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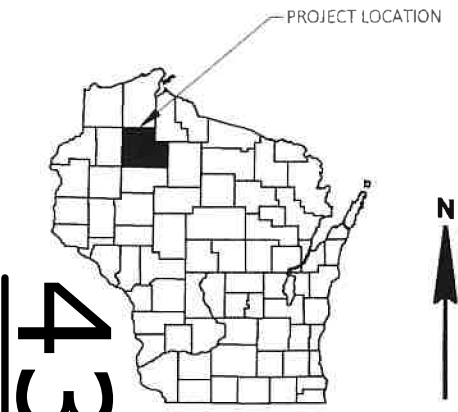
PROJECT ID: 8452-00-70
WITH: N/A

COUNTY: SAWYER

DECEMBER 2021
ORDER OF SHEETS

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

TOTAL SHEETS = 42



DESIGN DESIGNATION 8452-00-70

A.A.D.T.	2022	=	50
A.A.D.T.	2042	=	65
D.H.V.		=	7
D.D.		=	50 / 50
T.		=	10 %
DESIGN SPEED		=	55 MPH
ESALS		=	15,000

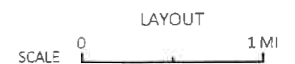
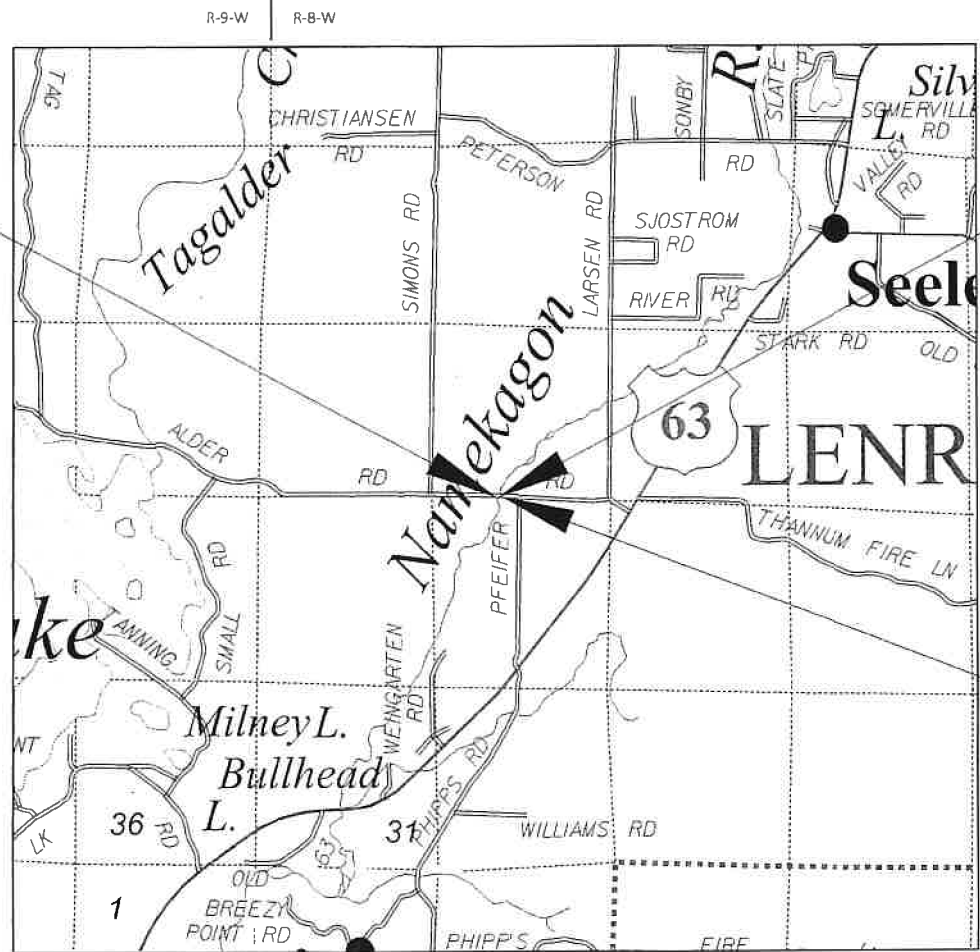
CONVENTIONAL SYMBOLS

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
PLAN OF PROPOSED IMPROVEMENT

T LENROOT, TAG ALDER ROAD
NAMEKAGON RIVER BRIDGE B-57-0091
LOCAL STREET
SAWYER COUNTY

STATE PROJECT NUMBER
8452-00-70



TOTAL NET LENGTH OF CENTERLINE = 0.038 MI

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COORDINATE REFERENCE SYSTEM (WISCRS), SAWYER 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 (2007). GPS DERIVED ELEVATIONS ARE BASED ON GEOID '12A

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
8452-00-70		

ACCEPTED FOR
SAWYER COUNTY HIGHWAY DEPARTMENT
DATE: 7-27-2021
(Highway Commissioner Signature)

ACCEPTED FOR
TOWN OF LENROOT
DATE: 7/28/21
(Town Chairman Signature)

ORIGINAL PLANS PREPARED BY

SEH
WISCONSIN
TARA L. KRISTA
37975
CHIPPEWA FALLS, WI
PROFESSIONAL ENGINEER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

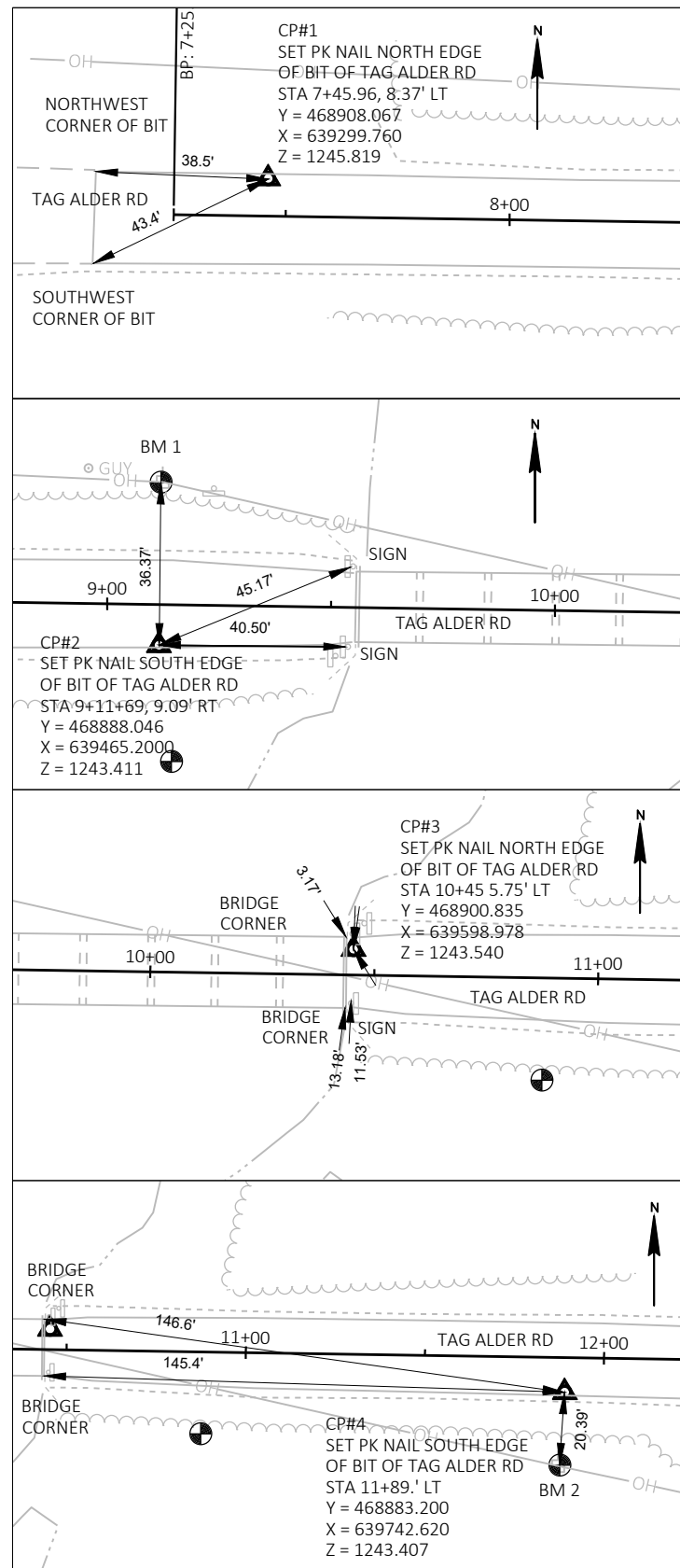
PREPARED BY

Surveyor	SEH
Designer	SEH
Project Manager	MATTHEW VAN NATTA, P.E.
Regional Examiner	TYLER RONGSTAD, P.E.
Regional Supervisor	TOU YANG, P.E.

APPROVED FOR THE DEPARTMENT
DATE: 7/28/2021
(Signature)

E

ALIGNMENT TIES



GENERAL NOTES

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

WHEN THE QUANTITY OF BASE AGGREGATE OR ASPHALTIC SURFACE IS MEASURED FOR PAYMENT BY THE TON, 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.

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 AND TURBIDITY BARRIER IS TO BE PLACED AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER, AND IN PLACE PRIOR TO BRIDGE REMOVAL.

SILT FENCE POSTS FOR THE ANIMAL TURN-AROUNDS SHOULD BE ON THE OUTSIDE OF THE TURN-AROUND AND TRENCHED IN ACCORDING TO SILT FENCE REQUIREMENTS.

DISTURBED AREAS WITHIN THE RIGHT-OF-WAY, EXCEPT THE AREAS WITHIN THE FINISHED SHOULDER POINTS, SHALL BE SALVAGED TOPSOILED, FERTILIZED, TEMPORARY SEEDED, SEEDED AND EMATTED AS SHOWN ON THE TYPICAL SECTIONS.

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

ALL PAVEMENT DIMENSIONS AND STATIONS ARE SHOWN TO THE EDGE OF PAVEMENT UNLESS NOTED OTHERWISE.

ASPHALTIC SURFACE SHALL BE CONSTRUCTED IN TWO 1.75" LAYERS.

WISDOT MONUMENTS WILL BE SUPPLIED BY THE STATE AND INSTALLED BY THE CONTRACTOR AS DIRECTED BY THE ENGINEER.

UTILITY CONTACTS

XCEL ENERGY - ELECTRICITY
2400 FARM ROAD
ASHLAND, WI 54806
TELEPHONE: 715.220.1837
ATTENTION: ERIN PETERSON
EMAIL: ERIN.J.PETERSON@XCELENERGY.COM



Dial 811 or (800)242-8511

www.DiggersHotline.com

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	.16	.22	.12	.20	.27	.15	.24	.33	.19	.28	.38
	.22	.30	.38	.26	.34	.44	.30	.37	.50	.34	.41	.56
MEDIAN STRIP-TURF	.19	.20	.24	.19	.22	.26	.20	.23	.30	.20	.25	.30
	.24	.26	.30	.25	.28	.33	.26	.30	.37	.27	.32	.40
SIDE SLOPE-TURF			.25			.27			.28			.30
			.32			.34			.36			.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 = 0.3 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 0.2 ACRES

STANDARD ABBREVIATIONS

ABUT	ABUTMENT	ID	INSIDE DIAMETER
AC	ACRE	INV	INVERT
AGG	AGGREGATE	IP	IRON PIPE ON PIN
AECPRC	APRON ENDWALL FOR CULVERT PIPE REINFORCED CONCRETE	LHF	LEFT-HAND FORWARD
AECPCS	APRON ENDWALL FOR CULVERT PIPE CORRUGATED STEEL	L	LENGTH OF CURVE
ASPH	ASPHALTIC	LF	LINEAR FOOT
AVG	AVERAGE	LC	LONG CHORD OF CURVE
ADT	AVERAGE DAILY TRAFFIC	LS	LUMP SUM
BF	BACK FACE	MH	MANHOLE
BM	BENCH MARK	MOR	MID POINT OF RADIUS
BR	BRIDGE	NC	NORMAL CROWN
CE	COMMERCIAL ENTRANCE	NO	NUMBER
C/L	CENTER LINE	OBLIT	OBLITERATE
Δ	CENTRAL ANGLE OR DELTA	PAVT	PAVEMENT
COB	CENTER OF BARRIER	PE	PRIVATE ENTRANCE
CONC	CONCRETE	PVRC	POINT OF VERTICAL REVERSE CURVE
CPRC	CULVERT PIPE REINFORCED CONCRETE	QOR	QUARTER POINT OF RADIUS
CPRCHE	CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL	R	RADIUS
CR	CREEK	REQ'D	REQUIRED
CY	CUBIC YARD	RES	RESIDENCE OR RESIDENTIAL
C&G	CURB AND GUTTER	RHF	RIGHT-HAND FORWARD
D	DEGREE OF CURVE	R/W	RIGHT-OF-WAY
DHV	DESIGN HOUR VOLUME	R	RIVER
DISCH	DISCHARGE	RDWY	ROADWAY
DG	DITCH GRADE	R/L	REFERENCE LINE
DWY	DRIVEWAY	SALV	SALVAGED
X	EAST GRID COORDINATE	SAN	SANITARY SEWER
EAT	STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL	SF	SQUARE FEET
EOR	END POINT OF RADIUS	SY	SQUARE YARD
EL	ELEVATION	SDD	STANDARD DETAIL DRAWINGS
ENT	ENTRANCE	STA	STATION
ESALS	EQUIVALENT SINGLE AXLE LOADS	SS	STORM SEWER
EXC	EXCAVATION	SSPRC	STORM SEWER PIPE REINFORCED CONCRETE
EBS	EXCAVATION BELOW SUBGRADE	SE	SUPERELEVATION RATE
EXIST	EXISTING	TC	TOP OF CURB
FC	FACE OF CURB	T OR TN	TOWN
FF	FACE TO FACE	T	TRUCKS (PERCENT OF)
FERT	FERTILIZE	TYP	TYPICAL
FE	FIELD ENTRANCE	VAR	VARIABLE
FL	FLOW LINE	VC	VERTICAL CURVE
FO	FIBER OPTIC	Y	NORTH GRID COORDINATE
CWT	HUNDREDWEIGHT	YD	YARD
HYD	HYDRANT		

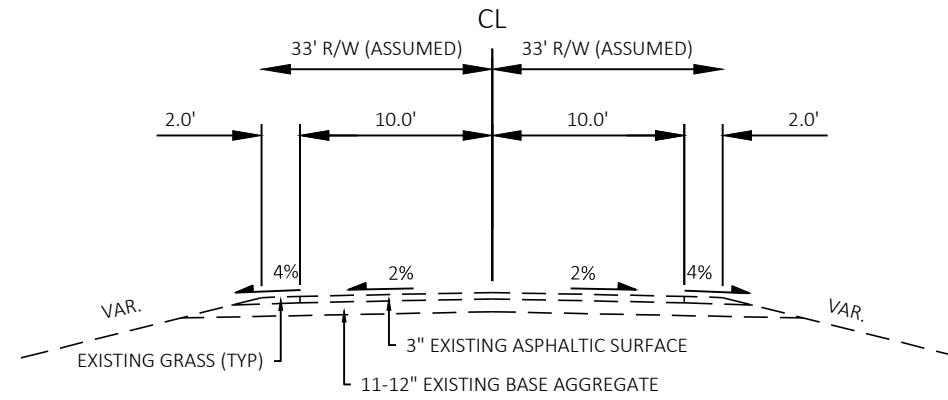
COUNTY CONTACT
SAWYER COUNTY HIGHWAY DEPARTMENT
14688 W COUNTY ROAD B
HAYWARD, WI 54834
TELEPHONE: 715.634.2691
ATTENTION: GARY GEDART
EMAIL: HIGHWAY@SAWYERCOUNTYGOV.ORG

WISDOT CONTACT
WISDOT NORTHWEST REGION - SUPERIOR OFFICE
1701 N. 4TH ST.
SUPERIOR, WI 54880
TELEPHONE: 715.392.7934
ATTENTION: MATTHEW VAN NATTA
EMAIL: MATTHEW.VANNATTA@DOT.WI.GOV

TOWN CONTACT
TOWN OF LENROOT
12215 N US HWY 63
HAYWARD, WI 54834
TELEPHONE: 715.634.5673
ATTENTION: GORDON CHRISTIANS
EMAIL: CHRISTCREST@MSN.COM

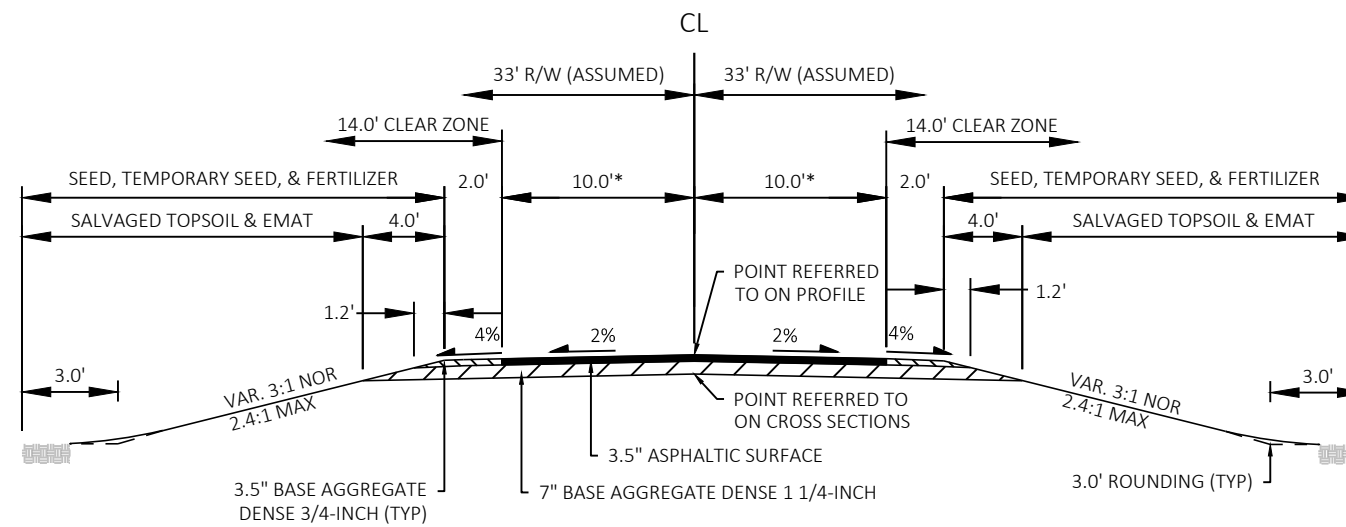
DESIGN CONTACT
SEH
10 NORTH BRIDGE STREET
CHIPPEWA FALLS, WI 54729
TELEPHONE: 715.720.6291
ATTENTION: TARA KRISTA
EMAIL: TKRISTA@SEHINC.COM

WDNR CONTACT
DNR NORTHERN REGION HQ
810 WEST MAPLE STREET
SPOONER, WI 54801
TELEPHONE: 715.635.4228
ATTENTION: SHAWN HASELEU
EMAIL: SHAWN.HASELEU@WISCONSIN.GOV



TYPICAL EXISTING SECTION

STA 9+00 TO STA 9+56
STA 10+44 TO STA 11+15



TYPICAL PROPOSED SECTION

STA 9+00 TO STA 9+47.73
STA 10+52.27 TO STA 11+00

*MATCH EXISTING WIDTH AT PROJECT LIMITS
AND TAPER TO BRIDGE WIDTH AT STRUCTURE

Estimate Of Quantities

8452-00-70

Line	Item	Item Description	Unit	Total	Qty
0002	201.0105	Clearing	STA	2.000	2.000
0004	201.0205	Grubbing	STA	2.000	2.000
0006	203.0270	Removing Structure Over Waterway Debris Capture (structure) 01. P-57-25	EACH	1.000	1.000
0008	205.0100	Excavation Common	CY	62.000	62.000
0010	206.1000	Excavation for Structures Bridges (structure) 01. B-57-91	LS	1.000	1.000
0012	208.0100	Borrow	CY	16.000	16.000
0014	210.1500	Backfill Structure Type A	TON	220.000	220.000
0016	213.0100	Finishing Roadway (project) 01. 8452-00-70	EACH	1.000	1.000
0018	305.0110	Base Aggregate Dense 3/4-Inch	TON	8.000	8.000
0020	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	121.000	121.000
0022	455.0605	Tack Coat	GAL	16.000	16.000
0024	465.0105	Asphaltic Surface	TON	50.000	50.000
0026	502.0100	Concrete Masonry Bridges	CY	281.000	281.000
0028	502.3200	Protective Surface Treatment	SY	400.000	400.000
0030	502.9000.S	Underwater Substructure Inspection (Structure) 01. B-57-91	EACH	1.000	1.000
0032	505.0400	Bar Steel Reinforcement HS Structures	LB	4,560.000	4,560.000
0034	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	56,195.000	56,195.000
0036	513.4061	Railing Tubular Type M	LF	254.000	254.000
0038	516.0500	Rubberized Membrane Waterproofing	SY	18.000	18.000
0040	550.0500	Pile Points	EACH	18.000	18.000
0042	550.1100	Piling Steel HP 10-Inch X 42 Lb	LF	540.000	540.000
0044	606.0300	Riprap Heavy	CY	170.000	170.000
0046	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	220.000	220.000
0048	618.0100	Maintenance And Repair of Haul Roads (project) 01. 8452-00-70	EACH	1.000	1.000
0050	619.1000	Mobilization	EACH	1.000	1.000
0052	624.0100	Water	MGAL	1.400	1.400
0054	625.0500	Salvaged Topsoil	SY	213.000	213.000
0056	628.1504	Silt Fence	LF	305.000	305.000
0058	628.1520	Silt Fence Maintenance	LF	305.000	305.000
0060	628.1905	Mobilizations Erosion Control	EACH	3.000	3.000
0062	628.1910	Mobilizations Emergency Erosion Control	EACH	3.000	3.000
0064	628.2008	Erosion Mat Urban Class I Type B	SY	213.000	213.000
0066	628.6005	Turbidity Barriers	SY	186.000	186.000
0068	629.0210	Fertilizer Type B	CWT	0.200	0.200
0070	630.0120	Seeding Mixture No. 20	LB	9.000	9.000
0072	630.0200	Seeding Temporary	LB	9.000	9.000
0074	630.0500	Seed Water	MGAL	9.000	9.000
0076	634.0612	Posts Wood 4x6-Inch X 12-FT	EACH	4.000	4.000
0078	637.2230	Signs Type II Reflective F	SF	12.000	12.000
0080	638.2602	Removing Signs Type II	EACH	6.000	6.000
0082	638.3000	Removing Small Sign Supports	EACH	6.000	6.000
0084	642.5001	Field Office Type B	EACH	1.000	1.000
0086	643.0420	Traffic Control Barricades Type III	DAY	1,368.000	1,368.000
0088	643.0705	Traffic Control Warning Lights Type A	DAY	1,976.000	1,976.000
0090	643.0900	Traffic Control Signs	DAY	1,064.000	1,064.000
0092	643.5000	Traffic Control	EACH	1.000	1.000
0094	645.0111	Geotextile Type DF Schedule A	SY	50.000	50.000
0096	645.0120	Geotextile Type HR	SY	380.000	380.000
0098	650.4500	Construction Staking Subgrade	LF	96.000	96.000

Estimate Of Quantities

8452-00-70

Line	Item	Item Description	Unit	Total	Qty
0100	650.5000	Construction Staking Base	LF	96.000	96.000
0102	650.6500	Construction Staking Structure Layout (structure) 01. B-57-91	LS	1.000	1.000
0104	650.9910	Construction Staking Supplemental Control (project) 01. 8452-00-70	LS	1.000	1.000
0106	650.9920	Construction Staking Slope Stakes	LF	96.000	96.000
0108	690.0150	Sawing Asphalt	LF	40.000	40.000
0110	715.0502	Incentive Strength Concrete Structures	DOL	1,464.000	1,464.000
0112	999.2000.S	Installing and Maintaining Bird Deterrent System (Station) 01. Station	EACH	1.000	1.000
0114	SPV.0060	Special 01. Temporary Portage East Side	EACH	1.000	1.000
0116	SPV.0060	Special 02. Temporary Portage West Side	EACH	1.000	1.000
0118	SPV.0090	Special 01. Removing Existing Piling	LF	120.000	120.000
0120	SPV.0195	Special 01. Select Crushed Material For Travel Corridor	TON	80.000	80.000

3

3

CLEARING & GRUBBING

STATION	LOCATION	201.0105	201.0205
		CLEARING STA	GRUBBING STA
TAG ALDER ROAD 9+00 - 11+00	LT & RT	2	2
ITEM TOTALS		2	2

SALVAGED TOPSOIL AND SEEDING

STATION	LOCATION	625.0500	629.0210	630.0120	630.0200	630.0500
		SALVAGED TOPSOIL SY	FERTILIZER TYPE B CWT	SEEDING MIXTURE NO. 20 LB	SEEDING TEMPORARY LB	SEED WATER MGAL
TAG ALDER ROAD 9+00 - 9+48	LT & RT	82	0.1	4	4	4
10+52 - 11+00	LT & RT	131	0.1	5	5	5
ITEM TOTALS		213	0.2	9	9	9

TRAFFIC CONTROL

STATION	643.0420		643.0705		643.0900	
	BARRICADES TYPE III	EACH DAY	WARNING LIGHTS TYPE A	EACH DAY	SIGNS	CALENDAR DAYS
TAG ALDER ROAD 9+00 - 11+00	18	1368	26	1976	14	1064
ITEM TOTALS		1368		1976		1064

EXCAVATION

STATION	LOCATION	205.0100	AVAILABLE	EXPANDED	208.0100
		EXCAVATION COMMON CY	MATERIAL CY	FILL CY	BORROW CY
TAG ALDER ROAD 9+00 - 9+48	LT & RT	31	25	10	-15
10+52 - 11+00	LT & RT	31	23	54	31
ITEM TOTALS		62	48	64	16

NOTES:
 1) UNUSABLE PAVEMENT MATERIAL IS INCLUDED IN COMMON EXCAVATION.
 2) AVAILABLE MATERIAL DOES NOT INCLUDE UNUSABLE PAVEMENT EXCAVATION VOLUME
 3) EXPANSION FACTOR = 1.3

EROSION CONTROL ITEMS

STATION	LOCATION	628.1504	628.1520	628.2008	628.6005
		SILT FENCE LF	SILT FENCE MAINTENANCE LF	EROSION MAT URBAN CLASS I TYPE B SY	TURBIDITY BARRIERS SY
TAG ALDER ROAD 9+00 - 9+48	LT & RT	155	155	82	65
10+00	LT & RT	-	-	-	53
10+52 - 11+00	LT & RT	150	150	131	68
ITEM TOTALS		305	305	213	186

CONSTRUCTION STAKING

STATION	LOCATION	650.4500	650.5000	650.9920
		SUBGRADE LF	BASE LF	SLOPE STAKES LF
TAG ALDER ROAD 9+00 - 9+48	LT & RT	48	48	48
10+52 - 11+00	LT & RT	48	48	48
ITEM TOTALS		96	96	96

BASE AGGREGATE DENSE

STATION	LOCATION	305.0110	305.0120	624.0100
		3/4-INCH TON	1 1/4-INCH TON	WATER MGAL
TAG ALDER ROAD 9+00 - 9+48	LT & RT	4	61	0.7
10+52 - 11+00	LT & RT	4	60	0.7
ITEM TOTALS		8	121	1.4

MOBILIZATIONS EROSION CONTROL

STATION	628.1910	
	628.1905 EROSION CONTROL EACH	EROSION CONTROL EACH
TAG ALDER ROAD 9+00 - 11+00	3	3
ITEM TOTALS	3	3

SAWING ASPHALT

STATION	LOCATION	690.0150
		LF
TAG ALDER ROAD 9+00	LT & RT	20
11+00	LT & RT	20
ITEM TOTAL		40

ASPHALTIC PAVEMENT ITEMS

STATION	LOCATION	455.0605	465.0105
		TACK COAT GAL	ASPHALTIC SURFACE TON
TAG ALDER ROAD 9+00 - 9+48	LT & RT	8	25
10+52 - 11+00	LT & RT	8	25
ITEM TOTALS		16	50

PERMANENT SIGNING

SIGN GROUP CODE	SIGN CODE	SIGN MESSAGE	TYPE II SIZE	634.0612	637.2230	638.2602	638.3000	REMARKS
				POSTS WOOD 4X6-INCH 12-FT EACH	SIGNS TYPE II REFLECTIVE F SF	SIGNS REMOVING TYPE II EACH	REMOVING SMALL SIGN SUPPORTS EACH	
TAG ALDER ROAD								
1-1	W5-52L	CLEARANCE STRIPER	12" X 36"	1	3	1	1	REPLACE
1-2	W5-52R	CLEARANCE STRIPER	12" X 36"	1	3	1	1	REPLACE
1-3	W5-52R	CLEARANCE STRIPER	12" X 36"	1	3	1	1	REPLACE
1-4	W5-52L	CLEARANCE STRIPER	12" X 36"	1	3	1	1	REPLACE
1-5	R12-1	WEIGHT LIMIT 30 TONS	24" X 30"	-	-	1	1	REMOVE
1-6	R12-1	WEIGHT LIMIT 30 TONS	24" X 30"	-	-	1	1	REMOVE
ITEM TOTALS				4	12	6	6	

INSTALLING AND MAINTAINING BIRD DETERRENT SYSTEM

STATION	999.2000.S
	EACH
TAG ALDER ROAD 10+00	1
ITEM TOTAL	1

NOTE: ALL ITEMS AND QUANTITIES ON THIS SHEET ARE FOR ENGINEER ESTIMATE CATEGORY 0010 UNLESS OTHERWISE NOTED

PROJECT NO: 8452-00-70

HWY: TAG ALDER ROAD

COUNTY: SAWYER

MISCELLANEOUS QUANTITIES

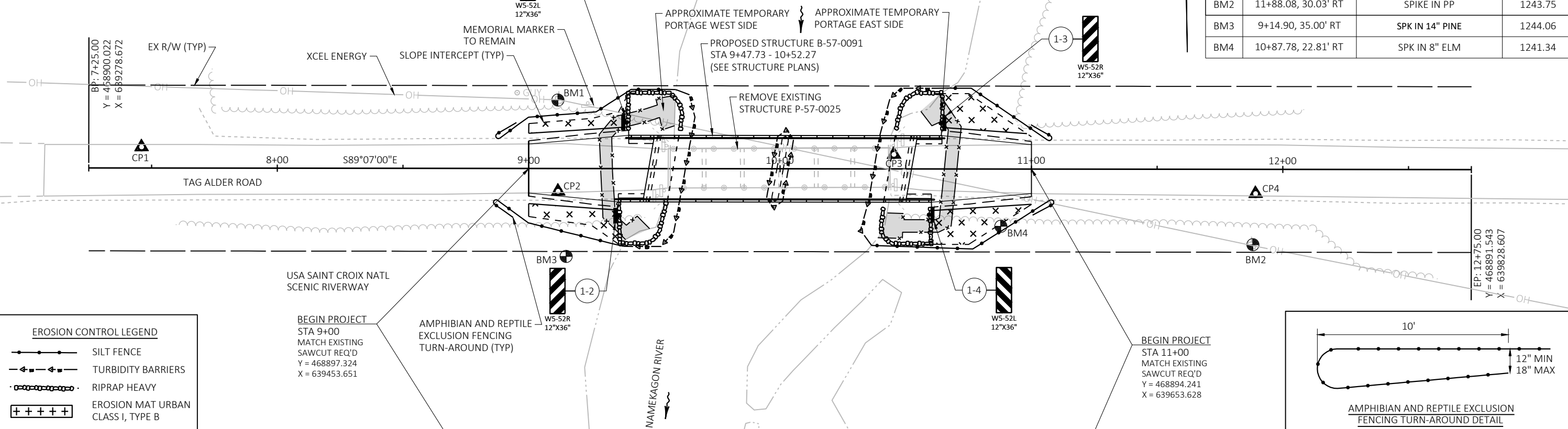
SHEET

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UTILITY LOCATIONS ARE APPROXIMATE.
ACTUAL LOCATIONS MUST BE FIELD VERIFIED.

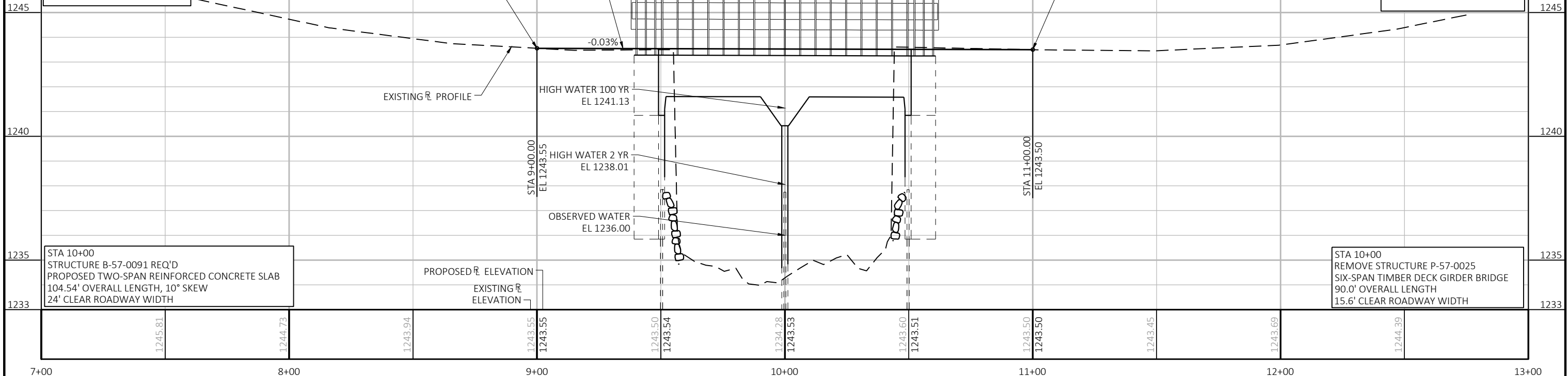
SCALE, FEET 

USA SAINT CROIX NATL
SCENIC RIVERWAY



EARTHWORK SUMMARY
STA 9+00 - 9+48

CUT	31 CY
AVAILABLE MATERIAL	25 CY
FILL AT 1.3 EXP	10 CY
WASTE	7 CY



PROJECT NO: 8452-00-70

HWY: TAG ALDER ROAD

COUNTY: SAWYER

PLAN AND PROFILE

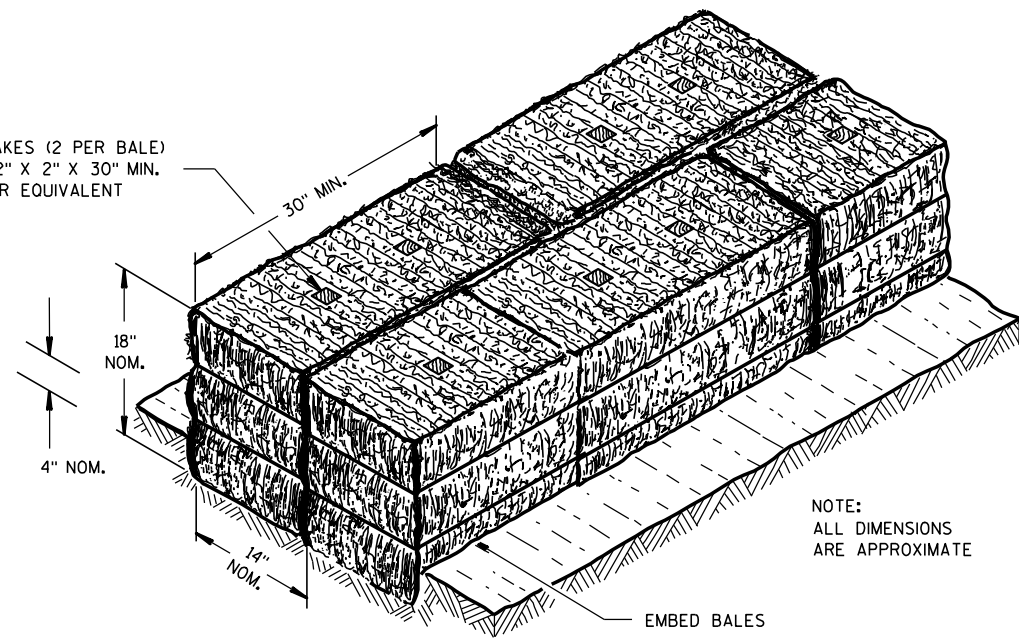
SHEET

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Standard Detail Drawing List

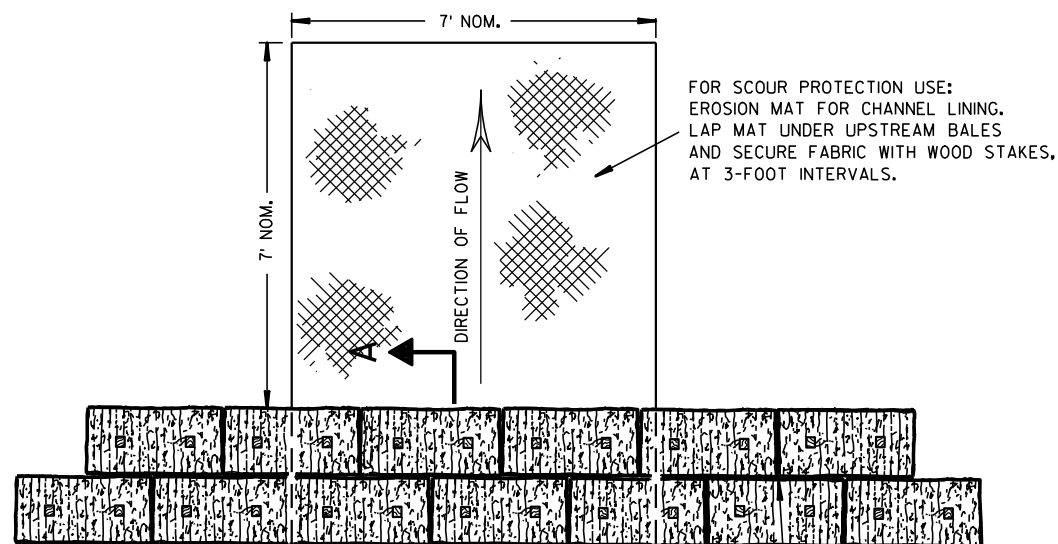
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E11-02	TURBIDITY BARRIER
12A03-10	NAME PLATE (STRUCTURES)
13C19-03	HMA LONGITUDINAL JOINTS
15C02-08A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-08B	BARRICADES AND SIGNS FOR VARIOUS CLOSURES
15C06-09	SIGNING & MARKING FOR TWO LANE BRIDGES
15C11-09B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS
15D38-02A	TEMPORARY TRAFFIC CONTROL SIGN MOUNTING
15D38-02B	ATTACHMENT OF SIGNS TO POSTS

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



NOTE:
ALL DIMENSIONS
ARE APPROXIMATE

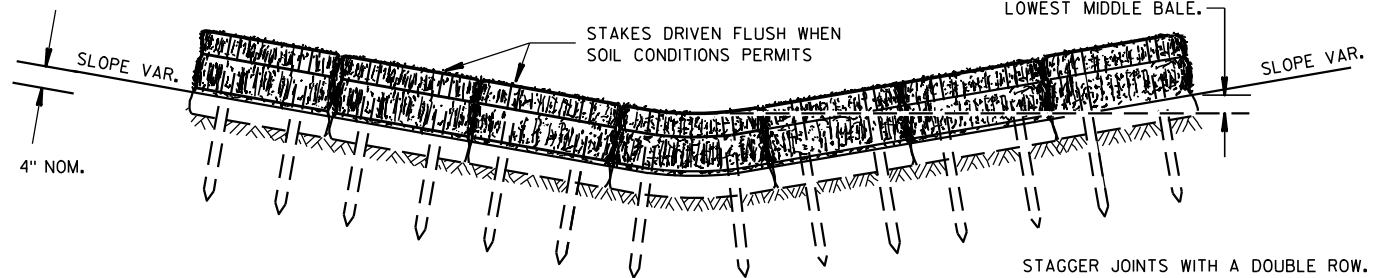
SECTION A-A



PLAN VIEW

STAGGER JOINTS BETWEEN ADJACENT ROWS OF BALES.

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



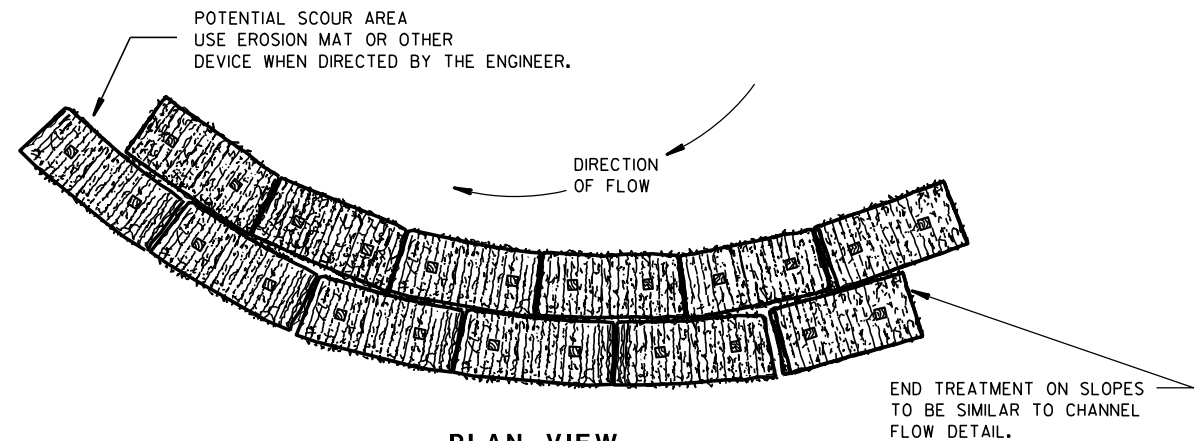
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES ①

GENERAL NOTES

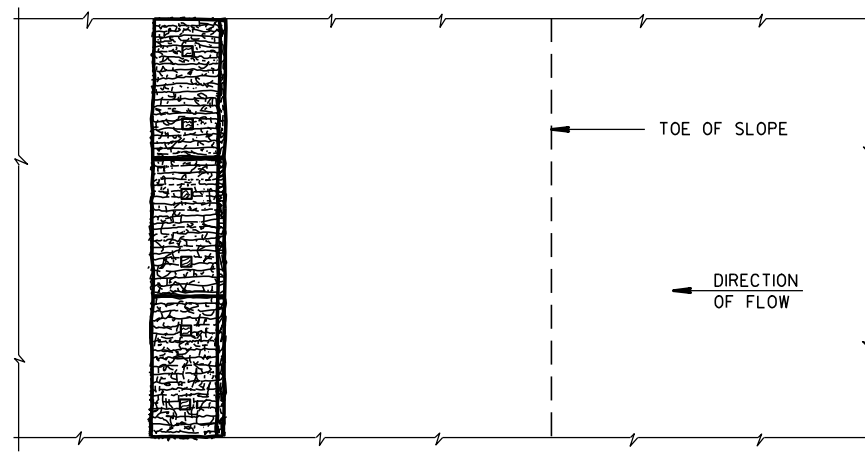
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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

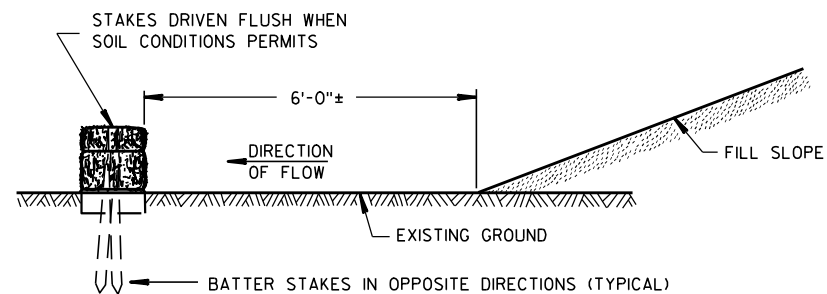


PLAN VIEW

WHEN ALTERING THE DIRECTION OF FLOW



PLAN VIEW



FRONT ELEVATION

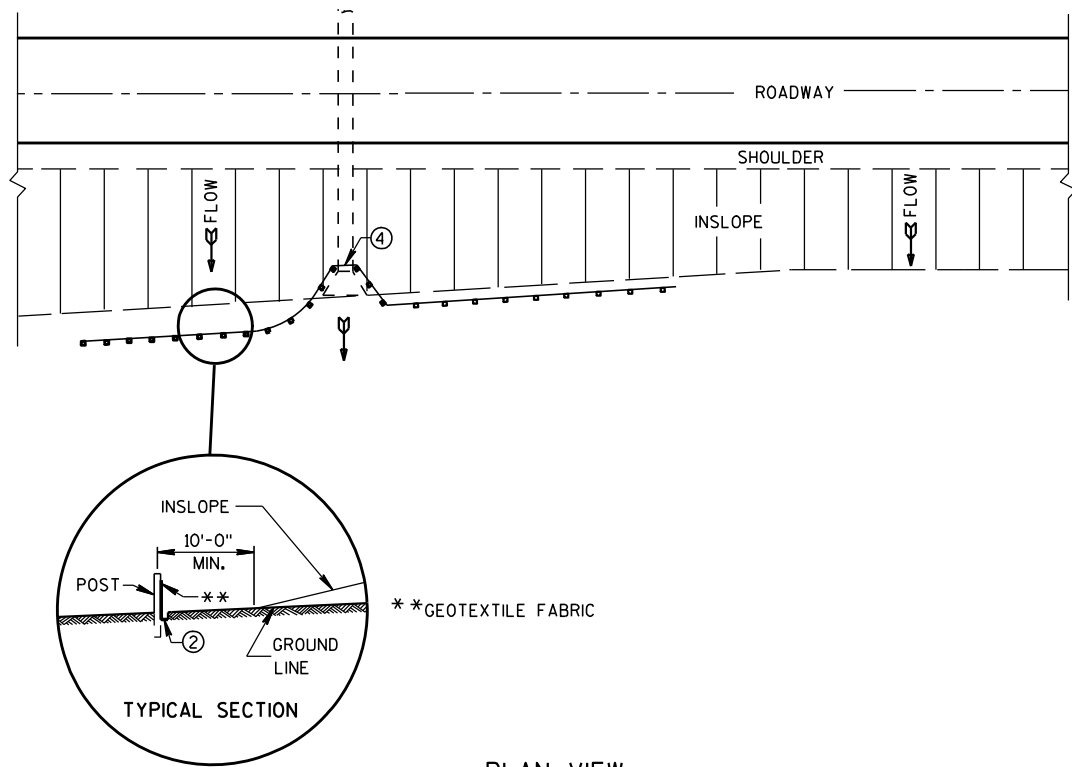
WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE

EROSION BALES FOR SHEET FLOW

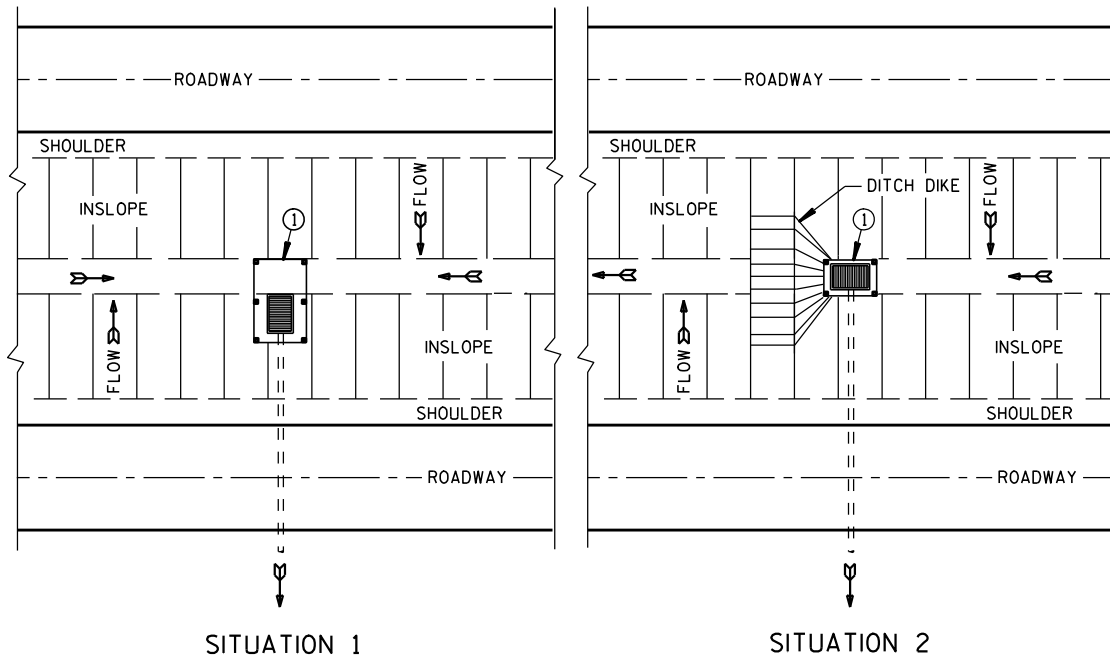
TYPICAL INSTALLATIONS OF
EROSION BALES / TEMPORARY
DITCH CHECKS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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



PLAN VIEW
TYPICAL APPLICATION OF SILT FENCE

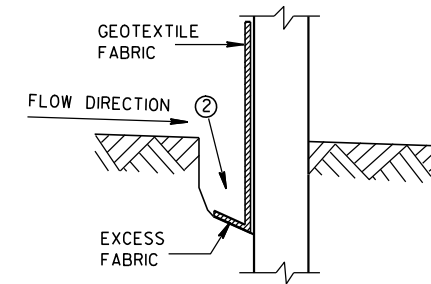


SITUATION 1 SITUATION 2
PLAN VIEW
SILT FENCE AT MEDIAN SURFACE DRAINS

GENERAL NOTES

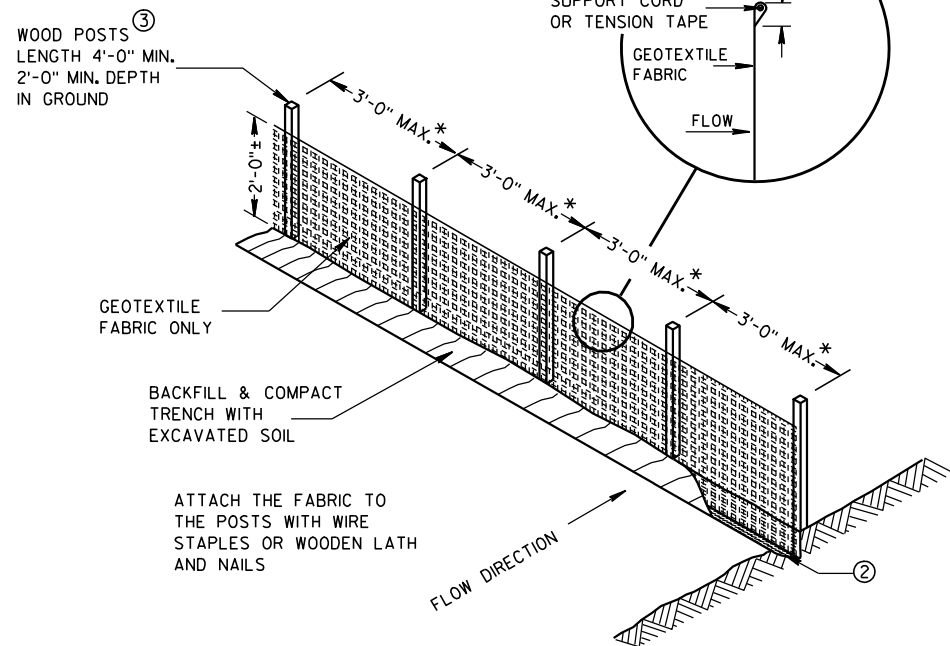
DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

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



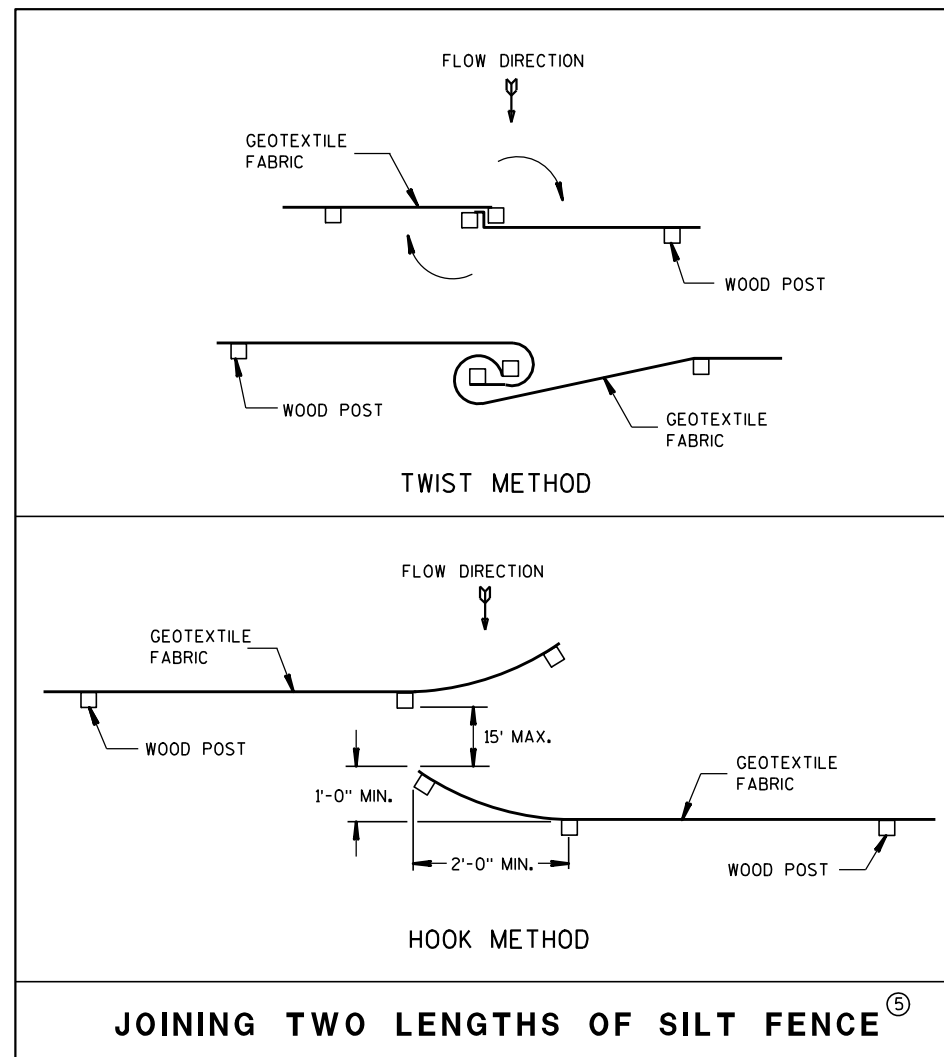
TRENCH DETAIL

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

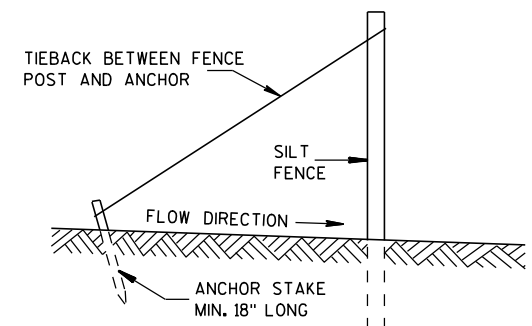


SILT FENCE

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



JOINING TWO LENGTHS OF SILT FENCE ⑤

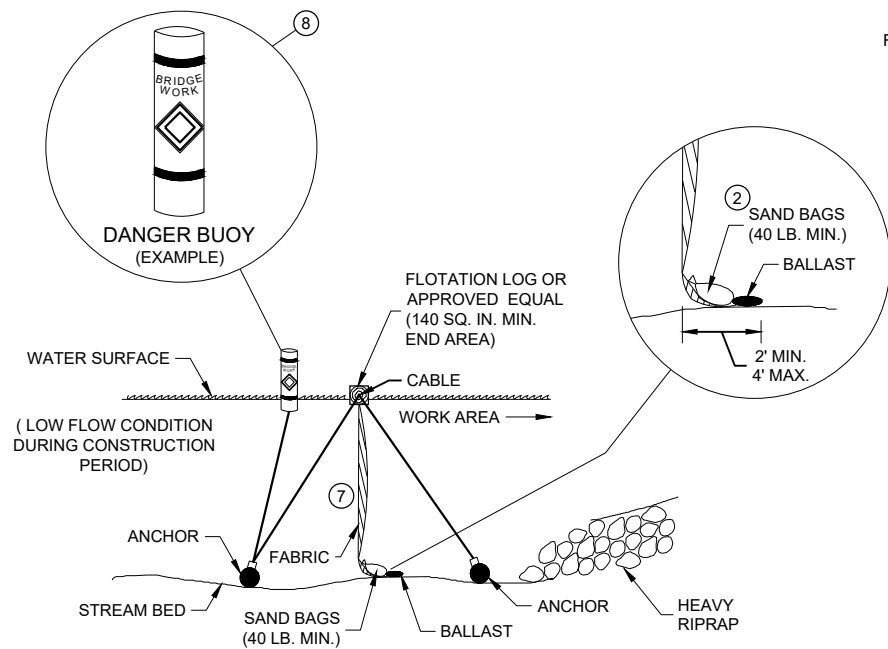


SILT FENCE TIE BACK
(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

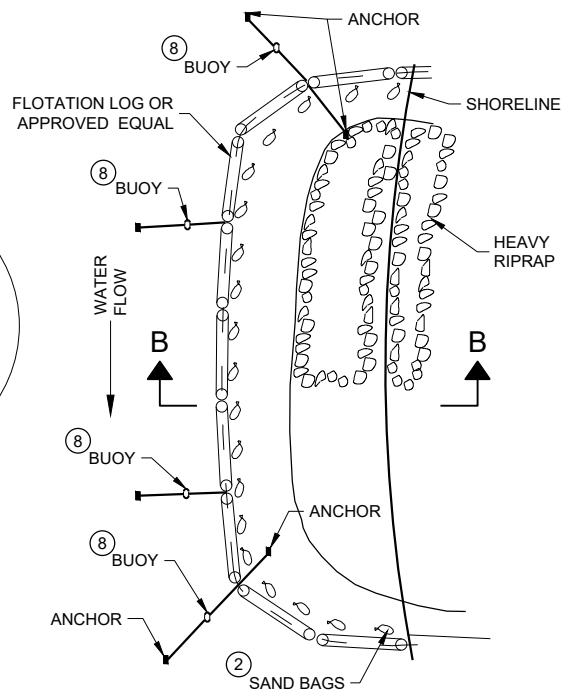
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

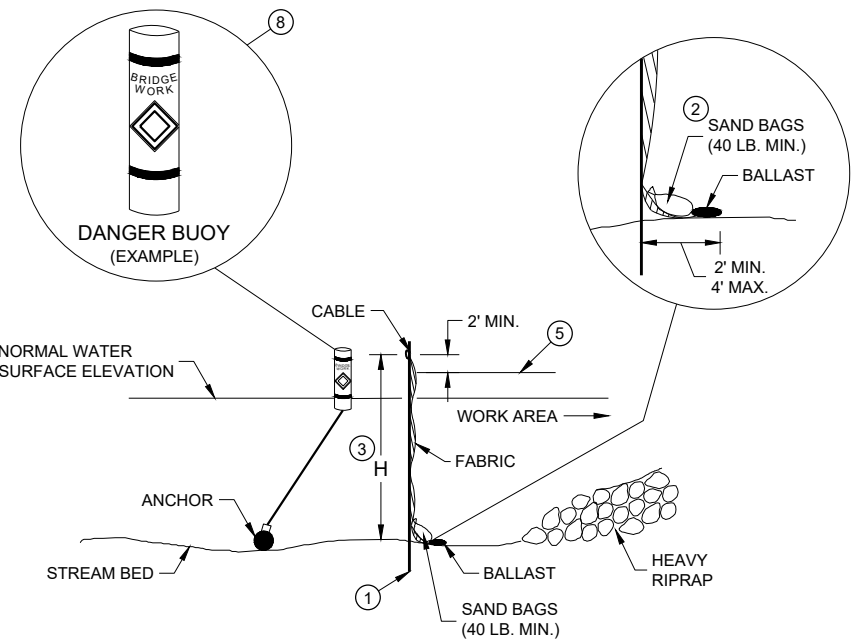


SECTION B - B

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

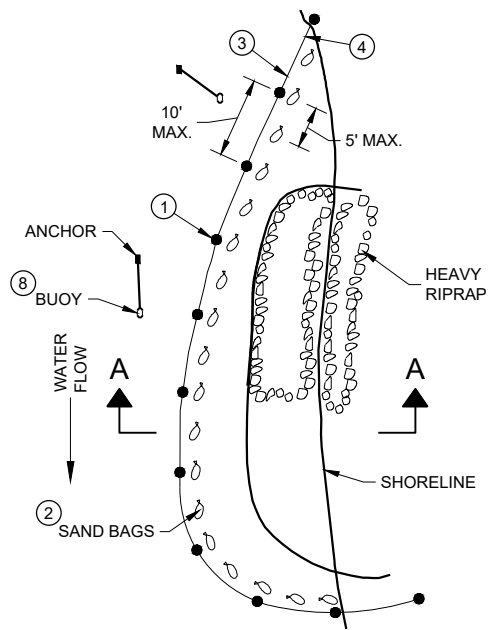


PLAN VIEW



SECTION A - A

TURBIDITY BARRIER - STANDARD POST INSTALLATION



PLAN VIEW

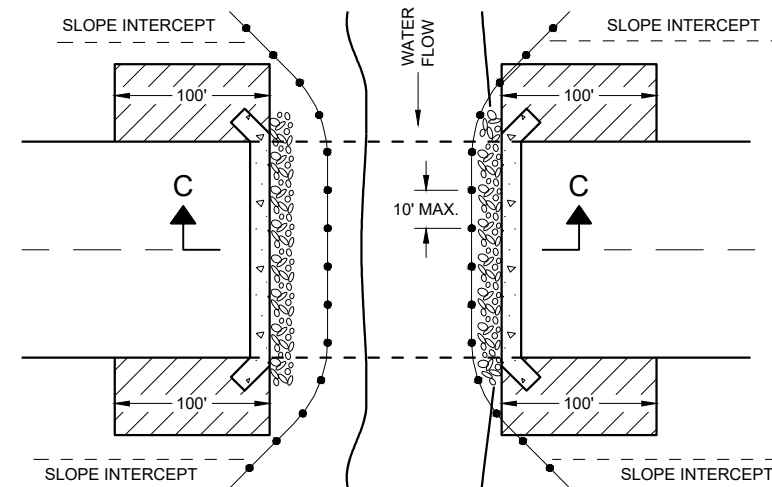
TURBIDITY BARRIER PLACEMENT DETAILS

GENERAL NOTES

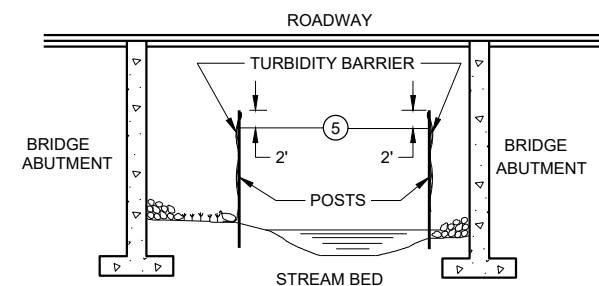
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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

- ① DRIVEN STEEL POSTS, PIPES, OR CHANNELS. LENGTH SHALL BE SUFFICIENT TO SECURELY SUPPORT BARRIER AT HIGH WATER ELEVATIONS.
- ② SAND BAGS TO BE USED AS ADDITIONAL BALLAST WHEN ORDERED BY THE ENGINEER TO MEET ADVERSE FIELD CONDITIONS. SPACE AS APPROPRIATE FOR SITE CONDITIONS.
- ③ WHEN BARRIER HEIGHT "H" EXCEEDS 8 FEET, POST SPACING MAY NEED TO BE DECREASED.
- ④ IN WATERWAYS SUBJECT TO FLUCTUATING WATER ELEVATIONS, PROVISIONS SHOULD BE MADE TO ALLOW THE WATER TO EQUALIZE ON EACH SIDE OF THE BARRIER. THIS MAY BE ACCOMPLISHED BY LEAVING A PORTION OF THE BARRIER OPEN ON THE UPSTREAM END.
- ⑤ ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION PERIOD. MINIMUM BARRIER HEIGHT SHALL BE 2' GREATER THAN EITHER THE Q2 ELEVATION OR THE ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION, WHICHEVER IS GREATER.
- ⑥ FLOAT ALTERNATIVE WILL ONLY BE ALLOWED WITH WRITTEN APPROVAL OF THE ENGINEER, AND IS MEANT FOR LOCATIONS WHERE BEDROCK PREVENTS THE INSTALLATION OF POSTS.
- ⑦ ALLOW SUFFICIENT SLACK VERTICALLY AND HORIZONTALLY SO THAT SEDIMENT BUILD UP WILL NOT SEPARATE OR LOWER THE TURBIDITY BARRIER.
- ⑧ USE AS DIRECTED BY COAST GUARD OR DNR PERMIT WHEN WORKING IN NAVIGABLE WATERWAYS.



PLAN VIEW



SECTION C - C

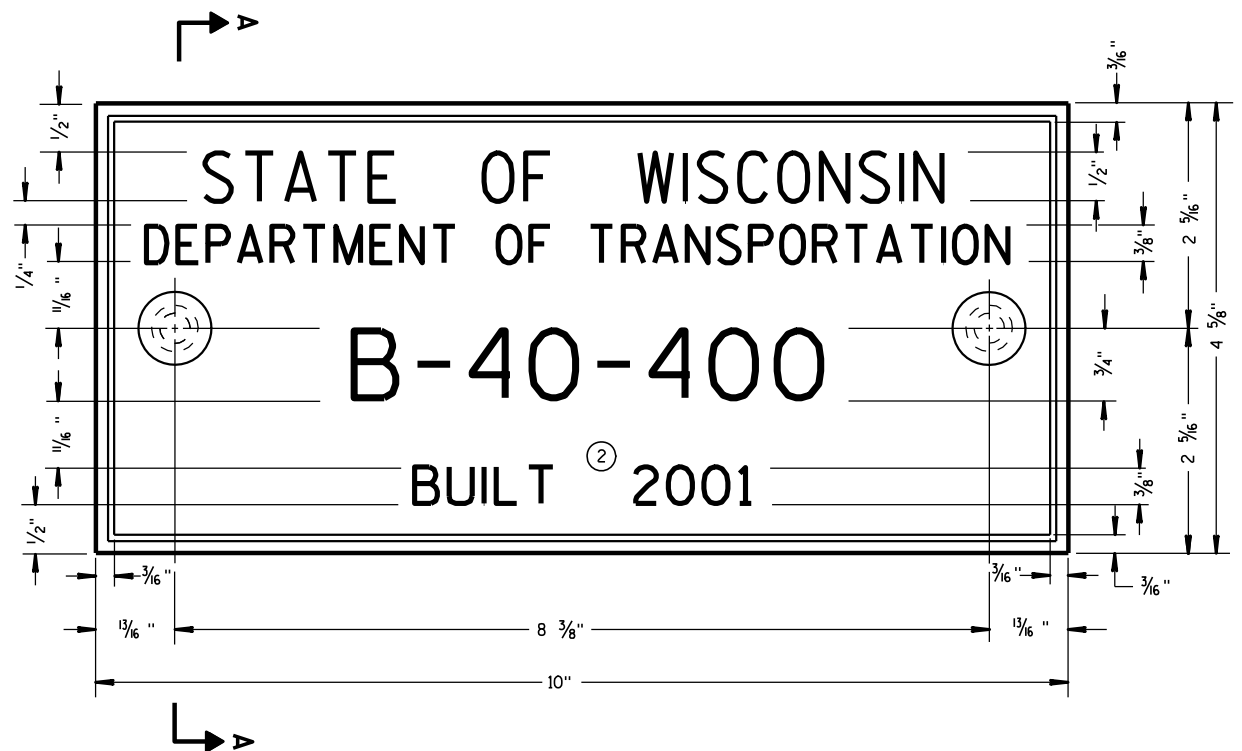
**TURBIDITY BARRIER DETAIL SHOWING
TYPICAL PLACEMENT AT STRUCTURES**

TURBIDITY BARRIER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA



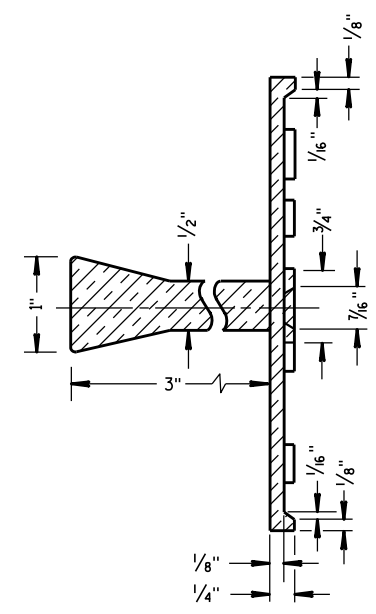
TYPICAL NAME PLATE
(BRIDGES, CULVERTS, AND RETAINING WALLS)

GENERAL NOTES

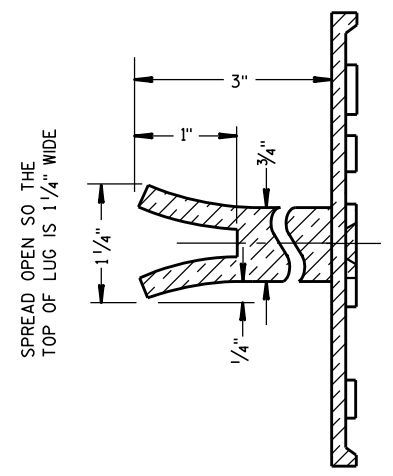
NAME PLATES TO BE INSTALLED ON BRIDGES, CULVERTS, AND RETAINING WALLS SHALL CONFORM TO THE REQUIREMENTS OF SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS.

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

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



SECTION A-A



ALTERNATE LUG

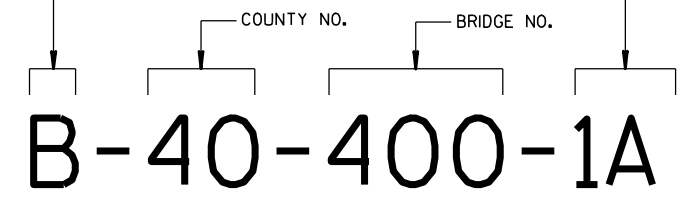
6

6

FOR MULTI-UNIT STRUCTURES
LINE 3 ABOVE SHALL READ

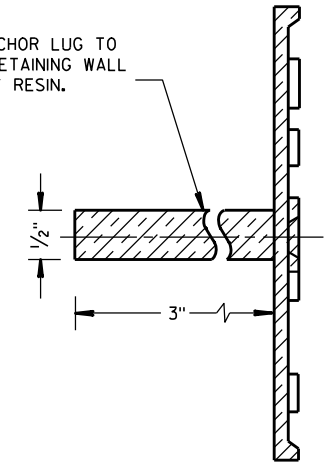
B = BRIDGE
C = CULVERT
R = RETAINING WALL

UNIT NO. FOR MULTIPLE
UNIT BRIDGE



**NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES**

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

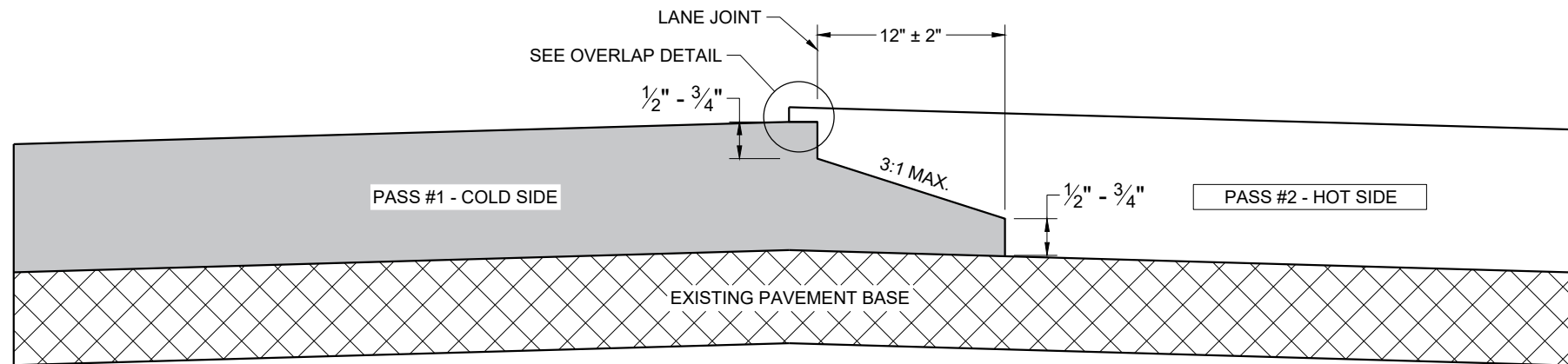


ALTERNATE LUG
(FOR ATTACHMENT TO PRECAST STRUCTURES)

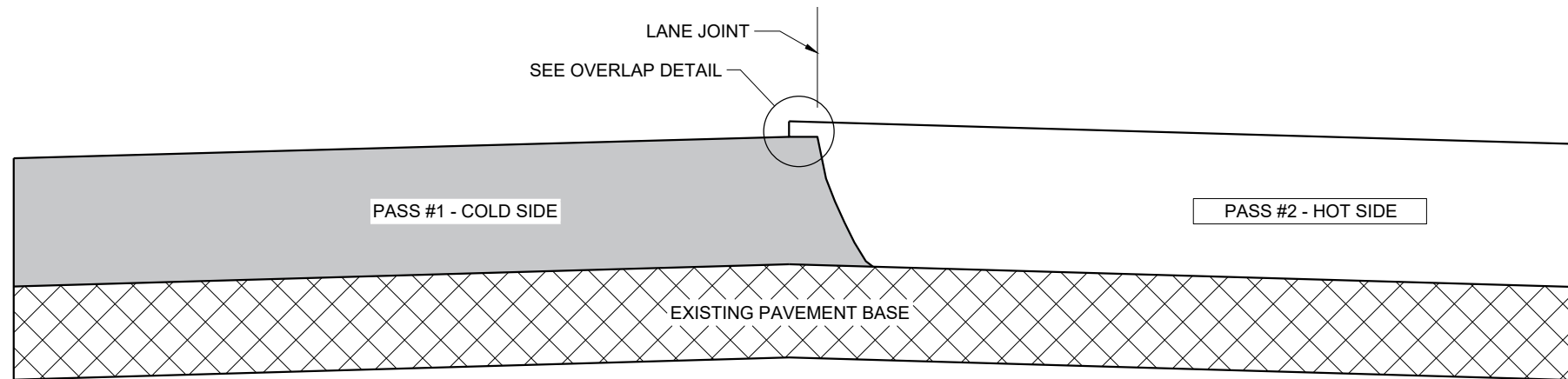
S.D.D. 12 A 3-10

S.D.D. 12 A 3-10

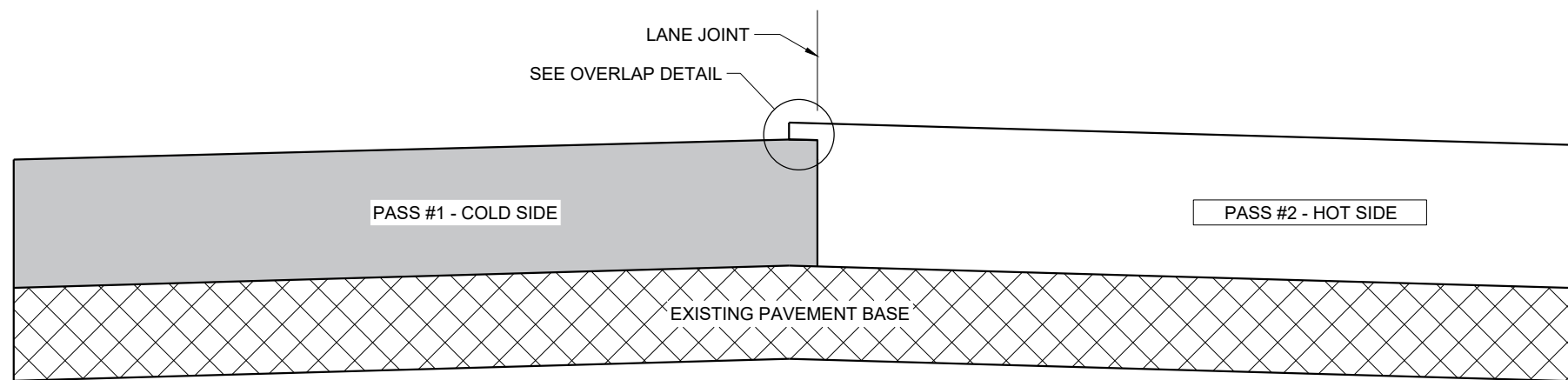
NAME PLATE (STRUCTURES)	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED DATE 3/26/10	/S/ Scot Becker CHIEF STRUCTURAL DEVELOPMENT ENGINEER
FHWA	



**TYPICAL PAVEMENT CROSS SECTION
NOTCHED WEDGE JOINT**



**TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT**



**TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT (MILLED)**

GENERAL NOTES

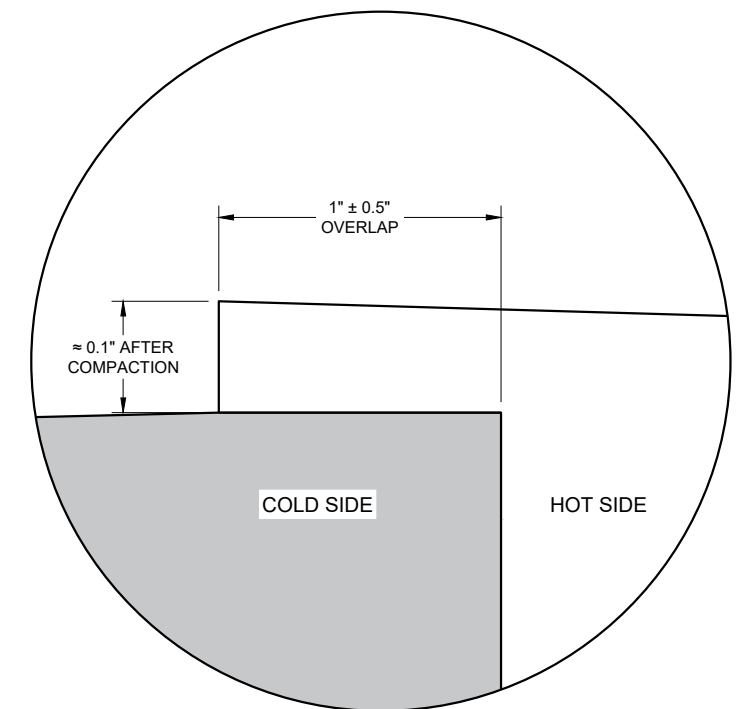
IN ADDITION TO THE DETAILS PROVIDED IN THIS DRAWING, CONFORM TO STANDARD SPECIFICATION 450.3.2.8 FOR WHEN A NOTCHED WEDGE JOINT IS REQUIRED AND FOR GENERAL JOINT CONSTRUCTION REQUIREMENTS.

FOR ALL LONGITUDINAL JOINTS, ENSURE THE PAVER SCREED OVERLAPS THE PREVIOUSLY PLACED PAVEMENT BY $1" \pm 0.5"$ AND THE HOT SIDE OF THE JOINT REMAINS HIGHER THAN THE COLD SIDE BY APPROXIMATELY 0.1" AFTER FINAL COMPACTION. (IT WILL BE FLUSH WHEN PAVING IN ECHELON.)

ONLY REMOVE THE LONGITUDINAL NOTCHED WEDGE JOINT FOR SMA PAVEMENT OR AS DIRECTED BY THE ENGINEER TO ADDRESS SPECIFIC LENGTHS OF JOINT DAMAGED BY TRAFFIC.

WHEN MILLING BACK OR REMOVING ANY LONGITUDINAL JOINT, LIMIT THE MATERIAL REMOVED TO 2" FROM THE TOP NOTCH OR FROM THE VERTICAL JOINT EDGE ON THE COLD SIDE OF THE JOINT.

USE LONGITUDINAL MILLED JOINT AS PLANS SHOW OR THE AS THE ENGINEER DIRECTS.



OVERLAP DETAIL (TYPICAL)

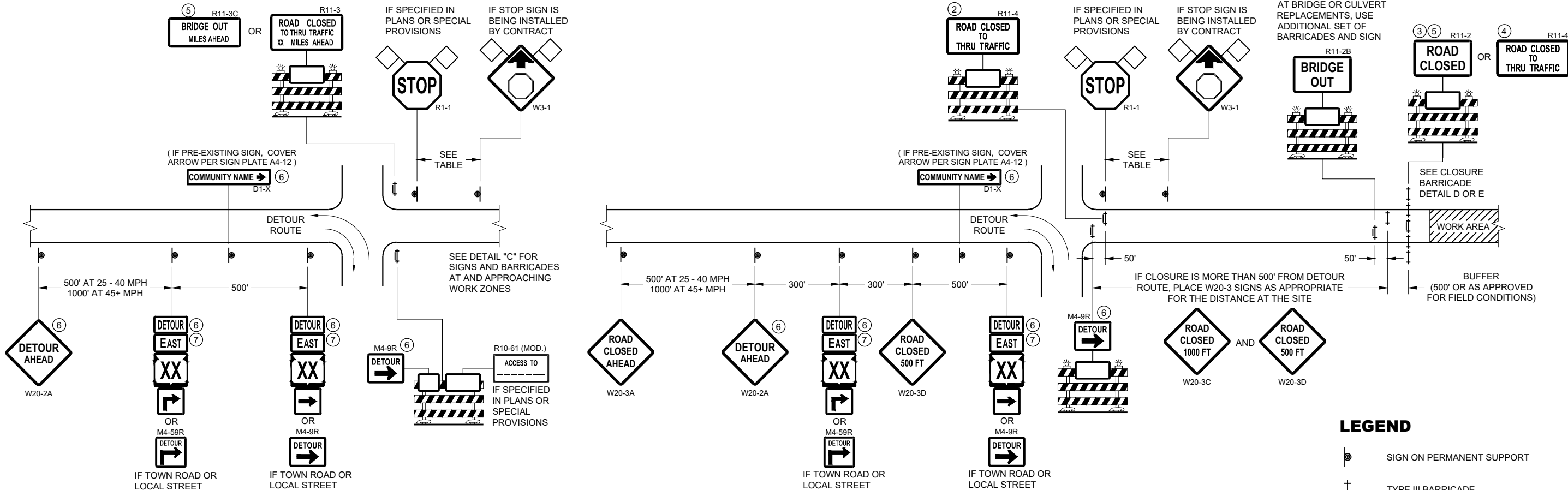
6

6

SDD 13C19 - 03

SDD 13C19 - 03

HMA LONGITUDINAL JOINTS	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED November 2020 DATE	/S/ Steven Hefel HMA PAVEMENT ENGINEER
FHWA	



**DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR**

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

**DETAIL B
MAINLINE CLOSURE WITH POSTED DETOUR**

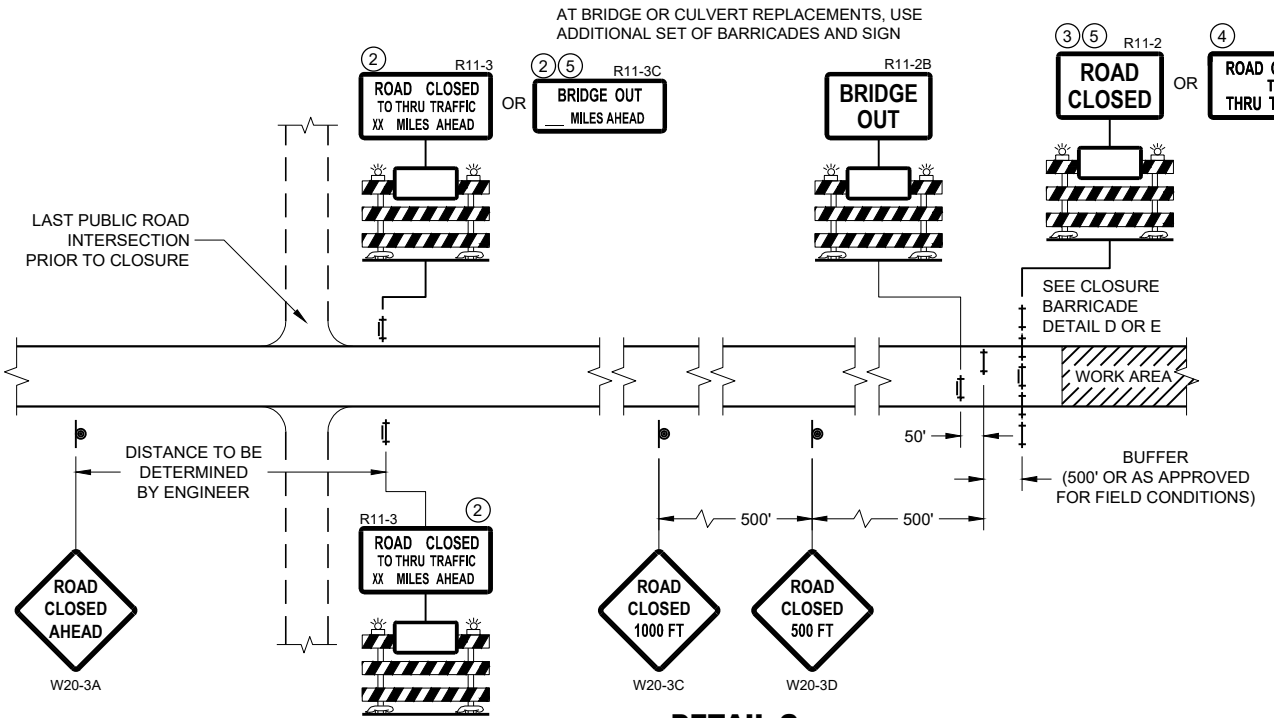
WORK ZONE LESS THAN 1/2 MILE FROM
DETOUR ROUTE (1000 FEET IF URBAN)

LEGEND

- SIGN ON PERMANENT SUPPORT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TYPE "A" WARNING LIGHT (FLASHING)
- WORK AREA
- FLAGS, 16" X 16" MIN. (ORANGE)

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

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



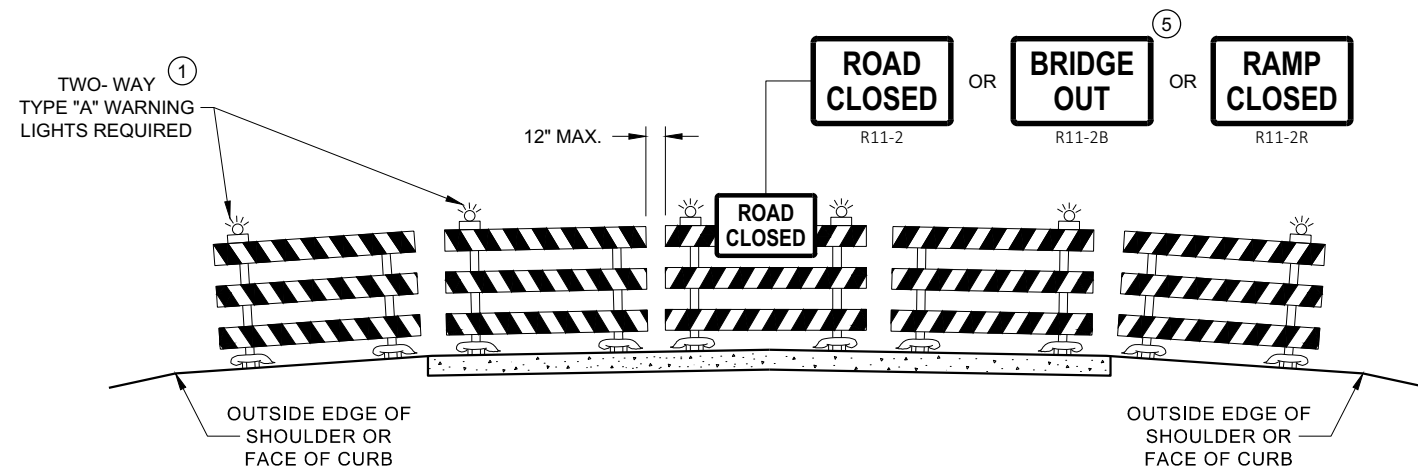
**DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR**

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

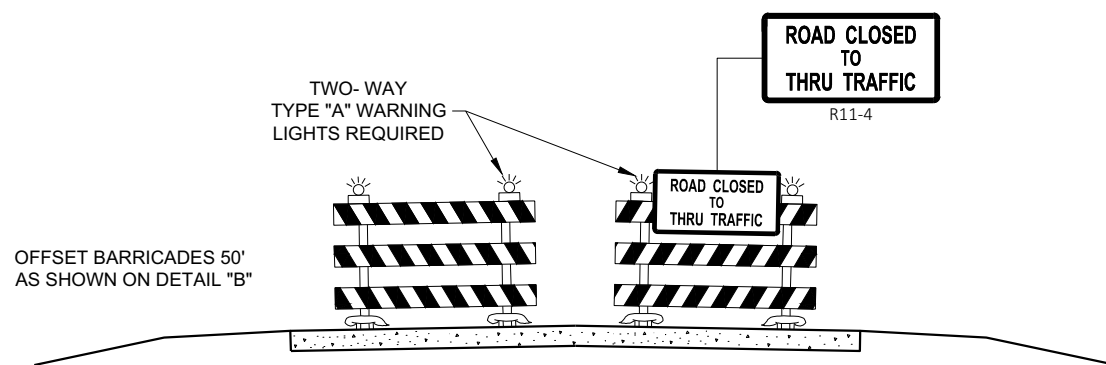
**BARRICADES AND SIGNS
FOR MAINLINE CLOSURES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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



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



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

SEE SDD 15C2 - SHEET "a" FOR LEGEND

GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

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

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

**BARRICADES AND SIGNS
FOR
VARIOUS CLOSURES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA

GENERAL NOTES

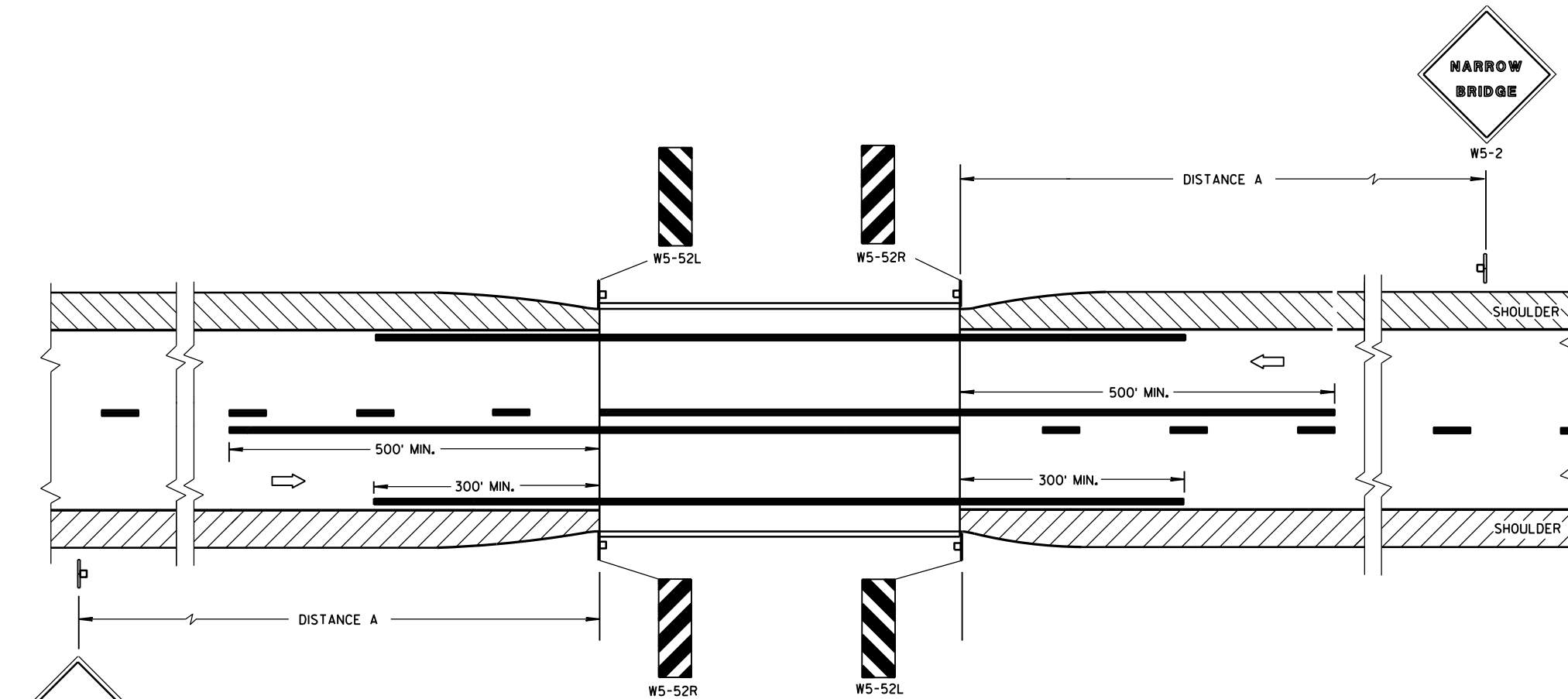
DETAILS OF TRAFFIC CONTROL DEVICES AND INSTALLATION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

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

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

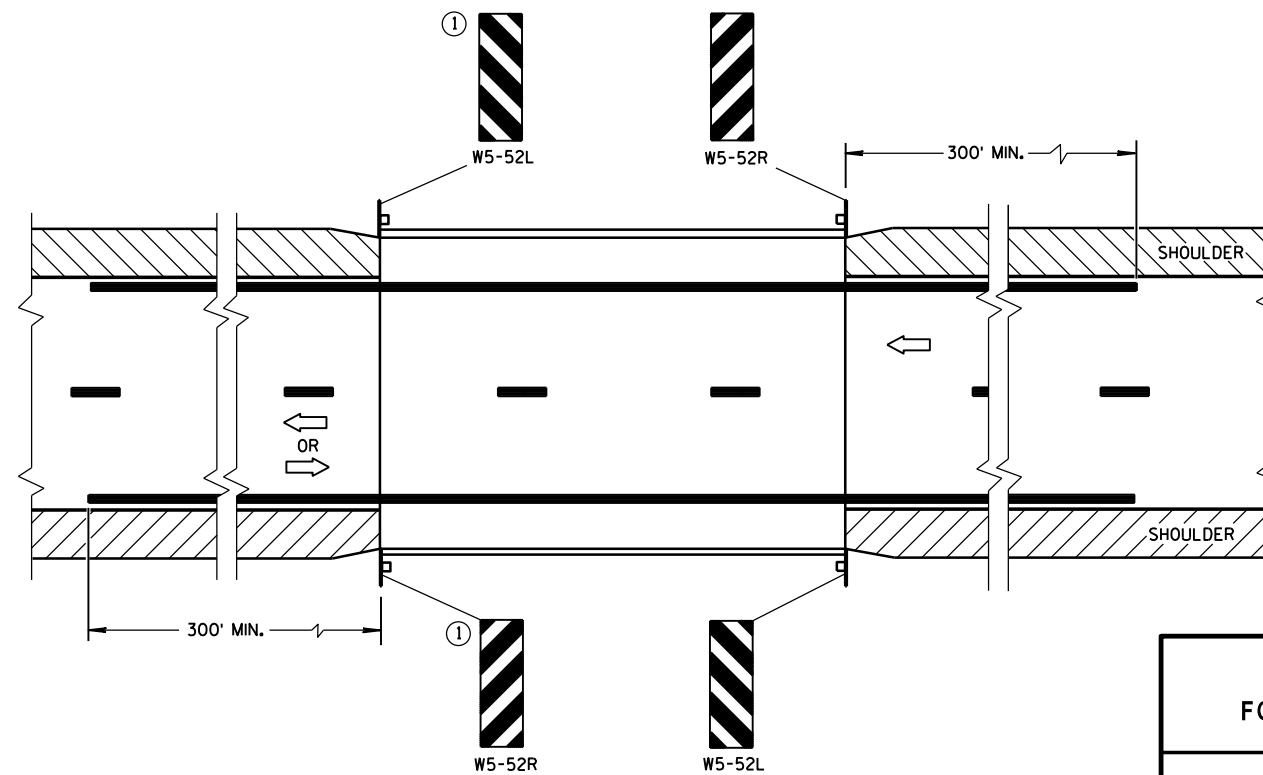
① OMIT ON ONE-WAY TRAVELLED WAYS.

➡ DIRECTION OF TRAFFIC



SITUATION 1

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



SITUATION 2

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

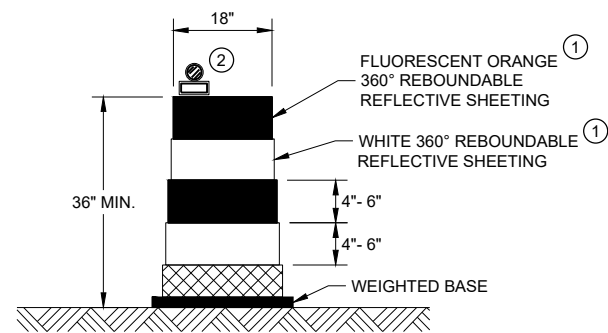
DISTANCE TABLE

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

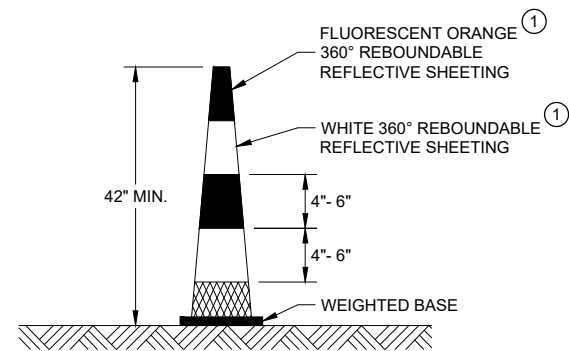
SIGNING & MARKING FOR TWO LANE BRIDGES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

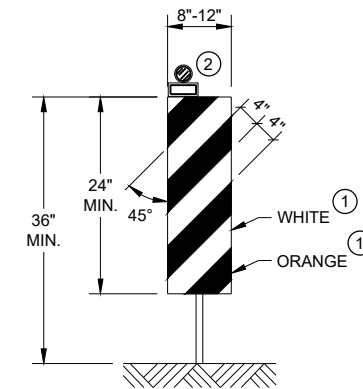


DRUM



42" CONE

DO NOT USE IN TAPERS
 1/2 SPACING OF DRUMS

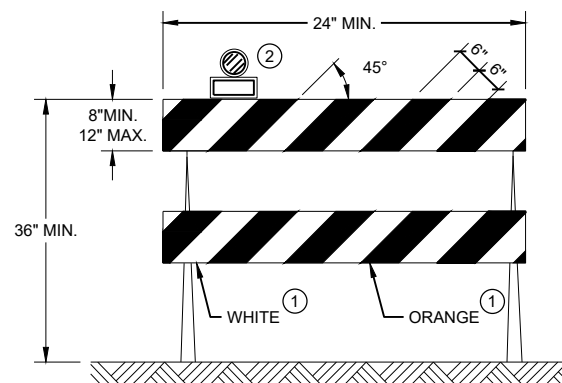


VERTICAL PANEL

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

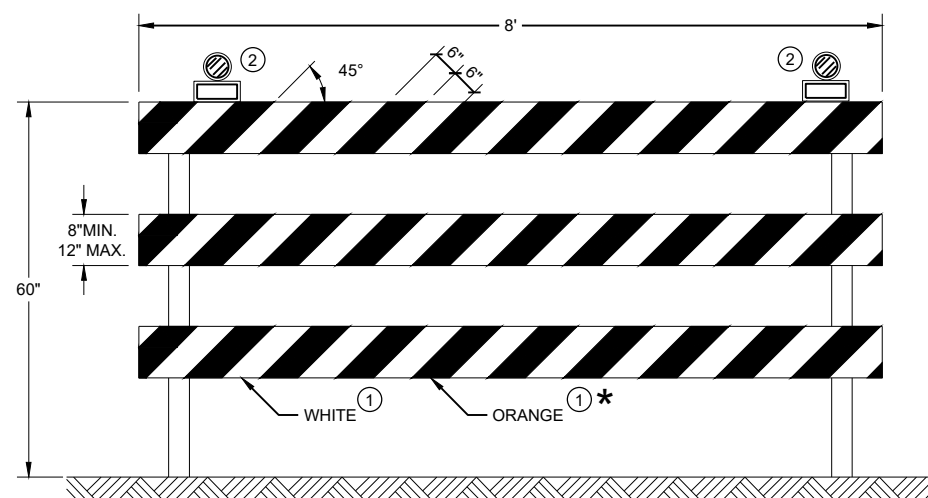
GENERAL NOTES

- 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.



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.

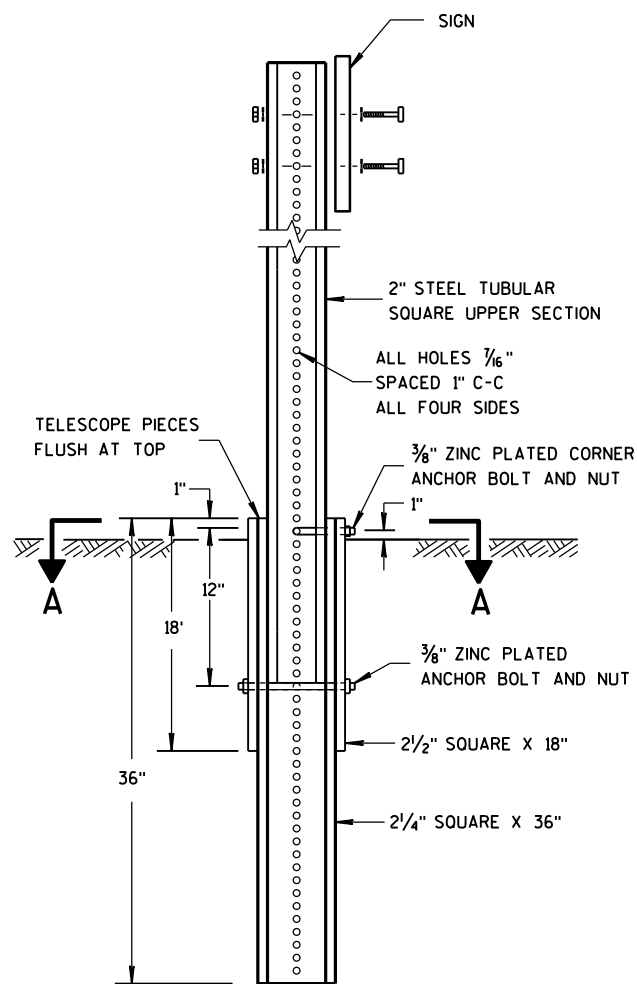


TYPE III BARRICADE

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 May 2021 DATE	/S/ Andrew Heidtke WORK ZONE ENGINEER
<small>FHWA</small>	



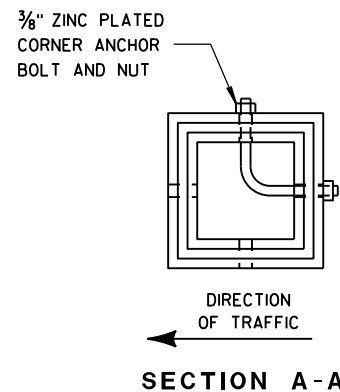
DETAIL OF TUBULAR STEEL SIGN POST

TUBULAR STEEL POSTS

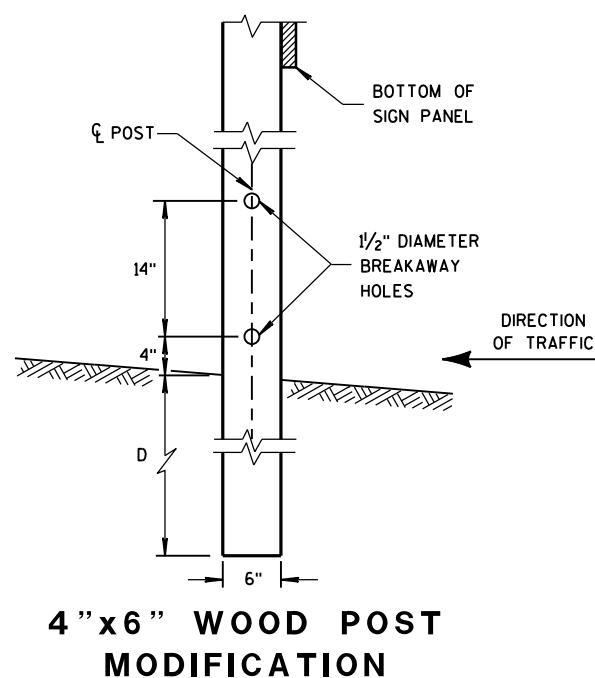
AREA OF SIGN INSTALLATION (SQ. FT.)	NUMBER OF REQUIRED TUBULAR STEEL POSTS
9 OR LESS	1
GREATER THAN 9 LESS THAN OR EQUAL TO 18	2
GREATER THAN 18 LESS THAN OR EQUAL TO 27	3

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

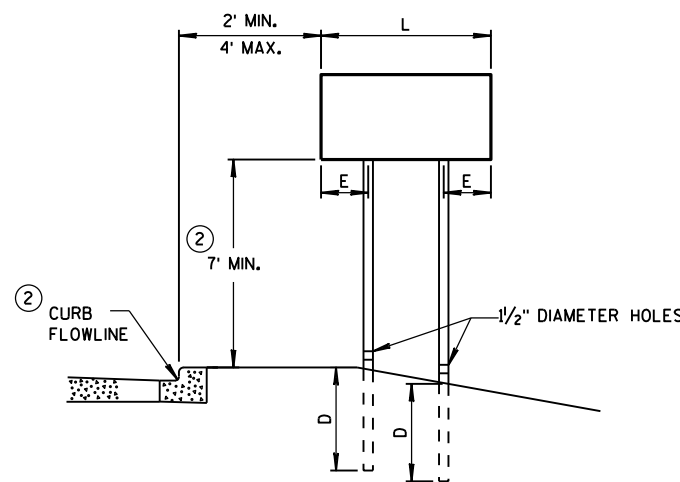
SIGNS LARGER THAN 27 SQ. FT. SHALL NOT BE MOUNTED ON TUBULAR STEEL POSTS.



SECTION A-A



4" X 6" WOOD POST MODIFICATION

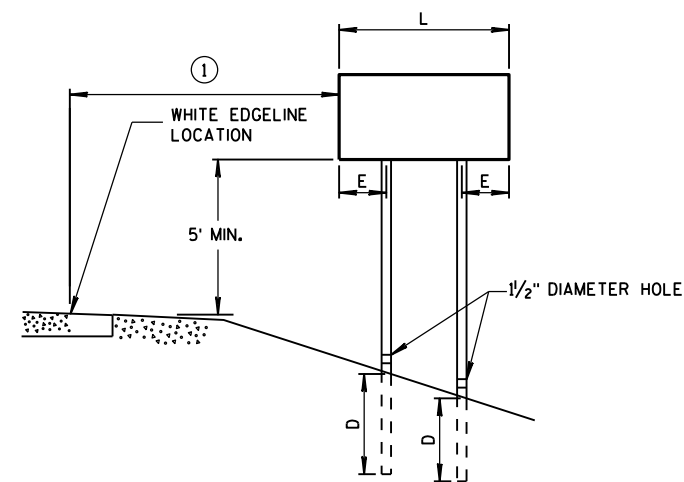


URBAN AREA

POST MOUNTING DETAIL FOR TEMPORARY TRAFFIC CONTROL FIXED MESSAGE SIGNS

WOOD POST EMBEDMENT DEPTH

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



RURAL AREA

4" X 6" WOOD POST

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

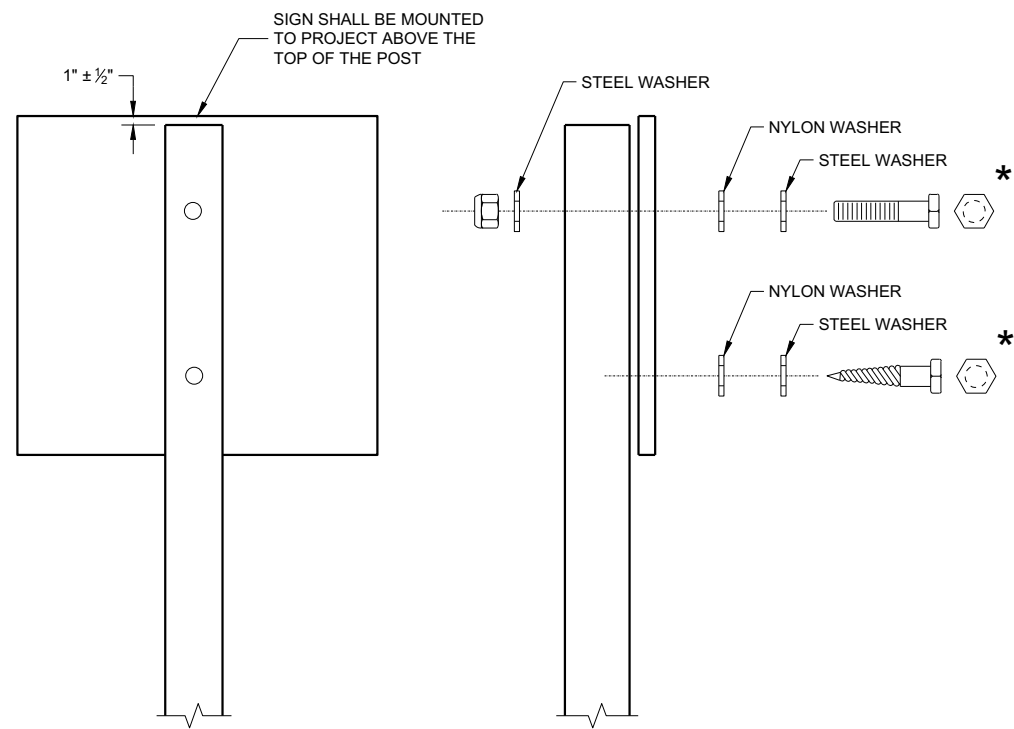
SEE NOTE ③

GENERAL NOTES

- ① 6 FEET FROM THE EDGE OF PAVEMENT (EDGE LINE LOCATION) UNLESS OTHERWISE DIRECTED BY THE PROJECT ENGINEER. LATERAL OFFSET SHOULD BE ADJUSTED TO AVOID THE DITCH FLOWLINE.
- ② THE EXISTENCE OF CURB AND GUTTER DOES NOT IN ITSELF MANDATE THE VERTICAL CLEARANCE ILLUSTRATED. THAT HEIGHT IS TYPICALLY MEASURED WHERE THERE IS SIDEWALK ADJACENT TO THE ROADWAY OR PARKING IS PERMITTED. IN THE ABSENCE OF SIDEWALK, VERTICAL CLEARANCE IS MEASURED FROM THE TOP OF THE CURB. IF NO SIDEWALK AND NO PARKING, VERTICAL CLEARANCE MAY BE REDUCED TO 5 FOOT MINIMUM. OFFSET OF SIGNS IS MEASURED FROM THE CURB FLOWLINE.
- ③ FOR SIGNS REQUIRING 4 POSTS, SPACE INTERMEDIATE POSTS EVENLY.

TEMPORARY TRAFFIC CONTROL SIGN MOUNTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



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

- A. HOT DIP GALVANIZED IN ACCORDANCE WITH ASTM DESIGNATION: A 153, CLASS D, OR SC 3
- B. ELECTRO-GALVANIZED IN ACCORDANCE WITH ASTM DESIGNATION: B 633, TYPE III, SC 3

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

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

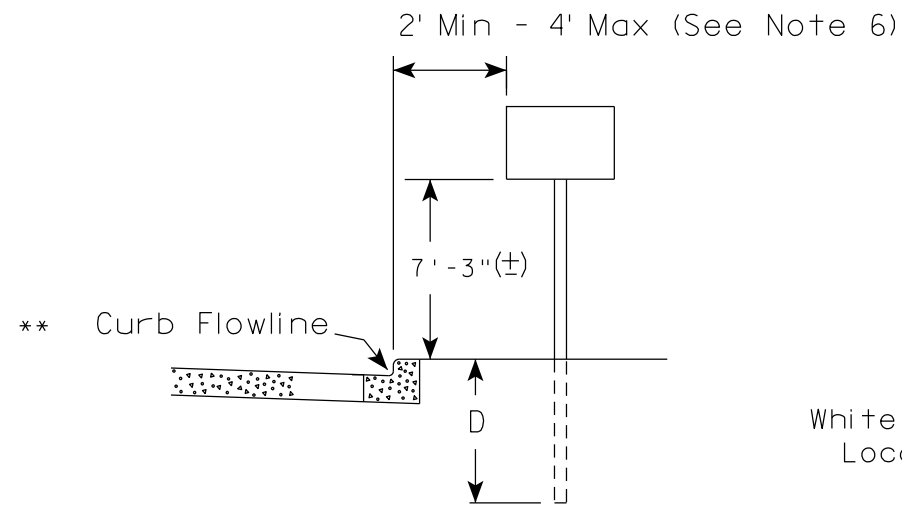
SQUARE STEEL POST (2" x 2")
 MACHINE BOLTS - 3/8" x 3 1/4" LENGTH W/NUTS
 RIVETS - 3/32" (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM
 BODY/MANDREL O.D. FLANGE 0.720 - 0.765 INCH,
 GRIP RANGE 0.042 - 0.375 INCH

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

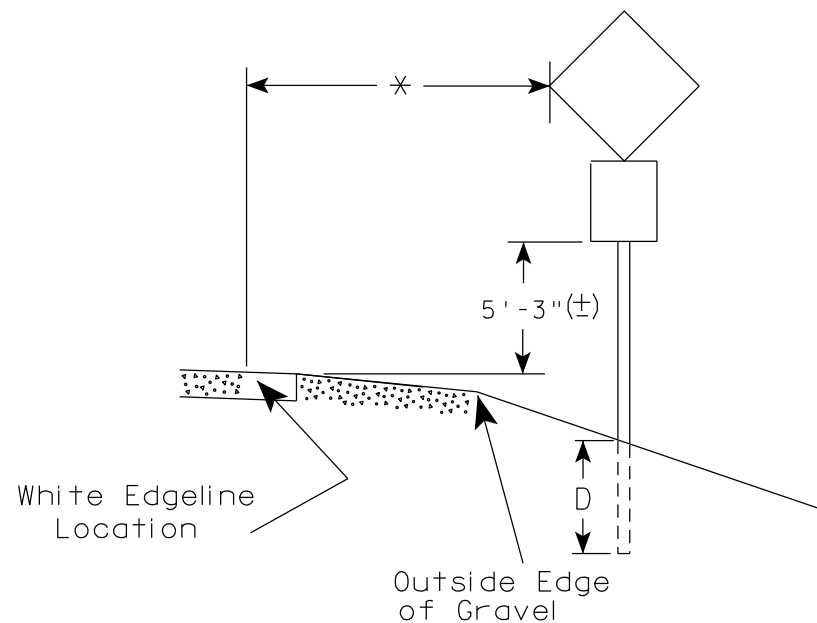
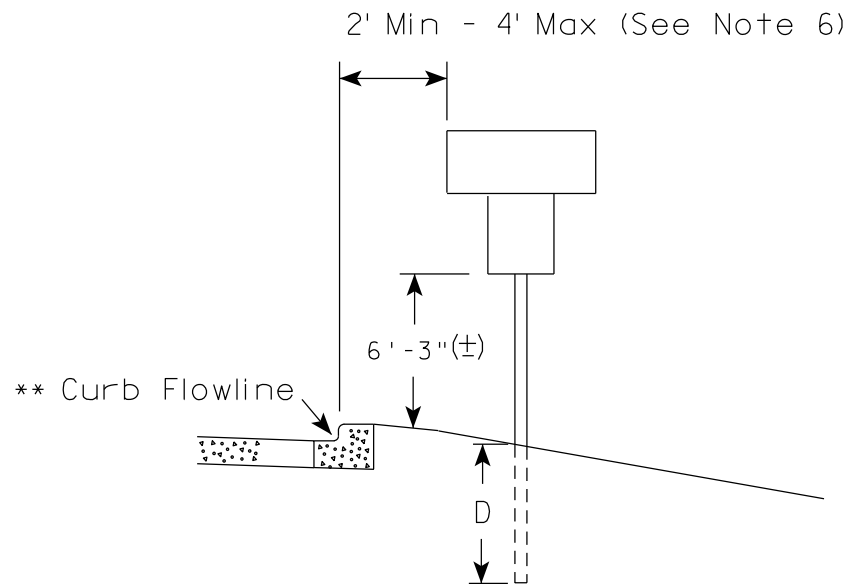
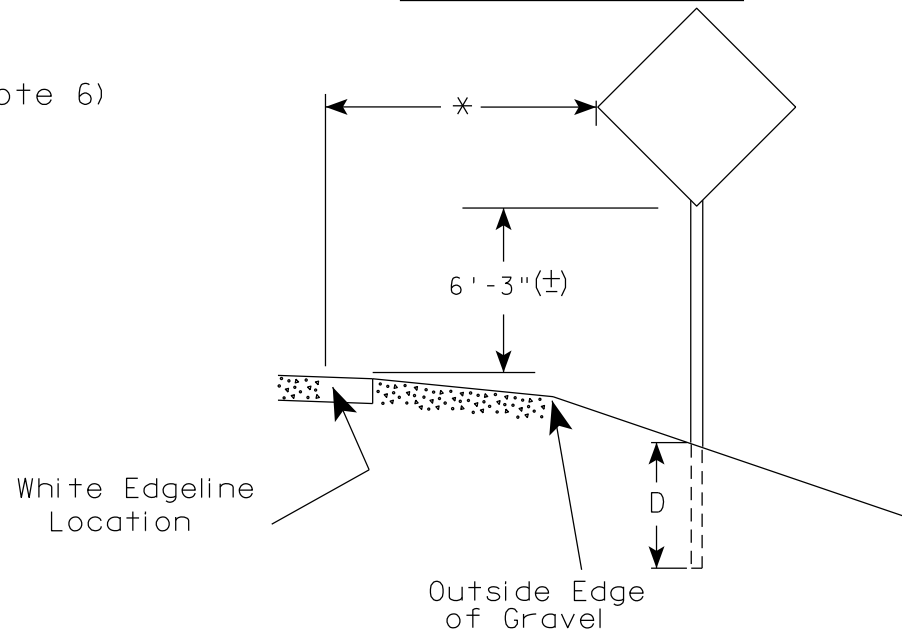
* TWO DIFFERENT FASTENING SYSTEMS ARE SHOWN FOR ILLUSTRATION PURPOSES. ON ANY INDIVIDUAL SIGN, EITHER ONE OR THE OTHER SYSTEM SHALL BE USED. ACTUAL NUMBER OF FASTENERS PER SIGN VARIES WITH THE SIGN AREA. FOR A SINGLE POST INSTALLATION, ALL SIGNS GREATER THAN 9 SQ. FT. REQUIRE THE USE OF 3 FASTENERS.

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

URBAN AREA



RURAL AREA (See Note 2)



GENERAL NOTES

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

POST EMBEDMENT DEPTH

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

* * The existence of curb and gutter does not in itself mandate the vertical clearance illustrated. That height is typically measured where there is sidewalk adjacent to the roadway or parking is permitted. In the absence of sidewalk vertical clearance is measured from the top of the curb. Offset of signs is measured from the flow line.

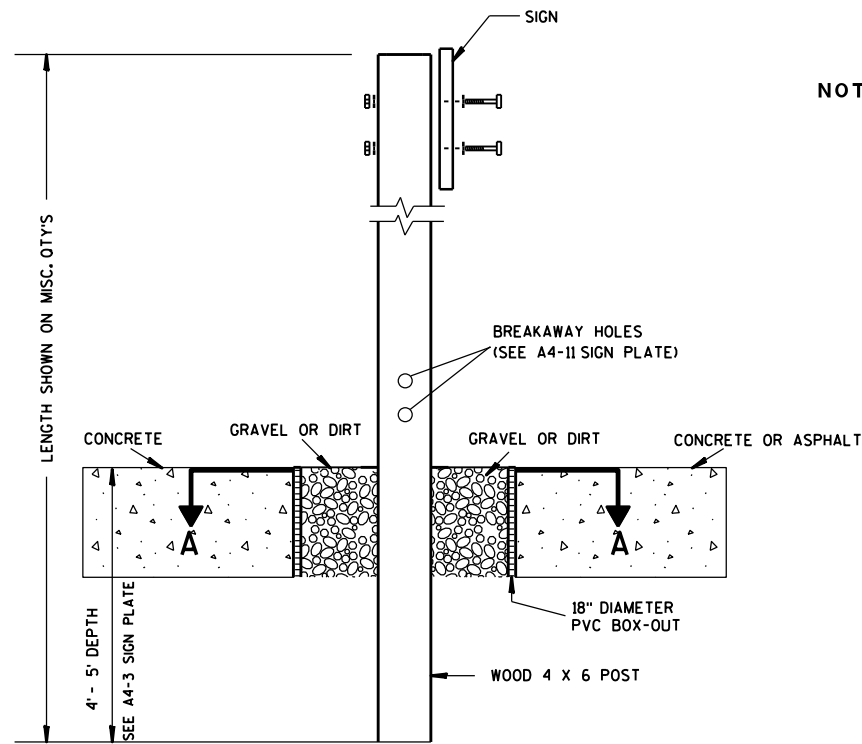
* 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.

TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

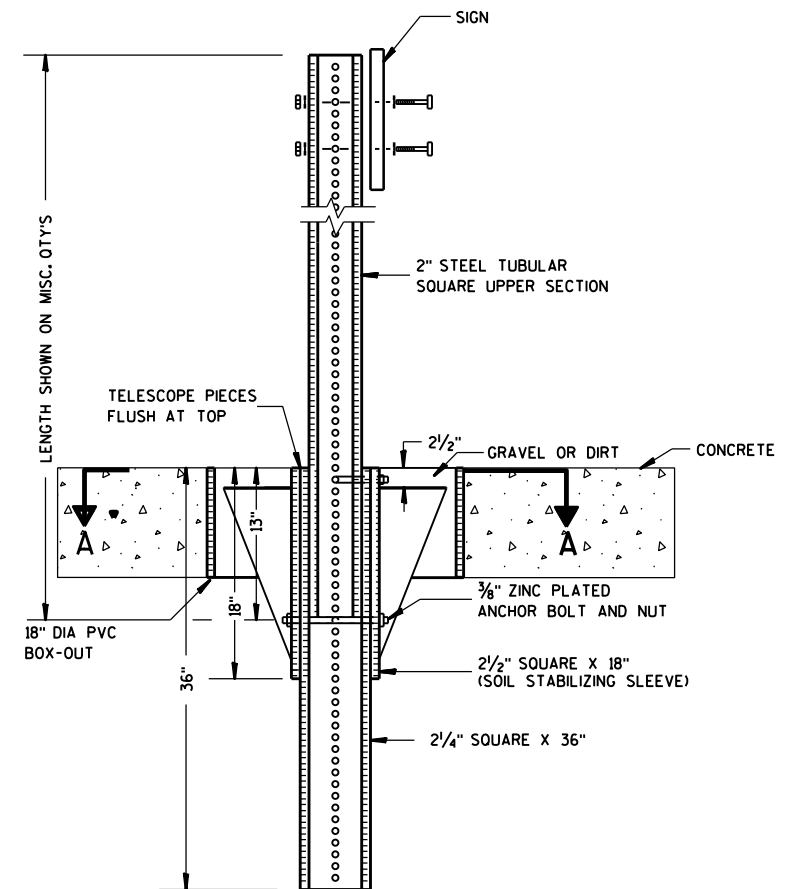
DATE 5/13/2020 PLATE NO. A4-3.22



ELEVATION VIEW

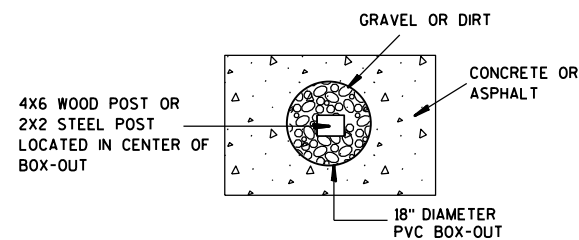
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

- NOTES:**
1. ALL MATERIAL TO BE APPROVED BY ENGINEER PRIOR TO INSTALLATION
 2. SEE SIGN PLATE A4-8 FOR SIGN HARDWARE REQUIREMENTS
 3. 18 INCH X 18 INCH SQUARE BOX-OUTS MAY BE USED FOR INSTALLATIONS IN EXISTING CONCRETE OR ASPHALT LOCATIONS.



ELEVATION VIEW

DETAIL OF STEEL 2 X 2 SIGN POST IN BOX-OUT



PLAN VIEW

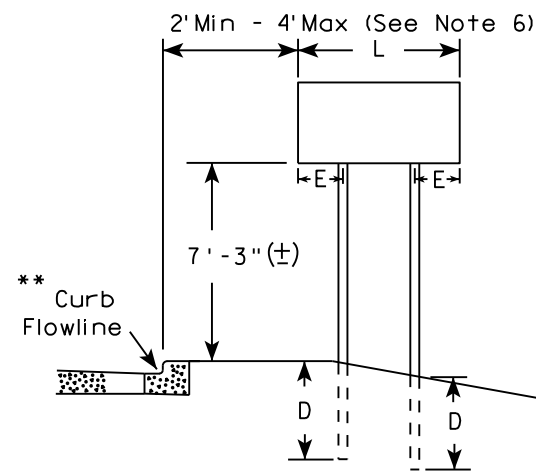
FOR NEW CONCRETE/ ASPHALT INSTALLATIONS

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

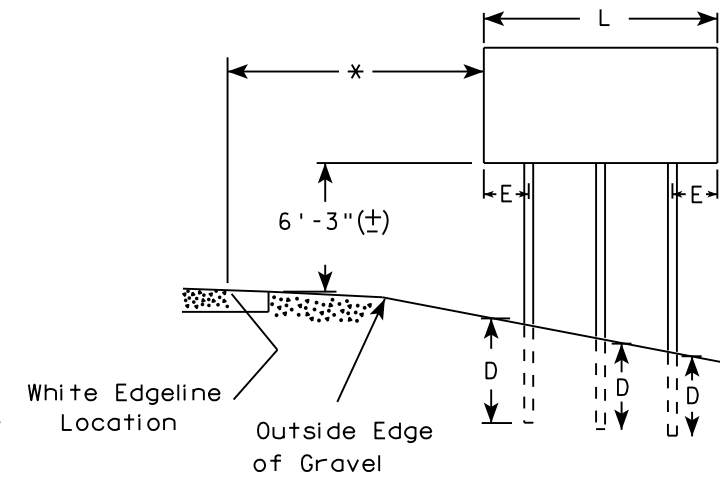
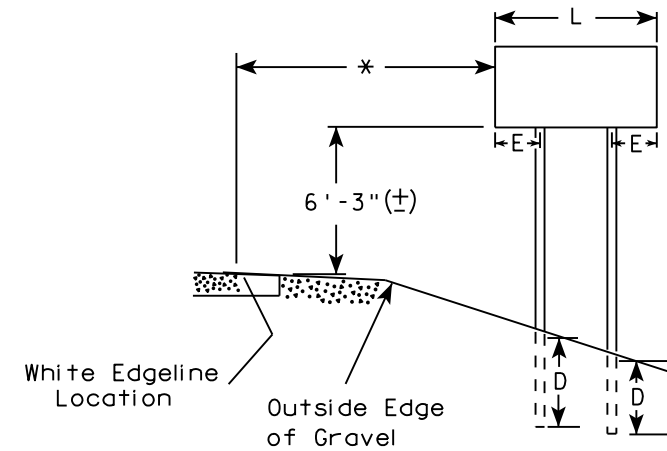
GENERAL NOTES

1. For 3 or 4 post installations, individual post spacing shall be greater than 3'-6".
2. See tables below for required number of posts.
3. For expressways and freeways, mounting height is 7'-3" (±) or 6'-3" (±) depending upon existence of sub-sign.
4. The (±) tolerance for mounting height is 3 inches.
5. J-Assemblies are considered to be one sign for mounting height.
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. Folding signs shall be mounted at a height of 5'-3" (±) or as directed by the engineer.
8. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4'-3" (±).

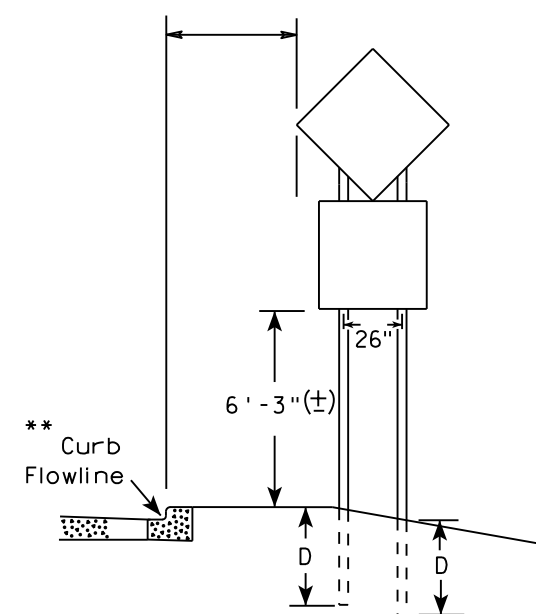
URBAN AREA



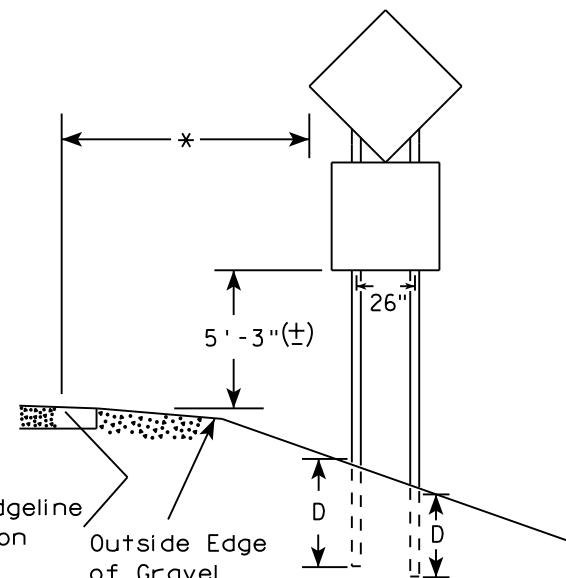
RURAL AREA (See Note 3)



2' Min - 4' Max (See Note 6)



48" DIAMOND WARNING SIGN



48" DIAMOND WARNING SIGN

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

** The existence of curb and gutter does not in itself mandate the vertical clearance illustrated. That height is typically measured where there is sidewalk adjacent to the roadway or parking is permitted. In the absence of sidewalk vertical clearance is measured from the top of the curb. Offset of signs is measured from the flow line.

*** See A4-3 sign plate for signs 4' or less in width and less than 20 S.F. in area.

SIGN SHAPE OTHER THAN DIAMOND (TWO POSTS REQUIRED)	
L	E
Greater than 48" Less than 60"	12"
60" to 108"	L/5

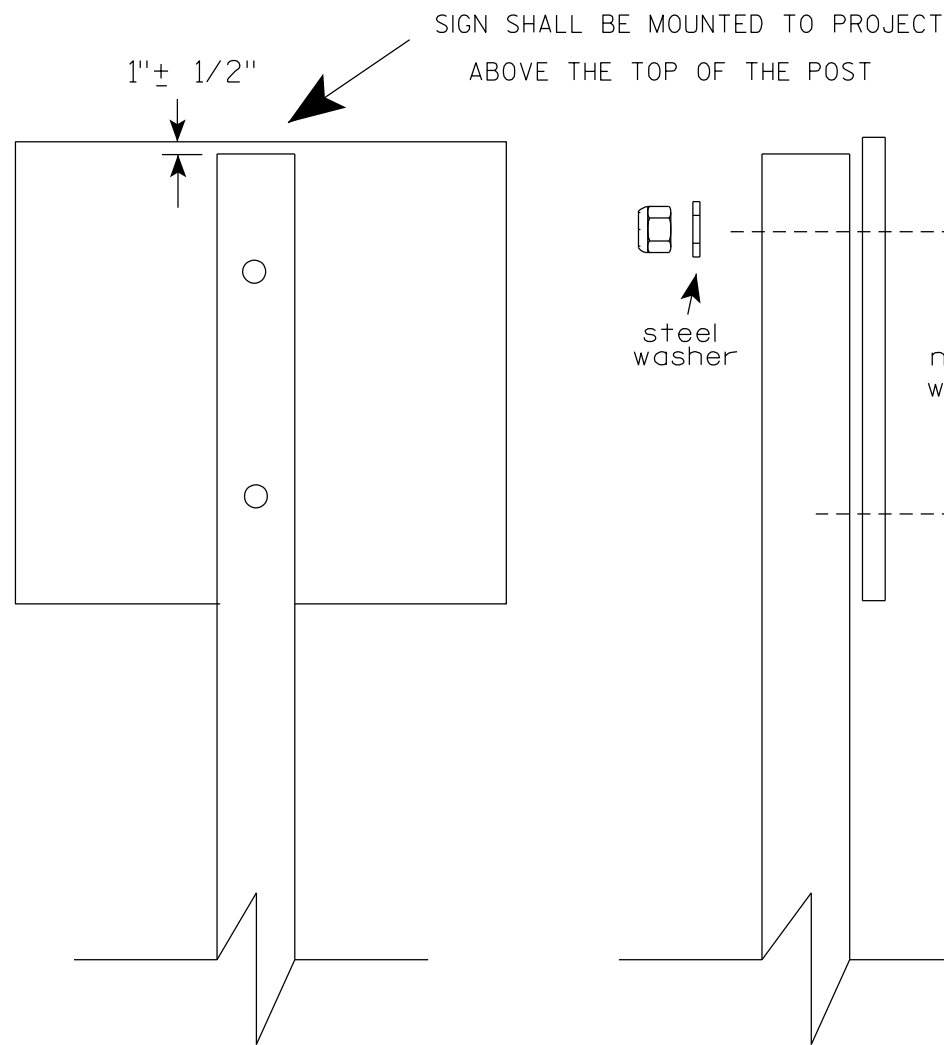
SIGN SHAPE OTHER THAN DIAMOND (THREE POSTS REQUIRED)	
L	E
Greater than 108" to 144"	12"

POST EMBEDMENT DEPTH

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

TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS

WISCONSIN DEPT OF TRANSPORTATION
 APPROVED *Matthew R. Rauch*
 For State Traffic Engineer
 DATE 8/21/17 PLATE NO. A4-4.15



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

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

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

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

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

WOOD POSTS (4" x 6")

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

SQUARE STEEL POSTS (2" x 2")

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

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

WASHERS (ALL POSTS) -

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

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

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

ATTACHMENT OF SIGNS
TO POSTS

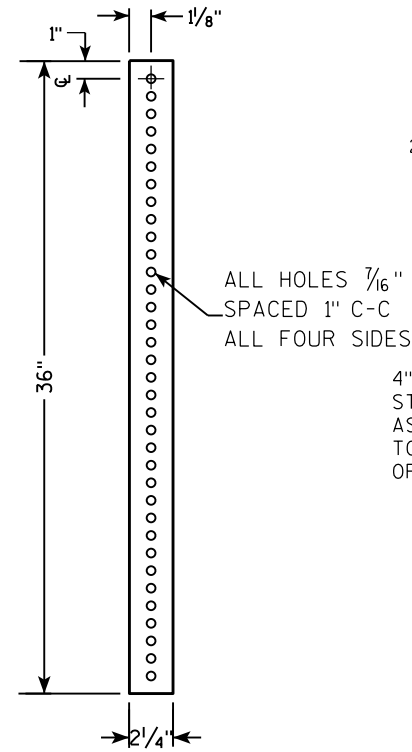
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R Rauch*
For State Traffic Engineer

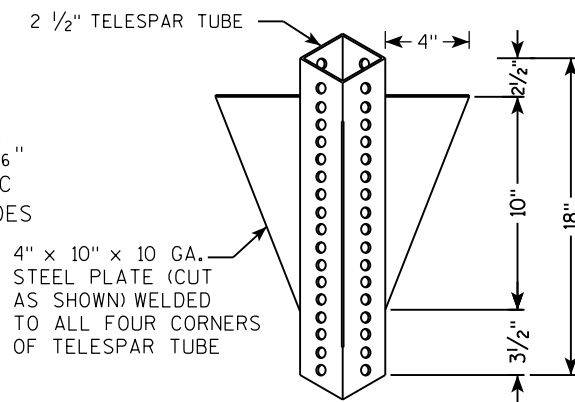
DATE 4/1/2020 PLATE NO. A4-8.9

**TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM**

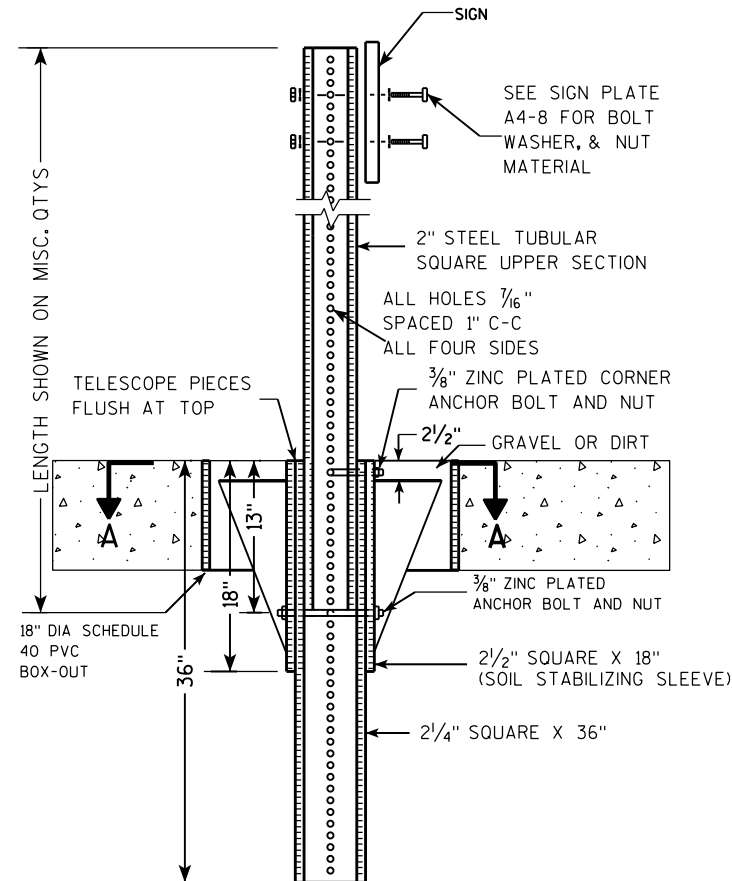
2 1/4" SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH



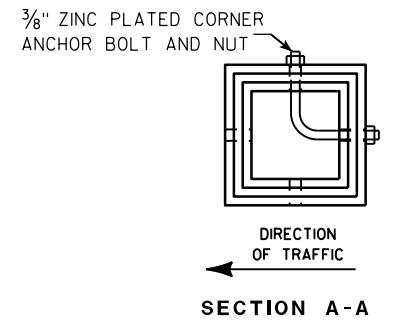
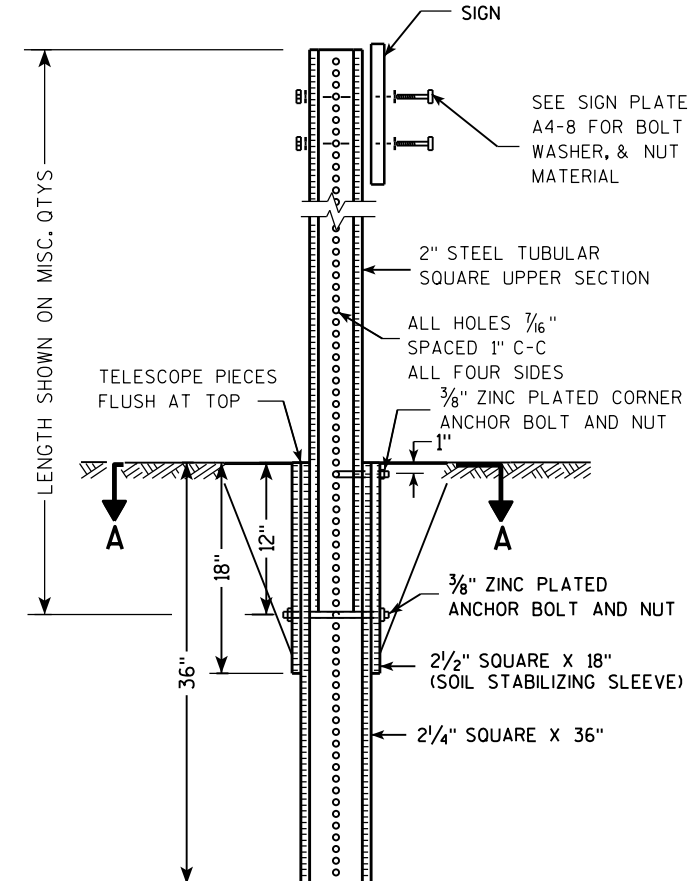
2 1/2" SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH



**DETAIL OF TUBULAR STEEL SIGN POST
(IN POURED CONCRETE OR ASPHALT)**



**DETAIL OF TUBULAR STEEL SIGN POST
(IN LOCATIONS OTHER THAN POURED CONCRETE OR ASPHALT)**



Area of Sign Installation (Sq. Ft.)	Number of Required Posts
9 or less	1
Greater than 9 less than or equal to 18	2
Greater than 18 less than or equal to 27	3

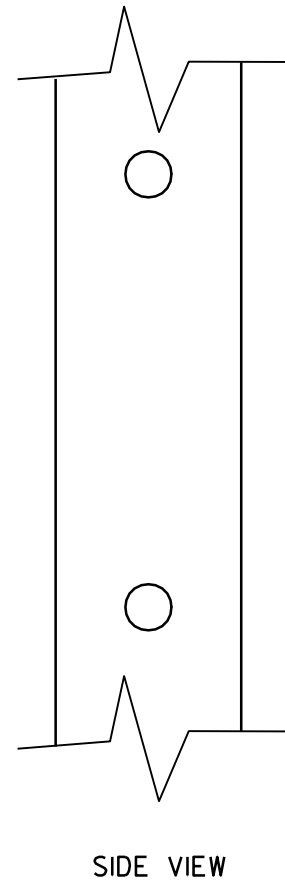
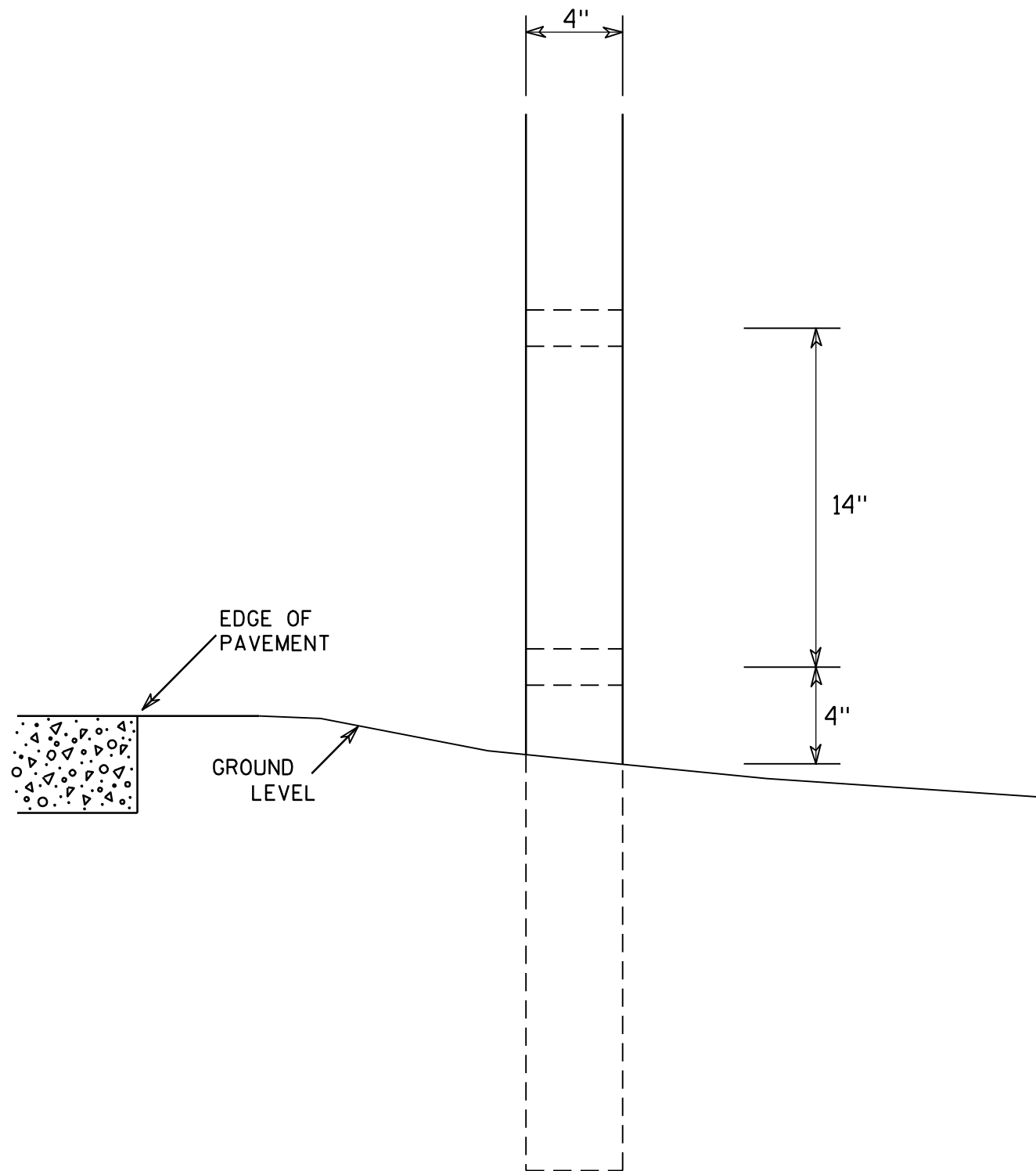
Signs wider than 3 feet or larger than 9 sq. ft shall be mounted on multiple posts (see above table).

**TUBULAR STEEL
SIGN POST
A4-9**

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 2/05/15 PLATE NO. A4-9.9



GENERAL NOTES

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

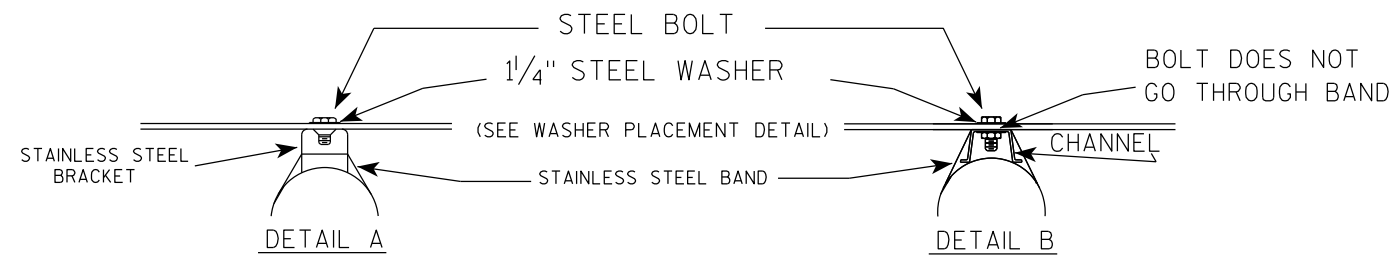
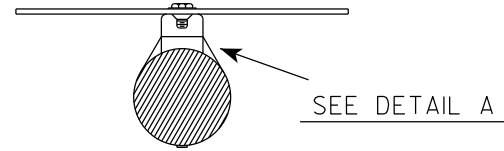
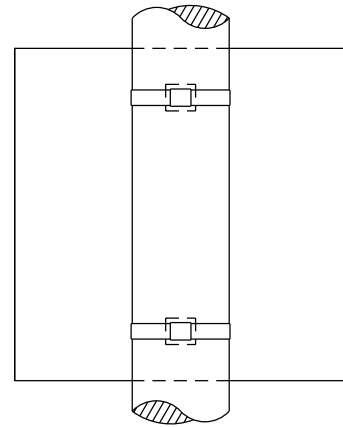
7

7

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

BANDING

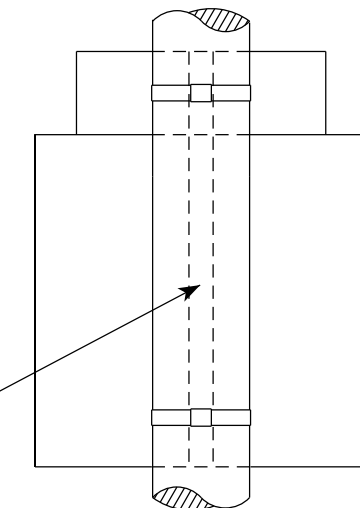
SINGLE SIGN



GENERAL NOTES

1. Any sign over 3 feet in width shall use the V-Block banding method. See A5-10 standard plate.
2. Signs 3 feet or greater in height shall have three bracket bands installed. Signs less than 3 feet in height shall have two bracket bands installed.
3. Banding and assembly bracket shall be stainless steel. All bands shall be 3/4" in width and 0.025" thickness.
4. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
 - a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D
 - b. Electro-galvanized in accordance with ASTM designation: B 633, Type III, SC 3

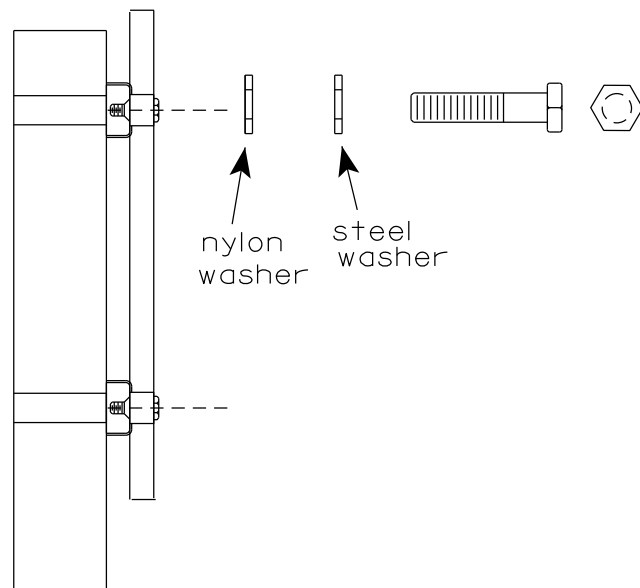
"J" ASSEMBLY



CHANNEL
SEE TYPICAL PANEL
INSTALLATION SHEET



WASHER PLACEMENT



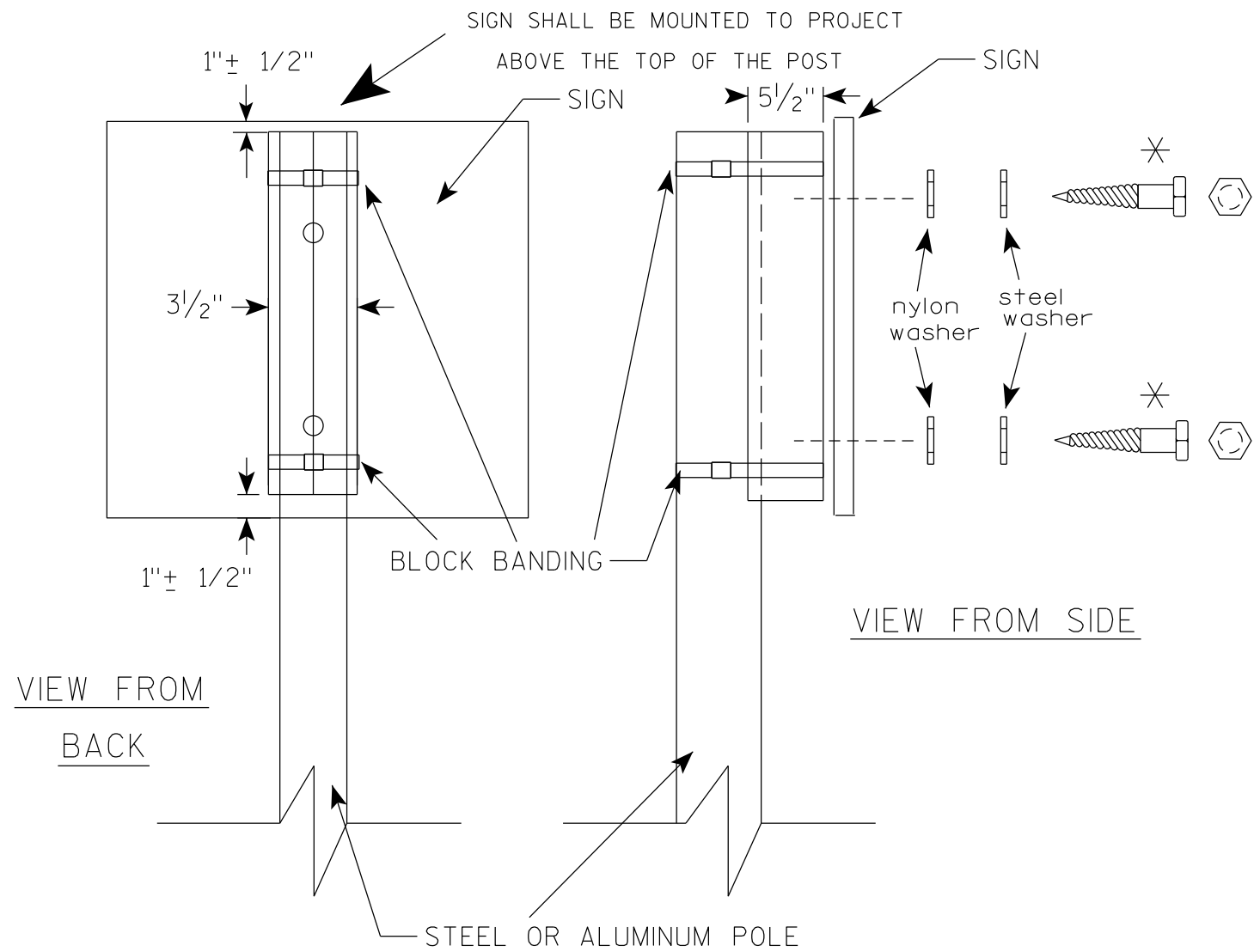
WASHERS (ALL POSTS) -
1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON
FOR ALL TYPE H SIGNS

STANDARD SIGN
SIGN BANDING DETAILS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

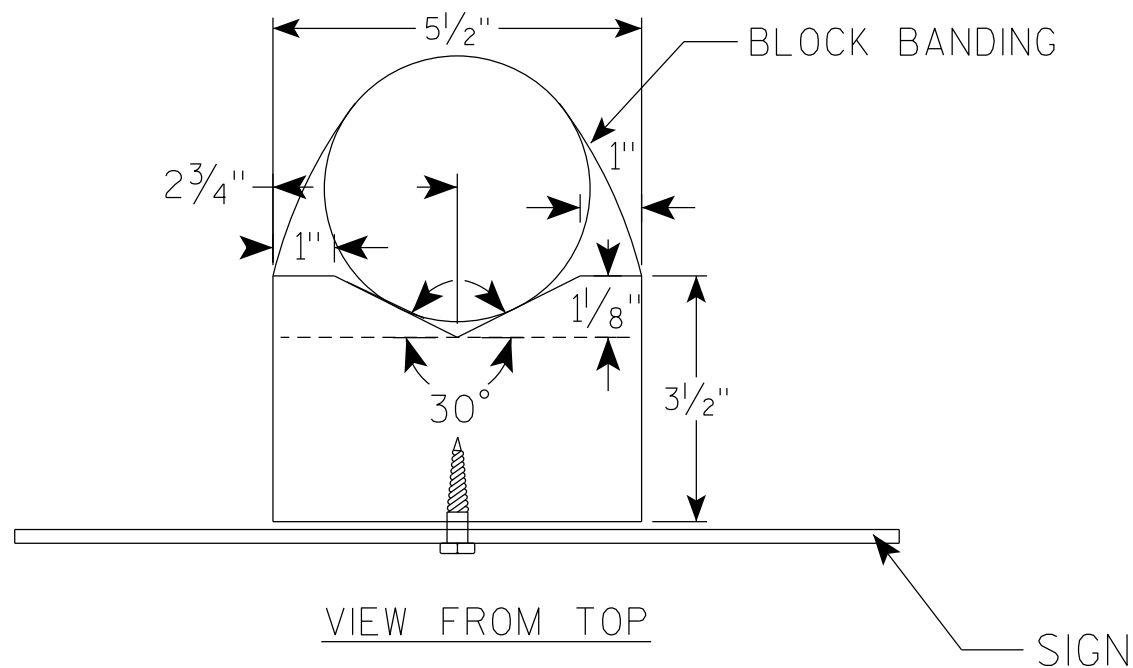
DATE 6/10/19 PLATE NO. A5-9.4



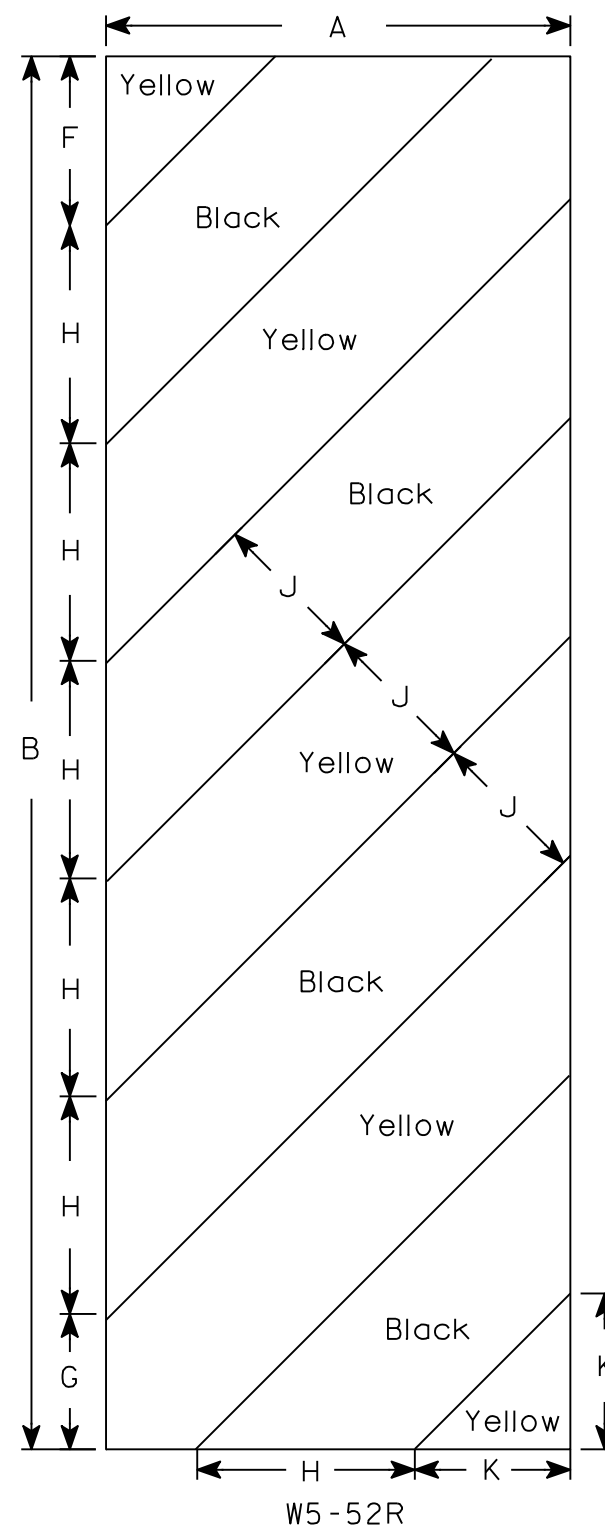
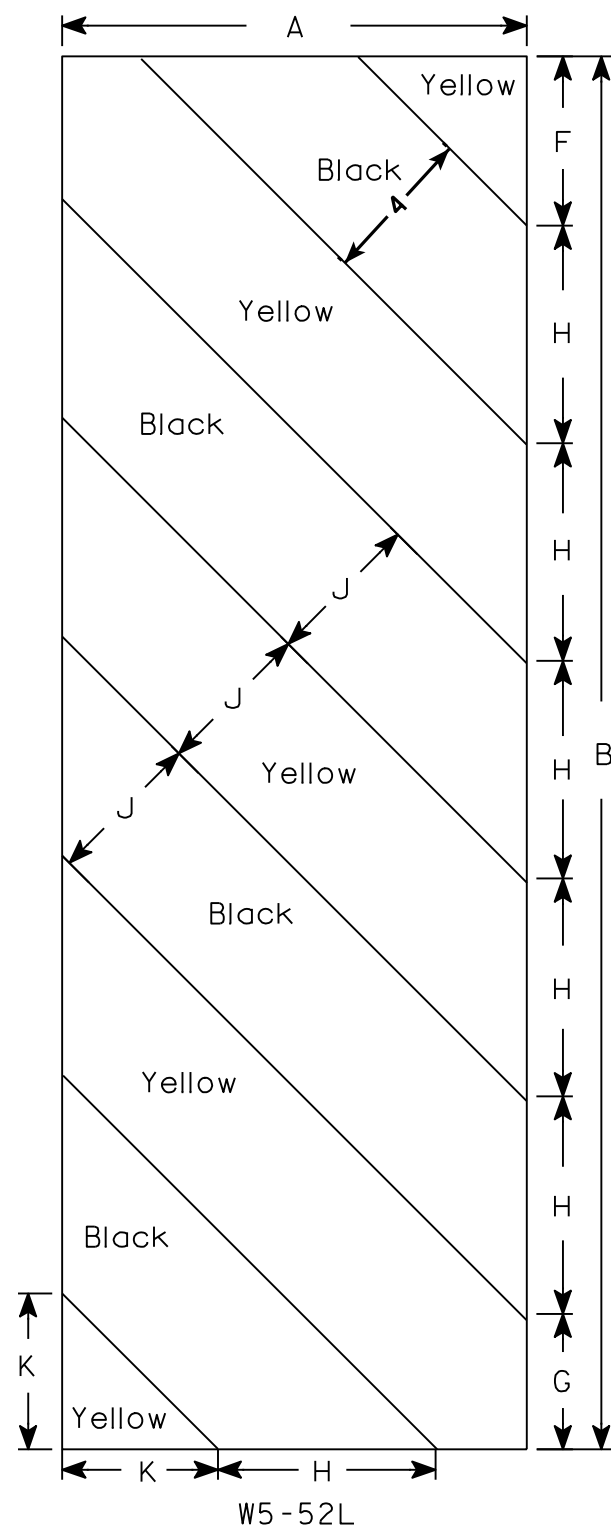
GENERAL NOTES

1. WOOD 4"X6" POST MATERIAL SHALL CONFORM TO 507.2.2 OF THE WisDOT STANDARD SPECIFICATIONS
2. BLOCK BANDING AND CLIPS SHALL BE STAINLESS STEEL, 3/4" WIDTH AND 0.025" THICKNESS
3. SIGNS 3' OR GREATER IN HEIGHT SHALL UTILIZE 3 BLOCK BANDS. SIGNS UNDER 3' IN HEIGHT SHALL UTILIZE 2 BLOCK BANDS
4. ACTUAL NUMBER OF FASTENERS PER SIGN VARIES WITH THE SIGN AREA, BUT NORMALLY THERE ARE TWO. FOR SIGNS GREATER THAN 9 S.F. 3 FASTENERS SHALL BE USED.
5. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
 - a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D
 - b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3
6. ALL BOLTS SHALL HAVE HEXAGONAL HEADS.
7. STEEL WASHERS SHALL BE 1/4" O.D. X 3/8" I.D. X 1/16"
8. NYLON WASHERS SHALL BE 1/4" O.D. X 3/8" I.D. X .080 FOR TYPE H OR TYPE F FACE SIGN

* LAG BOLTS SHALL BE 3/8" X 2 1/2"



BLOCK BANDING DETAIL (V-BLOCK OPTION)	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R Rauch</i> for State Traffic Engineer
DATE 6/10/19	PLATE NO. A5-10.2



NOTES

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

7

7

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

STANDARD SIGN
W5-52L & W5-52R

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

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

DESIGN DATA

LIVE LOAD:
 DESIGN LOADING: HL-93
 INVENTORY RATING FACTOR: RF = 1.02
 OPERATING RATING FACTOR: RF = 1.33
 WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV) = 250 KIPS
 STRUCTURE IS DESIGNED FOR A FUTURE WEARING SURFACE OF 20 PSF
 INVENTORY AND OPERATING RATINGS DO NOT INCLUDE FUTURE WEARING SURFACE.

MATERIAL PROPERTIES:
 CONCRETE MASONRY - SUPERSTRUCTURE f'c = 4,000 psi
 - ALL OTHER f'c = 3,500 psi
 HIGH STRENGTH BAR STEEL REINFORCEMENT AASHTO GRADE 60 f_y = 60,000 psi

FOUNDATION DATA

ABUTMENTS TO BE SUPPORTED ON HP 10x42 STEEL PILING WITH A REQUIRED DRIVING RESISTANCE OF 170 TONS* PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC EQUATION. ESTIMATED 30-FOOT LONG AT BOTH ABUTMENTS. PILE POINTS REQUIRED.

PIER TO BE SUPPORTED ON HP 10x42 STEEL PILING WITH A REQUIRED DRIVING RESISTANCE OF 180 TONS* PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC EQUATION. ESTIMATED 30-FOOT LONG AT PIER. PILE POINTS REQUIRED.

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

HYDRAULIC DATA

100 YEAR FREQUENCY
 NO OVERTOPPING
 Q₁₀₀ 2800 CFS
 Q₁₀₀ THRU STRUCTURE 2800 CFS
 VELOCITY 5.29 FPS
 HIGH WATER EL 1241.13 FT
 FLOW AREA 529 SQ FT
 BRIDGE OPEN AREA 637 SQ FT
 DRAINAGE AREA 147.10 SQ MI

2 YEAR FREQUENCY
 Q₂ FLOW 865 CFS
 Q₂ VEL 3.26 FPS
 HIGH WATER EL 1238.01 FT

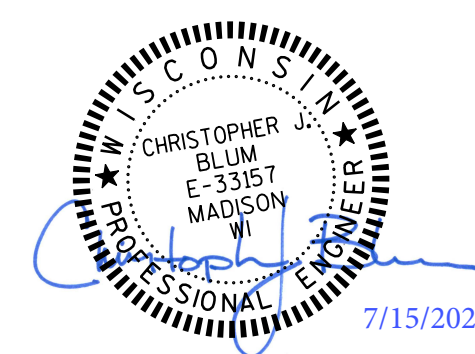
TRAFFIC DATA

ADT (2022) = 50
 ADT (2042) = 65
 DHV = 7
 DD = 50/50
 T = 10 %
 DESIGN SPEED = 55 MPH

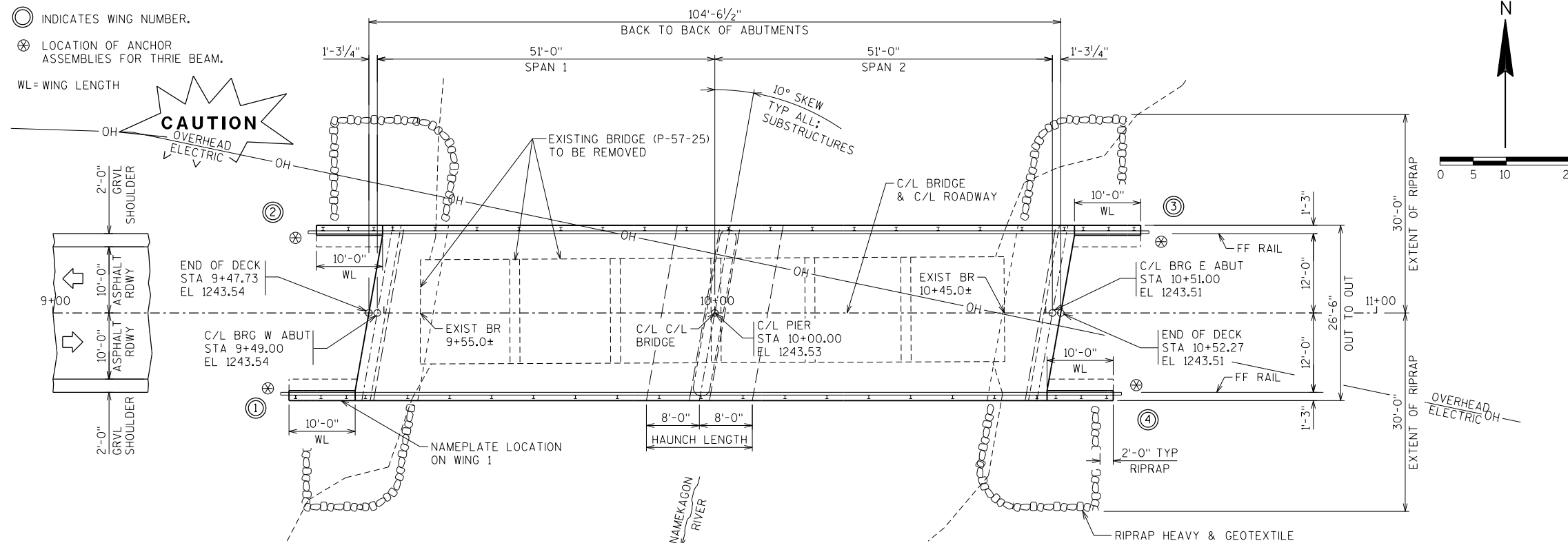
SCOUR CODE 5

LIST OF DRAWINGS

- 1 GENERAL PLAN
- 2 CROSS SECTION AND QUANTITIES
- 3 SUBSURFACE EXPLORATION
- 4 WEST AND EAST ABUTMENT DETAILS
- 5 WEST AND EAST ABUTMENT DETAILS
- 6 PIER DETAILS
- 7 SUPERSTRUCTURE DETAILS
- 8 SUPERSTRUCTURE DETAILS
- 9 TUBULAR STEEL RAILING TYPE M
- 10 MISCELLANEOUS DETAILS

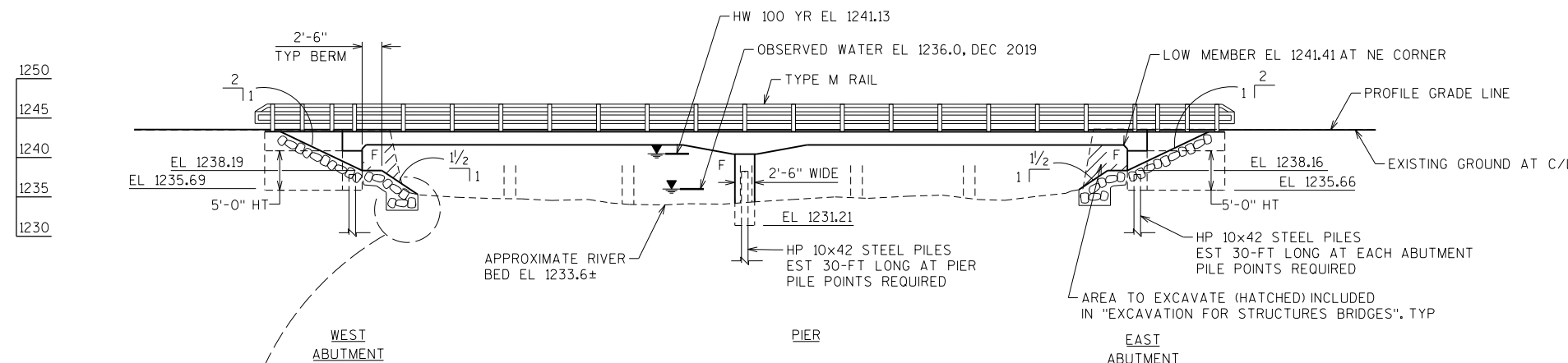


SEH CONTACT: CHRIS BLUM, PE, 608.620.6192
 WISDOT BRIDGE OFFICE CONTACT: AARON BONK, PE, 608.261.0261



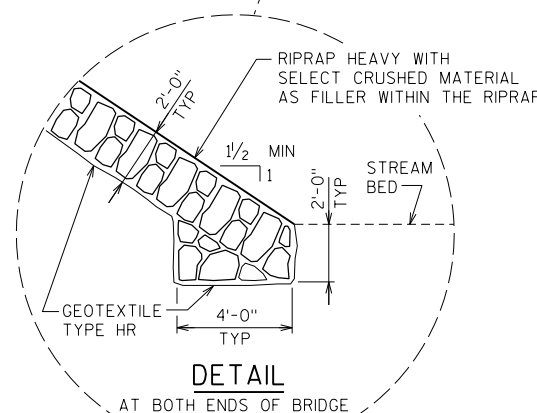
PLAN

TWO-SPAN REINFORCED CONCRETE CONTINUOUS HAUNCHED SLAB BRIDGE



ELEVATION

LOOKING NORTH
 LOOKING NORMAL TO C/L SUBSTRUCTURES



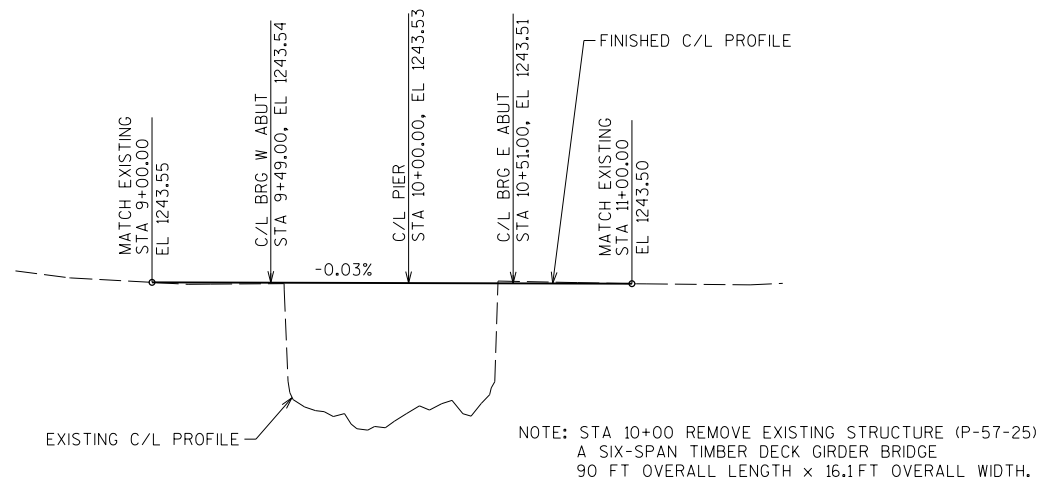
DETAIL

AT BOTH ENDS OF BRIDGE

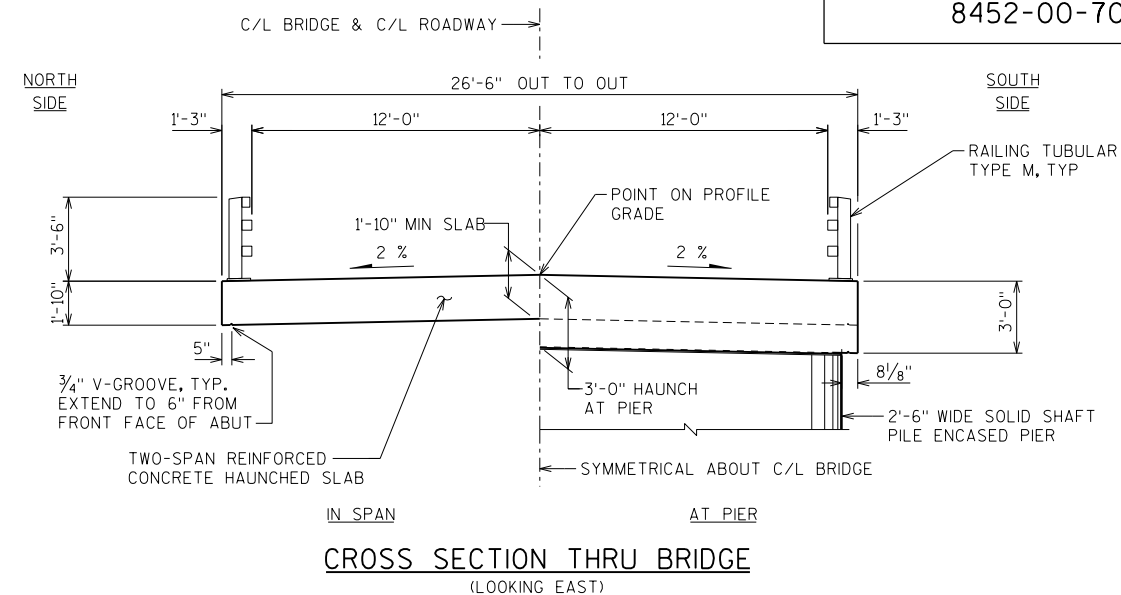
BENCHMARK (DATUM = NAVD88)

NO	STATION	DESCRIPTION	ELEV
BM1	9+11.56, 27.24' LT	SPIKE IN PP	1244.94
BM2	11+88.08, 30.03' RT	SPIKE IN PP	1243.75
BM3	9+14.90, 35.00' RT	SPIKE IN 14' PINE	1244.06
BM4	10+87.78, 22.81' RT	SPIKE IN 8' ELM	1241.34

NO.	DATE	REVISION	BY
<p>SHORT ELLIOTT HENDRICKSON INC.</p> <p>STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION</p> <p>ACCEPTED: <i>[Signature]</i> SDR 08/05/21 CHIEF STRUCTURES DESIGN ENGINEER DATE</p> <p>STRUCTURE B-57-91</p> <p>TAG ALDER ROAD OVER NAMEKAGON RIVER</p> <p>COUNTY: SAWYER TOWN/CITY/VILLAGE: LENROOT</p> <p>DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS</p> <p>DESIGNED BY: NCK DESIGN CK'D: MD DRAWN BY: DLF PLANS CK'D: CJB</p> <p>GENERAL PLAN</p> <p>SHEET 1 OF 10</p>			



PROFILE GRADE LINE



CROSS SECTION THRU BRIDGE
(LOOKING EAST)

TOTAL ESTIMATED QUANTITIES - B-57-91

BID ITEM NUMBER	BID ITEMS	UNIT	WEST ABUT	EAST ABUT	PIER	SUPER	TOTALS
203.0270	REMOVING OLD STRUCTURE OVER WATERWAY DEBRIS CAPTURE B-57-91	EACH	-	-	-	-	1
206.1000	EXCAVATION FOR STRUCTURES BRIDGES B-57-91	LS	-	-	-	-	1
① 210.1500	BACKFILL STRUCTURE TYPE A	TON	110	110	-	-	220
502.0100	CONCRETE MASONRY BRIDGES	CY	28	28	21	204	281
③ 502.3200	PROTECTIVE SURFACE TREATMENT	SY	-	-	-	400	400
502.9000.S	UNDERWATER SUBSTRUCTURE INSPECTION B-57-91	EACH	-	-	1	-	1
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	1,730	1,730	1,100	-	4,560
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	1,365	1,365	55	53,410	56,195
513.4061	RAILING TUBULAR TYPE M	LF	-	-	-	254	254
④ 516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	9	9	-	-	18
550.0500	PILE POINTS	EACH	5	5	8	-	18
550.1100	PILING STEEL HP 10-INCH x 42 LB	LF	150	150	240	-	540
606.0300	RIPRAP HEAVY	CY	85	85	-	-	170
② 612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	110	110	-	-	220
645.0111	GEOTEXTILE TYPE DF SCHEDULE A	SY	25	25	-	-	50
645.0120	GEOTEXTILE TYPE HR	SY	190	190	-	-	380
⑤ SPV.0090.01	REMOVING EXISTING PILING	LF	-	-	120	-	120
⑥ SPV.0195.01	SELECT CRUSHED MATERIAL FOR TRAVEL CORRIDOR	TON	40	40	-	-	80
NON-BID ITEMS							
	FILLER	SIZE	_____	_____	_____	_____	1/2 & 3/4
	NAMEPLATE	EACH	_____	_____	_____	_____	1

- ① A FACTOR OF 2.0 WAS USED TO CONVERT CU YDS TO TONS.
- ② INCLUDES RODENT SHIELD FOR PIPE UNDERDRAIN PER SDD 8F6-4.
- ③ FURNISH AND APPLY A PROTECTIVE SURFACE FINISH TREATMENT TO THE ENTIRE TOP OF THE BRIDGE DECK, INCLUDING THE SLAB EDGE AND 1'-0" UNDER SLAB, THE TOP AND EXTERIOR EXPOSED FACE OF WINGS, AND THE END 1'-0" OF THE FRONT FACE OF ABUTMENT.
- ④ INCLUDES QUANTITY ON BACKFACE OF WINGS.
- ⑤ LOCATION AT EXISTING CENTER PIER. ASSUMED 4 PILES AT 30 FEET.
- ⑥ A FACTOR OF 1.9 WAS USED TO CONVERT CU YDS TO TONS. ASSUMED AN AVERAGE 3" DEPTH OVER SURFACE FOR FILLING OF VOIDS BETWEEN HEAVY RIPRAP.

GENERAL NOTES

- DRAWINGS SHALL NOT BE SCALED.
- FOR EXISTING STRUCTURE SEE PROFILE GRADE LINE THIS SHEET.
- REFER TO ROADWAY DRAWINGS FOR EXISTING UTILITY LOCATIONS.
- BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR UNLESS OTHERWISE SHOWN OR NOTED.
- THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.
- BEVEL EXPOSED EDGES OF CONCRETE 3/4" UNLESS OTHERWISE NOTED.
- SLAB FALSEWORK SHALL BE SUPPORTED ON PILES OR THE SUBSTRUCTURE UNLESS AN ALTERNATE METHOD IS APPROVED BY THE ENGINEER.
- THE SLOPE OF THE FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH RIPRAP HEAVY AND GEOTEXTILE TYPE HR TO THE EXTENT SHOWN ON THE GENERAL PLAN SHEET AND IN THE ABUTMENTS DETAILS.
- SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-ASPHALTIC JOINT SEALER (1" DEEP & HOLD 1/8" BELOW SURFACE OF CONCRETE).
- THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES BRIDGES B-57-91" SHALL BE THE EXISTING GROUNDLINE.
- EXCAVATION BELOW THE ABUTMENTS AND ABUTMENTS BEDDING MATERIALS REQUIRES ENGINEER APPROVAL. GEOTEXTILE SHALL BE SET AT THE BOTTOM OF EXCAVATION AND EXTEND 2'-0" ABOVE BOTTOM OF ABUTMENT.
- THE BACKFILL QUANTITIES ARE BASED ON THE PAY LIMITS SHOWN ON THE MISCELLANEOUS DETAILS SHEET AND MAY NOT REFLECT ACTUAL PLACED QUANTITIES. "BACKFILL STRUCTURE TYPE A" REQUIRED DIRECTLY BEHIND ABUTMENTS AND ABUTMENT WINGS FOR 3 FEET.
- BACKFILL STRUCTURE PLACED BEYOND BACKFILL PAY LIMITS OR EXCEEDING PLAN QUANTITIES SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES.
- AT THE BACKFACE OF ABUTMENTS ALL VOLUME WHICH CANNOT BE PLACED BEFORE ABUTMENT CONSTRUCTION AND IS NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH STRUCTURE BACKFILL.
- JOINT FILLER SHALL CONFORM TO THE REQUIREMENTS OF AASHTO DESIGNATION M153 TYPE 1, 2, OR 3 OR AASHTO DESIGNATION M213.
- APPLY A PROTECTIVE SURFACE TREATMENT PER THE STANDARD SPECIFICATIONS AND THE SUPERSTRUCTURE DETAILS SHEET.
- AT ABUTMENT AND PIER CONCRETE POURED UNDER WATER WILL BE ALLOWED & SHALL BE DONE IN ACCORDANCE WITH SECTION 502.3.5.3 OF THE STANDARD SPECIFICATIONS.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-57-91			
DRAWN BY		DLF	PLANS CK'D. CJB
CROSS SECTION AND QUANTITIES			SHEET 2 OF 10

FILE NAME : X:\PT\SAWYE\53366\5-1-final-dsgn\5-1-drawings\20-Str-uct\br\edge\5709\bl\dgn
 PLOT DATE: 7/5/2021
 PLOT TIME: 11:47:20 AM

BORING #	DATE COMPLETED	NORTHING (Y)	EASTING (X)
B-1	12/31/2019	-	-
B-2	12/31/2019	-	-
B-3	12/31/2019	-	-

STATE PROJECT NUMBER
8452-00-70

MATERIAL SYMBOLS

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

SOIL BORINGS PERFORMED BY:
 PROFESSIONAL SERVICE INDUSTRIES, INC.
 12839 30TH AVENUE
 CHIPPEWA FALLS, WISCONSIN 54729
 PH: (715) 738-2770
 FAX: (715) 738-2771

REPORT BY:
 JEFFREY A MANNINEN
 BRANCH MANAGER

LEGEND OF BORING

= APPROXIMATE BORING LOCATION

BORING # / EL. STA., OFFSET

ST
 (1) 0.25
 (2) 17

F-C COBBLE OR BOULDER

WEATHERED LIMESTONE

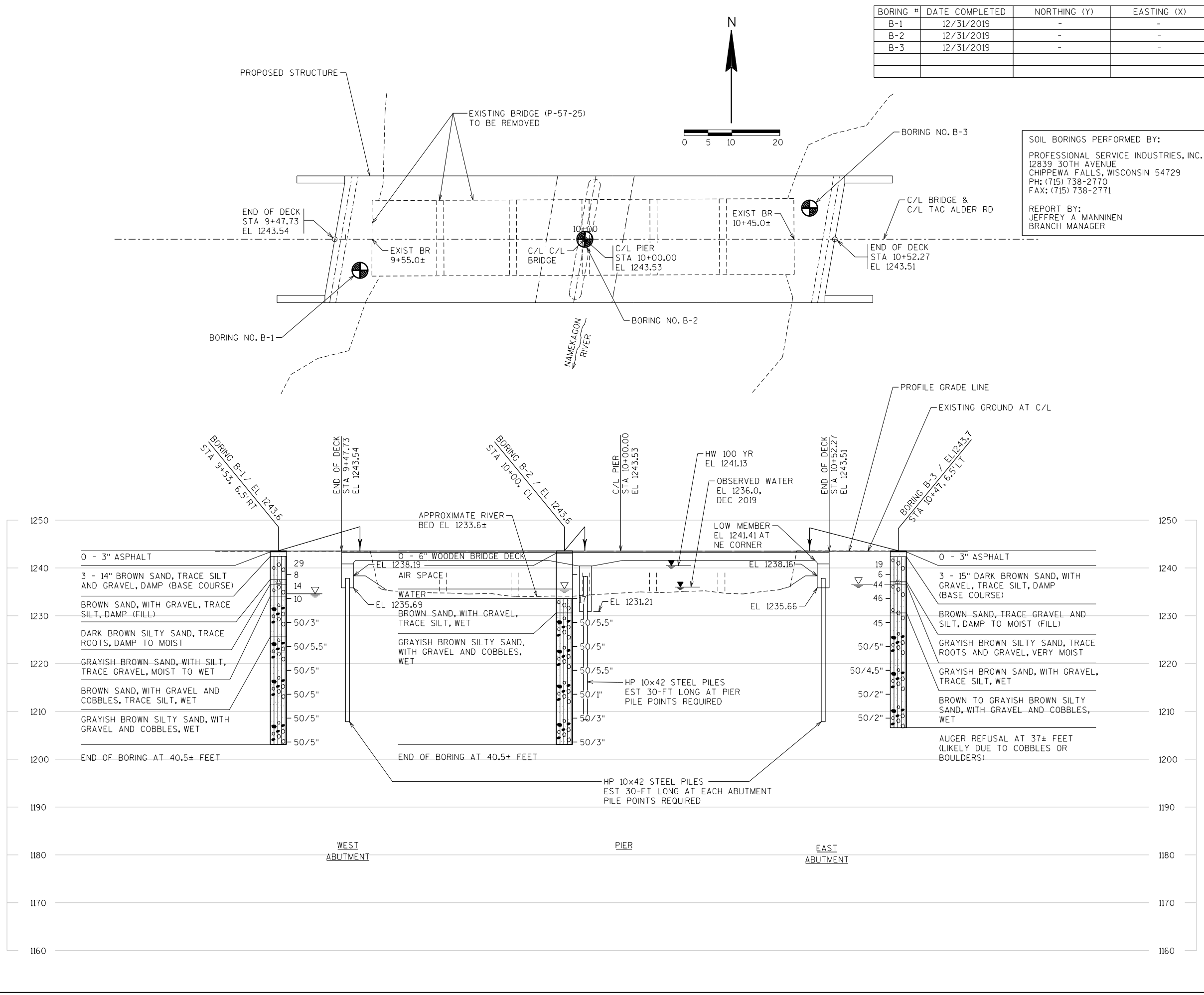
CORE RUN #1 - 24'-29'
 REC=80%, ROD=72%

(1) UNCONFINED STRENGTH, AS DETERMINED BY A POCKET PENETROMETER (TSF)
 (2) UNLESS OTHERWISE SPECIFIED THE SPT 'N' VALUE IS BASED ON AASHTO T-206, STANDARD PENETRATION TEST. THE SPT 'N' VALUE PRESENTED HAS NOT BEEN CORRECTED FOR OVERBURDEN PRESSURE OR HAMMER EFFICIENCY.

GROUND WATER ELEVATION

AT TIME OF DRILLING
 END OF DRILLING
 AFTER DRILLING

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



SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

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

NO.	DATE	REVISION	BY

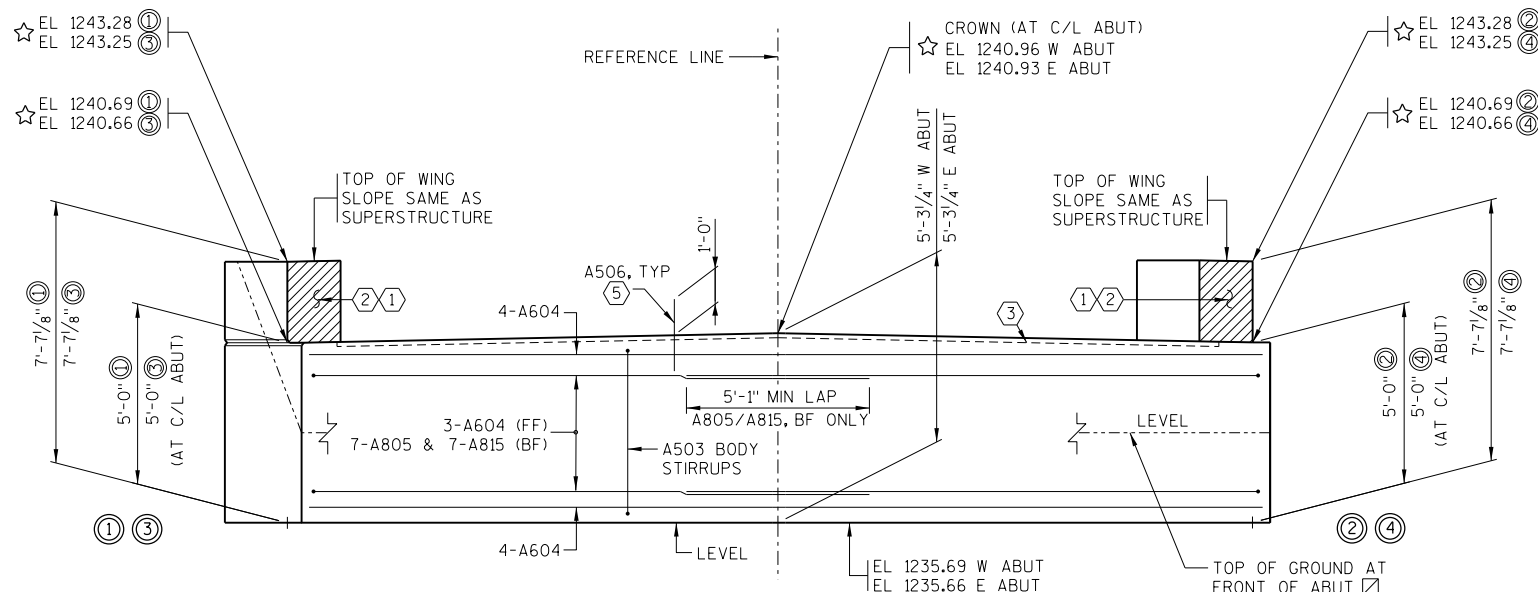
STATE OF WISCONSIN
 DEPARTMENT OF TRANSPORTATION

STRUCTURE B-57-91

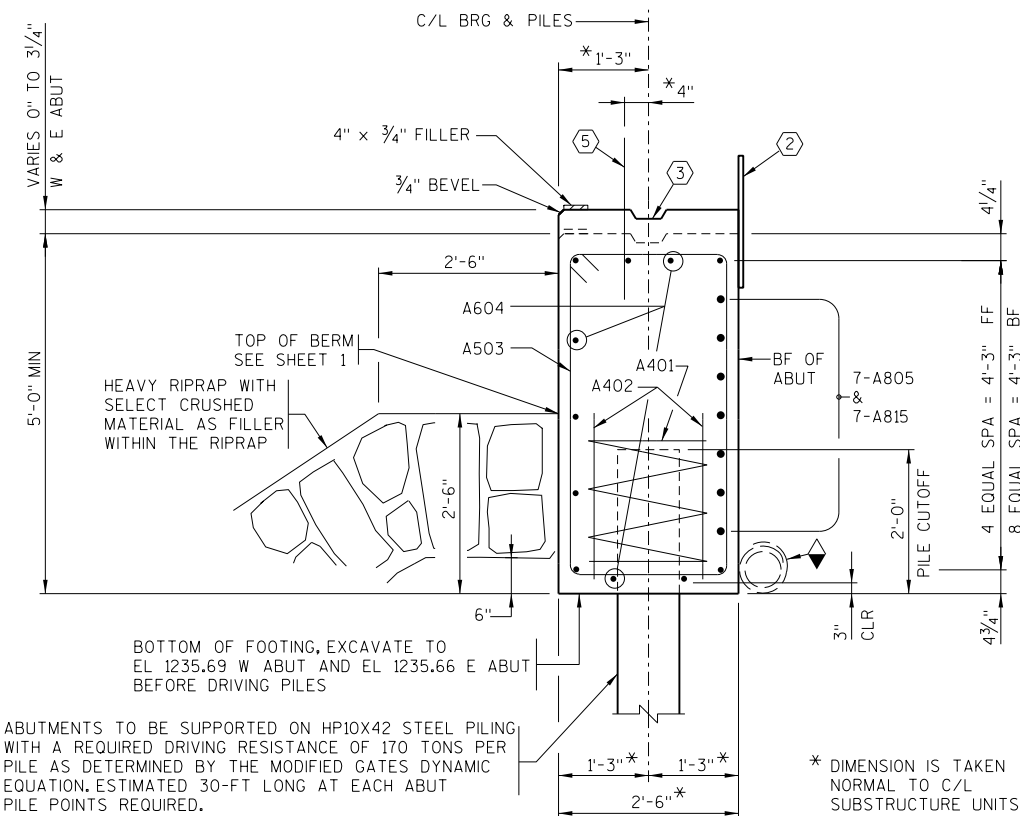
DRAWN BY: DLF PLANS CKD: CJB

SUBSURFACE EXPLORATION SHEET 3 OF 10

☆ ELEV GIVEN AT THIS POINT, SEE 'ELEVATION LOCATION DRAWING' ON THIS SHEET



FRONT ELEVATION
(PILES NOT SHOWN FOR CLARITY)

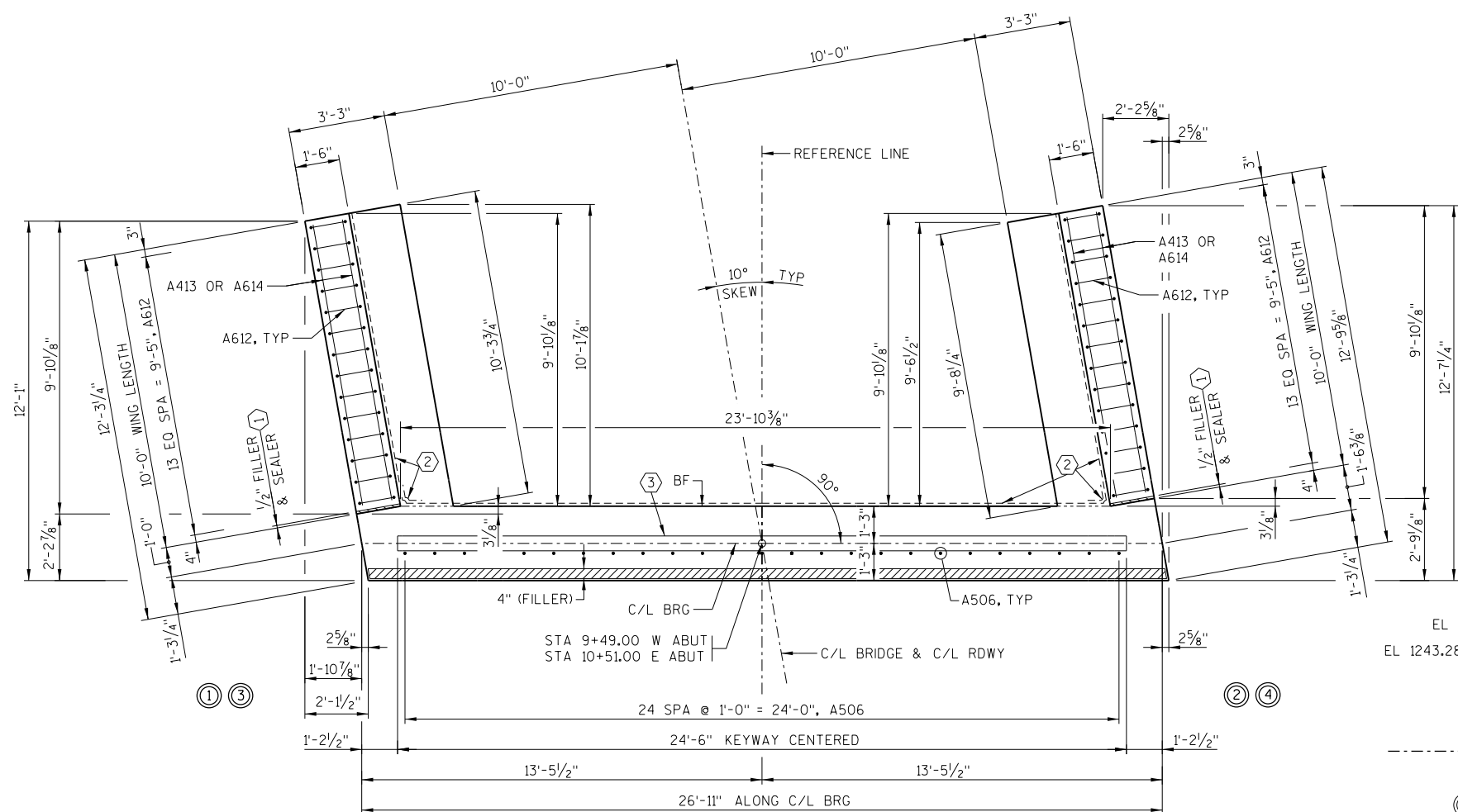


TYPICAL SECTION THRU BODY
ALL HORIZ BARS TO BE A604 UNLESS OTHERWISE SHOWN OF NOTED

ABUTMENTS TO BE SUPPORTED ON HP10X42 STEEL PILING WITH A REQUIRED DRIVING RESISTANCE OF 170 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC EQUATION, ESTIMATED 30-FT LONG AT EACH ABUT PILE POINTS REQUIRED.

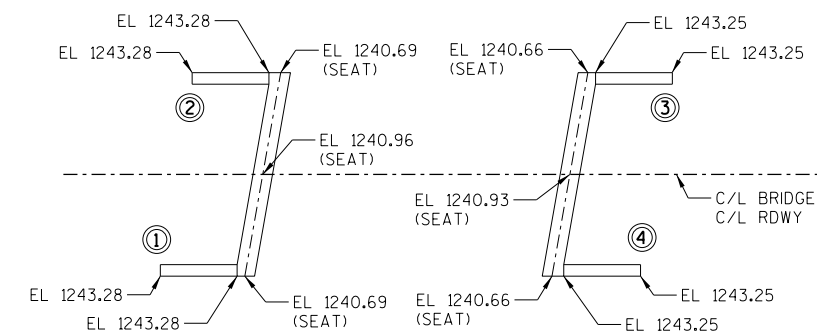
ABUTMENT NOTES

- ① SEAL ALL EXPOSED HORIZ. AND VERTICAL SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-ASPHALTIC JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE). FILLER INCLUDED IN WING LENGTH.
- ② 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZ & VERT JOINTS ON BACKFACE. VERTICAL WATERPROOFING TO EXTEND FROM BRIDGE SEAT TO TOP OF WING.
- ③ KEYED CONSTRUCTION JOINT FORMED BY A BEVELED 2" X 6".
- ④ OPTIONAL KEYED CONSTRUCTION JOINT FORMED BY A BEVELED 2" X 6" WITH MEMBRANE ON BACKFACE.
- ⑤ A506 BARS MAY BE PLACED AFTER CONCRETE HAS BEEN POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE.
- ◆ PIPE UNDERDRAIN WRAPPED (6-INCH) SLOPE 0.5% MIN TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT END OF PIPE.
- Ⓜ ATTACH RODENT SHIELD AT END OF PIPE UNDERDRAIN. FOR RODENT SHIELD DETAIL SEE MISCELLANEOUS DETAILS SHEET 10.
- ☒ COAT WITH PROTECTIVE SURFACE TREATMENT 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.
- Ⓞ INDICATES WING NUMBER.
- W ABUT = WEST ABUTMENT
E ABUT = EAST ABUTMENT
FF = FRONT FACE
BF = BACK FACE
EF = EACH FACE



PLAN

(WEST ABUTMENT SHOWN, EAST ABUTMENT SIMILAR BY ROTATION EXCEPT AS NOTED)
(SEE SHEET 1 FOR ORIENTATION)



ELEVATION LOCATION DRAWING

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-57-91			
DRAWN BY DLF		PLANS CKD. CJB	
WEST AND EAST ABUTMENT DETAILS			SHEET 4 OF 10

PLOT TIME: 11:47:23 AM

PLOT DATE: 7/15/2021

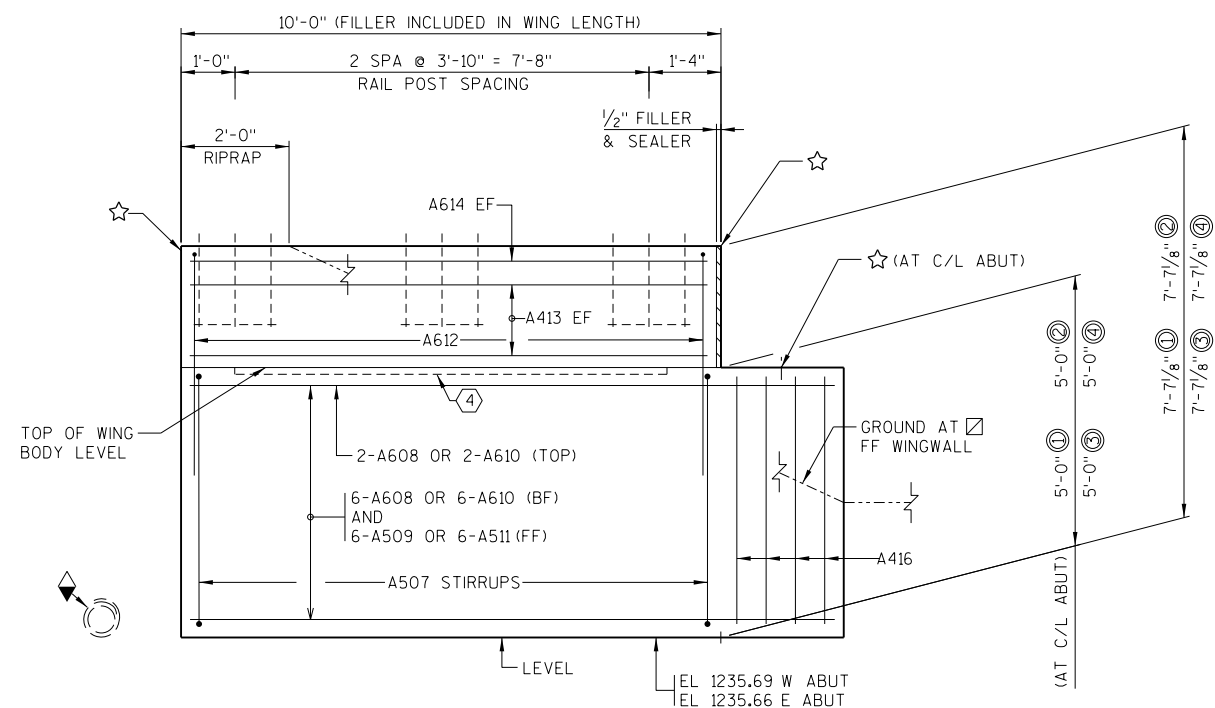
FILE NAME : X:\PT\5\SAWYE\53366\5-final-dsgn\51-dr-drawings\20-Struct\bridge\B57091.dgn

NOTE: THE FIRST DIGIT OF THE BAR MARK SIGNIFIES THE ENGLISH BAR DIAMETER SIZE.
DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT.

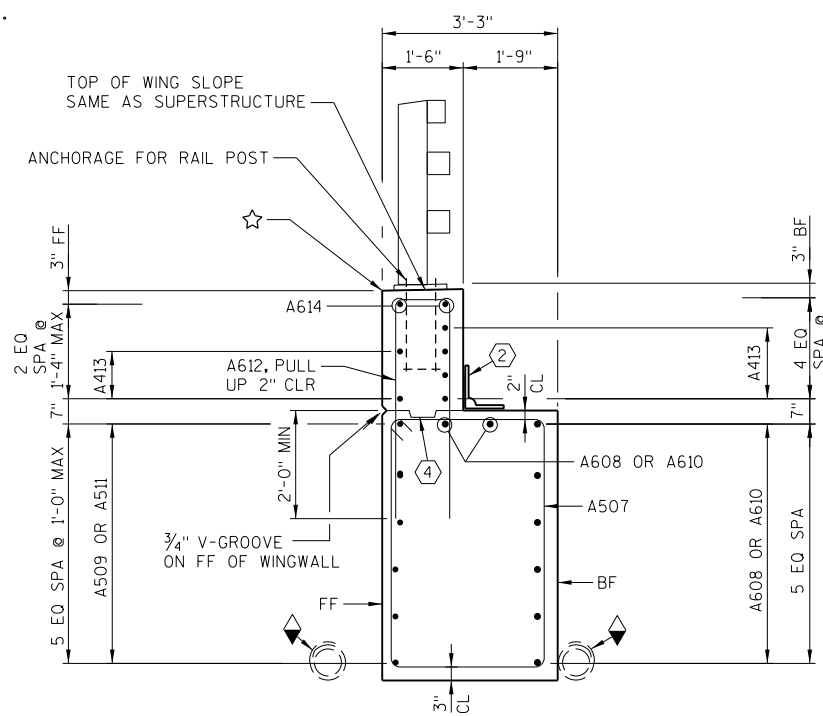
* NO. REQ'D. IS FOR 2 ABUTMENTS. DIVIDE BY 2 FOR EACH ABUTMENT.

BILL OF BARS BOTH ABUTMENTS						
BAR MARK	COAT	NO. * REQ'D.	LENGTH (FT-IN)	BAR SERIES	BENT	LOCATION
A401		10	28 - 0		X	BODY AT PILES
A402		20	2 - 3			BODY AT PILES
A503		72	13 - 11		X	BODY STIRRUPS
A604		22	26 - 6			BODY HORIZ
A805		14	17 - 0		X	BODY HORIZ BF
A506	X	50	2 - 0			BODY DOWELS
A507	X	40	15 - 3		X	WING STIRRUPS
A608	X	16	13 - 0		X	WING HORIZ BF 1 & 3 & TOP
A509	X	12	11 - 11			WING HORIZ FF 1 & 3
A610	X	16	12 - 8		X	WING HORIZ BF 2 & 4 & TOP
A511	X	12	12 - 4			WING HORIZ FF 2 & 4
A612	X	56	9 - 6		X	WING VERT
A413	X	24	9 - 7			WING HORIZ EF
A614	X	8	9 - 7			WING HORIZ EF TOP
A815		14	17 - 0		X	BODY HORIZ BF
A416		16	4 - 7			BODY VERT ABUT ENDS

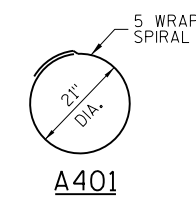
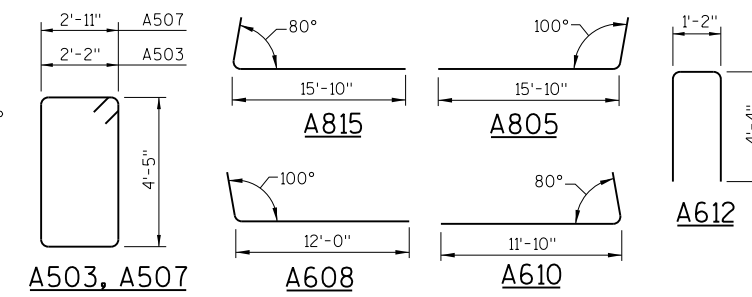
☆ ELEV GIVEN AT THIS POINT, SEE 'ELEVATION LOCATION DRAWING' ON SHEET 4.



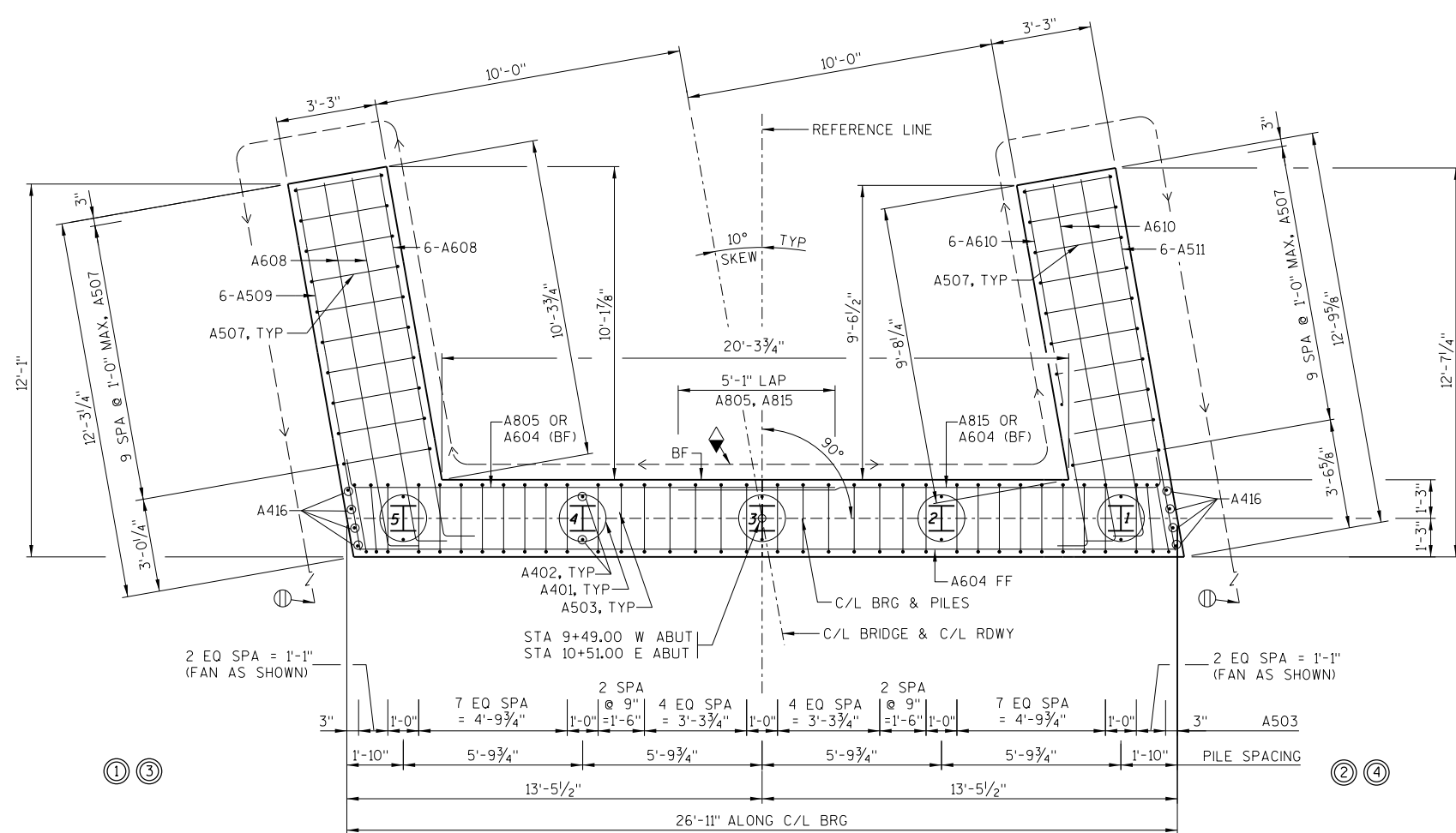
TYP WING ELEVATION



TYP SECTION THRU WINGWALLS



A503, A507

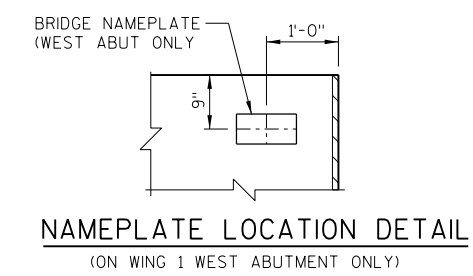


FOOTING LAYOUT

(WEST ABUTMENT SHOWN, EAST ABUTMENT SIMILAR BY ROTATION EXCEPT AS NOTED) (SEE SHEET 1 FOR ORIENTATION)

NOTES

- SEE ABUTMENT NOTES ON SHEET 4 ((2) (4) (1) (1) (1) (1)).
- W ABUT = WEST ABUTMENT
- E ABUT = EAST ABUTMENT
- FF = FRONT FACE
- BF = BACK FACE
- EF = EACH FACE
- ⊙ INDICATES WING NUMBER.



NAMEPLATE LOCATION DETAIL (ON WING 1 WEST ABUTMENT ONLY)

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-57-91			
DRAWN BY DLF		PLANS CK'D. CJB	
WEST AND EAST ABUTMENT DETAILS			SHEET 5 OF 10

FILE NAME : X:\PT\SSA\WYE\53366\5-final-dsgn\51-dr-drawings\20-Struct\bridge\B5709a2.dgn PLOT DATE: 7/15/2021 PLOT TIME: 11:47:25 AM

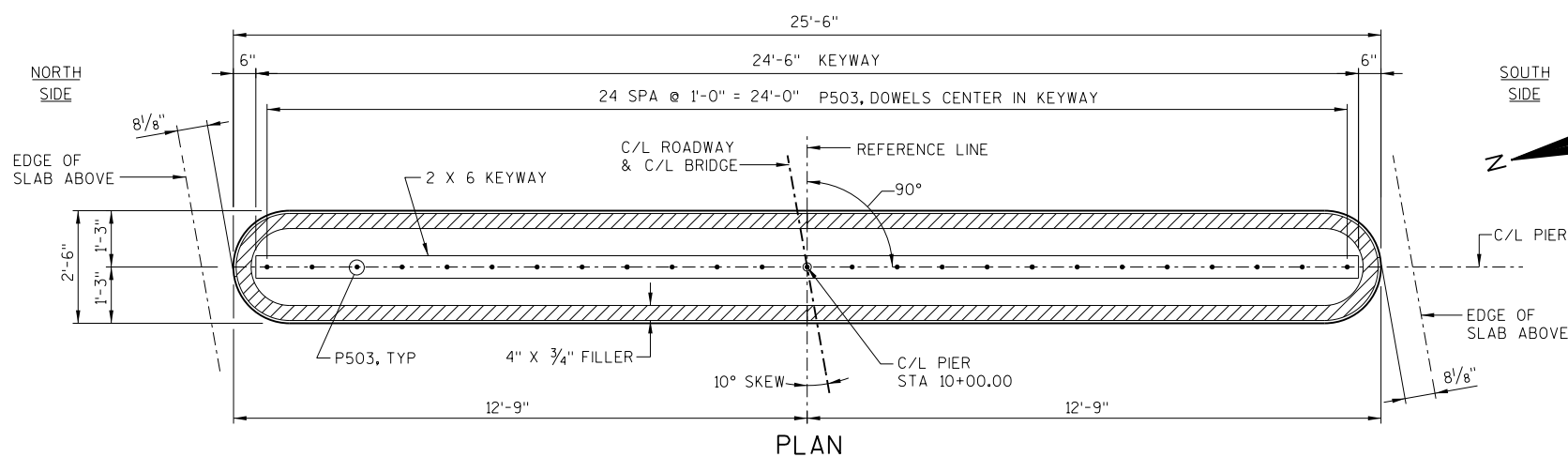
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8

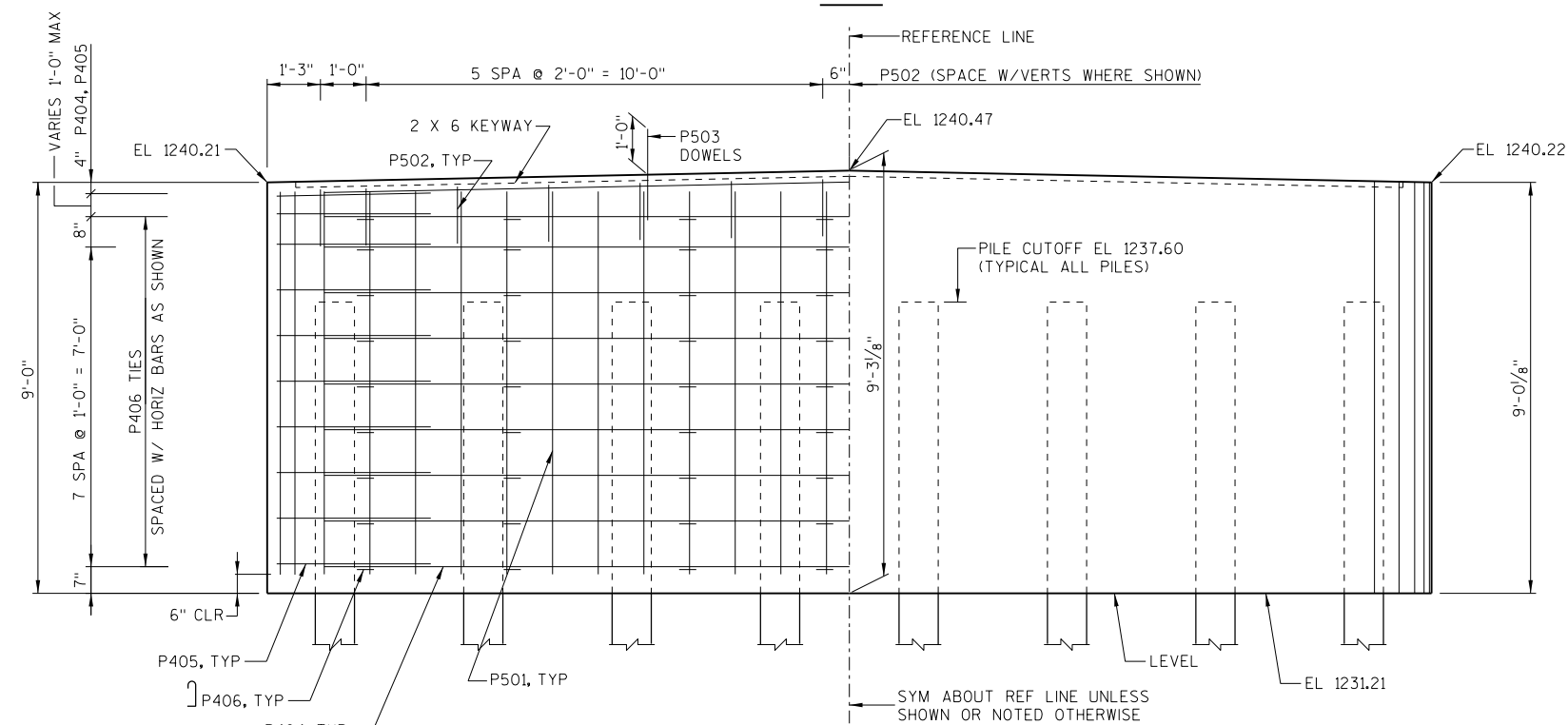
NOTE: THE FIRST DIGIT OF THE BAR MARK SIGNIFIES THE ENGLISH BAR DIAMETER SIZE.

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT.

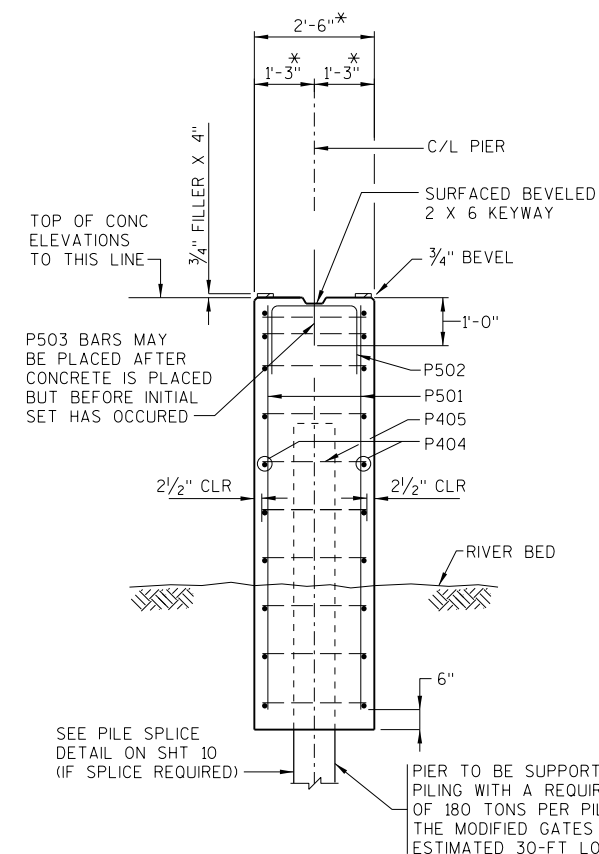
BILL OF BARS						PIER
BAR MARK	COAT	NO. REQ'D.	LENGTH (FT - IN)	BAR SERIES	BENT	LOCATION
P501		54	8 - 4			SHAFT VERT
P502		14	5 - 3		X	CAP TIE
P503	X	25	2 - 0			DOWEL
P404		20	23 - 0			SHAFT HORIZ
P405		20	7 - 4		X	SHAFT TIE
P406		72	3 - 0		X	SHAFT TIE



PLAN

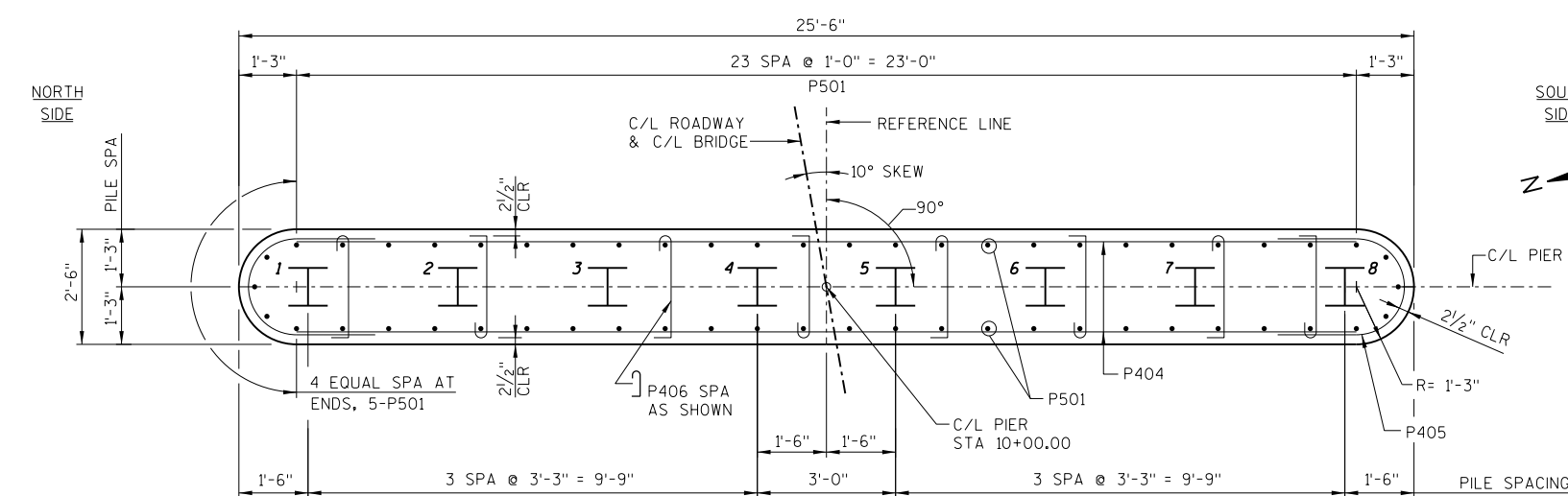
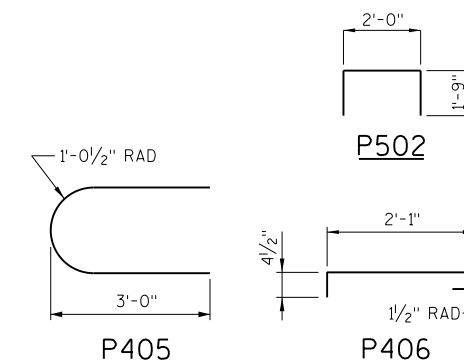


ELEVATION
LOOKING UP STATION



TYPICAL SECTION THRU PIER

* DIMENSION IS TAKEN NORMAL TO C/L SUBSTRUCTURE UNITS.



FOOTING LAYOUT

NOTE:

- FF = FRONT FACE
- BF = BACK FACE
- EF = EACH FACE

PLACE ADJACENT TO EACH PILE ONLY. TIE TO NEAREST VERTICAL P501 BAR. ALTERNATE THE POSITION OF THE 90 DEGREE AND 180 DEGREE HOOKS AT EACH VERTICAL LAYER OF TIES.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-57-91			
DRAWN BY		DLF	PLANS CK'D. CJB
PIER DETAILS			SHEET 6 OF 10

SUPERSTRUCTURE NOTES:

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

PRIOR TO RELEASING SLAB FLASEWORK, TAKE TOP OF SLAB ELEVATIONS AT C/L ABUTS, C/L PIERS AND 5/10 POINTS TO VERIFY CAMBER. TAKE ELEVATIONS ALONG EDGE LINE AND CROWN OR C/L.

SEE SHEET 8 FOR CAMBER DIAGRAM AND TOP OF DECK ELEVATIONS.

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

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 ON CONTINUOUS BAR CHAIRS AT APPROXIMATELY 4'-0" CENTERS.

⊗ 3/4" V-GROOVE, EXTEND V-GROOVE TO 6" FROM FRONT FACE OF ABUTMENT.

☒ COAT WITH PROTECTIVE SURFACE TREATMENT PER THE STANDARD SPECIFICATIONS. PROTECTIVE SURFACE TREATMENT TO BE APPLIED TO THE TOP AND EXTERIOR EXPOSED FACE OF THE WINGS, AND TO THE TOP OF THE DECK, EDGE OF DECK AND 1'-0" UNDER DECK.

⊗ RAIL POST SPACING TYPICAL EACH SIDE OF DECK. MEASURED ALONG EDGE OF DECK AND WING WALL.

⊙ INDICATES WING NUMBER

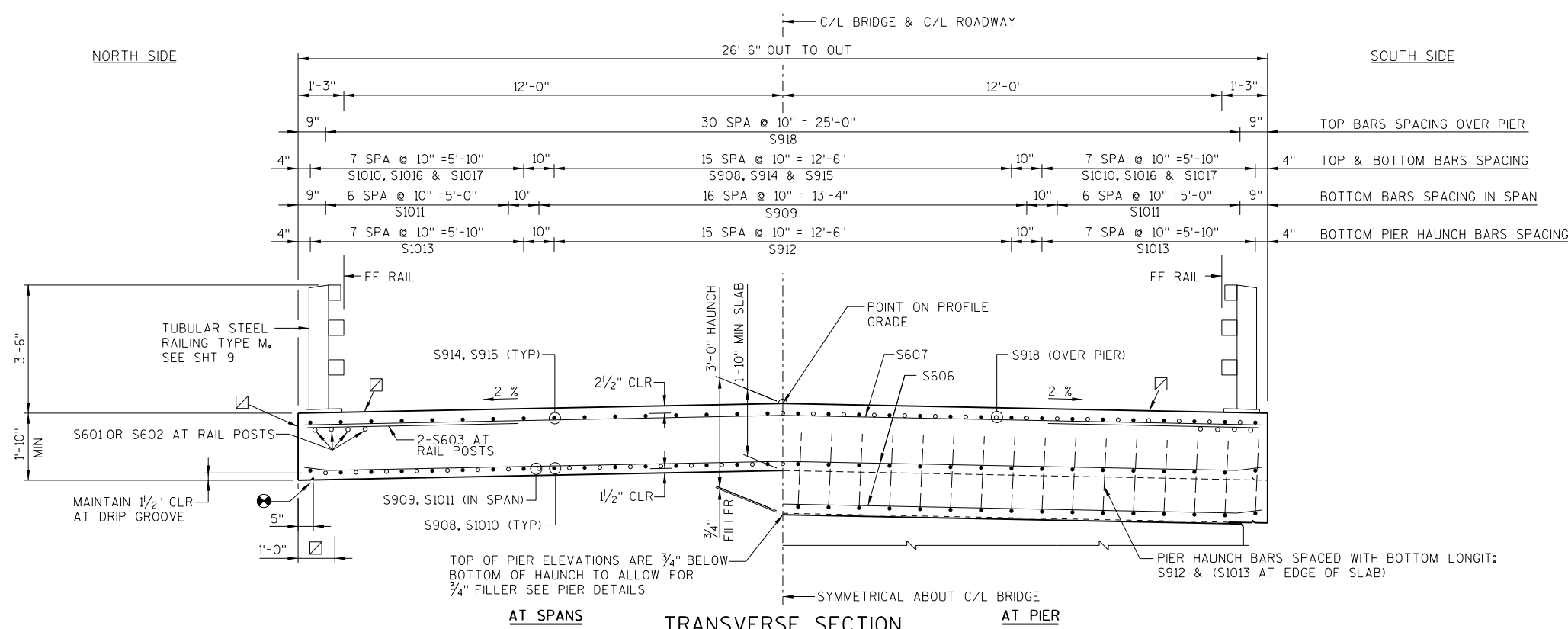
* DIMENSION IS TAKEN NORMAL TO C/L SUBSTRUCTURE UNITS

▬ MEASURED ALONG C/L OF STRUCTURE PLACED ALONG SKEW

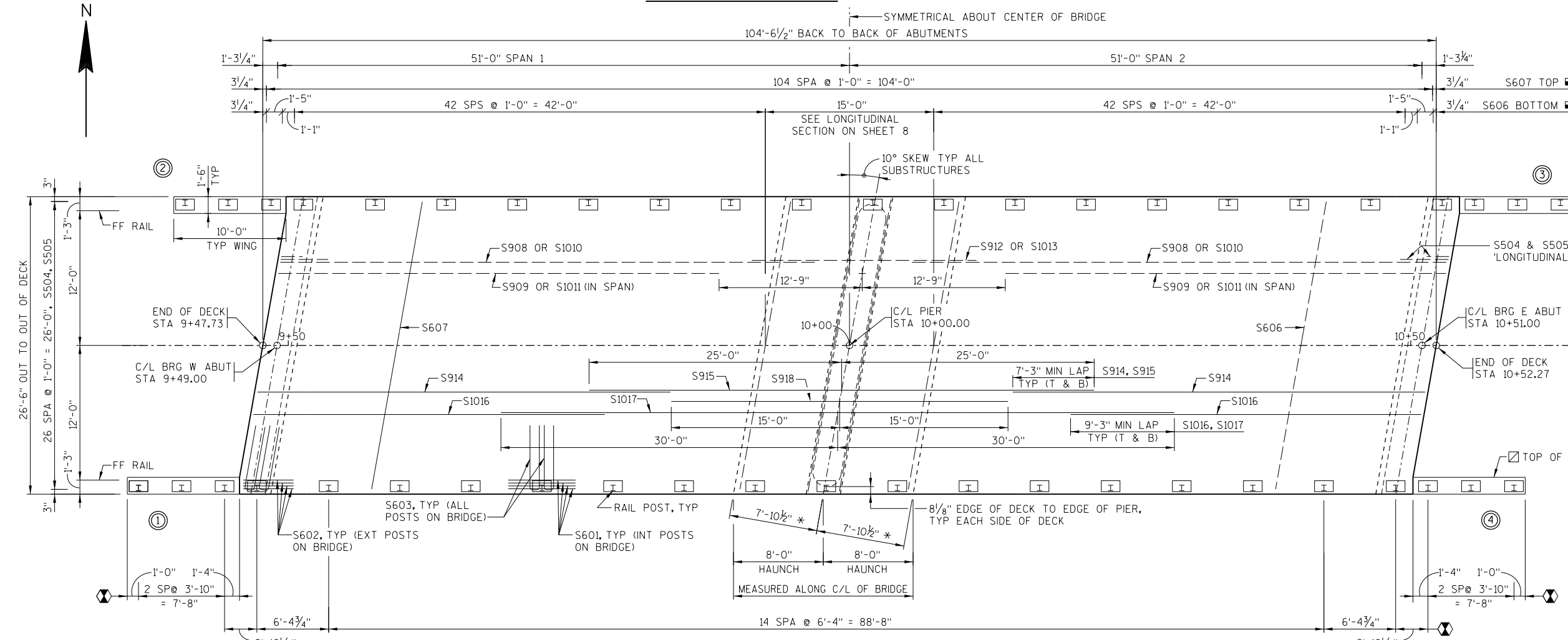
T & B = TOP & BOTTOM

— INDICATES TOP BAR STEEL REINFORCEMENT

- - - INDICATES BOTTOM BAR STEEL REINFORCEMENT



AT SPANS TRANSVERSE SECTION AT PIER

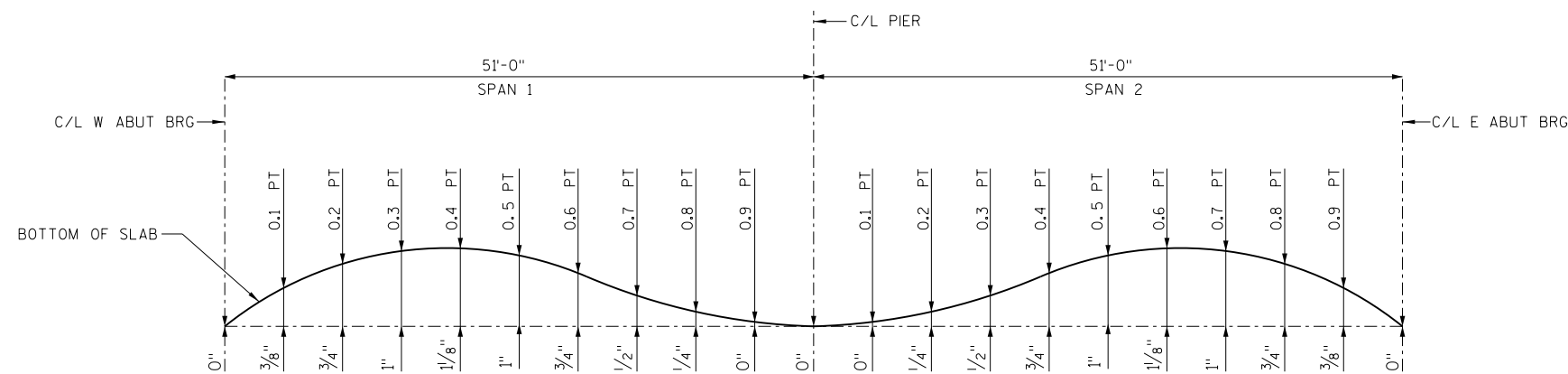


DECK PLAN

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-57-91			
DRAWN BY		DLF	PLANS CKD. NCK/CJB
SUPERSTRUCTURE DETAILS			SHEET 7 OF 10

FILE NAME : X:\PT\5\SMWYE\53366\5-final-dsgn\51-dr-drawings\20-Struct\bridge\B57091sl.dgn
 PLOT TIME: 11:47:31 AM
 PLOT DATE: 7/15/2021

NOTE: THE FIRST DIGIT OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE ENGLISH BAR DIAMETER SIZE.
DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT.

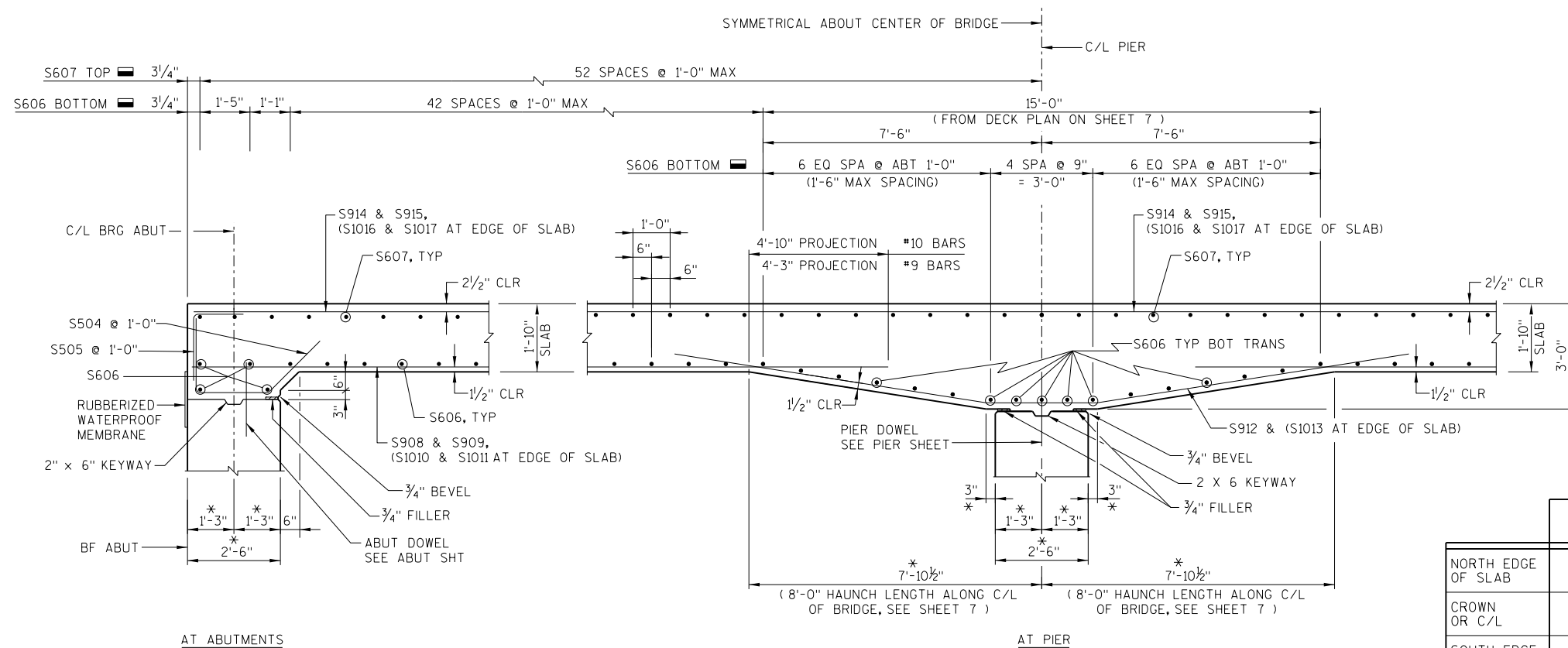


CAMBER DIAGRAM

CAMBER SPAN AS SHOWN TO PROVIDE FOR DEAD LOAD DEFLECTION & FUTURE CREEP. CAMBER DOES NOT INCLUDE VERTICAL ROADWAY PROFILE OR ALLOWANCE FOR FORM SETTLEMENT. DEAD LOAD DEFLECTION ONLY EQUALS APPROXIMATELY 1/3 OF CAMBER VALUES SHOWN.

BILL OF BARS SUPERSTRUCTURE

BAR MARK	CONT	NO. REQ'D.	LENGTH (FT-IN)	BAR SERIES	BENT	LOCATION
S601	X	120	6 - 0			RAIL POST
S602	X	16	6 - 0		X	RAIL POST
S603	X	68	12 - 0		X	RAIL POST
S504	X	54	5 - 10		X	END OF DECK
S505	X	54	3 - 4		X	END OF DECK
S606	X	109	26 - 6			BOT TRANS
S607	X	105	26 - 6			TOP TRANS
S908	X	32	47 - 10			BOT LONG
S909	X	34	39 - 6			BOT LONG
S1010	X	32	48 - 10			BOT LONG
S1011	X	28	39 - 6			BOT LONG
S912	X	16	21 - 4		X	BOT LONG HAUNCH
S1013	X	16	21 - 4		X	BOT LONG HAUNCH
S914	X	32	34 - 3			TOP LONG
S915	X	16	50 - 0			TOP LONG
S1016	X	32	31 - 3			TOP LONG
S1017	X	16	60 - 0			TOP LONG
S918	X	31	30 - 0			TOP LONG



LONGITUDINAL SECTION

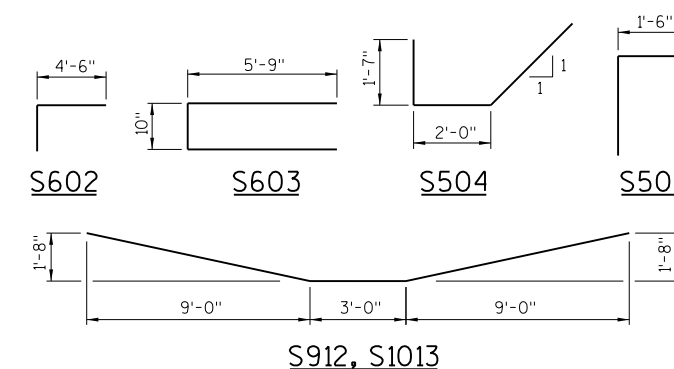
NOTES

SEE SHEET 7 FOR SUPERSTRUCTURE NOTES.

* DIMENSION IS TAKEN NORMAL TO C/L SUBSTRUCTURE UNITS.

■ MEASURED ALONG C/L OF STRUCTURE PLACED ALONG SKEW. SEE SHEET 7.

BF = BACK FACE



SURVEY TOP OF SLAB ELEVATIONS

	C/L BRG WEST ABUT	5/10 PT.	PIER	5/10 PT.	C/L BRG EAST ABUT
NORTH EDGE OF SLAB					
CROWN OR C/L					
SOUTH EDGE OF SLAB					

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

FINAL TOP OF DECK ELEVATIONS

	SPAN 1										SPAN 2											
	W ABUT	.1	.2	.3	.4	.5	.6	.7	.8	.9	PIER	.1	.2	.3	.4	.5	.6	.7	.8	.9	E ABUT	
NORTH EDGE OF DECK	1243.28	1243.27	1243.27	1243.27	1243.27	1243.27	1243.27	1243.27	1243.26	1243.26	1243.26	1243.26	1243.26	1243.26	1243.26	1243.26	1243.25	1243.25	1243.25	1243.25	1243.25	1243.25
C/L	1243.54	1243.54	1243.54	1243.53	1243.53	1243.53	1243.53	1243.53	1243.53	1243.53	1243.53	1243.52	1243.52	1243.52	1243.52	1243.52	1243.52	1243.52	1243.51	1243.51	1243.51	1243.51
SOUTH EDGE OF DECK	1243.28	1243.27	1243.27	1243.27	1243.27	1243.27	1243.27	1243.27	1243.26	1243.26	1243.26	1243.26	1243.26	1243.26	1243.26	1243.26	1243.25	1243.25	1243.25	1243.25	1243.25	1243.25

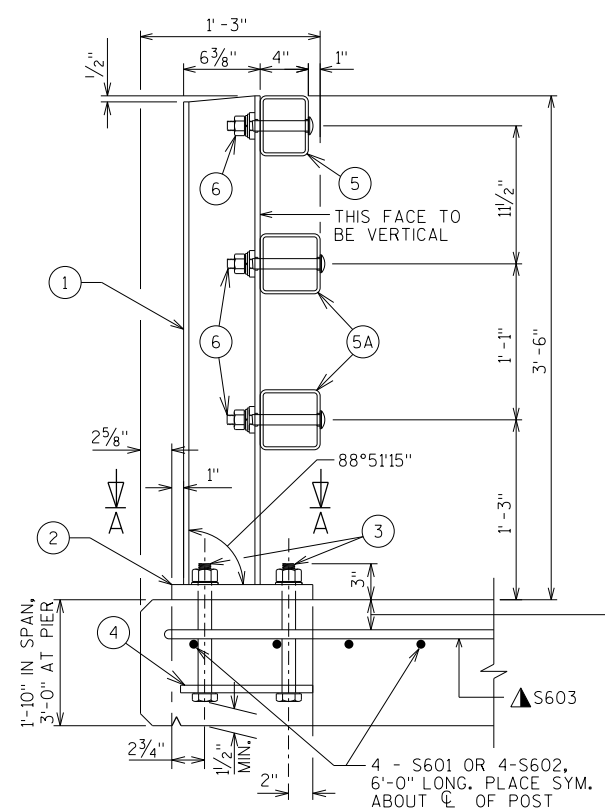
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-57-91			
DRAWN BY		DLF	PLANS CKD./CJB
SUPERSTRUCTURE DETAILS			SHEET 8 OF 10

LEGEND

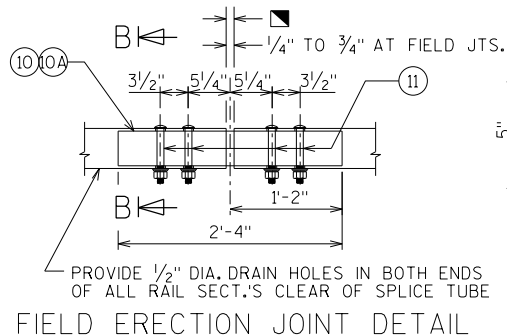
- ① W6 x 25 WITH 1/8" x 1/2" HORIZ. SLOTS ON EACH SIDE OF POST FOR BOLT NO. 6. CUT BOTTOM OF POST TO MATCH CROSS SLOPE OF ROADWAY. PLACE POST VERTICAL. PLACE POSTS NORMAL TO GRADE LINE.
- ② PLATE 1/4" x 1 3/4" x 1'-8" WITH 1 7/8" DIA. OVERSIZED HOLES FOR ANCHOR BOLTS NO. 3. WELD TO NO. 1 AS SHOWN.
-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

GENERAL NOTES

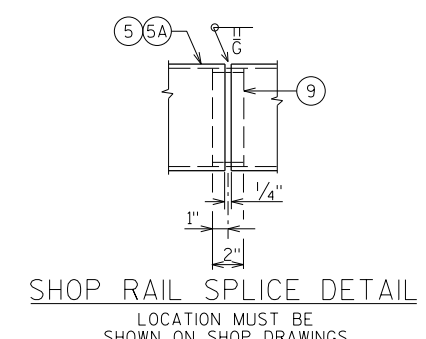
- 1. BID ITEM SHALL BE "RAILING TUBULAR TYPE M" WHICH INCLUDES ALL ITEMS SHOWN.
- 2. RAIL POST AND BASE PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A709 GRADE 50. HOLLOW RAILING STRUCTURAL TUBING SHALL CONFORM TO THE REQUIREMENTS OF ASTM A500 GRADE B OR C WITH A CERTIFIED FY = 50 KSI. ANCHOR PLATES,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



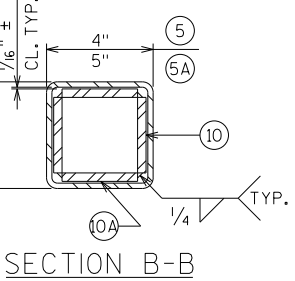
SECTION THRU RAILING ON DECK



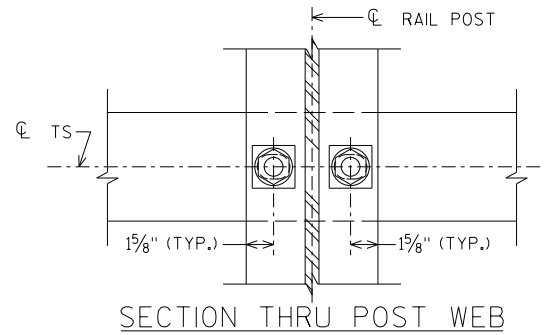
FIELD ERECTION JOINT DETAIL



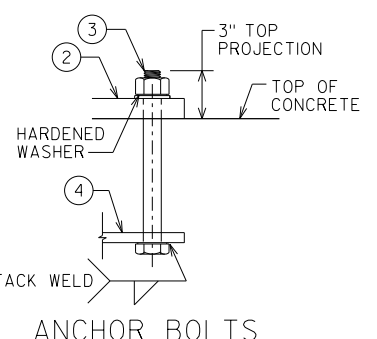
SHOP RAIL SPLICE DETAIL
LOCATION MUST BE SHOWN ON SHOP DRAWINGS



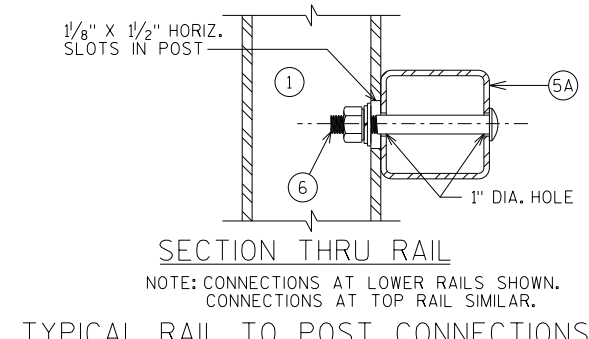
SECTION B-B



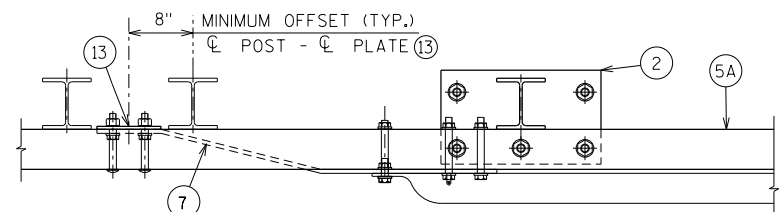
SECTION THRU POST WEB



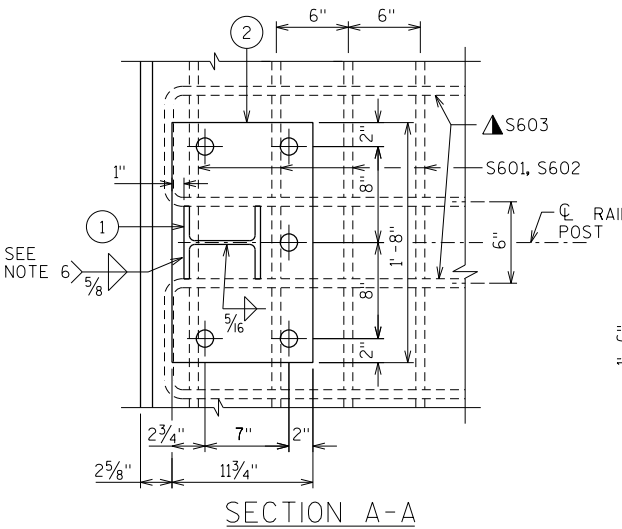
ANCHOR BOLTS



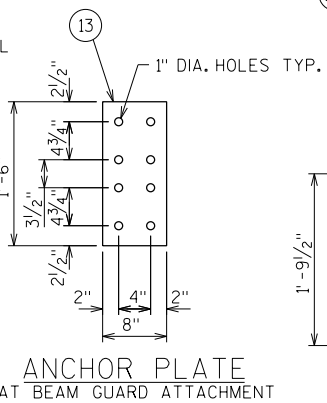
TYPICAL RAIL TO POST CONNECTIONS
NOTE: CONNECTIONS AT LOWER RAILS SHOWN. CONNECTIONS AT TOP RAIL SIMILAR.



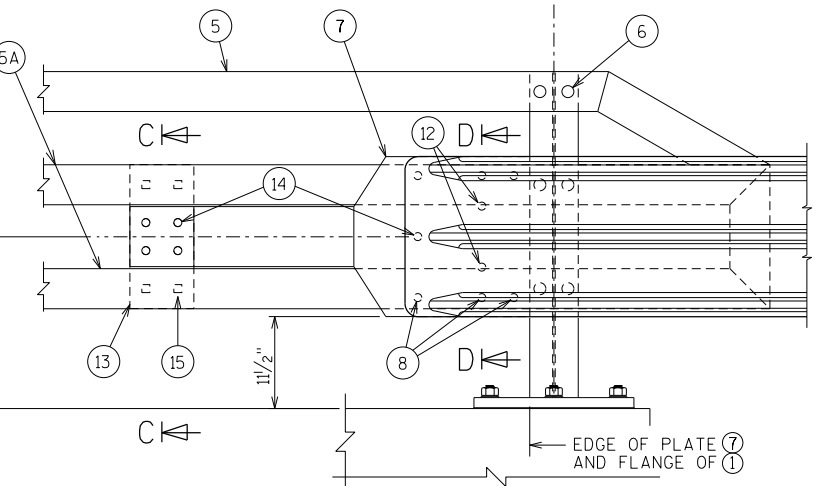
TOP VIEW AT END POST
THREE BEAM RAIL ATTACHMENT



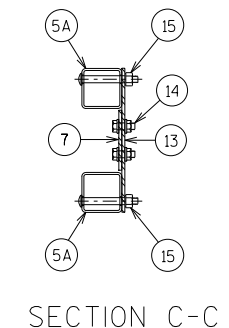
SECTION A-A



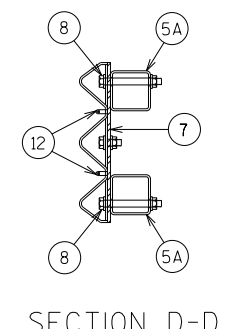
ANCHOR PLATE
AT BEAM GUARD ATTACHMENT



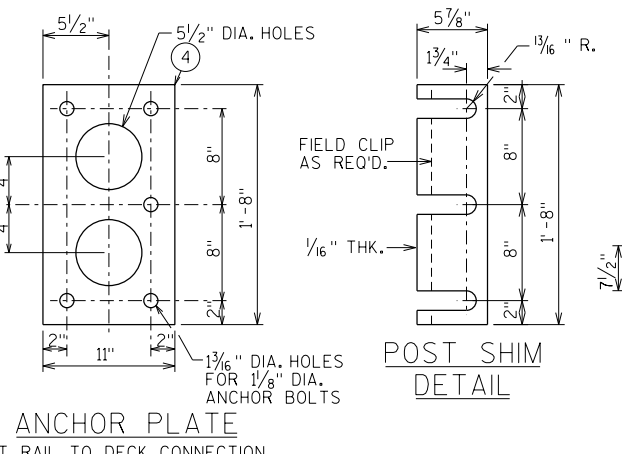
DETAIL AT END POST
THREE BEAM RAIL ATTACHMENT



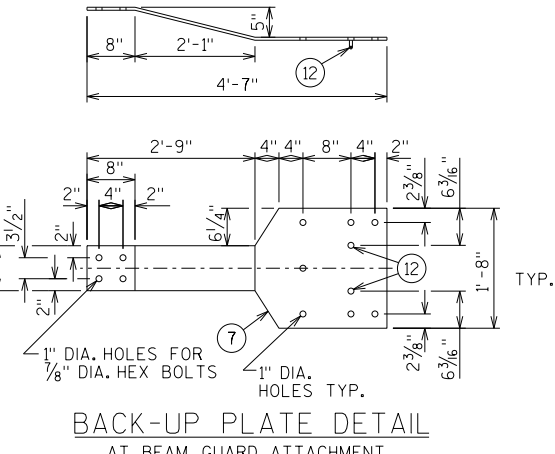
SECTION C-C



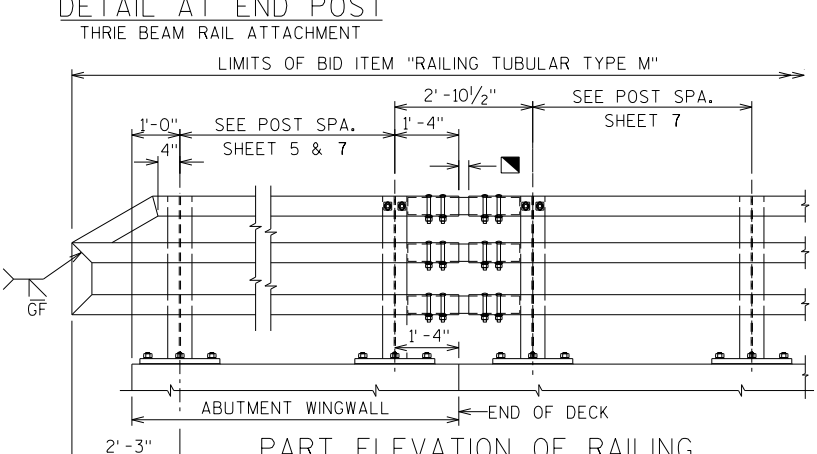
SECTION D-D



ANCHOR PLATE
AT RAIL TO DECK CONNECTION



BACK-UP PLATE DETAIL
AT BEAM GUARD ATTACHMENT



PART ELEVATION OF RAILING

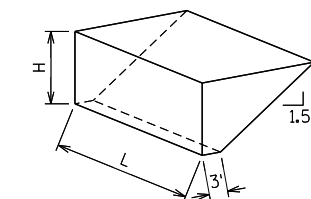
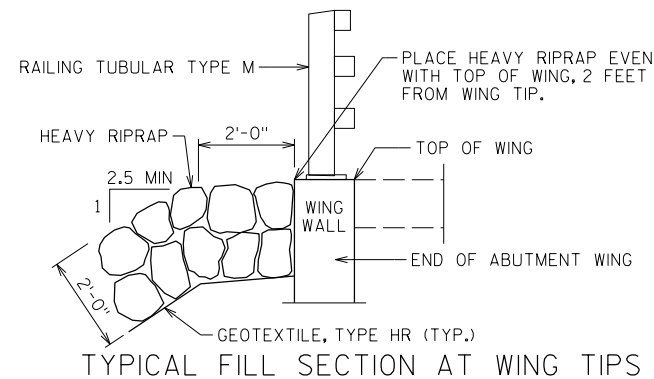
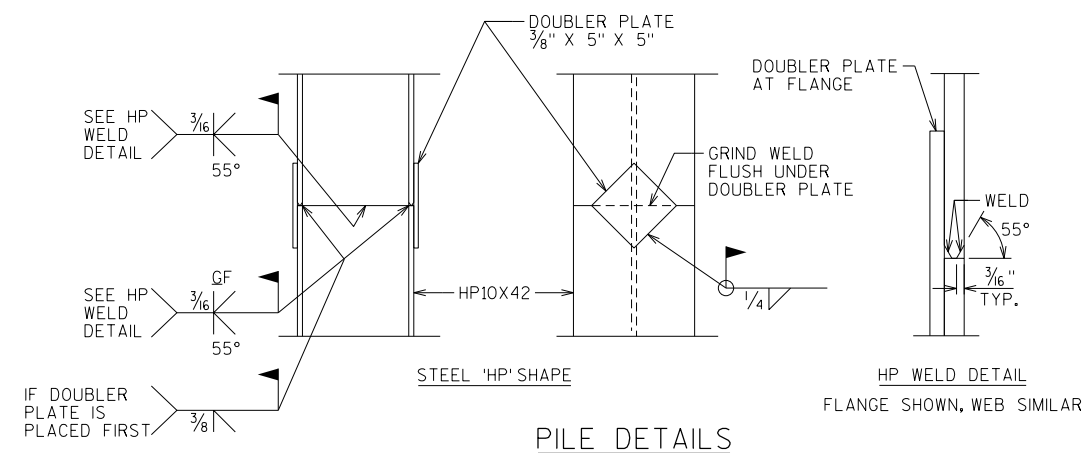
▲ TIE TO TOP MAT OF STEEL.

* ANCHOR BOLT ASSEMBLY MAY BE TACK WELDED, EITHER IN THE SHOP, OR IN THE FIELD AFTER THE ANCHOR PLATE IS PLACED.

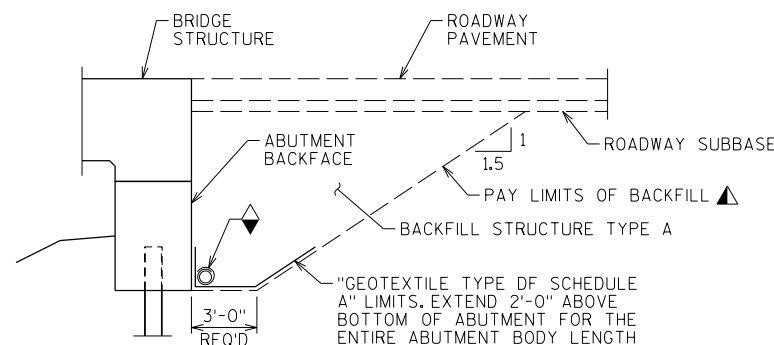
■ 1/4" TO 3/4" OPENING FOR A1 ABUTMENT.

SEE SHEET 5 & 7 FOR POST SPACING

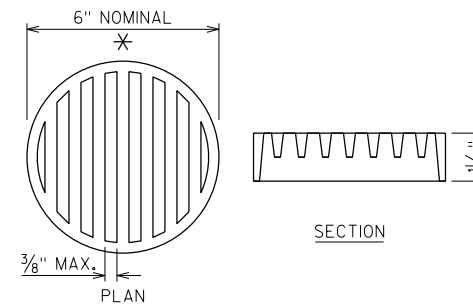
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-57-91			
DRAWN BY DLF		PLANS CKD. CJB	
TUBULAR STEEL RAILING TYPE M		SHEET 9 OF 10	



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)
 $V_{CF} = (L)(3.0')(H) + (L)(0.5')(1.5')(H)$
 $V_{CY} = V_{CF} / 27$
 $V_{TON} = V_{CY} (2.0)$



- ▲ BACKFILL PAY LIMITS. BACKFILL BEYOND BACKFILL PAY LIMITS SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES. LIMITS OF EXCAVATION SHALL BE DETERMINED BY THE CONTRACTOR.
- ◆ PIPE UNDERDRAIN WRAPPED (6 INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN.



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

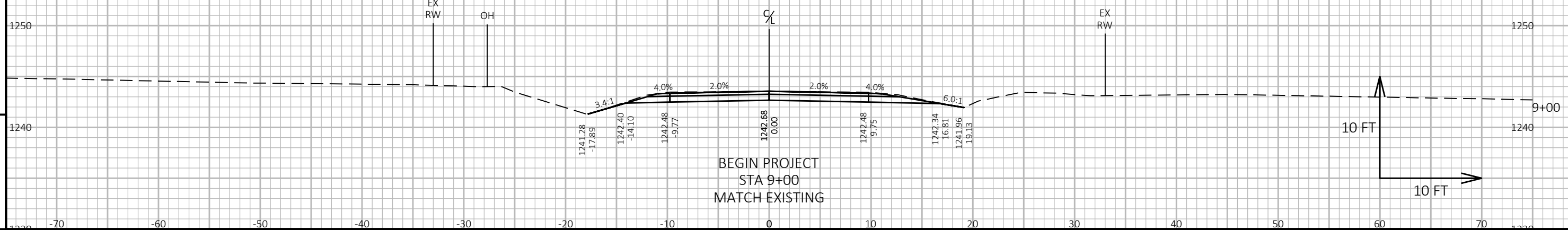
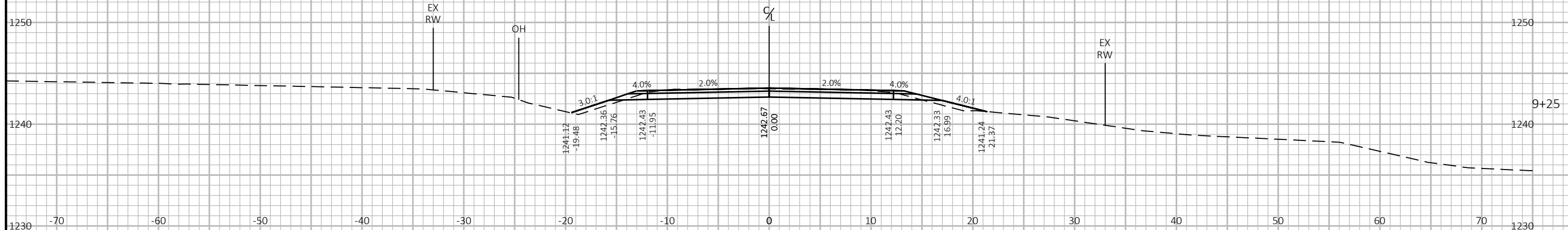
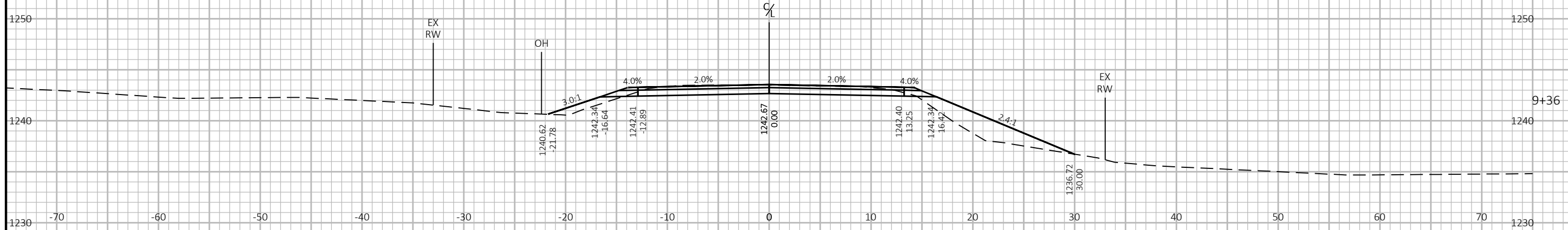
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-57-91			
DRAWN BY		DLF	PLANS CK'D. CJB
MISCELLANEOUS DETAILS			SHEET 10 OF 10

Tag Alder Road											
Station	Distance	AREA (SF)		Incremental Vol (CY) (Unadjusted)			Cumulative Vol (CY)			Mass Ordinate	
		Cut Note 1	Fill	Cut Note 2	Unusable Pavement Material	Fill Note 3	Cut 1.00 Note 2	Unusable Material Note 3	Available Material 1.00 Note 3		Expanded Fill 1.30 Note 4
9+00	0.00	25.3	0.0	0.0	0.0	0.0	0.0	0	0	0	0
9+25	25.00	22.3	3.8	22.0	4.6	1.8	22	5	17	2	15
9+36	11.00	22.1	23.8	9.0	2.0	5.6	31	7	24	10	15
9+37	1.00	0.0	0.0	0.4	0.0	0.4	31	7	25	10	15
10+63	126.00	0.0	0.0	0.0	0.0	0.0	31	7	25	10	15
10+64	1.00	23.7	50.3	0.4	0.2	0.9	32	7	25	11	14
10+75	11.00	23.0	45.9	9.5	2.0	19.6	41	9	33	37	-4
11+00	25.00	20.9	0.0	20.3	4.6	21.2	62	14	48	64	-16

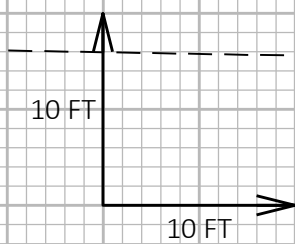
Notes:
 1) Salvaged/Unusable Pavement Material is included in Cut.
 2) Excavation Common is the sum of the Cut column. Item number 205.0100
 3) Does not include Unusable Pavement Excavation volume.
 4) Will be backfilled with Excavation Common or Borrow.
 5) Plus quantity indicates an excess of material. Minus indicates a shortage of material. Borrow item number 208.0100

UTILITY LOCATIONS ARE APPROXIMATE.
ACTUAL LOCATIONS MUST BE FIELD VERIFIED.

STRUCTURE B-57-0091
STA 10+00

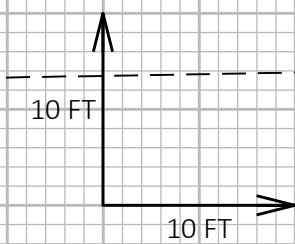
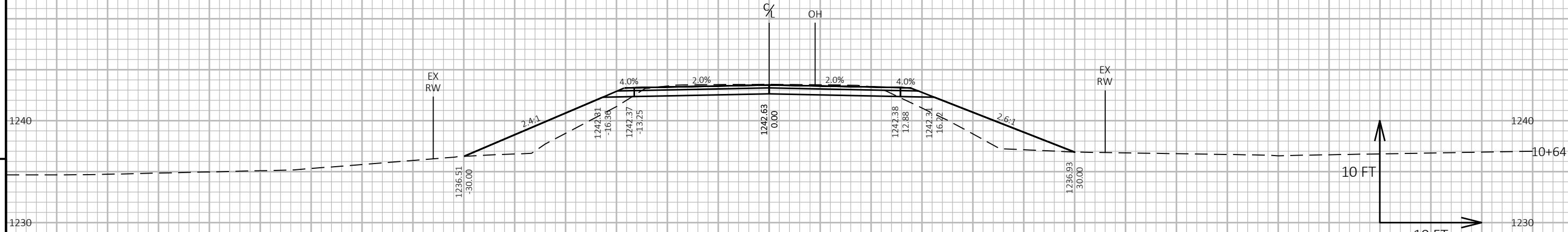
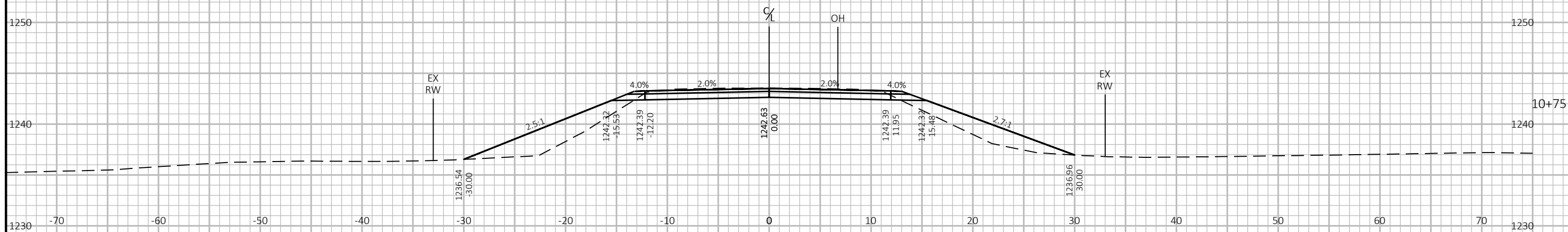
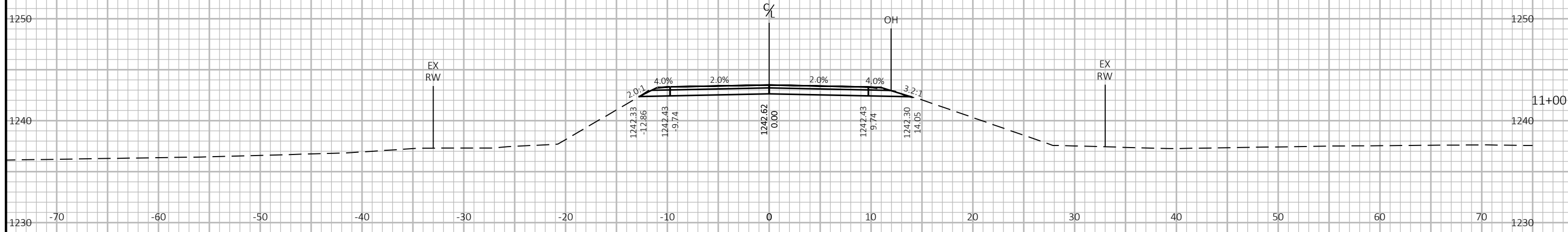


BEGIN PROJECT
STA 9+00
MATCH EXISTING



UTILITY LOCATIONS ARE APPROXIMATE.
ACTUAL LOCATIONS MUST BE FIELD VERIFIED.

END PROJECT
STA 11+00
MATCH EXISTING



9 9

PROJECT NO: 8452-00-70 HWY: TAG ALDER ROAD COUNTY: SAWYER CROSS SECTIONS SHEET E

FILE NAME: \\SEHCF1\PROJECTS\PT\S\SAWYE\153366\5-FINAL-DSGN\CIVIL 3D - TAG ALDER ROAD BRIDGE\SHEETS\PLAN\090201-XS.DWG PLOT DATE: 7/29/2021 10:41 AM PLOT BY: JUSTIN SHAVLIK PLOT NAME: SHEET E PLOT SCALE: 1 IN:10 FT HORZ. / 1 IN:10 FT VERT. WISDOT/CADD SHEET 49



Wisconsin Department of Transportation

Dedicated people creating transportation solutions through innovation and exceptional service.

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