

LAX

JANUARY 2021

PROJECT ID:

5336-00-73

COUNTY:

CRAWFORD

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 Plan
Section No.	5	Plan and Profile
Section No.	6	Standard Detail Drawings
Section No.	7	Sign Plates
Section No.	8	Structure Plans
Section No.	9	Computer Earthwork Data
Section No.	9	Cross Sections

TOTAL SHEETS = 34



DESIGN DESIGNATION

A.A.D.T.	(2021)	=	115
A.A.D.T.	(2041)	=	135
D.H.V.	(2041)	=	28
D.D.		=	60/40
T.		=	8%
DESIGN SPEED		=	40MPH
ESALS		=	48,000

CONVENTIONAL SYMBOLS

PLAN

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

MARSH AREA

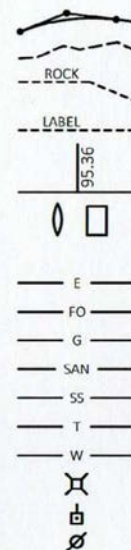


WOODED OR SHRUB AREA



PROFILE

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



STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

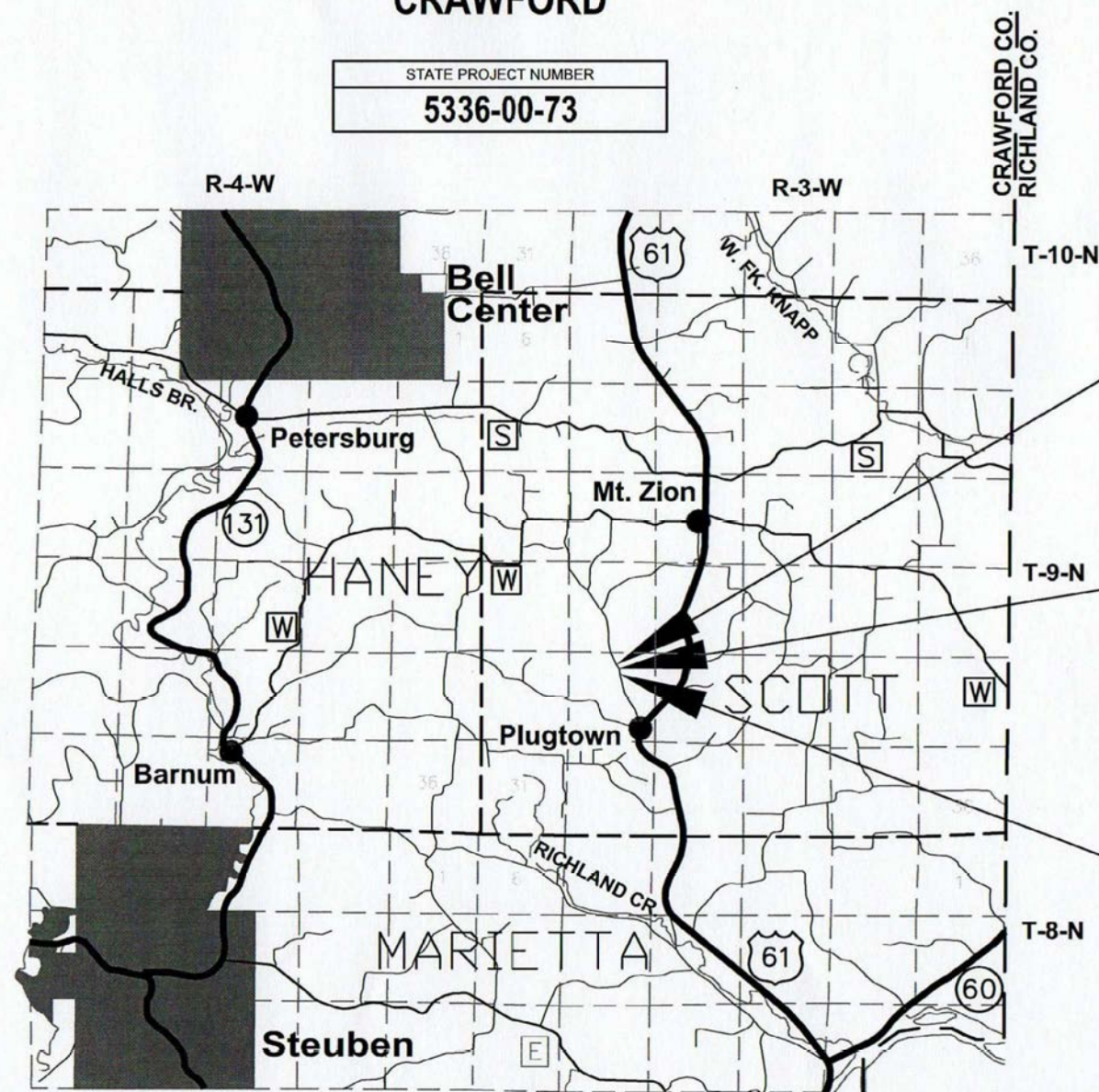
PLAN OF PROPOSED IMPROVEMENT

TOWN OF SCOTT, BYERS ROAD

(RICHLAND CREEK BRIDGE B-12-0248)

LOC STR
CRAWFORD

STATE PROJECT NUMBER
5336-00-73



BEGIN PROJECT
STA 9+50
Y = 188071.097
X = 422293.703

STRUCTURE
B-12-0248

END PROJECT
STA 10+87

LAYOUT
SCALE 0 1 MI. 2 MI.
TOTAL NET LENGTH OF CENTERLINE = 0.026 MI.

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COORDINATE REFERENCE SYSTEM (WISCRS), CRAWFORD NAD83 (2011), IN U.S. SURVEY FEET. POSITIONS SHOWN ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES ARE THE SAME AS GROUND DISTANCES. ELEVATIONS ARE REFERENCED TO NAVD 88 (2012). GPS DERIVED ELEVATIONS ARE BASED ON GEOID 12A.

STATE PROJECT

5336-00-73

FEDERAL PROJECT

PROJECT

WISC 2021078

CONTRACT

1

ACCEPTED FOR

TOWN OF SCOTT

7/16/2020
(Date)

TOWN CHAIRPERSON

ACCEPTED FOR

COUNTY OF CRAWFORD

7/16/2020
(Date)

HIGHWAY COMMISSIONER

ORIGINAL PLANS PREPARED BY

TEAM
ENGINEERING
Transportation Environmental Agricultural Municipal
and Land Surveying



7/16/2020
DATE:

(Signature)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	TEAM ENGINEERING
Designer	TEAM ENGINEERING
Regional Examiner	ALEIGHA BURG
Regional Supervisor	IAN WINGER

APPROVED FOR THE DEPARTMENT

7/16/2020 Aleigha Burg, P.E.
DATE: (Signature)

LIST OF STANDARD ABBREVIATIONS

ABUT.	Abutment	JT	Joint	SEC	Section
AC	Acre	JCT	Junction	SHLDR	Shoulder
AGG.	Aggregate	LHF	Left-Hand Forward	SHR	Shrinkage
AH	Ahead	L	Length of Curve	SW	Sidewalk
<	Angle	LIN FT OR LF	Linear Foot	S	South
ASPH	Asphaltic	LC	Long Chord of Curve	SQ	Square
AVG.	Average	MH	Manhole	SF OR SQ FT	Square feet
A.D.T.	Average Daily Traffic	MB	Mailbox	SY OR SQ YD	Square Yard
BAD	Base Aggregate Dense	ML OR M/L	Match Line	STD	Standard
BK.	Back	N	North	SDD	Standard Detail Drawings
BF	Back Face	Y	North Grid Coordinante	STH	State Trunk Highways
B.M	Bench Mark	OAL	Overall Length	STA	Station
BR.	Bridge	OD	Outside Diameter	SS	Storm Sewer
C/L	Center Line	PLE	Permanent Limited Easement	SG	Subgrade
CC	Center to Center	PT	Point	SE	Superelevation
CTH	County Trunk Highway	PC	Point of Curvature	SL OR S/L	Survey Line
CR.	Creek	PI	Point of Intersection	SV	Septic Vent
CY OR CU YD	Crushed	PRC	Point of Reverse Curvature	T	Tangent
CP	Cubic Yard	PT	Point of Tangency	TEL	Telephone
C & G	Culvert Pipe	POC	Point on curve	TEMP	Temporary
D	Curb and Gutter	POT	Point on Tangent	TI	Temporary Interest
DH	Degree of Curve	PVC	Polyvinyl Chloride	TLE	Temporary Limited Easement
DHV	Design Hour Volume	PCC	Portland Cement Concrete	t	Ton
DIA	Diameter	LB	Pound	T OR TN	Town
E	East	PSI	Pounds Per Square Inch	TRANS	Transition
X	East Grid Coordinate	PE	Private Entrance	TL OR T/L	Transit Line
ELEC	Electric	R	Radius	T	Trucks (percent of)
EL OR ELEV	Elevation	RR	Railroad	TYP	Typical
ESALS	Equivalent Single Axle Loads	RL OR R/L	Reference Line	UNCL	Unclassified
EBS	Excavation Below Subgrade	RP	Reference Point	UG	Underground Cable
FF	Face to Face	RCCP	Reinforced Concrete Culvert Pipe	USH	United States Highway
FE	Field Entrance	REQD	Required	VAR	Variable
F	Fill	RES	Residence or Residential	V	Velocity or Design Speed
FG	Finished Grade	RW	Retaining Wall	VERT	Vertical
FL OR F/L	Flow Line	RT	Right	VC	Vertical Curve
FT	Foot	RHF	Right-Hand Forward	VOL	Volume
FTG	Footing	R/W	Right-of-Way	WM	Water Main
GN	Grid North	R	River	WV	Water Valve
HT	Height	RD	Road	W	West
CWT	Hundredweight	RDWY	Roadway	WB	Westbound
HYD	Hydrant	SALV	Salvaged	YD	Yard
INL	Inlet	SAN S	Sanitary Sewer		
ID	Inside Diameter				
INV	Invert				
IP	Iron Pipe or Pin				
IRS	Iron Rod Set				

GENERAL NOTES

NO TREES OR SHRUBS ARE TO BE REMOVED UNLESS SUCH TREES OR SHRUBS HAVE FIRST BEEN INDICATED FOR REMOVAL BY THE ENGINEER IN THE FIELD.

EXCAVATION BELOW SUBGRADE (EBS) IS NOT USED TO BALANCE YARDAGE AND IS NOT SHOWN ON THE CROSS SECTIONS, BUT IS MEASURED AND PAID FOR AS EXCAVATION COMMON. THE LOCATION OF EBS WILL BE DETERMINED BY THE ENGINEER IN THE FIELD.

FILL EXPANSION IS ESTIMATED AT 20%.

DISTURBED AREAS SHOWN WITHIN THE RIGHT-OF-WAY, EXCEPT THE AREAS WITHIN THE FINISHED SHOULDER POINTS, ARE TO BE FERTILIZED (TYPE B), SEEDED (USE SEEDING MIXTURE #20 AND SEEDING TEMPORARY), EROSION MAT, AND MULCHED AS DIRECTED BY THE ENGINEER IN THE FIELD.

THE LOCATIONS OF SILT FENCE, SALVAGED TOPSOIL, SEEDING MIX #20, SEEDING TEMPORARY, EROSION MAT, MULCH AND TEMPORARY DITCH CHECKS ARE APPROXIMATE. LOCATIONS ARE TO BE DETERMINED BY THE ENGINEER IN THE FIELD.

REMOVAL OF ASPHALTIC SURFACES WHERE AN ABUTTING ASPHALTIC SURFACE IS TO REMAIN IN PLACE SHALL REQUIRE A SAWCUT MEETING THE APPROVAL OF THE ENGINEER IN THE FIELD.

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

ELEVATIONS SHOWN ON THE PLAN ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 2019 (NAVD88).

BEARINGS ON THE PLAN ARE REFERENCED TO THE WISCONSIN COUNTY COORDINATE SYSTEM, CRAWFORD COUNTY.

EROSION CONTROL DEVICES SHALL BE INSTALLED PRIOR TO CONSTRUCTION. EROSION CONTROL ITEMS ON THE PLAN ARE AT SUGGESTED LOCATIONS. EXACT LOCATIONS AND DIMENSIONS WILL BE DETERMINED BY THE ENGINEER IN THE FIELD. ALL EROSION CONTROL DEVICES SHALL BE MAINTAINED UNTIL SUCH TIME AS THE ENGINEER IN THE FIELD DEEMS THE DEVICES NO LONGER NECESSARY.

4-INCH ASPHALTIC SURFACE SHALL BE PLACED WITH A 2 1/4-INCH LOWER LAYER AND A 1 3/4-INCH UPPER LAYER. THE NOMINAL SIZE OF AGGREGATE USED FOR THE LOWER LAYER SHALL BE 19.0 MM AND THE UPPER LAYER SHALL BE 12.5 MM.

EXACT DIMENSIONS OF ANY PART ITEM CONTAINING THE WORK "RIPRAP" SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.

DESIGNER

TEAM ENGINEERING, INC.
210 GUARD STREET
WAUZEKA, WI 53826
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DNR CONTACT

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LA CROSSE, WI 54601
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ENVIRONMENTAL ANALYSIS & REVIEW SPECIALIST
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karen.kalvelage@wisconsin.gov

MUNICIPALITY CONTACT

CRAWFORD COUNTY HIGHWAY DEPARTMENT
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PH: (608) 734-9500
kkozelka@crawfordcountyiwi.org

UTILITIES

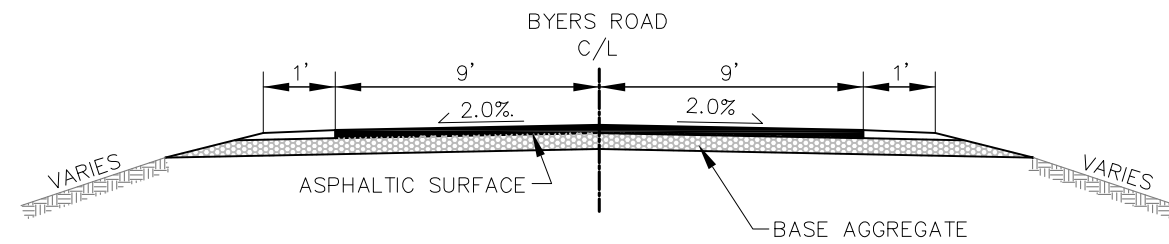
DAIRYLAND POWER COOPERATIVE
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RUNOFF COEFFICIENT TABLE

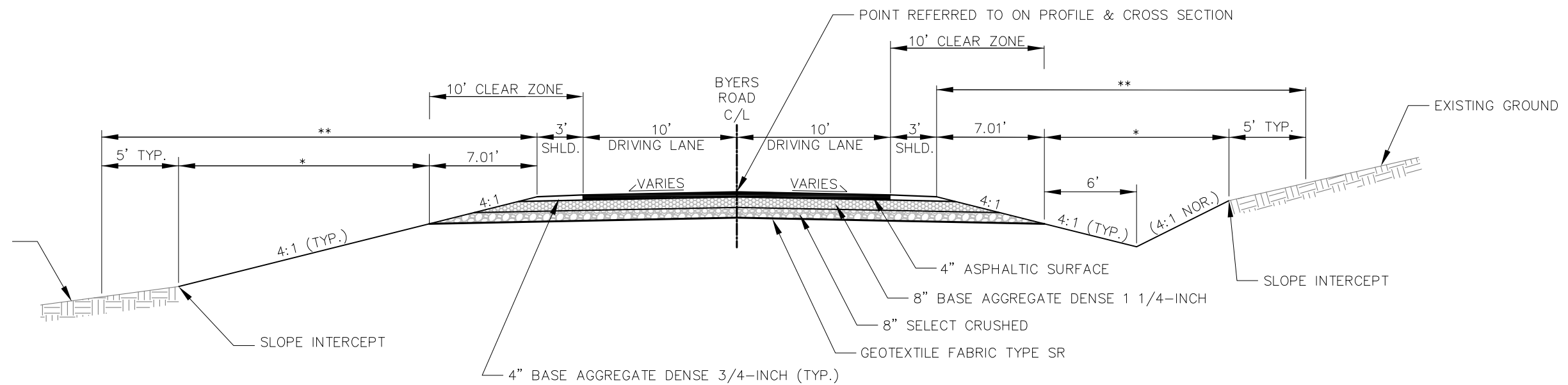
	HYDROLOGIC SOIL GROUP											
	A			B			C			D		
	SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)		
LAND USE	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER
ROW CROPS	.08 .22	.16 .30	.22 .38	.12 .26	.20 .34	.27 .44	.15 .30	.24 .37	.33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

TOTAL PROJECT AREA = 0.18 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 0.15 ACRES



TYPICAL EXISTING SECTION

BYERS ROAD



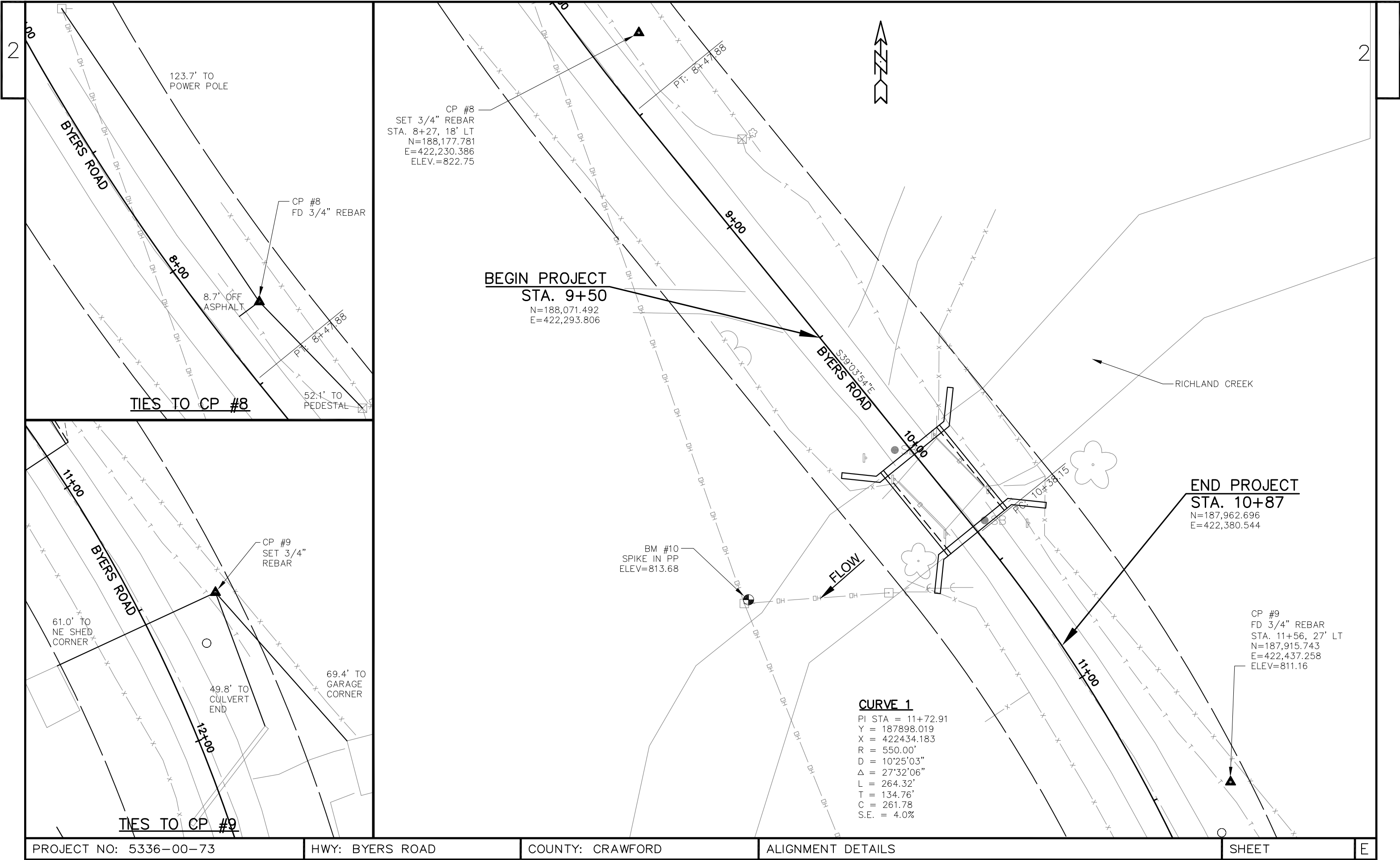
FILL

TYPICAL FINISHED SECTION

BYERS ROAD
STA 9+50 - STA. 10+87

CUT

** LIMITS OF SEEDING, FERTILIZER, &
EROSION MAT OR MULCH
* LIMITS OF SALVAGED TOPSOIL



Estimate Of Quantities

5336-00-73					
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	203.0600.S	Removing Old Structure Over Waterway With Minimal Debris (station) 01. 10+16	LS	1.000	1.000
0008	205.0100	Excavation Common	CY	227.000	227.000
0010	206.1000	Excavation for Structures Bridges (structure) 01. B-12-0248	LS	1.000	1.000
0012	210.1500	Backfill Structure Type A	TON	280.000	280.000
0014	213.0100	Finishing Roadway (project) 01. 5336-00-73	EACH	1.000	1.000
0016	305.0110	Base Aggregate Dense 3/4-Inch	TON	35.000	35.000
0018	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	170.000	170.000
0020	312.0110	Select Crushed Material	TON	190.000	190.000
0022	455.0605	Tack Coat	GAL	20.000	20.000
0024	465.0105	Asphaltic Surface	TON	70.000	70.000
0026	502.0100	Concrete Masonry Bridges	CY	128.000	128.000
0028	502.3200	Protective Surface Treatment	SY	131.000	131.000
0030	505.0400	Bar Steel Reinforcement HS Structures	LB	4,116.000	4,116.000
0032	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	15,336.000	15,336.000
0034	513.4061	Railing Tubular Type M 01. B-12-0248	LF	79.000	79.000
0036	516.0500	Rubberized Membrane Waterproofing	SY	12.000	12.000
0038	550.0500	Pile Points	EACH	12.000	12.000
0040	550.1100	Piling Steel HP 10-Inch X 42 Lb	LF	240.000	240.000
0042	606.0300	Riprap Heavy	CY	100.000	100.000
0044	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	160.000	160.000
0046	618.0100	Maintenance And Repair of Haul Roads (project) 01. 5336-00-73	EACH	1.000	1.000
0048	619.1000	Mobilization	EACH	1.000	1.000
0050	624.0100	Water	MGAL	5.000	5.000
0052	625.0500	Salvaged Topsoil	SY	320.000	320.000
0054	627.0200	Mulching	SY	50.000	50.000
0056	628.1504	Silt Fence	LF	350.000	350.000
0058	628.1520	Silt Fence Maintenance	LF	700.000	700.000
0060	628.1905	Mobilizations Erosion Control	EACH	3.000	3.000
0062	628.1910	Mobilizations Emergency Erosion Control	EACH	2.000	2.000
0064	628.2008	Erosion Mat Urban Class I Type B	SY	290.000	290.000
0066	628.6005	Turbidity Barriers	SY	100.000	100.000
0068	628.7504	Temporary Ditch Checks	LF	48.000	48.000
0070	629.0210	Fertilizer Type B	CWT	0.400	0.400
0072	630.0120	Seeding Mixture No. 20	LB	20.000	20.000
0074	630.0200	Seeding Temporary	LB	15.000	15.000

Estimate Of Quantities

5336-00-73

Line	Item	Item Description	Unit	Total	Qty
0076	630.0500	Seed Water	MGAL	9.000	9.000
0078	634.0614	Posts Wood 4x6-Inch X 14-FT	EACH	4.000	4.000
0080	637.2230	Signs Type II Reflective F	SF	12.000	12.000
0082	638.2602	Removing Signs Type II	EACH	6.000	6.000
0084	638.3000	Removing Small Sign Supports	EACH	6.000	6.000
0086	642.5001	Field Office Type B	EACH	1.000	1.000
0088	643.0420	Traffic Control Barricades Type III	DAY	1,162.000	1,162.000
0090	643.0705	Traffic Control Warning Lights Type A	DAY	1,992.000	1,992.000
0092	643.0900	Traffic Control Signs	DAY	1,162.000	1,162.000
0094	643.5000	Traffic Control	EACH	1.000	1.000
0096	645.0111	Geotextile Type DF Schedule A	SY	90.000	90.000
0098	645.0120	Geotextile Type HR	SY	200.000	200.000
0100	645.0135	Geotextile Type SR	SY	370.000	370.000
0102	650.4500	Construction Staking Subgrade	LF	100.000	100.000
0104	650.5000	Construction Staking Base	LF	100.000	100.000
0106	650.6500	Construction Staking Structure Layout (structure) 01. B-12-0248	LS	1.000	1.000
0108	650.9910	Construction Staking Supplemental Control (project) 01. 5336-00-73	LS	1.000	1.000
0110	650.9920	Construction Staking Slope Stakes	LF	100.000	100.000
0112	690.0150	Sawing Asphalt	LF	32.000	32.000
0114	715.0502	Incentive Strength Concrete Structures	DOL	960.000	960.000
0116	ASP.1T0A	On-the-Job Training Apprentice at \$5.00/HR	HRS	1,200.000	1,200.000
0118	ASP.1T0G	On-the-Job Training Graduate at \$5.00/HR	HRS	1,200.000	1,200.000

CLEARING & GRUBBING

STATION—STATION	LOCATION	(201.0105) CLEARING (STA)	(201.0205) GRUBBING (STA)
9+50—10+50	LT & RT	1	1
TOTALS		1	1

BASE AGGREGATE DENSE

STATION—STATION	LOCATION	(305.0110) 3/4—INCH (TON)	(305.0120) 1 1/4—INCH (TON)
9+50—10+87	CTH C	20	170
9+65	P.E., LT	15	—
TOTALS		35	170

SELECT CRUSHED

STATION—STATION	LOCATION	(312.0110) (TON)
9+50—10+87	BYERS RD.	190
TOTALS		190

WATER

STATION—STATION	LOCATION	(624.0100) (MGAL)
9+50—10+87	BYERS RD.	5
TOTALS		5

NOTE: UNLESS NOTED, ALL ITEMS ARE IN CATEGORY 0010.

EARTHWORK SUMMARY

STATION—STATION	LOCATION	(205.0100) EXCAVATION COMMON (1) (CY)	UNEXPANDED FILL (CY)	EXPANDED FILL (2) (20%) (CY)	MASS ORDINATE + / — (3) (CY)	WASTE (CY)
9+50—10+01	BYERS RD.	118	0	0	118	118
10+38—10+87	BYERS RD.	109	0	0	109	109
TOTALS		227	0	0		227

NOTES:
1.) SALVAGED/UNUSABLE PAVEMENT IS INCLUDED IN CUT
2.) AVAILABLE MATERIAL = CUT
3.) EXPANDED FILL FACTOR 1.20: EXPANDED FILL =(UNEXPANDED FILL)*1.20
4.) THE MASS ORDINATE +OR– QTY CALCULATED FOR THE DIVISION. PLUS QUANTITY INDICATED AN EXCESS OF MATERIAL WITHIN THE CATEGORY.
MINUS INDICATES A SHORTAGE OF MATERIAL WITHIN THE CATEGORY.

ASPHALTIC ITEMS

STATION—STATION	LOCATION	(455.0605) TACK COAT (GAL)	(465.0105) ASPHALTIC SURFACE (TON)
9+50—10+01	BYERS RD.	10	35
10+38—10+87	BYERS RD.	10	35
TOTALS		20	70

FINISHING ITEMS

STATION—STATION	LOCATION	(625.0500) SALVAGED TOPSOIL (SY)	(627.0200) MULCHING (SY)	(628.2008) EROSION MAT URBAN CLASS I TYPE B (SY)	(629.0210) FERTILIZER TYPE B (CWT)	(630.0120) SEEDING MIXTURE NO. 20 (LB)	(630.0200) SEEDING TEMPORARY (LB)	(630.0500) SEED WATER (MGAL)
9+50—10+01	BYERS RD. LT & RT	120	—	135	0.15	7	—	—
10+38—10+87	BYERS RD. LT & RT	140	—	100	0.15	8	—	—
	UNDISTRIBUTED	60	50	55	0.1	5	15	9
TOTALS		320	50	290	0.4	20	15	9

MOBILIZATIONS EROSION CONTROL

PROJECT	(628.1905) MOBILIZATIONS EROSION CONTROL (EACH)	(628.1910) MOBILIZATIONS EMERGENCY EROSION CONTROL (EACH)
5336-00-73	3	2
TOTALS	3	2

3

TEMPORARY DITCH CHECKS		
STATION	LOCATION	(628.7504) TEMPORARY DITCH CHECKS (LF)
	UNDISTRUBED	48
TOTALS		48

REMOVING SIGNS TYPE II & REMOVING SMALL SIGN SUPPORTS				
STATION	LOCATION	DESCRIPTION	(638.2602) (EACH)	(638.3000) (EACH)
9+93	RT	10 TON	1	1
10+03	LT	W5-52	1	1
10+03	RT	W5-52	1	1
10+29	LT	W5-52	1	1
10+29	RT	W5-52	1	1
10+45	LT	10 TON	1	1
TOTALS			6	6

TRAFFIC CONTROL						
LOCATION	SIGN CODE	MESSAGE	SERVICE PERIOD DAYS	(643.0420) BARRICADES (DAY)	(643.0705) LIGHTS TYPE A (DAY)	(643.0900) SIGNS (DAY)
BYERS RD	W20-3	RD CLOSED AHEAD	83	—	—	83
BYERS RD/CADOMA RD	R11-3	BARRICADES/SIGNS	83	166	332	166
BYERS RD	W20-3C	RD CLOSED 1000 FT	83	—	—	83
BYERS RD	W20-3D	RD CLOSED 500 FT	83	—	—	83
BYERS RD	R11-2B	BRIDGE OUT BARRICADES	83	166	332	83
BYERS RD	R11-2B	HARD CLOSURE @ BOP	83	249	332	83
BYERS RD	R11-2B	HARD CLOSURE @ EOP	83	249	332	83
BYERS RD	R11-2B	BRIDGE OUT BARRICADES	83	166	332	83
BYERS RD	W20-3D	RD CLOSED 500 FT	83	—	—	83
BYERS RD	W20-3C	RD CLOSED 1000 FT	83	—	—	83
BYERS RD	W20-3	RD CLOSED AHEAD	83	—	—	83
BYERS RD/CHILDS HOLLOW RD	R11-3	BARRICADES/SIGNS	83	166	332	166
TOTALS				1162	1992	1162

CONSTRUCTION STAKING						
STATION-STATION	LOCATION	(650.4500) SUBGRADE (LF)	(650.5000) BASE (LF)	(650.6500) STRUCTURE LAYOUT (LS)	(650.9910) SUPPLEMENTAL CONTROL (LS)	(650.9920) SLOPE STAKING (LF)
9+50-10+00	BYERS RD	50	50	—	0.5	50
10+38-10+87	BYERS RD	50	50	—	0.5	50
TOTALS		100	100	1 *	1	100
* CATEGORY 0020						

<u>TURBIDITY BARRIER</u>	
LOCATION	(628.6005) (SY)
NORTH ABUTMENT	50
SOUTH ABUTMENT	50
TOTALS	100

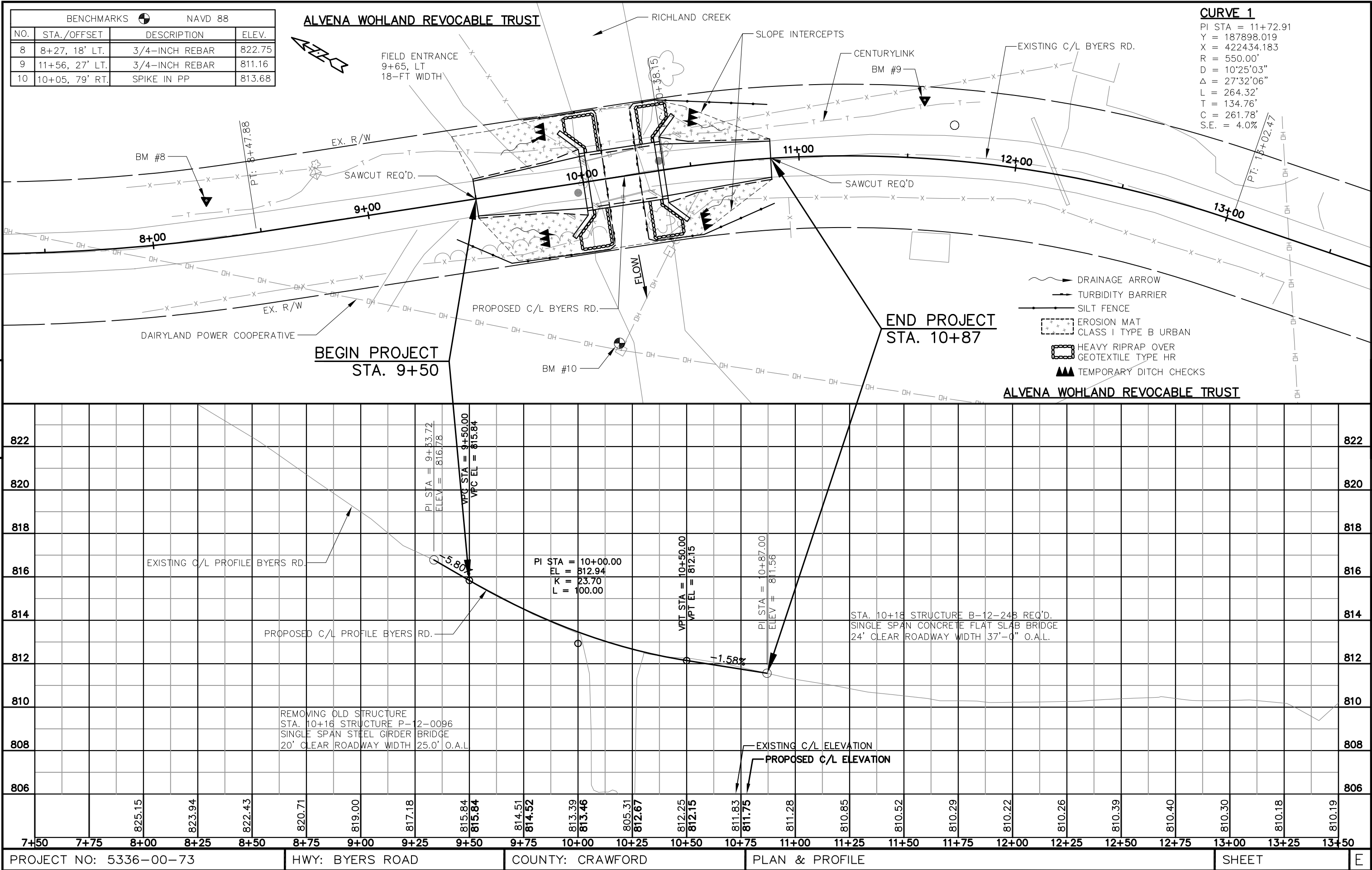
SILT FENCE & SILT FENCE MAINTENANCE			
STATION-STATION	LOCATION	(628.1504) (LF)	(628.1520) (LF)
9+50-10+01	BYERS RD.	170	340
10+38-10+87	BYERS RD.	180	360
TOTALS		350	700

PERMANENT SIGNING				
STATION	LOCATION	SIGN CODE	(634.0614) POSTS WOOD 4X6-INCH X 14-FT (EACH)	(637.2230) SIGNS TYPE II REFLECTIVE TYPE F (SF)
10+00	LT	W5-52	1	3
10+00	RT	W5-52	1	3
10+38	LT	W5-52	1	3
10+38	RT	W5-52	1	3
TOTALS			4	12.00

GEOTEXTILE TYPE SR		
STATION-STATION	LOCATION	(645.0135) (SY)
9+50-10+00	BYERS RD	186
10+38+10+87	BYERS RD	184
TOTALS		370

SAWING ASPHALT		
STATION	LOCATION	(690.0150) (LF)
9+50	BYERS RD	16
10+87	BYERS RD	16
TOTALS		32

3



FILE NAME : T:\PROJECTS\2019\19-1745-1 CRAWFORD CTY BYERS ROAD (RICHLAND CREEK BRIDGE) 5336-00-03\DRAWINGS\OVERALL.DWG

PLOT DATE : 7/8/2020 10:07 AM

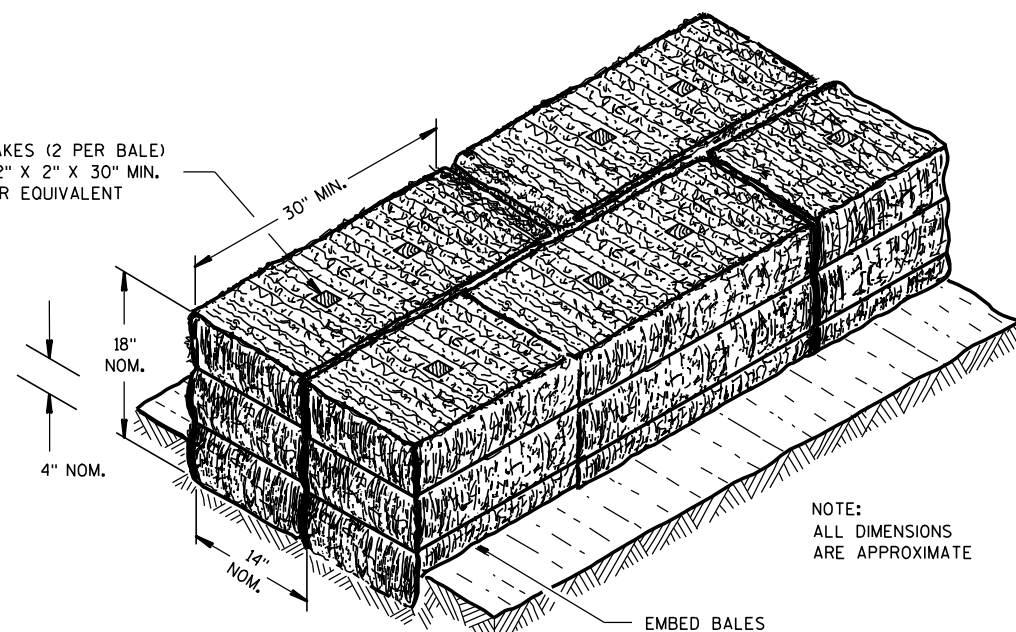
PLOT BY : BRAD SCHROEDER

PLOT NAME :

Standard Detail Drawing List

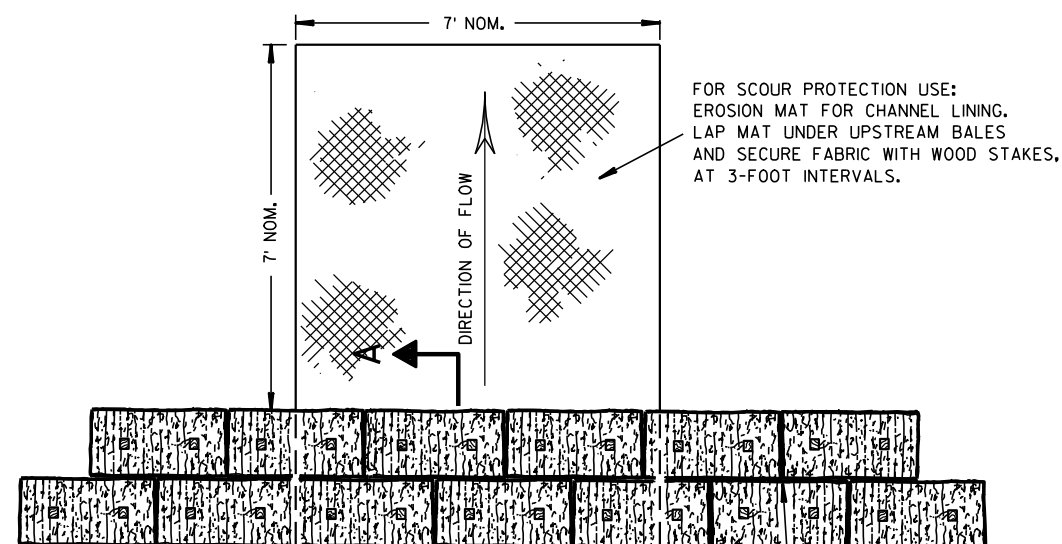
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
12A03-10	NAME PLATE (STRUCTURES)
15C02-08A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-08B	BARRICADES AND SIGNS FOR VARIOUS CLOSURES
15C06-09	SIGNING & MARKING FOR TWO LANE BRIDGES
15D38-02A	TEMPORARY TRAFFIC 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

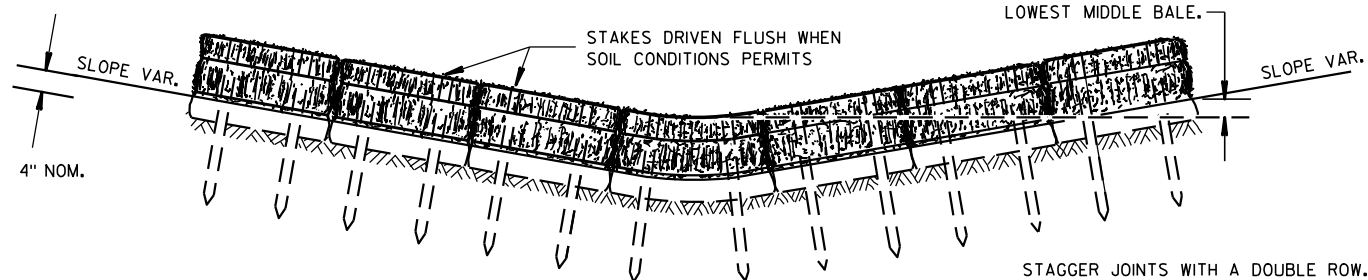
SECTION A-A



PLAN VIEW

STAGGER JOINTS BETWEEN ADJACENT
ROWS OF BALES.

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



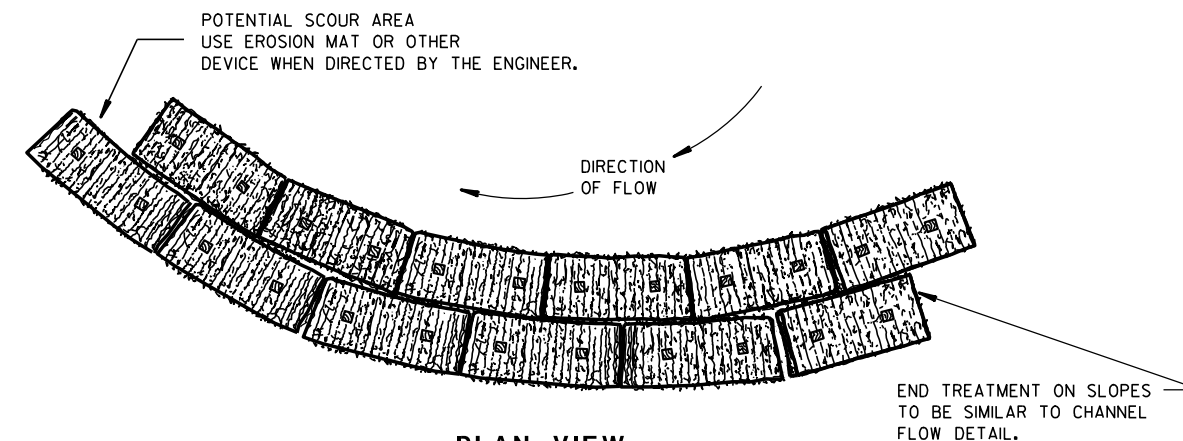
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES ①

GENERAL NOTES

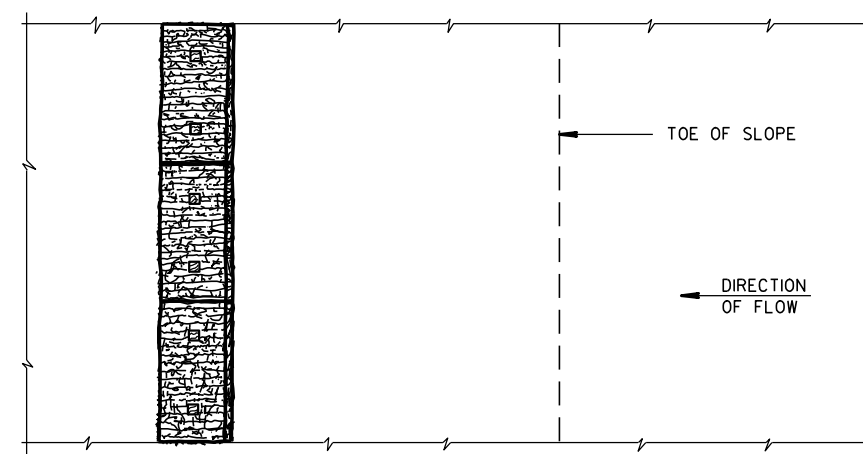
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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

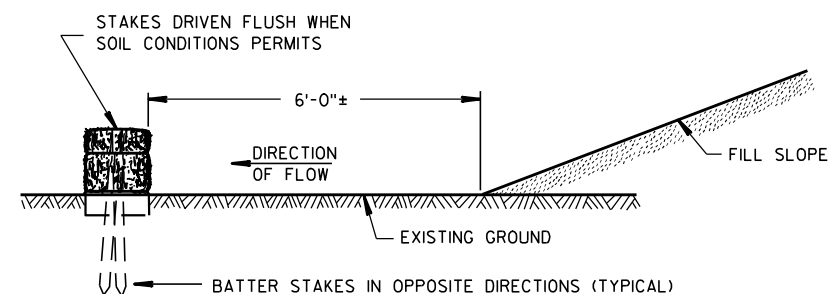


PLAN VIEW

WHEN ALTERING THE DIRECTION OF FLOW



PLAN VIEW



FRONT ELEVATION

WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE

EROSION BALES FOR SHEET FLOW

TYPICAL INSTALLATIONS OF
EROSION BALES / TEMPORARY
DITCH CHECKS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

6/04/02
DATE

FHWA

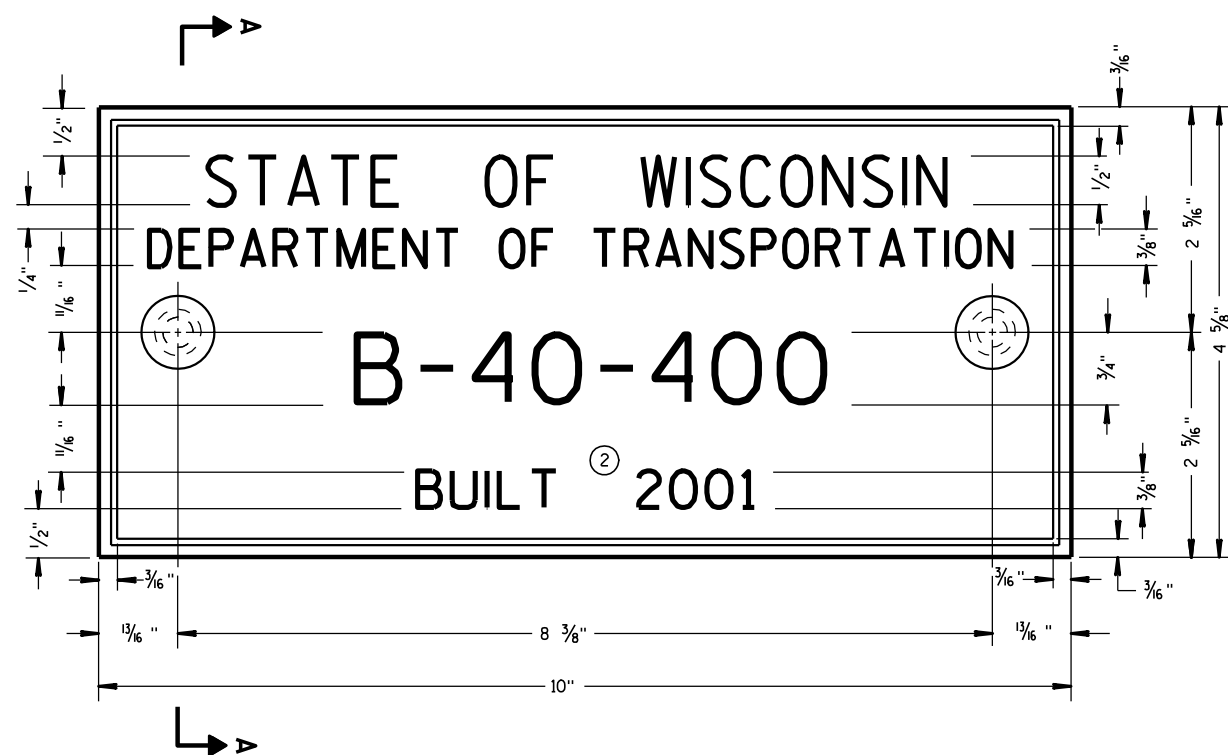
/S/ Beth Canestra
CHIEF ROADWAY DEVELOPMENT ENGINEER



- 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.

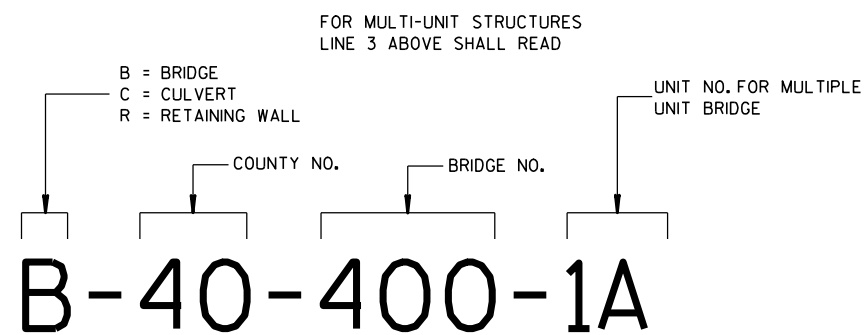


<p>SILT FENCE</p>	
<p>STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION</p>	
<p>APPROVED 4-29-05 DATE</p>	<p>/s/ Beth Cannestra CHIEF ROADWAY DEVELOPMENT ENGINEER</p>



TYPICAL NAME PLATE

(BRIDGES, CULVERTS, AND RETAINING WALLS)



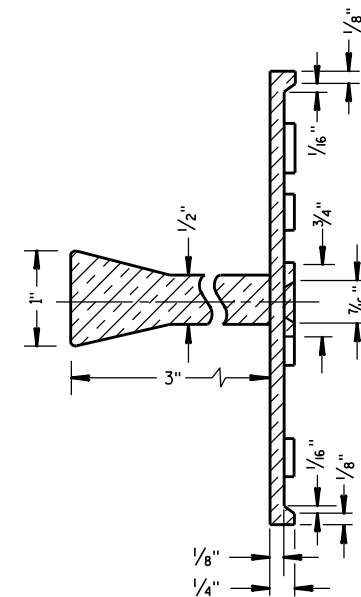
NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES

GENERAL NOTES

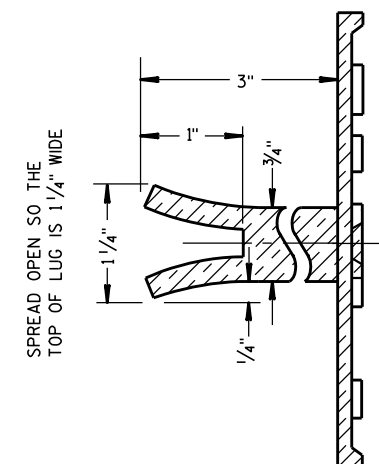
NAME PLATES TO BE INSTALLED ON BRIDGES, CULVERTS, AND RETAINING WALLS SHALL CONFORM TO THE REQUIREMENTS OF SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS.

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

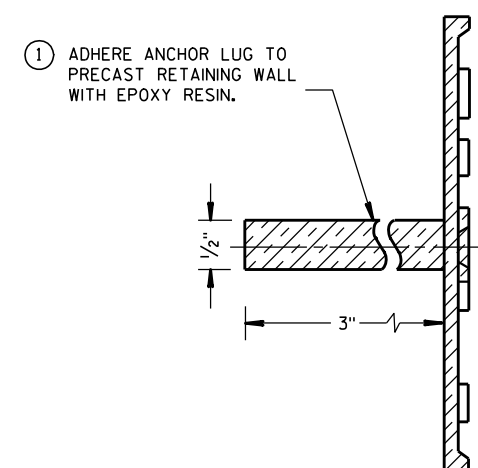
- ① EPOXY RESIN SHALL BE FROM AN APPROVED MANUFACTURER AND USED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
- ② REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.



SECTION A-A



ALTERNATE LUG



ALTERNATE LUG

(FOR ATTACHMENT TO PRECAST STRUCTURES)

NAME PLATE
(STRUCTURES)

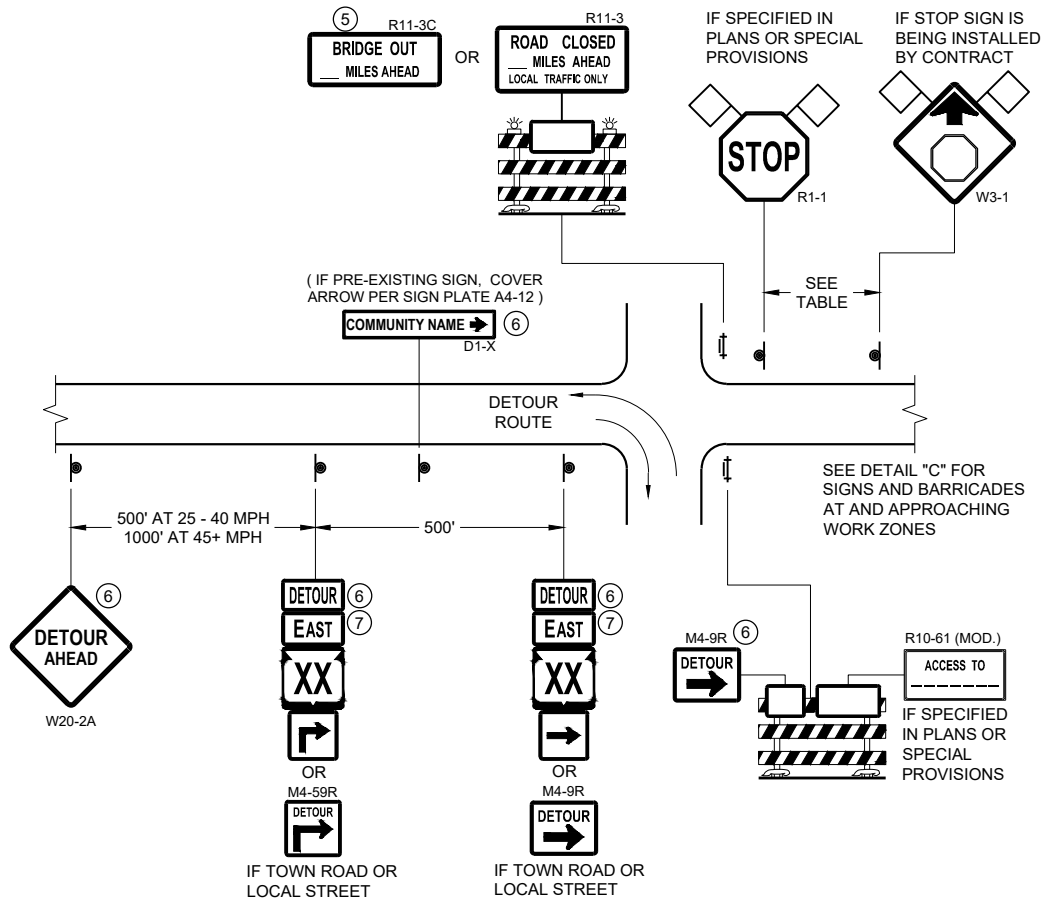
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

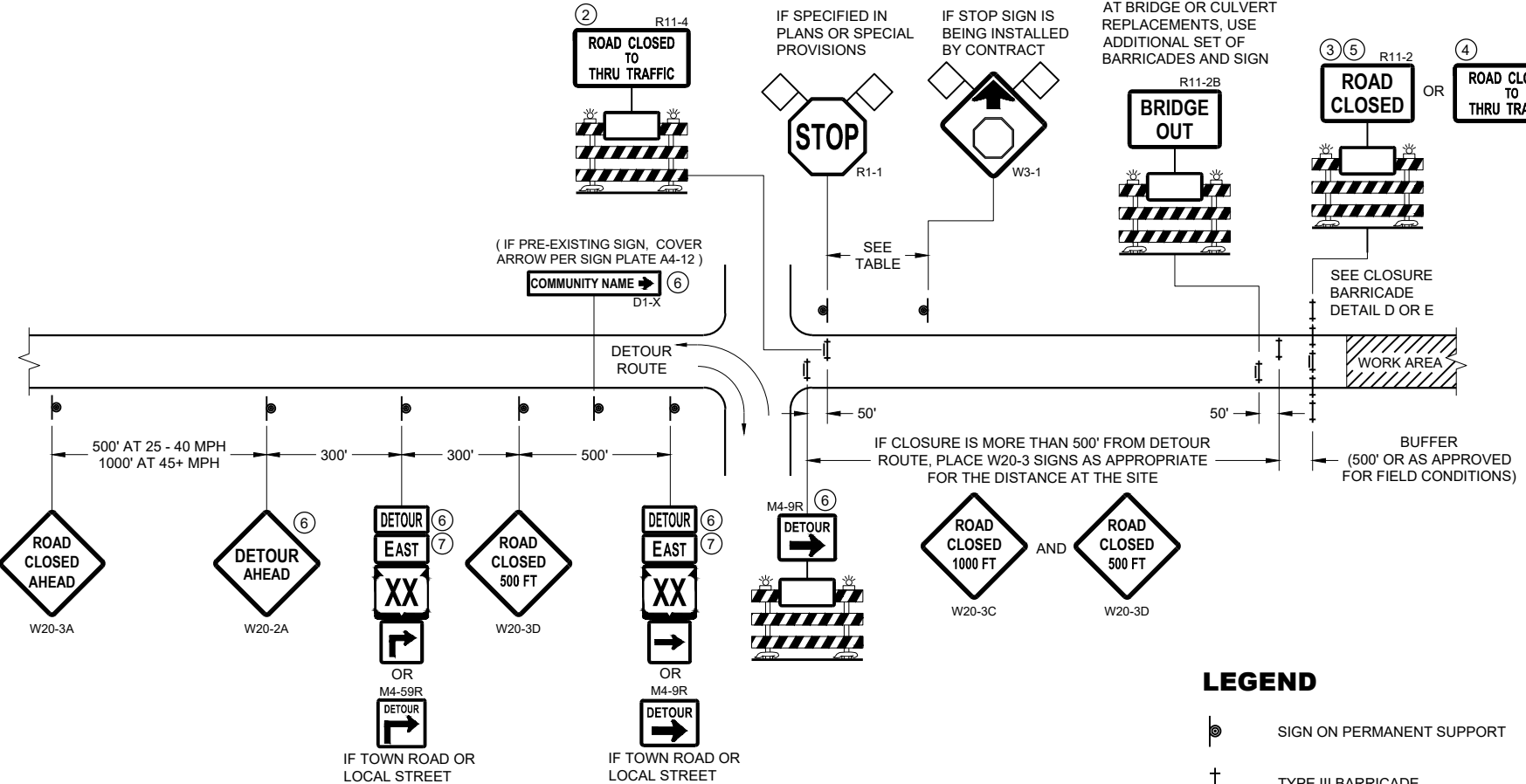
3/26/10
DATE

FHWA

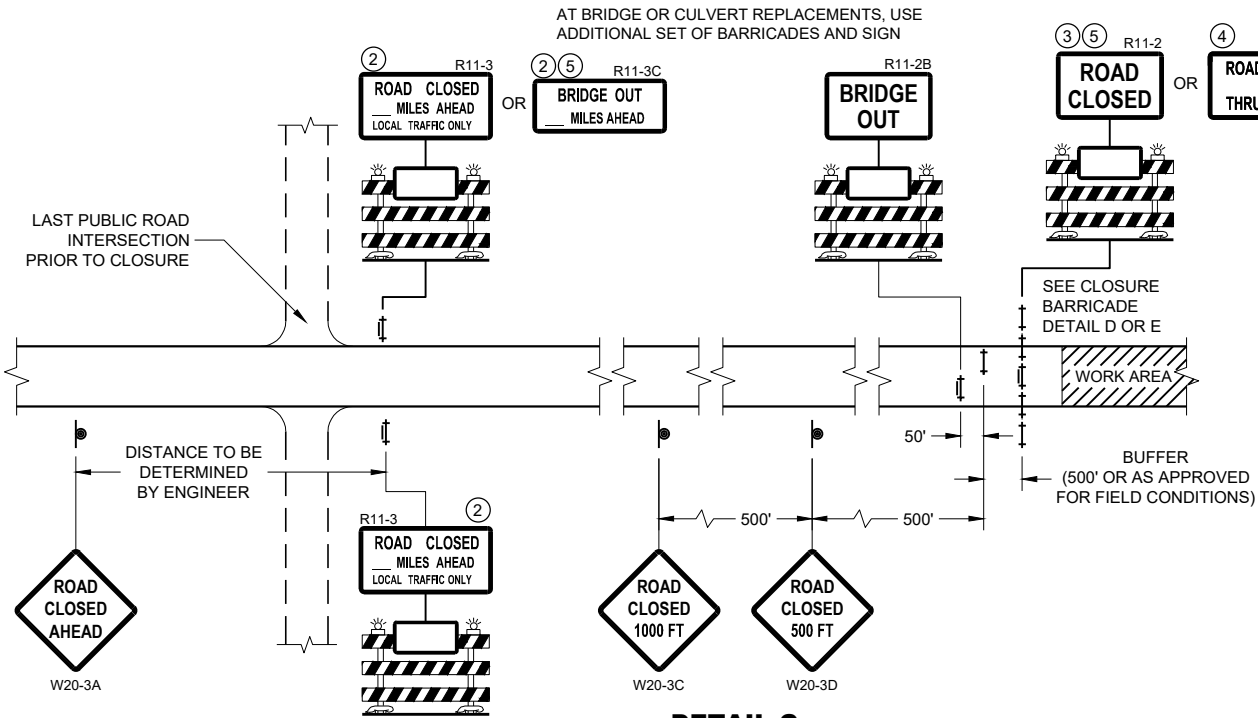
/S/ Scot Becker
CHIEF STRUCTURAL DEVELOPMENT ENGINEER



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



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



DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR

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

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

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)

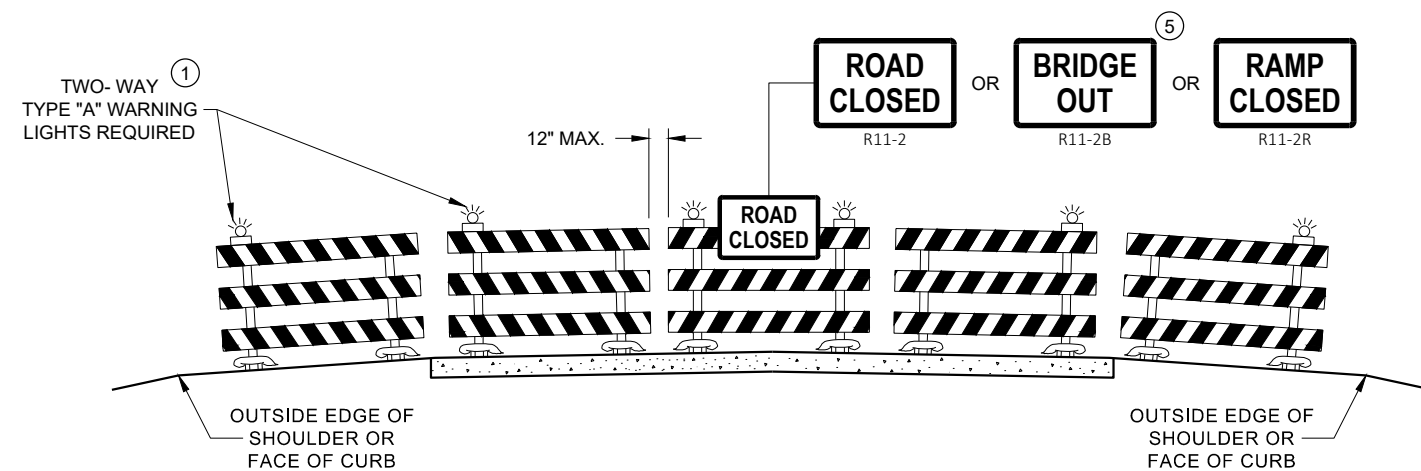
DETOUR M4 - 8
EAST M3 - X
XX OR **XX** OR **COUNTY X**
M1 - 4 M1 - 6 M1 - 5A
→ OR **→**
M05 - 1 M06 - 1

**BARRICADES AND SIGNS
FOR MAINLINE CLOSURES**

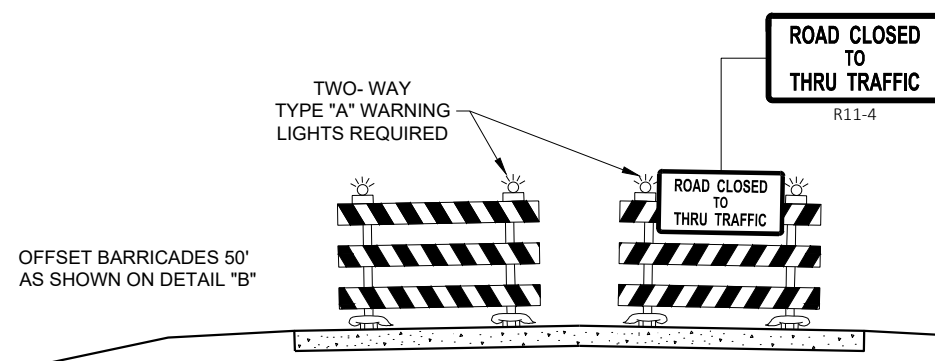
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA



DETAIL D
ROAD CLOSURE BARRICADE DETAIL
APPROACH VIEW



DETAIL E
LANE CLOSURE BARRICADE DETAIL
APPROACH VIEW

SEE SDD 15C2 - SHEET "a" FOR LEGEND

GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

R11 - 2 SHALL BE 48" X 30"

R11 - 3 SHALL, R11 - 4 AND R10 - 61 SHALL BE 60 " X 30"

M4 - 9 SHALL BE 30" X 24"

M3 - X SHALL BE 24" X 12"

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

MO5 - 1 AND MO6 - 1 SHALL BE 21" X 21" (30" X 30" 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 - Y SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS

D1 - X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.
B1 - 1 SHALL BE 36" X 36"

R1 - 1 SHALL BE 36" X 36"

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

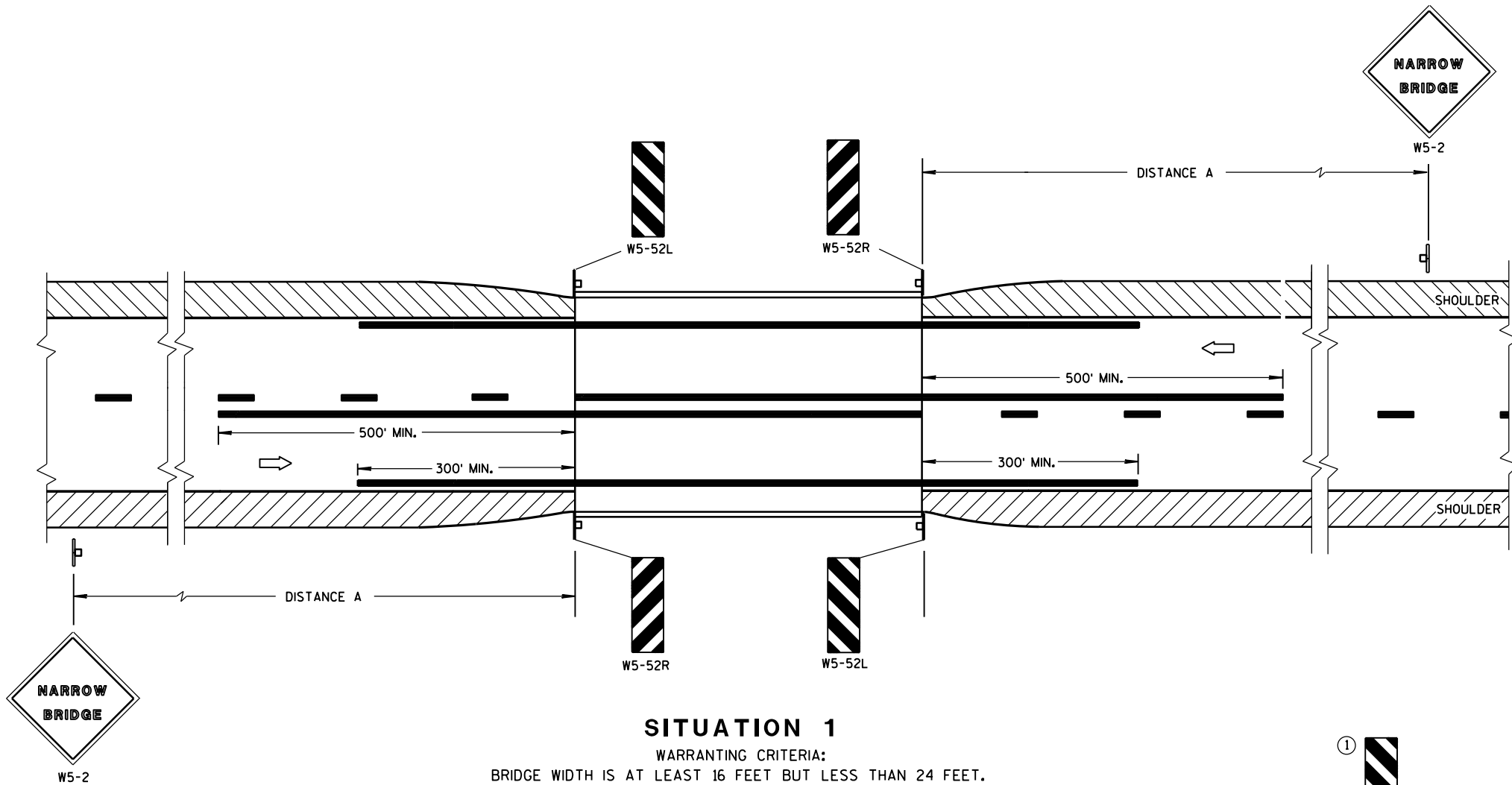
BARRICADES AND SIGNS FOR VARIOUS CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2020
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA



SITUATION 1

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

DISTANCE TABLE

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

GENERAL NOTES

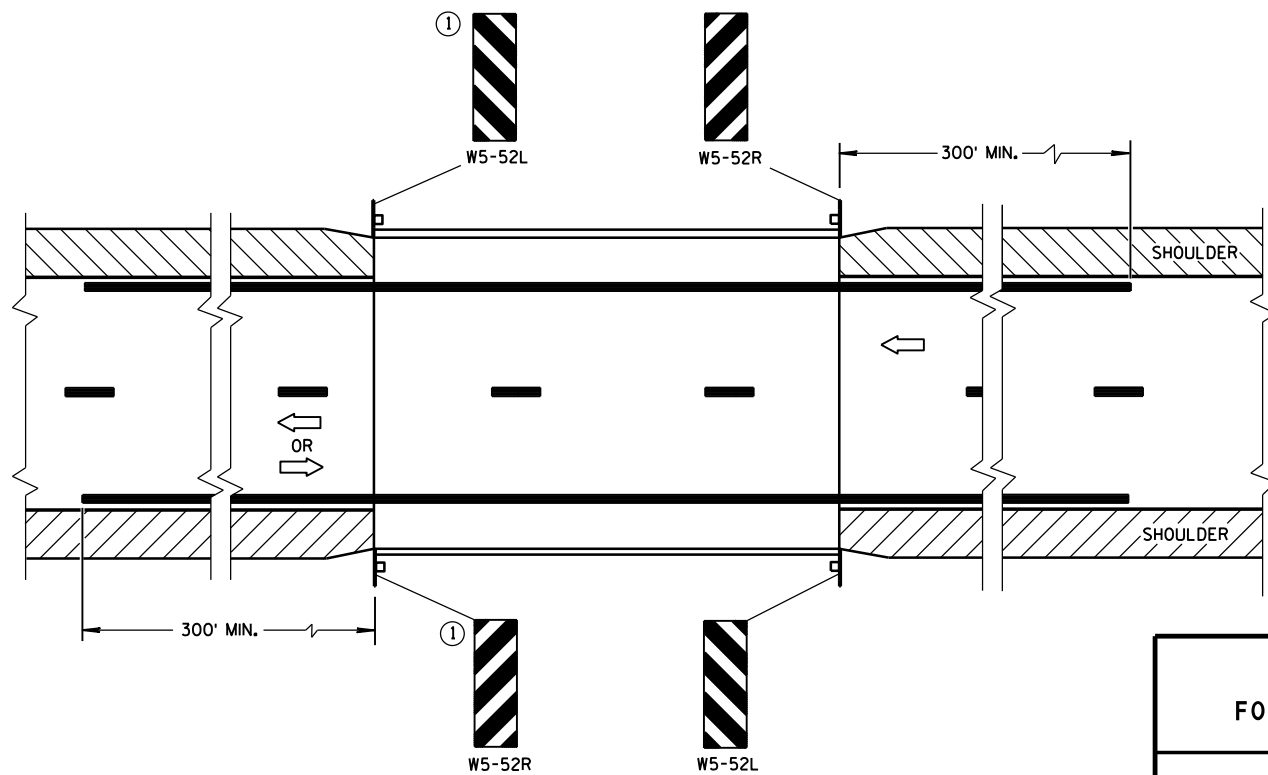
DETAILS OF TRAFFIC CONTROL DEVICES AND INSTALLATION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

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 2

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

SIGNING & MARKING FOR TWO LANE BRIDGES

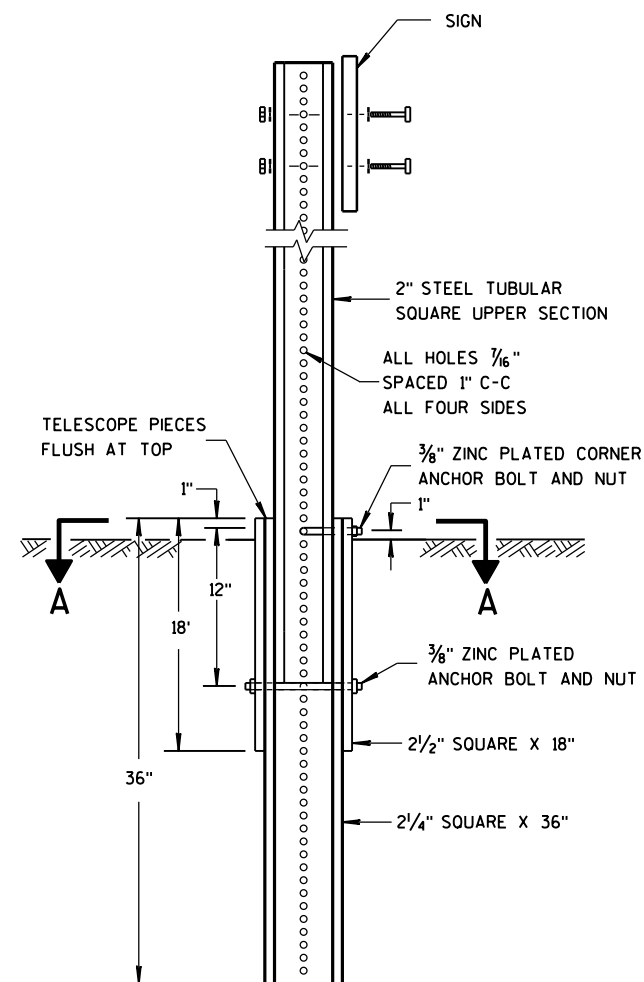
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

June 2017
DATE

/S/ Matthew R. Rauch
STATE SIGNING AND MARKING ENGINEER

FHWA

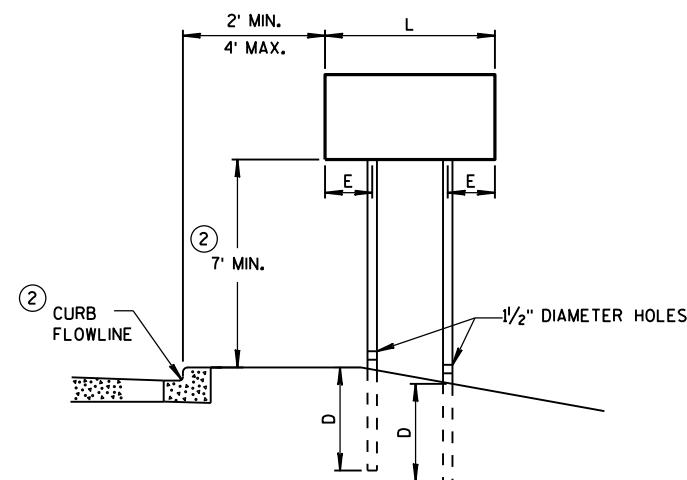
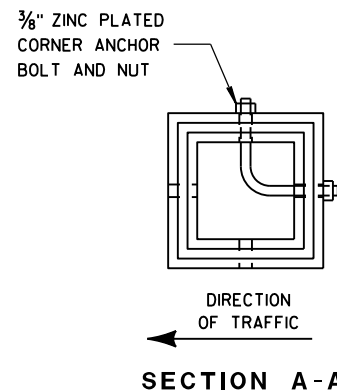


DETAIL OF TUBULAR
STEEL SIGN POST

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.

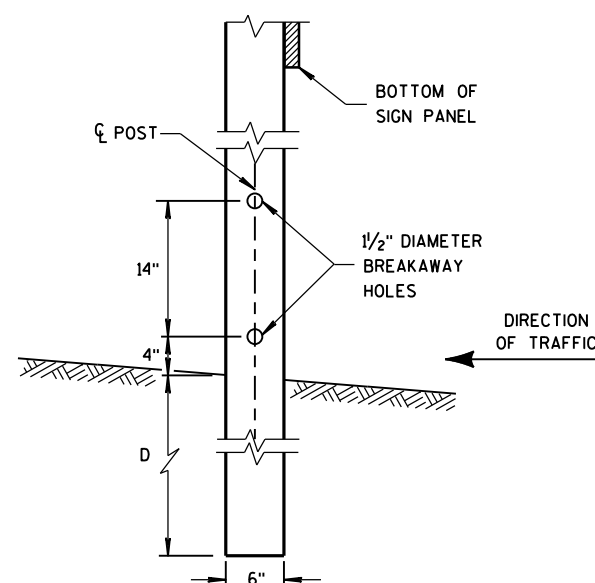


URBAN AREA

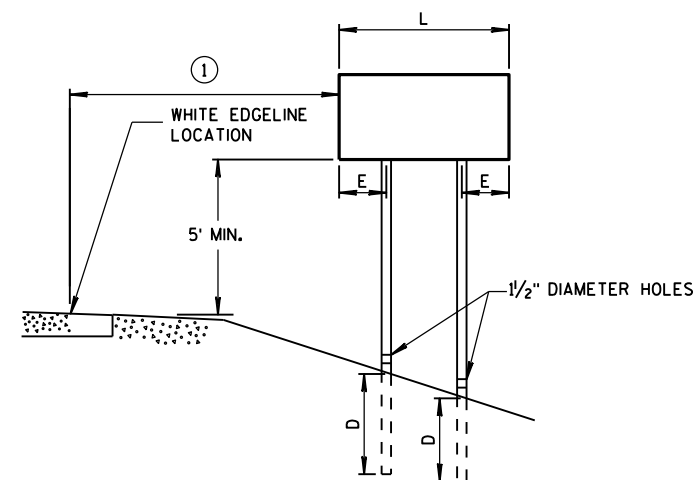
POST MOUNTING DETAIL FOR TEMPORARY TRAFFIC CONTROL FIXED MESSAGE SIGNS

WOOD POST
EMBEDMENT DEPTH

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



4 "x6 " 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

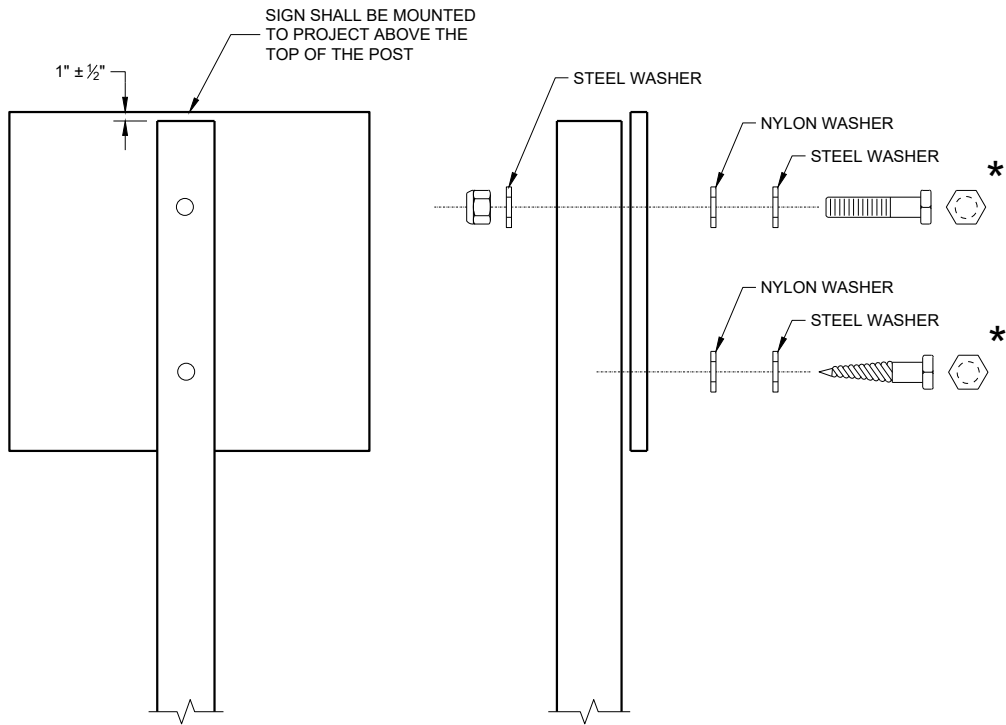
SEE NOTE ③

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

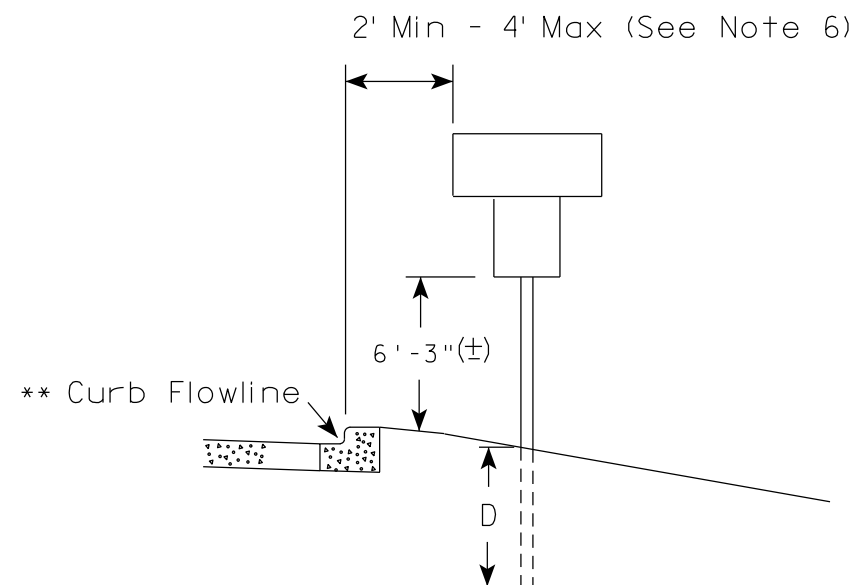
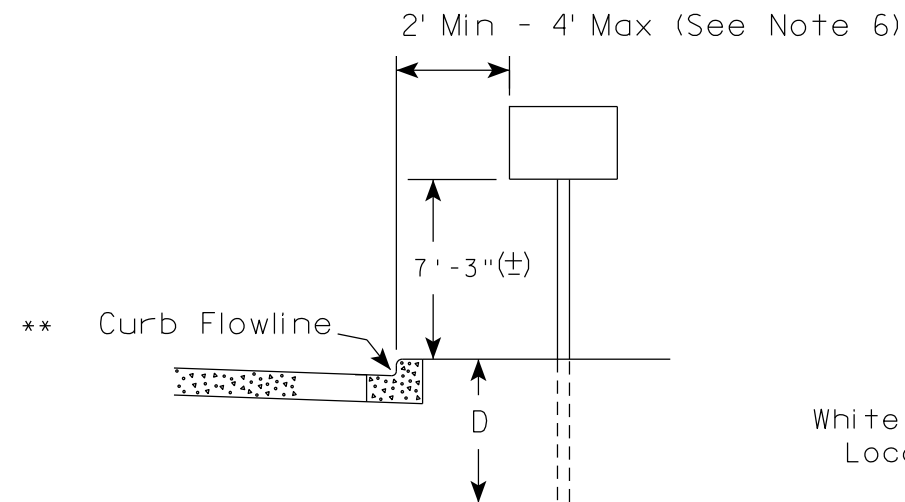
SQUARE STEEL POST (2" x 2")
MACHINE BOLTS - 3/8" x 3 1/4" LENGTH W/NUTS
RIVETS - 3/32" (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM
BODY/MANDREL O.D. FLANGE 0.720 - 0.765 INCH,
GRIP RANGE 0.042 - 0.375 INCH

WASHERS (ALL POSTS) -
1 1/4" O.D. x 3/8" I.D. x 1/16" STEEL
1 1/4" O.D. x 3/8" I.D. x 0.080 NYLON

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

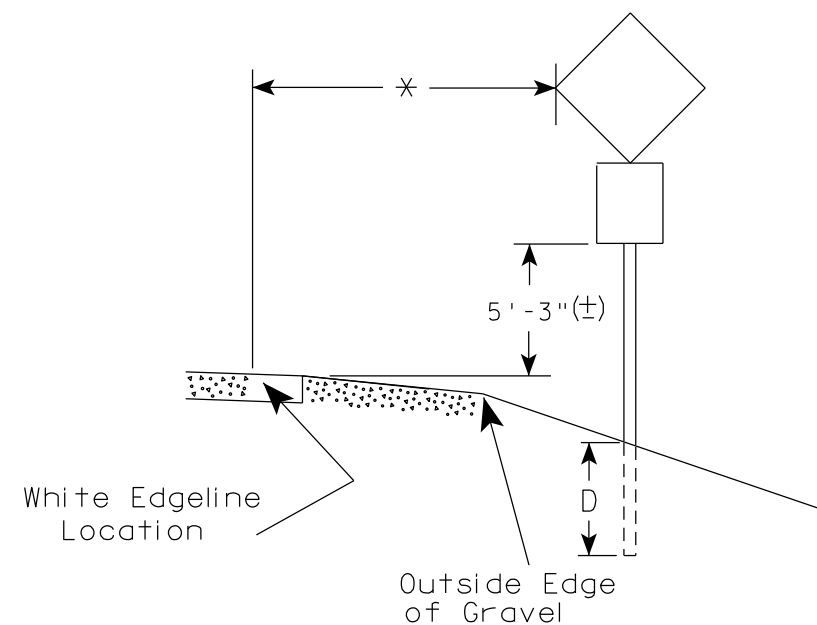
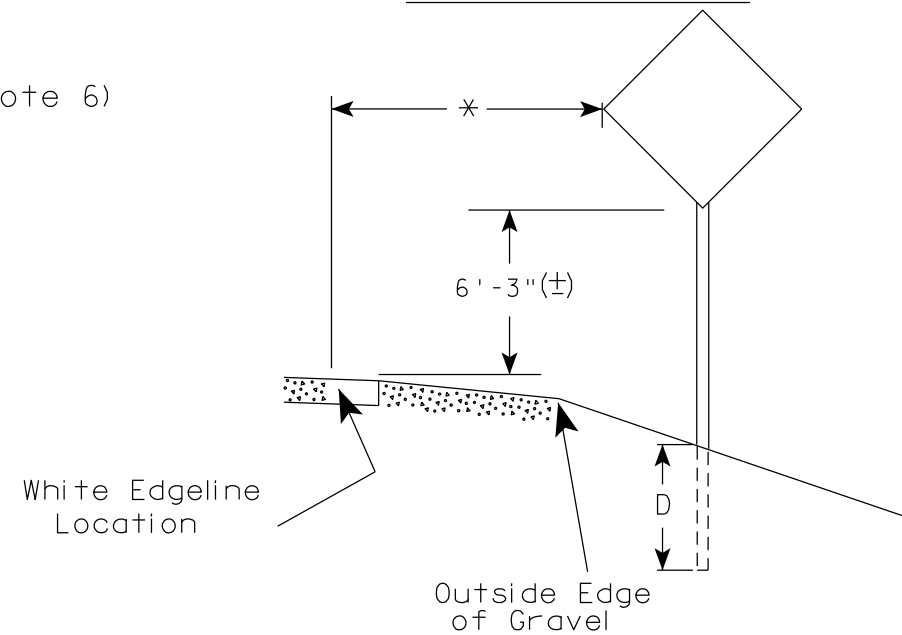
ATTACHMENT OF SIGNS TO POSTS	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED June 2017 DATE	/S/ Andrew Heidtke WORK ZONE ENGINEER
FHWA	

URBAN AREA



** 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.

RURAL AREA (See Note 2)



* 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.

POST EMBEDMENT DEPTH

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

GENERAL NOTES

- Signs wider than 4 feet or 20 sq.ft or larger, shall be mounted on multiple posts. Refer to plate A4-4.
- If signs are mounted on or behind barrier wall, see A4-10 sign plate.
The Double Arrow sign (W12-1D) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Enhanced Reference Markers, Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4'-3" (±).
- For expressways and freeways, mounting height is 7'- 3" (±) or 6'-3" (±) depending upon existence of a sub-sign.
- Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±).
- Offset distance shall be consistent with existing signs or consistent throughout length of project.
- The (±) tolerance for mounting height is 3 inches.
- Folding signs shall be mounted at a height of 5'-3" (±) or as directed by the Engineer.

TYPICAL INSTALLATION
OF PERMANENT TYPE II
SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

Matthew R. Rauch
for State Traffic Engineer

DATE 5/13/2020

PLATE NO. A4-3.22

PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E



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

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

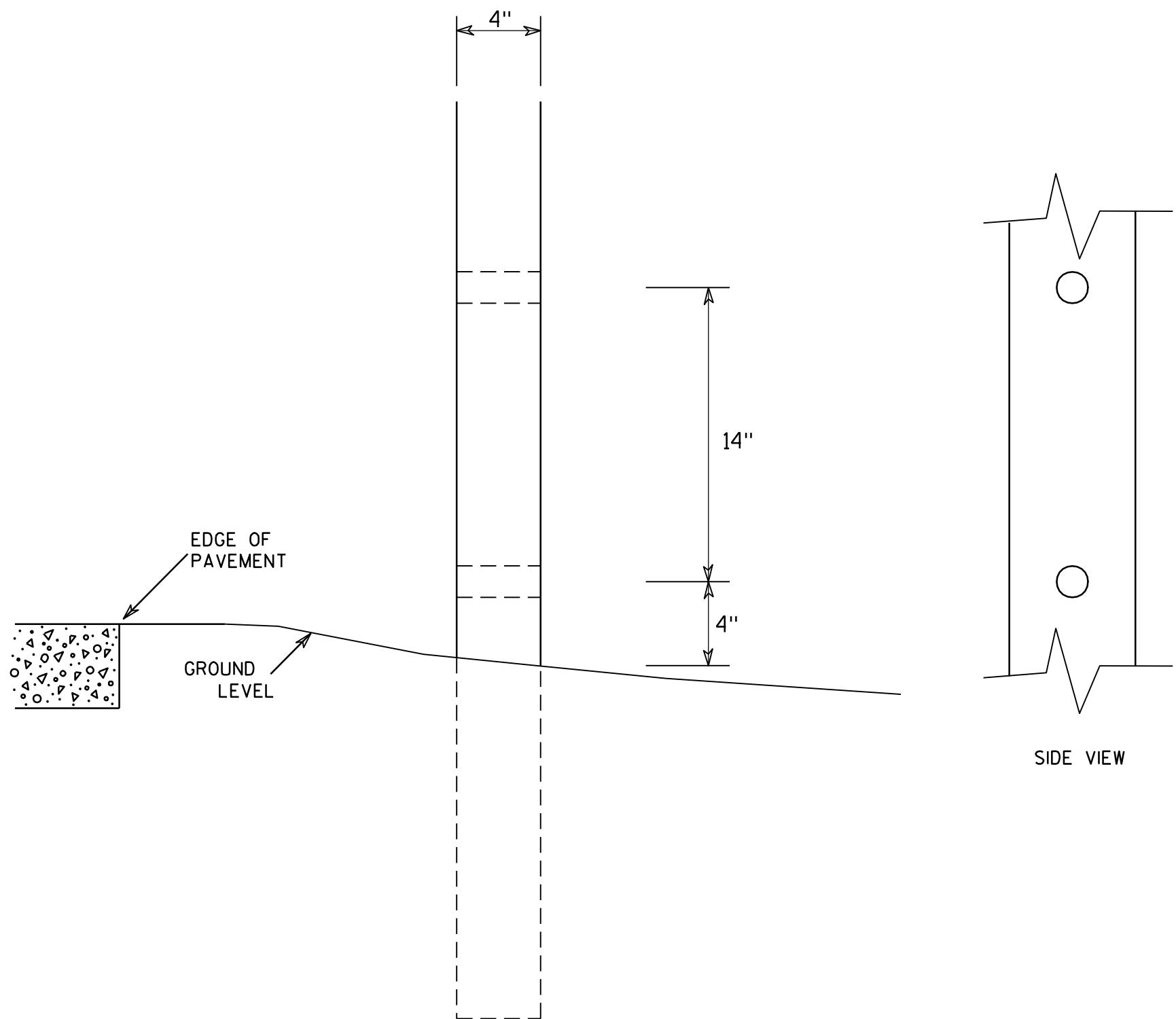
Threads on bolts and nuts shall be manufactured with sufficient allowance for the cadmium plate or galvanized coating to permit the nuts to run freely on the bolts.

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

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

ATTACHMENT OF SIGNS TO POSTS	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> For State Traffic Engineer
DATE <u>8/11/16</u>	PLATE NO. <u>A4-8.8</u>

7



GENERAL NOTES

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

7

4 X 6 WOOD POST
MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

Chester J. Spang
for State Traffic Engineer

DATE 3/27/97

PLATE NO. A4-11.2

PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E

LIVE LOAD:

<u>LIVE LOAD:</u>	
DESIGN LOAD _____	HL-93
INVENTORY RATING FACTOR _____	1.27
OPERATING RATING FACTOR _____	1.65
WISCONSIN STANDARD PERMIT VEHICLE (WisSPV) _____	250 KIPS

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

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	$f_y = 60,000$ p.s.i

FOUNDATION DATA:

ABUTMENTS SHALL BE SUPPORTED ON PILING STEEL 10-INCH X 42 LB. PILE
DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 180 TONS** FOR ABUTMENT BODY
AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATE 20 FT PILE
LENGTHS AT NORTH ABUTMENT, AND SOUTH 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 THE MODIFIED GATES DYNAMIC FORMULA TO DETERMINE THE DRIVEN PILE CAPACITY.

TRAFFIC DATA:

A.A.D.T (2020)	115
A.A.D.T (2040)	135
DESIGN SPEED	40 M.P.H.

HYDRAULIC DATA:

Q100 _____	1,377 c.f.s.
Q100 (THRU BRIDGE) _____	1,198 c.f.s.
Q100 (ROAD) _____	179 c.f.s.
DRAINAGE AREA _____	2.8 SQ. MI.
WATERWAY AREA @ Q100 _____	155 SQ. FT.
VELOCITY _____	7.74 FT/S
HIGH WATER 100 ELEVATION _____	812.79 FT.
SCOUR CRITICAL CODE _____	5
Q2 _____	153 c.f.s.
Q2 ELEVATION _____	808.67 FT.
VELOCITY Q2 _____	3.26 FT/S

ROAD OVERTOPPING FREQUENCY:

FREQUENCY	35 YEARS
Qovertopping	915 c.f.s.
OVERTOPPING ELEVATION	811.56

GENERAL PLAN _____	1.
CROSS SECTION AND QUANTITIES _____	2.
SUBSURFACE EXPLORATION _____	3.
ABUTMENTS _____	4.
ABUTMENT DETAILS _____	5 & 6.
SUPERSTRUCTURE _____	7.
TUBULAR STEEL RAILING, TYPE M _____	8.

BENCHMARKS		NAVD 88	
NO.	STA./OFFSET	DESCRIPTION	ELEV.
8	8+27, 18' LT.	3/4-INCH REBAR	822.75
9	11+56, 27' LT.	3/4-INCH REBAR	811.16
10	10+05, 79' RT.	SPIKE IN PP	813.68

NO	DATE	REVISION	BY
----	------	----------	----

ORIGINAL PLANS
PREPARED BY:

TEAM
ENGINEERING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED [Signature] SDR 08/19/20
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-12-248

BYERS ROAD OVER RICHLAND CREEK

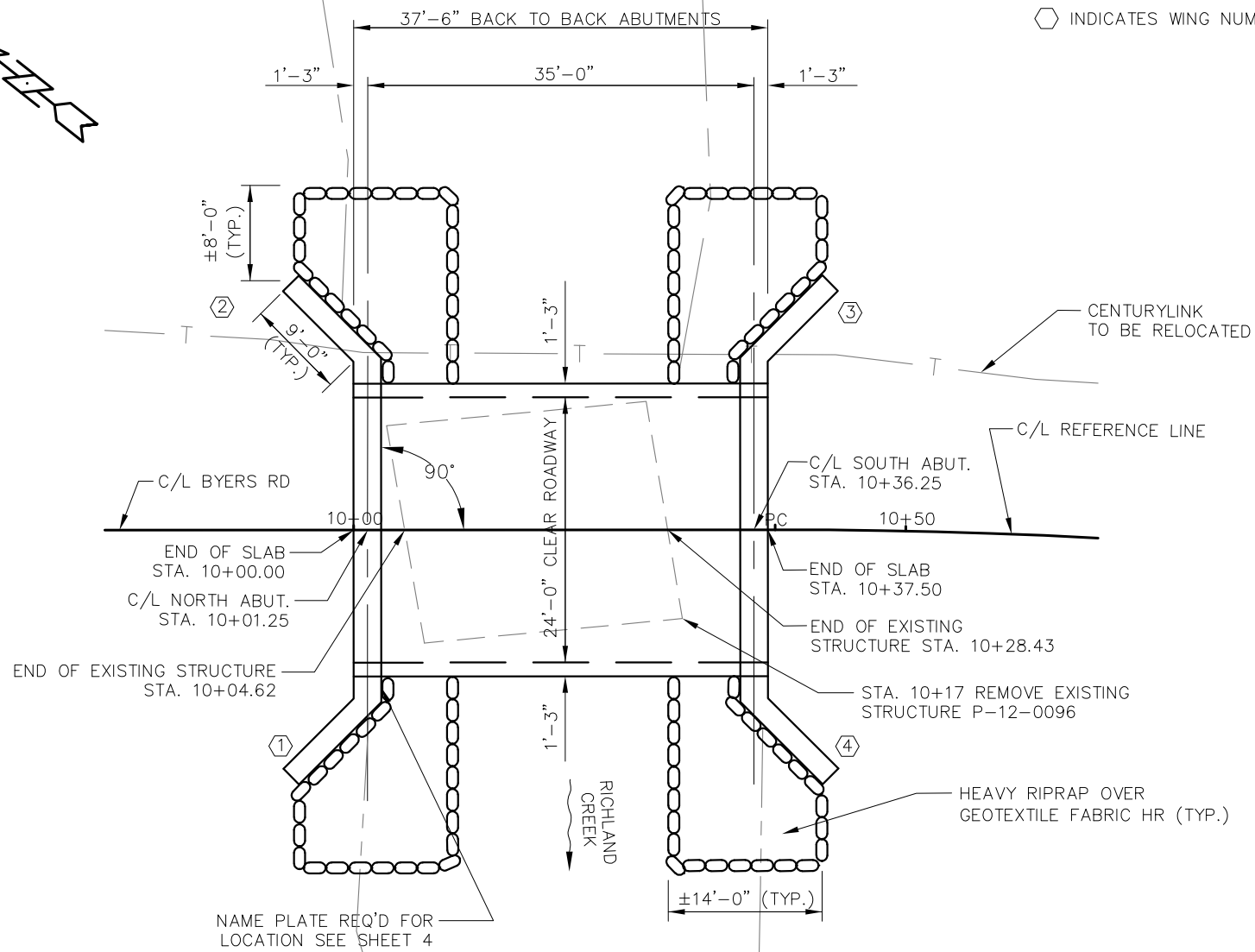
COUNTY	CRAWFORD	TOWN	SCOTT
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DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPEC.

DESIGNED BY	JFK	DESIGN CHECKED	TJK	DRAWN BY	BAS	PLANS CHECKED	JLB
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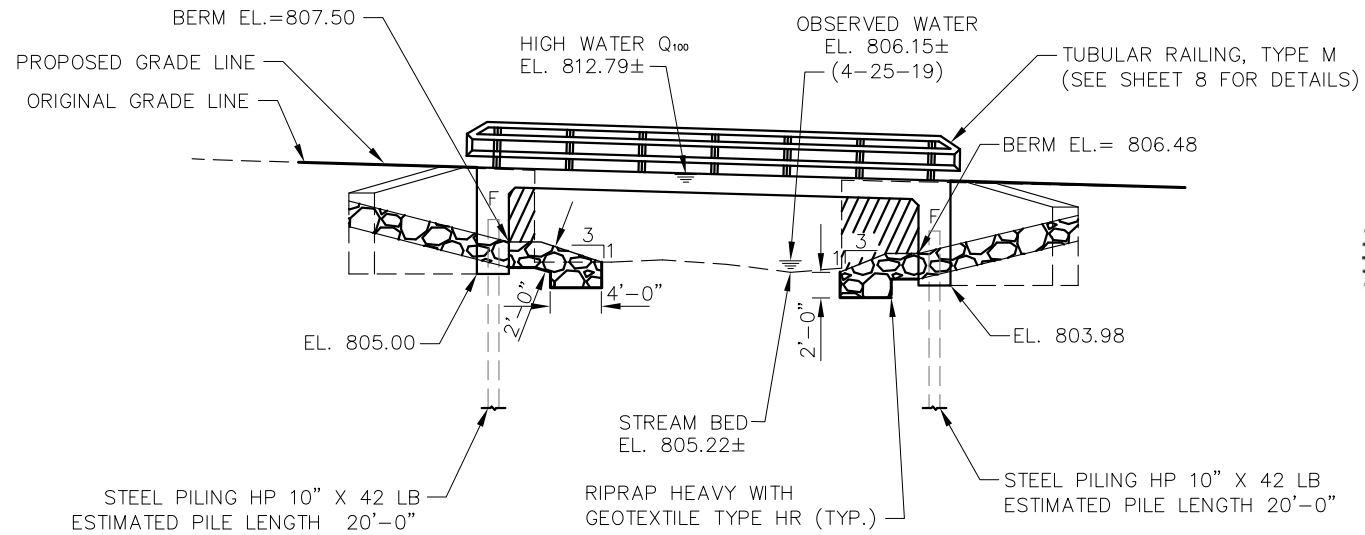
GENERAL PLAN

SHEET 1 OF 8



PLAN B-12-248

(SINGLE SPAN REINFORCED CONCRETE FLAT SLAB)



ELEVATION
(NORMAL TO RICHLAND CREEK)

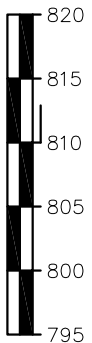
EXCAVATE AS INDICATED, TO BE INCLUDED IN THE BID ITEM "EXCAVATION FOR STRUCTURES BRIDGES B-12-248"

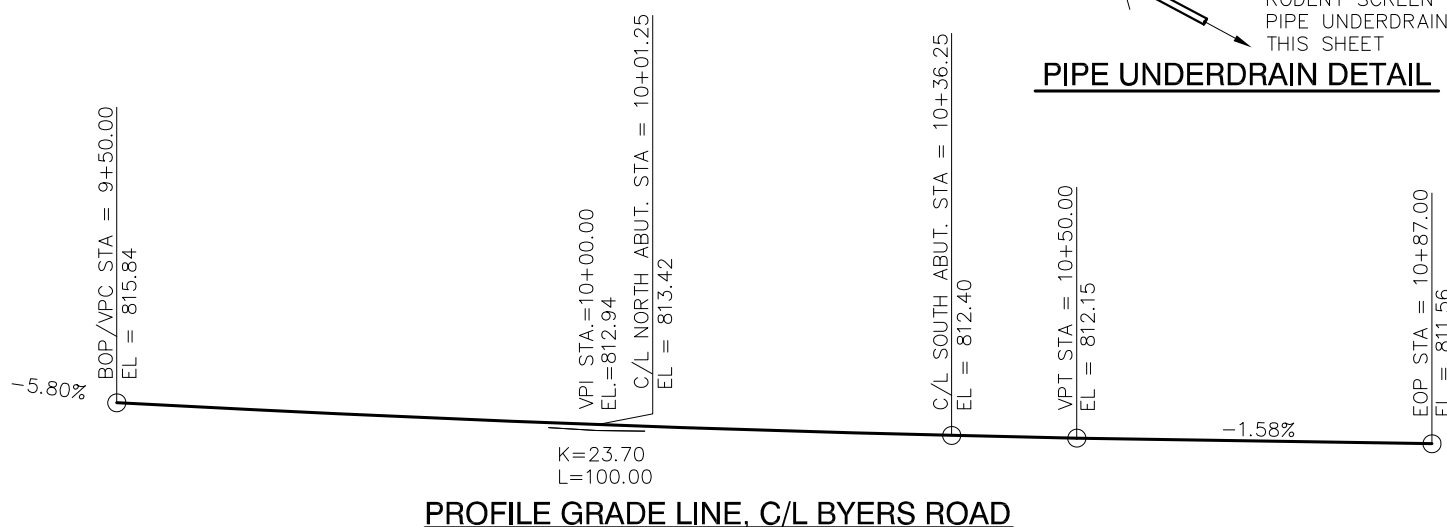


8/18/2020

CONSULTANT CONTACT:
JEREMY KRACHEY, P.E.
(608) 768-5075

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

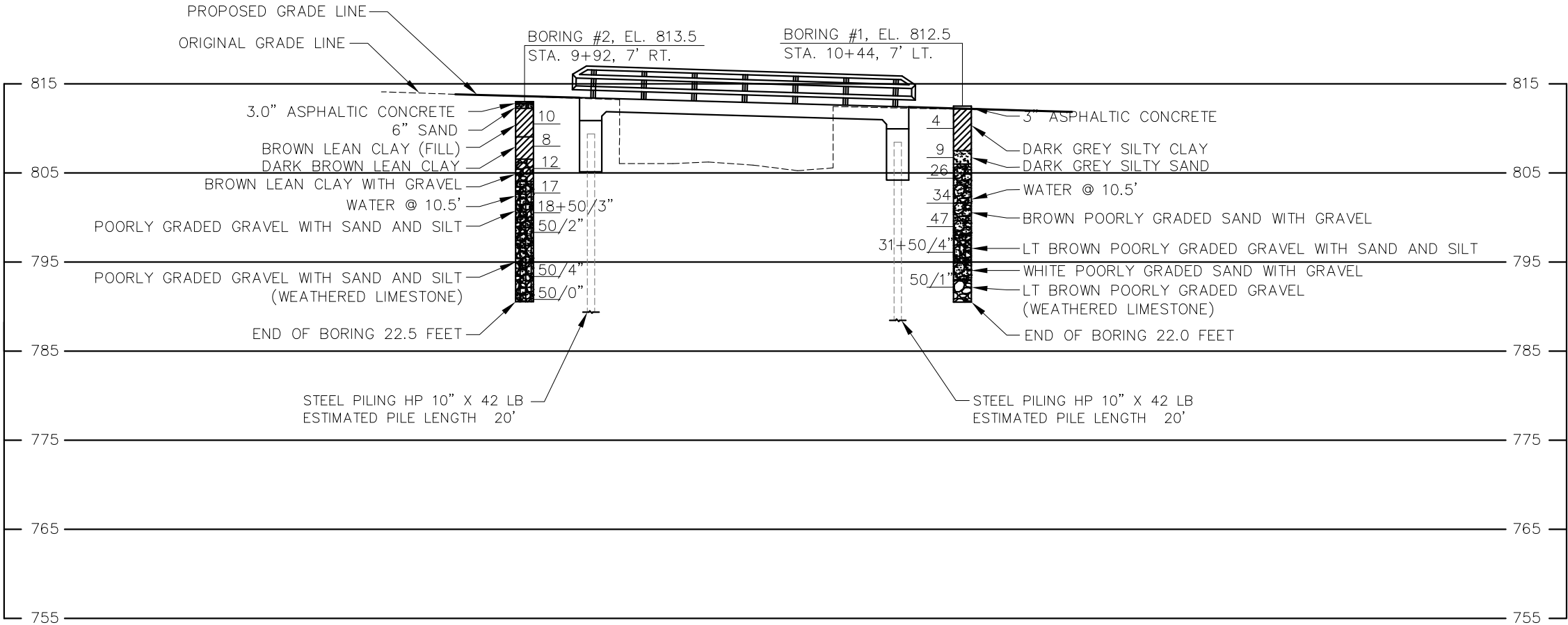
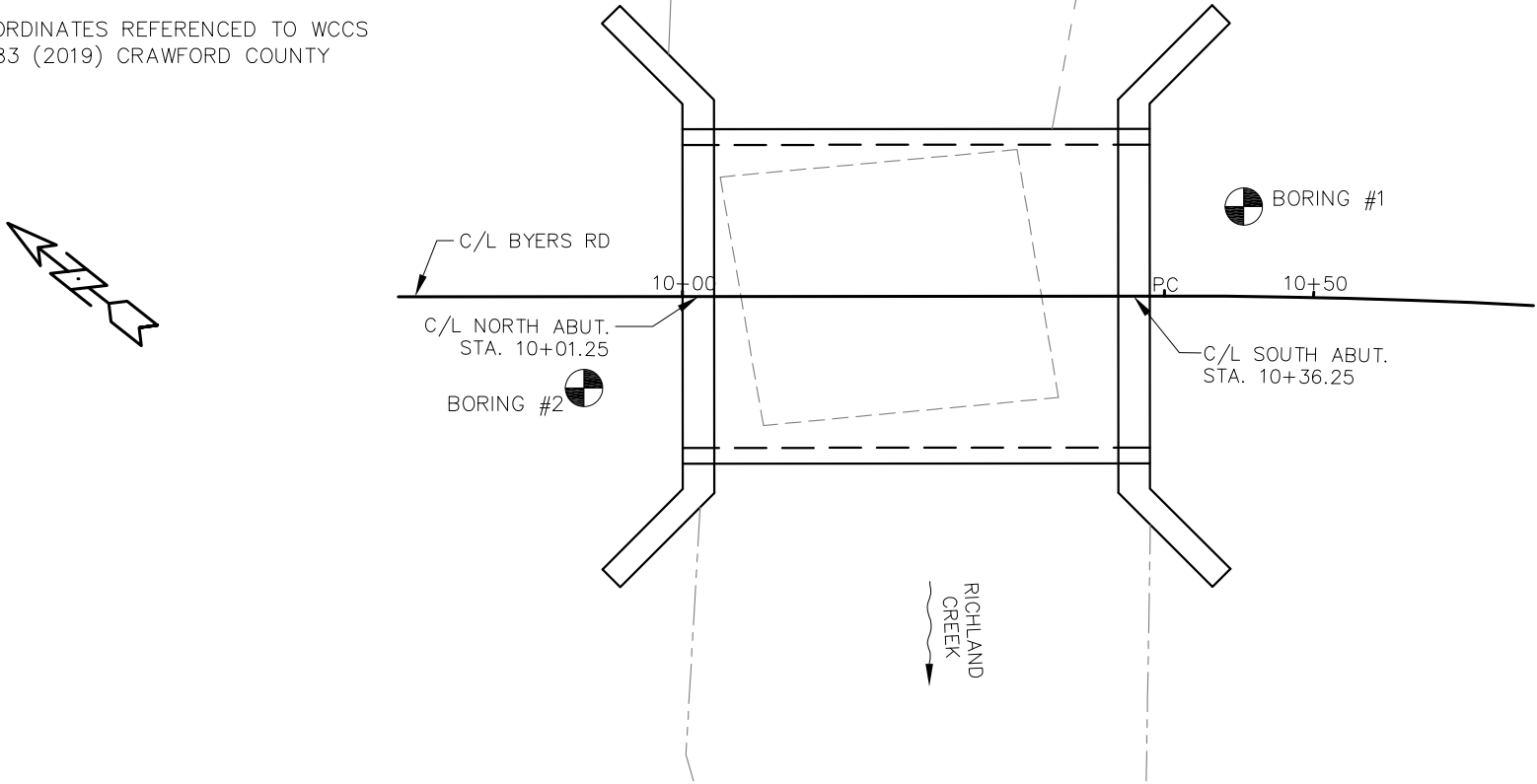




BORING NUMBER	DATE COMPLETED	NORTHING (Y)	EASTING (X)
1	06/04/2019	188,001.54	422,362.03
2	06/04/2019	188,033.08	422,317.96

BORINGS AND REPORT COMPLETED BY: CHOSEN VALLEY TESTING, INC.
1019 SECOND AVE. SW
ONALASKA, WI 54650

ALL COORDINATES REFERENCED TO WCCS
NAD83 (2019) CRAWFORD COUNTY



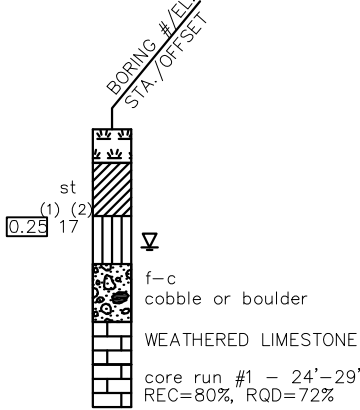
STATE PROJECT NUMBER

5336-00-73

MATERIAL SYMBOLS

ASPHALT	TOPSOIL	PEAT
CONCRETE	FILL	GRAVEL
SAND	CLAY	SILT
boulders or cobbles	LIMESTONE	BEDROCK (unknown)
shale	SANDSTONE	IGNEOUS/ meta

LEGEND OF BORING



Unconfined STRENGTH, as determined by a pocket penetrometer (tsf)

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

ground water elevation

- at time of drilling
- end of drilling
- after drilling

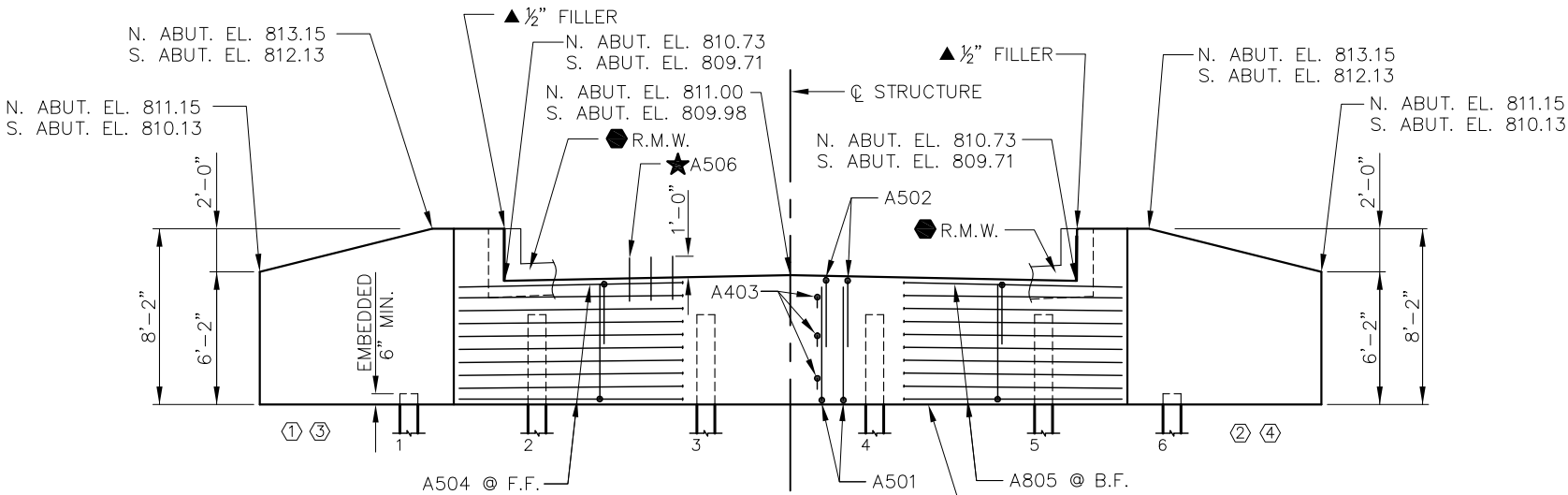
ABBREVIATIONS

F—Fine M—Medium C—Coarse st—shelby tube

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

Borings were completed at points approximately as indicated on this drawing to obtain information concerning the character of subsurface materials found at the site. Because the investigated depths are limited and the area of the borings is very small in relation to the entire site, the Wisconsin Department of Transportation does not warrant similar subsurface conditions below, between, or beyond these borings. Variations in soil conditions should be expected and fluctuations in groundwater levels may occur.

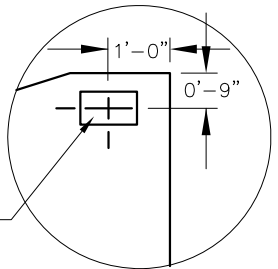
NO	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-12-248			
DRAWN BY BAS		PLANS CHECKED JFK	
SUBSURFACE EXPLORATION		SHEET 3 OF 8	



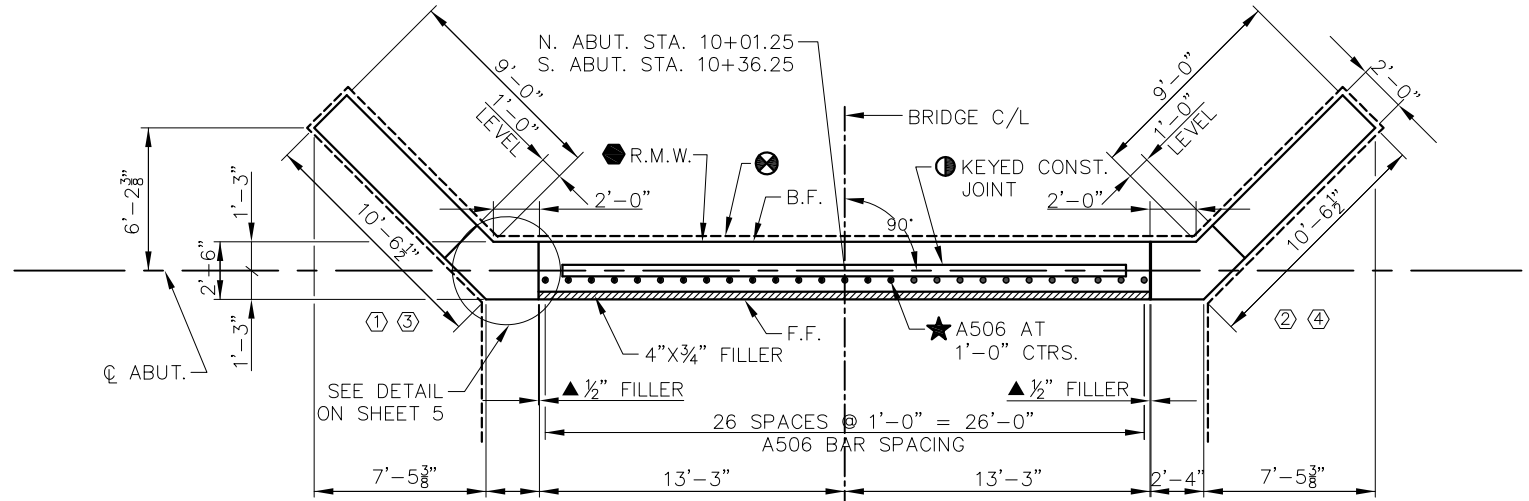
ELEVATION

(N. ABUT. - LOOKING NORTH)
(S. ABUT. - LOOKING SOUTH)

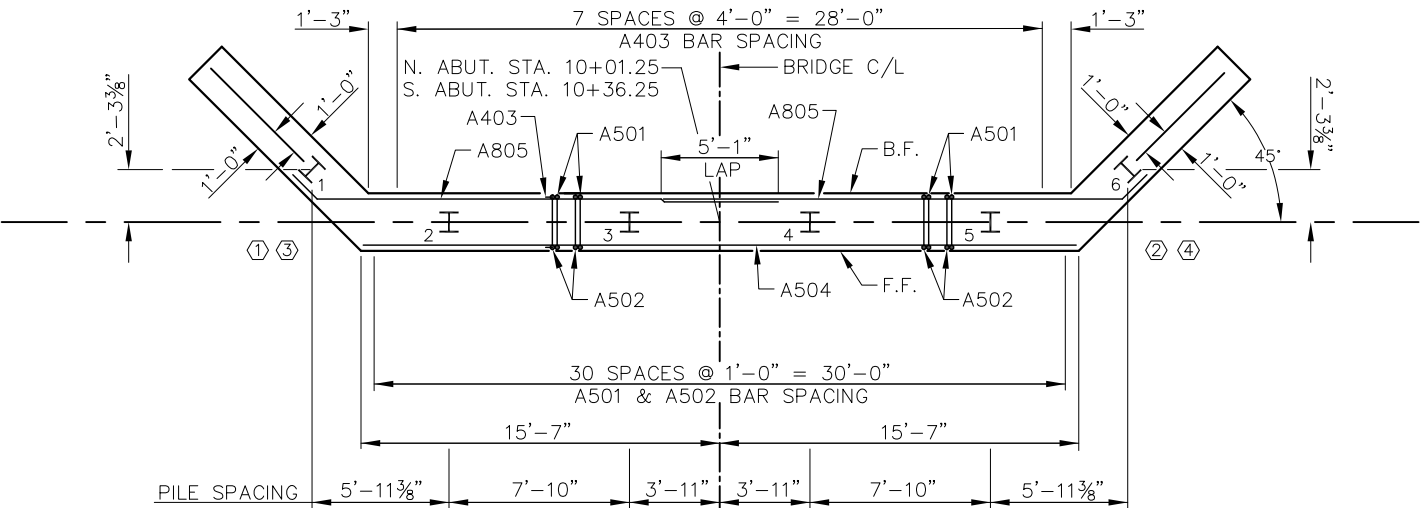
NAME PLATE REQ'D
WING 1 ONLY.



NAME PLATE DETAIL

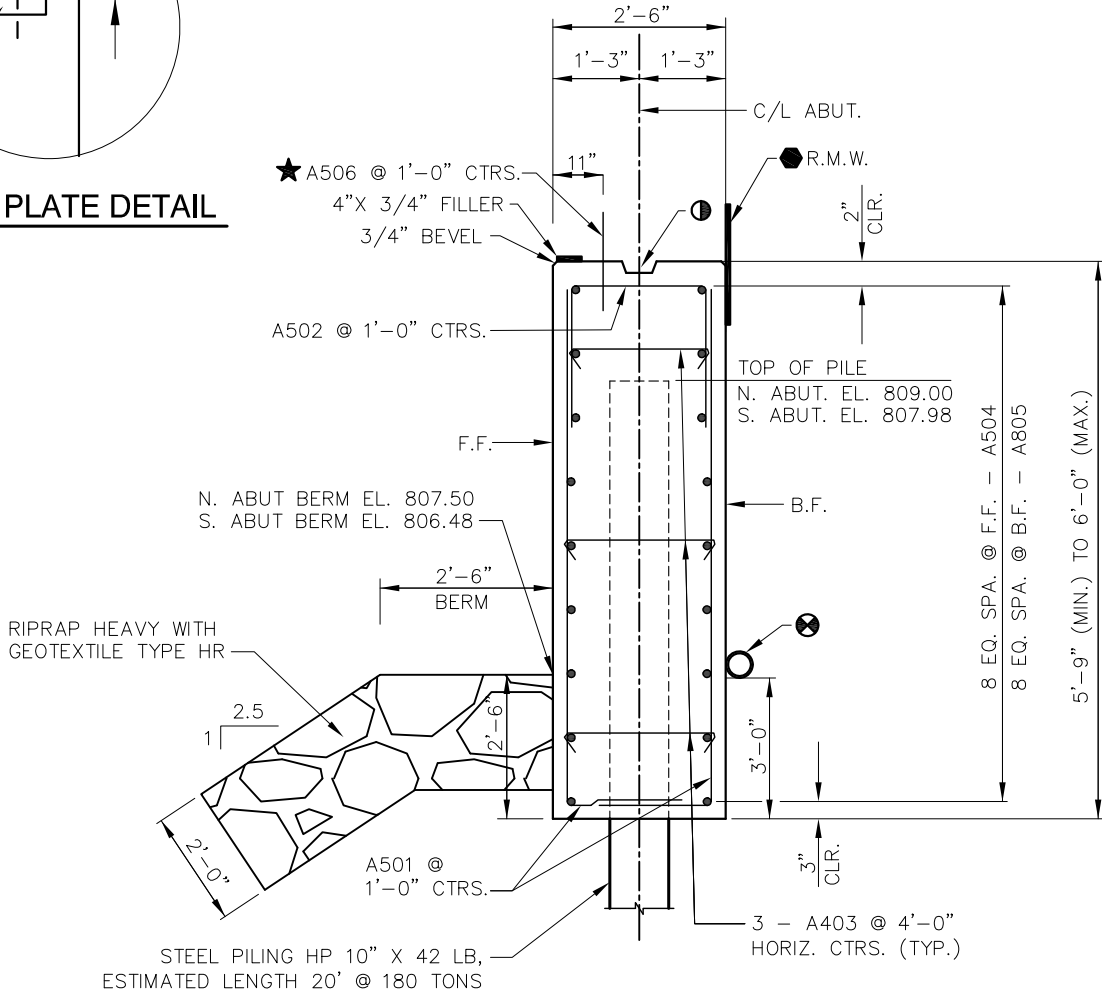


PLAN



LAYOUT

- ① KEYED CONSTRUCTION JOINT FORMED BY A SURFACED, BEVELED 2"X6"
- ② 18" RUBBERIZED MEMBRANE WATERPROOFING (HORIZONTAL & VERTICAL)
- ▲ 1/2" FILLER EXTEND AS SHOWN. SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING GRAY, NON-BITUMINOUS JOINT SEALER. (1" DEEP & HOLD 1/8" BELOW SURFACE OF CONCRETE)
- ★ A506 BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE IT HAS TAKEN ITS INITIAL SET. EMBED BAR 1'-0".
- ⊗ PIPE UNDERDRAIN WRAPPED (6-INCH). EXTEND THRU GEOTEXTILE FABRIC AT FACE OF RIPRAP HEAVY. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. PROVIDE RODENT PROTECTION AT ENDS OF PIPE. (SEE DETAIL ON SHEET 2)



TYPICAL SECTION THROUGH ABUTMENT BODY

NO	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-12-248			
DRAWN BY BAS		PLANS CHECKED JFK	
ABUTMENTS			SHEET 4 OF 8



NO	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-12-248			
DRAWN BY		BAS	PLANS CHECKED JFK
ABUTMENT DETAILS		SHEET 5 OF 8	

THE FIRST DIGIT OF A 3 DIGIT MARK SIGNIFIES THE BAR SIZE
ALL BAR BEND DIMENSIONS ARE OUT TO OUT OF BAR.

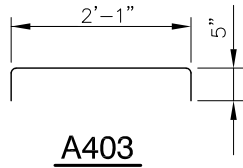
BILL OF BARS
(TWO ABUTMENTS SHOWN)

COATED
UNCOATED

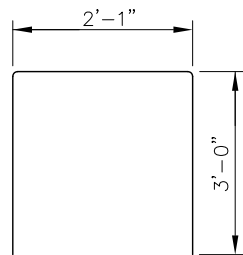
2,804 LBS.
4,116 LBS.

MARK	NO. REQ'D	COAT	LENGTH	BENT	LENGTH
A501	124		6'-10"	X	BODY F.F. & B.F. - VERT.
A502	62		7'-10"	X	BODY TIES @ TOP. - VERT.
A403	48		2'-9"	X	BODY TIES - HORIZ.
A504	18		30'-10"		BODY F.F. - HORIZ.
A805	36		21'-5"	X	BODY B.F. - HORIZ.
A506	54	X	2'-0"		BODY - F.F. - DOWELS - VERT.
A407	88	X	9'-1"	X	WINGS 1 THRU 4 - STIRRUPS - VERT.
A408	16	X	10'-1"	X	WINGS 1 THRU 4 - F.F. & B.F. - VERT.
A509	36	X	11'-8"	X	WINGS 1 THRU 4 - F.F. - HORIZ.
A410	8	X	9'-8"		WINGS 1 THRU 4 - F.F. & B.F. - HORIZ.
A411	8	X	7'-2"		WINGS 1 THRU 4 - F.F. & B.F. - HORIZ.
A412	8	X	4'-8"		WINGS 1 THRU 4 - F.F. & B.F. - HORIZ.
A413	8	X	10'-2"	X	WINGS 1 THRU 4 - F.F. & B.F. - HORIZ.
A814	36	X	13'-2"	X	WINGS 1 THRU 4 - B.F. - HORIZ.
A415	16	X	7'-8"		WINGS 1 THRU 4 - VERT.
A416	16	X	8'-9"	X	WINGS 1 THRU 4 - HORIZ.

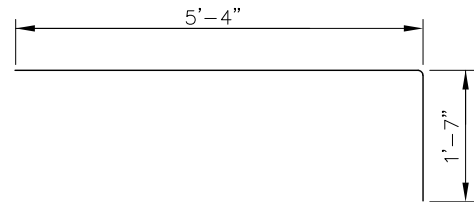
LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.



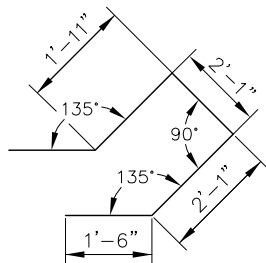
A403



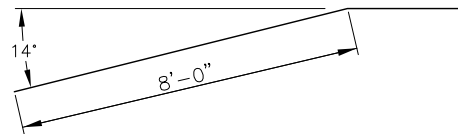
A502



A501



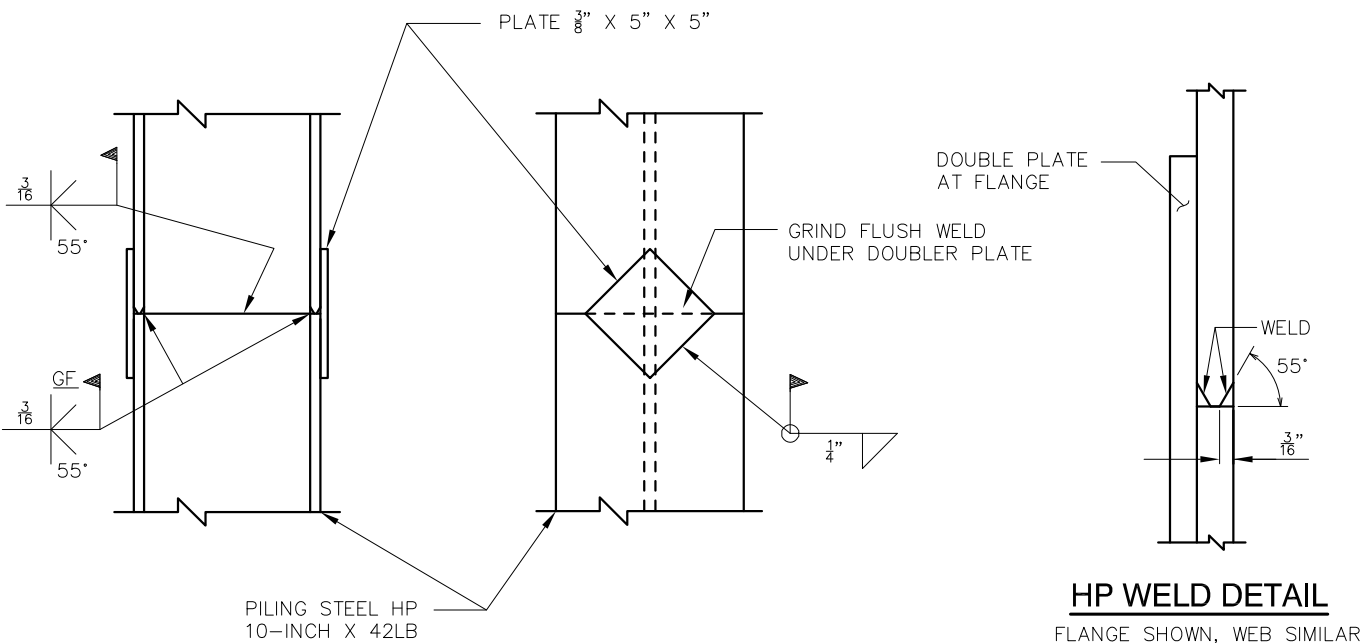
A416



A413

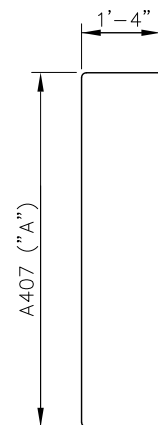


A805, A509, A814



PILE SPlice DETAIL

HP WELD DETAIL
FLANGE SHOWN, WEB SIMILAR

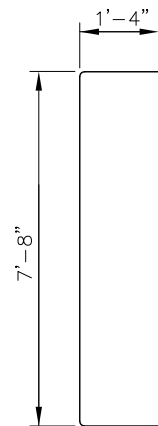


A407

MARK	"A"
A407	5'-8"
	5'-10"
	6'-1"
	6'-3"
	6'-5"
	6'-7"
	6'-10"
	7'-0"
	7'-2"
	7'-4"
	7'-7"

BAR SERIES TABLE

MARK	NO. REQ'D	LENGTH
A407	4 SERIES OF 11	8'-1" TO 10'-0"



A408

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-12-248			
DRAWN BY BAS		PLANS CHECKED JFK	
ABUTMENT DETAILS		SHEET 6 OF 8	

	0.1 PT.	0.2 PT.	0.3 PT.	0.4 PT.	0.5 PT.	0.6 PT.	0.7 PT.	0.8 PT.	0.9 PT.	1.0 PT.
L/E.O.D.	813.15	813.03	812.91	812.79	812.68	812.58	812.48	812.39	812.30	812.21
0.1 PT.	813.15	813.03	812.91	812.79	812.68	812.58	812.48	812.39	812.30	812.21
0.2 PT.	813.15	813.03	812.91	812.79	812.68	812.58	812.48	812.39	812.30	812.21
0.3 PT.	813.15	813.03	812.91	812.79	812.68	812.58	812.48	812.39	812.30	812.21
0.4 PT.	813.15	813.03	812.91	812.79	812.68	812.58	812.48	812.39	812.30	812.21
0.5 PT.	813.15	813.03	812.91	812.79	812.68	812.58	812.48	812.39	812.30	812.21
0.6 PT.	813.15	813.03	812.91	812.79	812.68	812.58	812.48	812.39	812.30	812.21
0.7 PT.	813.15	813.03	812.91	812.79	812.68	812.58	812.48	812.39	812.30	812.21
0.8 PT.	813.15	813.03	812.91	812.79	812.68	812.58	812.48	812.39	812.30	812.21
0.9 PT.	813.15	813.03	812.91	812.79	812.68	812.58	812.48	812.39	812.30	812.21
1.0 PT.	813.15	813.03	812.91	812.79	812.68	812.58	812.48	812.39	812.30	812.21



MARK	NO. REQ'D	LENGTH	BENT	DESCRIPTION
S501	54	4'-5"	X	SLAB AT END OF DECK
S502	54	5'-10"	X	SLAB AT END OF DECK
S503	38	26'-2"		SLAB TOP TRANSVERSE
S504	54	26'-2"		SLAB BOTTOM TRANSVERSE
S505	27	37'-2"		SLAB TOP LONGIT.
S1006	53	32'-4"		SLAB BOTTOM LONGIT.
S607	16	6'-0"	X	AT END RAIL POSTS
S608	40	6'-0"		AT INTERIOR RAIL POSTS
S609	28	12'-4"	X	AT INTERIOR RAIL POSTS

ALL BAR BEND DIMENSIONS ARE OUT TO OUT OF BAR.

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



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

LEGEND

- ① W6 x 25 WITH 1½" X 1½" HORIZ. SLOTS ON EACH SIDE OF POST FOR BOLT NO. 6. CUT BOTTOM OF POST TO MATCH CROSS SLOPE OF ROADWAY. PLACE POST VERTICAL. PLACE POSTS NORMAL TO GRADE LINE.
- ② PLATE 1¼" x 11¾" x 1'-8" WITH 1½" X 1½" SLOTTED HOLES FOR ANCHOR BOLTS NO. 3. WELD TO NO. 1 AS SHOWN. SLOTS PARALLEL TO SHORT SIDE OF PLATE.
- ③ ASTM A449 - 1½" DIA. ANCHOR BOLTS WITH NUT AND HARDENED WASHER (ALL GALVANIZED). 5 REQ'D. PER POST. THREAD 3" AND PLACE NORMAL TO PLATE NO. 2. CHAMFER TOP OF BOLTS BEFORE THREADING. USE 1'-9" LONG IN ABUTMENT WINGS. AT POSTS ON CONCRETE SLAB SUPERSTRUCTURES WHERE THE SLAB THICKNESS IS > 16" USE 1'-3" LONG. USE 10¾" 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 ⅝" x 11" x 1'-8" ANCHOR PLATE (GALVANIZED) WITH 1½" 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, ⅝" X 1½" X 1½" WASHER, AND LOCK WASHER (2 REQ'D. AT EACH RAIL TO POST LOCATION.)
- ⑦ ½" THK. BACK-UP PLATE WITH 2 - 7/8" X 1½" 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 ¼" PLATE. PROVIDE "SLIDING FIT".
- ⑩ ⅝" X 3⅝" X 2'-4" PLATE. 2 PER RAIL. USED IN NO. 5 & 5A.
- ⑩A ⅝" X 2⅝" X 2'-4" PLATE USED IN NO. 5, ⅝" X 3⅝" X 2'-4" PLATE USED IN NO. 5A. 2 PER RAIL.
- ⑪ 7/8" I A325 ROUND HEAD BOLT WITH NUT, WASHER, AND LOCK WASHER. USE 1½" X 1½" LONGIT. SLOTTED HOLES AT FIELD JOINTS AND ⅝" X 2¼" MIN. LONGIT. SLOTTED HOLES AT EXP. JOINTS IN PLATE NO. 10A.
- ⑫ 7/8" DIA. X 1½" LONG THREADED SHOP WELDED STUDS (2 REQ'D).
- ⑬ ⅝" X 8" X 1'-6" PLATE. BOLT TO RAIL AS SHOWN IN DETAIL. REQ'D. AT THRIE BEAM GUARD RAIL ATTACHMENTS ONLY. PLACE SYM. ABOUT TUBES NO. 5A.
- ⑭ 7/8" DIA. X 2" LONG A325 HEX BOLT WITH NUT AND WASHER (5 REQ'D.).
- ⑮ 1" DIA. HOLES IN TUBES NO. 5A FOR 7/8" DIA. A325 ROUND HEAD BOLT WITH NUT, WASHER AND LOCK WASHER (4 REQ'D.). 4 HOLES IN TUBES.

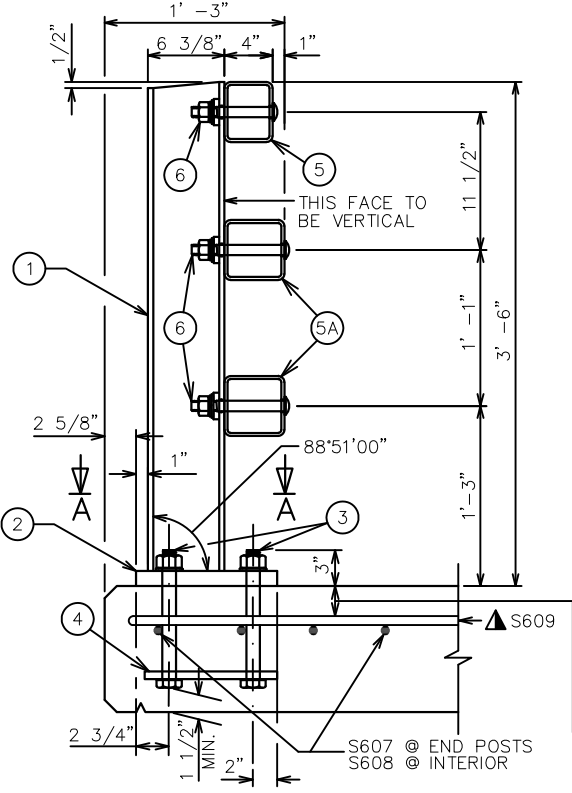
GENERAL NOTES

1. BID ITEM SHALL BE "RAILING TUBULAR TYPE M" WHICH INCLUDES ALL ITEMS SHOWN.
2. RAIL POST AND BASE PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A709 GRADE 50. HOLLOW RAILING STRUCTURAL TUBING SHALL CONFORM TO THE REQUIREMENTS OF ASTM A500 GRADE B OR C WITH A CERTIFIED FY = 50 ksi. ANCHOR PLATES, AND SPLICE TUBE PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A709 GRADE 36.
3. THE NUT SECURING THE POST BASE PLATE TO THE CONCRETE SHALL BE TIGHTENED TO A SNUG FIT AND GIVEN AN ADDITIONAL ⅓ TURN.
4. RAILS SHALL BE CONTINUOUS OVER A MINIMUM OF THREE (3) POSTS WITHOUT SPLICES WHERE POSSIBLE. RAILS SHALL BE SPLICED IN A PANEL OVER EXPANSION JOINTS.
5. ENDS OF TUBE SECTIONS SHALL BE SAWED. GRIND SMOOTH EXPOSED EDGES. ALL CUT ENDS SHALL BE TRUE AND SMOOTH.
6. WELD IS THE SAME ON BOTH FLANGES. FLANGE WELD DOES NOT REQUIRE MAGNETIC PARTICLE TESTING.
7. FILL BOLT SLOT OPENINGS IN POST SHIMS AND PLATE NO. 2 AND CAULK AROUND PERIMETER OF PLATE NO. 2 WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. STEEL POST SHIMS MAY BE USED UNDER POSTS WHERE REQ'D. FOR ALIGNMENT.
8. POST BASE PLATES SHALL BE FLAT WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT AND VERTICAL. ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUT.
9. ALL MATERIAL SHALL BE GALVANIZED AFTER FABRICATION. PRIOR TO GALVANIZING, ALL STEEL RAILING POSTS & STEEL TUBING SHALL BE GIVEN A NO. 6 BLAST CLEANING BY SSPC SPECIFICATIONS.
10. THIS RAILING MEETS NCHRP REPORT 350 EVALUATION CRITERIA FOR TEST LEVEL 4 (TL-4).
11. PLACE FIRST BOTTOM LONGITUDINAL BAR CLEAR OF DRIP GROOVE.

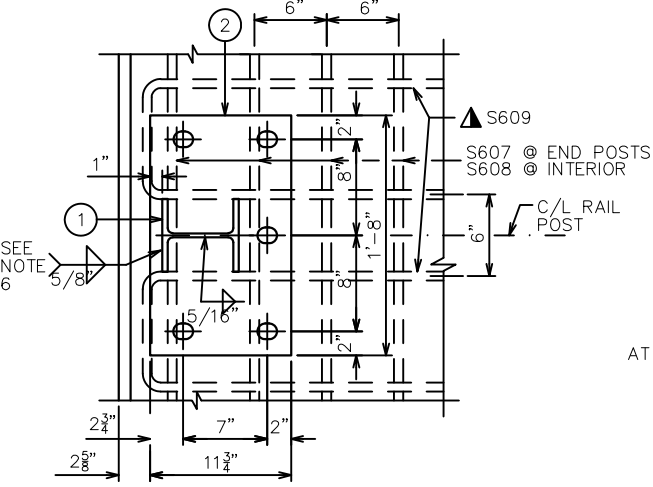
▲ TIE TO TOP MAT OF STEEL.

* FOR ANCHOR BOLTS IN WINGS, TACK WELD MAY BE USED IN FIELD AFTER ANCHOR PLATE IS IN POSITION IF REQ'D. FOR CONSTRUCTIBILITY.

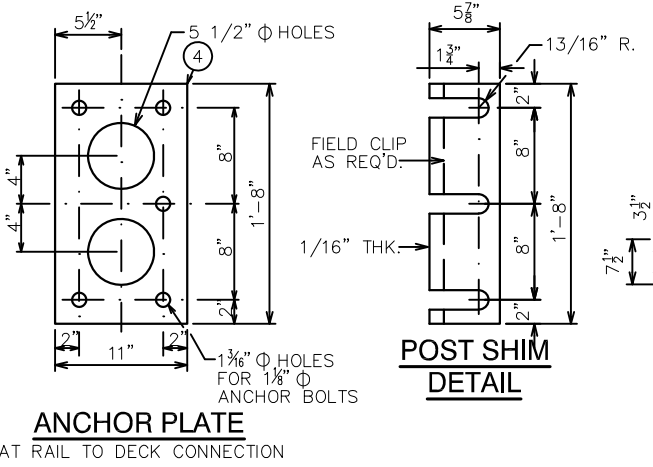
■ RDWY. OPENING OR 2½" MIN. FOR STRIP SEAL EXP. JOINT & ½" OPENING FOR A1 ABUTMENT.



SECTION THRU RAILING ON DECK

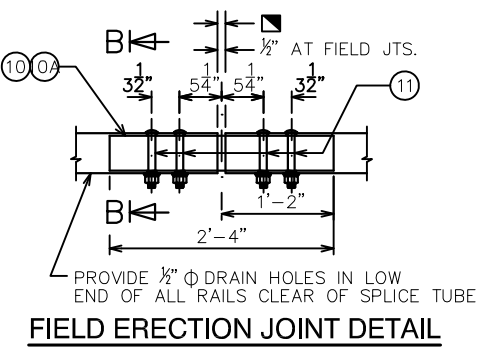


SECTION A-A

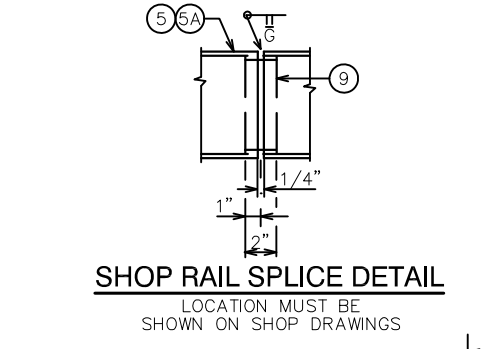


ANCHOR PLATE

AT RAIL TO DECK CONNECTION

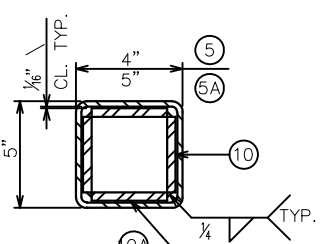


FIELD ERECTION JOINT DETAIL

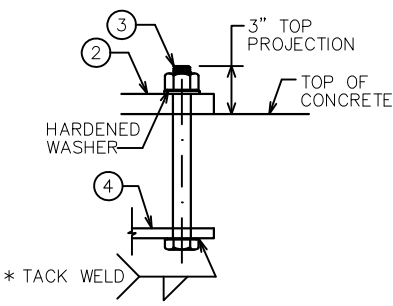


SHOP RAIL SPLICE DETAIL

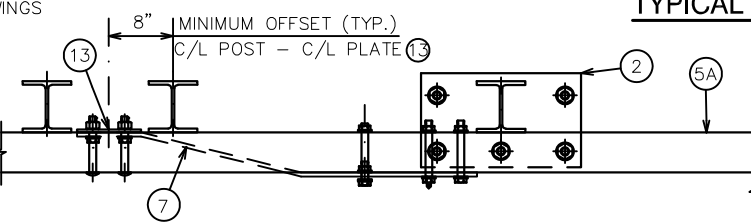
2½" FOR SLABS ON GIRDERS; FOR OTHER STRUCTURES, PLACE BELOW TOP MAT SLAB REINFORCEMENT.



SECTION B-B

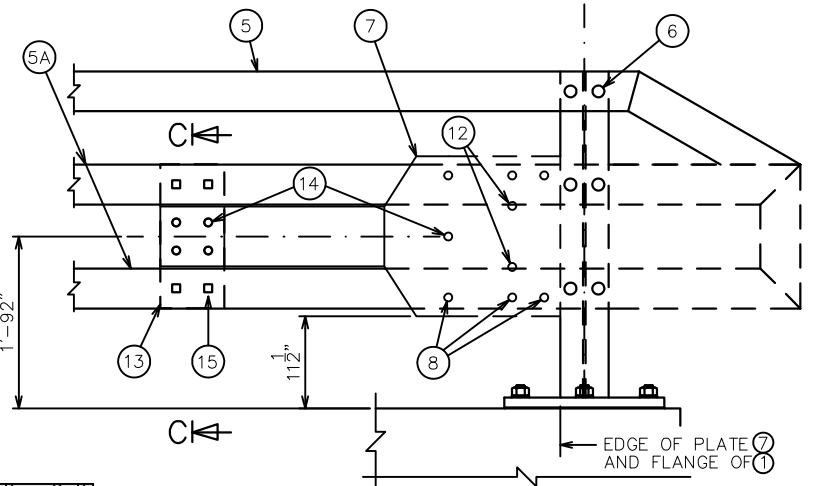


ANCHOR BOLTS



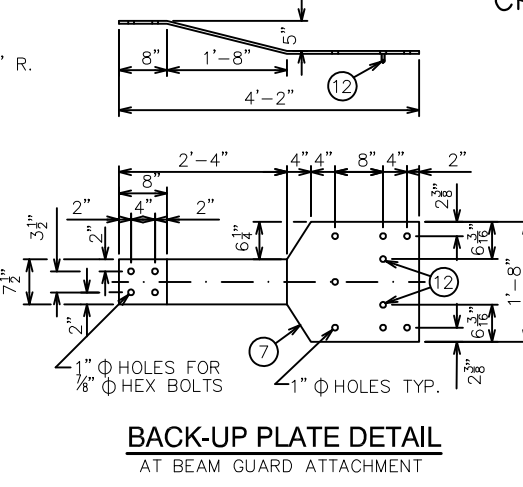
TOP VIEW AT END POST

THRIE BEAM RAIL ATTACHMENT



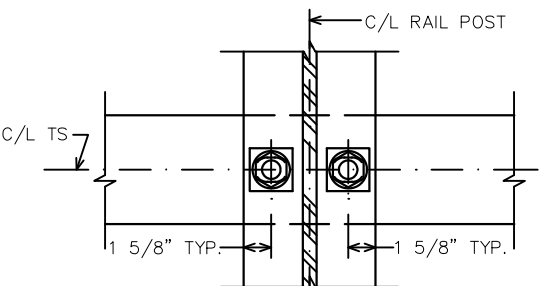
DETAIL AT END POST

THRIE BEAM RAIL ATTACHMENT

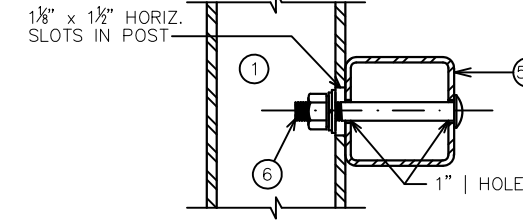


BACK-UP PLATE DETAIL

AT BEAM GUARD ATTACHMENT



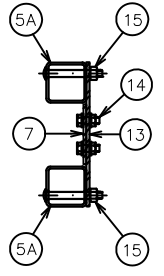
SECTION THRU POST WEB



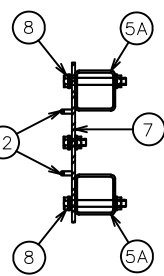
SECTION THRU RAIL

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

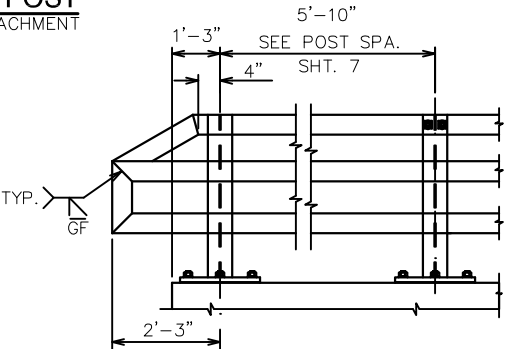
TYPICAL RAIL TO POST CONNECTIONS



SECTION C-C



SECTION D-D



PART ELEVATION OF RAILING

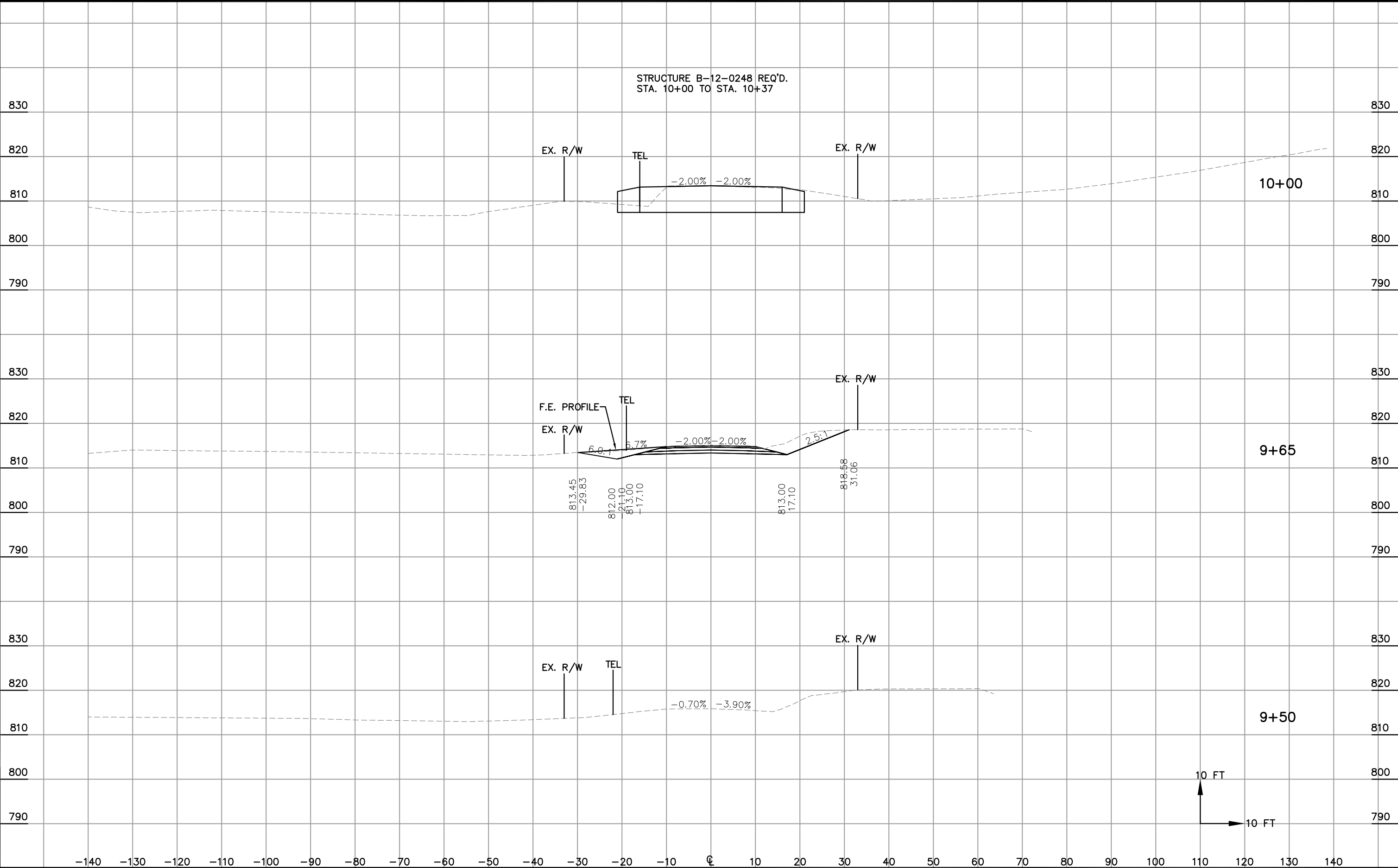
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-12-248			
DRAWN BY		BAS	PLANS CHECKED JFK
TUBULAR STEEL RAILING TYPE M			SHEET 8 OF 8

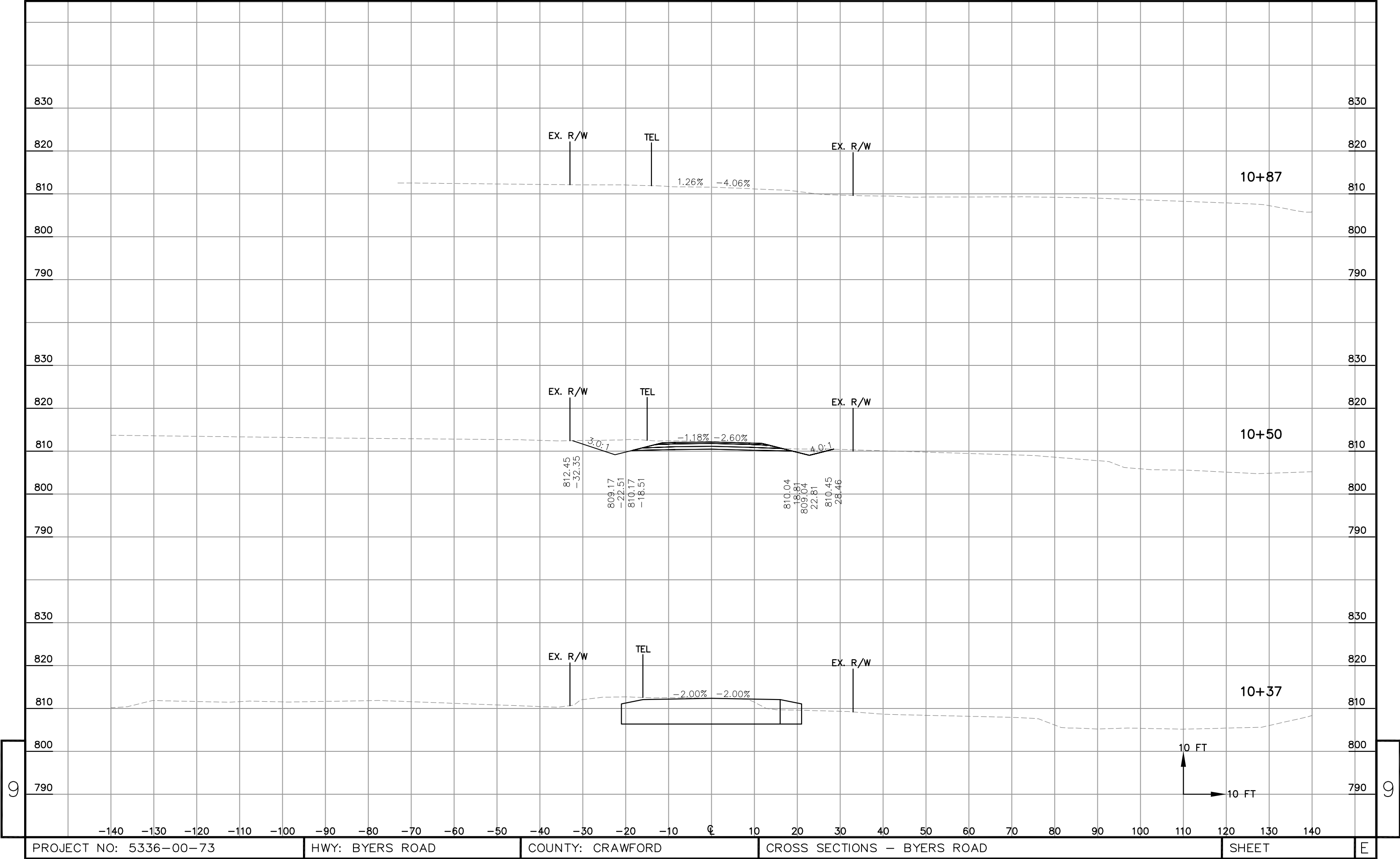
BYERS ROAD

STATION		AREA (SF)		INCREMENTAL VOL (CY)		CUMULATIVE VOL (CY)		MASS HAUL
	FEET	COMMON	FILL	COMMON	FILL	COMMON	FILL*	
9+50		0.0	0.0					
	15.0			27.2	0.0	27.2	0.0	27.2
9+65		49.0	0.0					
	30.0			90.6	0.0	117.8	0.0	117.8
9+95		81.5	0.0					
				118.0	0.0			

STATION		AREA (SF)		INCREMENTAL VOL (CY)		CUMULATIVE VOL (CY)		MASS HAUL
	FEET	COMMON	FILL	COMMON	FILL	COMMON	FILL*	
10+37		0.0	0.0					
	13.0			40.9	0.0	40.9	0.0	40.9
10+50		85.0	0.0					
	37.0			68.5	0.0	109.4	0.0	109.4
10+87		50.0	0.0					
				109.0	0.0			

* EXPANDED FILL FACTOR = 1.20





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