RHI

JANUARY 2025

PROJECT ID: 9423-00-70

WITH: N/A

COUNTY: LINCOLN

35

ORDER OF SHEETS

TOTAL SHEETS = 50

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

STH 86 - CTH E

SPIRIT RIVER BRIDGE B-35-0162

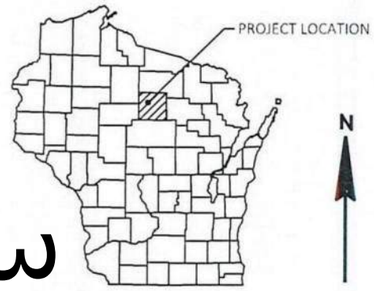
CTH O

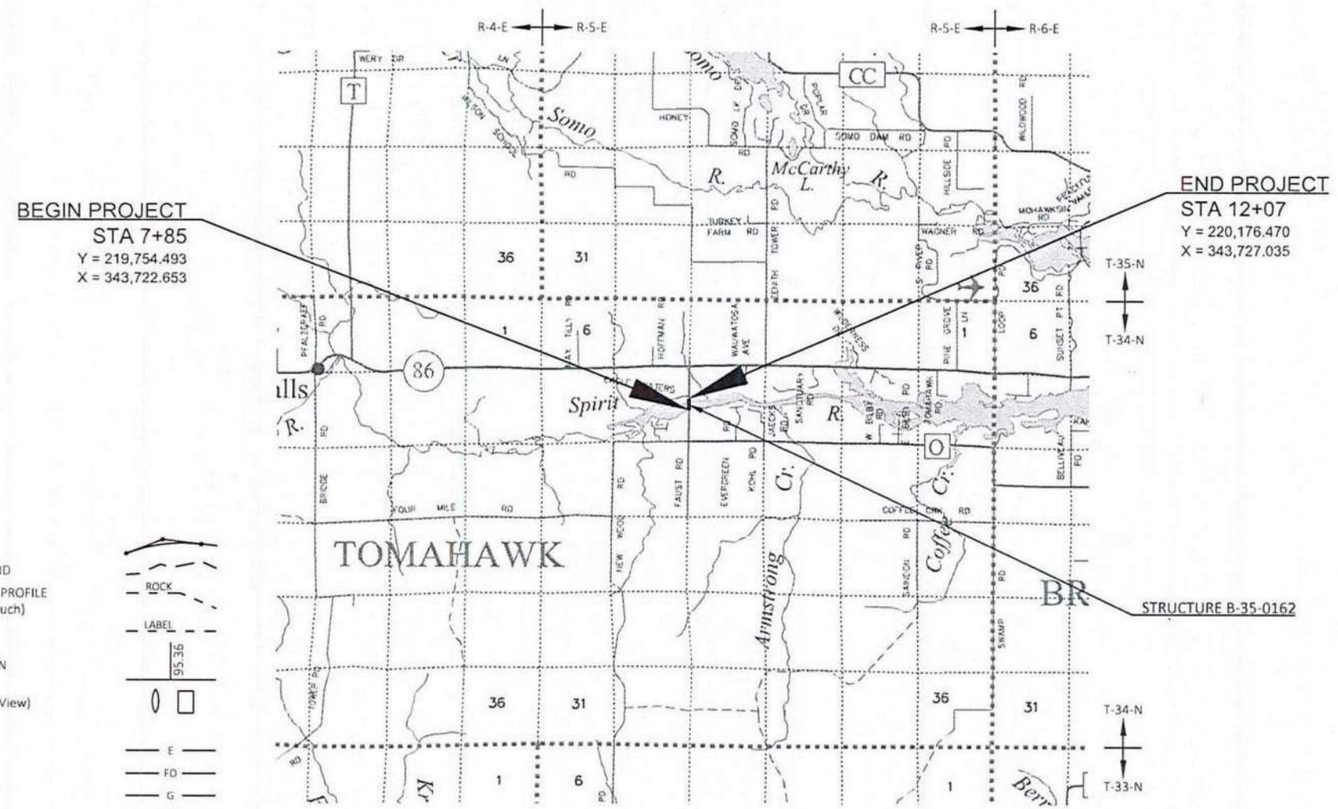
LINCOLN COUNTY

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
9423-00-70		

STATE PROJECT NUMBER

9423-00-70





DESIGN DESIGNATION

A.A.D.T.	2026	=	250
A.A.D.T.	2046	=	260
D.H.V.		=	160
D.D.		=	50/50
T.		=	10.0%
DESIGN SPEED		=	55 MPH
ESALS		=	44,000

CONVENTIONAL SYMBOLS

PLAN		PROFILE	
CORPORATE LIMITS		GRADE LINE	
PROPERTY LINE		ORIGINAL GROUND	
LOT LINE		MARSH OR ROCK PROFILE (To be noted as such)	ROCK
LIMITED HIGHWAY EASEMENT		SPECIAL DITCH	LABEL
EXISTING RIGHT OF WAY		GRADE ELEVATION	95.36
PROPOSED OR NEW R/W LINE		CULVERT (Profile View)	
SLOPE INTERCEPT		UTILITIES	
REFERENCE LINE	100'E8"	ELECTRIC	E
EXISTING CULVERT		FIBER OPTIC	FO
PROPOSED CULVERT (Box or Pipe)		GAS	G
COMBUSTIBLE FLUIDS	CAUTION	SANITARY SEWER	SAN
		STORM SEWER	SS
MARSH AREA		TELEPHONE	T
		WATER	W
		UTILITY PEDESTAL	
WOODED OR SHRUB AREA		POWER POLE	
		TELEPHONE POLE	

LAYOUT

SCALE 0 2.0 MI

TOTAL NET LENGTH OF CENTERLINE = 0.080 MI

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COORDINATE REFERENCE SYSTEM (WISCRS), LINCOLN 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 18.

ACCEPTED FOR
LINCOLN COUNTY

7-21-25 *Jason Lemm*
DATE HIGHWAY COMMISSIONER

ORIGINAL PLANS PREPARED BY

MSA

1835 North Stevens Street, Rhinelander WI 54501
(715) 362-3244 www.msa-ps.com

WISCONSIN
ALEX PASSOW
E-464886
MINOCQUA WI
PROFESSIONAL ENGINEER

DATE: 7/21/2025 *Alex Passow*
(Professional Engineer Signature)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	MSA PROFESSIONAL SERVICES, INC.
Designer	MSA PROFESSIONAL SERVICES, INC.
Project Manager	MICHAEL GRAGE
Regional Examiner	N/A
Regional Supervisor	DAN ERVA

APPROVED FOR THE DEPARTMENT

DATE: 7/24/2025 *Michael Grage*
(Signature)

E

FILE NAME : G:\11\11469\11469024\CADD\SHEETSPLAN\010101-TI.DWG PLOT DATE : 5/28/2025 11:52 AM PLOT BY : SHAWN DOLENS PLOT NAME :

UTILITIES CONTACTS

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

WISCONSIN DNR LIAISON

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LINCOLN COUNTY SURVEYOR'S OFFICE
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ORDER OF SECTION 2 DETAIL SHEETS

GENERAL NOTES

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

HMA PAVEMENT WEIGHT CALCULATIONS ARE BASED ON 112 LBS/SY/IN.

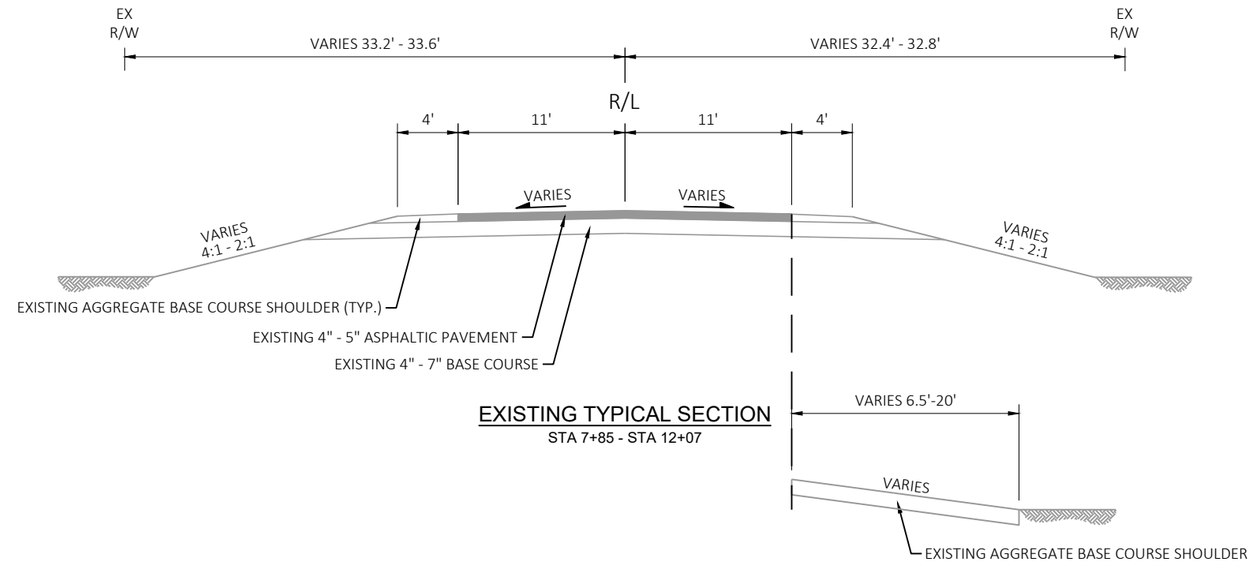
STANDARD ABBREVIATIONS

ABUT	ABUTMENT	LC	LONG CHORD OF CURVE
AC	ACRE	LS	LUMP SUM
AGG	AGGREGATE	MGAL	ONE THOUSAND GALLONS
AH	AHEAD	MH	MANHOLE
∠	ANGLE	ML OR M/L	MATCH LINE
AADT	ANNUAL AVERAGE DAILY TRAFFIC	NOM	NOMINAL
ASPH	ASPHALTIC	NC	NORMAL CROWN
BK	BACK	NB	NORTHBOUND
BC	BACK OF CURB	NO	NUMBER
BAD	BASE AGGREGATE DENSE	OD	OUTSIDE DIAMETER
BL OR B/L	BASE LINE	PAVT	PAVEMENT
BM	BENCH MARK	PLE	PERMANENT LIMITED EASEMENT
CB	CATCH BASIN	PC	POINT OF CURVATURE
CL OR C/L	CENTER LINE	PI	POINT OF INTERSECTION
Δ	CENTRAL ANGLE OR DELTA	PT	POINT OF TANGENCY
CE	COMMERCIAL ENTRANCE	PCC	PORTLAND CEMENT CONCRETE
CONC	CONCRETE	LB	POUND
CONST	CONSTRUCTION	PSI	POUNDS PER SQUARE INCH
CP	CONTROL POINT	PE	PRIVATE ENTRANCE
CO	COUNTY	PROJ	PROJECT
CTH	COUNTY TRUCK HIGHWAY	PL	PROPERTY LINE
CY	CUBIC YARD	PRW	PROPOSED RIGHT OF WAY
CP	CULVERT PIPE	R	RADIUS
CPRC	CULVERT PIPE REINFORCED CONCRETE	RL OR R/L	REFERENCE LINE
C & G	CURB AND GUTTER	REQD	REQUIRED
D	DEGREE OF CURVE	RT	RIGHT
DHV	DESIGN HOUR VOLUME	R/W	RIGHT OF WAY
DIA	DIAMETER	RD	ROAD
DWY	DRIVEWAY	RDWY	ROADWAY
EA	EACH	SHLDR	SHOULDER
EB	EASTBOUND	SW	SIDEWALK
EL OR ELEV	ELEVATION	SB	SOUTHBOUND
EMB	EMBANKMENT	SPECS	SPECIFICATIONS
EW	ENDWALL	SF	SQUARE FEET
EAT	ENERGY ABSORBING TERMINAL	SY	SQUARE YARD
ESALS	EQUIVALENT SINGLE AXLE LOADS	SDD	STANDARD DETAIL DRAWINGS
EXC	EXCAVATION	STH	STATE TRUNK HIGHWAY
EBS	EXCAVATION BELOW SUBGRADE	STA	STATION
EXIST	EXISTING	SE	SUPERELEVATION
FERT	FERTILIZER	SL OR S/L	SURVEY LINE
FE	FIELD ENTRANCE	TEMP	TEMPORARY
FL OR F/L	FLOW LINE	TI	TEMPORARY INTEREST
FT	FOOT	TLE	TEMPORARY LIMITED EASEMENT
FTMS	FREE TRAFFIC MANAGEMENT SYSTEM	TC	TOP OF CURB
HE	HIGHWAY EASEMENT	TL OR T/L	TRANSIT LINE
CWT	HUNDRED WEIGHT	T	TRUCKS (PERCENT OF)
IN DIA	INCH DIAMETER	TYP	TYPICAL
INL	INLET	USH	UNITED STATES HIGHWAY
ID	INSIDE DIAMETER	VAR	VARIABLE
INTERS	INTERSECTION	VC	VERTICAL CURVE
IH	INTERSTATE HIGHWAY	VPC	VERTICAL POINT OF CURVATURE
INV	INVERT	VPI	VERTICAL POINT OF INTERSECTION
JT	JOINT	VPT	VERTICAL POINT OF TANGENCY
LT	LEFT	W	WEST
L	LENGTH OF CURVE	WB	WESTBOUND
LF	LINEAR FOOT		

RUNOFF COEFFICIENT TABLE

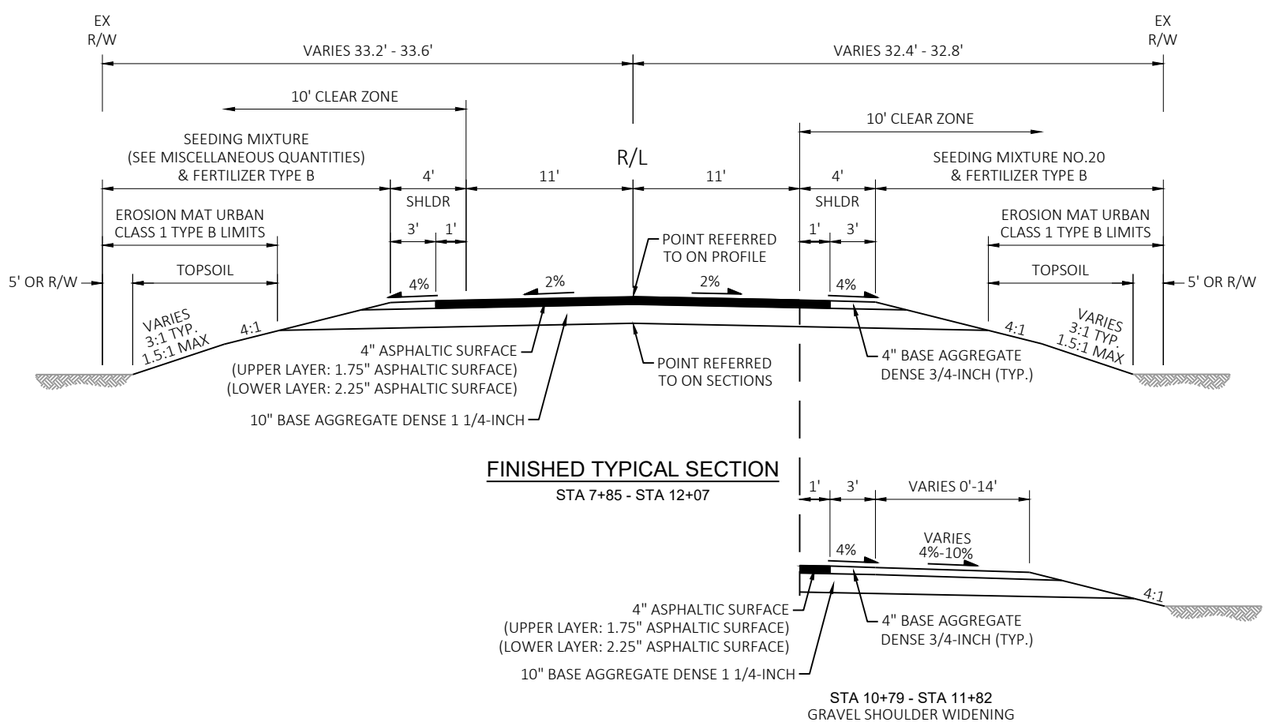
	HYDROLOGIC SOIL GROUP											
	A			B			C			D		
	SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)		
LAND USE:	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER
ROW CROPS:	.08 .22	.16 .30	.22 .38	.12 .26	.20 .34	.27 .44	.15 .30	.24 .37	.33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

TOTAL PROJECT AREA = 0.639 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 0.455 ACRES



EXISTING TYPICAL SECTION
STA 7+85 - STA 12+07

STA 10+79 - STA 12+07
GRAVEL SHOULDER WIDENING

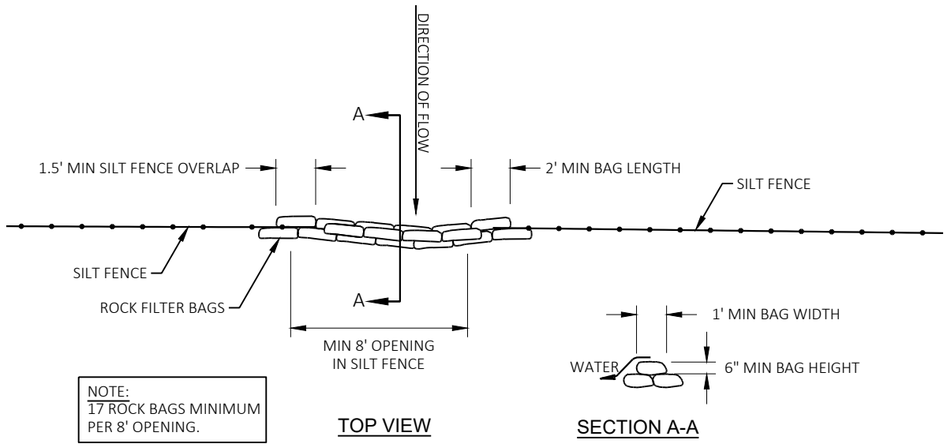


FINISHED TYPICAL SECTION
STA 7+85 - STA 12+07

STA 10+79 - STA 11+82
GRAVEL SHOULDER WIDENING

PROJECT NO: 9423-00-70	HWY: CTH O	COUNTY: LINCOLN	TYPICAL SECTIONS	SHEET 3	E

2



NOTE:
17 ROCK BAGS MINIMUM PER 8' OPENING.

TOP VIEW

SECTION A-A

ROCK BAGS USED FOR SILT FENCE RELIEF

(LOCATIONS TO BE DETERMINED BY THE ENGINEER IN THE FIELD)

Estimate Of Quantities

9423-00-70

Line	Item	Item Description	Unit	Total	Qty
0002	203.0260	Removing Structure Over Waterway Minimal Debris (structure) 01. B-35-003	EACH	1.000	1.000
0004	205.0100	Excavation Common	CY	276.000	276.000
0006	206.1001	Excavation for Structures Bridges (structure) 01. B-35-162	EACH	1.000	1.000
0008	210.1500	Backfill Structure Type A	TON	300.000	300.000
0010	213.0100	Finishing Roadway (project) 01. 9423-00-70	EACH	1.000	1.000
0012	305.0110	Base Aggregate Dense 3/4-Inch	TON	98.000	98.000
0014	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	710.000	710.000
0016	450.4000	HMA Cold Weather Paving	TON	50.000	50.000
0018	455.0605	Tack Coat	GAL	50.000	50.000
0020	465.0105	Asphaltic Surface	TON	200.000	200.000
0022	465.0315	Asphaltic Flumes	SY	10.000	10.000
0024	502.0100	Concrete Masonry Bridges	CY	408.000	408.000
0026	502.3200	Protective Surface Treatment	SY	422.000	422.000
0028	502.3210	Pigmented Surface Sealer	SY	150.000	150.000
0030	505.0400	Bar Steel Reinforcement HS Structures	LB	22,280.000	22,280.000
0032	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	68,980.000	68,980.000
0034	516.0500	Rubberized Membrane Waterproofing	SY	12.000	12.000
0036	550.2126	Piling CIP Concrete 12 3/4 X 0.375-Inch	LF	675.000	675.000
0038	550.2168	Piling CIP Concrete 16 X 0.50-Inch	LF	1,485.000	1,485.000
0040	606.0300	Riprap Heavy	CY	141.000	141.000
0042	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	160.000	160.000
0044	614.0150	Anchor Assemblies for Steel Plate Beam Guard	EACH	4.000	4.000
0046	618.0100	Maintenance and Repair of Haul Roads (project) 01. 9423-00-70	EACH	1.000	1.000
0048	619.1000	Mobilization	EACH	1.000	1.000
0050	624.0100	Water	MGAL	16.100	16.100
0052	625.0100	Topsoil	SY	432.000	432.000
0054	628.1504	Silt Fence	LF	720.000	720.000
0056	628.1520	Silt Fence Maintenance	LF	720.000	720.000
0058	628.1550	Silt Screen	LF	220.000	220.000
0060	628.1905	Mobilizations Erosion Control	EACH	5.000	5.000
0062	628.1910	Mobilizations Emergency Erosion Control	EACH	2.000	2.000
0064	628.2008	Erosion Mat Urban Class I Type B	SY	336.000	336.000
0066	628.6005	Turbidity Barriers	SY	340.000	340.000
0068	628.7504	Temporary Ditch Checks	LF	20.000	20.000
0070	628.7570	Rock Bags	EACH	88.000	88.000
0072	629.0210	Fertilizer Type B	CWT	0.640	0.640
0074	630.0120	Seeding Mixture No. 20	LB	36.000	36.000
0076	630.0140	Seeding Mixture No. 40	LB	10.000	10.000
0078	630.0200	Seeding Temporary	LB	28.000	28.000
0080	630.0500	Seed Water	MGAL	19.000	19.000
0082	634.0614	Posts Wood 4x6-Inch X 14-FT	EACH	4.000	4.000
0084	637.2230	Signs Type II Reflective F	SF	12.000	12.000
0086	642.5001	Field Office Type B	EACH	1.000	1.000
0088	643.0420	Traffic Control Barricades Type III	DAY	5,060.000	5,060.000
0090	643.0705	Traffic Control Warning Lights Type A	DAY	8,250.000	8,250.000
0092	643.0900	Traffic Control Signs	DAY	4,400.000	4,400.000
0094	643.1000	Traffic Control Signs Fixed Message	SF	36.000	36.000
0096	643.5000	Traffic Control	EACH	1.000	1.000
0098	645.0111	Geotextile Type DF Schedule A	SY	64.000	64.000

9423-00-70

Line	Item	Item Description	Unit	Total	Qty
0100	645.0120	Geotextile Type HR	SY	270.000	270.000
0102	646.1005	Marking Line Paint 4-Inch	LF	963.000	963.000
0104	650.4500	Construction Staking Subgrade	LF	296.000	296.000
0106	650.5000	Construction Staking Base	LF	296.000	296.000
0108	650.6501	Construction Staking Structure Layout (structure) 01. B-35-162	EACH	1.000	1.000
0110	650.9911	Construction Staking Supplemental Control (project) 01. 9423-00-70	EACH	1.000	1.000
0112	650.9920	Construction Staking Slope Stakes	LF	296.000	296.000
0114	690.0150	Sawing Asphalt	LF	44.000	44.000
0116	715.0502	Incentive Strength Concrete Structures	DOL	2,450.000	2,450.000
0118	999.1001.S	Seismograph (project) 01. 9423-00-70	EACH	1.000	1.000
0120	999.1501.S	Crack and Damage Survey 01. 9423-00-70	EACH	1.000	1.000
0122	999.2000.S	Installing and Maintaining Bird Deterrent System (station) 01. 9+97	EACH	1.000	1.000
0124	SPV.0165	Special 01. Cut-Stone Boulders	SF	155.000	155.000
0126	SPV.0180	Special 01. Infill Riprap B-35-162	SY	208.000	208.000

CATEGORY	STATION	TO	STATION	LOCATION	205.0100 EXCAVATION COMMON CY	SALVAGED / UNUSABLE MATERIAL (1) CY	AVAILABLE MATERIAL (2) CY	UNEXPANDED FILL CY	EXPANDED FILL (3) CY	* MASS ORDINATE +/- (4) CY
0010	7+85	-	9+34.75	MAINLINE	152	51	101	0	0	101
0010	10+61.25	-	12+07	MAINLINE	124	50	74	9	11	63
				TOTAL 0010	276					164

(1) SALVAGED/UNUSEABLE PAVEMENT MATERIAL IS INCLUDED IN CUT
(2) AVAILABLE MATERIAL = CUT - SALVAGED/UNUSEABLE PAVEMENT MATERIAL
(3) EXPANDED FILL FACTOR = 1.25
(4) THE MASS ORDINATE + OR - QUANTITY CALCULATED FOR THE DIVISION. PLUS QUANTITY INDICATES AN EXCESS OF MATERIAL WITHIN THE DIVISION.
MINUS QUANTITY INDICATES A SHORTAGE OF MATERIAL WITHIN THE DIVISION.
*INCLUDED FOR INFORMATION PURPOSES ONLY

CATEGORY	STATION	TO	STATION	LOCATION	305.0110 BASE AGGREGATE DENSE 3/4-INCH TON	305.0120 BASE AGGREGATE DENSE 1 1/4-INCH TON	624.0100 WATER MGAL	REMARKS
0010	7+85	-	9+34.75	LT & RT	30	330	7.1	
0010	10+61.25	-	12+07	LT & RT	30	320	6.9	
0010	10+79	-	11+82	RT	23	60	1.6	SHOULDER WIDENING
0010	--	-	11+15	LT	15	--	0.5	PRIVATE ENTRANCE
0010	--	-	9+18	LT & RT	--	2	0.1	GRAVEL UNDER FLUMES
				TOTAL 0010	98	710	16.1	

CATEGORY	STATION	TO	STATION	LOCATION	455.0605 TACK COAT GAL	465.0105 ASPHALTIC SURFACE TON
0010	7+85	-	9+34.75	MAINLINE	25	100
0010	10+61.25	-	12+07	MAINLINE	25	100
				TOTAL 0010	50	200

CATEGORY	STATION	LOCATION	465.0315 ASPHALTIC FLUMES SY
0010	9+19	LT	5
0010	9+19	RT	5
		TOTAL 0010	10

CATEGORY	STATION	TO	STATION	LOCATION	625.0100 TOPSOIL SY	628.2008 EROSION MAT URBAN CLASS I TYPE B SY	628.7504 TEMPORARY DITCH CHECKS LF	628.7570 ROCK BAGS EACH	629.0210 FERTILIZER TYPE B CWT	630.0120 SEEDING MIXTURE NO. 20 LB	630.0140 SEEDING MIXTURE NO. 40 LB	630.0200 SEEDING TEMPORARY LB	630.0500 SEED WATER MGAL
0010	7+85	-	9+34.75	LT	140	130	--	17	0.18	13	--	8	5
0010	7+85	-	9+34.75	RT	100	70	--	17	0.14	10	--	6	4
0010	10+61.25	-	12+07	LT	70	50	--	17	0.12	--	8	5	4
0010	10+61.25	-	12+07	RT	50	30	--	17	0.09	7	--	4	3
0010			UNDISTRIBUTED		72	56	20	20	0.11	6	2	5	3
				TOTAL 0010	432	336	20	88	0.64	36	10	28	19

CATEGORY	STATION	TO	STATION	LOCATION	628.1504 SILT FENCE LF	628.1520 SILT FENCE MAINTENANCE LF	628.1905 MOBILIZATIONS EROSION CONTROL EACH	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL EACH
0010	7+85	-	9+34.75	LT	145	145	--	--
0010	7+85	-	9+34.75	RT	145	145	--	--
0010	10+61.25	-	12+07	LT	145	145	--	--
0010	10+61.25	-	12+07	RT	165	165	--	--
0010			PROJECT 9423-00-70		--	--	5	2
0010			UNDISTRIBUTED		120	120	--	--
				TOTAL 0010	720	720	5	2

3

CATEGORY	STATION	LOCATION	628.1550 SILT SCREEN LF
0010	9+75	LT & RT	110
0010	10+18	LT & RT	110
		TOTAL 0010	220

CATEGORY	LOCATION	628.6005 TURBIDITY BARRIERS SY
0010	SOUTH ABUTMENT	190
0010	NORTH ABUTMENT	150
	TOTAL 0010	340

CATEGORY	STATION	LOCATION	634.0614 POSTS WOOD 4X6-INCH X 14-FT EACH	637.2230 SIGNS TYPE II REFLECTIVE F SF	REMARKS
0010	9+20	LT	1	3	W5-52L 12"X36"
0010	9+20	RT	1	3	W5-52R 12"X36"
0010	10+80	LT	1	3	W5-52R 12"X36"
0010	10+80	RT	1	3	W5-52L 12"X36"
		TOTAL 0010	4	12	

3

CATEGORY	LOCATION	DAYS	TRAFFIC CONTROL BARRICADES TYPE III EACH	643.0420 TRAFFIC CONTROL BARRICADES TYPE III DAY	TRAFFIC CONTROL WARNING LIGHTS TYPE A EACH	643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A DAY	TRAFFIC CONTROL SIGNS EACH	643.0900 TRAFFIC CONTROL SIGNS DAY	* 643.1000 TRAFFIC CONTROL SIGNS FIXED MESSAGE SF
0010	PROJECT	110	42	4,620	68	7,480	36	3,960	36
0010	UNDISTRIBUTED	110	4	440	7	770	4	440	--
	TOTAL 0010			5,060		8,250		4,400	36

*G20-57C SIGNS TO BE PLACED AT PROJECT TERMINI 7 DAYS PRIOR TO CONSTRUCTION AND REMOVED WHEN CONSTRUCTION BEGINS

CATEGORY	STATION	TO	STATION	LOCATION	646.1005 MARKING LINE PAINT 4-INCH LF
0010	7+85	-	12+07	EDGELINES	850
0010	7+85	-	12+07	CENTERLINE	113
				TOTAL 0010	963

CATEGORY	STATION	TO	STATION	LOCATION	650.4500 CONSTRUCTION STAKING SUBGRADE LF	650.5000 CONSTRUCTION STAKING BASE LF	650.6501.01 CONSTRUCTION STAKING STRUCTURE LAYOUT (STRUCTURE) (01. B-35-162) EACH	650.9911.01 CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (PROJECT) (01. 9423-00-70) EACH	650.9920 CONSTRUCTION STAKING SLOPE STAKES LF
0010	7+85	-	9+34.75	MAINLINE	150	150	--	--	150
0010	10+61.25	-	12+07	MAINLINE	146	146	--	--	146
0010	7+85	-	12+07	PROJECT	--	--	--	1	--
				TOTAL 0010	296	296	0	1	296
0020				B-35-0162	--	--	1	--	--
				TOTAL 0020	0	0	1	0	0
				PROJECT TOTAL	296	296	1	1	296

CATEGORY	STATION	LOCATION	690.0150 SAWING ASPHALT LF
0010	7+85	MAINLINE	22
0010	12+07	MAINLINE	22
		TOTAL 0010	44

CONTROL POINTS				
NO.	STATION	DESCRIPTION	Y	X
2	9+06.21, 21.72' RT	IRON ROD	219,875.474	343,745.625
3	10+74.55, 26.24' LT	IRON ROD	220,044.296	343,699.420
4	13+06.13, 21.50' RT	IRON ROD	220,275.368	343,749.562

BENCH MARKS			
NO.	STATION	ELEV.	DESCRIPTION
7	7+74.97	1437.99	SPIKE IN TREE, 39.85' RT
6	9+90.20	1446.08	CHISELED X IN CONCRETE, 15.03' RT
5	10+73.47	1441.92	SPIKE IN TREE, 46.37' RT

TODD ANTHONY
N9061 CTH O

KEVIN JOHNSON
N9115 CTH O

KELLY MOUNGEY
N9122 CTH O

SPIRIT RIVER

SPIRIT RIVER

EXISTING STRUCTURE B-35-0003
(TO BE REMOVED)

OVERHEAD
(PRICE ELECTRIC COOPERATIVE)

10'
GRAV.
PE

ASPHALTIC FLUMES (TYP.)

SLOPE INTERCEPT (TYP.)

CUT-STONE
BOULDERS
SEE STRUCTURE
PLANS (TYP.)

W5-52L
12"X36"

W5-52R
12"X36"

STA 7+89.23
12' LT

STA 8+87.37
12' LT

STA 11+03.29
12' LT

CP 3

STA 12+01.63
12' LT

BP: 7+25.00
Y = 219694.496
X = 343722.030

EP: 12+75.00
Y = 220244.466
X = 343727.741

EXIST. R/W

33.6'

32.4'

33.2'

32.8'

8+00 N0°35'42"E 9+00 10+00 11+00 12+00

CTH O
(ASPHALT)

STA 8+01.43
12' RT

STA 8+87.37
12' RT

CP 2

BM 6

STA 11+95.86
12' RT

CP 4

EXISTING EDGE OF GRAVEL (TYP.)

EXISTING EDGE OF ASPHALT (TYP.)

BM 7

SLOPE INTERCEPT (TYP.)

SECTION QUARTER
CORNER MONUMENT
(BY OTHERS)

W5-52R
12"X36"

W5-52L
12"X36"

BM 5

SLOPE INTERCEPT (TYP.)

EDGE OF BASE AGGREGATE SHLD. (TYP.)

EDGE OF ASPHALTIC SURFACE (TYP.)

COMMUNICATIONS
(FRONTIER COMMUNICATIONS OF WI LLC)

STRUCTURE B-35-0162

EDGE OF WATER (TYP.)

STA 11+03.29
12' RT

WISCONSIN VALLEY
IMPROVEMENT COMPANY

LEGEND
- SILT FENCE
- RIPRAP HEAVY
- TURBIDITY BARRIER
- SILT SCREEN
- EROSION MAT URBAN CLASS I TYPE B

BEGIN PROJECT
STA 7+85
Y = 219,754.493
X = 343,722.653
SAWCUT REQUIRED

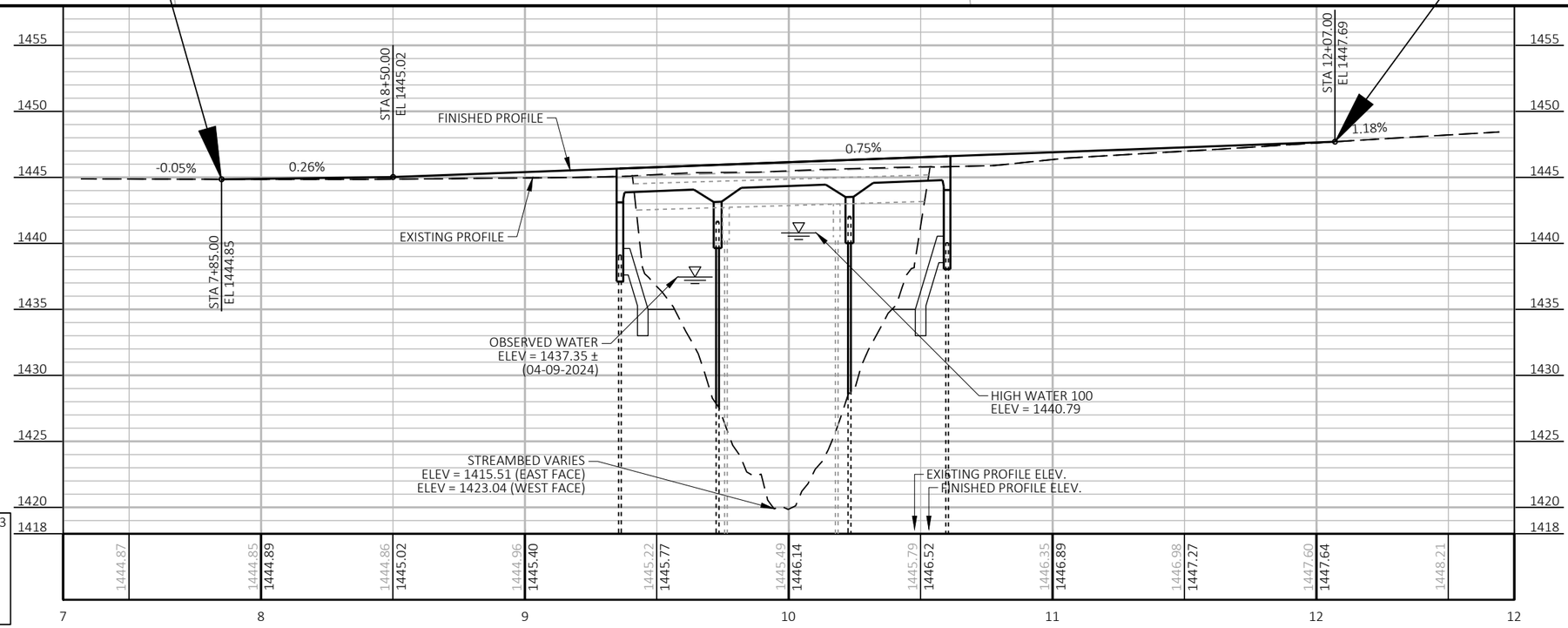
END PROJECT
STA 12+07
Y = 220,176.470
X = 343,727.035
SAWCUT REQUIRED

T 34 N
R 5 E
8 9
8 9

N

5

5



STRUCTURE B-35-0162
STA 9+98
THREE SPAN CONCRETE HAUNCHED
SLAB BRIDGE
30.0 FT CLEAR ROADWAY WIDTH
126.5 FT OVERALL LENGTH
NO SKEW

REMOVE EXISTING STRUCTURE B-35-0003
STA 9+97
THREE SPAN CONTINUOUS STEEL DECK
GIRDER BRIDGE
30.0 FT CLEAR ROADWAY WIDTH
113.7 FT OVERALL LENGTH
NO SKEW

EARTHWORK SUMMARY	
STA 7+85 - STA 9+36	
EXC. COMMON	152 CY
FILL	0 CY
FILL EXPANSION	25%
WASTE	101 CY

EARTHWORK SUMMARY	
STA 10+60 - STA 12+07	
EXC. COMMON	124 CY
FILL	11 CY
FILL EXPANSION	25%
WASTE	63 CY

PROJECT NO: 9423-00-70	HWY: CTH O	COUNTY: LINCOLN	PLAN AND PROFILE: CTH O	SHEET 9	E

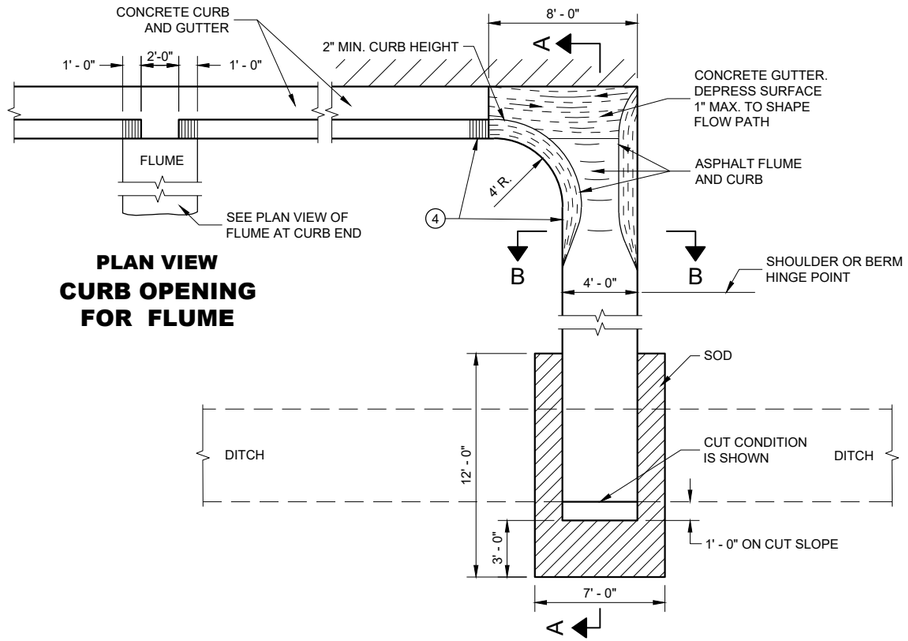
Standard Detail Drawing List

08D04-07	CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E11-02	TURBIDITY BARRIER
08E12-01	SILT SCREEN
12A03-10	NAME PLATE (STRUCTURES)
13C19-03	HMA LONGITUDINAL JOINTS
15C02-09A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-09B	BARRICADES AND SIGNS FOR VARIOUS CLOSURES
15C06-12	SIGNING & MARKING FOR TWO LANE BRIDGES
15C08-24A	PERMANENT LONGITUDINAL PAVEMENT MARKINGS
15C11-10B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS

6

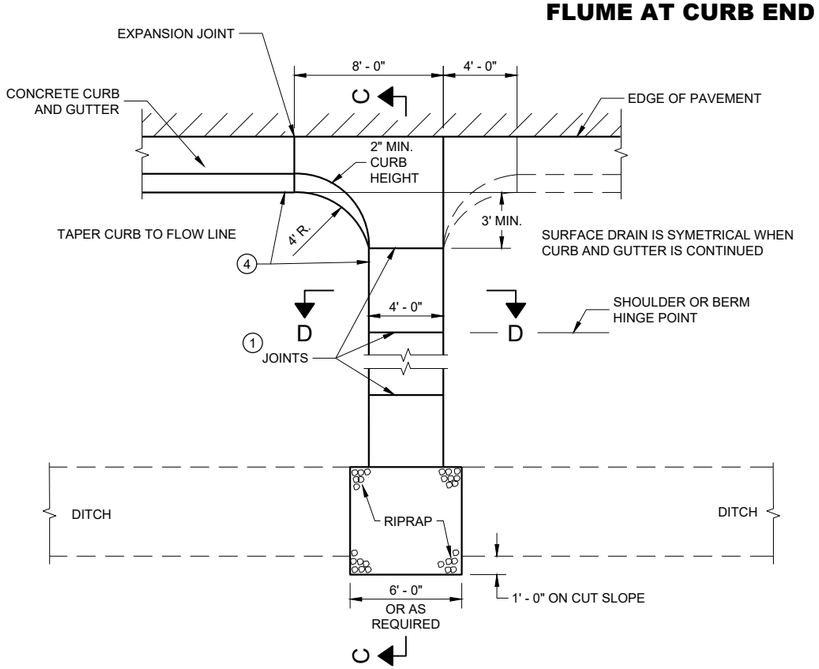
NOTE: TAPER CURB ENDS TO GUTTER IN 1' - 0"

ASPHALTIC FLUME



PLAN VIEW
CURB OPENING FOR FLUME

PLAN VIEW
FLUME AT CURB END



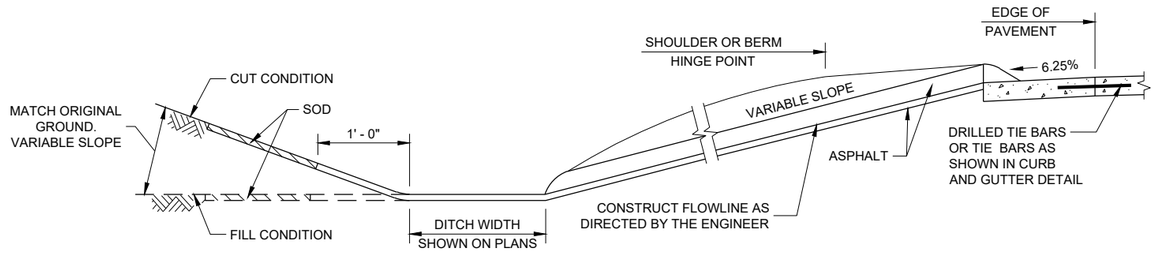
PLAN VIEW
CONCRETE SURFACE DRAIN

GENERAL NOTES

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

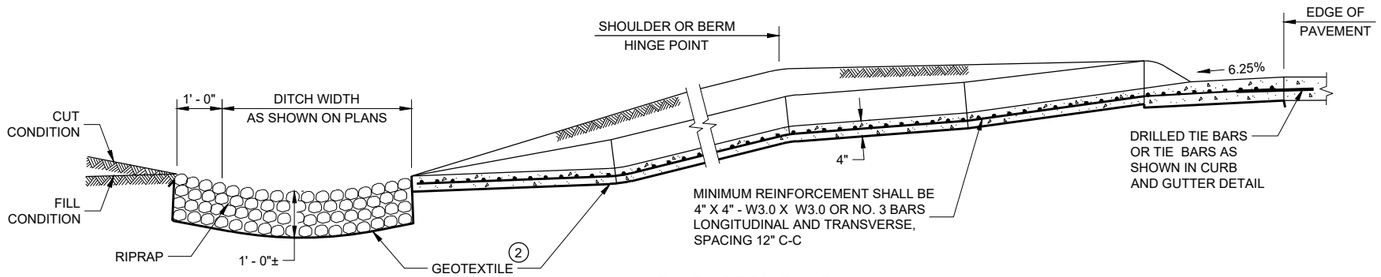
4" X 4" - W3.0 X W3.0 CONCRETE REINFORCEMENT SHALL BE IN ACCORDANCE WITH AASHTO SPECIFICATION M55.

1. JOINTS SHALL BE ⅛" TO ¼" WIDE BY 1½" DEEP AND SPACED AT UNIFORM INTERVALS OF APPROXIMATELY 4 FEET.
2. GEOTEXTILE TYPE "R" SHALL UNDERLAY THE FULL LENGTH AND WIDTH OF THE CONCRETE SURFACE DRAIN AND RIPRAP.
3. CONCRETE SURFACE DRAIN WITHOUT CURB AND GUTTER MAY BE USED ON BACKSLOPES WHEN SPECIFIED.
4. ANGLE OF FLUME IN RELATION TO BACK OF CURB TO BE CONSTRUCTED PER THE PLAN DETAILS OR AS DIRECTED BY THE ENGINEER. ANGLE OF FLUME MAY BE OTHER THAN 90 DEGREES AS SHOWN.

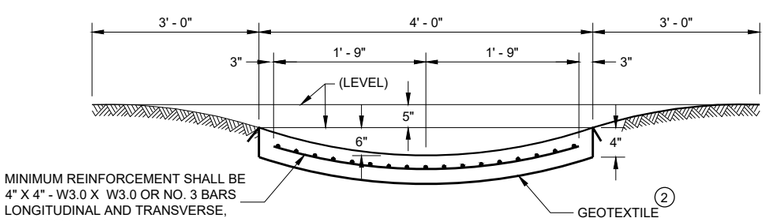


SECTION A - A

SECTION B - B



SECTION C - C



SECTION D - D

CONCRETE SURFACE DRAINS AND ASPHALTIC FLUMES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023
DATE

/S/ Rodney Taylor
ROADWAY STANDARDS DEVE ENGINEER

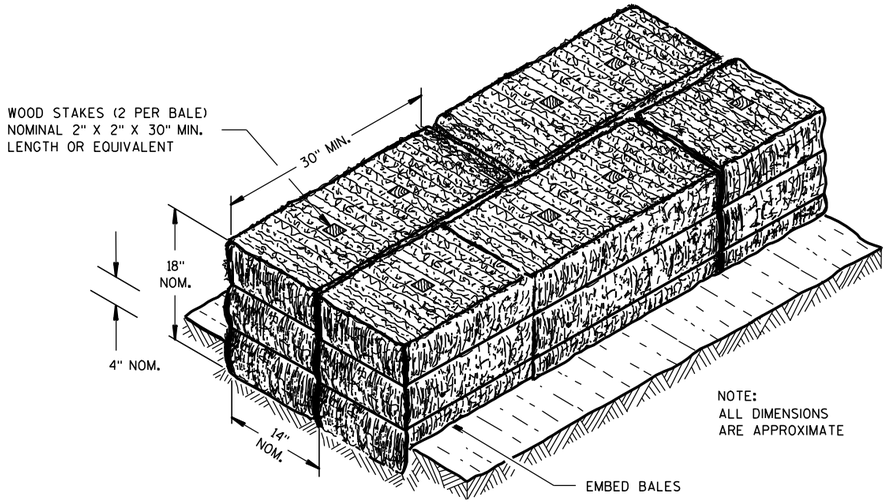
FHWA

6

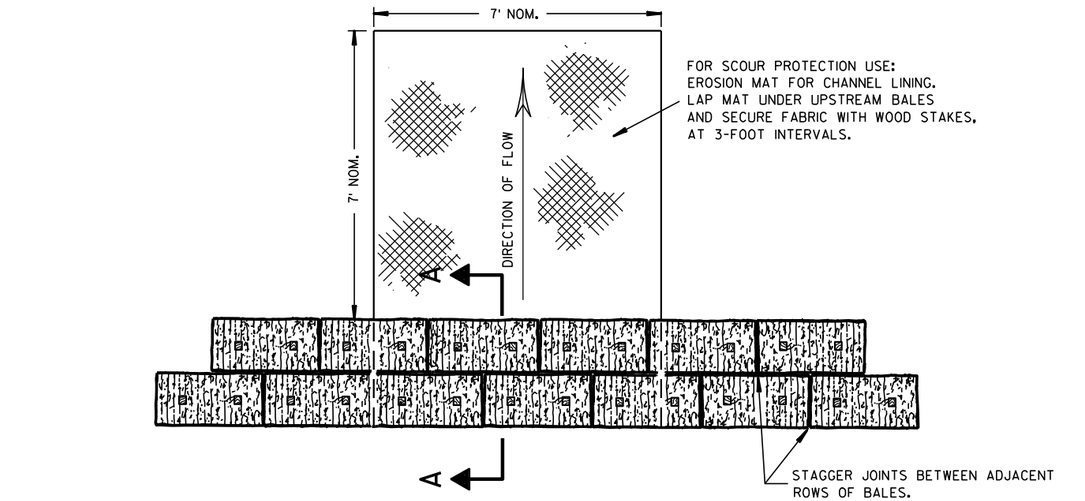
SDD 08D04 - 07

6

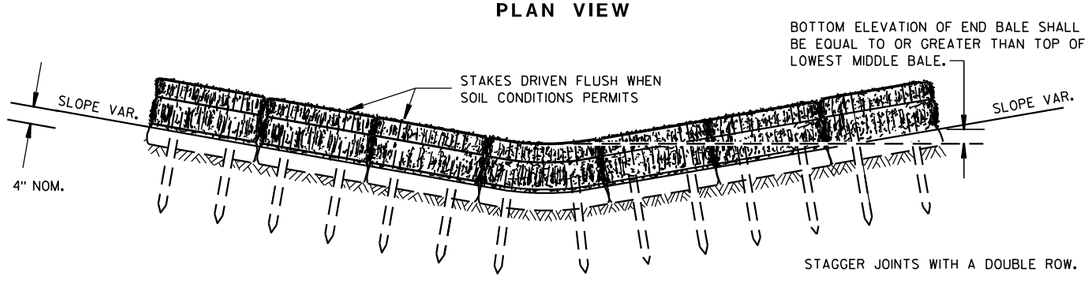
SDD 08D04 - 07



SECTION A-A



PLAN VIEW



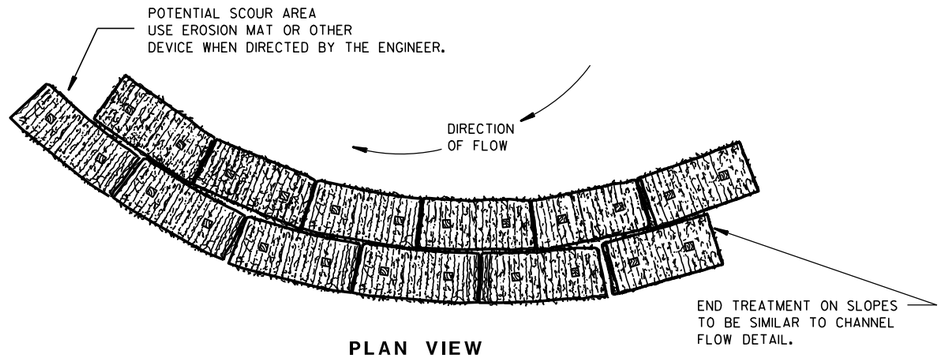
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES (1)

GENERAL NOTES

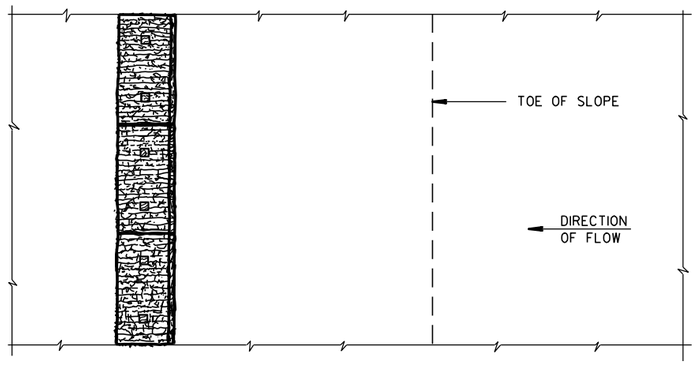
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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

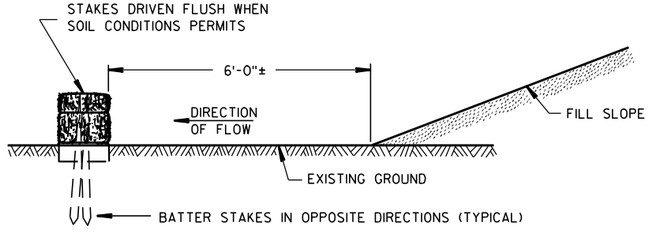


PLAN VIEW

WHEN ALTERING THE DIRECTION OF FLOW



PLAN VIEW



FRONT ELEVATION

WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE

EROSION BALES FOR SHEET FLOW

TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

6/04/02 — DATE

/S/ Beth Cannestra — CHIEF ROADWAY DEVELOPMENT ENGINEER

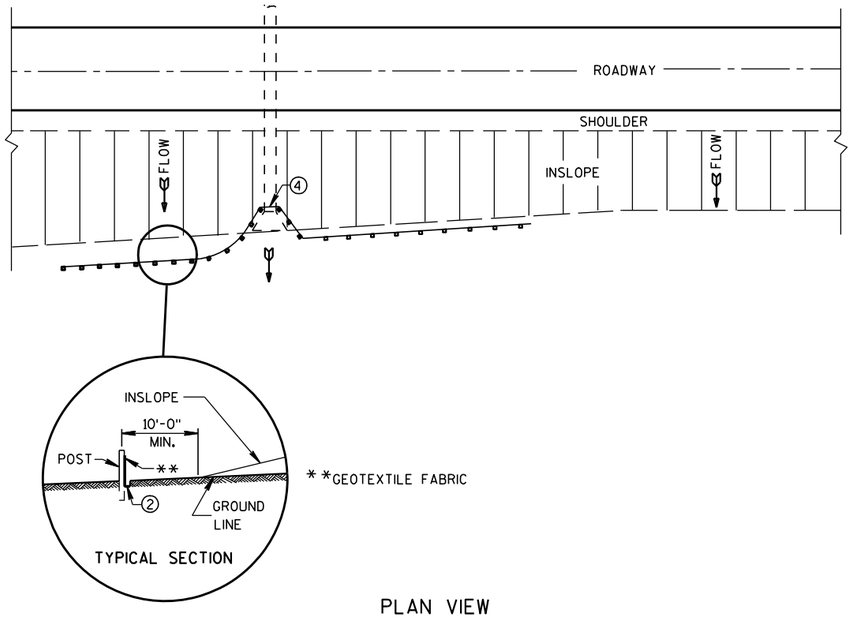
FHWA

6

S.D.D. 8 E 8-3

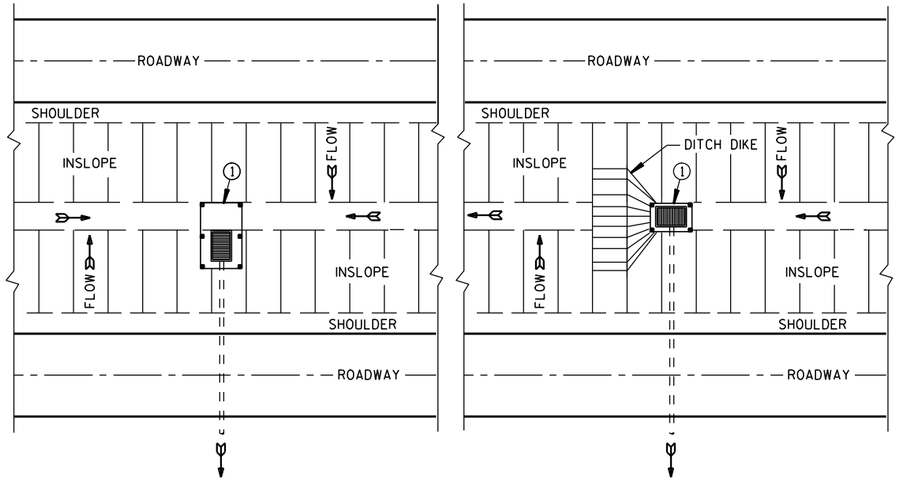
6

S.D.D. 8 E 8-3



PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



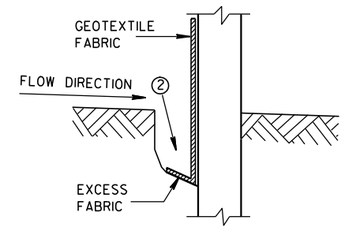
PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

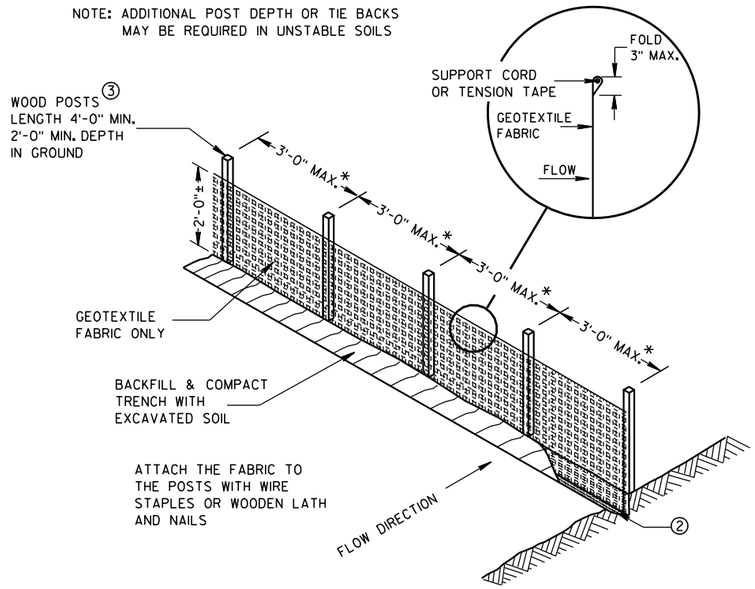
GENERAL NOTES

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

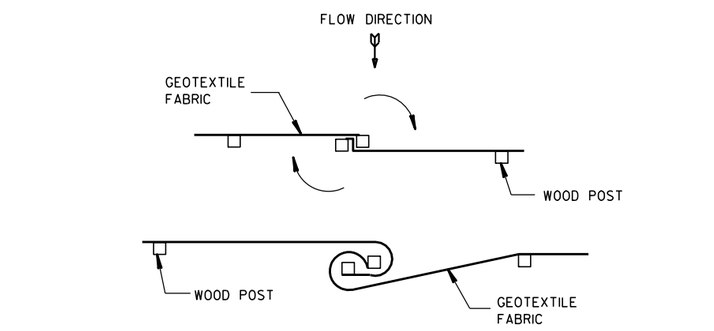
1. HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
2. FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
3. WOOD POSTS SHALL BE A MINIMUM SIZE OF 1⅛" X 1⅛" OF OAK OR HICKORY.
4. SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.
5. CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.



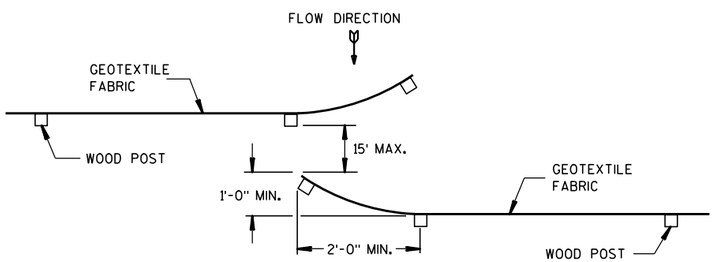
TRENCH DETAIL



SILT FENCE

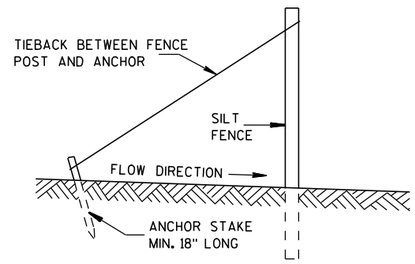


TWIST METHOD



HOOK METHOD

JOINING TWO LENGTHS OF SILT FENCE 5



SILT FENCE TIE BACK

(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

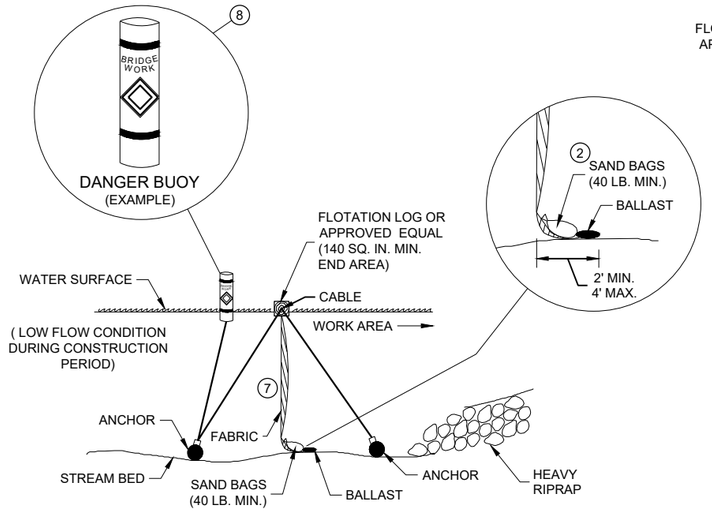
APPROVED
4-29-05 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

6

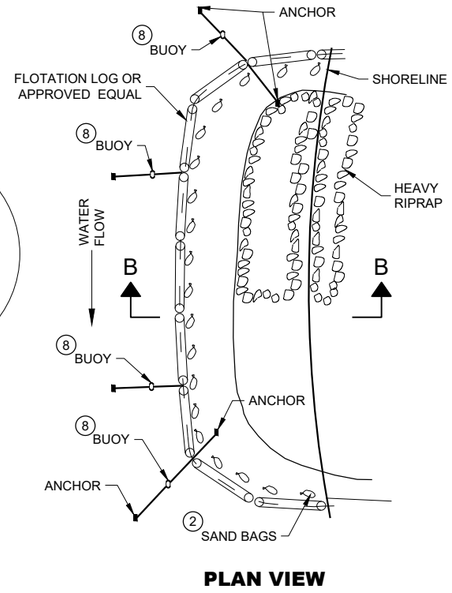
S.D.D. 8 E 9-6

6

S.D.D. 8 E 9-6

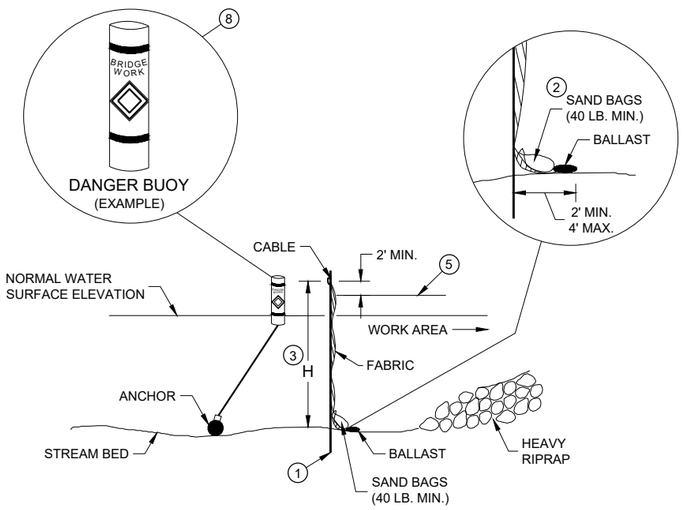


SECTION B - B

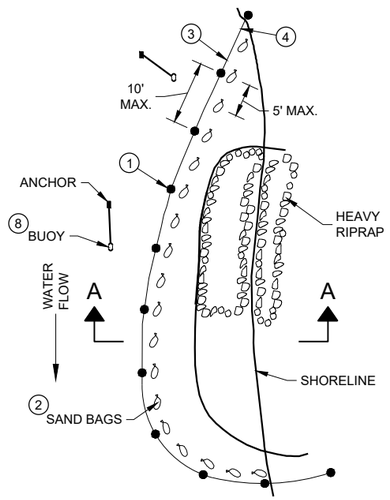


PLAN VIEW

TURBIDITY BARRIER - FLOAT ALTERNATIVE
CAUTION - SEE NOTE 6



SECTION A - A



PLAN VIEW

TURBIDITY BARRIER - STANDARD POST INSTALLATION

TURBIDITY BARRIER PLACEMENT DETAILS

GENERAL NOTES

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

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

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

(2) SAND BAGS TO BE USED AS ADDITIONAL BALLAST WHEN ORDERED BY THE ENGINEER TO MEET ADVERSE FIELD CONDITIONS. SPACE AS APPROPRIATE FOR SITE CONDITIONS.

(3) WHEN BARRIER HEIGHT "H" EXCEEDS 8 FEET, POST SPACING MAY NEED TO BE DECREASED.

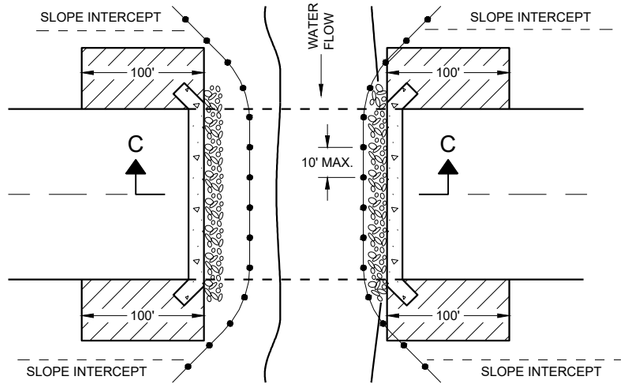
(4) IN WATERWAYS SUBJECT TO FLUCTUATING WATER ELEVATIONS, PROVISIONS SHOULD BE MADE TO ALLOW THE WATER TO EQUALIZE ON EACH SIDE OF THE BARRIER. THIS MAY BE ACCOMPLISHED BY LEAVING A PORTION OF THE BARRIER OPEN ON THE UPSTREAM END.

(5) ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION PERIOD. MINIMUM BARRIER HEIGHT SHALL BE 2' GREATER THAN EITHER THE Q2 ELEVATION OR THE ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION, WHICHEVER IS GREATER.

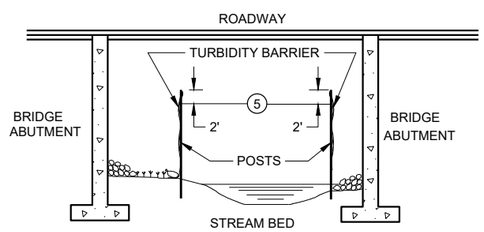
(6) FLOAT ALTERNATIVE WILL ONLY BE ALLOWED WITH WRITTEN APPROVAL OF THE ENGINEER, AND IS MEANT FOR LOCATIONS WHERE BEDROCK PREVENTS THE INSTALLATION OF POSTS.

(7) ALLOW SUFFICIENT SLACK VERTICALLY AND HORIZONTALLY SO THAT SEDIMENT BUILD UP WILL NOT SEPARATE OR LOWER THE TURBIDITY BARRIER.

(8) USE AS DIRECTED BY COAST GUARD OR DNR PERMIT WHEN WORKING IN NAVIGABLE WATERWAYS.



PLAN VIEW



SECTION C - C

TURBIDITY BARRIER DETAIL SHOWING TYPICAL PLACEMENT AT STRUCTURES

TURBIDITY BARRIER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA

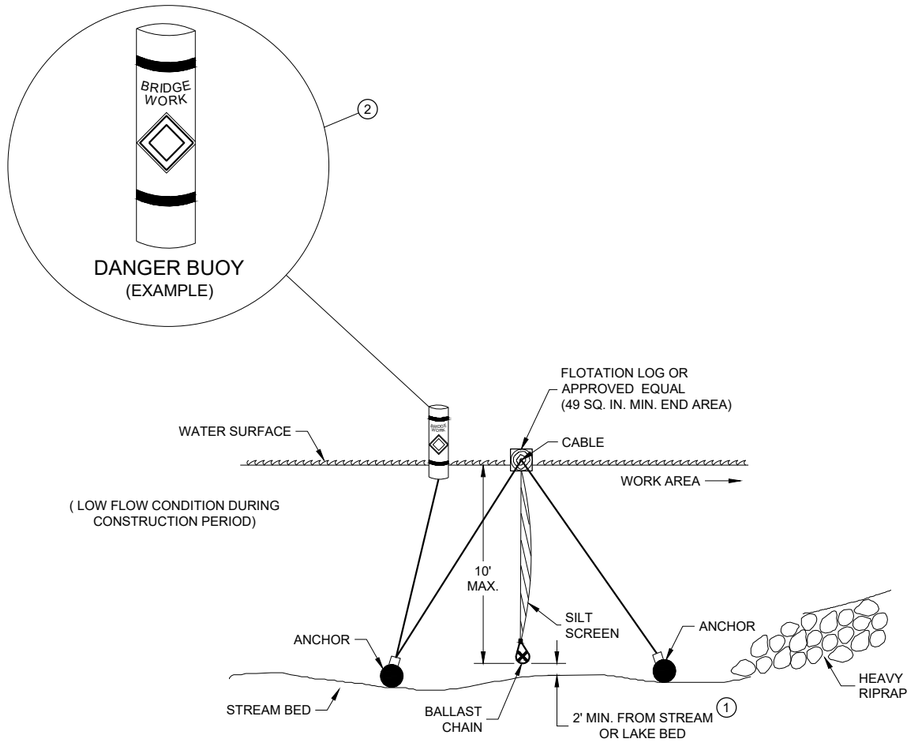
6
SDD 08E11 - 02

GENERAL NOTES

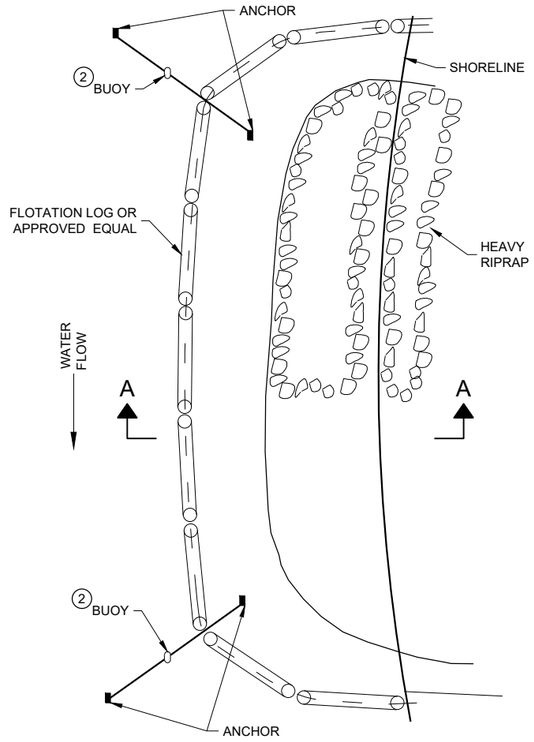
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

(1) 2' MINIMUM SHALL BE MAINTAINED DURING CONSTRUCTION PERIOD.

(2) USE AS DIRECTED BY COAST GUARD OR DNR PERMIT WHEN WORKING IN NAVIGABLE WATERWAYS.



SECTION A - A



PLAN VIEW

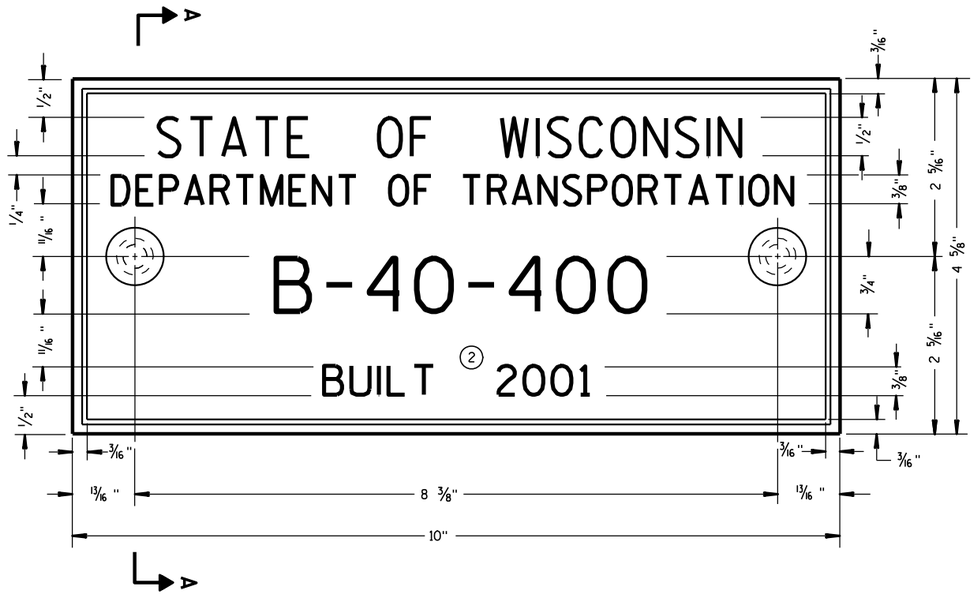
SILT SCREEN PLACEMENT DETAIL

SILT SCREEN	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 6/04/02 DATE	/S/ Beth Cannestra CHIEF ROADWAY DEVELOI ENGINEER
FHWA	

SDD 08E12 - 01

6

SDD 08E12 - 01



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

FOR MULTI-UNIT STRUCTURES
LINE 3 ABOVE SHALL READ

B = BRIDGE
C = CULVERT
R = RETAINING WALL

COUNTY NO.

BRIDGE NO.

UNIT NO. FOR MULTIPLE UNIT BRIDGE

B-40-400-1A

NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES

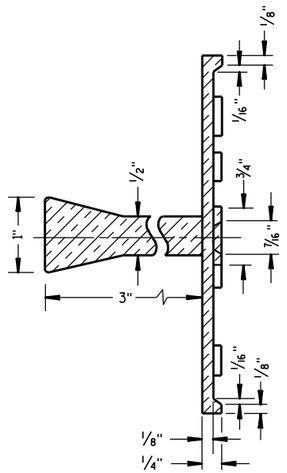
GENERAL NOTES

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

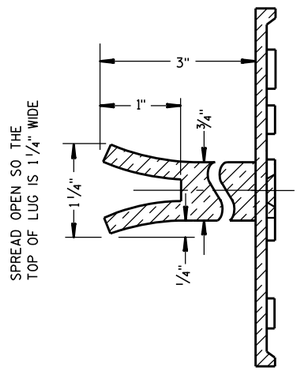
THE BRIDGE NUMBER AND YEAR BUILT SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND YEAR BUILT.

(1) EPOXY RESIN SHALL BE FROM AN APPROVED MANUFACTURER AND USED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

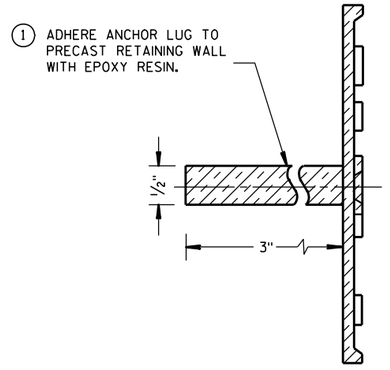
(2) REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.



SECTION A-A



ALTERNATE LUG



ALTERNATE LUG
(FOR ATTACHMENT TO PRECAST STRUCTURES)

NAME PLATE (STRUCTURES)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

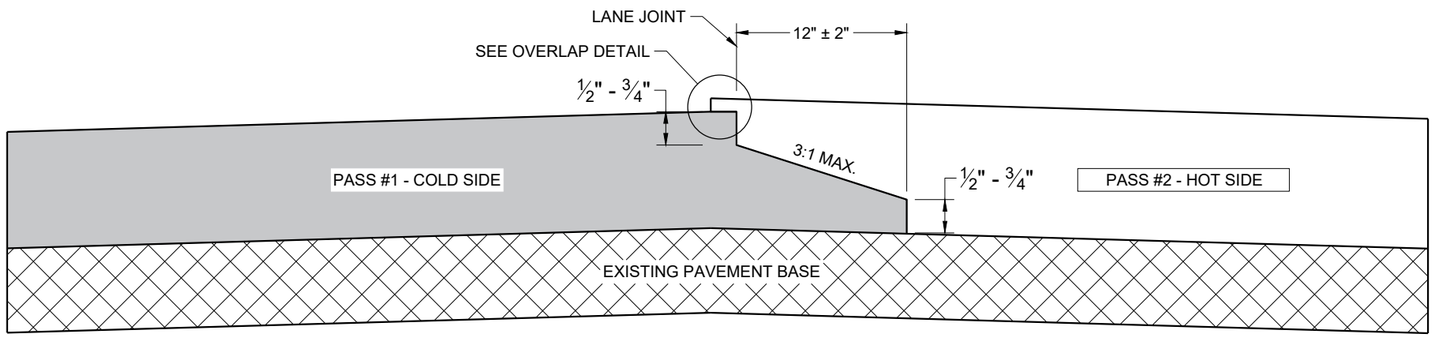
3/26/10 DATE

/S/ Scot Beck -- CHIEF STRUCTURAL DEVELOPMENT ENGINEER

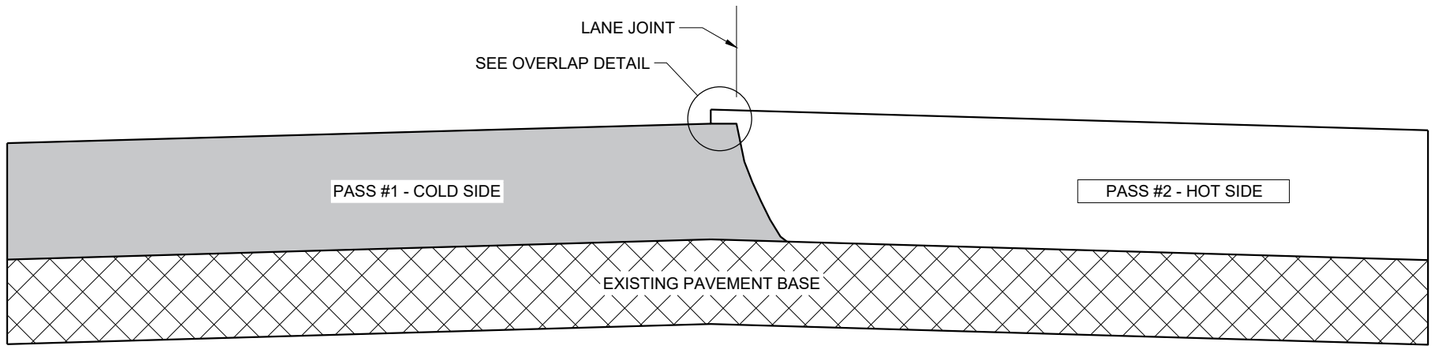
FHWA

6

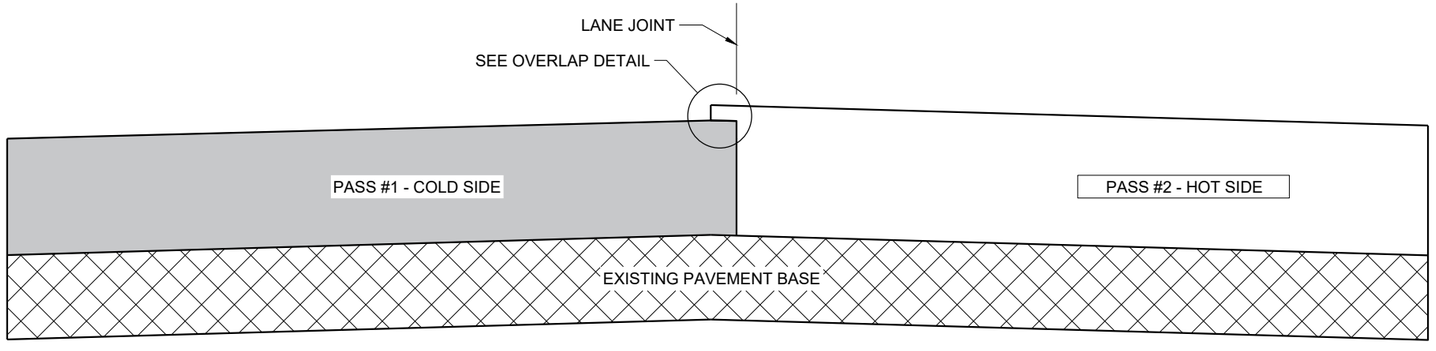
S.D.D. 12 A 3-10



TYPICAL PAVEMENT CROSS SECTION
NOTCHED WEDGE JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT (MILLED)

GENERAL NOTES

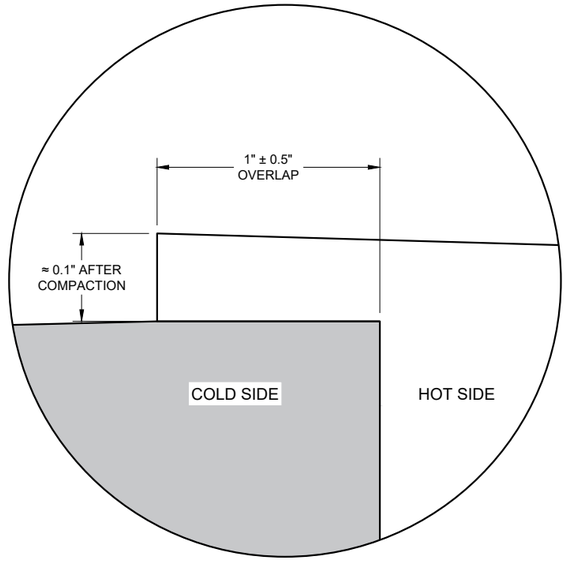
IN ADDITION TO THE DETAILS PROVIDED IN THIS DRAWING, CONFORM TO STANDARD SPECIFICATION 450.3.2.8 FOR WHEN A NOTCHED WEDGE JOINT IS REQUIRED AND FOR GENERAL JOINT CONSTRUCTION REQUIREMENTS.

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

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

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

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



OVERLAP DETAIL (TYPICAL)

6

6

SDD 13C19 - 03

SDD 13C19 - 03

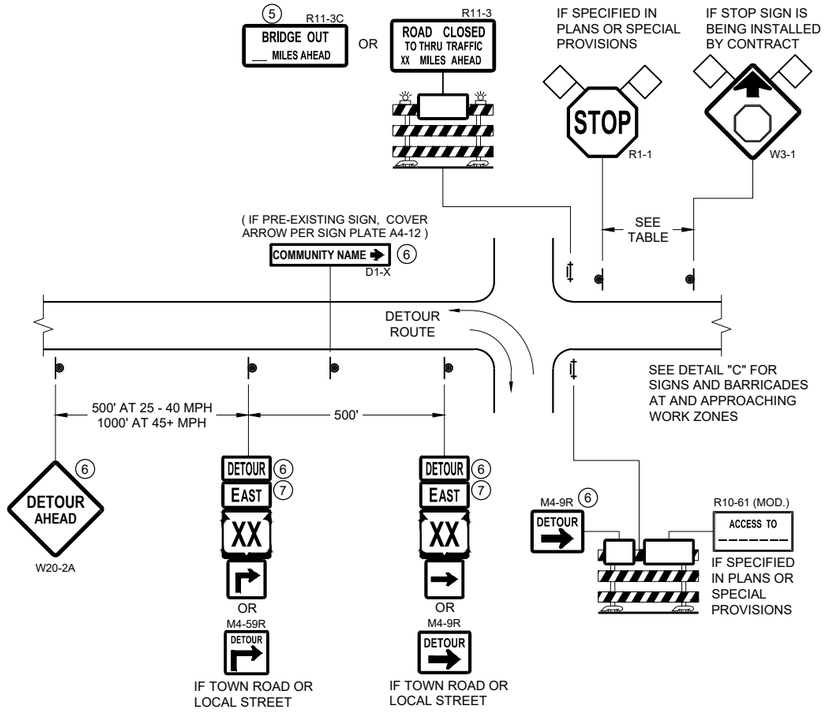
HMA LONGITUDINAL JOINTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2020
DATE

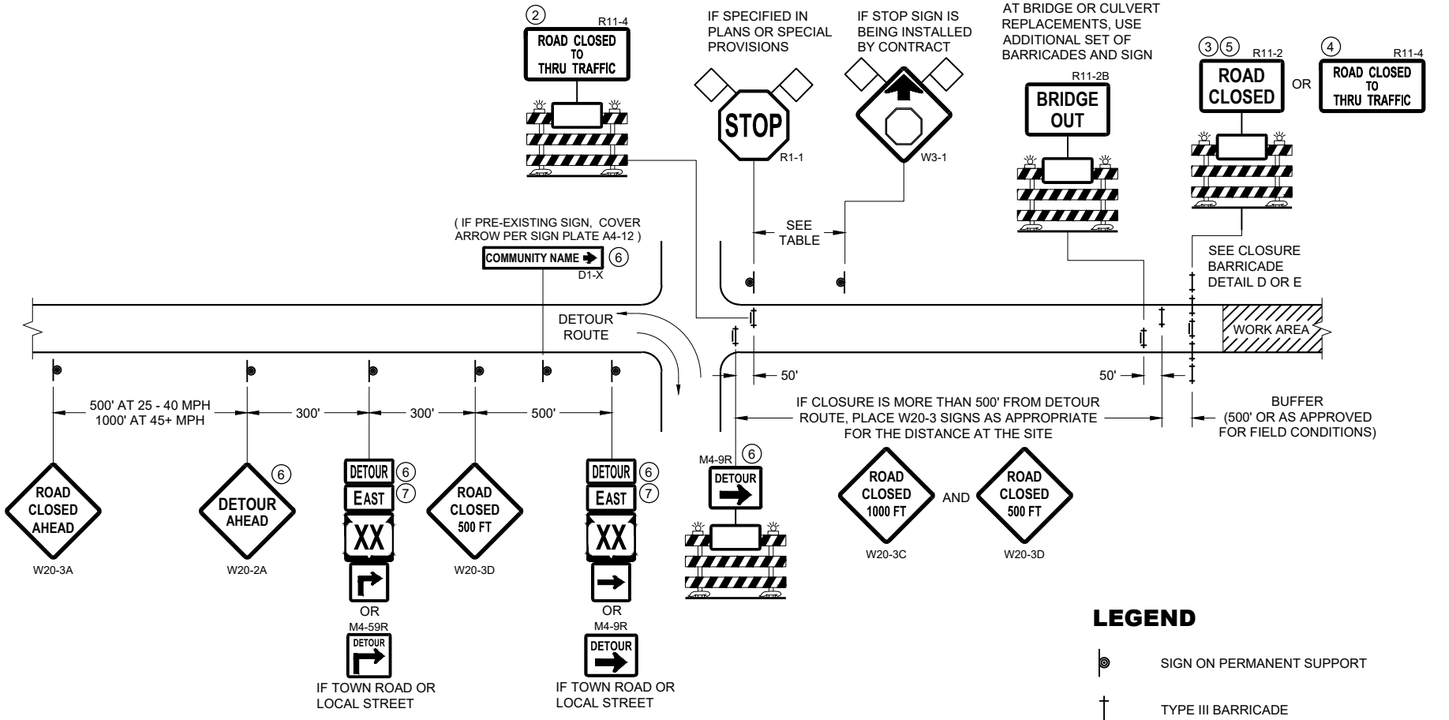
/S/ Steven Hefel
HMA PAVEMENT ENGIN

FHWA



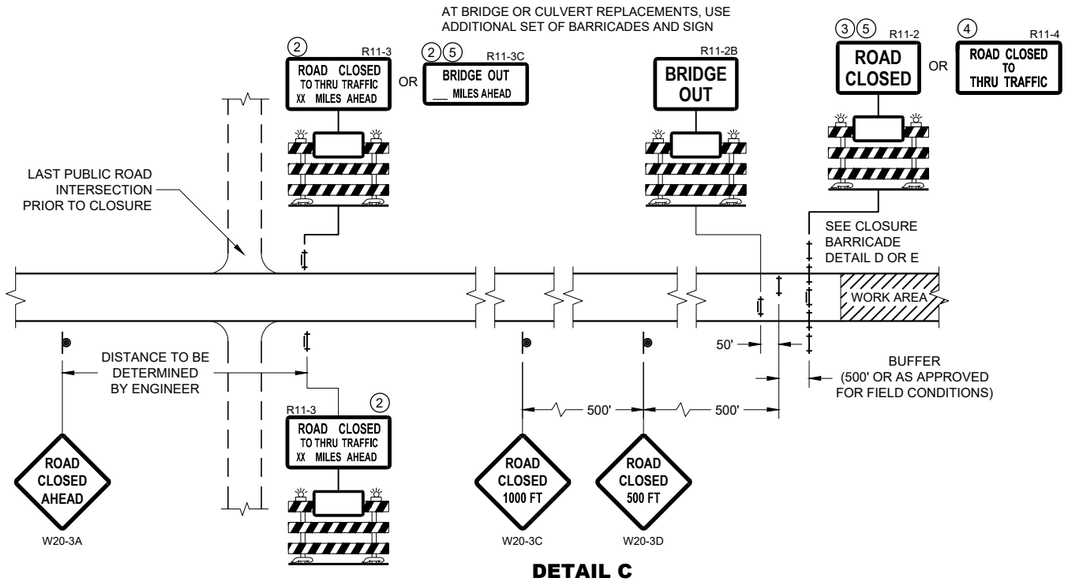
DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR

WORK ZONE GREATER THAN OR EQUAL TO ½ MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)



DETAIL B
MAINLINE CLOSURE WITH POSTED DETOUR

WORK ZONE LESS THAN ½ MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)



DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR

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

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

LEGEND

- SIGN ON PERMANENT SUPPORT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TYPE "A" WARNING LIGHT (FLASHING)
- WORK AREA
- FLAGS, 16" X 16" MIN. (ORANGE)
- DETOUR — M4 - 8
- EAST — M3 - X
- XX — M1 - 4 OR XX — M1 - 6 OR COUNTY X — M1 - 5A
- M05 - 1 OR M06 - 1

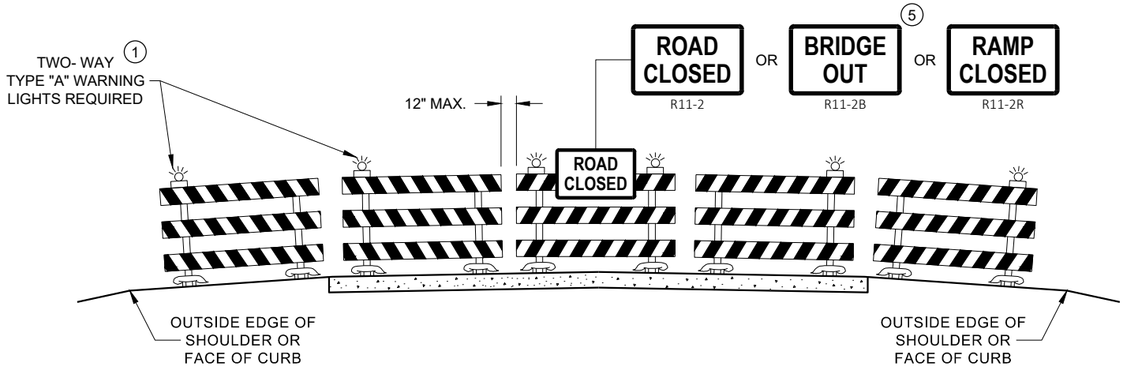
BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

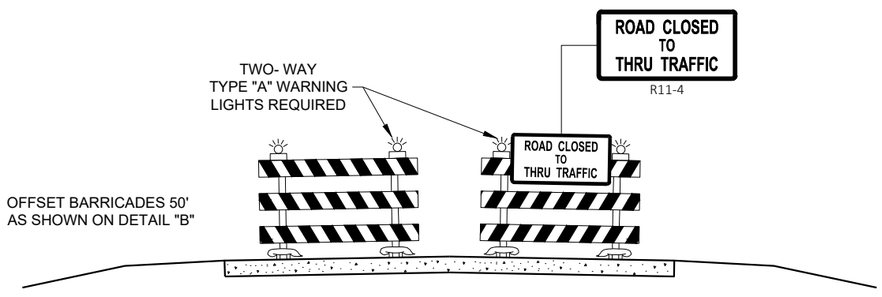
APPROVED
May 2023
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA

SDD 15C02 - 09a



DETAIL D
ROAD CLOSURE BARRICADE DETAIL
APPROACH VIEW



DETAIL E
LANE CLOSURE BARRICADE DETAIL
APPROACH VIEW

SEE SDD 15C2 - SHEET "a" FOR LEGEND

GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

BARRICADES AND SIGNS FOR VARIOUS CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

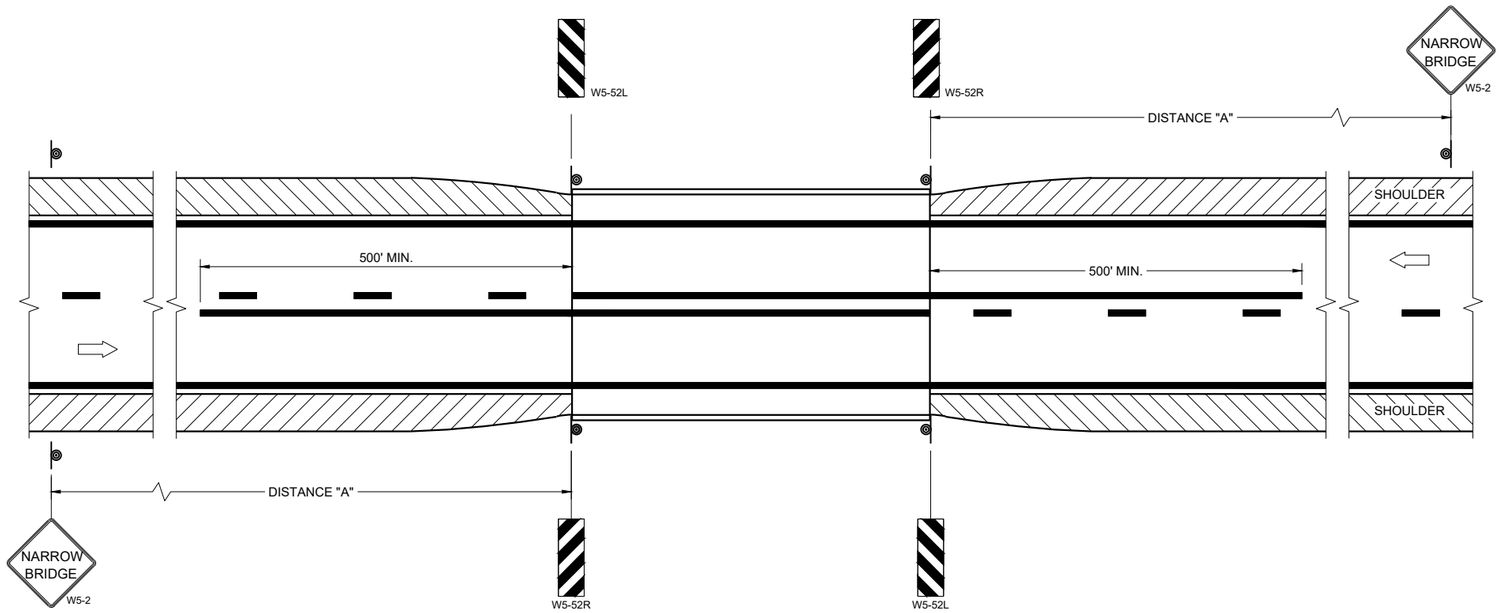
APPROVED
May 2023
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEE
FHWA

6

SDD 15C02 - 09b

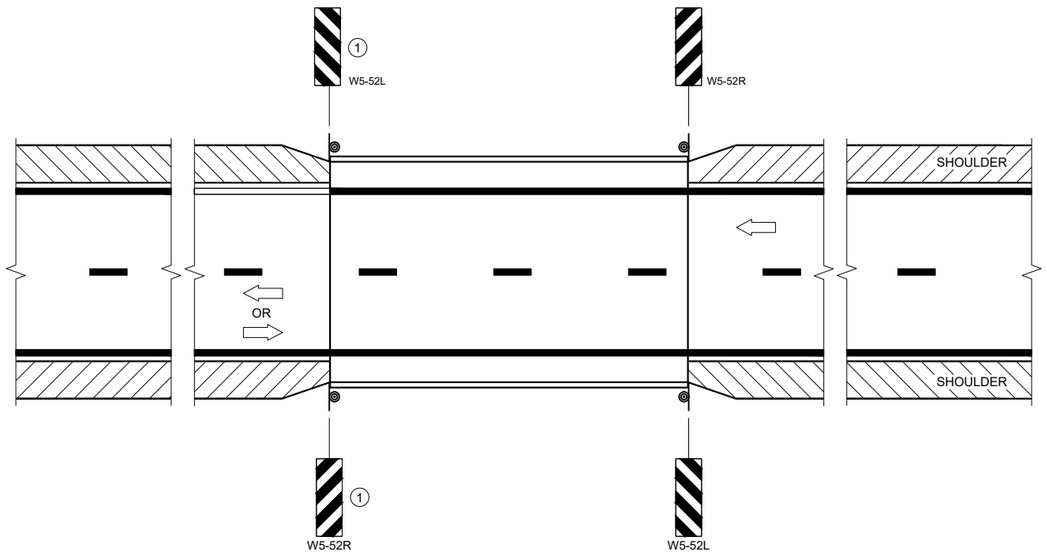
6

SDD 15C02 - 09b



SITUATION 1

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



SITUATION 2

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

GENERAL NOTES

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

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

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

ON BRIDGE ONLY PROJECTS, PLACE 300 FEET OF EDGELINE.

OMIT EDGELINES ON ROADWAYS WITHOUT EXISTING EDGELINES.

(1) OMIT ON ONE-WAY TRAVELED WAYS.

LEGEND

SIGN ON PERMANENT SUPPORT

DIRECTION OF TRAFFIC

DISTANCE TABLE

POSTED OR 85TH PERCENTILE SPEED	DISTANCE "A"
25	150'
30	200'
35	250'
40	300'
45	400'
50	550'
55	700'

SIGNING AND MARKING FOR TWO LANE BRIDGES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023
DATE
/S/ Jeannie Silver
Statewide Pavement Marking Engineer
FHWA

6
SDD 15C06-12

GENERAL NOTES

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

(1) LOCATE THE NO PASSING ZONE W14-3 SIGN WITHIN 50 FEET OF THE "T" MARKING

(2) MEASURE FROM EDGE OF MARKING TO JOINT LINE. THIS DOES NOT INCLUDE SPACE NEEDED FOR GROOVING OPERATIONS.

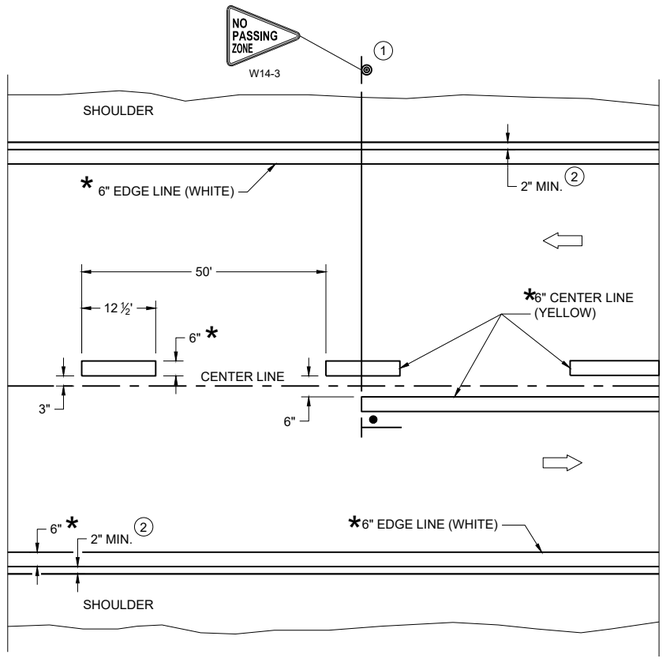
*CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES

LEGEND

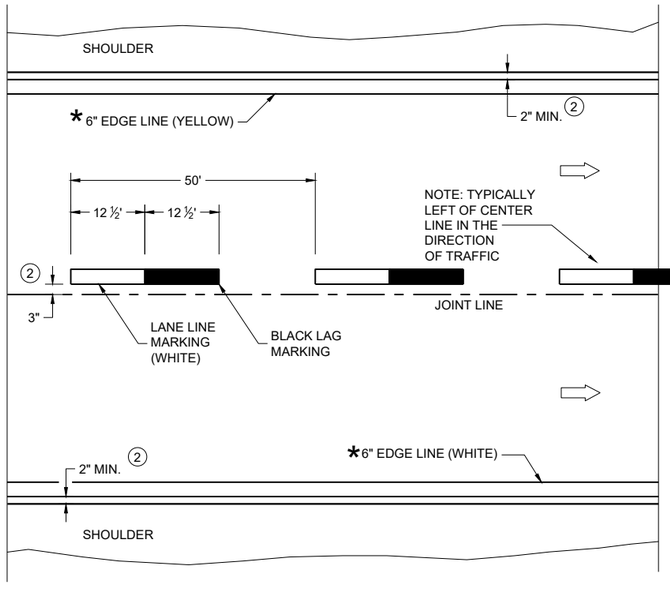
"T" MARKING

SIGN ON PERMANENT SUPPORT

DIRECTION OF TRAFFIC



TWO WAY TRAFFIC



ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING

6

PERMANENT LONGITUDINAL PAVEMENT MARKINGS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
December 2024
DATE

/S/ Jeannie Silver
Statewide Pavement Marking Engineer

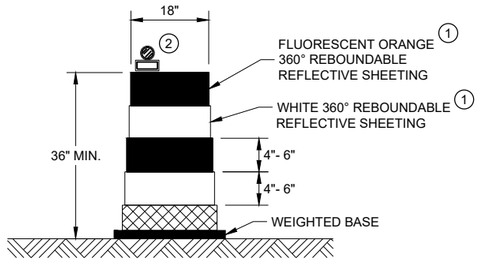
FHWA

SDD 15C08-24a

SDD 15C08-24a

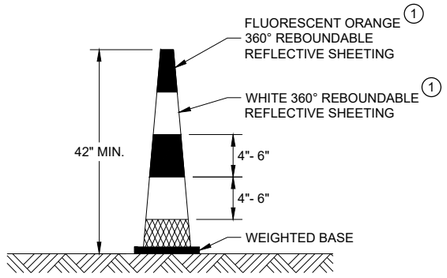
GENERAL NOTES

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



DRUM

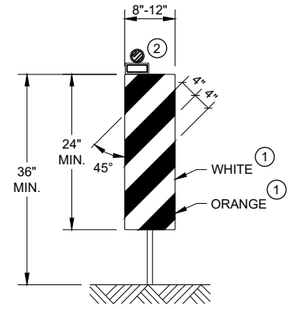
BALLAST WIDTHS
RANGE FROM 24"-36"



42" CONE

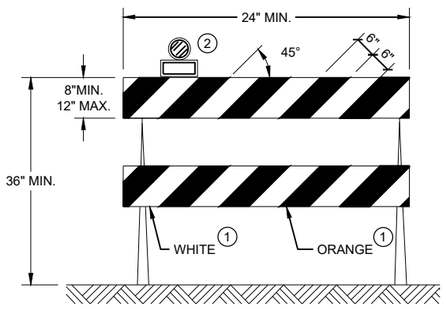
DO NOT USE IN TAPERS
½ SPACING OF DRUMS

BALLAST WIDTHS
RANGE FROM 14"-20"



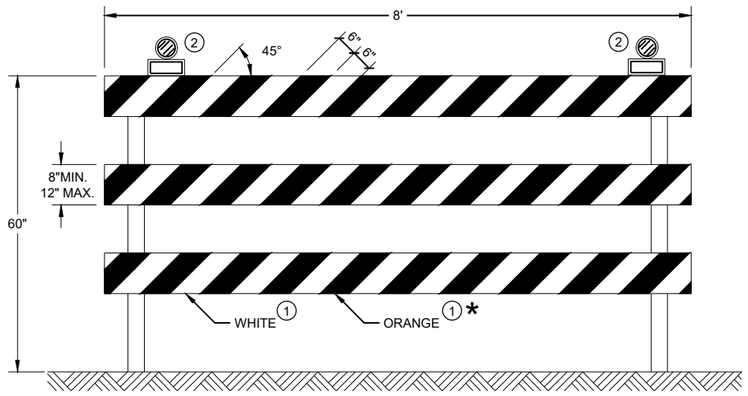
VERTICAL PANEL

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



TYPE II BARRICADE

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



TYPE III BARRICADE

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

* IF USED FOR A PERMANENT APPLICATION USE RED SHEETING.

CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS

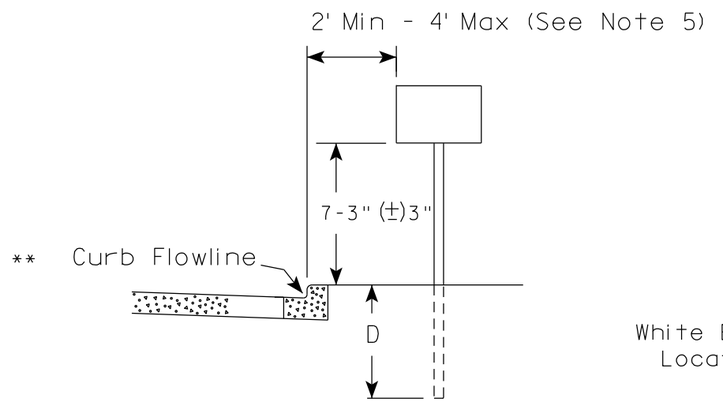
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2022 — DATE
/S/ Andrew Heidtke — WORK ZONE ENGINEER
FHWA

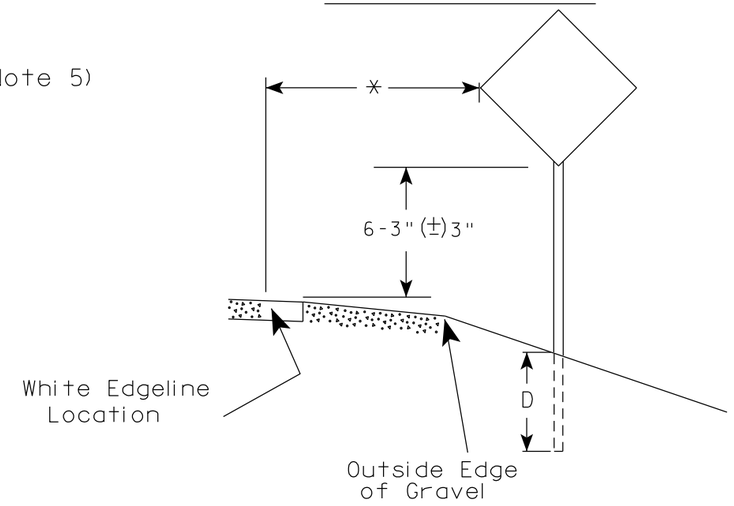
6

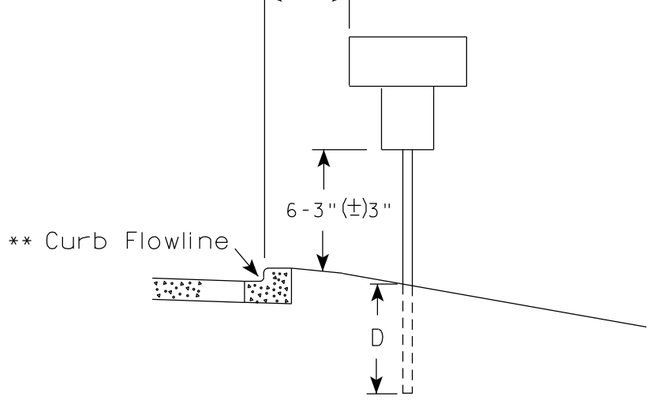
SDD 15C11 - 10b
SDD 15C11 - 10b

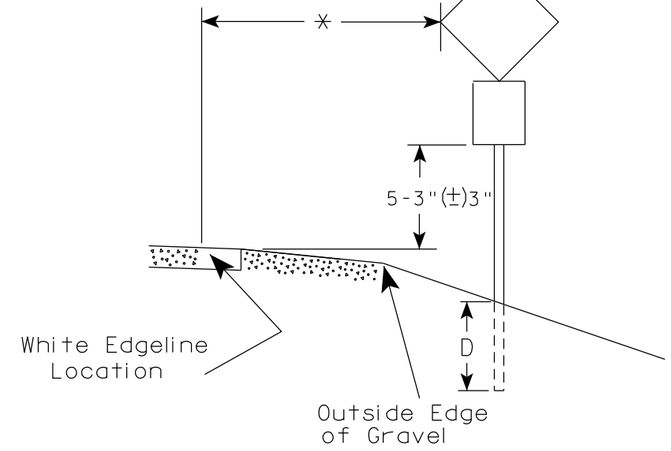
URBAN AREA



RURAL AREA (See Note 2)







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

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

POST EMBEDMENT DEPTH

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

GENERAL NOTES

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

TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

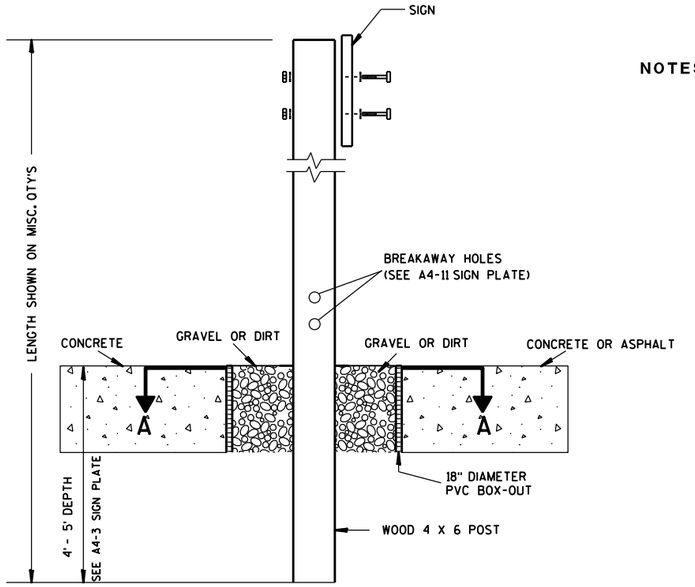
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/6/23 PLATE NO. A4-3.23

7

7

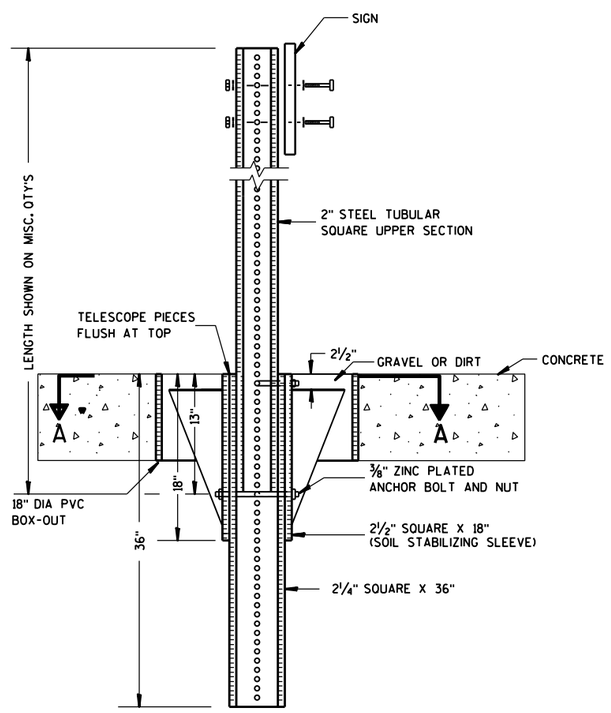
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 23	E



ELEVATION VIEW

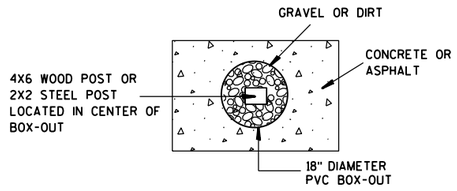
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

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



ELEVATION VIEW

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



PLAN VIEW

FOR NEW CONCRETE/ASPHALT INSTALLATIONS

SIGN POST BOX-OUTS A4-3B

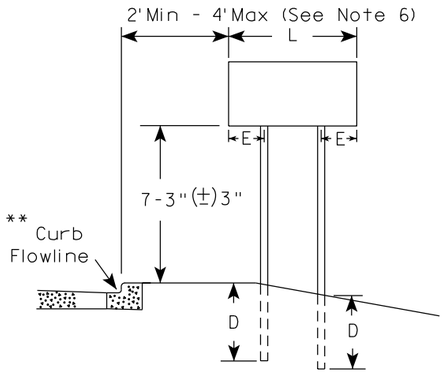
WISCONSIN DEPT OF TRANSPORTATION

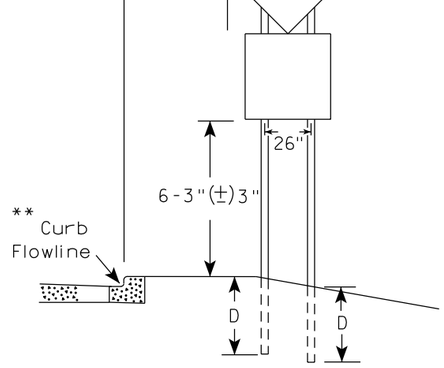
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 1/27/14 PLATE NO. A4-3B.1

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

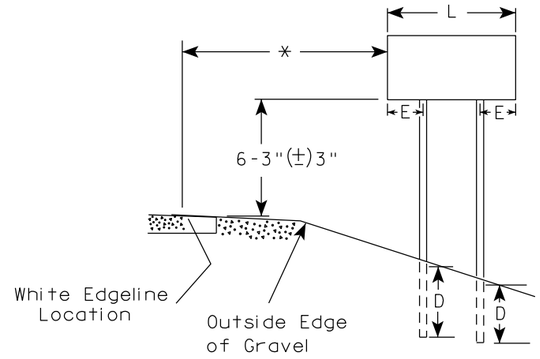
URBAN AREA

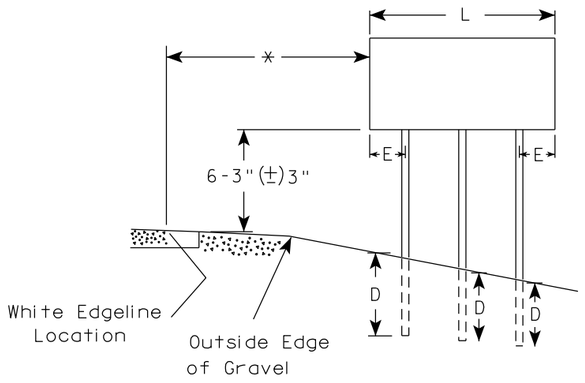


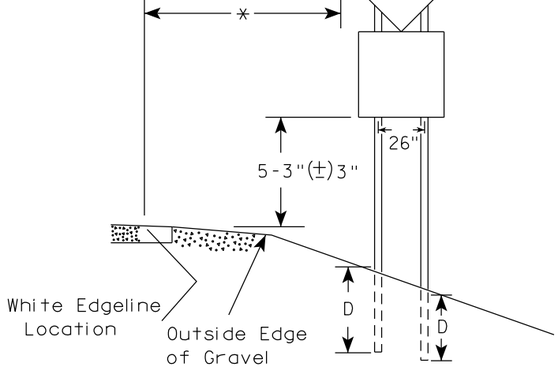


48" DIAMOND WARNING SIGN

RURAL AREA (See Note 3)







48" DIAMOND WARNING SIGN

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

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

GENERAL NOTES

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

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

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

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

POST EMBEDMENT DEPTH

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

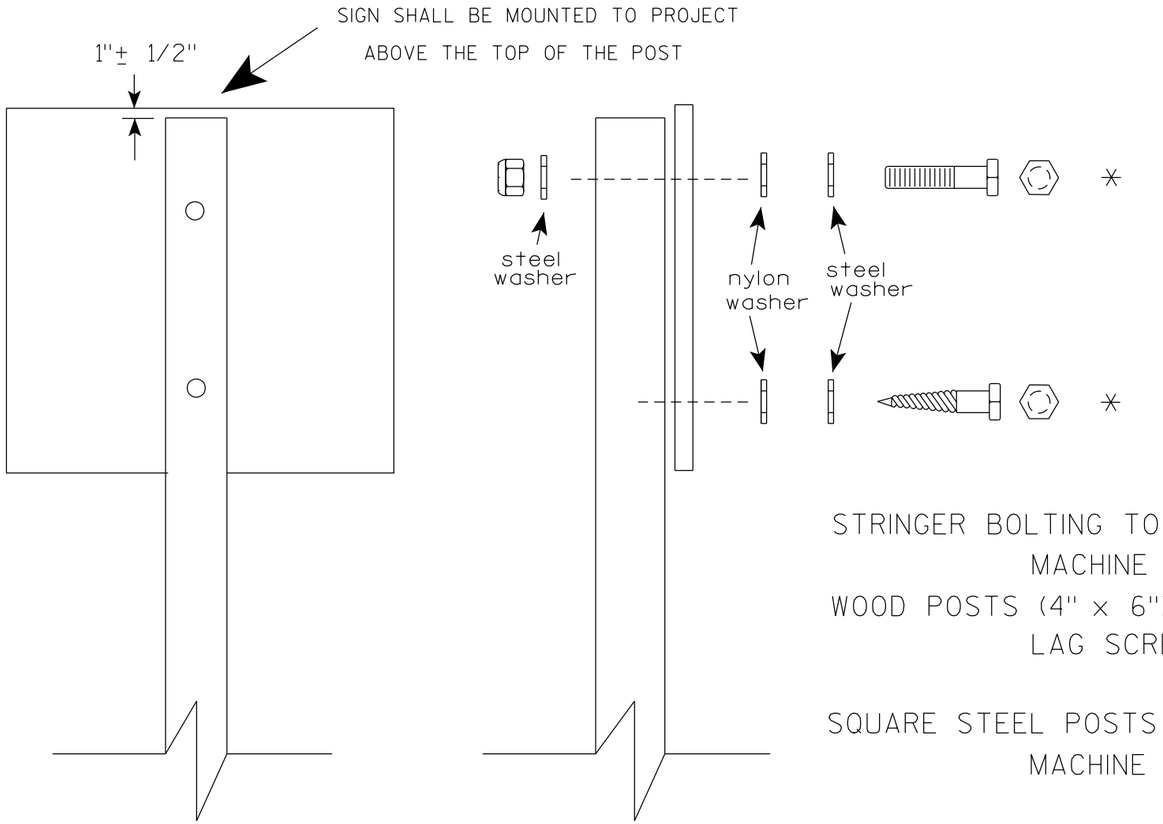
TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/6/23 PLATE NO. A4-4.16

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 25	E



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

a. Hot dip galvanized in accordance with ASTM Designation: A 153, Class D, or SC 3

b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.

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

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

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

WOOD POSTS (4" x 6")

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

SQUARE STEEL POSTS (2" x 2")

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

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

WASHERS (ALL POSTS) -

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

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

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

ATTACHMENT OF SIGNS TO POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

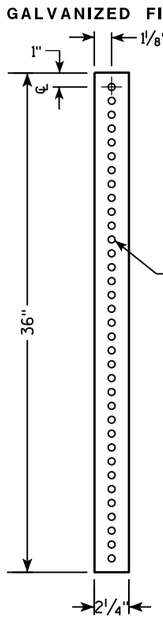
DATE 4/1/2020 PLATE NO. A4-8.9

PROJECT NO:

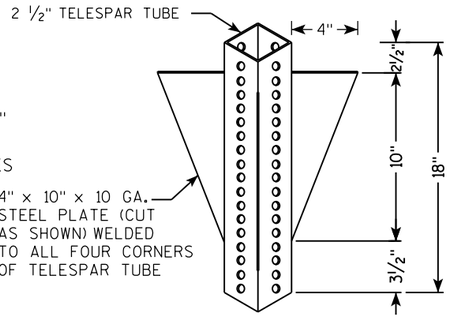
SHEET NO: 26 E

TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM

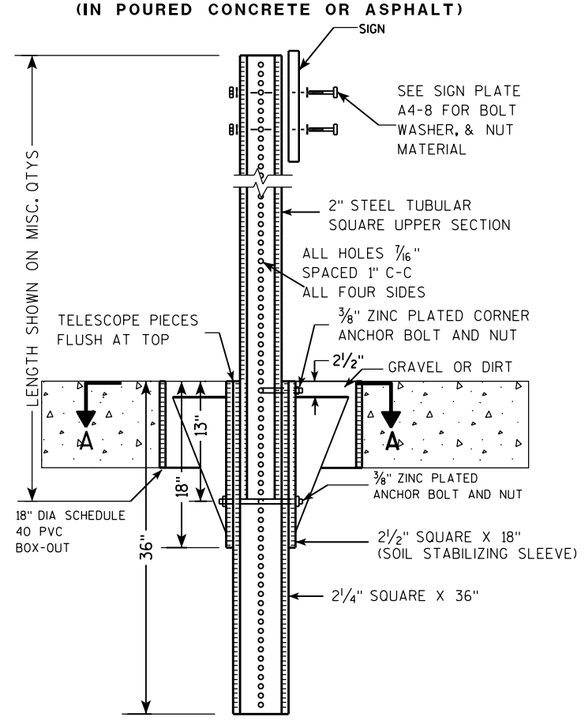
2 1/4 " SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH



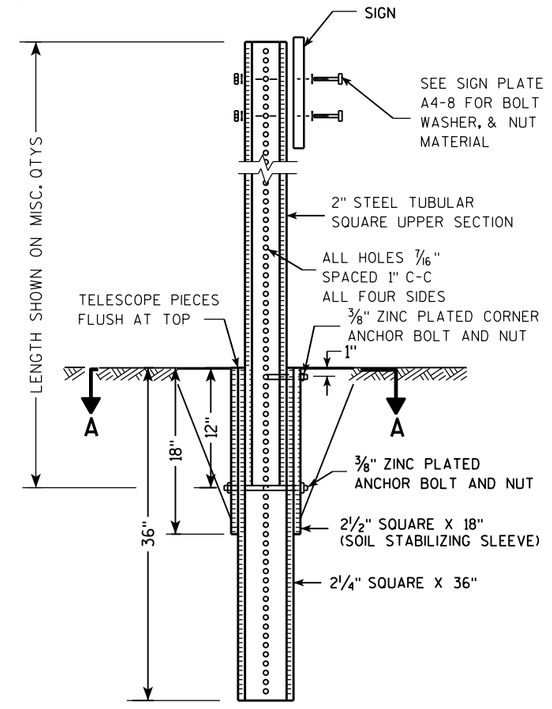
2 1/2 " SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH

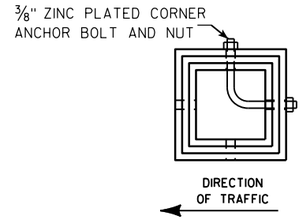


DETAIL OF TUBULAR STEEL SIGN POST
(IN POURED CONCRETE OR ASPHALT)



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





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

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

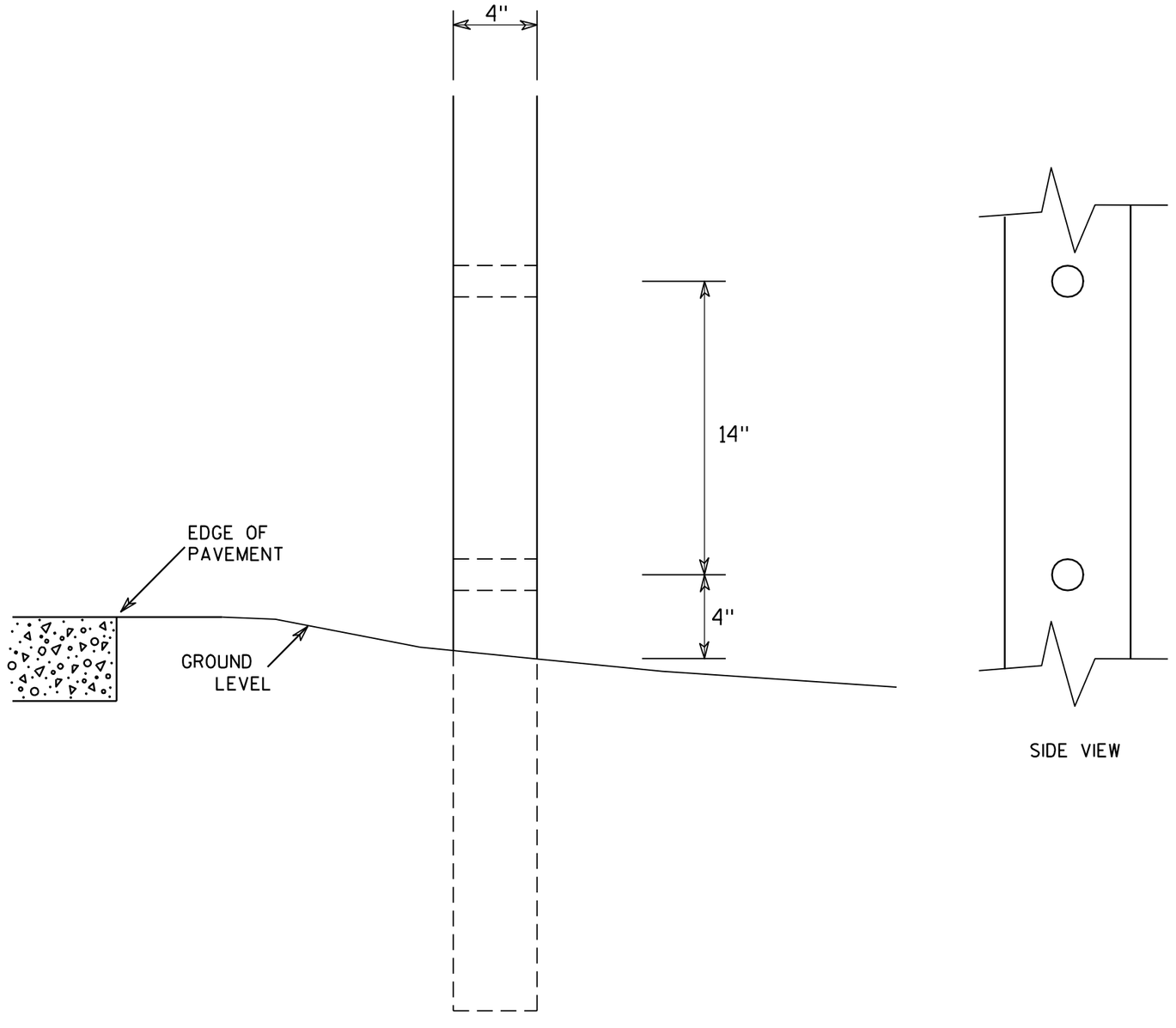
TUBULAR STEEL
SIGN POST
A4-9

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/05/15 PLATE 27 A4-9.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E



SIDE VIEW

GENERAL NOTES

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

7

7

4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

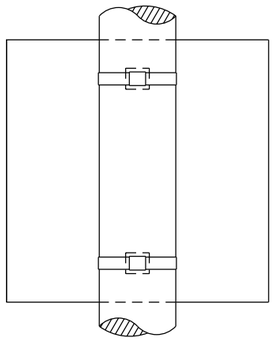
APPROVED Chester J Spang
for State Traffic Engineer

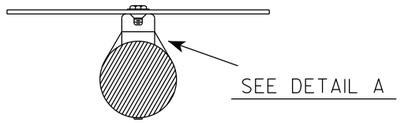
DATE 3/27/97 PLATE NO. A4-11.2

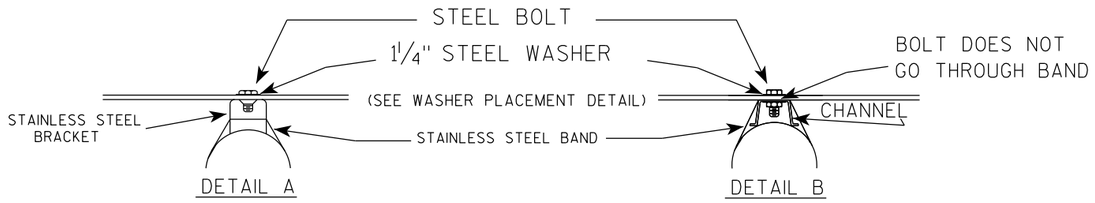
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 28	E

BANDING

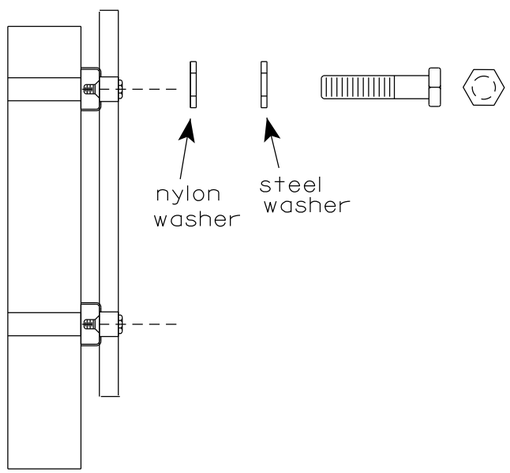
SINGLE SIGN







WASHER PLACEMENT

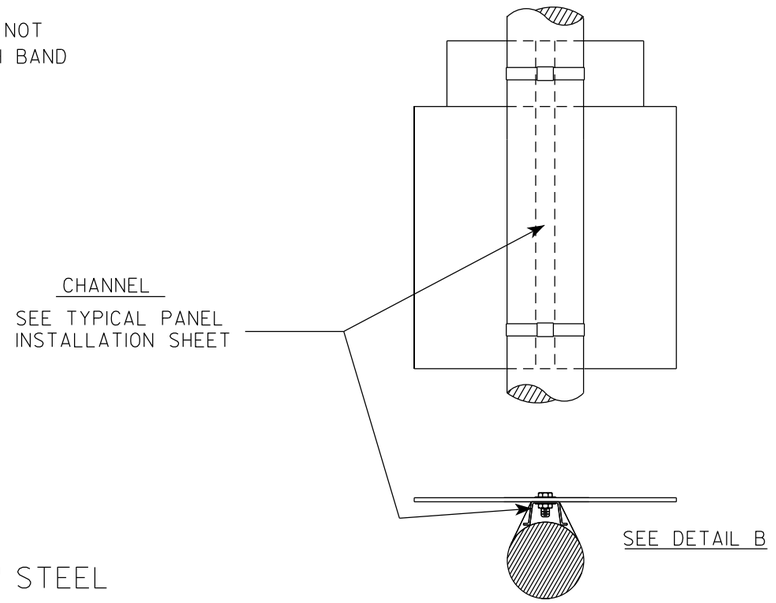


WASHERS (ALL POSTS) -
1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON
FOR ALL TYPE H SIGNS

GENERAL NOTES

1. Any sign over 3 feet in width shall use the V-Block banding method. See A5-10 standard plate.
2. Signs 3 feet or greater in height shall have three bracket bands installed. Signs less than 3 feet in height shall have two bracket bands installed.
3. Banding and assembly bracket shall be stainless steel. All bands shall be ¾" in width and 0.025" thickness.
4. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
   a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D
   b. Electro-galvanized in accordance with ASTM designation: B 633, Type III, SC 3

"J" ASSEMBLY



STANDARD SIGN
SIGN BANDING DETAILS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

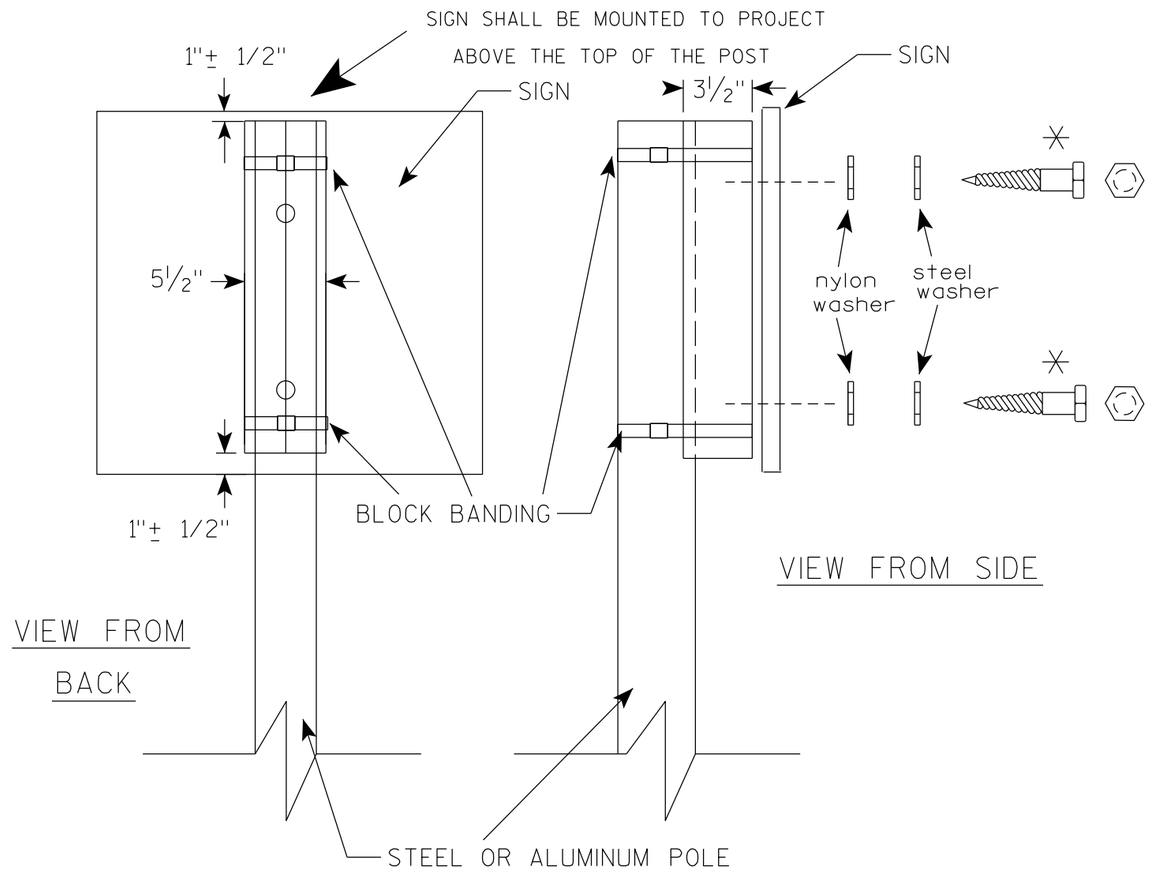
DATE 6/10/19 PLATE NO. A5-9.4

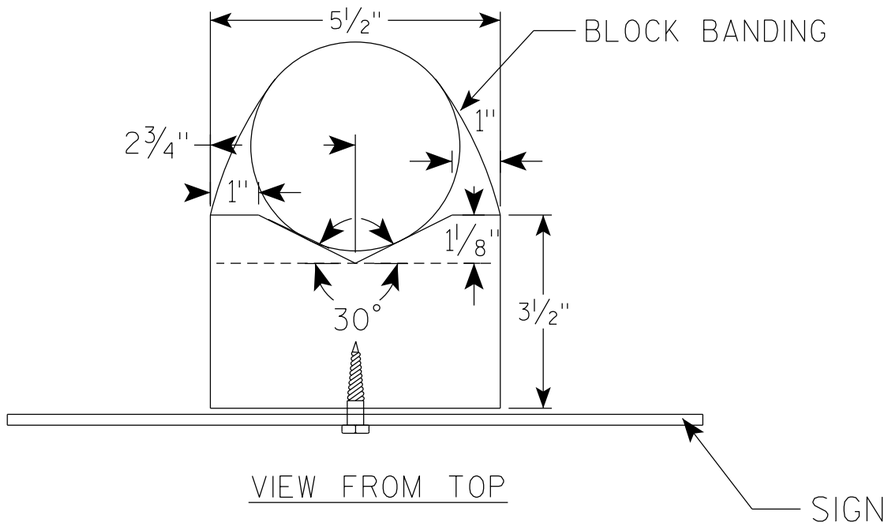
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 29	E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\A59.dgn PLOT DATE : 10-JUN 2019 4:10 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42

7

7





GENERAL NOTES

1. WOOD 4"X6" POST MATERIAL SHALL CONFORM TO 507.2.2 OF THE WisDOT STANDARD SPECIFICATIONS
2. BLOCK BANDING AND CLIPS SHALL BE STAINLESS STEEL, ¾" WIDTH AND 0.025" THICKNESS
3. SIGNS 3' OR GREATER IN HEIGHT SHALL UTILIZE 3 BLOCK BANDS. SIGNS UNDER 3' IN HEIGHT SHALL UTILIZE 2 BLOCK BANDS
4. ACTUAL NUMBER OF FASTENERS PER SIGN VARIES WITH THE SIGN AREA, BUT NORNALLY THERE ARE TWO. FOR SIGNS GREATER THAN 9 S.F. 3 FASTENERS SHALL BE USED.
5. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
   a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D
   b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3
6. ALL BOLTS SHALL HAVE HEXAGONAL HEADS.
7. STEEL WASHERS SHALL BE 1¼" O.D. X ⅜" I.D. X 1/16"
8. NYLON WASHERS SHALL BE 1¼" O.D. X ⅜" I.D. X .080 FOR TYPE H OR TYPE F FACE SIGN

✳ LAG BOLTS SHALL BE ⅜" X 2½"

BLOCK BANDING DETAIL (V-BLOCK OPTION)

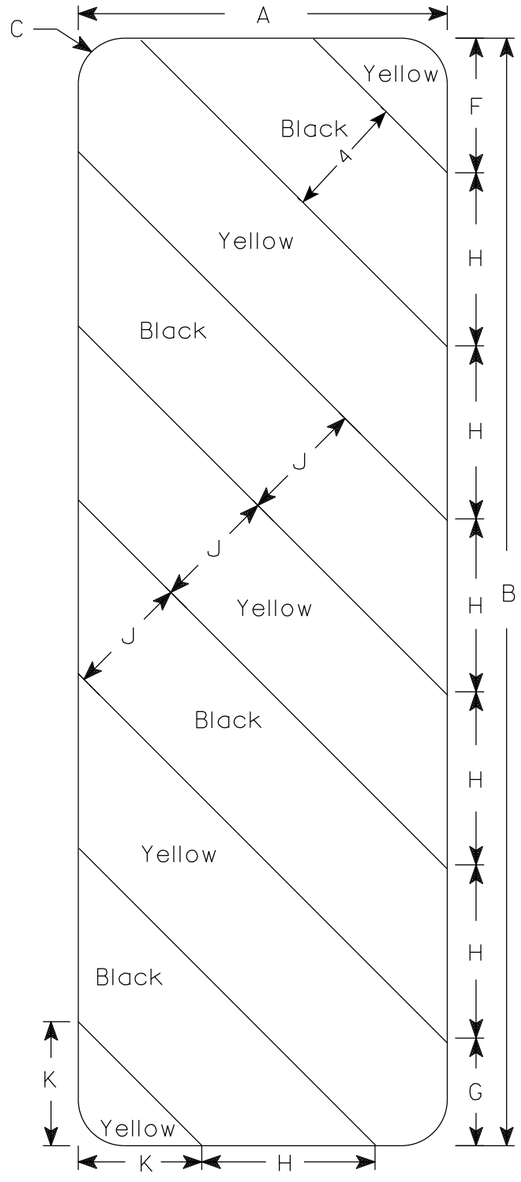
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

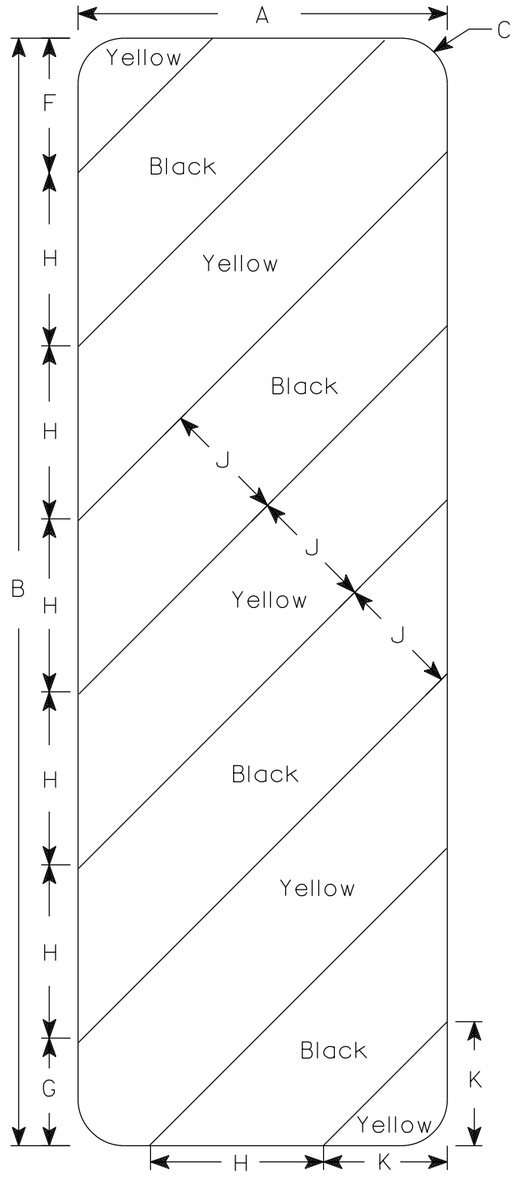
DATE 4/19/2022 PLATE NO. A5-10.3

PROJECT NO:

SHEET NO: 30 E



W5-52L



W5-52R

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
   Background - Yellow
   Message - Black
3. Alternate colors of stripes as shown.

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

STANDARD SIGN

W5-52L & W5-52R

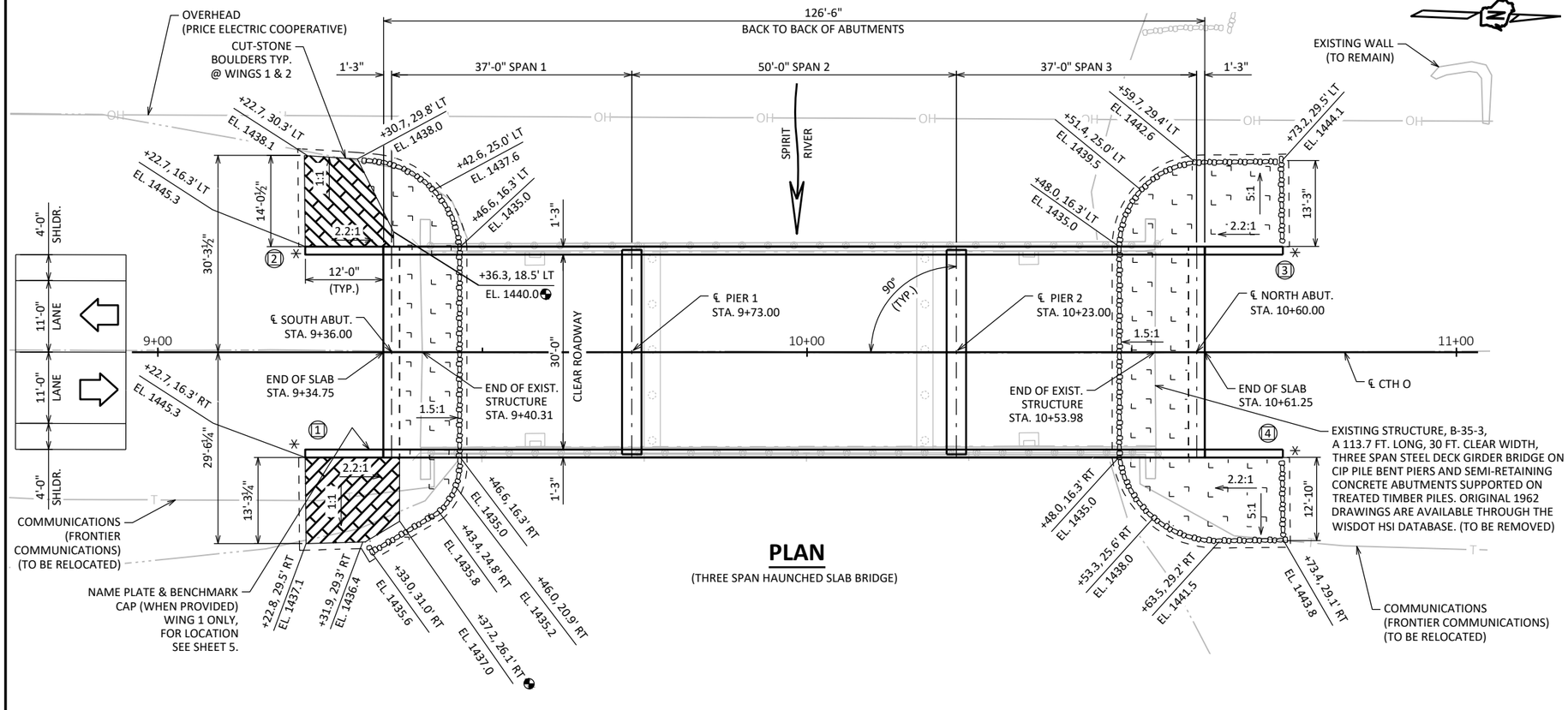
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/4/2024 PLATE NO. W5-52.10

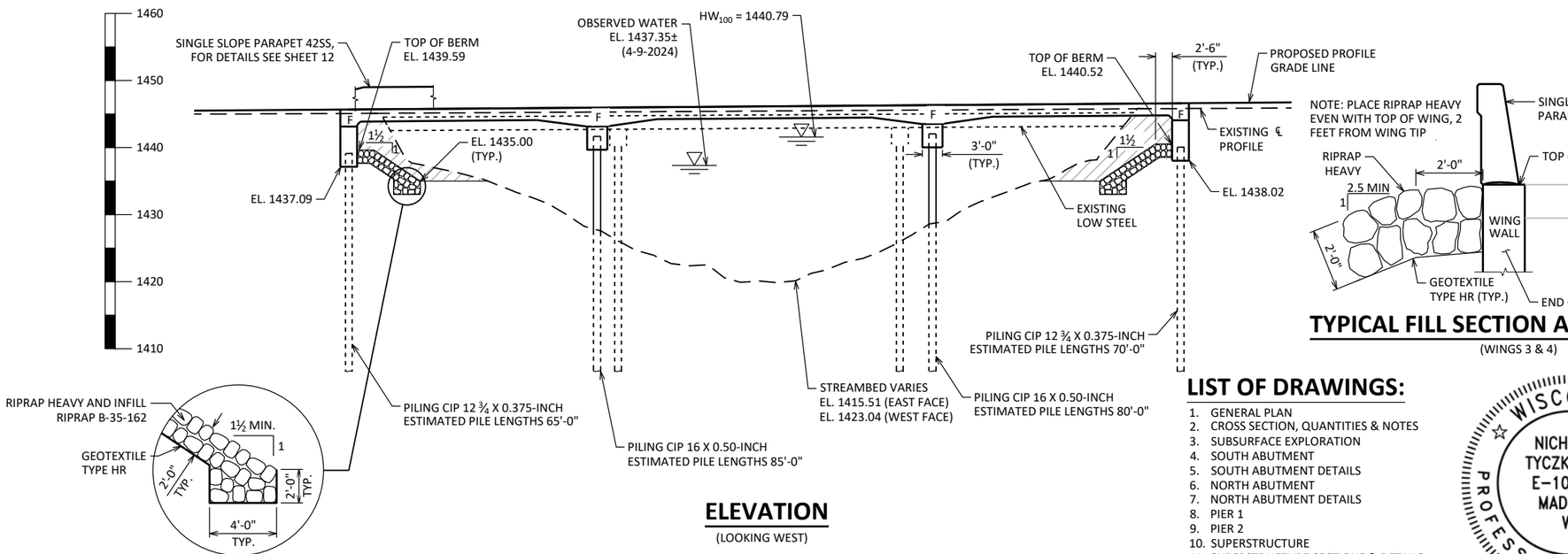
PROJECT NO: | HWY: | COUNTY: | SHEET NO: E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate_W552.dgn PLOT DATE : 4-MARCH 2024 11:57 PLOT BY : dotc4c PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42



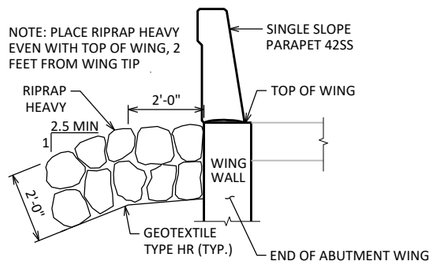
PLAN

(THREE SPAN HAUNCHED SLAB BRIDGE)



ELEVATION

(LOOKING WEST)



TYPICAL FILL SECTION AT WING TIPS

(WINGS 3 & 4)

LIST OF DRAWINGS:

1. GENERAL PLAN
2. CROSS SECTION, QUANTITIES & NOTES
3. SUBSURFACE EXPLORATION
4. SOUTH ABUTMENT
5. SOUTH ABUTMENT DETAILS
6. NORTH ABUTMENT
7. NORTH ABUTMENT DETAILS
8. PIER 1
9. PIER 2
10. SUPERSTRUCTURE
11. SUPERSTRUCTURE SECTIONS & DETAILS
12. SINGLE SLOPE PARAPET 42SS
13. SLAB CAMBER & DETAILS

WISCONSIN
NICHOLAS
TYCZKOWSKI
E-101114
MADISON
WI
PROFESSIONAL ENGINEER

STATE PROJECT NUMBER

9423-00-70

DESIGN DATA

LIVE LOAD:

DESIGN LOADING: HL-93
INVENTORY RATING: RF = 1.27
OPERATING RATING: RF = 1.65
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV): 250 (KIPS)

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

MATERIAL PROPERTIES:

CONCRETE MASONRY:
SLAB — f'_c = 4,000 PSI
ALL OTHER — f'_c = 3,500 PSI
BAR STEEL REINFORCEMENT:
GRADE 60 — f_y = 60,000 PSI

FOUNDATION DATA

ABUTMENTS TO BE SUPPORTED ON CIP CONCRETE 12 ¾ X 0.375-INCH PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 210 TONS ** PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA.
ESTIMATED 65'-0" LONG AT S. ABUT. & 70'-0" AT N. ABUT.

PIERS TO BE SUPPORTED ON CIP 16 X 0.50-INCH PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 240 TONS ** PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA.
ESTIMATED 85'-0" LONG AT PIER 1 & 80'-0" AT PIER 2.

**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 PILE CAPACITY.

HYDRAULIC DATA

100-YEAR FREQUENCY:

Q_{100} = 6,399 C.F.S.
V_{100}= 5.78 F.P.S.
HW_{100}= EL. 1440.79 FT.
WATERWAY AREA = 1107 SQ. FT.
DRAINAGE AREA = 125 SQ. MI.
SCOUR CRITICAL CODE = 5

2-YEAR FREQUENCY:

Q_2= 2,444 C.F.S.
V_2= 2.7 F.P.S.
HW_2= EL. 1438.5 FT.

TRAFFIC DATA

CTH O:

A.A.D.T. (2026) = 250
A.A.D.T. (2046) = 260
R.D.S. = 55 MPH

(○) INDICATES WING NUMBER.

REMOVAL OF THIS MATERIAL IS INCLUDED IN THE BID ITEM "EXCAVATION FOR STRUCTURES BRIDGES B-35-162".

INFILL RIPRAP B-35-162. ENSURE INFILL EXTENDS FROM ONE SIDE OF THE BRIDGE TO THE OTHER CONNECTING NATURAL LANDSCAPE ON ALL FOUR CORNERS OF THE BRIDGE FOR WILDLIFE CONNECTIVITY.

✳ ANCHOR ASSEMBLY FOR STEEL PLATE BEAM GUARD FOR FUTURE INSTALLATION OF THRIE BEAM AT EACH CORNER.

TOP OF LOWEST COURSE CUT-STONE BOULDERS.

CONSULTANT DESIGN CONTACT:
JULIA ZEHNER
(608) 355-8878

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

NO.	DATE	REVISION	BY

MSA
ENGINEERING | ARCHITECTURE | SURVEYING
FUNDING | PLANNING | ENVIRONMENTAL
1702 PANKRATZ STREET, MADISON WI 53704
(608) 242-7779 www.msa-ps.com

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED JLR 08/21/25
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE B-35-162

CTH O OVER SPIRIT RIVER

COUNTY	TOWN/~~CITY/VILLAGE~~
LINCOLN	TOMAHAWK

DESIGN SPEC.
AASHTO LRFD BRIDGE DESIGN SPECIFICATION

DESIGNED BY	NRT	DESIGNED CK'D	JZ	DRAWN BY	EKK	PLANS CK'D	JZ

GENERAL PLAN

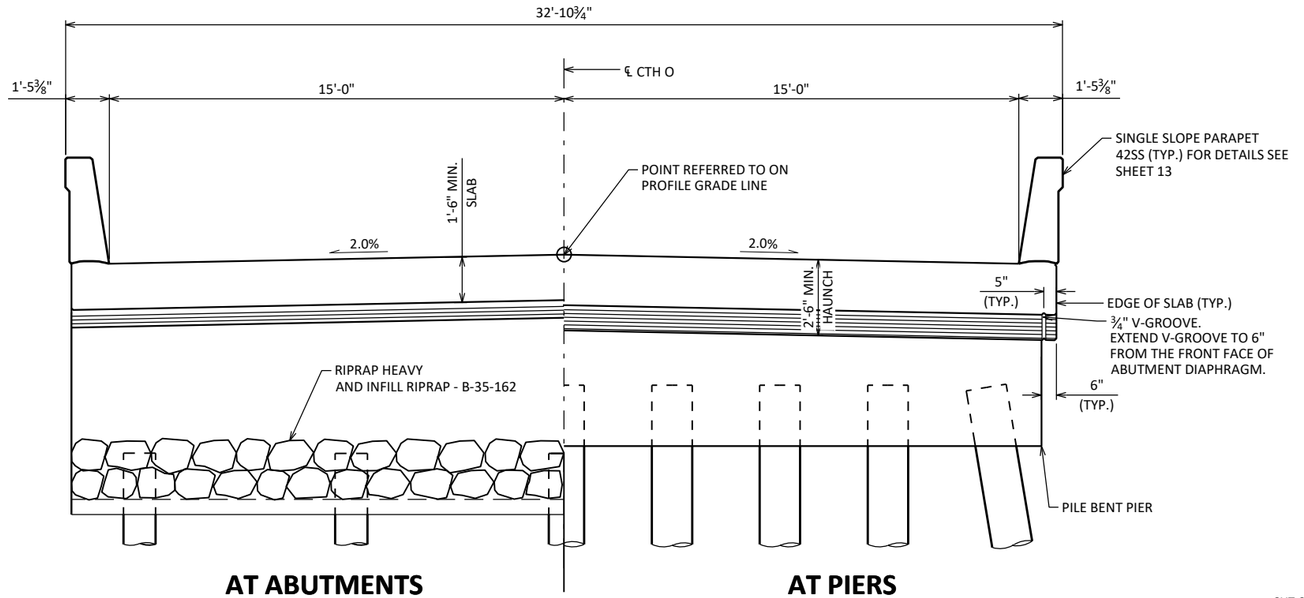
SHEET 1 OF 13
32

8

8

G:\11\11469\11469024\CADD\SheetsPlan\Structure\11469024_B-35-162_01.dwg

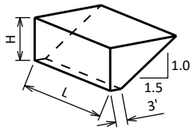
6/12/2025 1:51 PM



AT ABUTMENTS **AT PIERS**

CROSS SECTION THRU BRIDGE

(LOOKING NORTH)

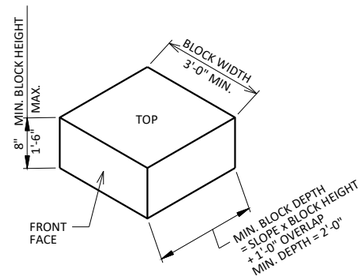


ABUTMENT BACKFILL DIAGRAM

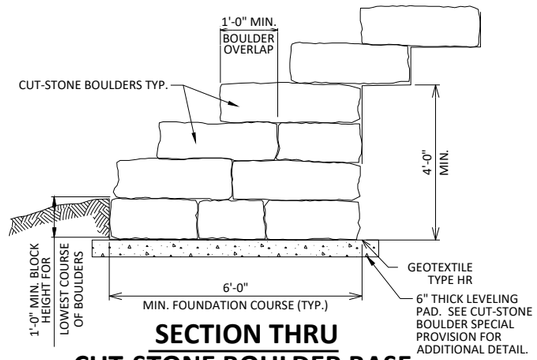
L = OUT TO OUT OF ABUTMENT BODY INCLUDING WINGS (FT)
H = AVERAGE ABUTMENT FILL HEIGHT (FT)
EF = EXPANSION FACTOR (1.20 FOR CY BID ITEMS AND 1.00 FOR TON BID ITEMS)
V_{CF} = (L)(3.0')(H) + (L)(0.5)(1.5H)(H)
V_{CY} = V_{CF}(EF)/27
V_{TON} = V_{CY}(2.0)

TOTAL ESTIMATED QUANTITIES

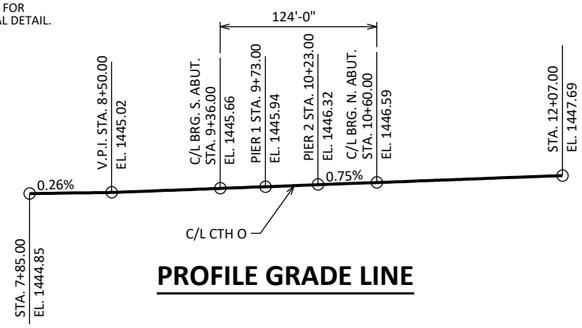
ITEM NUMBER	BID ITEM	UNIT	SOUTH ABUT.	PIER 1	PIER 2	NORTH ABUT.	SUPER	TOTAL
203.0260.01	REMOVING STRUCTURE OVER WATERWAY MINIMAL DEBRIS B-35-003	EACH	-	-	-	-	-	1
206.1001.01	EXCAVATION FOR STRUCTURES BRIDGES B-35-162	EACH	-	-	-	-	-	1
210.1500	BACKFILL STRUCTURE TYPE A	TON	150	-	-	150	-	300
502.0100	CONCRETE MASONRY BRIDGES	CY	41.7	15.0	15.0	41.8	294.3	408
502.3200	PROTECTIVE SURFACE TREATMENT	SY	-	-	-	-	422	422
502.3210	PIGMENTED SURFACE SEALER	SY	-	-	-	-	150	150
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	1990	9150	9150	1990	-	22280
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	1860	60	60	1870	65130	68980
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	6	-	-	6	-	12
550.2126	PILING CIP CONCRETE 12 ¾ X 0.375-INCH	LF	325	-	-	350	-	675
550.2168	PILING CIP CONCRETE 16 X 0.50-INCH	LF	-	765	720	-	-	1485
606.0300	RIPRAP HEAVY	CY	53	-	-	88	-	141
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	80	-	-	80	-	160
614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	EACH	2	-	-	2	-	4
645.0111	GEOTEXTILE TYPE DF SCHEDULE A	SY	32	-	-	32	-	64
645.0120	GEOTEXTILE TYPE HR	SY	110	-	-	160	-	270
SPV.0165.01	CUT-STONE BOULDERS	SF	155	-	-	-	-	155
SPV.0180.01	INFILL RIPRAP - B-35-162	SY	78	-	-	130	-	208
	NON-BID ITEMS							
	FILLER	SIZE						½", ¾"



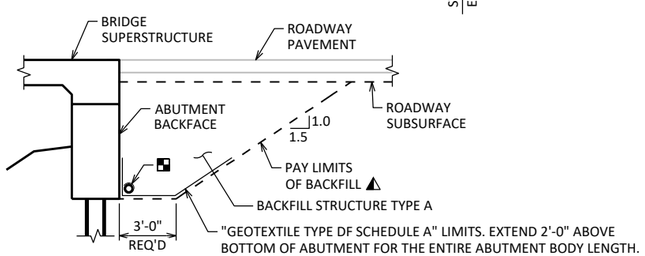
CUT-STONE BOULDER DETAIL



SECTION THRU CUT-STONE BOULDER BASE



PROFILE GRADE LINE



TYPICAL SECTION THRU ABUTMENT

⚠ BACKFILL PAY LIMITS. BACKFILL BEYOND PAY LIMITS SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES. LIMITS OF EXCAVATION SHALL BE DETERMINED BY THE CONTRACTOR.

▪ PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN.

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

LOCATION OF UTILITIES SHOWN ON PLAN ARE APPROXIMATE. THERE MAY BE OTHER UTILITIES IN THE AREA THAT ARE NOT SHOWN.

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

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

BEVEL EXPOSED EDGES OF CONCRETE ¾" UNLESS NOTED OTHERWISE.

THE SLOPE OF FILL IN FRONT OF THE ABUTMENTS AND WING 3 & 4 SHALL BE COVERED WITH RIPRAP HEAVY, INFILL RIPRAP - B-35-162 AND GEOTEXTILE TYPE HR TO THE LIMITS SHOWN ON SHEET 1 AND THE ABUTMENT SHEETS. THE SLOPE OF FILL ALONG WINGS 1 & 2 SHALL BE CUT-STONE BOULDERS AND GEOTEXTILE TYPE HR TO THE LIMITS SHOWN ON SHEET 1.

THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES BRIDGES B-35-162" SHALL BE THE EXISTING GROUNDLINE.

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

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

ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCED TO USGS NAVD 88 (2012 ADJUSTED). BENCHMARK REFERENCES AT THE PROJECT SITE WERE SET BY THE CONSULTANT USING GPS TECHNOLOGY.

EXCAVATION BELOW THE ABUTMENT AND ABUTMENT BEDDING MATERIALS REQUIRES ENGINEER APPROVAL. GEOTEXTILE SHALL BE SET AT THE BOTTOM OF EXCAVATION AND EXTEND 2'-0" ABOVE BOTTOM OF ABUTMENT.

PROTECTIVE SURFACE TREATMENT SHALL BE APPLIED TO THE TOP OF SLAB.

PIGMENTED SURFACE SEALER TO BE APPLIED TO THE INSIDE FACES, THE TOP FACES, AND THE ENDS OF THE PARAPETS.

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.

STATE PROJECT NUMBER

9423-00-70

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-35-162

DRAWN BY EKK | PLANS CK'D JZ

CROSS SECTION, QUANTITIES & NOTES

SHEET 2
33

8

8

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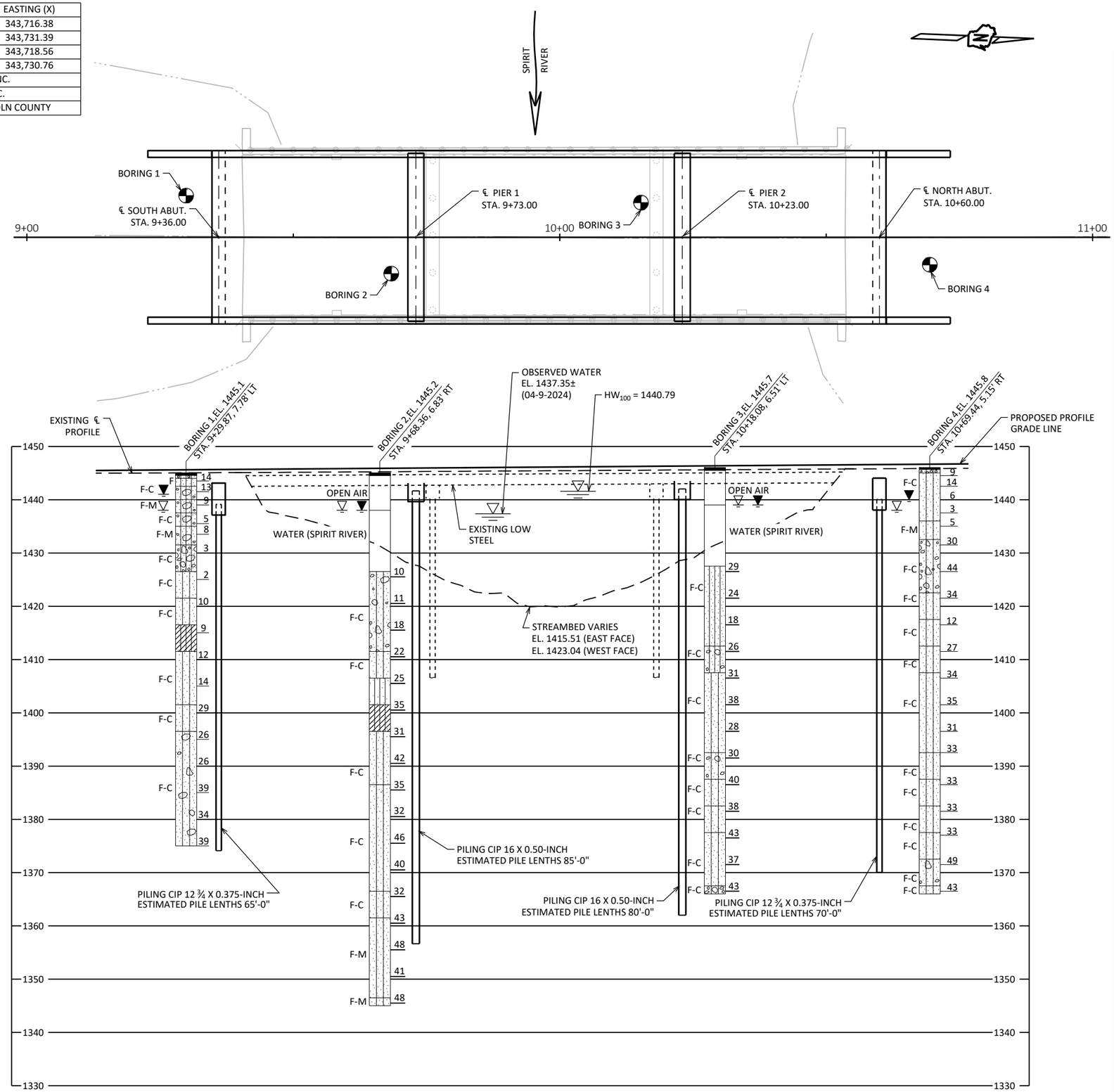
6/12/2025 1:16 PM

BORING #	DATE COMPLETED	NORTHING (Y)	EASTING (X)
1	8/12/24	219,899.43	343,716.38
2	8/19/24	219,937.78	343,731.39
3	8/14/24	219,987.63	343,718.56
4	8/13/24	220,038.86	343,730.76
BORINGS COMPLETED BY: PROFESSIONAL SERVICE INDUSTRIES, INC.			
REPORT COMPLETED BY: PROFESSIONAL SERVICE INDUSTRIES, INC.			
ALL COORDINATES REFERENCED TO WISCRS NAD 83 (2011) LINCOLN COUNTY			



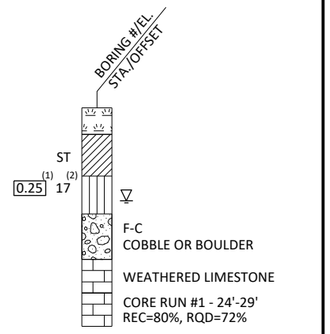
STATE PROJECT NUMBER

9423-00-70

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

STRUCTURE B-35-162

DRAWN BY EKK | PLANS CK'D JZ

SUBSURFACE EXPLORATION

SHEET 3
34

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8

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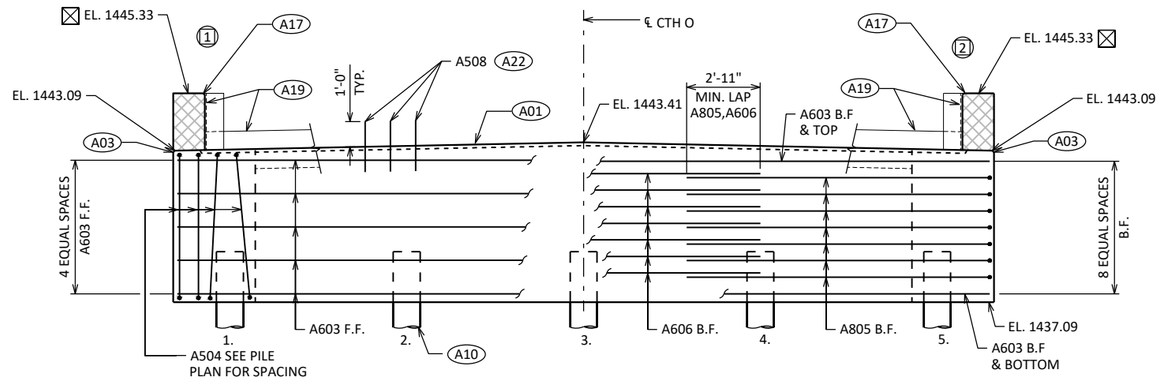
STATE PROJECT NUMBER

9423-00-70

NOTES:
FOR WING DETAILS SEE SHEET 5.

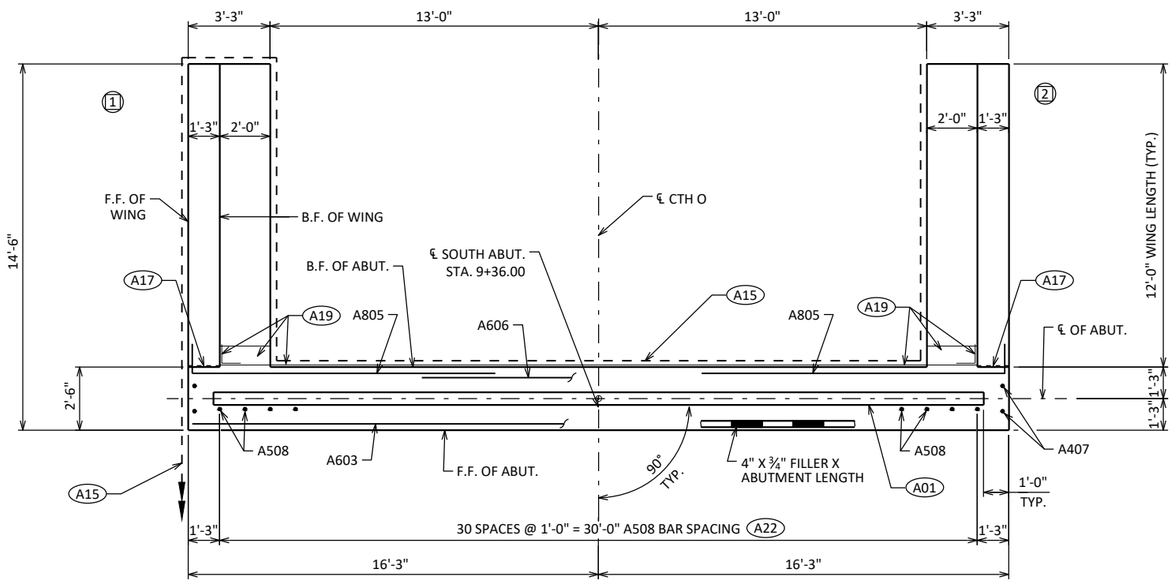
☒ ELEVATIONS GIVEN AT THE B.F. ABUTMENT



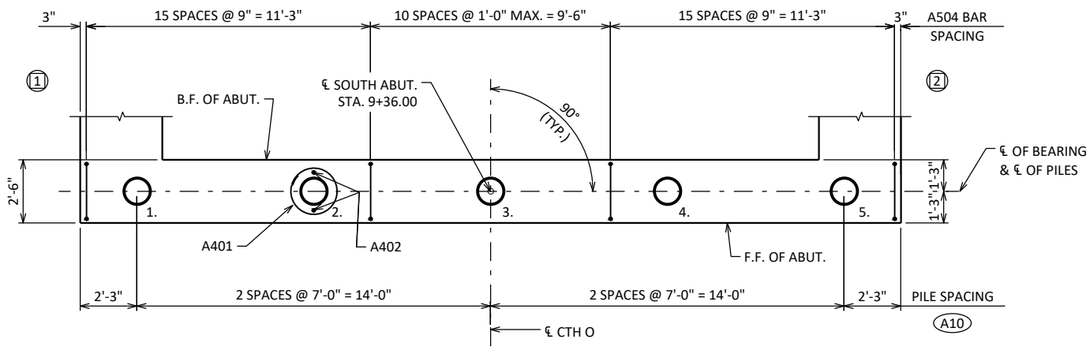
FRONT FACE BAR STEEL REINF.

ELEVATION
(LOOKING SOUTH)

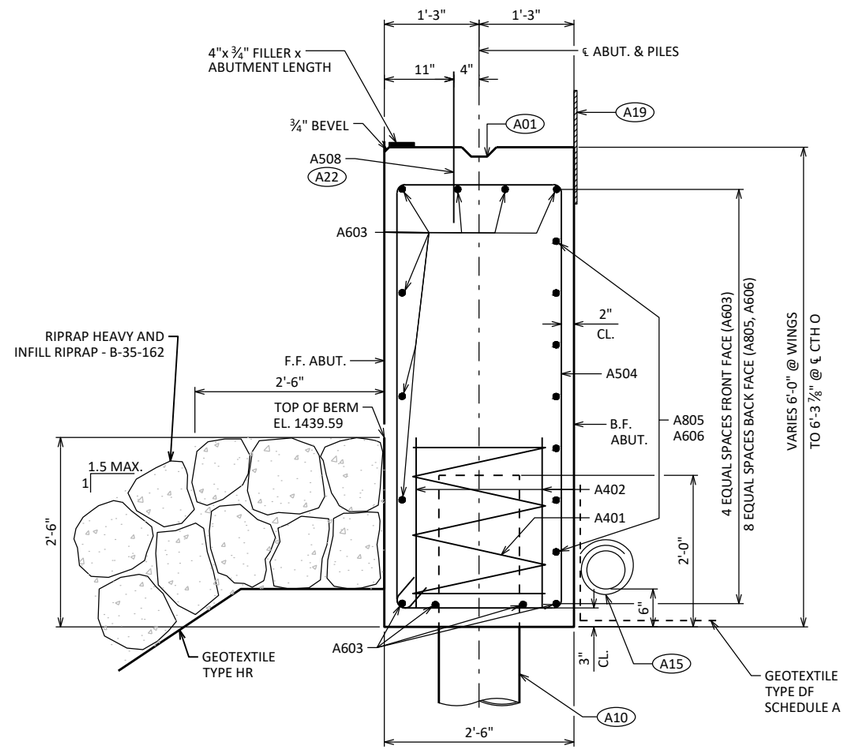
BACK FACE BAR STEEL REINF.



PLAN



PILE PLAN



SECTION THRU BODY

LEGEND

(A01) CONST. JOINT: KEYWAY FORMED BY A BEVELED 2 x 6.

(A03) OPTIONAL CONST. JOINT: KEYWAY FORMED BY BEVELED 2 x 6. (18" RMW @ B.F. & ¾" "V" GROOVE @ F.F. IF JOINT IS USED).

(A10) SUPPORT ABUTMENT ON 12 ¾" DIA. X 0.375" CIP CONCRETE PILING, ESTIMATED 65'-0" LONG WITH A REQUIRED DRIVING RESISTANCE OF 210 TONS PER PILE.

(A15) PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. RODENT SHIELD REQUIRED.

(A17) ½" FILLER (INCLUDED IN WING LENGTH): SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE).

(A19) 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.

(A22) BARS @ 1'-0" CTRS. MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. (EMBED 1'-0" INTO CONC.)

(1) INDICATES WING NUMBER

F.F. - FRONT FACE

B.F. - BACK FACE

CL. - CLEAR

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-35-162

DRAWN BY RLR | PLANS CK'D NRT

SOUTH ABUTMENT

SHEET 4
35

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8

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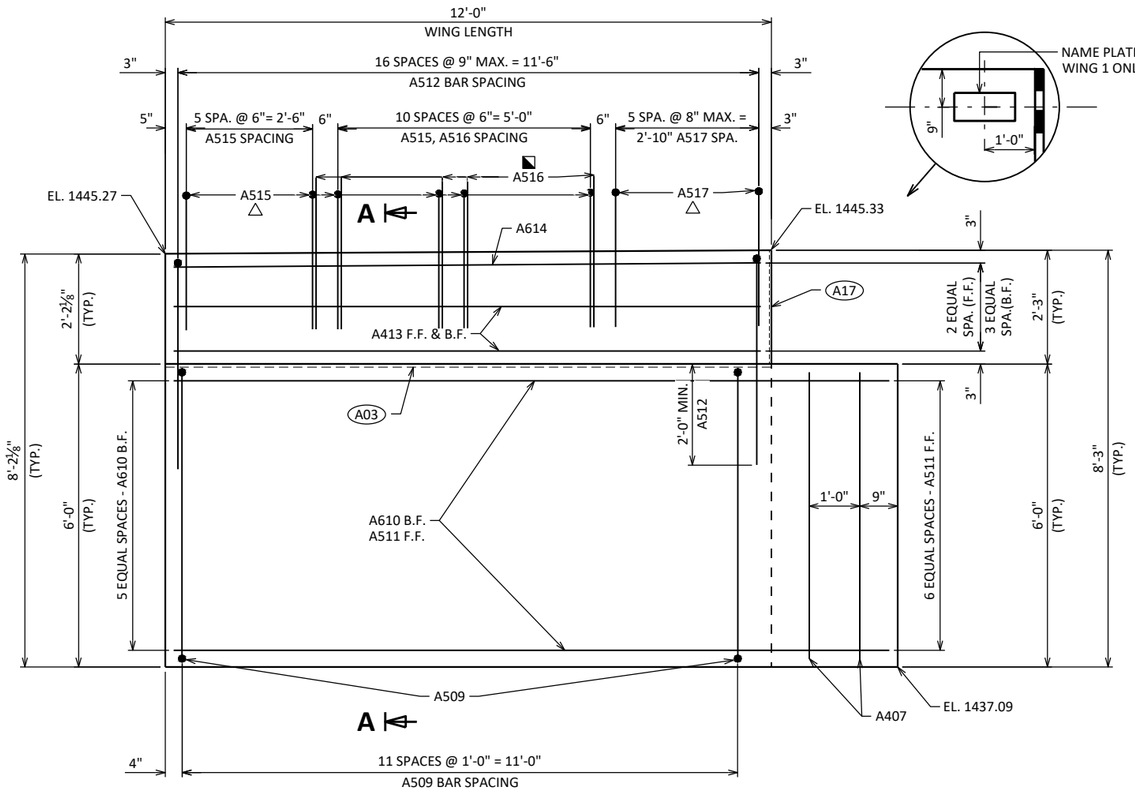
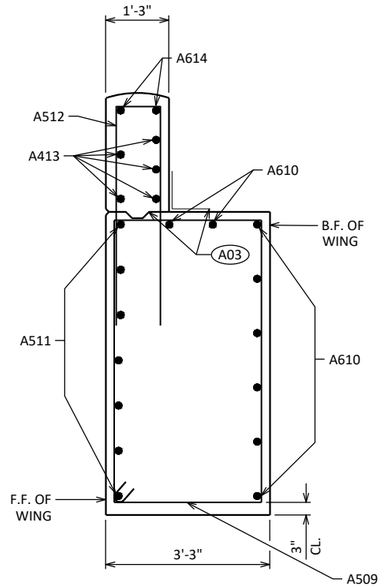


ELEVATION - WING

(WING 1 SHOWN, WING 2 SIMILAR)

SEE LEGEND, SHEET 4
FOR DESCRIPTION OF
A03 A17 A19



SECTION A - A THRU WING

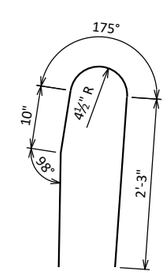
(WING 1 SHOWN, WING 2 SIMILAR)

BILL OF BARS

NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	LOCATION
A401		5	28'-0"	X	ABUT. BODY PILES - 1 SPIRAL WRAP @ EACH PILE
A402		10	2'-3"		ABUT. BODY PILES - 2 @ EACH PILE - VERT.
A603		11	32'-2"		ABUT. BODY - F.F., TOP & BOTTOM - HORIZ.
A504		41	16'-2"	X	ABUT. BODY - STIRRUPS - VERT.
A805		14	13'-2"	X	ABUT. BODY - B.F. @ WINGS - HORIZ.
A606		7	14'-0"		ABUT. BODY - B.F. - CENTER - HORIZ.
A407		4	5'-7"		ABUT. BODY -ENDS - VERT.
A508	X	31	2'-0"		ABUT. BODY - TOP - DOWELS - VERT.
A509	X	24	17'-8"	X	WINGS 1 & 2 - BASE - STIRRUP - VERT.
A610	X	16	13'-11"		WINGS 1 & 2 - BASE - B.F. - HORIZ.
A511	X	14	14'-2"		WINGS 1 & 2 - BASE - F.F. - HORIZ.
A512	X	34	8'-10"	X	WINGS 1 & 2 - TOP - STIRRUP - VERT.
A413	X	10	11'-7"		WINGS 1 & 2 - TOP - F.F. & B.F. - HORIZ.
A614	X	4	11'-7"		WINGS 1 & 2 - TOP - F.F. & B.F. - HORIZ.
A515	X	34	5'-7"	X	WINGS 1 & 2 - TOP - PARAPET STIRRUP - VERT.
A516	X	24	3'-0"	X	WINGS 1 & 2 - TOP - PARAPET DOWEL - VERT.
A517	X	12	5'-10"	X	WINGS 1 & 2 - TOP - PARAPET STIRRUP - VERT.

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.



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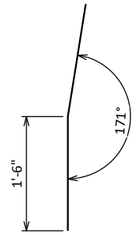

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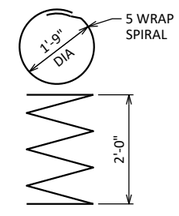
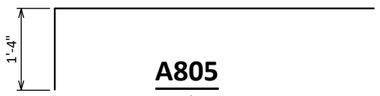
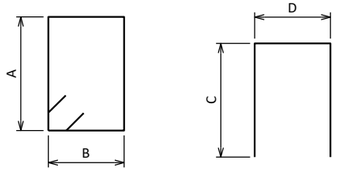


A401



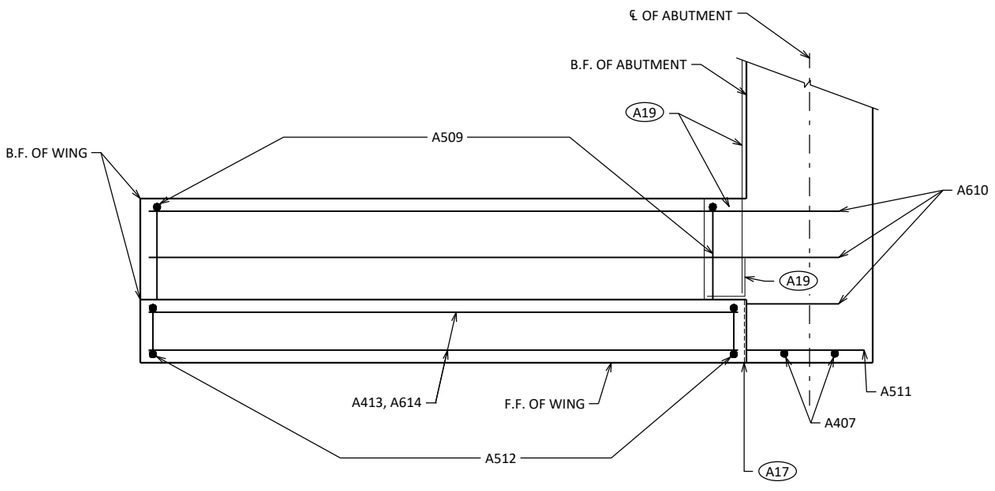
A805

STD. 90° HOOK



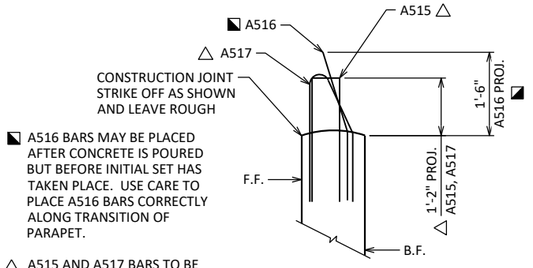
MARK	A	B
A504	5'-7"	2'-2"
A509	5'-7"	2'-11"

MARK	C	D
A512	4'-1"	11"
A515	2'-8"	6"



PLAN -WING

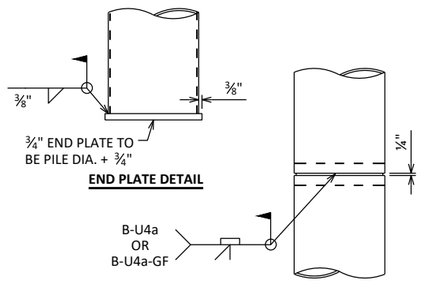
(WING 1 SHOWN, WING 2 SIMILAR)



A516 BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. USE CARE TO PLACE A516 BARS CORRECTLY ALONG TRANSITION OF PARAPET.

△ A515 AND A517 BARS TO BE TIED TO WING STEEL BEFORE WING TOP IS POURED.

PARAPET STIRRUP PROJECTION DETAIL



CIP PILE DETAILS

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-35-162

DRAWN BY RLR | PLANS CK'D NRT

SOUTH ABUTMENT DETAILS

SHEET 5
36

8

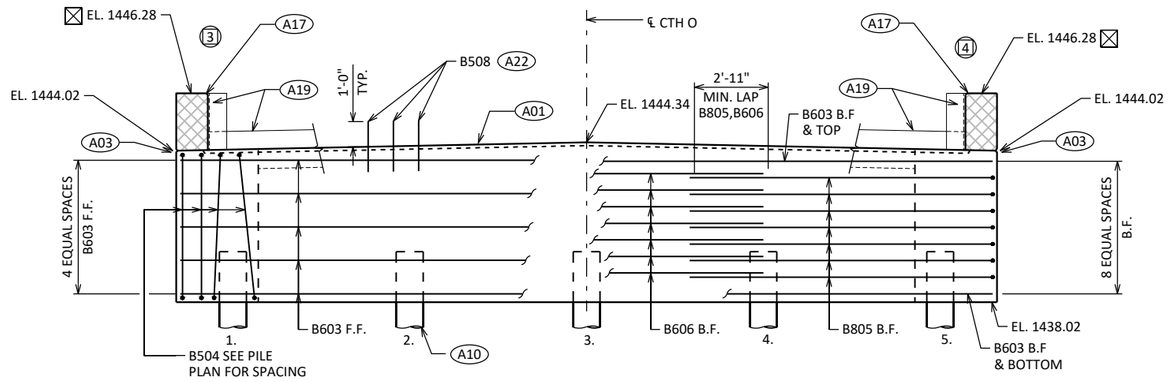
8

STATE PROJECT NUMBER

9423-00-70

NOTES:
FOR WING DETAILS SEE SHEET 7.

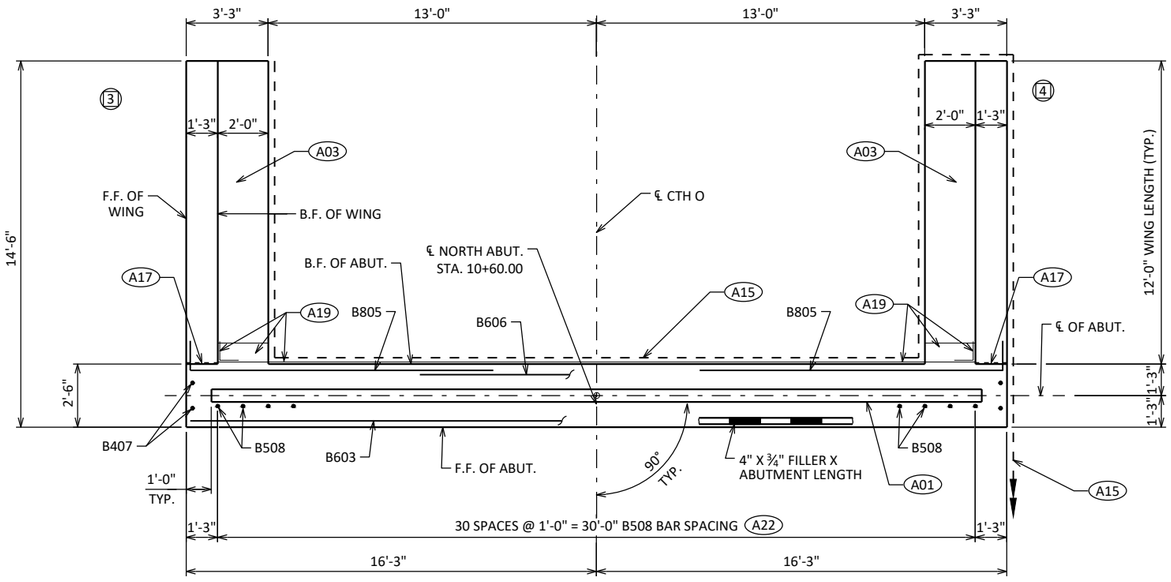
☒ ELEVATIONS GIVEN AT THE B.F. ABUTMENT



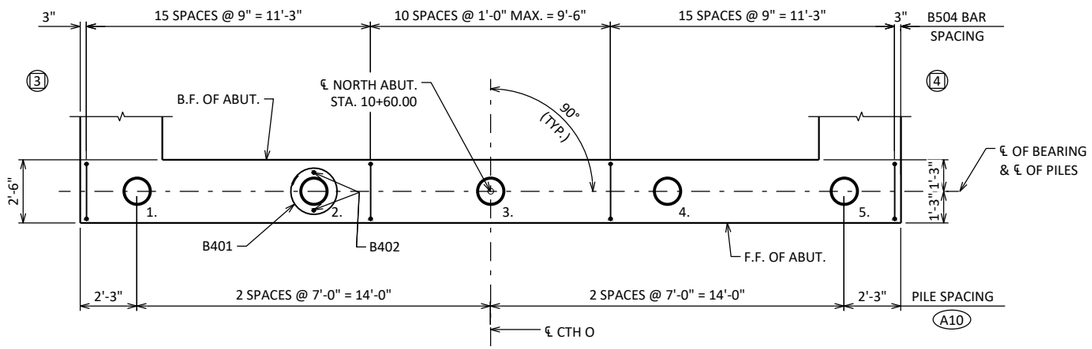
FRONT FACE BAR STEEL REINF.

BACK FACE BAR STEEL REINF.

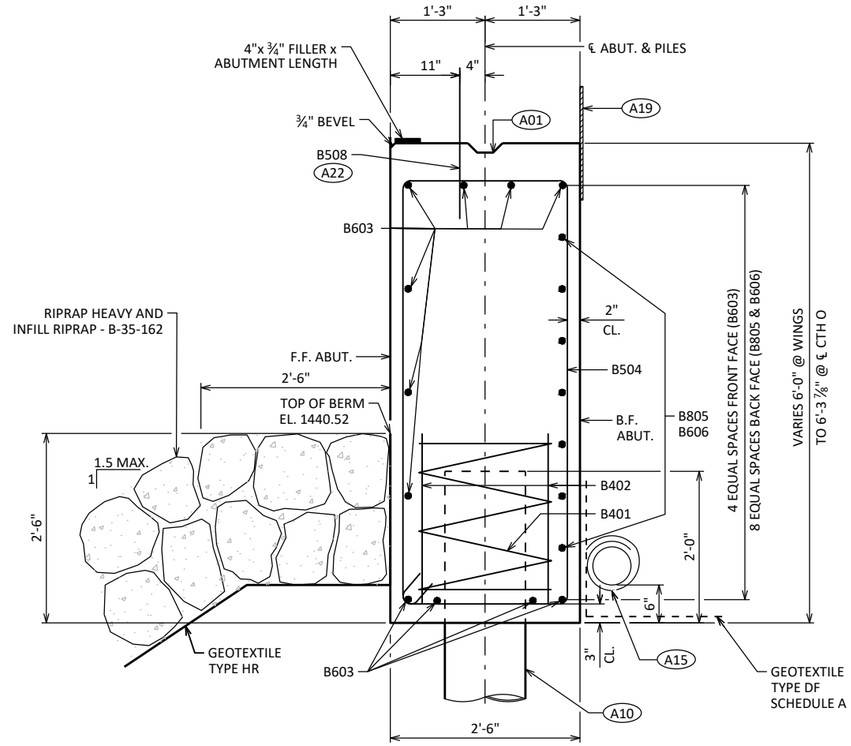
ELEVATION
(LOOKING NORTH)



PLAN



PILE PLAN



SECTION THRU BODY

LEGEND

(A01) CONST. JOINT: KEYWAY FORMED BY A BEVELED 2 x 6.

(A03) OPTIONAL CONST. JOINT: KEYWAY FORMED BY BEVELED 2 x 6. (18" RMW @ B.F. & ¾" "V" GROOVE @ F.F. IF JOINT IS USED).

(A10) SUPPORT ABUTMENT ON 12 ¾" DIA. X 0.375" CIP CONCRETE PILING, ESTIMATED 70'-0" LONG WITH A REQUIRED DRIVING RESISTANCE OF 210 TONS PER PILE.

(A15) PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. RODENT SHIELD REQUIRED.

(A17) ½" FILLER (INCLUDED IN WING LENGTH): SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE).

(A19) 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.

(A22) BARS @ 1'-0" CTRS. MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. (EMBED 1'-0" INTO CONC.)

(3) INDICATES WING NUMBER

F.F. - FRONT FACE

B.F. - BACK FACE

CL. - CLEAR

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-35-162

DRAWN BY EKK | PLANS CK'D NRT

NORTH ABUTMENT

SHEET 6
37

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8

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STATE PROJECT NUMBER

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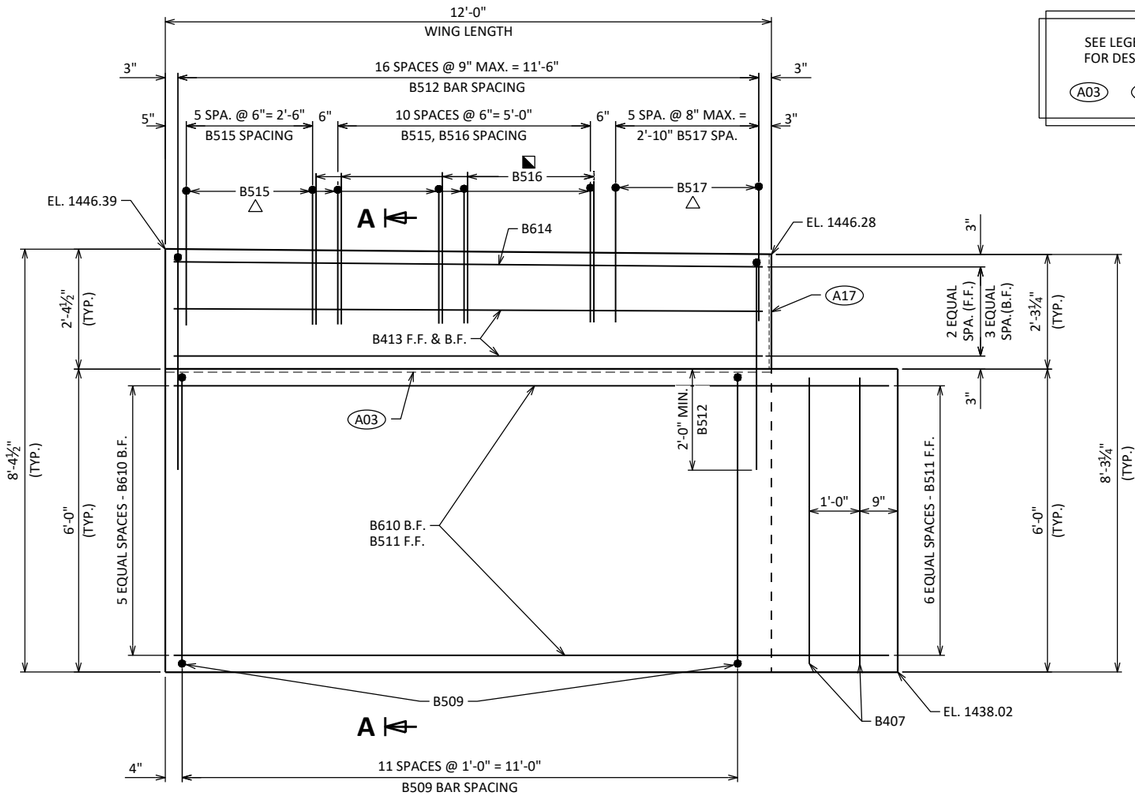
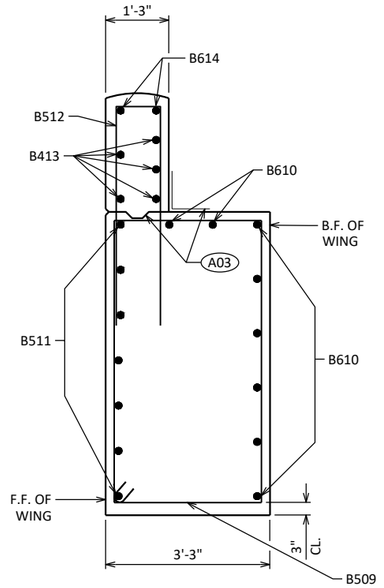


ELEVATION - WING

(WING 3 SHOWN, WING 4 SIMILAR)

SEE LEGEND, SHEET 6
FOR DESCRIPTION OF
A03 A17 A19



SECTION A - A THRU WING

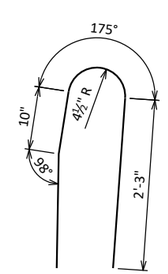
(WING 3 SHOWN, WING 4 SIMILAR)

BILL OF BARS

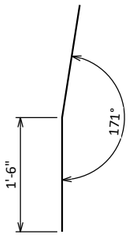
NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	LOCATION
B401		5	28'-0"	X	ABUT. BODY PILES - 1 SPIRAL WRAP @ EACH PILE
B402		10	2'-3"		ABUT. BODY PILES - 2 @ EACH PILE - VERT.
B603		11	32'-2"		ABUT. BODY - F.F., TOP & BOTTOM - HORIZ.
B504		41	16'-2"	X	ABUT. BODY - STIRRUPS - VERT.
B805		14	13'-2"	X	ABUT. BODY - B.F. @ WINGS - HORIZ.
B606		7	14'-0"		ABUT. BODY - B.F. - CENTER - HORIZ.
B407		4	5'-7"		ABUT. BODY -ENDS - VERT.
B508	X	31	2'-0"		ABUT. BODY - TOP - DOWELS - VERT.
B509	X	24	17'-8"	X	WINGS 3 & 4 - BASE - STIRRUP - VERT.
B610	X	16	13'-11"		WINGS 3 & 4 - BASE - B.F. - HORIZ.
B511	X	14	14'-2"		WINGS 3 & 4 - BASE - F.F. - HORIZ.
B512	X	34	9'-2"	X	WINGS 3 & 4 - TOP - STIRRUP - VERT.
B413	X	10	11'-7"		WINGS 3 & 4 - TOP - F.F. & B.F. - HORIZ.
B614	X	4	11'-7"		WINGS 3 & 4 - TOP - F.F. & B.F. - HORIZ.
B515	X	34	5'-7"	X	WINGS 3 & 4 - TOP - PARAPET STIRRUP - VERT.
B516	X	24	3'-0"	X	WINGS 3 & 4 - TOP - PARAPET DOWEL - VERT.
B517	X	12	5'-10"	X	WINGS 3 & 4 - TOP - PARAPET STIRRUP - VERT.

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.



B517



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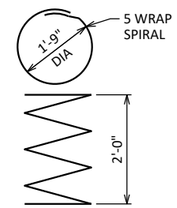

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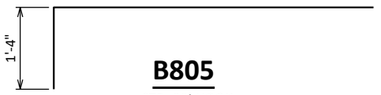
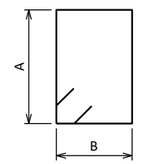
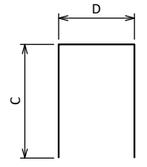


B805

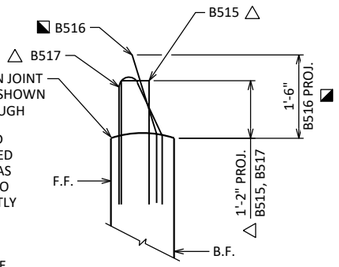
STD. 90° HOOK



MARK	A	B
B504	5'-7"	2'-2"
B509	5'-7"	2'-11"



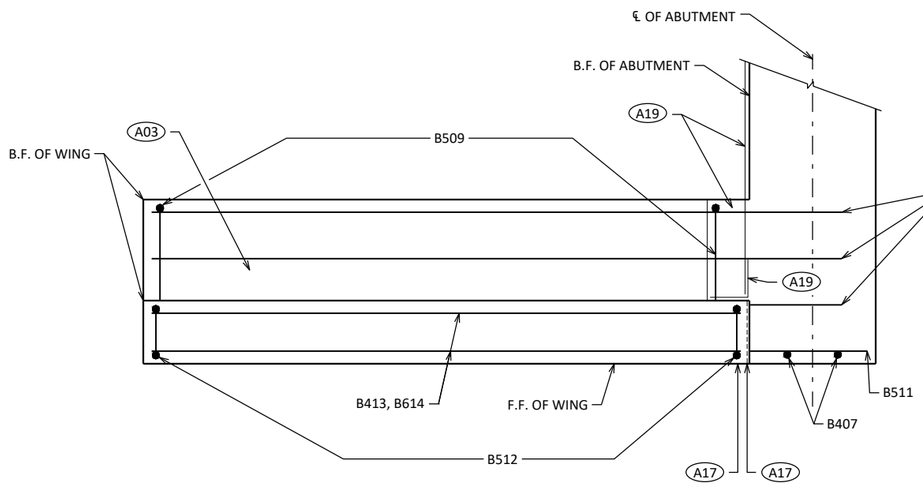
MARK	C	D
B512	4'-3"	11"
B515	2'-8"	6"



B516 BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. USE CARE TO PLACE B516 BARS CORRECTLY ALONG TRANSITION OF PARAPET.

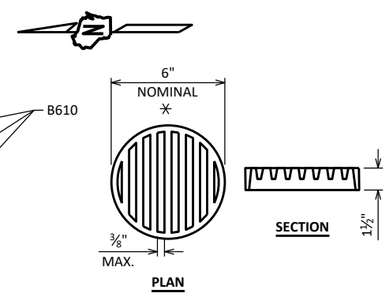
△ B515 AND B517 BARS TO BE TIED TO WING STEEL BEFORE WING TOP IS POURED.

PARAPET STIRRUP PROJECTION DETAIL



PLAN -WING

(WING 3 SHOWN, WING 4 SIMILAR)



RODENT SHIELD DETAIL

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

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

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

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-35-162

DRAWN BY EKK | PLANS CK'D NRT

NORTH ABUTMENT DETAILS

SHEET 7
38

8

8

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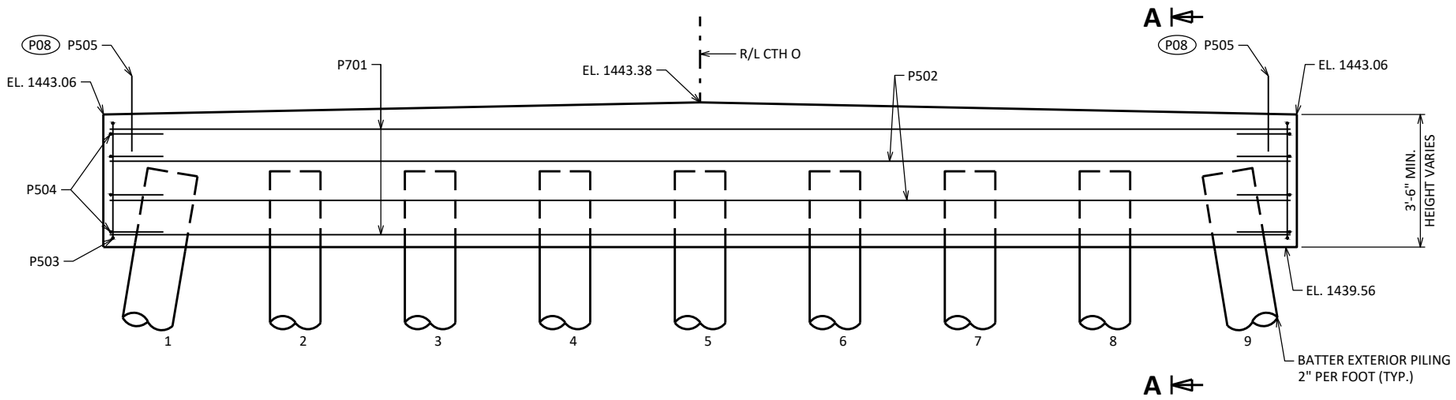
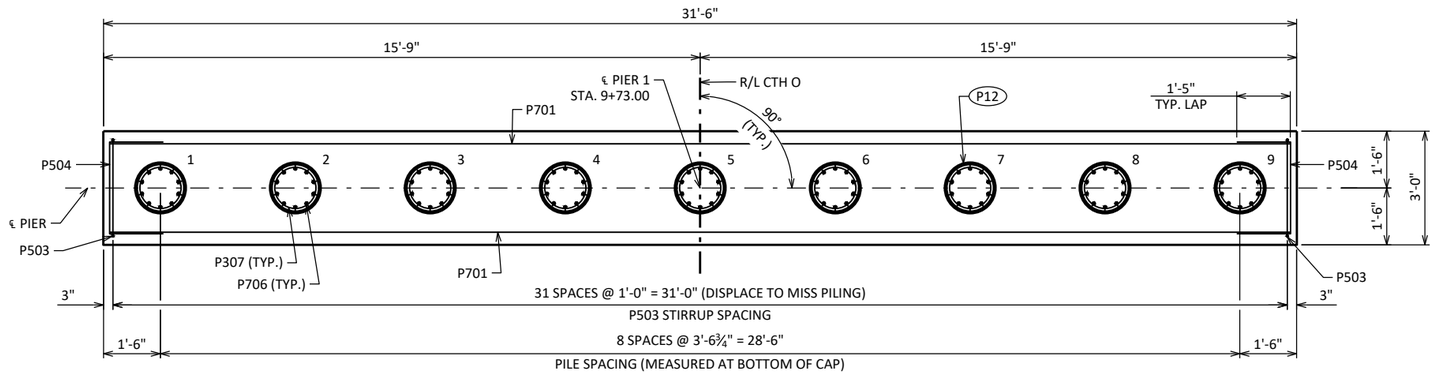
STATE PROJECT NUMBER

9423-00-70

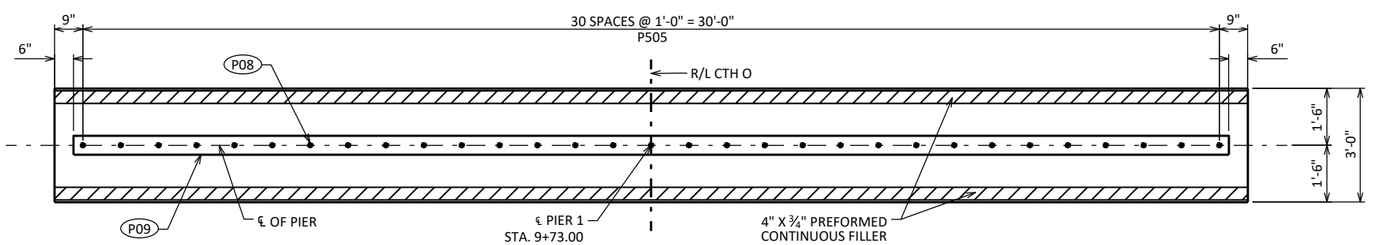


ELEVATION

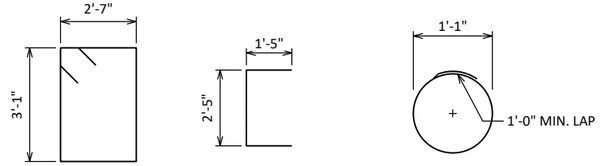
(LOOKING NORTH)



PILE AND REINFORCING PLAN



PIER TOP PLAN



P503 **P504** **P307**

BILL OF BARS

NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
P701		8	31'-2"			PIER CAP - TOP & BOTTOM - HORIZ.
P502		4	31'-2"			PIER CAP - SIDES - HORIZ.
P503		32	12'-0"	X		PIER CAP - STIRRUP - VERT.
P504		8	5'-0"	X		PIER CAP - END STIRRUP - HORIZ.
P505	X	31	2'-0"			PIER CAP - DOWELS - VERT.
P706		90	42'-2"			PILE - VERT.
P307		189	4'-5"	X		PILE -TIES - HORIZ.

NOTES

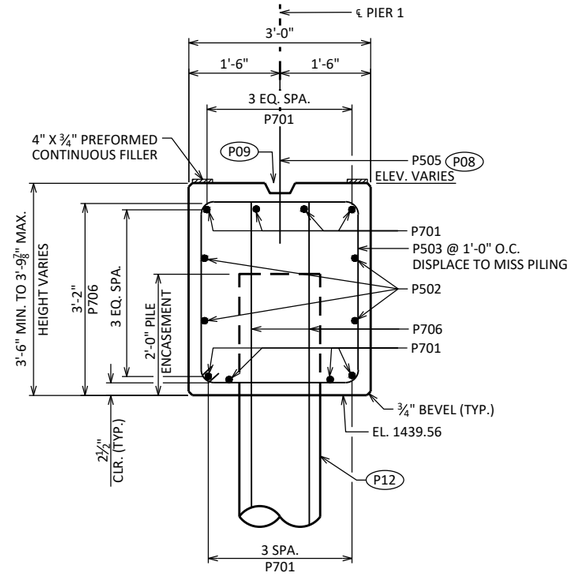
(P08) P505 BARS @ 1'-0" CTRS. MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. (EMBED 1'-0" INTO CONC.)

(P09) KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2" X 6".

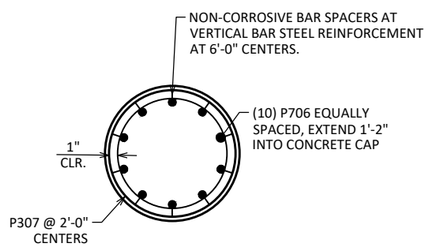
(P12) SUPPORT PIER ON PILING CIP CONCRETE 16 X 0.50-INCH, ESTIMATED 85'-0" LONG WITH A REQUIRED DRIVING RESISTANCE OF 240 TONS PER PILE.

PILES SHALL BE PAINTED IN ACCORDANCE WITH SECTION 550.3.11.3 OF THE STANDARD SPECIFICATIONS. APPLY PAINT FROM THE TOP OF EACH PILE TO A MINIMUM OF 4 FEET BELOW THE STREAMBED ELEVATION ON THE EAST FACE OF THE BRIDGE, WHICH IS APPROXIMATELY ELEVATION 1415.51.

FOR PILE SPLICE DETAILS SEE SHEET 5.



SECTION A-A



SECTION THRU PILE

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-35-162

DRAWN BY NRT | PLANS CK'D JZ

PIER 1

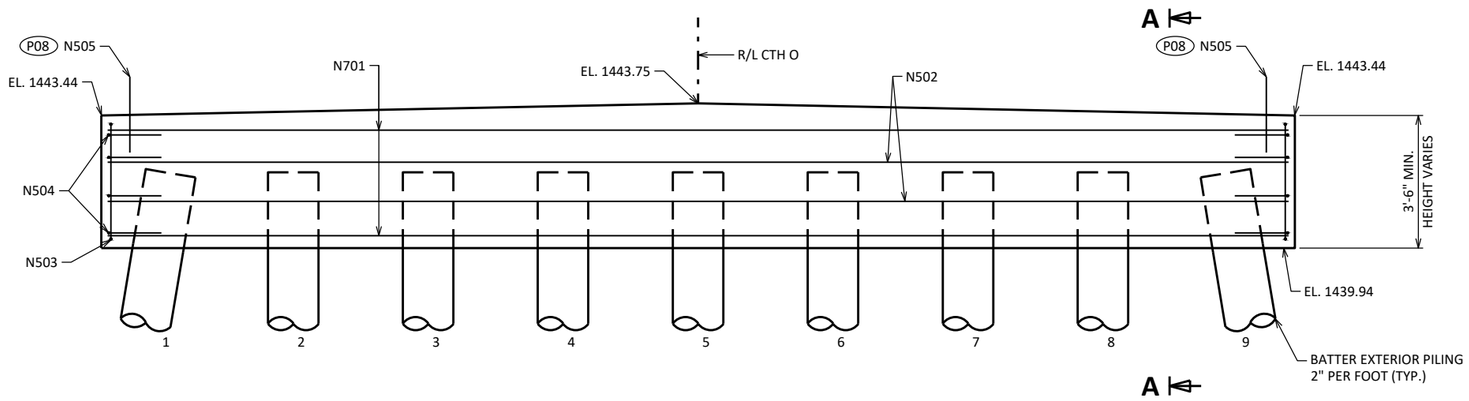
SHEET 8

8

8

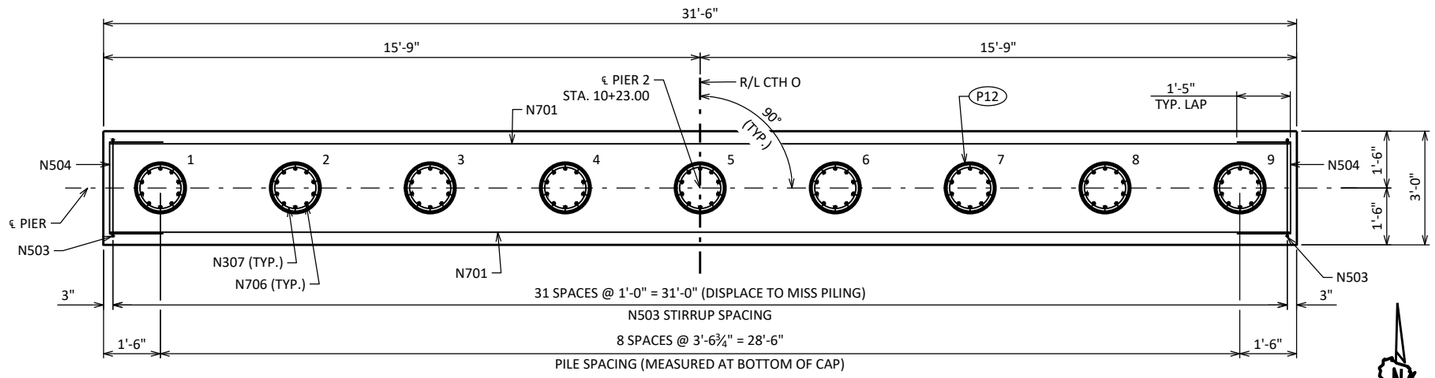
STATE PROJECT NUMBER

9423-00-70

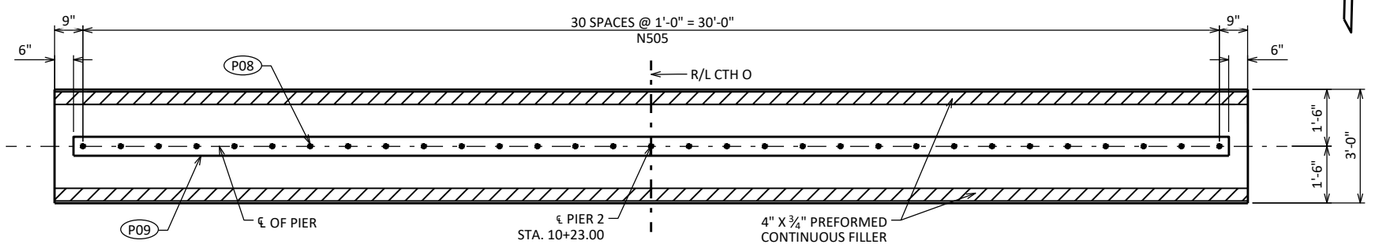


ELEVATION

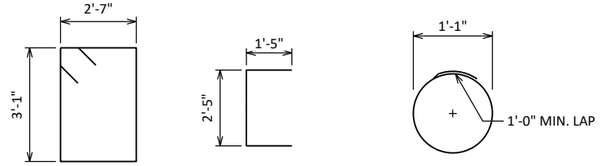
(LOOKING NORTH)



PILE AND REINFORCING PLAN



PIER TOP PLAN



N503 **N504** **N307**

BILL OF BARS

NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
N701		8	31'-2"			PIER CAP - TOP & BOTTOM - HORIZ.
N502		4	31'-2"			PIER CAP - SIDES - HORIZ.
N503		32	12'-0"	X		PIER CAP - STIRRUP - VERT.
N504		8	5'-0"	X		PIER CAP - END STIRRUP - HORIZ.
N505	X	31	2'-0"			PIER CAP - DOWELS - VERT.
N706		90	42'-2"			PILE - VERT.
N307		189	4'-5"	X		PILE -TIES - HORIZ.

NOTES

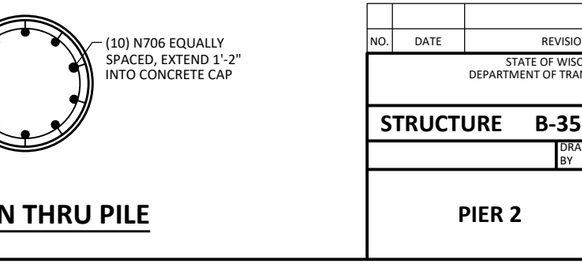
(P08) N505 BARS @ 1'-0" CTRS. MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. (EMBED 1'-0" INTO CONC.)

(P09) KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2" X 6".

(P12) SUPPORT PIER ON PILING CIP CONCRETE 16 X 0.50-INCH, ESTIMATED 80'-0" LONG WITH A REQUIRED DRIVING RESISTANCE OF 240 TONS PER PILE.

PILES SHALL BE PAINTED IN ACCORDANCE WITH SECTION 550.3.11.3 OF THE STANDARD SPECIFICATIONS. APPLY PAINT FROM THE TOP OF EACH PILE TO A MINIMUM OF 4 FEET BELOW THE STREAMBED ELEVATION ON THE EAST FACE OF THE BRIDGE, WHICH IS APPROXIMATELY ELEVATION 1415.51.

FOR PILE SPLICE DETAILS SEE SHEET 5.



SECTION A-A

SECTION THRU PILE

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-35-162

DRAWN BY NRT | PLANS CK'D JZ

PIER 2

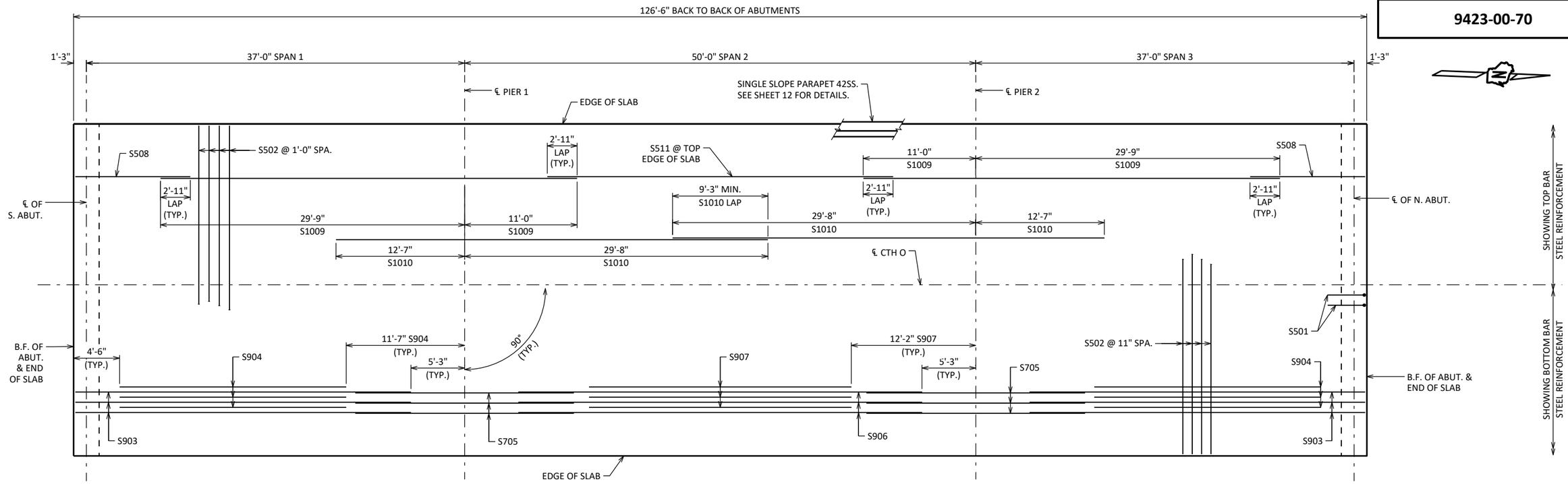
SHEET 9

8

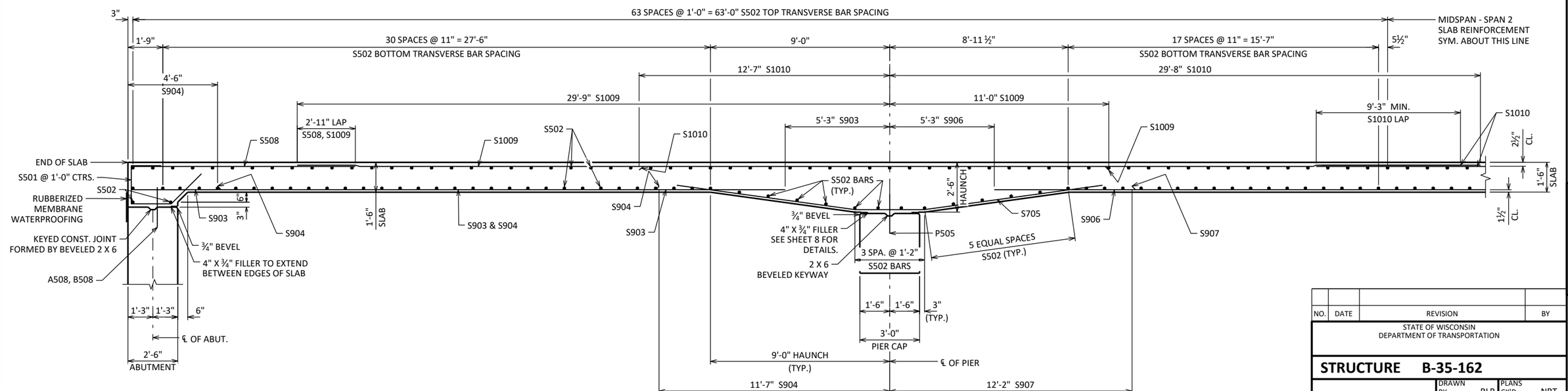
8

STATE PROJECT NUMBER

9423-00-70



PLAN



PART LONGITUDINAL SECTION

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-35-162

DRAWN BY RLR | PLANS CK'D NRT

SUPERSTRUCTURE

SHEET 10
41

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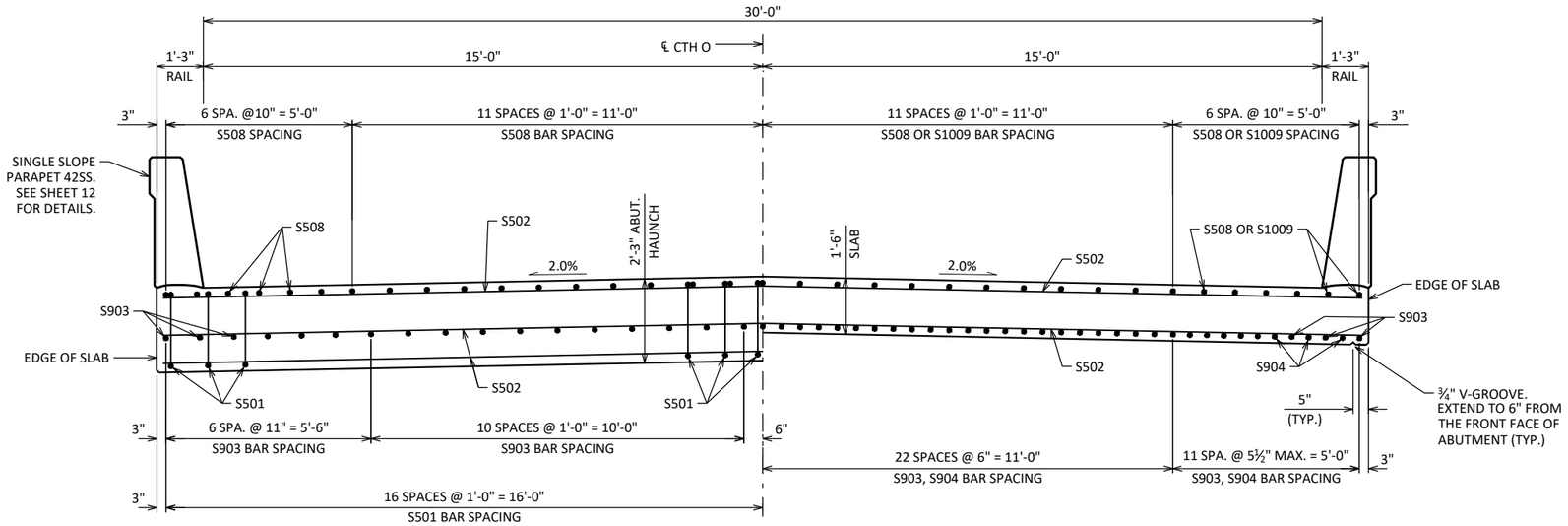
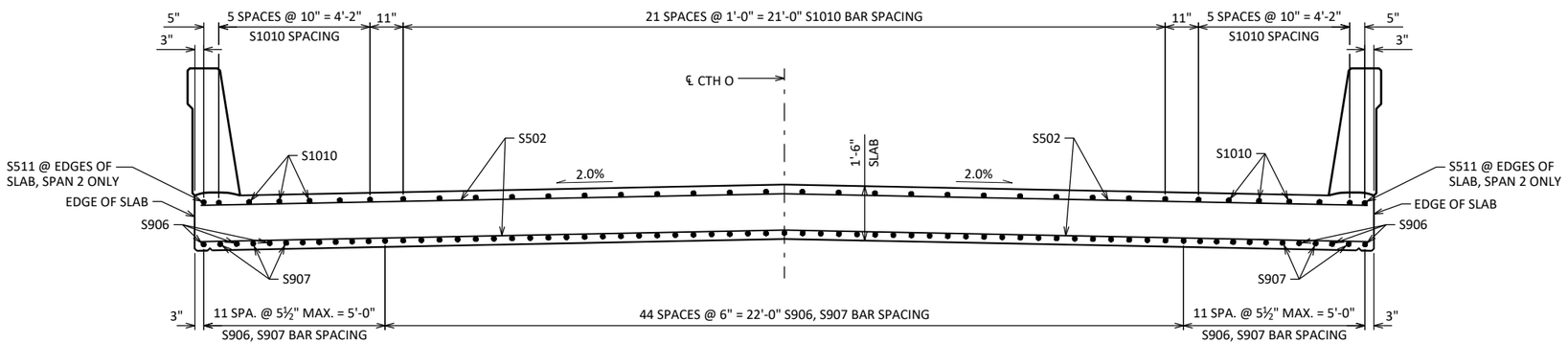


AT ABUTMENTS **IN SPAN**

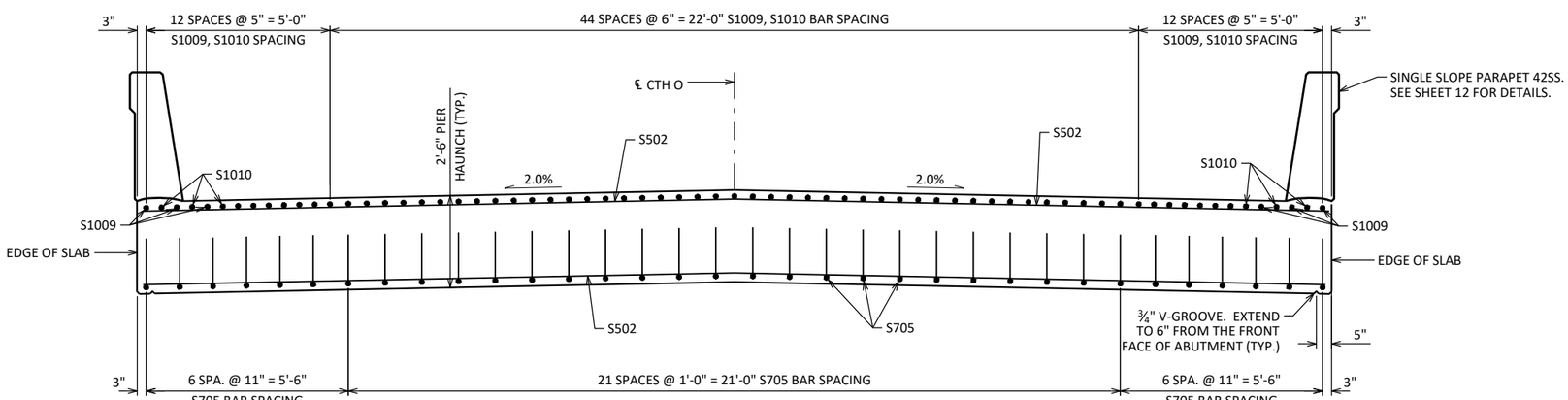
CROSS SECTION THRU BRIDGE - SPANS 1 & 3

(LOOKING NORTH)



CROSS SECTION THRU BRIDGE - SPAN 2

(LOOKING NORTH)



SECTION THRU BRIDGE AT PIERS

(LOOKING NORTH)

NOTES

FILL IN THE TABLE OF "SURVEY TOP OF SLAB ELEVATIONS" FOR EACH SPAN ON AS-BUILT PLANS.

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

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

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-35-162

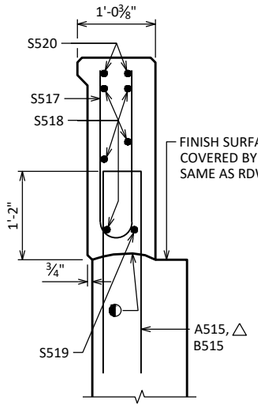
DRAWN BY RLR | PLANS CK'D NRT

SUPERSTRUCTURE SECTIONS & DETAILS

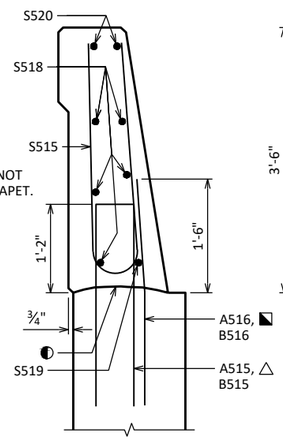
SHEET 11
42

STATE PROJECT NUMBER

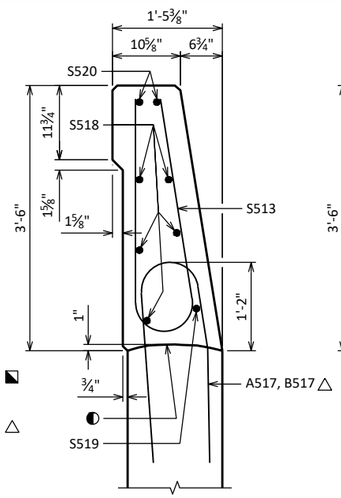
9423-00-70



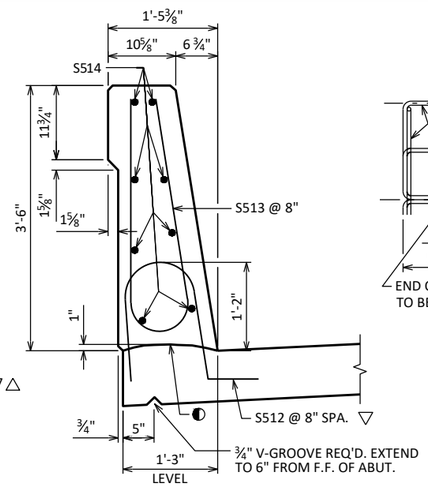
SECTION A-A



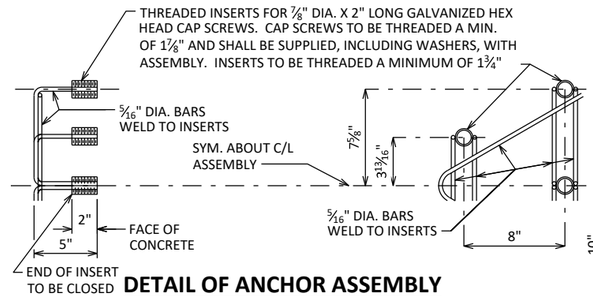
SECTION B-B



SECTION C-C



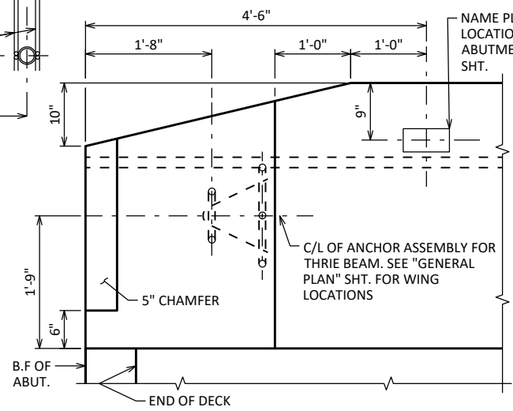
SECTION THRU PARAPET ON SLAB



DETAIL OF ANCHOR ASSEMBLY

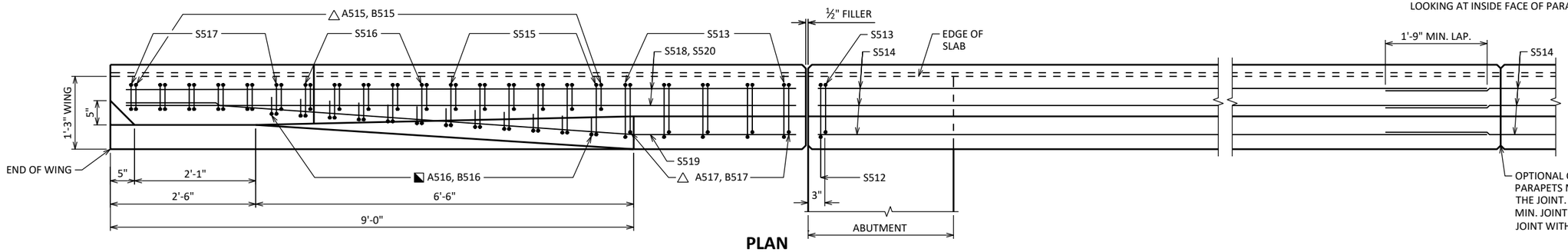
NOTE: HEX HEAD CAP SCREWS & WASHERS TO BE GALVANIZED IN ACCORDANCE WITH ASTM F2329.

ASSEMBLY SHALL BE BID ITEM "ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD", EACH.



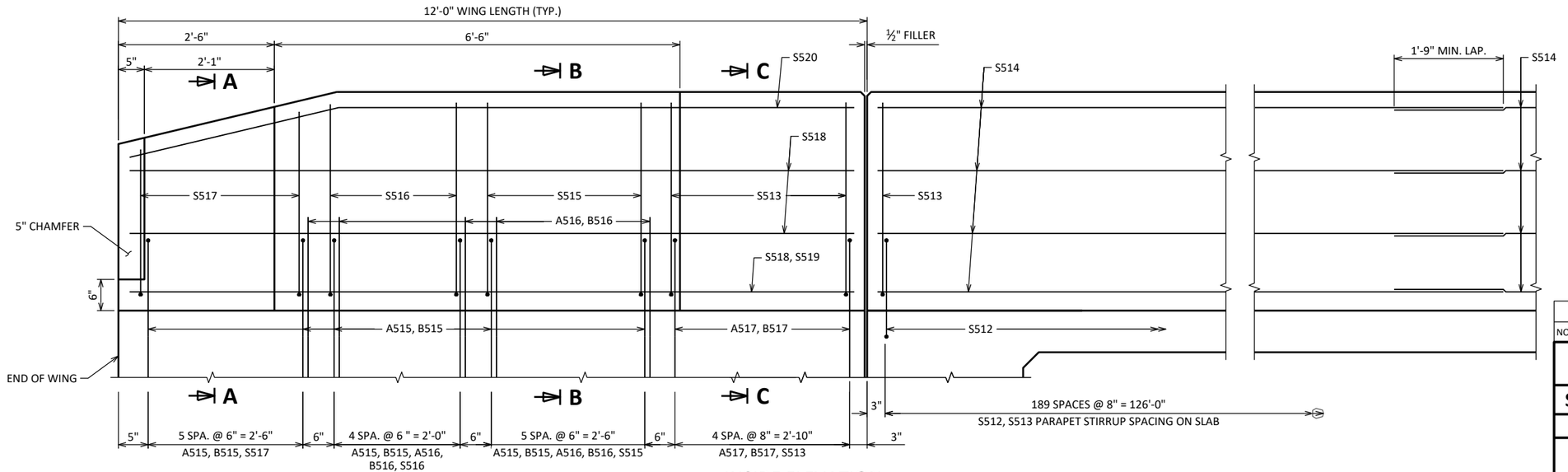
PARAPET END TREATMENT DETAIL

LOOKING AT INSIDE FACE OF PARAPET



PLAN

WING 2 SHOWN, OTHERS WINGS SIMILAR



INSIDE ELEVATION

WING 2 SHOWN, OTHERS WINGS SIMILAR

◐ CONST. JOINT - STRIKE OFF AS SHOWN

◪ A516 AND B516 BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. USE CARE TO PLACE A516 AND B516 BARS CORRECTLY ALONG TRANSITION OF PARAPET.

△ A515, B515, A517 AND B517 BARS TO BE TIED TO WING STEEL BEFORE WING IS POURED.

▽ S512 BARS TO BE TIED TO SUPERSTRUCTURE STEEL BEFORE SUPERSTRUCTURE IS POURED.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-35-162

DRAWN BY	RLR	PLANS CK'D	NRT

SINGLE SLOPE PARAPET 42SS

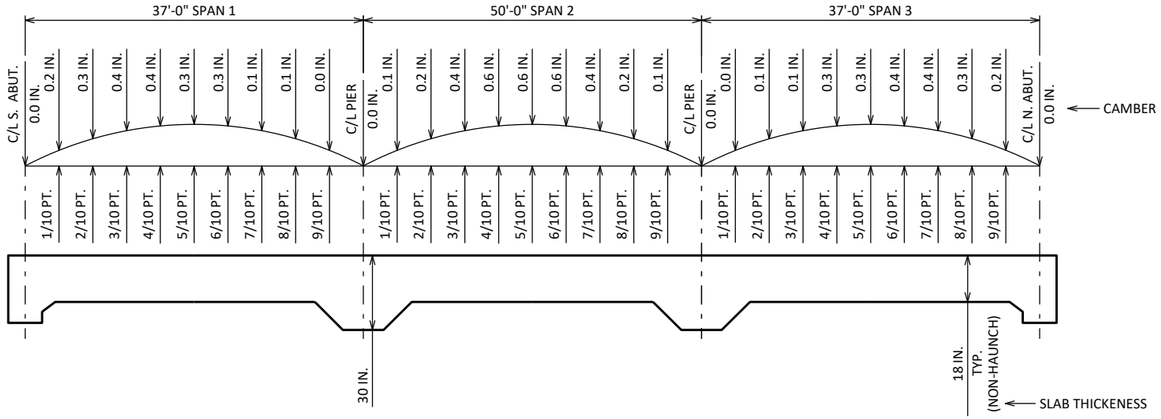
SHEET 12
43

8

8

STATE PROJECT NUMBER

9423-00-70



CAMBER AND SLAB THICKNESS DIAGRAM

CAMBER SHOWN IS BASED ON 3 TIMES DEAD LOAD DEFLECTIONS. CAMBER SPANS AS SHOWN TO PROVIDE FOR DEAD LOAD DEFLECTION AND FUTURE CREEP. CAMBER DOES NOT INCLUDE ALLOWANCE FOR FORM SETTLEMENT.

TO DETERMINE FALSEWORK ELEVATION AT EDGE OF SLAB, CROWN OR REFERENCE LINE FOLLOW THIS PROCEDURE:

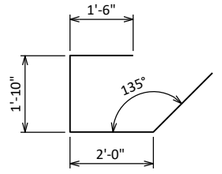
	TOP OF SLAB ELEVATION AT FINAL GRADE
LESS	SLAB THICKNESS
PLUS	CAMBER
PLUS	FORM SETTLEMENT/DEFLECTION DUE TO PLACEMENT OF SLAB CONCRETE (TO BE COMPUTED BY THE CONTRACTOR)
EQUALS	TOP OF SLAB FALSEWORK ELEVATION

TOP OF SLAB ELEVATIONS

SPAN	LOCATION	C/L BRG. S. ABUT.	1/10 PT.	2/10 PT.	3/10 PT.	4/10 PT.	5/10 PT.	6/10 PT.	7/10 PT.	8/10 PT.	9/10 PT.	C/L PIER 1
1	E. EDGE OF SLAB	1445.36	1445.39	1445.42	1445.45	1445.48	1445.50	1445.53	1445.56	1445.59	1445.61	1445.64
	CENTERLINE	1445.66	1445.69	1445.72	1445.75	1445.78	1445.80	1445.83	1445.86	1445.89	1445.91	1445.94
	W. EDGE OF SLAB	1445.36	1445.39	1445.42	1445.45	1445.48	1445.50	1445.53	1445.56	1445.59	1445.61	1445.64

SPAN	LOCATION	C/L PIER 1	1/10 PT.	2/10 PT.	3/10 PT.	4/10 PT.	5/10 PT.	6/10 PT.	7/10 PT.	8/10 PT.	9/10 PT.	C/L PIER 2
2	E. EDGE OF SLAB	1445.64	1445.68	1445.72	1445.75	1445.79	1445.83	1445.87	1445.90	1445.94	1445.98	1446.02
	CENTERLINE	1445.94	1445.98	1446.02	1446.05	1446.09	1446.13	1446.17	1446.20	1446.24	1446.28	1446.32
	W. EDGE OF SLAB	1445.64	1445.68	1445.72	1445.75	1445.79	1445.83	1445.87	1445.90	1445.94	1445.98	1446.02

SPAN	LOCATION	C/L PIER 2	1/10 PT.	2/10 PT.	3/10 PT.	4/10 PT.	5/10 PT.	6/10 PT.	7/10 PT.	8/10 PT.	9/10 PT.	C/L BRG. N. ABUT.
3	E. EDGE OF SLAB	1446.02	1446.04	1446.07	1446.10	1446.13	1446.15	1446.18	1446.21	1446.24	1446.27	1446.29
	CENTERLINE	1446.32	1446.32	1446.37	1446.40	1446.43	1446.45	1446.48	1446.51	1446.54	1446.57	1446.59
	W. EDGE OF SLAB	1446.02	1446.04	1446.07	1446.10	1446.13	1446.15	1446.18	1446.21	1446.24	1446.27	1446.29



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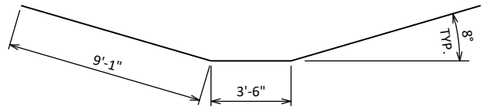

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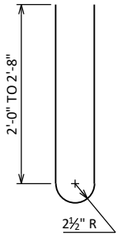


S517

BAR SERIES TABLE

BUNDLE AND TAG EACH SERIES SEPARATELY.

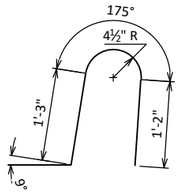
BAR MARK	NO. REQ'D.	LENGTH
S516	4 SERIES OF 6	4'-9" TO 6'-1"

BILL OF BARS

NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
S501	X	66	6'-10"	X		SLAB - DIAPHRAGM @ ABUTMENT - LONGIT.
S502	X	255	32'-2"			SLAB - TOP & BOTTOM - TRANSVERSE
S903	X	68	32'-10"			SLAB - BOTTOM - SPANS 1 & 3 - LONGIT.
S904	X	66	22'-2"			SLAB - BOTTOM - SPANS 1 & 3 - LONGIT.
S705	X	68	21'-8"	X		SLAB - BOTTOM OF PIER HAUNCH - LONGIT.
S906	X	34	39'-6"			SLAB - BOTTOM - SPAN 2 - LONGIT.
S907	X	33	25'-8"			SLAB - BOTTOM - SPAN 2 - LONGIT.
S508	X	70	11'-3"			SLAB - TOP - @ ABUTMENTS - LONGIT.
S1009	X	70	40'-9"			SLAB - TOP - OVER PIERS - LONGIT.
S1010	X	68	42'-3"			SLAB - TOP - OVER PIERS - LONGIT.
S511	X	2	33'-10"			SLAB TOP - SPAN 2 @ EDGE OF SLAB - LONGIT.
S512	X	380	4'-5"	X		PARAPET STIRRUP - SLAB - VERT.
S513	X	400	6'-8"	X		PARAPET STIRRUP - SLAB & WINGS - VERT.
S514	X	64	33'-0"			PARAPET - ON SLAB - LONGIT.
S515	X	24	6'-6"	X		PARAPET STIRRUP - ON WINGS - VERT.
S516	X	20	6'-5"	X	◇	PARAPET STIRRUP - ON WINGS - VERT.
S517	X	24	5'-5"	X	S	PARAPET STIRRUP - ON WINGS - VERT.
S518	X	20	11'-7"			PARAPET - ON WINGS - LONGIT.
S519	X	4	11'-7"	X		PARAPET - ON WINGS - TRAFFIC FACE - LONGIT.
S520	X	8	11'-8"	X		PARAPET - ON WINGS - TOP - LONGIT.

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



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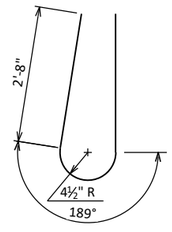

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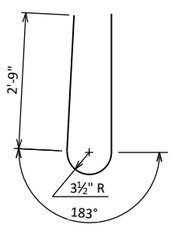

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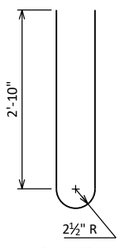

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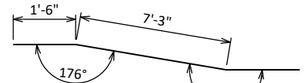

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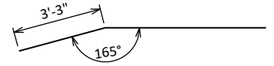


S520

SURVEY TOP OF SLAB ELEVATIONS

LOCATION	SOUTH ABUTMENT	5/10 PT.	PIER 1	5/10 PT.	PIER 2	5/10 PT.	NORTH ABUTMENT
E.EDGE OF SLAB							
CENTERLINE							
W.EDGE OF SLAB							

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

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-35-162

DRAWN BY RLR | PLANS CK'D NRT

SLAB CAMBER & DETAILS

SHEET 13
44

SCALE = 2.25

8

8

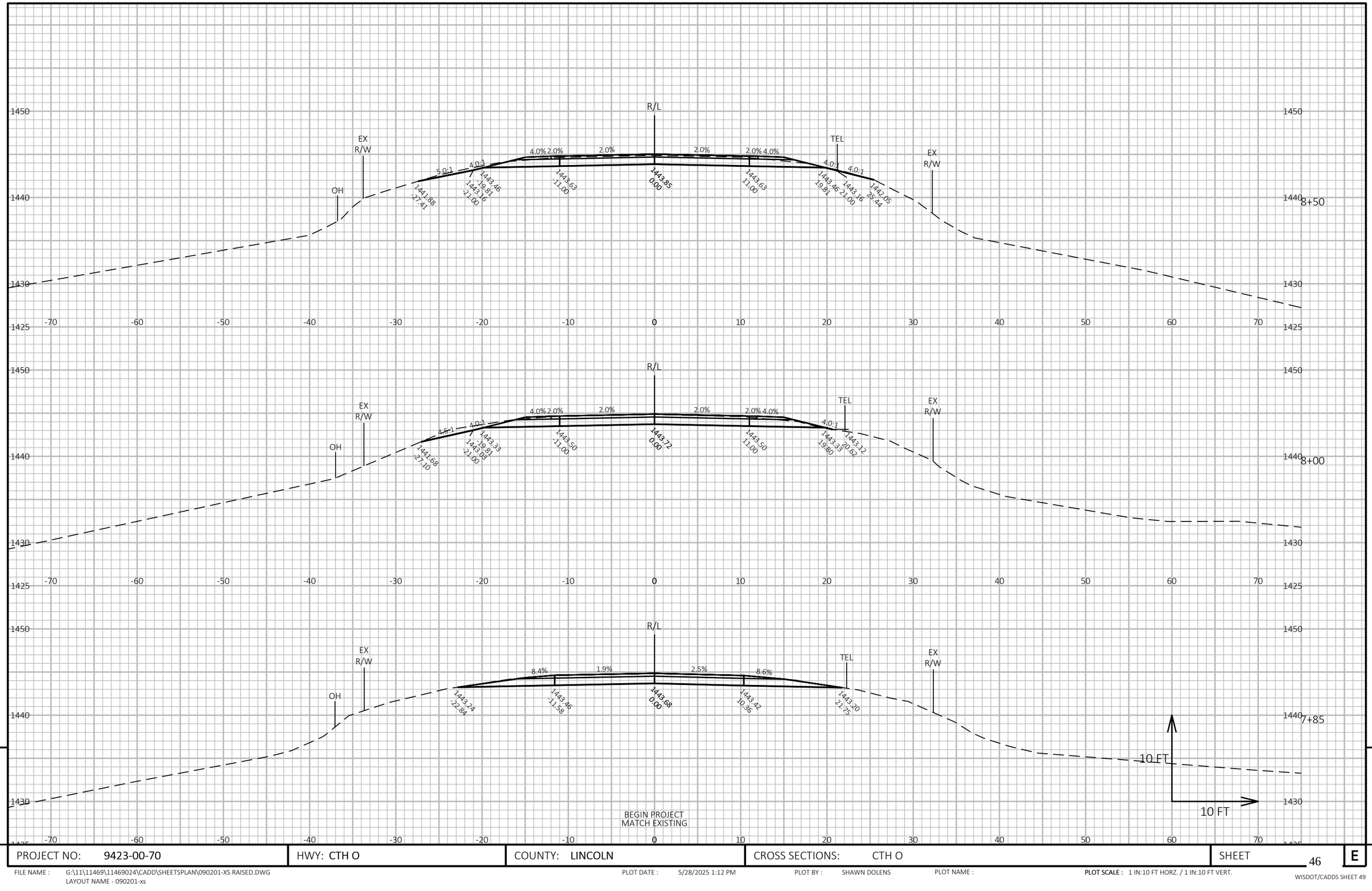
CTH O SOUTH APPROACH

STATION	REAL STATION	DISTANCE	AREA (SF)				INCREMENTAL VOL (CY) (UNADJUSTED)				CUMULATIVE VOL (CY)				
			CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	MARSH EXC	CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	MARSH EXC	CUT	EXPANDED FILL	EXPANDED MARSH BACKFILL	REDUCED MARSH IN FILL	MASS ORDINATE
							NOTE 1	NOTE 2	NOTE 3		1.00 NOTE 1	1.25	1.00 NOTE 4	1.00 NOTE 6	NOTE 8
7+85.00	785.00	0.00	41.09	11.80	0.00	0.00	0	0	0	0	0	0	0	0	0
8+00.00	800.00	15.00	40.66	11.80	0.06	0.00	23	7	0	0	23	0	0	0	16
8+50.00	850.00	50.00	36.02	11.80	0.00	0.00	71	22	0	0	94	0	0	0	65
8+87.37	887.37	37.37	29.43	11.80	0.00	0.00	45	16	0	0	139	0	0	0	94
9+00.00	900.00	12.63	25.73	11.80	0.74	0.00	13	6	0	0	152	0	0	0	101

CTH O NORTH APPROACH

STATION	REAL STATION	DISTANCE	AREA (SF)				INCREMENTAL VOL (CY) (UNADJUSTED)				CUMULATIVE VOL (CY)				
			CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	MARSH EXC	CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	MARSH EXC	CUT	EXPANDED FILL	EXPANDED MARSH BACKFILL	REDUCED MARSH IN FILL	MASS ORDINATE
							NOTE 1	NOTE 2	NOTE 3		1.00 NOTE 1	1.25	1.00 NOTE 4	1.00 NOTE 6	NOTE 8
10+85.00	1085.00	0.00	16.68	11.34	4.64	0.00	0	0	0	0	0	0	0	0	0
11+00.00	1100.00	15.00	23.25	11.34	3.37	0.00	11	6	2	0	11	3	0	0	3
11+03.29	1103.29	3.29	20.25	11.34	6.07	0.00	3	1	1	0	14	4	0	0	3
11+14.00	1114.00	10.71	26.57	11.34	1.42	0.00	9	4	1	0	23	5	0	0	7
11+50.00	1150.00	36.00	29.22	11.34	1.36	0.00	37	15	2	0	60	8	0	0	27
11+75.00	1175.00	25.00	28.27	11.34	2.01	0.00	27	11	2	0	87	10	0	0	40
12+00.00	1200.00	25.00	32.51	11.34	1.18	0.00	28	11	1	0	115	11	0	0	56
12+07.00	1207.00	7.00	34.35	11.34	0.29	0.00	9	2	0	0	124	11	0	0	63

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 - EXPANDED MARSH BACKFILL	WILL BE BACKFILLED WITH GRANULAR BACKFILL (OR CUT, OR BORROW)
6 - REDUCED MARSH IN FILL	REDUCED MARSH EXCAVATION THAT CAN BE USED IN FILL
8 - MASS ORDINATE	IF MARSH OR EBS TO BE BACKFILLED WITH COMMON OR BORROW: [(CUT - SALVAGED PAVT - EXPANDED MARSH EXC - EXPANDED EBS) - ((FILL - REDUCED MARSH IN FILL - REDUCED EBS IN FILL - EXPANDED ROCK) * FILL FACTOR)]



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LAYOUT NAME - 090201-xs

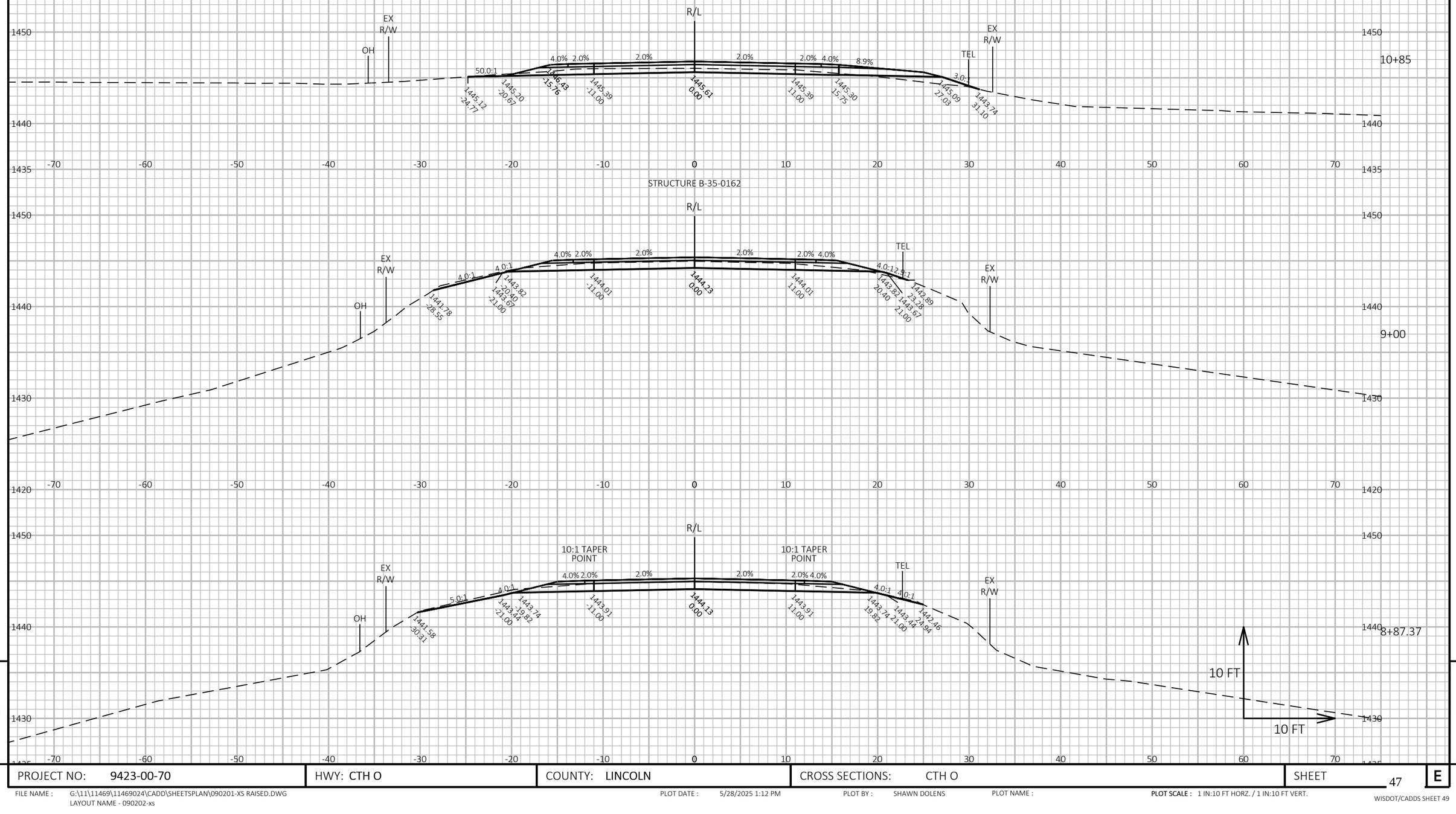
PLOT DATE : 5/28/2025 1:12 PM

PLOT BY : SHAWN DOLENS

PLOT NAME :

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

WISDOT/CADDS SHEET 49



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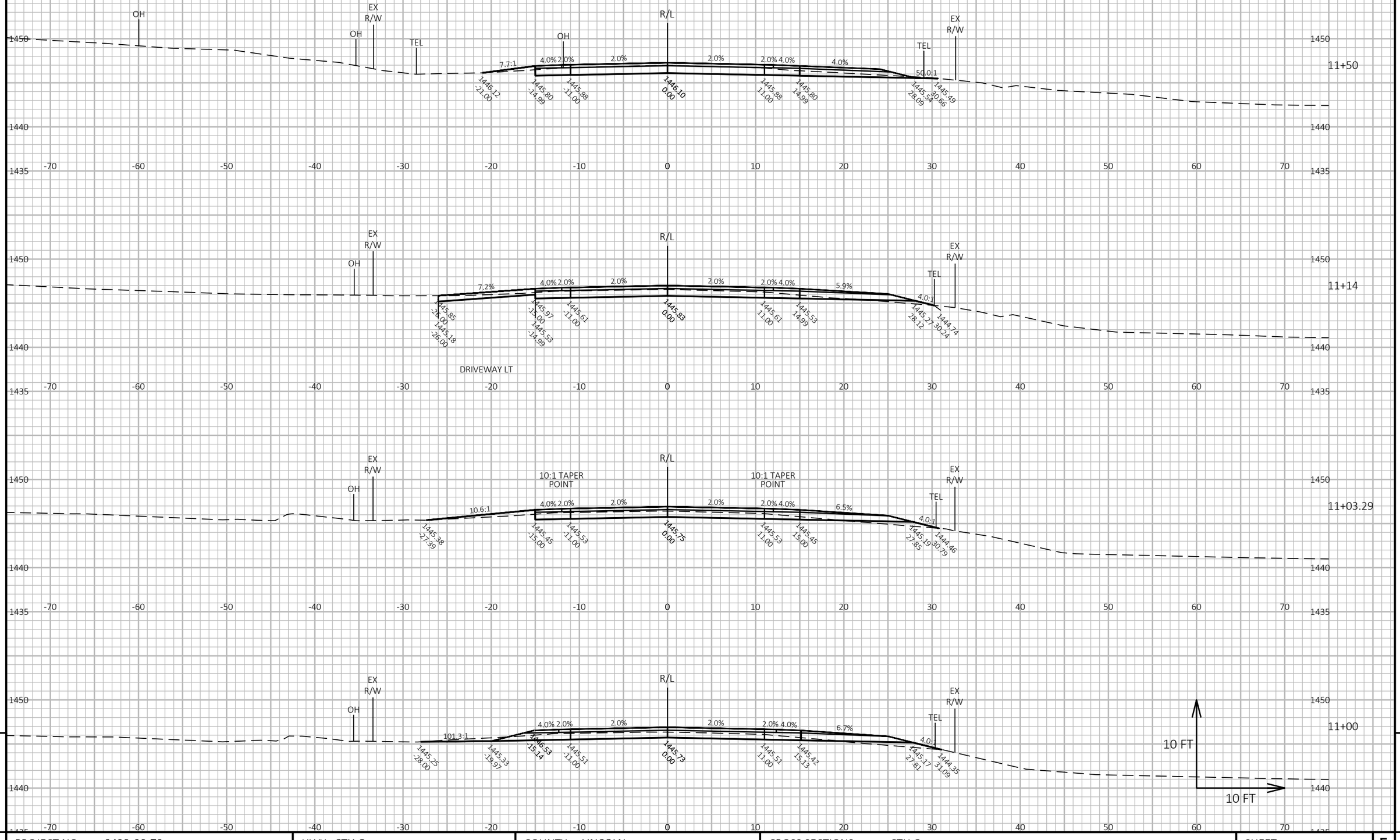

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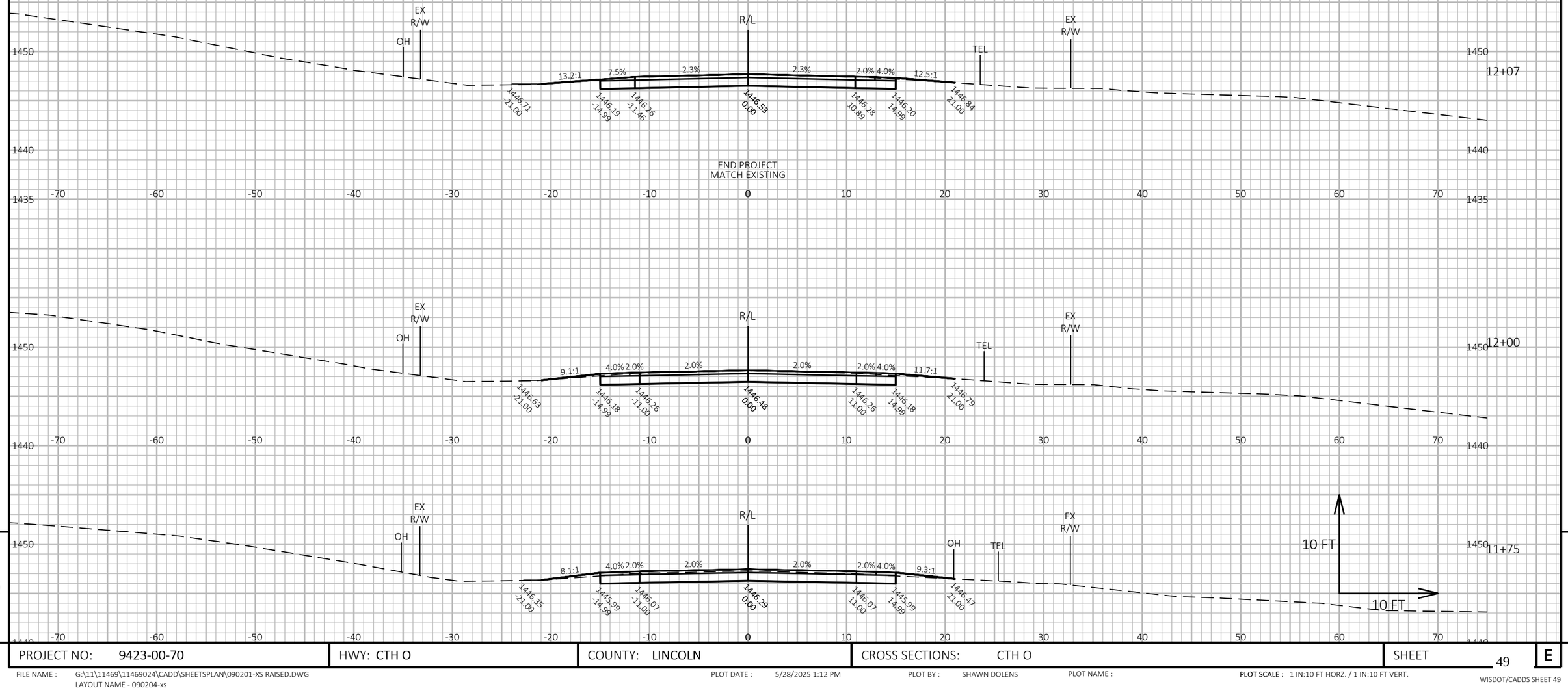
PLOT BY : SHAWN DOLENS

PLOT NAME :

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

WISDOT/CADDS SHEET 49



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PLOT DATE : 5/28/2025 1:12 PM

PLOT BY : SHAWN DOLENS

PLOT NAME :

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

WISDOT/CADDS SHEET 49

Wisconsin Department of Transportation

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