

SUP
PROJECT ID: 8317-00-70
WITH: 8328-00-70, 8333-00-70, 8827-00-70

COUNTY: BARRON

FEBRUARY 2020
ORDER OF SHEETS

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

TOTAL SHEETS = 38



DESIGN DESIGNATION

A.A.D.T.	2020	=	49
A.A.D.T.	2040	=	53
D.H.V.		=	6
D.D.		=	50/50
T.		=	10%
DESIGN SPEED		=	40 MPH
ESALS		=	N/A

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
	WATER
MARSH AREA	UTILITY PEDESTAL
	POWER POLE
WOODED OR SHRUB AREA	TELEPHONE POLE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

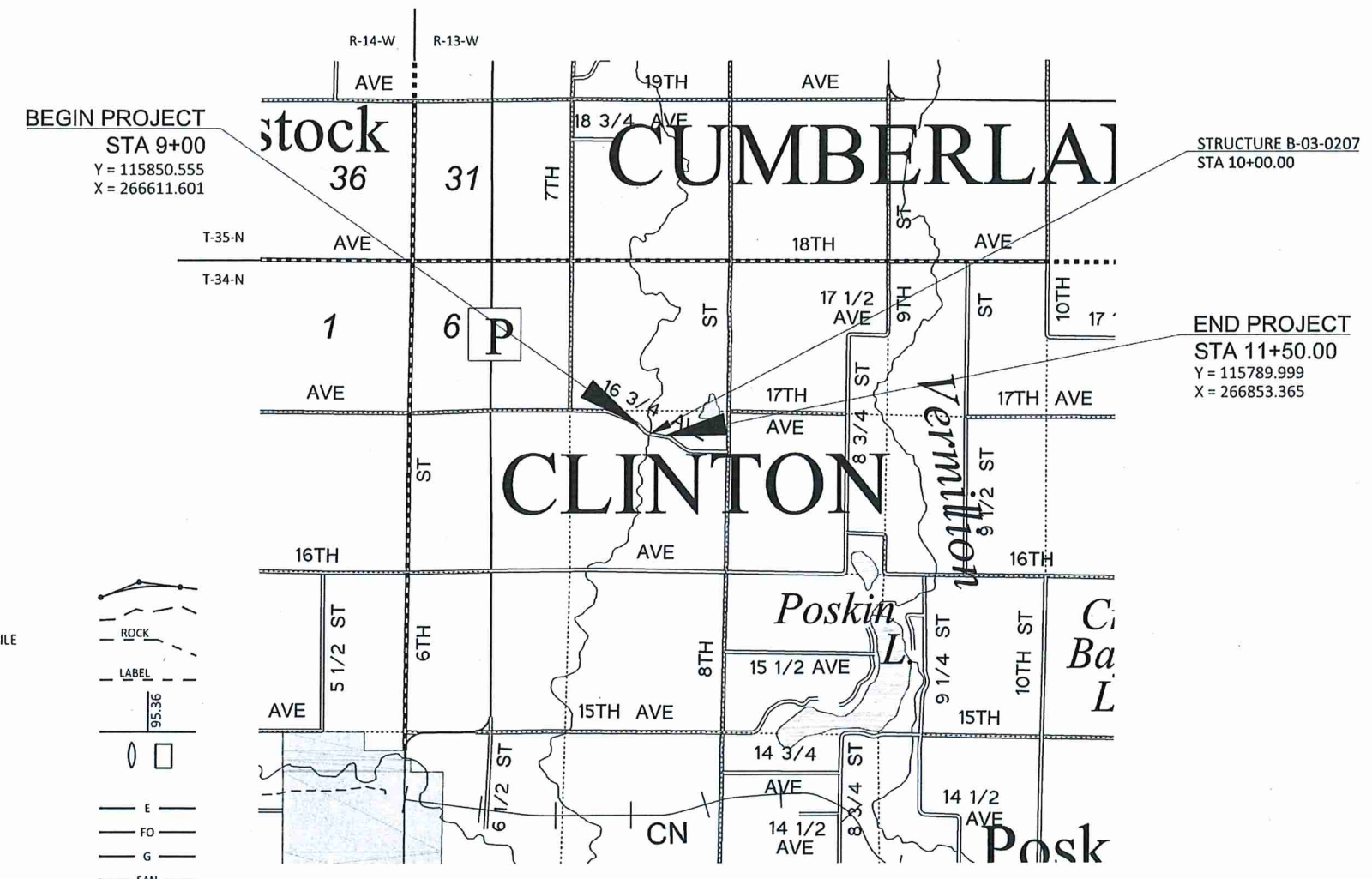
T CLINTON, 17TH AVENUE

HAY RIVER BRIDGE B-03-0207

LOCAL STREET

BARRON COUNTY

STATE PROJECT NUMBER
8317-00-70



LAYOUT
SCALE 0 1 MI
TOTAL NET LENGTH OF CENTERLINE = 0.0473 MI

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN
COORDINATE REFERENCE SYSTEM (WISCRS), BARRON 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 (2012). GPS DERIVED ELEVATIONS ARE BASED ON GEOID 12A.

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
8317-00-70		

ACCEPTED FOR

COUNTY OF BARRON

Date: 10/29/19 Highway Commissioner

ORIGINAL PLANS PREPARED BY
CBS SQUARED INC.

JOHN W. BECHTOLD
34273
EAU CLAIRE, WI

PROFESSIONAL ENGINEER

DATE: 10-29-19 (Signature)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY
Surveyor CBS SQUARED INC.
Designer CBS SQUARED INC.

APPROVED FOR THE DEPARTMENT
DATE: 11/1/2019 (Signature)

E

GENERAL NOTES

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

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

THE EXACT LOCATION AND WIDTH OF PRIVATE ENTRANCES WILL BE DETERMINED IN THE FIELD BY THE ENGINEER. ALL DRIVEWAYS ARE TO BE REPLACED IN KIND UNLESS OTHERWISE DIRECTED BY THE ENGINEER OR AS SHOWN ON THE PLANS. BASE AGGREGATE DENSE 1 1/4-INCH WILL BE USED UNDER ALL DRIVEWAYS.

MAINTAIN DRIVING SURFACE TO ALL PROPERTY OWNERS WITH BASE AGGREGATE DENSE 1 1/4-INCH.

FILL EXPANSION FACTOR IS 30%.

PROPERTY LINES SHOWN ARE APPROXIMATE.

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

BEARINGS SHOWN ON THIS PLAN ARE TRUE BEARINGS TO THE NEAREST SECOND.

ALL TIES ON THIS PLAN ARE HORIZONTAL UNLESS DESCRIBED OTHERWISE.

PLACE EROSION CONTROL MEASURES AS SHOWN ON THE EROSION CONTROL PLAN. THE EXACT LOCATIONS WILL BE DETERMINED BY THE ENGINEER IN THE FIELD.

DISTURBED AREAS WITHIN THE RIGHT OF WAY ARE TO BE FERTILIZED, SEEDED, AND MULCH/EROSION MAT AS DIRECTED BY THE ENGINEER.

ELEVATIONS SHOWN ON THE ROADWAY CROSS SECTIONS ARE SUBGRADE ELEVATIONS AT THE CENTERLINE OF THE ROADWAY.

ALL ELEVATIONS ON THIS PLAN ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF NAVD 88 (2012).

WISDOT WILL FURNISH A BENCHMARK MONUMENT TO BE SET BY THE CONTRACTOR AS DIRECTED BY THE ENGINEER IN THE FIELD.

ASPHALTIC SURFACE MAY BE PLACED IN A SINGLE 4" LIFT. IF THE CONTRACTOR ELECTS TO PLACE THE MATERIAL IN MORE THAN ONE LIFT, TACK WILL NEED TO BE PLACED BETWEEN EACH LIFT AND WILL BE INCIDENTAL TO THE ITEM OF ASPHALTIC SURFACE.

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 = 0.379 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 0.250 ACRES

UTILITY CONTACTS

BARRON ELECTRIC COOPERATIVE - ELECTRICTY
SUSAN DAU
1434 STATE HIGHWAY 25
BARRON, WI 54812
715-537-3171 (OFFICE)
715-418-1137 (MOBILE)
SDAU@BARRONELECTRIC.COM

MOSAIC TELECOM - COMMUNICATION LINE
DENNIS RUSSETT
401 S 1ST ST
P.O. BOX 664
CAMERON, WI 54822
715-458-5378 (OFFICE)
715-458-5518 (MOBILE)
CTCDENNIS@MOSAICTELECOM.COM



Dial 811 or (800)242-8511
www.DiggersHotline.com

DESIGN CONTACT

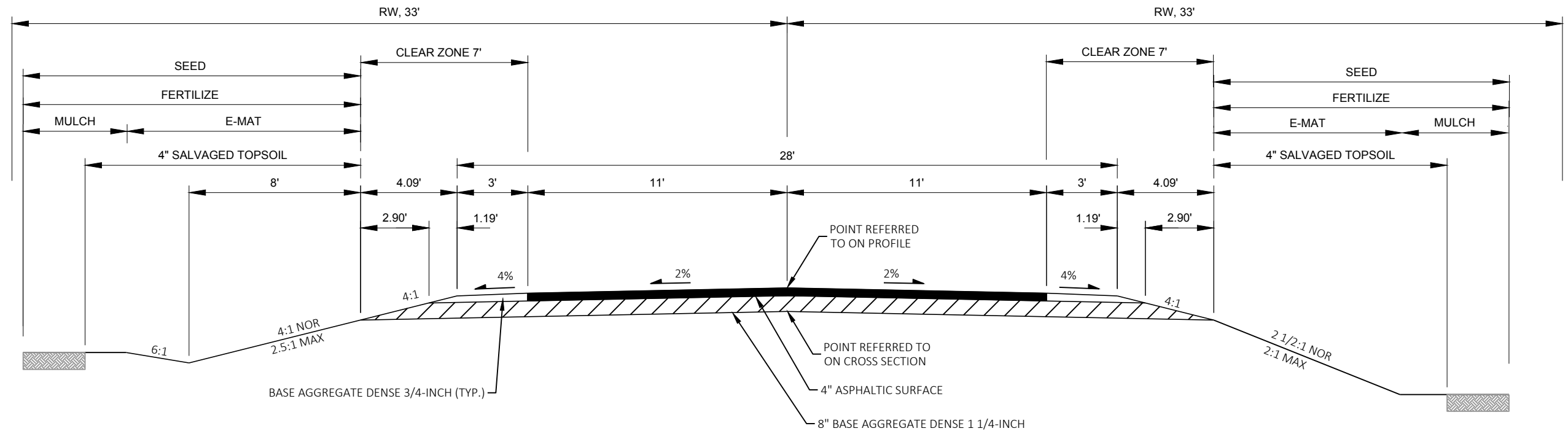
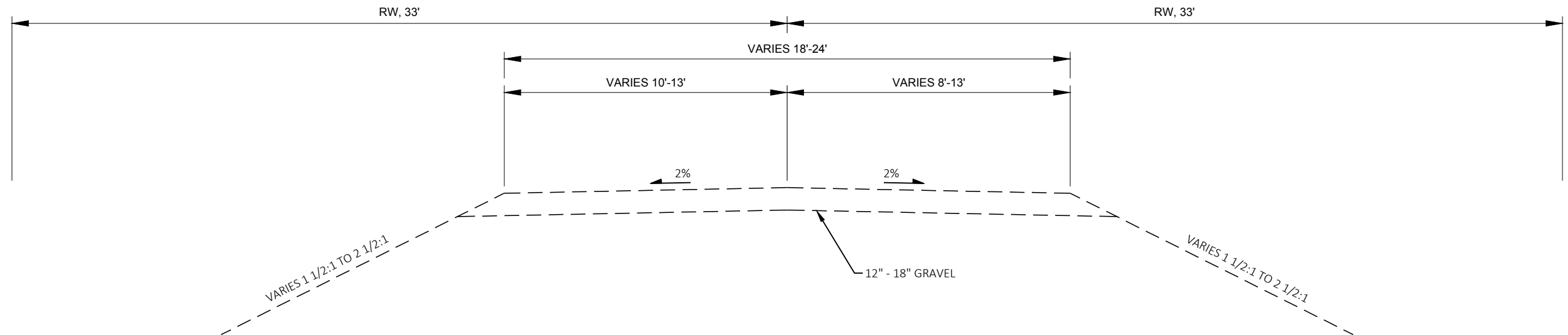
CBS SQUARED INC.
770 TECHNOLOGY WAY, SUITE 1A
CHIPPEWA FALLS, WI 54729
ATTN: MATT GUNDRY, PE
715-861-7425
MGUNDRY@CBSSQUAREDINC.COM

WISCONSIN DNR - LIASON

DEPARTMENT OF NATURAL RESOURCES
SPOONER - DNR SERVICE CENTER
810 W MAPLE ST
SPOONER, WI 54801
ATTN: AMY CRONK
715-635-4229
AMY.CRONK@WISCONSIN.GOV

BARRON COUNTY HIGHWAY DEPARTMENT

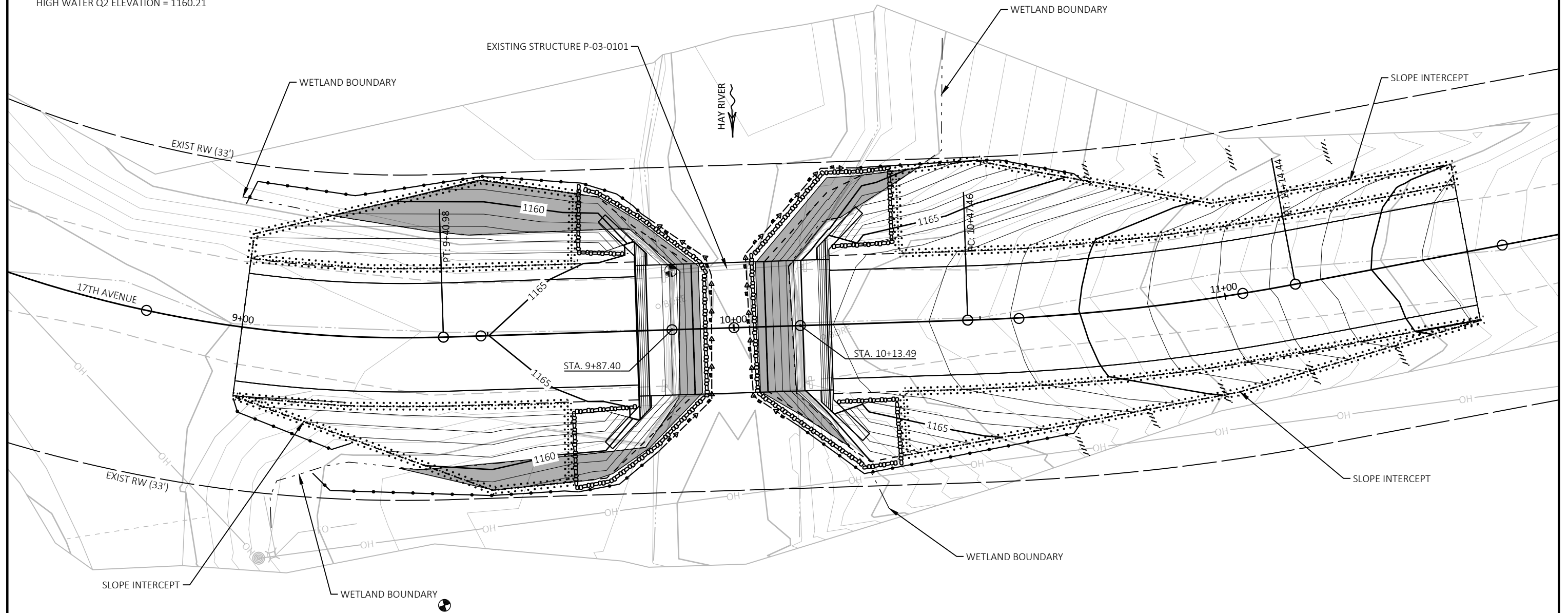
MARK SERVI, HIGHWAY COMMISSIONER
BARRON COUNTY HIGHWAY DEPARTMENT
260 N 7TH ST
BARRON, WI 54812
715-637-3755
MARK.SERVI@CO.BARRON.WI.US



EROSION CONTROL LEGEND

- EROSION MAT CLASS II, TYPE C
- HEAVY RIPRAP
- TURBIDITY BARRIER
- SILT FENCE
- TEMPORARY DITCH CHECK

HIGH WATER Q2 ELEVATION = 1160.21



WETLAND IMPACT
1200 SF (0.028 AC) SHRUB(SS)/WOODED (WS) (WWI T3/S3K)

PROJECT NO: 8317-00-70

HWY: LOCAL STREET

COUNTY: BARRON

EROSION CONTROL

SHEET

E

FILE NAME: P:\BARRO\19003 - FOUR LOW-RISK BRIDGE REPLACEMENTS\19003-1 HAY RIVER BRG, T CLINTON 17TH AVE\CAD\C3D\SHEETSPLAN\022001-EC.DWG
LAYOUT NAME: 022001-ec

PLOT DATE: 11/1/2019 8:37 AM

PLOT BY: ALYSSA COHOON

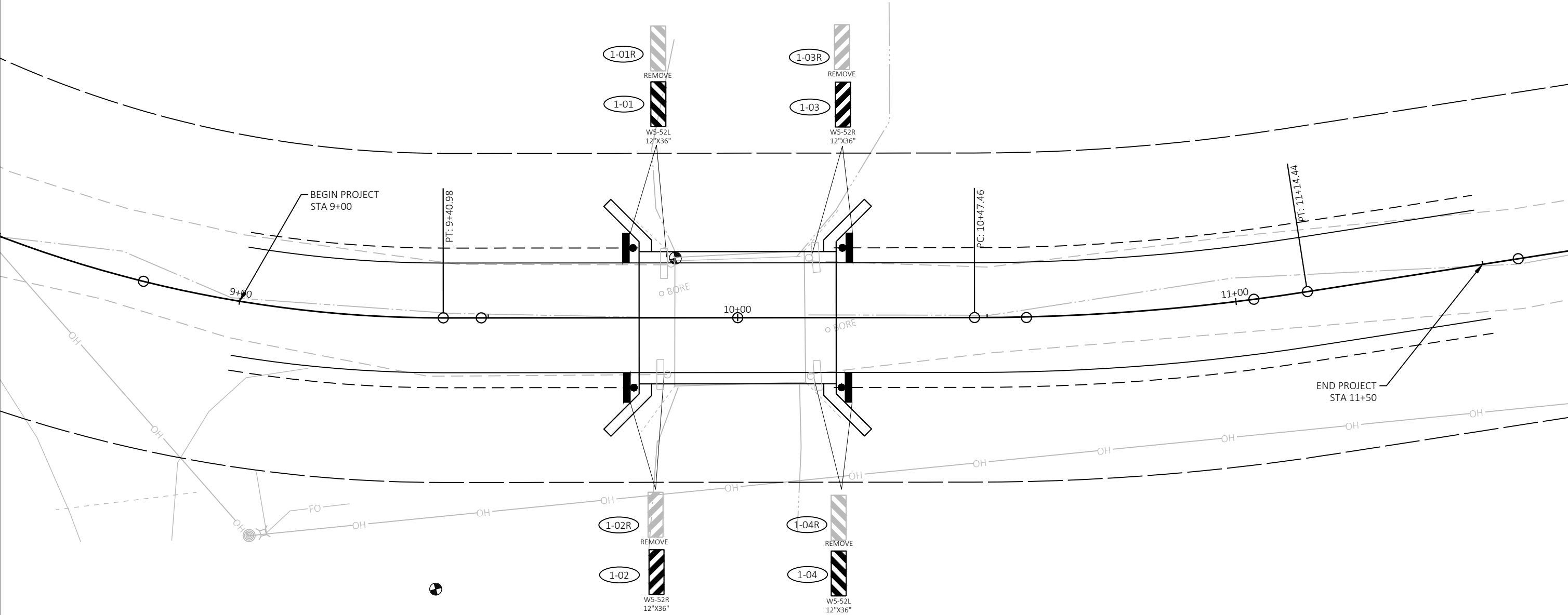
PLOT NAME:

PLOT SCALE: 1 IN:20 FT

WISDOT/CADDs SHEET 42

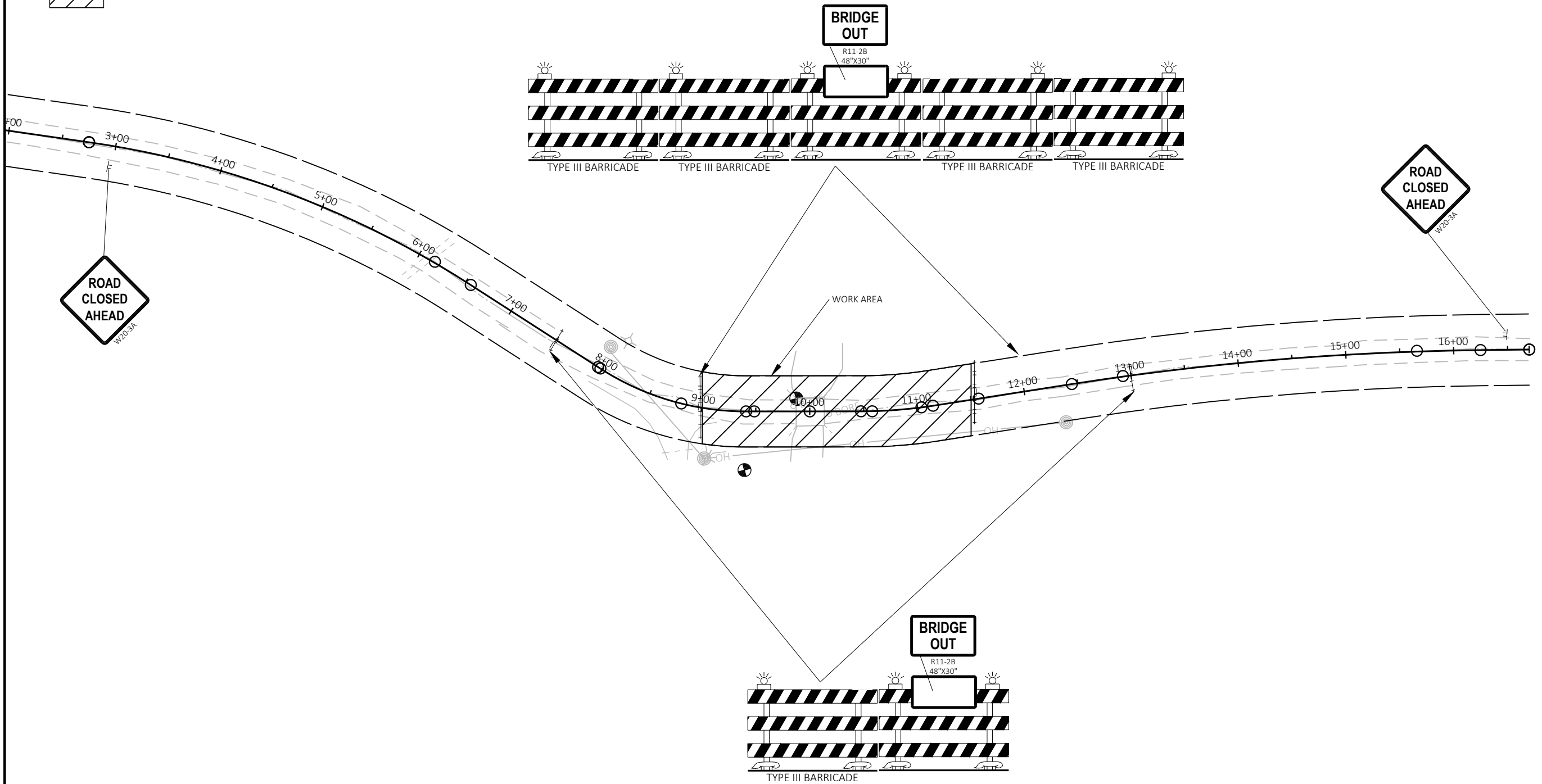
SIGN LEGEND

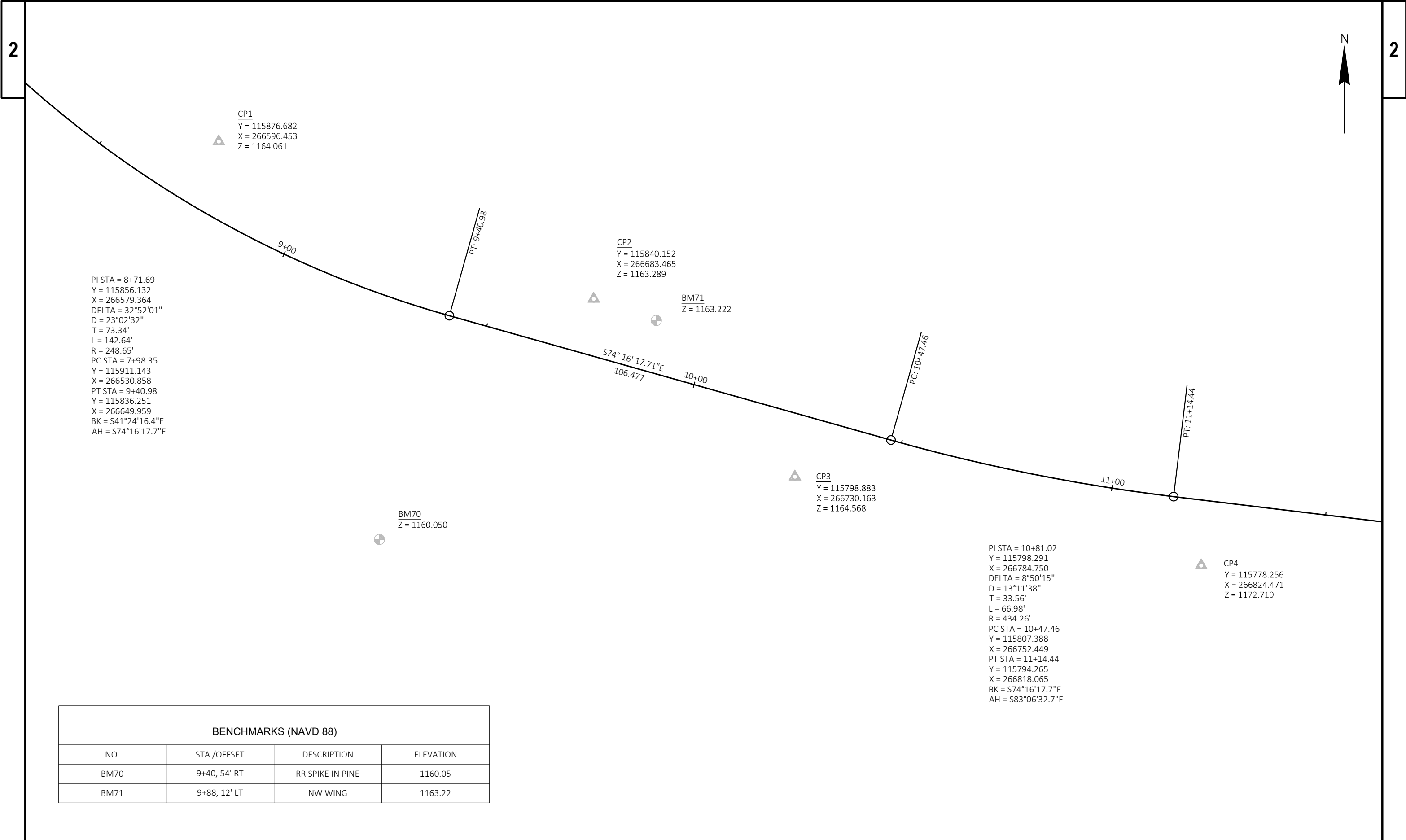
-  EXISTING SIGN MOUNTED ON POST(S)
-  PROPOSED SIGN MOUNTED ON POST(S)
-  DENOTES SIGN NUMBER



TRAFFIC CONTROL LEGEND

- ↑ TYPE III BARRICADE
- ↑ TYPE III BARRICADE WITH ATTACHED SIGN
- ⊢ SIGN ON TEMPORARY SUPPORT
- ▨ WORK AREA





Estimate Of Quantities By Plan Sets

8317-00-70					
Line	Item	Item Description	Unit	Total	Qty
0002	203.0700.S	Removing Old Structure Over Waterway With Debris Capture System (station) 01. 10+00.00	LS	1.000	1.000
0008	205.0100	Excavation Common	CY	140.000	140.000
0010	206.1000	Excavation for Structures Bridges (structure) 01. B-03-0207	LS	1.000	1.000
0016	208.0100	Borrow	CY	308.000	308.000
0018	210.1500	Backfill Structure Type A	TON	326.000	326.000
0020	213.0100	Finishing Roadway (project) 01. 8317-00-70	EACH	1.000	1.000
0026	305.0110	Base Aggregate Dense 3/4-Inch	TON	36.000	36.000
0028	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	350.000	350.000
0032	465.0105	Asphaltic Surface	TON	119.000	119.000
0034	502.0100	Concrete Masonry Bridges	CY	136.000	136.000
0036	502.3200	Protective Surface Treatment	SY	134.000	134.000
0038	505.0400	Bar Steel Reinforcement HS Structures	LB	4,340.000	4,340.000
0040	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	14,720.000	14,720.000
0044	513.4061	Railing Tubular Type M	LF	82.000	82.000
0046	516.0500	Rubberized Membrane Waterproofing	SY	35.000	35.000
0052	550.2104	Piling CIP Concrete 10 3/4 X 0.25-Inch	LF	680.000	680.000
0054	606.0300	Riprap Heavy	CY	116.000	116.000
0056	612.0206	Pipe Underdrain Unperforated 6-Inch	LF	40.000	40.000
0058	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	98.000	98.000
0062	618.0100	Maintenance And Repair of Haul Roads (project) 01. 8317-00-70	EACH	1.000	1.000
0066	619.1000	Mobilization	EACH	0.330	0.330
0068	624.0100	Water	MGAL	3.900	3.900
0070	625.0500	Salvaged Topsoil	SY	380.000	380.000
0072	627.0200	Mulching	SY	210.000	210.000
0074	628.1504	Silt Fence	LF	300.000	300.000
0076	628.1520	Silt Fence Maintenance	LF	300.000	300.000
0078	628.1905	Mobilizations Erosion Control	EACH	1.000	1.000
0080	628.1910	Mobilizations Emergency Erosion Control	EACH	1.000	1.000
0084	628.2027	Erosion Mat Class II Type C	SY	380.000	380.000
0086	628.6005	Turbidity Barriers	SY	120.000	120.000
0088	628.7504	Temporary Ditch Checks	LF	45.000	45.000
0090	629.0210	Fertilizer Type B	CWT	1.000	1.000
0092	630.0120	Seeding Mixture No. 20	LB	16.000	16.000
0094	630.0500	Seed Water	MGAL	15.000	15.000
0096	634.0812	Posts Tubular Steel 2x2-Inch X 12-FT	EACH	4.000	4.000
0098	637.2230	Signs Type II Reflective F	SF	12.000	12.000
0100	638.2602	Removing Signs Type II	EACH	4.000	4.000

Estimate Of Quantities By Plan Sets

8317-00-70

Line	Item	Item Description	Unit	Total	Qty
0102	638.3000	Removing Small Sign Supports	EACH	4.000	4.000
0104	642.5001	Field Office Type B 01. 8317-00-70	EACH	1.000	1.000
0110	643.0420	Traffic Control Barricades Type III	DAY	630.000	630.000
0112	643.0705	Traffic Control Warning Lights Type A	DAY	810.000	810.000
0114	643.0900	Traffic Control Signs	DAY	270.000	270.000
0116	643.5000	Traffic Control	EACH	1.000	1.000
0118	645.0120	Geotextile Type HR	SY	272.000	272.000
0120	650.4500	Construction Staking Subgrade	LF	212.000	212.000
0122	650.5000	Construction Staking Base	LF	212.000	212.000
0124	650.6500	Construction Staking Structure Layout (structure) 01. B-03-0207	LS	1.000	1.000
0130	650.9910	Construction Staking Supplemental Control (project) 01. 8317-00-70	LS	1.000	1.000
0136	650.9920	Construction Staking Slope Stakes	LF	212.000	212.000
0140	715.0502	Incentive Strength Concrete Structures	DOL	800.000	800.000

17TH AVENUE EARTHWORK SUMMARY

From/To Station	Location	205.0100 Common Excavation (1)		Salvaged/Unusable Pavement Material (4)	Available Material (5)	Unexpanded Fill	Expanded Fill (6)	Mass Ordinate +/- (7)	Waste	208.0100 Borrow
		Cut (2)	EBS Excavation (3)				Factor 1.30			
09+00/11+50	17th Ave.	140	0	0	140	344	447	-308	0	308
		140	0	0	140	344	447	-308	0	308
		140	0	0	140	344	447	-308	0	308
TOTAL		140		0	140	344	447	-308	0	308

- Notes:
- (1) Common Excavation is the sum of the Cut and EBS Excavation columns. Item number 205.0100 (includes existing asphaltic pavement).
 - (2) Salvaged/Unsuable Pavement Material is included in Cut.
 - (3) EBS Excavation to be backfilled with Cut material.
 - (4) Salvaged/Unusable Pavement Material (existing asphaltic pavement is not included in Fill quantity).
 - (5) Available Material = Cut - Salvaged/Unusuable Pavement Material.
 - (6) Expanded Fill Factor = 1.3; Expanded Fill = Unexpanded Fill * Fill Factor.
 - (7) The Mass Ordinate + or - Qty calculated for the Division. Plus quantity indicates an excess of material within the Division. Minus indicates a shortage of material within the Division.

3

FINISHING ROADWAY	
	213.0100
	FINISHING
	<u>ROADWAY</u>
LOCATION	EACH
PROJECT	1
TOTAL	1

AGGREGATE ITEMS						
				305.0110	305.0120	
				BASE	BASE	
				AGGREGATE	AGGREGATE	
				DENSE	DENSE	624.0100
				<u>3/4-INCH</u>	<u>1 1/4-INCH</u>	<u>WATER</u>
ROADWAY	STA	TO	STA	TON	TON	MGAL
17th Ave.	9+00	-	9+80.75	14	134	1.5
17th Ave.	10+19.25	-	11+50	22	216	2.4
TOTAL				36	350	3.9

3

ASPHALT ITEMS				
				465.0105
				ASPHALTIC
				<u>SURFACE</u>
ROADWAY	STA	TO	STA	TON
17th Ave.	9+00	-	9+80.75	45
17th Ave.	10+19.25	-	11+50	74
TOTAL				119

MAINTENANCE AND REPAIR OF HAUL ROADS

	618.0100*
	MAINTENANCE
	AND REPAIR OF
	<u>HAUL ROADS</u>
LOCATION	EACH
PROJECT	1
TOTAL	1

*CAT 0030 (NON-PARTICIPATING)

MOBILIZATION

	619.1000
	<u>MOBILIZATION</u>
LOCATION	EACH
0010	0.1
0020	0.23
TOTAL	0.33

RESTORATION ITEMS

					625.0500			628.2027			
					SALVAGED		627.0200	EROSION		630.0120	
					<u>TOPSOIL</u>		<u>MULCHING</u>	MAT		SEEDING	
								CLASS II		MIXTURE	
								<u>TYPE C</u>		<u>NO. 20</u>	
										<u>SEED</u>	
										<u>WATER</u>	
ROADWAY	STA	TO	STA	LOCATION	SY	SY		SY	CWT	LB	MGAL
17th Ave.	9+00	-	9+80.75	LT	97	37		97	0.23	3.6	3.0
17th Ave.	9+00	-	9+80.75	RT	77	41		77	0.20	3.2	3.2
17th Ave.	10+19.25	-	11+50	LT	124	64		124	0.32	5.1	5.1
17th Ave.	10+19.25	-	11+50	RT	82	68		82	0.25	4	4
TOTAL					380	210		380	1	16	15

PROJECT NO: 8317-00-70

HWY: LOCAL STREET

COUNTY: BARRON

MISCELLANEOUS QUANTITIES

SHEET

E

EROSION CONTROL ITEMS

ROADWAY	STA	TO	STA	LOCATION	628.1504	628.1520	628.6005	628.7504
					SILT FENCE	SILT FENCE	TURBIDITY	TEMPORARY
					<u>SILT FENCE</u>	<u>MAINTENANCE</u>	<u>BARRIERS</u>	<u>DITCH</u> <u>CHECKS</u>
					LF	LF	SY	LF
17th Ave.	9+00	-	10+00	LT	88	88	--	--
17th Ave.	9+00	-	10+00	RT	102	102	--	--
17th Ave.	10+00	-	11+50	LT	47	47	--	20
17th Ave.	10+00	-	11+50	RT	63	63	--	25
17th Ave.	B-03-0207 West Abutment				--	--	55	--
17th Ave.	B-03-0207 East Abutment				--	--	65	--
TOTAL					300	300	120	45

EROSION CONTROL MOBILIZATION

LOCATION	628.1905	628.1910
	MOBILIZATIONS EROSION CONTROL	MOBILIZATIONS EMERGENCY EROSION CONTROL
	EACH	EACH
PROJECT	1	1
TOTAL	1	1

PERMANENT SIGNING ITEMS

SIGN NO.	SIGN CODE	SIGN MESSAGE	SIZE	637.2230			634.0812	
				SIGNS TYPE II REFLECTIVE			POSTS TUBULAR STEEL	
							2X2-INCH	
							X 12-FT	
						SF	EACH	
1-01	W5-52L	BRIDGE CLEARANCE STRIPER LEFT	12 X 36			3.00	1	
1-02	W5-52R	BRIDGE CLEARANCE STRIPER RIGHT	12 X 36			3.00	1	
1-03	W5-52R	BRIDGE CLEARANCE STRIPER RIGHT	12 X 36			3.00	1	
1-04	W5-52L	BRIDGE CLEARANCE STRIPER LEFT	12 X 36			3.00	1	
TOTAL						12.00	4	

REMOVING SIGNING ITEMS

SIGN NO.	SIGN MESSAGE	638.2602	638.3000
		REMOVING SIGNS TYPE II	REMOVING SMALL SIGN SUPPORTS
		EACH	EACH
1-01R	BRIDGE CLEARANCE STRIPER LEFT	1	1
1-02R	BRIDGE CLEARANCE STRIPER RIGHT	1	1
1-03R	BRIDGE CLEARANCE STRIPER RIGHT	1	1
1-04R	BRIDGE CLEARANCE STRIPER LEFT	1	1
TOTAL		4	4

3

TRAFFIC CONTROL ITEMS

		643.0420		643.0705				
		TRAFFIC CONTROL BARRICADES		TRAFFIC CONTROL WARNING LIGHTS		643.0900 TRAFFIC CONTROL SIGNS		643.5000 TRAFFIC CONTROL
	DURATION	TYPE III		TYPE A				
ROADWAY	(DAYS)	EACH*	DAY	EACH*	DAY	EACH*	DAY	EACH
17th Ave.	45	14	630	18	810	6	270	1.00
TOTAL		630		810		270		1.00

* INFORMATION ONLY

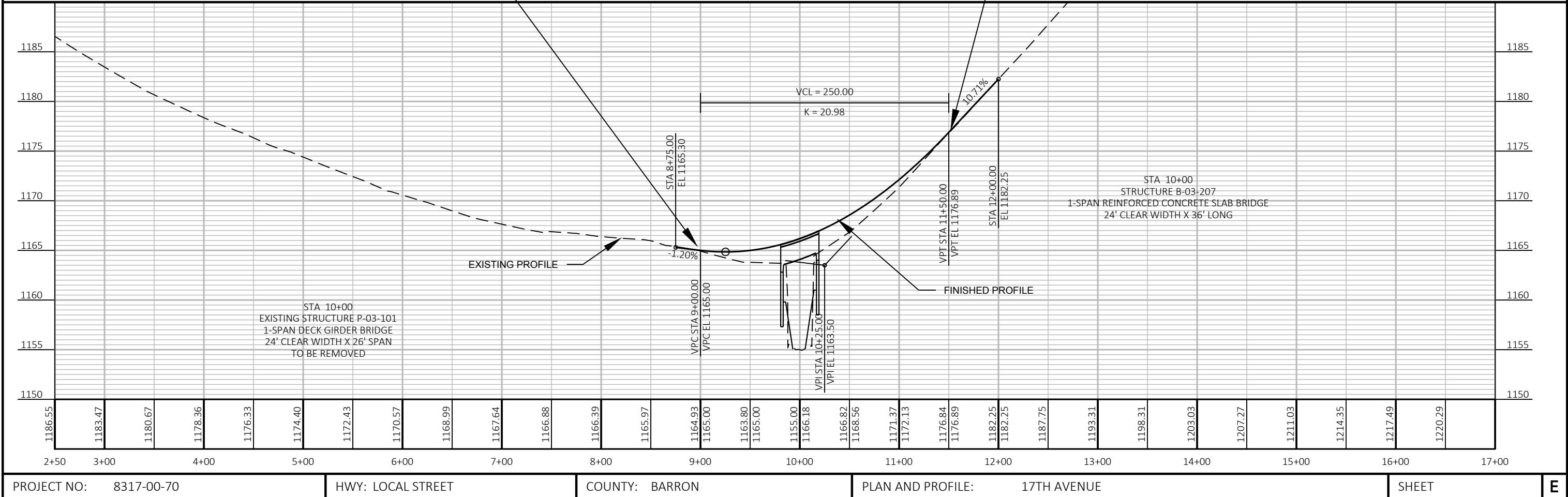
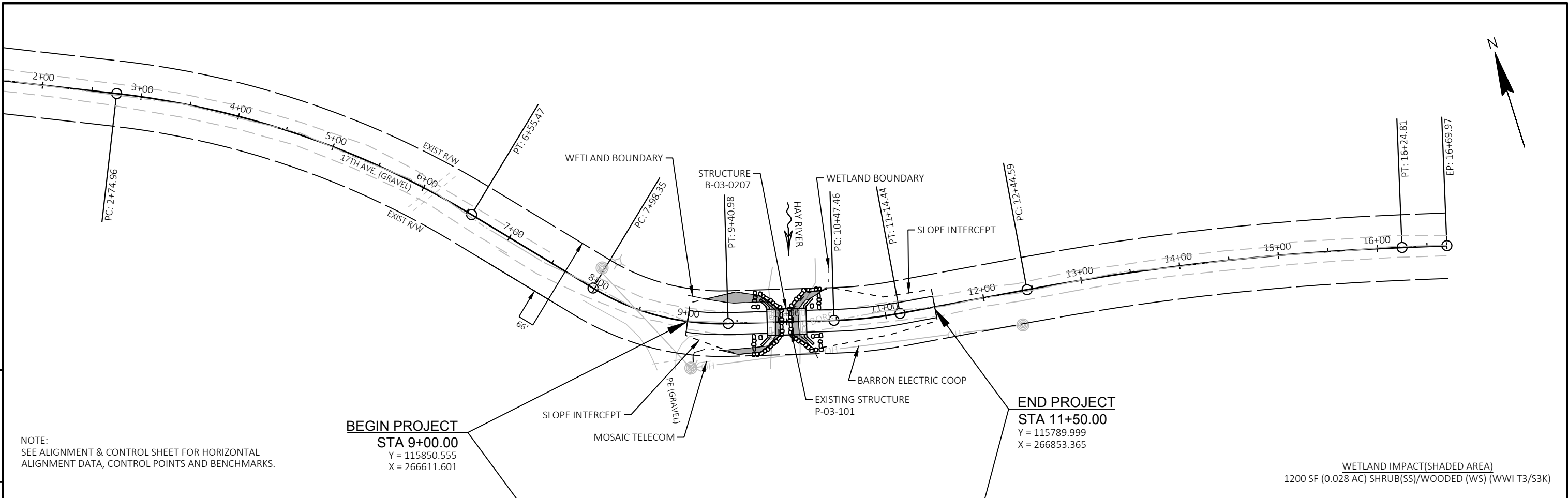
3

FIELD OFFICE

	642.5001
	FIELD OFFICE
	<u>TYPE B</u>
LOCATION	EACH
PROJECT	1.00
TOTAL	1.00

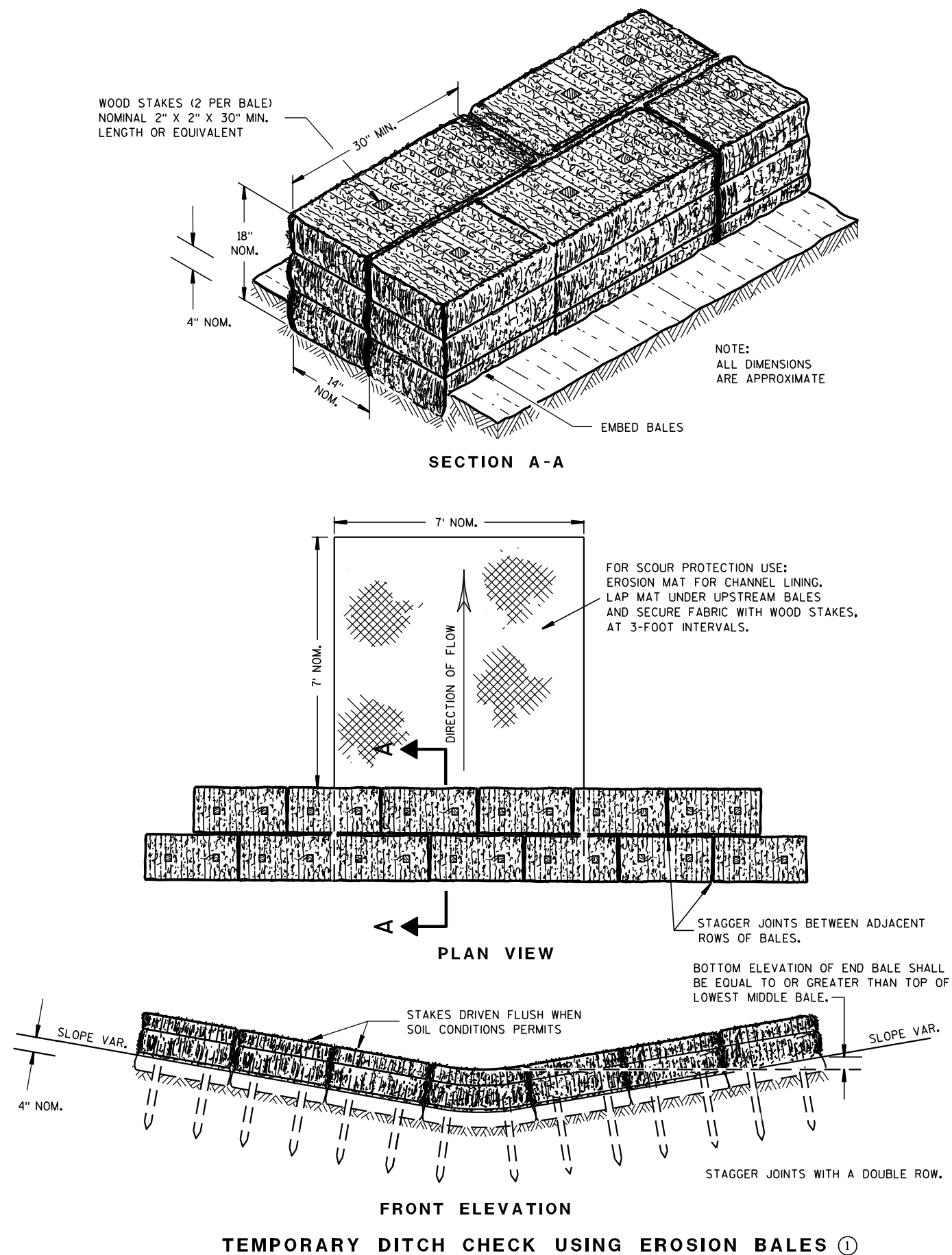
CONSTRUCTION STAKING

				650.4500	650.5000	650.9910	650.9920
				CONSTRUCTION	CONSTRUCTION	CONSTRUCTION	CONSTRUCTION
				STAKING	STAKING	STAKING	STAKING
				SUBGRADE	BASE	SUPPLEMENTAL	SLOPE STAKES
ROADWAY	STA	TO	STA	LF	LF	LS	LF
17th Ave.	9+00	-	9+80.75	81	81	--	81
17th Ave.	10+19.25	-	11+50	131	131	--	131
17th Ave.	PROJECT			--	--	1	--
TOTAL				212	212	1	212



Standard Detail Drawing List

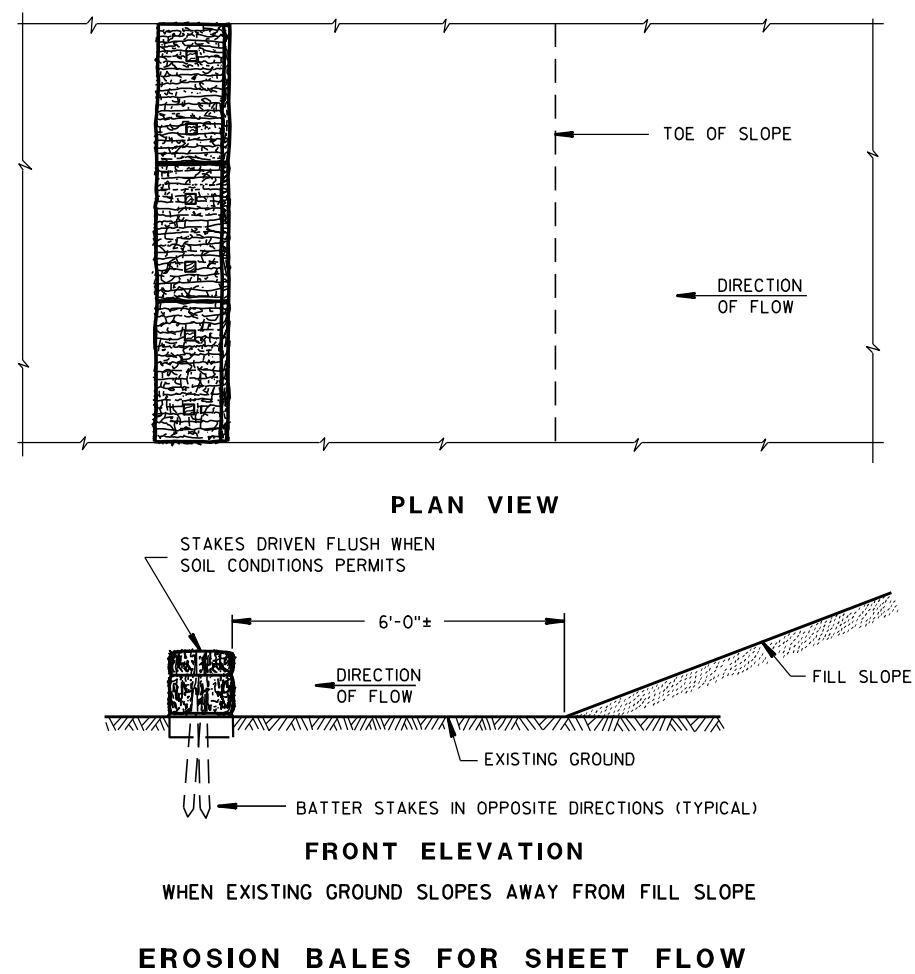
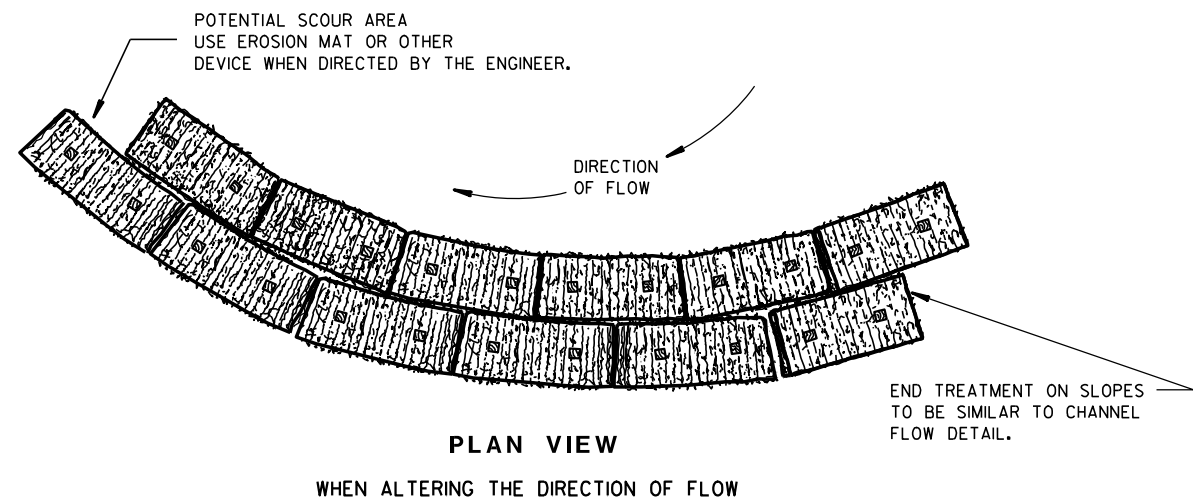
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E11-02	TURBIDITY BARRIER
12A03-10	NAME PLATE (STRUCTURES)
15C02-07A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15D38-02A	TEMPORARY TRAFFIC CONTROL SIGN MOUNTING
15D38-02B	ATTACHMENT OF SIGNS TO POSTS



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.



TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS

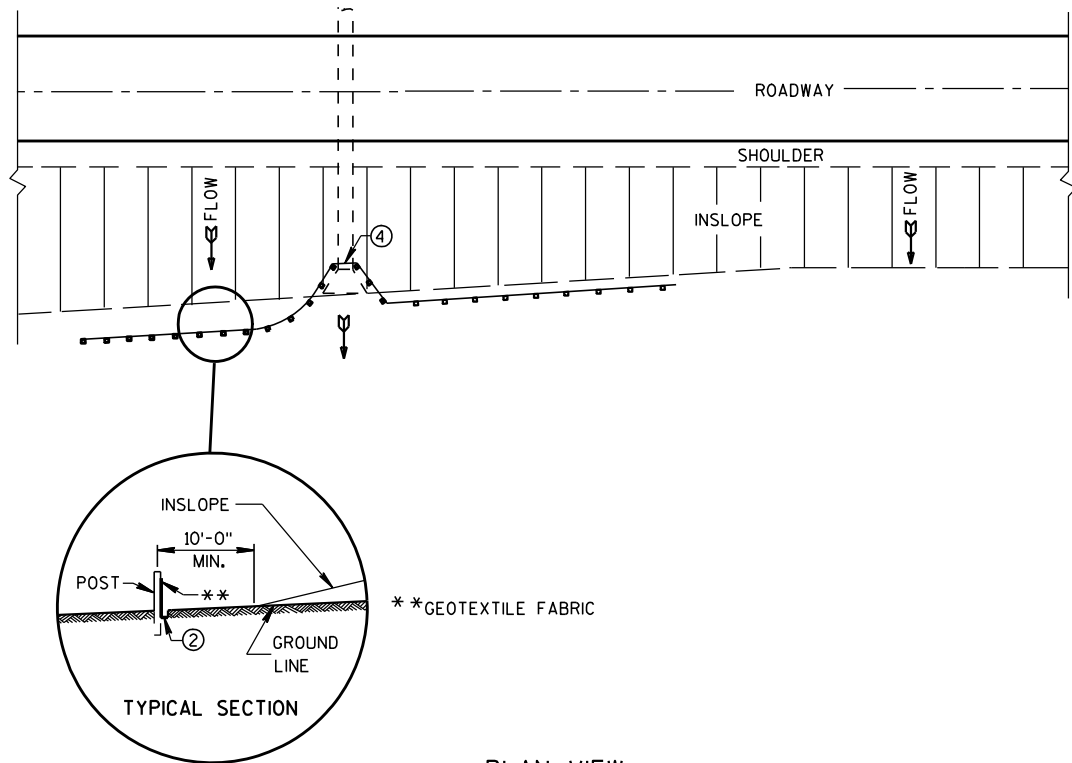
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

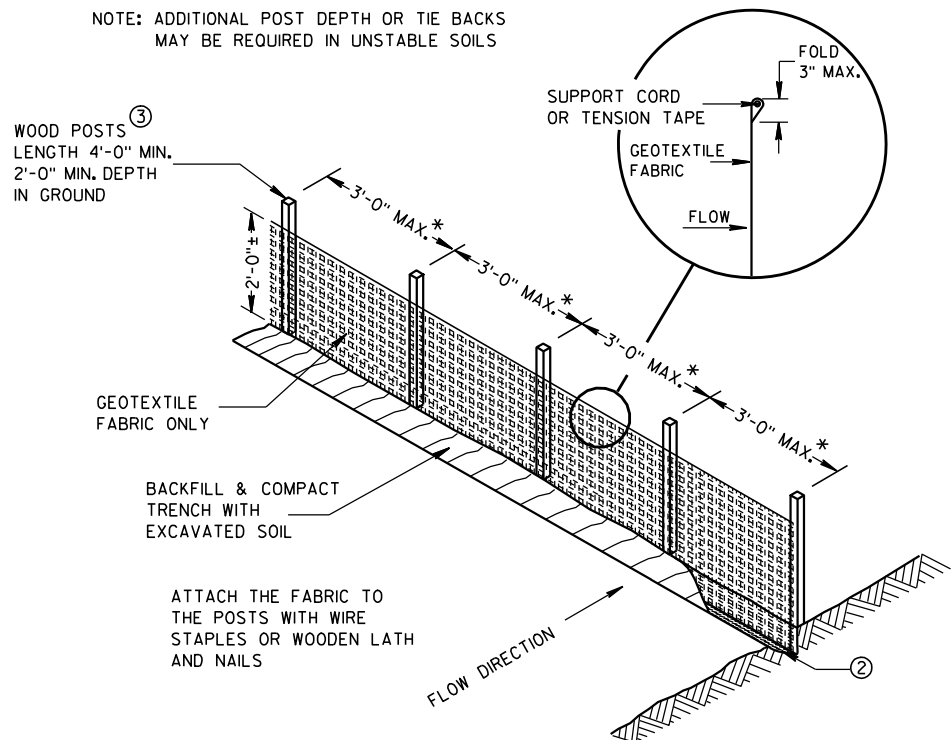
6/04/02
DATE

FHWA

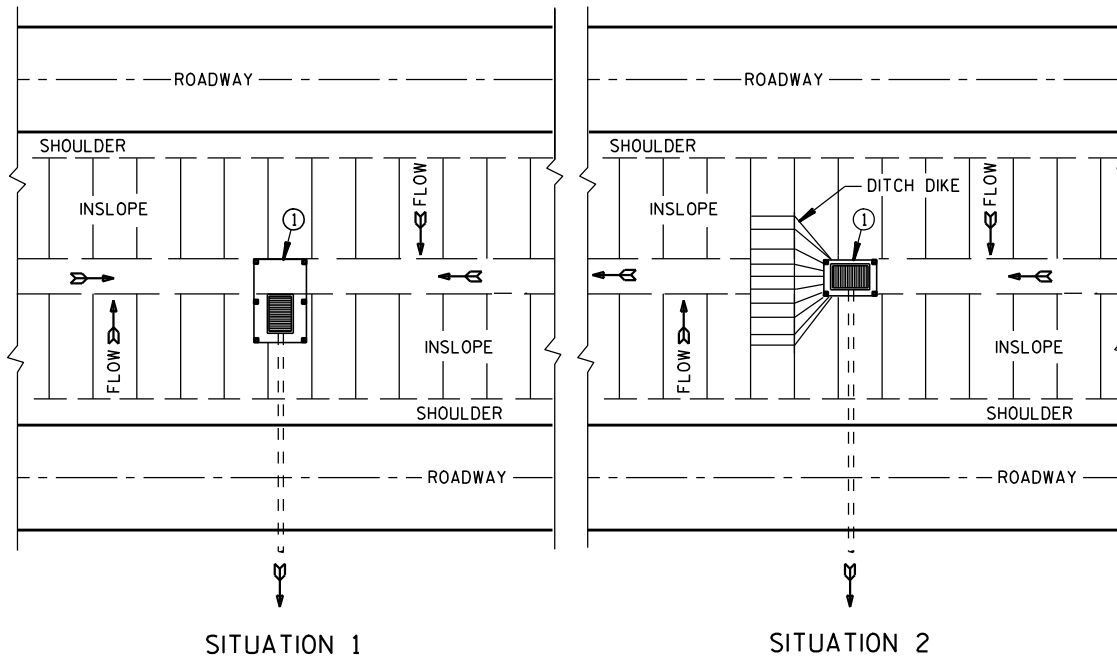
/S/ Beth Canestra
CHIEF ROADWAY DEVELOPMENT ENGINEER



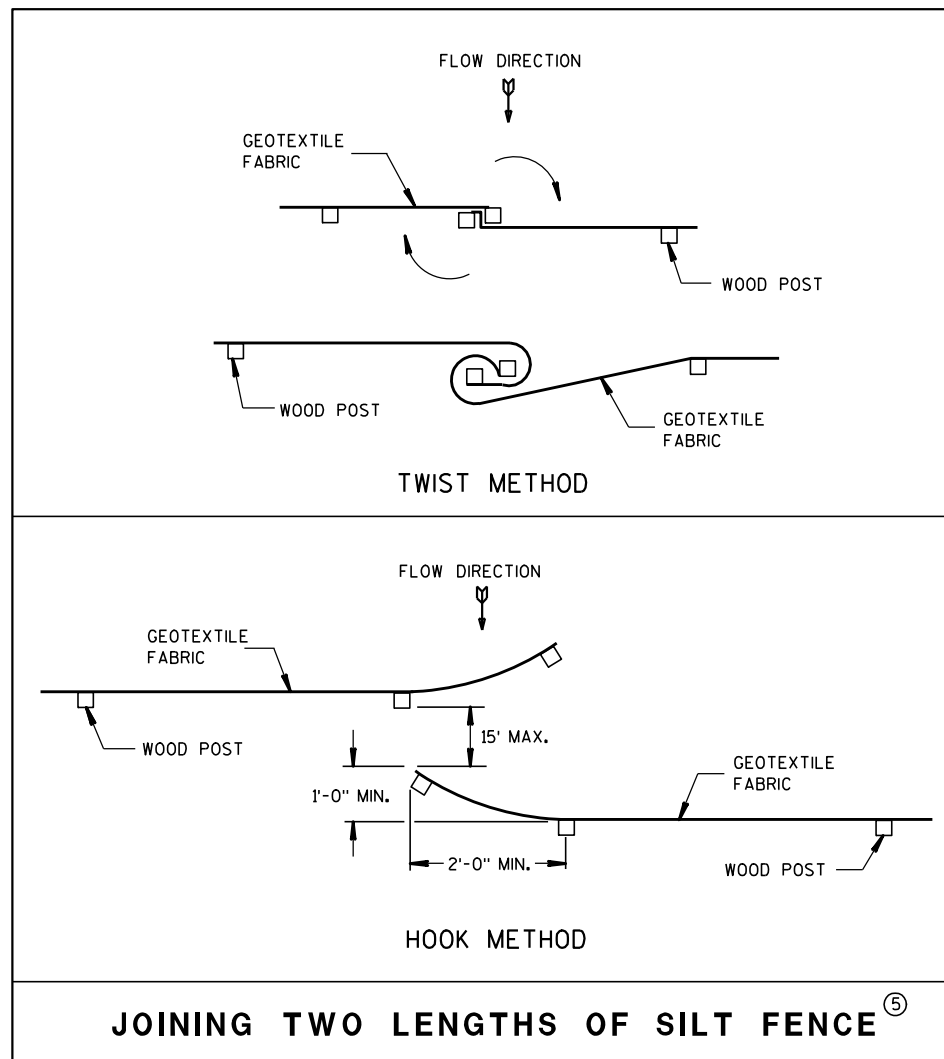
PLAN VIEW
TYPICAL APPLICATION OF SILT FENCE



SILT FENCE



PLAN VIEW
SILT FENCE AT MEDIAN SURFACE DRAINS

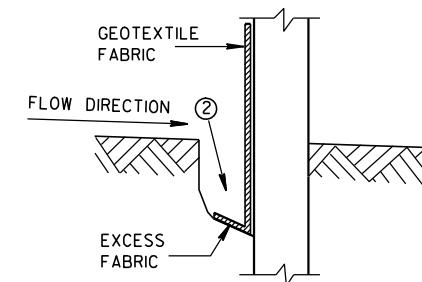


JOINING TWO LENGTHS OF SILT FENCE

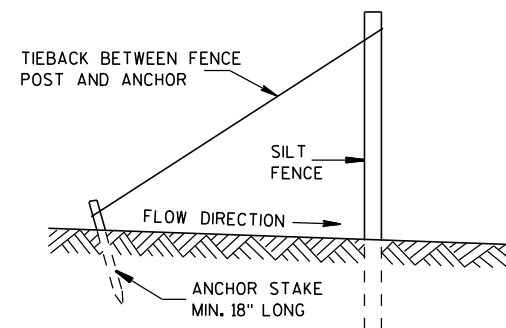
GENERAL NOTES

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.

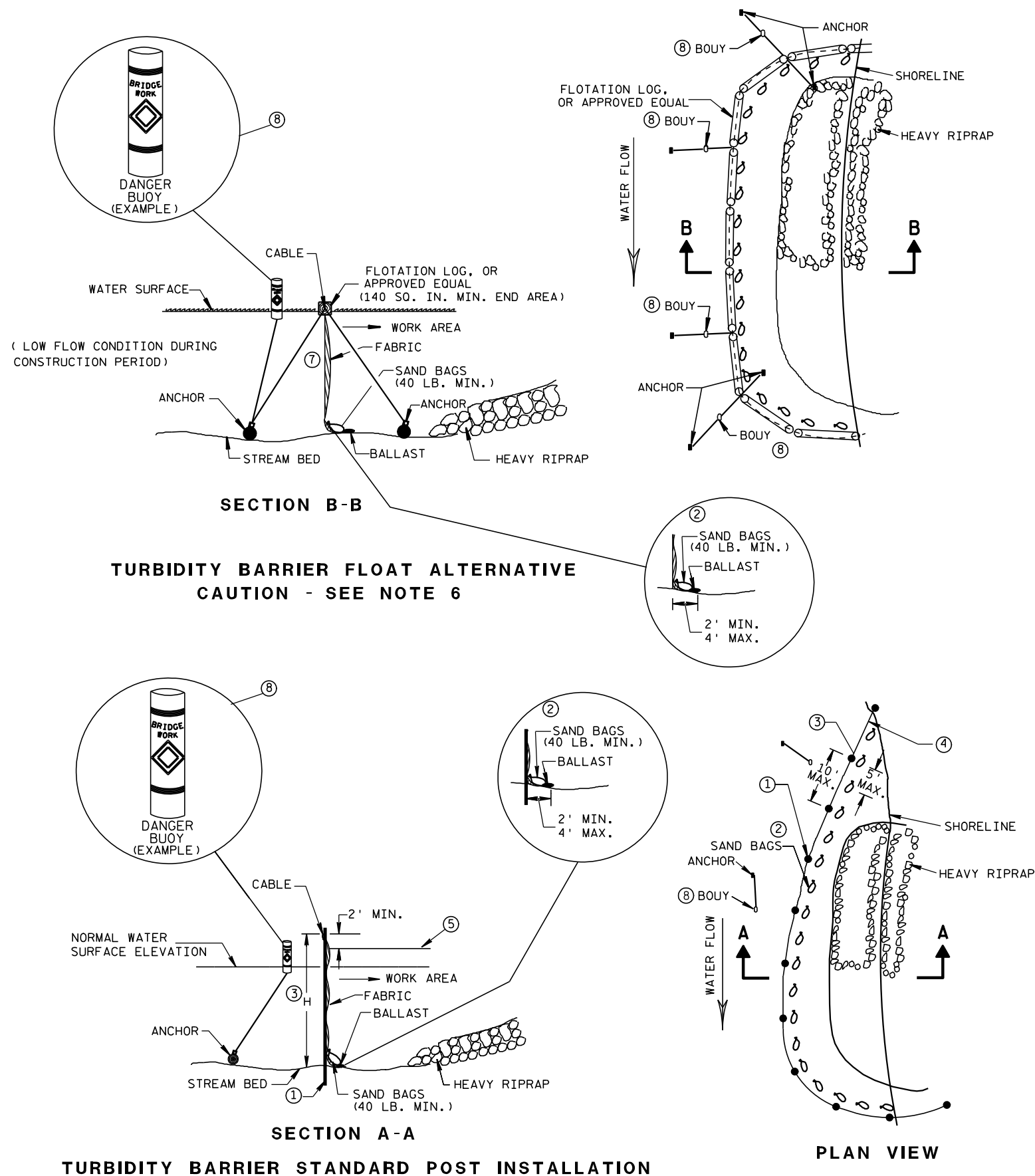


TRENCH DETAIL



SILT FENCE TIE BACK
(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 4-29-05 DATE	/S/ Beth Canestra CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA	

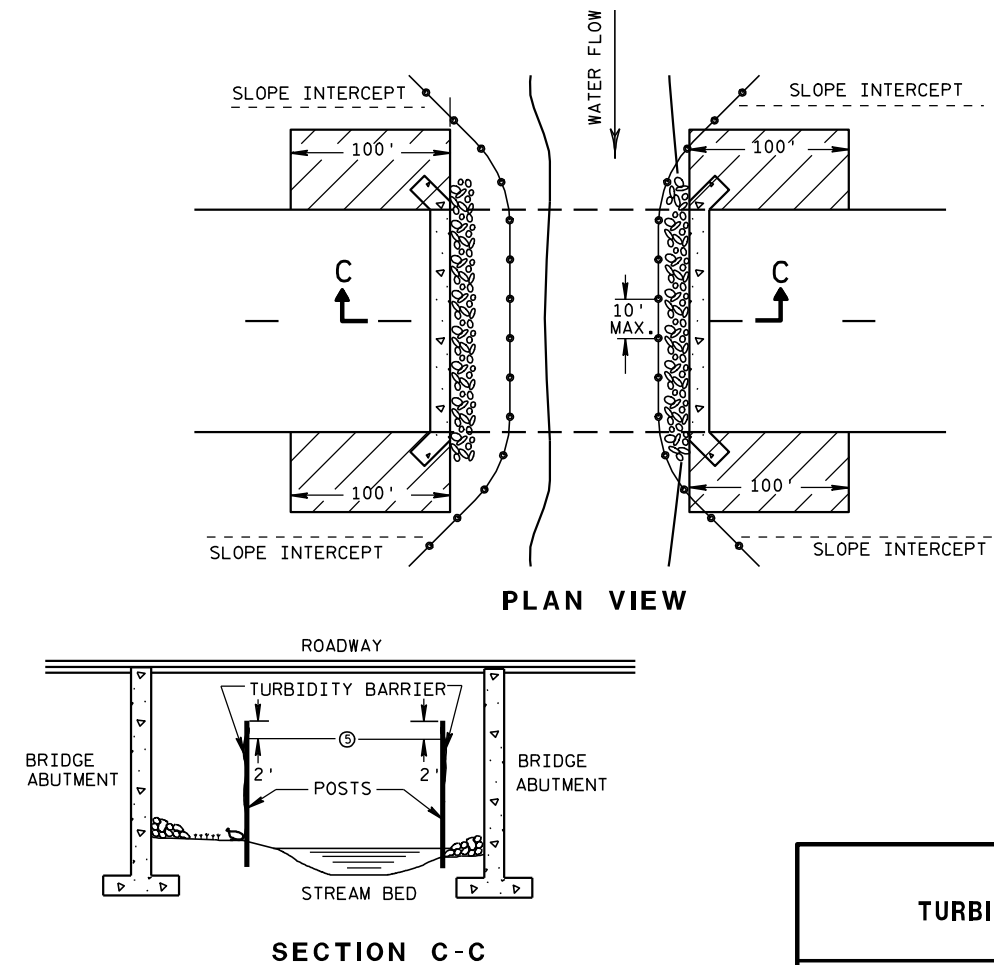


GENERAL NOTES

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

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

- ① DRIVEN STEEL POSTS, PIPES, OR CHANNELS. LENGTH SHALL BE SUFFICIENT TO SECURELY SUPPORT BARRIER AT HIGH WATER ELEVATIONS.
- ② SANDBAGS TO BE USED AS ADDITIONAL BALLAST WHEN ORDERED BY THE ENGINEER TO MEET ADVERSE FIELD CONDITIONS. SPACE AS APPROPRIATE FOR SITE CONDITIONS.
- ③ WHEN BARRIER HEIGHT, H, EXCEEDS 8 FT., POST SPACING MAY NEED TO BE DECREASED.
- ④ IN WATERWAYS SUBJECT TO FLUCTUATING WATER ELEVATIONS, PROVISIONS SHOULD BE MADE TO ALLOW THE WATER TO EQUALIZE ON EACH SIDE OF THE BARRIER. THIS MAY BE ACCOMPLISHED BY LEAVING A PORTION OF THE BARRIER OPEN ON THE UPSTREAM END.
- ⑤ ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION PERIOD. MINIMUM BARRIER HEIGHT SHALL BE 2' GREATER THAN EITHER THE 02 ELEVATION OR THE ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION, WHICHEVER IS GREATER.
- ⑥ FLOAT ALTERNATIVE WILL ONLY BE ALLOWED WITH WRITTEN APPROVAL OF THE ENGINEER, AND IS MEANT FOR LOCATIONS WHERE BED ROCK PREVENTS THE INSTALLATION OF POSTS.
- ⑦ ALLOW SUFFICIENT SLACK VERTICALLY AND HORIZONTALLY SO THAT SEDIMENT BUILD UP WILL NOT SEPARATE OR LOWER THE TURBIDITY BARRIER.
- ⑧ USE AS DIRECTED BY COAST GUARD OR DNR PERMIT WHEN WORKING IN NAVIGABLE WATERWAYS.



TURBIDITY BARRIER DETAIL SHOWING TYPICAL PLACEMENT AT STRUCTURES

TURBIDITY BARRIER

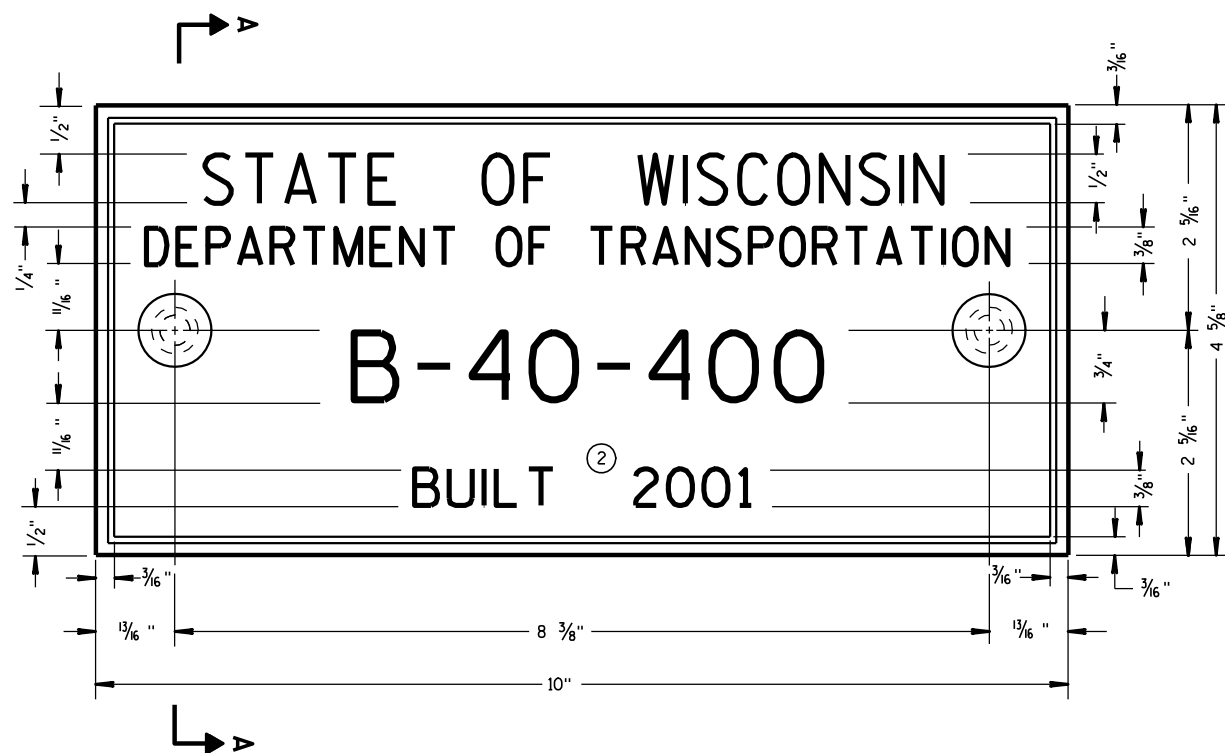
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

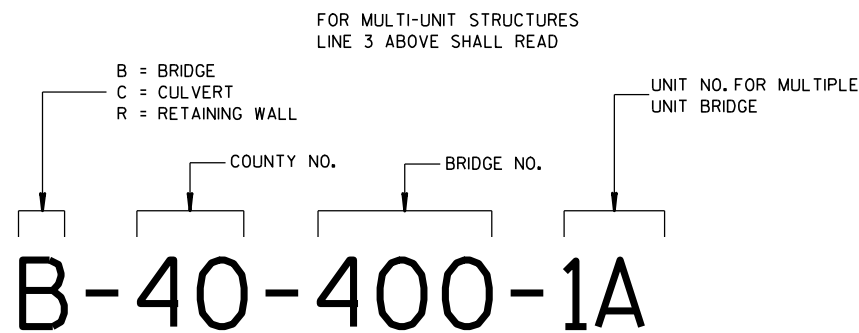
6/04/02
DATE

FHWA

/S/ Beth Canestra
CHIEF ROADWAY DEVELOPMENT ENGINEER



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



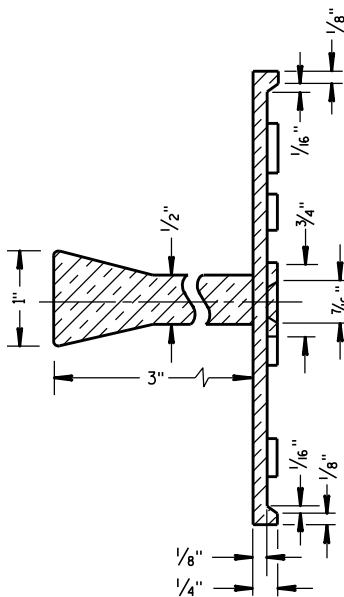
**NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES**

GENERAL NOTES

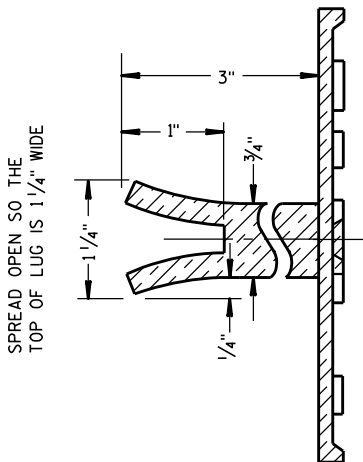
NAME PLATES TO BE INSTALLED ON BRIDGES, CULVERTS, AND RETAINING WALLS SHALL CONFORM TO THE REQUIREMENTS OF SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS.

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

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

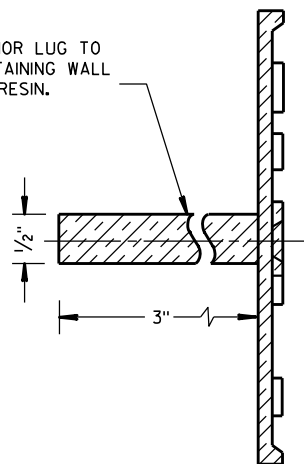


SECTION A-A



ALTERNATE LUG

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

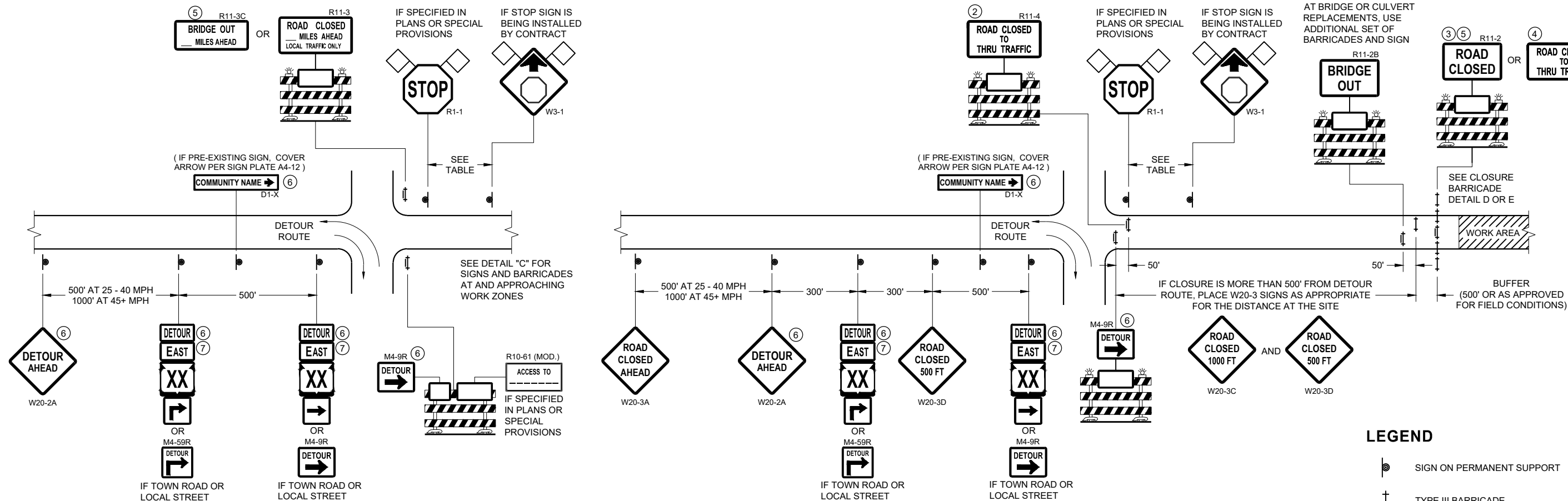


ALTERNATE LUG
(FOR ATTACHMENT TO PRECAST STRUCTURES)

**NAME PLATE
(STRUCTURES)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
3/26/10
DATE
/S/ Scot Becker
CHIEF STRUCTURAL DEVELOPMENT 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)

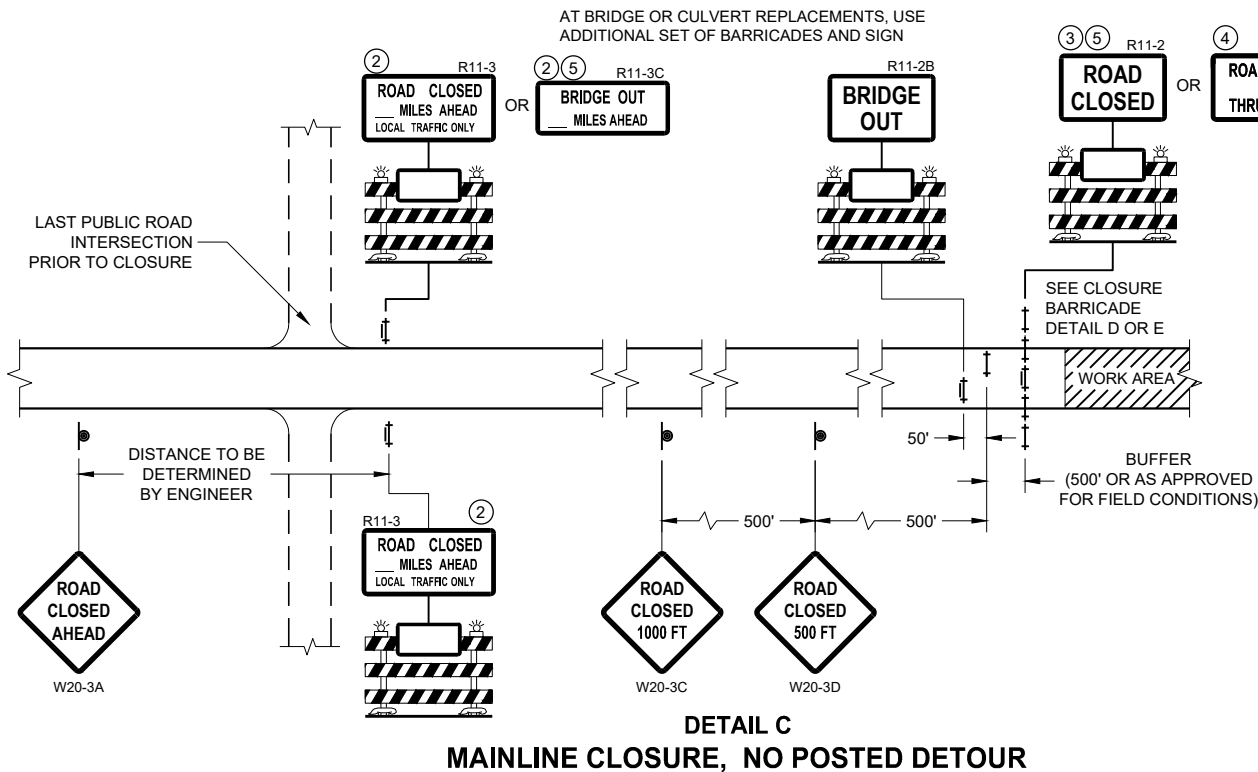
DETOUR	M4 - 8
EAST	M3 - X

XX	OR	XX	OR	COUNTY
M1 - 4		M1 - 6		M1 - 5A

OR	OR
M05 - 1	M06 - 1

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

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

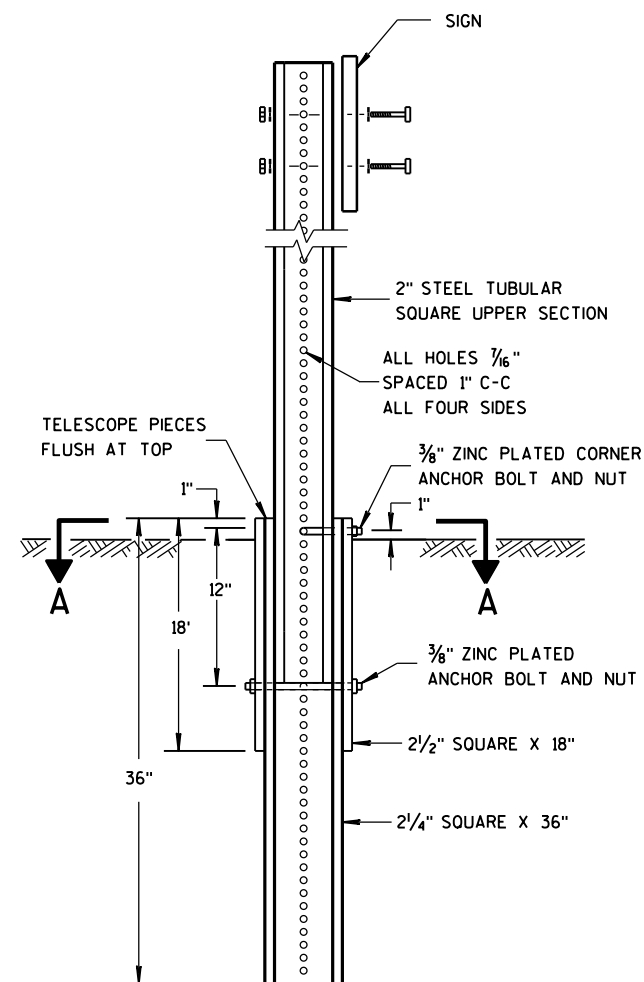


DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR

**BARRICADES AND SIGNS
FOR MAINLINE CLOSURES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

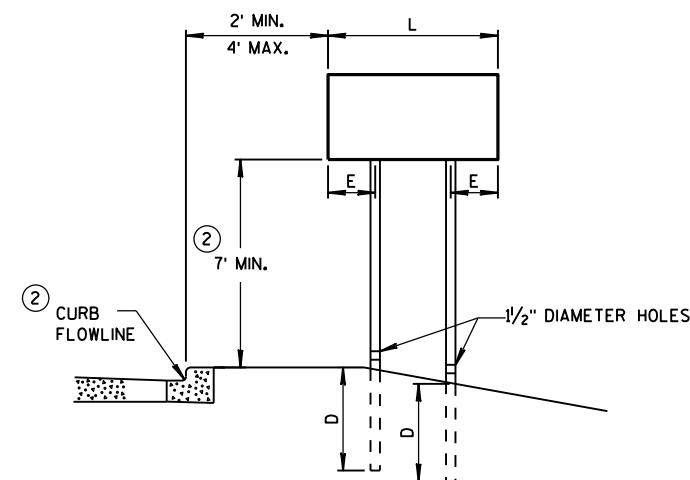
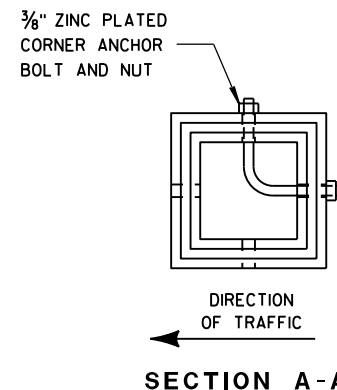


DETAIL OF TUBULAR
STEEL SIGN POST

TUBULAR STEEL POSTS

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

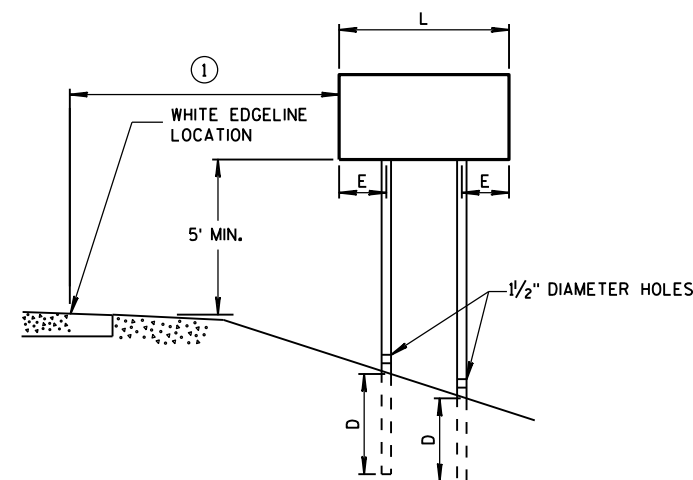
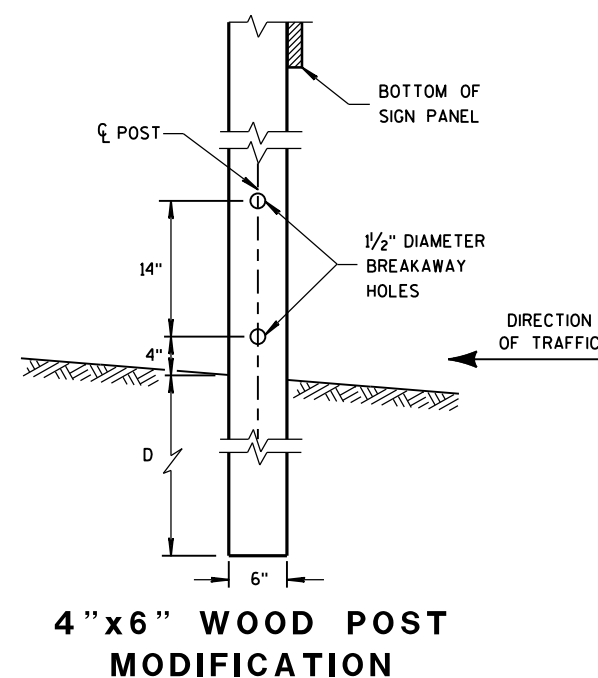
SIGNS WIDER THAN 3 FEET OR LARGER THAN 9 SQ. FT. SHALL BE MOUNTED ON MULTIPLE POSTS (SEE ABOVE TABLE).
SIGNS LARGER THAN 27 SQ. FT. SHALL NOT BE MOUNTED ON TUBULAR STEEL POSTS.



URBAN AREA

POST MOUNTING DETAIL FOR TEMPORARY TRAFFIC CONTROL FIXED MESSAGE SIGNS

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



RURAL AREA

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

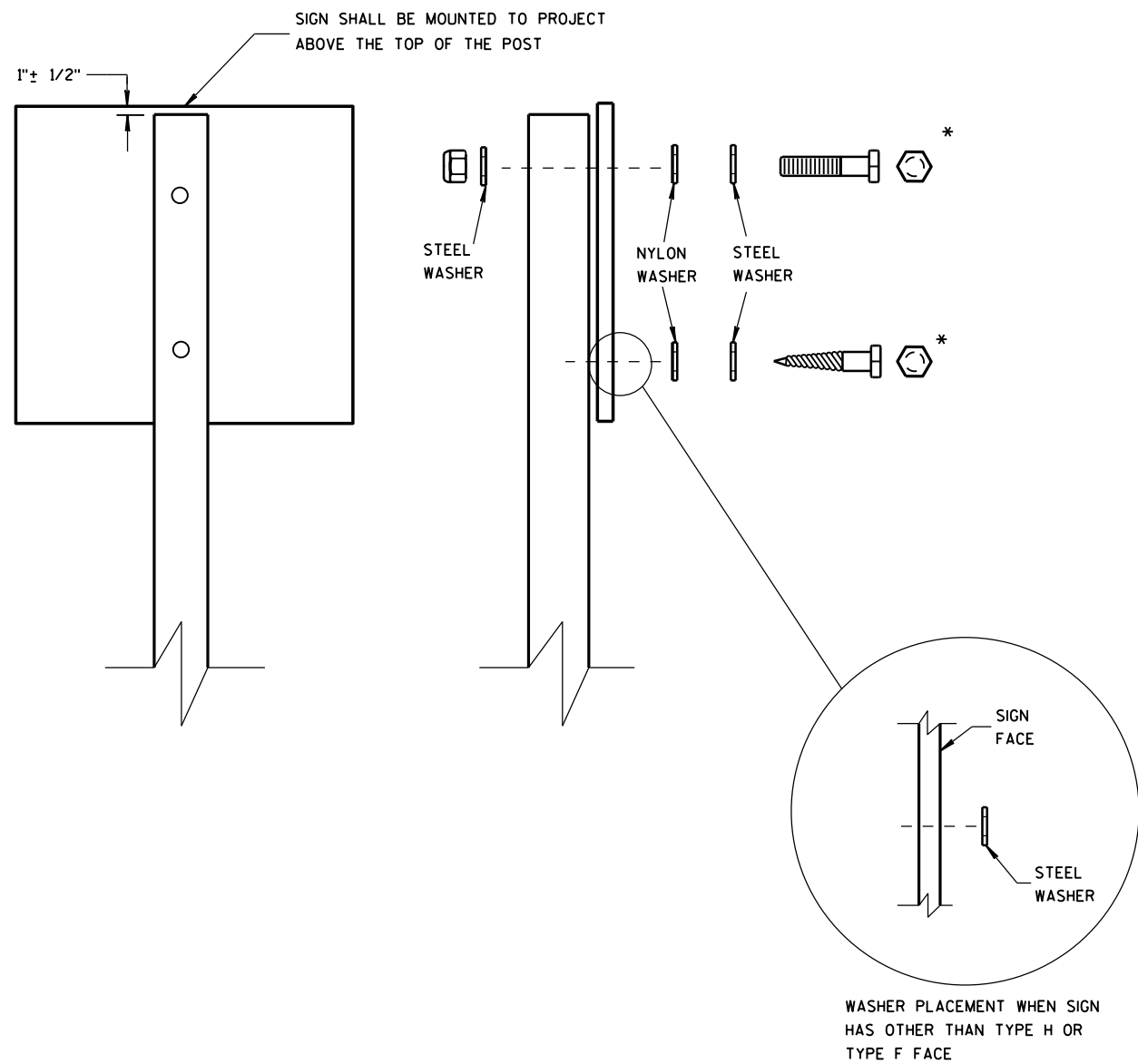
SEE NOTE ③

GENERAL NOTES

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

TEMPORARY TRAFFIC CONTROL
SIGN MOUNTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



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

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

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

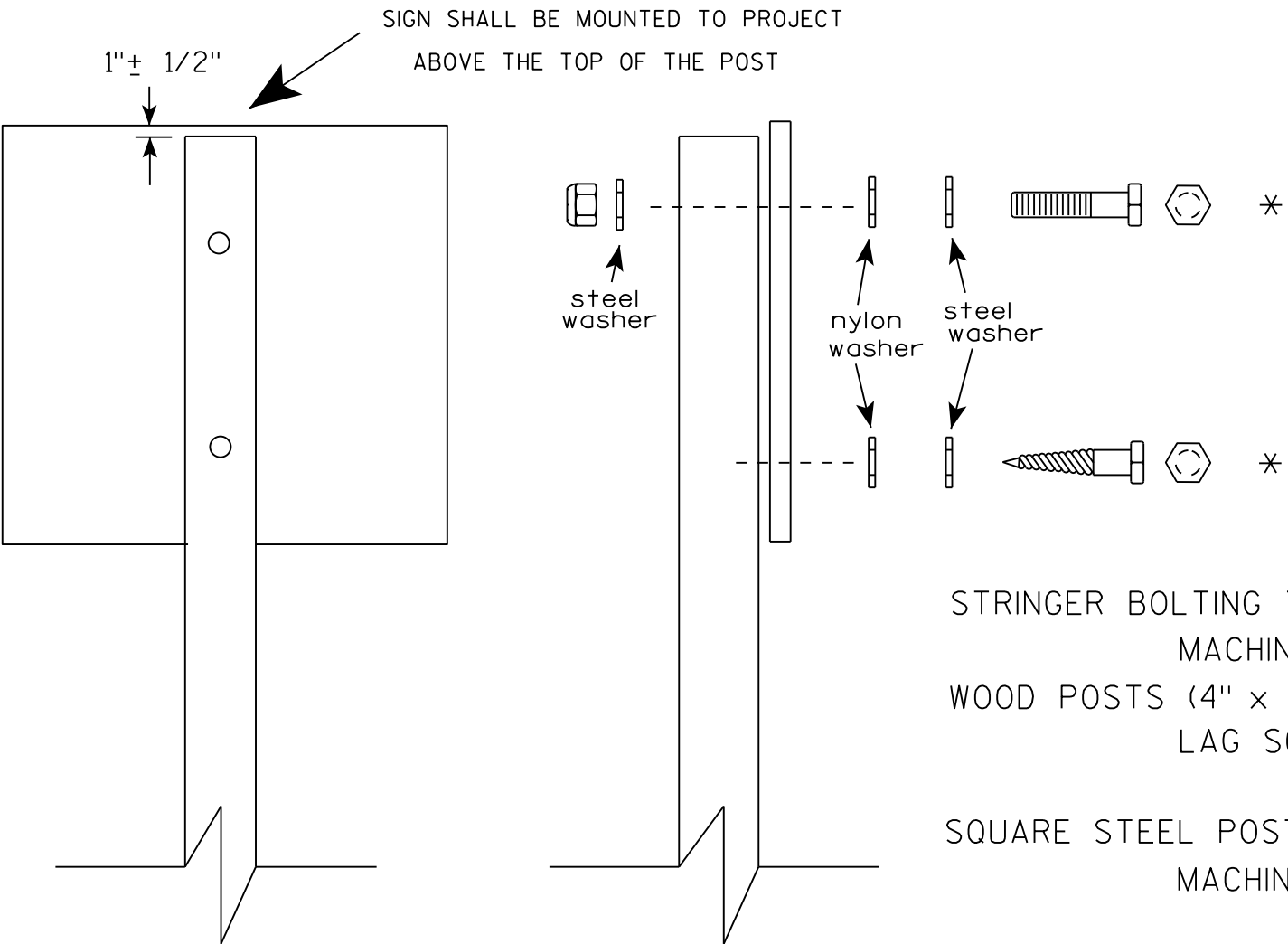
- WOOD POSTS (4" x 4" or 4" x 6")
- LAG SCREWS - 3/8" x 3"
 - MACHINE BOLTS - 5/16" x 6-1/2" OR 7" LENGTH W/ NUTS

- SQUARE STEEL POSTS (2" x 2")
- MACHINE BOLTS - 3/8" x 3-1/4" LENGTH W/ NUTS
 - RIVETS - 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 FOR ALL TYPE H SIGNS

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

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



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

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

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

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

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

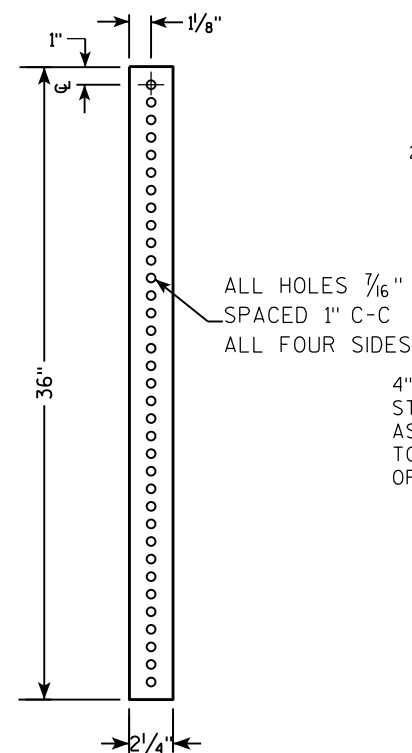
ATTACHMENT OF SIGNS
TO POSTS

WISCONSIN DEPT OF TRANSPORTATION

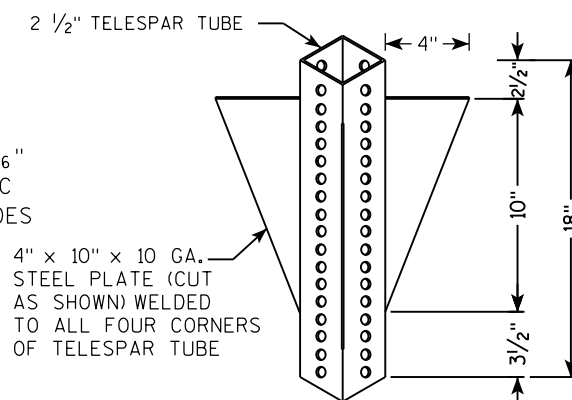
APPROVED *Matthew R. Rauch*
For State Traffic Engineer

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

**2 1/4" SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH**



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

[illegible]

TECHNICAL DRAWING OF A SIGNPOST ASSEMBLY.

Side View Dimensions:

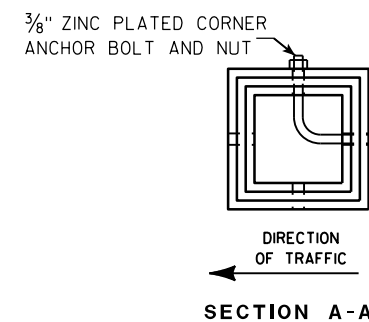
- Overall height: 36"
- Section A-A: 18" (top section), 12" (bottom section)
- Section B-B: 18" (top section), 12" (bottom section)

End View Dimensions:

- Overall width: 2 1/4" SQUARE X 36"
- Section A-A: 18" (top section), 12" (bottom section)
- Section B-B: 18" (top section), 12" (bottom section)

Material and Assembly Specifications:

- 2" STEEL TUBULAR SQUARE UPPER SECTION
- ALL HOLES 7/16" SPACED 1" C-C ALL FOUR SIDES
- 3/8" ZINC PLATED CORNER ANCHOR BOLT AND NUT
- 3/8" ZINC PLATED ANCHOR BOLT AND NUT
- 2 1/2" SQUARE X 18" (SOIL STABILIZING SLEEVE)
- 2 1/4" SQUARE X 36"
- SEE SIGN PLATE A4-8 FOR BOLT WASHER, & NUT MATERIAL
- SIGN



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

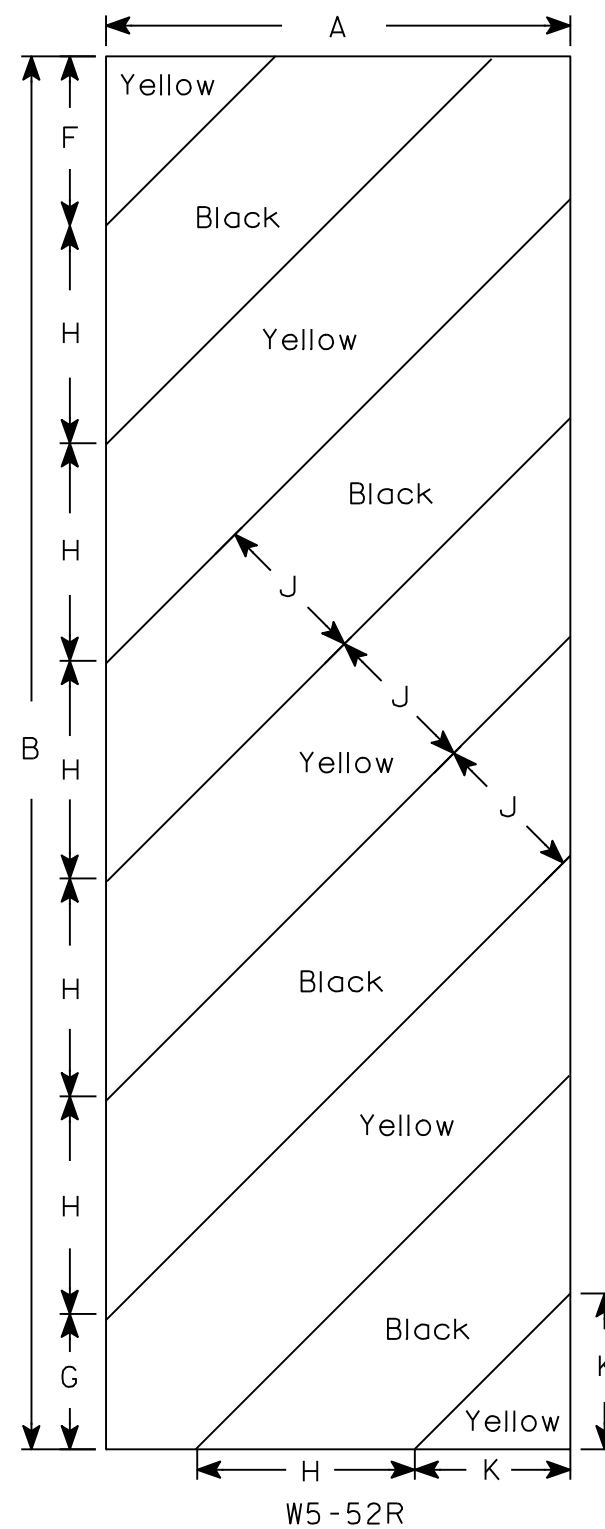
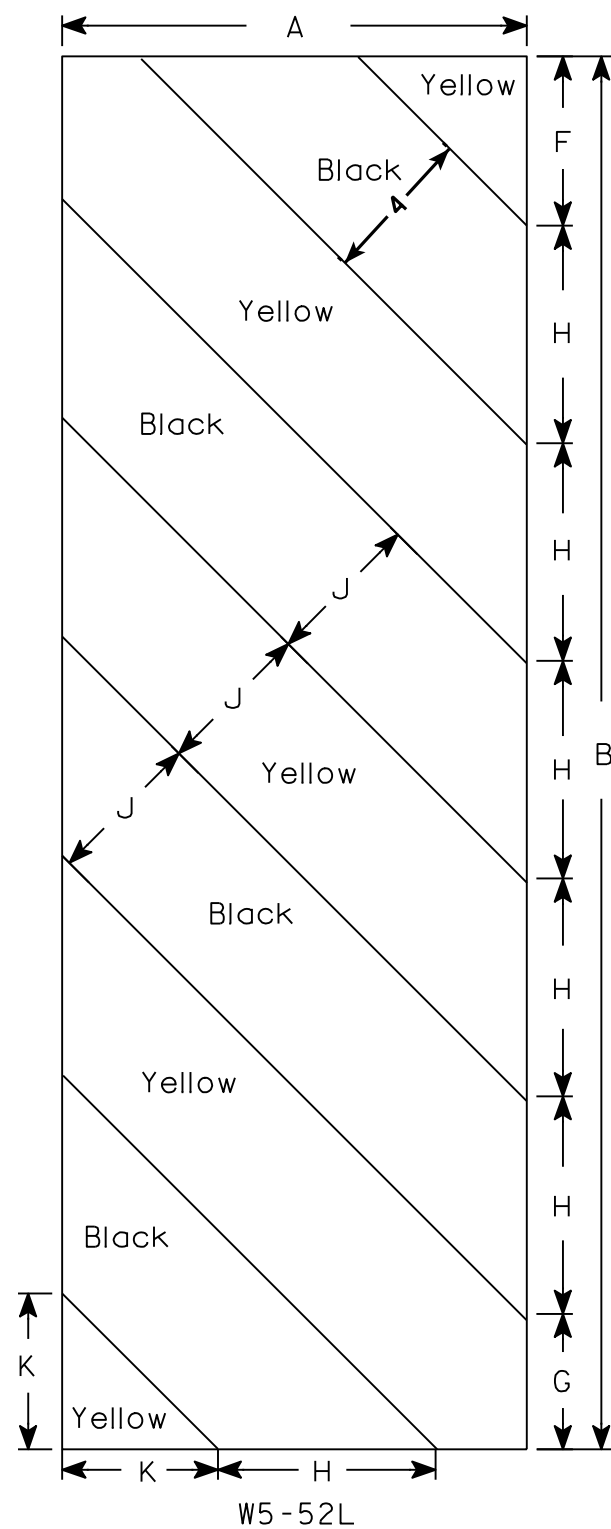
PROJECT NO: 8317-00-70

HWY:LOCAL STREET

COUNTY: BARRON

SHEET NO:

E



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.

[illegible]

STANDARD SIGN
W5-52L & W5-52R

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer
DATE 5/29/12 PLATE NO. W5-52.9

PROJECT NO: 8317-00-70

HWY: LOCAL STREET

COUNTY: BARRON

SHEET NO:

E

LIVE LOAD:

DESIGN LOADING; HL-93
INVENTORY RATING FACTOR; RF = 1.16
OPERATING RATING FACTOR; RF = 1.50
WISCONSIN STANDARD PERMIT VEHICLE (Wis-SPV) = 250 KIPS

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

ULTIMATE DESIGN STRESSES:

CONCRETE MASONRY SLAB ----- $f'c = 4000$ P.S.I.
ALL OTHER CONCRETE MASONRY ----- $f'c = 3500$ P.S.I.
BAR STEEL REINFORCEMENT, GRADE 60 ----- $f_y = 60,000$ P.S.I.

FOUNDATION DATA

ABUTMENTS TO BE SUPPORTED ON $10\frac{3}{4}$ X 0.25-INCH CIP CONCRETE PILING
DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 105 TONS ** PER PILE
AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA.
ESTIMATED 50' LONG AT WEST ABUTMENT
ESTIMATED 50' LONG AT EAST ABUTMENT

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

HYDRAULIC DATA

100 YEAR FREQUENCY

Q (100) = 1950 C.F.S.
Q (100) THRU BRIDGE = 1950 C.F.S.
VEL. = 10.80 F.P.S.
HW. EL. (100) = 1164.30
WATERWAY AREA (BRIDGE) = 180.60 SQ. FT.
DRAINAGE AREA = 30.2 SQ. MI.
ROAD OVERTOPPING FREQUENCY = > 100 YEAR
OVERTOPPING MIN. EL. = 1164.85
SCOUR CRITICAL CD = 5

2 YEAR FREQUENCY

Q (2) = 666 C.F.S.
HW. EL. (2) = 1160.33
VEL (2) = 6.92 C.F.S.

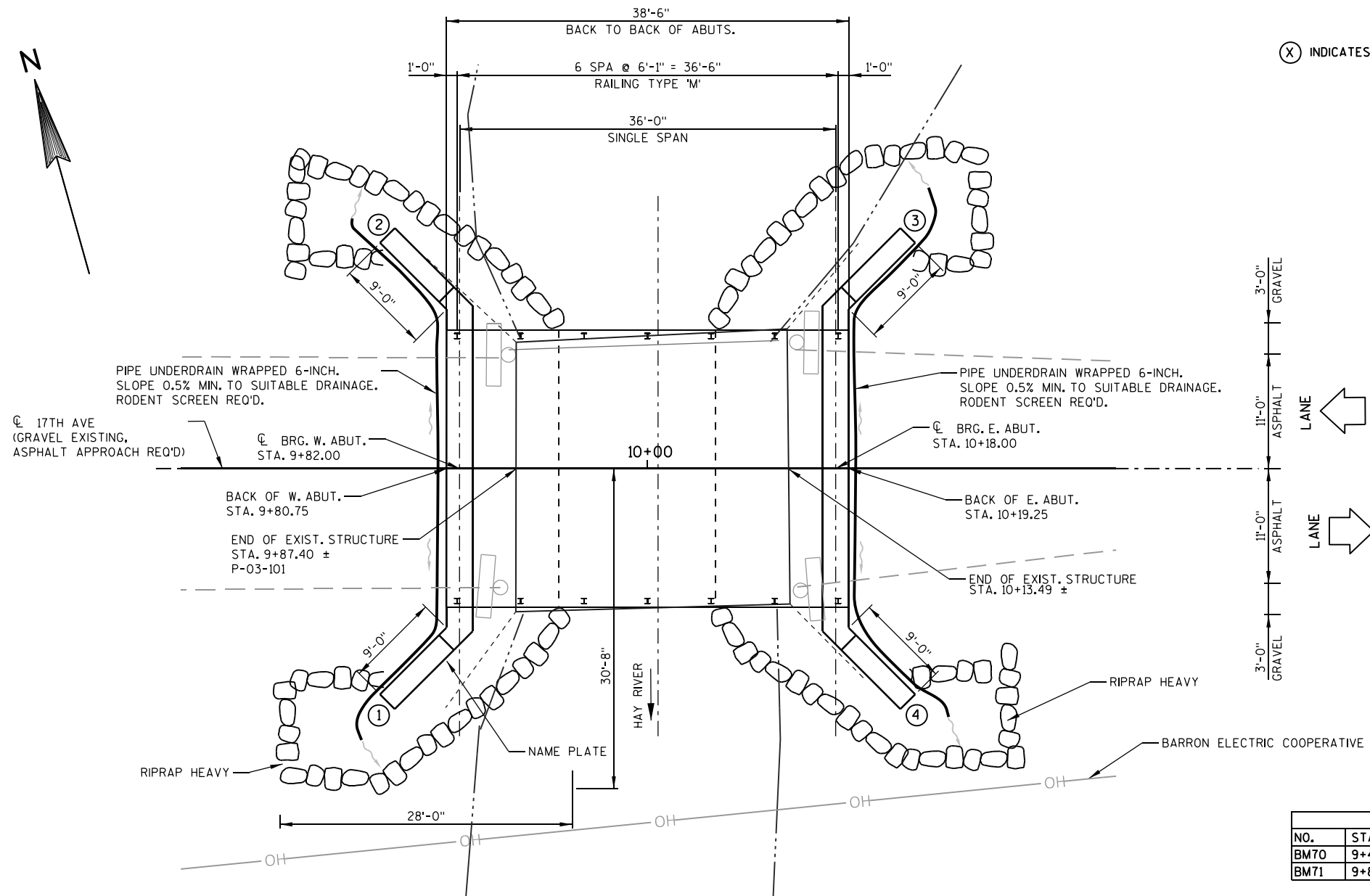
TRAFFIC DATA

A.D.T. (2040) = 53
R.D.S. = 40 MPH

CONSULTANT CONTACT:
MATT GUNDRY (715) 861-7425

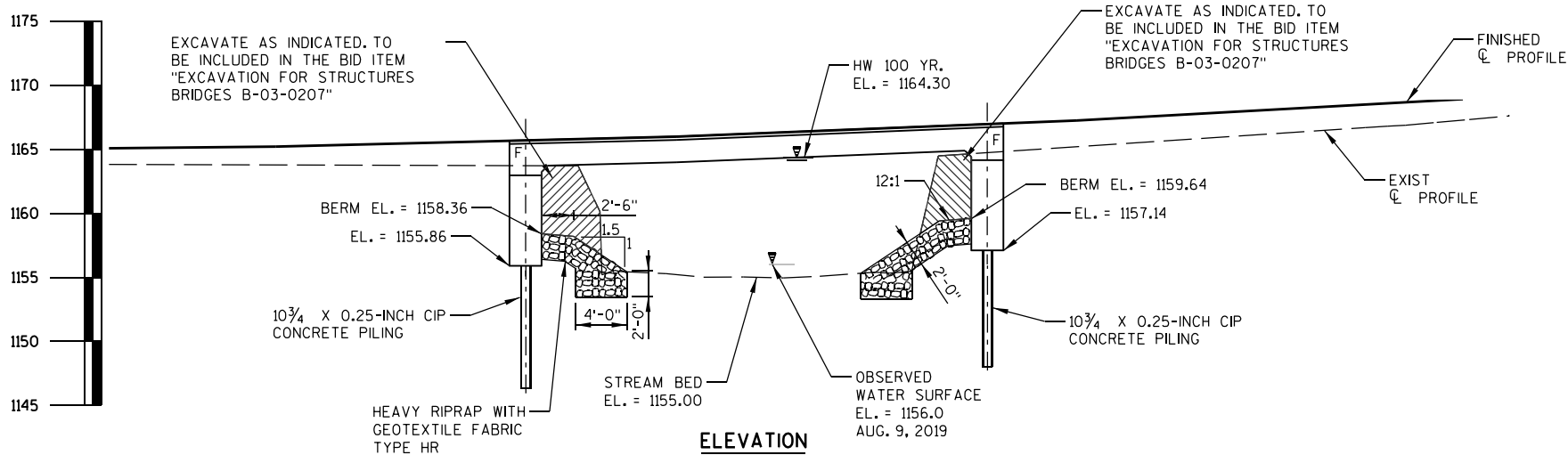
BRIDGE OFFICE CONTACT:
WILLIAM DREHER (608) 266-8489

BENCHMARKS (NAYD 88) 			
NO.	STA./OFFSET	DESCRIPTION	ELEV.
BM70	9+40, 54' RT	RR SPIKE IN PINE	1160.05
BM71	9+88, 12' LT	NW WING	1163.22



PLAN

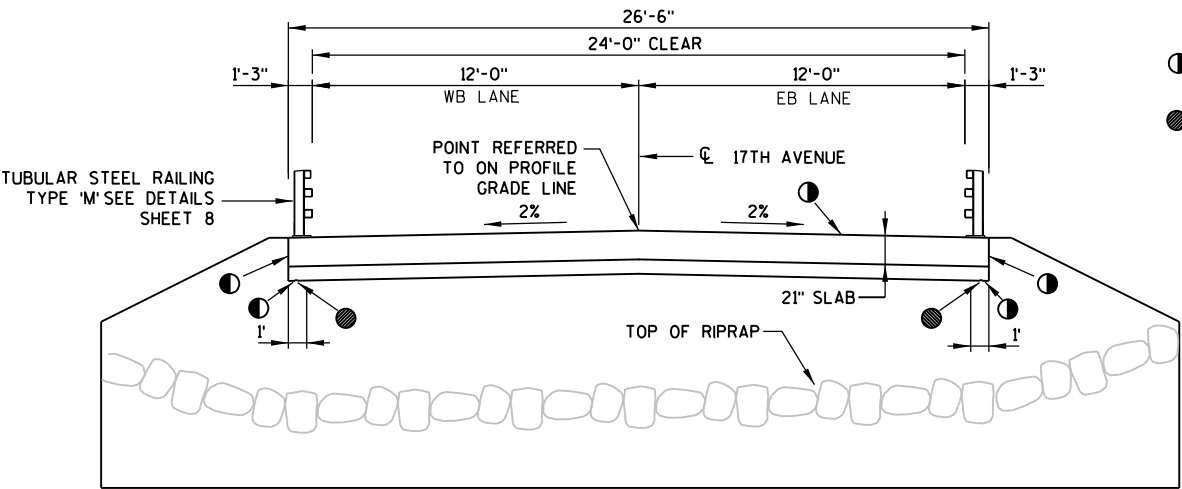
SINGLE SPAN - REINFORCED CONCRETE FLAT SLAB



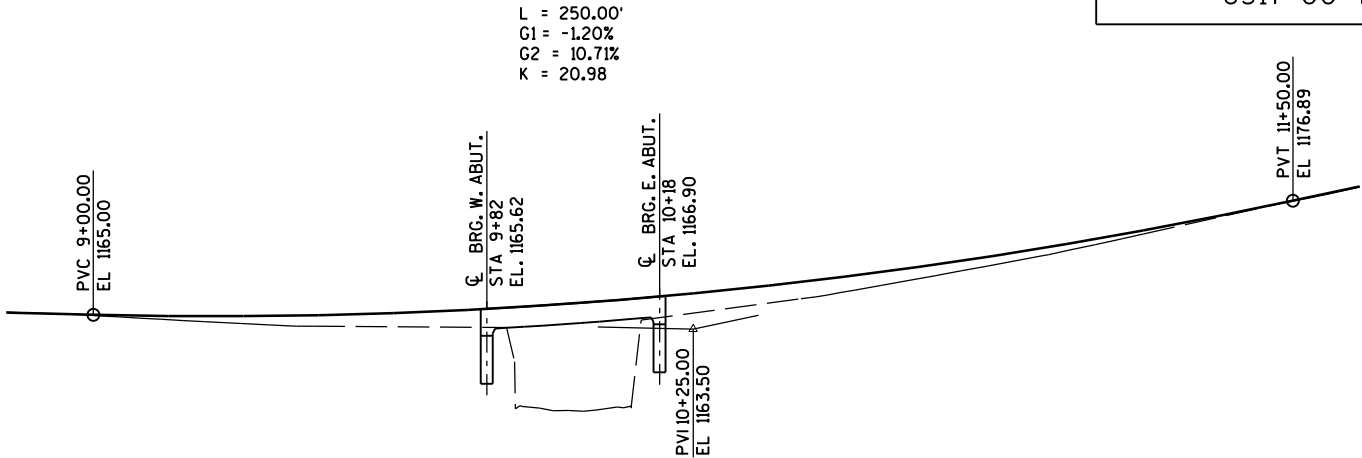
LIST OF DRAWINGS

1. GENERAL PLAN
2. CROSS SECTION & QUANTITIES
3. SUBSURFACE EXPLORATION
4. ABUTMENT ELEVATION DETAILS
5. ABUTMENT WING DETAILS
6. ABUTMENT BILL OF BARS
7. SUPERSTRUCTURE
8. RAILING TYPE 'M'

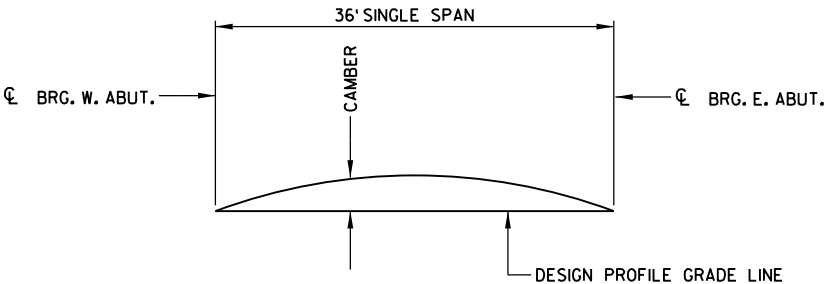
NO.	DATE	REVISION	BY
		Engineers - Surveyors - Architects 770 Technology Way Chippewa Falls, WI 54729 Phone: 715.861.5226 www.cbssquaredinc.com	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
ACCEPTED	 SDR CHIEF STRUCTURES DESIGN ENGINEER		12/03/19 DATE
STRUCTURE B-03-0207			
17TH AVENUE OVER HAY RIVER			
COUNTY BARRON		TOWN/ CITY/VILLAGE CLINTON	
DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS			
DESIGNED BY	MJG	DESIGN CK'D.	MJG
DRAWN BY	MJG	DPB	PLANS CK'D. MJG
GENERAL PLAN			SHEET 1 OF 8



CROSS SECTION THRU ROADWAY LOOKING EAST



PROFILE GRADE LINE 17TH AVE



CAMBER DIAGRAM

CAMBER SPANS AS SHOWN TO PROVIDE FOR DEADLOAD DEFLECTION AND FUTURE CREEP. SEE CAMBER VALUES IN ADJACENT TABLE. CAMBER DOES NOT INCLUDE ALLOWANCE FOR FORM SETTLEMENT. DEADLOAD DEFLECTION COMPRISES APPROXIMATELY 1/3 OF THE FULL CAMBER VALUE GIVEN.

TOP OF SLAB ELEVATIONS AND CAMBER VALUES

LOCATION	LT. EDGE SLAB ELEV.	CL BRIDGE ELEV.	RT. EDGE SLAB ELEV.	CAMBER VALUE (INCHES)
W. CL ABUT.	1165.36	1165.62	1165.36	0
1/10	1165.46	1165.72	1165.46	1/4
2/10	1165.57	1165.83	1165.57	5/8
3/10	1165.68	1165.94	1165.68	3/4
4/10	1165.80	1166.06	1165.80	7/8
5/10	1165.92	1166.18	1165.92	1
6/10	1166.05	1166.31	1166.05	7/8
7/10	1166.19	1166.45	1166.19	3/4
8/10	1166.34	1166.60	1166.34	5/8
9/10	1166.49	1166.75	1166.49	1/4
E. CL ABUT.	1166.64	1166.90	1166.64	0

TOTAL ESTIMATED QUANTITIES

ITEM NUMBER	BID ITEMS	UNIT	SUPER.	WEST ABUT.	EAST ABUT.	TOTAL
203.0700.S	REMOVING OLD STRUCTURE OVER WATERWAY WITH DEBRIS CAPTURE SYSTEM STA. 10+00.00	LS	-	-	-	1
206.1000	EXCAVATION FOR STRUCTURES BRIDGES B-03-0207	LS	-	-	-	1
210.1500	BACKFILL STRUCTURE TYPE A	TON	-	163	163	326
502.0100	CONCRETE MASONRY BRIDGES	CY	70	33	33	136
502.3200	PROTECTIVE SURFACE TREATMENT	SY	134	-	-	134
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	-	2,170	2,170	4,340
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	11,800	1,460	1,460	14,720
513.4061	RAILING TUBULAR TYPE M B-03-0207	LF	82	-	-	82
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	-	17.5	17.5	35
550.2104	PILING CIP CONCRETE 10 3/4 X 0.25-INCH	LF	-	340	340	680
606.0300	RIPRAP HEAVY	CY	-	52	64	116
612.0206	PIPE UNDERDRAIN UNPERFORATED 6-INCH	LF	-	20	20	40
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	-	49	49	98
645.0120	GEOTEXTILE FABRIC TYPE HR	SY	-	126	146	272
	NON-BID ITEMS					
	PREFORMED FILLER	SIZE				1/2" & 3/4"

ALL ITEMS = CAT. 0020

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

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

THE SLOPE OF THE FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH RIPRAP HEAVY AND GEOTEXTILE FABRIC TYPE HR TO THE LIMITS SHOWN ON SHEET 1 AND ON THE ABUTMENT SHEETS OR AS DIRECTED BY THE ENGINEER

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

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

THIS STRUCTURE WILL REPLACE EXISTING BRIDGE, P-03-101, A 27-FOOT LONG, SINGLE-SPAN DECK GIRDER BRIDGE SET ON CONCRETE ABUTMENTS

AT THE BACKFACE OF ABUTMENT ALL VOLUME WHICH CANNOT BE PLACED BEFORE ABUTMENT CONSTRUCTION AND IS NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH STRUCTURE BACKFILL. THE BACKFILL STRUCTURE QUANTITIES ASSUMED A 1 1/2:1 EXCAVATION SLOPE BEHIND THE ABUTMENTS

THE FIRST DIGIT OF A THREE DIGIT BAR MARK AND THE FIRST TWO DIGITS OF A FOUR DIGIT BAR MARK SIGNIFIES THE BAR SIZE

AT ABUTMENTS, CONCRETE POURED UNDER WATER WILL BE ALLOWED AND SHALL BE DONE IN ACCORDANCE WITH SECTION 502.3.5.3 OF THE STANDARD SPECIFICATIONS

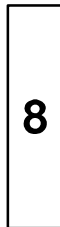
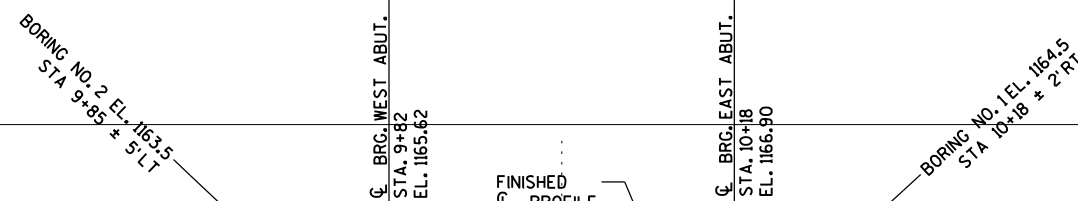
DO NOT PLACE BACKFILL STRUCTURE ABOVE 3'-0" FROM BOTTOM OF ABUTMENT UNTIL SUPERSTRUCTURE IS IN PLACE AND MEETS MINIMUM CURING REQUIREMENTS OF SECTION 502.3.4.2 OF THE STANDARD SPECIFICATIONS

ORIGINAL PLANS PREPARED BY



NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-03-0207			
		DRAWN BY DPB	PLANS CK'D. MJG
CROSS SECTION & QUANTITIES			SHEET 2 OF 8

ON: OCTOBER 17, 2019



8

10+00

8

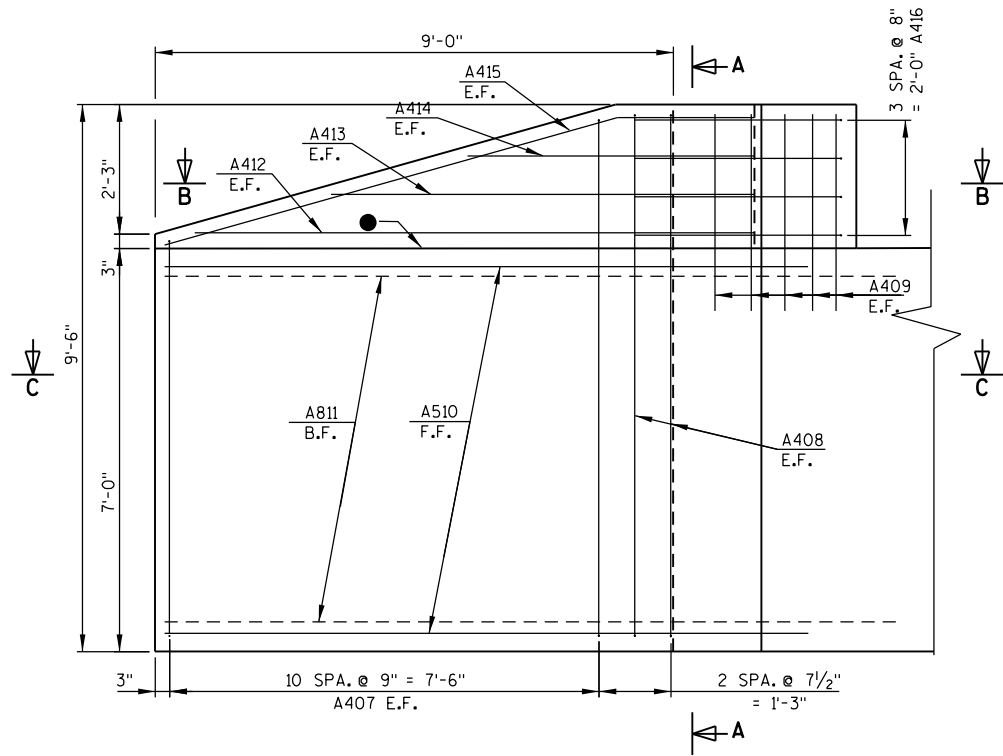
CALCULI

- KEYED CONST. JOINT FORMED BY BEVELED 2" x 6".
- OPT. KEYED CONST. JOINT FORMED BY BEVELED 2" x 6" WITH MEMBRANE ON BACKFACE.
- VERTICAL 18" RUBBERIZED MEMBRANE WATERPROOFING TO EXTEND FROM BRIDGE SEAT TO TOP OF WING WALL.

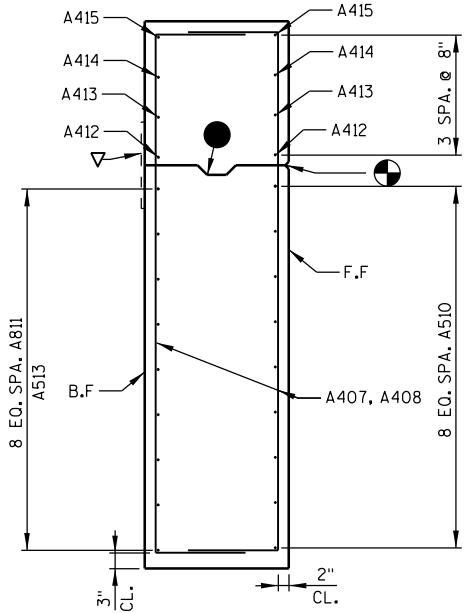
F.F. DENOTES FRONT FACE



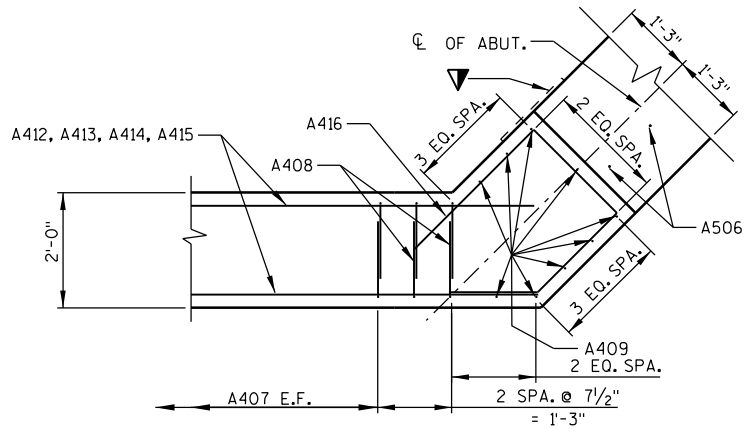
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-03-0207			
	DRAWN BY	ALC	PLANS CK'D. MJG
ects	ABUTMENT ELEVATION DETAILS		SHEET 4 OF 8



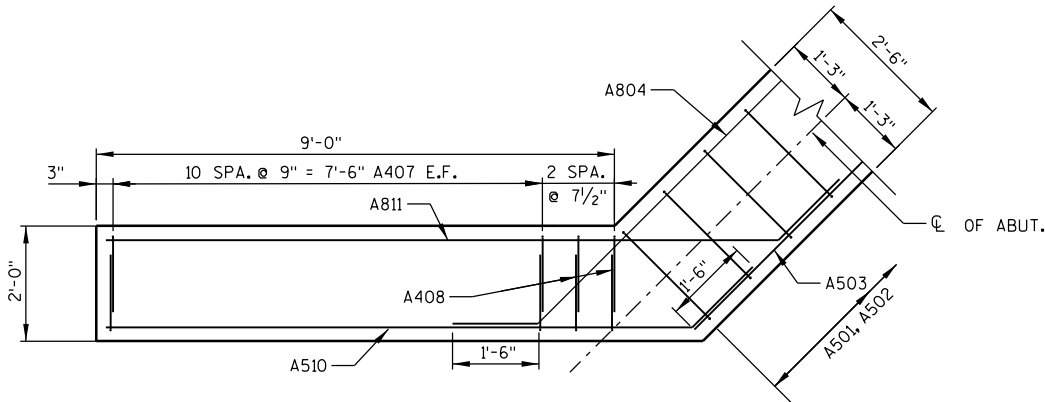
ELEVATION - WING



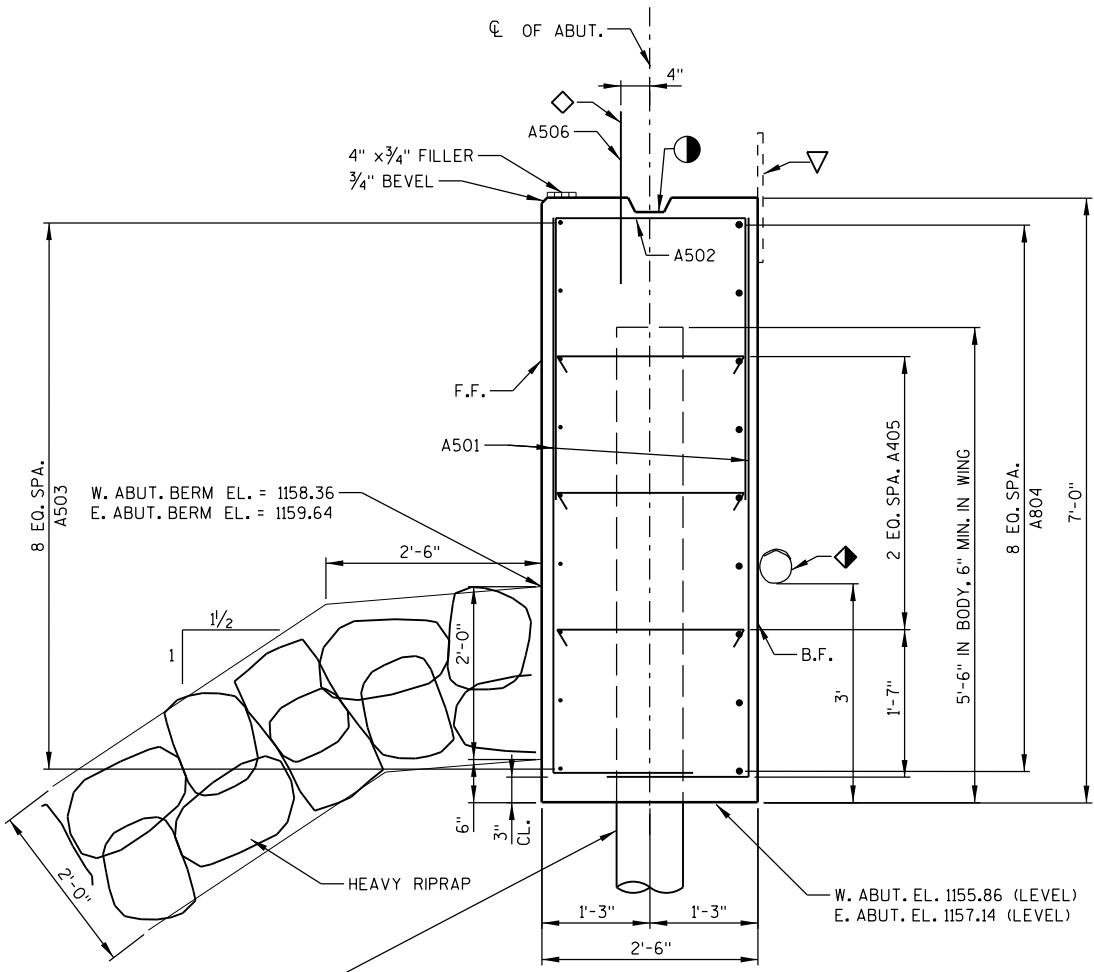
SECTION A



SECTION B



SECTION C



TYPICAL SECTION THRU ABUT. BODY

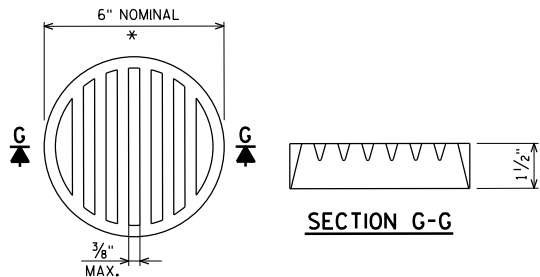
LEGEND

- ◆ THESE BARS MAY BE PLACED AFTER CONCRETE IS POURED, BUT BEFORE INITIAL SET HAS TAKEN PLACE.
- ◆ PIPE UNDERDRAIN WRAPPED (6-INCH). TO BE PLACED AT AN ELEVATION AND SLOPED 0.5% MIN. TO ALLOW FOR SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN. SEE DETAIL THIS SHEET.
- ▽ 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL JOINTS ON BACKFACE.
- KEYED CONST. JOINT FORMED BY BEVELED 2" x 6".
- OPT. KEYED CONST. JOINT FORMED BY BEVELED 2" x 6" KEYWAY WITH MEMBRANE ON BACKFACE.
- 3/4" "V" GROOVE ON F.F. OF WING WALL.
- ▽ VERTICAL 18" RUBBERIZED MEMBRANE WATERPROOFING TO EXTEND FROM BRIDGE SEAT TO TOP OF WING WALL.

E.F. DENOTES EACH FACE

B.F. DENOTES BACK FACE

F.F. DENOTES FRONT FACE



SECTION G-G

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

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

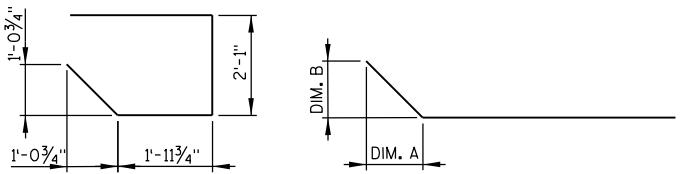
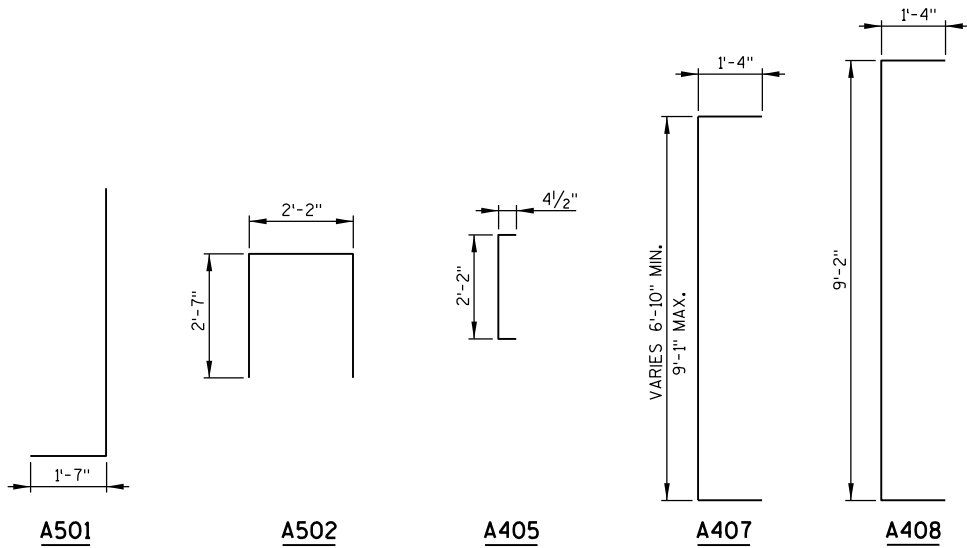
THE RODENT SHIELD SHALL BE PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SCREEN TO THE EXPOSED END OF THE PIPE UNDERDRAIN. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 x 1-INCH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

RODENT SHIELD DETAIL

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-03-0207			
DRAWN BY		ALC	PLANS CK'D. MJG
ABUTMENT WING DETAILS		SHEET 5 OF 8	

ORIGINAL PLANS PREPARED BY





MARK	DIM. A	DIM. B
A804	1'-0 3/4"	1'-0 3/4"
A510	1'-0 3/4"	1'-0 3/4"
A811	1'-0 3/4"	1'-0 3/4"
A415	2'-0 1/8"	0'-6 3/4"

BAR SERIES TABLE

NUMBER REQ'D PER ABUTMENT
BUNDLE AND TAG EACH
SERIES SEPARATELY

MARK	NO. REQ'D	LENGTH
A407	4 SERIES OF 11	9-6 TO 11 -9

BILL OF BARS - EACH ABUTMENT

MARK	NO. REQ'D	LENGTH	SERIES	COAT	BENT	LOCATION
A501	64	8 - 0			X	BODY VERT.
A502	32	7 - 1			X	BODY VERT.
A503	9	31 - 1				BODY HORIZ. F.F.
A804	18	21 - 11			X	BODY HORIZ. B.F.
A405	27	2 - 9			X	BODY TIES
A506	27	2 - 0		X		BODY DOWELS
A407	44	10 - 5	X	X	X	WING VERT. E.F.
A408	8	11 - 7		X	X	WING VERT. E.F.
A409	18	3 - 10		X		WING VERT. E.F.
A510	18	11 - 8		X	X	WING HORIZ. F.F.
A811	18	13 - 2		X	X	WING HORIZ. B.F.
A412	4	9 - 5		X		WING HORIZ. E.F.
A413	4	7 - 0		X		WING HORIZ. E.F.
A414	4	4 - 8		X		WING HORIZ. E.F.
A415	4	10 - 6		X	X	WING DIAG. E.F.
A416	8	8 - 4		X	X	WING HORIZ.

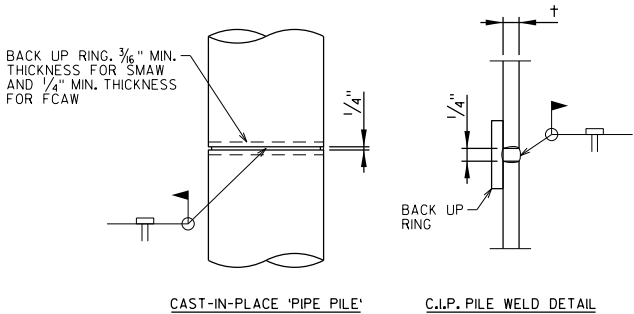
TOTAL WEIGHT - COATED	1460 LBS
TOTAL WEIGHT - UNCOATED	2170 LBS

LEGEND

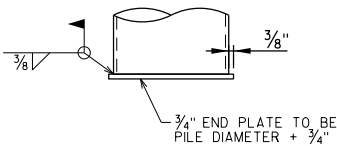
⊗ LENGTH SHOWN FOR BARS IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

NOTES

DIMENSIONS ARE OUT TO OUT OF BARS.



PILE DETAILS

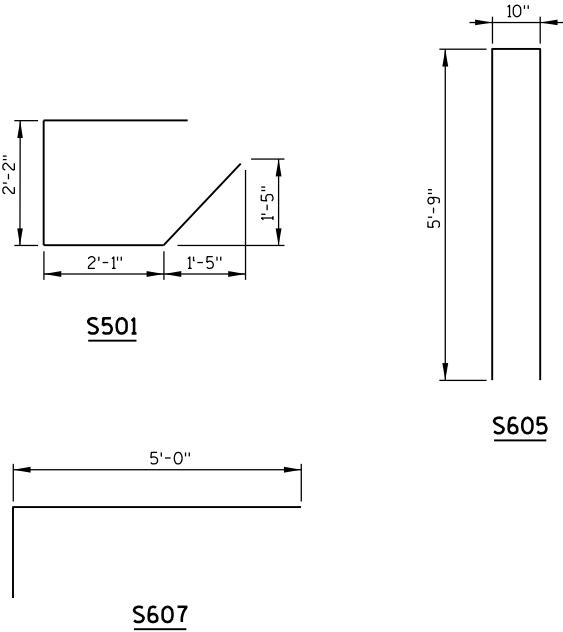


END PLATE DETAIL

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-03-0207			
DRAWN BY		ALC	PLANS CK'D. MJG
ABUTMENT BILL OF BARS			SHEET 6 OF 8

BILL OF BARS - SUPERSTRUCTURE

MARK	NO. REQ'D	LENGTH	COAT	BENT	LOCATION
S501	54	8'-8"	X	X	SLAB VERT. @ ABUT.
S1002	49	33'-4"	X		SLAB LONG. BOT.
S503	91	26'-2"	X		SLAB TRANS. TOP & BOT.
S404	29	38'-2"	X		SLAB LONG. TOP
S605	28	12'-0"	X	X	SLAB @ RAIL POSTS
S606	40	6'-0"	X		SLAB @ INT. RAIL POSTS
S607	16	6'-0"	X	X	SLAB @ END RAIL POSTS
TOTAL WEIGHT (COATED BARS) - 11,800 LBS					



LEGEND

- ▽ 18" RUBBERIZED MEMBRANE WATERPROOFING, SEAL ALL HORIZONTAL JOINTS ON BACKFACE.
- KEYED CONST. JOINT FORMED BY BEVELED 2" x 6".

GENERAL NOTES

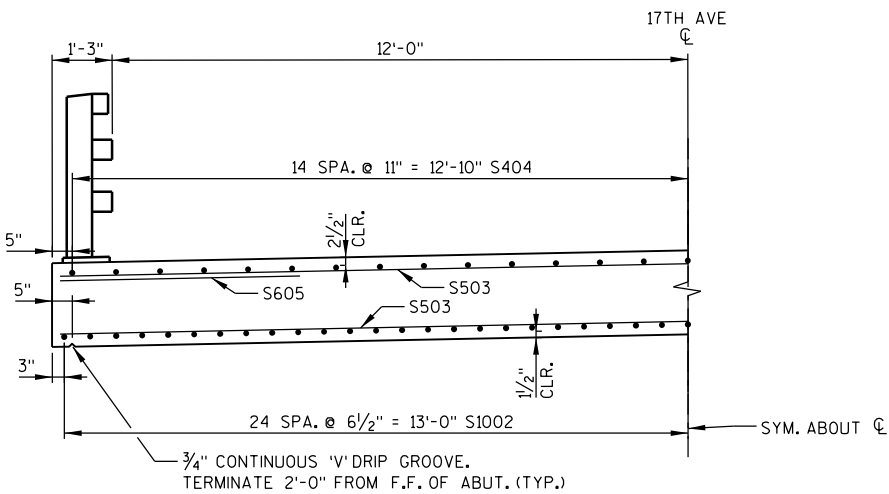
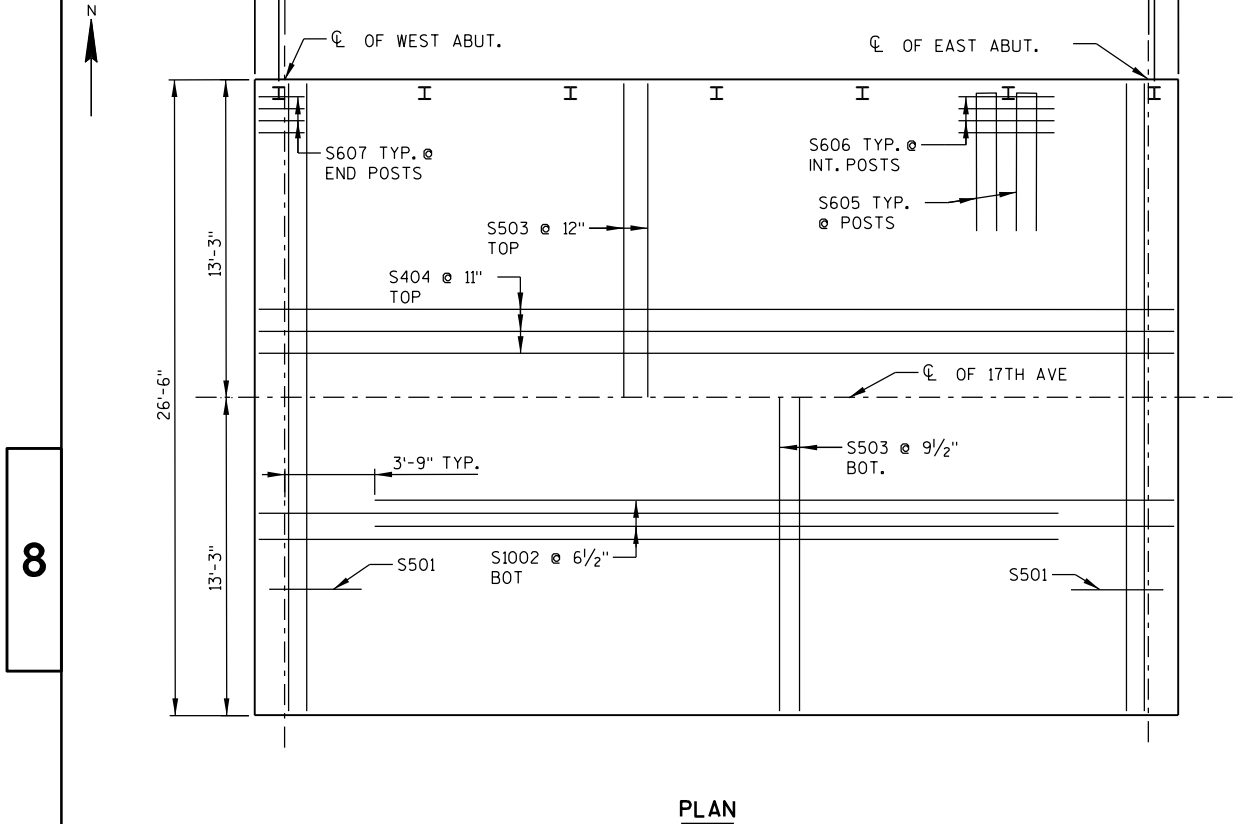
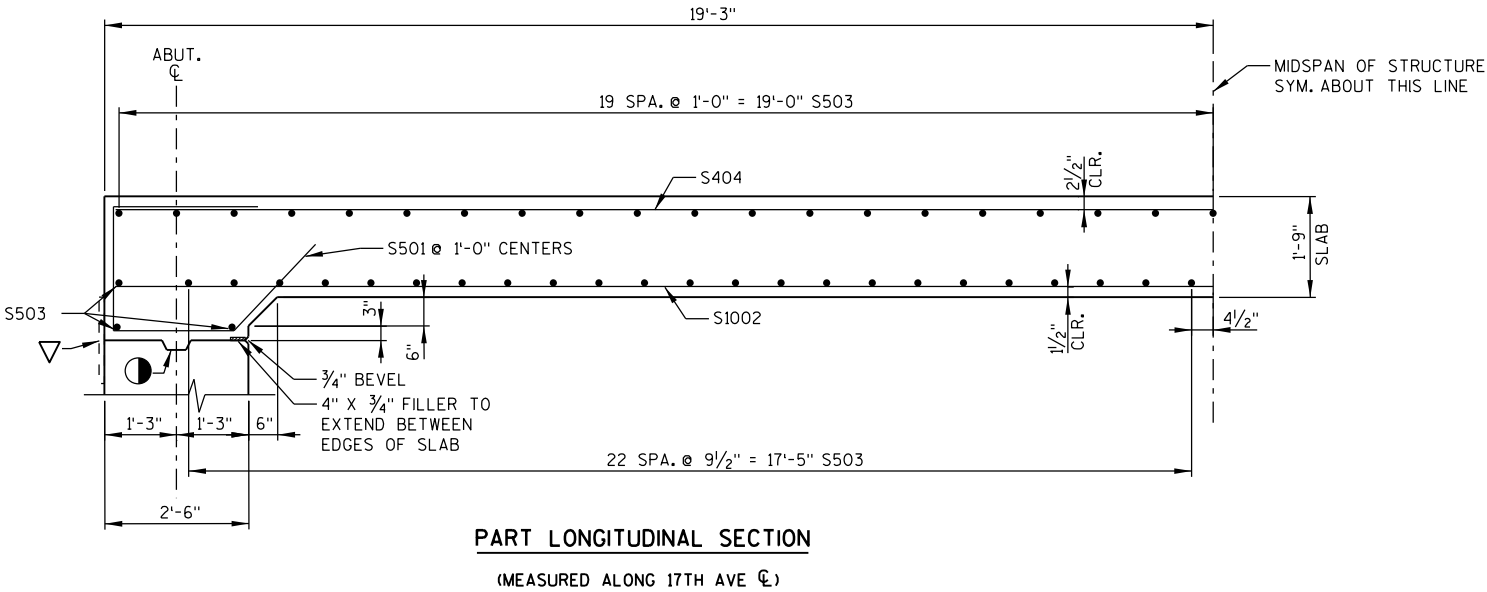
DIMENSIONS ARE OUT TO OUT OF BARS.

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

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

PRIOR TO RELEASING SLAB FALSEWORK, TAKE TOP OF SLAB ELEVATIONS AT THE CL OF ABUTMENTS, THE CL OF PIERS AND AT THE 1/2PTS. TO VERIFY CAMBER. TAKE ELEVATIONS ALONG GUTTER LINES AND CROWN OR CL.

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



NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-03-0207			
DRAWN BY		DPB	PLANS CK'D. MJG
SUPERSTRUCTURE		SHEET 7 OF 8	

- ① W6 x 25 WITH 1 $\frac{1}{8}$ " x 1 $\frac{1}{2}$ " 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 $\frac{1}{4}$ " x 11 $\frac{3}{4}$ " x 1'-8" WITH 1 $\frac{5}{8}$ " x 1 $\frac{5}{8}$ " SLOTTED HOLES FOR ANCHOR BOLTS NO. 3. WELD TO NO. 1 AS SHOWN. SLOTS PARALLEL TO SHORT SIDE OF PLATE.
- ③ ASTM A449 - 1 $\frac{1}{8}$ " 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 $\frac{3}{4}$ " LONG AT ALL OTHER LOCATIONS. (AN EQUIVALENT THREADED ROD WITH NUTS AND HARDENED WASHERS MAY BE SUBSTITUTED FOR ANCHOR BOLTS IN WINGS IF REQ'D. FOR CONSTRUCTIBILITY.)
- ④ 5 $\frac{1}{8}$ " x 11" x 1'-8" ANCHOR PLATE (GALVANIZED) WITH 1 $\frac{1}{8}$ " 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 $\frac{1}{8}$ " DIA. A325 SLOTTED ROUND HEAD BOLT WITH NUT, 3 $\frac{1}{8}$ " x 1 $\frac{5}{8}$ " x 1 $\frac{5}{8}$ " WASHER, AND LOCK WASHER (2 REQ'D. AT EACH RAIL TO POST LOCATION.)
- ⑦ 1 $\frac{1}{2}$ " THK. BACK-UP PLATE WITH 2 - 7 $\frac{1}{8}$ " x 1 $\frac{1}{2}$ " THREADED SHOP WELDED STUDS (NO. 12). BOLT TO RAIL AS SHOWN IN DETAIL. REQUIRED AT THRIE BEAM GUARD RAIL ATTACHMENTS ONLY. PLACE SYMMETRICALLY ABOUT TUBES NO. 5A.
- ⑧ 1" DIA. HOLES IN PLATE NO. 7 & TUBES NO. 5A FOR 7 $\frac{1}{8}$ " DIA. A325 BOLTS WITH HEX NUTS AND WASHERS. 6 HOLES IN TUBES AND PLATE NO. 7.
- ⑨ SPLICE SLEEVE FABRICATED FROM 1 $\frac{1}{4}$ " PLATE. PROVIDE "SLIDING FIT".
- ⑩ 3 $\frac{1}{8}$ " x 3 $\frac{5}{8}$ " x 2'-4" PLATE. 2 PER RAIL. USED IN NO. 5 & 5A.
- ⑩A 3 $\frac{1}{8}$ " x 2 $\frac{5}{8}$ " x 2'-4" PLATE USED IN NO. 5, 3 $\frac{1}{8}$ " x 3 $\frac{5}{8}$ " x 2'-4" PLATE USED IN NO. 5A. 2 PER RAIL.
- ⑪ 7 $\frac{1}{8}$ " DIA. A325 ROUND HEAD BOLT WITH NUT, WASHER, AND LOCK WASHER. USE 5 $\frac{1}{8}$ " x 1 $\frac{1}{4}$ " LONGIT. SLOTTED HOLES AT FIELD JOINTS AND 1 $\frac{1}{8}$ " x 2 $\frac{1}{4}$ " MIN. LONGIT. SLOTTED HOLES AT EXP. JOINTS IN PLATE NO. 10A.
- ⑫ 7 $\frac{1}{8}$ " DIA. x 1 $\frac{1}{2}$ " LONG THREADED SHOP WELDED STUDS (2 REQ'D).
- ⑬ 3 $\frac{1}{8}$ " x 8" x 1'-6" PLATE. BOLT TO RAIL AS SHOWN IN DETAIL. REQ'D. AT THRIE BEAM GUARD RAIL ATTACHMENTS ONLY. PLACE SYM. ABOUT TUBES NO. 5A.
- ⑭ 7 $\frac{1}{8}$ " DIA. x 2" LONG A325 HEX BOLT WITH NUT AND WASHER (5 REQ'D.).
- ⑮ 1" DIA. HOLES IN TUBES NO. 5A FOR 7 $\frac{1}{8}$ " DIA. A325 ROUND HEAD BOLT WITH NUT, WASHER AND LOCK WASHER (4 REQ'D.). 4 HOLES IN TUBES.

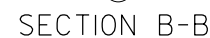
2. RAIL POST AND BASE PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A709 GRADE 50. HOLLOW RAILING STRUCTURAL TUBING SHALL CONFORM TO THE REQUIREMENTS OF ASTM A500 GRADE B OR C WITH A CERTIFIED $F_y = 50$ KSI. ANCHOR PLATES, AND SPLICE TUBE PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A709 GRADE 36.
3. THE NUT SECURING THE POST BASE PLATE TO THE CONCRETE SHALL BE TIGHTENED TO A SNUG FIT AND GIVEN AN ADDITIONAL $\frac{1}{8}$ 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.

cbs² Engineers - Surveyors - Architects
770 Technology Way
Chippewa Falls, WI 54729
Phone: 715.861.5226
www.cbssquaredinc.com

NO.	DATE	REVISION	BY
DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-03-0207			
		DRAWN BY	DPB
		PLANS CK'D.	MJC
TUBULAR STEEL RAILING TYPE 'M'		SHEET 8 OF 8	



LOCATION MUST BE
SHOWN ON SHOP DRAWINGS



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

TYPICAL RAIL TO POST CONNECTIONS



THREE BEAM RAIL ATTACHMENT



THREE BEAM RAIL ATTACHMENT



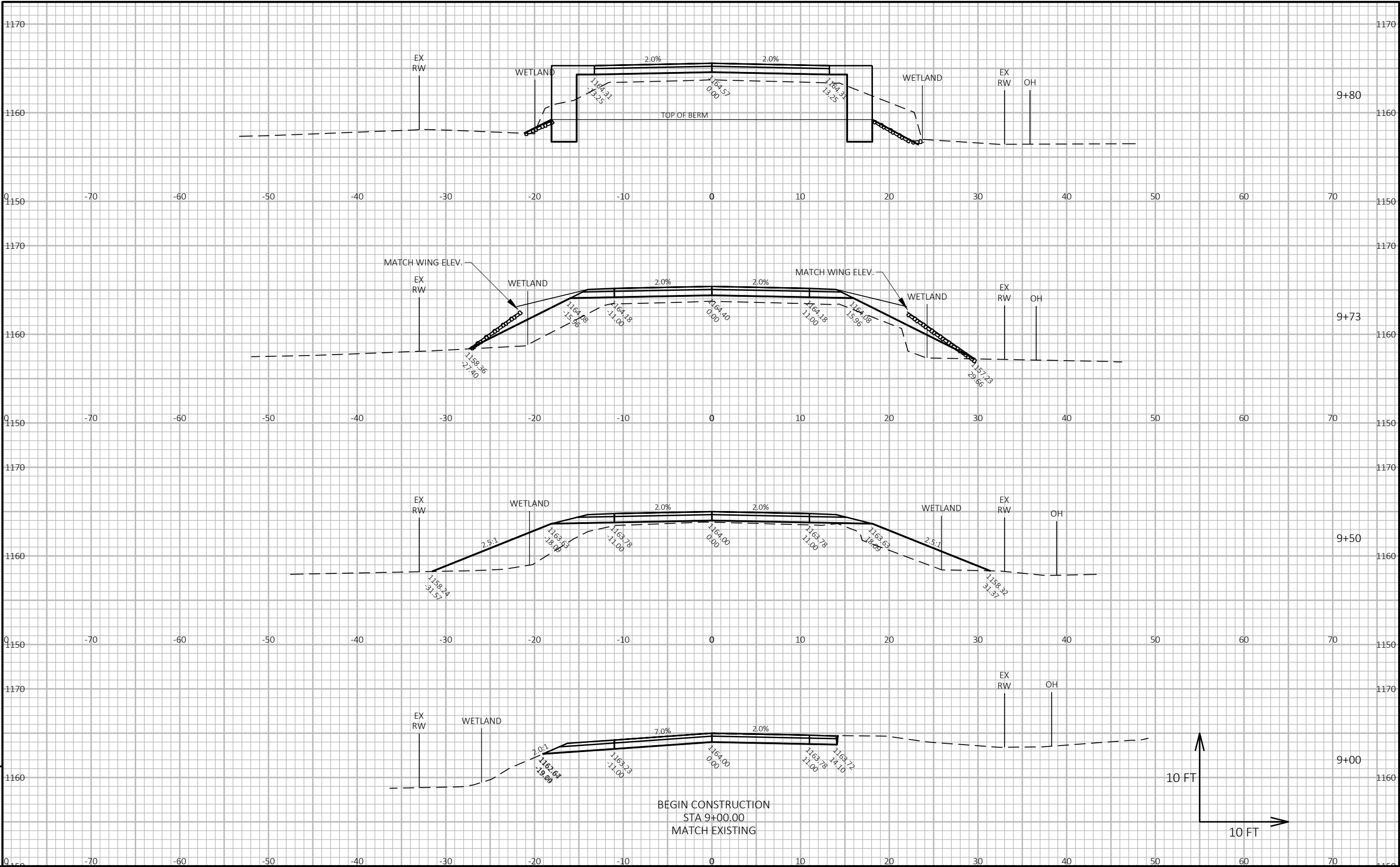
AT BEAM GUARD ATTACHMENT

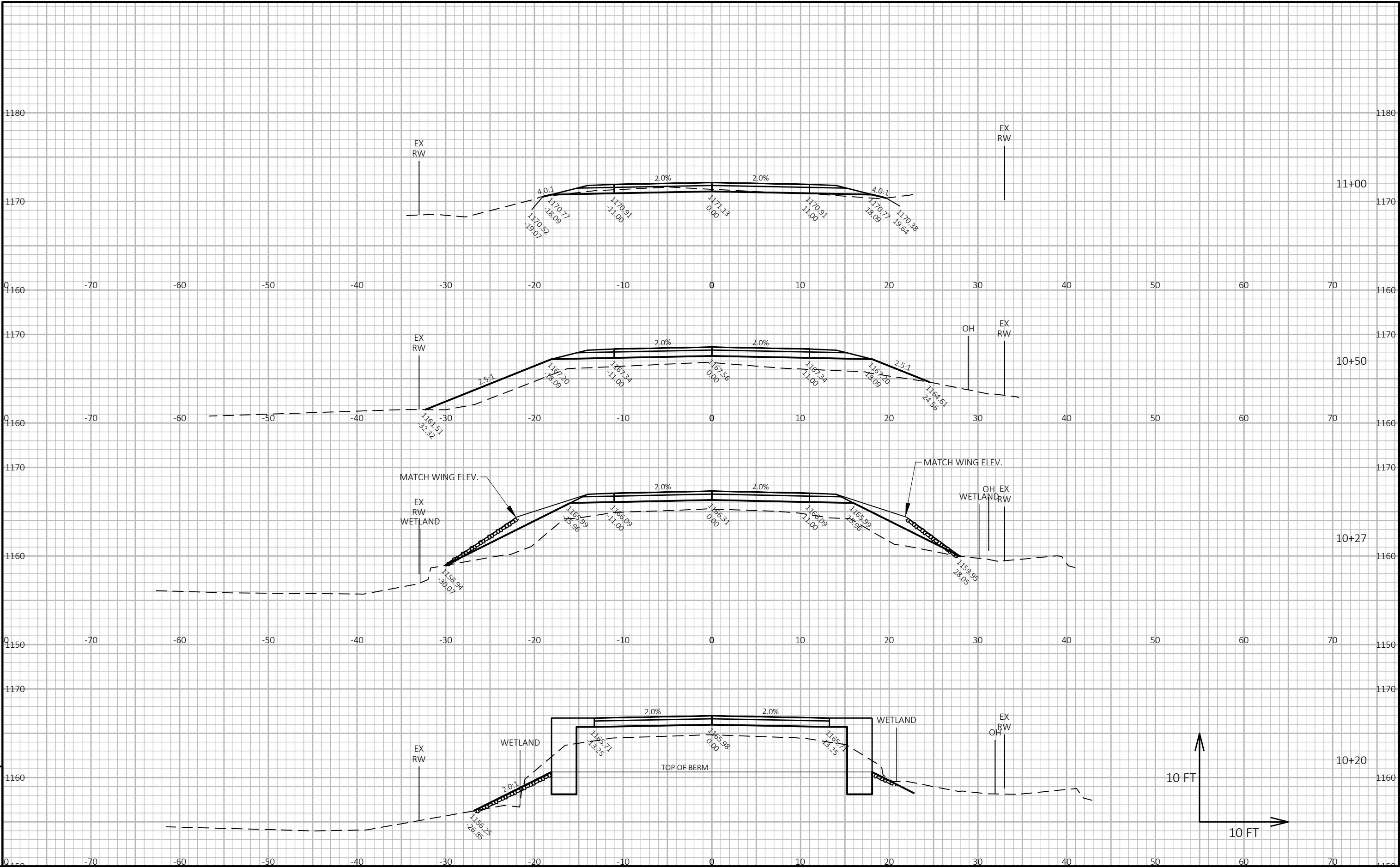


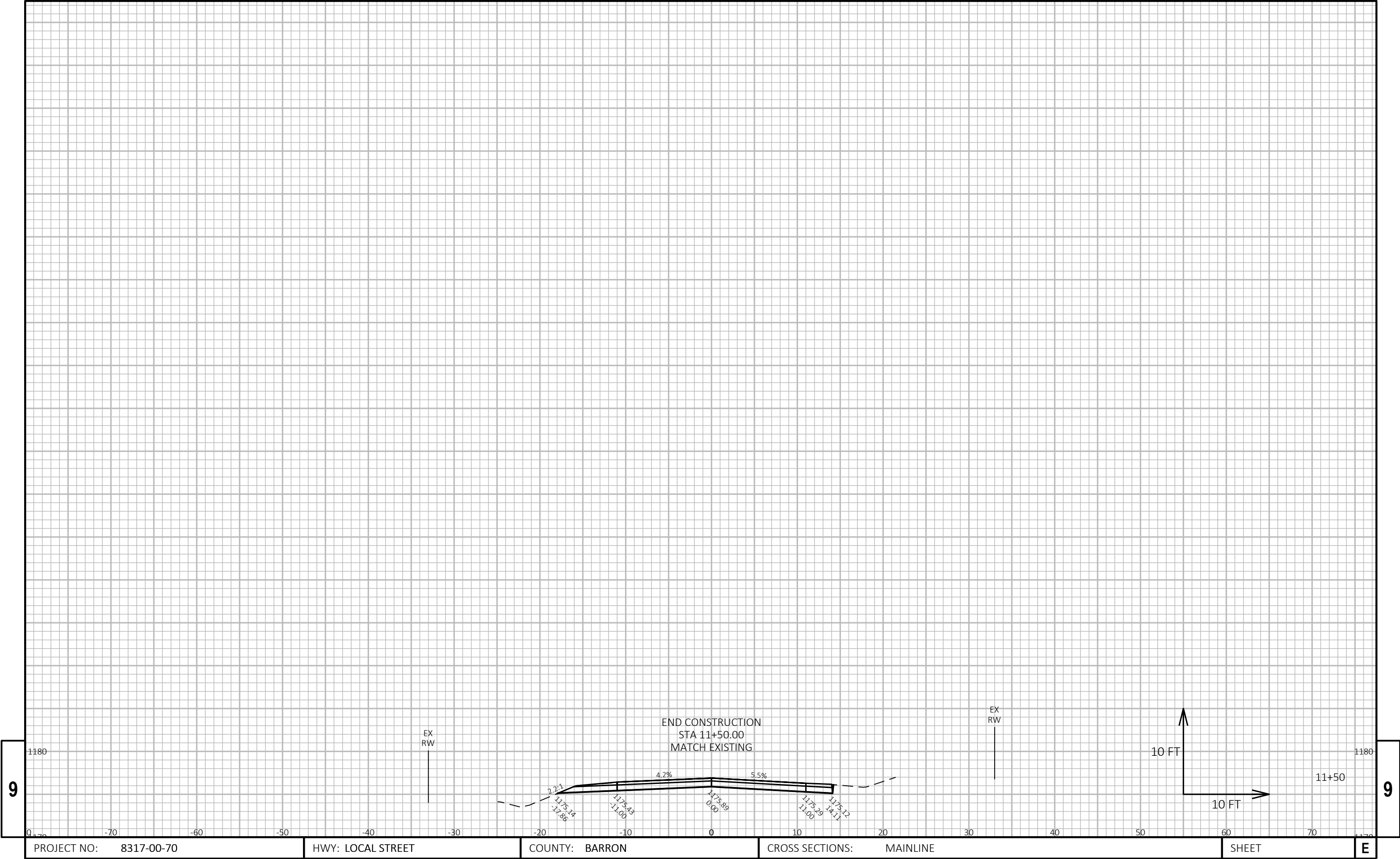
17TH AVENUE EARTHWORK SUMMARY

STATION	Real Station	Distance	AREA (SF)			Incremental Vol (CY) (Unadjusted)			Cumulative Vol (CY)		
			Cut	Salvaged/Unusable Pavement Material	Fill	Cut	Salvaged/Unusable Pavement Material	Fill	Cut 1.00	Expanded Fill 1.30	Mass Ordinate
						Note 1	Note 2	Note 3	Note 1		Note 4
09+00	900.00	0.00	31.24	0.00	0.00	0	0	0	0	0	0
09+50	950.00	50.00	0.00	0.00	74.24	29	0	69	29	89	-60
09+73.18	973.18	23.18	0.00	0.00	70.67	0	0	62	29	170	-141
09+80.25	980.25	7.07	46.36	0.00	31.79	6	0	13	35	188	-153
10+19.75	1019.75	39.50	34.89	0.00	45.85	59	0	57	94	261	-167
10+26.82	1026.82	7.07	0.00	0.00	82.75	5	0	17	99	283	-184
10+50	1050.00	23.18	0.00	0.00	63.99	0	0	63	99	365	-266
11+00	1100.00	50.00	7.24	0.00	2.11	7	0	61	106	445	-339
11+50	1150.00	50.00	29.60	0.00	0.00	34	0	2	140	447	-308

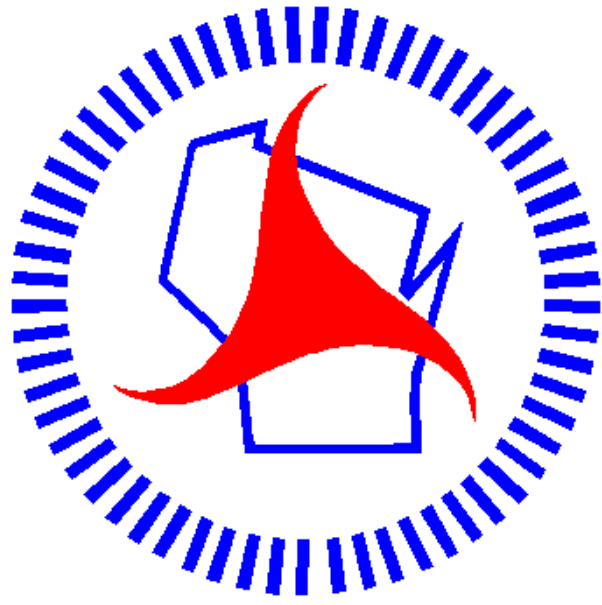
Notes:	
1 - Cut	Cut includes Salvaged/Unusable Pavement material
2 - Salvaged/Unusable Pavement Material	This does not show up in cross sections
3 - Fill	Does not include Unusable Pavement Exc volume
4 - Mass Ordinate	[Cut - Salvaged Pavt - (Fill * Fill Factor)]







PROJECT NO: 8317-00-70	HWY: LOCAL STREET	COUNTY: BARRON	CROSS SECTIONS: MAINLINE	SHEET	E
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Wisconsin Department of Transportation

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through innovation and exceptional service.

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

ORDER OF SHEETS

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

TOTAL SHEETS = 38



DESIGN DESIGNATION

A.A.D.T.	2020	=	24
A.A.D.T.	2040	=	26
D.H.V.		=	3
D.D.		=	50/50
T.		=	10%
DESIGN SPEED		=	40 MPH
ESALS		=	<100,000

CONVENTIONAL SYMBOLS

PLAN

CORPORATE LIMITS	
PROPERTY LINE	
LOT LINE	
LIMITED HIGHWAY EASEMENT	
EXISTING RIGHT OF WAY	
PROPOSED OR NEW R/W LINE	

SLOPE INTERCEPT	
REFERENCE LINE	
EXISTING CULVERT	
PROPOSED CULVERT (Box or Pipe)	
COMBUSTIBLE FLUIDS	

MARSH AREA	
WOODED OR SHRUB AREA	

PROFILE

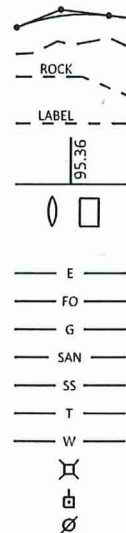
GRADE LINE	
ORIGINAL GROUND	
MARSH OR ROCK PROFILE (To be noted as such)	
SPECIAL DITCH	

GRADE ELEVATION

CULVERT (Profile View)

UTILITIES

ELECTRIC	
FIBER OPTIC	
GAS	
SANITARY SEWER	
STORM SEWER	
TELEPHONE	
WATER	
UTILITY PEDESTAL	
POWER POLE	
TELEPHONE POLE	

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

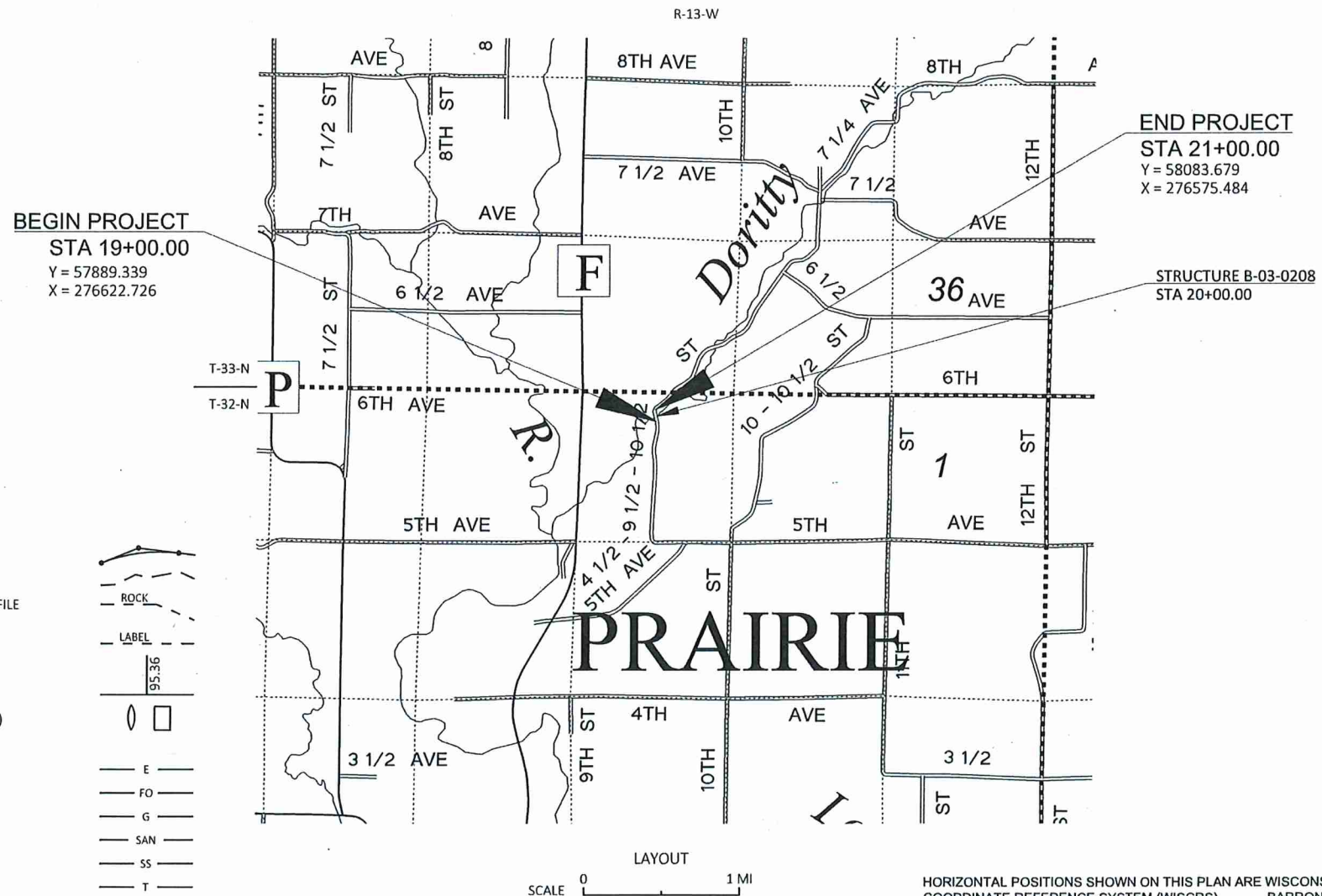
T PRAIRIE FARM, 9 1/2-10 1/2 ST

DORITTY CREEK BRIDGE B-03-0208

LOCAL STREET
BARRON COUNTY

STATE PROJECT NUMBER

8328-00-70



HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COORDINATE REFERENCE SYSTEM (WISCRS), BARRON 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 (2012). GPS DERIVED ELEVATIONS ARE BASED ON GEOID 12A.

STATE PROJECT

8328-00-70

FEDERAL PROJECT

PROJECT

CONTRACT

ACCEPTED FOR

COUNTY OF BARRON

Date 10/30/19

HIGHWAY COMMISSIONER

ORIGINAL PLANS PREPARED BY
CBS SQUARED INC.
BECKFIELD
34273
EAU CLAIRE,
WI

DATE 10-29-19

(Signature)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor CBS SQUARED INC.

Designer CBS SQUARED INC.

APPROVED FOR THE DEPARTMENT

DATE 11/1/2019

(Signature)

E

GENERAL NOTES

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

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

THE EXACT LOCATION AND WIDTH OF PRIVATE ENTRANCES WILL BE DETERMINED IN THE FIELD BY THE ENGINEER. ALL DRIVEWAYS ARE TO BE REPLACED IN KIND UNLESS OTHERWISE DIRECTED BY THE ENGINEER OR AS SHOWN ON THE PLANS. BASE AGGREGATE DENSE 1 1/4-INCH WILL BE USED UNDER ALL DRIVEWAYS.

MAINTAIN DRIVING SURFACE TO ALL PROPERTY OWNERS WITH BASE AGGREGATE DENSE 1 1/4-INCH.

FILL EXPANSION FACTOR IS 30%.

PROPERTY LINES SHOWN ARE APPROXIMATE.

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

BEARINGS SHOWN ON THIS PLAN ARE TRUE BEARINGS TO THE NEAREST SECOND.

ALL TIES ON THIS PLAN ARE HORIZONTAL UNLESS DESCRIBED OTHERWISE.

PLACE EROSION CONTROL MEASURES AS SHOWN ON THE EROSION CONTROL PLAN. THE EXACT LOCATIONS WILL BE DETERMINED BY THE ENGINEER IN THE FIELD.

DISTURBED AREAS WITHIN THE RIGHT OF WAY ARE TO BE FERTILIZED, SEEDED, AND MULCH/EROSION MAT AS DIRECTED BY THE ENGINEER.

ELEVATIONS SHOWN ON THE ROADWAY CROSS SECTIONS ARE SUBGRADE ELEVATIONS AT THE CENTERLINE OF THE ROADWAY.

ALL ELEVATIONS ON THIS PLAN ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF NAVD 88 (2012).

WISDOT WILL FURNISH A BENCHMARK MONUMENT TO BE SET BY THE CONTRACTOR AS DIRECTED BY THE ENGINEER IN THE FIELD.

SAW CUT LOCATIONS SHOWN ON THE PLAN ARE SUBJECT TO ADJUSTMENT BY THE ENGINEER IN THE FIELD. THE LINE OF SUCH SAW CUTS WILL BE NEATLY DELINEATED THROUGH THE ASPHALT WITHOUT ANY DAMAGE TO THE REMAINING PORTION OF THE EXISTING PAVEMENT.

THE 4" OF ASPHALTIC SURFACE SHALL BE CONSTRUCTED WITH A 2" LOWER LAYER AND A 2" UPPER LAYER.

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 = 0.303 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 0.205 ACRES

UTILITY CONTACTS

BARRON ELECTRIC COOPERATIVE - ELECTRICTY
SUSAN DAU
1434 STATE HIGHWAY 25
BARRON, WI 54812
715-537-3171 (OFFICE)
715-418-1137 (MOBILE)
SDAU@BARRONELECTRIC.COM

MOSAIC TELECOM - COMMUNICATION LINE
DENNIS RUSSETT
401 S 1ST ST
P.O. BOX 664
CAMERON, WI 54822
715-458-5378 (OFFICE)
715-458-5518 (MOBILE)
CTCDENNIS@MOSAICTELECOM.COM



Dial 811 or (800)242-8511
www.DiggersHotline.com

DESIGN CONTACT

CBS SQUARED INC.
770 TECHNOLOGY WAY, SUITE 1A
CHIPPEWA FALLS, WI 54729
ATTN: MATT GUNDRY, PE
715-861-7425
MGUNDRY@CBSSQUAREDINC.COM

WISCONSIN DNR - LIASON

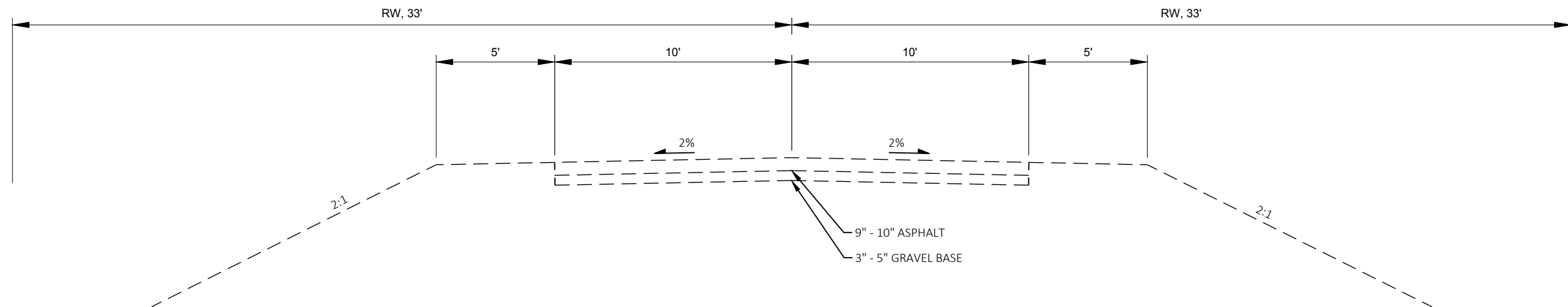
DEPARTMENT OF NATURAL RESOURCES
SPOONER - DNR SERVICE CENTER
810 W MAPLE ST
SPOONER, WI 54801
ATTN: AMY CRONK
715-635-4229
AMY.CRONK@WISCONSIN.GOV

BARRON COUNTY HIGHWAY DEPARTMENT

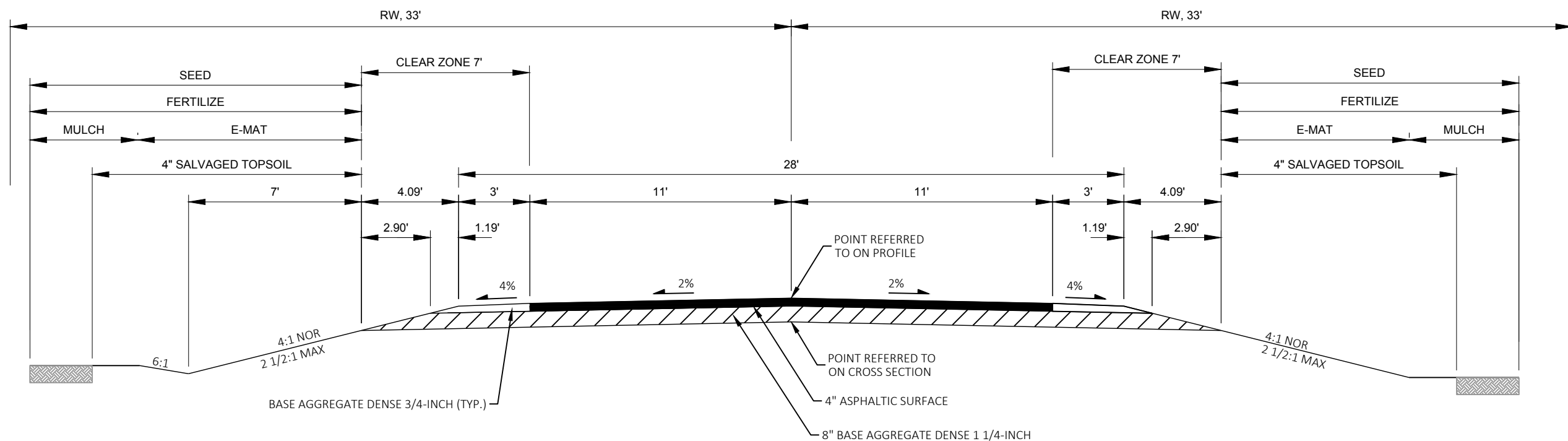
MARK SERVI, HIGHWAY COMMISSIONER
BARRON COUNTY HIGHWAY DEPARTMENT
260 N 7TH ST
BARRON, WI 54812
715-637-3755
MARK.SERVI@CO.BARRON.WI.US

2

2 |



EXISTING TYPICAL SECTION - 9 1/2-10 1/2 STREET
STA 19+00 - 19+86.67, 20+12.53 - 21+00



FINISHED TYPICAL SECTION - 9 1/2-10 1/2 STREET
STA 19+00 - 19+79.56, STA 20+20.44 - 21+00

PROJECT NO:	8328-00-70
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HWY: LOCAL STREET

COUNTY: BARRON

PLAN: TYPICAL SECTION

SHEET

11

FILE NAME : P:\BARRO\19003 - FOUR LOW-RISK BRIDGE REPLACEMENTS\19003-3 DORITTY CREEK BRG, T PRAIRIE FARM 9 12 - 10 12 ST\CAD\C3D\SHEETS\PLAN\020301-TS.DWG
LAYOUT NAME - 020301-ts

PLOT DATE : 11/1/2019 1:44 PM

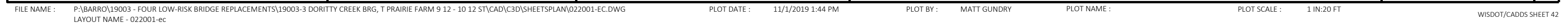
PLOT BY : MATT GUNDRY

PLOT NAME :

PLOT SCALE : 1 IN:5 FT

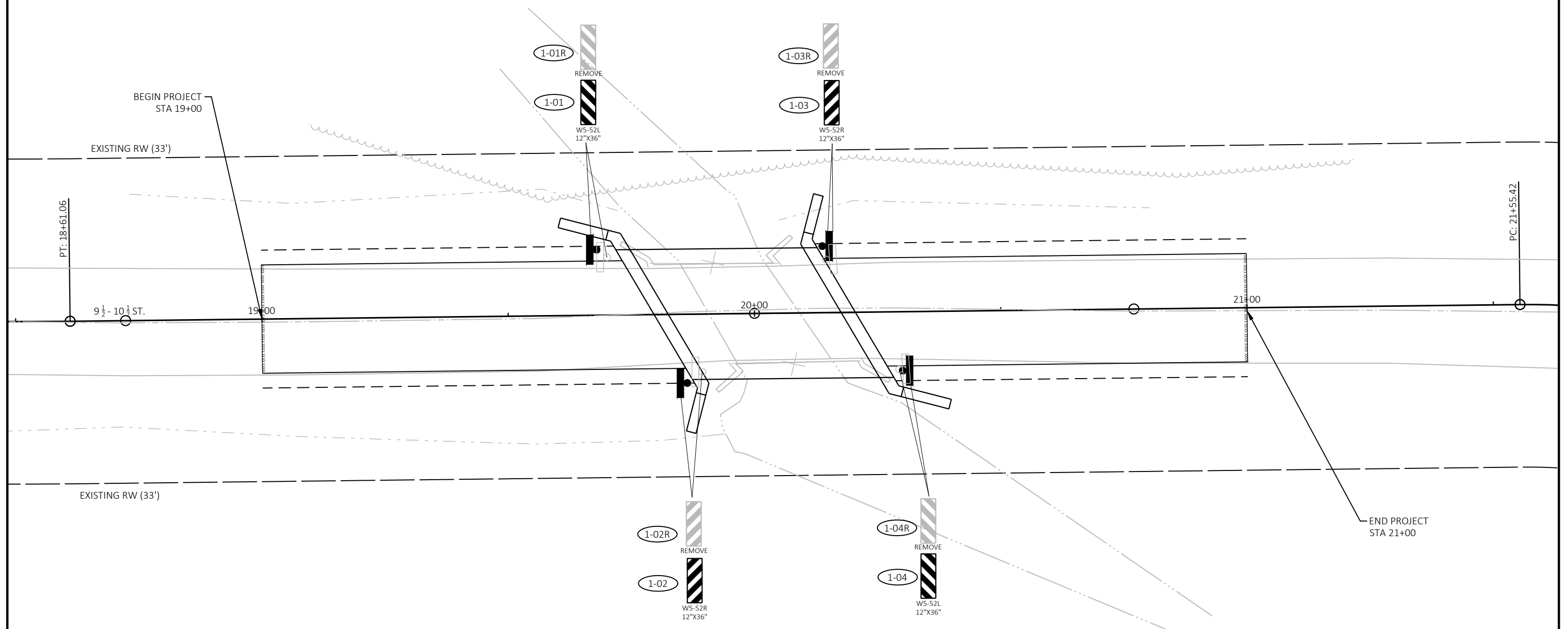
WISDOT/CADDS SHEET 42

HIGH WATER Q2 ELEVATION = 1077.59



SIGN LEGEND

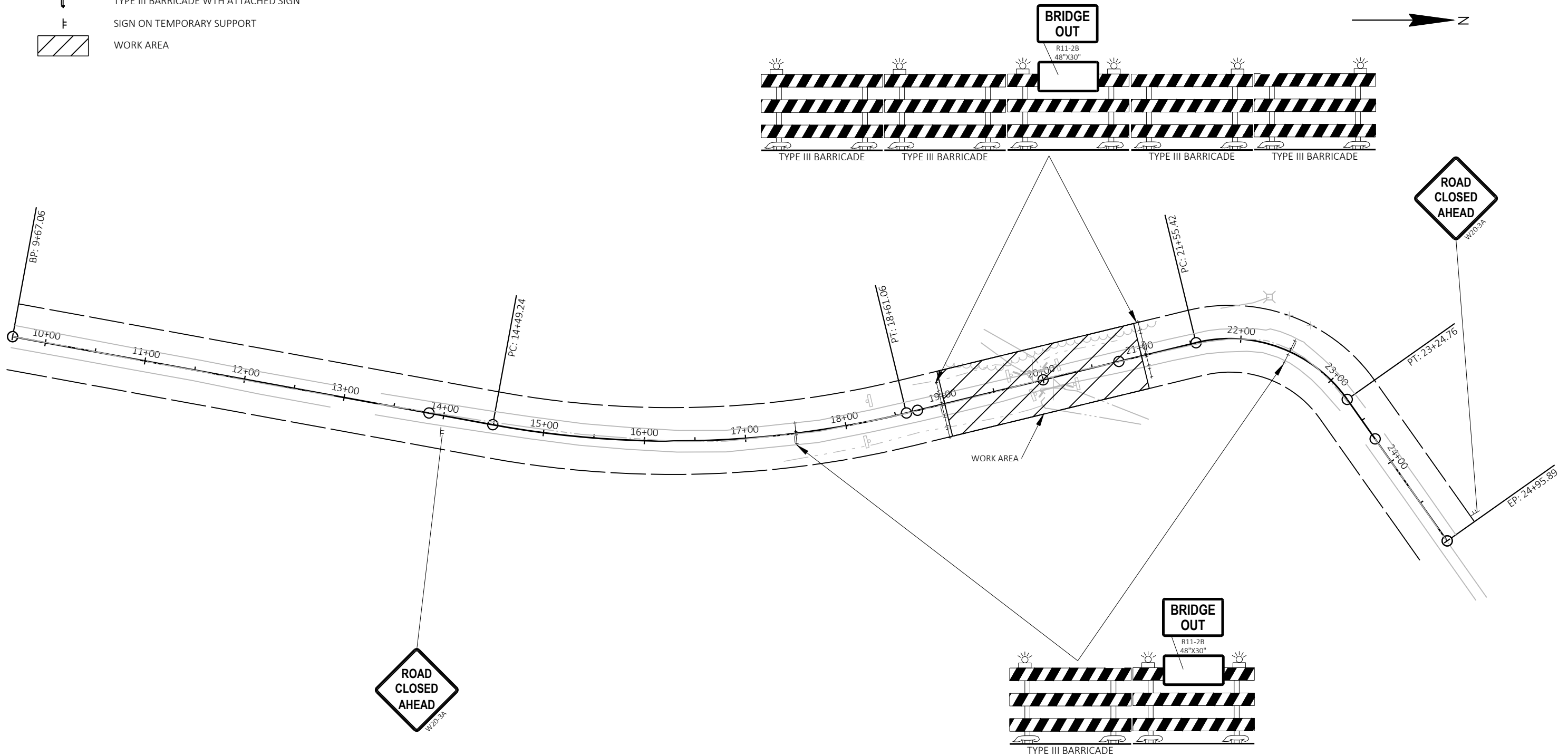
-  EXISTING SIGN MOUNTED ON POST(S)
-  PROPOSED SIGN MOUNTED ON POST(S)
-  DENOTES SIGN NUMBER

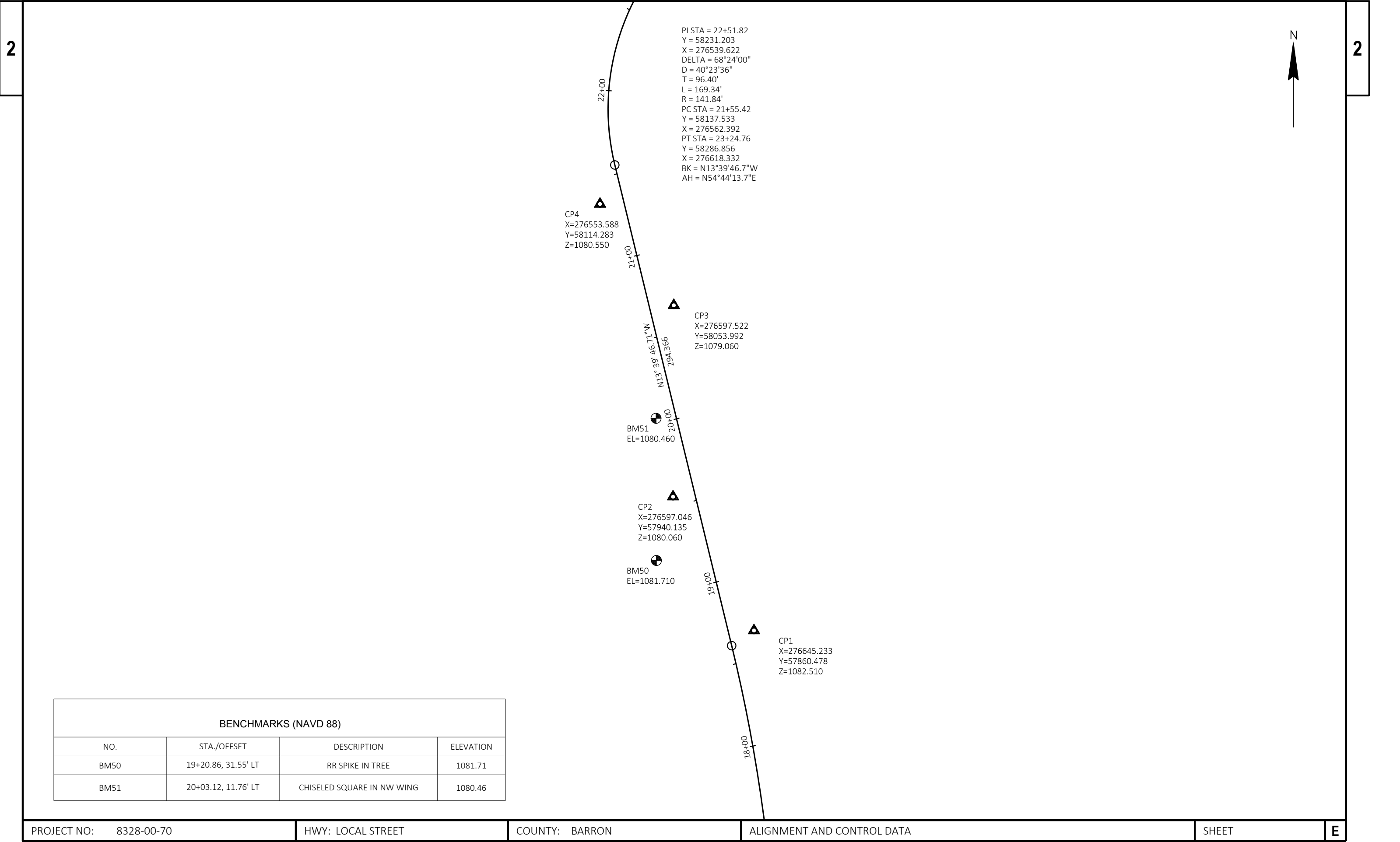


PROJECT NO: 8328-00-70	HWY: LOCAL STREET	COUNTY: BARRON	PERMANENT SIGNING	SHEET	E
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TRAFFIC CONTROL LEGEND

- ↑ TYPE III BARRICADE
- ↑↓ TYPE III BARRICADE WTH ATTACHED SIGN
- F SIGN ON TEMPORARY SUPPORT
- ▨ WORK AREA





Estimate Of Quantities By Plan Sets

8328-00-70					
Line	Item	Item Description	Unit	Total	Qty
0006	203.0700.S	Removing Old Structure Over Waterway With Debris Capture System (station) 03. 20+00.00	LS	1.000	1.000
0008	205.0100	Excavation Common	CY	91.000	91.000
0012	206.1000	Excavation for Structures Bridges (structure) 02. B-03-0208	LS	1.000	1.000
0016	208.0100	Borrow	CY	246.000	246.000
0018	210.1500	Backfill Structure Type A	TON	230.000	230.000
0024	213.0100	Finishing Roadway (project) 03. 8328-00-70	EACH	1.000	1.000
0026	305.0110	Base Aggregate Dense 3/4-Inch	TON	27.000	27.000
0028	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	260.000	260.000
0030	455.0605	Tack Coat	GAL	26.000	26.000
0032	465.0105	Asphaltic Surface	TON	90.000	90.000
0034	502.0100	Concrete Masonry Bridges	CY	140.000	140.000
0036	502.3200	Protective Surface Treatment	SY	143.000	143.000
0038	505.0400	Bar Steel Reinforcement HS Structures	LB	4,560.000	4,560.000
0040	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	15,880.000	15,880.000
0042	512.1000	Piling Steel Sheet Temporary	SF	2,970.000	2,970.000
0044	513.4061	Railing Tubular Type M	LF	87.000	87.000
0046	516.0500	Rubberized Membrane Waterproofing	SY	38.000	38.000
0052	550.2104	Piling CIP Concrete 10 3/4 X 0.25-Inch	LF	700.000	700.000
0054	606.0300	Riprap Heavy	CY	94.000	94.000
0056	612.0206	Pipe Underdrain Unperforated 6-Inch	LF	40.000	40.000
0058	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	106.000	106.000
0060	618.0100	Maintenance And Repair of Haul Roads (project) .03 8328-00-70	EACH	1.000	1.000
0066	619.1000	Mobilization	EACH	0.340	0.340
0068	624.0100	Water	MGAL	2.800	2.800
0070	625.0500	Salvaged Topsoil	SY	310.000	310.000
0072	627.0200	Mulching	SY	150.000	150.000
0074	628.1504	Silt Fence	LF	230.000	230.000
0076	628.1520	Silt Fence Maintenance	LF	230.000	230.000
0078	628.1905	Mobilizations Erosion Control	EACH	1.000	1.000
0080	628.1910	Mobilizations Emergency Erosion Control	EACH	1.000	1.000
0082	628.2008	Erosion Mat Urban Class I Type B	SY	310.000	310.000
0088	628.7504	Temporary Ditch Checks	LF	15.000	15.000
0090	629.0210	Fertilizer Type B	CWT	1.000	1.000
0092	630.0120	Seeding Mixture No. 20	LB	13.000	13.000
0094	630.0500	Seed Water	MGAL	10.000	10.000
0096	634.0812	Posts Tubular Steel 2x2-Inch X 12-FT	EACH	4.000	4.000
0098	637.2230	Signs Type II Reflective F	SF	12.000	12.000

Estimate Of Quantities By Plan Sets

8328-00-70					
Line	Item	Item Description	Unit	Total	Qty
0100	638.2602	Removing Signs Type II	EACH	4.000	4.000
0102	638.3000	Removing Small Sign Supports	EACH	4.000	4.000
0108	642.5001	Field Office Type B 03. 8328-00-70	EACH	1.000	1.000
0110	643.0420	Traffic Control Barricades Type III	DAY	630.000	630.000
0112	643.0705	Traffic Control Warning Lights Type A	DAY	810.000	810.000
0114	643.0900	Traffic Control Signs	DAY	270.000	270.000
0116	643.5000	Traffic Control	EACH	1.000	1.000
0118	645.0120	Geotextile Type HR	SY	234.000	234.000
0120	650.4500	Construction Staking Subgrade	LF	160.000	160.000
0122	650.5000	Construction Staking Base	LF	160.000	160.000
0128	650.6500	Construction Staking Structure Layout (structure) 03. B-03-0208	LS	1.000	1.000
0134	650.9910	Construction Staking Supplemental Control (project) 03. 8328-00-70	LS	1.000	1.000
0136	650.9920	Construction Staking Slope Stakes	LF	160.000	160.000
0138	690.0150	Sawing Asphalt	LF	44.000	44.000
0140	715.0502	Incentive Strength Concrete Structures	DOL	850.000	850.000

9 1/2 - 10 1/2 STREET EARTHWORK SUMMARY

From/To Station	Location	205.0100 Common Excavation (1)		Salvaged/Unusable Pavement Material (4)	Available Material (5)	Unexpanded Fill	Expanded Fill (6)	Mass Ordinate +/- (7)	Waste	208.0100 Borrow
		Cut (2)	EBS Excavation (3)				Factor 1.30			
19+00/21+00	9 1/2 - 10 1/2 St.	91	0	111	-20	174	227	-246	0	246
		91	0	111	-20	174	227	-246	0	246
		91	0	111	-20	174	227	-246	0	246
TOTAL		91	0	111	-20	174	227	-246	0	246

Notes:

- (1) Common Excavation is the sum of the Cut and EBS Excavation columns. Item number 205.0100 (includes existing asphaltic pavement).
- (2) Salvaged/Unsuable Pavement Material is included in Cut.
- (3) EBS Excavation to be backfilled with Cut material.
- (4) Salvaged/Unusable Pavement Material (existing asphaltic pavement is not included in Fill quantity).
- (5) Available Material = Cut - Salvaged/Unusuable Pavement Material.
- (6) Expanded Fill Factor = 1.3; Expanded Fill = Unexpanded Fill * Fill Factor.
- (7) The Mass Ordinate + or - Qty calculated for the Division. Plus quantity indicates an excess of material within the Division. Minus indicates a shortage of material within the Division.

3

FINISHING ROADWAY	
	213.0100
	FINISHING
	<u>ROADWAY</u>
LOCATION	EACH
PROJECT	1
TOTAL	1

AGGREGATE ITEMS						
				305.0110	305.0120	
				BASE	BASE	
				AGGREGATE	AGGREGATE	
				DENSE	DENSE	624.0100
				<u>3/4-INCH</u>	<u>1 1/4-INCH</u>	<u>WATER</u>
	ROADWAY	STA	TO	STA	TON	MGAL
9 1/2 - 10 1/2 St.	19+00	-	19+79.56	13.5	130	1.4
9 1/2 - 10 1/2 St.	20+20.44	-	21+00	13.5	130	1.4
TOTAL				27	260	2.8

3

ASPHALT ITEMS					
				455.0605	465.0105
				TACK COAT	ASPHALTIC
					<u>SURFACE</u>
ROADWAY	STA	TO	STA	GAL	TON
9 1/2 - 10 1/2 St.	19+00	-	19+79.56	13	45
9 1/2 - 10 1/2 St.	20+20.44	-	21+00	13	45
TOTAL				26	90

MAINTENANCE AND REPAIR OF HAUL ROADS	
	618.0100*
	MAINTENANCE
	AND REPAIR OF
	<u>HAUL ROADS</u>
LOCATION	EACH
PROJECT	1
TOTAL	1

*CAT 0030 (NON-PARTICIPATING)

MOBILIZATION	
	619.1000
	<u>MOBILIZATION</u>
LOCATION	EACH
0010	0.1
0020	0.24
TOTAL	0.34

RESTORATION ITEMS

ROADWAY	STA	TO	STA	LOCATION	625.0500	627.0200	628.2008	629.0210	630.0120	630.0500
					SALVAGED TOPSOIL	MULCHING	EROSION MAT URBAN CLASS I TYPE B	FERTILIZER TYPE B	SEEDING MIXTURE NO. 20	SEED WATER
					SY	SY	SY	CWT	LB	MGAL
9 1/2 - 10 1/2 St.	19+00	-	19+79.56	LT	73	30	73	0.23	2.9	2.0
9 1/2 - 10 1/2 St.	19+00	-	19+79.56	RT	71	45	71	0.25	3.3	3.0
9 1/2 - 10 1/2 St.	20+20.44	-	21+00	LT	86	44	86	0.28	3.7	3.0
9 1/2 - 10 1/2 St.	20+20.44	-	21+00	RT	80	31	80	0.24	3.1	2.0
TOTAL					310	150	310	1	13	10

EROSION CONTROL ITEMS

ROADWAY	STA	TO	STA	LOCATION	628.1504	628.1520	628.7504
					SILT FENCE	SILT FENCE	TEMPORARY DITCH CHECKS
					LF	LF	LF
9 1/2 - 10 1/2 St.	19+00	-	20+00	LT	24	24	5
9 1/2 - 10 1/2 St.	19+00	-	20+00	RT	35	35	10
9 1/2 - 10 1/2 St.	20+00	-	21+00	LT	106	106	--
9 1/2 - 10 1/2 St.	20+00	-	21+00	RT	65	65	--
TOTAL					230	230	15

EROSION CONTROL MOBILIZATION

LOCATION	628.1905	628.1910
	MOBILIZATIONS EROSION CONTROL	MOBILIZATIONS EMERGENCY EROSION CONTROL
	EACH	EACH
PROJECT	1	1
TOTAL		
	1	1

PERMANENT SIGNING ITEMS

SIGN NO.	SIGN CODE	SIGN MESSAGE	SIZE			637.2230 SIGNS TYPE II REFLECTIVE F SF	634.0812 POSTS TUBULAR STEEL 2X2-INCH X12-FT EACH
1-01	W5-52L	BRIDGE CLEARANCE STRIPER LEFT	12	X	36	3.00	1
1-02	W5-52R	BRIDGE CLEARANCE STRIPER RIGHT	12	X	36	3.00	1
1-03	W5-52R	BRIDGE CLEARANCE STRIPER RIGHT	12	X	36	3.00	1
1-04	W5-52L	BRIDGE CLEARANCE STRIPER LEFT	12	X	36	3.00	1
TOTAL						12.00	4

REMOVING SIGNING ITEMS

SIGN NO.	SIGN MESSAGE	638.2602 REMOVING SIGNS TYPE II EACH	638.3000 REMOVING SMALL SIGN SUPPORTS EACH
1-01R	BRIDGE CLEARANCE STRIPER LEFT	1	1
1-02R	BRIDGE CLEARANCE STRIPER RIGHT	1	1
1-03R	BRIDGE CLEARANCE STRIPER RIGHT	1	1
1-04R	BRIDGE CLEARANCE STRIPER LEFT	1	1
TOTAL		4	4

TRAFFIC CONTROL ITEMS

		643.0420		643.0705					
		TRAFFIC CONTROL		TRAFFIC CONTROL					
		BARRICADES		WARNING LIGHTS		643.0900		643.5000	
		TYPE III		TYPE A		TRAFFIC CONTROL SIGNS		TRAFFIC CONTROL	
ROADWAY		DURATION (DAYS)				EACH* DAY		EACH	
9 1/2 - 10 1/2 St.		45		EACH* DAY		EACH* DAY		EACH	
		14		630		18		810	
						6		270	
								1	
TOTAL		630		810		270		1	

*INFORMATION ONLY

FIELD OFFICE

		642.5001	
		FIELD OFFICE	
		TYPE B	
LOCATION		EACH	
PROJECT		1.00	
TOTAL		1.00	

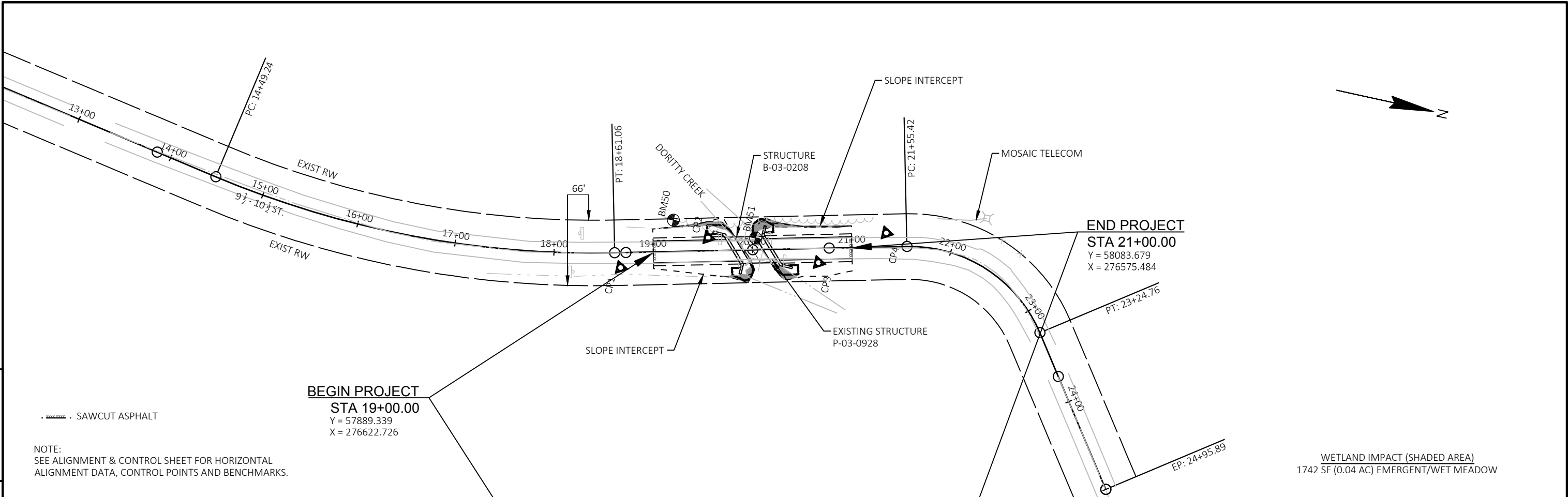
CONSTRUCTON STAKING

				650.4500		650.5000		650.9910		650.9920	
				CONSTRUCTION STAKING		CONSTRUCTION STAKING		CONSTRUCTION STAKING		CONSTRUCTION STAKING	
				SUBGRADE		BASE		SUPPLEMENTAL CONTROL		SLOPE STAKES	
ROADWAY		STA TO STA		LF		LF		LS		LF	
9 1/2 - 10 1/2 St.		19+00 - 19+79.56		80		80		--		80	
9 1/2 - 10 1/2 St.		20+20.44 - 21+00		80		80		--		80	
9 1/2 - 10 1/2 St.		PROJECT		--		--		1		--	
TOTAL				160		160		1		160	

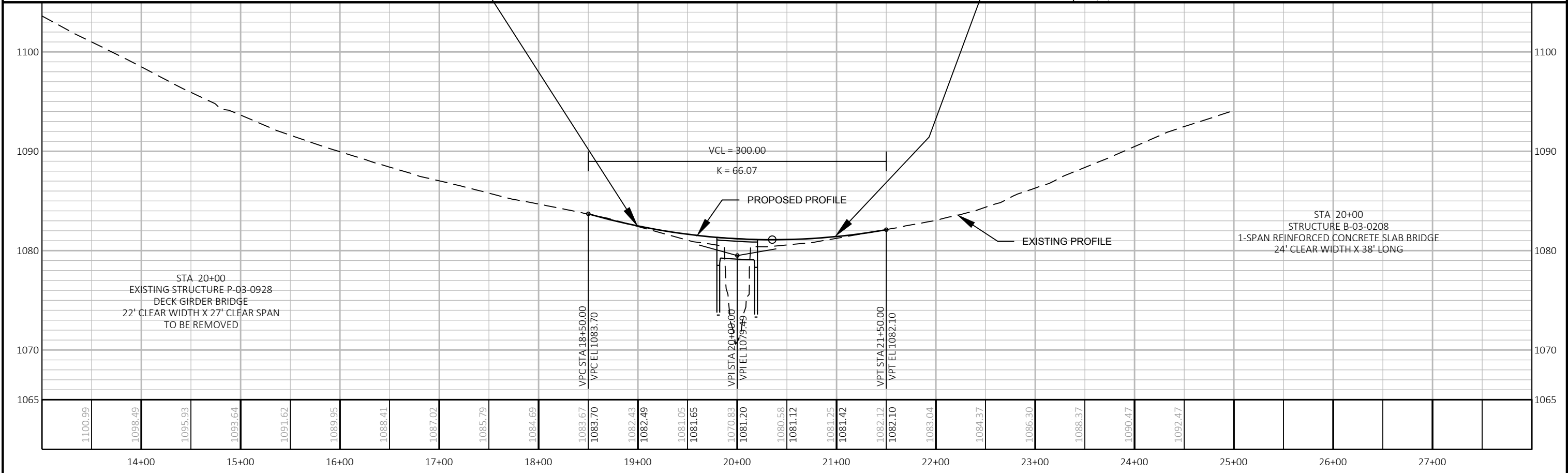
SAWING ASPHALT

				690.0150	
				SAWING ASPHALT	
ROADWAY		STA TO STA		LF	
9 1/2 - 10 1/2 St.		19+00 - 19+79.56		22	
9 1/2 - 10 1/2 St.		20+20.44 - 21+00		22	
TOTAL				44	

5



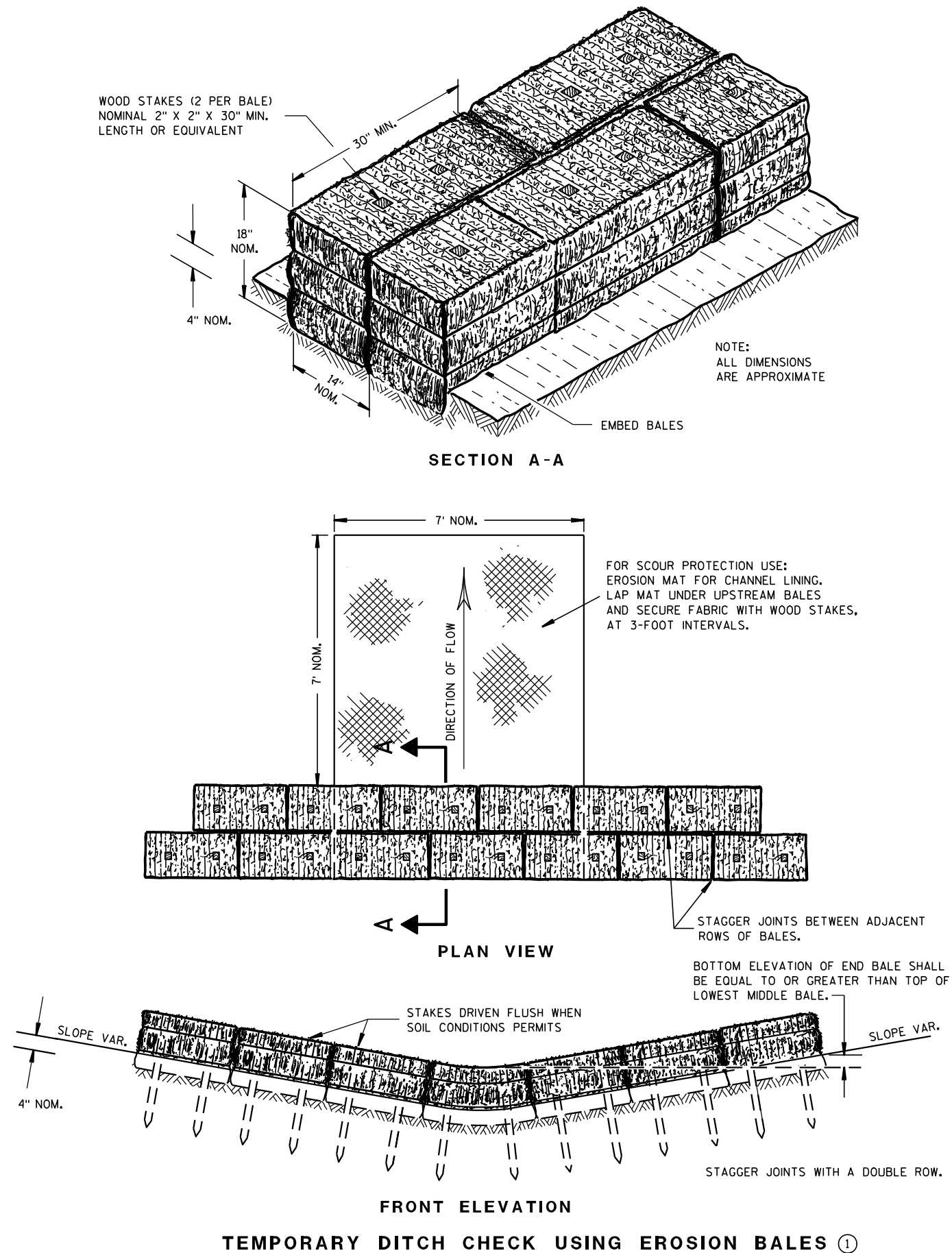
5



PROJECT NO: 8328-00-70	HWY: LOCAL STREET	COUNTY: BARRON	PLAN AND PROFILE: 9 1/2 - 10 1/2 STREET	SHEET E
------------------------	-------------------	----------------	---	---------

Standard Detail Drawing List

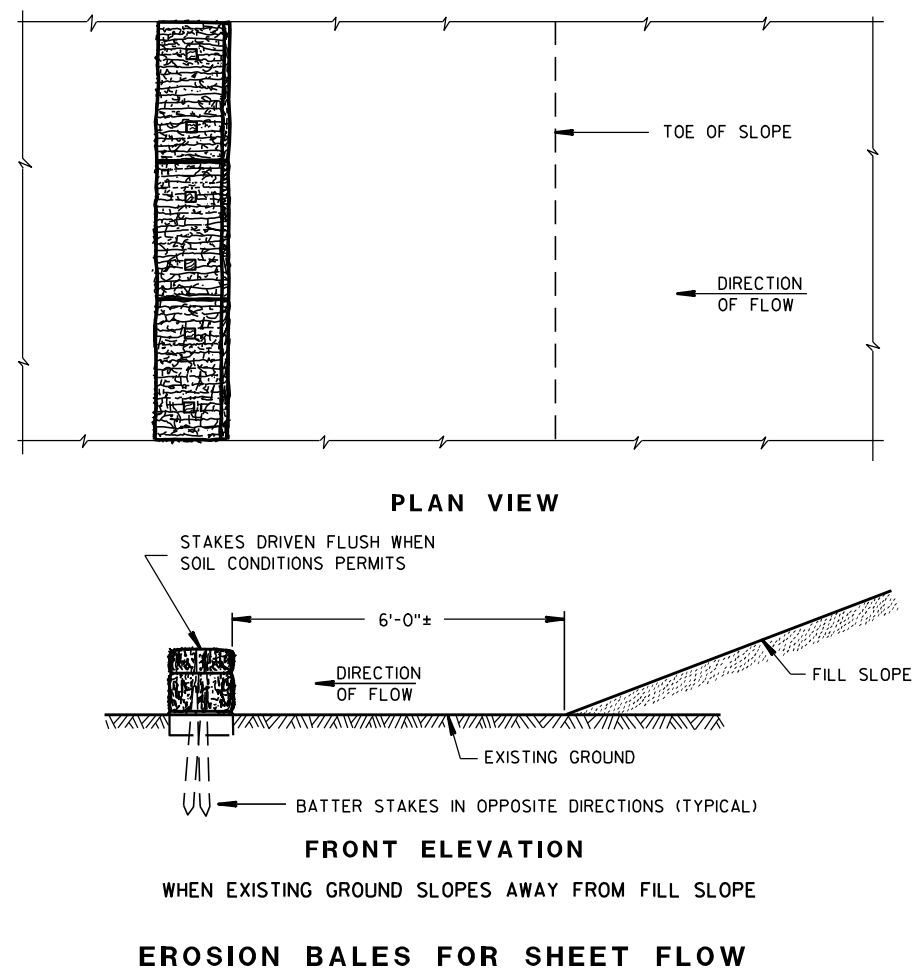
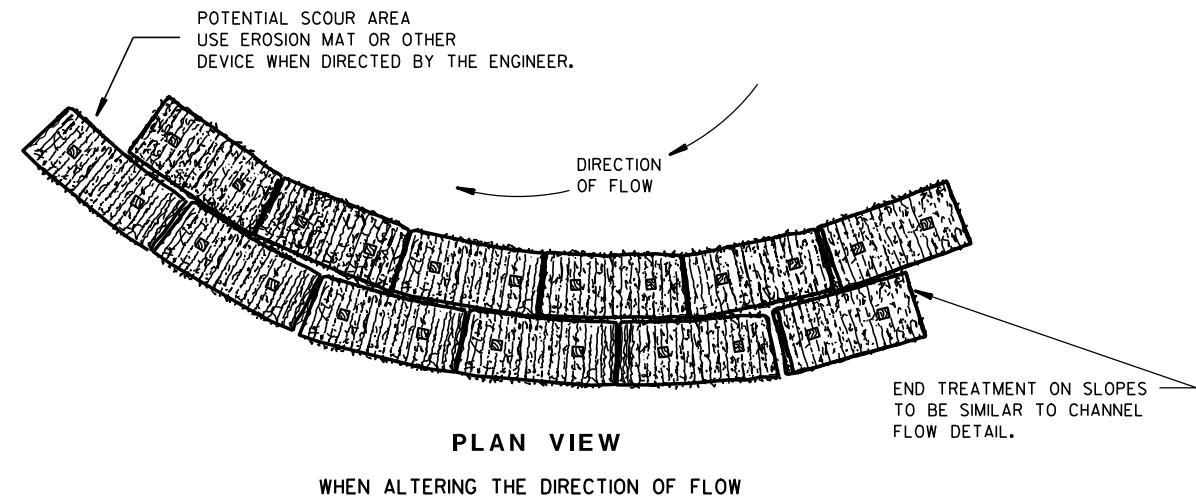
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
12A03-10	NAME PLATE (STRUCTURES)
15C02-07A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15D38-02A	TEMPORARY TRAFFIC CONTROL SIGN MOUNTING
15D38-02B	ATTACHMENT OF SIGNS TO POSTS



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.

TYPICAL INSTALLATIONS OF
EROSION BALES / TEMPORARY
DITCH CHECKS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

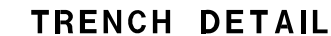
APPROVED

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

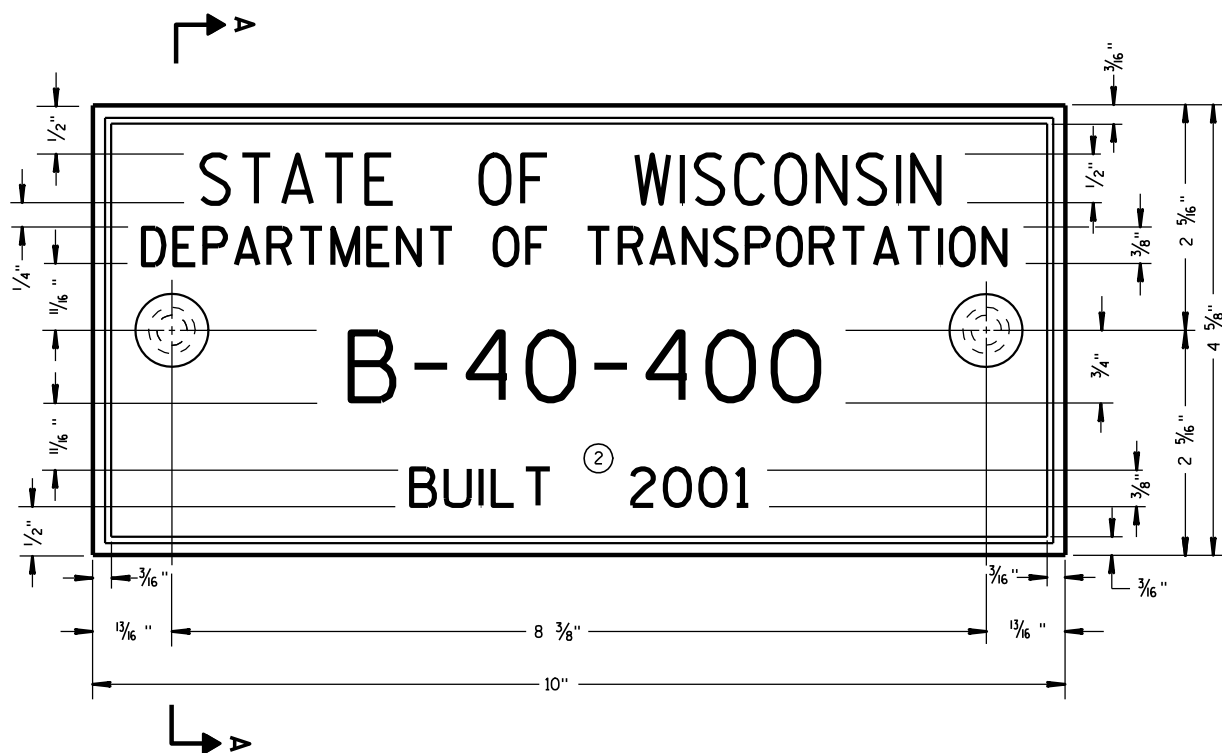
FHWA



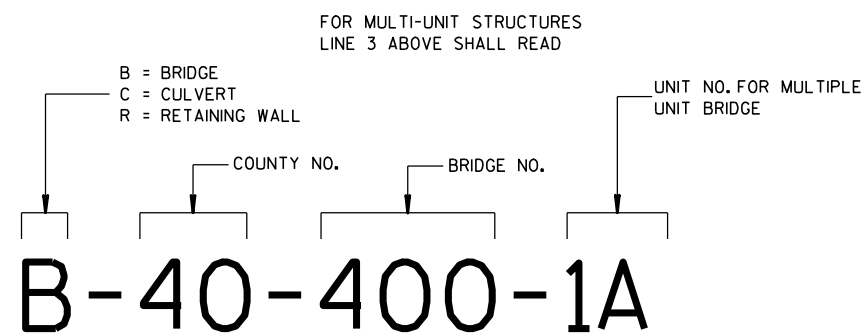
- ① HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
- ② FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
- ③ WOOD POSTS SHALL BE A MINIMUM SIZE OF 1½" X 1½" 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.



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



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



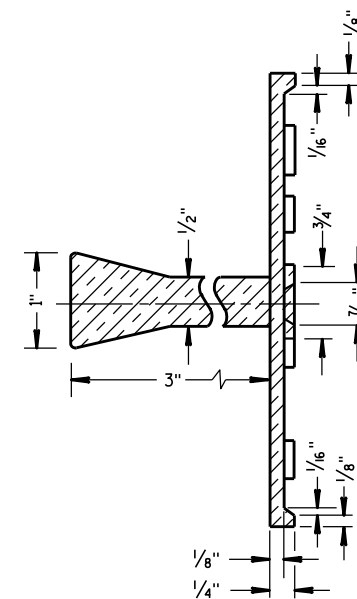
**NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES**

GENERAL NOTES

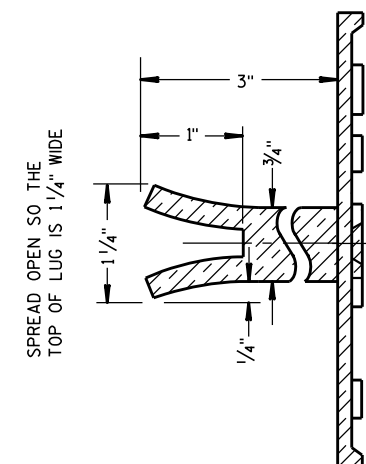
NAME PLATES TO BE INSTALLED ON BRIDGES, CULVERTS, AND RETAINING WALLS SHALL CONFORM TO THE REQUIREMENTS OF SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS.

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

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

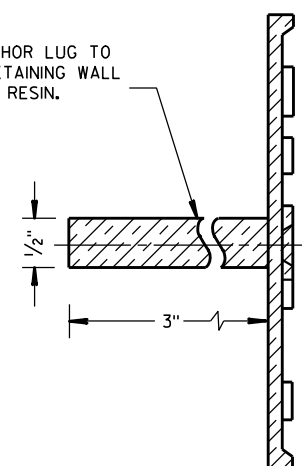


SECTION A-A



ALTERNATE LUG

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



ALTERNATE LUG
(FOR ATTACHMENT TO PRECAST STRUCTURES)

**NAME PLATE
(STRUCTURES)**

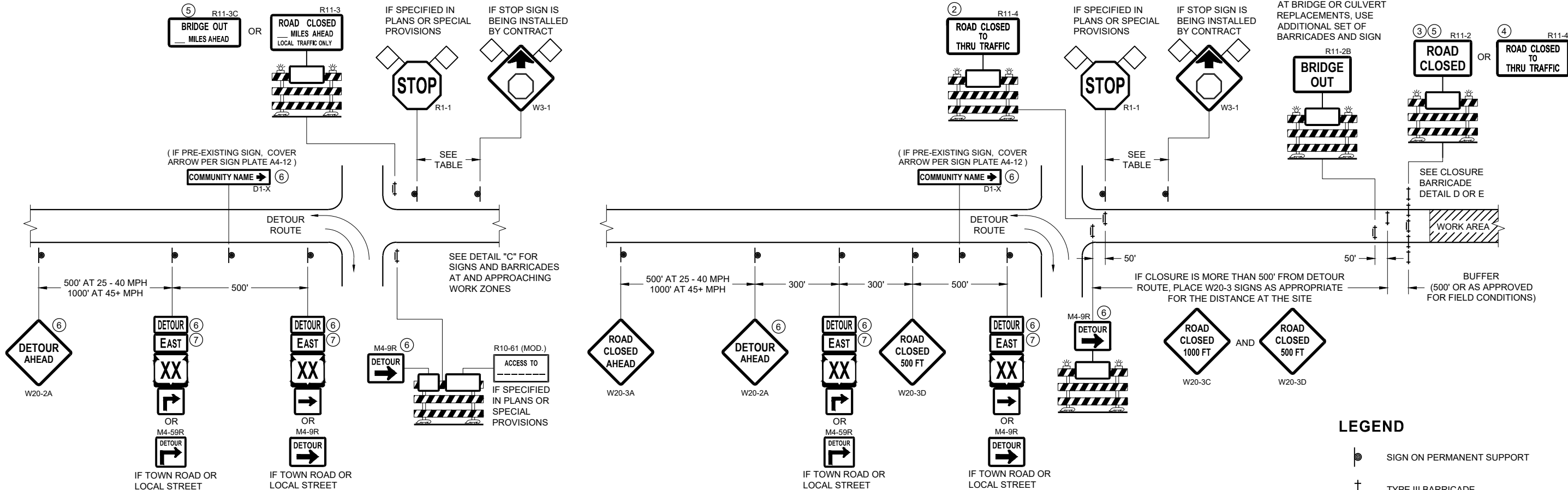
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

3/26/10
DATE

FHWA

/S/ Scot Becker
CHIEF STRUCTURAL DEVELOPMENT ENGINEER



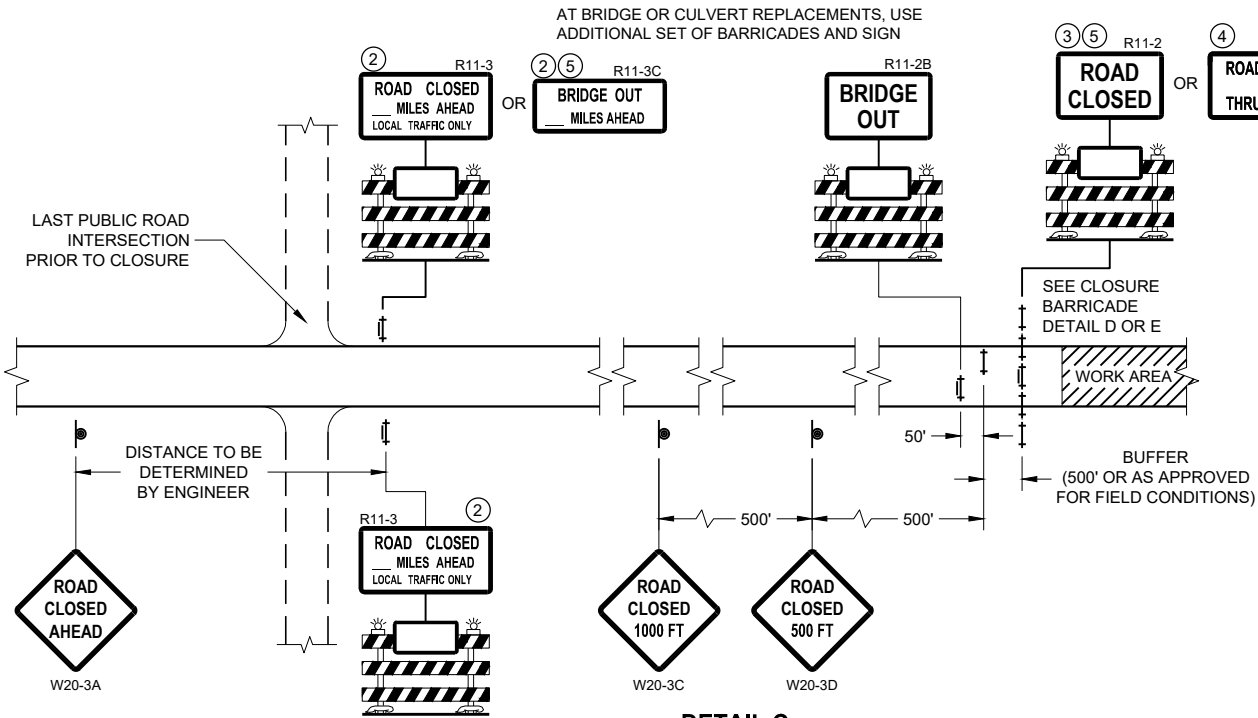
DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR
WORK ZONE GREATER THAN OR EQUAL TO 1/2 MILE FROM
DETOUR ROUTE (1000 FEET IF URBAN)

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

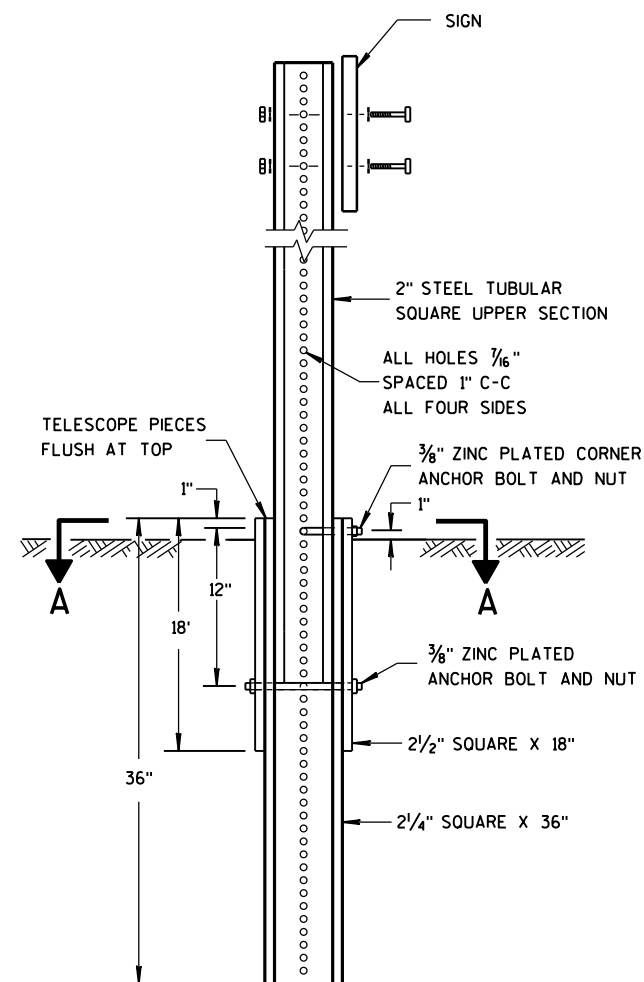
SEE SDD 15C2-SHEET "b"
FOR GENERAL NOTES
AND FOOTNOTES ① THROUGH ⑦

**BARRICADES AND SIGNS
FOR MAINLINE CLOSURES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA

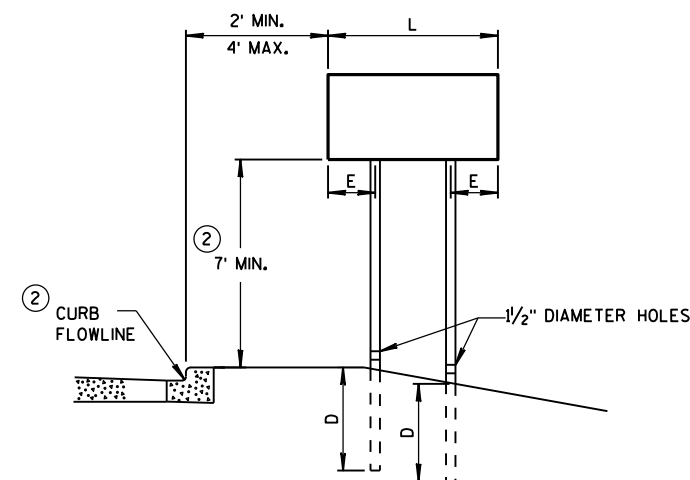
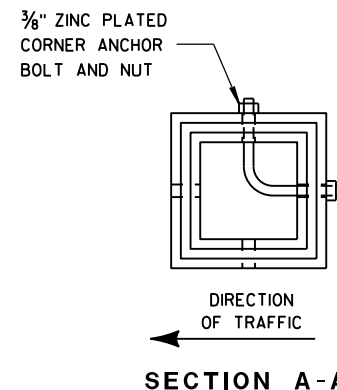


DETAIL OF TUBULAR
STEEL SIGN POST

TUBULAR STEEL POSTS

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

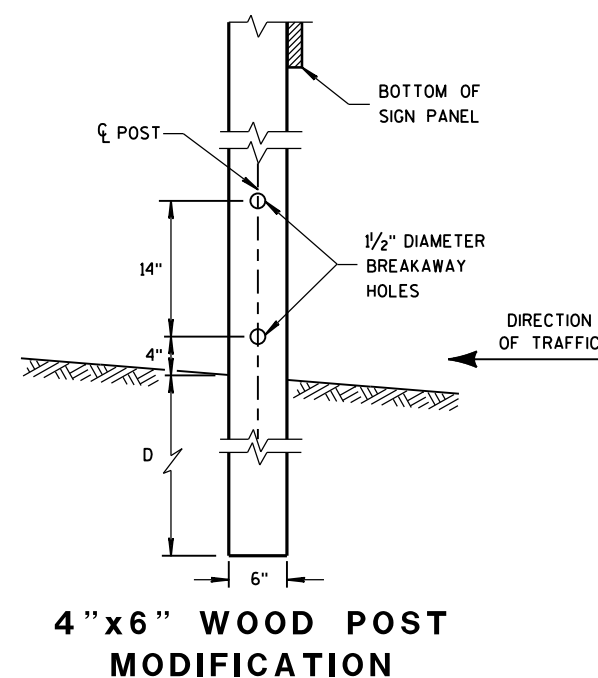
SIGNS WIDER THAN 3 FEET OR LARGER THAN 9 SQ. FT. SHALL
BE MOUNTED ON MULTIPLE POSTS (SEE ABOVE TABLE).
SIGNS LARGER THAN 27 SQ. FT. SHALL NOT BE MOUNTED
ON TUBULAR STEEL POSTS.



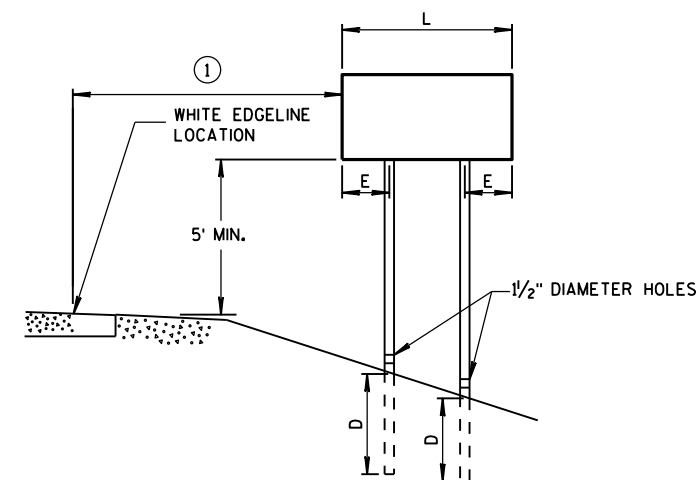
URBAN AREA

POST MOUNTING DETAIL FOR TEMPORARY TRAFFIC CONTROL FIXED MESSAGE SIGNS

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



4 "x6 " WOOD POST
MODIFICATION



RURAL AREA

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

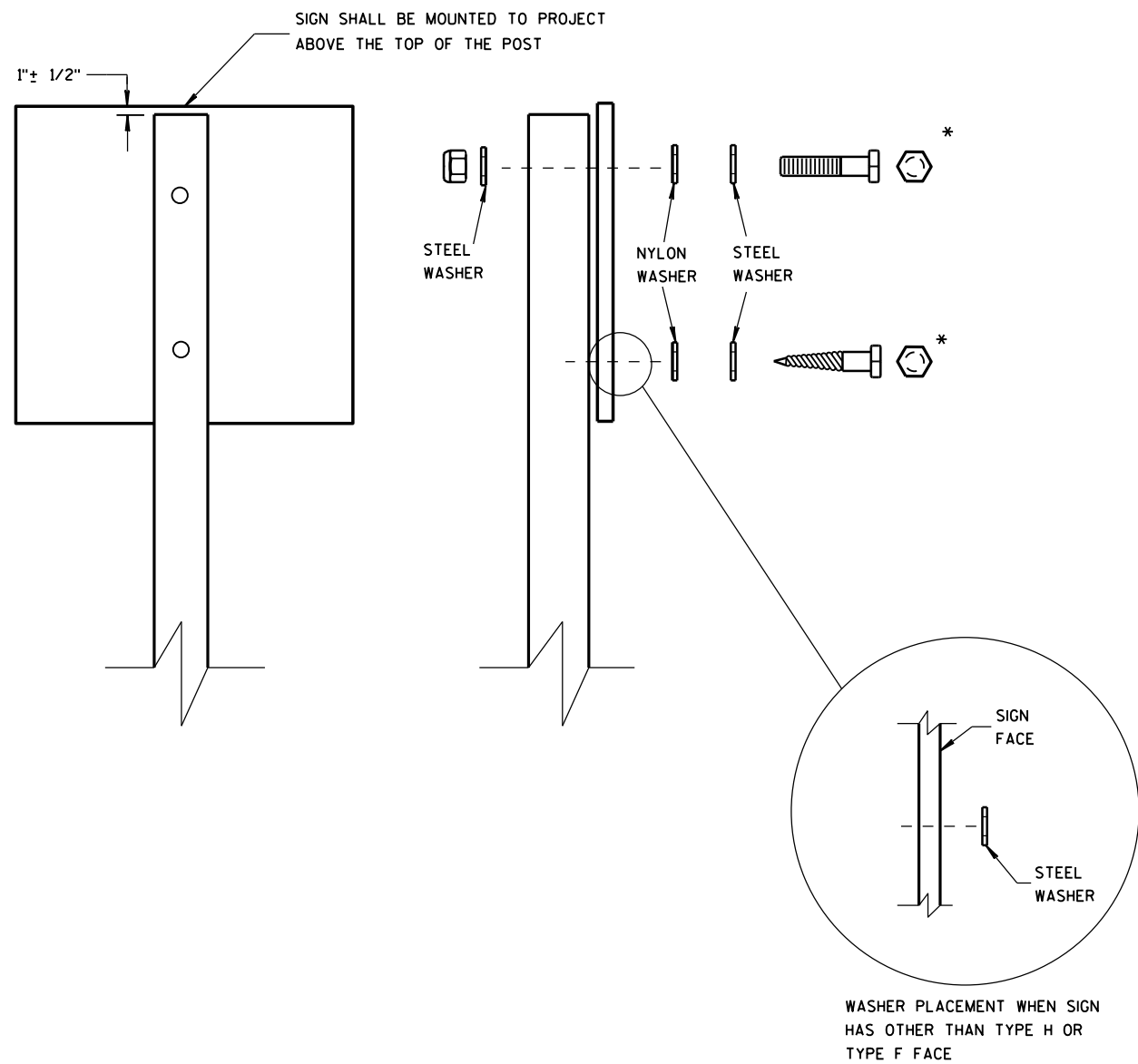
SEE NOTE ③

GENERAL NOTES

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

TEMPORARY TRAFFIC CONTROL
SIGN MOUNTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



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

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

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

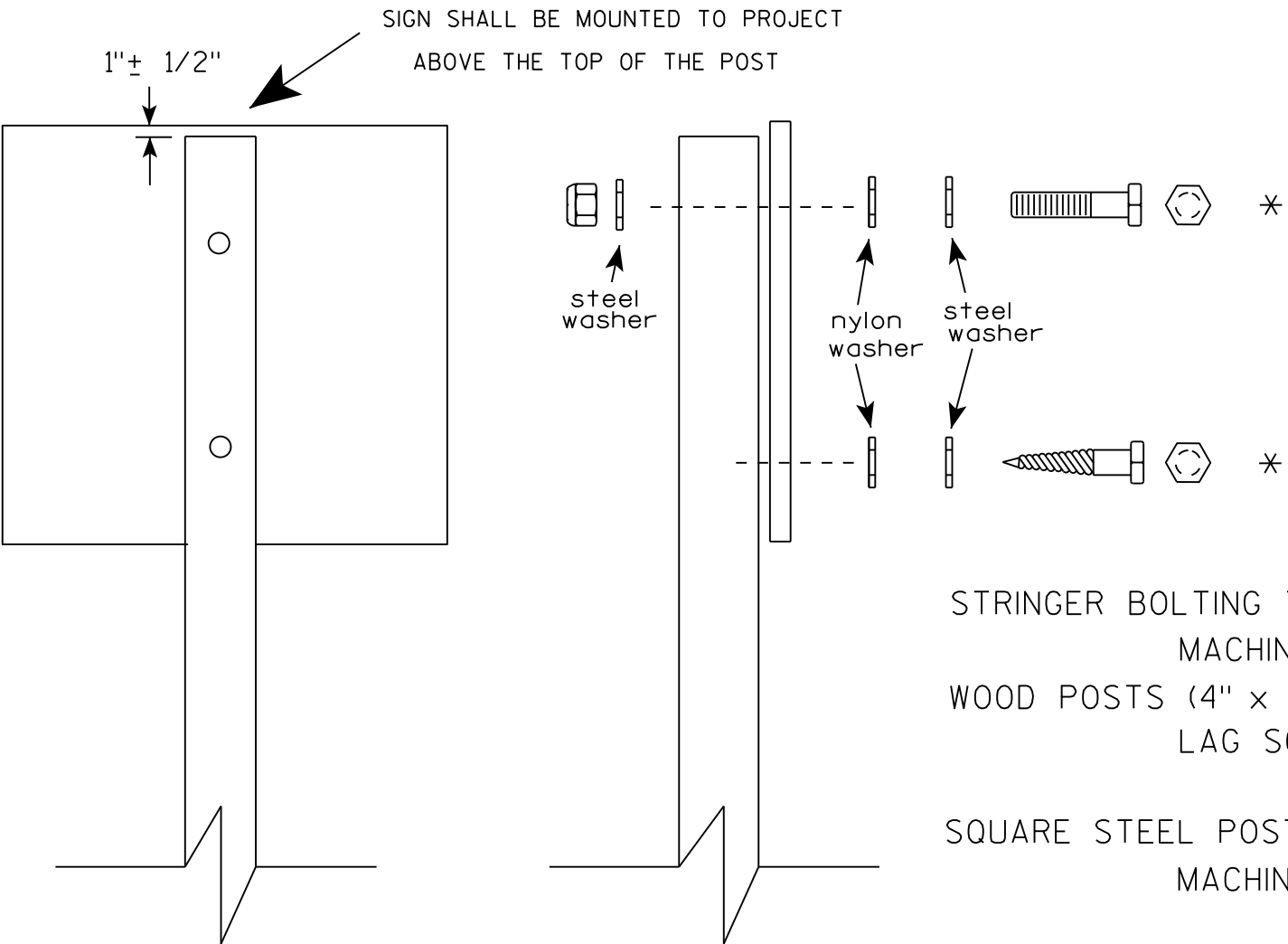
- WOOD POSTS (4" x 4" or 4" x 6")
- LAG SCREWS - 3/8" x 3"
 - MACHINE BOLTS - 5/16" x 6-1/2" OR 7" LENGTH W/ NUTS

- SQUARE STEEL POSTS (2" x 2")
- MACHINE BOLTS - 3/8" x 3-1/4" LENGTH W/ NUTS
 - RIVETS - 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 FOR ALL TYPE H SIGNS

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

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



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

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

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

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

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

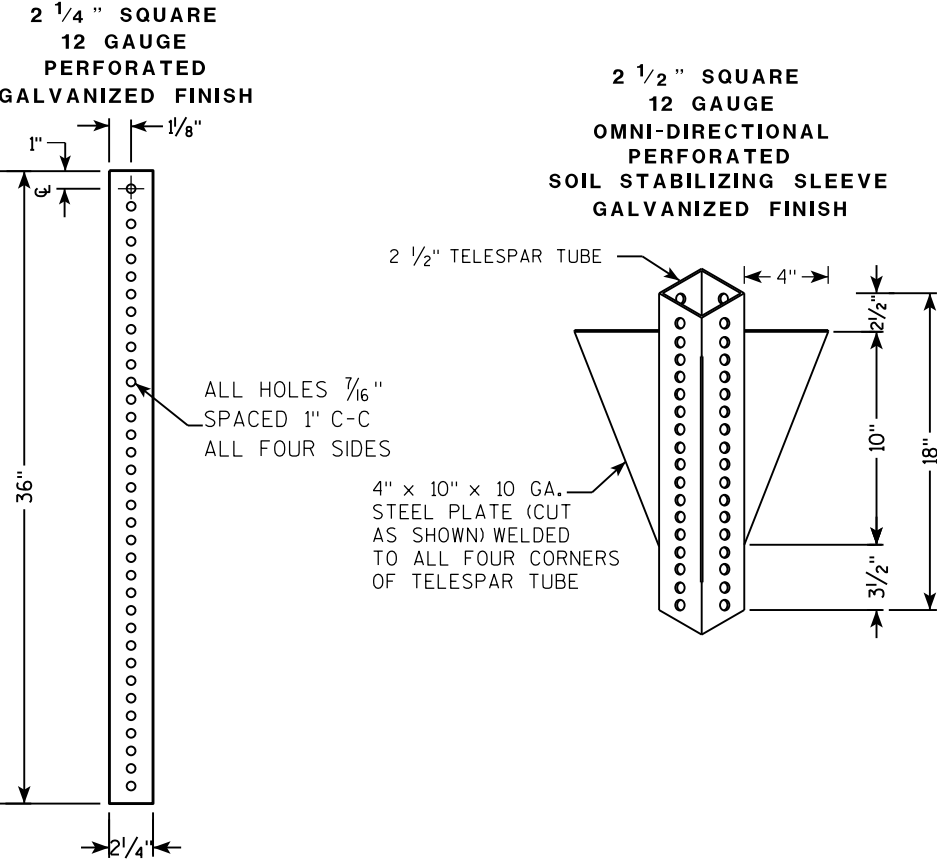
ATTACHMENT OF SIGNS
TO POSTS

WISCONSIN DEPT OF TRANSPORTATION

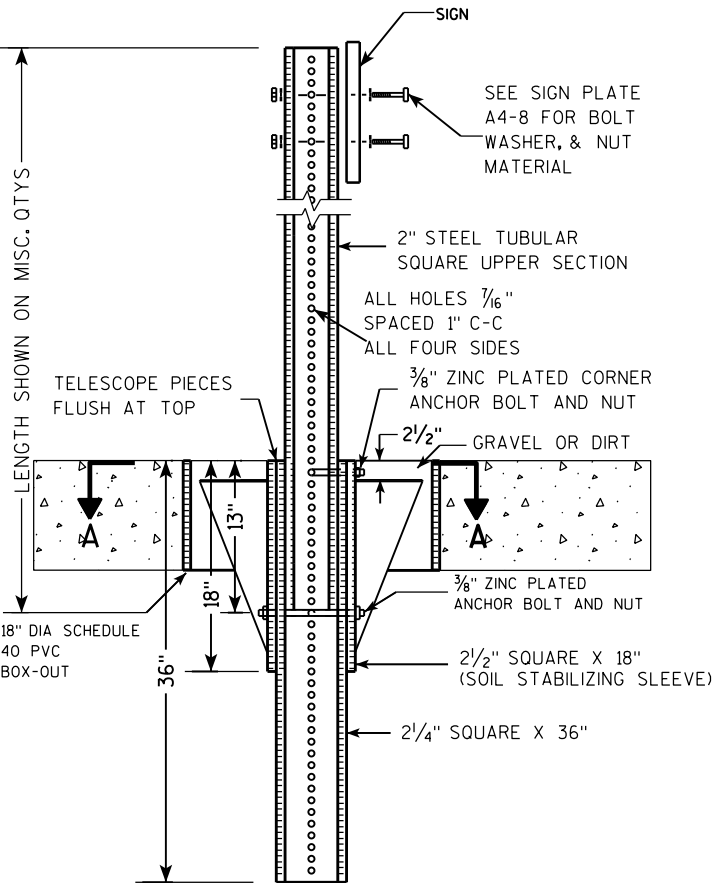
APPROVED *Matthew R. Rauch*
For State Traffic Engineer

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

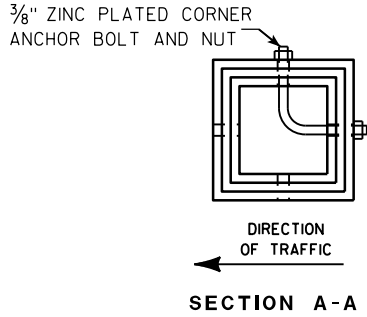
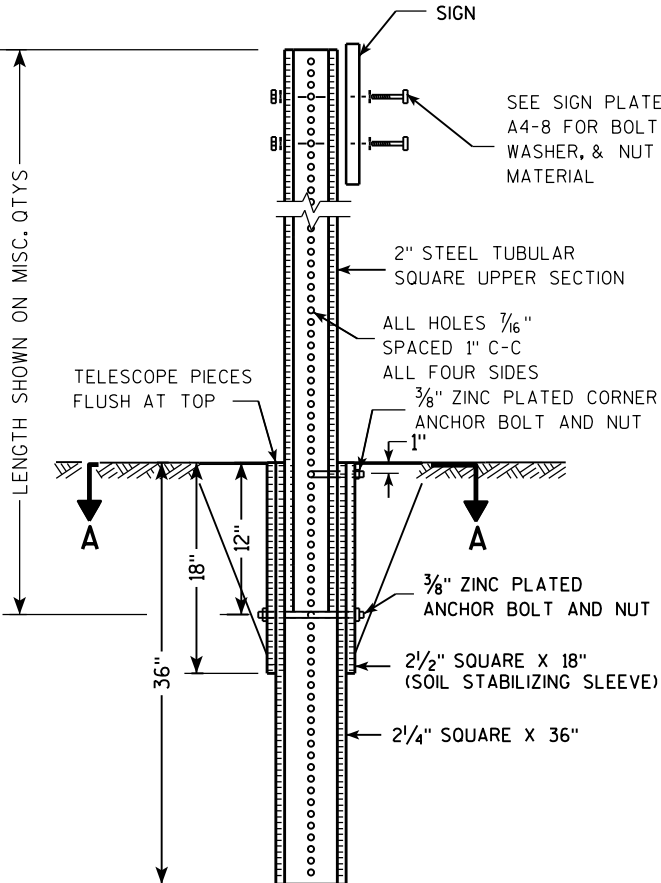
TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM



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

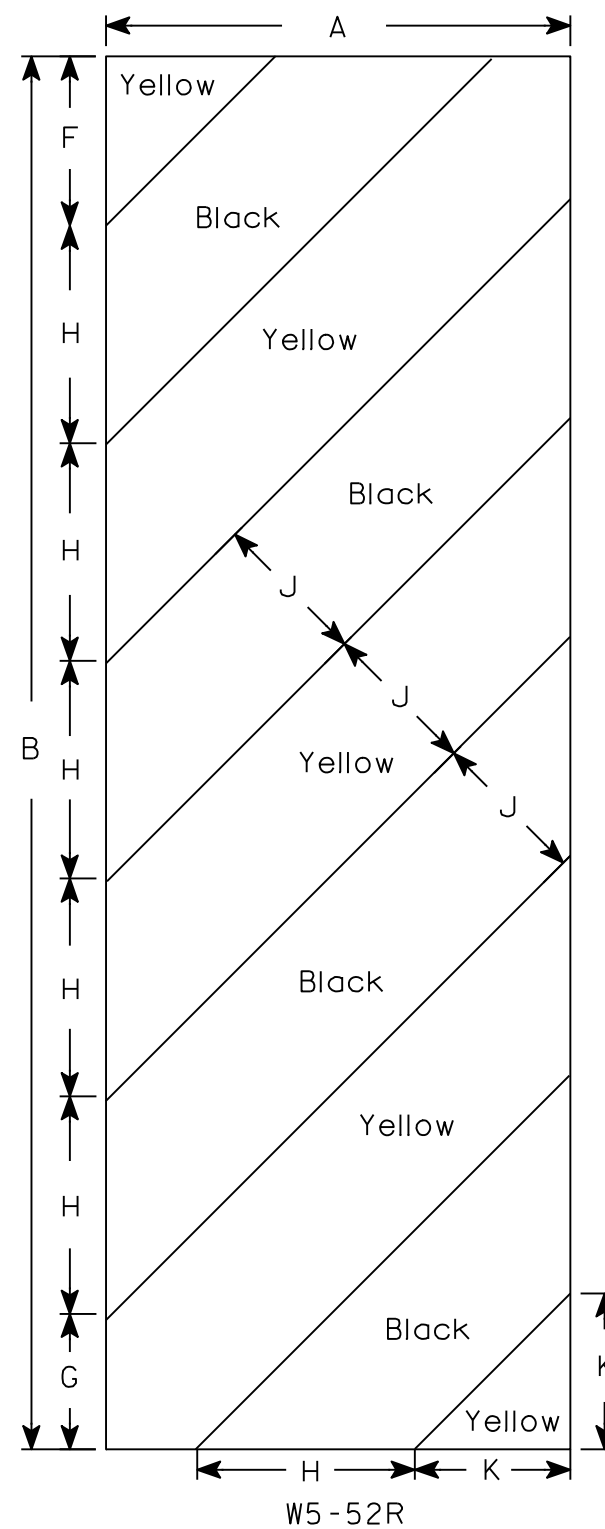
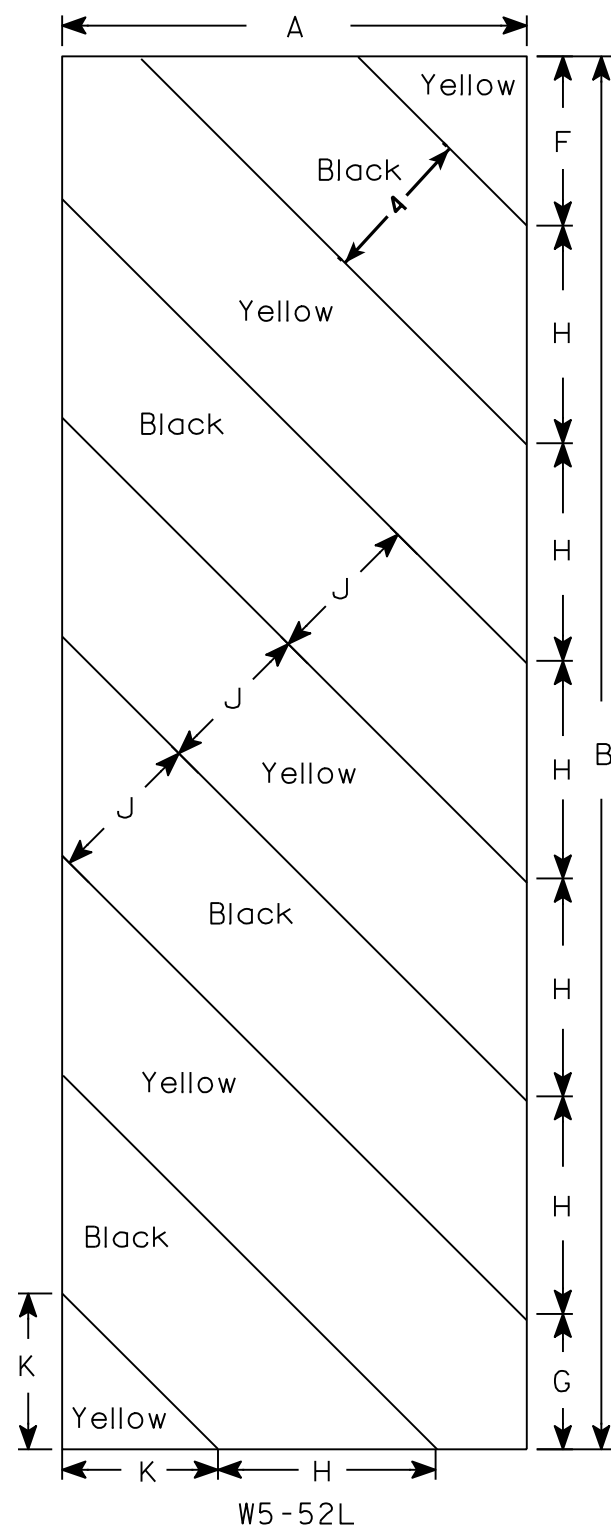
Signs wider than 3 feet or larger than 9 sq. ft shall be mounted on multiple posts (see above table).

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



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.

[illegible]

STANDARD SIGN
W5-52L & W5-52R

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer
DATE 5/29/12 PLATE NO. W5-52.9

PROJECT NO: 8328-00-70

HWY: LOCAL STREET

COUNTY: BARRON

SHEET NO:

E

(X) INDICATES WING NUMBER

DESIGN DATA

LIVE LOAD:

DESIGN LOADING; HL-93
INVENTORY RATING FACTOR; RF = 1.07
OPERATING RATING FACTOR; RF = 1.39
WISCONSIN STANDARD PERMIT VEHICLE (Wis-SPV) = 250 KIPS

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

ULTIMATE DESIGN STRESSES:

CONCRETE MASONRY SLAB ----- f'c = 4000 P.S.I.
ALL OTHER CONCRETE MASONRY ----- f'c = 3500 P.S.I.
BAR STEEL REINFORCEMENT, GRADE 60 ----- fy = 60,000 P.S.I.

FOUNDATION DATA

ABUTMENTS TO BE SUPPORTED ON 10 3/4" X 0.25-INCH CIP CONCRETE PILING
DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 105 TONS ** PER PILE
AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA.
ESTIMATED 50' LONG AT SOUTH ABUTMENT
ESTIMATED 50' LONG AT NORTH ABUTMENT

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

HYDRAULIC DATA

100 YEAR FREQUENCY

Q (100) = 1200 C.F.S.
Q (100) THRU BRIDGE = 1200 C.F.S.
VEL. = 6.89 F.P.S.
HW. EL. (100) = 1081.00
WATERWAY AREA (BRIDGE) = 174.25 SQ. FT.
DRAINAGE AREA = 7.65 SQ. MI.
ROAD OVERTOPPING FREQUENCY = > 100 YEAR
SCOUR CRITICAL CODE = 5

2 YEAR FREQUENCY

Q (2) = 305 C.F.S.
HW. EL. (2) = 1077.59
VEL (2) = 2.4 F.P.S.

TRAFFIC DATA

A.D.T. (2040) = 26
R.D.S. = 40 MPH

BENCHMARKS (NAYD 88) 			
NO.	STA./OFFSET	DESCRIPTION	ELEV.
BM1	19+20.86, 31.55' LT	RR SPIKE IN TREE	1081.71
BM2	20+03.12, 11.76' LT	CHISELED SQUARE NW WING	1080.46

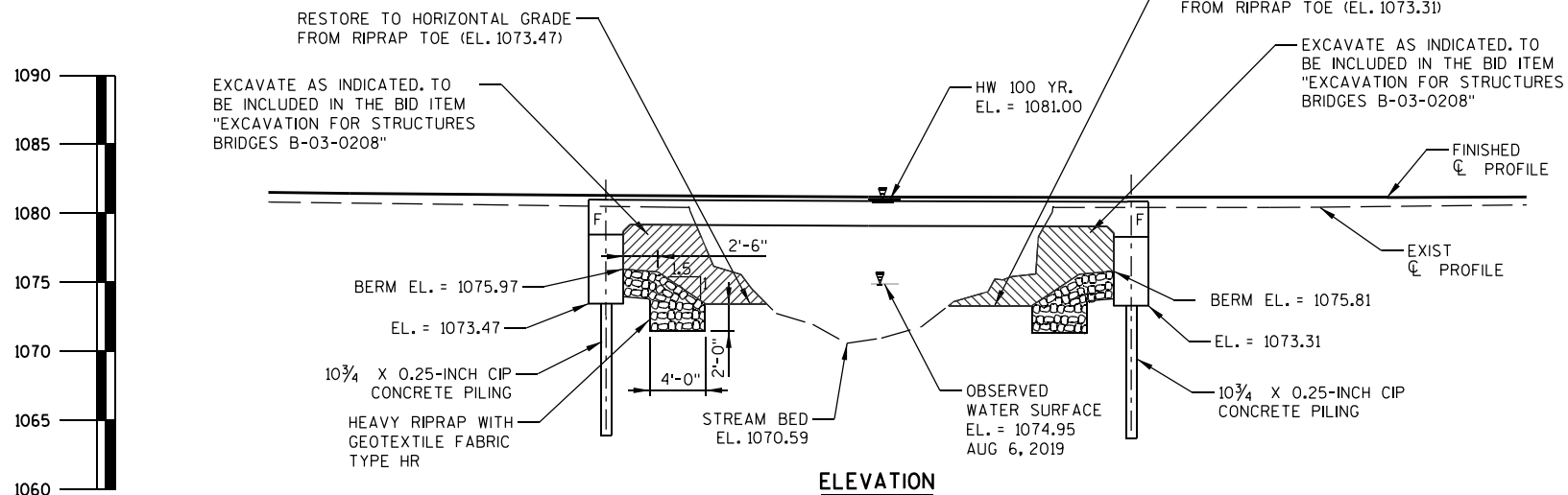
CONSULTANT CONTACT:
MATT GUNDRY (715) 861-7425

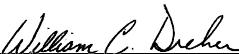
BRIDGE OFFICE CONTACT:
WILLIAM DREHER (608) 266-8489



LIST OF DRAWINGS

1. GENERAL PLAN
2. CROSS SECTION & QUANTITIES
3. SUBSURFACE EXPLORATION
4. ABUTMENT ELEVATION DETAILS
5. ABUTMENT WING DETAILS
6. ABUTMENT BILL OF BARS
7. SUPERSTRUCTURE
8. RAILING TYPE 'M'

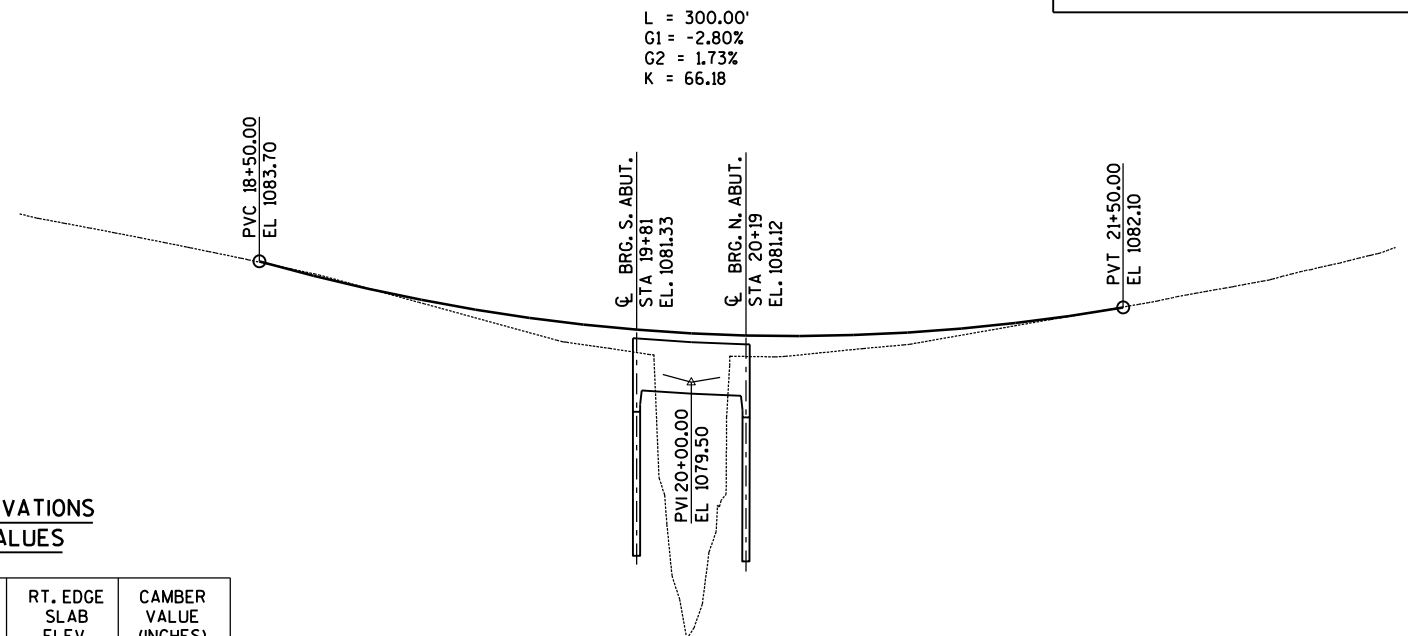


NO.	DATE	REVISION		BY
		Engineers - Surveyors - Architects 770 Technology Way Chippewa Falls, WI 54629 Phone: 715.861.5226 www.cbssquaredinc.com		
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION				
ACCEPTED	 CHIEF STRUCTURES DESIGN ENGINEER		SDR	12/03/19 DATE
STRUCTURE B-03-0208				
9 1/2"-10 1/2" ST OVER DORITTY CREEK				
COUNTY	BARRON	TOWN/VILLAGE	PRAIRIE FARM	
DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS				
DESIGNED BY	MJC CK'D.	DRAWN BY	DPB CK'D.	MJC
GENERAL PLAN			SHEET 1 OF 8	



TOP OF SLAB ELEVATIONS
AND CAMBER VALUES

PROFILE GRADE LINE 9 1/2-10 1/2 ST



GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

THE SLOPE OF THE FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH RIPRAP HEAVY AND GEOTEXTILE FABRIC HR TO THE LIMITS SHOWN ON SHEET 1 AND ON THE ABUTMENT SHEETS OR AS DIRECTED BY THE ENGINEER

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

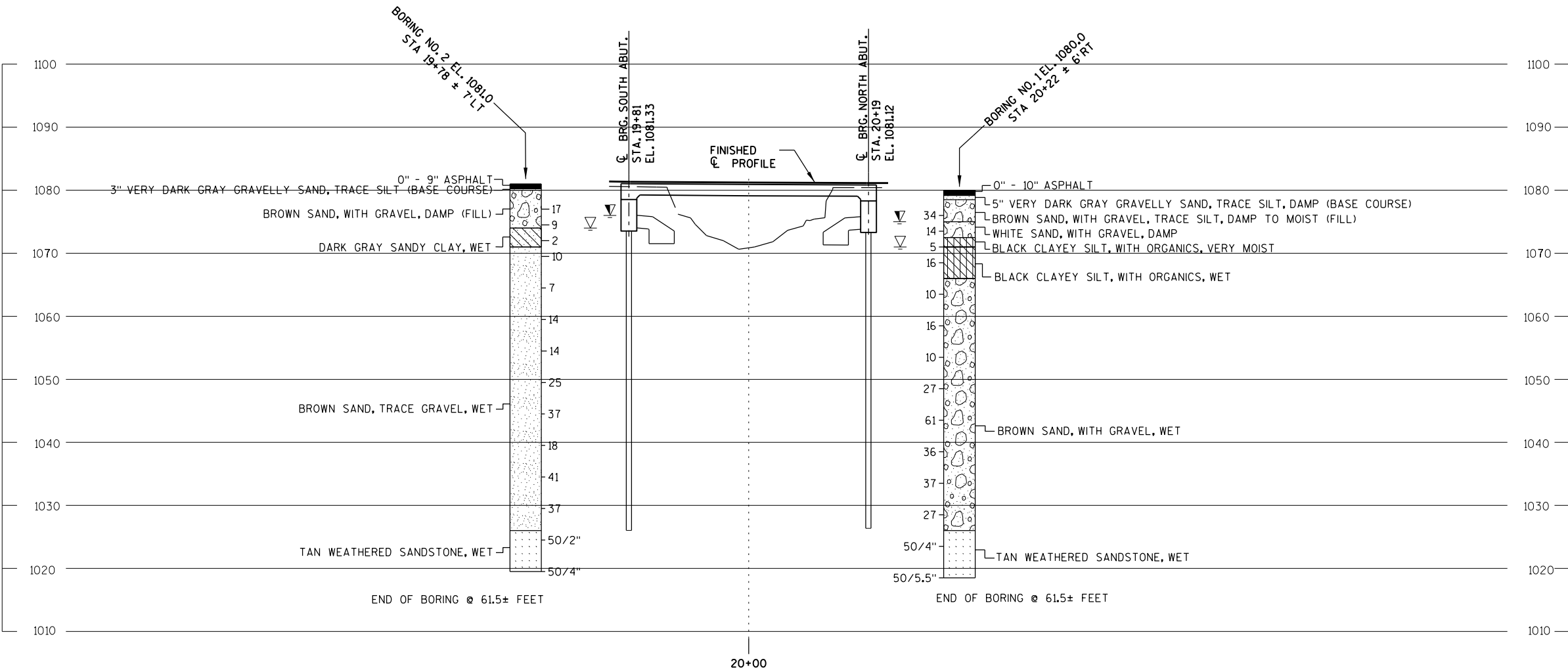
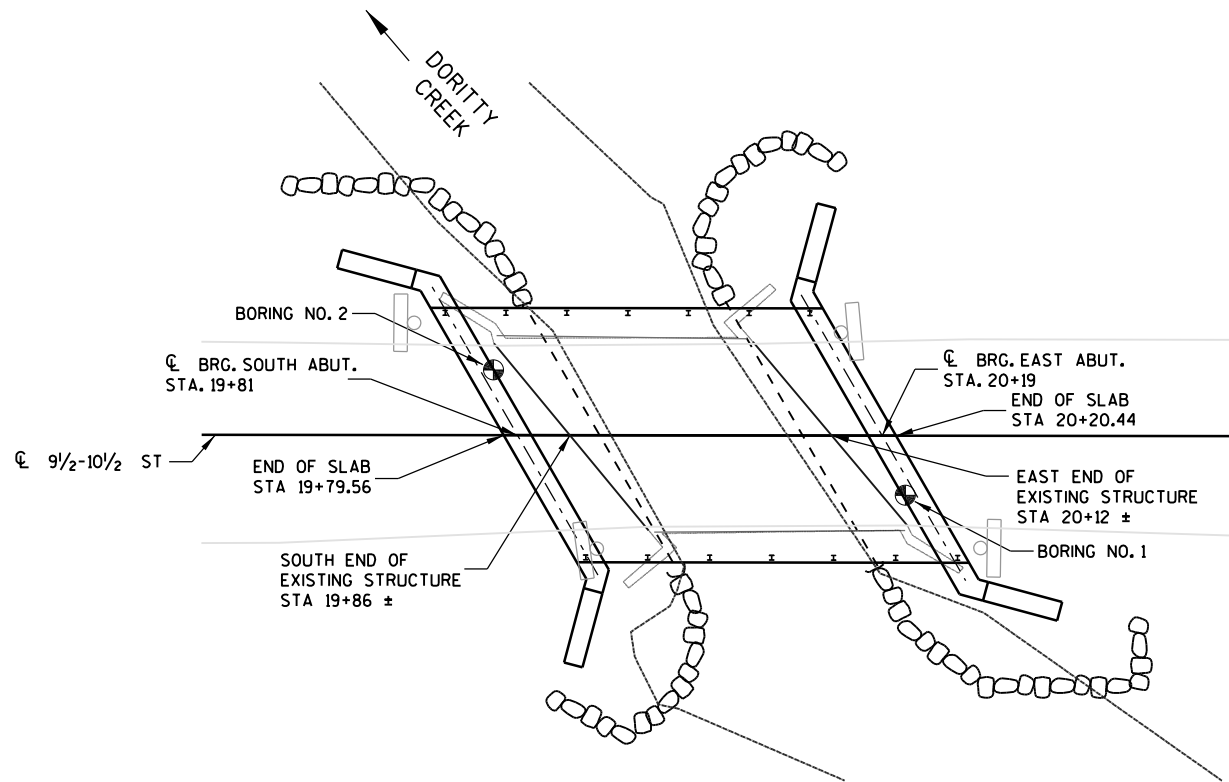
AT THE BACKFACE OF ABUTMENT ALL VOLUME WHICH CANNOT BE PLACED BEFORE ABUTMENT CONSTRUCTION AND IS NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH STRUCTURE BACKFILL. THE BACKFILL STRUCTURE QUANTITIES ASSUMED A 1 1/2:1 EXCAVATION SLOPE BEHIND THE ABUTMENTS

AT ABUTMENTS, CONCRETE POURED UNDER WATER WILL BE ALLOWED AND SHALL BE DONE IN ACCORDANCE WITH SECTION 502.3.5.3 OF THE STANDARD SPECIFICATIONS

DO NOT PLACE BACKFILL STRUCTURE ABOVE 3'-0" FROM BOTTOM OF ABUTMENT
UNTIL SUPERSTRUCTURE IS IN PLACE AND MEETS MINIMUM CURING REQUIREMENTS
OF SECTION 502.3.4.2 OF THE STANDARD SPECIFICATIONS

cbs² Engineers - Surveyors - Architects
770 Technology Way
Chippewa Falls, WI 54729
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www.cbssquaredinc.com

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-03-0208			
	DRAWN BY	DPB	PLANS CK'D. MJG
CROSS SECTION & QUANTITIES		SHEET 2 OF 8	



SOIL BORINGS

BY: INTERTEK PSI
EAU CLAIRE, WI

ON: AUGUST 7, 2019

GEOTECHNICAL REPORT

BY: INTERTEK PSI
EAU CLAIRE, WI

ON: OCTOBER 3, 2019

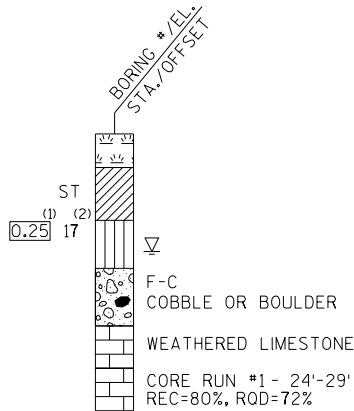
STATE PROJECT NUMBER

8328-00-70

MATERIAL SYMBOLS

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

LEGEND OF BORING



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

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

GROUND WATER ELEVATION

▽	AT TIME OF DRILLING
▼	END OF DRILLING
▽	AFTER DRILLING

ABBREVIATIONS

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

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

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

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-03-0208			
DRAWN BY		DPB	PLANS CK'D. MJG
SUBSURFACE EXPLORATION		SHEET 3 OF 8	

8328-00-70

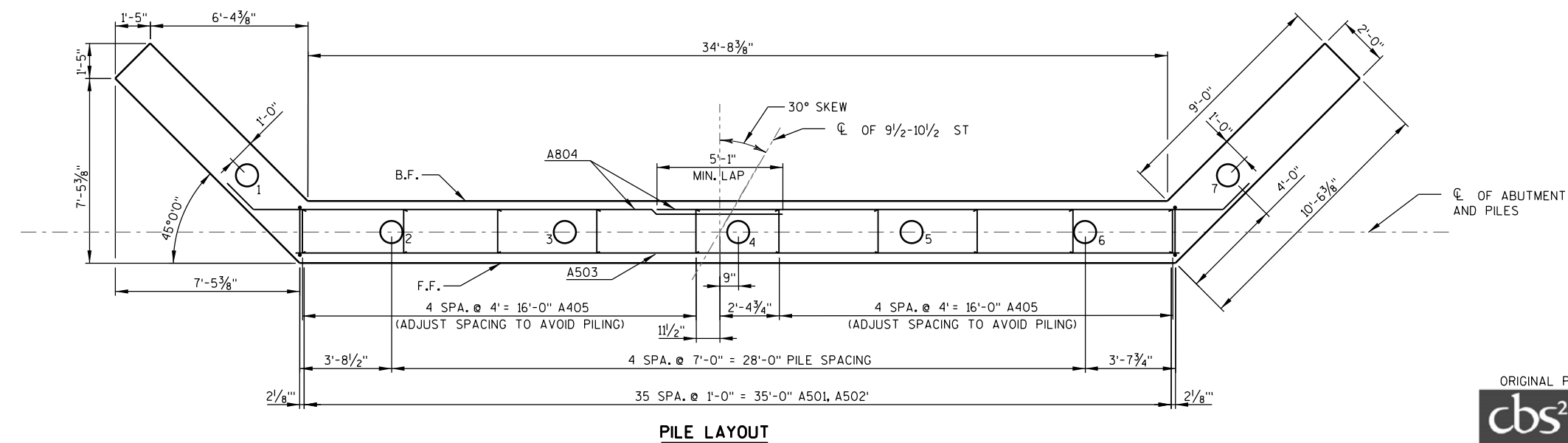
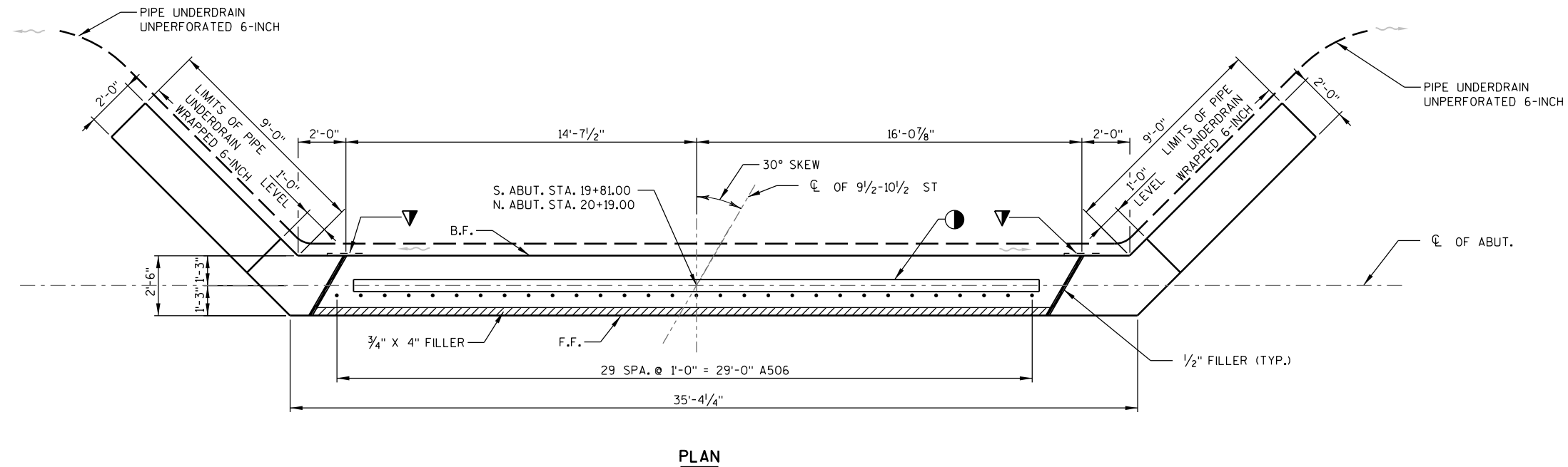
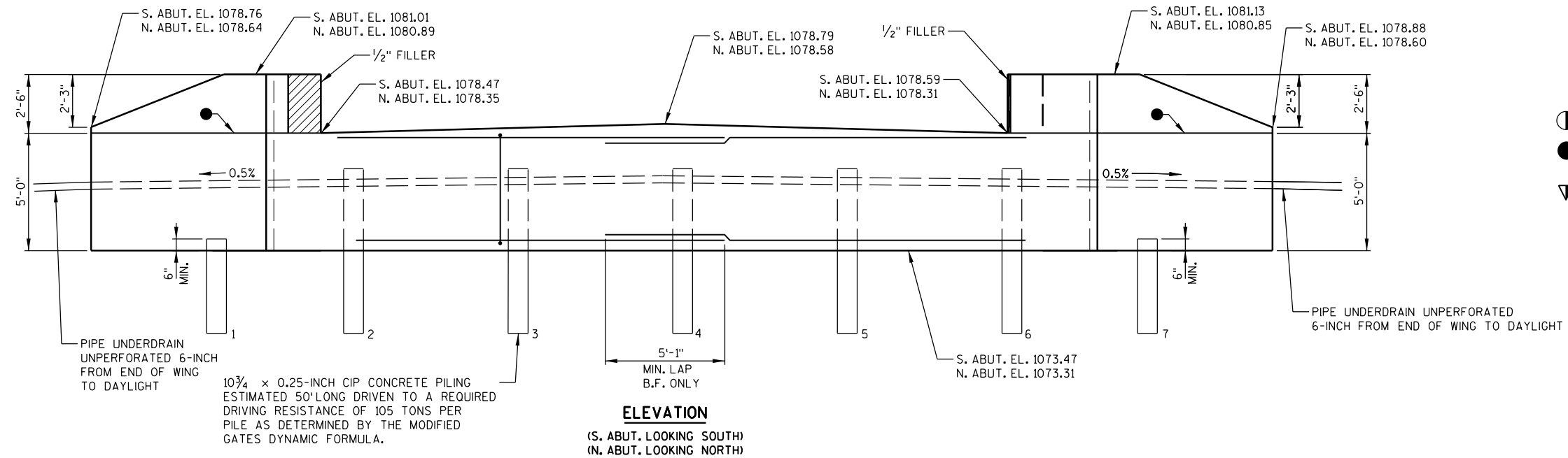
LEGEND

-  KEYED CONST. JOINT FORMED BY BEVELED 2" x 6".
-  OPT. KEYED CONST. JOINT FORMED BY BEVELED 2" x 6" KEYWAY WITH MEMBRANE ON BACKFACE.
-  VERTICAL 18" RUBBERIZED MEMBRANE WATERPROOFING TO EXTEND FROM BRIDGE SEAT TO TOP OF WING WALL.

E.F. DENOTES EACH FACE

B.F. DENOTES BACK FACE

F.F. DENOTES FRONT FACE



ORIGINAL PLANS PREPARED BY

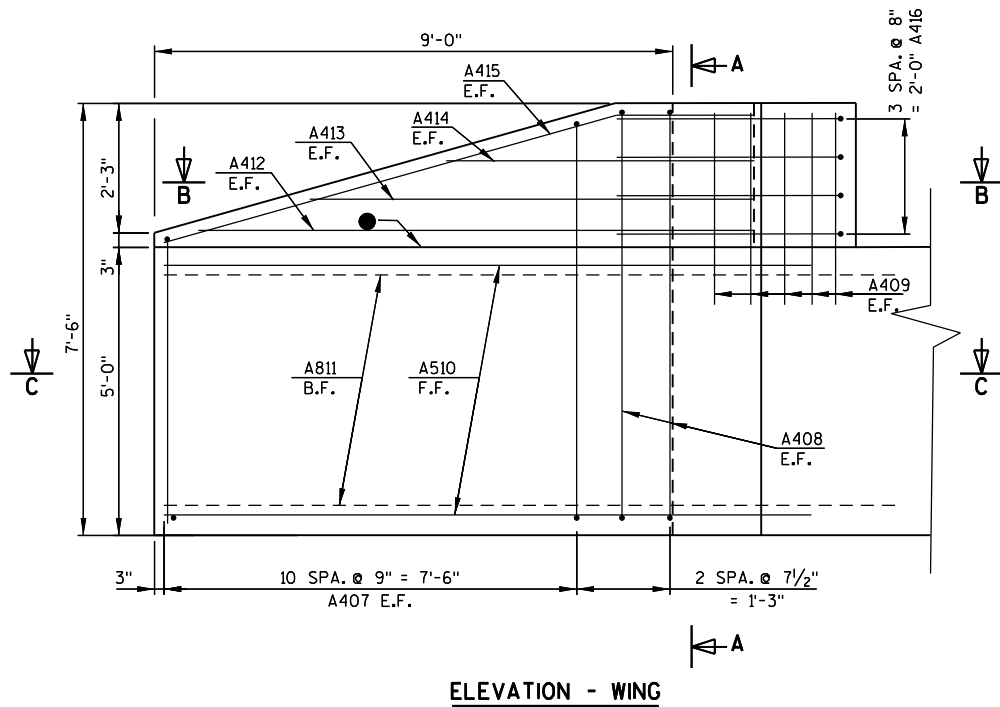


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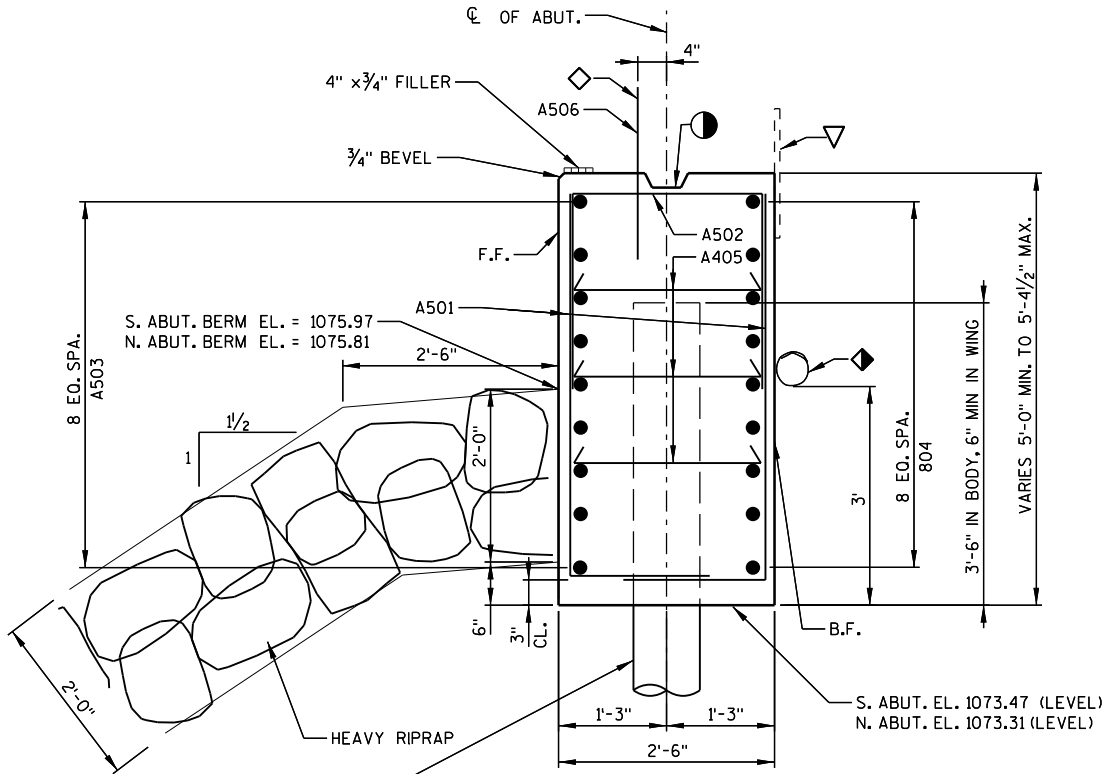
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STRUCTURE B-03-0208			
		DRAWN BY	DPB
		PLANS CK'D.	MJG
ABUTMENT ELEVATION DETAILS		SHEET 4 OF 8	

LEGEND

- ◆ THESE BARS MAY BE PLACED AFTER CONCRETE IS POURED, BUT BEFORE INITIAL SET HAS TAKEN PLACE.
 - ◆ PIPE UNDERDRAIN WRAPPED (6-INCH), TO BE PLACED AT AN ELEVATION AND SLOPED 0.5% MIN. TO ALLOW FOR SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN. SEE DETAIL THIS SHEET.
 - ▽ 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL JOINTS ON BACKFACE.
 - KEYED CONST. JOINT FORMED BY BEVELED 2" x 6".
 - OPT. KEYED CONST. JOINT FORMED BY BEVELED 2" x 6" KEYWAY WITH MEMBRANE ON BACKFACE.
 - 3/4" "V" GROOVE ON F.F. OF WING WALL.
 - ▽ VERTICAL 18" RUBBERIZED MEMBRANE WATERPROOFING TO EXTEND FROM BRIDGE SEAT TO TOP OF WING WALL.
- E.F. DENOTES EACH FACE
B.F. DENOTES BACK FACE
F.F. DENOTES FRONT FACE

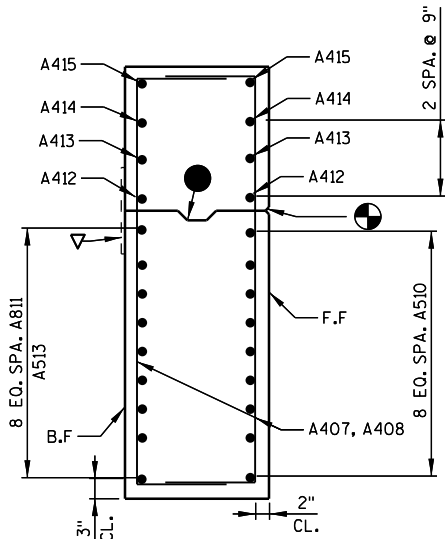


ELEVATION - WING

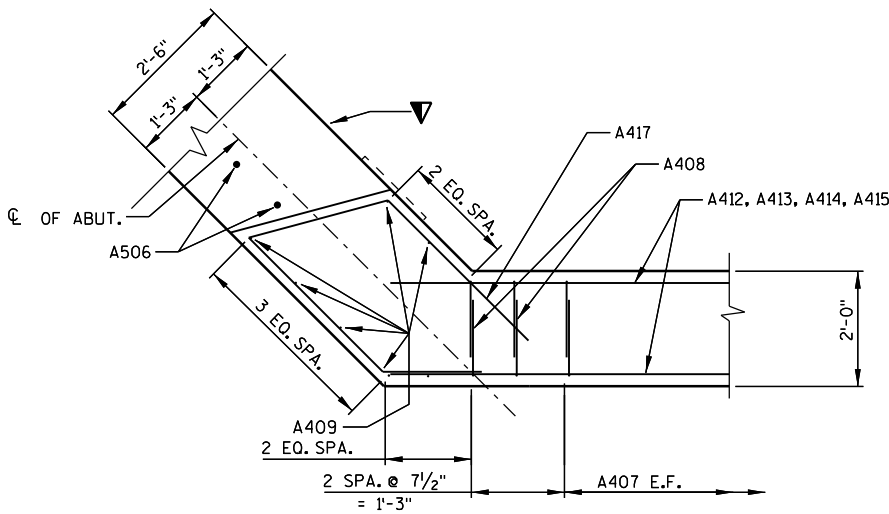


TYPICAL SECTION THRU ABUT. BODY

ABUTMENTS TO BE SUPPORTED ON 10 3/4" X 0.25-INCH CIP CONCRETE PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 105 TONS PER PILE ESTIMATED LENGTH 50'-0"

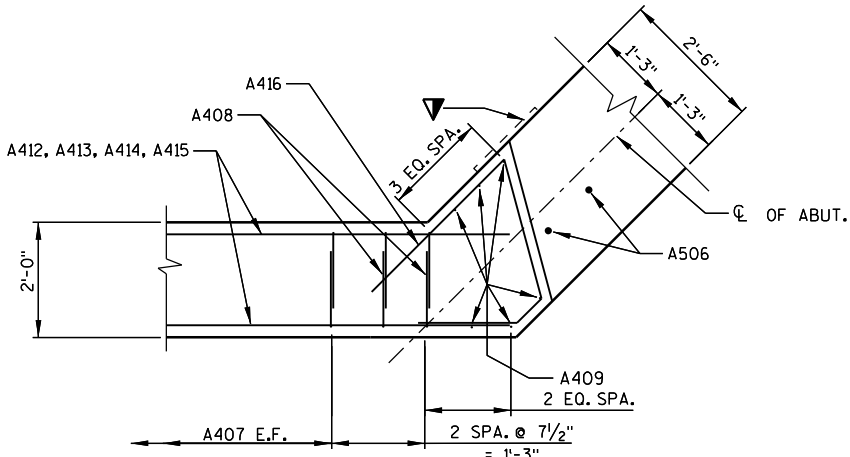


SECTION A



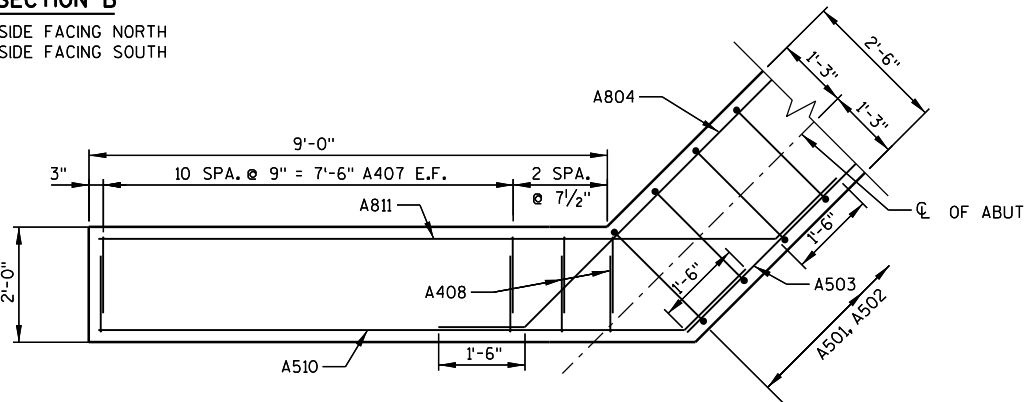
SECTION B

LEFT SIDE FACING NORTH
LEFT SIDE FACING SOUTH

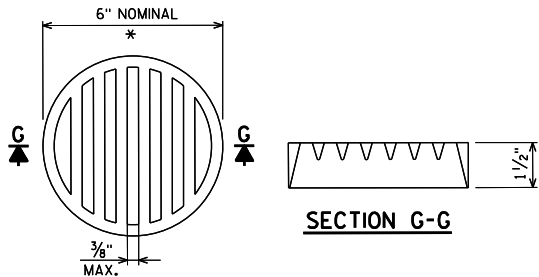


SECTION B

RIGHT SIDE FACING NORTH
RIGHT SIDE FACING SOUTH



SECTION C



SECTION G-G

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

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

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

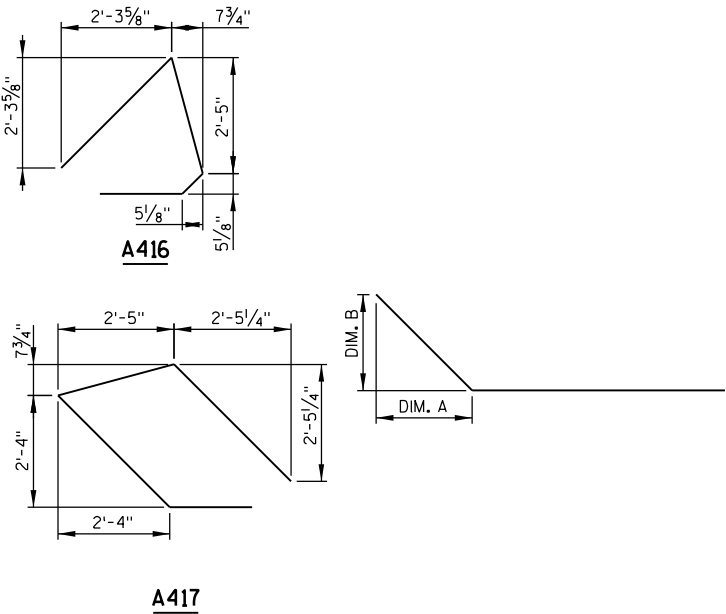
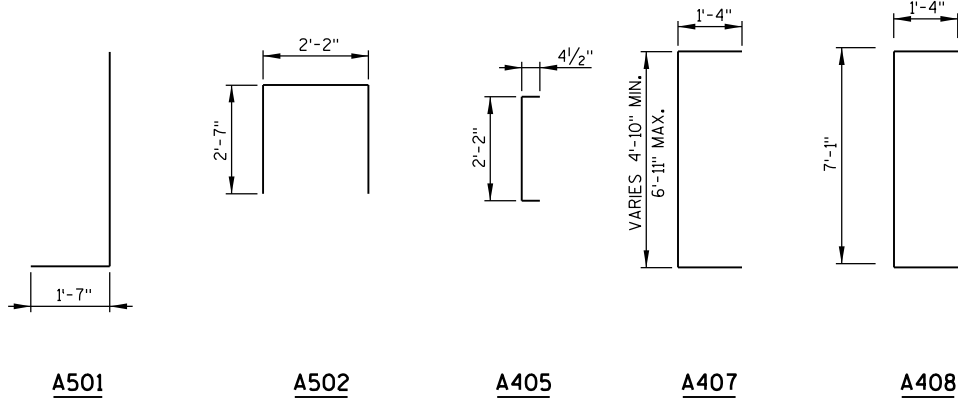
RODENT SHIELD DETAIL

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ABUTMENT WING DETAILS		SHEET 5 OF 8	



LEGEND

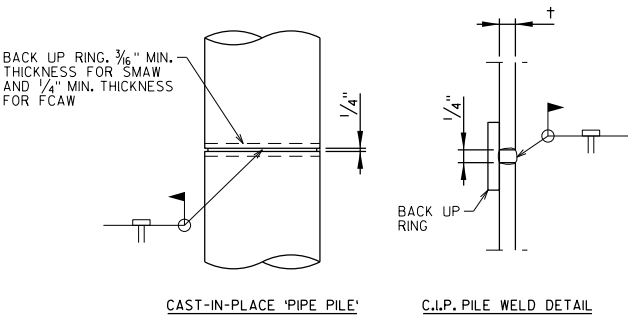
⊗ LENGTH SHOWN FOR BARS IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

NOTES

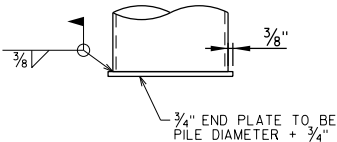
DIMENSIONS ARE OUT TO OUT OF BARS.

MARK	DIM. A	DIM. B
A804	1'-0 3/4"	1'-0 3/4"
A510	1'-0 3/4"	1'-0 3/4"
A811	1'-0 3/4"	1'-0 3/4"
A415	2'-3 1/4"	0'-8 3/4"

BAR SERIES TABLE		
BUNDLE AND TAG EACH SERIES SEPARATELY		
MARK	NO. REQ'D	LENGTH
A407	4 SERIES OF 11	7-4 TO 9-5



PILE DETAILS



BILL OF BARS - EACH ABUTMENT

MARK	NO. REQ'D	LENGTH	SERIES	COAT	BENT	LOCATION
A501	72	6 - 0			X	BODY VERT.
A502	36	7 - 1			X	BODY VERT.
A503	9	35 - 4				BODY HORIZ. F.F.
A804	18	24 - 5			X	BODY HORIZ. B.F.
A405	30	2 - 9			X	BODY TIES
A506	30	2 - 0		X		BODY DOWELS
⊗ A407	44	8 - 4	X	X	X	WING VERT. E.F.
A408	8	9 - 6		X	X	WING VERT. E.F.
A409	13	3 - 10		X		WING VERT. E.F.
A510	18	11 - 8		X	X	WING HORIZ. F.F.
A811	18	13 - 2		X	X	WING HORIZ. B.F.
A412	4	9 - 7		X		WING HORIZ. E.F.
A413	4	7 - 8		X		WING HORIZ. E.F.
A414	4	5 - 4		X		WING HORIZ. E.F.
A415	4	10 - 6		X	X	WING DIAG. E.F.
A416	4	7 - 10		X	X	WING HORIZ.
A417	4	10 - 8		X	X	WING HORIZ.

TOTAL WEIGHT - COATED	1390 LBS
TOTAL WEIGHT - UNCOATED	2280 LBS

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ABUTMENT BILL OF BARS			SHEET 6 OF 8

LEGEND

- ▽ 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL JOINTS ON BACKFACE.
- KEYED CONST. JOINT FORMED BY BEVELED 2" x 6".

GENERAL NOTES

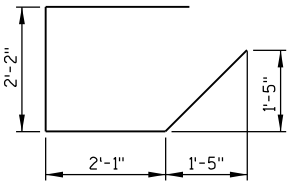
DIMENSIONS ARE OUT TO OUT OF BARS.

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

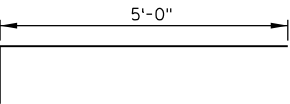
TOP TRANSVERSE BARS IN SLAB SHALL BE SUPPORTED BY INDIVIDUAL BAR CHAIRS AT APPROXIMATELY 3'-0" CENTERS EACH WAY. BOTTOM LONGITUDINAL BARS SHALL BE SUPPORTED BY CONTINUOUS BAR CHAIRS AT APPROXIMATELY 4'-0" CENTERS.

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

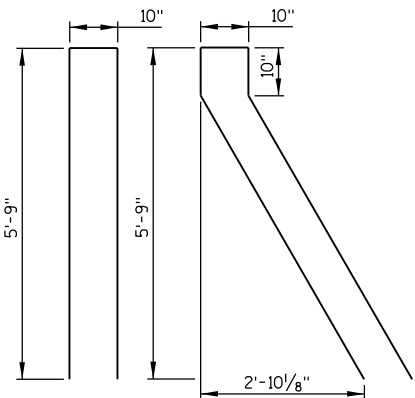
CAMBER SPANS AS SHOWN TO PROVIDE FOR DEAD LOAD DEFLECTION AND FUTURE CREEP. CAMBER DOES NOT INCLUDE ALLOWANCE FOR FORM SETTLEMENT.



S501



S607



S605

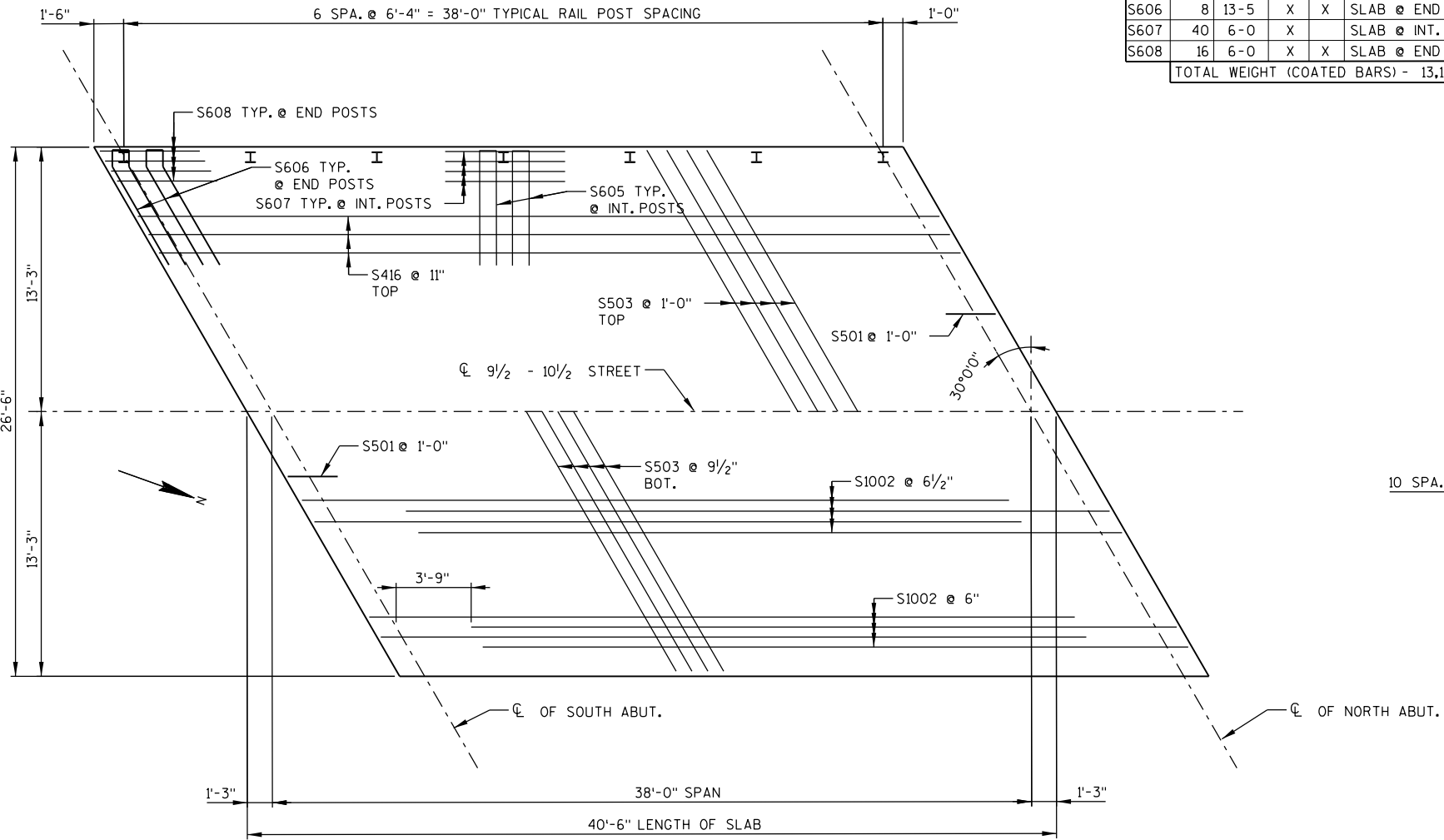
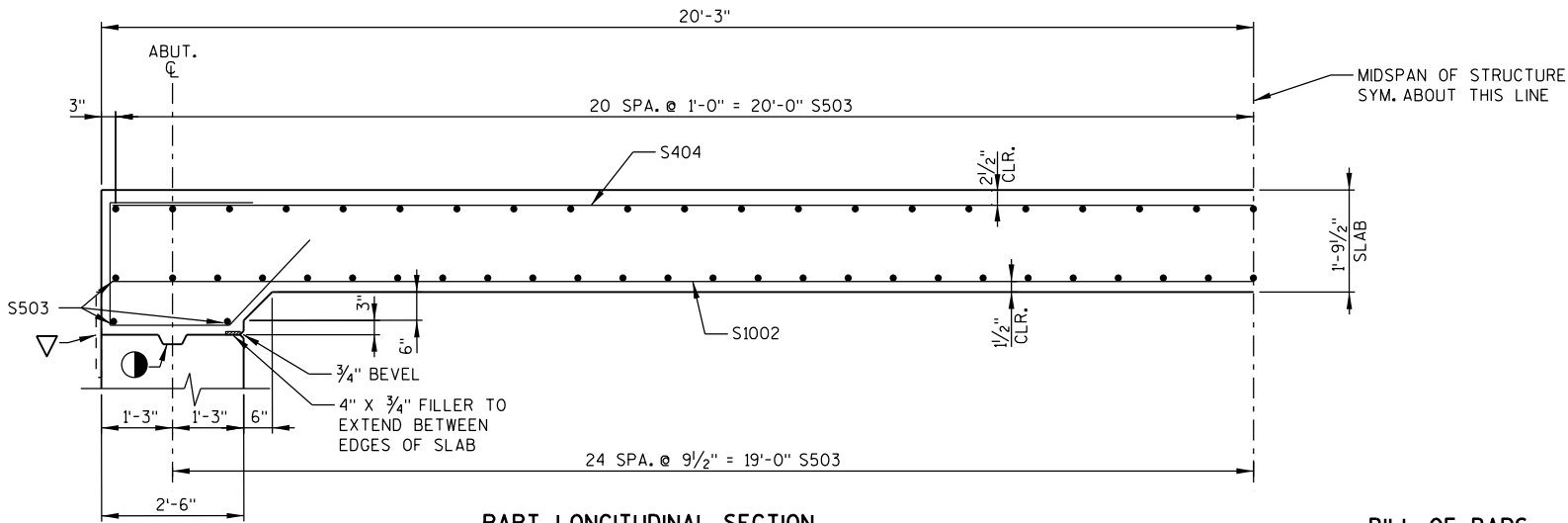
S606

BILL OF BARS - SUPERSTRUCTURE

MARK	NO. REQ'D	LENGTH	COAT	BENT	LOCATION
S501	54	8'-9"	X	X	SLAB VERT. @ ABUT.
S1002	51	35'-4"	X		SLAB LONG. BOT.
S503	96	30'-2"	X		SLAB TRANS. TOP & BOT.
S404	29	40'-2"	X		SLAB LONG. TOP
S605	20	12'-0"	X	X	SLAB @ INT. RAIL POSTS
S606	8	13'-5"	X	X	SLAB @ END RAIL POSTS
S607	40	6'-0"	X		SLAB @ INT. RAIL POSTS
S608	16	6'-0"	X	X	SLAB @ END RAIL POSTS
TOTAL WEIGHT (COATED BARS) - 13,100 LBS					

PART LONGITUDINAL SECTION

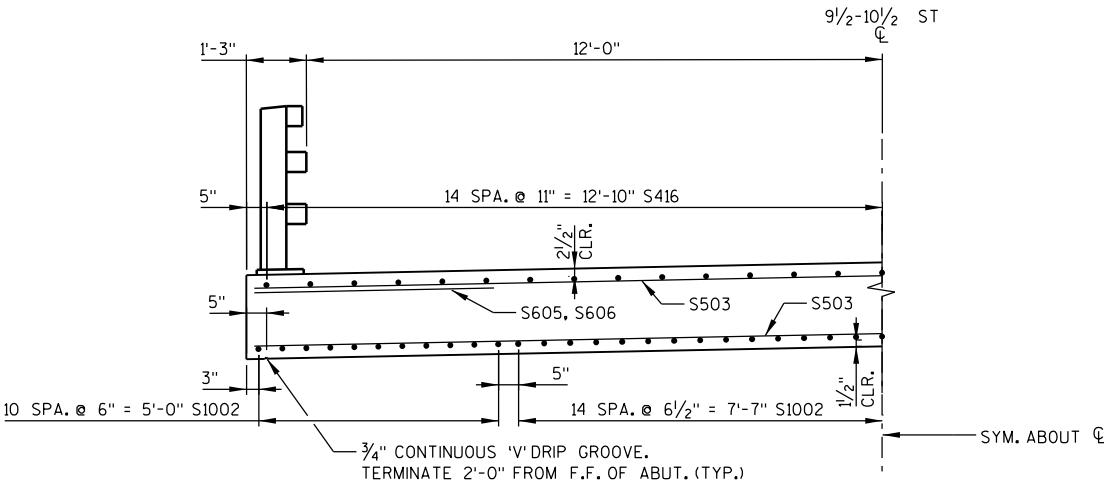
(MEASURED ALONG 9 1/2'-10 1/2' ST CL)



PLAN

HALF SECTION THRU BRIDGE

(LOOKING EAST)



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STRUCTURE B-03-0208			
DRAWN BY MJG		PLANS CK'D. MJG	
SUPERSTRUCTURE		SHEET 7 OF 8	

LEGEND

- W6 x 25 with 1/8" x 1 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.
- PLATE 1/4" x 11 3/4" x 1'-8" WITH 1 5/8" x 1 5/8" SLOTTED HOLES FOR ANCHOR BOLTS NO. 3. WELD TO NO. 1 AS SHOWN. SLOTS PARALLEL TO SHORT SIDE OF PLATE.
- 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 3/4" LONG AT ALL OTHER LOCATIONS. (AN EQUIVALENT THREADED ROD WITH NUTS AND HARDENED WASHERS MAY BE SUBSTITUTED FOR ANCHOR BOLTS IN WINGS IF REQ'D. FOR CONSTRUCTIBILITY.)
- 5/8" x 11" x 1'-8" ANCHOR PLATE (GALVANIZED) WITH 1 3/8" DIA. HOLES FOR ANCHOR BOLTS NO. 3
- 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.
- 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.)
- 1/2" THK. BACK-UP PLATE WITH 2 - 7/8" x 1/2" THREADED SHOP WELDED STUDS (NO. 12). BOLT TO RAIL AS SHOWN IN DETAIL. REQUIRED AT THRIE BEAM GUARD RAIL ATTACHMENTS ONLY. PLACE SYMMETRICALLY ABOUT TUBES NO. 5A.
- 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.
- SPLICE SLEEVE FABRICATED FROM 1/4" PLATE. PROVIDE "SLIDING FIT".
- 3/8" x 3 5/8" x 2'-4" PLATE. 2 PER RAIL. USED IN NO. 5 & 5A.
- 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.
- 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.
- 7/8" DIA. x 1/2" LONG THREADED SHOP WELDED STUDS (2 REQ'D.).
- 3/8" x 8" x 1'-6" PLATE. BOLT TO RAIL AS SHOWN IN DETAIL. REQ'D. AT THRIE BEAM GUARD RAIL ATTACHMENTS ONLY. PLACE SYM. ABOUT TUBES NO. 5A.
- 7/8" DIA. x 2" LONG A325 HEX BOLT WITH NUT AND WASHER (5 REQ'D.).
- 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

- BID ITEM SHALL BE "RAILING TUBULAR TYPE M B-03-208" WHICH INCLUDES ALL ITEMS SHOWN.
- RAIL POST AND BASE PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A709 GRADE 50. HOLLOW RAILING STRUCTURAL TUBING SHALL CONFORM TO THE REQUIREMENTS OF ASTM A500 GRADE B OR C WITH A CERTIFIED FY = 50 KSI. ANCHOR PLATES, AND SPLICE TUBE PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A709 GRADE 36.
- THE NUT SECURING THE POST BASE PLATE TO THE CONCRETE SHALL BE TIGHTENED TO A SNUG FIT AND GIVEN AN ADDITIONAL 1/8 TURN.
- RAILS SHALL BE CONTINUOUS OVER A MINIMUM OF THREE (3) POSTS WITHOUT SPLICES WHERE POSSIBLE. RAILS SHALL BE SPLICED IN A PANEL OVER EXPANSION JOINTS.
- ENDS OF TUBE SECTIONS SHALL BE SAWED. GRIND SMOOTH EXPOSED EDGES. ALL CUT ENDS SHALL BE TRUE AND SMOOTH.
- WELD IS THE SAME ON BOTH FLANGES. FLANGE WELD DOES NOT REQUIRE MAGNETIC PARTICLE TESTING.
- FILL BOLT SLOT OPENINGS IN POST SHIMS AND PLATE NO. 2 AND CAULK AROUND PERIMETER OF PLATE NO. 2 WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. STEEL POST SHIMS MAY BE USED UNDER POSTS WHERE REQ'D. FOR ALIGNMENT.
- POST BASE PLATES SHALL BE FLAT WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT AND VERTICAL. ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUT.
- ALL MATERIAL SHALL BE GALVANIZED AFTER FABRICATION. PRIOR TO GALVANIZING, ALL STEEL RAILING POSTS & STEEL TUBING SHALL BE GIVEN A NO. 6 BLAST CLEANING BY SSPC SPECIFICATIONS.

▲ TIE TO TOP MAT OF STEEL.

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

■ RDWY. OPENING OR 2 1/2" MIN. FOR STRIP SEAL EXP. JOINT & 1/2" OPENING FOR A1 ABUTMENT.

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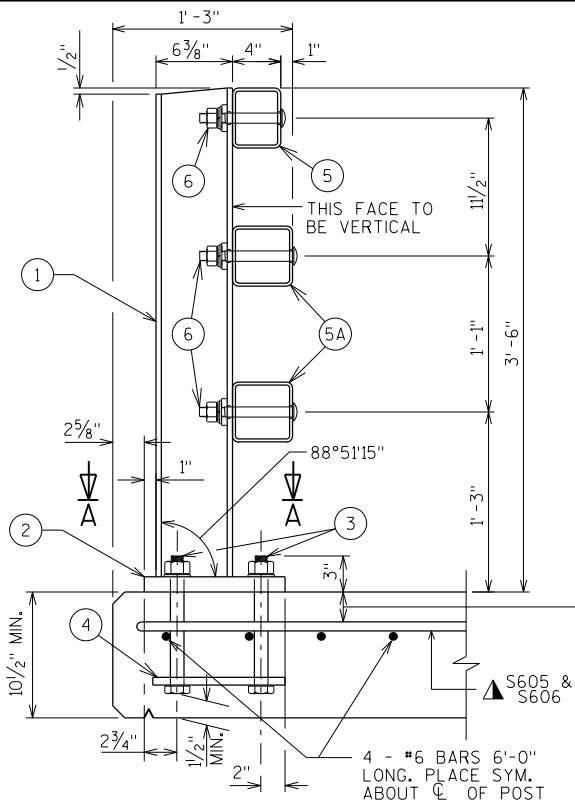


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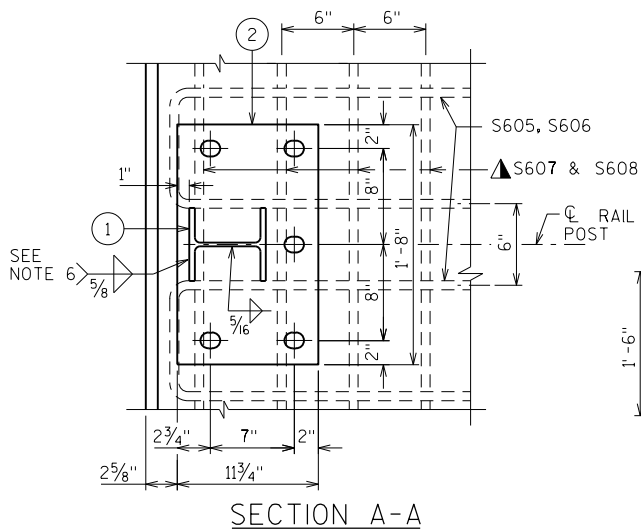
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TUBULAR STEEL
RAILING TYPE 'M'

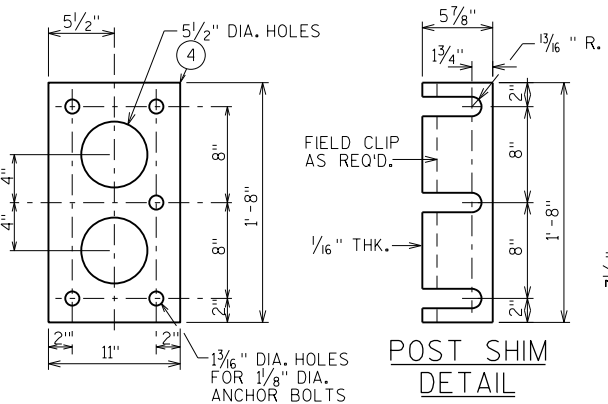
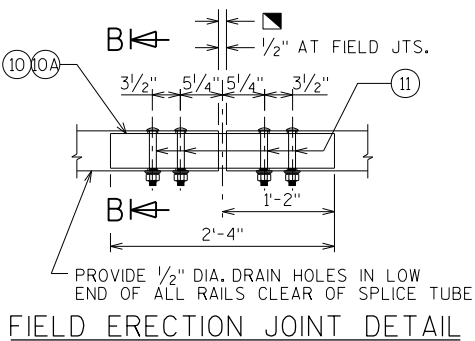
SHEET 8 OF 8



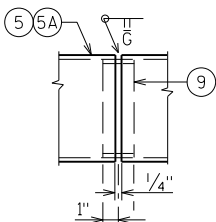
SECTION THRU RAILING ON DECK



SECTION A-A

ANCHOR PLATE
AT RAIL TO DECK CONNECTION

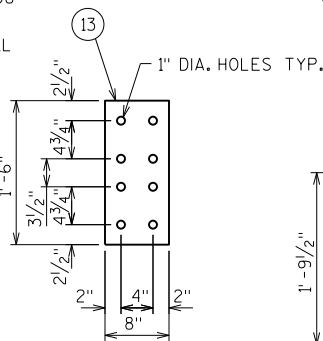
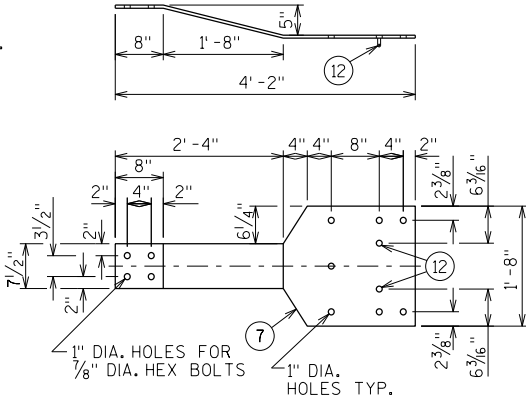
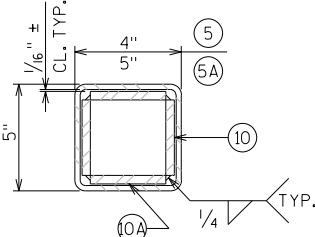
FIELD ERECTION JOINT DETAIL



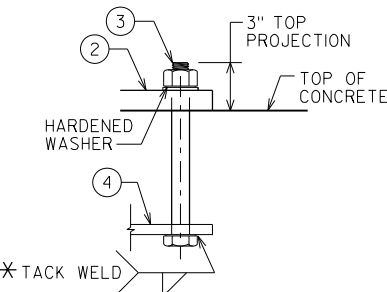
SHOP RAIL SPLICE DETAIL

LOCATION MUST BE
SHOWN ON SHOP DRAWINGS

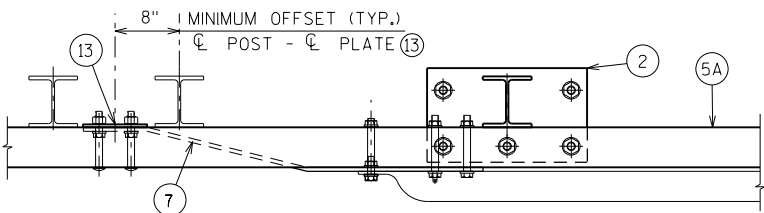
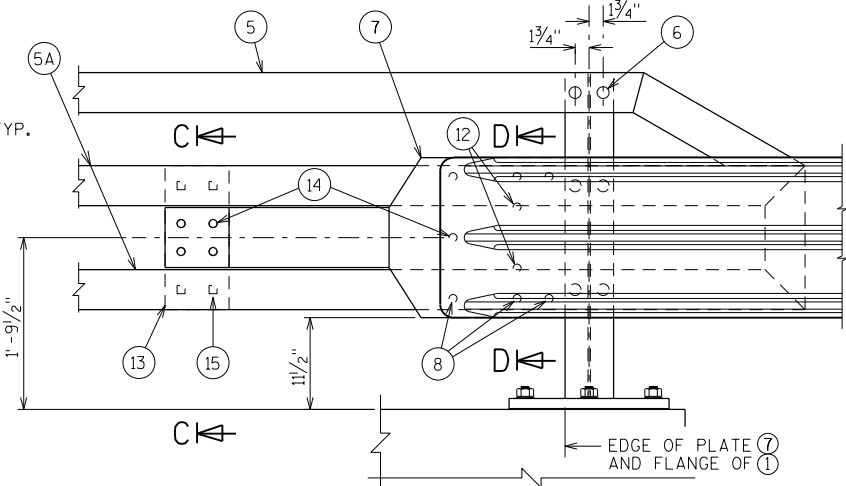
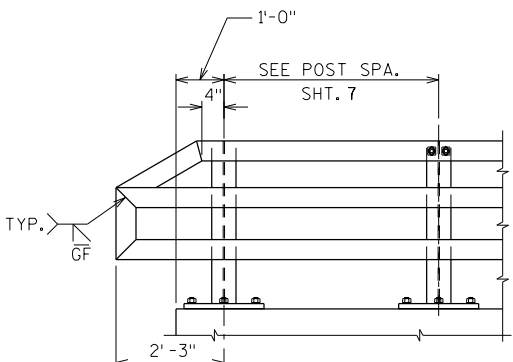
2 1/2" FOR SLABS ON
GIRDERS; FOR OTHER
STRUCTURES, PLACE
BELOW TOP MAT SLAB
REINFORCEMENT.

ANCHOR PLATE
AT BEAM GUARD ATTACHMENTBACK-UP PLATE DETAIL
AT BEAM GUARD ATTACHMENT

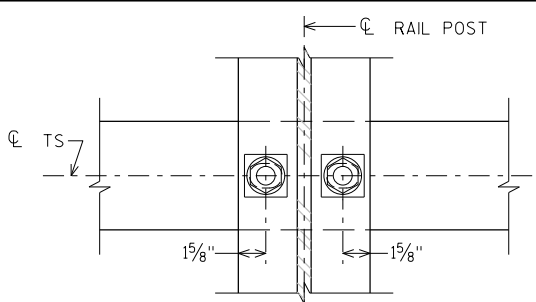
SECTION B-B



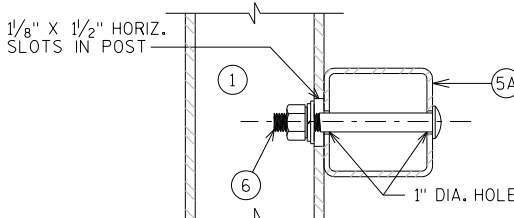
ANCHOR BOLTS

TOP VIEW AT END POST
THRIE BEAM RAIL ATTACHMENTDETAIL AT END POST
THRIE BEAM RAIL ATTACHMENT

PART ELEVATION OF RAILING



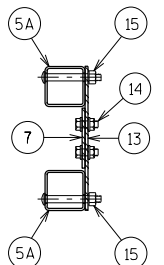
SECTION THRU POST WEB



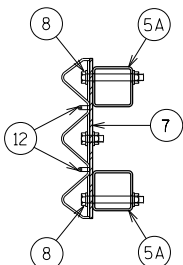
SECTION THRU RAIL

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

TYPICAL RAIL TO POST CONNECTIONS



SECTION C-C

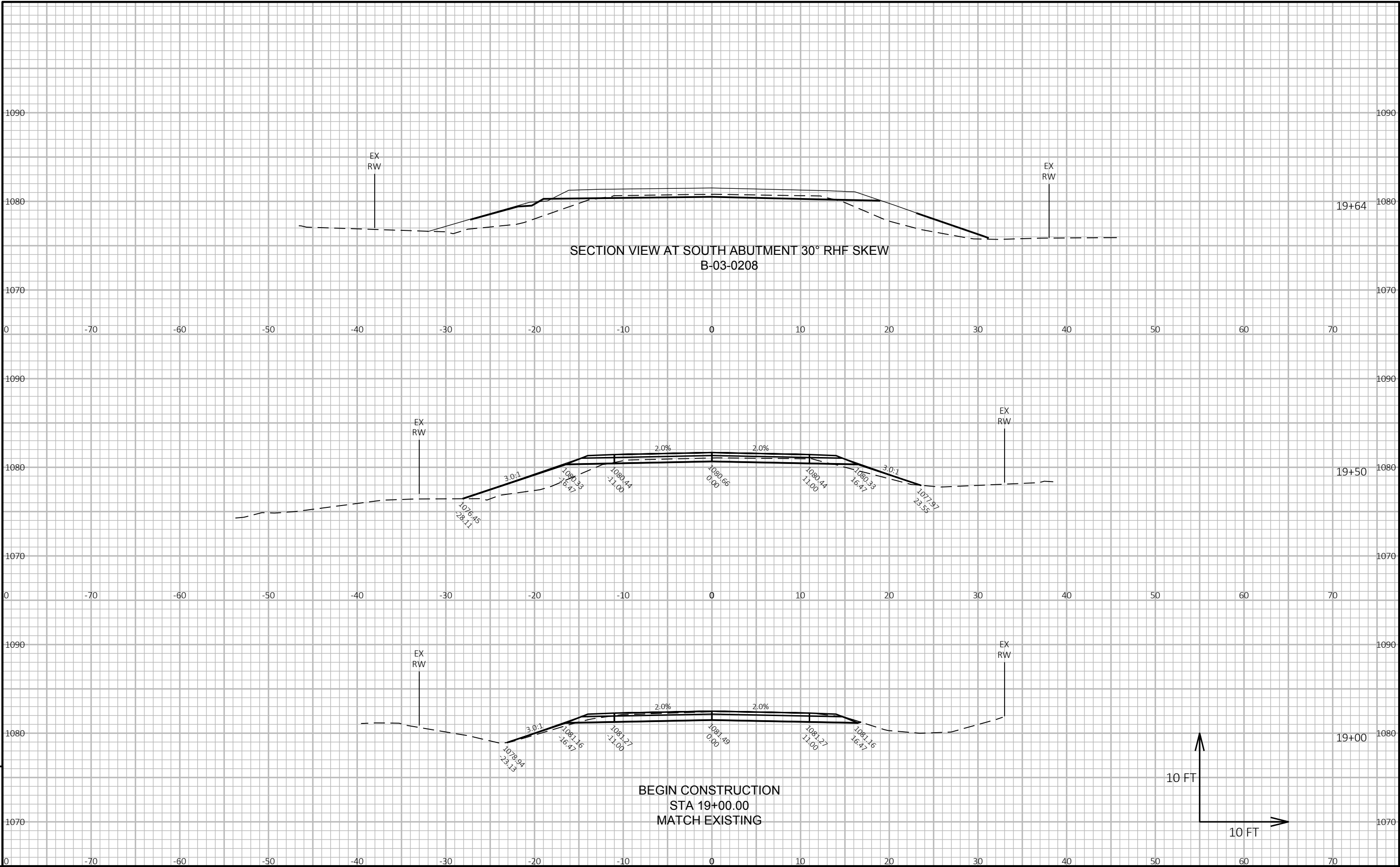


SECTION D-D

9 1/2 - 10 1/2 STREET EARTHWORK SUMMARY

STATION	Real Station	Distance	AREA (SF)			Incremental Vol (CY) (Unadjusted)			Cumulative Vol (CY)		
			Cut	Salvaged/Unusable Pavement Material	Fill	Cut	Salvaged/Unusable Pavement Material	Fill	Cut	Expanded Fill	Mass Ordinate
									Note 1	Note 2	
19+00	1900.00	0.00	25.88	15.00	0.19	0	0	0	0	0	0
19+50	1950.00	50.00	9.74	15.00	19.78	33	28	18	33	24	-19
19+60.27	1960.27	10.27	7.15	15.00	24.43	3	6	8	36	35	-32
20+39.75	2039.75	79.48	8.55	15.00	44.08	23	44	101	59	166	-184
20+50	2050.00	10.25	10.32	15.00	31.41	4	6	14	63	185	-205
21+00	2100.00	50.00	20.35	15.00	3.42	28	28	32	91	227	-246

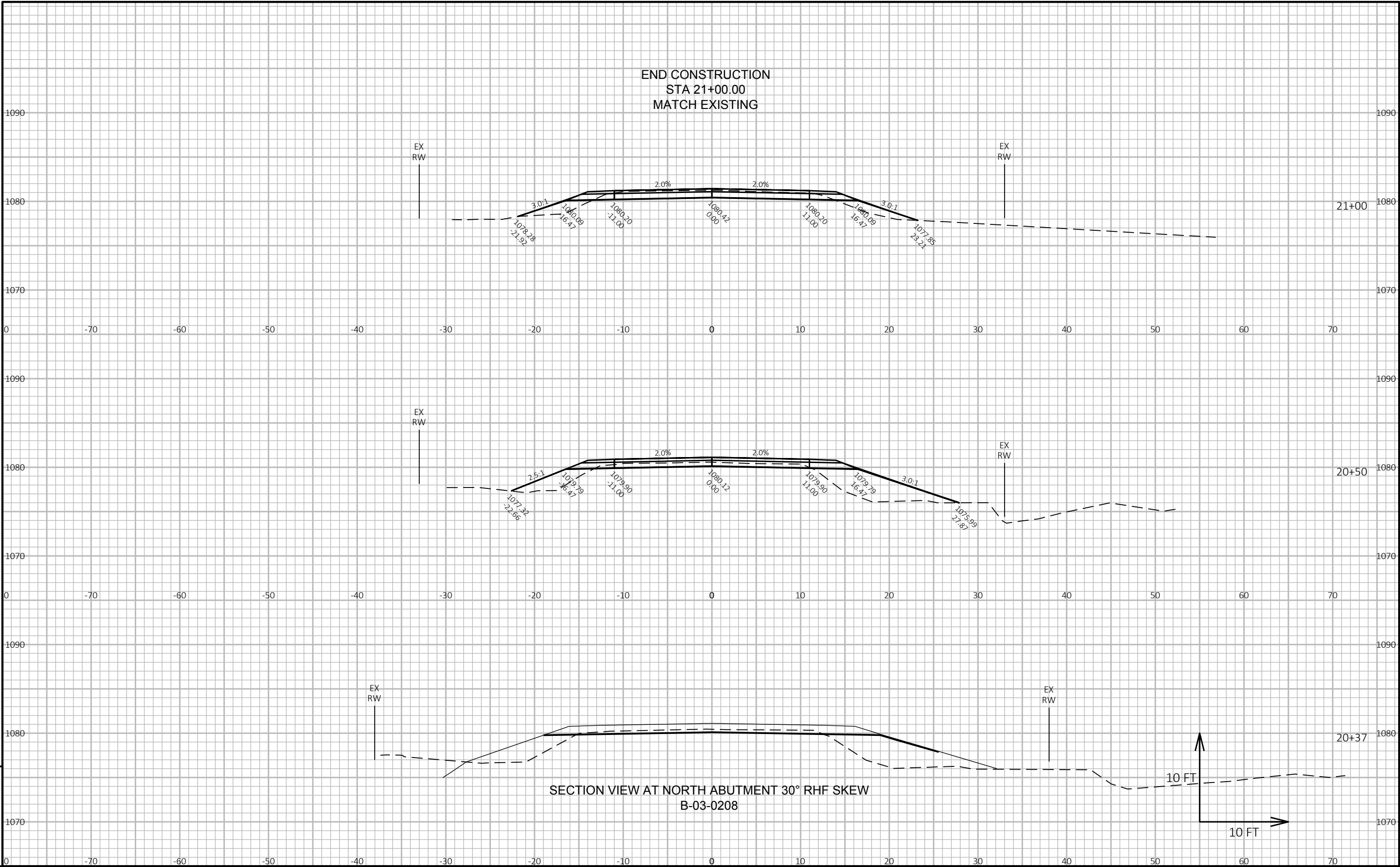
Notes:	
1 - Cut	Cut includes Salvaged/Unusable Pavement material
2 - Salvaged/Unusable Pavement Material	This does not show up in cross sections
3 - Fill	Does not include Unusable Pavement Exc volume
4 - Mass Ordinate	[Cut - Salvaged Pavt - (Fill * Fill Factor)]



9

9

PROJECT NO: 8328-00-70	HWY: LOCAL STREET	COUNTY: BARRON	CROSS SECTIONS: 9 1/2 - 10 1/2 STREET	SHEET	E
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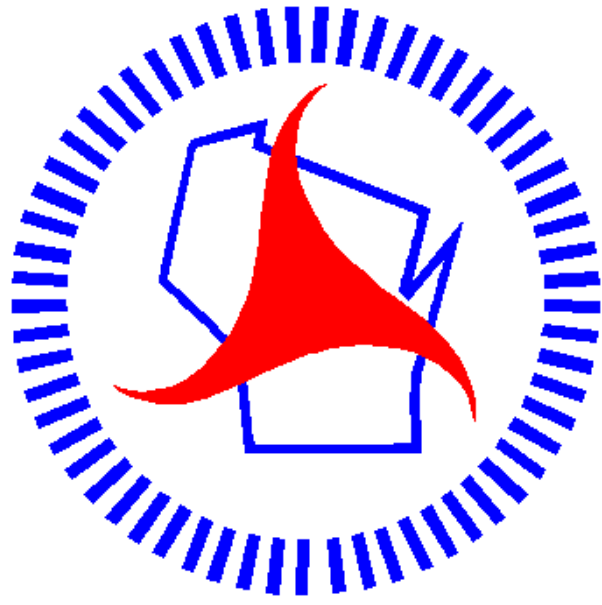


9

9

PROJECT NO: 8328-00-70	HWY: LOCAL STREET	COUNTY: BARRON	CROSS SECTIONS: 9 1/2 - 10 1/2 STREET	SHEET	E
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Notes



Wisconsin Department of Transportation

Dedicated people creating transportation solutions
through innovation and exceptional service.

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

PROJECT ID: 8333-00-70
WITH: 8317-00-70, 8328-00-70, 8827-00-70

COUNTY: BARRON

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

TOTAL SHEETS = 34



DESIGN DESIGNATION

A.A.D.T.	2020	=	24
A.A.D.T.	2040	=	26
D.H.V.		=	3
D.D.		=	50/50
T.		=	10%
DESIGN SPEED		=	40 MPH
ESALS		=	NA

CONVENTIONAL SYMBOLS

PLAN

CORPORATE LIMITS

PROPERTY LINE

LOT LINE

LIMITED HIGHWAY EASEMENT

EXISTING RIGHT OF WAY

PROPOSED OR NEW R/W LINE

SLOPE INTERCEPT

REFERENCE LINE

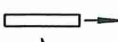
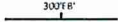
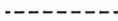
EXISTING CULVERT

PROPOSED CULVERT
(Box or Pipe)

COMBUSTIBLE FLUIDS

MARSH AREA

WOODED OR SHRUB AREA



PROFILE

GRADE LINE

ORIGINAL GROUND

MARSH OR ROCK PROFILE
(To be noted as such)

SPECIAL DITCH

GRADE ELEVATION

CULVERT (Profile View)

UTILITIES

ELECTRIC

FIBER OPTIC

GAS

SANITARY SEWER

STORM SEWER

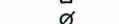
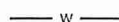
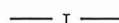
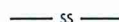
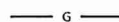
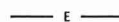
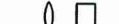
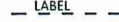
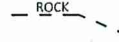
TELEPHONE

WATER

UTILITY PEDESTAL

POWER POLE

TELEPHONE POLE



STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

T SUMNER, 28TH STREET

BR ROCK CREEK BRIDGE B-03-0209

LOCAL STREET
BARRON COUNTY

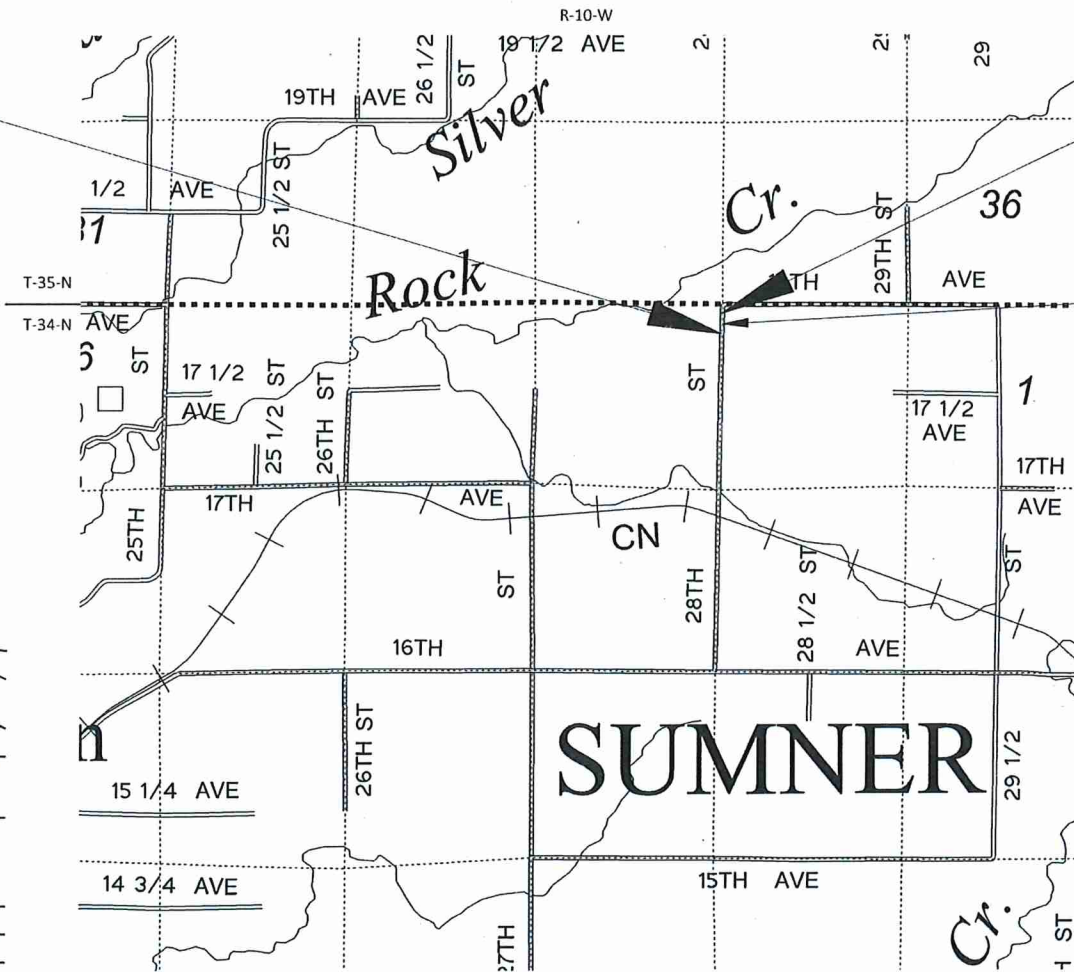
STATE PROJECT NUMBER

8333-00-70

BEGIN PROJECT
STA 29+50.00
Y = 120668.768
X = 374495.891

END PROJECT
STA 30+50.00
Y = 120768.750
X = 374497.816

STRUCTURE B-03-0209
STA 30+00.00



LAYOUT
SCALE 0 1 MI

TOTAL NET LENGTH OF CENTERLINE = 0.0189 MI

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN
COORDINATE REFERENCE SYSTEM (WISCRS), BARRON 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 (2012). GPS DERIVED ELEVATIONS ARE BASED ON GEOID 12A.

STATE PROJECT

8333-00-70

FEDERAL PROJECT

PROJECT

CONTRACT

ACCEPTED FOR

COUNTY OF BARRON

Date: 10/30/19
HIGHWAY COMMISSIONER

ORIGINAL PLAN PREPARED BY

CBS SQUARED INC.

JOHN W. BECKFIELD

34273

EAU CLAIRE, WI

PROFESSIONAL ENGINEER

DATE: 10-29-19
(Signature)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY
Surveyor CBS SQUARED INC.
Designer CBS SQUARED INC.

APPROVED FOR THE DEPARTMENT
DATE: 11/1/2019
(Signature)

E

GENERAL NOTES

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

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

THE EXACT LOCATION AND WIDTH OF PRIVATE ENTRANCES WILL BE DETERMINED IN THE FIELD BY THE ENGINEER. ALL DRIVEWAYS ARE TO BE REPLACED IN KIND UNLESS OTHERWISE DIRECTED BY THE ENGINEER OR AS SHOWN ON THE PLANS. BASE AGGREGATE DENSE 1 1/4-INCH WILL BE USED UNDER ALL DRIVEWAYS.

MAINTAIN DRIVING SURFACE TO ALL PROPERTY OWNERS WITH BASE AGGREGATE DENSE 1 1/4-INCH.

FILL EXPANSION FACTOR IS 30%.

PROPERTY LINES SHOWN ARE APPROXIMATE.

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

BEARINGS SHOWN ON THIS PLAN ARE TRUE BEARINGS TO THE NEAREST SECOND.

ALL TIES ON THIS PLAN ARE HORIZONTAL UNLESS DESCRIBED OTHERWISE.

PLACE EROSION CONTROL MEASURES AS SHOWN ON THE EROSION CONTROL PLAN. THE EXACT LOCATIONS WILL BE DETERMINED BY THE ENGINEER IN THE FIELD.

DISTURBED AREAS WITHIN THE RIGHT OF WAY ARE TO BE FERTILIZED, SEEDED, AND MULCH/EROSION MAT AS DIRECTED BY THE ENGINEER.

ELEVATIONS SHOWN ON THE ROADWAY CROSS SECTIONS ARE SUBGRADE ELEVATIONS AT THE CENTERLINE OF THE ROADWAY.

ALL ELEVATIONS ON THIS PLAN ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF NAVD 88 (2012).

WISDOT WILL FURNISH A BENCHMARK MONUMENT TO BE SET BY THE CONTRACTOR AS DIRECTED BY THE ENGINEER IN THE FIELD.

ASPHALTIC SURFACE MAY BE PLACED IN A SINGLE 4" LIFT. IF THE CONTRACTOR ELECTS TO PLACE THE MATERIAL IN MORE THAN ONE LIFT, TACK WILL NEED TO BE PLACED BETWEEN EACH LIFT AND WILL BE INCIDENTAL TO THE ITEM OF ASPHALTIC SURFACE.

UTILITY CONTACTS

BARRON ELECTRIC COOPERATIVE - ELECTRICTY
SUSAN DAU
1434 STATE HIGHWAY 25
BARRON, WI 54812
715-537-3171 (OFFICE)
715-418-1137 (MOBILE)
SDAU@BARRONELECTRIC.COM

CITIZENS TELEPHONE COOPERATIVE INC. - COMMUNICATIONS LINE
DARRELL DOUGHTY
328 W MAIN ST
P.O. BOX 127
NEW AUBURN, WI 54757-0127
715-237-2605 (OFFICE)
DARRELL@CITIZENS-TEL.NET



Dial 811 or (800)242-8511
www.DiggersHotline.com

DESIGN CONTACT

CBS SQUARED INC.
770 TECHNOLOGY WAY, SUITE 1A
CHIPPEWA FALLS, WI 54729
ATTN: MATT GUNDRY, PE
715-861-7425
MGUNDRY@CBSSQUAREDINC.COM

WISCONSIN DNR - LIASON

DEPARTMENT OF NATURAL RESOURCES
SPOONER - DNR SERVICE CENTER
810 W MAPLE ST
SPOONER, WI 54801
ATTN: AMY CRONK
715-635-4229
AMY.CRONK@WISCONSIN.GOV

BARRON COUNTY HIGHWAY DEPARTMENT

MARK SERVI, HIGHWAY COMMISSIONER
BARRON COUNTY HIGHWAY DEPARTMENT
260 N 7TH ST
BARRON, WI 54812
715-637-3755
MARK.SERVI@CO.BARRON.WI.US

RUNOFF COEFFICIENT TABLE

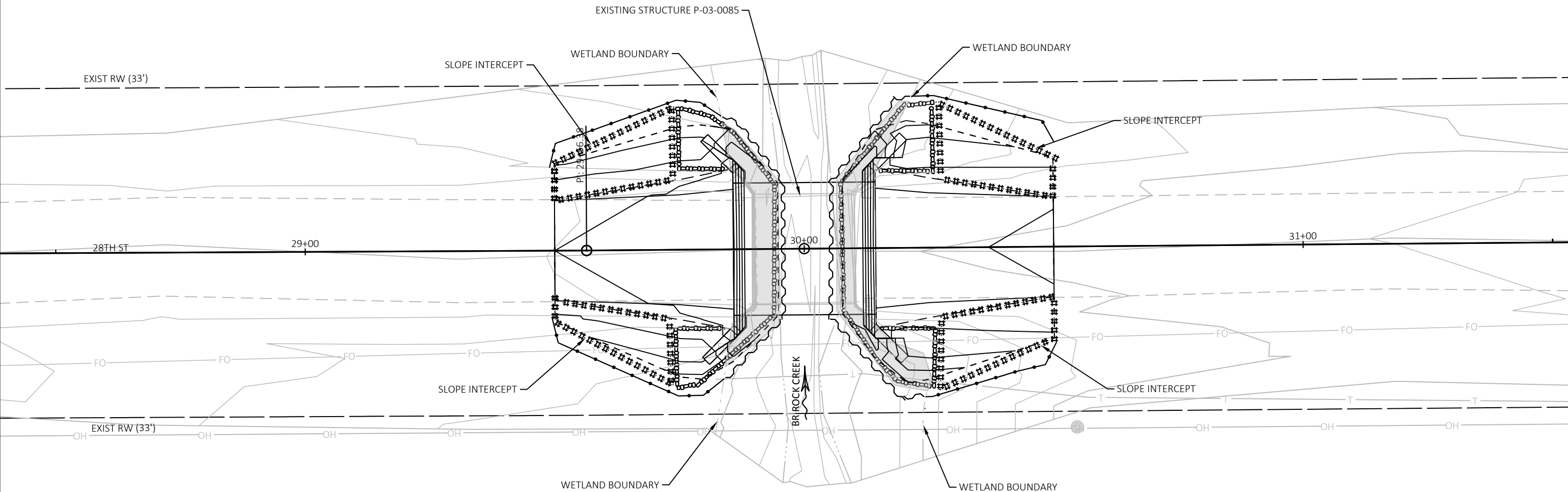
	HYDROLOGIC SOIL GROUP											
	A			B			C			D		
	SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)		
LAND USE:	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER
ROW CROPS	.08	.16	.22	.12	.20	.27	.15	.24	.33	.19	.28	.38
	.22	.30	.38	.26	.34	.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 = 0.152 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 0.092 ACRES

EROSION CONTROL LEGEND

- EROSION MAT URBAN CLASS I, TYPE B
- HEAVY RIPRAP
- ~~~~· STEEL SHEET PILING TEMPORARY (CAT. 0020)
- SILT FENCE

HIGH WATER Q2 ELEVATION = 1216.39

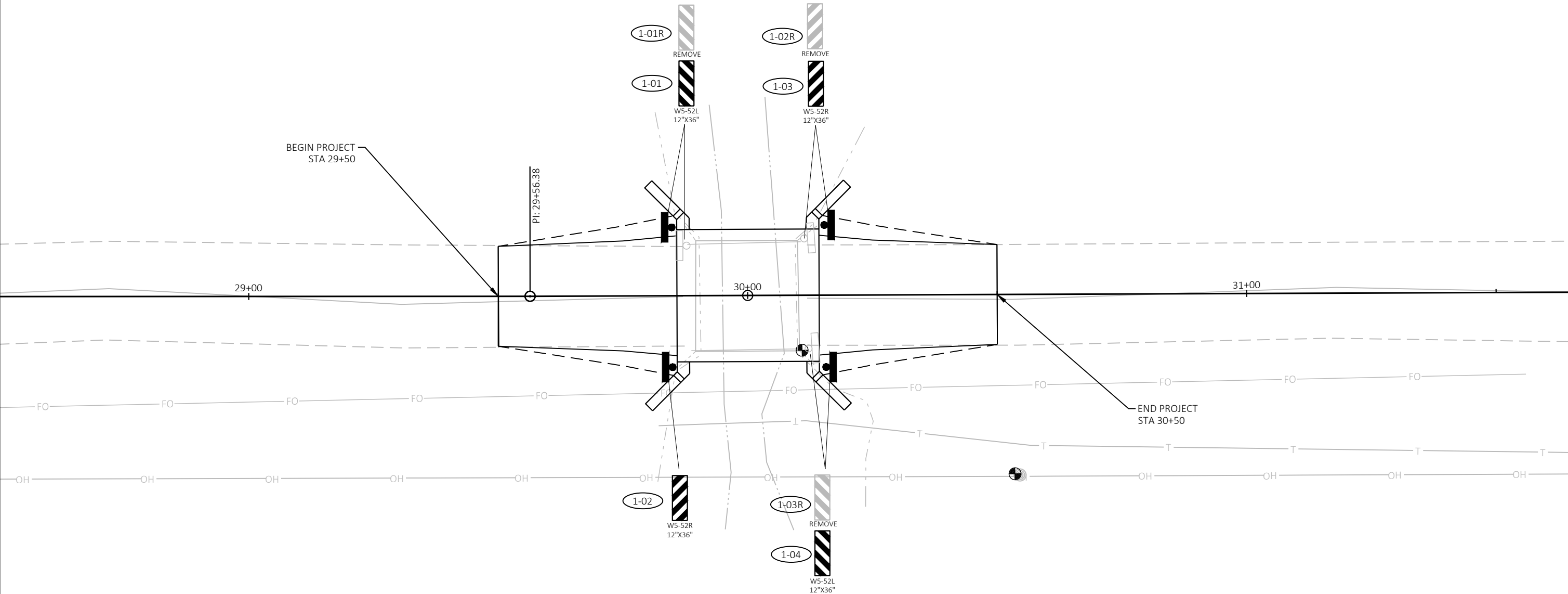


WETLAND IMPACTS (SHADED AREA)
525 SF (0.012 AC) EMERGENT/WET MEADOW

PROJECT NO: 8333-00-70	HWY: LOCAL STREET	COUNTY: BARRON	EROSION CONTROL	SHEET	E
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SIGN LEGEND

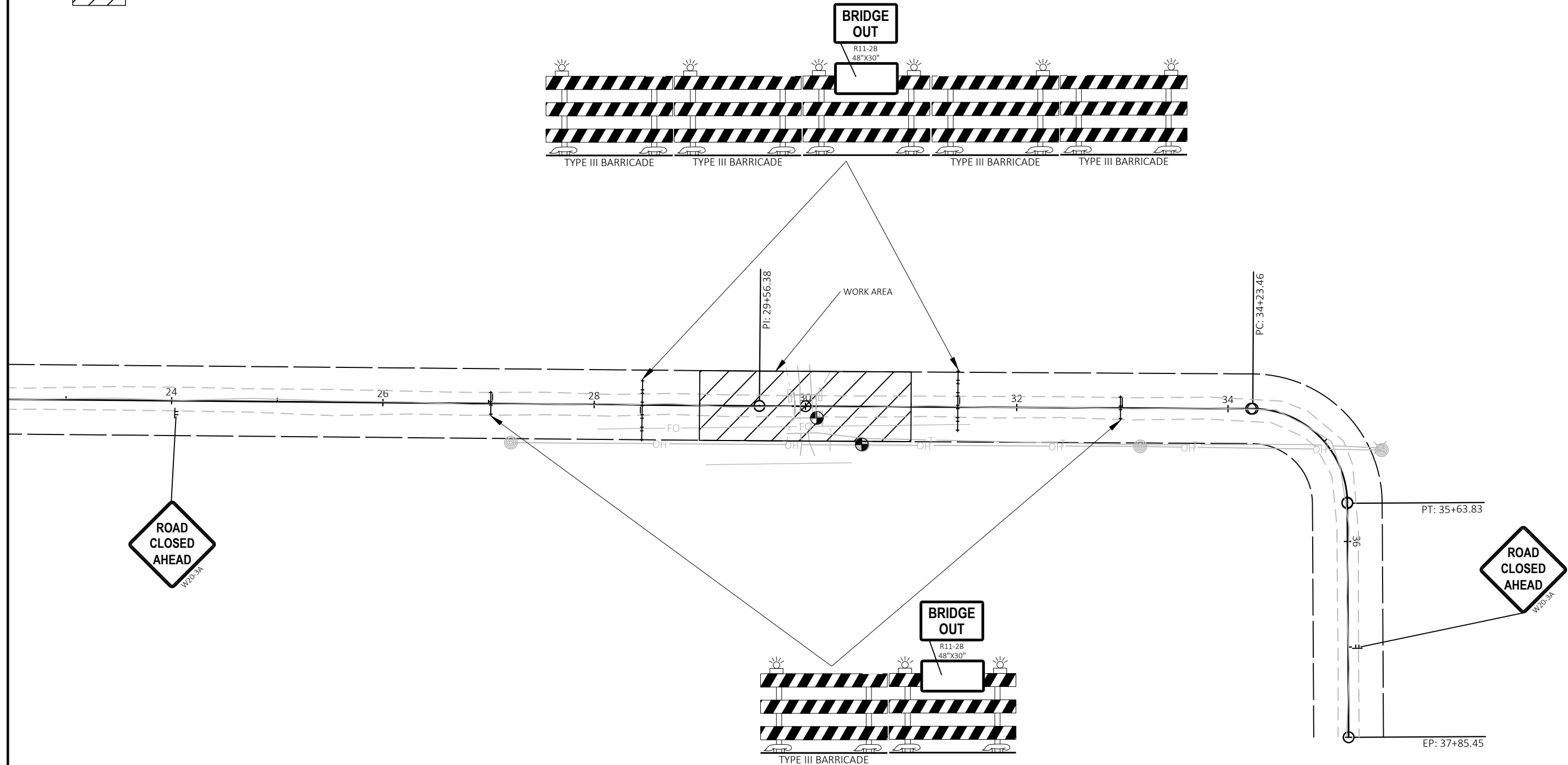
-  EXISTING SIGN MOUNTED ON POST(S)
-  PROPOSED SIGN MOUNTED ON POST(S)
-  DENOTES SIGN NUMBER



PROJECT NO: 8333-00-70	HWY: LOCAL STREET	COUNTY: BARRON	PERMANENT SIGNING	SHEET	E
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TRAFFIC CONTROL LEGEND

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



PROJECT NO: 8333-00-70

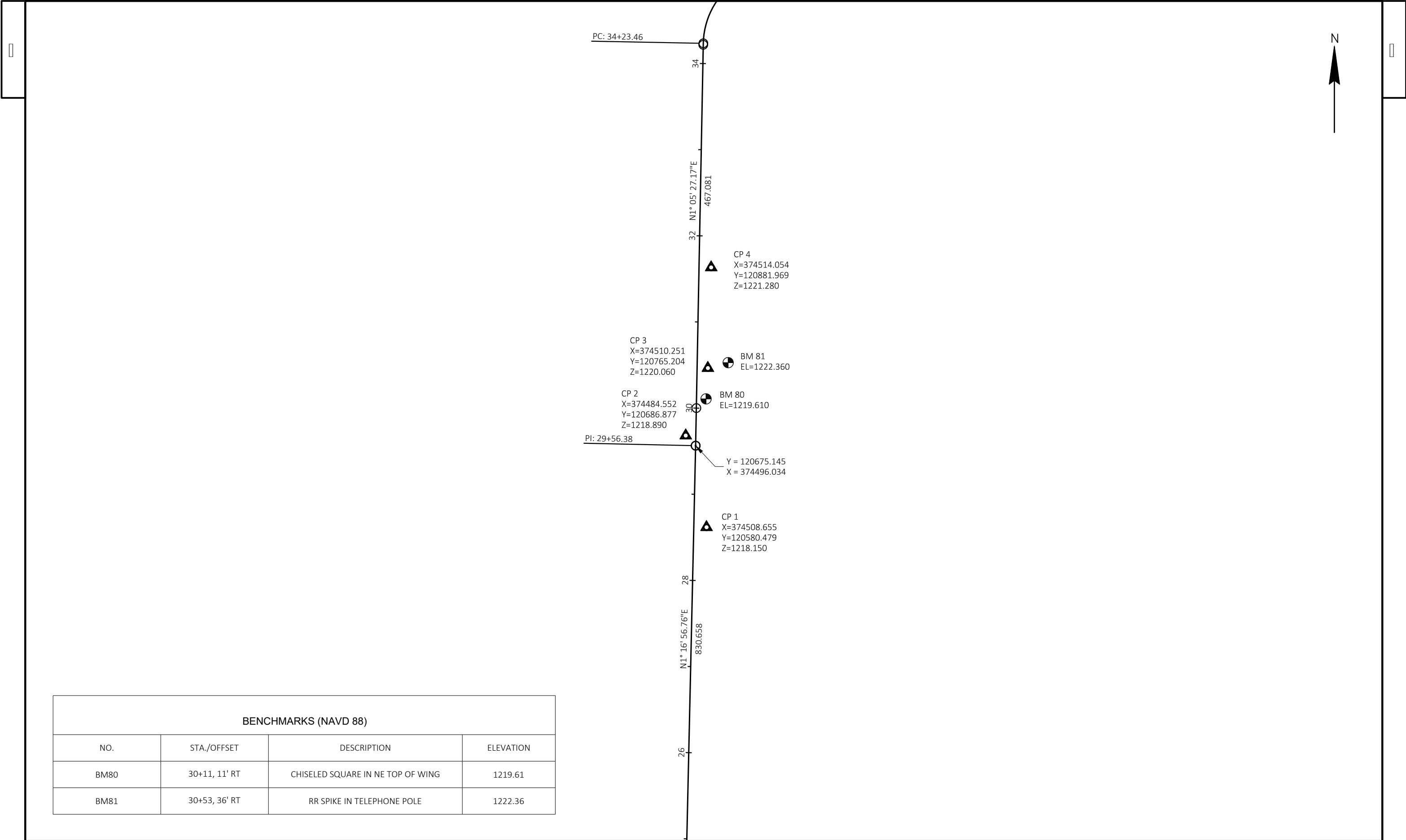
HWY: LOCAL STREET

COUNTY: BARRON

TRAFFIC CONTROL

SHEET

E



BENCHMARKS (NAVD 88)			
NO.	STA./OFFSET	DESCRIPTION	ELEVATION
BM80	30+11, 11' RT	CHISELED SQUARE IN NE TOP OF WING	1219.61
BM81	30+53, 36' RT	RR SPIKE IN TELEPHONE POLE	1222.36

Estimate Of Quantities By Plan Sets

8333-00-70					
Line	Item	Item Description	Unit	Total	Qty
0004	203.0700.S	Removing Old Structure Over Waterway With Debris Capture System (station) 02. 30+00.00	LS	1.000	1.000
0008	205.0100	Excavation Common	CY	148.000	148.000
0014	206.1000	Excavation for Structures Bridges (structure) 02. B-03-0209	LS	1.000	1.000
0018	210.1500	Backfill Structure Type A	TON	330.000	330.000
0022	213.0100	Finishing Roadway (project) 02. 8333-00-70	EACH	1.000	1.000
0026	305.0110	Base Aggregate Dense 3/4-Inch	TON	12.000	12.000
0028	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	120.000	120.000
0032	465.0105	Asphaltic Surface	TON	41.000	41.000
0034	502.0100	Concrete Masonry Bridges	CY	118.000	118.000
0036	502.3200	Protective Surface Treatment	SY	112.000	112.000
0038	505.0400	Bar Steel Reinforcement HS Structures	LB	4,340.000	4,340.000
0040	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	12,100.000	12,100.000
0042	512.1000	Piling Steel Sheet Temporary	SF	1,500.000	1,500.000
0044	513.4061	Railing Tubular Type M	LF	70.000	70.000
0046	516.0500	Rubberized Membrane Waterproofing	SY	35.000	35.000
0048	550.0020	Pre-Boring Rock or Consolidated Materials	LF	60.000	60.000
0050	550.1100	Piling Steel HP 10-Inch X 42 Lb	LF	292.000	292.000
0054	606.0300	Riprap Heavy	CY	85.000	85.000
0056	612.0206	Pipe Underdrain Unperforated 6-Inch	LF	40.000	40.000
0058	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	98.000	98.000
0064	618.0100	Maintenance And Repair of Haul Roads (project) 02. 8333-00-70	EACH	1.000	1.000
0066	619.1000	Mobilization	EACH	0.330	0.330
0068	624.0100	Water	MGAL	1.300	1.300
0070	625.0500	Salvaged Topsoil	SY	110.000	110.000
0072	627.0200	Mulching	SY	60.000	60.000
0074	628.1504	Silt Fence	LF	150.000	150.000
0076	628.1520	Silt Fence Maintenance	LF	150.000	150.000
0078	628.1905	Mobilizations Erosion Control	EACH	1.000	1.000
0080	628.1910	Mobilizations Emergency Erosion Control	EACH	1.000	1.000
0082	628.2008	Erosion Mat Urban Class I Type B	SY	110.000	110.000
0090	629.0210	Fertilizer Type B	CWT	1.000	1.000
0092	630.0120	Seeding Mixture No. 20	LB	5.000	5.000
0094	630.0500	Seed Water	MGAL	4.000	4.000
0096	634.0812	Posts Tubular Steel 2x2-Inch X 12-FT	EACH	4.000	4.000
0098	637.2230	Signs Type II Reflective F	SF	12.000	12.000
0100	638.2602	Removing Signs Type II	EACH	3.000	3.000
0102	638.3000	Removing Small Sign Supports	EACH	3.000	3.000

Estimate Of Quantities By Plan Sets

8333-00-70					
Line	Item	Item Description	Unit	Total	Qty
0106	642.5001	Field Office Type B 02. 8333-00-70	EACH	1.000	1.000
0110	643.0420	Traffic Control Barricades Type III	DAY	630.000	630.000
0112	643.0705	Traffic Control Warning Lights Type A	DAY	810.000	810.000
0114	643.0900	Traffic Control Signs	DAY	270.000	270.000
0116	643.5000	Traffic Control	EACH	1.000	1.000
0118	645.0120	Geotextile Type HR	SY	175.000	175.000
0120	650.4500	Construction Staking Subgrade	LF	72.000	72.000
0122	650.5000	Construction Staking Base	LF	72.000	72.000
0126	650.6500	Construction Staking Structure Layout (structure) 02. B-03-0209	LS	1.000	1.000
0132	650.9910	Construction Staking Supplemental Control (project) 02. 8333-00-70	LS	1.000	1.000
0136	650.9920	Construction Staking Slope Stakes	LF	72.000	72.000
0140	715.0502	Incentive Strength Concrete Structures	DOL	700.000	700.000

28TH ST EARTHWORK SUMMARY

FROM/TO STATION	LOCATION	205.0100 COMMON EXCAVATION (1)		SALVAGED/UNUSABLE PAVEMENT MATERIAL (4)	AVAILABLE MATERIAL (5)	UNEXPANDED FILL	EXPANDED FILL (6)	MASS ORDINATE +/- (7)	WASTE
		CUT (2)	EBS EXCAVATION (3)				FACTOR 1.30		
29+50/30+50	28th St.	148	0	0	148	38	49	99	99
TOTAL		148		0	148	38	49	99	99

Notes:

- (1) Common Excavation is the sum of the Cut and EBS Excavation columns. Item number 205.0100 (includes existing asphaltic pavement).
- (2) Salvaged/Unsuable Pavement Material is included in Cut.
- (3) EBS Excavation to be backfilled with Cut material.
- (4) Salvaged/Unusable Pavement Material (existing asphaltic pavement is not included in Fill quantity).
- (5) Available Material = Cut - Salvaged/Unusuable Pavement Material.
- (6) Expanded Fill Factor = 1.3; Expanded Fill = Unexpanded Fill * Fill Factor.
- (7) The Mass Ordinate + or - Qty calculated for the Division. Plus quantity indicates an excess of material within the Division. Minus indicates a shortage of material within the Division.

FINISHING ROADWAY 213.0100 FINISHING ROADWAY LOCATION PROJECT TOTAL EACH 1					AGGREGATE ITEMS 305.0110 BASE AGGREGATE DENSE 3/4-INCH TON 305.0120 BASE AGGREGATE DENSE 1 1/4-INCH TON 624.0100 WATER MGAL ROADWAY STA TO STA 28th St. 28th St. TOTAL 29+50 - 29+85.75 6 60 12 30+14.25 - 30+50 6 60 120 0.65 0.65 1.3								
ASPHALT ITEMS 465.0105 ASPHALTIC SURFACE ROADWAY STA TO STA 28th St. 28th St. TOTAL TON 20.5 20.5 41					MAINTENANCE AND REPAIR OF HAUL ROADS 618.0100* MAINTENANCE AND REPAIR OF HAUL ROADS LOCATION PROJECT TOTAL EACH 1 *CAT 0030 (NON-PARTICIPATING)					MOBILIZATION 619.1000 MOBILIZATION LOCATION 0010 0020 TOTAL EACH 0.1 0.23 0.33			
RESTORATION ITEMS 625.0500 SALVAGED TOPSOIL 627.0200 MULCHING 628.2008 EROSION MAT URBAN CLASS I TYPE B 629.0210 FERTILIZER TYPE B 630.0120 SEEDING MIXTURE NO. 20 630.0500 SEED WATER ROADWAY STA TO STA LOCATION 28th St. 28th St. 28th St. 28th St. TOTAL SY SY SY CWT LB MGAL 29 15 29 0.26 1.3 1.0 23 15 23 0.22 1.1 1.0 29 15 29 0.26 1.3 1.0 29 15 29 0.26 1.3 1.0													
PROJECT NO: 8333-00-70			HWY: LOCAL STREET			COUNTY: BARRON			MISCELLANEOUS QUANTITIES			SHEET	E

EROSION CONTROL ITEMS

ROADWAY	STA	TO	STA	LOCATION	628.1504	628.1520
					SILT FENCE LF	SILT FENCE MAINTENANCE LF
28th St.	29+50	-	30+00	LT	42	42
28th St.	29+50	-	30+00	RT	44	44
28th St.	30+00	-	30+50	LT	33	33
28th St.	30+00	-	30+50	RT	31	31
TOTAL					150	150

EROSION CONTROL MOBILIZATION

LOCATION	628.1905	628.1910
	MOBILIZATIONS EROSION CONTROL EACH	MOBILIZATIONS EMERGENCY EROSION CONTROL EACH
PROJECT	1	1
TOTAL	1	1

PERMANENT SIGNING ITEMS

SIGN GROUP NO.	SIGN CODE	SIGN MESSAGE	SIZE	637.2230			634.0812	
				SIGNS TYPE II REFLECTIVE F SF			POSTS TUBULAR STEEL 2X2-INCH X 12-FT EACH	
1-01	W5-52L	BRIDGE CLEARANCE STRIPER LEFT	12 X 36	12	X	36	3.00	1
1-02	W5-52R	BRIDGE CLEARANCE STRIPER RIGHT	12 X 36	12	X	36	3.00	1
1-03	W5-52R	BRIDGE CLEARANCE STRIPER RIGHT	12 X 36	12	X	36	3.00	1
1-04	W5-52L	BRIDGE CLEARANCE STRIPER LEFT	12 X 36	12	X	36	3.00	1
TOTAL							12.00	4

REMOVING SIGNING ITEMS

SIGN NO.	SIGN MESSAGE	638.2602	638.3000
		REMOVING SIGNS TYPE II EACH	REMOVING SMALL SIGN SUPPORTS EACH
1-01R	BRIDGE CLEARANCE STRIPER LEFT	1	1
1-02R	BRIDGE CLEARANCE STRIPER RIGHT	1	1
1-03R	BRIDGE CLEARANCE STRIPER LEFT	1	1
TOTAL		3	3

TRAFFIC CONTROL ITEMS								
			643.0420		643.0705			
			TRAFFIC CONTROL BARRICADES		TRAFFIC CONTROL WARNING LIGHTS		643.0900	643.5000
							TRAFFIC	TRAFFIC
			<u>TYPE III</u>		<u>TYPE A</u>		<u>CONTROL SIGNS</u>	<u>CONTROL</u>
ROADWAY	DURATION (DAYS)		EACH*	DAY	EACH*	DAY	EACH*	DAY EACH
28th St.	45		14	630	18	810	6	270 1.00
TOTAL			630		810		270 1.00	

* INFORMATION ONLY

FIELD OFFICE	
642.5001	
FIELD OFFICE	
<u>TYPE B</u>	
LOCATION	EACH
PROJECT	1.00
TOTAL	
1.00	

<u>CONSTRUCTON STAKING</u>							
				650.4500	650.5000	650.9910	
				CONSTRUCTION	CONSTRUCTION	CONSTRUCTION	650.9920
				STAKING	STAKING	STAKING	CONSTRUCTION
				<u>SUBGRADE</u>	<u>BASE</u>	SUPPLEMENTAL	STAKING
ROADWAY	STA	TO	STA	LF	LF	LS	LF
28th St.	29+50	-	29+85.75	36	36	--	36
28th St.	30+14.25	-	30+50	36	36	--	36
28th St.	PROJECT			--	--	1	--
TOTAL				72	72	1	72

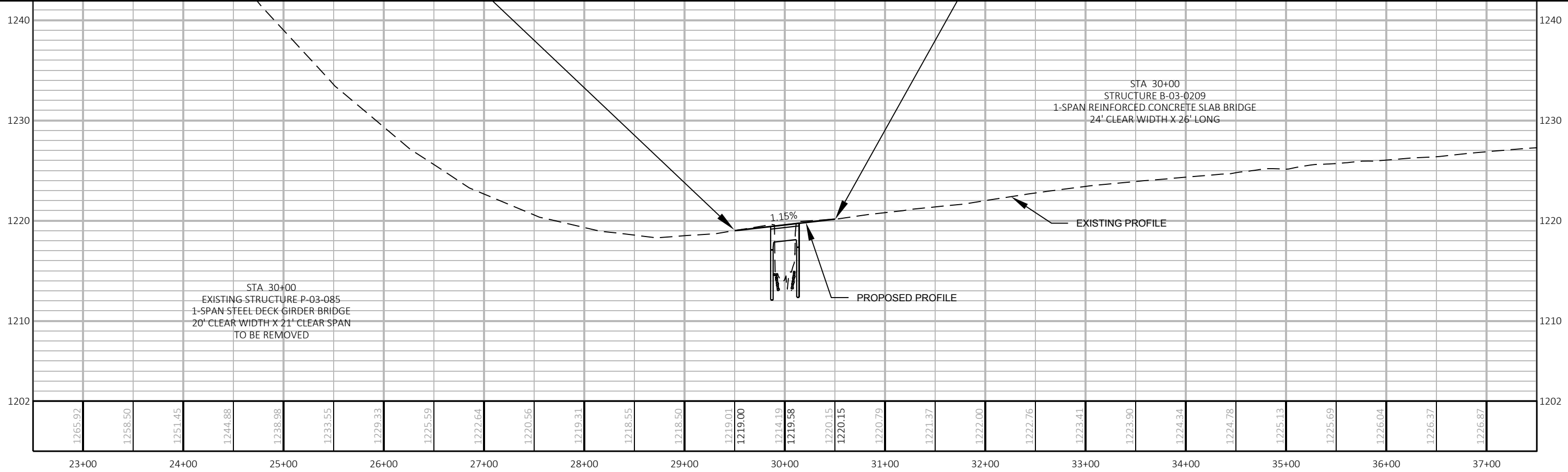
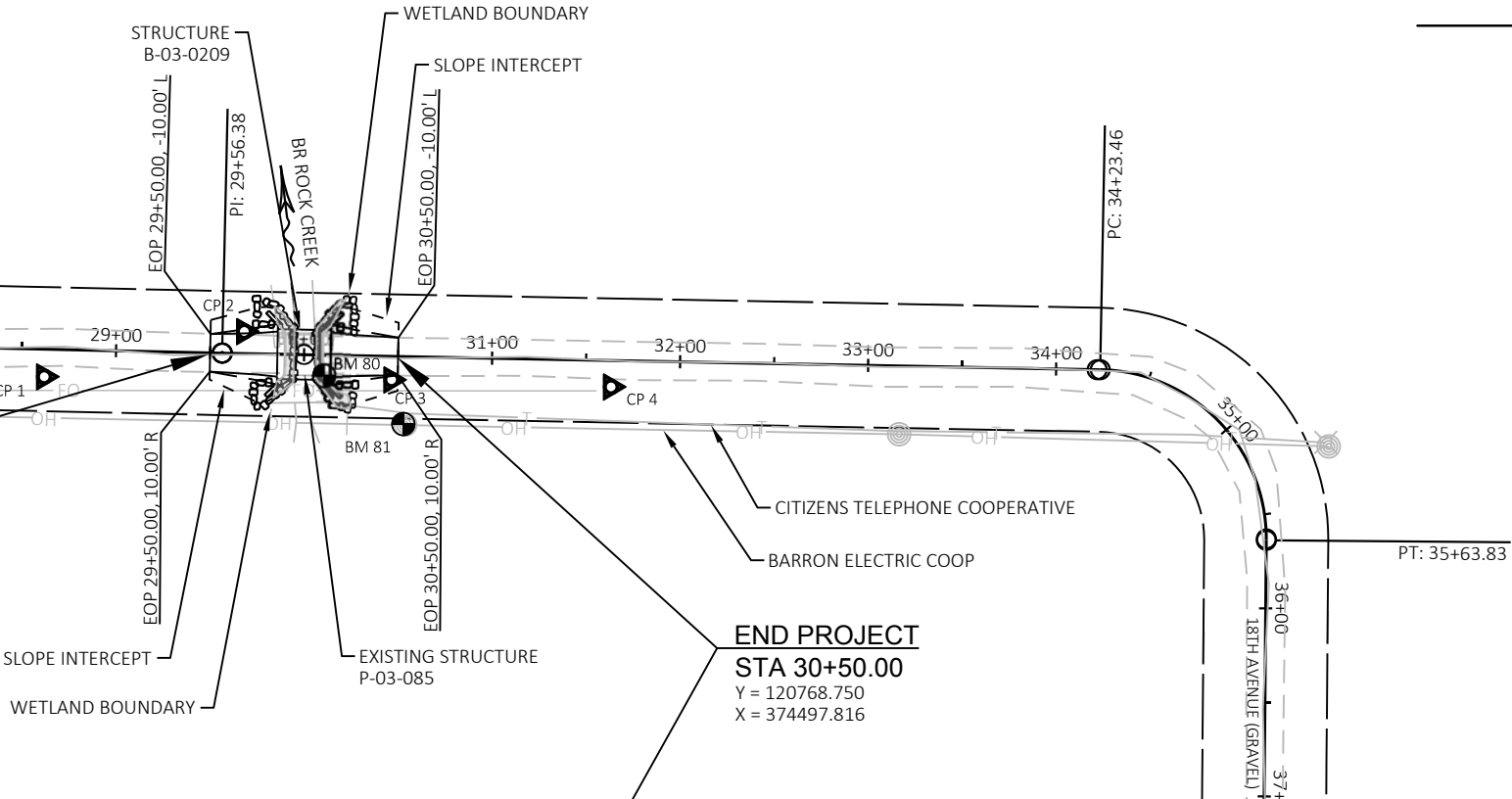
WETLAND IMPACTS (SHADED AREA)
525 SF (0.012 AC) EMERGENT/WET MEADOW



BEGIN PROJECT
STA 29+50.00
Y = 120668.768
X = 374495.891

END PROJECT
STA 30+50.00
Y = 120768.750
X = 374497.816

NOTE:
SEE ALIGNMENT & CONTROL SHEET FOR HORIZONTAL
ALIGNMENT DATA, CONTROL POINTS AND BENCHMARKS.



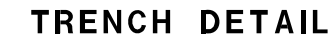
PROJECT NO: 8333-00-70	HWY: LOCAL STREET	COUNTY: BARRON	PLAN AND PROFILE: 28TH STREET	SHEET E
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Standard Detail Drawing List

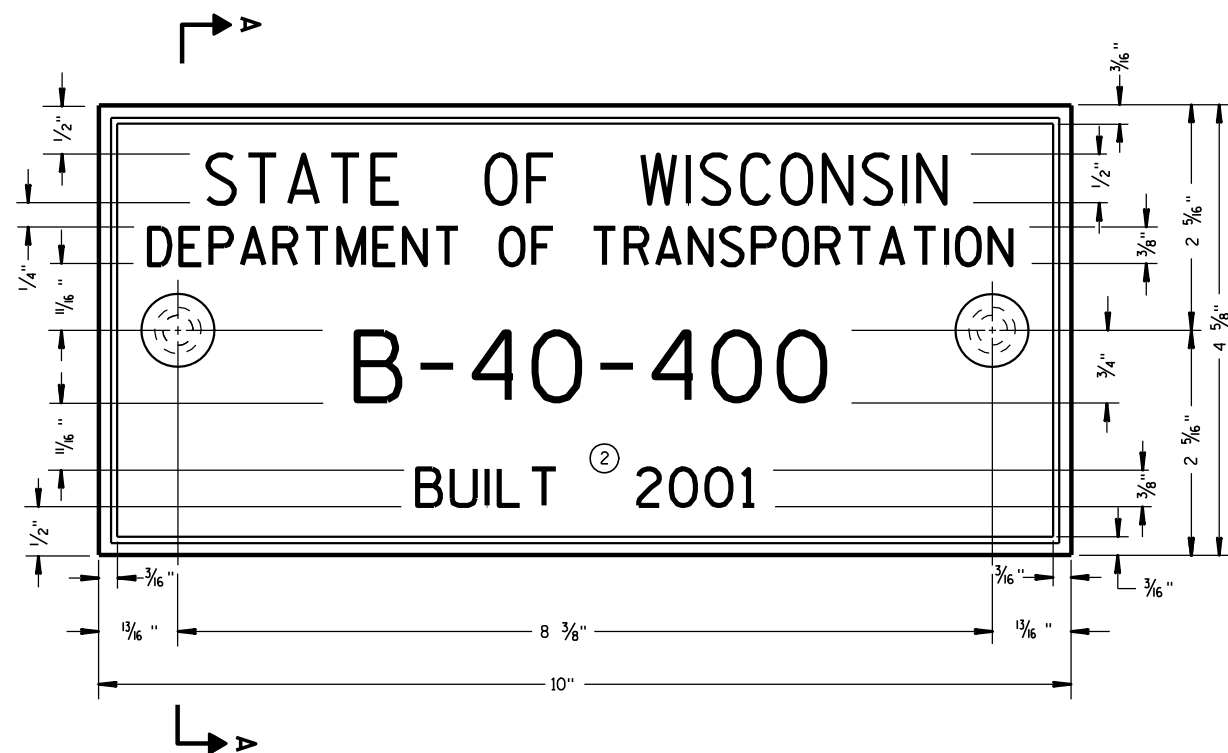
08E09-06	SILT FENCE
12A03-10	NAME PLATE (STRUCTURES)
15C02-07A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15D38-02A	TEMPORARY TRAFFIC CONTROL SIGN MOUNTING
15D38-02B	ATTACHMENT OF SIGNS TO POSTS



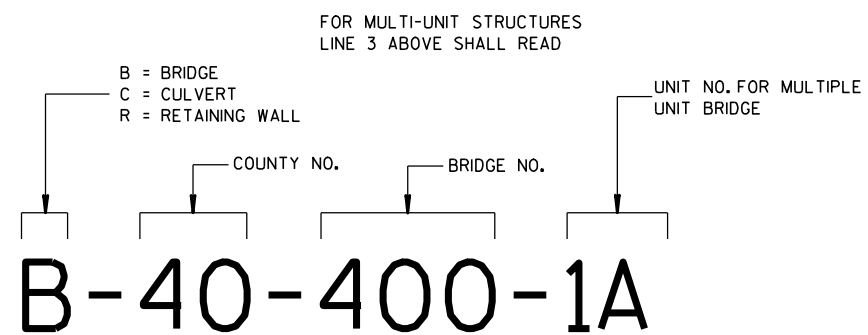
- ① HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
- ② FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
- ③ WOOD POSTS SHALL BE A MINIMUM SIZE OF 1½" X 1½" 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.



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



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



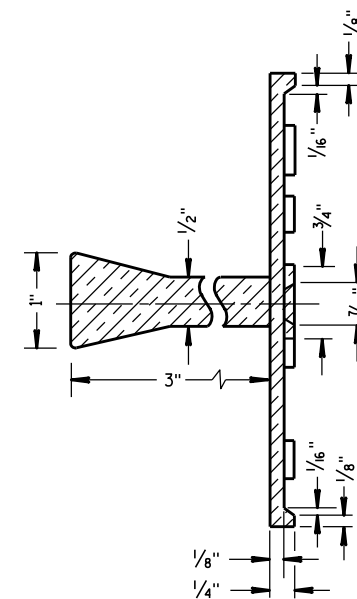
**NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES**

GENERAL NOTES

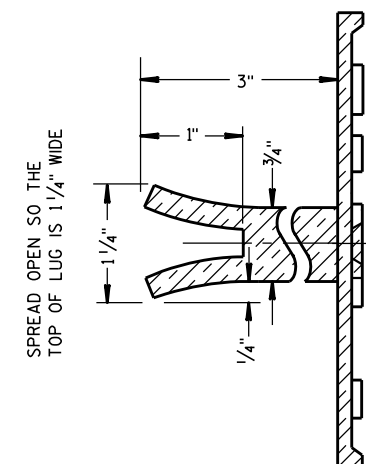
NAME PLATES TO BE INSTALLED ON BRIDGES, CULVERTS, AND RETAINING WALLS SHALL CONFORM TO THE REQUIREMENTS OF SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS.

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

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

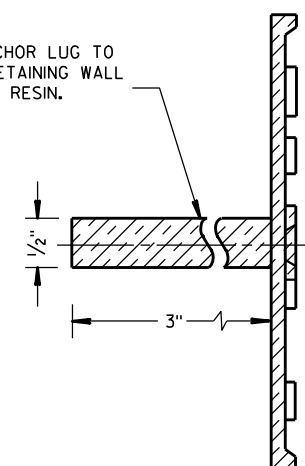


SECTION A-A



ALTERNATE LUG

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



ALTERNATE LUG
(FOR ATTACHMENT TO PRECAST STRUCTURES)

**NAME PLATE
(STRUCTURES)**

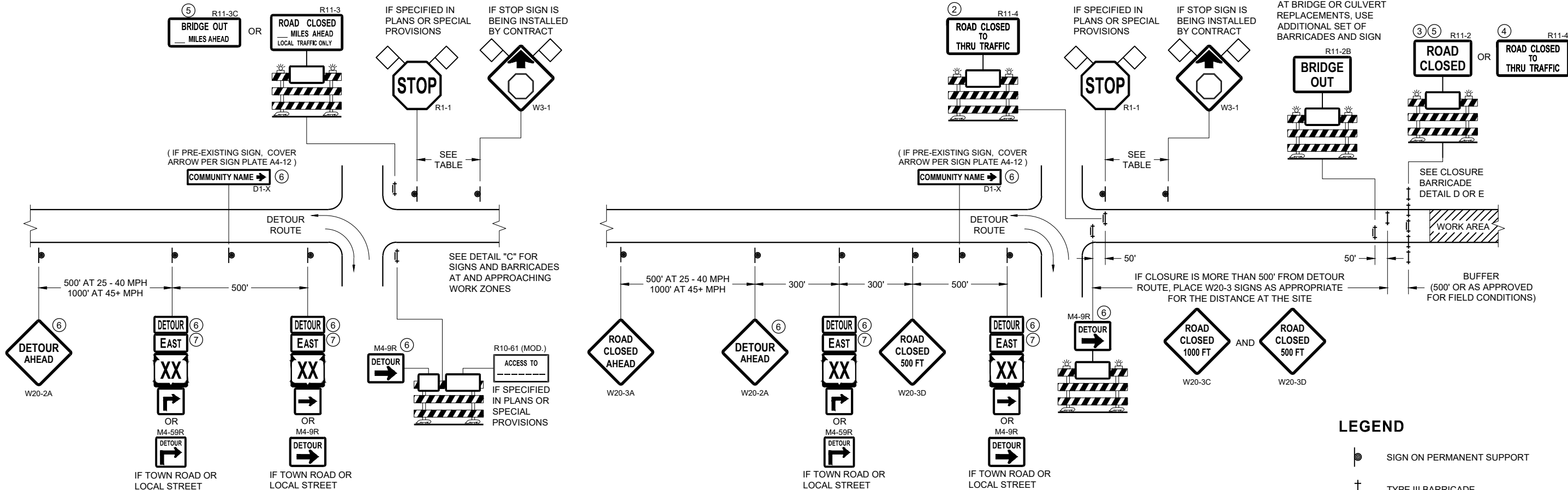
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

3/26/10
DATE

FHWA

/S/ Scot Becker
CHIEF STRUCTURAL DEVELOPMENT ENGINEER



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

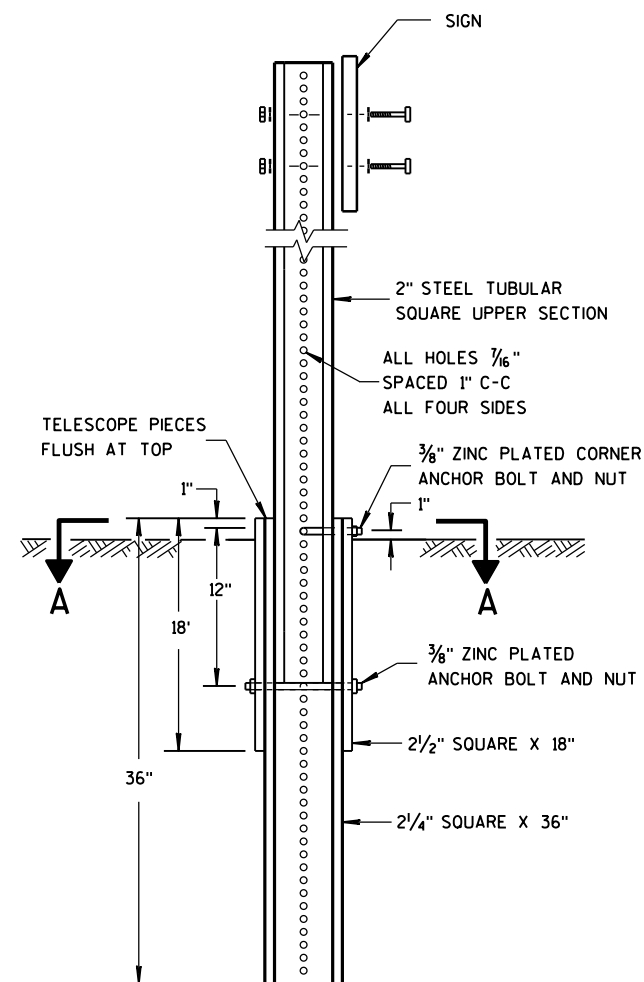
SEE SDD 15C2-SHEET "b" FOR GENERAL NOTES AND FOOTNOTES ① THROUGH ⑦

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA

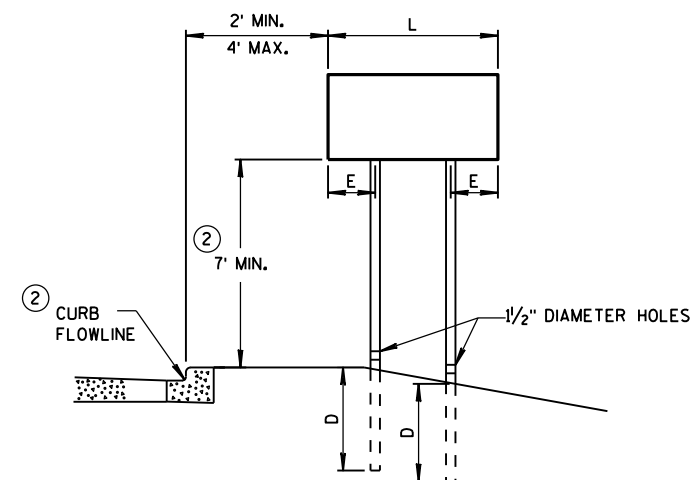
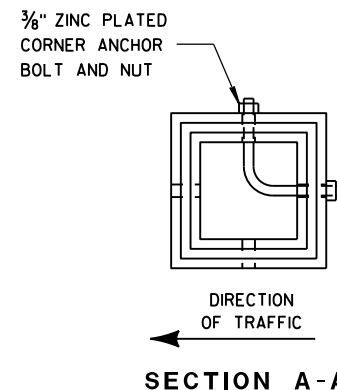


DETAIL OF TUBULAR
STEEL SIGN POST

TUBULAR STEEL POSTS

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

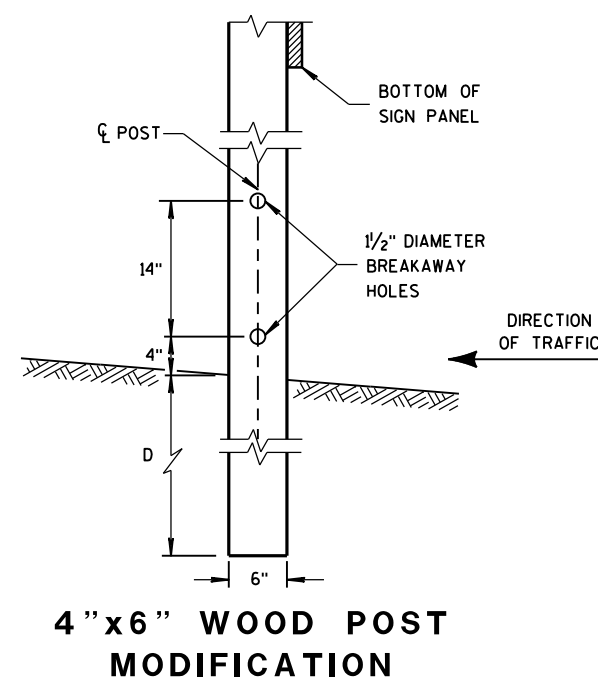
SIGNS WIDER THAN 3 FEET OR LARGER THAN 9 SQ. FT. SHALL
BE MOUNTED ON MULTIPLE POSTS (SEE ABOVE TABLE).
SIGNS LARGER THAN 27 SQ. FT. SHALL NOT BE MOUNTED
ON TUBULAR STEEL POSTS.



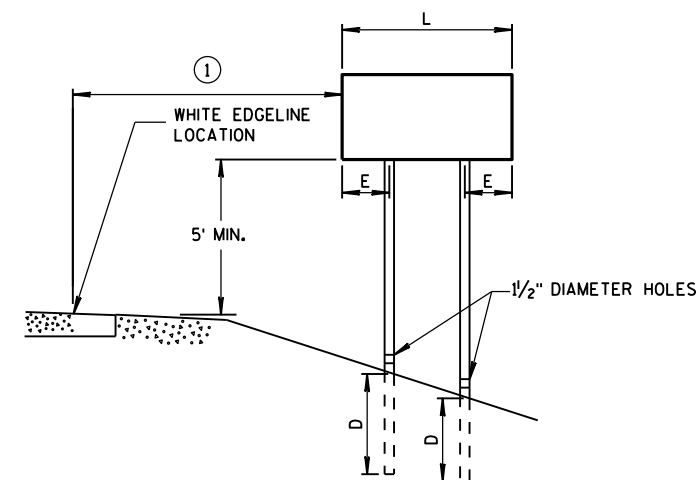
URBAN AREA

POST MOUNTING DETAIL FOR TEMPORARY TRAFFIC CONTROL FIXED MESSAGE SIGNS

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



4 "x6 " WOOD POST
MODIFICATION



RURAL AREA

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

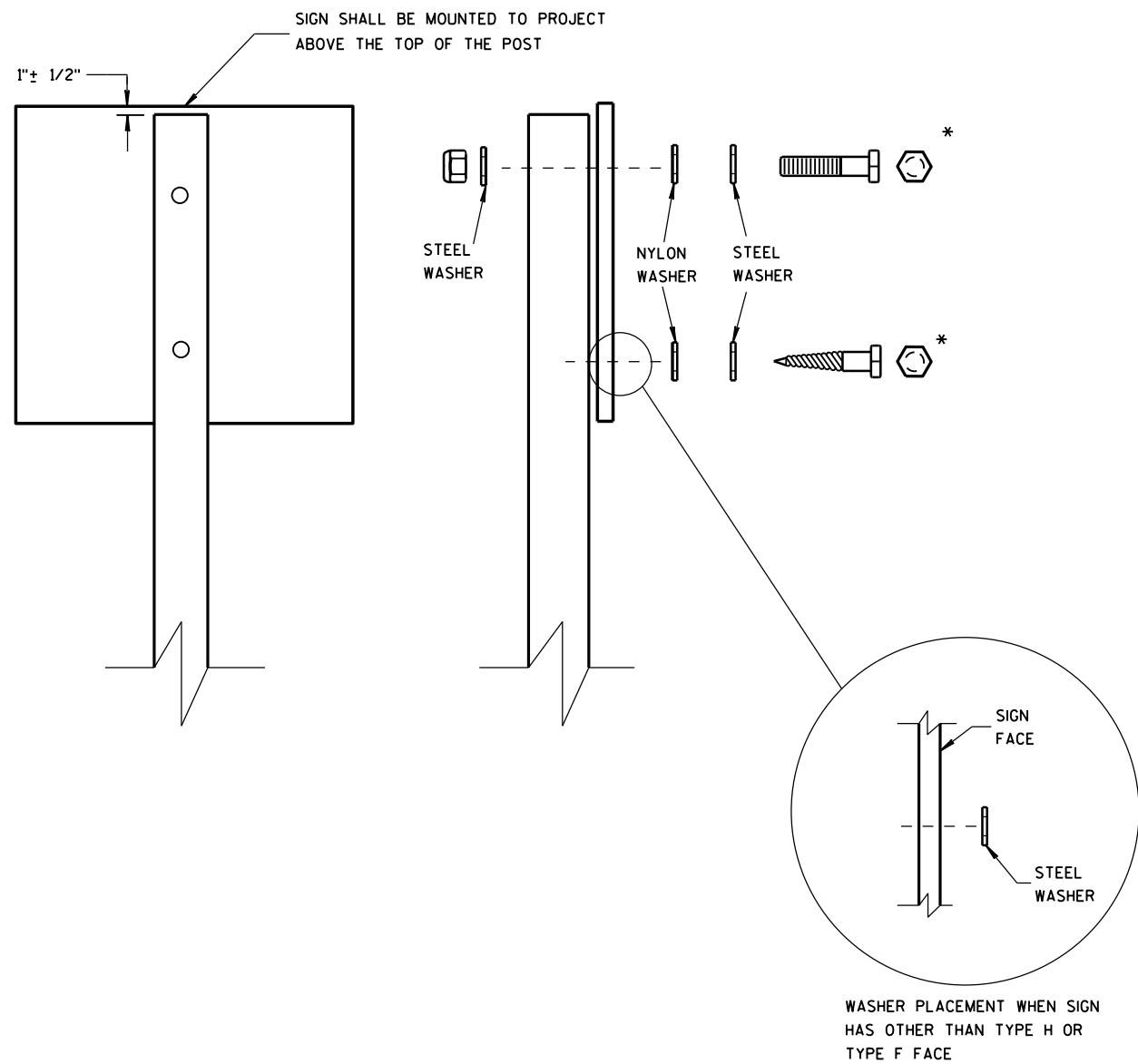
SEE NOTE ③

GENERAL NOTES

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

TEMPORARY TRAFFIC CONTROL
SIGN MOUNTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



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

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

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

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

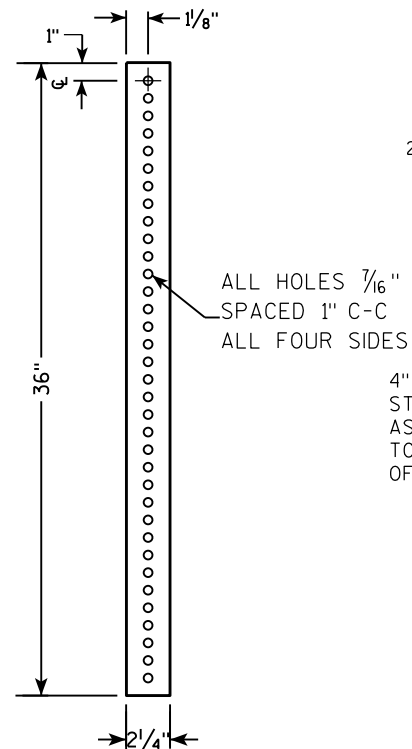
- SQUARE STEEL POSTS (2" x 2")
- MACHINE BOLTS - 3/8" x 3-1/4" LENGTH W/ NUTS
 - RIVETS - 9/32" (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH

- 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 FOR ALL TYPE H SIGNS

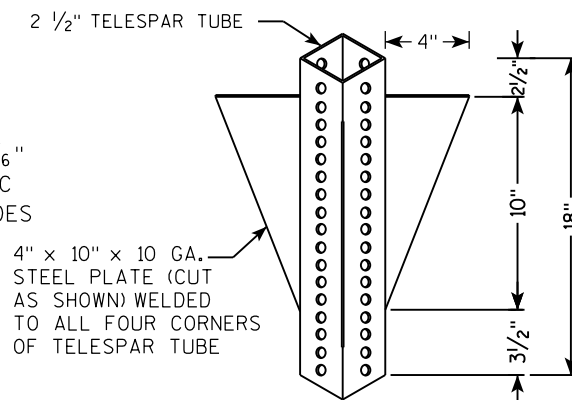
* TWO DIFFERENT FASTENING SYSTEMS ARE SHOWN FOR ILLUSTRATION PURPOSES. ON ANY INDIVIDUAL SIGN, EITHER ONE OR THE OTHER SYSTEM SHALL BE USED. ACTUAL NUMBER OF FASTENERS PER SIGN VARIES WITH THE SIGN AREA. FOR A SINGLE POST INSTALLATION, ALL SIGNS GREATER THAN 9 SQ. FT. REQUIRE THE USE OF 3 FASTENERS.

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

**2 1/4 " SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH**



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



LENGTH SHOWN ON MISC. QTY'S
 18" DIA SCHEDULE 40 PVC BOX-OUT
 TELESCOPE PIECES FLUSH AT TOP
 36"
 18"
 13"
 2 1/2"
 2 1/4" SQUARE X 36"
 2 1/2" SQUARE X 18" (SOIL STABILIZING SLEEVE)
 3/8" ZINC PLATED ANCHOR BOLT AND NUT
 2 1/2" GRAVEL OR DIRT
 3/8" ZINC PLATED CORNER ANCHOR BOLT AND NUT
 ALL HOLES 7/16" SPACED 1" C-C ALL FOUR SIDES
 2" STEEL TUBULAR SQUARE UPPER SECTION
 SEE SIGN PLATE A4-8 FOR BOLT WASHER, & NUT MATERIAL
 SIGN

LENGTH SHOWN ON MISC. QTY'S

SIGN

SEE SIGN PLATE A4-8 FOR BOLT WASHER, & NUT MATERIAL

2" STEEL TUBULAR SQUARE UPPER SECTION

ALL HOLES $\frac{7}{16}$ " SPACED 1" C-C ALL FOUR SIDES

$\frac{3}{8}$ " ZINC PLATED CORNER ANCHOR BOLT AND NUT

TELESCOPE PIECES FLUSH AT TOP

1"

$\frac{3}{8}$ " ZINC PLATED ANCHOR BOLT AND NUT

2 $\frac{1}{2}$ " SQUARE X 18" (SOIL STABILIZING SLEEVE)

2 $\frac{1}{4}$ " SQUARE X 36"

36"

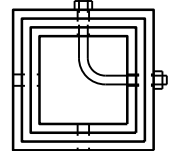
18"

12"

A

B

3/8" ZINC PLATED CORNER
ANCHOR BOLT AND NUT



DIRECTION
OF TRAFFIC

SECTION A-A

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

TUBULAR STEEL
SIGN POST
A4-9

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthieu R. Rauch

for State Traffic Engineer

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

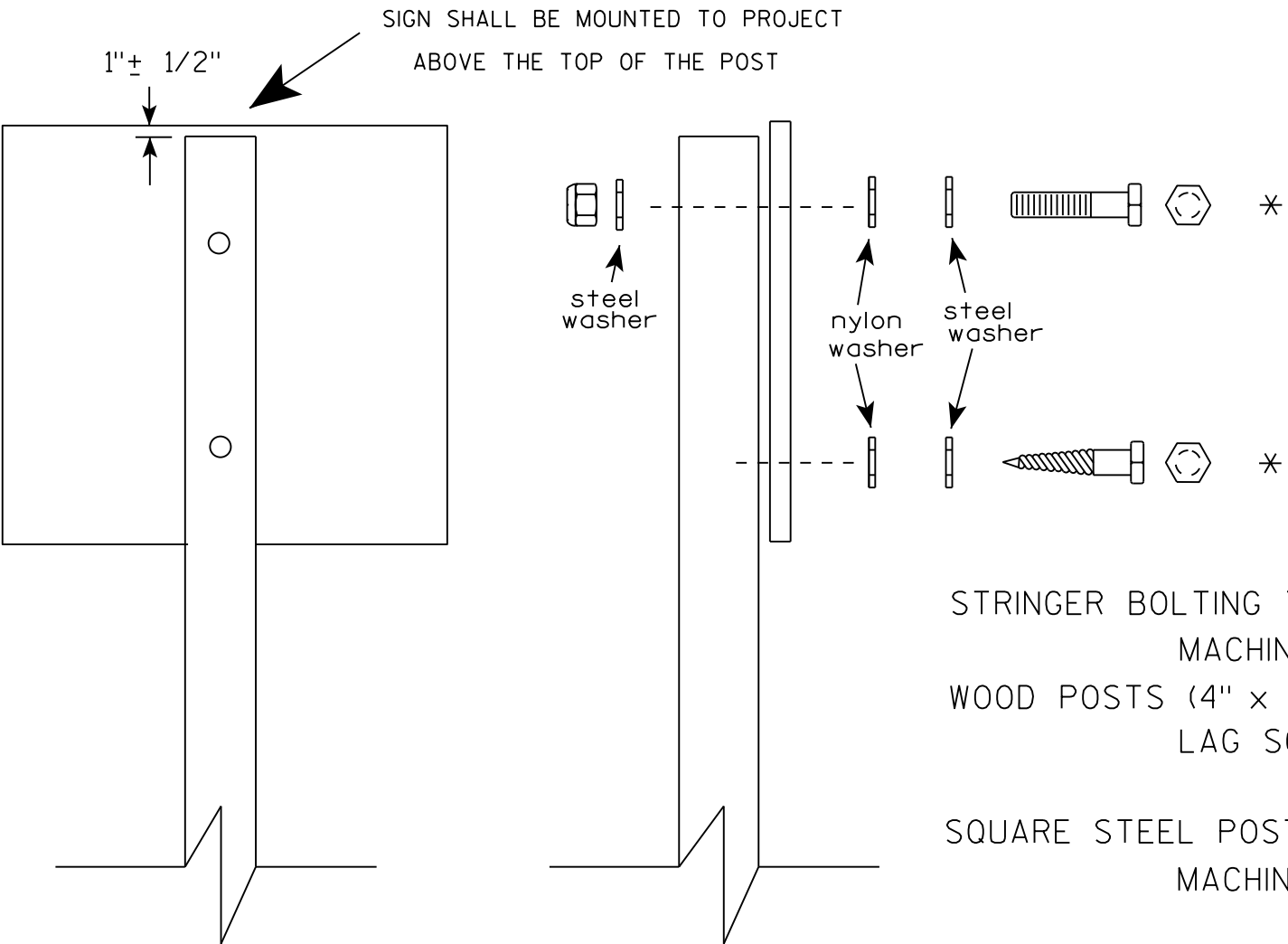
PROJECT NO: 8333-00-70

HWY: LOCAL STREET

COUNTY: BARRON

SHEET NO:

3



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

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

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

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

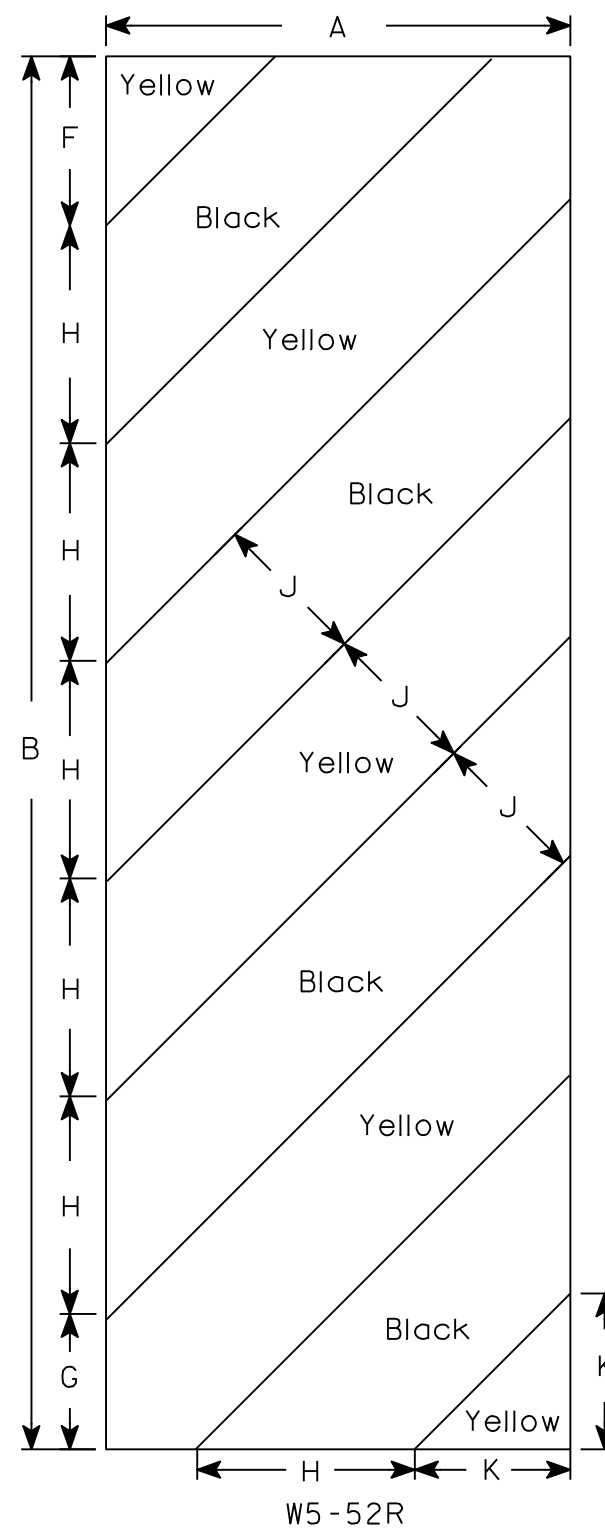
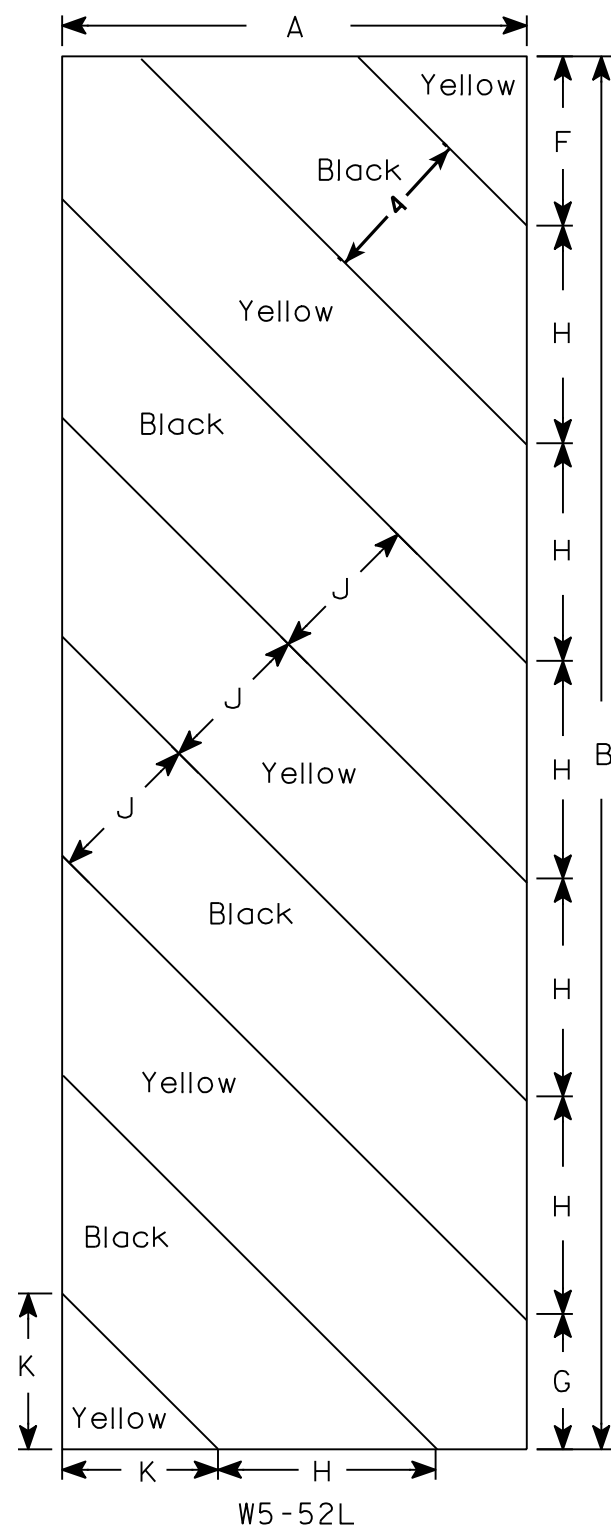
* Two different fastening systems are shown for illustration purposes. On any individual sign, either one or the other system shall be used. Actual number of fasteners per sign varies with the sign area, but normally there are two. For a single post installation, all signs greater than 9 sq. ft. require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

ATTACHMENT OF SIGNS
TO POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer

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



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.

[illegible]

STANDARD SIGN
W5-52L & W5-52R

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer
DATE 5/29/12 PLATE NO. W5-52.9

PROJECT NO: 8333-00-70

HWY: LOCAL STREET

COUNTY: BARRON

SHEET NO:

E

8333-00-70

DESIGN DATA

LIVE LOAD:

DESIGN LOADING; HL-93
 INVENTORY RATING FACTOR; RF = 1.09
 OPERATING RATING FACTOR; RF = 1.42
 WISCONSIN STANDARD PERMIT VEHICLE (Wis-SPV) = 250 KIPS

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

ULTIMATE DESIGN STRESSES:

CONCRETE MASONRY SLAB ----- f'_c = 4000 P.S.I.
 ALL OTHER CONCRETE MASONRY ----- f'_c = 3500 P.S.I.
 BAR STEEL REINFORCEMENT, GRADE 60 ----- f_y = 60,000 P.S.I.

FOUNDATION DATA

ABUTMENTS TO BE SUPPORTED ON HP 10 X 42 STEEL PILING
 DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 110 TONS ** PER PILE
 AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA.
 ESTIMATED 26'-0" LONG AT WEST ABUTMENT
 ESTIMATED 26'-0" LONG AT EAST ABUTMENT

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

HYDRAULIC DATA

100 YEAR FREQUENCY

Q (100) = 440 C.F.S.
 Q (100) THRU BRIDGE = 440 C.F.S.
 VEL. = 4.75 F.P.S.
 HW. EL. (100) = 1218.41
 WATERWAY AREA (BRIDGE) = 93 SQ. FT.
 DRAINAGE AREA = 1.8 SQ. MI.
 ROAD OVERTOPPING FREQUENCY = > 100 YEAR
 OVERTOPPING MIN. EL. = 1218.28
 SCOUR CRITICAL CODE = 5

2 YEAR FREQUENCY

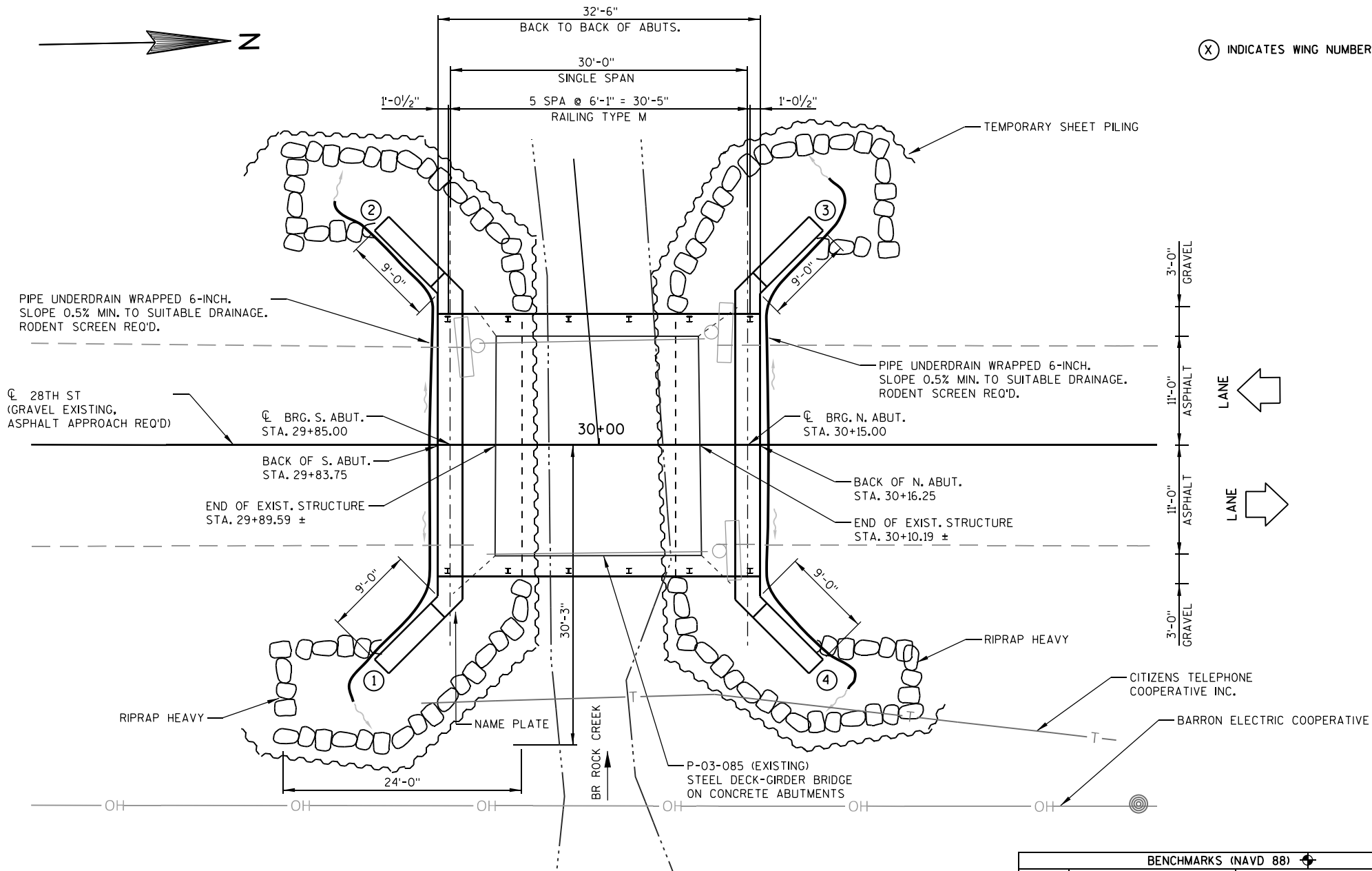
Q (2) = 106 C.F.S.
 HW. EL. (2) = 1216.39
 VEL (2) = 1.6 F.P.S.

TRAFFIC DATA

A.D.T. (2040) = 26
 R.D.S. = 40 MPH

CONSULTANT CONTACT:
 MATT GUNDY (715) 861-7425

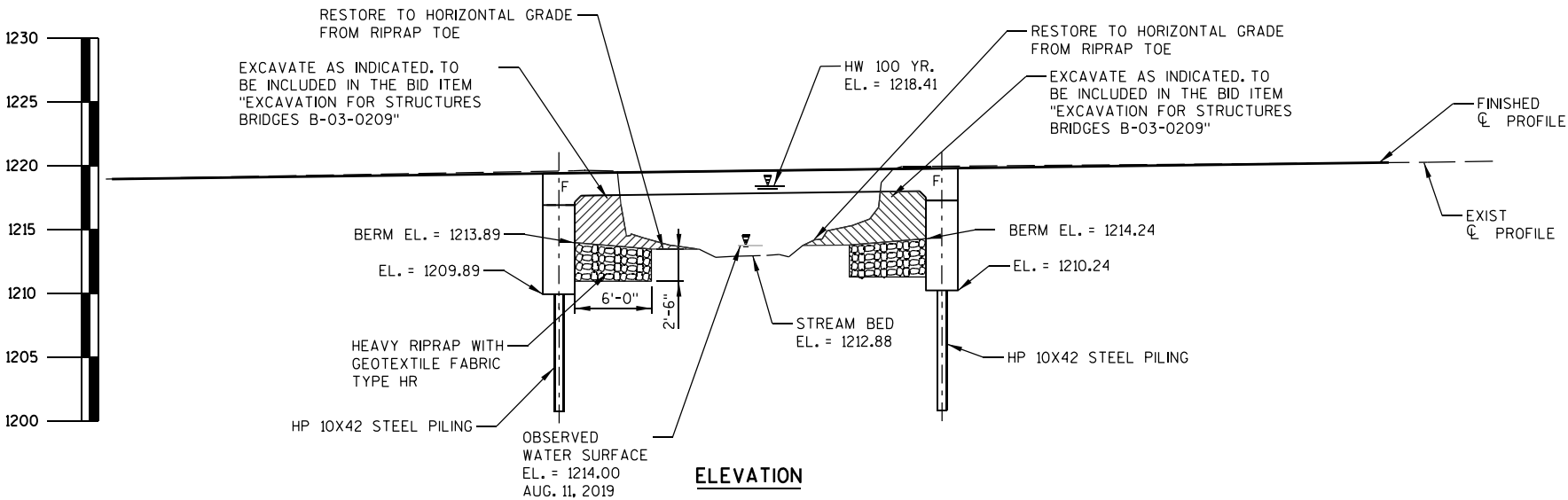
BRIDGE OFFICE CONTACT:
 WILLIAM DREHER (608) 266-8489



PLAN

B-03-0209, SINGLE SPAN - REINFORCED CONCRETE FLAT SLAB

BENCHMARKS (NAVD 88)			
NO.	STA./OFFSET	DESCRIPTION	ELEV.
BM80	30+11, 11' RT	CHISELED SQUARE IN NE TOP OF WING	1219.61
BM81	30+53, 36' RT	RR SPIKE IN TELEPHONE POLE	1222.36



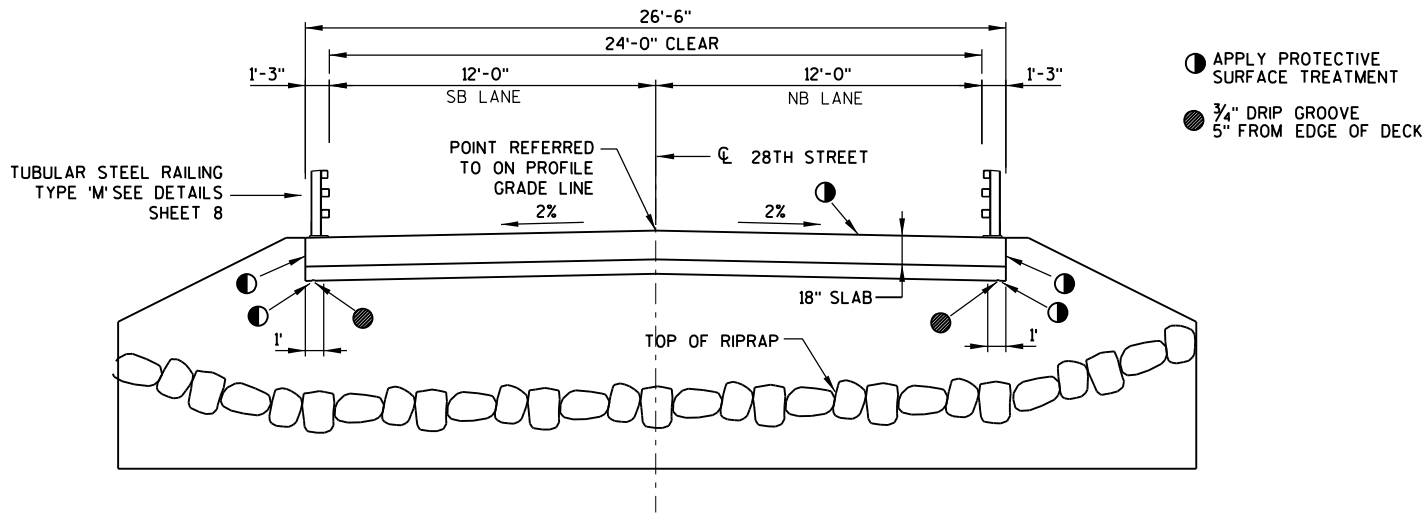
ELEVATION



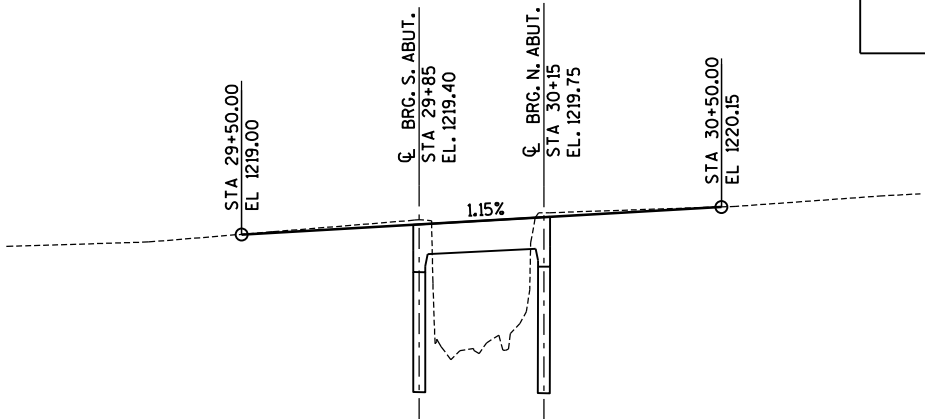
LIST OF DRAWINGS

1. GENERAL PLAN
2. CROSS SECTION & QUANTITIES
3. SUBSURFACE EXPLORATION
4. ABUTMENT ELEVATION DETAILS
5. ABUTMENT WING DETAILS
6. ABUTMENT BILL OF BARS
7. SUPERSTRUCTURE
8. RAILING TUBULAR TYPE M

NO.	DATE	REVISION	BY
Engineers - Surveyors - Architects 770 Technology Way Chippewa Falls, WI 54729 Phone: 715.861.5226 www.cbsquaredinc.com			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION ACCEPTED <i>William C. Dreher</i> 12/03/19 CHIEF STRUCTURES DESIGN ENGINEER DATE			
STRUCTURE B-03-0209			
28TH STREET OVER BR ROCK CREEK			
COUNTY	BARRON	TOWN/CITY/VILLAGE	SUMNER
DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS			
DESIGNED BY	MJG	DESIGN CK'D.	MJG
DRAWN BY	DPB	PLANS CK'D.	MJG
GENERAL PLAN			SHEET 1 OF 8

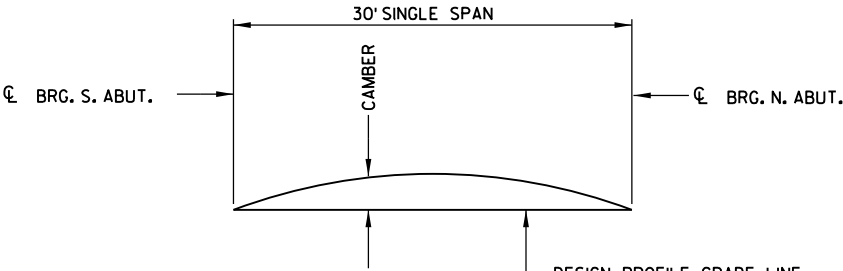


CROSS SECTION THRU ROADWAY LOOKING NORTH



PROFILE GRADE LINE 28TH ST

TOP OF SLAB ELEVATIONS
AND CAMBER VALUES



CAMBER DIAGRAM

CAMBER SPANS AS SHOWN TO PROVIDE FOR DEADLOAD DEFLECTION AND FUTURE CREEP. SEE CAMBER VALUES IN ADJACENT TABLE. CAMBER DOES NOT INCLUDE ALLOWANCE FOR FORM SETTLEMENT. DEADLOAD DEFLECTION COMPRISES APPROXIMATELY 1/3 OF THE FULL CAMBER VALUE GIVEN.

LOCATION	LT. EDGE SLAB ELEV.	CL BRIDGE ELEV.	RT. EDGE SLAB ELEV.	CAMBER VALUE (INCHES)
S. CL ABUT.	1219.14	1219.40	1219.14	0
1/10	1219.17	1219.43	1219.17	1/4
2/10	1219.21	1219.47	1219.21	3/8
3/10	1219.24	1219.50	1219.24	1/2
4/10	1219.28	1219.54	1219.28	5/8
5/10	1219.31	1219.57	1219.31	3/4
6/10	1219.35	1219.61	1219.35	5/8
7/10	1219.38	1219.64	1219.38	1/2
8/10	1219.42	1219.68	1219.42	3/8
9/10	1219.45	1219.71	1219.45	1/4
N. CL ABUT.	1219.49	1219.75	1219.49	0

TOTAL ESTIMATED QUANTITIES

ITEM NUMBER	BID ITEMS	UNIT	SUPER.	WEST ABUT.	EAST ABUT.	TOTAL
203.0700.S	REMOVING OLD STRUCTURE OVER WATERWAY WITH DEBRIS CAPTURE SYSTEM STA. 30+00.00	LS	-	-	-	1
206.1000	EXCAVATION FOR STRUCTURES BRIDGES B-03-0209	LS	-	-	-	1
210.1500	BACKFILL STRUCTURE TYPE A	TON	-	165	165	330
502.0100	CONCRETE MASONRY BRIDGES	CY	52	33	33	118
502.3200	PROTECTIVE SURFACE TREATMENT	SY	112	-	-	112
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	-	2,170	2,170	4,340
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	9,200	1,450	1,450	12,100
512.1000	PILING STEEL SHEET TEMPORARY	SF	-	750	750	1,500
513.4061	RAILING TUBULAR TYPE M B-03-0209	LF	70	-	-	70
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	-	17.5	17.5	35
550.0020	PRE-BORING ROCK OR CONSOLIDATED MATERIALS	LF	-	30	30	60
550.1100	PILING STEEL HP 10-INCH X 42 LB	LF	-	146	146	292
606.0300	RIPRAP HEAVY	CY	-	45	40	85
612.0206	PIPE UNDERDRAIN UNPERFORATED 6-INCH	LF	-	20	20	40
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	-	49	49	98
645.0120	GEOTEXTILE FABRIC TYPE HR	SY	-	90	85	175
NON-BID ITEMS						
	PREFORMED FILLER	SIZE	---	---	---	1/2" & 3/4"

ALL ITEMS = CAT. 0020

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

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

THE SLOPE OF THE FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH RIPRAP HEAVY AND GEOTEXTILE FABRIC HR TO THE LIMITS SHOWN ON SHEET 1 AND ON THE ABUTMENT SHEETS OR AS DIRECTED BY THE ENGINEER

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

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

THIS STRUCTURE WILL REPLACE EXISTING BRIDGE, P-03-085, A 26-FOOT LONG, SINGLE-SPAN DECK GIRDER BRIDGE SET ON CONCRETE ABUTMENTS

AT THE BACKFACE OF ABUTMENT ALL VOLUME WHICH CANNOT BE PLACED BEFORE ABUTMENT CONSTRUCTION AND IS NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH STRUCTURE BACKFILL. THE BACKFILL STRUCTURE QUANTITIES ASSUMED A 1 1/2:1 EXCAVATION SLOPE BEHIND THE ABUTMENTS

THE FIRST DIGIT OF A THREE DIGIT BAR MARK AND THE FIRST TWO DIGITS OF A FOUR DIGIT BAR MARK SIGNIFIES THE BAR SIZE

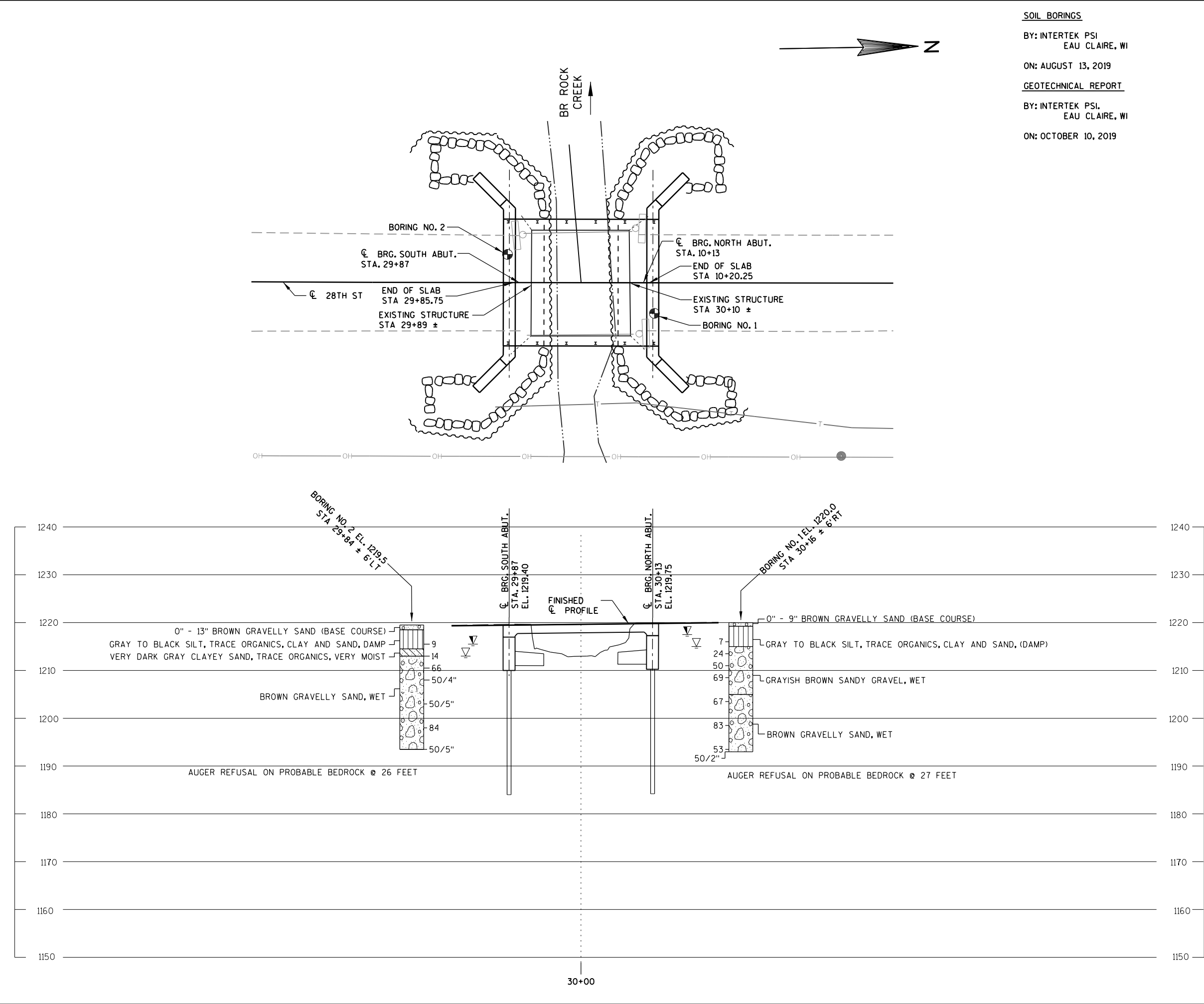
AT ABUTMENTS, CONCRETE POURED UNDER WATER WILL BE ALLOWED AND SHALL BE DONE IN ACCORDANCE WITH SECTION 502.3.5.3 OF THE STANDARD SPECIFICATIONS

DO NOT PLACE BACKFILL STRUCTURE ABOVE 3'-0" FROM BOTTOM OF ABUTMENT UNTIL SUPERSTRUCTURE IS IN PLACE AND MEETS MINIMUM CURING REQUIREMENTS OF SECTION 502.3.4.2 OF THE STANDARD SPECIFICATINS

ORIGINAL PLANS PREPARED BY



NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-03-0209			
DRAWN BY		DPB	PLANS CK'D. MJG
CROSS SECTION & QUANTITIES			SHEET 2 OF 8



SOIL BORINGS
BY: INTERTEK PSI
EAU CLAIRE, WI
ON: AUGUST 13, 2019
GEOTECHNICAL REPORT
BY: INTERTEK PSI.
EAU CLAIRE, WI
ON: OCTOBER 10, 2019

STATE PROJECT NUMBER
8333-00-70

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

LEGEND OF BORING
BORING #/EL. STA./OFF-SET
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

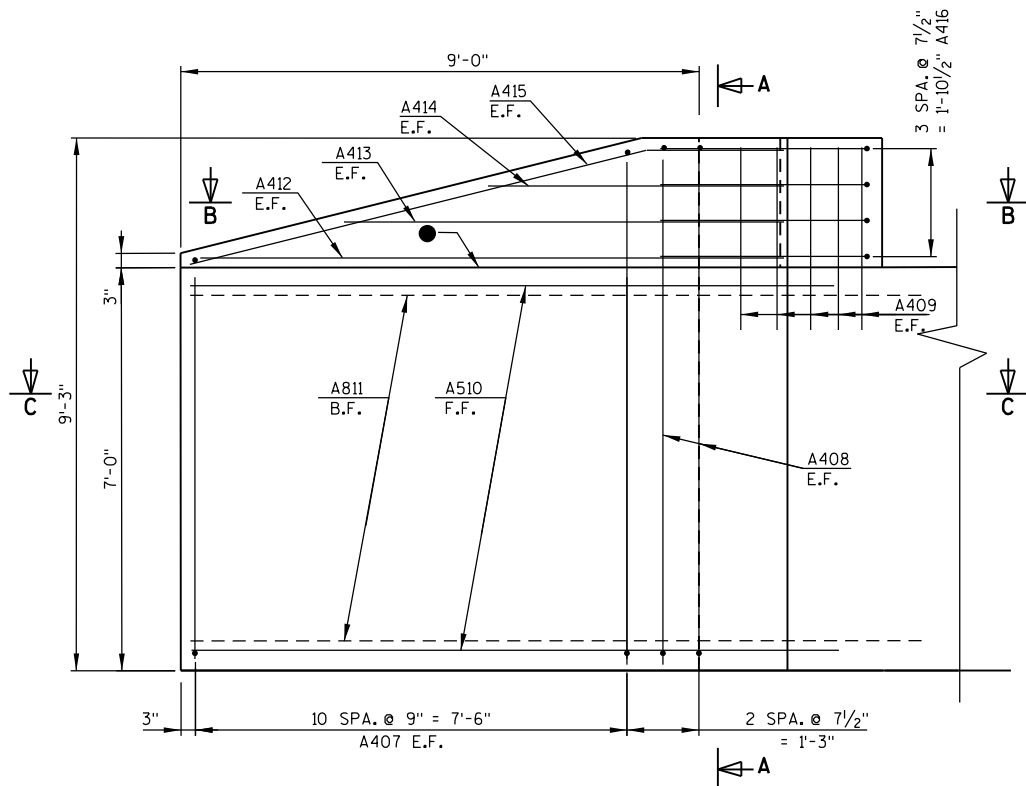
SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION
BORINGS WERE COMPLETED AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING TO OBTAIN INFORMATION CONCERNING THE CHARACTER OF SUBSURFACE MATERIALS FOUND AT THE SITE. BECAUSE THE INVESTIGATED DEPTHS ARE LIMITED AND THE AREA OF THE BORINGS 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 STRUCTURES DESIGN SECTION			
STRUCTURE B-03-0209			
DRAWN BY		DPB	PLANS CKD. MJG
SUBSURFACE EXPLORATION		SHEET 3 OF 8	

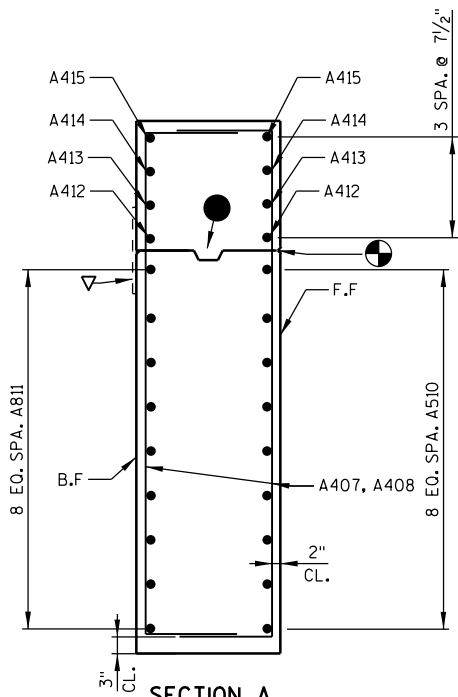
E.F. DENOTES EACH FACE
B.F. DENOTES BACK FACE
F.F. DENOTES FRONT FACE



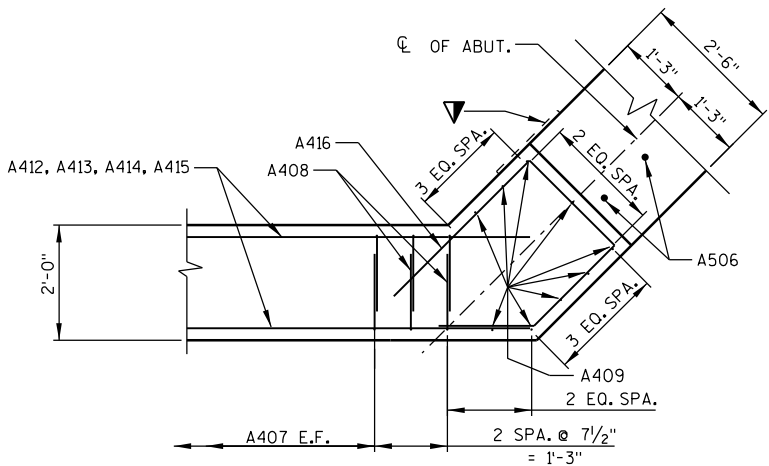
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-03-0209			
DRAWN BY		DPB	PLANS CK'D. MJG
ABUTMENT ELEVATION DETAILS		SHEET 4 OF 8	



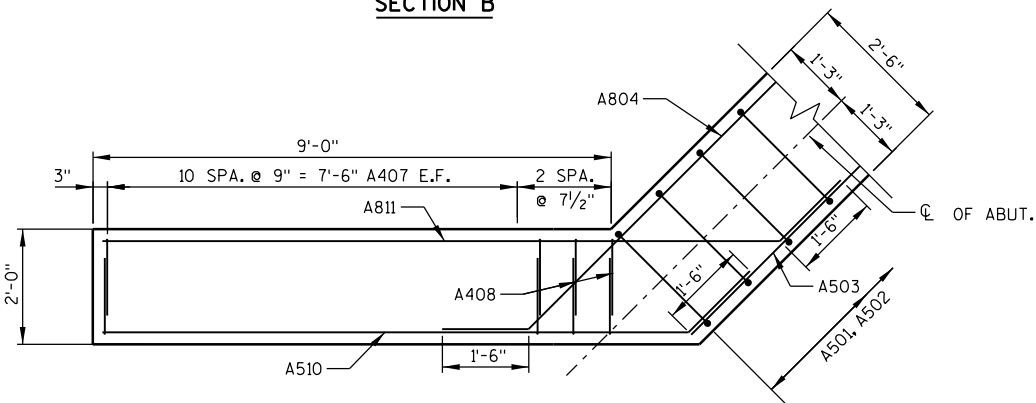
ELEVATION - WING



SECTION A



SECTION B



SECTION C

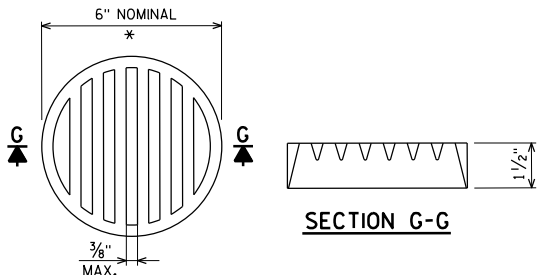
LEGEND

- ◇ THESE BARS MAY BE PLACED AFTER CONCRETE IS POURED, BUT BEFORE INITIAL SET HAS TAKEN PLACE.
- ◆ PIPE UNDERDRAIN WRAPPED (6-INCH). TO BE PLACED AT AN ELEVATION AND SLOPED 0.5% MIN. TO ALLOW FOR SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN. SEE DETAIL THIS SHEET.
- ▽ 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL JOINTS ON BACKFACE.
- ◐ KEYED CONST. JOINT FORMED BY BEVELED 2" x 6".
- OPT. KEYED CONST. JOINT FORMED BY BEVELED 2" x 6" WITH MEMBRANE ON BACKFACE.
- ◑ 3/4" "V" GROOVE ON F.F. OF WING WALL.
- ▽ VERTICAL 18" RUBBERIZED MEMBRANE WATERPROOFING TO EXTEND FROM BRIDGE SEAT TO TOP OF WING WALL.

E.F. DENOTES EACH FACE

B.F. DENOTES BACK FACE

F.F. DENOTES FRONT FACE

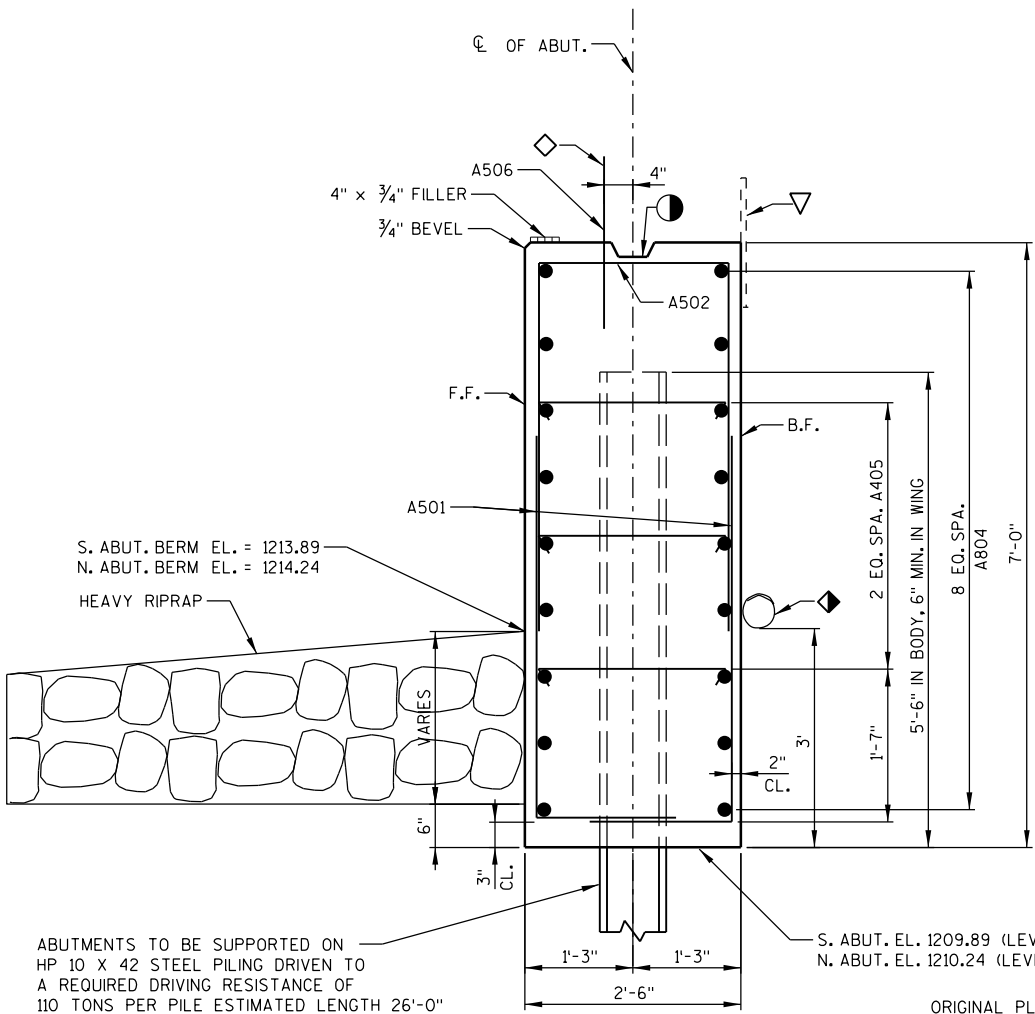


* DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING. ORIENT SO SLOTS ARE VERTICAL.

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

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

RODENT SHIELD DETAIL



ABUTMENTS TO BE SUPPORTED ON HP 10 X 42 STEEL PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 110 TONS PER PILE ESTIMATED LENGTH 26'-0"

TYPICAL SECTION THRU ABUT. BODY

ORIGINAL PLANS PREPARED BY



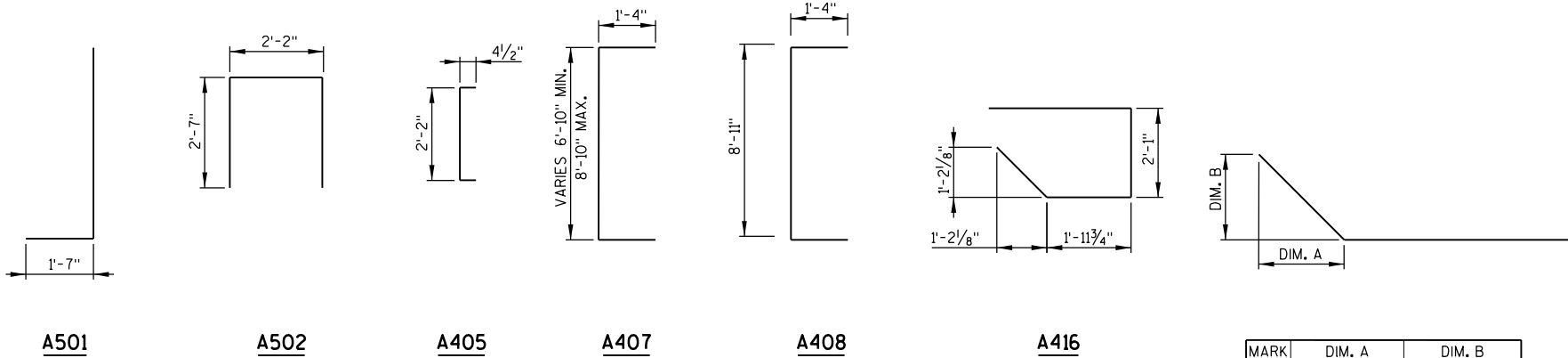
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-03-0209			
DRAWN BY		DPB	PLANS CK'D. MJG
ABUTMENT WING DETAILS		SHEET 5 OF 8	

LEGEND

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

NOTES

DIMENSIONS ARE OUT TO OUT OF BARS.



BAR SERIES TABLE

NUMBER REQ'D PER ABUTMENT
BUNDLE AND TAG EACH
SERIES SEPARATELY

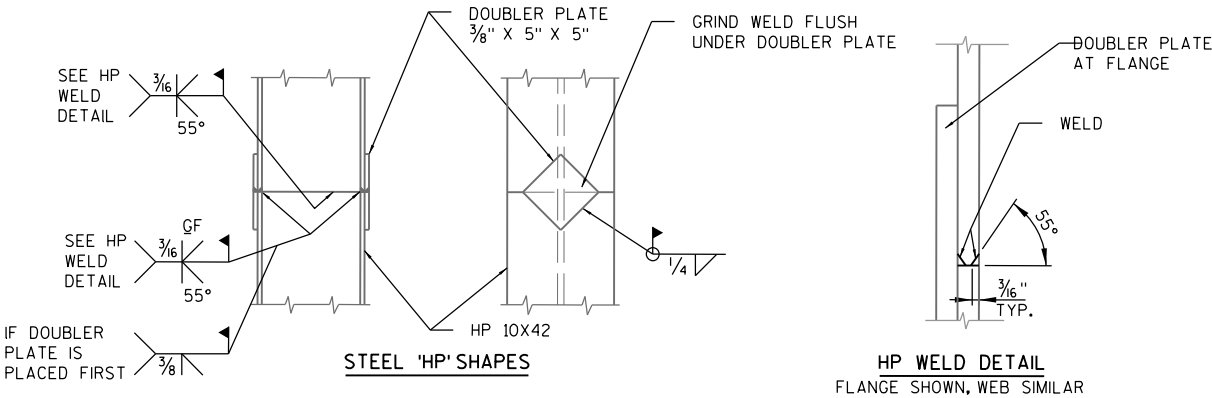
MARK	NO. REQ'D	LENGTH
A407	4 SERIES OF 11	9-6 TO 11-9

MARK	DIM. A	DIM. B
A804	1'-0 3/4"	1'-0 3/4"
A510	1'-0 3/4"	1'-0 3/4"
A811	1'-0 3/4"	1'-0 3/4"
A415	2'-3 1/4"	0'-8 3/4"

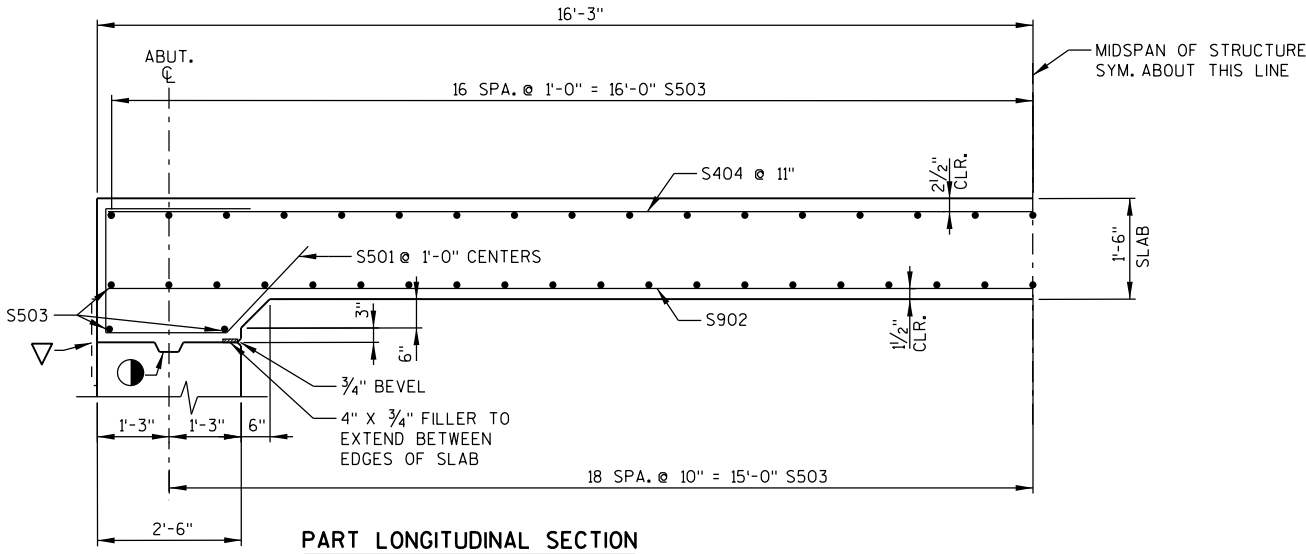
BILL OF BARS - EACH ABUTMENT

MARK	NO. REQ'D	LENGTH	SERIES	COAT	BENT	LOCATION
A501	64	8 - 0			X	BODY VERT.
A502	32	7 - 1			X	BODY VERT.
A503	9	31 - 1				BODY HORIZ. F.F.
A804	18	21 - 11			X	BODY HORIZ. B.F.
A405	27	2 - 9			X	BODY TIES
A506	27	2 - 0			X	BODY DOWELS
⊗ A407	44	10 - 4	X	X	X	WING VERT. E.F.
A408	8	11 - 5			X	WING VERT. E.F.
A409	18	3 - 11			X	WING VERT. E.F.
A510	18	11 - 8			X	WING HORIZ. F.F.
A811	18	13 - 2			X	WING HORIZ. B.F.
A412	4	9 - 5			X	WING HORIZ. E.F.
A413	4	7 - 0			X	WING HORIZ. E.F.
A414	4	4 - 8			X	WING HORIZ. E.F.
A415	4	10 - 6			X	WING DIAG. E.F.
A416	8	8 - 4			X	WING HORIZ.

TOTAL WEIGHT - COATED	1450 LBS
TOTAL WEIGHT - UNCOATED	2170 LBS



NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-03-0209			
DRAWN BY	DPB	PLANS CK'D.	MJG
ABUTMENT BILL OF BARS		SHEET 6 OF 8	

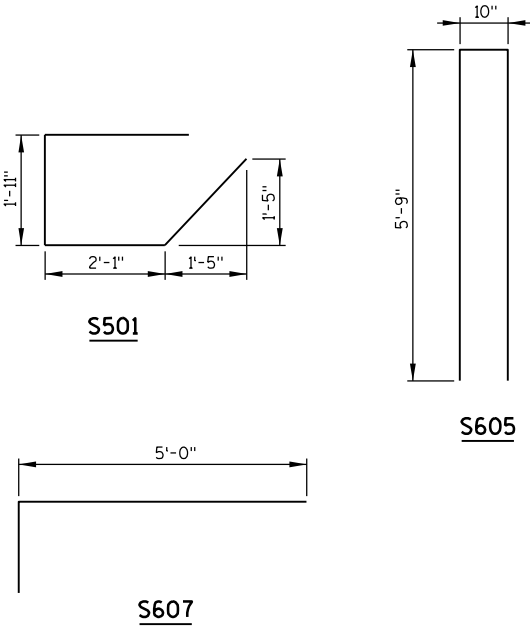


PART LONGITUDINAL SECTION

(MEASURED ALONG 28TH ST.)

BILL OF BARS - SUPERSTRUCTURE

MARK	NO. REQ'D	LENGTH	COAT	BENT	LOCATION
S501	54	8-5	X	X	SLAB VERT @ ABUT.
S902	55	27-11	X		SLAB LONG. BOT.
S503	75	26-2	X		SLAB TRANS. BOT. & TOP
S404	27	32-2	X		SLAB LONG. TOP
S605	24	12-0	X	X	SLAB @ RAIL POSTS
S606	32	6-0	X		SLAB @ INT. RAIL POSTS
S607	16	6-0	X	X	SLAB @ END RAIL POSTS
TOTAL WEIGHT (COATED BARS) - 9,200 LBS					



LEGEND

- ▽ 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL JOINTS ON BACKFACE.
- KEYED CONST. JOINT FORMED BY BEVELED 2" x 6".

GENERAL NOTES

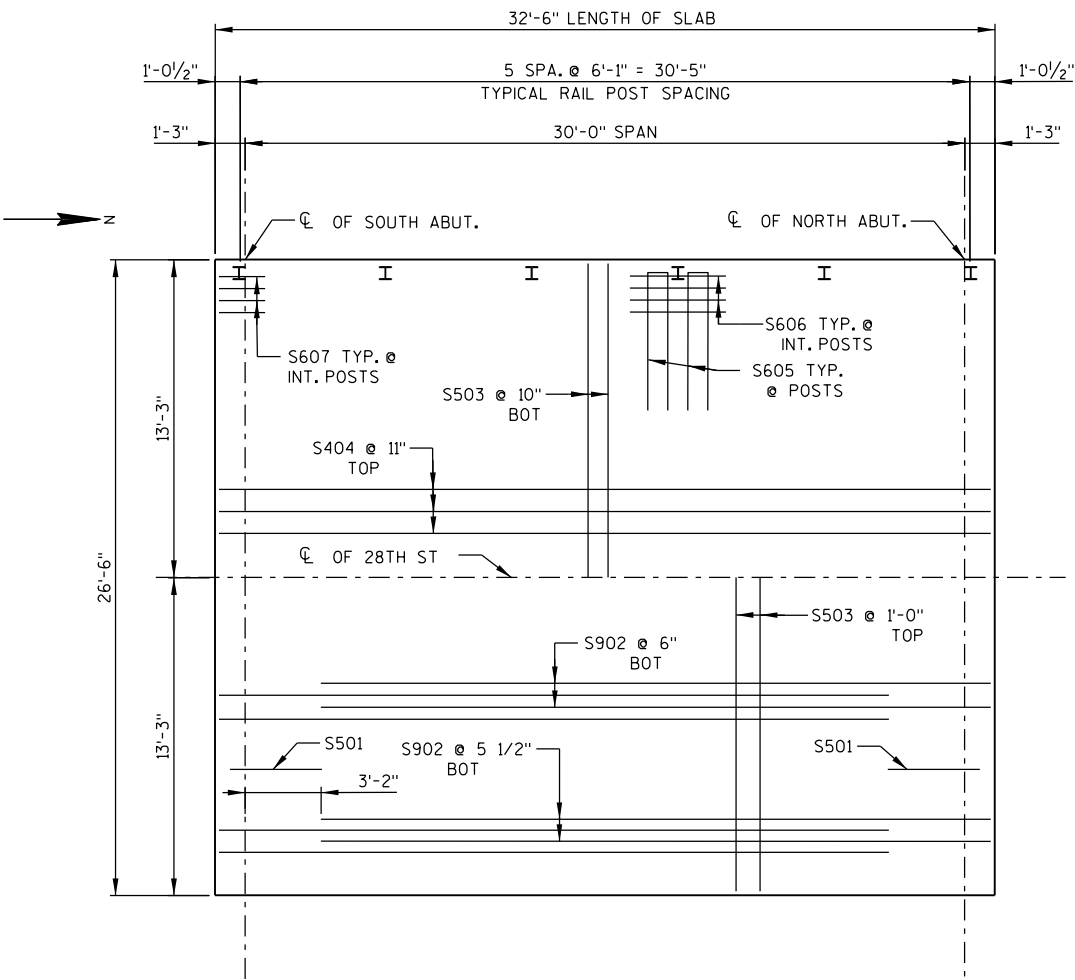
DIMENSIONS ARE OUT TO OUT OF BARS.

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

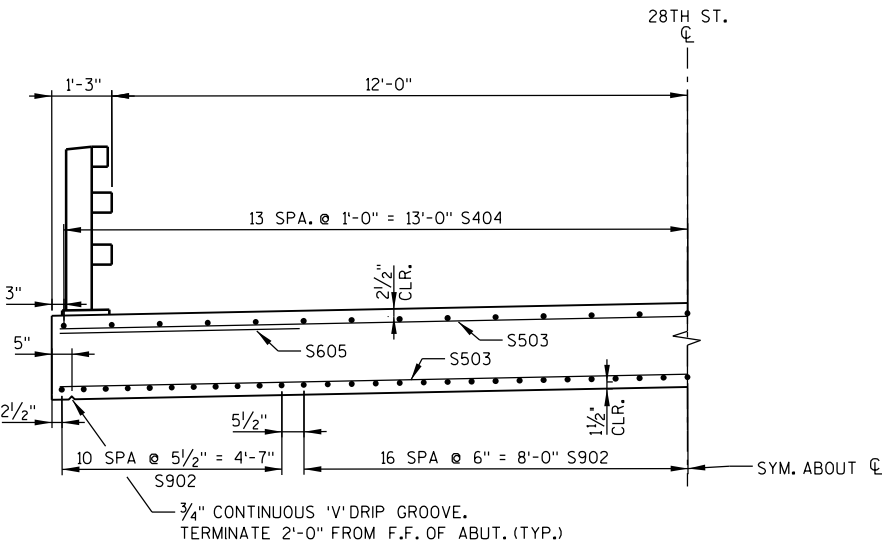
TOP TRANSVERSE BARS IN SLAB SHALL BE SUPPORTED BY INDIVIDUAL BAR CHAIRS AT APPROXIMATELY 3'-0" CENTERS EACH WAY. BOTTOM LONGITUDINAL BARS SHALL BE SUPPORTED BY CONTINUOUS BAR CHAIRS AT APPROXIMATELY 4'-0" CENTERS.

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

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



PLAN



HALF SECTION THRU BRIDGE

(LOOKING EAST)

ORIGINAL PLANS PREPARED BY



NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-03-0209			
DRAWN BY DPB		PLANS CK'D. MJG	
SUPERSTRUCTURE		SHEET 7 OF 8	

LEGEND

- ① W6 x 25 with 1/8" x 1 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 11 3/4" x 1'-8" WITH 1 5/8" x 1 5/8" SLOTTED HOLES FOR ANCHOR BOLTS NO. 3. WELD TO NO. 1 AS SHOWN. SLOTS PARALLEL TO SHORT SIDE OF PLATE.
- ③ ASTM A449 - 1/8" DIA. ANCHOR BOLTS WITH NUT AND HARDENED WASHER (ALL GALVANIZED), 5 REQ'D. PER POST. THREAD 3" AND PLACE NORMAL TO PLATE NO. 2. CHAMFER TOP OF BOLTS BEFORE THREADING. USE 1'-9" LONG IN ABUTMENT WINGS. AT POSTS ON CONCRETE SLAB SUPERSTRUCTURES WHERE THE SLAB THICKNESS IS > 16" USE 1'-3" LONG. USE 10 3/4" LONG AT ALL OTHER LOCATIONS. (AN EQUIVALENT THREADED ROD WITH NUTS AND HARDENED WASHERS MAY BE SUBSTITUTED FOR ANCHOR BOLTS IN WINGS IF REQ'D. FOR CONSTRUCTIBILITY.)
- ④ 5/8" x 11" x 1'-8" ANCHOR PLATE (GALVANIZED) WITH 1 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, 3/6" x 1 5/8" x 1 5/8" WASHER, AND LOCK WASHER (2 REQ'D. AT EACH RAIL TO POST LOCATION.)
- ⑦ 1/2" THK. BACK-UP PLATE WITH 2 - 7/8" x 1/2" THREADED SHOP WELDED STUDS (NO. 12). BOLT TO RAIL AS SHOWN IN DETAIL. REQUIRED AT THRIE BEAM GUARD RAIL ATTACHMENTS ONLY. PLACE SYMMETRICALLY ABOUT TUBES NO. 5A.
- ⑧ 1" DIA. HOLES IN PLATE NO. 7 & TUBES NO. 5A FOR 7/8" DIA. A325 BOLTS WITH HEX NUTS AND WASHERS. 6 HOLES IN TUBES AND PLATE NO. 7.
- ⑨ SPLICE SLEEVE FABRICATED FROM 1/4" PLATE. PROVIDE "SLIDING FIT".
- ⑩ 3/8" x 3 5/8" x 2'-4" PLATE. 2 PER RAIL. USED IN NO. 5 & 5A.
- ⑩A 3/8" x 2 5/8" x 2'-4" PLATE USED IN NO. 5. 3/8" x 3 5/8" x 2'-4" PLATE USED IN NO. 5A. 2 PER RAIL.
- ⑪ 7/8" 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.
- ⑫ 7/8" DIA. x 1/2" LONG THREADED SHOP WELDED STUDS (2 REQ'D.).
- ⑬ 3/8" x 8" x 1'-6" PLATE. BOLT TO RAIL AS SHOWN IN DETAIL. REQ'D. AT THRIE BEAM GUARD RAIL ATTACHMENTS ONLY. PLACE SYM. ABOUT TUBES NO. 5A.
- ⑭ 7/8" DIA. x 2" LONG A325 HEX BOLT WITH NUT AND WASHER (5 REQ'D.).
- ⑮ 1" 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 B-03-209" 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.

▲ TIE TO TOP MAT OF STEEL.

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

■ RDWY. OPENING OR 2 1/2" MIN. FOR STRIP SEAL EXP. JOINT & 1/2" OPENING FOR A1 ABUTMENT.

ORIGINAL PLANS PREPARED BY

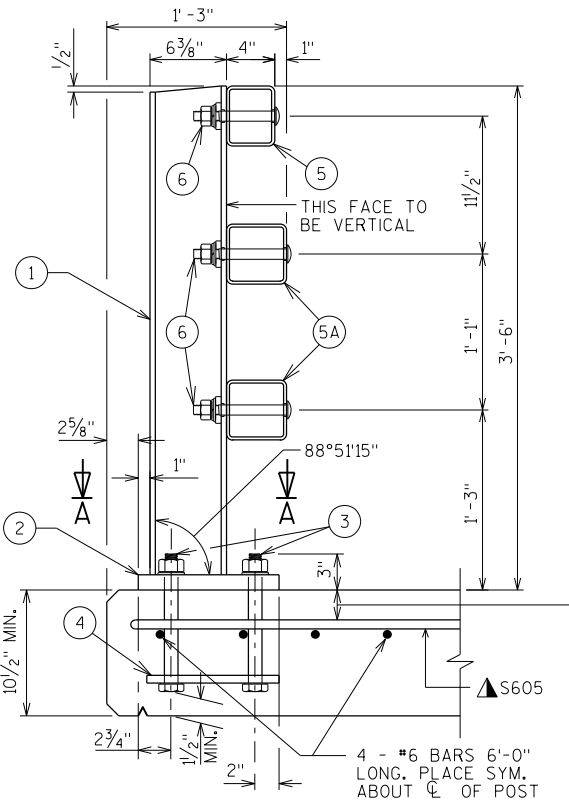


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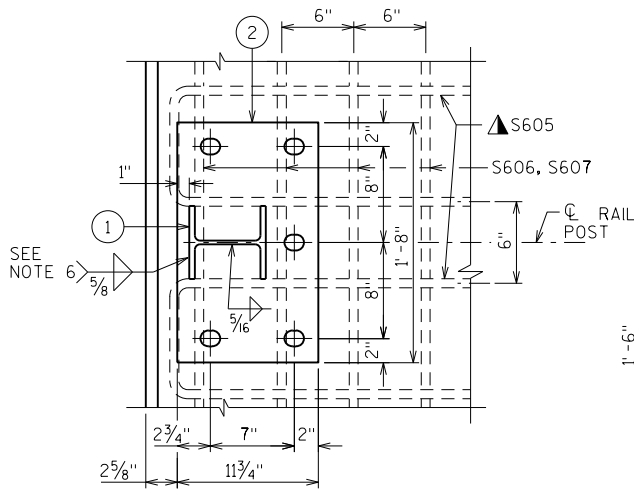
DRAWN BY MJG PLANS CK'D. MJG

TUBULAR STEEL
RAILING TYPE 'M'

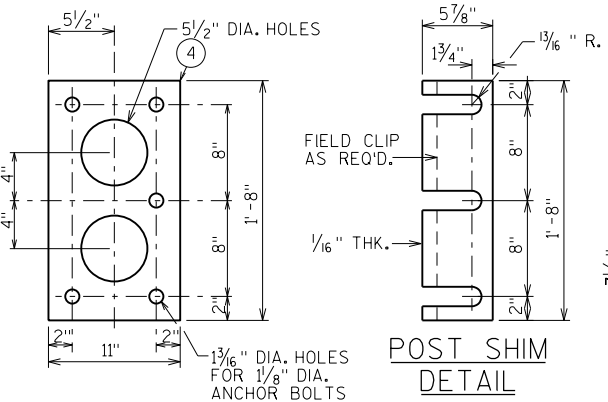
SHEET 8 OF 8



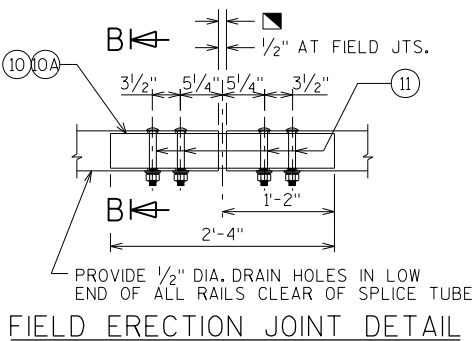
SECTION THRU RAILING ON DECK



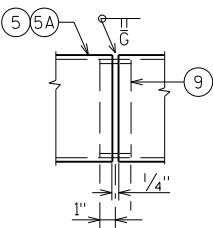
SECTION A-A



ANCHOR PLATE
AT RAIL TO DECK CONNECTION



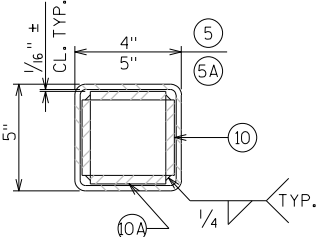
FIELD ERECTION JOINT DETAIL



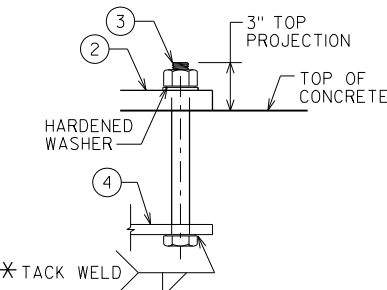
SHOP RAIL SPLICE DETAIL

LOCATION MUST BE SHOWN ON SHOP DRAWINGS

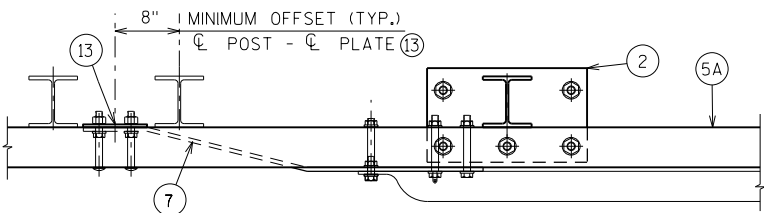
2 1/2" FOR SLABS ON GIRDERS; FOR OTHER STRUCTURES, PLACE BELOW TOP MAT SLAB REINFORCEMENT.



SECTION B-B

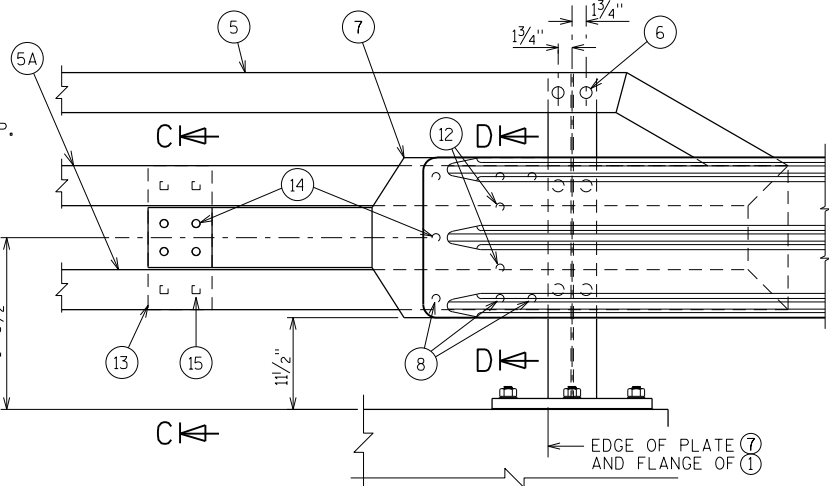


ANCHOR BOLTS



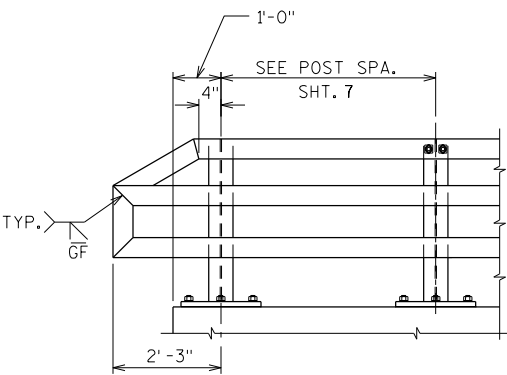
TOP VIEW AT END POST

THRIE BEAM RAIL ATTACHMENT

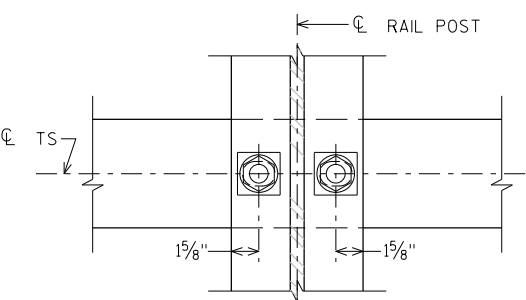


DETAIL AT END POST

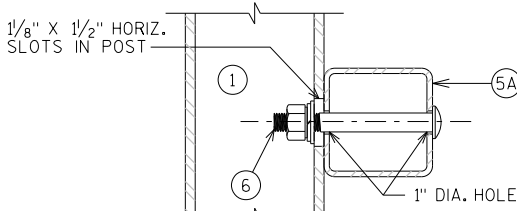
THRIE BEAM RAIL ATTACHMENT



PART ELEVATION OF RAILING



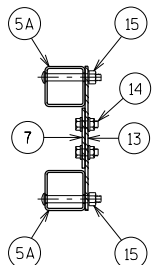
SECTION THRU POST WEB



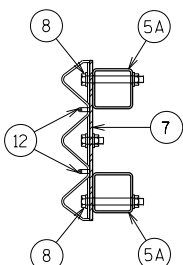
SECTION THRU RAIL

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

TYPICAL RAIL TO POST CONNECTIONS



SECTION C-C

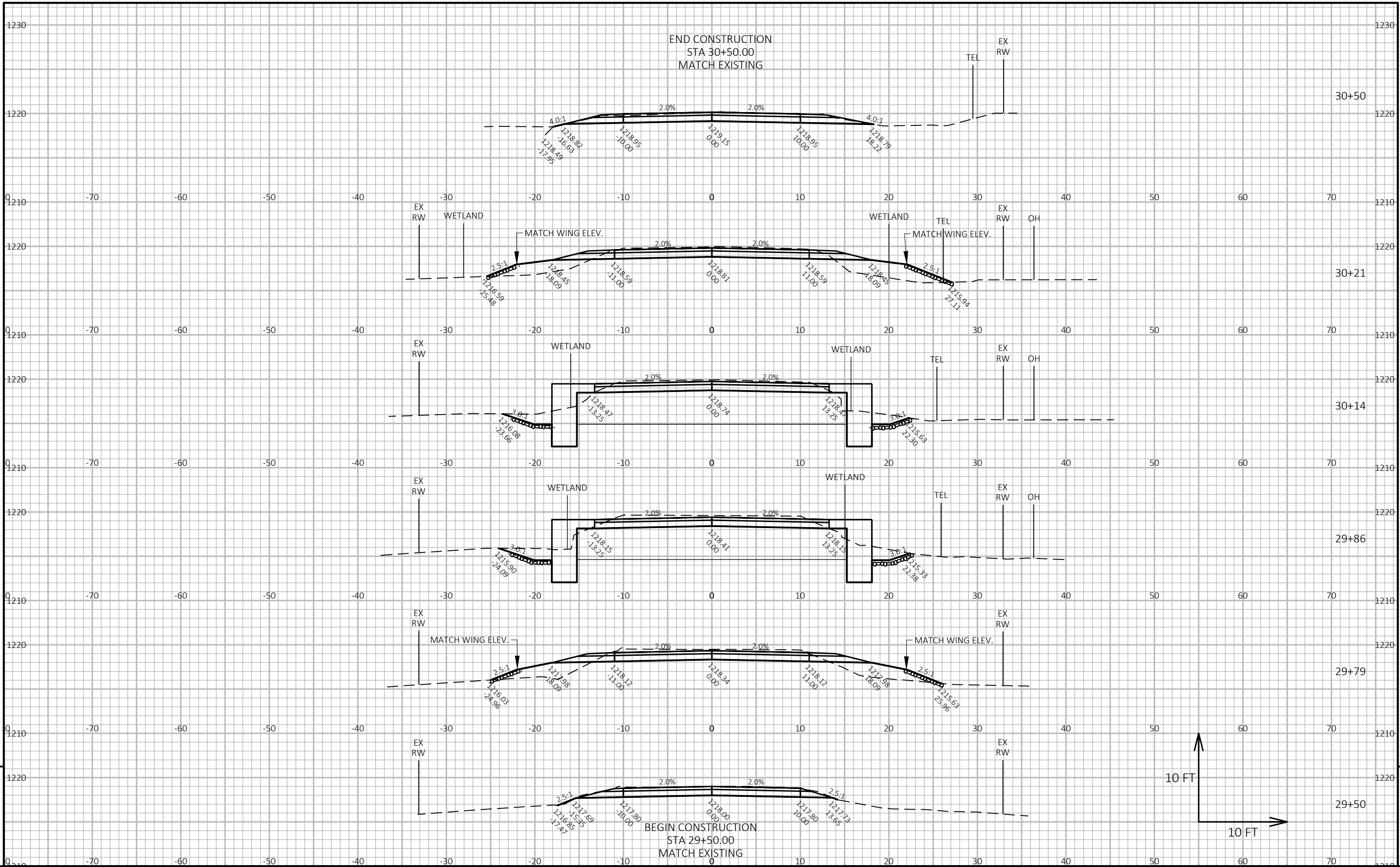


SECTION D-D

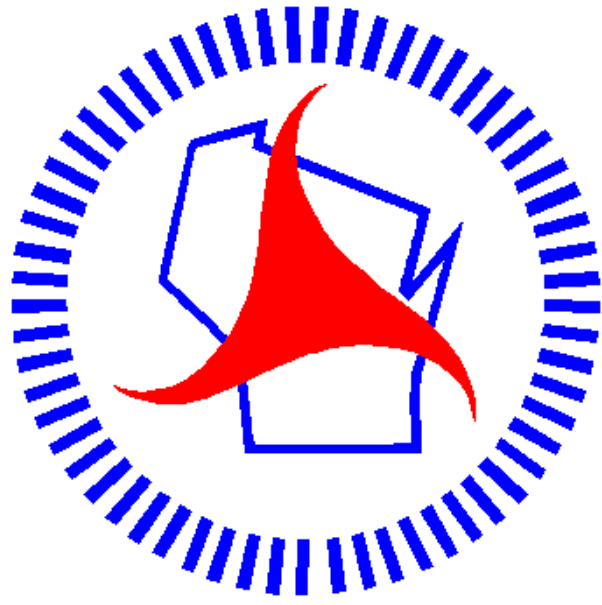
28TH STREET EARTHWORK SUMMARY

STATION	Real Station	Distance	AREA (SF)			Incremental Vol (CY) (Unadjusted)			Cumulative Vol (CY)		
			Cut	Salvaged/Unusable Pavement Material	Fill	Cut	Salvaged/Unusable Pavement Material	Fill	Cut 1.00	Expanded Fill 1.30	Mass Ordinate
						Note 1	Note 2	Note 3	Note 1		Note 4
29+50	2950.00	0.00	26.86	0.00	0.24	0	0	0	0	0	0
29+79.39	2979.39	29.39	29.79	0.00	23.99	31	0	13	31	17	14
29+85.75	2985.75	6.36	63.45	0.00	1.53	11	0	3	42	21	21
30+14.25	3014.25	28.50	60.46	0.00	3.21	65	0	3	107	24	83
30+20.61	3020.61	6.36	28.23	0.00	28.59	10	0	4	118	29	88
30+50	3050.00	29.39	27.78	0.00	0.03	30	0	16	148	49	99

Notes:	
1 - Cut	Cut includes Salvaged/Unusable Pavement material
2 - Salvaged/Unusable Pavement Material	This does not show up in cross sections
3 - Fill	Does not include Unusable Pavement Exc volume
8 - Mass Ordinate	[Cut - Salvaged Pavt - (Fill * Fill Factor)]



PROJECT NO: 8333-00-70	HWY: LOCAL STREET	COUNTY: BARRON	CROSS SECTIONS: 28TH STREET	SHEET E
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