LAX

PROJECT ID: 5455-00-70

WITH: N/A

COUNTY: RICHLAND

APRIL 2022

ORDER OF SHEETS

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

TOTAL SHEETS = 44

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

STH 56 - CTH I

GAULT HOLLOW CREEK BRIDGE B-52-0280

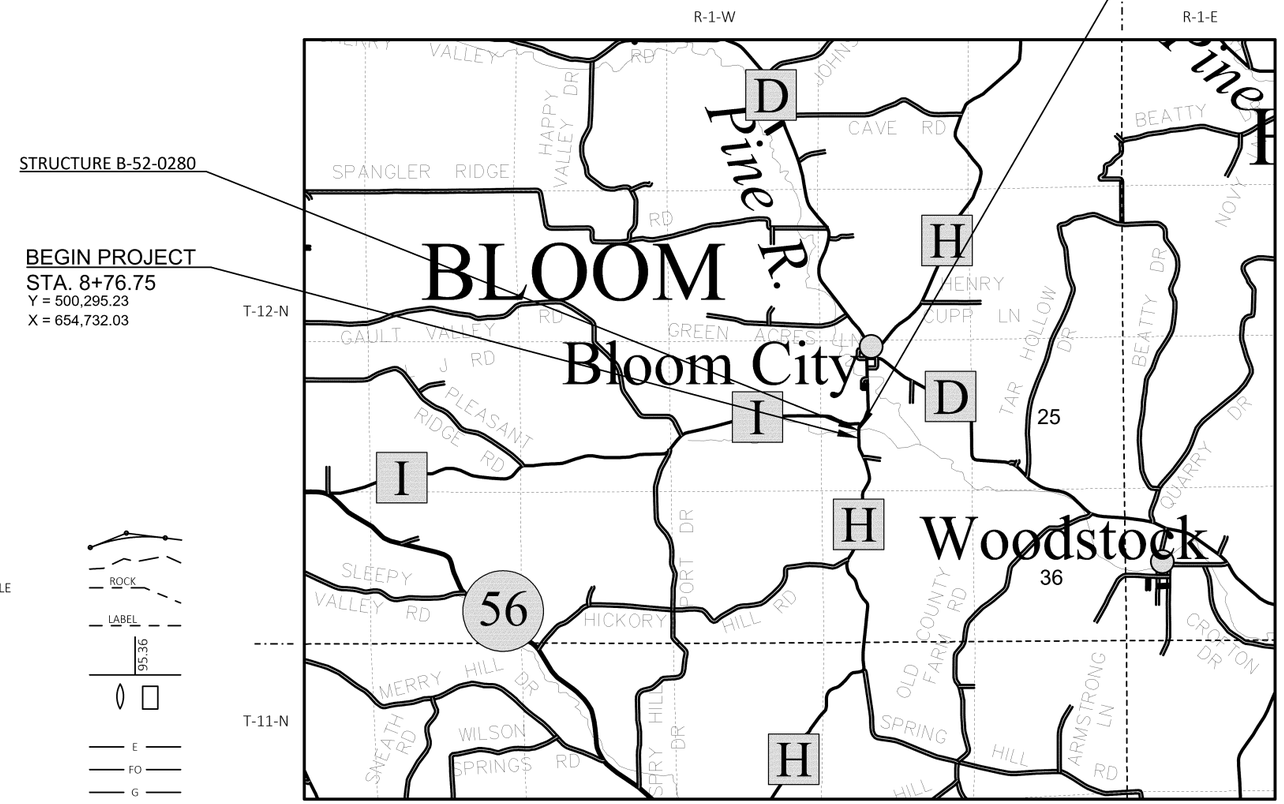
CTH H

RICHLAND COUNTY

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
5455-00-70	WISC 2022285	1

STATE PROJECT NUMBER

5455-00-70



DESIGN DESIGNATION 5455-00-70

A.A.D.T.	(2023)	=	330
A.A.D.T.	(2043)	=	360
D.H.V.		=	16.0
D.D.		=	62/38
T.		=	20.0%
DESIGN SPEED		=	25 MPH
ESALS		=	160,000

LAYOUT

SCALE 0 1 MI.

TOTAL NET LENGTH OF CENTERLINE = 0.061 MILES

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

CONVENTIONAL SYMBOLS

PLAN

- CORPORATE LIMITS
- PROPERTY LINE
- LOT LINE
- LIMITED HIGHWAY EASEMENT
- EXISTING RIGHT OF WAY
- PROPOSED OR NEW R/W LINE
- SLOPE INTERCEPT
- REFERENCE LINE (300'EB')
- EXISTING CULVERT
- PROPOSED CULVERT (Box or Pipe)
- COMBUSTIBLE FLUIDS (CAUTION)
- MARSH AREA
- WOODED OR SHRUB AREA

PROFILE

- GRADE LINE
- ORIGINAL GROUND
- MARSH OR ROCK PROFILE (To be noted as such) (ROCK)
- SPECIAL DITCH (LABEL)
- GRADE ELEVATION (95.36)
- CULVERT (Profile View)

UTILITIES

- ELECTRIC (E)
- FIBER OPTIC (FO)
- GAS (G)
- SANITARY SEWER (SAN)
- STORM SEWER (SS)
- TELEPHONE (T)
- WATER (W)
- UTILITY PEDESTAL
- POWER POLE
- TELEPHONE POLE

ACCEPTED FOR

RICHLAND COUNTY

Date 10.27.21 Joshua Elder County Commissioner

ORIGINAL PLANS PREPARED BY

MSA

1702 Pankratz Street, Madison, WI 53704

608-242-7779 1-800-446-0679 Fax: 608-242-5664

WISCONSIN JOSHUA R. SWENO E-44384 WAUNAKEE WI PROFESSIONAL ENGINEER

DATE: 10/21/2021 (Professional Engineer Signature)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	MSA PROFESSIONAL SERVICES, INC.
Designer	MSA PROFESSIONAL SERVICES, INC.
Project Manager	ALEIGHA BURG
Regional Examiner	REGIONAL EXAMINER
Regional Supervisor	JOHN STOLZMAN

APPROVED FOR THE DEPARTMENT

DATE: 10/27/2021 Aleigha Burg, P.E. Digitally signed by Aleigha Burg, P.E. Date: 2021.10.27 14:53:07-05'00' (Signature)

E

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.

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

THE 4" ASPHALTIC SURFACE SHALL BE CONSTRUCTED USING A 2.25" LOWER LAYER OF 19 MM NOMINAL SIZE AGGREGATE AND A 1.75" UPPER LAYER WITH 12.5 MM NOMINAL SIZE AGGREGATE.

THE CONTRACTOR IS RESPONSIBLE FOR THE RESHAPING AND FINISHING OF ALL PREVIOUSLY GRASSED AREAS WHICH ARE DISTURBED BY THEIR OPERATIONS OUTSIDE THE PLAN CONSTRUCTION LIMITS.

EROSION CONTROL FEATURES AS SHOWN IN THE PLANS ARE AT SUGGESTED LOCATIONS. THE ENGINEER MAY MODIFY THESE LOCATIONS AS NEEDED. ALL EROSION CONTROL MEASURES ARE TO BE MAINTAINED UNTIL SUCH TIME AS THE ENGINEER DETERMINES THEY ARE NO LONGER NECESSARY.

WETLANDS ARE PRESENT. AREAS OUTSIDE THE SLOPE INTERCEPTS SHALL NOT BE DISTURBED IN WETLAND AREAS.

ASPHALTIC SURFACE QUANTITIES WERE CALCULATED USING 112 LB/SY/IN.

DESIGN CONTACTS

MSA PROFESSIONAL SERVICES, INC.
ATTN: JOSH SWENO, P.E.
1702 PANKRATZ STREET
MADISON, WI 53704
PHONE: (608) 355-8852
EMAIL: JSWENO@MSA-PS.COM

RICHLAND COUNTY HIGHWAY DEPARTMENT
ATTN: JOSH ELDER, COMMISSIONER
120 BOWEN CIRCLE
RICHLAND CENTER, WI 53581
PHONE: (608) 647-4707
EMAIL: JOSH.ELDER@CO.RICHLAND.WI.US

DNR LIAISON

DEPARTMENT OF NATURAL RESOURCES
ATTN: ANDY BARTA
3911 FISH HATCHERY ROAD
FITCHBURG, WI 53711
PHONE: (608) 235-2955
EMAIL: ANDREW.BARTA@WISCONSIN.GOV

UTILITY CONTACTS

TELEPHONE:
FRONTIER COMMUNICATIONS
ATTN: JERRY MOORE
306 E CONANT STREET
PORTAGE, WI 53901
PHONE: (608) 742-9507
EMAIL: JERALD.R.MOORE@FTR.COM

ELECTRIC:
RICHLAND ELECTRIC COOPERATIVE
ATTN: LARRY HALLETT
P.O. BOX 439
RICHLAND CENTER, WI 53581
PHONE: (608) 647-3173
CELL: (608) 553-1418
EMAIL: LHALLETT@REC.COOP

ELECTRIC:
DAIRYLAND POWER COOPERATIVE
ATTN: MIKE LYDON
3200 EAST AVENUE SOUTH
P.O. BOX 817
LA CROSSE, WI 54602
PHONE: (608) 787-1381
EMAIL: MICHAEL.LYDON@DAIRYLANDPOWER.COM

*DENOTES UTILITIES THAT ARE NOT DIGGERS HOTLINE MEMBERS

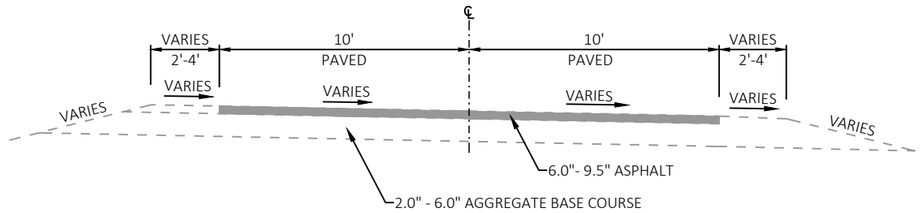
DIGGERS HOTLINE
Dial 811 or (800) 242-8511
www.DiggersHotline.com

RUNOFF COEFFICIENT TABLE

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

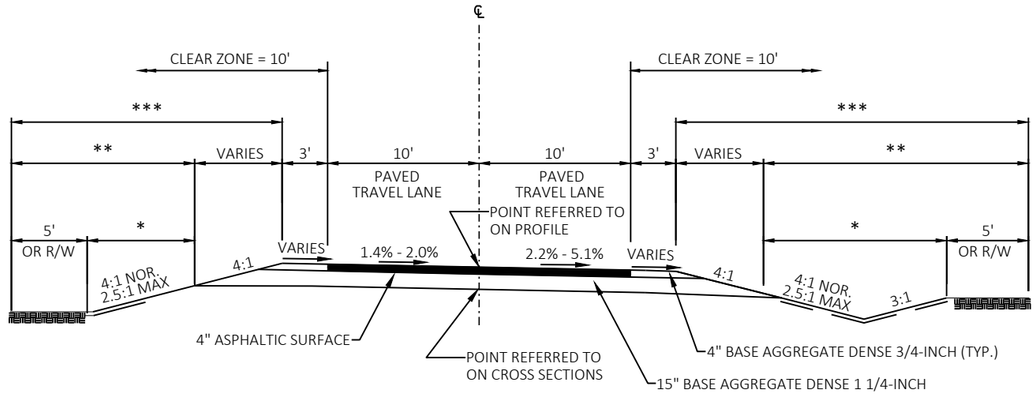
TOTAL PROJECT AREA = 0.49 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 0.42 ACRES

2



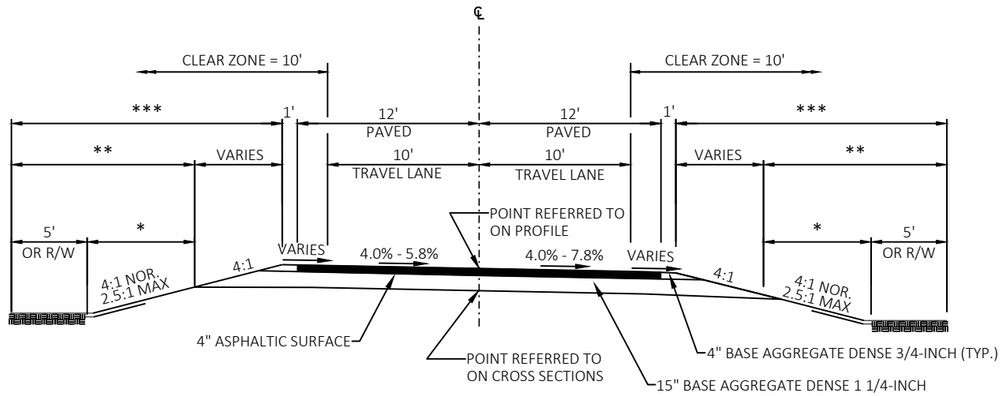
EXISTING TYPICAL SECTION

STA. 8+76.75 - STA. 12+00



FINISHED TYPICAL SECTION

STA. 8+76.75 - STA. 9+76.75



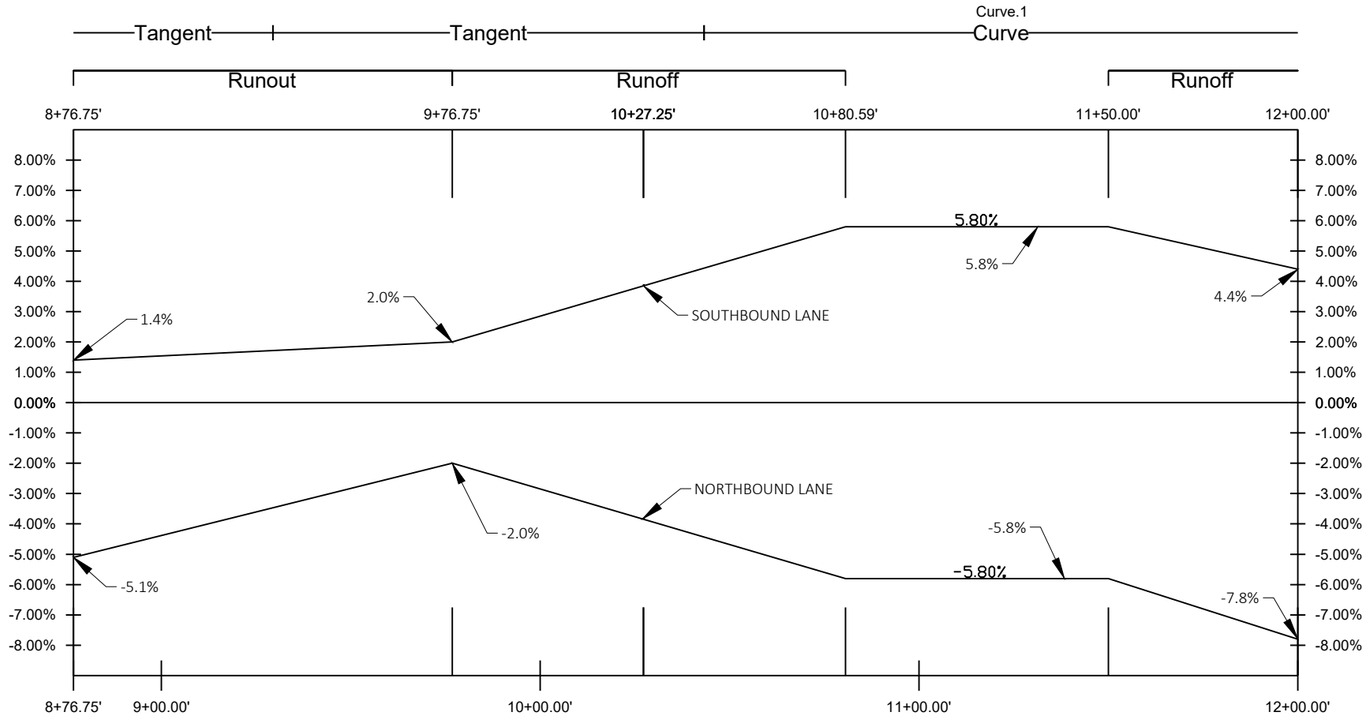
FINISHED TYPICAL SECTION

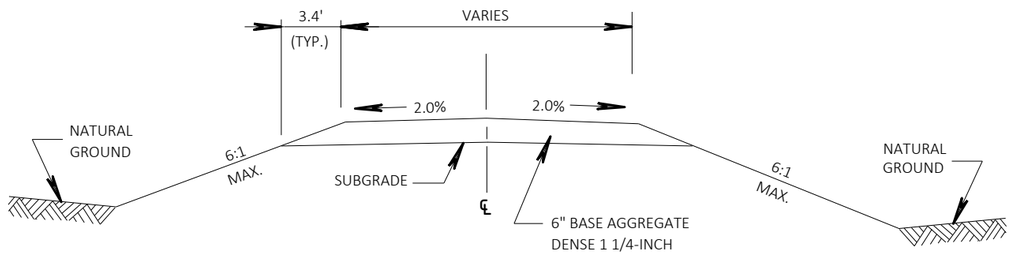
STA. 10+27.25 - STA.12+00

* LIMITS OF SALVAGED TOPSOIL
** LIMITS OF EROSION MAT URBAN CLASS I TYPE B
*** LIMITS OF SEEDING MIXTURE #20,
& FERTILIZER TYPE B

PROJECT NO: 5455-00-70	HWY: CTH H	COUNTY: RICHLAND	TYPICAL SECTIONS	SHEET 3	E

Superelevation





FIELD ENTRANCE TYPICAL SECTION

FIELD ENTRANCE DETAILS

PROJECT NO: 5455-00-70	HWY: CTH H	COUNTY: RICHLAND	CONSTRUCTION DETAILS	SHEET 4	E

Estimate Of Quantities

5455-00-70

Line	Item	Item Description	Unit	Total	Qty
0002	203.0260	Removing Structure Over Waterway Minimal Debris (structure) 01. B-52-11	EACH	1.000	1.000
0004	205.0100	Excavation Common	CY	507.000	507.000
0006	206.1000	Excavation for Structures Bridges (structure) 01. B-52-280	LS	1.000	1.000
0008	210.1500	Backfill Structure Type A	TON	360.000	360.000
0010	213.0100	Finishing Roadway (project) 01. 5455-00-70	EACH	1.000	1.000
0012	305.0110	Base Aggregate Dense 3/4-Inch	TON	36.000	36.000
0014	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	897.000	897.000
0016	455.0605	Tack Coat	GAL	52.000	52.000
0018	465.0105	Asphaltic Surface	TON	166.000	166.000
0020	465.0315	Asphaltic Flumes	SY	8.000	8.000
0022	502.0100	Concrete Masonry Bridges	CY	202.000	202.000
0024	502.3200	Protective Surface Treatment	SY	186.000	186.000
0026	502.3210	Pigmented Surface Sealer	SY	52.000	52.000
0028	505.0400	Bar Steel Reinforcement HS Structures	LB	4,550.000	4,550.000
0030	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	26,770.000	26,770.000
0032	516.0500	Rubberized Membrane Waterproofing	SY	12.000	12.000
0034	550.0020	Pre-Boring Rock or Consolidated Materials	LF	173.000	173.000
0036	550.1100	Piling Steel HP 10-Inch X 42 Lb	LF	226.000	226.000
0038	606.0300	Riprap Heavy	CY	201.000	201.000
0040	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	160.000	160.000
0042	618.0100	Maintenance And Repair of Haul Roads (project) 01. 5455-00-70	EACH	1.000	1.000
0044	619.1000	Mobilization	EACH	1.000	1.000
0046	624.0100	Water	MGAL	20.000	20.000
0048	625.0500	Salvaged Topsoil	SY	296.000	296.000
0050	628.1504	Silt Fence	LF	715.000	715.000
0052	628.1520	Silt Fence Maintenance	LF	715.000	715.000
0054	628.1905	Mobilizations Erosion Control	EACH	3.000	3.000
0056	628.1910	Mobilizations Emergency Erosion Control	EACH	2.000	2.000
0058	628.2008	Erosion Mat Urban Class I Type B	SY	595.000	595.000
0060	628.6005	Turbidity Barriers	SY	242.000	242.000
0062	628.7504	Temporary Ditch Checks	LF	20.000	20.000
0064	629.0210	Fertilizer Type B	CWT	0.600	0.600
0066	630.0120	Seeding Mixture No. 20	LB	26.000	26.000
0068	630.0200	Seeding Temporary	LB	26.000	26.000
0070	630.0500	Seed Water	MGAL	22.000	22.000
0072	634.0612	Posts Wood 4x6-Inch X 12-FT	EACH	4.000	4.000
0074	637.2230	Signs Type II Reflective F	SF	12.000	12.000
0076	642.5001	Field Office Type B	EACH	1.000	1.000
0078	643.0420	Traffic Control Barricades Type III	DAY	1,656.000	1,656.000
0080	643.0705	Traffic Control Warning Lights Type A	DAY	2,576.000	2,576.000
0082	643.0900	Traffic Control Signs	DAY	1,288.000	1,288.000
0084	643.5000	Traffic Control	EACH	1.000	1.000
0086	645.0111	Geotextile Type DF Schedule A	SY	62.000	62.000
0088	645.0120	Geotextile Type HR	SY	366.000	366.000
0090	646.1020	Marking Line Epoxy 4-Inch	LF	1,293.000	1,293.000
0092	650.4500	Construction Staking Subgrade	LF	273.000	273.000
0094	650.5000	Construction Staking Base	LF	273.000	273.000
0096	650.6500	Construction Staking Structure Layout (structure) 01. B-52-0280	LS	1.000	1.000
0098	650.9910	Construction Staking Supplemental Control (project) 01. 5455-00-70	LS	1.000	1.000

Estimate Of Quantities

5455-00-70

Line	Item	Item Description	Unit	Total	Qty
0100	650.9920	Construction Staking Slope Stakes	LF	273.000	273.000
0102	690.0150	Sawing Asphalt	LF	40.000	40.000
0104	715.0502	Incentive Strength Concrete Structures	DOL	1,212.000	1,212.000
0106	999.2005.S	Maintaining Bird Deterrent System (station) 01. Station 10+00	EACH	1.000	1.000
0108	ASP.1T0A	On-the-Job Training Apprentice at $5.00/HR	HRS	1,200.000	1,200.000
0110	ASP.1T0G	On-the-Job Training Graduate at $5.00/HR	HRS	600.000	600.000
0112	SPV.0035	Special 01. Excavation, Hauling, and Disposal of Creosote Contaminated Soil	CY	62.000	62.000

3

EXCAVATION COMMON

STATION	TO	STATION	LOCATION	205.0100 EXCAVATION COMMON CY
8+76.75	-	9+76.75	MAINLINE	184
10+27.25	-	12+00	MAINLINE	323
			TOTAL	507

BASE AGGREGATE

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
8+76.75	-	9+76.75	MAINLINE	15	315	7
10+27.25	-	12+00	MAINLINE	21	564	12
11+25.00	-	11+55	FE, RT	-	18	1
			TOTAL	36	897	20

ASPHALTIC SURFACE

STATION	TO	STATION	LOCATION	455.0605 TACK COAT GAL	465.0105 ASPHALTIC SURFACE TON
8+76.75	-	9+76.75	MAINLINE	16	52
10+27.25	-	12+00	MAINLINE	36	114
			TOTAL	52	166

ASPHALTIC FLUMES

STATION	LOCATION	465.0315 ASPHALTIC FLUMES SY
9+68	15' RT	4
10+36	15' RT	4
	TOTAL	8

RESTORATION ITEMS

STATION	TO	STATION	LOCATION	625.0500 SALVAGED TOPSOIL SY	628.2008 EROSION MAT URBAN CLASS I TYPE B SY	629.0210 FERTILIZER TYPE B CWT	630.0120 SEEDING MIXTURE NO. 20 LB	630.0200 SEEDING TEMPORARY LB	630.0500 SEED WATER MGAL
8+76.75	-	9+76.75	LT	18	65	0.1	4	4	3
8+76.75	-	9+76.75	RT	81	114	0.1	3	3	3
10+27.25	-	12+00	LT	22	115	0.2	7	7	5
10+27.25	-	12+00	RT	115	181	0.2	7	7	6
			UNDISTRIBUTED	59	120	0.1	5	5	4
			TOTAL	296	595	0.6	26	26	22

EROSION CONTROL

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	628.6005 TURBIDITY BARRIERS SY	628.7504 TEMPORARY DITCH CHECKS LF
8+76.75	-	9+76.75	LT	116	116	-	-	194	20
8+76.75	-	9+76.75	RT	110	110	-	-	-	-
10+27.25		12+00	LT	189	189	-	-	-	-
10+27.25		12+00	RT	157	157	-	-	-	-
			UNDISTRIBUTED	143	143	3	2	48	-
			TOTAL	715	715	3	2	242	20

SIGNS

STATION	LOCATION	634.0612 POSTS WOOD 4X6-INCH X 12-FT EACH	637.2230 SIGNS TYPE II REFLECTIVE F SF	REMARKS
9+76.75	MAINLINE, LT	1	3	W5-52L
9+76.75	MAINLINE, RT	1	3	W5-52R
10+27.25	MAINLINE, LT	1	3	W5-52L
10+27.25	MAINLINE, RT	1	3	W5-52R
	TOTAL	4	12	

TRAFFIC CONTROL

DAYS	LOCATION	TRAFFIC CONTROL BARICADES 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	643.5000 TRAFFIC CONTROL EACH
92	JUNCTION WITH STH 56	2	184	4	368	5	460	-
92	BEGIN PROJECT	7	644	10	920	2	184	-
92	END PROJECT	7	644	10	920	2	184	-
92	JUNCTION WITH CTH I	2	184	4	368	5	460	-
	5455-00-70	-	-	-	-	-	-	1
	TOTAL		1,656		2,576		1,288	1

PAVEMENT MARKING

STATION	TO	STATION	LOCATION	646.1020 MARKING LINE EPOXY 4-INCH LF	REMARKS
8+76.75	-	12+00	MAINLINE, C/L	647	SOLID DOUBLE YELLOW
8+76.75	-	12+00	MAINLINE, LT & RT	647	SOLID WHITE
			TOTAL	1,293	

CONSTRUCTION STAKING

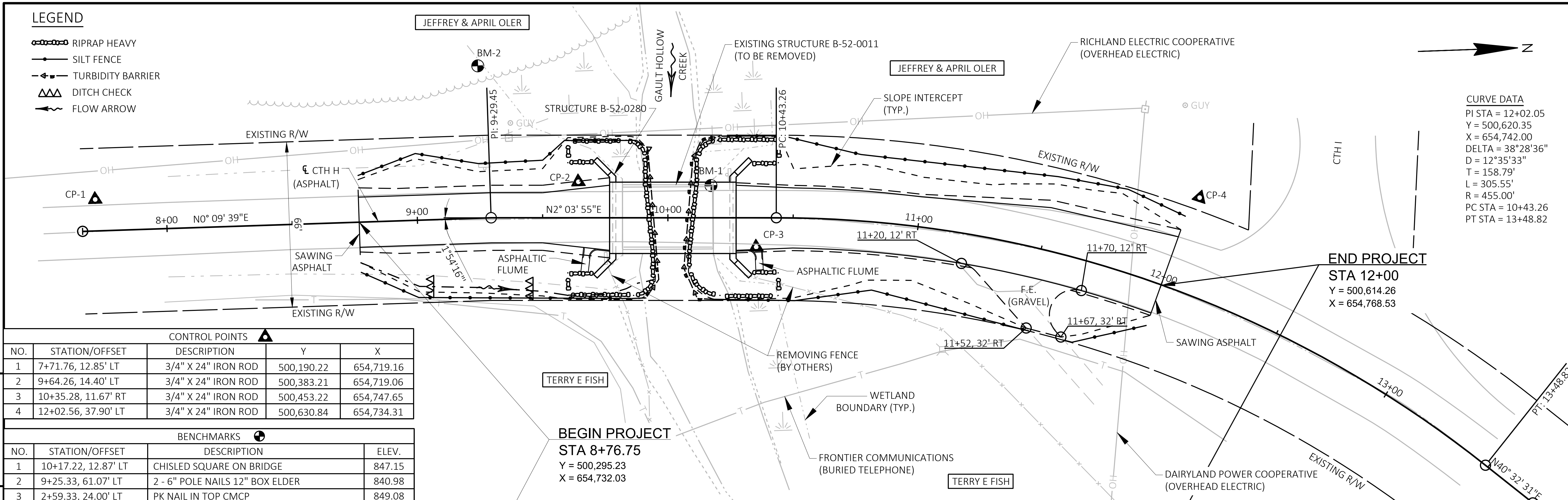
STATION	TO	STATION	LOCATION	650.4500 CONSTRUCTION STAKING SUBGRADE LF	650.5000 CONSTRUCTION STAKING BASE LF	650.9920 CONSTRUCTION STAKING SLOPE STAKES LF	650.6500.01 CONSTRUCTION STAKING STRUCTURE LAYOUT STRUCTURE B-52-0280 LS	650.9910.01 CONSTRUCTION STAKING SUPPLEMENTAL CONTROL PROJECT 5455-00-70 LS
8+76.75	-	9+76.75	MAINLINE	100	100	100	-	-
10+27.25	-	12+00	MAINLINE	173	173	173	-	-
			PROJECT	-	-	-	1	1
			TOTAL	273	273	273	1	1

SAWING ASPHALT

STATION	LOCATION	690.0150 SAWING ASPHALT LF
8+76.75	MAINLINE	20
12+00	MAINLINE	20
	TOTAL	40

EXCAVATION, HAULING, AND DISPOSAL OF CREOSOTE CONTAMINATED SOIL

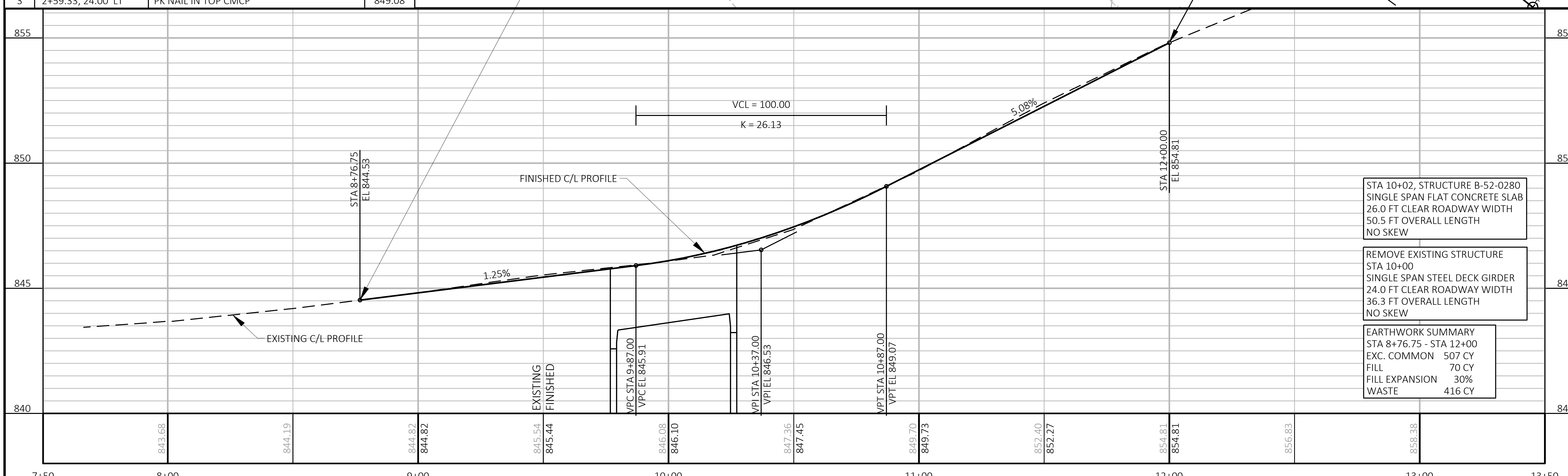
STATION	SPV.0035.01 EXCAVATION, HAULING, AND DISPOSAL OF CREOSOTE CONTAMINATED SOIL CY
9+81.9	31
10+18.2	31
TOTAL	62



CURVE DATA
PI STA = 12+02.05
Y = 500,620.35
X = 654,742.00
DELTA = 38°28'36"
D = 12°35'33"
T = 158.79'
L = 305.55'
R = 455.00'
PC STA = 10+43.26
PT STA = 13+48.82

CONTROL POINTS				
NO.	STATION/OFFSET	DESCRIPTION	Y	X
1	7+71.76, 12.85' LT	3/4" X 24" IRON ROD	500,190.22	654,719.16
2	9+64.26, 14.40' LT	3/4" X 24" IRON ROD	500,383.21	654,719.06
3	10+35.28, 11.67' RT	3/4" X 24" IRON ROD	500,453.22	654,747.65
4	12+02.56, 37.90' LT	3/4" X 24" IRON ROD	500,630.84	654,734.31

BENCHMARKS			
NO.	STATION/OFFSET	DESCRIPTION	ELEV.
1	10+17.22, 12.87' LT	CHISLED SQUARE ON BRIDGE	847.15
2	9+25.33, 61.07' LT	2 - 6" POLE NAILS 12" BOX ELDER	840.98
3	2+59.33, 24.00' LT	PK NAIL IN TOP CMCP	849.08



STA 10+02, STRUCTURE B-52-0280
SINGLE SPAN FLAT CONCRETE SLAB
26.0 FT CLEAR ROADWAY WIDTH
50.5 FT OVERALL LENGTH
NO SKEW

REMOVE EXISTING STRUCTURE
STA 10+00
SINGLE SPAN STEEL DECK GIRDER
24.0 FT CLEAR ROADWAY WIDTH
36.3 FT OVERALL LENGTH
NO SKEW

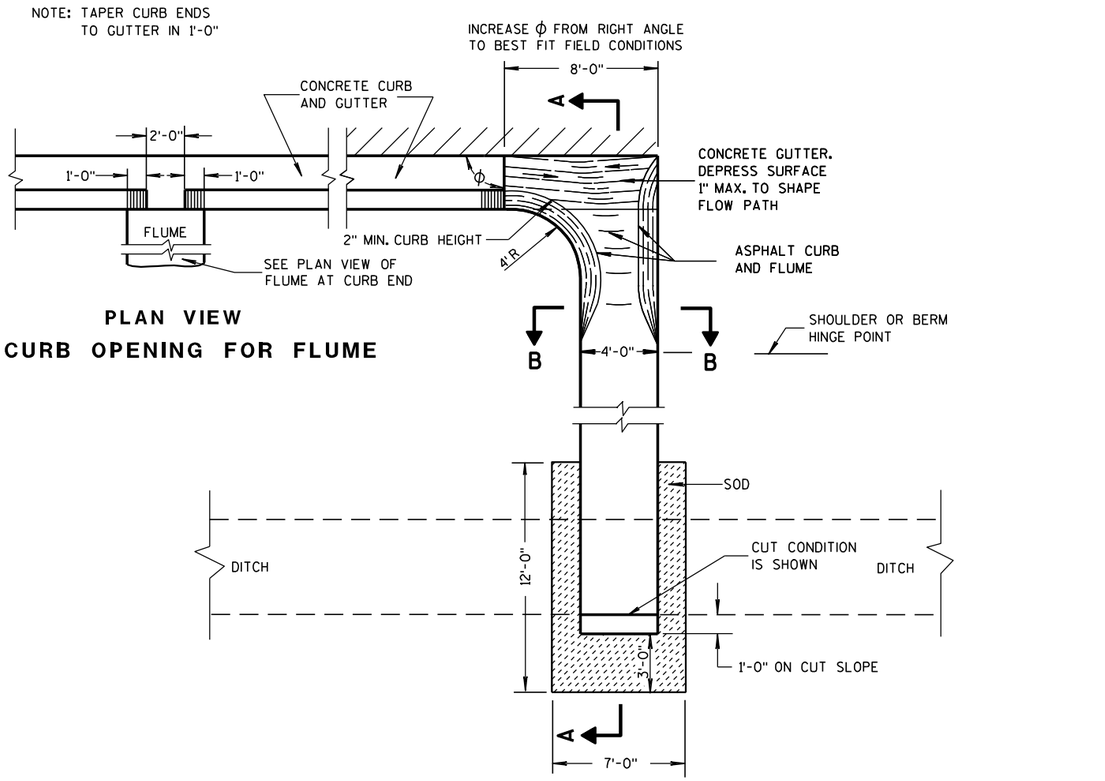
EARTHWORK SUMMARY
STA 8+76.75 - STA 12+00
EXC. COMMON 507 CY
FILL 70 CY
FILL EXPANSION 30%
WASTE 416 CY

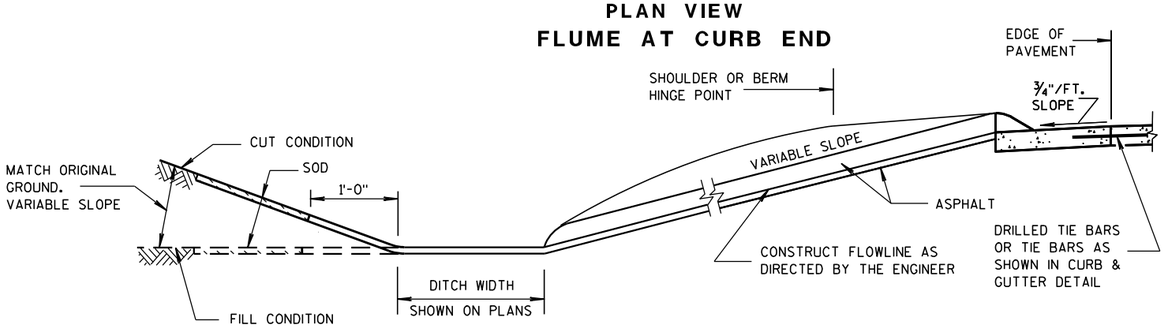
Standard Detail Drawing List

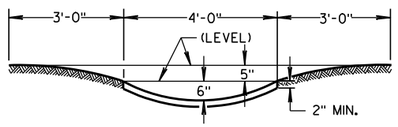
08D04-05	CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E11-02	TURBIDITY BARRIER
12A03-10	NAME PLATE (STRUCTURES)
13C19-03	HMA LONGITUDINAL JOINTS
15C02-08A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-08B	BARRICADES AND SIGNS FOR VARIOUS CLOSURES
15C06-09	SIGNING & MARKING FOR TWO LANE BRIDGES
15C08-20A	LONGITUDINAL MARKING (MAINLINE)
15C11-09B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS

6

ASPHALTIC FLUME







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.

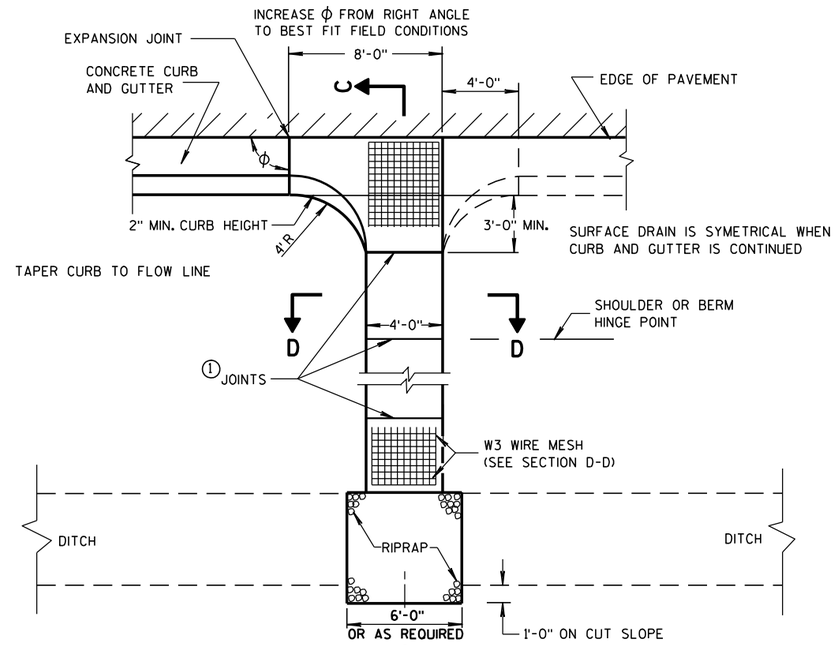
WELDED STEEL WIRE FABRIC SHALL BE IN ACCORDANCE WITH AASHTO SPECIFICATION M55.

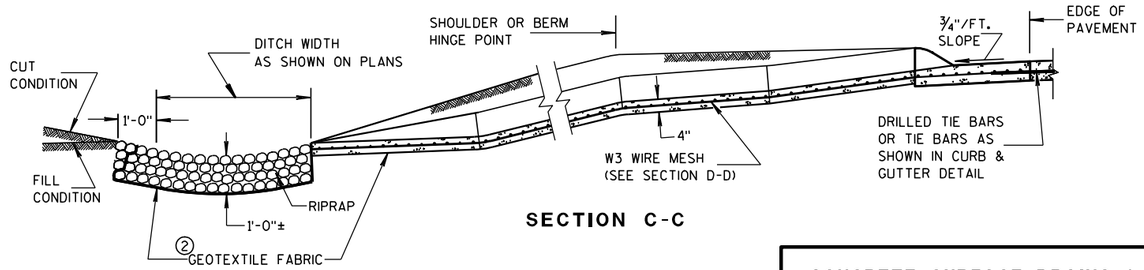
① JOINTS SHALL BE $\frac{1}{8}$ TO $\frac{1}{4}$ INCH WIDE BY $1\frac{1}{2}$ INCHES DEEP AND SPACED AT UNIFORM INTERVALS OF APPROXIMATELY 4 FEET.

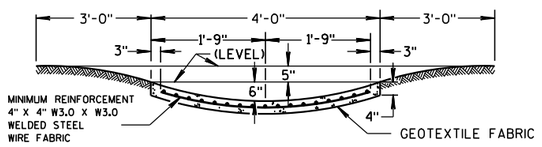
② GEOTEXTILE FABRIC TYPE "R" SHALL UNDERLAY THE FULL LENGTH AND WIDTH OF THE CONCRETE SURFACE DRAIN AND RIPRAP.

③ CONCRETE SURFACE DRAIN WITHOUT CURB AND GUTTER MAY BE USED ON BACKSLOPES WHEN SPECIFIED

③ CONCRETE SURFACE DRAIN







CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES

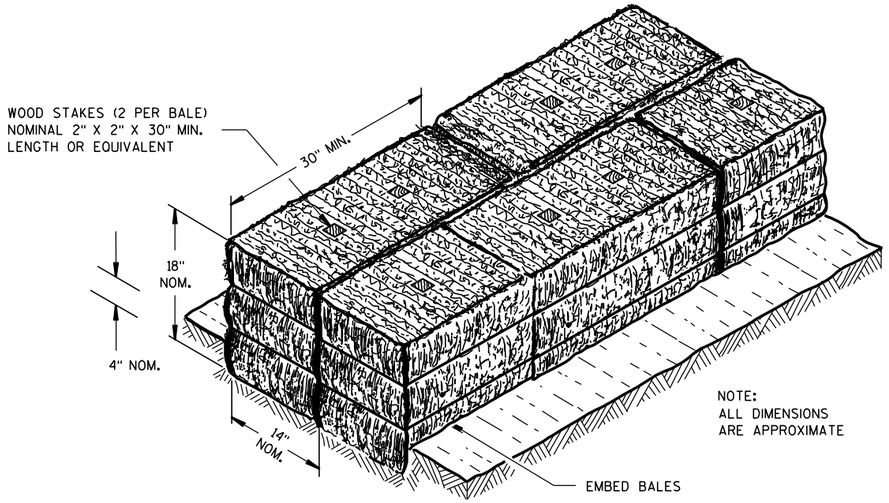
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

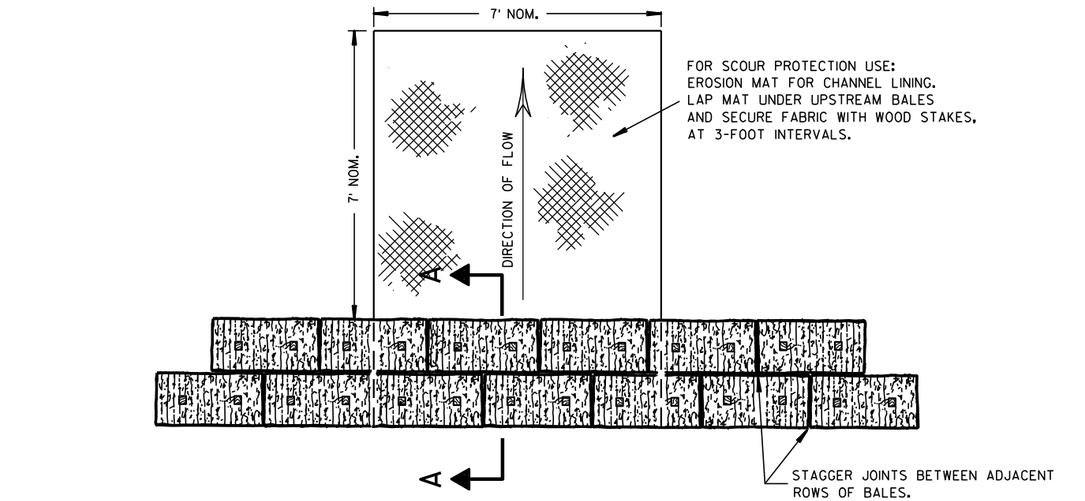
9-4-08 DATE — /S/ Jerry H. ... ROADWAY STANDARDS ENGINEER — MENT

FHWA

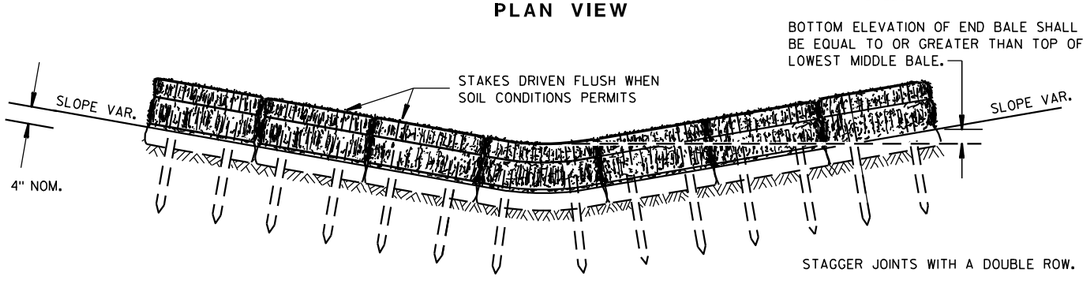
6 S.D.D. 8 D 4-5



SECTION A-A



PLAN VIEW



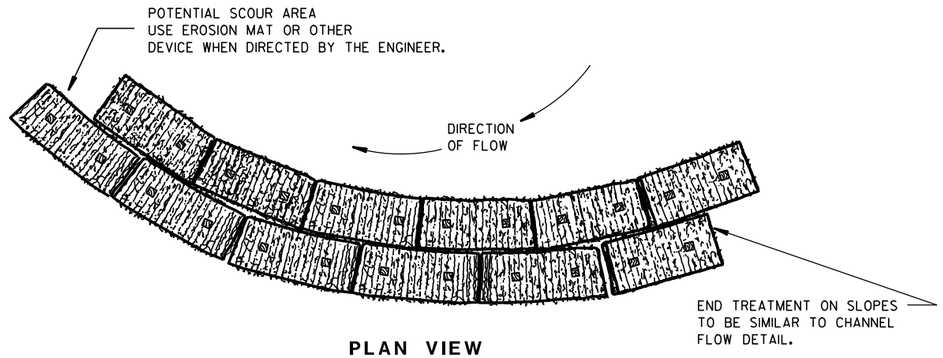
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES ①

GENERAL NOTES

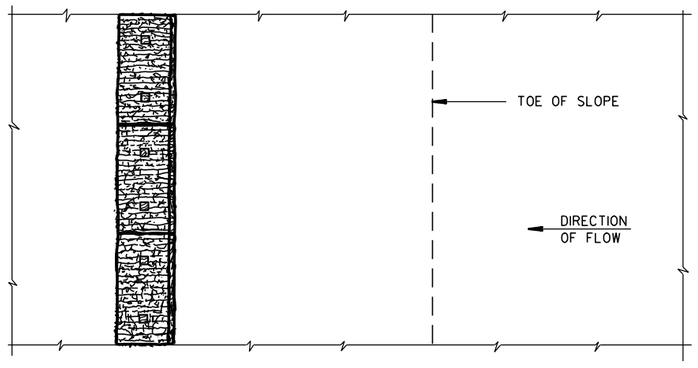
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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

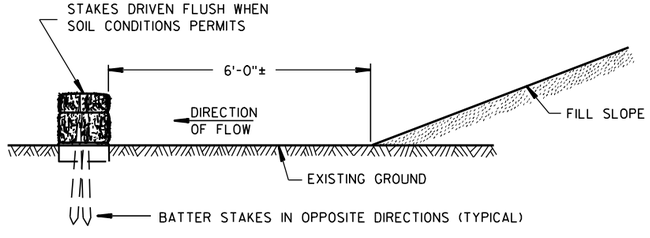


PLAN VIEW

WHEN ALTERING THE DIRECTION OF FLOW



PLAN VIEW



FRONT ELEVATION

WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE

EROSION BALES FOR SHEET FLOW

TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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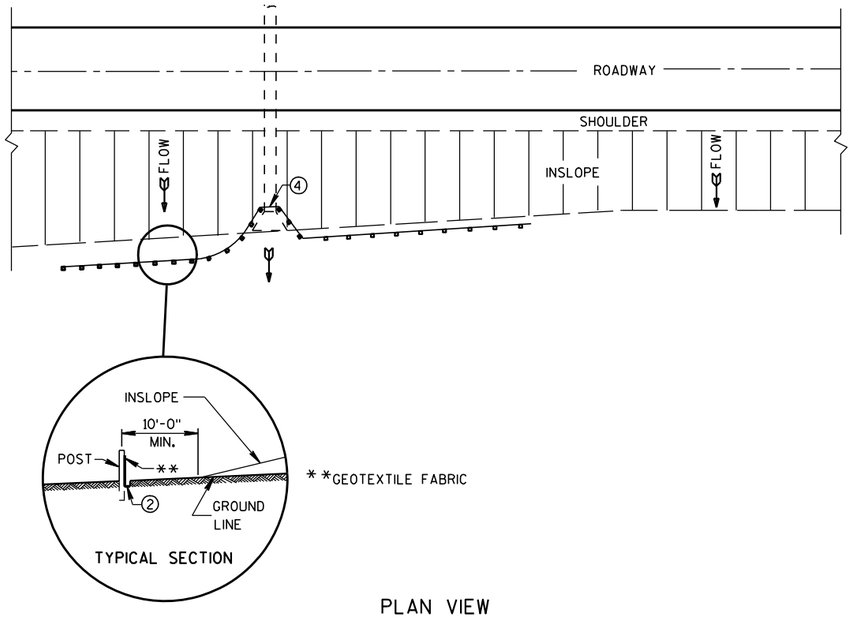
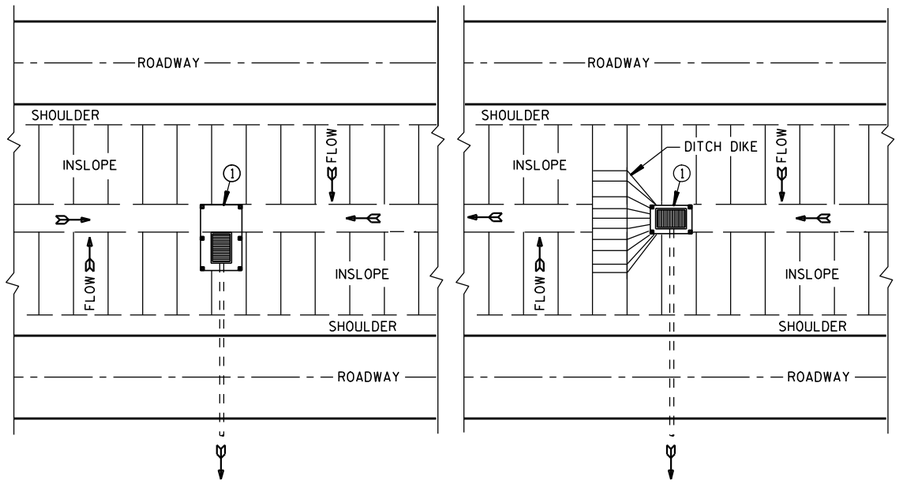
S.D.D. 8 E 8-3



PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



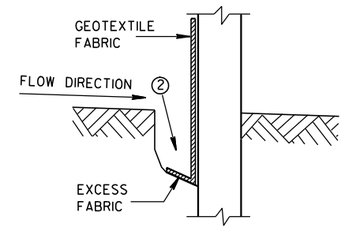
PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

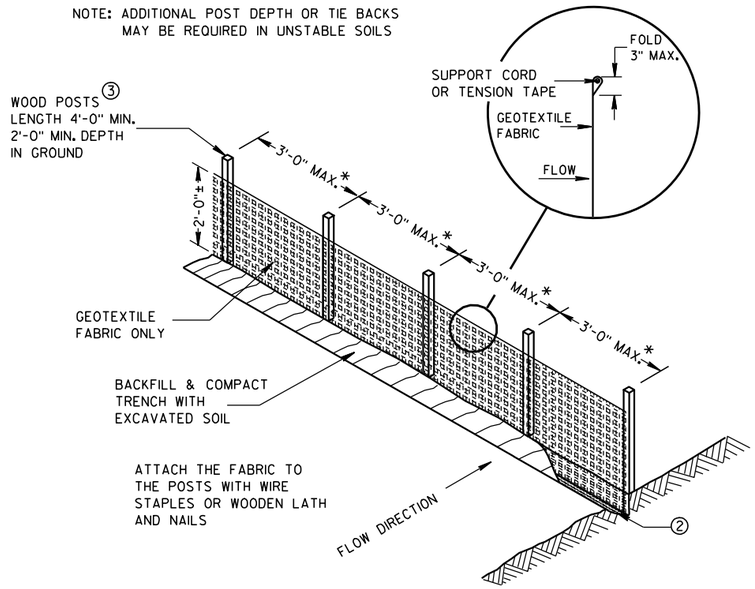
GENERAL NOTES

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

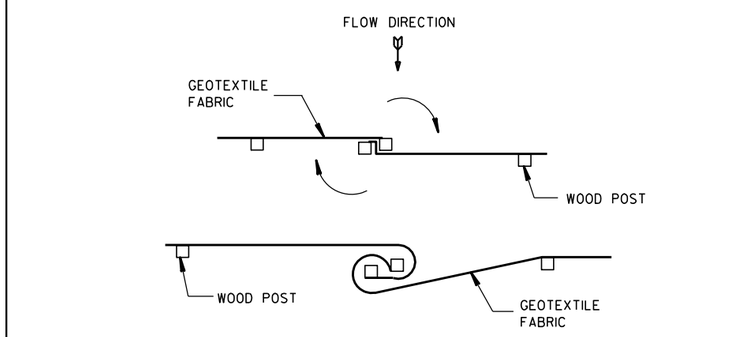
1. HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
2. FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
3. WOOD POSTS SHALL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



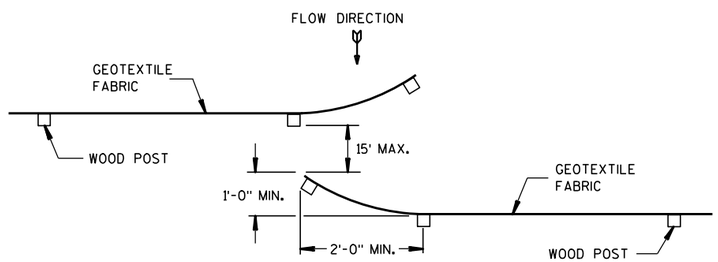
TRENCH DETAIL



SILT FENCE

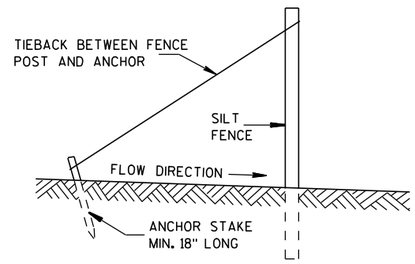


TWIST METHOD



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

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S.D.D. 8 E 9-6

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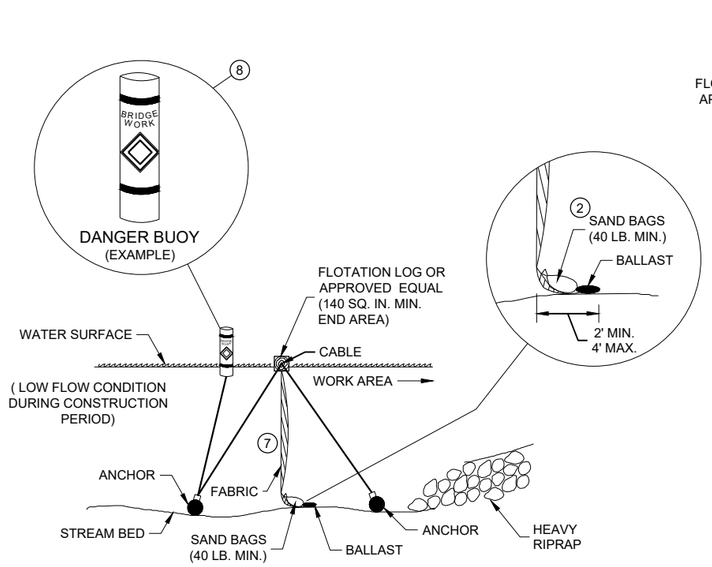
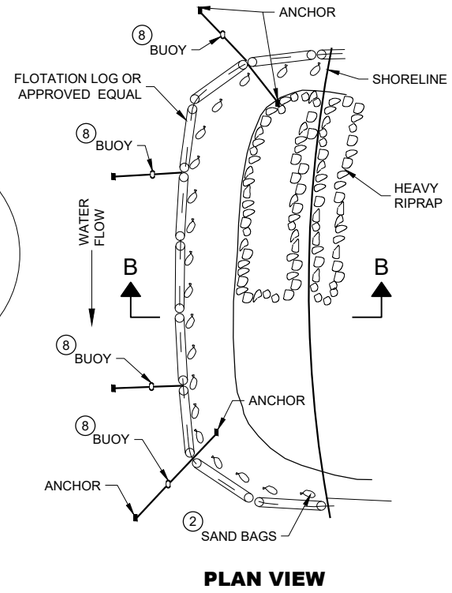
S.D.D. 8 E 9-6

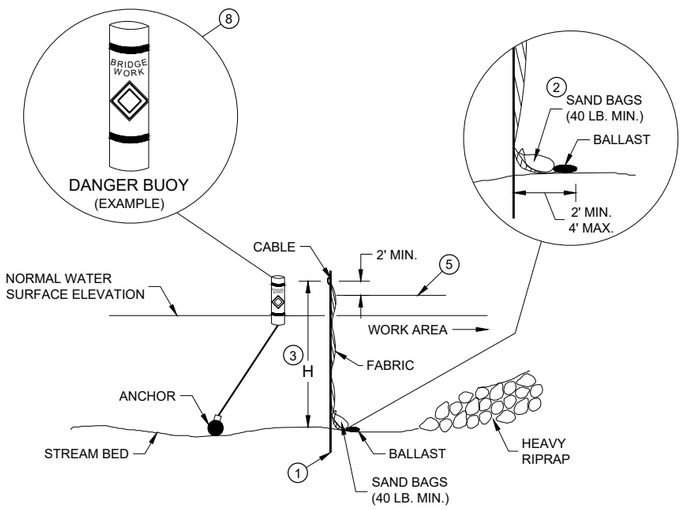


SECTION B - B

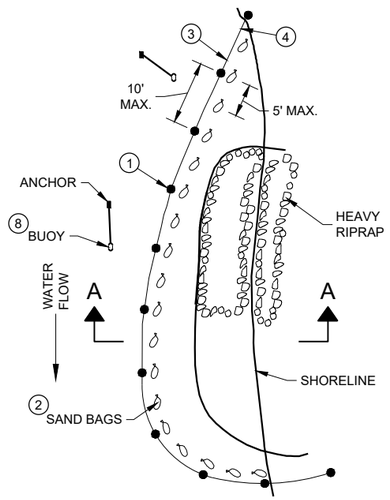


PLAN VIEW

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.

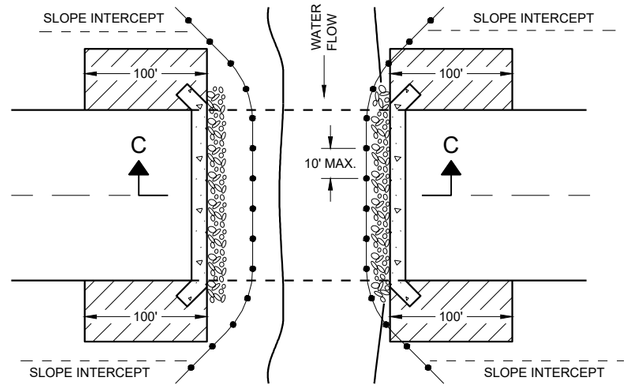
(4) IN WATERWAYS SUBJECT TO FLUCTUATING WATER ELEVATIONS, PROVISIONS SHOULD BE MADE TO ALLOW THE WATER TO EQUALIZE ON EACH SIDE OF THE BARRIER. THIS MAY BE ACCOMPLISHED BY LEAVING A PORTION OF THE BARRIER OPEN ON THE UPSTREAM END.

(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.

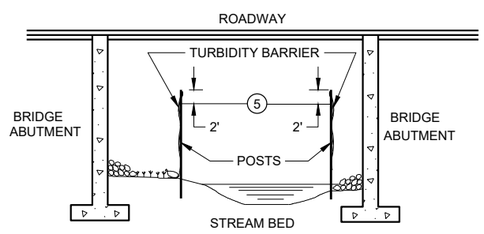
(6) FLOAT ALTERNATIVE WILL ONLY BE ALLOWED WITH WRITTEN APPROVAL OF THE ENGINEER, AND IS MEANT FOR LOCATIONS WHERE BEDROCK PREVENTS THE INSTALLATION OF POSTS.

(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 DEVELOI
ENGINEER

FHWA

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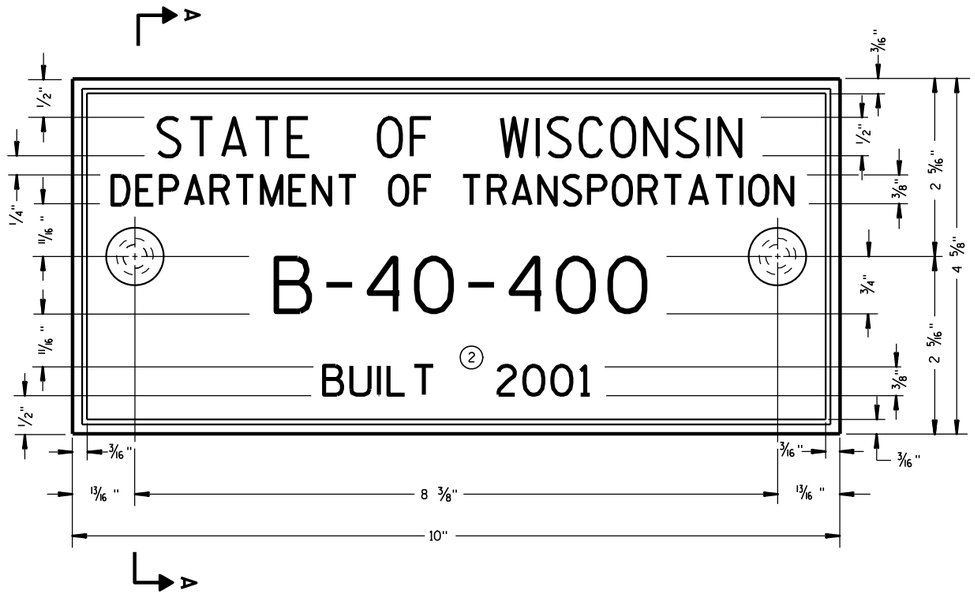
SDD 08E11 - 02



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

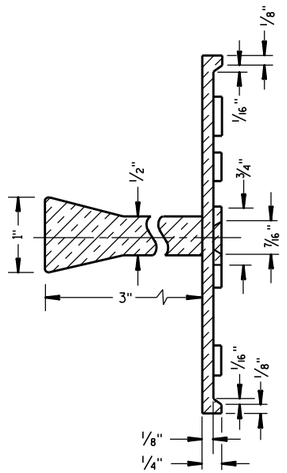
GENERAL NOTES

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

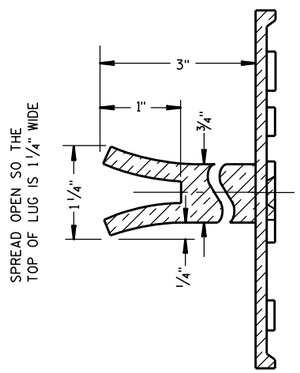
THE BRIDGE NUMBER AND YEAR BUILT SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND YEAR BUILT.

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

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



SECTION A-A



ALTERNATE LUG

FOR MULTI-UNIT STRUCTURES LINE 3 ABOVE SHALL READ

B = BRIDGE
C = CULVERT
R = RETAINING WALL

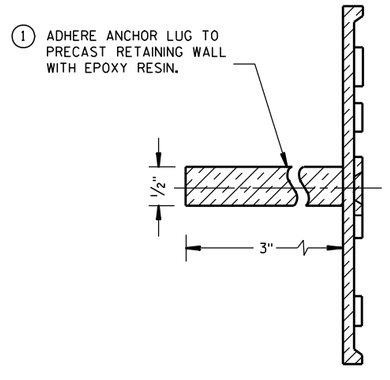
COUNTY NO.

BRIDGE NO.

UNIT NO. FOR MULTIPLE UNIT BRIDGE

B-40-400-1A

NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES



ALTERNATE LUG
(FOR ATTACHMENT TO PRECAST STRUCTURES)

NAME PLATE (STRUCTURES)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

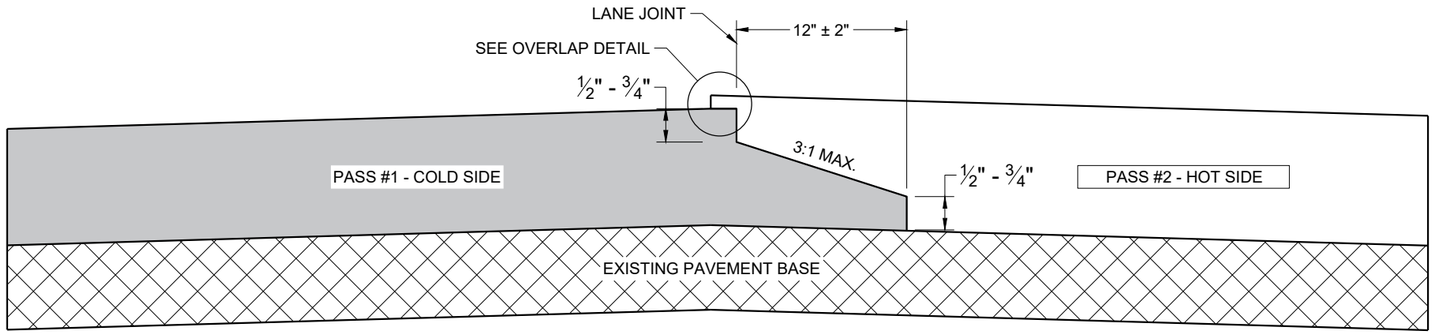
3/26/10 DATE

/S/ Scot Beck -- CHIEF STRUCTURAL DEVELOP ENGINEER

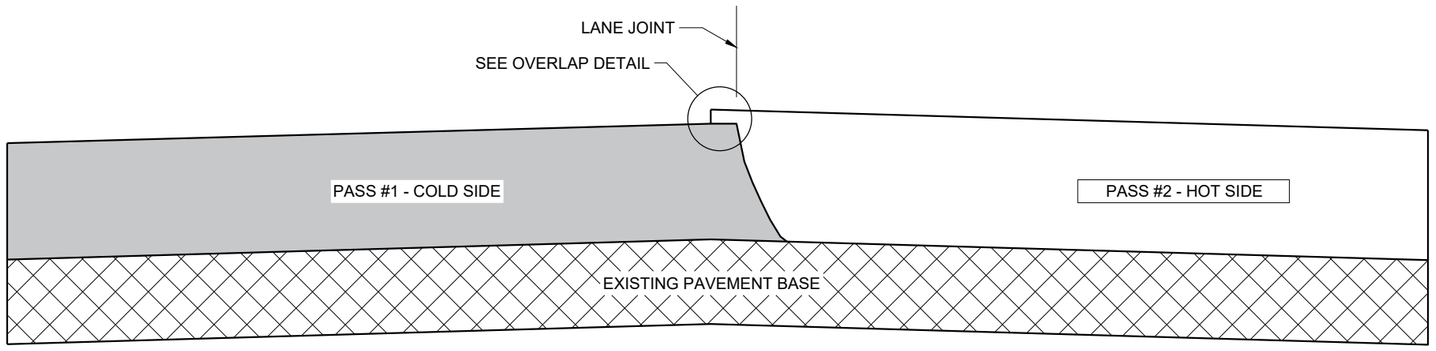
FHWA

6

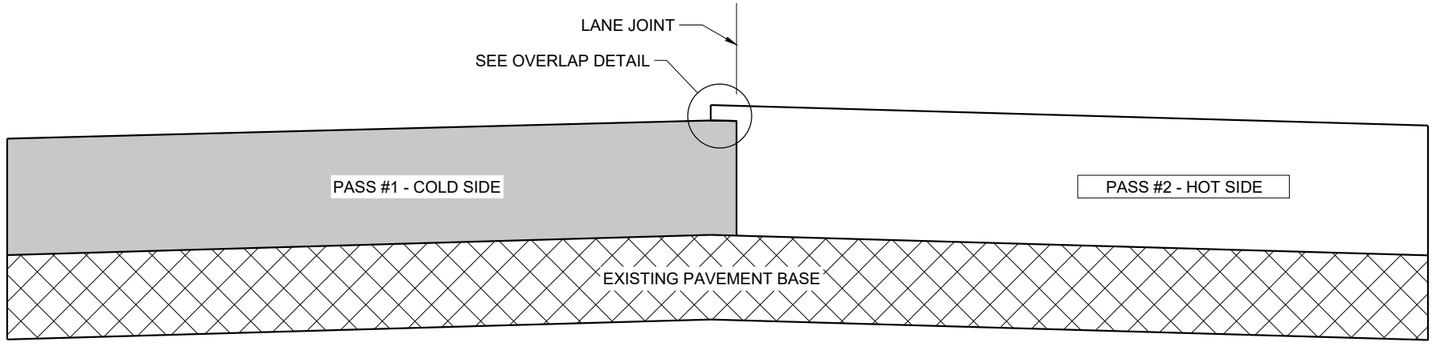
S.D.D. 12 A 3-10



TYPICAL PAVEMENT CROSS SECTION
NOTCHED WEDGE JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT (MILLED)

GENERAL NOTES

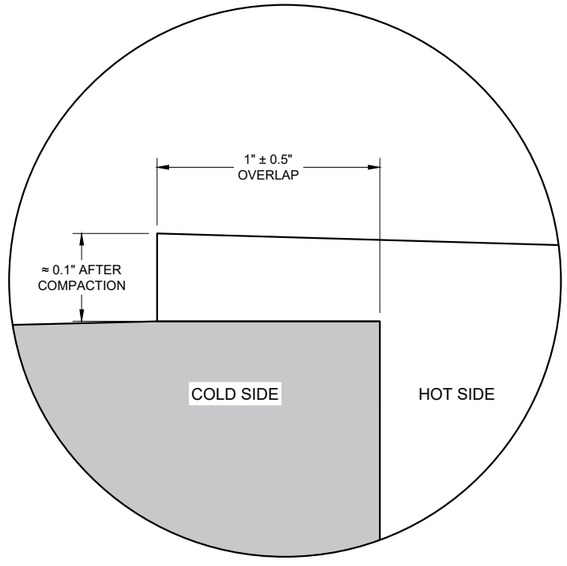
IN ADDITION TO THE DETAILS PROVIDED IN THIS DRAWING, CONFORM TO STANDARD SPECIFICATION 450.3.2.8 FOR WHEN A NOTCHED WEDGE JOINT IS REQUIRED AND FOR GENERAL JOINT CONSTRUCTION REQUIREMENTS.

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)

HMA LONGITUDINAL JOINTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2020
DATE

/S/ Steven Hefel
HMA PAVEMENT ENGIN

FHWA

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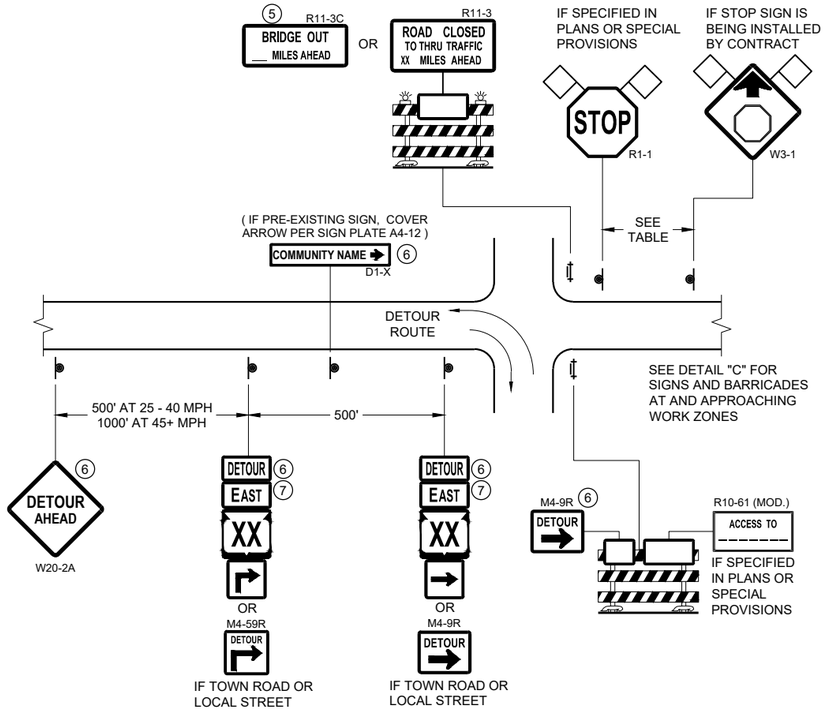
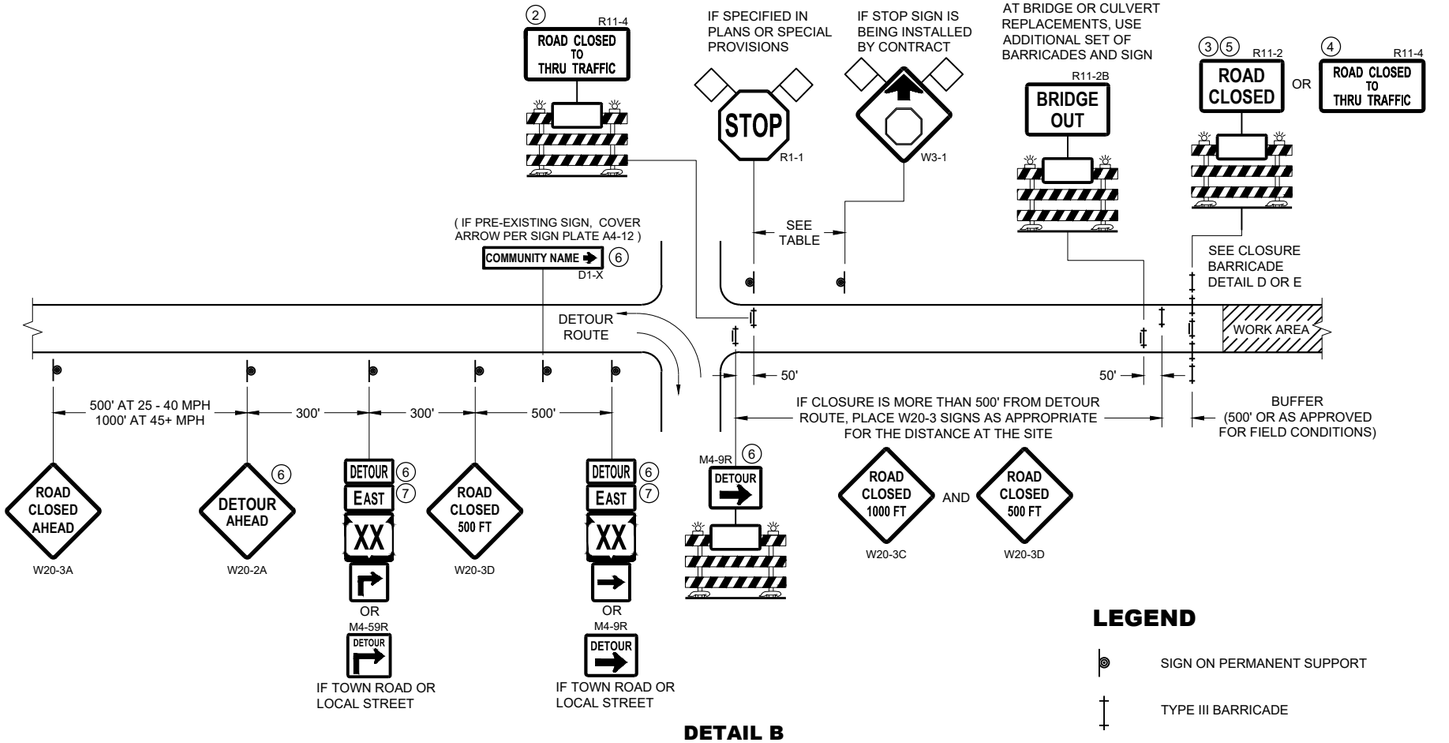
SDD 13C19 - 03



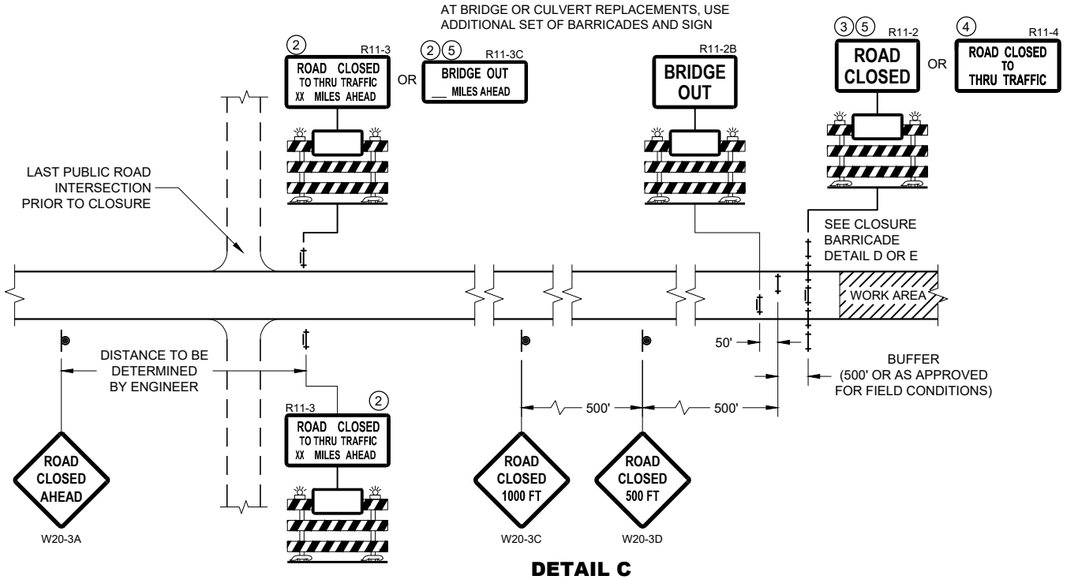
DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR

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



DETAIL B
MAINLINE CLOSURE WITH POSTED DETOUR

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



DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR

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

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

LEGEND

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

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

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

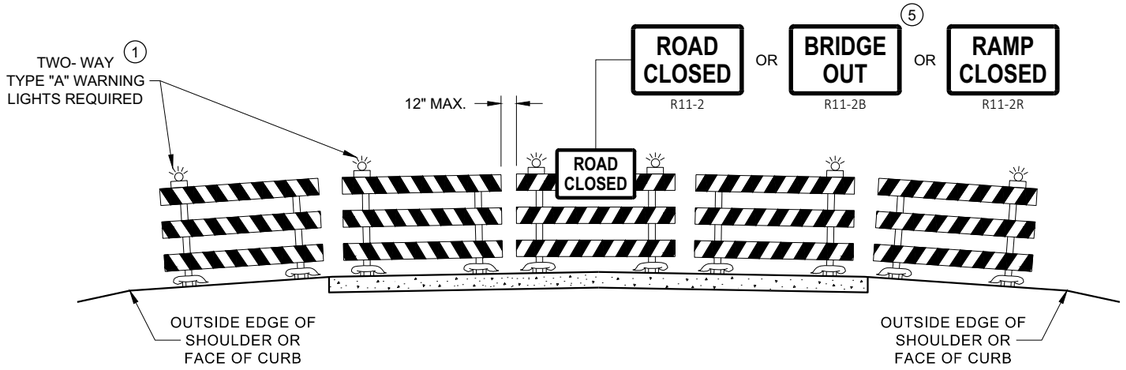
APPROVED
February 2020
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA

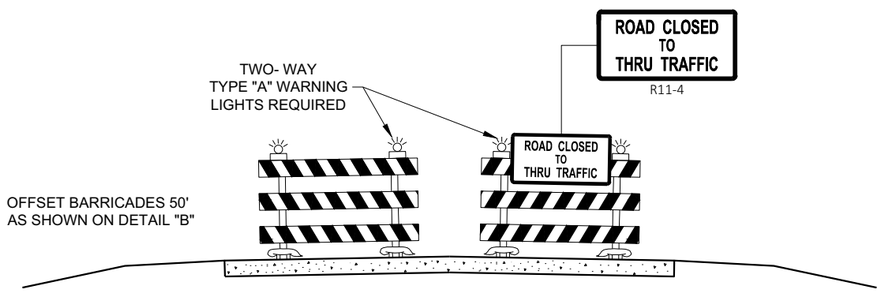
6

SDD 15C02 - 08a

SDD 15C02 - 08a



DETAIL D
ROAD CLOSURE BARRICADE DETAIL
APPROACH VIEW



DETAIL E
LANE CLOSURE BARRICADE DETAIL
APPROACH VIEW

SEE SDD 15C2 - SHEET "a" FOR LEGEND

GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

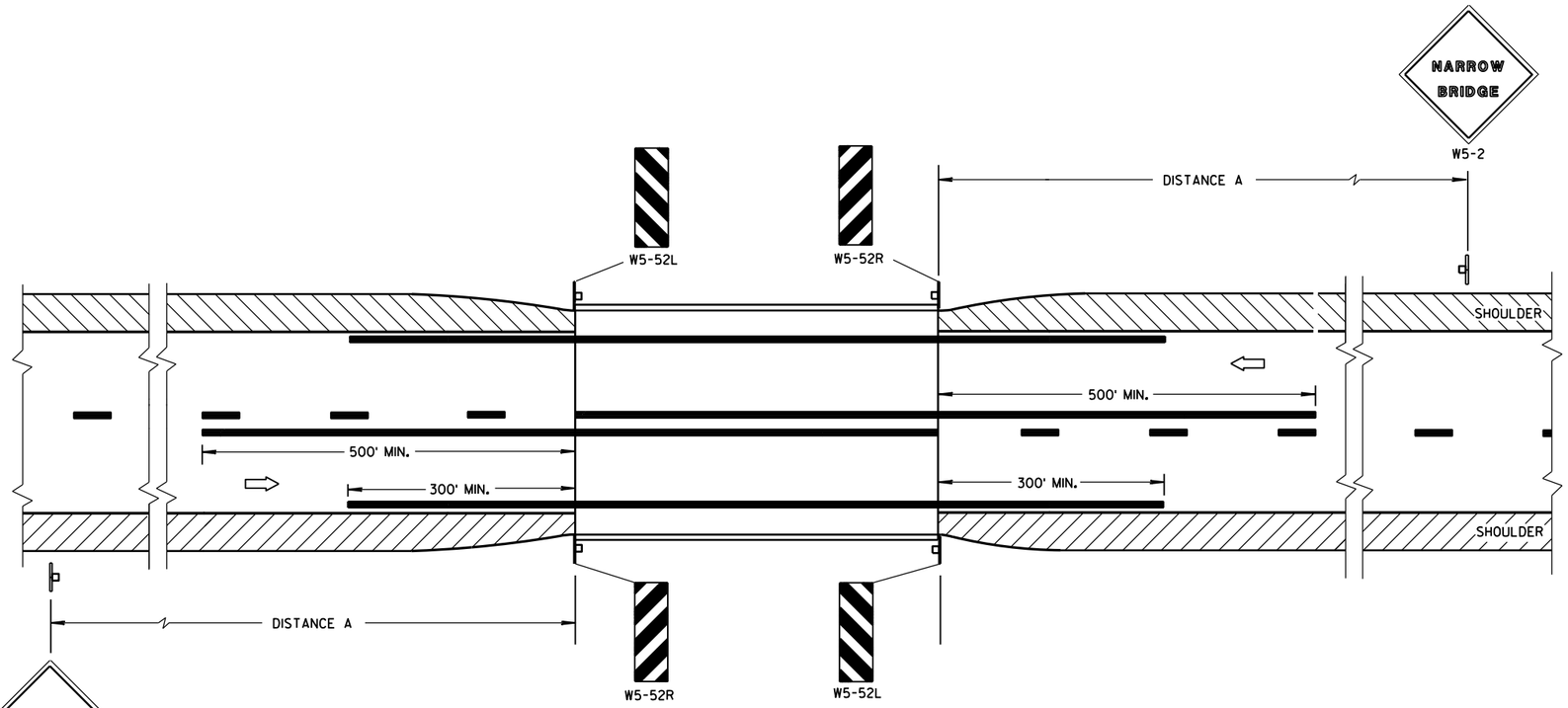
BARRICADES AND SIGNS FOR VARIOUS CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6

SDD 15C02 - 08b



SITUATION 1

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

DISTANCE TABLE

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

GENERAL NOTES

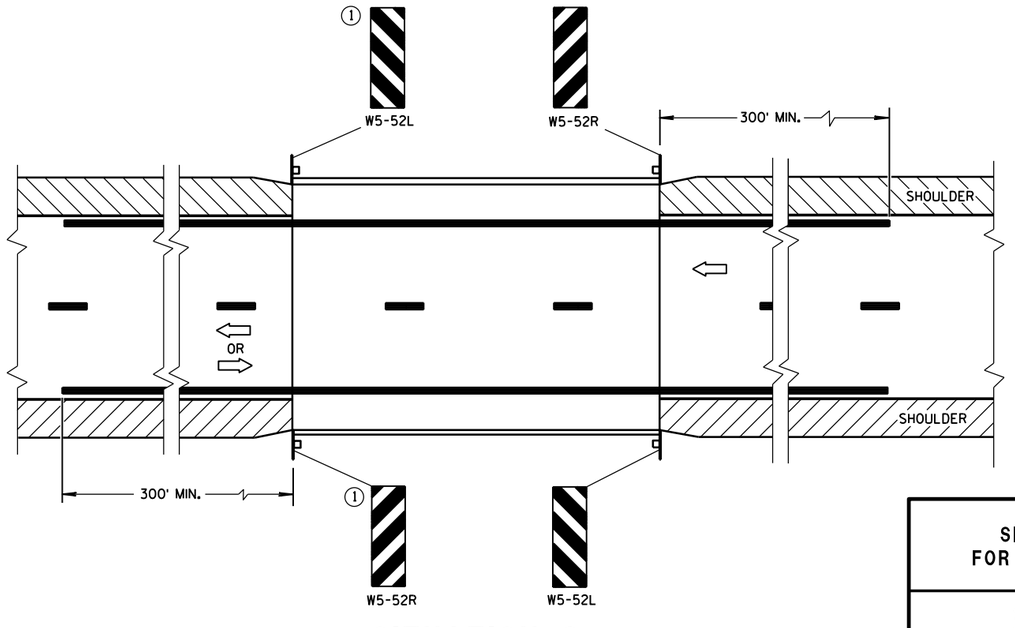
DETAILS OF TRAFFIC CONTROL DEVICES AND INSTALLATION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

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

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

(1) OMIT ON ONE-WAY TRAVELLED WAYS.

⇨ DIRECTION OF TRAFFIC



SITUATION 2

WARRANTING CRITERIA:

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

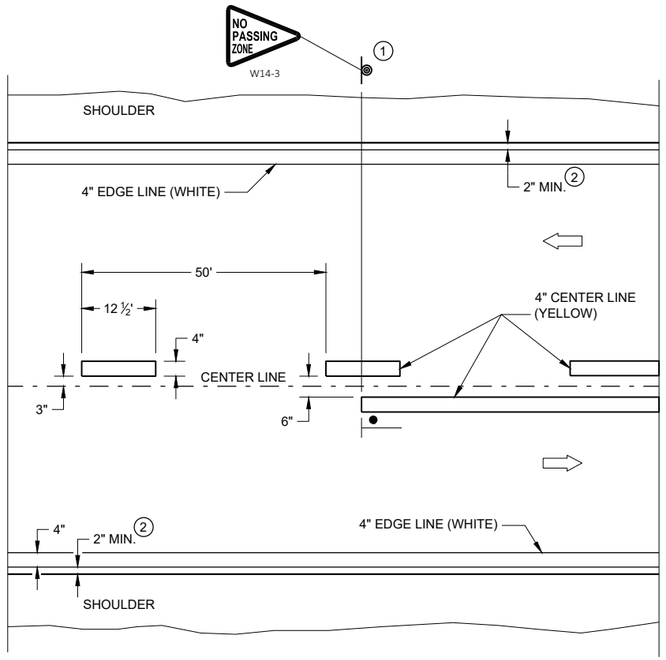
SIGNING & MARKING FOR TWO LANE BRIDGES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

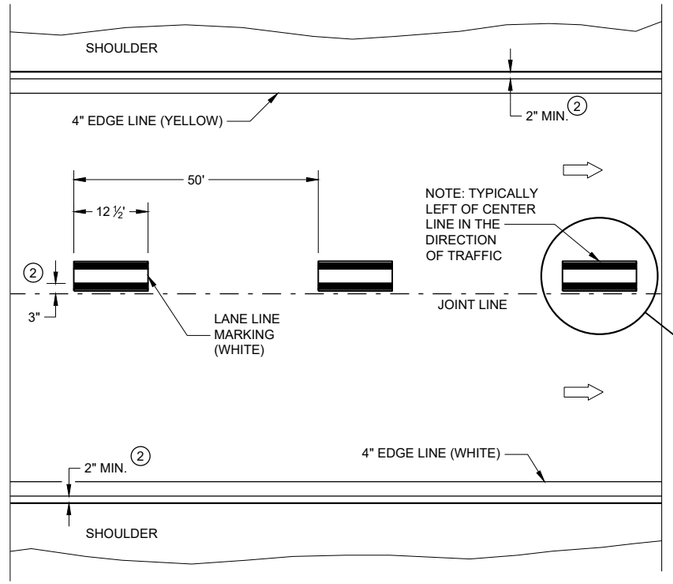
APPROVED
June 2017 — DATE
/S/ Matthew R. Rauch — STATE SIGNING AND MAR[illegible]EER
FHWA

6

S.D.D. 15 C 6-9

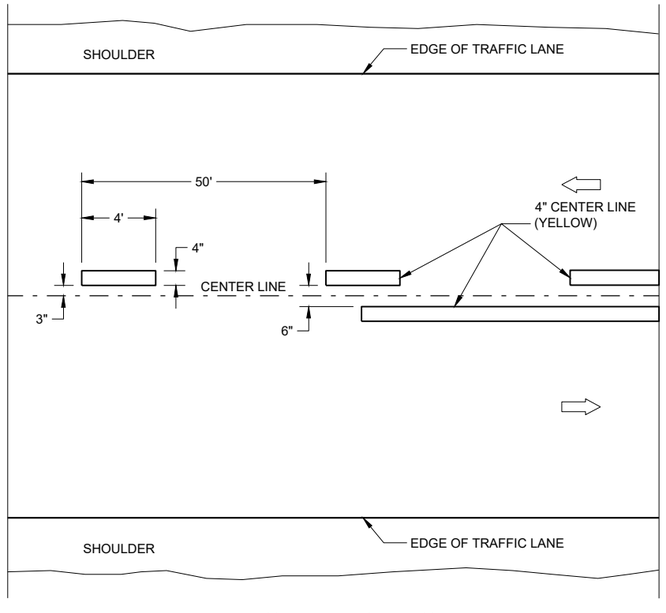


TWO WAY TRAFFIC

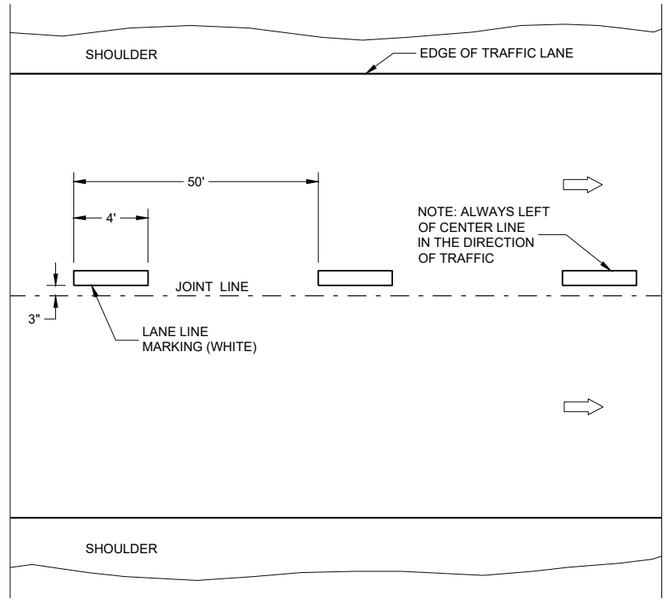


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY PAVEMENT MARKING

GENERAL NOTES

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

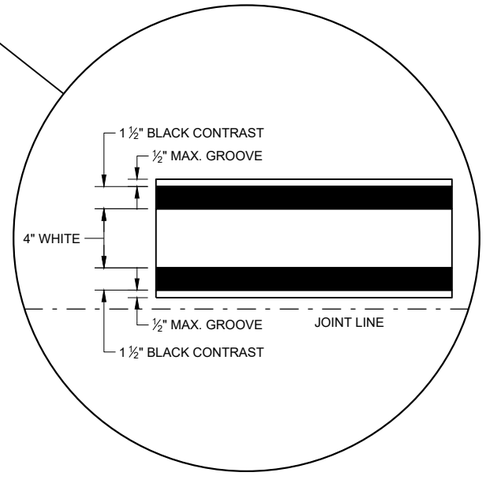
1. LOCATE THE NO PASSING ZONE W14-3 SIGN WITHIN 50 FEET OF THE "T" MARKING
2. MEASURE FROM EDGE OF MARKING TO JOINT LINE. THIS DOES NOT INCLUDE SPACE NEEDED FOR GROOVING OPERATIONS.

LEGEND

"T" MARKING

SIGN ON PERMANENT SUPPORT

DIRECTION OF TRAFFIC



LONGITUDINAL MARKING (MAINLINE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2020 — DATE
/S/ Matthew Rauch — STATEWIDE SIGNING AND M ENGINEER

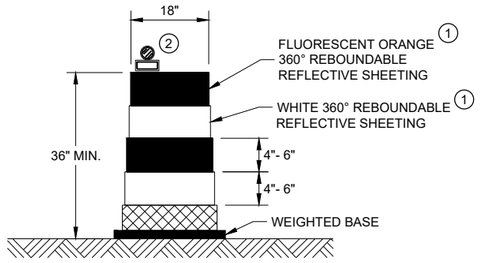
FHWA

SDD 15C08 - 20a

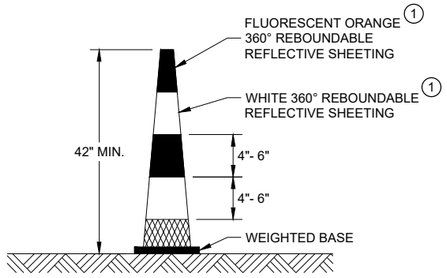
SDD 15C08 - 20a

GENERAL NOTES

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

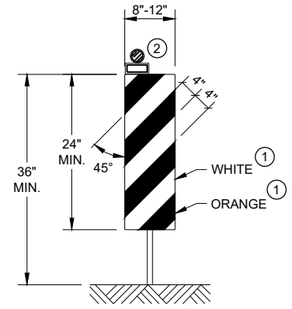


DRUM



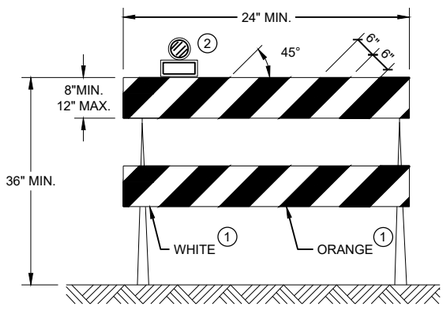
42" CONE

DO NOT USE IN TAPERS
½ SPACING OF DRUMS



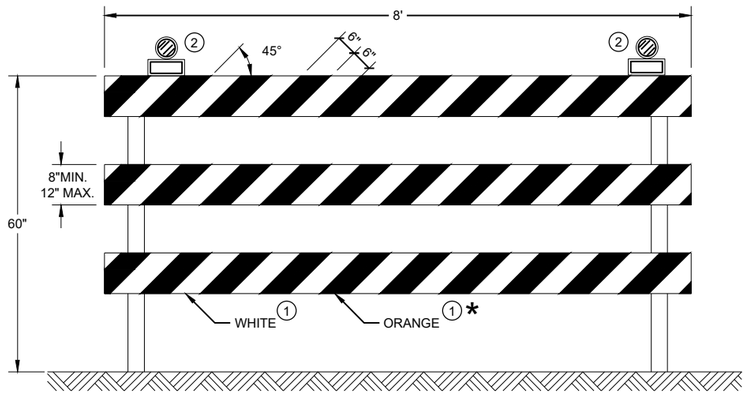
VERTICAL PANEL

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



TYPE II BARRICADE

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



TYPE III BARRICADE

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

* IF USED FOR A PERMANENT APPLICATION USE RED SHEETING.

CHANNELIZING DEVICES
DRUMS, CONES, BARRICADES
AND VERTICAL PANELS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2021 — DATE
/S/ Andrew Heidtke — WORK ZONE ENGINEE
FHWA

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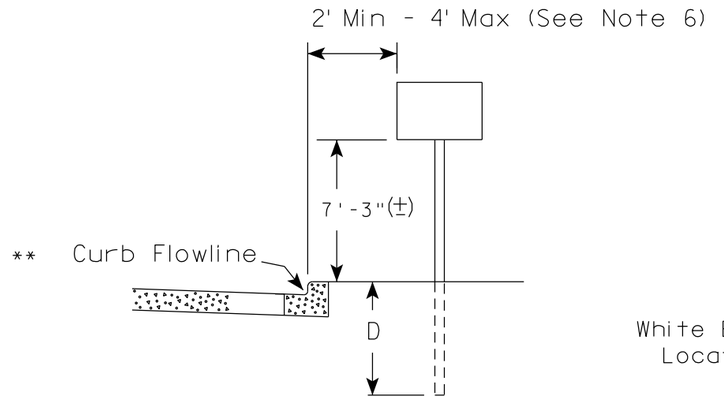
SDD15C11 - 09b

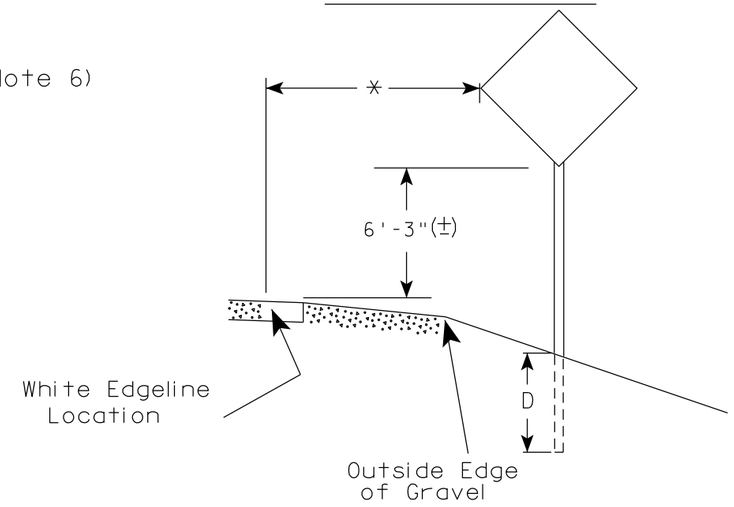
6

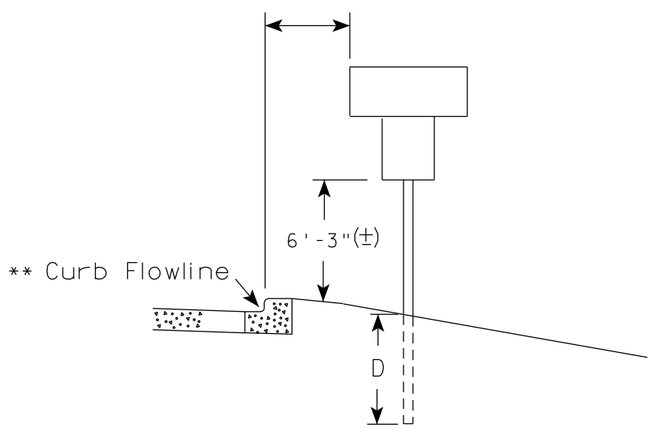
SDD15C11 - 09b

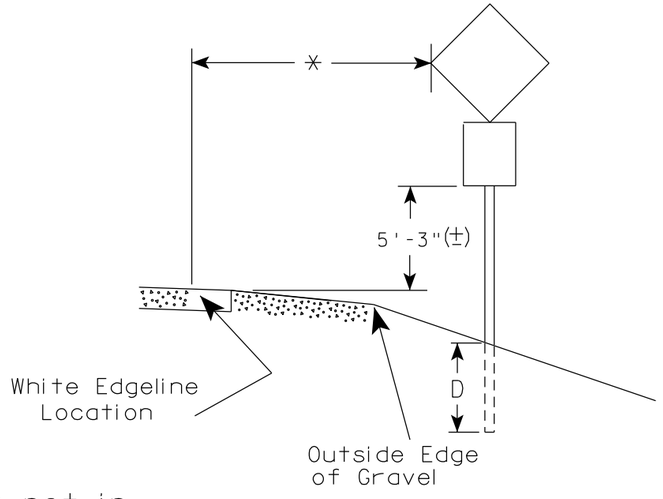
URBAN AREA



RURAL AREA (See Note 2)







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

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

POST EMBEDMENT DEPTH

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

GENERAL NOTES

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

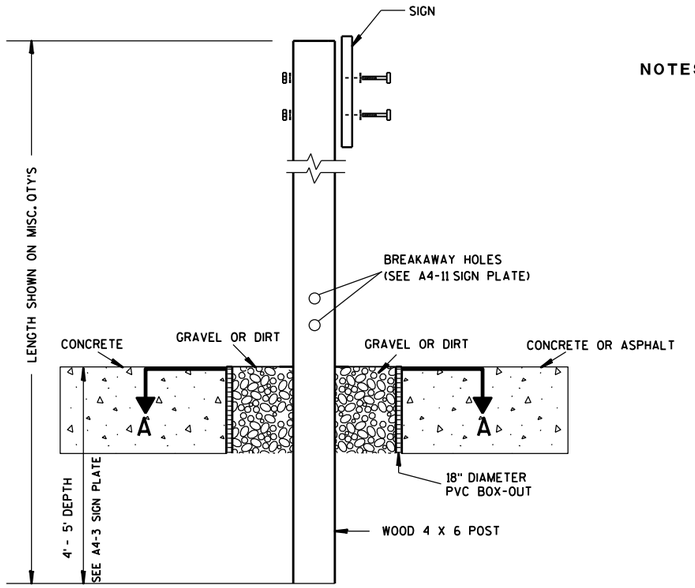
TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

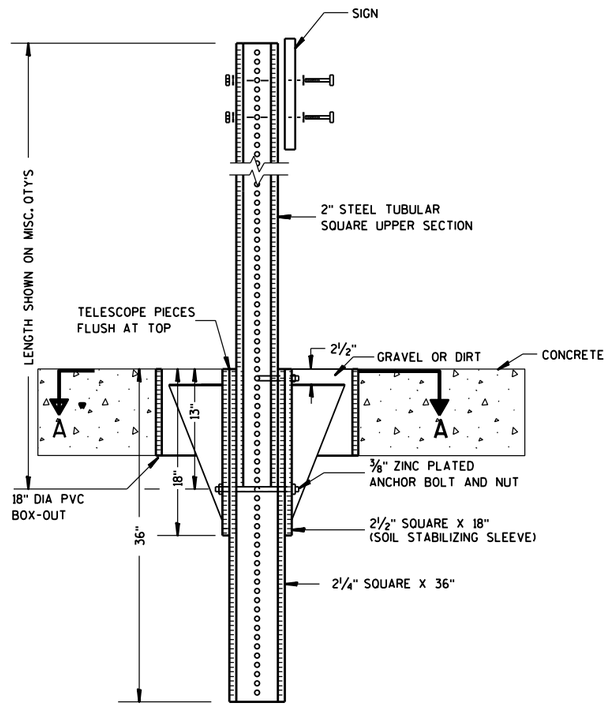
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 22	E



ELEVATION VIEW

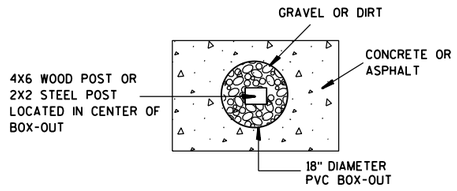
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

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

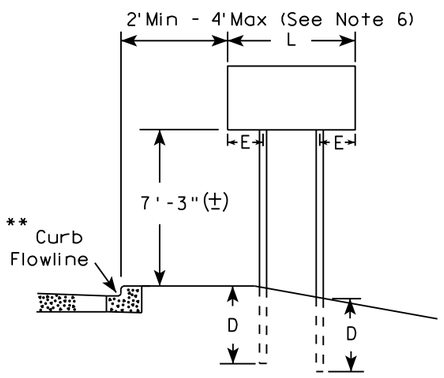
APPROVED Matthew R Rauch
for State Traffic Engineer

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

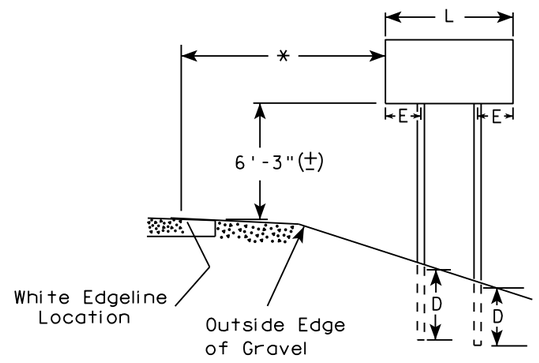
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

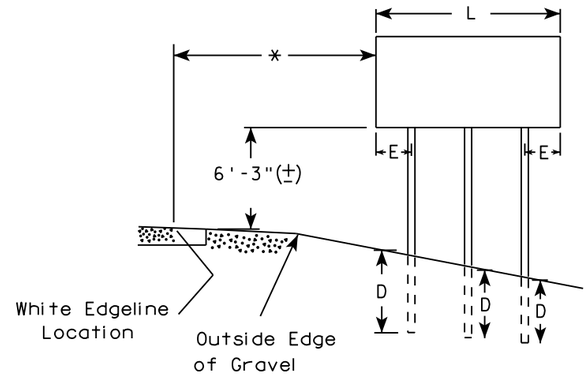
FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A43B.DGN PLOT DATE : 27-JAN-2014 09:48 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 13.659812:1.000000 WISDOT/CADDS SHEET 42

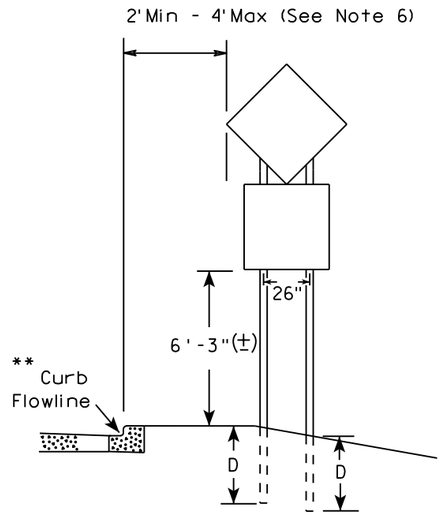
URBAN AREA



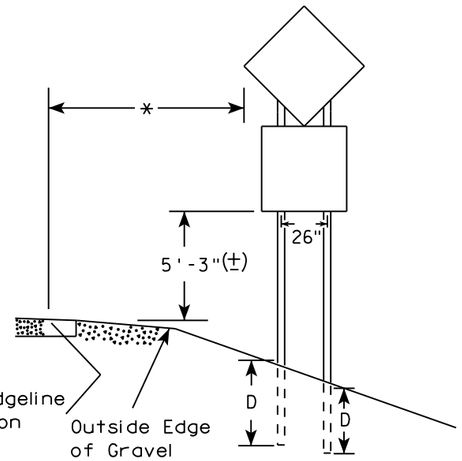
RURAL AREA (See Note 3)







48" DIAMOND WARNING SIGN



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

* 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'

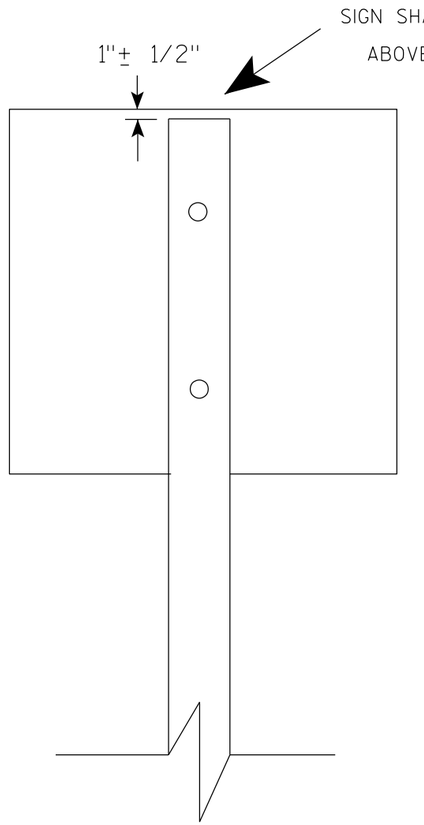
TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS

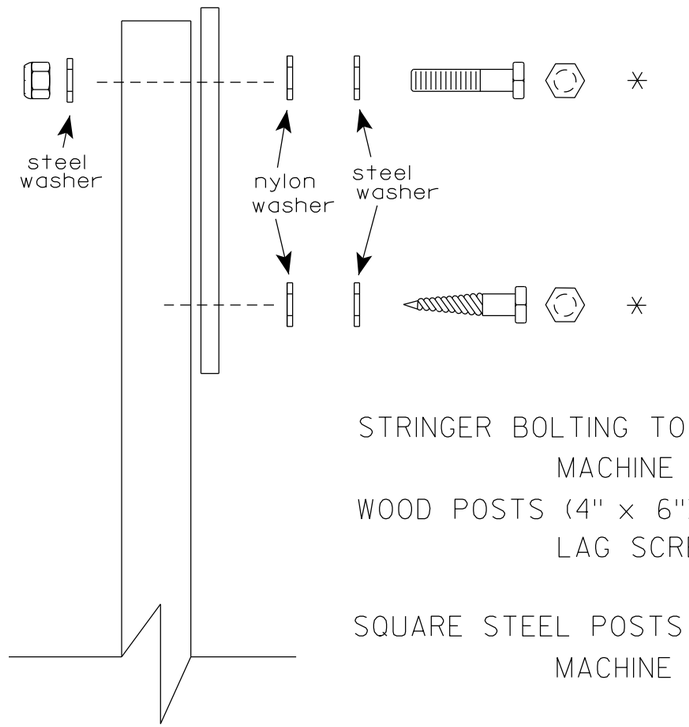
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 8/21/17 PLATE NO. A4-4.15

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 24	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: 25 E

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A48.DGN PLOT DATE : 01-APRIL-2020 PLOT BY : dotc4c

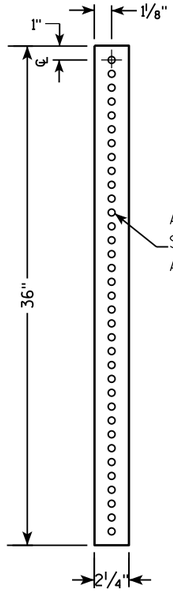
WISDOT/CADDS SHEET 42

7

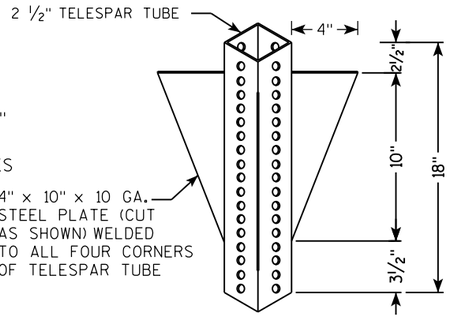
7

TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM

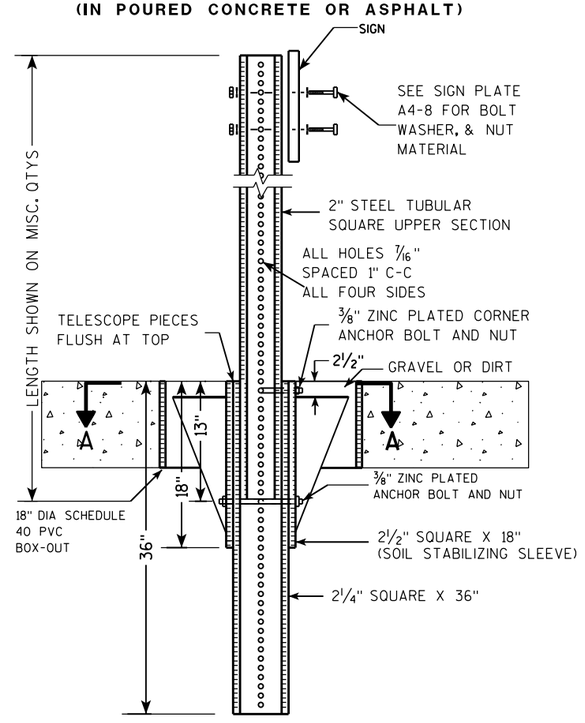
2 ¼ " SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH



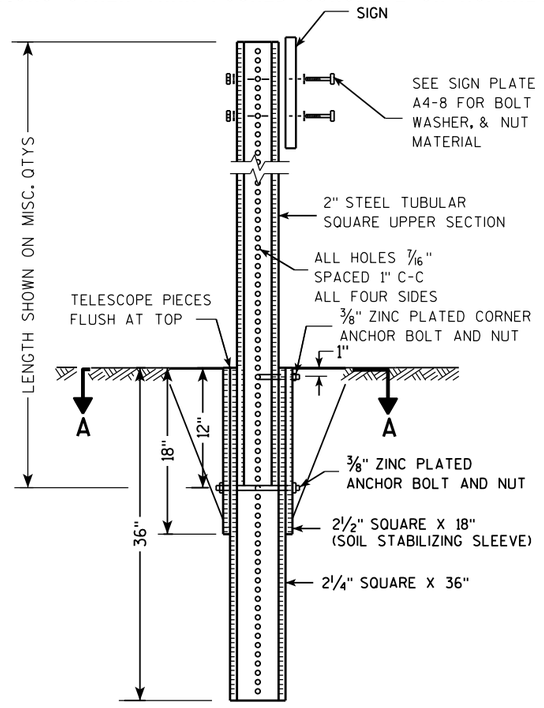
2 ½ " SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH

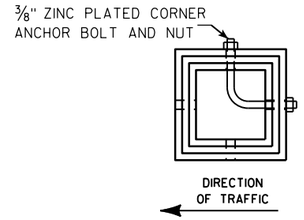


DETAIL OF TUBULAR STEEL SIGN POST
(IN POURED CONCRETE OR ASPHALT)



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

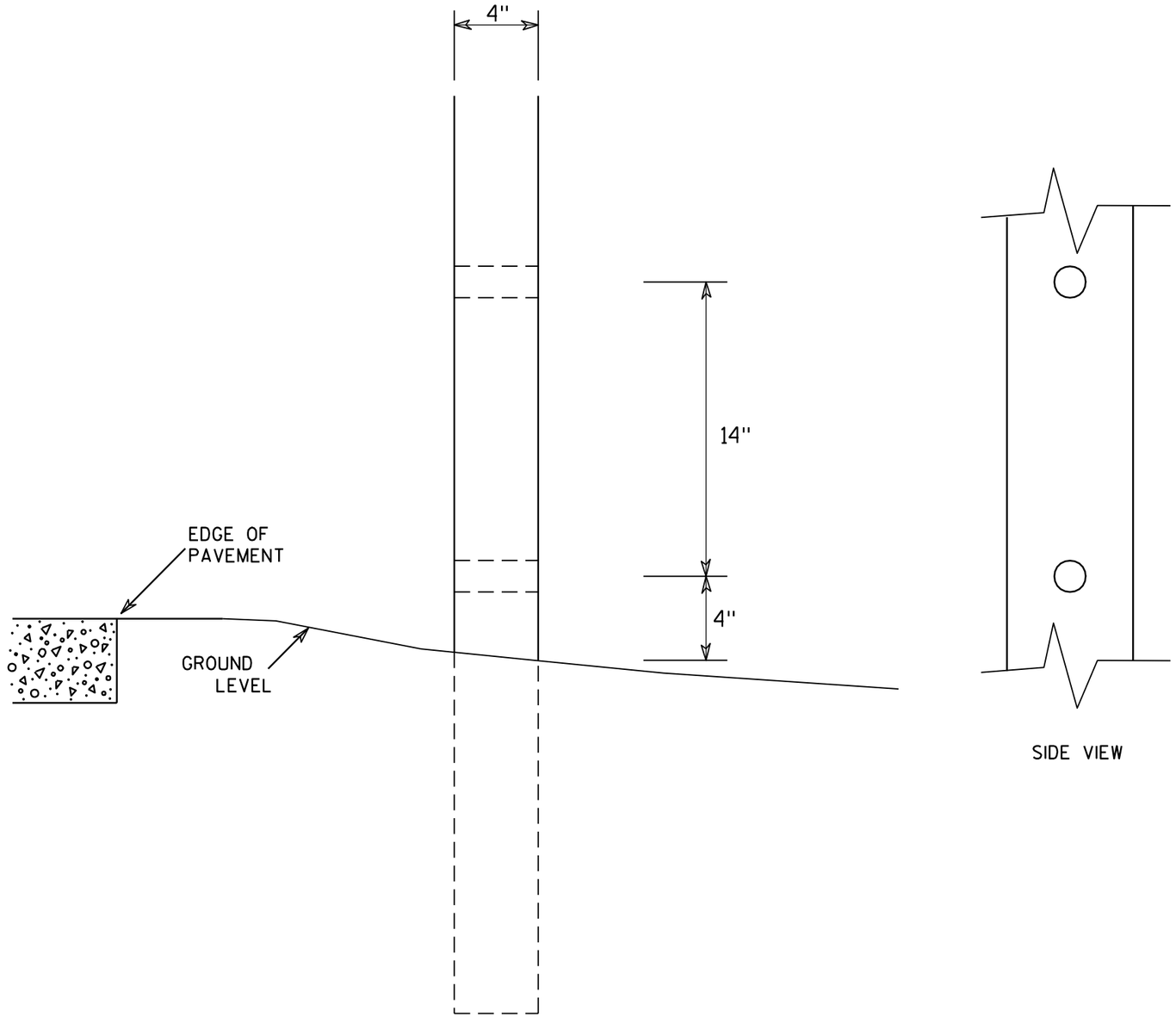
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/05/15 PLATE A4-9.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A49.DGN PLOT DATE : 05-FEB-2015 17:09 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 13.659812:1.000000 WISDOT/CADDS SHEET 42



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.

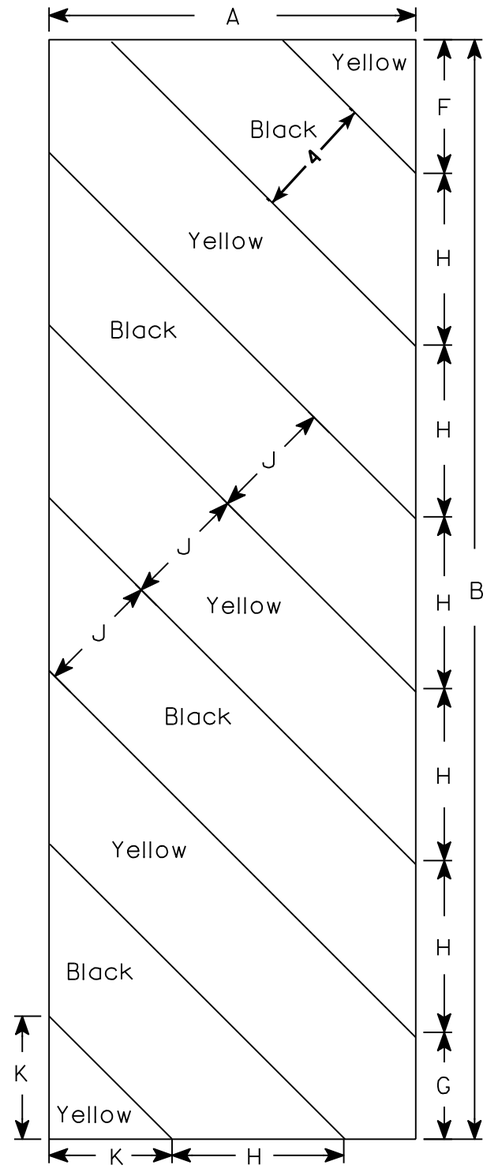
4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

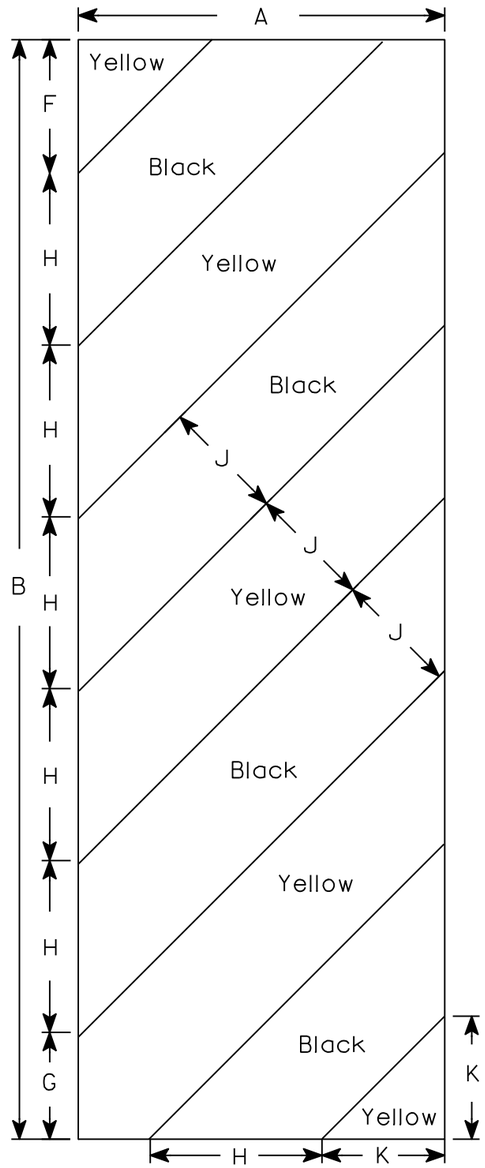
APPROVED Chester J Spang for State Traffic Engineer

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

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 27	E



W5-52L



W5-52R

NOTES

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

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

STANDARD SIGN

W5-52L & W5-52R

WISCONSIN DEPT OF TRANSPORTATION

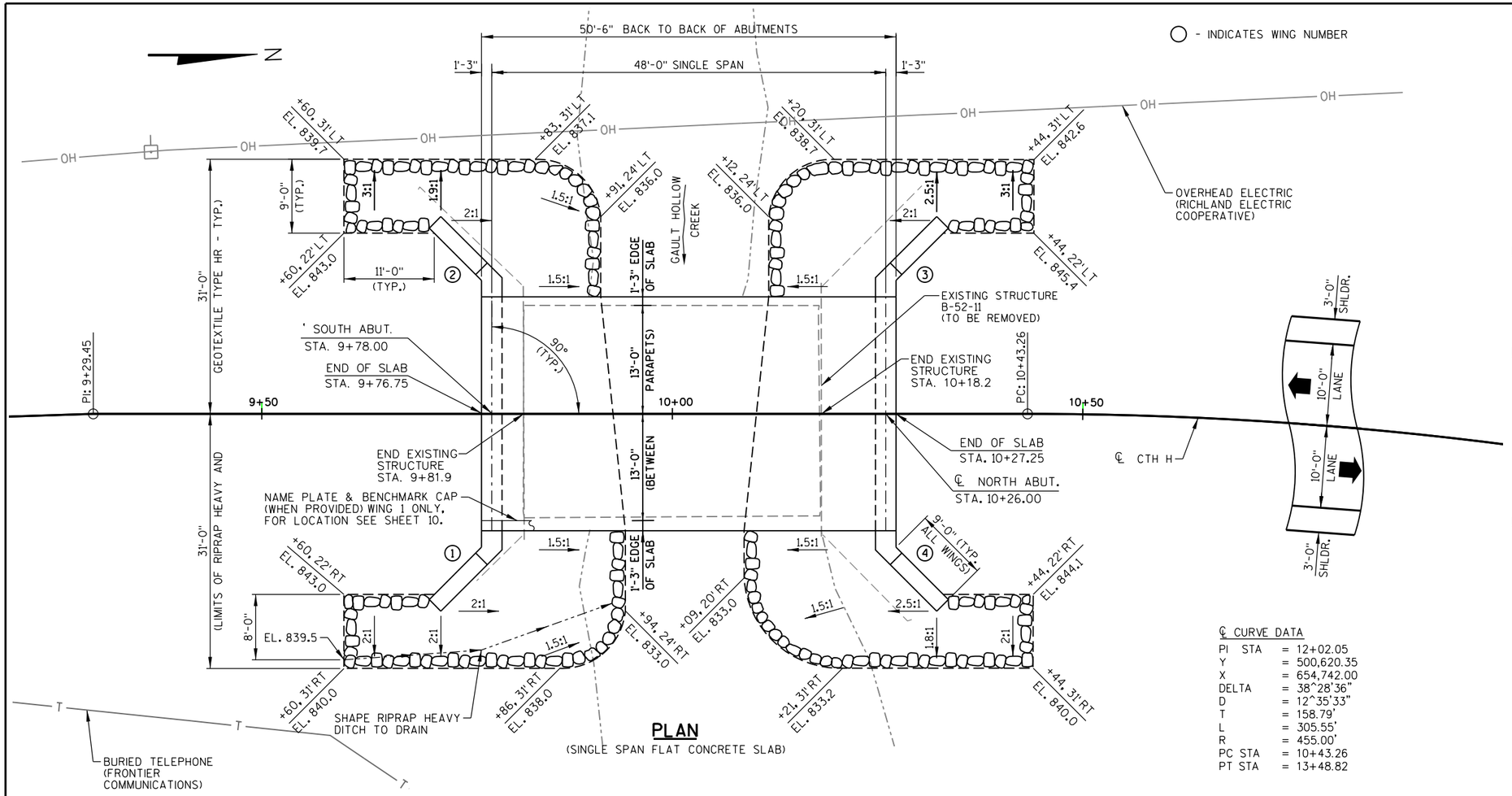
APPROVED Matthew R Rauch
for State Traffic Engineer

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

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

STATE PROJECT NUMBER

5455-00-70

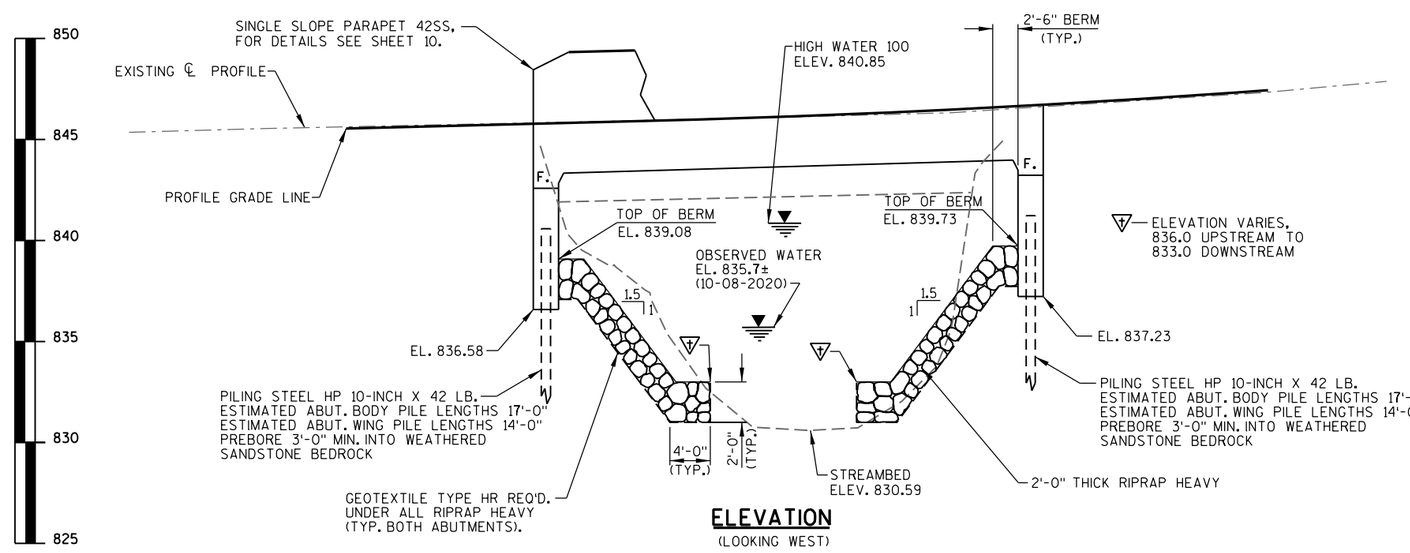


PLAN

(SINGLE SPAN FLAT CONCRETE SLAB)

℄ CURVE DATA

PI STA	=	12+02.05
Y	=	500,620.35
X	=	654,742.00
DELTA	=	38^28'36"
D	=	12^35'33"
T	=	158.79'
L	=	305.55'
R	=	455.00'
PC STA	=	10+43.26
PT STA	=	13+48.82



ELEVATION

(LOOKING WEST)

DESIGN DATA

LIVE LOAD:

DESIGN LOADING : HL-93
INVENTORY RATING FACTOR : 1.11
OPERATIONAL RATING FACTOR : 1.44

TRAFFIC DATA:

A.A.D.T. (2023) = 330
A.A.D.T. (2043) = 360
R.D.S. = 25 MPH

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 AND PARAPETS —— $f'c$ = 4,000 P.S.I.
ALL OTHER —— $f'c$ = 3,500 P.S.I.

HIGH-STRENGTH BAR STEEL REINFORCEMENT, GRADE 60 —— fy = 60,000 P.S.I.
PILING STEEL HP 10-INCH X 42 LB —— fy = 50,000 P.S.I.

FOUNDATION DATA:

NORTH AND SOUTH ABUTMENTS TO BE SUPPORTED ON HP 10-INCH X 42 LB STEEL PILING SEATED IN PREBORED HOLES CORED THROUGH UNCONSOLIDATED MATERIAL WITH COBBLES AND INTO CONSOLIDATED MATERIAL. FIRMLY SEAT PREBORED PILES BY TAPPING IN PLACE. THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS 90 TONS MULTIPLIED BY A RESISTANCE FACTOR OF 0.5. ALL PILES REQUIRE A MINIMUM DEPTH OF 10'-0" BELOW BOTTOM OF ABUTMENT OR 3'-0" INTO CONSOLIDATED MATERIAL, WHICHEVER DEPTH IS GREATER. CASING IS REQUIRED DURING PREBORING. ESTIMATED PILE LENGTHS ARE 17'-0" AT THE ABUTMENT BODIES AND 14'-0" AT THE ABUTMENT WINGS.

HYDRAULIC DATA:

100 YEAR FREQUENCY

DRAINAGE AREA	6.1 SQ. MI.
Q_{100}	1,310 C.F.S.
VELOCITY	5.34 FT./SEC.
WATERWAY AREA	245 SQ. FT.
SCOUR CRITICAL CODE	5
HIGH WATER $_{100}$ ELEVATION	840.85
Q_2	230 C.F.S.
Q_2 VELOCITY	1.72 FT./SEC.
Q_2 ELEVATION	837.93

ROADWAY OVERFLOW DESIGN FREQUENCY

OVERTOPPING FREQUENCY —— > 100 YEARS

LIST OF DRAWINGS

WISCONSIN PROFESSIONAL ENGINEER
JOSHUA R. SWENO
E-44384
WAUNAKEE
WI

8/31/2021

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 SDR 11/17/21
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-52-280

CTH H OVER GAULT HOLLOW CREEK

COUNTY	TOWN/~~CITY/VILLAGE~~
RICHLAND	BLOOM

DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

DESIGNED BY	JFM	DESIGN CK'D.	JRS	DRAWN BY	RLR	PLANS CK'D.	JRS

GENERAL PLAN

SHEET 1 OF 10
29

CONSULTANT DESIGN CONTACT:
JOSH SWENO
(608) 355-8852

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

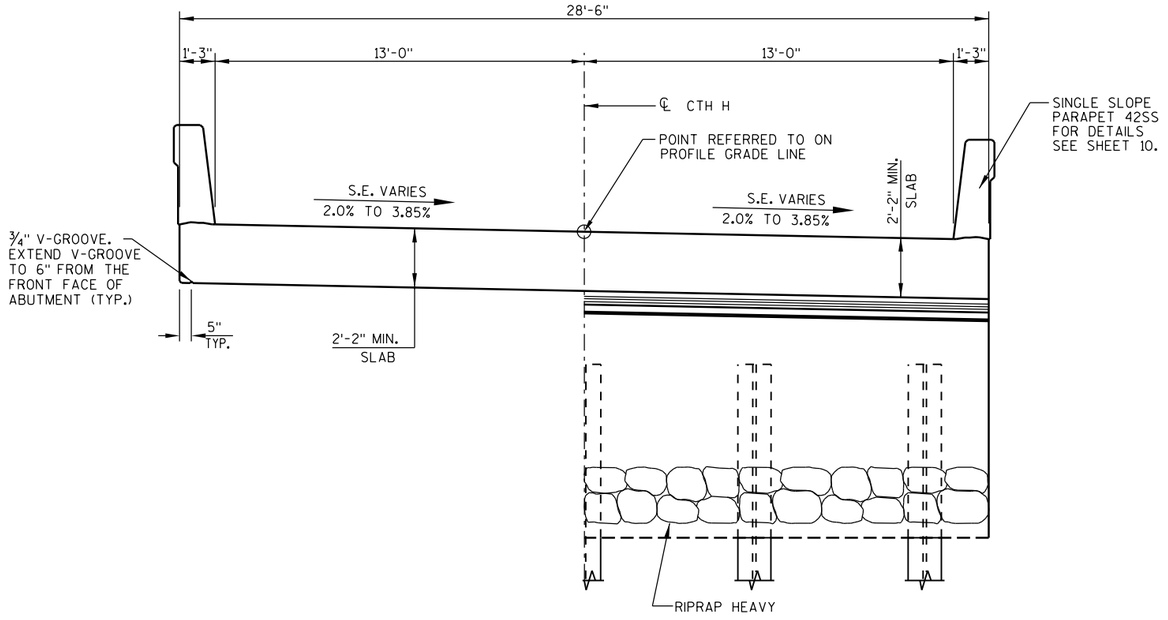
8

8

FILE= 11514012_01.DGN
DATE= 8/31/2021

STATE PROJECT NUMBER

5455-00-70



IN SPAN AT ABUTMENTS

CROSS SECTION THRU BRIDGE

(LOOKING NORTH)

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

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

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

DO NOT PLACE FILL ABOVE 3'-0" FROM THE BOTTOM OF ABUTMENT UNTIL THE SUPERSTRUCTURE IS IN PLACE.

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

THE EXISTING GROUNDLINE SHALL BE THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES BRIDGES B-52-280" FOR THE ABUTMENTS.

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

THIS STRUCTURE WILL REPLACE EXISTING STRUCTURE B-52-11, A 36.3 FT. LONG STEEL DECK GIRDER BRIDGE WITH CLEAR ROADWAY WIDTH OF 24 FT. SUPPORTED ON FULL RETAINING TIMBER ABUTMENTS WITH STEEL PILING.

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

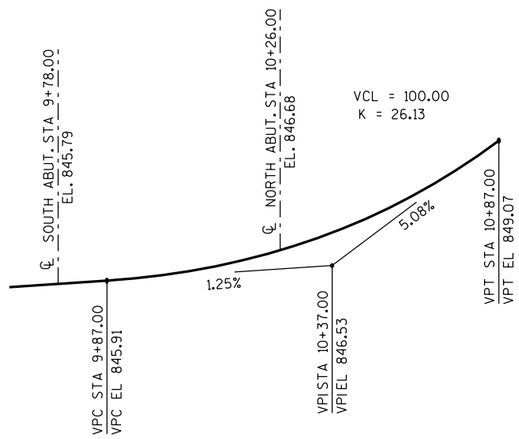
THE BACKFILL QUANTITIES ARE BASED ON THE PAY LIMITS SHOWN ON THE PLANS AND MAY NOT REFLECT ACTUAL PLACED QUANTITIES. "BACKFILL STRUCTURE TYPE A" REQUIRED DIRECTLY BEHIND THE ABUTMENTS AND ABUTMENT WINGS FOR 3 FEET. BACKFILL PLACED BEYOND PAY LIMITS OR EXCEEDING PLAN QUANTITIES SHALL BE INCIDENTAL TO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

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

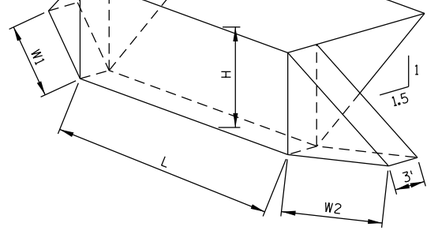
PROTECTIVE SURFACE TREATMENT SHALL BE APPLIED TO THE TOP OF SLAB, TO THE TOPS OF WINGS, TO THE EXPOSED FRONT FACES OF WINGS, AND TO THE END 1'-0" OF THE ABUTMENT BODY FRONT FACES.

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

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.



PROFILE GRADE LINE - CTH H



ABUTMENT BACKFILL DIAGRAM

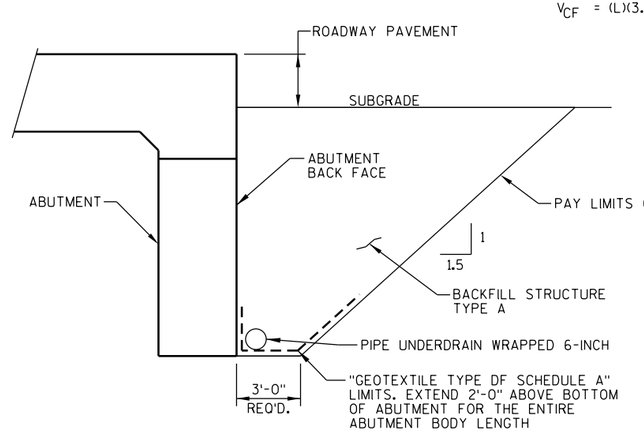
L = OUT-TO-OUT OF ABUTMENT (FT)
H = AVERAGE ABUTMENT FILL HEIGHT (FT)
W1 = WING 1 LENGTH (FT)
W2 = WING 2 LENGTH (FT)

V_{CF} = (L)(3.0')(H)+(L)(0.5)(1.5H)(H)+(0.5)(H)(W1+W2)(3.0')

V_{TON} = V_{CF} (2.0)/27

TOTAL ESTIMATED QUANTITIES

	ITEM NUMBER	BID ITEM	UNIT	SOUTH ABUT.	NORTH ABUT.	SUPER	TOTAL
	203.0260.01	REMOVING STRUCTURE OVER WATERWAY MINIMAL DEBRIS B-52-11	EACH	-	-	-	1
	206.1000.01	EXCAVATION FOR STRUCTURES BRIDGES B-52-280	LS	-	-	-	1
Ⓑ -	210.1500	BACKFILL STRUCTURE TYPE A	TON	175	185	-	360
	502.0100	CONCRETE MASONRY BRIDGES	CY	33.7	34.7	133.7	202
	502.3200	PROTECTIVE SURFACE TREATMENT	SY	20	20	146	186
	502.3210	PIGMENTED SURFACE SEALER	SY	-	-	52	52
	505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	2260	2290	-	4,550
	505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	1520	1530	23720	26,770
	516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	6	6	-	12
	550.0020	PRE-BORING ROCK OR CONSOLIDATED MATERIALS	LF	87	86	-	173
	550.1100	PILING STEEL HP 10-INCH X 42 LB	LF	113	113	-	226
	606.0300	RIPRAP HEAVY	CY	97	104	-	201
	612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	80	80	-	160
	645.0111	GEOTEXTILE TYPE DF SCHEDULE A	SY	31	31	-	62
	645.0120	GEOTEXTILE TYPE HR	SY	178	188	-	366
		NON-BID ITEMS					
		PREFORMED FILLER	SIZE				½" & ¾"



STRUCTURE BACKFILL DETAIL

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-52-280

DRAWN BY RLR | PLANS CK'D. JRS

CROSS SECTION, QUANTITIES & NOTES

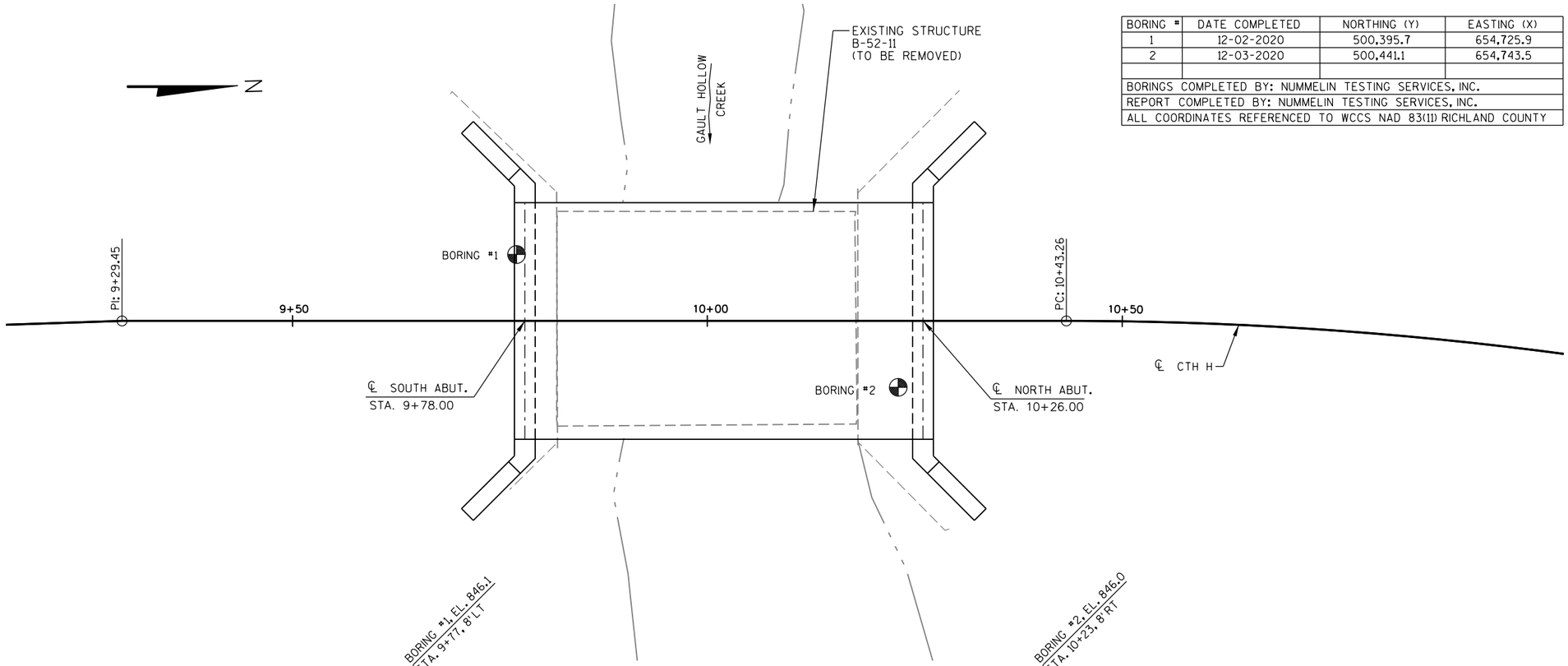
SHEET 7 OF 10
30

8

8

FILE= 11514012_02.DGN
DATE= 8/30/2021

BORING #	DATE COMPLETED	NORTHING (Y)	EASTING (X)
1	12-02-2020	500,395.7	654,725.9
2	12-03-2020	500,441.1	654,743.5
BORINGS COMPLETED BY: NUMMELIN TESTING SERVICES, INC.			
REPORT COMPLETED BY: NUMMELIN TESTING SERVICES, INC.			
ALL COORDINATES REFERENCED TO WCCS NAD 83(11) RICHLAND COUNTY			



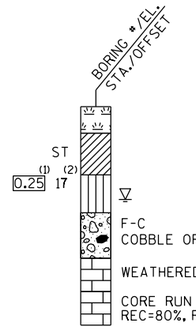
STATE PROJECT NUMBER

5455-00-70

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-52-280

DRAWN BY RLR | PLANS CK'D. JZ

SUBSURFACE EXPLORATION

SHEET 3 OF 10

31

8

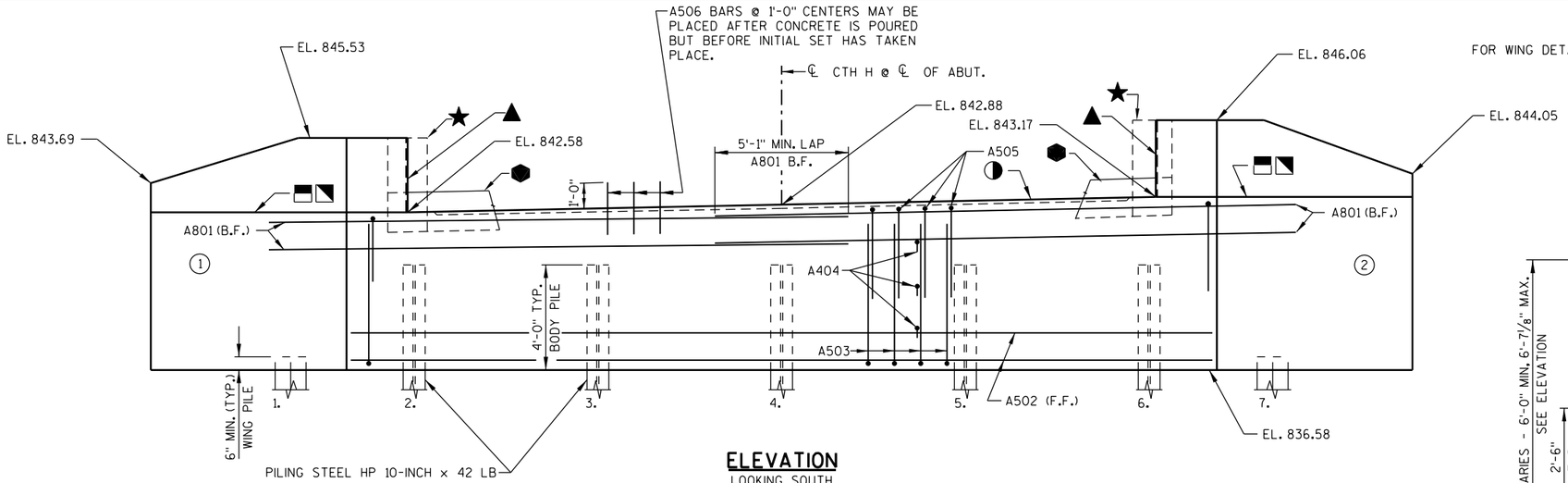
8

FILE= 11514012_03.DGN

11514012_03.dgn 8/30/2021 4:08:01 PM rrabska

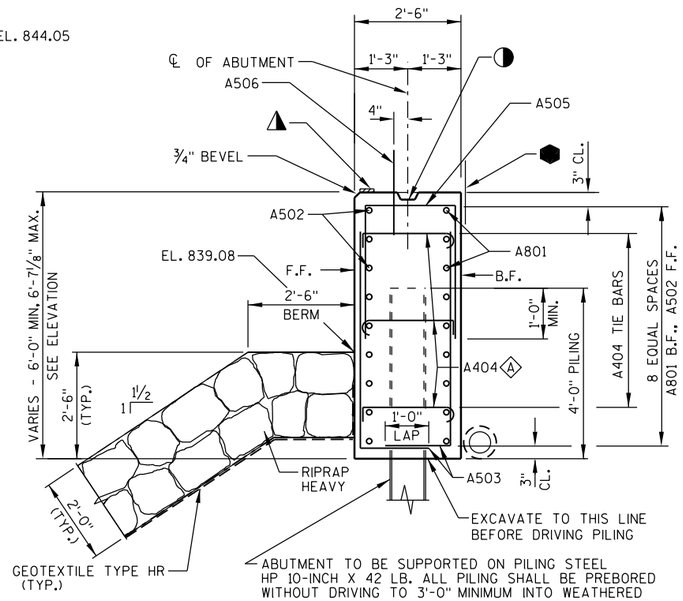
STATE PROJECT NUMBER

5455-00-70



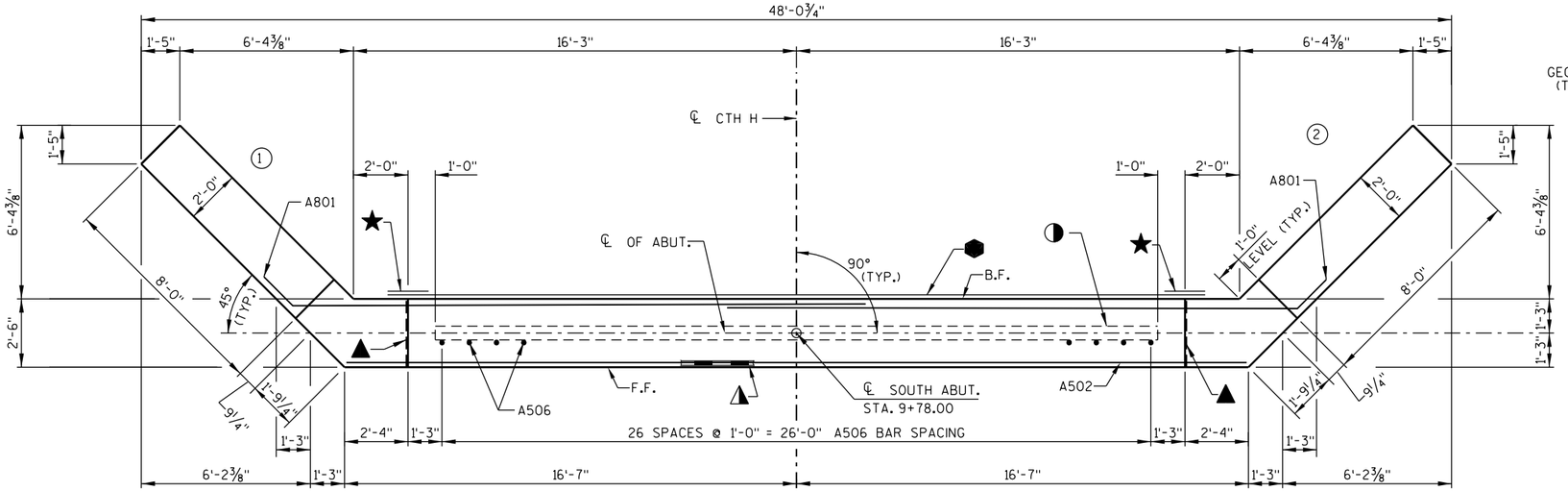
ELEVATION
LOOKING SOUTH

FOR WING DETAILS SEE SHEET 5.

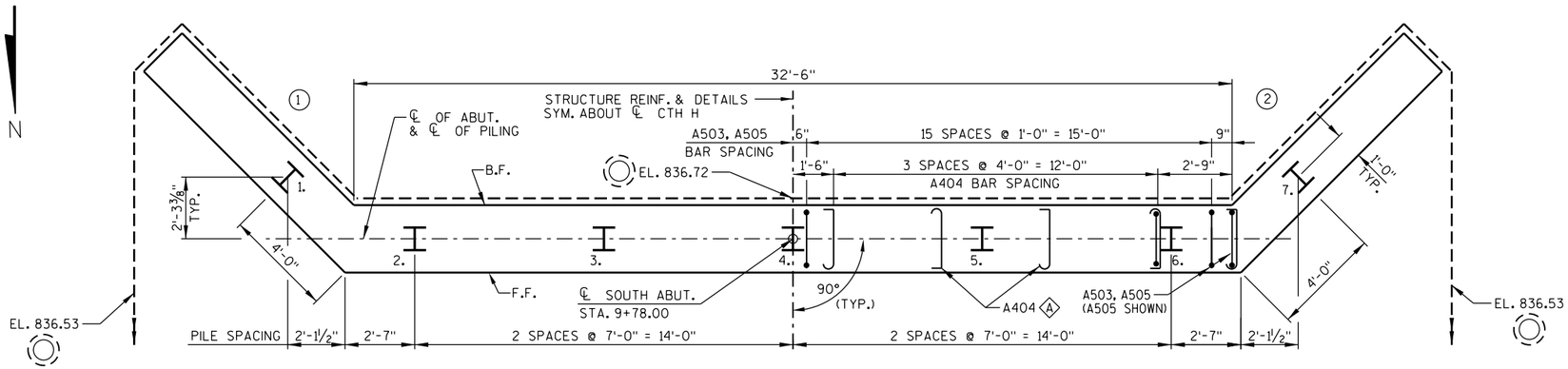


ABUTMENT TO BE SUPPORTED ON PILING STEEL HP 10-INCH X 42 LB. ALL PILING SHALL BE PREBORED WITHOUT DRIVING TO 3'-0" MINIMUM INTO WEATHERED SANDSTONE BEDROCK. FIRMLY SEAT PREBORED PILES BY TAPPING IN PLACE. ESTIMATED PILE LENGTHS ARE 17'-0" FOR ABUT. BODY PILES AND 14'-0" FOR ABUT. WING PILES.

TYPICAL SECTION THRU ABUTMENT



PLAN



PILE PLAN

LEGEND

- ◯ — INDICATES WING NUMBER
- ◇A — ALTERNATE THE POSITION OF THE 90° AND 180° HOOKS AT EACH VERTICAL LAYER OF TIES.
- ◑ — KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2x6.
- ▲ — ½" FILLER EXTEND AS SHOWN. SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING GRAY, NON-BITUMINOUS JOINT SEALER. (1" DEEP & HOLD ⅛" BELOW SURFACE OF CONCRETE).
- △ — 4"x ½" FILLER, EXTEND FULL LENGTH OF ABUTMENT BETWEEN EDGES OF SLAB.
- ★ — VERTICAL 18" WIDE RUBBERIZED MEMBRANE WATERPROOFING. EXTEND FROM 9" BELOW BRIDGE SEAT TO TOP OF WINGS.
- ⬢ — HORIZONTAL 18" WIDE RUBBERIZED MEMBRANE WATERPROOFING. EXTEND BETWEEN WINGS.
- ▬ — OPTIONAL KEYED CONST. JOINT ON WING FORMED BY BEVELED 2 X 6. IF JOINT IS USED, PLACE ⬢ ON B.F. OF WING. COST OF ⬢ IS INCIDENTAL TO BID ITEM "CONCRETE MASONRY BRIDGES".
- ◥ — ¾" "V" GROOVE ON FRONT FACE OF WING WALL, REQUIRED ONLY WHERE CONSTRUCTION JOINT IS USED.
- ◯ — PIPE UNDERDRAIN WRAPPED 6-INCH. EXTEND THRU GEOTEXTILE TYPE HR AT FACE OF RIPRAP HEAVY. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. PROVIDE RODENT SHIELD AT ENDS OF PIPE. FOR RODENT SHIELD DETAILS, SEE SHEET 5.

F.F. — FRONT FACE B.F. — BACK FACE CL. — CLEAR

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-52-280

DRAWN BY RLR | PLANS CK'D. JRS

SOUTH ABUTMENT

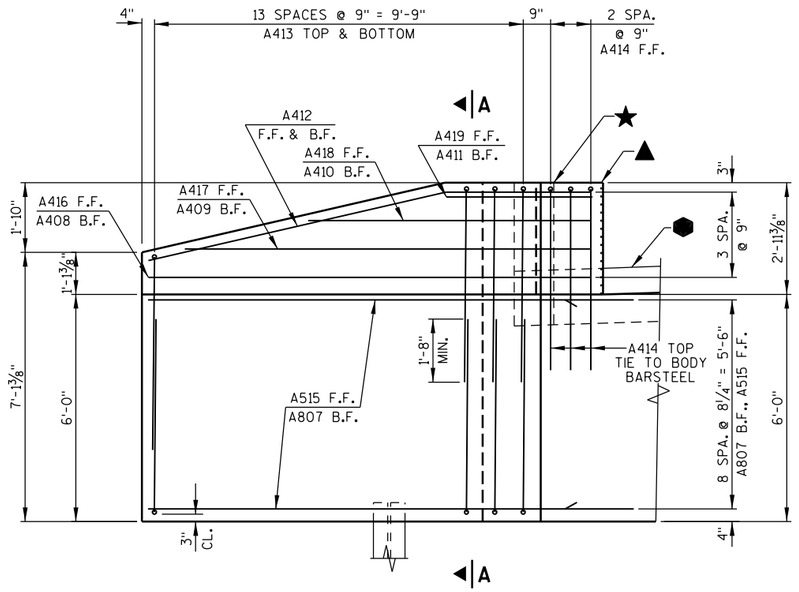
SHEET 4 OF 10
32

FILE= 11514012_04.DGN
DATE= 8/31/2021

11514012_04.dgn 8/31/2021 7:32:17 AM rrabska

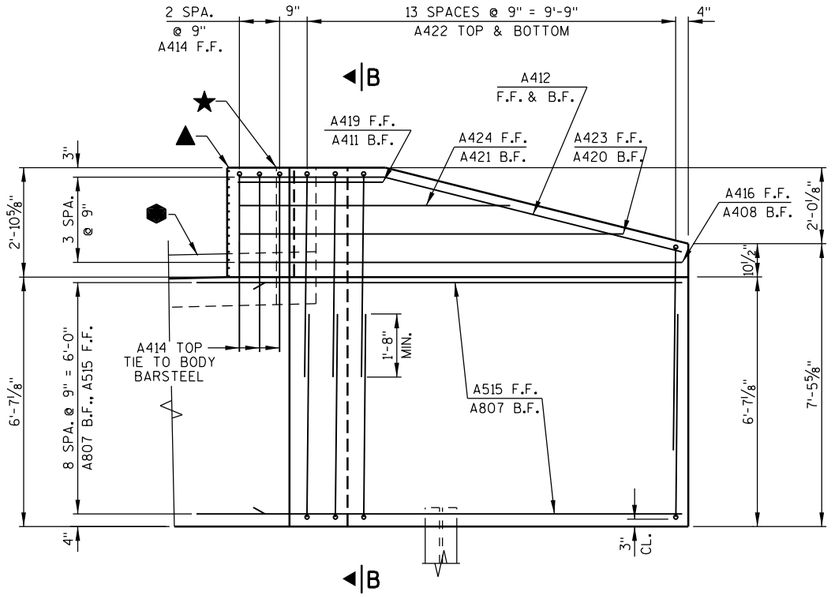
STATE PROJECT NUMBER

5455-00-70



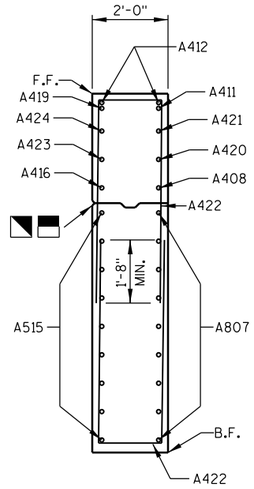
ELEVATION - WING 1

(LOOKING AT F.F. OF WING)

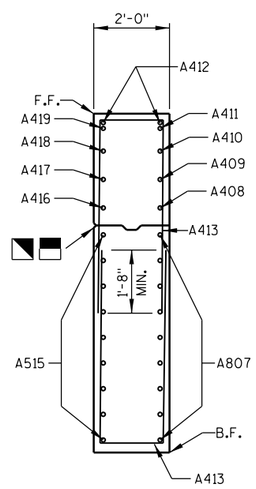


ELEVATION - WING 2

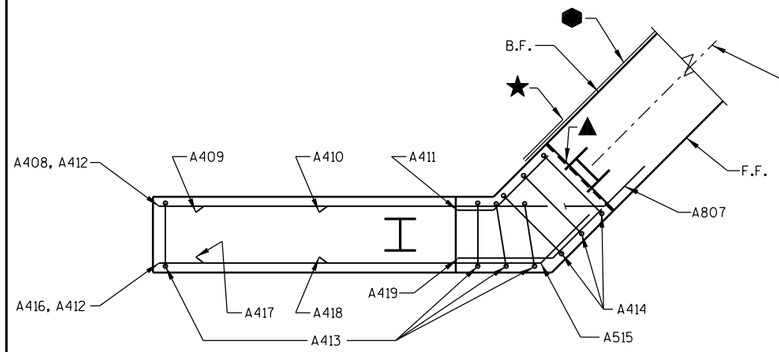
(LOOKING AT F.F. OF WING)



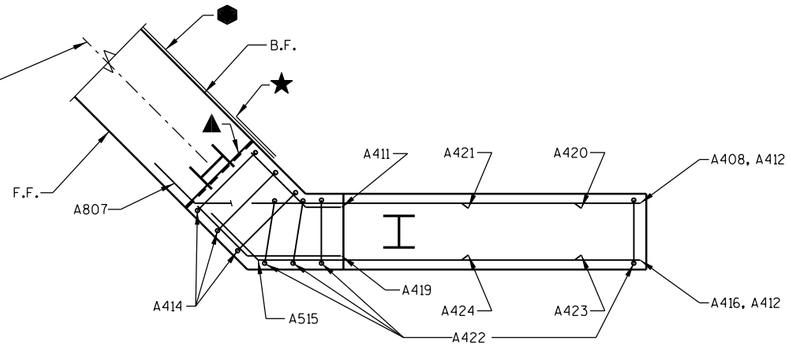
SECTION B-B
THRU WING 2



SECTION A-A
THRU WING 1



PLAN - WING 1



PLAN - WING 2

UNCOATED 2,260 LBS.
COATED 1,520 LBS.

BILL OF BARS (SOUTH ABUT.)

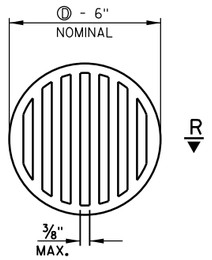
MARK	NUMBER REQUIRED COATED	NUMBER REQUIRED UNCOATED	LENGTH	BENT	LOCATION
A801	-	18	22'-6"	X	ABUTMENT BODY - B.F. - HORIZ.
A502	-	9	33'-0"		ABUTMENT BODY - F.F. - HORIZ.
A503	-	68	7'-0"	X	ABUTMENT BODY - F.F. & B.F. - VERT.
A404	-	30	3'-0"	X	ABUTMENT BODY - TIES - HORIZ.
A505	-	34	8'-9"	X	ABUTMENT BODY - TOP - VERT.
A506	27	-	2'-0"		ABUTMENT BODY - TOP DOWELS - VERT.
A807	18	-	13'-2"	X	WINGS - B.F. - HORIZ.
A408	2	-	10'-9"	X	WINGS - B.F. - HORIZ.
A409	1	-	9'-9"	X	WING 1 - B.F. - HORIZ.
A410	1	-	6'-6"	X	WING 1 - B.F. - HORIZ.
A411	2	-	2'-11"	X	WINGS - B.F. - TOP - HORIZ.
A412	4	-	10'-5"	X	WINGS - F.F. & B.F. - TOP - HORIZ.
A413	28	-	11'-10"	X	WING 1 - TOP & BOTTOM - VERT.
A414	6	-	11'-8"	X	WINGS - TOP - VERT.
A515	18	-	11'-8"	X	WINGS - F.F. - HORIZ.
A416	2	-	12'-3"	X	WINGS - F.F. - HORIZ.
A417	1	-	11'-3"	X	WING 1 - F.F. - HORIZ.
A418	1	-	8'-0"	X	WING 1 - F.F. - HORIZ.
A419	2	-	4'-4"	X	WINGS - F.F. - TOP - HORIZ.
A420	1	-	9'-2"	X	WING 2 - B.F. - HORIZ.
A421	1	-	6'-3"	X	WING 2 - B.F. - HORIZ.
A422	28	-	12'-4"	X	WING 2 - TOP & BOTTOM - VERT.
A423	1	-	10'-8"	X	WING 2 - F.F. - HORIZ.
A424	1	-	7'-8"	X	WING 2 - F.F. - HORIZ.

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

RODENT SHIELD NOTES:

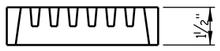
ORIENT SHIELD SO SLOTS ARE VERTICAL.

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 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. THE RODENT SHIELD, PIPE COUPLING AND SCREWS SHALL BE INCLUDED IN THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".

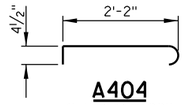


RODENT SHIELD

Ⓓ - DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING.

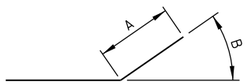


SECTION R-R

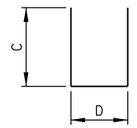


A404
STD. 180° HOOK

SEE LEGEND ON SHEET 4 FOR DESCRIPTION OF



MARK	A	B
A801 A807 A515	1'-6"	45°
A408 A409 A410 A411 A420 A421	1'-10"	45°
A412	2'-5"	14°
A416 A417 A418 A419 A423 A424	2'-0"	45°



MARK	C	D
A505	3'-5"	2'-2"
A413	5'-2"	1'-8"
A414	4'-10"	2'-2"
A422	5'-5"	1'-8"

A503

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-52-280

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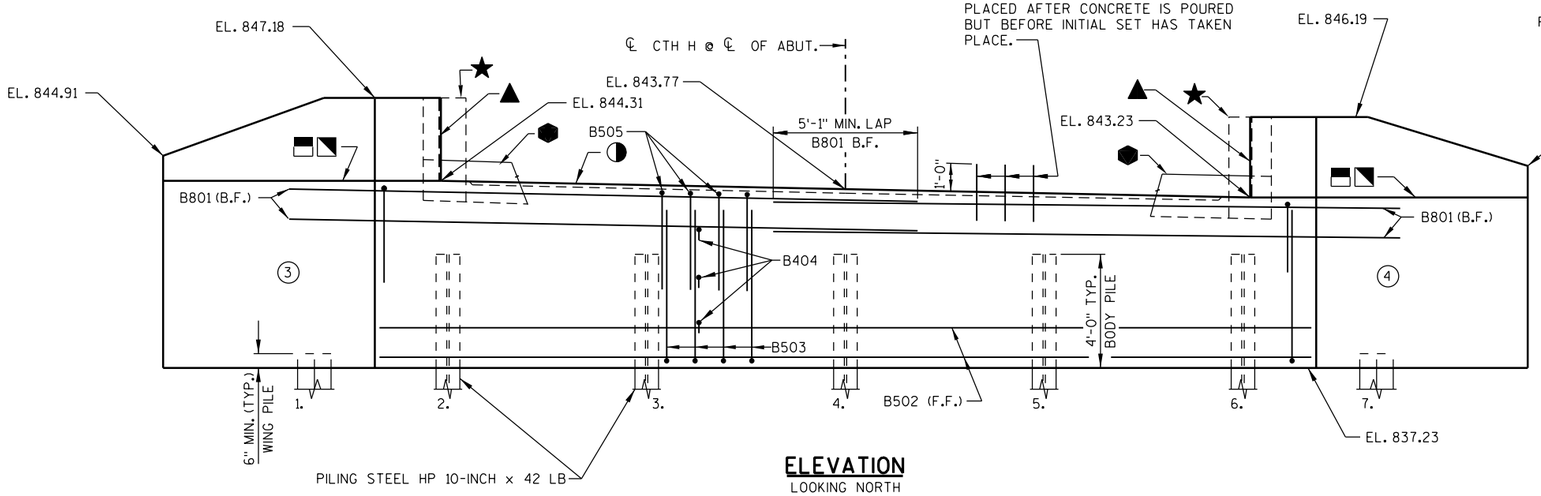
SOUTH ABUTMENT DETAILS

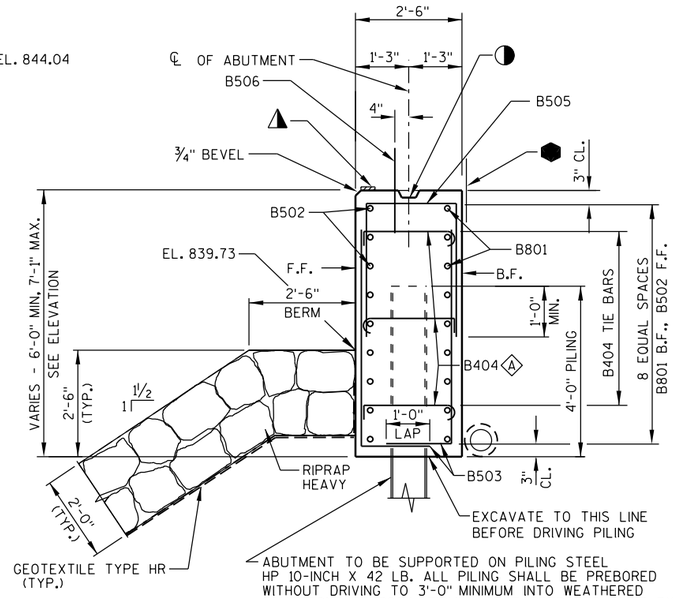
SHEET 5 OF 10
33

FILE= 11514012_05.DGN
DATE= 8/30/2021

STATE PROJECT NUMBER
5455-00-70

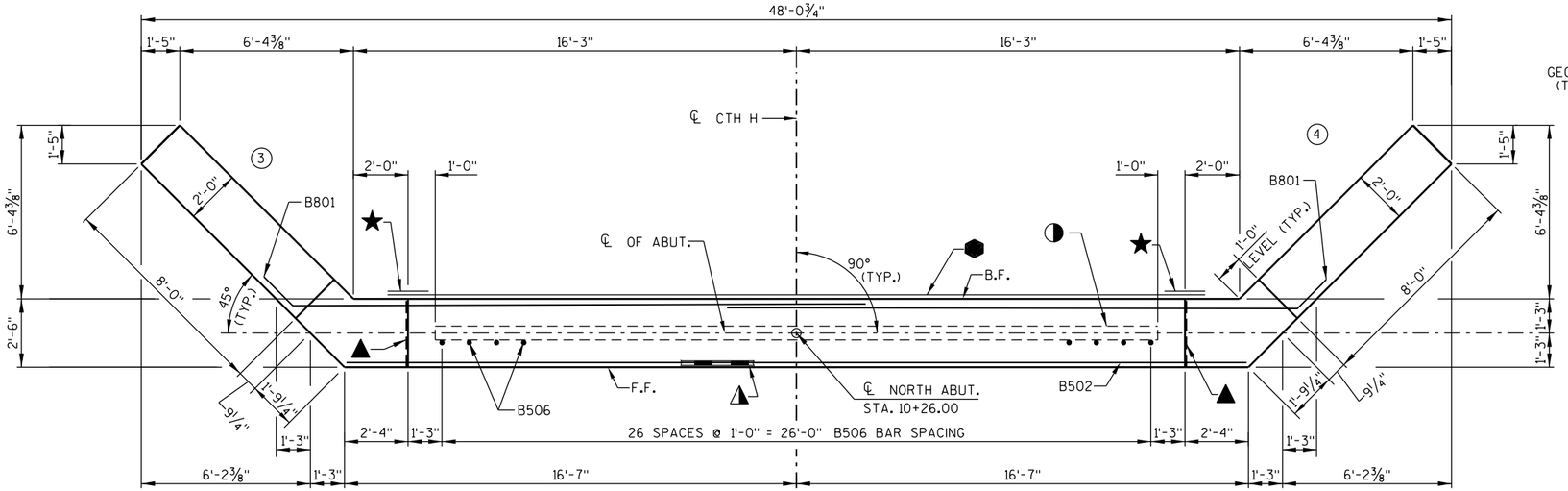


ELEVATION
LOOKING NORTH

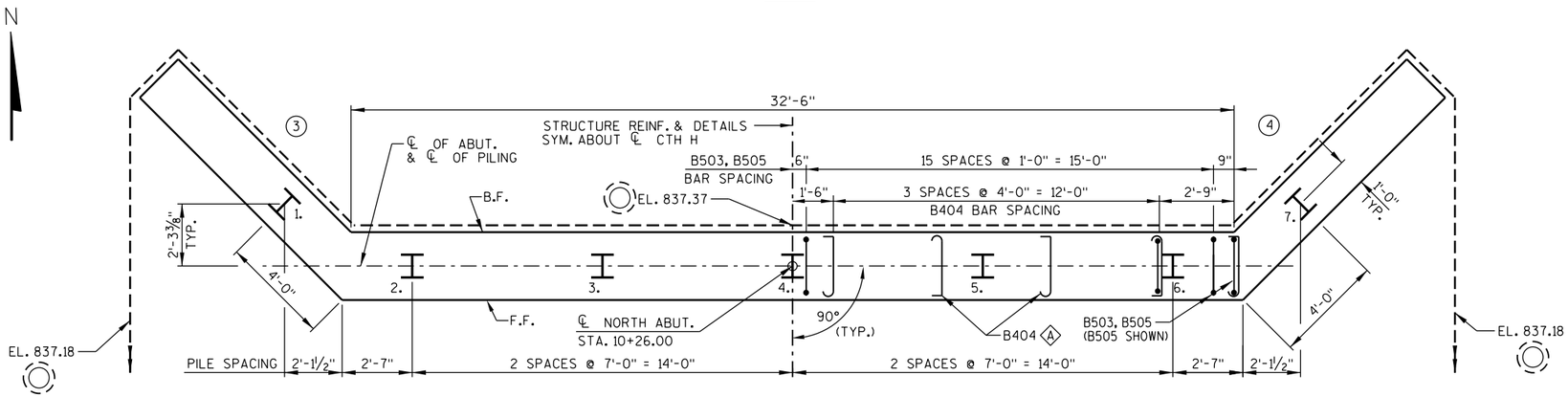


ABUTMENT TO BE SUPPORTED ON PILING STEEL HP 10-INCH X 42 LB. ALL PILING SHALL BE PREBORED WITHOUT DRIVING TO 3'-0" MINIMUM INTO WEATHERED SANDSTONE BEDROCK. FIRMLY SEAT PREBORED PILES BY TAPPING IN PLACE. ESTIMATED PILE LENGTHS ARE 17'-0" FOR ABUT. BODY PILES AND 14'-0" FOR ABUT. WING PILES.

TYPICAL SECTION THRU ABUTMENT



PLAN



PILE PLAN

LEGEND

- ◯ — INDICATES WING NUMBER
- ◇A — ALTERNATE THE POSITION OF THE 90° AND 180° HOOKS AT EACH VERTICAL LAYER OF TIES.
- ◑ — KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2x6.
- ▲ — ½" FILLER EXTEND AS SHOWN. SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING GRAY, NON-BITUMINOUS JOINT SEALER. (1" DEEP & HOLD ⅛" BELOW SURFACE OF CONCRETE).
- ◭ — 4"x ½" FILLER, EXTEND FULL LENGTH OF ABUTMENT BETWEEN EDGES OF SLAB.
- ★ — VERTICAL 18" WIDE RUBBERIZED MEMBRANE WATERPROOFING. EXTEND FROM 9" BELOW BRIDGE SEAT TO TOP OF WINGS.
- ⬢ — HORIZONTAL 18" WIDE RUBBERIZED MEMBRANE WATERPROOFING. EXTEND BETWEEN WINGS.
- ◧ — OPTIONAL KEYED CONST. JOINT ON WING FORMED BY BEVELED 2 X 6. IF JOINT IS USED, PLACE ⬢ ON B.F. OF WING. COST OF ⬢ IS INCIDENTAL TO BID ITEM "CONCRETE MASONRY BRIDGES".
- ◥ — ¾" "V" GROOVE ON FRONT FACE OF WING WALL, REQUIRED ONLY WHERE CONSTRUCTION JOINT IS USED.
- ◎ — PIPE UNDERDRAIN WRAPPED 6-INCH. EXTEND THRU GEOTEXTILE TYPE HR AT FACE OF RIPRAP HEAVY. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. PROVIDE RODENT SHIELD AT ENDS OF PIPE. FOR RODENT SHIELD DETAILS, SEE SHEET 5.

F.F. — FRONT FACE B.F. — BACK FACE CL. — CLEAR

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-52-280

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NORTH ABUTMENT

SHEET 6 OF 10
34

FILE= 11514012_06.DGN
DATE= 8/31/2021

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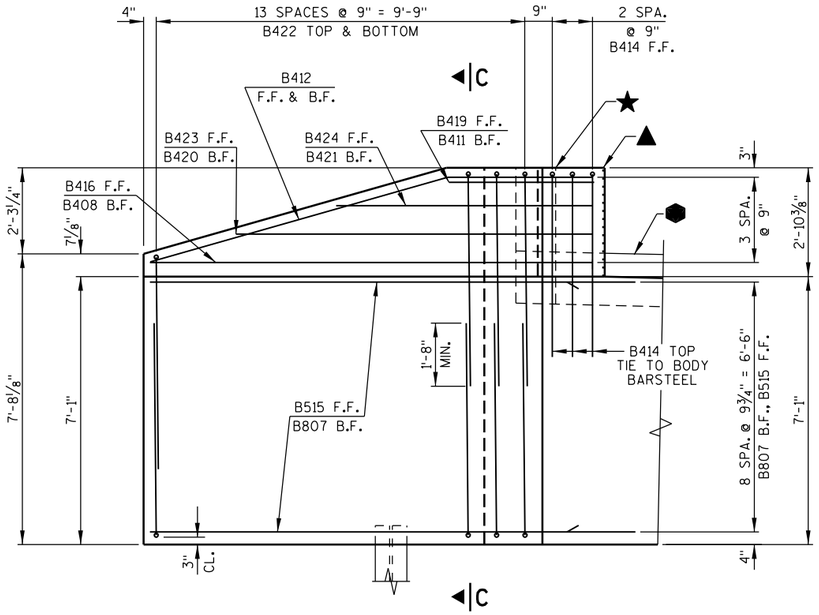
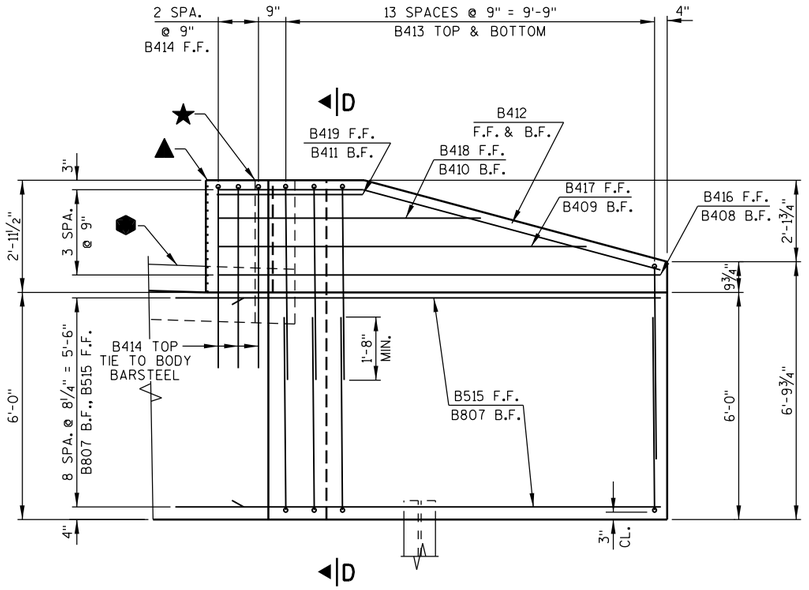
STATE PROJECT NUMBER

5455-00-70



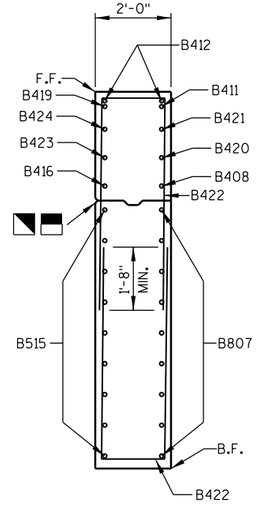
ELEVATION - WING 3

(LOOKING AT F.F. OF WING)

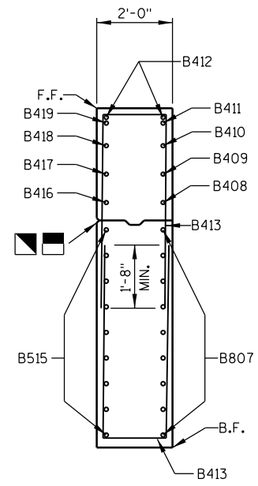


ELEVATION - WING 4

(LOOKING AT F.F. OF WING)



SECTION C-C
THRU WING 3



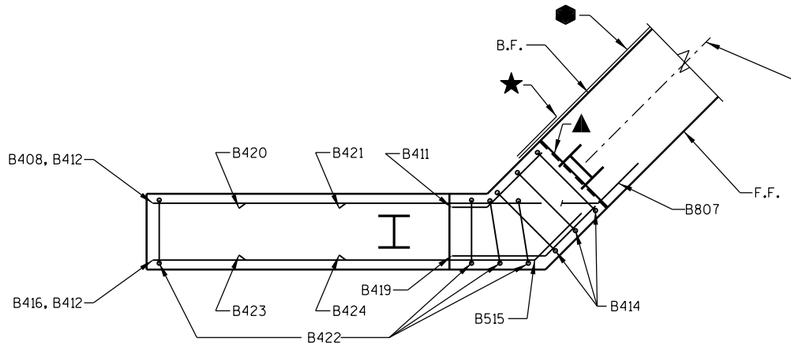
SECTION D-D
THRU WING 4

UNCOATED 2,290 LBS.
COATED 1,530 LBS.

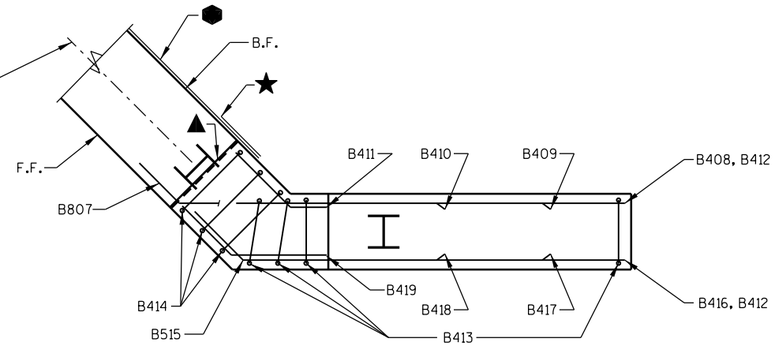
BILL OF BARS (NORTH ABUT.)

MARK	NUMBER REQUIRED COATED	NUMBER REQUIRED UNCOATED	LENGTH	BENT	LOCATION
B801	-	18	22'-6"	X	ABUTMENT BODY - B.F. - HORIZ.
B502	-	9	33'-0"		ABUTMENT BODY - F.F. - HORIZ.
B503	-	68	7'-0"	X	ABUTMENT BODY - F.F. & B.F. - VERT.
B404	-	30	3'-0"	X	ABUTMENT BODY - TIES - HORIZ.
B505	-	34	9'-9"	X	ABUTMENT BODY - TOP - VERT.
B506	27	-	2'-0"		ABUTMENT BODY - TOP DOWELS - VERT.
B807	18	-	13'-2"	X	WINGS - B.F. - HORIZ.
B408	2	-	10'-9"	X	WINGS - B.F. - HORIZ.
B409	1	-	8'-9"	X	WING 4 - B.F. - HORIZ.
B410	1	-	6'-0"	X	WING 4 - B.F. - HORIZ.
B411	2	-	2'-11"	X	WINGS - B.F. - TOP - HORIZ.
B412	4	-	10'-6"	X	WINGS - F.F. & B.F. - TOP - HORIZ.
B413	28	-	11'-10"	X	WING 4 - TOP & BOTTOM - VERT.
B414	6	-	11'-8"	X	WINGS - TOP - VERT.
B515	18	-	11'-8"	X	WINGS - F.F. - HORIZ.
B416	2	-	12'-3"	X	WINGS - F.F. - HORIZ.
B417	1	-	10'-3"	X	WING 4 - F.F. - HORIZ.
B418	1	-	7'-5"	X	WING 4 - F.F. - HORIZ.
B419	2	-	4'-4"	X	WINGS - F.F. - TOP - HORIZ.
B420	1	-	8'-6"	X	WING 3 - B.F. - HORIZ.
B421	1	-	5'-10"	X	WING 3 - B.F. - HORIZ.
B422	28	-	12'-10"	X	WING 3 - TOP & BOTTOM - VERT.
B423	1	-	9'-11"	X	WING 3 - F.F. - HORIZ.
B424	1	-	7'-3"	X	WING 3 - F.F. - HORIZ.

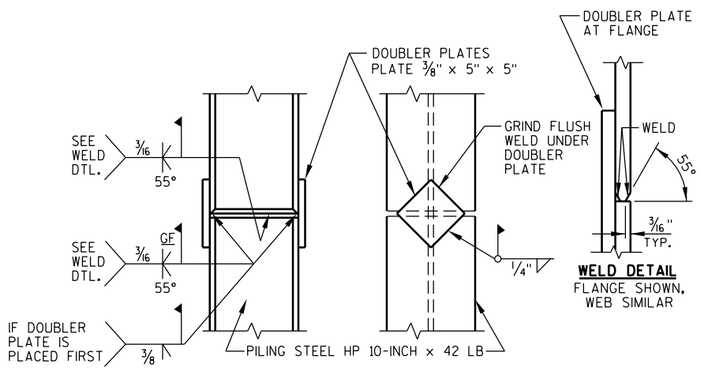
DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.



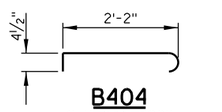
PLAN - WING 3



PLAN - WING 4

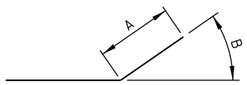


PILE SPLICE DETAILS

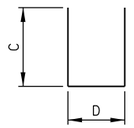


B404
STD. 180° HOOK

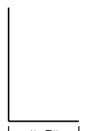
SEE LEGEND ON SHEET 6 FOR DESCRIPTION OF ★ ⬢ ◥ ▬ ▲



MARK	A	B
B801 B807 B515	1'-6"	45°
B408 B409 B410 B411 B420 B421	1'-10"	45°
B412	2'-5"	16°
B416 B417 B418 B419 B423 B424	2'-0"	45°



MARK	C	D
B505	3'-11"	2'-2"
B413	5'-2"	1'-8"
B414	4'-10"	2'-2"
B422	5'-8"	1'-8"



B503

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-52-280

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NORTH ABUTMENT DETAILS

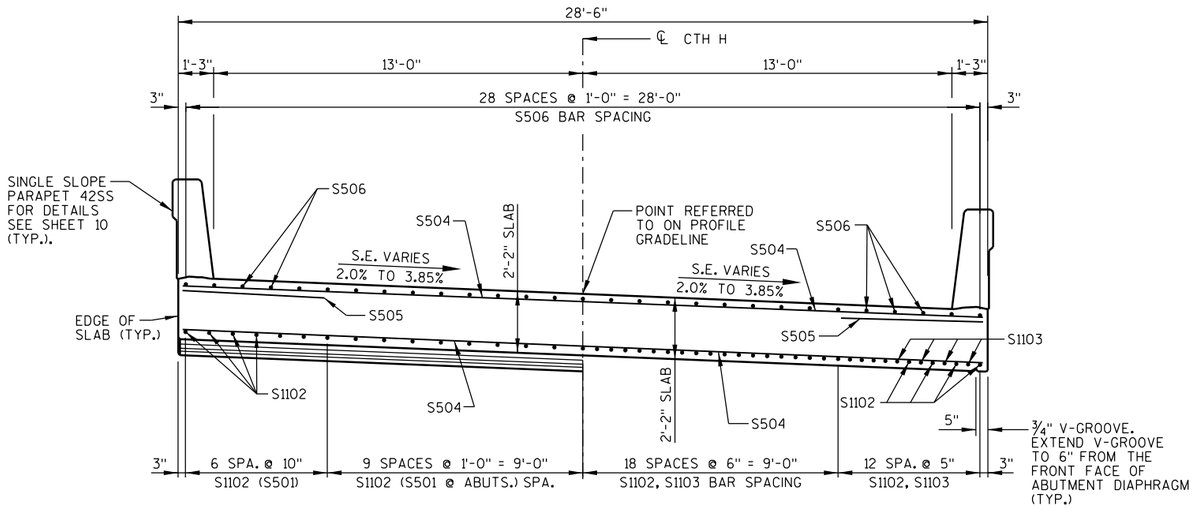
SHEET 7 OF 10
35

FILE= 11514012_07.DGN
DATE= 8/30/2021

11514012_07.dgn 8/30/2021 4:29:27 PM rrabska

STATE PROJECT NUMBER

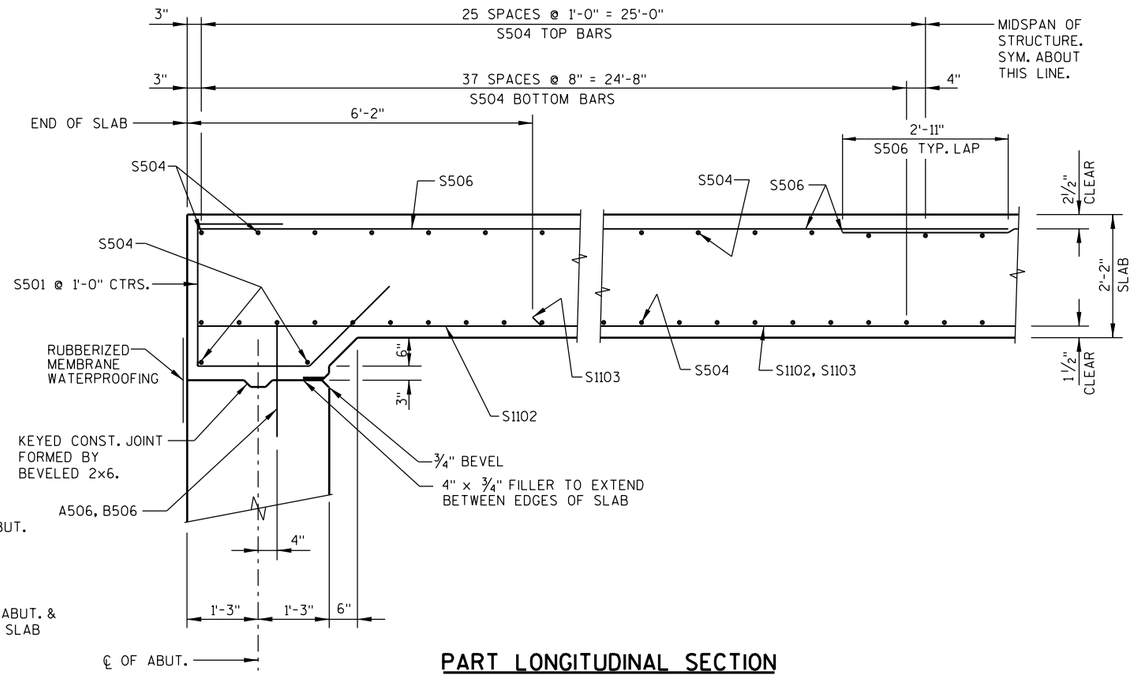
5455-00-70



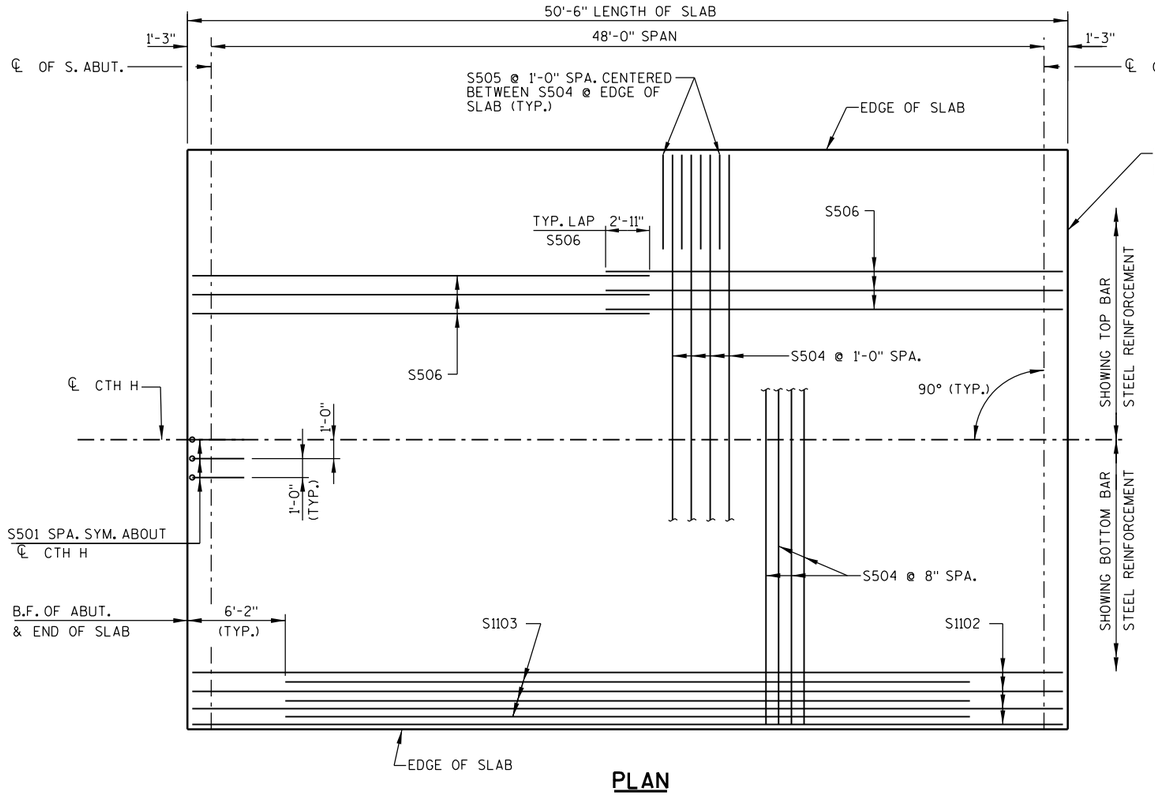
AT ABUTMENTS IN SPAN

CROSS SECTION THRU BRIDGE

(LOOKING NORTH)



PART LONGITUDINAL SECTION



PLAN

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-52-280

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SUPERSTRUCTURE

SHEET 8 OF 10
36

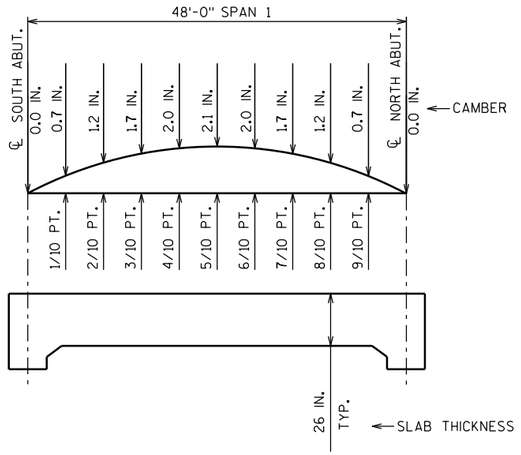
8

8

FILE= 11514012_08.DGN
DATE= 8/30/2021

11514012_08.dgn 8/30/2021 5:06:06 PM rrabska

STATE PROJECT NUMBER
5455-00-70



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.

PARAPETS PLACED ON TOP OF THE SLAB SHALL BE POURED AFTER FALSEWORK HAS BEEN RELEASED.

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

	TOP OF SLAB ELEVATION AT FINAL GRADE
MINUS ---	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

	SOUTH ABUT.	1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10	C/L BRG. NORTH ABUT.
WEST EDGE OF SLAB	846.06	846.14	846.22	846.31	846.41	846.52	846.63	846.75	846.89	847.03	847.18
CTH H C/L	845.79	845.85	845.91	845.98	846.05	846.14	846.23	846.33	846.44	846.56	846.68
EAST EDGE OF SLAB	845.53	845.56	845.60	845.64	845.69	845.76	845.82	845.90	845.99	846.09	846.19

NOTE:
THE TOP OF SLAB ELEVATIONS AT EDGE OF SLAB ARE THE SAME AT THE TRAFFIC FACE OF PARAPET.

SURVEY TOP OF SLAB ELEVATIONS

	SOUTH ABUTMENT	5/10 PT.	NORTH ABUTMENT
WEST GUTTER			
℄ CTH H			
EAST GUTTER			

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

NOTES

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

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

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

8

8

NO.	DATE	REVISION	BY

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DEPARTMENT OF TRANSPORTATION

STRUCTURE B-52-280

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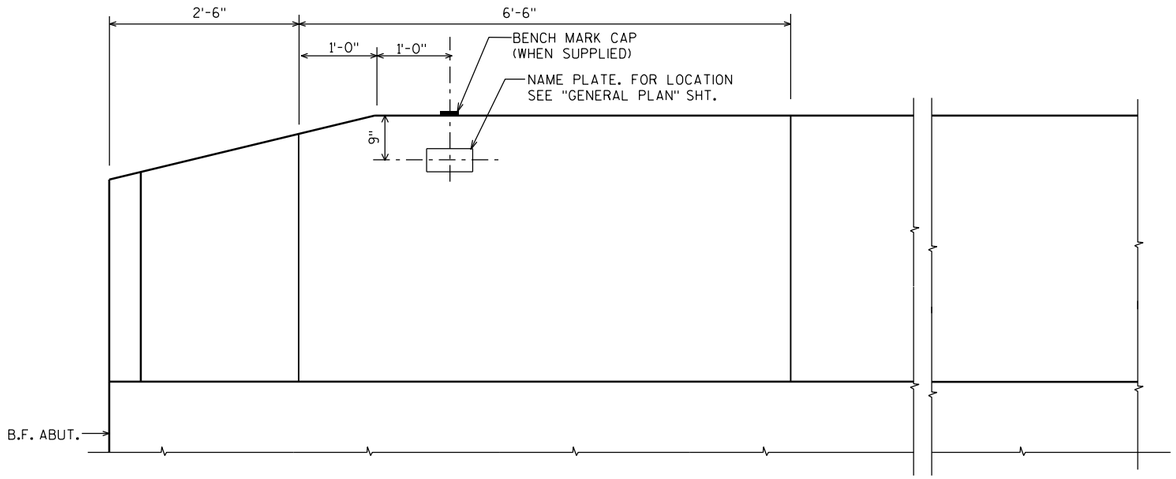
SUPERSTRUCTURE DETAILS

SHEET 9 OF 10
37

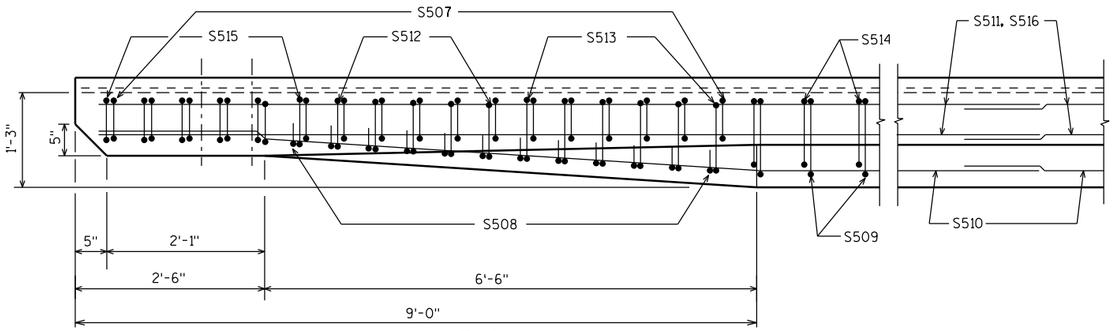
FILE= 11514012_09.DGN
DATE= 8/30/2021

STATE PROJECT NUMBER

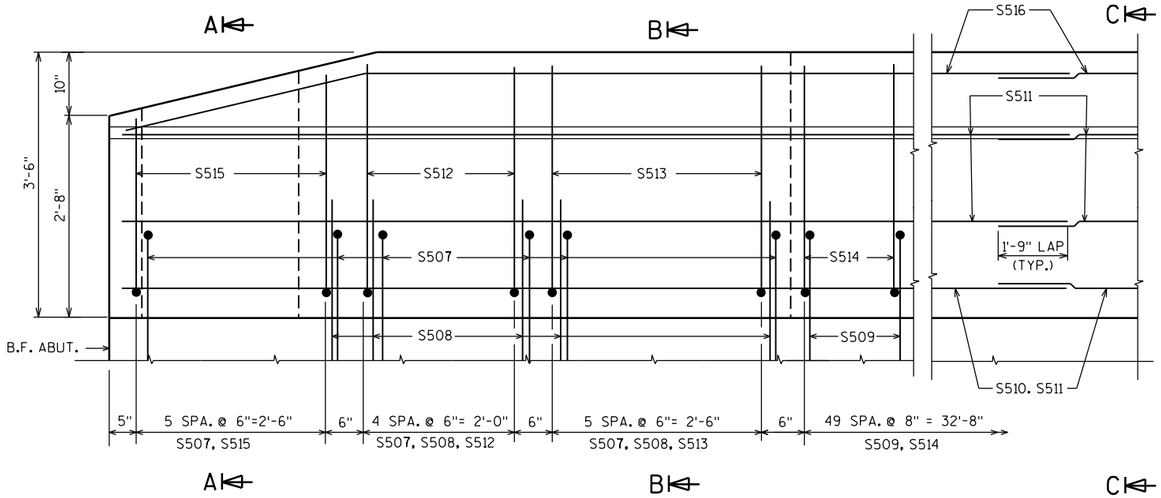
5455-00-70



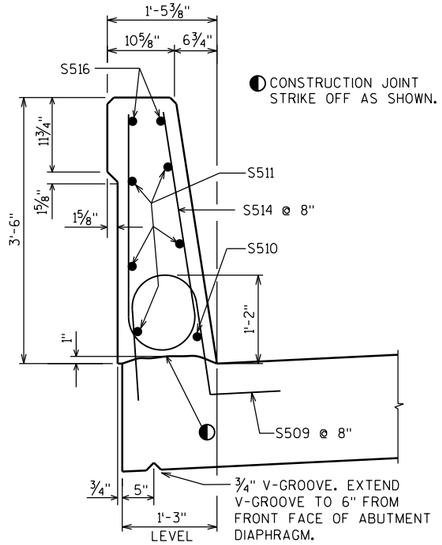
INSIDE ELEVATION



PLAN

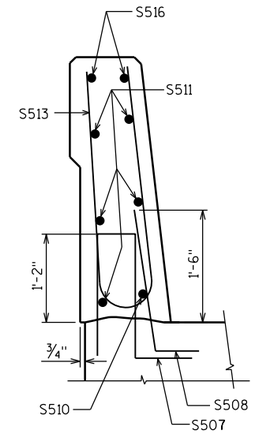


OUTSIDE ELEVATION



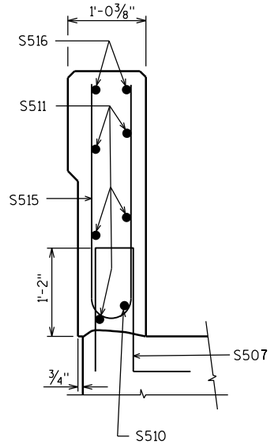
SECTION C-C

THRU PARAPET



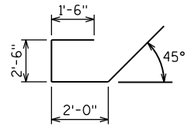
SECTION B-B

AT END OF PARAPET



SECTION A-A

AT END OF PARAPET



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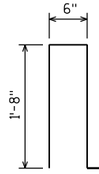

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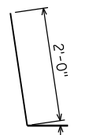

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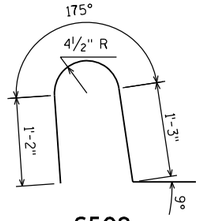

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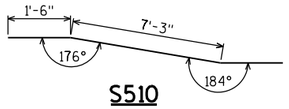

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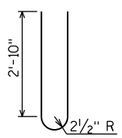

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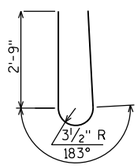

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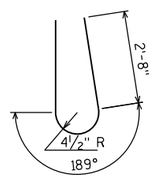

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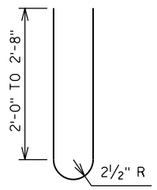

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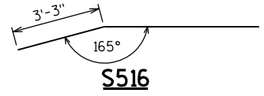


S516

BILL OF BARS (COATED) 23,720 LBS.

MARK	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
S501	62	7'-8"	X		DIAPHRAGM @ ABUTS. - LONGIT.
S1102	31	50'-2"			SLAB BOTTOM - LONGIT.
S1103	30	38'-2"			SLAB BOTTOM - LONGIT.
S504	131	28'-2"			SLAB TOP & BOTTOM - TRANS.
S505	100	5'-0"			SLAB TOP @ EDGE OF SLAB - TRANS.
S506	58	26'-7"			SLAB TOP - LONGIT.
S507	68	4'-4"	X		SLAB & PARAPET END - STIRRUP - VERT.
S508	48	2'-9"	X		SLAB & PARAPET END - VERT.
S509	100	4'-5"	X		SLAB & PARAPET - STIRRUP - VERT.
S510	4	26'-0"	X		PARAPET BOTTOM - LONGIT.
S511	20	26'-0"			PARAPET - LONGIT.
S512	20	6'-5"	X		PARAPET END - STIRRUP - VERT.
S513	24	6'-6"	X		PARAPET END - STIRRUP - VERT.
S514	100	6'-8"	X		PARAPET - STIRRUP - VERT.
S515	24	5'-5"	X	Ⓢ	PARAPET END - STIRRUP - VERT.
S516	8	26'-1"	X		PARAPET TOP - LONGIT.

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

EPOXY COAT ALL SUPERSTRUCTURE BAR STEEL REINFORCEMENT.

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

BAR SERIES TABLE

MARK	NO. REQD.	LENGTH
S515	4 SERIES OF 6	4'-9" TO 6'-1"

BUNDLE AND TAG EACH SERIES SEPARATELY.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-52-280

DRAWN BY RLR | PLANS CK'D. JRS

SINGLE SLOPE PARAPET 42SS

SHEET 10 OF 10
38

FILE= 11514012_10.DGN
DATE= 8/30/2021

8

1 2 3 4

11514012_10.dgn 8/30/2021 5:22:15 PM rrabska

EARTHWORK SUMMARY

STA	EXCAVATION COMMON CY	EXCAVATION ROCK CY	FILL (1) CY	EXPANDED FILL (2) CY	WASTE CY	BORROW CY
8+76.75	-	-	-	-	-	-
	39.00	0.00	8.00	10.00	29.00	-29.00
9+00.00	-	-	-	-	-	-
	45.00	0.00	13.00	17.00	28.00	-28.00
9+25.00	-	-	-	-	-	-
	47.00	0.00	10.00	13.00	34.00	-34.00
9+50.00	-	-	-	-	-	-
	39.00	0.00	12.00	16.00	23.00	-23.00
9+70.00	-	-	-	-	-	-
	14.00	0.00	5.00	7.00	7.00	-7.00
9+76.75	-	-	-	-	-	-
STRUCTURE B-52-0280						
S. APPROACH	184.00	0.00	48.00	63.00	121.00	-121.00
UNUSABLE PAVEMENT (3)						59.58
TOTALS	184.00	0.00	48.00	63.00	121.00	-121.00

(1) - NOT A BID ITEM - FOR INFORMATIONAL PURPOSES ONLY.
(2) - FILL EXPANSION 30%
(3) - EXISTING PAVEMENT BASED ON AVE THK OF 9.5"

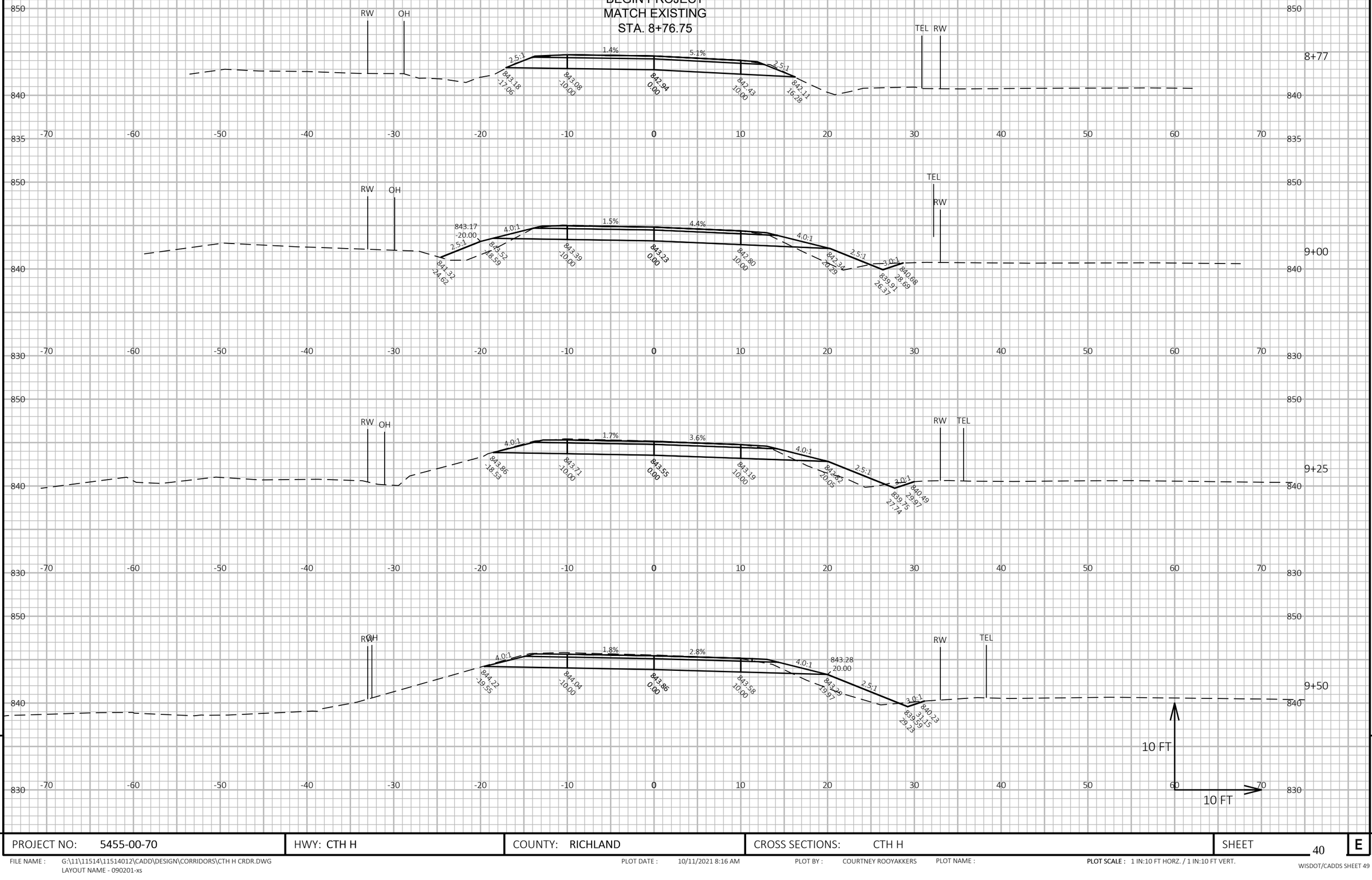
9

EARTHWORK SUMMARY

STA	EXCAVATION COMMON CY	EXCAVATION ROCK CY	FILL (1) CY	EXPANDED FILL (2) CY	WASTE CY	BORROW CY
10+27.75	-	-	-	-	-	-
	9.00	0.00	3.00	4.00	5.00	-5.00
10+34.00	-	-	-	-	-	-
	23.00	0.00	11.00	14.00	9.00	-9.00
10+50.00	-	-	-	-	-	-
	48.00	0.00	8.00	10.00	38.00	-38.00
10+80.00	-	-	-	-	-	-
	35.00	0.00	0.00	0.00	35.00	-35.00
11+00.00	-	-	-	-	-	-
	99.00	0.00	0.00	0.00	99.00	-99.00
11+50.00	-	-	-	-	-	-
	109.00	0.00	0.00	0.00	109.00	-109.00
12+00.00	-	-	-	-	-	-
SUBTOTALS						
N. APPROACH	323.00	0.00	22.00	28.00	295.00	-295.00
UNUSABLE PAVEMENT (3)						63.98
TOTALS	323.00	0.00	22.00	28.00	295.00	-295.00

(1) - NOT A BID ITEM - FOR INFORMATIONAL PURPOSES ONLY.
(2) - FILL EXPANSION 30%
(3) - EXISTING PAVEMENT BASED ON AVE THK OF 6"

BEGIN PROJECT
MATCH EXISTING
STA. 8+76.75



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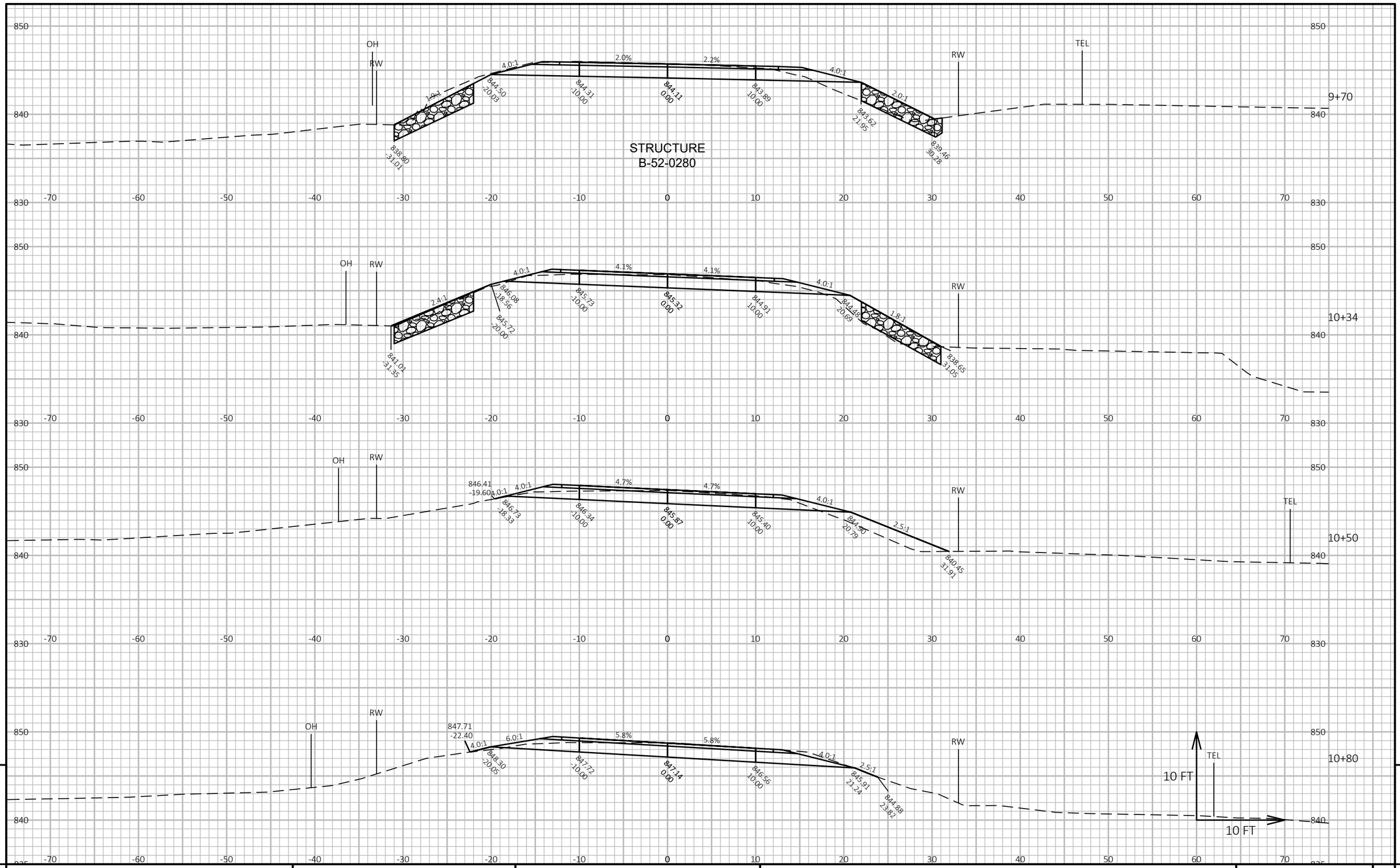
PLOT DATE : 10/11/2021 8:16 AM PLOT BY : COURTNEY ROOYAKKERS PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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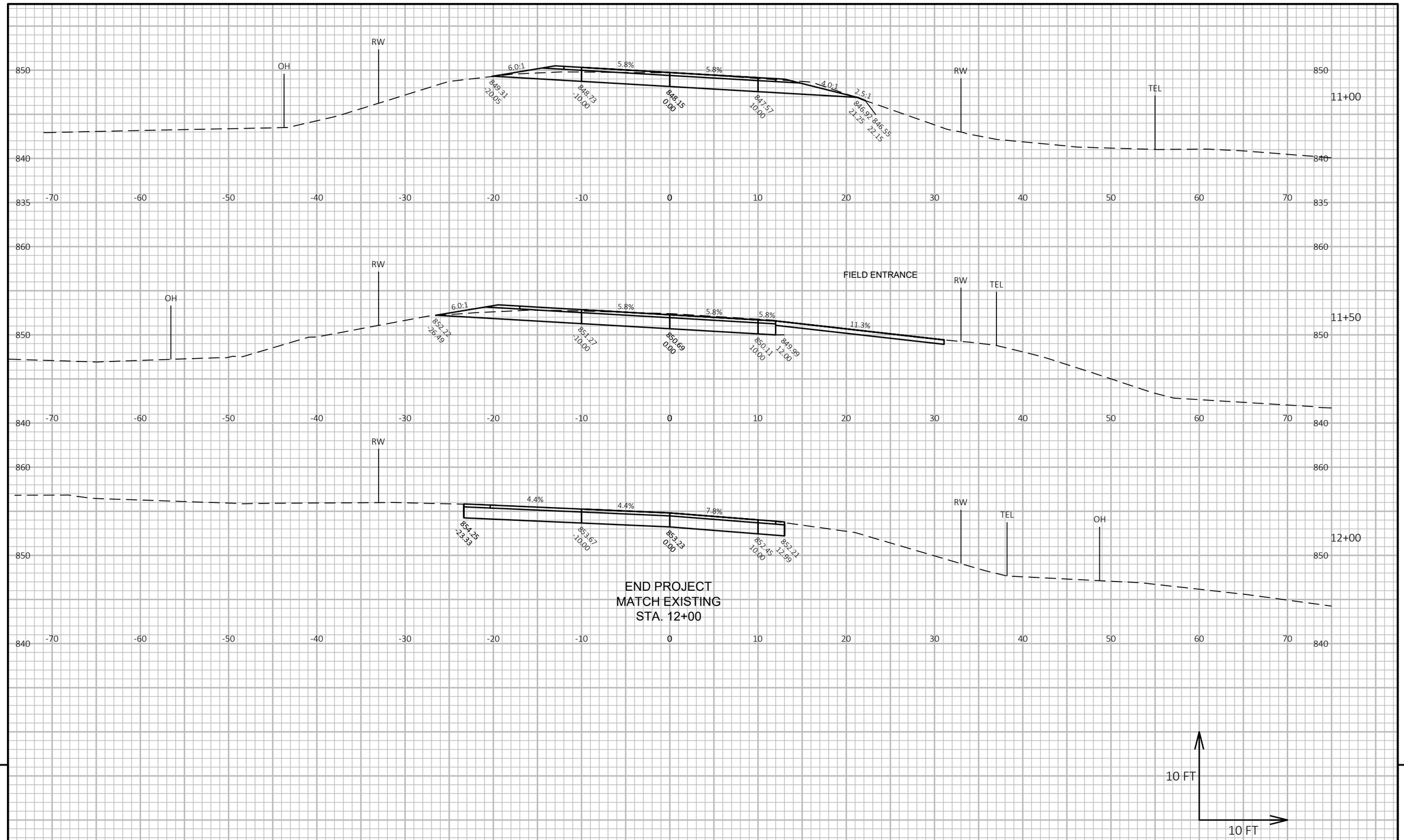
LAYOUT NAME - 090202-xs

PLOT DATE : 10/11/2021 8:16 AM PLOT BY : COURTNEY ROOYAKKERS PLOT NAME :

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

WISDOT/CADDS SHEET 49



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LAYOUT NAME - 090203-xs

PLOT DATE : 10/11/2021 8:16 AM PLOT BY : COURTNEY ROOYAKKERS PLOT NAME :

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

WISDOT/CADDS SHEET 49

Notes

Wisconsin Department of Transportation

Dedicated people creating transportation solutions
through innovation and exceptional service.

http://www.dot.wisconsin.gov