MAD

PROJECT ID: 5767-00-73

WITH: N/A

COUNTY: ROCK

MARCH 2025
ORDER OF SHEETS

TOTAL SHEETS = 106

07

N

DESIGN DESIGNATION

A.A.D.T.	2025	=	220
A.A.D.T.	2045	=	230
D.H.V.		=	28
D.D.		=	60/40
T.		=	7.8%
DESIGN SPEED		=	25 MPH
ESALS		=	37,000

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

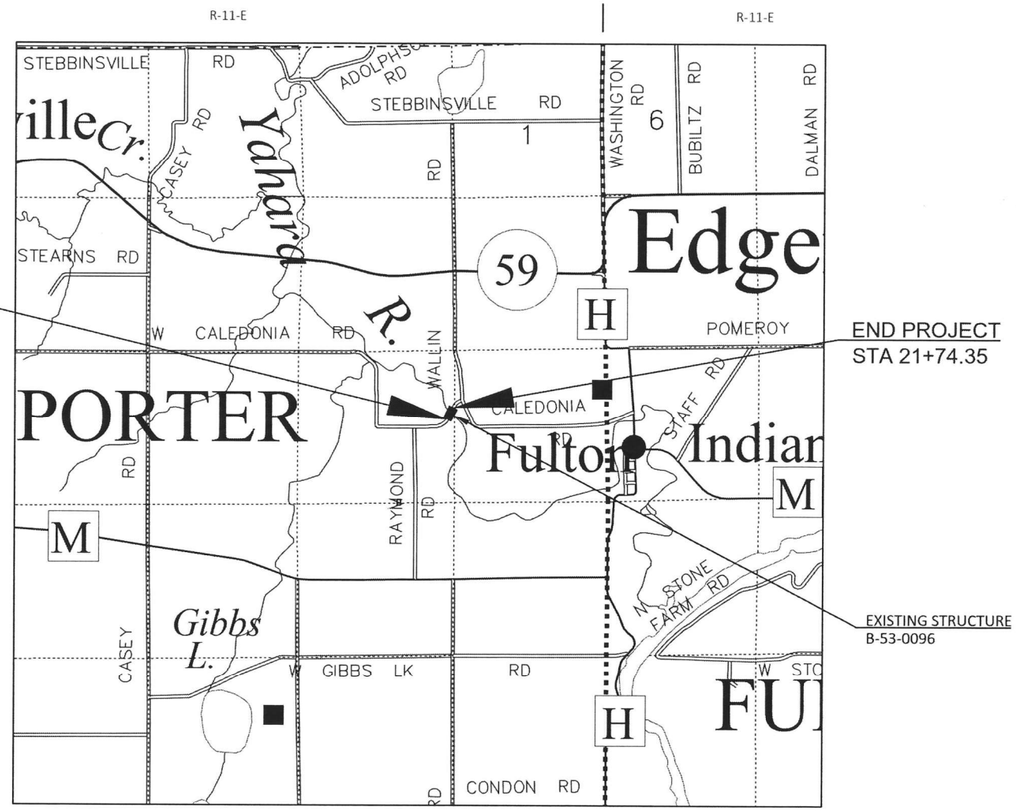
TOWN OF PORTER, CALEDONIA ROAD

YAHARA RIVER BRIDGE B-53-0096

LOC STR
ROCK COUNTY

STATE PROJECT NUMBER
5767-00-73

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
5767-00-73	WISC 2025363	1



BEGIN PROJECT
STA 17+15.47
Y: 315811.13
X: 458588.91

END PROJECT
STA 21+74.35

EXISTING STRUCTURE
B-53-0096

LAYOUT
SCALE 0 1 MI

TOTAL NET LENGTH OF CENTERLINE = 0.087 MILES

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COORDINATE REFERENCE SYSTEM (WISCRS), ROCK 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 GEOID18.

CONVENTIONAL SYMBOLS

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

ACCEPTED FOR
ROCK COUNTY
Date 10/15/24
(Signature and Title of Official)

ORIGINAL PLANS PREPARED BY

STRAND ASSOCIATES

WISCONSIN
BRIAN M. ROSENTHAL
E-41718
MADISON
WI
PROFESSIONAL ENGINEER

Brian M. Rosenthal
10-14-2024

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY	
Surveyor	STRAND ASSOCIATES, INC.
Designer	STRAND ASSOCIATES, INC.
Project Manager	ZACHARY PEARSON
Regional Examiner	REGIONAL EXAMINER
Regional Supervisor	KYLE HEMP

APPROVED FOR THE DEPARTMENT
DATE: 10/17/24
ZACHARY PEARSON
(Signature)

E

FILE NAME : S:\MAD\1200--1299\1288\001\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\010101-TI.DWG

PLOT DATE : 10/14/2024 3:23 PM PLOT BY : ROSENTHAL, BRIAN PLOT NAME :

GENERAL NOTES:

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

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

EROSION CONTROL FEATURES AS SHOWN ON THE PLANS ARE AT SUGGESTED LOCATIONS. EXACT LOCATIONS WILL BE DETERMINED BY THE CONTRACTOR'S APPROVED EROSION CONTROL IMPLEMENTATION PLAN (ECIP) AND APPROVED BY THE ENGINEER IN CONSULTATION WITH THE WISCONSIN DEPARTMENT OF NATURAL RESOURCES. ALL EROSION CONTROL MEASURES SHALL BE MAINTAINED UNTIL SUCH TIME AS THE ENGINEER DETERMINES THE MEASURE IS NO LONGER NECESSARY.

WETLANDS EXIST IN THE PROJECT AREA. DO NOT DISTURB AREAS OUTSIDE THE SLOPE INTERCEPTS.

SILT FENCE SHALL BE PLACED AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER AND IN PLACE PRIOR TO CONSTRUCTION.

GRADES SHOWN ON THE PLANS MAY BE ADJUSTED BY THE ENGINEER TO FIT EXISITNG FIELD CONDITIONS.

EXISTING SIGNS SHALL REMAIN IN PLACE UNLESS MOVED AS PART OF THE PLAN OR THE ENGINEER APPROVES THE REMOVAL.

SIGN LOCATIONS SHALL BE REVIEWED BY THE ENGINEER PRIOR TO INSTALLATION.

ASPHALT BID/MIX SPECIFICATIONS		
	THICKNESS	BID/MIX SPECIFICATIONS
UPPER LAYER	2.25-INCH	4 LT 58-28 S
LOWER LAYER	3-INCH	3 LT 58-28 S

ORDER OF SECTION 2 SHEETS

OTHER CONTACTS

DESIGN CONSULTANT

KEITH BEHREND
STRAND ASSOCIATES, INC.
910 WEST WINGRA DRIVE
MADISON, WI 53715
(608) 251-4843
KEITH.BEHREND@STRAND.COM

DNR LIASON

SHELLEY NELSON
DNR SOUTH CENTRAL REGION
3911 FISH HATCHERY ROAD
FITCHBURG, WI 53711
PH: (608) 444-2835
SHELLEY.NELSON@WISCONSIN.GOV

ROCK COUNTY

DUANE JORGENSON, JR., DIRECTOR OF PUBLIC WORKS
ROCK COUNTY
3715 NORTH NEWVILLE ROAD
JANESVILLE, WI 53545
(608) 757-5450
DUANE.JORGENSON@CO.ROCK.WI.US

WISDOT CONTACT

ZACHARY PEARSON
WISDOT SOUTHWEST REGION
2101 WRIGHT STREET
MADISON, WI 53704
(608) 246-5319
ZACHARY.PEARSON@DOT.WI.GOV

UTILITY CONTACTS

** FRONTIER - COMMUNICATIONS

JERRY MOORE
N360 NEBRASKA STREET
BRIGGSVILLE, WI 53920
608-346-0353
JERALD.MOORE@FTR.COM

** ROCK ENERGY COOPERATIVE - ELECTRIC

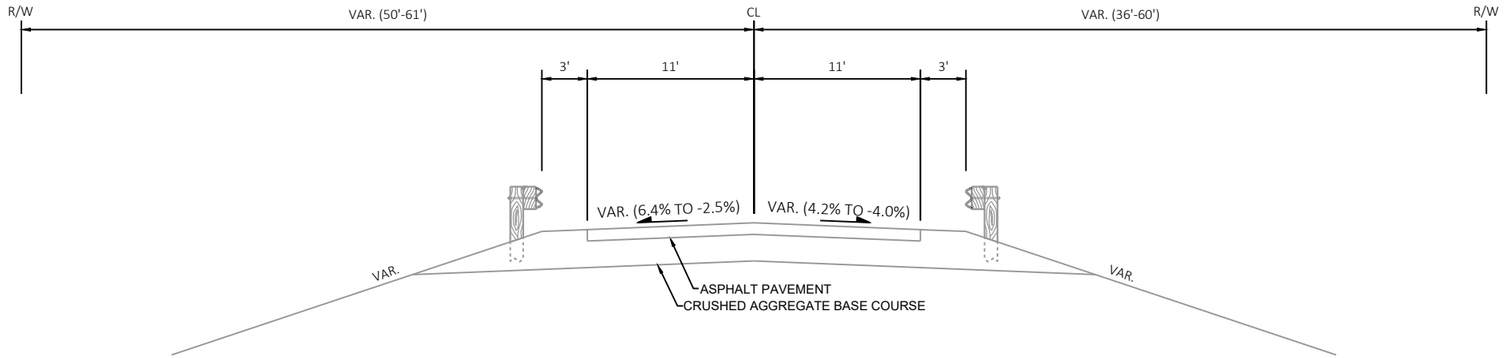
AARON RECHLIN
2815 N.KENNEDY ROAD
JANESVILLE, WI 53547
608-531-6562
AARONR@ROCK.COOP

** SPECTRUM - COMMUNICATIONS

TOM PHILLIPS
1348 PLAINFIELD AVENUE
JANESVILLE, WI 53546
608-209-4821
THOMAS.PHILLIPS@CHARTER.COM

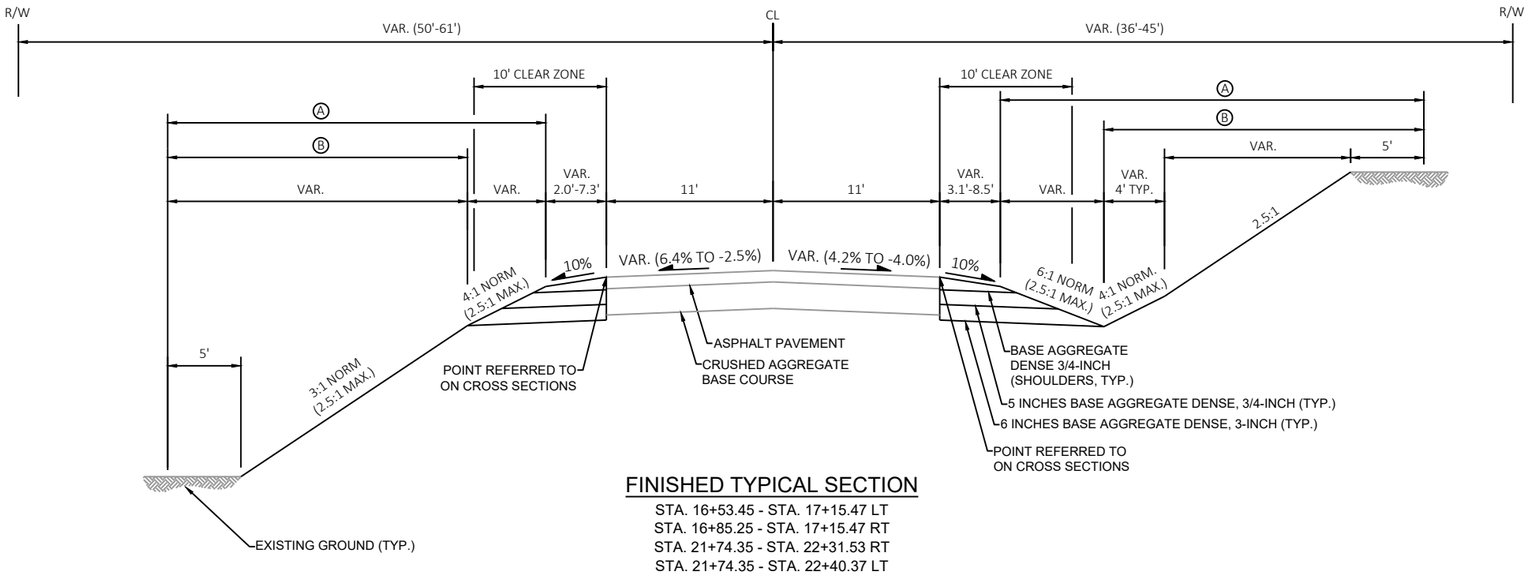
** DENOTES DIGGERS HOTLINE MEMBER

2



EXISTING TYPICAL SECTION

CALEDONIA ROAD



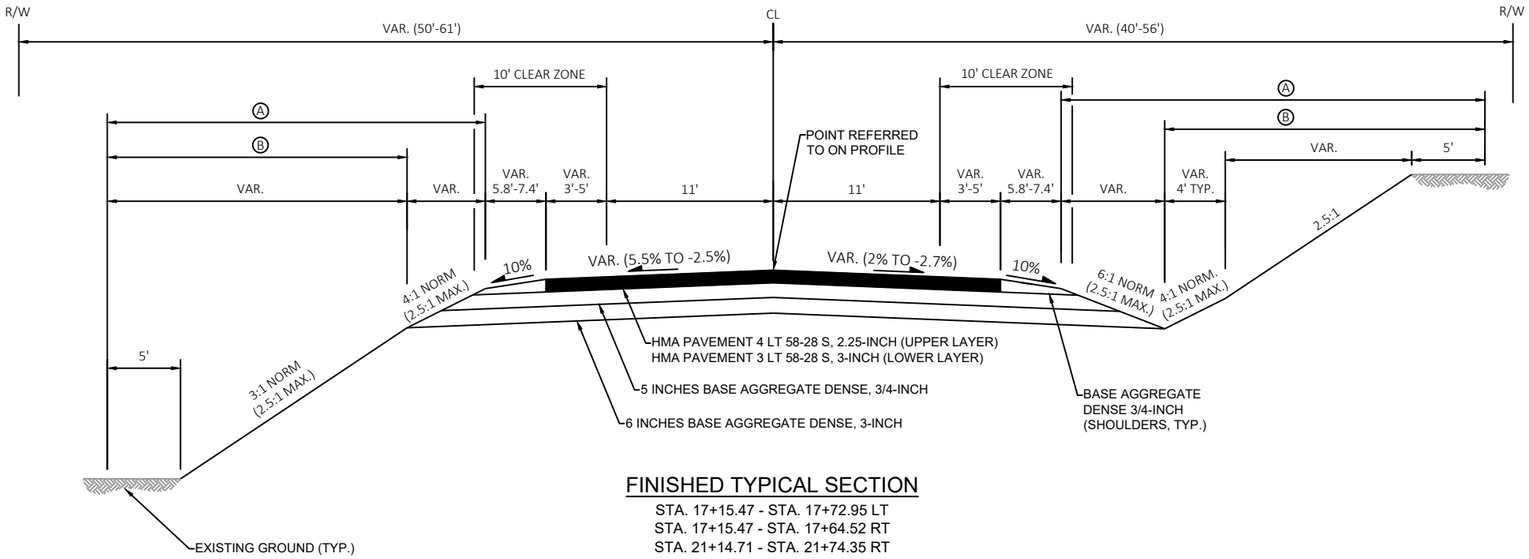
FINISHED TYPICAL SECTION

STA. 16+53.45 - STA. 17+15.47 LT
STA. 16+85.25 - STA. 17+15.47 RT
STA. 21+74.35 - STA. 22+31.53 RT
STA. 21+74.35 - STA. 22+40.37 LT

Ⓐ SEEDING MIXTURE NO. 20
AND FERTILIZER TYPE A.

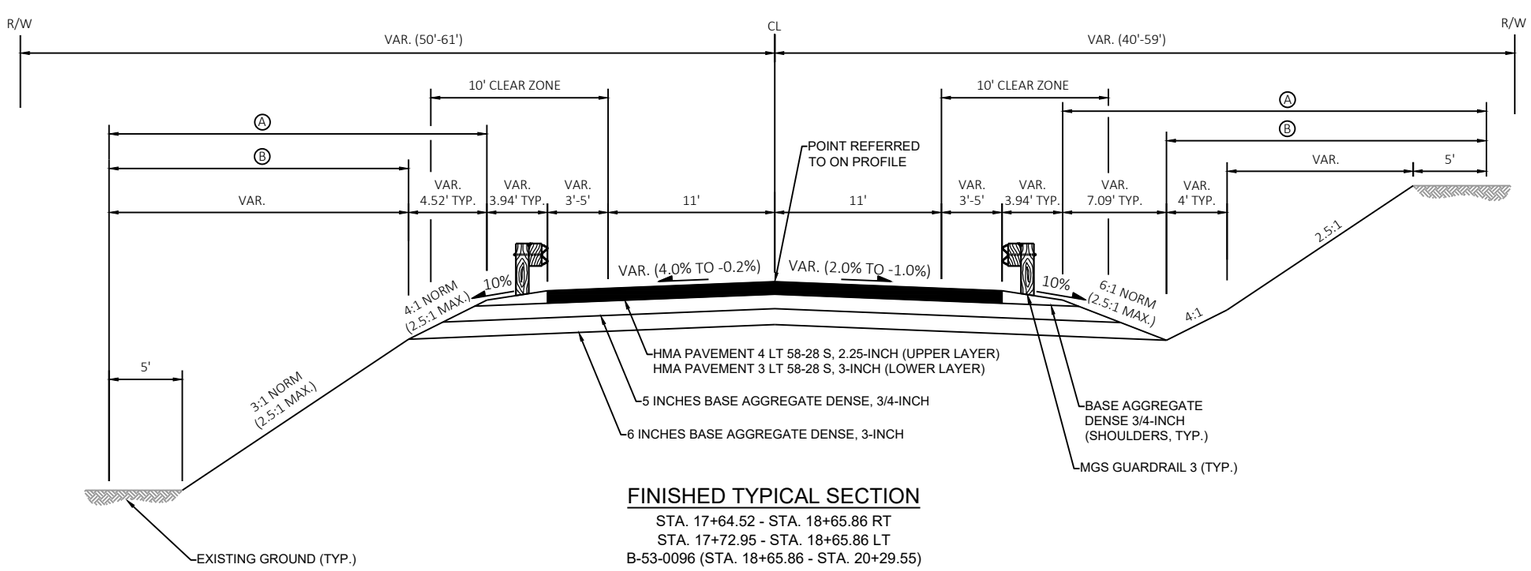
Ⓑ SALVAGED TOPSOIL; SEED WATER;
AND EROSION MAT CLASS II TYPE C.

PROJECT NO: 5767-00-73	HWY: CALEDONIA ROAD	COUNTY: ROCK	TYPICAL SECTIONS	SHEET 3	E



FINISHED TYPICAL SECTION

STA. 17+15.47 - STA. 17+72.95 LT
STA. 17+15.47 - STA. 17+64.52 RT
STA. 21+14.71 - STA. 21+74.35 RT
STA. 21+24.35 - STA. 21+74.35 LT



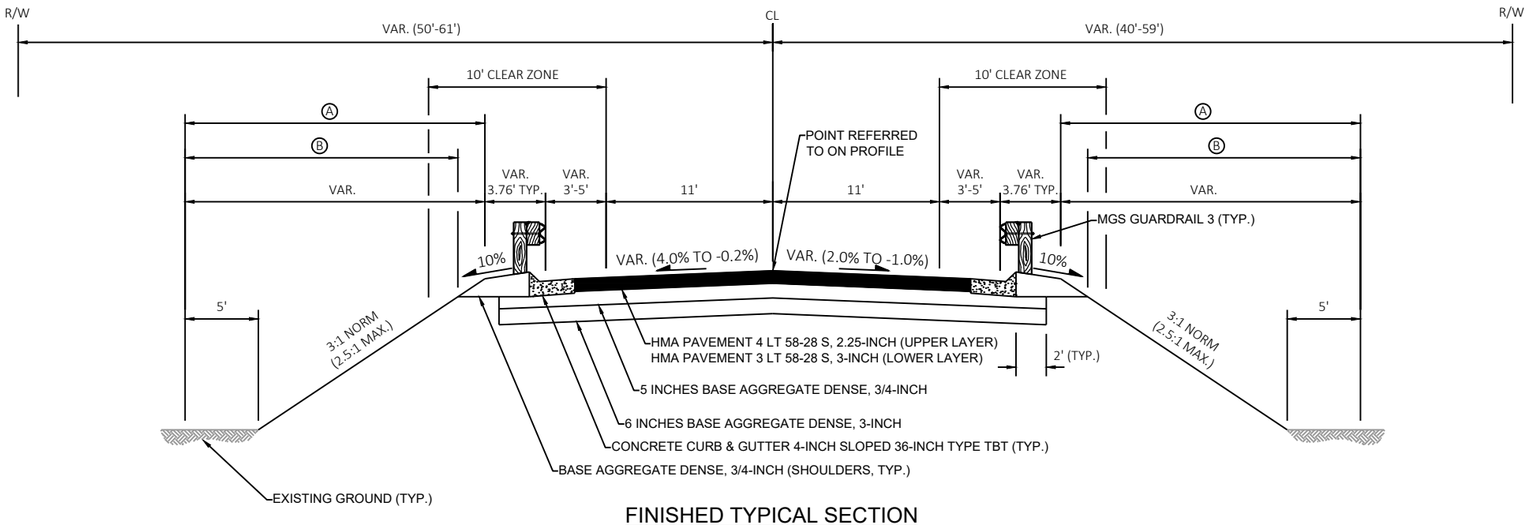
FINISHED TYPICAL SECTION

STA. 17+64.52 - STA. 18+65.86 RT
STA. 17+72.95 - STA. 18+65.86 LT
B-53-0096 (STA. 18+65.86 - STA. 20+29.55)

Ⓐ SEEDING MIXTURE NO. 20 AND FERTILIZER TYPE A.

Ⓑ SALVAGED TOPSOIL; SEED WATER; AND EROSION MAT CLASS II TYPE C.

2



FINISHED TYPICAL SECTION

STA. 20+29.55 - STA. 21+14.71 RT
STA. 20+29.55 - STA. 21+24.35 LT

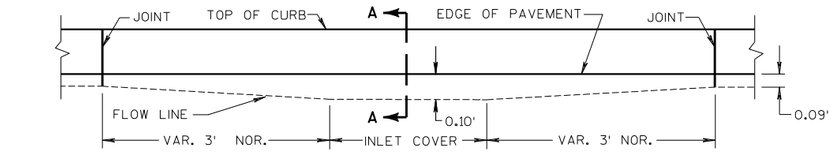
Ⓐ SEEDING MIXTURE NO. 20
AND FERTILIZER TYPE A.

Ⓑ SALVAGED TOPSOIL; SEED WATER;
AND EROSION MAT CLASS II TYPE C.

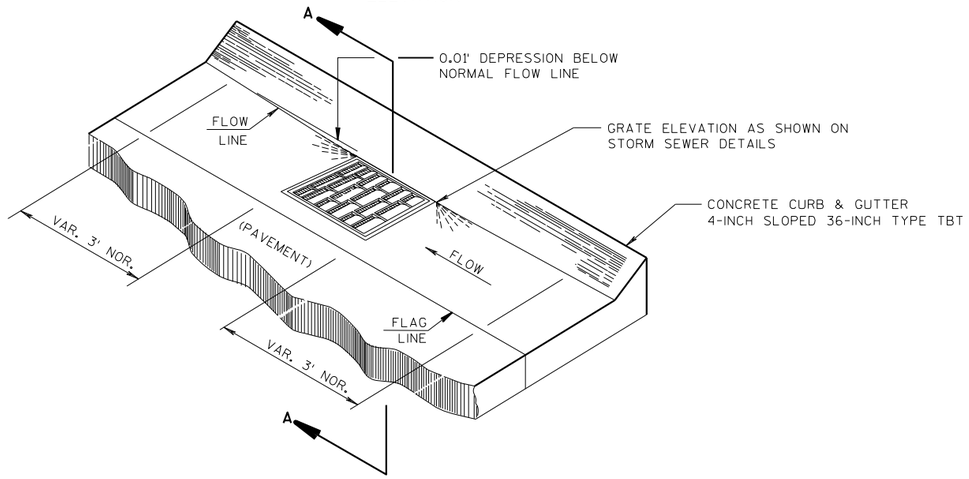
RUNOFF COEFFICIENT TABLE

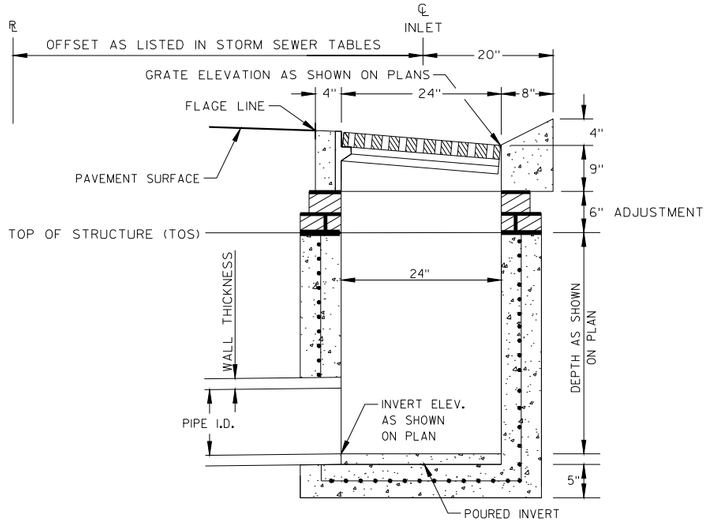
LAND USE:	HYDROLOGIC SOIL GROUP											
	A			B			C			D		
	SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)		
	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER
ROW CROPS:	.08 .22	.16 .30	.22 .38	.12 .26	.20 .34	.27 .44	.15 .30	.24 .37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

TOTAL PROJECT AREA = 1.39 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 0.49 ACRES



ELEVATION



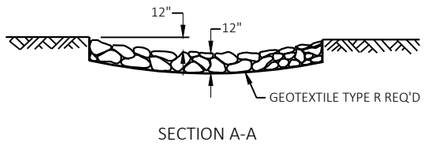


SEE S.D.D. "INLETS 2x2-FT, 2X2.5-FT, 2X3-FT, 2.5X3-FT" FOR ADDITIONAL INFORMATION.

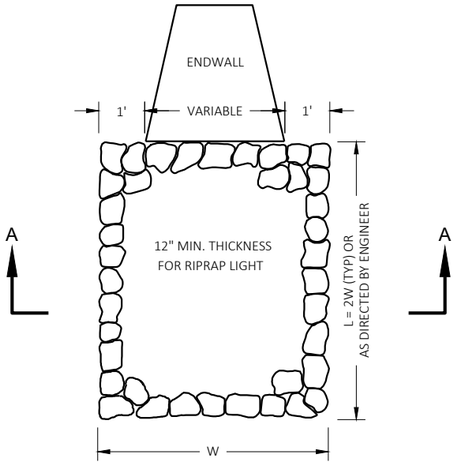
SECTION A-A
(INLETS 2X2-FT WITH INLET COVERS TYPE V SHOWN)

DETAIL OF CONCRETE CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE TBT AT INLETS

STA 20+67 LT
STA 20+68 RT
STA 20+78 LT

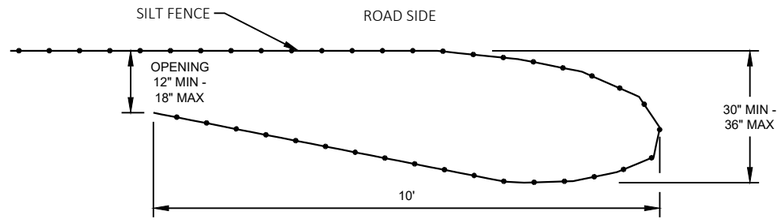


SECTION A-A



RIPRAP LIGHT TREATMENT AT CULVERTS

STA 20+72 LT
STA 21+35 LT

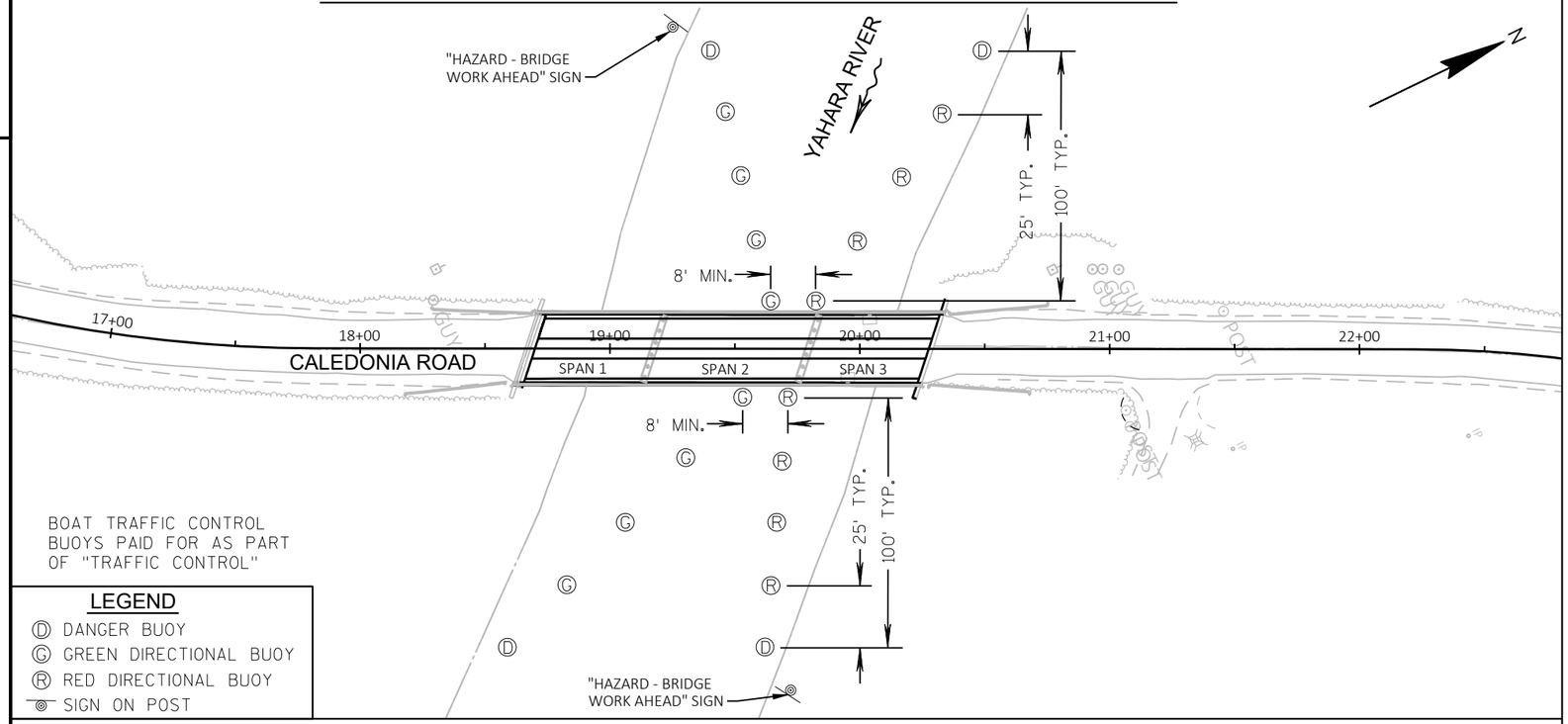


TEMPORARY TURTLE TURN-AROUND

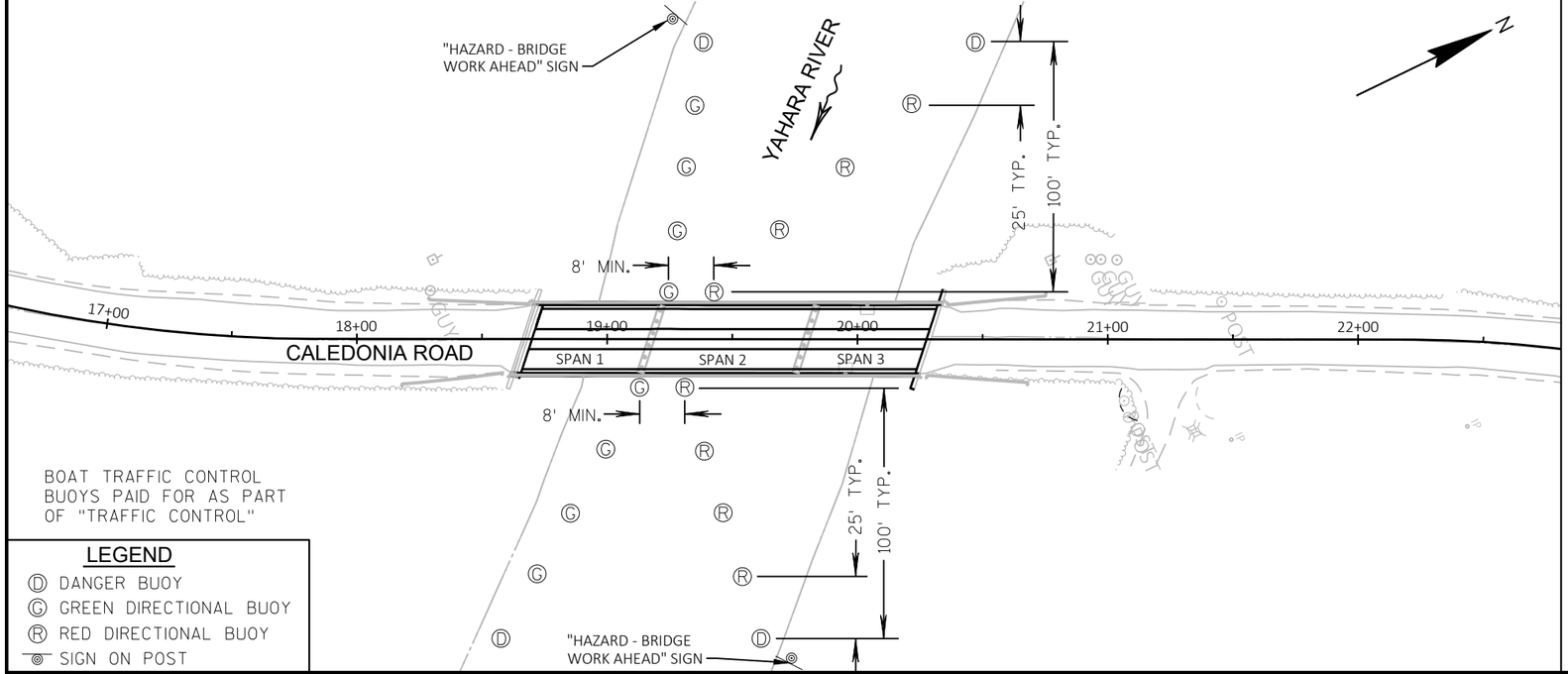
STA 18+45 RT
STA 18+60 LT
STA 21+05 RT
STA 21+50 LT

NOTE:
SILT FENCE POST FOR THE TURN-AROUND SHOULD BE ON THE OUTSIDE OF THE TURN-AROUND AND TRENCHED IN ACCORDANCE WITH SILT FENCE REQUIREMENTS. TURN AROUND TO BE PAID AS "SILT FENCE".

POTENTIAL LAYOUT DURING CONSTRUCTION ON SOUTHERN PORTION OF BRIDGE



POTENTIAL LAYOUT DURING CONSTRUCTION ON NORTHERN PORTION OF BRIDGE



MAINTAIN BOAT TRAFFIC AT ALL TIMES ON THE YAHARA RIVER THROUGH THE WORK ZONE.

ACCESS LOCATION UNDER BRIDGE TO BE DETERMINED BY CONTRACTOR'S OPERATIONS AND AS DIRECTED BY THE ENGINEER.

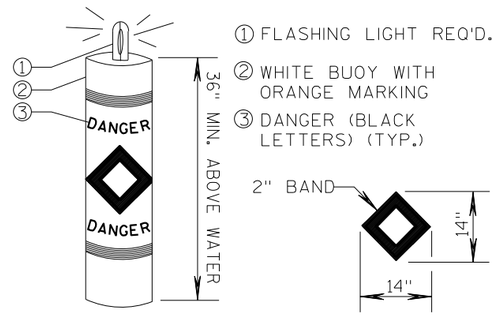
THE EXACT LOCATION AND SPACING OF ALL DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS.

PLACE "HAZARD - BRIDGE WORK AHEAD" SIGNS AT THE NEAREST UPSTREAM AND DOWNSTREAM BOAT LAUNCHES.

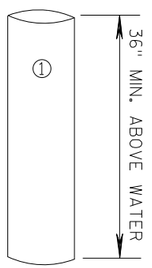
36" X 18"

HAZARD SIGN DETAIL

NOT TO SCALE



TYPICAL DANGER BUOY DETAIL



① BUOYS ARE GREEN OR RED DEPENDING ON THE LOCATION. GREEN BUOYS ARE PROVIDED ON THE LEFT SIDE OF THE CHANNEL WHEN LOOKING UPSTREAM AND RED BUOYS ARE PROVIDED ON THE RIGHT SIDE OF THE CHANNEL WHEN LOOKING UPSTREAM.

TYPICAL DIRECTIONAL BUOY DETAIL

PROJECT NO: 5767-00-73	HWY: CALEDONIA ROAD	COUNTY: ROCK	CONSTRUCTION DETAILS - BOAT TRAFFIC CONTROL	SHEET 8	E

2

N

YAHARA RIVER

R/W

BEGIN PROJECT
STA 17+15.47

B-53-0096

STA 20+35.63

WETLAND BOUNDARY (TYP.)

STA 21+32.35

R/W

XXXXXXXX

17+00

18+00

19+00

20+00

21+00

22+00

CALEDONIA ROAD

R/W

P.L.

R/W

SLOPE INTERCEPT (TYP.)

R/W

STA 20+24.69

STA 21+01.98

END PROJECT
STA 21+74.35

WETLAND BOUNDARY (TYP.)

P.L.

P.L.

P.L.

P.L.

PERMANENT WETLAND IMPACTS

IMPACT LOCATION STATION	IMPACT TYPE	AREA ACRES
STA 20+35.63 LT - STA 21+32.35 LT	RPF	0.001
STA 20+24.69 RT - STA 21+01.98 RT	RPF	0.007

PROJECT NO: 5767-00-73	HWY: CALEDONIA ROAD	COUNTY: ROCK	WETLAND DETAIL	SHEET 9	E

FILE NAME : S:\MAD\1200--1299\1288\001\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\021004-CD.DWG
LAYOUT NAME - 021004-cd

PLOT DATE : 10/14/2024 3:54 PM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

STA. 17+72.95 LT - STA. 18+26.30 LT, MGS GUARDRAIL TERMINAL EAT
STA. 18+26.30 LT - STA. 18+65.70 LT, MGS THRIE BEAM TRANSITION

STA. 20+31.87 LT - STA. 20+71.26 LT, MGS THRIE BEAM TRANSITION
STA. 20+71.26 LT - STA. 21+24.35 LT, MGS GUARDRAIL TERMINAL EAT

N

YAHARA RIVER

STA 16+53.45, -11.99' LT
STA 16+53.45, -14.00' LT
STA 17+21.97, -11.00' LT
STA 17+15.47, -11.00' LT
BEGIN PROJECT
STA 17+15.47
STA 16+93.31, -12.19' LT
STA 18+70.41, -14.00' LT
STA 18+65.70, -14.00' LT
STA 18+26.30, -17.94' LT
STA 18+26.30, -14.00' LT
STA 18+23.18, -14.12' LT
POST #9
STA 17+98.20, -19.33' LT
STA 17+98.20, -15.10' LT
POST #5
R/W
STA 17+72.95, -21.77' LT
STA 17+72.95, -16.00' LT
POST #1
STA 20+71.24, -17.76' LT
STA 20+71.26, -14.00' LT
STA 20+71.30, -11.94' LT
STA 20+34.57, -17.76' LT
STA 20+33.43, -11.94' LT
STA 20+31.87, -14.00' LT
B-53-0096
STA 20+74.38, -14.12' LT
POST #9
STA 20+92.95, -12.75' LT
STA 20+99.37, -19.33' LT
STA 20+99.37, -15.06' LT
POST #5
STA 21+24.35, -21.77' LT
STA 21+24.35, -16.00' LT
POST #1
R/W
STA 22+40.37, -14.00' LT
STA 22+40.37, -9.95' LT
STA 21+74.35, -11.00' LT

15:1 TAPER
10:1 TAPER
XXXXXXXX
1"
MATCH EXISTING
3.1%
5.6%
3'
18+00
19+00
20+00
21+00
22+00
HMA
11'
2.0%
+61.3
11.94'
2.0%
+75
CG36TBT
CALEDONIA ROAD
2.0%
+71
2.1%
2.5%
MATCH EXISTING

BEGIN CONSTRUCTION
STA 16+53.45
END PROJECT
STA 21+74.35
END CONSTRUCTION
STA 22+40.37

STA 16+85.25, 9.66' RT
STA 16+85.25, 14.00' RT
STA 17+06.48, 10.08' RT
STA 17+15.47, 10.08' RT
STA 17+15.47, 11.00' RT
STA 17+64.52, 16.00' RT
POST #1
STA 17+64.69, 18.77' RT
STA 17+70.74, 18.40' RT
STA 17+76.83, 19.27' RT
STA 17+89.01, 14.91' RT
POST #5
STA 18+14, 14.10' RT
POST #9
STA 18+17.12, 14.00' RT
STA 18+17.12, 17.94' RT
STA 18+61.31, 14.00' RT
STA 18+56.52, 14.00' RT
STA 20+22.23, 14.00' RT
STA 20+25.67, 11.94' RT
STA 20+24.69, 17.76' RT
STA 20+61.66, 11.94' RT
STA 20+61.62, 14.00' RT
STA 20+61.60, 17.76' RT
STA 21+14.71, 16.00' RT
POST #1
STA 21+14.71, 21.77' RT
STA 20+89.73, 15.06' RT
POST #5
STA 20+89.73, 19.33' RT
STA 20+83.31, 12.75' RT
STA 20+64.75, 14.12' RT
POST #9
STA 21+74.35, 9.91' RT
STA 22+31.53, 14.00' RT
STA 22+31.53, 10.94' RT

SLOPE INTERCEPT (TYP.)
P.L.
R/W

STA. 17+64.52 RT - STA. 18+17.12 RT, MGS GUARDRAIL TERMINAL EAT
STA. 18+17.12 RT - STA. 18+56.52 RT, MGS THRIE BEAM TRANSITION

STA. 20+22.23 RT - STA. 20+61.62 RT, MGS THRIE BEAM TRANSITION
STA. 20+61.62 RT - STA. 21+14.71 RT, MGS GUARDRAIL TERMINAL EAT

LEGEND

HMA	HMA PAVEMENT
XXXXXXXX	SAWING ASPHALT
	TRAFFIC FLOW
CG36TBT	CONCRETE CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE TBT
	RIPRAP LIGHT

PROJECT NO: 5767-00-73	HWY: CALEDONIA ROAD	COUNTY: ROCK	LAYOUT DETAIL	SHEET 10	E

FILE NAME : S:\MAD\1200--1299\1288\001\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\021201-PD.DWG
LAYOUT NAME - 021201-pd
PLOT DATE : 10/14/2024 4:00 PM
PLOT BY : ROSENTHAL, BRIAN
PLOT NAME :
PLOT SCALE : 1 IN:40 FT

2

YAHARA RIVER

N

WETLAND BOUNDARY (TYP.)

R/W

B-53-0096

SPECTRUM (COMMUNICATIONS)

ROCK ENERGY COOPERATIVE (ELECTRIC)

BEGIN PROJECT
STA 17+15.47

ROCK ENERGY COOPERATIVE (ELECTRIC)

TA

17+00

18+00

19+00

20+00

21+00

22+00

CALEDONIA ROAD

AC

A

END PROJECT
STA 21+74.35

FRONTIER
(COMMUNICATIONS)

SLOPE INTERCEPT (TYP.)

P.L.

OH

FO

E

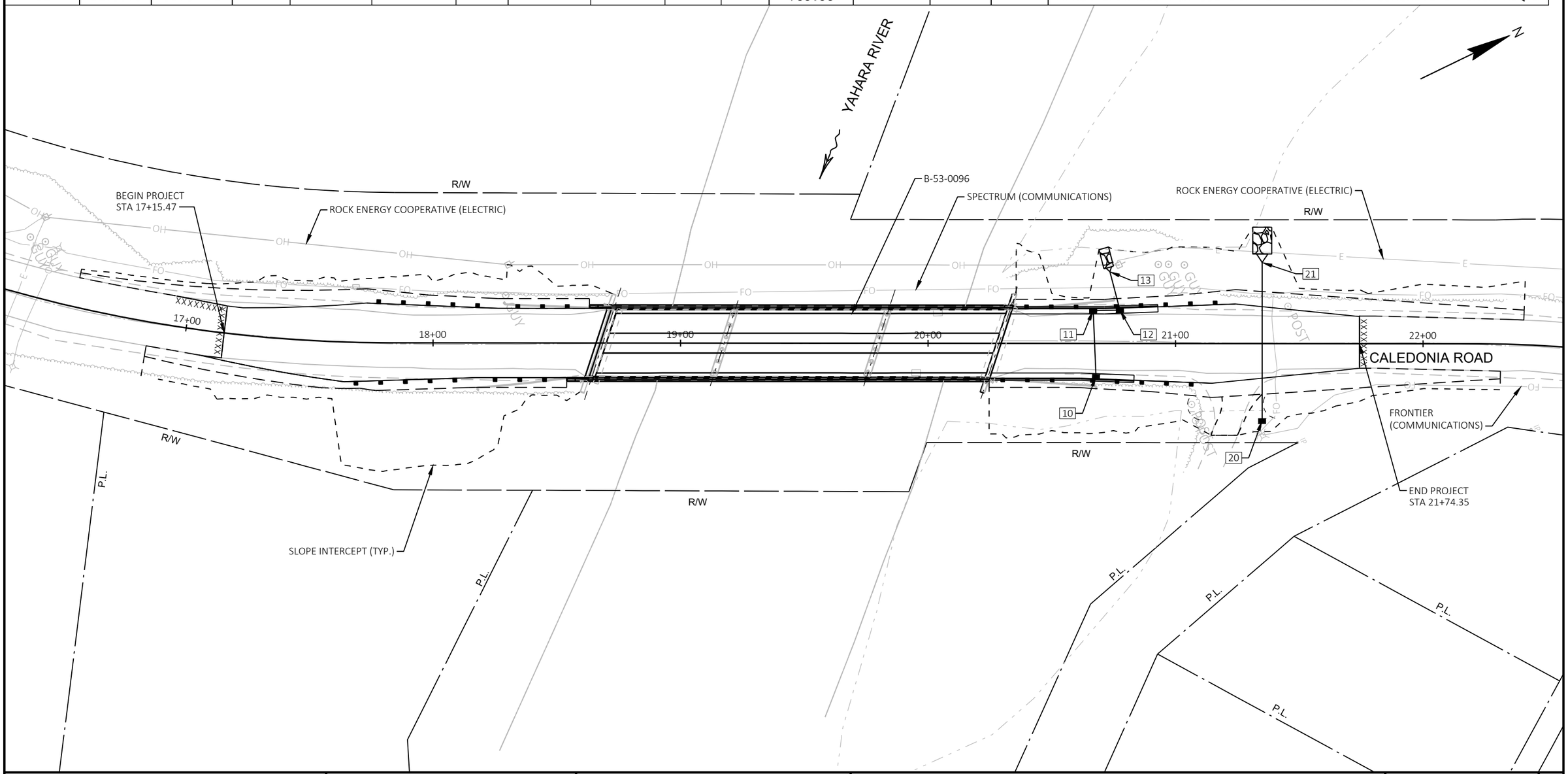
LEGEND

- EROSION MAT CLASS II TYPE C
- SILT FENCE
- TA — TEMPORARY TURTLE TURN-AROUND (SEE CONSTRUCTION DETAIL "TEMPORARY TURTLE TURN-AROUND")
- RIPRAP LIGHT
- AC — INLET PROTECTION TYPE A UNTIL CURB AND GUTTER IS PLACED THEN INLET PROTECTION TYPE C
- A — INLET PROTECTION TYPE A
- TEMPORARY DITCH CHECKS
- SURFACE WATER FLOW

PROJECT NO: 5767-00-73	HWY: CALEDONIA ROAD	COUNTY: ROCK	EROSION CONTROL	SHEET 11	E

FILE NAME : S:\MAD\1200--1299\1288\001\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\022001-EC.DWG
LAYOUT NAME - 022001-ec
PLOT DATE : 10/14/2024 4:03 PM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : PLOT SCALE : 1 IN:40 FT
WISDOT/CADDS SHEET 42

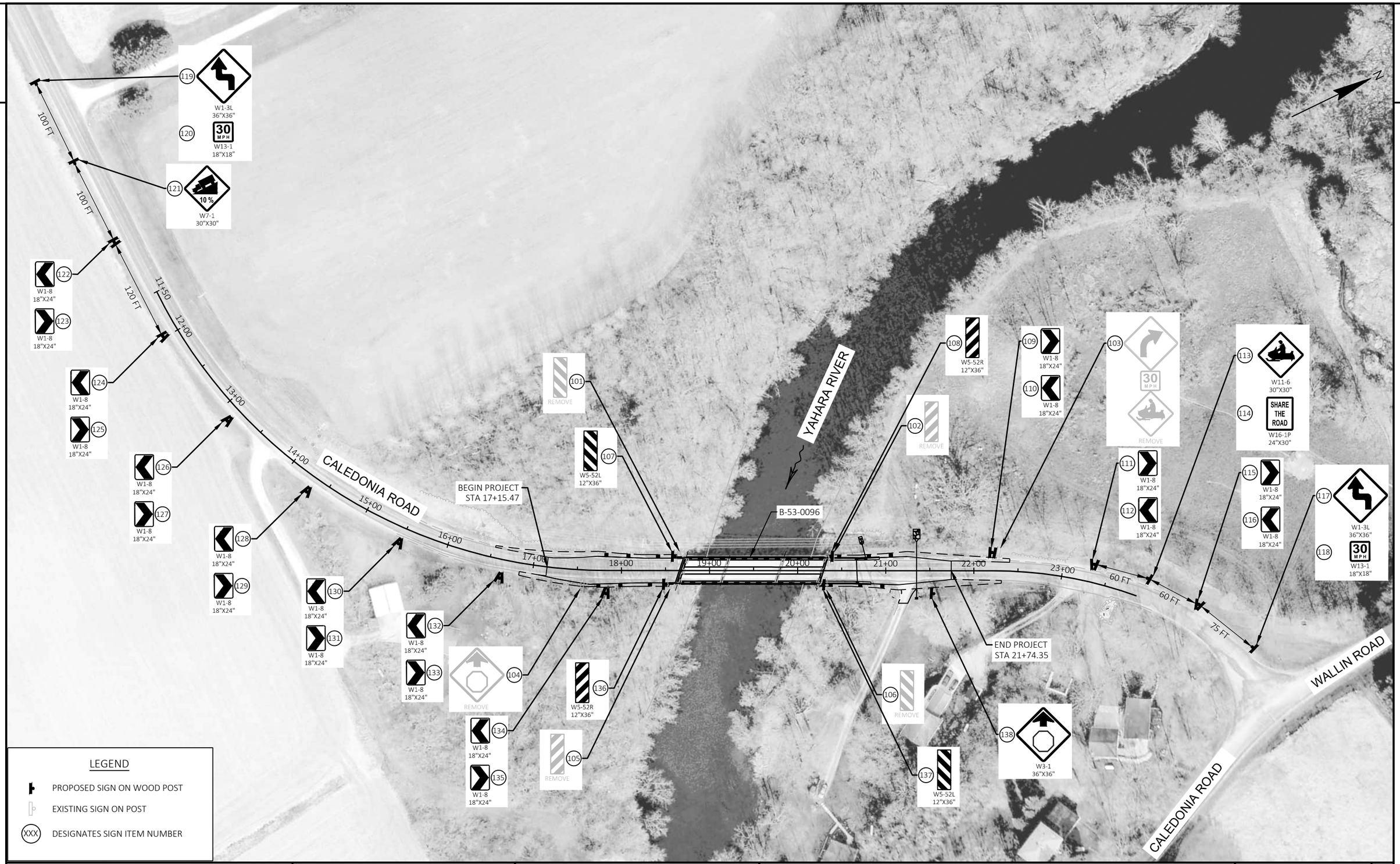
STRUCTURE NO.	STATION	OFFSET	C-C (FT)	DOWNSTREAM STRUCTURE	INLET TYPE	COVER	RIM/ GRATE ELEVATION	T.O.S. ELEVATION	DEPTH (FT)	DISCHARGE PIPE SIZE (IN)	DISCHARGE PIPE INVERT ELEVATION	DISCHARGE PIPE DISCHARGE ELEVATION	DISCHARGE PIPE LENGTH (FT)	DISCHARGE PIPE SLOPE (%)	REMARKS
10	20+67.9	13.5 ' RT	26.8	11	2X2-FT	V	801.94	800.69	3.17	12	797.52	797.25	27	1.01%	
11	20+66.7	13.3 ' LT	10.8	12	2X2-FT	V	801.95	800.70	3.45	12	797.25	797.14	11	1.02%	
12	20+77.5	13.5 ' LT	16.0	13	2X2.5-FT	V	801.97	800.72	3.58	12	797.14	796.98	16	1.00%	
13	20+73.5	29.0 ' LT	-	-	-	-	-	-	-	-	796.98	-	-	-	APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 12-INCH REQ'D
20	21+35.0	31.2 ' RT	64.0	21	2G	MS	800.31	-	3.00	24	797.31	796.67	64	1.00%	SINGLE SLOPE INLET COVERS
21	21+35.0	32.8 ' LT	-	-	-	-	-	-	-	-	799.98	-	-	-	APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 24-INCH REQ'D



PROJECT NO: 5767-00-73	HWY: CALEDONIA ROAD	COUNTY: ROCK	STORM SEWER	SHEET 12	E

FILE NAME : S:\MAD\1200--1299\1288\001\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\022501-SS.DWG
LAYOUT NAME - 022501-ss
PLOT DATE : 10/14/2024 4:05 PM
PLOT BY : ROSENTHAL, BRIAN
PLOT NAME :
PLOT SCALE : 1 IN:40 FT

2



PROJECT NO: 5767-00-73	HWY: CALEDONIA ROAD	COUNTY: ROCK	PERMANENT SIGNING	SHEET 13	E

FILE NAME : S:\MAD\1200--1299\1288\001\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\023201-PS.DWG
LAYOUT NAME - 023201-ps

PLOT DATE : 9/10/2024 8:40 AM PLOT BY : ROSENTHAL, BRIAN PLOT NAME : PLOT SCALE : 1 IN:100 FT

2

BRIDGE OUT
0.2 MILES AHEAD
R11-3C
60"X24"
BRIDGE OUT
R11-2B
48"X30"
BRIDGE OUT
R11-2B
48"X30"
AT NORTH RAYMOND ROAD
500 FT
500 FT
50 FT
C
D
*PCMS
YAHARA RIVER
ROAD CLOSED AHEAD
W20-3A
ROAD CLOSED 1000 FT
W20-3C
ROAD CLOSED 500 FT
W20-3D
*PRE-WARN
ROAD CLOSED BEGINS
FRAME 1
(DAY) (DATE)
FRAME 2
BRIDGE OUT
0.2 MILES AHEAD
R11-3C
60"X24"
*PRE-WARN
ROAD CLOSED BEGINS
FRAME 1
(DAY) (DATE)
FRAME 2
*PCMS
CALEDONIA ROAD
BRIDGE OUT
R11-2B
48"X30"
N
LEGEND
TYPE III BARRICADE WITH ATTACHED SIGN TYPE 2 (TWO WARNING LIGHTS TYPE A REQ'D)
TYPE III BARRICADE WITHOUT SIGN (TWO WARNING LIGHTS TYPE A REQ'D)
TYPE III BARRICADE WITHOUT SIGN (ONE WARNING LIGHT TYPE A REQ'D)
TRAFFIC CONTROL SIGN ON POST
WORK ZONE
SEE S.D.D "BARRICADES AND SIGNS FOR MAINLINE CLOSURES" AND "BARRICADES AND SIGNS FOR VARIOUS CLOSURES" FOR ADDITIONAL INFORMATION AND SPACING.
C SEE S.D.D "BARRICADES AND SIGNS FOR VARIOUS CLOSURES" DETAIL C
D SEE S.D.D "BARRICADES AND SIGNS FOR VARIOUS CLOSURES" DETAIL D

2

PROJECT NO: 5767-00-73	HWY: CALEDONIA ROAD	COUNTY: ROCK	BRIDGE CLOSURE DETAIL	SHEET 14	E

2

LEGEND

- TYPE III BARRICADE WITH ATTACHED SIGN TYPE 2 (TWO WARNING LIGHTS TYPE A REQ'D)
- TYPE III BARRICADE WITHOUT SIGN (TWO WARNING LIGHTS TYPE A REQ'D)
- TYPE III BARRICADE WITHOUT SIGN (ONE WARNING LIGHT TYPE A REQ'D)
- TRAFFIC CONTROL SIGN ON POST
- WORK ZONE

SEE S.D.D "BARRICADES AND SIGNS FOR MAINLINE CLOSURES" AND "BARRICADES AND SIGNS FOR VARIOUS CLOSURES" FOR ADDITIONAL INFORMATION AND SPACING.

(C) SEE S.D.D "BARRICADES AND SIGNS FOR VARIOUS CLOSURES" DETAIL C

(D) SEE S.D.D "BARRICADES AND SIGNS FOR VARIOUS CLOSURES" DETAIL D

PROJECT NO: 5767-00-73	HWY: CALEDONIA ROAD	COUNTY: ROCK	BRIDGE CLOSURE DETAIL	SHEET 15	E

Estimate Of Quantities

5767-00-73

Line	Item	Item Description	Unit	Total	Qty
0002	201.0205	Grubbing	STA	5.000	5.000
0004	203.0100	Removing Small Pipe Culverts	EACH	1.000	1.000
0006	203.0260	Removing Structure Over Waterway Minimal Debris (structure) 01. B-53-96	EACH	1.000	1.000
0008	204.0165	Removing Guardrail	LF	170.000	170.000
0010	205.0100	Excavation Common	CY	720.000	720.000
0012	206.1001	Excavation for Structures Bridges (structure) 01. B-53-96	EACH	1.000	1.000
0014	210.1500	Backfill Structure Type A	TON	8.000	8.000
0016	213.0100	Finishing Roadway (project) 01. 5767-00-73	EACH	1.000	1.000
0018	305.0110	Base Aggregate Dense 3/4-Inch	TON	700.000	700.000
0020	305.0130	Base Aggregate Dense 3-Inch	TON	701.000	701.000
0022	455.0605	Tack Coat	GAL	45.000	45.000
0024	460.2000	Incentive Density HMA Pavement	DOL	170.000	170.000
0026	460.5223	HMA Pavement 3 LT 58-28 S	TON	150.000	150.000
0028	460.5224	HMA Pavement 4 LT 58-28 S	TON	113.000	113.000
0030	502.0100	Concrete Masonry Bridges	CY	185.000	185.000
0032	502.3101	Expansion Device	LF	30.000	30.000
0034	502.3200	Protective Surface Treatment	SY	509.000	509.000
0036	502.3210	Pigmented Surface Sealer	SY	168.000	168.000
0038	502.4106	Adhesive Anchors 3/4-inch	EACH	4.000	4.000
0040	502.4205	Adhesive Anchors No. 5 Bar	EACH	64.000	64.000
0042	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	48,270.000	48,270.000
0044	506.2610	Bearing Pads Elastomeric Laminated	EACH	4.000	4.000
0046	506.7050.S	Removing Bearings (structure) 01. B-53-96	EACH	4.000	4.000
0048	509.1500	Concrete Surface Repair	SF	30.000	30.000
0050	517.0901.S	Preparation and Coating of Top Flanges (structure) 01. B-53-96	EACH	1.000	1.000
0052	517.1801.S	Structure Repainting Recycled Abrasive (structure) 01. B-53-96	EACH	1.000	1.000
0054	517.4501.S	Negative Pressure Containment and Collection of Waste Materials (structure) 01. B-53-96	EACH	1.000	1.000
0056	517.6001.S	Portable Decontamination Facility	EACH	1.000	1.000
0058	522.1012	Apron Endwalls for Culvert Pipe Reinforced Concrete 12-Inch	EACH	1.000	1.000
0060	522.1024	Apron Endwalls for Culvert Pipe Reinforced Concrete 24-Inch	EACH	1.000	1.000
0062	601.0588	Concrete Curb & Gutter 4-Inch Sloped 36-Inch Type TBT	LF	115.000	115.000
0064	606.0100	Riprap Light	CY	4.300	4.300
0066	606.0300	Riprap Heavy	CY	3.000	3.000
0068	608.0312	Storm Sewer Pipe Reinforced Concrete Class III 12-Inch	LF	54.000	54.000
0070	608.0324	Storm Sewer Pipe Reinforced Concrete Class III 24-Inch	LF	64.000	64.000
0072	611.0642	Inlet Covers Type MS	EACH	2.000	2.000
0074	611.0654	Inlet Covers Type V	EACH	3.000	3.000
0076	611.3220	Inlets 2x2-FT	EACH	2.000	2.000
0078	611.3225	Inlets 2x2.5-FT	EACH	1.000	1.000
0080	611.3902	Inlets Median 2 Grate	EACH	1.000	1.000
0082	614.0150	Anchor Assemblies for Steel Plate Beam Guard	EACH	4.000	4.000
0084	614.2500	MGS Thrie Beam Transition	LF	158.000	158.000
0086	614.2610	MGS Guardrail Terminal EAT	EACH	4.000	4.000
0088	618.0100	Maintenance and Repair of Haul Roads (project) 01. 5767-00-73	EACH	1.000	1.000
0090	619.1000	Mobilization	EACH	1.000	1.000
0092	624.0100	Water	MGAL	21.000	21.000
0094	625.0500	Salvaged Topsoil	SY	969.000	969.000
0096	627.0200	Mulching	SY	450.000	450.000

5767-00-73

Line	Item	Item Description	Unit	Total	Qty
0098	628.1504	Silt Fence	LF	930.000	930.000
0100	628.1520	Silt Fence Maintenance	LF	1,365.000	1,365.000
0102	628.1905	Mobilizations Erosion Control	EACH	4.000	4.000
0104	628.1910	Mobilizations Emergency Erosion Control	EACH	3.000	3.000
0106	628.2027	Erosion Mat Class II Type C	SY	945.000	945.000
0108	628.7005	Inlet Protection Type A	EACH	5.000	5.000
0110	628.7015	Inlet Protection Type C	EACH	4.000	4.000
0112	628.7504	Temporary Ditch Checks	LF	219.000	219.000
0114	628.7560	Tracking Pads	EACH	2.000	2.000
0116	629.0205	Fertilizer Type A	CWT	1.000	1.000
0118	630.0120	Seeding Mixture No. 20	LB	51.000	51.000
0120	630.0300	Seeding Borrow Pit	LB	20.000	20.000
0122	630.0500	Seed Water	MGAL	36.000	36.000
0124	633.5200	Markers Culvert End	EACH	2.000	2.000
0126	634.0612	Posts Wood 4x6-Inch X 12-FT	EACH	10.000	10.000
0128	634.0614	Posts Wood 4x6-Inch X 14-FT	EACH	4.000	4.000
0130	634.0616	Posts Wood 4x6-Inch X 16-FT	EACH	1.000	1.000
0132	634.0618	Posts Wood 4x6-Inch X 18-FT	EACH	4.000	4.000
0134	637.2230	Signs Type II Reflective F	SF	119.000	119.000
0136	638.2602	Removing Signs Type II	EACH	8.000	8.000
0138	638.3000	Removing Small Sign Supports	EACH	6.000	6.000
0140	642.5201	Field Office Type C	EACH	1.000	1.000
0142	643.0420	Traffic Control Barricades Type III	DAY	814.000	814.000
0144	643.0705	Traffic Control Warning Lights Type A	DAY	1,480.000	1,480.000
0146	643.0900	Traffic Control Signs	DAY	1,110.000	1,110.000
0148	643.1000	Traffic Control Signs Fixed Message	SF	40.500	40.500
0150	643.1050	Traffic Control Signs PCMS	DAY	14.000	14.000
0152	643.5000	Traffic Control	EACH	1.000	1.000
0154	645.0130	Geotextile Type R	SY	21.000	21.000
0156	650.4000	Construction Staking Storm Sewer	EACH	6.000	6.000
0158	650.4500	Construction Staking Subgrade	LF	305.000	305.000
0160	650.5000	Construction Staking Base	LF	305.000	305.000
0162	650.5500	Construction Staking Curb Gutter and Curb & Gutter	LF	115.000	115.000
0164	650.6501	Construction Staking Structure Layout (structure) 01. B-53-96	EACH	1.000	1.000
0166	650.9911	Construction Staking Supplemental Control (project) 01. 5767-00-73	EACH	1.000	1.000
0168	650.9920	Construction Staking Slope Stakes	LF	435.000	435.000
0170	690.0150	Sawing Asphalt	LF	64.000	64.000
0172	999.2000.S	Installing and Maintaining Bird Deterrent System (station) 01. 19+48	EACH	1.000	1.000
0174	ASP.1T0A	On-the-Job Training Apprentice at $5.00/HR	HRS	1,200.000	1,200.000
0176	ASP.1T0G	On-the-Job Training Graduate at $5.00/HR	HRS	600.000	600.000
0178	SPV.0180	Special 01. Abutment Seat Cleaning and Sealing	SY	8.000	8.000

GRUBBING

CATEGORY	STATION - STATION	LOCATION	201.0205 GRUBBING STA
0010	17+00 - 19+00	LT/RT	2
	20+00 - 23+00	LT/RT	3
		TOTAL	5

REMOVING SMALL PIPE CULVERTS

CATEGORY	STATION	LOCATION	203.0100 EACH	REMARKS
0010	21+21	RT	1	24-INCH X 31-FOOT CMCP

REMOVING GUARDRAIL

CATEGORY	STATION - STATION	LOCATION	204.0165 LF
0010	18+18 - 18+59	RT	40
	18+29 - 18+69	LT	45
	20+27 - 20+68	RT	45
	20+36 - 20+75	LT	40
		TOTAL	170

EARTHWORK

CATEGORY	LOCATION	STATION - STATION	205.0100 EXCAVATION COMMON (1) CUT (2)	EBS EXCAVATION (3) 5% OF CUT	AVAILABLE MATERIAL (4)	EXPANDED EBS BACKFILL (5) FACTOR 1.25	UNEXPANDED FILL	EXPANDED FILL (6) FACTOR 1.25	MASS ORDINATE +/- (7)	WASTE (8)	* 305.0130 BASE AGGREGATE DENSE 3-INCH (9)
			CY	CY	CY	CY	CY	CY	CY	CY	TON
0010	CALEDONIA ROAD	16+53.45 - 22+40.37	688	32	688	40	67	84	604	604	76
		TOTALS		720	688	40	67	84	604	604	76

* ADDITIONAL QUANTITIES LISTED ELSEWHERE.

1) EXCAVATION COMMON IS THE SUM OF THE CUT AND EBS EXCAVATION COLUMNS. ITEM NUMBER 205.0100.
2) SALVAGED/UNUSABLE PAVEMENT MATERIAL IS INCLUDED IN CUT.
3) EBS EXCAVATION TO BE BACKFILLED WITH BASE AGGREGATE DENSE 3-INCH.
4) AVAILABLE MATERIAL = CUT.
5) EXPANDED EBS BACKFILL: THIS IS TO BE FILLED WITH BASE AGGREGATE DENSE 3-INCH. EBS BACKFILL EXPANSION FACTOR = 1.25.
6) EXPANDED FILL = (UNEXPANDED FILL)* EXPANDED FILL FACTOR. EXPANDED FILL FACTOR = 1.25.
7) MASS ORDINATE: MASS ORDINATE = CUT - EXPANDED FILL.
   PLUS MASS ORDINATE QUANTITY INDICATES AN EXCESS OF MATERIAL WITHIN THE DIVISION. MINUS MASS ORDINATE QUANTITY INDICATES A SHORTAGE OF MATERIAL WITHIN THE DIVISION.
8) WASTE = POSITIVE MASS ORDINATE. BORROW = NEGATIVE MASS ORDINATE.
9) BASE AGGREGATE DENSE 3-INCH IS USED FOR BACKFILL OF EBS.

FINISHING ROADWAY

CATEGORY	PROJECT	213.0100 EACH
0010	5767-00-73	1

BASE AGGREGATE SUMMARY

CATEGORY	STATION - STATION	LOCATION	305.0110 BASE AGGREGATE DENSE 3/4-INCH TON	* 305.0130 BASE AGGREGATE DENSE 3-INCH TON
0010	16+53 - 18+71	LT/RT	335	315
	20+25 - 22+40	LT/RT	365	310
	TOTALS		700	625

* ADDITIONAL QUANTITIES LISTED ELSEWHERE.

ASPHALTIC ITEMS

CATEGORY	STATION - STATION	LOCATION	460.5223 HMA PAVEMENT 3 LT 58-28 S TON	460.5224 HMA PAVEMENT 4 LT 58-28 S TON	455.0605 TACK COAT GAL
0010	17+06 - 18+70	LT/RT	79	59	24
	20+26 - 21+74	LT/RT	71	54	21
	TOTALS		150	113	45

NOTE: HMA PAVEMENT WEIGHT CALCULATIONS BASED ON 112 LB/SY/IN.

CONCRETE CURB & GUTTER

CATEGORY	STATION - STATION	LOCATION	601.0588 CONCRETE CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE TBT LF
0010	20+25 - 20+93	LT/RT	115

RIPRAP

CATEGORY	STATION	OFFSET	606.0100 RIPRAP LIGHT CY	645.0130 GEOTEXTILE TYPE R SY
0010	20+72	34.5' LT	1.2	7
	21+35	41.5' LT	3.1	14
	TOTALS		4.3	21

3

3

STORM SEWER

CATEGORY	FROM STRUCTURE	TO STRUCTURE	522.1012 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 12-INCH EACH	522.1024 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 24-INCH EACH	608.0312 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 12-INCH LF	608.0324 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 24-INCH LF
0010	10	11	---	---	27	---
	11	12	---	---	11	---
	12	13	---	---	16	---
	13	---	1	---	---	---
	20	21	---	---	---	64
	21	---	---	1	---	---
	TOTALS		1	1	54	64

INLETS AND INLET COVERS

CATEGORY	STRUCT. ID#	STATION	OFFSET	611.3220 INLETS 2x2-FT EACH	611.3225 INLETS 2x2.5-FT EACH	611.3902 MEDIAN 2 GRATE EACH	611.0642 INLET COVERS TYPE MS EACH	611.0654 INLET COVERS TYPE V EACH
0010	10	20+67.9	13.5' RT	1	---	---	---	1
	11	20+66.7	13.3' LT	1	---	---	---	1
	12	20+77.5	13.5' LT	---	1	---	---	1
	20	21+35.0	31.2' RT	---	---	1	2	---
	TOTALS			2	1	1	2	3

GUARDRAIL SUMMARY

CATEGORY	STATION - STATION	LOCATION	614.2610 MGS GUARDRAIL TERMINAL EAT EACH	614.2500 MGS THRIE BEAM TRANSITION LF
0010	17+65 - 18+66	LT/RT	2	79
	20+22 - 21+24	LT/RT	2	79
	TOTALS		4	158

3

MAINTENANCE AND REPAIR OF HAUL ROADS

CATEGORY	PROJECT	618.0100 EACH
0030	5767-00-73	1

MOBILIZATION

CATEGORY	PROJECT	619.1000 EACH
0010	5767-00-73	1

WATER

CATEGORY	STATION - STATION	624.0100 MGAL	REMARKS
0010	16+53 - 22+40	3	DUST CONTROL
		18	COMPACTION
	TOTAL	21	

3

MOBILIZATIONS EROSION CONTROL

CATEGORY	PROJECT	628.1905 MOBILIZATIONS EROSION CONTROL EACH	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL EACH
0010	5767-00-73	4	3

EROSION CONTROL

CATEGORY	STATION - STATION	LOCATION	628.1504 SILT FENCE LF	628.1520 SILT FENCE MAINTENANCE LF	628.2027 EROSION MAT CLASS II TYPE C SY	628.7005 INLET PROTECTION TYPE A EACH	628.7015 INLET PROTECTION TYPE C EACH	628.7504 TEMPORARY DITCH CHECKS LF
0010	16+53 - 18+75	LT/RT	110	160	410	---	---	145
	20+21 - 22+60	LT/RT	400	595	345	4	3	30
		WASTE SITE	230	340	---	---	---	---
		UNDISTRIBUTED	190	270	190	1	1	44
	TOTALS		930	1,365	945	5	4	219

TRACKING PADS

CATEGORY	LOCATION	628.7560 EACH
0010	UNDISTRIBUTED	2

FINISHING ITEMS

CATEGORY	STATION - STATION	LOCATION	625.0500 SALVAGED TOPSOIL SY	627.0200 MULCHING SY	629.0205 FERTILIZER TYPE A CWT	630.0120 SEEDING MIXTURE NO. 20 LB	630.0300 SEEDING BORROW PIT LB	630.0500 SEED WATER MGAL
0010	16+53 - 18+75	LT/RT	430	---	0.3	19	---	10
	20+21 - 22+60	LT/RT	345	---	0.3	22	---	11
		WASTE SITE	---	360	0.2	---	16	8
		UNDISTRIBUTED	194	90	0.2	10	4	7
		TOTALS	969	450	1.0	51	20	36

MARKERS CULVERT END

CATEGORY	STATION	LOCATION	633.5200 EACH
0010	20+73	LT	1
	21+35	LT	1
	TOTAL		2

SIGNING SUMMARY

CATEGORY	SIGN NO.	APPROX. STA.	LOC.	SIGN CODE	SIGN MESSAGE	SIGN SIZE (W x H) IN	637.2230 SIGNS TYPE II REFLECTIVE F SF	634.0612 POSTS WOOD 4x6-INCH x 12-FT EACH	634.0614 POSTS WOOD 4x6-INCH x 14-FT EACH	634.0616 POSTS WOOD 4x6-INCH x 16-FT EACH	634.0618 POSTS WOOD 4x6-INCH x 18-FT EACH	638.2602 REMOVING SIGNS TYPE II EACH	638.3000 REMOVING SMALL SIGN SUPPORTS EACH	REMARKS
0010	101	18+69	LT	W5-52L	CLEARANCE STRIPER DOWN RIGHT	--- x ---	---	---	---	---	---	1	1	REMOVE
	102	20+36	LT	W5-52R	CLEARANCE STRIPER DOWN LEFT	--- x ---	---	---	---	---	---	1	1	REMOVE
	103	22+25	LT	W1-2R, W13-1, W11-6	RIGHT CURVE, ADVISORY SPEED PLATE (YELLOW BACK), SNOWMOBILE CROSSING SYMBOL	--- x ---	---	---	---	---	---	3	1	REMOVE
	104	17+60	RT	W3-1	STOP AHEAD	--- x ---	---	---	---	---	---	1	1	REMOVE
	105	18+58	RT	W5-52R	CLEARANCE STRIPER DOWN LEFT	--- x ---	---	---	---	---	---	1	1	REMOVE
	106	20+28	RT	W5-52L	CLEARANCE STRIPER DOWN RIGHT	--- x ---	---	---	---	---	---	1	1	REMOVE
	107	18+61	LT	W5-52L	CLEARANCE STRIPER DOWN RIGHT	12 x 36	3.00	---	1	---	---	---	---	
	108	20+36	LT	W5-52R	CLEARANCE STRIPER DOWN LEFT	12 x 36	3.00	---	1	---	---	---	---	
	109	22+21	LT	W1-8	CHEVRON	18 x 24	3.00	1	---	---	---	---	---	
	110	22+21	LT	W1-8	CHEVRON	18 x 24	3.00	---	---	---	---	---	---	SAME POST AS SIGN 109
	111	23+33	LT	W1-8	CHEVRON	18 x 24	3.00	1	---	---	---	---	---	
	112	23+33	LT	W1-8	CHEVRON	18 x 24	3.00	---	---	---	---	---	---	SAME POST AS SIGN 111
	113	---	LT	W11-6	SNOWMOBILE CROSSING SYMBOL	30 x 30	6.25	---	---	---	1	---	---	
	114	---	LT	W16-1P	SHARE THE ROAD	18 x 24	3.00	---	---	---	---	---	---	SAME POST AS SIGN 113
	115	---	LT	W1-8	CHEVRON	18 x 24	3.00	1	---	---	---	---	---	
	116	---	LT	W1-8	CHEVRON	18 x 24	3.00	---	---	---	---	---	---	SAME POST AS SIGN 115
	117	---	LT	W1-3L	LEFT REVERSE TURN	36 x 36	9.00	---	---	---	1	---	---	
	118	---	LT	W13-1	ADVISORY SPEED PLATE (YELLOW BACK)	18 x 18	2.25	---	---	---	---	---	---	SAME POST AS SIGN 117
	119	---	RT	W1-3L	LEFT REVERSE TURN	36 x 36	9.00	---	---	---	1	---	---	
	120	---	RT	W13-1	ADVISORY SPEED PLATE (YELLOW BACK)	18 x 18	2.25	---	---	---	---	---	---	SAME POST AS SIGN 119
	121	---	RT	W7-1	HILL	30 x 30	6.25	---	---	1	---	---	---	
	122	---	RT	W1-8	CHEVRON	18 x 24	3.00	1	---	---	---	---	---	
	123	---	RT	W1-8	CHEVRON	18 x 24	3.00	---	---	---	---	---	---	SAME POST AS SIGN 122
	124	11+98	RT	W1-8	CHEVRON	18 x 24	3.00	1	---	---	---	---	---	
	125	11+98	RT	W1-8	CHEVRON	18 x 24	3.00	---	---	---	---	---	---	SAME POST AS SIGN 124
	126	13+14	RT	W1-8	CHEVRON	18 x 24	3.00	1	---	---	---	---	---	
	127	13+14	RT	W1-8	CHEVRON	18 x 24	3.00	---	---	---	---	---	---	SAME POST AS SIGN 126
	128	14+32	RT	W1-8	CHEVRON	18 x 24	3.00	1	---	---	---	---	---	
	129	14+32	RT	W1-8	CHEVRON	18 x 24	3.00	---	---	---	---	---	---	SAME POST AS SIGN 128
	130	15+48	RT	W1-8	CHEVRON	18 x 24	3.00	1	---	---	---	---	---	
	131	15+48	RT	W1-8	CHEVRON	18 x 24	3.00	---	---	---	---	---	---	SAME POST AS SIGN 130
	132	16+65	RT	W1-8	CHEVRON	18 x 24	3.00	1	---	---	---	---	---	
	133	16+65	RT	W1-8	CHEVRON	18 x 24	3.00	---	---	---	---	---	---	SAME POST AS SIGN 132
	134	17+82	RT	W1-8	CHEVRON	18 x 24	3.00	1	---	---	---	---	---	
	135	17+82	RT	W1-8	CHEVRON	18 x 24	3.00	---	---	---	---	---	---	SAME POST AS SIGN 134
	136	18+51	RT	W5-52R	CLEARANCE STRIPER DOWN LEFT	12 x 36	3.00	---	1	---	---	---	---	
	137	20+27	RT	W5-52L	CLEARANCE STRIPER DOWN RIGHT	12 x 36	3.00	---	1	---	---	---	---	
	138	21+55	RT	W3-1	STOP AHEAD	36 x 36	9.00	---	---	---	1	---	---	
					TOTALS		119.00	10	4	1	4	8	6	

3

FIELD OFFICE TYPE C

CATEGORY	PROJECT	642.5201 EACH
0010	5767-00-73	1

TRAFFIC CONTROL

CATEGORY	TRAFFIC CONTROL OPERATIONS	DURATION (DAYS)	643.0900 SIGNS EACH	643.0900 SIGNS DAY	643.1050 SIGNS PCMS EACH	643.1050 SIGNS PCMS DAYS	643.0420 BARRICADES TYPE III EACH	643.0420 BARRICADES TYPE III DAY	643.0705 WARNING LIGHTS TYPE A EACH	643.0705 WARNING LIGHTS TYPE A DAY
0010	PRE WARNING	7	---	---	2	14	---	---	---	---
	CLOSURE	74	15	1,110	---	---	11	814	20	1,480
	TOTALS			1,110		14		814		1,480

TRAFFIC CONTROL SIGNS FIXED MESSAGE

CATEGORY	LOCATION	643.1000 SF
0010	BRIDGE CLOSURE DETAIL: CALEDONIA RD	22.5
	BOAT TRAFFIC CONTROL: HAZARD - BRIDGE WORK AHEAD	18.0
	TOTAL	40.5

TRAFFIC CONTROL

CATEGORY	PROJECT	643.5000 EACH
0010	5767-00-73	1

CONSTRUCTION STAKING

CATEGORY	STATION - STATION	LOCATION	650.4000 STORM SEWER EACH	650.4500 SUBGRADE LF	650.5000 BASE LF	650.5500 CURB GUTTER AND CURB & GUTTER LF	650.9920 SLOPE STAKES LF
0010	16+53 - 18+71	LT/RT	---	155	155	---	220
	20+25 - 22+40	LT/RT	6	150	150	115	215
	TOTALS		6	305	305	115	435

CONSTRUCTION STAKING STRUCTURE LAYOUT

CATEGORY	STRUCTURE	650.6501 EACH
0020	B-53-96	1

CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (PROJECT)

CATEGORY	PROJECT	650.9911 EACH
0010	5767-00-73	1

SAWING

CATEGORY	STATION - STATION	LOCATION	690.0150 ASPHALT LF
0010	16+93 - 17+15	LT/RT	43
	21+74 - 21+74	LT/RT	21
	TOTAL		64

MAINTAINING BIRD DETERRENT SYSTEM

CATEGORY	STATION	999.2005.S EACH
0010	19+48	1

PI STA = 15+03.36
Y = 315552.230
X = 458467.157
DELTA = 63°31'20" LT
D = 10°03'07"
T = 352.88'
L = 631.94'
R = 570.00'
SE = SEE LAYOUT DETAIL FOR SUPERELEVATION TRANSITIONS

PC STA = 11+50.48
Y = 315549.122
X = 458114.291
PT STA = 17+82.43
Y = 315869.468
X = 458621.701
DB = N89°29'44"E
DA = N25°58'24"E

PI STA = 23+06.03
Y = 316340.184
X = 458851.012
DELTA = 19°45'56" RT
D = 11°56'12"
T = 83.63'
L = 165.59'
R = 480.00'
SE = SEE LAYOUT DETAIL FOR SUPERELEVATION TRANSITIONS

PC STA = 22+22.40
Y = 316265.005
X = 458814.388
PT STA = 23+87.99
Y = 316398.548
X = 458910.902
DB = N25°58'24"E
DA = N45°44'20"E

BENCH MARKS				
NO.	STATION	OFFSET	ELEV.	DESCRIPTION
BM 100	20+77.00	31.13' LT	798.16	RR SPIKE IN POWER POLE
CP 2R	20+33.34	15.57' LT	801.84	SURVEY DISK

CONTROL POINTS					
NO.	STATION	OFFSET	Y	X	DESCRIPTION
CP 2R	20+33.34	15.57' LT	316101.858	458717.588	SURVEY DISK
CP 10	-	-	316413.939	458897.052	¾ REBAR
CP 30R	15+14.86	24.31' RT	315645.287	458468.019	¾ REBAR

WTG FARMS LLC
ROCK ENERGY COOPERATIVE (ELECTRIC)
R/W
BEGIN CONSTRUCTION STA 16+53.45
SLOPE INTERCEPT (TYP.)
PT: 17+82.43
EXISTING STRUCTURE B-53-0096 TO BE REHABILITATED. SEE STRUCTURE PLAN.
YAHARA RIVER
P.L.
SPECTRUM (COMMUNICATIONS)
DAVID A. FJESLSTAD & ELIZABETH G. FJESLSTAD
ROCK ENERGY COOPERATIVE (ELECTRIC)
R/W
BM 100
END CONSTRUCTION STA 22+40.37
PC: 22+22.40
CP 10
CP 2R
17+00
18+00
N25°58'24"E
19+00
20+00
21+00
22+00
CALEDONIA ROAD
CP 30R
BEGIN PROJECT
STA 17+15.47
MATCH EXISTING
SAW CUT REQ'D
Y:315811.13
X:458588.91
R/W
DALE R. REED
P.L.
DALE R. REED & AUDREY L. REED
P.L.
R/W
DALE R. REED & AUDREY L. REED
STA. 21+23 RT
1-REMOVING SMALL PIPE CULVERTS REQ'D.
END PROJECT
STA 21+74.35
MATCH EXISTING
SAW CUT REQ'D
STA. 21+23 RT
RECONSTRUCT AGG PE
FRONTIER (COMMUNICATIONS)
P.L.
DAVID L. UPDIKE & MARCIA J. FLOERKE

VCL = 440.00
K = 33.37
-10.09%
STA 17+15.47
EL 820.74
VPC STA 17+30.00
VPC EL 819.27
PROPOSED CL PROFILE
EXISTING CL PROFILE
LP STA 20+66.72
LP EL 802.28
STA 21+74.35
EL 804.01
3.10%
VPT STA 21+70.00
VPT EL 803.88
-10.09%
3.10%
VPI STA 19+50.00
VPI EL 797.07
EXISTING CL ELEVATION
PROPOSED CL ELEVATION

STATION 19+48
EXISTING STRUCTURE B-53-0096
3 SPAN STEEL GIRDER
27' EXISTING CLEAR WIDTH

STATION 19+48
PROPOSED STRUCTURE B-53-0096
3 SPAN STEEL GIRDER
28' PROPOSED CLEAR WIDTH

820 815 810 805 800 795 790

827.42 822.30 817.40 817.31 812.88 812.94 808.92 809.32 805.83 806.45 803.67 804.32 802.51 802.95 802.22 802.32 802.53 802.45 803.27 803.32 805.08 807.64

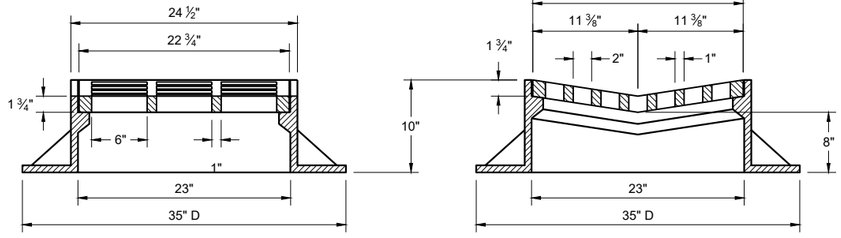
16+50 17+00 18+00 19+00 20+00 21+00 22+00 22+50

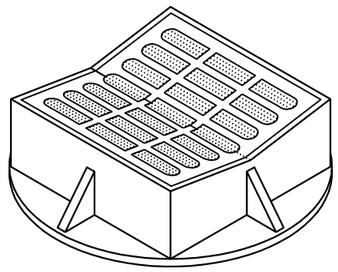
PROJECT NO: 5767-00-73	HWY: CALEDONIA ROAD	COUNTY: ROCK	PLAN AND PROFILE	SHEET 24	E

FILE NAME : S:\MAD\1200--1299\1288\001\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\050101-PP.DWG
LAYOUT NAME - 050101-pp
PLOT DATE : 10/14/2024 4:09 PM
PLOT BY : ROSENTHAL, BRIAN
PLOT NAME :
PLOT SCALE : 1 IN:40 FT

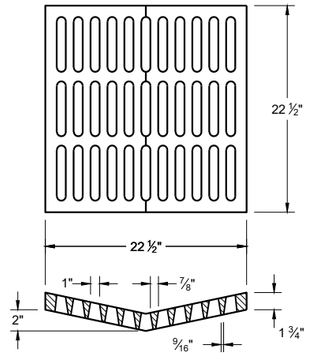
Standard Detail Drawing List

08A05-21B	INLET COVERS TYPE B, B-A, C, MS, MS-A, & WM
08A05-21D	INLET COVERS TYPE V, V-B, & VV-B
08C07-03	INLETS 2X2-FT, 2X2.5-FT, 2X3-FT, 2.5X3-FT & 2X3.5-FT
08C08-03	INLETS MEDIAN 1 AND 2 GRATE
08D01-23A	CONCRETE CURB & GUTTER
08D01-23B	CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E10-02	INLET PROTECTION TYPE A, B, C AND D
08E14-01	TRACKING PAD
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
08F04-08	JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL
12A03-10	NAME PLATE (STRUCTURES)
13C19-03	HMA LONGITUDINAL JOINTS
14B42-07A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07D	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B44-04A	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-04B	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-04C	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B45-05A	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05B	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05C	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05D	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
15A03-02A	FLEXIBLE MARKER POST FOR CULVERT END
15A03-02B	FLEXIBLE MARKER POST FOR CULVERT END
15C02-09A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-09B	BARRICADES AND SIGNS FOR VARIOUS CLOSURES
15C06-12	SIGNING & MARKING FOR TWO LANE BRIDGES





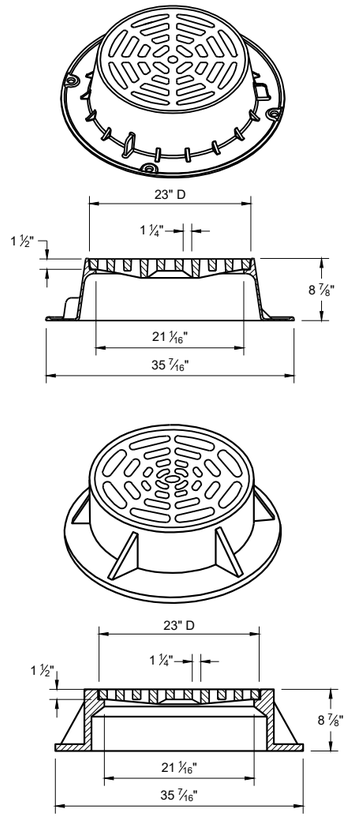
TYPE "B"



ALTERNATIVE GRATE FOR TYPE "B" COVER

USE WHERE PEDESTRIAN OF BICYCLE TRAFFIC IS POSSIBLE

NOTED AS TYPE B - A ON THE DRAINAGE TABLE



TYPE "C"

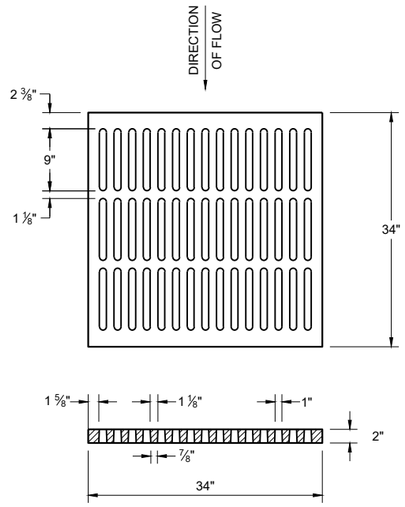
NOTE: EITHER CASTING IS ACCEPTABLE

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.

DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR CATCH BASIN, MANHOLE AND INLET COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

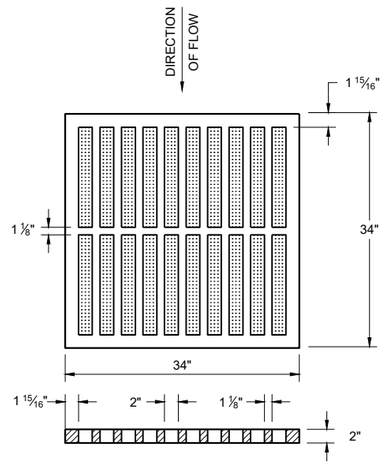
ROUND FRAMES AND COVERS SHALL HAVE CONTINUOUSLY MACHINED BEARING SURFACES TO PREVENT ROCKING AND RATTLING.



ALTERNATIVE TYPE "MS"

USE WHERE PEDESTRIAN OF BICYCLE TRAFFIC IS PERMITTED

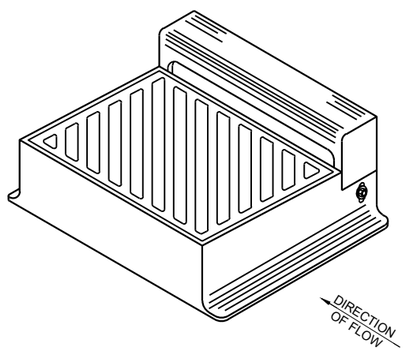
NOTED AS TYPE MS-A ON THE DRAINAGE TABLE



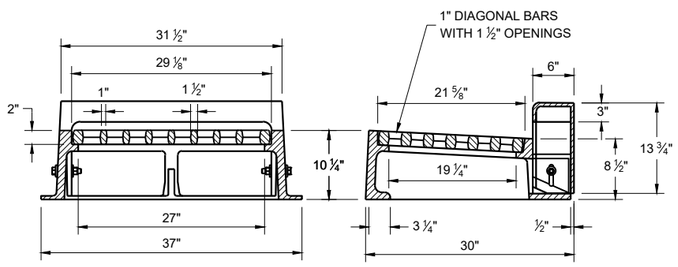
TYPE "MS"

USE ON FREEWAYS AND EXPRESSWAYS

NOTED AS TYPE MS ON THE DRAINAGE TABLE



DIAGONAL SLOTS SHALL BE ORIENTEDTO THE DIRECTION OF FLOW AS ILLUSTRATED.
GRATES ARE MANUFACTURED TO BE REVERSIBLE.



TYPE "WM"

NOTE: CURB BOX HEIGHT ADJUSTABLE 6" - 9"

INLET COVERS TYPES B, B-A, C, MS, MS-A AND WM

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
December 2023 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR

FHWA

6

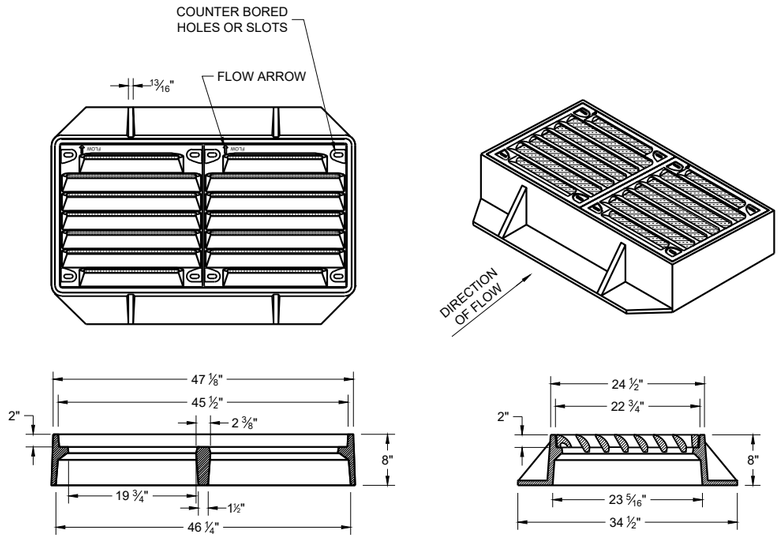
SDD 08A05-21b

SDD 08A05-21b

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.

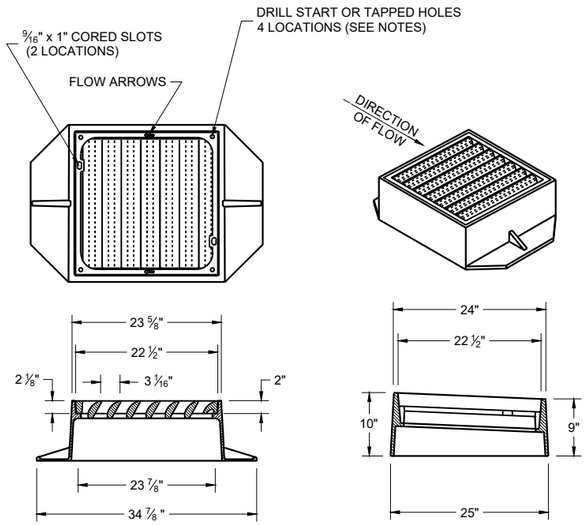
DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR INLET COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.



TYPE "VV-B"

NOTES: ALL HARDWARE TO BE SUPPLIED BY CASTING MANUFACTURER
ALL DRILLING AND TAPPING GRATES AND FRAMES BY CASTING MANUFACTURER

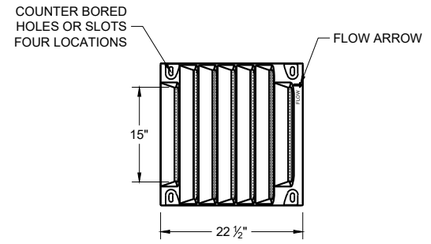
TYPE V
FRAME - CAST GRAY IRON ASTM A48 CLASS 35B
⅜" DIA. X 1/16" DRILL START IN 8 LOCATIONS
GRATE - CAST GRAY IRON ASTM A-48, CLASS 35B



TYPE "V"

NOTES: ALL HARDWARE TO BE SUPPLIED BY CASTING MANUFACTURER ALL DRILLING AND TAPPING GRATES AND FRAMES BY CASTING MANUFACTURER

TYPE V
FRAME - CAST GRAY IRON ASTM A48 CLASS 40A
⅜" DIA. X 1/16" DRILL START IN 4 LOCATIONS
GRATE - CAST GRAY IRON ASTM A-48, CLASS 35B



BOLT DOWN GRATE FOR TYPE "V" AND "VV-B" COVER

NOTES: ALL HARDWARE TO BE SUPPLIED BY CASTING MANUFACTURER NOTED AS TYPE "V-B" OR "VV-B" (FOR DOUBLE GRATE) ON DRAINAGE TABLE

TAP ½" -13 HOLES IN FOUR LOCATIONS PER GRATE IN FRAME TO BOLT GRATE(S).
FRAME - CAST GRAY IRON ASTM A48 CLASS 40A

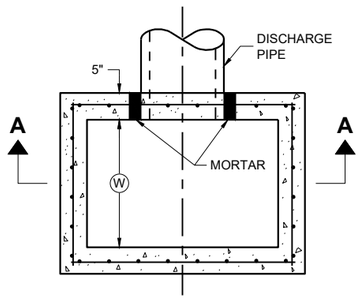
GRATE - CAST DUCTILE IRON ASTM A536, 55+KSI YIELD
BOLTS - ½" -13 STAINLESS STEEL BOLTS WITH WASHERS
TORQUE BOLTS TO MANUFACTURER SPECIFICATION DO NOT OVERTIGHTEN.

INLET COVERS
TYPES V, V-B, AND VV-B

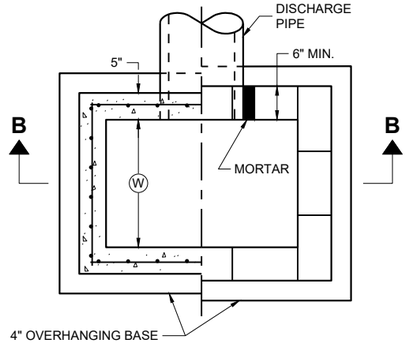
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
December 2023 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR
FHWA

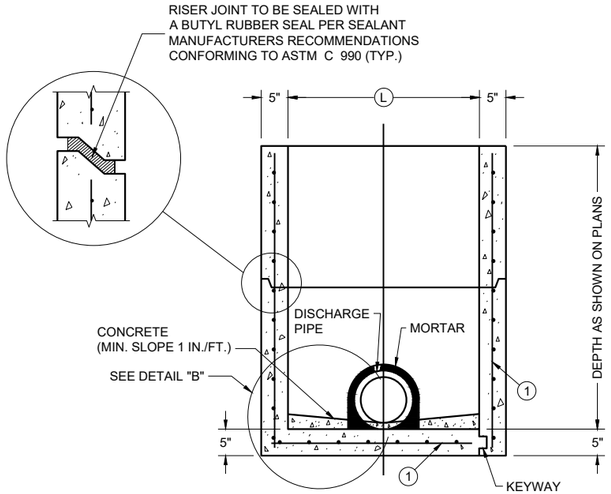
6
SDD 08A05-21d



PLAN VIEW



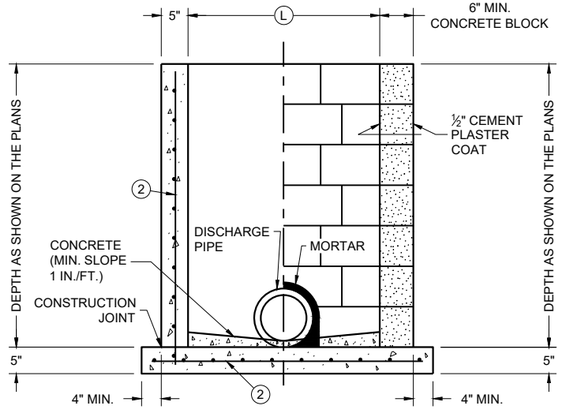
PLAN VIEW



PRECAST REINFORCED CONCRETE WITH MONOLITHIC BASE

PRECAST REINFORCED CONCRETE WITH INTEGRAL BASE

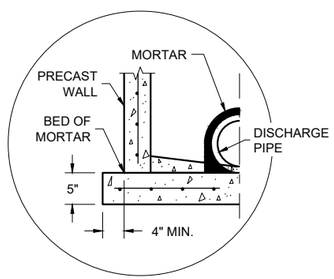
SECTION A - A



CAST IN PLACE REINFORCED CONCRETE

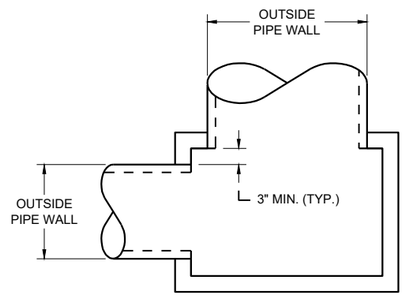
CONCRETE BLOCK WITH CAST IN PLACE OR PRECAST REINFORCED CONCRETE BASE (1)

SECTION B - B



SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

DETAIL "B"



DETAIL "A"

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP N0T SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

UNLESS OTHERWISE AUTHORIZED IN WRITING BY THE ENGINEER, THE CONTRACTOR SHALL NOT ORDER AND DELIVER PRECAST INLET UNITS REQUIRED FOR THE PROJECT UNTIL A LIST OF SIZES IS FURNISHED BY THE ENGINEER.

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR UNDERGROUND DRAINAGE STRUCTURES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ALL PRECAST INLET UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF ASTM C 913.

ALL DRAINAGE STRUCTURES ARE DESIGNATED ON THE PLANS AS "MANHOLES 3X3-L", "CATCH BASINS 4-B", "INLETS 2X3-H", ETC. THE FIRST NUMBERS DESIGNATES THE SIZE OF THE STRUCTURE, AND THE FOLLOWING LETTER DESIGNATES THE TYPE OF COVER TO BE USED TO COMPRISE THE COMPLETE UNIT.

BASES SHALL BE PLACED ON A BED OF MATERIAL AT LEAST 6 INCHES IN DEPTH, WHICH MEETS THE REQUIREMENTS OF FOUNDATION BACKFILL. THIS BEDDING SHALL BE COMPACTED AND PROVIDE UNIFORM SUPPORT FOR THE ENTIRE AREA OF THE BASE.

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

PRECAST REINFORCED RISERS SHALL HAVE A TONGUE AND GROOVE JOINT WITH TONGUE UP OR DOWN.

4" OVERHANGING BASES ARE REQUIRED FOR CAST-IN-PLACE REINFORCED CONCRETE AND CONCRETE BLOCK INSTALLATIONS. 4" OVERHANG IS REQUIRED WHEN SEPARATE PRECAST BASE IS PROVIDED. OVERHANG IS NOT REQUIRED ON PRECAST STRUCTURES WITH AN INTEGRAL OR MONOLITHIC BASE.

MAXIMUM INSIDE PIPE DIAMETER DETERMINED BY 3" CLEARANCE ON EACH SIDE OF THE OUTSIDE WALL OF THE PIPE. SEE DETAIL "A". ASSUMES PIPE ENTERS PERPENDICULAR TO THE STRUCTURE.

(1) FOR PRECAST INLETS AND REINFORCED CONCRETE BASES PROVIDE REINFORCING STEEL IN ACCORDANCE TO ASTM C 913
(2) CONTRACTOR TO PROVIDE DRAWING(S) STAMPED BY A PROFESSIONAL ENGINEER FOR STEEL REINFORCING DESIGN FOR CAST-IN-PLACE STRUCTURES.

CATCH BASIN COVER MATRIX

INLET SIZE	WIDTH (W) (FT.)	LENGTH (L) (FT.)	INLET COVER TYPE									
			ALL A'S	ALL B'S	BW	F	ALL H'S	S	T	V	WM	V V-B
2 X 2-FT	2	2	X	X				X				
2 X 2.5-FT	2	2.5			X			X	X	X	X	
2 X 3-FT	2	3					X					
2.5 X 3-FT	2.5	3				X						
2 X 3.5-FT	2	3.5										X

PIPE MATRIX

CATCH BASIN SIZE	MAXIMUM INSIDE PIPE DIAMETER FOR TWO PIPES	
	WIDTH (IN)	LENGTH (IN)
2 X 2-FT	12	12
2 X 2.5-FT	12	18
2 X 3-FT	12	24
2.5 X 3-FT	18	24
2 X 3.5-FT	12	30

INLETS 2 X 2-FT, 2 X 2.5-FT, 2 X 3-FT, 2.5 X 3-FT AND 2X3.5-FT

INLETS 2 X 2-FT, 2 X 2.5-FT, 2 X 3-FT, 2.5 X 3-FT AND 2 X 3.5-FT

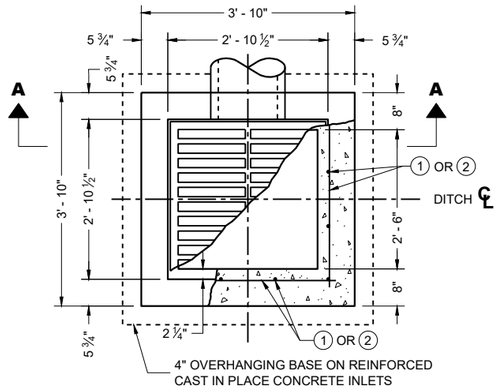
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
December 2023
DATE

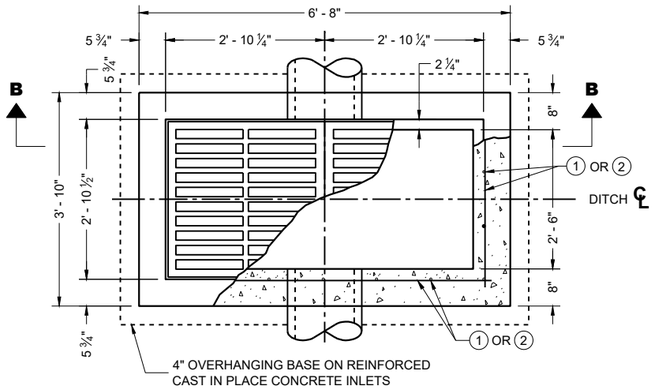
/S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR

FHWA

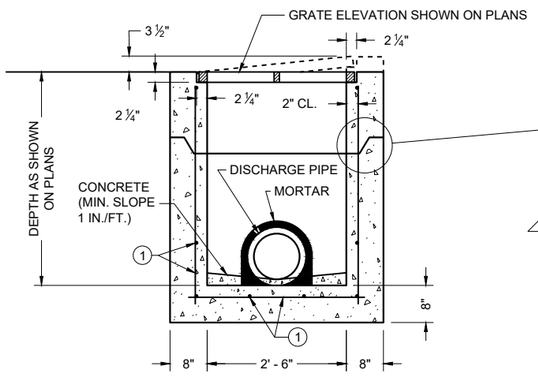
6
SDD 08C07-03



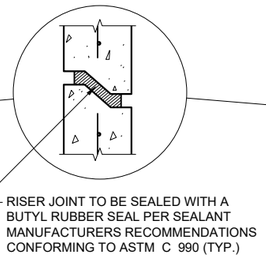
PLAN VIEW

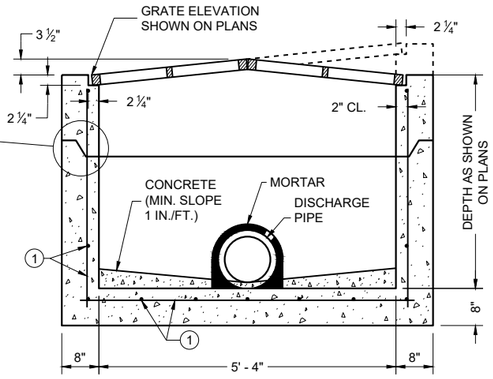


PLAN VIEW

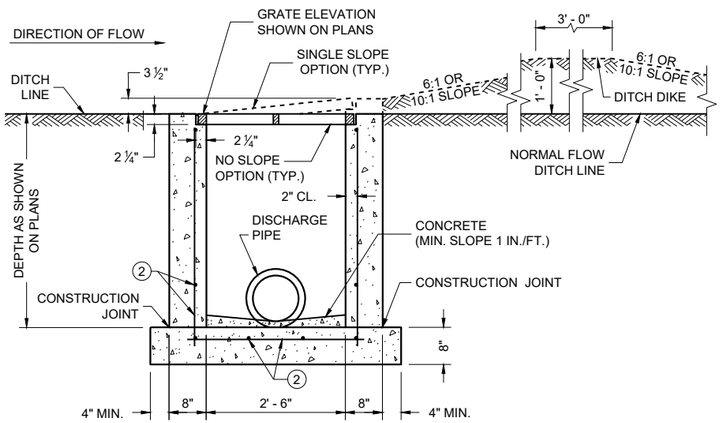


PRECAST REINFORCED CONCRETE SECTION A - A



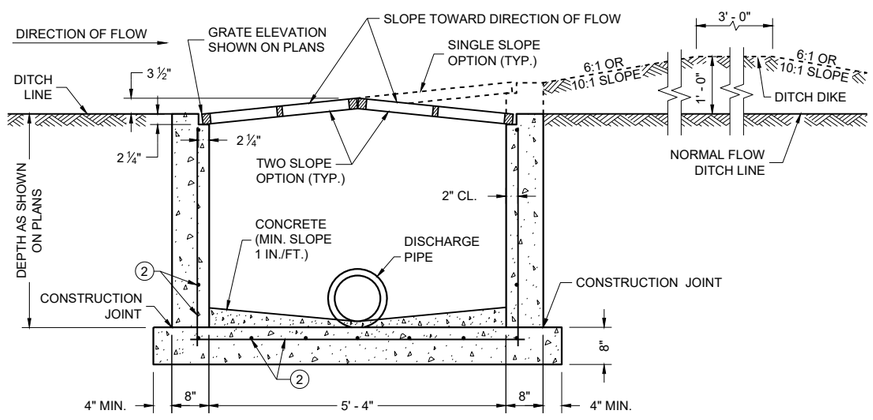


PRECAST REINFORCED CONCRETE SECTION B - B



REINFORCED CAST IN PLACE CONCRETE SECTION A - A

INLETS MEDIAN 1 GRATE



REINFORCED CAST IN PLACE CONCRETE SECTION B - B

INLETS MEDIAN 2 GRATE

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP N0T SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

UNLESS OTHERWISE AUTHORIZED IN WRITING BY THE ENGINEER, THE CONTRACTOR SHALL NOT ORDER AND DELIVER PRECAST INLET UNITS REQUIRED FOR THE PROJECT UNTIL A LIST OF SIZES IS FURNISHED BY THE ENGINEER.

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR INLETS WHICH MAY INCLUDE PRECAST REINFORCED CONCRETE INLETS, SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ALL MEDIAN INLETS ARE DESIGNATED ON THE PLANS AS "INLETS, 1G-MS", ETC. THE FIRST NUMBER AND LETTER DESIGNATE THE TYPE OF STRUCTURE, AND THE FOLLOWING LETTERS DESIGNATE THE TYPE OF COVER TO BE USED TO COMPRISE THE COMPLETE UNIT.

BASES SHALL BE PLACED ON A BED OF MATERIAL AT LEAST 6 INCHES IN DEPTH, WHICH MEETS THE REQUIREMENTS OF FOUNDATION BACKFILL. THIS BEDDING SHALL BE COMPACTED AND PROVIDE UNIFORM SUPPORT FOR THE ENTIRE AREA OF THE BASE.

ALL PRECAST INLET UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF ASTM C 913.

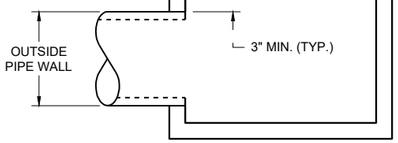
ALL BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2 INCHES CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

PRECAST REINFORCED RISERS SHALL HAVE A TONGUE AND GROOVE JOINT WITH TONGUE UP OR DOWN.

MAXIMUM INSIDE PIPE DIAMETER DETERMINED BY 3" CLEARANCE ON EACH SIDE OF THE OUTSIDE WALL OF THE PIPE. SEE DETAIL "A". ASSUMES PIPE ENTERS PERPENDICULAR TO THE STRUCTURE.

(1) FOR PRECAST INLETS AND REINFORCED CONCRETE BASES PROVIDE REINFORCING STEEL IN ACCORDANCE TO ASTM C 913.

(2) CONTRACTOR TO PROVIDE DRAWING(S) STAMPED BY A PROFESSIONAL ENGINEER FOR STEEL REINFORCING DESIGN FOR CAST-IN-PLACE STRUCTURES.



DETAIL "A"

PIPE MATRIX

INLET SIZE	MAXIMUM INSIDE PIPE DIAMETER	
	WIDTH (IN)	LENGTH (IN)
1 GRATE	18	18
2 GRATE	18	42

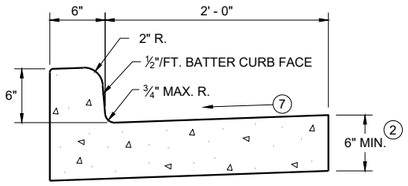
INLETS
MEDIAN 1 AND 2 GRATE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

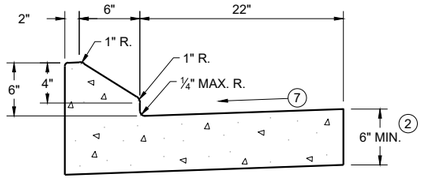
APPROVED
December 2023 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR

FHWA

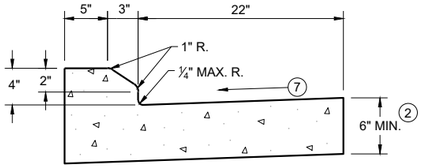
6
SDD 08C08-03



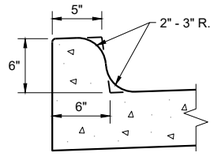
TYPES A (1) & D



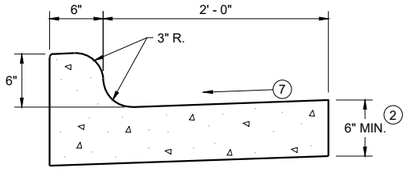
6" SLOPED CURB TYPES G (1) & J



4" SLOPED CURB TYPES G (1) & J

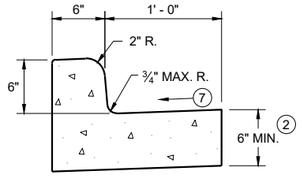


TYPES K (1) & L
(OPTIONAL CURB SHAPE)



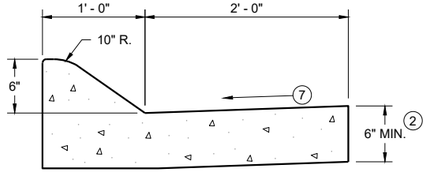
TYPES K (1) & L

CONCRETE CURB AND GUTTER 30"

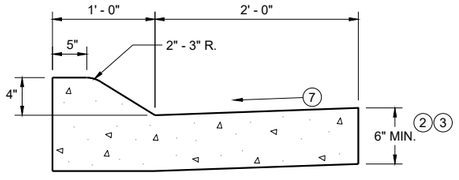


TYPES A (1) & D

CONCRETE CURB AND GUTTER 18"

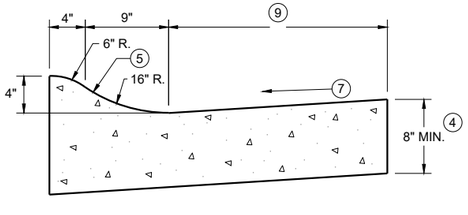


6" SLOPED CURB TYPES A (1) & D



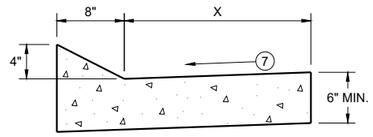
4" SLOPED CURB TYPES A (1) & D

CONCRETE CURB AND GUTTER 36"



4" SLOPED CURB TYPES R (1) & T

TBT & TBTT	X
30"	22"
36"	28"

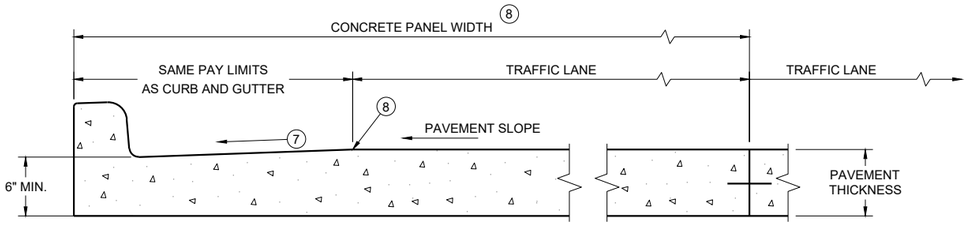


TYPES TBT & TBTT (1)

CONCRETE CURB AND GUTTER

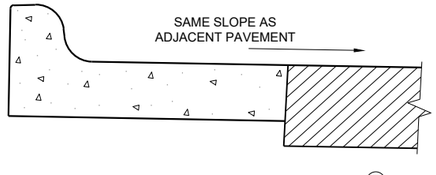
PAVEMENT THICKNESS AND MAXIMUM CONCRETE PANEL WIDTH TABLE

PAVEMENT THICKNESS	MAXIMUM PANEL WIDTH
LESS THAN 10"	12'
10" & ABOVE	15'



PARTIAL SECTION OF PAVEMENT * WITH INTEGRAL CURB AND GUTTER

* BIKE LANE IS NOT SHOWN



REVERSE SLOPE GUTTER (6)
(TYPICAL FOR ALL CURB & GUTTER TYPES)

GENERAL NOTES

DETAILS OF CONSTRUCTION AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

INTEGRAL CURB AND GUTTER SHALL CONFORM TO THE DETAILS SHOWN FOR CONCRETE CURB AND GUTTER INCLUDING THE TRANSVERSE GUTTER SLOPE.

UNLESS OTHERWISE SHOWN ON THE TYPICAL CROSS SECTIONS, THE BASE AGGREGATE AND COMMON EXCAVATION LIMITS ARE 2' - 0" BEHIND THE BACK OF CURBS.

(1) TIE BARS ARE REQUIRED FOR CURB AND GUTTERS TYPES A, G, K, R, AND TBTT.

(2) THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.

(3) USE 8" MINIMUM GUTTER THICKNESS WHEN USED WITH AN ADJACENT CONCRETE TRUCK APRON PLACED BEHIND BACK OF CURB.

(4) THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 8" MINIMUM GUTTER THICKNESS IS MAINTAINED.

(5) UNLESS OTHERWISE NOTED, FOR STAKING PURPOSES THE FACE OF CURB IS 6" FROM THE BACK OF CURB.

(6) WHEN REVERSE SLOPE GUTTER IS REQUIRED, THE LOCATION(S) WILL BE SHOWN ELSEWHERE IN THE PLAN.

(7) USE 4% GUTTER CROSS SLOPE UNLESS OTHERWISE NOTED IN THE PLANS.

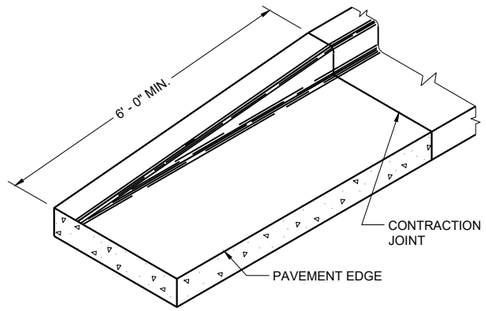
(8) INCLUDE LONGITUDINAL JOINT AND TIE BARS ALONG LANE EDGE WHEN CONCRETE PANEL WIDTH EXCEEDS THE MAXIMUM WIDTH PER TABLE BELOW. LONGITUDINAL JOINT(S) ARE NOT ALLOWED WITHIN TRAFFIC LANES AND BIKE LANES. LONGITUDINAL JOINT MAY BE SAWED.

(9) CONCRETE CURB AND GUTTER 4-INCH SLOPED 30-INCH TYPE "R" AND "T" = 17 INCHES
CONCRETE CURB AND GUTTER 4-INCH SLOPED 36-INCH TYPE "R" AND "T" = 23 INCHES

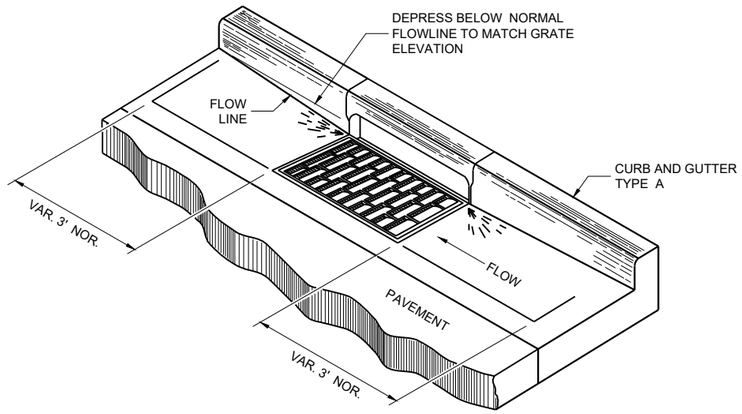
CONCRETE CURB AND GUTTER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

SDD 08D01-23a



END SECTION CURB AND GUTTER



DETAIL OF CURB AND GUTTER AT INLETS

(TYPICAL H INLET COVER SHOWN)

GENERAL NOTES

DETAILS OF CONSTRUCTION AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

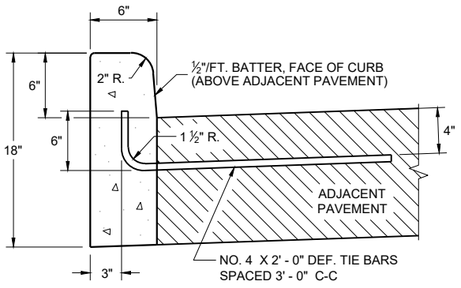
UNLESS OTHERWISE SHOWN ON THE TYPICAL CROSS SECTIONS, THE BASE AGGREGATE AND COMMON EXCAVATION LIMITS ARE 2' - 0" BEHIND THE BACK OF CURBS.

(1) TIE BARS ARE REQUIRED FOR CURB AND GUTTERS TYPES A, G, K, R, AND TBTT.

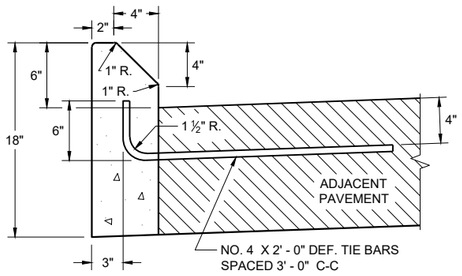
(2) THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.

(10) REFER TO SDD 08D18 AND 08D19 FOR ADDITIONAL DRIVEWAY ENTRANCE CURB DETAILS.

(11) PLACE 1" THICK EXPANSION JOINT MATERIAL BETWEEN VERTICAL FACE CURB TYPES EXTENDING FROM THE TOP OF CURB TO 1 INCH BELOW THE ADJOINING CONCRETE SURFACE. RIGID CONCRETE STRUCTURES INCLUDE RAISED CONCRETE MEDIANS, CONCRETE SAFETY ISLANDS, SPLITTER ISLANDS, OR LOCATIONS IDENTIFIED ON THE PLANS.

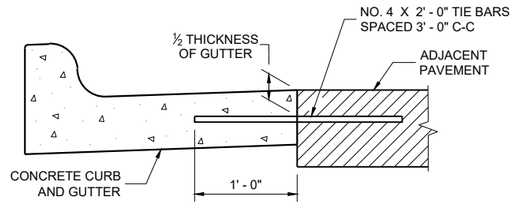


TYPES A (1) & D

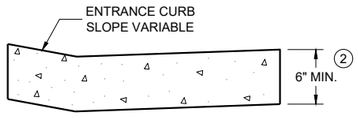


TYPES G (1) & J

CONCRETE CURB

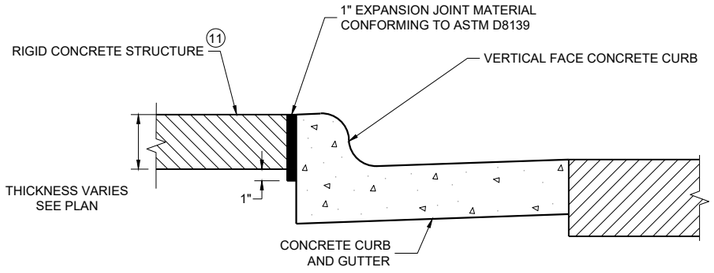


TYPICAL TIE BAR LOCATION (1)

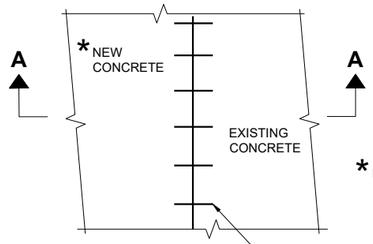


DRIVEWAY ENTRANCE CURB (10)

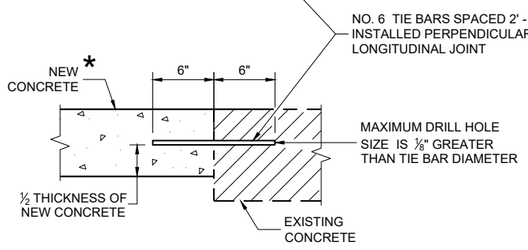
(WHEN DIRECTED BY THE ENGINEER)



EXPANSION JOINT DETAIL FOR VERTICAL CURB ABUTTING A RIGID STRUCTURE (11)



PLAN VIEW



SECTION A - A

TIE BARS DRILLED INTO EXISTING PAVEMENT

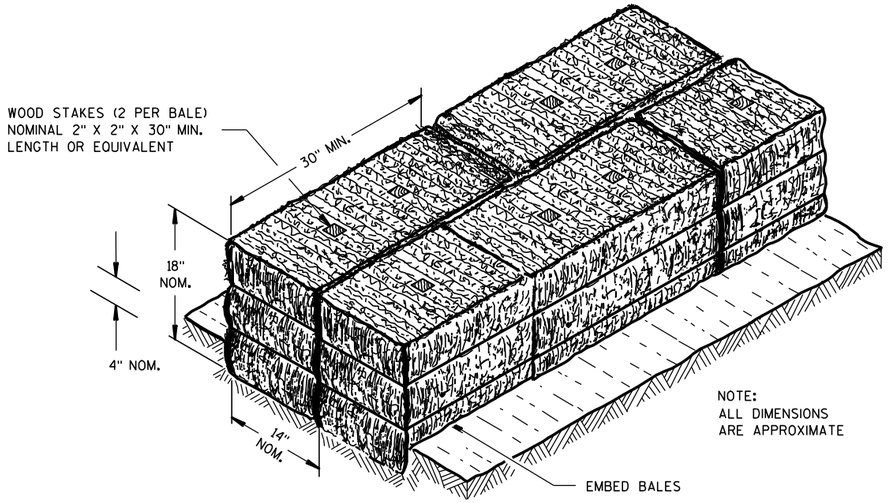
CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

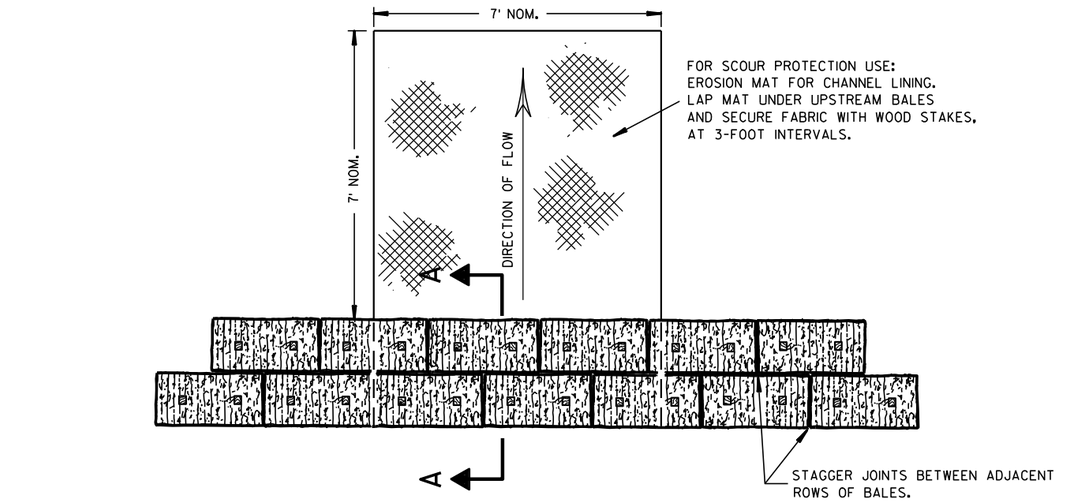
APPROVED
May 2023 — DATE
/S/ Rodnery Taylor — ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR

FHWA

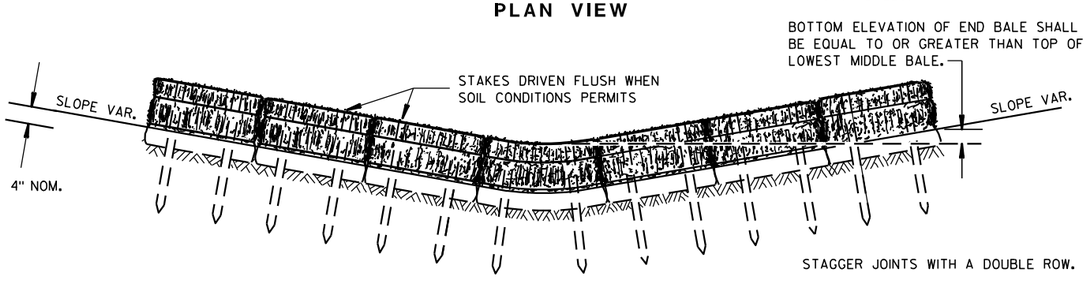
6
SDD 08D01-23b



SECTION A-A



PLAN VIEW



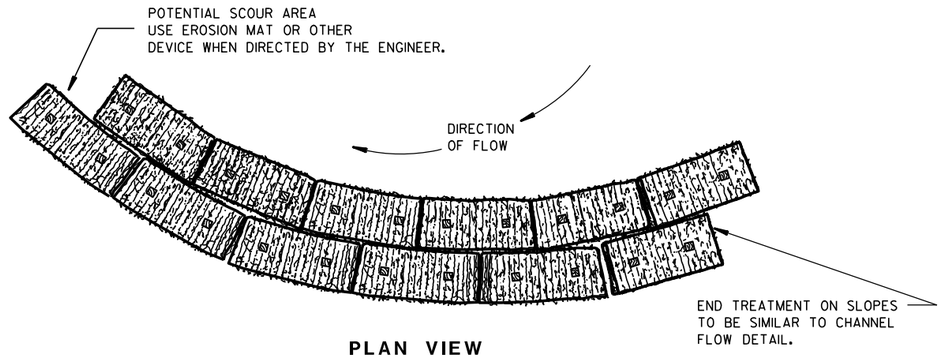
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES (1)

GENERAL NOTES

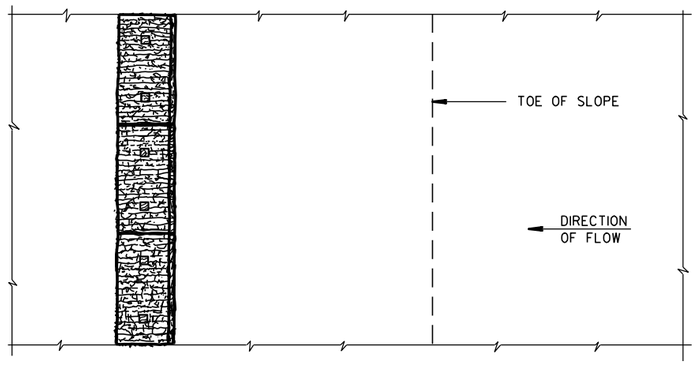
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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

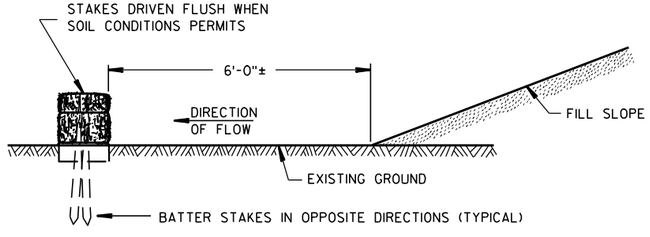


PLAN VIEW

WHEN ALTERING THE DIRECTION OF FLOW



PLAN VIEW



FRONT ELEVATION

WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE

EROSION BALES FOR SHEET FLOW

TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

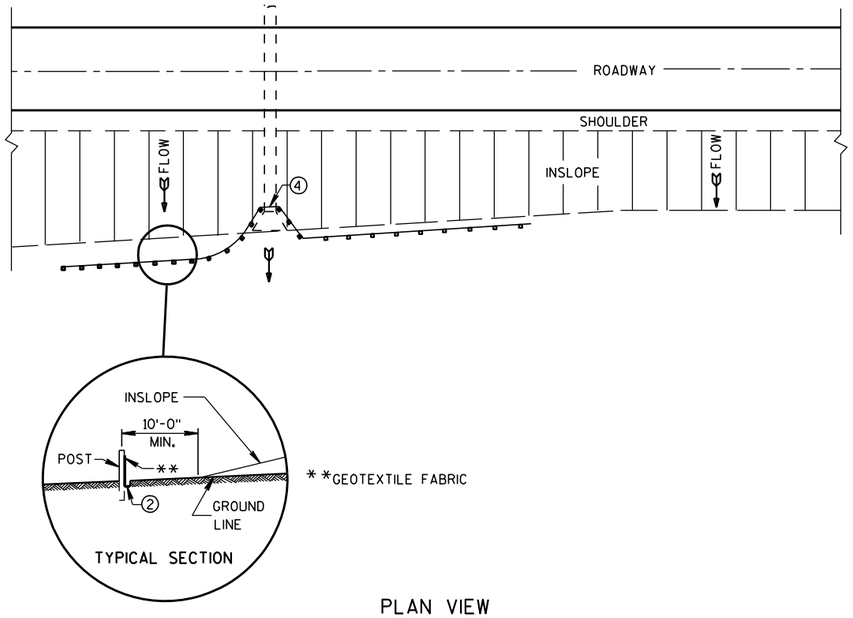
6/04/02 — DATE

/S/ Beth Cannestra — CHIEF ROADWAY DEVELOPMENT ENGINEER

FHWA

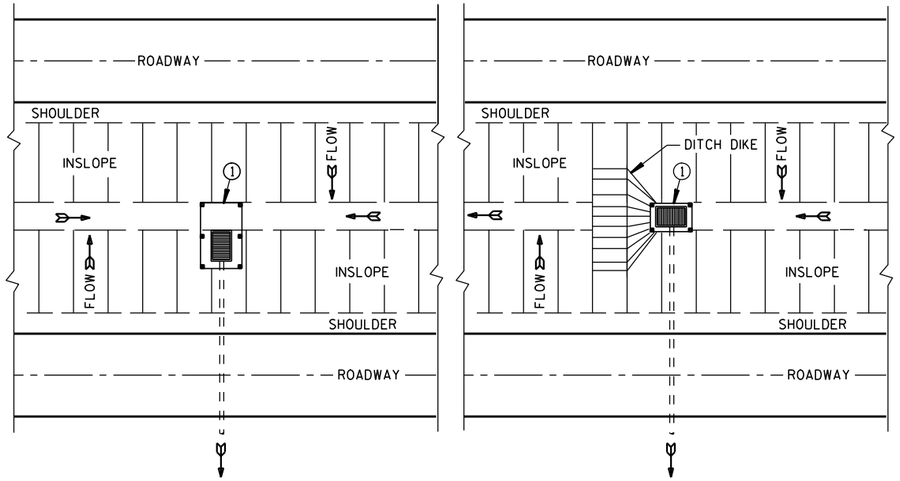
6

S.D.D. 8 E 8-3



PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



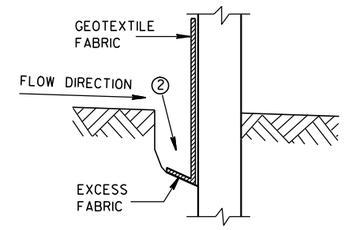
PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

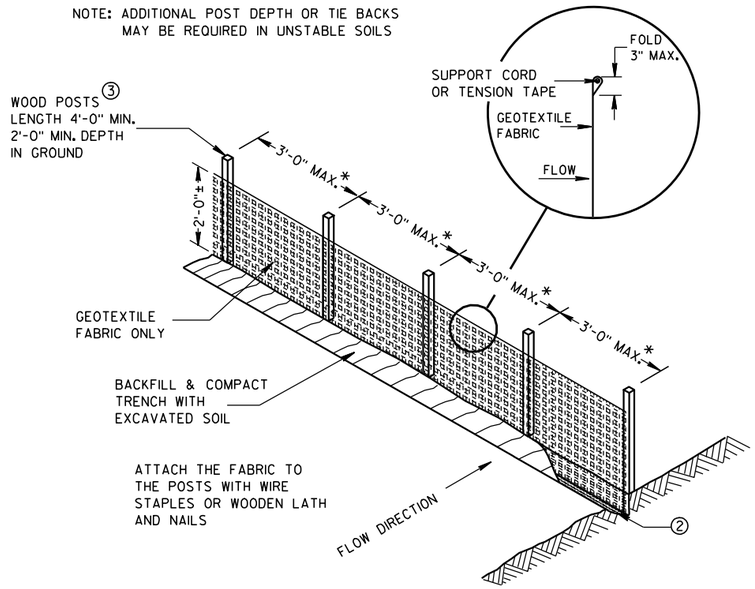
GENERAL NOTES

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

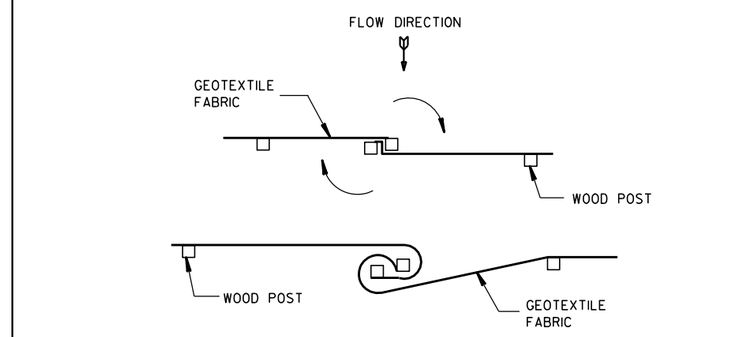
1. HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
2. FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
3. WOOD POSTS SHALL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



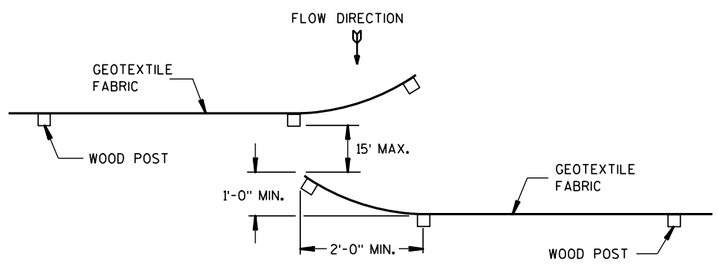
TRENCH DETAIL



SILT FENCE

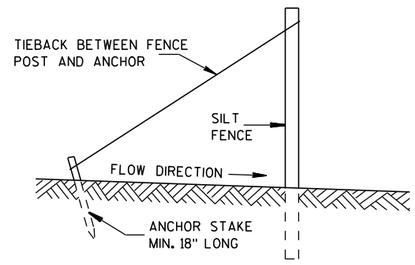


TWIST METHOD



HOOK METHOD

JOINING TWO LENGTHS OF SILT FENCE 5



SILT FENCE TIE BACK

(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

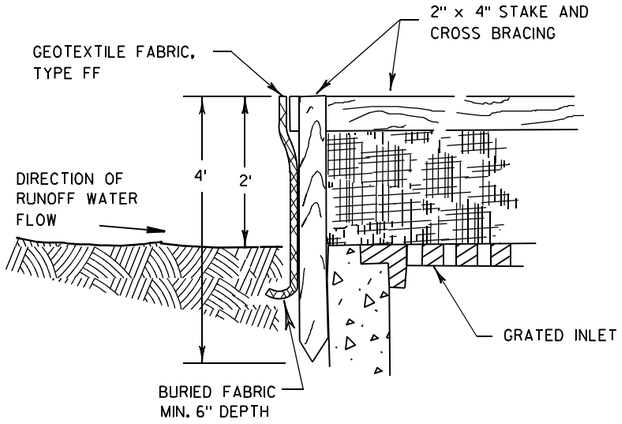
APPROVED
4-29-05 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

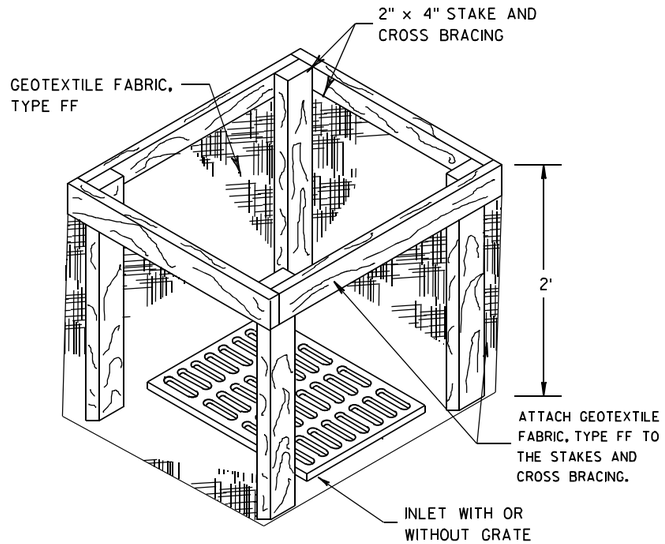
6

S.D.D. 8 E 9-6

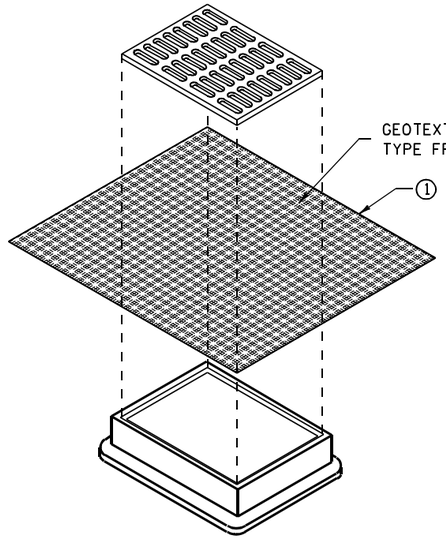
6

S.D.D. 8 E 9-6



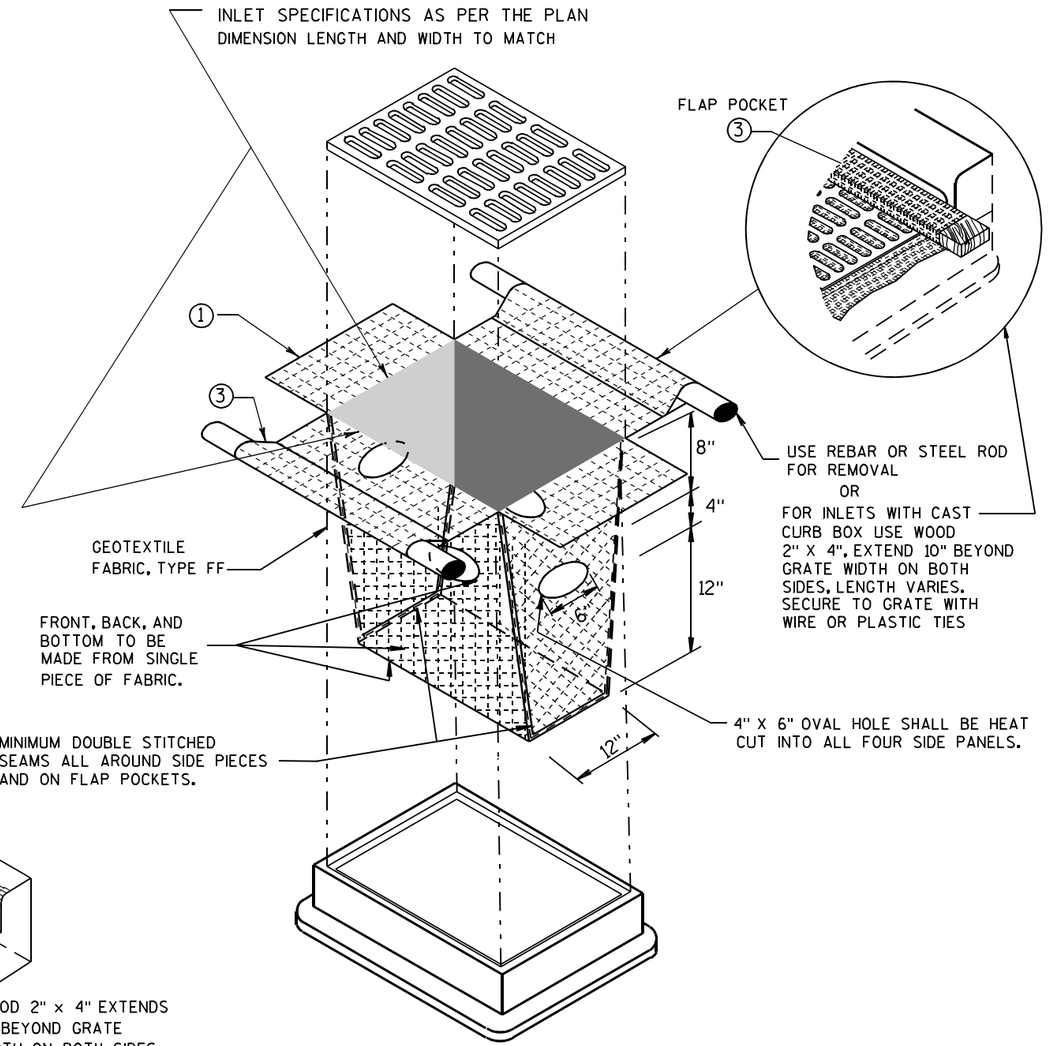


INLET PROTECTION, TYPE A



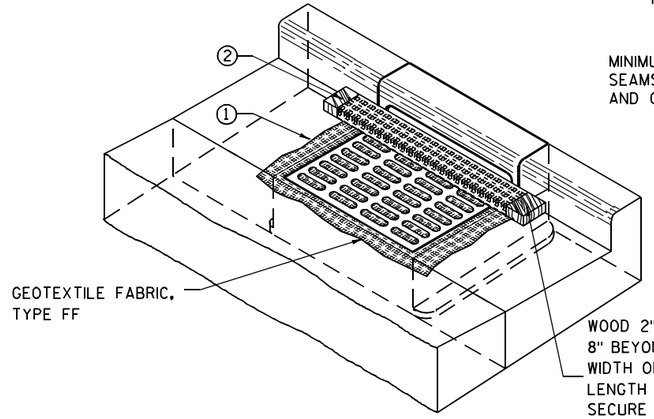
INLET PROTECTION, TYPE B
(WITHOUT CURB BOX)

(CAN BE INSTALLED IN ANY INLET WITHOUT A CURB BOX)



INLET PROTECTION, TYPE D

(CAN BE INSTALLED IN ANY INLET TYPE WITH
OR WITHOUT A CURB BOX AS PER NOTE ②)



INLET PROTECTION, TYPE C (WITH CURB BOX)

GENERAL NOTES

INLET PROTECTION DEVICES SHALL BE MAINTAINED OR REPLACED AT THE DIRECTION OF THE ENGINEER.

MANUFACTURED ALTERNATIVES APPROVED AND LISTED ON THE DEPARTMENT'S EROSION CONTROL PRODUCT ACCEPTABILITY LIST MAY BE SUBSTITUTED.

WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.

① FINISHED SIZE, INCLUDING FLAP POCKETS WHERE REQUIRED, SHALL EXTEND A MINIMUM OF 10" AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.

② FOR INLET PROTECTION, TYPE C (WITH CURB BOX), AN ADDITIONAL 18" OF FABRIC IS WRAPPED AROUND THE WOOD AND SECURED WITH STAPLES. THE WOOD SHALL NOT BLOCK THE ENTIRE HEIGHT OF THE CURB BOX OPENING.

③ FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2X4.

INSTALLATION NOTES

TYPE B & C

TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.

THE CONTRACTOR SHALL DEMONSTRATE A METHOD OF MAINTENANCE, USING A SEWN FLAP, HAND HOLDS OR OTHER METHOD TO PREVENT ACCUMULATED SEDIMENT FROM ENTERING THE INLET.

TYPE D

DO NOT INSTALL INLET PROTECTION TYPE D IN INLETS SHALLOWER THAN 30", MEASURED FROM THE BOTTOM OF THE INLET TO THE TOP OF THE GRATE.

TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.

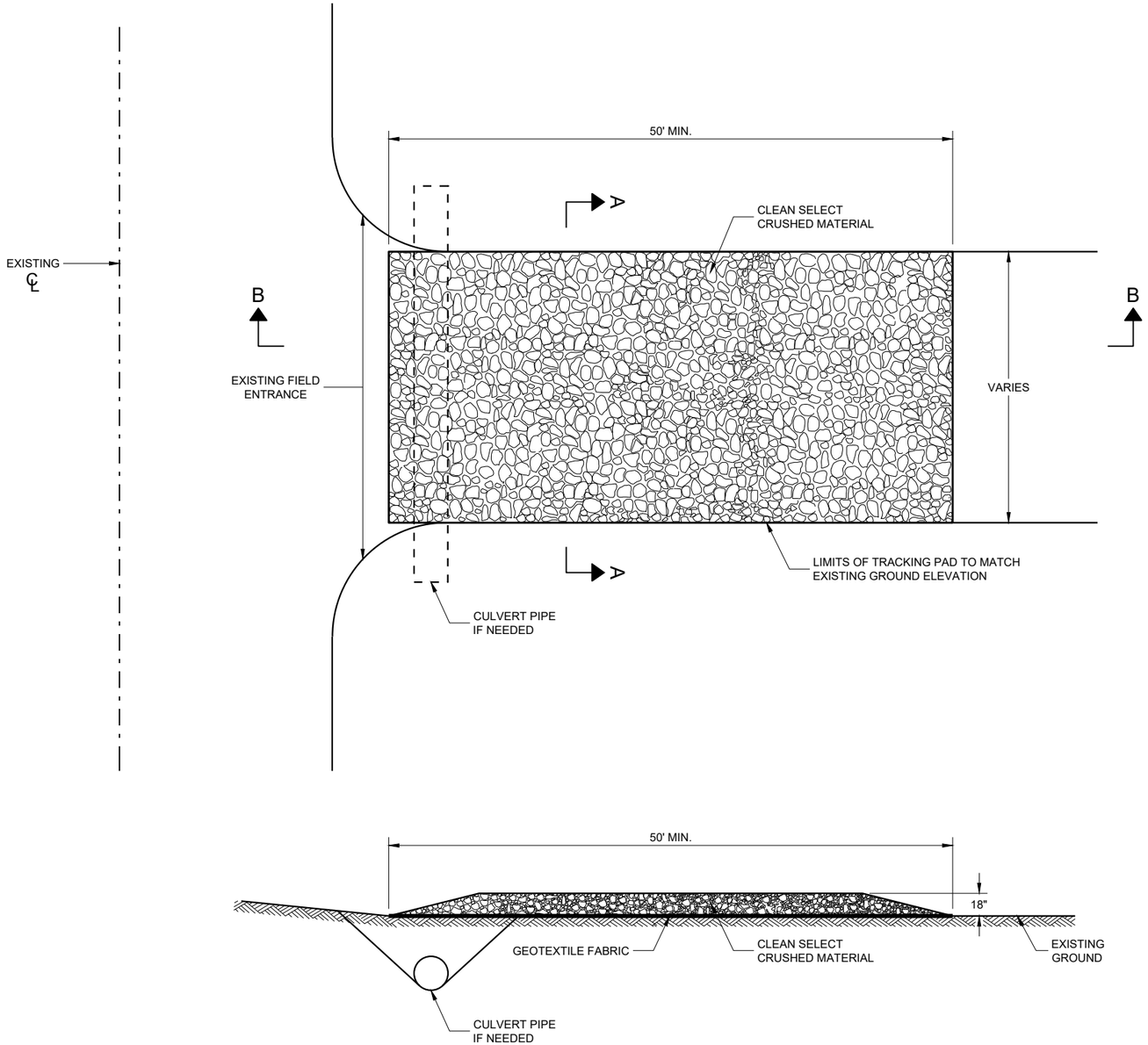
THE INSTALLED BAG SHALL HAVE A MINIMUM SIDE CLEARANCE, BETWEEN THE INLET WALLS AND THE BAG, MEASURED AT THE BOTTOM OF THE OVERFLOW HOLES, OF 3". WHERE NECESSARY THE CONTRACTOR SHALL CINCH THE BAG, USING PLASTIC ZIP TIES, TO ACHIEVE THE 3" CLEARANCE. THE TIES SHALL BE PLACED AT A MAXIMUM OF 4" FROM THE BOTTOM OF THE BAG.

INLET PROTECTION
TYPE A, B, C, AND D

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
10/16/02
DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

6
S.D.D. 8 E 10-2



SECTION B - B

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.

TRACKING PAD SHALL BE INSPECTED DAILY. DEFICIENT AREAS SHALL BE REPAIRED OR REPLACED IMMEDIATELY.

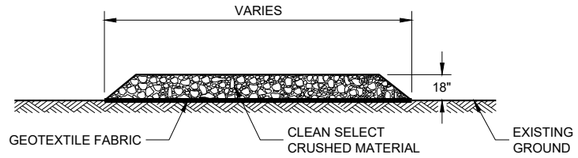
TRACKING PAD TO BE REMOVED AFTER CONSTRUCTION IS COMPLETED.

TRACKING PAD SHALL BE THE FULL WIDTH OF THE EGRESS POINT.

SURFACE WATER MUST BE PREVENTED FROM PASSING THROUGH THE TRACKING PAD. FLOWS SHALL BE DIVERTED AWAY, AROUND OR CONVEYED UNDER THE TRACKING PAD.

CULVERT PIPE OR OTHER BMP USED TO DIVERT WATER AWAY, AROUND OR UNDER THE TRACKING PAD SHALL BE DESIGNED TO CONVEY THE 2 YEAR - 24 HOUR EVENT.

THE COST OF ADDITIONAL BMP TO DIVERT WATER ARE INCIDENTAL TO THE TRACKING PAD BID ITEM.



SECTION A - A

TRACKING PAD

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

3/24/2011
DATE

/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVE ENGINEER

FHWA

SDD 08E14 - 01

6

SDD 08E14 - 01

6

METAL APRON ENDWALLS

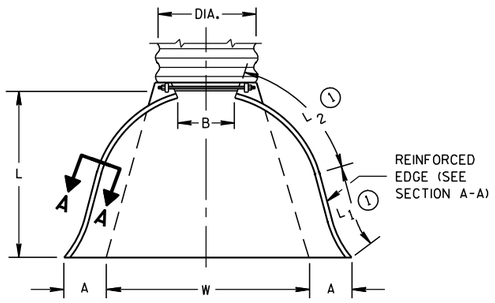
PIPE DIA. (IN.)	MIN. THICK. (Inches) STEEL	MIN. THICK. (Inches) ALUM.	DIMENSIONS (Inches) A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")	APPROX. SLOPE	BODY
12	.064	.060	6	6	6	21	12	17 1/2	24	2 1/2 to 1	1 Pc.
15	.064	.060	7	8	6	26	14	21 3/4	30	2 1/2 to 1	1 Pc.
18	.064	.060	8	10	6	31	15	28 1/4	36	2 1/2 to 1	1 Pc.
21	.064	.060	9	12	6	36	18	29 5/8	42	2 1/2 to 1	1 Pc.
24	.064	.075	10	13	6	41	18	37 1/4	48	2 1/2 to 1	1 Pc.
30	.079	.075	12	16	8	51	18	52 1/4	60	2 1/2 to 1	1 Pc.
36	.079	.105	14	19	9	60	24	59 3/4	72	2 1/2 to 1	2 Pc.
42	.109	.105	16	22	11	69	24	75 5/8	84	2 1/2 to 1	2 Pc.
48	.109	.105	18	27	12	78	24	81	90	2 1/4 to 1	3 Pc.
54	.109	.105	18	30	12	84	30	85 1/2	102	2 1/4 to 1	3 Pc.
60	.109×	.105×	18	33	12	87	—	—	114	2 to 1	3 Pc.
66	.109×	.105×	18	36	12	87	—	—	120	2 to 1	3 Pc.
72	.109×	.105×	18	39	12	87	—	—	126	2 to 1	3 Pc.
78	.109×	.105×	18	42	12	87	—	—	132	1 1/2 to 1	3 Pc.
84	.109×	.105×	18	45	12	87	—	—	138	1 1/2 to 1	3 Pc.
90	.109×	.105×	18	37	12	87	—	—	144	1 1/2 to 1	3 Pc.
96	.109×	.105×	18	35	12	87	—	—	150	1 1/2 to 1	3 Pc.

× EXCEPT CENTER PANEL SEE GENERAL NOTES

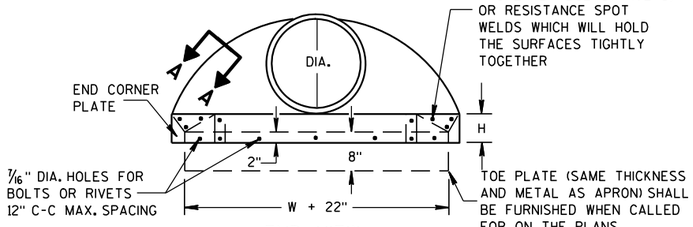
REINFORCED CONCRETE APRON ENDWALLS

PIPE DIA. (IN.)	DIMENSIONS (Inches) T	A	B	C	D	E	G	APPROX. SLOPE
12	2	4	24	48 7/8	72 1/8	24	2	3 to 1
15	2 1/4	6	27	46	73	30	2 1/4	3 to 1
18	2 1/2	9	27	46	73	36	2 1/2	3 to 1
21	2 3/4	9	36	37 1/2	73 1/2	42	2 3/4	3 to 1
24	3	9 1/2	43 1/2	30	73 1/2	48	3	3 to 1
27	3 1/4	10 1/2	49 1/2	24	73 1/2	54	3 1/4	3 to 1
30	3 1/2	12	54	19 3/4	73 1/2	60	3 1/2	3 to 1
36	4	15	63	34 3/4	97 3/4	72	4	3 to 1
42	4 1/2	21	63	35	98	78	4 1/2	3 to 1
48	5	24	72	26	98	84	5	3 to 1
54	5 1/2	27	65	* 33 1/4 - ** 35	* 98 1/4 - ** 100	90	5 1/2	2 2/5 to 1
60	6	* 30 - ** 35	60	39	99	96	5	2 to 1
66	6 1/2	* 24 - ** 30	* 72 - ** 78	* 21 - ** 27	99	102	5 1/2	2 to 1
72	7	* 24 - ** 36	78	21	99	108	6	2 to 1
78	7 1/2	* 24 - ** 36	78	21	99	114	6 1/2	2 to 1
84	8	36	90 1/2	21	111 1/2	120	6 1/2	1 1/2 to 1
90	8 1/2	41	87 1/2	24	111 1/2	132	6 1/2	1 1/2 to 1

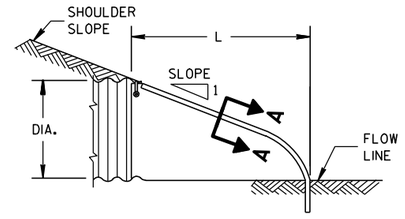
*MINIMUM
**MAXIMUM



PLAN VIEW

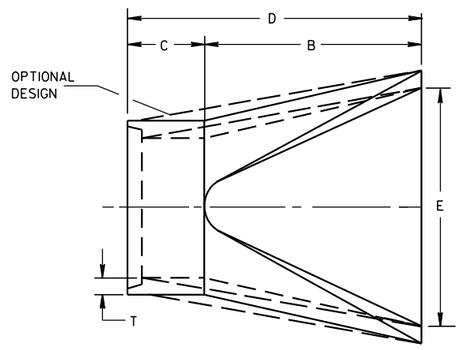


END VIEW

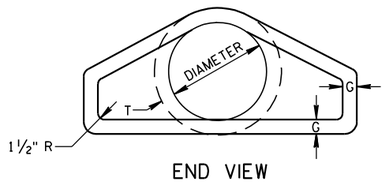


SIDE ELEVATION

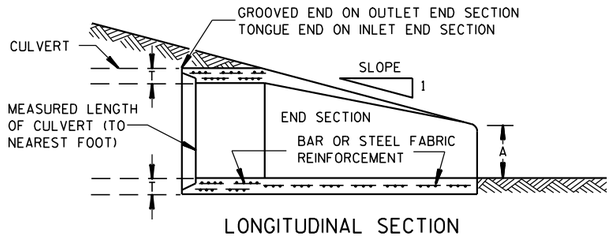
METAL ENDWALLS



PLAN

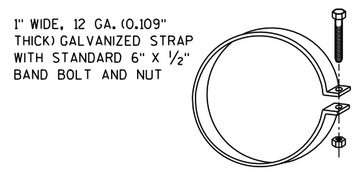


END VIEW



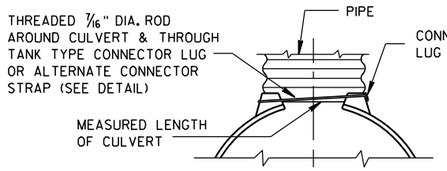
LONGITUDINAL SECTION

CONCRETE ENDWALLS

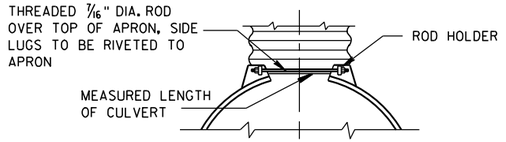


ALTERNATE FOR TYPE 1 CONNECTION

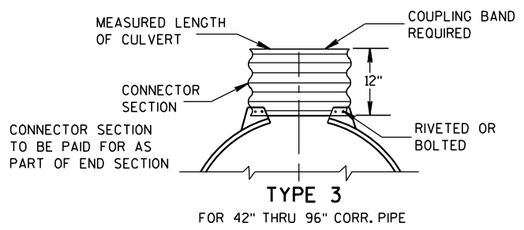
END SECTION CONNECTOR STRAP



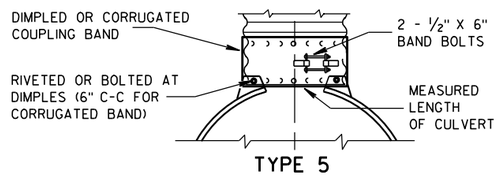
TYPE 1
FOR 12" THRU 24" CORR. PIPE



TYPE 2
FOR 30" THRU 96" CORR. PIPE



TYPE 3
FOR 42" THRU 96" CORR. PIPE



TYPE 5
ALTERNATE FOR:
ALL SIZES CORRUGATED CIRCULAR PIPE

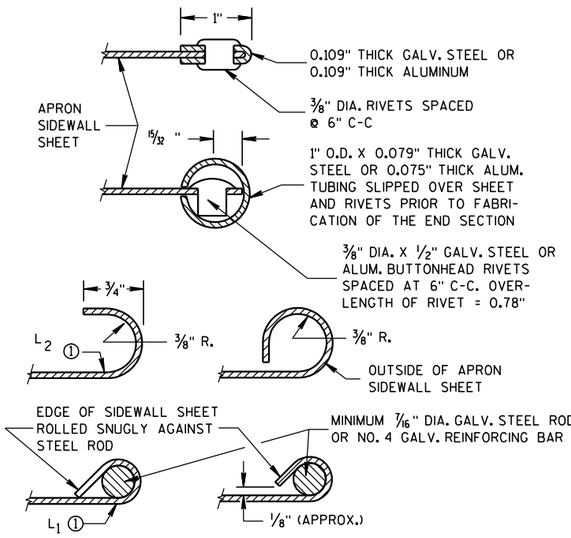
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL. AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

FOR CIRCUMFERENTIALLY CORRUGATED PIPE USE ENDWALL CONNECTION DETAILS 1, 2, 3 OR 5 AS APPLICABLE.

FOR HELICALLY CORRUGATED PIPE USE ENDWALL CONNECTION DETAILS 1, 2 OR 5.

FOR HELICALLY CORRUGATED PIPES WITH TWO CIRCUMFERENTIAL CORRUGATIONS AT EACH END USE ENDWALL CONNECTION DETAILS 1, 2 OR 3.

CONNECTION DETAILS



SECTION A-A

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.

CONCRETE CULVERT ENDWALLS MAY NOT BE USED WITH GALVANIZED STEEL OR ALUMINUM CULVERT PIPE OR VISE VERSA. GALVANIZED STEEL OR ALUMINUM ENDWALLS SHALL NORMALLY BE INSTALLED ON CULVERT PIPE OF THE SAME METAL.

ALL THREE PIECE STEEL APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.109" SIDES AND 0.138" CENTER PANELS. ALL THREE PIECE ALUMINUM APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.105" SIDES AND 0.134" CENTER PANELS. THE WIDTH OF CENTER PANELS SHALL BE GREATER THAN 20 PERCENT OF THE PIPE PERIMETER.

LAP SEAMS SHALL BE TIGHTLY JOINED BY GALVANIZED RIVETS OR BOLTS FOR STEEL UNITS AND ALUMINUM RIVETS AND BOLTS FOR ALUMINUM UNITS. FOR THE 60" THROUGH 96" DIAMETER APRON ENDWALL SIZES, THE REINFORCED EDGES AND CENTER PANEL SEAMS SHALL BE FURTHER REINFORCED WITH GALVANIZED STEEL OR ALUMINUM STIFFENER ANGLES. THE ANGLES SHALL BE ATTACHED BY GALVANIZED NUTS AND BOLTS FOR STEEL UNITS AND ALUMINUM NUTS AND BOLTS FOR ALUMINUM UNITS.

WHERE TWO OR MORE PIPES WITH APRON ENDWALLS ARE LAID ADJACENT TO EACH OTHER, THEY SHALL BE SEPARATED BY A DISTANCE SUFFICIENT TO PROVIDE A MINIMUM CLEARANCE OF 6 INCHES BETWEEN APRON ENDWALLS.

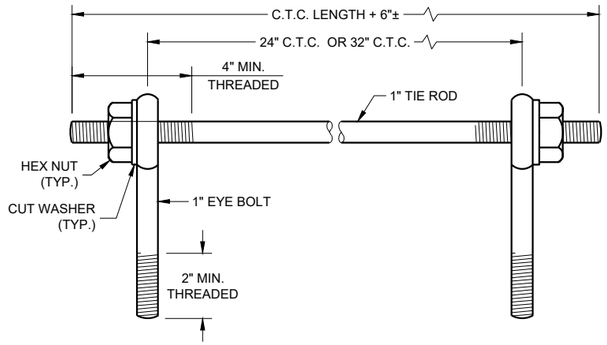
① FOR PIPE SIZES UP TO 60" DIAMETER, A 180° ROLLED EDGE MAY BE USED INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.

APRON ENDWALLS FOR CULVERT PIPE

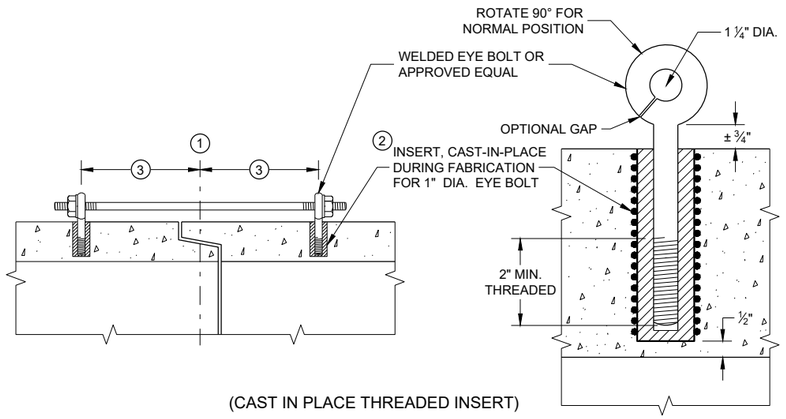
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
11/30/94 DATE
/S/ Rory L. Rhinesmith
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

6
S.D.D. 8 F 1-11



EYE BOLTS AND TIE ROD



(CAST IN PLACE THREADED INSERT)

LONGITUDINAL SECTIONS

EYE BOLT AND TIE ROD ASSEMBLY (ALTERNATE NO. 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 APPLICABLE SPECIAL PROVISIONS.

CONCRETE CULVERT AND STORM SEWER PIPE SHALL BE TIED TOGETHER IN THE MANNER ILLUSTRATED BY THIS DETAIL AT LOCATIONS DESIGNATED IN THE STANDARD SPECIFICATIONS AND THE PLAN. THE CONTRACTOR MAY USE EITHER ALTERNATE 1, 2 OR 3 FOR DRAINAGE STRUCTURES. ONLY ALTERNATE 1 AND 3 MAY BE USED FOR CATTLE PASSES, UNLESS OTHERWISE STATED IN THE CONTRACT. THE MATERIALS, FABRICATION AND WORK NECESSARY TO TIE THE PIPE BY THIS DETAIL WILL BE CONSIDERED INCIDENTAL TO THE PIPE AND APRON ENDWALLS IF REQUIRED.

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR JOINT TIES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.

JOINT TIES TO BE HOT-DIP GALVANIZED PER ASTM A 153.

(1) CENTER LINE OF TONGUE AND GROOVE OR BELL AND SPIGOT JOINTS.

(2) THE INSIDE OF THE THREADED INSERTS SHALL BE CLEAN TO ALLOW THE INSERTION OF THREADED EYE BOLTS.

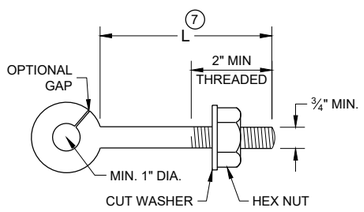
(3) HOLES SHALL BE CAST-IN-PLACE OR DRILLED PER THE APPLICABLE DETAIL, AND EQUAL DISTANCE FROM THE CENTERLINE OF THE JOINT.

(4) BOLT PROJECTION INSIDE OF PIPE SHALL NOT EXCEED 2 INCHES.

(5) OPENING TO BE ROD DIAMETER PLUS 1 INCH.

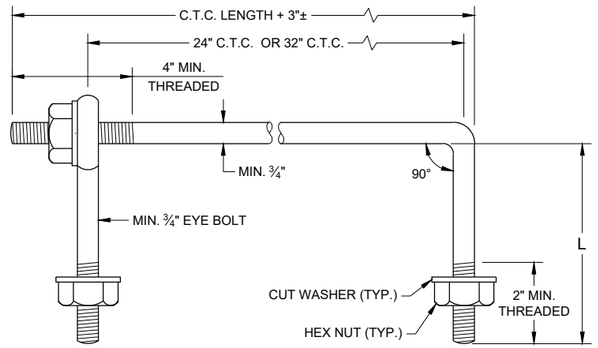
(6) LENGTH ADEQUATE TO EXTEND TO WITHIN ½ INCH OF THE INNER SURFACE OF THE PIPE.

(7) EYE BOLT LENGTH DETERMINED BY WALL THICKNESS, BELL THICKNESS AND BOLT PROJECTION INSIDE PIPE.

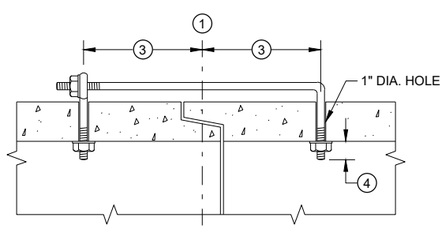


EYE BOLT (7)

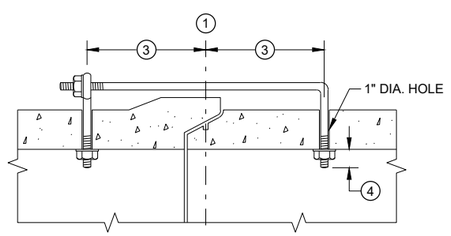
NOTE: TWO EYE BOLTS MAY BE USED WITH A 30" OR 38" LONG THREADED ROD IN LIEU OF THE 90° BENT TIE ROD.



EYE BOLT AND TIE ROD



(TONGUE AND GROOVE PIPE)



(MODIFIED BELL PIPE)

LONGITUDINAL SECTION

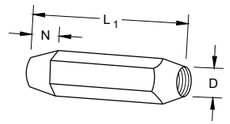
(JOINT TIES FOR 18" TO 66" DIA. CONCRETE PIPE)

EYE BOLT AND TIE ROD ASSEMBLY (ALTERNATE NO. 2)

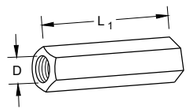
ADJUSTABLE TIE ROD TABLE

PIPE DIAMETER	TIE ROD DIAMETER	D	L_1	N
12 - 60	⅝	⅝	5	½
66 - 84	¾	¾	5	½
90 - 144	1	1	7	1 7/16

DIMENSIONS SHOWN ARE IN INCHES



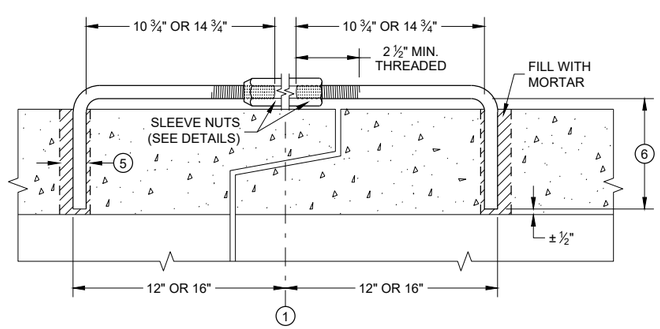
TAPERED



PLAIN

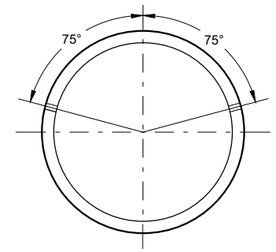
RIGHT AND LEFT THREADS

SLEEVE NUTS



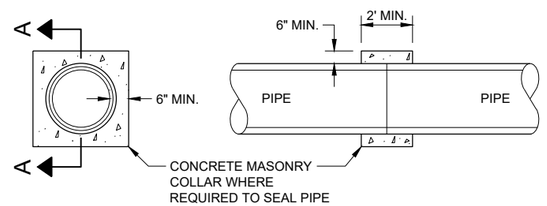
LONGITUDINAL SECTION

ADJUSTABLE TIE ROD (ALTERNATE NO. 3)



PLACEMENT OF (2) CAST-IN-PLACE INSERTS OR HOLES DURING FABRICATION FOR PIPE SECTIONS REQUIRING TIE RODS

TRANSVERSE SECTION



SECTION A - A

CONCRETE COLLAR DETAIL

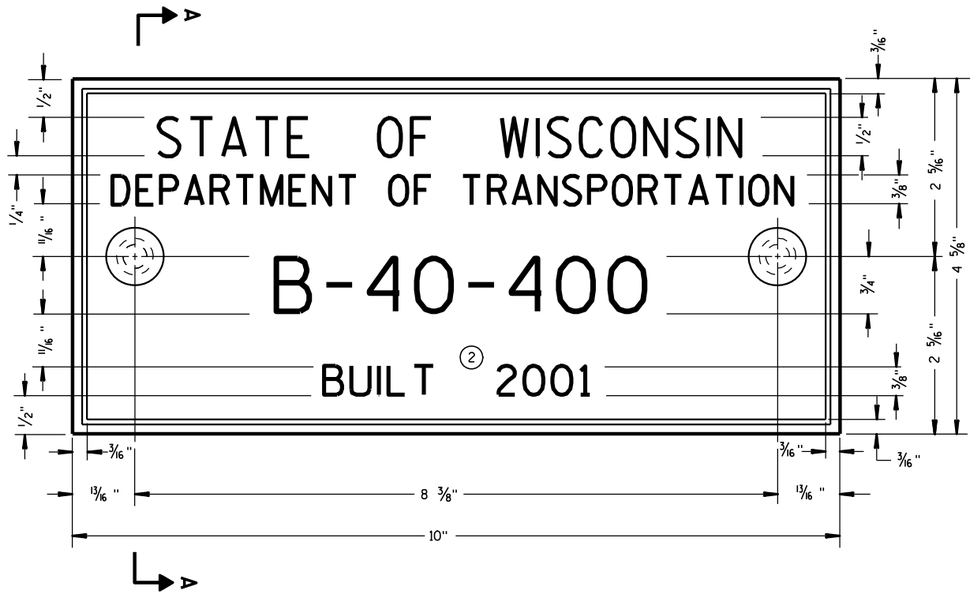
JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2021 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVE ENGINEER
FHWA

SDD 08F04 - 08

SDD 08F04 - 08



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

FOR MULTI-UNIT STRUCTURES
LINE 3 ABOVE SHALL READ

B = BRIDGE
C = CULVERT
R = RETAINING WALL

COUNTY NO.

BRIDGE NO.

UNIT NO. FOR MULTIPLE UNIT BRIDGE

B-40-400-1A

NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES

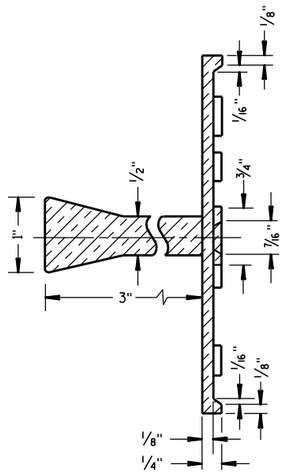
GENERAL NOTES

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

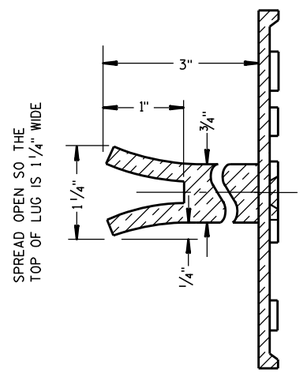
THE BRIDGE NUMBER AND YEAR BUILT SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND YEAR BUILT.

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

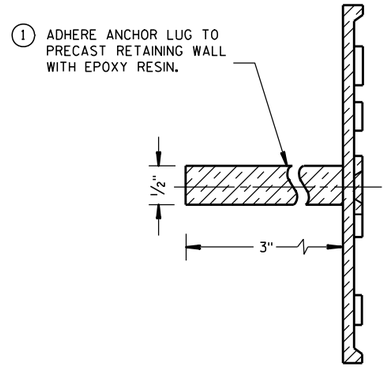
(2) REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.



SECTION A-A



ALTERNATE LUG



ALTERNATE LUG
(FOR ATTACHMENT TO PRECAST STRUCTURES)

NAME PLATE (STRUCTURES)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

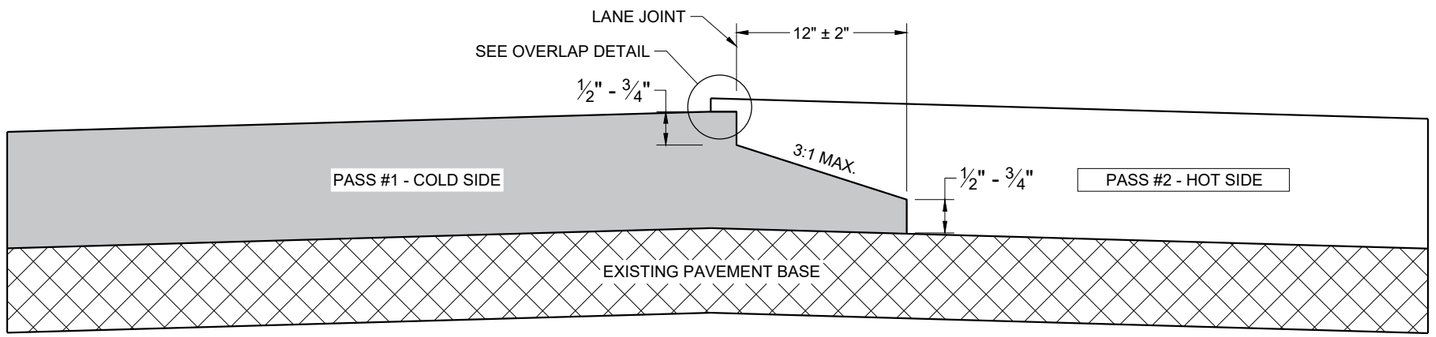
3/26/10 DATE

/S/ Scot Beck -- CHIEF STRUCTURAL DEVELOPMENT ENGINEER

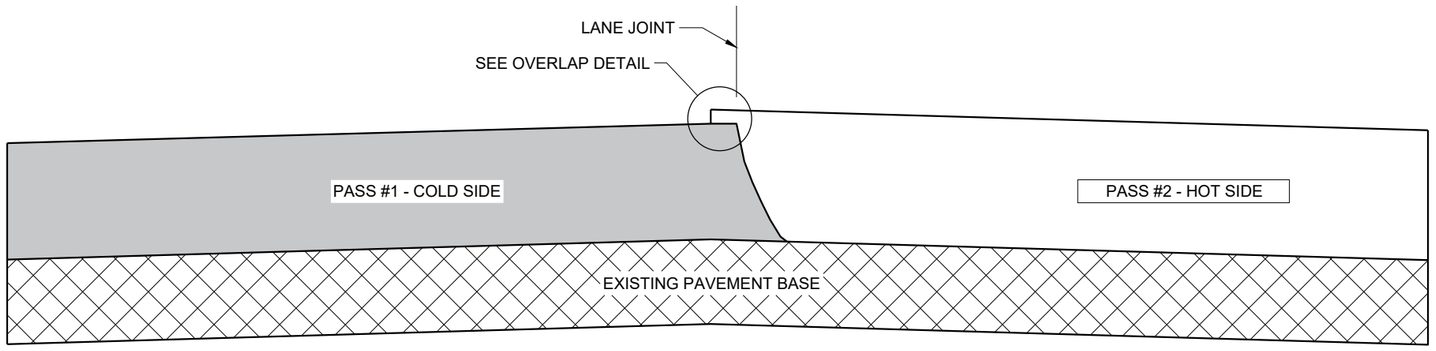
FHWA

6

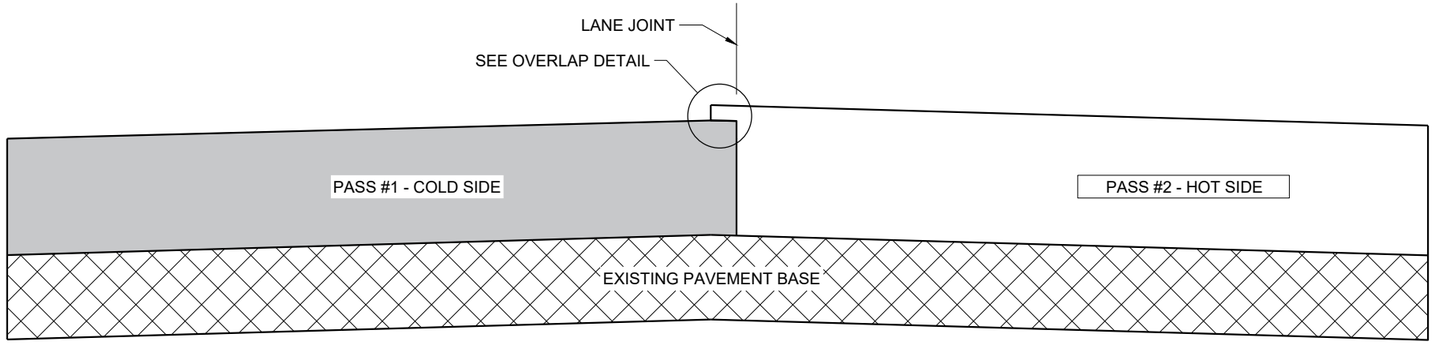
S.D.D. 12 A 3-10



TYPICAL PAVEMENT CROSS SECTION
NOTCHED WEDGE JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT (MILLED)

GENERAL NOTES

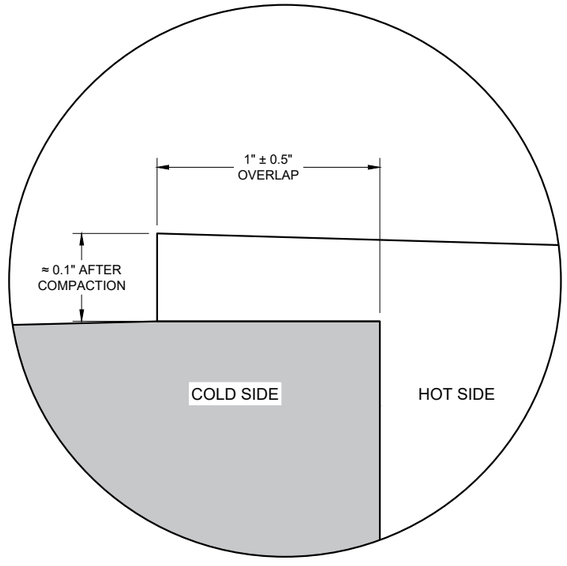
IN ADDITION TO THE DETAILS PROVIDED IN THIS DRAWING, CONFORM TO STANDARD SPECIFICATION 450.3.2.8 FOR WHEN A NOTCHED WEDGE JOINT IS REQUIRED AND FOR GENERAL JOINT CONSTRUCTION REQUIREMENTS.

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

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

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

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



OVERLAP DETAIL (TYPICAL)

6

6

SDD 13C19 - 03

SDD 13C19 - 03

HMA LONGITUDINAL JOINTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2020
DATE

/S/ Steven Hefel
HMA PAVEMENT ENGIN

FHWA

(1) WOOD OR STEEL POSTS (w6X9 OR w6X8.5) MAY BE USED. DO NOT INTERMIX WOOD AND STEEL POSTS. INSTALL STEEL POSTS WITH HOLES ON APPROACHING TRAFFIC SIDE.

(2) USE WOOD OR APPROVED PLASTIC BLOCKOUTS. WOOD BLOCKOUTS MAY BE CONSTRUCTED OUT OF TWO OR MORE WOOD BLOCKOUTS. SEE ALTERNATE WOOD BLOCKOUT DETAIL. DIMENSIONS OF APPROVED PLASTIC BLOCKOUTS MAY VARY.

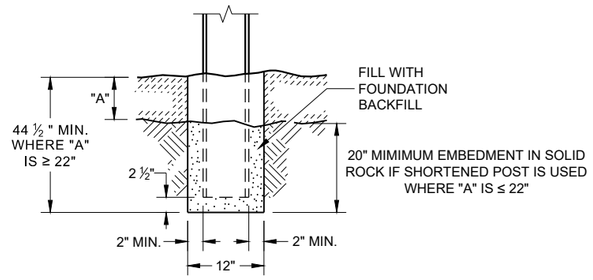
(3) IF ROCK IS ENCOUNTERED DURING EXCAVATION, PROVIDE A HOLE 12 INCHES IN DIAMETER EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2 1/2" INCHES OF GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE. CUT THE POSTS THE TO LENGTH AMD INSTALL. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT. BACKFILL IS TO BE FREE OF LARGE ROCKS.

(4) WHEN THE DISTANCE FROM BACK OF POST TO SHOULDER HINGE POINT IS LESS THAN 2 FEET INSTALL LONGER POST AT HALF POST SPACING (K).

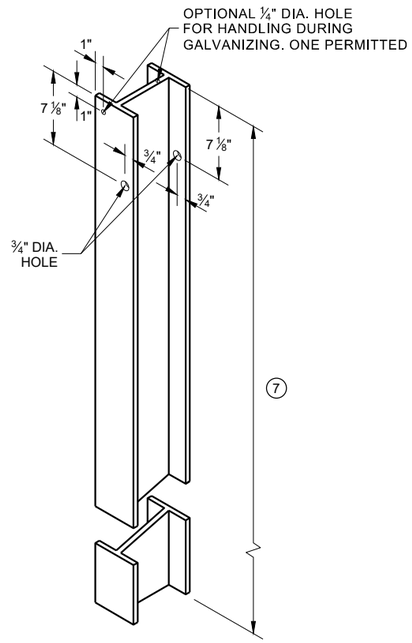
(5) FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS ±1". FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27 ¾" TO 32".

(6) WHEN USING STEEL POST AND WOOD BLOCKOUTS INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

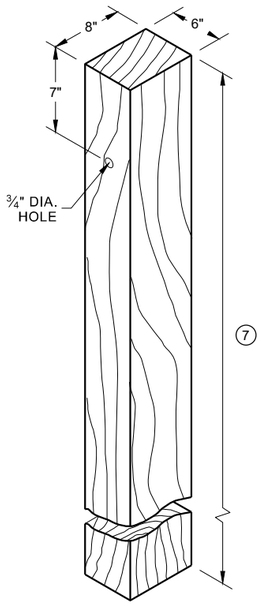
(7) TOTAL POST LENGTH FOR TYPE K IS 7' - 0".
TOTAL POST LENGTH FOR OTHER MGS TYPES IS 6' - 0".



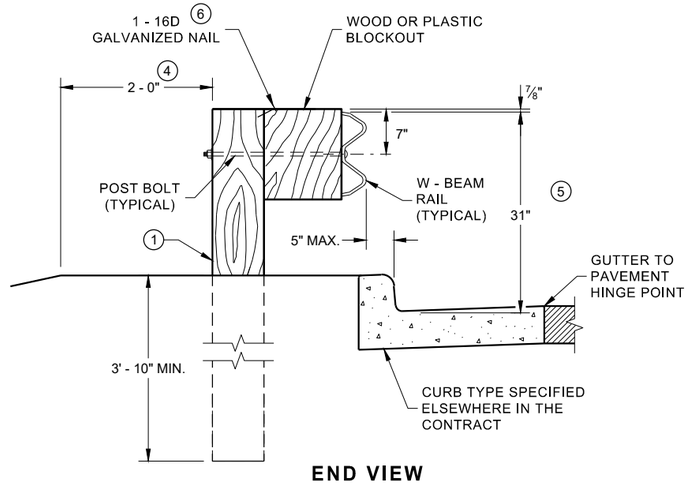
END VIEW
SETTING STEEL OR WOOD POST IN ROCK (3)



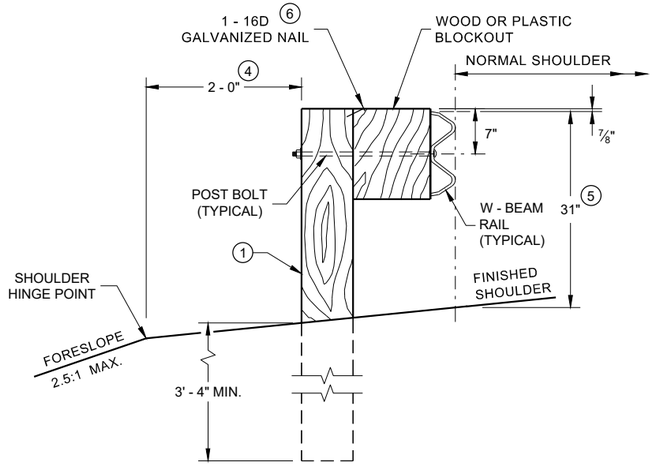
STEEL POST & HOLE PUNCHING DETAIL (W 6 X 9) (1)



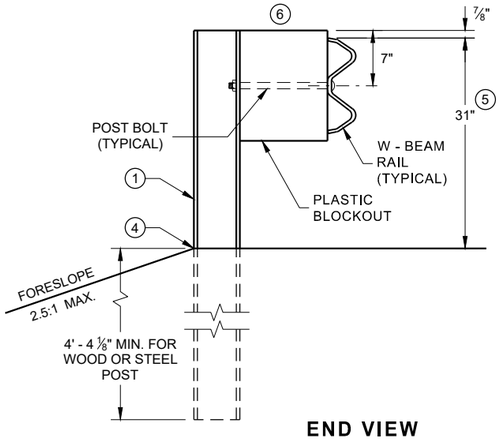
WOOD POST (6" X 8") NOMINAL (1)



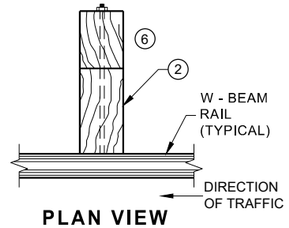
END VIEW
LOCATED ALONG A CURBED ROADWAY



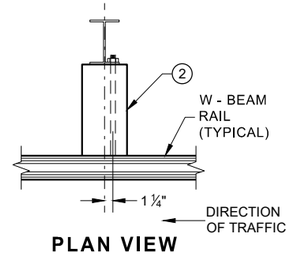
END VIEW
LOCATED ALONG A ROADWAY SHOULDER STANDARD INSTALLATION



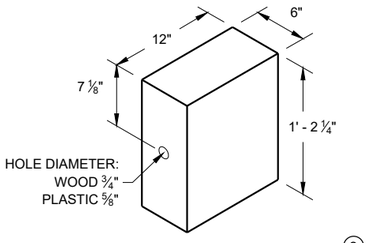
END VIEW
MGS LONGER POST AT HALFPOST SPACING W BEAM (K)



PLAN VIEW
WOOD POST, BLOCKOUT & BEAM



PLAN VIEW
STEEL POST, PLASTIC BLOCKOUT & BEAM



WOOD OR PLASTIC BLOCKOUT (2)

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

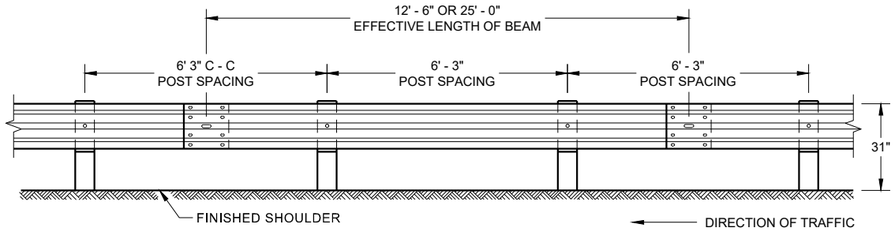
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

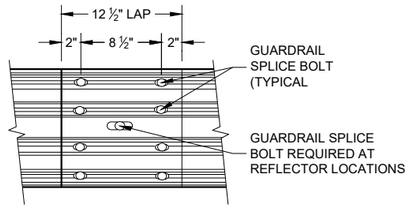
SDD 14B42 - 07a

6

SDD 14B42 - 07a



FRONT VIEW
POST SPACING STANDARD INSTALLATION



FRONT VIEW
MID-SPAN BEAM SPLICE

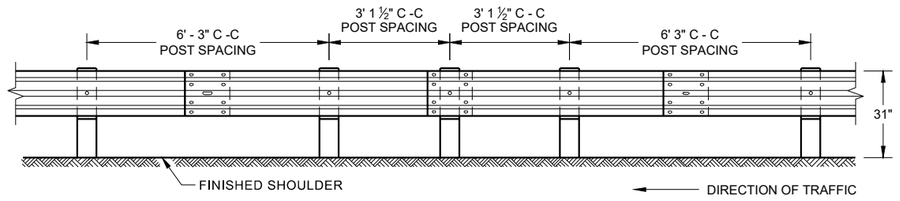
GENERAL NOTES

(8) DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

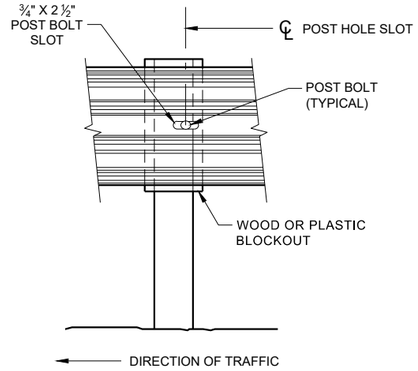
(9) 25 FEET OF HALF POST SPACING IS REQUIRED ON APPROACH AND DEPARTURE ENDS OF QUARTER POST SPACING.

POST BOLTS ARE A ⅝" DIAMETER ASTM A307 GUARDRAIL BOLT. A POST BOLT REQUIRES ⅝" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT AND ⅝" DIAMETER F844 FLAT WASHER. POST BOLTS MAY BE LONGER IF MULTIPLE BLOCKOUTS ARE BEING USED.

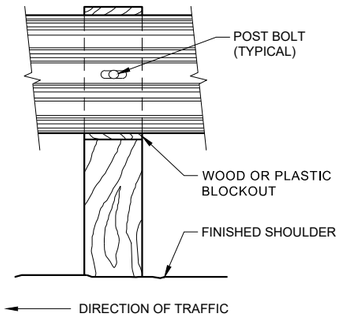
GUARD RAIL SPLICE BOLTS ARE A ⅝" DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES ⅝" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.



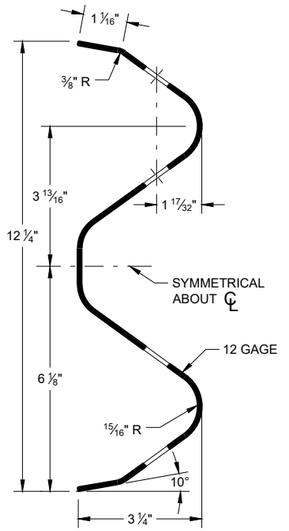
FRONT VIEW
HALF POST SPACING (HS) AND
HALF POST SPACING WITH LONGER POSTS (K)



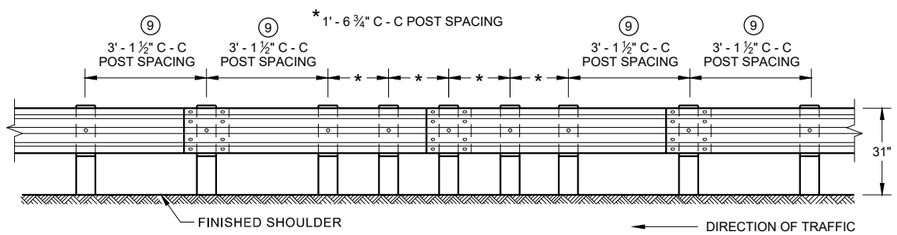
FRONT VIEW AT STEEL POST



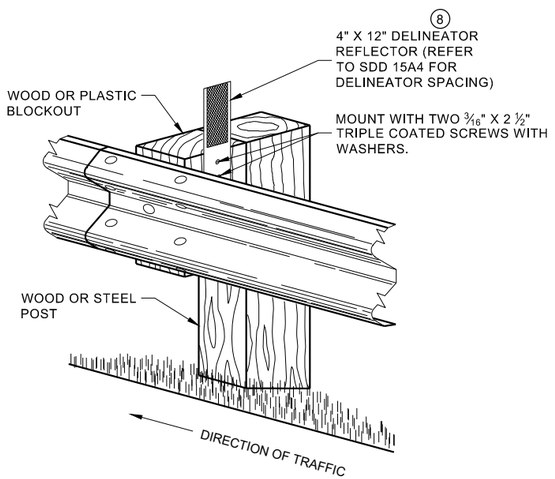
FRONT VIEW AT WOOD POST



SECTION THRU W-BEAM RAIL



FRONT VIEW
QUARTER POST SPACING (QS)



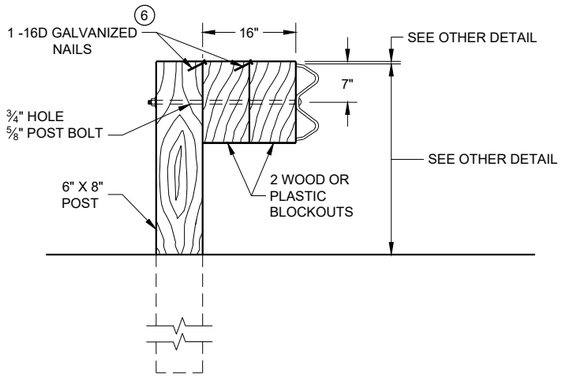
ONE SIDED REFLECTOR DETAIL
AND TYPICAL INSTALLATION

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

SDD 14B42 - 07b

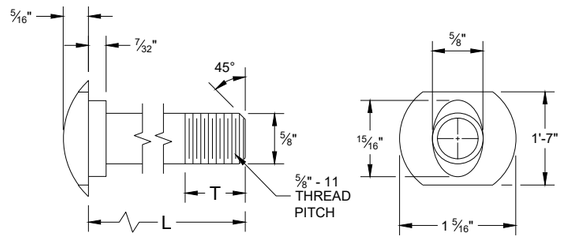


DETAIL FOR 16" BLOCKOUT DEPTH

IT IS ACCEPTABLE TO USE BLOCKOUTS UP TO 16" DEEP TO INCREASE THE POST OFFSET TO AVOID UNDERGROUND OBSTACLES. THERE IS NO LIMIT TO THE NUMBER OF POSTS THAT CAN HAVE ADDITIONAL BLOCKOUTS UP TO 16" DEEP.

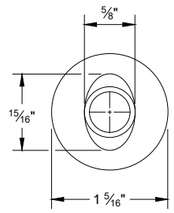
NOTE:

1. ALL FILLETS SHALL HAVE A MINIMUM RADIUS OF 3⁄16".
2. IF THE BOLT EXTENDS MORE THAN ¼" FROM THE NUT THE BOLT SHOULD BE TRIMMED BACK.

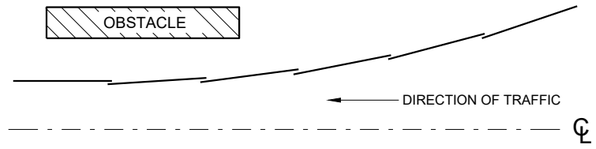


POST BOLT TABLE

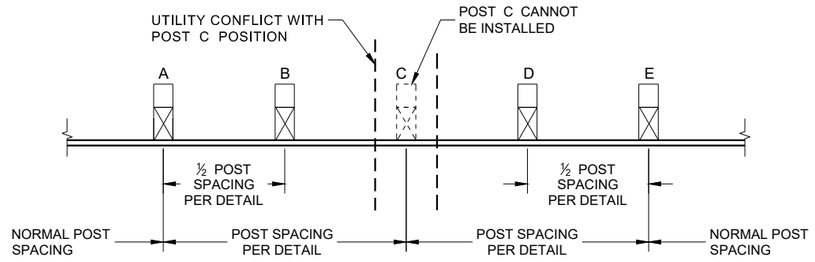
L	T (MIN.)
1 ¼"	1 ⅛"
2"	1 ¾"
10"	4"
14"	4 1⁄16"
18"	4"
21"	4 1⁄16"
25"	4"



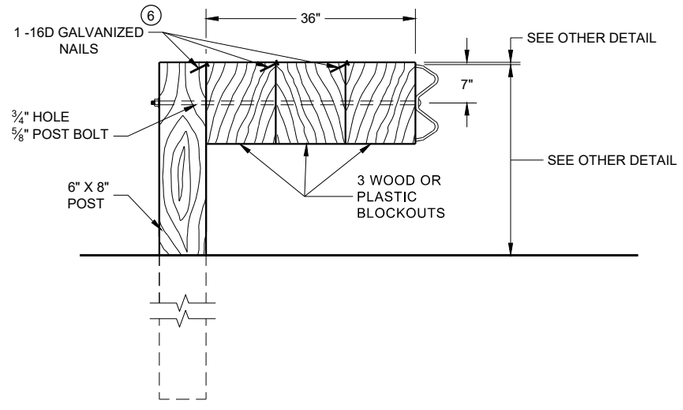
ALTERNATE BOLT HEAD



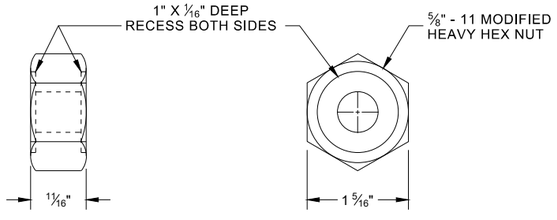
PLAN VIEW
BEAM LAPPING DETAIL



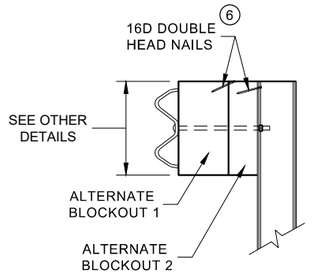
POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION



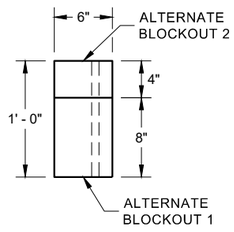
DETAIL FOR 36" BLOCKOUT DEPTH



POST BOLT, SPLICE BOLT AND RECESS NUT



SIDE VIEW



PLAN VIEW

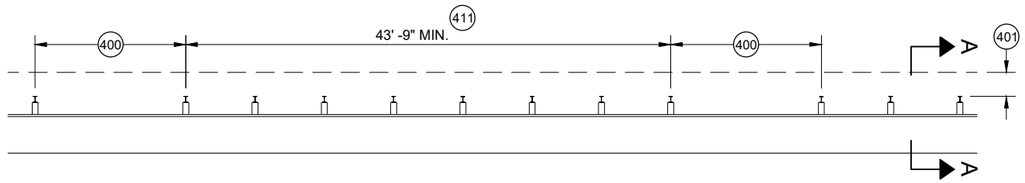
ALTERNATE WOOD BLOCKOUT DETAIL

NOTES: UNDER SPECIAL CIRCUMSTANCES, SUCH AS AVOIDING OBSTACLES THAT ARE NOT RELOCATED, IT IS ACCEPTABLE TO INSTALL ADDITIONAL BLOCKOUTS TO OBTAIN UP TO 36" DEPTH FOR ONE OR TWO POSTS IN A SECTION OF GUARDRAIL.

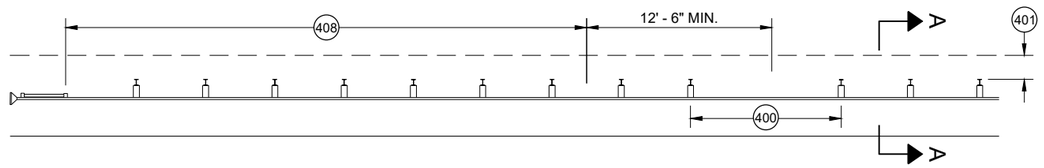
DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.

(6) WHEN USING STEEL POST AD WOOD BLOCKOUTS, INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

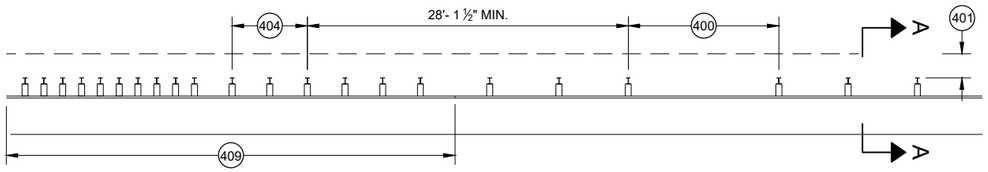
MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL



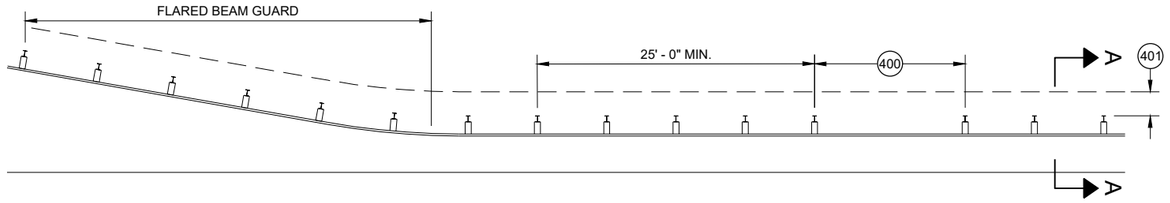
MISSING POST IN MGS GUARDRAIL



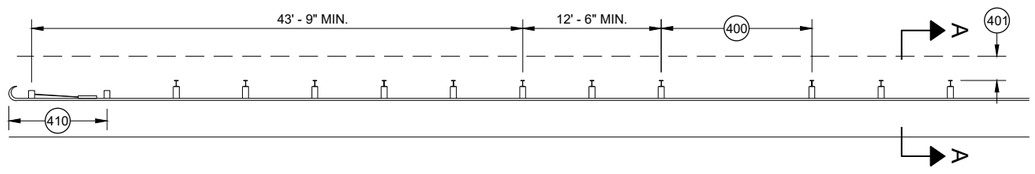
MISSING POST IN MGS GUARDRAIL NEAR EAT



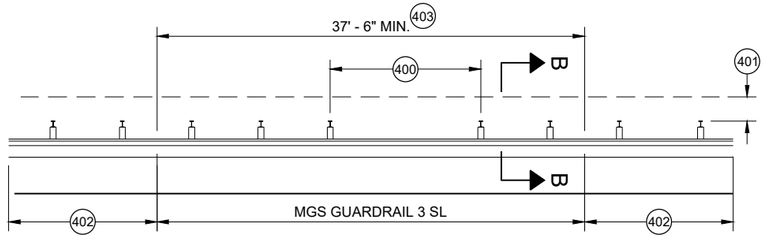
MISSING POST IN MGS GUARDRAIL NEAR AN APPROACH TRANSITION



MISSING POST IN MGS GUARDRAIL NEAR FLARED BEAM GUARD

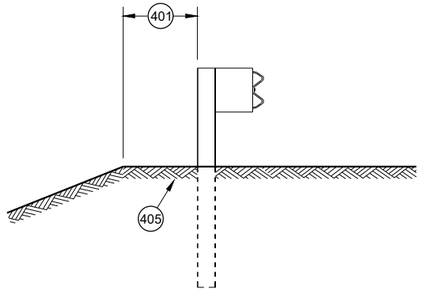


MISSING POST IN MGS GUARDRAIL NEAR A TYPE 2 END TERMINAL

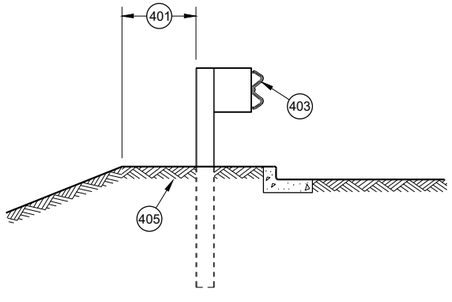


MISSING POST IN SHORT SPAN MGS GUARDRAIL NEAR CURB (SL) 407

(400) MAX SPAN 12' - 6"
(401) 2' MIN.
(402) MGS GUARDRAIL 3
(403) NESTING BEAM GUARD
(404) ASYMMETRIC TRANSITION
(405) SOIL WELL DRAINED AND COMPACTED
(406) SEE OTHER DRAWINGS IN THIS SDD
(407) SEE OTHER DRAWINGS FOR MIN. SPACING BETWEEN SPANS
(408) SEE SDD 14B44
(409) SEE SDD 14B45
(410) SEE SDD 14B47
(411) MINIMUM DISTANCE BETWEEN MISSING POST SPANS.



SECTION A - A 406



SECTION B - B 406

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2021
DATE
/S/ Rodney Taylor
ROADWAY STANDARDS DEVE
UNIT SUPERVISOR

FHWA

6

SDD 14B42 - 07d

GENERAL NOTES

(A) THE SLOPE IN THE AREA BOUNDED BY THE GRADELINE, THE HINGE POINT LINE (HPL) AND THE CLEAR ZONE LIMITS (CZL) SHALL BE 4:1 OR FLATTER.

(B) AFTER FINAL ASSEMBLY, RECHECK CABLE TO BE SURE IT IS TAUT AND HAS NOT RELAXED

(C) DIFFERENT MANUFACTURERS REQUIRE DIFFERENT PERFORATED W - BEAM RAIL END PANELS. SEE MANUFACTURER'S INFORMATION.

(D) ATTACH ALUMINUM SHEET TO E.A.T. HEAD USING 4 STAINLESS STEEL SELF - TAPPING SCREWS. ONE SCREW PER CORNER.

(E) HARDWARE MAY VARY BETWEEN MANUFACTURER. SEE MANUFACTURER'S DRAWING FOR INFORMATION.

DIMENSIONS MAY VARY, MANUFACTURER'S INFORMATION.

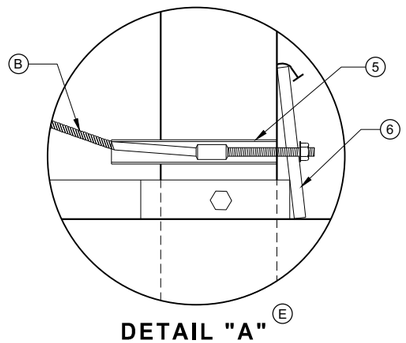
SEE SDD 14B42 FOR MORE INFORMATION.

* DO NOT ATTACH BLOCKOUTS TO POST 1 AND 2.

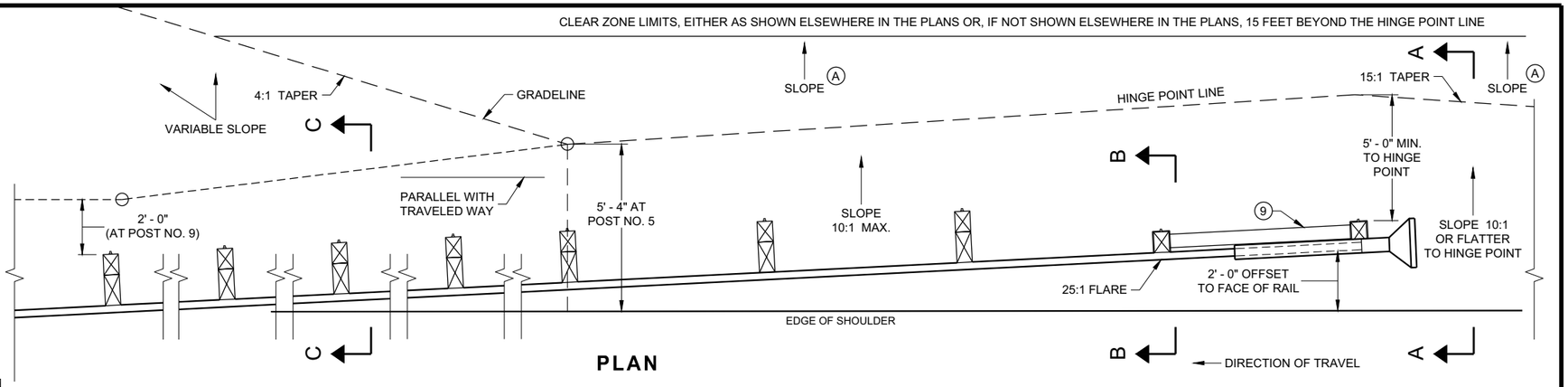
DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

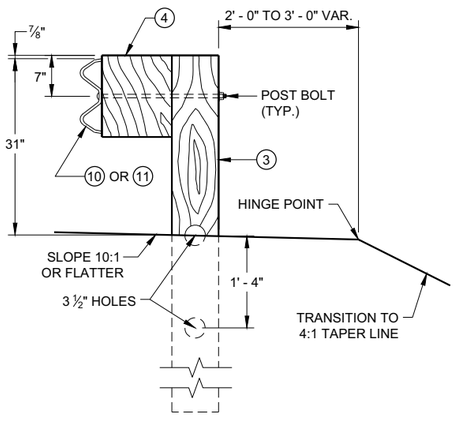
SEE MANUFACTURER'S DRAWING FOR SPLICE LOCATION, HARDWARE DIMENSIONS AND INSTALLATION INSTRUCTIONS.

THE CENTER OF THE UPPER 3 ½" DIAMETER HOLE ON POST NUMBER 3 THROUGH POST 9 IS TO BE FLUSH WITH THE GROUND LINE UP TO A MAXIMUM OF 2" ABOVE GROUND LINE. WOOD BLOCKS ON POSTS NUMBERED 3 THROUGH 9 MAY BE ADJUSTED UP TO 3" ABOVE THE TOP OF POST.

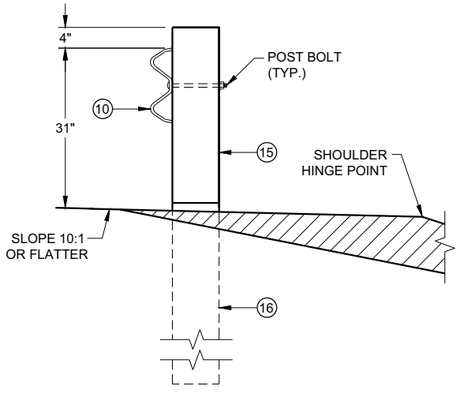


DETAIL "A" (E)

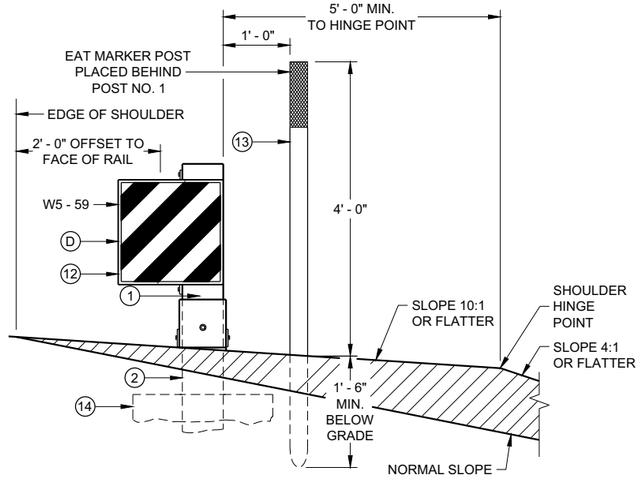




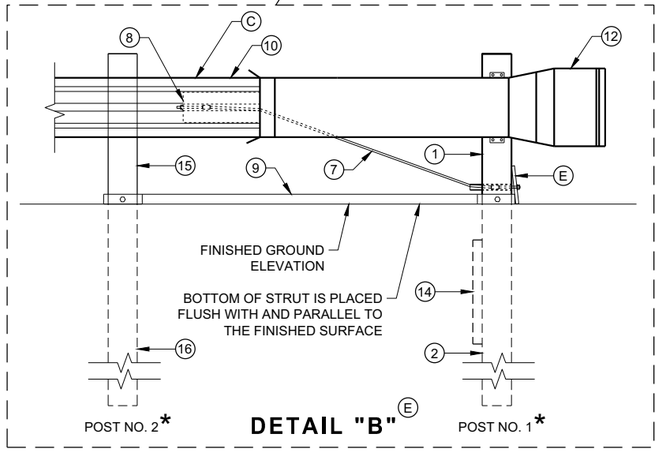
SECTION C - C
TYPICAL AT POST NOS. 3 - 9



SECTION B - B
TYPICAL AT POST NO. 2*



SECTION A - A
TYPICAL AT POST NO. 1*

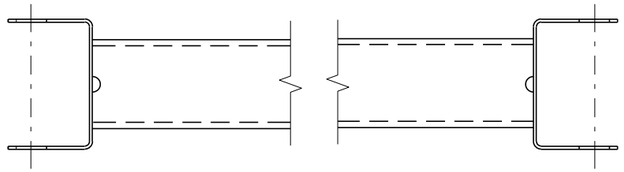


DETAIL "B" (E)

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

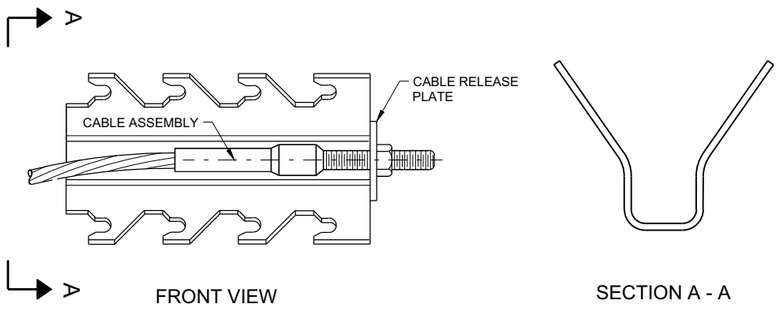
6
SDD 14B44 - 04a



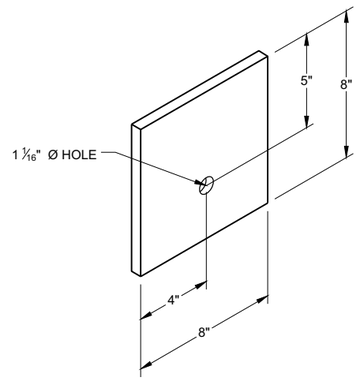
GENERIC GROUND STRUT ⑨ Ⓔ

BILL OF MATERIALS

PART NO.	DESCRIPTION MATERIALS PROVIDED BY MGS EAT MANUFACTURER. SEE MANUGACTURER'S DETAILS FOR MORE INFORMATION.
①	UPPER POST NO. 1 6" X 6" TUBE
②	LOWER POST NO. 1
③	WOOD CRT
④	WOOD BLOCKOUT
⑤	PIPE SLEEVE
⑥	BEARING PLATE
⑦	BCT CABLE ASSEMBLY
⑧	ANCHOR CABLE BOX
⑨	GROUND STRUT
⑩	PERFORATED W-BEAM RAIL END PANEL, 12'-6" LONG.
⑪	STANDARD W-BEAM RAIL. MULTIPLE SECTIONS REQUIRED. SECTIONS VARY IN LENGTH.
⑫	IMPACT HEAD
⑬	EAT MARKER POST - YELLOW (SEE APPROVED PRODUCTS LIST)
⑭	SOIL PLATE
⑮	UPPER POST NO. 2
⑯	LOWER POST NO. 2



GENERIC ANCHOR CABLE BOX ⑧ Ⓔ



BEARING PLATE ⑥ Ⓔ

6

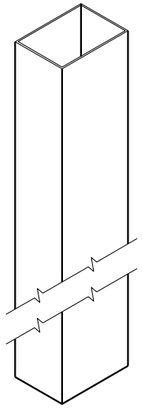
6

SDD 14B44 - 04b

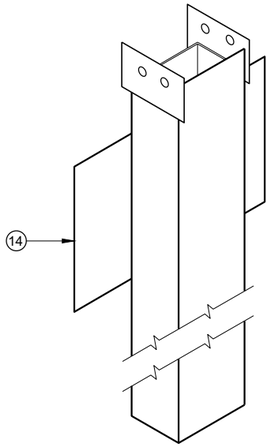
SDD 14B44 - 04b

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

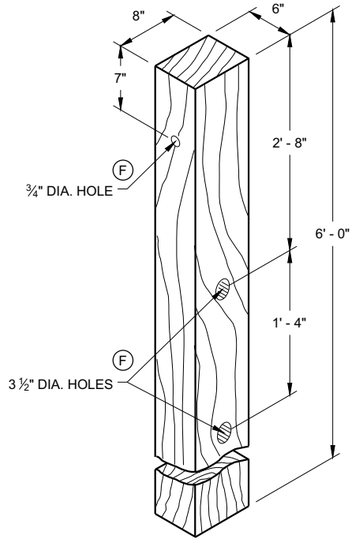
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



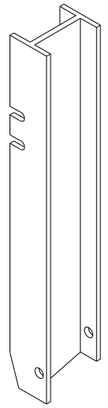
UPPER POST NO. 1 (1) (E)



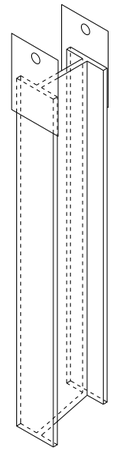
LOWER POST NO. 1 (2) (E)



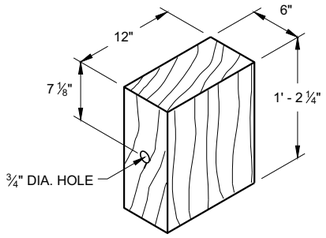
WOOD CRT POST (3) (E)
POSTS NUMBER 3-9



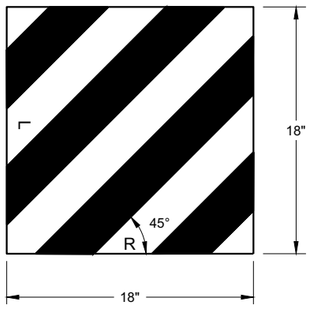
UPPER POST NO. 2 (15) (E)



LOWER POST NO. 2 (16) (E)

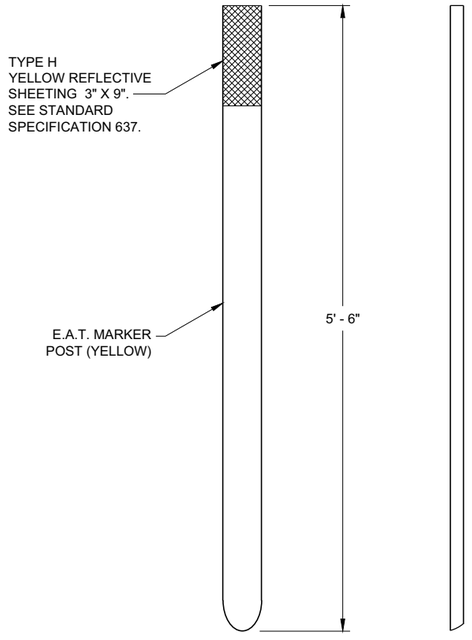


WOOD BLOCKOUT (4)
REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2



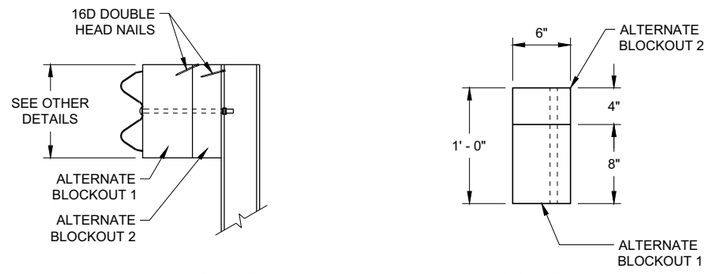
W5 - 59

REFLECTIVE SHEETING DETAIL (E)



FRONT VIEW SIDE VIEW

E.A.T. MARKER POST (13)



SIDE VIEW TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL

MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)

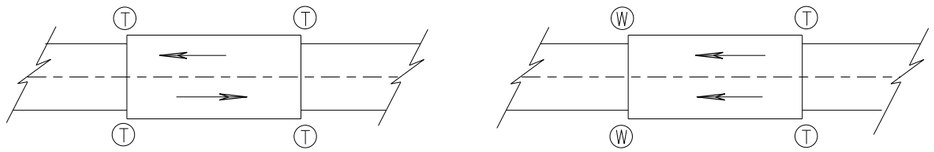
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7/2018 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVE UNIT SUPERVISOR

FHWA

6

SDD 14B44 - 04c



TWO WAY TRAFFIC

ONE WAY TRAFFIC

(T) THRIE BEAM CONNECTION

(W) W-BEAM CONNECTION WHEN REQUIRED

TYPICAL LOCATIONS OF THRIE BEAM AND W-BEAM CONNECTIONS TO BRIDGE

GENERAL NOTES

IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2½", AND 12" DIAMETER AROUND POST. SEE 14B42 FOR MORE DETAILS.

TRANSITION USES STEEL POSTS ONLY.

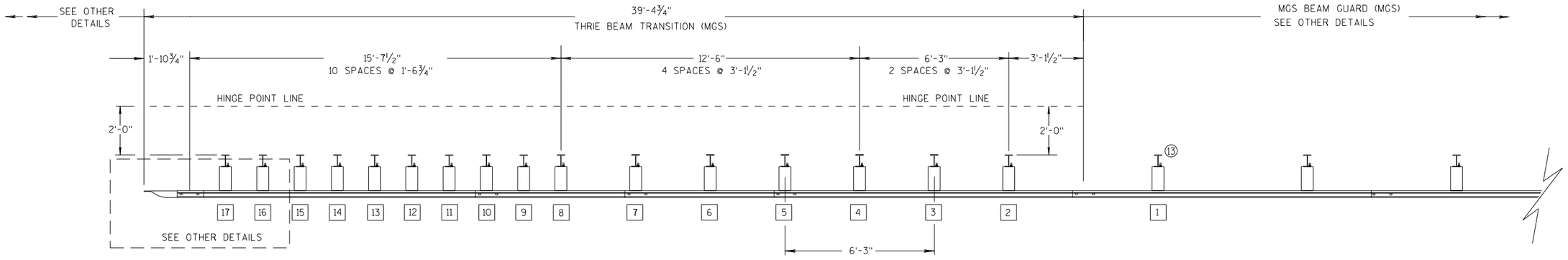
SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

POST 2 THROUGH 17 USES STEEL POST ONLY

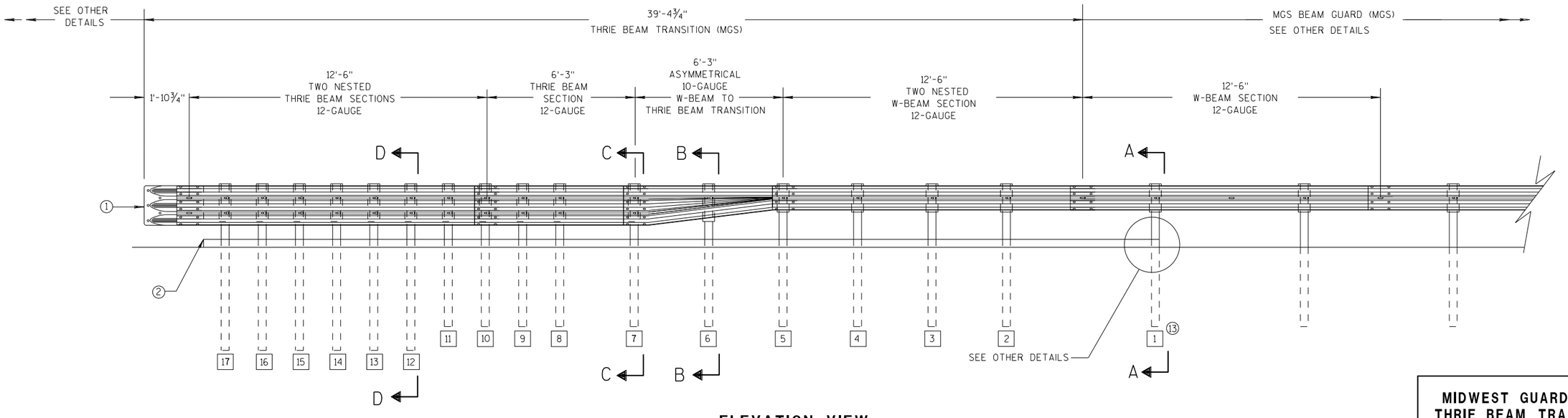
(1) BRIDGE RAILING TYPE "W" DOES NOT REQUIRE A TERMINAL CONNECTOR.

(2) OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

(13) STEEL OR WOOD POST IS ACCEPTABLE AT POST 1. SEE SDD14B42



PLAN VIEW



ELEVATION VIEW

MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6
S.D.D. 14 B 45-5a

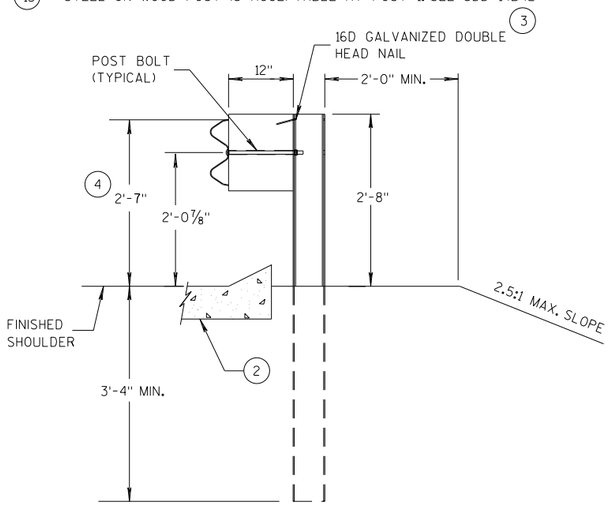
GENERAL NOTES

(2) OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

(3) WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 10D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

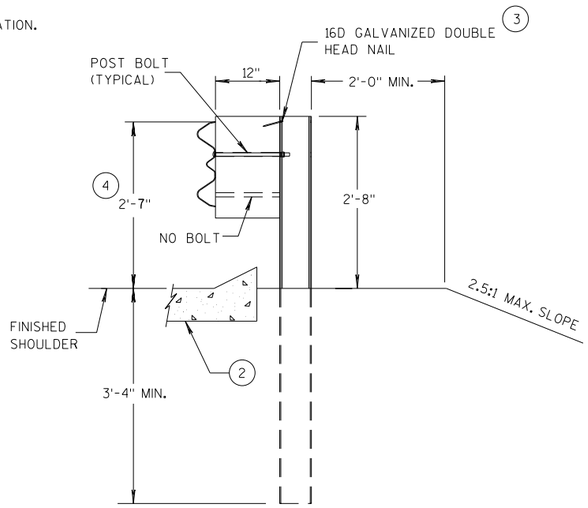
(4) TOLERANCE FOR TOP OF W-BEAM RAIL IS ± 1".

(13) STEEL OR WOOD POST IS ACCEPTABLE AT POST 1. SEE SDD 14B42



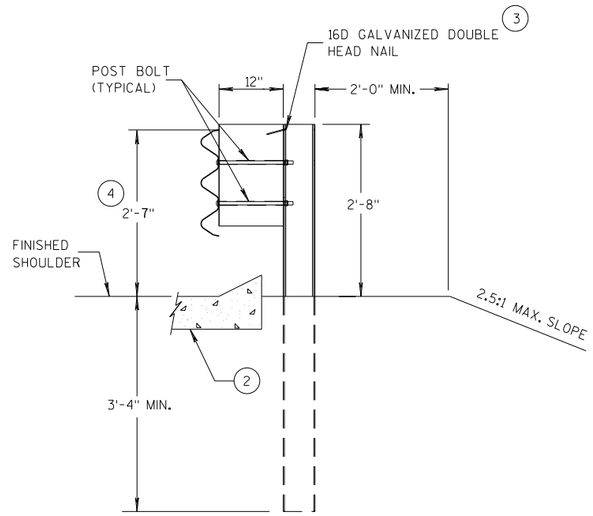
SECTION A-A (13)

POSTS 1-5



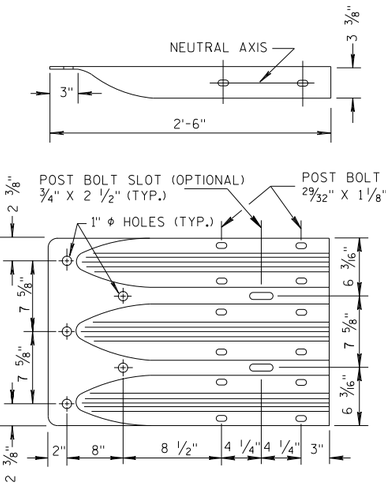
SECTION B-B

POST 6

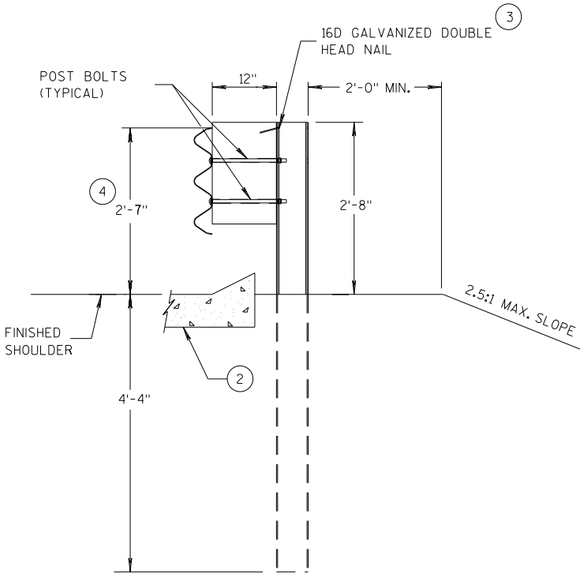


SECTION C-C

POSTS 7-11

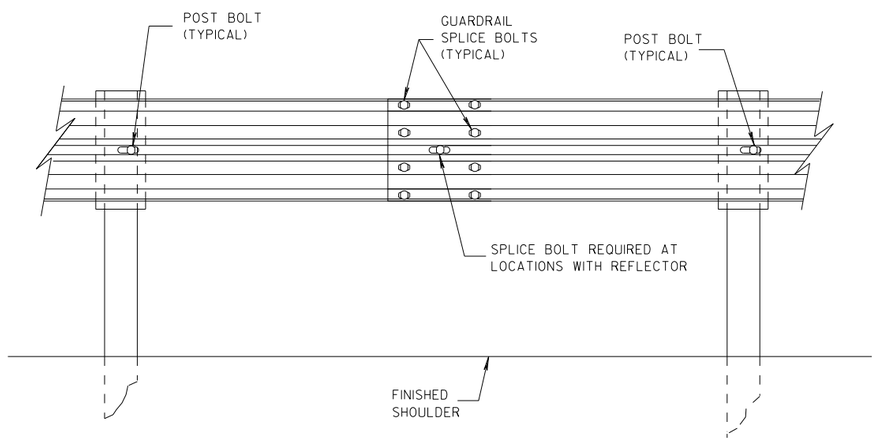


THRIE BEAM TERMINAL CONNECTOR



SECTION D-D

POSTS 12-17



SPLICE DETAIL

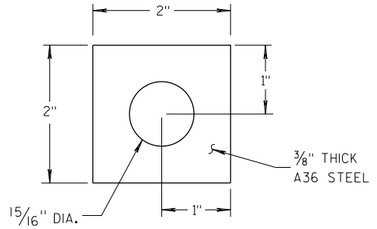
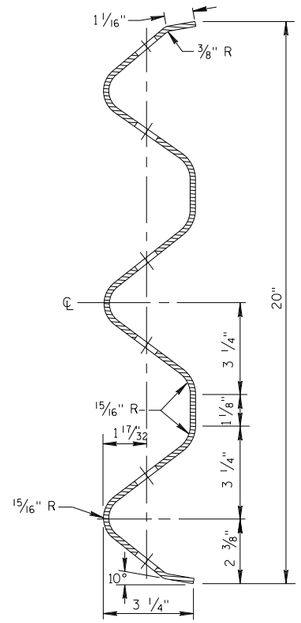


PLATE WASHER DETAIL



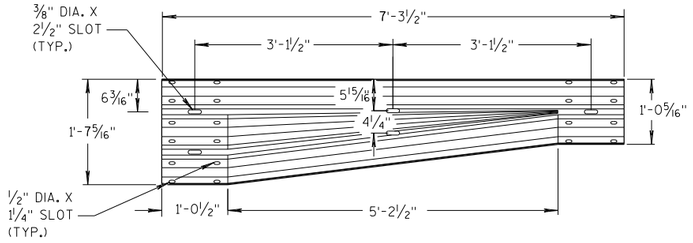
SECTION THRU THRIE BEAM RAIL ELEMENT

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

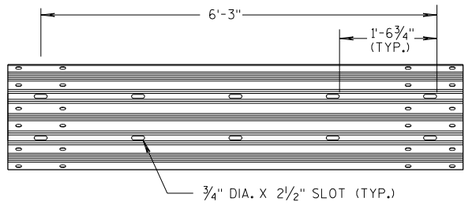
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

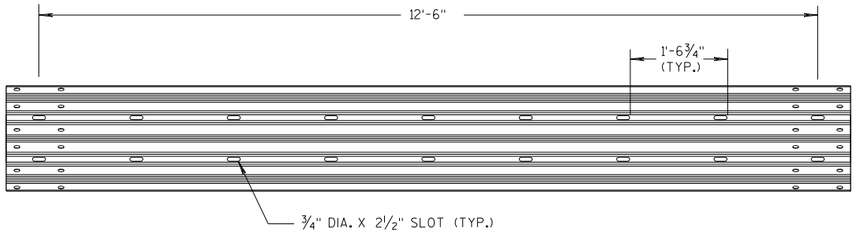
S.D.D. 14 B 45-5b



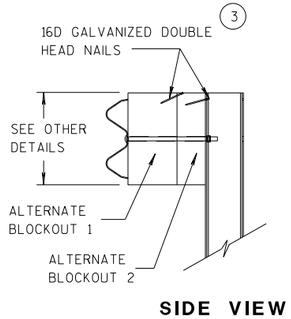
W-BEAM TO THRIE BEAM TRANSITION SECTION



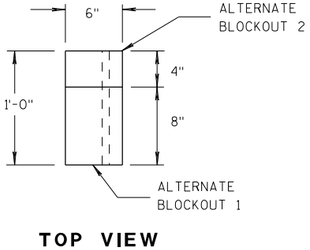
6'-3" THRIE BEAM SECTION



12'-6" THRIE BEAM SECTION

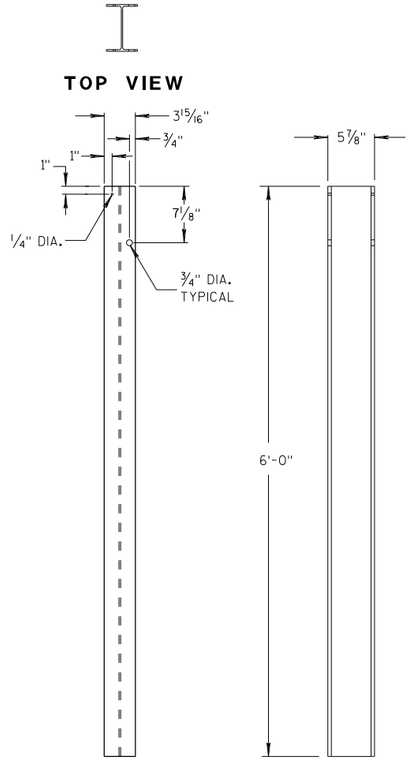


SIDE VIEW



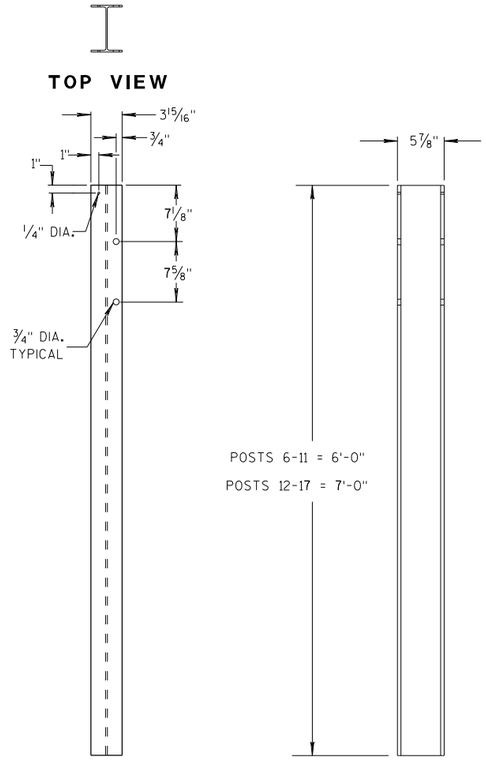
TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL



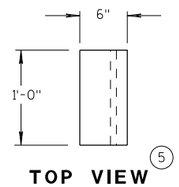
FRONT VIEW SIDE VIEW

STEEL POSTS 1-5 (13)

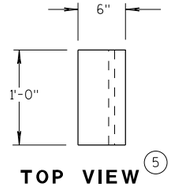


FRONT VIEW SIDE VIEW

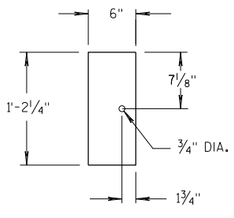
STEEL POSTS 6-17



TOP VIEW (5)

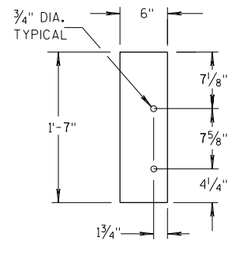


TOP VIEW (5)



FRONT VIEW

BLOCKOUT POSTS 1-5



FRONT VIEW

BLOCKOUT POSTS 6-17

GENERAL NOTES

STEEL POSTS ARE W6X9 OR W6X8.5.

BOLT HOLES FOR POST ARE ON FRONT AND OF SIDE OF POST.

(3) WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

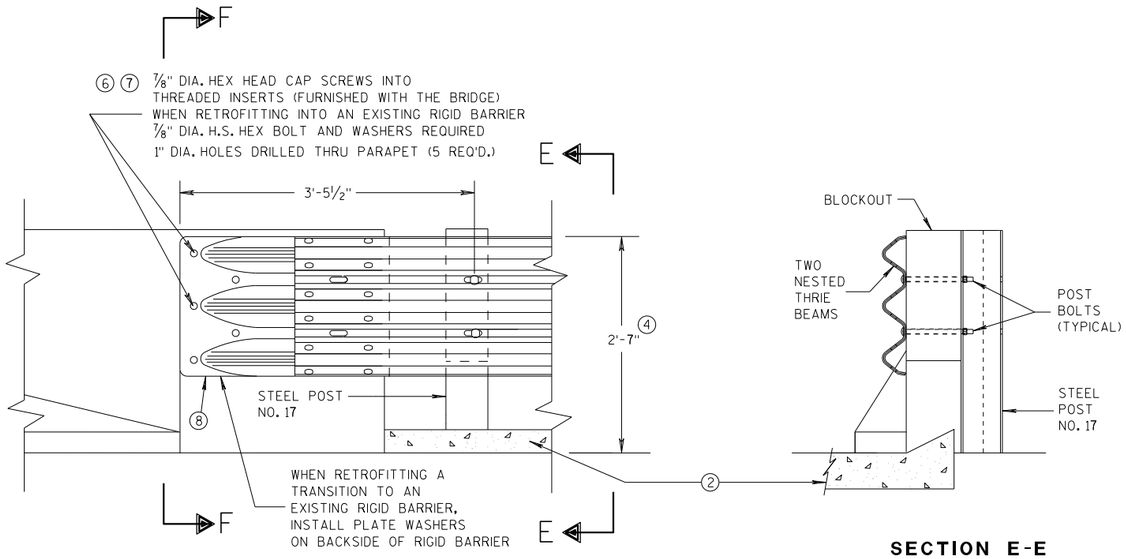
(5) WOOD BLOCKS MAY BE CONSTRUCTED OUT OF 2 WOOD BLOCKS. SEE ALTERNATE WOOD BLOCK DETAIL.

(13) STEEL OR WOOD POST IS ACCEPTABLE AT POST 1. SEE SDD 14B42.

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6
S.D.D. 14 B 45-5c



FRONT VIEW

SECTION E-E

THRIE BEAM CONNECTION TO BRIDGE PARAPET WITH SQUARE ENDS

GENERAL NOTES

THESE ARE TYPICAL CONNECTION DETAILS. ADJUST THE POSTION OF CONNECTIONS TO EXISTING BRIDGES TO FIT THE ACTUAL BRIDGE AND SITE DIMENSIONS.

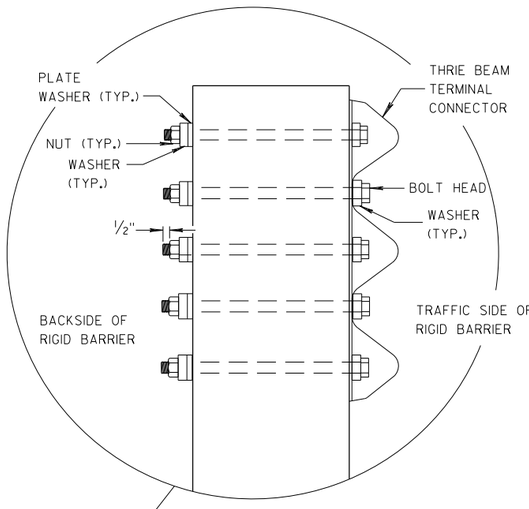
② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

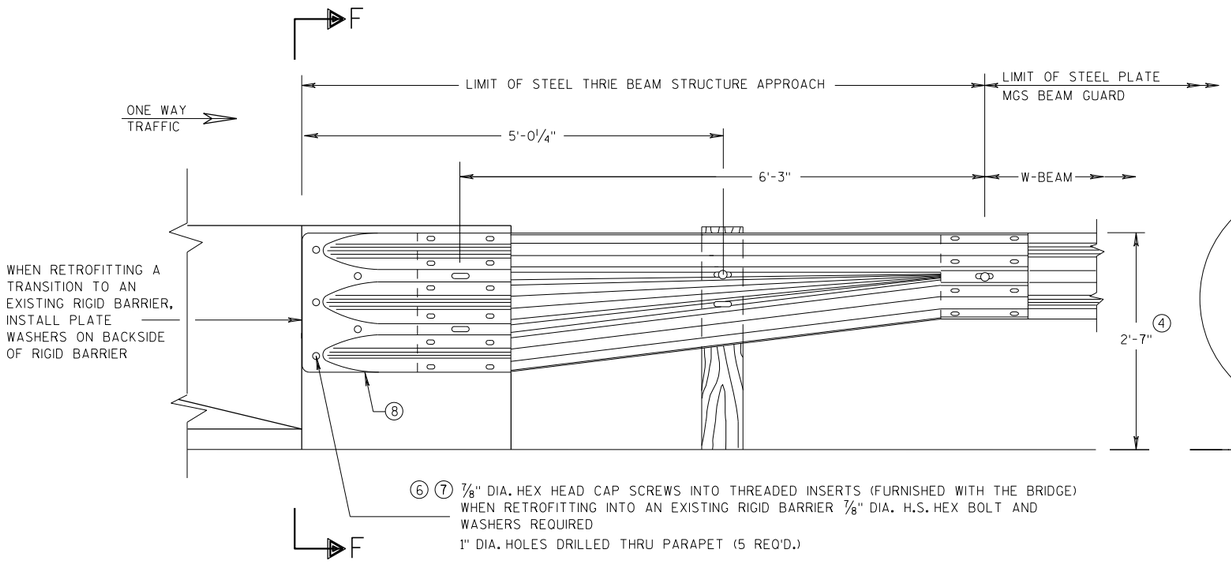
④ TOLERANCE FOR TOP OF BEAM IS ± 1".

⑥ DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

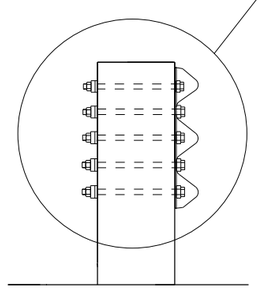
⑦ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/32" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.

⑧ THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 1/2".

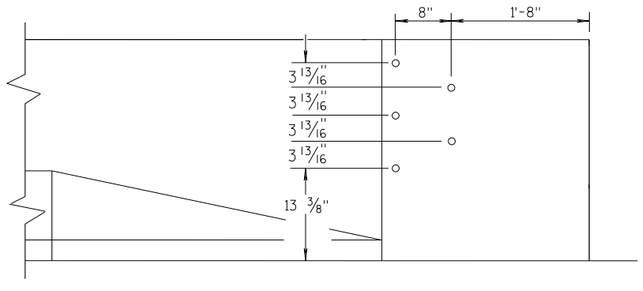




FRONT VIEW



SECTION F-F



DRILL HOLE LOCATION

W BEAM TRANSITION AND CONNECTION TO BRIDGE PARAPETS WITH SQUARE ENDS

(USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

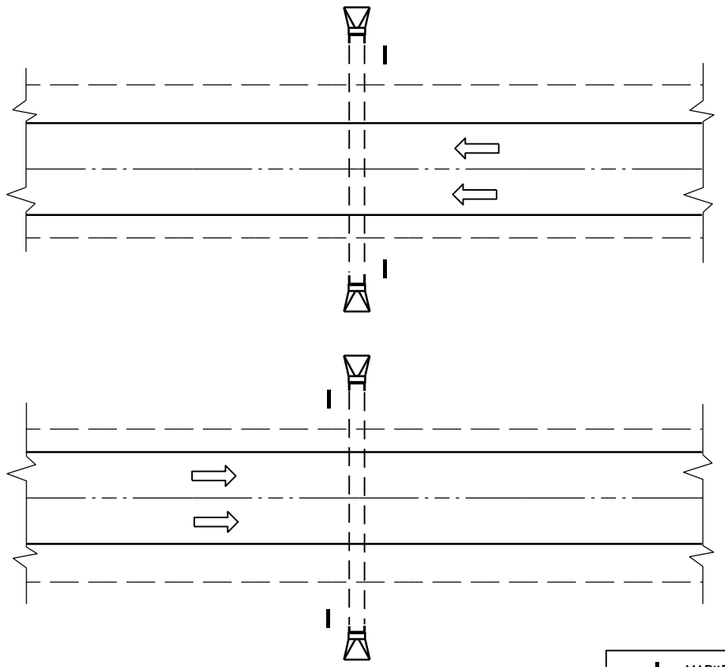
APPROVED
07/2018 DATE
/S/ Rodney Taylor
ROADWAY STANDARDS D UNIT SUPERVI
NT
FHWA

6

S.D.D. 14 B 45-5d

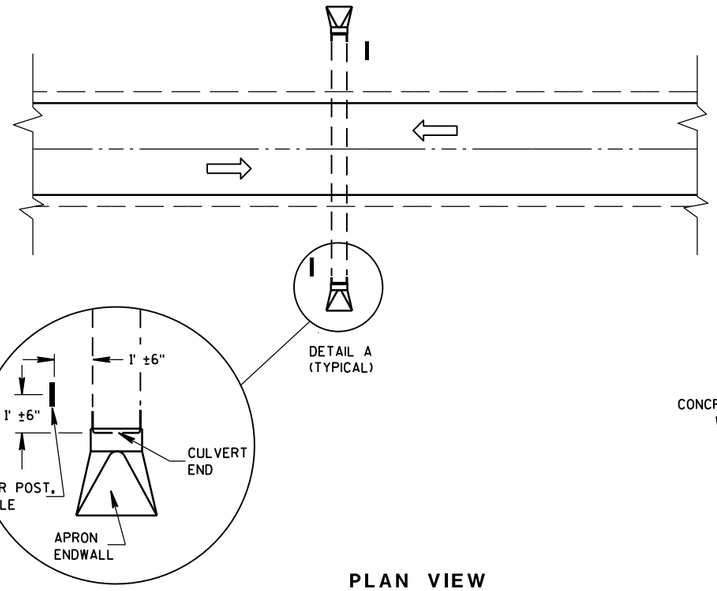
6

S.D.D. 14 B 45-5d



PLAN VIEW

DIVIDED HIGHWAY



DETAIL A
(TYPICAL)

PLAN VIEW

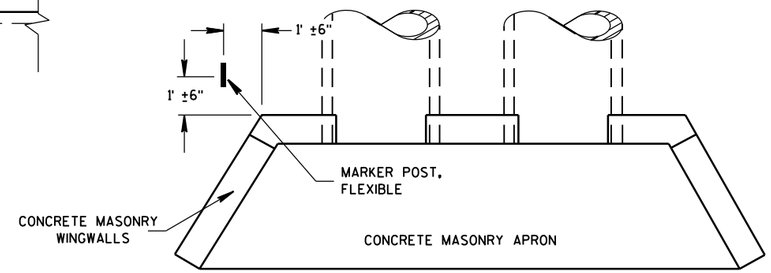
UNDIVIDED HIGHWAY

MARKER POST, FLEXIBLE

DIRECTION OF TRAFFIC FLOW

GENERAL NOTES

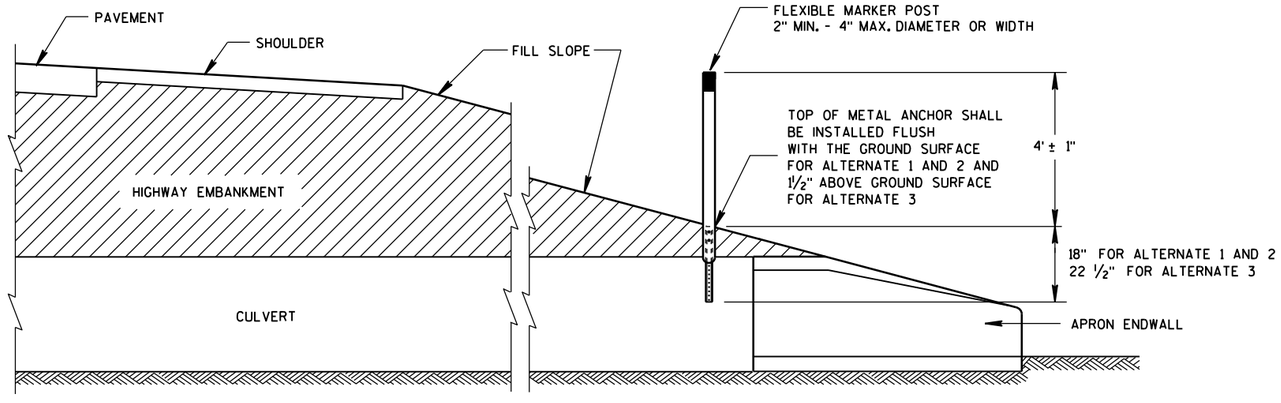
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.



PLAN VIEW

CONCRETE MASONRY ENDWALLS FOR CULVERT PIPE AND PIPE ARCH

FLEXIBLE MARKER POST LOCATION



CROSS SECTION

FLEXIBLE MARKER POST

FLEXIBLE MARKER POST FOR CULVERT END

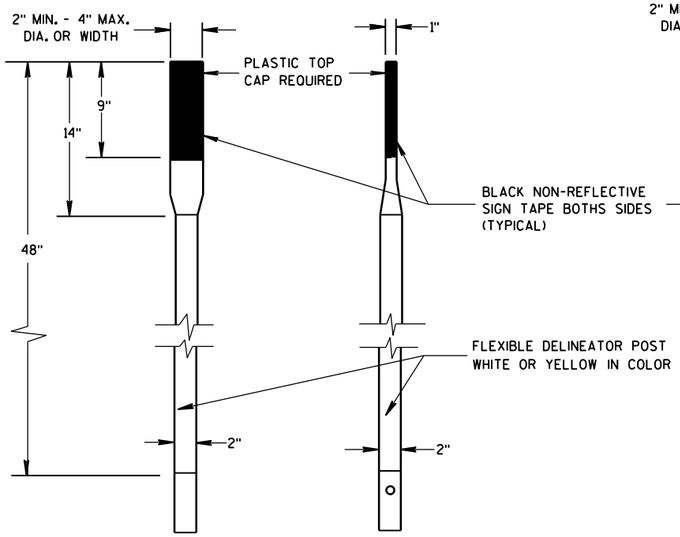
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

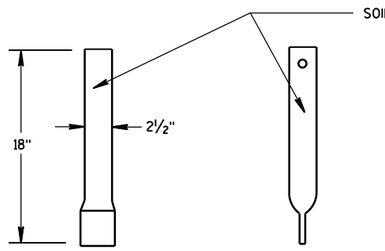
6

S.D.D. 15 A 3-2a

6

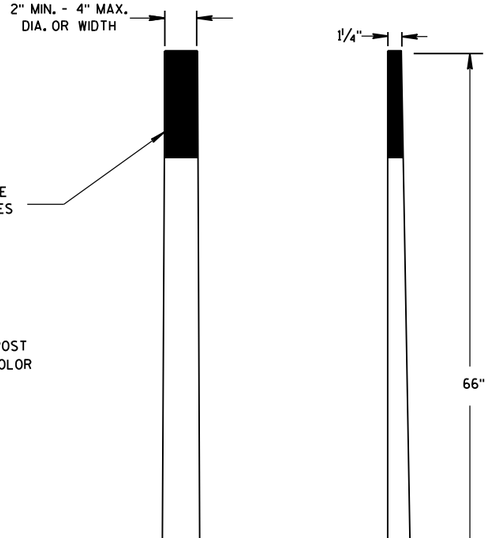
S.D.D. 15 A 3-2a





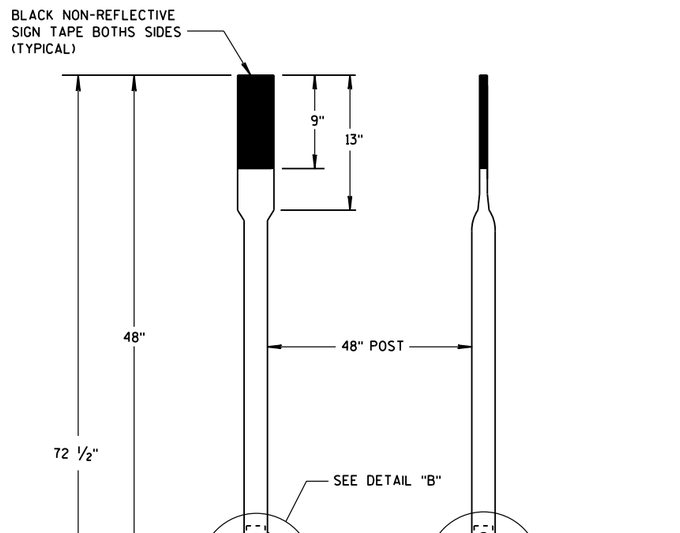
FRONT VIEW SIDE VIEW

ALTERNATE 1



FRONT VIEW SIDE VIEW

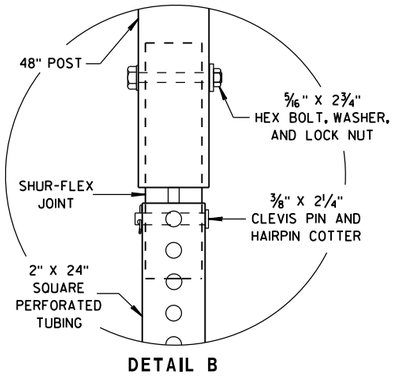
ALTERNATE 2



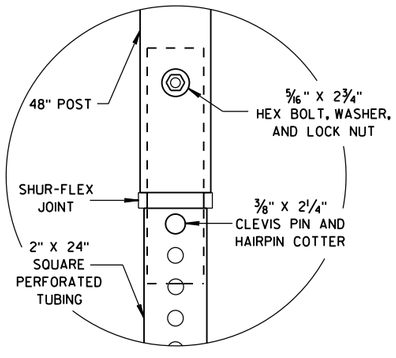
FRONT VIEW SIDE VIEW

ALTERNATE 3

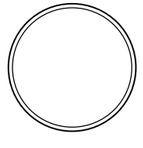
FLEXIBLE MARKER POSTS



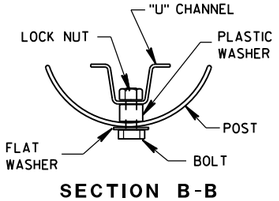
DETAIL B



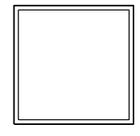
DETAIL C



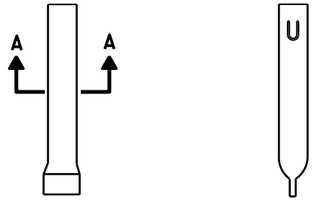
SECTION A-A



SECTION B-B

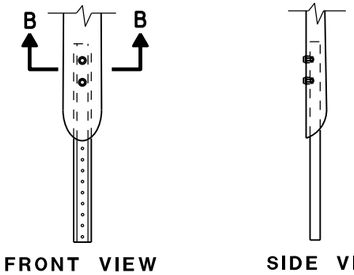


SECTION C-C



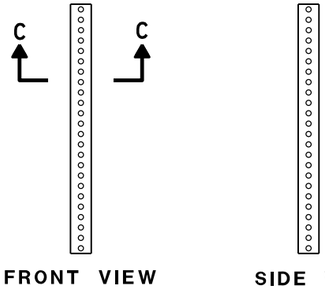
FRONT VIEW SIDE VIEW

ALTERNATE 1



FRONT VIEW SIDE VIEW

ALTERNATE 2



FRONT VIEW SIDE VIEW

ALTERNATE 3

FLEXIBLE MARKER POST ANCHORS

FLEXIBLE MARKER POST
FOR CULVERT END

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

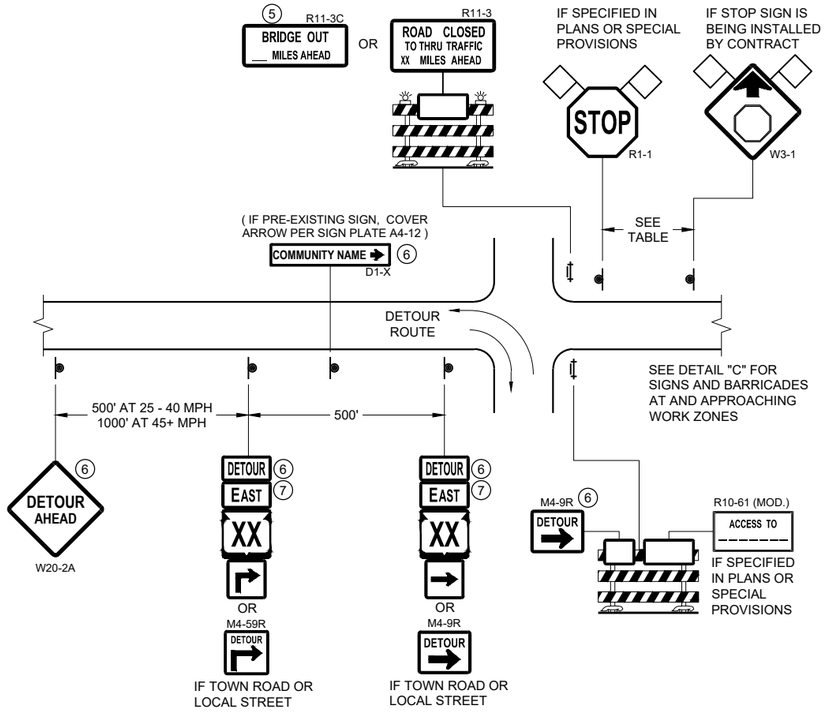
APPROVED
10/1/2012 — DATE
/S/ Travis Feltes — STATE TRAFFIC ENGINEER
FHWA

6

S.D.D. 15 A 3-2b

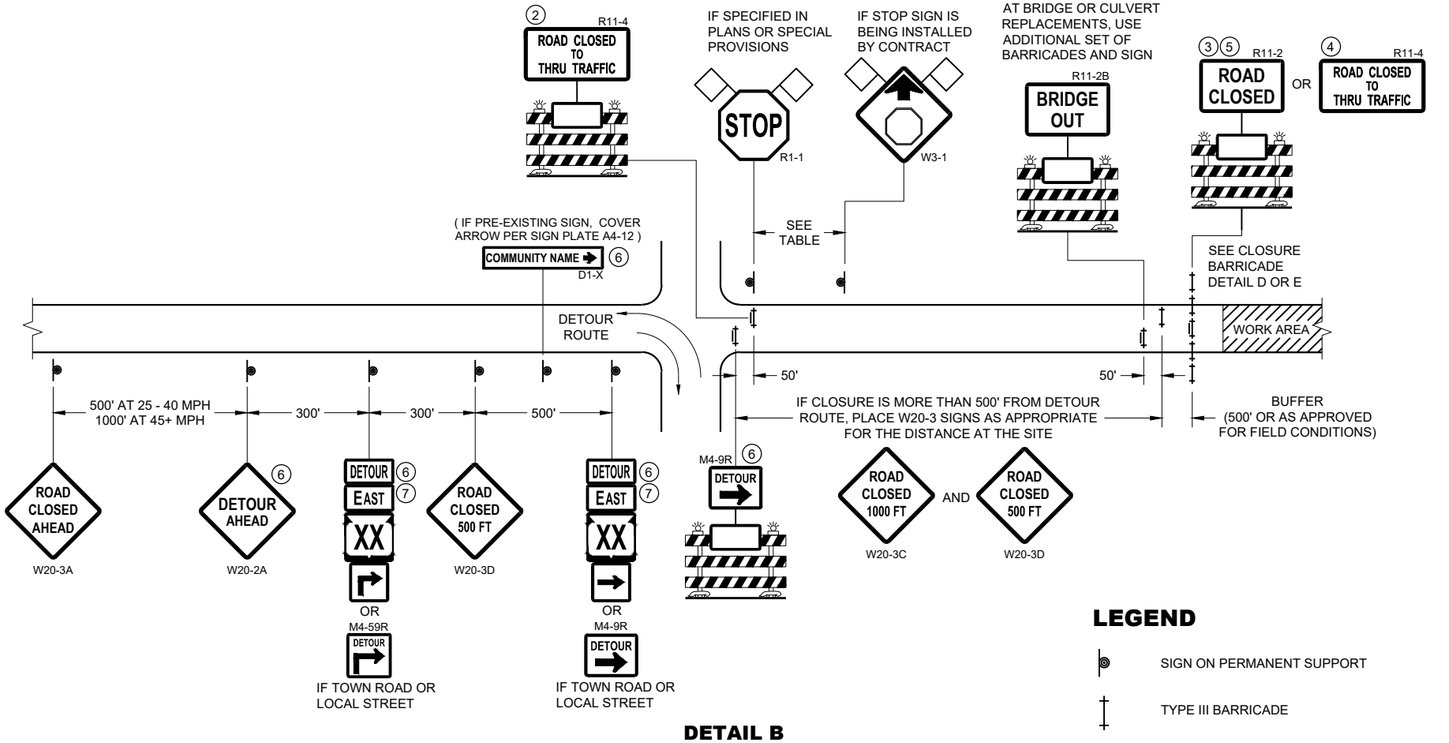
6

S.D.D. 15 A 3-2b



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)

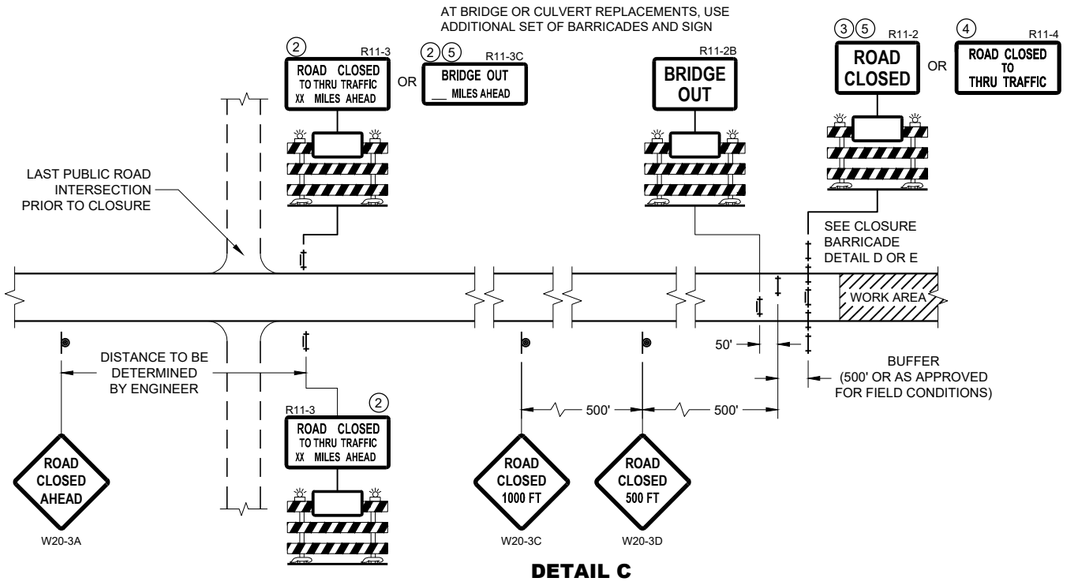
SPEED LIMIT (MPH)	"STOP AHEAD" ADVANCE WARNING DISTANCE (FT)
25	200
30	200
35	350
40	350
45	500
50	550
55	750

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



DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

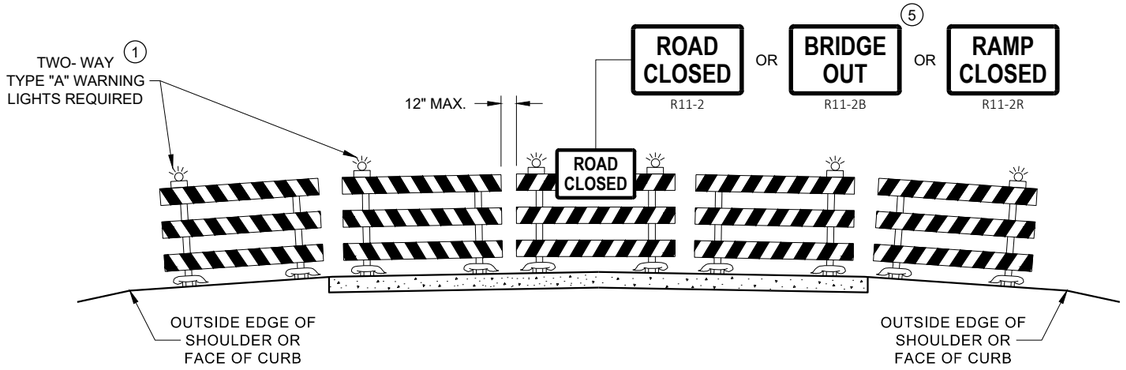
FHWA

6

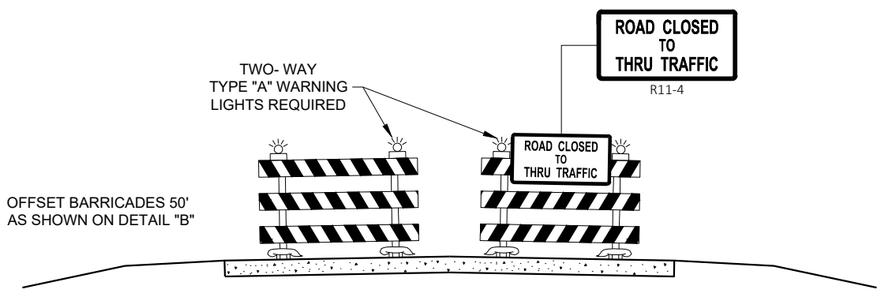
SDD 15C02 - 09a

6

SDD 15C02 - 09a



DETAIL D
ROAD CLOSURE BARRICADE DETAIL
APPROACH VIEW



DETAIL E
LANE CLOSURE BARRICADE DETAIL
APPROACH VIEW

SEE SDD 15C2 - SHEET "a" FOR LEGEND

GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

BARRICADES AND SIGNS FOR VARIOUS CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

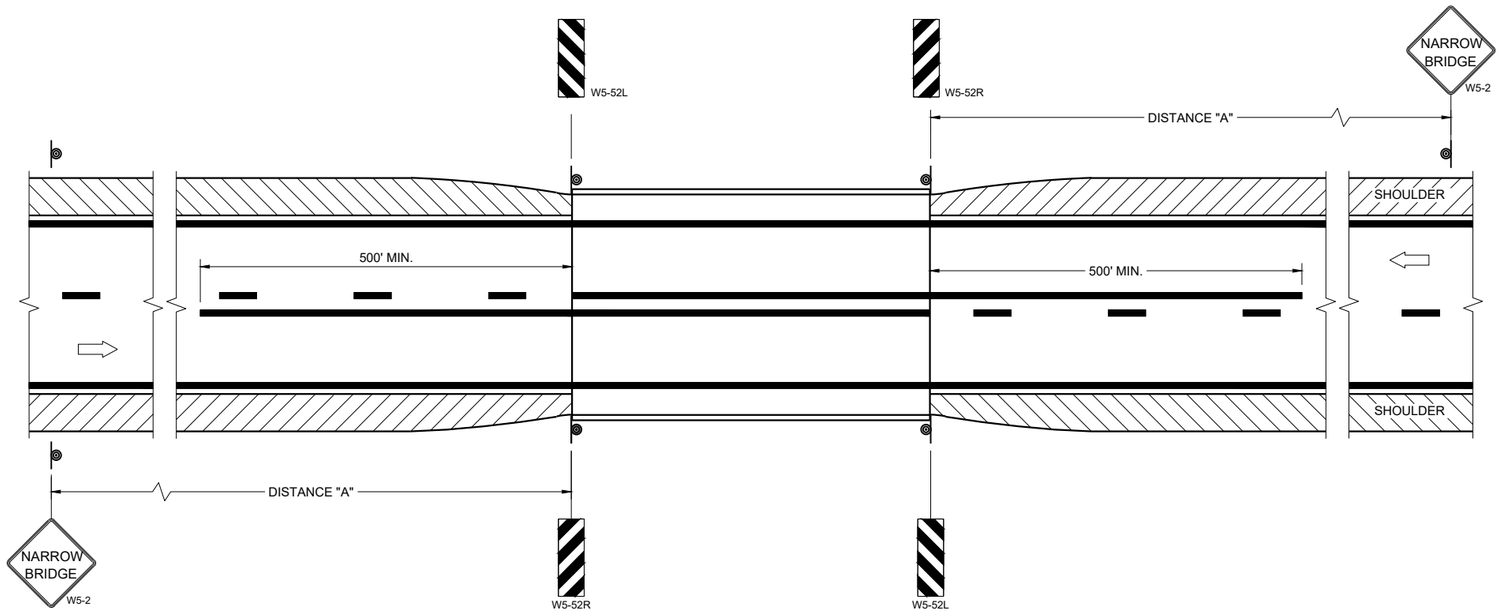
FHWA

6

SDD 15C02 - 09b

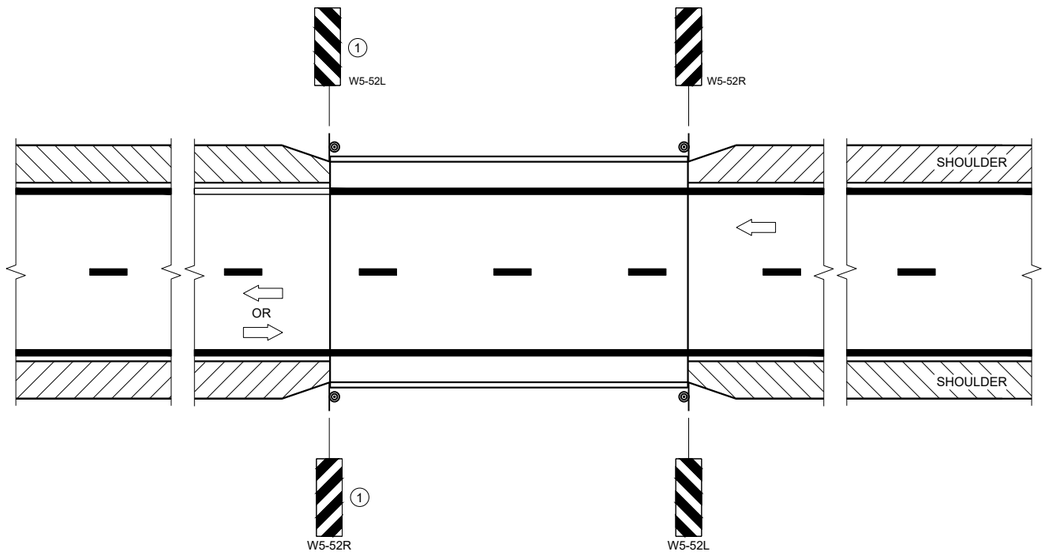
6

SDD 15C02 - 09b



SITUATION 1

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



SITUATION 2

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

GENERAL NOTES

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

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

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

ON BRIDGE ONLY PROJECTS, PLACE 300 FEET OF EDGELINE.

OMIT EDGELINES ON ROADWAYS WITHOUT EXISTING EDGELINES.

(1) OMIT ON ONE-WAY TRAVELED WAYS.

LEGEND

SIGN ON PERMANENT SUPPORT

DIRECTION OF TRAFFIC

DISTANCE TABLE

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

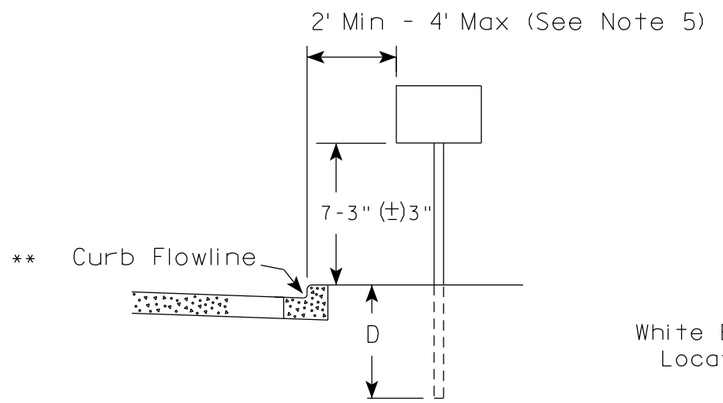
SIGNING AND MARKING FOR TWO LANE BRIDGES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

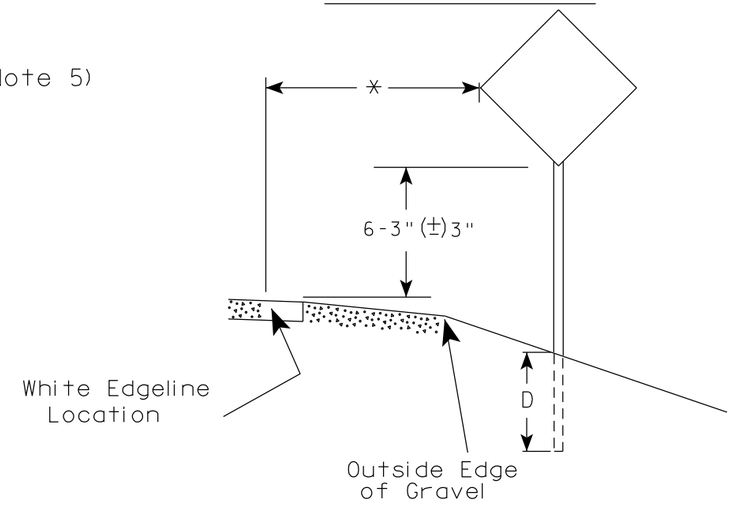
APPROVED
May 2023
DATE
/S/ Jeannie Silver
Statewide Pavement Marking Engineer
FHWA

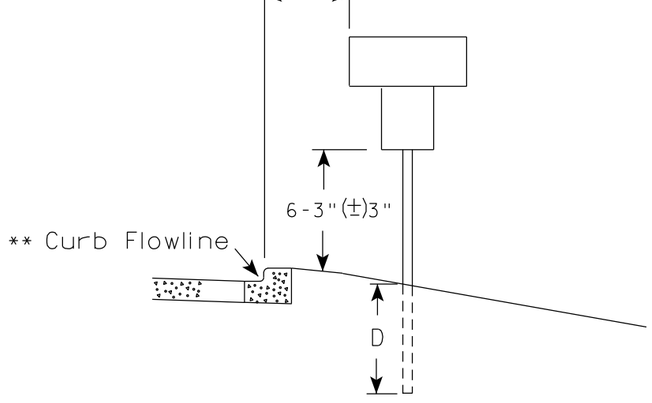
6
SDD 15C06-12

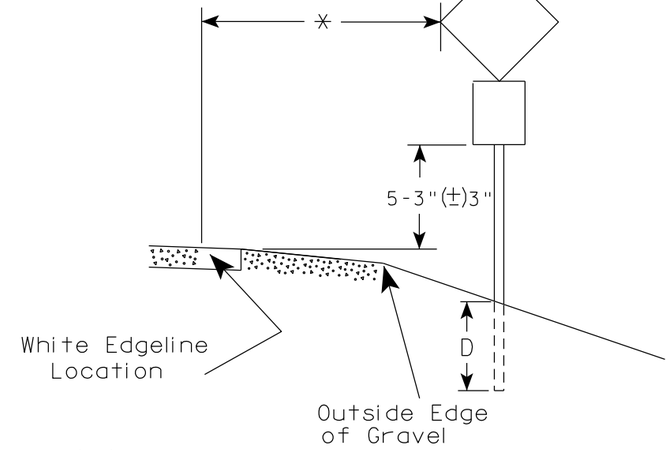
URBAN AREA



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.

GENERAL NOTES

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

POST EMBEDMENT DEPTH

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

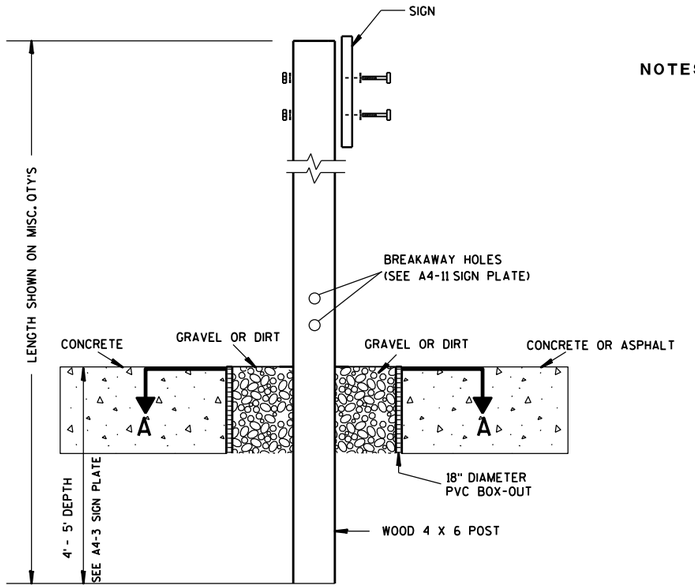
TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

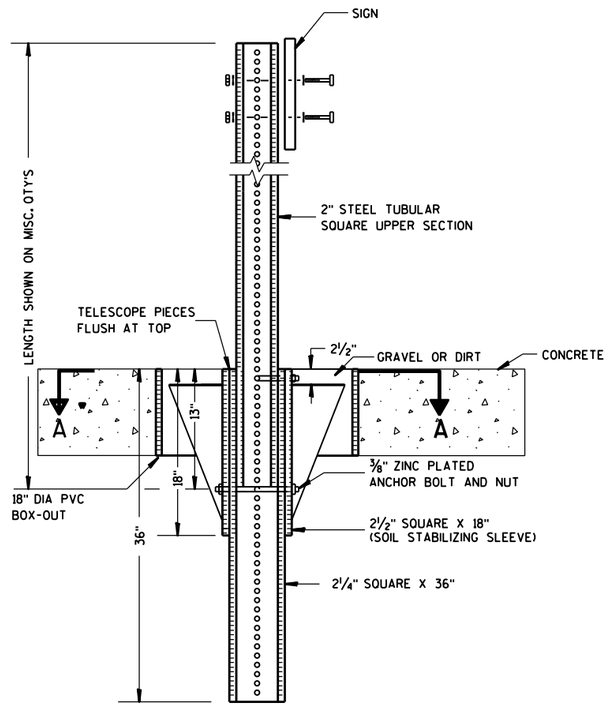
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 56	E



ELEVATION VIEW

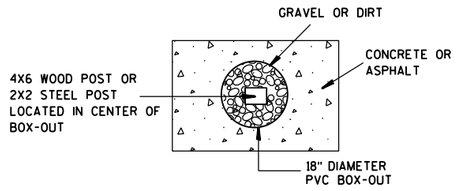
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

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

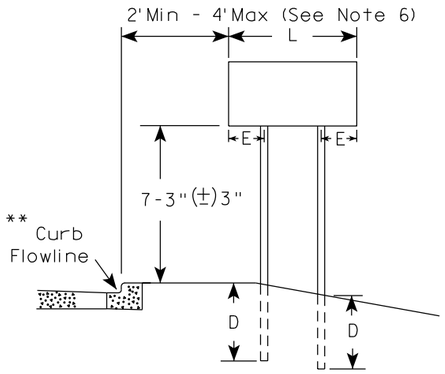
APPROVED Matthew R Rauch
for State Traffic Engineer

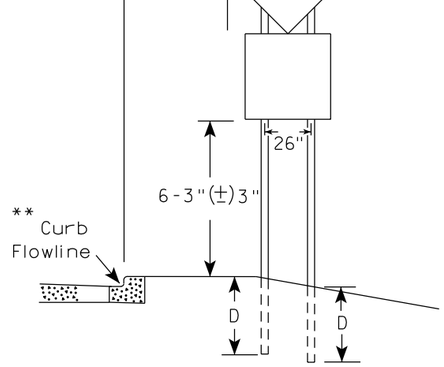
DATE 1/27/14 PLATE NO. A4-3B.1

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

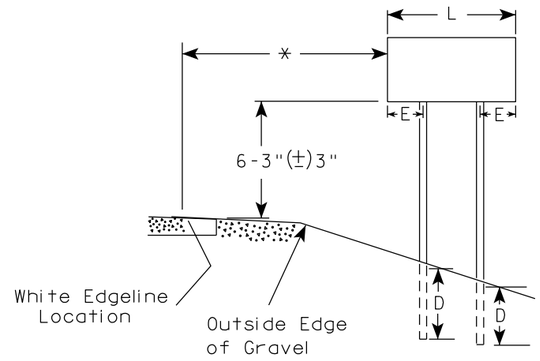
URBAN AREA

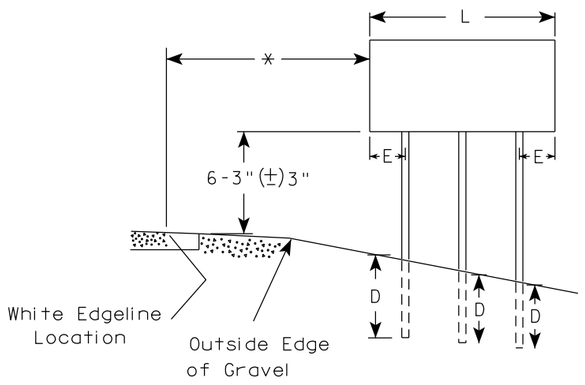


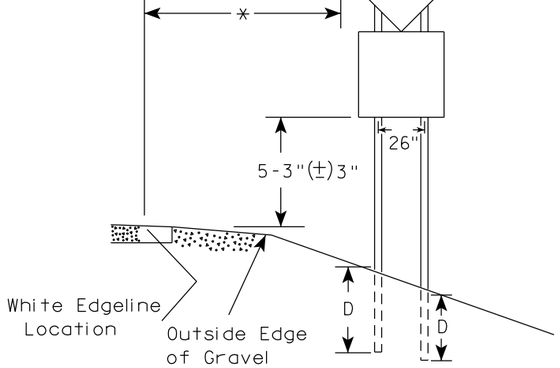


48" DIAMOND WARNING SIGN

RURAL AREA (See Note 3)







48" DIAMOND WARNING SIGN

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

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

GENERAL NOTES

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

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

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

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

POST EMBEDMENT DEPTH

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

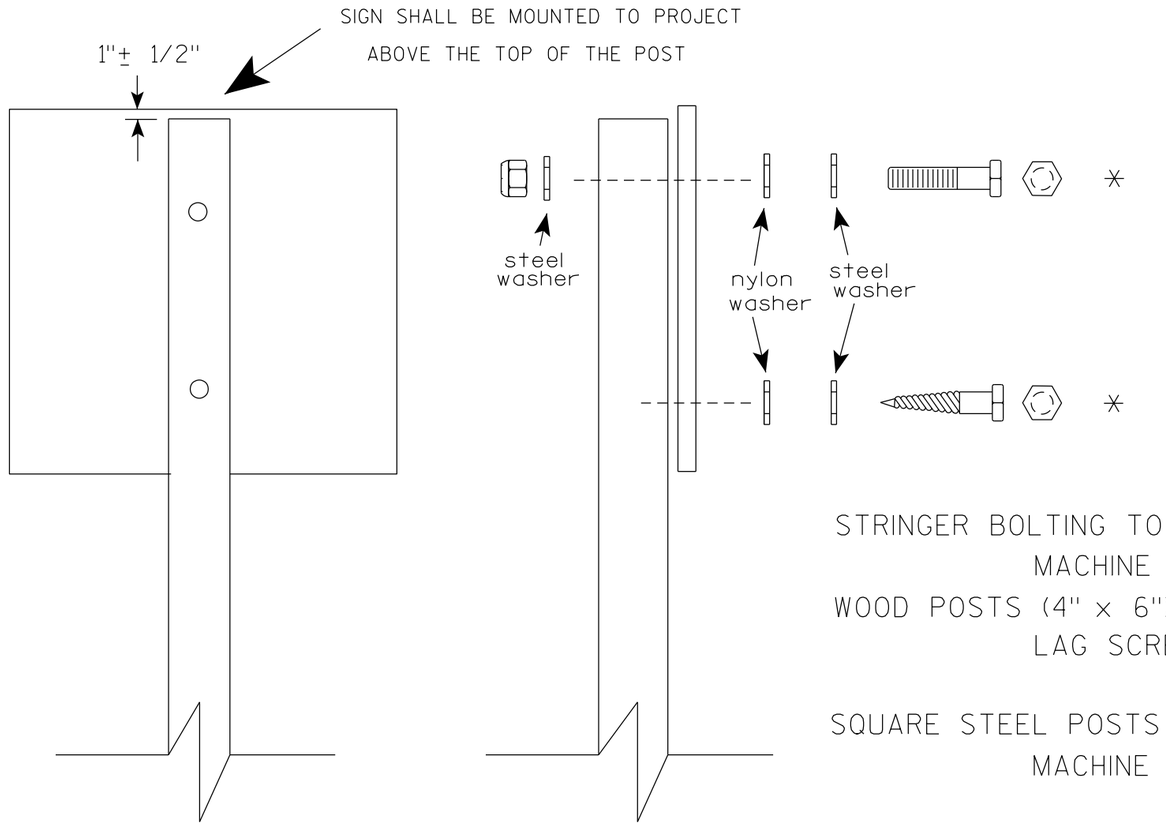
TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 58	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

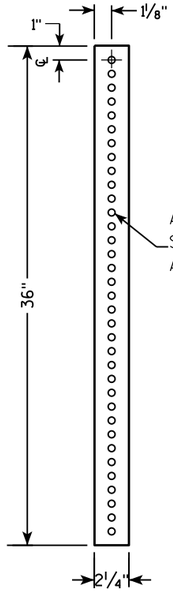
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

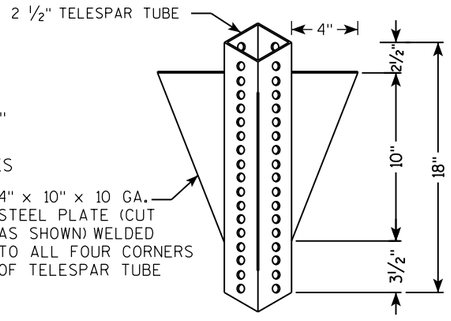
DATE 4/1/2020 PLATE NO. A4-8.9

TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM

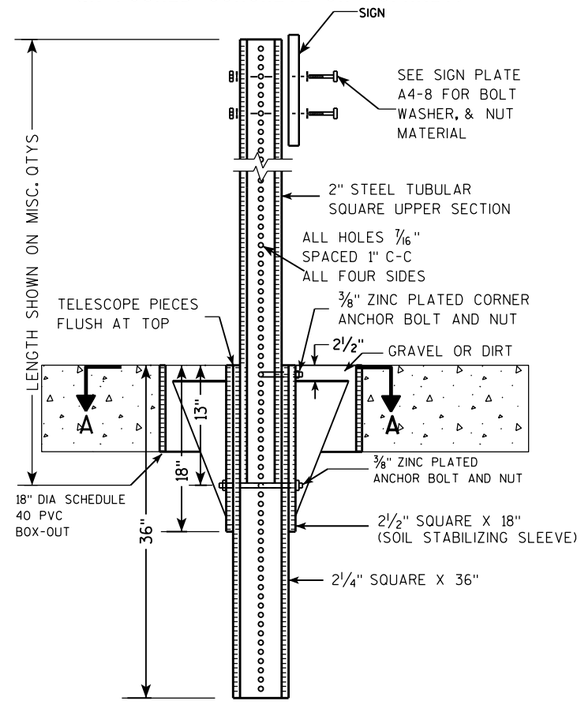
2 1/4 " SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH



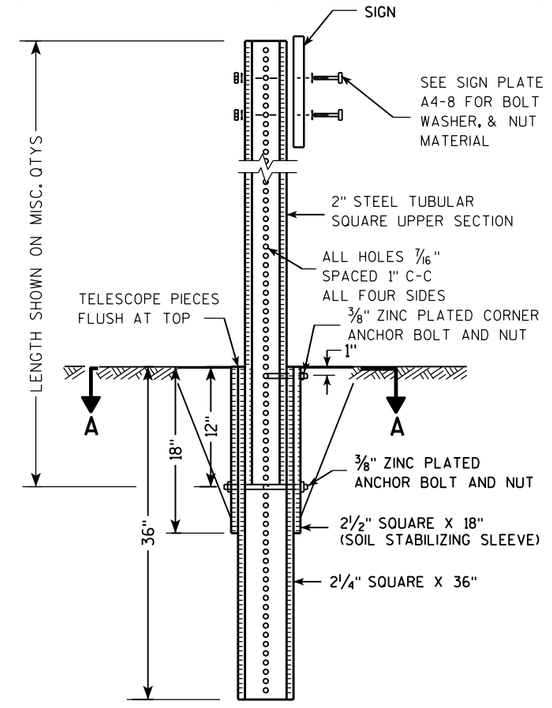
2 1/2 " SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH

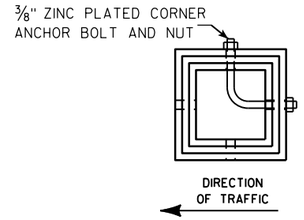


DETAIL OF TUBULAR STEEL SIGN POST
(IN POURED CONCRETE OR ASPHALT)



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





SECTION A-A

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

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

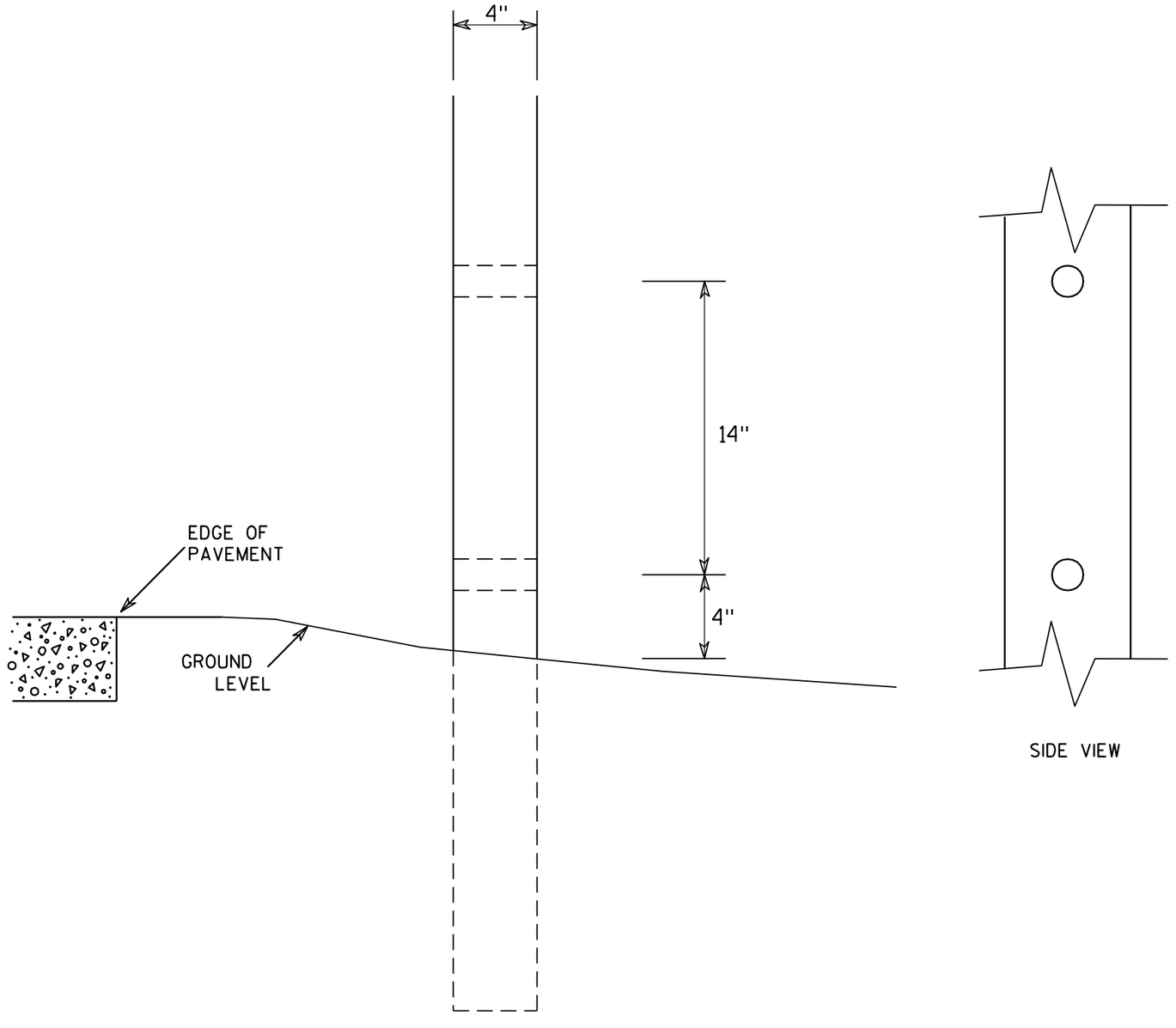
TUBULAR STEEL
SIGN POST
A4-9

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/05/15 PLATE 60 A4-9.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E



SIDE VIEW

GENERAL NOTES

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

7

7

4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

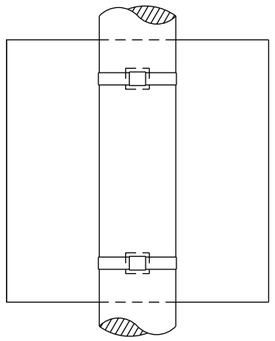
APPROVED Chester J Spang
for State Traffic Engineer

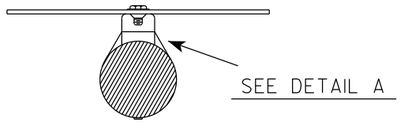
DATE 3/27/97 PLATE NO. A4-11.2

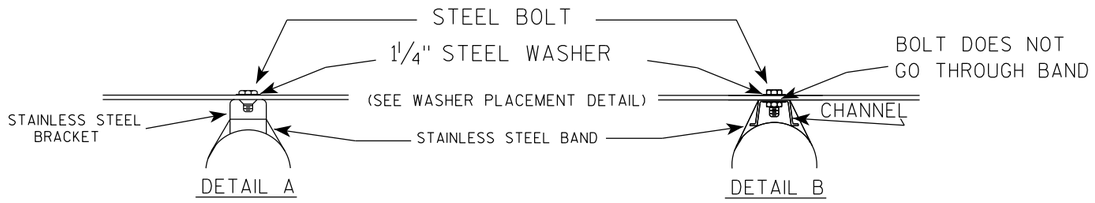
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 61	E

BANDING

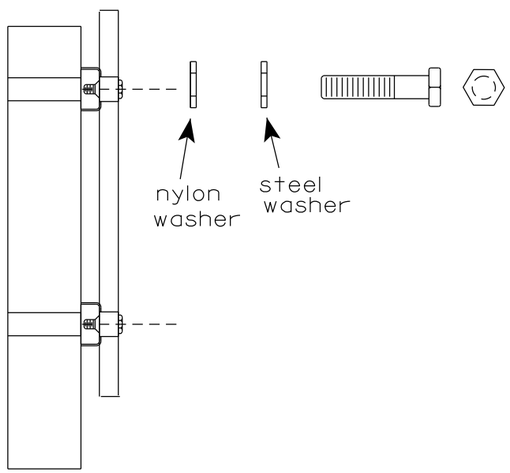
SINGLE SIGN







WASHER PLACEMENT

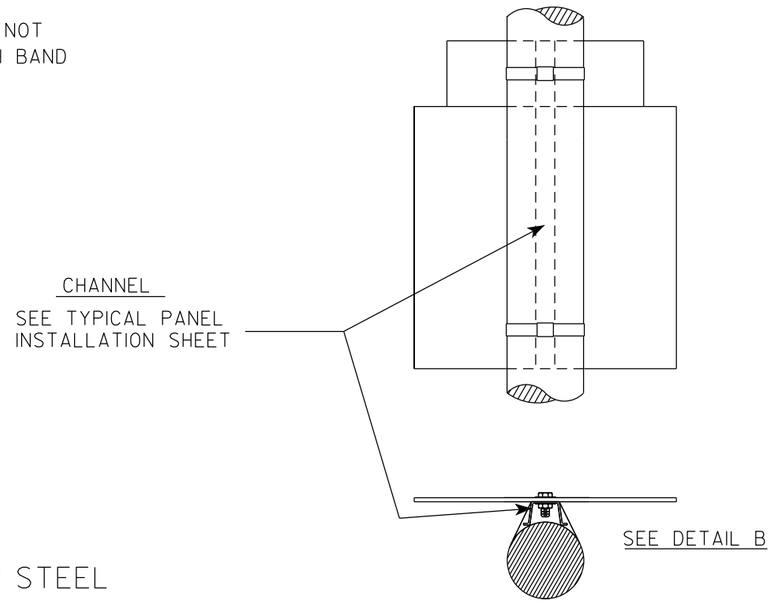


WASHERS (ALL POSTS) -
1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON
FOR ALL TYPE H SIGNS

GENERAL NOTES

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

"J" ASSEMBLY



STANDARD SIGN
SIGN BANDING DETAILS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

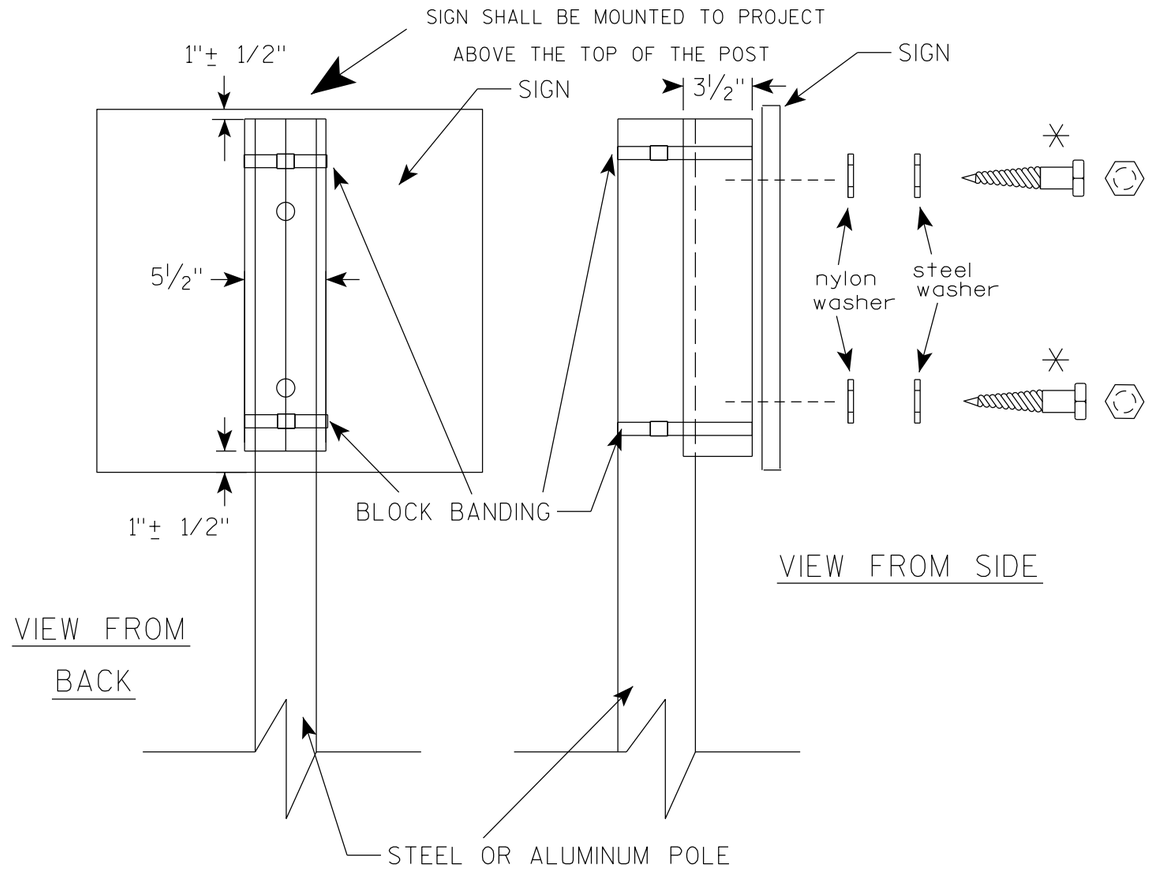
DATE 6/10/19 PLATE NO. A5-9.4

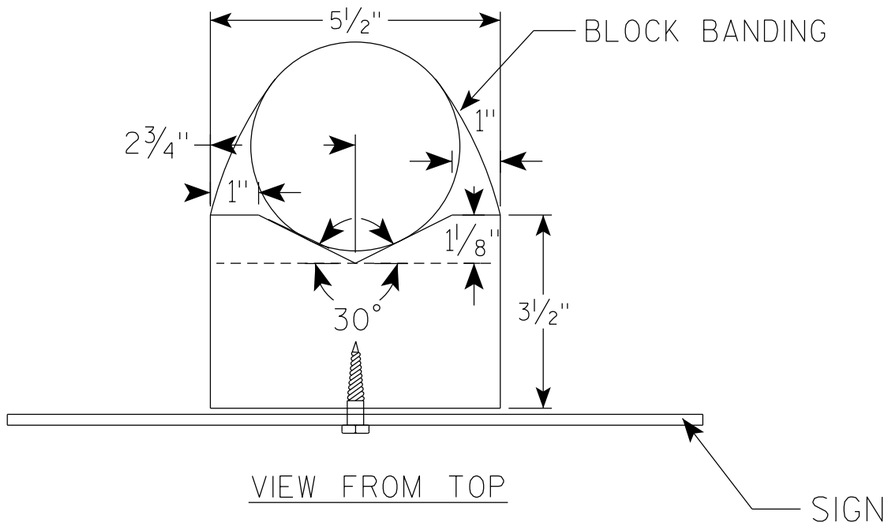
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 62	E

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

7

7





GENERAL NOTES

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

✳ LAG BOLTS SHALL BE ⅜" X 2½"

BLOCK BANDING DETAIL (V-BLOCK OPTION)

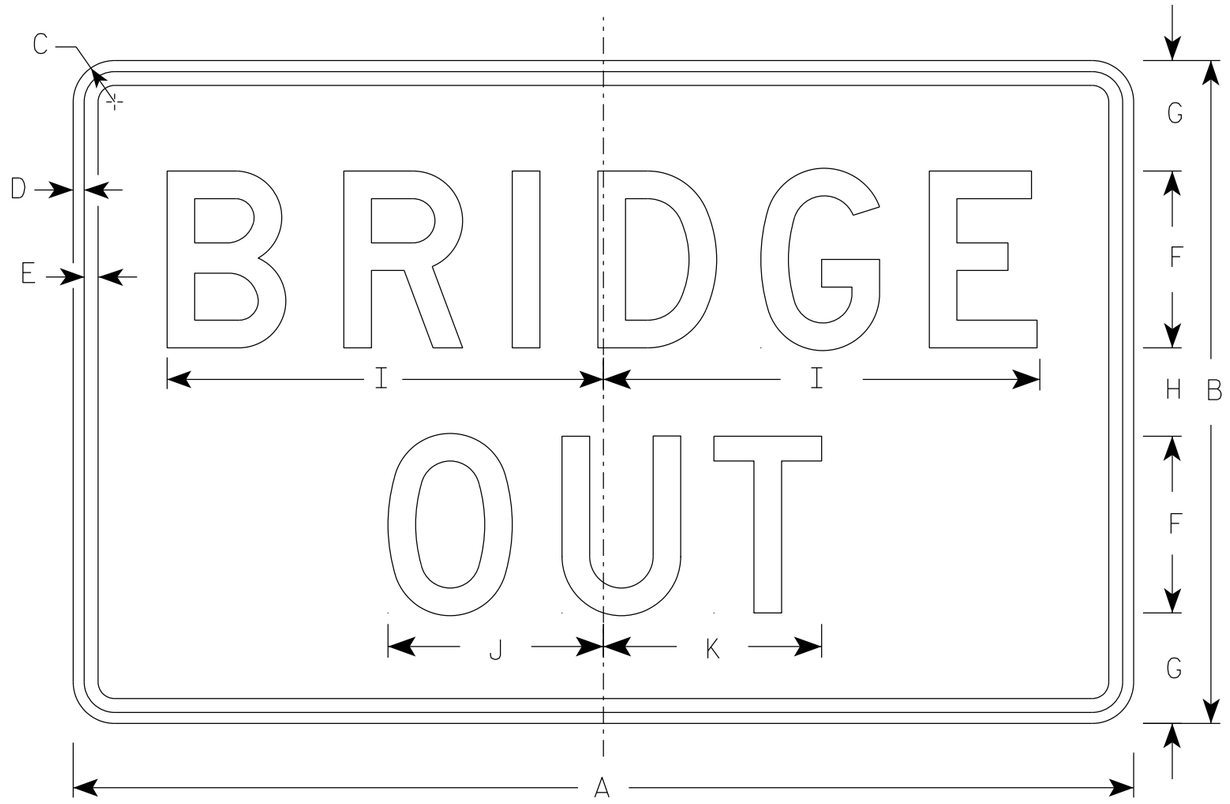
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO:

SHEET NO: 63 E



R11-2B

NOTES

1. Sign is Type II - Type H Reflective
2. Color:
   Background - White
   Message - Black
3. Message Series - D
4. 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.

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	48	30	1 7/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
2M	48	30	1 7/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
3	48	30	1 7/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
4	48	30	1 7/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
5	48	30	1 7/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0

STANDARD SIGN
R11-2B

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

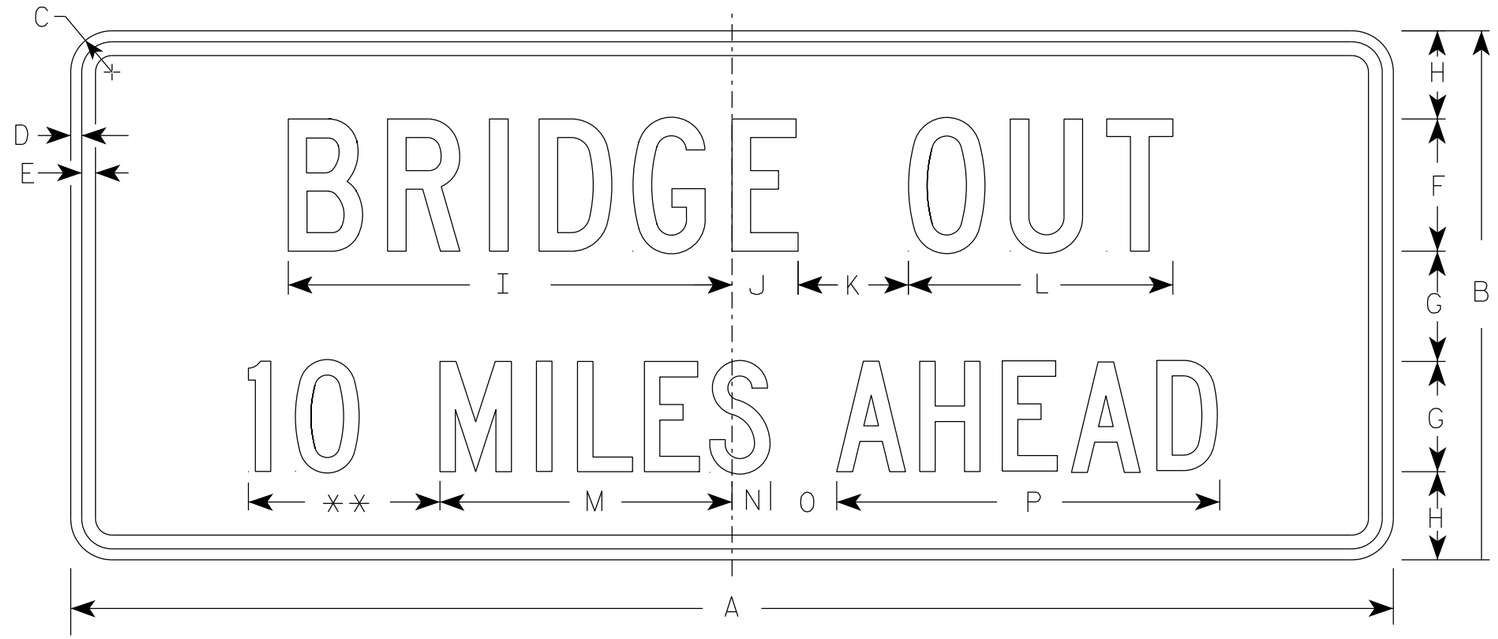
DATE 2/5/24 PLATE NO. R11-2B.3

PROJECT NO:

SHEET NO: 64 E

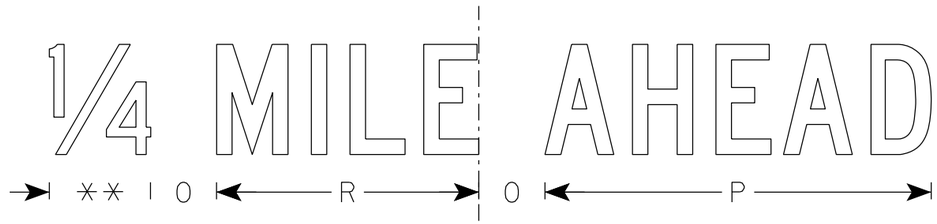
NOTES

1. Sign is Type II - Type H Reflective
2. Color:
   Background - White
   Message - Black
3. Message Series - C
4. 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.
5. Substitute appropriate numerals to nearest quarter mile and optically adjust spacing to achieve proper balance.



R11-3C

** See Note 5



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	36	15	1 1/2	1/2	5/8	4	3	2 1/2	13 1/4	2 1/4	3	8	8	1 1/2	2	10 3/4		7 1/8									3.75
2S	60	24	1 7/8	1/2	5/8	6	5	4	20 1/8	3	5	12	13 1/4	1 3/4	3	17 3/8		11 7/8									10.0
2M	60	24	1 7/8	1/2	5/8	6	5	4	20 1/8	3	5	12	13 1/4	1 3/4	3	17 3/8		11 7/8									10.0
3																											
4																											
5																											

STANDARD SIGN
R11-3C

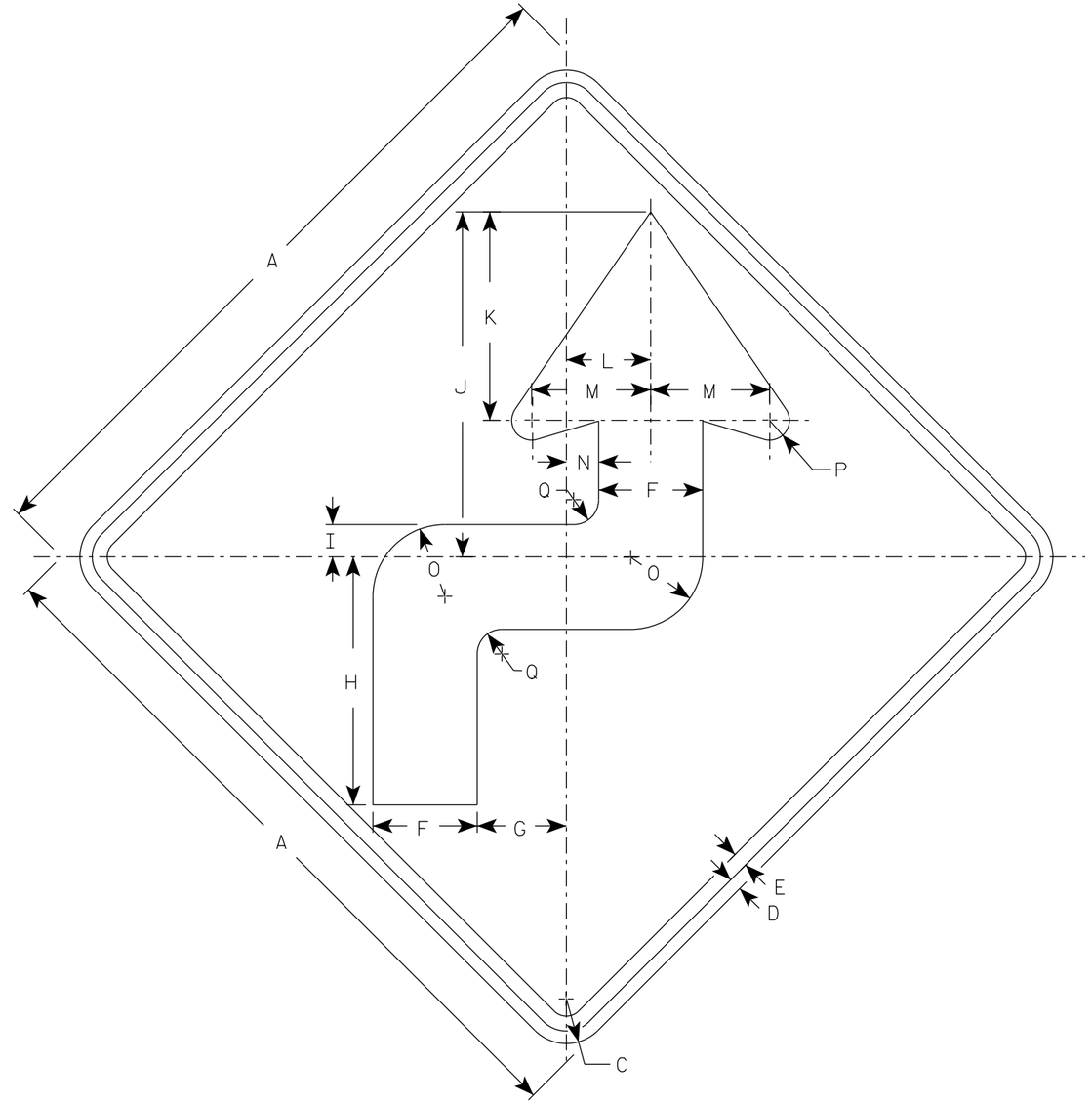
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/5/24 PLATE NO. R11-3C.4

PROJECT NO:

SHEET NO: 65 E



W1-3R

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
   Background - Yellow
   Message - Black
3. W1-3L is the same as W1-3R except the arrow is reversed along the vertical centerline.

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	24		1 1/2	3/8	1/2	3 1/2	3	8 3/8	1 1/8	11 5/8	7	2 3/4	4	1 1/8	2 1/2	5/8	7/8										4.0
2S	36		2 1/4	5/8	3/4	5 1/4	4 1/2	12 1/2	1 5/8	17 3/8	10 1/2	4 1/4	6	1 5/8	3 5/8	1	1 1/4										9.0
2M	36		2 1/4	5/8	3/4	5 1/4	4 1/2	12 1/2	1 5/8	17 3/8	10 1/2	4 1/4	6	1 5/8	3 5/8	1	1 1/4										9.0
3	36		2 1/4	5/8	3/4	5 1/4	4 1/2	12 1/2	1 5/8	17 3/8	10 1/2	4 1/4	6	1 5/8	3 5/8	1	1 1/4										9.0
4	36		2 1/4	5/8	3/4	5 1/4	6	12 1/2	1 5/8	17 3/8	10 1/2	4 1/4	6	1 5/8	3 5/8	1	1 1/4										9.0
5	48		3	3/4	1	7	6	16 5/8	2 1/4	23 1/4	14	5 5/8	8	2 1/8	4 7/8	1 1/4	1 5/8										16.0

STANDARD SIGN
W1-3

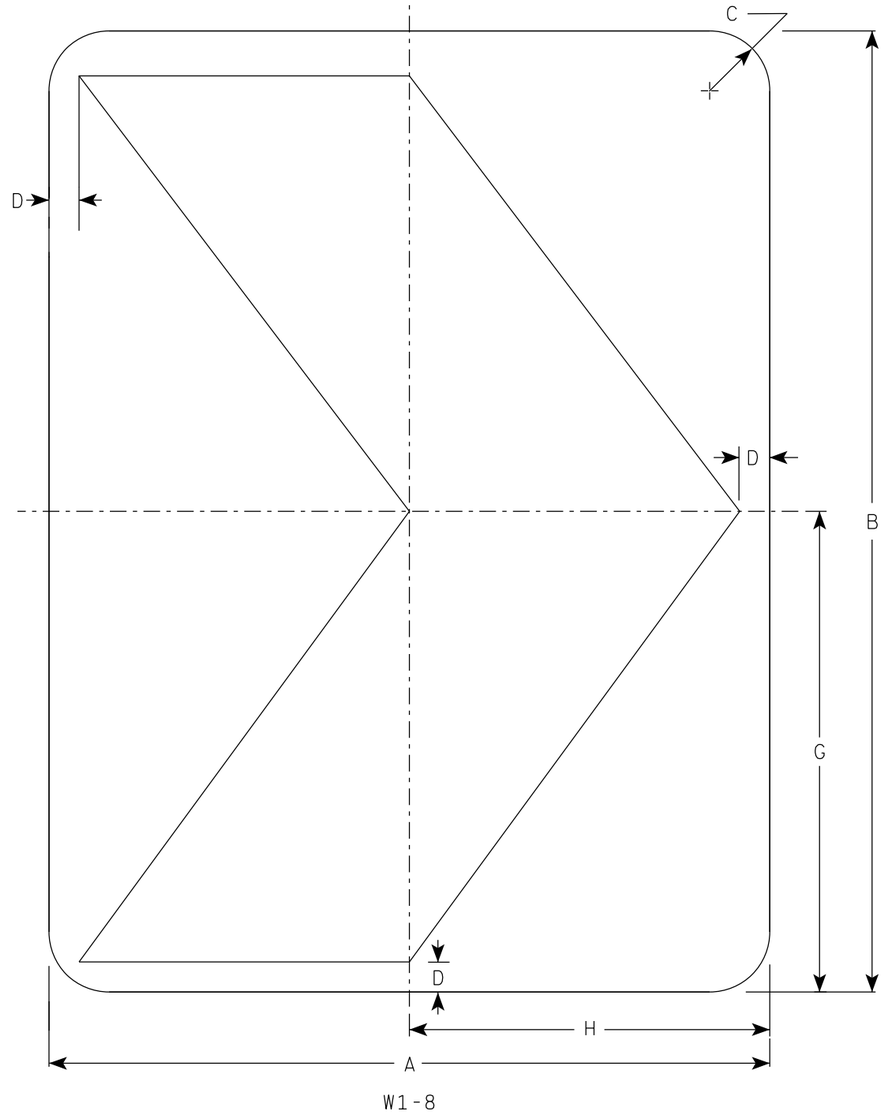
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/23/2023 PLATE NO. W1-3.9

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

FILE NAME : C:\Users\PROJECTS\tr_stdplate\W13.dgn PLOT DATE : 30-OCT 2023 9:16 PLOT BY : dotc4c PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42



W1-8

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
   Background - Yellow
   Message - Black

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	12	18	1 ½	½			9	6																			1.5
2S	18	24	1 ½	¾			12	9																			3.0
2M	18	24	1 ½	¾			12	9																			3.0
3	24	30	1 ½	1			15	12																			5.0
4	30	36	1 ⅞	1 ¼			18	15																			7.5
5	36	48	1 ⅞	1 ½			24	18																			12.0

STANDARD SIGN
W1-8

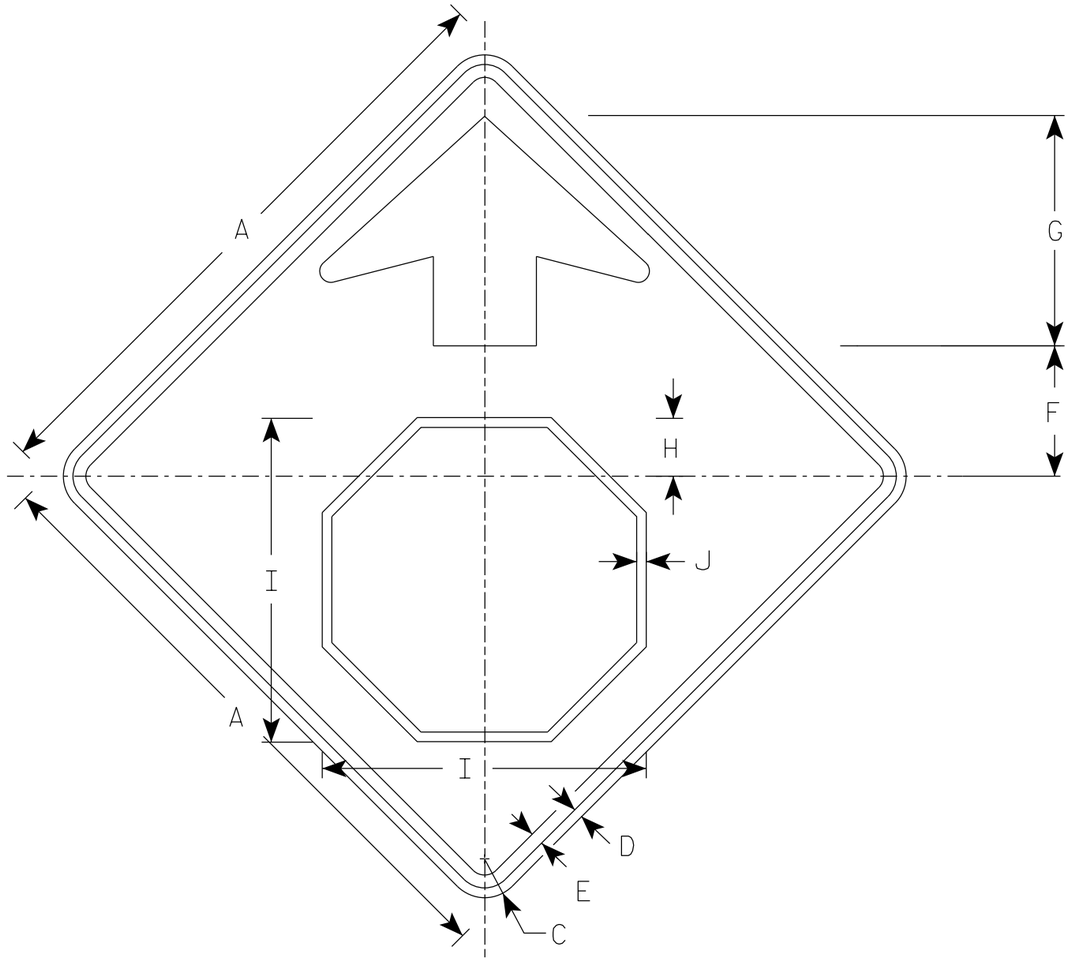
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/11/2023 PLATE NO. W1-8.7

PROJECT NO:

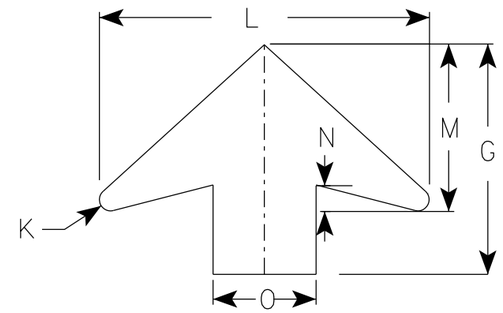
SHEET NO: 67 E



W3-1

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
   Background - Yellow
   Arrow & Border - Black
   Stop Symbol - White Border on Red Background



ARROW DETAIL

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	30		1 7/8	1/2	5/8	6 1/4	11 1/4	2 7/8	15 3/4	1/2	1/2	16	8	1 1/4	5												6.25
2S	36		2 1/4	5/8	3/4	7 1/2	13 1/2	3 1/2	19	5/8	5/8	19 1/4	9 3/4	1 5/8	6												9.0
2M	36		2 1/4	5/8	3/4	7 1/2	13 1/2	3 1/2	19	5/8	5/8	19 1/4	9 3/4	1 5/8	6												9.0
3	36		2 1/4	5/8	3/4	7 1/2	13 1/2	3 1/2	19	5/8	5/8	19 1/4	9 3/4	1 5/8	6												9.0
4	48		3	3/4	1	10	17 7/8	4 1/2	25 1/8	3/4	7/8	25 5/8	13	2	8												16.0
5	48		3	3/4	1	10	17 7/8	4 1/2	25 1/8	3/4	7/8	25 5/8	13	2	8												16.0

STANDARD SIGN
W3-1

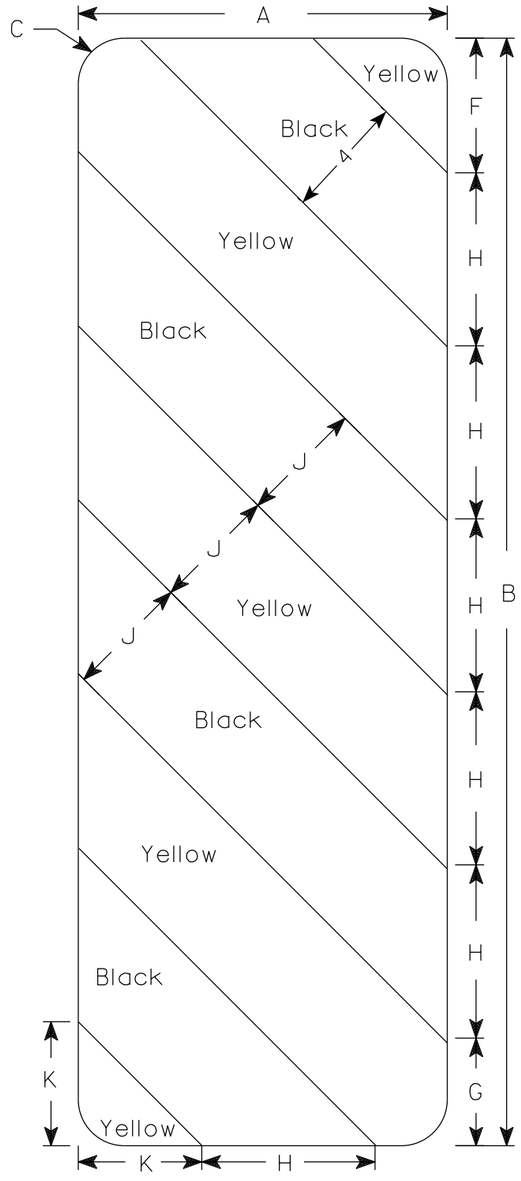
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

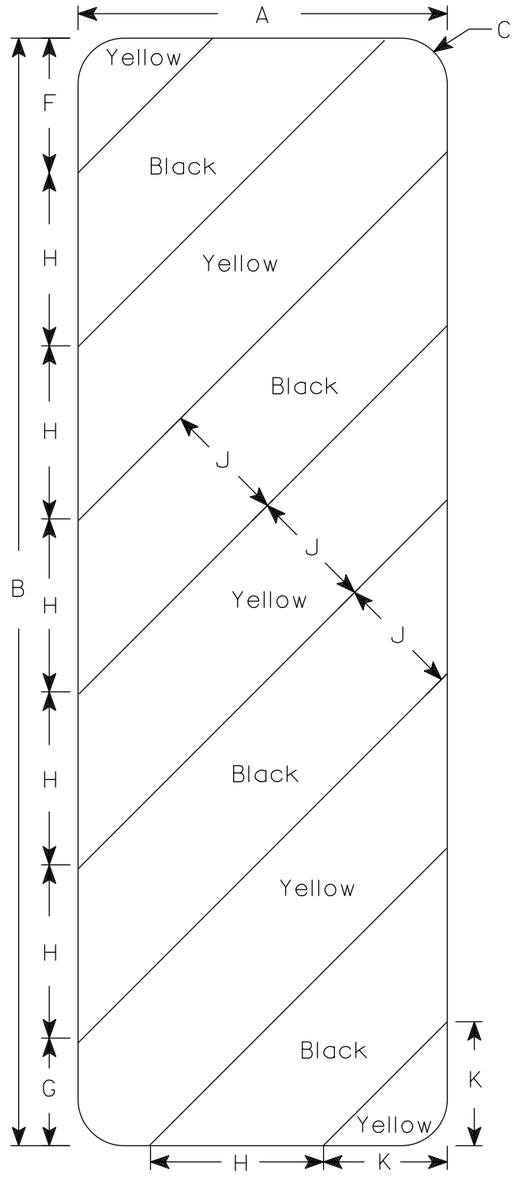
DATE 8/17/2023 PLATE NO. W3-1.13

PROJECT NO:

SHEET NO: 68 E



W5-52L



W5-52R

NOTES

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

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

STANDARD SIGN

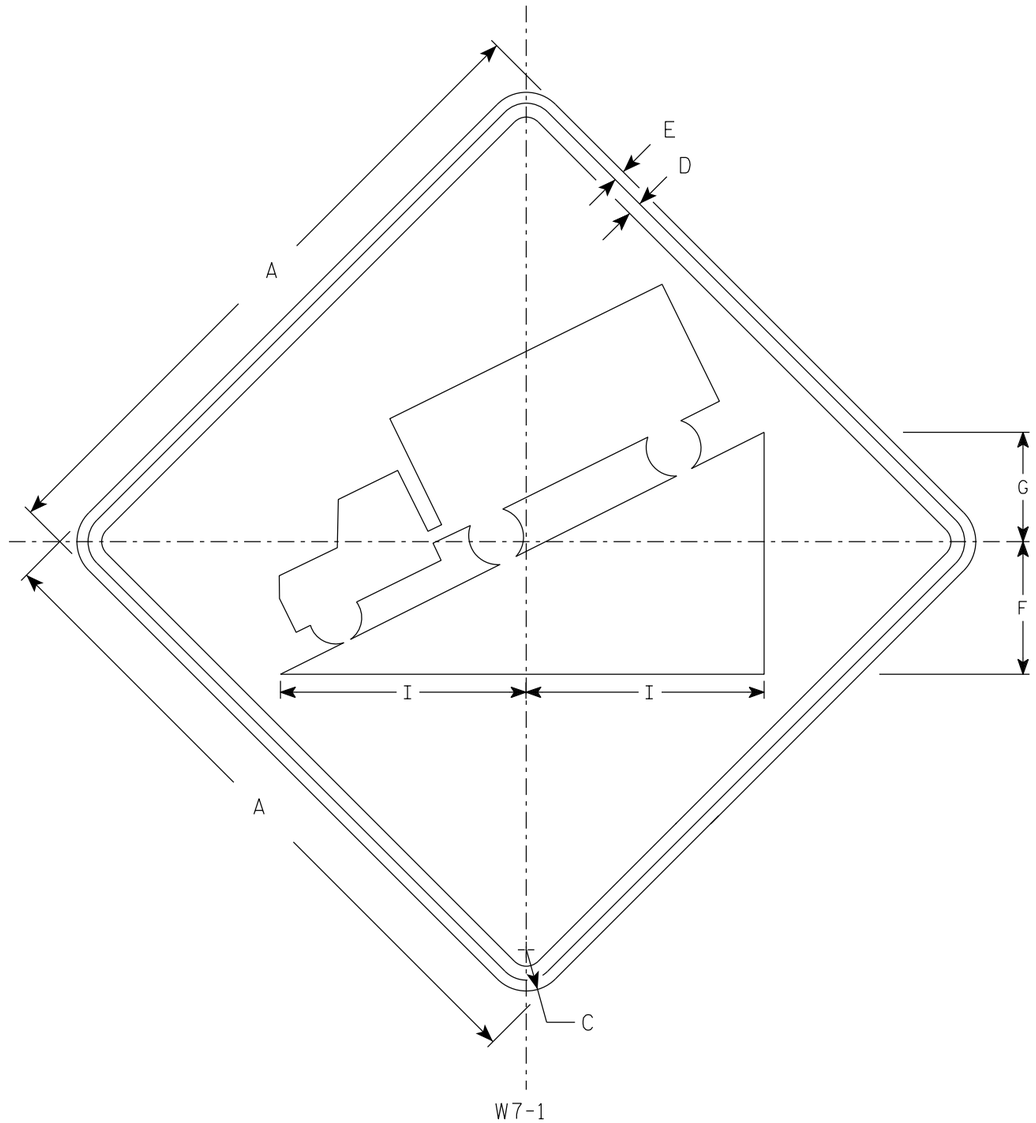
W5-52L & W5-52R

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 69 E



NOTES

1. Sign is Type II - Type F Reflective
2. Color:
   Background - Yellow
   Message - Black
3. Message Series - D

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	24		1 1/2	3/8	3/8	5	4		8 3/4																		4.0
2S	30		1 7/8	1/2	5/8	6	5		11																		6.25
2M	36		2 1/4	5/8	3/4	7 1/4	6		13 1/4																		9.0
3	36		2 1/4	5/8	3/4	7 1/4	6		13 1/4																		9.0
4	36		2 1/4	5/8	3/4	7 1/4	6		13 1/4																		9.0
5	48		3	3/4	1	9 3/4	8		17 1/2																		16.0

STANDARD SIGN
W7-1

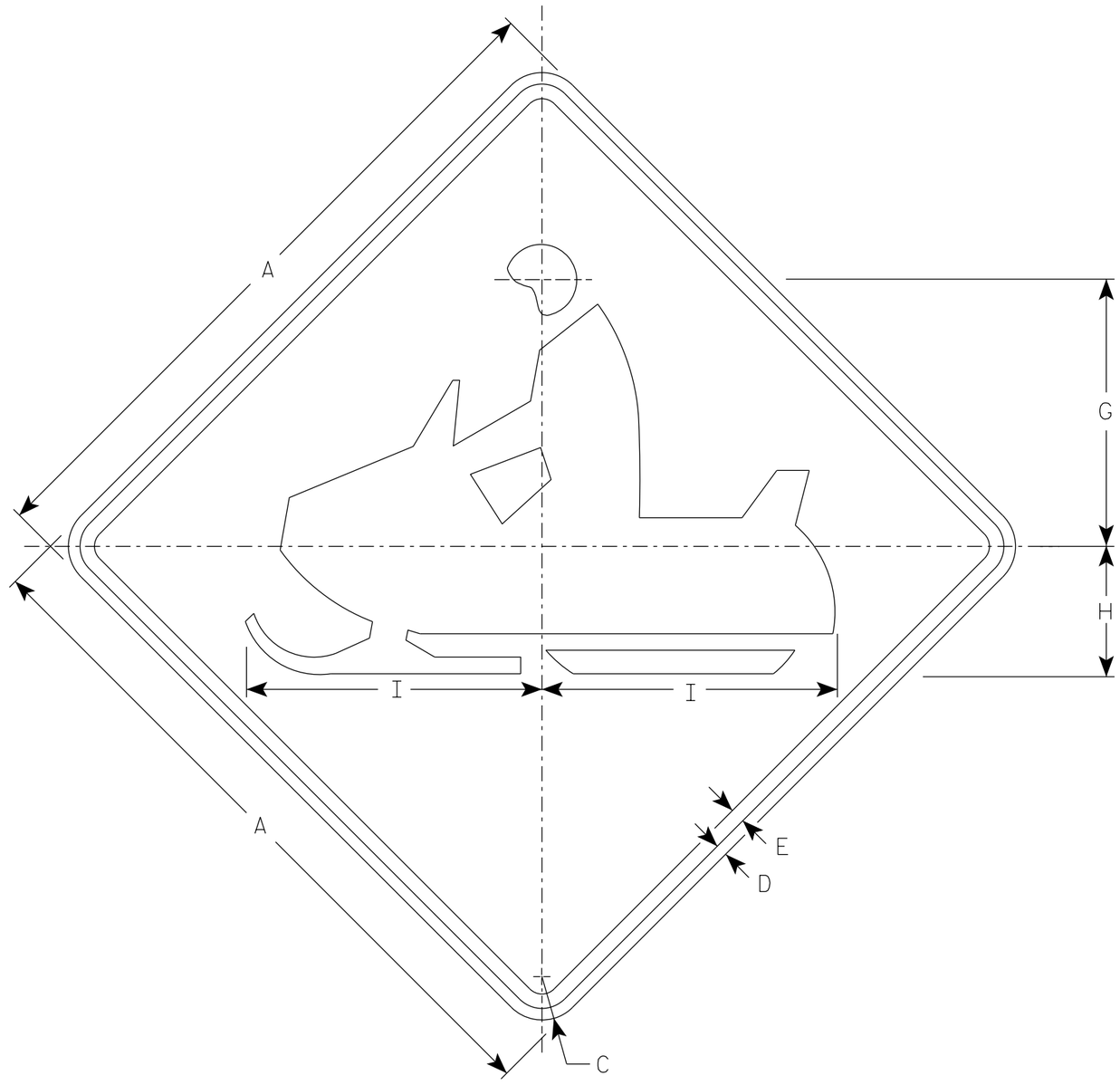
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 9/6/2023 PLATE NO. W7-1.14

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 70	E

7



W11-6

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
   Background - Yellow
   Message - Black

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	24		1 1/2	3/8	1/2		9 1/2	4 1/2	10 1/4																		4.0
2S	30		1 7/8	1/2	5/8		11 1/2	5 5/8	12 3/4																		6.25
2M	30		1 7/8	1/2	5/8		11 1/2	5 5/8	12 3/4																		6.25
3	36		2 1/4	5/8	3/4		14 1/8	6 3/4	15 1/4																		9.0
4	48		3	3/4	1		19	9	20 1/2																		16.0
5																											

STANDARD SIGN
W11-6

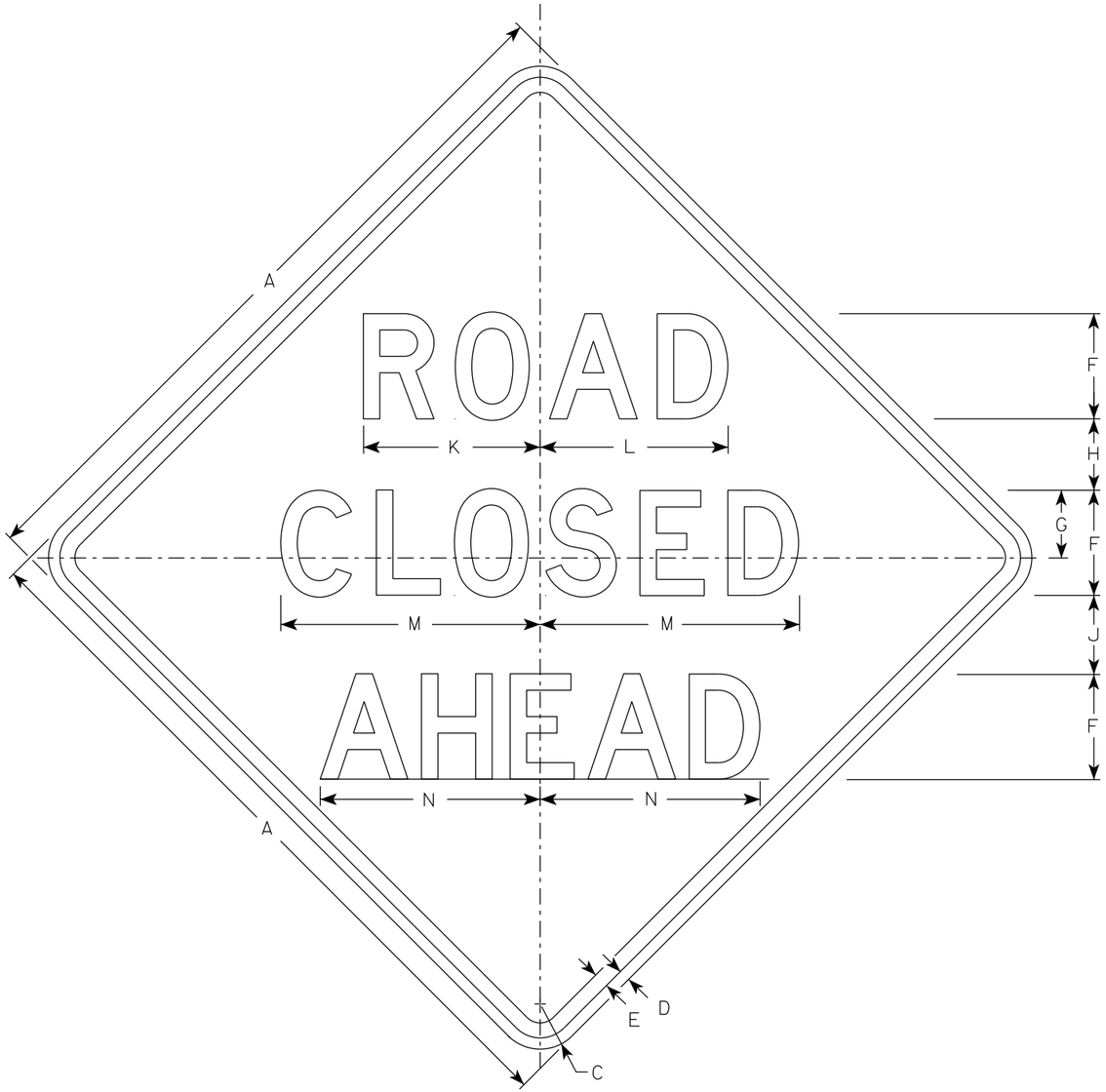
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

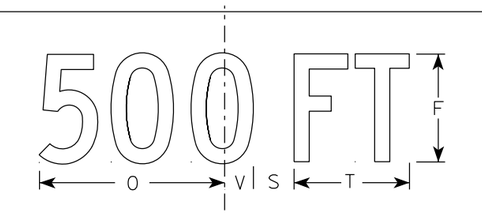
DATE 11/15/2023 PLATE NO. W11-6.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

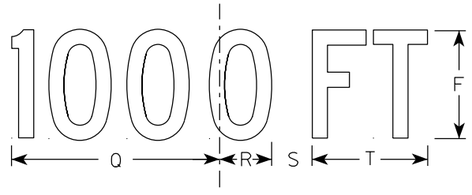
FILE NAME : C:\CAEfiles\Projects\tr_stdplate\W116.dgn PLOT DATE : 15-NOV 2023 8:45 PLOT BY : dotc4c PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42



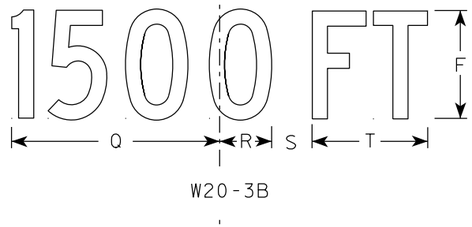
W20-3A



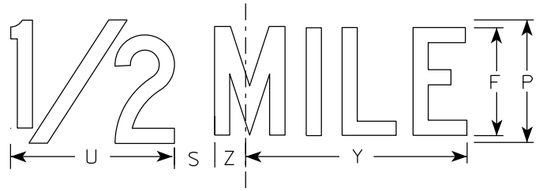
W20-3D



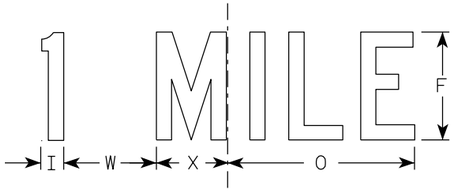
W20-3C



W20-3B



W20-3G



W20-3F

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Message Series - see note 5
4. 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.
5. Lines 1 and 2 are Series D.
   Line 3 is Series D for AHEAD and Series C for all other distances.

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	36		2 1/4	5/8	3/4	5	3 3/8	3 1/2	1 1/8	4	8 3/8	8 7/8	12 1/2	11	9	6	10 1/8	2 1/2	1 7/8	5 5/8	8	1 3/8	4 1/2	3 1/2	10 3/4	1 3/4	9.0
2S	48		3	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
2M	48		3	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
3	48		3	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
4	48		3	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
5	48		3	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0

STANDARD SIGN
W20-3A, B, C, D, F & G

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

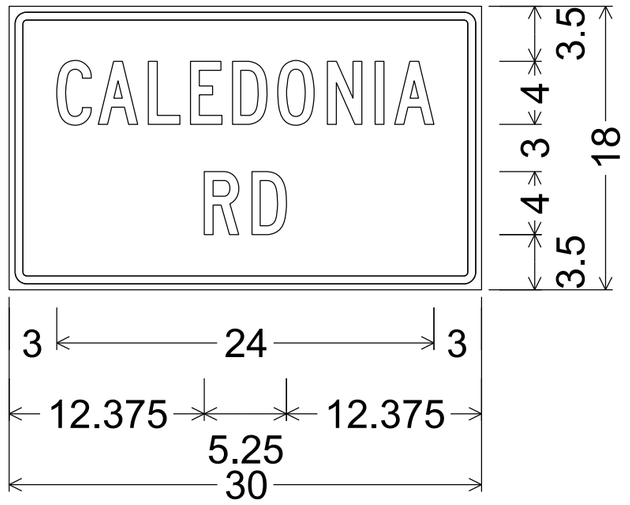
DATE 1/10/2024 PLATE NO. W20-3.8

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

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\W203.DGN PLOT DATE : 10-JAN 2024 12:02 PLOT BY : dotc4c PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42

NOTES

1. Fixed Message Sign Type II - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Message Series - C



1.125" Radius, 0.500" Border, 0.375" Indent

SPECIAL 1
30" X 18"

36" X 18"

NOTES:

1. TRAFFIC CONTROL SIGNS FIXED MESSAGE - TYPE F REFLECTIVE SHEETING
2. COLOR:
   BACKGROUND - ORANGE
   MESSAGE - BLACK
3. MESSAGE SERIES - C
4. LETTER HEIGHT - 3 INCHES

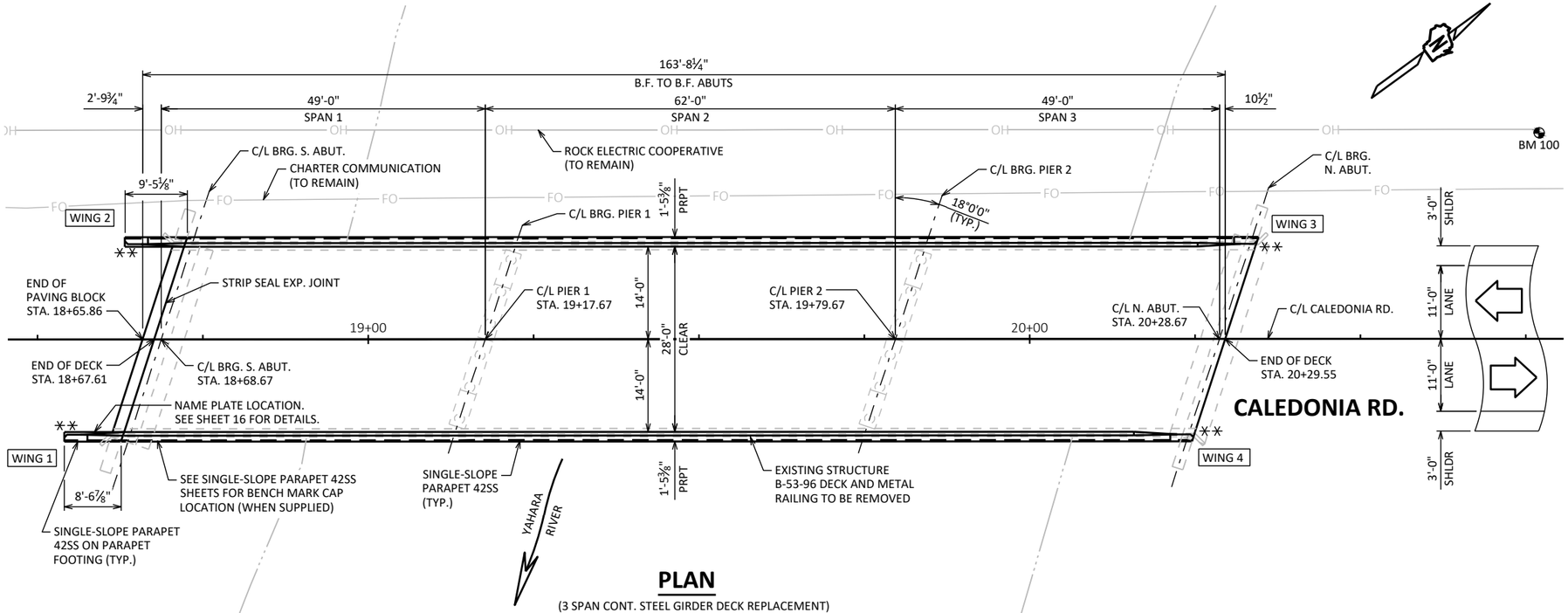
7

7

PROJECT NO: 5767-00-73	HWY: CALEDONIA ROAD	COUNTY: ROCK	TEMPORARY SIGNING	SHEET 74	E

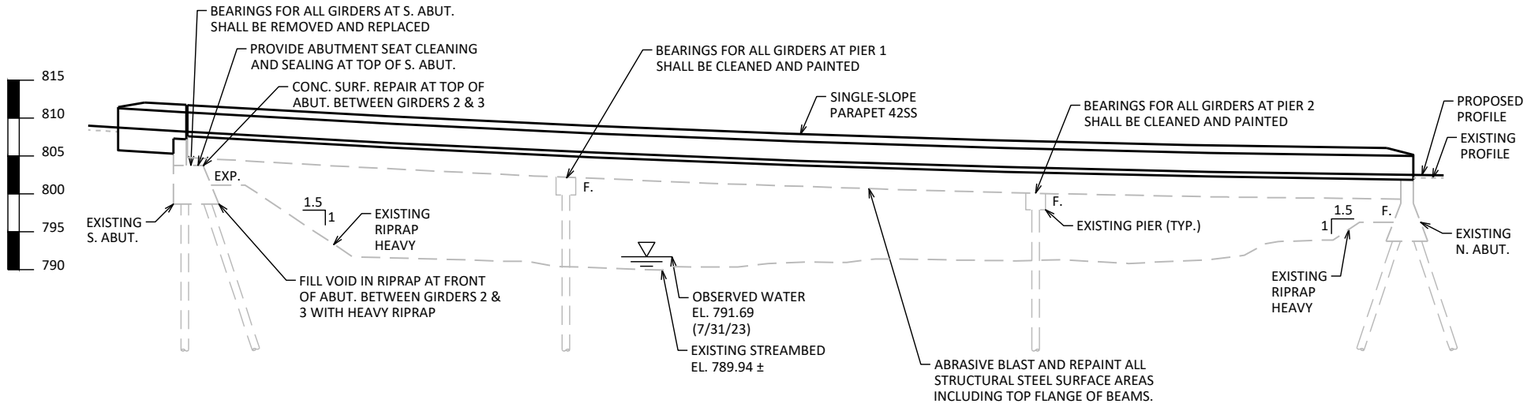
STATE PROJECT NUMBER

5767-00-73



PLAN

(3 SPAN CONT. STEEL GIRDER DECK REPLACEMENT)



ELEVATION

(NORMAL TO SUBSTRUCTURE UNITS)

BENCH MARK

NO.	STATION	DESCRIPTION	ELEV.
BM 100	20+77.00, 31.1' LT	BM RAILROAD SPIKE IN EAST SIDE OF POWER POLE	798.16

DESIGN DATA

LIVE LOAD:

DESIGN LOADING: HS-20
INVENTORY RATING: HS-15
OPERATING RATING: HS-25
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV): 140 (KIPS)

MATERIAL PROPERTIES:

CONCRETE SUPERSTRUCTURE — f'_c = 4,000 PSI
CONCRETE SUBSTRUCTURE — f'_c = 3,500 PSI
HIGH STRENGTH BAR
STEEL REINFORCEMENT — fy = 60,000 PSI

TRAFFIC DATA

A.D.T. (2025): 220
A.D.T. (2045): 230
R.D.S.: 25 MPH

LIST OF DRAWINGS

LEGEND

⚹⚹ PROVIDE FOR THRIE BEAM TRANSITION ATTACHMENT.

BENCH MARK

STRUCTURE DESIGN CONTACTS:
BUREAU OF STRUCTURES CONTACT:
AARON BONK (608) 261-0261

CONSULTANT CONTACT:
KEITH BEHREND (608) 251-4843

WISCONSIN
KEITH R. BEHREND
E-42073
MADISON
WI
PROFESSIONAL ENGINEER
9/30/2024

NO.	DATE	REVISION	BY

STRAND ASSOCIATES®
910 WEST WINGRA DRIVE
MADISON, WISCONSIN 53715
(608)-251-4843
(608) 251-8655 FAX
WWW.STRAND.COM

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORATION

ACCEPTED SDR 11/05/24
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE B-53-96

CALEDONIA RD. OVER YAHARA RIVER

COUNTY	TOWN/~~CITY/VILLAGE~~
ROCK	PORTER

DESIGN SPEC.
REHABILITATION N/A

DESIGNED BY	DESIGNED CK'D	DRAWN BY	PLANS CK'D
JRP	KRB	ZHC	KRB

GENERAL PLAN

SHEET 1 OF 16
75

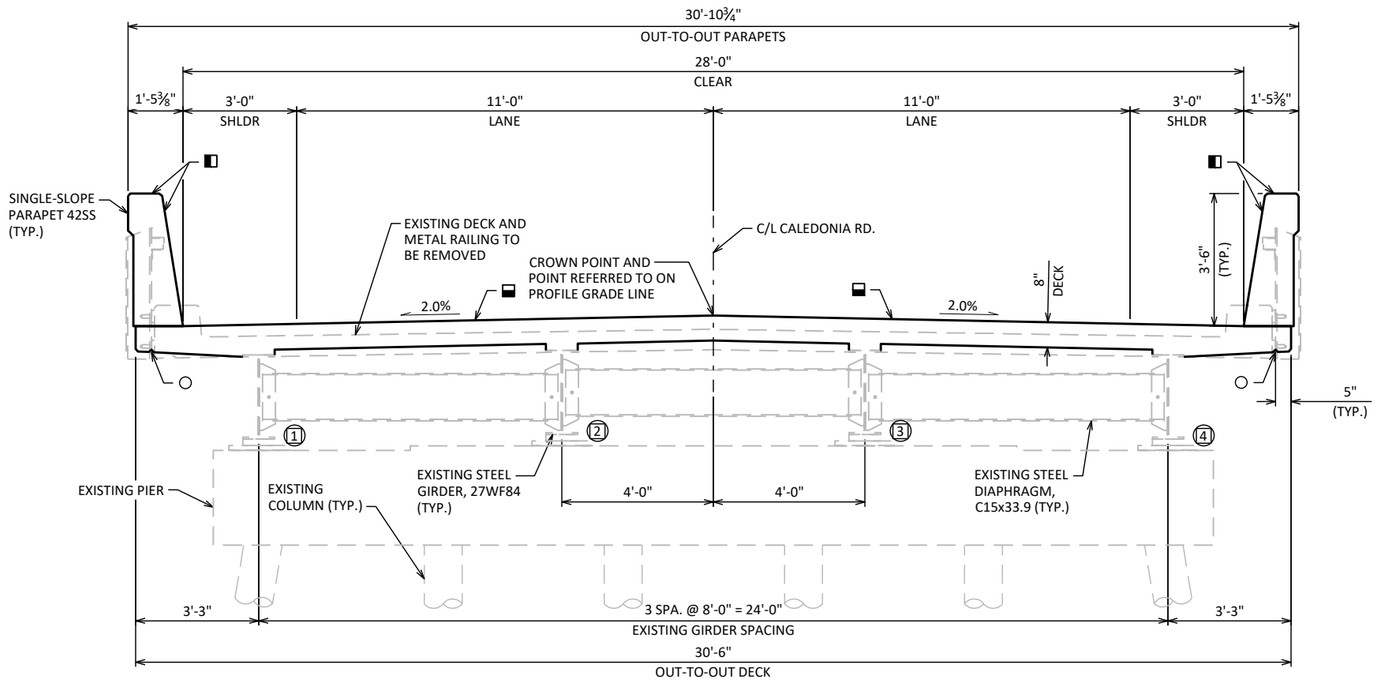
SCALE =

I.D.

DATE:

8

8



TYPICAL SECTION

(LOOKING NORTH)

LEGEND

- ○ ¾" V-GROOVE. EXTEND TO 2'-0" FROM FRONT FACE OF SOUTH ABUTMENT AND 6" FROM FRONT FACE OF NORTH ABUTMENT.
- (#) INDICATES GIRDER NUMBER.
- ◧ PIGMENTED SURFACE SEALER.
- ⬓ PROTECTIVE SURFACE TREATMENT.
- ◩ BACKFILL PAY LIMITS. BACKFILL BEYOND BACKFILL PAY LIMITS SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES. LIMITS OF EXCAVATION SHALL BE DETERMINED BY CONTRACTOR.

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	S. ABUT.	PIER 1	PIER 2	N. ABUT.	SUPER.	TOTAL	UNIT
203.0260	REMOVING STRUCTURES OVER WATERWAY MINIMAL DEBRIS B-53-96	--	--	--	--	--	1	EACH
206.1001	EXCAVATION FOR STRUCTURES BRIDGES B-53-96	--	--	--	--	--	1	EACH
210.1500	BACKFILL STRUCTURE TYPE A	8	--	--	--	--	8	TON
502.0100	CONCRETE MASONRY BRIDGES	6.9	--	--	--	178.2	185	CY
502.3101	EXPANSION DEVICE	30	--	--	--	--	30	LF
502.3200	PROTECTIVE SURFACE TREATMENT	6	--	--	--	503	509	SY
502.3210	PIGMENTED SURFACE SEALER	9	--	--	--	159	168	SY
502.4106	ADHESIVE ANCHORS 3/4-INCH	4	--	--	--	--	4	EACH
502.4205	ADHESIVE ANCHORS NO. 5 BAR	32	--	--	32	---	64	EACH
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	1,250	--	--	--	47,020	48,270	LB
506.2610	BEARING PADS ELASTOMERIC LAMINATED	4	--	--	--	--	4	EACH
506.7050.S	REMOVING BEARINGS B-53-96	4	--	--	--	--	4	EACH
509.1500	CONCRETE SURFACE REPAIR	30	--	--	--	--	30	SF
517.0901.S	PREPARATION AND COATING OF TOP FLANGES B-53-96	--	--	--	--	--	1	EACH
517.1801.S	STRUCTURE REPAINTING RECYCLED ABRASIVE B-53-96	--	--	--	--	--	1	EACH
517.4501.S	NEGATIVE PRESSURE CONTAINMENT AND COLLECTION OF WASTE MATERIALS B-53-96	--	--	--	--	--	1	EACH
517.6001.S	PORTABLE DECONTAMINATION FACILITY	--	--	--	--	--	1	EACH
606.0300	RIPRAP HEAVY	3	--	--	--	--	3	CY
614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	2	--	--	--	2	4	EACH
SPV.0180.01	ABUTMENT SEAT CLEANING AND SEALING	8	--	--	--	--	8	SY
	NON-BID ITEMS							
	NAME PLATE	--	--	--	--	--	1	EACH
	FILLER	--	--	--	--	--	1/2"	SIZE

GENERAL NOTES

SCOPE OF WORK

- REMOVAL OF EXISTING CONCRETE BRIDGE DECK AND METAL RAILINGS AND REPLACE WITH NEW CONCRETE BRIDGE DECK AND PARAPETS.
- REMOVE AND REPLACE BEARINGS AT SOUTH ABUTMENT.
- CLEAN AND REPAINT ALL STRUCTURAL STEEL AND BEARINGS AT PIERS 1 AND 2.
- REPLACE EXPANSION JOINT AT SOUTH ABUTMENT.
- CONCRETE SURFACE REPAIR AT SOUTH ABUTMENT.
- RIPRAP FILL AT SOUTH ABUTMENT.
- ABUTMENT SEAT CLEANING AND SEALING AT SOUTH ABUTMENT.

DRAWINGS SHALL NOT BE SCALED.

ALL DIMENSIONS ARE IN FEET AND INCHES.

ALL STATIONS AND ELEVATIONS ARE IN FEET.

THE FIRST, OR FIRST TWO DIGITS OF A BAR MARK SIGNIFIES THE BAR SIZE. BAR DIMENSIONS FOR BENDING ARE OUT-TO-OUT OF BARS.

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

BEVEL EXPOSED EDGES OF CONCRETE ¾" UNLESS OTHERWISE NOTED.

ALL CONCRETE REMOVAL SHALL BE DEFINED BY A 1-INCH DEEP SAW CUT.

UTILIZE EXISTING BAR STEEL REINFORCEMENT WHERE SHOWN AND EXTEND 24 BAR DIAMETERS INTO NEW WORK, UNLESS SPECIFIED OTHERWISE.

APPLY BRIDGE SEAT PROTECTION, AS PER SECTION 502.3.12 OF THE STANDARD SPECIFICATIONS, TO THE TOP SURFACE OF THE SOUTH ABUTMENT BELOW THE EXPANSION DEVICE PER BID ITEM "ABUTMENT SEAT CLEANING AND SEALING".

PROTECTIVE SURFACE TREATMENT TO BE APPLIED TO THE ENTIRE EXPOSED TOP OF DECK AND PAVING BLOCK AT SOUTH ABUTMENT.

PIGMENTED SURFACE SEALER TO BE APPLIED TO THE FRONT FACE, TOP, AND ENDS OF THE PARAPETS.

VARIATIONS TO THE NEW GRADE LINE OVER ¼" MUST BE SUBMITTED BY THE FIELD ENGINEER TO THE STRUCTURES DESIGN SECTION FOR REVIEW.

THE CONTRACTOR SHALL SUPPLY A NEW NAME PLATE IN ACCORDANCE WITH SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS AND THE STANDARD DETAIL DRAWINGS. NAME PLATE TO SHOW ORIGINAL CONSTRUCTION YEAR, 1966.

PROVIDE TEMPORARY HOLD-DOWN DEVICES AT GIRDER ENDS WHEN DECK REMOVAL BEGINS. HOLD-DOWN DEVICES SHALL REMAIN IN-PLACE UNTIL AFTER THE SLAB POUR IS COMPLETE. THE SLAB POUR SHALL BEGIN AT THE END OF THE BRIDGE OPPOSITE THE END WHERE THE TEMPORARY HOLD-DOWN DEVICES ARE LOCATED. SEE SHEET 11 FOR TEMPORARY HOLD-DOWN DEVICES DETAILS.

STRUCTURAL STEEL AND STEEL BEARINGS SHALL BE PAINTED LIGHT GRAY (AMS STANDARD COLOR 26293).

CONCRETE SURFACE REPAIR AND RIPRAP FILL AREA AS DIRECTED BY THE FIELD ENGINEER. QUANTITIES SHOWN ON THE PLANS ARE APPROXIMATE.

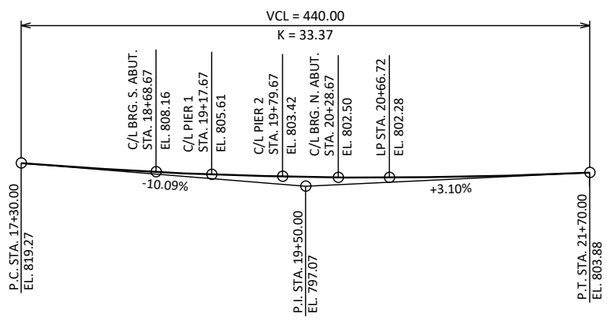
ANY EXCAVATION NECESSARY TO COMPLETE THE RE-DECK AT THE ABUTMENTS IS TO BE CONSIDERED INCIDENTAL TO THE BID ITEM "EXCAVATION FOR STRUCTURES BRIDGES B-53-96".

THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES B-53-96" SHALL BE THE EXISTING GROUNDLINE.

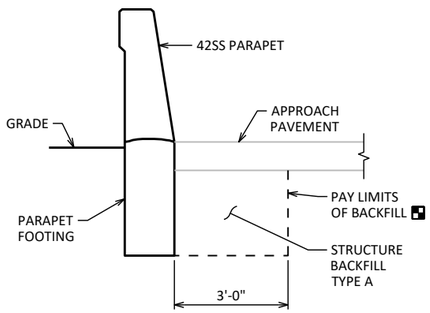
AT ABUTMENTS, ALL VOLUME NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH STRUCTURE BACKFILL TYPE A.

CLEANING AND REPAINTING BEARINGS AT PIERS SHALL BE INCLUDED WITH BID ITEM "STRUCTURE REPAINTING RECYCLED ABRASIVE B-53-96".

THE HAUNCH CONCRETE QUANTITY IS BASED ON THE AVERAGE HAUNCH OF 3½" SHOWN ON SHEET 11.



PROFILE GRADE LINE



STRUCTURE BACKFILL LIMITS

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-53-96

DRAWN BY ZHC | PLANS CK'D KRB

CROSS SECTION, QUANTITIES & NOTES

SHEET 2
76

SCALE =

STATE PROJECT NUMBER
5767-00-73

8

8

STATE PROJECT NUMBER

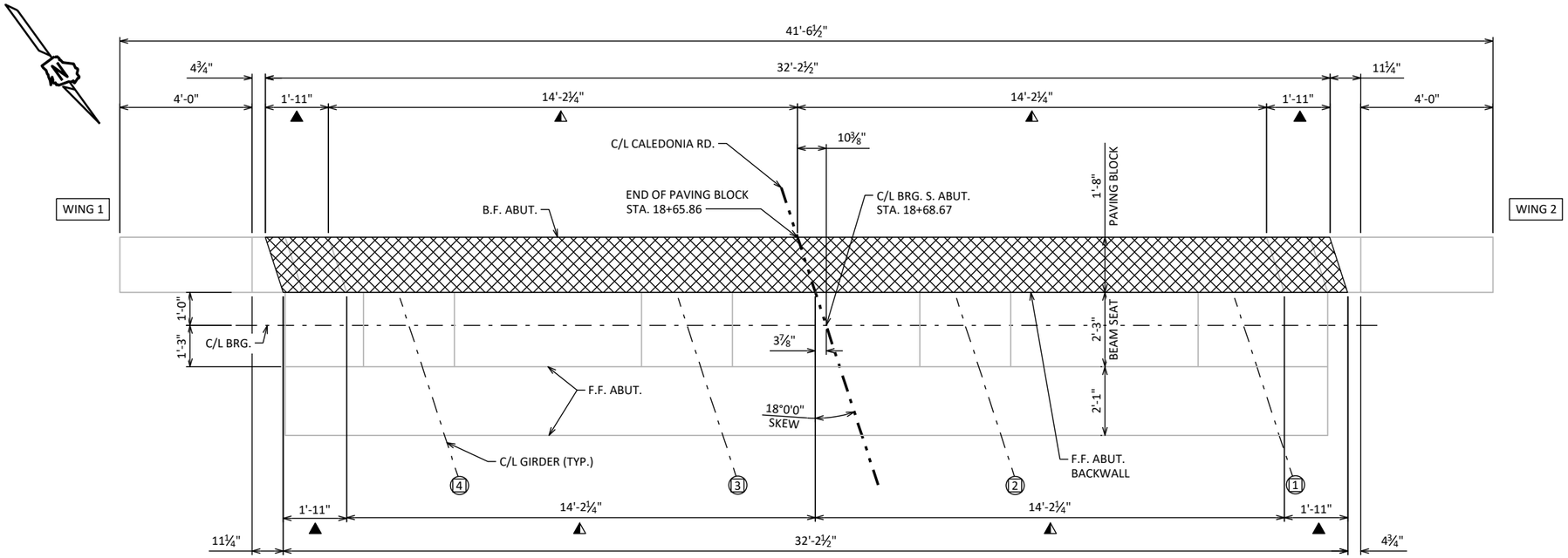
5767-00-73

NOTES

SEE SHEET 4 FOR SECTIONS AND DETAILS.

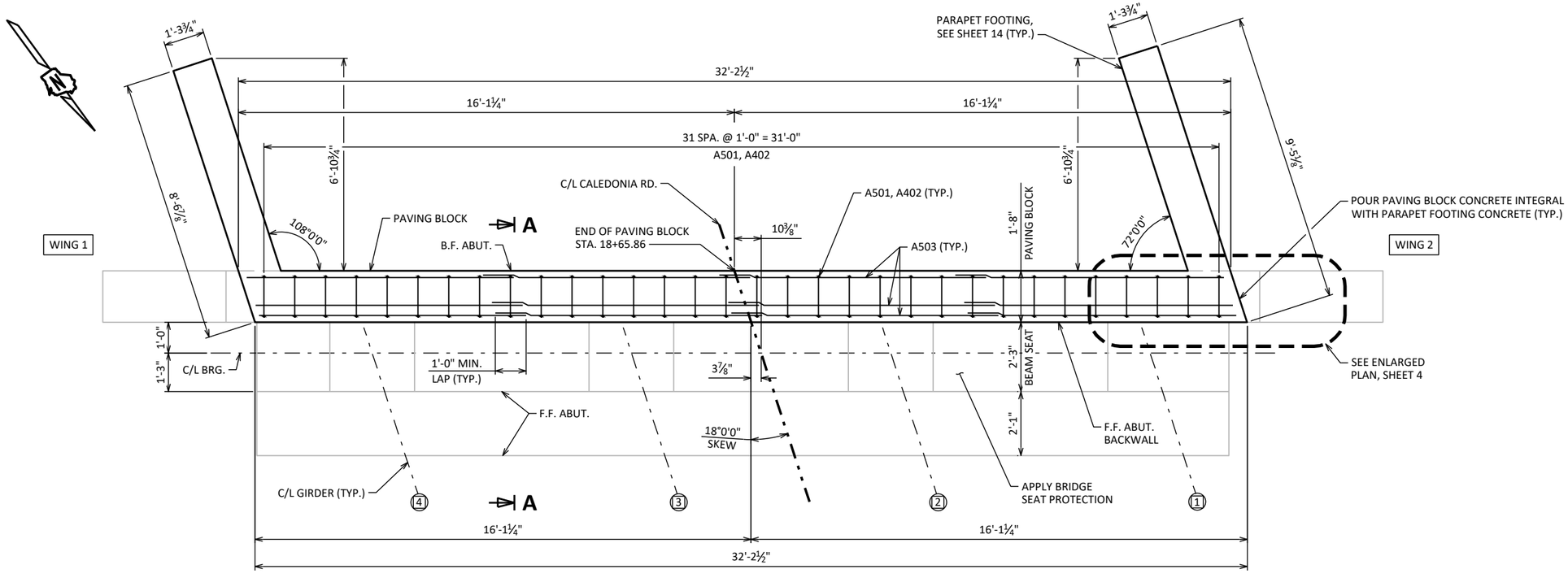
LEGEND

- REMOVE EXISTING PAVING BLOCK. SEE SHEET 4 FOR DETAILS.
- REMOVE EXISTING CONCRETE CURB AND ABUTMENT BACKWALL DOWN TO BOTTOM OF PAVING BLOCK ELEVATION.
- (#) INDICATES GIRDER NUMBER.
- REMOVAL LIMITS.



PLAN

(SHOWING REMOVALS)



PLAN

(SHOWING PROPOSED STRUCTURE WORK)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-53-96

DRAWN BY ZHC | PLANS CK'D KRB

SOUTH ABUTMENT

SHEET 3
77

SCALE =

8

8

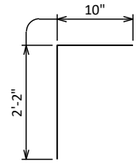
STATE PROJECT NUMBER

5767-00-73

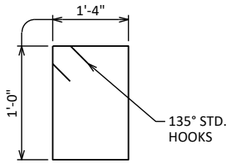
SOUTH ABUTMENT BILL OF BARS

COATED: 470 LBS.

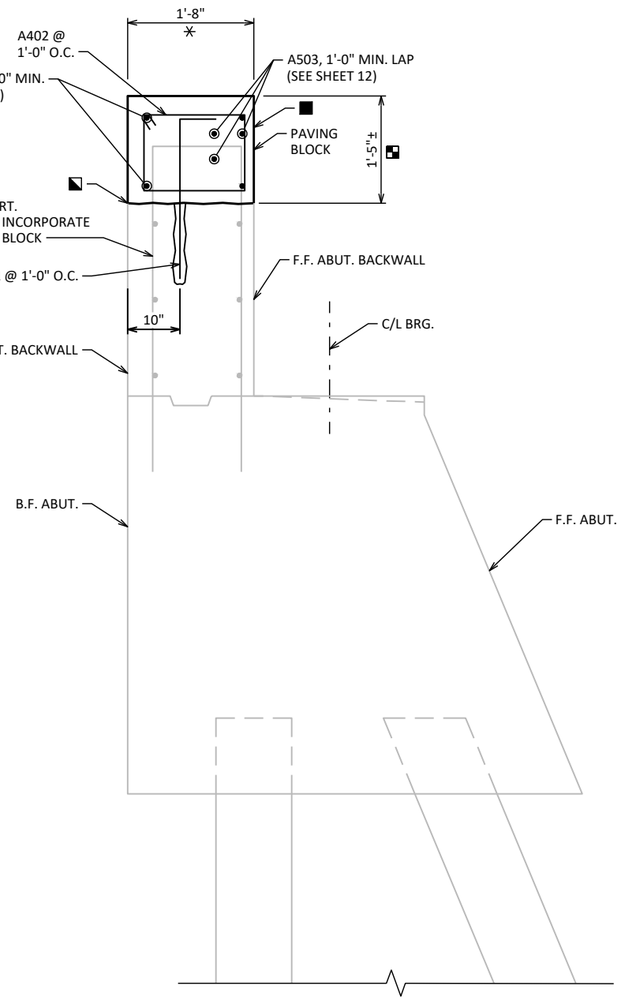
	BAR MARK	NO. REQ'D	LENGTH	BENT	COAT	LOCATION
☆	A501	32	2'-11"	X	X	BACKWALL - DOWELS - VERT.
	A402	32	5'-2"	X	X	BACKWALL - VERT.
	A503	28	9'-0"		X	BACKWALL - PAVING BLOCK - HORIZ.



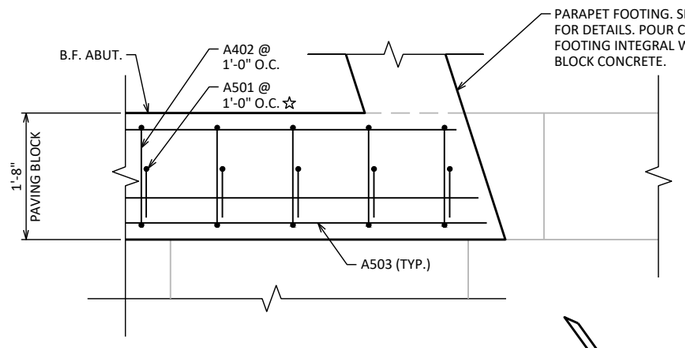
A501



A402



SECTION A-A



ENLARGED PARTIAL PLAN

(WING 2 SHOWN, WING 1 SIMILAR)

NOTES

SEE SHEETS 12 FOR ADDITIONAL PAVING BLOCK REINFORCING DETAILS.

LEGEND

☆ ADHESIVE ANCHORS NO. 5 BAR, EMBED 1'-0" MIN. IN EXISTING CONCRETE. TURN 10" LEG AS NECESSARY TO FIT.

◪ HORIZONTAL CONSTRUCTION JOINT. ROUGHEN SURFACE OF EXISTING CONCRETE TO ¼" +/- AMPLITUDE (ALL AREAS OF NEW TO EXISTING CONCRETE CONTACT). POUR CONCRETE ABOVE THIS JOINT AFTER SUPERSTRUCTURE IS IN PLACE.

■ STRIP SEAL EXPANSION JOINT TO BE INSTALLED WITH PAVING BLOCK CONCRETE POUR. SEE "STRIP SEAL EXPANSION JOINT" SHEET FOR DETAILS.

✳ DIMENSION IS TAKEN NORMAL TO C/L SUBSTRUCTURE UNIT.

◆ EXISTING REINFORCING IS LIKELY TO BE CORRODED AND/OR DAMAGED DURING CONCRETE REMOVAL. SALVAGE AND INCORPORATE AS MUCH REINFORCING AS PRACTICAL.

◪ ADJUST PAVING BLOCK HEIGHT AS NECESSARY BASED ON FIELD CONDITIONS TO MATCH ELEVATION OF ADJACENT DECK.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-53-96

DRAWN BY	ZHC	PLANS CK'D	KRB

SOUTH ABUTMENT DETAILS

SHEET 4
78

SCALE =

8

8

STATE PROJECT NUMBER

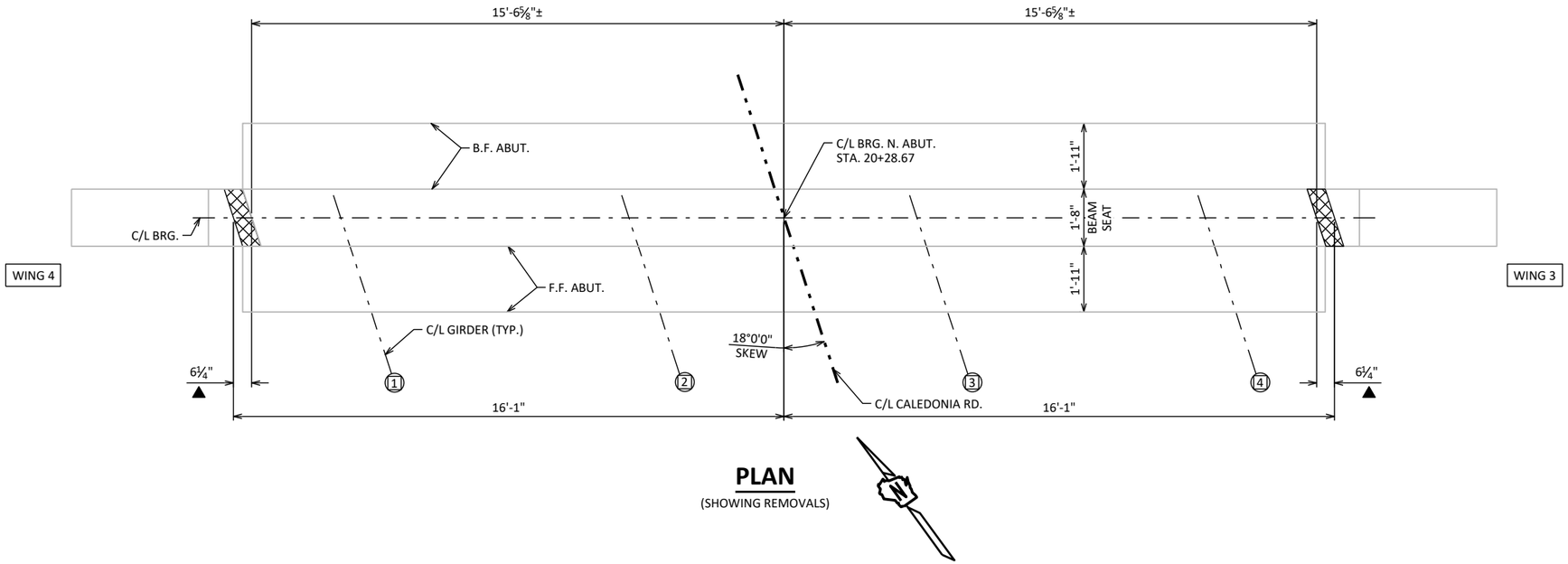
5767-00-73

LEGEND

▲ REMOVE UPPER PORTION OF EXISTING ABUTMENT WINGWALL DOWN TO BOTTOM OF PROPOSED DECK.

(#) INDICATES GIRDER NUMBER.

REMOVAL LIMITS.



PLAN
(SHOWING REMOVALS)

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-53-96

DRAWN BY ZHC | PLANS CK'D KRB

NORTH ABUTMENT

SHEET 5
79

SCALE =

STATE PROJECT NUMBER

5767-00-73

NOTES

BEARING SHALL NOT BE PLACED AT A TEMPERATURE GREATER THAN 85°F.

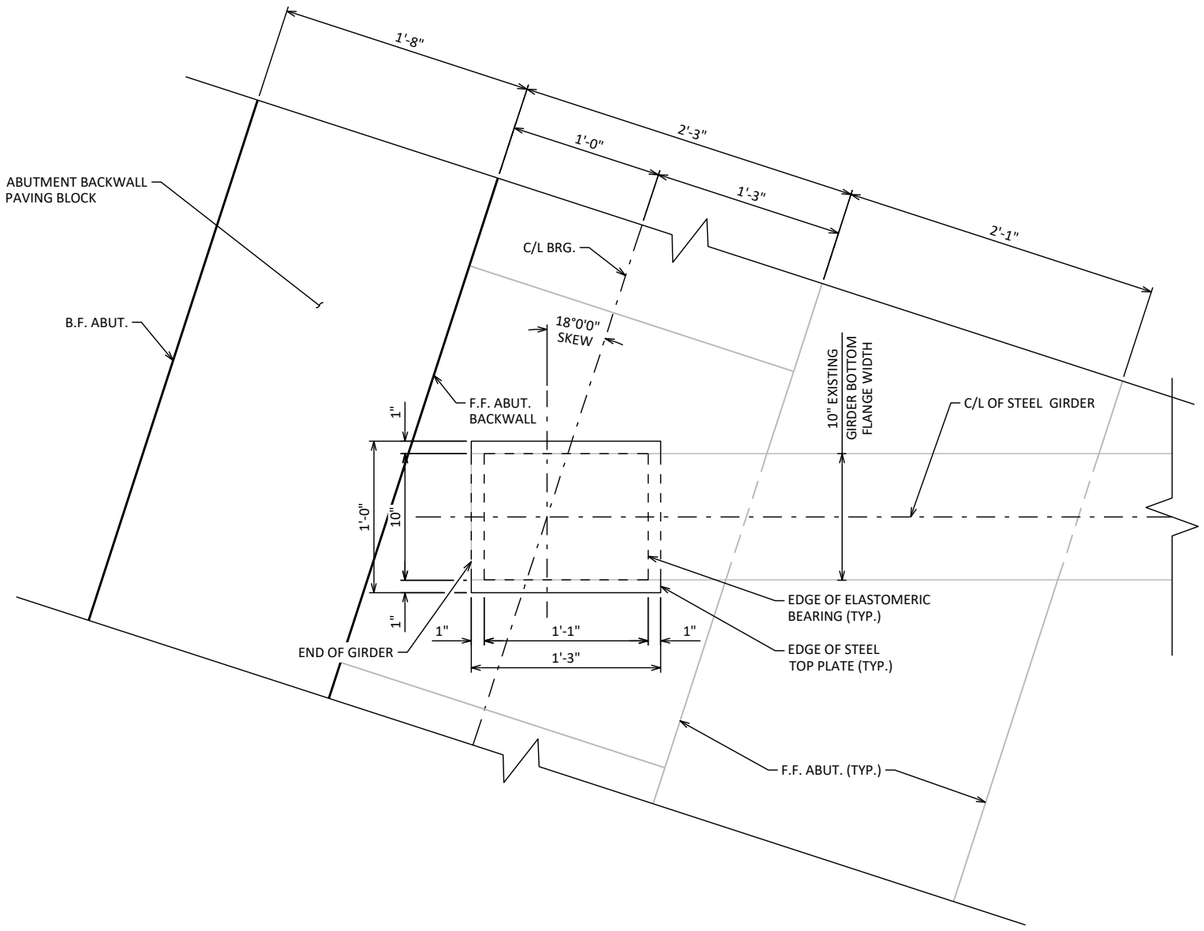
ALL MATERIAL USED FOR BEARINGS SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "BEARING PADS ELASTOMERIC LAMINATED", EACH.

ALL STRUCTURAL STEEL BEARING PLATES SHALL BE FLAT ROLLED WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT, AND VERTICAL.

ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUTS.

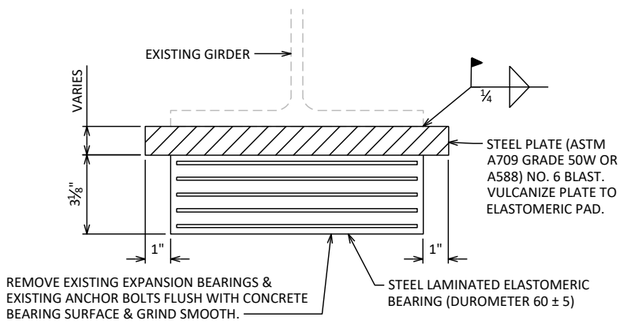
GRIND EXISTING WELD THAT ATTACHED EXISTING TOP PLATE TO BOTTOM FLANGE OF GIRDER. GRIND AFFECTED AREAS SMOOTH.

REMOVE THE PAINT FROM TOP PLATE SURFACES THAT REQUIRE FIELD WELDING. AFTER WELDING, PAINT TO MATCH STRUCTURAL STEEL PAINT SYSTEM USED ON THIS BRIDGE.

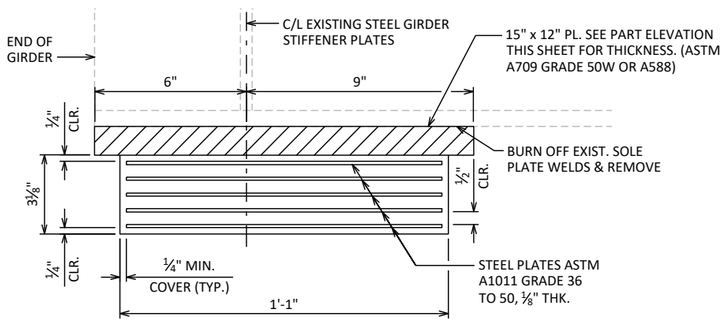


PLAN VIEW

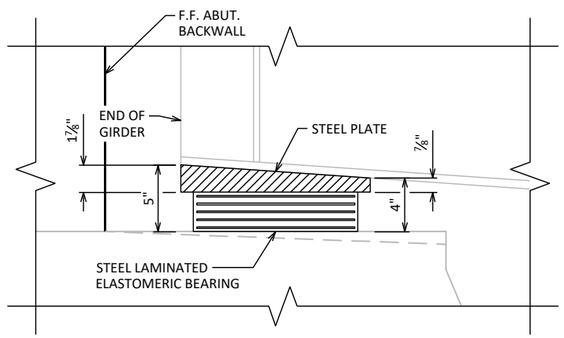
(SOUTH ABUT.)



FRONT ELEVATION



SECTION THRU ELASTOMERIC BEARING



PART ELEVATION AT SOUTH ABUT.

(SHOWING TAPERED STEEL PLATE)

EXPANSION BEARING REPLACEMENT - STEEL GIRDERS
ELASTOMERIC BEARINGS

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-53-96

DRAWN BY ZHC | PLANS CK'D KRB

EXPANSION BEARING REPLACEMENT DETAILS

SHEET 6
80

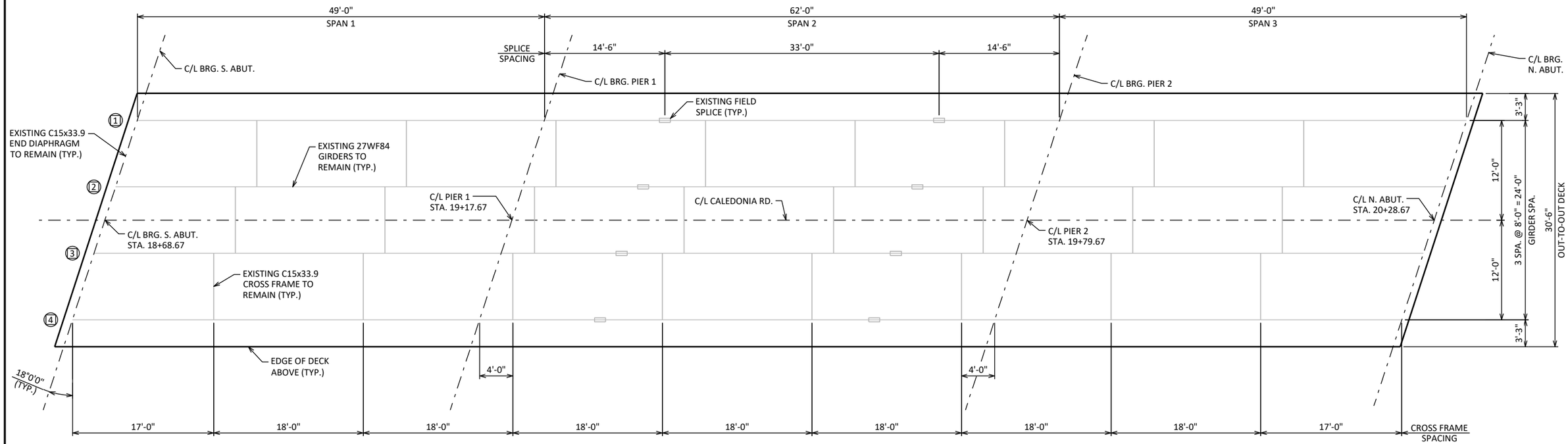
SCALE =

8

8

STATE PROJECT NUMBER

5767-00-73



FRAMING PLAN

NOTES

THE CONTRACTOR SHALL MAINTAIN THE STABILITY OF THE GIRDERS UNTIL THE DECK HAS BEEN CONSTRUCTED.

DIMENSIONS GIVEN ARE HORIZONTAL DIMENSIONS ALONG THE C/L OF THE GIRDER.

ALL CROSS FRAME BOLTS MUST BE FULLY TIGHTENED PRIOR TO CONCRETE DECK PLACEMENT.

LEGEND

(#) INDICATES GIRDER NUMBER.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-53-96

DRAWN BY	ZHC	PLANS CK'D	KRB

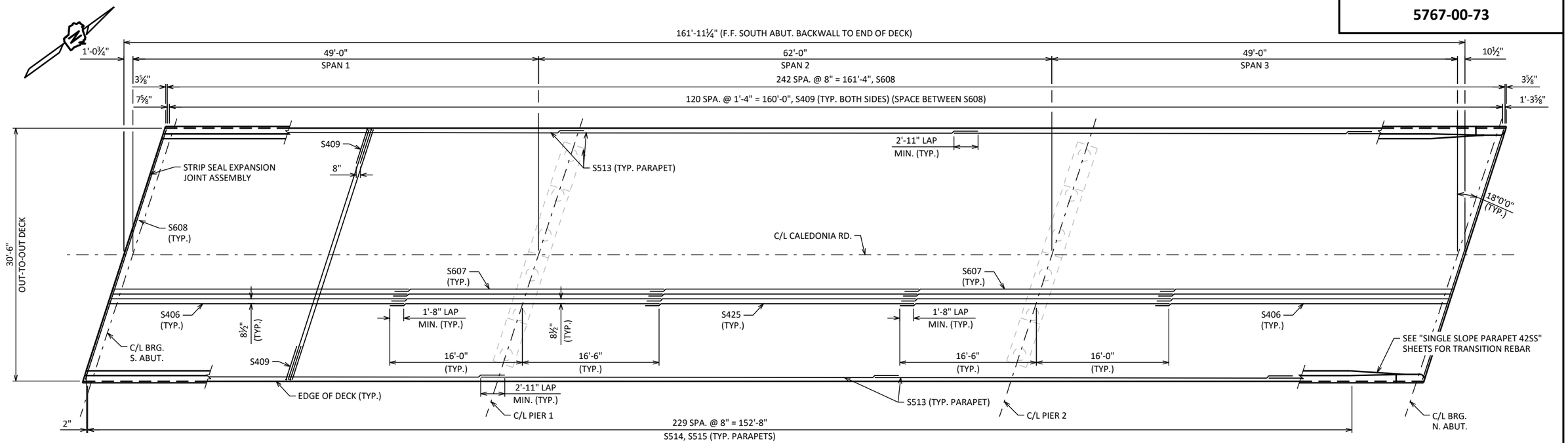
FRAMING PLAN

SHEET 7
81

SCALE =

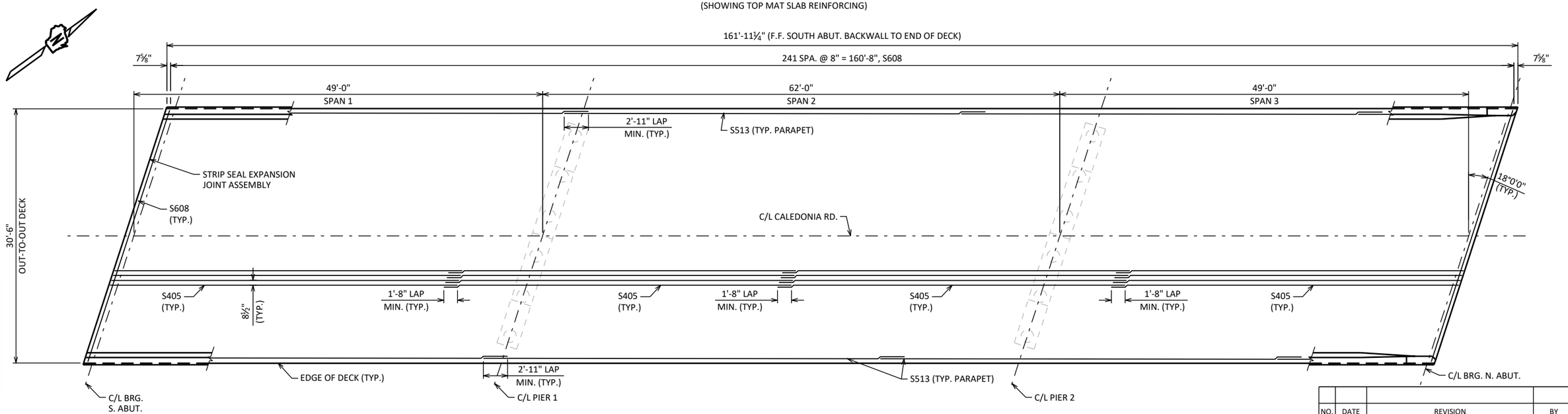
STATE PROJECT NUMBER

5767-00-73



PLAN

(SHOWING TOP MAT SLAB REINFORCING)



PLAN

(SHOWING BOTTOM MAT SLAB REINFORCING)

NOTES

SEE SHEETS 15 AND 16 FOR ADDITIONAL PARAPET REINFORCING DETAILS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-53-96

DRAWN BY ZHC | PLANS CK'D KRB

SUPERSTRUCTURE PLAN

SHEET 8
82

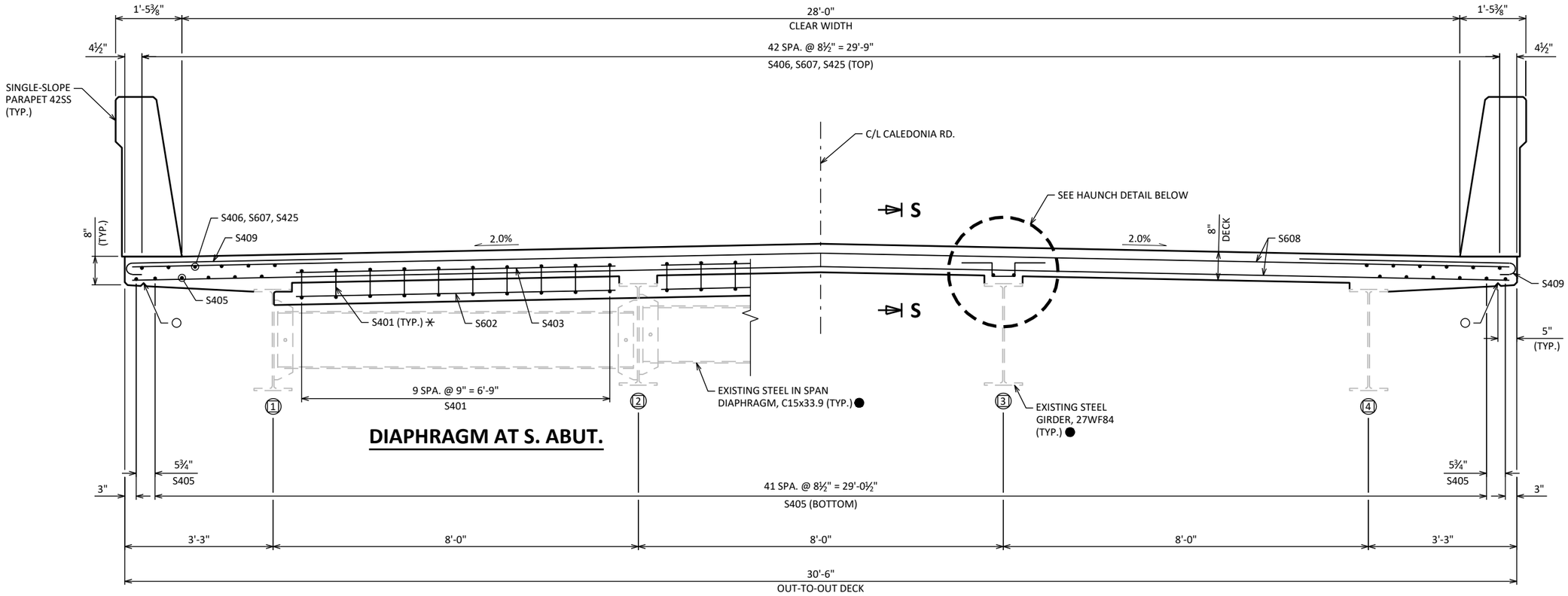
SCALE =

8

8

STATE PROJECT NUMBER

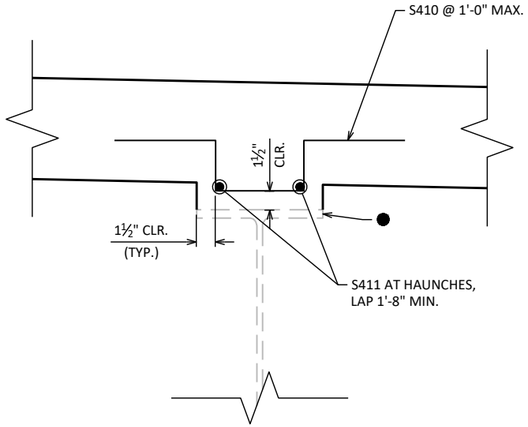
5767-00-73



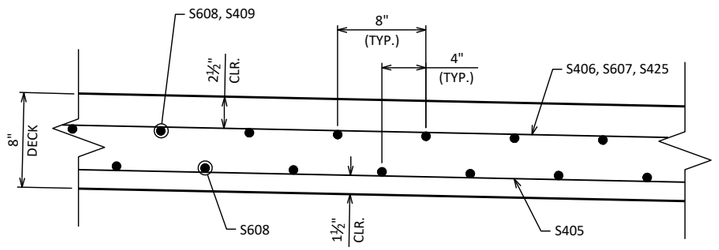
DIAPHRAGM AT S. ABUT.

CROSS SECTION THRU BRIDGE

(LOOKING NORTH)



HAUNCH DETAIL



SECTION S-S

NOTES

SEE "SUPERSTRUCTURE DETAILS" SHEETS FOR REINFORCING DETAILS.

LEGEND

(#) INDICATES GIRDER NUMBER.

○ ¾" V GROVE REQ'D. EXTEND 2'-0" FROM F.F. OF SOUTH ABUT. AND 6" FROM FRONT FACE OF NORTH ABUT.

● ABRASIVE BLAST AND REPAINT ALL STRUCTURAL STEEL SURFACE AREAS INCLUDING TOP FLANGE OF BEAMS AND PIER BEARINGS. REMOVE AND REPLACE SOUTH ABUTMENT BEARINGS.

✳ BARS PLACED PARALLEL TO GIRDERS. SPACING PERPENDICULAR TO C/L GIRDERS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-53-96

DRAWN BY ZHC | PLANS CK'D KRB

SUPERSTRUCTURE SECTION

SHEET 9
83

SCALE =

8

8

SUPERSTRUCTURE
BILL OF BARS

COATED: 47,020 LBS.

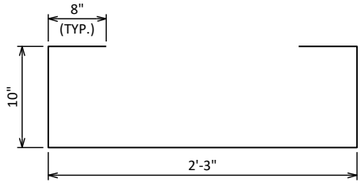
BAR MARK	NO. REQ'D	LENGTH	BENT	COAT	LOCATION
S401	30	4'-11"	X	X	S. ABUT. DIAPHRAGM - VERT. - BTWN. BEAMS
S602	15	8'-0"		X	S. ABUT. DIAPHRAGM - HORIZ.
S403	6	8'-0"		X	S. ABUT. DIAPHRAGM - HORIZ.
S404	8	9'-0"		X	N. ABUT. DIAPHRAGM - HORIZ.
S405	176	41'-8"		X	SLAB - LONG. - BOT.
S406	86	35'-8"		X	SLAB - LONG. - TOP - SPAN 1 & 3
S607	86	32'-6"		X	SLAB - LONG. - TOP - OVER PIERS
S608	485	31'-8"		X	SLAB - TRANS. - TOP & BOT.
S409	242	4'-10"	X	X	SLAB - TRANS. - TOP - OVERHANGS
S410	648	2'-7"	X	X	GIRDER HAUNCH - VERT.
S411	32	41'-7"		X	GIRDER HAUNCH - HORIZ.
S412	6	8'-0"		X	SLAB - TRANS. - STRIP SEAL EXP. JOINT
S513	48	50'-6"		X	PARAPET - HORIZ.
S514	460	4'-5"	X	X	PARAPET - VERT.
S515	460	6'-8"	X	X	PARAPET - VERT.
S516	24	2'-9"	X	X	PARAPET - VERT. - NORTH END
S517	34	4'-4"	X	X	PARAPET - VERT. - NORTH END
S518	10	6'-5"	X	X	PARAPET - VERT. - NORTH END
S519	12	6'-6"	X	X	PARAPET - VERT. - NORTH END
S520	2	18'-9"	X	X	PARAPET - HORIZ. - NORTH END
S521	10	18'-9"		X	PARAPET - HORIZ. - NORTH END
* S522	12	5'-5"	X	X	PARAPET - VERT. - NORTH END
S523	4	18'-9"	X	X	PARAPET - HORIZ. - NORTH END
☆ S524	32	2'-11"	X	X	N. ABUT. - VERT.
S425	43	32'-4"		X	SLAB - LONG. - TOP - SPAN 2

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

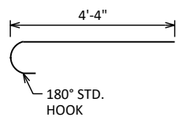
BAR SERIES TABLE

BUNDLE AND TAG EACH SERIES SEPARATELY.

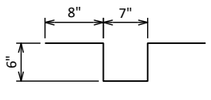
BAR MARK	NO. REQ'D.	LENGTH
S522	2 SERIES OF 6	4'-9" TO 6'-1"



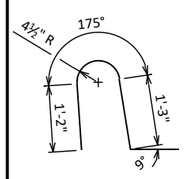
S401



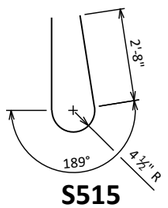
S409



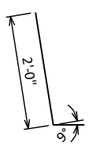
S410



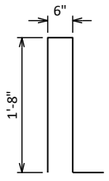
S514



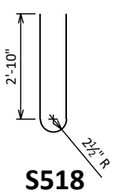
S515



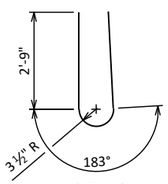
S516



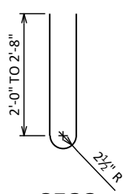
S517



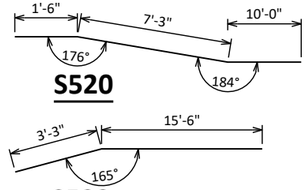
S518



S519

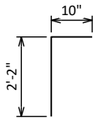


S522

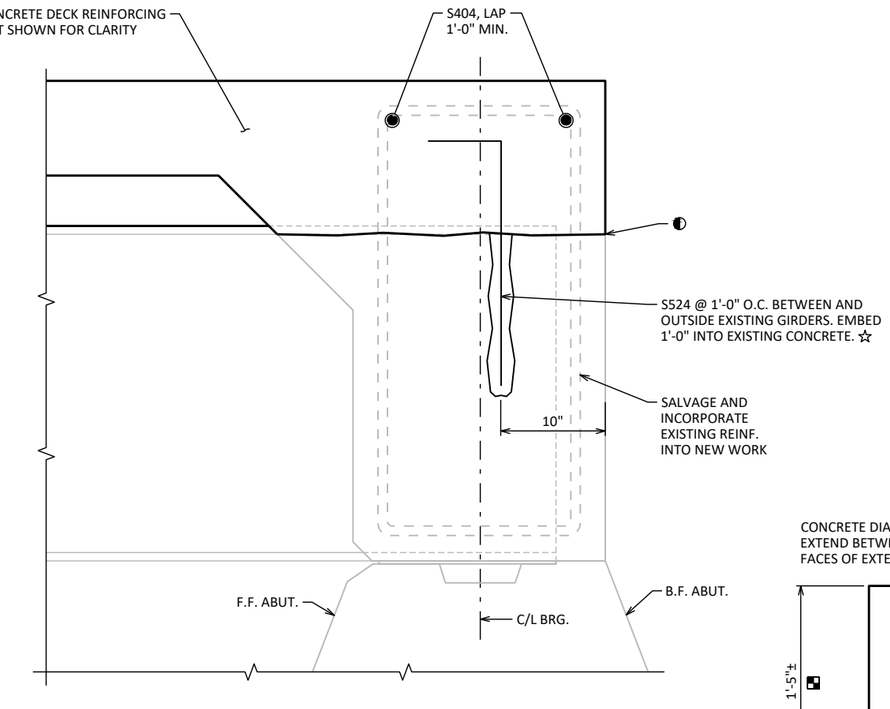


S520

S523

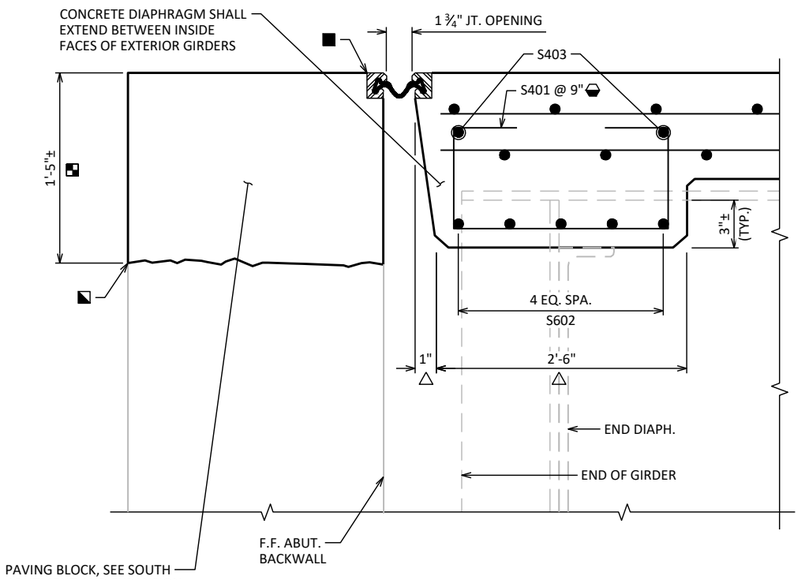


S524



SECTION THRU DIAPHRAGM AT NORTH ABUT.

(NORMAL TO C/L SUBSTRUCTURE)



SECTION THRU DIAPHRAGM AT SOUTH ABUT.

(NORMAL TO C/L SUBSTRUCTURE)

STATE PROJECT NUMBER

5767-00-73

NOTES

ALL REPLACEMENT PAVING BLOCK DIMENSIONS SHALL MATCH EXISTING PLAN DIMENSIONS UNLESS NOTED OTHERWISE.

LEGEND

- ◐ ROUGHEN SURFACE OF EXISTING CONCRETE TO ¼"± AMPLITUDE (ALL AREAS OF NEW TO EXISTING CONCRETE CONTACT).
- ⬔ HORIZONTAL CONSTRUCTION JOINT. POUR CONCRETE ABOVE THIS JOINT AFTER SUPERSTRUCTURE IS IN PLACE.
- ■ STRIP SEAL EXPANSION JOINT TO BE INSTALLED WITH PAVING BLOCK CONCRETE POUR. SEE "STRIP SEAL EXPANSION JOINT" SHEET FOR DETAILS.
- ⬬ BARS PLACED PARALLEL TO GIRDERS. SPACING PERPENDICULAR TO C/L GIRDERS.
- ⬕ ADJUST PAVING BLOCK HEIGHT AS NECESSARY BASED ON FIELD CONDITIONS TO MATCH ELEVATION OF ADJACENT DECK.
- △ DIMENSION TAKEN NORMAL TO C/L ABUTMENT.
- ☆ ADHESIVE ANCHORS NO. 5 BAR.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-53-96

DRAWN BY ZHC | PLANS CK'D KRB

SUPERSTRUCTURE DETAILS - 1

SHEET 10
84

SCALE =

STATE PROJECT NUMBER

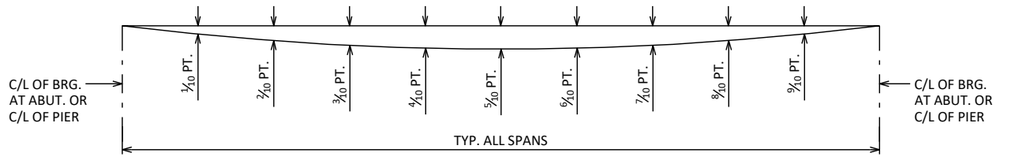
5767-00-73

TOP OF DECK ELEVATIONS

LOCATION	C/L BRG. S. ABUT.	SPAN 1									C/L PIER NO. 1	SPAN 2									C/L PIER NO. 2	SPAN 3									C/L BRG. N. ABUT.
		0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9		0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9		0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	
W. DECK EDGE	807.61	807.33	807.06	806.79	806.53	806.28	806.04	805.80	805.57	805.35	805.13	804.87	804.62	804.38	804.15	803.93	803.73	803.53	803.35	803.18	803.02	802.90	802.79	802.69	802.59	802.50	802.42	802.35	802.28	802.22	802.17
GIRDER 1	807.69	807.41	807.13	806.87	806.61	806.35	806.11	805.87	805.64	805.41	805.20	804.93	804.68	804.44	804.21	803.99	803.79	803.59	803.41	803.24	803.08	802.96	802.85	802.74	802.65	802.56	802.47	802.40	802.33	802.27	802.22
GIRDER 2	808.00	807.72	807.44	807.17	806.90	806.65	806.40	806.16	805.92	805.69	805.47	805.20	804.95	804.70	804.47	804.24	804.03	803.83	803.64	803.47	803.30	803.18	803.07	802.96	802.86	802.76	802.68	802.60	802.53	802.46	802.40
REF. LINE	808.16	807.87	807.59	807.32	807.05	806.79	806.54	806.30	806.06	805.83	805.61	805.34	805.08	804.83	804.59	804.37	804.16	803.95	803.76	803.58	803.42	803.29	803.17	803.07	802.96	802.87	802.78	802.70	802.62	802.56	802.50
GIRDER 3	808.16	807.87	807.58	807.31	807.04	806.78	806.53	806.28	806.04	805.81	805.59	805.31	805.05	804.80	804.56	804.34	804.12	803.91	803.72	803.54	803.37	803.24	803.13	803.01	802.91	802.81	802.72	802.64	802.56	802.49	802.43
GIRDER 4	808.15	807.86	807.57	807.29	807.02	806.76	806.50	806.25	806.01	805.77	805.55	805.27	805.00	804.75	804.50	804.27	804.05	803.84	803.64	803.45	803.28	803.15	803.03	802.91	802.80	802.70	802.61	802.52	802.44	802.37	802.30
E. DECK EDGE	808.15	807.86	807.57	807.29	807.02	806.75	806.50	806.24	806.00	805.77	805.54	805.26	804.99	804.73	804.49	804.25	804.03	803.82	803.62	803.43	803.26	803.13	803.00	802.89	802.78	802.68	802.58	802.49	802.41	802.34	802.27

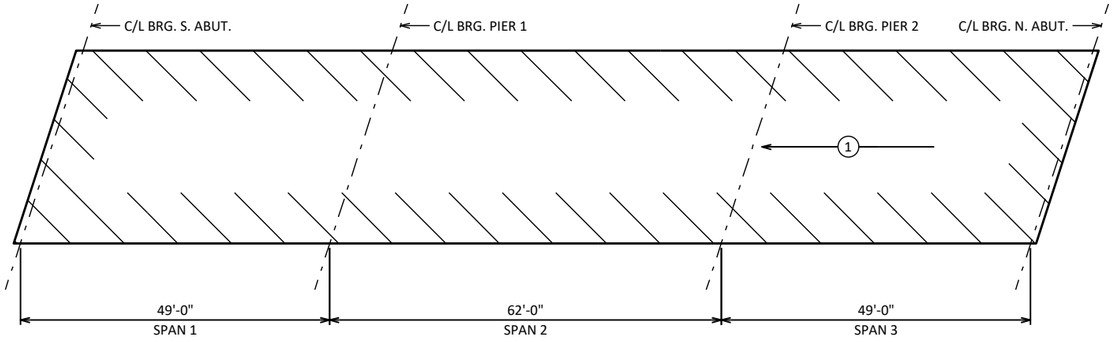
GIRDER DEFLECTION TABLE (IN INCHES)

LOCATION		C/L BRG. S. ABUT.	SPAN 1									C/L PIER NO. 1	SPAN 2									C/L PIER NO. 2	SPAN 3									C/L BRG. N. ABUT.
			0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9		0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9		0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	
GIRDER 1	TOTAL DL DEFLECTION	0.0	0.3	0.6	0.8	0.8	0.8	0.6	0.4	0.2	0.1	0.0	0.1	0.4	0.7	0.9	1.0	0.9	0.7	0.4	0.1	0.0	0.1	0.2	0.4	0.6	0.8	0.8	0.8	0.6	0.3	0.0
	CONCRETE ONLY DL DEFLECTION	0.0	0.3	0.5	0.7	0.7	0.7	0.6	0.4	0.2	0.1	0.0	0.1	0.3	0.6	0.8	0.9	0.8	0.6	0.3	0.1	0.0	0.1	0.2	0.4	0.6	0.7	0.7	0.7	0.5	0.3	0.0
GIRDER 2	TOTAL DL DEFLECTION	0.0	0.3	0.6	0.8	0.9	0.8	0.7	0.5	0.2	0.1	0.0	0.1	0.4	0.7	0.9	1.0	0.9	0.7	0.4	0.1	0.0	0.1	0.2	0.5	0.7	0.8	0.9	0.8	0.6	0.3	0.0
	CONCRETE ONLY DL DEFLECTION	0.0	0.3	0.6	0.7	0.8	0.8	0.6	0.4	0.2	0.1	0.0	0.1	0.4	0.6	0.9	0.9	0.9	0.6	0.4	0.1	0.0	0.1	0.2	0.4	0.6	0.8	0.8	0.7	0.6	0.3	0.0
GIRDER 3	TOTAL DL DEFLECTION	0.0	0.3	0.6	0.8	0.9	0.8	0.7	0.5	0.2	0.1	0.0	0.1	0.4	0.7	0.9	1.0	0.9	0.7	0.4	0.1	0.0	0.1	0.2	0.5	0.7	0.8	0.9	0.8	0.6	0.3	0.0
	CONCRETE ONLY DL DEFLECTION	0.0	0.3	0.6	0.7	0.8	0.8	0.6	0.4	0.2	0.1	0.0	0.1	0.4	0.6	0.9	0.9	0.9	0.6	0.4	0.1	0.0	0.1	0.2	0.4	0.6	0.8	0.8	0.7	0.6	0.3	0.0
GIRDER 4	TOTAL DL DEFLECTION	0.0	0.3	0.6	0.8	0.8	0.8	0.6	0.4	0.2	0.1	0.0	0.1	0.4	0.7	0.9	1.0	0.9	0.7	0.4	0.1	0.0	0.1	0.2	0.4	0.6	0.8	0.8	0.8	0.6	0.3	0.0
	CONCRETE ONLY DL DEFLECTION	0.0	0.3	0.5	0.7	0.7	0.7	0.6	0.4	0.2	0.1	0.0	0.1	0.3	0.6	0.8	0.9	0.8	0.6	0.3	0.1	0.0	0.1	0.2	0.4	0.6	0.7	0.7	0.7	0.5	0.3	0.0



GIRDER DEFLECTION DIAGRAM

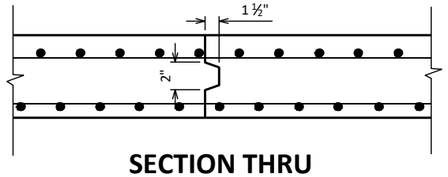
SEE "TOP OF DECK ELEVATIONS" TABLE FOR ESTIMATED DEFLECTION VALUES AT THE TENTH POINTS OF EACH SPAN.



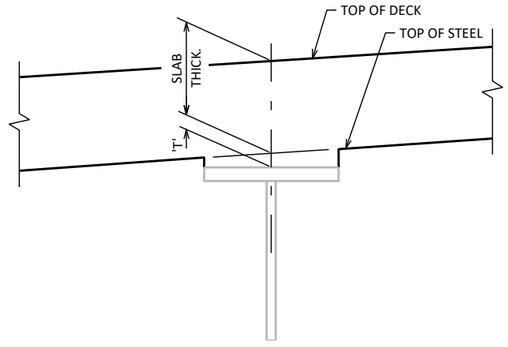
DECK POUR SEQUENCE

LEGEND

(#) INDICATES POUR SEQUENCE.



SECTION THRU TRANSVERSE JOINT



HAUNCH DETAIL

CONCRETE HAUNCH NOTES

'T' = HAUNCH HEIGHT AT CENTERLINE OF GIRDER.

TO DETERMINE 'T': ELEVATIONS OF THE TOP FLANGES SHALL BE TAKEN AT CENTERLINE OF BEARINGS AND AT 0.1 POINTS.

TOP OF DECK ELEVATION AT FINAL GRADE

\- TOP OF STEEL ERECTION

\+ CONC. ONLY DEFLECTION; DOWNWARD DEFLECTION IS ADDED, UPWARD DEFLECTION IS SUBTRACTED

\- SLAB THICKNESS

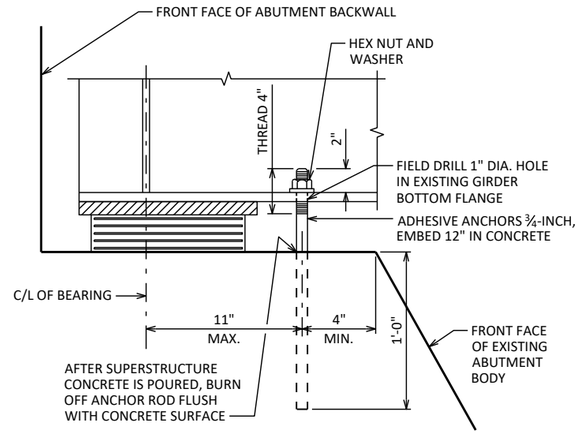
\= 'T' VALUE FOR SETTING HAUNCH

AVERAGE 'T' USED FOR ESTIMATING CONCRETE QUANTITIES IS 4".

NOTES

THE RATE OF PLACING CONCRETE SHALL EQUAL OR EXCEED ½ SPAN LENGTH PER HOUR BUT NEED NOT EXCEED 100 CU. YDS. PER HOUR.

THE NEXT DECK POUR SHALL BE MADE NO LESS THAN 72 HOURS AFTER THE PREVIOUS POUR.



TEMPORARY HOLD DOWN DEVICE

PLACE ONE ANCHOR ROD PER GIRDER AT ABUTMENT WHERE SLAB POUR TERMINATES. LOCATE 2 ½" (NORMAL) OFF C/L OF GIRDER. ANCHOR ROD, NUT, WASHER, AND DRILLED HOLE IN GIRDER FLANGE SHALL BE PAID FOR AS "ADHESIVE ANCHORS ¾-INCH".

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-53-96

DRAWN BY ZHC | PLANS CK'D KRB

SUPERSTRUCTURE DETAILS - 2

SHEET 11
85

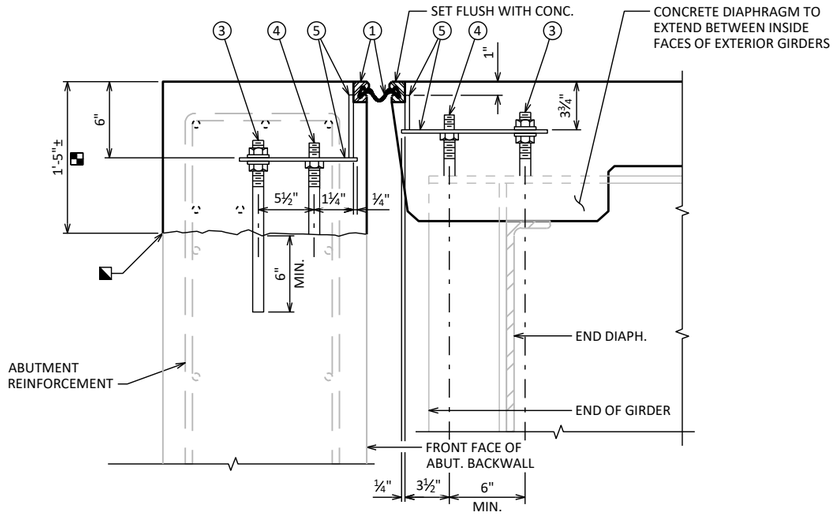
SCALE =

8

8

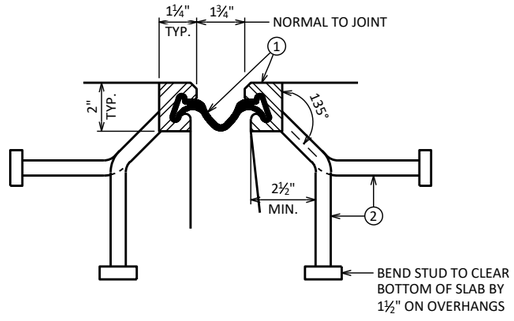
STATE PROJECT NUMBER

5767-00-73



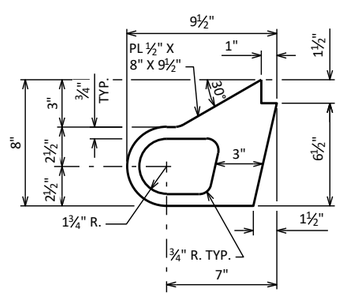
SECTION THRU JOINT AT ABUTMENT

NORMAL TO C/L SUBSTRUCTURE

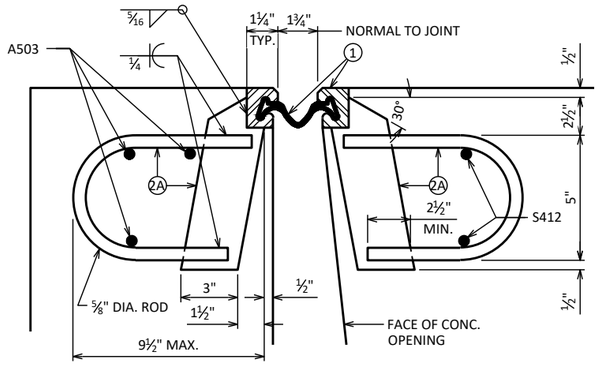


SECTION THRU JOINT

EXTERIOR GIRDER TO EDGE OF DECK, AND AT PARAPETS

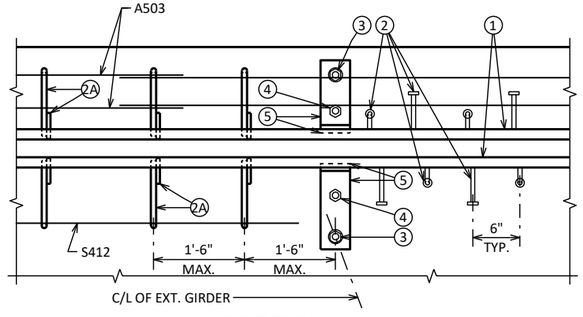


ALTERNATE STRIP SEAL ANCHOR



SECTION THRU JOINT

ROADWAY TRAFFIC AREA BETWEEN EXTERIOR GIRDERS



PART PLAN

NOTES

ONE FIELD SPLICE PERMITTED IN STEEL EXTRUSIONS, UNLESS MORE ARE REQUIRED FOR STAGED CONSTRUCTION, HANDLING OR GALVANIZING REQUIREMENTS. IF USED, ANCHOR PLATES SHALL BE PROVIDED 3" FROM EACH SIDE OF THE FIELD SPLICE. DETAILS SHALL BE SUBMITTED FOR APPROVAL. NO SPLICING PERMITTED IN NEOPRENE STRIP SEAL.

AFTER FABRICATION, BUT BEFORE SHIPMENT, STRAIGHTEN STEEL EXTRUSIONS SUCH THAT THEY SHALL BE FREE FROM WARP, TWIST AND SWEEP.

FABRICATOR SHALL PROVIDE MEANS OF KEEPING GALVANIZED EXTRUSIONS CLEAN AND SMOOTH DURING SHIPMENT AND PRIOR TO APPLYING LUBRICANT ADHESIVE FOR NEOPRENE GLAND INSTALLATION.

SANDBLAST PLATES, SUPPORTS AND EXTRUSIONS AFTER FABRICATION IN ACCORDANCE WITH SSPC SP. #6 "COMMERCIAL BLAST CLEANING". AFTER BLAST CLEANING, THE PLATES, SUPPORTS AND EXTRUSIONS SHALL BE HOT DIPPED GALVANIZED.

ANCHOR SYSTEM NO. 8 AND NO. 9 SHALL CONFORM TO ASTM A307 AND SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C AND D.

ALL MATERIAL IN THE EXPANSION JOINT ASSEMBLY, INCLUDING ANCHOR STUDS AND HARDWARE SHALL BE PAID AT THE UNIT PRICE BID FOR "EXPANSION DEVICE", LF.

LEGEND

(1) NEOPRENE STRIP SEAL (4 - INCH) AND STEEL EXTRUSIONS.

(2) STUDS ⅝" DIA. X 6¾" LONG AT 6" ALTERNATE CENTERS. WELD TO EXTRUSIONS AND BEND AS SHOWN AFTER WELDING.

(2A) ½" THICK ANCHOR PLATE WITH ⅝" DIA. ROD (OR ALTERNATE STRIP SEAL ANCHOR). WELD ROD TO ANCHOR PLATE, WELD ANCHOR PLATE TO NO. 1 AT 1'-6" CENTERS BETWEEN GIRDERS.

(3) ¾" DIA. THREADED ROD WITH 2 NUTS AND PLATE WASHERS. WELD THREADED ROD TO TOP FLANGE OR ATTACH BY BOLTING THRU FLANGE. ON ABUTMENT SIDE GROUT THREADED ROD INTO FIELD DRILLED HOLES IN ABUTMENT BACKWALL AS SHOWN.

(4) ¾" DIA. THREADED ROD WITH NUT. TACK WELD NUT TO NO. 5.

(5) FABRICATE SUPPORT FROM 3" X ½" BAR AS SHOWN OR EQUIVALENT, ONE PER GIRDER PER SIDE. SHOP OR FIELD WELD TO NO. 1. IF FIELD WELDED, COVER WELDED AREAS WITH EPOXY-COATING MATERIAL. PROVIDE 1½" DIA. HOLE FOR NO. 3 AND 1" DIA. HOLE FOR NO. 4.

(6) GALVANIZED PLATE ⅜" X 10" X 2'-2" LONG WITH HOLES FOR NO.7.

(7) ¾" DIA. X 1½" STAINLESS STEEL SOCKET FLAT HEAD SCREWS WITH ANTI-SEIZE LUBRICANT. PLACE IN COUNTERSUNK HOLE. RECESS 1/16" BELOW PLATE SURFACE.

(8) ¾" DIA. X 4" GALVANIZED HEX HEAD BOLT. BEND 45°.

(9) ¾" DIA. X 2¼" GALVANIZED THREADED COUPLING.

(10) 1" X 5" SLOTTED COUNTERSUNK HOLE FOR NO. 7. PLACE SLOT PARALLEL TO DIRECTION OF MOVEMENT.

◪ HORIZONTAL CONSTRUCTION JOINT. POUR CONCRETE ABOVE THIS JOINT AFTER SUPERSTRUCTURE IS IN PLACE.

◩ ADJUST PAVING BLOCK HEIGHT AS NECESSARY BASED ON FIELD CONDITIONS TO MATCH ELEVATION OF ADJACENT DECK.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-53-96

DRAWN BY ZHC | PLANS CK'D KRB

STRIP SEAL EXPANSION JOINT

SHEET 12
86

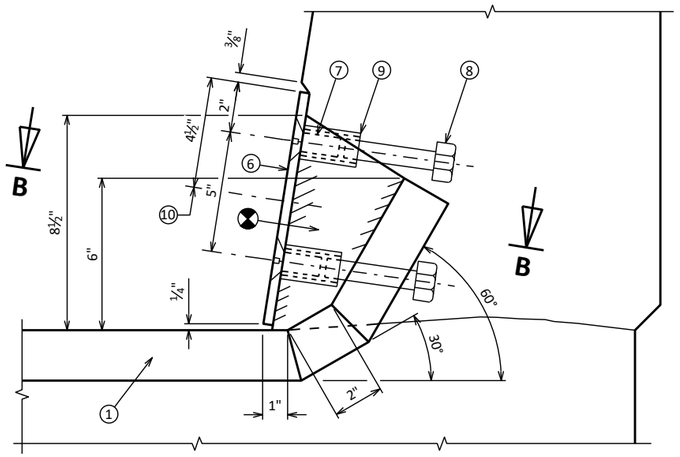
SCALE =

8

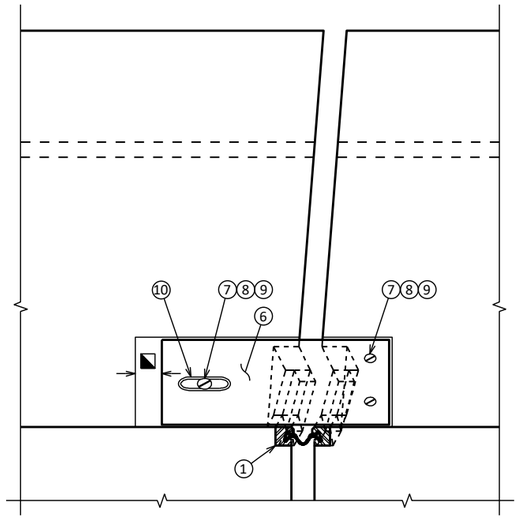
8

STATE PROJECT NUMBER

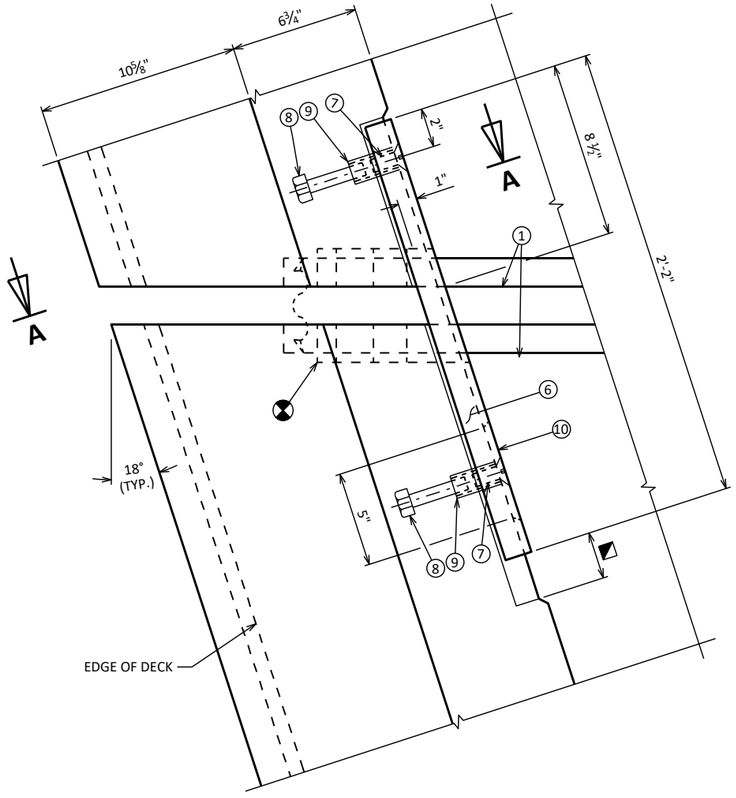
5767-00-73



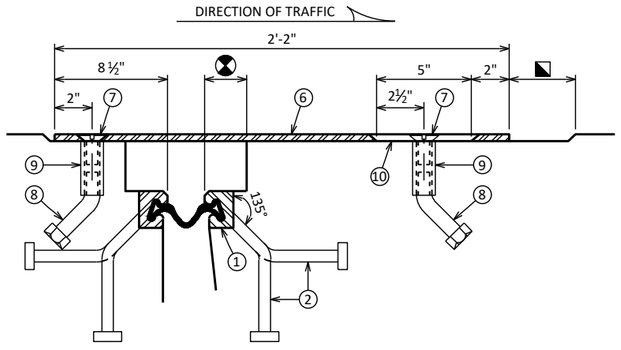
SECTION A-A



VIEW OF PARAPET PLATE FROM ROADWAY



PLAN



SECTION B-B

NOTES

SEE LEGEND ON SHEET 12.

LEGEND

BLOCK OUT CONCRETE 2" EACH SIDE OF JOINT OPENING.

JOINT OPENING DIMENSION ALONG SKEW PLUS ½".

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-53-96

DRAWN BY ZHC | PLANS CK'D KRB

COVER PLATE DETAILS

SHEET 13
87

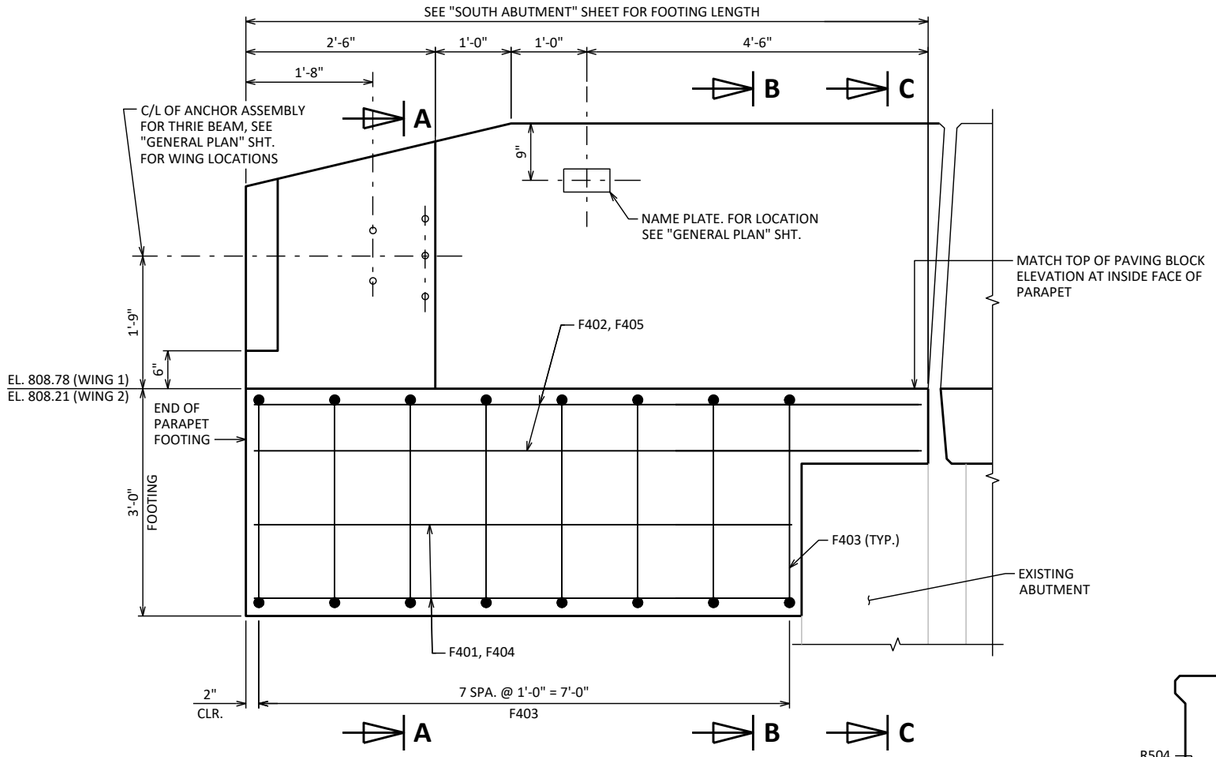
SCALE =

8

8

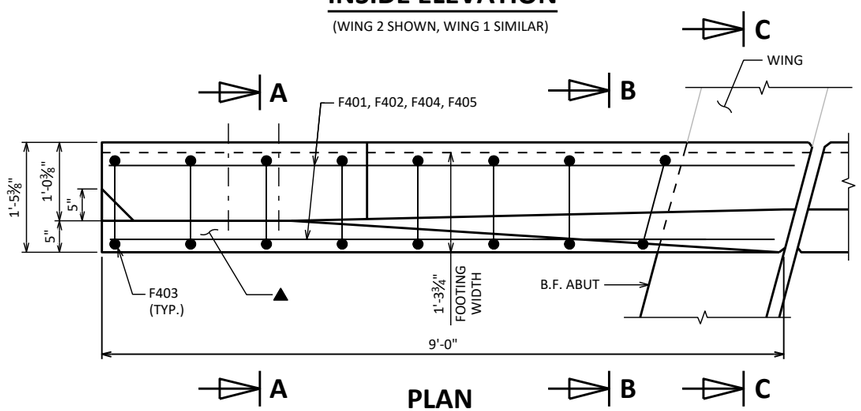
STATE PROJECT NUMBER

5767-00-73



INSIDE ELEVATION

(WING 2 SHOWN, WING 1 SIMILAR)



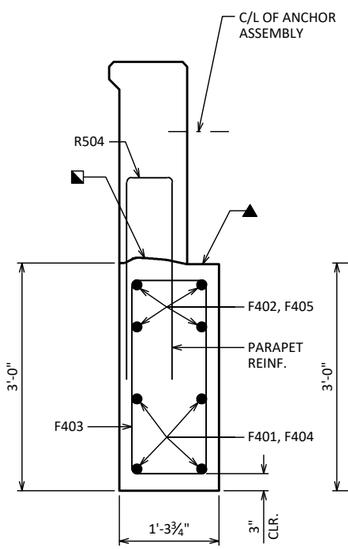
PLAN

(WING 2 SHOWN, WING 1 SIMILAR)

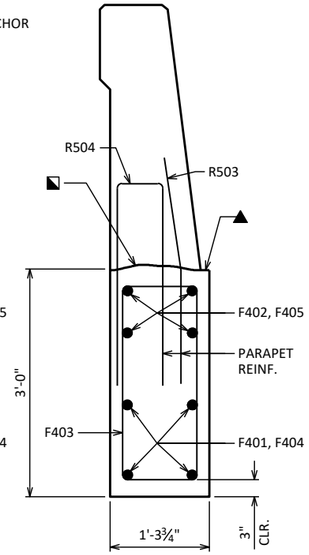
PARAPET FOOTING BILL OF BARS

COATED: 160 LBS.

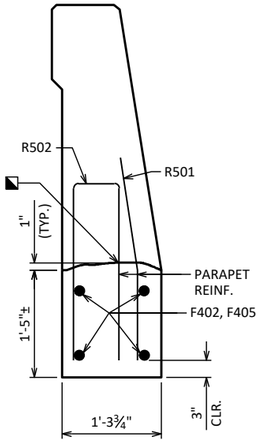
BAR MARK	NO. REQ'D	LENGTH	BENT	COAT	LOCATION
F401	4	6'-11"		X	HORIZ. - BOT. - WING 2
F402	4	8'-8"		X	HORIZ. - TOP - WING 2
F403	16	7'-6"	X	X	VERT. - STIRRUPS
F404	4	6'-6"		X	HORIZ. - BOT. - WING 1
F405	4	8'-2"		X	HORIZ. - TOP - WING 1



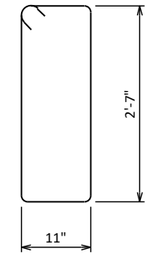
SECTION A-A



SECTION B-B



SECTION C-C



F403

NOTE

PARAPET SHOWN FOR INFORMATION ONLY. SEE "SINGLE SLOPE PARAPET 42SS" SHEETS FOR PARAPET DETAILS AND REINFORCEMENT.

LEGEND

- HORIZ. CONST. JOINT - STRIKE OFF AS SHOWN AND LEAVE ROUGH.
- ▲ FINISH SURFACE NOT COVERED BY PARAPET SAME AS ROADWAY.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-53-96

DRAWN BY ZHC | PLANS CK'D KRB

PARAPET FOOTING

SHEET 14
88

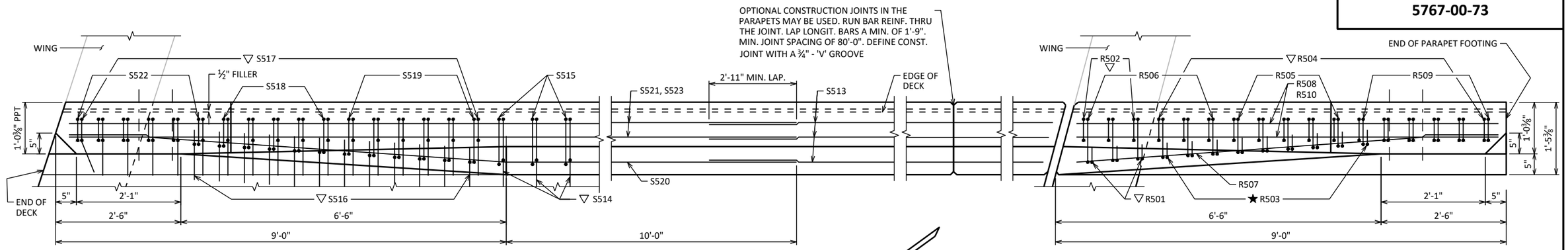
SCALE =

8

8

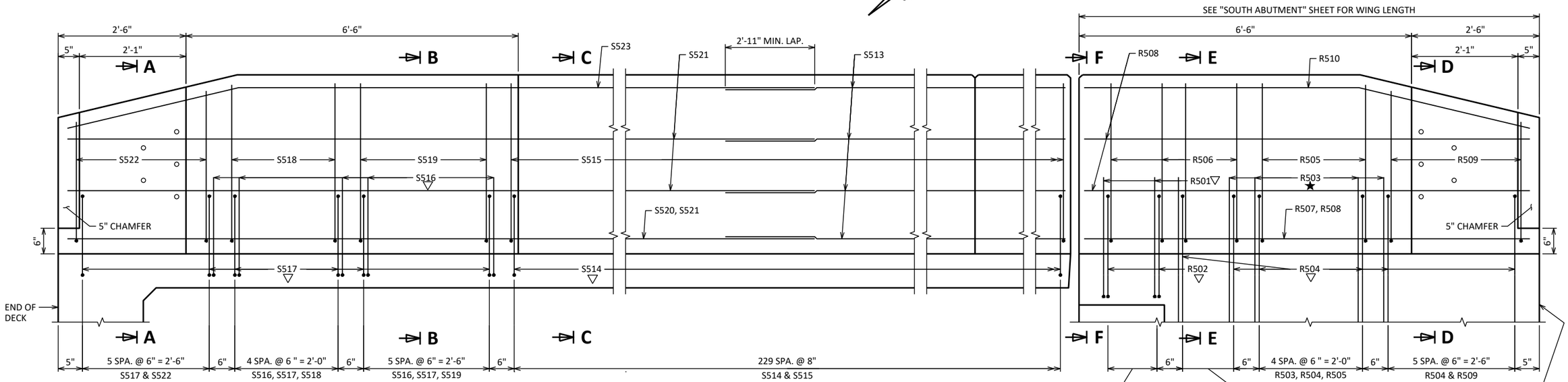
STATE PROJECT NUMBER

5767-00-73



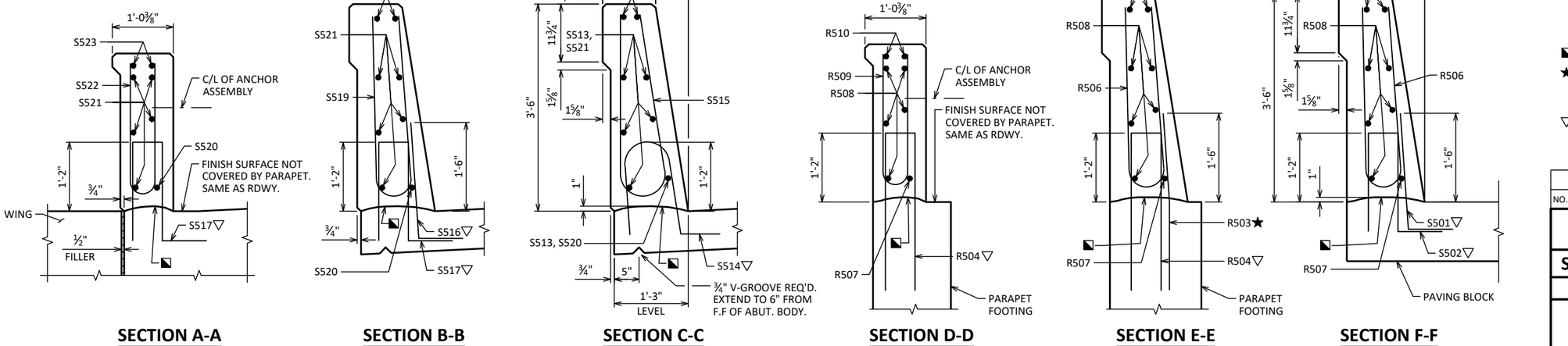
PLAN

(EAST SHOWN, WEST SIMILAR)



INSIDE ELEVATION

(EAST SHOWN, WEST SIMILAR)



NOTES

SEE SHEET 16 FOR BAR BEND DETAILS.

LEGEND

- CONST. JOINT - STRIKE OFF AS SHOWN
- ★ R503 BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. USE CARE TO PLACE BARS CORRECTLY ALONG TRANSITION OF PARAPET.
- ▽ S514, S516, AND S517 BARS TO BE TIED TO SUPERSTRUCTURE STEEL BEFORE SUPERSTRUCTURE IS POURED. R501, R502, AND R504 BARS TO BE TIED TO PARAPET FOOTING STEEL BEFORE FOOTING IS POURED.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-53-96

DRAWN BY ZHC | PLANS CK'D KRB

SINGLE SLOPE PARAPET 42SS - 1

SHEET 15
89

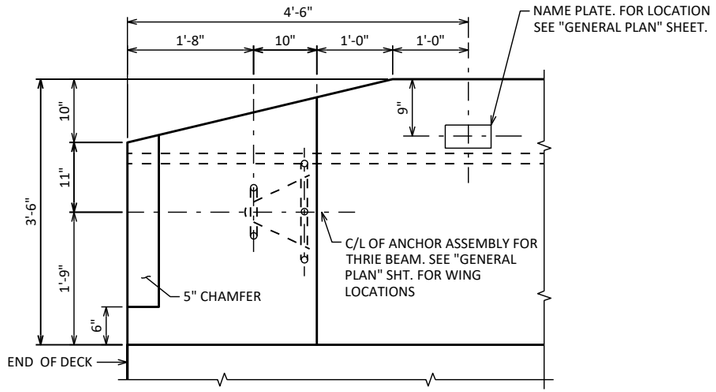
SCALE =

8

8

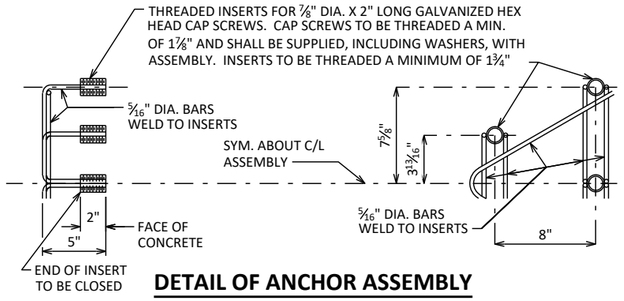
STATE PROJECT NUMBER

5767-00-73



PARAPET END TREATMENT DETAIL

LOOKING AT INSIDE FACE OF PARAPET



DETAIL OF ANCHOR ASSEMBLY

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

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

SINGLE SLOPE PARAPET 42SS
BILL OF BARS

COATED: 620 LBS.

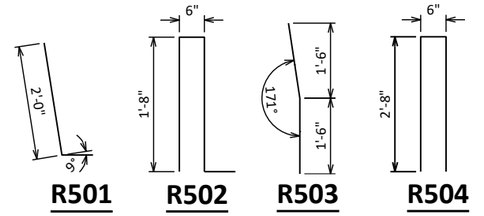
	BAR MARK	NO. REQ'D	LENGTH	BENT	COAT	LOCATION
	R501	6	2'-9"	X	X	PARAPET - VERT.
	R502	6	4'-4"	X	X	PARAPET - VERT.
	R503	18	3'-0"	X	X	PARAPET - VERT.
	R504	28	5'-7"	X	X	PARAPET - VERT.
	R505	10	6'-5"	X	X	PARAPET - VERT.
	R506	12	6'-6"	X	X	PARAPET - VERT.
	R507	2	8'-7"	X	X	PARAPET - HORIZ.
	R508	10	8'-7"		X	PARAPET - HORIZ.
*	R509	12	5'-5"	X	X	PARAPET - VERT.
	R510	4	8'-7"	X	X	PARAPET - HORIZ.

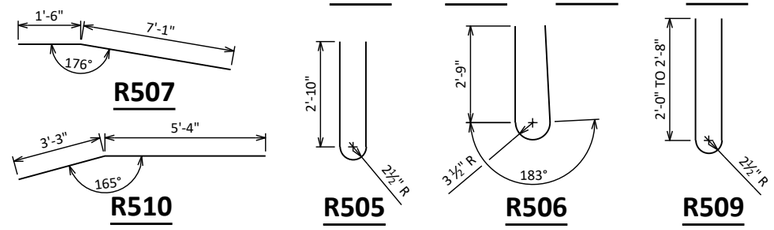
* LENGTH SHOWN FOR BAR IS AN AVERAGE AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

BAR SERIES TABLE

BUNDLE AND TAG EACH SERIES SEPARATELY.

BAR MARK	NO. REQ'D.	LENGTH
R509	2 SERIES OF 6	4'-9" TO 6'-1"





8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-53-96

DRAWN BY ZHC | PLANS CK'D KRB

SINGLE SLOPE PARAPET 42SS - 2

SHEET 16
90

SCALE =

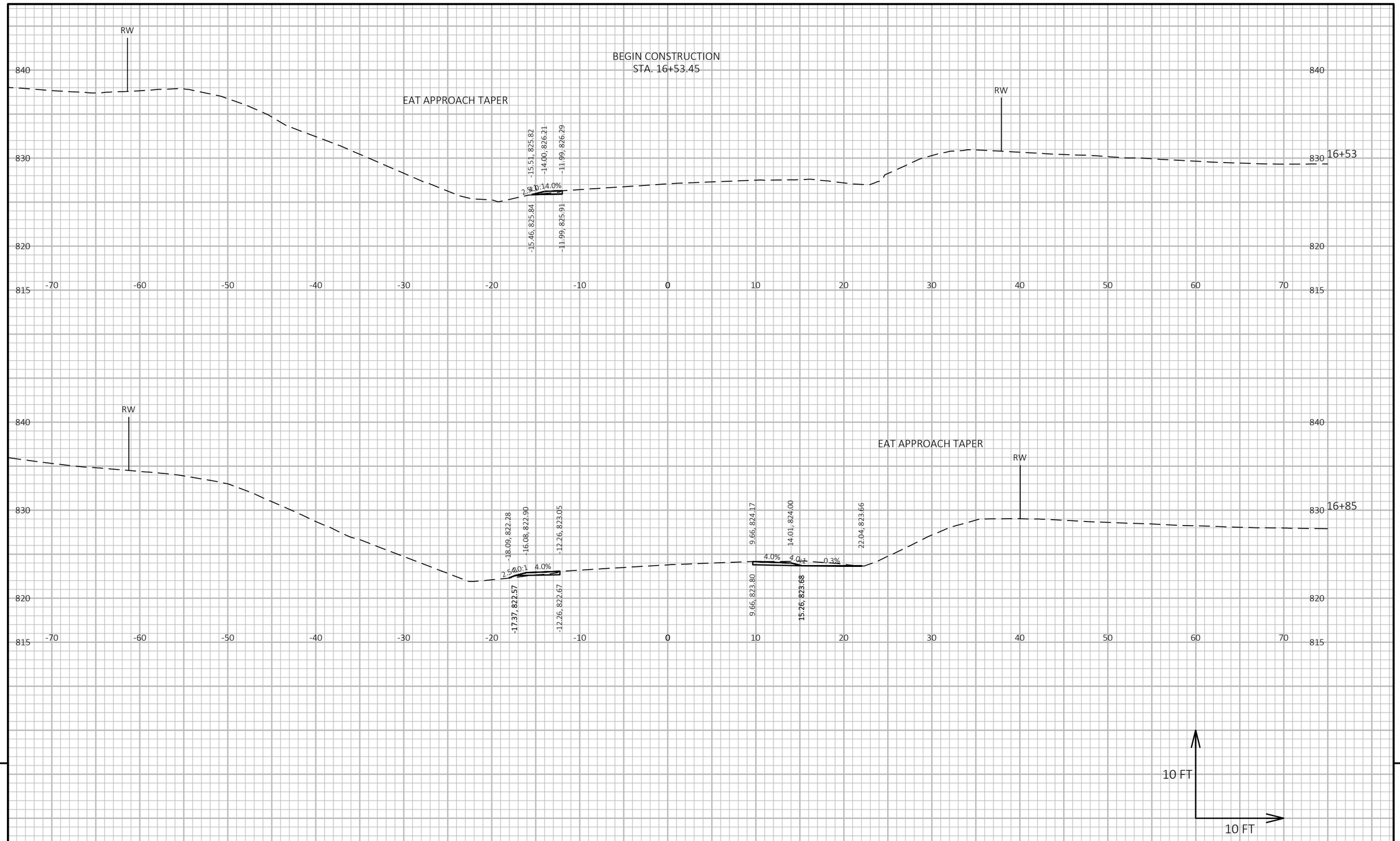
CALEDONIA ROAD		AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)			CUMULATIVE VOL (CY)		
STATION	DISTANCE	CUT NOTE 1	FILL NOTE 2	EBS (5% OF CUT)	CUT NOTE 1	FILL NOTE 2	EBS	CUT 1.00 NOTE 1	EXPANDED FILL 1.25	MASS ORDINATE NOTE 3
16+53.45	0.0	0.4	0.0	0.0	0	0	0	0	0	0
16+85.40	32.0	4.8	0.3	0.2	3	0	0	3	0	3
17+00.00	14.6	5.1	0.3	0.3	3	0	0	6	0	6
17+15.50	15.5	40.2	1.2	2.0	13	0	1	19	0	19
17+50.00	34.5	54.7	0.4	2.7	61	1	3	80	1	79
17+64.75	14.8	93.8	0.2	4.7	41	0	2	121	1	120
17+72.94	8.2	99.2	0.4	5.0	29	0	1	150	1	149
17+89.01	16.1	86.8	0.4	4.3	55	0	3	205	1	204
17+98.20	9.2	85.0	0.2	4.3	29	0	1	234	1	233
18+00.00	1.8	85.4	0.0	4.3	6	0	0	240	1	239
18+14.00	14.0	75.0	1.4	3.7	42	0	2	282	1	281
18+23.18	9.2	57.9	0.9	2.9	23	0	1	305	1	304
18+50.00	26.8	35.1	0.3	1.8	46	1	2	351	3	349
18+72.91	22.9	35.1	0.3	1.8	46	1	2	397	4	393
20+26.59	---	44.3	17.7	2.2	0	0	0	397	4	393
20+50.00	23.4	44.3	17.7	2.2	38	15	2	435	23	413
20+61.41	11.4	48.0	23.1	2.4	19	9	1	454	34	420
20+65.02	3.6	48.6	24.3	2.4	6	3	0	460	38	423
20+74.11	9.1	49.8	22.2	2.5	17	8	1	477	48	430
20+90.00	15.9	51.0	11.4	2.5	30	10	1	507	60	447
20+99.00	9.0	52.3	14.1	2.6	17	4	1	524	65	459
21+00.00	1.0	51.9	14.6	2.6	2	1	0	526	66	460
21+15.01	15.0	56.9	4.3	2.8	30	5	2	556	73	484
21+24.09	9.1	54.9	3.2	2.7	19	1	1	575	74	501
21+50.00	25.9	46.2	5.0	2.3	49	4	2	624	79	545
21+74.08	24.1	31.6	1.4	1.6	35	3	2	659	83	577
22+00.00	25.9	5.3	0.1	0.3	18	1	1	677	84	593
22+32.00	32.0	7.4	0.0	0.4	8	0	0	685	84	601
22+40.08	8.1	9.5	0.0	0.5	3	0	0	688	84	604
			COLUMN TOTALS		688	67	32			

NOTES:

1) CUT: CUT INCLUDES SALVAGED PAVEMENT MATERIAL

2) FILL: FILL DOES NOT INCLUDE SALVAGED/UNUSABLE PAVEMENT MATERIAL

3) MASS ORDINATE: MASS ORDINATE = (CUT) - (FILL * FILL FACTOR)



9

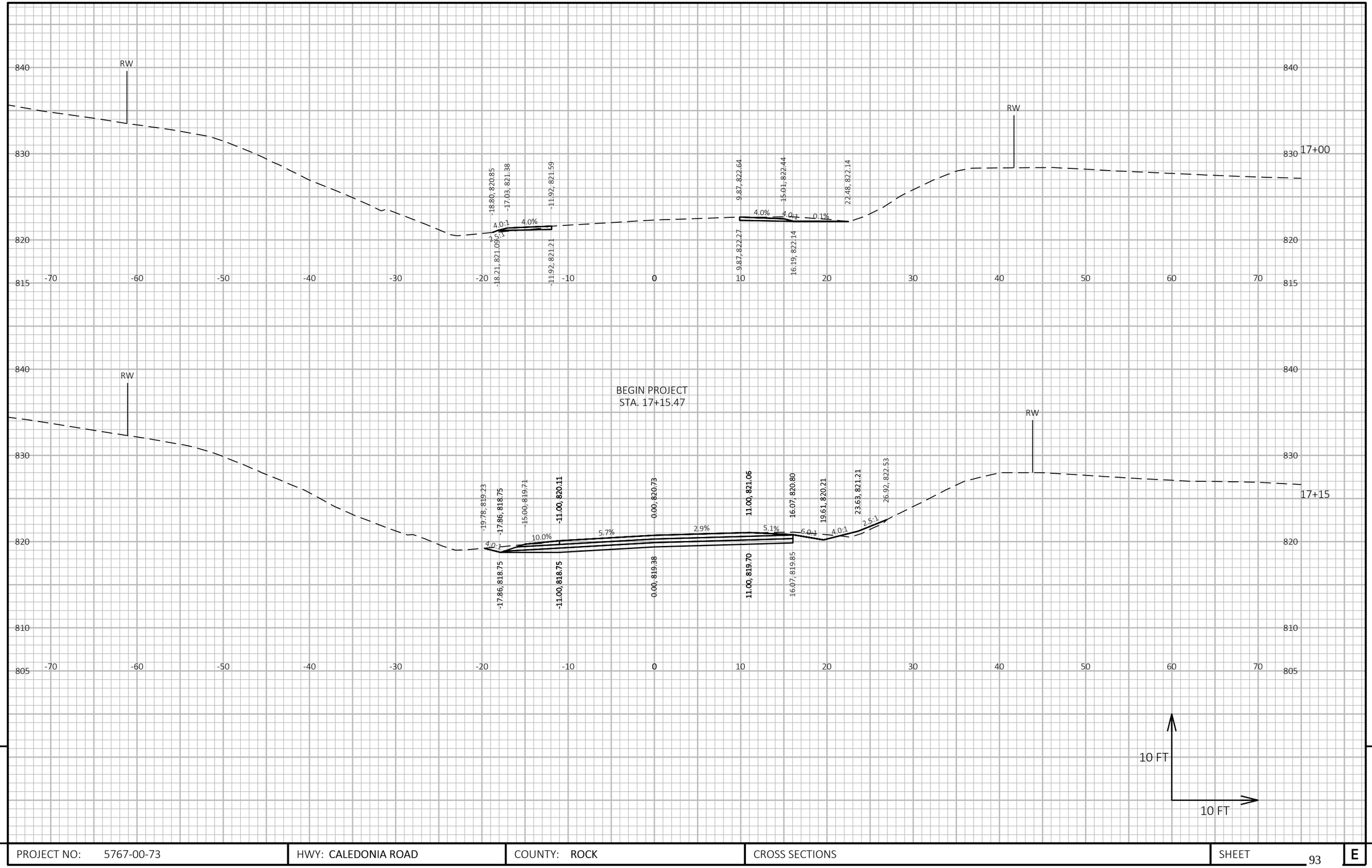
9

PROJECT NO: 5767-00-73	HWY: CALEDONIA ROAD	COUNTY: ROCK	CROSS SECTIONS	SHEET 92	E

FILE NAME : S:\MAD\1200--1299\1288\001\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090201-xs

PLOT DATE : 9/12/2024 11:13 AM PLOT BY : JURECZEK, JESSIE PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



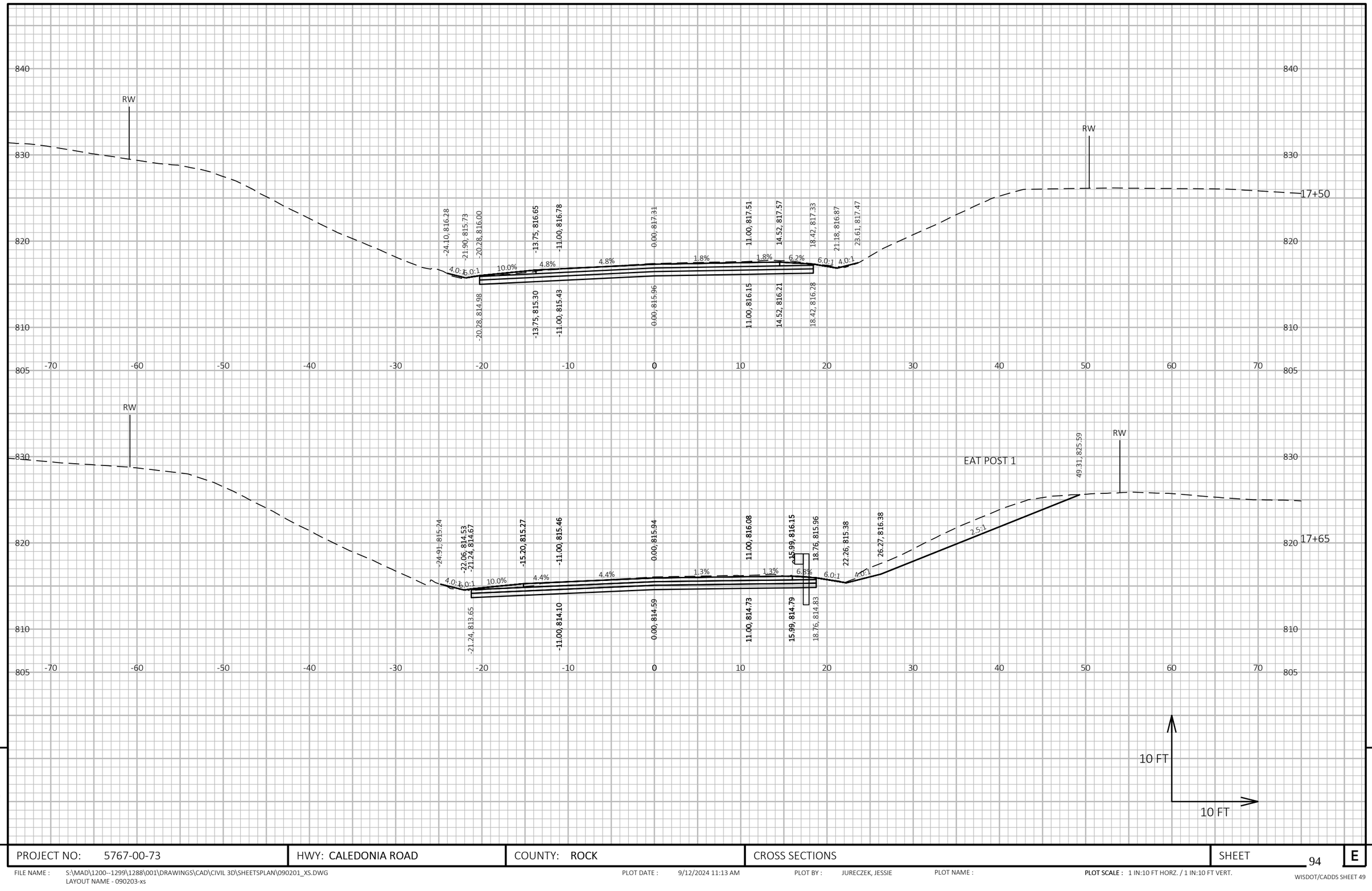
9

9

PROJECT NO: 5767-00-73	HWY: CALEDONIA ROAD	COUNTY: ROCK	CROSS SECTIONS	SHEET 93	E

FILE NAME : S:\MAD\1200--1299\1288\001\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090202-xs

PLOT DATE : 9/12/2024 11:13 AM PLOT BY : JURECZEK, JESSIE PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



9

9

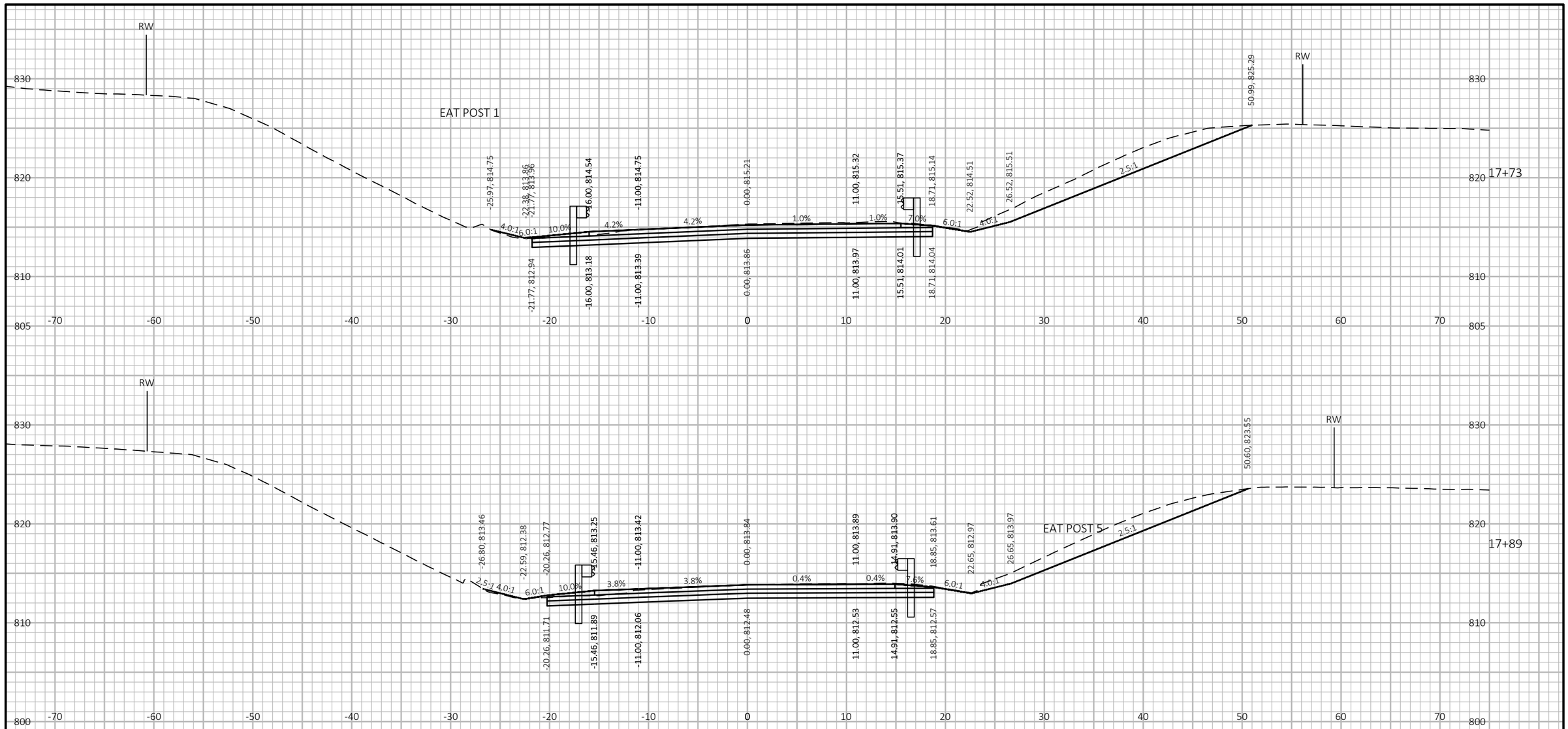
PROJECT NO: 5767-00-73	HWY: CALEDONIA ROAD	COUNTY: ROCK	CROSS SECTIONS	SHEET 94	E

FILE NAME : S:\MAD\1200--1299\1288\001\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090203-xs

PLOT DATE : 9/12/2024 11:13 AM PLOT BY : JURECZEK, JESSIE PLOT NAME :

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

WISDOT/CADDS SHEET 49



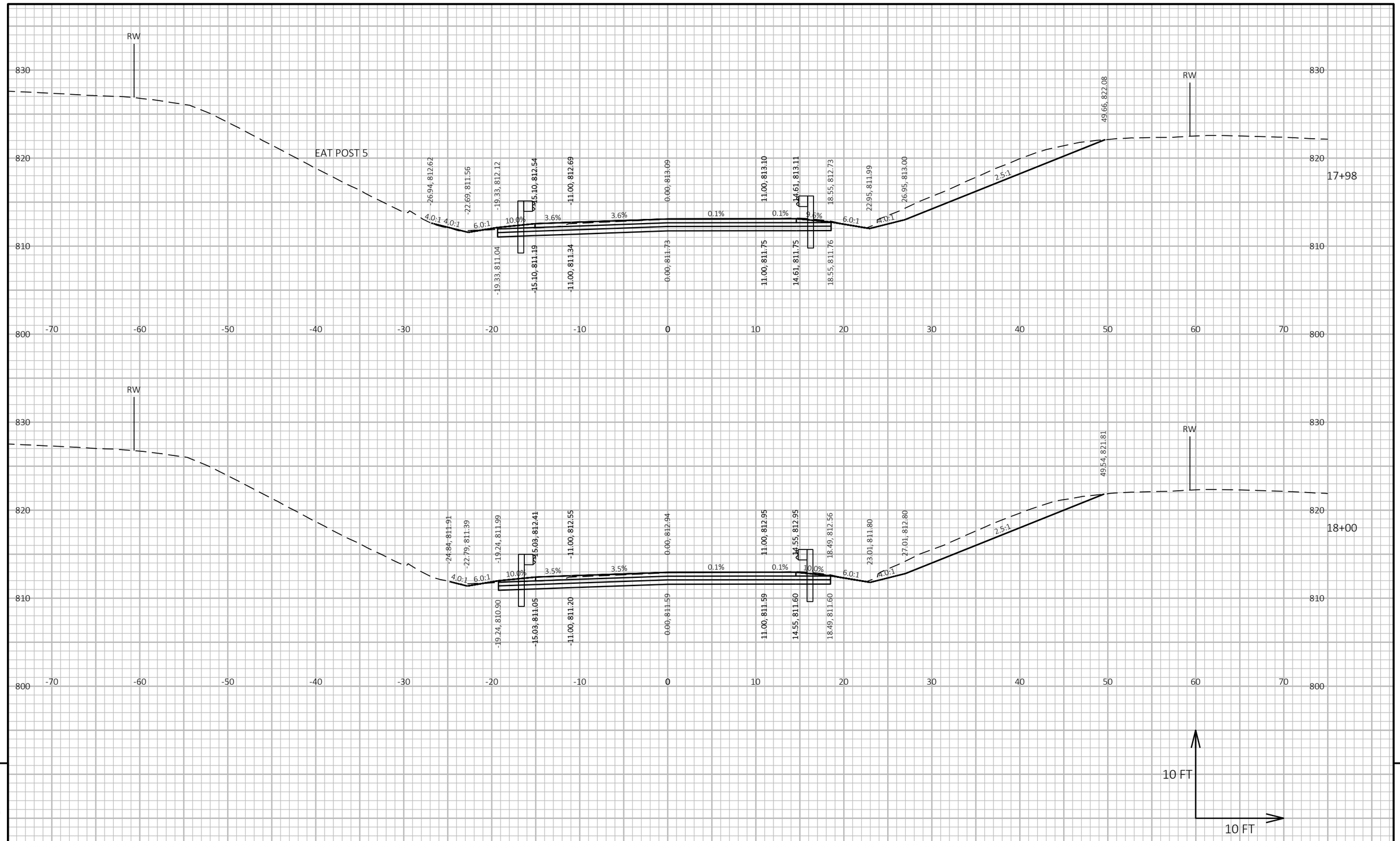
PROJECT NO: 5767-00-73	HWY: CALEDONIA ROAD	COUNTY: ROCK	CROSS SECTIONS	SHEET 95	E

FILE NAME : S:\MAD\1200--1299\1288\001\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090204-xs

PLOT DATE : 9/12/2024 11:13 AM PLOT BY : JURECZEK, JESSIE PLOT NAME :

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

WISDOT/CADDS SHEET 49



9

9

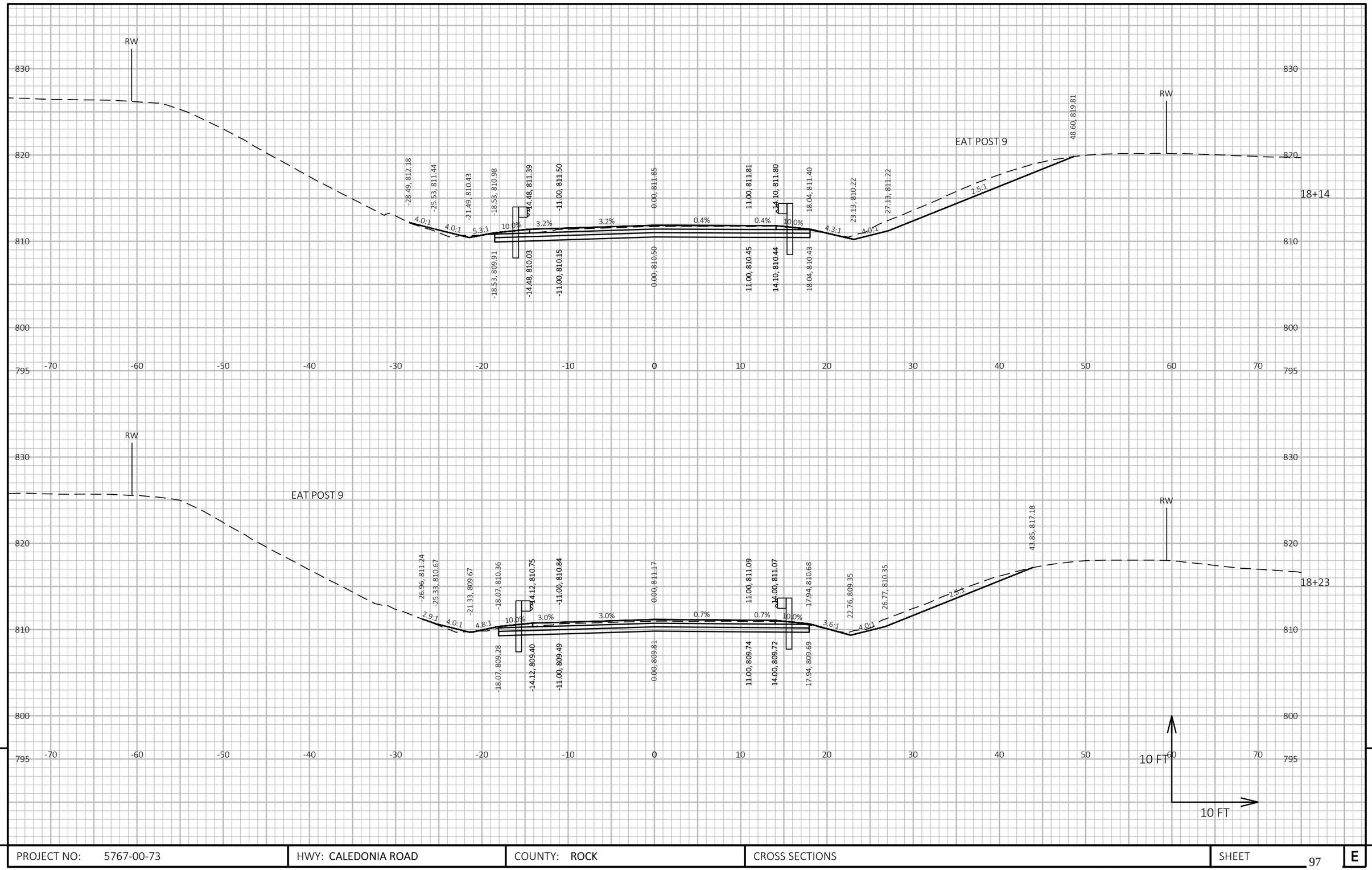
PROJECT NO: 5767-00-73	HWY: CALEDONIA ROAD	COUNTY: ROCK	CROSS SECTIONS	SHEET 96	E

FILE NAME : S:\MAD\1200--1299\1288\001\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090205-xs

PLOT DATE : 9/12/2024 11:13 AM PLOT BY : JURECZEK, JESSIE PLOT NAME :

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

WISDOT/CADDS SHEET 49



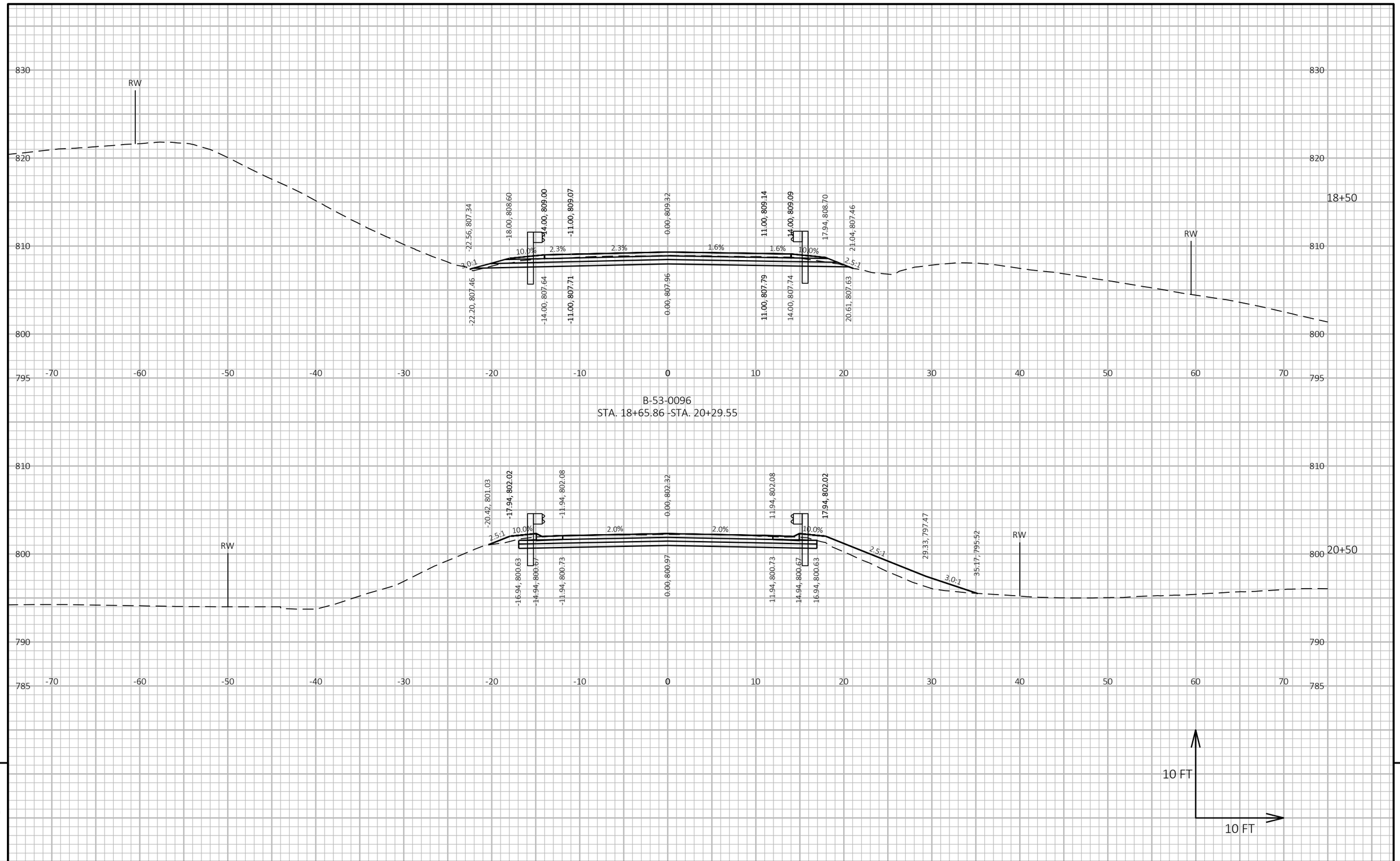
9

9

PROJECT NO: 5767-00-73	HWY: CALEDONIA ROAD	COUNTY: ROCK	CROSS SECTIONS	SHEET 97	E

FILE NAME : S:\MAD\1200--1299\1288\001\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090206-xs

PLOT DATE : 9/12/2024 11:13 AM PLOT BY : JURECZEK, JESSIE PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



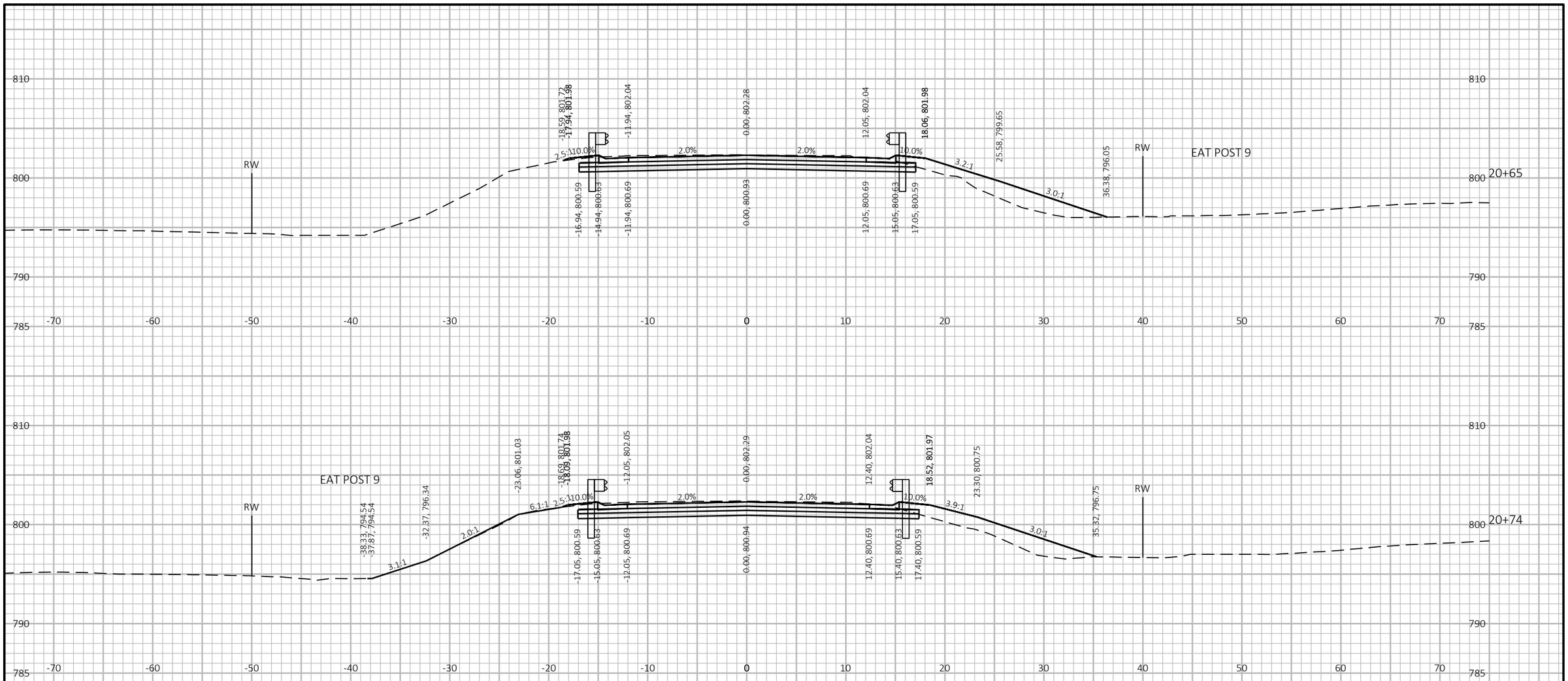
9

9

PROJECT NO: 5767-00-73	HWY: CALEDONIA ROAD	COUNTY: ROCK	CROSS SECTIONS	SHEET 98	E

FILE NAME : S:\MAD\1200--1299\1288\001\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090207-xs

PLOT DATE : 9/12/2024 11:13 AM PLOT BY : JURECZEK, JESSIE PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



9

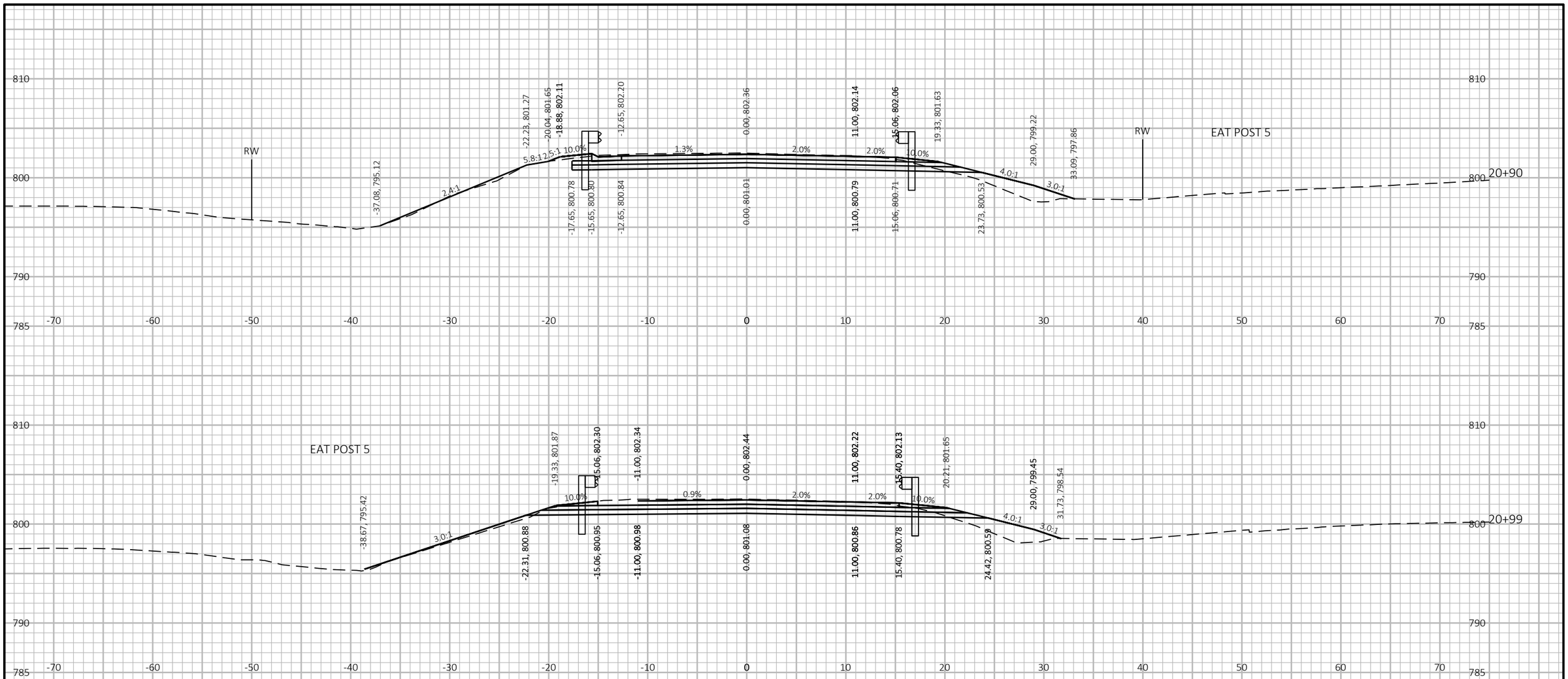
9

PROJECT NO: 5767-00-73	HWY: CALEDONIA ROAD	COUNTY: ROCK	CROSS SECTIONS	SHEET 99	E

FILE NAME : S:\MAD\1200--1299\1288\001\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090208-xs

PLOT DATE : 9/12/2024 11:13 AM PLOT BY : JURECZEK, JESSIE PLOT NAME :

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

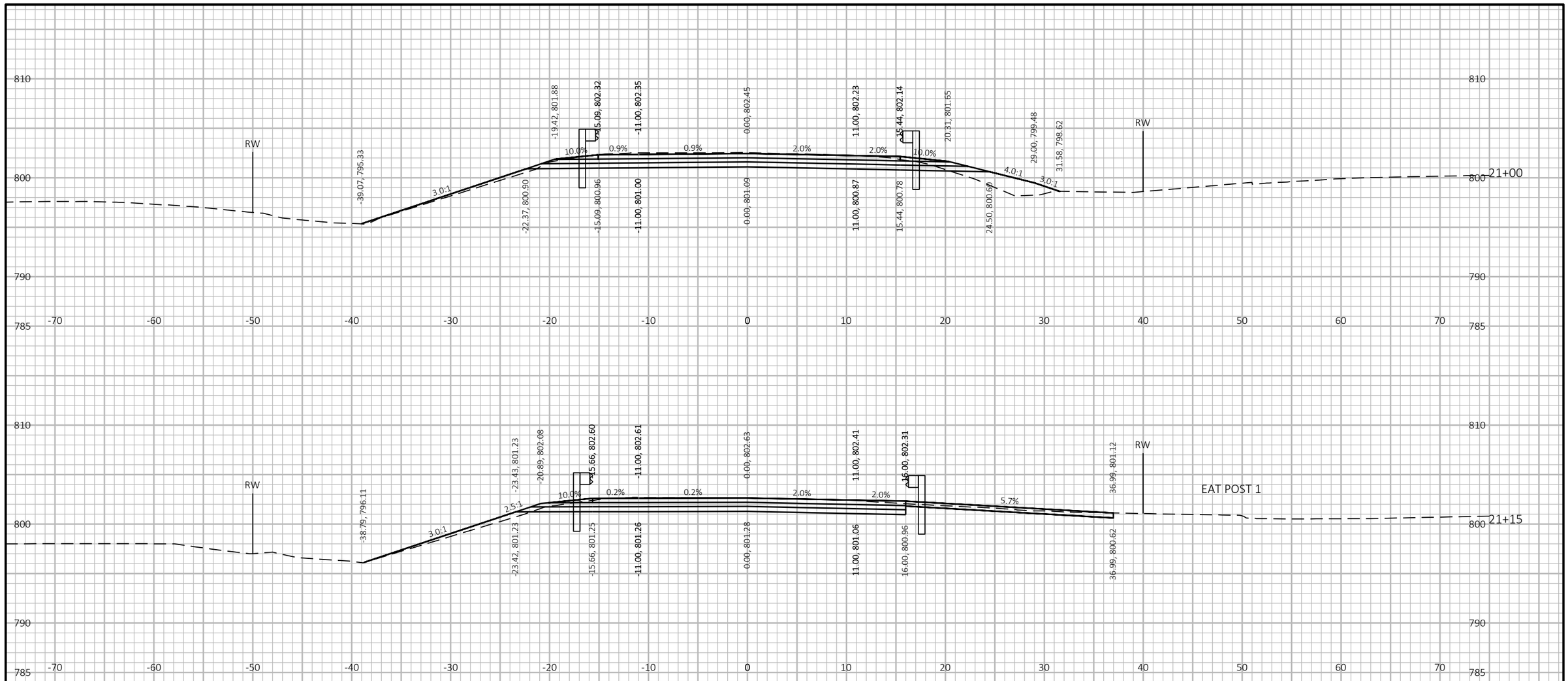


PROJECT NO: 5767-00-73	HWY: CALEDONIA ROAD	COUNTY: ROCK	CROSS SECTIONS	SHEET 100	E

FILE NAME : S:\MAD\1200--1299\1288\001\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090209-xs

PLOT DATE : 9/12/2024 11:13 AM PLOT BY : JURECZEK, JESSIE PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

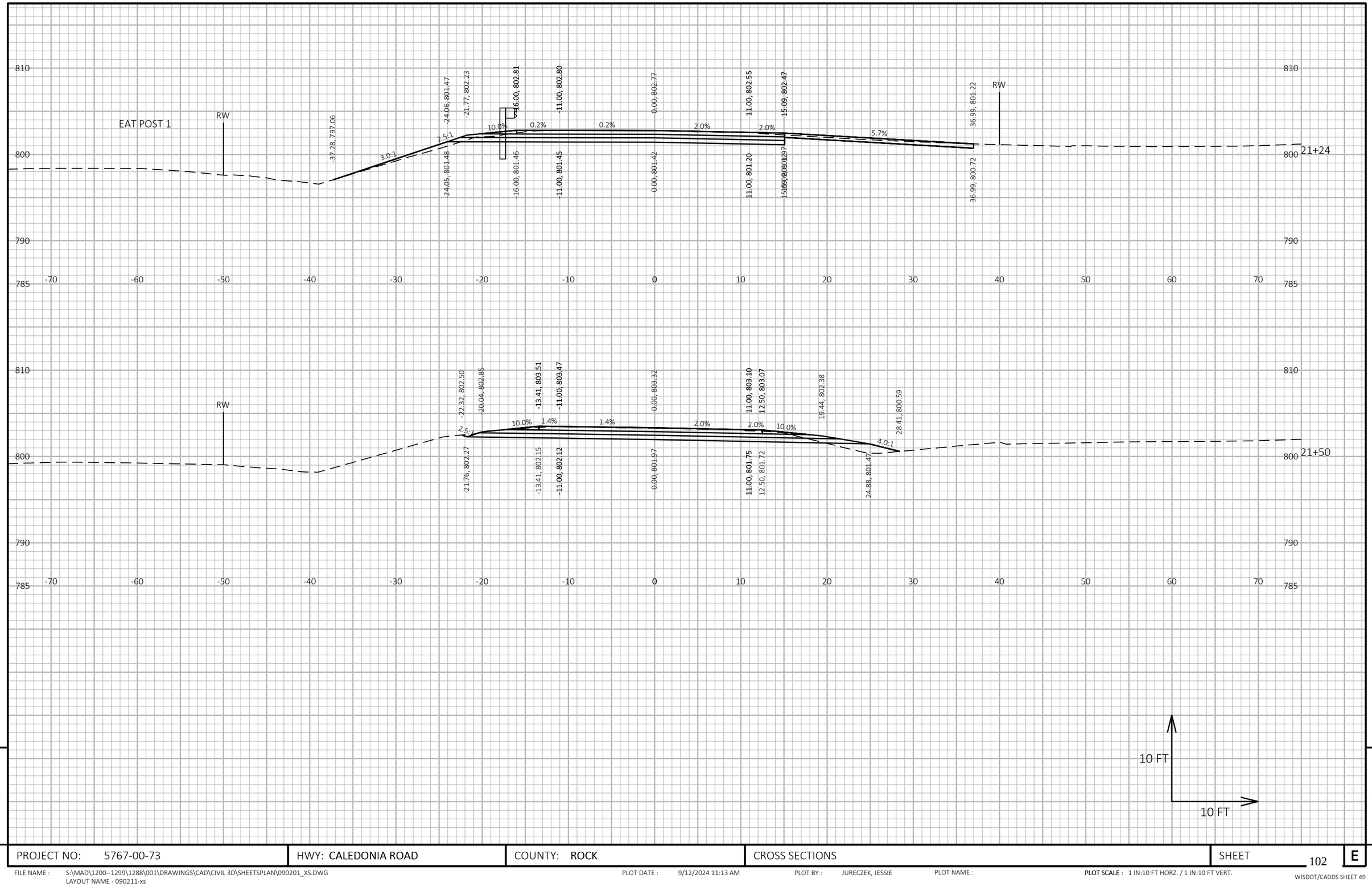
9

PROJECT NO: 5767-00-73	HWY: CALEDONIA ROAD	COUNTY: ROCK	CROSS SECTIONS	SHEET 101	E

FILE NAME : S:\MAD\1200--1299\1288\001\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090210-xs

PLOT DATE : 9/12/2024 11:13 AM PLOT BY : JURECZEK, JESSIE PLOT NAME :

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

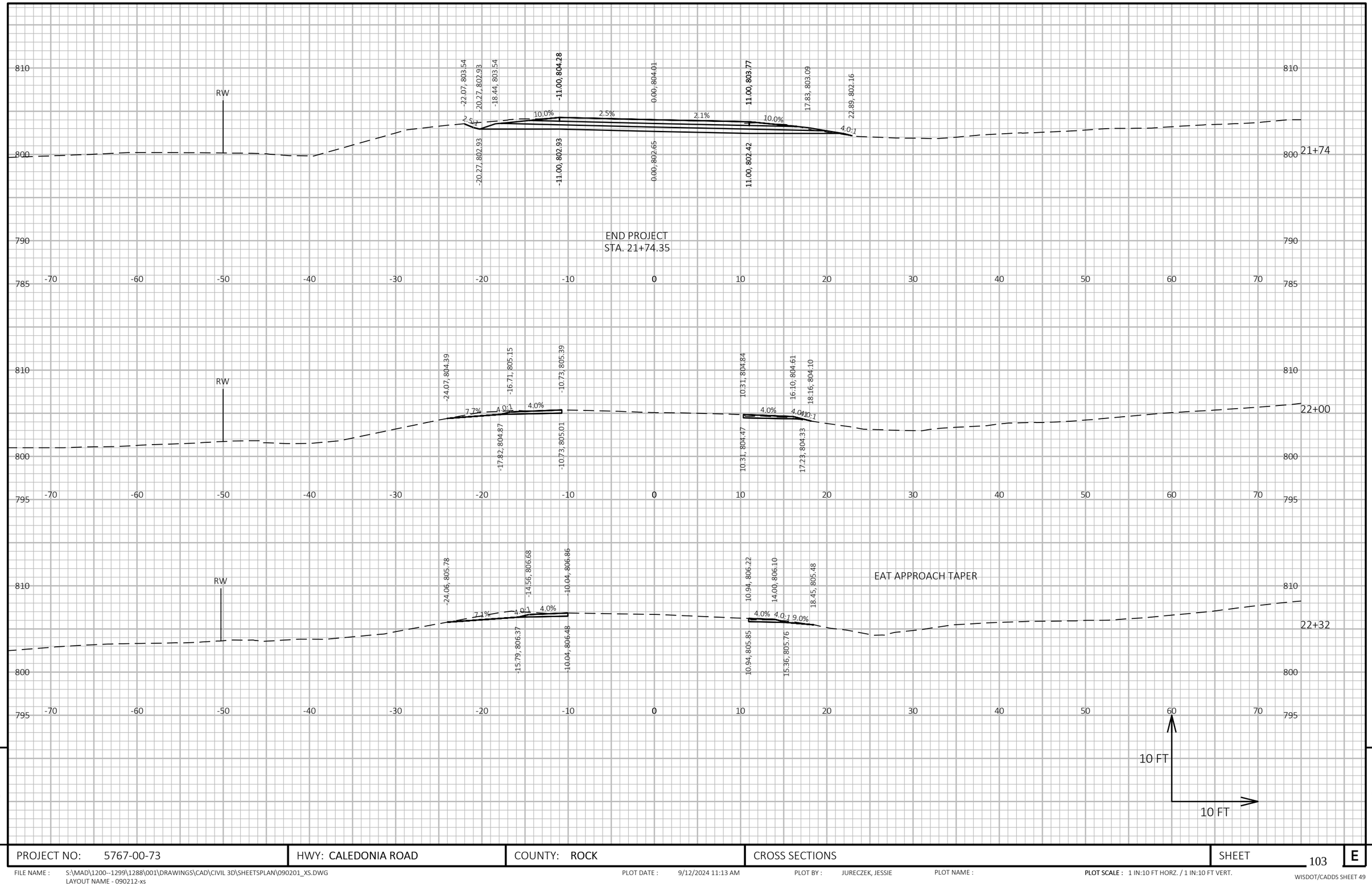


PROJECT NO: 5767-00-73	HWY: CALEDONIA ROAD	COUNTY: ROCK	CROSS SECTIONS	SHEET 102	E

FILE NAME : S:\MAD\1200--1299\1288\001\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090211-xs

PLOT DATE : 9/12/2024 11:13 AM PLOT BY : JURECZEK, JESSIE PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

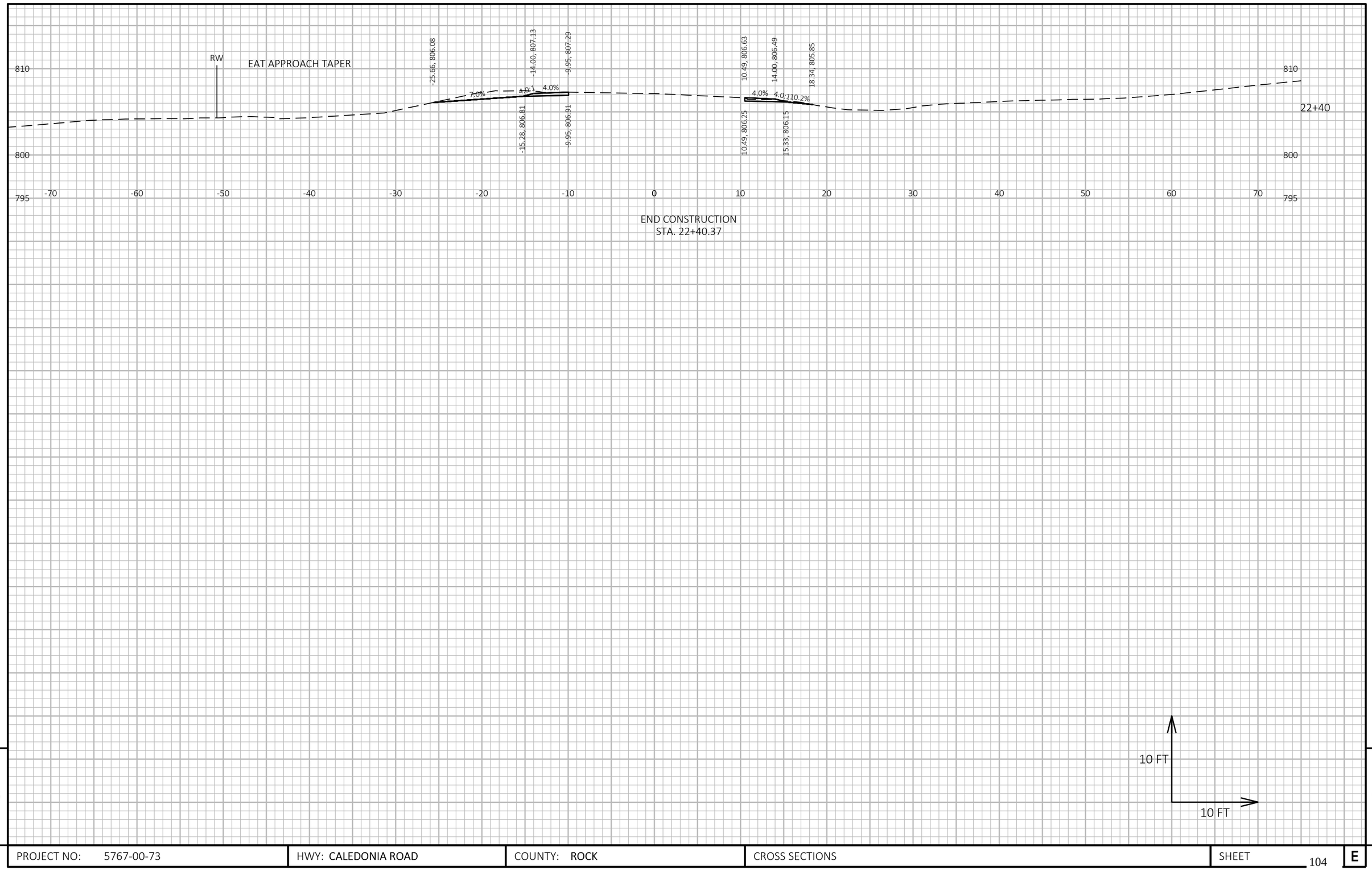


PROJECT NO: 5767-00-73	HWY: CALEDONIA ROAD	COUNTY: ROCK	CROSS SECTIONS	SHEET 103	E

FILE NAME : S:\MAD\1200--1299\1288\001\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090212-xs

PLOT DATE : 9/12/2024 11:13 AM PLOT BY : JURECZEK, JESSIE PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



PROJECT NO: 5767-00-73	HWY: CALEDONIA ROAD	COUNTY: ROCK	CROSS SECTIONS	SHEET 104	E

FILE NAME : S:\MAD\1200--1299\1288\001\DRAWINGS\CAD\CIVIL 3D\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090213-xs

PLOT DATE : 9/12/2024 11:13 AM PLOT BY : JURECZEK, JESSIE 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