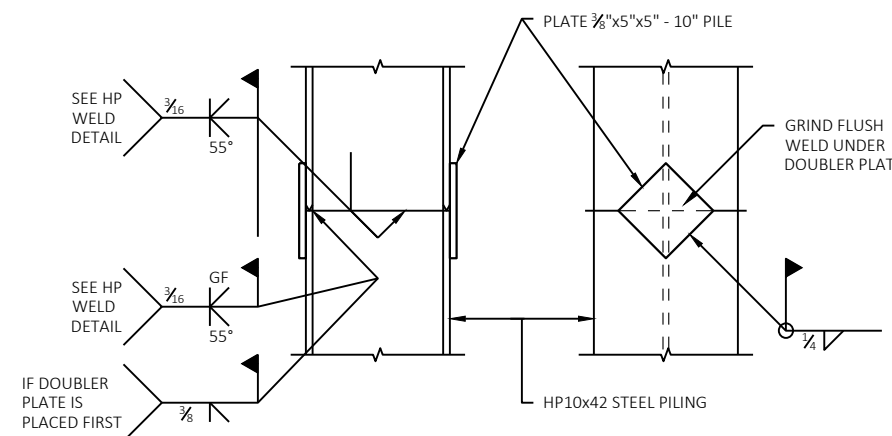


ABUTMENT BACKFILL DIAGRAM FOR WINGS PARALLEL TO ROADWAY

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



HP WELD DETAIL
FLANGE SHOWN, WEB SIMILAR



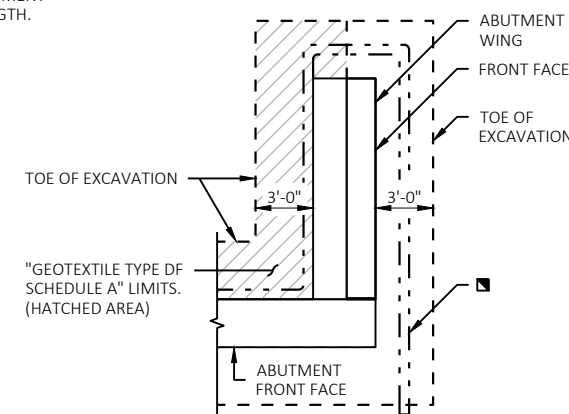
PILE SPLICE DETAILS

RODENT SHIELD DETAIL

* DIMENSION IS 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.



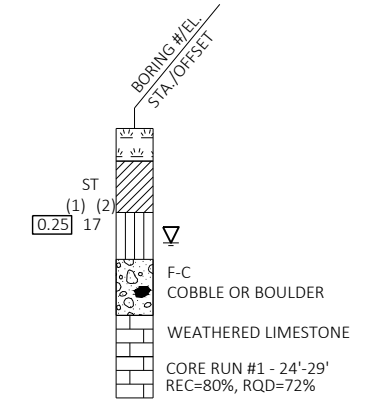
ABUTMENT PLAN WITH WING

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-10-396			
DRAWN BY NJT		PLANS CK'D. TLP	
CROSS SECTION, QUANTITIES, & NOTES			SHEET 2 OF 11

MATERIAL SYMBOLS

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

LEGEND OF BORING



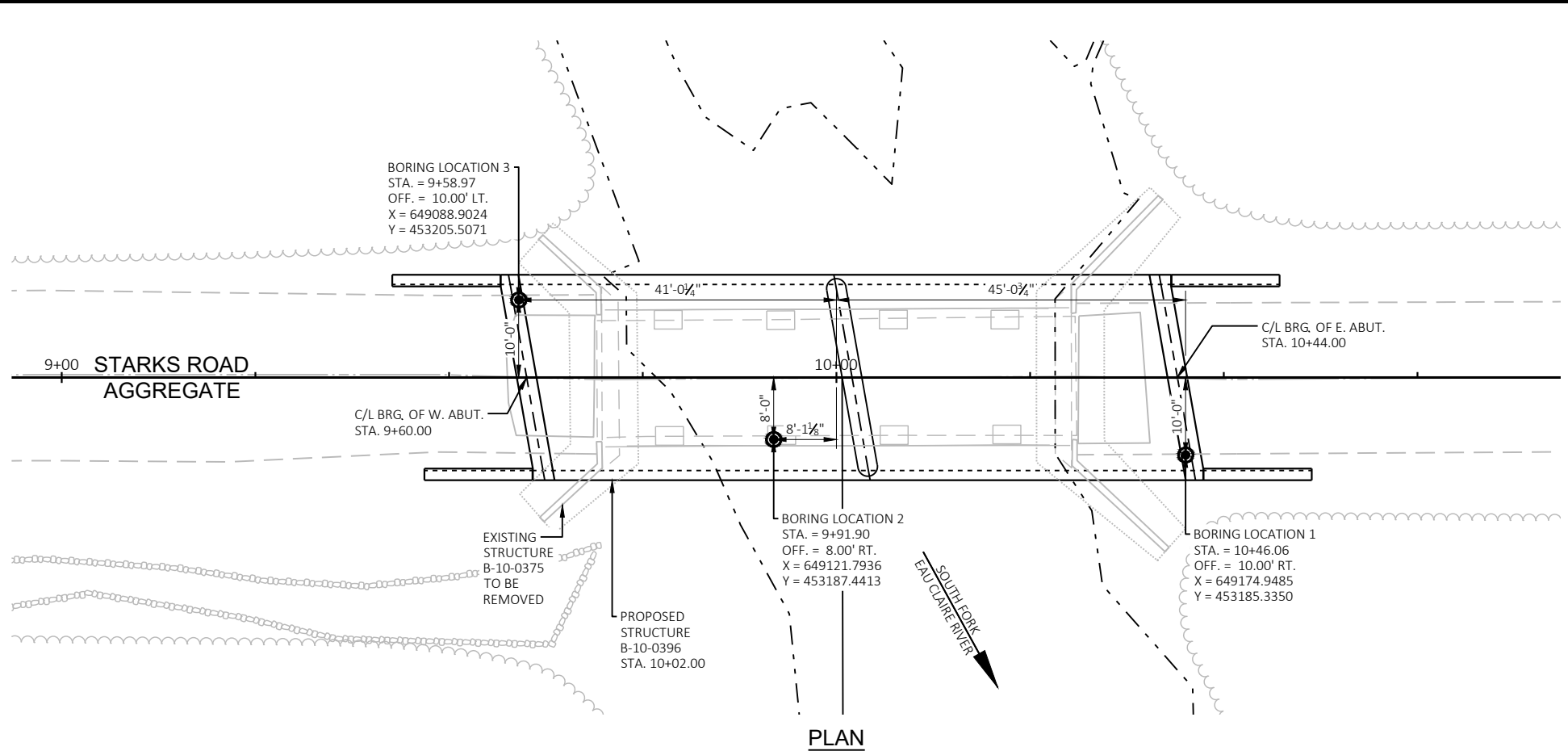
SUBSURFACE NOTES

THE SUBSURFACE INFORMATION PRESENTED HEREIN IS AN ABBREVIATED VERSION OF THE INFORMATION PRESENTED IN THE GEOTECHNICAL ENGINEERING REPORT. REVIEW THE APPROPRIATE GEOTECHNICAL REPORT AND SOIL BORING LOGS FOR ADDITIONAL SUBSURFACE INFORMATION.

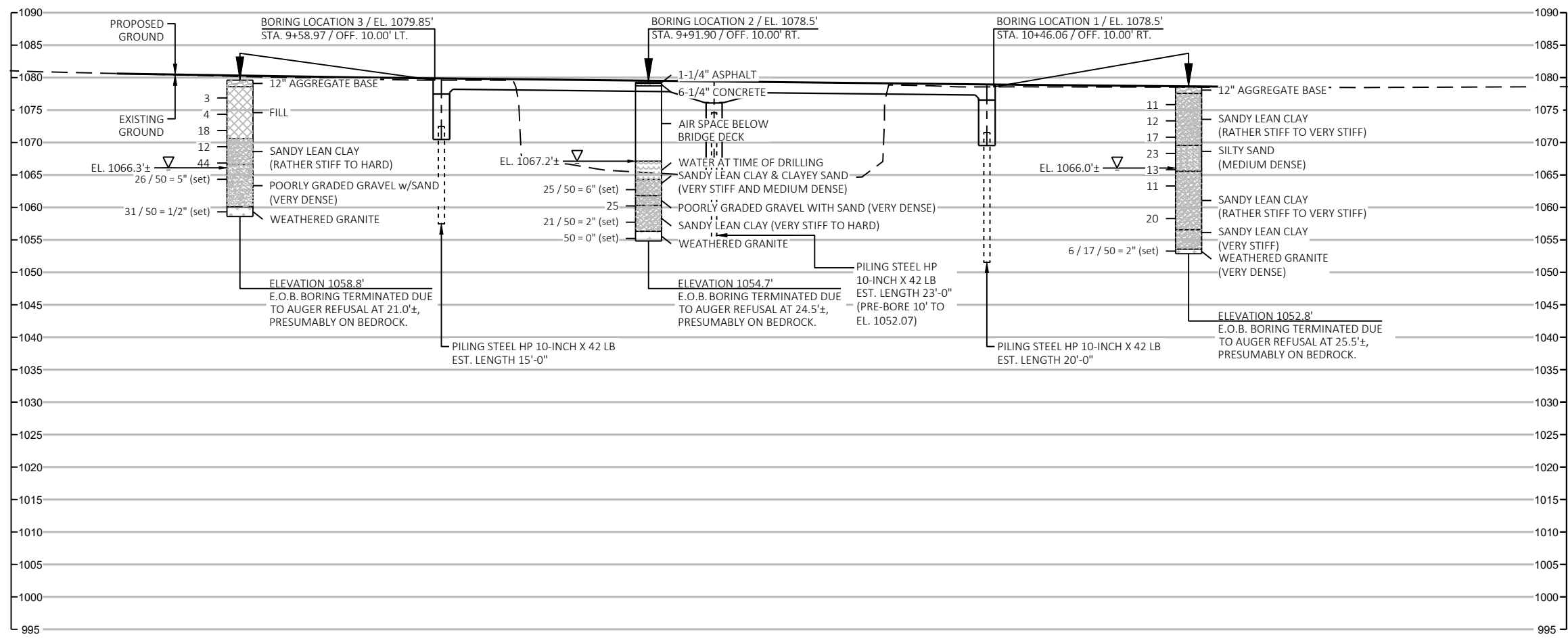
BORINGS & REPORT COMPLETED BY:

CHOSEN VALLEY TESTING, INC.
1019 SECOND AVENUE SW
ONALASKA, WI 54650
(608) 782-5505

BORINGS PERFORMED ON:
10/13/2022 - B1
10/13/2022 - B2
10/13/2022 - B2



PLAN



ELEVATION

- (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.

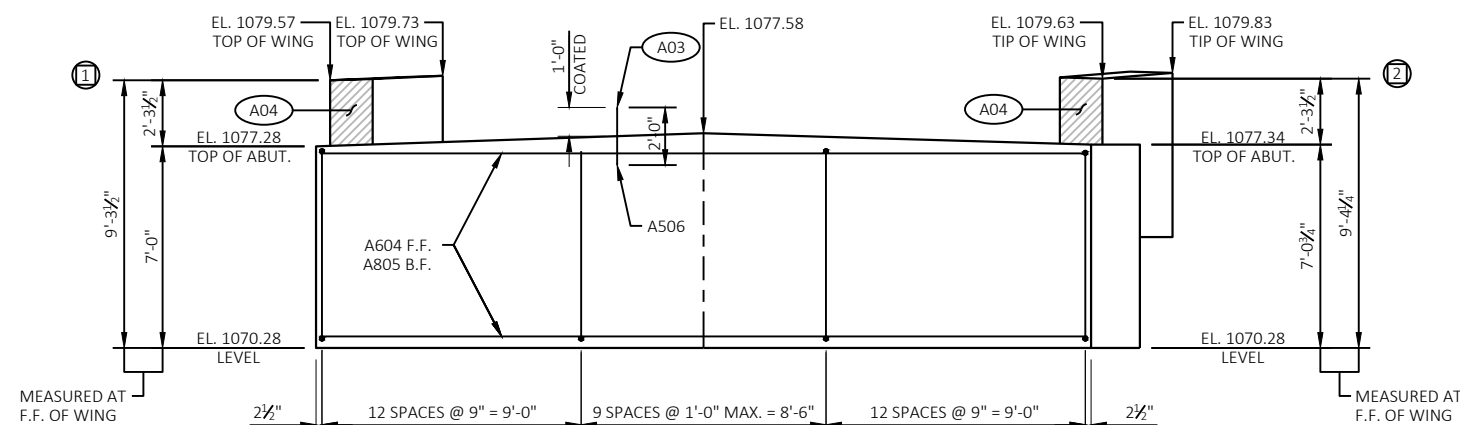
NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

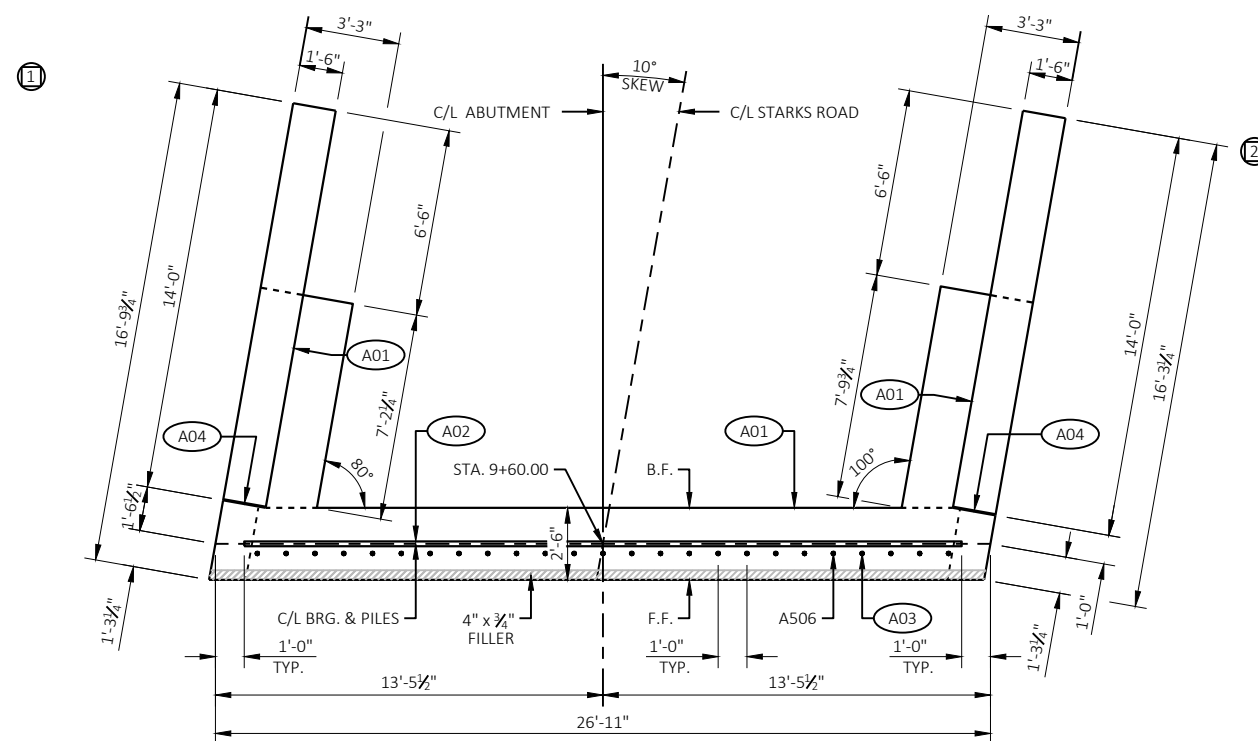
STRUCTURE B-10-396

DRAWN BY NJT PLANS CK'D. TLP

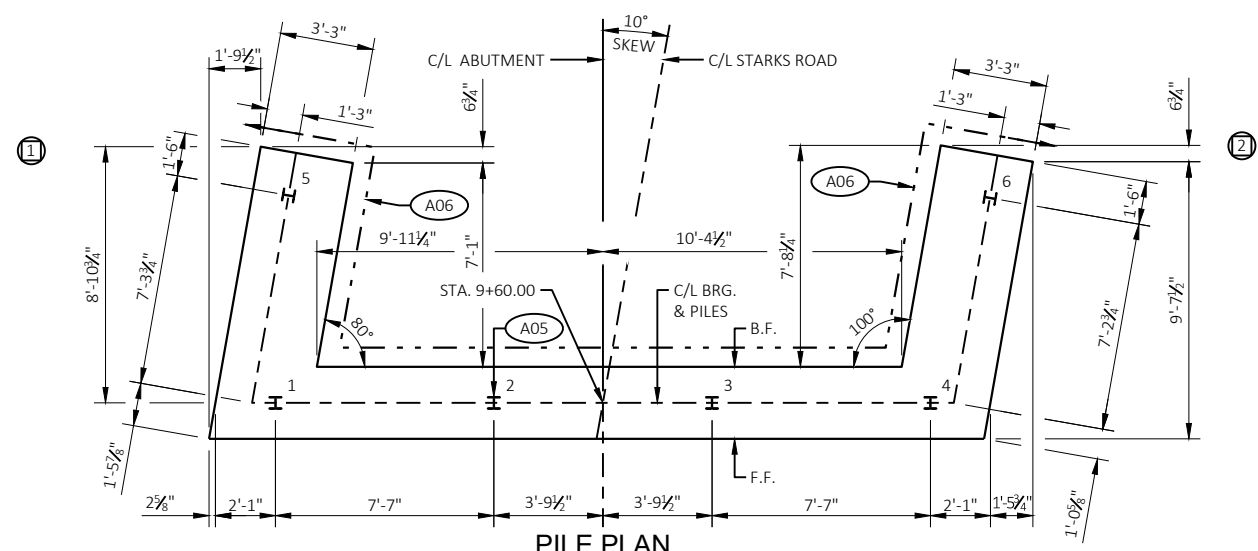
SUBSURFACE EXPLORATION SHEET 3 OF 11



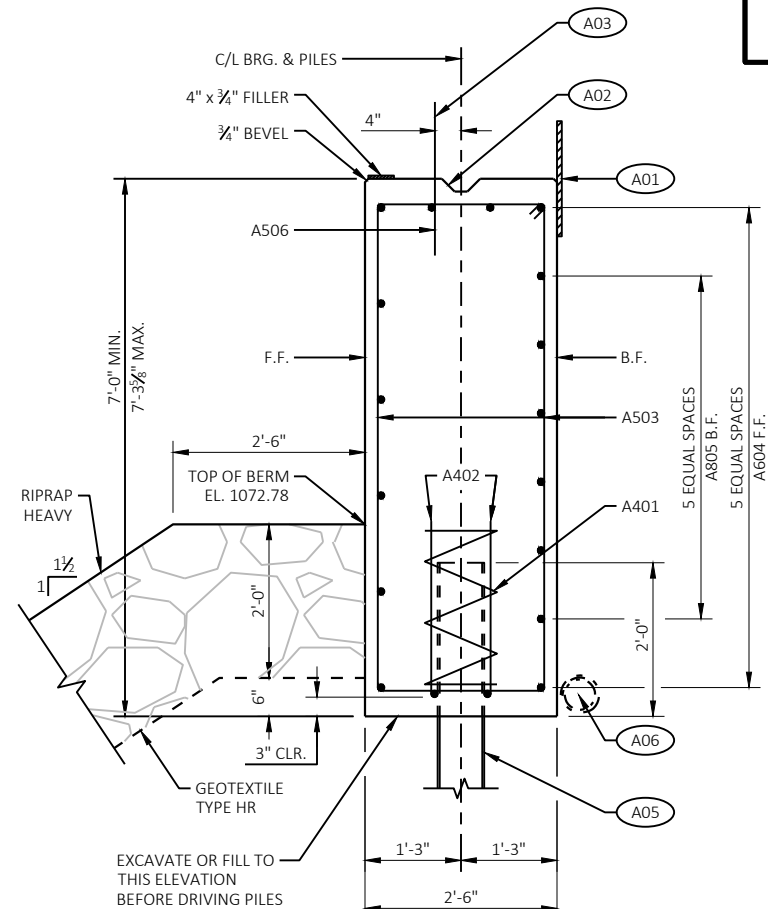
ELEVATION
(LOOKING WEST)



PLAN



PILE PLAN



SECTION THRU BODY

NOTE: B.F. = BACK FACE
F.F. = FRONT FACE

LEGEND

- Ⓢ INDICATES WING NUMBER
- ⓐ01 18" RUBBERIZED MEMBRANE WATERPROOFING (R.M.W). SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACK FACE.
- ⓐ02 KEYED CONSTRUCTION JOINT FORMED BY A BEVELED 2 X 6.
- ⓐ03 BARS MAY BE PLACED AFTER CONCRETE IS POURED, BUT BEFORE INITIAL SET HAS TAKEN PLACE.
- ⓐ04 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). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.
- ⓐ05 STEEL PILING HP 10 X 42 WITH A REQUIRED DRIVING RESISTANCE OF 140 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED LENGTH = 15 LF.
- ⓐ06 PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN. RODENT SHIELD TO BE INCLUDED IN BID PRICE OF "PIPE UNDERDRAIN WRAPPED 6-INCH".

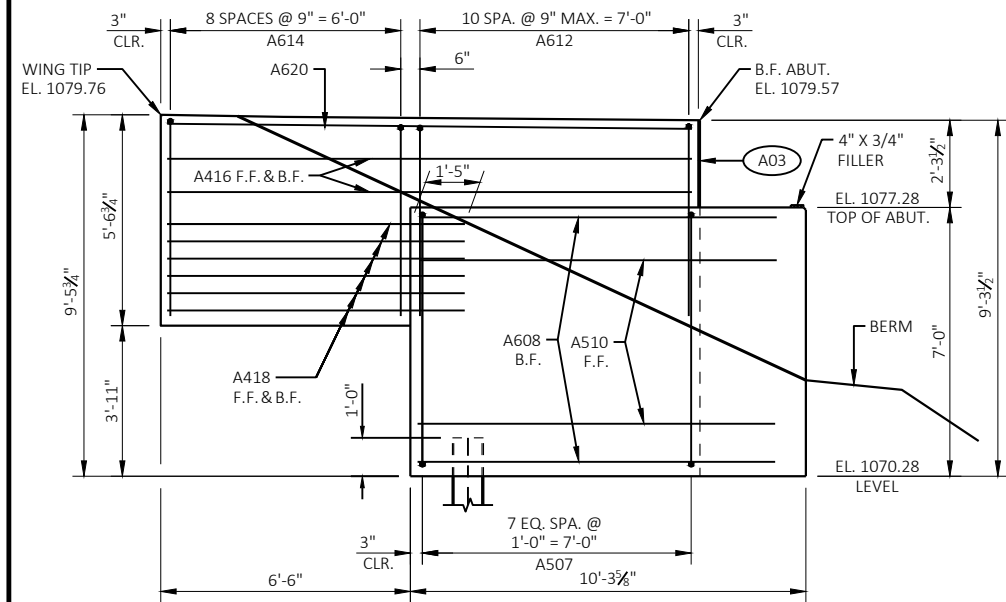
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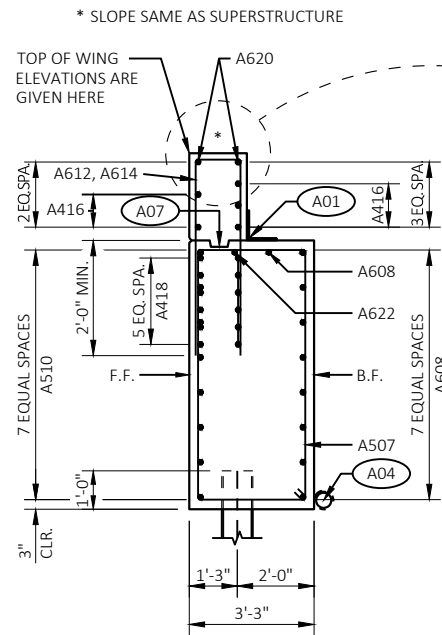
STRUCTURE B-10-396

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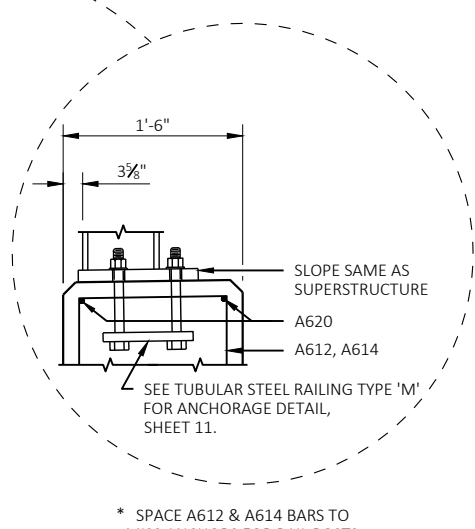
WEST ABUTMENT SHEET 4 OF 11



WING 1 ELEVATION



WING 1 SECTION

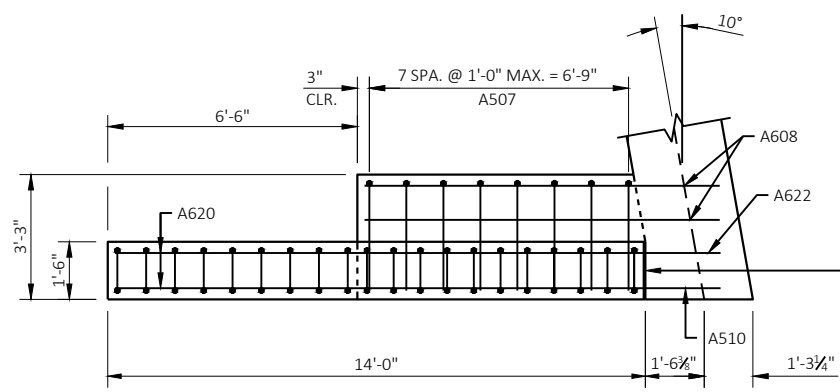


SECTION AT TOP OF WING

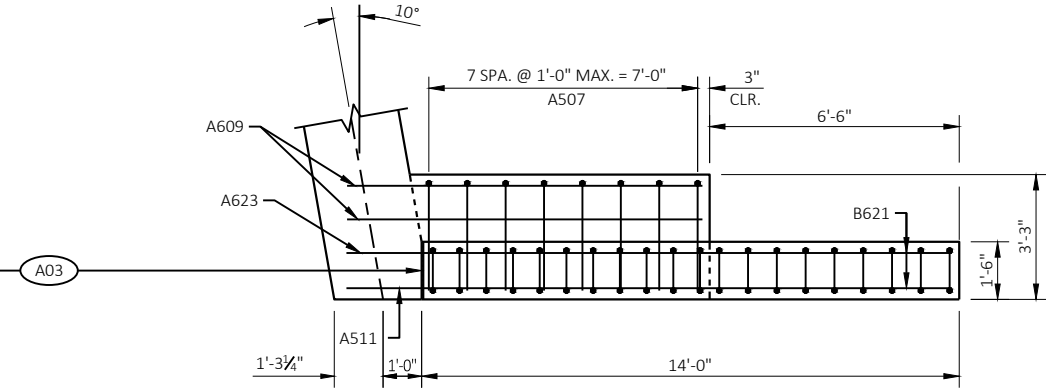
BILL OF BARS

BAR MARK	1710# COATED		1670# UNCOATED		LOCATION
	COMT	NO. REQ'D	LENGTH	BENT	
A401		6	28'-0"	X	BODY - ONE PER PILE
A402		12	2'-3"		BODY - TWO PER PILE
A503		34	17'-10"	X	BODY - STIRRUPS
A604		12	26'-7"		BODY - HORIZ.
A805		6	26'-7"		BODY - HORIZ. B.F.
A506	X	26	2'-0"		BODY - VERT. DOWELS
A507	X	16	19'-8"	X	WINGS 1 & 2 - STIRRUPS
A608	X	9	9'-3"		WING 1 - BASE HORIZONTAL B.F.
A609	X	9	9'-8"		WING 2 - BASE HORIZONTAL B.F.
A510	X	8	9'-3"		WING 1 - BASE HORIZONTAL F.F.
A511	X	8	8'-9"		WING 2 - BASE HORIZONTAL F.F.
A612	X	11	9'-2"	X	WING 1 - VERTICAL
A613	X	11	9'-2"	X	WING 2 - VERTICAL
A614	X	9	10'-10"	X	WING 1 - VERTICAL
A615	X	9	10'-10"	X	WING 2 - VERTICAL
A416	X	5	13'-7"		WING 1 - HORIZONTAL F.F. & B.F. TOP
A417	X	5	13'-7"		WING 2 - HORIZONTAL F.F. & B.F. TOP
A418	X	12	7'-9"		WING 1 - HORIZONTAL F.F. & B.F.
A419	X	12	7'-9"		WING 2 - HORIZONTAL F.F. & B.F.
A620	X	2	13'-7"		WING 1 - HORIZONTAL TOP
A621	X	2	13'-7"		WING 2 - HORIZONTAL TOP
A622	X	1	9'-3"		WING 1 - HORIZONTAL BASE
A623	X	1	9'-8"		WING 2 - HORIZONTAL BASE

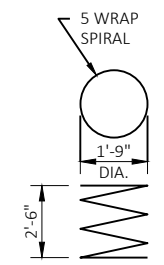
NOTE: BAR DIMENSIONS ARE OUT TO OUT OF BAR. THE FIRST DIGIT OF A THREE-DIGIT BAR MARK OR THE FIRST TWO DIGITS OF A FOUR-DIGIT BAR MARK SIGNIFIES THE BAR SIZE.



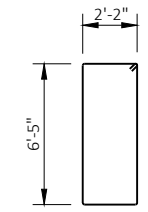
WING 1 PLAN



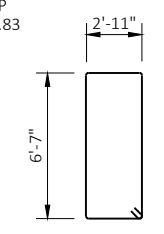
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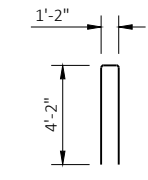
A401



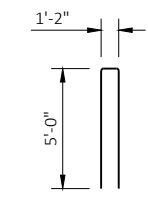
A503



A507



A612
A613



A614
A615

LEGEND

- ⊙ INDICATES WING NUMBER
- ⊙ A01 18" RUBBERIZED MEMBRANE WATERPROOFING (R.M.W). SEAL ALL HORIZONTAL & VERTICAL JOINTS ON BACK FACE.
- ⊙ A03 SEAL ALL EXPOSED HORIZONTAL & VERTICAL SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP & HOLD 1/8" BELOW SURFACE OF CONC.)
- ⊙ A04 PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN. RODENT SHIELD TO BE INCLUDED IN BID PRICE OF "PIPE UNDERDRAIN WRAPPED 6-INCH".
- ⊙ A07 OPTIONAL KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2" X 6", (18" R.M.W. @ B.F. & 3/4" V-GROOVE @ F.F. IF JOINT IS USED).

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
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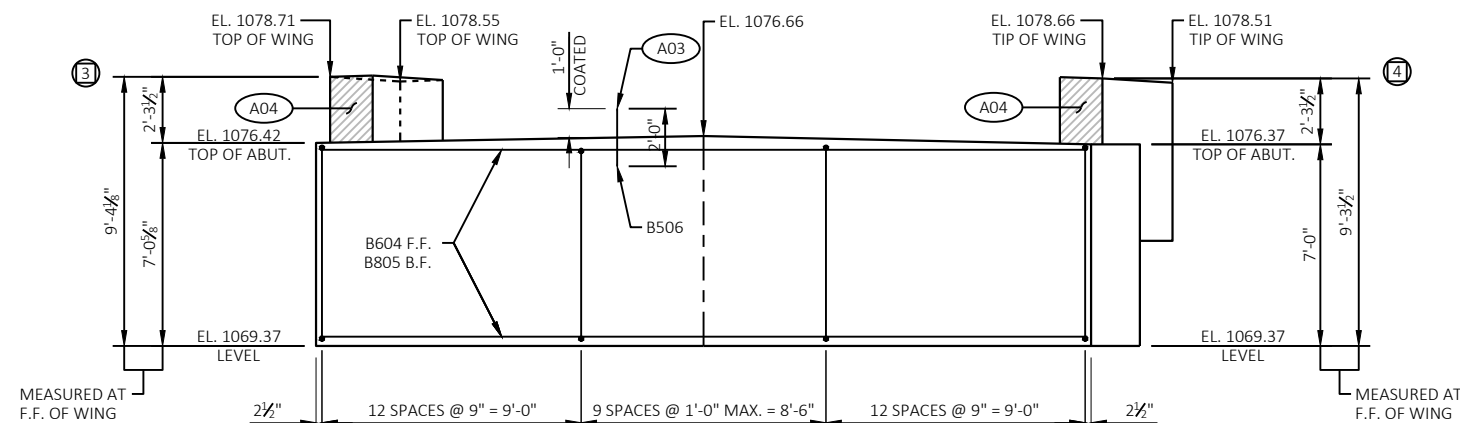
STRUCTURE B-10-396

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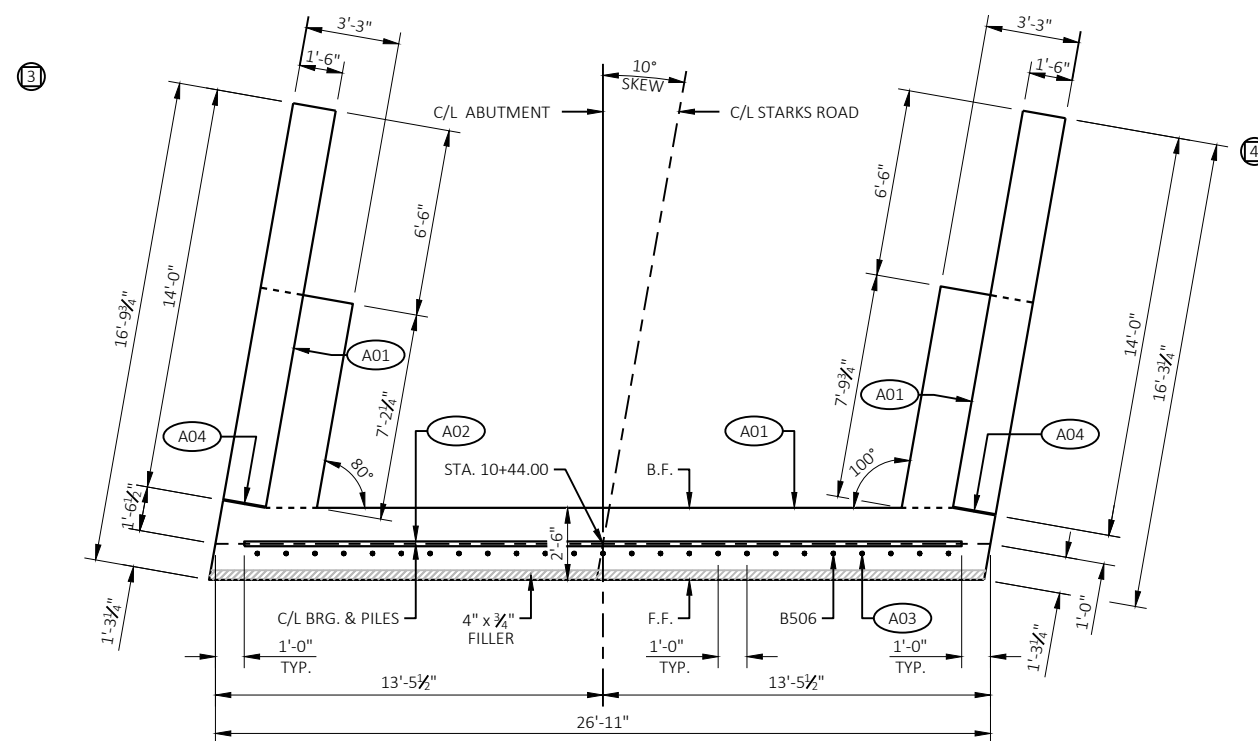
WEST ABUTMENT DETAILS SHEET 5 OF 11

8

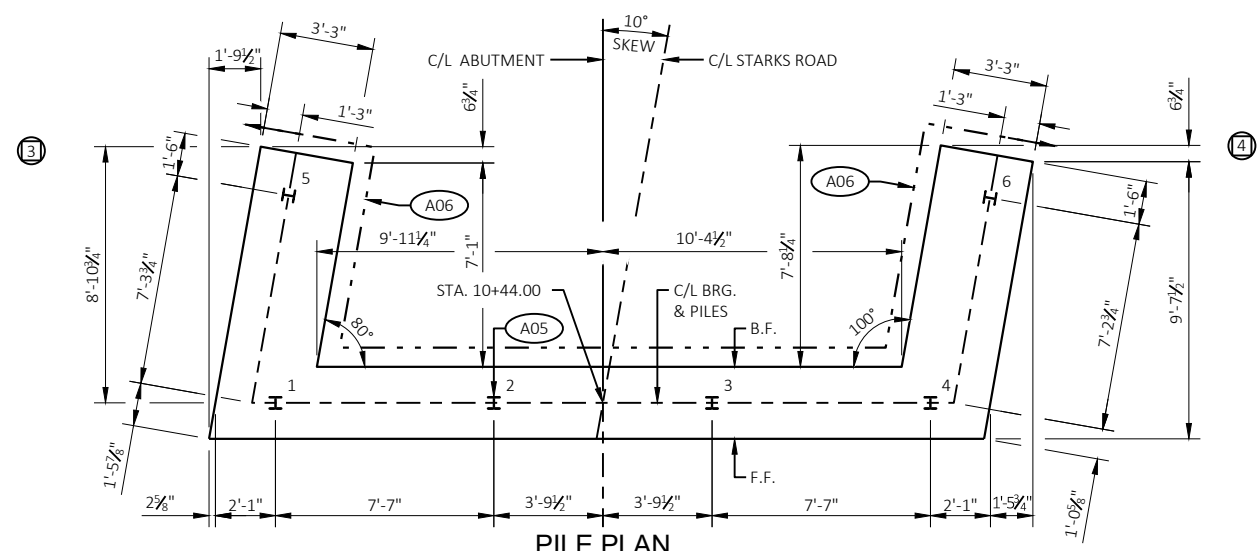
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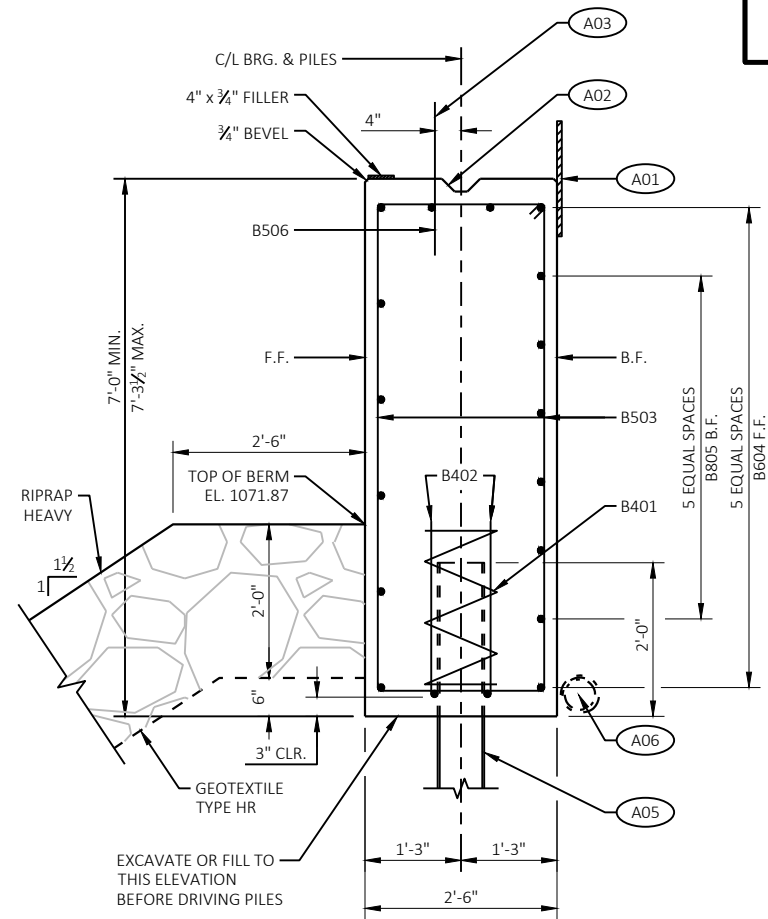
ELEVATION
(LOOKING EAST)



PLAN



PILE PLAN



SECTION THRU BODY

NOTE: B.F. = BACK FACE
F.F. = FRONT FACE

LEGEND

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- ⓐ06 PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN. RODENT SHIELD TO BE INCLUDED IN BID PRICE OF "PIPE UNDERDRAIN WRAPPED 6-INCH".

NO.	DATE	REVISION	BY

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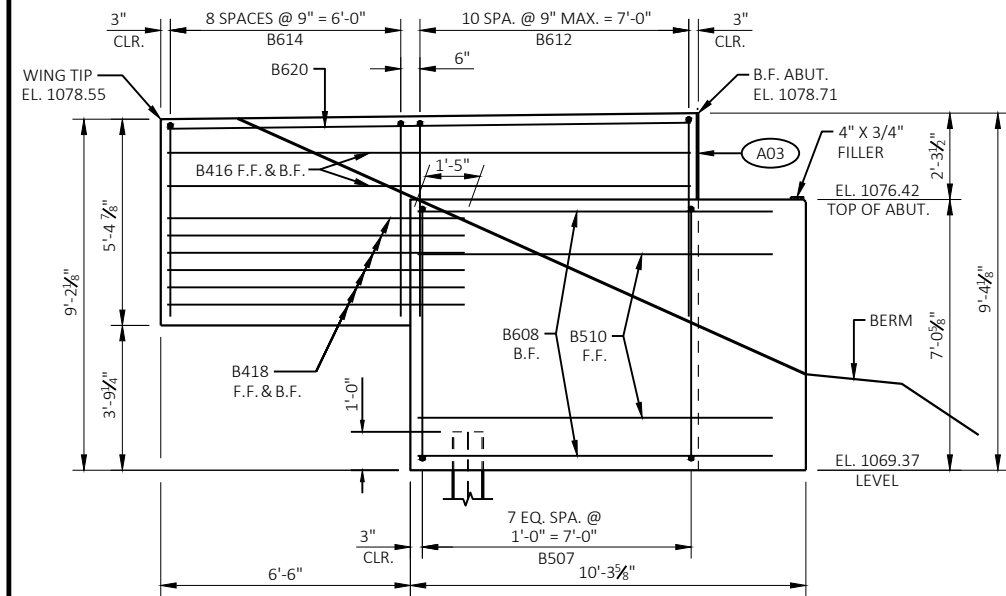
STRUCTURE B-10-396

DRAWN BY NJT PLANS CK'D. TLP

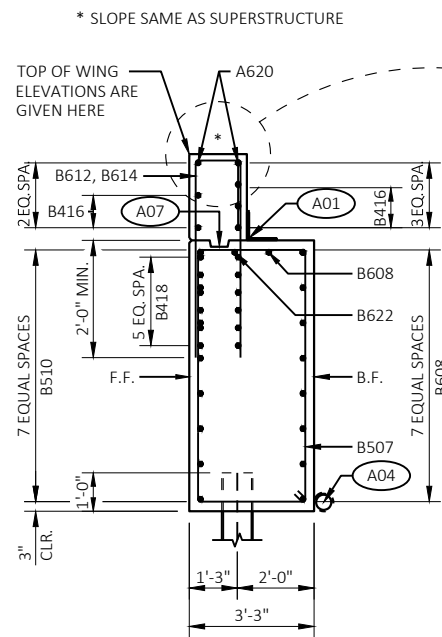
EAST ABUTMENT SHEET 6 OF 11

8

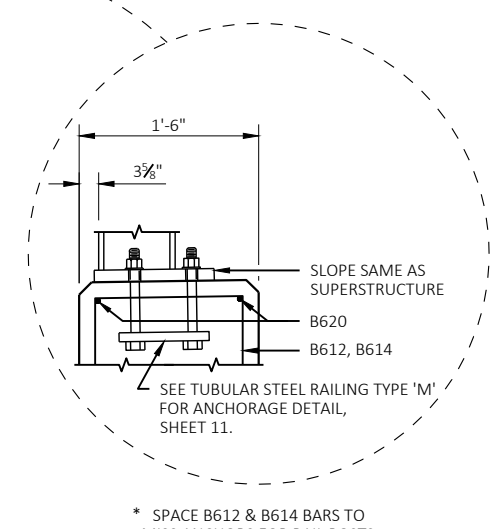
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WING 3 ELEVATION



WING 3 SECTION

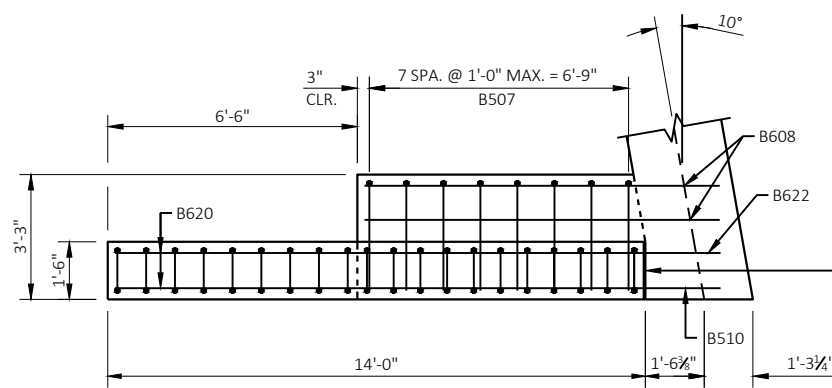


SECTION AT TOP OF WING

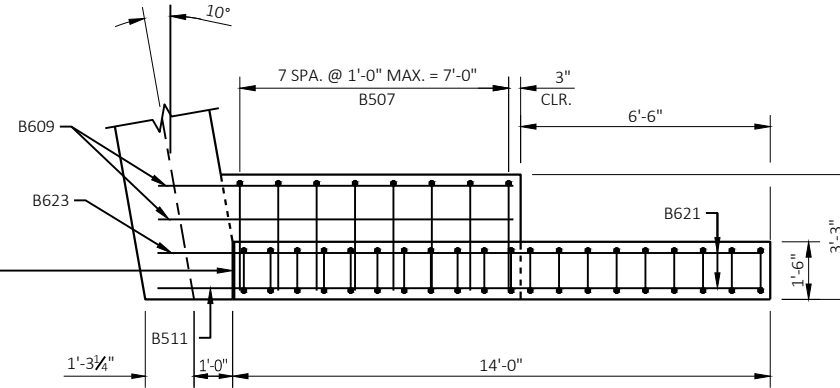
BILL OF BARS

BAR MARK	1710# COATED		1670# UNCOATED		LOCATION
	COMT	NO. REQ'D	LENGTH	BENT	
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B609	X	9	9'-8"		WING 4 - BASE HORIZONTAL B.F.
B510	X	8	9'-3"		WING 3 - BASE HORIZONTAL F.F.
B511	X	8	8'-9"		WING 4 - BASE HORIZONTAL F.F.
B612	X	11	9'-2"	X	WING 3 - VERTICAL
B613	X	11	9'-2"	X	WING 4 - VERTICAL
B614	X	9	10'-10"	X	WING 3 - VERTICAL
B615	X	9	10'-10"	X	WING 4 - VERTICAL
B416	X	5	13'-7"		WING 3 - HORIZONTAL F.F. & B.F. TOP
B417	X	5	13'-7"		WING 4 - HORIZONTAL F.F. & B.F. TOP
B418	X	12	7'-9"		WING 3 - HORIZONTAL F.F. & B.F.
B419	X	12	7'-9"		WING 4 - HORIZONTAL F.F. & B.F.
B620	X	2	13'-7"		WING 3 - HORIZONTAL TOP
B621	X	2	13'-7"		WING 4 - HORIZONTAL TOP
B622	X	1	9'-3"		WING 3 - HORIZONTAL BASE
B623	X	1	9'-8"		WING 4 - HORIZONTAL BASE

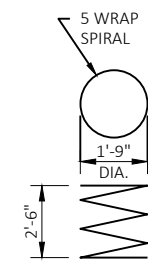
NOTE: BAR DIMENSIONS ARE OUT TO OUT OF BAR. THE FIRST DIGIT OF A THREE-DIGIT BAR MARK OR THE FIRST TWO DIGITS OF A FOUR-DIGIT BAR MARK SIGNIFIES THE BAR SIZE.



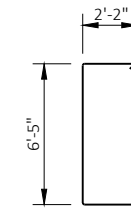
WING 3 PLAN



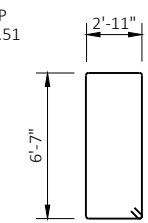
WING 4 PLAN



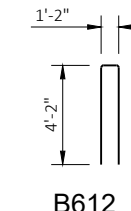
B401



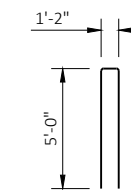
B503



B507



B612
B613



B614
B615

LEGEND

- INDICATES WING NUMBER
- A01 18" RUBBERIZED MEMBRANE WATERPROOFING (R.M.W). SEAL ALL HORIZONTAL & VERTICAL JOINTS ON BACK FACE.
- A03 SEAL ALL EXPOSED HORIZONTAL & VERTICAL SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP & HOLD 1/8" BELOW SURFACE OF CONC.)
- A04 PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN. RODENT SHIELD TO BE INCLUDED IN BID PRICE OF "PIPE UNDERDRAIN WRAPPED 6-INCH".
- A07 OPTIONAL KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2" X 6", (18" R.M.W. @ B.F. & 3/4" V-GROOVE @ F.F. IF JOINT IS USED).

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

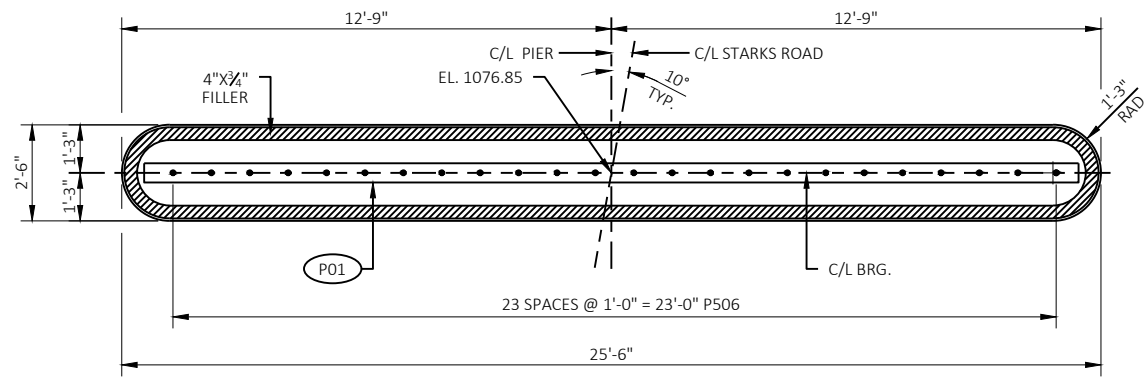
STRUCTURE B-10-396

DRAWN BY NJT PLANS CK'D. TLP

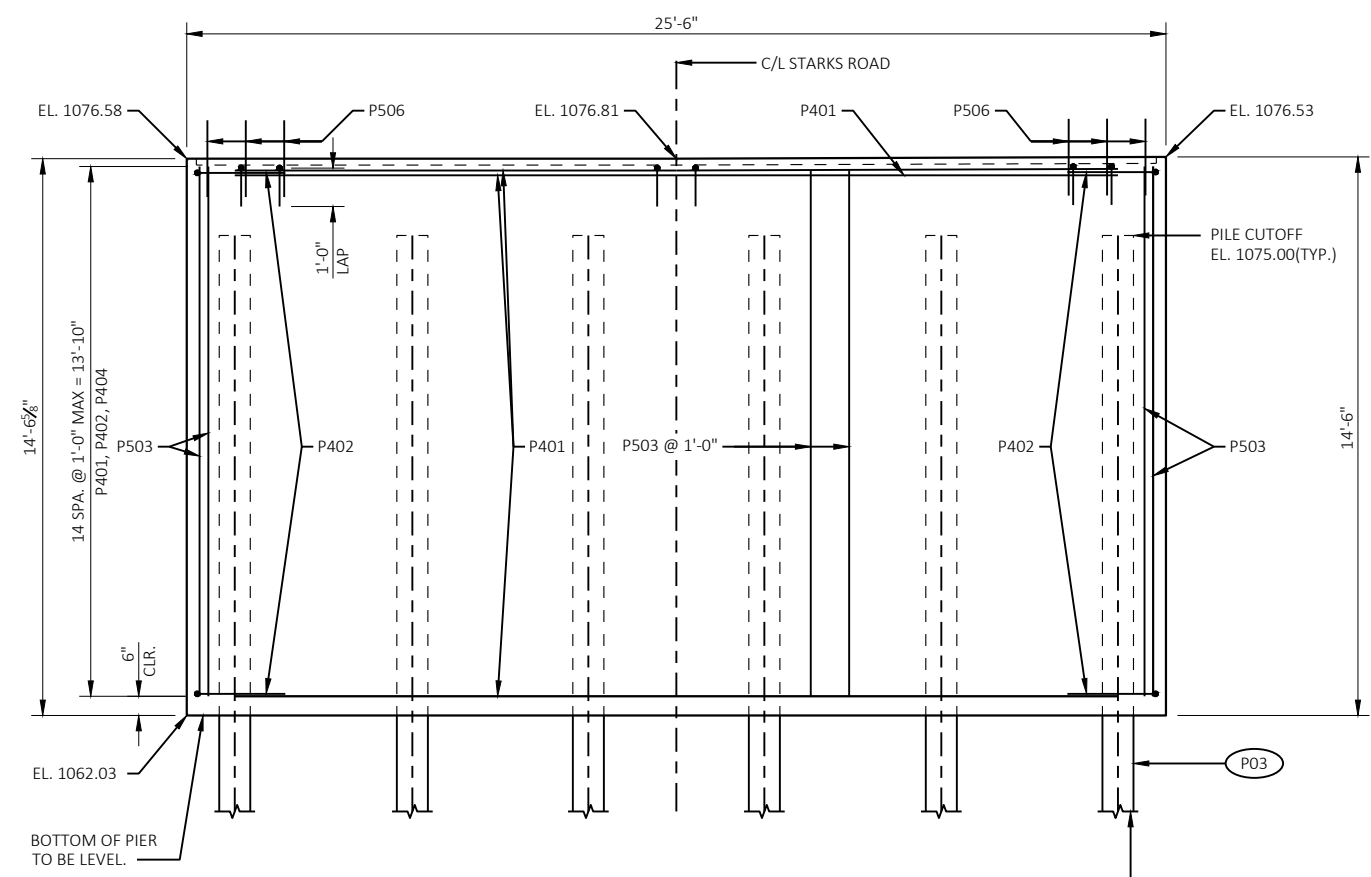
EAST ABUTMENT DETAILS SHEET 7 OF 11

8

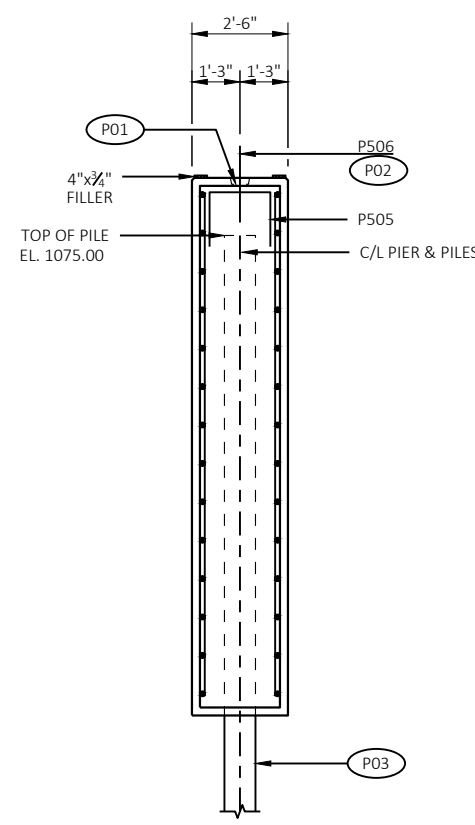
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PLAN



ELEVATION
(LOOKING EAST)



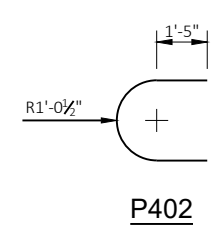
END VIEW

BILL OF BARS

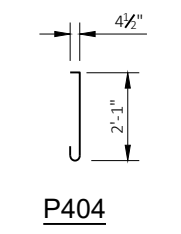
1750# UNCOATED

BAR MARK	COMT	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
P401		30	23'-0"			SHAFT - HORIZONTAL
P402		60	6'-1"	X		SHAFT - HORIZONTAL - ENDS
P503		54	13'-10"			SHAFT - VERTICAL
P404		90	2'-8"	X		SHAFT - HORIZONTAL - TIE BARS AT PILES
P505		13	4'-5"	X		SHAFT TOP
P506		24	2'-0"			SHAFT DOWEL BARS

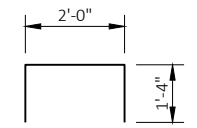
NOTE: BAR DIMENSIONS ARE OUT TO OUT OF BAR. THE FIRST DIGIT OF A THREE-DIGIT BAR MARK OR THE FIRST TWO DIGITS OF A FOUR-DIGIT BAR MARK SIGNIFIES THE BAR SIZE.



P402



P404



P505

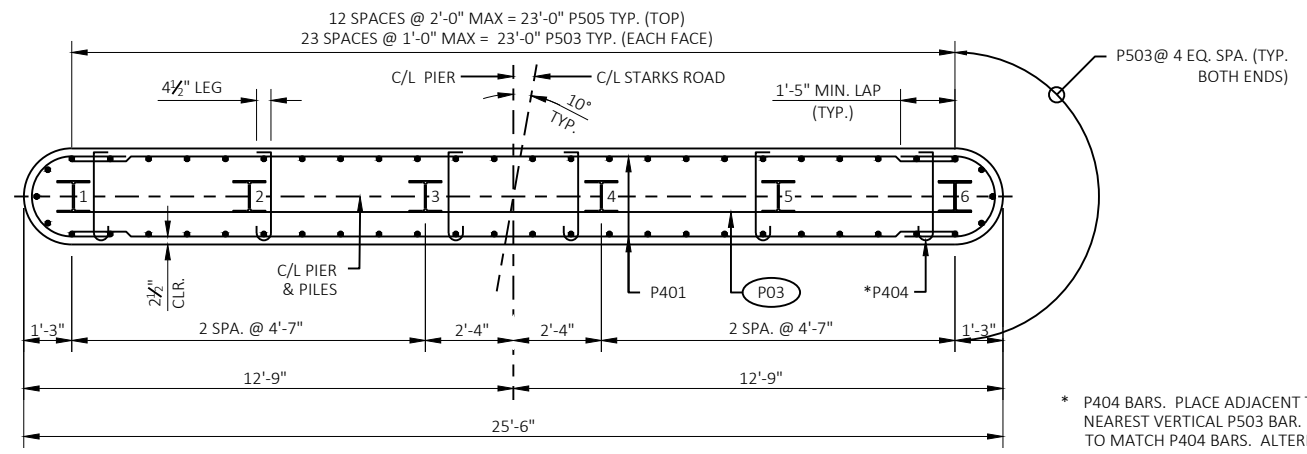
NOTES

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

NOTE: B.F. = BACK FACE
F.F. = FRONT FACE

LEGEND

- KEYED CONSTRUCTION JOINT FORMED BY A BEVELED 2" x 6".
- BARS MAY BE PLACED AFTER CONCRETE IS POURED, BUT BEFORE INITIAL SET HAS TAKEN PLACE.
- STEEL PILING HP 10X42. PLACE PILES INTO PRE-BORED HOLES. PILES PLACED IN PRE-BORED HOLES BORED INTO ROCK DO NO REQUIRE DRIVING. EST. LENGTH 23'-0".



PILE PLAN

* P404 BARS. PLACE ADJACENT TO EACH PILE ONLY. TIE TO NEAREST VERTICAL P503 BAR. VERTICAL SPACING AT 1'-0" TO MATCH P404 BARS. ALTERNATE THE POSITION OF THE 90° AND 180° HOOKS AT EACH VERTICAL LAYER OF TIES.

8

8

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-10-396			
DRAWN BY		NJT	PLANS CK'D. TLP
PIER			SHEET 8 OF 11

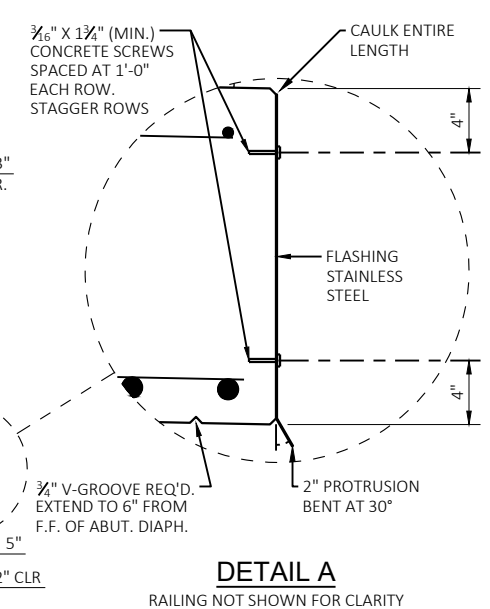
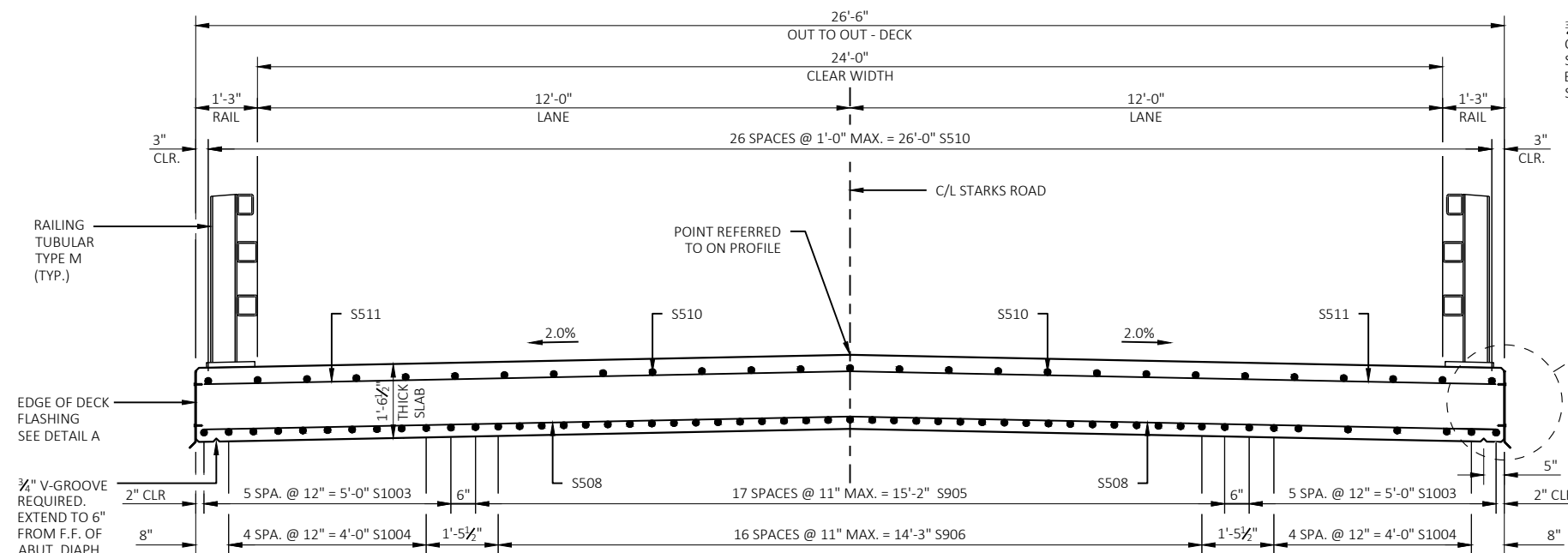
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BILL OF BARS

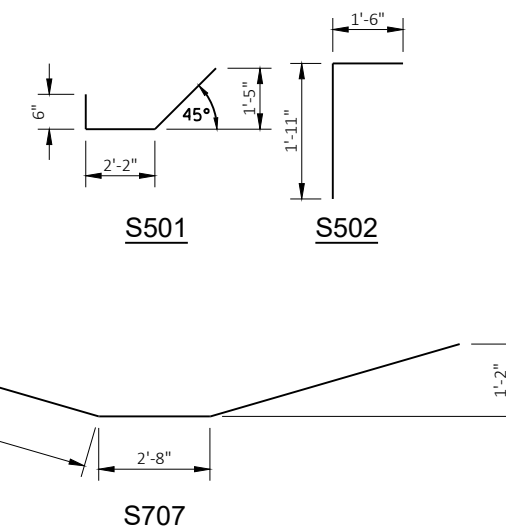
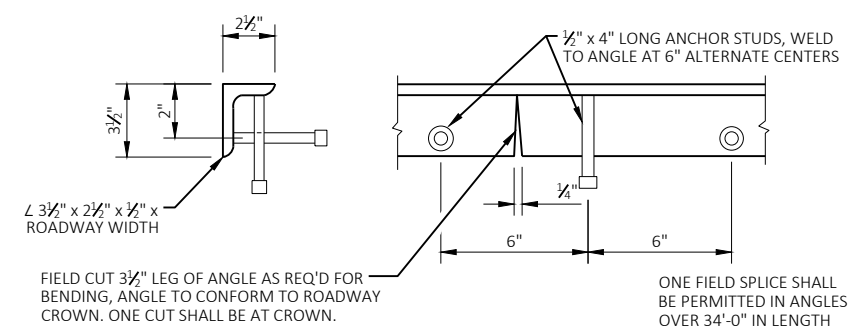
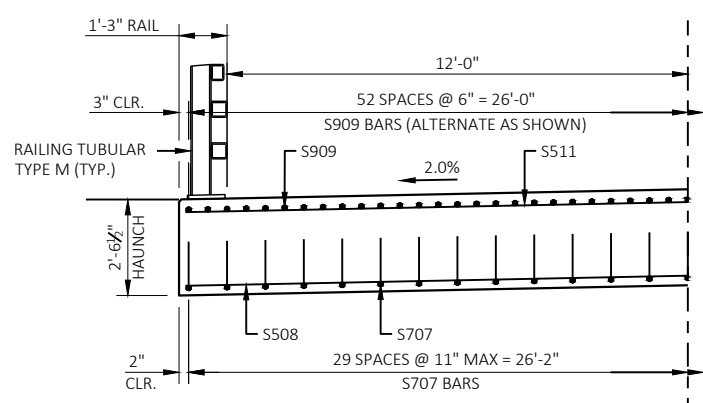
32310# COATED

BAR MARK	COAT	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
S501	X	56	4'-6"	X		AT END OF DECK
S502	X	56	3'-3"	X		AT END OF DECK
S1003	X	24	40'-2"			SLAB BOTTOM, LONG.
S1004	X	20	28'-0"			SLAB BOTTOM, LONG.
S905	X	36	28'-0"			SLAB BOTTOM, LONG.
S906	X	34	40'-2"			SLAB BOTTOM, LONG.
S707	X	30	17'-8"	X		SLAB BOTTOM AT PIER, LONG.
S508	X	112	26'-6"			SLAB BOTTOM, TRANSVERSE
S909	X	53	42'-1"			SLAB TOP OVER PIER, LONG.
S510	X	54	20'-0"			SLAB TOP LONGITUDINAL
S511	X	87	26'-6"			SLAB TOP, TRANSVERSE
S612	X	56	11'-5"	X		AT RAIL POSTS
S613	X	96	6'-0"			AT INTERIOR RAIL POSTS
S614	X	16	4'-8"	X		AT END RAIL POSTS

NOTE: BAR DIMENSIONS ARE OUT TO OUT OF BAR. THE FIRST DIGIT OF A THREE-DIGIT BAR MARK OR THE FIRST TWO DIGITS OF A FOUR-DIGIT BAR MARK SIGNIFIES THE BAR SIZE.



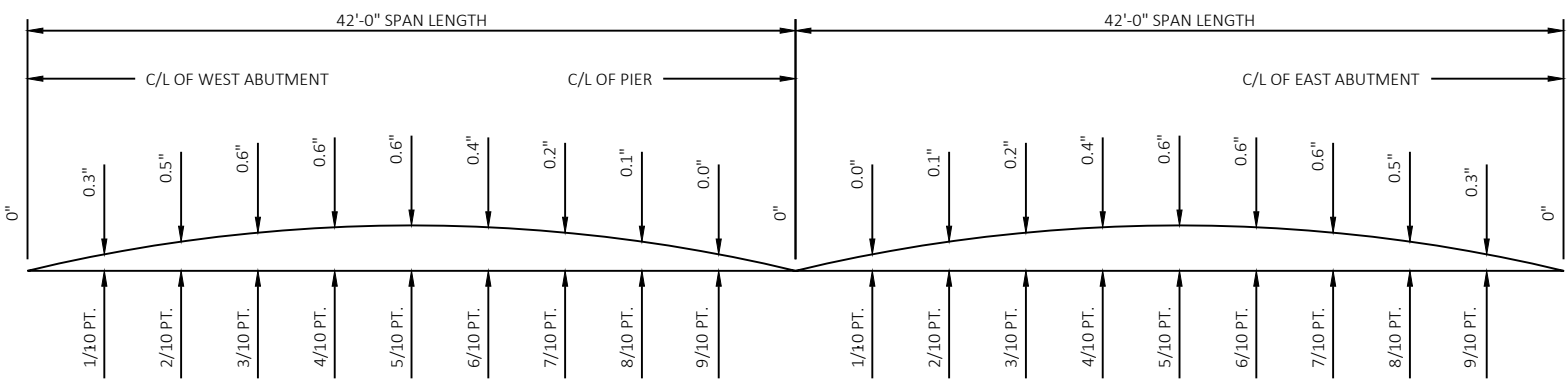
CROSS SECTION THRU ROADWAY



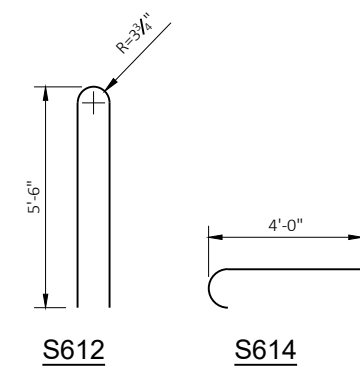
HALF - SECTION THRU BRIDGE AT PIER

PROTECTION ANGLE ARMOR

SANDBLAST PROTECTION ANGLE AFTER FABRICATION PER NOTES. AFTER BLAST CLEANING, THE PROTECTION ANGLE SHALL BE HOT DIPPED GALVANIZED.



CAMBER DIAGRAM



SURVEY TOP OF SLAB ELEVATIONS

SPAN POINT	C/L WEST ABUT.	0.5 PT	C/L PIER	0.5 PT.	C/L EAST ABUT.
N. EDGE OF DECK					
C/L STRUCTURE					
S. EDGE OF DECK					

PRIOR TO RELEASING SLAB FALSEWORK, TAKE TOP OF SLAB ELEVATIONS AT THE C/L OF ABUTMENTS, THE C/L OF PIERS AND AT 0.5 PTS TO VERIFY CAMBER. TAKE ELEVATIONS ALONG OUTER LINES AND CROWN OR R/L. RECORD THE ELEVATIONS IN THE ABOVE TABLE FOR THE "AS BUILT" PLANS.

TOP OF DECK ELEVATIONS

LOCATION	WEST ABUT.	1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10	PIER	1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10	EAST ABUT.
NORTH EDGE OF DECK	1079.63	1079.58	1079.54	1079.49	1079.45	1079.40	1079.35	1079.31	1079.26	1079.21	1079.17	1079.12	1079.08	1079.03	1078.98	1078.94	1078.89	1078.84	1078.80	1078.75	1078.71
C/L OF BRIDGE DECK	1079.87	1079.82	1079.78	1079.73	1079.69	1079.64	1079.59	1079.55	1079.50	1079.45	1079.41	1079.36	1079.32	1079.27	1079.22	1079.18	1079.13	1079.08	1079.04	1078.99	1078.95
SOUTH EDGE OF DECK	1079.57	1079.52	1079.48	1079.43	1079.39	1079.34	1079.29	1079.25	1079.20	1079.15	1079.11	1079.06	1079.02	1078.97	1078.92	1078.88	1078.83	1078.78	1078.74	1078.69	1078.65

ELEVATIONS SHOWN ARE FINISHED DECK AND DO NOT INCLUDE ALLOWANCES OF DEAD LOAD DEFLECTION AND FUTURE CREEP.

NOTES

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

TRANSVERSE BARS SHALL BE PLACED PARALLEL TO THE C/L OF SUBSTRUCTURE UNITS.

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

CAMBER SPAN AS SHOWN TO PROVIDE FOR DEAD LOAD DEFLECTION & FUTURE CREEP. CAMBER DOES NOT INCLUDE ALLOWANCE FOR FORM SETTLEMENT. DEAD LOAD DEFLECTIONS ONLY EQUAL APPROXIMATELY 1/3 OF CAMBER VALUES SHOWN.

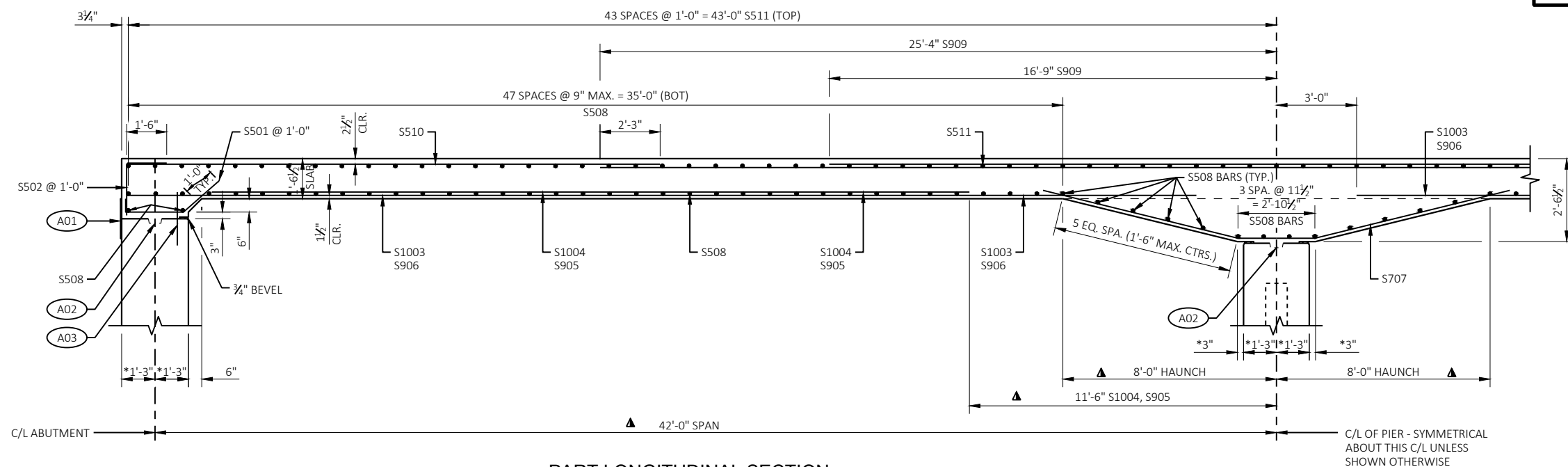
PRIOR TO RELEASING SLAB FALSEWORK, TAKE TOP OF SLAB ELEVATION AT THE C/L OF ABUTMENTS, AND AT 5/10 PTS. TO VERIFY CAMBER, TAKE ELEVATIONS ALONG GUTTER LINES AND CROWN OR C/L.

THE BID ITEM "FLASHING STAINLESS STEEL" SHALL INCLUDE PROVIDING AND INSTALLING THE STAINLESS STEEL FLASHING, CAULK, 3/16" CONCRETE SCREWS AND CLEANING THE EDGE OF DECK PRIOR TO ATTACHMENT OF THE FLASHING.

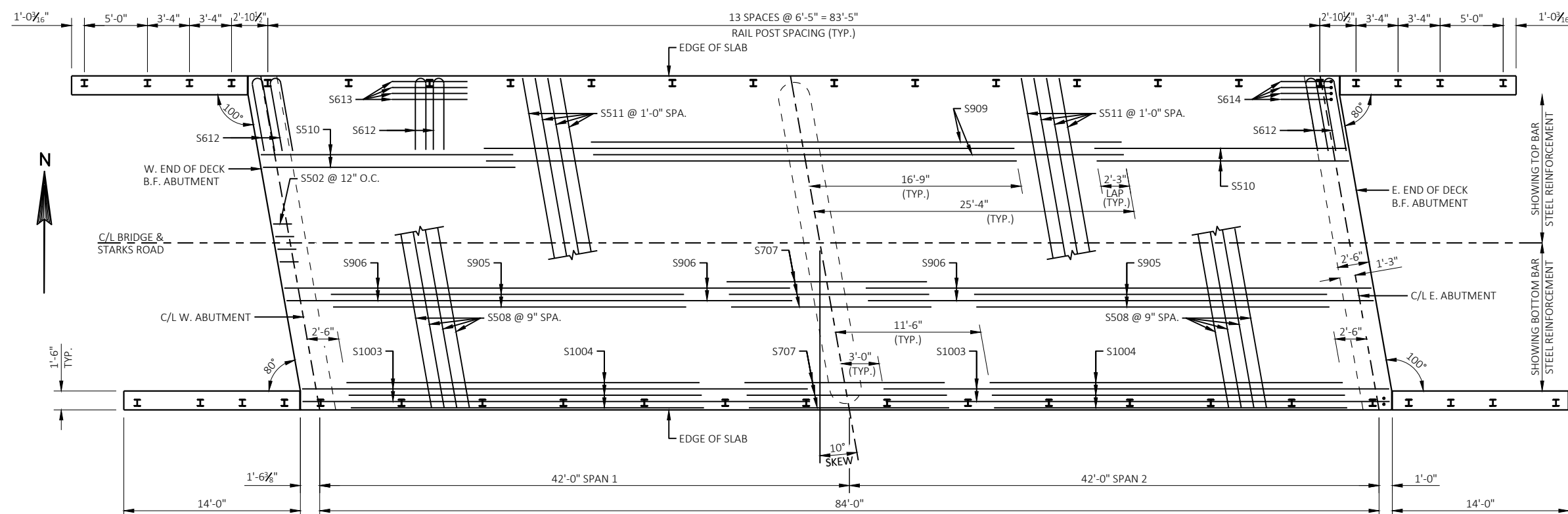
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-10-396			
DRAWN BY		NTJ	PLANS CK'D. TLP
SUPERSTRUCTURE			SHEET 9 OF 11

NOTES

- * DIMENSION IS NORMAL TO C/L SUBSTRUCTURE
- ▲ DIMENSION ALONG C/L OF STARKS ROAD



PART LONGITUDINAL SECTION



PLAN

LEGEND

- A01 18" RUBBERIZED MEMBRANE WATERPROOFING (R.M.W.). SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACK FACE.
- A02 KEYED CONSTRUCTION JOINT FORMED BY A BEVELED 2 X 6.
- A03 ABUTMENT BAR.

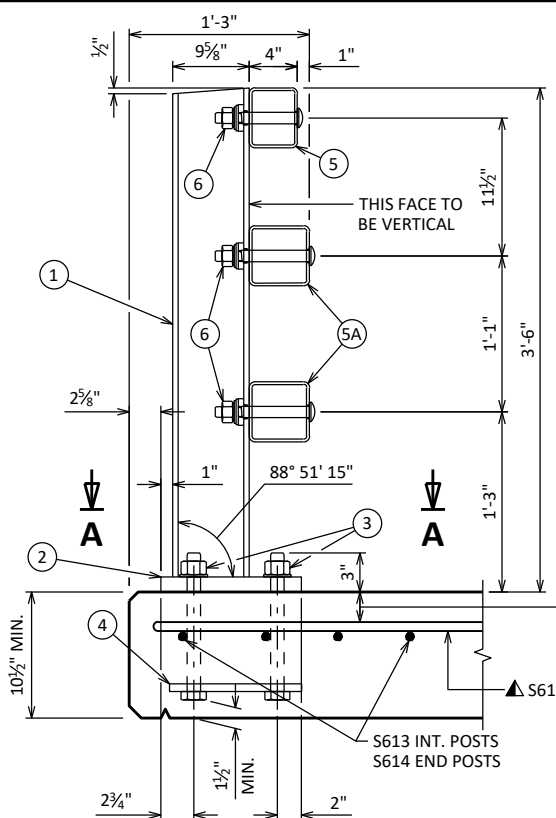
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-10-396			
DRAWN BY NJT		PLANS CK'D. TLP	
SUPERSTRUCTURE DETAILS			SHEET 10 OF 11

LEGEND

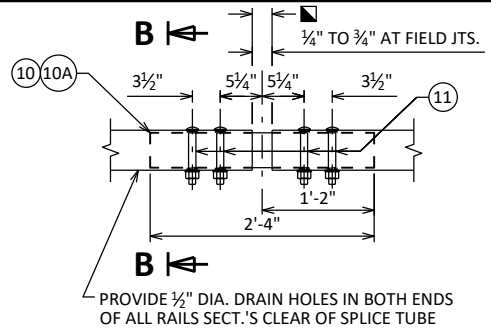
- ① W6 X 25 WITH 1 1/8" X 1 1/2" HORIZ. SLOTS ON EACH SIDE OF POST FOR BOLT NO. 6. CUT BOTTOM OF POST TO MATCH CROSS SLOPE OF ROADWAY. PLACE POST VERTICAL. PLACE POSTS NORMAL TO GRADE LINE.
- ② PLATE 1 1/4" X 1 1/4" X 1'-8" WITH 1 1/16" DIA. OVERSIZED HOLES FOR ANCHOR BOLTS NO. 3. WELD TO NO. 1 AS SHOWN.
- ③ ASTM A449 - 1 1/8" 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. USE 10 3/4" LONG AT ALL OTHER LOCATIONS. (AN EQUIVALENT THREADED ROD WITH NUTS AND HARDENED WASHERS MAY BE SUBSTITUTED FOR ANCHOR BOLTS IN WINGS IF REQ'D. FOR CONSTRUCTABILITY.)
- ④ 3/8" X 11" X 1'-8" ANCHOR PLATE (GALVANIZED) WITH 1 3/16" 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 7/8" DIA. A325 SLOTTED ROUND HEAD BOLT WITH NUT, 3/16" X 1 5/8" X 1 5/8" MIN. WASHER, AND LOCK WASHER (2 REQ'D. AT EACH RAIL TO POST LOCATION.)
- ⑦ 1/2" THK. BACK-UP PLATE WITH 2 - 7/8" X 1 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 7/8" DIA. A325 BOLTS WITH HEX NUTS AND WASHERS. 6 HOLES IN TUBES AND PLATE NO. 7.
- ⑨ SPLICE SLEEVE FABRICATED FROM 3/4" PLATE. PROVIDE "SLIDING FIT".
- ⑩ 3/8" X 3 3/8" X 2'-4" PLATE. 2 PER RAIL. USED IN NO. 5 & 5A.
- ⑩A 3/8" X 2 5/8" X 2'-4" PLATE USED IN NO. 5, 3/8" X 3 3/8" X 2'-4" PLATE USED IN NO. 5A. 2 PER RAIL.
- ⑪ 7/8" DIA. A325 ROUND HEAD BOLT WITH NUT, WASHER, AND LOCK WASHER. USE 1 5/16" X 1 1/2" LONGIT. SLOTTED HOLES AT FIELD JOINTS AND 1 3/16" X 2 1/4" MIN. LONGIT. SLOTTED HOLES AT EXP. JOINTS IN PLATE NO. 10A.
- ⑫ 7/8" DIA. X 1 1/2" LONG THREADED SHOP WELDED STUDS (2 REQ'D).
- ⑬ 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 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 7/8" DIA. A325 ROUND HEAD BOLT WITH NUT, WASHER AND LOCK WASHER (4 REQ'D.). 4 HOLES IN TUBES.

GENERAL NOTES

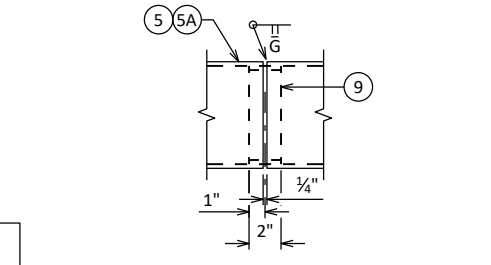
1. BID ITEM SHALL BE "RAILING TUBULAR TYPE M" WHICH INCLUDES ALL ITEMS SHOWN.
2. RAIL POST AND BASE PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A709 GRADE 50. HOLLOW RAILING STRUCTURAL TUBING SHALL CONFORM TO THE REQUIREMENTS OF ASTM A500 GRADE B OR C WITH A CERTIFIED FY = 50 KSI. ANCHOR PLATES, 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 1/2 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.



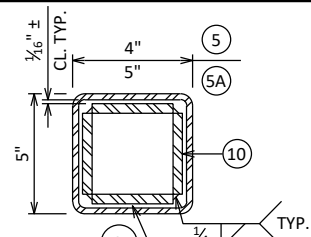
SECTION THRU RAILING ON DECK



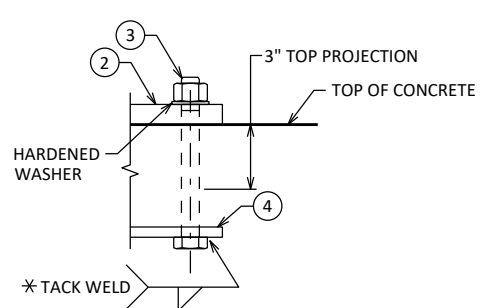
FIELD ERECTION JOINT DETAIL



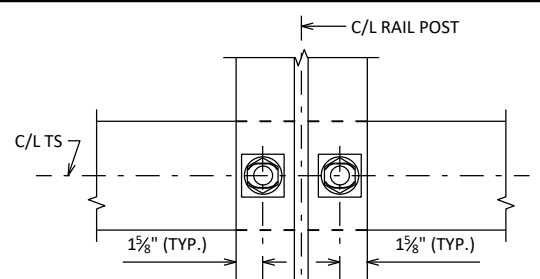
SHOP RAIL SPLICE DETAIL



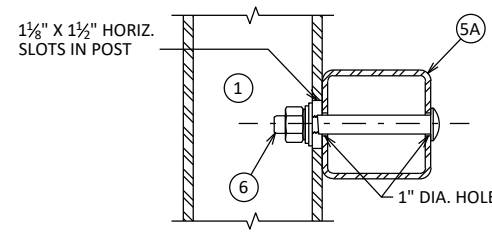
SECTION B-B



ANCHOR BOLTS



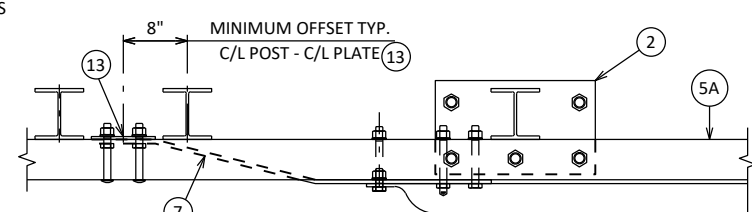
SECTION THRU POST WEB



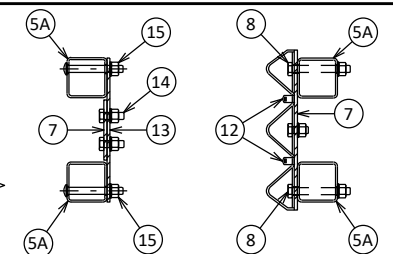
SECTION THRU RAIL

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

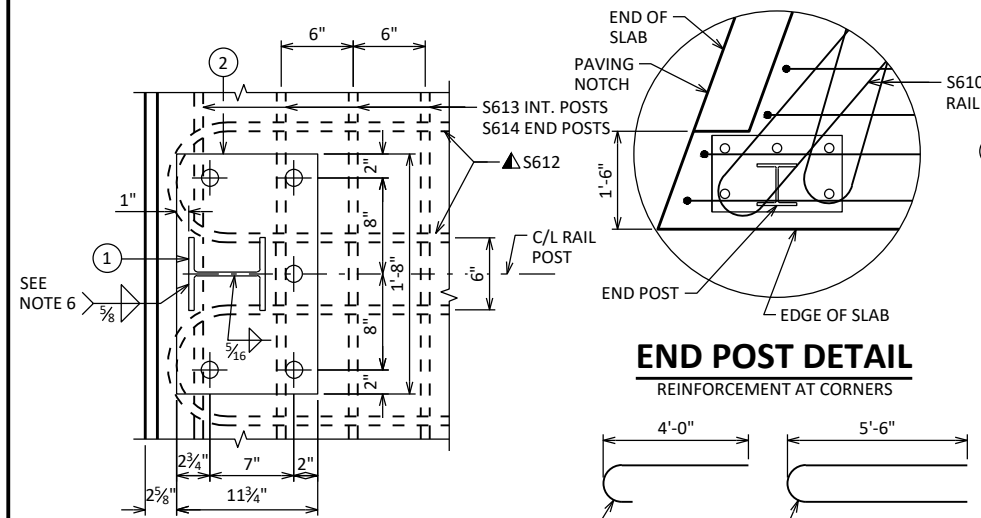
TYPICAL RAIL TO POST CONNECTIONS



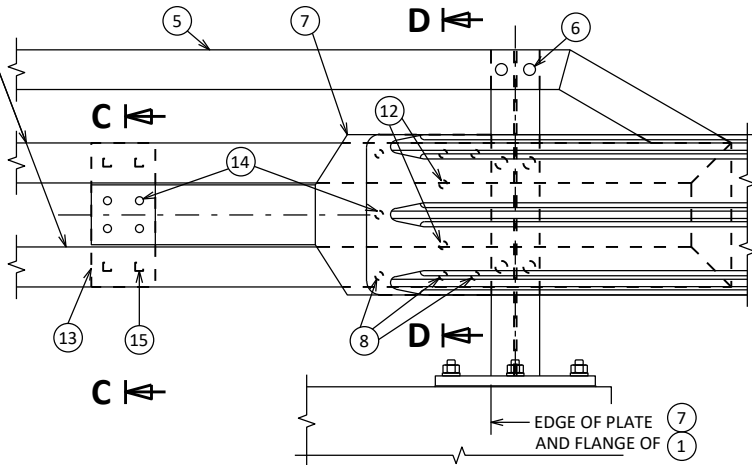
TOP VIEW AT END POST



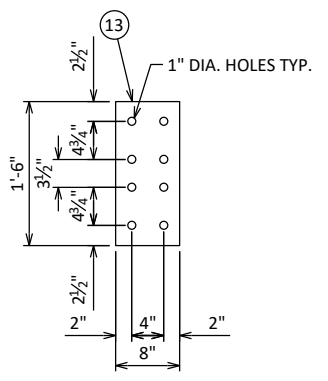
SECTION C-C SECTION D-D



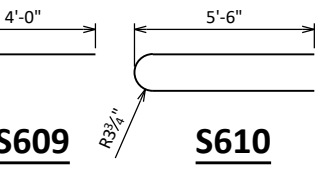
END POST DETAIL



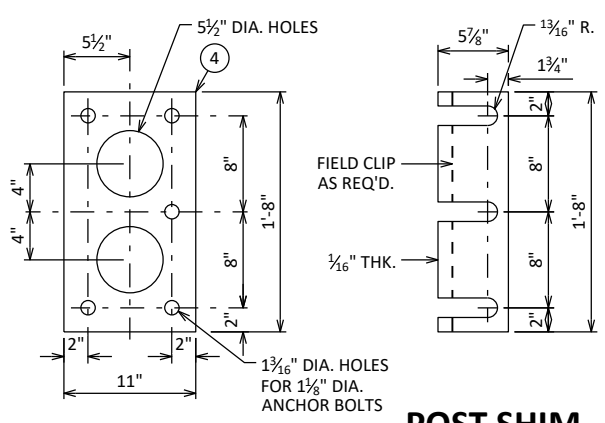
DETAIL AT END POST



ANCHOR PLATE

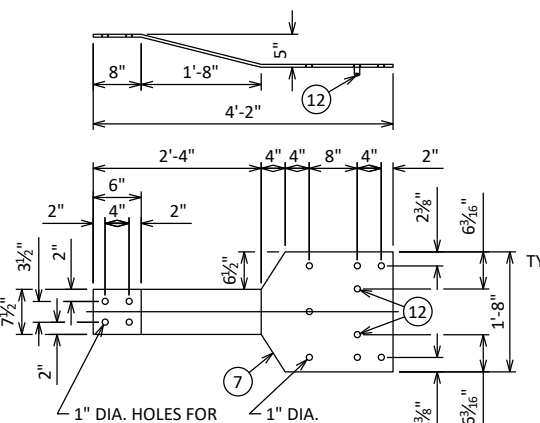


S609 S610

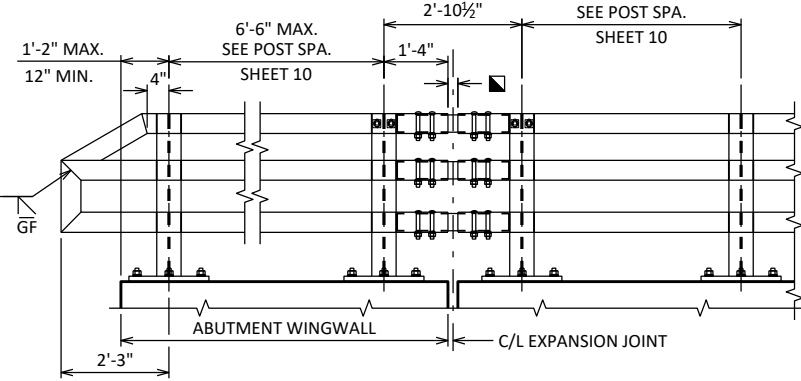


ANCHOR PLATE

POST SHIM



BACK-UP PLATE DETAIL



PART ELEVATION OF RAILING

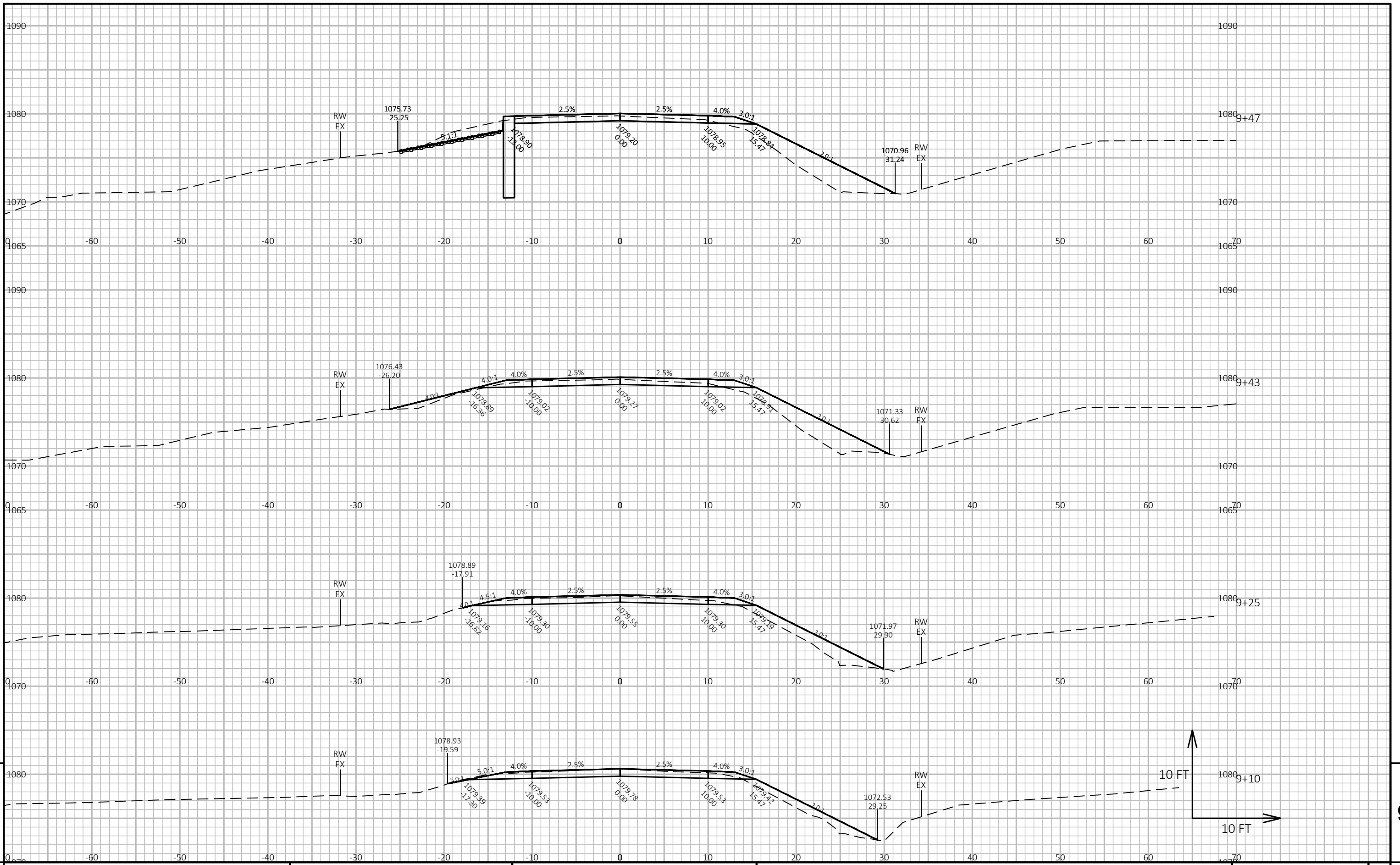
- ▲ TIE TO TOP MAT OF STEEL.
- * ANCHOR BOLT ASSEMBLY MAY BE TACK WELDED, EITHER IN THE SHOP, OR IN THE FIELD AFTER THE ANCHOR PLATE IS PLACED.
- RDWY. OPENING OR 2 1/2" MIN. FOR STRIP SEAL EXP. JOINT & (1/4" TO 3/4") OPENING FOR A1 ABUTMENT.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-10-396			
DRAWN BY		PLANS CK'D	
NJT		CK'D	
TUBULAR STEEL RAILING TYPE "M"			SHEET 11 OF 11

DIVISION -1- STARKS RD

STATION	REAL STATION	DISTANCE	AREA (SF)		INCREMENTAL VOL (CY) (UNADJUSTED)		CUMULATIVE VOL (CY)		
			CUT	FILL	CUT	FILL	CUT 1.00 NOTE 1	EXPANDED FILL 1.25	MASS ORDINATE NOTE 8
09+10	910.00	0.00	20.60	23.26	0	0	0	0	0
09+25	925.00	15.00	16.37	30.83	10	15	10	19	-9
09+42.63	942.63	17.63	11.11	42.55	9	24	19	49	-30
09+46.85	946.85	4.22	10.73	48.58	2	7	21	58	-37
09+60.85	960.85	14.00	5.86	0.00	4	13	25	74	-49
09+61	961.00	0.15	0.00	0.00	0	0	25	74	-49
10+43	1043.00	82.00	0.00	0.00	0	0	25	74	-49
10+43.20	1043.20	0.20	5.54	0.00	0	0	25	74	-49
10+57.15	1057.15	13.96	15.67	0.00	5	0	30	74	-44
10+61.39	1061.39	4.23	15.99	11.01	2	1	32	75	-43
10+75	1075.00	13.61	16.08	13.23	8	6	40	83	-43
10+94	1094.00	19.00	17.54	15.93	12	10	52	95	-43
			Total		52	76			

DIVISION	FROM/TO STATION	LOCATION	205.0100 COMMON EXCAVATION (1)	AVAILABLE MATERIAL (5)	UNEXPANDED FILL	EXPANDED FILL (13)	MASS ORDINATE +/- (14)	WASTE	208.0100 BORROW	COMMENT
			CUT (2)			FACTOR X.6X				
DIVISION 1										
STARKS ROAD	9+10-10+94	STARKS ROAD	52	52	76	95	-43		43	
DIVISION 1 SUBTOTAL			52	52	76	95	-43			
GRAND TOTAL			52	52	76	95	-43	0	43	
TOTAL COMMON EXC			52							



PROJECT NO: 7839-00-70

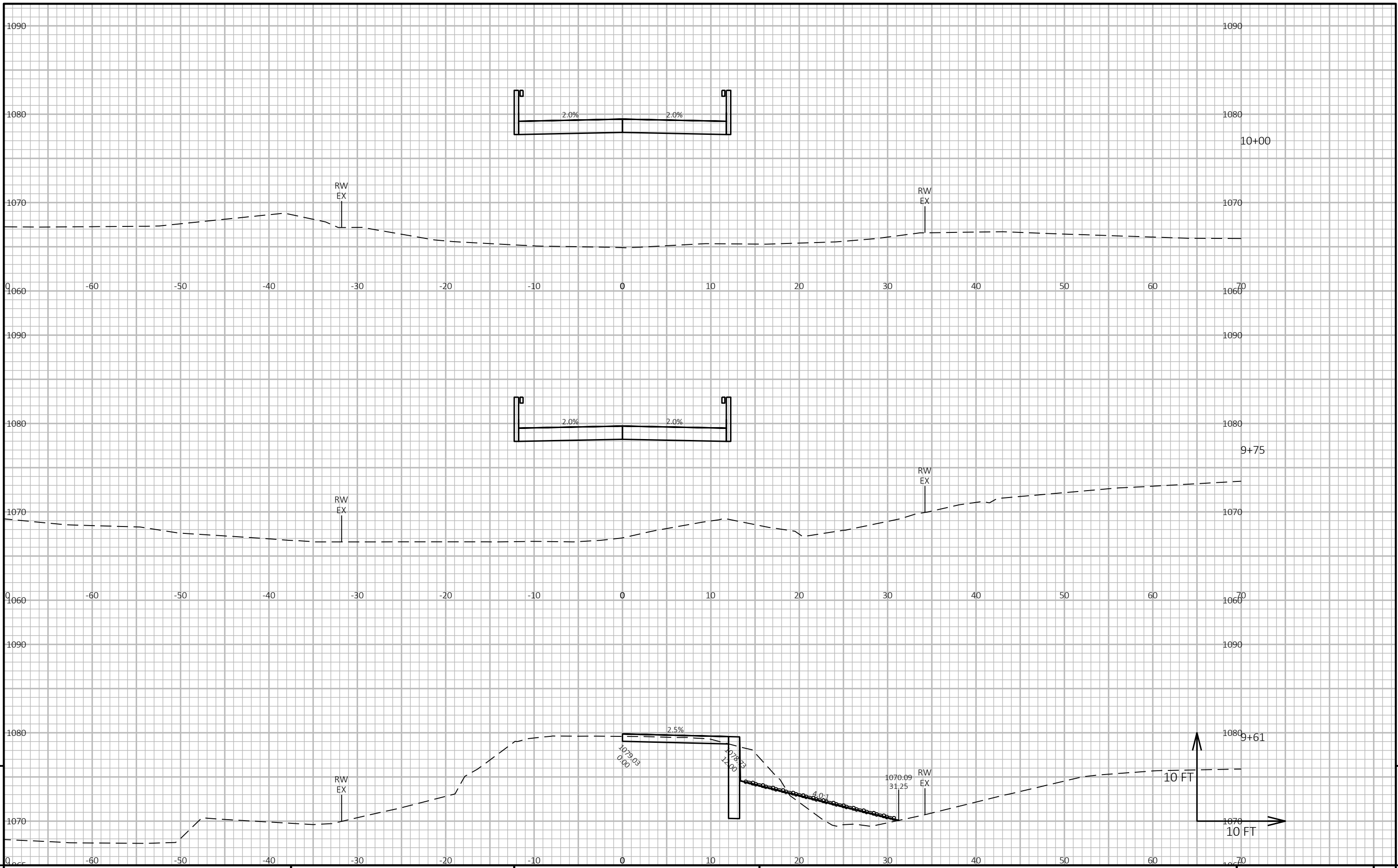
HWY: CLARK

COUNTY: STARKS ROAD

CROSS SECTIONS: STARKS ROAD

SHEET

E



PROJECT NO: 7839-00-70

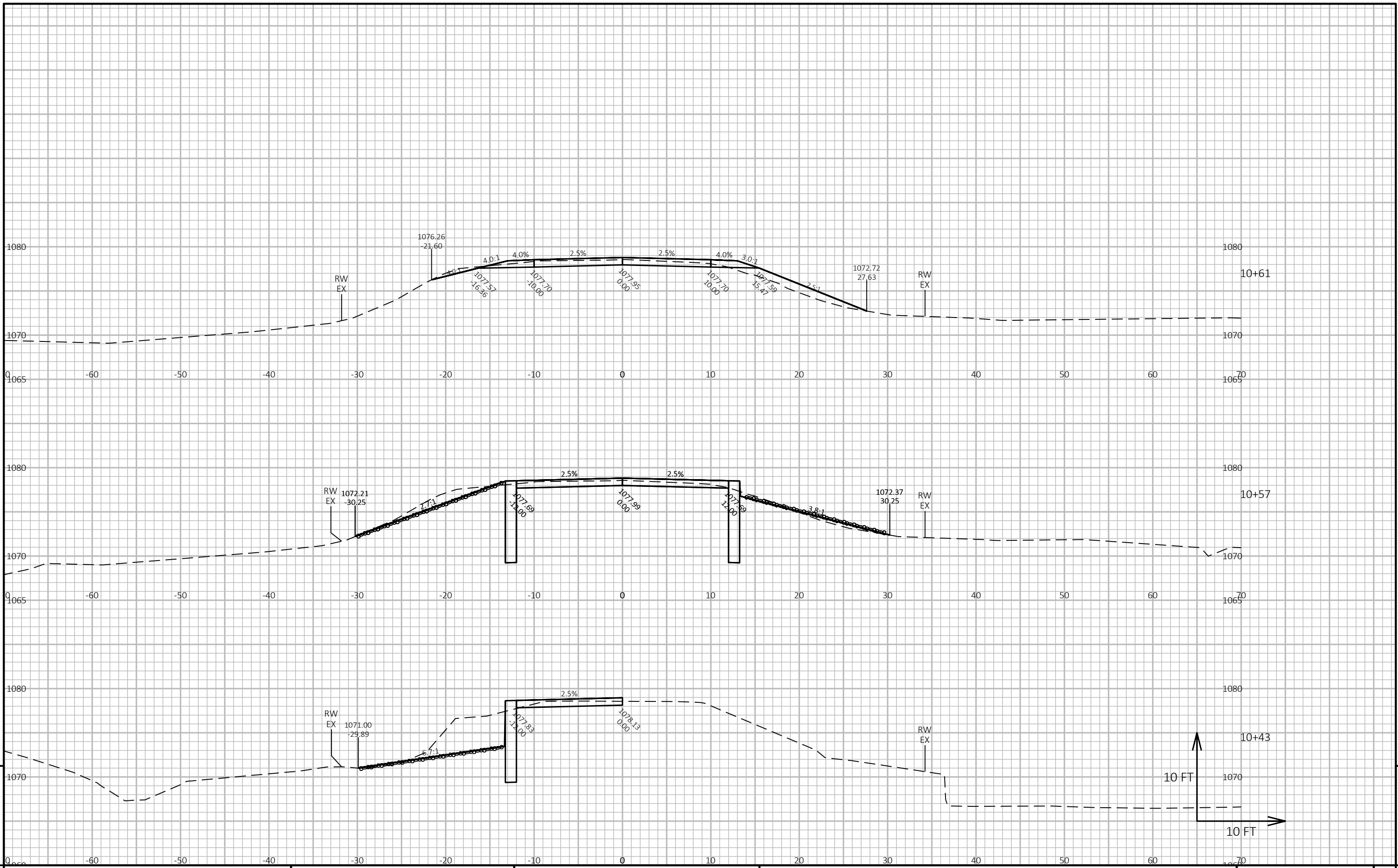
HWY: CLARK

COUNTY: STARKS ROAD

CROSS SECTIONS: STARKS ROAD

SHEET

E



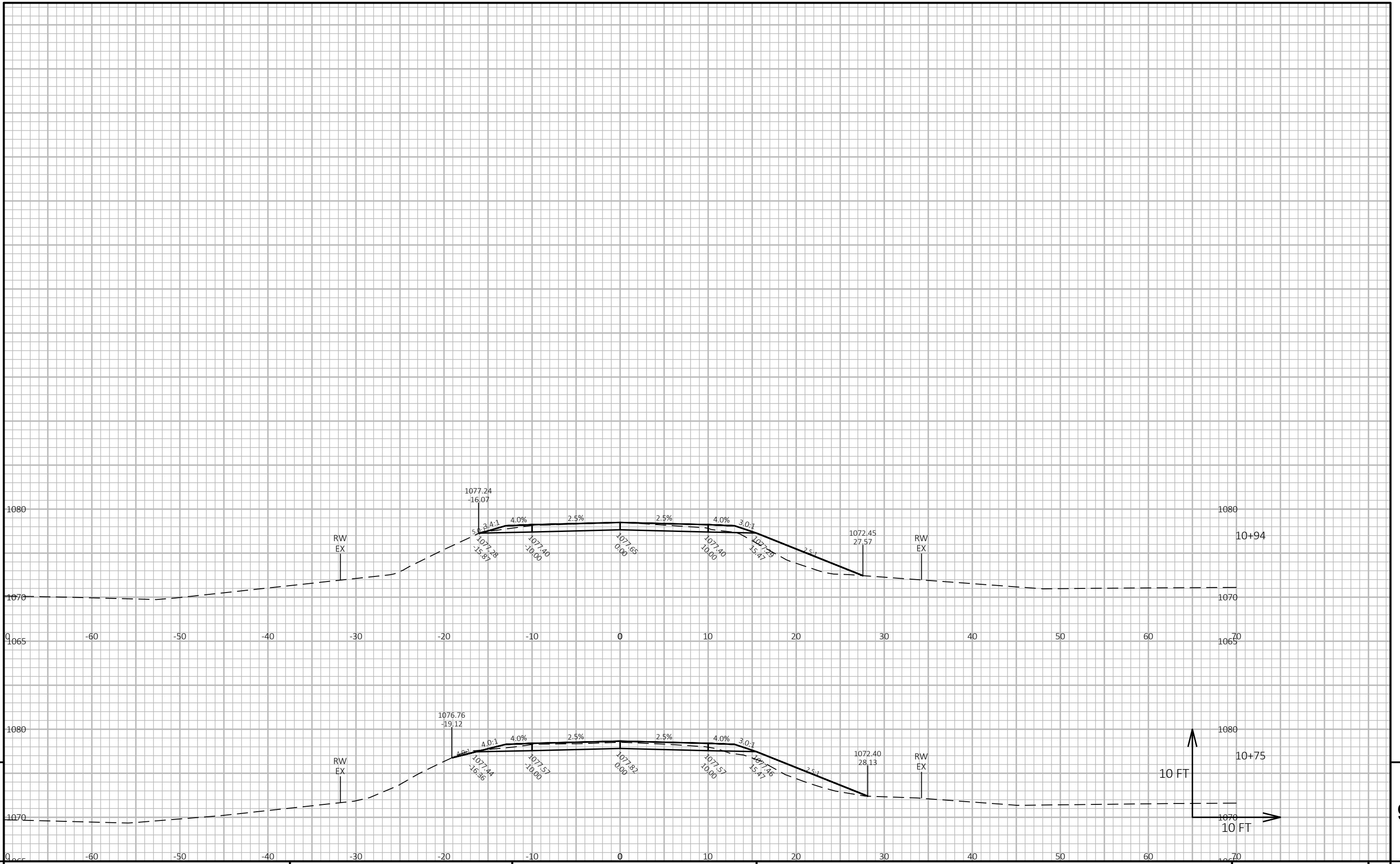
9

9

PROJECT NO: 7839-00-70 HWY: CLARK COUNTY: STARKS ROAD CROSS SECTIONS: STARKS ROAD SHEET E

FILE NAME : I:\CLIENTS-MENOW\W3900 WDOT NW REGION - EAU CLAIRE\028 7839-00-00 T MEAD STARKS RD S FORK EAU CLAIRE RVR BRDG B-10-0375\78390000\090101-XS.DWG PLOT DATE : 10/24/2023 12:31 PM PLOT BY : JORDAN DISTERHAFT PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT. WISDOT/CADD SHEET 49

LAYOUT NAME - xs-3



PROJECT NO: 7839-00-70 HWY: CLARK COUNTY: STARKS ROAD CROSS SECTIONS: STARKS ROAD SHEET E

Notes



Wisconsin Department of Transportation

Dedicated people creating transportation solutions through innovation and exceptional service.

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