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PROJECT ID:  
WITH: N/A

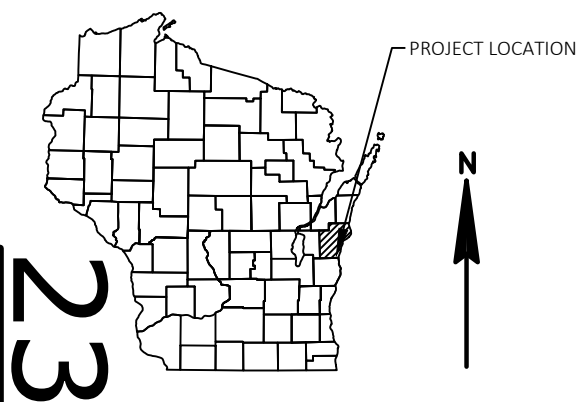
4313-11-71

COUNTY:  
MANITOWOC

FEBRUARY 2022  
ORDER OF SHEETS

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

TOTAL SHEETS = 50



STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION  
PLAN OF PROPOSED IMPROVEMENT

T MEEME, WEST WASHINGTON ROAD  
MEEME RIVER BRIDGE  
LOC STR  
MANITOWOC COUNTY

STATE PROJECT NUMBER  
**4313-11-71**

STATE PROJECT		FEDERAL PROJECT	
4313-11-71		PROJECT	CONTRACT
		WISC 2022174	1

DESIGN DESIGNATION

A.A.D.T.	2022	=	50
A.A.D.T.	2042	=	60
D.H.V.		=	9
D.D.		=	60
T.		=	10.6%
DESIGN SPEED		=	55 MPH
ESALS		=	7,300

CONVENTIONAL SYMBOLS

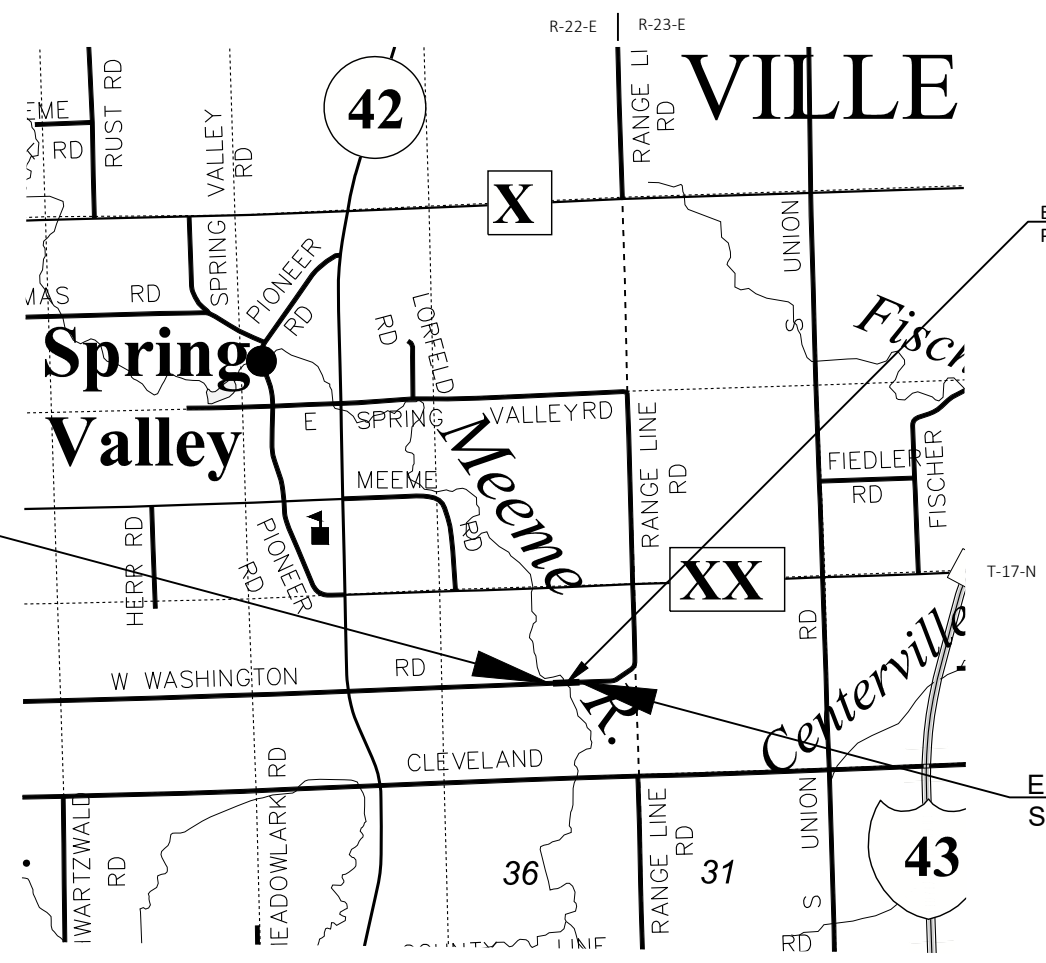
PLAN

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

PROFILE

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

BEGIN PROJECT  
STA 8+75  
Y=235938.430  
X=193676.424



EXISTING STRUCTURE P-36-193  
PROPOSED STRUCTURE B-36-219

END PROJECT  
STA 11+25



TOTAL NET LENGTH OF CENTERLINE = 0.047 MI.

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COUNTY COORDINATE SYSTEM (WCCS), MANITOWOC COUNTY, NAD83 (2007), 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 (2007). GPS DERIVED ELEVATIONS ARE BASED ON GEOID 12A.

ACCEPTED FOR MANITOWOC COUNTY  
DATE: 10/26/21 *Greg Anderson*  
Highway Commissioner  
(Title of Official)

ORIGINAL PLANS PREPARED BY  
**CORRE**  
ERIC T. PRICE  
E-39027  
MADISON  
WI  
DATE: 10/26/2021  
(Signature)

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION  
PREPARED BY  
Surveyor CORRE, INC.  
Designer CORRE, INC.  
Project Manager DOUG KIRST  
Regional Examiner REGIONAL EXAMINER  
Regional Supervisor BRIAN EDWARDS

APPROVED FOR THE DEPARTMENT  
DATE: 10/26/21 *Dug Kirst*  
(Signature)

E

**GENERAL NOTES**

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

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

DISTURBED AREAS WITHIN THE RIGHT-OF-WAY, EXCEPT THE AREAS WITHIN THE FINISHED SHOULDER POINTS, ARE TO BE 4-INCH SALVAGED TOPSOILED, FERTILIZED, SEEDED, AND EROSION MATTED.

3.5-INCH ASPHALTIC SURFACE SHALL BE CONSTRUCTED WITH 2 EQUAL LIFTS (1.75-INCH).

EROSION CONTROL FEATURES AS SHOWN IN THE PLANS ARE AT SUGGESTED LOCATIONS, EXACT LOCATIONS WILL BE DETERMINED BY THE E.C.I.P AND APPROVED BY THE ENGINEER IN THE FIELD.

**UTILITY CONTACTS**

**GAS**

ANR PIPELINE (TC ENERGY)  
TODD BRISTER  
W3925 PIPELINE LANE  
EDEN, WI 53019  
TELEPHONE: (920) 979-0060  
EMAIL: TODD\_BRISTER@TCENERGY.COM



RUNOFF COEFFICIENT TABLE

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

TOTAL PROJECT AREA = 0.57 ACRES

TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 0.37 ACRES

**DESIGN CONTACT**

CORRE, INC.  
ERIC PRICE, PE  
6510 GRAND TETON PLAZA, STE 314  
MADISON, WI 53719  
TELEPHONE: (608) 826-6146  
EMAIL: EPRICE@CORREINC.COM

**DNR CONTACT**

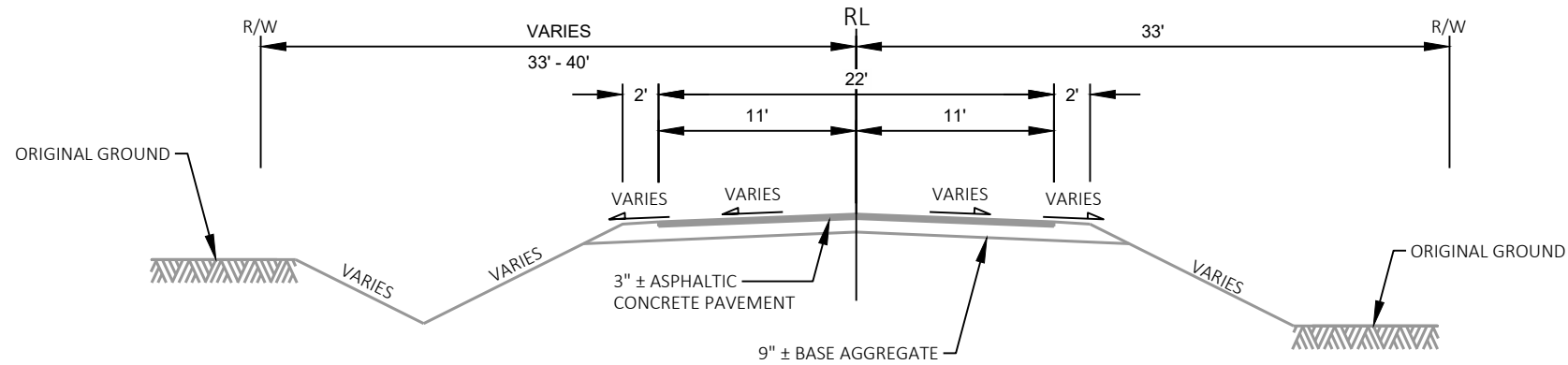
DEPARTMENT OF NATURAL RESOURCES  
DNR NORTHEAST REGIONAL HQ  
MATT SCHAEVE  
2984 SHAWANO AVE  
GREEN BAY, WI 54313  
TELEPHONE: (920) 662-5472  
EMAIL: MATTHEW.SCHAEVE@WISCONSIN.GOV

**WISDOT CONTACT**

DOUG KIRST, PE  
944 VANDERPERREN WAY  
GREEN BAY, WI 54304  
TELEPHONE: (920) 362-0389  
EMAIL: DOUGLAS.KIRST@DOT.WI.GOV

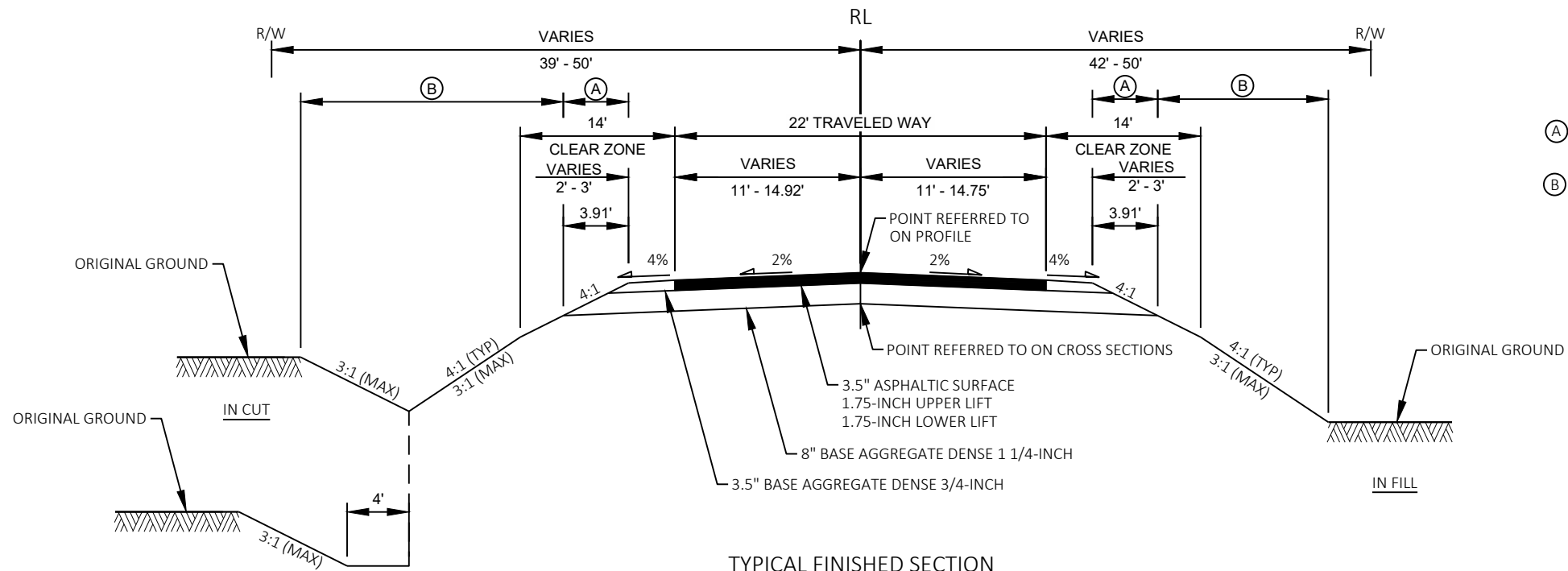
**SPONSOR CONTACT**

MANITOWOC COUNTY  
GREG GROTEGUT  
3500 STH 310  
MANITOWOC, WI 54220  
TELEPHONE: (920) 683-4345  
EMAIL: GREGGROTEGUT@MANITOWOCCOUNTY.GOV



TYPICAL EXISTING SECTION  
WEST WASHINGTON ROAD

STA 8+75.00 - STA 9+78.61  
STA 10+22.29 - STA 11+25.00

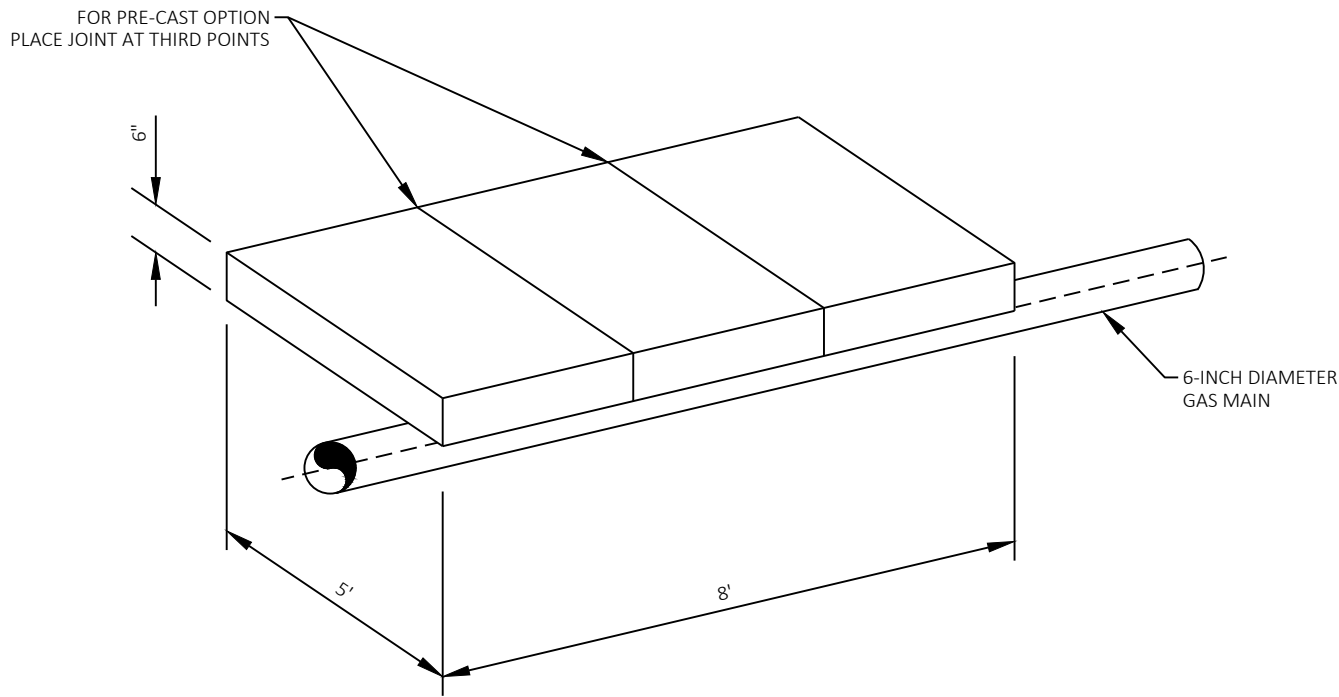


- (A) FERTILIZER TYPE B; SEEDING MIXTURE NO. 20; SEEDING TEMPORARY
- (B) SALVAGED TOPSOIL; EROSION MAT URBAN CLASS I TYPE B; FERTILIZER TYPE B; SEEDING MIXTURE NO. 20; SEEDING TEMPORARY

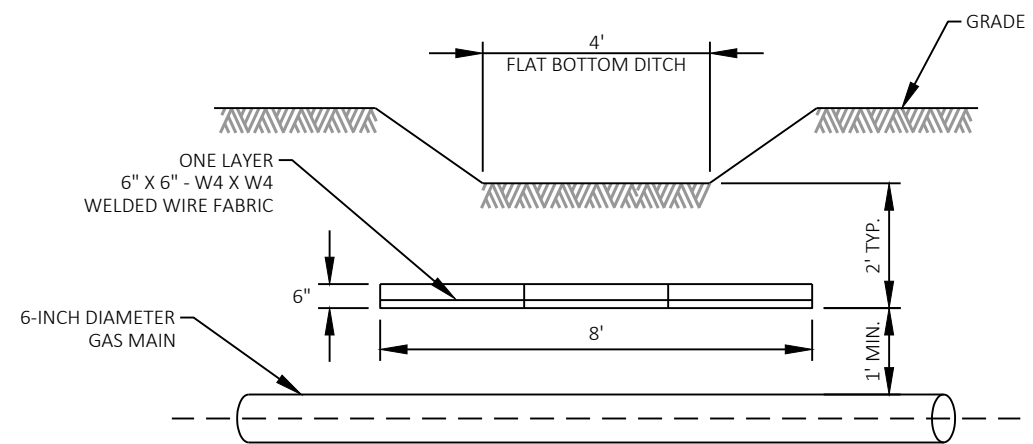
TYPICAL FINISHED SECTION  
WEST WASHINGTON ROAD

STA 8+75.00 - STA 9+55.38\*  
STA 10+44.62\* - STA 11+25.00

\*CONCRETE PAVEMENT APPROACH SLABS  
STA 9+55.38 - STA 9+74.38  
STA 10+25.62 - STA 10+44.62



PROTECTIVE CONCRETE PAD



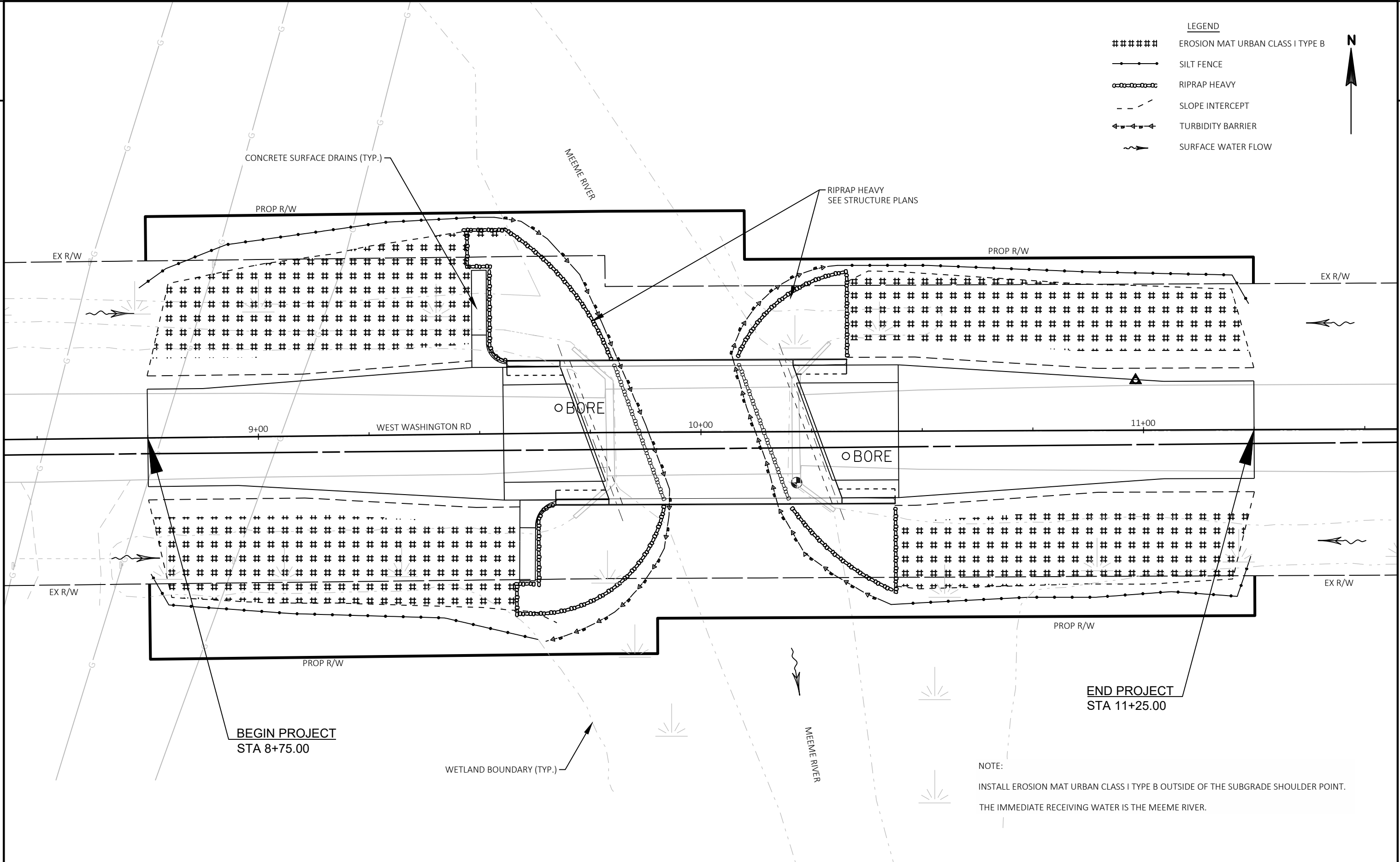
SECTION THRU DITCH  
 STA 8+93 RT  
 STA 9+19 LT

NOTES:

1. CONTRACTOR TO COORDINATE PLACEMENT WITH ANR PIPELINE (TC ENERGY).

**LEGEND**

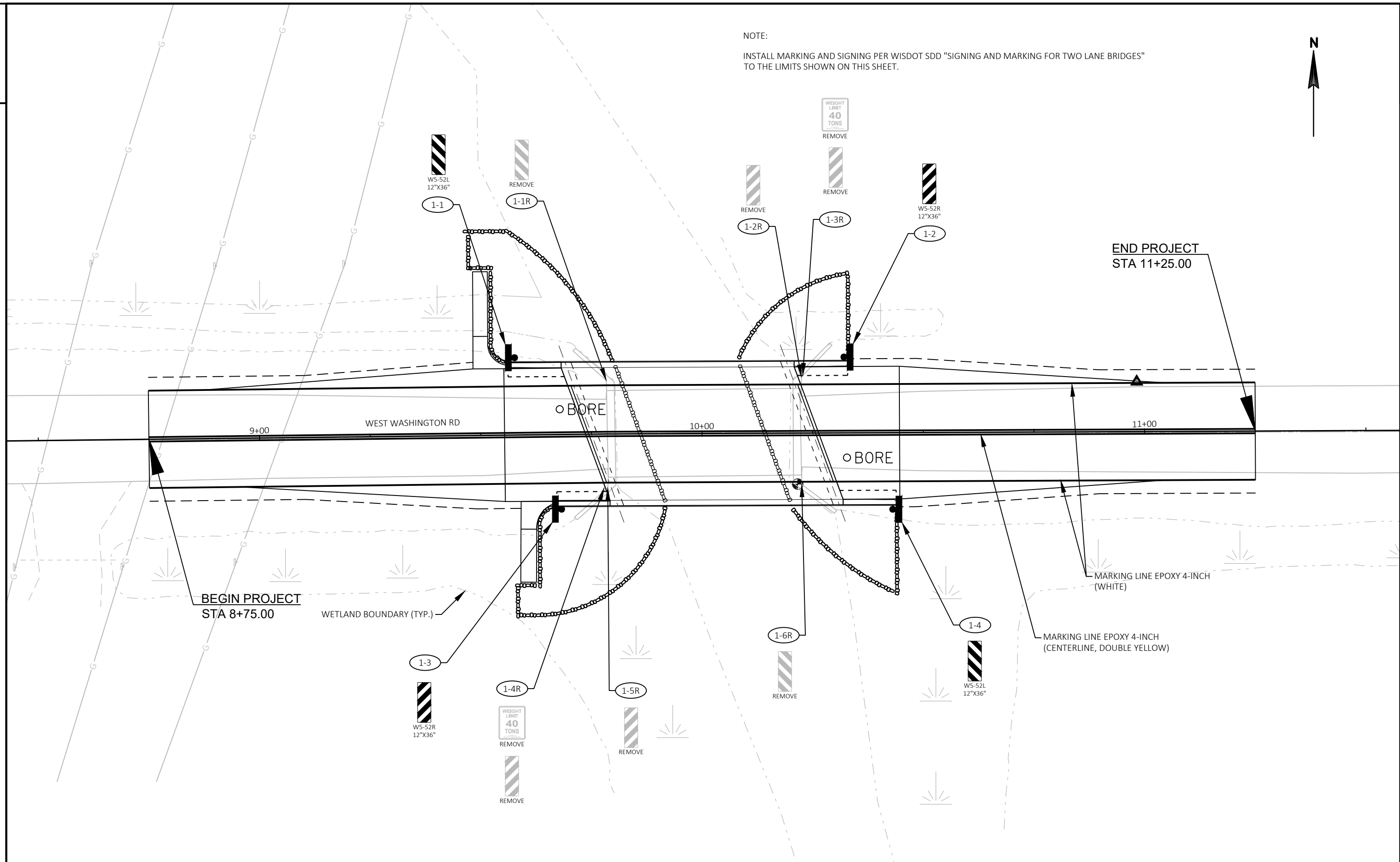
- ##### EROSION MAT URBAN CLASS I TYPE B
- SILT FENCE
- RIPRAP HEAVY
- - - SLOPE INTERCEPT
- ←←← TURBIDITY BARRIER
- ~> SURFACE WATER FLOW



NOTE:  
 INSTALL EROSION MAT URBAN CLASS I TYPE B OUTSIDE OF THE SUBGRADE SHOULDER POINT.  
 THE IMMEDIATE RECEIVING WATER IS THE MEEME RIVER.

PROJECT NO: 4313-11-71	HWY: WEST WASHINGTON ROAD	COUNTY: MANITOWOC	EROSION CONTROL	SHEET	<b>E</b>
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NOTE:  
 INSTALL MARKING AND SIGNING PER WISDOT SDD "SIGNING AND MARKING FOR TWO LANE BRIDGES"  
 TO THE LIMITS SHOWN ON THIS SHEET.



PROJECT NO: 4313-11-71	HWY: WEST WASHINGTON ROAD	COUNTY: MANITOWOC	PERMANENT SIGNING AND PAVEMENT MARKING	SHEET	E
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Estimate Of Quantities

4313-11-71

Line	Item	Item Description	Unit	Total	Qty
0002	203.0260	Removing Structure Over Waterway Minimal Debris (structure) 01. B-36-219	EACH	1.000	1.000
0004	205.0100	Excavation Common	CY	204.000	204.000
0006	206.1000	Excavation for Structures Bridges (structure) 01. B-36-219	LS	1.000	1.000
0008	208.0100	Borrow	CY	180.000	180.000
0010	210.1500	Backfill Structure Type A	TON	310.000	310.000
0012	213.0100	Finishing Roadway (project) 01. 4313-11-71	EACH	1.000	1.000
0014	305.0110	Base Aggregate Dense 3/4-Inch	TON	22.000	22.000
0016	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	322.000	322.000
0018	415.0060	Concrete Pavement 6-Inch	SY	33.000	33.000
0020	415.0410	Concrete Pavement Approach Slab	SY	94.000	94.000
0022	416.1010	Concrete Surface Drains	CY	3.400	3.400
0024	455.0605	Tack Coat	GAL	24.000	24.000
0026	465.0105	Asphaltic Surface	TON	90.000	90.000
0028	502.0100	Concrete Masonry Bridges	CY	237.000	237.000
0030	502.3200	Protective Surface Treatment	SY	173.000	173.000
0032	502.3210	Pigmented Surface Sealer	SY	76.000	76.000
0034	505.0400	Bar Steel Reinforcement HS Structures	LB	4,240.000	4,240.000
0036	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	34,070.000	34,070.000
0038	516.0500	Rubberized Membrane Waterproofing	SY	22.000	22.000
0040	550.0500	Pile Points	EACH	14.000	14.000
0042	550.2106	Piling CIP Concrete 10 3/4 X 0.365-Inch	LF	700.000	700.000
0044	606.0300	Riprap Heavy	CY	255.000	255.000
0046	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	220.000	220.000
0048	618.0100	Maintenance And Repair of Haul Roads (project) 01. 4313-11-71	EACH	1.000	1.000
0050	619.1000	Mobilization	EACH	1.000	1.000
0052	624.0100	Water	MGAL	10.000	10.000
0054	625.0500	Salvaged Topsoil	SY	800.000	800.000
0056	628.1504	Silt Fence	LF	465.000	465.000
0058	628.1520	Silt Fence Maintenance	LF	465.000	465.000
0060	628.1905	Mobilizations Erosion Control	EACH	5.000	5.000
0062	628.1910	Mobilizations Emergency Erosion Control	EACH	2.000	2.000
0064	628.2008	Erosion Mat Urban Class I Type B	SY	800.000	800.000
0066	628.6005	Turbidity Barriers	SY	205.000	205.000
0068	628.7504	Temporary Ditch Checks	LF	60.000	60.000
0070	629.0210	Fertilizer Type B	CWT	0.800	0.800
0072	630.0120	Seeding Mixture No. 20	LB	28.000	28.000
0074	630.0200	Seeding Temporary	LB	28.000	28.000
0076	630.0500	Seed Water	MGAL	18.000	18.000
0078	634.0614	Posts Wood 4x6-Inch X 14-FT	EACH	4.000	4.000
0080	637.2230	Signs Type II Reflective F	SF	12.000	12.000
0082	638.2602	Removing Signs Type II	EACH	8.000	8.000
0084	638.3000	Removing Small Sign Supports	EACH	6.000	6.000
0086	642.5201	Field Office Type C	EACH	1.000	1.000
0088	643.0420	Traffic Control Barricades Type III	DAY	1,332.000	1,332.000
0090	643.0705	Traffic Control Warning Lights Type A	DAY	2,072.000	2,072.000
0092	643.0900	Traffic Control Signs	DAY	1,036.000	1,036.000
0094	643.5000	Traffic Control	EACH	1.000	1.000
0096	645.0111	Geotextile Type DF Schedule A	SY	68.000	68.000
0098	645.0120	Geotextile Type HR	SY	340.000	340.000

Estimate Of Quantities

4313-11-71

Line	Item	Item Description	Unit	Total	Qty
0100	646.1020	Marking Line Epoxy 4-Inch	LF	1,000.000	1,000.000
0102	650.4500	Construction Staking Subgrade	LF	210.000	210.000
0104	650.5000	Construction Staking Base	LF	210.000	210.000
0106	650.6500	Construction Staking Structure Layout (structure) 01. B-36-219	LS	1.000	1.000
0108	650.9910	Construction Staking Supplemental Control (project) 01. 4313-11-71	LS	1.000	1.000
0110	650.9920	Construction Staking Slope Stakes	LF	210.000	210.000
0112	690.0150	Sawing Asphalt	LF	44.000	44.000
0114	715.0502	Incentive Strength Concrete Structures	DOL	1,422.000	1,422.000
0116	715.0720	Incentive Compressive Strength Concrete Pavement	DOL	500.000	500.000
0118	999.2000.S	Installing and Maintaining Bird Deterrent System (station) 01. STA 10+00	EACH	1.000	1.000
0120	SPV.0165	Special 01. Protective Concrete Pad	SF	80.000	80.000



3

3

DIVISION	FROM/TO STATION	LOCATION	205.0100 EXCAVATION COMMON (1)	SALVAGED/UNUSABLE PAVEMENT MATERIAL (3)	AVAILABLE MATERIAL (4)	UNEXPANDED FILL	EXPANDED FILL (5)	MASS ORDINATE +/- (6)	208.0100 BORROW
			CUT (2)				FACTOR 1.25		
DIVISION 1									
ML	08+75/9+67	WEST APPROACH	102	19	83	184	230	-146	146
ML	10+33/11+25	EAST APPROACH	102	19	83	93	117	-34	34
DIVISION 1 SUBTOTAL			204	37	166	277	230	-180	180
GRAND TOTAL			204	37	166	277	347	-180	180

NOTES:

- (1) EXCAVATION COMMON IS THE CUT COLUMN. ITEM NUMBER 205.0100
  - (2) SALVAGED/UNUSABLE PAVEMENT MATERIAL IS INCLUDED IN CUT.
  - (3) SALVAGED/UNUSABLE PAVEMENT MATERIAL
  - (4) AVAILABLE MATERIAL = CUT - SALVAGED/UNUSABLE PAVEMENT MATERIAL
  - (5) EXPANDED FILL = UNEXPANDED FILL \* FILL FACTOR FILL FACTOR = 1.25
  - (6) THE MASS ORDINATE + OR - QTY CALCULATED FOR THE DIVISION. PLUS QUANTITY INDICATES AN EXCESS OF MATERIAL WITHIN THE DIVISION. MINUS INDICATES A SHORTAGE OF MATERIAL WITHIN THE DIVISION.
- FOR INFORMATIONAL PURPOSES ONLY: THE ESTIMATED AMOUNT OF EXCESS MATERIAL TO BE REMOVED UNDER "EXCAVATION FOR STRUCTURES" IS APPROXIMATELY 35 CY PER ABUTMENT.

ASPHALTIC ITEMS

BASE AGGREGATE DENSE ITEMS

CATEGORY	STATION	TO	STATION	LOCATION	305.0110 BASE AGGREGATE DENSE 3/4-INCH TON	305.0120 BASE AGGREGATE DENSE 1 1/4- INCH TON	624.0100 WATER MGAL
0010	8+75	-	9+74	ML	11	161	5
0010	10+26	-	11+25	ML	11	161	5
TOTAL 0010					22	322	10

CATEGORY	STATION	TO	STATION	LOCATION	455.0605 TACK COAT GAL	465.0105 ASPHALTIC SURFACE TON
0010	8+75	-	9+55	ML	12	45
0010	10+45	-	11+25	ML	12	45
TOTAL 0010					24	90

SURFACE DRAINS

CATEGORY	STATION	LOCATION	CY
0010	9+50	LT	1.8
0010	9+61	RT	1.6
TOTAL 0010			3.4

CONCRETE PAVEMENT ITEMS

CATEGORY	STATION	TO	STATION	LOCATION	415.0060 CONCRETE PAVEMENT 6- INCH SY	415.0410 CONCRETE PAVEMENT APPROACH SLAB SY
0010	9+55	-	9+74	ML	16.5	47
0010	10+25	-	10+45	ML	16.5	47
TOTAL 0010					33.0	94

3

LANDSCAPING ITEMS

CATEGORY	STATION	TO	STATION	LOCATION	625.0500 SALVAGED TOPSOIL SY	629.0210 FERTILIZER TYPE B CWT	630.0120 SEEDING MIXTURE NO. 20 LB	630.0200 SEEDING TEMPORARY LB	630.0500 SEED WATER MGAL
0010	8+75	-	10+00	ML	350	0.3	12	12	8
0010	10+00	-	11+25	ML	290	0.3	10	10	7
0010	UNDISTRIBUTED (25%)				160	0.2	6	6	4
TOTAL 0010					800	0.8	28	28	18

SIGNING ITEMS

CATEGORY	STATION	LOCATION	SIGN NUMBER	634.0614 POSTS WOOD 4X6-INCH X 14- FT EACH	637.2230 SIGN TYPE II REFLECTIVE F SF	REMARKS
0010	9+56	LT	1-1	1	3	W5-52L
0010	9+67	RT	1-3	1	3	W5-52R
0010	10+33	LT	1-2	1	3	W5-52R
0010	10+44	RT	1-4	1	3	W5-52L
TOTAL 0010				4	12	

3

EROSION CONTROL ITEMS

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	628.2008 EROSION MAT URBAN CLASS I TYPE B SY	628.6005 TURBIDITY BARRIERS SY	628.7504 TEMPORARY DITCH CHECKS LF	REMARKS
0010	8+75	-	9+85	LT & RT	180	180	-	-	350	-	24	WEST ABUTMENT
0010	9+85	-	10+15	LT & RT	-	-	-	-	-	90		
0010	10+15	-	11+25	LT & RT	190	190	-	-	290	-	24	EAST ABUTMENT
0010	UNDISTRIBUTED (25%)				95	95	-	-	160	40	12	
0010	PROJECT				-	-	5	2	-	-	-	
TOTAL 0010					465	465	5	2	800	205	60	

REMOVING SIGN ITEMS

CATEGORY	STATION	SIGN NUMBER	LOCATION	638.2602 REMOVING SIGN TYPE II EACH	638.3000 REMOVING SMALL SIGN SUPPORTS EACH	REMARKS
0010	9+78	1-1R	LT	1	1	WEST
0010	9+77	1-4R	RT	2	1	WEST
0010	9+78	1-5R	RT	1	1	WEST
0010	10+22	1-2R	LT	1	1	EAST
0010	10+23	1-3R	LT	2	1	EAST
0010	10+23	1-6R	RT	1	1	EAST
TOTAL 0010				8	6	

TRAFFIC CONTROL ITEMS

CATEGORY	LOCATION	CALENDAR DAYS	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
0010	PROJECT	74	1,332	2,072	1,036	1
TOTAL 0010			1,332	2,072	1,036	1

PAVEMENT MARKING ITEMS

CATEGORY	STATION	TO	STATION	LOCATION	646.1020 MARKING LINE EPOXY 4-INCH LF	REMARKS
0010	8+75	-	11+25	ML	500	CENTERLINE, DOUBLE YELLOW
0010	8+75	-	11+25	ML	500	EDGE LINE, WHITE
TOTAL 0010					1,000	

PROJECT NO: 4313-11-71

HWY: WEST WASHINGTON ROAD

COUNTY: MANITOWOC

MISCELLANEOUS QUANTITIES

SHEET

E

3

CONSTRUCTION STAKING ITEMS

CATEGORY	STATION	TO	STATION	LOCATION	650.4500	650.5000	650.9910	650.9920
					CONSTRUCTION STAKING SUBGRADE LF	CONSTRUCTION STAKING BASE LF	CONSTRUCTION STAKING SUPPLEMENTAL CONTROL LS	CONSTRUCTION STAKING SLOPE STAKES LF
0010	8+75	-	11+25	ML	210	210	1	210
TOTAL 0010					210	210	1	210

SAWING PAVEMENT

CATEGORY	STATION	LOCATION	690.0150
			SAWING ASPHALT LF
0010	8+75	ML	22
0010	11+25	ML	22
TOTAL 0010			44

3

PROTECTIVE CONCRETE PAD

CATEGORY	STATION	LOCATION	SPV.0165.01
			SPECIAL (01. PROTECTIVE CONCRETE PAD) SF
0030	8+93	RT	40
0030	9+19	LT	40
TOTAL 0030			80

CONVENTIONAL SYMBOLS

SECTION LINE	---	SECTION CORNER SYMBOL		R/W MONUMENT (TO BE SET)	●
QUARTER LINE	---	SECTION CORNER MONUMENT		NON-MONUMENTED R/W POINT	○
SIXTEENTH LINE	---	GEODETIC SURVEY MONUMENT		FOUND IRON PIN (1/2-INCH UNLESS NOTED)	IP
NEW REFERENCE LINE	---	SIXTEENTH CORNER MONUMENT		OFF-PREMISE SIGN	
NEW R/W LINE	---	SIGN		COMPENSABLE	
EXISTING R/W OR HE LINE	---	PARALLEL OFFSETS		NON-COMPENSABLE	
PROPERTY LINE	---	ELECTRIC POLE		TELEPHONE POLE	
LOT, TIE & OTHER MINOR LINES	---	PEDESTAL (LABEL TYPE) (TV, TEL, ELEC, ETC.)		ACCESS RESTRICTED BY ACQUISITION	
SLOPE INTERCEPT	---	NO ACCESS (BY STATUTORY AUTHORITY)		ACCESS RESTRICTED (BY PREVIOUS PROJECT OR CONTROL)	
CORPORATE LIMITS	---	NO ACCESS (NEW HIGHWAY)		PARCEL NUMBER (25)	UTILITY NUMBER (40)
UNDERGROUND FACILITY (COMMUNICATIONS, ELECTRIC, ETC)	---	BRIDGE		CONVENTIONAL ABBREVIATIONS	
NEW R/W (FEE OR HE) (HATCHING VARIES BY OWNER)	---	TO BE REMOVED		ACCESS RIGHTS	
TEMPORARY LIMITED EASEMENT AREA	---	BRIDGE		ACRES AC	
EASEMENT AREA (PERMANENT LIMITED OR RESTRICTED DEVELOPMENT)	---	BRIDGE		AHEAD AH	
TRANSMISSION STRUCTURES	---	BRIDGE		ALUMINUM AND OTHERS ALUM	
BUILDING		BRIDGE		BACK BK	
BRIDGE		BRIDGE		BLOCK BLK	

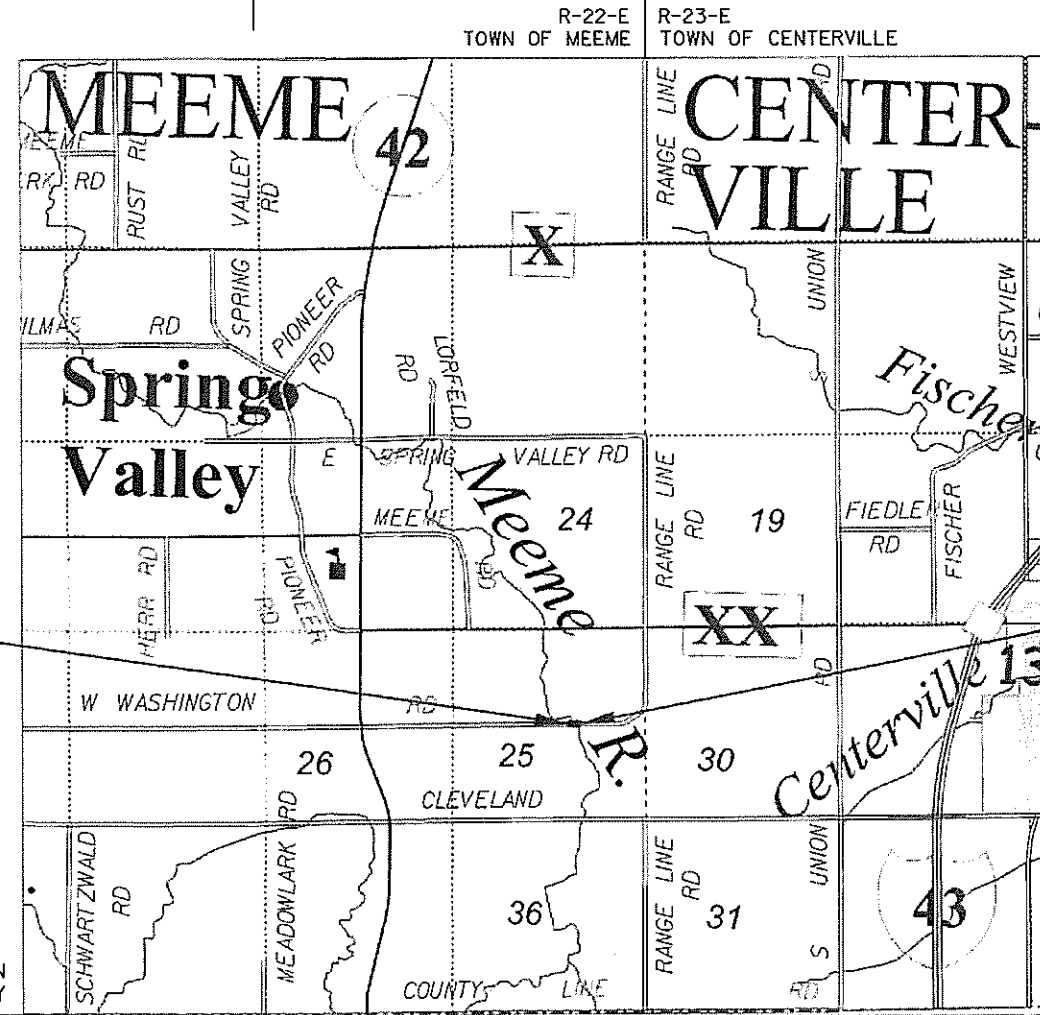
CERTIFIED SURVEY MAP	CSM	RIGHT OF WAY	RT
CONCRETE	CONC	SECTION	SEC
COUNTY	CO	SEPTIC VENT	SEPV
COUNTY TRUNK HIGHWAY	CTH	SQUARE FEET	SF
DISTANCE	DIST	STATE TRUNK HIGHWAY	STH
CORNER	COR	STATION	STA
DOCUMENT NUMBER	DOC	TELEPHONE PEDESTAL	TP
EASEMENT	EASE	TEMPORARY LIMITED EASEMENT	TLE
EXISTING	EX	TRANSPORTATION PROJECT PLAT	TPP
GAS VALVE	GV	UNITED STATES HIGHWAY	USH
GRID NORTH	GN	VOLUME	V
HIGHWAY EASEMENT	HE	CURVE DATA	
IDENTIFICATION	ID	LONG CHORD	LCH
LAND CONTRACT	LC	LONG CHORD BEARING	LCB
LEFT	LT	RADIUS	R
MONUMENT	MON	DEGREE OF CURVE	D
NATIONAL GEODETIC SURVEY NUMBER	NGS	CENTRAL ANGLE	Δ/DELTA
OUTLOT	OL	LENGTH OF CURVE	L
PAGE	P	TANGENT	T
POINT OF TANGENCY	PT	DIRECTION AHEAD	DA
PERMANENT LIMITED EASEMENT	PLE	DIRECTION BACK	DB
POINT OF BEGINNING	POB		
POINT OF CURVATURE	PC		
POINT OF COMPOUND CURVE	PCC		

CONVENTIONAL UTILITY SYMBOLS

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

R/W PROJECT NUMBER 4313-11-00	SHEET NUMBER 4.01	TOTAL SHEETS 2
FEDERAL PROJECT NUMBER		
PLAT OF RIGHT OF WAY REQUIRED FOR T MEEME, WEST WASHINGTON ROAD MEEME RIVER BRIDGE		
LOCAL ROAD		MANITOWOC COUNTY
CONSTRUCTION PROJECT NUMBER 4313-11-71		

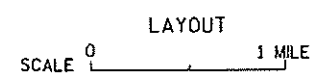
CAUTION  
THIS PLAT IS FOR ILLUSTRATIVE PURPOSES ONLY. DEEDS MUST BE CHECKED TO DETERMINE PROPERTY BOUNDARIES.



BEGIN RELOCATION ORDER  
STA. 8+75.00  
15.25 FEET SOUTH AND 2052.35 FEET WEST OF THE E 1/4 CORNER OF SECTION 25, T17N, R22E  
Y = 235938.59  
X = 193676.40

NOTES:  
POSITIONS SHOWN ON THIS PLAT ARE WISCONSIN COUNTY COORDINATE SYSTEM COORDINATES (WCCS), MANITOWOC COUNTY, NAD 83 (2011) IN US SURVEY FEET. VALUES SHOWN ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.  
RIGHT OF WAY MONUMENTS ARE TYPE 2 MONUMENTS (TYPICALLY 3/4" X 24" REBAR) AND ARE PLACED PRIOR TO OR AT THE TIME OF LAND TITLE TRANSFER.  
RIGHT OF WAY BOUNDARIES ARE DEFINED WITH COURSES OF THE PERIMETER OF THE HIGHWAY LANDS REFERENCED TO THE U.S. PUBLIC LAND SURVEY OR OTHER SURVEYS OF PUBLIC RECORD.  
DIMENSIONING OF THE NEW RIGHT-OF-WAY IS MEASURED ALONG AND PERPENDICULAR TO NEW REFERENCE LINES.  
SEE DETAIL SHEET FOR EXISTING RIGHT-OF-WAY INFORMATION.  
FOR CURRENT ACCESS / DRIVEWAY INFORMATION, CONTACT THE TOWN OF MEEME

END RELOCATION ORDER  
STA. 11+25.00  
13.38 FEET SOUTH AND 1802.36 FEET WEST OF THE E 1/4 CORNER OF SECTION 25, T17N, R22E  
Y = 235940.46  
X = 193926.39



TOTAL NET LENGTH OF CENTERLINE = 0.047 MILES

WISCONSIN  
CORRE  
MOTSZKO  
S-2846  
MENOMONIE  
WI  
LAND SURVEYOR

6510 GRAND TETON PLAZA  
SUITE 314  
MADISON, WI 53719  
(608) 828-1011  
www.correinc.com

BRYON J. MOTSZKO, REGISTERED LAND SURVEYOR, S-2846, HEREBY CERTIFY THAT I HAVE SURVEYED THE LAND DESCRIBED HEREON AND THAT THE MAP HEREON IS A CORRECT REPRESENTATION OF THAT SURVEY TO THE BEST OF MY KNOWLEDGE AND BELIEF.

*Bryon J. Motzko* 11/9/20  
SIGNATURE DATE

REVISION DATE	TOWN OF MEEME
APPROVED FOR THE TOWN	
DATE: 11/16/2020 <i>Dennis King</i> (Signature)	

COURSE TABLE		
POINT-POINT	COURSE	DISTANCE
100 - 108	S89° 28' 29"W	249.97'
100 - 101	S00° 15' 17"E	29.85'
100 - 102	S00° 15' 17"E	38.85'
101 - 102	S00° 15' 17"E	9.00'
102 - 103	S89° 44' 43"W	135.00'
103 - 104	S00° 15' 17"E	8.00'
104 - 105	S89° 44' 43"W	11.21'
105 - 106	S89° 19' 43"W	103.42'
106 - 107	N00° 40' 17"W	17.00'
106 - 108	N00° 40' 17"W	46.43'
106 - 110	N00° 40' 17"W	100.00'
107 - 108	N00° 40' 17"W	29.43'
108 - 109	N00° 40' 17"W	43.57'

COURSE TABLE		
POINT-POINT	COURSE	DISTANCE
108 - 110	N00° 40' 17"W	53.57'
109 - 110	N00° 40' 17"W	10.00'
110 - 111	N89° 19' 43"E	103.79'
111 - 112	N89° 44' 43"E	31.58'
112 - 113	S00° 15' 17"E	11.00'
113 - 114	N89° 44' 43"E	115.00'
114 - 115	S00° 15' 17"E	6.00'
114 - 100	S00° 15' 17"E	42.15'
115 - 100	S00° 15' 17"E	36.15'

SCHEDULE OF LANDS & INTERESTS REQUIRED						
OWNER ID NUMBER	OWNER(S)	INTEREST REQUIRED	R/W NEW AC	R/W EXISTING AC	R/W TOTAL AC	TLE AC
1	JOHN CARL ZIEGLER	FEE	0.05	0.23	0.28	-
2	WILLIAM H. ZIEGLER AND DELORES A. ZIEGLER IRREVOCABLE TRUST	FEE	0.07	0.17	0.24	-
50	ANR PIPELINE CO.	RELEASE OF RIGHTS				

NOTE: OWNER'S NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY AND ARE SUBJECT TO CHANGE PRIOR TO THE TRANSFER OF LAND INTERESTS TO THE TOWN.



FOUND PK NAIL  
Y = 238595.28  
X = 195737.76



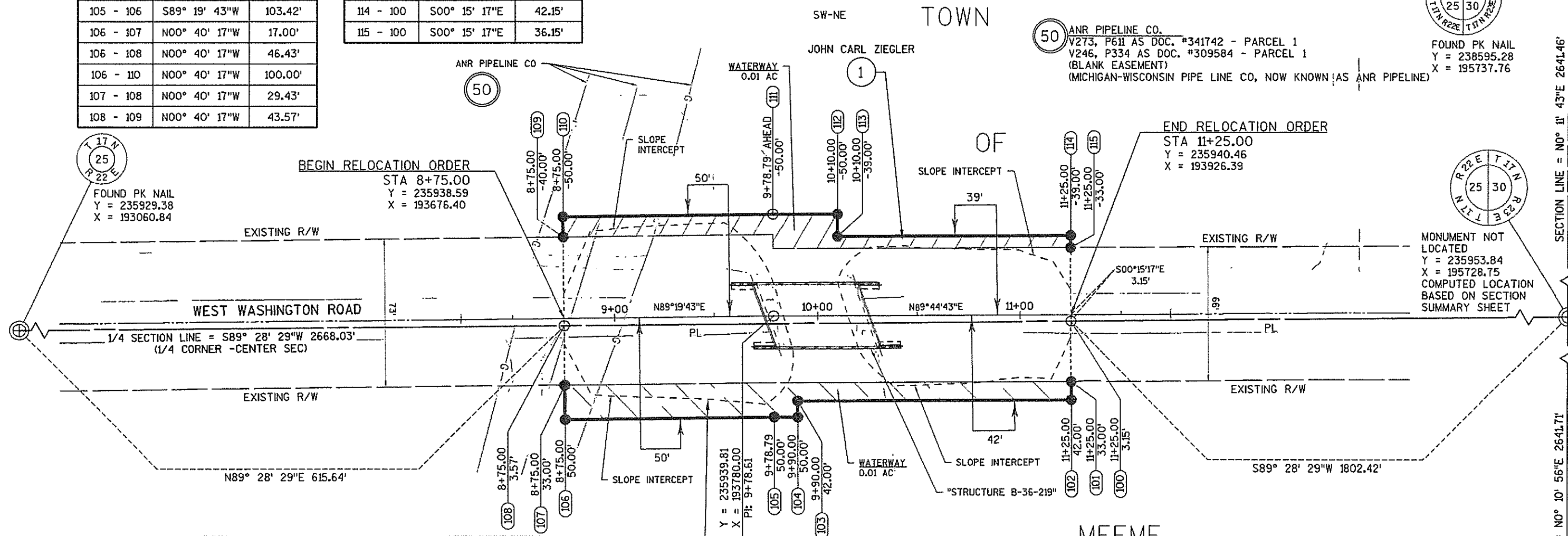
MONUMENT NOT LOCATED  
Y = 235953.84  
X = 195728.75  
COMPUTED LOCATION BASED ON SECTION SUMMARY SHEET



FOUND 1" PIPE  
Y = 233312.14  
X = 195720.36

4

4



POINT TABLE		
POINT NAME	Y COORDS	X COORDS
100	235937.31	193926.41
101	235907.46	193926.54
102	235898.46	193926.58
103	235897.86	193791.58
104	235889.86	193791.62
105	235889.81	193780.41
106	235888.60	193676.99
107	235905.60	193676.79

POINT TABLE		
POINT NAME	Y COORDS	X COORDS
108	235935.02	193676.45
109	235978.59	193675.93
110	235988.59	193675.82
111	235989.81	193779.60
112	235989.95	193811.17
113	235978.95	193811.22
114	235979.46	193926.22
115	235973.46	193926.25

REVISION DATE	-----	-----	-----
DATE	11/9/20		
GRID FACTOR	N/A		

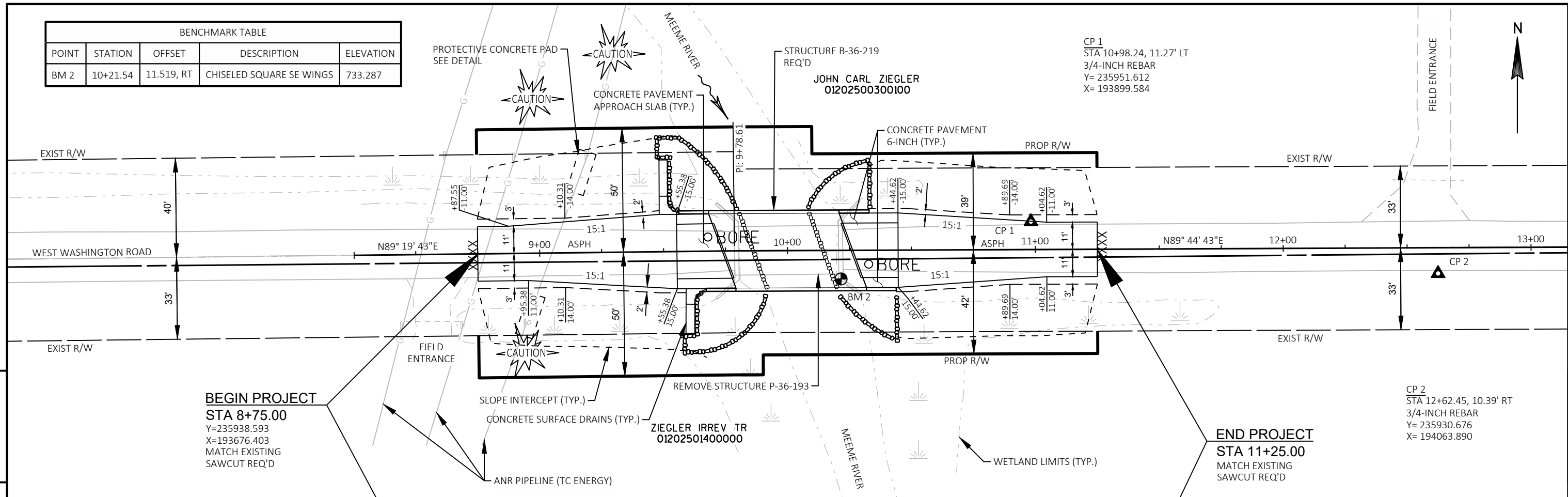
SCALE, FEET	0 25' 50'
-------------	-----------

HWY: LOCAL ROAD	STATE R/W PROJECT NUMBER 4313-11-00
COUNTY: MANITOWOC	CONSTRUCTION PROJECT NUMBER 4313-11-71

PLAT SHEET 4.02	PS&E SHEET -----
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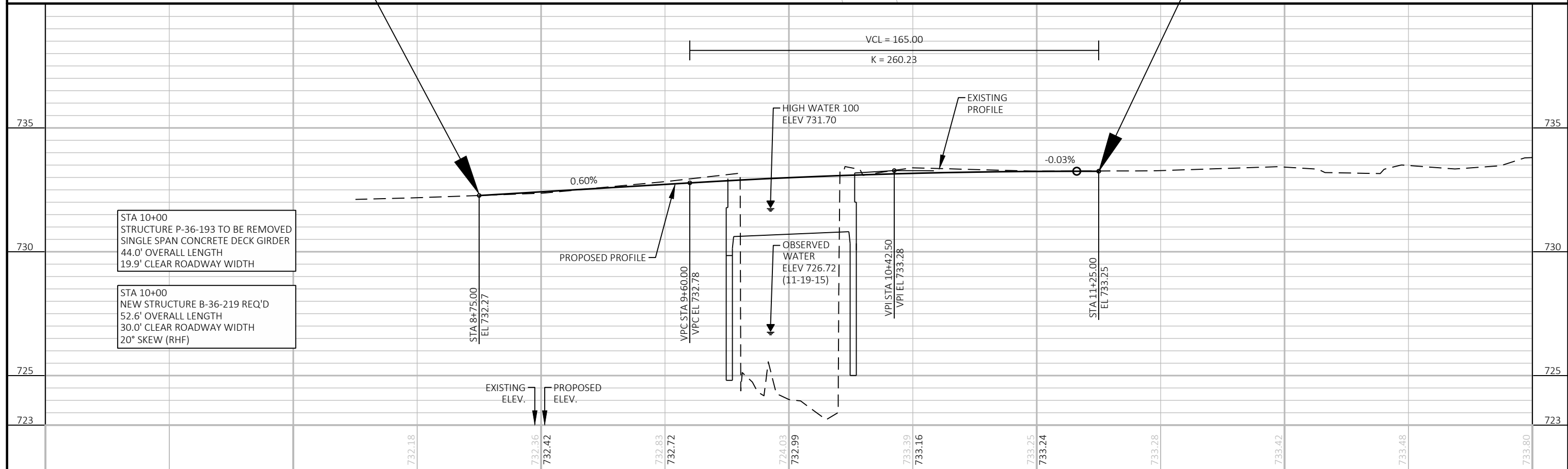
PLAT SHEET 4.02	PS&E SHEET -----	E
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BENCHMARK TABLE				
POINT	STATION	OFFSET	DESCRIPTION	ELEVATION
BM 2	10+21.54	11.519, RT	CHISELED SQUARE SE WINGS	733.287



**BEGIN PROJECT**  
**STA 8+75.00**  
 Y=235938.593  
 X=193676.403  
 MATCH EXISTING  
 SAWCUT REQ'D

**END PROJECT**  
**STA 11+25.00**  
 MATCH EXISTING  
 SAWCUT REQ'D



STA 10+00  
 STRUCTURE P-36-193 TO BE REMOVED  
 SINGLE SPAN CONCRETE DECK GIRDER  
 44.0' OVERALL LENGTH  
 19.9' CLEAR ROADWAY WIDTH

STA 10+00  
 NEW STRUCTURE B-36-219 REQ'D  
 52.6' OVERALL LENGTH  
 30.0' CLEAR ROADWAY WIDTH  
 20° SKEW (RHF)

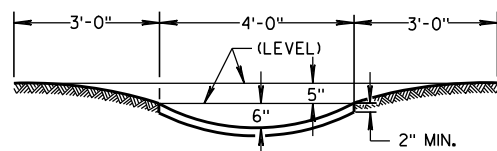
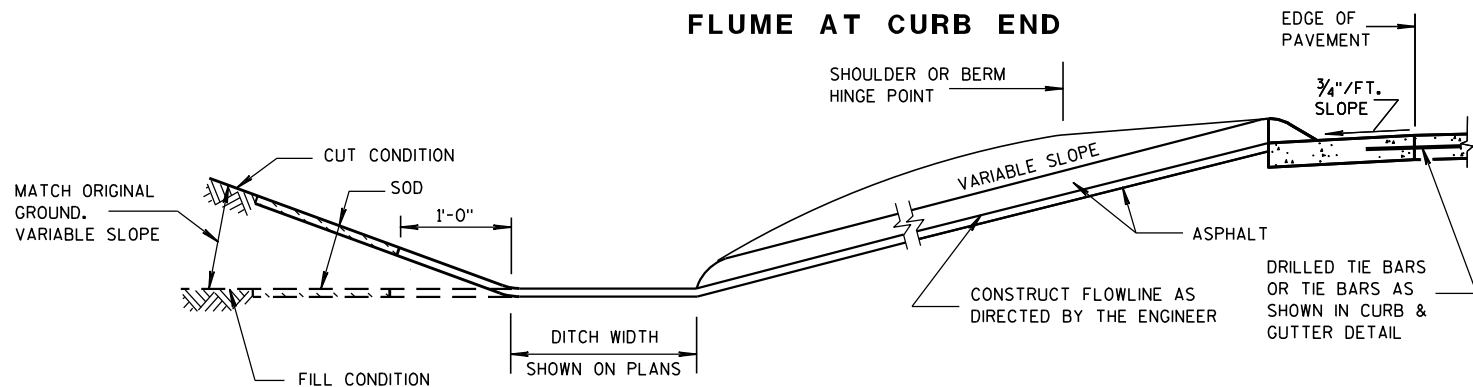
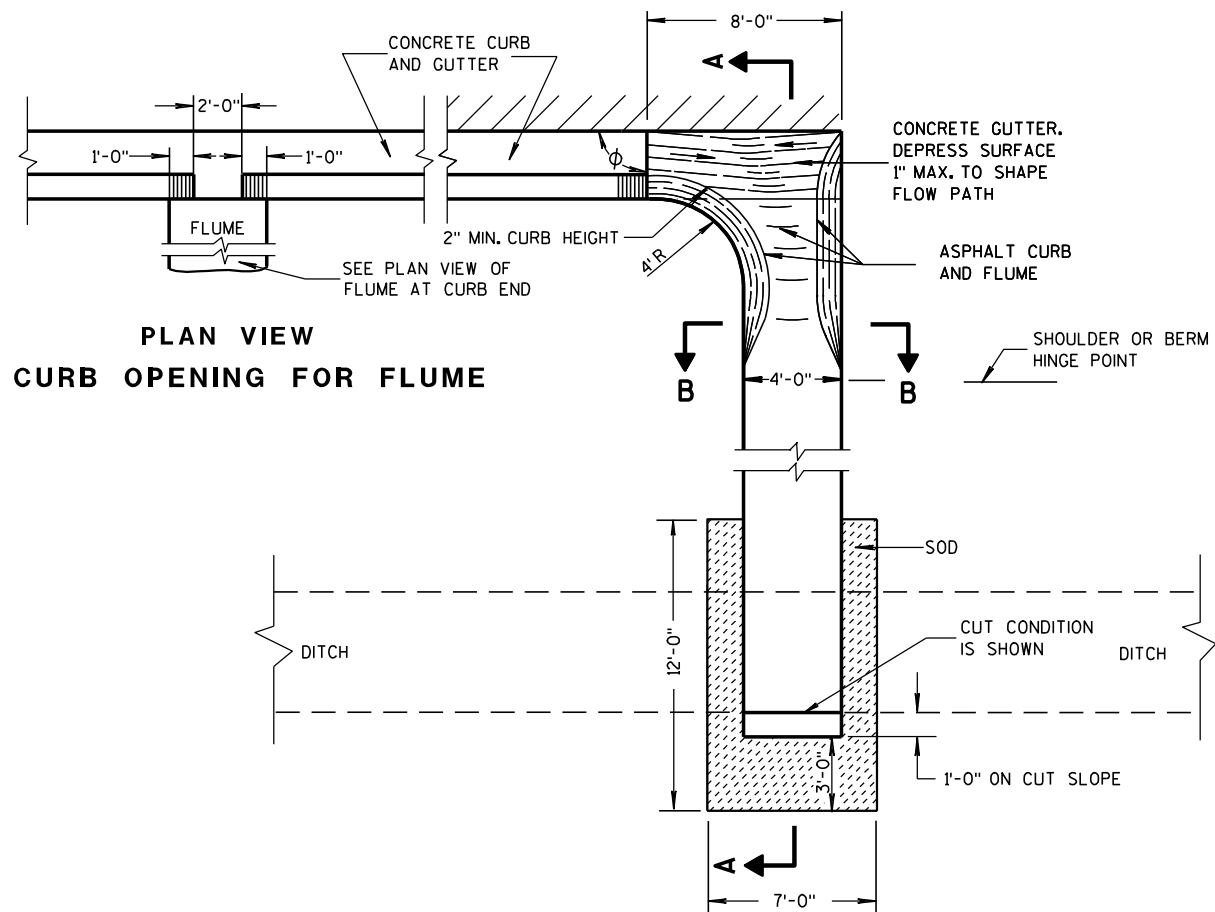
## Standard Detail Drawing List

08D04-05	CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E11-02	TURBIDITY BARRIER
12A03-10	NAME PLATE (STRUCTURES)
13A03-06	CONCRETE PAVEMENT SHOULDERS
13B02-09A	CONCRETE PAVEMENT APPROACH SLAB
15C02-08A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-08B	BARRICADES AND SIGNS FOR VARIOUS CLOSURES
15C06-09	SIGNING & MARKING FOR TWO LANE BRIDGES
15C08-20A	LONGITUDINAL MARKING (MAINLINE)

### ASPHALTIC FLUME

NOTE: TAPER CURB ENDS TO GUTTER IN 1'-0"

INCREASE  $\phi$  FROM RIGHT ANGLE TO BEST FIT FIELD CONDITIONS



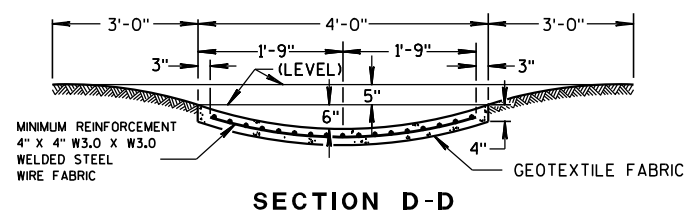
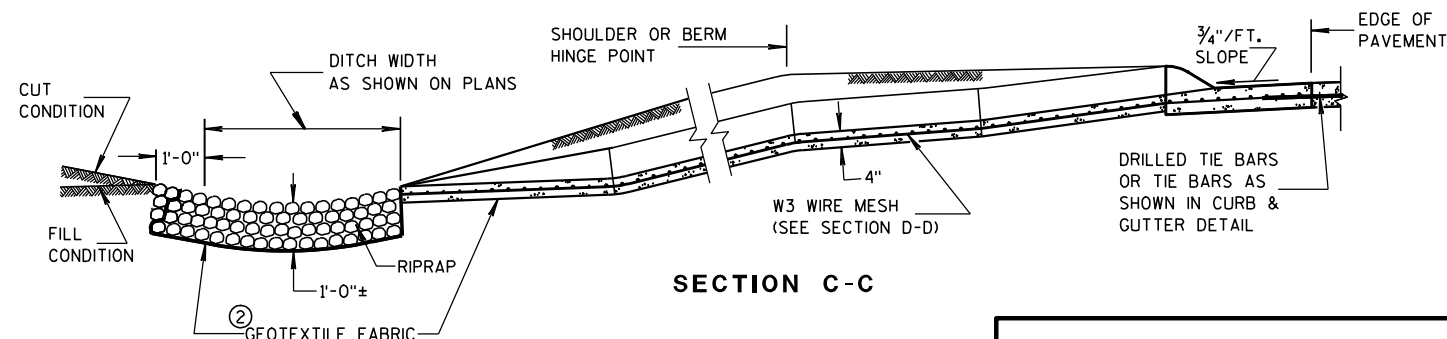
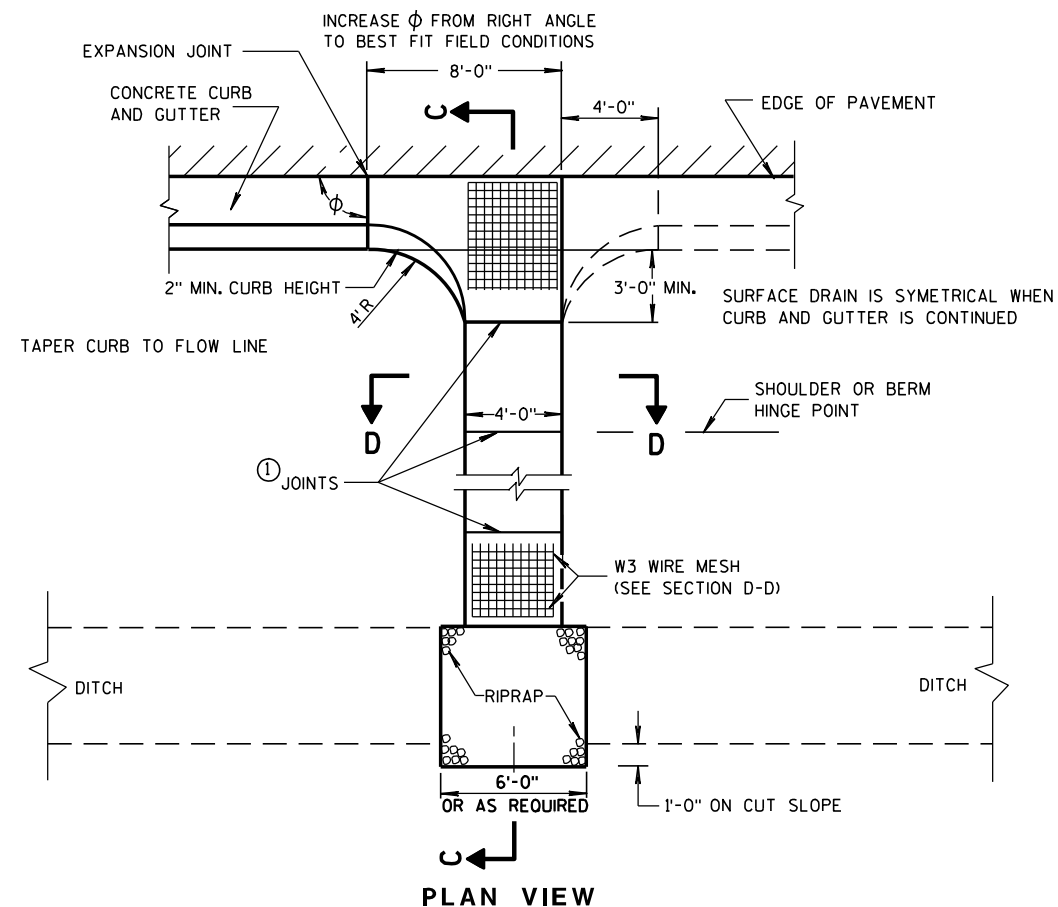
### GENERAL NOTES

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

WELDED STEEL WIRE FABRIC SHALL BE IN ACCORDANCE WITH AASHTO SPECIFICATION M55.

- ① JOINTS SHALL BE 1/8 TO 1/4 INCH WIDE BY 1 1/2 INCHES DEEP AND SPACED AT UNIFORM INTERVALS OF APPROXIMATELY 4 FEET.
- ② GEOTEXTILE FABRIC TYPE "R" SHALL UNDERLAY THE FULL LENGTH AND WIDTH OF THE CONCRETE SURFACE DRAIN AND RIPRAP.
- ③ CONCRETE SURFACE DRAIN WITHOUT CURB AND GUTTER MAY BE USED ON BACKSLOPES WHEN SPECIFIED

### ③ CONCRETE SURFACE DRAIN



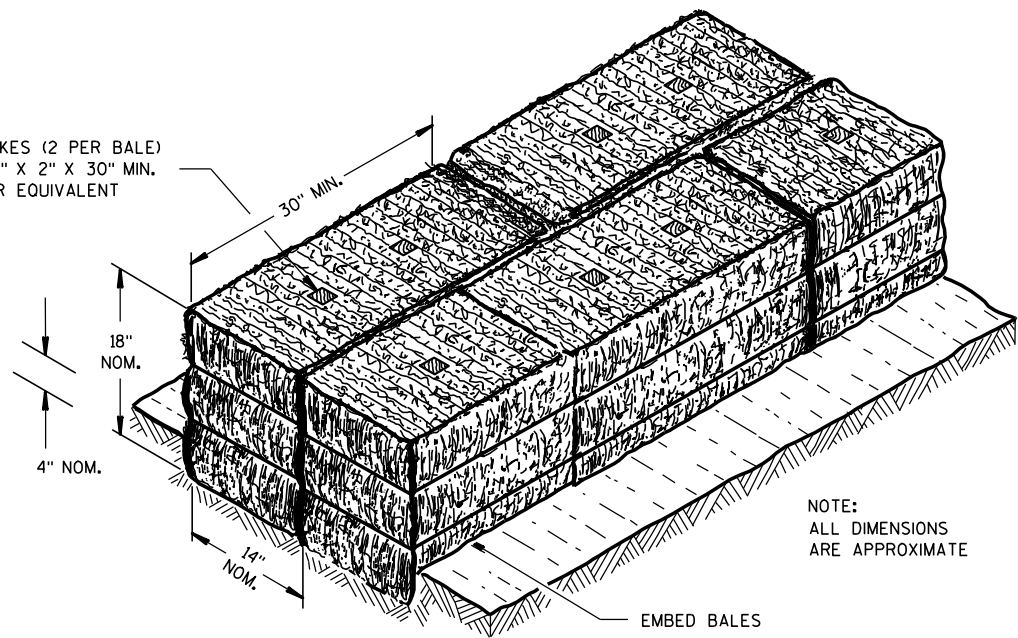
### CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
9-4-08 /S/ Jerry H. Zogg  
DATE ROADWAY STANDARDS DEVELOPMENT ENGINEER  
FHWA

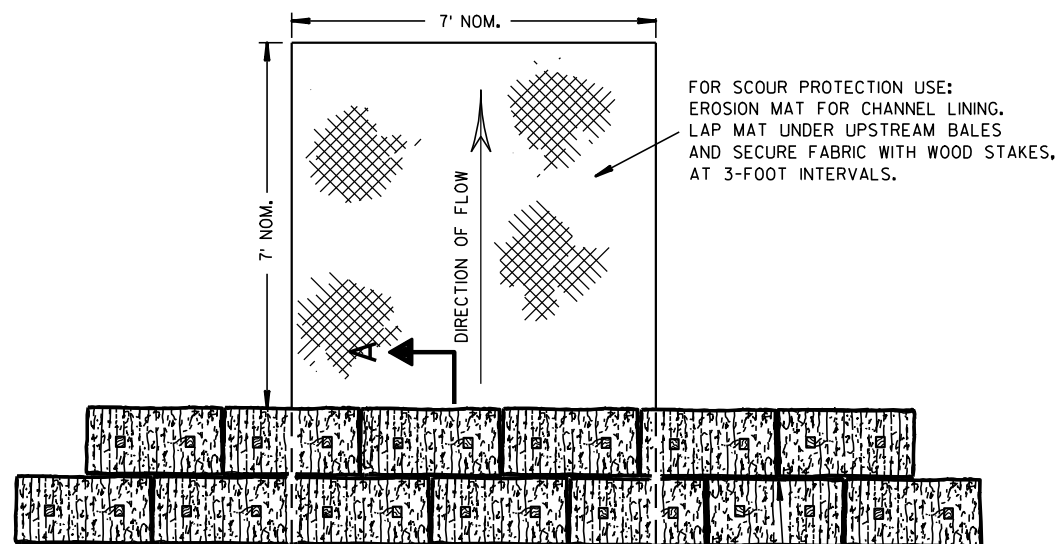


WOOD STAKES (2 PER BALE)  
NOMINAL 2" X 2" X 30" MIN.  
LENGTH OR EQUIVALENT



NOTE:  
ALL DIMENSIONS  
ARE APPROXIMATE

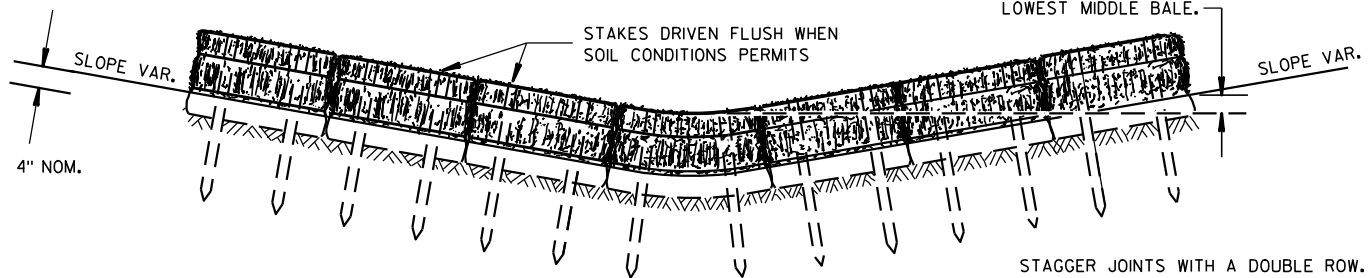
SECTION A-A



PLAN VIEW

STAGGER JOINTS BETWEEN ADJACENT  
ROWS OF BALES.

BOTTOM ELEVATION OF END BALE SHALL  
BE EQUAL TO OR GREATER THAN TOP OF  
LOWEST MIDDLE BALE.



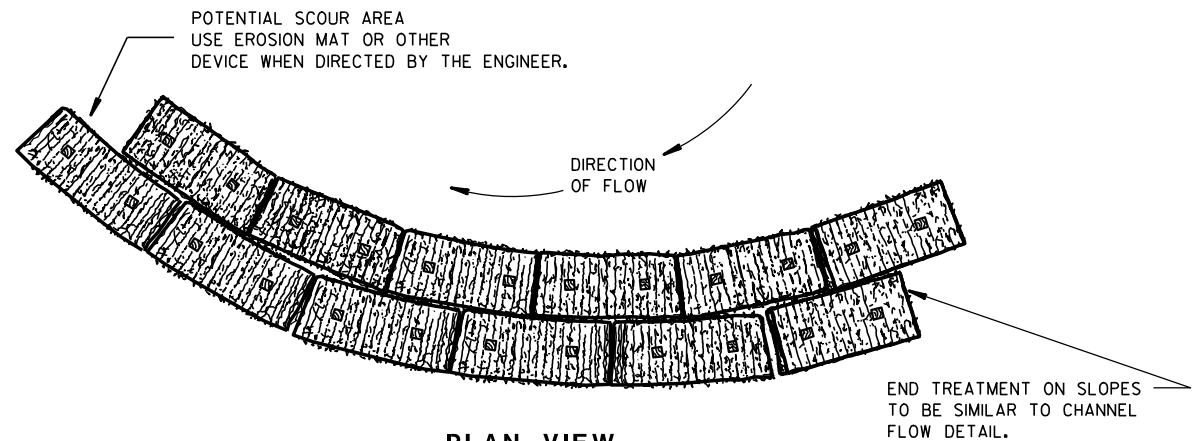
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES ①

**GENERAL NOTES**

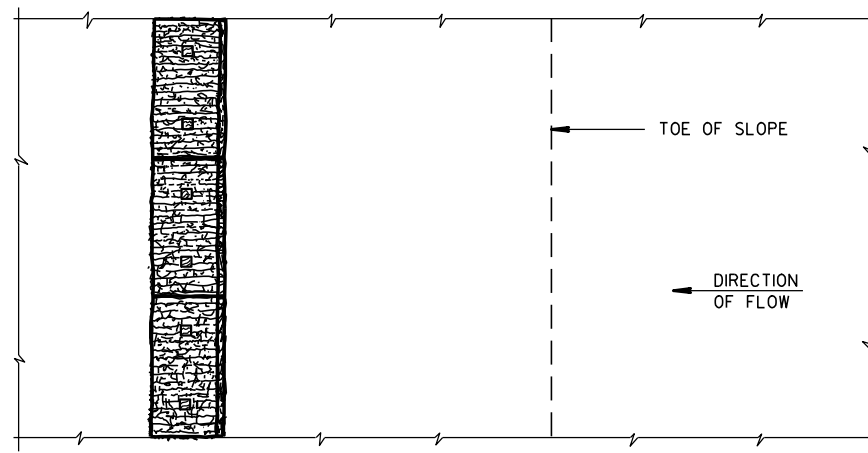
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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

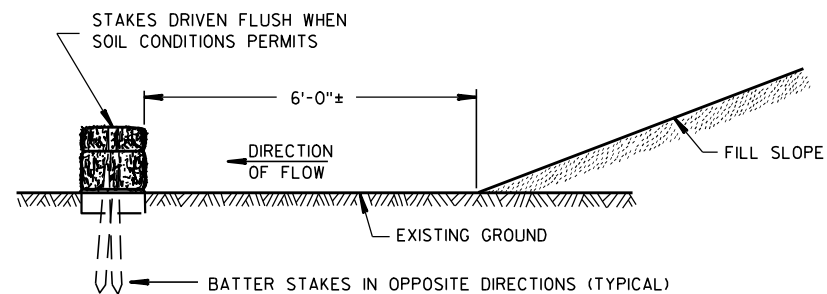


PLAN VIEW

WHEN ALTERING THE DIRECTION OF FLOW



PLAN VIEW



FRONT ELEVATION

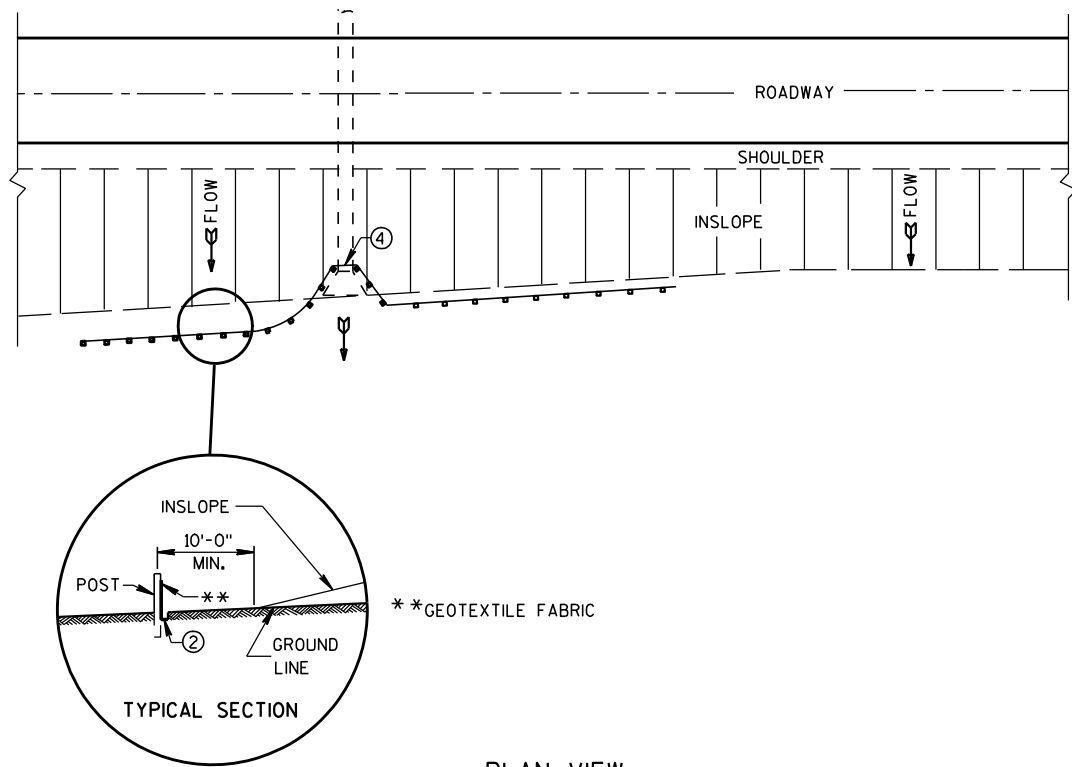
WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE

EROSION BALES FOR SHEET FLOW

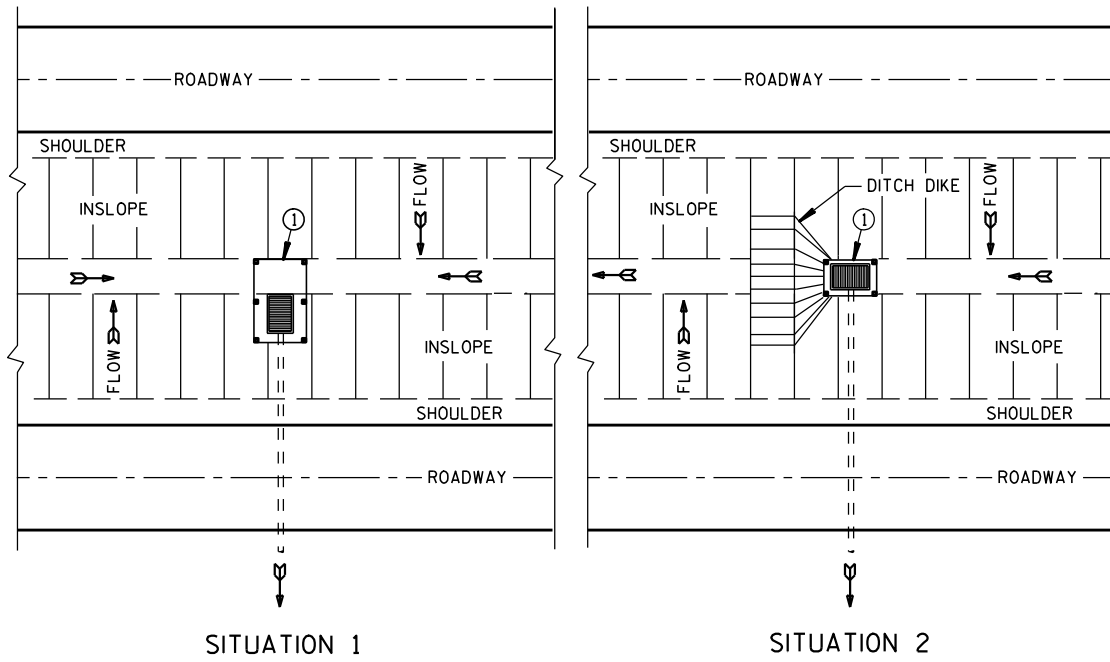
**TYPICAL INSTALLATIONS OF  
EROSION BALES / TEMPORARY  
DITCH CHECKS**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
6/04/02 /S/ Beth Canestra  
DATE CHIEF ROADWAY DEVELOPMENT ENGINEER  
FHWA



PLAN VIEW  
TYPICAL APPLICATION OF SILT FENCE

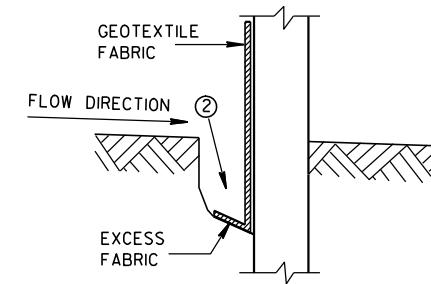


SITUATION 1 SITUATION 2  
PLAN VIEW  
SILT FENCE AT MEDIAN SURFACE DRAINS

**GENERAL NOTES**

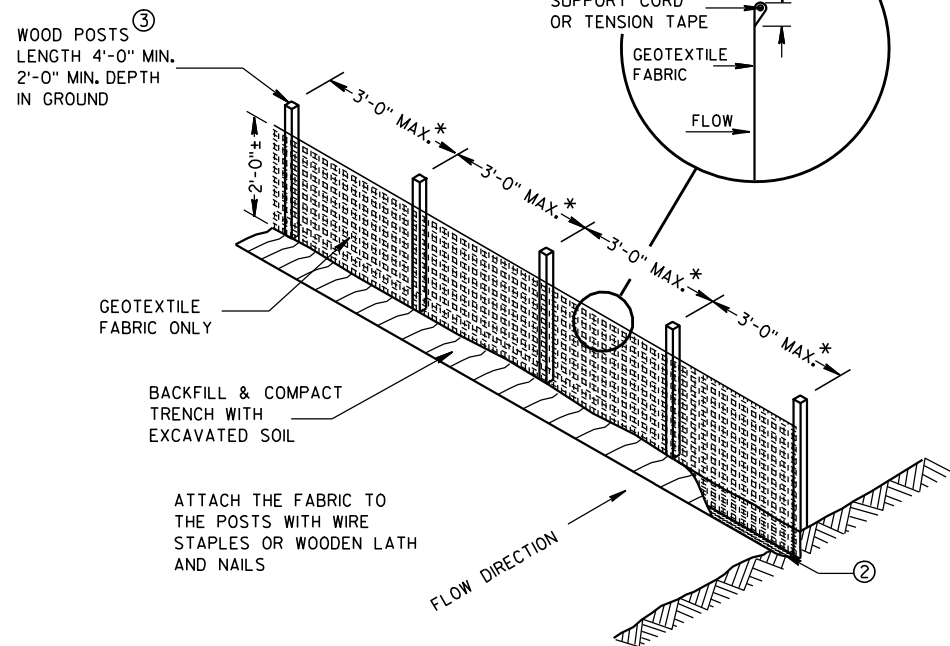
DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

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



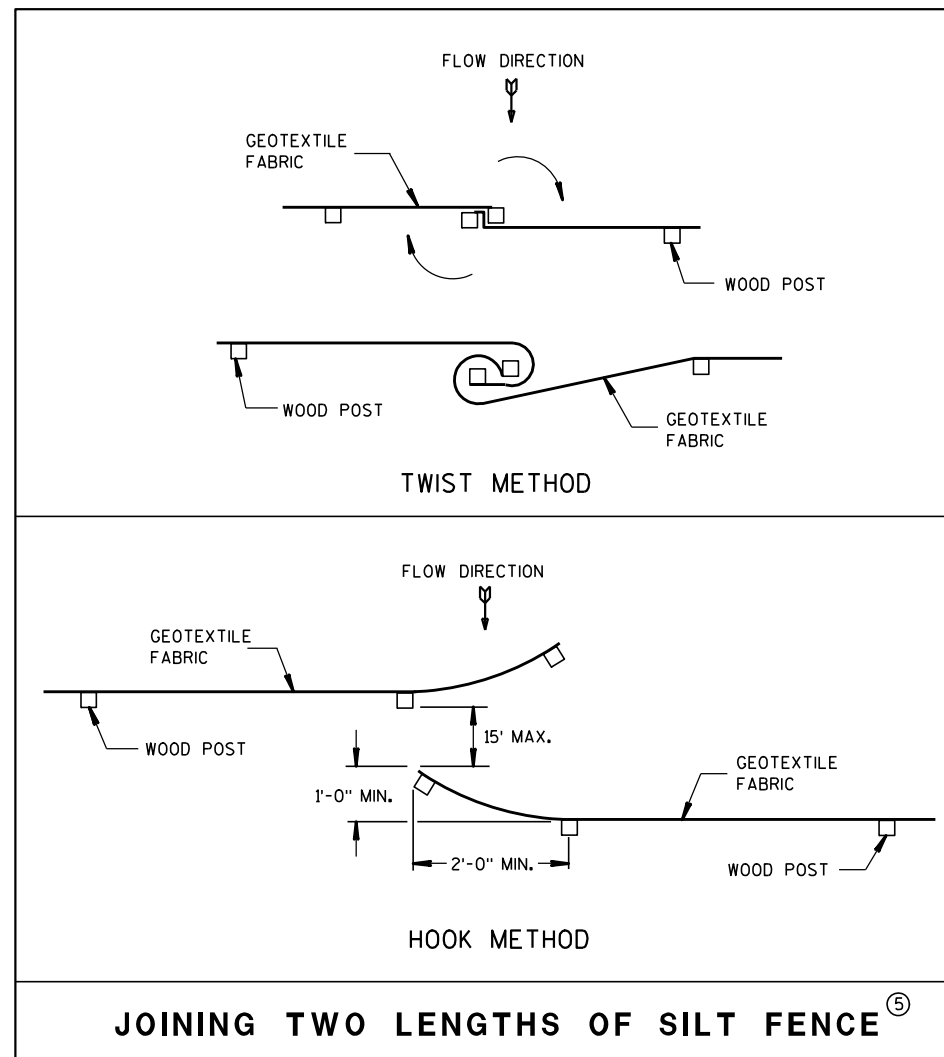
TRENCH DETAIL

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

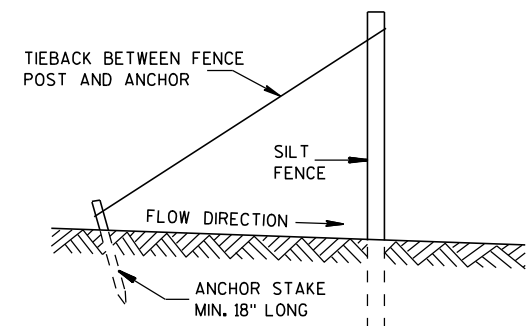


SILT FENCE

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



JOINING TWO LENGTHS OF SILT FENCE ⑤



SILT FENCE TIE BACK  
(WHEN REQUIRED BY THE ENGINEER)

**SILT FENCE**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

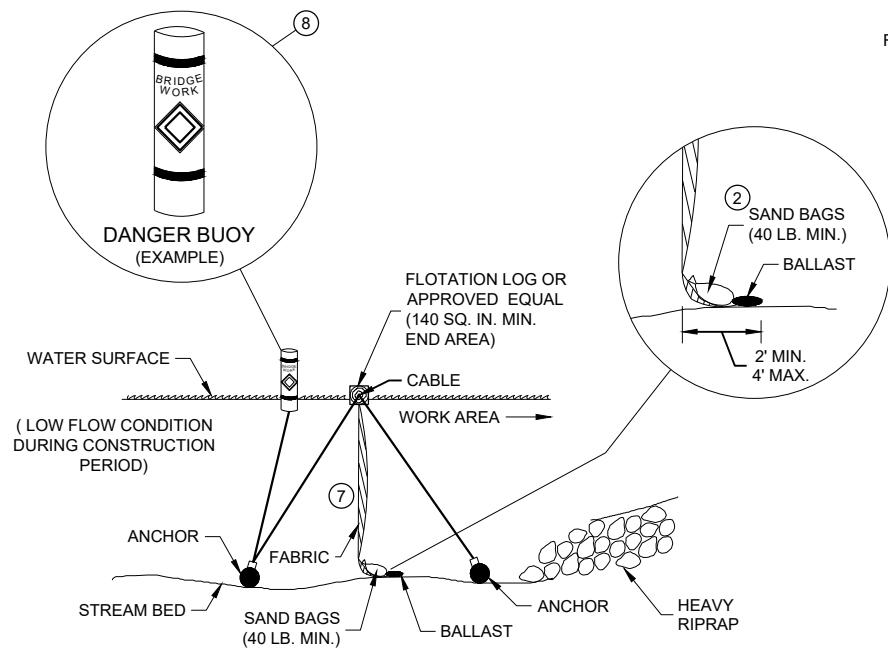
APPROVED

4-29-05

DATE

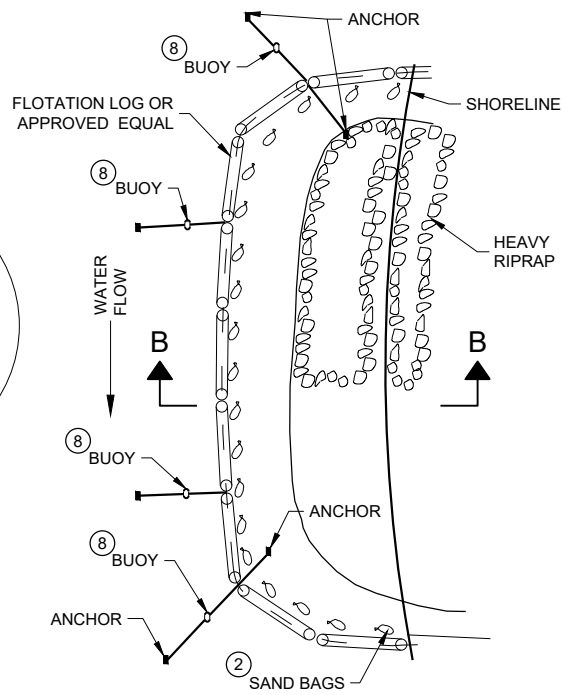
FHWA

/S/ Beth Cannestra  
CHIEF ROADWAY DEVELOPMENT ENGINEER

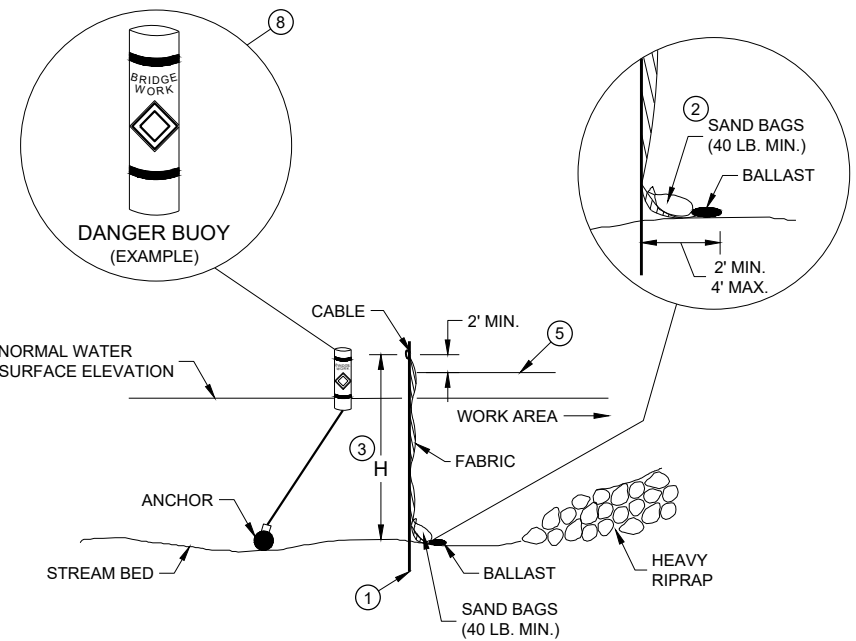


**SECTION B - B**

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

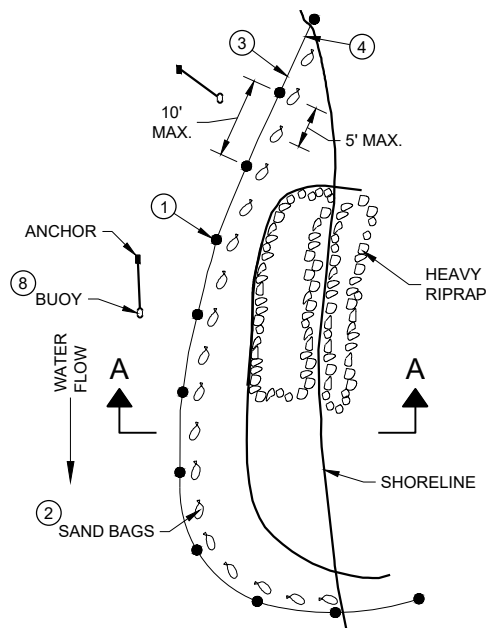


**PLAN VIEW**



**SECTION A - A**

**TURBIDITY BARRIER - STANDARD POST INSTALLATION**



**PLAN VIEW**

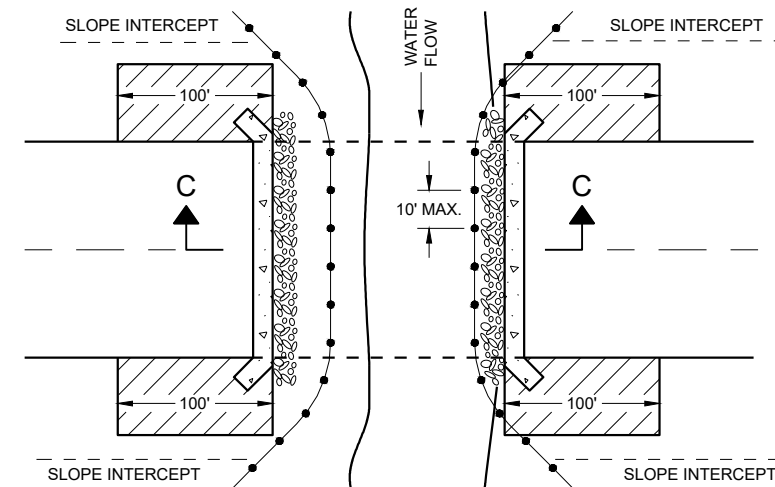
**TURBIDITY BARRIER PLACEMENT DETAILS**

**GENERAL NOTES**

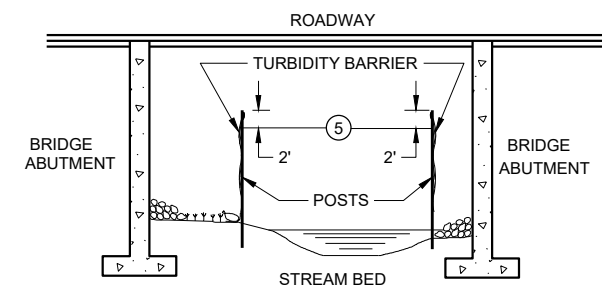
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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**

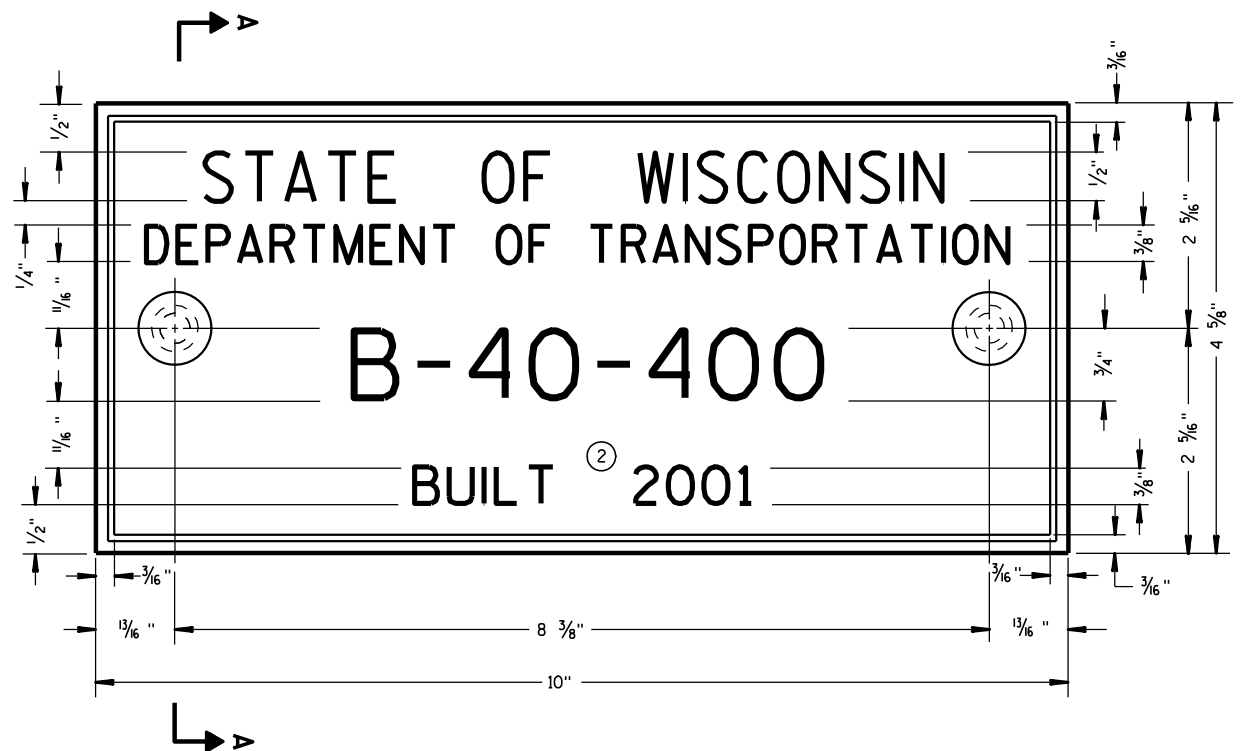
**TURBIDITY BARRIER DETAIL SHOWING  
TYPICAL PLACEMENT AT STRUCTURES**

**TURBIDITY BARRIER**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

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

FHWA



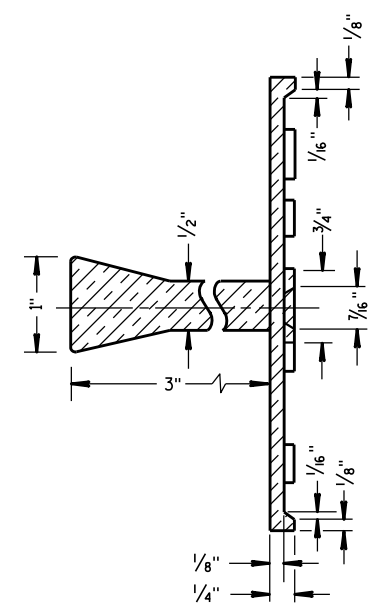
**TYPICAL NAME PLATE**  
(BRIDGES, CULVERTS, AND RETAINING WALLS)

**GENERAL NOTES**

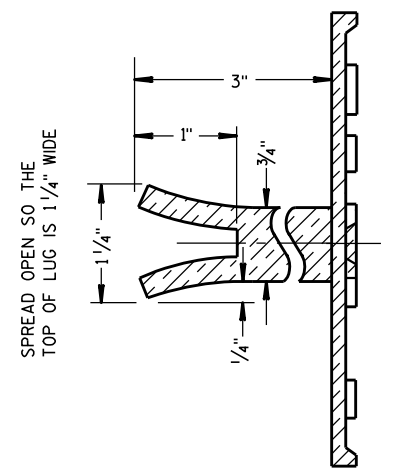
NAME PLATES TO BE INSTALLED ON BRIDGES, CULVERTS, AND RETAINING WALLS SHALL CONFORM TO THE REQUIREMENTS OF SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS.

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**



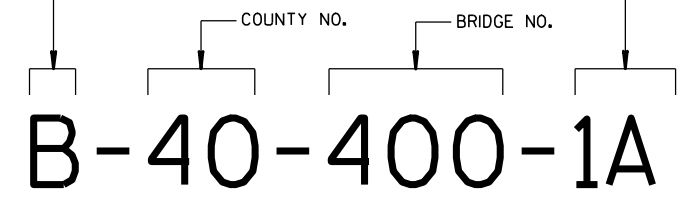
**ALTERNATE LUG**

6

6

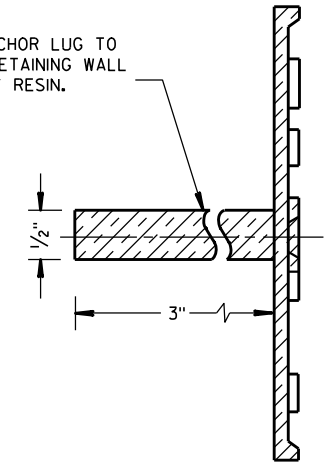
FOR MULTI-UNIT STRUCTURES  
LINE 3 ABOVE SHALL READ

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



**NUMBERING DESIGNATION  
MULTI-UNIT STRUCTURES**

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

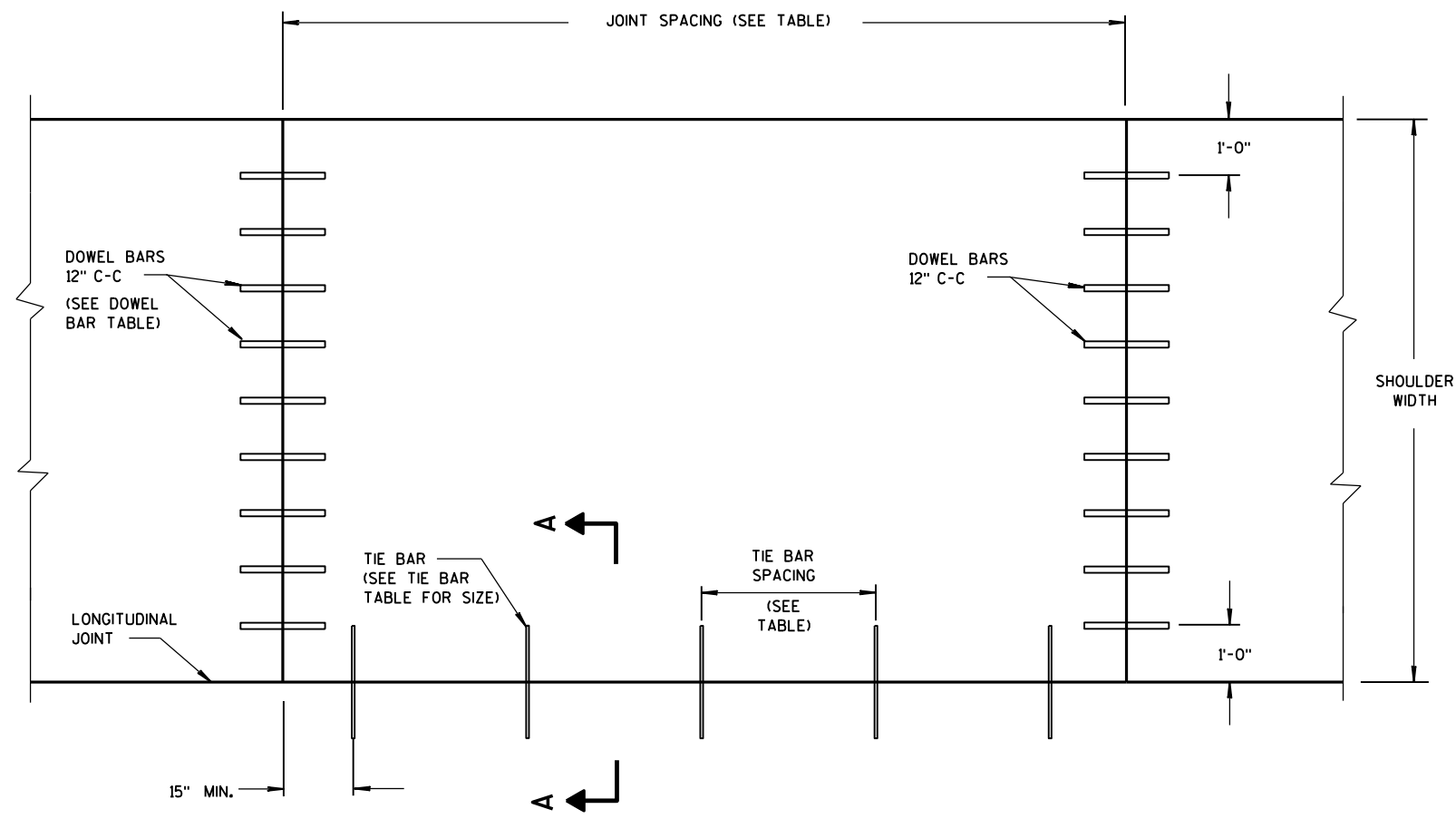


**ALTERNATE LUG**  
(FOR ATTACHMENT TO PRECAST STRUCTURES)

S.D.D. 12 A 3-10

S.D.D. 12 A 3-10

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



PLAN VIEW  
CONCRETE PAVEMENT SHOULDER

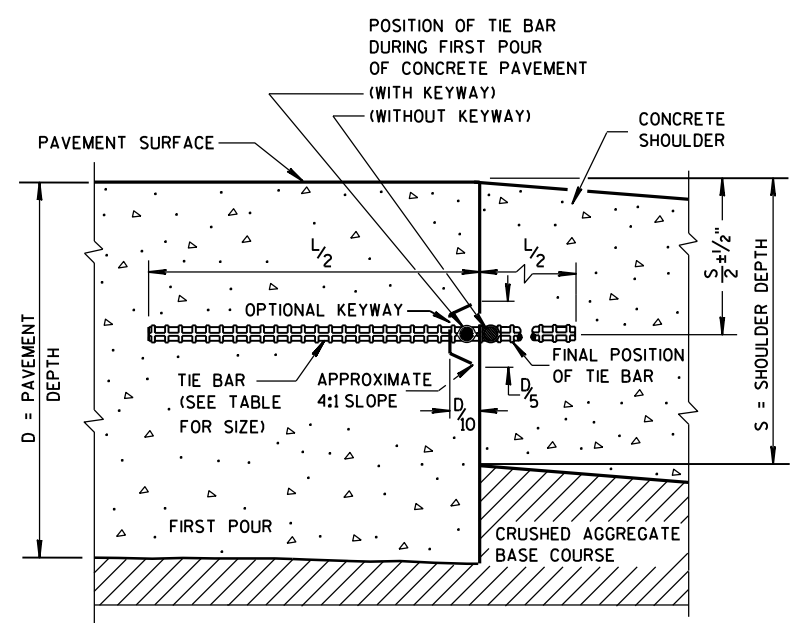
**GENERAL NOTES**

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

TRANSVERSE JOINT DETAILS ARE SHOWN ELSEWHERE IN THE PLAN.

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

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



SECTION A-A  
LONGITUDINAL CONSTRUCTION JOINT

**TIE BAR TABLE**

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

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

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

**PAVEMENT DEPTH, DOWEL BAR SIZE AND JOINT SPACING TABLE**

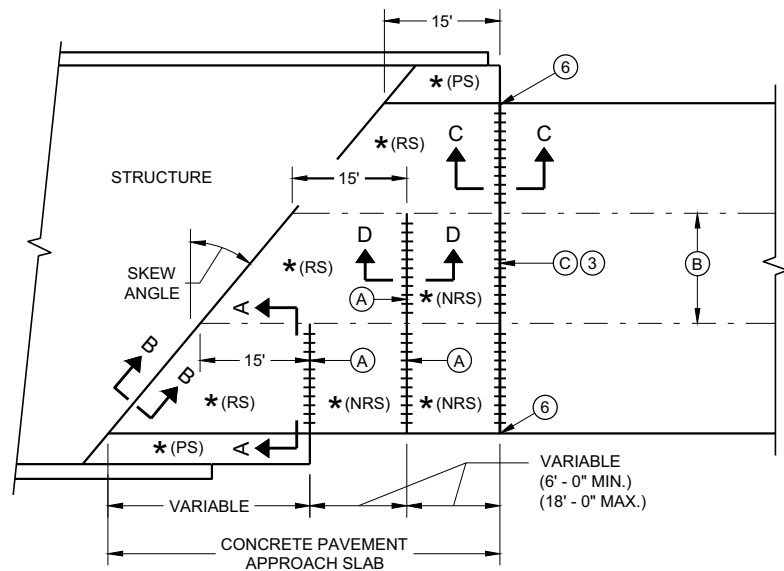
PAVEMENT DEPTH (D)	DOWEL BAR DIAMETER***	CONTRACTION JOINT SPACING
5 1/2", 6", 6 1/2"	NONE	12'
7", 7 1/2"	1"	14'
8", 8 1/2"	1 1/4"	15'
9", 9 1/2"	1 1/4"	15'
10" & ABOVE	1 1/2"	15'

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

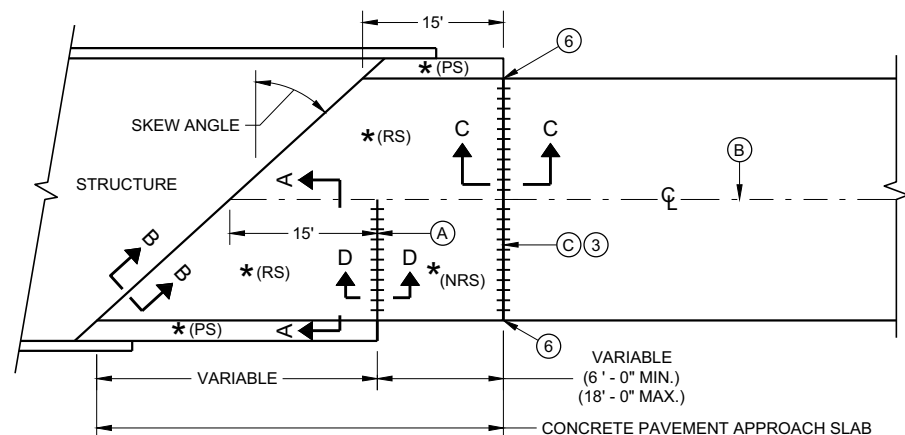
**CONCRETE PAVEMENT SHOULDERS**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

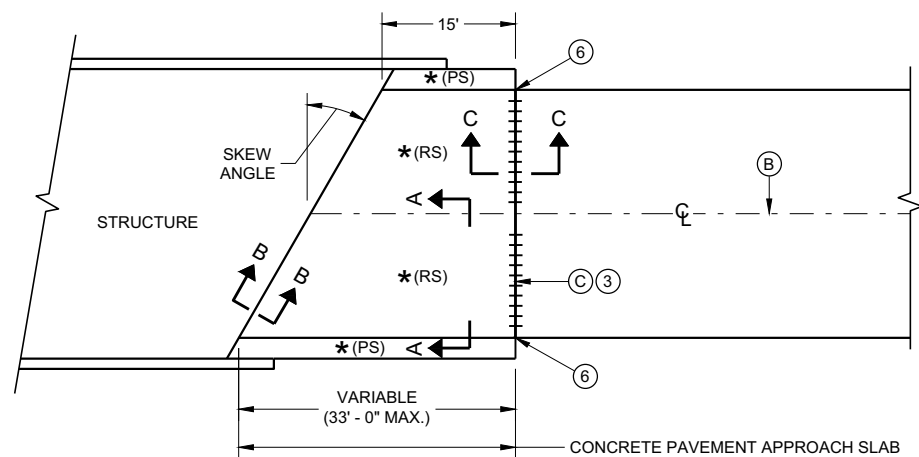
APPROVED  
June, 2015 /S/ Peter Kemp, P.E.  
DATE PAVEMENT SUPERVISOR  
FHWA



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

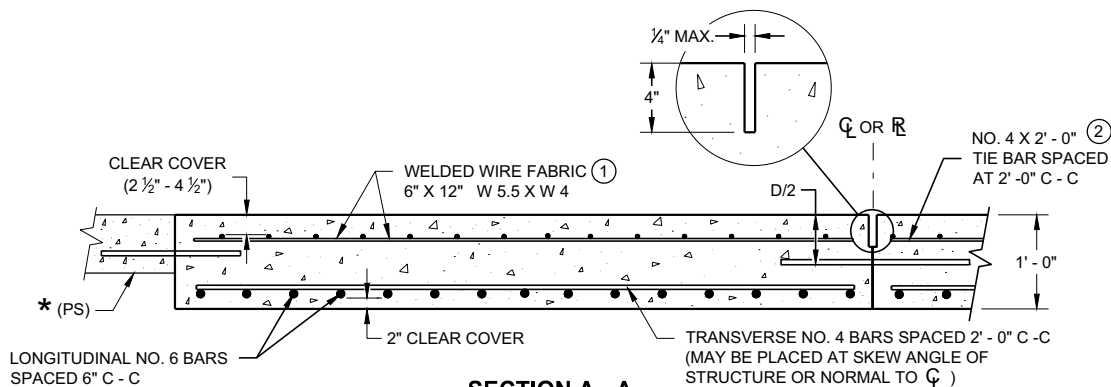


**SKews > 20°  
(Pavement width ≤ 30')**

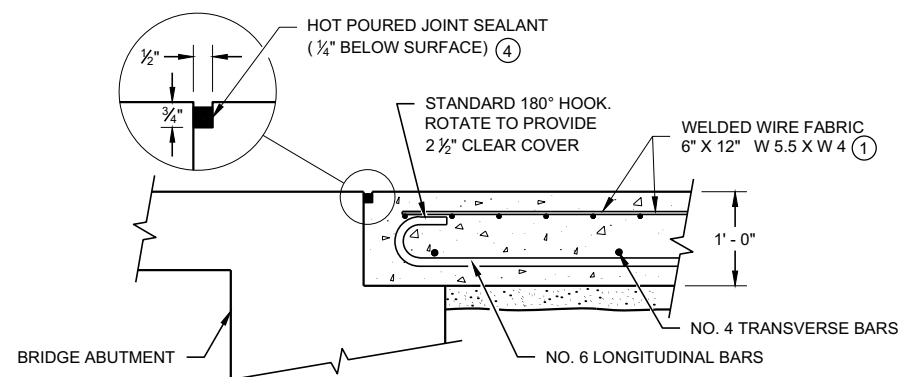


**SKews ≤ 20°  
(Pavement width ≤ 30')**  
**Approach Slab and Adjacent Pavement**

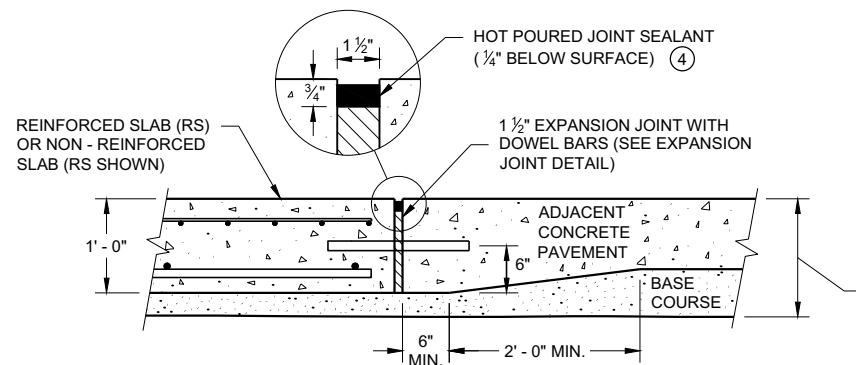
- \* (RS) = REINFORCED CONCRETE SLAB
- \* (PS) = PAVED CONCRETE SHOULDER OR CONCRETE DRAINAGE SLAB
- \* (NRS) = NON - REINFORCED CONCRETE SLAB
- \*\*\* STANDARD DOWEL BAR DIAMETER (SEE SDD 13C11 AND SDD 13C13)



**SECTION A - A  
REINFORCEMENT POSITIONING DETAIL**



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



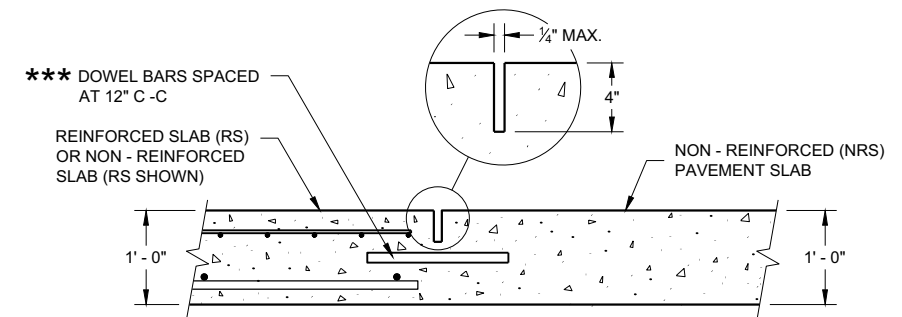
**SECTION C - C  
TRANSITION DETAIL  
Approach Slab to Adjacent Pavement**

**GENERAL NOTES**

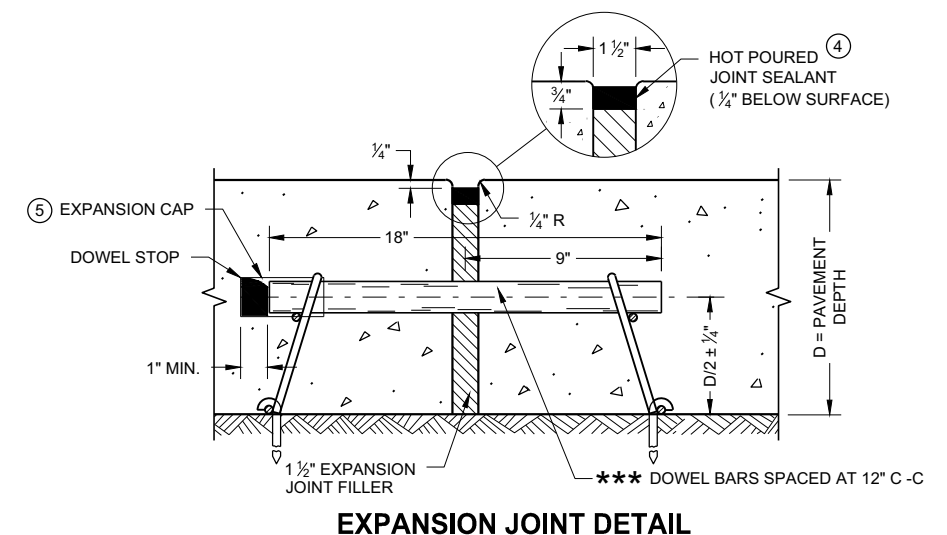
THE CONTRACTOR MAY SPLICE NO. 6 BARS IN THE APPROACH SLAB FOR SKEWED STRUCTURES ONLY. STAGGER SPLICES WITH A MAXIMUM OF ONE SPLICE PER BAR. THE LENGTH OF LAP IS 20 INCHES.

TACK WELD DOWEL BARS TO THE BASKETS ON ALTERNATE ENDS.

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



**SECTION D - D  
CONTRACTION JOINT**



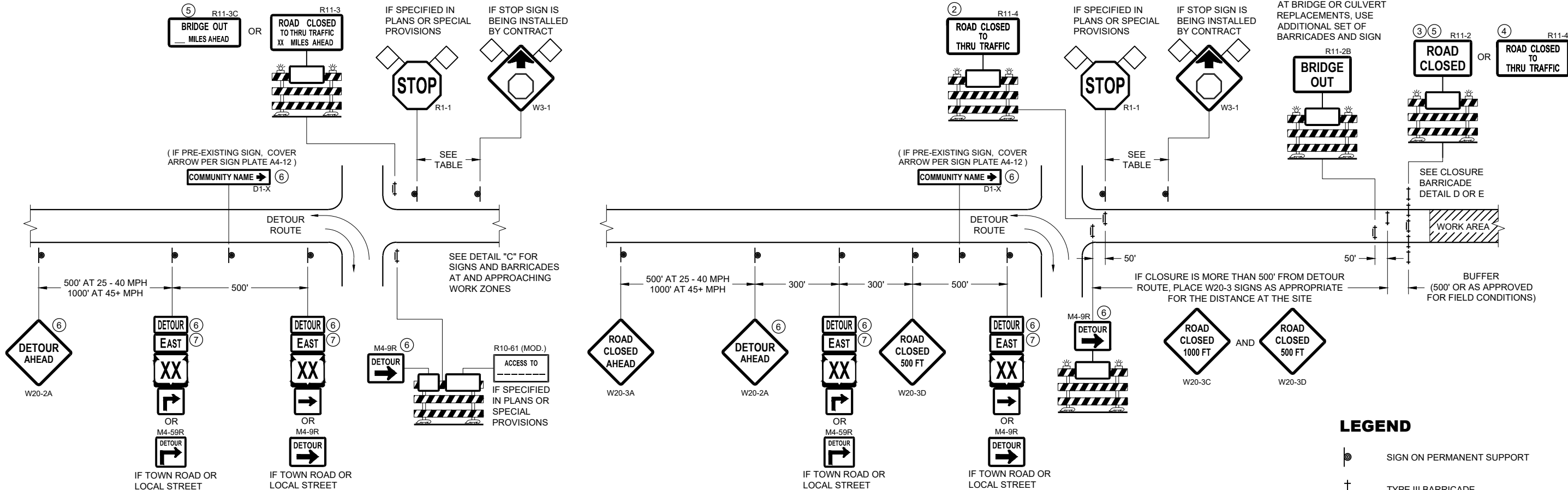
**EXPANSION JOINT DETAIL**

**CONCRETE PAVEMENT  
Approach Slab**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

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

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 )

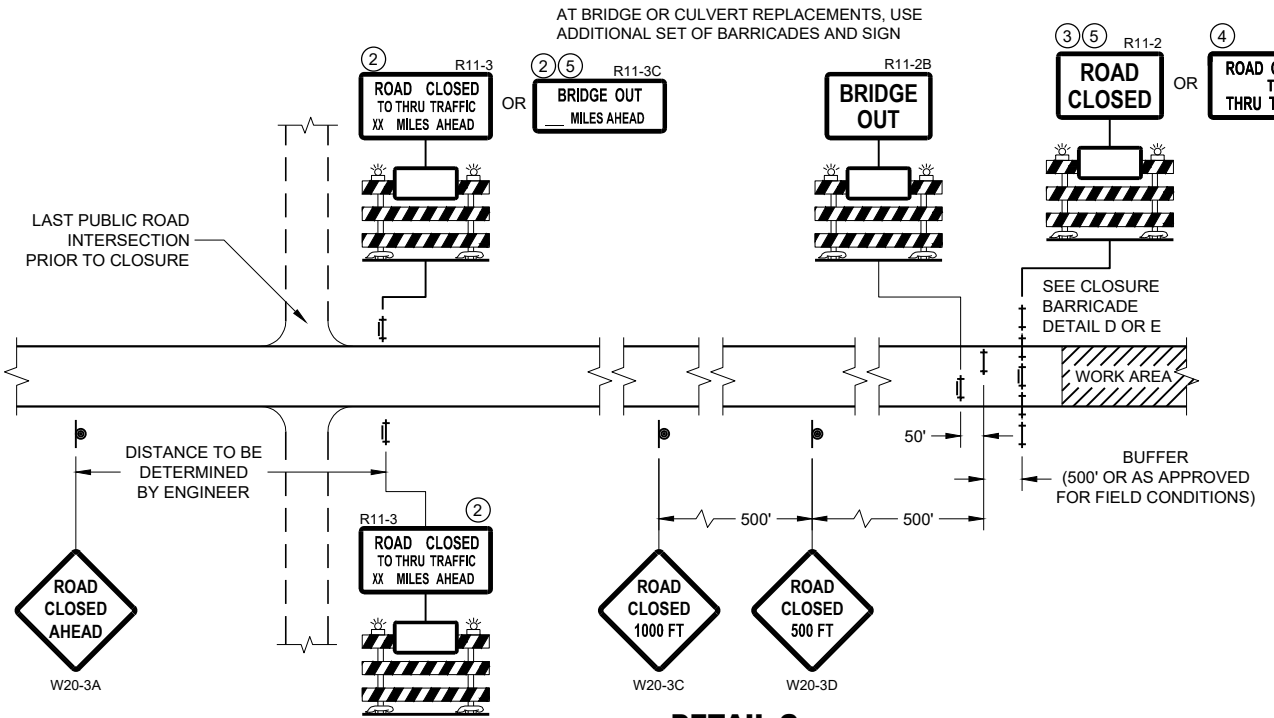
**DETAIL B  
MAINLINE CLOSURE WITH POSTED DETOUR**

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

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



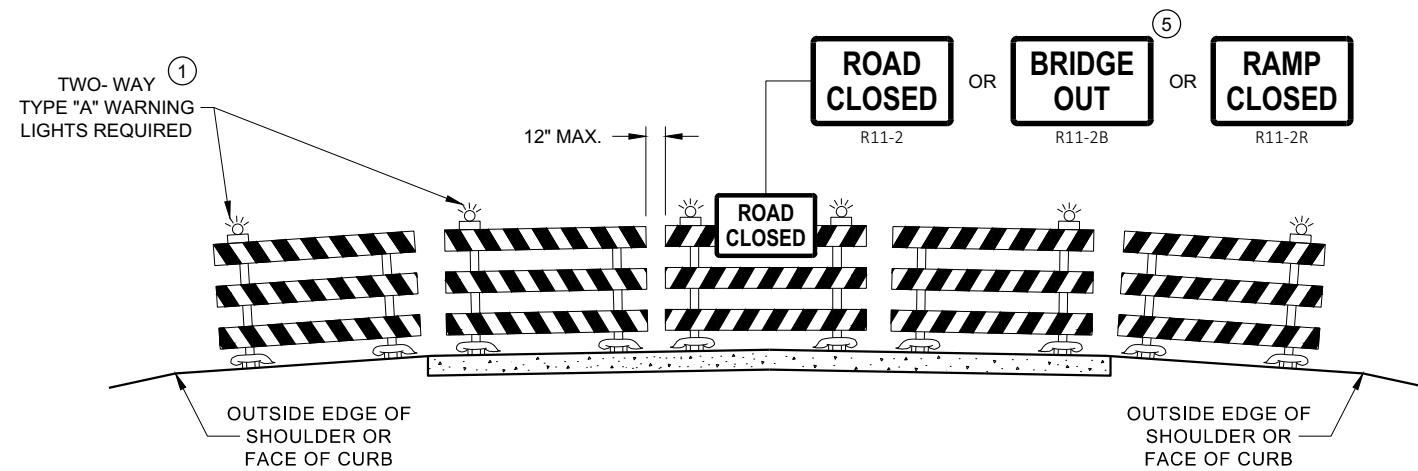
**DETAIL C  
MAINLINE CLOSURE, NO POSTED DETOUR**

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

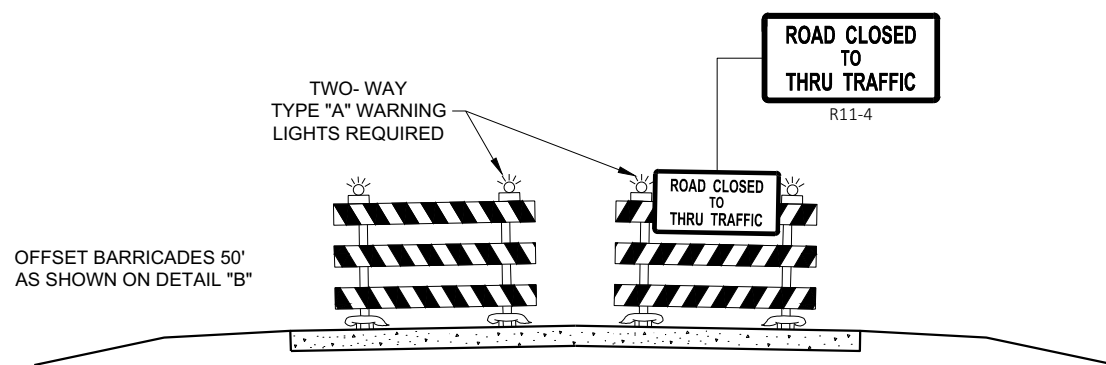
**BARRICADES AND SIGNS  
FOR MAINLINE CLOSURES**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

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



**DETAIL D  
ROAD CLOSURE BARRICADE DETAIL  
APPROACH VIEW**



**DETAIL E  
LANE CLOSURE BARRICADE DETAIL  
APPROACH VIEW**

SEE SDD 15C2 - SHEET "a" FOR LEGEND

**GENERAL NOTES**

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

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

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

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

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

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

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

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

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

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

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

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

**BARRICADES AND SIGNS  
FOR  
VARIOUS CLOSURES**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

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

FHWA



### GENERAL NOTES

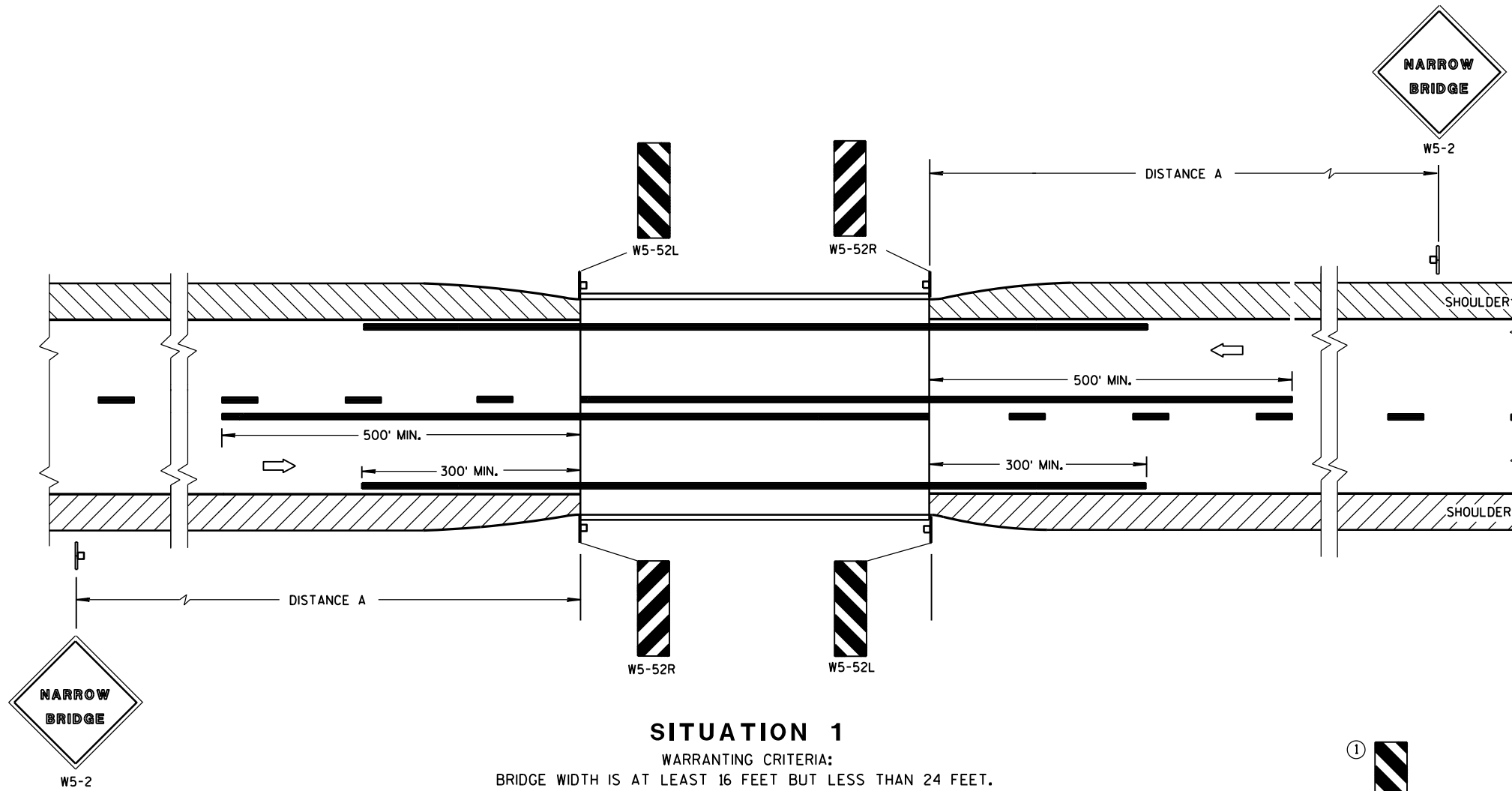
DETAILS OF TRAFFIC CONTROL DEVICES AND INSTALLATION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

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

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

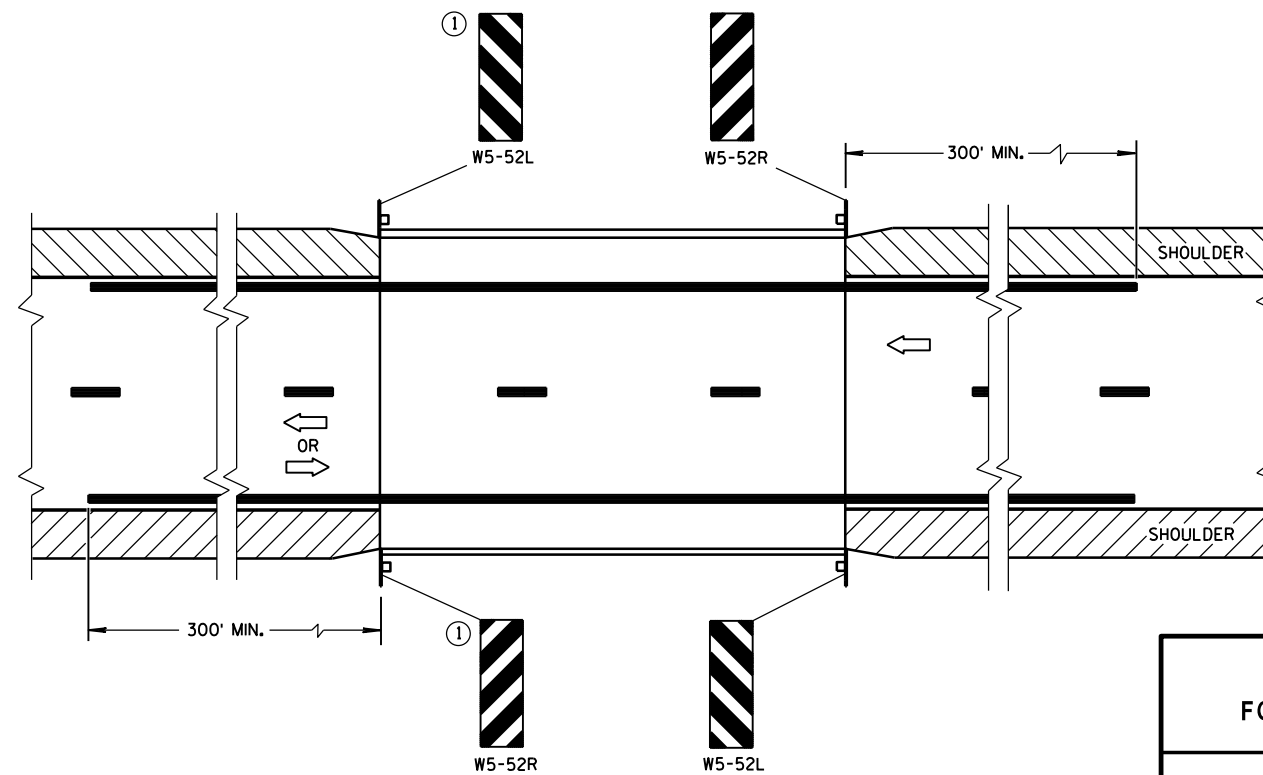
① OMIT ON ONE-WAY TRAVELLED WAYS.

➡ DIRECTION OF TRAFFIC



### SITUATION 1

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



### SITUATION 2

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

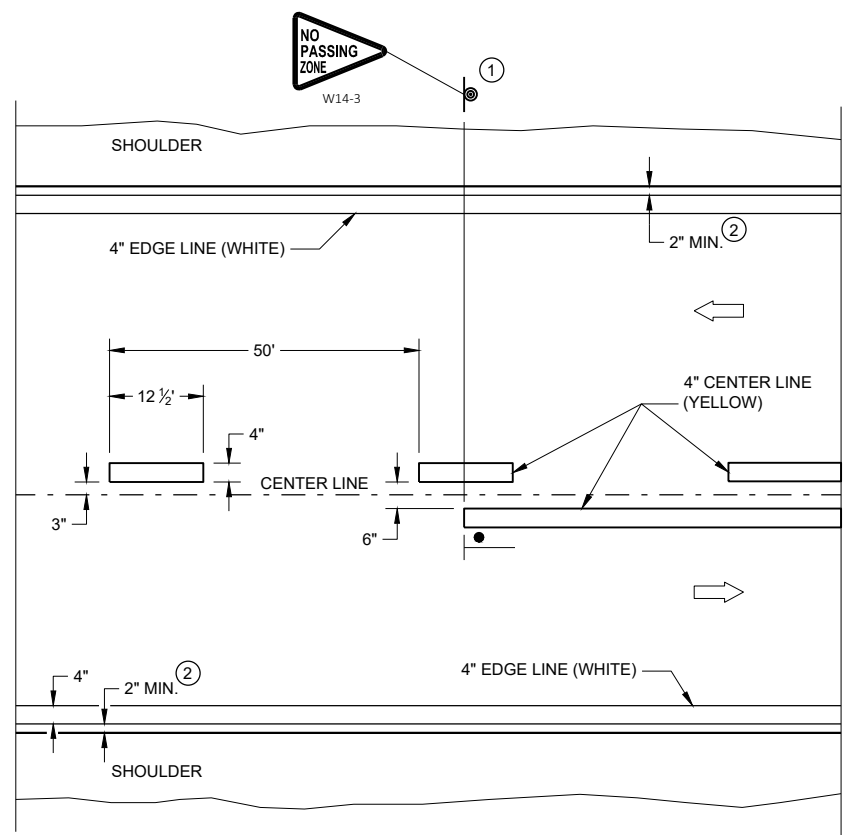
DISTANCE TABLE

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

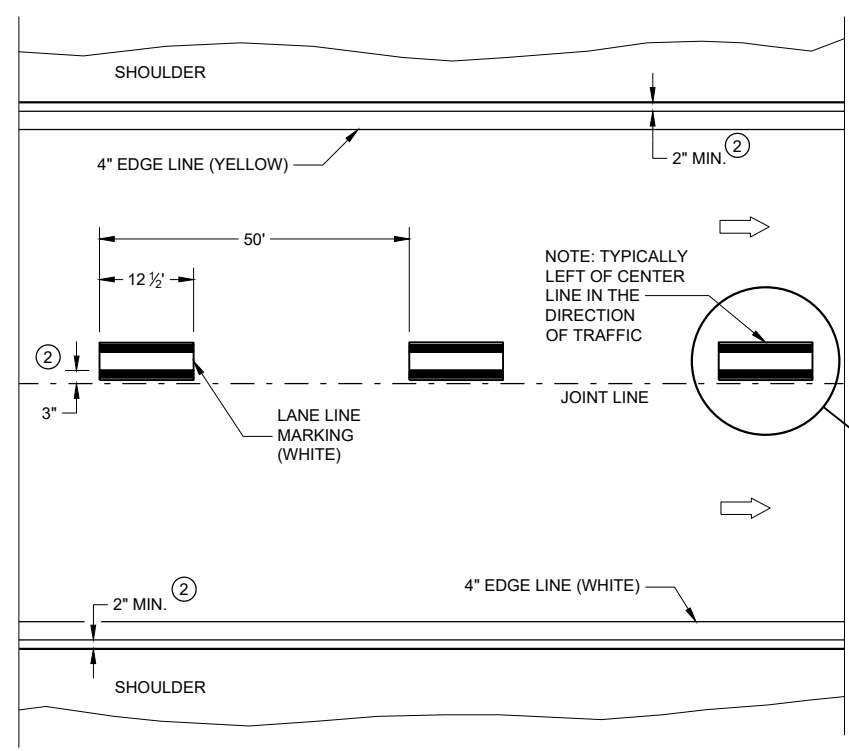
### SIGNING & MARKING FOR TWO LANE BRIDGES

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

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

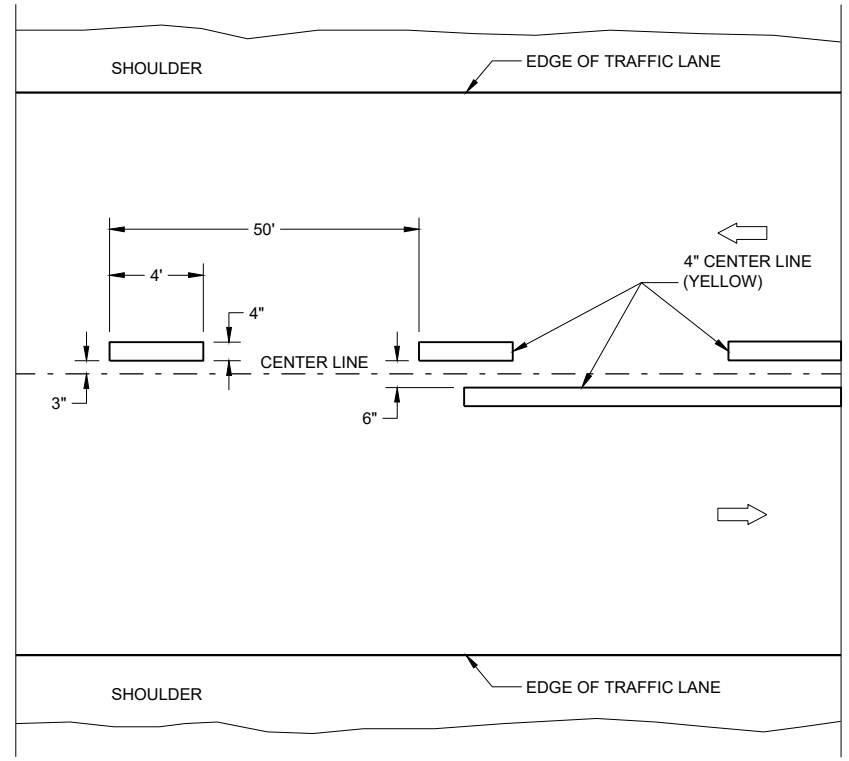


TWO WAY TRAFFIC

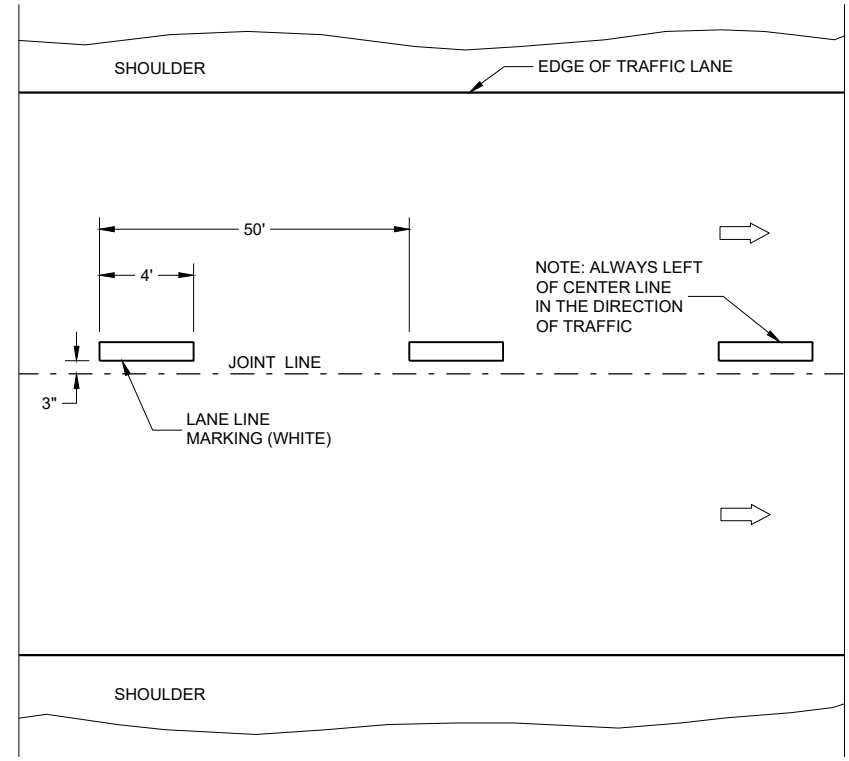


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY PAVEMENT MARKING

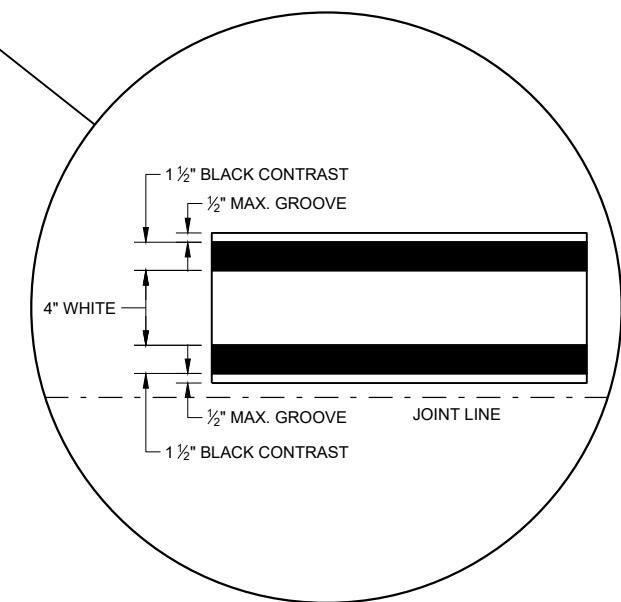
GENERAL NOTES

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

- ① LOCATE THE NO PASSING ZONE W14-3 SIGN WITHIN 50 FEET OF THE "T" MARKING
- ② MEASURE FROM EDGE OF MARKING TO JOINT LINE. THIS DOES NOT INCLUDE SPACE NEEDED FOR GROOVING OPERATIONS.

LEGEND

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



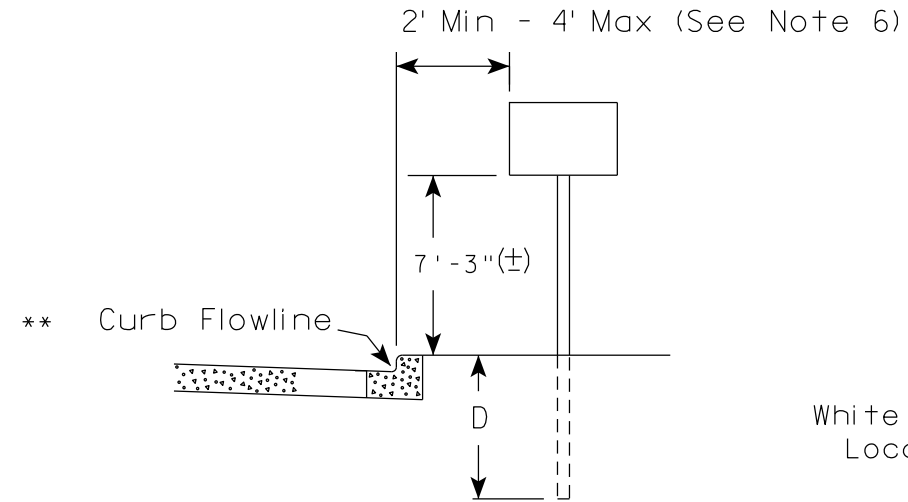
LONGITUDINAL MARKING (MAINLINE)

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

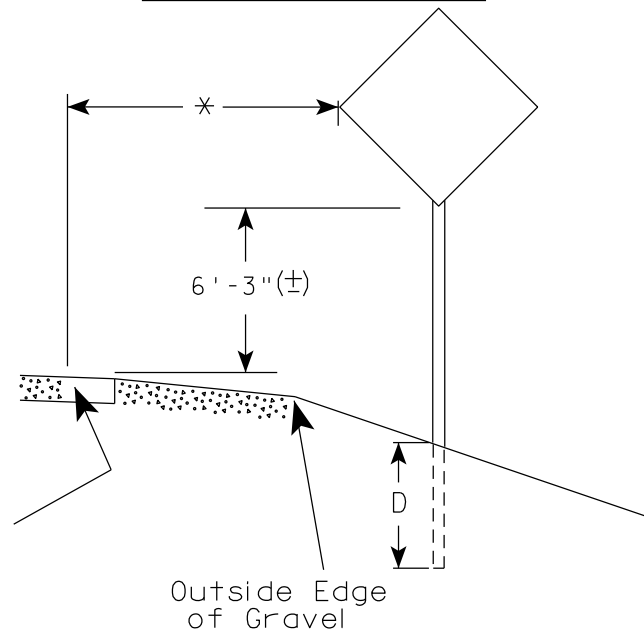
APPROVED  
 February 2020 /S/ Matthew Rauch  
 DATE STATEWIDE SIGNING AND MARKING ENGINEER  
 FHWA

URBAN AREA

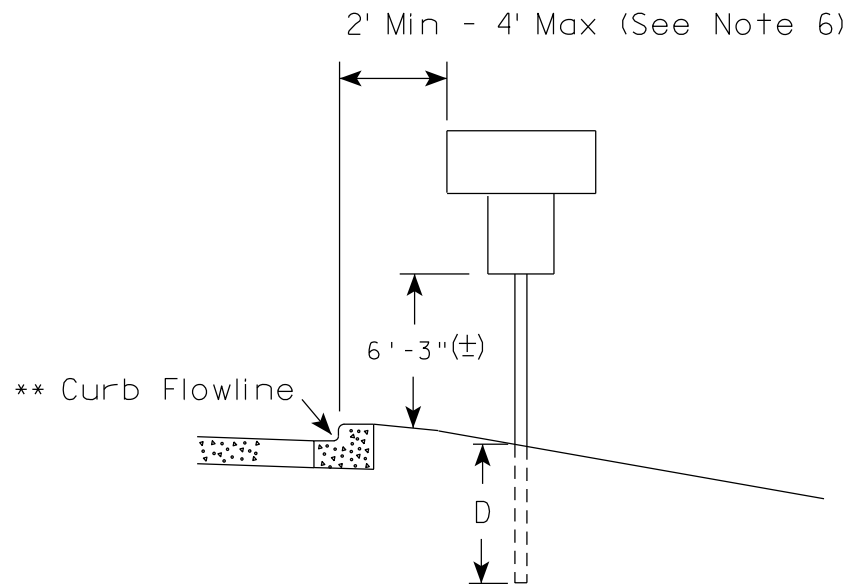
RURAL AREA (See Note 2)



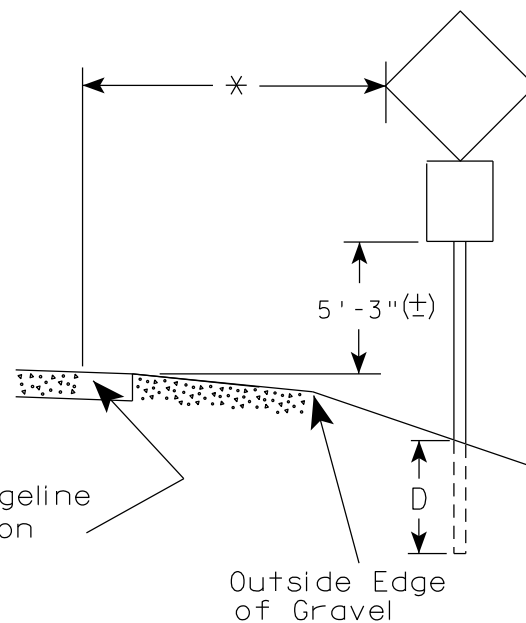
White Edgeline Location



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.

\* \* 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.

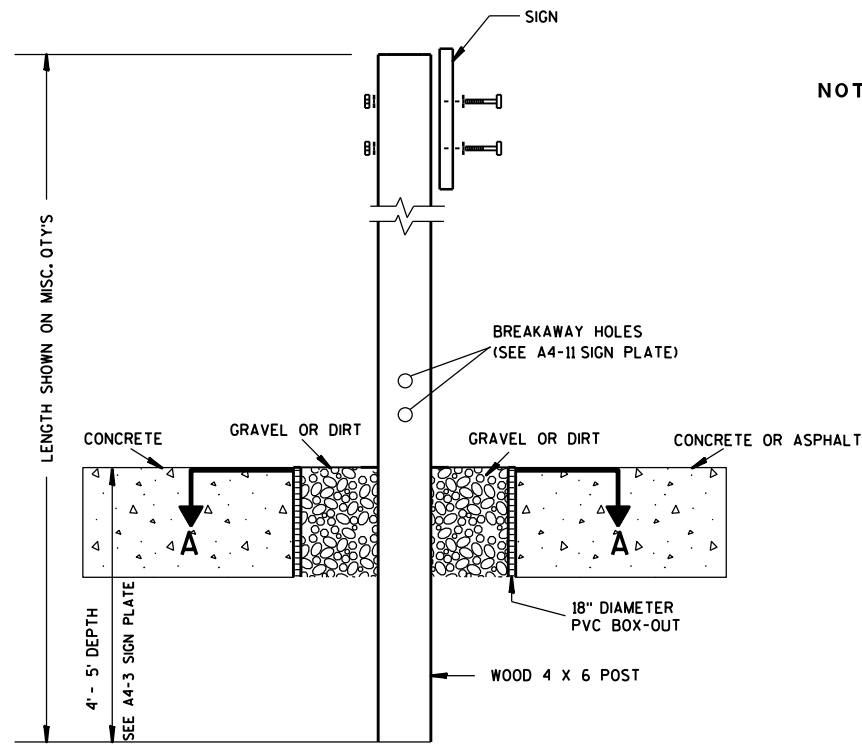
\* 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.

TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

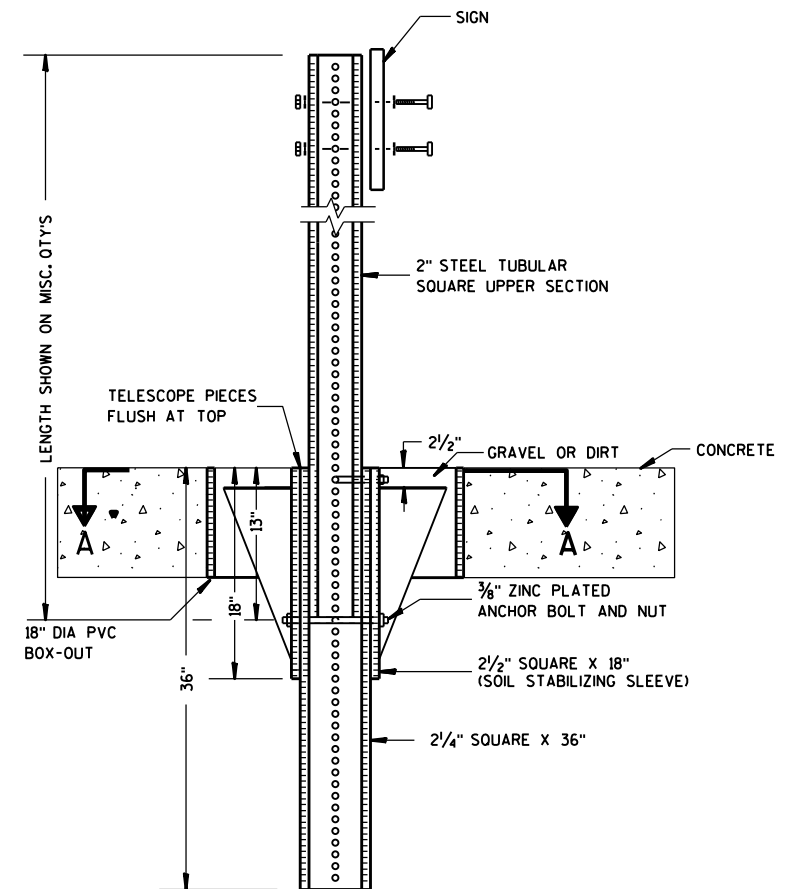
DATE 5/13/2020 PLATE NO. A4-3.22



**ELEVATION VIEW**

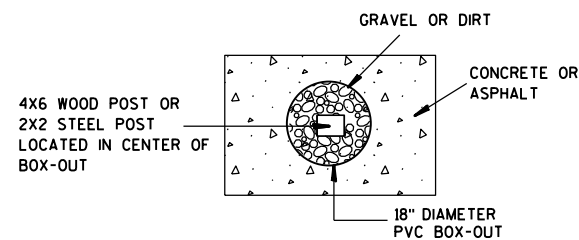
**DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT**

- 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**

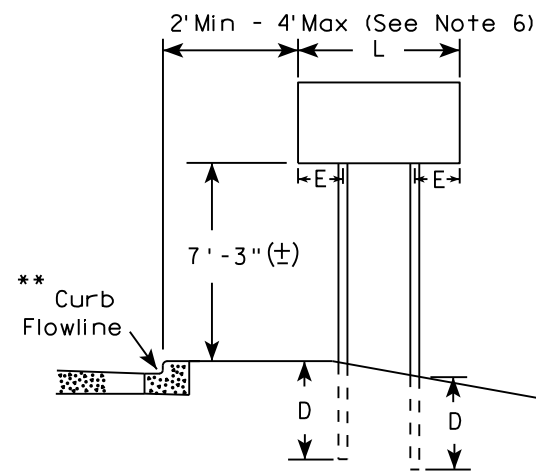
**FOR NEW CONCRETE/ ASPHALT INSTALLATIONS**

<b>SIGN POST BOX-OUTS A4-3B</b>	
<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>

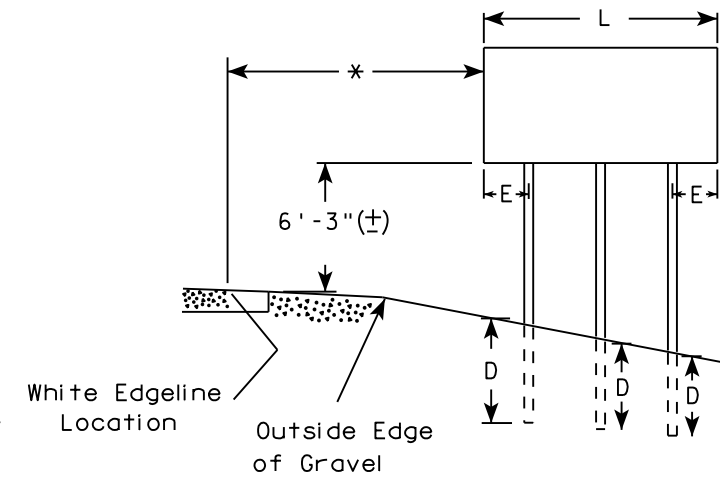
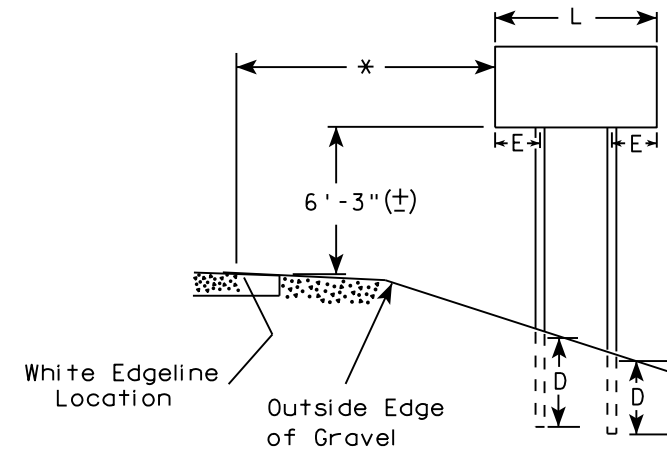
GENERAL NOTES

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" (±).

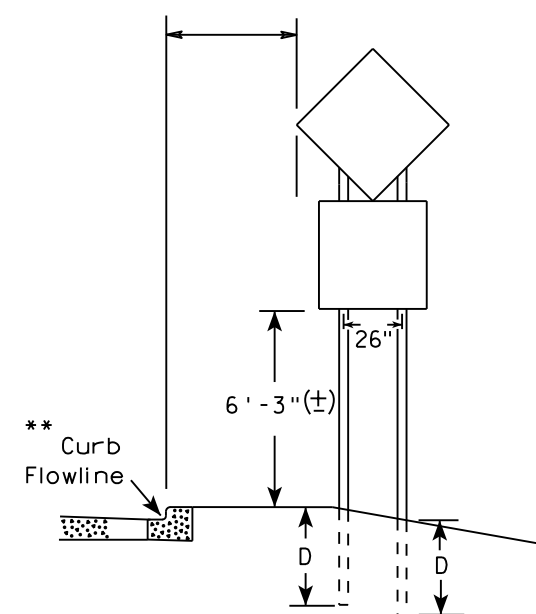
URBAN AREA



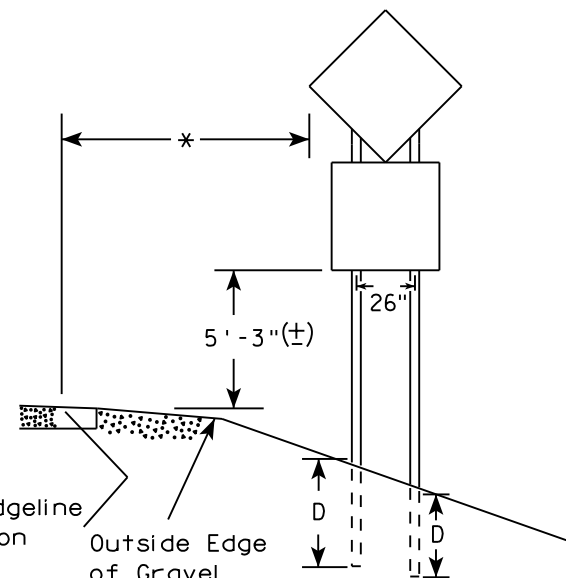
RURAL AREA (See Note 3)



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

\*\*\*

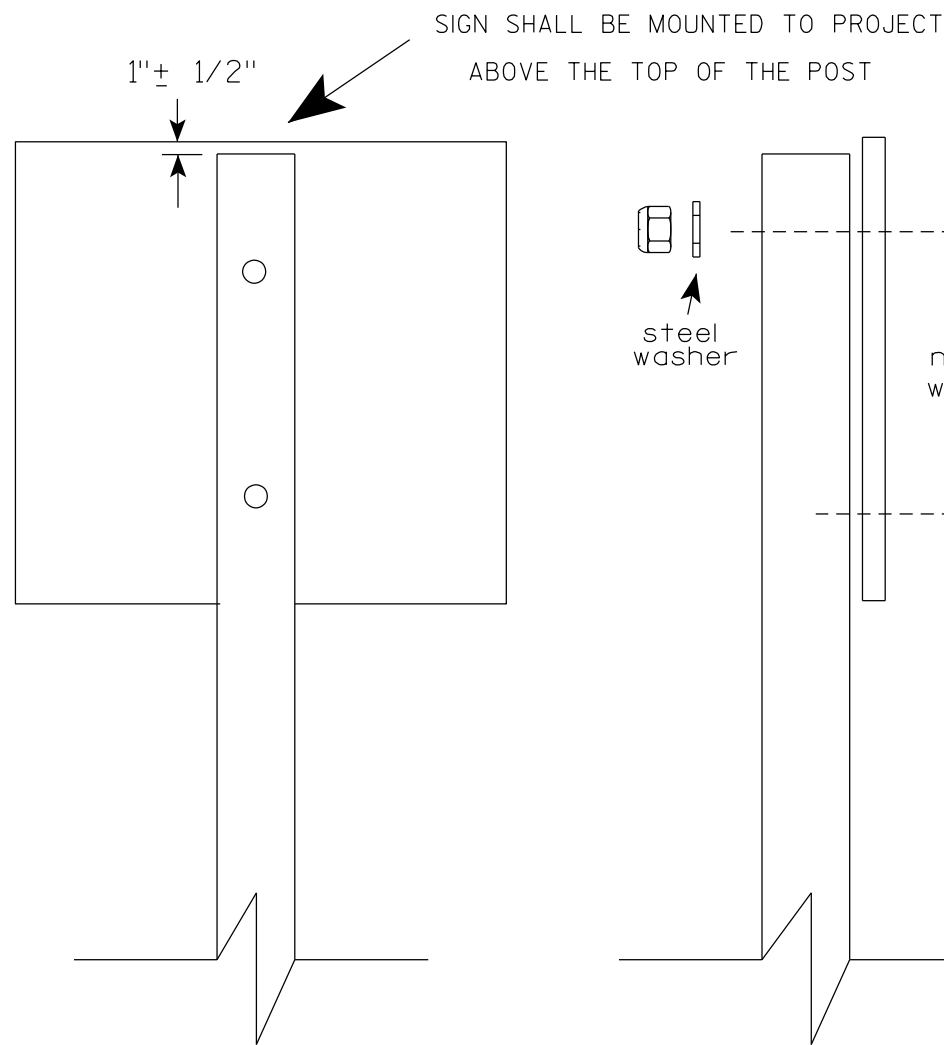
SIGN SHAPE OTHER THAN DIAMOND (THREE POSTS REQUIRED)	
L	E
Greater than 108" to 144"	12"

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 :

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

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

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

MACHINE BOLTS - 5/16" X 1-3/4" Length w/ lock nuts

WOOD POSTS (4" x 6")

LAG SCREWS - 3/8" X 3" (NO STRINGERS ON BACK OF SIGN)  
3/8" X 4" (STRINGERS ON BACK OF SIGN)

SQUARE STEEL POSTS (2" x 2")

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

RIVETS - 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 3/8" I.D. X 1/16" STEEL

1-1/4" O.D. X 3/8" I.D. X .080 NYLON

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

ATTACHMENT OF SIGNS  
TO POSTS

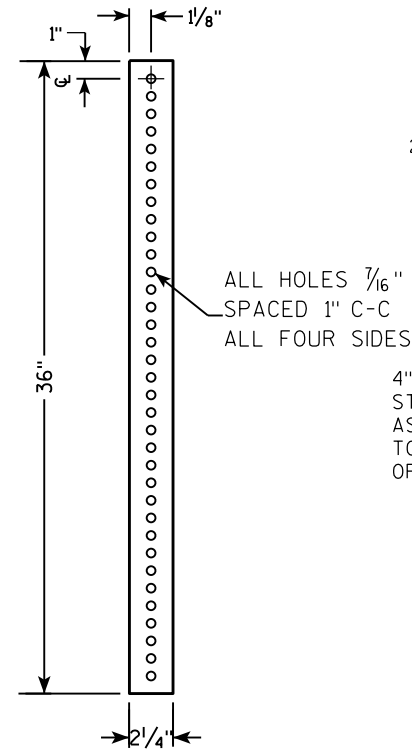
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R Rauch*  
For State Traffic Engineer

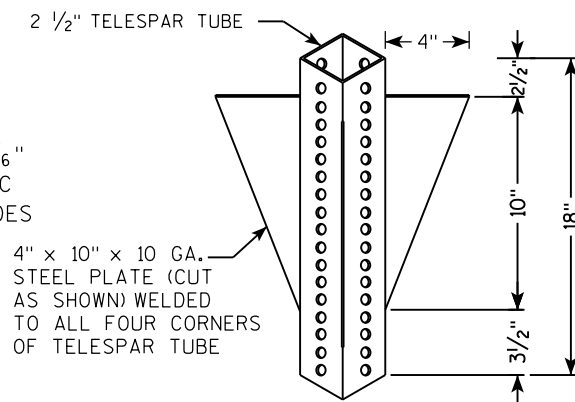
DATE 4/1/2020 PLATE NO. A4-8.9

**TELESCOPIC TUBING ANCHORS  
TWO PIECE SYSTEM**

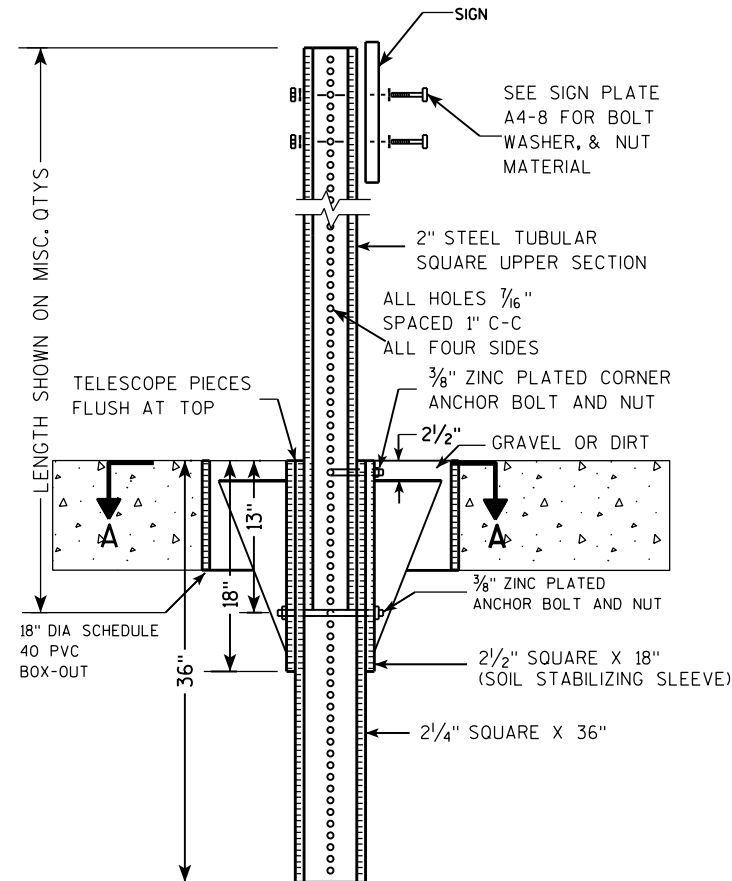
2 1/4" SQUARE  
12 GAUGE  
PERFORATED  
GALVANIZED FINISH



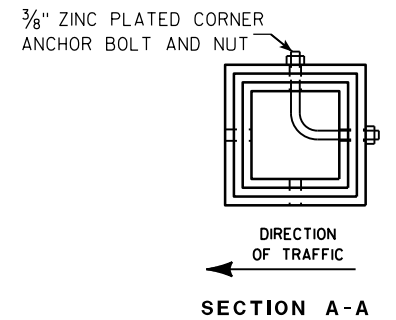
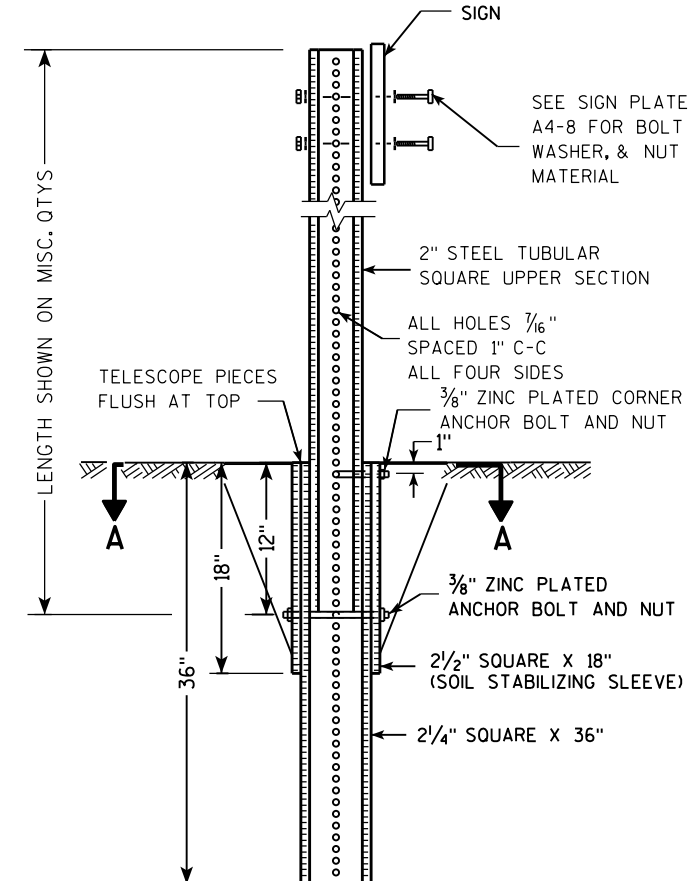
2 1/2" SQUARE  
12 GAUGE  
OMNI-DIRECTIONAL  
PERFORATED  
SOIL STABILIZING SLEEVE  
GALVANIZED FINISH



**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

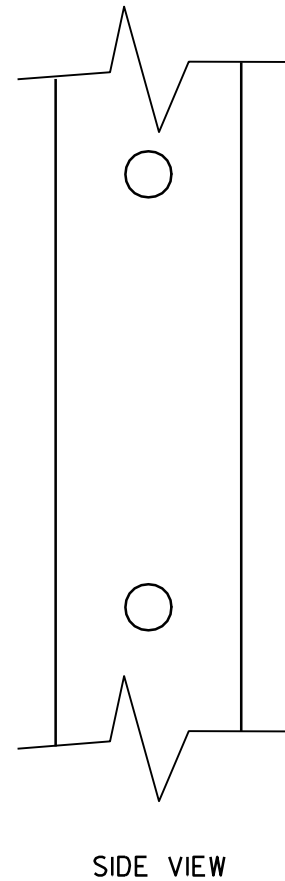
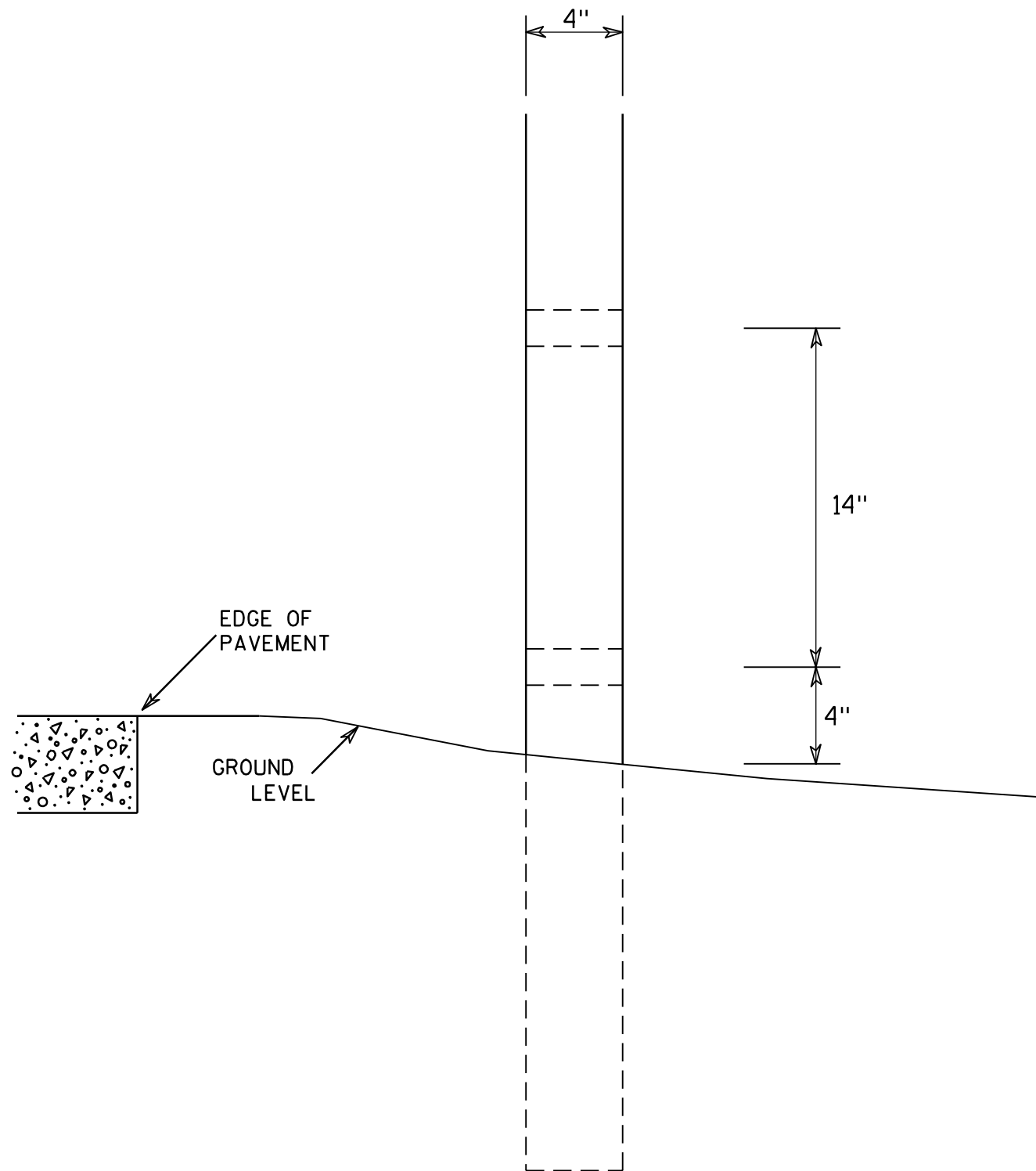
Signs wider than 3 feet or larger than 9 sq. ft shall be mounted on multiple posts (see above table).

**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

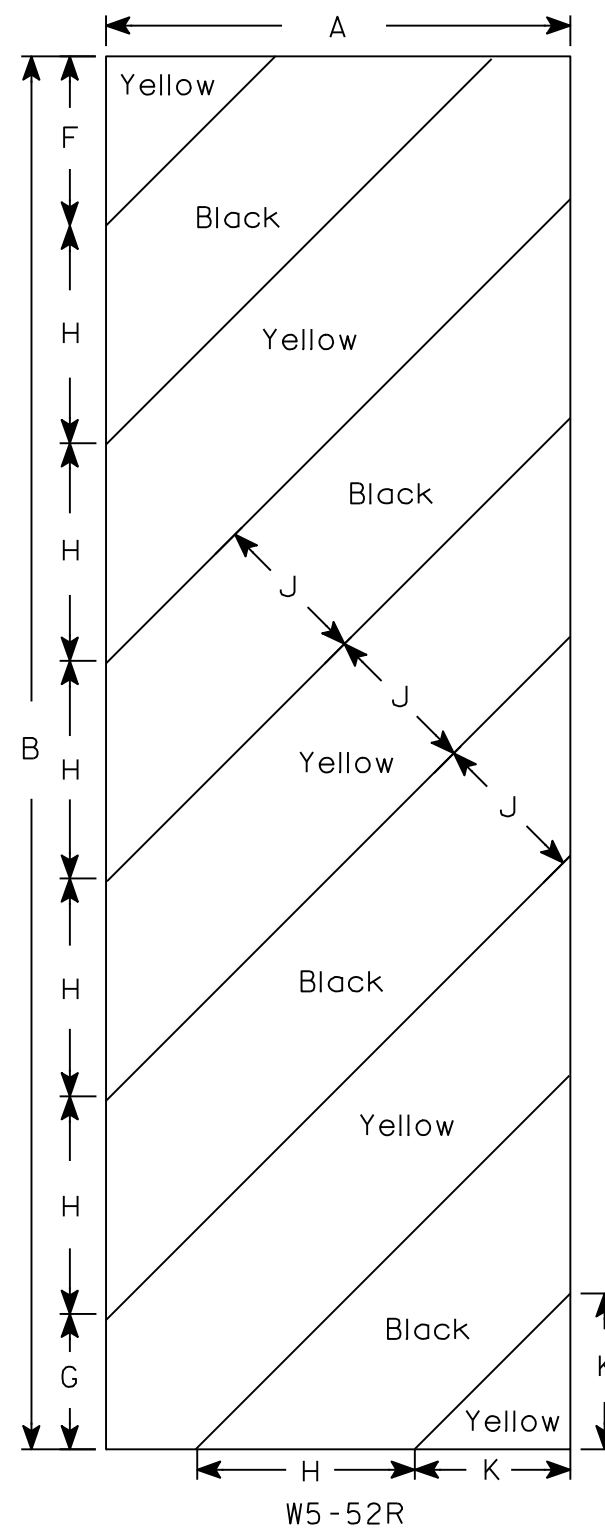
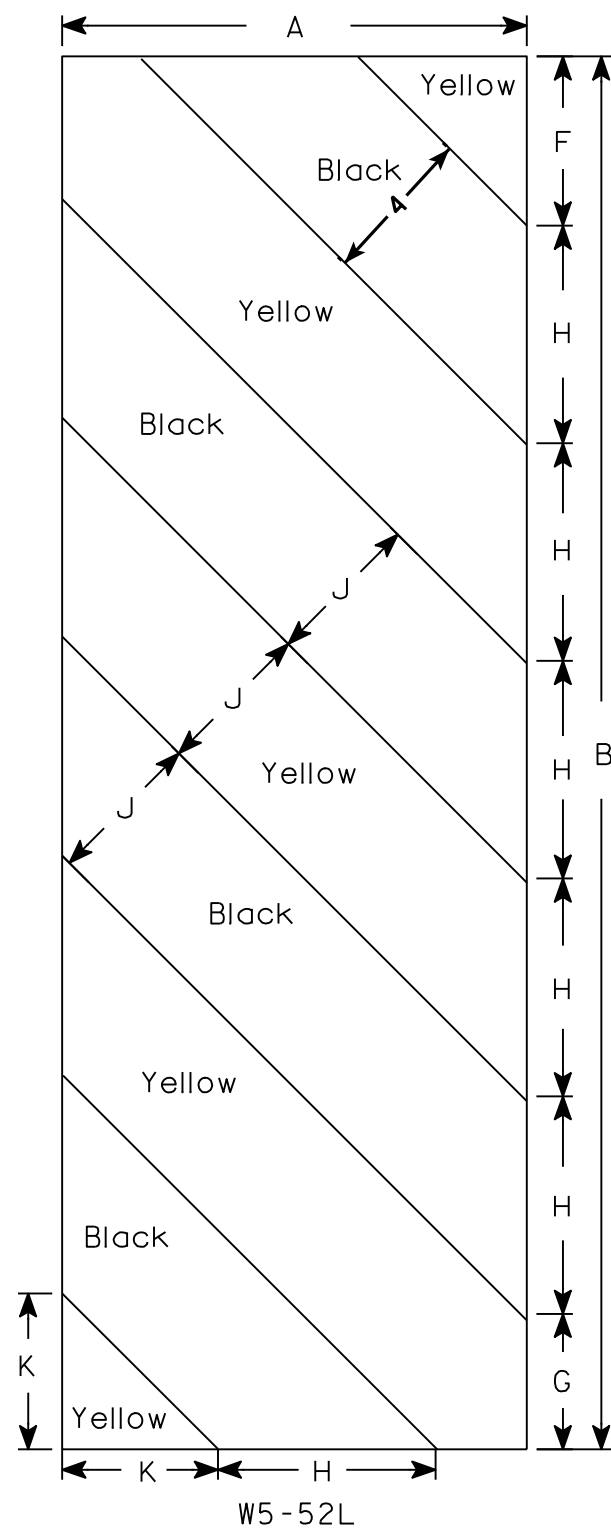
1. All 4 x 6 Wood Posts shall be modified by having two 1½" diameter holes drilled perpendicular to the roadway centerline.

7

7

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





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

**DESIGN DATA**

DESIGN LOADING \_\_\_\_\_ HL-93  
 INVENTORY RATING FACTOR \_\_\_\_\_ 1.20  
 OPERATIONAL RATING FACTOR \_\_\_\_\_ 1.55  
 WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV) \_\_\_\_\_ 250 KIPS  
 STRUCTURE IS DESIGNED FOR A FUTURE WEARING SURFACE OF 20 PSF.

**MATERIAL PROPERTIES**

CONCRETE MASONRY, SLAB \_\_\_\_\_ f'c = 4,000 PSI  
 ALL OTHER \_\_\_\_\_ f'c = 3,500 PSI  
 HIGH STRENGTH BAR STEEL REINFORCEMENT \_\_\_\_\_ fy = 60,000 PSI

**TRAFFIC DATA**

ADT (2022) = 50  
 ADT (2042) = 60  
 DESIGN SPEED = 55 MPH

**FOUNDATION DATA**

ABUTMENTS TO BE SUPPORTED ON PILING CIP CONCRETE 10 3/4 X 0.365-INCH DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 140\* TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED 50' LONG AT BOTH ABUTMENTS. PILE POINTS REQUIRED.

\* 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.

**HYDRAULIC DATA**

**100 YEAR FREQUENCY**  
 Q<sub>100</sub> = 1900 C.F.S.  
 VEL. = 4.8 F.P.S.  
 HW<sub>100</sub> = EL. 731.70  
 WATERWAY AREA = 257.6 SQ. FT.  
 DRAINAGE AREA = 17.4 SQ. MI.  
 SCOUR CRITICAL CODE = 5

**2 YEAR FREQUENCY**

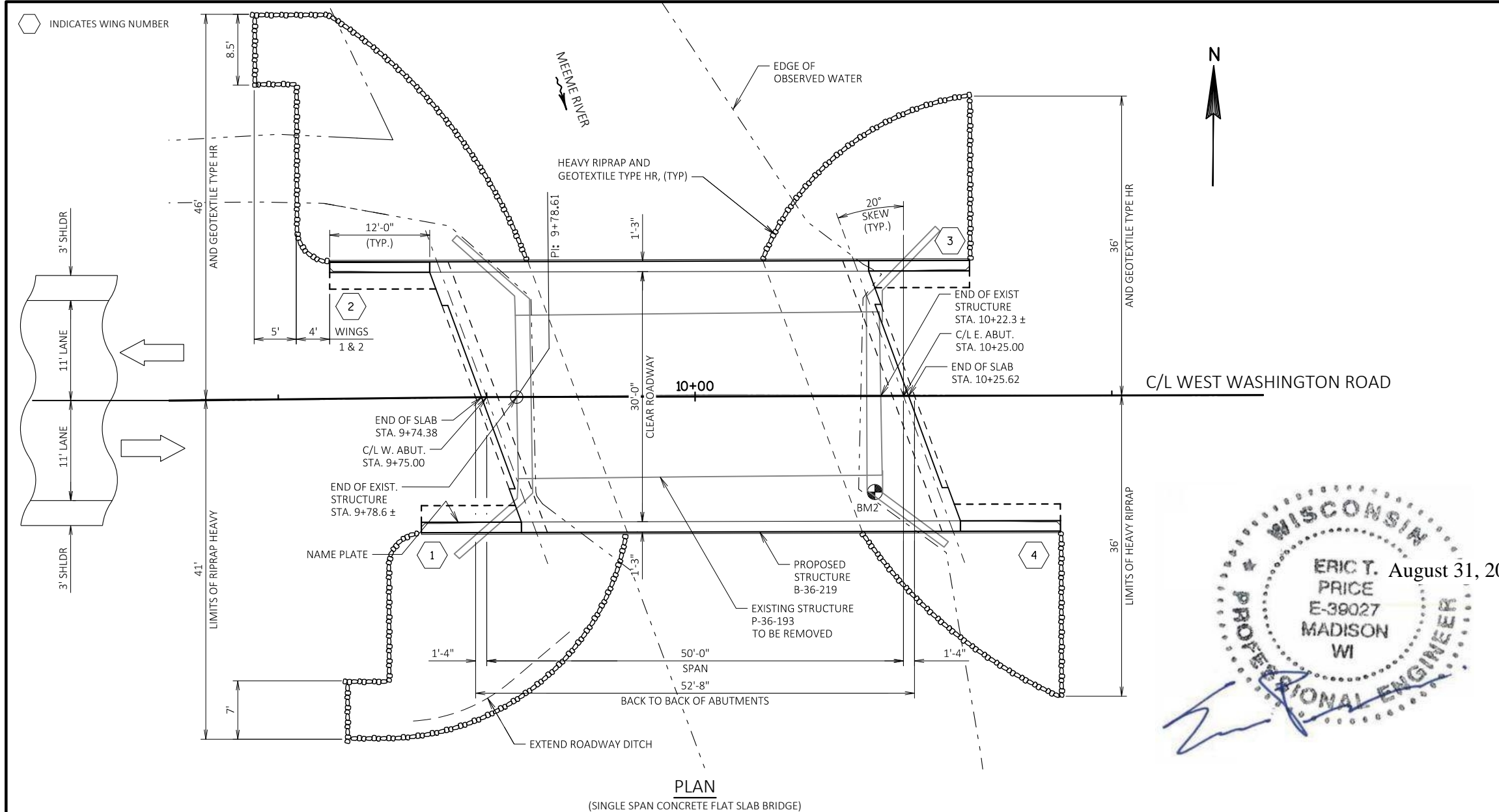
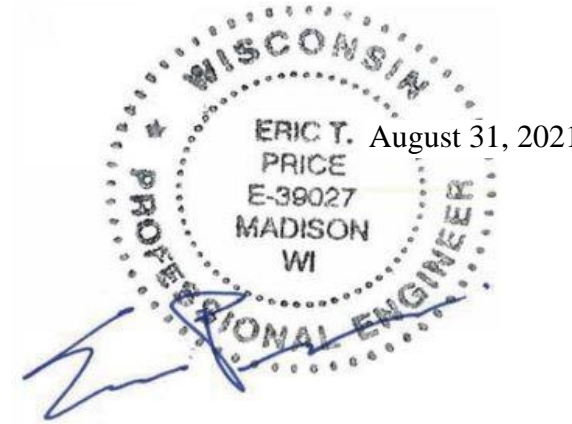
Q<sub>2</sub> = 505 C.F.S.  
 VEL. = 2.8 F.P.S.  
 HW<sub>2</sub> = EL. 728.77

**ROAD OVERTOPPING FREQUENCY**

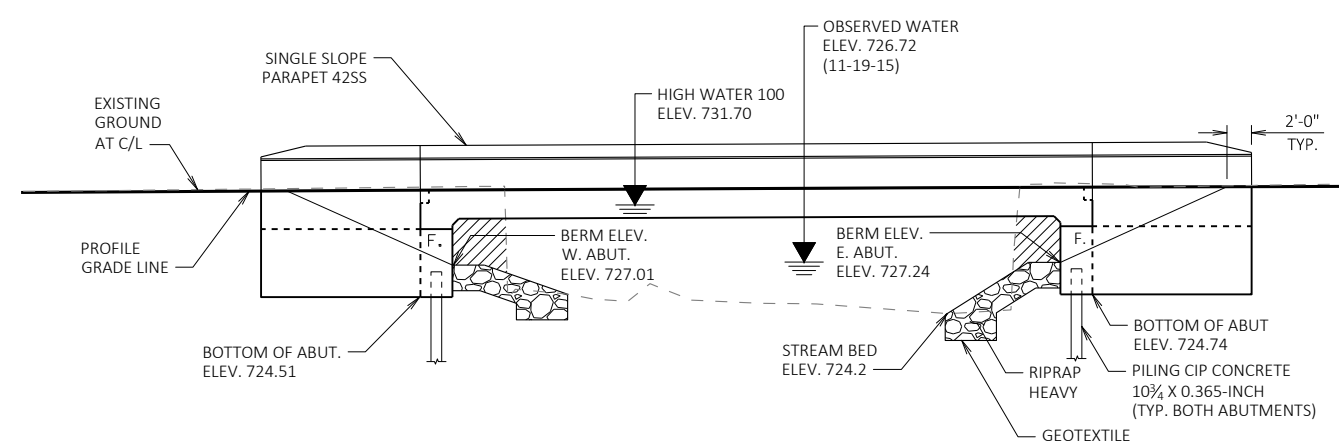
FREQUENCY = 25 YEARS  
 Q<sub>25</sub> = 1,425 C.F.S.  
 HW<sub>25</sub> = EL. 731.05

**LIST OF DRAWINGS**

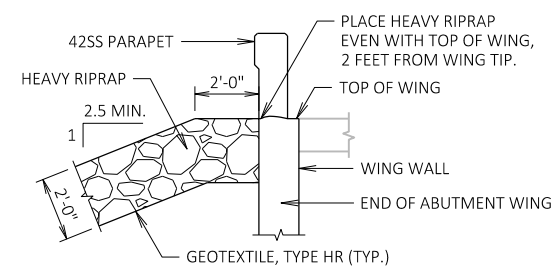
1. GENERAL PLAN
2. CROSS SECTION & QUANTITIES
3. SUBSURFACE EXPLORATION
4. WEST ABUTMENT
5. WEST ABUTMENT DETAILS
6. EAST ABUTMENT
7. EAST ABUTMENT DETAILS
8. SUPERSTRUCTURE
9. SUPERSTRUCTURE DETAILS
10. SINGLE SLOPE PARAPET 42SS



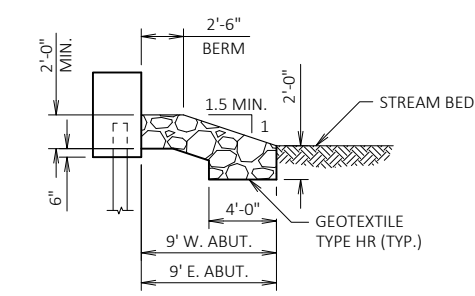
**PLAN**  
 (SINGLE SPAN CONCRETE FLAT SLAB BRIDGE)



**ELEVATION**  
 (LOOKING NORTH)



**TYPICAL FILL SECTION AT WING TIPS**



**RIPRAP DETAIL**

**BENCH MARKS**

NO.	STATION	DESCRIPTION	ELEV.
1	3+93.70	3/4" REBAR	731.163
2	10+21.54	CHISELED SQUARE, S.E. WING	733.287
3	10+98.24	3/4" REBAR	732.981
4	12+62.45	3/4" REBAR	733.252

AREA TO EXCAVATE INCLUDED IN "EXCAVATION FOR STRUCTURES BRIDGES B-36-219"

**BRIDGE OFFICE CONTACT**  
 AARON BONK, P.E.  
 TELEPHONE: (608) 261-0261

**CONSULTANT CONTACT**  
 ERIC PRICE, P.E.  
 TELEPHONE: (608) 826-6146

NO.	DATE	REVISION	BY

**CORRE**

STATE OF WISCONSIN  
 DEPARTMENT OF TRANSPORTATION

ACCEPTED *[Signature]* SDR **11/18/21**  
 CHIEF STRUCTURES DESIGN ENGINEER DATE

**STRUCTURE B-36-219**  
 WEST WASHINGTON ROAD OVER MEEME RIVER

COUNTY MANITOWOC TOWN/VILLAGE MEEME

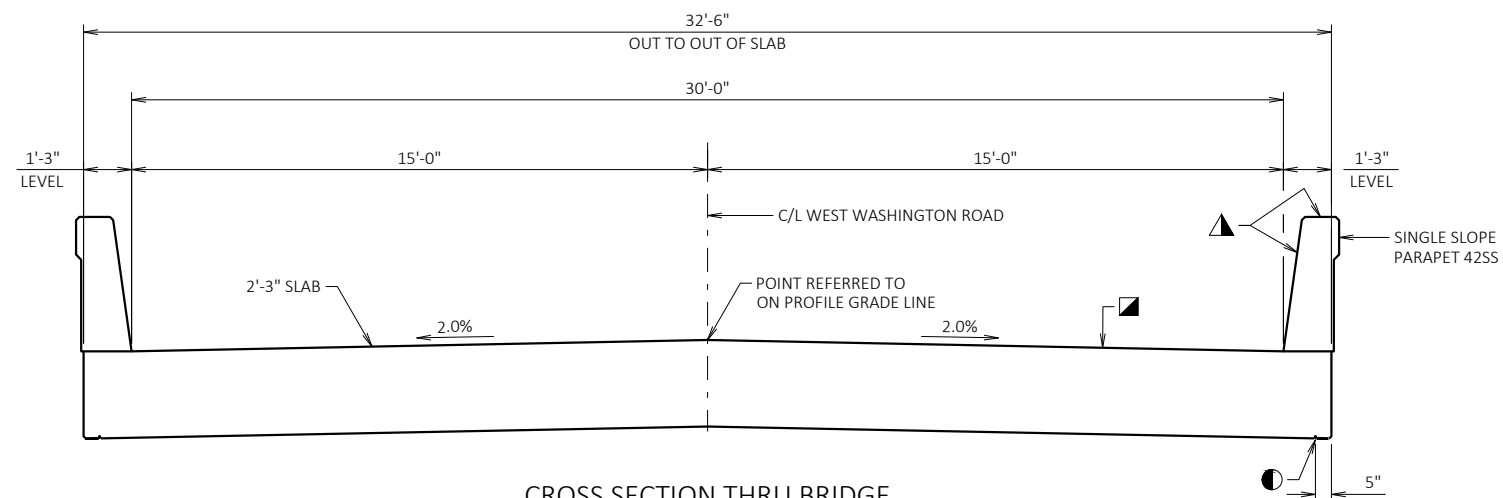
DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

DESIGNED BY ETP	DESIGN CK'D. BH	DRAWN BY PKF	PLANS CK'D. ETP
-----------------	-----------------	--------------	-----------------

**GENERAL PLAN** SHEET 1 OF 10

**GENERAL NOTES**

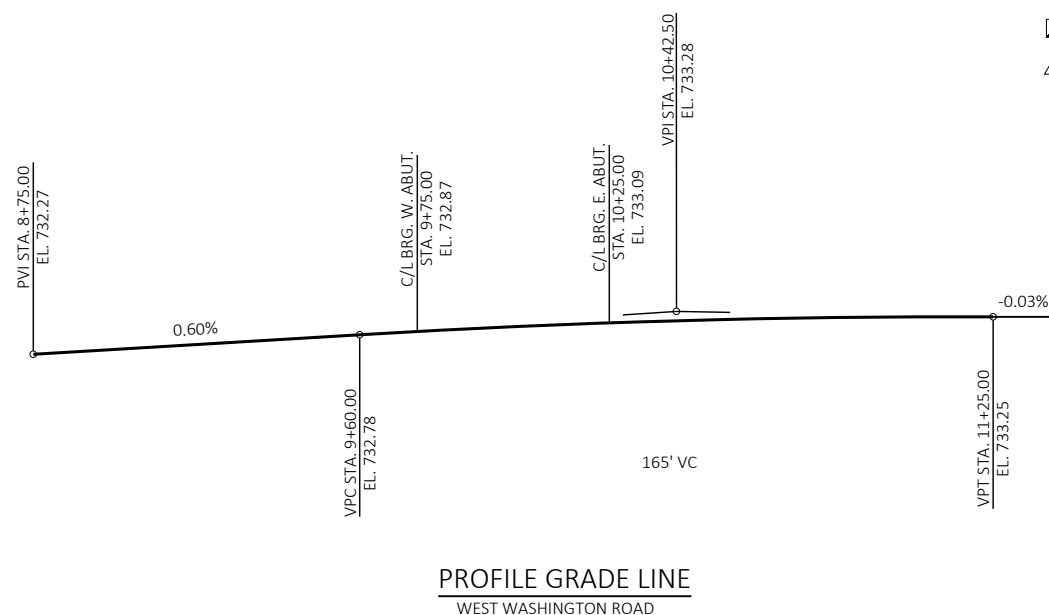
- DRAWINGS SHALL NOT BE SCALED.
- BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR UNLESS SHOWN OR NOTED OTHERWISE.
- THE FIRST DIGIT OF A THREE DIGIT BAR NO. AND THE FIRST TWO DIGITS OF A FOUR DIGIT BAR NO. SIGNIFIES THE BAR SIZE.
- JOINT FILLER SHALL CONFORM TO THE REQUIREMENTS OF AASHTO DESIGNATION M153 TYPE I, II OR III OR AASHTO DESIGNATION M213.
- 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 THE GENERAL PLAN SHEET AND IN THE ABUTMENT DETAILS, OR AS DIRECTED BY THE ENGINEER.
- SLAB FALSEWORK SHALL BE SUPPORTED ON PILES OR THE SUBSTRUCTURE UNLESS AN ALTERNATE METHOD IS APPROVED BY THE ENGINEER.
- THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES BRIDGES B-36-219" SHALL BE THE EXISTING GROUNDLINE.
- THE EXISTING STRUCTURE P-36-193, TO BE REMOVED, IS A SINGLE SPAN CONCRETE DECK GIRDER BRIDGE, 44.0 FT. LONG WITH A 19.9 FT. CLEAR ROADWAY WIDTH.
- EXCAVATION BELOW THE ABUTMENT AND ABUTMENT BEDDING MATERIALS REQUIRES ENGINEER APPROVAL. GEOTEXTILE SHALL BE SET AT THE BOTTOM OF EXCAVATION AND EXTEND 2'-0" ABOVE BOTTOM OF ABUTMENT.
- THE BACKFILL QUANTITIES ARE BASED ON THE PAY LIMITS SHOWN ON THE PLANS AND MAY NOT REFLECT ACTUAL PLACED QUANTITIES. "BACKFILL STRUCTURE TYPE A" REQUIRED DIRECTLY BEHIND ABUTMENTS AND ABUTMENT WINGS FOR 3 FEET. BACKFILL PLACED BEYOND PAY LIMITS OR EXCEEDING PLAN QUANTITIES SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES.
- PIGMENTED SURFACE SEALER SHALL BE APPLIED TO THE ENTIRE INSIDE FACE AND TOP SURFACE OF THE PARAPETS ON THE WINGS AND SUPERSTRUCTURE.



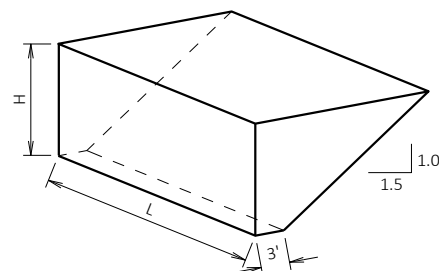
**CROSS SECTION THRU BRIDGE**  
(LOOKING EAST)

**LEGEND**

- 3/4" V-GROOVE REQ'D. EXTEND TO 6" FROM F.F. OF ABUT. DIAPH.
- COAT WITH "PROTECTIVE SURFACE TREATMENT" AS PER THE STANDARD SPECIFICATIONS.
- COAT WITH "PIGMENTED SURFACE SEALER" AS PER THE STANDARD SPECIFICATIONS.

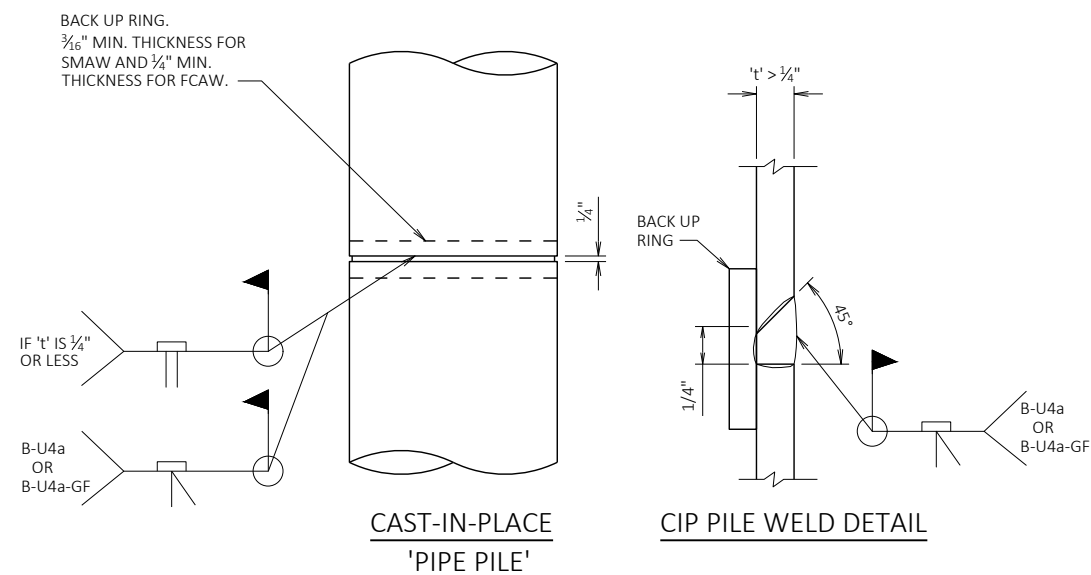


**PROFILE GRADE LINE**  
WEST WASHINGTON ROAD

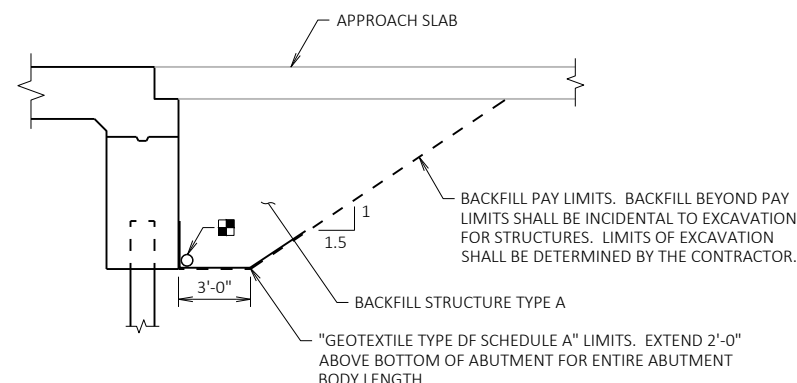


**ABUTMENT BACKFILL QUANTITY DIAGRAM**

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



**PILE SPLICE DETAILS**



**STRUCTURE BACKFILL LIMITS**

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

**TOTAL ESTIMATED QUANTITIES**

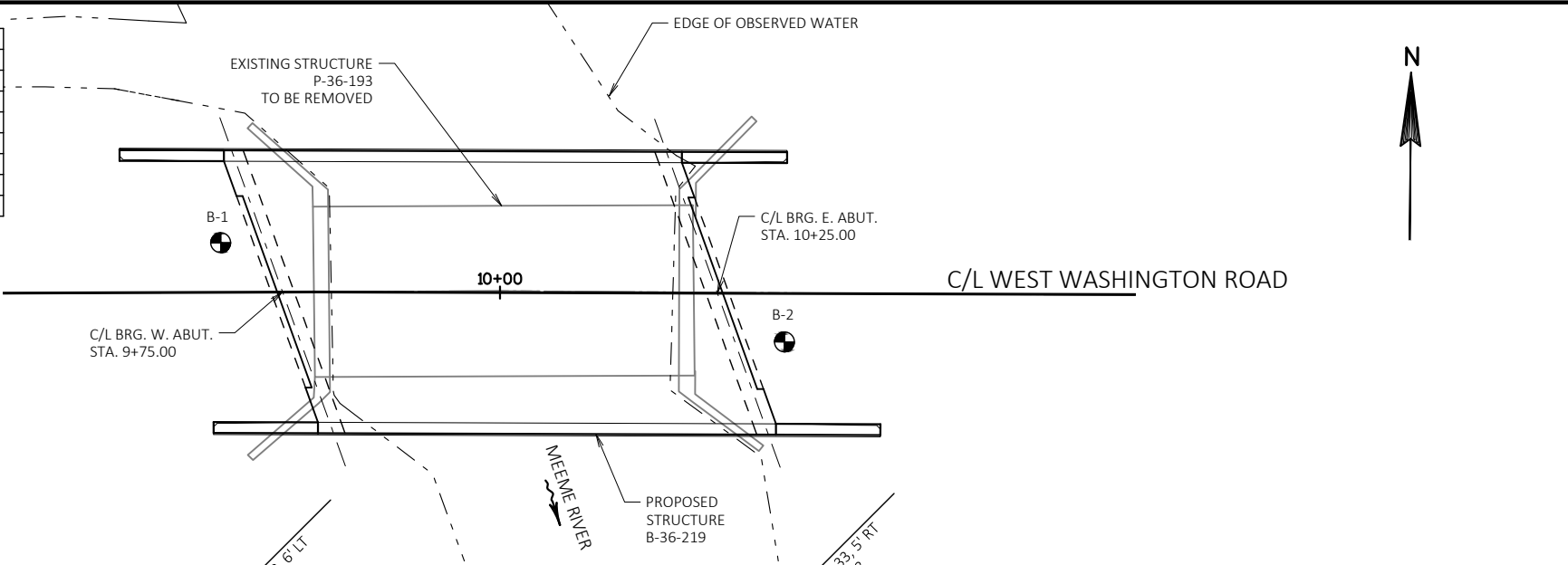
BID NUMBER	BID ITEM	UNIT	WEST ABUT.	EAST ABUT.	SUPER	TOTALS	0020	0030
203.0260	REMOVING STRUCTURE OVER WATERWAY MINIMAL DEBRIS P-36-193	EACH	----	----	----	1	1	----
206.1000	EXCAVATION FOR STRUCTURES BRIDGES B-36-219	LS	----	----	----	1	1	----
210.1500	BACKFILL STRUCTURE TYPE A	TON	155	155	----	310	290	20
502.0100	CONCRETE MASONRY BRIDGES	CY	37.6	37.7	161.2	237	226	11
502.3200	PROTECTIVE SURFACE TREATMENT	SY	----	----	173	173	161	12
502.3210	PIGMENTED SURFACE SEALER	SY	12	12	52	76	76	----
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	2,120	2,120	----	4,240	4,120	120
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	2,370	2,340	29,360	34,070	32,410	1,660
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	11	11	----	22	20	2
550.0500	PILE POINTS	EACH	7	7	----	14	14	----
550.2106	PILING CIP CONCRETE 10 3/4 X 0.365-INCH	LF	350	350	----	700	700	----
606.0300	RIPRAP HEAVY	CY	155	100	----	255	253	2
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	110	110	----	220	216	4
645.0111	GEOTEXTILE TYPE DF SCHEDULE A	SY	34	34	----	68	64	4
645.0120	GEOTEXTILE TYPE HR	SY	205	135	----	340	333	7
NON-BID ITEMS								
	FILLER	SIZE	----	----	----	1/2" & 3/4"		

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
<b>STRUCTURE B-36-219</b>			
DRAWN BY		PKF	PLANS CK'D. ETP
<b>CROSS SECTION &amp; QUANTITIES</b>			SHEET 2 OF 10



BORING #	DATE COMPLETED	NORTHING (Y)	EASTING (X)
1	FEBRUARY 15, 2016	235945.391	193769.212
2	FEBRUARY 16, 2016	235934.460	193834.128

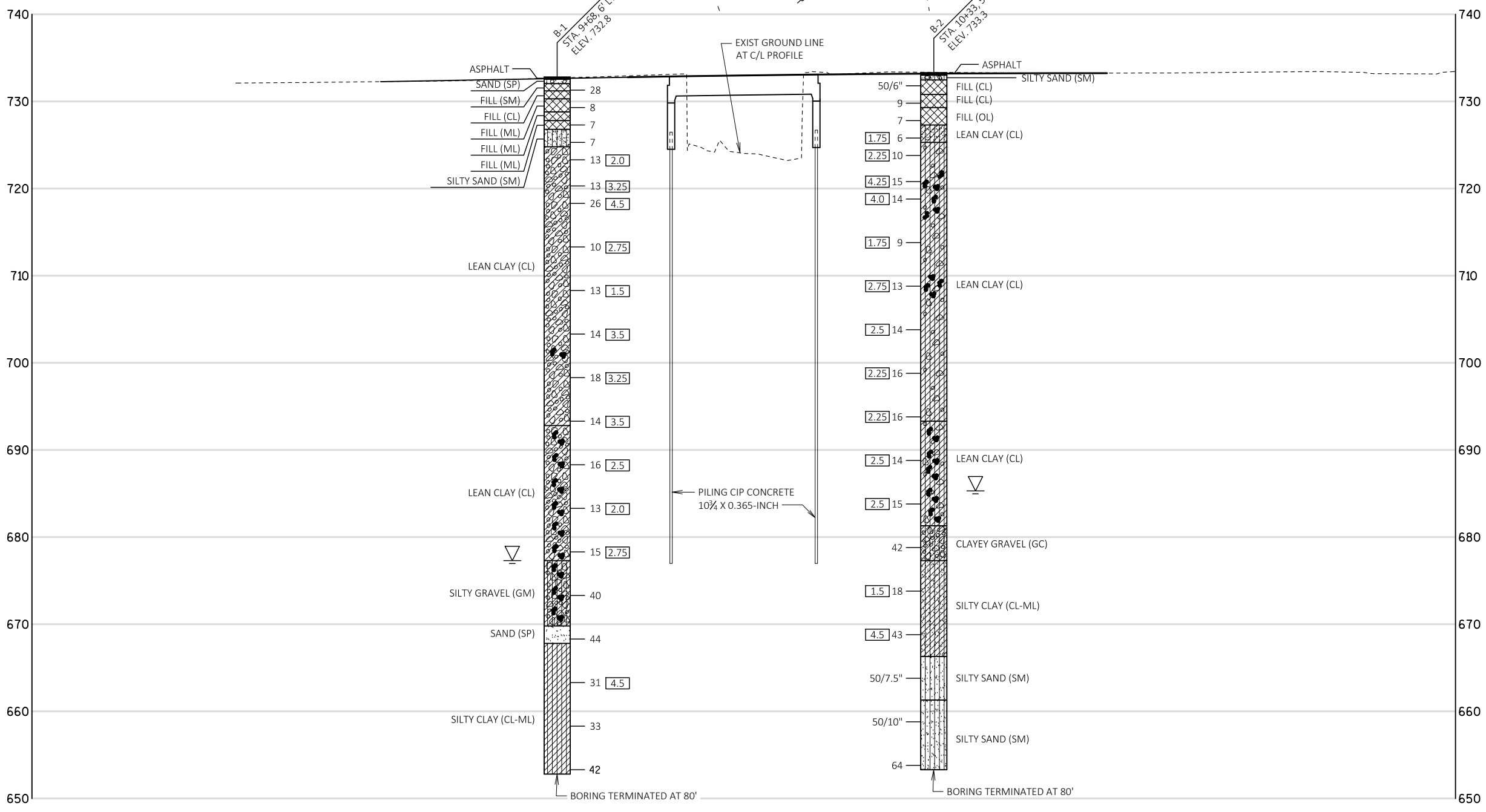
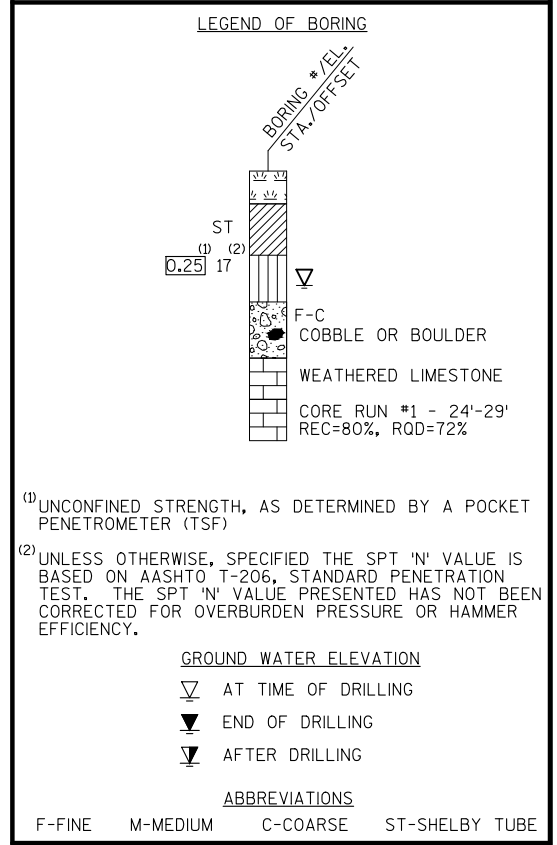
BORINGS COMPLETED BY: RIVER VALLEY TESTING CORP.  
 REPORT COMPLETED BY: RIVER VALLEY TESTING CORP.  
 ALL COORDINATES REFERENCED TO WCCS NAD 83(2007) MANITOWOC COUNTY



STATE PROJECT NUMBER  
4313-11-71

**MATERIAL SYMBOLS**

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



**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-36-219

DRAWN BY PKF PLANS CK'D. ETP

SUBSURFACE EXPLORATION SHEET 3 OF 10

8

8

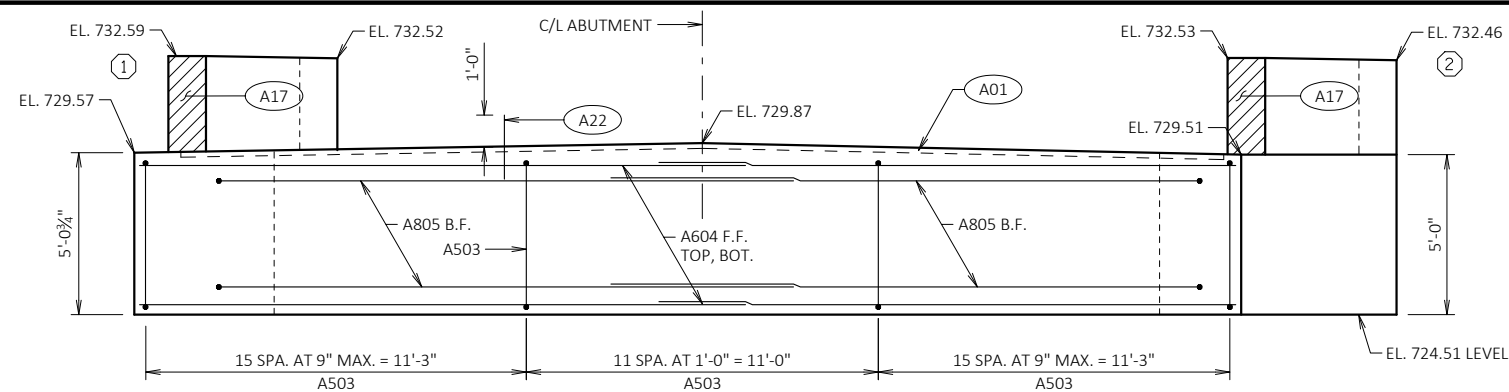
**LEGEND**

- INDICATES WING NUMBER
- A01 KEYED CONST. JOINT FORMED BY BEVELED 2" x 6".
- A09 SUPPORT ABUTMENT ON PILING CIP CONCRETE 10 3/4 x 0.365-INCH, ESTIMATED 50 FEET LONG AND DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 140 TONS PER PILE. SEE ADDITIONAL FOUNDATION DATA ON SHEET 1 AND PILE SPLICE DETAILS ON SHEET 2. PILE POINTS REQUIRED.
- A15 PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SCREEN AT ENDS OF PIPE UNDERDRAIN. RODENT SHIELD TO BE INCLUDED IN BID PRICE OF "PIPE UNDERDRAIN WRAPPED 6-INCH".
- A17 1/2" FILLER (INCLUDED IN WING LENGTH): 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).
- A19 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE.
- A22 A510 BARS AT 1'-0". THESE BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE.

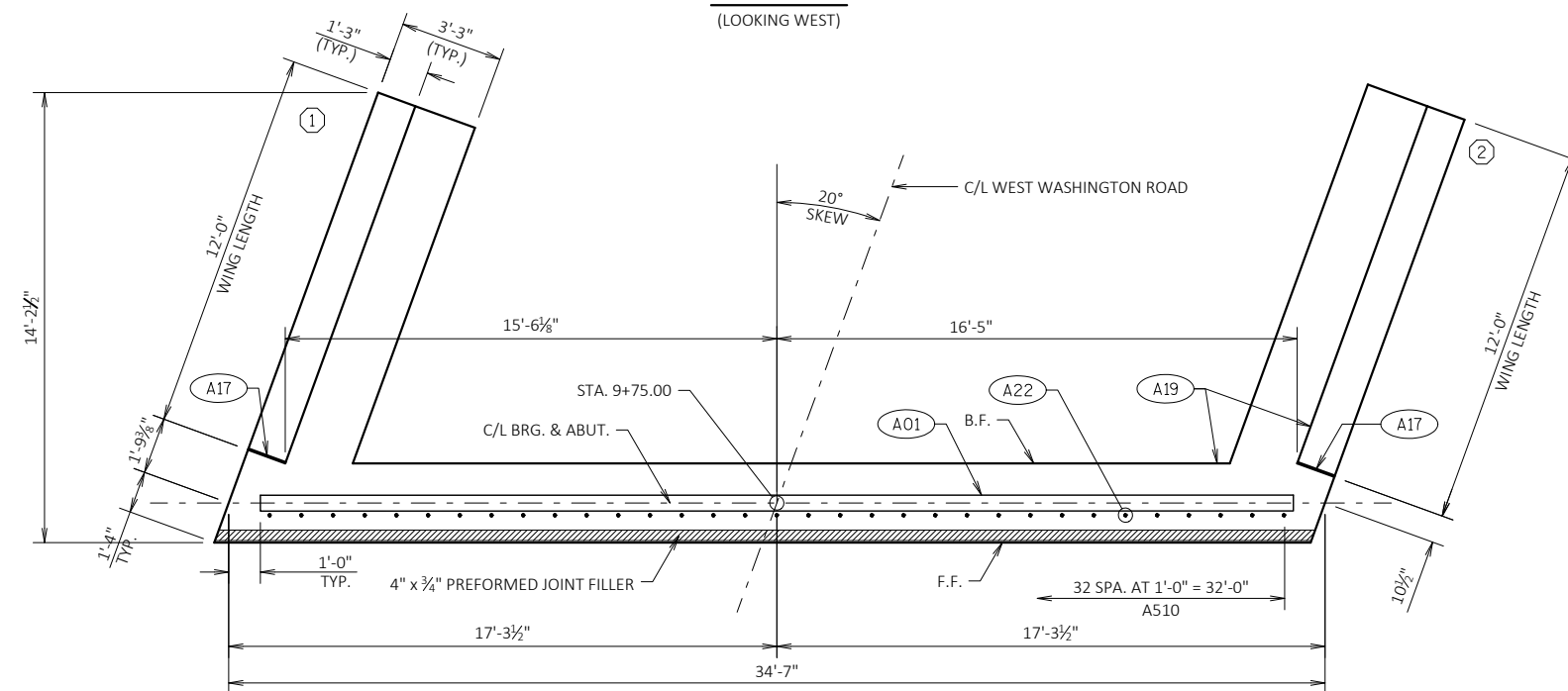
B.F. DENOTES BACK FACE  
F.F. DENOTES FRONT FACE

**NOTES**

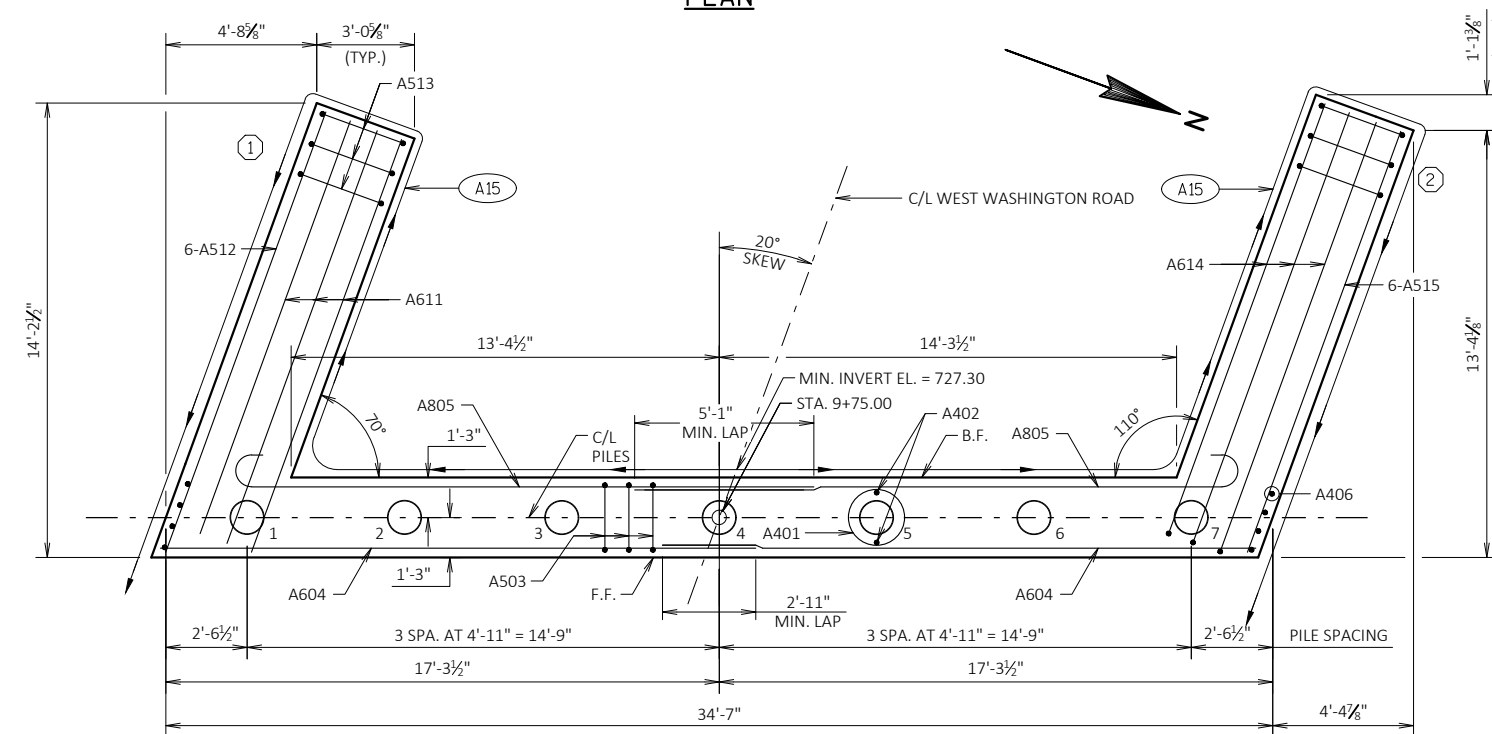
ELEVATIONS AND DIMENSIONS ARE GIVEN AT THE C/L OF ABUTMENT.



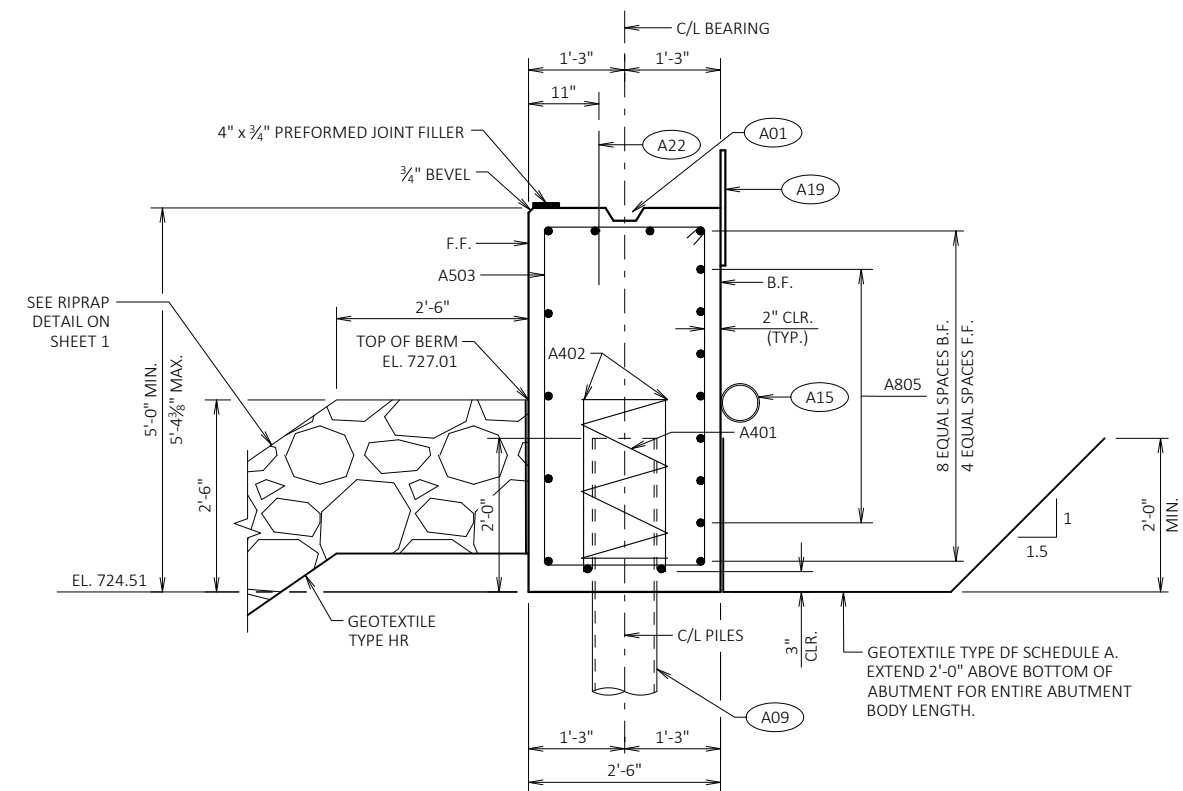
**ELEVATION**  
(LOOKING WEST)



**PLAN**



**PILE PLAN**



**SECTION THRU BODY**  
HORIZONTAL BARS NOT OTHERWISE IDENTIFIED ARE A604 BARS

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
<b>STRUCTURE B-36-219</b>			
DRAWN BY PKF		PLANS CK'D. ETP	
<b>WEST ABUTMENT</b>			SHEET 4 OF 10



**BILL OF BARS - WEST ABUTMENT**

DIMENSIONS IN BENDING DETAILS ARE OUT-TO-OUT OF BAR.

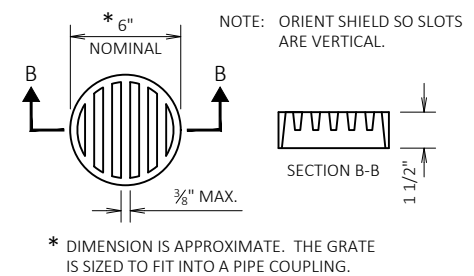
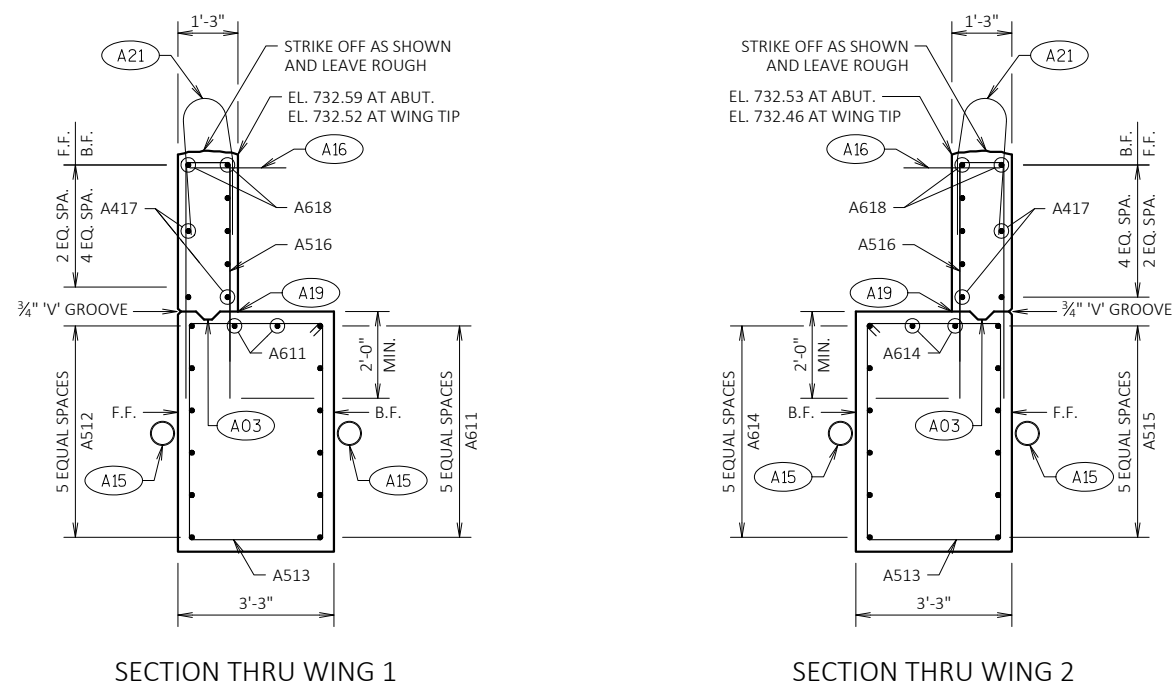
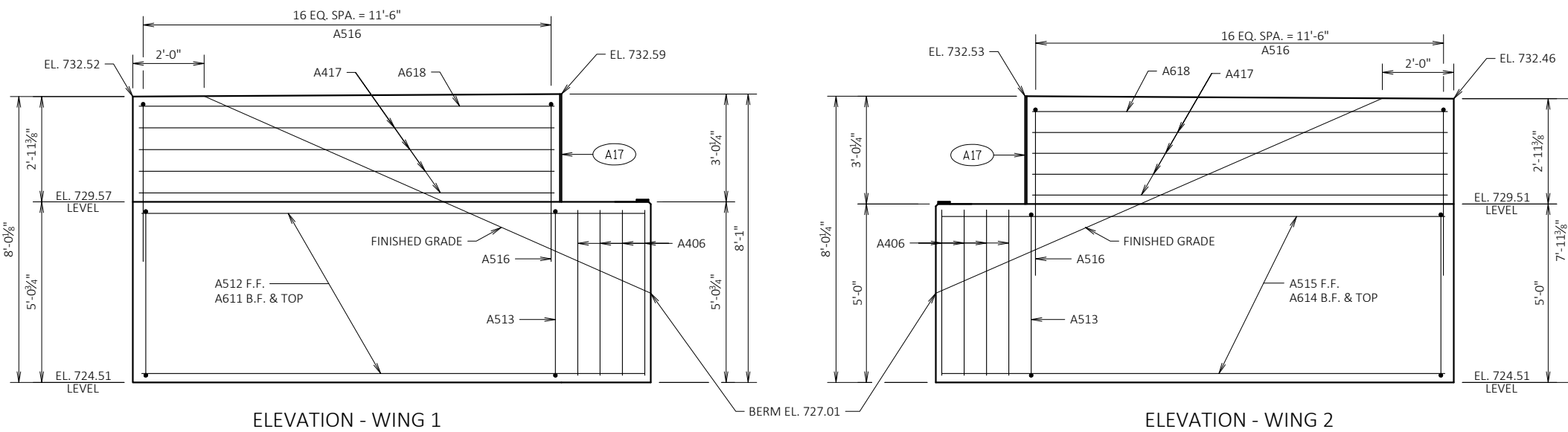
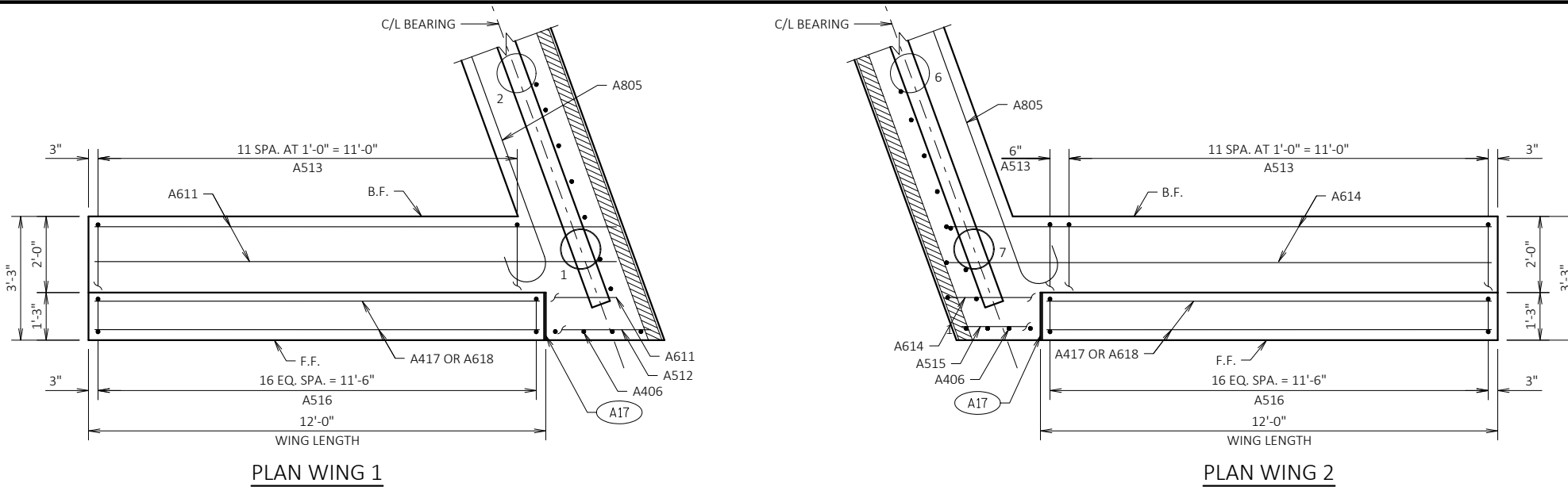
BAR MARK	NO. REQD	LENGTH	BENT	BAR SERIES	LOCATION
<b>NON-COATED BARS</b>					
					TOTAL WEIGHT = 2,120 LBS
A401	7	28'-0"	X		BODY - AT PILES - 1 PER PILE VERT.
A402	14	2'-3"			BODY - AT PILES - 2 PER PILE VERT.
A503	42	14'-2"	X		BODY - STIRRUPS VERT.
A604	22	18'-7"			BODY - B.F., F.F. & BTM HORIZ.
A805	14	18'-9"	X		BODY - B.F. HORIZ.
A406	8	4'-7"			BODY - ABUTMENT ENDS VERT.
<b>COATED</b>					
					TOTAL WEIGHT = 1,560 LBS
A510	33	2'-0"			BODY - TOP VERT.
A611	8	13'-4"			WING 1 FTG - B.F. & TOP HORIZ.
A512	6	14'-8"			WING 1 FTG - F.F. HORIZ.
A513	25	15'-8"	X		WING FTGS - STIRRUPS VERT.
A614	8	14'-7"	X		WING 2 FTG - B.F. & TOP HORIZ.
A515	6	13'-11"			WING 2 FTG - F.F. HORIZ.
A516	34	10'-4"	X		WINGS - STIRRUPS VERT.
A417	12	11'-8"			WINGS - B.F. & F.F. HORIZ.
A618	4	11'-8"			WINGS - TOP HORIZ.
A419	24	2'-0"			WINGS - TOP - SURFACE DRAINS TRANS.

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

**LEGEND**

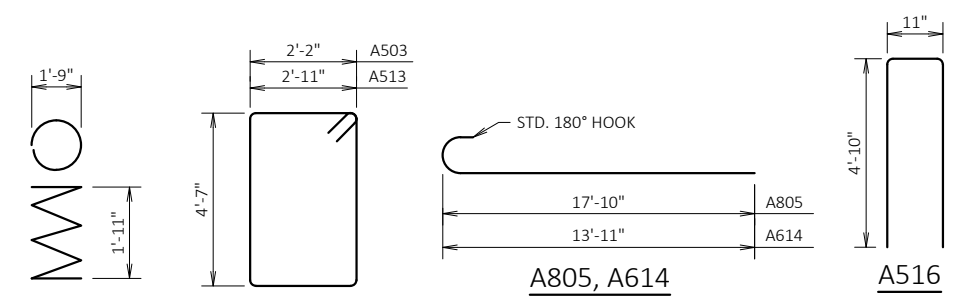
- (A03) OPTIONAL KEYED CONST. JOINT FORMED BY BEVELED 2" x 6", (18" RUBBERIZED MEMBRANE WATERPROOFING AT B.F. & 3/4" "V" GROOVE @ F.F. IF JOINT IS USED).
- (A15) PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SCREEN AT ENDS OF PIPE UNDERDRAIN. RODENT SHIELD TO BE INCLUDED IN BID PRICE OF "PIPE UNDERDRAIN WRAPPED 6-INCH".
- (A16) A419 BARS SPACED AT 1'-0" CTRS. EMBED 1'-0" INTO WING CONCRETE. LOCATE 3" DOWN FROM TOP OF WING AT ABUTMENT TO 6" DOWN AT WING TIP.
- (A17) 1/2" FILLER (INCLUDED IN WING LENGTH): 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.)
- (A19) 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE.
- (A21) FOR PARAPET BARS & DIMENSIONS SEE SHEET 10.

B.F. DENOTES BACK FACE  
 F.F. DENOTES FRONT FACE  
 E.F. DENOTES EACH FACE



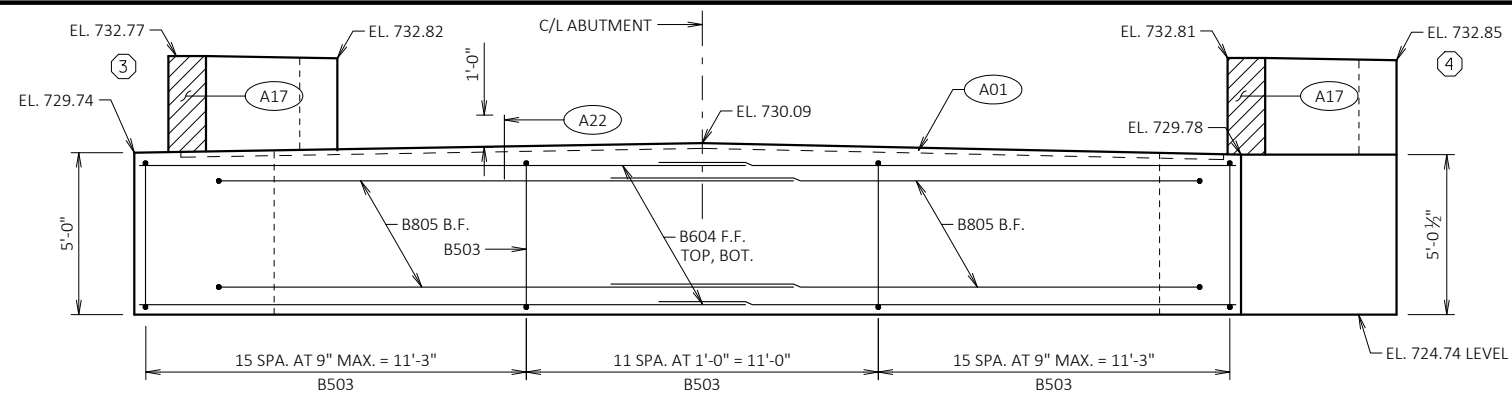
\* DIMENSION IS APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING.

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 OUTFALL PIPE. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X 1-INCH STAINLESS STEEL SHEET METAL SCREWS.

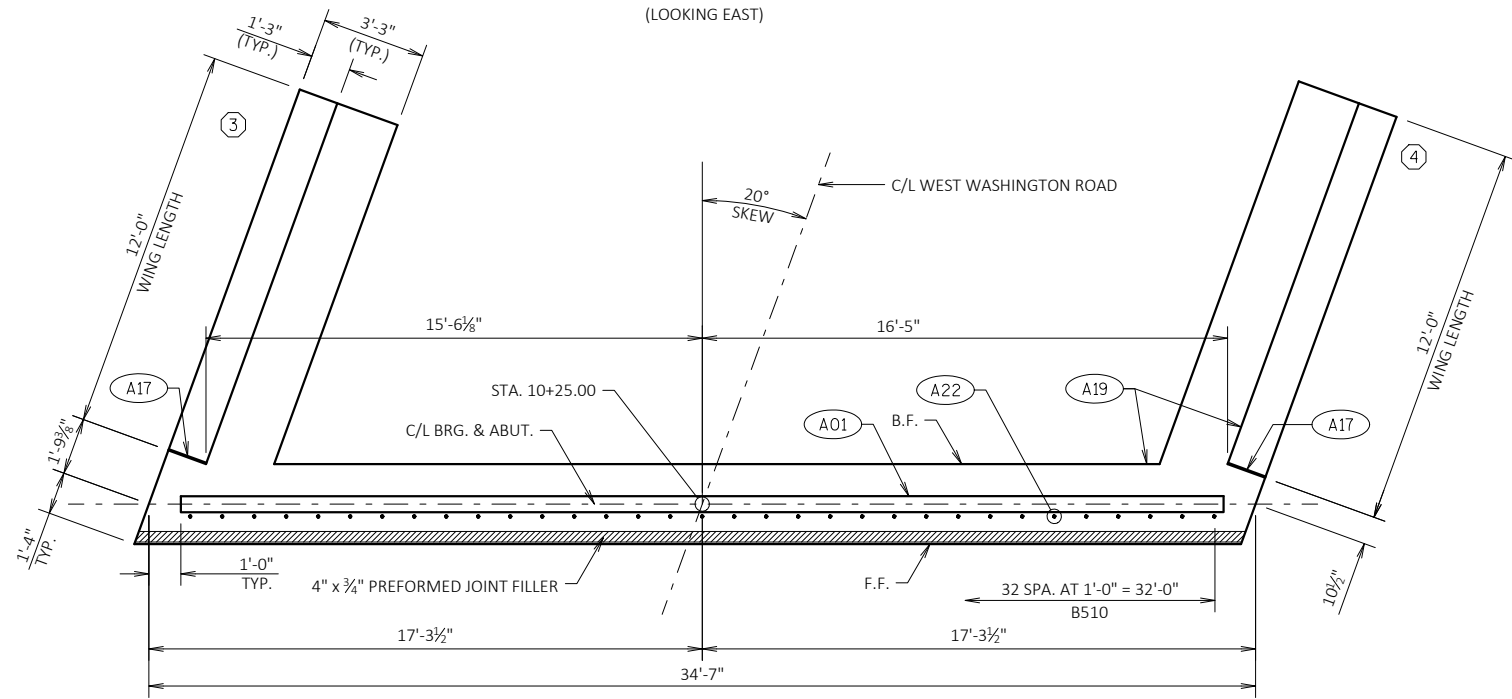


NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-36-219			
DRAWN BY PKF		PLANS CK'D. ETP	
WEST ABUTMENT DETAILS			SHEET 5 OF 10

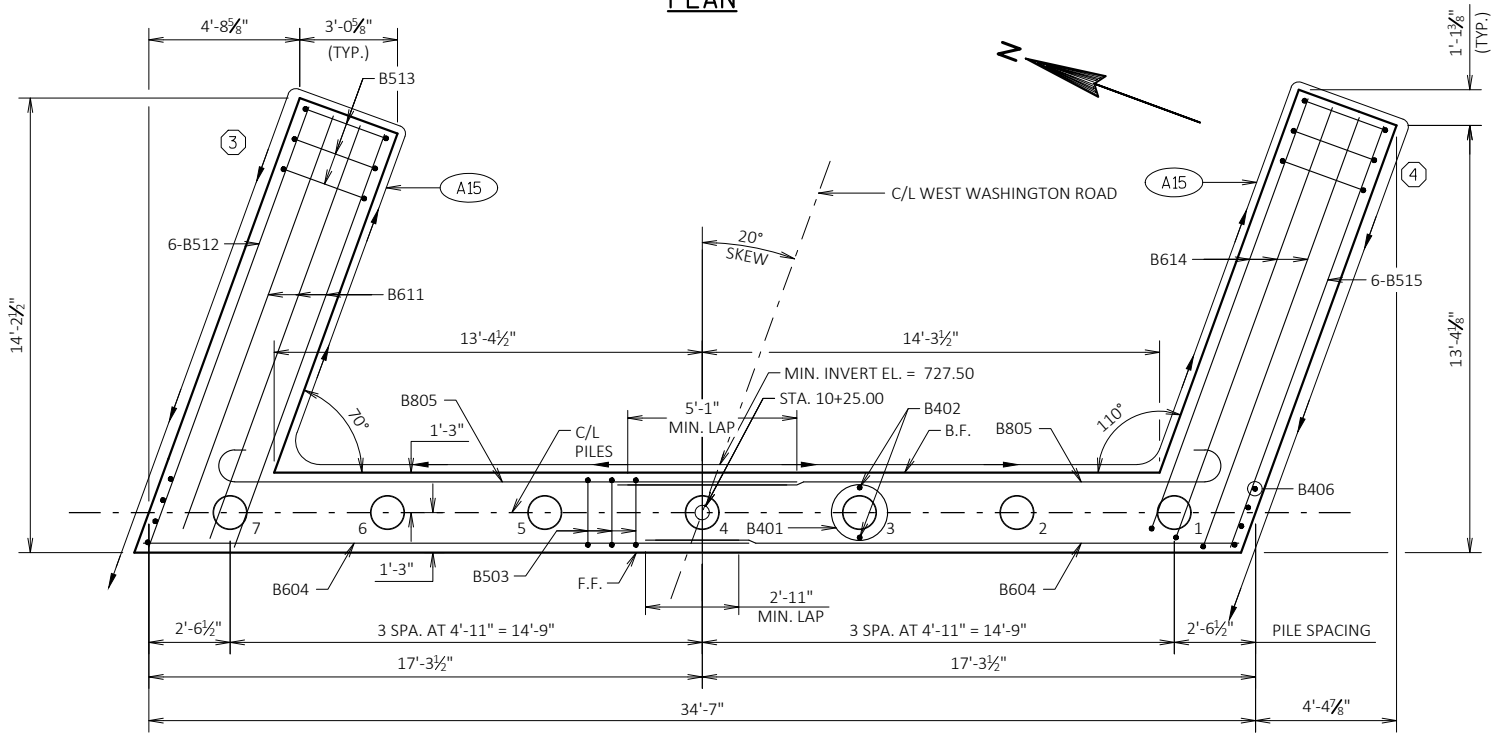




**ELEVATION**  
(LOOKING EAST)



**PLAN**



**PILE PLAN**

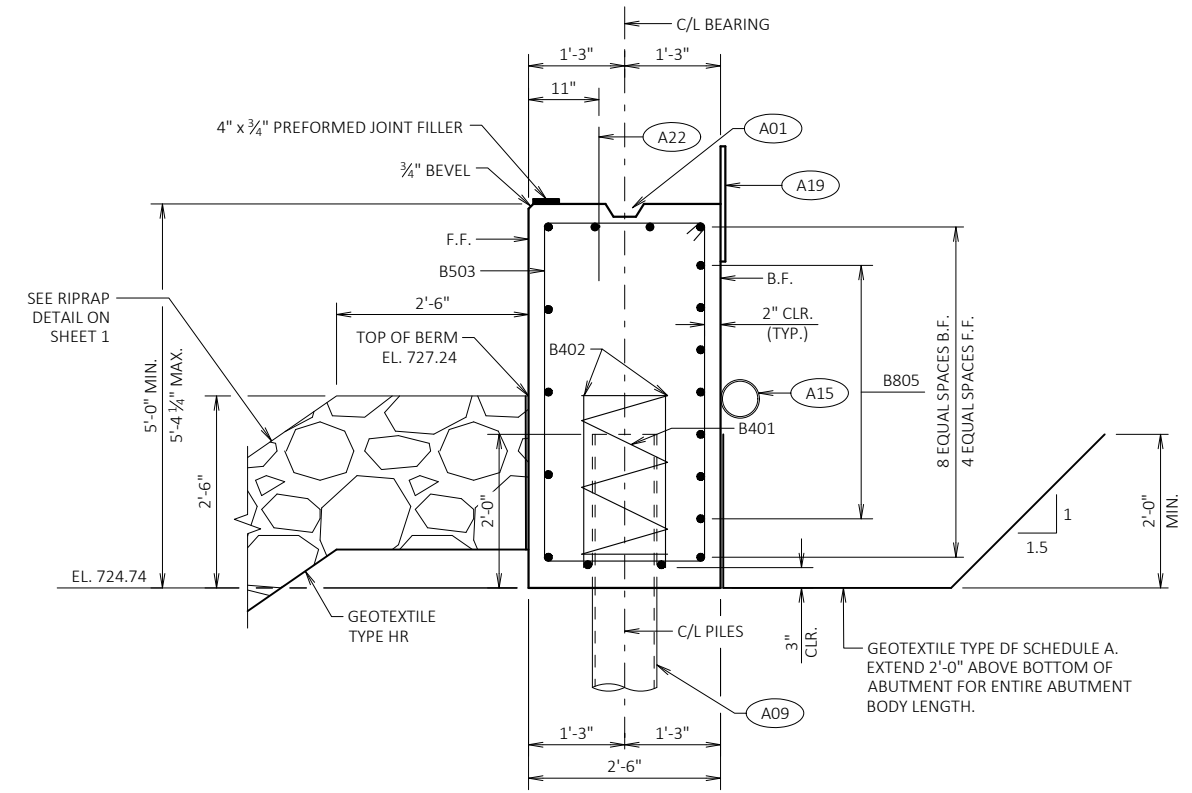
**LEGEND**

- INDICATES WING NUMBER
- (A01) KEYED CONST. JOINT FORMED BY BEVELED 2" x 6".
- (A09) SUPPORT ABUTMENT ON PILING CIP CONCRETE 10 3/4" x 0.365-INCH, ESTIMATED 50 FEET LONG AND DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 140 TONS PER PILE. SEE ADDITIONAL FOUNDATION DATA ON SHEET 1 AND PILE SPLICE DETAILS ON SHEET 2. PILE POINTS REQUIRED.
- (A15) PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SCREEN AT ENDS OF PIPE UNDERDRAIN. RODENT SHIELD TO BE INCLUDED IN BID PRICE OF "PIPE UNDERDRAIN WRAPPED 6-INCH".
- (A17) 1/2" FILLER (INCLUDED IN WING LENGTH): 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).
- (A19) 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE.
- (A22) B510 BARS AT 1'-0". THESE BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE.

B.F. DENOTES BACK FACE  
F.F. DENOTES FRONT FACE

**NOTES**

ELEVATIONS AND DIMENSIONS ARE GIVEN AT THE C/L OF ABUTMENT.



**SECTION THRU BODY**  
HORIZONTAL BARS NOT OTHERWISE IDENTIFIED ARE B604 BARS

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
<b>STRUCTURE B-36-219</b>			
DRAWN BY PKF		PLANS CK'D. ETP	
<b>EAST ABUTMENT</b>			SHEET 6 OF 10



**BILL OF BARS - EAST ABUTMENT**

DIMENSIONS IN BENDING DETAILS ARE OUT-TO-OUT OF BAR.

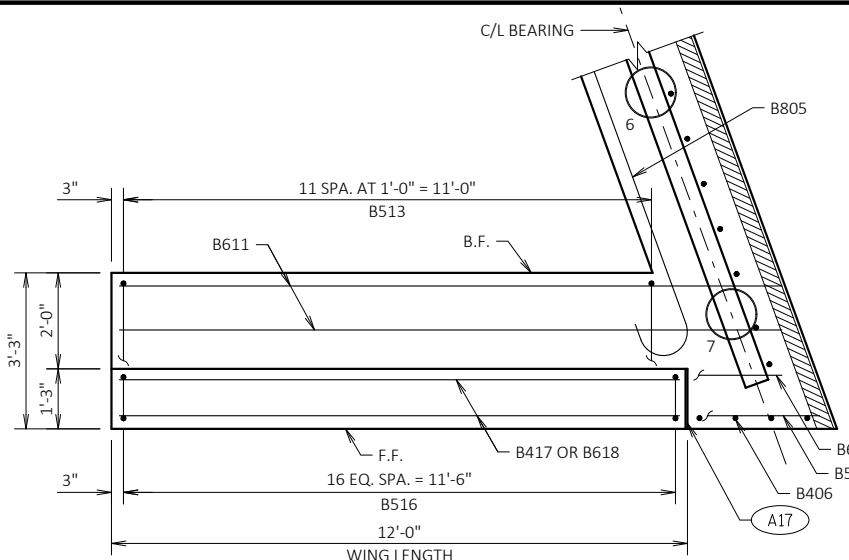
BAR MARK	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
<b>NON-COATED BARS</b>					
					TOTAL WEIGHT = 2,120 LBS
B401	7	28'-0"	X		BODY - AT PILES - 1 PER PILE VERT.
B402	14	2'-3"			BODY - AT PILES - 2 PER PILE VERT.
B503	42	14'-2"	X		BODY - STIRRUPS VERT.
B604	22	18'-7"			BODY - B.F., F.F. & BTM HORIZ.
B805	14	18'-9"	X		BODY - B.F. HORIZ.
B406	8	4'-7"			BODY - ABUTMENT ENDS VERT.
<b>COATED BARS</b>					
					TOTAL WEIGHT = 1,530 LBS
B510	33	2'-0"			BODY - TOP VERT.
B611	8	13'-4"			WING 3 FTG - B.F. & TOP HORIZ.
B512	6	14'-8"			WING 3 FTG - F.F. HORIZ.
B513	25	15'-8"	X		WING FTGS - STIRRUPS VERT.
B614	8	14'-7"	X		WING 4 FTG - B.F. & TOP HORIZ.
B515	6	13'-11"			WING 4 FTG - F.F. HORIZ.
B516	34	10'-4"	X		WINGS - STIRRUPS VERT.
B417	12	11'-8"			WINGS - B.F. & F.F. HORIZ.
B618	4	11'-8"			WINGS - TOP HORIZ.

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

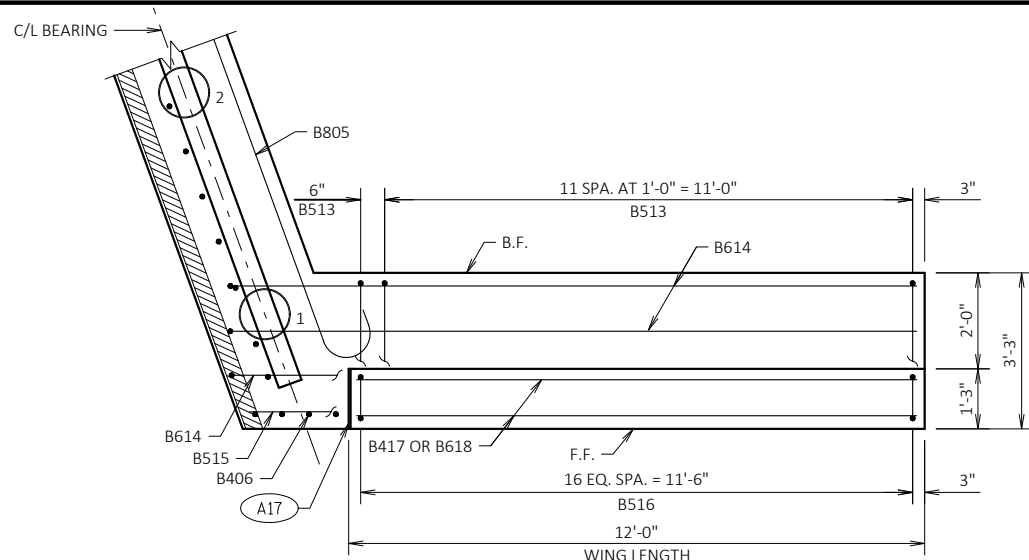
**LEGEND**

- (A03) OPTIONAL KEYED CONST. JOINT FORMED BY BEVELED 2" x 6". (18" RUBBERIZED MEMBRANE WATERPROOFING AT B.F. & 3/4" "V" GROOVE @ F.F. IF JOINT IS USED).
- (A15) 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".
- (A17) 1/2" FILLER (INCLUDED IN WING LENGTH): 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.)
- (A19) 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE.
- (A21) FOR PARAPET BARS & DIMENSIONS SEE SHEET 10.

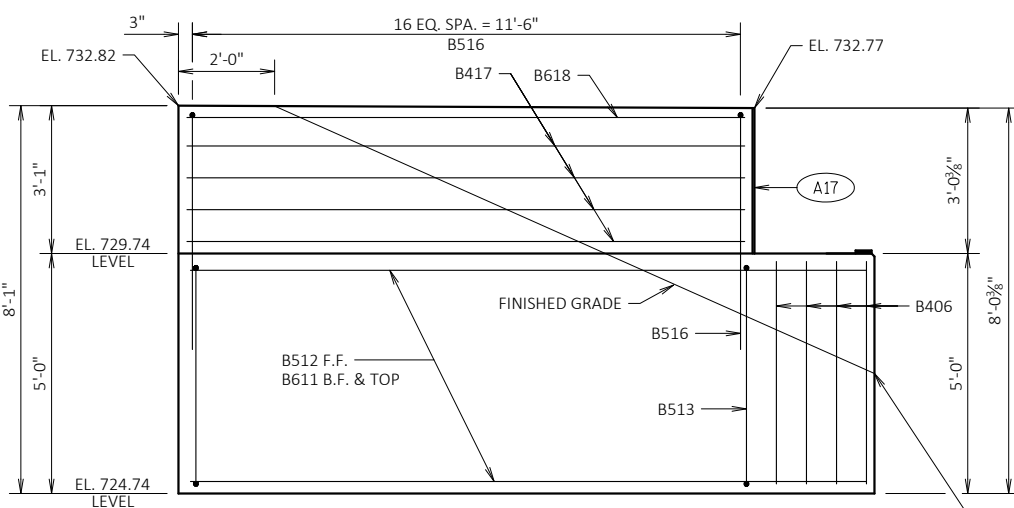
B.F. DENOTES BACK FACE  
 F.F. DENOTES FRONT FACE  
 E.F. DENOTES EACH FACE



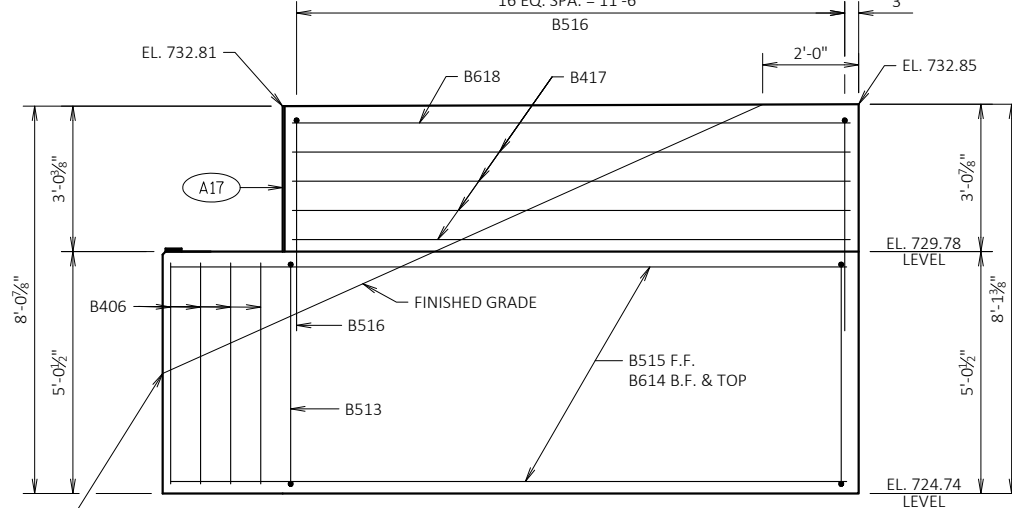
PLAN WING 3



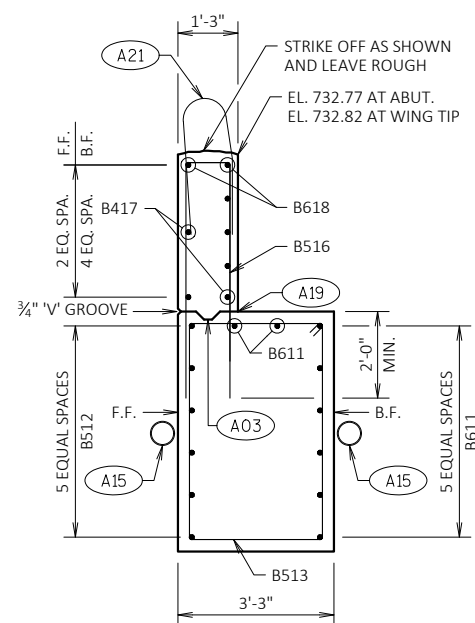
PLAN WING 4



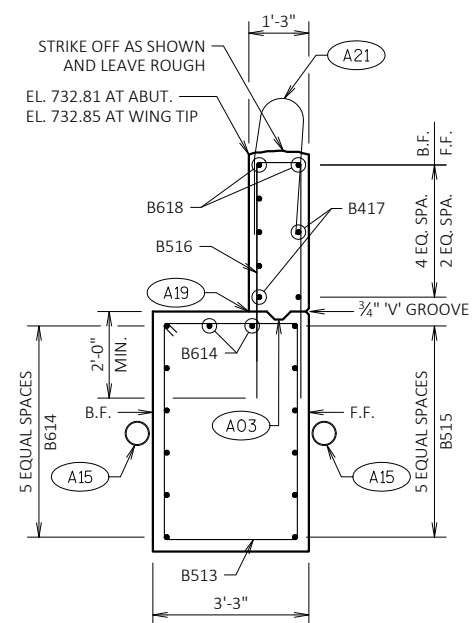
ELEVATION - WING 3



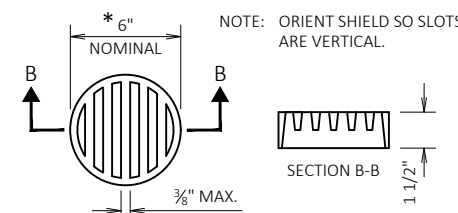
ELEVATION - WING 4



SECTION THRU WING 3



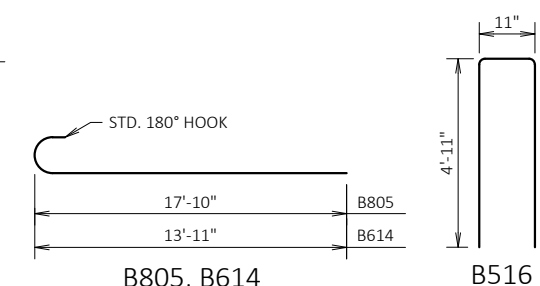
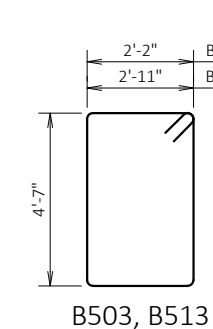
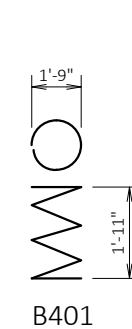
SECTION THRU WING 4



**RODENT SHIELD DETAIL**

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 OUTFALL PIPE. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X 1-INCH STAINLESS STEEL SHEET METAL SCREWS.



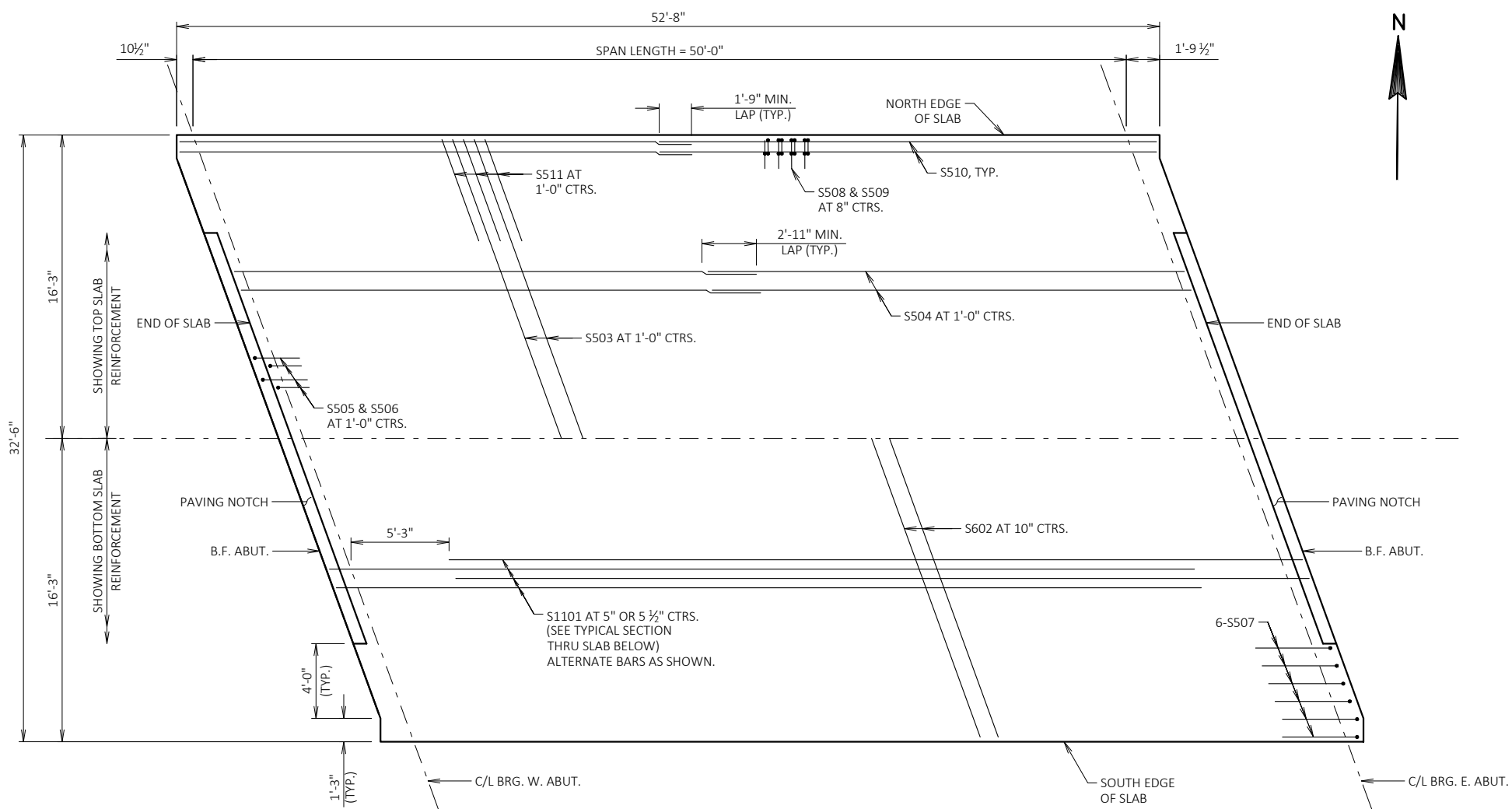
8

8

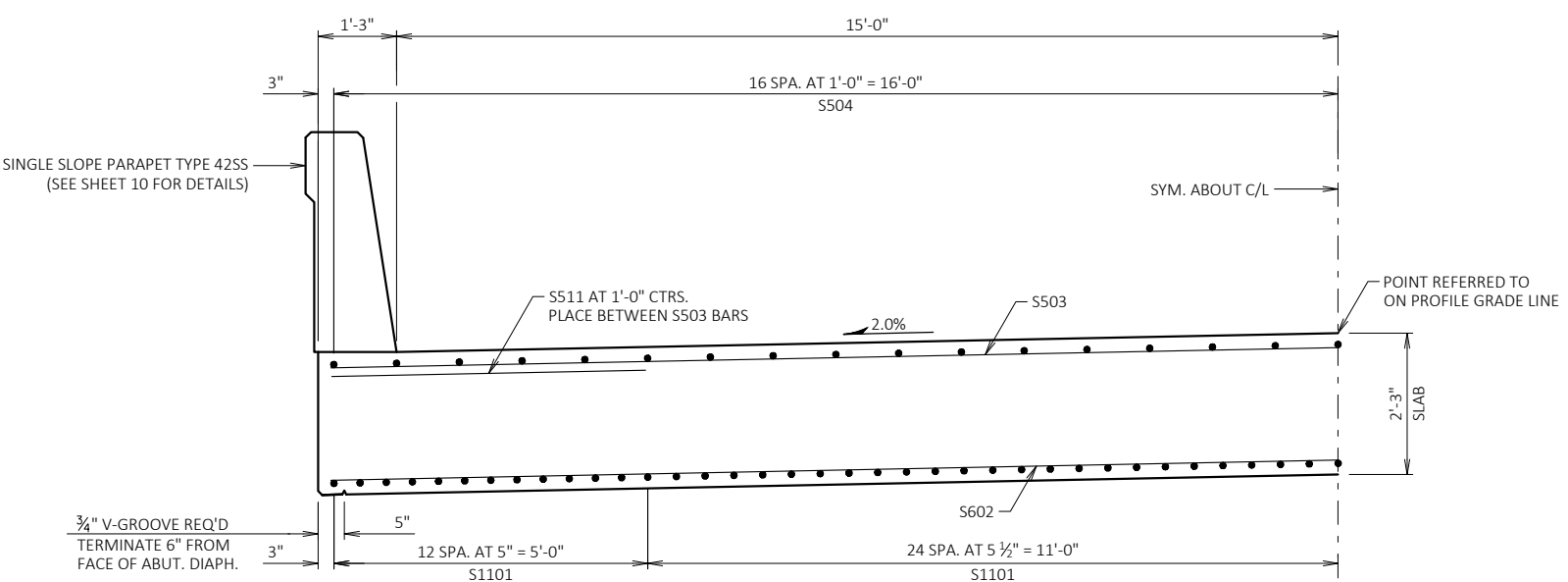
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-36-219			
DRAWN BY PKF		PLANS CK'D. ETP	
EAST ABUTMENT DETAILS			SHEET 7 OF 10







PLAN



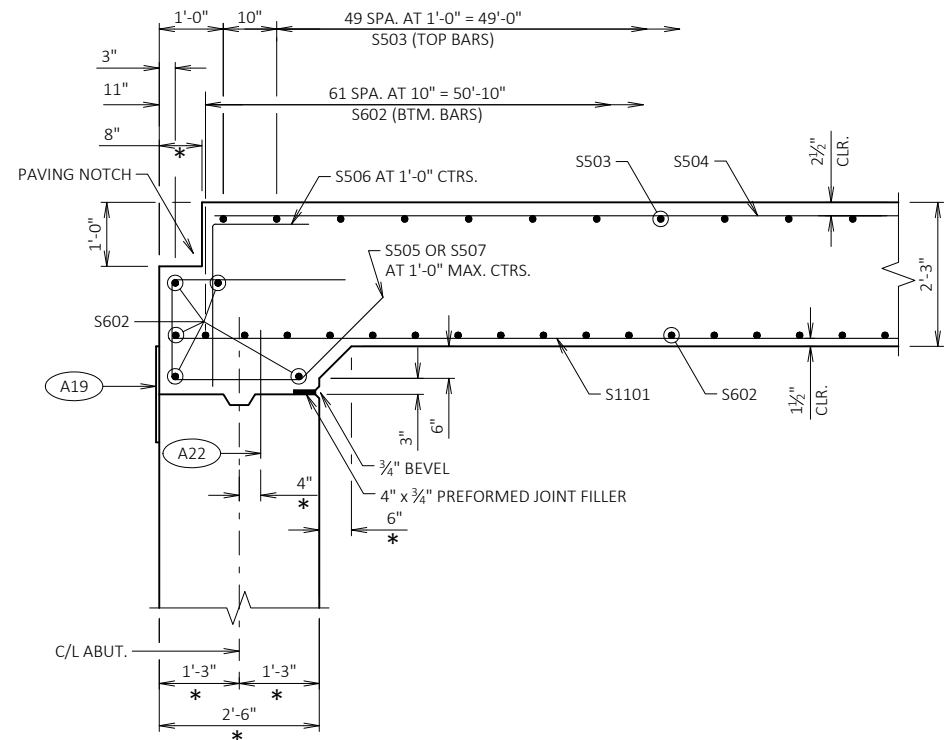
TYPICAL SECTION THRU SLAB

NOTES

- TOP TRANSVERSE BARS IN SLAB SHALL BE SUPPORTED BY INDIVIDUAL BAR CHAIRS AT APPROXIMATELY 3'-0" CENTERS EACH WAY. BOTTOM LONGITUDINAL BARS SHALL BE SUPPORTED BY CONTINUOUS BAR CHAIRS AT APPROXIMATELY 4'-0" CENTERS.
- 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 (+).
- PARAPETS SHALL BE POURED AFTER FALSEWORK HAS BEEN RELEASED.

LEGEND

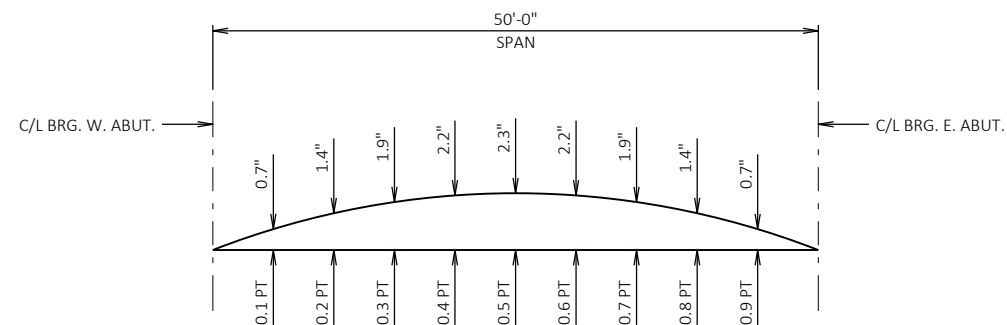
- A19 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE.
- A22 A510 OR B510 BARS AT 1'-0" CTRS. THESE BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE.
- \* DIMENSION IS NORMAL TO C/L SUBSTRUCTURE.



PARTIAL LONGITUDINAL SECTION

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
<b>STRUCTURE B-36-219</b>			
DRAWN BY		PKF	PLANS CK'D. ETP
<b>SUPERSTRUCTURE</b>			SHEET 8 OF 10





**CAMBER DIAGRAM**

PROVIDE CAMBER AS SHOWN ABOVE TO PROVIDE FOR DEAD LOAD DEFLECTION AND FUTURE CREEP. THIS DOES NOT INCLUDE ANY ALLOWANCE FOR FORM SETTLEMENT.

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

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

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

EQUALS TOP OF SLAB FALSEWORK ELEVATION.

**BILL OF BARS - SUPERSTRUCTURE**

DIMENSIONS IN BENDING DETAILS ARE OUT-TO-OUT OF BAR.

BAR MARK	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
COATED BARS					TOTAL WEIGHT = 29,360 LBS
S1101	73	45'-11"			SLAB - BTM LONGIT.
S602	72	34'-3"			SLAB - BTM TRANS.
S503	52	34'-3"			SLAB - TOP TRANS.
S504	66	26'-11"			SLAB - TOP LONGIT.
S505	46	8'-7"	X		SLAB - ABUT. DIAPHRAGMS TRANS.
S506	46	3'-10"	X		SLAB - ABUT. DIAPHRAGMS TRANS.
S507	24	9'-5"	X		SLAB - ABUT. DIAPHRAGMS TRANS.
S508	160	4'-5"	X		PARAPET - VERT. TRANS.
S509	160	6'-8"	X		PARAPET - VERT. TRANS.
S510	32	27'-1"			PARAPET - HORIZ. LONGIT.
S511	104	5'-0"			SLAB - EDGES TRANS.

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

**TOP OF SLAB ELEVATIONS**

LOCATION	C/L BRG. W. ABUT.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	C/L BRG. E. ABUT.
NORTH FLOW LINE	732.54	732.56	732.59	732.62	732.64	732.66	732.69	732.71	732.73	732.75	732.77
C/L STRUCTURE	732.87	732.89	732.92	732.94	732.97	732.99	733.01	733.03	733.05	733.07	733.09
SOUTH FLOW LINE	732.59	732.62	732.65	732.67	732.69	732.71	732.73	732.75	732.77	732.79	732.81

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

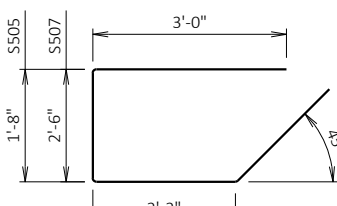
**SURVEY TOP OF SLAB ELEVATIONS**

	C/L BRG. W. ABUT.	0.5 PT	C/L BRG. E. ABUT.
NORTH FLOW LINE			
C/L STRUCTURE			
SOUTH FLOW LINE			

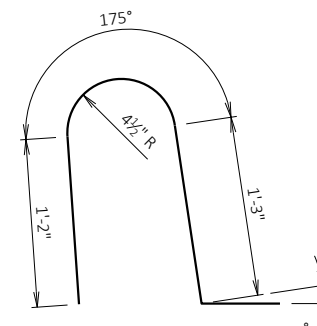
PRIOR TO RELEASING SLAB FALSEWORK, TAKE TOP OF SLAB ELEVATIONS AT THE C/L OF ABUTMENTS AND AT 5/10 PTS. TO VERIFY CAMBER. TAKE ELEVATIONS ALONG GUTTER LINES AND CROWN OR R/L. RECORD THE ELEVATIONS IN THE ABOVE TABLE FOR THE "AS BUILT" PLANS.



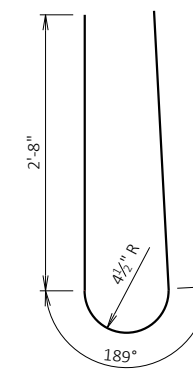
S506



S505, S507



S508



S509



NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-36-219			
DRAWN BY PKF		PLANS CK'D. ETP	
SUPERSTRUCTURE DETAILS			SHEET 9 OF 10

**BILL OF BARS - WING PARAPET**

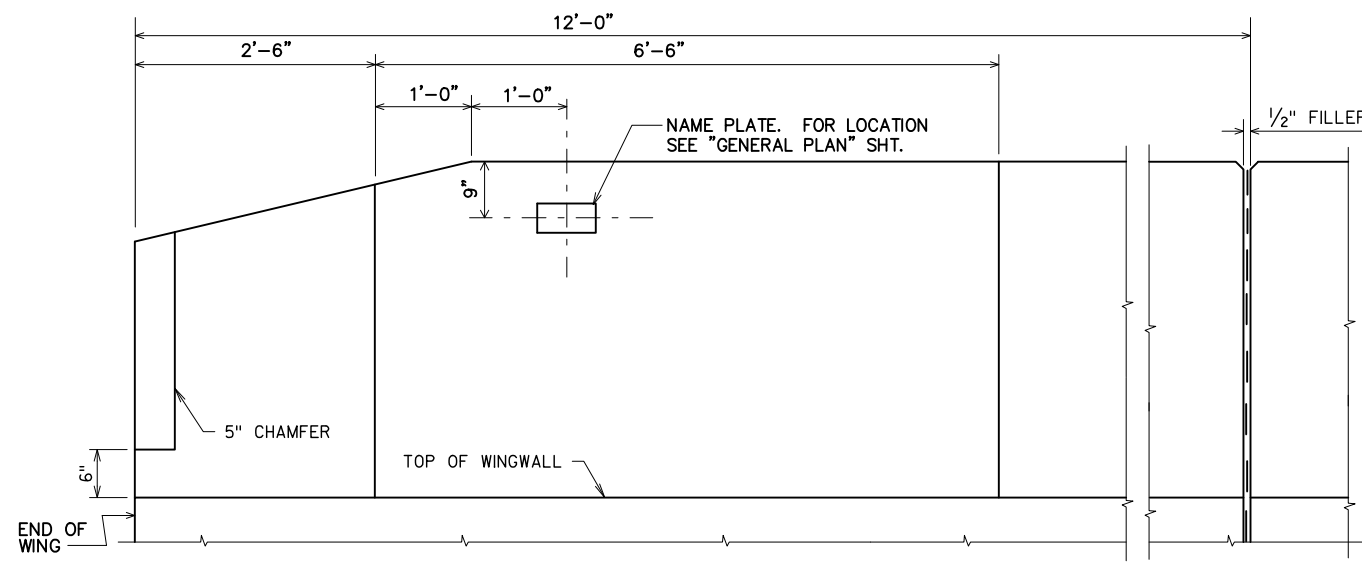
BARS SHOWN ARE FOR 1 WING ONLY

BAR MARK	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
COATED BARS					TOTAL WEIGHT = 405 LBS
R501	5	5'-10"	X		PARAPET VERT.
R502	5	6'-8"	X		PARAPET VERT.
R503	11	3'-0"	X		PARAPET VERT.
R504	17	5'-7"	X		PARAPET VERT.
R505	5	6'-5"	X		PARAPET VERT.
R506	6	6'-6"	X		PARAPET VERT.
R507	1	11'-5"	X		PARAPET HORIZ.
R508	5	11'-8"			PARAPET HORIZ.
R509	6	5'-5"	X	X	PARAPET VERT.
R510	2	11'-5"	X		PARAPET HORIZ.

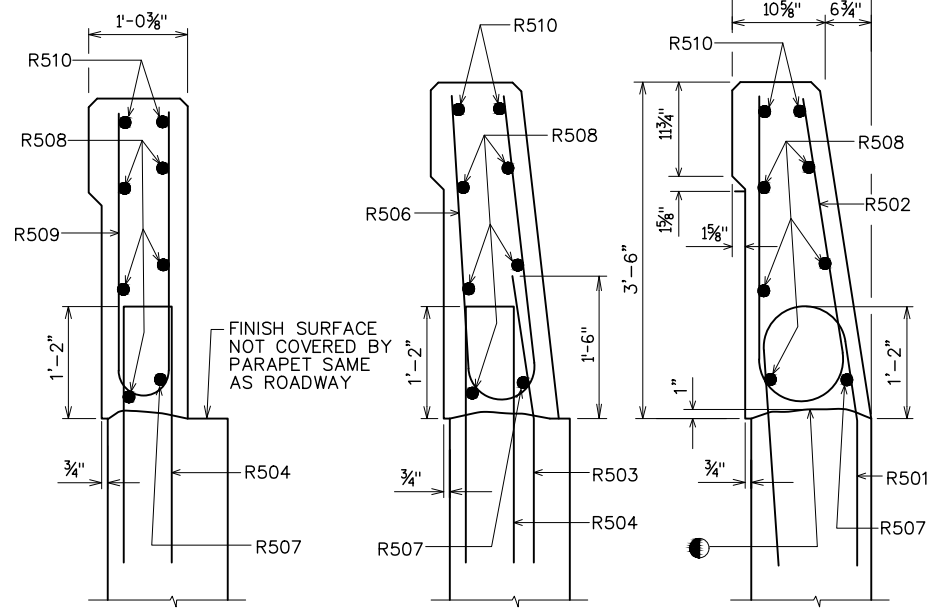
THE FIRST DIGIT OF THE BAR MARK SIGNIFIES THE BAR SIZE.

**BAR SERIES TABLE**

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



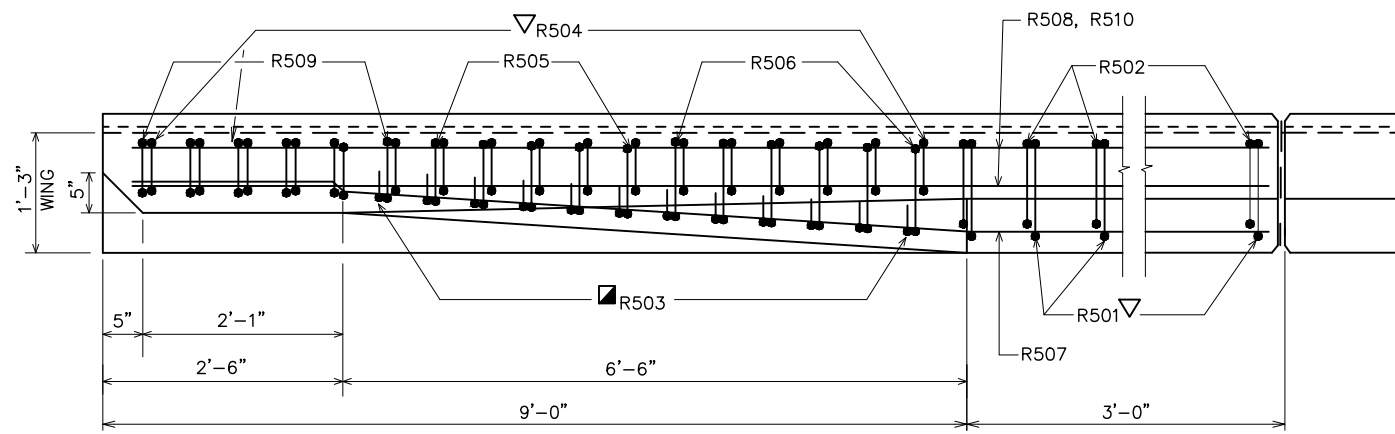
INSIDE ELEVATION



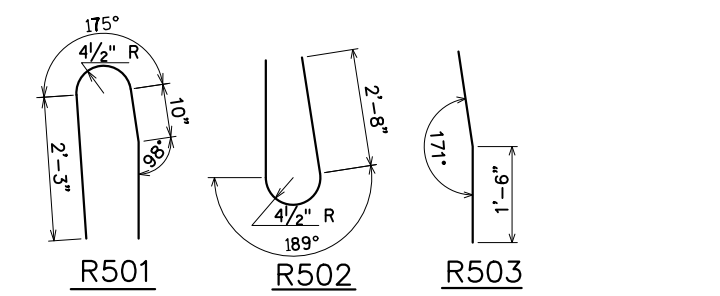
SECTION A

SECTION B

SECTION C



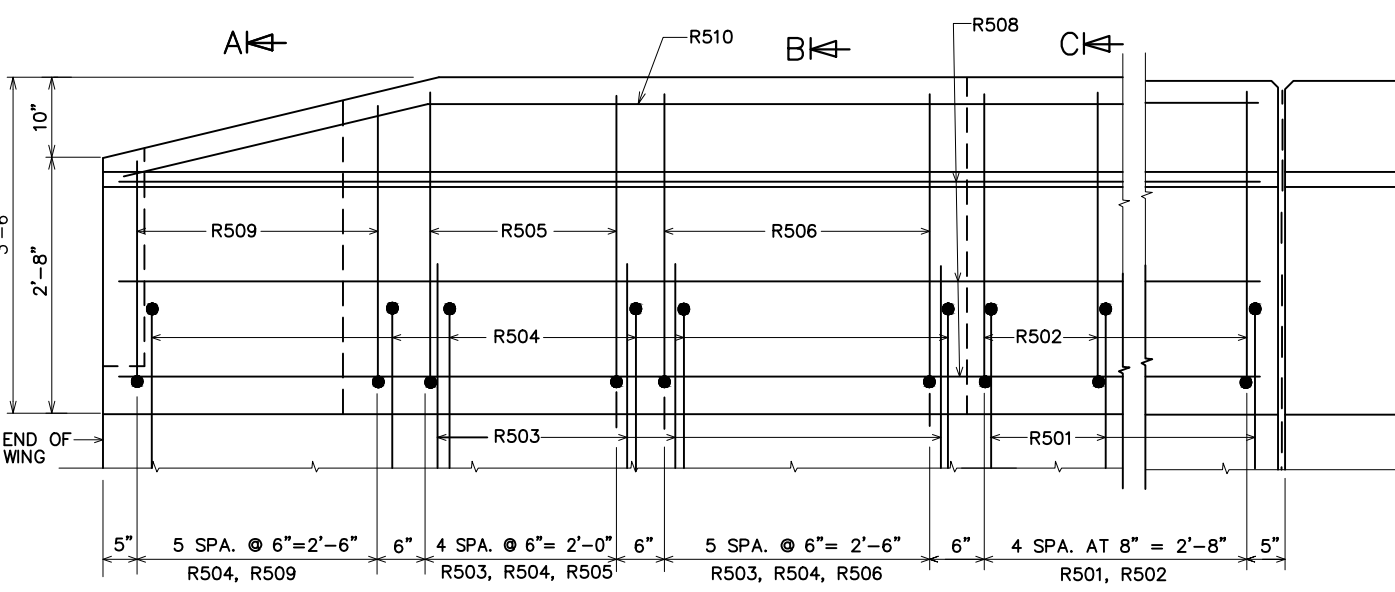
PLAN



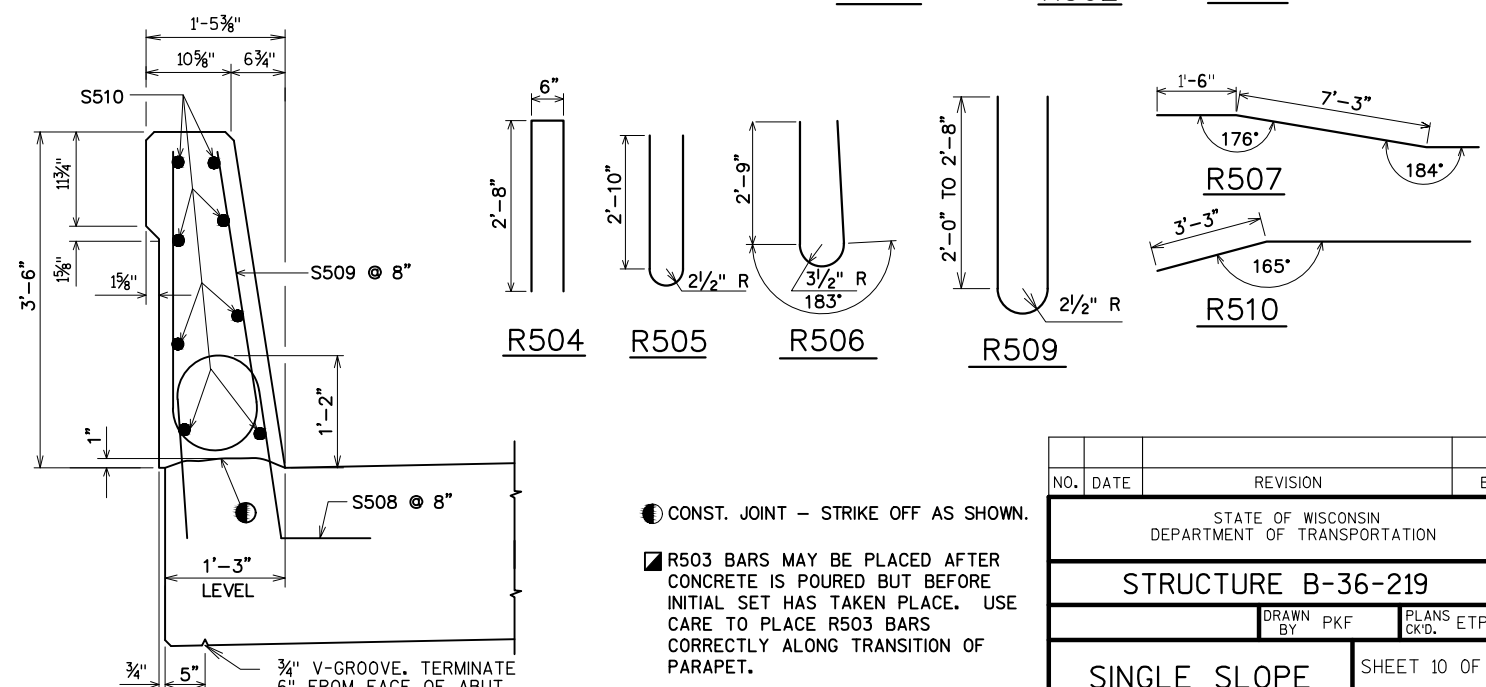
R501

R502

R503



OUTSIDE ELEVATION



SECTION THRU PARAPET ON BRIDGE

- CONST. JOINT - STRIKE OFF AS SHOWN.
- R503 BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. USE CARE TO PLACE R503 BARS CORRECTLY ALONG TRANSITION OF PARAPET.
- ▽ R501 AND R504 BARS TO BE TIED TO WING STEEL BEFORE WING IS POURED.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-36-219			
DRAWN BY PKF		PLANS ETP	
SINGLE SLOPE PARAPET 42SS			SHEET 10 OF 10

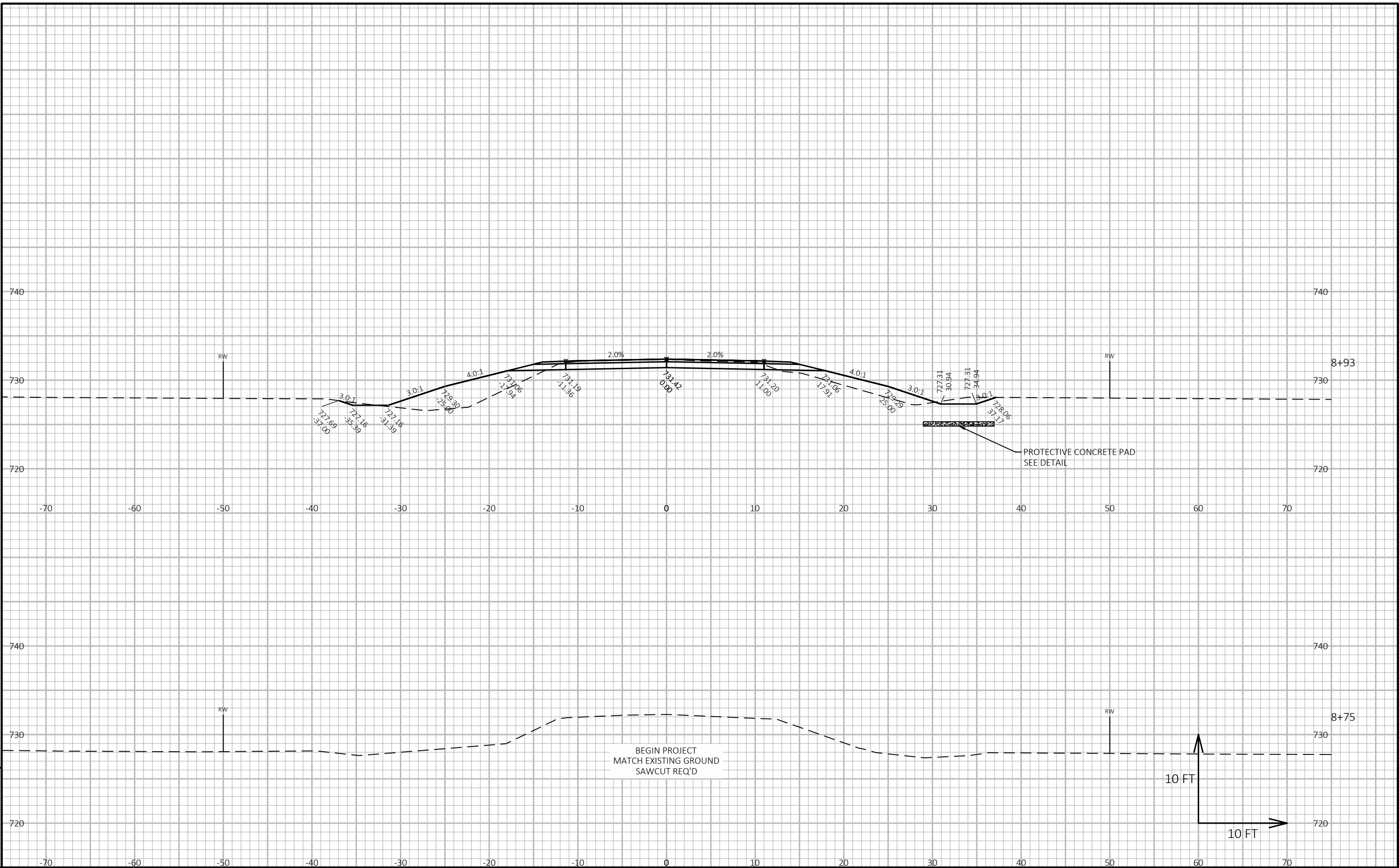
Division 1 - Ali-WestWashingtonRoad

STATION	DISTANCE	AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)			CUMULATIVE VOL (CY)		
		CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT 1.00	EXPANDED FILL 1.25	MASS ORDINATE
8+75.00	0.00	24.72	5.50	26.97	0	0	0	0	0	0
8+96.70	21.70	25.41	5.50	43.84	20	4	28	20	36	-20
9+00.00	3.30	28.15	5.50	46.44	3	1	6	23	42	-24
9+01.74	1.74	29.62	5.50	45.24	2	0	3	25	46	-26
9+11.70	9.96	29.30	5.50	49.35	11	2	17	36	68	-39
9+16.74	5.04	28.34	5.50	52.52	5	1	10	42	80	-47
9+25.00	8.26	31.03	5.50	58.53	9	2	17	51	101	-61
9+50.00	25.00	40.12	5.50	85.19	33	5	67	84	184	-116
9+56.41	6.41	36.27	5.50	94.88	9	1	21	93	211	-135
9+56.42	0.01	24.75	5.50	33.69	0	0	0	93	211	-135
9+66.92	10.50	24.34	5.50	43.78	10	2	15	102	230	-146
10+32.96	0.00	25.64	5.50	27.58	0	0	0	102	230	-146
10+43.70	10.74	31.19	5.50	16.79	11	2	9	113	241	-148
10+43.71	0.01	31.55	5.50	44.72	0	0	0	113	241	-148
10+50.00	6.29	36.04	5.50	39.25	8	1	10	121	253	-154
10+75.00	25.00	30.68	5.50	30.22	31	5	32	152	293	-168
10+85.87	10.87	28.48	5.50	25.16	12	2	11	164	307	-173
11+00.00	14.13	27.11	5.50	22.08	15	3	12	179	323	-176
11+00.87	0.87	27.07	5.50	21.97	1	0	1	180	324	-177
11+25.00	24.13	27.25	5.50	19.26	24	5	18	204	347	-180
		COLUMN TOTAL			204	37	277			

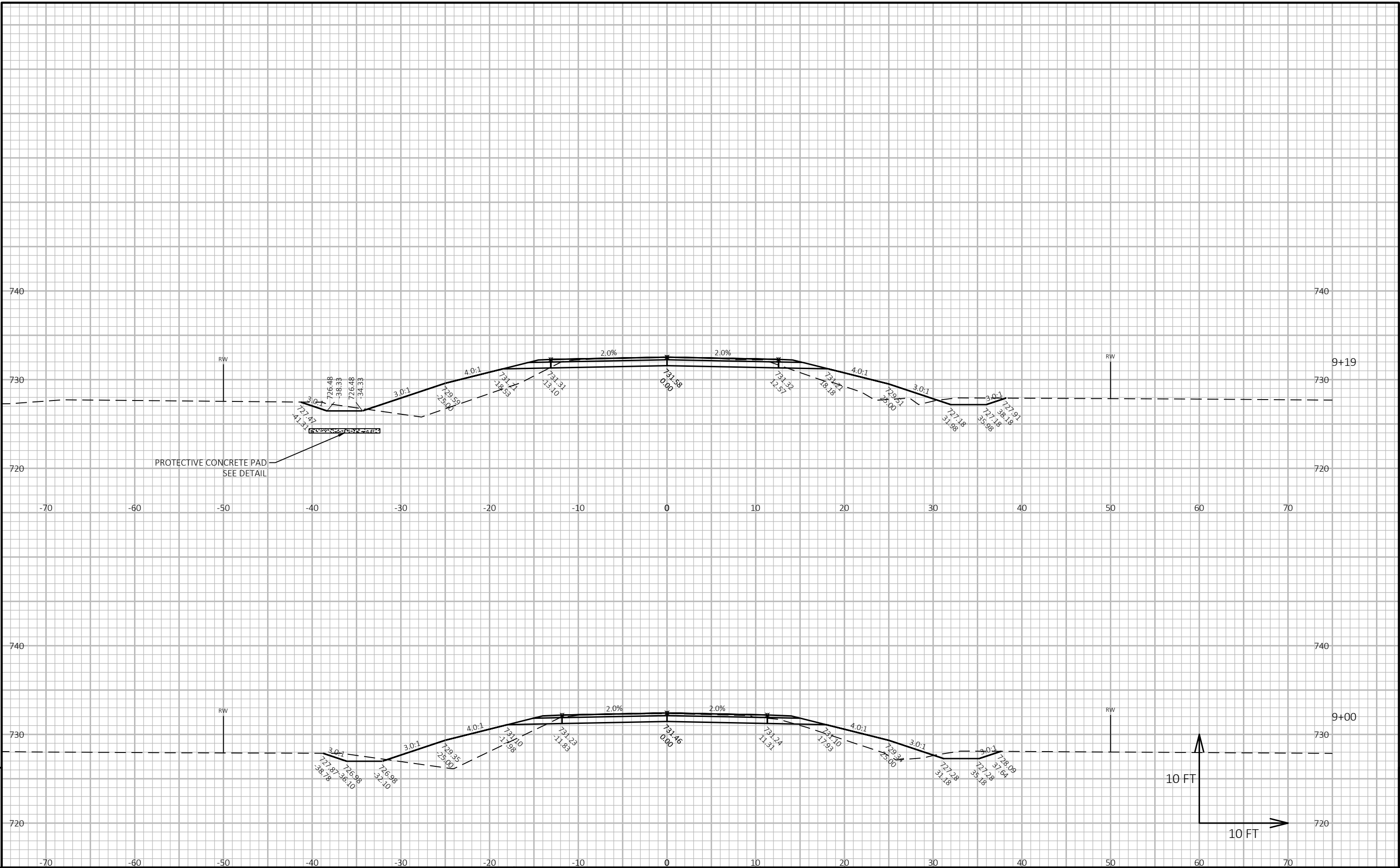
NOTES:	
1 - CUT	CUT INCLUDES SALVAGED/UNUSABLE PAVEMENT MATERIAL
2 - SALVAGED/UNUSABLE PAVEMENT MATERIAL	THIS DOES NOT SHOW UP IN CROSS SECTIONS
3 - FILL	DOES NOT INCLUDE UNUSABLE PAVEMENT EXC VOLUME

9

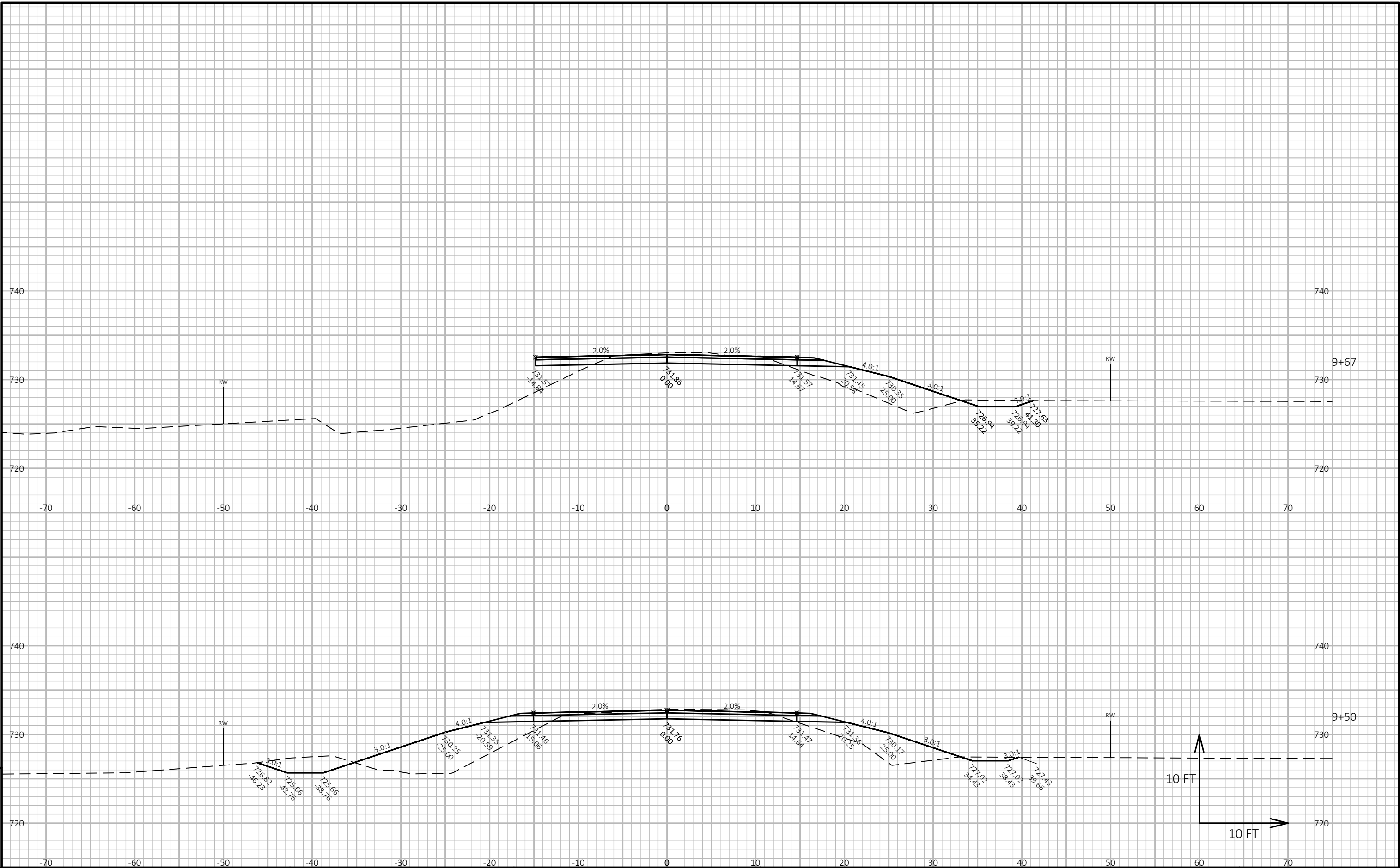
9



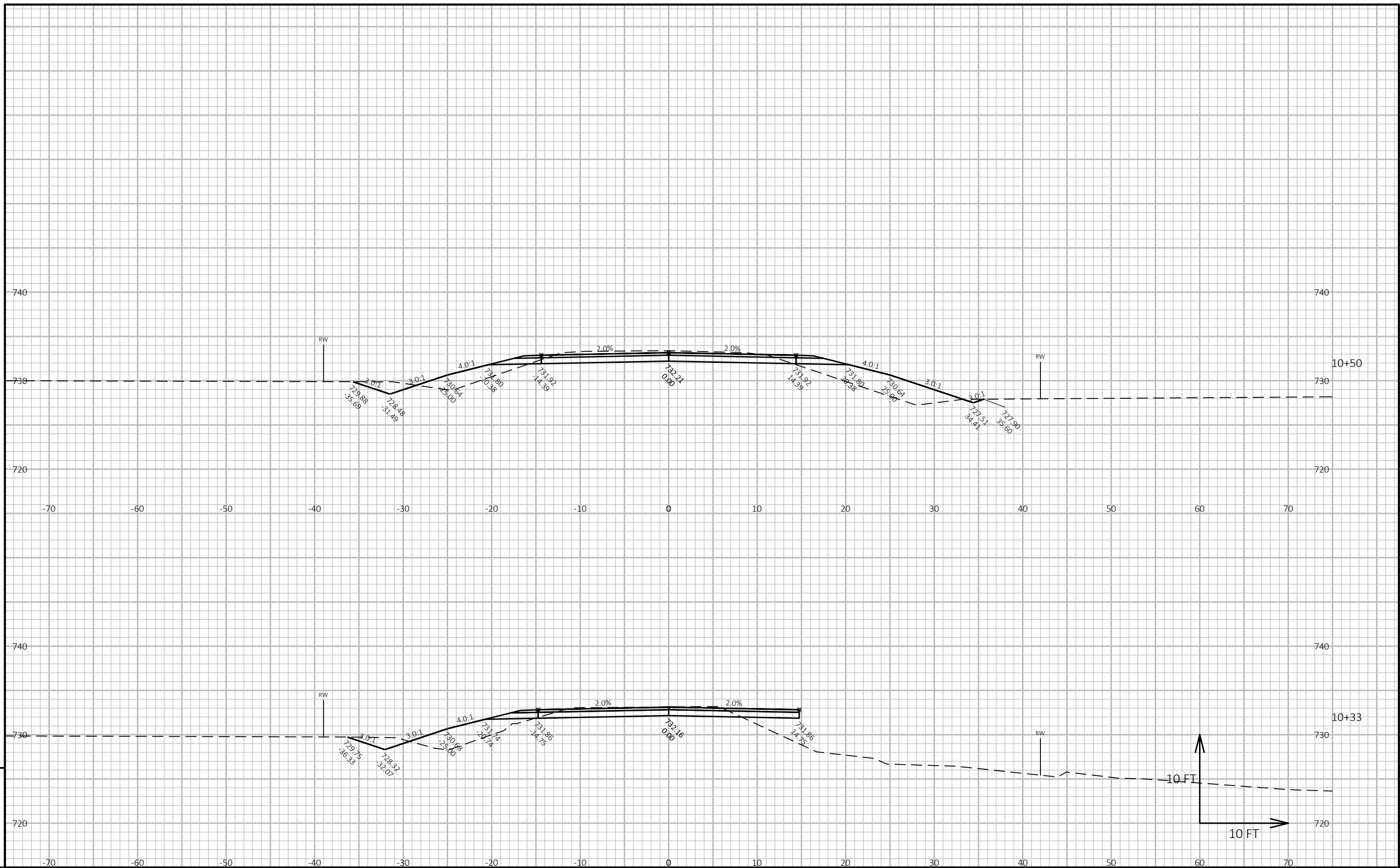
PROJECT NO: 4313-11-71	HWY: WEST WASHINGTON ROAD	COUNTY: MANITOWOC	CROSS SECTIONS: WEST WASHINGTON ROAD	SHEET	E
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PROJECT NO: 4313-11-71	HWY: WEST WASHINGTON ROAD	COUNTY: MANITOWOC	CROSS SECTIONS: WEST WASHINGTON ROAD	SHEET	E
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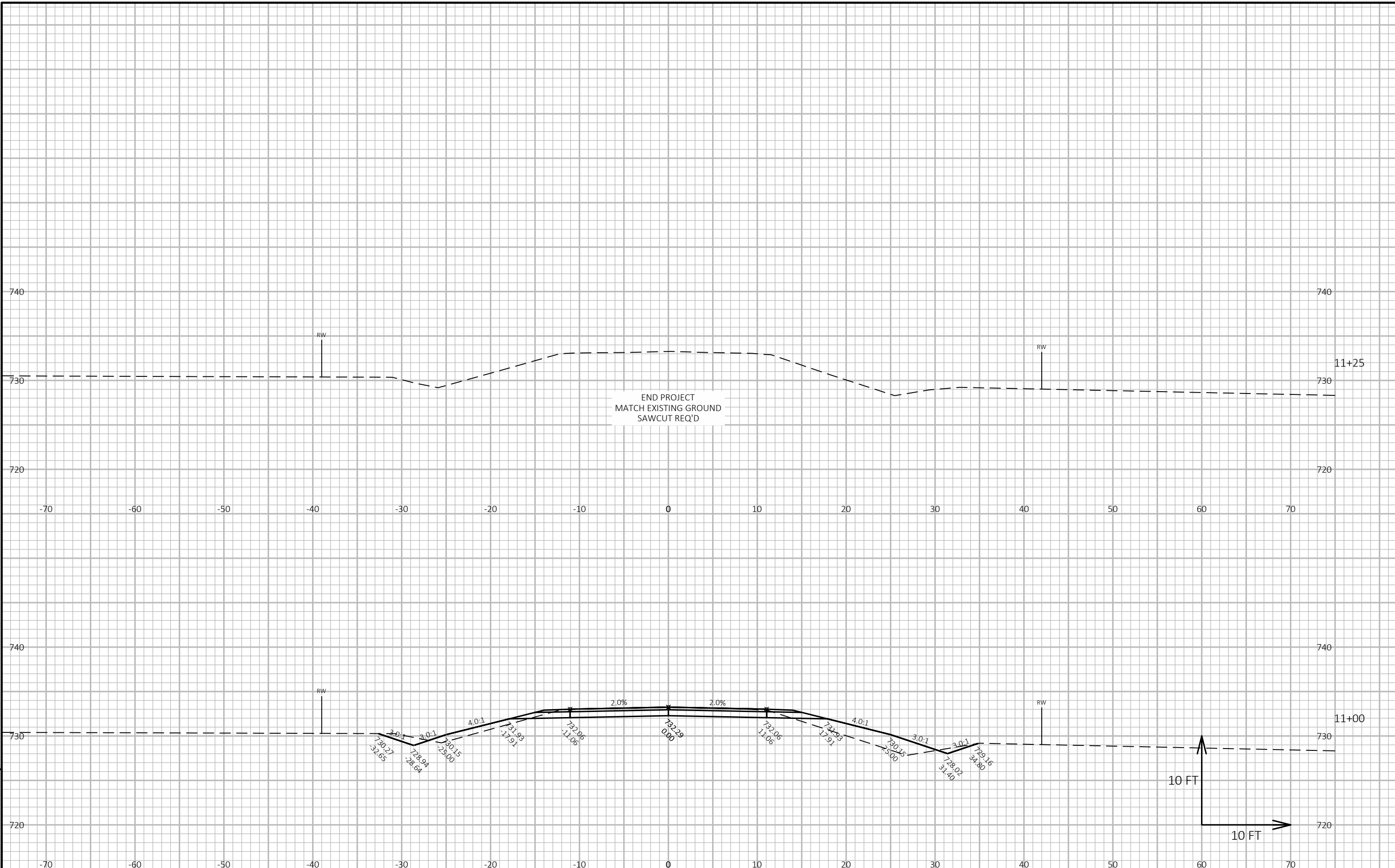


PROJECT NO: 4313-11-71      HWY: WEST WASHINGTON ROAD      COUNTY: MANITOWOC      CROSS SECTIONS: WEST WASHINGTON ROAD      SHEET 9



PROJECT NO: 4313-11-71      HWY: WEST WASHINGTON ROAD      COUNTY: MANITOWOC      CROSS SECTIONS: WEST WASHINGTON ROAD      SHEET 9





PROJECT NO: 4313-11-71	HWY: WEST WASHINGTON ROAD	COUNTY: MANITOWOC	CROSS SECTIONS: WEST WASHINGTON ROAD	SHEET	E
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## ***Wisconsin Department of Transportation***

Dedicated people creating transportation solutions through innovation and exceptional service.

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