

MAD WITH: N/A

PROJECT ID: 5768-00-75

COUNTY: ROCK

MARCH 2020

ORDER OF SHEETS

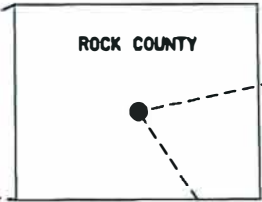
Section No.	1	Title
Section No.	2	Typical Sections and Details
Section No.	3	Estimate of Quantities
Section No.	3	Miscellaneous Quantities
Section No.	4	Right of Way Plat
Section No.	5	Plan and Profile (Incl. Erosion Control Plans)
Section No.	6	Standard Detail Drawings
Section No.	7	Sign Plates
Section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

TOTAL SHEETS = 58

STATE OF WISCONSIN  
 DEPARTMENT OF TRANSPORTATION  
 PLAN OF PROPOSED IMPROVEMENT

TOWN OF ROCK, JANESVILLE-HANOVER ROAD  
 (MARKHAM CREEK BRIDGE B-53-0377)  
 TOWN ROAD  
 ROCK COUNTY

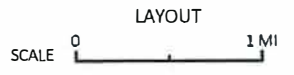
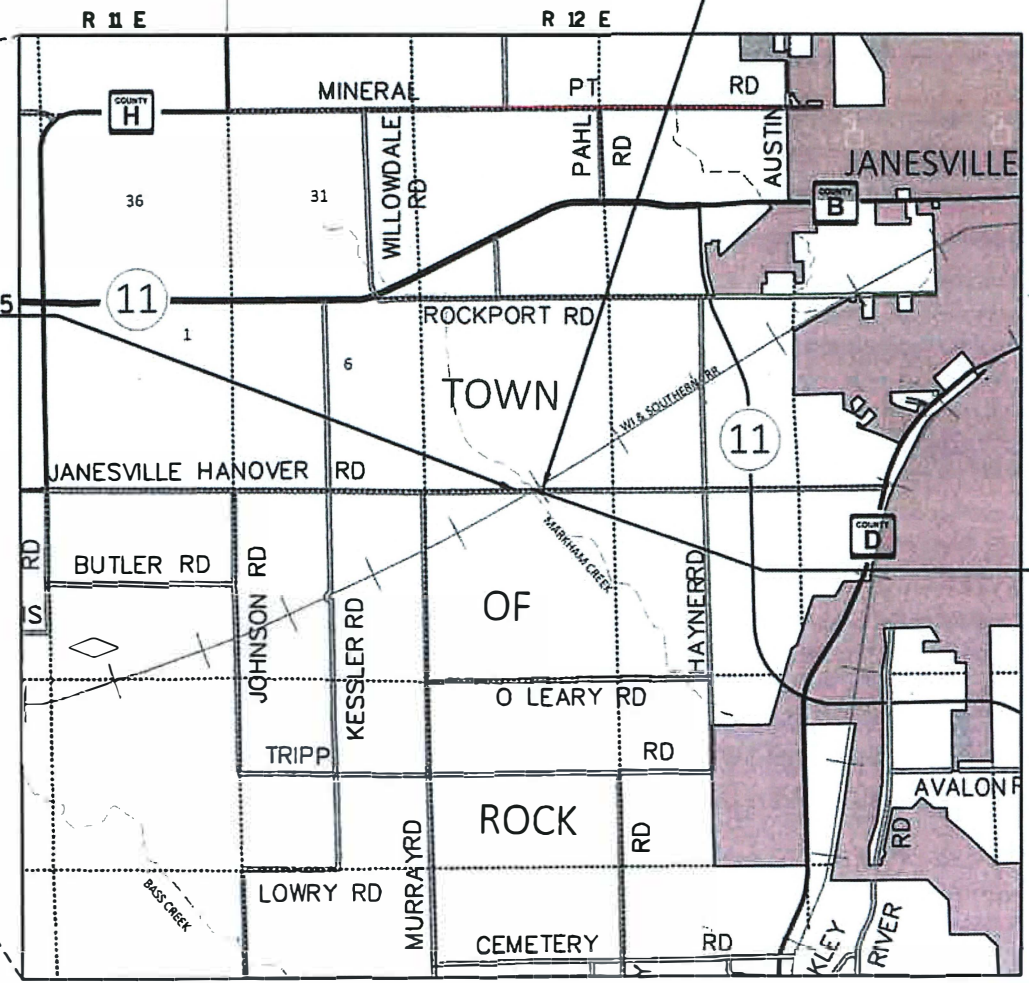
STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
5768-00-75	WISC 2020068	1



STATE PROJECT NUMBER  
**5768-00-75**

END PROJECT 5768-00-75  
 STA. 10+55.00'  
 X=472,781.989  
 Y=259,726.026

BEGIN PROJECT 5768-00-75  
 STA. 9+00.00'  
 X=472,626.993  
 Y=259,726.544



TOTAL NET LENGTH OF CENTERLINE = 0.021 MILES

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COUNTY COORDINATES, ROCK COUNTY, NAD83 (2011), IN U.S. SURVEY FEET. VALUES ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.  
 ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988, DAVD88 (2012).

DESIGN DESIGNATION JANESVILLE-HANOVER RD

A.A.D.T. (2020)	=	680
A.A.D.T. (2040)	=	750
D.H.V.	=	3.5
D.D.	=	60/40
T.	=	4.2%
DESIGN SPEED	=	25 MPH
ESALS	=	36,500

CONVENTIONAL SYMBOLS

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

ACCEPTED FOR  
 COUNTY ROCK of

DATE: 10/22/19  
*[Signature]*  
 (DIRECTOR OF PUBLIC WORKS)

ORIGINAL PLANS PREPARED BY  
**AYRES ASSOCIATES**

WISCONSIN PROFESSIONAL ENGINEER  
 AMANDA M. INMAN  
 44690 MADISON WI  
*[Signature]*  
 10/22/19

STATE OF WISCONSIN  
 DEPARTMENT OF TRANSPORTATION

PREPARED BY  
 Surveyor AYRES ASSOCIATES  
 Designer AYRES ASSOCIATES  
 Regional Examiner \_\_\_\_\_  
 Regional Examiner \_\_\_\_\_

APPROVED FOR THE DEPARTMENT  
 DATE: 10/23/19  
*[Signature]*  
 (Signature)

**GENERAL NOTES**

NOTIFY DIGGERS HOTLINE AND AFFECTED UTILITIES PRIOR TO THE START OF WORK. ANY UTILITY WHICH IS NOT A MEMBER OF DIGGERS HOTLINE MUST BE CONTACTED SEPARATELY.

THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS AS SHOWN ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT LOCATION THAT ARE NOT SHOWN. THE CONTRACTOR IS RESPONSIBLE FOR FIELD LOCATING ALL UTILITIES.

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

EXACT TRAFFIC CONTROL LOCATIONS WILL BE DETERMINED BY THE ENGINEER IN THE FIELD.

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

NO TREES OR SHRUBS SHALL BE REMOVED UNLESS DESIGNATED FOR REMOVAL BY THE ENGINEER.

PROTECT FROM DAMAGE AND COMPLETE SHOULDER WORK AROUND ANY EXISTING SIGNS OR MAILBOXES THAT ARE TO REMAIN IN PLACE.

RESTORATION OF EXPOSED SLOPES AND DITCHES SHALL TAKE PLACE WITHIN 7 CALENDAR DAYS AFTER FINISHED GRADING IS COMPLETE.

WETLANDS ARE PRESENT IN THE PROJECT AREA. DO NOT DISTURB WETLANDS OUTSIDE THE PROPOSED SLOPE INTERCEPTS.

IF AN EXISTING SIGN IS TO BE REMOVED AND REPLACED WITH A NEW SIGN, DO NOT REMOVE THE EXISTING SIGN PRIOR TO INSTALLATION OF THE NEW SIGN.

THE LOCATIONS OF EROSION CONTROL ITEMS SHALL BE DETERMINED BY THE ENGINEER. ALL EROSION CONTROL MEASURES SHALL BE MAINTAINED UNTIL SUCH TIME AS THE ENGINEER DETERMINES THE MEASURE IS NO LONGER NECESSARY.

HMA PAVEMENT LAYERS:  
 -UPPER: 2.25-INCH (4 LT 58-28 S)  
 -LOWER: 3.00-INCH (3 LT 58-28 S)

**ABBREVIATIONS**

A.D.T.	AVERAGE DAILY TRAFFIC
ATMS	ARTERIAL TRAFFIC MANAGEMENT SYSTEM
BM	BENCHMARK
BOC	BACK OF CURB
BTWN	BETWEEN
C&G	CURB AND GUTTER
C.E.	COMMERCIAL ENTRANCE
CONST	CONSTRUCTION
CP	CONTROL POINT
CTR.	CENTER
D.D.	DIRECTIONAL DISTRIBUTION
D.H.V.	DESIGN HOURLY VOLUME
DMS	DYNAMIC MESSAGE SIGN
EB	EASTBOUND
EXIST	EXISTING
GALV.	GALVANIZED
HMA	HOT MIX ASPHALT
H.S.	HIGH STRENGTH
ITS	INTELLIGENT TRAFFIC SYSTEM
MAX	MAXIMUM
MIN	MINIMUM
NB	NORTHBOUND
NOR	NORMAL
PC	POINT OF CURVATURE
PCC	POINT OF COMMON CURVATURE
PGL	PROFILE GRADE LINE
PI	POINT OF INTERSECTION
PRC	POINT OF REVERSE CURVATURE
PT	POINT OF TANGENCY
PVT	PAVEMENT
R/L	REFERENCE LINE
REQ'D	REQUIRED
SB	SOUTHBOUND
SYM	SYMMETRICAL
T.	PERCENT TRUCKS
TCC	TRAFFIC CONDITION CAMERA
TYP	TYPICAL
VAR	VARIABLE
WB	WESTBOUND
Wt.	WEIGHT
X-WALK	CROSS WALK

**PROJECT CONTACTS**

**ROCK COUNTY PUBLIC WORKS**  
 DUANE JORGENSEN  
 DIRECTOR OF PUBLIC WORKS  
 3715 NEWVILLE ROAD  
 JANESVILLE, WI 53545  
 P: (608) 757-5450  
 E: JORGEND@CO.ROCK.WI.US

**TOWN OF ROCK**  
 MARK GUNN  
 TOWN CHAIRMAN  
 1915 S. HAYNER ROAD  
 JANESVILLE, WI 53548  
 P: (608) 752-8569  
 E: WE6PIGS@YAHOO.COM

**WISCONSIN DEPARTMENT OF NATURAL RESOURCES**  
 SHELLEY WARWICK  
 SOUTHWEST REGIONAL HEADQUARTERS  
 3911 FISH HATCHERY ROAD  
 FITCHBURG, WI 53711  
 P: (608) 444-2835  
 E: SHELLEY.WARWICK@WISCONSIN.GOV

**DESIGNER**  
 AMANDA INMAN, PE  
 AYRES ASSOCIATES  
 5201 E. TERRACE DRIVE  
 MADISON, WI 53718  
 P: (608) 443-1239  
 E: INMANA@AYRESASSOCIATES.COM

**UTILITIES**

**AMERICAN TRANSMISSION COMPANY (ATC)**  
 ALEX METZ  
 5303 FEN OAK DRIVE  
 MADISON, WI 53718  
 P: (608) 877-7105  
 E: AMETZ@ATCLLC.COM

**AT&T**  
 CAROL ANASON  
 316 W WASHINGTON AVENUE  
 MADISON, WI 53701  
 P: (608) 252-2385  
 E: CA2624@ATT.COM

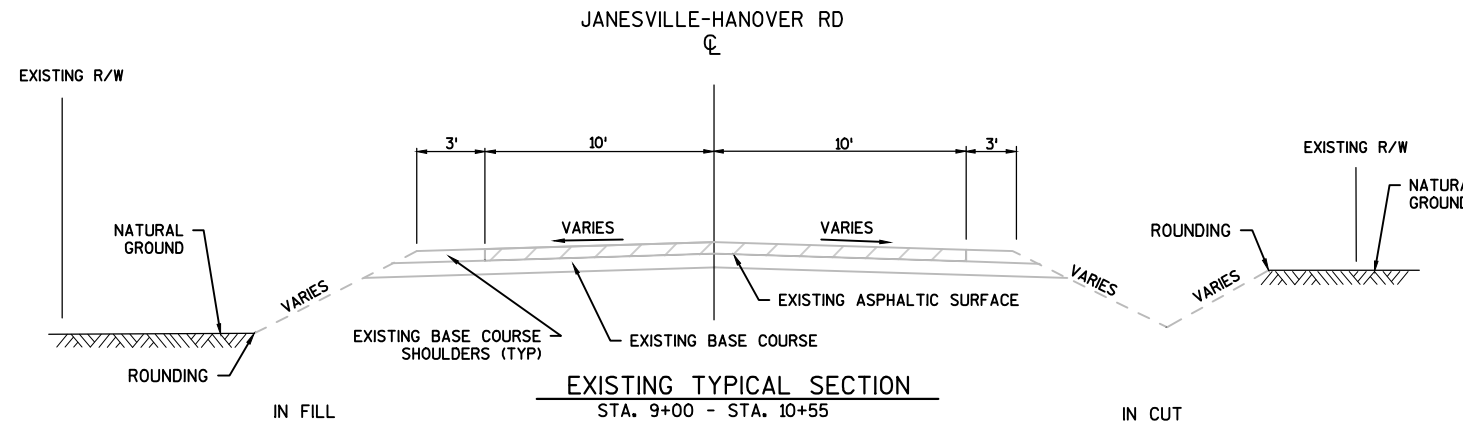
**WISCONSIN DEPARTMENT OF TRANSPORTATION**  
 TERI BECKMAN  
 SW REGION RAILROAD COORDINATOR  
 2101 WRIGHT STREET  
 MADISON, WI 53704  
 P: (608) 733-1923  
 E: TERI.BECKMAN@DOT.WI.GOV

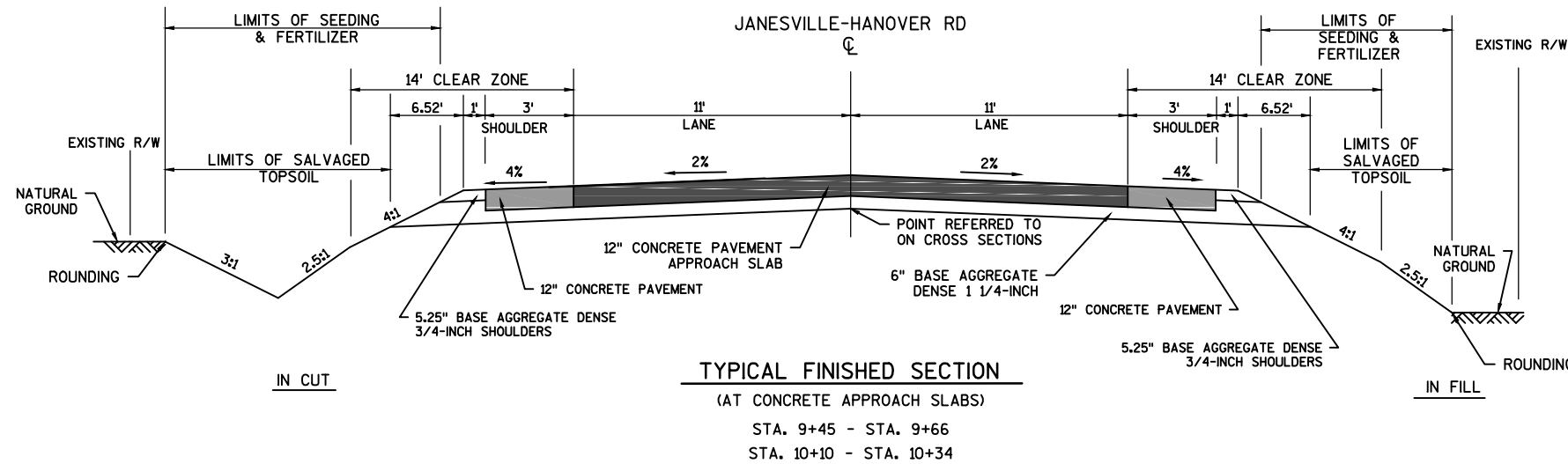
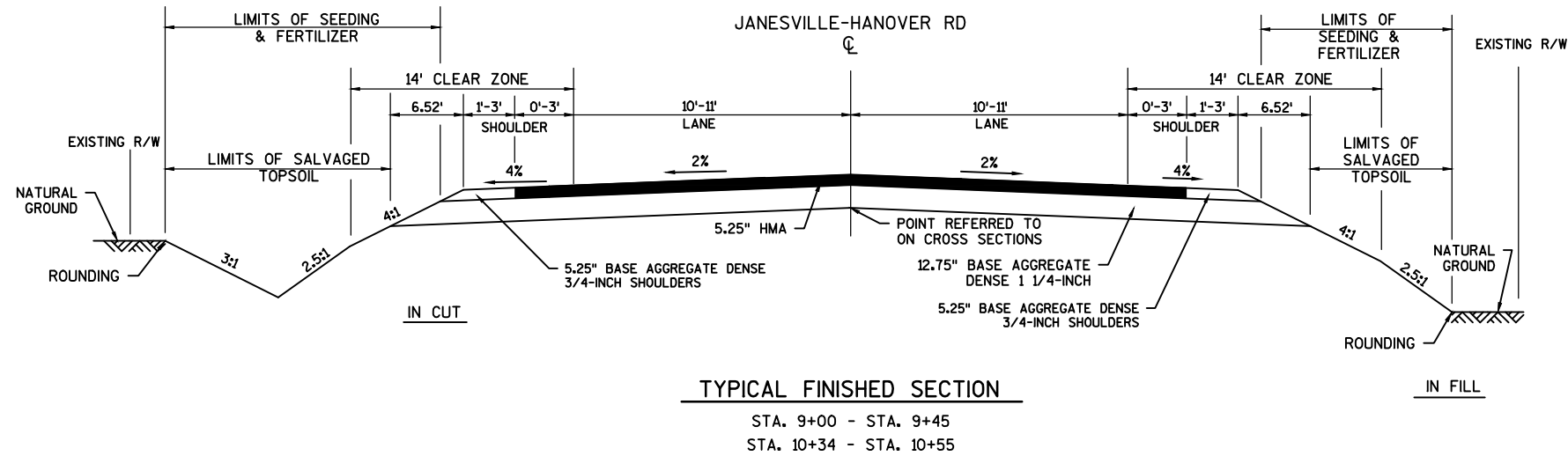
\*\* DENOTES UTILITIES THAT ARE NOT DIGGERS HOTLINE MEMBERS



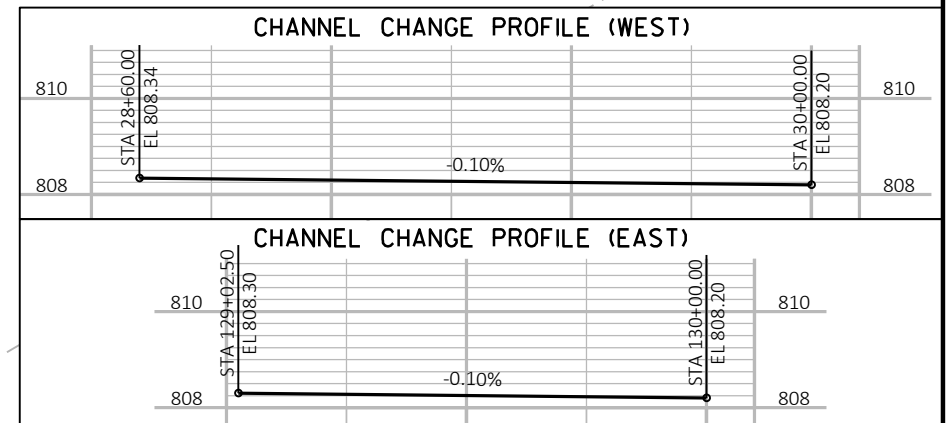
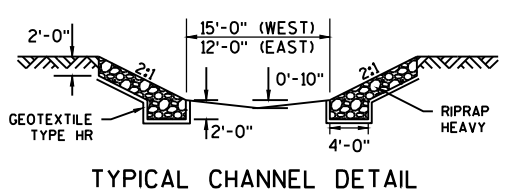
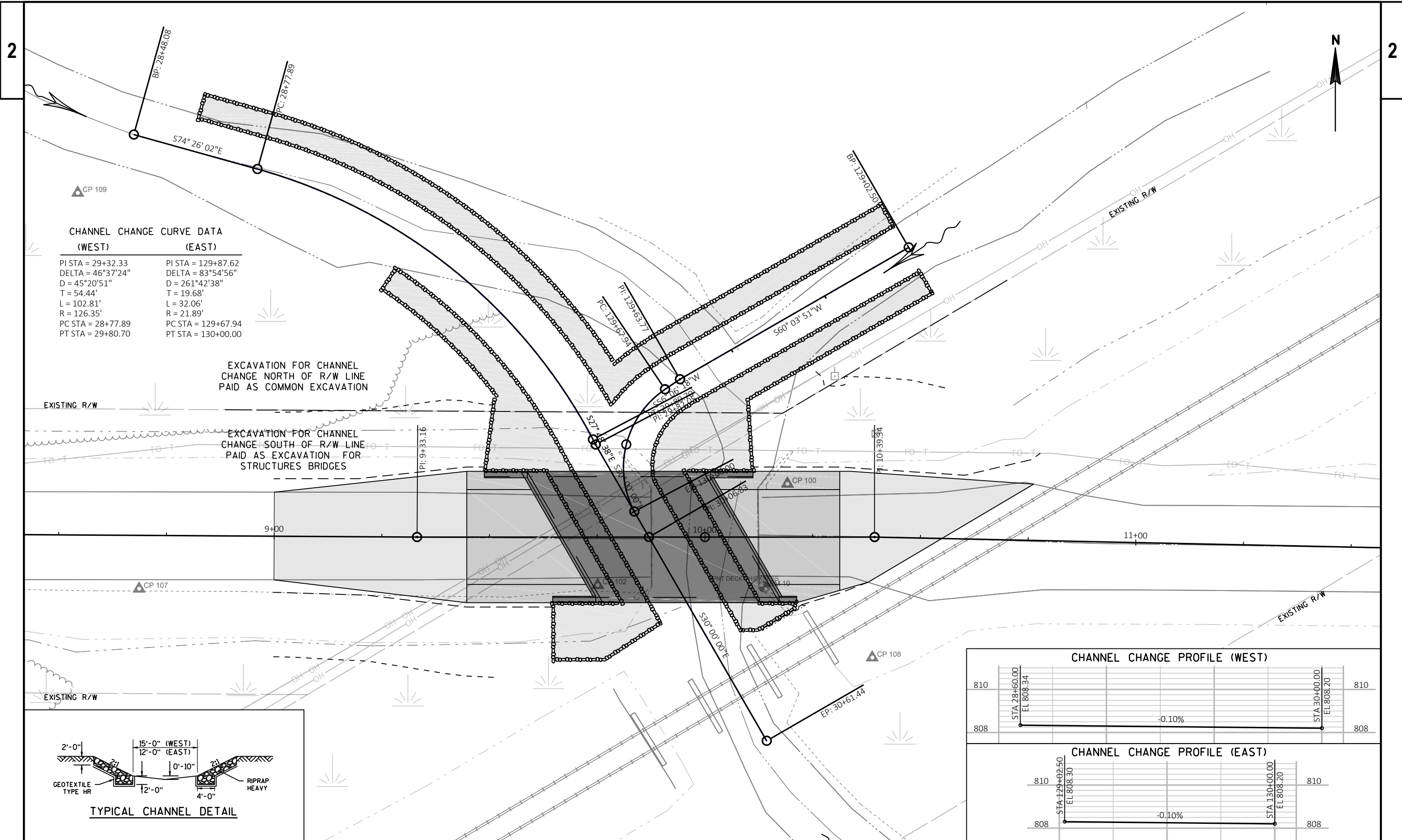
**Dial 811 or (800) 242-8511**

[www.DiggersHotline.com](http://www.DiggersHotline.com)

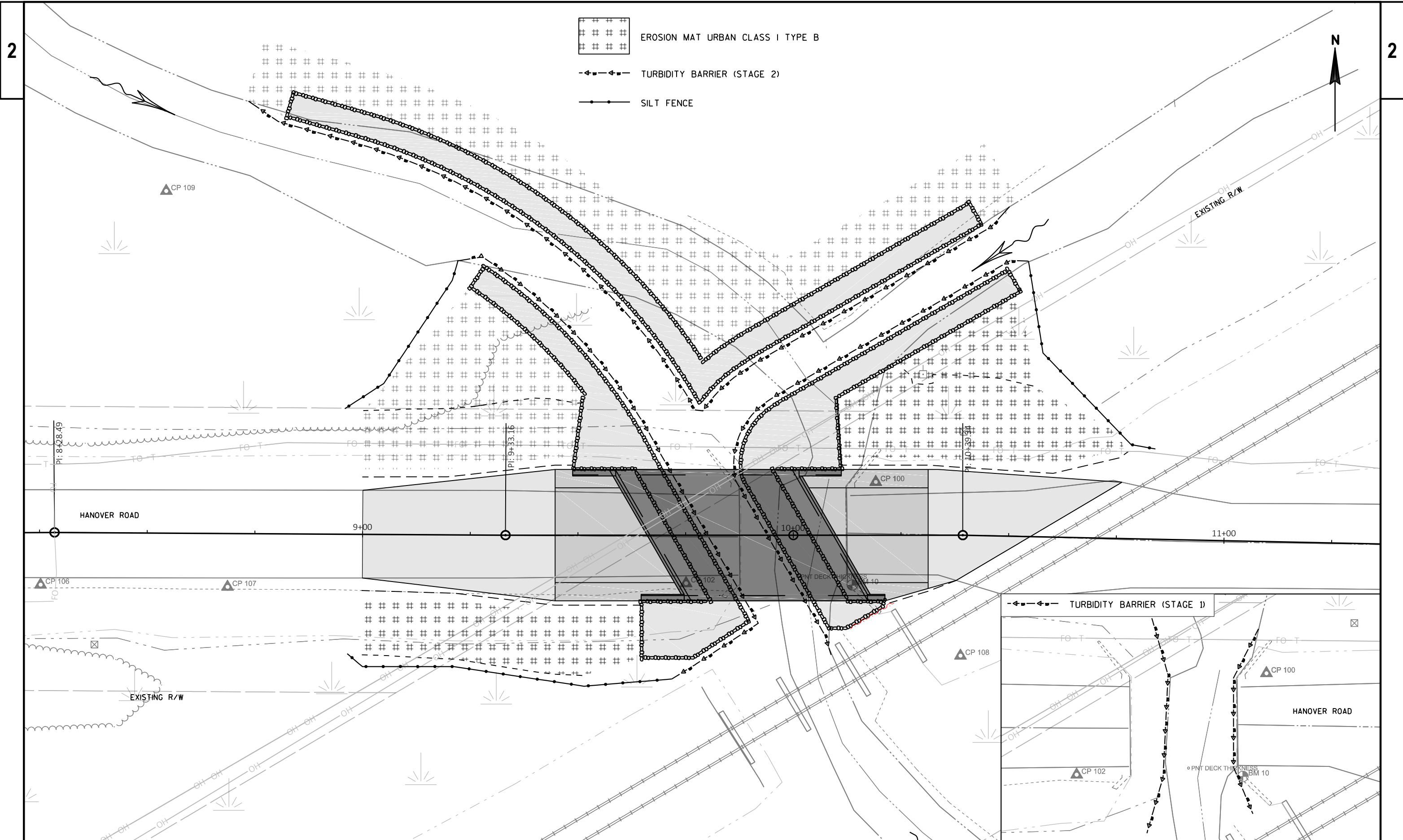












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PROJECT NO: 5768-00-75

HWY: JANESVILLE-HANOVER ROAD

COUNTY: ROCK

EROSION CONTROL

SHEET

E

FILE NAME : N:\421141 HANOVER RD\C3D\DESIGN\HANOVER RD\_PROPOSED DESIGN.DWG  
LAYOUT NAME - EC1

PLOT DATE : 9/4/2019 8:34 AM

PLOT BY : INMAN, AMANDA

PLOT NAME :

PLOT SCALE : 1 IN:20 FT

WISDOT/CADDs SHEET 42

## Estimate Of Quantities

5768-00-75

Line	Item	Item Description	Unit	Total	Qty
0002	201.0105	Clearing	STA	1.000	1.000
0004	201.0205	Grubbing	STA	1.000	1.000
0006	203.0500.S	Removing Old Structure Over Waterway (station) 01. 10+00	LS	1.000	1.000
0008	205.0100	Excavation Common	CY	525.000	525.000
0010	206.1000	Excavation for Structures Bridges (structure) 01. B-53-0377	LS	1.000	1.000
0012	208.0100	Borrow	CY	116.000	116.000
0014	210.1500	Backfill Structure Type A	TON	290.000	290.000
0016	213.0100	Finishing Roadway (project) 01. 5768-00-75	EACH	1.000	1.000
0018	305.0110	Base Aggregate Dense 3/4-Inch	TON	20.000	20.000
0020	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	285.000	285.000
0022	415.0120	Concrete Pavement 12-Inch	SY	40.000	40.000
0024	415.0410	Concrete Pavement Approach Slab	SY	110.000	110.000
0026	455.0605	Tack Coat	GAL	15.000	15.000
0028	460.2000	Incentive Density HMA Pavement	DOL	40.000	40.000
0030	460.5223	HMA Pavement 3 LT 58-28 S	TON	36.000	36.000
0032	460.5224	HMA Pavement 4 LT 58-28 S	TON	26.000	26.000
0034	502.0100	Concrete Masonry Bridges	CY	162.000	162.000
0036	502.3200	Protective Surface Treatment	SY	170.000	170.000
0038	505.0400	Bar Steel Reinforcement HS Structures	LB	4,310.000	4,310.000
0040	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	19,740.000	19,740.000
0042	513.4061	Railing Tubular Type M	LF	128.000	128.000
0044	516.0500	Rubberized Membrane Waterproofing	SY	19.000	19.000
0046	550.0500	Pile Points	EACH	12.000	12.000
0048	550.2108	Piling CIP Concrete 10 3/4 X 0.50-Inch	LF	780.000	780.000
0050	606.0300	Riprap Heavy	CY	445.000	445.000
0052	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	150.000	150.000
0054	618.0100	Maintenance And Repair of Haul Roads (project) 01. 5768-00-75	EACH	1.000	1.000
0056	619.1000	Mobilization	EACH	1.000	1.000
0058	624.0100	Water	MGAL	12.000	12.000
0060	625.0500	Salvaged Topsoil	SY	635.000	635.000
0062	628.1504	Silt Fence	LF	215.000	215.000
0064	628.1520	Silt Fence Maintenance	LF	430.000	430.000
0066	628.1905	Mobilizations Erosion Control	EACH	4.000	4.000
0068	628.1910	Mobilizations Emergency Erosion Control	EACH	4.000	4.000
0070	628.2008	Erosion Mat Urban Class I Type B	SY	800.000	800.000
0072	628.6005	Turbidity Barriers	SY	655.000	655.000
0074	628.7504	Temporary Ditch Checks	LF	30.000	30.000

## Estimate Of Quantities

5768-00-75

Line	Item	Item Description	Unit	Total	Qty
0076	629.0210	Fertilizer Type B	CWT	1.000	1.000
0078	630.0120	Seeding Mixture No. 20	LB	17.000	17.000
0080	630.0200	Seeding Temporary	LB	17.000	17.000
0082	630.0300	Seeding Borrow Pit	LB	1.000	1.000
0084	630.0500	Seed Water	MGAL	12.000	12.000
0086	634.0612	Posts Wood 4x6-Inch X 12-FT	EACH	4.000	4.000
0088	637.2230	Signs Type II Reflective F	SF	12.000	12.000
0090	638.2102	Moving Signs Type II	EACH	1.000	1.000
0092	638.2602	Removing Signs Type II	EACH	6.000	6.000
0094	638.3000	Removing Small Sign Supports	EACH	6.000	6.000
0096	638.4000	Moving Small Sign Supports	EACH	1.000	1.000
0098	642.5001	Field Office Type B	EACH	1.000	1.000
0100	643.0420	Traffic Control Barricades Type III	DAY	1,494.000	1,494.000
0102	643.0705	Traffic Control Warning Lights Type A	DAY	2,324.000	2,324.000
0104	643.0900	Traffic Control Signs	DAY	1,162.000	1,162.000
0106	643.5000	Traffic Control	EACH	1.000	1.000
0108	645.0111	Geotextile Type DF Schedule A	SY	90.000	90.000
0110	645.0120	Geotextile Type HR	SY	921.000	921.000
0112	650.4500	Construction Staking Subgrade	LF	115.000	115.000
0114	650.5000	Construction Staking Base	LF	115.000	115.000
0116	650.6500	Construction Staking Structure Layout (structure) 01. B-53-0377	LS	1.000	1.000
0118	650.9910	Construction Staking Supplemental Control (project) 01. 5768-00-75	LS	1.000	1.000
0120	650.9920	Construction Staking Slope Stakes	LF	115.000	115.000
0122	690.0150	Sawing Asphalt	LF	20.000	20.000
0124	715.0415	Incentive Strength Concrete Pavement	DOL	500.000	500.000
0126	715.0502	Incentive Strength Concrete Structures	DOL	972.000	972.000
0128	801.0117	Railroad Flagging Reimbursement	DOL	10,000.000	10,000.000
0130	ASP.1T0A	On-the-Job Training Apprentice at \$5.00/HR	HRS	600.000	600.000
0132	ASP.1T0G	On-the-Job Training Graduate at \$5.00/HR	HRS	600.000	600.000
0134	SPV.0105	Special 01. Settlement Monitoring	LS	1.000	1.000
0136	SPV.0165	Special 01. Temporary Shoring Railroad	SF	130.000	130.000



HANOVER ROAD EARTHWORK SUMMARY

From/To Station	Location	Common Excavation (1) (item # 205.0100)	Unexpanded Fill	Expanded Fill (2)	Mass Ordinate +/- (3)	Waste (4)	Borrow  (item #208.0100)	Comment:
		Cut		Factor 1.30				
9+00 - 10+55	HANOVER ROAD	147	202	263	-116		116	
28+60 - 29+75	WEST CHANNEL	340	228	297	43	43		
129+02 - 129+75	EAST CHANNEL	38	18	23	15	15		

CLEARING AND GRUBBING

STATION	TO	STATION	OFFSET	201.0105	201.0205
				CLEARING STA	GRUBBING STA
9+00	-	10+00	LT	1	1
TOTALS				1	1

- 1) Common Excavation is the Cut. Item number 205.0100.
- 2) Expanded Fill. Factor = 1.30; Expanded Fill = Unexpanded Fill \* Fill Factor
- 3) The Mass Ordinate + or - Qty calculated for the Division. Plus quantity indicates an excess of material on the project.
- 4) All waste from channel excavation is assumed to be unsuitable for roadway fill.
- 5) All quantities shown in CY.

PAVING AND BASE QUANTITIES

FINISHING ROADWAY (ID 5768-00-75)		MOBILIZATION		305.0110	305.0120	415.0120	415.0410	455.0605	460.5223	460.5224
LOCATION	EACH	CATEGORY	EACH	BASE AGGREGATE DENSE 3/4-INCH	BASE AGGREGATE DENSE 1 1/4-INCH	CONCRETE PAVEMENT 12-INCH	CONCRETE PAVEMENT APPROACH SLAB	TACK COAT	HMA PAVEMENT 3 LT 58-28 S	HMA PAVEMENT 4 LT 58-28 S
STA	TO	STA	OFFSET	TON	TON	SY	SY	GAL	TON	TON
9+00	--	9+45	LT/RT	7	125	-	-	9	21	16
9+45	--	9+75	LT/RT	2	35	20	52	-	-	-
10+01	--	10+31	LT/RT	2	35	18	52	-	-	-
10+31	--	10+76	LT/RT	5	75	-	-	5	13	9
UNDISTRIBUTED				4	15	1	6	1	2	1
TOTAL				20	285	40	110	15	36	26

MAINTENANCE AND REPAIR  
OF HAUL ROADS  
ID 5768-00-75

CATEGORY	EACH
0030	1
TOTAL	1

WATER

PURPOSE	624.0100 WATER MGAL
COMPACTION	5.0
DUST CONTROL	7.0
TOTAL	12.0

CHANNEL CHANGE

LOCATION	OFFSET	606.0300* RIPRAP HEAVY CY	645.0120* GEOTEXTILE TYPE HR SY
WEST CHANNEL	LT	110	211
WEST CHANNEL	RT	85	159
EAST CHANNEL	LT	60	113
EAST CHANNEL	RT	45	108
TOTALS		300	591

TURBIDITY BARRIERS

LOCATION	628.6005 SY	COMMENT
WEST ABUT	65	BEFORE STREAM ADJUSTMENT
EAST ABUT	65	BEFORE STREAM ADJUSTMENT
WEST ABUT	130	FOR STREAM ADJUSTMENT
EAST ABUT	135	FOR STREAM ADJUSTMENT
NORTH OF ABUT FOR RIPRAP	200	FOR STREAM ADJUSTMENT
UNDISTRIBUTED	60	
TOTAL	655	

\*ADDITIONAL QUANTITIES LOCATED ELSEWHERE  
CHANNEL SOUTH OF R/W LINE PAID IN CATEGORY 0020

ALL QUANTITIES CATEGORY 0010 UNLESS OTHERWISE NOTED

EROSION CONTROL ITEMS

STA	TO STA	LOCATION	625.0500 SY	628.1504 LF	628.1520 LF	628.2008 SY	629.0210 CWT	630.0120 LB	630.0200 LB	630.0300 LB	630.0500 MGAL
9+00	-- 10+00	LT	145	45	90	170	0.2	5	5	0.2	4
9+00	-- 10+00	RT	70	75	150	100	0.1	3	3	--	2
10+00	-- 10+80	LT	135	50	100	170	0.2	5	5	0.3	4
10+00	-- 10+80	RT	0	0	0	0	0.0	1	1	--	1
N. OF CHANNEL			285	0	0	285	0.4	1	1	--	1
UNDISTRIBUTED			--	45	90	75	0.1	2	2	0.5	--

EROSION CONTROL MOBILIZATION ITEMS

LOCATION	628.1905 EACH	628.1910 EACH
ID 5768-00-75	4	4
TOTALS	4	4

TOTALS 635 215 430 800 1.0 17 17 1 12

TEMPORARY DITCH CHECKS

LOCATION	628.7504 LF
UNDISTRIBUTED	30
TOTAL	30

642.5001 CATEGORY	EACH	690.0150 LF
0010	0.3	20
0020	0.7	
TOTAL	1	20

SIGNS

STATION	LOC	634.0612 EACH	637.2230 SF	638.2102 EACH	638.2602 EACH	638.3000 EACH	638.4000 EACH	SIGNAGE TYPE
W OF PROJECT	RT	--	--	--	1	1	--	W5-3 (ONE LANE BRIDGE)
9+85	LT	1	3	--	1	1	--	W5-52L
9+85	RT	1	3	--	1	1	--	W5-52R
10+15	LT	1	3	--	1	1	--	W5-52R
10+15	RT	1	3	--	1	1	--	W5-52L
10+20	RT	--	--	1	--	--	1	R1-1 (STOP)/RAILROAD CROSSING RELOCATE IN PLACE AFTER CONSTRUCTION
E OF PROJECT	RT	--	--	--	1	1	--	W5-3 (ONE LANE BRIDGE)
TOTALS		4	12	1	6	6	1	

TRAFFIC CONTROL ITEMS

LOCATION	DURATION DAYS	643.0420 NO.	643.0705 DAY	643.0900 NO.	643.5000 DAY	EACH
PER SDD 15C2	83	18	1,494	28	2,324	--
JANESVILLE-HANOVER RD	--	--	--	--	--	1
TOTALS			1,494	2,324	1,162	1

STAKING ITEMS

CATEGORY	LOCATION	650.4500 LF	650.5000 LF	650.6500.01 LS	650.9910.01 LS	650.9920 LF
0010	9+00-10+55	115	115	--	1	115
0020	B-53-0377	--	--	1	--	--
TOTALS		115	115	1	1	115

TRAFFIC CONTROL PLACEMENT SUBJECT TO ENGINEER APPROVAL

ALL QUANTITIES CATEGORY 0010 UNLESS OTHERWISE NOTED

R/W PROJECT NUMBER 5768-00-05	SHEET NUMBER 4.01	TOTAL SHEETS 31
PLAT OF RIGHT OF WAY REQUIRED FOR TOWN OF ROCK, JANESVILLE-HANOVER ROAD (MARKHAM CREEK BRIDGE B-53-0377)		
TOWN ROAD		ROCK COUNTY
CONSTRUCTION PROJECT NUMBER 5768-00-75		

**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-INCH UNLESS NOTED)	
NEW REFERENCE LINE		SIXTEENTH CORNER MONUMENT		SIGN	
NEW R/W LINE		SIGN		OFF-PREMISE SIGN	
EXISTING R/W OR HE LINE		COMPENSABLE		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)		NO ACCESS (BY PREVIOUS PROJECT OR CONTROL)	
CORPORATE LIMITS		NO ACCESS (NEW HIGHWAY)		PARCEL NUMBER (25)	UTILITY NUMBER (40)
UNDERGROUND FACILITY (COMMUNICATIONS, ELECTRIC, ETC.)		TRANSMISSION STRUCTURES		PARALLEL OFFSETS	
NEW R/W (FEE OR HE) (HATCHING VARIES BY OWNER)		BUILDING TO BE REMOVED			
TEMPORARY LIMITED EASEMENT AREA		BRIDGE			
EASEMENT AREA (PERMANENT LIMITED OR RESTRICTED DEVELOPMENT)					

**CONVENTIONAL ABBREVIATIONS**

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

**CURVE DATA**

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

**CONVENTIONAL UTILITY SYMBOLS**

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

**NOTES:**  
HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COUNTY COORDINATES, ROCK COUNTY, NAD83 (2011), IN U.S. SURVEY FEET. VALUES ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

RIGHT-OF-WAY MONUMENTS ARE TYPE 2 (3/4"x24" IRON REBAR WEIGHING 1.50 LBS./LIN. FT.) AND ARE PLACED PRIOR TO OR AT THE TIME OF LAND TRANSFER.

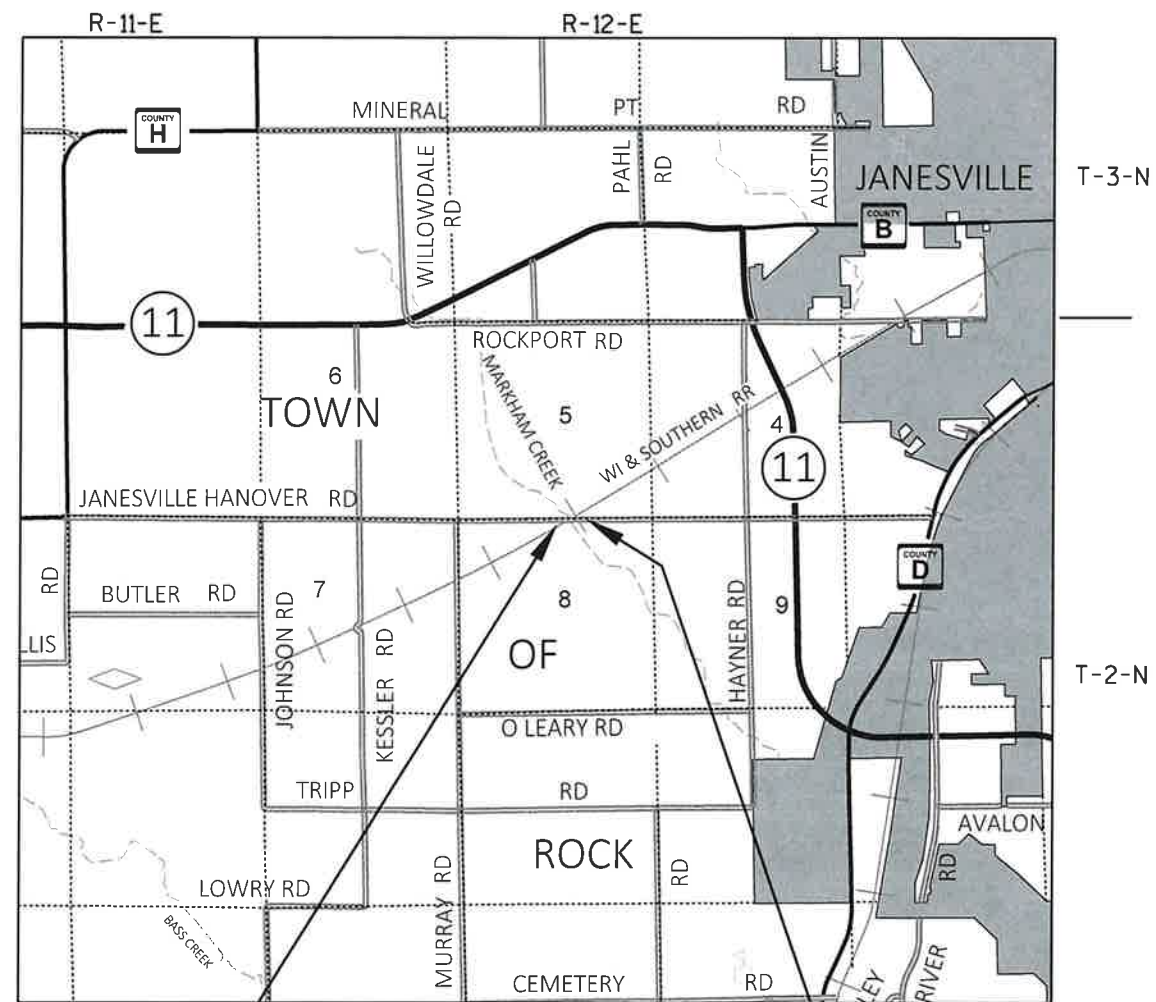
RIGHT OF WAY BOUNDARIES ARE DEFINED WITH COURSES OF THE PERIMETER OF THE HIGHWAY LANDS REFERENCED TO THE U.S. PUBLIC LAND SURVEY OR OTHER SURVEYS OF PUBLIC RECORD.

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

A PERMANENT LIMITED EASEMENT (PLE) IS A RIGHT FOR CONSTRUCTION AND MAINTENANCE PURPOSES, AS DEFINED HEREIN, INCLUDING THE RIGHT TO OPERATE NECESSARY EQUIPMENT THEREON AND THE RIGHT OF INGRESS AND EGRESS, AS LONG AS REQUIRED FOR SUCH PUBLIC PURPOSE, INCLUDING THE RIGHT TO PRESERVE, PROTECT, REMOVE, OR PLANT THEREON ANY VEGETATION THAT THE HIGHWAY AUTHORITIES MAY DEEM DESIRABLE, BUT WITHOUT PREJUDICE TO THE OWNER'S RIGHTS TO MAKE OR CONSTRUCT IMPROVEMENTS ON SAID LANDS OR TO FLATTEN THE SLOPES, SAID ACTIVITIES WILL NOT IMPAIR OR OTHERWISE ADVERSELY AFFECT THE HIGHWAY FACILITIES.

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

EXISTING RIGHT-OF-WAY FOR JANESVILLE-HANOVER ROAD SHOWN HEREON ESTABLISHED FROM PLAT OF SURVEY #M17462 AND FROM STATUE 82.31(1) USING SECTION LINES OR THE EXISTING CENTERLINE AND A PRESUMED 66' WIDTH.



**BEGIN RELOCATION**  
**STA 8+75.00**

Y = 259726.704  
X = 472601.989  
LOCATED 2.286 FEET NORTH AND 234.523 FEET EAST OF THE SOUTH 1/4 CORNER OF SECTION 5, TOWNSHIP 02 NORTH, RANGE 12 EAST.

LAYOUT  
SCALE 0 1 MILE

TOTAL NET LENGTH OF CENTERLINE = 0.038 MI.

**END RELOCATION**  
**STA 10+73.00**

Y = 259725.647  
X = 472799.985  
LOCATED 1.229 FEET NORTH AND 432.519 FEET EAST OF THE SOUTH 1/4 CORNER OF SECTION 5, TOWNSHIP 02 NORTH, RANGE 12 EAST.

REVISION DATE

APPROVED  
FOR  
COUNTY OF ROCK

DATE \_\_\_\_\_ PUBLIC WORKS DIRECTOR

PLAT PREPARED BY  
**AYRES ASSOCIATES**

THE SURVEY IS PREPARED AT THE REQUEST OF TOWN OF ROCK. THE FIELD SURVEY WAS PERFORMED IN JULY, 2018. THIS SURVEY IS ACCURATE TO THE BEST OF MY KNOWLEDGE AND BELIEF.

**JAMEY L. REID**  
Portage, WI  
S-2559

*Jamey L. Reid* 9-6-19  
JAMEY L. REID, P.L.S. DATE



**SCHEDULE OF LANDS & INTERESTS REQUIRED**

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

PARCEL NUMBER	OWNER(S)	INTEREST REQUIRED	TOTAL ACRES	R/W NEW ACRES	R/W EXISTING ACRES	R/W TOTAL ACRES	TOTAL ACRES REM.	PLE ACRES
1	O'LEARY GUNN FARMS	PLE	189.98	---	---	---	189.98	0.286
50	ATC	RELEASE OF RIGHTS	---	---	---	---	---	---
51	AT&T	RELEASE OF RIGHTS	---	---	---	---	---	---

POINT	STATION	OFFSET	Y	X
100	8+75.00	29.28' LT	259755.980	472602.169
101	8+75.00	108.00' LT	259834.702	472602.638
102	9+00.00	108.00' LT	259834.553	472627.638
103	10+73.00	82.00' LT	259807.628	472801.716
104	10+73.00	62.79' LT	259788.426	472801.311
105	10+18.05	28.75' LT	259755.105	472745.039
150	8+75.00	3.72' RT	259722.981	472601.966
151	8+75.00	0.00'	259726.704	472601.989

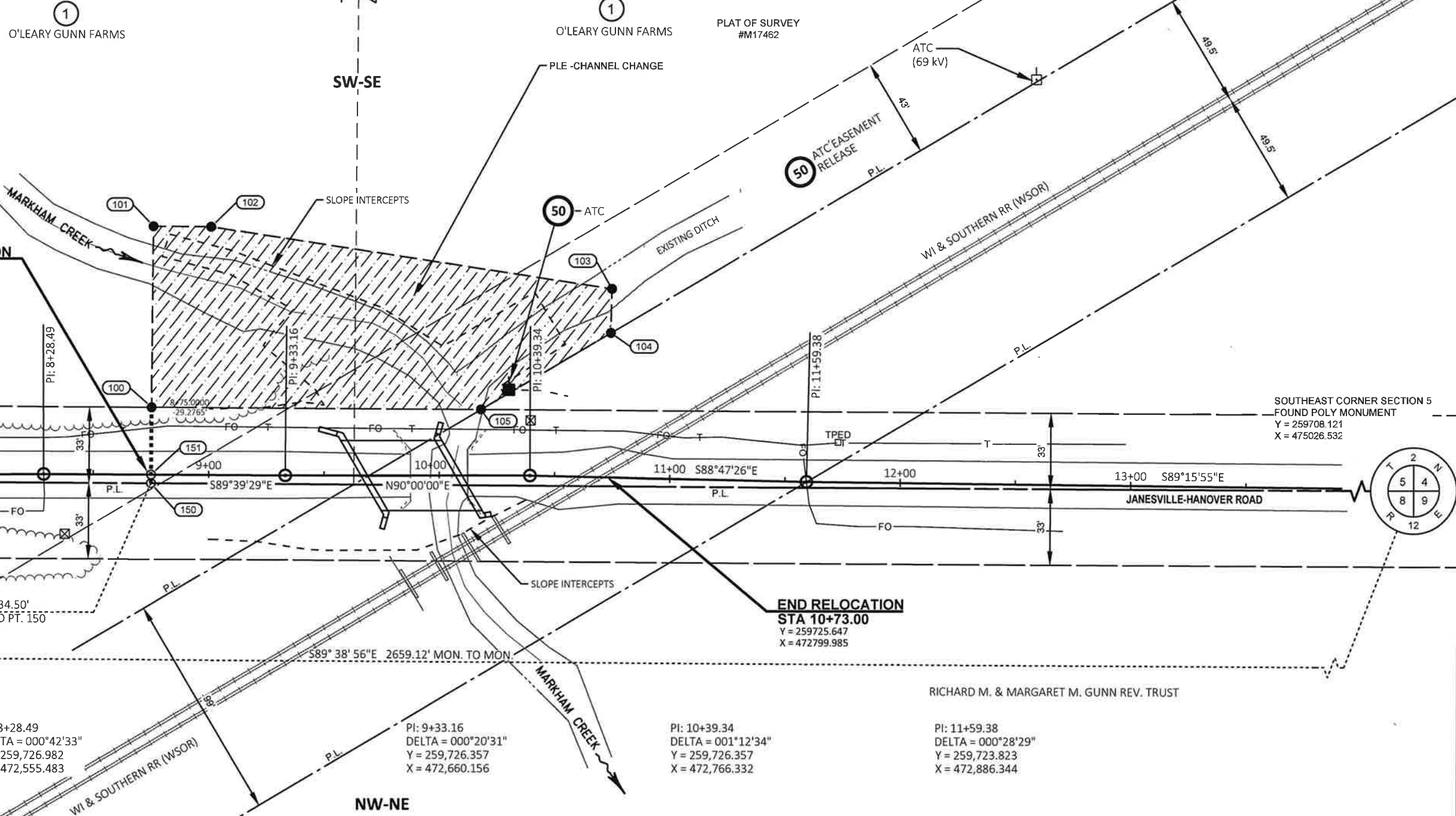
COURSE	BEARING	DISTANCE
150-151	N00°21'04"E	3.72'
151-100	N00°21'04"E	29.28'
100-101	N00°20'31"E	78.72'
101-102	S89°39'29"E	25.00'
102-103	S81°12'28"E	176.15'
103-104	S01°12'34"W	19.21'
104-105	S59°22'04"W	65.40'
105-100	N89°38'56"W	142.87'

HIGHWAY	BASIS OF EXISTING R/W	WIDTH	YEAR
JANESVILLE-HANOVER ROAD	SOUTH LINE SECTION 5-2-12 PLAT OF SURVEY #M17462	66'	2014



- 50 ATC EASEMENT ASSIGNMENT, 43' RECORDED 01/09/2001, DOC. 1479802
- 51 AT&T BLANKET EASEMENT S 1/2 OF THE SE 1/4 OF SEC. 5-2-12 RECORDED 02/03/1912, V. 14, PG. 459, DOC. 249104

TOWN OF ROCK



SOUTH 1/4 CORNER SECTION 5 FOUND 1" IRON PIPE  
Y = 259724.418  
X = 472367.466

SOUTHEAST CORNER SECTION 5 FOUND POLY MONUMENT  
Y = 259708.121  
X = 475026.532

PI: 7+28.50  
DELTA = 000°22'22"  
Y = 259,726.341  
X = 472,455.497

PI: 8+28.49  
DELTA = 000°42'33"  
Y = 259,726.982  
X = 472,555.483

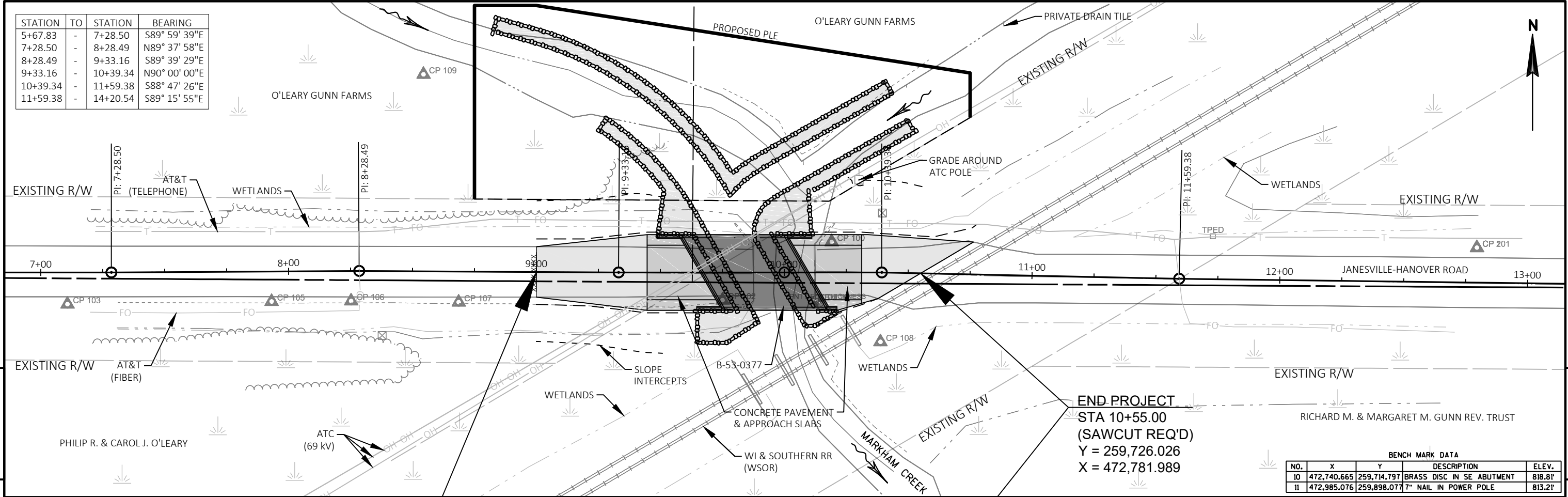
PI: 9+33.16  
DELTA = 000°20'31"  
Y = 259,726.357  
X = 472,660.156

PI: 10+39.34  
DELTA = 001°12'34"  
Y = 259,726.357  
X = 472,766.332

PI: 11+59.38  
DELTA = 000°28'29"  
Y = 259,723.823  
X = 472,886.344

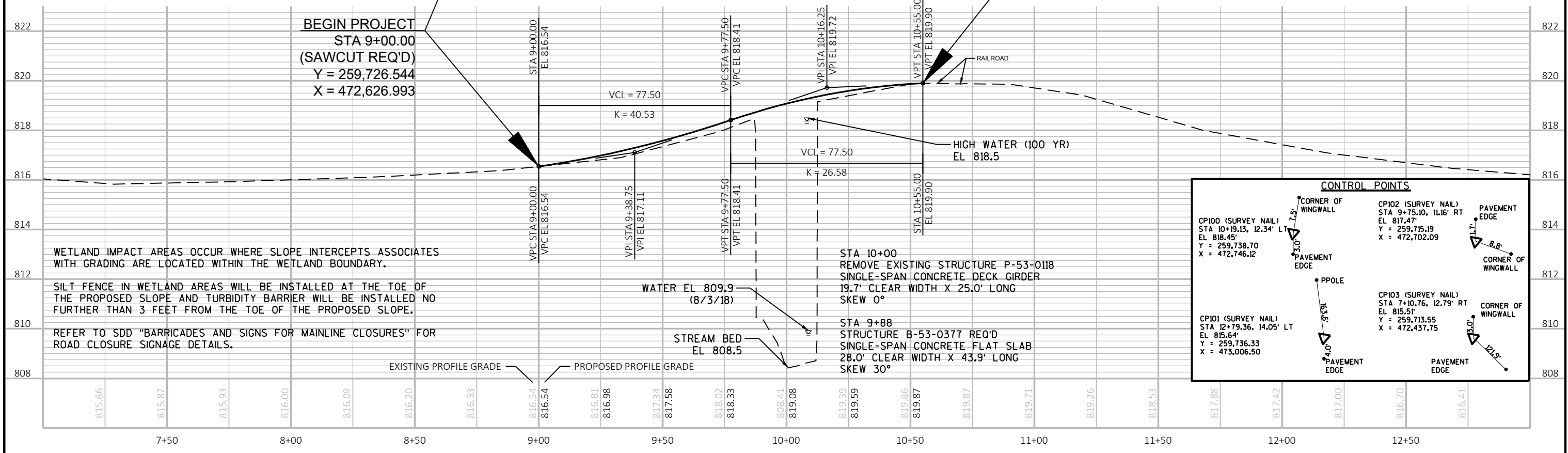
REVISION DATE	DATE <u>9-6-19</u>	SCALE, FEET 0 25 50	HWY: HANOVER ROAD	STATE R/W PROJECT NUMBER 5768-00-05	PLAT SHEET 4.02
	GRID FACTOR N.A.		COUNTY: ROCK	CONSTRUCTION PROJECT NUMBER 5768-00-75	PS&E SHEET

STATION	TO	STATION	BEARING
5+67.83	-	7+28.50	S89° 59' 39"E
7+28.50	-	8+28.49	N89° 37' 58"E
8+28.49	-	9+33.16	S89° 39' 29"E
9+33.16	-	10+39.34	N90° 00' 00"E
10+39.34	-	11+59.38	S88° 47' 26"E
11+59.38	-	14+20.54	S89° 15' 55"E



**END PROJECT**  
**STA 10+55.00**  
 (SAWCUT REQ'D)  
 Y = 259,726.026  
 X = 472,781.989

BENCH MARK DATA				
NO.	X	Y	DESCRIPTION	ELEV.
10	472,740.665	259,714.797	BRASS DISC IN SE ABUTMENT	818.81'
11	472,985.076	259,898.077	7" NAIL IN POWER POLE	813.21'



**BEGIN PROJECT**  
**STA 9+00.00**  
 (SAWCUT REQ'D)  
 Y = 259,726.544  
 X = 472,626.993

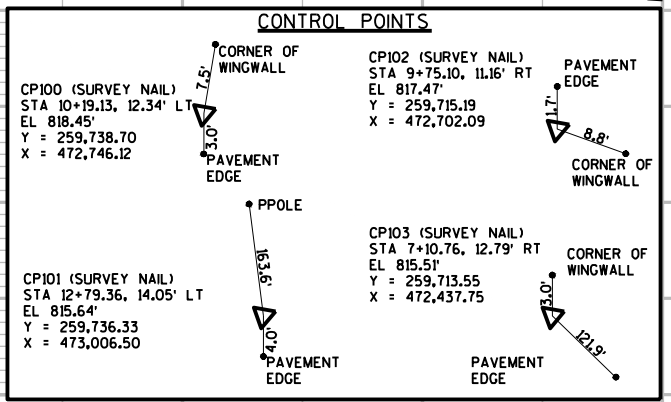
WETLAND IMPACT AREAS OCCUR WHERE SLOPE INTERCEPTS ASSOCIATES WITH GRADING ARE LOCATED WITHIN THE WETLAND BOUNDARY.

SILT FENCE IN WETLAND AREAS WILL BE INSTALLED AT THE TOE OF THE PROPOSED SLOPE AND TURBIDITY BARRIER WILL BE INSTALLED NO FURTHER THAN 3 FEET FROM THE TOE OF THE PROPOSED SLOPE.

REFER TO SDD "BARRICADES AND SIGNS FOR MAINLINE CLOSURES" FOR ROAD CLOSURE SIGNAGE DETAILS.

STA 10+00  
 REMOVE EXISTING STRUCTURE P-53-0118  
 SINGLE-SPAN CONCRETE DECK GIRDER  
 19.7' CLEAR WIDTH X 25.0' LONG  
 SKEW 0°

STA 9+88  
 STRUCTURE B-53-0377 REQ'D  
 SINGLE-SPAN CONCRETE FLAT SLAB  
 28.0' CLEAR WIDTH X 43.9' LONG  
 SKEW 30°

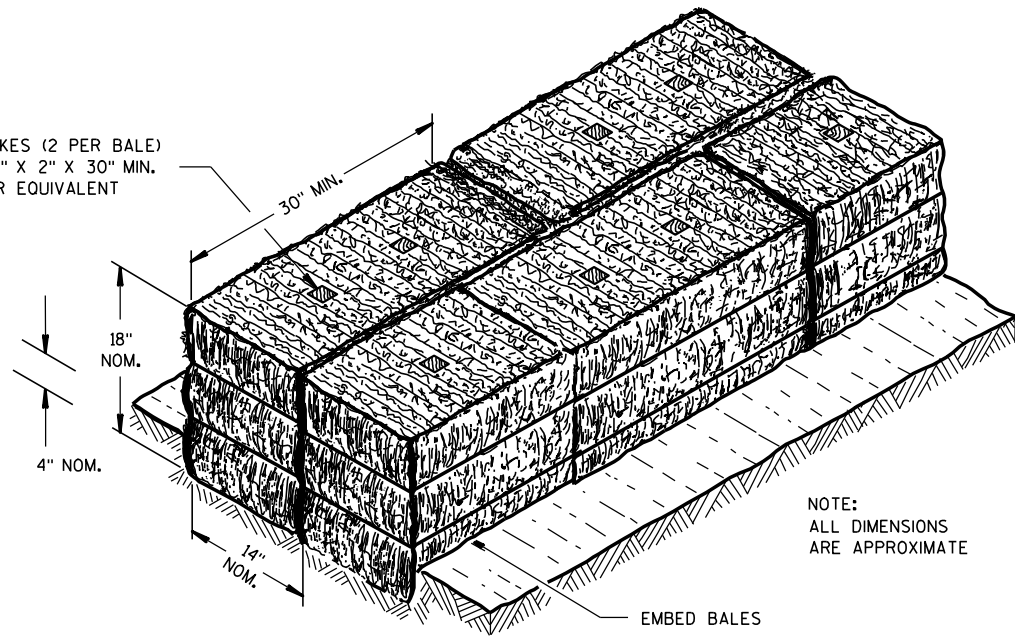


## Standard Detail Drawing List

08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E11-02	TURBIDITY BARRIER
12A03-10	NAME PLATE (STRUCTURES)
13B01-10	PAVEMENT DETAILS FOR RAILROAD APPROACH
13B02-09A	CONCRETE PAVEMENT APPROACH SLAB
13C11-12A	RURAL DOWELED CONCRETE PAVEMENT
13C11-12B	RURAL DOWELED CONCRETE PAVEMENT
15C02-07A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-07B	BARRICADES AND SIGNS FOR VARIOUS CLOSURES
15C06-09	SIGNING & MARKING FOR TWO LANE BRIDGES
15C08-19A	LONGITUDINAL MARKING (MAINLINE)
15C09-11A	SIGNING AND PAVEMENT MARKING DETAILS FOR RAILROAD-HIGHWAY GRADE CROSSINGS
15D38-02A	TEMPORARY TRAFFIC CONTROL SIGN MOUNTING
15D38-02B	ATTACHMENT OF SIGNS TO POSTS



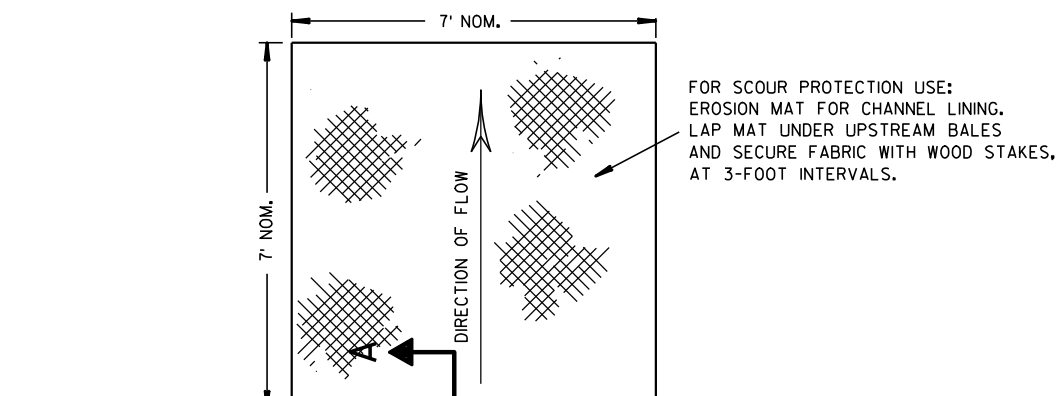
WOOD STAKES (2 PER BALE)  
NOMINAL 2" X 2" X 30" MIN.  
LENGTH OR EQUIVALENT



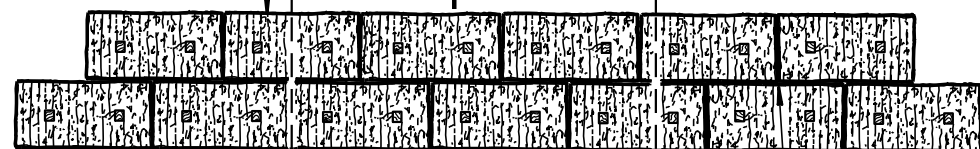
NOTE:  
ALL DIMENSIONS  
ARE APPROXIMATE

EMBED BALES

SECTION A-A



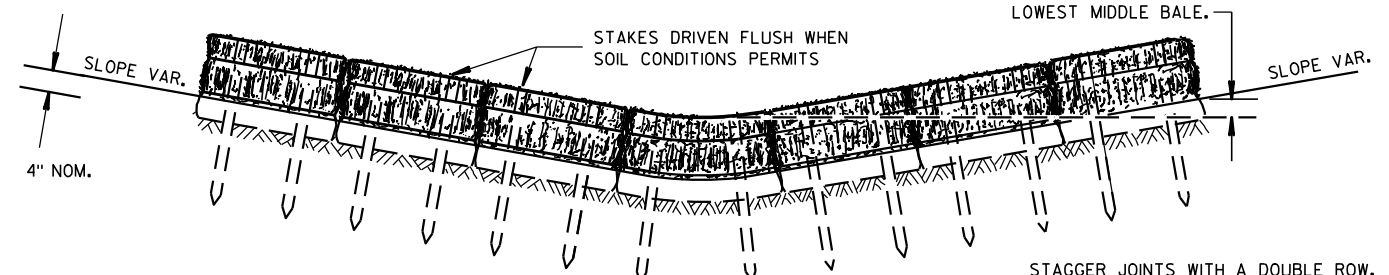
FOR SCOUR PROTECTION USE:  
EROSION MAT FOR CHANNEL LINING.  
LAP MAT UNDER UPSTREAM BALES  
AND SECURE FABRIC WITH WOOD STAKES,  
AT 3-FOOT INTERVALS.



STAGGER JOINTS BETWEEN ADJACENT  
ROWS OF BALES.

PLAN VIEW

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



FRONT ELEVATION

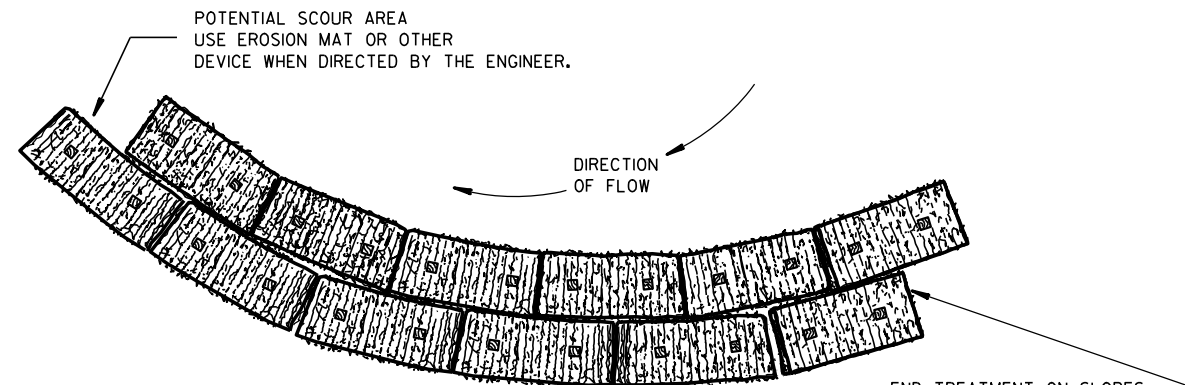
STAGGER JOINTS WITH A DOUBLE ROW.

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.



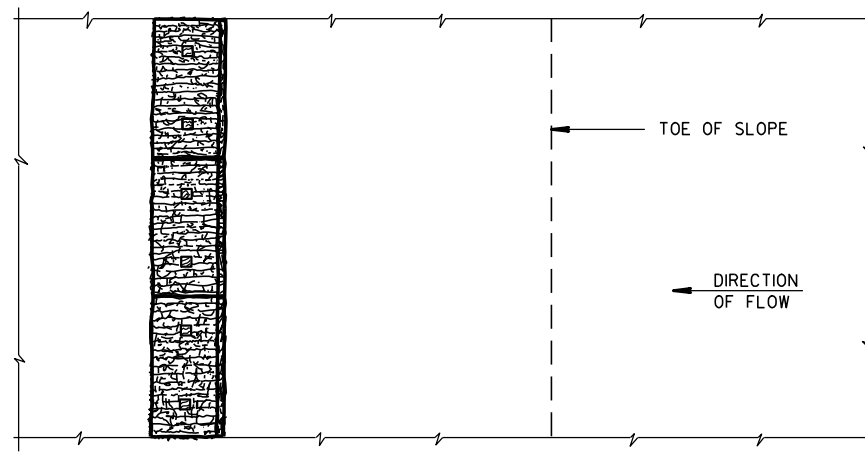
POTENTIAL SCOUR AREA  
USE EROSION MAT OR OTHER  
DEVICE WHEN DIRECTED BY THE ENGINEER.

DIRECTION  
OF FLOW

END TREATMENT ON SLOPES  
TO BE SIMILAR TO CHANNEL  
FLOW DETAIL.

PLAN VIEW

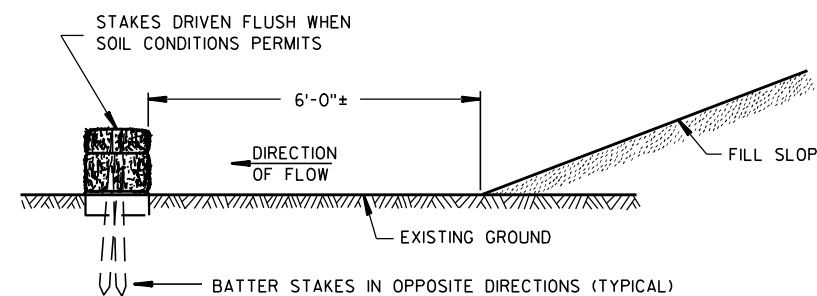
WHEN ALTERING THE DIRECTION OF FLOW



TOE OF SLOPE

DIRECTION  
OF FLOW

PLAN VIEW



STAKES DRIVEN FLUSH WHEN  
SOIL CONDITIONS PERMITS

6'-0"±

DIRECTION  
OF FLOW

EXISTING GROUND

FILL SLOPE

BATTER STAKES IN OPPOSITE DIRECTIONS (TYPICAL)

FRONT ELEVATION

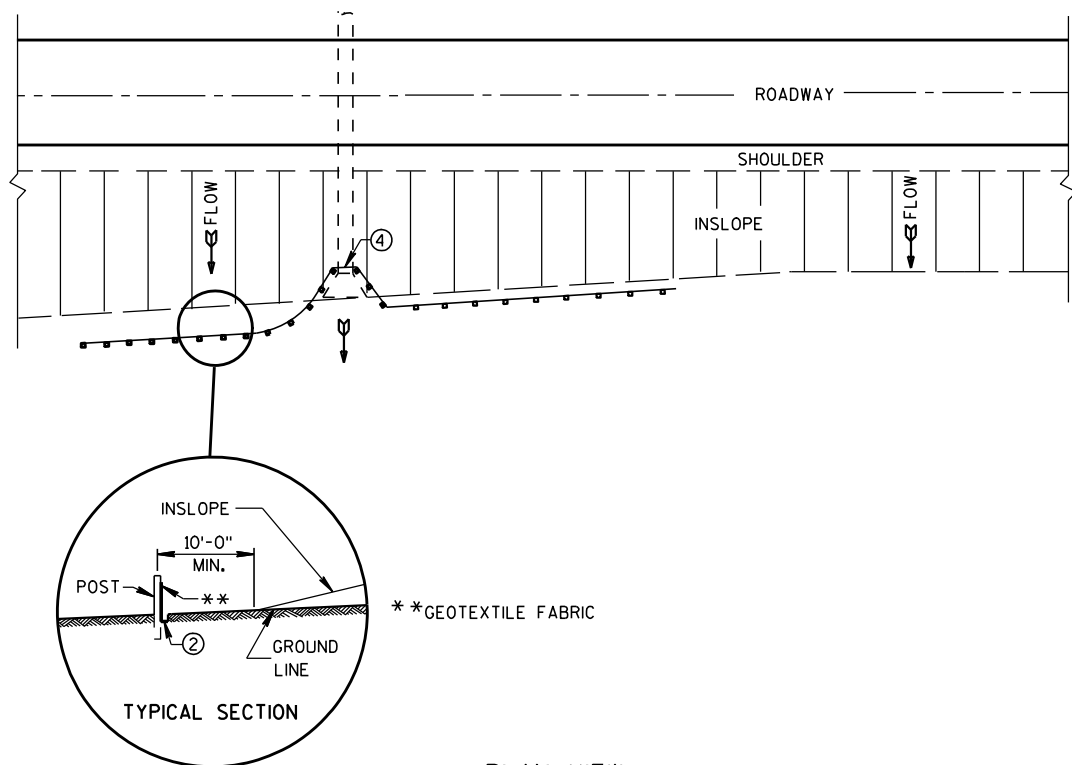
WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE

EROSION BALES FOR SHEET FLOW

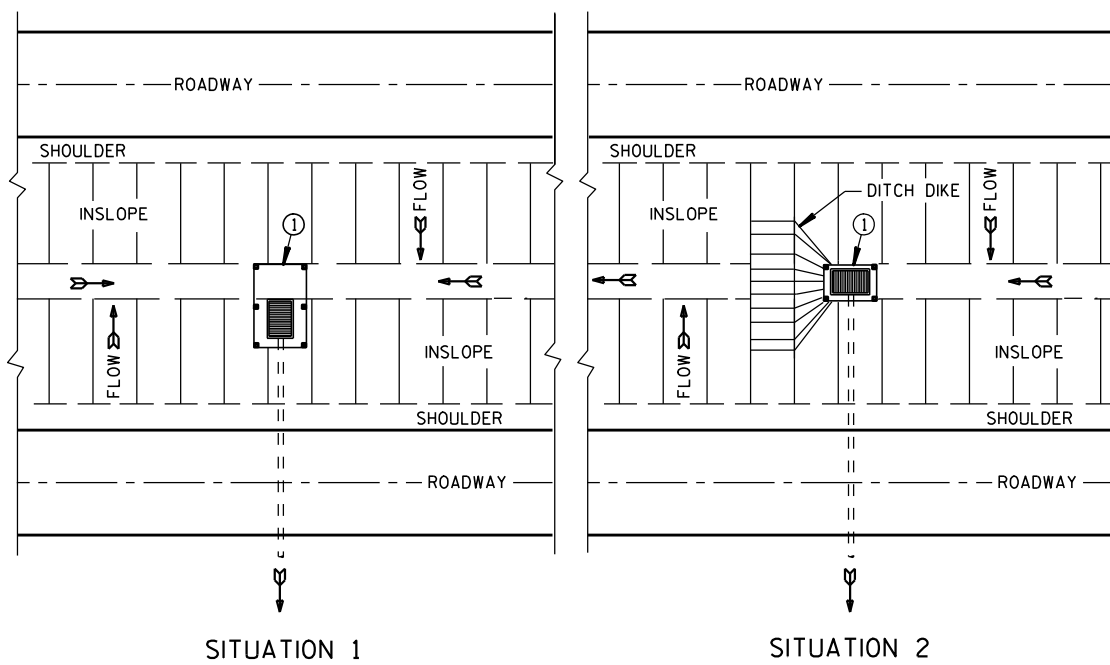
TYPICAL INSTALLATIONS OF  
EROSION BALES / TEMPORARY  
DITCH CHECKS

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

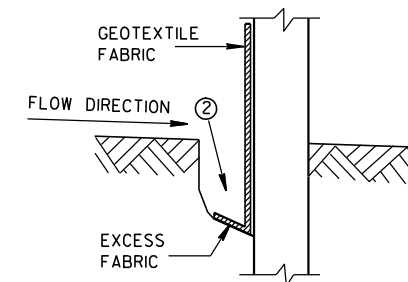


SITUATION 1 SITUATION 2  
PLAN VIEW  
SILT FENCE AT MEDIAN SURFACE DRAINS

**GENERAL NOTES**

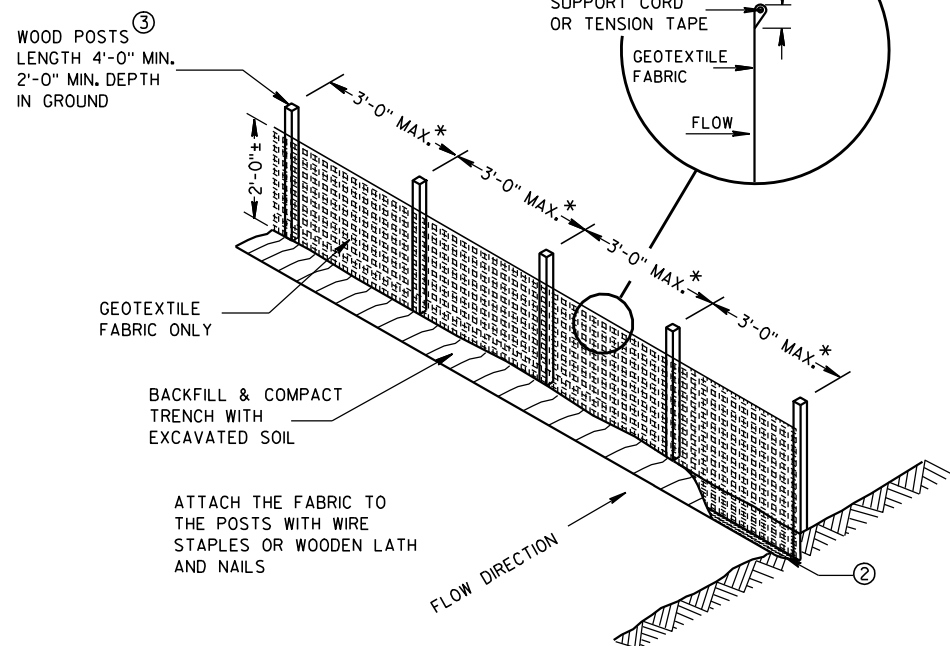
DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

- 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.



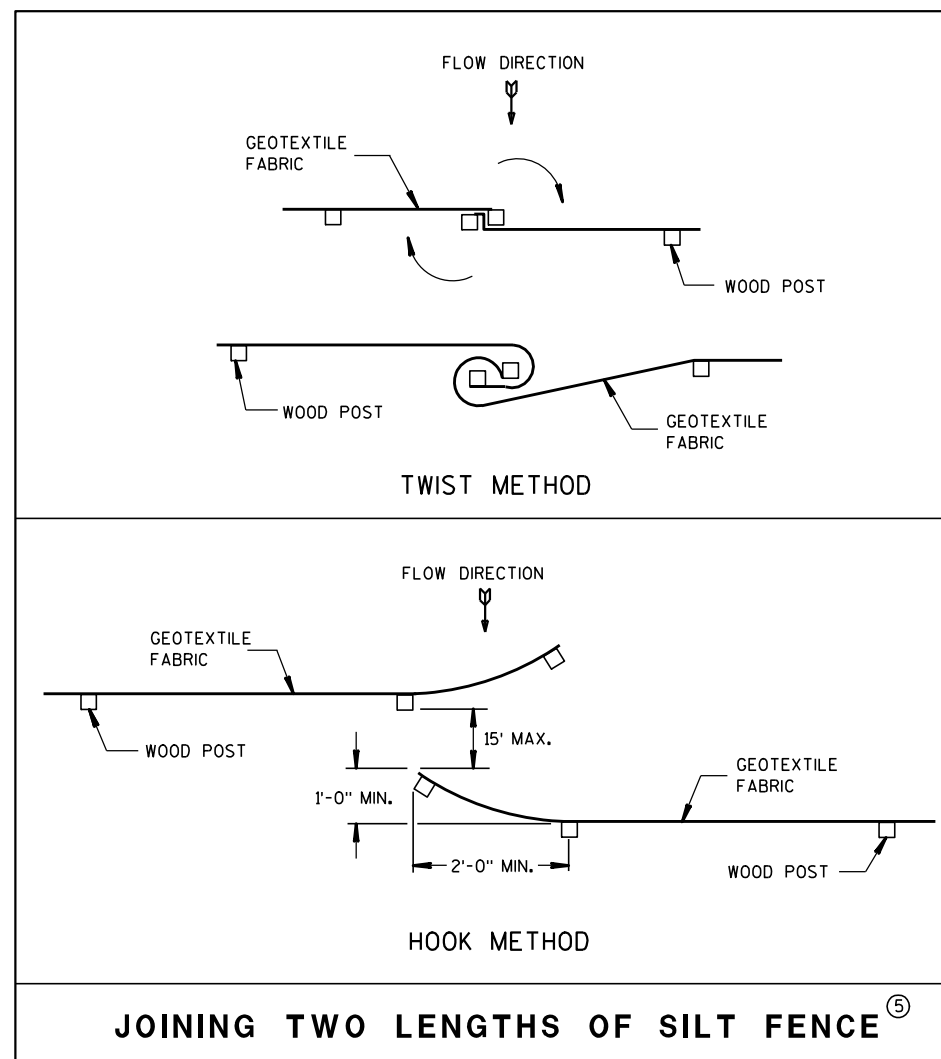
TRENCH DETAIL

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

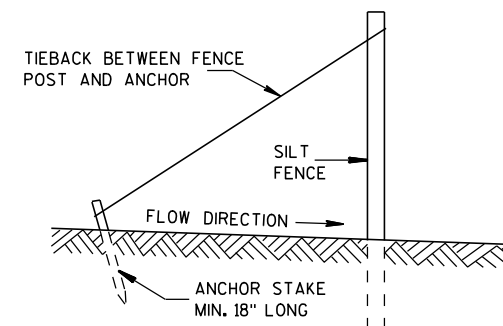


SILT FENCE

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



JOINING TWO LENGTHS OF SILT FENCE ⑤

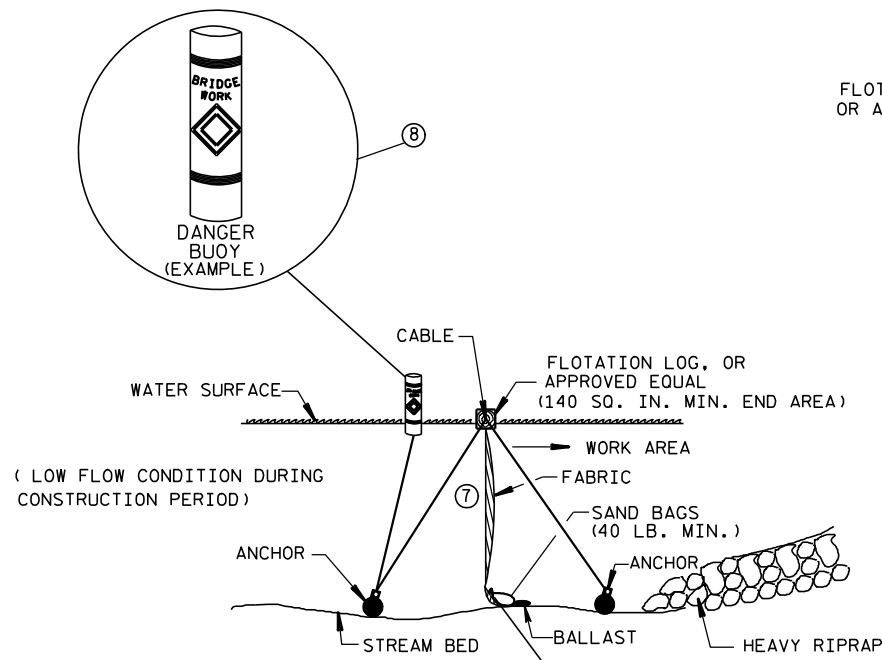


SILT FENCE TIE BACK  
(WHEN REQUIRED BY THE ENGINEER)

**SILT FENCE**

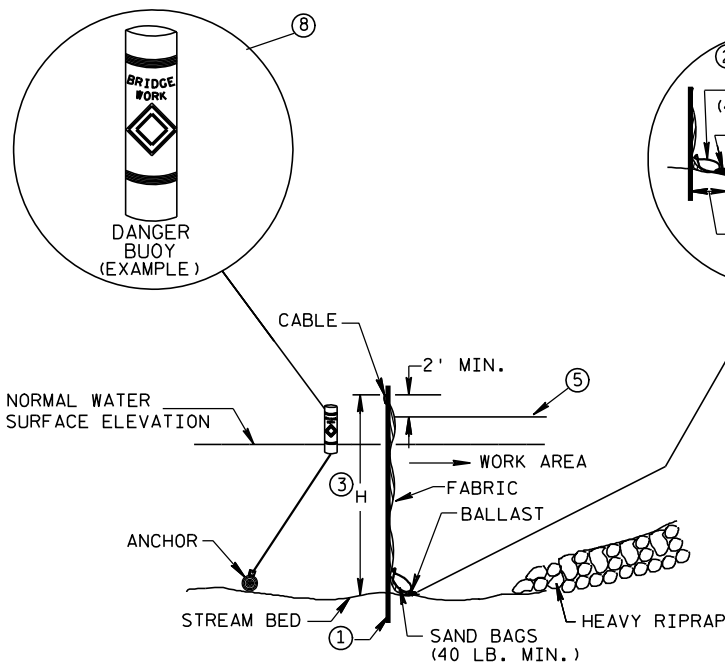
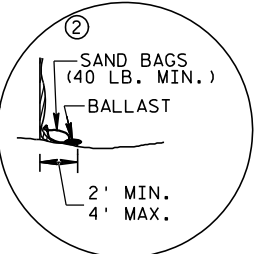
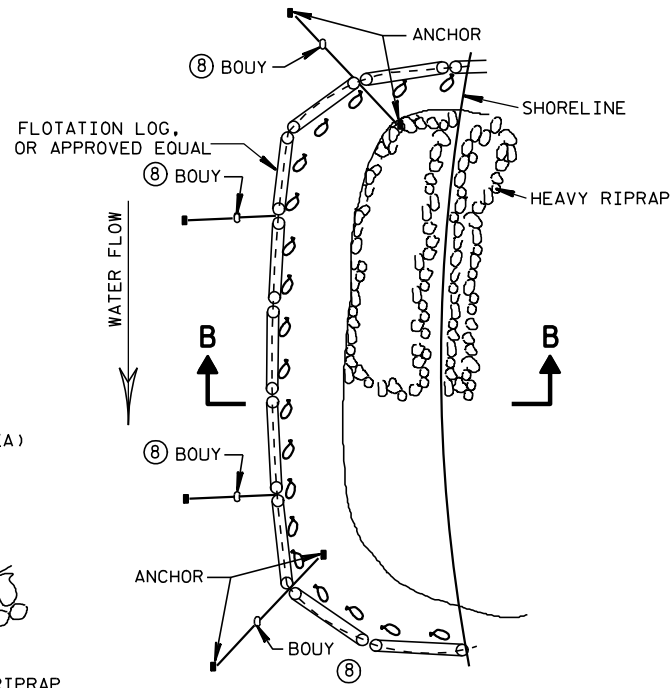
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

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



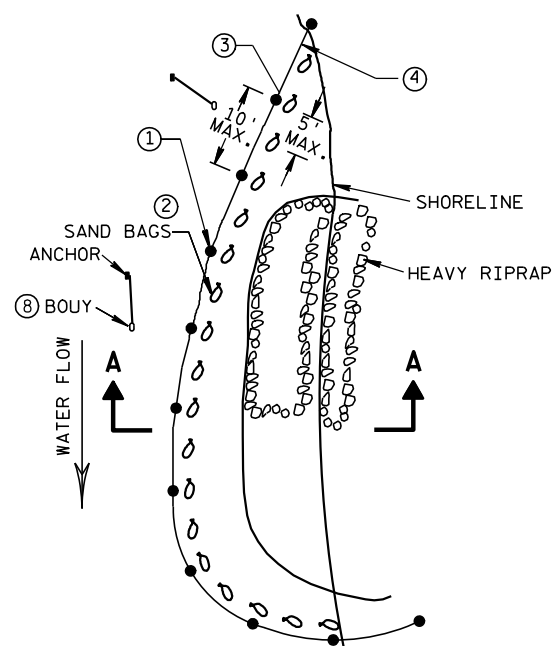
SECTION B-B

TURBIDITY BARRIER FLOAT ALTERNATIVE  
CAUTION - SEE NOTE 6



SECTION A-A

TURBIDITY BARRIER STANDARD POST INSTALLATION



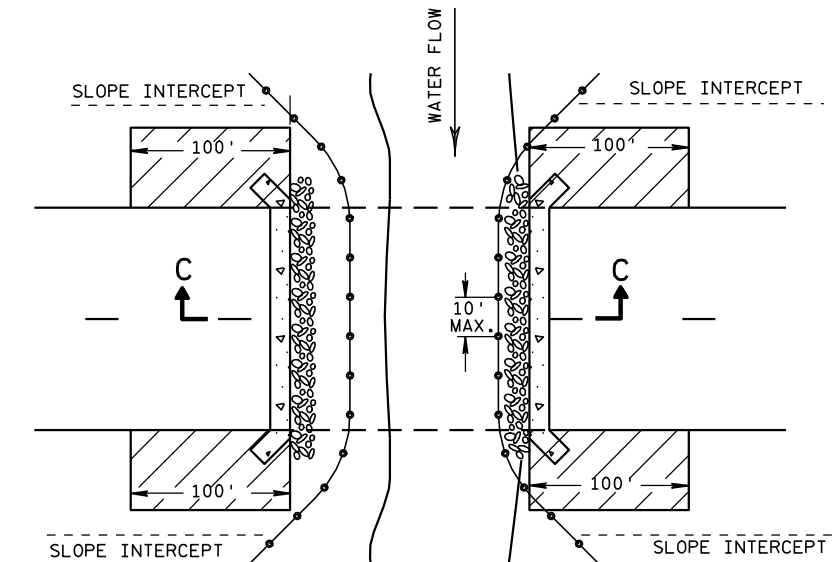
PLAN VIEW

**GENERAL NOTES**

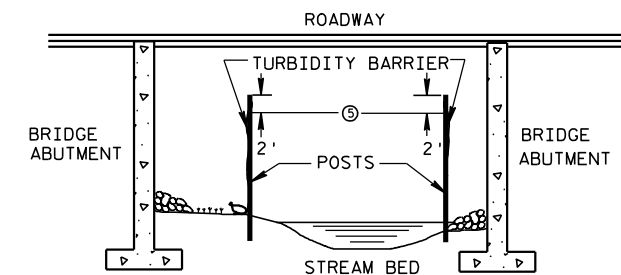
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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

- ① DRIVEN STEEL POSTS, PIPES, OR CHANNELS. LENGTH SHALL BE SUFFICIENT TO SECURELY SUPPORT BARRIER AT HIGH WATER ELEVATIONS.
- ② SANDBAGS 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 FT., 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 O2 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 BED ROCK 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



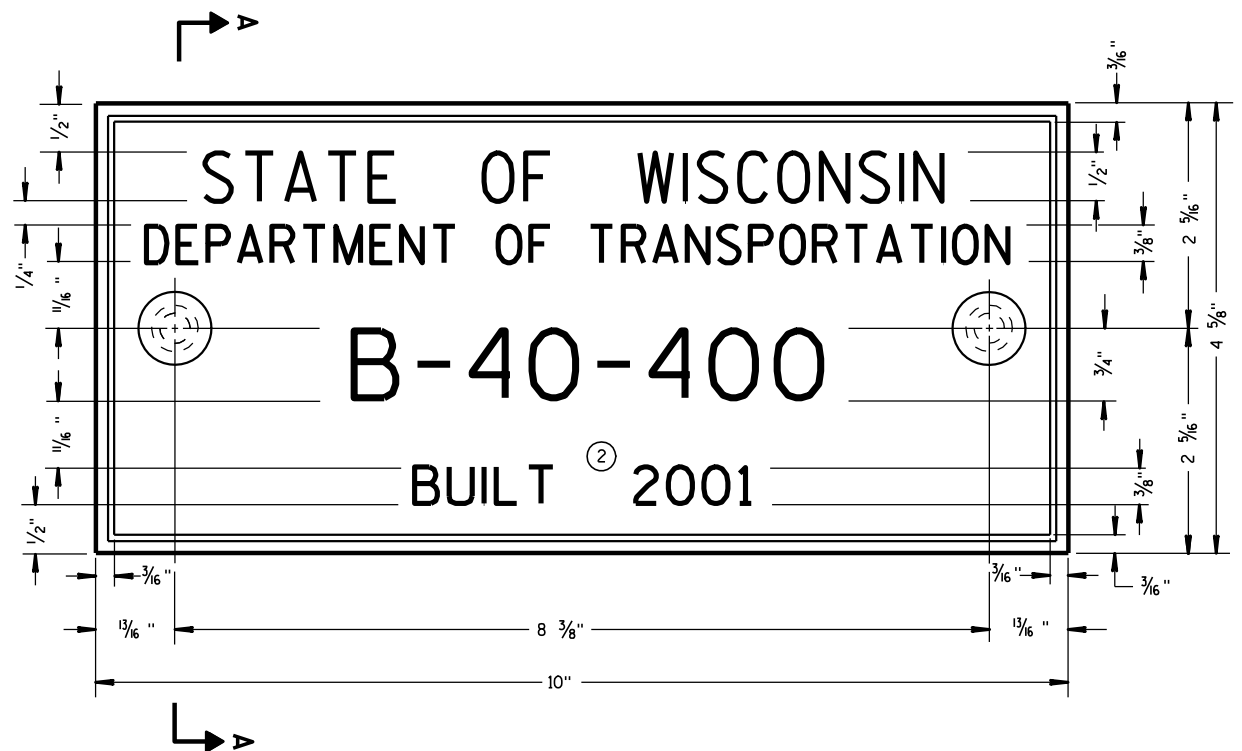
SECTION C-C

TURBIDITY BARRIER DETAIL SHOWING  
TYPICAL PLACEMENT AT STRUCTURES

**TURBIDITY BARRIER**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

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



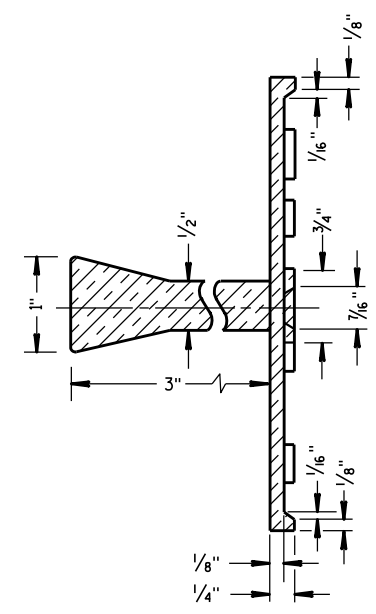
**TYPICAL NAME PLATE**  
(BRIDGES, CULVERTS, AND RETAINING WALLS)

**GENERAL NOTES**

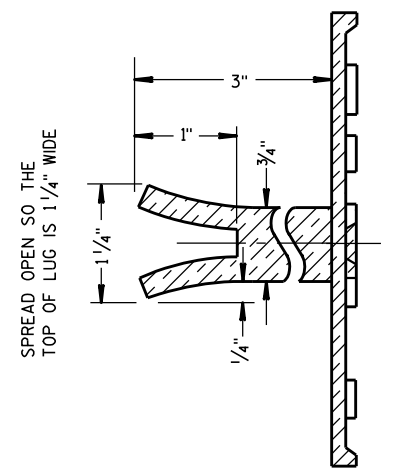
NAME PLATES TO BE INSTALLED ON BRIDGES, CULVERTS, AND RETAINING WALLS SHALL CONFORM TO THE REQUIREMENTS OF SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS.

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**

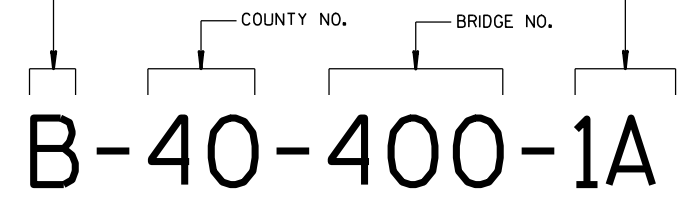
6

6

FOR MULTI-UNIT STRUCTURES  
LINE 3 ABOVE SHALL READ

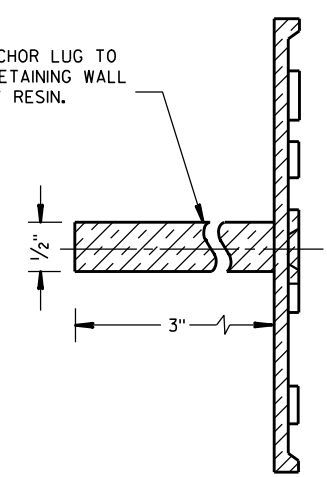
B = BRIDGE  
C = CULVERT  
R = RETAINING WALL

UNIT NO. FOR MULTIPLE  
UNIT BRIDGE



**NUMBERING DESIGNATION  
MULTI-UNIT STRUCTURES**

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



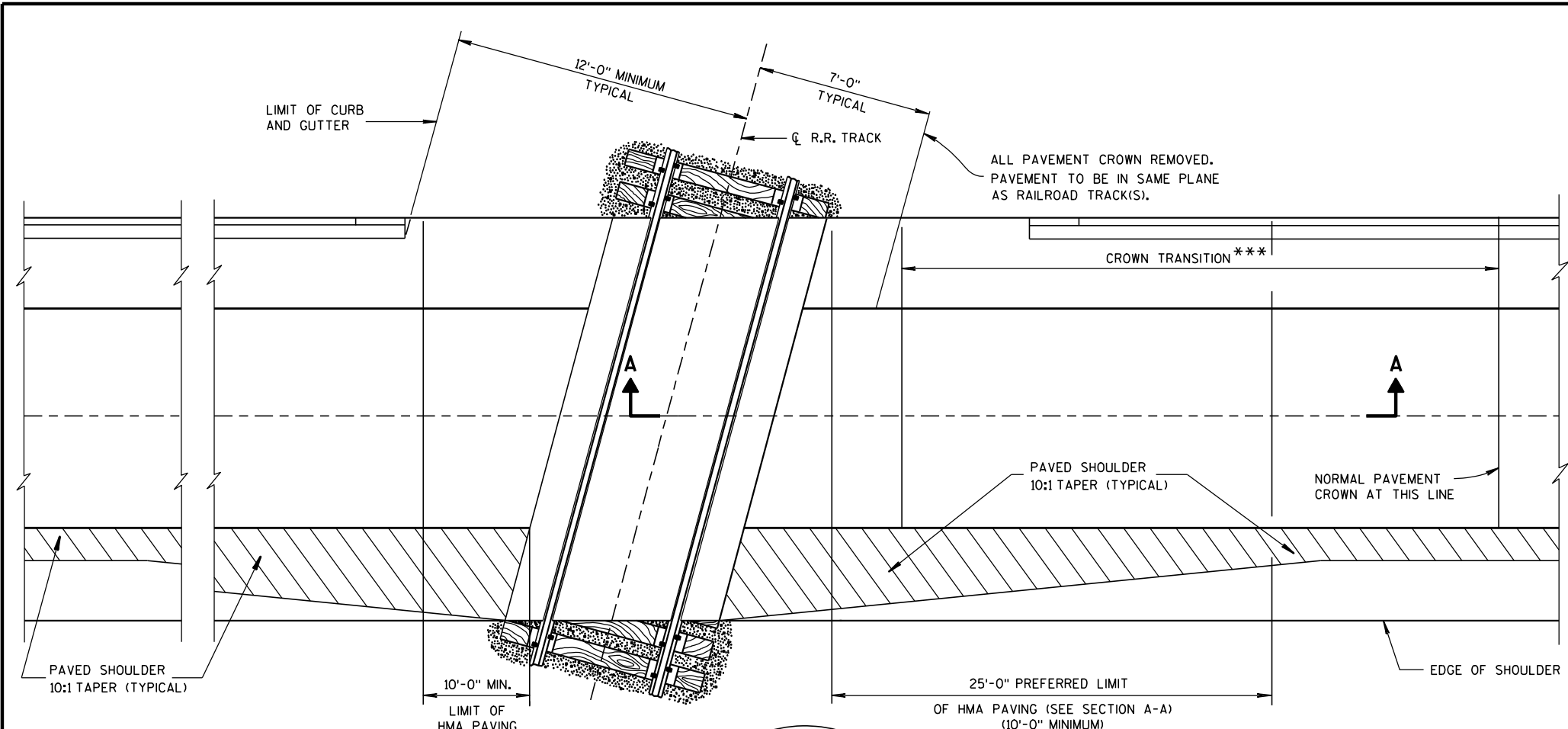
**ALTERNATE LUG**  
(FOR ATTACHMENT TO PRECAST STRUCTURES)

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	





**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.

TIMBER, CONCRETE OR RUBBER CROSSING SURFACE MATERIAL, RAILS, TIES, BALLAST, GEOTEXTILE FABRIC AND CROSSING DRAINAGE SYSTEM BY OTHERS UNLESS OTHERWISE PROVIDED.

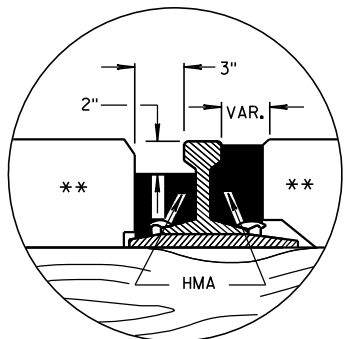
HMA PAVEMENT APPROACHES AND HMA PAVEMENT CROSSING SURFACES TO BE PLACED BY CONTRACTOR UNLESS OTHERWISE PROVIDED.

HMA FLANGEWAY AND FIELD FILLERS TO BE PLACED AND THOROUGHLY HAND COMPACTED BY THE CONTRACTOR WHEN NOT PROVIDED BY OTHERS. SEE DETAIL B. HMA FILLERS NOT REQUIRED WHEN RUBBER FILLERS ARE PROVIDED.

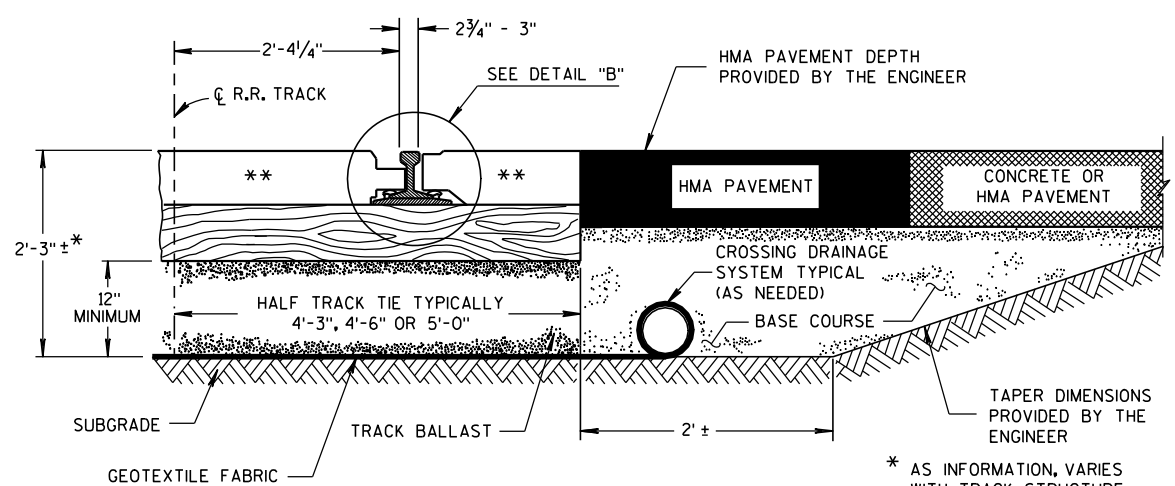
HMA PAVEMENT SHALL BE ROLLED PARALLEL TO THE TRACK.

\*\* CROSSING SURFACE MAY BE TIMBER, RUBBER, CONCRETE, HMA PAVEMENT OR A COMBINATION OF SUCH MATERIALS.

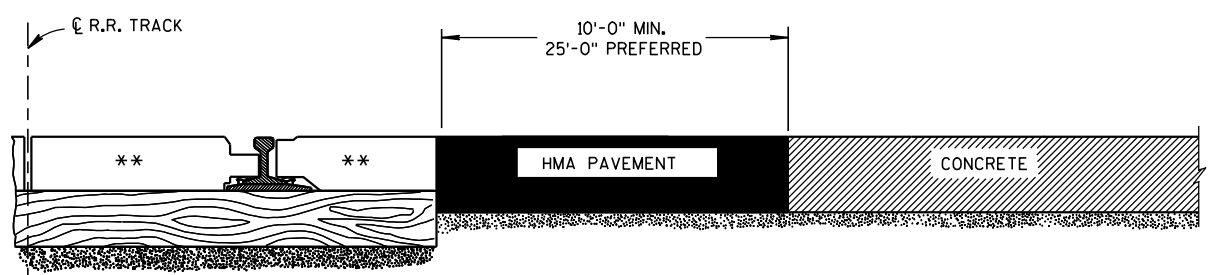
\*\*\* CROWN TRANSITION LENGTH SHOWN ELSEWHERE IN THE PLAN.



**DETAIL B  
HMA FLANGEWAY  
AND FIELD FILLERS**



**TYPICAL HALF SECTION**



**SECTION A-A  
CONCRETE PAVEMENT APPROACH**



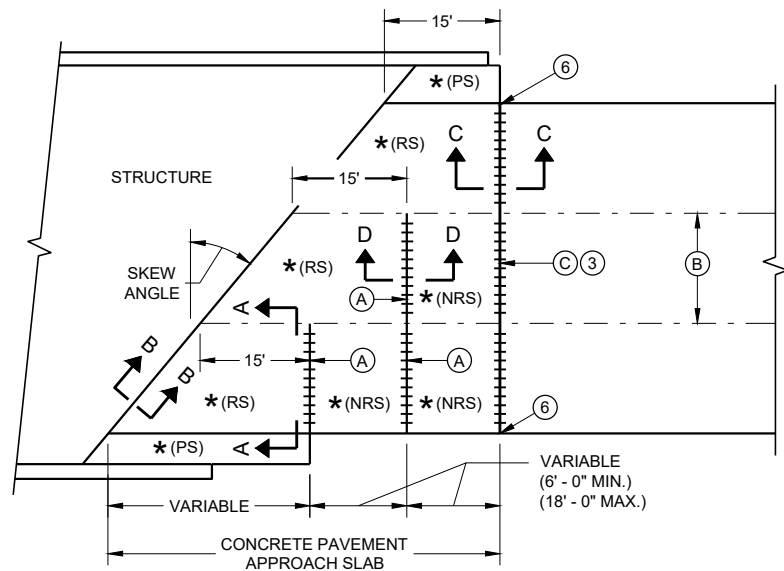
**SECTION A-A  
HMA PAVEMENT APPROACH**

**EXAMPLES OF PAVEMENT APPROACHES**

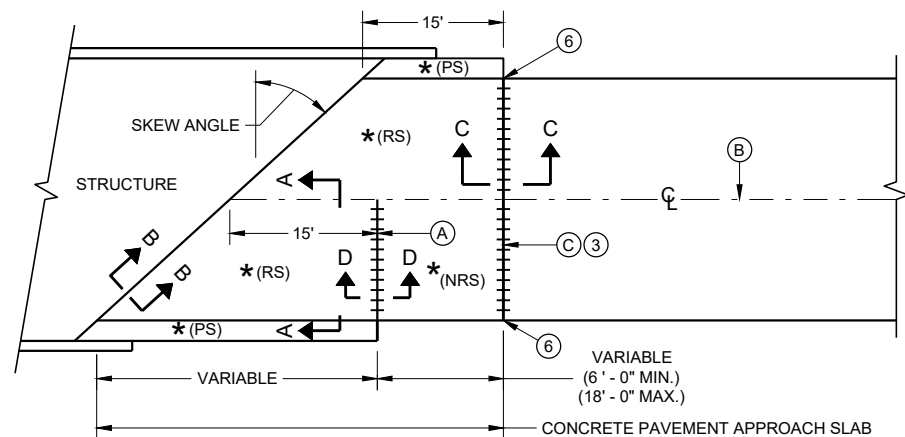
**PAVEMENT DETAILS  
FOR RAILROAD APPROACH**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

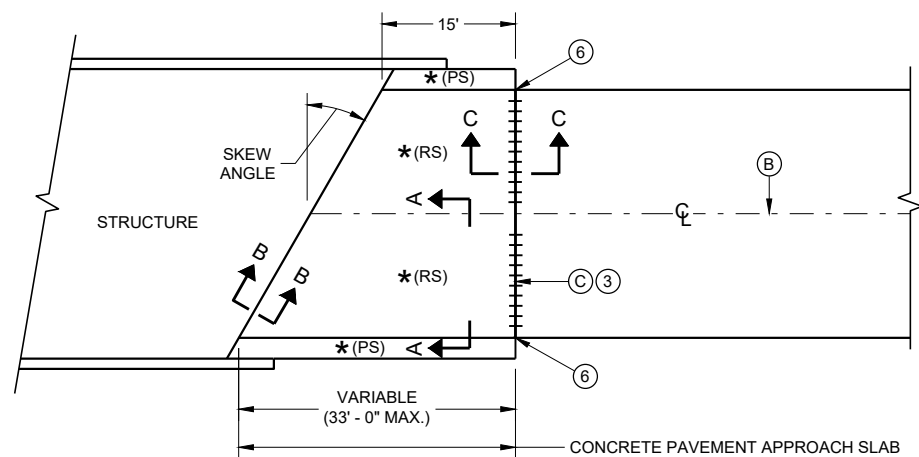
APPROVED  
8-28-09 /S/ Ronald E. Adams  
DATE CHIEF, RAILROADS & HARBORS SECTION  
FHWA



**SKewed APPROACH  
(PAVEMENT MORE THAN TWO LANES)**

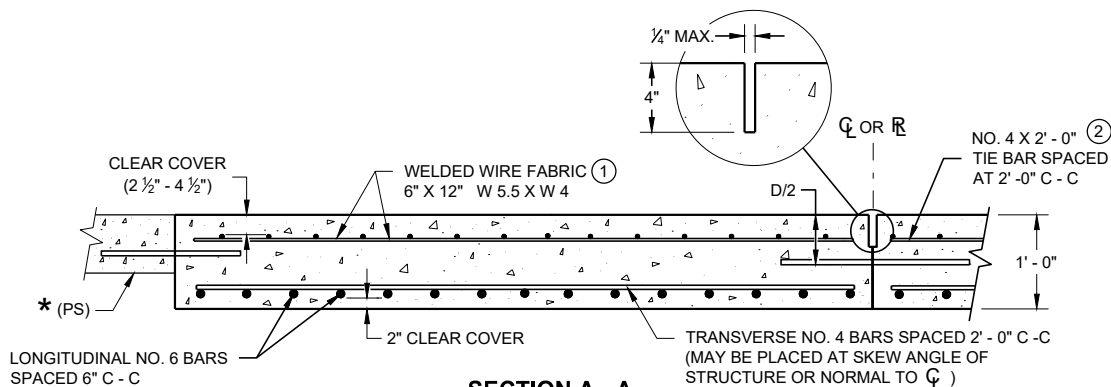


**SKews > 20°  
(PAVEMENT WIDTH ≤ 30')**

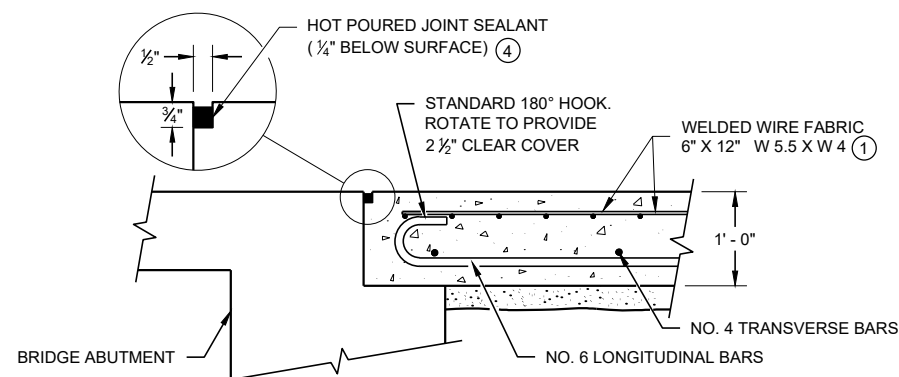


**SKews ≤ 20°  
(PAVEMENT WIDTH ≤ 30')**  
**APPROACH SLAB AND ADJACENT PAVEMENT**

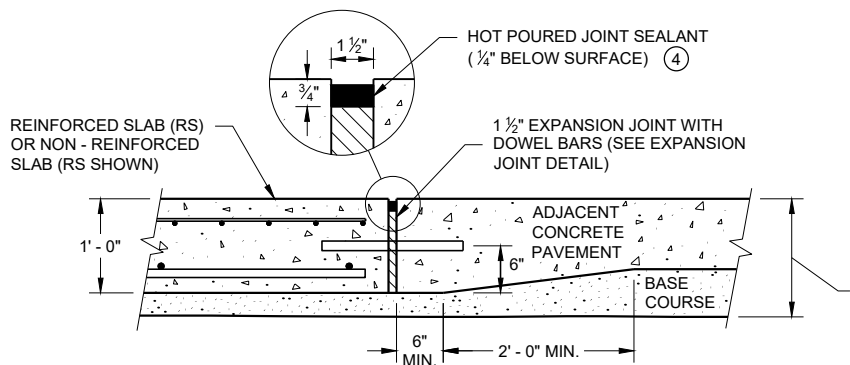
- \* (RS) = REINFORCED CONCRETE SLAB
- \* (PS) = PAVED CONCRETE SHOULDER OR CONCRETE DRAINAGE SLAB
- \* (NRS) = NON - REINFORCED CONCRETE SLAB
- \*\*\* STANDARD DOWEL BAR DIAMETER (SEE SDD 13C11 AND SDD 13C13)



**SECTION A - A  
REINFORCEMENT POSITIONING DETAIL**



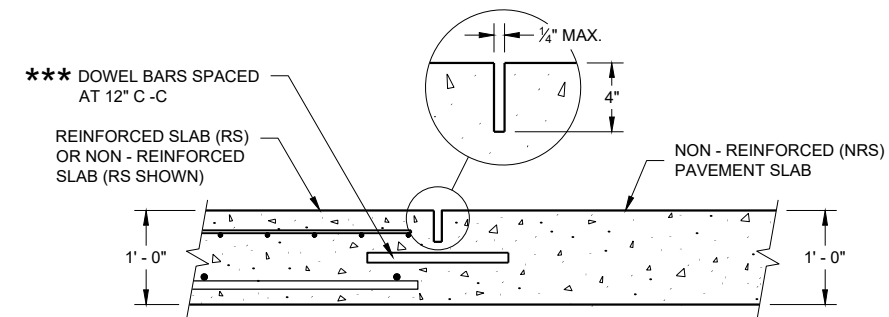
**SECTION B - B  
BEND DETAIL  
BOTTOM REINFORCEMENT**



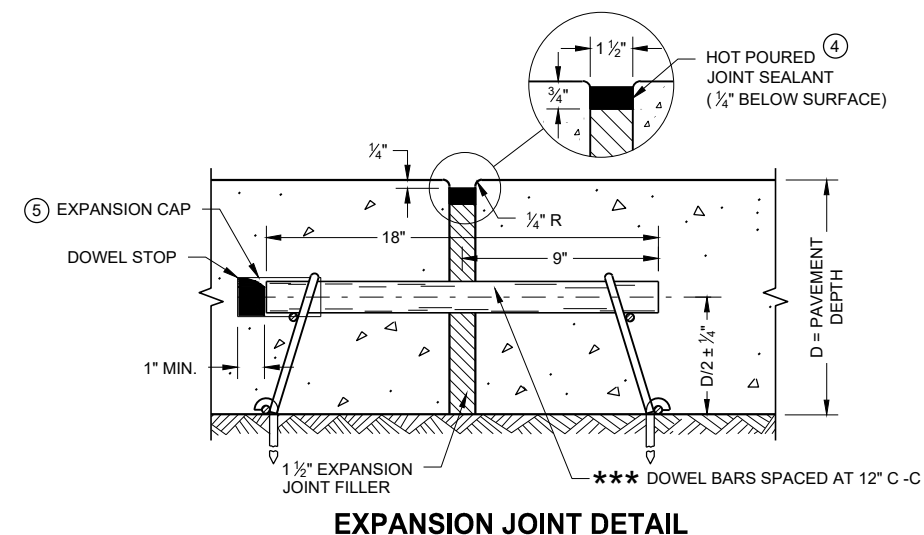
**SECTION C - C  
TRANSITION DETAIL  
APPROACH SLAB TO ADJACENT PAVEMENT**

**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 MEETING THE REQUIREMENTS OF ASTM D6690.
  - 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  $\overline{C}$  OR  $\overline{R}$ .
  - (B) STANDARD LONGITUDINAL JOINT WITH TIE BARS.
  - (C) 1 1/2" EXPANSION JOINT WITH DOWEL BARS NORMAL TO  $\overline{C}$  OR  $\overline{R}$ .



**SECTION D - D  
CONTRACTION JOINT**



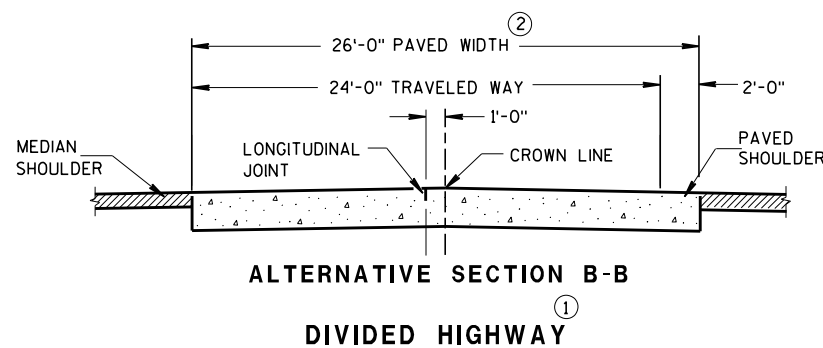
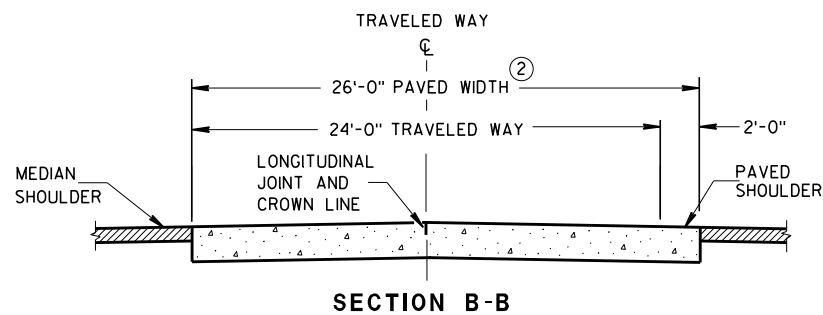
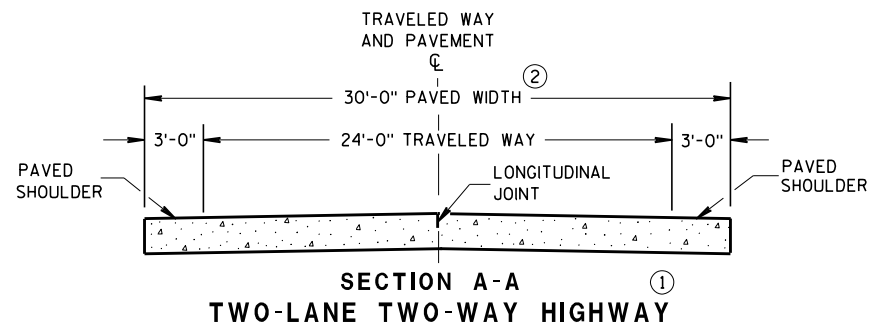
**EXPANSION JOINT DETAIL**

**CONCRETE PAVEMENT  
APPROACH SLAB**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

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

FHWA



**GENERAL NOTES**

CONTRACTION JOINTS

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

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

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

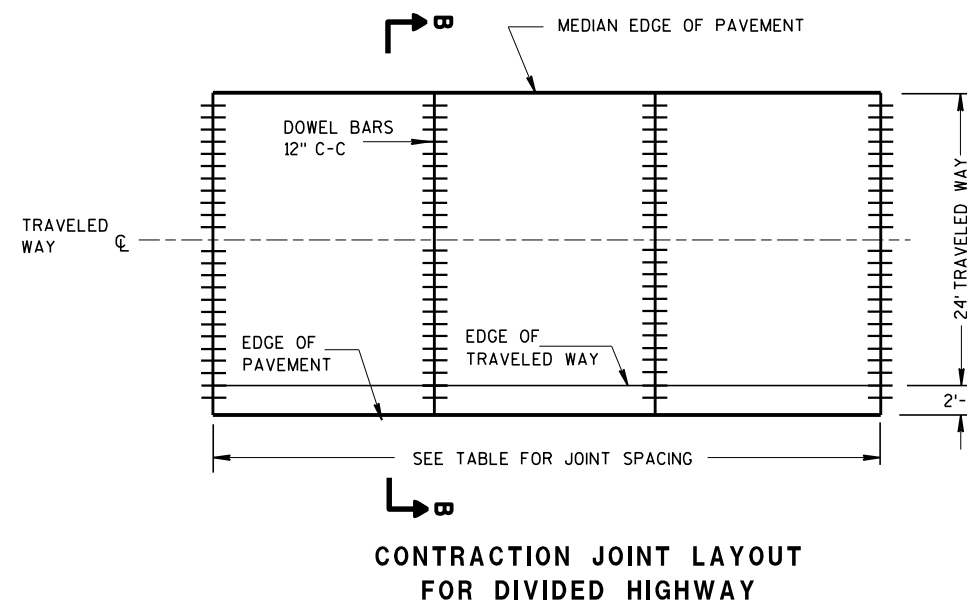
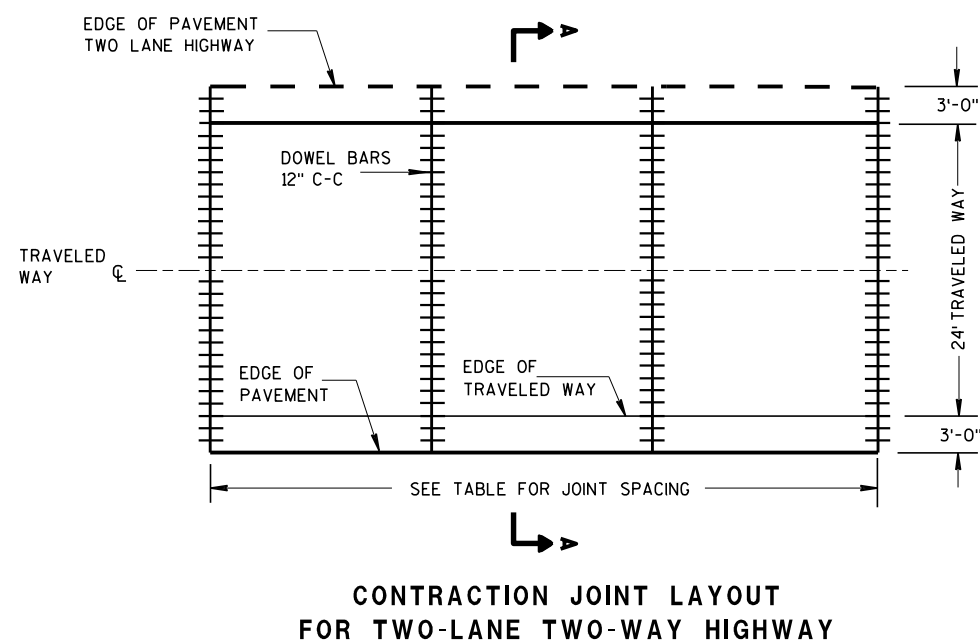
CONSTRUCTION JOINTS

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

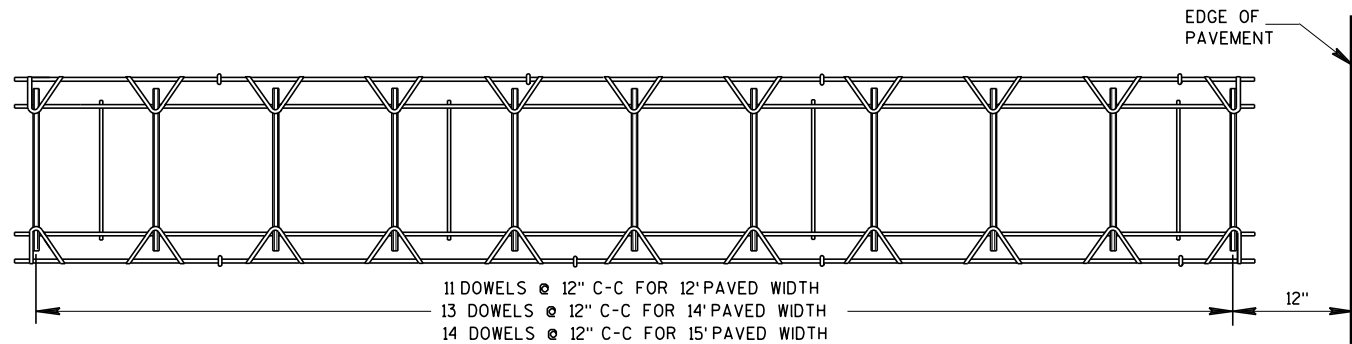
- ① REFER TO TYPICAL CROSS SECTIONS FOR ADDITIONAL DETAILS.
- ② MEASURE THE ENTIRE PAVED WIDTH INCLUDING THE PORTION(S) LABELED PAVED SHOULDER AS CONCRETE PAVEMENT.

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

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

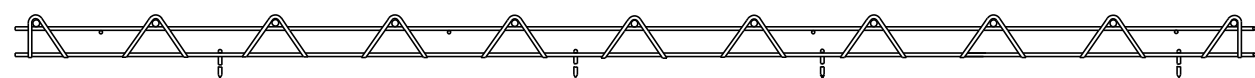


**RURAL DOWELED CONCRETE PAVEMENT**  
 STATE OF WISCONSIN  
 DEPARTMENT OF TRANSPORTATION



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

PLAN VIEW

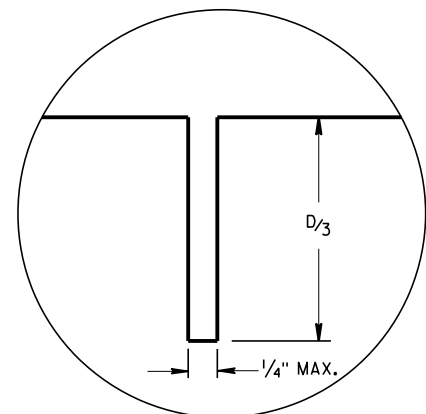


②

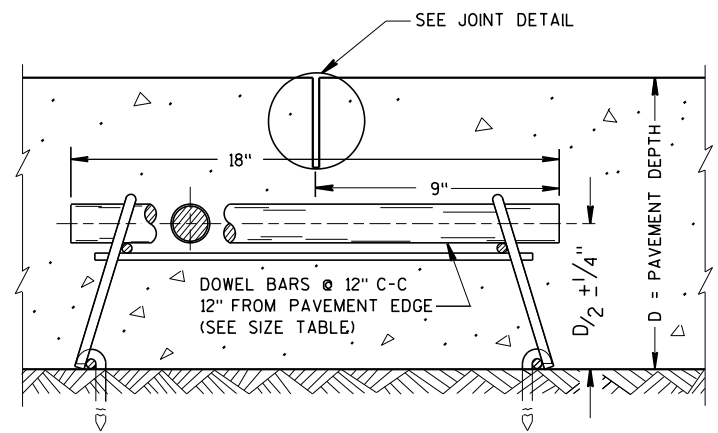
SIDE VIEW

(NORMAL TO CENTERLINE)

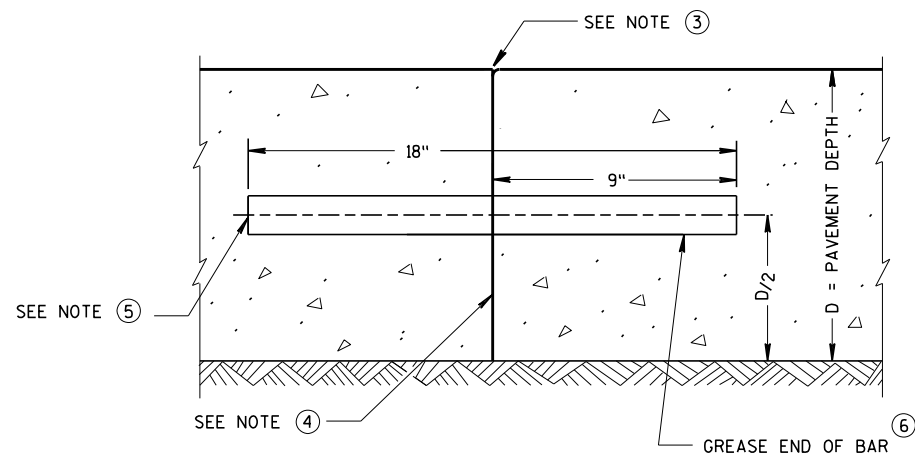
CONTRACTION JOINT DOWEL ASSEMBLY ①



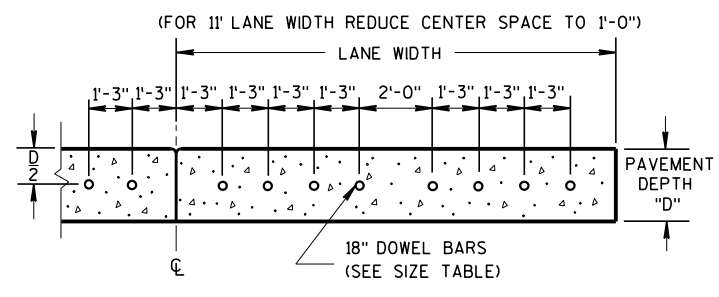
JOINT DETAIL



DOWELED CONTRACTION JOINT



TRANSVERSE CONSTRUCTION JOINT



DRILLED DOWEL BAR CONSTRUCTION JOINT ⑦

GENERAL NOTES

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

6

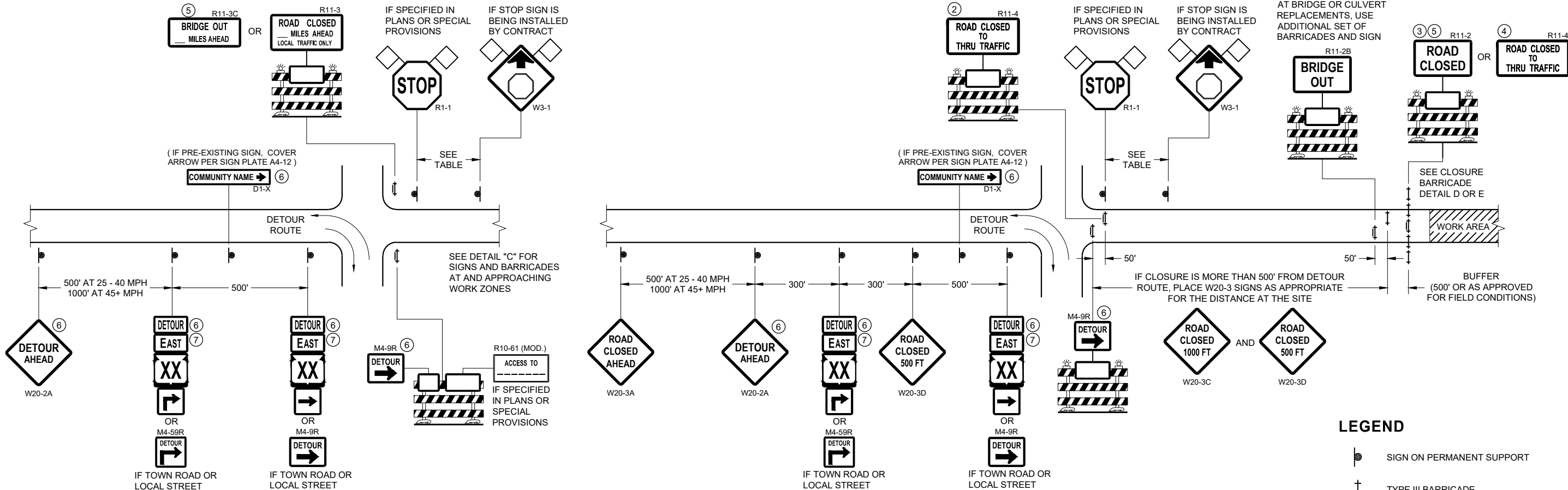
6

S.D.D. 13 C 11-12b

S.D.D. 13 C 11-12b

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



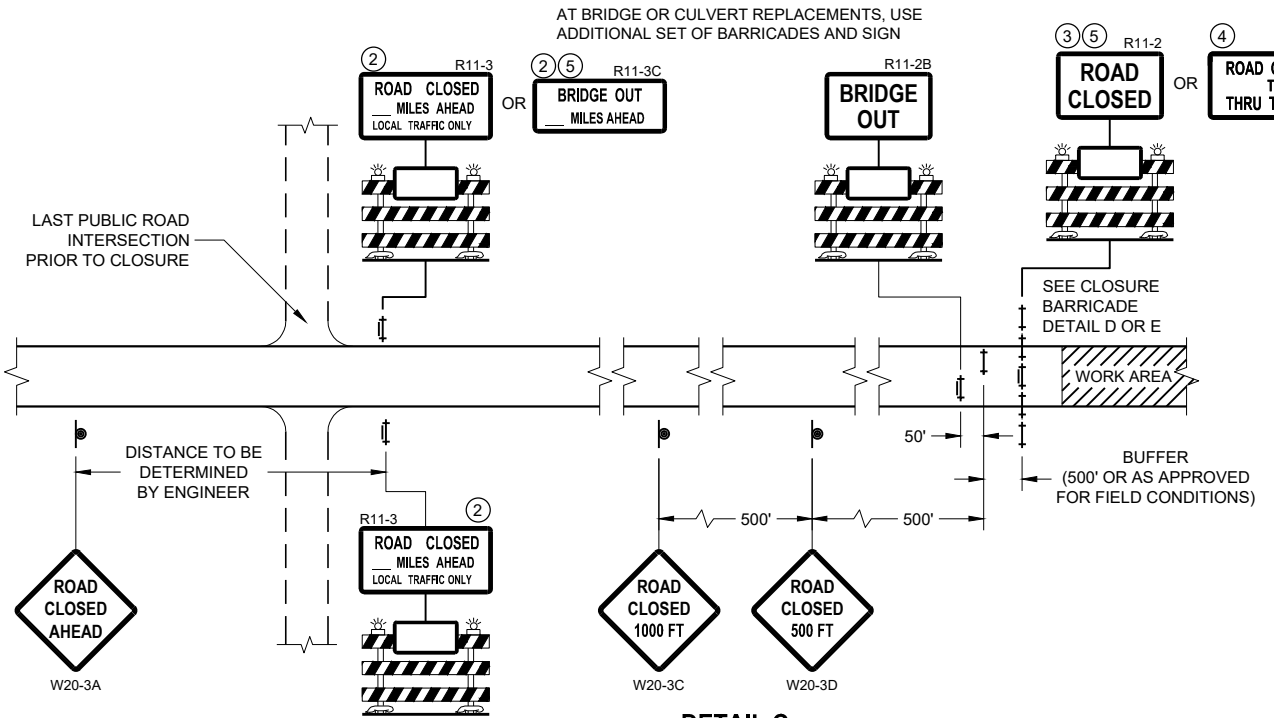
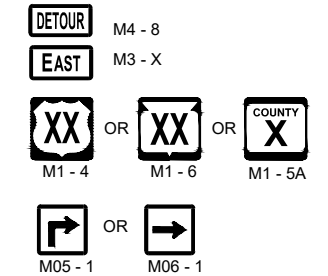


**DETAIL A**  
**MAINLINE CLOSURE WITH POSTED DETOUR**  
 WORK ZONE GREATER THAN OR EQUAL TO 1/2 MILE FROM  
 DETOUR ROUTE ( 1000 FEET IF URBAN )

**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



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

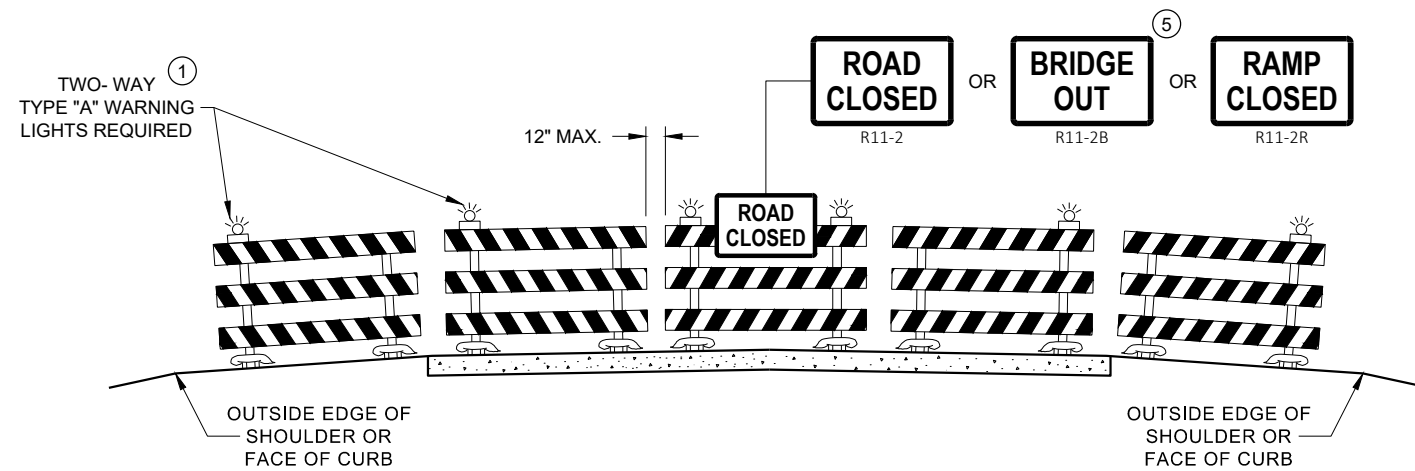
SEE SDD 15C2-SHEET "b"  
 FOR GENERAL NOTES  
 AND FOOTNOTES ① THROUGH ⑦

**BARRICADES AND SIGNS  
 FOR MAINLINE CLOSURES**

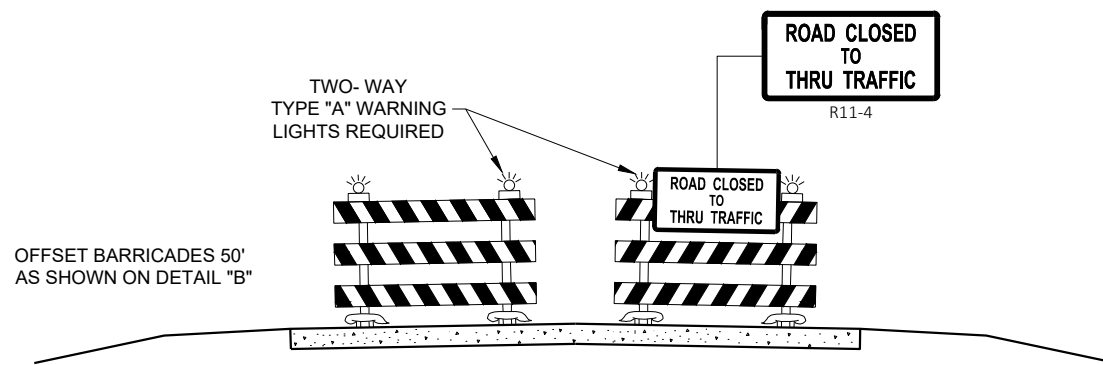
STATE OF WISCONSIN  
 DEPARTMENT OF TRANSPORTATION

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

FHWA



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



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

SEE SDD 15C2 - SHEET "a" FOR LEGEND

**GENERAL NOTES**

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

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

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

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

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

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

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

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

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

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

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

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

**BARRICADES AND SIGNS  
FOR  
VARIOUS CLOSURES**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

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

**GENERAL NOTES**

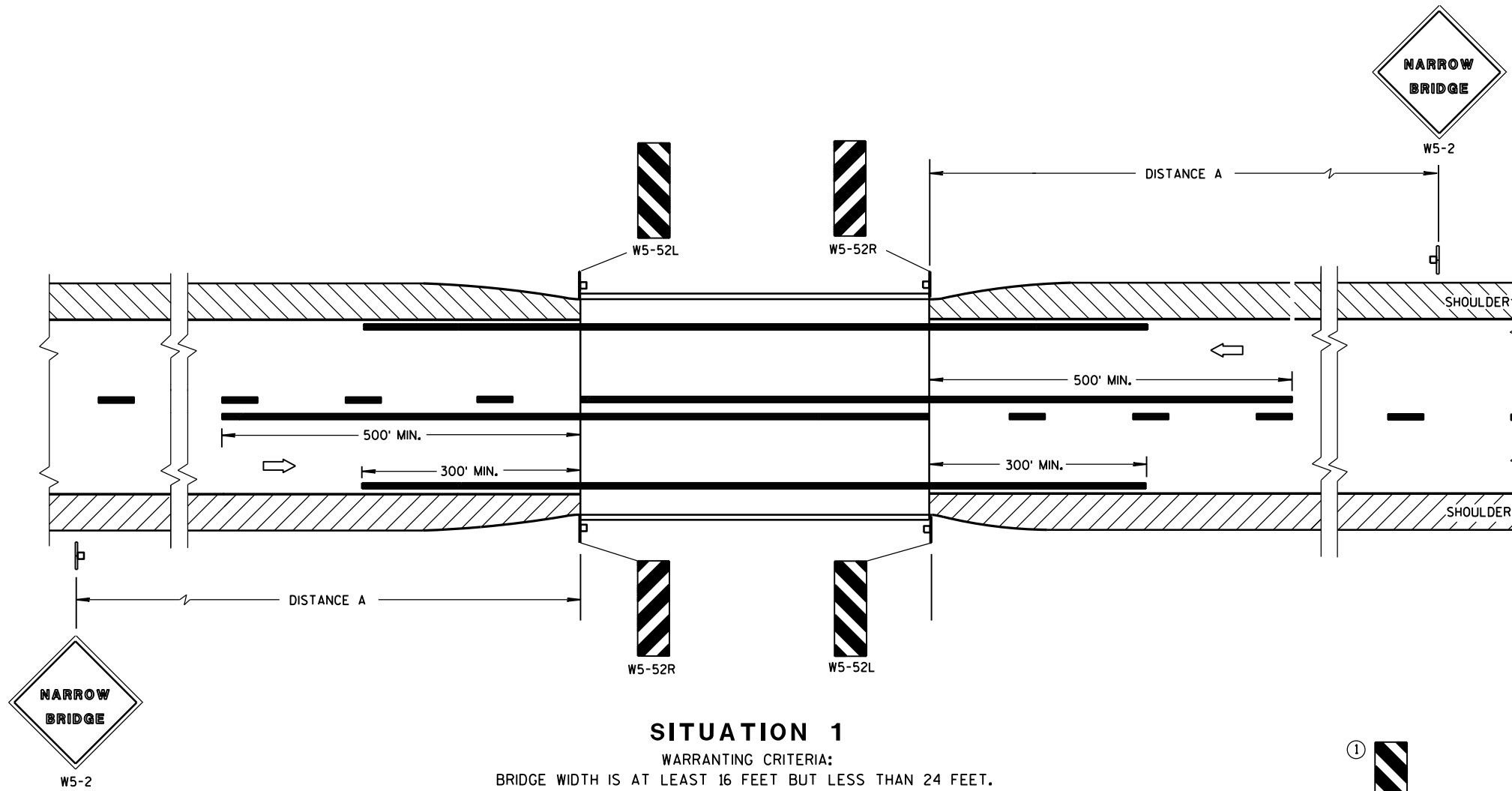
DETAILS OF TRAFFIC CONTROL DEVICES AND INSTALLATION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

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

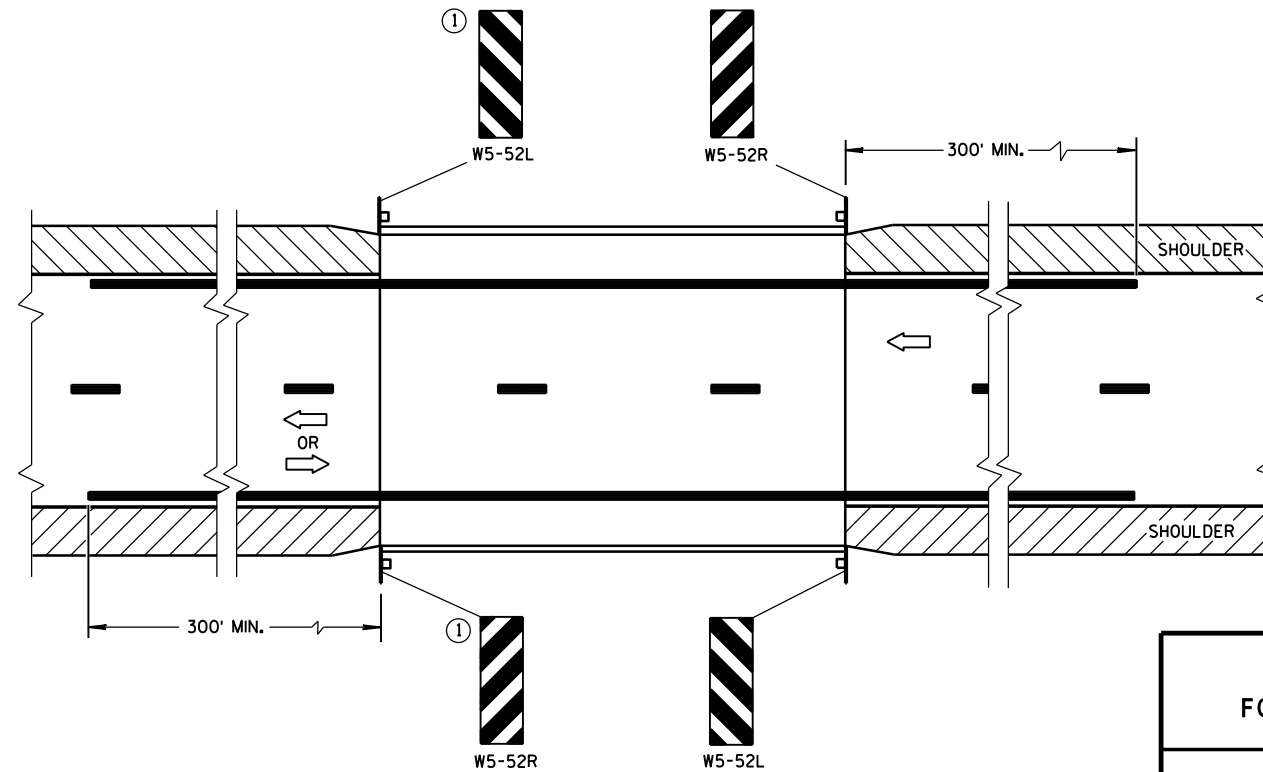
PLACE THE EDGE OF THE W5-52 SIGN IN LINE WITH FACE OF CURB OR PARAPET.

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.

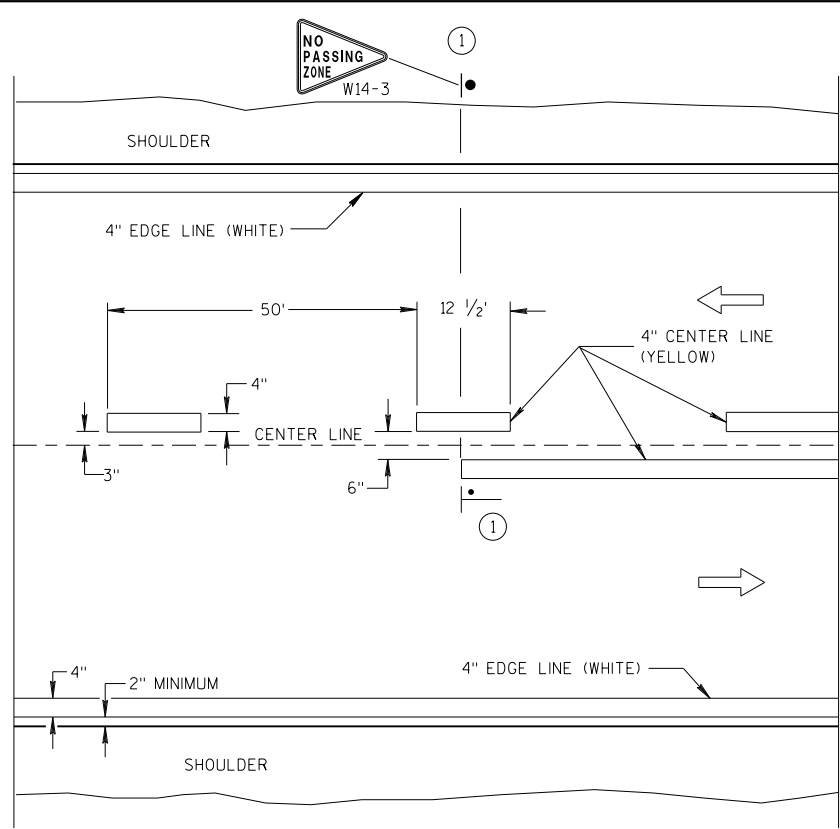
**DISTANCE TABLE**

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

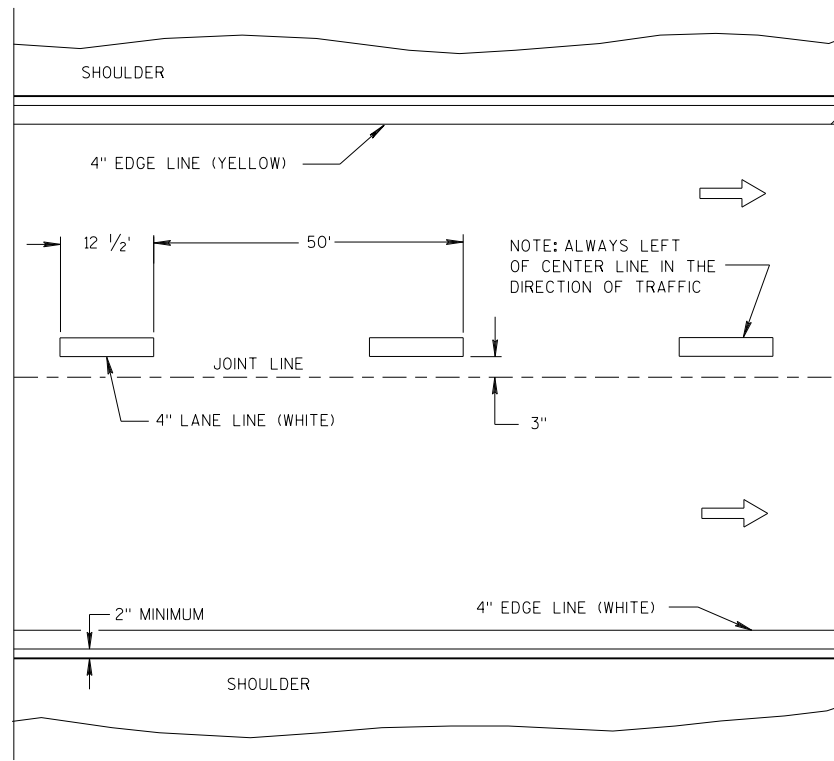
**SIGNING & MARKING FOR TWO LANE BRIDGES**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

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

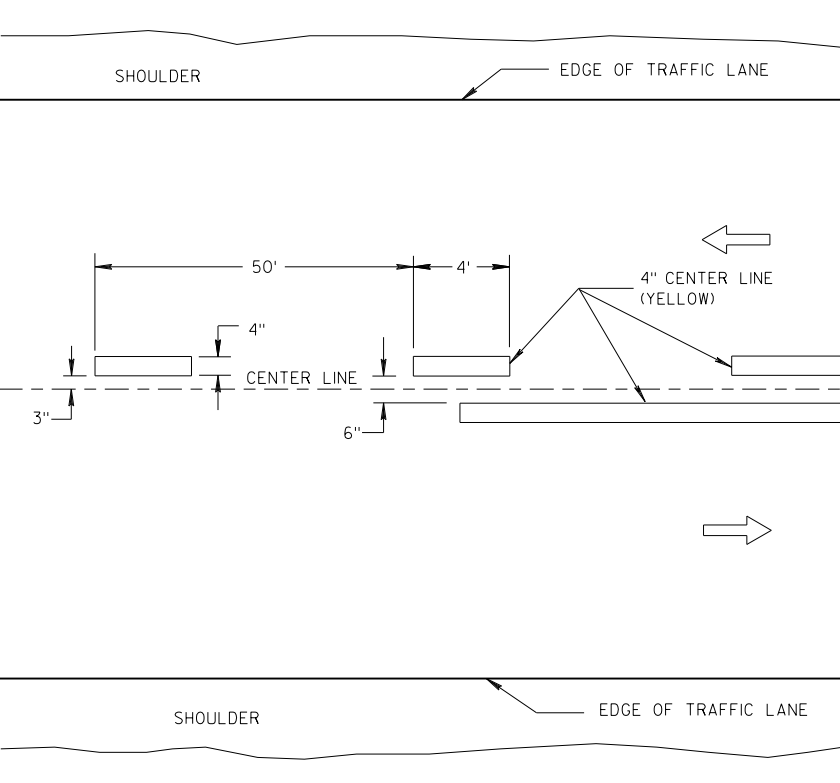


**TWO WAY TRAFFIC**

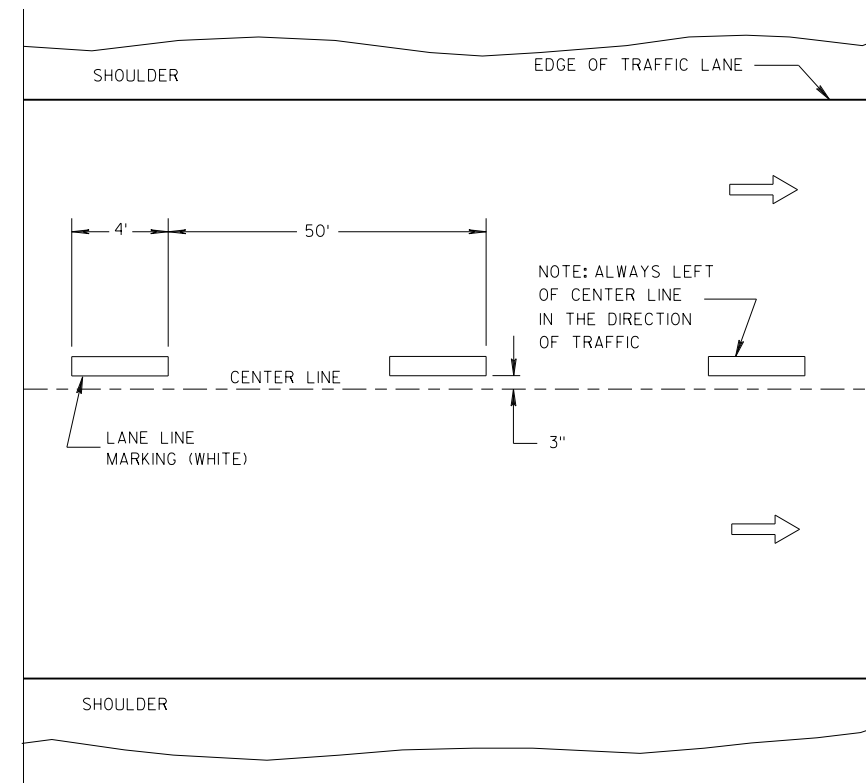


**ONE WAY TRAFFIC**

**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.

**NOTE**

ARROW SYMBOL (→) SHOWS DIRECTION OF TRAVEL

**LEGEND**

- "T" MARKING
- POST MOUNTED SIGN

**LONGITUDINAL MARKING  
(MAINLINE)**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

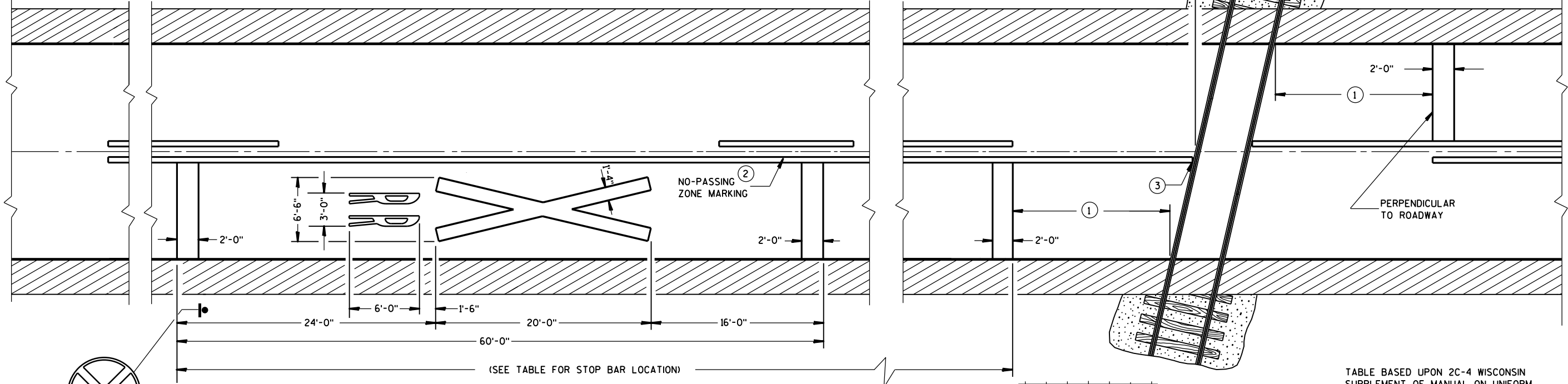
APPROVED  
DATE 7/2018 /S/ Matthew R. Rauch  
STATE SIGNING AND MARKING ENGINEER  
FHWA





W14-3

500' MIN.



W10-1

### PAVEMENT MARKING

#### 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.

ON MULTI-LANE ROADS THE TRANSVERSE BANDS SHOULD EXTEND ACROSS ALL APPROACH LANES, AND INDIVIDUAL R X R SYMBOLS SHOULD BE USED IN EACH APPROACH LANE.

CENTER OR LANE LINES AND NO-PASSING ZONE MARKINGS SHOWN ON THIS DRAWING ARE REQUIRED AND PAID FOR UNDER OTHER ITEMS IN THE CONTRACT.

RETRACE EXISTING SYMBOL WHERE EXISTING SYMBOLS ARE PLACED.

- ① MINIMUM 8' FROM ANY RAILROAD WARNING DEVICES (SIGNALS, GATES, ETC.) OR 25' FROM THE NEAREST RAIL, WHICHEVER DISTANCE IS GREATER.
- ② 500' MINIMUM. MARKING LIMITS MAY BE EXTENDED AS DIRECTED BY THE ENGINEER TO MEET ADJACENT NO-PASSING ZONE MARKINGS.
- ③ FOR MULTIPLE TRACK CROSSINGS, THE BARRIER LINE SHALL EXTEND TO THE NEAR RAIL OF THE FURTHEST TRACK IN THE DIRECTION OF HIGHWAY TRAVEL.

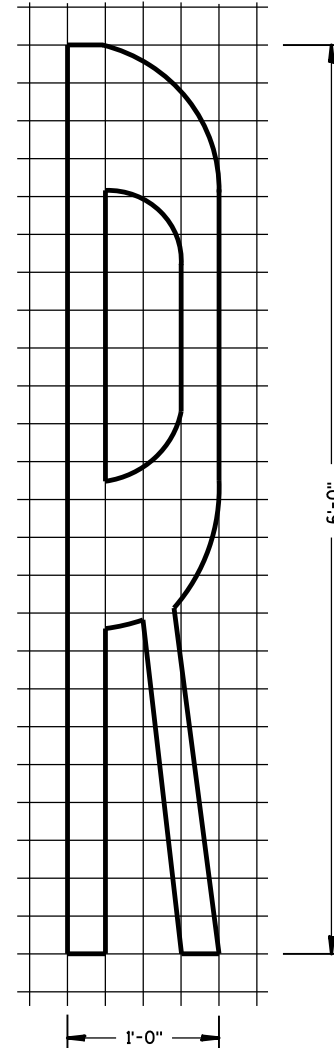


TABLE BASED UPON 2C-4 WISCONSIN SUPPLEMENT OF MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

Posted Speed (M.P.H.)	Dimension Range (Feet)
25	150* - 250
30	200* - 300
35	250* - 450
40	300* - 500
45	400* - 650
50	550* - 800
55	750* - 1000
60	1000* - 1250
65	1000* - 1250

\* THE MINIMUM DISTANCES IN THE TABLE ARE DESIRABLE AND SHOULD BE USED. THE DISTANCES MAY BE INCREASED UP TO THE MAXIMUM TO ALLOW FOR FIELD CONDITIONS SUCH AS THE CLOSE PROXIMITY OF DRIVEWAYS, BRIDGES, SIDEROADS OR OTHER FEATURES THAT WOULD PROHIBIT THE MINIMUM DISTANCES FROM BEING USED.

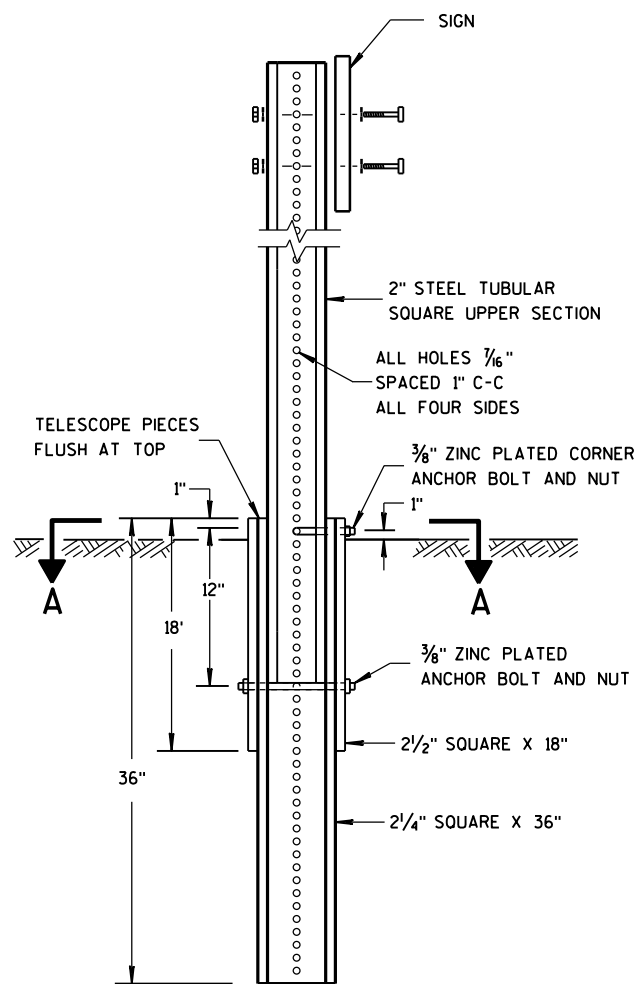
#### SIGNING AND PAVEMENT MARKING DETAILS FOR RAILROAD-HIGHWAY GRADE CROSSINGS

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED

Sept., 2017 /S/ Matthew R. Rauch  
DATE STATE SIGNING AND MARKING ENGINEER

FHWA



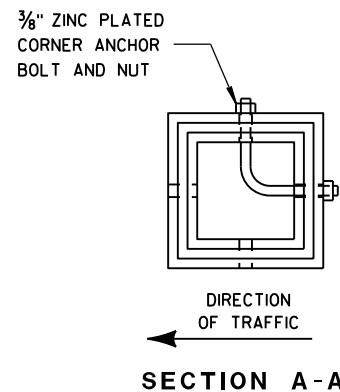
**DETAIL OF TUBULAR STEEL SIGN POST**

**TUBULAR STEEL POSTS**

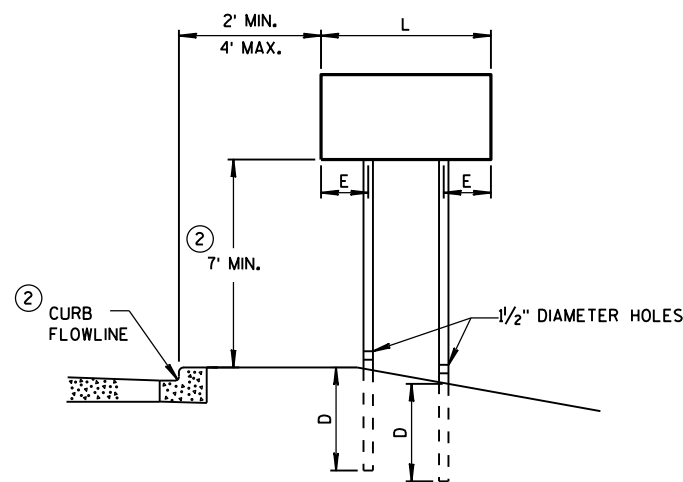
AREA OF SIGN INSTALLATION (SQ. FT.)	NUMBER OF REQUIRED TUBULAR STEEL POSTS
9 OR LESS	1
GREATER THAN 9 LESS THAN OR EQUAL TO 18	2
GREATER THAN 18 LESS THAN OR EQUAL TO 27	3

SIGNS WIDER THAN 3 FEET OR LARGER THAN 9 SQ. FT. SHALL BE MOUNTED ON MULTIPLE POSTS (SEE ABOVE TABLE).

SIGNS LARGER THAN 27 SQ. FT. SHALL NOT BE MOUNTED ON TUBULAR STEEL POSTS.



**SECTION A-A**

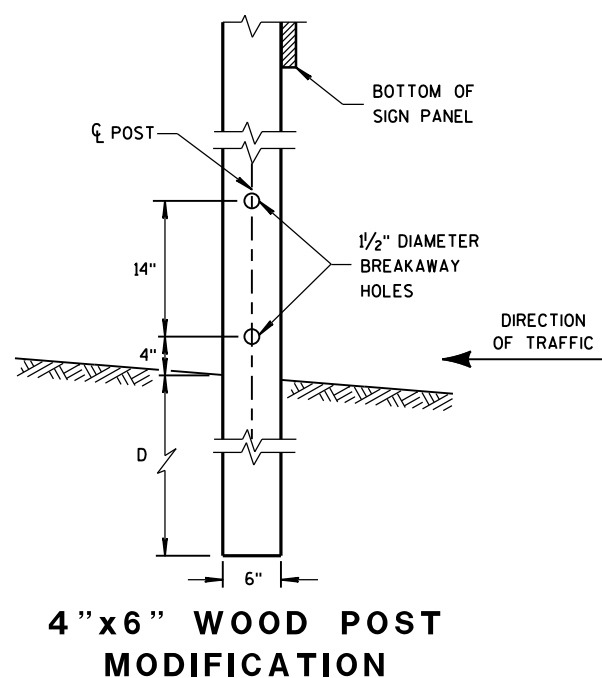


**URBAN AREA**

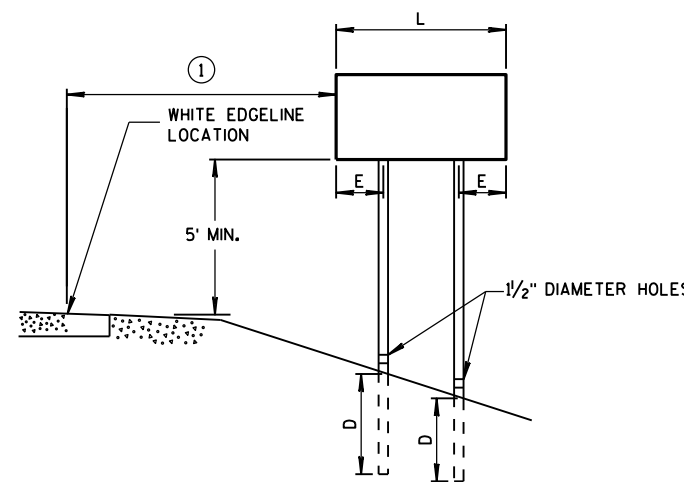
**POST MOUNTING DETAIL FOR TEMPORARY TRAFFIC CONTROL FIXED MESSAGE SIGNS**

**WOOD POST EMBEDMENT DEPTH**

AREA OF SIGN INSTALLATION (SQ. FT.)	D (MIN)
20 OR LESS	4'
GREATER THAN 20	5'



**4" X 6" WOOD POST MODIFICATION**



**RURAL AREA**

**4" X 6" WOOD POST**

POST SPACING REQUIREMENTS		NUMBER OF WOOD POSTS REQUIRED
L	E	
48" OR LESS AND LESS THAN 20 SQ. FT.	-	1
LESS THAN 60"	12"	2
60" TO 120"	L/5	2
GREATER THAN 120" LESS THAN 168"	12"	3
168" AND GREATER	12"	4

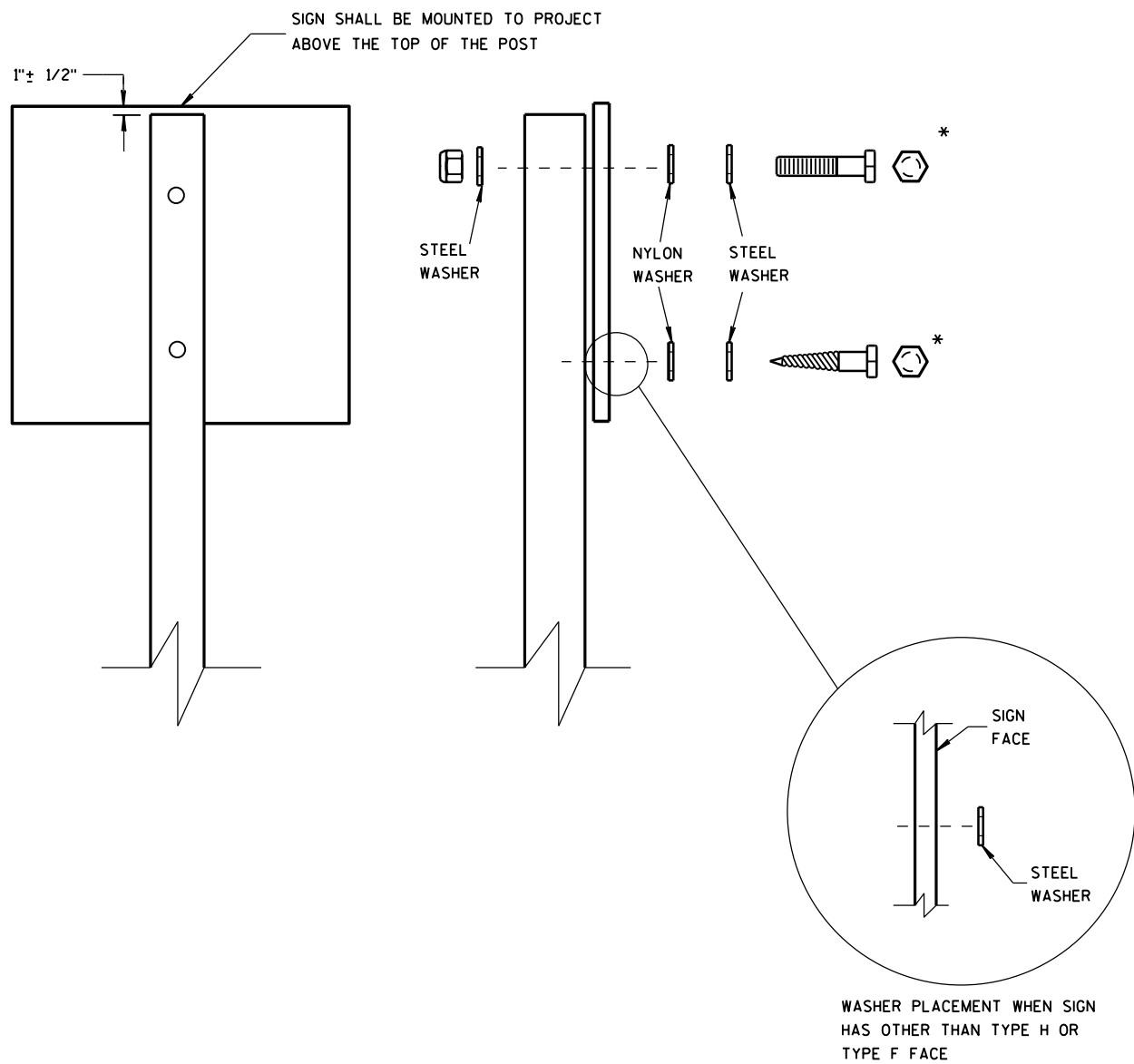
SEE NOTE ③

**GENERAL NOTES**

- ① 6 FEET FROM THE EDGE OF PAVEMENT (EDGE LINE LOCATION) UNLESS OTHERWISE DIRECTED BY THE PROJECT ENGINEER. LATERAL OFFSET SHOULD BE ADJUSTED TO AVOID THE DITCH FLOWLINE.
- ② 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. IF NO SIDEWALK AND NO PARKING, VERTICAL CLEARANCE MAY BE REDUCED TO 5 FOOT MINIMUM. OFFSET OF SIGNS IS MEASURED FROM THE CURB FLOWLINE.
- ③ FOR SIGNS REQUIRING 4 POSTS, SPACE INTERMEDIATE POSTS EVENLY.

**TEMPORARY TRAFFIC CONTROL SIGN MOUNTING**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



NUTS, BOLTS AND LAGS USED FOR MOUNTING SIGNS SHALL HAVE HEXAGONAL HEADS AND SHALL BE EITHER:

A. HOT DIP GALVANIZED IN ACCORDANCE WITH ASTM DESIGNATION: A 153, CLASS D, OR SC 3

B. ELECTRO-GALVANIZED IN ACCORDANCE WITH ASTM DESIGNATION: B 633, TYPE III, SC 3

THREADS ON BOLTS AND NUTS SHALL BE MANUFACTURED WITH SUFFICIENT ALLOWANCE FOR THE CADMIUM PLATE OR GALVANIZED COATING TO PERMIT THE NUTS TO RUN FREELY ON THE BOLTS.

WOOD POSTS (4" x 4" or 4" x 6")

LAG SCREWS - 3/8" X 3"

MACHINE BOLTS - 5/16" X 6-1/2" OR 7" LENGTH W/ NUTS

SQUARE STEEL POSTS (2" x 2")

MACHINE BOLTS - 3/8" X 3-1/4" LENGTH W/ NUTS

RIVETS - 5/32" (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH

WASHERS (ALL POSTS) -

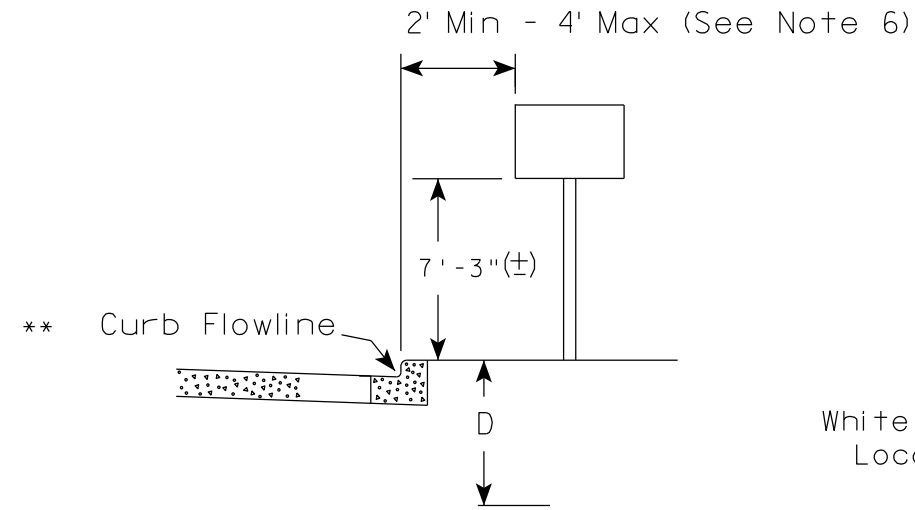
1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL

1-1/4" O.D. X 3/8" I.D. X .080 NYLON FOR ALL TYPE H SIGNS

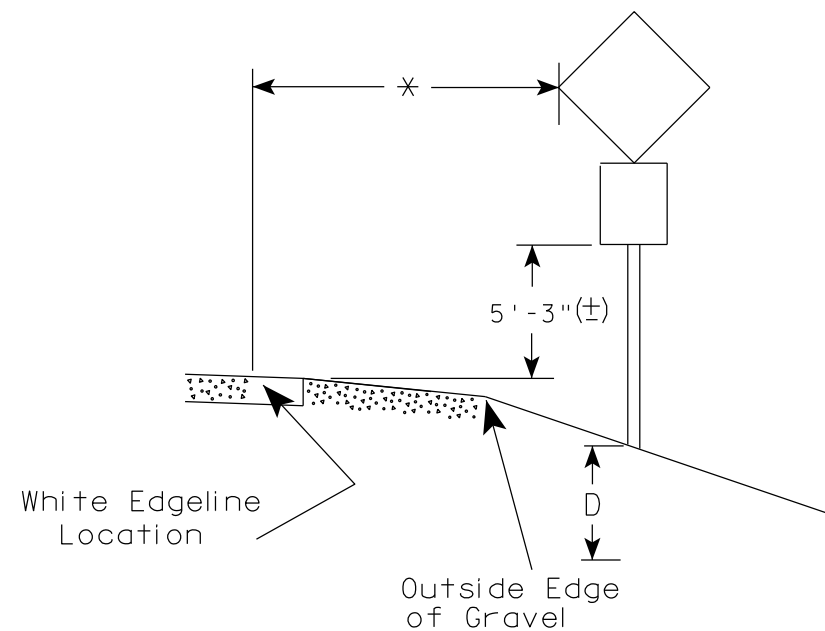
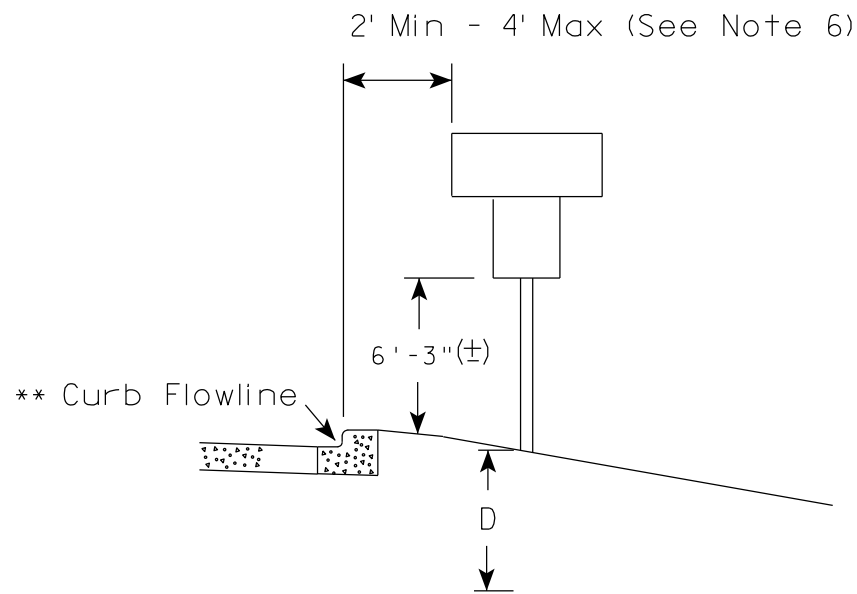
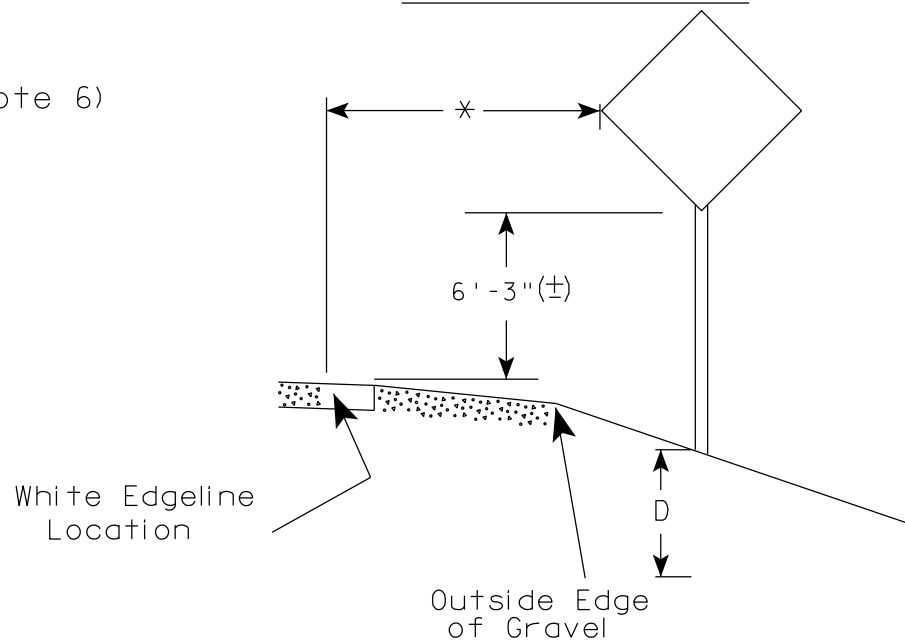
\* TWO DIFFERENT FASTENING SYSTEMS ARE SHOWN FOR ILLUSTRATION PURPOSES. ON ANY INDIVIDUAL SIGN, EITHER ONE OR THE OTHER SYSTEM SHALL BE USED. ACTUAL NUMBER OF FASTENERS PER SIGN VARIES WITH THE SIGN AREA. FOR A SINGLE POST INSTALLATION, ALL SIGNS GREATER THAN 9 SQ. FT. REQUIRE THE USE OF 3 FASTENERS.

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

URBAN AREA



RURAL AREA (See Note 2)



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 barrier wall, see A4-10 sign plate.
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 J assemblies (A2-1S) is 7'-3" (±) or 6'-3" (±) per urban or rural detail respectively.
5. Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±).
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. The (±) tolerance for mounting height is 3 inches.
8. Folding signs shall be mounted at a height of 5'-3" (±) or as directed by the Engineer.
9. 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), 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" (±).

POST EMBEDMENT DEPTH

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

\* \* 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

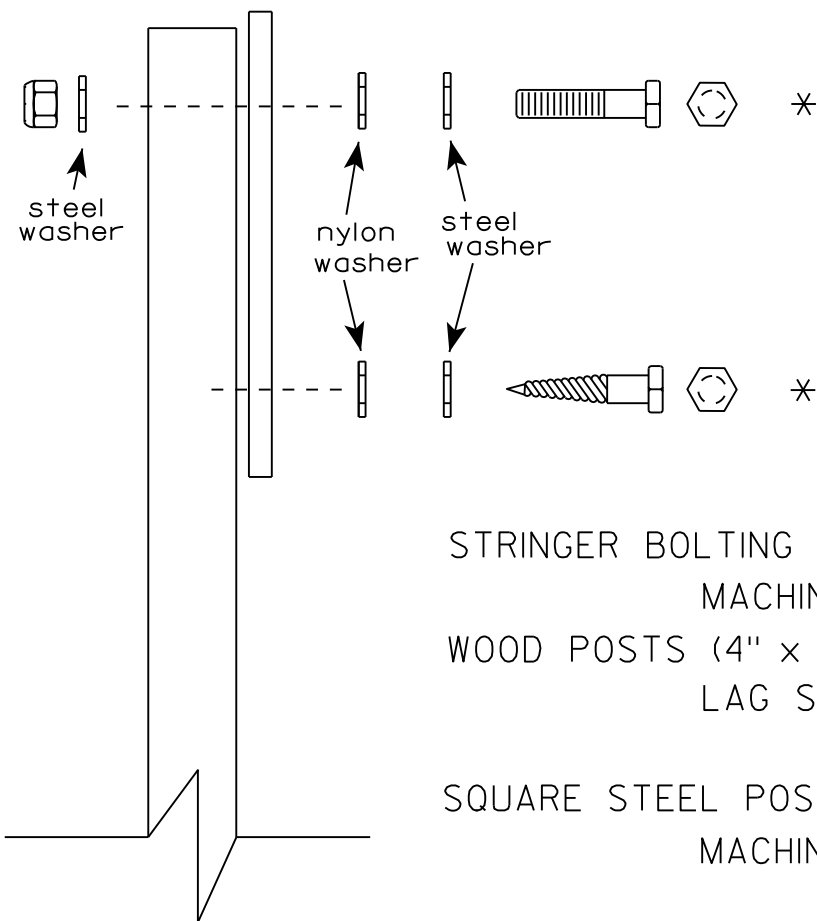
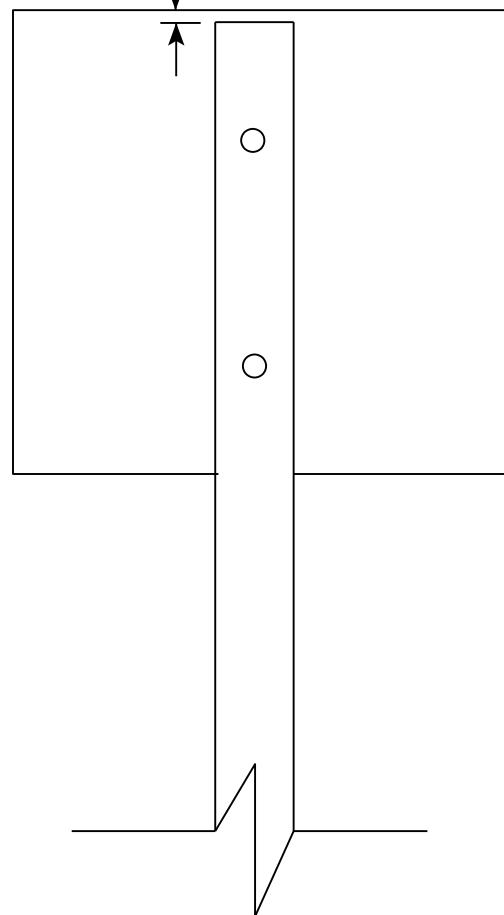
APPROVED *Matthew R Rauch*  
for State Traffic Engineer

DATE 7/23/15 PLATE NO. A4-3.20



1"± 1/2"

SIGN SHALL BE MOUNTED TO PROJECT ABOVE THE TOP OF THE POST



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 4" or 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.

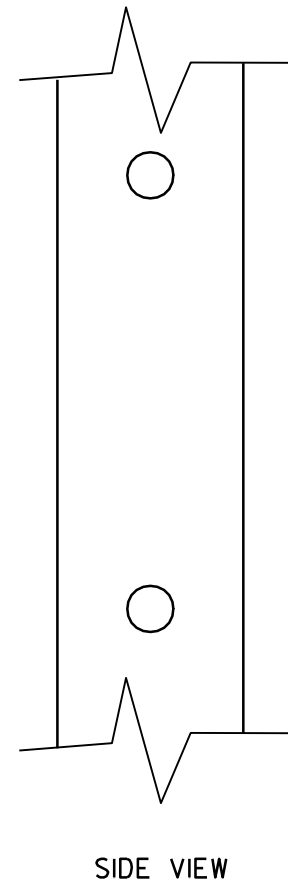
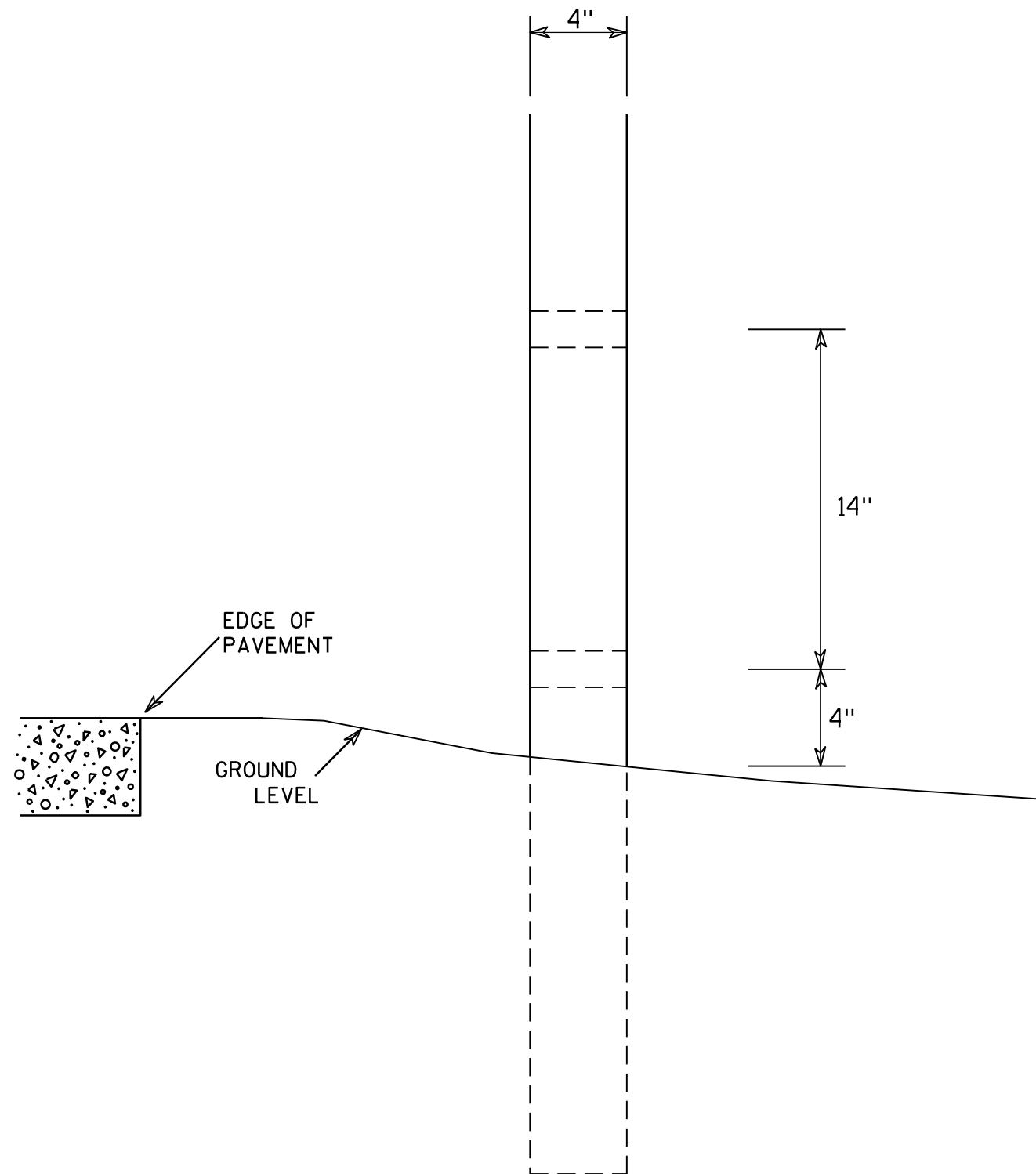
ATTACHMENT OF SIGNS TO POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
For State Traffic Engineer

DATE 8/11/16 PLATE NO. A4-8.8

7



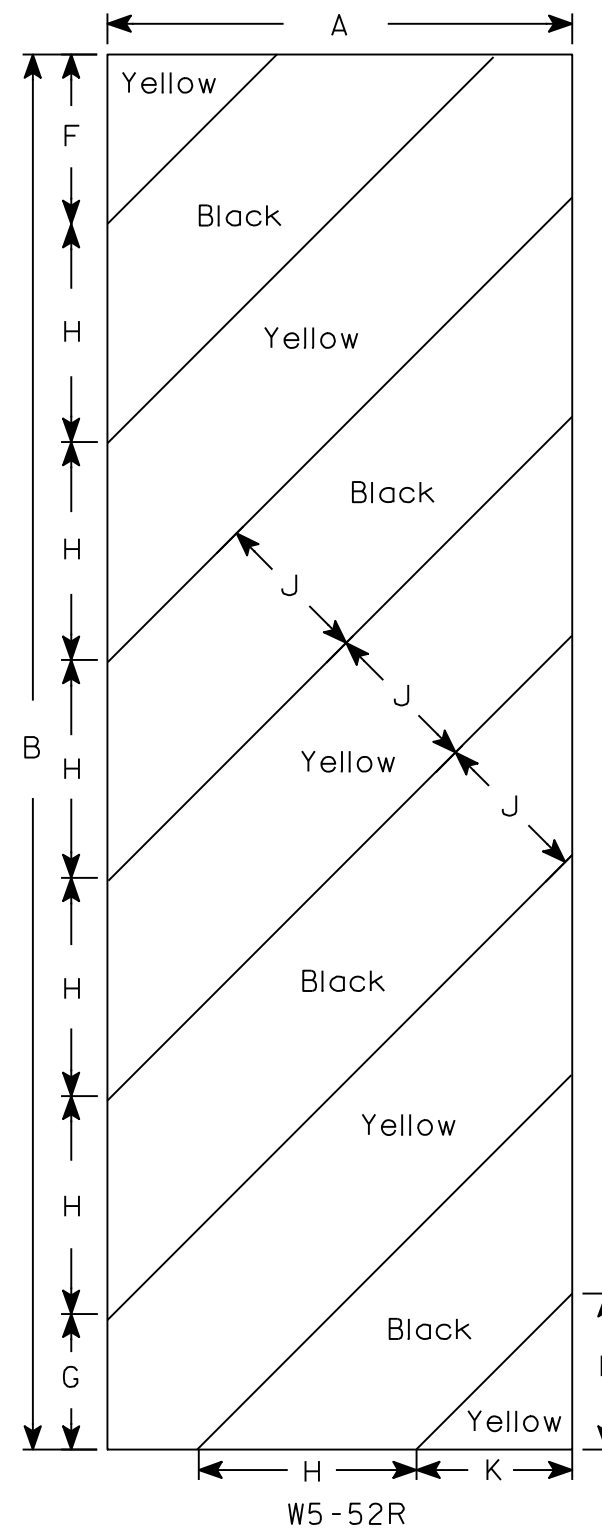
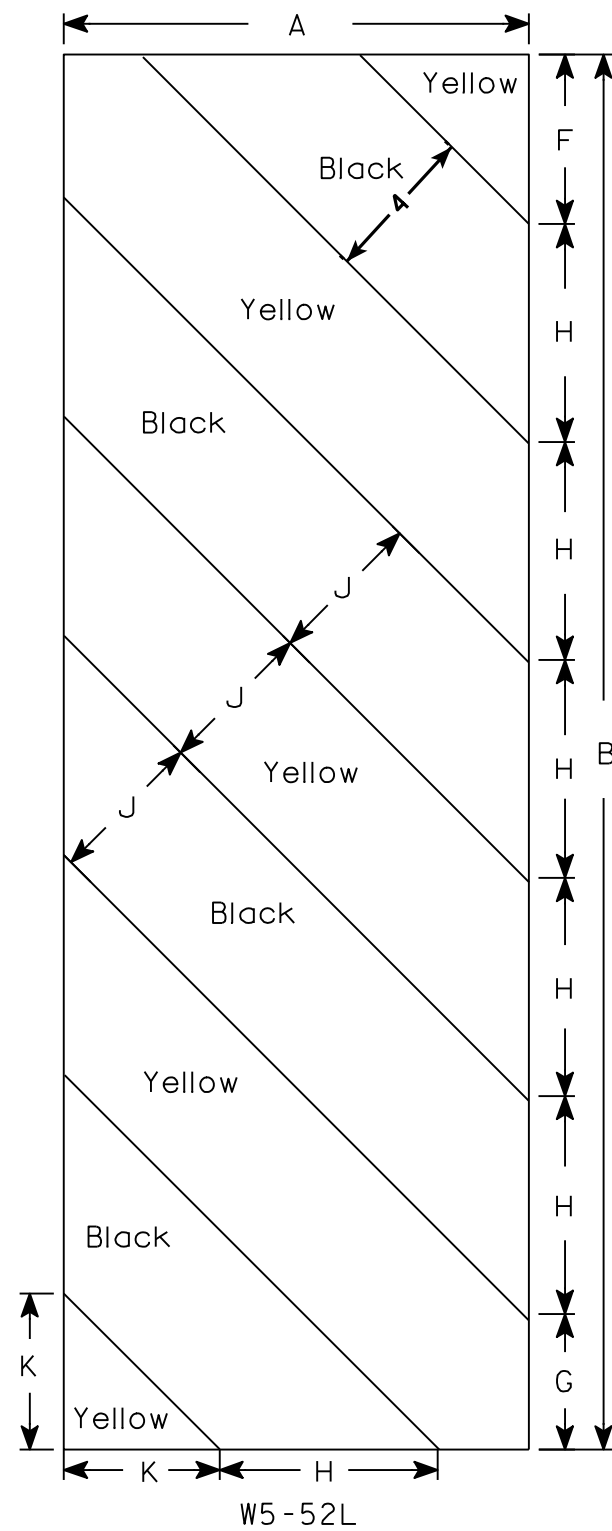
GENERAL NOTES

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

7

7

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



NOTES

1. Sign is Type II - 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

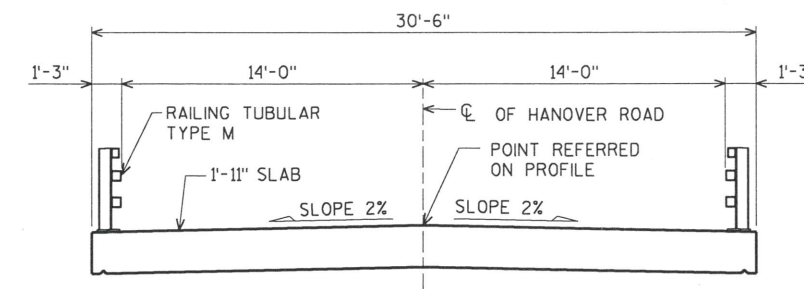
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	12	36				4 3/8	3 1/2	5 5/8	45°	4	4																3.0
2M	12	36				4 3/8	3 1/2	5 5/8	45°	4	4																3.0
3	18	54				6	5 1/2	8 1/2	45°	6	6 5/16																6.75
4																											
5																											

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



TYPICAL SECTION THRU BRIDGE

DESIGN DATA

LIVE LOAD:

DESIGN LOADING: HL-93  
 INVENTORY RATING FACTOR: 1.15  
 OPERATING RATING FACTOR: 1.50  
 WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV) = 250 KIPS

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

MATERIAL PROPERTIES:

CONCRETE MASONRY {SUPERSTRUCTURE  $f'_c$  = 4,000 p.s.i.  
 ALL OTHER  $f'_c$  = 3,500 p.s.i.  
 HIGH STRENGTH BAR STEEL REINFORCEMENT (GRADE 60)  $f_y$  = 60,000 p.s.i.

HYDRAULIC DATA:

100 YEAR FREQUENCY

$Q_{100}$  = 1,620 c.f.s.  
 VEL. = 8.08 f.p.s.  
 HW<sub>100</sub> = EL. 818.66  
 WATERWAY AREA = 200 sq. ft.  
 DRAINAGE AREA = 5.8 sq. mi.  
 ROADWAY OVERTOPPING = N/A  
 SCOUR CRITICAL CODE = 8  
 DATUM = NAVD88 (2012)

2 YEAR FREQUENCY

$Q_2$  = 195 c.f.s.  
 VEL. = 2.9 f.p.s.  
 HW<sub>2</sub> = EL. 812.94

FOUNDATION DATA:

ABUTMENTS TO BE SUPPORTED ON 10 3/4"  $\phi$  x 0.50" CIP CONCRETE PILING (WITH PILE POINTS) DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 150 TONS+ PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED LENGTH 65'-0". DO NOT END PILES IN DENSE LAYER APPROXIMATELY 20' TO 30' BELOW BOTTOM OF ABUTMENT.

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

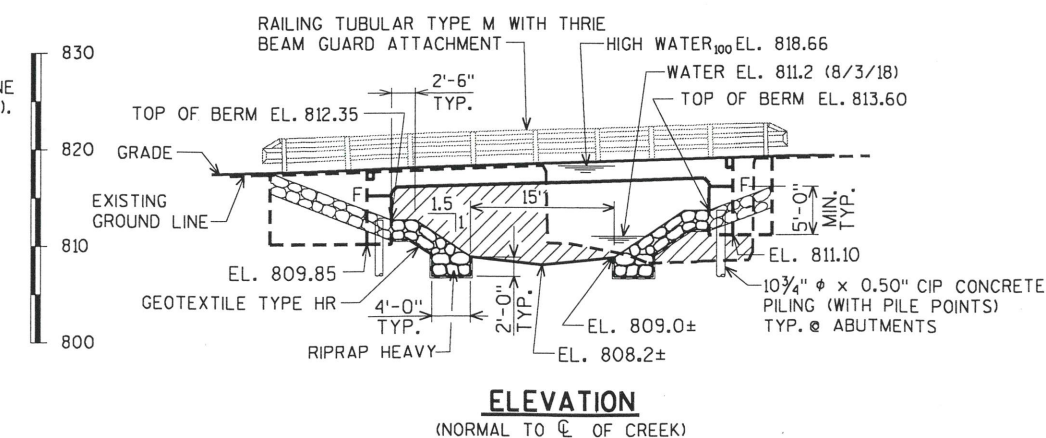
TRAFFIC DATA:

A.A.D.T. = 680 (2020)  
 A.A.D.T. = 750 (2040)  
 R.D.S. = 25 M.P.H.

LIST OF DRAWINGS

1. GENERAL PLAN
2. QUANTITIES AND NOTES
3. SUBSURFACE EXPLORATION
4. WEST ABUTMENT
5. WEST ABUTMENT WINGS 1 & 2 DETAILS
6. WEST ABUTMENT DETAILS & BILL OF BARS
7. EAST ABUTMENT
8. EAST ABUTMENT WINGS 3 & 4 DETAILS
9. EAST ABUTMENT DETAILS & BILL OF BARS
10. SUPERSTRUCTURE
11. SUPERSTRUCTURE DETAILS
12. RAILING TUBULAR TYPE M

PLAN SINGLE SPAN CONCRETE FLAT SLAB BRIDGE



ELEVATION (NORMAL TO C of CREEK)



BRIDGE OFFICE CONTACT:  
 WILLIAM DREHER  
 (608)-266-8489  
 CONSULTANT CONTACT:  
 DAN SYDOW  
 (715)-834-3161

NO.	DATE	REVISION	BY

ORIGINAL PLANS PREPARED BY  
**AYRES ASSOCIATES**  
 3433 Oakwood Hills Parkway  
 Eau Claire, WI 54701  
 www.AyresAssociates.com

STATE OF WISCONSIN  
 DEPARTMENT OF TRANSPORTATION  
 ACCEPTED *William C. Dreher* SDR 11/14/19  
 CHIEF STRUCTURES DESIGN ENGINEER DATE

**STRUCTURE B-53-377**  
 HANOVER ROAD OVER MARKHAM CREEK  
 COUNTY ROCK TOWN/CITY/VILLAGE ROCK

DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS  
 DESIGNED BY CJM DESIGN CK'D. ZSS DRAWN BY ZSS/CLP PLANS CK'D. JNS

**GENERAL PLAN** SHEET 1 OF 12

\* ATTACHMENT FOR THRIE BEAM TYPE GUARDRAIL.  
 O DENOTES WING NUMBER.  
 EXISTING OVERHEAD ELECTRICAL LINES TO REMAIN. CONSTRUCTION MUST BE ACCOMPLISHED WITH LINES IN PLACE. THE LOWEST LINE IS AT APPROXIMATE ELEVATION 853.5. SEE SPECIAL PROVISIONS FOR INFORMATION ON DE-ENERGIZING LINES. THE CONTRACTOR IS ADVISED THAT LOW OVERHEAD EQUIPMENT AND CONSTRUCTION METHODS WILL BE REQUIRED.

EXCAVATION FOR CHANNEL NORTH OF R/W LINE PAID AS COMMON EXCAVATION (ROADWAY ITEM).

EXCAVATION FOR CHANNEL CHANGE SOUTH OF R/W LINE PAID AS "EXCAVATION FOR STRUCTURES BRIDGES B-53-377".

8

8

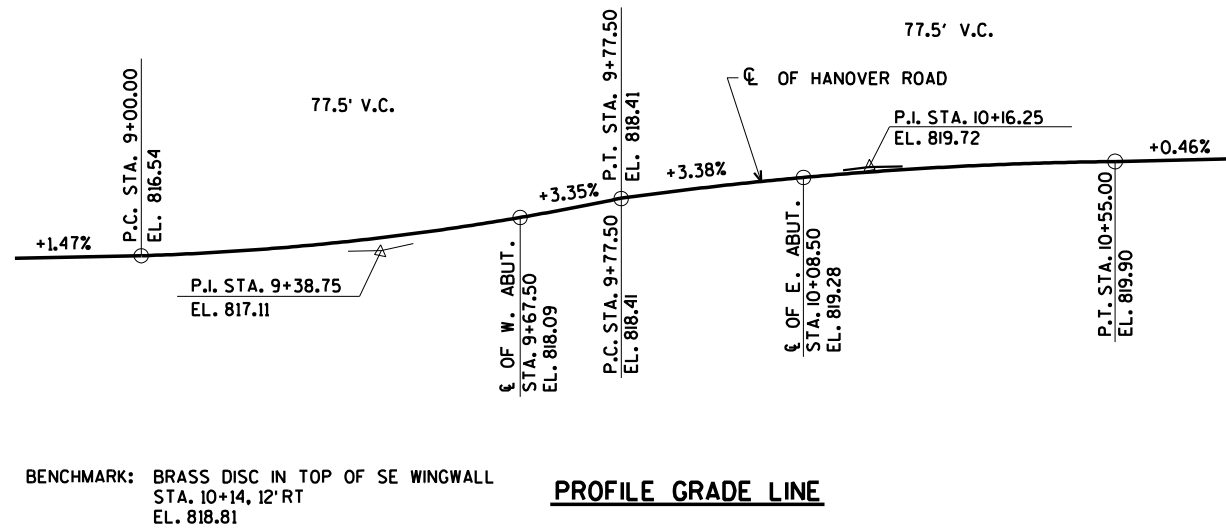


**TOTAL ESTIMATED QUANTITIES**

BID ITEM NUMBER	BID ITEMS	UNIT	W. ABUT.	E. ABUT.	SUPER.	TOTAL
203.0500.S	REMOVING OLD STRUCTURE OVER WATERWAY STATION 10+00	LS	-----	-----	-----	1
206.1000	EXCAVATION FOR STRUCTURES BRIDGES B-53-377	LS	-----	-----	-----	1
210.1500	BACKFILL STRUCTURE TYPE A	TON	145	145	-----	290
502.0100	CONCRETE MASONRY BRIDGES	CY	35	28	99	162
502.3200	PROTECTIVE SURFACE TREATMENT	SY	-----	-----	170	170
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	2,180	2,130	-----	4,310
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	1,540	1,030	17,170	19,740
513.4061	RAILING TUBULAR TYPE M	LF	25	15	88	128
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	10	9	-----	19
550.0500	PILE POINTS	EACH	6	6	-----	12
550.2108	PILING CIP CONCRETE 10 3/4" x 0.50-INCH	LF	390	390	-----	780
606.0300	RIPRAP HEAVY	CY	75	70	-----	145
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	80	70	-----	150
645.0111	GEOTEXTILE TYPE DF SCHEDULE A	SY	50	40	-----	90
645.0120	GEOTEXTILE TYPE HR	SY	175	155	-----	330
SPV.0105.01	SETTLEMENT MONITORING	LS	-----	-----	-----	1
SPV.0165.01	TEMPORARY SHORING RAILROAD	SF	-----	130	-----	130
NON-BID ITEMS						
	FILLER	SIZE	-----	-----	-----	1/2" & 3/4"
	NAME PLATE					

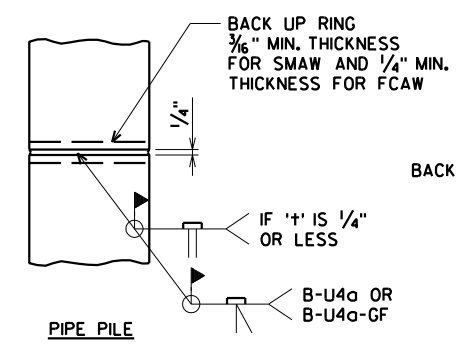
**GENERAL NOTES**

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 A.A.S.H.T.O. DESIGNATION M 153, TYPE I, II OR III OR A.A.S.H.T.O. DESIGNATION M 213.  
 THE SLOPE OF THE FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH RIPRAP HEAVY AND GEOTEXTILE TYPE HR TO THE EXTENT SHOWN ON THE GENERAL PLAN SHEET AND IN THE ABUTMENT DETAILS.  
 SLAB FALSEWORK SHALL BE SUPPORTED ON PILES OR THE SUBSTRUCTURE UNLESS AN ALTERNATIVE METHOD IS APPROVED BY THE ENGINEER.  
 THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES BRIDGES B-53-377" SHALL BE THE EXISTING GROUNDLINE.  
 THE EXISTING STRUCTURE, P-53-118, TO BE REMOVED, IS A SINGLE SPAN CONCRETE DECK GIRDER BRIDGE ON CONCRETE ABUTMENTS, 29 FT. LONG WITH A 19.7 FT. CLEAR ROADWAY WIDTH.  
 AT THE BACK FACE OF ABUTMENTS, ALL VOLUME WHICH CANNOT BE PLACED BEFORE ABUTMENT CONSTRUCTION AND IS NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH BACKFILL STRUCTURE TYPE A.  
 PROTECTIVE SURFACE TREATMENT IS TO BE APPLIED AS SHOWN IN DETAIL ON THIS SHEET.  
 BEVEL EXPOSED EDGES OF CONCRETE 3/4" UNLESS NOTED OTHERWISE.  
 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 EXCAVATIONS FOR STRUCTURES.

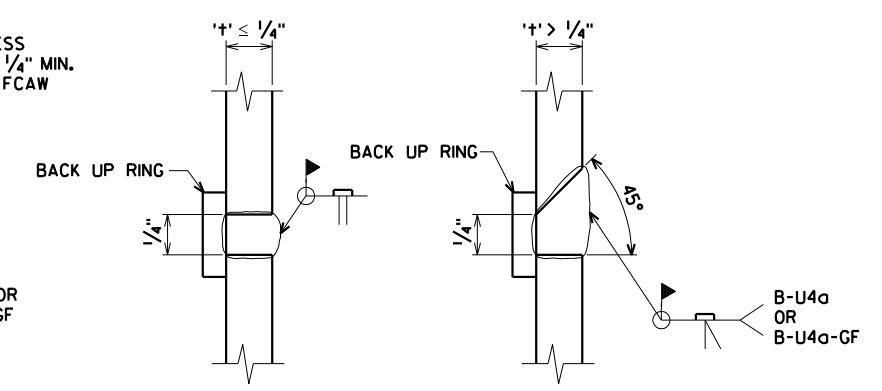


BENCHMARK: BRASS DISC IN TOP OF SE WINGWALL STA. 10+14, 12' RT EL. 818.81

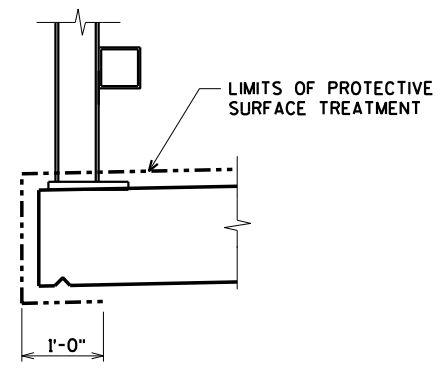
**PROFILE GRADE LINE**



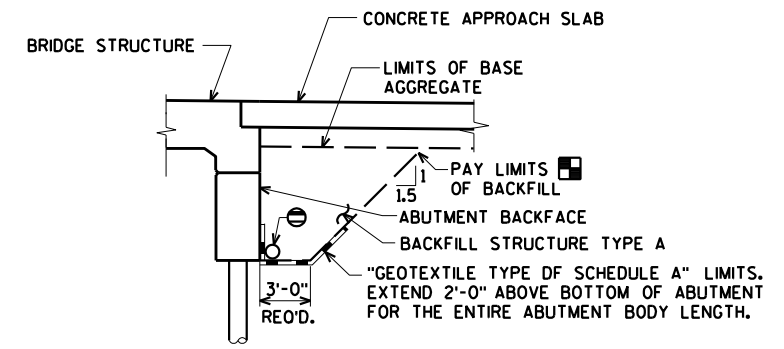
**PILE SPLICE DETAIL**  
 CAST-IN-PLACE PILE SHELL MATERIAL SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.



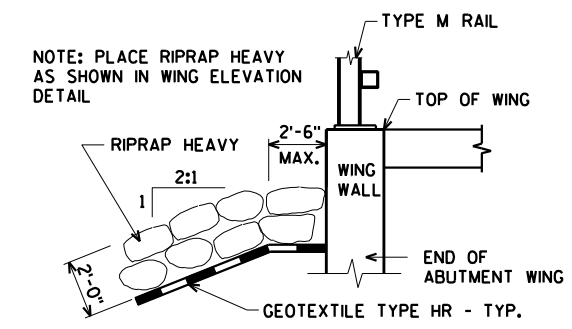
**CIP PILE WELD DETAIL**



**PROTECTIVE SURFACE TREATMENT DETAIL**



**BACKFILL STRUCTURE LIMITS**  
 ■ BACKFILL PAY LIMITS. BACKFILL BEYOND BACKFILL PAY LIMITS SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES. LIMITS OF EXCAVATION SHALL BE DETERMINED BY THE CONTRACTOR.  
 ○ PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN AS DETAILED ON SHEET 6.



**TYPICAL FILL SECTION AT WING TIPS**

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
<b>STRUCTURE B-53-377</b>			
DRAWN BY ZSS/CLP		PLANS CK'D. CJM	
<b>QUANTITIES AND NOTES</b>			SHEET 2 OF 12

ORIGINAL PLANS PREPARED BY  
**AYRES ASSOCIATES**  
 3433 Oakwood Hills Parkway  
 Eau Claire, WI 54701  
 www.AyresAssociates.com

\$PRNAME\$ U:\42-1141.00 - Rock Co. Hanover Rd\Structures\421141 ty an.dgn

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BORING #	DATE COMPLETED	NORTHING (Y)	EASTING (X)
1	JANUARY 11, 2019	259731.98	472652.55
BORINGS COMPLETED BY: NUMMELIN TESTING SERVICES, INC			
REPORT COMPLETED BY: NUMMELIN TESTING SERVICES, INC			
ALL COORDINATES REFERENCED TO WCCS NAD 83(9) ROCK COUNTY			

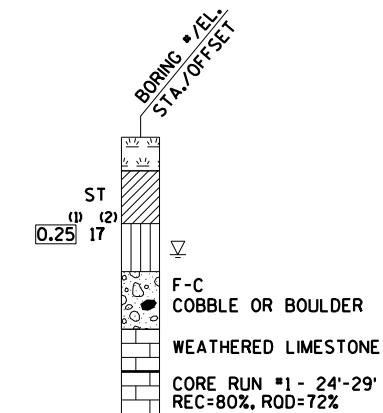
STATE PROJECT NUMBER

5768-00-75

MATERIAL SYMBOLS

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

LEGEND OF BORING



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

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

GROUND WATER ELEVATION

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

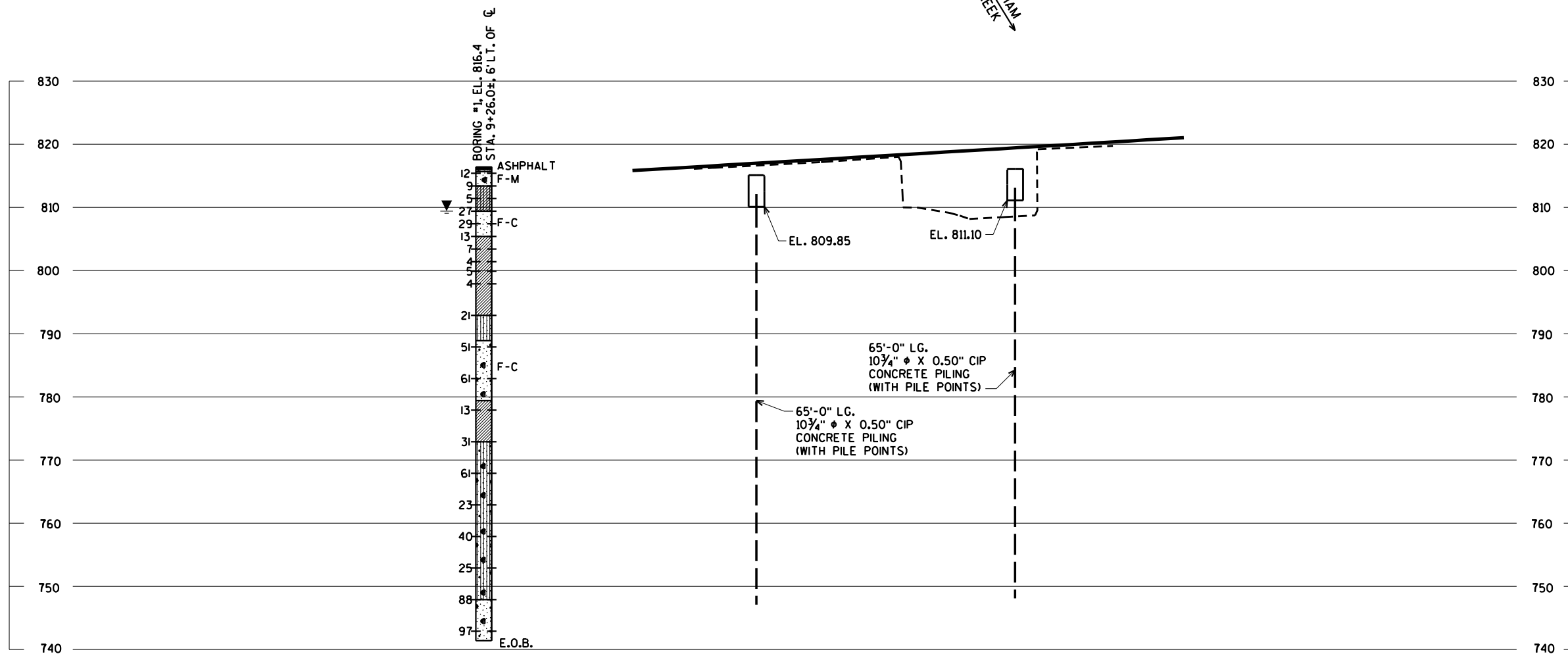
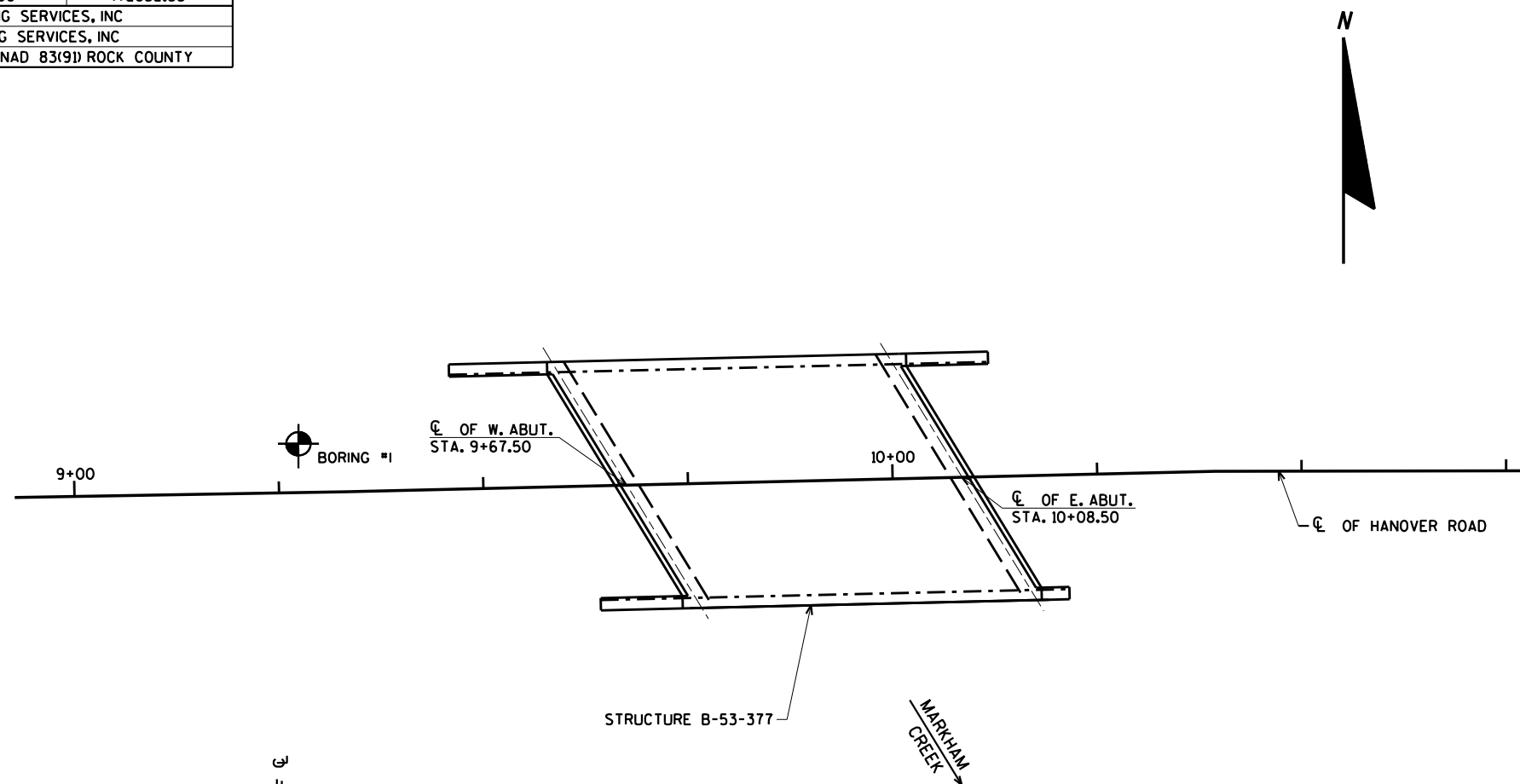
ABBREVIATIONS

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

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

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

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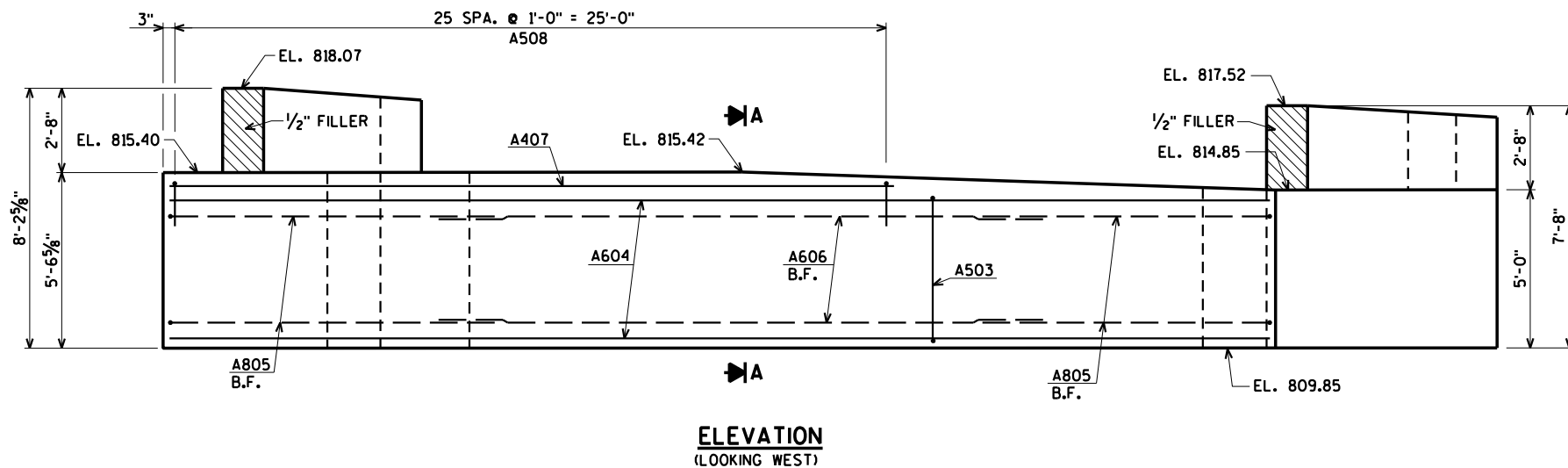


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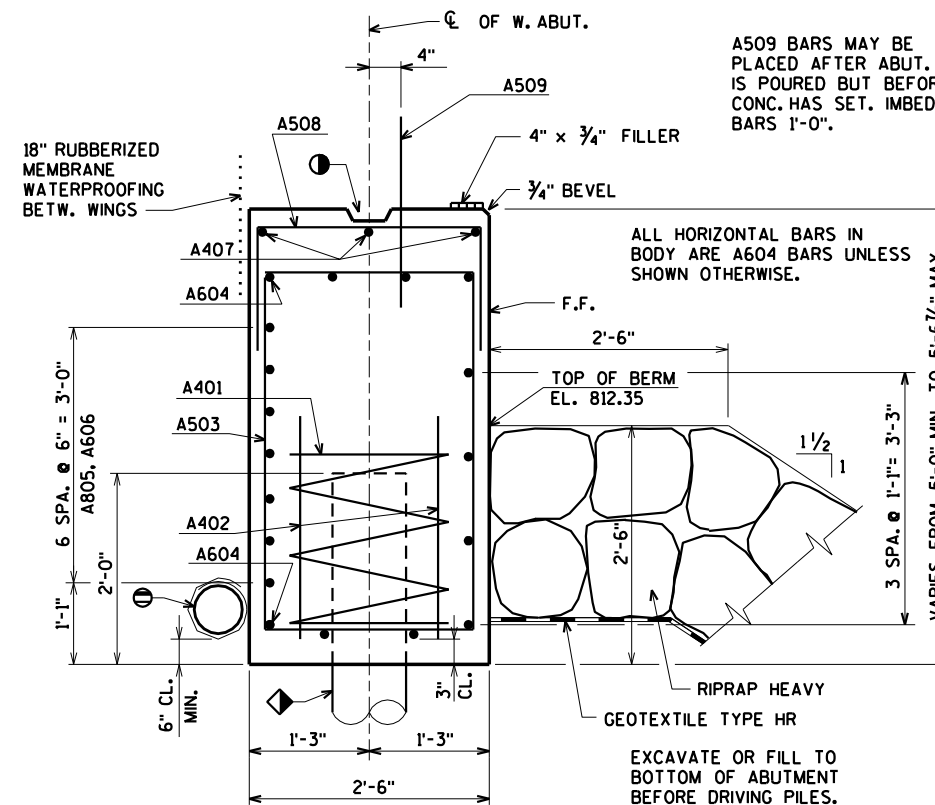
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NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
<b>STRUCTURE B-53-377</b>			
DRAWN BY ZSS/CLP		PLANS CKD. CJM	
<b>SUBSURFACE EXPLORATION</b>			SHEET 3 OF 12

NOTE:  
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).

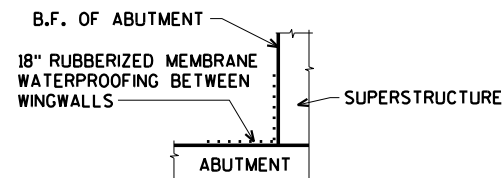


**ELEVATION**  
(LOOKING WEST)



**SECTION A**

◆ ABUTMENT TO BE SUPPORTED ON  
10 3/4" Ø x 0.50" CIP CONCRETE PILING  
(WITH PILE POINTS) DRIVEN TO A REQ'D.  
DRIVING RESISTANCE OF 150 TONS PER PILE.  
ESTIMATED LENGTH 65'-0".



**SECTION F**

⊖ PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5%  
MIN. TO SUITABLE DRAINAGE. ATTACH RODENT  
SHIELD AT ENDS OF PIPE UNDERDRAIN. FOR  
RODENT SHIELD DETAIL SEE SHEET 6.

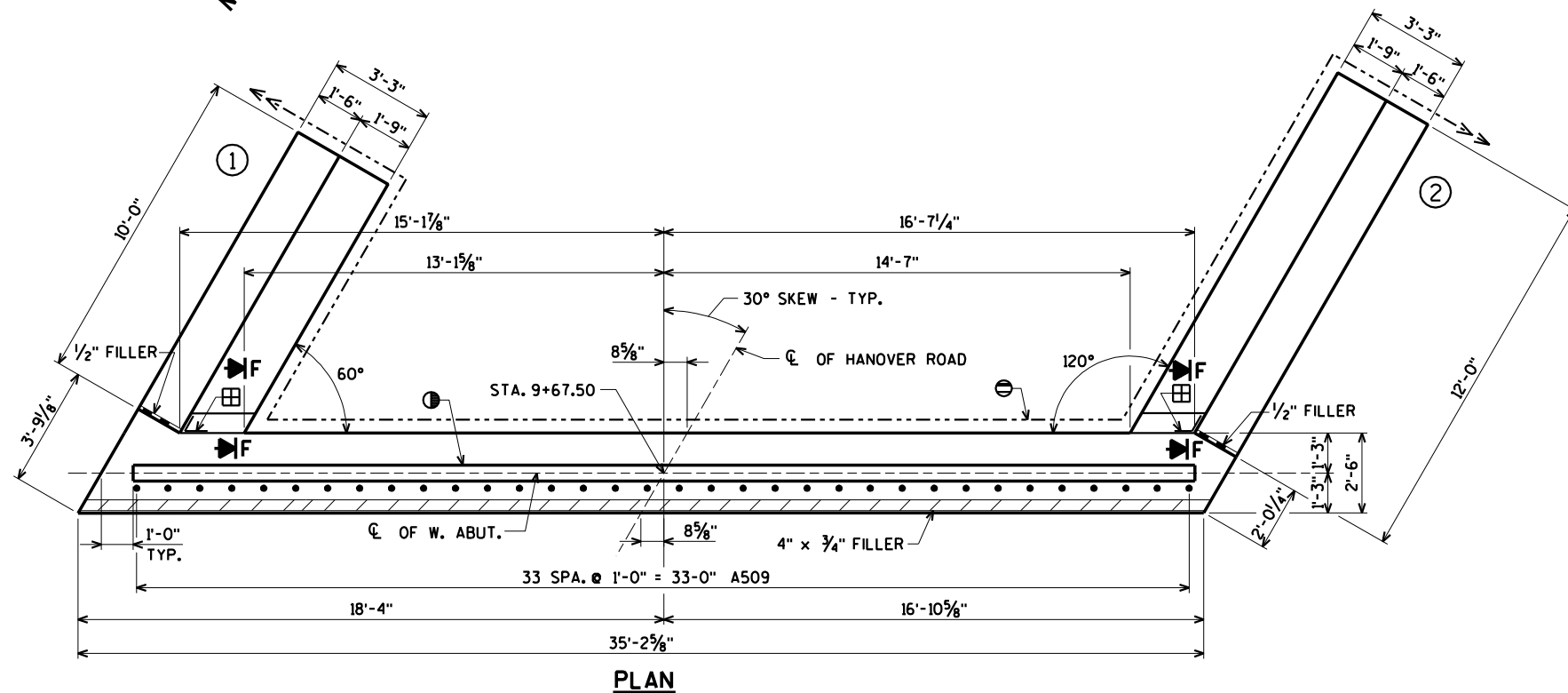
⊙ KEYED CONST. JOINT - FORMED  
BY A BEVELED 2" x 6".

⊞ VERTICAL 18" RUBBERIZED MEMBRANE  
WATERPROOFING TO EXTEND FROM  
BRIDGE SEAT TO TOP OF WINGWALL.

FOR PILE SPLICE DETAIL SEE SHEET 2.

B.F. DENOTES BACK FACE

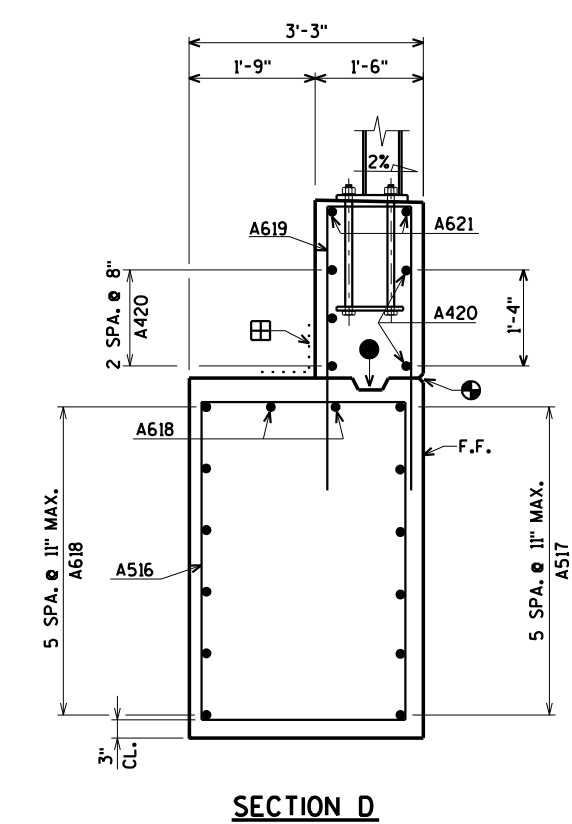
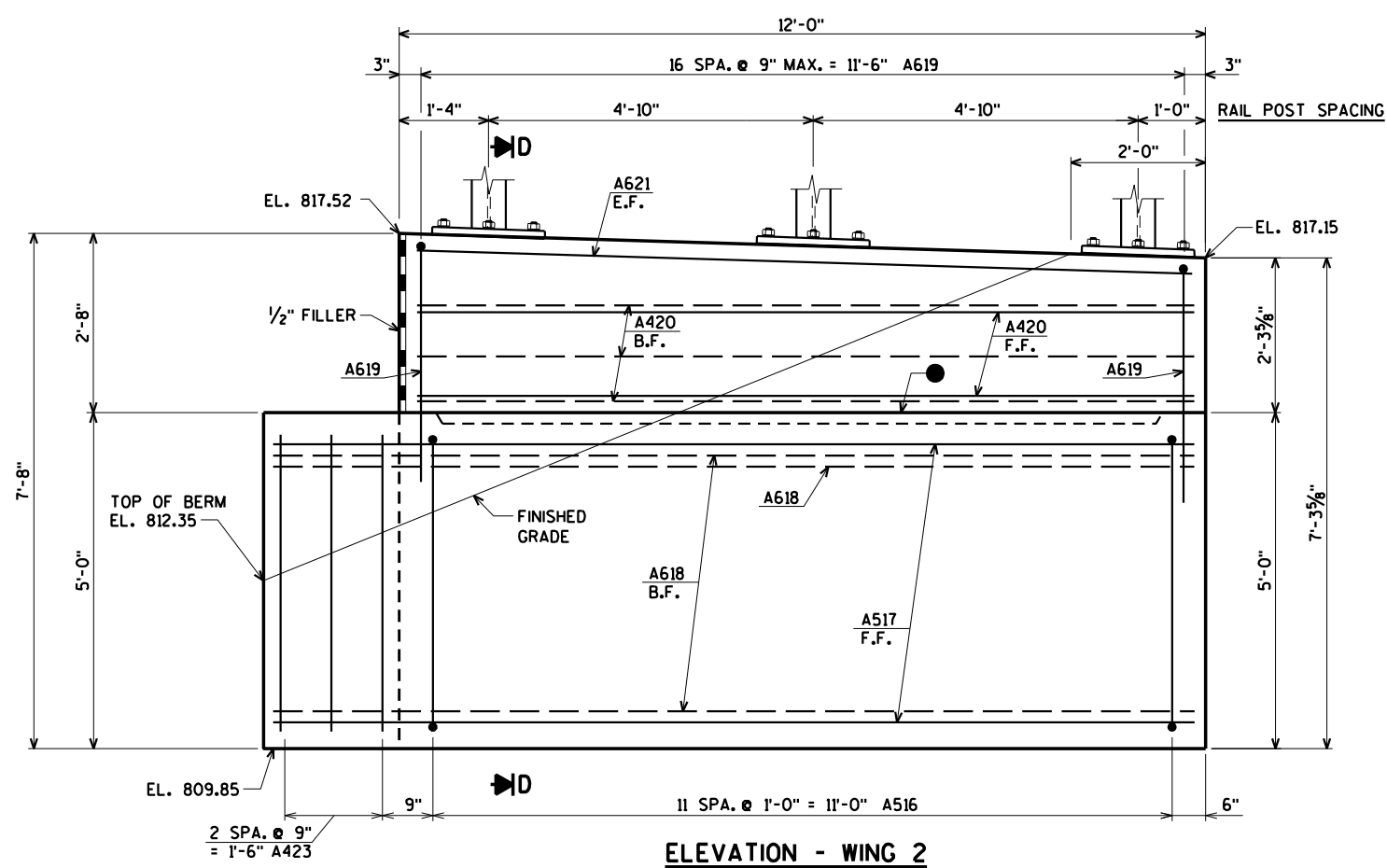
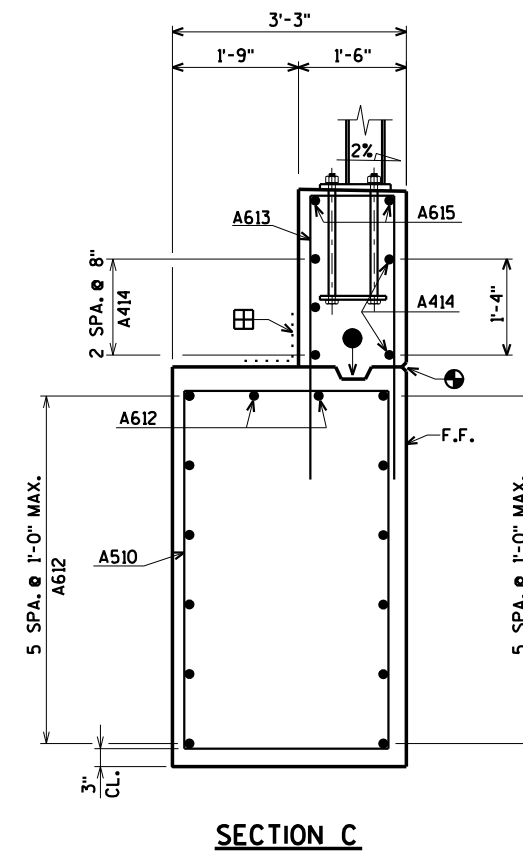
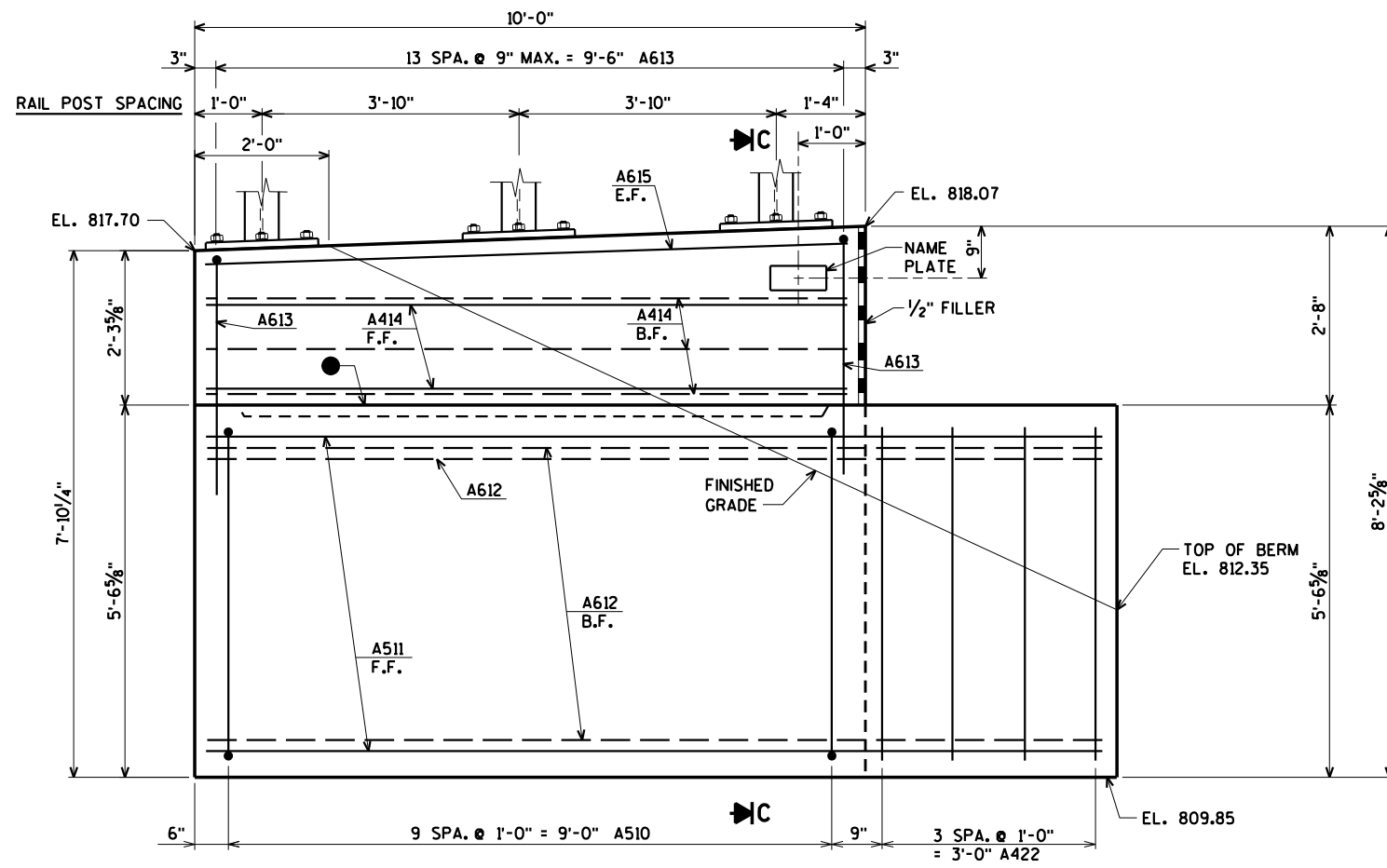
F.F. DENOTES FRONT FACE



**PLAN**

ORIGINAL PLANS PREPARED BY  
**AYRES ASSOCIATES** 3433 Oakwood Hills Parkway  
Equi Claire, WI 54701  
www.AyresAssociates.com

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
<b>STRUCTURE B-53-377</b>			
DRAWN BY		CLP	PLANS CK'D. CJM
<b>WEST ABUTMENT</b>			SHEET 4 OF 12



- ⊕ 3/4" "V" GROOVE ON FRONT FACE OF WINGWALL. ONLY REQUIRED IF OPTIONAL CONSTRUCTION JOINT IS USED.
  - OPT. CONST. JOINT FORMED BY A BEVELED 2" x 6" KEYWAY WITH MEMBRANE ON BACKFACE.
  - ⊞ 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HOIRZONTAL AND VERTICAL JOINTS ON BACKFACE.
- B.F. DENOTES BACK FACE.  
 F.F. DENOTES FRONT FACE.  
 E.F. DENOTES EACH FACE.

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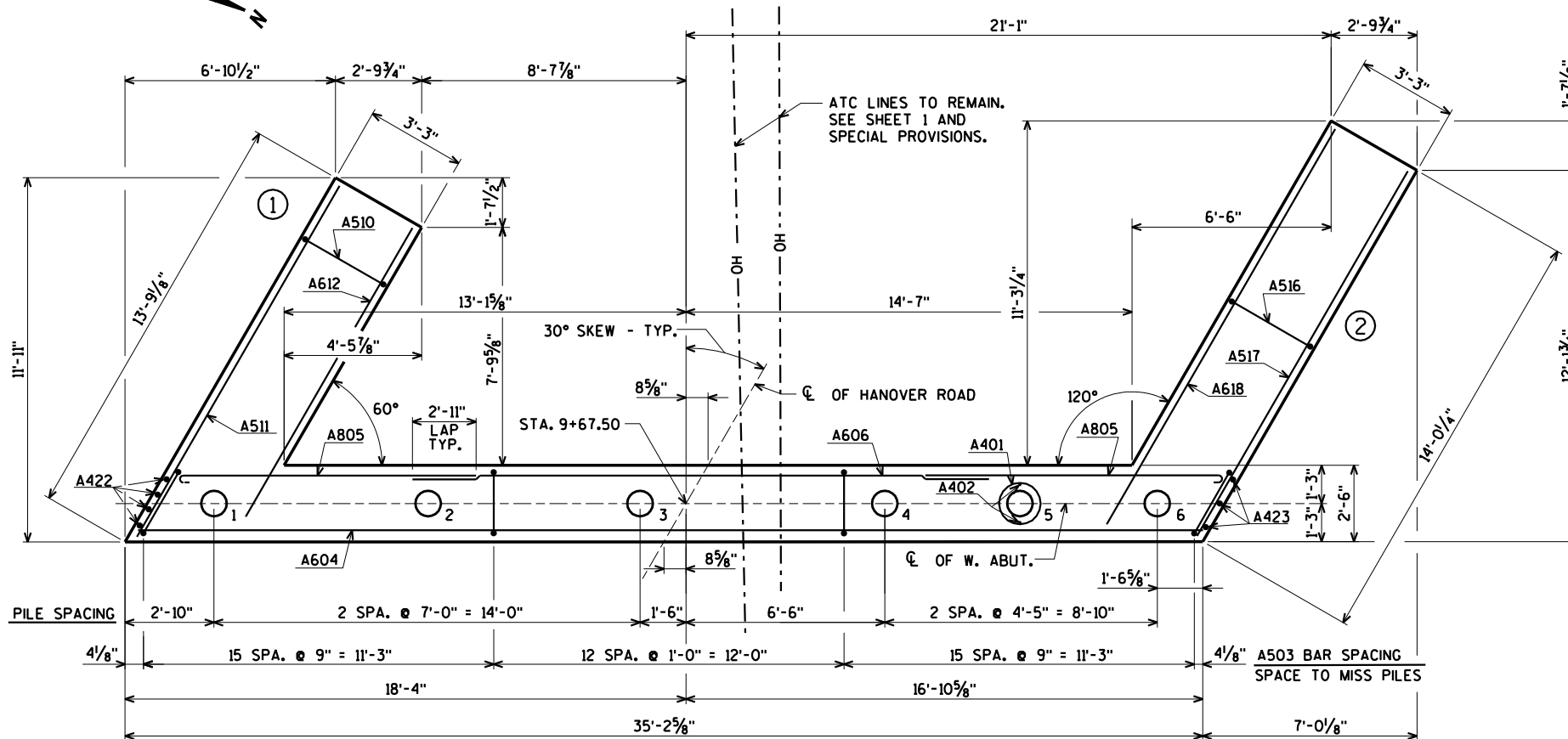
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
<b>STRUCTURE B-53-377</b>			
DRAWN BY CLP		PLANS CK'D. CJM	
<b>WEST ABUTMENT WINGS 1 &amp; 2 DETAILS</b>			SHEET 5 OF 12

ORIGINAL PLANS PREPARED BY  
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 3433 Oakwood Hills Parkway  
 Eau Claire, WI 54701  
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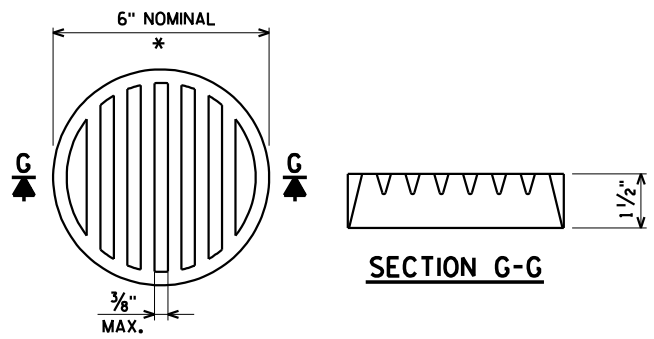
**BILL OF BARS**

BAR NO.	COATED BAR	NO. REQ'D.	LENGTH	BENT BAR	BUNDLED	BAR SERIES	1,540* COATED
							2,180* UNCOATED
							LOCATION
A401		6	28-0	X			BODY @ PILES
A402		12	2-3				BODY @ PILES
A503		43	14-0	X			BODY VERT.
A604		11	34-8				BODY HORIZ.
A805		14	12-11	X			BODY HORIZ. @ WING B.F.
A606		7	16-8				BODY HORIZ. BETW. WINGS B.F.
A407		3	25-1				BODY HORIZ.
A508		26	5-1	X			BODY VERT.
A509	X	34	2-0				BODY DOWELS
A510	X	10	16-8	X			WING 1 VERT.
A511	X	6	13-4				WING 1 HORIZ. F.F.
A612	X	8	10-11				WING 1 HORIZ. B.F. & TOP
A613	X	14	9-10	X			WING 1 VERT.
A414	X	5	9-8				WING 1 HORIZ. E.F.
A615	X	2	9-8				WING 1 HORIZ. E.F.
A516	X	12	15-8	X			WING 2 VERT.
A517	X	6	13-9				WING 2 HORIZ. F.F.
A618	X	8	14-11				WING 2 HORIZ. B.F. & TOP
A619	X	17	9-10	X			WING 2 VERT.
A420	X	5	11-8				WING 2 HORIZ. E.F.
A621	X	2	11-8				WING 2 HORIZ. E.F.
A422	X	4	5-1				BODY VERT. END @ WING 1
A423	X	3	4-7				BODY VERT. END @ WING 2

BENDING DIMENSIONS ARE OUT TO OUT OF BARS.



**PILE LAYOUT**

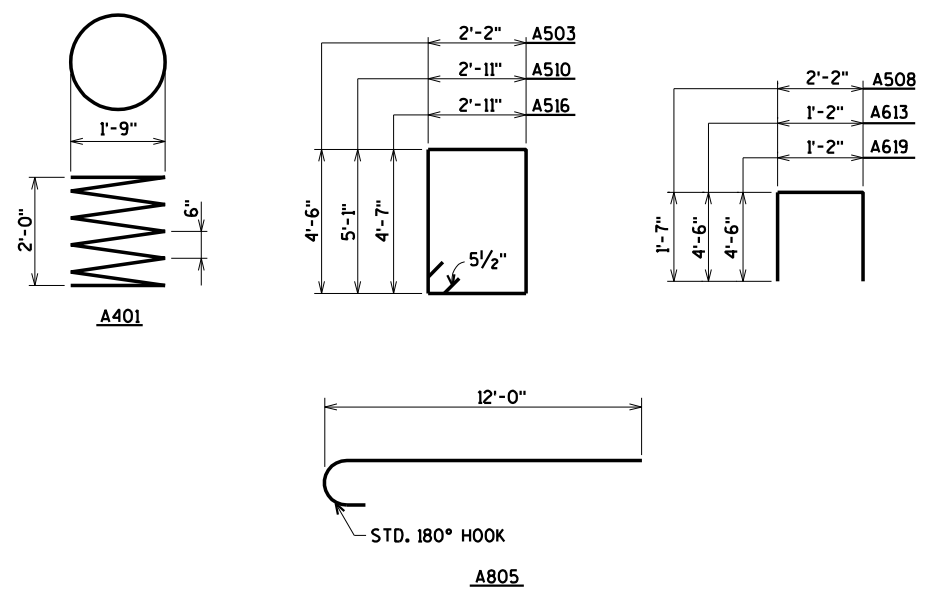


\* DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING. ORIENT SO SLOTS ARE VERTICAL.

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

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

**RODENT SHIELD DETAIL**



FOR PILE SPLICE DETAIL SEE SHEET 2.

B.F. DENOTES BACK FACE

E.F. DENOTES EACH FACE

F.F. DENOTES FRONT FACE

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
<b>STRUCTURE B-53-377</b>			
DRAWN BY		CLP	PLANS CK'D. CJM
<b>WEST ABUTMENT DETAILS &amp; BILL OF BARS</b>			SHEET 6 OF 12

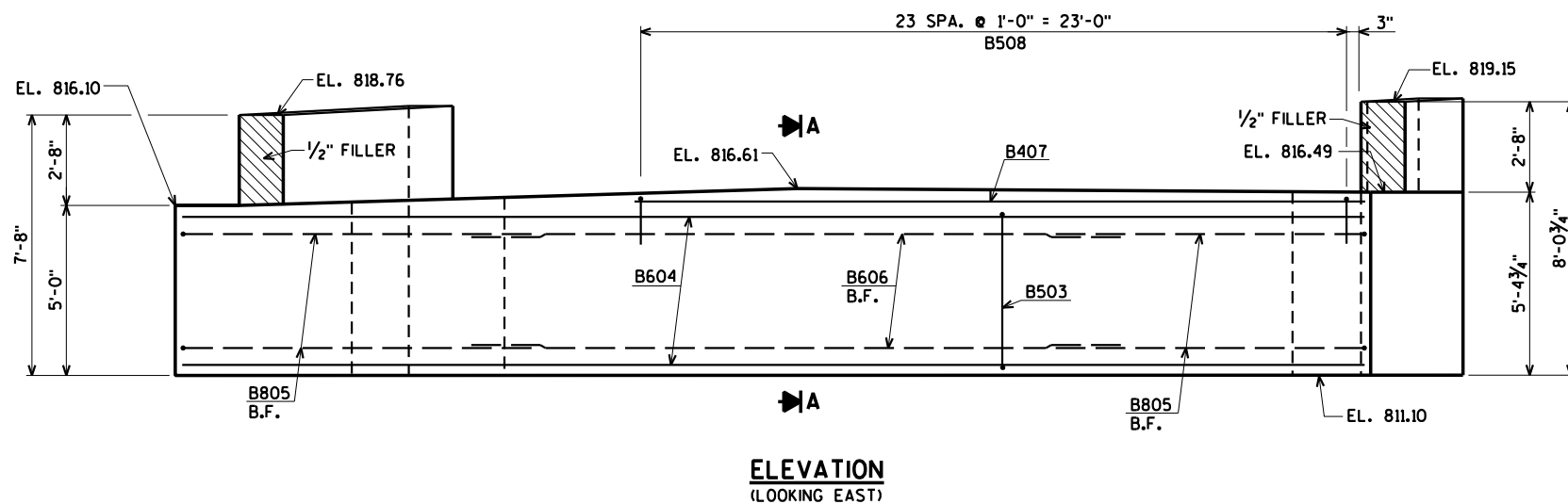
ORIGINAL PLANS PREPARED BY  
**AYRES ASSOCIATES**  
3433 Oakwood Hills Parkway  
Eau Claire, WI 54701  
www.AyresAssociates.com

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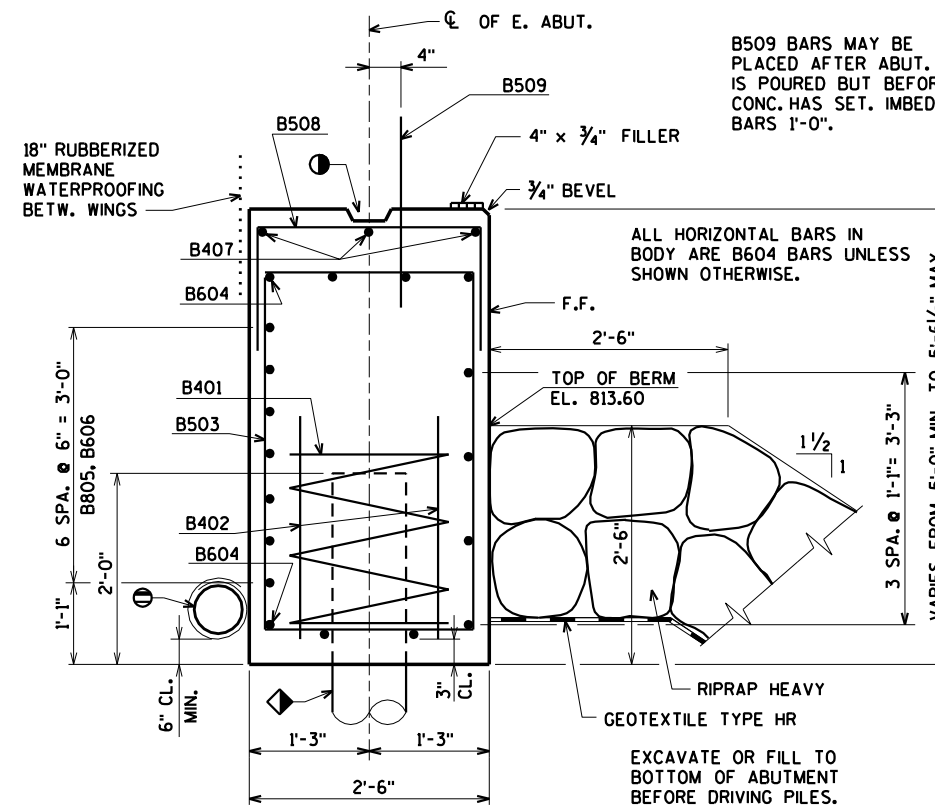
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NOTE:  
SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF  
1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT  
SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE).

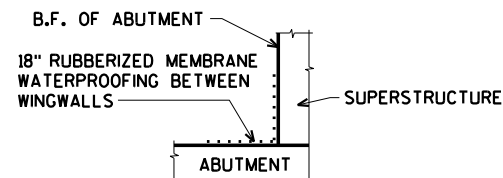


**ELEVATION**  
(LOOKING EAST)



**SECTION A**

ABUTMENT TO BE SUPPORTED ON  
10 3/4" Ø x 0.50" CIP CONCRETE PILING  
(WITH PILE POINTS) DRIVEN TO A REQ'D.  
DRIVING RESISTANCE OF 150 TONS PER PILE.  
ESTIMATED LENGTH 65'-0".



**SECTION F**

PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5%  
MIN. TO SUITABLE DRAINAGE. ATTACH RODENT  
SHIELD AT ENDS OF PIPE UNDERDRAIN. FOR  
RODENT SHIELD DETAIL SEE SHEET 6.

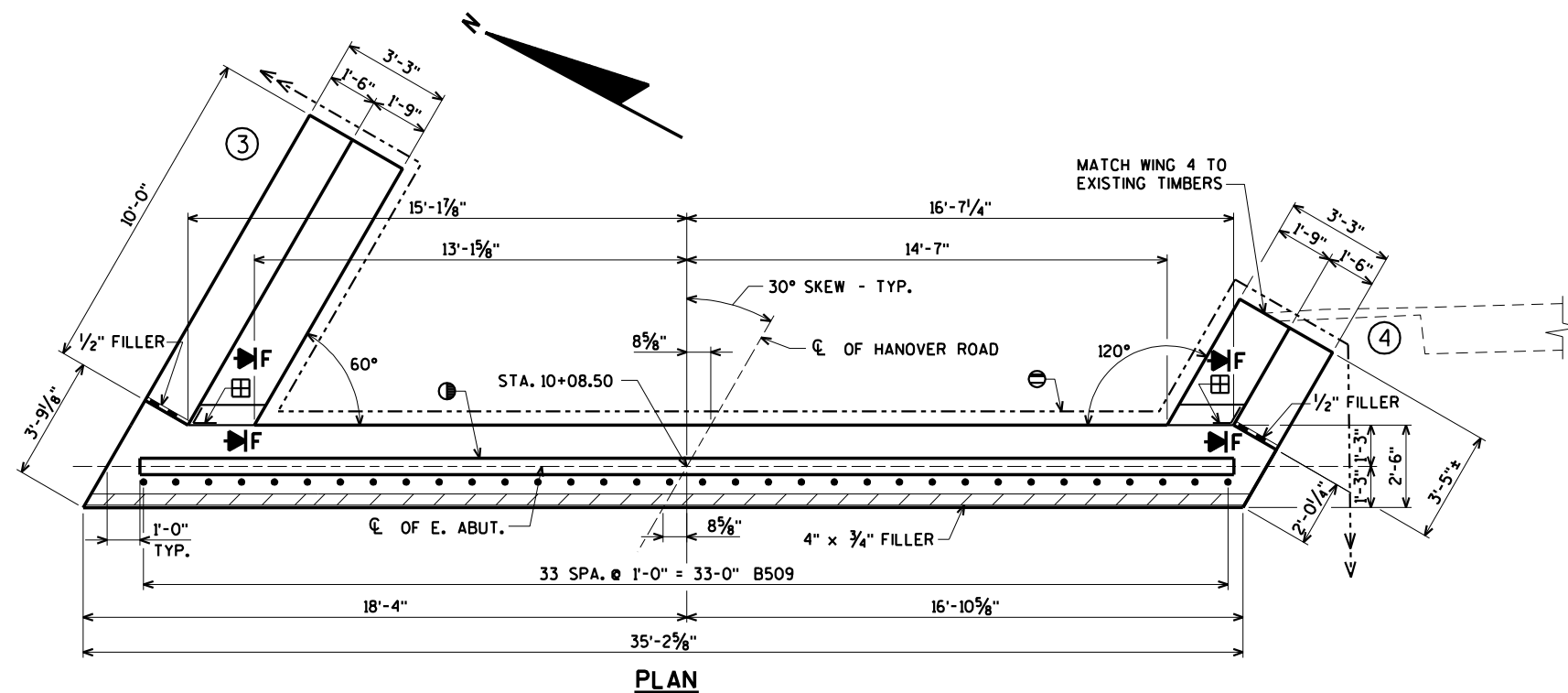
KEYED CONST. JOINT - FORMED  
BY A BEVELED 2" x 6".

VERTICAL 18" RUBBERIZED MEMBRANE  
WATERPROOFING TO EXTEND FROM  
BRIDGE SEAT TO TOP OF WINGWALL.

FOR PILE SPLICE DETAIL SEE SHEET 2.

B.F. DENOTES BACK FACE

F.F. DENOTES FRONT FACE

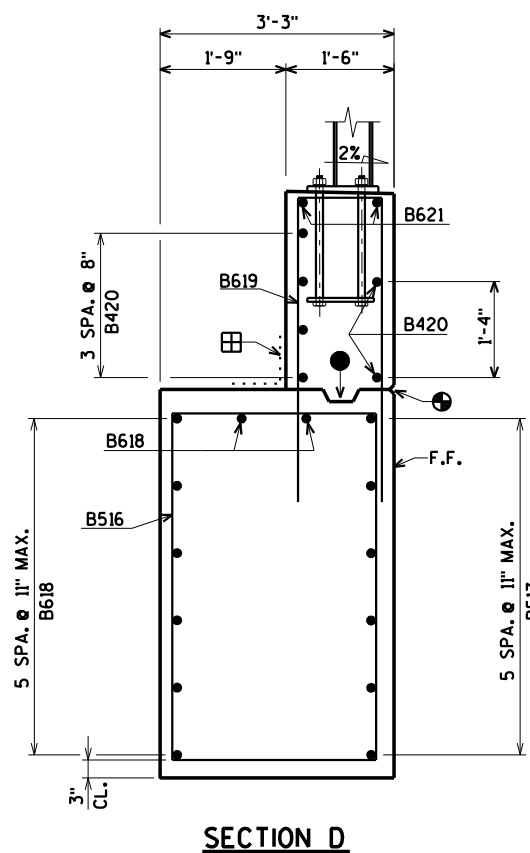
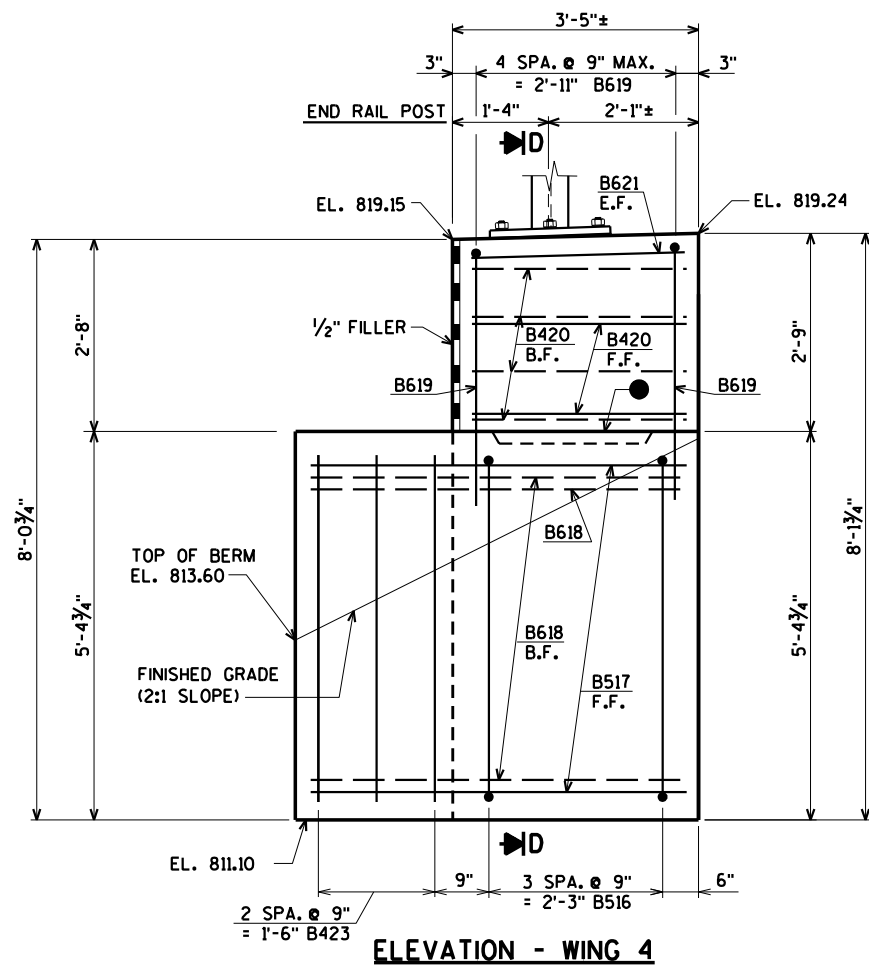
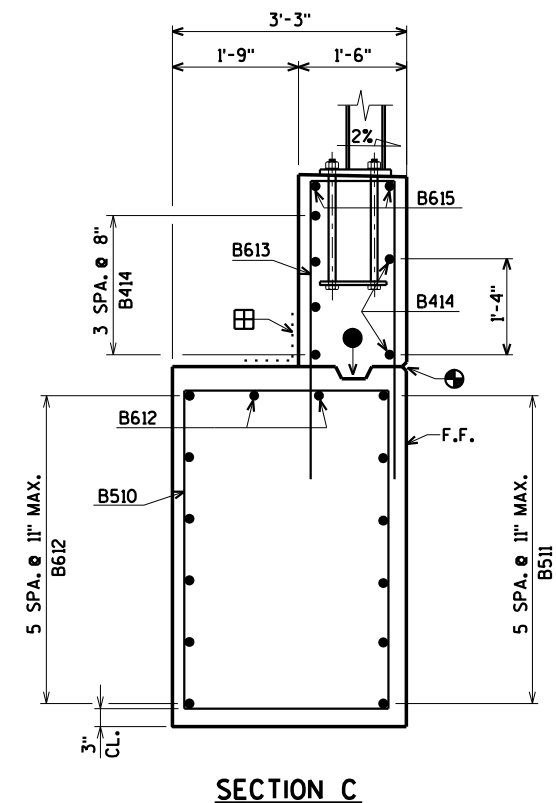
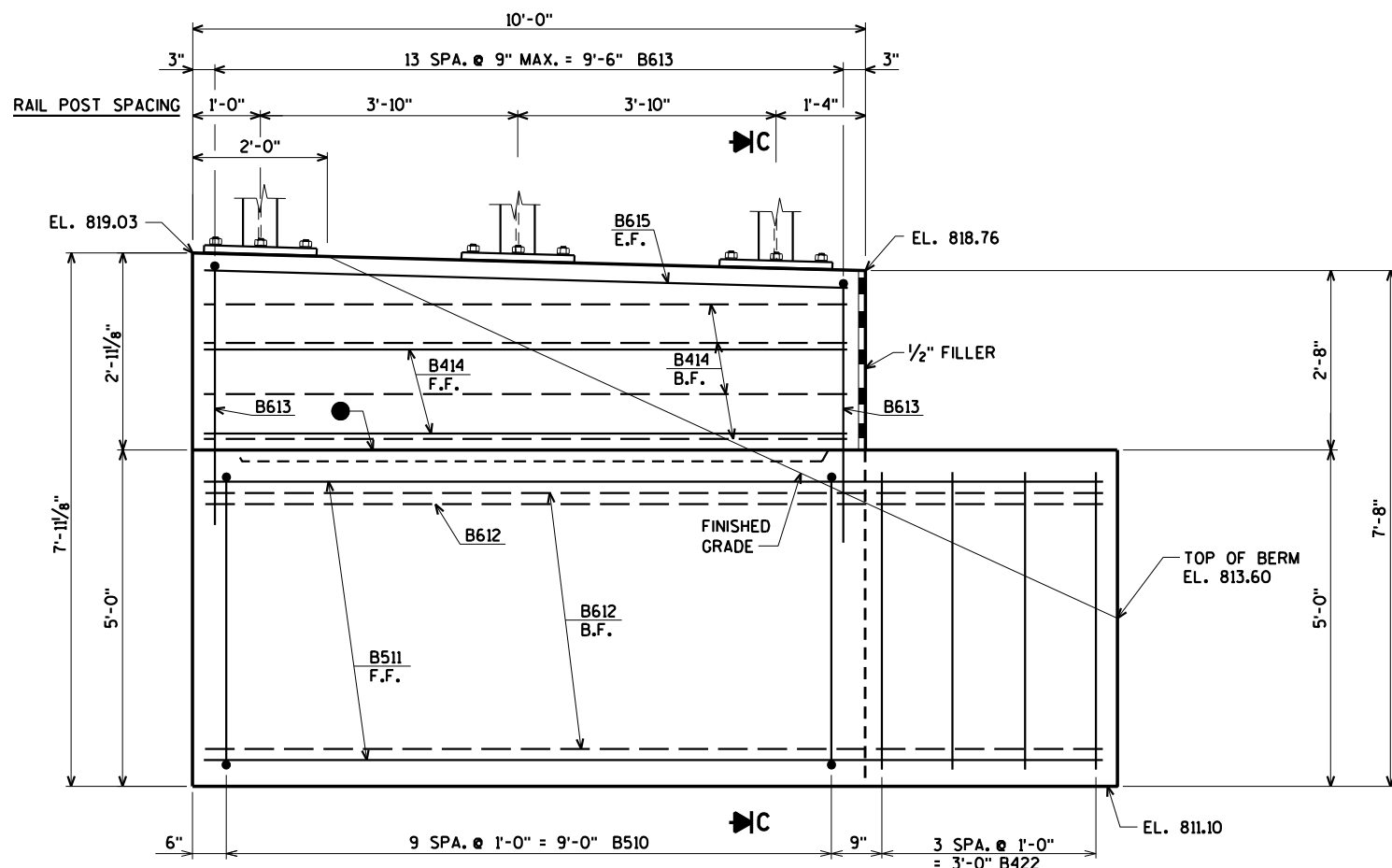


**PLAN**

ORIGINAL PLANS PREPARED BY  
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Eau Claire, WI 54701  
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NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
<b>STRUCTURE B-53-377</b>			
DRAWN BY CLP		PLANS CK'D. CJM	
<b>EAST ABUTMENT</b>			SHEET 7 OF 12





- NOTE:**
- TRIM B517, B618, B420, AND B621 BARS TO FIT IF NECESSARY.
  - 3/4" "V" GROOVE ON FRONT FACE OF WINGWALL. ONLY REQUIRED IF OPTIONAL CONSTRUCTION JOINT IS USED.
  - OPT. CONST. JOINT FORMED BY A BEVELED 2" x 6" KEYWAY WITH MEMBRANE ON BACKFACE.
  - 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HOIRZONTAL AND VERTICAL JOINTS ON BACKFACE.
- B.F. DENOTES BACK FACE.  
F.F. DENOTES FRONT FACE.  
E.F. DENOTES EACH FACE.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
<b>STRUCTURE B-53-377</b>			
DRAWN BY CLP		PLANS CK'D. CJM	
<b>EAST ABUTMENT WINGS 3 &amp; 4 DETAILS</b>			SHEET 8 OF 12

ORIGINAL PLANS PREPARED BY  
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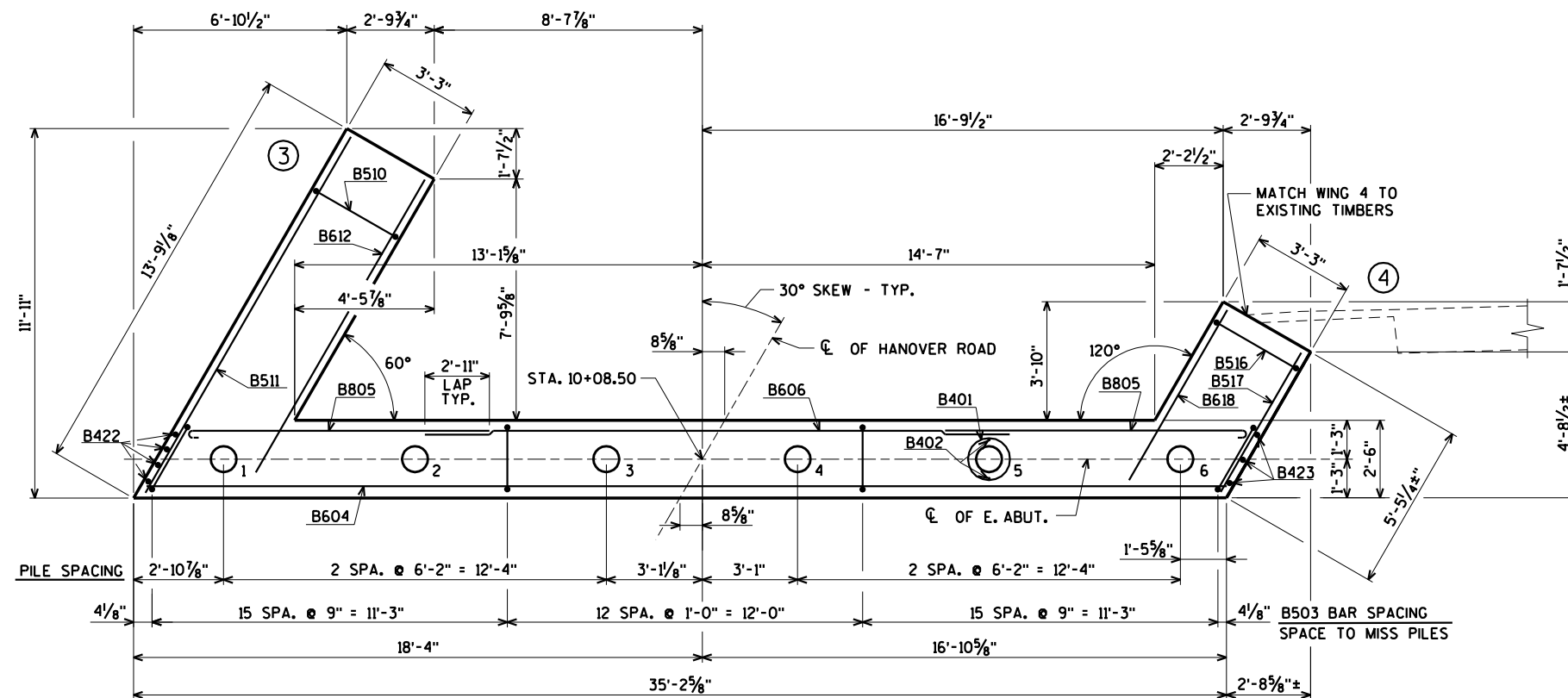
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**BILL OF BARS**

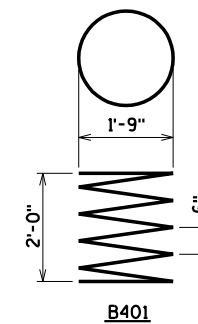
BAR NO.	COATED BAR	NO. REQ'D.	LENGTH	BENT BAR	BUNDLED	BAR SERIES	1,030# COATED	2,130# UNCOATED
LOCATION								
B401		6	28-0	X			BODY @ PILES	
B402		12	2-3				BODY @ PILES	
B503		43	14-0	X			BODY VERT.	
B604		11	34-8				BODY HORIZ.	
B805		14	10-11	X			BODY HORIZ. @ WINGS B.F.	
B606		7	20-7				BODY HORIZ. BETW. WINGS B.F.	
B407		3	23-1				BODY HORIZ.	
B508		24	5-1	X			BODY VERT.	
B509	X	34	2-0				BODY DOWELS	
B510	X	10	15-8	X			WING 3 VERT.	
B511	X	6	13-4				WING 3 HORIZ. F.F.	
B612	X	8	10-11				WING 3 HORIZ. B.F. & TOP	
B613	X	14	10-6	X			WING 3 VERT.	
B414	X	6	9-8				WING 3 HORIZ. E.F.	
B615	X	2	9-8				WING 3 HORIZ. E.F.	
B516	X	4	16-2	X			WING 4 VERT.	
B517	X	6	5-1				WING 4 HORIZ. F.F.	
B618	X	8	6-4				WING 4 HORIZ. B.F. & TOP	
B619	X	5	10-0	X			WING 4 VERT.	
B420	X	6	3-1				WING 4 HORIZ. E.F.	
B621	X	2	3-1				WING 4 HORIZ. E.F.	
B422	X	4	4-7				BODY VERT. END @ WING 3	
B423	X	3	4-11				BODY VERT. END @ WING 4	

BENDING DIMENSIONS ARE OUT TO OUT OF BARS.

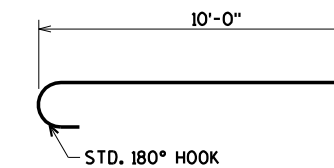
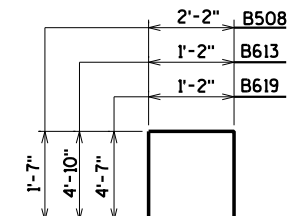
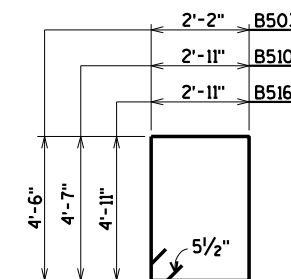


**PILE LAYOUT**

NOTE:  
TRIM B517, B618  
BARS TO FIT  
IF NECESSARY.



B401



B805

FOR PILE SPLICE DETAIL SEE SHEET 2.

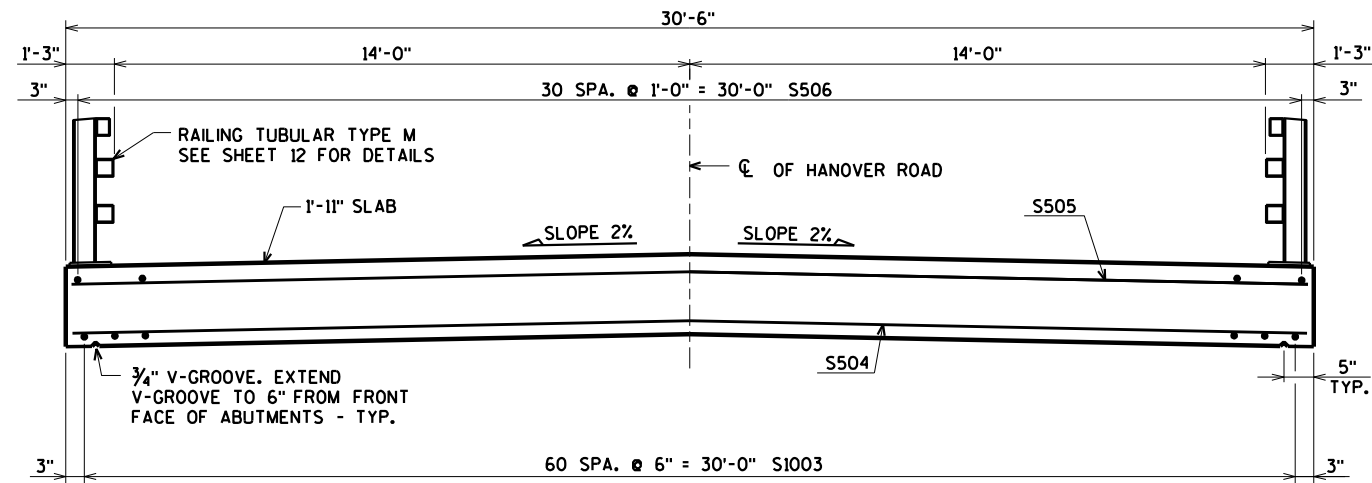
B.F. DENOTES BACK FACE

E.F. DENOTES EACH FACE

F.F. DENOTES FRONT FACE

ORIGINAL PLANS PREPARED BY  
**AYRES ASSOCIATES**  
3433 Oakwood Hills Parkway  
Eau Claire, WI 54701  
www.AyresAssociates.com

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
<b>STRUCTURE B-53-377</b>			
DRAWN BY		CLP	PLANS CK'D. CJM
<b>EAST ABUTMENT DETAILS &amp; BILL OF BARS</b>			SHEET 9 OF 12



TYPICAL SECTION THRU BRIDGE

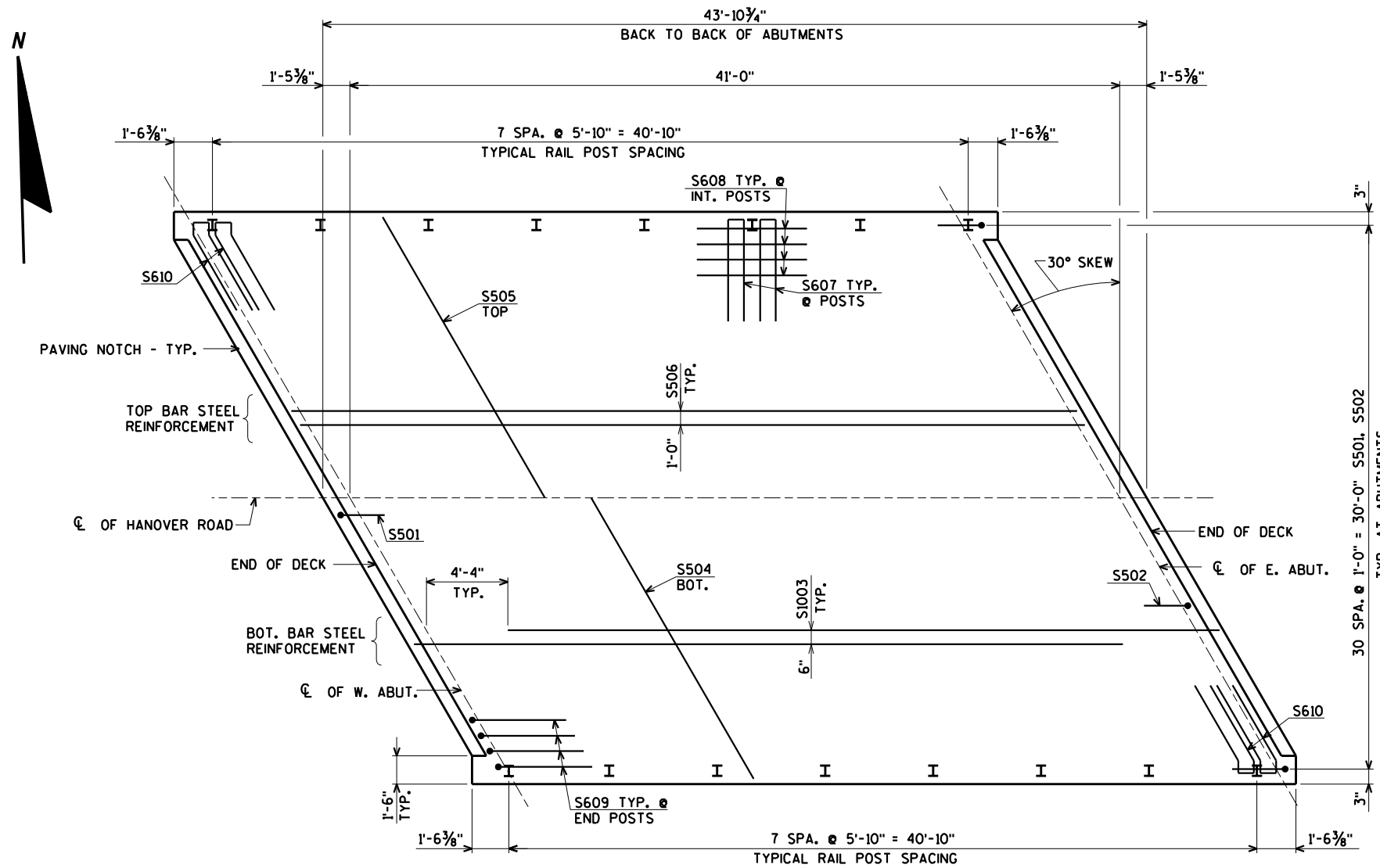
TOP TRANSVERSE BARS IN SLAB SHALL BE SUPPORTED BY INDIVIDUAL BAR CHAIRS AT APPROXIMATELY 3'-0" CENTERS EACH WAY. BOTTOM LONGITUDINAL BARS SHALL BE SUPPORTED BY CONTINUOUS BAR CHAIRS AT APPROXIMATELY 4'-0" CENTERS.

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

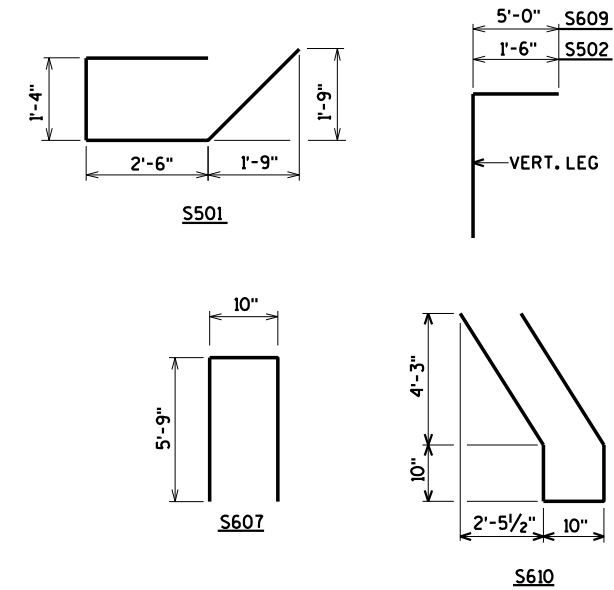
BILL OF BARS

BAR NO.	COATED BAR	NO. REQ'D.	LENGTH	BENT BAR	BUNDLED	BAR SERIES	17,170# COATED
							LOCATION
S501	X	62	8-6	X			SLAB @ ABUT.
S502	X	62	3-7	X			SLAB @ ABUT.
S1003	X	61	37-11				SLAB LONG. BOT.
S504	X	64	34-10				SLAB TRANS. BOT.
S505	X	44	34-10				SLAB TRANS. TOP
S506	X	31	41-11				SLAB LONG. TOP
S607	X	28	12-0	X			SLAB @ RAIL POSTS
S608	X	48	6-0				SLAB @ INT. RAIL POSTS
S609	X	16	6-0	X			SLAB @ END RAIL POSTS
S610	X	4	12-0	X			SLAB @ END RAIL POSTS

BENDING DIMENSIONS ARE OUT TO OUT OF BARS.



PLAN



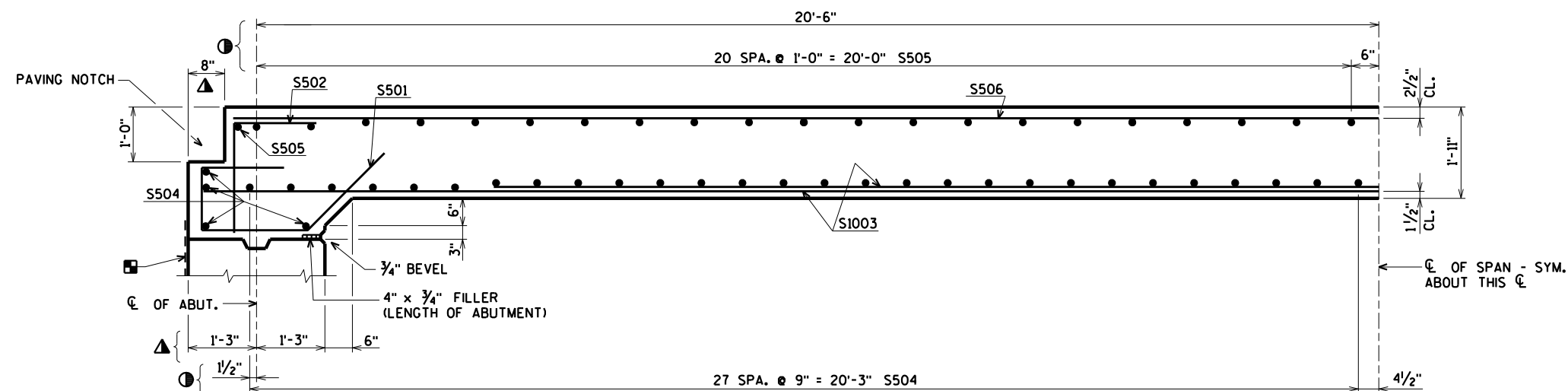
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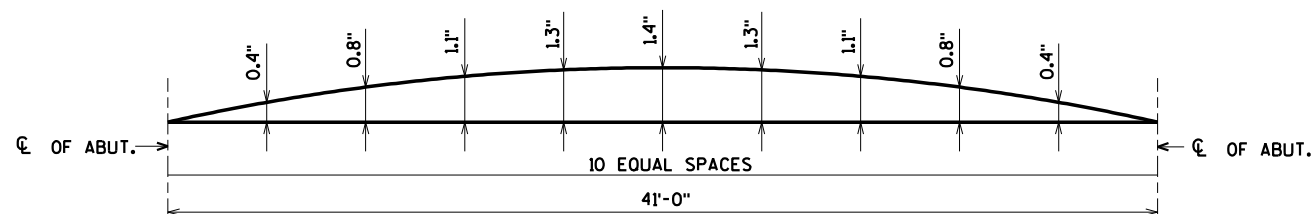
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
<b>STRUCTURE B-53-377</b>			
DRAWN BY CLP		PLANS CK'D. CJM	
SUPERSTRUCTURE			SHEET 10 OF 12

ORIGINAL PLANS PREPARED BY  
**AYRES ASSOCIATES**  
 3433 Oakwood Hills Parkway  
 Eau Claire, WI 54701  
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**PART LONGITUDINAL SECTION**

- 18" RUBBERIZED MEMBRANE WATERPROOFING
- ⊙ DIMENSIONS MEASURED ALONG CL OF HANOVER ROAD.
- ▲ DIMENSIONS MEASURED NORMAL TO CL OF SUBSTRUCTURE.



**CAMBER DIAGRAM**

CAMBER SPAN AS SHOWN TO PROVIDE FOR DEAD LOAD DEFLECTION & FUTURE CREEP. CAMBER DOES NOT INCLUDE ALLOWANCE FOR FORM SETTLEMENT.

PRIOR TO RELEASING SLAB FALSEWORK, TAKE TOP OF SLAB ELEVATIONS AT THE CL OF ABUTMENTS, AND AT 5/10 PTS. TO VERIFY CAMBER. TAKE ELEVATIONS ALONG EDGE OF SLAB AND CROWN OR CL.

**TOP OF DECK ELEVATIONS**

LOCATION	CL OF W. ABUT.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	CL OF E. ABUT.
N. EDGE OF SLAB	817.52	817.64	817.76	817.89	818.03	818.16	818.29	818.42	818.54	818.66	818.76
CL OF STRUCTURE	818.09	818.22	818.35	818.49	818.62	818.74	818.86	818.98	819.08	819.18	819.28
S. EDGE OF SLAB	818.07	818.20	818.33	818.46	818.58	818.69	818.79	818.89	818.99	819.07	819.15

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

8/30/2019 PENTABLE:BRRedu\_shd\_ufile.tbl

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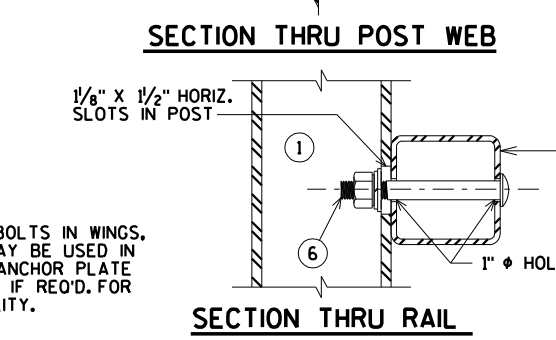
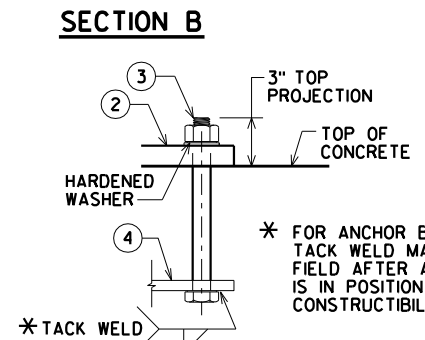
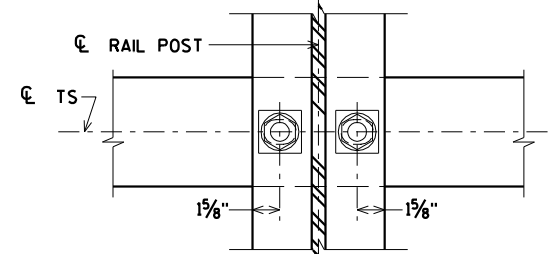
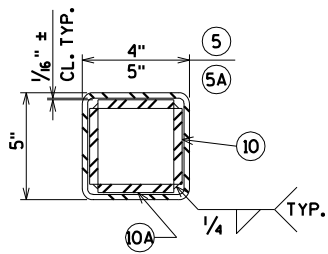
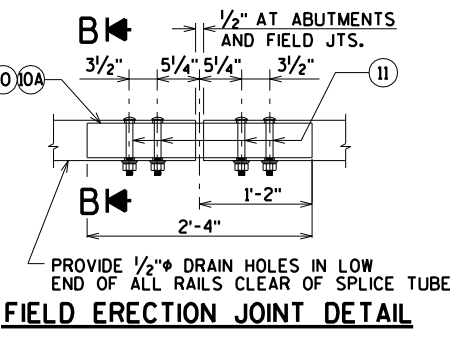
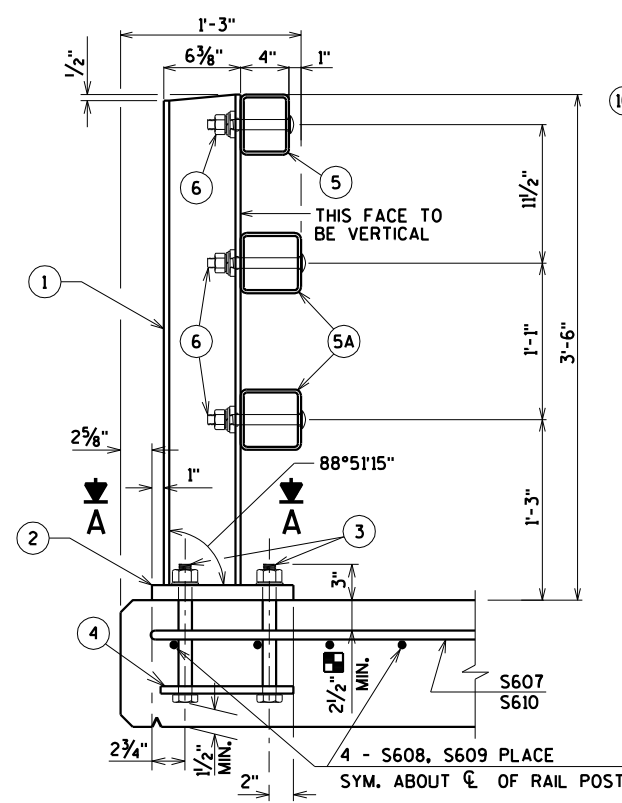
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ORIGINAL PLANS PREPARED BY  
**AYRES ASSOCIATES**  
 3433 Oakwood Hills Parkway  
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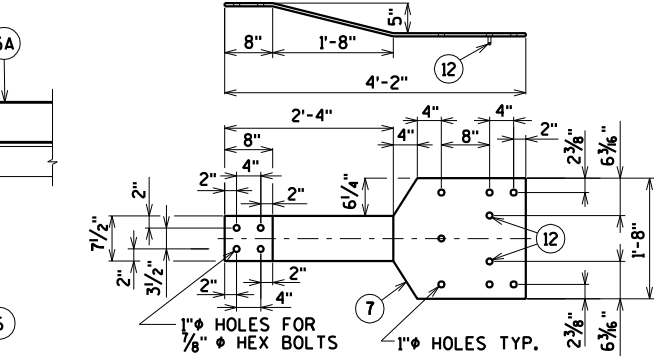
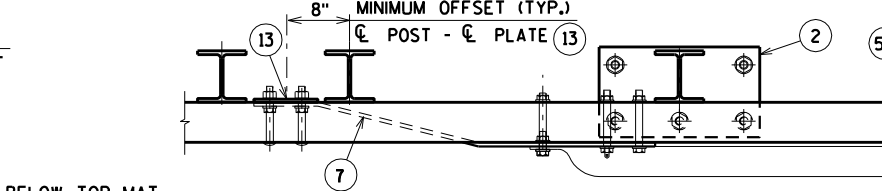
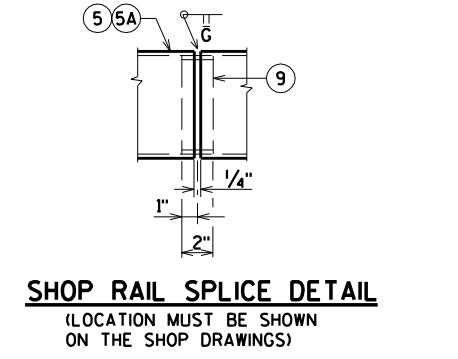
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
<b>STRUCTURE B-53-377</b>			
DRAWN BY	CLP	PLANS CK'D.	CJM
<b>SUPERSTRUCTURE DETAILS</b>			SHEET 11 OF 12

**LEGEND**

- ① W6 x 25 WITH 1/8" x 1/2" HORIZ. SLOTS ON EACH SIDE OF POST FOR BOLT NO. 6. CUT BOTTOM OF POST TO MATCH CROSS SLOPE OF ROADWAY. PLACE POST VERTICAL. PLACE POSTS NORMAL TO GRADE LINE.
- ② PLATE 1/4" x 1 3/4" x 1'-8" WITH 1 5/8" x 1 5/8" SLOTTED HOLES FOR ANCHOR BOLTS NO. 3. WELD TO NO. 1 AS SHOWN. SLOTS PARALLEL TO SHORT SIDE OF PLATE.
- ③ ASTM A449 - 1/8" DIA. ANCHOR BOLTS WITH NUT AND HARDENED WASHER (ALL GALVANIZED), 5 REQ'D. PER POST. THREAD 3" AND PLACE NORMAL TO PLATE NO. 2. CHAMFER TOP OF BOLTS BEFORE THREADING. USE 1'-9" LONG IN ABUTMENT WINGS. AT POSTS ON CONCRETE SLAB SUPERSTRUCTURES WHERE THE SLAB THICKNESS IS > 16" USE 1'-3" LONG. ~~USE 10 1/2" LONG AT ALL OTHER LOCATIONS.~~ (AN EQUIVALENT THREADED ROD WITH NUTS AND HARDENED WASHERS MAY BE SUBSTITUTED FOR ANCHOR BOLTS IN WINGS IF REQ'D. FOR CONSTRUCTIBILITY.)
- ④ 5/8" x 11" x 1'-8" ANCHOR PLATE (GALVANIZED) WITH 1 5/8" DIA. HOLES FOR ANCHOR BOLTS NO. 3
- ⑤ TS 5 x 4 x 0.25 STRUCTURAL TUBING. ATTACH TO NO. 1 WITH NO. 6.
- ⑤A TS 5 x 5 x 0.25 STRUCTURAL TUBING. ATTACH TO NO. 1 WITH NO. 6.
- ⑥ 7/8" DIA. A325 SLOTTED ROUND HEAD BOLT WITH NUT, 3/8" x 1 5/8" x 1 5/8" WASHER, AND LOCK WASHER (2 REQ'D. AT EACH RAIL TO POST LOCATION.)
- ⑦ 1/2" THK. BACK-UP PLATE WITH 2 - 7/8" x 1/2" THREADED SHOP WELDED STUDS (NO. 12). BOLT TO RAIL AS SHOWN IN DETAIL. REQUIRED AT THRIE BEAM GUARD RAIL ATTACHMENTS ONLY. PLACE SYMMETRICALLY ABOUT TUBES NO. 5A.
- ⑧ 1" DIA. HOLES IN PLATE NO. 7 & TUBES NO. 5A FOR 7/8" DIA. A325 BOLTS WITH HEX NUTS AND WASHERS. 6 HOLES IN TUBES AND PLATE NO. 7.
- ⑨ SPLICE SLEEVE FABRICATED FROM 1/4" PLATE. PROVIDE "SLIDING FIT".
- ⑩ 3/8" x 3 5/8" x 2'-4" PLATE. 2 PER RAIL. USED IN NO. 5 & 5A.
- ⑩A 3/8" x 2 5/8" x 2'-4" PLATE USED IN NO. 5. 3/8" x 3 5/8" x 2'-4" PLATE USED IN NO. 5A. 2 PER RAIL.
- ⑪ 7/8" φ A325 ROUND HEAD BOLT WITH NUT, WASHER, AND LOCK WASHER. USE 1 5/8" x 1/4" LONGIT. SLOTTED HOLES AT FIELD JOINTS AND 1 5/8" x 2 1/4" MIN. LONGIT. SLOTTED HOLES AT EXP. JOINTS IN PLATE NO. 10A.
- ⑫ 7/8" DIA. x 1/2" LONG THREADED SHOP WELDED STUDS (2 REQ'D.)
- ⑬ 3/8" x 8" x 1'-6" PLATE. BOLT TO RAIL AS SHOWN IN DETAIL. REQ'D. AT THRIE BEAM GUARD RAIL ATTACHMENTS ONLY. PLACE SYM. ABOUT TUBES NO. 5A.
- ⑭ 7/8" DIA. x 2" LONG A325 HEX BOLT WITH NUT AND WASHER (5 REQ'D.)
- ⑮ 1" φ HOLES IN TUBES NO. 5A FOR 7/8" DIA. A325 ROUND HEAD BOLT WITH NUT, WASHER AND LOCK WASHER (4 REQ'D.). 4 HOLES IN TUBES.



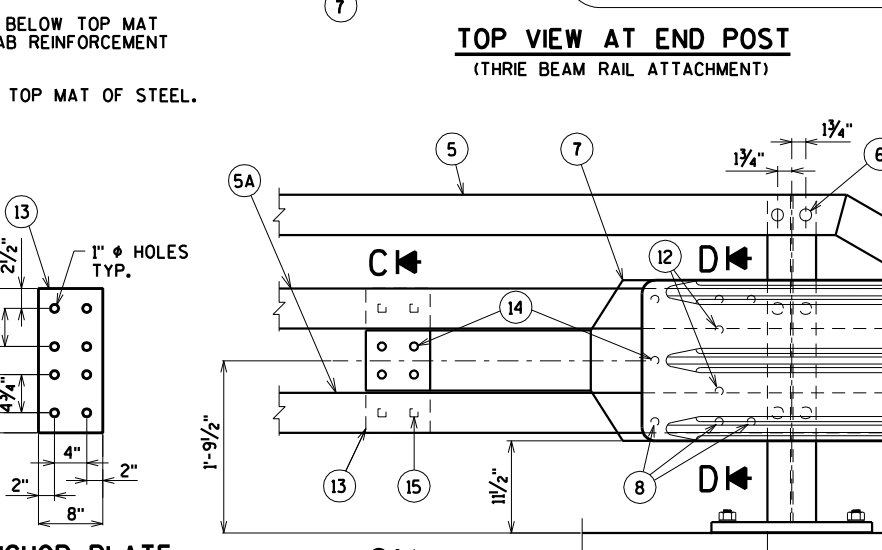
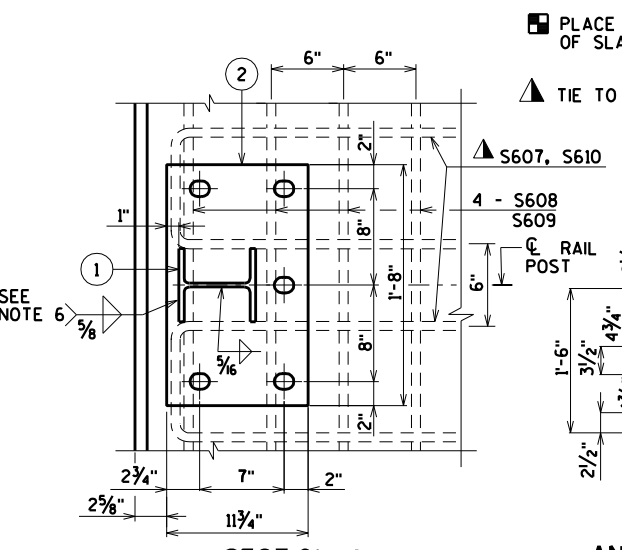
**TYPICAL RAIL TO POST CONNECTIONS**  
NOTE: CONNECTIONS AT LOWER RAILS SHOWN. CONNECTIONS AT TOP RAIL SIMILAR.



**BACK-UP PLATE DETAIL**  
(AT BEAM GUARD ATTACHMENT)

**SECTION THRU RAILING ON DECK**

- ▣ PLACE BELOW TOP MAT OF SLAB REINFORCEMENT
- ▲ TIE TO TOP MAT OF STEEL.

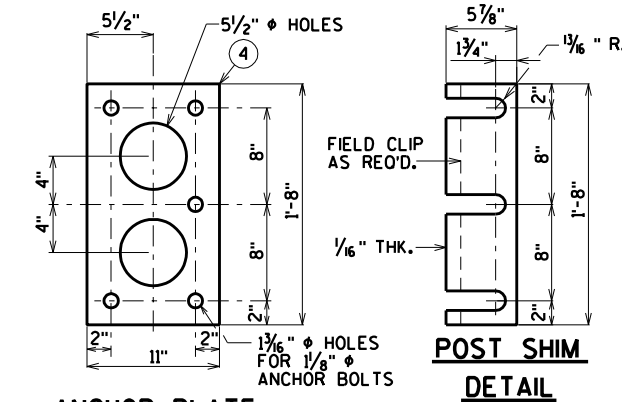
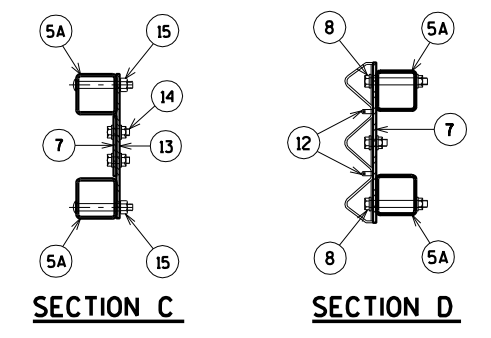


**ANCHOR PLATE**  
(AT BEAM GUARD ATTACHMENT)

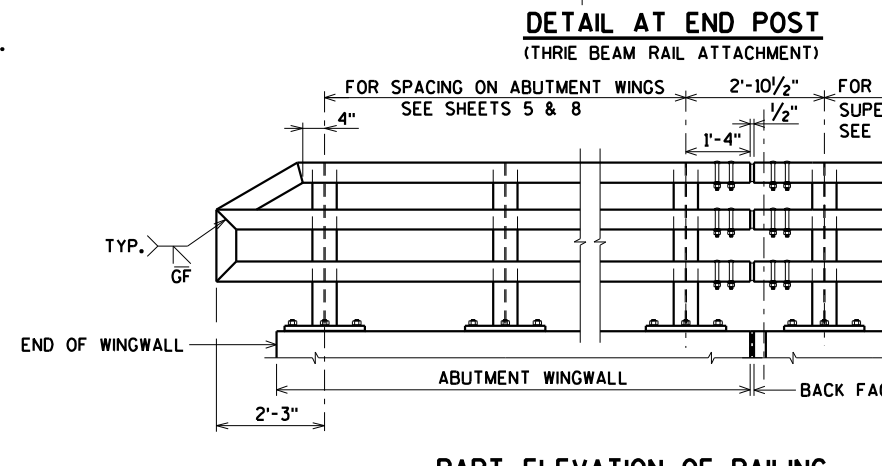
**DETAIL AT END POST**  
(THRIE BEAM RAIL ATTACHMENT)

**GENERAL NOTES**

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



**ANCHOR PLATE**  
(AT RAIL TO DECK CONNECTION)



**PART ELEVATION OF RAILING**

ORIGINAL PLANS PREPARED BY  
**AVRES ASSOCIATES**  
3433 Oakwood Hills Parkway  
Eau Claire, WI 54701  
www.AvresAssociates.com

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
<b>STRUCTURE B-53-377</b>			
DRAWN BY CLP		PLANS CK'D. CJM	
<b>RAILING TUBULAR TYPE M</b>			SHEET 12 OF 12

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HANOVER ROAD COMPUTER EARTHWORK

Station	Distance	Area (SF)		Incremental Vol (CY) (Unadjusted)		Cumulative Vol (CY)		Mass Ordinate
		Cut	Fill	Cut	Fill	Cut 1.00	Expanded Fill 1.30	
9+00	--	28.2	35.2					
9+25	25	33.6	26.9	29	29	29	37	-9
9+50	25	38.4	54.0	33	37	62	86	-24
9+57	7	38.4	54.0	10	14	72	104	-32
9+66	9	19.5	23.2	10	13	82	121	-39
NEW BRIDGE	--	--	--	--	--	--	--	--
10+10	--	16.9	60.7	--	--	--	--	--
10+19	9	23.0	22.4	7	14	88	139	-51
10+25	6	39.5	83.0	7	12	95	154	-59
10+50	25	19.1	53.5	27	63	122	236	-114
10+55	5	15.4	44.4	3	9	91	151	-123
10+66	11	44.4	5.8	12	10	104	164	-124
10+77	11	0.0	0.0	9	1	113	166	-116
				147	202			

WEST CHANNEL COMPUTER EARTHWORK

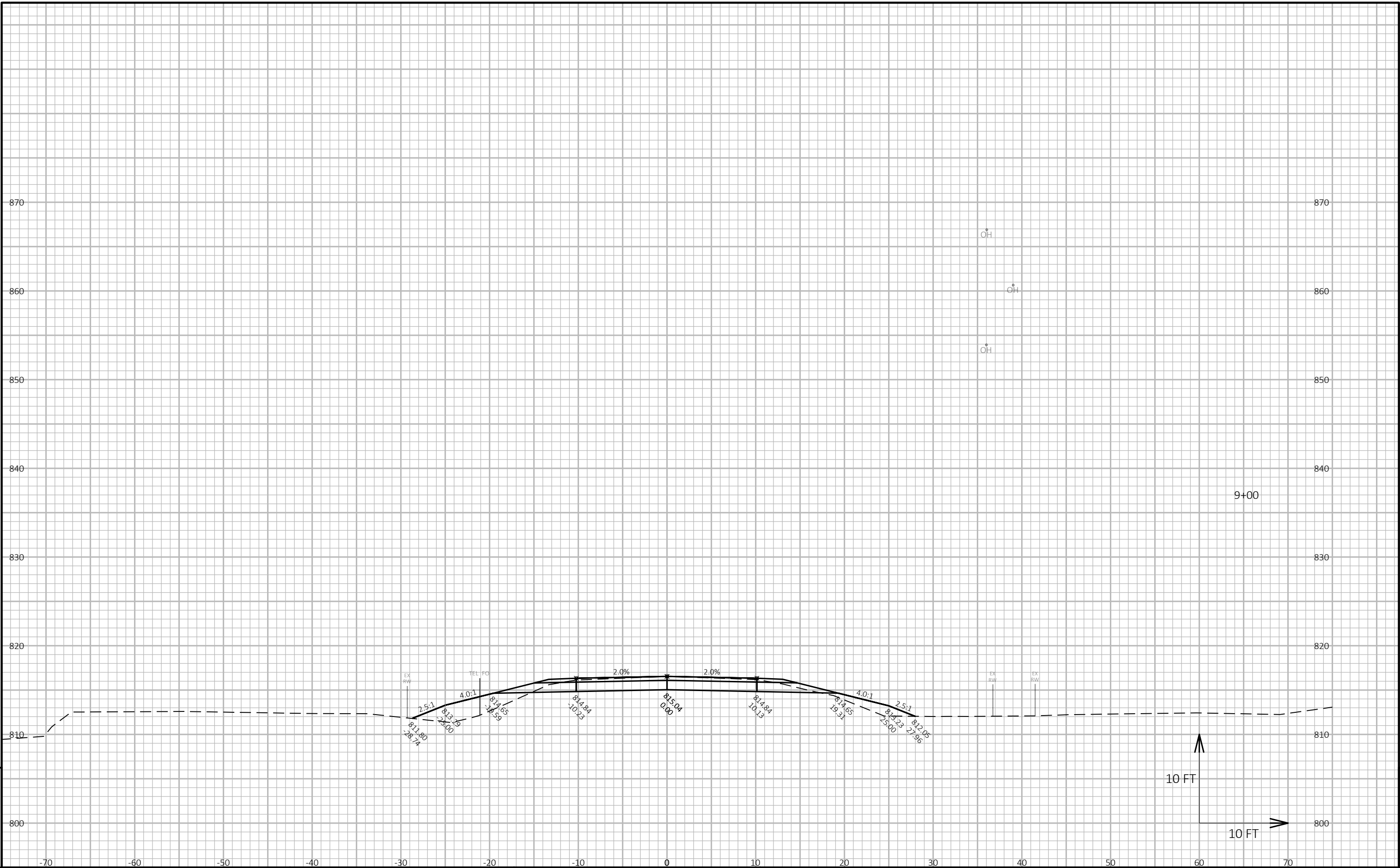
Station	Distance	Area (SF)		Incremental Vol (CY) (Unadjusted)		Cumulative Vol (CY)		Mass Ordinate
		Cut	Fill	Cut	Fill	Cut 1.00	Expanded Fill 1.30	
28+60	--	8.0	0.0					
28+75	15	8.0	0.0	4	0	4	0	4
29+00	25	7.0	1.8	7	1	11	1	10
29+25	25	28.3	20.1	16	10	28	14	13
29+50	25	92.3	64.2	56	39	84	65	19
29+75	75	92.3	64.2	256	178	340	297	43
				340	228			

EAST CHANNEL COMPUTER EARTHWORK

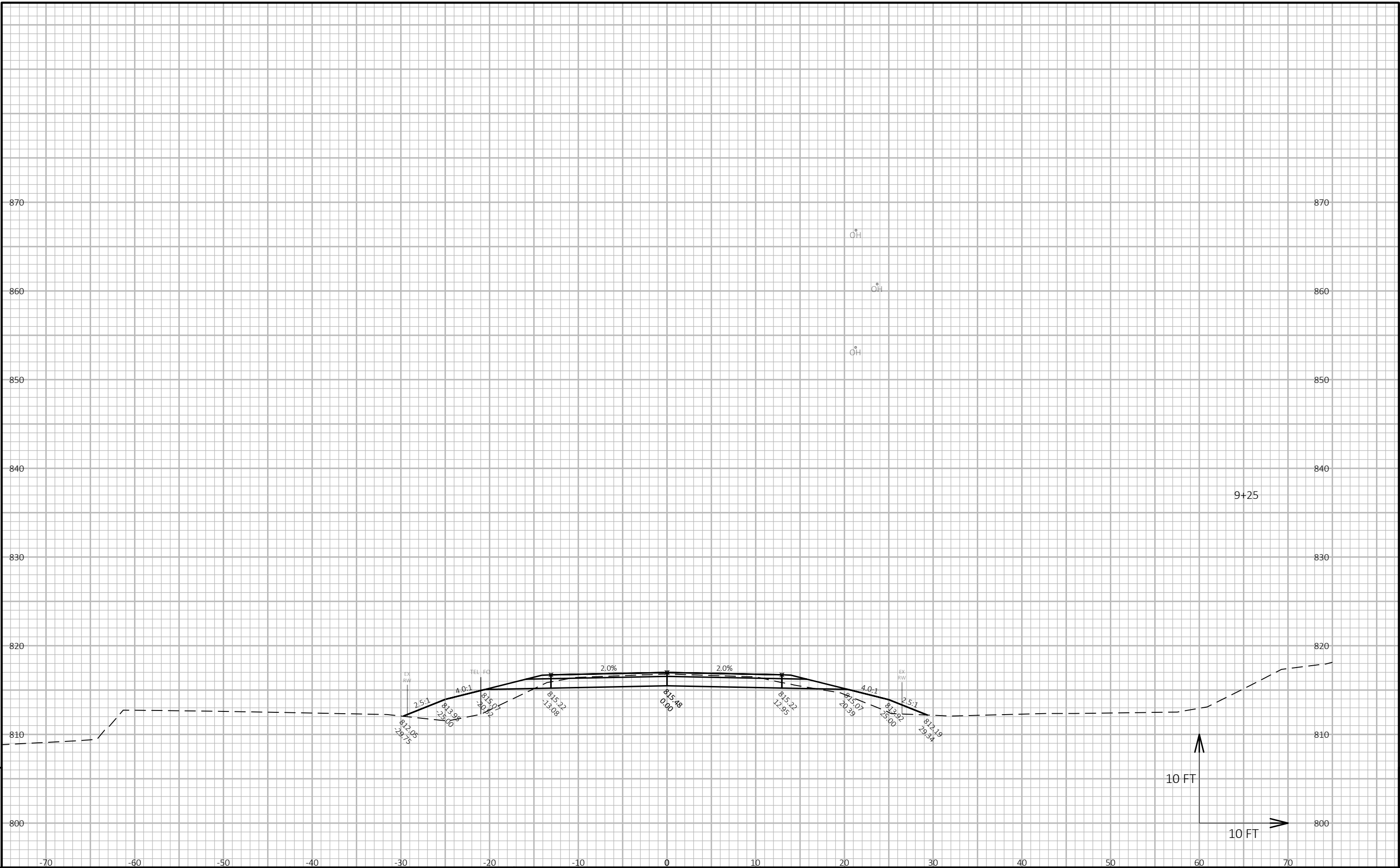
Station	Distance	Area (SF)		Incremental Vol (CY) (Unadjusted)		Cumulative Vol (CY)		Mass Ordinate
		Cut	Fill	Cut	Fill	Cut 1.00	Expanded Fill 1.30	
129+02	--	12.8	1.2					
129+25	23	16.8	0.4	13	1	13	1	12
129+50	25	7.5	7.2	11	4	24	5	18
129+75	50	7.5	7.2	14	13	38	23	15
				38	18			

Note 1 - Cut	Cut includes existing asphalt pavement. Assumed to be reused as fill outside the 1:1 road core.
Note 2 - Fill	Volume needed to be filled.
Note 3 - Mass Ordinate	(Cut) - (Fill * 1.30)

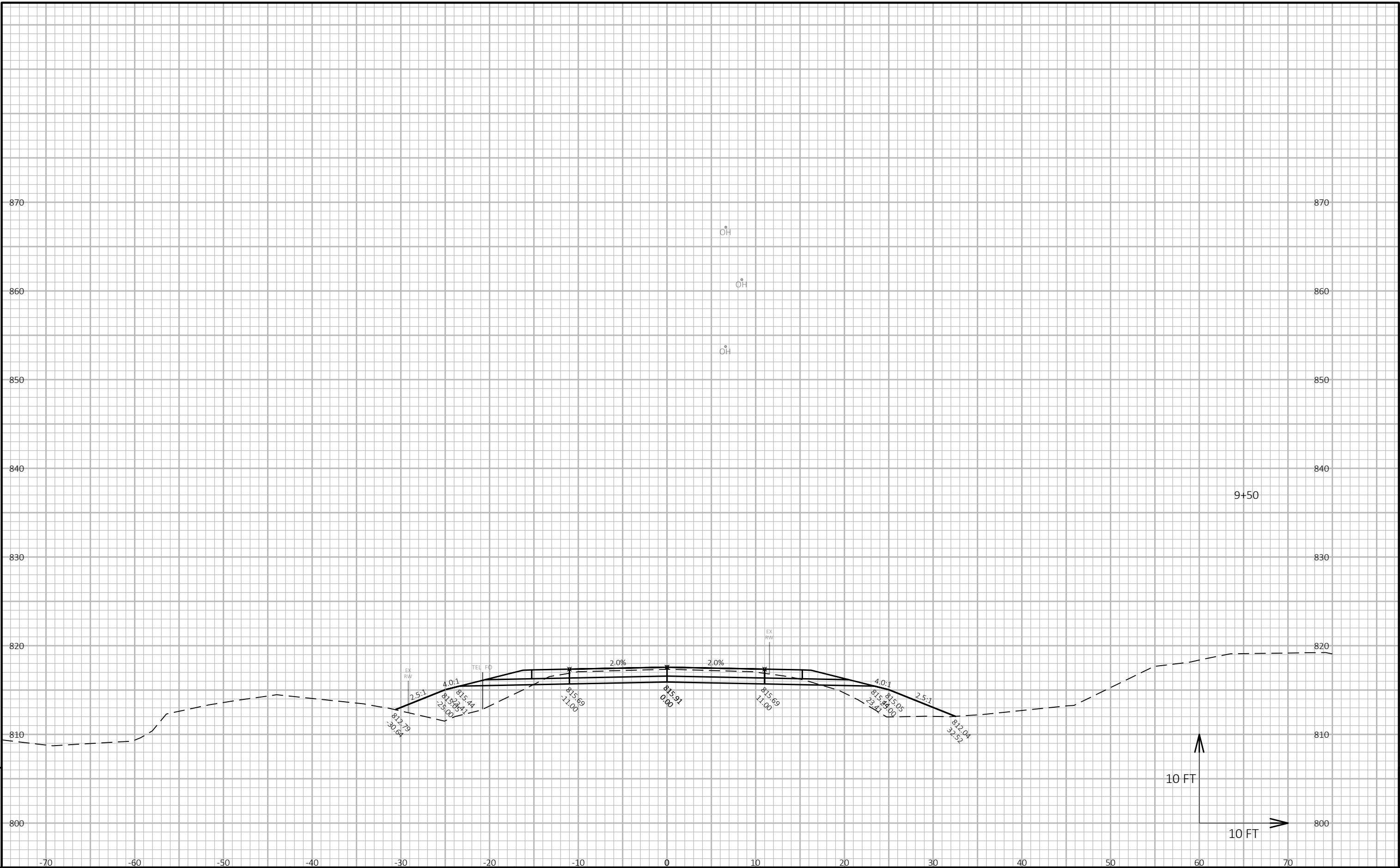




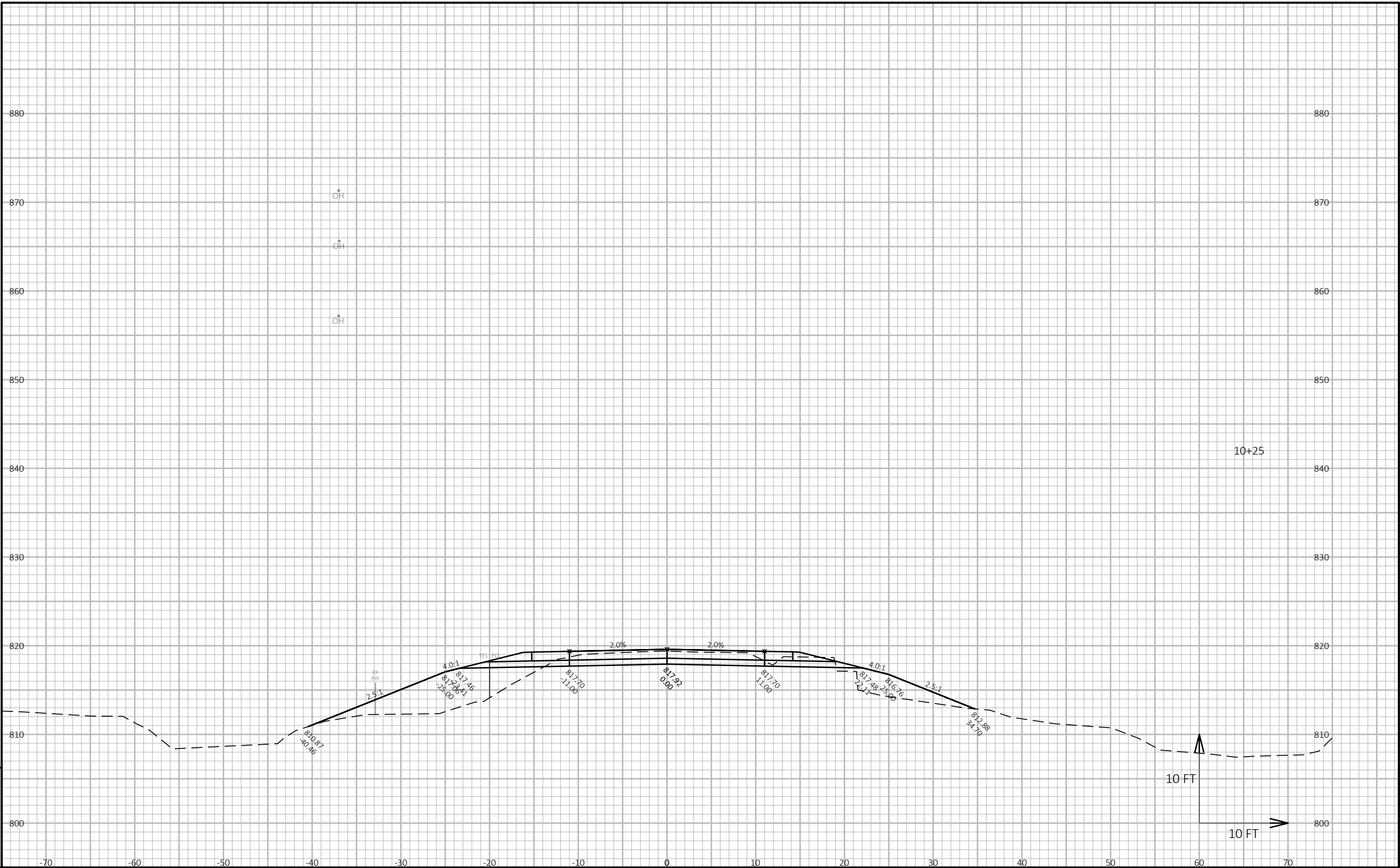
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PROJECT NO: 5768-00-75	HWY: HANOVER ROAD	COUNTY: ROCK	CROSS SECTIONS: ROADWAY XS	SHEET	E
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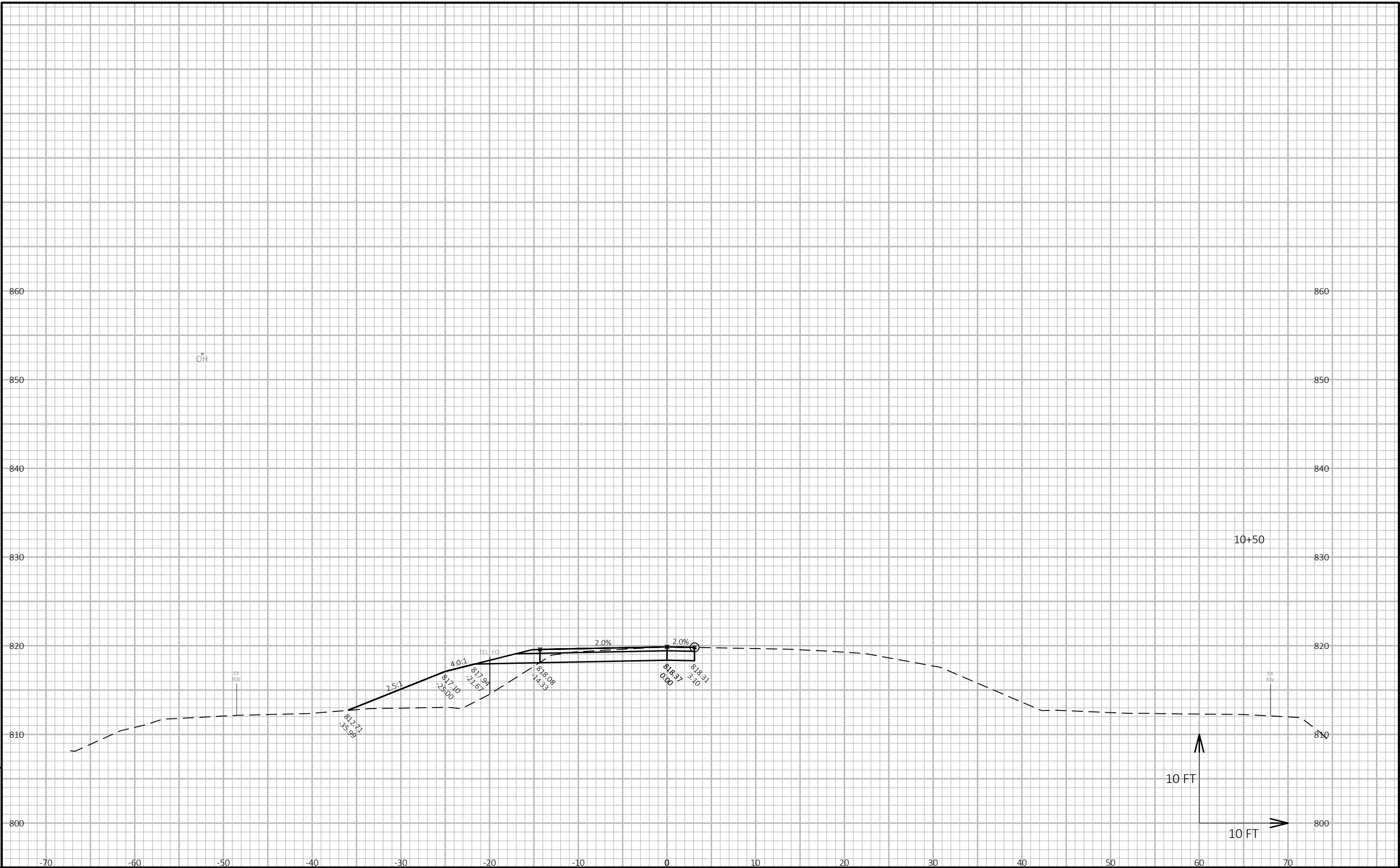
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PROJECT NO: 5768-00-75	HWY: HANOVER ROAD	COUNTY: ROCK	CROSS SECTIONS: ROADWAY XS	SHEET	E
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9

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PROJECT NO: 5768-00-75	HWY: HANOVER ROAD	COUNTY: ROCK	CROSS SECTIONS: ROADWAY XS	SHEET	E
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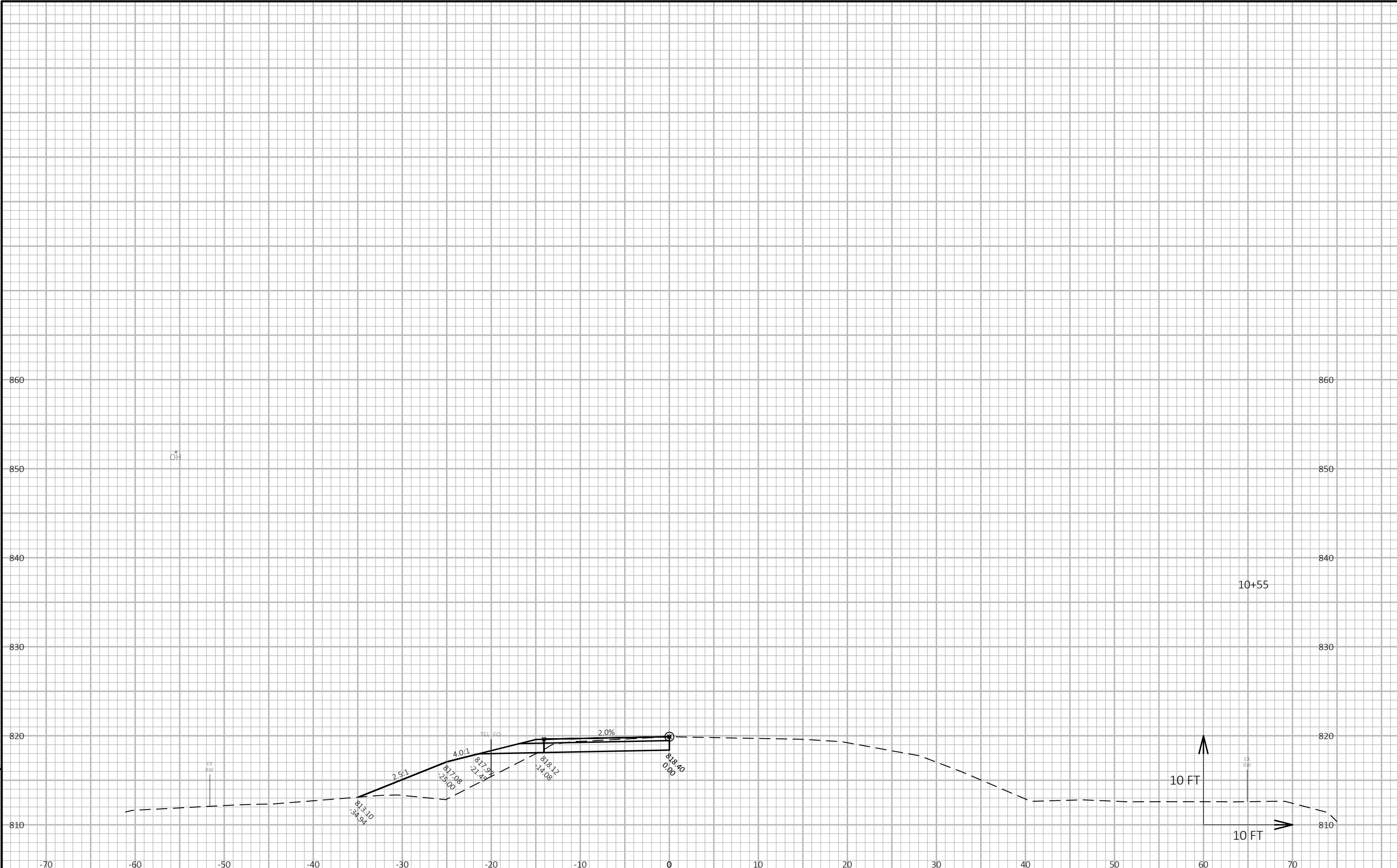
PLOT DATE : 9/26/2019 9:49 AM

PLOT BY : INMAN, AMANDA

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADD SHEET 49



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PROJECT NO: 5768-00-75	HWY: HANOVER ROAD	COUNTY: ROCK	CROSS SECTIONS: ROADWAY XS	SHEET	E
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FILE NAME : V:\TRANS-MD\421141 HANOVER RD\C3D\DESIGN\HANOVER RD\_PROPOSED DESIGN.DWG  
LAYOUT NAME - XS 7

PLOT DATE : 9/26/2019 9:49 AM

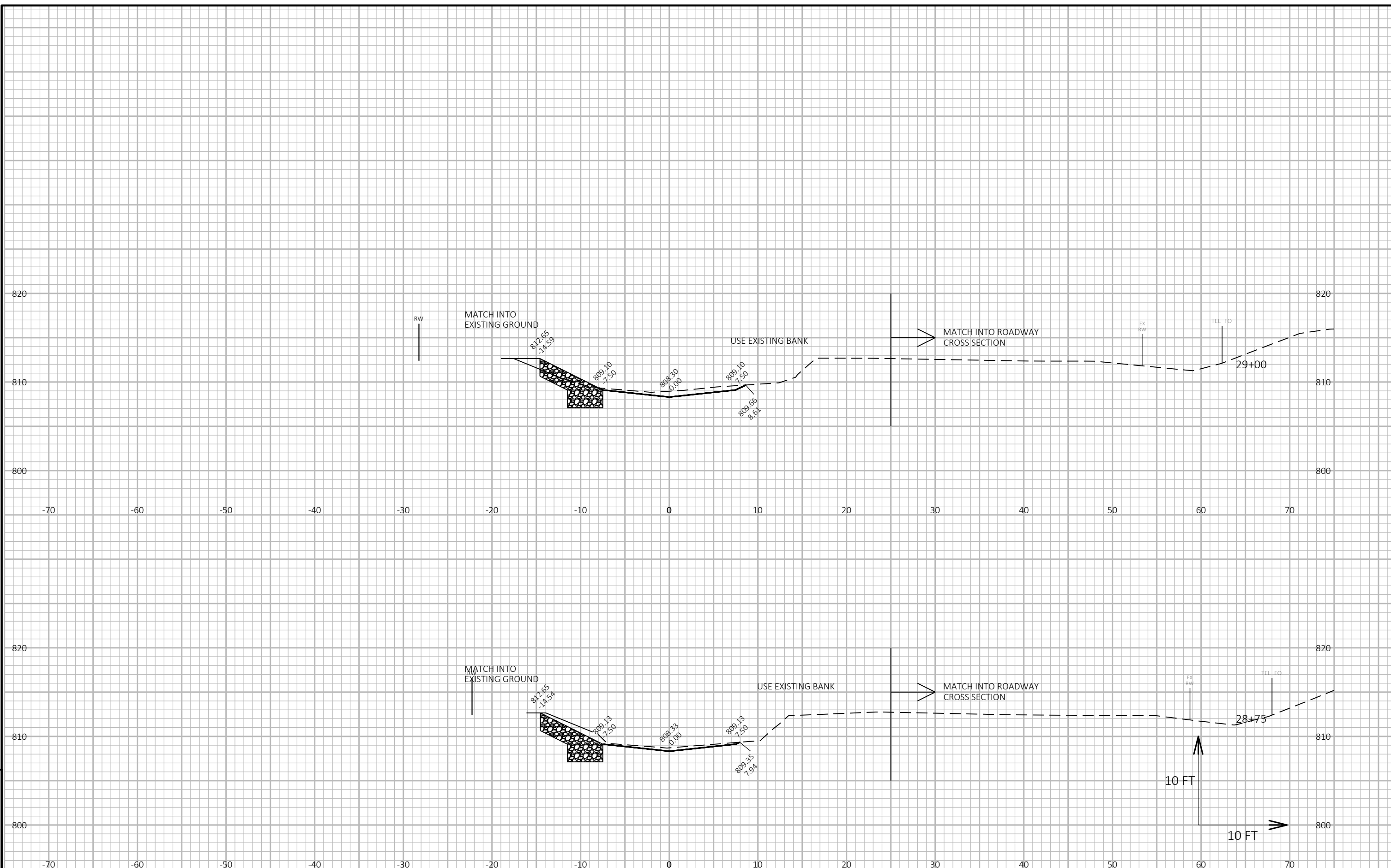
PLOT BY : INMAN, AMANDA

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADD SHEET 49





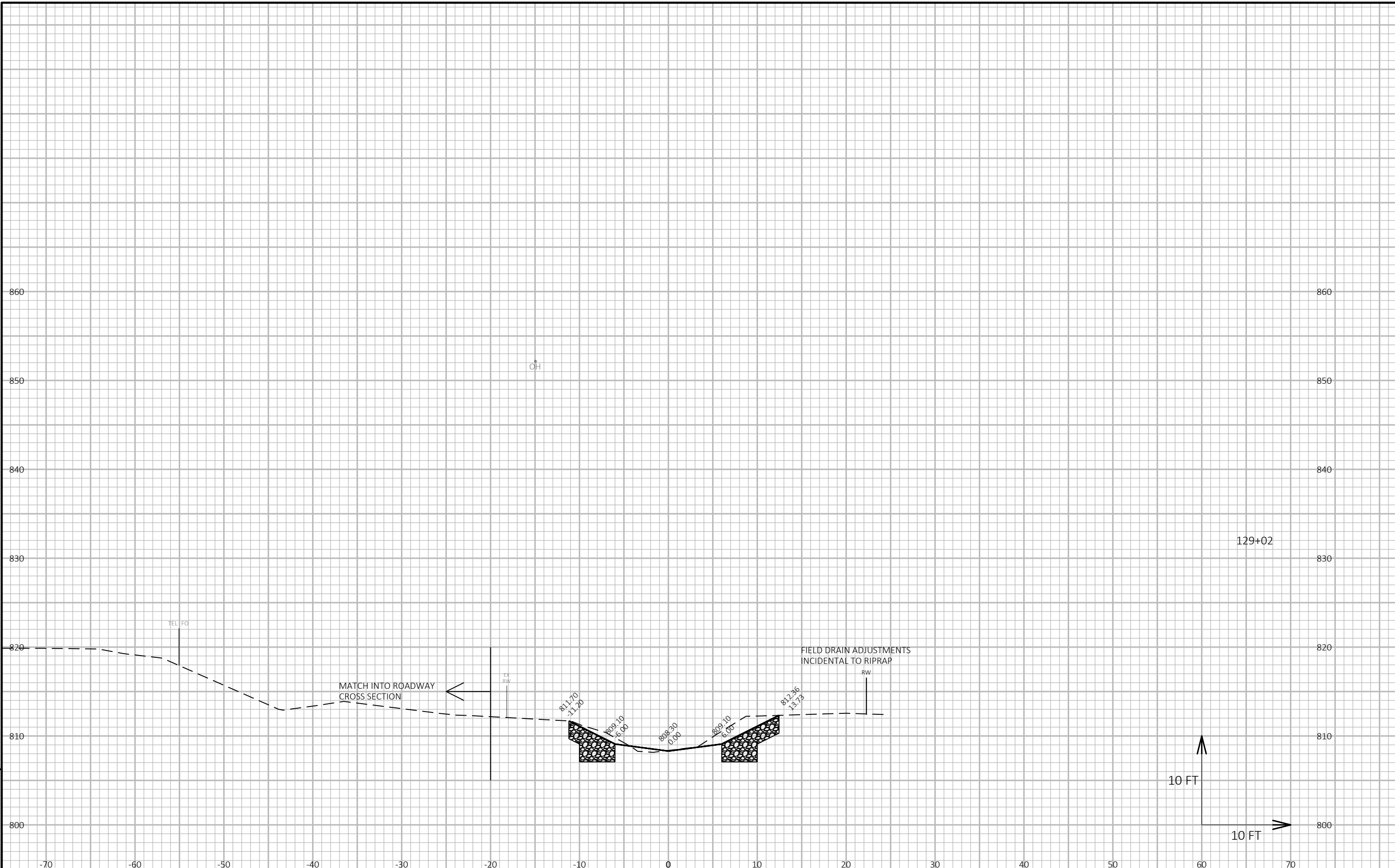
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PROJECT NO: 5768-00-75	HWY: HANOVER ROAD	COUNTY: ROCK	CROSS SECTIONS: CHANNEL CHANGE (WEST) XS	SHEET	E
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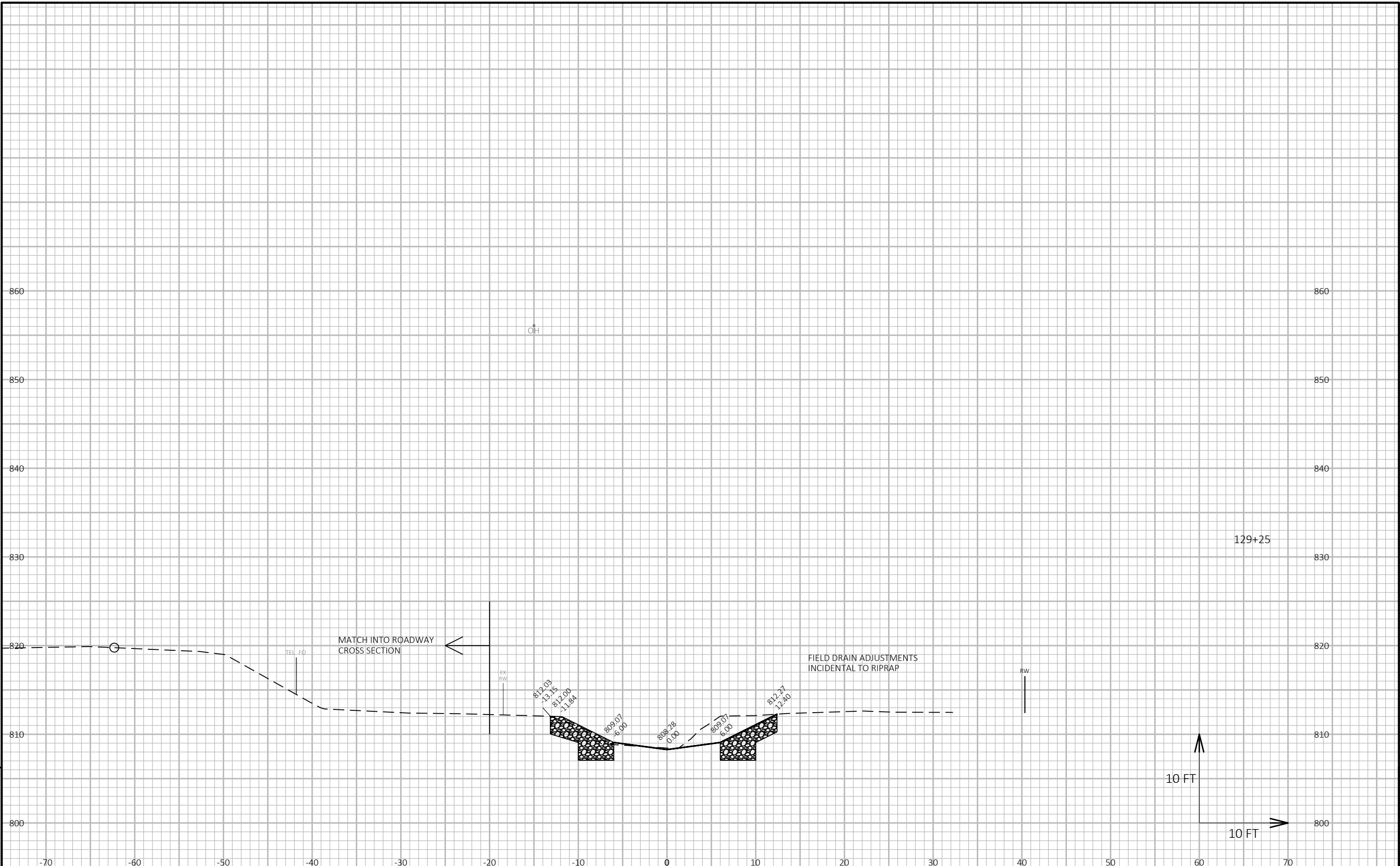
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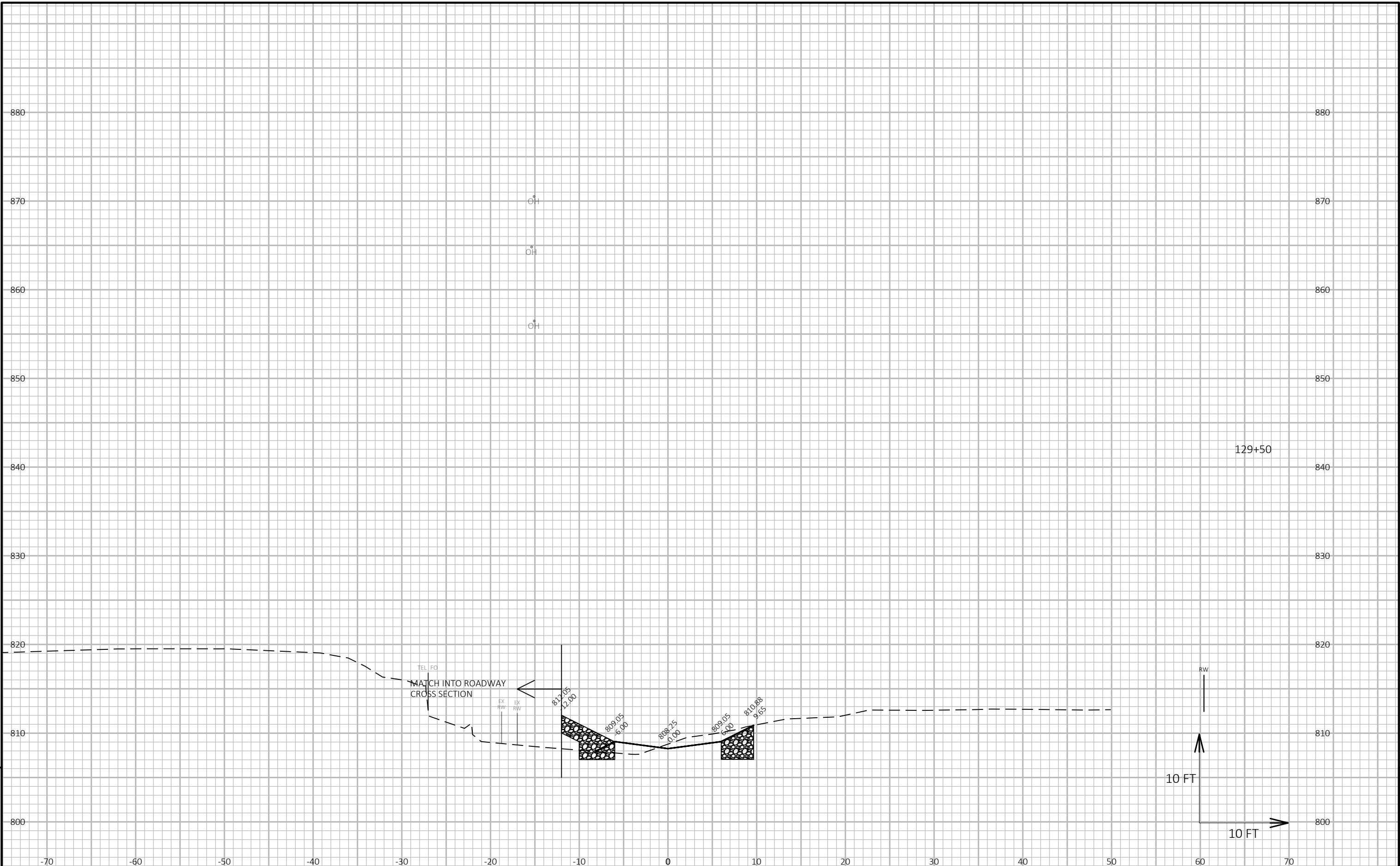
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PROJECT NO: 5768-00-75	HWY: HANOVER ROAD	COUNTY: ROCK	CROSS SECTIONS: CHANNEL CHANGE (EAST) XS	SHEET	E
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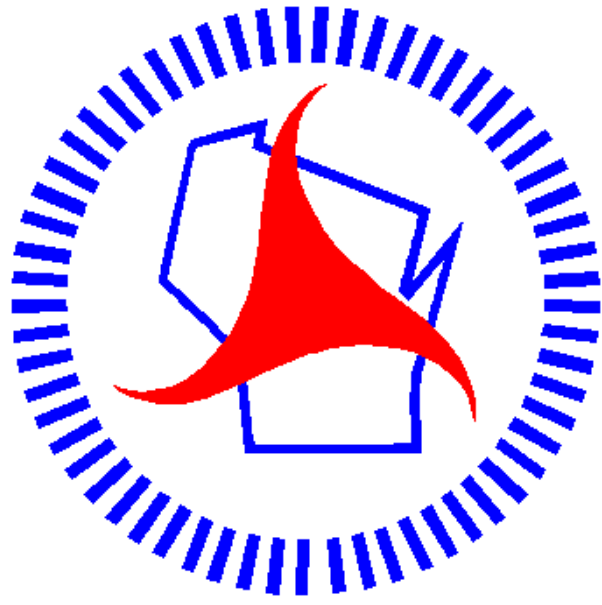
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PROJECT NO: 5768-00-75      HWY: HANOVER ROAD      COUNTY: ROCK      CROSS SECTIONS: CHANNEL CHANGE (EAST) XS      SHEET      E

FILE NAME : V:\TRANS-MD\421141 HANOVER RD\C3D\DESIGN\HANOVER RD\_PROPOSED DESIGN.DWG      PLOT DATE : 9/26/2019 10:03 AM      PLOT BY : INMAN, AMANDA      PLOT NAME :      PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.      WISDOT/CADD5 SHEET 49

# Notes



## ***Wisconsin Department of Transportation***

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