WIS

FEBRUARY 2021

PROJECT ID: 6940-00-70

WITH: N/A

COUNTY: WOOD

ORDER OF SHEETS

TOTAL SHEETS = 40

N

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

STH 173 - STH 54

CRANBERRY CREEK BRIDGE B-71-203

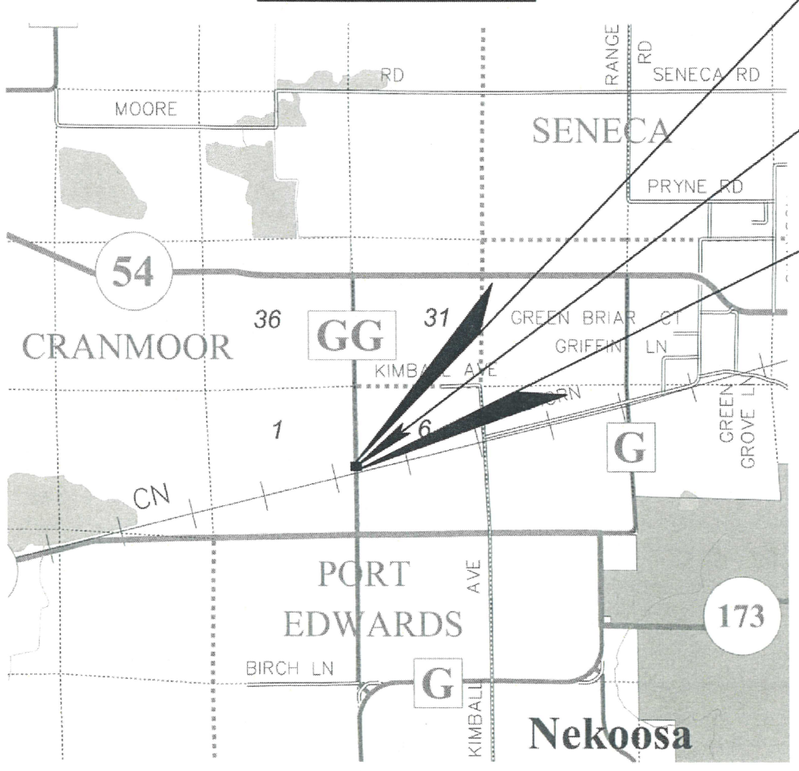
CTH GG

WOOD COUNTY

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
6940-00-70		

STATE PROJECT NUMBER

6940-00-70



LAYOUT

SCALE 0 1 MI

TOTAL NET LENGTH OF CENTERLINE = 0.025 MI

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COORDINATE REFERENCE SYSTEM (WISCRS), WOOD COUNTY, NAD83 (2011), IN U.S. SURVEY FEET. POSITIONS SHOWN ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES ARE THE SAME AS GROUND DISTANCES. ELEVATIONS ARE REFERENCED TO NAVD 88 (1991). GPS DERIVED ELEVATIONS ARE BASED ON GEOID 12A.

DESIGN DESIGNATION

A.A.D.T.	2021	=	520
A.A.D.T.	2041	=	520
D.H.V.		=	
D.D.		=	
T.		=	4.6%
DESIGN SPEED		=	55 MPH
ESALS		=	81,000

CONVENTIONAL SYMBOLS

PLAN		PROFILE	
CORPORATE LIMITS		GRADE LINE	
PROPERTY LINE		ORIGINAL GROUND	
LOT LINE		MARSH OR ROCK PROFILE (To be noted as such)	ROCK
LIMITED HIGHWAY EASEMENT		SPECIAL DITCH	LABEL
EXISTING RIGHT OF WAY		GRADE ELEVATION	95.36
PROPOSED OR NEW R/W LINE		CULVERT (Profile View)	
SLOPE INTERCEPT		UTILITIES	
REFERENCE LINE	300'E8'	ELECTRIC	E
EXISTING CULVERT		FIBER OPTIC	FO
PROPOSED CULVERT (Box or Pipe)		GAS	G
COMBUSTIBLE FLUIDS	CAUTION	SANITARY SEWER	SAN
		STORM SEWER	SS
MARSH AREA		TELEPHONE	T
		WATER	W
		UTILITY PEDESTAL	
WOODED OR SHRUB AREA		POWER POLE	
		TELEPHONE POLE	

ACCEPTED FOR

COUNTY OF WOOD

Date 10/30/2020 (Signature and Title of Official) Highway Engineer

ORIGINAL PLANS PREPARED BY

Mead & Hunt

WISCONSIN ANGELA B. KERRIGAN E-39383-006 DE PERE, WI PROFESSIONAL ENGINEER

DATE: 10/16/20 (Professional Engineer Signature)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	MEAD & HUNT
Designer	MEAD & HUNT
Project Manager	JASON SCHAEFFER
Regional Examiner	JASON SCHAEFFER
Regional Supervisor	DAN ERVA

APPROVED FOR THE DEPARTMENT

DATE: 10/30/2020 (Signature)

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GENERAL NOTES

WHEN THE QUANTITY OF BASE AGGREGATE OR ASPHALTIC SURFACE IS MEASURED FOR PAYMENT BY THE TON OR CUBIC YARD, THE DEPTH OR THICKNESS OF THE LAYER SHOWN ON THE PLANS IS APPROXIMATE AND THE ACTUAL THICKNESS WILL DEPEND ON THE DISTRIBUTION OF THE MATERIAL AS DIRECTED BY THE ENGINEER.

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

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

THE EXACT LOCATION OF THE EROSION CONTROL DEVICES SHALL BE DETERMINED IN THE FIELD. SILT FENCE IS TO BE PLACED AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER, AND IN PLACE PRIOR TO BRIDGE REMOVAL.

DISTURBED AREAS WITHIN THE RIGHT-OF-WAY, EXCEPT THE AREAS WITHIN THE FINISHED SHOULDER POINTS, ARE TO BE 4-INCH SALVAGED TOPSOIL, FERTILIZED, SEEDED AND EROSION MAT CLASS II, TYPE C.

BEARINGS SHOWN ON THE PLANS ARE GROUND BEARINGS TO THE NEAREST SECOND.

A VERTICAL SAWCUT SHALL BE MADE THROUGH EXISTING PAVEMENTS AT REMOVAL LIMITS.

ASPHALTIC SURFACE SHALL BE PLACED BY OTHERS.

FILL EXPANSION OF EARTHWORK AT 25%.

KEEP ALL EQUIPMENT AND MATERIALS OUT OF ADJACENT WETLANDS.

TEMPORARY STORAGE OF ANY EXCAVATED MATERIALS WILL NOT BE PERMITTED IN THE WETLANDS.

WETLANDS ARE PRESENT WITHIN THE PROJECT LIMITS. DO NOT OPERATE EQUIPMENT OUTSIDE THE SLOPE INTERCEPTS.

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 = 0.20 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 0.15 ACRES

ORDER OF SECTION 2 SHEETS

TYPICAL SECTIONS
TRAFFIC CONTROL

STANDARD ABBREVIATIONS

ADT	AVERAGE DAILY TRAFFIC	M/L	MAINLINE
AGG	AGGREGATE	NO	NUMBER
ASPH	ASPHALTIC	PE	PRIVATE ENTRANCE
BM	BENCH MARK	PI	POINT OF INTERSECTION
BOC	BACK OF CURB	PL	PROPERTY LINE
C&G	CURB AND GUTTER	PP	POWER POLE
CE	COMMERCIAL ENTRANCE	QTY	QUANTITY
CL	CENTERLINE	RHF	RIGHT-HAND FORWARD
COR	CORNER	RT	RIGHT
CWT	HUNDREDWEIGHT	R/L	REFERENCE LINE
CY	CUBIC YARD	R/W	RIGHT-OF-WAY
DHV	DESIGN HOURLY VOLUME	SF	SQUARE FOOT
DWY	DRIVEWAY	SHLDR	SHOULDER
EL	ELEVATION	SS	STORM SEWER
EX	EXISTING	STA	STATION
EXC	EXCAVATION	SY	SQUARE YARD
FT	FOOT	T	TRUCKS (PERCENT OF)
FTG	FOOTING	TEL	TELEPHONE
HYD	HYDRANT	TLE	TEMPORARY LIMITED EASEMENT
INV	INVERT	TYP	TYPICAL
LB	POUND	UG	UNDERGROUND CABLE
LF	LINEAR FOOT	VAR	VARIABLE
LHF	LEFT-HAND FORWARD	VC	VERTICAL CURVE
LS	LUMP SUM	VPC	VERTICAL POINT OF CURVE
LT	LEFT	VPI	VERTICAL POINT OF INTERSECTION
Mgal	MEGAGALLON	VPT	VERTICAL POINT OF TANGENCY

CONTACTS

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TDS TELECOM
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DIGGERS HOTLINE
Dial 811 or (800)242-8511
www.DiggersHotline.com

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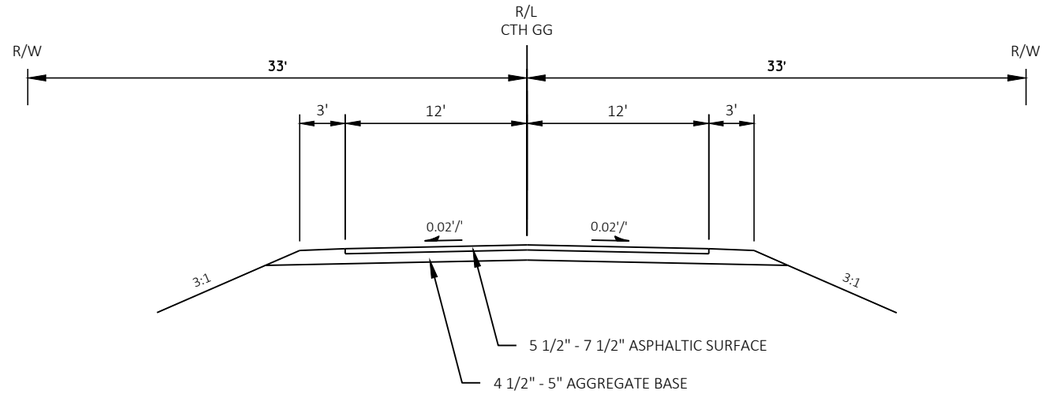
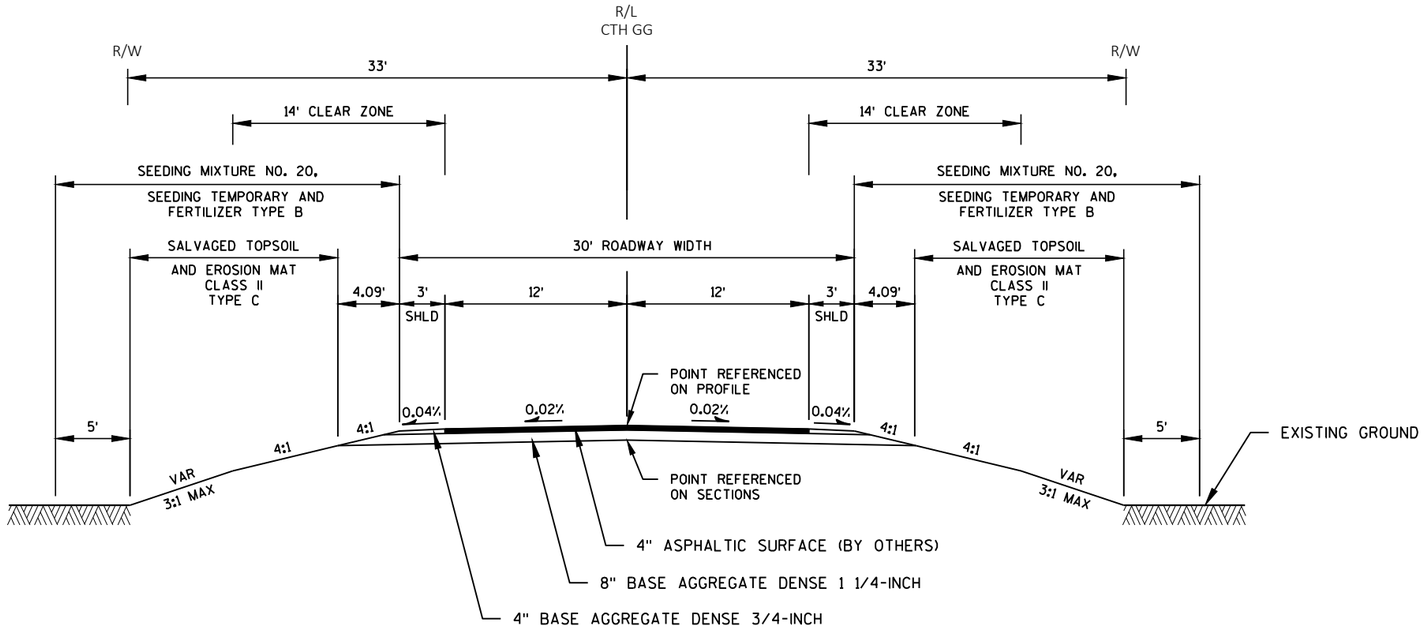


EXISTING TYPICAL SECTION

STA 9+35.00 TO STA 9+90.15
STA 10+12.85 TO STA 10+65.00

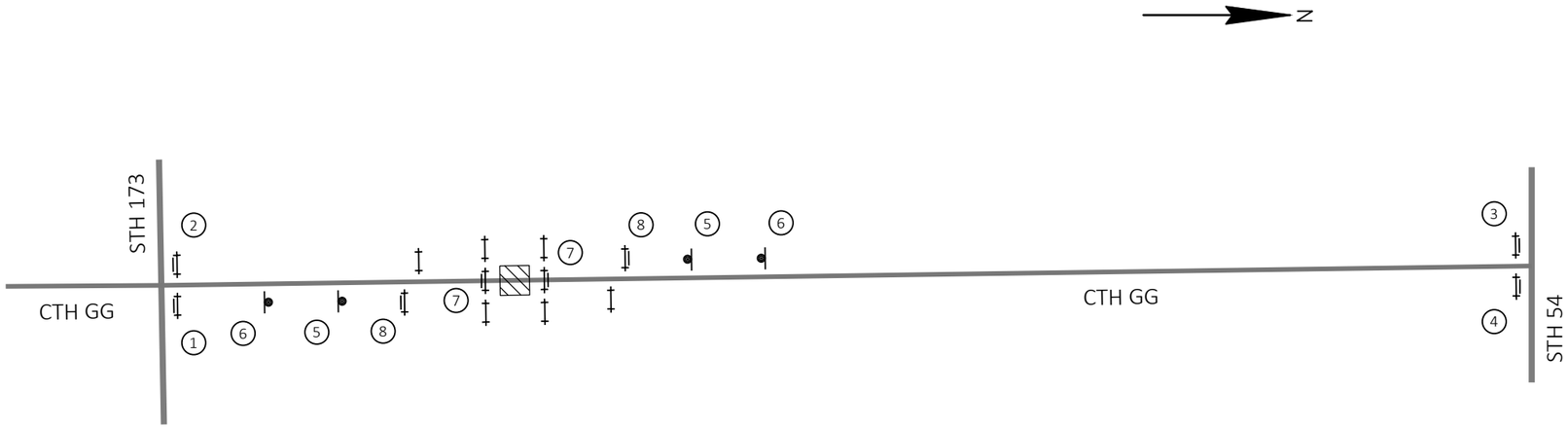


PROPOSED TYPICAL SECTION

STA 9+35.00 TO STA 9+81.29
STA 10+15.79 TO STA 10+65.00

PROJECT NO: 6940-00-70	HWY: CTH GG	COUNTY: WOOD	TYPICAL SECTIONS	SHEET 3	E

2



LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- SIGN ON PERMANENT SUPPORT
- WORK AREA

1
ROAD CLOSED
0.4 MILES AHEAD
LOCAL TRAFFIC ONLY
R11-3
60"X30"

2
BRIDGE OUT
0.4 MILES AHEAD
LOCAL TRAFFIC ONLY
R11-3B
60"X30"

3
ROAD CLOSED
1.3 MILES AHEAD
LOCAL TRAFFIC ONLY
R11-3
60"X30"

4
BRIDGE OUT
1.3 MILES AHEAD
LOCAL TRAFFIC ONLY
R11-3B
60"X30"

5
ROAD CLOSED 500 FT
W20-3D

6
ROAD CLOSED 1000 FT
W20-3C

7
ROAD CLOSED
R11-2
48"X30"

8
BRIDGE OUT
R11-2B
48"X30"

NOTES

ALL SIGNS AND DEVICES SHALL BE IN CONFORMANCE WITH THE WISCONSIN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (WMUTCD).

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

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

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

ALL SIGNS 48"x48" UNLESS NOTED OTHERWISE.

TRAFFIC CONTROL FOR RAILROAD CROSSING ARE SHOWN ON THE PLAN AND PROFILE SHEET.

PROJECT NO: 6940-00-70	HWY: CTH GG	COUNTY: WOOD	TRAFFIC CONTROL	SHEET 4	E

6940-00-70

Line	Item	Item Description	Unit	Total	Qty
0002	203.0600.S	Removing Old Structure Over Waterway With Minimal Debris (station) 01. 10+01.50	LS	1.000	1.000
0004	205.0100	Excavation Common	CY	100.000	100.000
0006	206.1000	Excavation for Structures Bridges (structure) 01. B-71-0203	LS	1.000	1.000
0008	210.1500	Backfill Structure Type A	TON	308.000	308.000
0010	213.0100	Finishing Roadway (project) 01. 6940-00-70	EACH	1.000	1.000
0012	305.0110	Base Aggregate Dense 3/4-Inch	TON	19.000	19.000
0014	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	175.000	175.000
0016	502.0100	Concrete Masonry Bridges	CY	137.000	137.000
0018	502.3200	Protective Surface Treatment	SY	174.000	174.000
0020	505.0400	Bar Steel Reinforcement HS Structures	LB	3,980.000	3,980.000
0022	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	18,370.000	18,370.000
0024	513.4061	Railing Tubular Type M	LF	114.000	114.000
0026	516.0500	Rubberized Membrane Waterproofing	SY	20.000	20.000
0028	550.1100	Piling Steel HP 10-Inch X 42 Lb	LF	650.000	650.000
0030	606.0300	Riprap Heavy	CY	166.000	166.000
0032	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	156.000	156.000
0034	618.0100	Maintenance And Repair of Haul Roads (project) 01. 6940-00-70	EACH	1.000	1.000
0036	619.1000	Mobilization	EACH	1.000	1.000
0038	624.0100	Water	MGAL	4.000	4.000
0040	625.0500	Salvaged Topsoil	SY	60.000	60.000
0042	628.1504	Silt Fence	LF	50.000	50.000
0044	628.1520	Silt Fence Maintenance	LF	100.000	100.000
0046	628.1905	Mobilizations Erosion Control	EACH	5.000	5.000
0048	628.1910	Mobilizations Emergency Erosion Control	EACH	2.000	2.000
0050	628.2027	Erosion Mat Class II Type C	SY	60.000	60.000
0052	628.6005	Turbidity Barriers	SY	170.000	170.000
0054	628.7504	Temporary Ditch Checks	LF	40.000	40.000
0056	629.0210	Fertilizer Type B	CWT	0.200	0.200
0058	630.0120	Seeding Mixture No. 20	LB	4.000	4.000
0060	630.0200	Seeding Temporary	LB	2.000	2.000
0062	630.0500	Seed Water	MGAL	3.000	3.000
0064	634.0614	Posts Wood 4x6-Inch X 14-FT	EACH	4.000	4.000
0066	637.2230	Signs Type II Reflective F	SF	12.000	12.000
0068	638.2602	Removing Signs Type II	EACH	4.000	4.000
0070	638.3000	Removing Small Sign Supports	EACH	4.000	4.000
0072	642.5001	Field Office Type B	EACH	1.000	1.000
0074	643.0420	Traffic Control Barricades Type III	DAY	1,098.000	1,098.000

6940-00-70

Line	Item	Item Description	Unit	Total	Qty
0076	643.0705	Traffic Control Warning Lights Type A	DAY	1,952.000	1,952.000
0078	643.0900	Traffic Control Signs	DAY	1,098.000	1,098.000
0080	643.5000	Traffic Control	EACH	1.000	1.000
0082	645.0111	Geotextile Type DF Schedule A	SY	92.000	92.000
0084	645.0120	Geotextile Type HR	SY	340.000	340.000
0086	646.1005	Marking Line Paint 4-Inch	LF	428.000	428.000
0088	650.4500	Construction Staking Subgrade	LF	97.000	97.000
0090	650.5000	Construction Staking Base	LF	97.000	97.000
0092	650.6500	Construction Staking Structure Layout (structure) 01. B-71-0203	LS	1.000	1.000
0094	650.9910	Construction Staking Supplemental Control (project) 01. 6940-00-70	LS	1.000	1.000
0096	650.9920	Construction Staking Slope Stakes	LF	97.000	97.000
0098	690.0150	Sawing Asphalt	LF	48.000	48.000
0100	715.0502	Incentive Strength Concrete Structures	DOL	786.000	786.000
0102	801.0117	Railroad Flagging Reimbursement	DOL	6,500.000	6,500.000
0104	SPV.0090	Special 01. Flashing Stainless Steel	LF	69.000	69.000

EARTHWORK SUMMARY

FROM/TO STATION	LOCATION	205.0100 EXCAVATION COMMON CUT (1)	SALVAGED/ UNUSABLE PAVEMENT MATERIAL	AVAILABLE MATERIAL (2)	UNEXPANDED FILL	EXPANDED FILL (FACTOR 1.25)	MASS ORDINATE +/- (3)	208.0100 BORROW
9+35 - 9+81.29	CTH GG	51	15	36	1	1	35	0
10+15.79 - 10+65	CTH GG	49	16	33	3	4	29	0
		100					**TOTAL**	**0**

(1) SALVAGED/UNUSABLE PAVEMENT MATERIAL IS INCLUDED

(2) AVAILABLE MATERIAL = CUT - SALVAGED/UNUSABLE PAVEMENT MATERIAL

(3) THE MASS ORDINATE + OR - QUANTITY CALCULATED. PLUS QUANTITY INDICATES AS EXCESS OF MATERIAL. MINUS INDICATES A SHORTAGE OF MATERIAL.

TOTAL WASTE = 64 CY

BASE AGGREGATE DENSE

STATION	TO	STATION	LOCATION	305.0110 BASE AGGREGATE DENSE 3/4-INCH TON	305.0120 BASE AGGREGATE DENSE 1-1/4 INCH TON	624.0100 WATER MGAL
9+35	-	9+81.29	CTH GG, LT & RT	10	90	2
10+15.79	-	10+65	CTH GG, LT & RT	9	85	2
			TOTAL	**19**	**175**	**4**

MOBILIZATION

CATEGORY	STATION	TO	STATION	LOCATION	619.1000 MOBILIZATION EACH
0010	PROJECT			M/L	0.200
0020	PROJECT			M/L	0.800
				TOTAL	**1.000**

SILT FENCE

STATION	TO	STATION	LOCATION	628.1504 SILT FENCE LF	628.1520 SILT FENCE MAINTENANCE LF
9+35	-	9+81.29	CTH GG, LT/RT	20	40
10+15.79	-	10+65	CTH GG, LT/RT	20	40
UNDISTRIBUTED			VARIOUS	10	20
			TOTAL	**50**	**100**

TURBIDITY BARRIERS

STATION	LOCATION	628.6005 TURBIDITY BARRIERS SY
9+95	CTH GG	80
10+03	CTH GG	90
	TOTAL	**170**

LANDSCAPING ITEMS

STATION	TO	STATION	LOCATION	625.0500 SALVAGED TOPSOIL SY	628.2027 EROSION MAT CLASS I I TYPE C 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+35	-	9+81.29	CTH GG	24	24	0.1	2	1	1
10+15.79	-	10+65	CTH GG	36	36	0.1	2	1	2
			TOTAL	**60**	**60**	**0.2**	**4**	**2**	**3**

** SEEDING TEMPORARY AT HALF RATE

EROSION CONTROL MOBILIZATIONS

STATION	TO	STATION	LOCATION	628.1905 MOBILIZATIONS EROSION CONTROL EACH	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL EACH	628.7504 TEMPORARY DITCH CHECKS LF
9+35	-	10+65	CTH GG, LT & RT	-	-	20
UNDISTRIBUTED			VARIOUS	5	2	20
			TOTAL	**5**	**2**	**40**

ALL ITEMPS ARE IN CATEGORY 0010 UNLESS NOTED OTHERWISE.

3

SIGNING

STATION	LOCATION	634.0614 POSTS WOOD 4x6-INCH x 14-FT EACH	637.2230 SIGNS TYPE II REFLECTIVE F SF	638.2602 REMOVING SIGNS TYPE II EACH	638.3000 REMOVING SMALL SIGN SUPPORTS EACH	COMMENTS
9+70	CTH GG, LT & RT	-	-	2	2	
10+27	CTH GG, LT & RT	-	-	2	2	
9+70	CTH GG, LT & RT	2	6	-	-	W5-52L & W5-52R
10+27	CTH GG, LT & RT	2	6	-	-	W5-52L & W5-52R
	TOTAL	**4**	**12**	**4**	**4**	

TRAFFIC CONTROL ITEMS

PROJECT	TRAFFIC CONTROL BARRICADES TYPE III EACH	643.0420 TRAFFIC CONTROL BARRICADES TYPE III DAY	TRAFFIC CONTROL WARNING LIGHTS TYPE A EACH	643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A DAY	TRAFFIC* CONTROL SIGNS EACH	643.0900 TRAFFIC CONTROL SIGNS DAY	REMARKS
6940-00-70	18	1,098	32	1,952	18	1,098	61 CALENDAR DAYS
TOTAL		**1,098**		**1,952**		**1,098**	

*INCLUDES THE 4 SIGNS ALONG CRANBERRY CREEK

PAVEMENT MARKING

STATION	TO	STATION	LOCATION	646.1005 PAINT 4-INCH WHITE LF	646.1005 PAINT 4-INCH YELLOW LF	REMARKS
9+00	-	10+65	CTH GG, LT/RT	260	-	EDGE LINES
9+00	-	10+65	CTH GG	-	168	CENTER LINE (SOLID AND DASH)
			TOTAL	**260**	**168**	

CONSTRUCTION STAKING

STATION	TO	STATION	LOCATION	650.4500 CONSTRUCTION STAKING SUBGRADE LF	650.5000 CONSTRUCTION STAKING BASE LF	650.9910 CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (PROJECT) LS	650.9920 CONSTRUCTION STAKING SLOPE STAKES LF
9+35	-	9+81.29	CTH GG	47	47	-	47
10+15.79	-	10+65	CTH GG	50	50	-	50
PROJECT			CTH GG	-	-	1	-
			TOTAL	**97**	**97**	**1**	**97**

SAWING ASPHALT

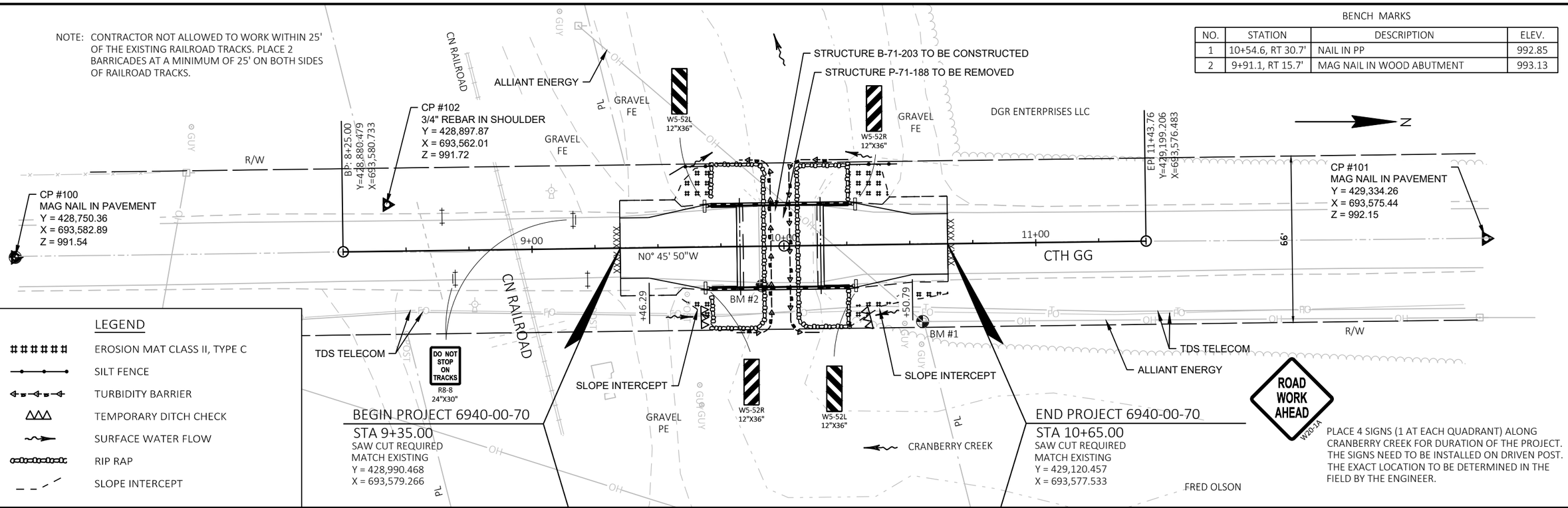
STATION	LOCATION	690.0150 SAWING ASPHALT LF
9+35	CTH G	24
10+65	CTH G	24
	TOTAL	**48**

ALL ITEMPS ARE IN CATEGORY 0010
UNLESS NOTED OTHERWISE.

NOTE: CONTRACTOR NOT ALLOWED TO WORK WITHIN 25' OF THE EXISTING RAILROAD TRACKS. PLACE 2 BARRICADES AT A MINIMUM OF 25' ON BOTH SIDES OF RAILROAD TRACKS.

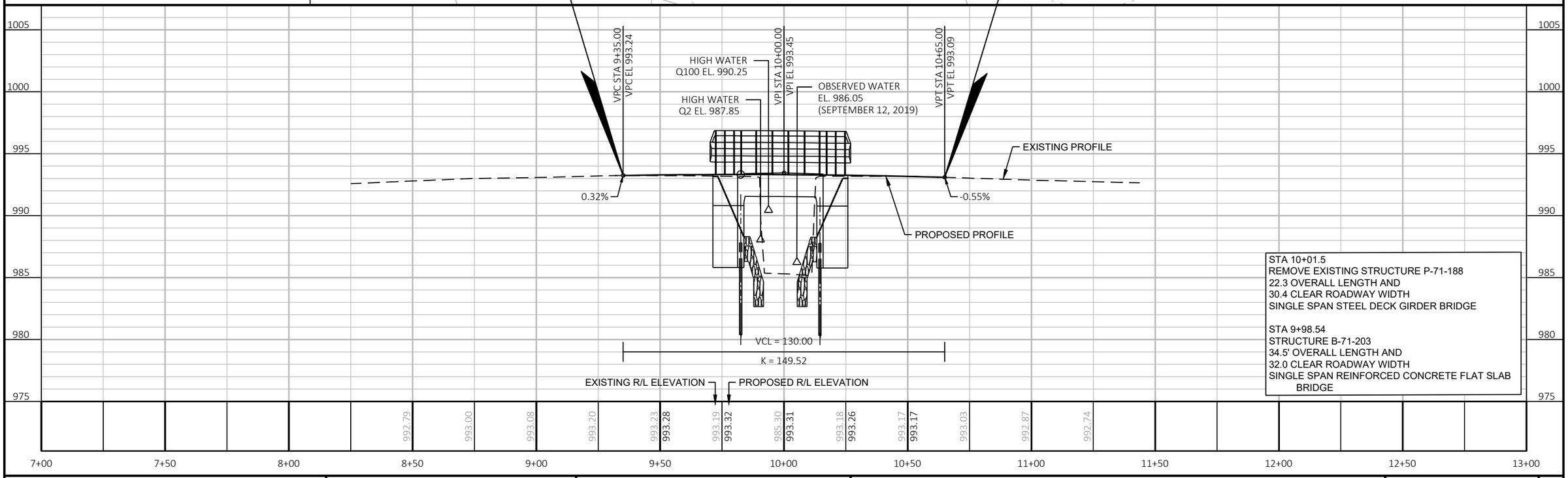
BENCH MARKS

NO.	STATION	DESCRIPTION	ELEV.
1	10+54.6, RT 30.7'	NAIL IN PP	992.85
2	9+91.1, RT 15.7'	MAG NAIL IN WOOD ABUTMENT	993.13



LEGEND

- EROSION MAT CLASS II, TYPE C
- SILT FENCE
- TURBIDITY BARRIER
- TEMPORARY DITCH CHECK
- SURFACE WATER FLOW
- RIP RAP
- SLOPE INTERCEPT



STA 10+01.5
REMOVE EXISTING STRUCTURE P-71-188
22.3 OVERALL LENGTH AND
30.4 CLEAR ROADWAY WIDTH
SINGLE SPAN STEEL DECK GIRDER BRIDGE

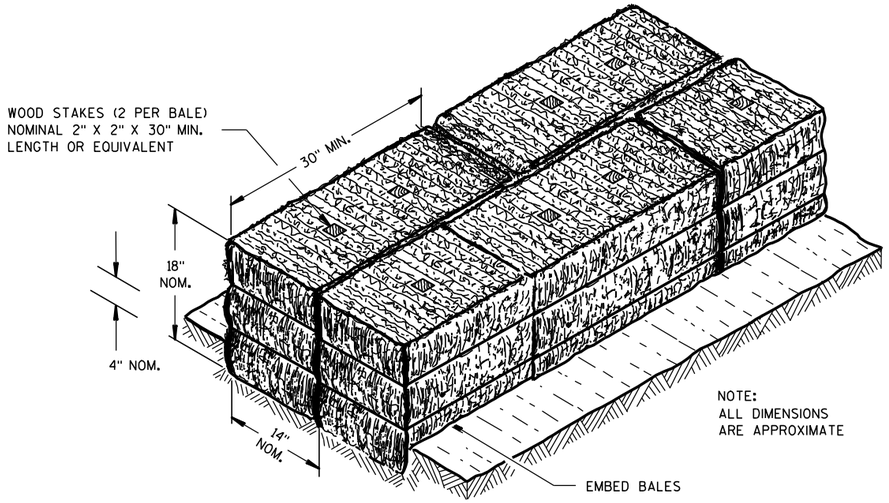
STA 9+98.54
STRUCTURE B-71-203
34.5' OVERALL LENGTH AND
32.0 CLEAR ROADWAY WIDTH
SINGLE SPAN REINFORCED CONCRETE FLAT SLAB BRIDGE

PROJECT NO: 6940-00-70	HWY: CTH GG	COUNTY: WOOD	PLAN AND PROFILE: CTH GG	SHEET 9 E

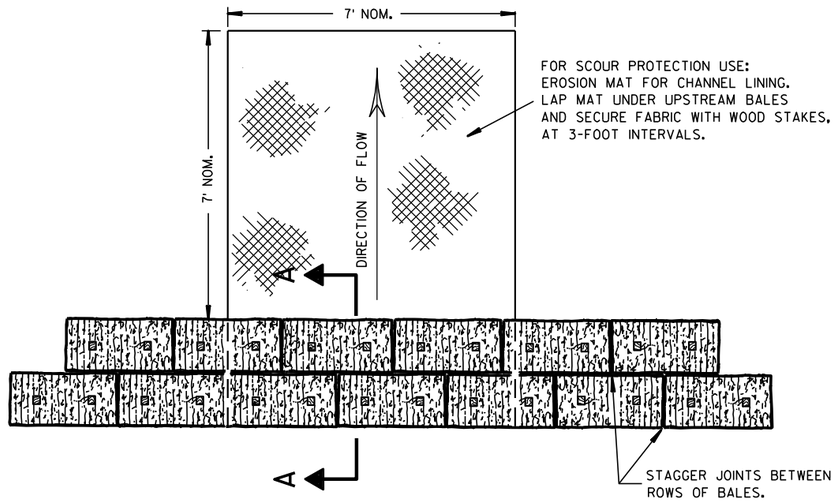
Standard Detail Drawing List

08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E11-02	TURBIDITY BARRIER
12A03-10	NAME PLATE (STRUCTURES)
15C02-08A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-08B	BARRICADES AND SIGNS FOR VARIOUS CLOSURES
15C08-20A	LONGITUDINAL MARKING (MAINLINE)
15C11-07B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS
15D38-02A	TEMPORARY TRAFFIC CONTROL SIGN MOUNTING
15D38-02B	ATTACHMENT OF SIGNS TO POSTS

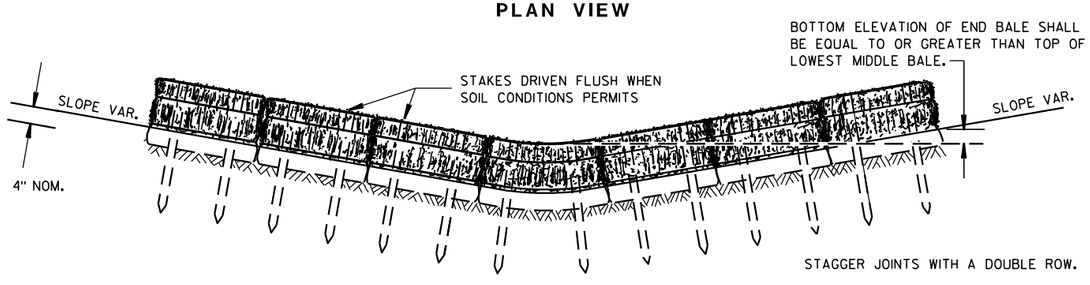
6



SECTION A-A



PLAN VIEW



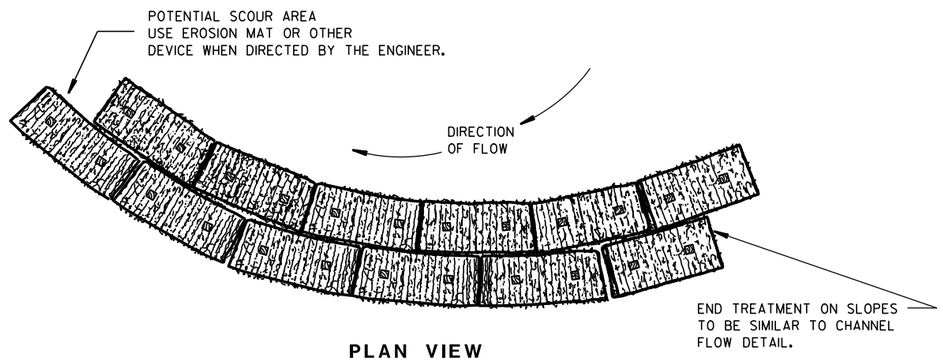
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES (1)

GENERAL NOTES

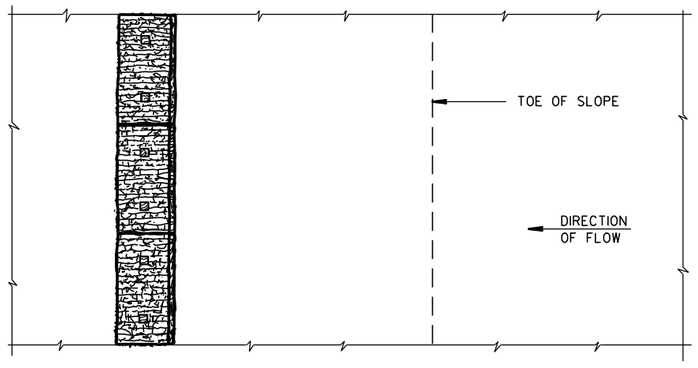
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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

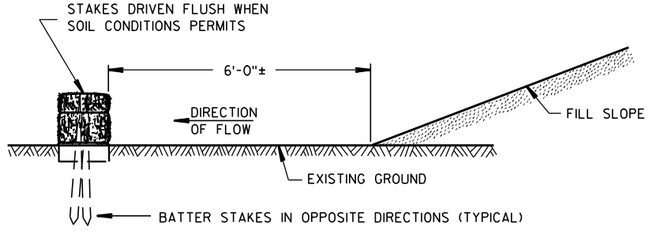


PLAN VIEW

WHEN ALTERING THE DIRECTION OF FLOW



PLAN VIEW



FRONT ELEVATION

WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE

EROSION BALES FOR SHEET FLOW

TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

6/04/02 DATE — /S/ Beth Cannestra — CHIEF ROADWAY DEVELOPMENT ENGINEER

FHWA

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S.D.D. 8 E 8-3

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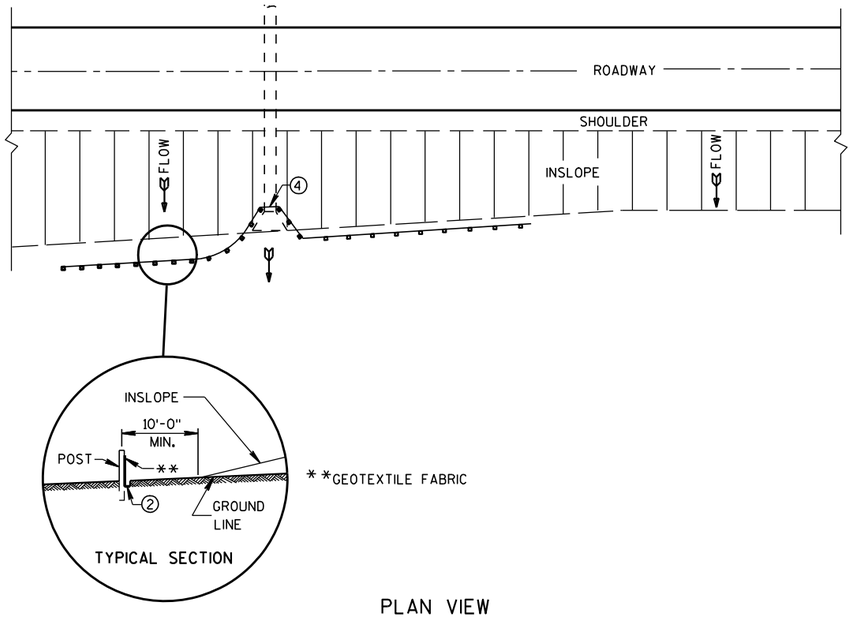
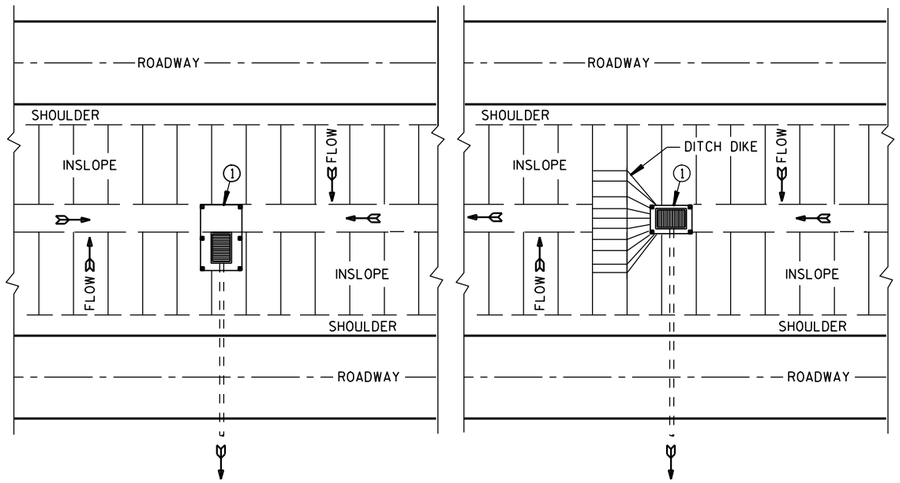
S.D.D. 8 E 8-3



PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



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.

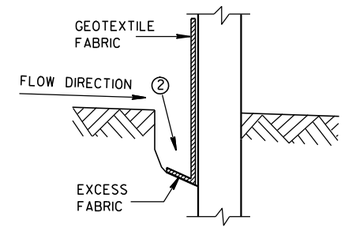
① HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.

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.

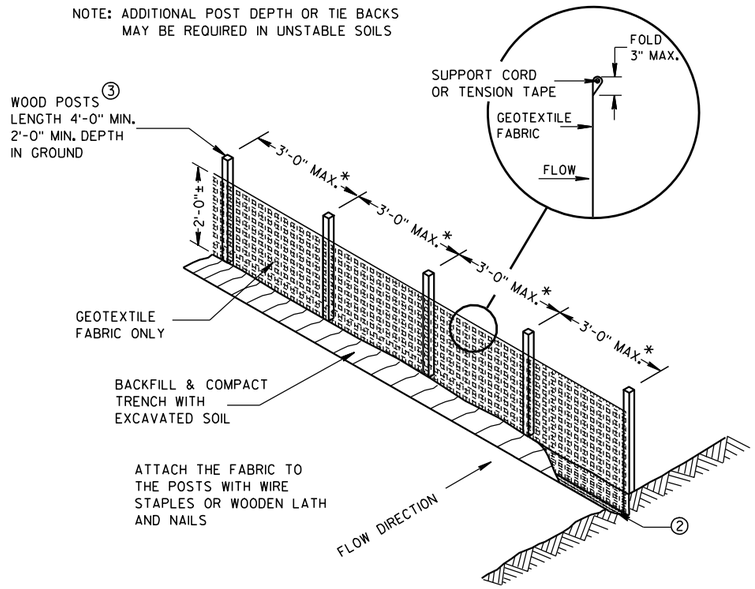
③ WOOD POSTS SHALL BE A MINIMUM SIZE OF 1⅛" X 1⅛" OF OAK OR HICKORY.

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.

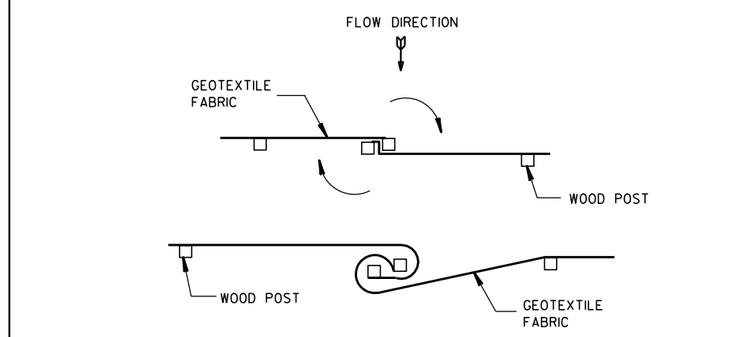


TRENCH DETAIL

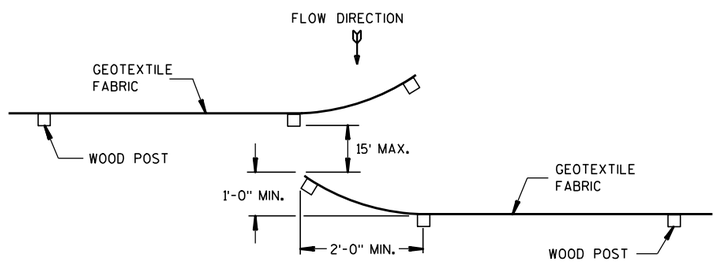


*NOTE: 8'-0" POST SPACING ALLOWED IF A WOVEN GEOTEXTILE FABRIC IS USED.

SILT FENCE

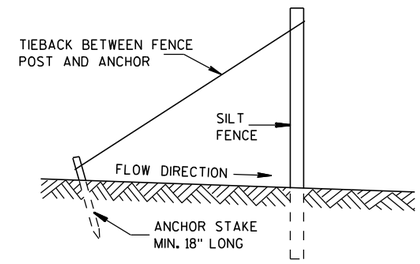


TWIST METHOD



HOOK METHOD

JOINING TWO LENGTHS OF SILT FENCE ⑤



SILT FENCE TIE BACK

(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

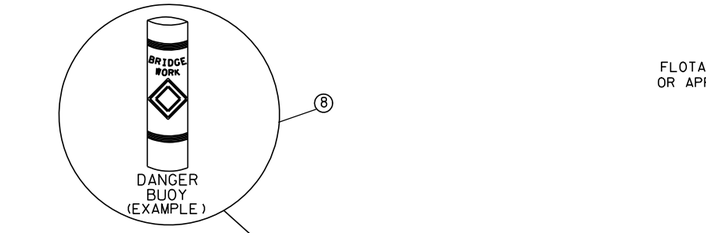
APPROVED
4-29-05 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

6

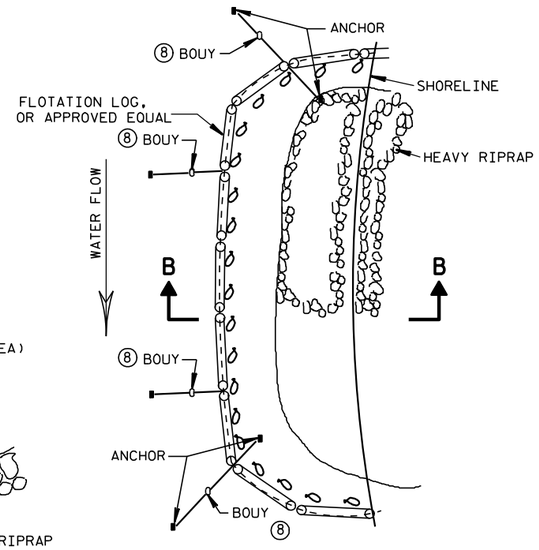
S.D.D. 8 E 9-6

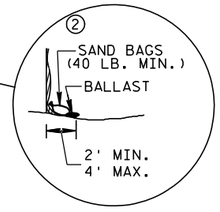
6

S.D.D. 8 E 9-6

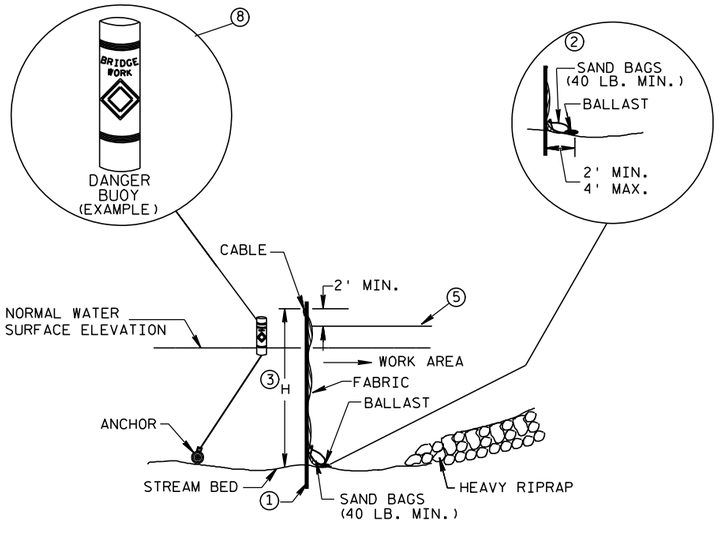


SECTION B-B

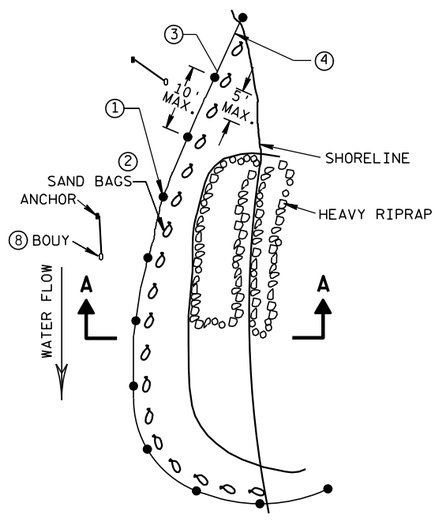




TURBIDITY BARRIER FLOAT ALTERNATIVE
CAUTION - SEE NOTE 6



SECTION A-A



PLAN VIEW

TURBIDITY BARRIER STANDARD POST INSTALLATION

TURBIDITY BARRIER PLACEMENT DETAILS

GENERAL NOTES

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

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

① DRIVEN STEEL POSTS, PIPES, OR CHANNELS. LENGTH SHALL BE SUFFICIENT TO SECURELY SUPPORT BARRIER AT HIGH WATER ELEVATIONS.

② 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.

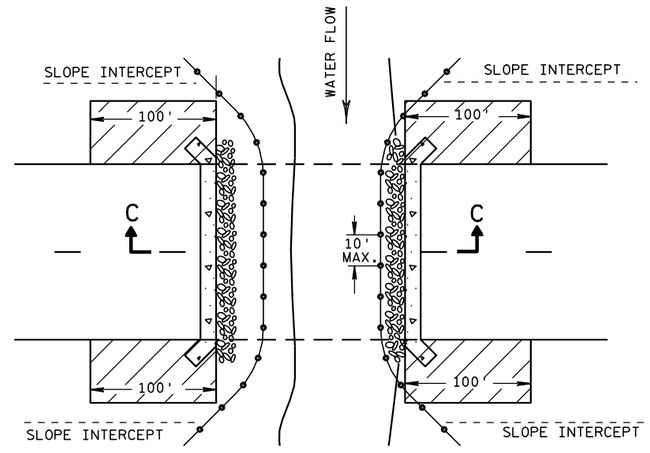
④ IN WATERWAYS SUBJECT TO FLUCTUATING WATER ELEVATIONS, PROVISIONS SHOULD BE MADE TO ALLOW THE WATER TO EQUALIZE ON EACH SIDE OF THE BARRIER. THIS MAY BE ACCOMPLISHED BY LEAVING A PORTION OF THE BARRIER OPEN ON THE UPSTREAM END.

⑤ ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION PERIOD. MIMIMUM BARRIER HEIGHT SHALL BE 2'GREATER THAN EITHER THE 02 ELEVATION OR THE ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION, WICHEVER IS GREATER.

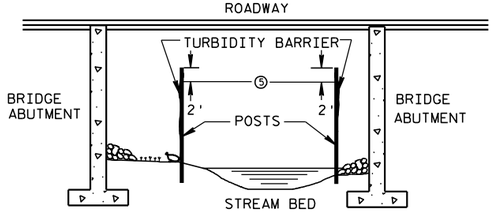
⑥ FLOAT ALTERNATIVE WILL ONLY BE ALLOWED WITH WRITTEN APPROVAL OF THE ENGINEER, AND IS MEANT FOR LOCATIONS WHERE BED ROCK PREVENTS THE INSTALLATION OF POSTS.

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 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

6

S.D.D. 8 E 11-2

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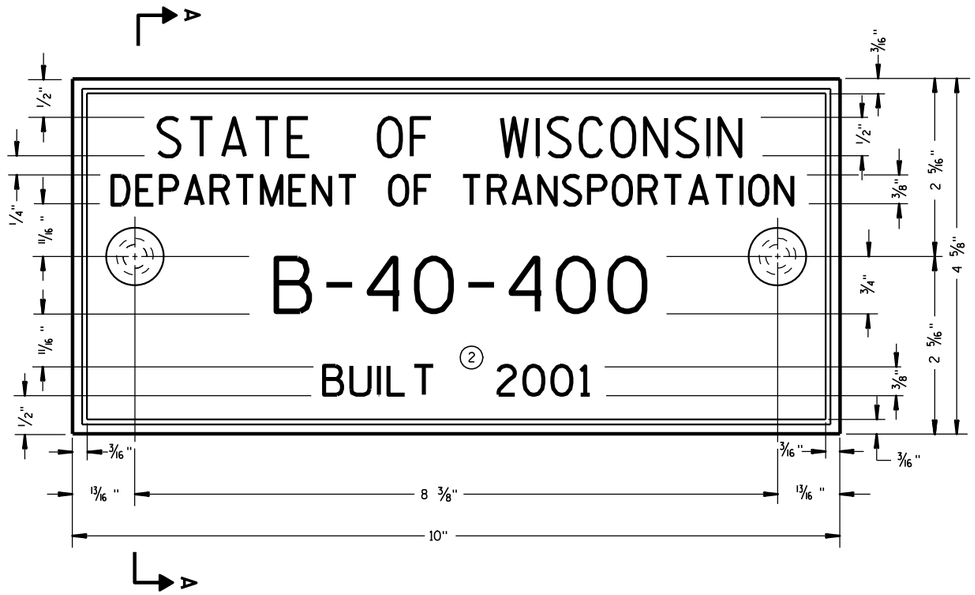
S.D.D. 8 E 11-2



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

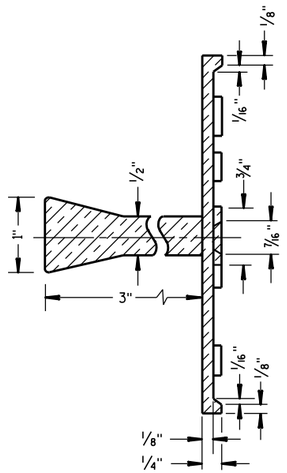
GENERAL NOTES

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.

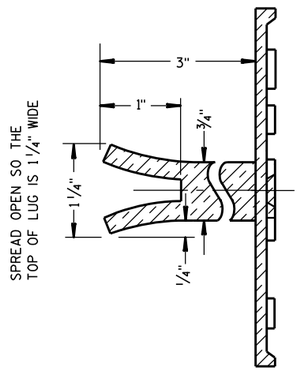
THE BRIDGE NUMBER AND YEAR BUILT SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND YEAR BUILT.

(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

FOR MULTI-UNIT STRUCTURES LINE 3 ABOVE SHALL READ

B = BRIDGE
C = CULVERT
R = RETAINING WALL

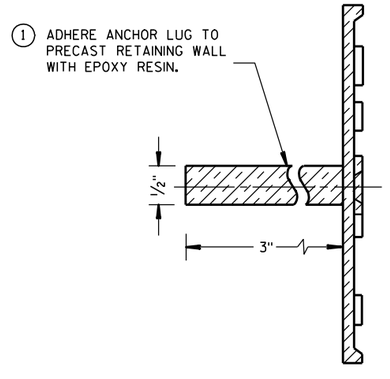
COUNTY NO.

BRIDGE NO.

UNIT NO. FOR MULTIPLE UNIT BRIDGE

B-40-400-1A

NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES



ALTERNATE LUG
(FOR ATTACHMENT TO PRECAST STRUCTURES)

NAME PLATE (STRUCTURES)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

3/26/10 DATE

/S/ Scot Beck -- CHIEF STRUCTURAL DEVELOPMENT ENGINEER

FHWA

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S.D.D. 12 A 3-10

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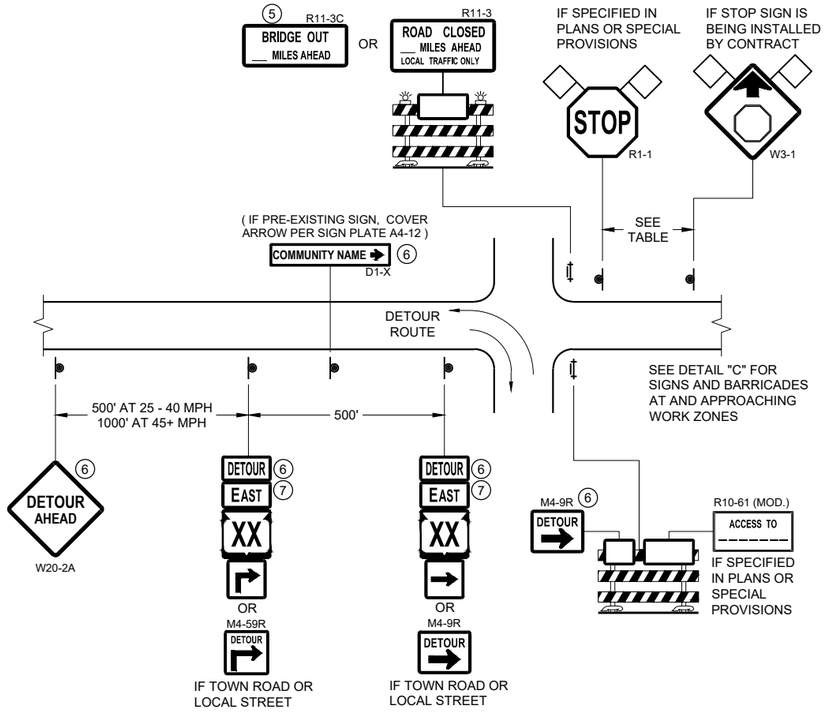
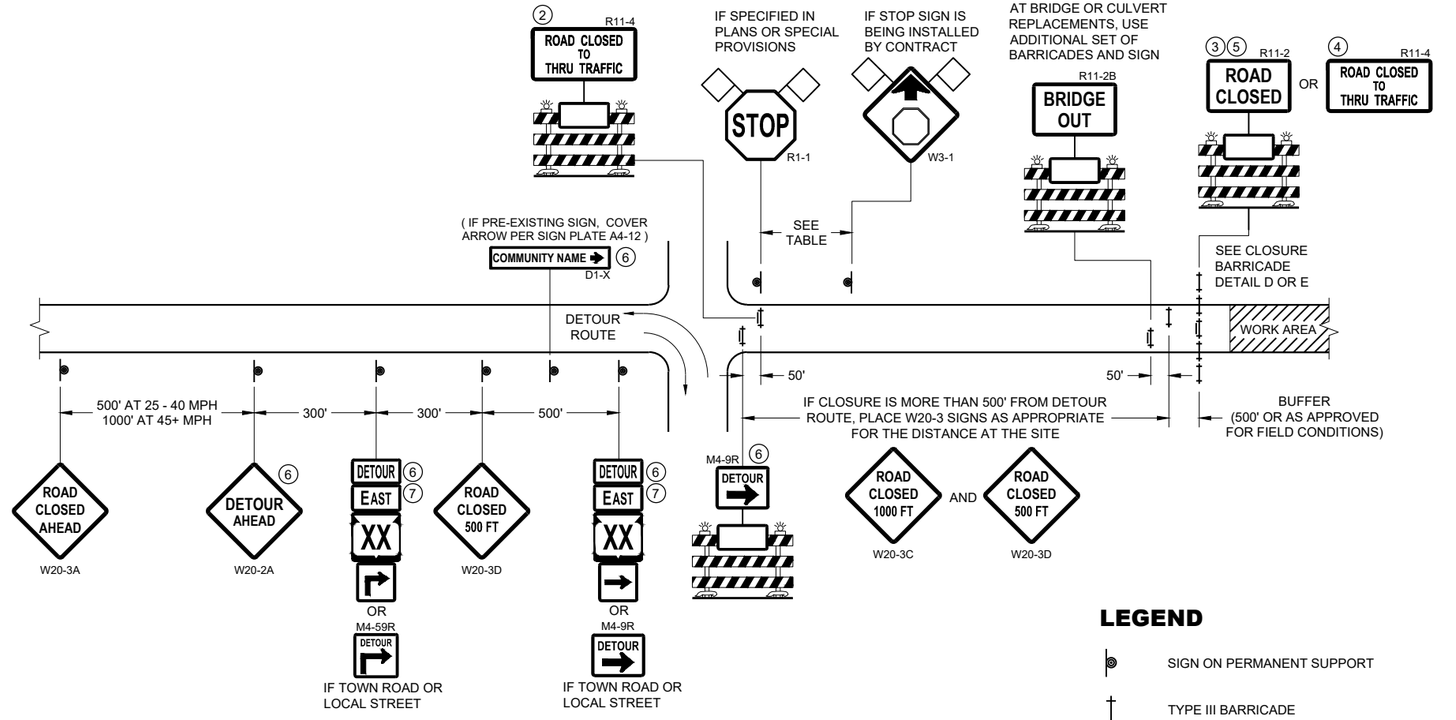
S.D.D. 12 A 3-10



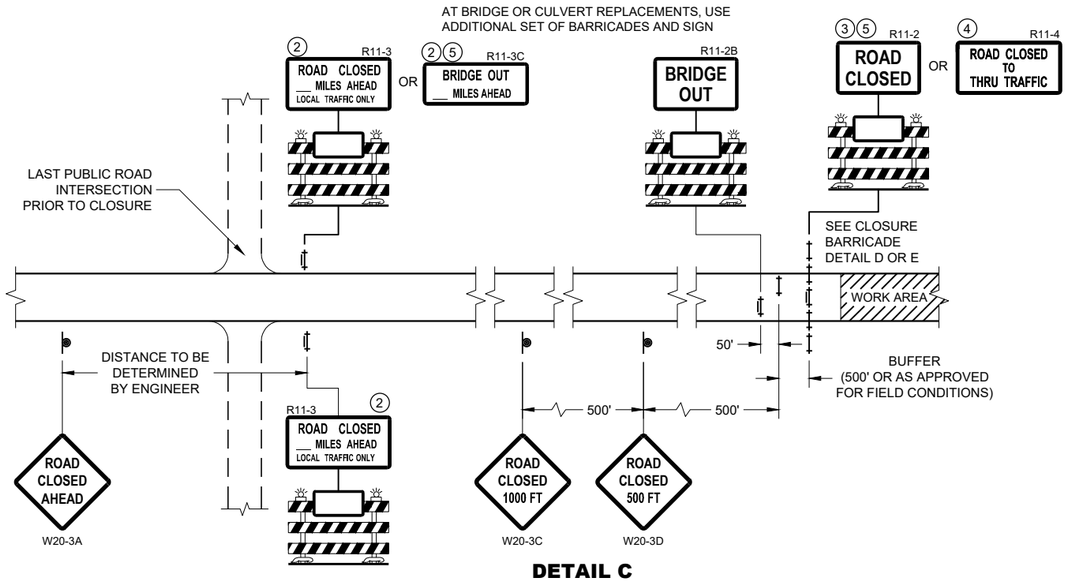


DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR

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 M1 - 4 OR XX M1 - 6 OR COUNTY X M1 - 5A
M05 - 1 OR M06 - 1

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

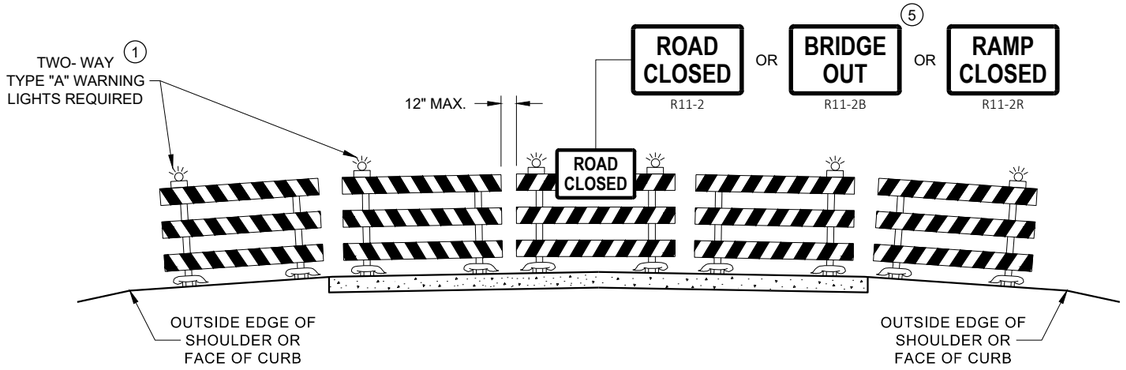
APPROVED
February 2020
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA

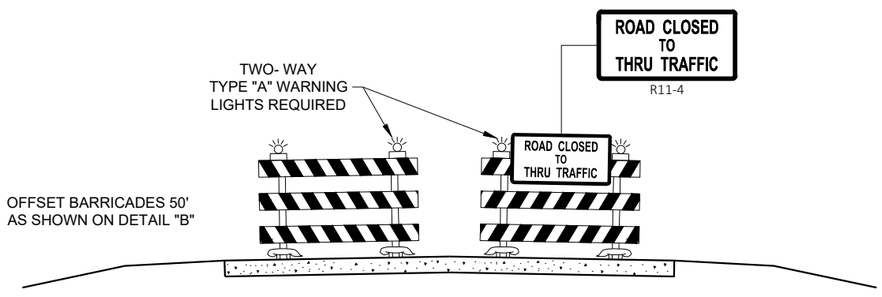
6

SDD 15C02 - 08a

SDD 15C02 - 08a



DETAIL D
ROAD CLOSURE BARRICADE DETAIL
APPROACH VIEW



DETAIL E
LANE CLOSURE BARRICADE DETAIL
APPROACH VIEW

SEE SDD 15C2 - SHEET "a" FOR LEGEND

GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

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

(2) THESE SIGNS AND BARRICADES ARE NOT REQUIRED IF ROAD CLOSURE BEGINS AT AN INTERSECTION.

(3) FOR ROAD CLOSURE WITHOUT LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL "D".

(4) FOR ROAD CLOSURE WITH LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL "E".

(5) FOR BRIDGE OR CULVERT REPLACEMENTS, SUBSTITUTE "BRIDGE OUT" INSTEAD OF "ROAD CLOSED" ON R11 - 2 AND R11 - 3 SIGNS.

(6) INSTALL DETOUR AND COMMUNITY GUIDE SIGNS AND ARROWS ONLY IF SPECIFIED IN THE CONTRACT. IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. MODIFY EXISTING SIGNS WHERE POSSIBLE. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. IF DETOUR SIGNS ARE BEING INSTALLED BY OTHERS, PLACE THE CONTRACTED TRAFFIC CONTROL SIGNS TO ALLOW FOR PLACEMENT OF ALL WARNING, DETOUR AND GUIDE SIGNS AS SHOWN.

(7) "EAST" CARDINAL DIRECTION MARKERS AND RIGHT TURN ARROWS ARE SHOWN. USE OTHER CARDINAL DIRECTIONS AND ARROWS AS APPROPRIATE.

BARRICADES AND SIGNS FOR VARIOUS CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

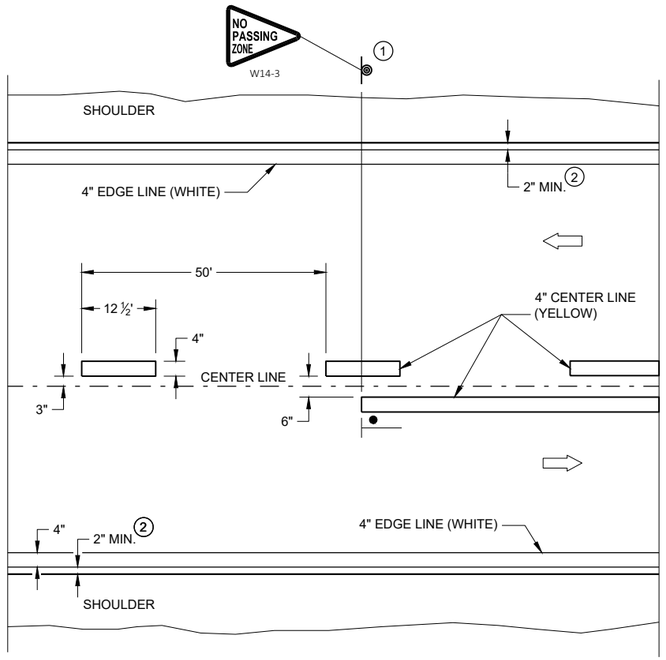
APPROVED
February 2020
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEE
FHWA

6

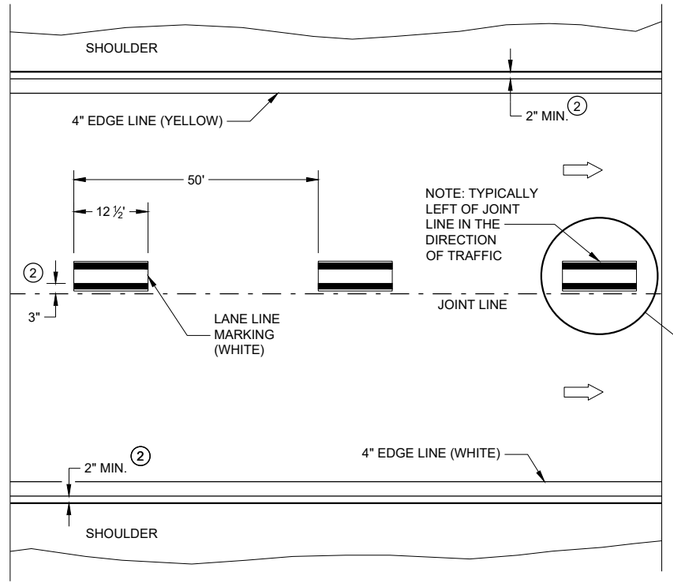
SDD 15C02 - 08b

6

SDD 15C02 - 08b

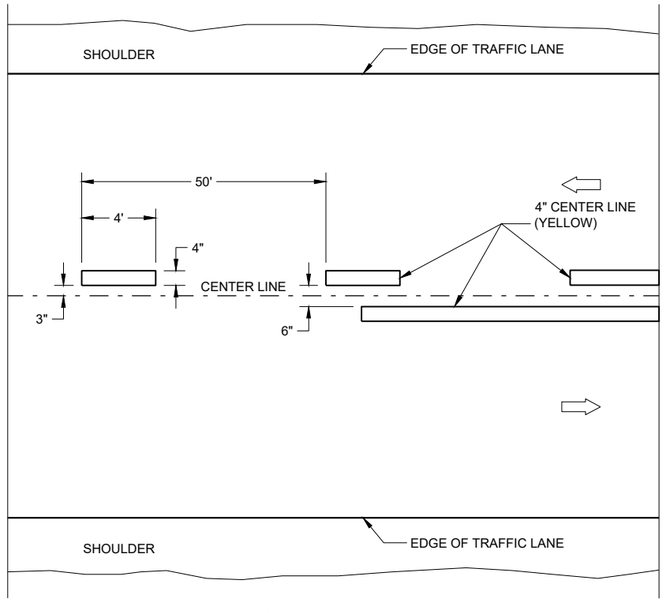


TWO WAY TRAFFIC

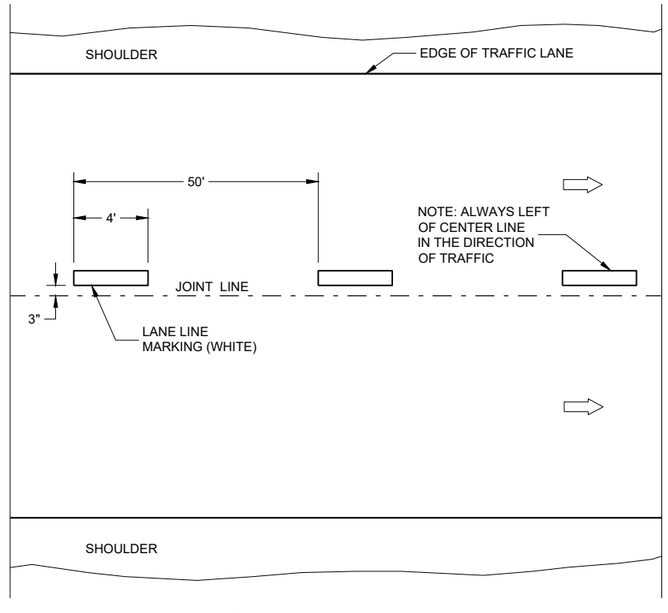


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY PAVEMENT MARKING

GENERAL NOTES

DETAILS OF CONSTRUCTION NO SHOWN ON THIS DRAWING SHALL CONFORM TO STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS.

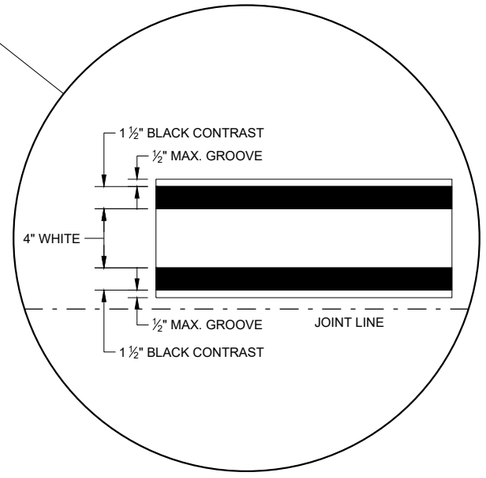
1. LOCATE THE NO PASSING ZONE W14-3 SIGN WITH 50 FEET OF THE "T" MARKING
2. MEASURE FROM EDGE OF MARKING TO JOINT LINE. THIS DOES NOT INCLUDE SPACE NEEDED FOR GROOVING OPERATIONS.

LEGEND

"T" MARKING

SIGN ON PERMANENT SUPPORT

DIRECTION OF TRAFFIC



LONGITUDINAL MARKING (MAINLINE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2020
DATE

/S/ Matthew Rauch
STATEWIDE SIGNING AND M ENGINEER

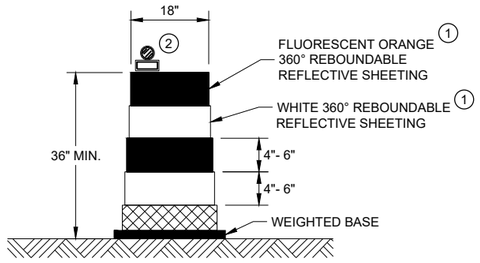
FHWA

SDD 15C08 - 20a

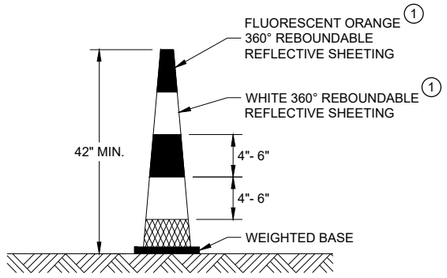
SDD 15C08 - 20a

GENERAL NOTES

1. REFLECTIVE SHEETING SHALL FOLLOW THE REQUIREMENTS IN THE APPROVED PRODUCTS LISTING FOR SIGN SHEETING.
2. LOCATION OF WARNING LIGHTS WHEN SHOWN ON THE PLAN.

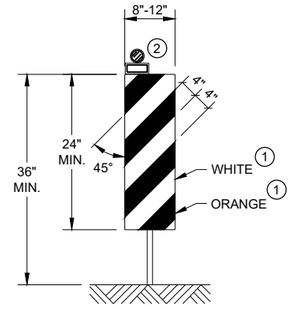


DRUM



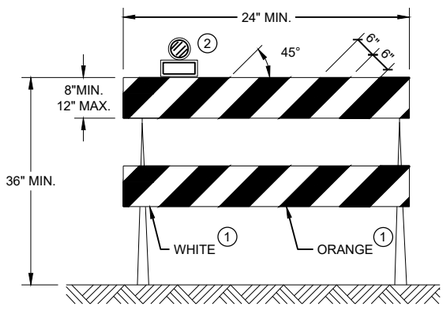
42" CONE

DO NOT USE IN TAPERS
½ SPACING OF DRUMS



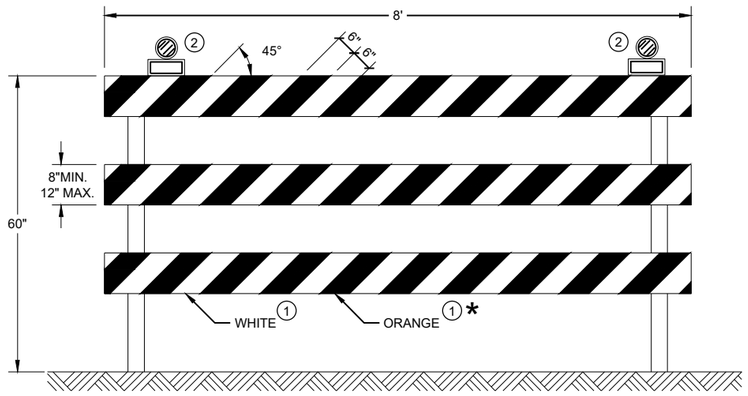
VERTICAL PANEL

THE STRIPES SHALL SLOPE DOWNWARD TO
THE TRAFFIC SIDE FOR CHANNELIZATION.



TYPE II BARRICADE

FOR RAILS LESS THAN 36" LONG, 4" WIDE STRIPES
MAY BE USED. ALL STRIPES SHALL SLOPE DOWNWARD
TO THE TRAFFIC SIDE FOR CHANNELIZATION.



TYPE III BARRICADE

IF SIGN MOUNTED, DO NOT COVER MORE THAN 50% OF THE TOP
TWO RAILS OR 33% OF THE TOTAL AREA OF THE THREE RAILS.

* IF USED FOR A PERMANENT APPLICATION USE RED SHEETING.

CHANNELIZING DEVICES
DRUMS, CONES, BARRICADES
AND VERTICAL PANELS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

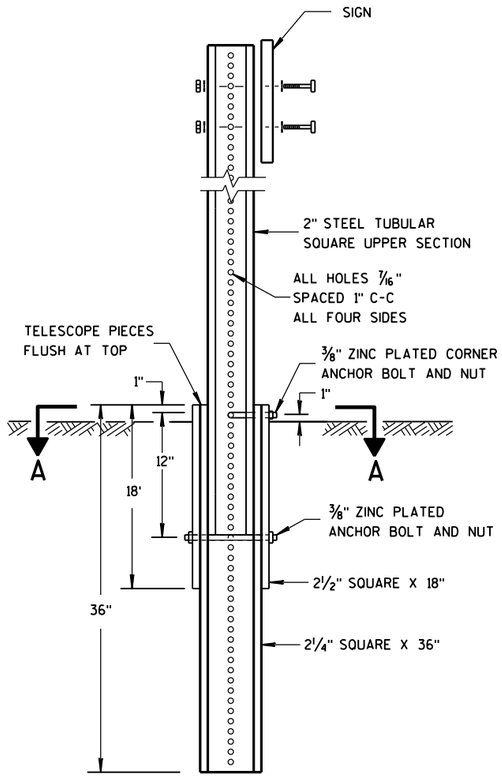
APPROVED
June 2017 — DATE
/S/ Andrew Heidtke — WORK ZONE ENGINEER
FHWA

6

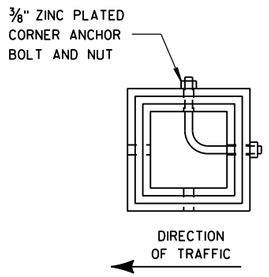
SDD 15C11 - 07b

6

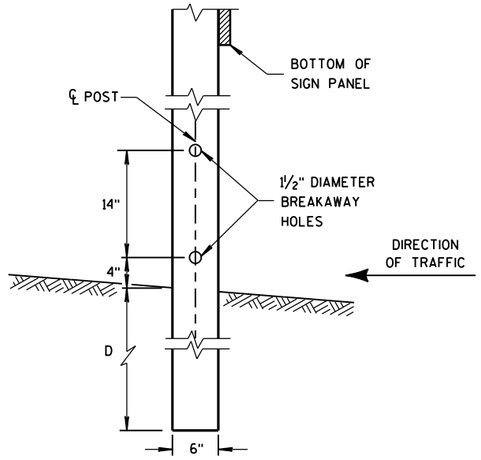
SDD 15C11 - 07b



DETAIL OF TUBULAR STEEL SIGN POST



SECTION A-A



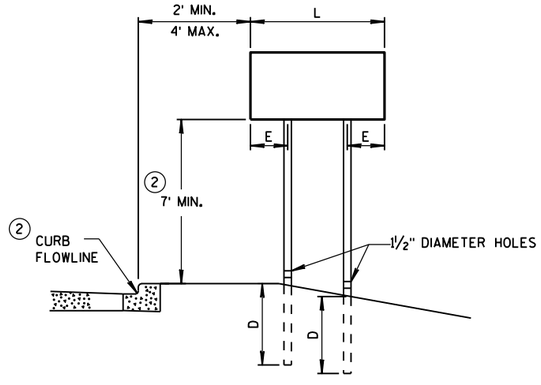
4"x6" WOOD POST MODIFICATION

GENERAL NOTES

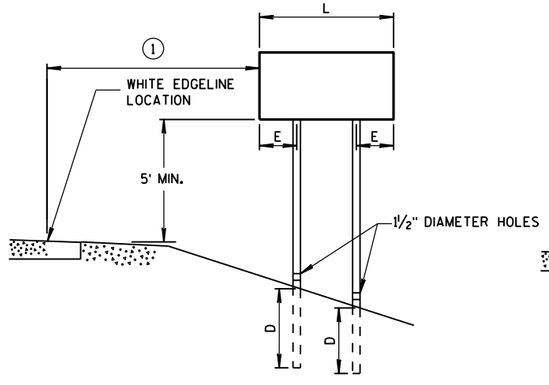
(1) 6 FEET FROM THE EDGE OF PAVEMENT (EDGE LINE LOCATION) UNLESS OTHERWISE DIRECTED BY THE PROJECT ENGINEER. LATERAL OFFSET SHOULD BE ADJUSTED TO AVOID THE DITCH FLOWLINE.

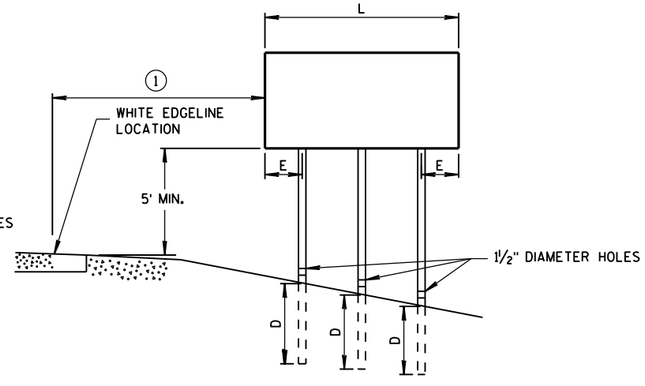
(2) THE EXISTENCE OF CURB AND GUTTER DOES NOT IN ITSELF MANDATE THE VERTICAL CLEARANCE ILLUSTRATED. THAT HEIGHT IS TYPICALLY MEASURED WHERE THERE IS SIDEWALK ADJACENT TO THE ROADWAY OR PARKING IS PERMITTED. IN THE ABSENCE OF SIDEWALK, VERTICAL CLEARANCE IS MEASURED FROM THE TOP OF THE CURB. IF NO SIDEWALK 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.



URBAN AREA





RURAL AREA

POST MOUNTING DETAIL FOR TEMPORARY TRAFFIC CONTROL FIXED MESSAGE SIGNS

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.

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

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

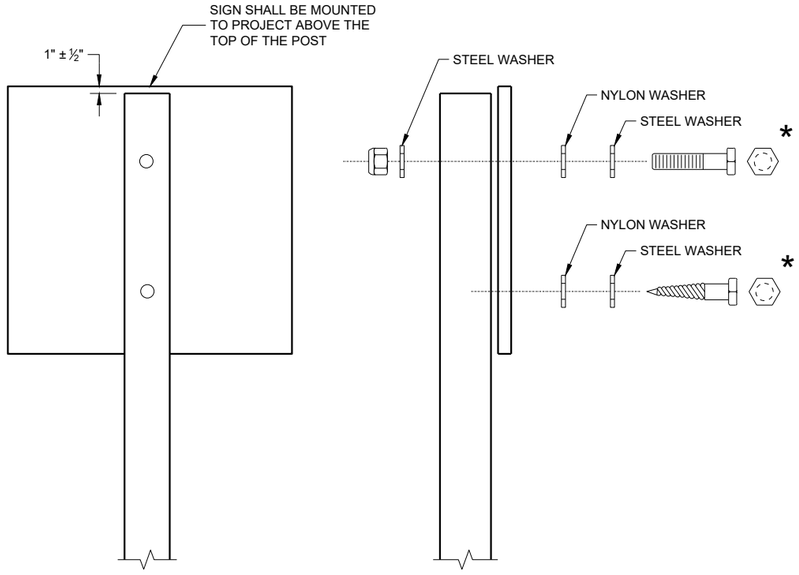
SEE NOTE (3)

TEMPORARY TRAFFIC CONTROL SIGN MOUNTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

S.D.D. 15 D 38-2a



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 - ⅜" x 3"
MACHINE BOLTS - 5/16" x 6 ½" OR 7" LENGTH W/NUTS

SQUARE STEEL POST (2" x 2")
MACHINE BOLTS - ⅜" x 3 ¼" LENGTH W/NUTS
RIVETS - 9/32" (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 ¼" O.D. x ⅜" I.D. x 1/16" STEEL
1 ¼" O.D. x ⅜" 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.

6

6

SDD 15D38 - 02b

SDD15D38 - 02b

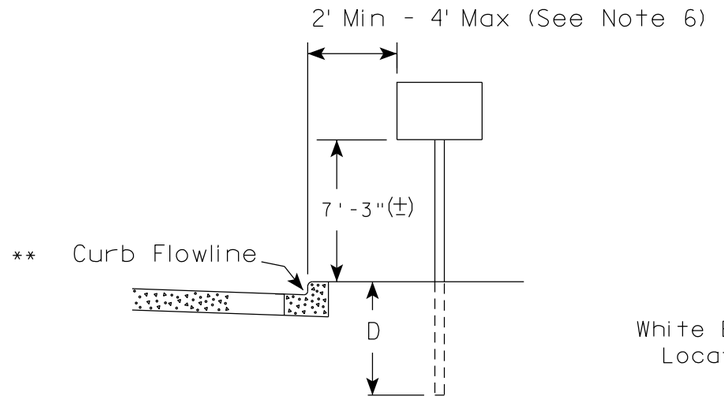
ATTACHMENT OF SIGNS TO POSTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

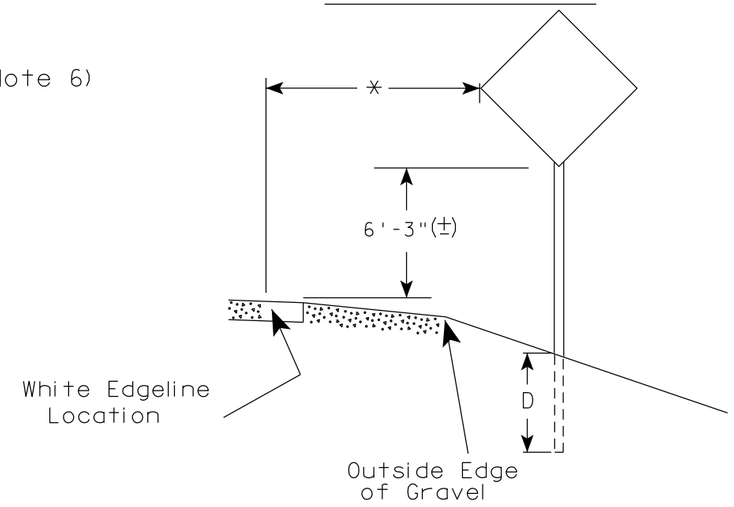
APPROVED
June 2017
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEE

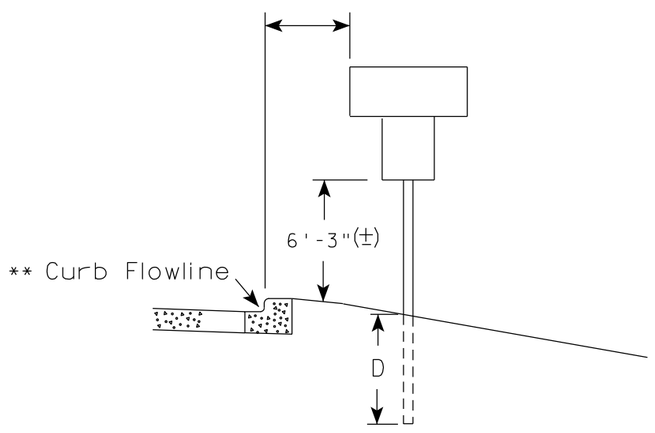
FHWA

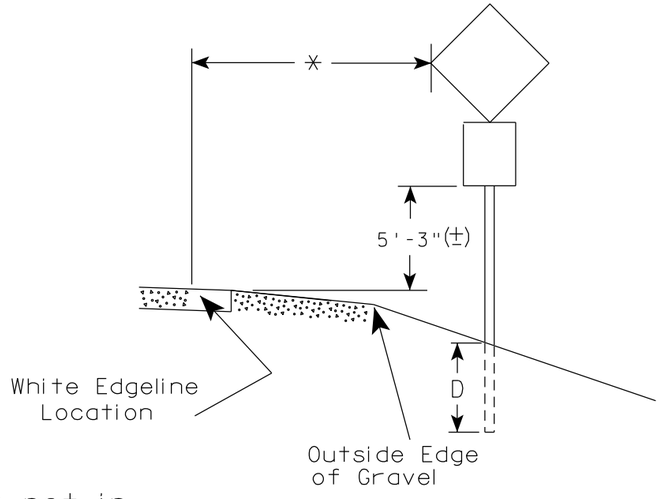
URBAN AREA



RURAL AREA (See Note 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. 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.

POST EMBEDMENT DEPTH

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

GENERAL NOTES

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

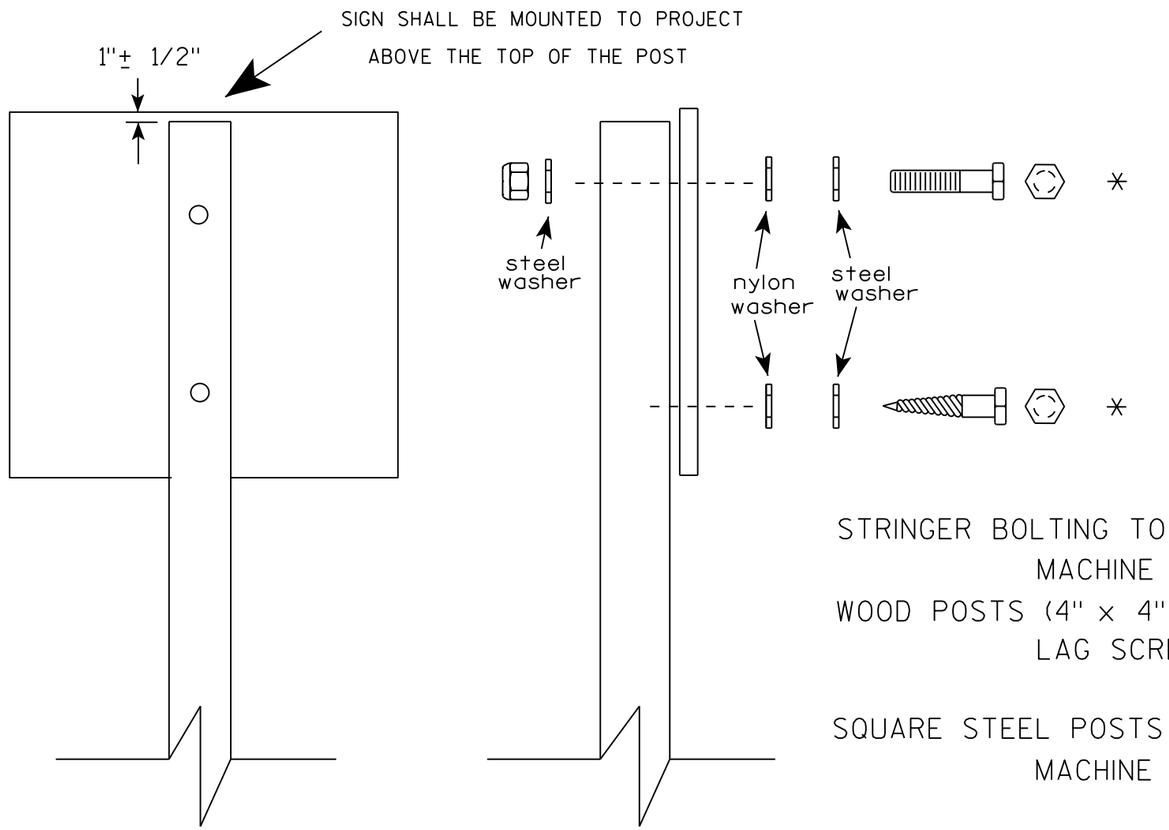
TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

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: 21	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 - 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.

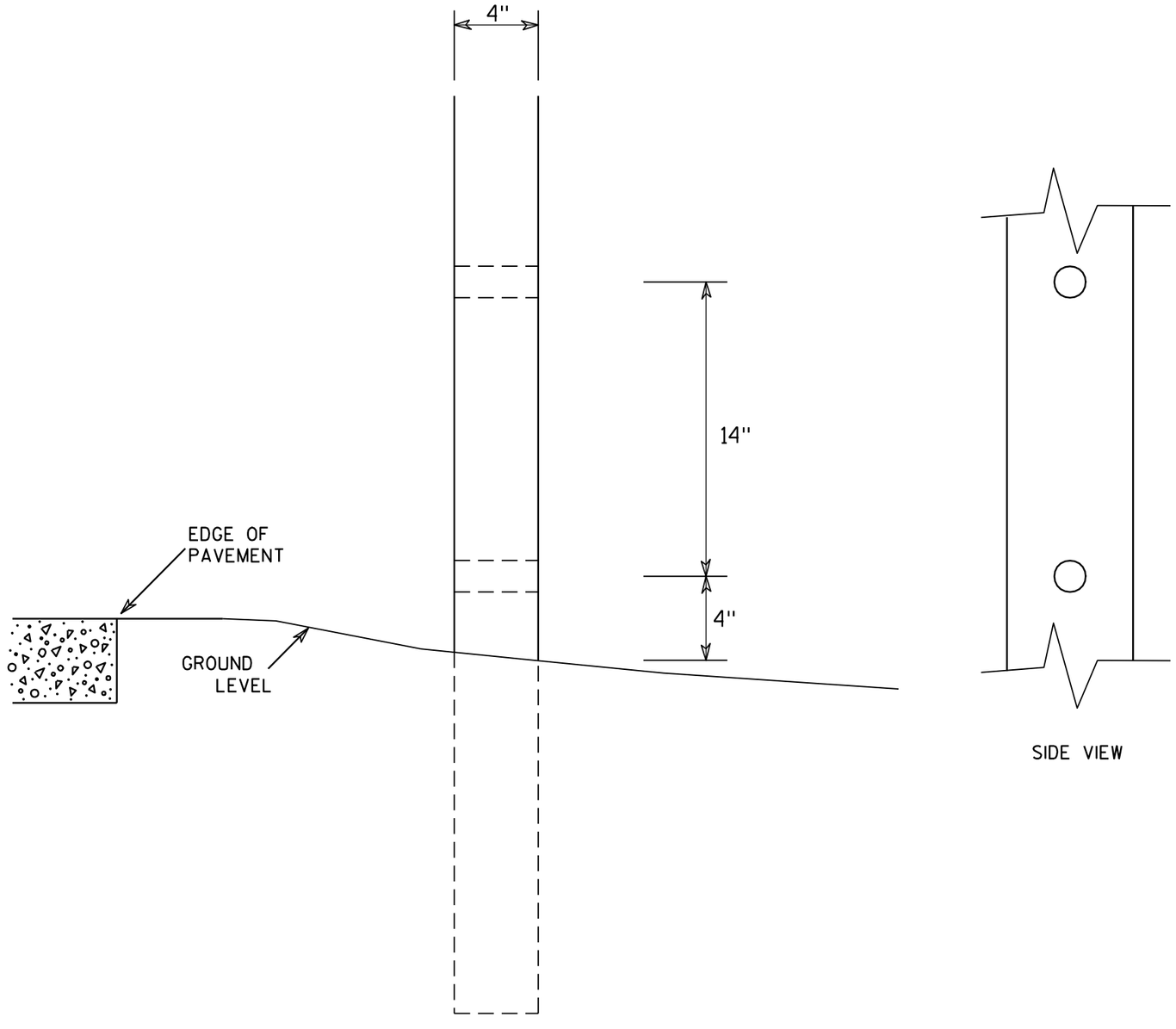
ATTACHMENT OF SIGNS TO POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

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

PROJECT NO: SHEET NO: E



SIDE VIEW

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

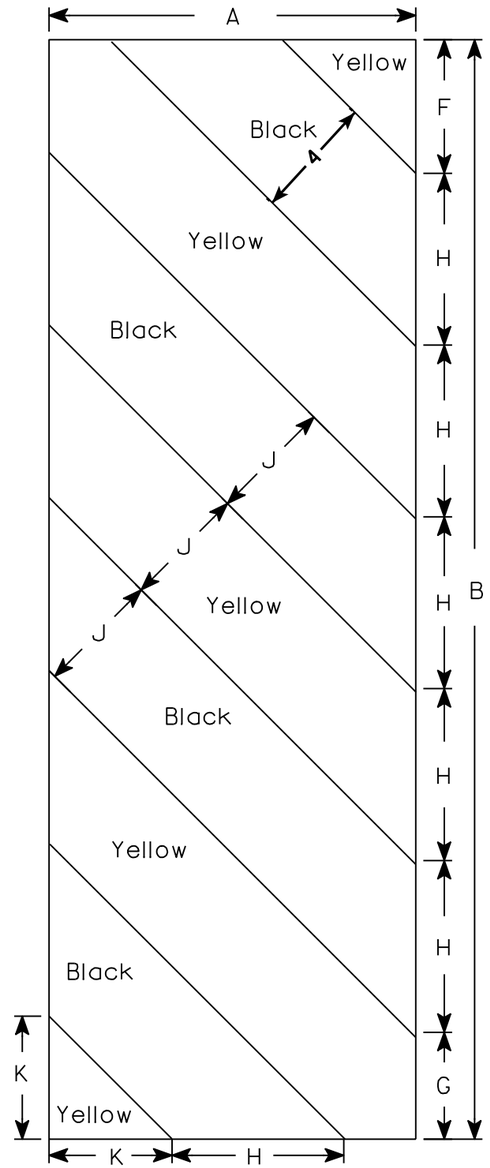
4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

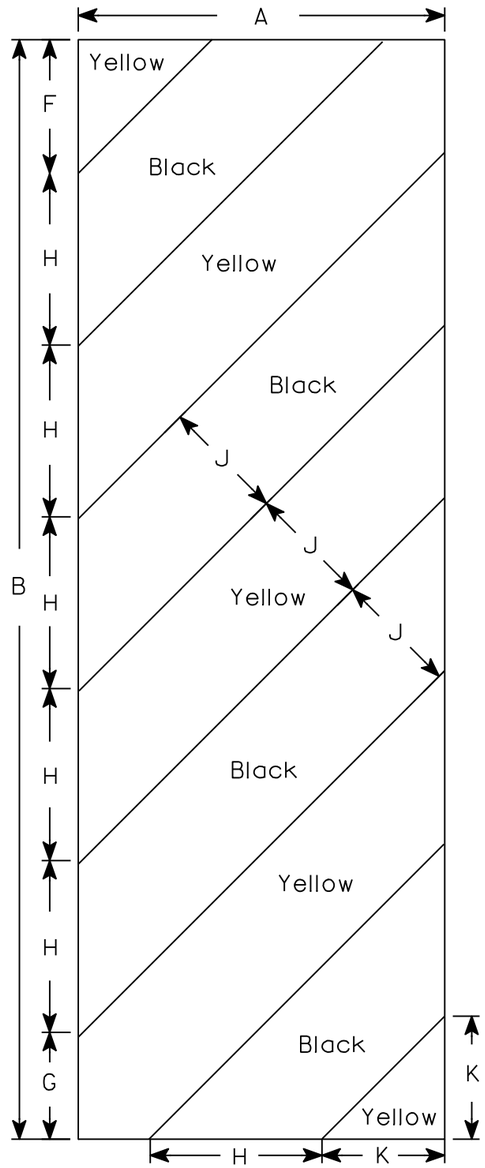
APPROVED Chester J Spang for State Traffic Engineer

DATE 3/27/97 PLATE NO. A4-11.2

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 23	E



W5-52L



W5-52R

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.

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

STANDARD SIGN

W5-52L & W5-52R

WISCONSIN DEPT OF TRANSPORTATION

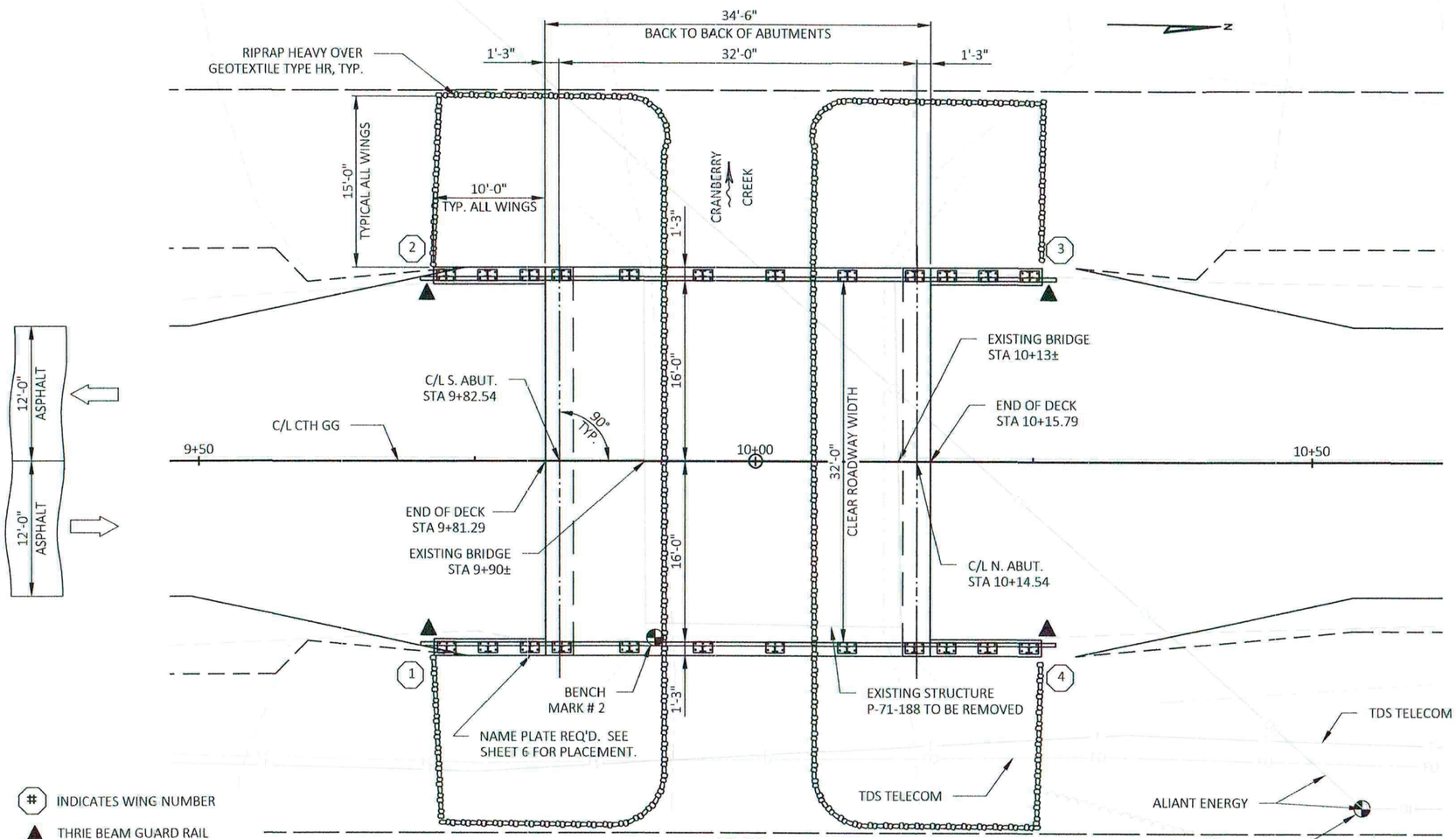
APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 24	E

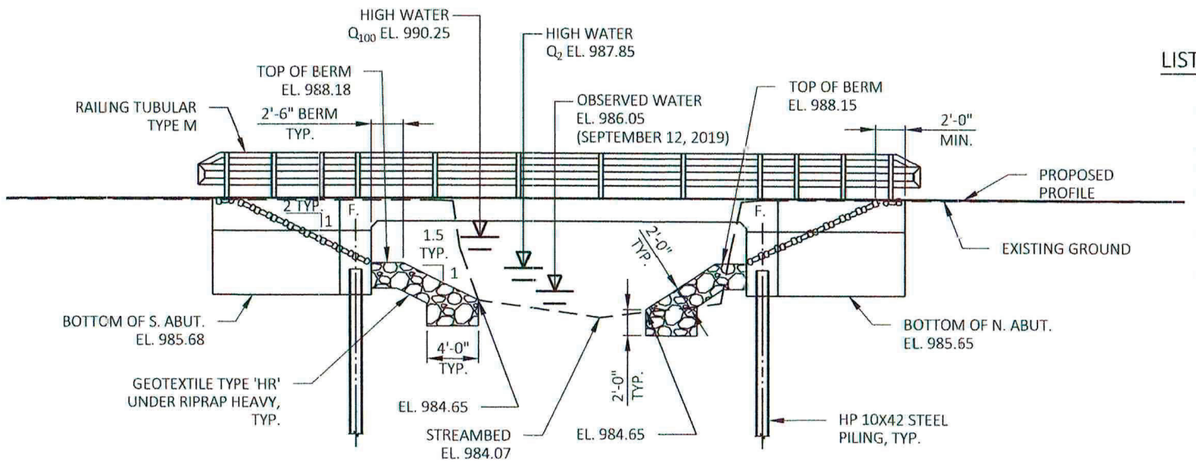
STATE PROJECT NUMBER

6940-00-70



PLAN

(SINGLE-SPAN REINFORCED CONCRETE FLAT SLAB BRIDGE)



ELEVATION

(NORMAL TO C/L OF STREAM)

DESIGN DATA:

LIVE LOAD:

DESIGN LOADING: HL-93
INVENTORY RATING FACTOR: 1.40
OPERATING RATING FACTOR: 1.82
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV): 250 KIPS
STRUCTURE IS DESIGNED FOR A FUTURE WEARING SURFACE OF 20 POUNDS PER SQUARE FOOT.

MATERIAL PROPERTIES:

CONCRETE MASONRY:
SUPERSTRUCTURE — f'c = 4,000 psi
ALL OTHER — f'c = 3,500 psi
BAR STEEL REINFORCEMENT:
GRADE 60 — fy = 60,000 psi

FOUNDATION DATA:

ABUTMENTS SUPPORTED ON HP 10X42 STEEL PILING WITH A REQUIRED DRIVING RESISTANCE OF 120* TONS PER PILE AS REQUIRED BY THE MODIFIED GATES DYNAMIC EQUATION. ESTIMATED 65' LONG.

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

HYDRAULIC DATA:

100 YEAR FREQUENCY

Q_{100} = 450 C.F.S.
VELOCITY = 3.7 F.P.S.
HW_{100} = EL. 990.25
WATERWAY AREA = 121.6 SQ. FT.
DRAINAGE AREA = 21.7 SQ. MI.
ROADWAY OVERTOPPING = NA
SCOUR CRITICAL CODE = 5

2 YEAR FREQUENCY

Q_2 = 165 C.F.S.
VELOCITY = 2.9 F.P.S.
HW_2 = EL. 987.85

TRAFFIC DATA:

ADT (2021) = 520
ADT (2041) = 520
DESIGN SPEED = 55 MPH

LIST OF DRAWINGS:

1. GENERAL PLAN
2. TYPICAL SECTION, GENERAL NOTES & QUANTITIES
3. GENERAL DETAILS
4. SUBSURFACE EXPLORATION
5. SOUTH ABUTMENT
6. SOUTH ABUTMENT DETAILS
7. NORTH ABUTMENT
8. NORTH ABUTMENT DETAILS
9. SUPERSTRUCTURE
10. SUPERSTRUCTURE DETAILS
11. RAILING TUBULAR TYPE M

WISCONSIN
MICHELLE K. GEHRKE
E-39040
FT. ATKINSON, WI
PROFESSIONAL ENGINEER

Michelle K. Gehrke
9/11/2020

NO.	DATE	REVISION	BY

Mead & Hunt, Inc.
2440 Deming Way
Middleton, WI 53562
608.273.6380
www.meadhunt.com

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED SDR 11/20/20
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE B-71-203

CTH GG OVER CRANBERRY CREEK

COUNTY: WOOD
TOWN/CITY/VILLAGE: CRANMOOR

DESIGN SPEC.: AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
RCP	MKG	MKG	RCP

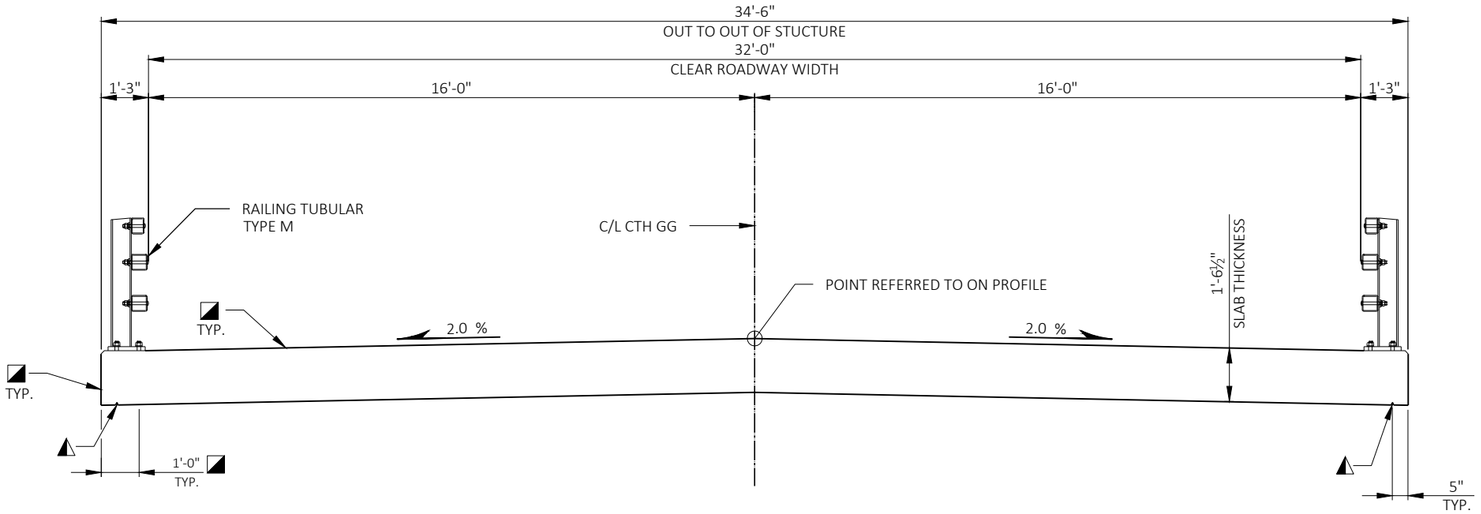
GENERAL PLAN — SHEET 25 1

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

CONSULTANT CONTACT
MICHELLE GEHRKE, P.E.
TELEPHONE: (414) 935-4243

8

8



CROSS SECTION THRU BRIDGE

(LOOKING NORTH)

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

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

BEVEL EXPOSED EDGES OF CONCRETE ¾" UNLESS OTHERWISE NOTED.

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

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

THE EXISTING GROUND LINE SHALL BE THE UPPER LIMITS OF EXCAVATION FOR STRUCTURES.

THE QUANTITY FOR BACKFILL STRUCTURE TYPE A IS CALCULATED BASED ON THE DETAIL SHOWN ON SHEET 3.

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

ALL STATIONS AND ELEVATIONS ARE IN FEET. ELEVATIONS ARE REFERENCED TO NAVD88 (1991) DATUM.

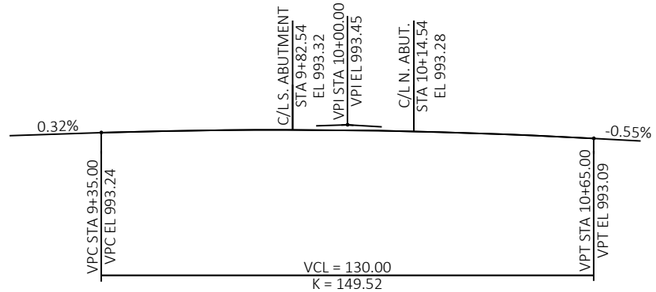
THE EXISTING STRUCTURE TO BE REMOVED IS A 22.3' LONG BY 30.4' CLEAR ROADWAY WIDTH, SINGLE-SPAN STEEL DECK GIRDER BRIDGE (P-71-188).

◭ ¾" CONTINUOUS V-GROOVE REQ'D. EXTEND TO 6" FROM FRONT FACE OF ABUTMENT DIAPHRAGM.

◪ COAT WITH "PROTECTIVE SURFACE TREATMENT" AS PER THE STANDARD SPECIFICATIONS. PROTECTIVE SURFACE TREATMENT TO BE APPLIED TO THE TOP AND EXTERIOR EXPOSED FACE OF WINGS, AND THE END 1'-0" OF THE FRONT FACE OF ABUTMENT. SEE DETAIL ON SHEET 10.

TOTAL ESTIMATED QUANTITIES

BID ITEM NO.	BID ITEMS	UNIT	S ABUT	N ABUT	SUPER	TOTALS
203.0600.S	REMOVING OLD STRUCTURE OVER WATERWAY WITH MINIMAL DEBRIS STATION 10+01.5	LS	---	---	---	1
206.1000	EXCAVATION FOR STRUCTURES BRIDGES B-71-203	LS	---	---	---	1
210.1500	BACKFILL STRUCTURE TYPE A	TON	154	154	---	308
502.0100	CONCRETE MASONRY BRIDGES	CY	32	32	73	137
502.3200	PROTECTIVE SURFACE TREATMENT	SY	11	11	152	174
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	1990	1990	---	3980
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	1380	1380	15610	18370
513.4061	RAILING TUBULAR TYPE M	LF	---	---	114	114
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	10	10	---	20
550.1100	PILING STEEL HP 10-INCH X 42 LB	LF	325	325	---	650
606.0300	RIPRAP HEAVY	CY	83	83	---	166
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	78	78	---	156
645.0111	GEOTEXTILE TYPE DF SCHEDULE A	SY	46	46	---	92
645.0120	GEOTEXTILE TYPE HR	SY	170	170	---	340
SPV.0090.01	FLASHING STAINLESS STEEL	LF	---	---	69	69
	NON BID ITEMS					
	FILLER	SIZE				1/2" & 3/4"



PROFILE GRADE LINE, C/L CTH GG

BENCHMARKS			
NO.	STATION	ELEV.	DESCRIPTION
BM1	10+54.6, 30.7' RT	992.85	NAIL IN PP
BM2	9+91.1, 15.7' RT	993.13	MAG NAIL IN WOOD ABUTMENT

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-71-203

DRAWN BY MKG | PLANS CK'D. RCP

TYPICAL SECTION, GENERAL NOTES & QUANTITIES

SHEET 26 OF 11

STATE PROJECT NUMBER

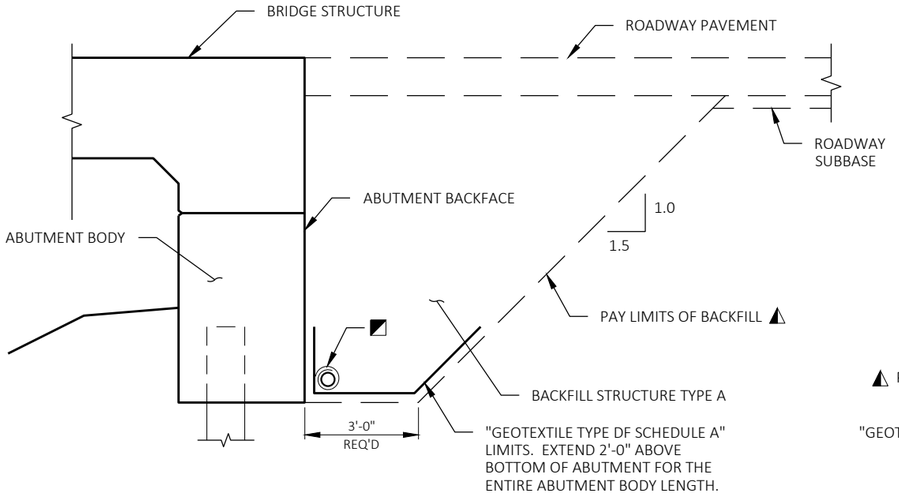
6940-00-70

8

8

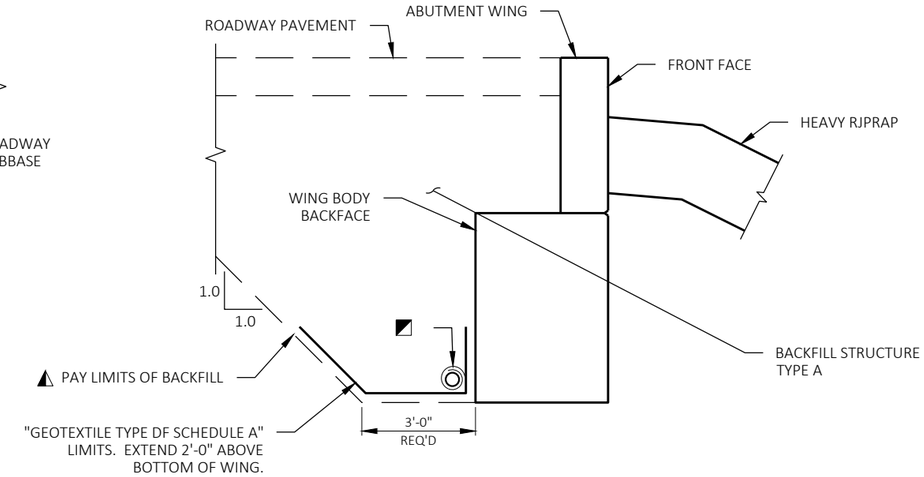
STATE PROJECT NUMBER

6940-00-70



STRUCTURE BACKFILL & PIPE UNDERDRAIN DETAIL

(TYPICAL AT BOTH ABUTMENTS)



TYPICAL SECTION THRU WING

STRUCTURE BACKFILL NOTES

THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES BRIDGES B-71-203" SHALL BE THE EXISTING GROUNDLINE.

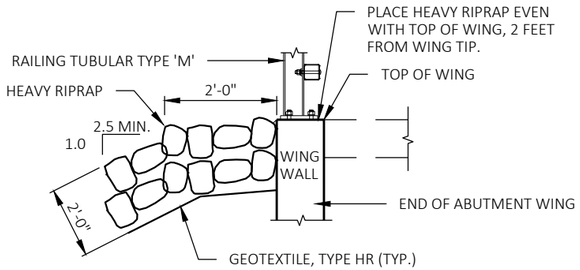
THE BACKFILL QUANTITIES ARE BASED ON THE PAY LIMITS SHOWN ON THE PLANS AND MAY NOT REFLECT ACTUAL PLACED QUANTITIES. "BACKFILL STRUCTURE TYPE A" REQUIRED DIRECTLY BEHIND ABUTMENTS AND ABUTMENT WINGS FOR 3 FEET. BACKFILL PLACED BEYOND PAY LIMITS OR EXCEEDING PLAN QUANTITIES SHALL BE INCIDENTAL TO EXCAVATION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

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.

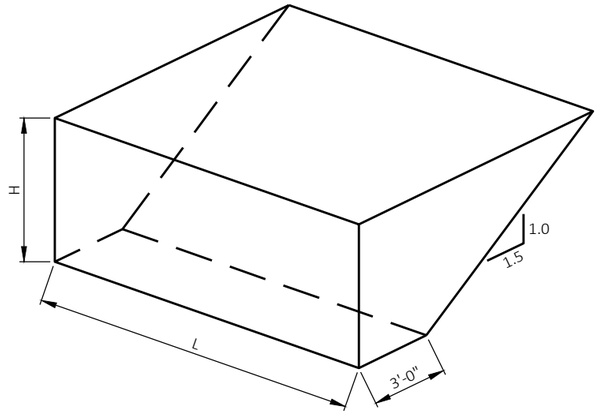
LEGEND

◭ BACKFILL PAY LIMITS. BACKFILL BEYOND BACKFILL PAY LIMITS SHALL BE INCIDENTAL TO THE 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.

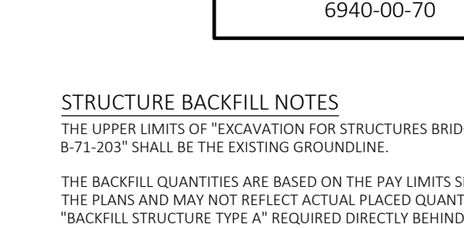


TYPICAL FILL SECTION AT WING TIPS



ABUTMENT BACKFILL DIAGRAM

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



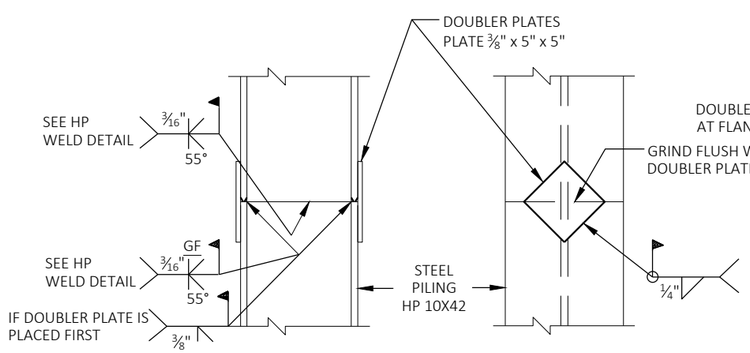
SECTION B-B

RODENT SHIELD

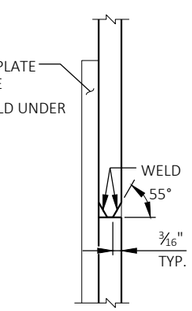
★ DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING. ORIENT SO SLOTS ARE VERTICAL.

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

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



PILE SPLICE DETAILS



HP WELD DETAIL

FLANGE SHOWN, WEB SIMILAR

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-71-203

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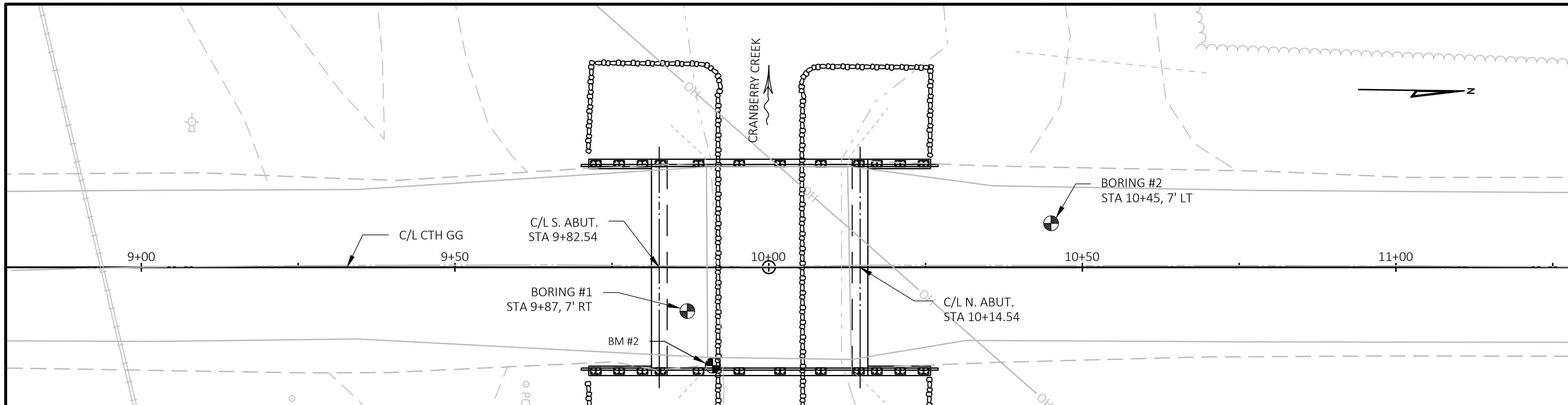
GENERAL DETAILS

SHEET 3 OF 11
27

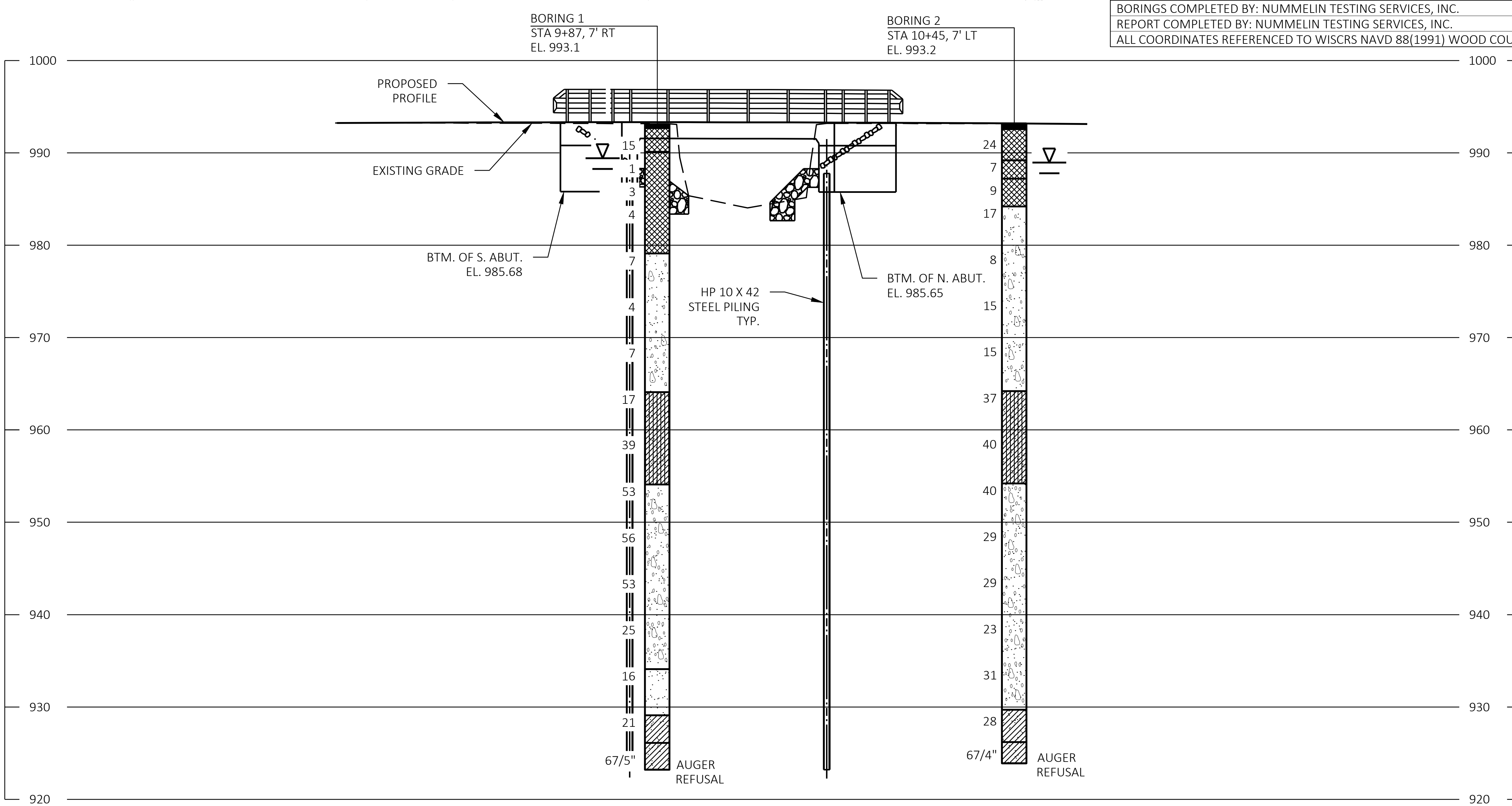
STATE PROJECT NUMBER

6940-00-70



BORING #	DATE COMPLETED	NORTHING (Y)	EASTING (X)
1	APRIL 2, 2020	429100.3464	693570.8006
2	APRIL 1, 2020	429042.5382	693585.5727

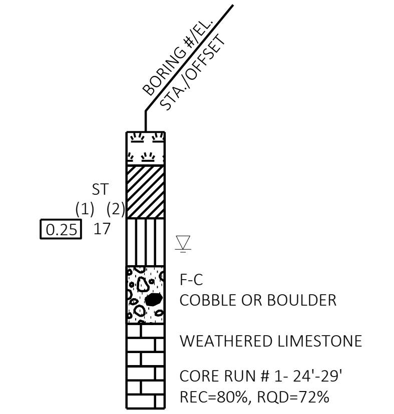
BORINGS COMPLETED BY: NUMMELIN TESTING SERVICES, INC.
REPORT COMPLETED BY: NUMMELIN TESTING SERVICES, INC.
ALL COORDINATES REFERENCED TO WISCRS NAVD 88(1991) WOOD COUNTY



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 BORING. VARIATIONS IN SOIL CONDITIONS SHOULD BE EXPECTED AND FLUCTUATIONS IN GROUNDWATER LEVELS MAY OCCUR.

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-71-203

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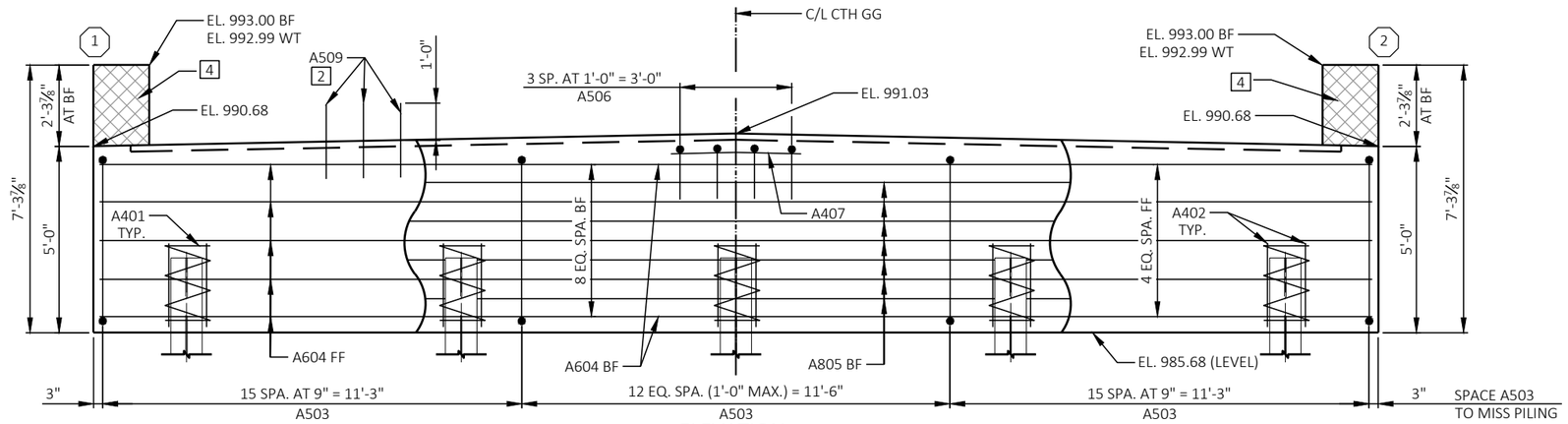
SUBSURFACE EXPLORATION

SHEET 4 OF 11

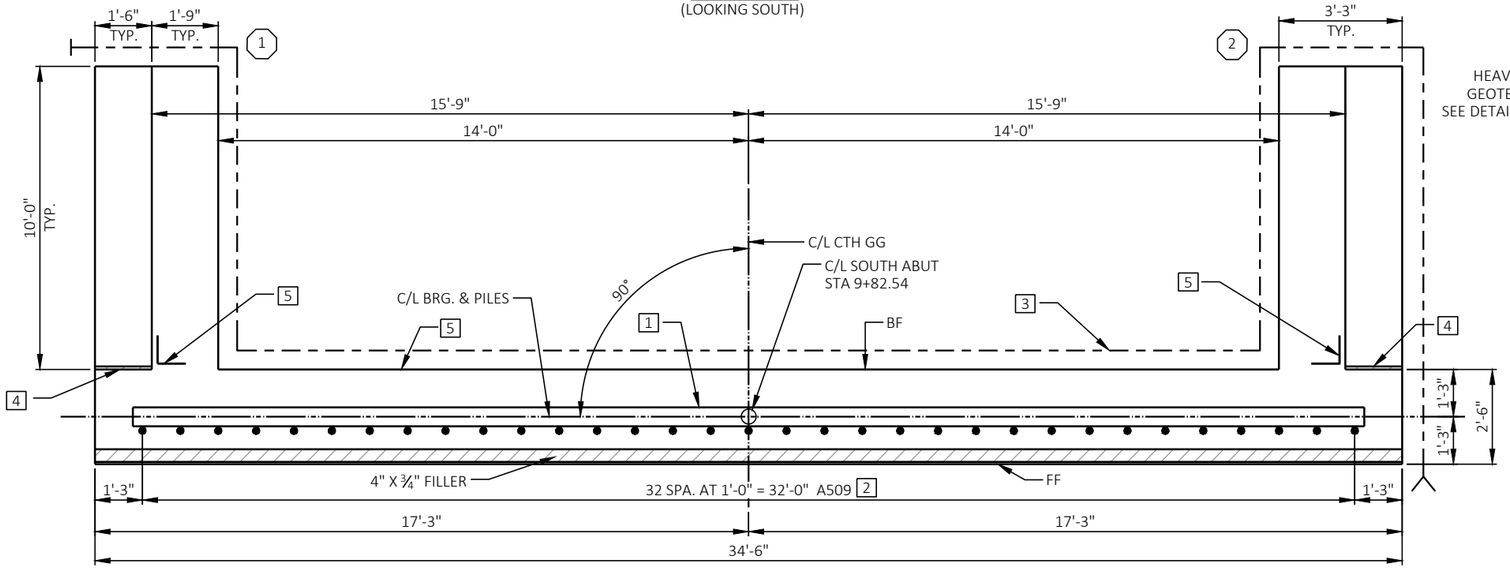
FILE NAME : C:\USERS\780MKG\DESKTOP\EXPORT\CTH GG\CAD\69400070\DESIGN\STRUCTURE\080104_SE.DWG PLOT DATE : 8/31/2020 PLOT BY : MICHELLE GEHRKE PLOT SCALE :

STATE PROJECT NUMBER

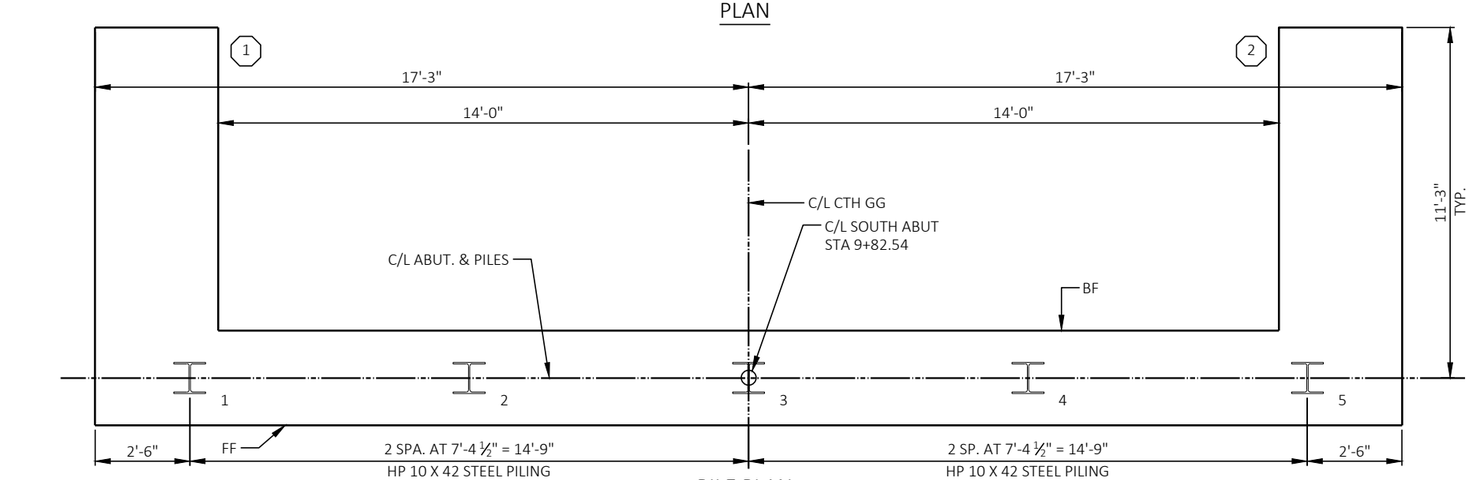
6940-00-70



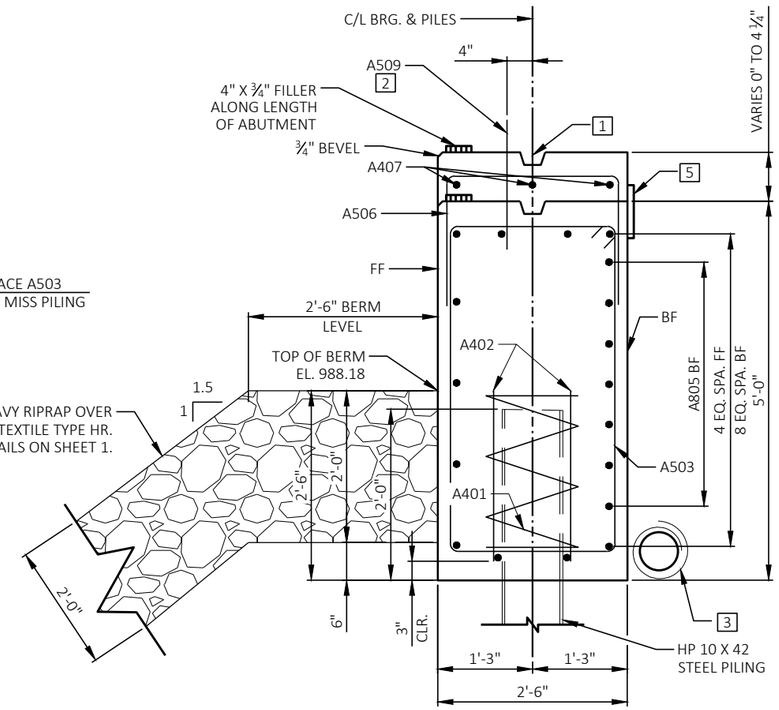
ELEVATION
(LOOKING SOUTH)



PLAN



PILE PLAN



SECTION THRU ABUTMENT

ALL HORIZONTAL BARS NOT LABELED ARE A604 BARS.

NOTES:

SEE SHEET 3 FOR STRUCTURE BACKFILL & PILE SPLICE DETAILS.

FILL/EXCAVATE TO BOTTOM OF SOUTH ABUTMENT EL. 985.68 BEFORE DRIVING PILING.

SOUTH ABUTMENT SUPPORTED ON HP 10X42 STEEL PILING WITH A REQUIRED DRIVING RESISTANCE OF 120 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC EQUATION. ESTIMATED 65' LONG.

CONCRETE POURED UNDER WATER WILL BE ALLOWED AND SHALL BE DONE IN ACCORDANCE WITH SECTION 502.3.5.3 STANDARD SPECIFICATIONS.

1 CONSTRUCTION JOINT FORMED BY BEVELED 2" X 6" KEYWAY. TERMINATE 1'-0" FROM ABUTMENT ENDS.

2 A509 BARS MAY BE PLACED AFTER CONCRETE IS POURED, BUT BEFORE INITIAL SET HAS TAKEN PLACE.

3 PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN. SEE SHEET 3 FOR RODENT SHIELD DETAILS.

4 ½" FILLER - TO EXTEND FROM BRIDGE SEAT TO TOP OF WING. FILLER INCLUDED IN WING LENGTH. SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOIN SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.

5 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACK FACE. EXTEND FROM BRIDGE SEAT TO TOP OF WING.

FF - FRONT FACE
BF - BACK FACE
EF - EACH FACE
WT - WING TIP

(#) INDICATES WING NUMBER

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-71-203

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SOUTH ABUTMENT

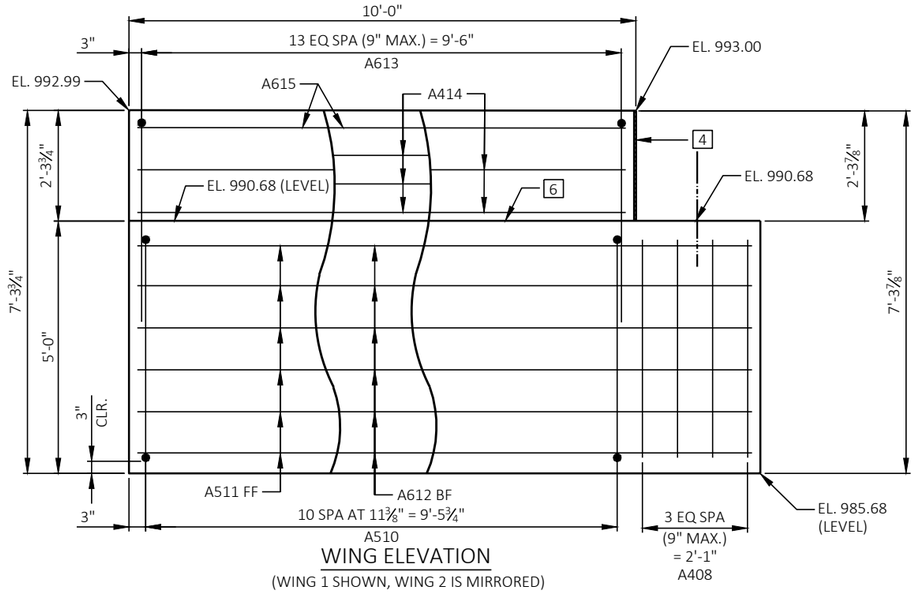
SHEET 29 OF 11

8

8

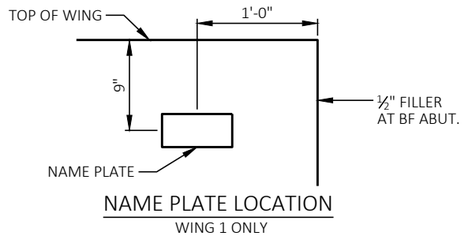
STATE PROJECT NUMBER

6940-00-70



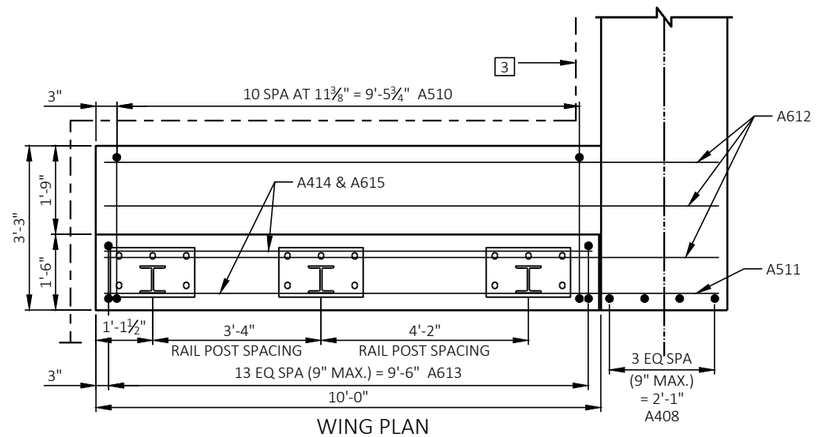
WING ELEVATION

(WING 1 SHOWN, WING 2 IS MIRRORED)



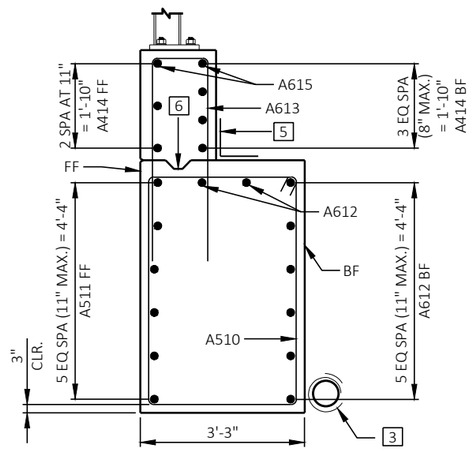
NAME PLATE LOCATION

WING 1 ONLY

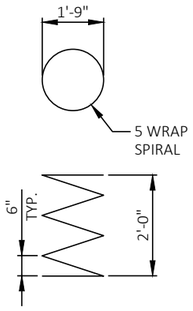


WING PLAN

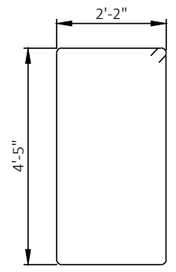
(WING 1 SHOWN, WING 2 IS MIRRORED)



WING SECTION



A401



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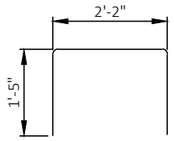

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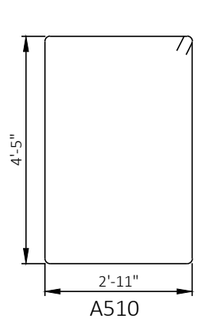

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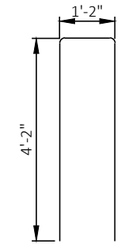


A613

BILL OF BARS
SOUTH ABUTMENT

COATED= 1380 LBS.
UNCOATED= 1990 LBS.

MARK	NUMBER COATED	NUMBER UNCOATED	LENGTH FT - IN	BENT	BAR SERIES	LOCATION	
A401		5	28 - 0	X		ABUTMENT BODY - 1 PER PILE	SPIRAL
A402		10	2 - 3			ABUTMENT BODY - 2 PER PILE	VERT
A503		43	13 - 10	X		ABUTMENT BODY - STIRRUPS	VERT
A604		11	34 - 2			ABUTMENT BODY - FF, TOP & BTM	HORIZ
A805		7	34 - 2			ABUTMENT BODY - BF	HORIZ
A506		4	4 - 9	X		ABUTMENT BODY - TOP	VERT
A407		3	3 - 4			ABUTMENT BODY - TOP	HORIZ
A408		8	4 - 7			ABUTMENT BODY - ENDS	VERT
A509	33		2 - 0			ABUTMENT BODY - DOWELS	VERT
A510	22		15 - 4	X		WINGWALL - BODY	VERT
A511	12		12 - 2			WINGWALL - FF OF BODY	HORIZ
A612	16		12 - 2			WINGWALL - BF & TOP OF BODY	HORIZ
A613	28		9 - 2	X		WINGWALL - TOP TIES	VERT
A414	10		9 - 7			WINGWALL - TOP	HORIZ
A615	4		9 - 7			WINGWALL - TOP	HORIZ

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

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

NOTES:

3 PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN. SEE SHEET 3 FOR RODENT SHIELD DETAILS.

4 ½" FILLER - TO EXTEND FROM BRIDGE SEAT TO TOP OF WING. FILLER INCLUDED IN WING LENGTH. SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOIN SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.

5 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACK FACE.

6 OPTIONAL CONSTRUCTION JOINT FORMED BY BEVELED 2" X 6" KEYWAY WITH MEMBRANE ON BACKFACE. ¾" 'V' GROOVE ON FRONT FACE OF WING WALL, IF OPTIONAL CONSTRUCTION JOINT IS USED.

FF - FRONT FACE
BF - BACK FACE

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-71-203

DRAWN BY MKG | PLANS CK'D. RCP

SOUTH ABUTMENT DETAILS

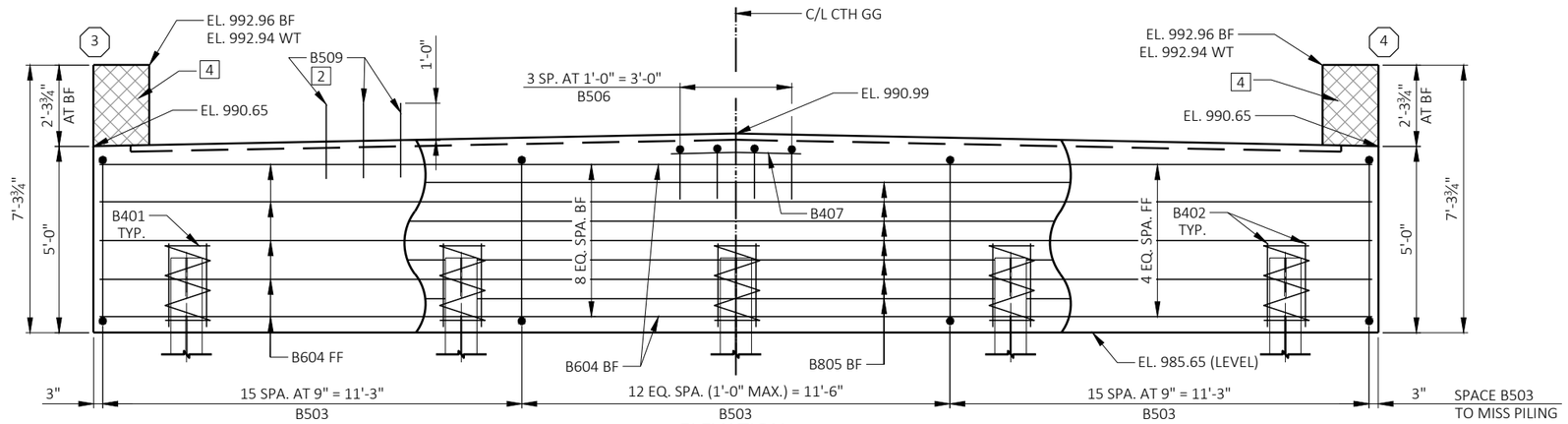
SHEET 30 6 OF 11

8

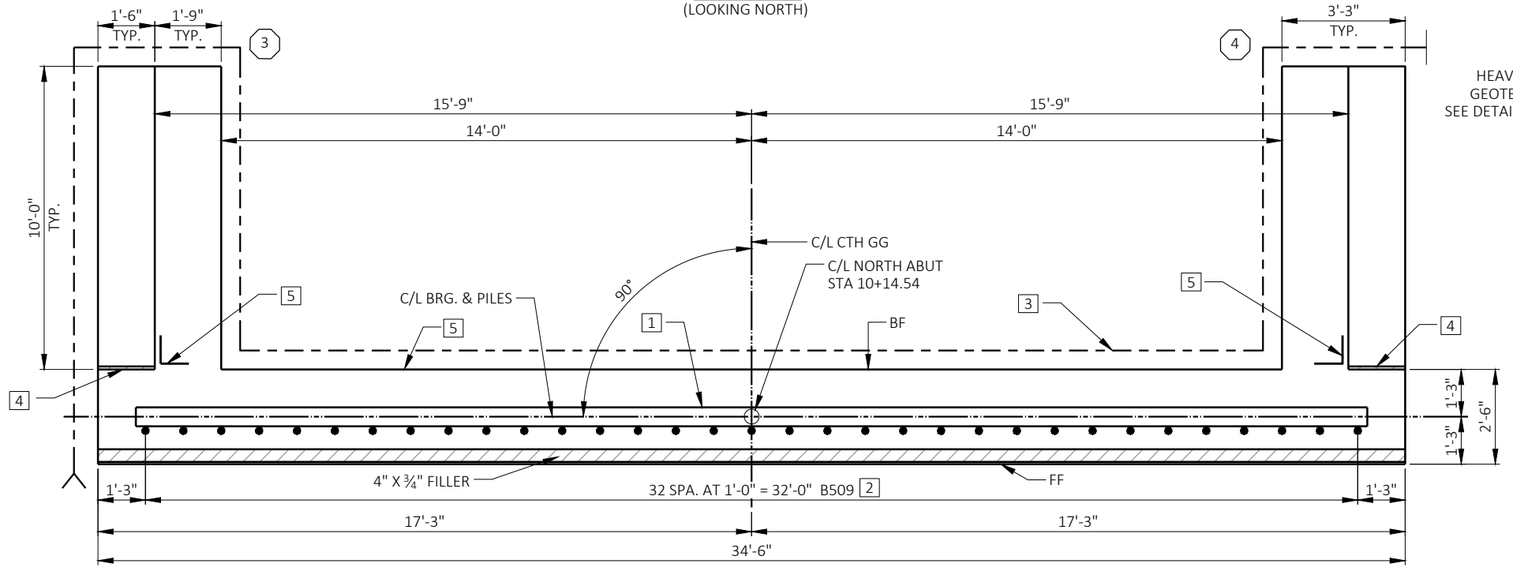
8

STATE PROJECT NUMBER

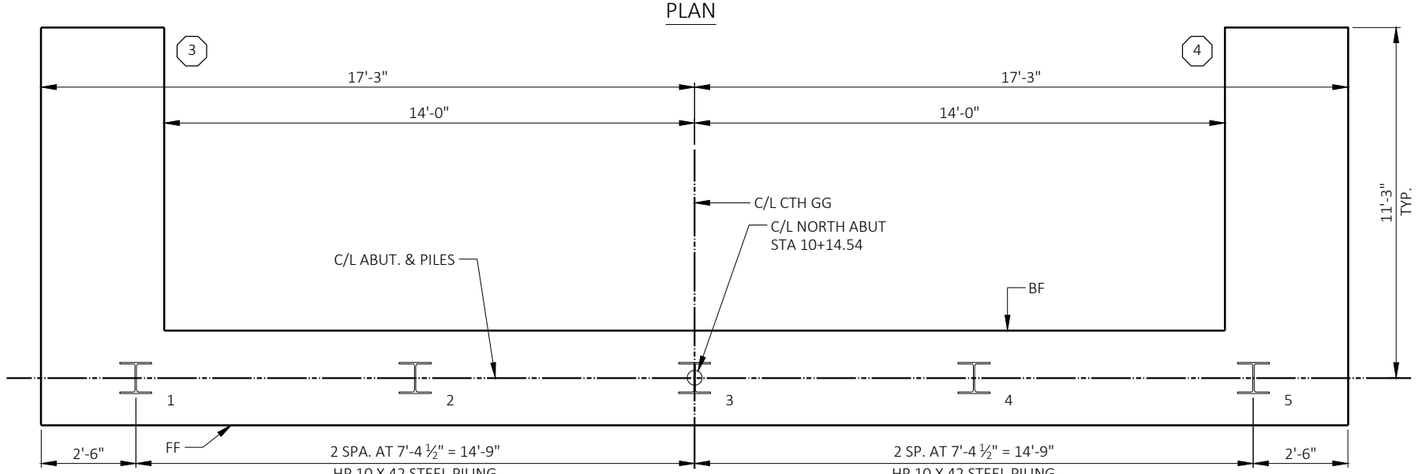
6940-00-70



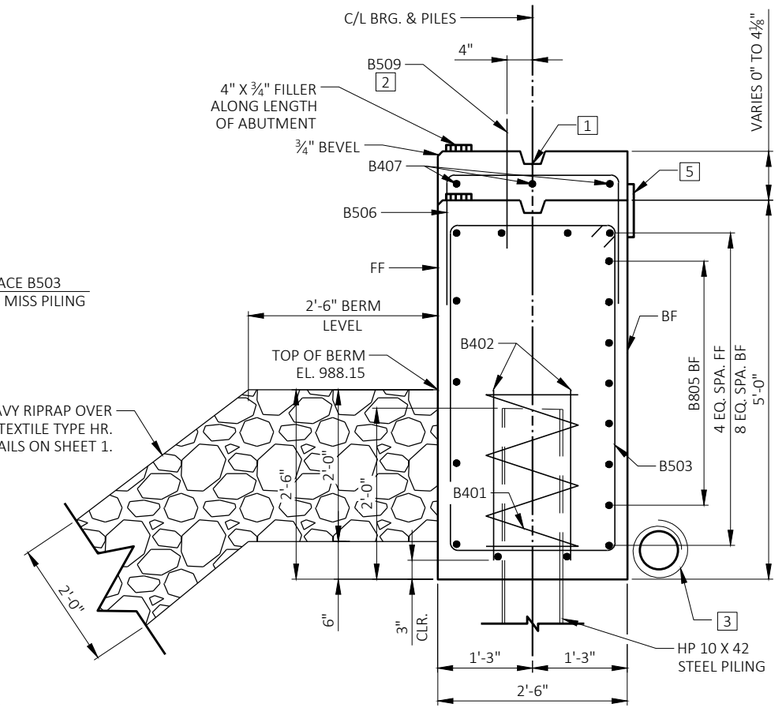
ELEVATION
(LOOKING NORTH)



PLAN



PILE PLAN



SECTION THRU ABUTMENT

ALL HORIZONTAL BARS NOT LABELED ARE B604 BARS.

NOTES:

SEE SHEET 3 FOR STRUCTURE BACKFILL & PILE SPLICE DETAILS.

FILL/EXCAVATE TO BOTTOM OF NORTH ABUTMENT EL. 985.65 BEFORE DRIVING PILING.

NORTH ABUTMENT SUPPORTED ON HP 10X42 STEEL PILING WITH A REQUIRED DRIVING RESISTANCE OF 120 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC EQUATION. ESTIMATED 65' LONG.

CONCRETE POURED UNDER WATER WILL BE ALLOWED AND SHALL DONE IN ACCORDANCE WITH SECTION 502.3.5.3 STANDARD SPECIFICATIONS.

1 CONSTRUCTION JOINT FORMED BY BEVELED 2" X 6" KEYWAY. TERMINATE 1'-0" FROM ABUTMENT ENDS.

2 B509 BARS MAY BE PLACED AFTER CONCRETE IS POURED, BUT BEFORE INITIAL SET HAS TAKEN PLACE.

3 PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN. SEE SHEET 3 FOR RODENT SHIELD DETAILS.

4 ½" FILLER - TO EXTEND FROM BRIDGE SEAT TO TOP OF WING. FILLER INCLUDED IN WING LENGTH. SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOIN SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.

5 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACK FACE. EXTEND FROM BRIDGE SEAT TO TOP OF WING.

FF - FRONT FACE
BF - BACK FACE
EF - EACH FACE
WT - WING TIP

(#) INDICATES WING NUMBER

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-71-203

DRAWN BY MKG | PLANS CK'D. RCP

NORTH ABUTMENT

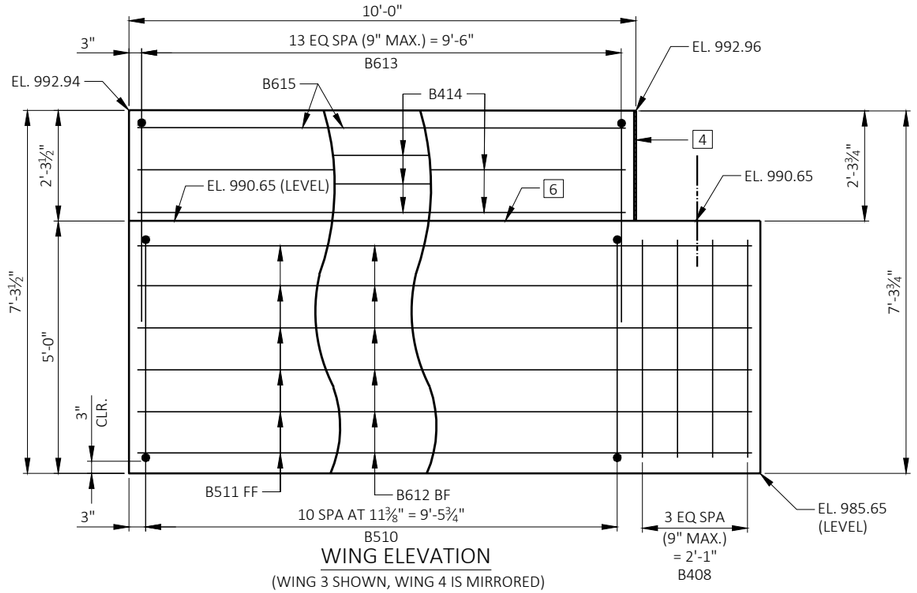
SHEET 7 OF 11
31

8

8

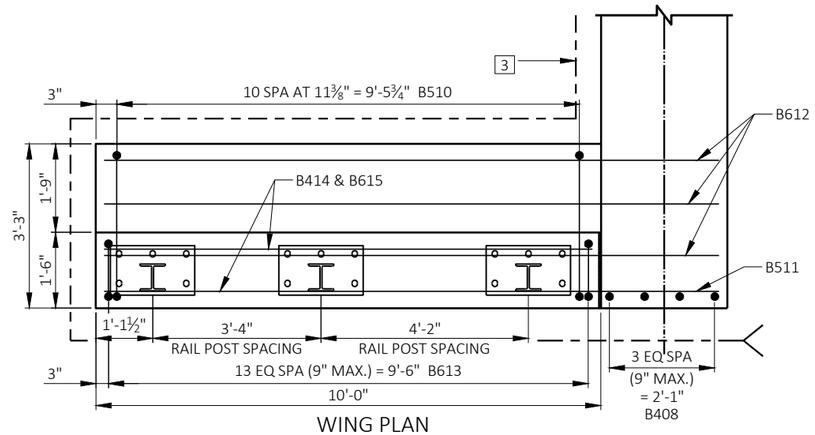
STATE PROJECT NUMBER

6940-00-70



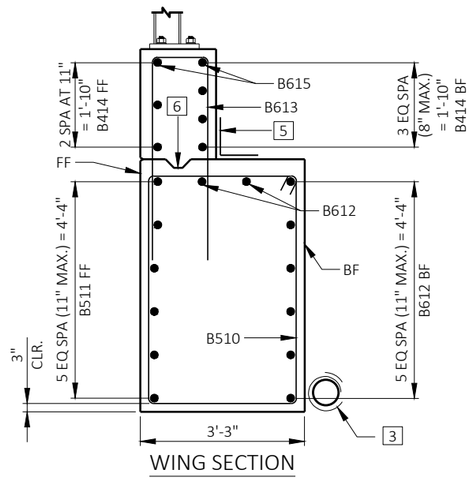
WING ELEVATION

(WING 3 SHOWN, WING 4 IS MIRRORED)



WING PLAN

(WING 3 SHOWN, WING 4 IS MIRRORED)



WING SECTION

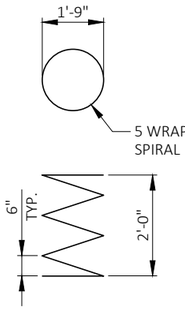
BILL OF BARS
NORTH ABUTMENT

COATED= 1380 LBS.
UNCOATED= 1990 LBS.

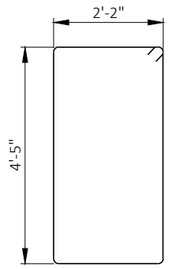
MARK	NUMBER COATED	NUMBER UNCOATED	LENGTH FT - IN	BENT	BAR SERIES	LOCATION	
B401		5	28 - 0	X		ABUTMENT BODY - 1 PER PILE	SPIRAL
B402		10	2 - 3			ABUTMENT BODY - 2 PER PILE	VERT
B503		43	13 - 10	X		ABUTMENT BODY - STIRRUPS	VERT
B604		11	34 - 2			ABUTMENT BODY - FF, TOP & BTM	HORIZ
B805		7	34 - 2			ABUTMENT BODY - BF	HORIZ
B506		4	4 - 9	X		ABUTMENT BODY - TOP	VERT
B407		3	3 - 4			ABUTMENT BODY - TOP	HORIZ
B408		8	4 - 7			ABUTMENT BODY - ENDS	VERT
B509	33		2 - 0			ABUTMENT BODY - DOWELS	VERT
B510	22		15 - 4	X		WINGWALL - BODY	VERT
B511	12		12 - 2			WINGWALL - FF OF BODY	HORIZ
B612	16		12 - 2			WINGWALL - BF & TOP OF BODY	HORIZ
B613	28		9 - 2	X		WINGWALL - TOP TIES	VERT
B414	10		9 - 7			WINGWALL - TOP	HORIZ
B615	4		9 - 7			WINGWALL - TOP	HORIZ

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

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



B401



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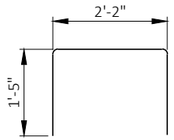

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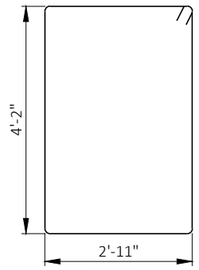

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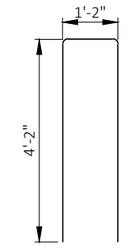


B613

NOTES:

3 PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN. SEE SHEET 3 FOR RODENT SHIELD DETAILS.

4 ½" FILLER - TO EXTEND FROM BRIDGE SEAT TO TOP OF WING. FILLER INCLUDED IN WING LENGTH. SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOIN SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.

5 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACK FACE.

6 OPTIONAL CONSTRUCTION JOINT FORMED BY BEVELED 2" X 6" KEYWAY WITH MEMBRANE ON BACKFACE. ¾" 'V' GROOVE ON FRONT FACE OF WING WALL, IF OPTIONAL CONSTRUCTION JOINT IS USED.

FF - FRONT FACE
BF - BACK FACE

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-71-203

DRAWN BY MKG | PLANS CK'D. RCP

NORTH ABUTMENT DETAILS

SHEET 32 8 OF 11

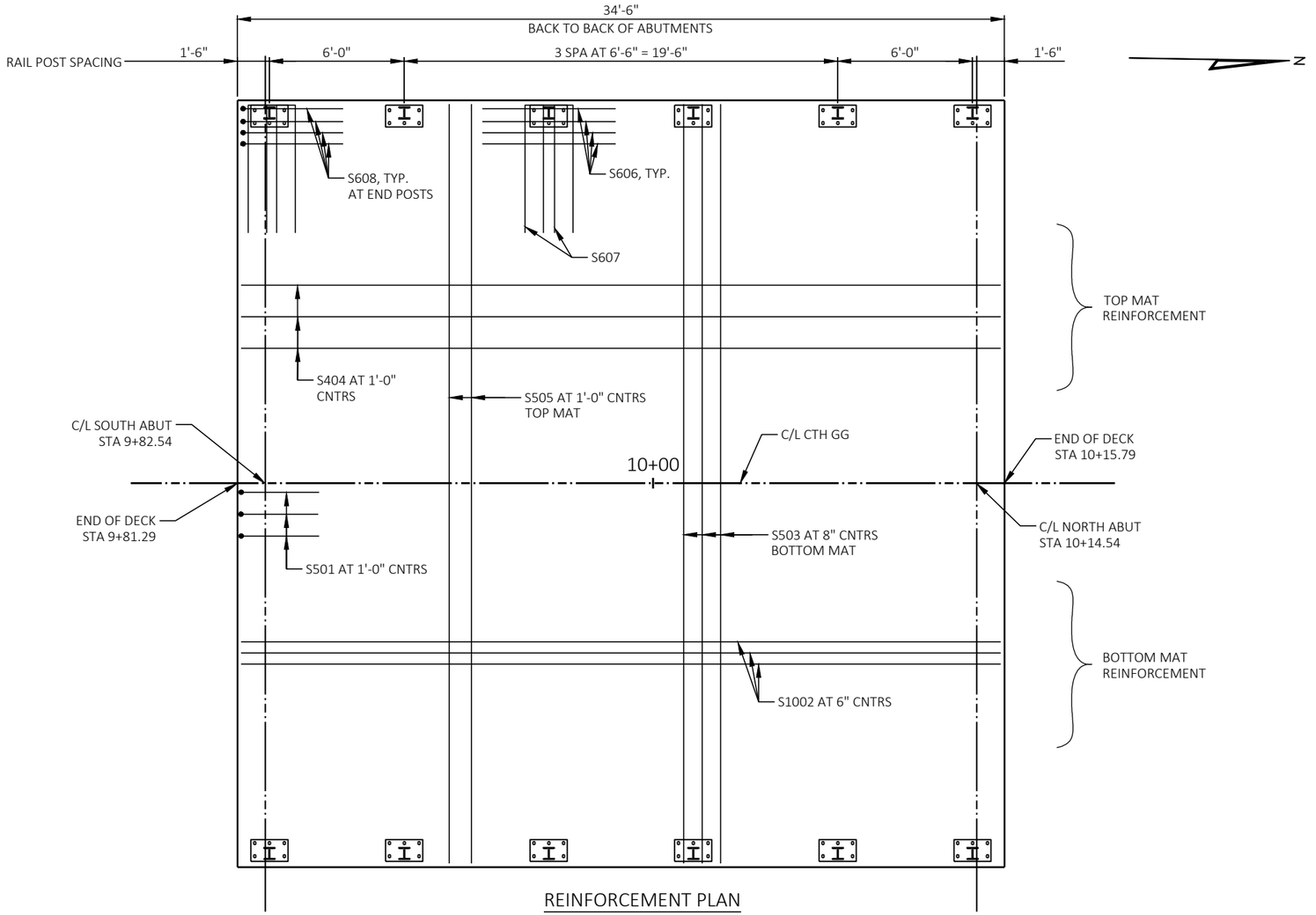
8

8

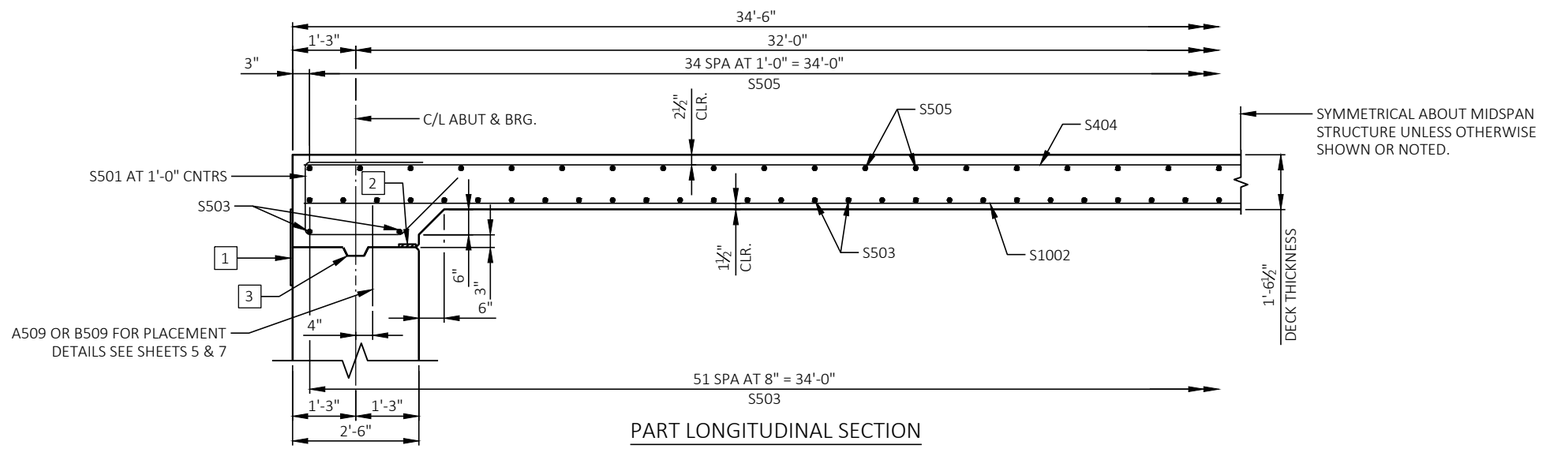
FILE NAME : C:\USERS\780MKG\DESKTOP\EXPORT\CTH GG\CAD\69400070\DESIGN\STRUCTURE\080107_NA.DWG PLOT DATE : 8/31/2020 PLOT BY : MICHELLE GEHRKE PLOT SCALE :

STATE PROJECT NUMBER

6940-00-70



REINFORCEMENT PLAN



PART LONGITUDINAL SECTION

NOTES:

1. 18" RUBBERIZED MEMBRANE WATERPROOFING
2. 4" X ¾" FILLER ALONG LENGTH OF ABUTMENT
3. CONSTRUCTION JOINT FORMED BY BEVELED 2" X 6" KEYWAY.

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-71-203

DRAWN BY MKG | PLANS CK'D. RCP

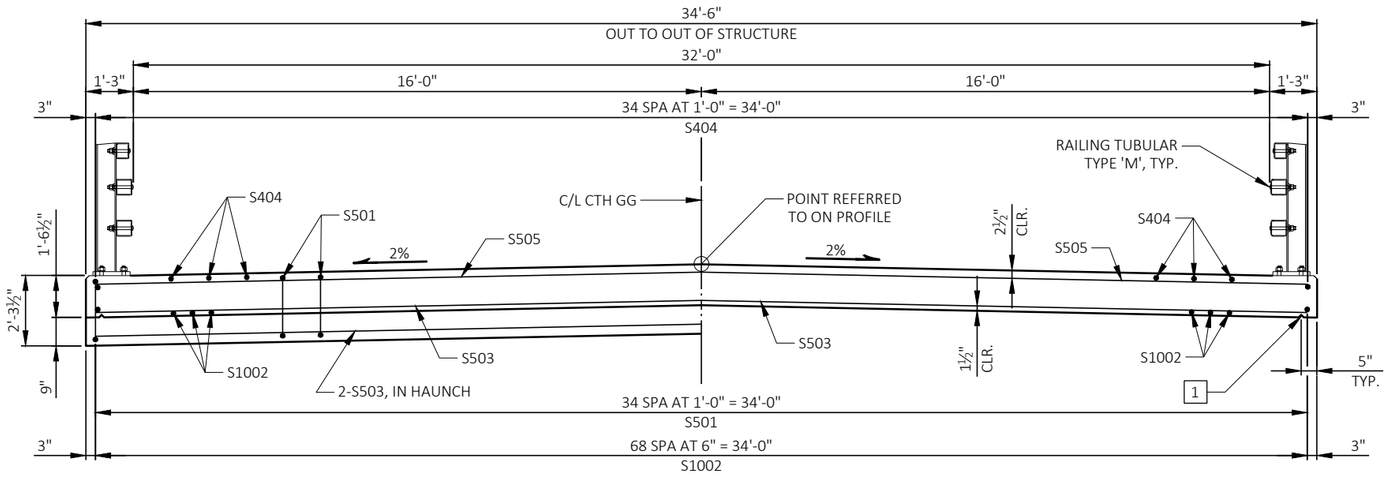
SUPERSTRUCTURE

SHEET 9 OF 11
33

FILE NAME : C:\USERS\780MKG\DESKTOP\EXPORT\CTH GG\CAD\69400070\DESIGN\STRUCTURE\080109_SS.DWG PLOT DATE : 8/31/2020 PLOT BY : MICHELLE GEHRKE PLOT SCALE :

STATE PROJECT NUMBER

6940-00-70

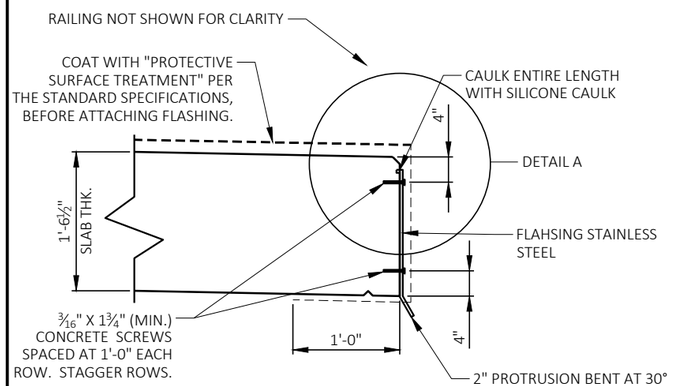


AT ABUTMENTS

CROSS SECTION THRU ROADWAY

(LOOKING NORTH)

IN SPAN



SURFACE TREATMENT AND FLASHING DETAIL

STAINLESS STEEL FLASHING NOTES

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

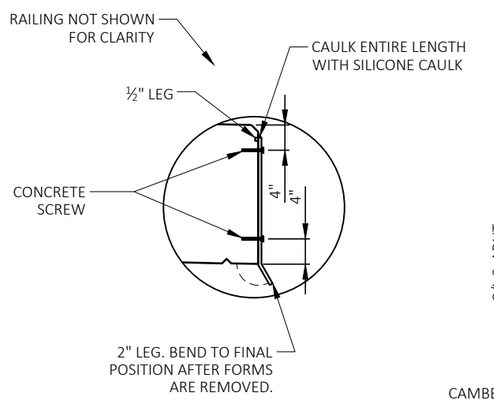
FLASHING TO BE INSTALLED AFTER PROTECTIVE SURFACE TREATMENT APPLICATION.

CONCRETE SCREWS SHALL BE 410 STAINLESS STEEL.

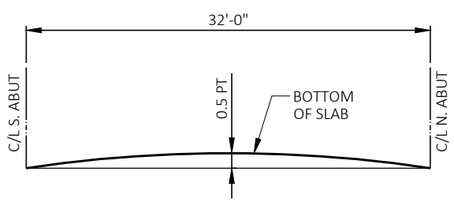
EXTEND FLASHING TO B.F. OF ABUTMENT DIAPHRAGM.

TOP OF FLASHING TO BEGIN APPROX. 1-INCH BELOW TOP OF SLAB SURFACE.

THE FLASHING IS TO BE A CONSTANT HEIGHT BASED ON THE THINEST SLAB DEPTH OVER THE BRIDGE LENGTH.



DETAIL A



CAMBER DIAGRAM

CAMBER SPAN AS SHOWN (USING VALUES IN TABLE) TO PROVIDE FOR DEADLOAD DEFLECTION AND FUTURE CREEP. CAMBER DOES NOT INCLUDE ALLOWANCE FOR FORM SETTLEMENT.

SPAN (PT)	CAMBER (IN)
C/L S ABUT	0
0.1	¼
0.2	½
0.3	⅝
0.4	¾
0.5	⅞
0.6	¾
0.7	⅝
0.8	½
0.9	¼
C/L N ABUT	0

BILL OF BARS
SUPERSTRUCTURE

COATED= 15610 LBS.
UNCOATED= 0 LBS.

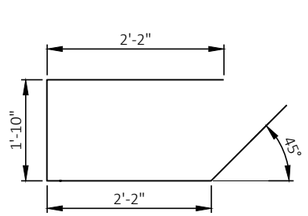
MARK	NUMBER COATED	NUMBER UNCOATED	LENGTH FT - IN	BENT	BAR SERIES	LOCATION	
S501	70		7 - 11	X		SLAB - ABUTMENT TIES	VERT
S1002	69		34 - 2			SLAB - BOTTOM	LONGIT
S503	56		34 - 2			SLAB - BOTTOM	TRANS
S404	35		34 - 2			SLAB - TOP	LONGIT
S505	35		34 - 2			SLAB - TOP	TRANS
S606	32		6 - 0			RAILING ANCHOR	LONGIT
S607	24		12 - 0	X		RAILING ANCHOR	TRANS
S608	16		5 - 0	X		RAILING ANCHOR - AT CORNERS	LONGIT

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

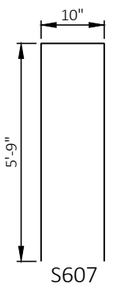
THE FIRST OR FIRST TWO DIGITS OF A BAR MARK SIGNIFIES THE BAR SIZE.

TOP OF DECK ELEVATIONS

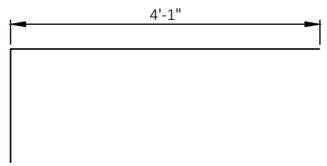
SPAN POINT	WEST EDGE OF DECK STATION	WEST EDGE OF DECK ELEVATION	REFERENCE LINE STATION	REFERENCE LINE ELEVATION	EAST EDGE OF DECK STATION	EAST EDGE OF DECK ELEVATION
C/L S. ABUT.	9+82.54	992.97	9+82.54	993.32	9+82.54	992.97
0.1	9+85.74	992.97	9+85.74	993.32	9+85.74	992.97
0.2	9+88.94	992.97	9+88.94	993.32	9+88.94	992.97
0.3	9+92.14	992.97	9+92.14	993.31	9+92.14	992.97
0.4	9+95.34	992.97	9+95.34	993.31	9+95.34	992.97
0.5	9+98.54	992.96	9+98.54	993.31	9+98.54	992.96
0.6	10+01.74	992.96	10+01.74	993.31	10+01.74	992.96
0.7	10+04.94	992.96	10+04.94	993.30	10+04.94	992.96
0.8	10+08.14	992.95	10+08.14	993.30	10+08.14	992.95
0.9	10+11.34	992.95	10+11.34	993.29	10+11.34	992.95
C/L N. ABUT.	10+14.54	992.94	10+14.54	993.28	10+14.54	992.94



S501



S607



S608

NOTES

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

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

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

[1] ¾" CONTINUOUS V-GROOVE REQ'D. EXTEND TO 6" FROM FRONT FACE OF ABUTMENT DIAPHRAGM.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-71-203

DRAWN BY MKG | PLANS CK'D. RCP

SUPERSTRUCTURE DETAILS

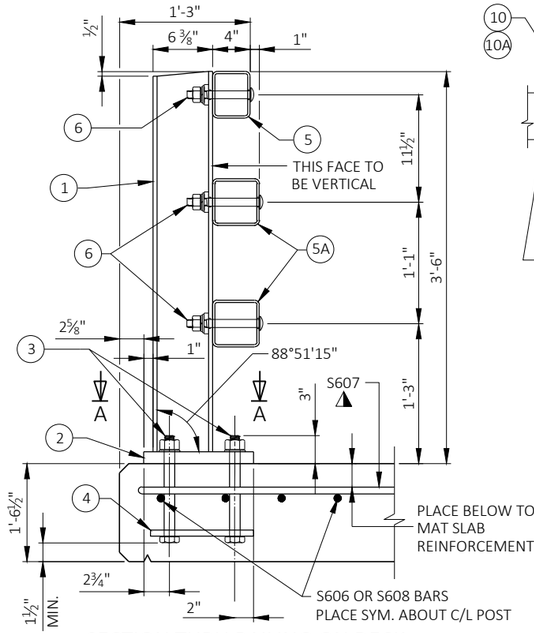
SHEET 10 OF 11
34

8

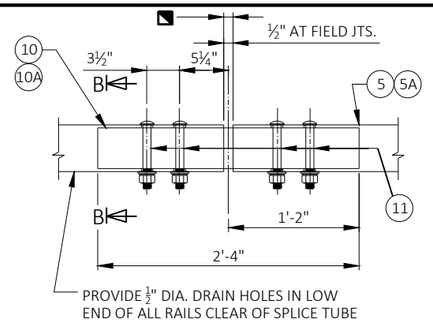
8

STATE PROJECT NUMBER

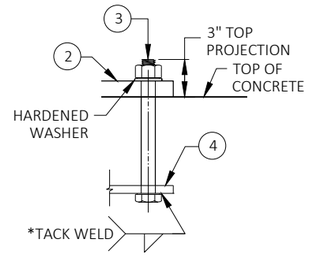
6940-00-70



SECTION THRU RAILING ON DECK

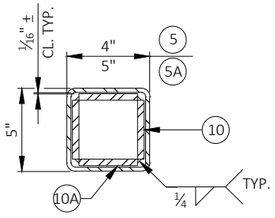


FIELD ERECTION JOINT DETAIL

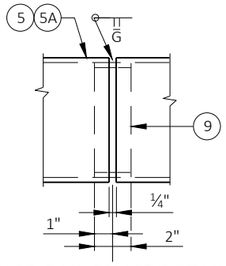


ANCHOR BOLTS

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

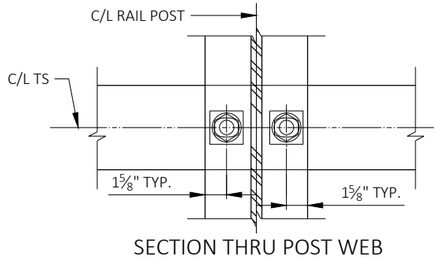


SECTION B-B

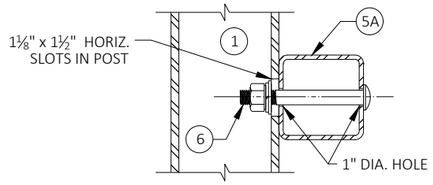


SHOP RAIL SPLICE DETAIL

(LOCATION MUST BE SHOWN ON SHOP DRAWINGS)



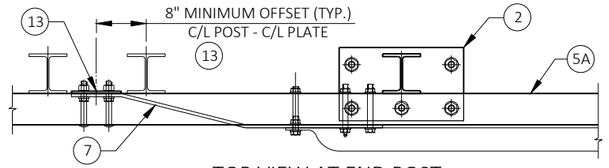
SECTION THRU POST WEB



SECTION THRU RAIL

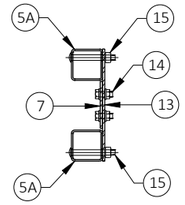
NOTE: CONNECTIONS AT LOWER RAILS SHOWN, CONNECTIONS AT TOP RAIL SIMILAR

TYPICAL RAIL TO POST CONNECTIONS

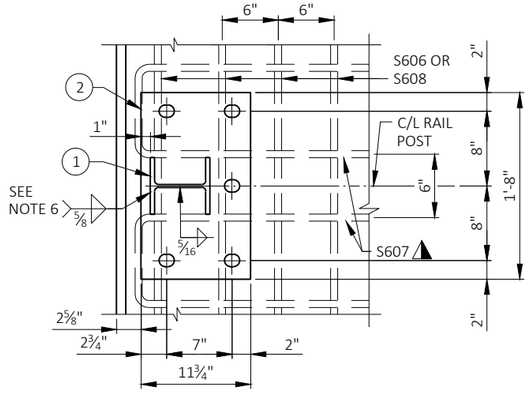


TOP VIEW AT END POST

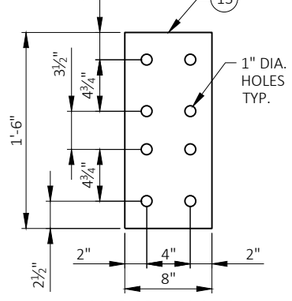
(THRIE BEAM RAIL ATTACHMENT)



SECTION C-C

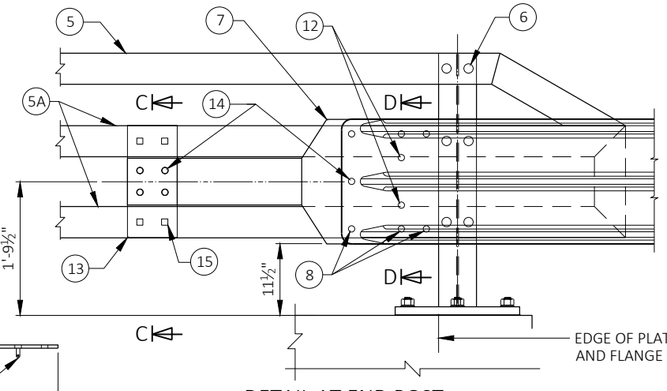


SECTION A-A



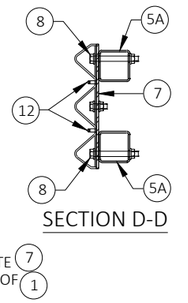
ANCHOR PLATE

AT BEAM GUARD ATTACHMENT



DETAIL AT END POST

(THRIE BEAM RAIL ATTACHMENT)



SECTION D-D

LEGEND

1. W6 x 25 WITH 1⅛" X 1½" HORIZONTAL SLOTS ON EACH SIDE OF POST FOR BOLT 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 1⅜" X 1⅝" SLOTTED HOLES FOR ANCHOR BOLTS NO. 3. WELD TO NO. 1 AS SHOWN. SLOTS PARALLEL TO SHORT SIDE OF PLATE.
3. ASTM A449 - 1⅛" 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 WINGS AND 1'-3" LONG IN SLAB. (AN EQUIVALENT THREADED ROD WITH NUTS AND HARDENED WASHERS MAY BE SUBSTITUTED FOR ANCHOR BOLTS IN WINGS IF REQ'D. FOR CONSTRUCTABILITY.)
4. ⅝" x 11" x 1'-8" ANCHOR PLATE (GALVANIZED) WITH 1¾16" 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. ⅞" DIA. A325 SLOTTED ROUND HEAD BOLT WITH NUT, 3⁄16" X 1⅜" X 1⅝" WASHER, AND LOCK WASHER (2 REQ'D. AT EACH RAIL TO POST LOCATION.)
7. ½" THK. BACK-UP PLATE WITH 2 - ⅞" 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 ⅞" 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. ⅜"X 3⅝"X 2'-4" PLATE. 2 PER RAIL. USED IN NO. 5 & 5A.
10A. ⅜" X 2⅝" X 2'-4" PLATE USED IN NO. 5, ⅜" X 3⅝" X 2'-4" PLATE USED IN NO. 5A. 2 PER RAIL.
11. ⅞" DIA. A325 ROUND HEAD BOLT WITH NUT, WASHER, AND LOCK WASHER. USE 15⁄16" X 1¼" LONGIT. SLOTTED HOLES AT FIELD JOINTS AND 15⁄16" X 2¼" MIN. LONGIT. SLOTTED HOLES AT EXP. JOINTS IN PLATE NO. 10A.
12. ⅞" DIA. X 1½" LONG THREADED SHOP WELDED STUDS (2 REQ'D).
13. ⅜" 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. ⅞" DIA. X 2" LONG A325 HEX BOLT WITH NUT AND WASHER (5 REQ'D.).
15. 1" DIA. HOLES IN TUBES NO. 5A FOR ⅞" DIA. A325 ROUND HEAD BOLT WITH NUT, WASHER AND LOCK WASHER (4 REQ'D.). 4 HOLES IN TUBES.

▥ ½" OPENING AT ABUTMENT.

◭ TIE TO TOP MAT OF STEEL.

NOTES

BID ITEM SHALL BE "RAILING TUBULAR TYPE M B-71-203" WHICH INCLUDES ALL ITEMS SHOWN.

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.

THE NUT SECURING THE POST BASE PLATE TO THE CONCRETE SHALL BE TIGHTENED TO A SNUG FIT AND GIVEN AN ADDITIONAL 1/8 TURN.

RAILS SHALL BE CONTINUOUS OVER A MINIMUM OF THREE (3) POSTS WITHOUT SPLICES WHERE POSSIBLE.

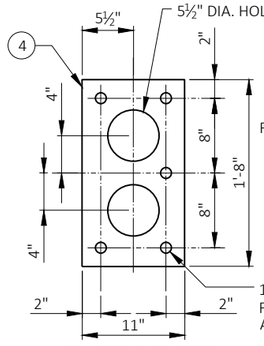
ENDS OF TUBE SECTIONS SHALL BE SAWED. GRIND SMOOTH EXPOSED EDGES. ALL CUT ENDS SHALL BE TRUE AND SMOOTH.

WELD IS THE SAME ON BOTH FLANGES. FLANGE WELD DOES NOT REQUIRE MAGNETIC PARTICLE TESTING.

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.

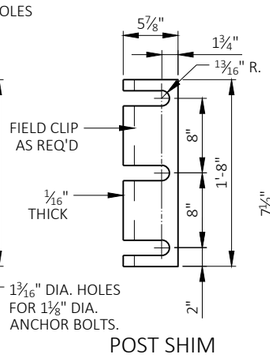
POST BASE PLATES SHALL BE FLAT WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT AND VERTICAL. ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUT.

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.

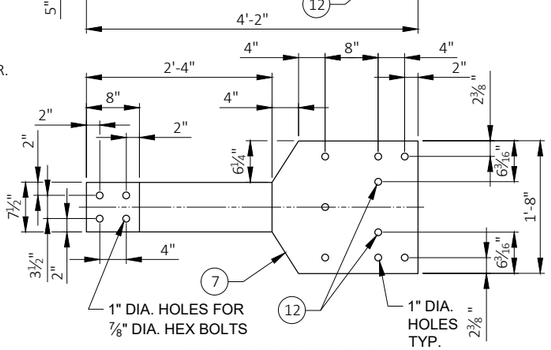


ANCHOR PLATE

AT RAIL TO DECK CONNECTION

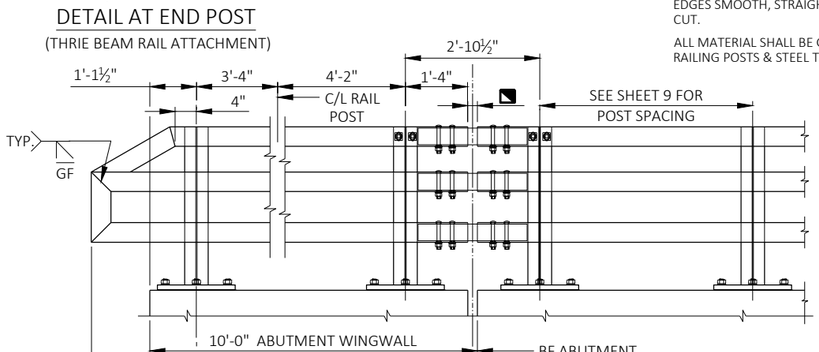


POST SHIM DETAIL



BACK-UP PLATE DETAIL

AT BEAM GUARD ATTACHMENT



PART ELEVATION OF RAILING

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-71-203

DRAWN BY	PLANS CK'D.
MKG	RCP

TUBULAR STEEL RAILING TYPE M

SHEET 11 OF 11

35

8

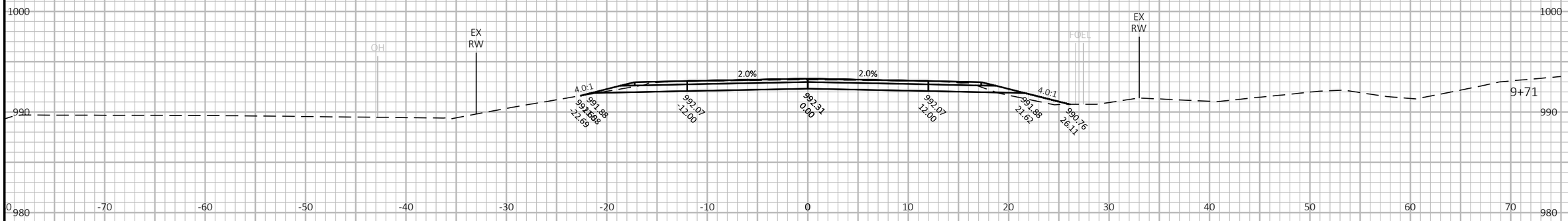
8

STATION	AREA (SF) Cut	Salvaged/Unusable Pavement Material	Fill	Incremental Vol (CY) (Unadjusted) Cut Note 1	Salvaged/Unusable Pavement Material Note 2	Fill Note 3	Cumulative Vol (CY) Cut 1.00 Note 1	Expanded Fill 1.25	Mass Ordinate Note 4
9+35	40	11	0	0	0	0	0	0	0
9+50	38	11	0	22	6	0	22	0	15
9+71	33	11	3	28	9	1	49	1	33
9+72	0	0	0	1	0	0	50	2	33
10+25	0	0	0	0	0	0	50	2	33
10+26	34	11	7	1	0	0	50	2	34
10+50	34	11	0	30	10	3	81	6	50
10+65	32	11	0	18	6	0	99	6	63
			Column Total	99	31	4			

Notes:
1 - Cut (Salvaged/Unusable Pavement Material is Included)
2 - Salvaged/Unusable Pavement Material (This does not show up in cross sections.)
3 - Fill (Does not include Unuseable Pavement volume.)
4 - The Mass Ordinate + or - quantity calculated. Plus quantity indicates as excess of material. Minus indicates a shortage of material.

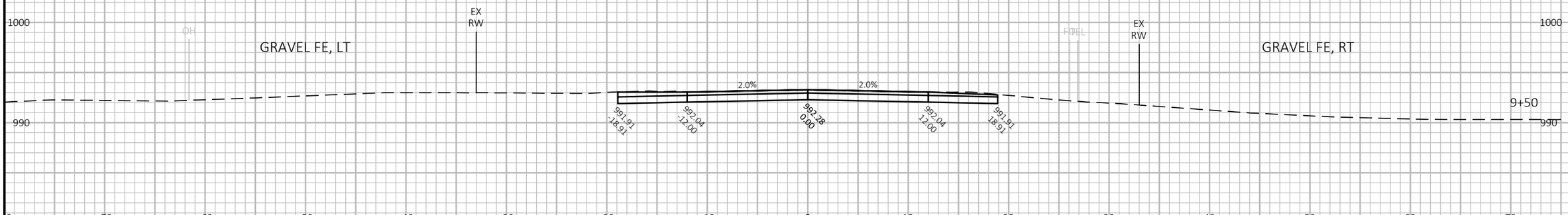
No Marsh or EBS is anticipated.

STA 9+98.54
STRUCTURE B-71-203



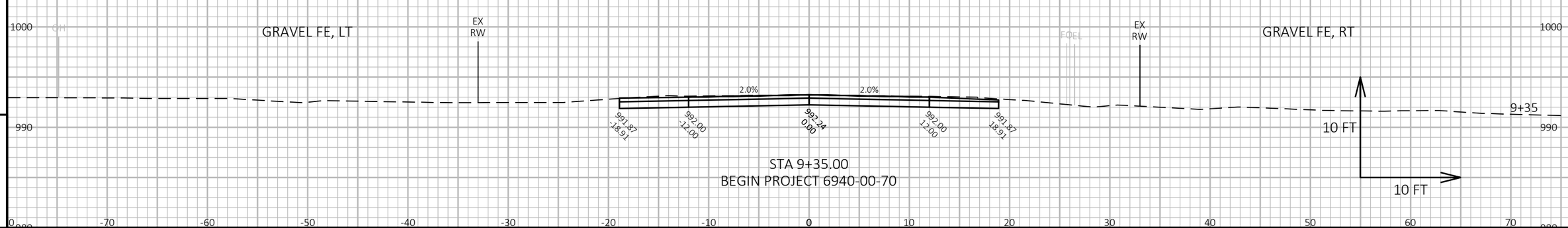
GRAVEL FE, LT

GRAVEL FE, RT



GRAVEL FE, LT

GRAVEL FE, RT



STA 9+35.00
BEGIN PROJECT 6940-00-70

9

9

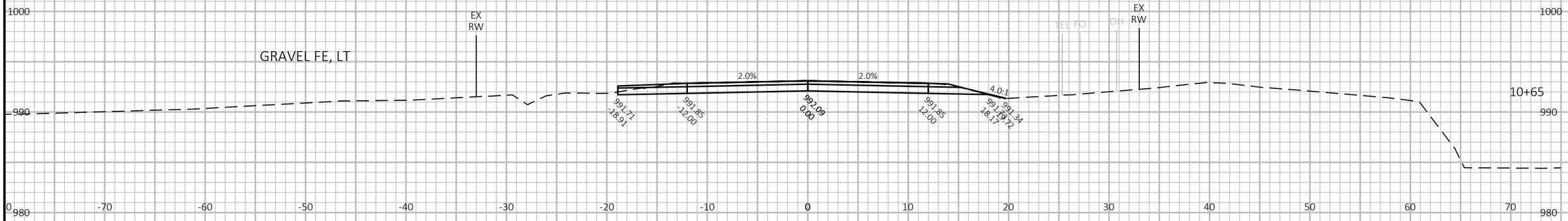
PROJECT NO: 6940-00-70	HWY: CTH GG	COUNTY: WOOD	CROSS SECTIONS: CTH GG	SHEET 37	E

FILE NAME : X:\2314800\192443.01\TECH\CAD\69400070\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090201_xs

PLOT DATE : 9/3/2020 3:03 PM PLOT BY : JEFF BREU PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

STA 10+65.00
END PROJECT 6940-00-70



9

9

PROJECT NO: 6940-00-70	HWY: CTH GG	COUNTY: WOOD	CROSS SECTIONS: CTH GG	SHEET 38	E

FILE NAME : X:\2314800\192443.01\TECH\CAD\69400070\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090202_xs

PLOT DATE : 9/3/2020 3:04 PM PLOT BY : JEFF BREU PLOT NAME :

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

WISDOT/CADDS SHEET 49

Notes

Wisconsin Department of Transportation

Dedicated people creating transportation solutions
through innovation and exceptional service.

http://www.dot.wisconsin.gov