MAD

DECEMBER 2023

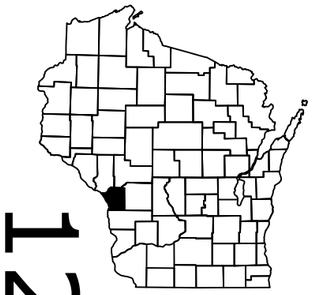
PROJECT ID: 7323-00-71

WITH: N/A

COUNTY: LA CROSSE

ORDER OF SHEETS

TOTAL SHEETS = 112



12

N

DESIGN DESIGNATION 7323-00-01

A.A.D.T.	2024	=	2051
A.A.D.T.	2044	=	2266
D.H.V.		=	___
D.D.		=	___
T.		=	17.4%
DESIGN SPEED		=	45 MPH
ESALS		=	518,300

CONVENTIONAL SYMBOLS

PLAN

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

PROFILE

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

UTILITIES

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

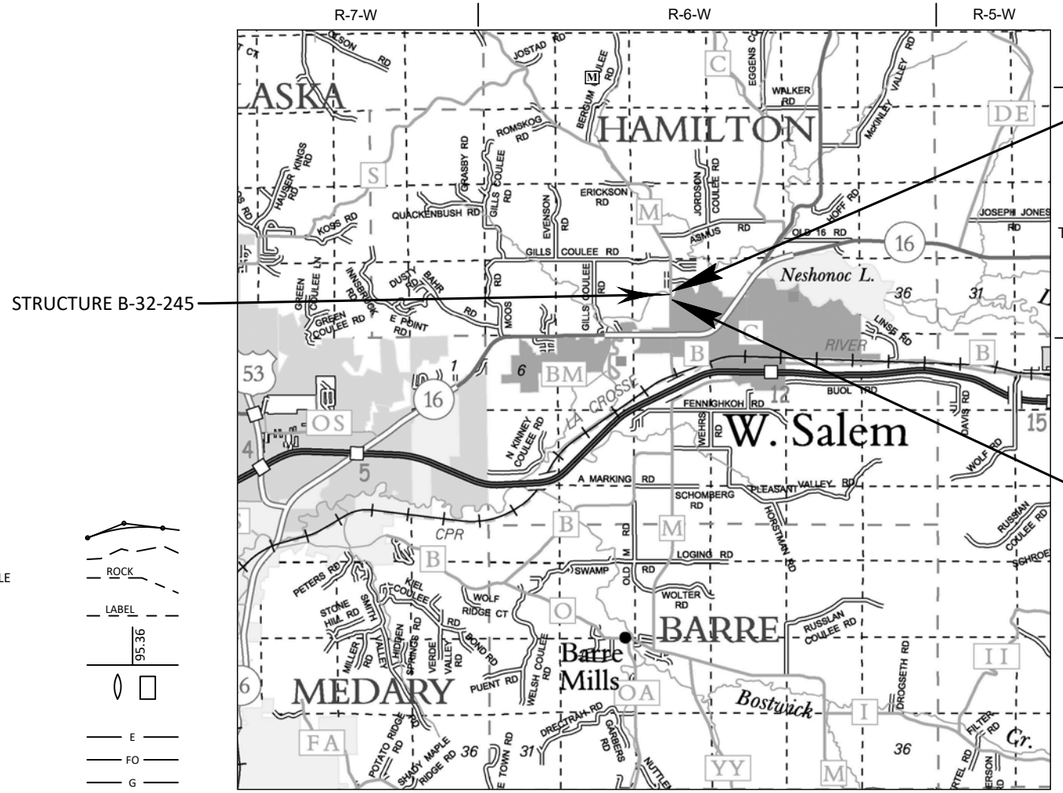
STH 16 - CTH S

LA CROSSE RIVER BRIDGE, B-32-0245

CTH M

LA CROSSE COUNTY

STATE PROJECT NUMBER
7323-00-71



END PROJECT
STA 31+16

T-17-N

STRUCTURE B-32-245

BEGIN PROJECT
STA 24+30
Y= 165,802.799
X= 484,730.622

T-16-N

LAYOUT

SCALE 0 2.0 MI

TOTAL NET LENGTH OF CENTERLINE = 0.130 MI

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COORDINATE REFERENCE SYSTEM (WISCRS), LACROSSE COUNTY, NAD83 (2011), IN U.S. SURVEY FEET. POSITIONS SHOWN ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES ARE THE SAME AS GROUND DISTANCES. ELEVATIONS ARE REFERENCED TO NAVD 88 (2012). GPS DERIVED ELEVATIONS ARE BASED ON GEOID 12A.

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
7323-00-71	WISC 2024058	1

ACCEPTED FOR

COUNTY OF LA CROSSE

6-27-23 (Date) (Highway Commissioner Signature)

ORIGINAL PLANS PREPARED BY

SEH
Building a Better World for All of Us

Short Elliott Hendrickson Inc.
329 Jay Street, Suite 301
La Crosse, WI 54601-4007
608.782.3161 main |
888.908.8166 fax
www.sehinc.com

WISCONSIN PROFESSIONAL ENGINEER
CHRISTOPHER J. BLUM
E-33157
MADISON, WI

6-27-2023 (Date) (Signature)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	SEH
Designer	SEH
Project Manager	JENNIFER KOBRYN
Regional Examiner	SW REGION
Regional Supervisor	KYLE HEMP

APPROVED FOR THE DEPARTMENT

DATE: 7-19-23 (Signature)

E

STANDARD ABBREVIATIONS

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

RUNOFF COEFFICIENT TABLE

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

TOTAL PROJECT AREA = 1.3 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 1.3 ACRES

WISDOT CONTACT:

WISCONSIN DEPT OF TRANSPORTATION
SOUTHWEST REGION
2101 WRIGHT STREET
MADISON, WI 53704
TELEPHONE: 608.977.1467
ATTENTION: JENNIFER KOBRYN, P.E.
LOCAL PROGRAM PROJECT MANAGER
EMAIL: JENNIFER.KOBRYN@DOT.WI.GOV

DNR AREA LIAISON:

WI DEPT OF NATURAL RESOURCES
DNR SERVICE CENTER
3550 MORMON COULEE RD
LA CROSSE, WI 54601
TELEPHONE: 608.785.9115
ATTENTION: KAREN KALVELAGE
EMAIL: KAREN.KALVELAGE@WISCONSIN.GOV

UTILITY CONTACT LIST:

CHARTER - COMMUNICATION LINE
1228 12th AVENUE SOUTH
ONALASKA, WI 54650
ATTENTION: PERRY MCCLELLAN
TELEPHONE: 608.317.6213
EMAIL: PERRY.MCCLELLAN@CHARTER.COM

BRIGHTSPEED - COMMUNICATION LINE
130 FOURTH STREET
BARABOO, WI 53913
ATTENTION: BRIAN STELPLUGH
TELEPHONE: 608.780.1238
EMAIL: BRIAN.STELPLUGH@BRIGHTSPEED.COM

MIDWEST NATURAL GAS - GAS
3600 STATE HIGHWAY 157 P.O. BOX 429
BARABOO, WI 54602
ATTENTION: RYAN LONGMORE
TELEPHONE: 608.790.3546
EMAIL: RYANL@MIDWESTNATURALGAS.COM

WE ENERGIES - GAS
1921 8th STREET SOUTH
WISCONSIN RAPIDS, WI 54494
ATTENTION: TRAVIS KAHL
TELEPHONE: 715.498.6180
EMAIL: TRAVIS.KAHL@WE-ENERGIES.COM

XCEL ENERGY - ELECTRICITY
3215 COMMERCE STREET
LA CROSSE, WI 54603
ATTENTION: JASON MCROBERTS
TELEPHONE: 608.789.3689
EMAIL: JASON.I.MCROBERTS@XCELENERGY.COM

LCHD CONTACT:

LA CROSSE COUNTY HIGHWAY DEPARTMENT
301 CARLSON ROAD
WEST SALEM WI 54669
TELEPHONE: 608.786.3817
ATTENTION: JOE LANGEBERG
HIGHWAY COMMISSIONER
EMAIL: JLANGEBERG@LACROSSECOUNTY.ORG

DESIGN CONTACT:

SEH INC.
329 JAY STREET, SUITE 301
LA CROSSE, WI 54601
TELEPHONE: 608.620.6192
ATTENTION: CHRIS BLUM, P.E.
PROJECT MANAGER
EMAIL: CBLUM@SEHINC.COM

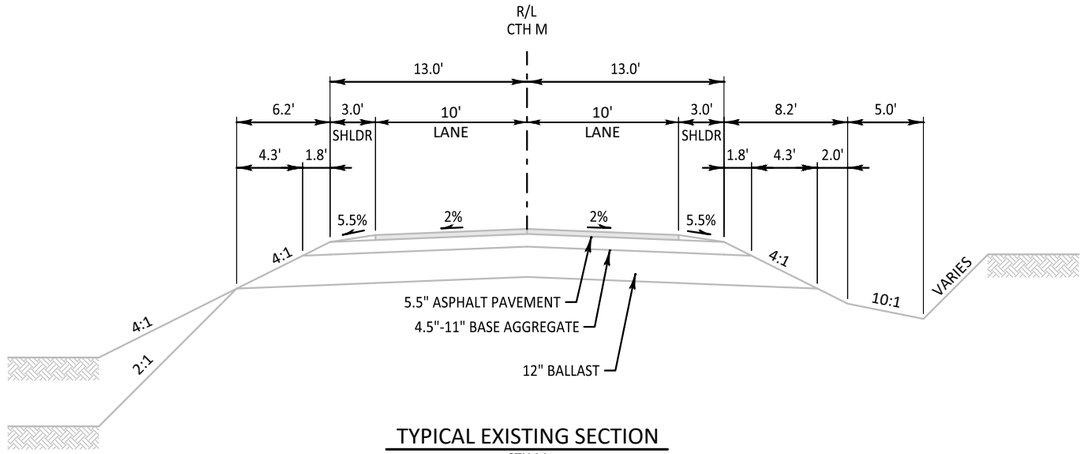
DIGGERS HOTLINE
Dial 811 or (800)242-8511
www.DiggersHotline.com

GENERAL NOTES:

1. NO TREES OR SHRUBS SHALL BE REMOVED WITHOUT APPROVAL OF THE ENGINEER.
2. 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.
3. THE CONTRACTOR SHALL NOTIFY DIGGERS HOTLINE AND AFFECTED UTILITIES PRIOR TO THE START OF WORK. ANY LOCAL MUNICIPAL UTILITY WHICH IS NOT A MEMBER OF THE DIGGERS HOTLINE MUST BE CONTACTED SEPARATELY.
4. PRIOR TO ORDERING DRAINAGE PIPES AND STRUCTURES, THE CONTRACTOR SHALL VERIFY RELATED DRAINAGE INFORMATION IN THE PLANS WITH THE ENGINEER.
5. JOINT TIES ARE REQUIRED AT ALL UPSTREAM AND DOWNSTREAM CONCRETE CULVERT AND STORM SEWER INSTALLATIONS. TIE THE LAST 3 PIPE JOINTS OR, IF USING APRON ENDWALL, THE ENDWALL JOINT AND THE NEXT 2 PIPE JOINTS.
6. INLET AND DISCHARGE ELEVATIONS FOR DRAINAGE STRUCTURES SHOWN ON THE PLAN MAY BE ADJUSTED BY THE ENGINEER TO FIT FIELD CONDITIONS.
7. WATERWAYS AND OTHER ENVIRONMENTALLY SENSITIVE AREAS SHALL BE PROTECTED AT ALL TIMES. DO NOT STORE EQUIPMENT OR MATERIALS NEAR THESE SITES UNLESS APPROVED BY THE ENGINEER.
8. BROKEN CONCRETE CONTAINING RE-BAR SHALL NOT BE USED AS RIPRAP.
9. CROSS SECTIONS SHOWN INCLUDE THE THICKNESS OF SALVAGED TOPSOIL WHERE REQUIRED. SALVAGED TOPSOIL SHALL BE REPLACED WITH 4-INCH TYPICAL DEPTH.
10. TRAFFIC CONTROL DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.
11. REMOVAL OF EROSION CONTROL DEVICES IS INCLUDED IN THE COST OF THEIR RESPECTIVE BID ITEMS.
12. THE EROSION CONTROL FEATURES AS SHOWN IN THE PLANS ARE AT SUGGESTED LOCATIONS. EXACT LOCATIONS WILL BE DETERMINED BY THE ENGINEER IN THE FIELD.
13. ASPHALTIC AND CONCRETE SURFACES SHALL BE SAWCUT AT THE MATCH LINE AS SHOWN ON THE PLAN OR AS DIRECTED BY THE ENGINEER.
14. DISTURBED AREAS WITHIN THE RIGHT OF WAY, EXCEPT THE AREAS WITHIN THE FINISHED SHOULDER POINTS, SHALL BE SALVAGED TOPSOILED, FERTILIZED AND SEEDED.
15. FERTILIZER SHALL NOT BE USED NEAR NAVIGABLE WATERWAYS OR WETLANDS.
16. THE FOLLOWING CONVERSION FACTORS WERE USED TO ESTIMATE QUANTITIES FOR BASE AGGREGATE:
    3/4-INCH BASE AGGREGATE DENSE = 2.1 TONS/CY
    1 1/4-INCH BASE AGGREGATE DENSE = 2.0 TONS/CY
    SELECT CRUSHED MATERIAL = 1.8 TONS/CY
17. APPLY TACK COAT AT A RATE OF 0.07 GAL/SY TO MILLED SURFACE AND 0.05 GA/SY BETWEEN LAYERS OF HMA PAVEMENT.
18. HMA PAVEMENT WEIGHT CALCULATIONS ARE BASED ON 112 LB/SY/IN.
19. THE CONTRACTOR'S PAVING OPERATIONS SHALL BE CONSISTENT WITH THE PLAN AND TYPICAL SECTIONS AND CONSTRUCTED TO PREVENT HMA LONGITUDINAL JOINTS FROM BEING LOCATED WITHIN A DRIVING, TURNING, PASSING OR PARKING LANE.

ORDER OF SHEETS - SECTION 2:

2

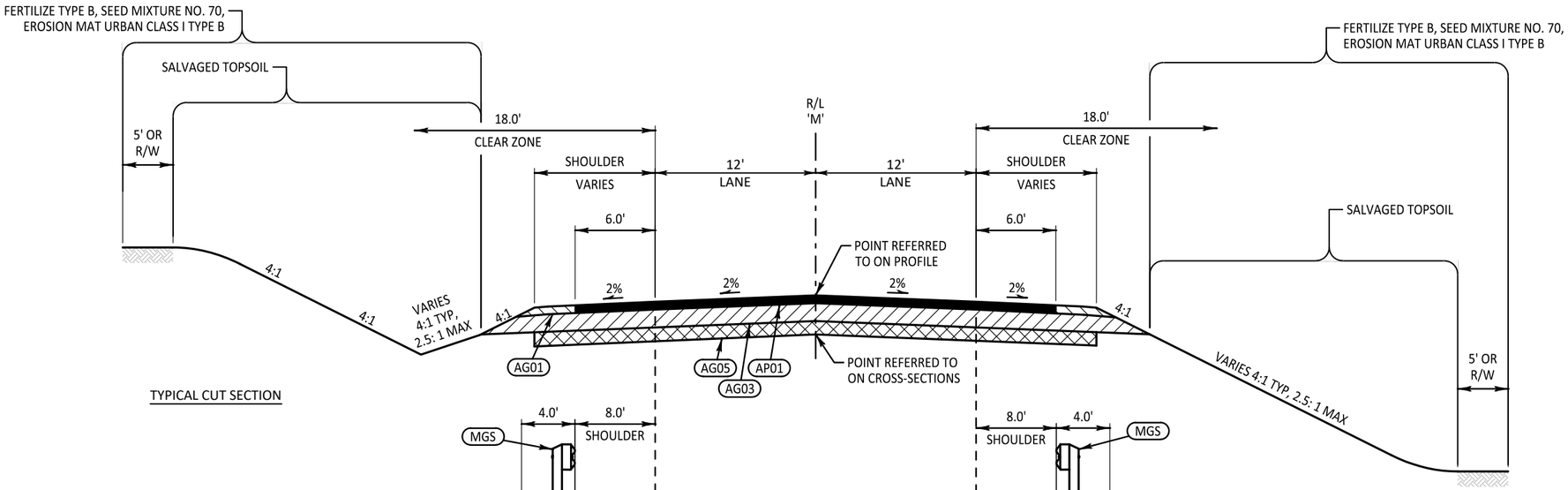


TYPICAL EXISTING SECTION

CTH M

STA 24+30'M' TO STA 25+82'M'
STA 28+37'M' TO STA 31+16'M'

PROJECT NO: 7323-00-71	HWY: CTH M	COUNTY: LA CROSSE	TYPICAL SECTIONS	SHEET 3	E



NOTES
CONCRETE PAVEMENT APPROACH SLABS ARE LOCATED ON EITHER SIDE OF THE STRUCTURE, SEE PLAN DETAILS.

- BASE AGGREGATE DENSE 1 1/4-INCH BELOW THE CONCRETE PAVEMENT APPROACH SLAB SHALL BE 8-INCHES THICK.
- BASE AGGREGATE DENSE 1 1/4-INCH BELOW CONCRETE PAVEMENT 8-INCH SHALL BE 12-INCHES THICK.
- 12-INCH SELECT CRUSHED MATERIAL WITH GEOGRID BELOW BASE AGGREGATE DENSE

*STA 25+74 'M' TO STA 26+07 'M'
*STEEL PLATE BEAM GUARD CLASS A (THIS AREA ONLY)
STA 29+27 'M' TO STA 30+00 'M'

STA 24+38 'M' TO STA 25+81 'M'
*CURB TYPE CHANGES FROM CURB & GUTTER 6-INCH SLOPED 36-INCH TYPE D TO CURB & GUTTER 30-INCH TYPE D AT STA 25+48

STA 28+55'M' TO STA 29+27'M'

STA 24+33 'M' TO STA 25+51 'M'
STA 28+90 'M' TO STA 29+38 'M'

STA 28+31'M' TO STA 28+90'M'

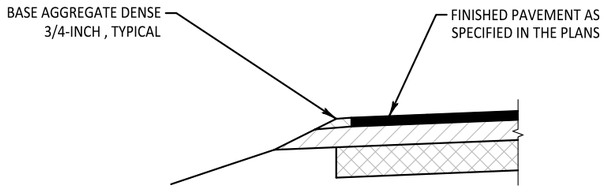
TYPICAL FINISHED SECTION

CTH M
STA 24+30'M' TO STA 25+90'M'
STA 28+30'M' TO STA 31+16'M'

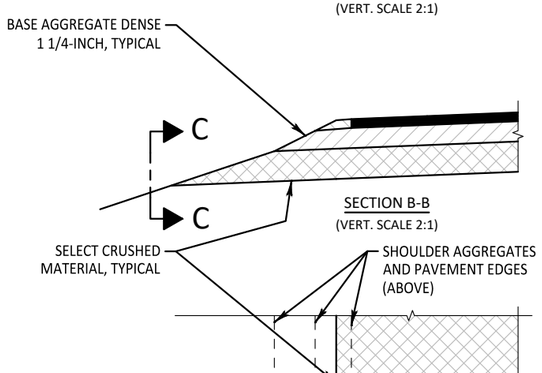
KEYNOTE LEGEND

AG01	BASE AGGREGATE DENSE 3/4-INCH
AG03	15" BASE AGGREGATE DENSE 1 1/4-INCH
AG05	12" SELECT CRUSHED MATERIAL WITH GEOGRID
AP01	5.0-INCH HMA PAVEMENT UPPER: 2.0" - 4 LT 58-28 S LOWER: 3.0" - 3 LT 58-28 S
MGS	MGS GUARDRAIL ITEMS
CG01	CONCRETE CURB & GUTTER 6-INCH SLOPED 36-INCH TYPE D
CG02	CONCRETE CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE TBT

PROJECT NO: 7323-00-71	HWY: CTH M	COUNTY: LA CROSSE	PLAN: TYPICAL SECTIONS	SHEET 4	E

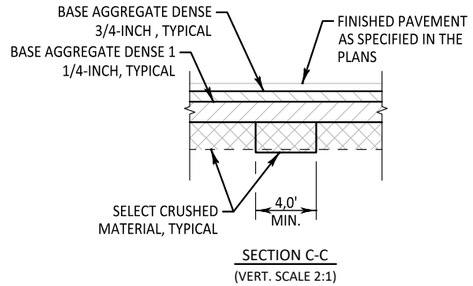


SECTION A-A
(VERT. SCALE 2:1)



SECTION B-B
(VERT. SCALE 2:1)

PLAN VIEW
(VIEW PLANE AT TOP OF SELECT
CRUSHED MATERIAL)



SECTION C-C
(VERT. SCALE 2:1)

NOTE:

CONSTRUCT RELIEF TRENCHES AT SOUTH WINGWALL TIPS AND AT PROFILE SAG POINT (LEFT AND RIGHT).

FINAL LOCATIONS TO BE APPROVED OR DETERMINED BY THE ENGINEER IN THE FIELD.

MATERIALS AND LABOR FOR RELIEF TRENCH ARE INCLUDED IN THE SELECT CRUSHED MATERIAL BID ITEM.

RELIEF TRENCH

2

1 CONCRETE PAVEMENT APPROACH SLAB
2 CONCRETE PAVEMENT 8-INCH
3 CONCRETE CURB & GUTTER 30-INCH TYPE D
4 CONCRETE CURB & GUTTER 6-INCH SLOPED 36-INCH TYPE D
5 CONCRETE CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE TBT
6 CONCRETE CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE TBTT

DRIVEWAY NOTES
- ASPH:
  3-INCH ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES
  6-INCH BASE AGGREGATE DENSE 3/4-INCH
- AGG:
  6-INCH BASE AGGREGATE DENSE 3/4-INCH

TLE
XCEL
PLE
R/W
STA 25+65
AGG PE REQ'D
STA 25'M'+83.02
59.70' LT
STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL
STEEL PLATE BEAM GUARD SHORT RADIUS
STA 25'M'+94.56
-51.48' LT
N
CHARTER
CENTURYLINK
STA 25'M'+37.14
37.00' LT
R=17'
STA 25'M'+77.11
33.58' LT
R=8'
STA 25'M'+82.84
28.00' LT
BEGIN PROJECT
STA 24+30
MATCH EXISTING
SAW CUT REQ'D
STA 24'M'+38.50
20.00' LT
STA 24'M'+30
11.33' LT
STA 25'M'+37.14
20.00' LT
STA 25'M'+49.32
25.13' LT
STA 25'M'+82.84
20.00' LT
STA 25'M'+65.45
0.00'
8.0'
12.0'
12.0'
8.0'
24+00
25+00
26+00
CTH M (JOSTAD COULEE RD)
STA 23'M'+69.37
12.74' RT
STA 24'M'+30.05
12.66' RT
EXISTING BRIDGE B-32-04
TO BE REMOVED
PROPOSED STRUCTURE B-32-245
MGS THRIE BEAM
MGS GUARDRAIL 3
MGS EAT POST 1 STA 24'M'+33.37
22.00' RT
STA 24'M'+86.45
20.00' RT
STA 30+83, 52.32' LT
ASPH PE REQ'D
SAWCUT REQ'D
MGS THRIE BEAM
MGS GUARDRAIL 3
MGS EAT POST 1 STA 29'M'+96.10
-22.00' LT
STA 29'M'+43.01
20.00' LT
STA 29'M'+27.13
17.67' LT
STA 30'M'+00.08
18.00' LT
STA 31'M'+10
17.69' LT
19.6'
STA 31'M'+16
11.83' LT
8.0'
12.0'
12.0'
5.67'
3.0'
STA 28'M'+55.54
0.00'
29+00
30+00
31+00
CTH M (JOSTAD COULEE RD)
STA 29'M'+37.58
18.00' RT
STA 28'M'+89.56
17.67' RT
19.8'
STA 31'M'+16
12.54' RT
STA 31'M'+10
18.31' RT
STA 28'M'+80.43
20.00' RT
MGS THRIE BEAM
MGS GUARDRAIL 3
MGS EAT POST 1 STA 29'M'+33.55
22.00' RT
MIDWEST NATURAL GAS
END PROJECT
STA 31+16
MATCH EXISTING
SAW CUT REQ'D
STA 30+88, 50.56' RT
ASPH PE REQ'D
SAWCUT REQ'D

PROJECT NO: 7323-00-71	HWY: CTH M	COUNTY: LA CROSSE	PLAN DETAILS	SHEET 6	E

FILE NAME : \\SP-PZ1.SEHINC.COM\PZPROJECTS1\KO\L\LCCHD\159874\5-FINAL-DSGN\51-DRAWINGS\40-TRANSHWY\CIVIL 3D\73230071\SHEETSPLAN\SEC 02 TYP SEC & DETAILS\021201-PD (PLAN DETAILS).DWG
LAYOUT NAME - 01
PLOT DATE : 7/20/2023 7:20 AM
PLOT BY : CLARISSA ERBS
PLOT NAME :
PLOT SCALE : 1 IN:20 FT

2

2

N

INLET PROTECTION, TYPE A

SLOPE INTERCEPT

INLET PROTECTION, TYPE A & TYPE C

TLE

PLE

RIPRAP HEAVY (SEE STRUCTURE PLANS)

LA CROSSE RIVER

RIPRAP MEDIUM

SLOPE INTERCEPT

R/W

25

30

CTH M (JOSTAD COULEE RD)

SLOPE INTERCEPT

INLET PROTECTION, TYPE A

TLE

RIPRAP HEAVY (SEE STRUCTURE PLANS)

TLE

RIPRAP MEDIUM

INLET PROTECTION, TYPE A & TYPE C

SLOPE INTERCEPT

LEGEND

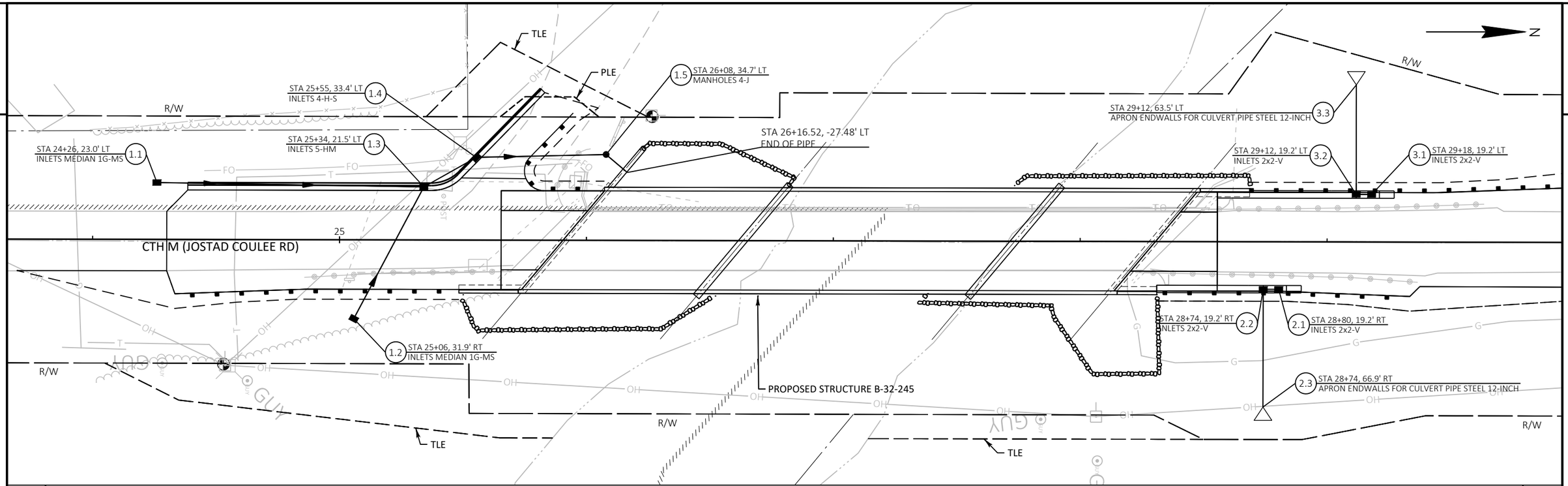
- EROSION MAT URBAN CLASS I TYPE B & NO. 70 SEED MIXTURE
- SILT FENCE
- RIPRAP
- SLOPE INTERCEPT
- TURBIDITY BARRIER
- INLET PROTECTION
- A B C — INLET PROTECTION TYPE
- TEMPORARY DITCH CHECK
- SURFACE WATER FLOW

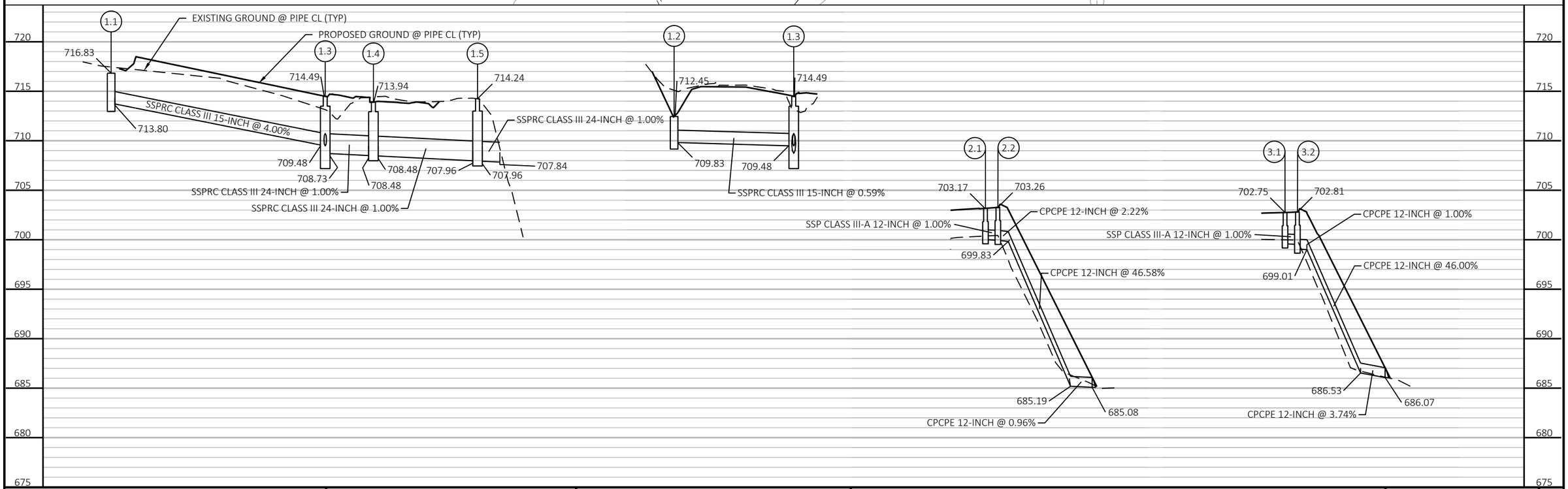
PROJECT NO: 7323-00-71	HWY: CTH M	COUNTY: LA CROSSE	EROSION CONTROL	SHEET 7	E

FILE NAME : \\SP-PZ1.SEHINC.COM\PZPROJECTS1\KO\L\LCCHD\159874\5-FINAL-DSGN\51-DRAWINGS\40-TRANSHWY\CIVIL 3D\73230071\SHEETSPLAN\SEC 02 TYP SEC & DETAILS\022001-EC (EROSION CONTROL).DWG 7/14/2023 9:31 AM PLOT BY : CLARISSA ERBS PLOT NAME : PLOT SCALE : 1 IN:50 FT

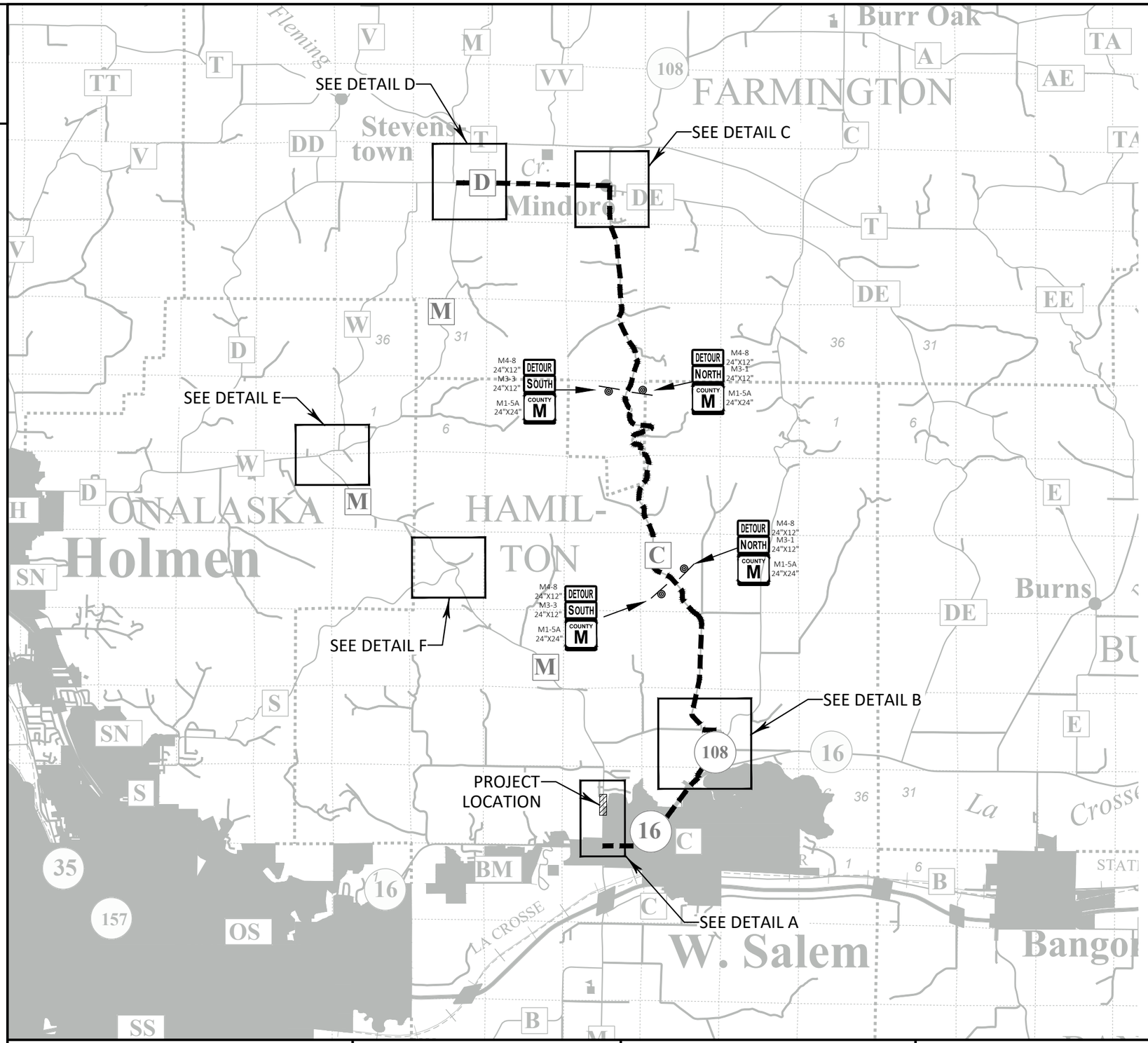
LAYOUT NAME - 01

WISDOT/CADDS SHEET 42





PROJECT NO: 7323-00-71	HWY: CTH M	COUNTY: LA CROSSE	STORM SEWER	SHEET 8 E



DETOUR PLAN LEGEND

- SIGN ON PERMANENT SUPPORT
- TYPE III BARRICADE (WITH/WITHOUT SIGN)
- PCMS — TRAFFIC CONTROL SIGN PCMS (PORTABLE CHANGEABLE MESSAGE SIGNS)
- WORK SPACE
- TRAFFIC CONTROL COVERING SIGNS TYPE II

GENERAL NOTES: DETOURS

SEE STANDARD DETAIL DRAWING SDD 15C2-a BARRICADES AND SIGNS FOR MAINLINE CLOSURES, SDD 15C2-b BARRICADES AND SIGN FOR VARIOUS CLOSURES & SDD 15C2-c DETOUR SIGNING FOR MAINLINE CLOSURES.

THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS OR AS DIRECTED BY THE ENGINEER IN THE FIELD.

ALL SIGNS INAPPROPRIATE TO THE STATUS OF THE TRAFFIC CONTROL PLAN, INCLUDING PRE-EXISTING SIGNING IN THE VICINITY, SHALL BE COVERED OR REMOVED AS SPECIFIED IN THE PLANS OR AS DIRECTED BY THE ENGINEER IN THE FIELD.

ALL "W" AND "WO" SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

ALL M3 SERIES SIGNS (NORTH, EAST, SOUTH, WEST) WHICH ARE PART OF ANY DETOUR ROUTE MARKER SIGNING ASSEMBLY OR ATTACHED TO ANY WARNING SIGN SHALL BE BLACK MESSAGE ON WHITE BACKGROUND.

ALL M05 AND M06 ARROW SIGNS SHALL BE THE SAME AS "M" SIGNS EXCEPT THAT THE BACKGROUND IS ORANGE.

PCMS SHALL BE IN PLACE A MINIMUM OF 7 DAYS PRIOR TO CONSTRUCTION.

PROJECT NO: 7323-00-71	HWY: CTH M	COUNTY: LA CROSSE	DETOUR OVERVIEW	SHEET 9	E

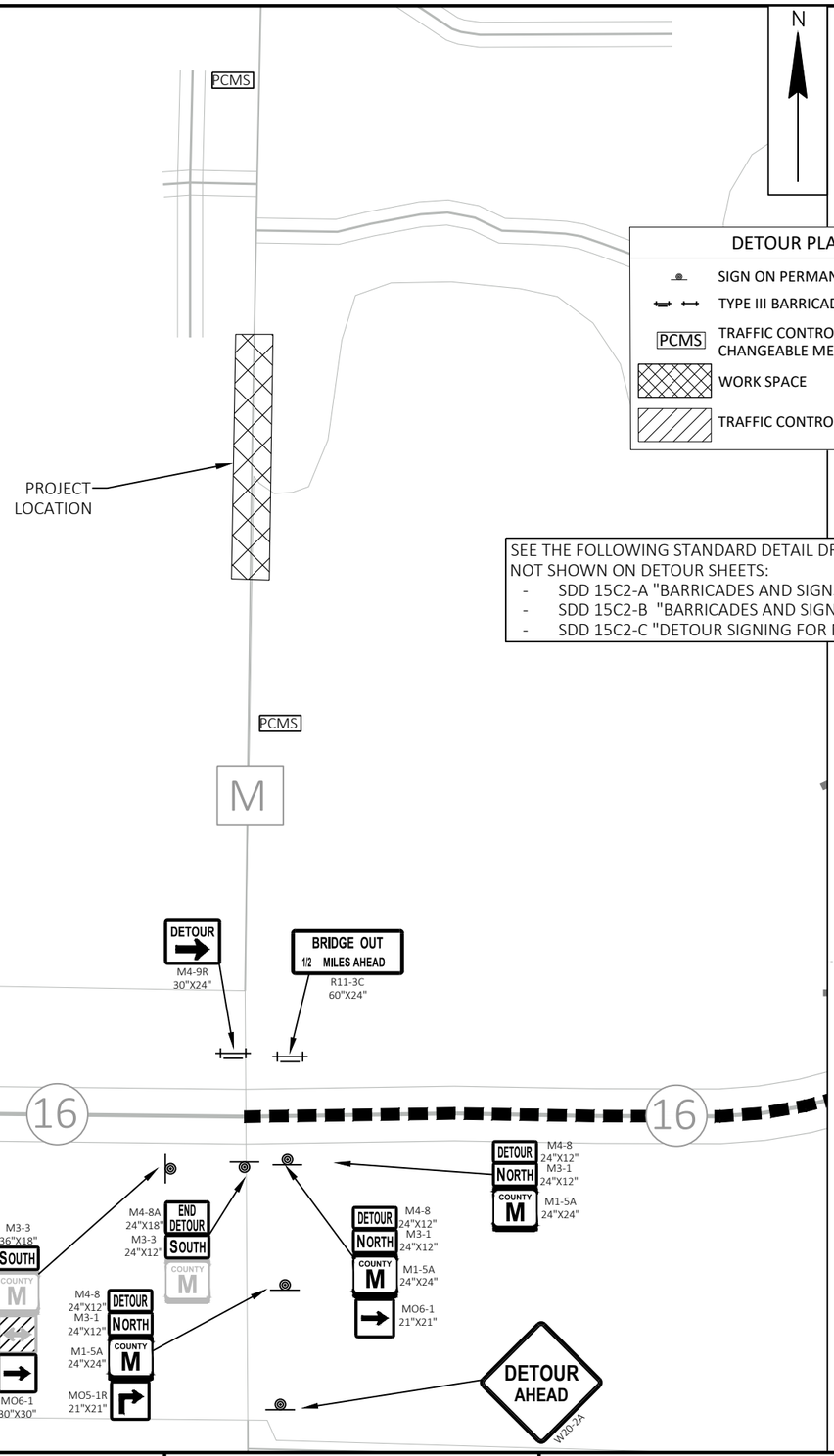
2

DETAIL A

PCMS MESSAGE:

PHASE 1: CTY M CLOSED

PHASE 2: STARTING X/XX/XX



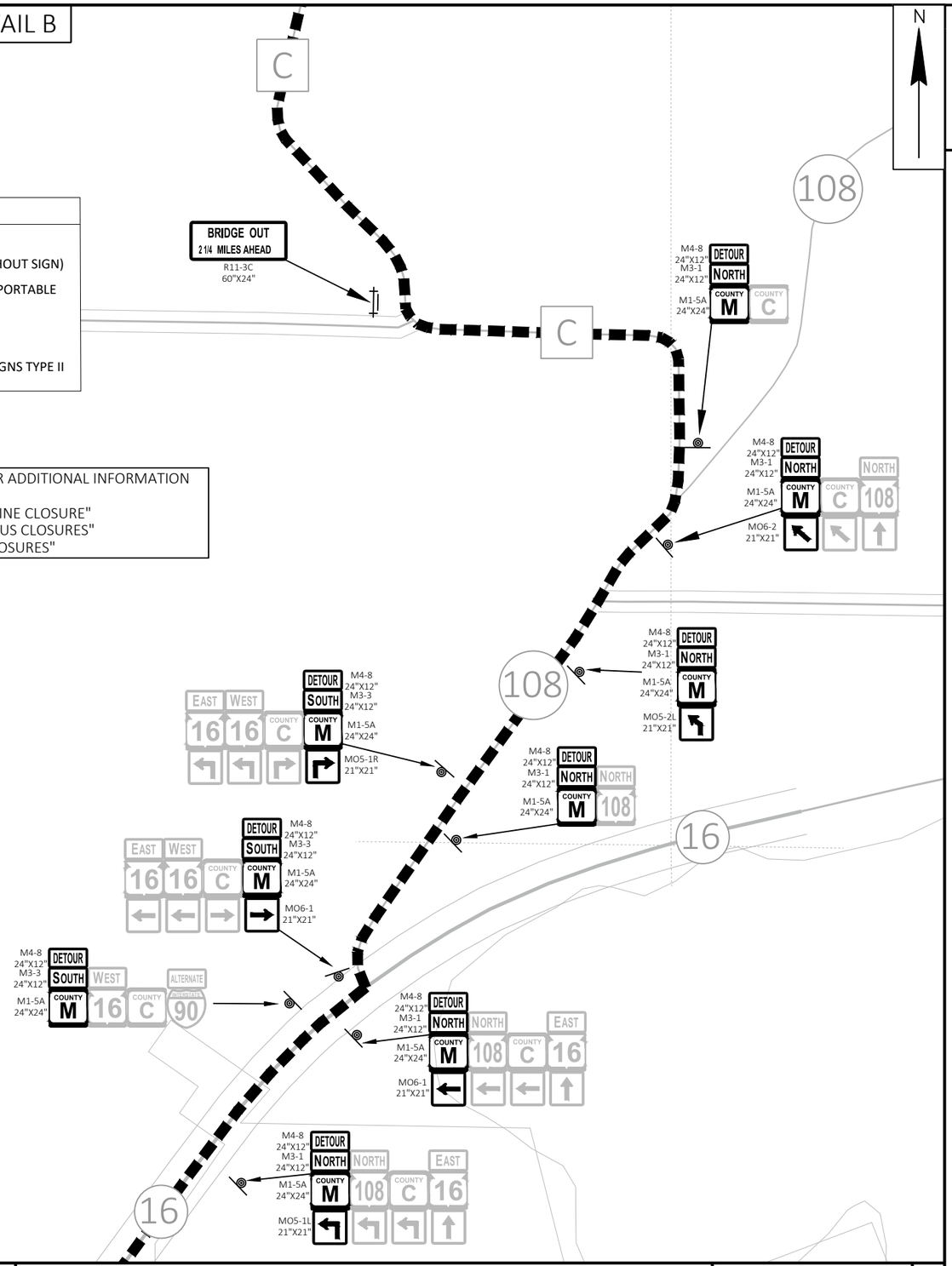
DETOUR PLAN LEGEND

- SIGN ON PERMANENT SUPPORT
- TYPE III BARRICADE (WITH/WITHOUT SIGN)
- PCMS — TRAFFIC CONTROL SIGN PCMS (PORTABLE CHANGEABLE MESSAGE SIGNS)
- WORK SPACE
- TRAFFIC CONTROL COVERING SIGNS TYPE II

SEE THE FOLLOWING STANDARD DETAIL DRAWINGS FOR ADDITIONAL INFORMATION NOT SHOWN ON DETOUR SHEETS:

- SDD 15C2-A "BARRICADES AND SIGNS FOR MAINLINE CLOSURE"
- SDD 15C2-B "BARRICADES AND SIGNS FOR VARIOUS CLOSURES"
- SDD 15C2-C "DETOUR SIGNING FOR MAINLINE CLOSURES"

DETAIL B



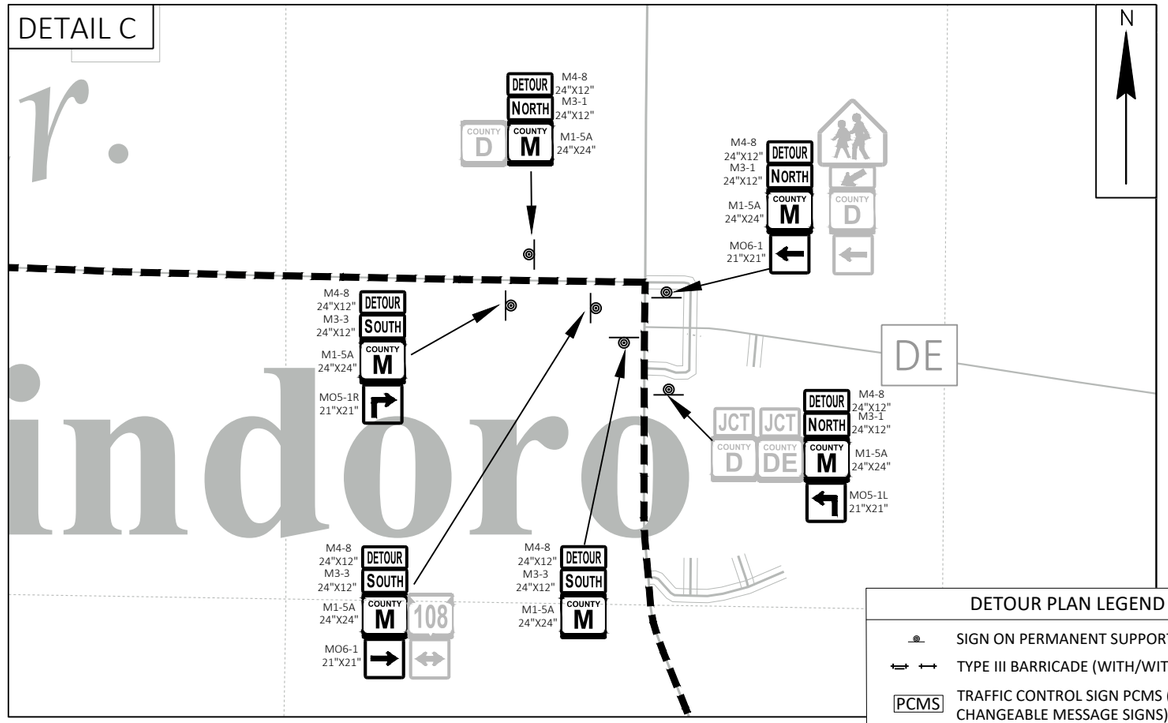
PROJECT NO: 7323-00-71	HWY: CTH M	COUNTY: LA CROSSE	DETOUR OVERVIEW	SHEET 10	E

FILE NAME : \\SP-PZ1.SEHINC.COM\PZPROJECTS1\KO\L\LCCHD\159874\5-FINAL-DSGN\51-DRAWINGS\40-TRANSHWY\CIVIL 3D\73230071\SHEETSPLAN\SEC 02 TYP SEC & DETAILS\027001_DT (DETOUR SIGNING).DWG 10/6/2023 11:08 AM PLOT BY : CLARISSA ERBS PLOT NAME : PLOT SCALE : Custom

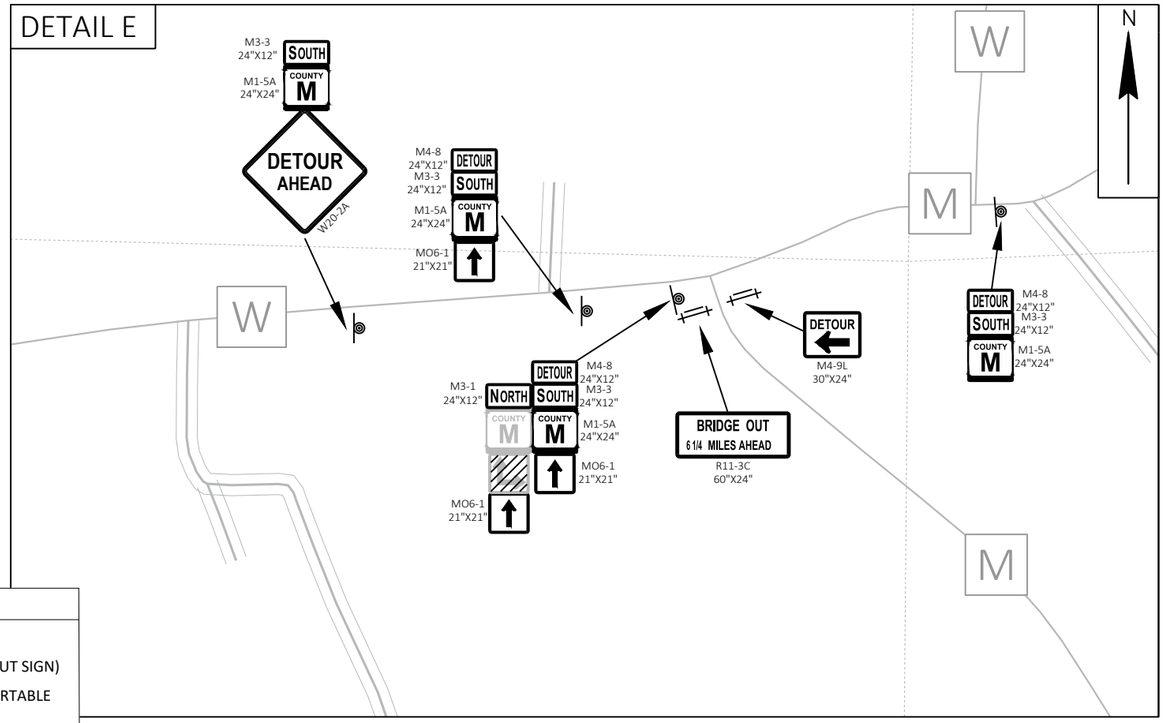
LAYOUT NAME - 02

WISDOT/CADDS SHEET 42

DETAIL C



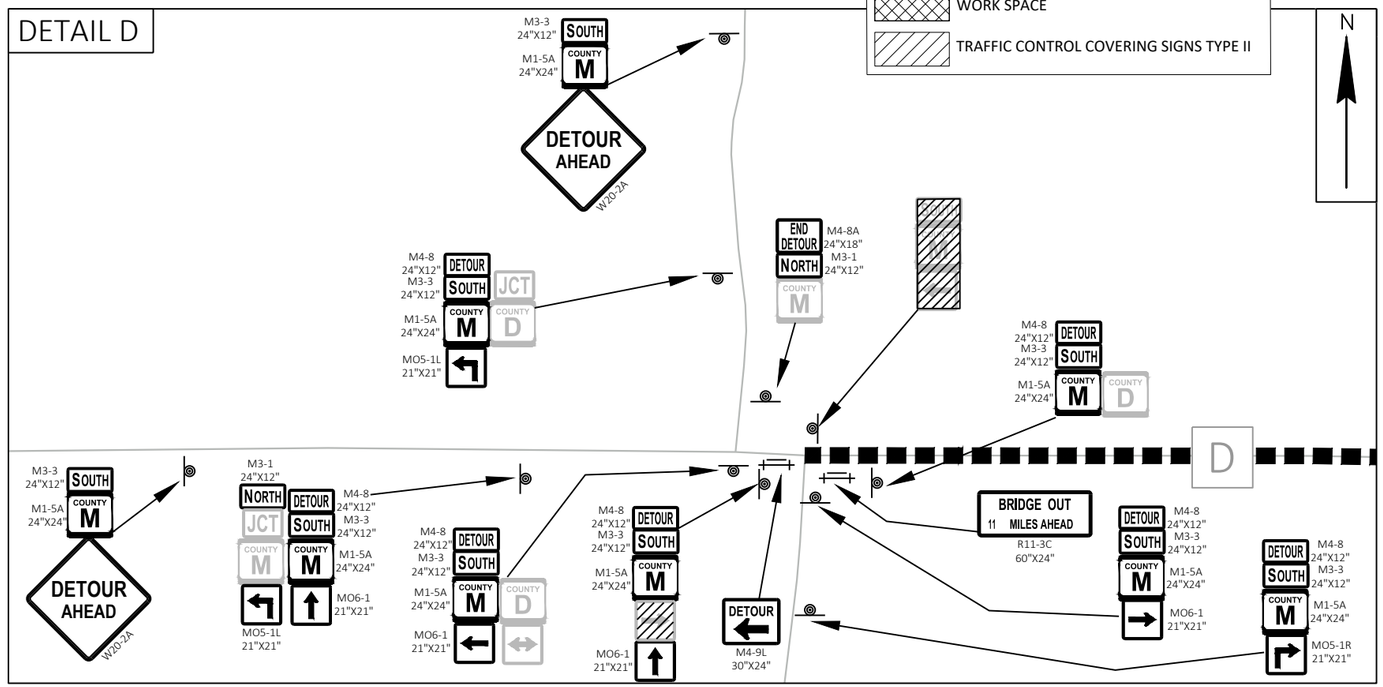
DETAIL E



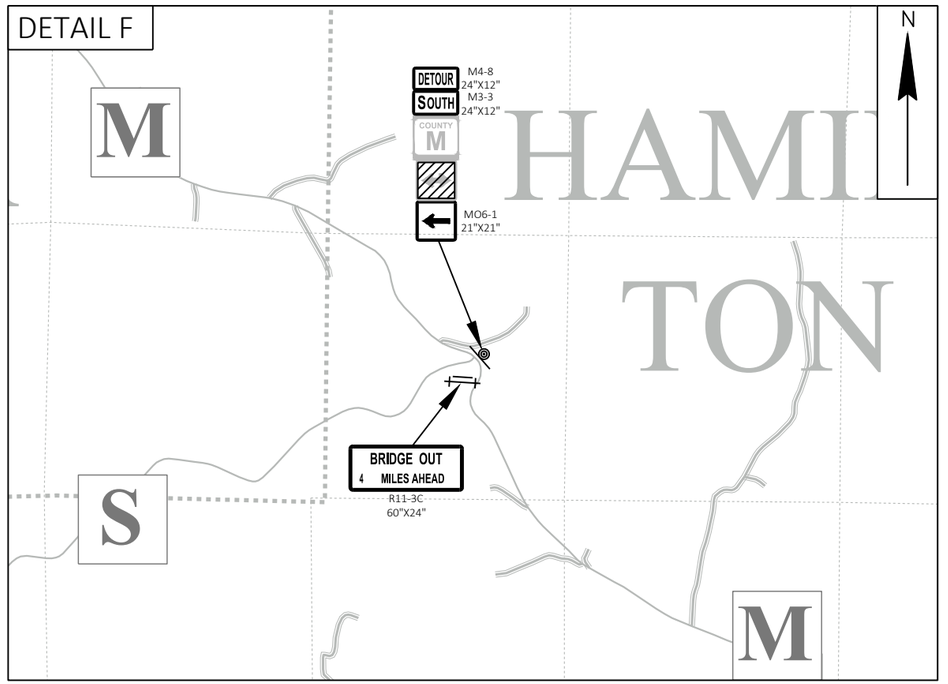
DETOUR PLAN LEGEND

- SIGN ON PERMANENT SUPPORT
- TYPE III BARRICADE (WITH/WITHOUT SIGN)
- PCMS — TRAFFIC CONTROL SIGN PCMS (PORTABLE CHANGEABLE MESSAGE SIGNS)
- WORK SPACE
- TRAFFIC CONTROL COVERING SIGNS TYPE II

DETAIL D



DETAIL F



PROJECT NO: 7323-00-71	HWY: CTH M	COUNTY: LA CROSSE	DETOUR OVERVIEW	SHEET 11	E

FILE NAME : \\SP-PZ1.SEHINC.COM\PZPROJECTS1\KO\L\LCCHD\159874\5-FINAL-DSGN\51-DRAWINGS\40-TRANSHWY\CIVIL 3D\73230071\SHEETSPLAN\SEC 02 TYP SEC & DETAILS\027001_DT (DETOUR SHEET).DWG 7/14/2023 9:58 AM PLOT BY : CLARISSA ERBS PLOT NAME : PLOT SCALE : Custom
LAYOUT NAME - 03

Estimate Of Quantities

7323-00-71

Line	Item	Item Description	Unit	Total	Qty
0002	201.0105	Clearing	STA	4.000	4.000
0004	201.0205	Grubbing	STA	4.000	4.000
0006	203.0100	Removing Small Pipe Culverts	EACH	8.000	8.000
0008	203.0260	Removing Structure Over Waterway Minimal Debris (structure) 01. B-32-04	EACH	1.000	1.000
0010	204.0150	Removing Curb & Gutter	LF	62.000	62.000
0012	204.0165	Removing Guardrail	LF	350.000	350.000
0014	204.0190	Removing Surface Drains	EACH	2.000	2.000
0016	204.0220	Removing Inlets	EACH	2.000	2.000
0018	205.0100	Excavation Common	CY	2,205.000	2,205.000
0020	206.1001	Excavation for Structures Bridges (structure) 01. B-32-245	EACH	1.000	1.000
0022	206.5001	Cofferdams (structure) B-32-245	EACH	2.000	2.000
0024	208.0100	Borrow	CY	1,261.000	1,261.000
0026	210.1500	Backfill Structure Type A	TON	1,427.000	1,427.000
0028	213.0100	Finishing Roadway (project) 01. 7323-00-71	EACH	1.000	1.000
0030	305.0110	Base Aggregate Dense 3/4-Inch	TON	146.000	146.000
0032	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	2,032.000	2,032.000
0034	312.0110	Select Crushed Material	TON	1,288.000	1,288.000
0036	415.0080	Concrete Pavement 8-Inch	SY	84.000	84.000
0038	415.0410	Concrete Pavement Approach Slab	SY	134.000	134.000
0040	455.0605	Tack Coat	GAL	87.000	87.000
0042	460.2000	Incentive Density HMA Pavement	DOL	310.000	310.000
0044	460.5223	HMA Pavement 3 LT 58-28 S	TON	286.000	286.000
0046	460.5224	HMA Pavement 4 LT 58-28 S	TON	191.000	191.000
0048	465.0120	Asphaltic Surface Driveways and Field Entrances	TON	20.000	20.000
0050	502.0100	Concrete Masonry Bridges	CY	1,162.000	1,162.000
0052	502.1100	Concrete Masonry Seal	CY	531.000	531.000
0054	502.3200	Protective Surface Treatment	SY	1,080.000	1,080.000
0056	502.3210	Pigmented Surface Sealer	SY	288.000	288.000
0058	503.0172	Prestressed Girder Type I 72W-Inch	LF	972.000	972.000
0060	505.0400	Bar Steel Reinforcement HS Structures	LB	24,984.000	24,984.000
0062	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	169,670.000	169,670.000
0064	506.2605	Bearing Pads Elastomeric Non-Laminated	EACH	24.000	24.000
0066	506.4000	Steel Diaphragms (structure) 01. B-32-0245	EACH	12.000	12.000
0068	516.0500	Rubberized Membrane Waterproofing	SY	92.000	92.000
0070	520.1024	Apron Endwalls for Culvert Pipe 24-Inch	EACH	4.000	4.000
0072	520.3324	Culvert Pipe Class III-A 24-Inch	LF	56.000	56.000
0074	521.1012	Apron Endwalls for Culvert Pipe Steel 12-Inch	EACH	2.000	2.000
0076	530.0112	Culvert Pipe Corrugated Polyethylene 12-Inch	LF	93.000	93.000
0078	550.1120	Piling Steel HP 12-Inch X 53 Lb	LF	400.000	400.000
0080	601.0411	Concrete Curb & Gutter 30-Inch Type D	LF	48.000	48.000
0082	601.0557	Concrete Curb & Gutter 6-Inch Sloped 36-Inch Type D	LF	113.000	113.000
0084	601.0588	Concrete Curb & Gutter 4-Inch Sloped 36-Inch Type TBT	LF	106.000	106.000
0086	601.0590	Concrete Curb & Gutter 4-Inch Sloped 36-Inch Type TBTT	LF	25.000	25.000
0088	606.0200	Riprap Medium	CY	6.000	6.000
0090	606.0300	Riprap Heavy	CY	1,083.000	1,083.000
0092	608.0315	Storm Sewer Pipe Reinforced Concrete Class III 15-Inch	LF	170.000	170.000
0094	608.0324	Storm Sewer Pipe Reinforced Concrete Class III 24-Inch	LF	90.000	90.000
0096	608.3012	Storm Sewer Pipe Class III-A 12-Inch	LF	14.000	14.000
0098	611.0530	Manhole Covers Type J	EACH	1.000	1.000

7323-00-71

Line	Item	Item Description	Unit	Total	Qty
0100	611.0627	Inlet Covers Type HM	EACH	1.000	1.000
0102	611.0639	Inlet Covers Type H-S	EACH	1.000	1.000
0104	611.0642	Inlet Covers Type MS	EACH	2.000	2.000
0106	611.0654	Inlet Covers Type V	EACH	4.000	4.000
0108	611.2004	Manholes 4-FT Diameter	EACH	1.000	1.000
0110	611.3004	Inlets 4-FT Diameter	EACH	1.000	1.000
0112	611.3220	Inlets 2x2-FT	EACH	4.000	4.000
0114	611.3901	Inlets Median 1 Grate	EACH	2.000	2.000
0116	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	220.000	220.000
0118	614.0150	Anchor Assemblies for Steel Plate Beam Guard	EACH	4.000	4.000
0120	614.0200	Steel Thrie Beam Structure Approach	LF	20.600	20.600
0122	614.0345	Steel Plate Beam Guard Short Radius	LF	35.100	35.100
0124	614.0390	Steel Plate Beam Guard Short Radius Terminal	EACH	1.000	1.000
0126	614.2300	MGS Guardrail 3	LF	62.500	62.500
0128	614.2500	MGS Thrie Beam Transition	LF	118.200	118.200
0130	614.2610	MGS Guardrail Terminal EAT	EACH	3.000	3.000
0132	618.0100	Maintenance And Repair of Haul Roads (project) 01. 7323-00-71	EACH	1.000	1.000
0134	619.1000	Mobilization	EACH	1.000	1.000
0136	624.0100	Water	MGAL	52.000	52.000
0138	625.0500	Salvaged Topsoil	SY	4,646.000	4,646.000
0140	628.1504	Silt Fence	LF	760.000	760.000
0142	628.1520	Silt Fence Maintenance	LF	1,520.000	1,520.000
0144	628.1905	Mobilizations Erosion Control	EACH	3.000	3.000
0146	628.1910	Mobilizations Emergency Erosion Control	EACH	4.000	4.000
0148	628.2008	Erosion Mat Urban Class I Type B	SY	4,668.000	4,668.000
0150	628.6005	Turbidity Barriers	SY	339.000	339.000
0152	628.7005	Inlet Protection Type A	EACH	8.000	8.000
0154	628.7015	Inlet Protection Type C	EACH	6.000	6.000
0156	628.7504	Temporary Ditch Checks	LF	94.000	94.000
0158	629.0210	Fertilizer Type B	CWT	3.200	3.200
0160	630.0170	Seeding Mixture No. 70	LB	19.000	19.000
0162	630.0200	Seeding Temporary	LB	128.000	128.000
0164	630.0500	Seed Water	MGAL	107.000	107.000
0166	633.5200	Markers Culvert End	EACH	2.000	2.000
0168	638.2602	Removing Signs Type II	EACH	5.000	5.000
0170	638.3000	Removing Small Sign Supports	EACH	5.000	5.000
0172	642.5001	Field Office Type B	EACH	1.000	1.000
0174	643.0420	Traffic Control Barricades Type III	DAY	3,300.000	3,300.000
0176	643.0705	Traffic Control Warning Lights Type A	DAY	5,100.000	5,100.000
0178	643.0900	Traffic Control Signs	DAY	25,650.000	25,650.000
0180	643.0920	Traffic Control Covering Signs Type II	EACH	8.000	8.000
0182	643.1050	Traffic Control Signs PCMS	DAY	14.000	14.000
0184	643.5000	Traffic Control	EACH	1.000	1.000
0186	645.0111	Geotextile Type DF Schedule A	SY	104.000	104.000
0188	645.0120	Geotextile Type HR	SY	1,685.000	1,685.000
0190	645.0220	Geogrid Type SR	SY	16,354.000	16,354.000
0192	646.1020	Marking Line Epoxy 4-Inch	LF	2,744.000	2,744.000
0194	650.4000	Construction Staking Storm Sewer	EACH	11.000	11.000
0196	650.4500	Construction Staking Subgrade	LF	412.000	412.000

Estimate Of Quantities

7323-00-71

Line	Item	Item Description	Unit	Total	Qty
0198	650.5000	Construction Staking Base	LF	412.000	412.000
0200	650.5500	Construction Staking Curb Gutter and Curb & Gutter	LF	290.000	290.000
0202	650.6501	Construction Staking Structure Layout (structure) 01. B-32-0245	EACH	1.000	1.000
0204	650.7000	Construction Staking Concrete Pavement	LF	77.000	77.000
0206	650.9911	Construction Staking Supplemental Control (project) 01. 7323-00-71	EACH	1.000	1.000
0208	650.9920	Construction Staking Slope Stakes	LF	473.000	473.000
0210	690.0150	Sawing Asphalt	LF	72.000	72.000
0212	715.0502	Incentive Strength Concrete Structures	DOL	500.000	500.000
0214	715.0720	Incentive Compressive Strength Concrete Pavement	DOL	500.000	500.000
0216	ASP.1T0A	On-the-Job Training Apprentice at $5.00/HR	HRS	500.000	500.000
0218	ASP.1T0G	On-the-Job Training Graduate at $5.00/HR	HRS	375.000	375.000
0220	SPV.0060	Special 01. Inlets 5-FT Diameter	EACH	1.000	1.000

3

CLEARING AND GRUBBING

CATEGORY	STATION	201.0105 CLEARING STA	201.0205 GRUBBING STA	COMMENT
0010	24+00 - 26+00	2	2	RIGHT
	28+50 - 29+50	1	1	LEFT
	28+50 - 29+50	1	1	RIGHT
PROJECT TOTALS		4	4	

REMOVING GUARDRAIL

CATEGORY	STATION	204.0165 REMOVING GUARDRAIL LF	NOTES
0010	24+86 - 25+70, RT	85	
	25+88 - 25+95, LT	35	
	28+25 - 29+37, RT	115	
	28+49 - 29+64, LT	115	
PROJECT TOTAL		350	

REMOVALS

CATEGORY	STATION	204.0150 REMOVING CURB & GUTTER LF	COMMENT
0010	25+07 - 25+69, RT	62	SE QUAD
PROJECT TOTALS		62	

STORM REMOVALS

CATEGORY	STATION	203.0100 REMOVING SMALL PIPE CULVERTS EACH	204.0190 REMOVING SURFACE DRAINS EACH	204.0220 REMOVING INLETS EACH	COMMENT
0010	25+08	1	.	-	CROSSES MAINLINE RCCP 24INCH
	2557 RT	-	-	1	INLET
	2567 LT	1	-	-	DRIVEWAY CMCP 24INCH
	2570	1	-	-	CROSSES MAINLINE 24INCH
	2595 LT	-	-	1	SURFACE INLET
	2621 LT	1	-	-	OUTFALL CMCP 24INCH
	2835 RT	1	1	-	NE FLUME OUTLET CMCP 12INCH
	2863 LT	1	1	-	NW FLUME OUTLET CMCP
	SUBTOTAL CAT 0010	6	2	2	
0030	3083 LT	1	-	-	DRIVEWAY RCCP 24INCH
	3085 RT	1	-	-	DRIVEWAY RCCP 24INCH
	SUBTOTAL CAT 0030	2	0	0	
	PROJECT TOTALS	8	2	2	

EARTHWORK SUMMARY

CATEGORY	STATION	CUT CY2	EBS CY24	205.0100 ECAVATION COMMON CY1	FILL CY 2	EPANDED FILL CY23	WASTE CY2	SHORTAGE CY2	208.0100 BORROW CY56	NOTES
0010	2430 2583	849	85	934	174	226	623	0	-	SOUTH
	2831 3000	437	42	479	2107	2739	0	2302	1261	NORTH
	SUBTOTAL CAT 0010			1413	2281	2965	623	2302	1261	
0030	2369 2430	113	11	124	12	16	97	0	-	SOUTH
	3000 3116	613	55	668	225	292	321	0	-	NORTH
	SUBTOTAL CAT 0030			792	237	308	418	0	0	
	PROJECT TOTALS			2205	2518	3273	1041	2302	1261	

1EISTING ASPHALTIC PAVEMENT IS INCLUDED IN COMMON ECAVATION TOTALS
2NOT A BID ITEM FOR INFORMATION PURPOSES ONLY
3FILL EPANSION 30
4ESTIMATED 10 OF CUT. ASSUMES UNSUITABLE MATERIAL AND IS NOT INCLUDED IN MASS BALANCE.
5BORROW CALCULATION FOR CATEGORY 0010 2302 CY 623 CY 97 CY 321 CY 1261 CY
6BORROW CALCULATION ALL SUITABLE WASTE MATERIAL FROM CATEGORIES 0010 AND 0030 IS USED IN CATEGORY 0010 LIMITS

		BASE AGGREGATE					
		305.0110 BASE AGGREGATE DENSE 34INCH	305.0120 BASE AGGREGATE DENSE 1 14INCH	312.0110 SELECT CRUSHED MATERIAL	624.0100 WATER	645.0220 GEOGRID TYPE SR	
CATEGORY	STATION	TON	TON	TON	MGAL	SY	NOTES
0010	2430 2565	9	656	459	14	6377	MAINLINE SOUTH
	2563 LT	38	-	-	1	-	DRIVEWAY
	2565 2580 RT	-	7	-	1	-	UNDER CONC PAVEMENT
	2565 2607 LT	-	23	-	1	-	UNDER CONC PAVEMENT
	2565 2601	-	30	-	1	-	UNDER APPROACH SLAB
	2814 2856 RT	-	16	-	1	-	UNDER CONC PAVEMENT
	2841 2856 LT	-	7	-	1	-	UNDER CONC PAVEMENT
	2820 2856	-	30	-	1	-	UNDER APPROACH SLAB
	2856 3000	35	736	486	16	5833	MAINLINE NORTH
	VARIES	-	-	10	-	-	RELIEF TRENCHES
	SUBTOTAL CAT 0010	82	1505	955	37	12210	
0030	2369 2430 RT	15	-	-	1	-	SHOULDER SOUTH
	3000 3116	32	527	333	12	4144	MAINLINE NORTH
	3070 3089	10	-	-	1	-	DRIVEWAY WEST
	3071 3091	7	-	-	1	-	DRIVEWAY EAST
	SUBTOTAL CAT 0030	64	527	333	15	4144	
	PROJECT TOTALS	146	2032	1288	52	16354	

				ASPHALT PAVEMENT				
							465.0120 ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES	
				455.0605 TACK	460.5223 HMA PAVEMENT	460.5224 HMA PAVEMENT		
		LOWER	UPPER	COAT	3 LT 5828 S	4 LT 5828 S		
CATEGORY	STATION	LAYER	LAYER	GAL	TON	TON	TON	NOTES
0010	2430 2581	3.00	2.00	32	105	70	-	MAINLINE SOUTH
	2856 3000	3.00	2.00	31	103	69	-	MAINLINE NORTH
	SUBTOTAL CAT 0010			63	208	139	0	
0030	3000 3116	3.00	2.00	24	78	52	-	MAINLINE NORTH
	3070 3089 LT	-	3.00	-	-	-	11	DRIVEWAY WEST
	3071 3091 RT	-	3.00	-	-	-	9	DRIVEWAY EAST
	SUBTOTAL CAT 0030			24	78	52	20	
	PROJECT TOTAL			87	286	191	20	

		CONCRETE PAVEMENT		
		415.0080 CONCRETE PAVEMENT 8INCH	415.0410 CONCRETE PAVEMENT APPROACH SLAB	
CATEGORY	STATION	SY	SY	NOTES
0010	2565 2607	45	67	SOUTH
	2814 2856	39	67	NORTH
	PROJECT TOTAL	84	134	

			CURB & GUTTER			
		601.0411 CONCRETE CURB & GUTTER 30INCH TYPE D	601.0557 CONCRETE CURB & GUTTER 6INCH SLOPED 36INCH TYPE D	601.0588 CONCRETE CURB & GUTTER 4INCH SLOPED 36INCH TYPE TBT	601.0590 CONCRETE CURB & GUTTER 4INCH SLOPED 36INCH TYPE TBTT	
CATEGORY	STATION	LF	LF	LF	LF	NOTES
0010	2438 2540 LT	-	103	-	-	SW UAD
	2540 2581 LT	48	10	-	-	SW UAD
	2831 2855 RT	-	-	-	25	NE UAD
	2855 2890 RT	-	-	34	-	NE UAD
	2855 2927 LT	-	-	72	-	NW UAD
	PROJECT TOTALS	48	113	106	25	

		RIPRAP		
		606.0200	645.0120	
		RIPRAP	GEOTETILE	
		MEDIUM	TYPE HR	
CATEGORY	LOCATION	CY	SY	NOTES
0010	2874 RT	3	4	OUTFALL
	2912 LT	3	4	OUTFALL
	PROJECT TOTALS	6	8	

				STORM SEWER PIPES								
				520.1024 APRON ENDWALLS FOR CULVERT PIPE	520.3324 CULVERT PIPE	521.1012 APRON ENDWALLS FOR CULVERT PIPE STEEL	530.0112 CULVERT PIPE CORRUGATED POLYETHYLENE	608.0315 STORM SEWER PIPE REINFORCED CONCRETE CLASS III	608.0324 STORM SEWER PIPE REINFORCED CONCRETE CLASS III	608.3012 STORM SEWER PIPE CLASS IIIA	633.5200 MARKERS CULVERT END	
				24INCH	24INCH	12INCH	12INCH	15INCH	24INCH	12INCH		
CATEGORY	STATION	LTRT	STRUCTURES	EACH	LF	EACH	LF	LF	LF	LF	EACH	REMARKS
0010	2506 2534	LTRT	1.21.3	-	-	-	-	61	-	-	-	
	2426 2534	LT	1.11.3	-	-	-	-	109	-	-	-	
	2534 2555	LT	1.31.4	-	-	-	-	-	25	-	-	
	2555 2608	LT	1.41.5	-	-	-	-	-	53	-	-	
	2608 2617	LT	1.5OUT	-	-	-	-	-	12	-	-	
	2874 2880	RT	2.12.2	-	-	-	-	-	-	7	-	
	2874	RT	2.22.3	-	-	1	48	-	-	-	1	
	2912 2918	LT	3.13.2	-	-	-	-	-	-	7	-	
	2912	LT	3.23.3	-	-	1	45	-	-	-	1	
			SUBTOTAL CAT 0010	0	0	2	93	170	90	14	2	
0030	3083	LT	-	2	29	-	-	-	-	-	-	DRIVEWAY
	3085	RT	-	2	27	-	-	-	-	-	-	DRIVEWAY
			SUBTOTAL CAT 0030	4	56	0	0	0	0	0	0	
			PROJECT TOTAL	4	56	2	93	170	90	14	2	

3

STORM SEWER STRUCTURES

CATEGORY	STATION	LTRT	STRUCTURE NUMBER	611.0530 MANHOLE COVERS TYPE J EACH	611.0627 INLET COVERS TYPE HM EACH	611.0639 INLET COVERS TYPE HS EACH	611.0642 INLET COVERS TYPE MS EACH	611.0654 INLET COVERS TYPE V EACH	611.2004 MANHOLES 4FT DIAMETER EACH	611.3004 INLETS 4FT DIAMETER EACH	SPV.0060.01 INLETS 5FT DIAMETER EACH	611.3220 INLETS 22FT EACH	611.3901 INLETS MEDIAN 1 GRATE EACH	NOTES
0010	2426	23.0 LT	1.1	-	-	-	1	-	-	-	-	-	1	SINGLE SLOPE 61 MA DITCH DIKE
	2506	31.9 RT	1.2	-	-	-	1	-	-	-	-	-	1	SINGLE SLOPE 61 MA DITCH DIKE
	2534	21.5 LT	1.3	-	1	-	-	-	-	-	1	-	-	
	2555	33.4 LT	1.4	-	-	1	-	-	-	1	-	-	-	
	2608	34.7 LT	1.5	1	-	-	-	-	1	-	-	-	-	
	2880	19.2 RT	2.1	-	-	-	-	1	-	-	-	1	-	
	2874	19.2 RT	2.2	-	-	-	-	1	-	-	-	1	-	
	2918	19.2 LT	3.1	-	-	-	-	1	-	-	-	1	-	
	2912	19.2 LT	3.2	-	-	-	-	1	-	-	-	1	-	
			PROJECT TOTAL	1	1	1	2	4	1	1	1	4	2	

GUARDRAIL ITEMS

CATEGORY	STATION	614.0200 STEEL THRIE BEAM STRUCTURE APPROACH LF	614.0345 STEEL PLATE BEAM GUARD SHORT RADIUS LF	614.039 STEEL PLATE BEAM GUARD SHORT RADUIS TERMINAL EACH	614.2300 MGS GUARDRAIL 3 LF	614.2500 MGS THRIE BEAM TRANSITION LF	614.2610 MGS GUARDRAIL TERMINAL EAT EACH	NOTES
0010	2574 2606 LT	20.6	35.1	1	-	-	-	SW UAD
	2433 2548 RT	-	-	-	12.5	39.4	1	SE UAD
	2872 3000 LT	-	-	-	37.5	39.4	1	NW UAD
	2831 2933 RT	-	-	-	12.5	39.4	1	NE UAD
	PROJECT TOTAL	20.6	35.1	1	62.5	118.2	3	

		EROSION CONTROL							
		628.1504 SILT FENCE	628.1520 SILT FENCE MAINTENANCE	628.2008 EROSION MAT URBAN CLASS I TYPE B	628.6005 TURBIDITY BARRIERS	628.7005 INLET PROTECTION TYPE A	628.7015 INLET PROTECTION TYPE C	628.7504 TEMPORARY DITCH CHECKS	
CATEGORY	LOCATION	LF	LF	SY	SY	EACH	EACH	LF	NOTES
0010	2430 3000	608	1216	2891	271	8	6	75	
	UNDISTRIBUTED TY	152	304	723	68	-	-	19	
	SUBTOTAL CAT 0010	760	1520	3614	339	8	6	94	
0030	2363 2430	-	-	211	-	-	-	-	SOUTH END
	3000 3116	-	-	632	-	-	-	-	NORTH END
	UNDISTRIBUTED TY	0	0	211	0	-	-	0	
	SUBTOTAL CAT 0030	0	0	1054	0	0	0	0	
	PROJECT TOTALS	760	1520	4668	339	8	6	94	

		MOBILIZATION EROSION CONTROL	
		628.1905 MOBILIZATIONS EROSION CONTROL	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL
CATEGORY	DESCRIPTION	EACH	EACH
0010	PROJECT 73230071	3	4
	PROJECT TOTAL	3	4

		LANDSCAPING					
		625.0500 SALVAGED TOPSOIL	629.0210 FERTILIZER TYPE B	630.0170 SEEDING MITURE NO. 70	630.0200 SEEDING TEMPORARY	630.0500 SEED WATER	
CATEGORY	STATION	SY	CWT	LB	LB	MGAL	NOTES
0010	2430 3000	2723	1.9	11	78	65	
	UNDISTRIBUTED TY	681	0.5	3	20	17	
	SUBTOTAL CAT 0010	3404	2.4	14	98	82	
0030	2363 2430	263	0.2	1	7	6	SOUTH END
	3000 3116	730	0.4	3	17	14	NORTH END
	UNDISTRIBUTED TY	249	0.2	1	6	5	
	SUBTOTAL CAT 0030	1242	0.8	5	30	25	
	PROJECT TOTAL	4646	3.2	19	128	107	

REMOVING SIGNS

CATEGORY	STATION	638.2602 REMOVING SIGNS TYPE II EACH	638.3000 REMOVING SMALL SIGN SUPPORTS EACH	COMMENT
0010	2504 RT	1	1	NO PARKING
	2593 LT	1	1	BRIDGE MARKER
	2569 RT	1	1	BRIDGE MARKER
	2825 RT	1	1	BRIDGE MARKER
	2849 LT	1	1	BRIDGE MARKER
PROJECT TOTALS		5	5	

TRAFFIC CONTROL

CATEGORY	LOCATION	APPRO. SERVICE PERIOD DAYS	643.0420 TRAFFIC CONTROL BARRICADES TYPE III TY.	DAYS	643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A TY.	DAYS	643.0900 TRAFFIC CONTROL SIGNS TY.	DAYS	643.0920 TRAFFIC CONTROL COVERING SIGNS TYPE II EACH	643.1050 TRAFFIC CONTROL PCMS TY.	DAYS	643.5000 TRAFFIC CONTROL EACH
0010	PRECONSTRUCTION	7	0	0	0	0	0	0	0	2	14	-
	PROJECT AREA	150	14	2100	18	2700	6	900	0	0	0	1
	DETOUR SIGNING	150	8	1200	16	2400	165	24750	8	0	0	-
	PROJECT TOTALS			3300		5100		25650	8		14	1

ONLY ONE CYCLE

PAVEMENT MARKINGS

CATEGORY	STATION	LOCATION	646.1020 MARKING LINE EPOY 4INCH SOLID YELLOW LF	SOLID WHITE LF
0010	2430 3116	CENTERLINE	1372	-
		EDGELINES	-	1372
		PROJECT TOTALS	2744	

3

CONSTRUCTION STAKING

CATEGORY	LOCATION	650.4000 CONSTRUCTION STAKING STORM SEWER EACH	650.4500 CONSTRUCTION STAKING SUBGRADE LF	650.5000 CONSTRUCTION STAKING BASE LF	650.5500 CONSTRUCTION STAKING CURB GUTTER AND CURB & GUTTER LF	650.6501 CONSTRUCTION STAKING STRUCTURE LAYOUT B320245 EACH	650.7000 CONSTRUCTION STAKING CONCRETE PAVEMENT LF	650.9911 CONSTRUCTION STAKING SUPPLEMENTAL CONTROL 73230071 EACH	650.9920 CONSTRUCTION STAKING SLOPE STAKES LF	NOTES
0010	PROJECT	11	-	-	-	-	-	1	-	
	2430 2581	-	151	151	159	-	42	-	151	MAINLINE SOUTH
	2855 3000	-	145	145	131	-	35	-	145	MAINLINE NORTH
	SUBTOTAL CAT 0010	11	296	296	290	0	77	1	296	
0020	PROJECT	-	-	-	-	1	-	-	-	
	SUBTOTAL CAT 0020	0	0	0	0	1	0	0	0	
0030	2369 2430 RT	-	-	-	-	-	-	-	61	SOUTH SHOULDER
	3000 3116	-	116	116	-	-	-	-	116	MAINLINE NORTH
	3083 LT	-	-	-	-	-	-	-	-	DRIVEWAY
	3085 RT	-	-	-	-	-	-	-	-	DRIVEWAY
	SUBTOTAL CAT 0030	0	116	116	0	0	0	0	177	
	PROJECT TOTALS	11	412	412	290	1	77	1	473	

SAWCUTS

CATEGORY	STATION	690.0150 SAWING ASPHALT LF	NOTES
0010	2430	24	SOUTH LIMITS
	3116	25	NORTH LIMITS
	SUBTOTAL CAT 0010	49	
0030	3083	13	DWY LT
	3085	10	DWY RT
	SUBTOTAL CAT 0030	23	
	PROJECT TOTALS	72	

CONVENTIONAL SYMBOLS

SECTION LINE
QUARTER LINE
SIXTEENTH LINE
NEW REFERENCE LINE
NEW R/W LINE
EXISTING R/W OR HE LINE
PROPERTY LINE (P.L.)
LOT, TIE & OTHER MINOR LINES
SLOPE INTERCEPT
CORPORATE LIMITS
UNDERGROUND FACILITY (COMMUNICATIONS, ELECTRIC, ETC) (W) (TYPE)
NEW R/W (FEE OR HE) (HATCHING VARIES BY OWNER)
TEMPORARY LIMITED EASEMENT AREA
EASEMENT AREA (PERMANENT LIMITED OR RESTRICTED DEVELOPMENT)
TRANSMISSION STRUCTURES
BUILDING TO BE REMOVED
BRIDGE CULVERT

SECTION CORNER SYMBOL (21 22 23 24 25 26 27 28 29 30 31 32 1 2 3 4 5 6 7 8 9 10 11 12)
SECTION CORNER MONUMENT
GEODETIC SURVEY MONUMENT
SIXTEENTH CORNER MONUMENT
SIGN (SIGN)
OFF-PREMISE SIGN (91-25) (SIGN)

R/W MONUMENT (TO BE SET)
NON-MONUMENTED R/W POINT
FOUND IRON PIN (1-INCH UNLESS NOTED) IP

	COMPENSABLE	NON-COMPENSABLE
ELECTRIC POLE		
TELEPHONE POLE		
PEDESTAL (LABEL TYPE) (TV, TEL, ELEC, ETC.)		

ACCESS RESTRICTED BY ACQUISITION
NO ACCESS (BY STATUTORY AUTHORITY)
ACCESS RESTRICTED (BY PREVIOUS PROJECT OR CONTROL)
NO ACCESS (NEW HIGHWAY)

PARCEL NUMBER (25) UTILITY NUMBER (40)
PARALLEL OFFSETS

CONVENTIONAL UTILITY SYMBOLS

WATER	W
GAS	G
TELEPHONE	T
OVERHEAD TRANSMISSION LINES	OH
ELECTRIC	E
CABLE TELEVISION	TV
FIBER OPTIC	FO
SANITARY SEWER	SAN
STORM SEWER	SS
ELECTRIC TOWER	⊠

CONVENTIONAL ABBREVIATIONS

ACCESS RIGHTS	AR	POINT OF COMPOUND CURVE	PCC
ACRES	AC	POINT OF INTERSECTION	PI
AHEAD	AH	PROPERTY LINE	PL
ALUMINUM	ALUM	RECORDED AS	(100')
AND OTHERS	ET AL	REEL / IMAGE	R/I
BACK	BK	REFERENCE LINE	R/L
BLOCK	BLK	REMAINING	REM
CENTERLINE	C/L	RESTRICTIVE DEVELOPMENT EASEMENT	RDE
CERTIFIED SURVEY MAP	CSM	RIGHT	RT
CONCRETE	CONC	RIGHT OF WAY	R/W
COUNTY	CO	SECTION	SEC
COUNTY TRUNK HIGHWAY	CTH	SEPTIC VENT	SEPV
DISTANCE	DIST	SQUARE FEET	SF
CORNER	COR	STATE TRUNK HIGHWAY	STH
DOCUMENT NUMBER	DOC	STATION	STA
EASEMENT	EASE	TELEPHONE PEDESTAL	TP
EXISTING	EX	TEMPORARY LIMITED EASEMENT	TLE
GAS VALVE	GV	TRANSPORTATION PROJECT PLAT	TPP
GRID NORTH	GN	UNITED STATES HIGHWAY	USH
HIGHWAY EASEMENT	HE	VOLUME	V
IDENTIFICATION	ID		
LAND CONTRACT	LC		
LEFT	LT		
MONUMENT	MON		
NATIONAL GEODETIC SURVEY	NGS		
NUMBER	NO		
OUTLOT	OL		
PAGE	P		
POINT OF TANGENCY	PT		
PERMANENT LIMITED EASEMENT	PLE		
POINT OF BEGINNING	POB		
POINT OF CURVATURE	PC		

CURVE DATA ABBREVIATIONS

LONG CHORD	LCH
LONG CHORD BEARING	LCB
RADIUS	R
DEGREE OF CURVE	D
CENTRAL ANGLE	Δ /DELTA
LENGTH OF CURVE	L
TANGENT	T
DIRECTION AHEAD	DA
DIRECTION BACK	DB

NOTES:

POSITIONS SHOWN ON THIS PLAT ARE WISCONSIN COORDINATE REFERENCE SYSTEM COORDINATES (WISCRS), LA CROSSE COUNTY , NAD83 (2011) IN US SURVEY FEET. VALUES SHOWN ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

ALL NEW RIGHT-OF-WAY MONUMENTS WILL BE TYPE 2 (TYPICALLY ¾" X 24" IRON REBARS), UNLESS OTHERWISE NOTED, AND WILL BE PLACED PRIOR TO THE COMPLETION OF THE PROJECT.

ALL RIGHT-OF-WAY LINES DEPICTED IN THE NON-ACQUISITION AREAS ARE INTENDED TO RE-ESTABLISH EXISTING RIGHT-OF-WAY LINES AS DETERMINED FROM PREVIOUS PROJECTS, OTHER RECORDED DOCUMENTS, OR FROM CENTERLINE OF EXISTING PAVEMENTS.

RIGHT-OF-WAY BOUNDARIES ARE DEFINED WITH COURSES OF THE PERIMETER OF THE HIGHWAY LANDS REFERENCED TO THE U.S. PUBLIC LAND SURVEY SYSTEM OR OTHER "SURVEYS OF PUBLIC RECORD".

DIMENSIONING FOR THE NEW MEASURED RIGHT-OF-WAY IS ALONG AND PERPENDICULAR TO THE NEW REFERENCE LINES.

A TEMPORARY LIMITED EASEMENT (TLE) IS A RIGHT FOR CONSTRUCTION PURPOSES, AS DEFINED HEREIN, INCLUDING THE RIGHT TO OPERATE NECESSARY EQUIPMENT THEREON, THE RIGHT OF INGRESS AND EGRESS, AS LONG AS REQUIRED FOR SUCH PUBLIC PURPOSE, INCLUDING THE RIGHT TO PRESERVE, PROTECT, REMOVE, OR PLANT THEREON ANY VEGETATION THAT THE HIGHWAY AUTHORITIES MAY DEEM DESIRABLE. ALL (TLE'S) ON THIS PLAT EXPIRE AT THE COMPLETION OF THE CONSTRUCTION PROJECT FOR WHICH THIS INSTRUMENT IS GIVEN.

A PERMANENT LIMITED EASEMENT (PLE) IS A RIGHT FOR CONSTRUCTION AND MAINTENANCE PURPOSES, AS DEFINED HEREIN, INCLUDING THE RIGHT TO OPERATE NECESSARY EQUIPMENT THEREON AND THE RIGHT OF INGRESS AND EGRESS, AS LONG AS REQUIRED FOR SUCH PUBLIC PURPOSE, INCLUDING THE RIGHT TO PRESERVE, PROTECT, REMOVE, OR PLANT THEREON ANY VEGETATION THAT THE HIGHWAY AUTHORITIES MAY DEEM DESIRABLE, BUT WITHOUT PREJUDICE TO THE OWNER'S RIGHTS TO MAKE OR CONSTRUCT IMPROVEMENTS ON SAID LANDS OR TO FLATTEN THE SLOPES, PROVIDING SAID ACTIVITIES WILL NOT IMPAIR OR OTHERWISE ADVERSELY AFFECT THE HIGHWAY FACILITIES.

PROPERTY LINES SHOWN ON THIS PLAT ARE DRAWN FROM DATA DERIVED FROM MAPS AND DOCUMENTS OF PUBLIC RECORD AND/OR EXISTING OCCUPATIONAL LINES. THIS PLAT MAY NOT BE A TRUE REPRESENTATION OF EXISTING PROPERTY LINES, EXCLUDING RIGHT-OF-WAY, AND SHOULD NOT BE USED AS A SUBSTITUTE FOR AN ACCURATE FIELD SURVEY.

FOR THE CURRENT ACCESS/DRIVEWAY INFORMATION, CONTACT THE LA CROSSE COUNTY HIGHWAY DEPARTMENT.

PARCEL AND UTILITY IDENTIFICATION NUMBERS MAY NOT POINT TO ALL AREAS OF ACQUISITION, AS NOTED ON THE DETAIL PAGES.

INFORMATION FOR THE BASIS OF EXISTING HIGHWAY RIGHT-OF-WAY POINTS OF REFERENCE AND ACCESS CONTROL ARE LISTED ON THE DETAIL PAGES.

THIS PLAT IS A GRAPHIC REPRESENTATION AND IS FOR REFERENCE PURPOSE ONLY. DEEDS MUST BE CHECKED TO DETERMINE PROPERTY BOUNDARIES AND ACCESS RIGHTS.

R/W PROJECT NUMBER	SHEET NUMBER	TOTAL SHEETS
7323-00-71	4.01	2
FEDERAL PROJECT NUMBER 7323-00-71		

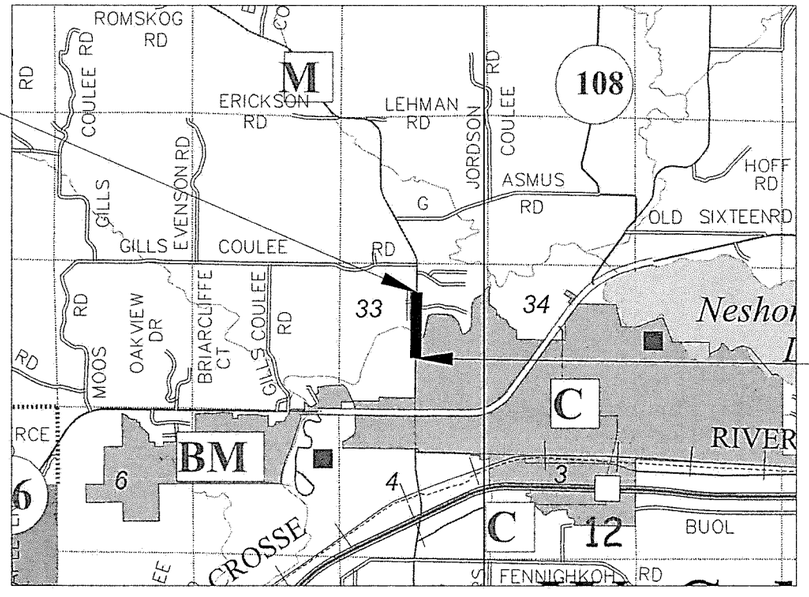
PLAT OF RIGHT OF WAY REQUIRED FOR

LA CROSSE RIVER BRIDGE
STH 16 - CTH S

CTH M	LA CROSSE COUNTY

CONSTRUCTION PROJECT NUMBER
7323-00-71

R-6-W



T-17-N

T-16-N

N

BEGIN RELOCATION
STA 24+30.00
Y = 165802.299
X = 484730.622
2419.985 FEET NORTH AND 13.740 FEET WEST OF THE SOUTH 1/4 CORNER OF SECTION 33, T17N, R6W

END RELOCATION
STA 31+16.00
Y = 166488.298
X = 484732.112
2177.835 FEET SOUTH AND 4.869 FEET EAST OF THE NORTH 1/4 CORNER OF SECTION 33, T17N, R6W

LAYOUT
SCALE 0 1.0 MILES

TOTAL NET LENGTH OF CENTERLINE = 0.130 MILES

THIS PLAT IS A GRAPHIC REPRESENTATION AND IS FOR REFERENCE PURPOSES ONLY. DEEDS MUST BE CHECKED TO DETERMINE PROPERTY BOUNDARIES AND ACCESS RIGHTS.

Original Plat Prepared by

SEH

WISCONSIN
JASON L. CANCE
S-2888
CHIPPEWA FALLS WI
LAND SURVEYOR

(Signature) 10-25-2022 (Date)

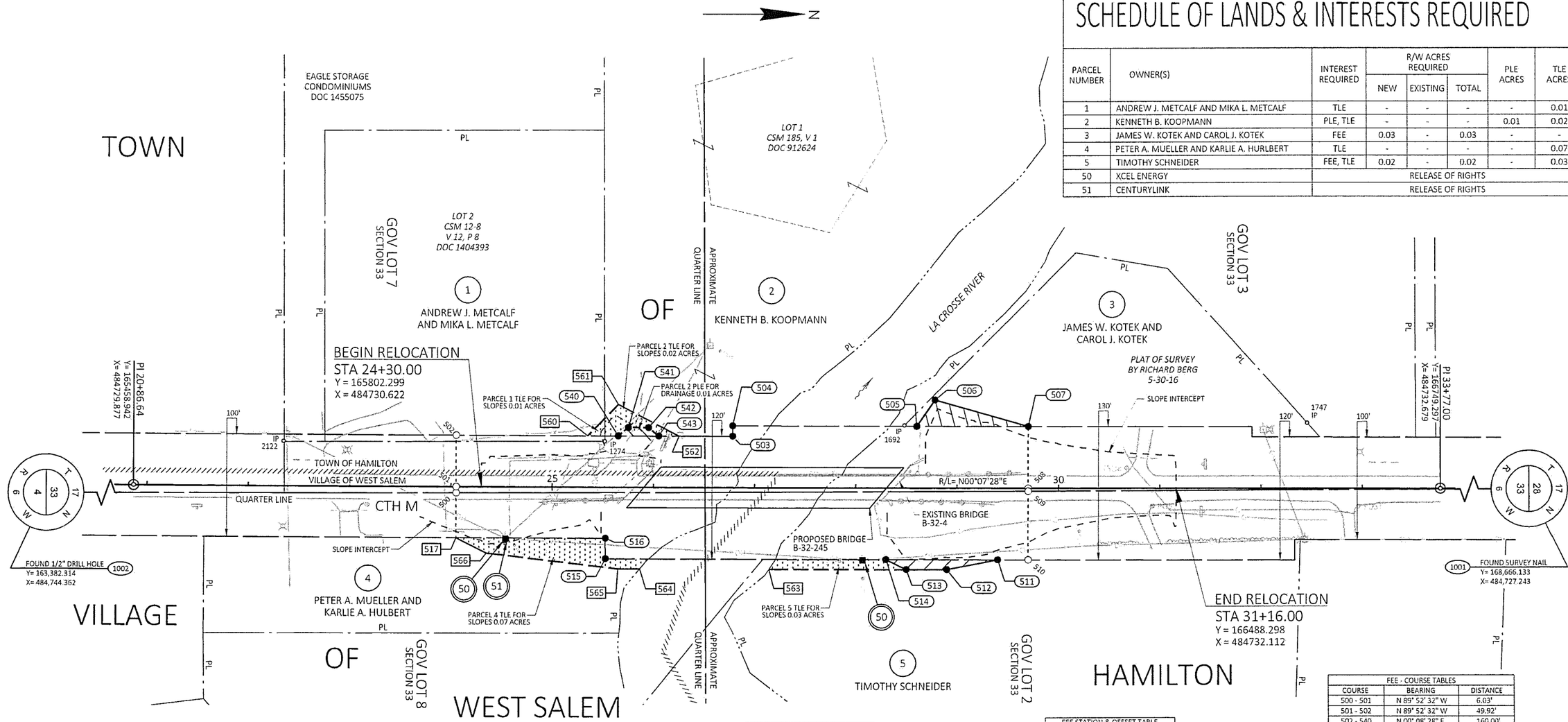
REVISION DATE

ACCEPTED FOR
COUNTY OF LA CROSSE
DATE: 11-28-22
(Signature and Title of Official)

OWNER'S NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY AND ARE SUBJECT TO CHANGE PRIOR TO TRANSFER OF LAND INTERESTS TO THE COUNTY.

SCHEDULE OF LANDS & INTERESTS REQUIRED

PARCEL NUMBER	OWNER(S)	INTEREST REQUIRED	R/W ACRES REQUIRED			PLE ACRES	TLE ACRES
			NEW	EXISTING	TOTAL		
1	ANDREW J. METCALF AND MIKA L. METCALF	TLE	-	-	-	-	0.01
2	KENNETH B. KOOPMANN	PLE, TLE	-	-	-	0.01	0.02
3	JAMES W. KOTEK AND CAROL J. KOTEK	FEE	0.03	-	0.03	-	-
4	PETER A. MUELLER AND KARLIE A. HURLBERT	TLE	-	-	-	-	0.07
5	TIMOTHY SCHNEIDER	FEE, TLE	0.02	-	0.02	-	0.03
50	XCEL ENERGY	RELEASE OF RIGHTS					
51	CENTURYLINK	RELEASE OF RIGHTS					



HISTORICAL BASIS OF R/W	YEAR
PLAT OF SURVEY BY RICHARD BERG 5-30-16	2016
EAGLE STORAGE CONDOMINIUMS DOC 1455075	2006
CSM 12-8, V 12, P 8, DOC 1404393	2004
CSM 185, V 1, DOC 912624	1980
PROJECT PLAT S 0865(1)	1954

RECOVERED MONUMENTS			
POINT	Y	X	DESCRIPTION
1274	165924.036	484686.300	3/4" REBAR
1692	166220.326	484670.893	3/4" REBAR
1747	166617.967	484669.073	1" IRON PIPE
2122	165606.851	484686.791	3/4" REBAR

SECTION LINE - COURSE TABLE		
COURSE	BEARING	DISTANCE
1002 - 500	N 00° 11' 08" W	2394.99'
500 - 509	N 00° 11' 08" W	565.01'
509 - 1001	N 00° 11' 08" W	2323.85'
1001 - 1002	S 00° 11' 08" E	5283.85'

PLE STATION & OFFSET TABLE		
POINT	STATION	OFFSET
540	25+65.00	49.87' LT
541	25+75.00	58.00' LT
542	25+95.00	58.00' LT
543	26+05.00	49.86' LT

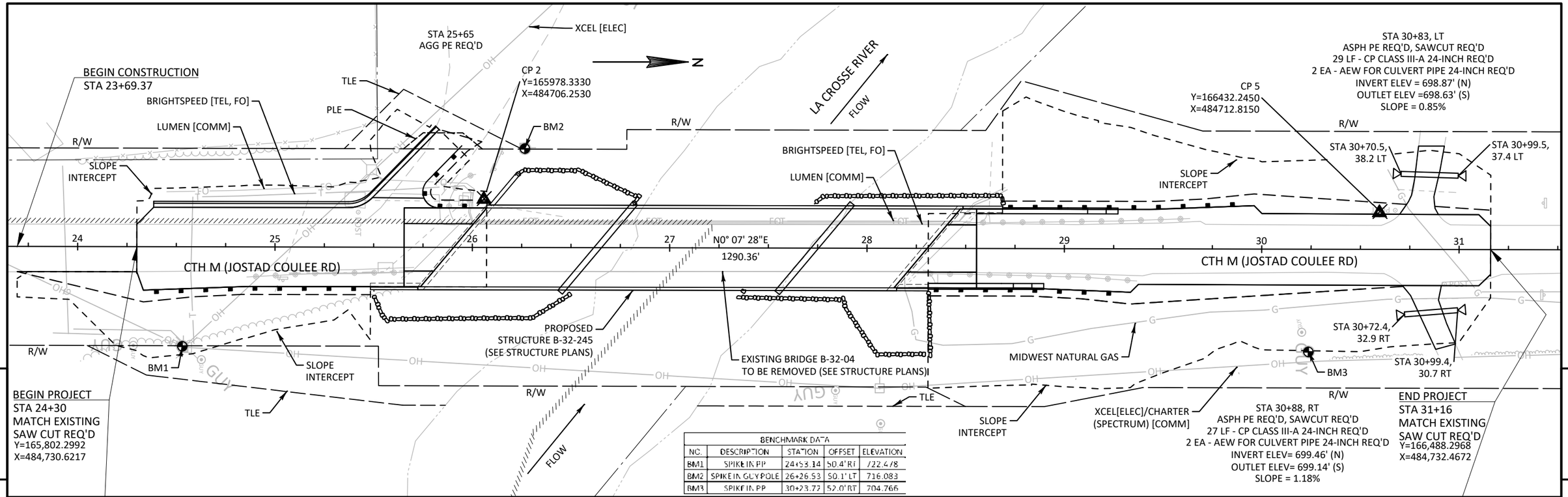
TLE STATION & OFFSET TABLE		
POINT	STATION	OFFSET
560	25+35.00	49.88' LT
561	25+65.00	80.00' LT
562	26+25.00	49.86' LT
563	27+14.25	80.00' RT
564	25+86.51	80.00' RT
565	25+65.00	80.00' RT
566	24+35.00	65.00' RT

FEE STATION & OFFSET TABLE		
POINT	STATION	OFFSET
500	24+05.00	6.03' RT
501	24+05.00	0.00
502	24+05.00	49.92' LT
503	26+78.18	49.84' LT
504	26+78.19	59.84' LT
505	28+60.00	59.79' LT
506	28+78.00	85.00' LT
507	29+70.00	59.76' LT
508	29+70.00	0.00
509	29+70.00	2.98' RT
510	29+70.00	70.24' RT
511	29+40.00	70.24' RT
512	28+90.00	80.00' RT
513	28+50.00	80.00' RT
514	28+30.00	70.20' RT
515	25+52.65	70.12' RT
516	25+52.51	50.12' RT
517	24+05.00	50.08' RT

FEE - COURSE TABLES		
COURSE	BEARING	DISTANCE
500 - 501	N 89° 52' 32" W	6.03'
501 - 502	N 89° 52' 32" W	49.92'
502 - 540	N 00° 08' 28" E	160.00'
540 - 541	N 38° 58' 23" W	12.89'
541 - 542	N 00° 07' 28" E	20.00'
542 - 543	N 39° 15' 44" E	12.89'
543 - 503	N 00° 08' 28" E	73.18'
503 - 504	N 89° 51' 32" W	10.00'
504 - 505	N 00° 08' 28" E	181.81'
505 - 506	N 54° 21' 04" W	30.98'
506 - 507	N 15° 28' 07" E	95.40'
507 - 508	S 89° 52' 32" E	59.76'
508 - 509	S 89° 52' 32" E	2.98'
509 - 510	S 89° 52' 32" E	67.27'
510 - 511	S 00° 08' 28" W	30.00'
511 - 512	S 10° 55' 32" E	50.94'
512 - 513	S 00° 07' 28" W	40.00'
513 - 514	S 26° 13' 16" W	22.27'
514 - 515	S 00° 08' 28" W	277.35'
515 - 516	S 89° 43' 56" W	20.00'
516 - 517	S 00° 08' 28" W	147.51'
517 - 500	N 89° 52' 32" W	44.04'

REVISION DATE	DATE 09/09/22	SCALE, FEET 0 50 100	HWY: CTH M	R/W PROJECT NUMBER 7323-00-71	PLAT SHEET 4.02
	GRID FACTOR N/A		COUNTY: LA CROSSE	CONSTRUCTION PROJECT NUMBER	PS&E SHEET F

FILE NAME : 040101-RP.DWG

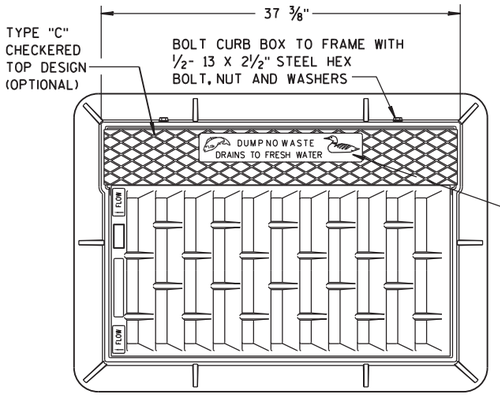


PROJECT NO: 7323-00-71	HWY: CTH M	COUNTY: LA CROSSE	PLAN AND PROFILE	SHEET 24 E

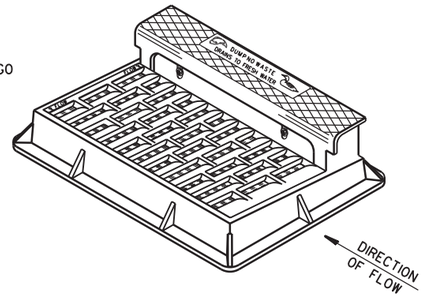
FILE NAME : \\SP-PZ1.SEHINC.COM\PZPROJECTS1\KO\L\LCCHD\159874\5-FINAL-DSGN\51-DRAWINGS\40-TRANSHWY\CIVIL 3D\73230071\SHEETSPLAN\SEC 05 PLAN & PROFILE\050100-PP (PLAN & PROFILE).DWG PROFILE.DWG 7/27/2023 3:44 PM PLOT BY : CLARISSA ERBS PLOT NAME : PLOT SCALE : 1.0 IN = ##### FT
WISDOT/CADDS SHEET 44

Standard Detail Drawing List

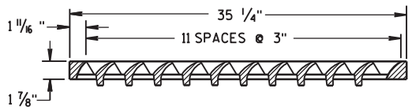
08A05-19A	INLET COVERS TYPE A, H, A-S, H-S & Z
08A05-19B	INLET COVERS TYPE B, B-A, C, MS, MS-A, & WM
08A05-19C	INLET COVERS TYPE F, HM, HM-S, S, T, V, HM-GJ, & HM-GJ-S
08A05-19D	INLET COVER TYPE BW, MANHOLE COVERS, TYPE K, J, J-S, L & M
08B09-03	MANHOLES 3-FT, 4-FT, 5-FT, 6-FT, 7-FT, 8-FT, 9-FT, 10-FT DIAMETER
08C06-02	INLETS 3-FT AND 4-FT DIAMETER
08C07-02	INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT
08C08-02	INLETS MEDIAN 1 AND 2 GRATE
08D01-23A	CONCRETE CURB & GUTTER
08D01-23B	CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS
08D03-09A	CONCRETE SURFACE DRAINS DROP INLET TYPE AT STRUCTURES
08D03-09B	CONCRETE SURFACE DRAINS DROP INLET TYPE AT STRUCTURES
08D21-01	DRIVEWAYS WITHOUT CURB & GUTTER
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E10-02	INLET PROTECTION TYPE A, B, C AND D
08E11-02	TURBIDITY BARRIER
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
08F04-08	JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL
12A03-10	NAME PLATE (STRUCTURES)
13A03-07	CONCRETE PAVEMENT SHOULDERS
13B02-09A	CONCRETE PAVEMENT APPROACH SLAB
13C01-19	CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES
14B20-12A	STEEL THRIE BEAM STRUCTURE APPROACH
14B20-12B	STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO SQUARE END PARAPETS
14B27-01A	STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL
14B27-01B	STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL
14B27-01C	STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL
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
15C02-09C	DETOUR SIGNING FOR MAINLINE CLOSURES
15C08-23A	PERMANENT LONGITUDINAL PAVEMENT MARKINGS
15C11-10B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS

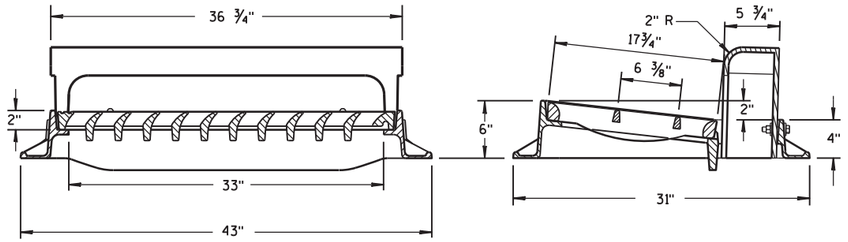


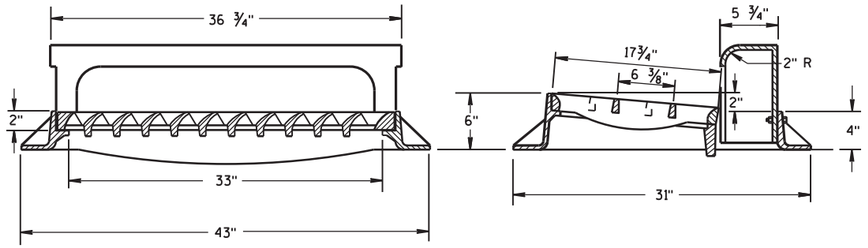
NOTE:
GRATE IS REVERSIBLE.



NOTE: CURB BOX HEIGHT ADJUSTABLE 6" TO 9"

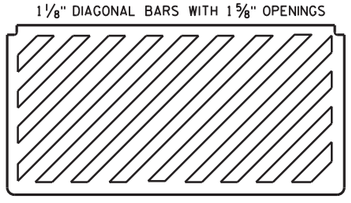






TYPE "H"

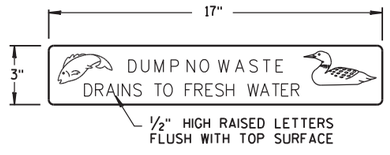
NOTE: EITHER CASTING IS ACCEPTABLE



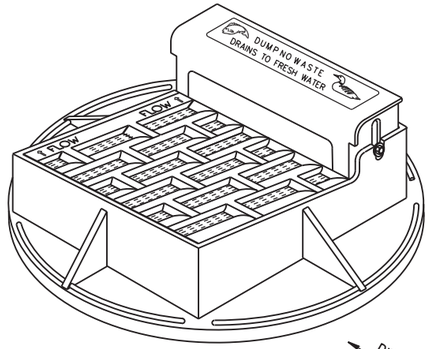
SPECIAL GRATE FOR TYPE "H" COVER

(MEASURES 35 1/4" X 17 3/4" X 2")

(NOTED AS TYPE H-S ON DRAINAGE TABLE)

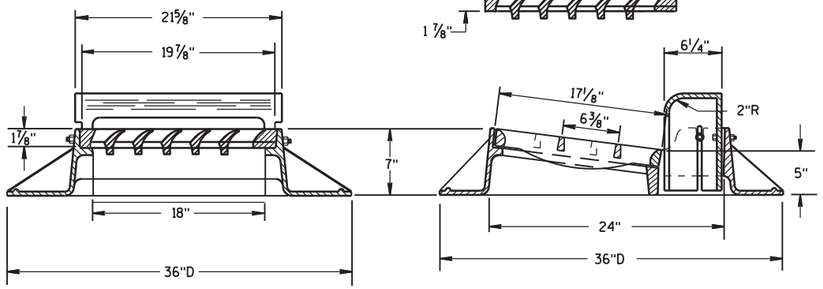


LOGO DETAIL



NOTE: CURB BOX ADJUSTABLE 4" TO 9"

NOTE:
GRATE IS REVERSIBLE.



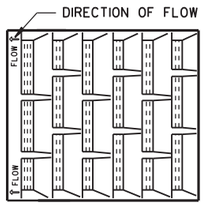
TYPE "A"

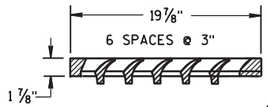
GENERAL NOTES

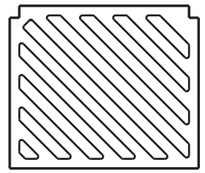
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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.



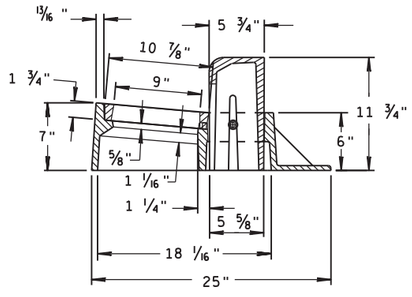


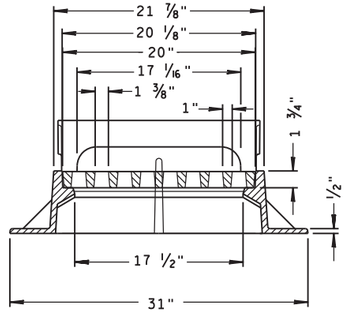


SPECIAL GRATE FOR TYPE "A" COVER

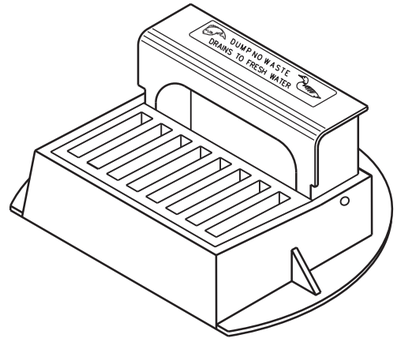
(MEASURES 19 3/4" X 17" X 1 7/8")

(NOTED AS TYPE A-S ON DRAINAGE TABLE)





TYPE "Z"



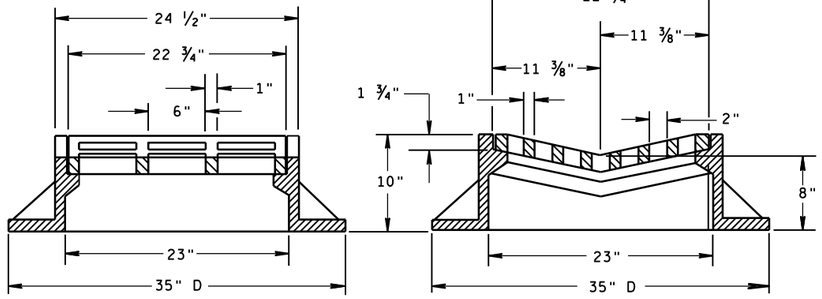
INLET COVERS TYPE A, H, A-S, H-S & Z

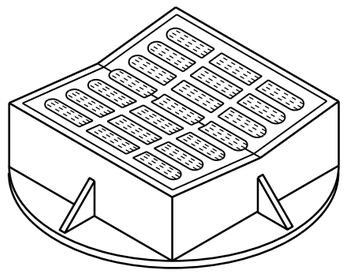
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
11-27-13 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER
FHWA

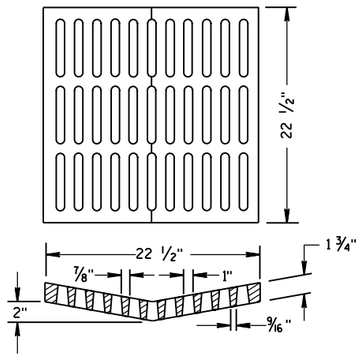
6

S.D.D. 8 A 5-19a



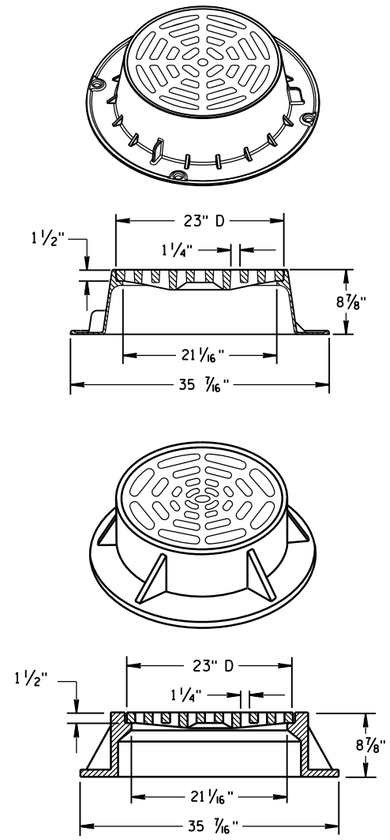


TYPE "B"



ALTERNATIVE GRATE FOR TYPE "B" COVER

USE WHERE PEDESTRIAN OR BICYCLE TRAFFIC IS POSSIBLE.
NOTED AS TYPE B-A ON THE DRAINAGE TABLE



TYPE "C"

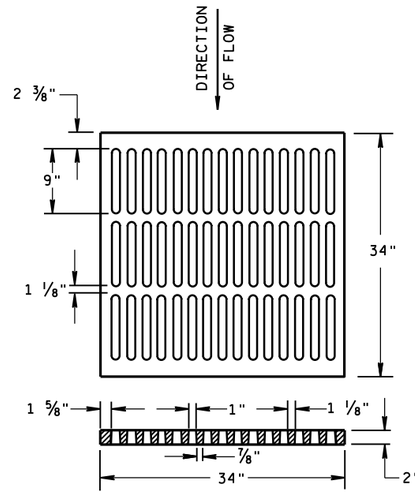
NOTE: EITHER CASTING IS ACCEPTABLE

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.

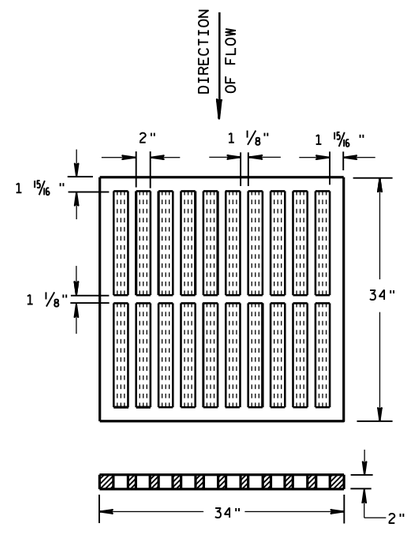
DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR CATCH BASIN, MANHOLE AND INLET COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

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



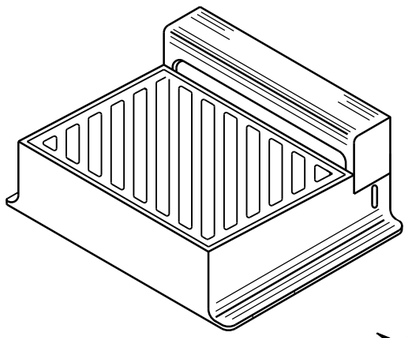
ALTERNATIVE TYPE "MS"

USE WHERE PEDESTRIAN OR BICYCLE TRAFFIC IS PERMITTED
NOTED AS TYPE MS-A ON THE DRAINAGE TABLE

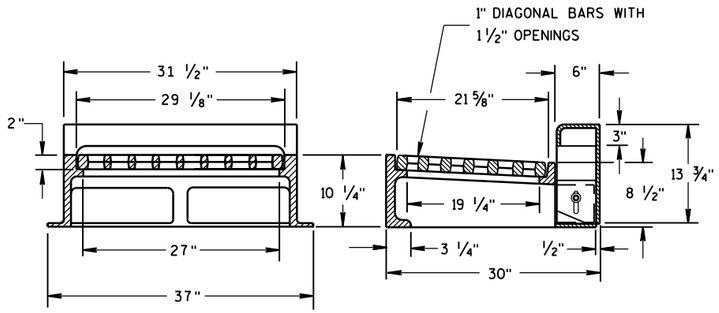


TYPE "MS"

USE ON FREEWAYS AND EXPRESSWAYS
NOTED AS TYPE MS ON DRAINAGE TABLE



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



NOTE: CURB BOX HEIGHT ADJUSTABLE 6" TO 9"

TYPE "WM"

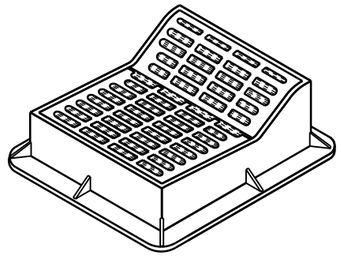
INLET COVERS
TYPE B, B-A, C, MS, MS-A, & WM

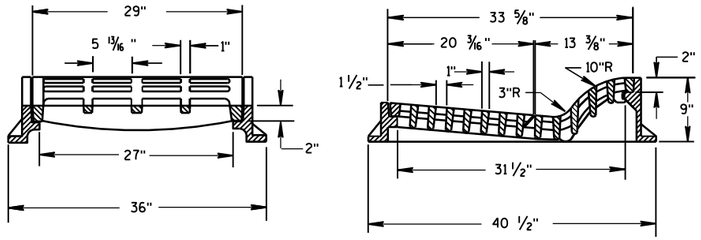
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
11/27/2013 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER
FHWA

6

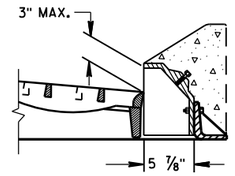
S.D.D. 8 A 5-19b





TYPE "F"

USE WITH TYPES A & D CONCRETE CURB & GUTTER, 36 INCH.



ALTERNATIVE CURB BOX FOR TYPE "HM" COVER

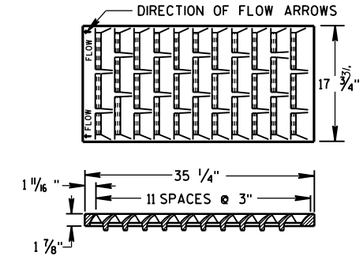
USE WITH TYPES G & J CONCRETE CURB & GUTTER, 30 INCH
NOTED AS TYPE HM-GJ ON DRAINAGE TABLE

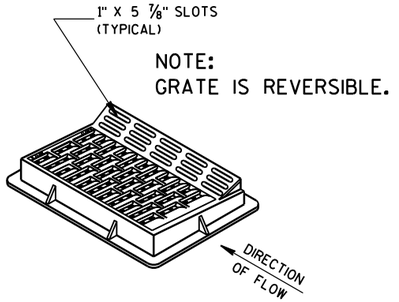
NOTE:
SPECIAL GRATE FOR THE
TYPE "H" COVER MAY ALSO BE
USED FOR THE TYPE "HM-GJ" COVER
NOTED AS TYPE HM-GJ-S ON DRAINAGE TABLE

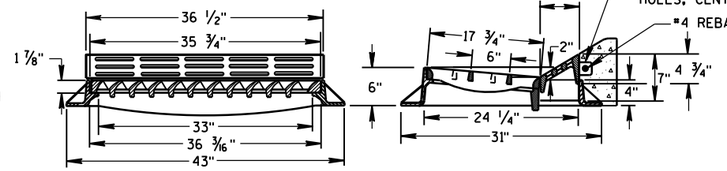
GENERAL NOTES

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.



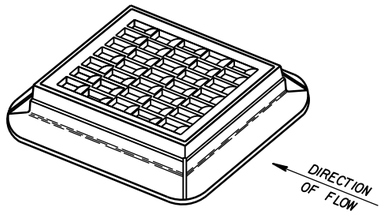


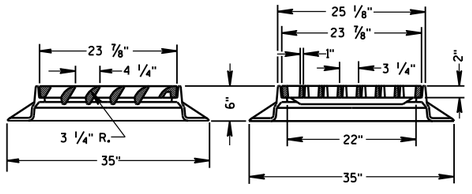


TYPE "HM"

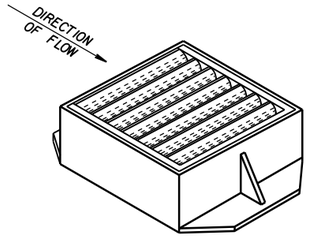
USE WITH TYPES A & D CONCRETE CURB & GUTTER, 36 INCH.

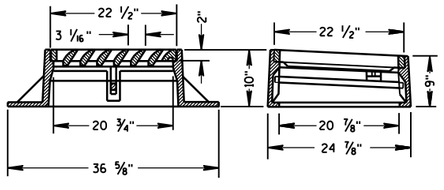
NOTE:
SPECIAL GRATE FOR THE
TYPE "H" COVER MAY ALSO BE
USED FOR THE TYPE "HM" COVER
NOTED AS TYPE HM-S ON DRAINAGE TABLE



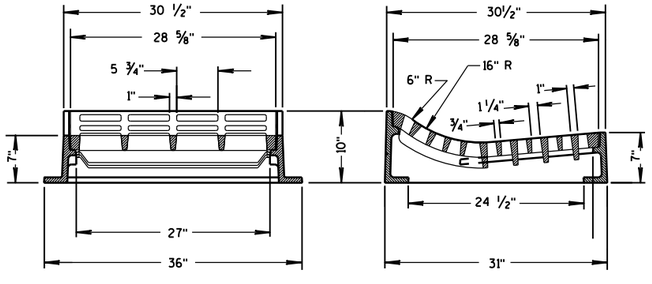


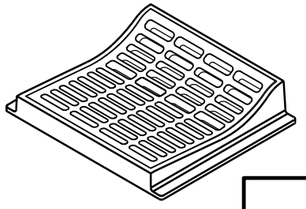
TYPE "S"





TYPE "V"





TYPE "T"

USE WITH TYPES R & T CONCRETE CURB & GUTTER, 36 INCH.

INLET COVERS
TYPE F, HM, HM-S, S, T, V, HM-GJ, & HM-GJ-S

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

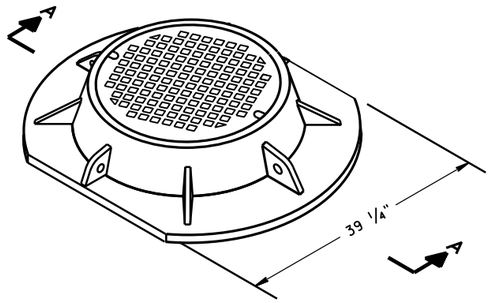
APPROVED
11/27/2013
DATE

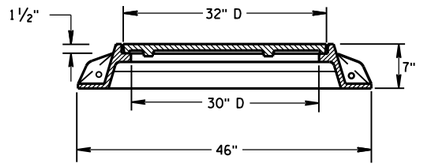
/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER

FHWA

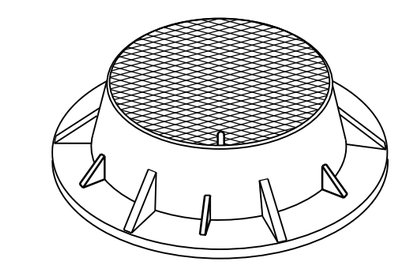
6

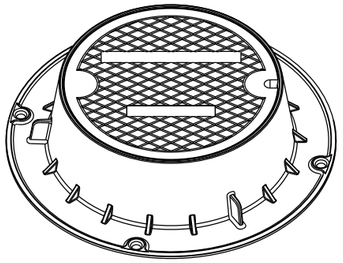
S.D.D. 8 A 5-19c

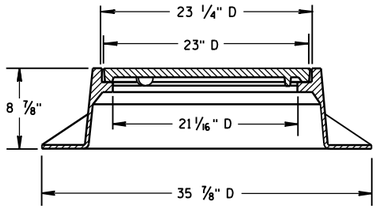


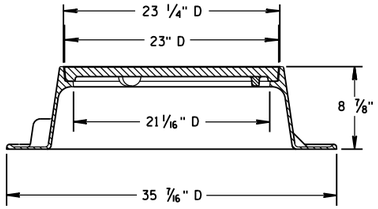


SECTION A-A
TYPE "K"









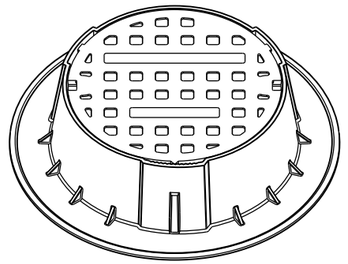
TYPE "J"
NOTE: EITHER CASTING IS ACCEPTABLE

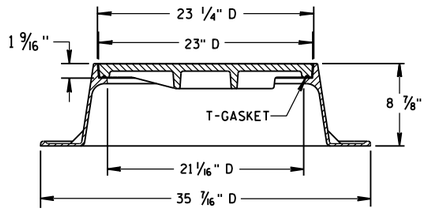
GENERAL NOTES

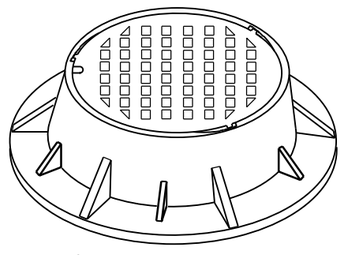
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

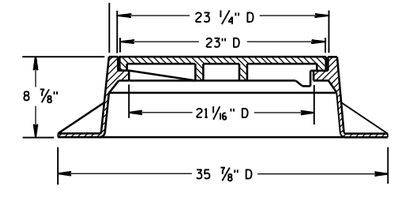
DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR MANHOLE COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

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

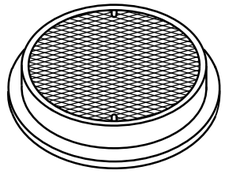


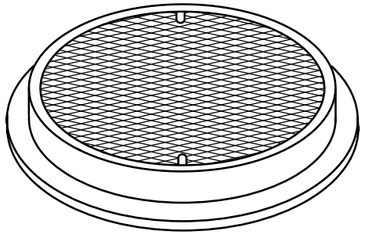


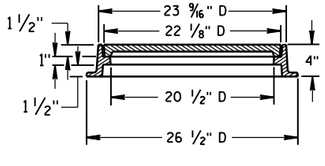




TYPE "J" SPECIAL
TYPE "B" NON-ROCKING SELF-SEAL LID
(NOTED AS TYPE J-S ON THE DRAINAGE TABLE)
NOTE: EITHER CASTING IS ACCEPTABLE







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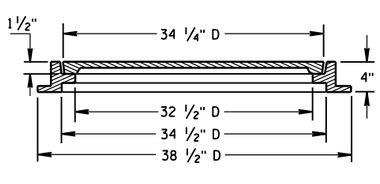

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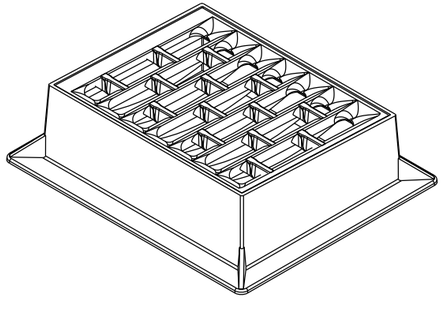
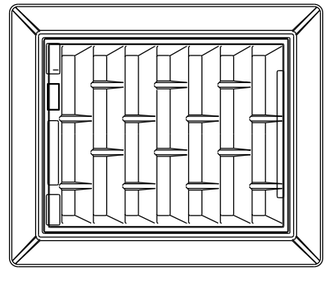
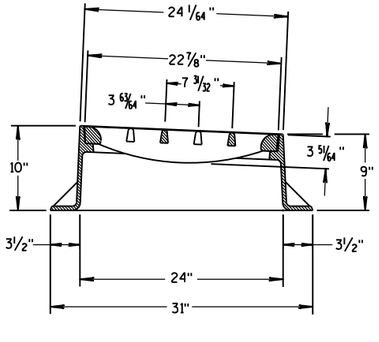
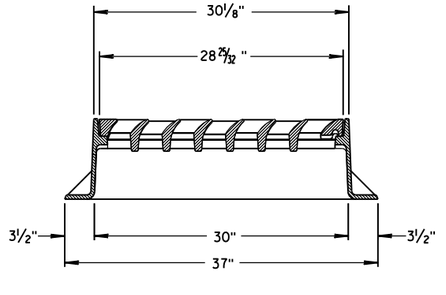








INLET COVER TYPE "BW"

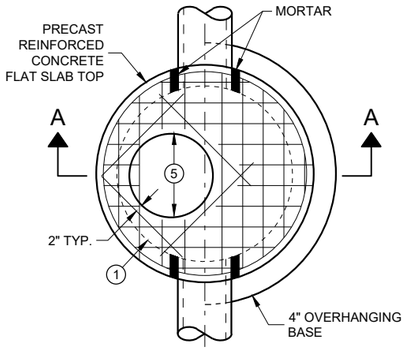
INLET COVER TYPE BW
MANHOLE COVERS, TYPE K, J, J-S, L & M

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

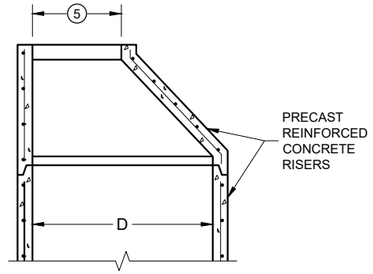
APPROVED
11/27/2013
DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

6

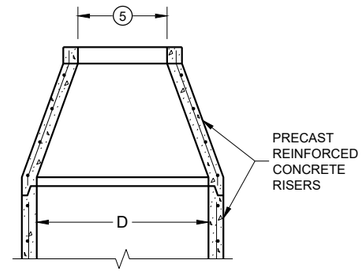
S.D.D. 8 A 5-19d



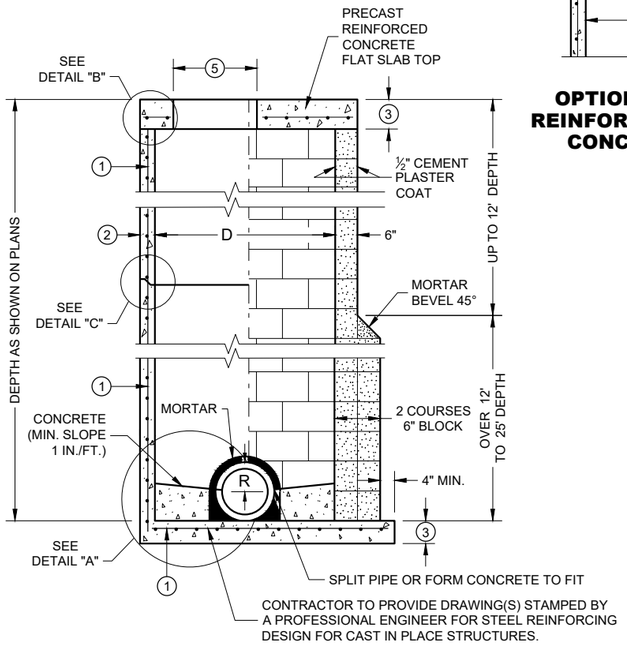
PLAN VIEW
CIRCULAR OPENING



OPTIONAL PRECAST REINFORCED CONCRETE ECCENTRIC TOP



OPTIONAL PRECAST REINFORCED CONCRETE CONCENTRIC TOP



SECTION A - A

PRECAST REINFORCED CONCRETE WITH MONOLITHIC BASE

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

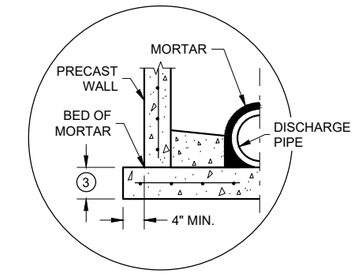
MANHOLE COVER OPENING MATRIX

OPENING SIZE (FT.) \ MANHOLE COVER TYPE	C	ALL J'S	K	L	M
2 DIA.	X	X		X	
3 DIA.			X		X

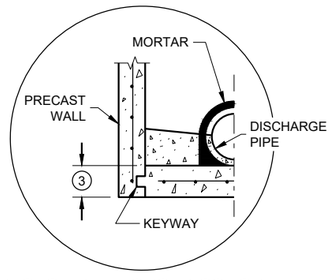
PIPE MATRIX

MANHOLE SIZE (DIA.)	MAXIMUM INSIDE PIPE DIAMETER FOR TWO PIPES		MINIMUM WALL THICKNESS (IN)	MINIMUM PRECAST FLAT SLAB TOP AND BASE THICKNESS
	180° SEPARATION (IN)	90° SEPARATION (IN)		
3-FT	15	12	4	6
4-FT	24	18	4	6
5-FT	36	24	5	8
6-FT	42	36	6	8
7-FT	48	36/42*	7	8
8-FT	60	42	8	8
9-FT	66	54	9	10
10-FT	72	60	10	10

*A 36" PIPE AND A 42" PIPE CAN BE PLACED WITHIN 90 DEGREES. SEE MINIMUM HORIZONTAL PIPE SEPARATION DETAIL.

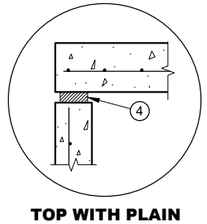


SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

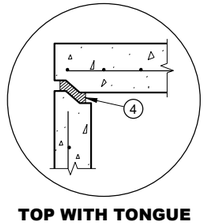


PRECAST REINFORCED CONCRETE WITH INTEGRAL BASE OPTION

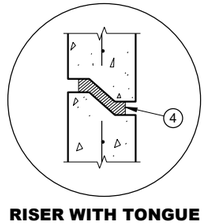
DETAIL "A"



TOP WITH PLAIN END JOINT



TOP WITH TONGUE AND GROOVE JOINT



RISER WITH TONGUE AND GROOVE JOINT

DETAIL "B" **DETAIL "C"**

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.

UNLESS OTHERWISE AUTHORIZED IN WRITING BY THE ENGINEER, THE CONTRACTOR SHALL NOT ORDER AND DELIVER PRECAST MANHOLE 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 DRAINAGE STRUCTURES ARE DESIGNATED ON THE PLANS AS "MANHOLES 3X3-L", "CATCH BASINS 4-B", "INLETS 2X3-H", ETC. THE FIRST NUMBERS DESIGNATE 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.

PRECAST REINFORCED CONCRETE CONE TOPS (ECCENTRIC OR CONCENTRIC) OR PRECAST REINFORCED CONCRETE FLAT SLAB TOPS MAY BE USED ON CONCRETE BLOCK STRUCTURES.

ECCENTRIC CONE TOPS MAY BE USED ON ALL STRUCTURES. CONCENTRIC CONE TOPS SHALL BE USED ONLY ON STRUCTURES 5 FEET OR LESS IN DEPTH UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

STEPS MEETING AASHTO M199 AND THE FOLLOWING REQUIREMENTS SHALL BE INSTALLED IN ALL STRUCTURES OVER 5 FEET IN DEPTH: 16 INCH C-C MAXIMUM SPACING; PROJECT A MINIMUM CLEAR DISTANCE OF 4 INCHES FROM THE WALL AT THE POINT OF EMBEDMENT; MINIMUM LENGTH OF 10 INCHES; MINIMUM WALL EMBEDMENT OF 3 INCHES. FERROUS METAL STEPS NOT PAINTED OR TREATED TO RESIST CORROSION SHALL HAVE A MINIMUM CROSS SECTIONAL DIMENSION OF 1 INCH.

STEPS OF APPROVED POLYPROPYLENE PLASTIC COATED REINFORCEMENT BAR ARE ACCEPTABLE. REINFORCING BAR MUST BE A MINIMUM OF ½ INCH AND MEET THE REQUIREMENTS OF ASTM A615.

CERTIFICATION SHALL BE PROVIDED THAT INSTALLED STEPS WHEN TESTED IN ACCORDANCE WITH SECTION 10 OF AASHTO T280 CAN WITHSTAND A VERTICAL LOAD OF 800 LBS. AND A HORIZONTAL LOAD OF 400 LBS.

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

ALL PRECAST MANHOLE UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF AASHTO DESIGNATION M199.

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

CONCRETE BLOCK WILL NOT BE PERMITTED FOR STRUCTURES GREATER THAN 4 FEET IN DIAMETER.

4" OVERHANGING BASES ARE REQUIRED FOR ALL 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.

FOR ADDITIONAL CONFIGURATIONS, MAINTAIN A MINIMUM OF 12 INCHES AS MEASURED FROM THE INSIDE OF THE STRUCTURE WALL BETWEEN THE OUTSIDE PIPE WALLS OF ADJACENT PIPES. SEE DETAIL "D".

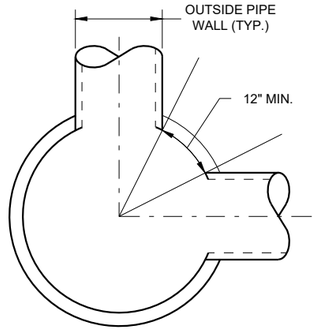
(1) FOR PRECAST MANHOLES PROVIDE REINFORCING STEEL IN ACCORDANCE TO AASHTO M199.

(2) SEE PIPE MATRIX TABLE FOR MINIMUM WALL THICKNESS FOR PRECAST MANHOLES

(3) SEE PIPE MATRIX TABLE FOR MINIMUM THICKNESS OF PRECAST FLAT SLAB TOPS AND BASES.

(4) JOINTS TO BE SEALED WITH A BUTYL RUBBER SEAL PER SEALANT MANUFACTURERS RECOMMENDATIONS CONFORMING TO ASTM C 990 (TYP.).

(5) SEE MANHOLE COVER OPENING MATRIX.



MINIMUM HORIZONTAL PIPE SEPARATION

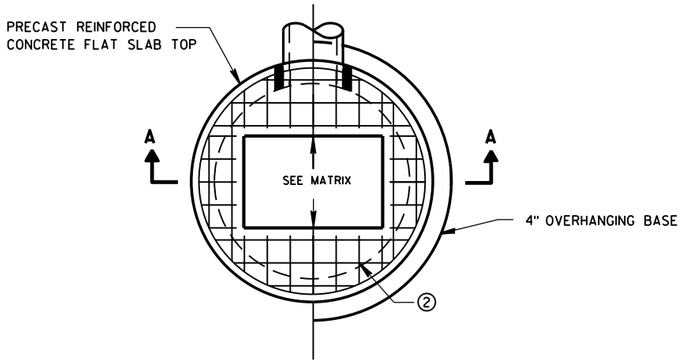
MANHOLES, 3-FT, 4-FT 5-FT, 6-FT, 7-FT, 8-FT, 9-FT AND 10-FT DIAMETER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

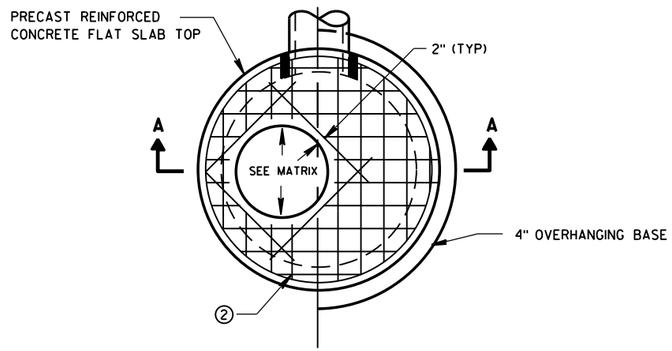
APPROVED
November 2021 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVE ENGINEER

FHWA

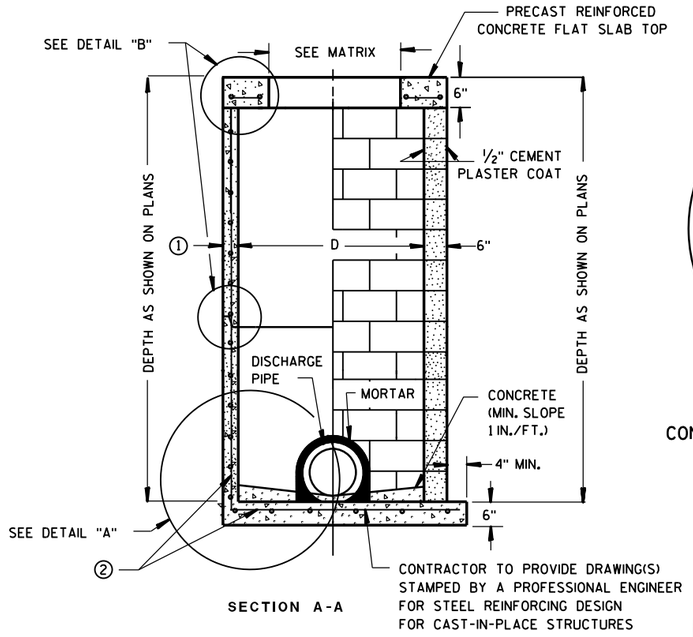
MANHOLES 3-FT, 4-FT, 5-FT, 6-FT, 7-FT, 8-FT, 9-FT AND 10-FT DIAMETER



PLAN VIEW RECTANGULAR OPENING



PLAN VIEW CIRCULAR OPENING

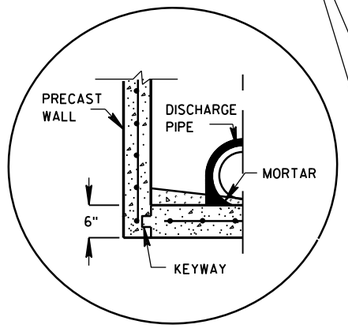


SECTION A-A

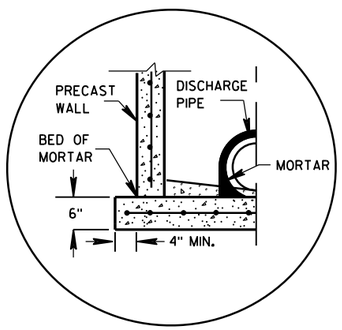
PRECAST REINFORCED CONCRETE WITH MONOLITHIC BASE

CONCRETE BLOCK WITH CAST-IN-PLACE OR PRECAST REINFORCED CONCRETE BASE ②

CIRCULAR INLETS W/ FLAT TOP

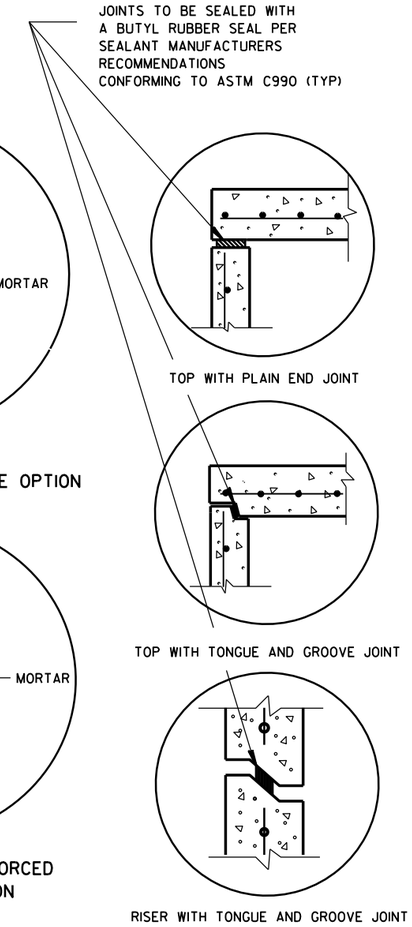


PRECAST REINFORCED CONCRETE WITH INTEGRAL BASE OPTION



SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

DETAIL "A"



DETAIL "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.

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 DRAINAGE STRUCTURES ARE DESIGNATED ON THE PLANS AS "MANHOLES 3X3-L", "CATCH BASINS 4-B", "INLETS 2X3-H", ETC. THE FIRST NUMBERS DESIGNATE 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.

ALL PRECAST INLET UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF AASHTO DESIGNATION M199.

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

4" OVERHANGING BASES ARE REQUIRED FOR ALL 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.

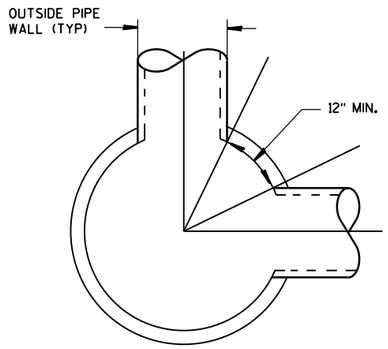
FOR ADDITIONAL CONFIGURATIONS, MAINTAIN A MINIMUM OF 12 INCHES AS MEASURED FROM THE INSIDE OF THE STRUCTURE WALL BETWEEN THE OUTSIDE PIPE WALLS OF ADJACENT PIPES. SEE DETAIL "C".

① MINIMUM WALL THICKNESS SHALL BE 4-IN FOR 3-FT DIAMETER AND 5-IN FOR 4-FT DIAMETER PRECAST INLETS.

② FOR PRECAST CATCH BASINS PROVIDE REINFORCING STEEL IN ACCORDANCE TO AASHTO M199.

INLET COVER OPENING MATRIX

	INLET COVER TYPE	ALL A'S	ALL B'S	BW	C	F	ALL H'S	S	T	V	WM	Z
INLET SIZE	OPENING SIZE (FT)											
3-FT	2 DIA.				X							X
	2X2	X	X					X		X		
4-FT	2 DIA.				X							X
	2X2	X	X					X		X		
	2X2.5			X				X	X	X	X	
	2X3						X					
	2.5X3					X						



DETAIL "C"

PIPE MATRIX

INLET SIZE	MAXIMUM INSIDE PIPE DIAMETER FOR TWO PIPES	
	180° SEPARATION (IN)	90° SEPARATION (IN)
3-FT	15	12
4-FT	24	18

INLETS 3-FT AND 4-FT DIAMETER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

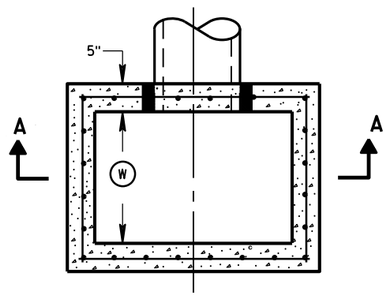
APPROVED
Sept., 2016 — /S/ Rodney Taylor
DATE — ROADWAY STANDARDS | UNIT SUPERVI ENT
FHWA

6

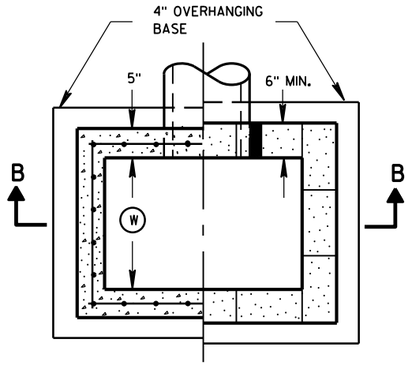
S.D.D. 8 C 6-2

6

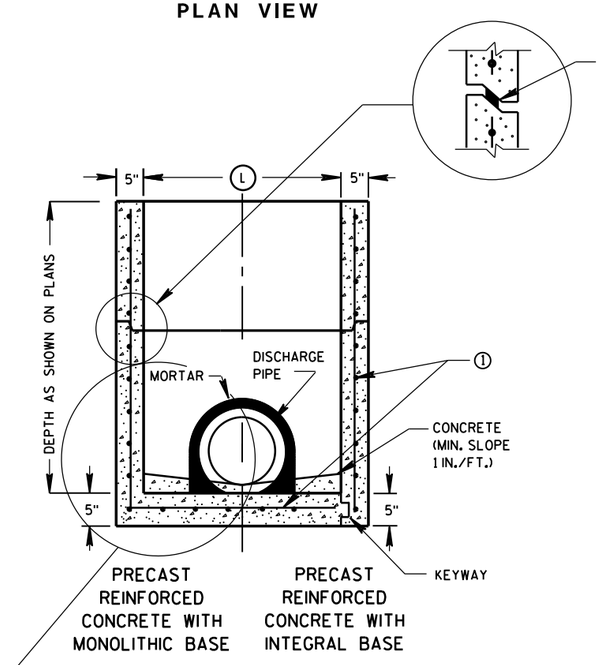
S.D.D. 8 C 6-2



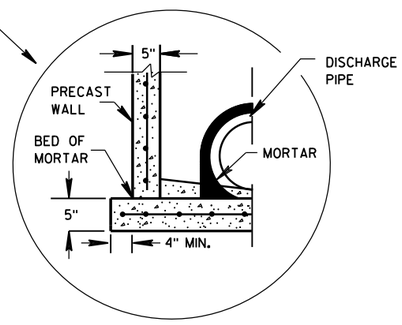
PLAN VIEW



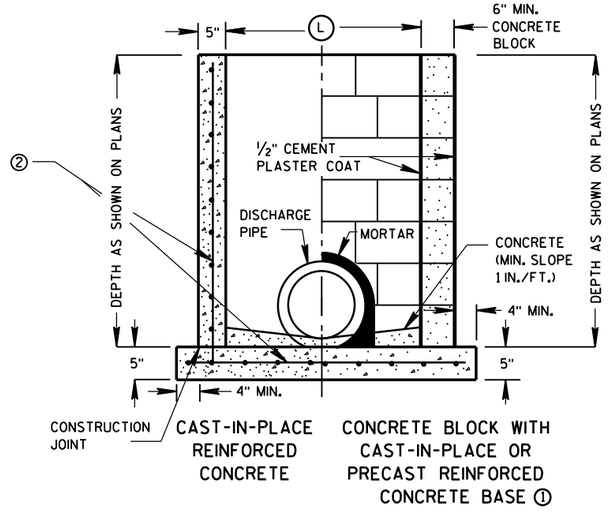
PLAN VIEW



SECTION A-A



SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION



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.

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 INCH 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 PROVIDE REINFORCING STEEL IN ACCORDANCE TO ASTM C 913.

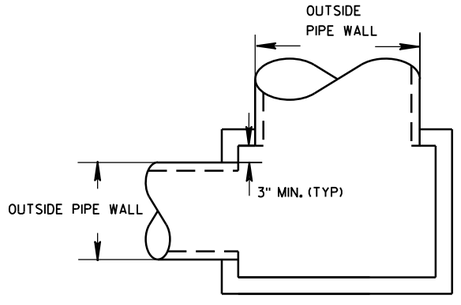
② CONTRACTOR TO PROVIDE DRAWING(S) STAMPED BY A PROFESSIONAL ENGINEER FOR STEEL REINFORCING DESIGN FOR CAST-IN-PLACE STRUCTURES.

INLET COVER MATRIX

INLET SIZE		INLET COVER TYPE	ALL A'S	ALL B'S	BW	F	ALL H'S	S	T	V	WM
	WIDTH (W) (FT)	LENGTH (L) (FT)									
2X2-FT	2	2	X	X				X		X	
2X2.5-FT	2	2.5			X			X	X	X	X
2X3-FT	2	3					X				
2.5X3-FT	2.5	3				X					

PIPE MATRIX

INLET SIZE	MAXIMUM INSIDE PIPE DIAMETER	
	WIDTH (IN)	LENGTH (IN)
2X2-FT	12	12
2X2.5-FT	12	18
2X3-FT	12	24
2.5X3-FT	18	24



DETAIL "A"

INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT

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Sept., 2016 — DATE
/S/ Rodney Taylor
ROADWAY STANDARDS D IT UNIT SUPERVIS
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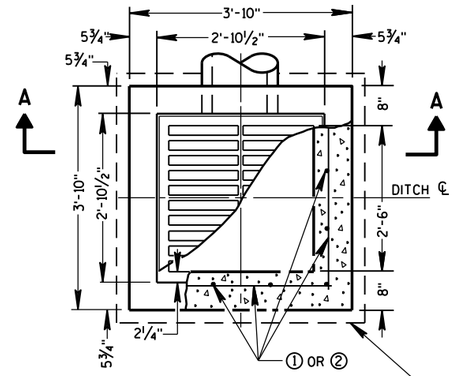
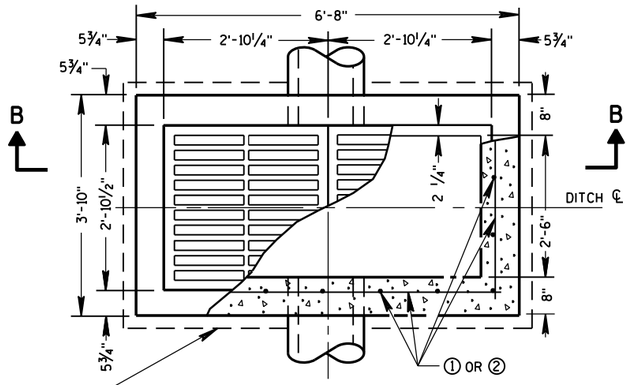
INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT

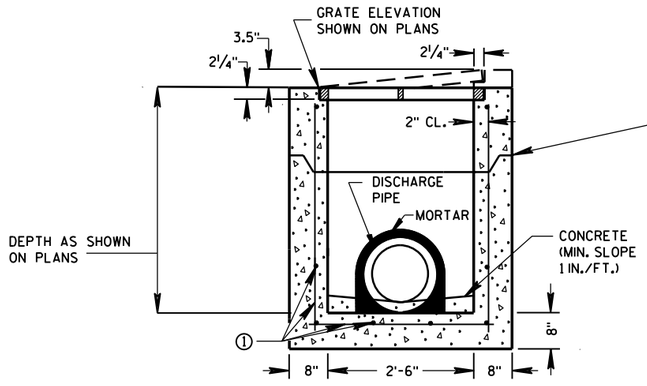


PLAN VIEW

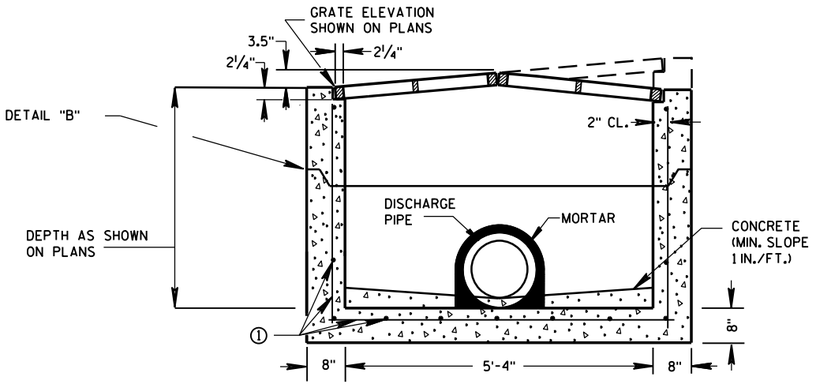


PLAN VIEW

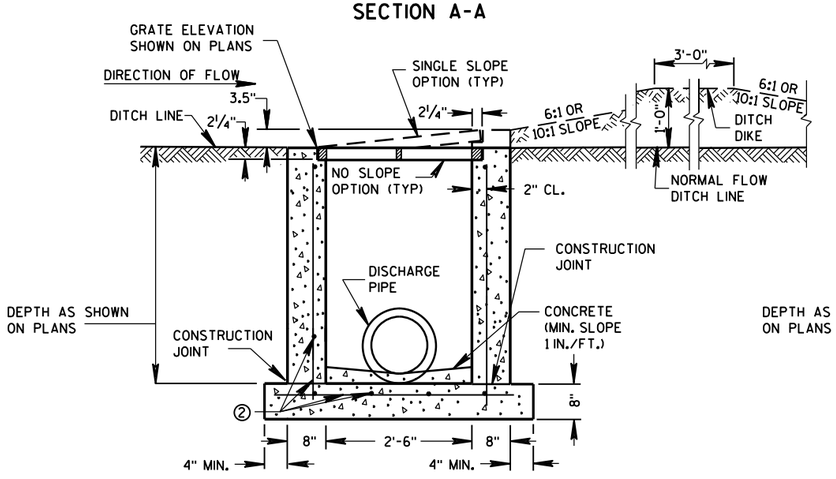
4" OVERHANGING BASE ON REINFORCED CAST-IN-PLACE CONCRETE INLETS



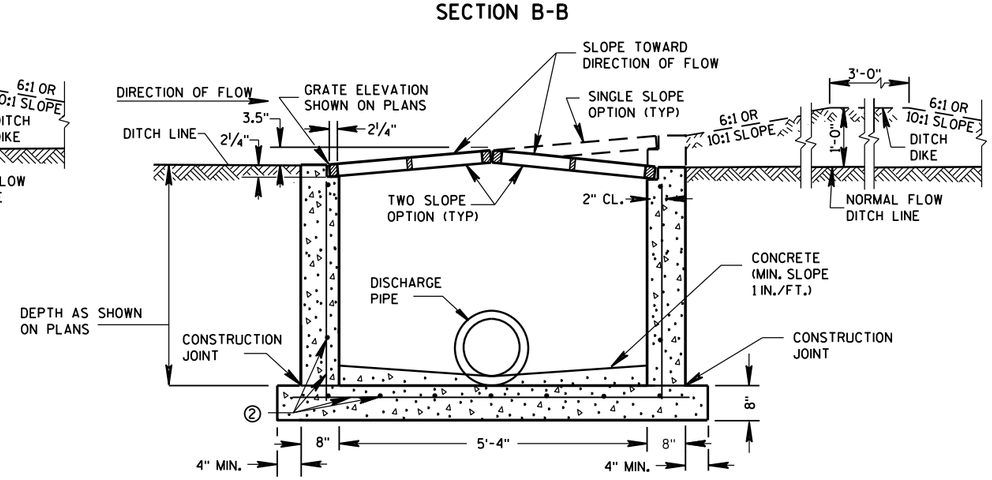
PRECAST REINFORCED CONCRETE SECTION A-A



PRECAST REINFORCED CONCRETE SECTION B-B



REINFORCED CAST-IN-PLACE CONCRETE SECTION A-A



REINFORCED CAST-IN-PLACE CONCRETE SECTION B-B

INLETS MEDIAN 1 GRATE

INLETS MEDIAN 2 GRATE

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.

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 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.

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

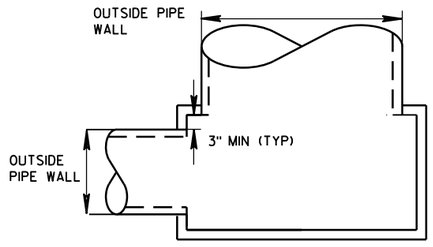
MAXIMUM INSIDE PIPE DIAMETER DETERMINED BY 3" CLEARANCE ON EACH SIDE OF THE OUTSIDE WALL OF THE PIPE. SEE DETAIL "A". ASSUMES PIPE ENTERS PERPENDICULAR TO THE STRUCTURE.

① FOR PRECAST INLETS 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.

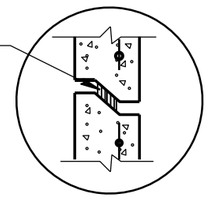
PIPE MATRIX

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



DETAIL "A"

JOINTS TO BE SEALED WITH A BUTYL RUBBER SEAL PER SEALANT MANUFACTURERS RECOMMENDATIONS CONFORMING TO ASTM C 990 (TYP)



DETAIL "B"

INLETS MEDIAN 1 AND 2 GRATE

STATE OF WISCONSIN
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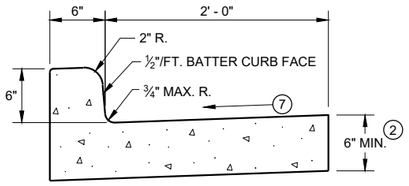
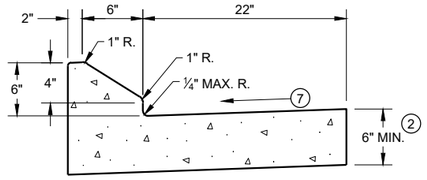
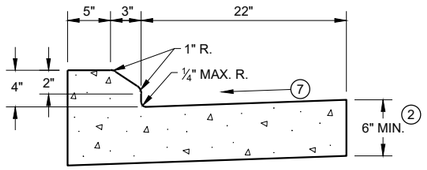


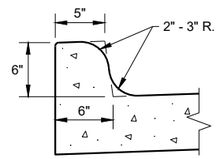
TYPES A (1) & D



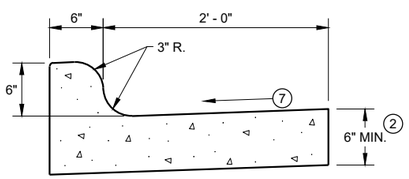
6" SLOPED CURB TYPES G (1) & J



4" SLOPED CURB TYPES G (1) & J

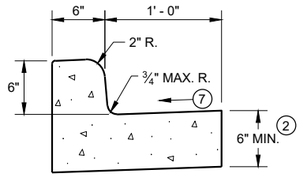


TYPES K (1) & L
(OPTIONAL CURB SHAPE)



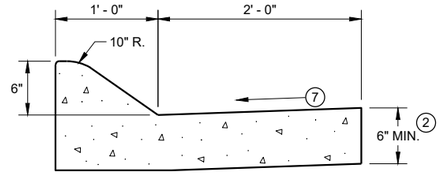
TYPES K (1) & L

CONCRETE CURB AND GUTTER 30"

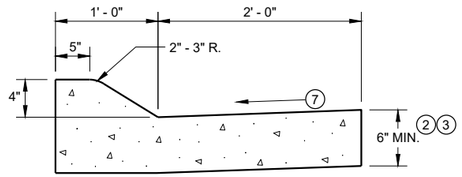


TYPES A (1) & D

CONCRETE CURB AND GUTTER 18"

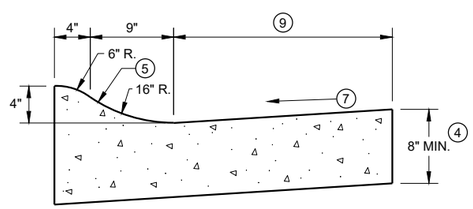


6" SLOPED CURB TYPES A (1) & D



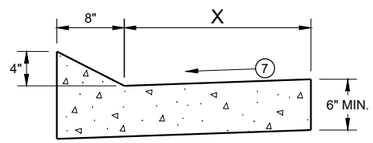
4" SLOPED CURB TYPES A (1) & D

CONCRETE CURB AND GUTTER 36"



4" SLOPED CURB TYPES R (1) & T

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

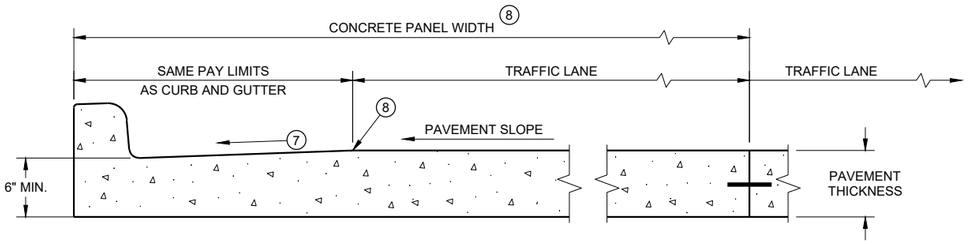


TYPES TBT & TBTT (1)

CONCRETE CURB AND GUTTER

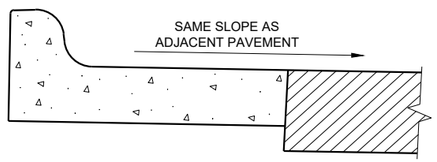
PAVEMENT THICKNESS AND MAXIMUM CONCRETE PANEL WIDTH TABLE

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.

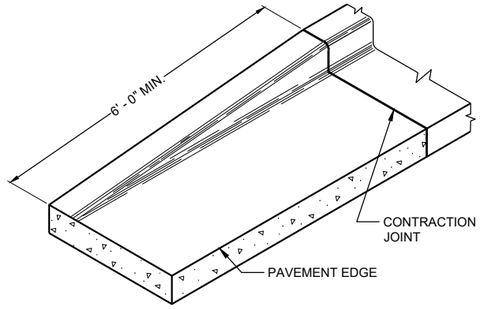
(8) INCLUDE LONGITUDINAL JOINT AND TIE BARS ALONG LANE EDGE WHEN CONCRETE PANEL WIDTH EXCEEDS THE MAXIMUM WIDTH PER TABLE BELOW. LONGITUDINAL JOINT(S) ARE NOT ALLOWED WITHIN TRAFFIC LANES AND BIKE LANES. LONGITUDINAL JOINT MAY BE SAWED.

(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

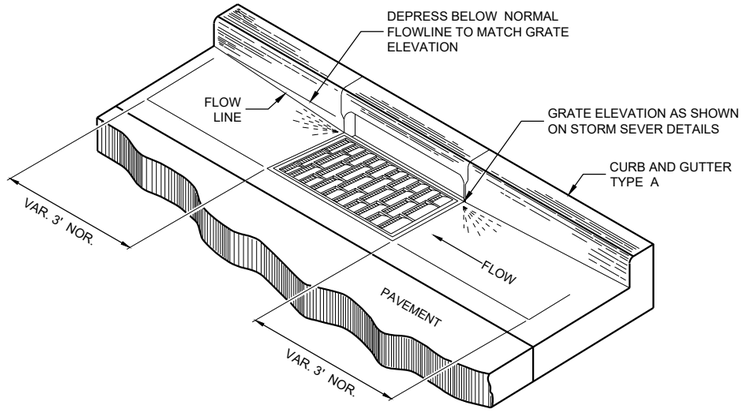
CONCRETE CURB AND GUTTER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6
SDD 08D01 - 23a



END SECTIONCURB 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.

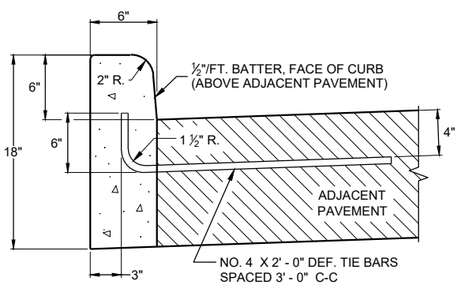
UNLESS OTHERWISE SHOWN ON THE TYPICAL CROSS SECTIONS, THE BASE AGGREGATE AND COMMON EXCAVATION LIMITS ARE 2' - 0" BEHIND THE BACK OF CURBS.

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

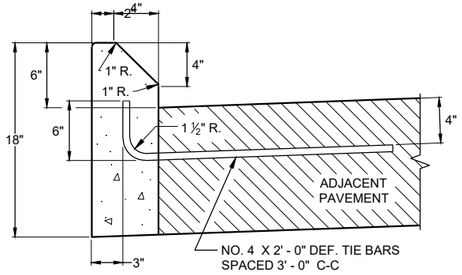
(2) THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.

(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.

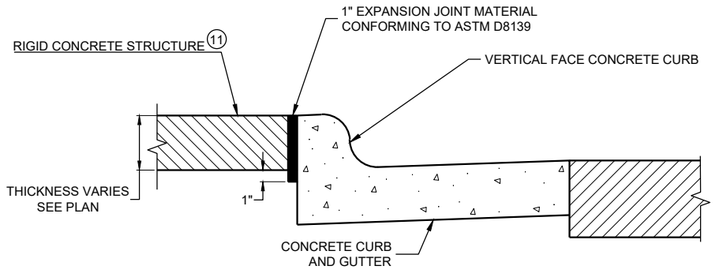


TYPES A (1) & D

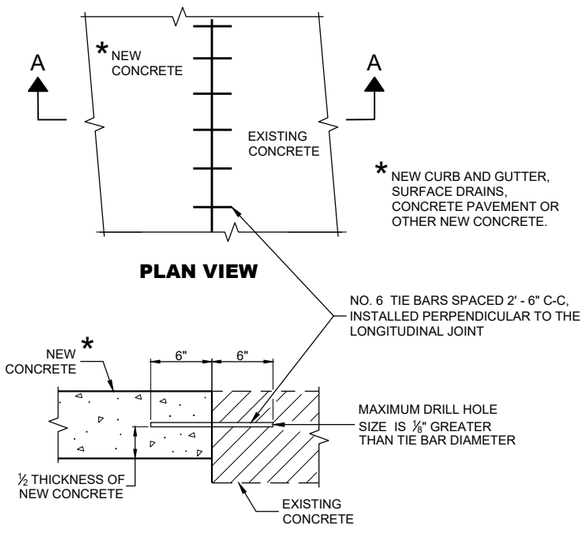


TYPES G (1) & J

CONCRETE CURB



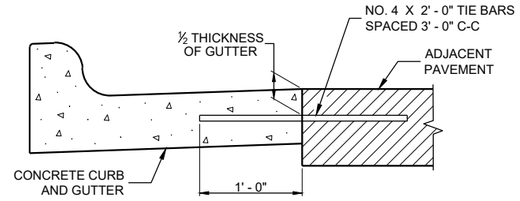
EXPANSION JOINT DETAIL FOR VERTICAL CURB ABUTTING A RIGID STRUCTURE (11)



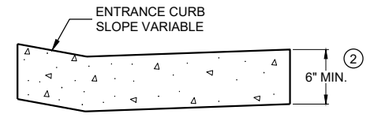
PLAN VIEW

SECTION A - A

TIE BARS DRILLED INTO EXISTING PAVEMENT



TYPICAL TIE BAR LOCATION (1)



DRIVEWAY ENTRANCE CURB (10)

(WHEN DIRECTED BY THE ENGINEER)

CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023 — DATE
/S/ Rodnery Taylor — ROADWAY STANDARDS DEVE ENGINEER

FHWA

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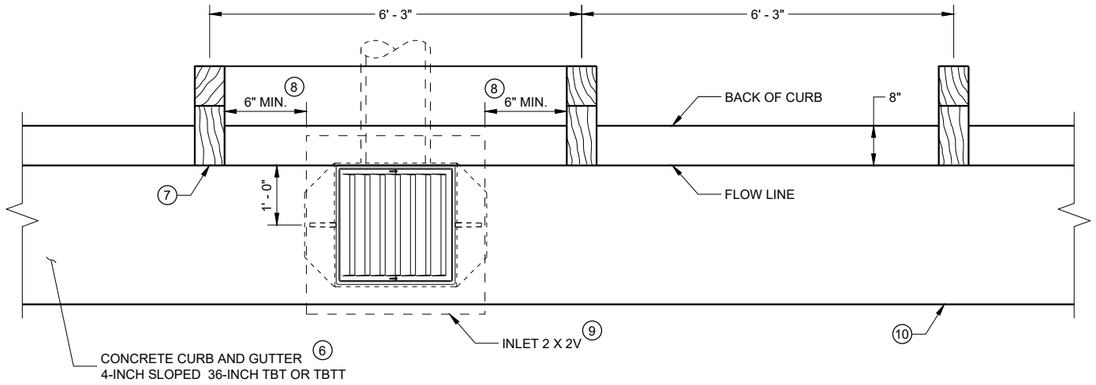
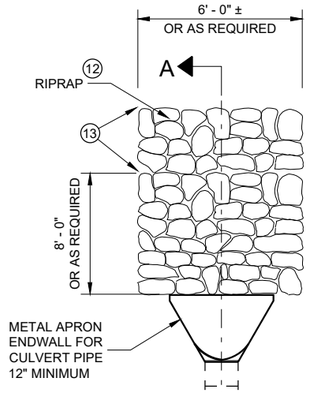
SDD08D01 - 23b



INLET PLAN VIEW

(NOTE: RAIL NOT SHOWN FOR CLARITY)



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.

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

(1) USE A JOINT SEALANT CONFORMING TO STANDARD SPECIFICATION 415.2.6.

(2) NO. 4 X 2' - 0" TIE BARS SPACED AT 12" C-C TO BE PLACED BY BRIDGE CONTRACTOR OR DRILLED TIE BARS PLACED AS DIRECTED BY THE ENGINEER.

(3) PAVED CONCRETE SHOULDER (SDD 13A03) OR CONCRETE DRAINAGE SLAB.

(4) CONCRETE PAVEMENT APPROACH SLAB (SHOWN) OR STRUCTURE APPROACH SLAB AND CONCRETE PAVEMENT APPROACH SLAB. SEE SDD 13B02.

(5) PAVED CONCRETE SHOULDER (SDD 13A03) OR ASPHALT SHOULDER.

(6) CONCRETE CURB AND GUTTER 4-INCH SLOPED 36-INCH TYPE TBT OR TBTT. USE TYPE TBTT CURB WITH NO. 4 X 2' -0" TIE BARS SPACED AT 3' - 0" C-C ONLY WHEN ADJACENT TO CONCRETE PAVEMENTS.

(7) PLACE DRAINAGE STRUCTURE BEFORE MSG THRIE BEAM TRANSITION POST 1 (SEE SDD 14B45)

(8) CENTER DRAINAGE STRUCTURE BETWEEN POSTS. 6-INCH MINIMUM SEPARATION FROM OUTSIDE WALL OF DRAINAGE STRUCTURE TO POSTS.

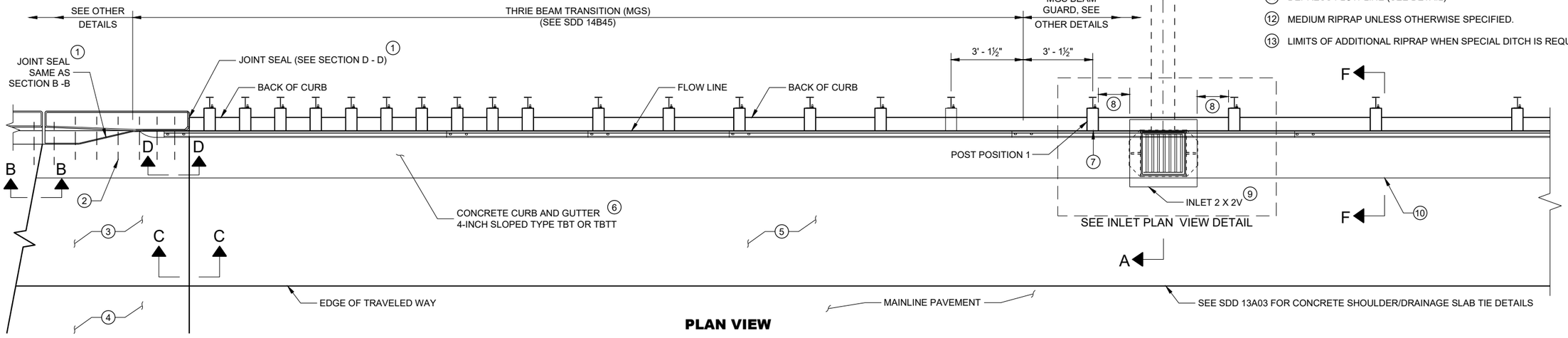
(9) SEE SDD 08A05 AND 08C07 FOR DETAILS. SEE ROADWAY PLANS FOR LOCATION.

(10) START CURB AND GUTTER TRANSITION OR END SECTION.

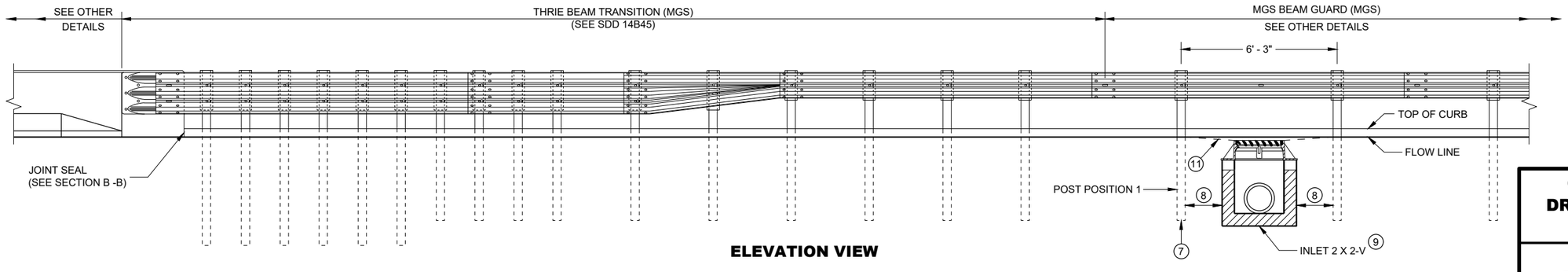
(11) DEPRESS FLOW LINE (SEE DETAIL)

(12) MEDIUM RIPRAP UNLESS OTHERWISE SPECIFIED.

(13) LIMITS OF ADDITIONAL RIPRAP WHEN SPECIAL DITCH IS REQUIRED.



PLAN VIEW



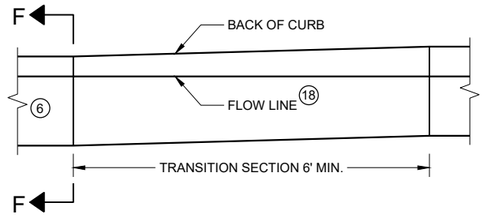
ELEVATION VIEW

CONCRETE SURFACE DRAINS DROP INLET TYPE AT STRUCTURES

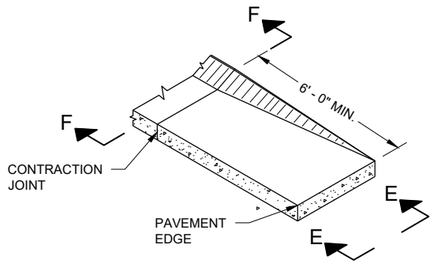
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

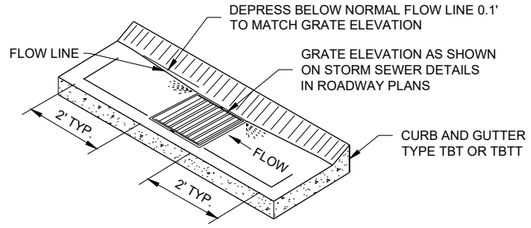
SDD 08D03 - 09a



CURB AND GUTTER TRANSITION SECTION CONCRETE CURB AND GUTTER 4-INCH SLOPED 36 INCH TYPE TBT OR TBTT



CURB AND GUTTER END SECTION CONCRETE CURB AND GUTTER 4-INCH SLOPED 36 INCH TYPE TBT OR TBTT



CURB AND GUTTER FLOW LINE DEPRESSION AT INLETS CONCRETE CURB AND GUTTER 4-INCH SLOPED 36 INCH TYPE TBT OR TBTT

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.

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

(1) USE A JOINT SEALANT CONFORMING TO STANDARD SPECIFICATION 415.2.6.

(2) NO. 4 X 2' - 0" TIE BARS SPACED AT 12" C-C TO BE PLACED BY BRIDGE CONTRACTOR OR DRILLED TIE BARS PLACED AS DIRECTED BY THE ENGINEER.

(3) PAVED CONCRETE SHOULDER (SDD 13A03) OR CONCRETE DRAINAGE SLAB.

(4) CONCRETE PAVEMENT APPROACH SLAB (SHOWN) OR STRUCTURE APPROACH SLAB AND CONCRETE PAVEMENT APPROACH SLAB. SEE SDD 13B02 AND STRUCTURE PLANS.

(5) PAVED CONCRETE SHOULDER (SDD 13A03) OR ASPHALT SHOULDER.

(6) CONCRETE CURB AND GUTTER 4-INCH SLOPED 36-INCH TYPE TBT OR TBTT. USE TYPE TBTT CURB WITH NO. 4 X 2' -0" TIE BARS SPACED AT 3' - 0" C-C ONLY WHEN ADJACENT TO CONCRETE PAVEMENTS.

(7) PLACE DRAINAGE STRUCTURE BEFORE MSG THRIE BEAM TRANSITION POST 1 (SEE SDD 14B45)

(8) CENTER DRAINAGE STRUCTURE BETWEEN POSTS. 6-INCH MINIMUM SEPARATION FROM OUTSIDE WALL OF DRAINAGE STRUCTURE TO POSTS.

(9) SEE SDD 08A05 AND 08C07 FOR DETAILS. SEE ROADWAY PLANS FOR LOCATION.

(10) START CURB AND GUTTER TRANSITION OR END SECTION.

(11) DEPRESS FLOW LINE (SEE DETAIL)

(12) MEDIUM RIPRAP UNLESS OTHERWISE SPECIFIED.

(13) LIMITS OF ADDITIONAL RIPRAP WHEN SPECIAL DITCH IS REQUIRED.

(14) GEOTEXTILE TYPE HR.

(15) MSG THRIE BEAM TRANSITION POST 1. SEE SDD 14B45 FOR ADDITIONAL CONSTRUCTION DETAILS AND ACCEPTABLE MATERIALS.

(16) MAINTAIN WIDTH, THICKNESS AND CROSS SLOPE OF ADJACENT TYPE TBT OR TBTT CURB. SEE NOTE 6 FOR TIE BAR SPACING.

(17) ALIGN FACE OF POST BLOCK WITH FLOW LINE.

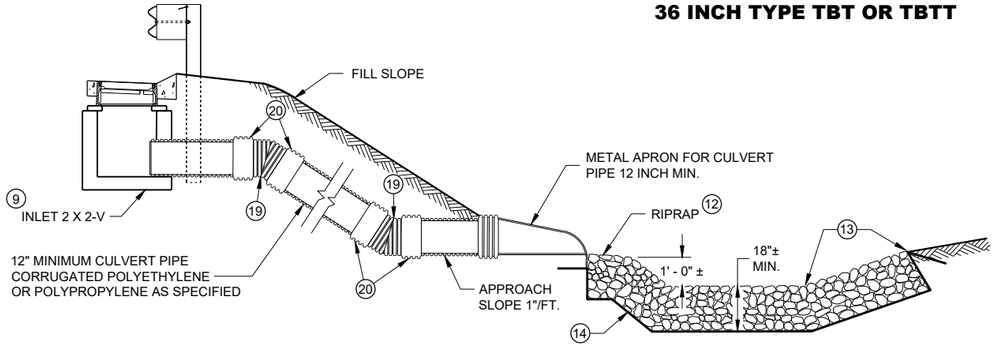
(18) MAINTAIN FLOW LINE AT EDGE OF PAVEMENT/FACE OF BEAM GUARD AS APPLICABLE.

(19) MANUFACTURER SUPPLIED BEND.

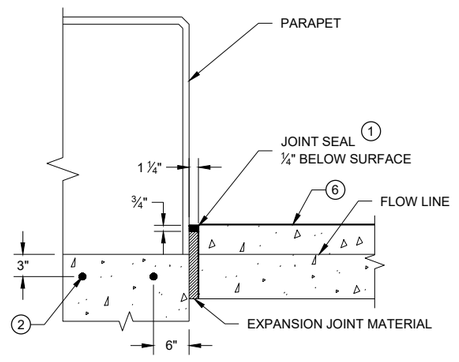
(20) MANUFACTURER SUPPLIED EXTERNAL MECHANICAL COUPLING OR A MANUFACTURER RECOMMENDED COUPLING WITH A MASTIC IMPREGNATED GEOTEXTILE WRAP AND MECHANICAL FASTENING BANDS.

(21) MINIMUM REINFORCEMENT SHALL BE 6" X 6" - W4.0 X W4.0 OR NO. 3 BARS LONGITUDINAL AND TRANSVERSE SPACING 12" C - C.

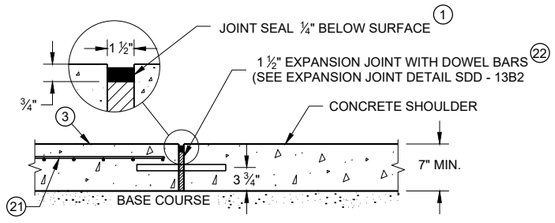
(22) DO NOT CONSTRUCT AN EXPANSION JOINT OR INSTALL DOWEL BARS WHEN ABUTTING HMA PAVEMENTS.



SECTION A - A

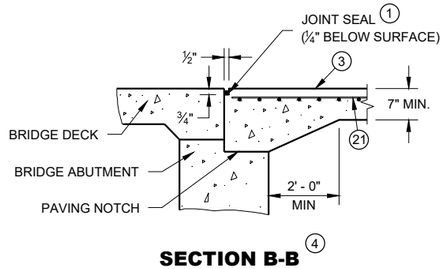


SECTION D - D

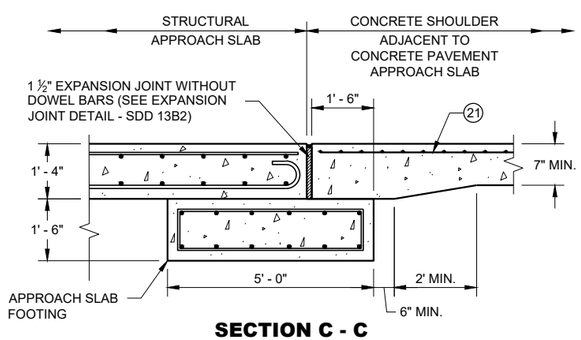


SECTION C - C

JOINT DETAIL FOR BRIDGE APPROACH WITH CONCRETE SHOULDERS

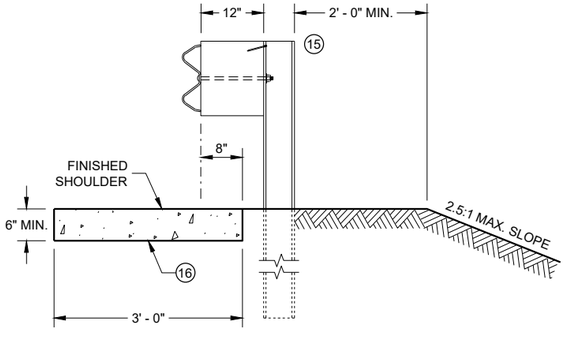


SECTION B-B (4)

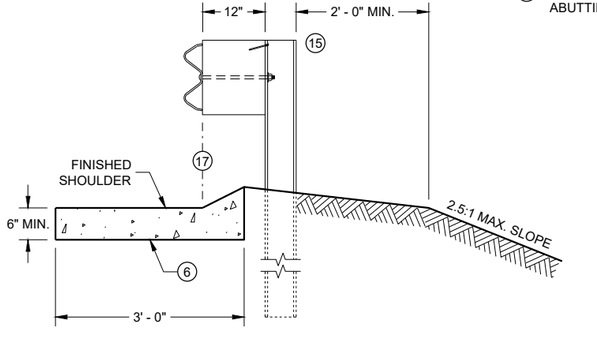


SECTION C - C

JOINT DETAIL FOR BRIDGE WITH STRUCTURAL APPROACH SLAB AND CONCRETE APPROACH SLAB



SECTION E - E



SECTION F - F

CONCRETE SURFACE DRAINS DROP INLET TYPE AT STRUCTURES

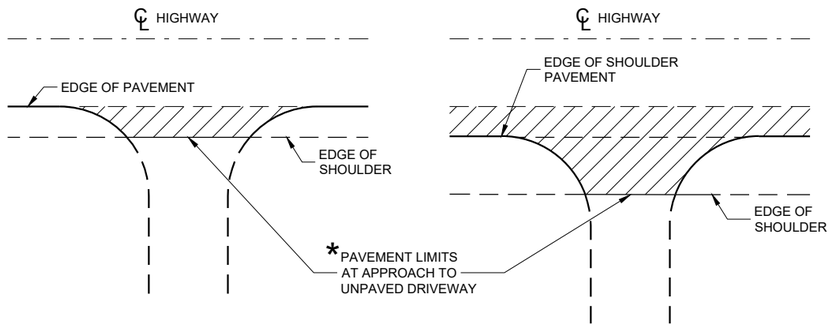
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVE ENGINEER

FHWA

6

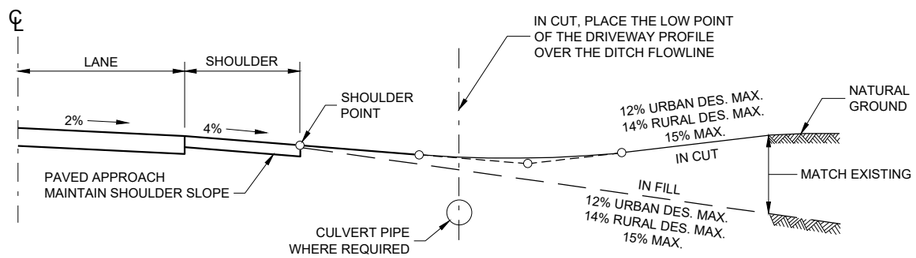
SDD 08D03 - 09b



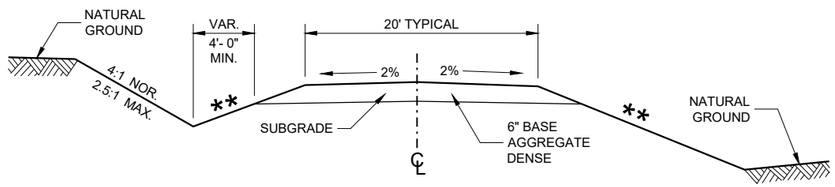
PLAN VIEW
(UNPAVED SHOULDER ON HIGHWAY)

PLAN VIEW
(PAVED SHOULDER ON HIGHWAY)

RURAL DRIVEWAY INTERSECTION DETAIL
(NO CURB AND GUTTER OR SIDEWALK)



TYPICAL DRIVEWAY PROFILES

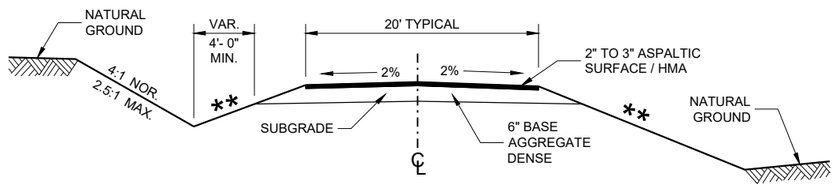


IN CUT **IN FILL**

TYPICAL CROSS SECTION FOR PRIVATE DRIVE OR FIELD ENTRANCE AGGREGATE SURFACE

** SLOPE CAN VARY WITH SPEED. SEE 11-45-30.6.2

POSTED SPEED MPH	MAX. SLOPE
<35	4:1
≥ 35 TO < 60	6:1
≥60	10:1



IN CUT **IN FILL**

TYPICAL CROSS SECTION FOR PRIVATE DRIVE OR FIELD ENTRANCE ASPHALTIC SURFACE

DRIVEWAYS WITHOUT CURB AND GUTTER

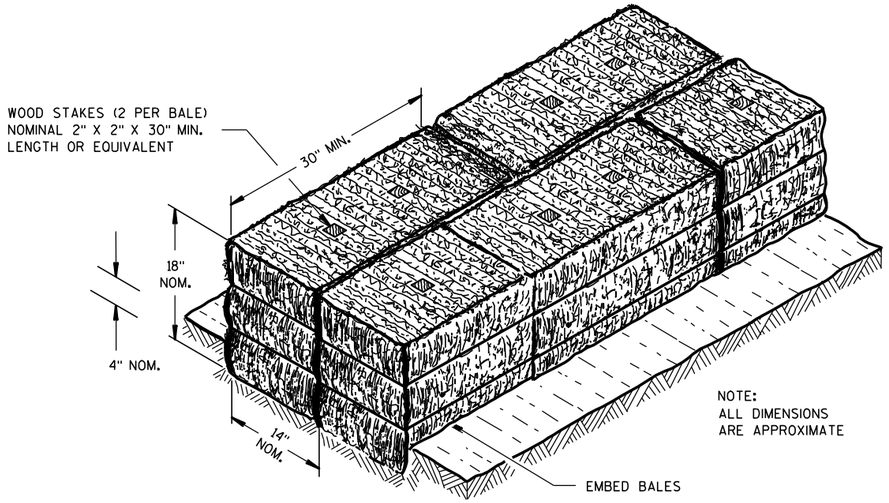
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
December 2017 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVE UNIT SUPERVISOR

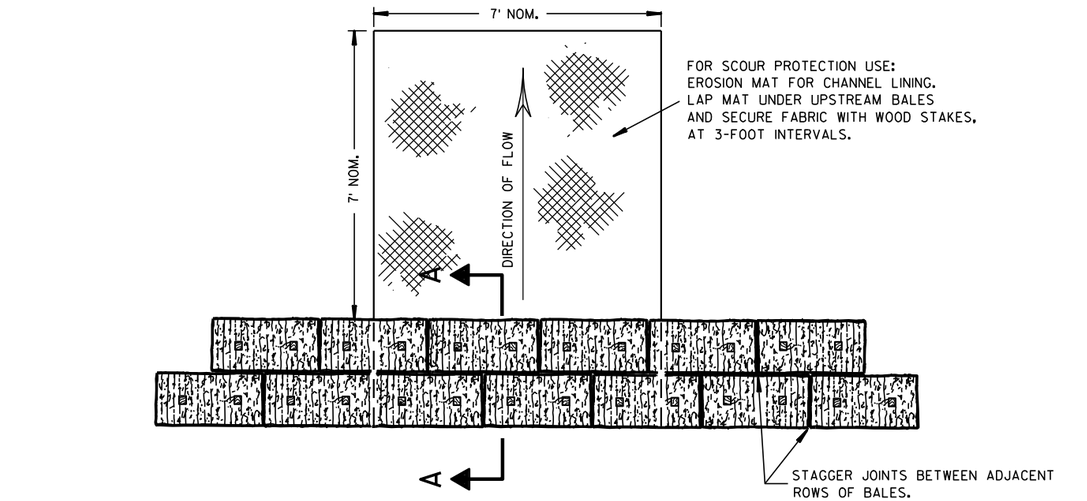
FHWA

6

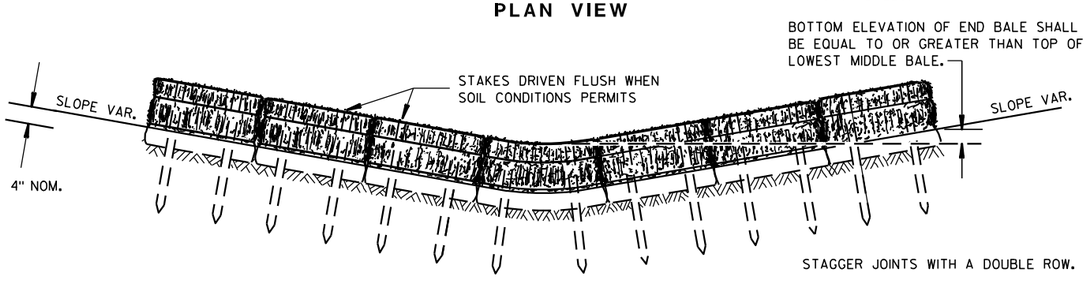
SDD 08D21 - 01



SECTION A-A



PLAN VIEW



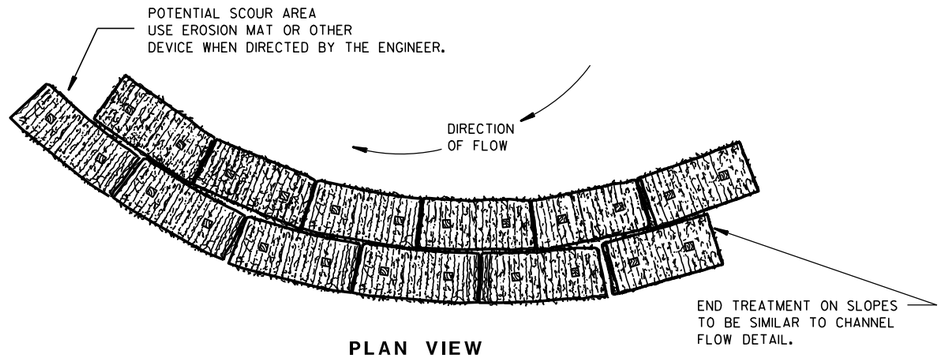
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES (1)

GENERAL NOTES

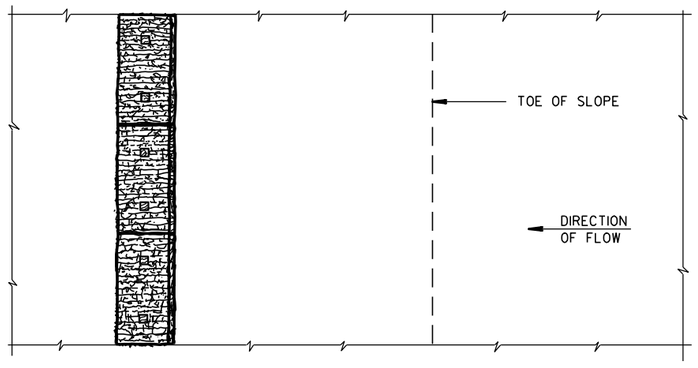
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

(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.

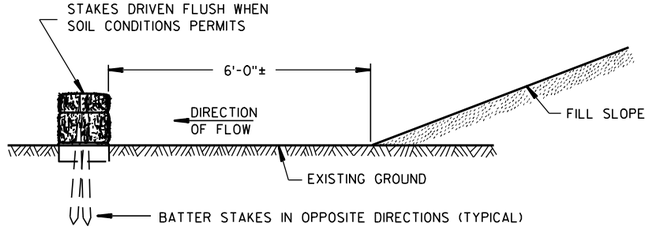


PLAN VIEW

WHEN ALTERING THE DIRECTION OF FLOW



PLAN VIEW



FRONT ELEVATION

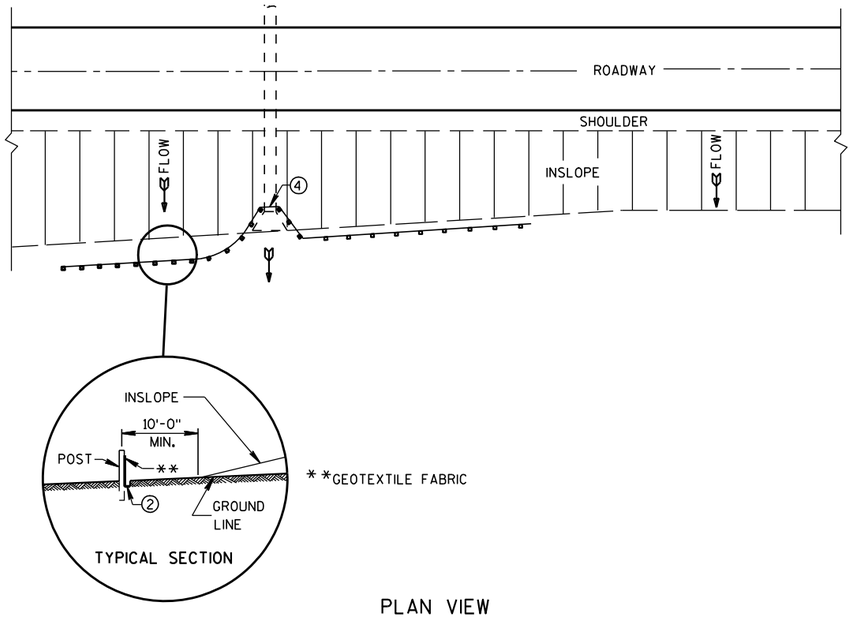
WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE

EROSION BALES FOR SHEET FLOW

TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS

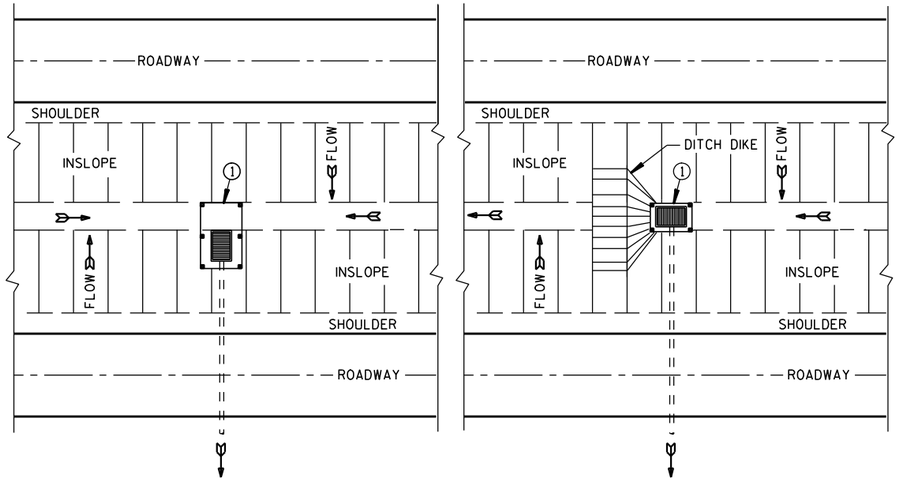
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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



PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



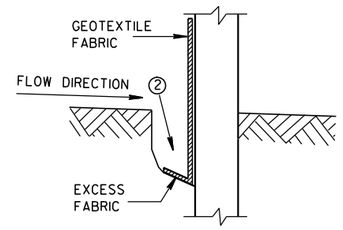
PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

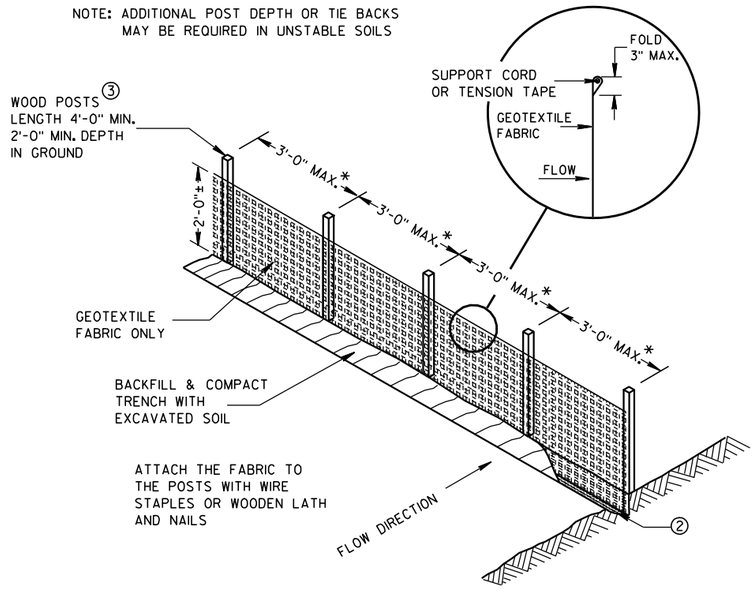
GENERAL NOTES

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

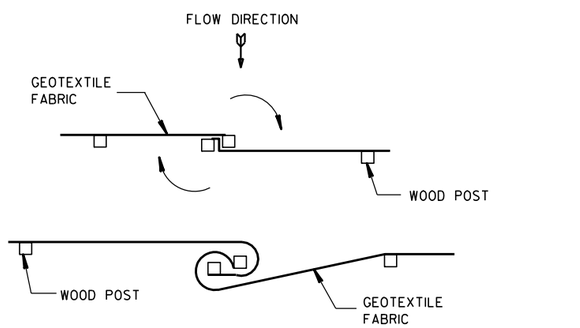
1. HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
2. FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
3. WOOD POSTS SHALL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



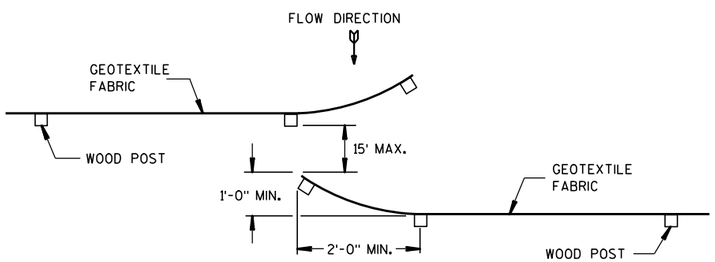
TRENCH DETAIL



SILT FENCE

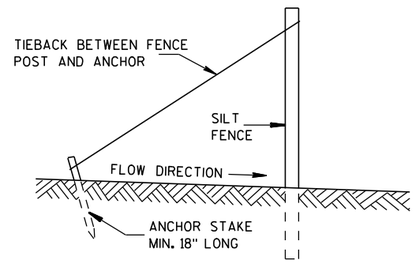


TWIST METHOD



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

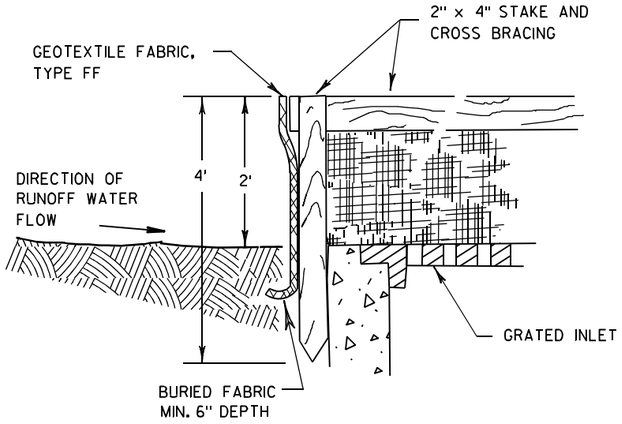
APPROVED
4-29-05 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

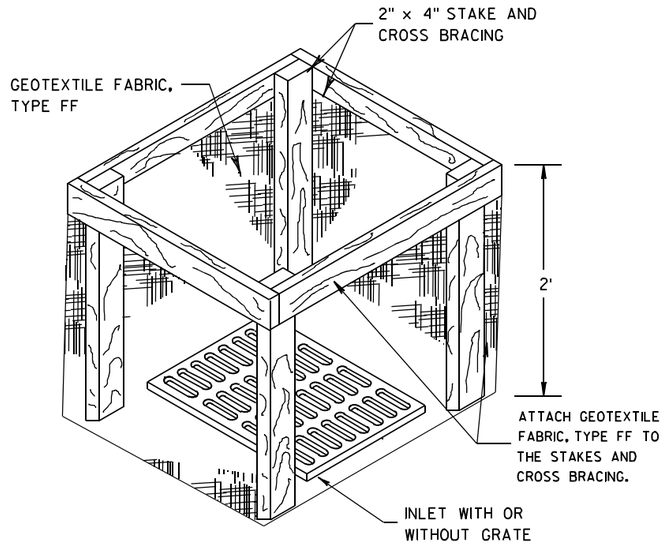
6

S.D.D. 8 E 9-6

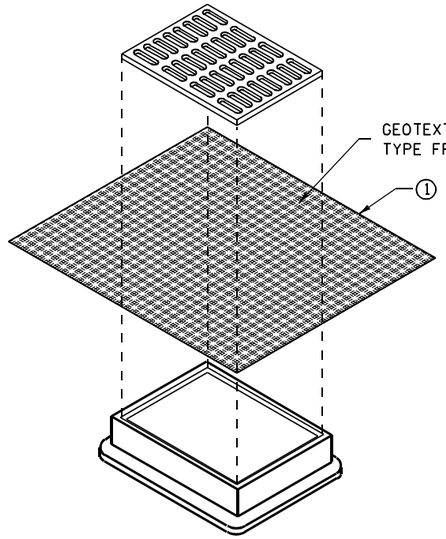
6

S.D.D. 8 E 9-6



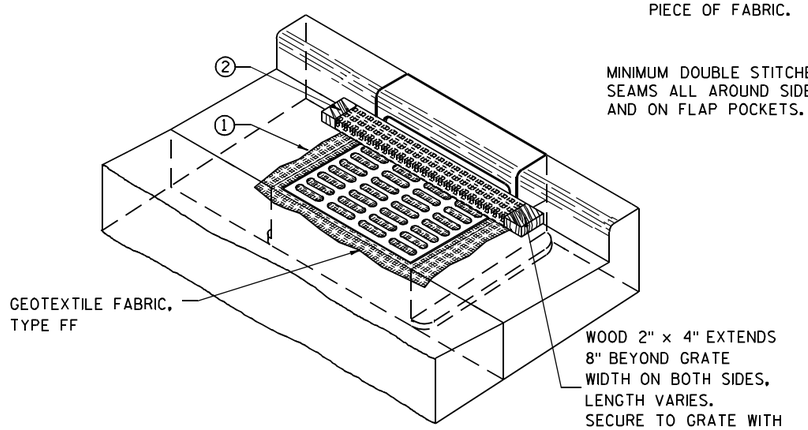


INLET PROTECTION, TYPE A

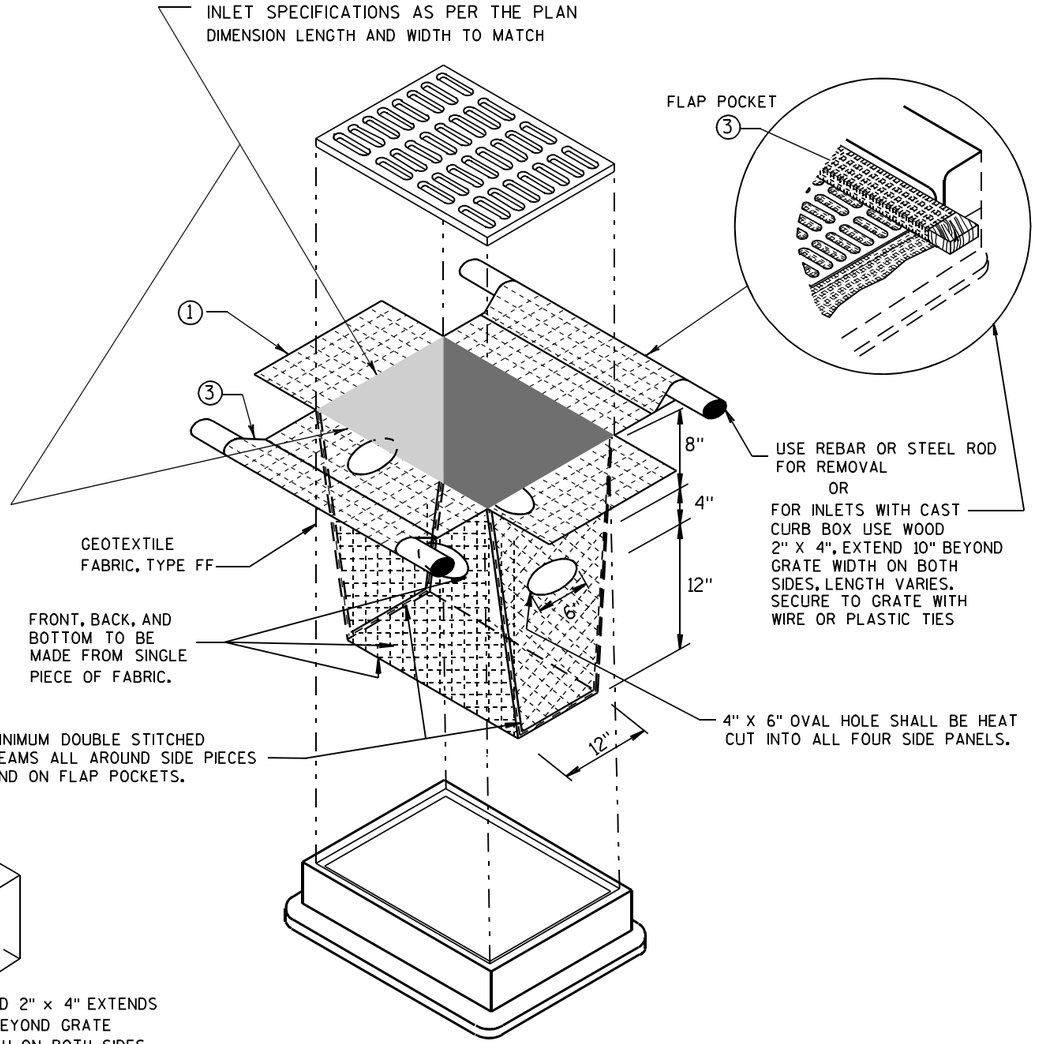


INLET PROTECTION, TYPE B
(WITHOUT CURB BOX)

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



INLET PROTECTION, TYPE C (WITH CURB BOX)



INLET PROTECTION, TYPE D

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

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.

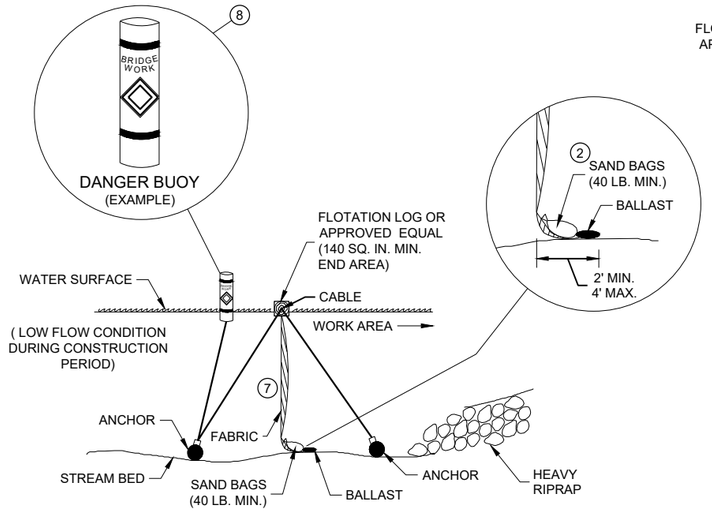
THE INSTALLED BAG SHALL HAVE A MINIMUM SIDE CLEARANCE, BETWEEN THE INLET WALLS AND THE BAG, MEASURED AT THE BOTTOM OF THE OVERFLOW HOLES, OF 3". WHERE NECESSARY THE CONTRACTOR SHALL CINCH THE BAG, USING PLASTIC ZIP TIES, TO ACHIEVE THE 3" CLEARANCE. THE TIES SHALL BE PLACED AT A MAXIMUM OF 4" FROM THE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

INLET PROTECTION
TYPE A, B, C, AND D

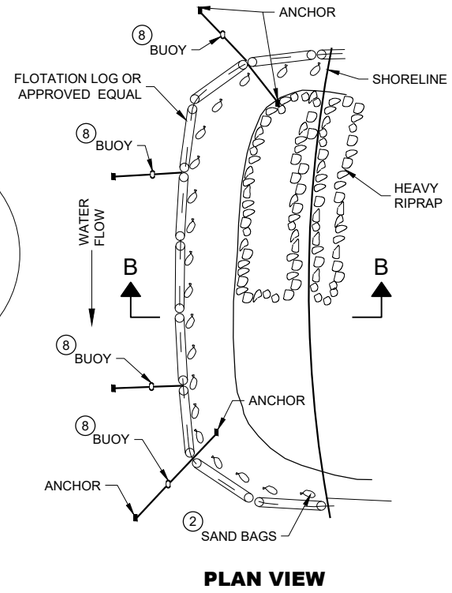
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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

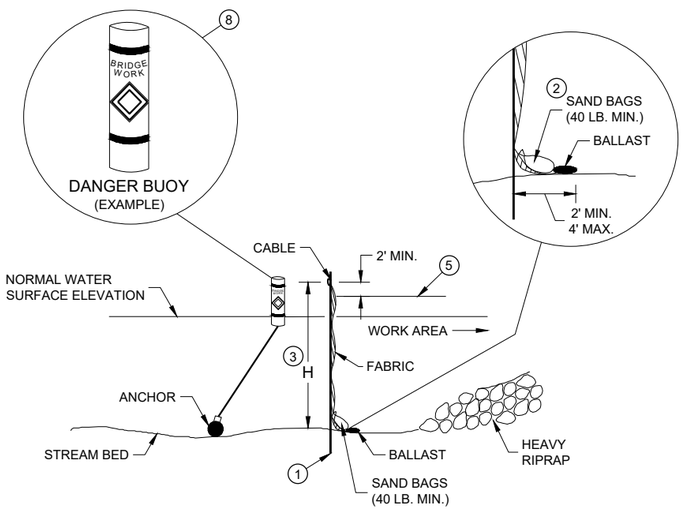


SECTION B - B

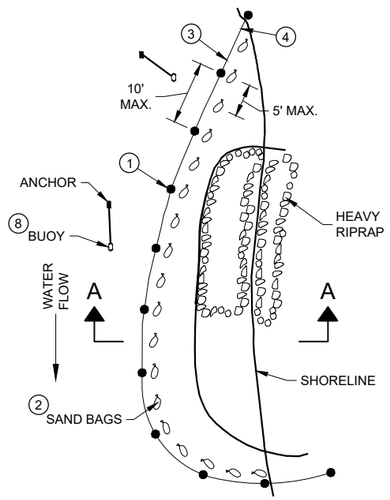


PLAN VIEW

TURBIDITY BARRIER - FLOAT ALTERNATIVE
CAUTION - SEE NOTE 6



SECTION A - A



PLAN VIEW

TURBIDITY BARRIER - STANDARD POST INSTALLATION

TURBIDITY BARRIER PLACEMENT DETAILS

GENERAL NOTES

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

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

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

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

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

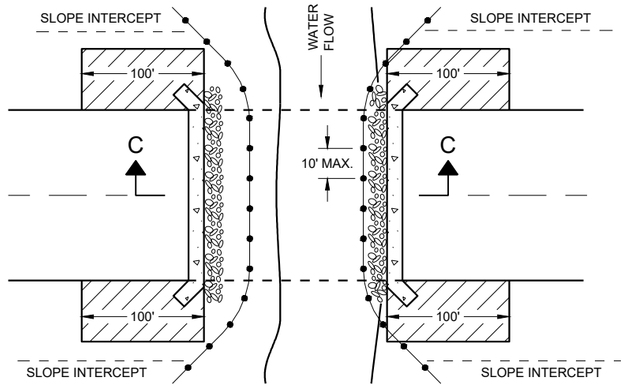
(4) IN WATERWAYS SUBJECT TO FLUCTUATING WATER ELEVATIONS, PROVISIONS SHOULD BE MADE TO ALLOW THE WATER TO EQUALIZE ON EACH SIDE OF THE BARRIER. THIS MAY BE ACCOMPLISHED BY LEAVING A PORTION OF THE BARRIER OPEN ON THE UPSTREAM END.

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

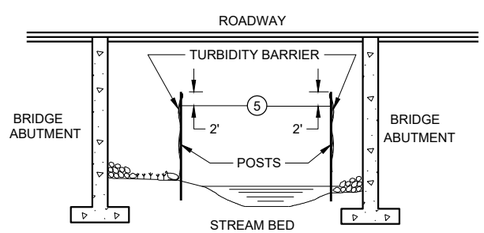
(6) FLOAT ALTERNATIVE WILL ONLY BE ALLOWED WITH WRITTEN APPROVAL OF THE ENGINEER, AND IS MEANT FOR LOCATIONS WHERE BEDROCK PREVENTS THE INSTALLATION OF POSTS.

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

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



PLAN VIEW



SECTION C - C

TURBIDITY BARRIER DETAIL SHOWING TYPICAL PLACEMENT AT STRUCTURES

TURBIDITY BARRIER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA

6
SDD 08E11 - 02

METAL APRON ENDWALLS

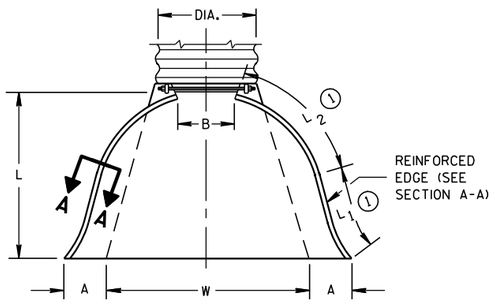
PIPE DIA. (IN.)	MIN. THICK. (Inches) STEEL	MIN. THICK. (Inches) ALUM.	DIMENSIONS (Inches) A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")	APPROX. SLOPE	BODY
12	.064	.060	6	6	6	21	12	17 1/2	24	2 1/2 to 1	1 Pc.
15	.064	.060	7	8	6	26	14	21 3/4	30	2 1/2 to 1	1 Pc.
18	.064	.060	8	10	6	31	15	28 1/4	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

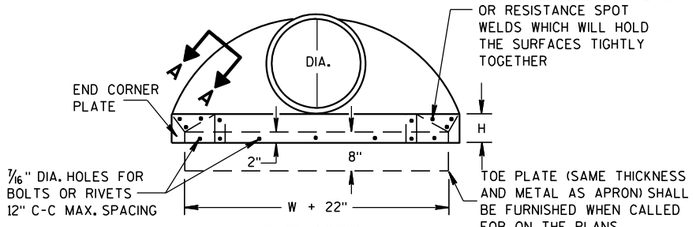
REINFORCED CONCRETE APRON ENDWALLS

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

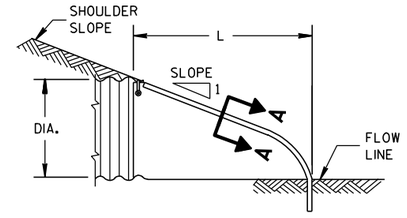
*MINIMUM
**MAXIMUM



PLAN VIEW

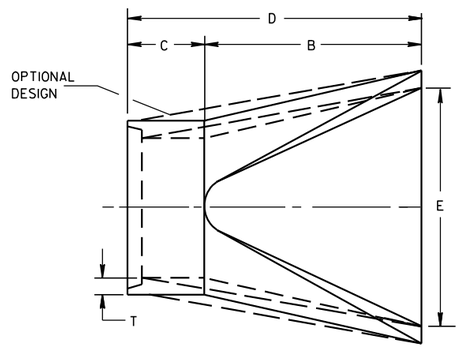


END VIEW

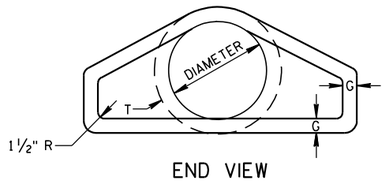


SIDE ELEVATION

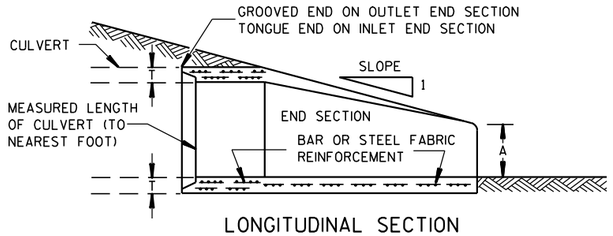
METAL ENDWALLS



PLAN

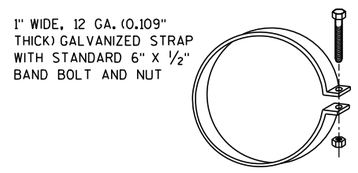


END VIEW



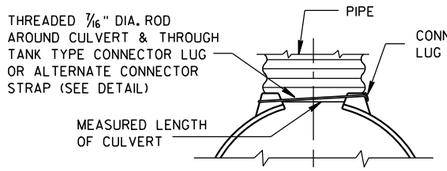
LONGITUDINAL SECTION

CONCRETE ENDWALLS

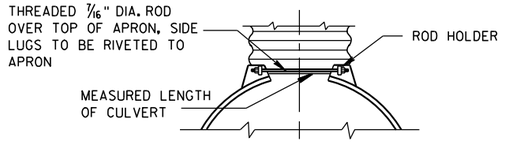


ALTERNATE FOR TYPE 1 CONNECTION

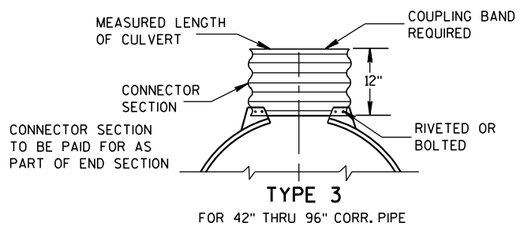
END SECTION CONNECTOR STRAP



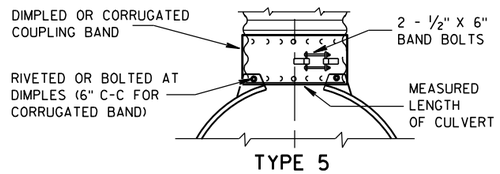
TYPE 1
FOR 12" THRU 24" CORR. PIPE



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

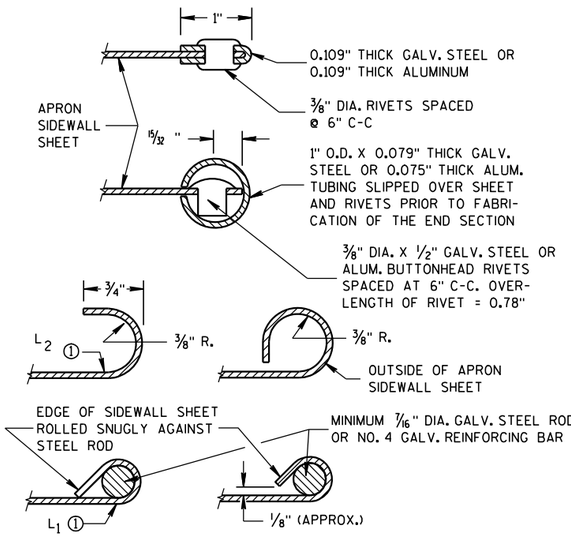
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL. AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

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.

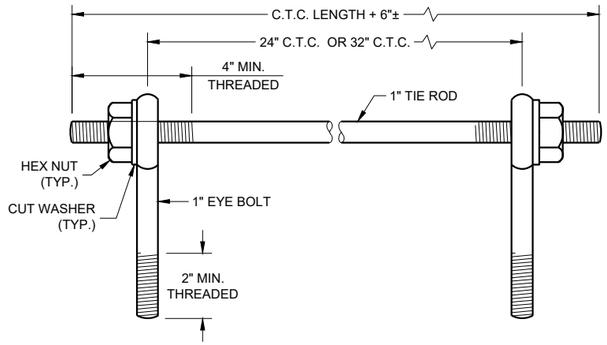
① FOR PIPE SIZES UP TO 60" DIAMETER, A 180° ROLLED EDGE MAY BE USED INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.

APRON ENDWALLS FOR CULVERT PIPE

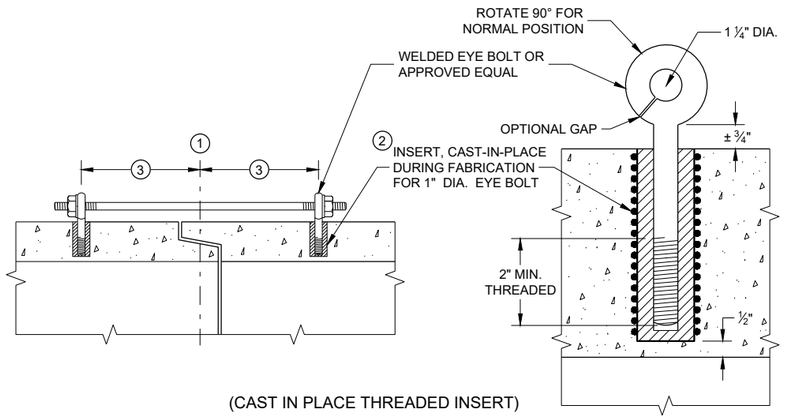
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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.

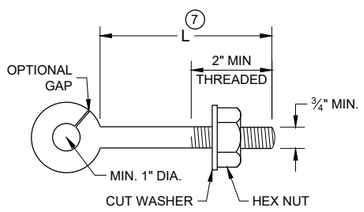
(3) HOLES SHALL BE CAST-IN-PLACE OR DRILLED PER THE APPLICABLE DETAIL, AND EQUAL DISTANCE FROM THE CENTERLINE OF THE JOINT.

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

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

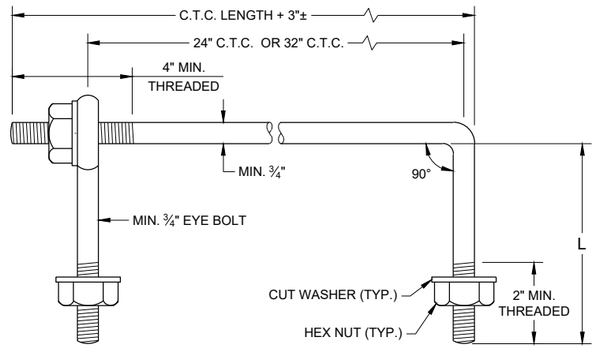
(6) LENGTH ADEQUATE TO EXTEND TO WITHIN ½ INCH OF THE INNER SURFACE OF THE PIPE.

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

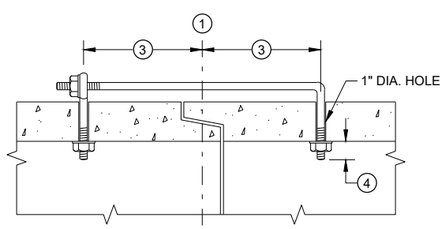


EYE BOLT (7)

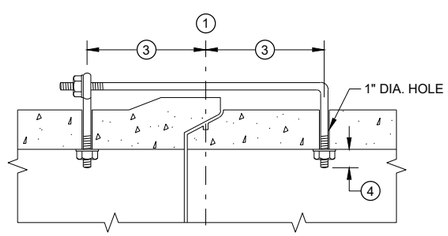
NOTE: TWO EYE BOLTS MAY BE USED WITH A 30" OR 38" LONG THREADED ROD IN LIEU OF THE 90° BENT TIE ROD.



EYE BOLT AND TIE ROD



(TONGUE AND GROOVE PIPE)



(MODIFIED BELL PIPE)

LONGITUDINAL SECTION

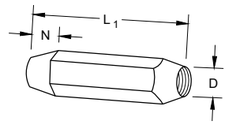
(JOINT TIES FOR 18" TO 66" DIA. CONCRETE PIPE)

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



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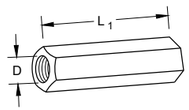
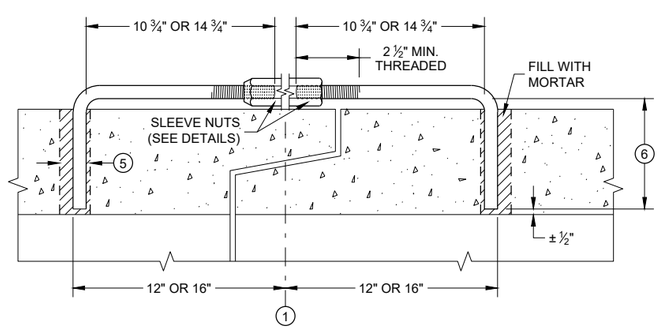


PLAIN

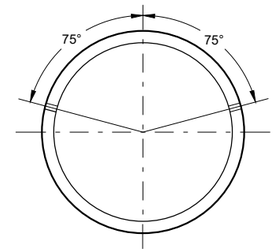
RIGHT AND LEFT THREADS

SLEEVE NUTS



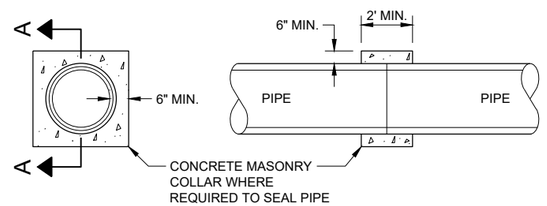
LONGITUDINAL SECTION

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

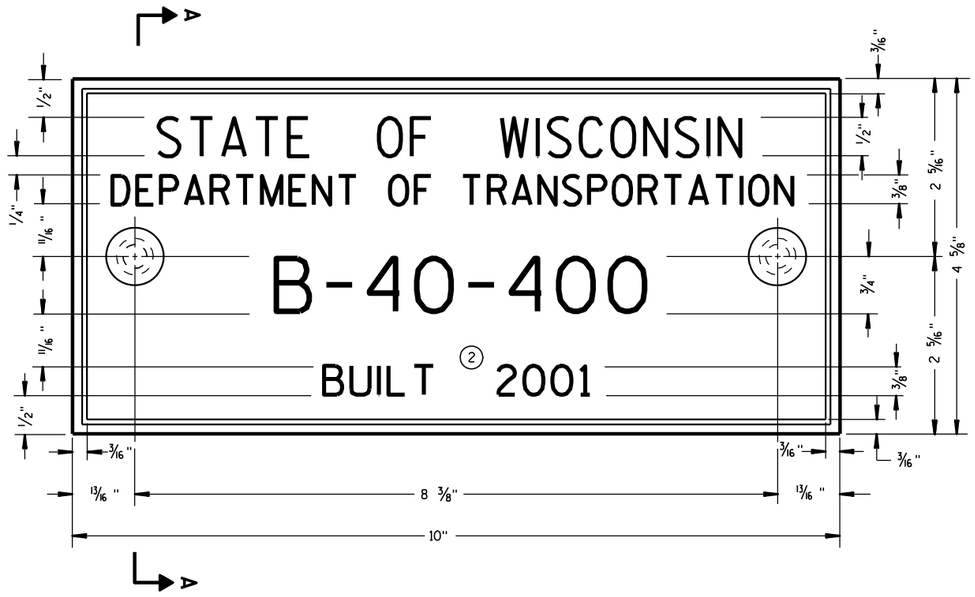
JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL

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)

NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES

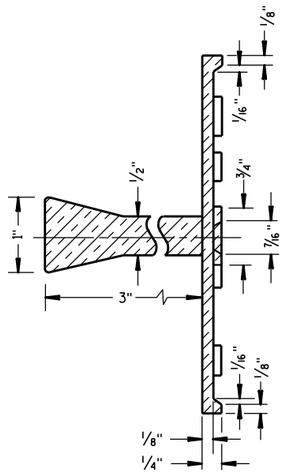
GENERAL NOTES

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.

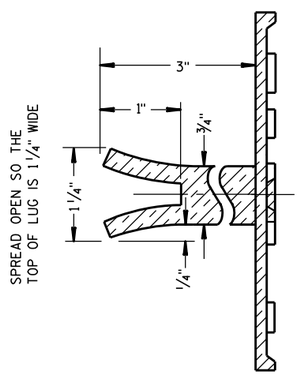
THE BRIDGE NUMBER AND YEAR BUILT SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND YEAR BUILT.

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

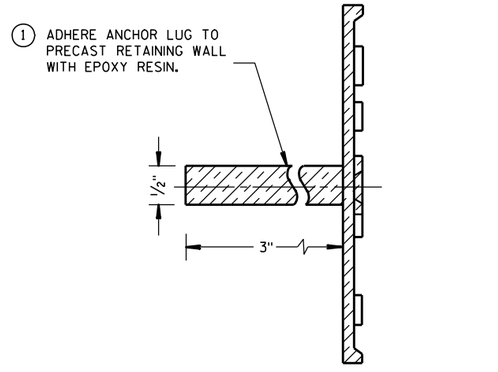
(2) REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.



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 DEVELOP ENGINEER

FHWA

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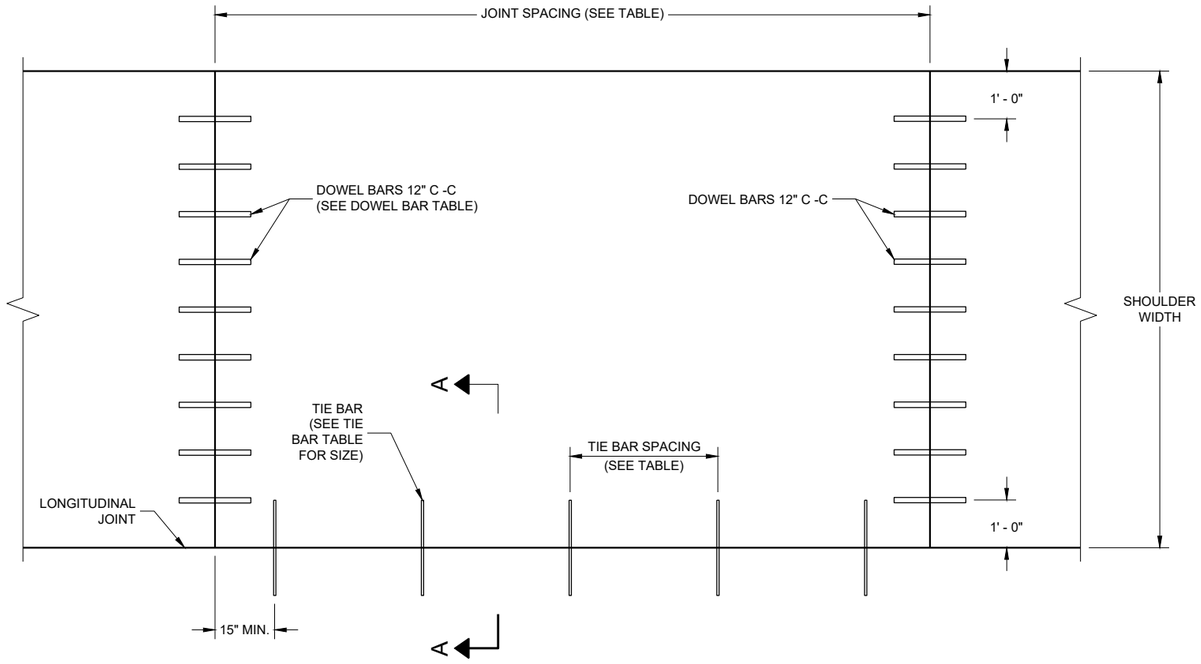
S.D.D. 12 A 3-10



PLAN VIEW

CONCRETE PAVEMENT SHOULDER

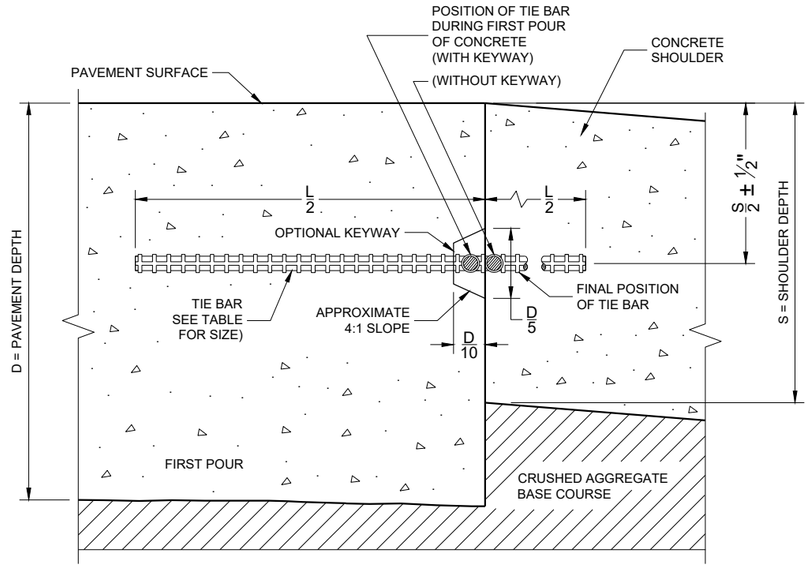
GENERAL NOTES

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

TRANSVERSE JOINT DETAILS ARE SHOWN ELSEWHERE IN THE PLAN.

FINISH THE SHOULDER PAVEMENT CONFORMING TO SUBSECTION 415.3.8 OF THE STANDARD SPECIFICATIONS.

TIE BARS SHALL CONFORM TO SUBSECTION 505.2.4 OF THE STANDARD SPECIFICATIONS.



SECTION A - A

LONGITUDINAL CONSTRUCTION JOINT

TIE BAR TABLE

PAVEMENT DEPTH (D)	TIE BAR SIZE	TIE BAR LENGTH (L)	MAX. TIE BAR SPACING
<10 ½"	NO. 4	30"	36"
>10 ½"	NO. 5	36"	36"
	NO. 4*	30"	24"**

* SUBSTITUTE BENT BATS AT LONGITUDINAL JOINTS WHEN EQUIPMENT LIMITATIONS DURING CONSTRUCTION WARRANT (e.g. AUXILIARY LANES OR TURN LANES.

** CONFORM TO 15" MINIMUM SPACING FROM TRANSVERSE JOINTS; SPACING BETWEEN TIE BARS WILL BE 30" AT TRANSVERSE JOINTS.

PAVEMENT DEPTH, DOWEL BAR SIZE AND JOINT SPACING TABLE

PAVEMENT DEPTH (D)	DOWEL BAR DIAMETER ***	CONTRACTION JOINT SPACING
6", 6 ½"	NONE	12"
7", 7 ½"	1"	14"
8" & ABOVE	1 ¼"	15"

*** FOR DOWELED CONCRETE SHOULDERS WITH TRAPEZOIDAL CROSS SECTIONS, CHOSE THE APPROPRIATE DOWEL BAR DIAMETER BASED ON THE SMALLER PAVEMENT DEPTH (LIKELY THE OUTSIDE EDGE OF THE SHOULDER). IF USING BASKETS, USE BASKETS FRO THE AVERAGE THICKNESS OF THE CROSS SECTION.

CONCRETE PAVEMENT SHOULDERS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2022
DATE

/S/ Peter Kemp
PAVEMENT SUPERVIS

FHWA

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SDD 13A03 - 07

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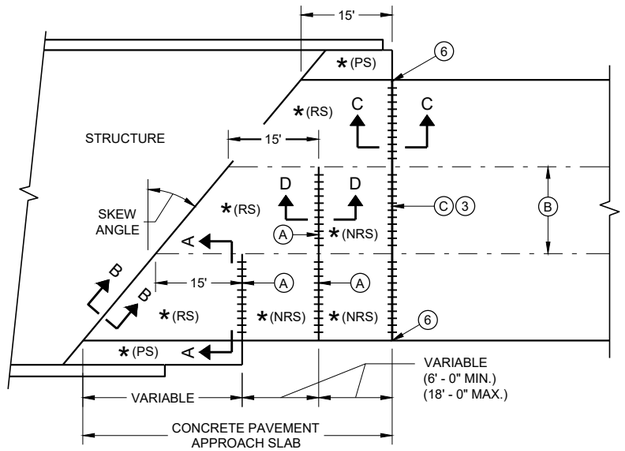
SDD 13A03 - 07



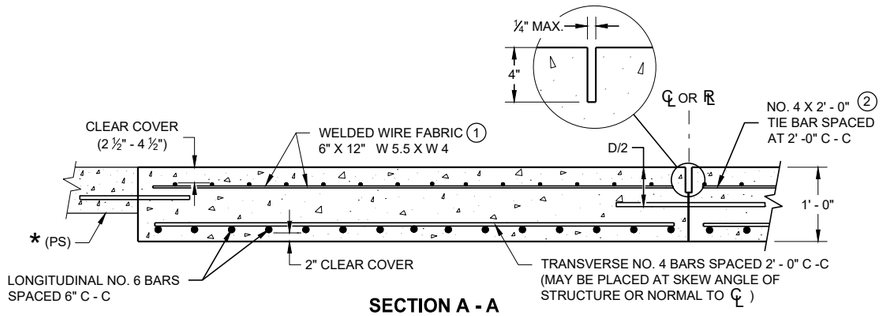
SKEWED APPROACH
(PAVEMENT MORE THAN TWO LANES)

(RS) = REINFORCED CONCRETE SLAB

(PS) = PAVED CONCRETE SHOULDER OR CONCRETE DRAINAGE SLAB

(NRS) - NON - REINFORCED CONCRETE SLAB

*** STANDARD DOWEL BAR DIAMETER (SEE SDD 13C11 AND SDD 13C13)



SECTION A - A
REINFORCEMENT POSITIONING DETAIL

GENERAL NOTES

THE CONTRACTOR MAY SPLICE NO. 6 BARS IN THE APPROACH SLAB FOR SKEWED STRUCTURES ONLY. STAGGER SPLICES WITH A MAXIMUM OF ONE SPLICE PER BAR. THE LENGTH OF LAP IS 20 INCHES.

TACK WELD DOWEL BARS TO THE BASKETS ON ALTERNATE ENDS.

(1) THE CONTRACTOR MAY USE NO. 4 BARS SPACED AT 2' - 0 " C - C IN BOTH THE LONGITUDINAL AND TRANSVERSE DIRECTIONS FOR TOP REINFORCEMENT AS AN ALTERNATIVE TO THE WELDED WIRE FABRIC.

(2) THE CONTRACTOR MAY OMIT THE BARS BETWEEN REINFORCED SLABS WHERE SLAB REINFORCEMENT BARS EXTEND ACROSS THE CENTERLINE OR REFERENCE LINE.

(3) DO NOT CONSTRUCT AN EXPANSION JOINT OR INSTALL DOWEL BARS WHEN ABUTTING AN HMA PAVEMENT.

(4) USE A JOINT SEALANT CONFORMING TO STANDARD SPECIFICATION 415.2.6.

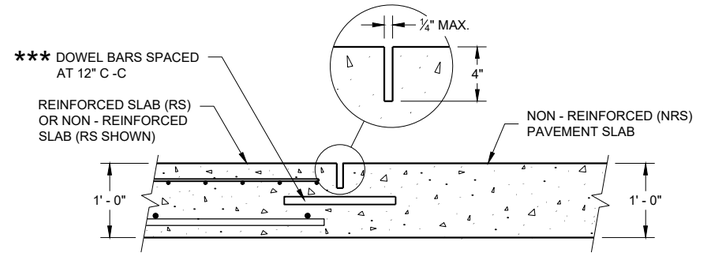
(5) PLACE EXPANSION CAP ON THE END OF THE DOWEL THAT IS NOT TACK WELDED TO THE BASKET. DO NOT FORCE DOWEL BAR PAST THE DOWEL STOP.

(6) EXTEND EXPANSION JOINT THROUGH ANY ADJACENT TIED CONCRETE.

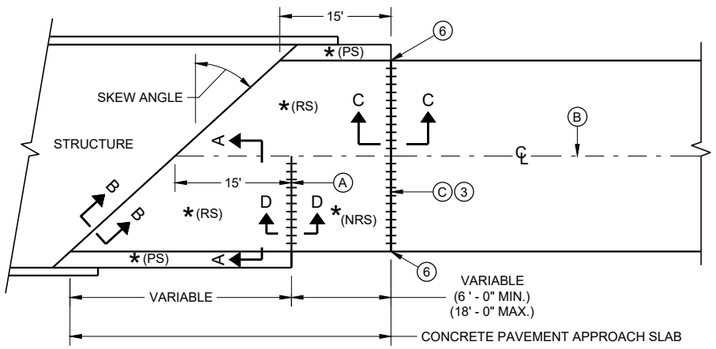
(A) STANDARD CONTRACTION JOINT NORMAL TO ℄ OR ℞.

(B) STANDARD LONGITUDINAL JOINT WITH TIE BARS.

(C) 1 ½" EXPANSION JOINT WITH DOWEL BARS NORMAL TO ℄ OR ℞ .

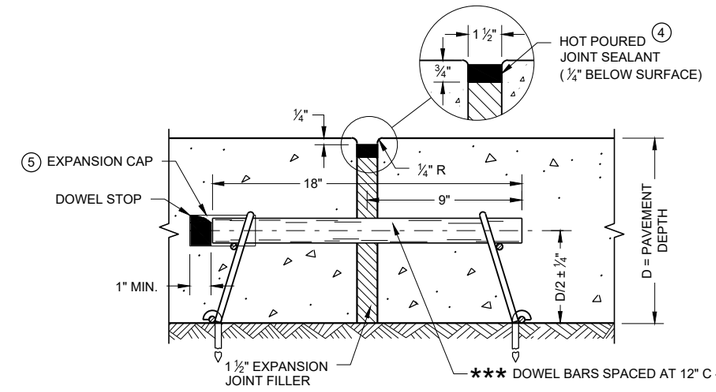


SECTION D - D
CONTRACTION JOINT

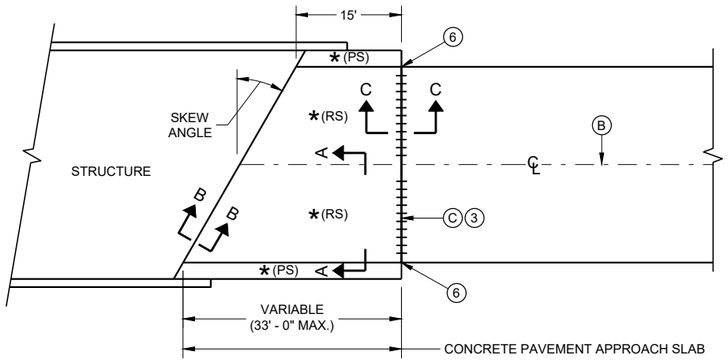


SKEWS > 20°
(PAVEMENT WIDTH ≤ 30')

SECTION B - B
BEND DETAIL
BOTTOM REINFORCEMENT

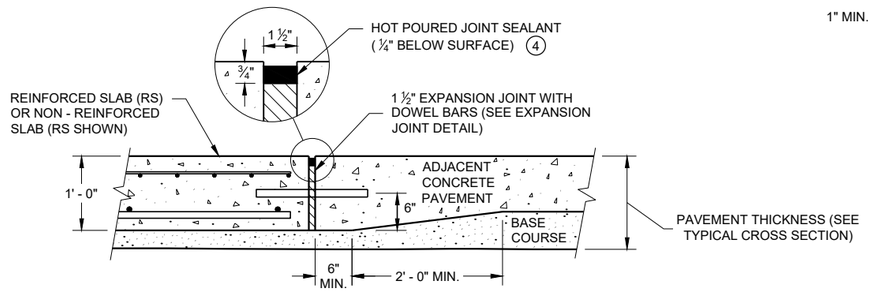


EXPANSION JOINT DETAIL



SKEWS ≤ 20°
(PAVEMENT WIDTH ≤ 30')

APPROACH SLAB AND ADJACENT PAVEMENT



SECTION C - C
TRANSITION DETAIL
APPROACH SLAB TO ADJACENT PAVEMENT

CONCRETE PAVEMENT APPROACH SLAB

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2018
DATE

/S/ Peter Kemp, P.E.
PAVEMENT SUPERVISO

FHWA

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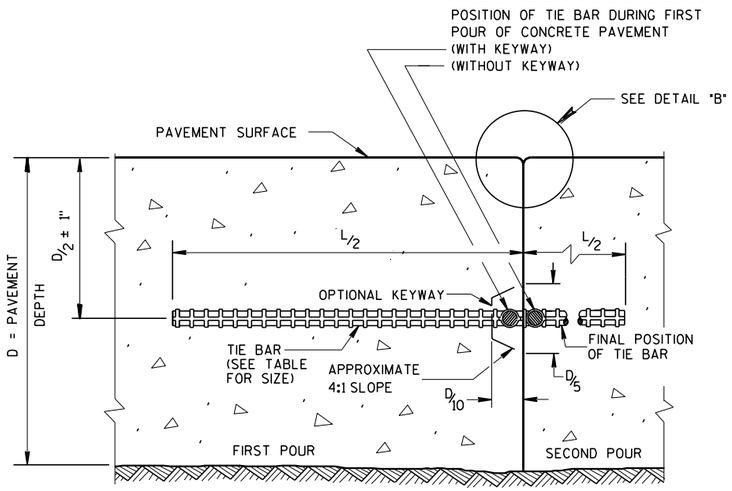
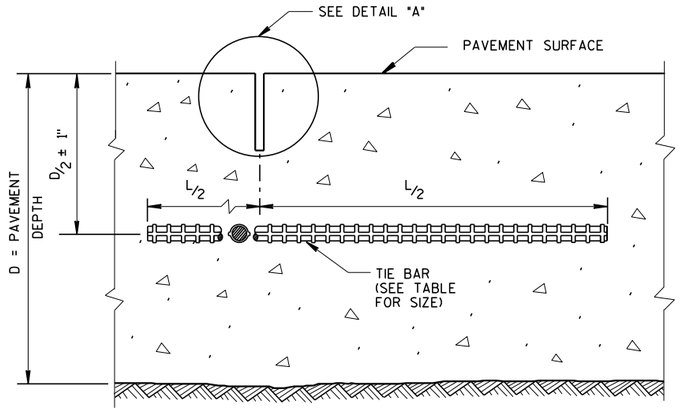
SDD 13B02 - 09a



CONSTRUCTION JOINT



SAWED JOINT

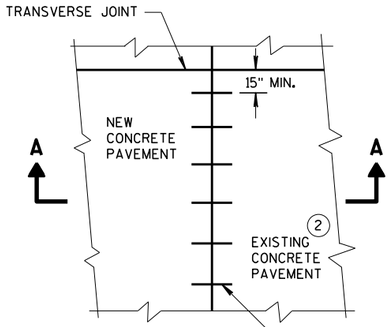
GENERAL NOTES

CREATE A LONGITUDINAL JOINT FOR PAVEMENT WIDTHS GREATER THAN 15 FEET.

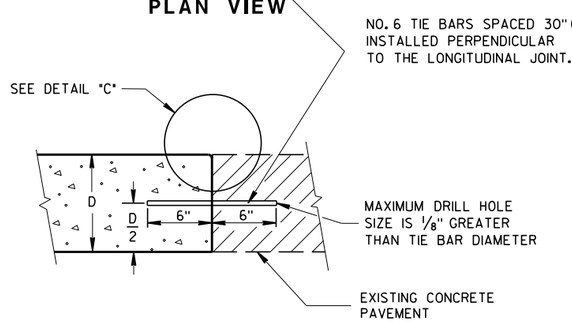
CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

(1) ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.

(2) PAVEMENT THAT WAS IN PLACE PRIOR TO THE CONTRACT.

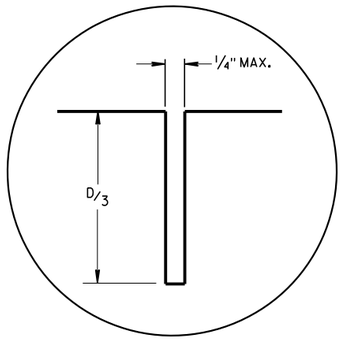


PLAN VIEW

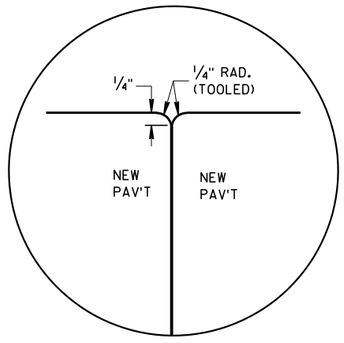


SECTION A-A

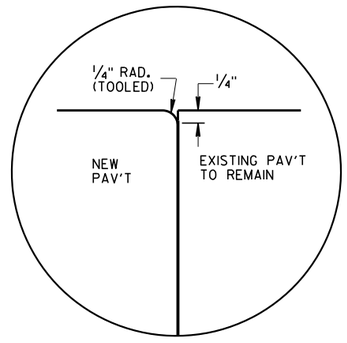
LONGITUDINAL CONSTRUCTION JOINT TIE BARS ANCHORED INTO EXISTING PAVEMENT



DETAIL "A"



DETAIL "B"



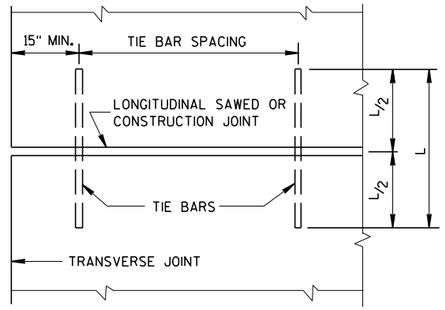
DETAIL "C"

TIE BAR TABLE

PAVEMENT DEPTH (D)	TIE BAR SIZE	TIE BAR LENGTH (L)	MAX. TIE BAR SPACING
< 10 1/2"	NO. 4	30"	36"
≥ 10 1/2"	NO. 5	36"	36"
	NO. 4 *	30"	24" **

* SUBSTITUTE BENT BARS AT LONGITUDINAL JOINTS WHEN EQUIPMENT LIMITATIONS DURING CONSTRUCTION WARRANT (e.g. AUXILIARY LANES OR TURN LANES)

** CONFORM TO 15" MINUMUM SPACING FROM TRANSVERSE JOINTS; SPACING BETWEEN TIE BARS WILL BE 30" AT TRANSVERSE JOINTS.



PLAN VIEW
SHOWING LOCATION OF TIE BARS

CONCRETE PAVEMENT
LONGITUDINAL JOINTS AND TIES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
March 2018 — DATE
/S/ Peter Kemp — PAVEMENT SUPE
FHWA

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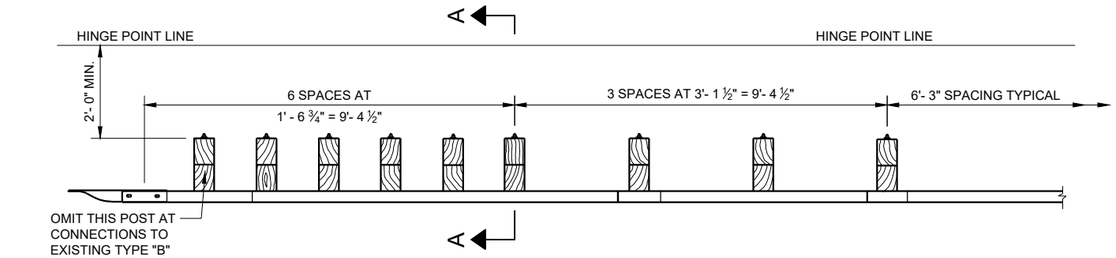
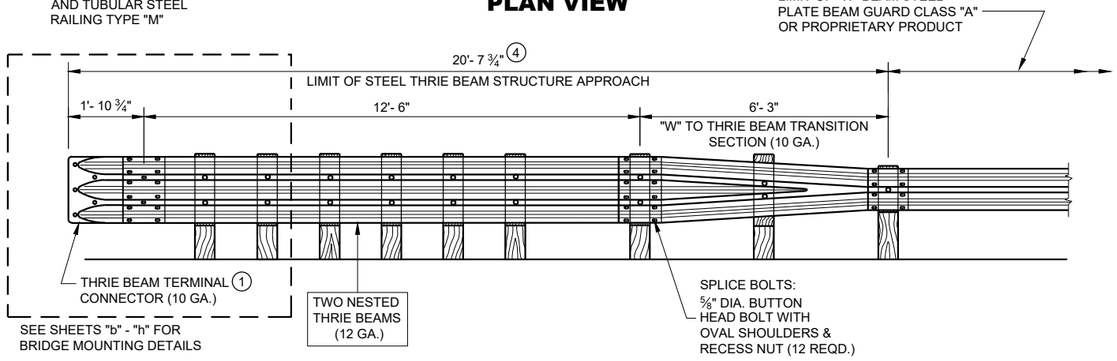


PLAN VIEW



FRONT VIEW

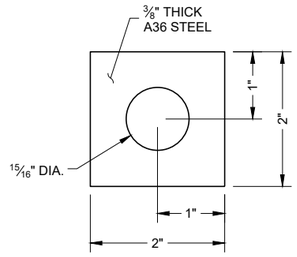


PLATE WASHER DETAIL

GENERAL NOTES

BOLT THE THRIE BEAM TO ALL POSTS AND BLOCKOUTS. DRILL OR PUNCH BOLT HOLES IN THE BEAM IF THE POST SPACING IS LESS THAN 6'-3".

DO NOT USE STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS IN THE STEEL THRIE BEAM STRUCTURAL APPROACH AND THE TRANSITION SECTION OF STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATIONS.

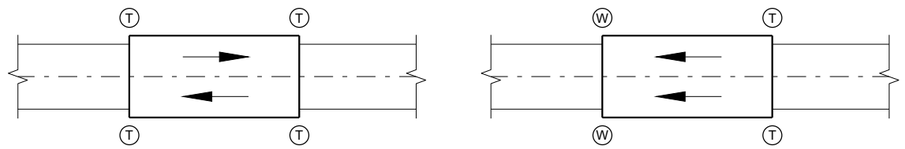
IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2 ½" , AND 12" DIAMETER AROUND POST. SEE 14B15 FOR MORE DETAILS.

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

(2) MINIMUM EMBEDMENT SHALL BE 4'- 0".

(3) POST BOLTS ARE ⅝" DIAMETER ASTM A307 BUTTON HEAD BOLT. A POST BOLT REQUIRES A ⅝" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX AND A ⅝" DIAMETER F844 FLAT WASHER. LENGTH OF POST BOLT MAY VARY.

(4) ALL WOOD POSTS MUST BE 6" X 8" AND AT LEAST 7'-0" LONG.



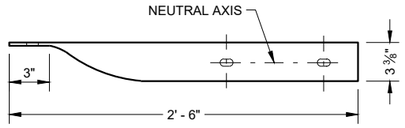
TWO WAY TRAFFIC

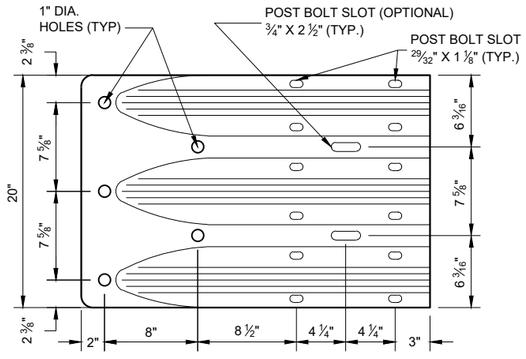
ONE WAY TRAFFIC

(T) THRIE BEAM CONNECTION

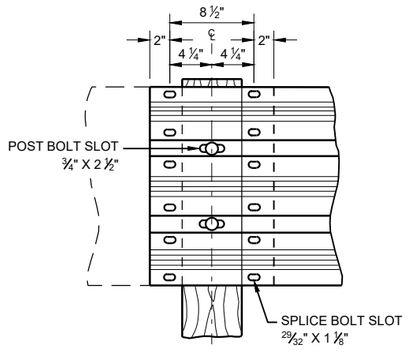
(W) W-BEAM CONNECTION WHEN REQUIRED

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

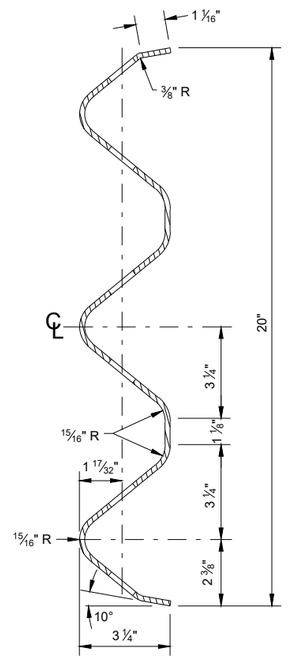




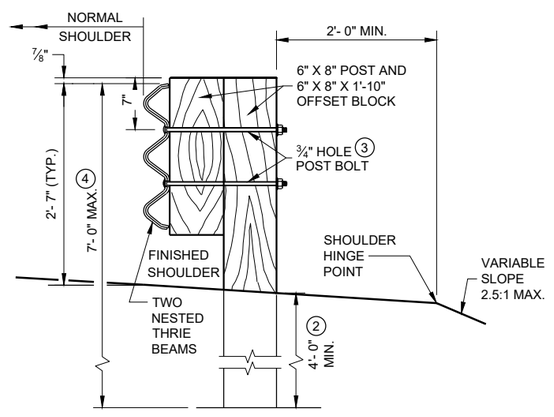
THRIE BEAM TERMINAL CONNECTOR



THRIE BEAM SPLICE



SECTION THRU BEAM RAIL ELEMENT



SECTION A-A

STEEL THRIE BEAM STRUCTURE APPROACH

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2022 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVE ENGINEER

FHWA

SDD 14B20 - 12a

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SDD 14B20 - 12a

FRONT VIEW

SECTION B - B

THRIE BEAM CONNECTION TO BRIDGE PARAPET WITH SQUARE ENDS

GENERAL NOTES

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

BOLTS, NUTS AND WASHERS SHALL CONFORM TO ASTM A325, A449 AND GALVANIZED PER STANDARD SPECIFICATIONS 614.

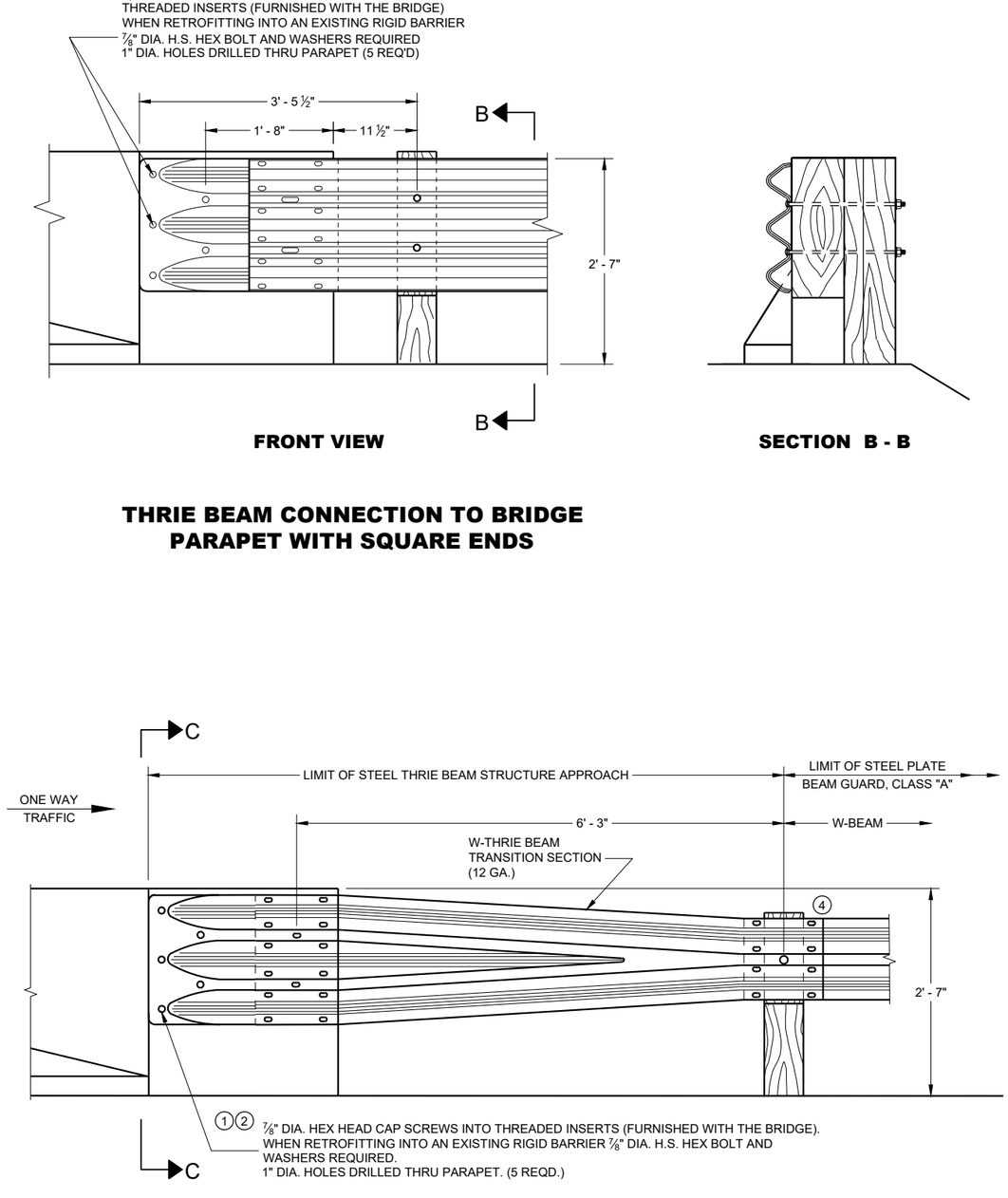
① DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

② 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 TERMINAL CONNECTOR. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/8" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.

③ 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 ½".

④ W6 X 9 OR W6 X 8.5 STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS ARE ACCEPTABLE ALTERNATIVES FOR 6" X 8" WOOD POST WITH WOOD OR PLASTIC BLOCKOUTS. USE APPROVED NOTCHED PLASTIC BLOCKOUTS WITH STEEL POSTS.

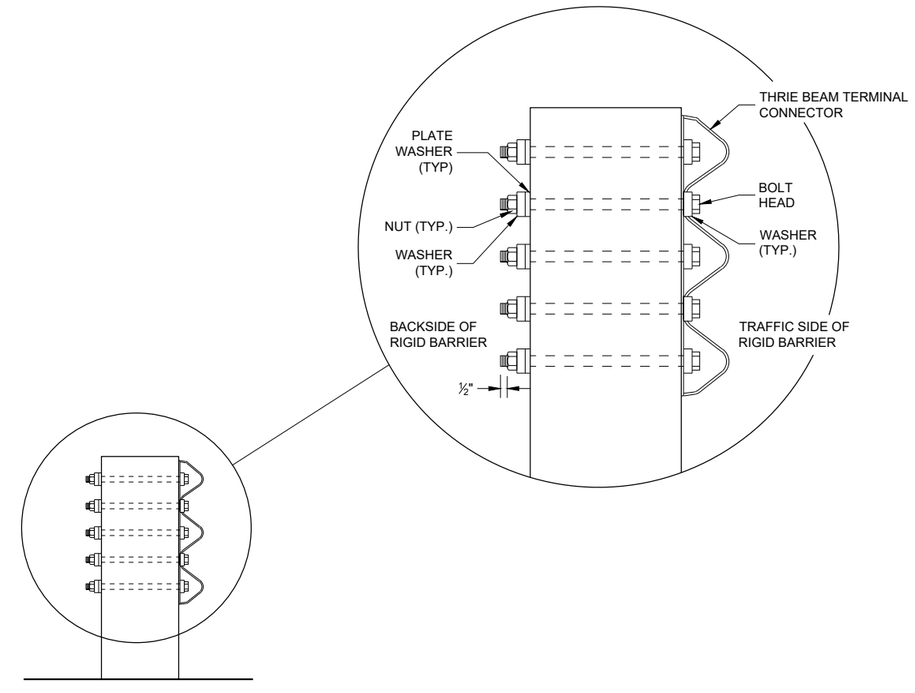
DO NOT USE STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS IN THE STEEL THRIE BEAM STRUCTURAL APPROACH AND THE TRANSITION SECTION OF STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATIONS.



FRONT VIEW

W BEAM TRANSITION AND CONNECTION TO BRIDGE PARAPETS WITH SQUARE ENDS

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



SECTION C - C

STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO SQUARE END PARAPETS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2022 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVE ENGINEER

FHWA

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SDD 14B20 - 12b

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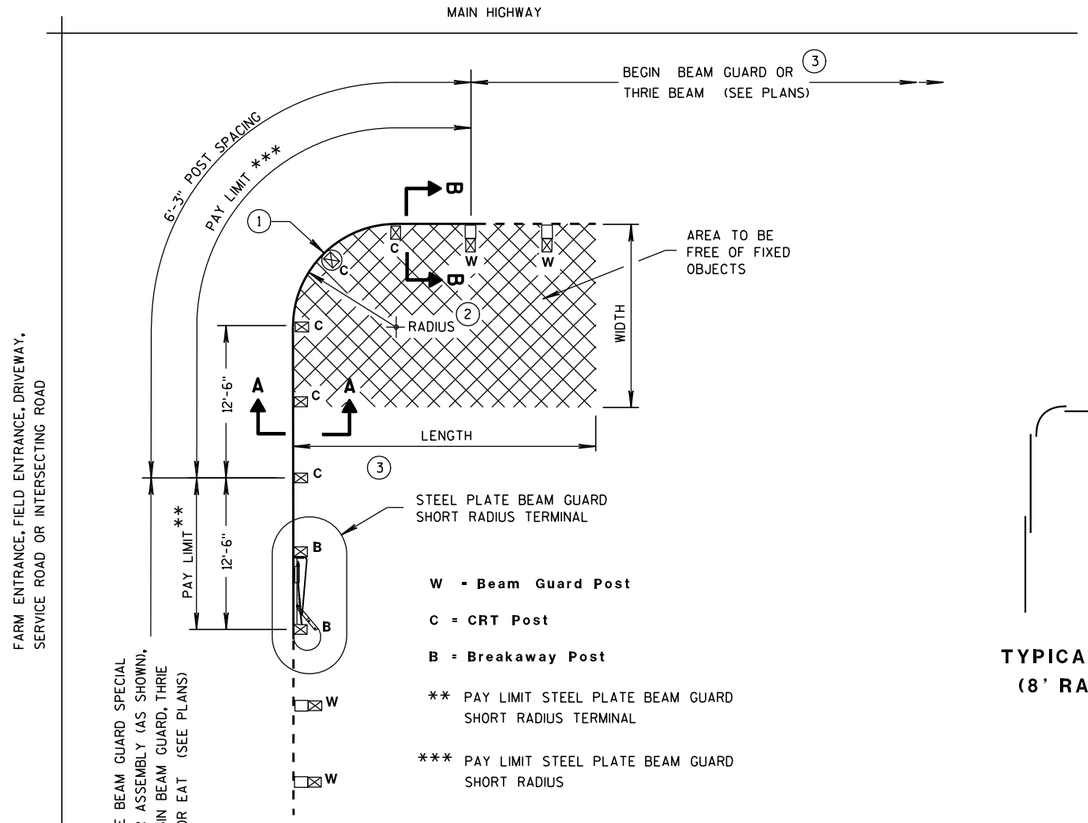
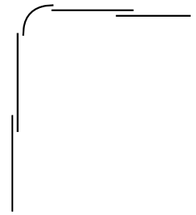
SDD 14B20 - 12b



TYPICAL LAYOUT
(8' RADIUS SHOWN)



TYPICAL LAP SPLICES
(8' RADIUS SHOWN)

GENERAL NOTES

ALL ANGLES, CHANNELS, AND PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A36 AND THE STRUCTURAL TUBING SHALL CONFORM TO ASTM A 500. WELDING SHALL MEET THE CURRENT REQUIREMENTS OF THE AMERICAN WELDING SOCIETY STRUCTURAL WELDING CODE ANSI/AWS D1.1. ALL STRUCTURAL STEEL SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A 123. PUNCHING, DRILLING, CUTTING, OR WELDING WILL NOT BE PERMITTED AFTER GALVANIZING. FURNISH AND INSTALL HARDWARE PER STANDARD SPECIFICATION 614.2. UNLESS NOTED OTHERWISE.

SHOP BEND CURVED RAIL SECTIONS.

SEE STANDARD DETAIL DRAWING 14 B 15 FOR OTHER DETAIL.

(1) ON THE 8 FOOT RADIUS INSTALLATION, DO NOT INSTALL BUTTON HEAD BOLT AT CENTER CRT POST.

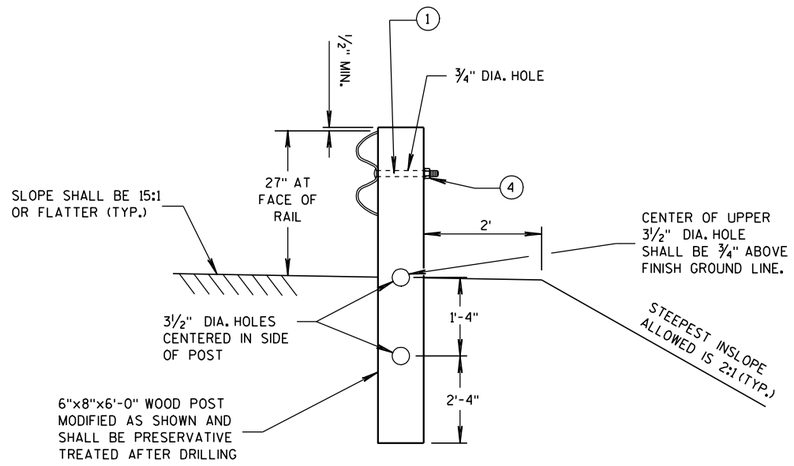
(2) RADIUS FROM 8' - 36'. SEE PLAN.

(3) HEIGHT TRANSITION MAY BE REQUIRED. SEE PLAN OR PROJECT ENGINEER.

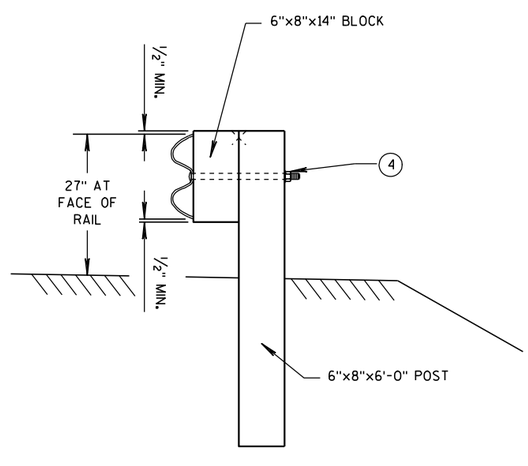
(4) 5/8" ø X 1'-6" BUTTON HEAD BOLT AND RECESS NUT WITH ROUND WASHER UNDER NUT.

RADIUS	NUMBER OF CRT POSTS	*NUMBER AND LENGTH OF CURVED RAILS	REQUIRED AREA FREE OF FIXED OBJECTS (LENGTH x WIDTH)
8'	5	1 at 12.5'	25' x 15'
16'	7	1 at 25'	30' x 15'
24'	9	1 at 25' and 1 at 12.5'	40' x 20'
32'	11	2 at 25'	50' x 20'

* THE NUMBER OF RAILS IS BASED ON A 90° INTERSECTION. SEE PLAN FOR NON 90° INSTALLATIONS.



SECTION A-A
(CRT POST)



SECTION B-B
(BEAM GUARD POST)

STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL

STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL

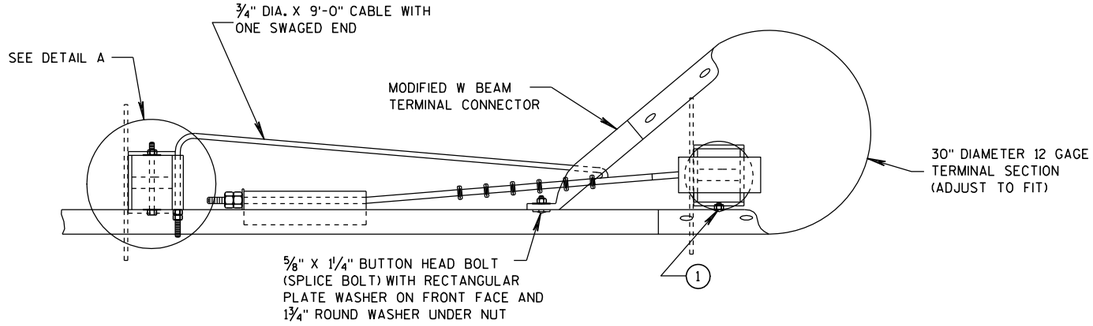
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

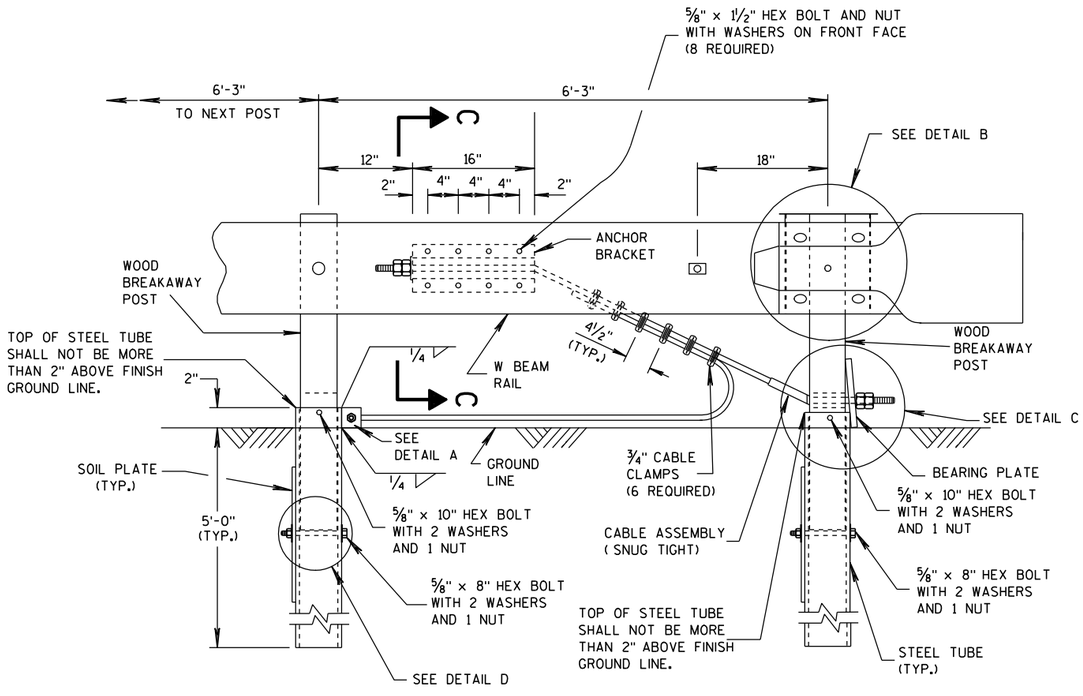
S.D.D. 14 B 27-1a

6

S.D.D. 14 B 27-1a



PLAN VIEW



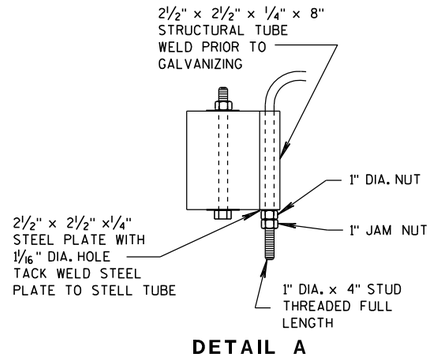
ELEVATION VIEW

STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL

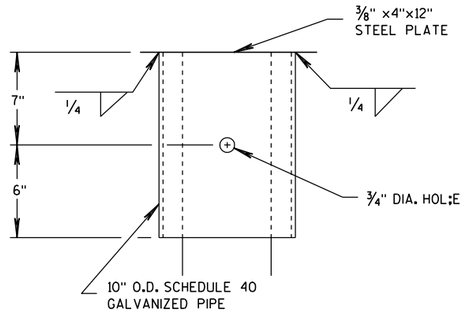
GENERAL NOTES

(1) ATTACH W BEAM RAIL TO THE STEEL PIPE WITH A ⅝" X 2" BUTTON HEAD BOLT WITH NO WASHER. CONNECTION TO THE POST IS NOT REQUIRED.

INSTALL GALVANIZED ¾" (6X19) PREFORMED WIRE OR INDEPENDENT WIRE ROPE CORE CONFORMING TO AASHTO M 30. MANUFACTURE WIRE ROPE OUT OF IMPROVED PLOW STEEL WITH A MINIMUM BREAKING STRENGTH OF 42,800 PSI.



DETAIL A



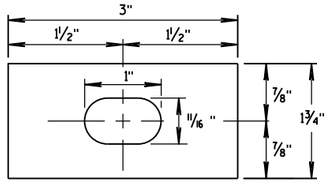
DETAIL B

(BEAM GUARD AND TERMINAL SECTION NOT SHOWN)

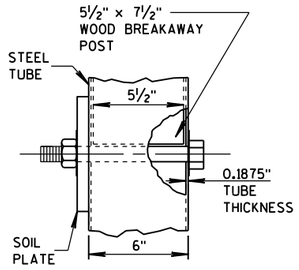
STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

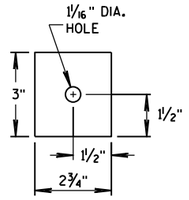
6
S.D.D. 14 B 27-1b



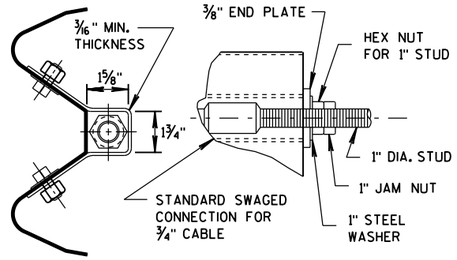
RECTANGULAR PLATE WASHER



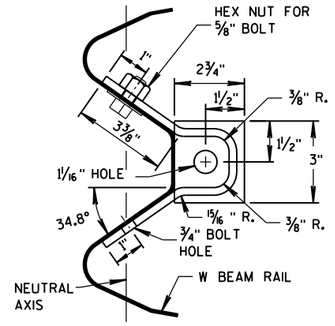
DETAIL D



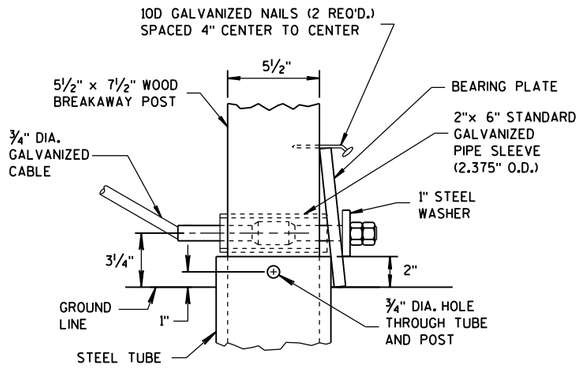
END PLATE



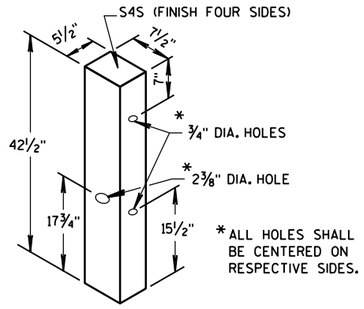
SECTION C-C
(END PLATE REMOVED)



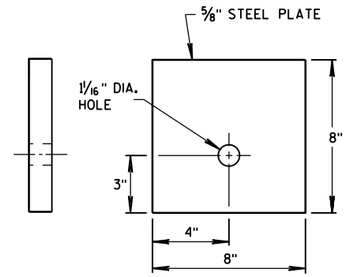
ANCHOR BRACKET



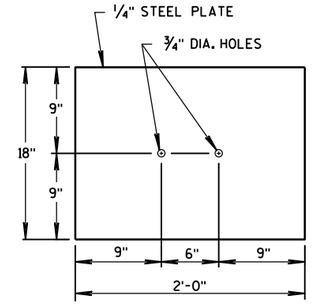
DETAIL C



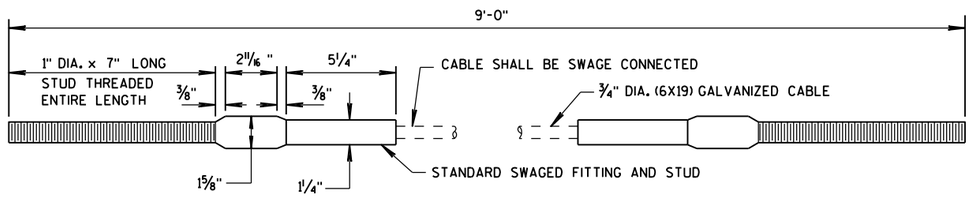
WOOD BREAKAWAY POST



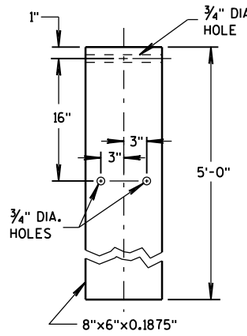
BEARING PLATE



SOIL PLATE



CABLE ASSEMBLY



STEEL TUBE

STEEL PLATE BEAM GUARD
SHORT RADIUS TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

12/18/08 — DATE

/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER

FHWA

6

S.D.D. 14 B 27-1c

6

S.D.D. 14 B 27-1c

(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.

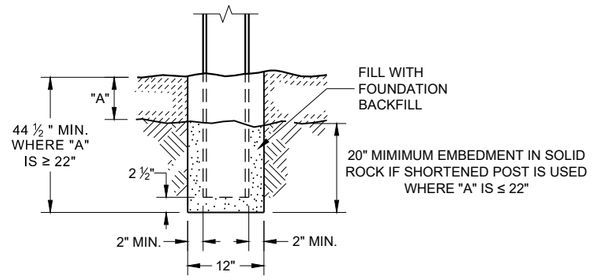
(3) IF ROCK IS ENCOUNTERED DURING EXCAVATION, PROVIDE A HOLE 12 INCHES IN DIAMETER EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2 1/2" INCHES OF GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE. CUT THE POSTS THE TO LENGTH AMD INSTALL. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT. BACKFILL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

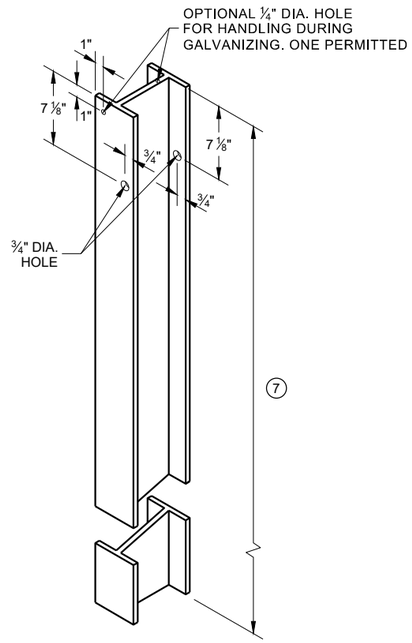
(5) FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS ±1". FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27 ¾" TO 32".

(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.

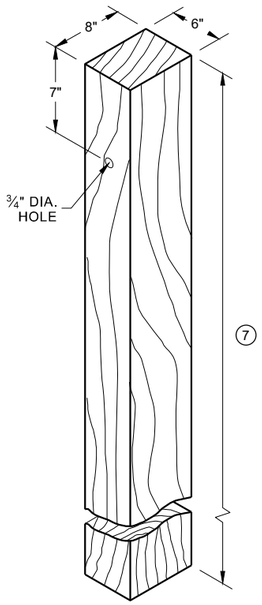
(7) TOTAL POST LENGTH FOR TYPE K IS 7' - 0".
TOTAL POST LENGTH FOR OTHER MGS TYPES IS 6' - 0".



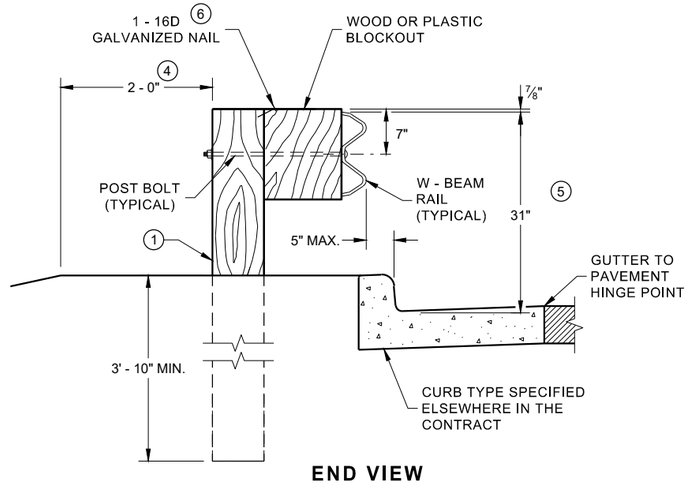
END VIEW
SETTING STEEL OR WOOD POST IN ROCK (3)



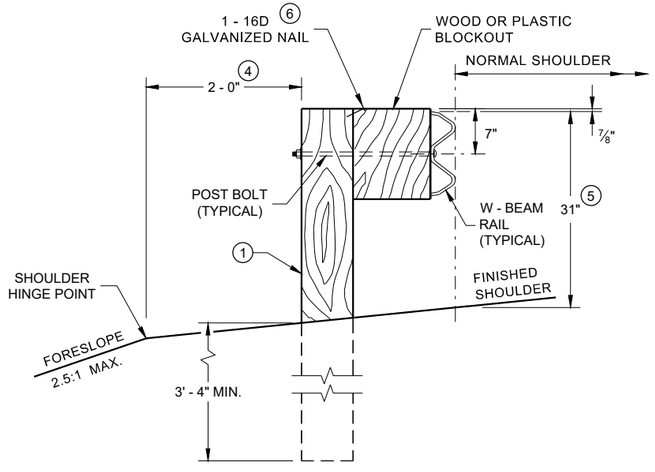
STEEL POST & HOLE PUNCHING DETAIL (W 6 X 9) (1)



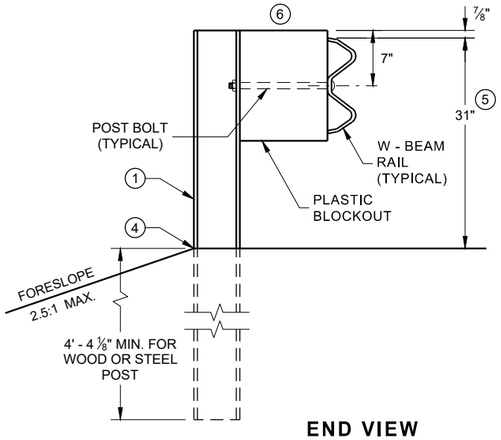
WOOD POST (6" X 8") NOMINAL (1)



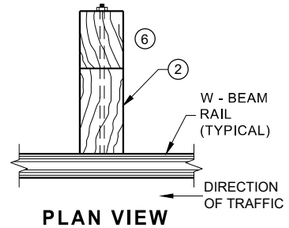
END VIEW
LOCATED ALONG A CURBED ROADWAY



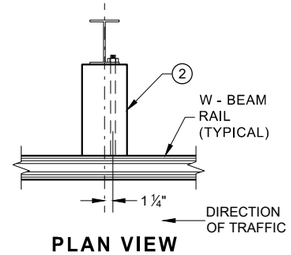
END VIEW
LOCATED ALONG A ROADWAY SHOULDER STANDARD INSTALLATION



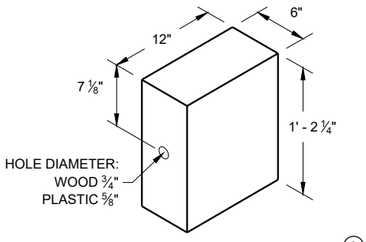
END VIEW
MGS LONGER POST AT HALFPOST SPACING W BEAM (K)



PLAN VIEW
WOOD POST, BLOCKOUT & BEAM



PLAN VIEW
STEEL POST, PLASTIC BLOCKOUT & BEAM



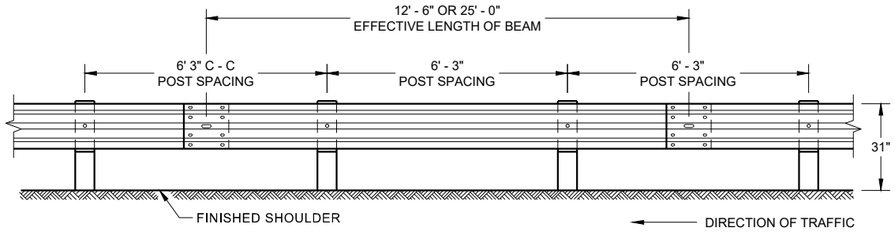
WOOD OR PLASTIC BLOCKOUT (2)

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

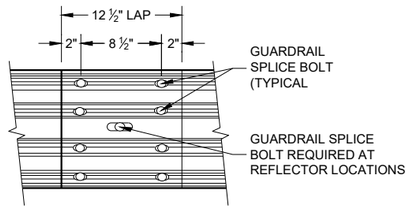
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

SDD 14B42 - 07a

SDD 14B42 - 07a



FRONT VIEW
POST SPACING STANDARD INSTALLATION



FRONT VIEW
MID-SPAN BEAM SPLICE

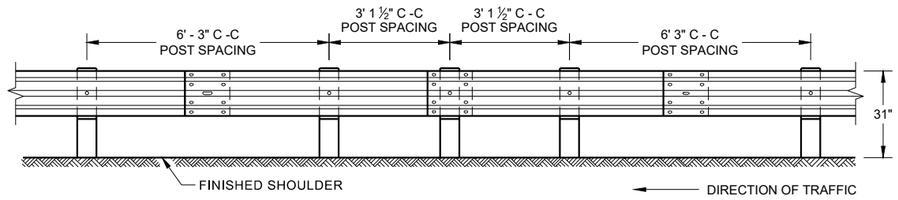
GENERAL NOTES

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

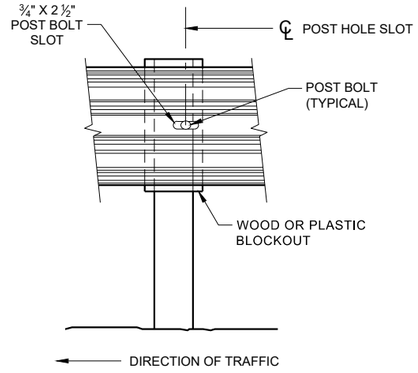
(9) 25 FEET OF HALF POST SPACING IS REQUIRED ON APPROACH AND DEPARTURE ENDS OF QUARTER POST SPACING.

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.

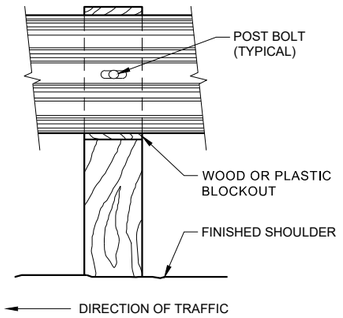
GUARD RAIL SPLICE BOLTS ARE A ⅝" DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES ⅝" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.



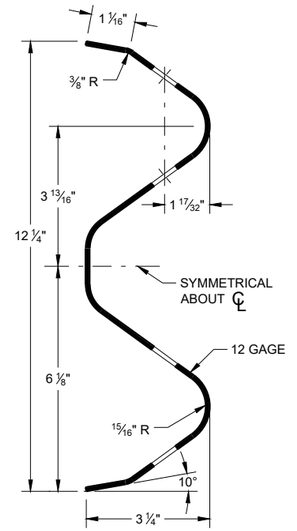
FRONT VIEW
HALF POST SPACING (HS) AND
HALF POST SPACING WITH LONGER POSTS (K)



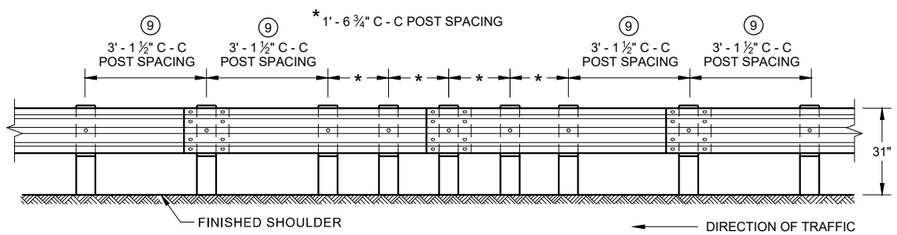
FRONT VIEW AT STEEL POST



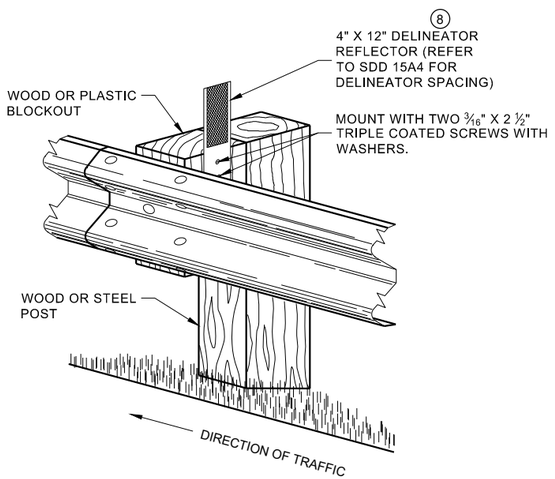
FRONT VIEW AT WOOD POST



SECTION THRU W-BEAM RAIL



FRONT VIEW
QUARTER POST SPACING (QS)



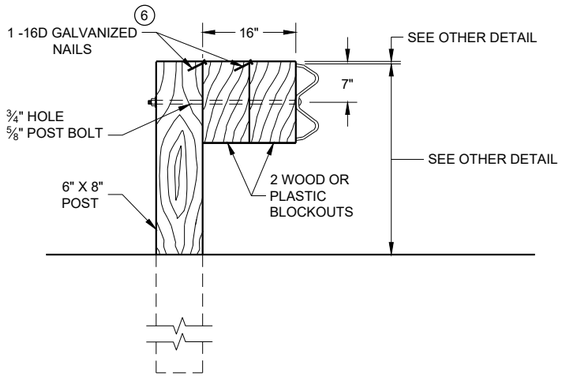
ONE SIDED REFLECTOR DETAIL
AND TYPICAL INSTALLATION

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

SDD 14B42 - 07b
SDD 14B42 - 07b

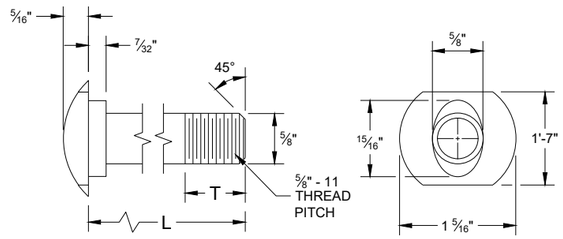


DETAIL FOR 16" BLOCKOUT DEPTH

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.

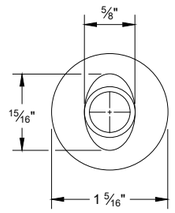
NOTE:

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.

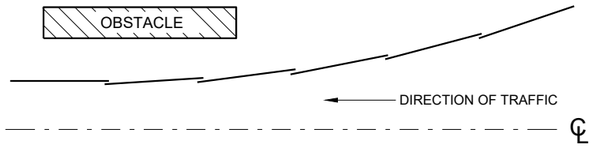


POST BOLT TABLE

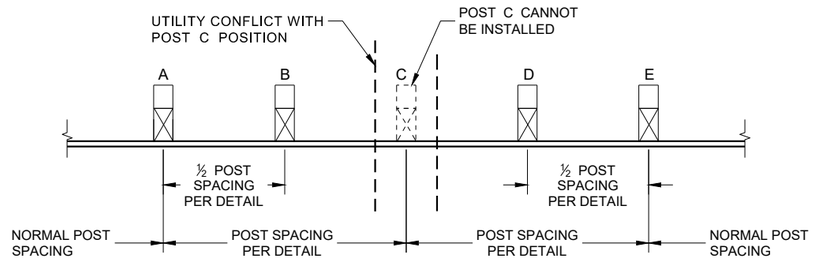
L	T (MIN.)
1 ¼"	1 ⅛"
2"	1 ¾"
10"	4"
14"	4 1/16"
18"	4"
21"	4 1/16"
25"	4"



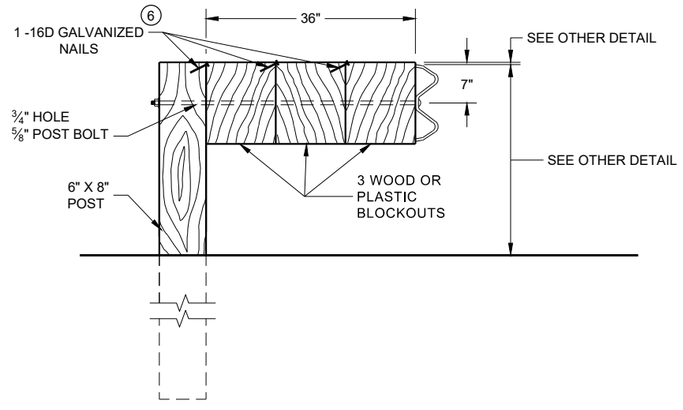
ALTERNATE BOLT HEAD



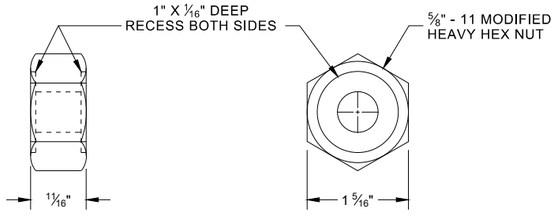
PLAN VIEW
BEAM LAPPING DETAIL



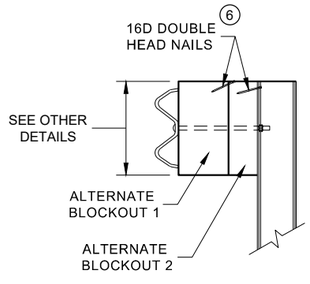
POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION



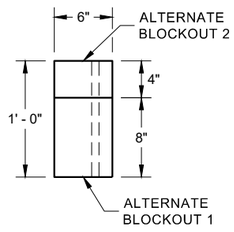
DETAIL FOR 36" BLOCKOUT DEPTH



POST BOLT, SPLICE BOLT AND RECESS NUT



SIDE VIEW



PLAN VIEW

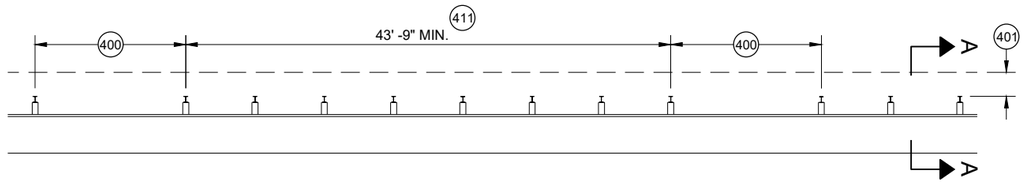
ALTERNATE WOOD BLOCKOUT DETAIL

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.

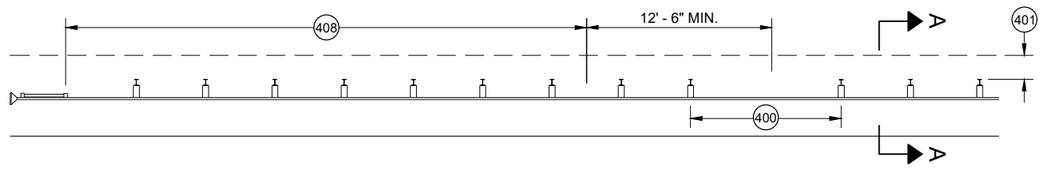
DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.

(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.

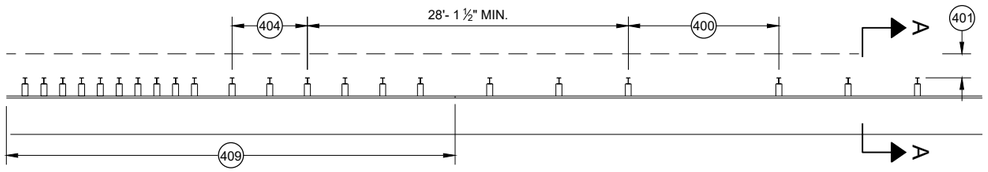
MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL



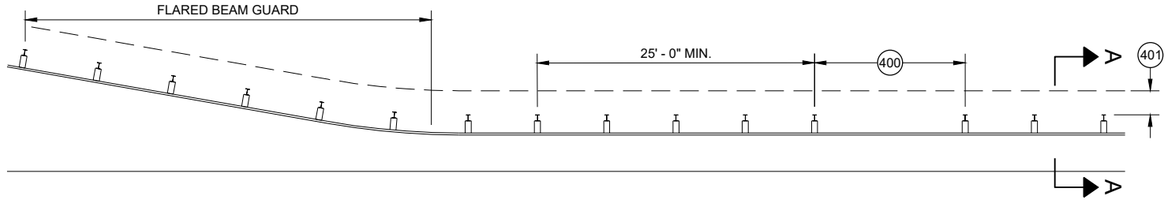
MISSING POST IN MGS GUARDRAIL



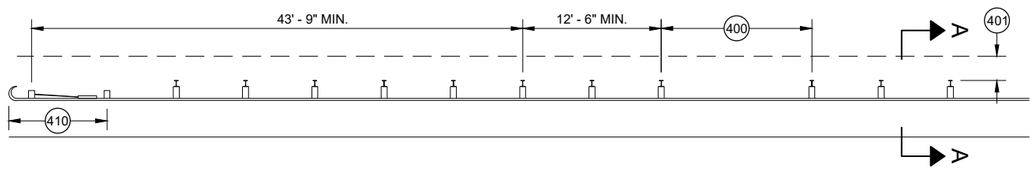
MISSING POST IN MGS GUARDRAIL NEAR EAT



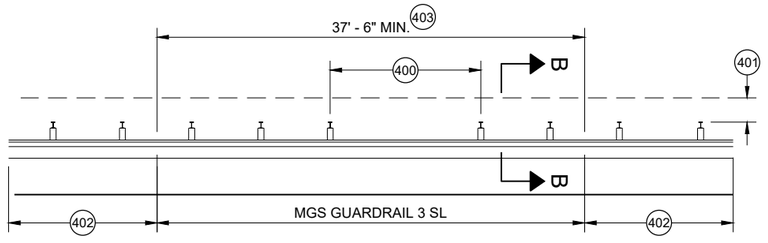
MISSING POST IN MGS GUARDRAIL NEAR AN APPROACH TRANSITION



MISSING POST IN MGS GUARDRAIL NEAR FLARED BEAM GUARD

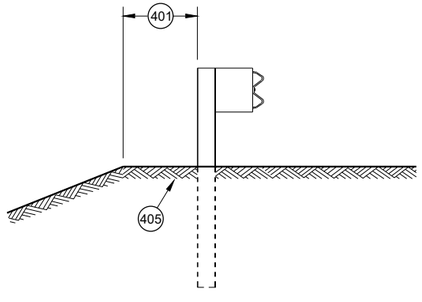


MISSING POST IN MGS GUARDRAIL NEAR A TYPE 2 END TERMINAL

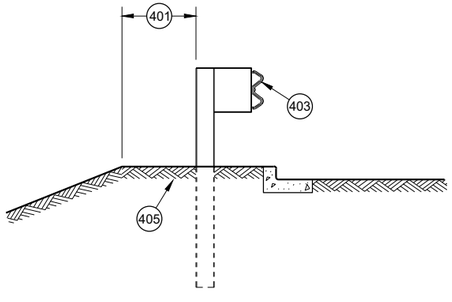


MISSING POST IN SHORT SPAN MGS GUARDRAIL NEAR CURB (SL) 407

(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.

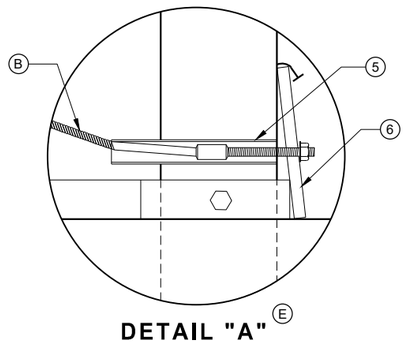
SEE SDD 14B42 FOR MORE INFORMATION.

* DO NOT ATTACH BLOCKOUTS TO POST 1 AND 2.

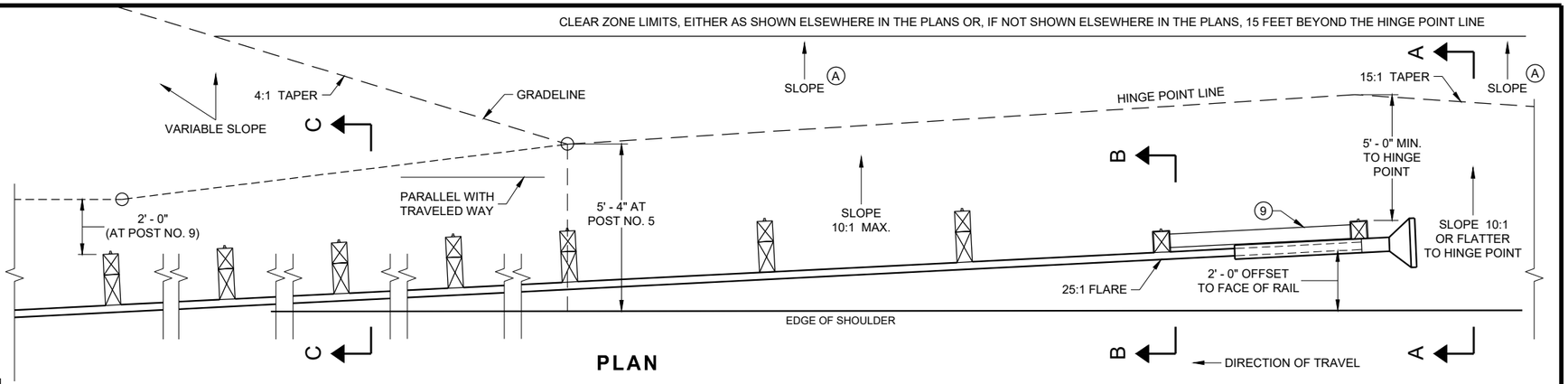
DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

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

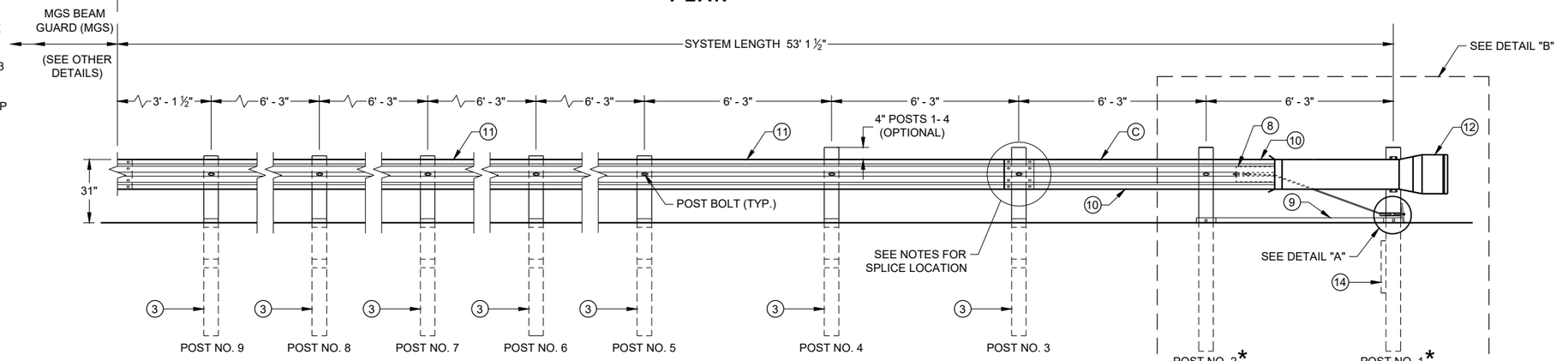
THE CENTER OF THE UPPER 3 ½" DIAMETER HOLE ON POST NUMBER 3 THROUGH POST 9 IS TO BE FLUSH WITH THE GROUND LINE UP TO A MAXIMUM OF 2" ABOVE GROUND LINE. WOOD BLOCKS ON POSTS NUMBERED 3 THROUGH 9 MAY BE ADJUSTED UP TO 3" ABOVE THE TOP OF POST.



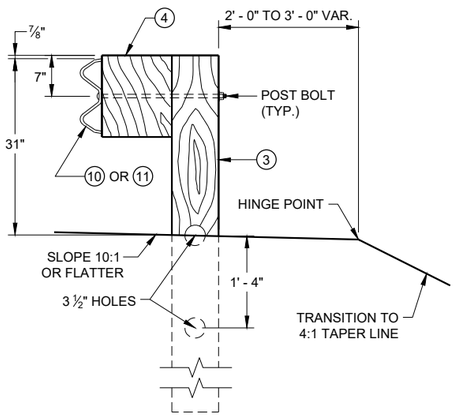
DETAIL "A" (E)



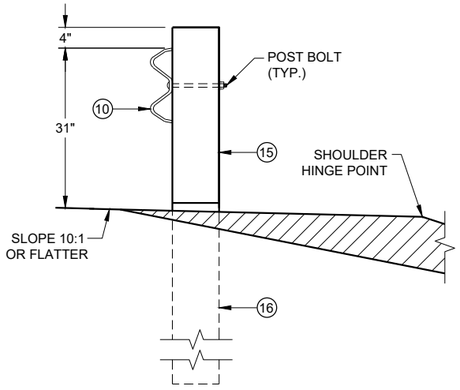
PLAN



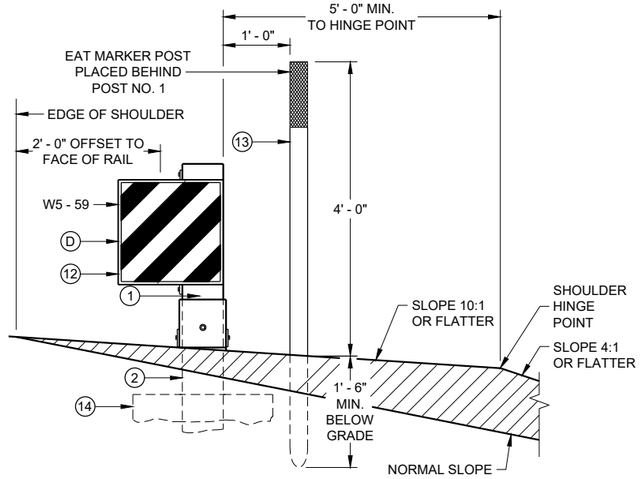
ELEVATION



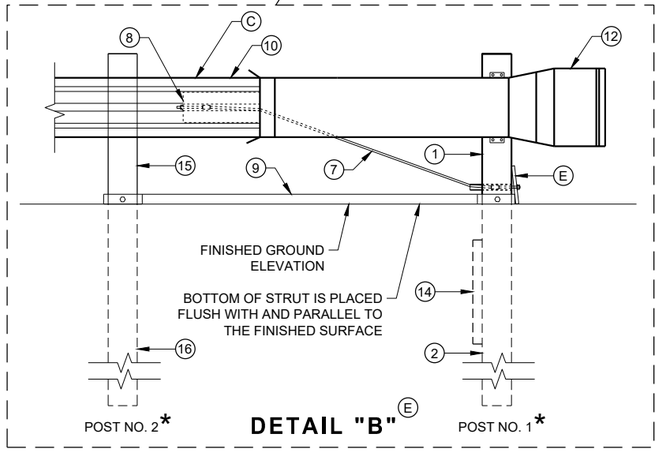
SECTION C - C
TYPICAL AT POST NOS. 3 - 9



SECTION B - B
TYPICAL AT POST NO. 2*



SECTION A - A
TYPICAL AT POST NO. 1*

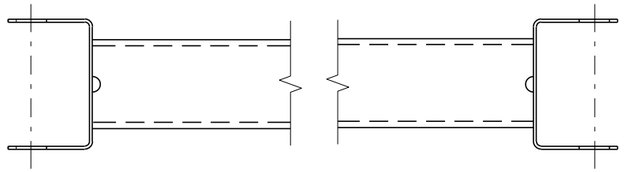


DETAIL "B" (E)

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

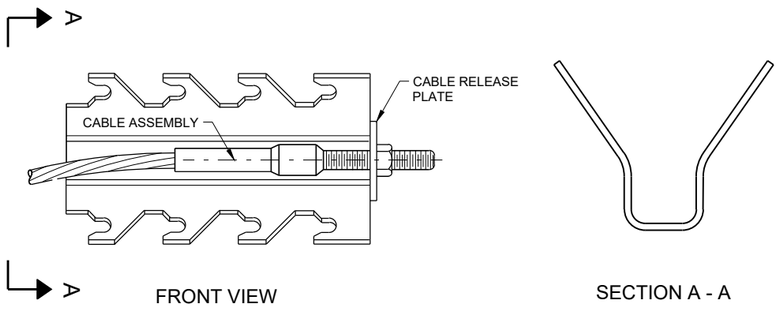
SDD 14B44 - 04a



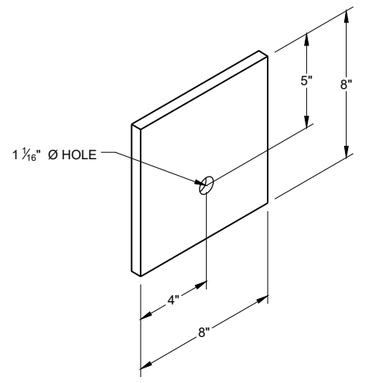
GENERIC GROUND STRUT ⑨ Ⓔ

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

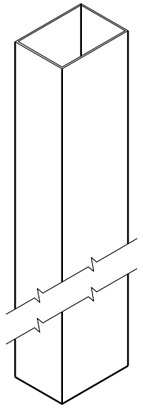
6

SDD 14B44 - 04b

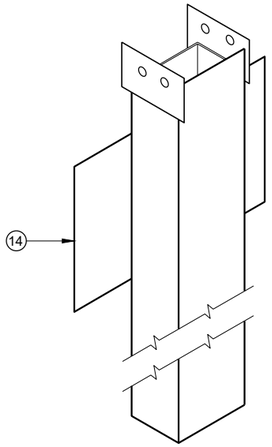
SDD 14B44 - 04b

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

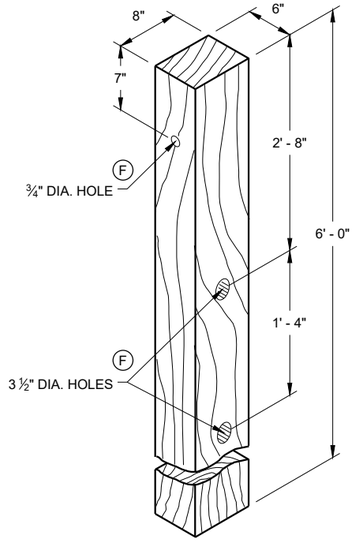
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



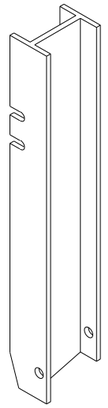
UPPER POST NO. 1 (1) (E)



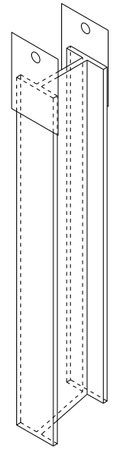
LOWER POST NO. 1 (2) (E)



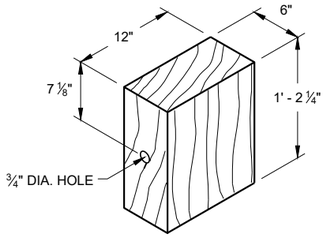
WOOD CRT POST (3) (E)
POSTS NUMBER 3-9



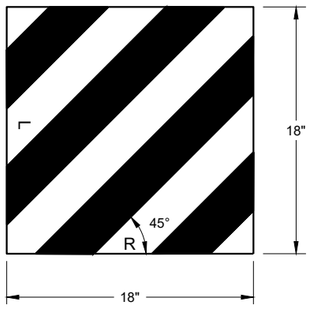
UPPER POST NO. 2 (15) (E)



LOWER POST NO. 2 (16) (E)

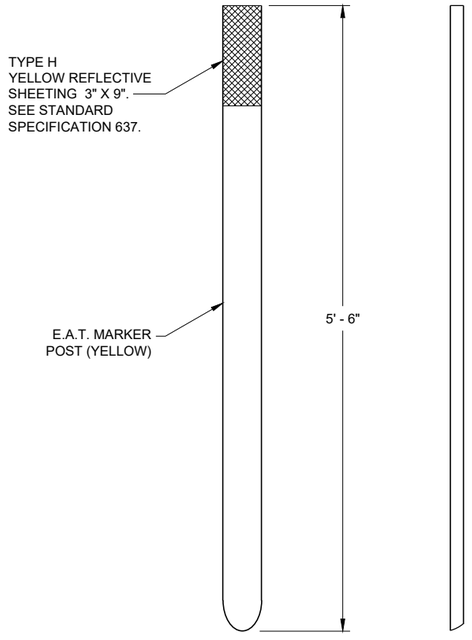


WOOD BLOCKOUT (4)
REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2



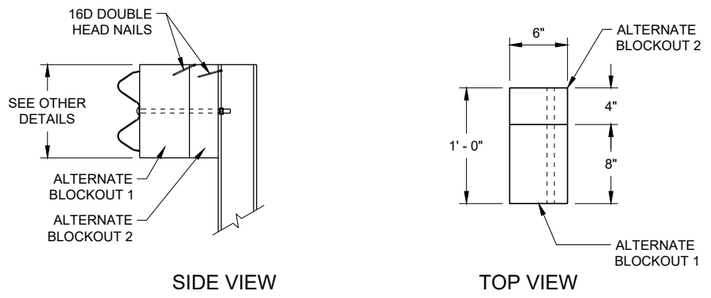
W5 - 59

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)

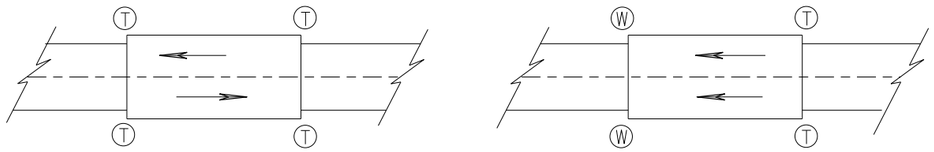
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA

6

SDD 14B44 - 04c
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.

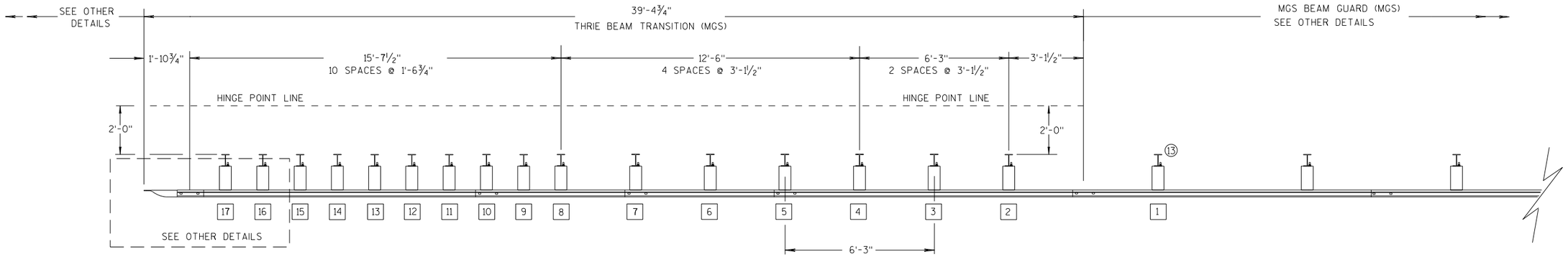
SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

POST 2 THROUGH 17 USES STEEL POST ONLY

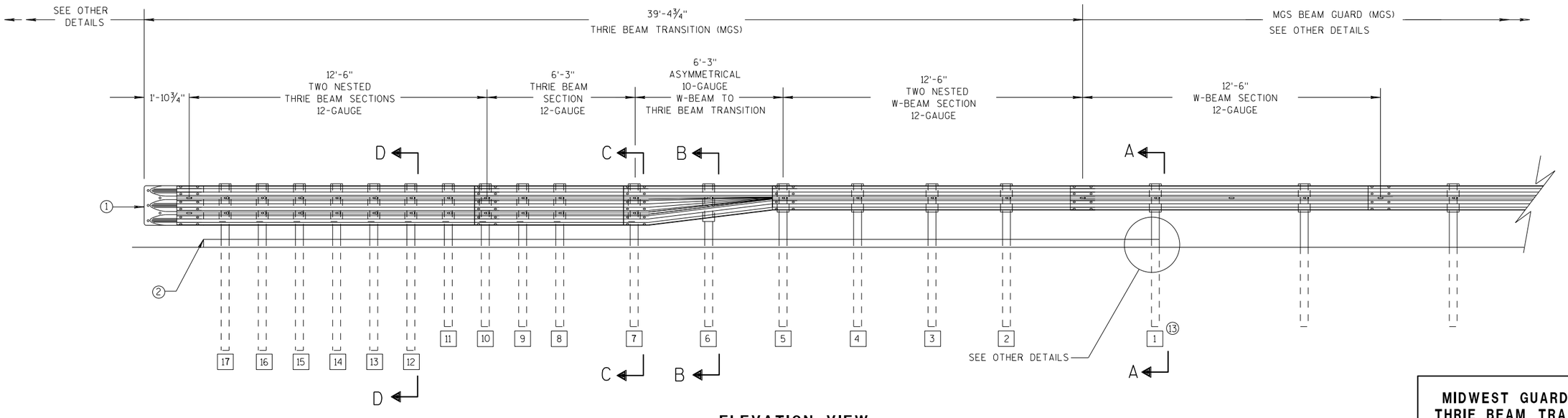
(1) BRIDGE RAILING TYPE "W" DOES NOT REQUIRE A TERMINAL CONNECTOR.

(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

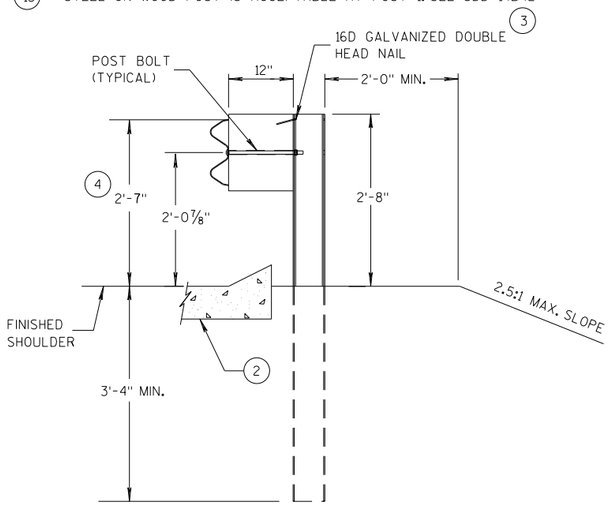
GENERAL NOTES

(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.

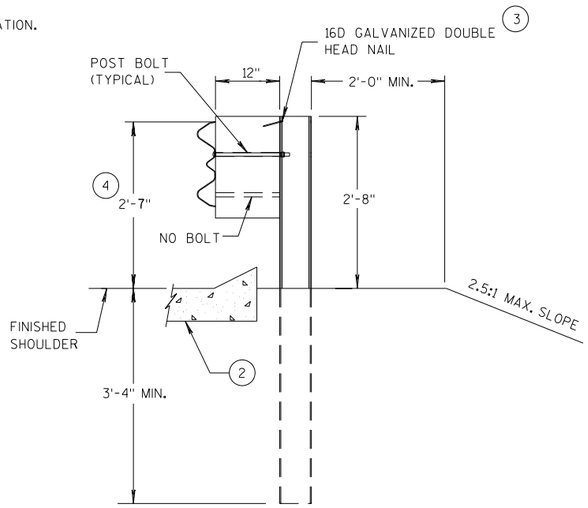
(4) TOLERANCE FOR TOP OF W-BEAM RAIL IS ± 1".

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



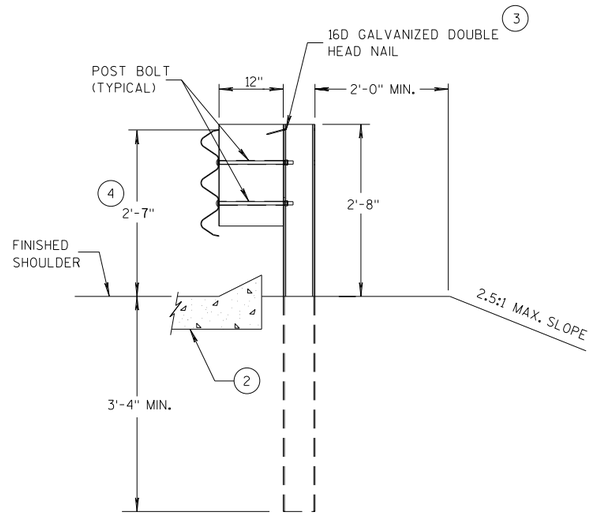
SECTION A-A (13)

POSTS 1-5



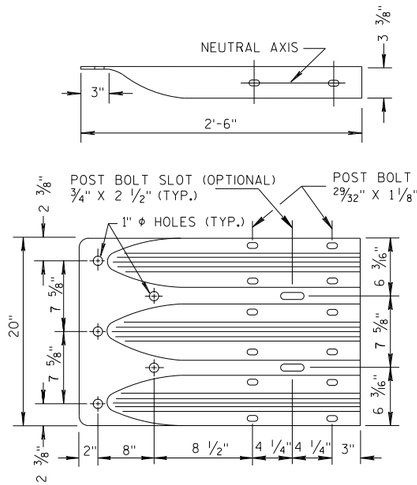
SECTION B-B

POST 6

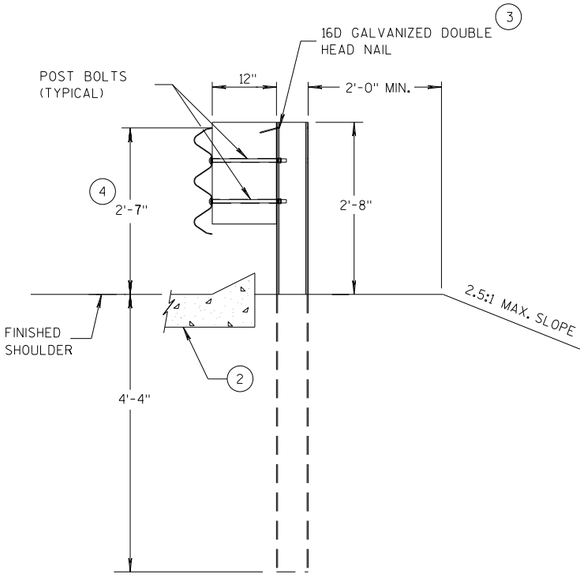


SECTION C-C

POSTS 7-11

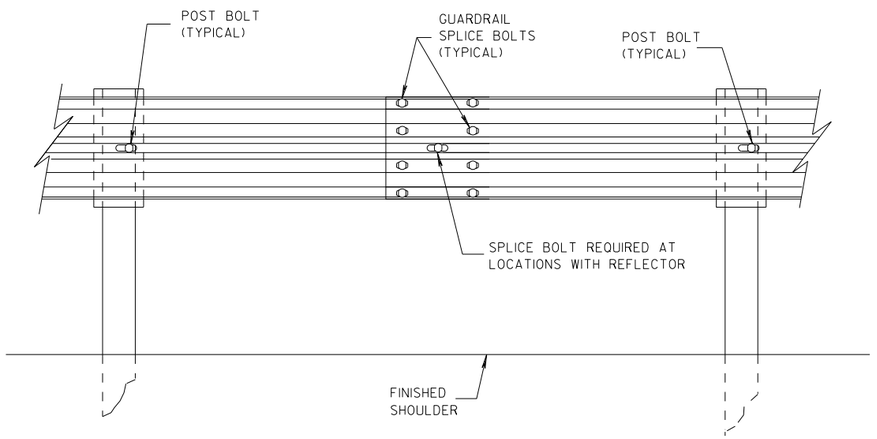


THRIE BEAM TERMINAL CONNECTOR



SECTION D-D

POSTS 12-17



SPLICE DETAIL

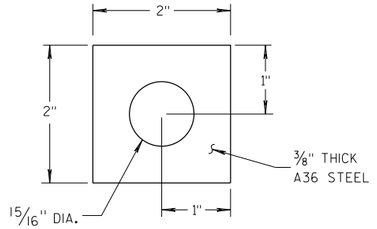
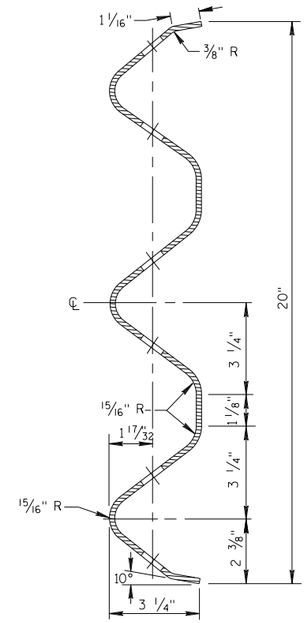


PLATE WASHER DETAIL



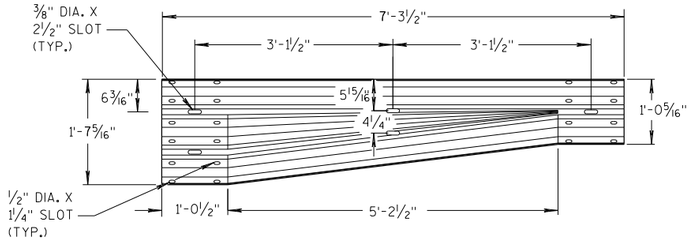
SECTION THRU THRIE BEAM RAIL ELEMENT

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

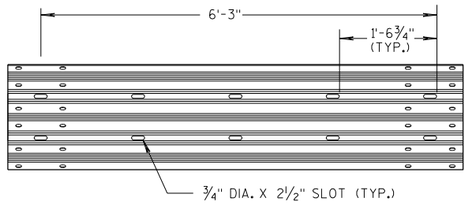
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

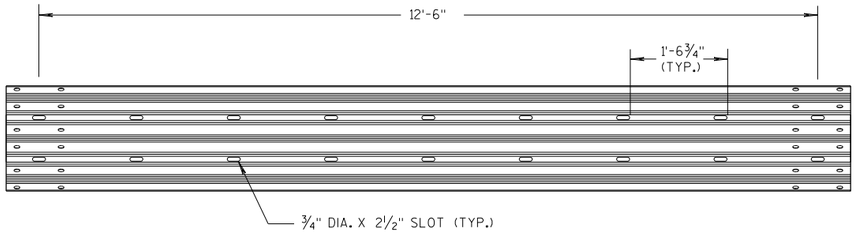
S.D.D. 14 B 45-5b



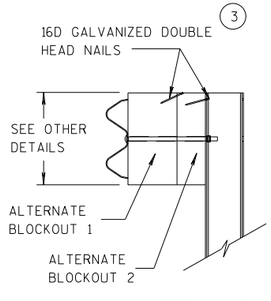
W-BEAM TO THRIE BEAM TRANSITION SECTION



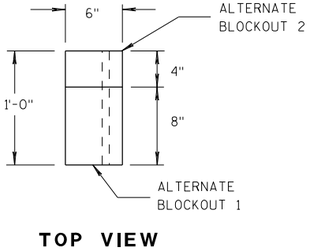
6'-3" THRIE BEAM SECTION



12'-6" THRIE BEAM SECTION

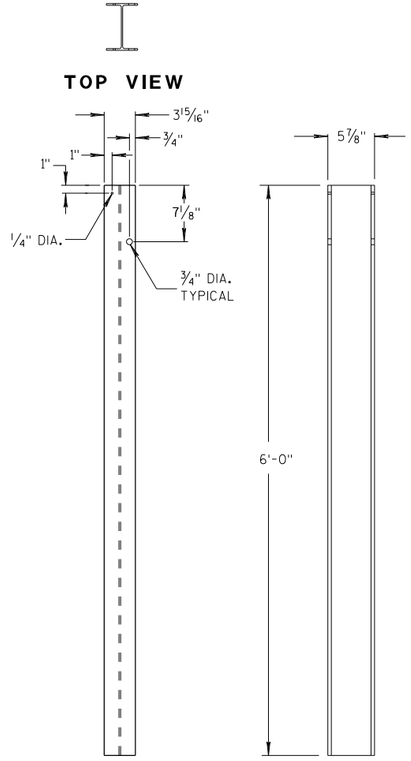


SIDE VIEW



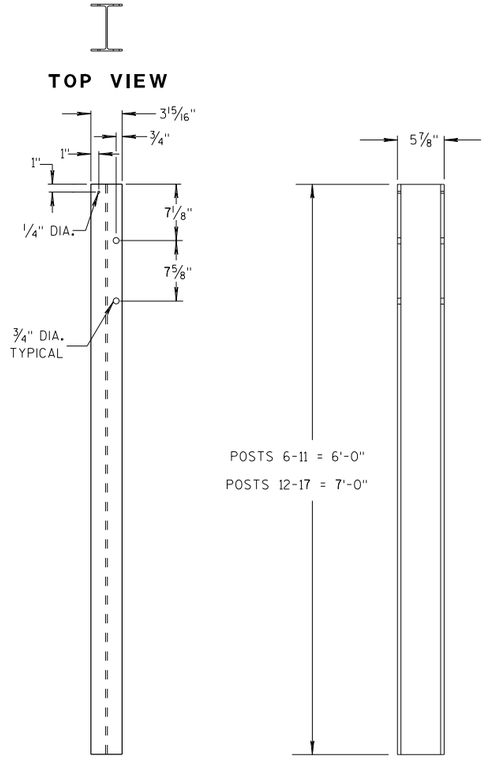
TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL



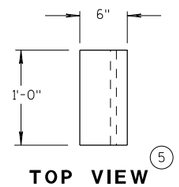
FRONT VIEW SIDE VIEW

STEEL POSTS 1-5 (13)

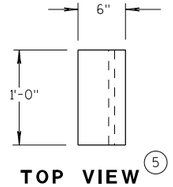


FRONT VIEW SIDE VIEW

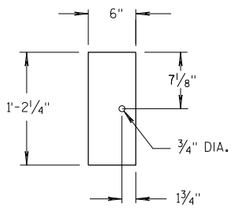
STEEL POSTS 6-17



TOP VIEW (5)

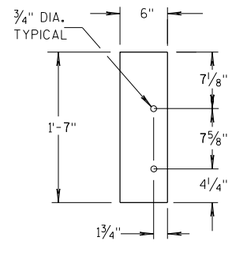


TOP VIEW (5)



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 TRANSPOF

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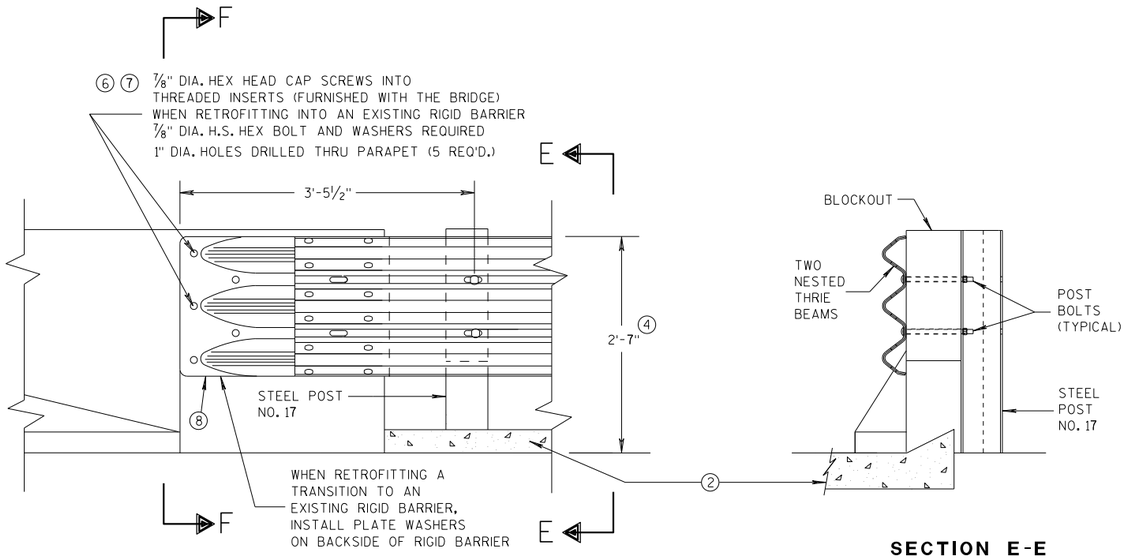
S.D.D. 14 B 45-5c



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.

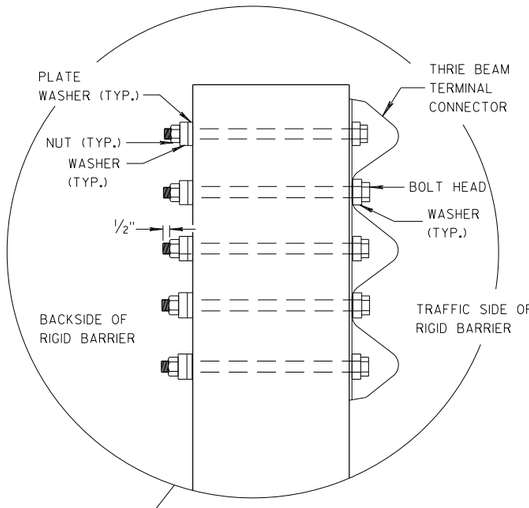
② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

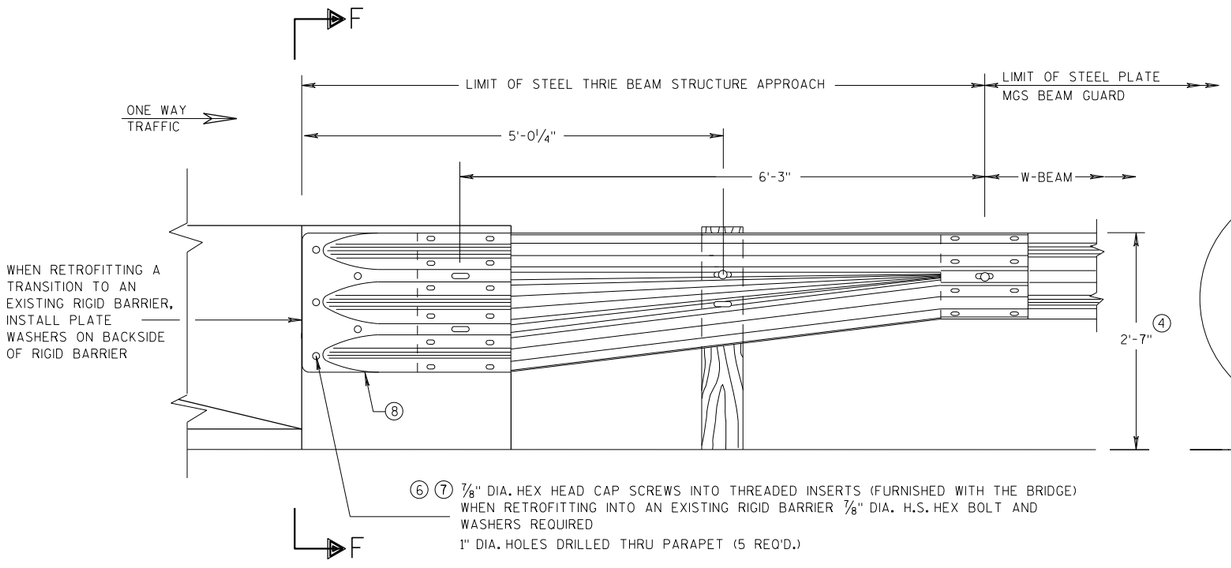
④ TOLERANCE FOR TOP OF BEAM IS ± 1".

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

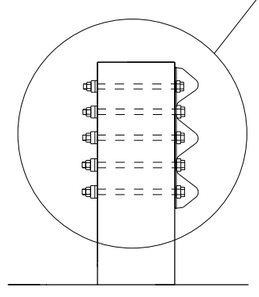
⑦ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. 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".

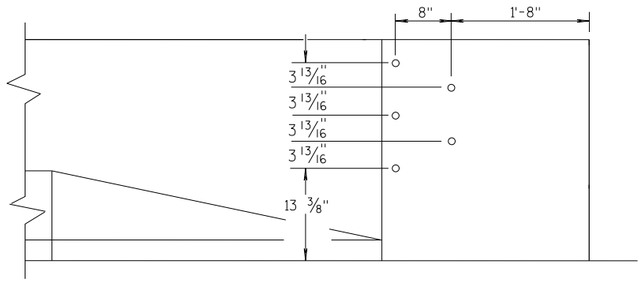




FRONT VIEW



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

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

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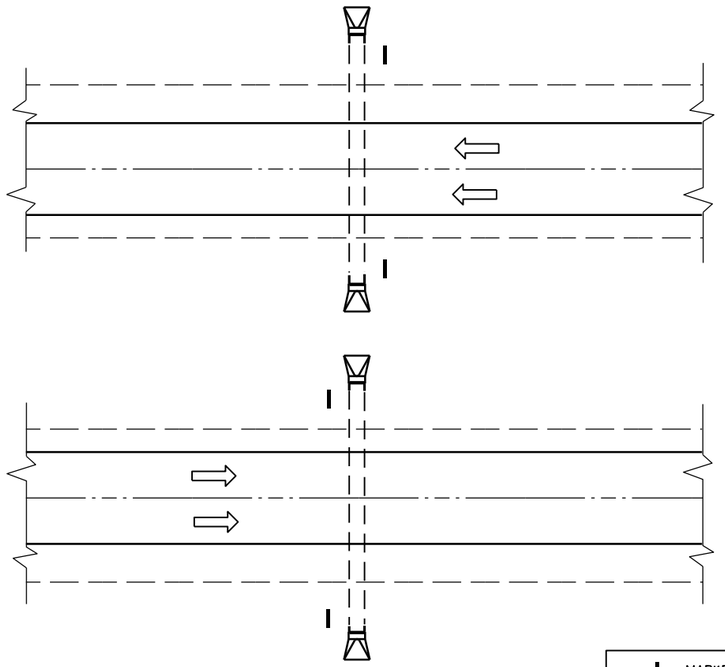
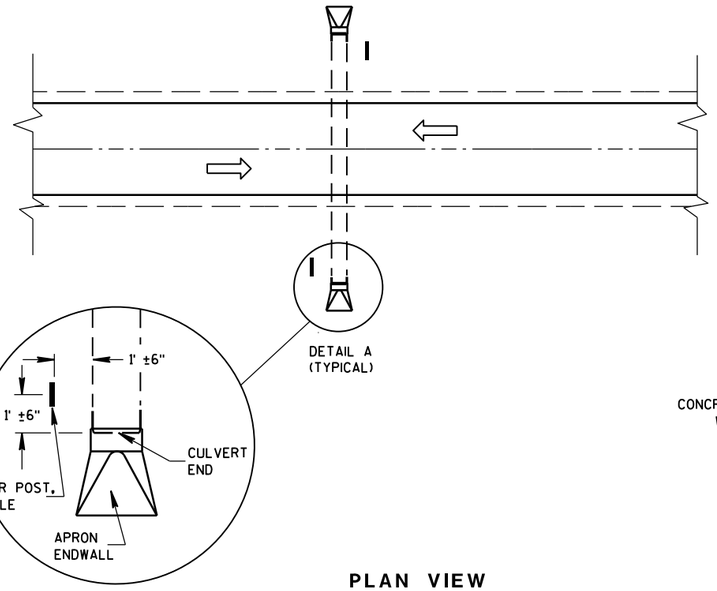
S.D.D. 14 B 45-5d



PLAN VIEW

DIVIDED HIGHWAY



DETAIL A
(TYPICAL)

PLAN VIEW

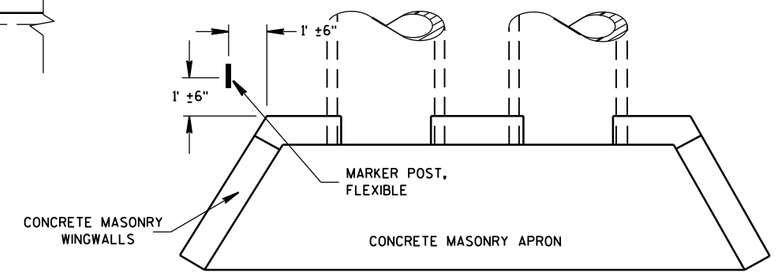
UNDIVIDED HIGHWAY

MARKER POST, FLEXIBLE

DIRECTION OF TRAFFIC FLOW

GENERAL NOTES

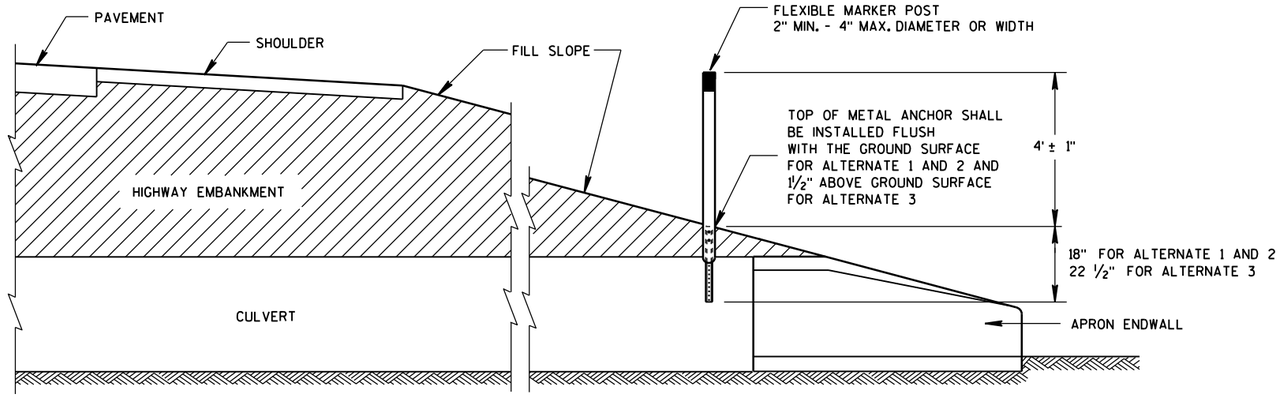
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.



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 TRANSPOR

6

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

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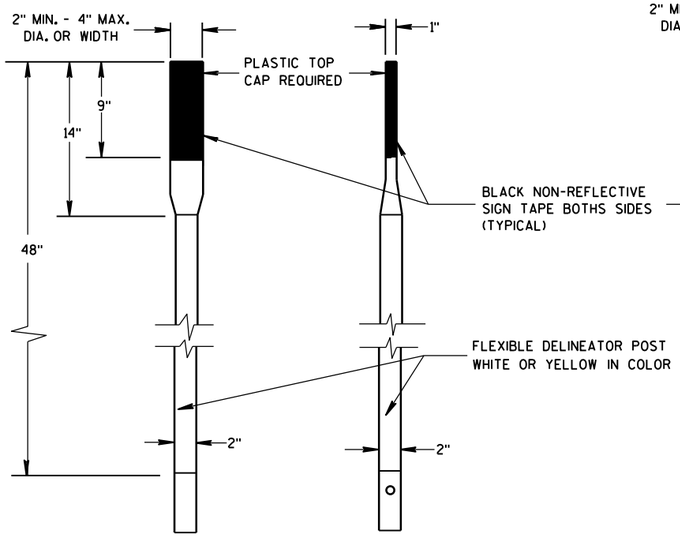
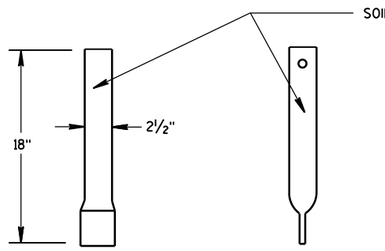
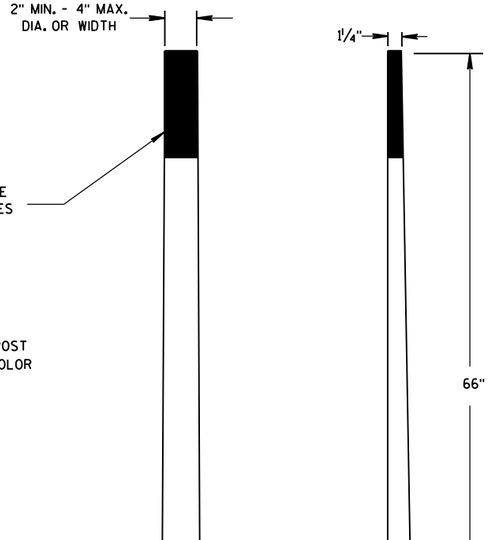
S.D.D. 15 A 3-2a





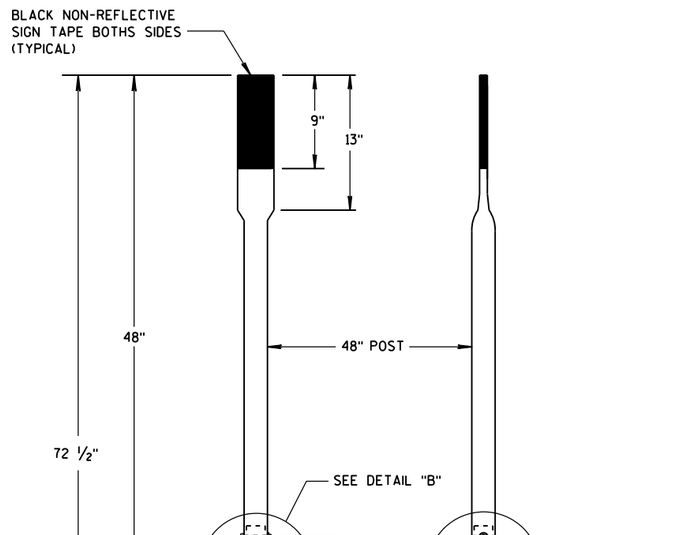
FRONT VIEW SIDE VIEW

ALTERNATE 1



FRONT VIEW SIDE VIEW

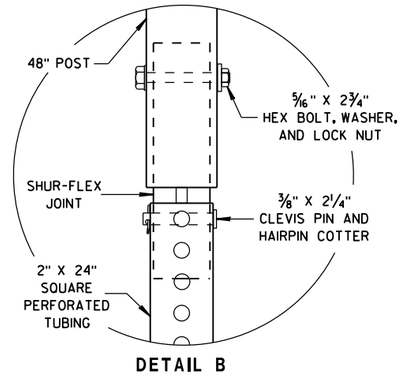
ALTERNATE 2



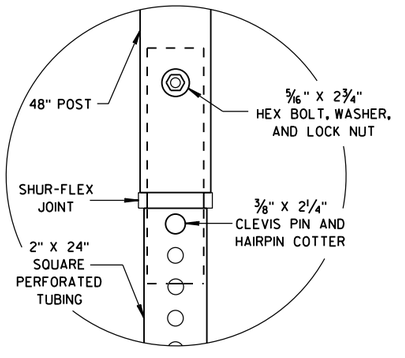
FRONT VIEW SIDE VIEW

ALTERNATE 3

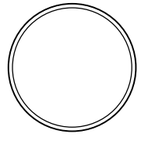
FLEXIBLE MARKER POSTS



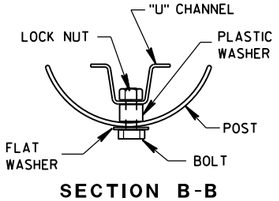
DETAIL B



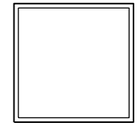
DETAIL C



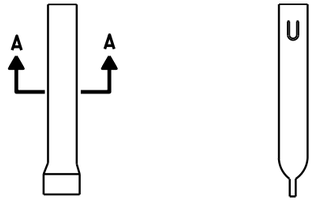
SECTION A-A



SECTION B-B

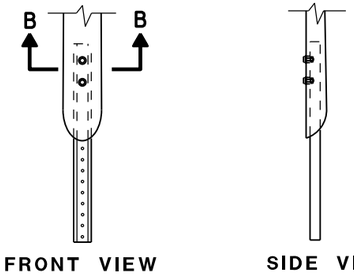


SECTION C-C



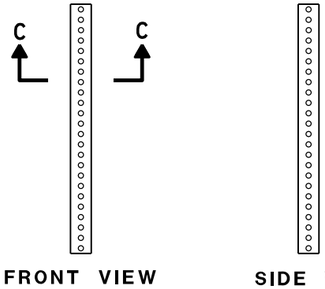
FRONT VIEW SIDE VIEW

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

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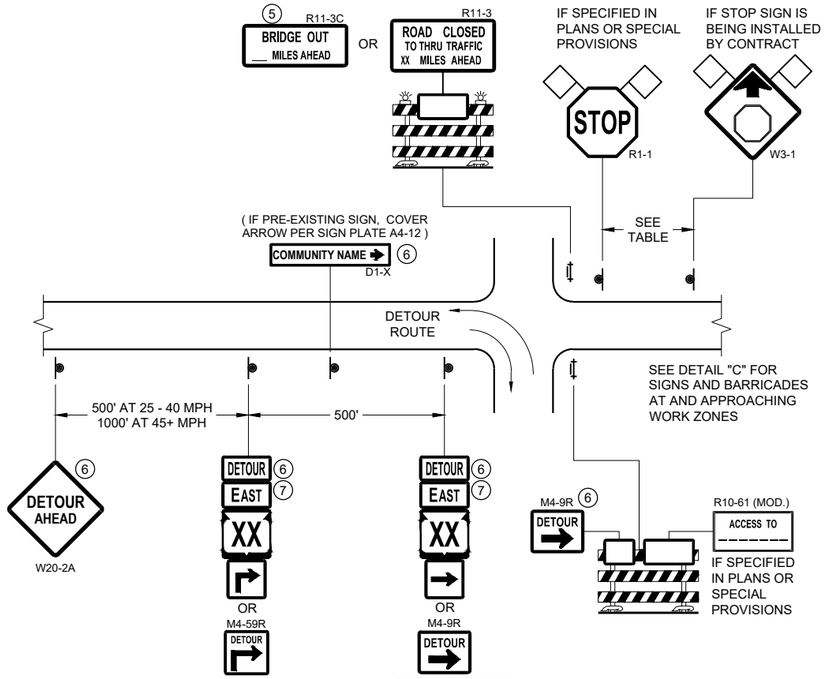
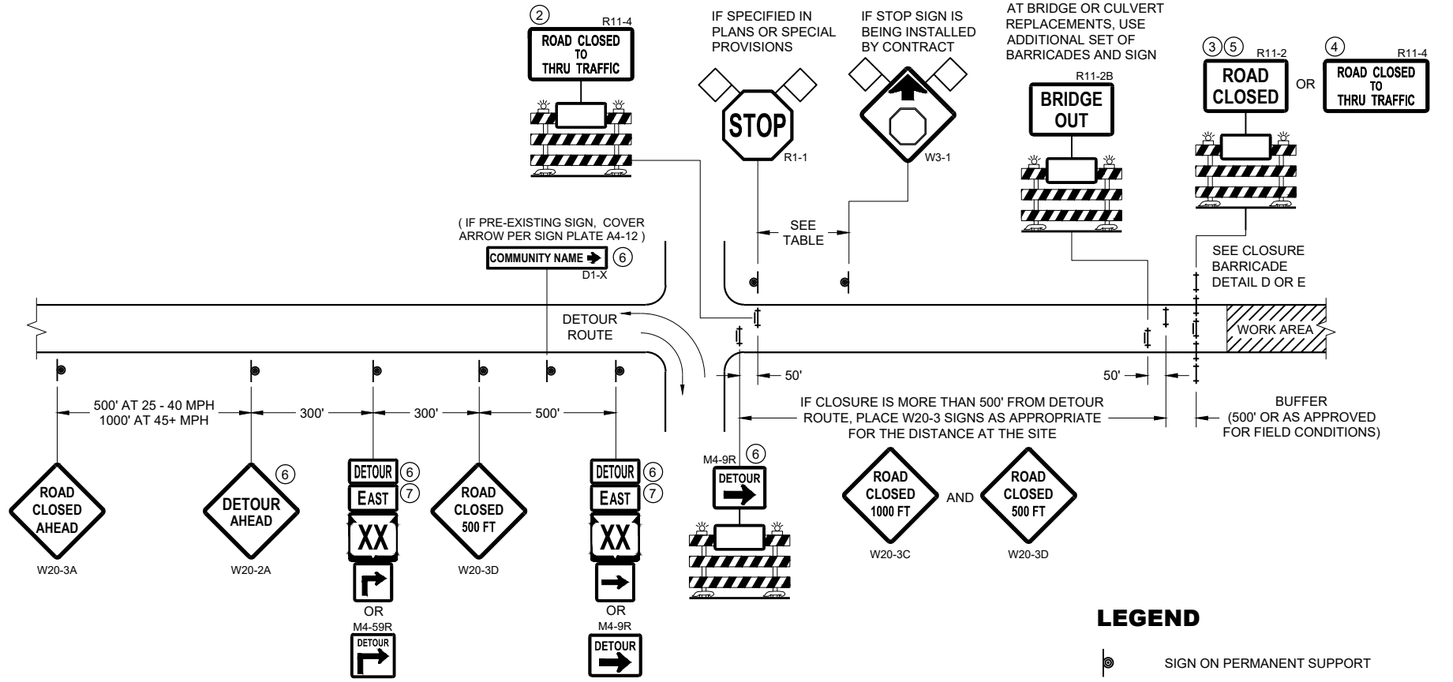




DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR

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

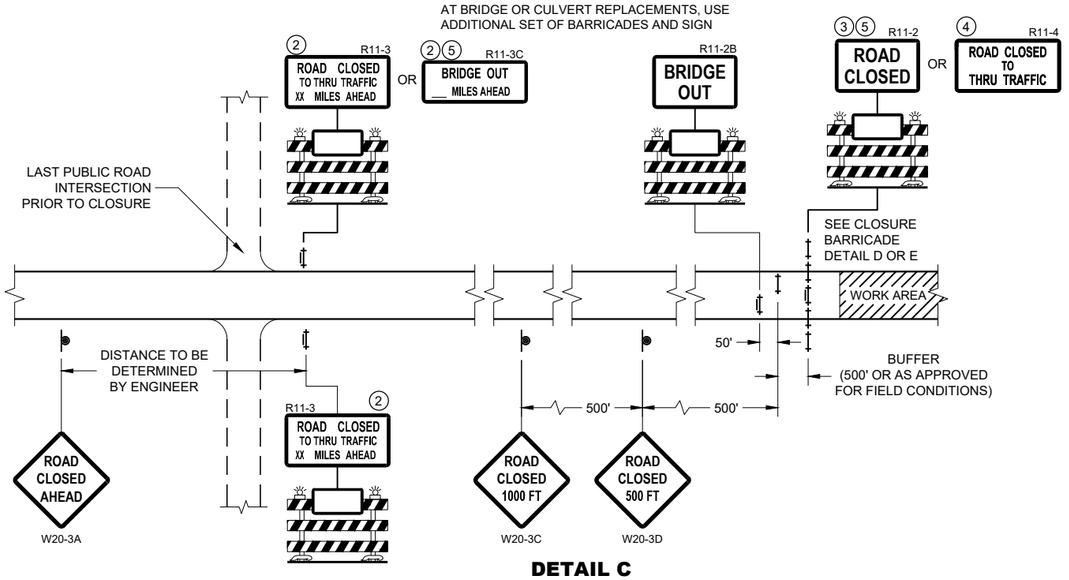
DETAIL B
MAINLINE CLOSURE WITH POSTED DETOUR

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

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

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

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

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA

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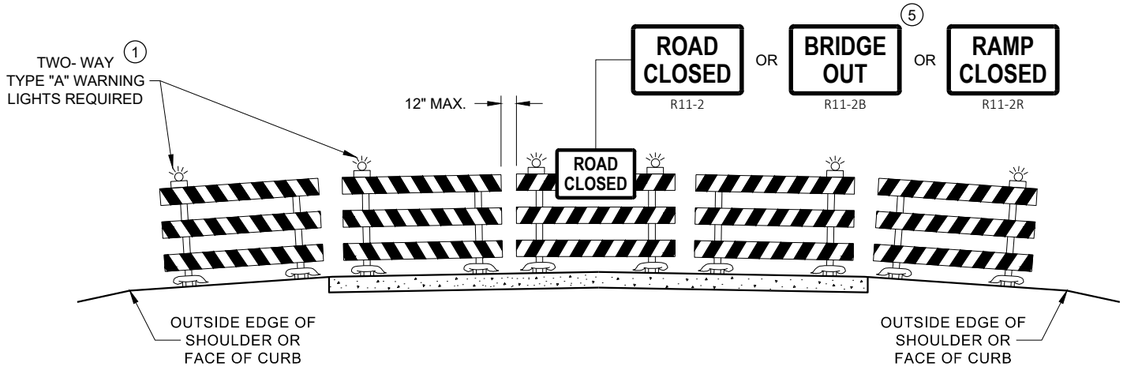
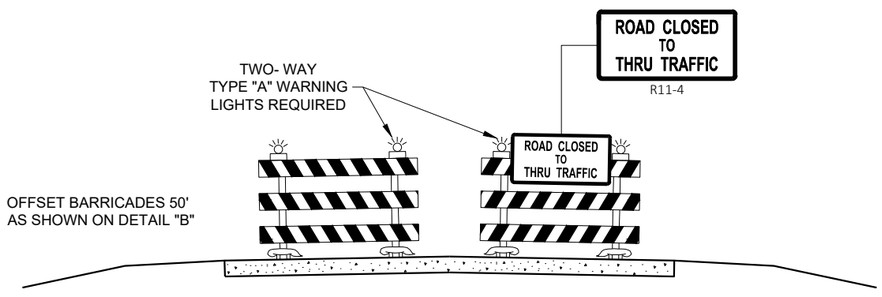
SDD 15C02 - 09a

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 ENGINEER
FHWA

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SDD 15C02 - 09b

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SDD 15C02 - 09b

THIS DRAWING PROVIDES GENERAL GUIDANCE ON TYPICAL DETOUR SIGN LAYOUT AND SPACING. SEE PROJECT DETOUR SIGNING SHEETS FOR SPECIFIC DETAILS FOR EACH PROJECT.

LEGEND

- SIGN ON PERMANENT SUPPORT
- WORK AREA
- DETOUR / EAST — M4 - 8, M3 - X
- XX — M1 - 4 OR XX — M1 - 6 OR COUNTY X — M1 - 5A
- M05 - 1 OR M06 - 1 OR M06 - 1

GENERAL NOTES

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

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. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. MODIFY EXISTING SIGNS WHERE POSSIBLE.

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

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.

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

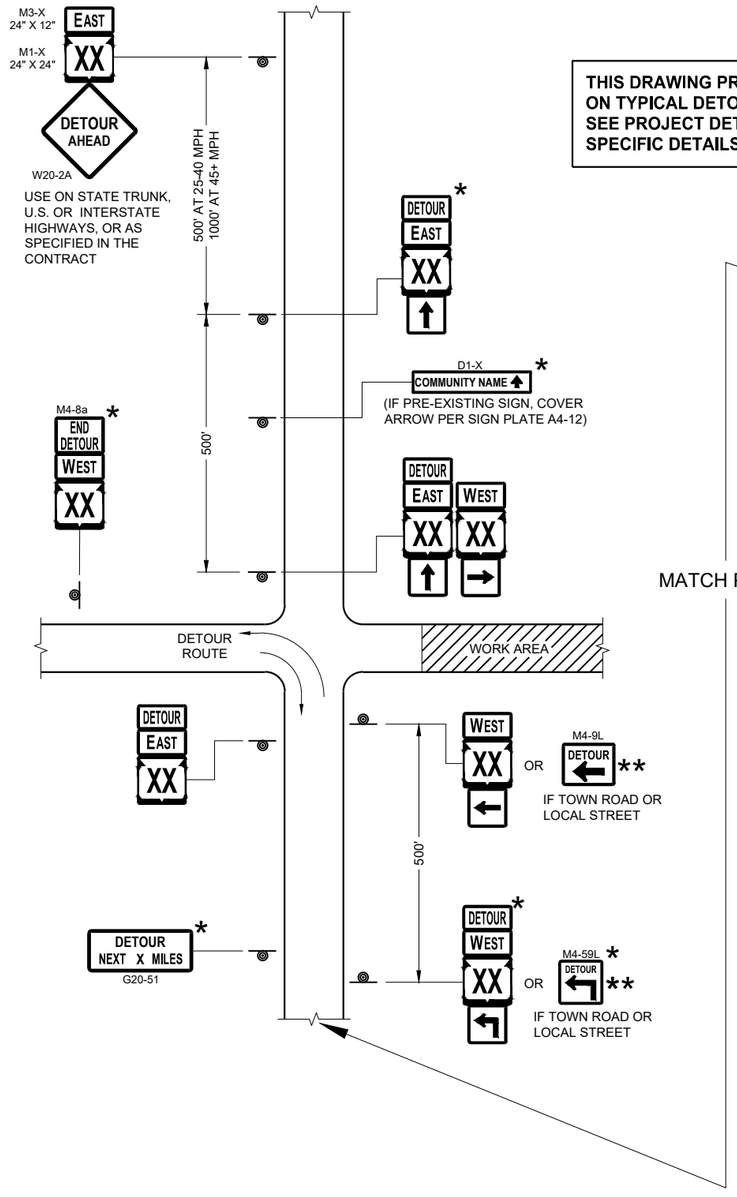
"MO" SIGNS ARE THE SAME AS "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

SIGN SIZES SHALL BE AS FOLLOWS:

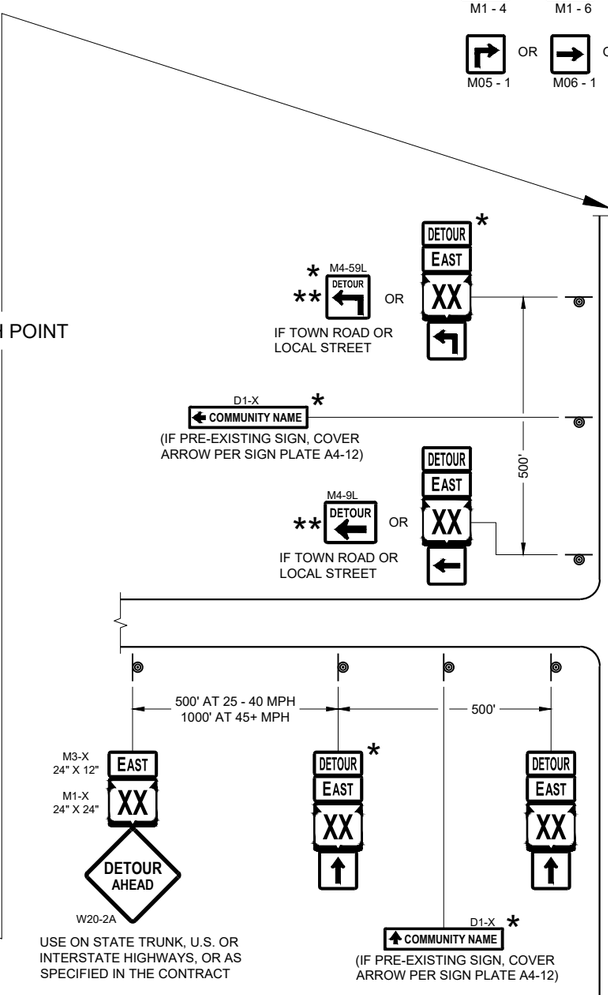
- M3-X SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M4-8 SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M1-4, M1-5A AND M1-6 SHALL BE 24" X 24" (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS)
- M05-1 AND M06-1 SHALL BE 21" X 21" (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS)
- M4-9 AND M4-59 SHALL BE 30" X 24"
- M4-8a SHALL BE 24" X 18"
- G20-51 SHALL BE 60" X 24"
- W20-2A SHALL BE 48" X 48"
- D1-X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.

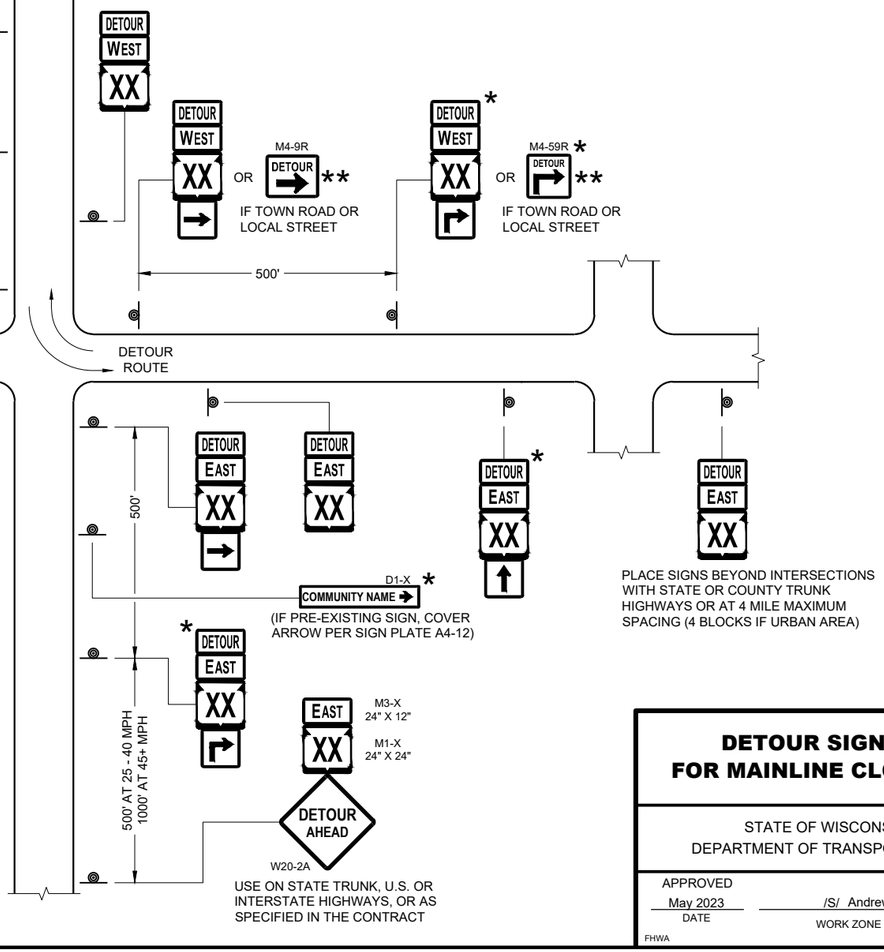
* OPTIONAL SIGNS. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS.

** FOR A TOWN ROAD OR LOCAL STREET DETOURED ONTO A STATE TRUNK HIGHWAY, PLACE A ROAD NAME PLAQUE ABOVE THE M4-9 SIGN AS SPECIFIED IN THE CONTRACT.



MATCH POINT





SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS AND DETAIL A OR B ON SDD SHEET 15C02 - SHEET "a"

DETAIL F
DETOUR SIGNING

DETOUR SIGNING FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA

SDD 15C02 - 09c
6

GENERAL NOTES

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

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

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

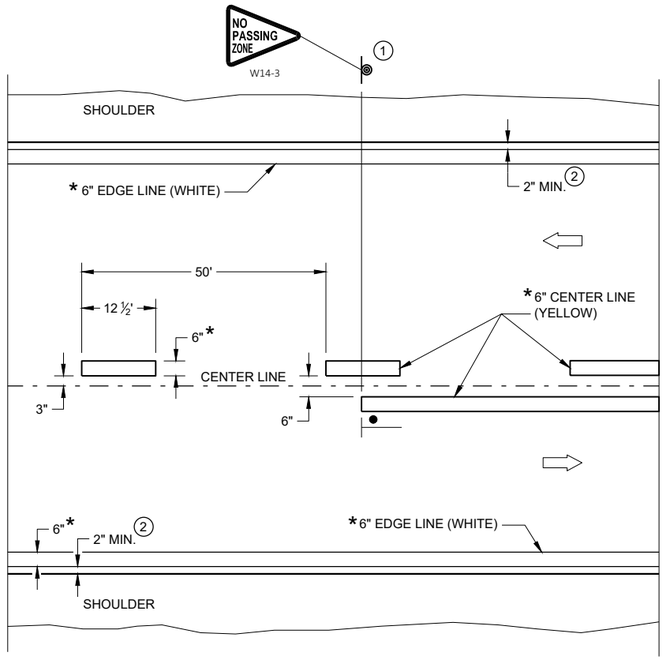
* CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES

LEGEND

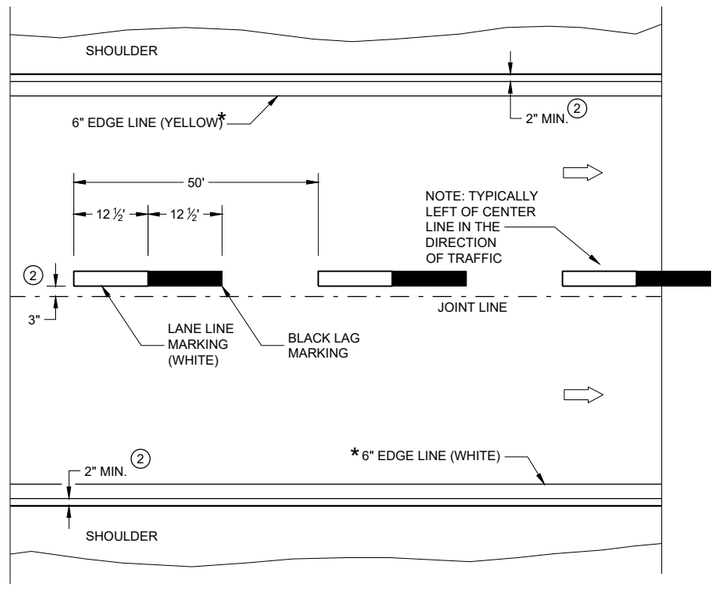
"T" MARKING

SIGN ON PERMANENT SUPPORT

DIRECTION OF TRAFFIC



TWO WAY TRAFFIC



ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING

PERMANENT LONGITUDINAL PAVEMENT MARKINGS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

May 2023
DATE

/S/ Jeannie Silver
STATEWIDE SIGNING AND M ENGINEER

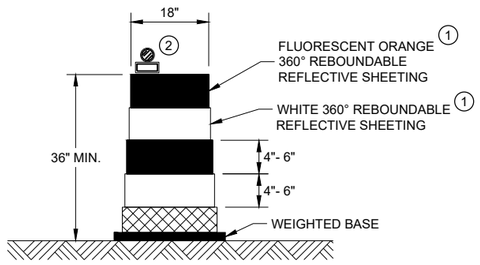
FHWA

6

SDD 15C08-23a

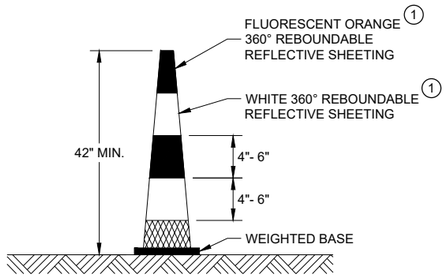
GENERAL NOTES

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



DRUM

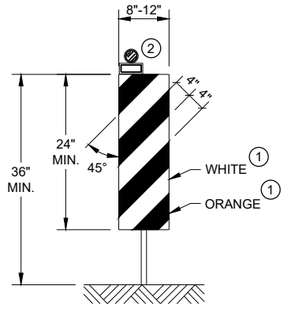
BALLAST WIDTHS
RANGE FROM 24"-36"



42" CONE

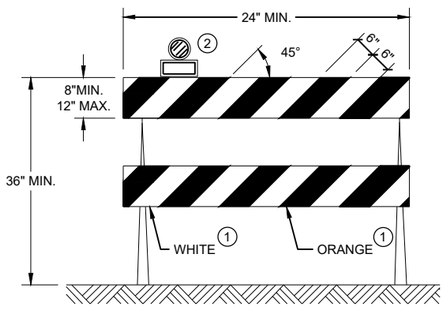
DO NOT USE IN TAPERS
½ SPACING OF DRUMS

BALLAST WIDTHS
RANGE FROM 14"-20"



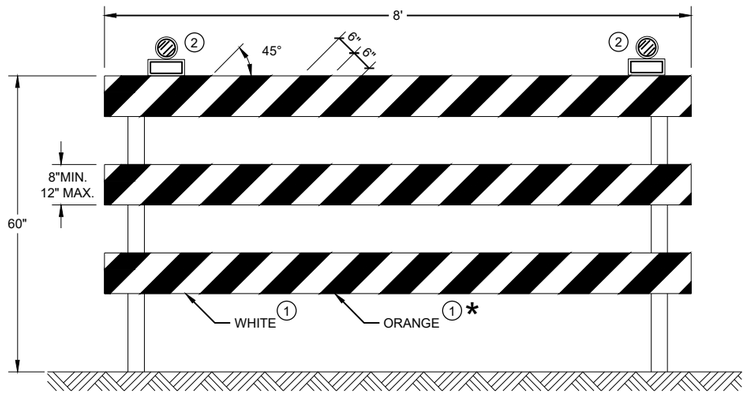
VERTICAL PANEL

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



TYPE II BARRICADE

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



TYPE III BARRICADE

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

* IF USED FOR A PERMANENT APPLICATION USE RED SHEETING.

CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2022
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

6

SDD 15C11 - 10b

6

SDD 15C11 - 10b

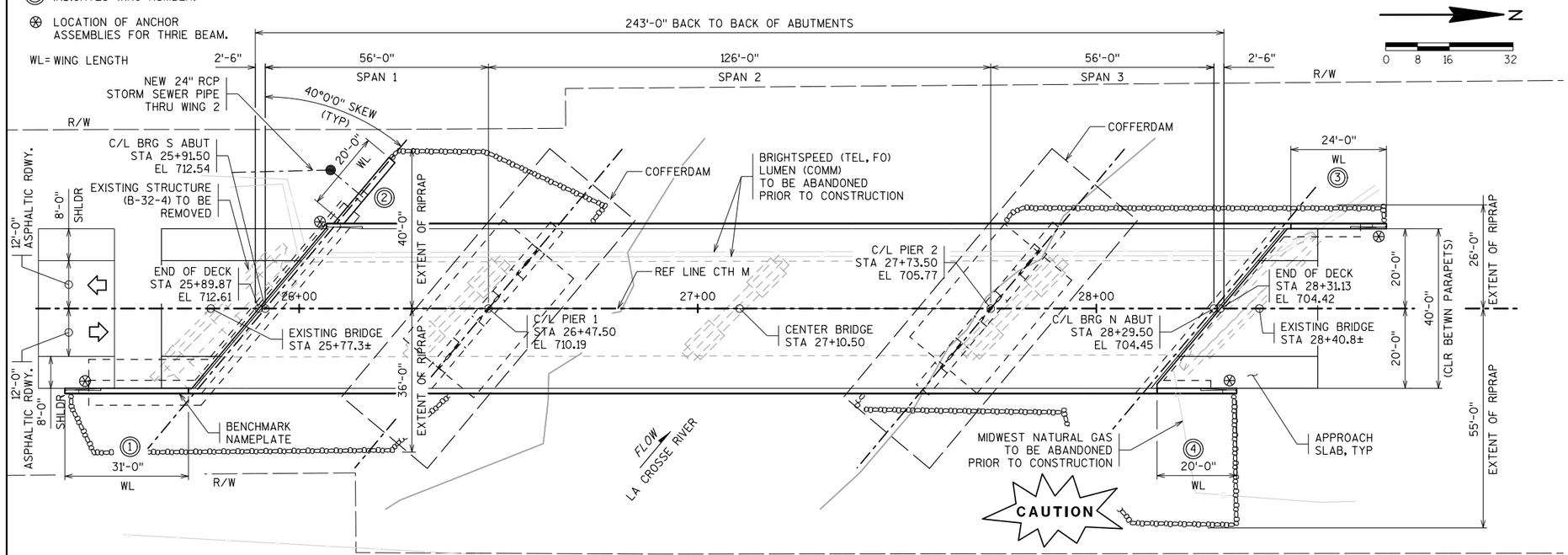
STATE PROJECT NUMBER

7323-00-71

◎ INDICATES WING NUMBER.

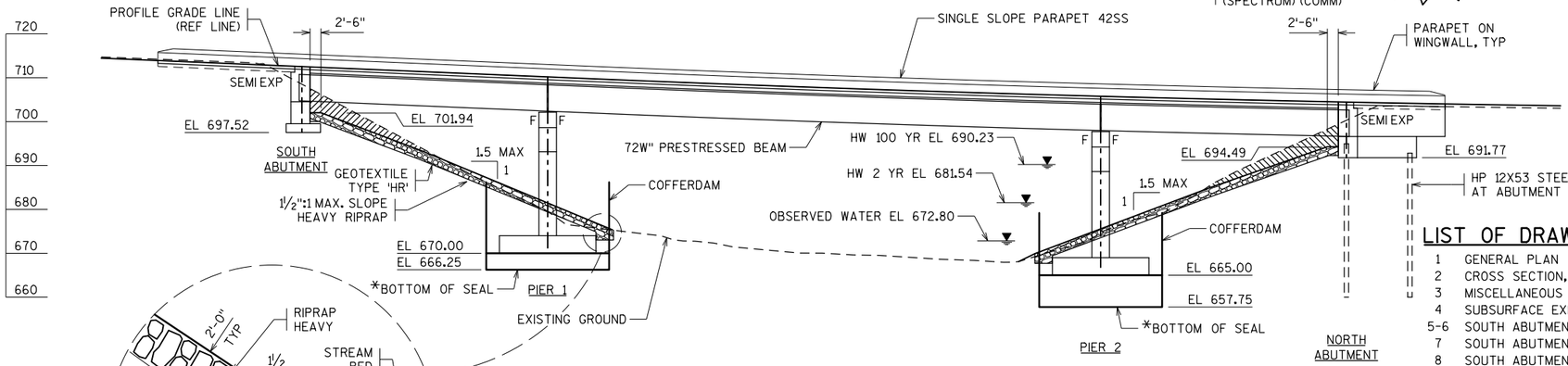
⊛ LOCATION OF ANCHOR ASSEMBLIES FOR THRIE BEAM.

WL= WING LENGTH



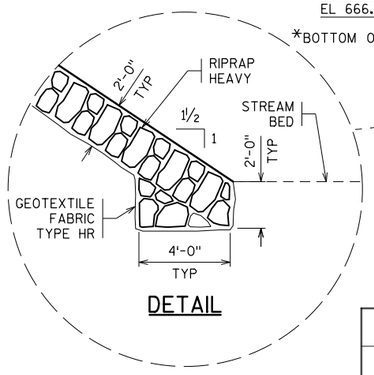
PLAN

THREE SPAN - 72W" PRESTRESSED CONCRETE GIRDER BRIDGE



ELEVATION

(NORMAL TO C/L CTH M)

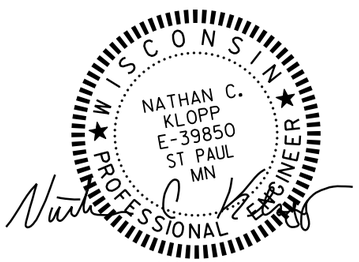


DETAIL

* BOTTOM OF SEAL ELEVATION BASE ON 675.0 WATER ELEVATION

BENCHMARK (DATUM = NAVD 88)

NO	STATION	DESCRIPTION	ELEV
BM 1	24+53.11 50.43'RT	SPIKE IN POWER POLE	722.48
BM 2	26+26.49 50.05'LT	SPIKE IN GUY POLE	716.08
BM 3	30+23.72 51.99'RT	SPIKE IN POWER POLE	704.77



08/01/2023

DESIGN DATA

LIVE LOAD:

DESIGN LOADING	=	HL-93
INVENTORY RATING FACTOR: RF	=	1.10
OPERATING RATING FACTOR: RF	=	1.95
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV)	=	240 KIPS

MATERIAL PROPERTIES:

CONCRETE MASONRY - SUPERSTRUCTURE	f'c = 4 ksi
- ALL OTHER	f'c = 3.5 ksi
HIGH STRENGTH BAR STEEL REINFORCEMENT AASHTO GRADE 60	fy = 60 ksi
72W" PRESTRESSED GIRDER (SPAN 2) CONCRETE MASONRY	f'c = 8 ksi
72W" PRESTRESSED GIRDER (SPAN 1 & 3) CONCRETE MASONRY	f'c = 6 ksi
STRANDS, 0.6" DIA ULTIMATE TENSILE STRENGTH	fy = 270 ksi
STEEL DIAPHRAGMS	fy = 36 ksi

FOUNDATION DATA

NORTH ABUTMENT TO BE SUPPORTED ON HP 12x53 STEEL PILING WITH A REQUIRED DRIVING RESISTANCE OF 220 TONS* PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC EQUATION. ESTIMATED 40 FEET LONG AT NORTH ABUTMENT.

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

SOUTH ABUTMENT AND PIERS WITH SPREAD FOOTINGS TO BE SUPPORTED ON SOUND ROCK WITH A REQUIRED FACTORED BEARING RESISTANCE OF 8 KSF. A GEOTECHNICAL ENGINEER WITH THREE DAYS NOTICE WILL DETERMINE THE FACTORED BEARING RESISTANCE BY VISUAL INSPECTION PRIOR TO CONSTRUCTION OF THE FOOTINGS.

HYDRAULIC DATA

100 YEAR FREQUENCY		
Q_{100}	8600	CFS
Q_{100} OVER ROADWAY	0	CFS
VELOCITY	5.00	FPS
HIGH WATER EL	690.23	FT
WATERWAY AREA	1722	SQ FT
DRAINAGE AREA	390	SQ MI
SCOUR CODE	5	
2 YEAR FREQUENCY		
Q_2	2100	CFS
Q_2 HIGH WATER EL	681.54	FT
Q_2 VELOCITY	2.66	FPS

TRAFFIC DATA

ADT (2024)	=	1470
ADT (2044)	=	1625
DHV	=	-
DD	=	-
T	=	17.4%
DESIGN SPEED	=	45 MPH
ESALS	=	518,300

LIST OF DRAWINGS

SEH CONTACT: CHRIS BLUM, PE, 608.620.6192

WISDOT BRIDGE OFFICE CONTACT: AARON BONK, PE, 608.261.0261

NO.	DATE	REVISION	BY

SEH

SHORT ELLIOTT HENDRICKSON INC.

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED SDR 08/03/23
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-32-245

CTH M OVER LA CROSSE RIVER

COUNTY	~~TOWN/CITY~~/VILLAGE
LA CROSSE	WEST SALEM

DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

DESIGNED BY	NCK	DESIGN CK'D.	DKW	DRAWN BY	RAD	PLANS CK'D.	NCK

GENERAL PLAN

SHEET 1 OF 31

72

PLOT DATE: 8/1/2023 PLOT TIME: 10:04:39 PM

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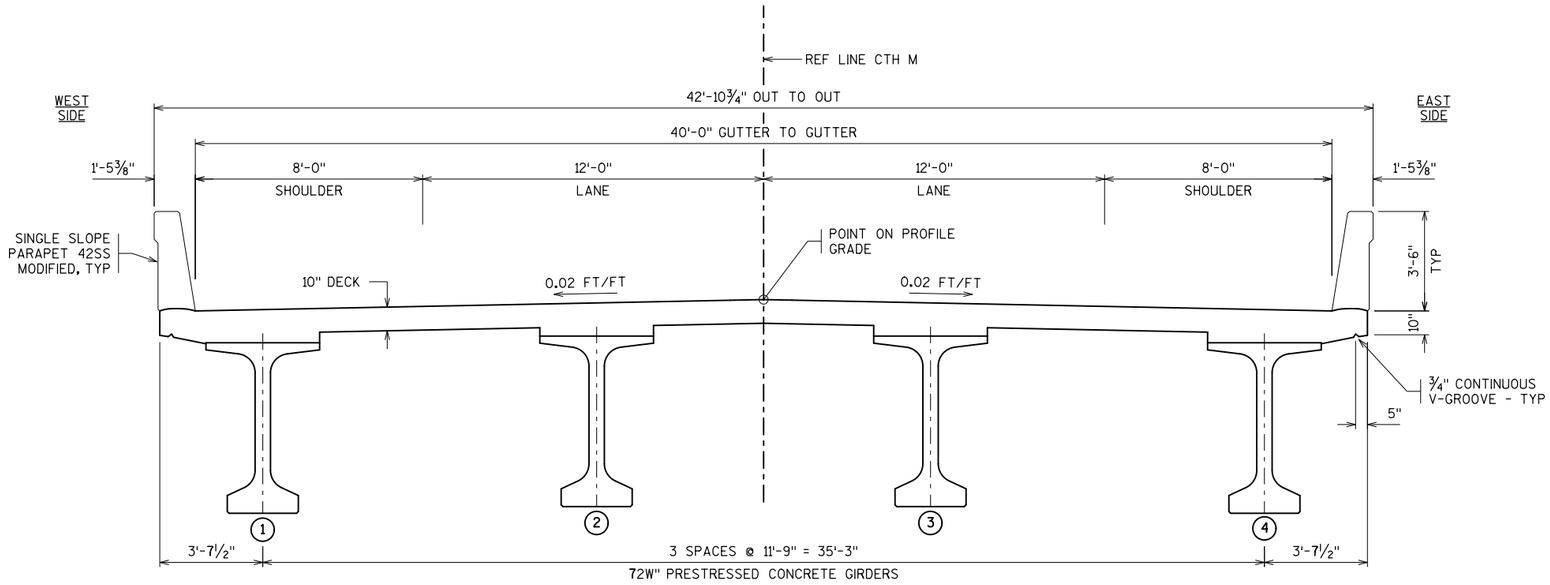
STATE PROJECT NUMBER
7323-00-71



CROSS SECTION THRU BRIDGE

(LOOKING NORTH)
(SEE SECTION THRU PIER ON SHEET 3)

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

ALL DIMENSIONS ARE IN FEET AND INCHES UNLESS OTHERWISE NOTED.

ALL STATIONS AND ELEVATION ARE IN FEET. ELEVATIONS ARE REFERENCE TO THE NAVD 88 (2007) DATUM.

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

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

JOINT FILLER SHALL CONFORM TO THE REQUIREMENTS OF AASHTO DESIGNATION M153 TYPE 1, 2, OR 3 OR AASHTO DESIGNATION M213.

THE SLOPE OF THE FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH RIPRAP HEAVY AND GEOTEXTILE TYPE HR TO THE EXTENT SHOWN ON THE GENERAL PLAN SHEET AND IN THE ABUTMENTS DETAILS.

THE EXISTING GROUNDLINE SHALL BE THE UPPER LIMITS OF EXCAVATION FOR STRUCTURES.

AT ABUTMENTS, ALL SPACES EXCAVATED AND NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH STRUCTURE BACKFILL UNLESS OTHERWISE NOTED.

THE HAUNCH CONCRETE QUANTITY IS BASED ON THE AVERAGE HAUNCH SHOWN ON THE PRESTRESSED GIRDER DETAILS SHEET.

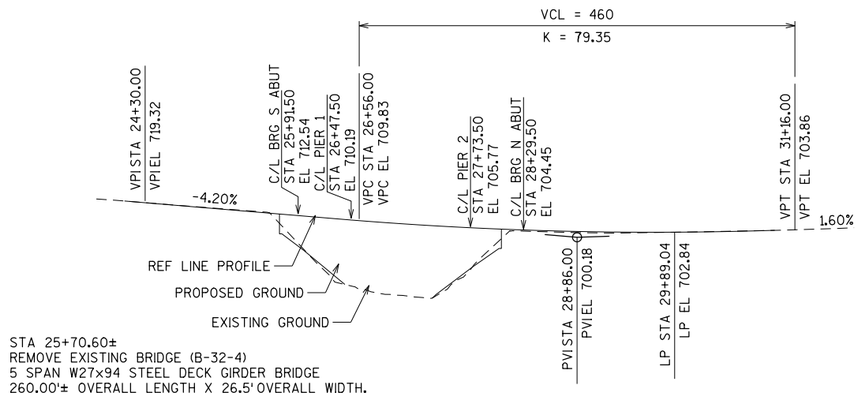
BEVEL EXPOSED EDGES OF CONCRETE ¾" UNLESS OTHERWISE NOTED.

SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF ½" FILLER WITH NON-STAINING NON-ASPHALTIC JOINT SEALER (1" DEEP & HOLD ⅛" BELOW SURFACE OF CONCRETE).

COAT WITH "PROTECTIVE SURFACE TREATMENT" PER THE STANDARD SPECIFICATIONS AND THE SUPERSTRUCTURE DETAILS SHEET. APPLY PROTECTIVE SURFACE TREATMENT TO TOP OF BRIDGE DECK.

FOR EXISTING STRUCTURE SEE PROFILE GRADE LINE THIS SHEET.

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



STA 25+70.60±
REMOVE EXISTING BRIDGE (B-32-4)
5 SPAN W27x94 STEEL DECK GIRDER BRIDGE
260.00'± OVERALL LENGTH X 26.5' OVERALL WIDTH.

PROFILE GRADE LINE

(CTH M)

BID ITEM NUMBER	BID ITEMS	UNIT	SOUTH ABUT	PIER 1	PIER 2	NORTH ABUT	SUPER	TOTALS
203.0260	REMOVING STRUCTURE OVER WATERWAY MINIMAL DEBRIS B-32-4	EACH						1
206.1001	EXCAVATION FOR STRUCTURES BRIDGES B-32-245	EACH						1
206.5001	COFFERDAM B-32-245	EACH		1	1			2
210.1500	BACKFILL STRUCTURE TYPE A	TON	877			550		1427
502.0100	CONCRETE MASONRY BRIDGES	CY	137.3	274.3	269.9	67.7	413.2	1162
502.1100	CONCRETE MASONRY SEAL	CY		181	350			531
502.3200	PROTECTIVE SURFACE TREATMENT	SY					1080	1080
502.3210	PIGMENTED SURFACE SEALER	SY					288	288
503.0172	PRESTRESSED GIRDER TYPE I 72W-INCH	LF					972	972
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	1920	8917	8917	5230		24984
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	10000	31390	31390	4370	92520	169670
506.2605	BEARING PADS ELASTOMERIC NON-LAMINATED	EACH	4	8	8	4		24
506.4000	STEEL DIAPHRAGMS B-32-245	EACH					12	12
516.0500	RUBBERRIZED MEMBRANE WATERPROOFING	SY	48			44		92
550.1120	PILING STEEL HP 12-INCH X 53 LB	LF				400		400
606.0300	RIPRAP HEAVY	CY	560			523		1083
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	115			105		220
614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	EACH	2			2		4
645.0111	GEOTEXTILE TYPE DF SCHEDULE A	SY	54			50		104
645.0120	GEOTEXTILE TYPE HR	SY	868			809		1677
	NON-BID ITEMS							
	FILLER	SIZE	-	-	-	-	-	1/2" & 3/4"
	NAMEPLATE	EACH	1	-	-	-	-	1

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-32-245

DRAWN BY RAD | PLANS CK'D. NCK

CROSS SECTION, NOTES AND QUANTITIES

8

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PLOT TIME: 1:17:17 PM
PLOT DATE: 8/1/2023
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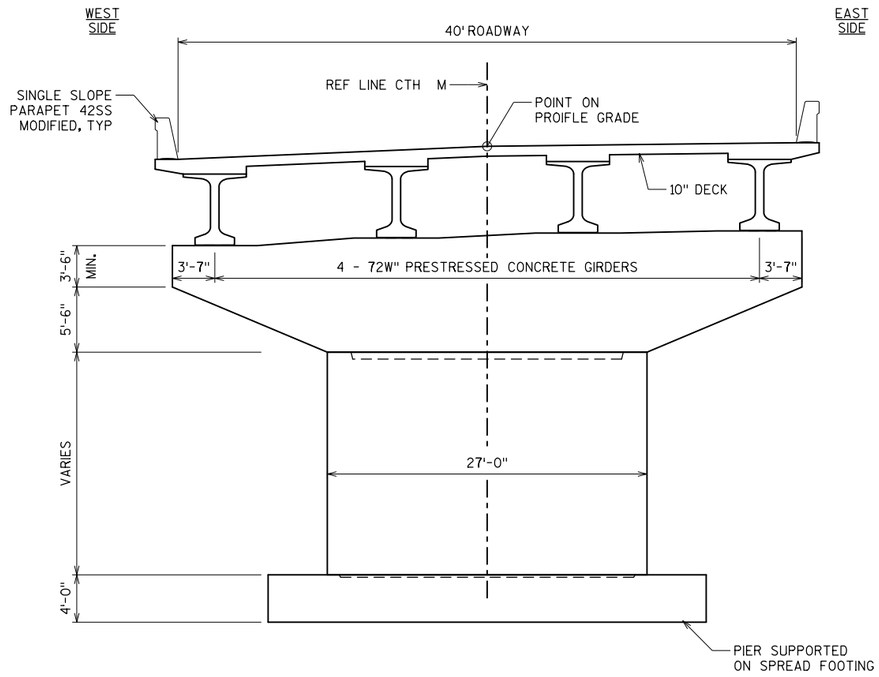
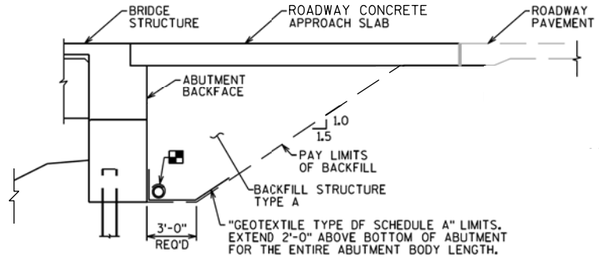
STATE PROJECT NUMBER
7323-00-71



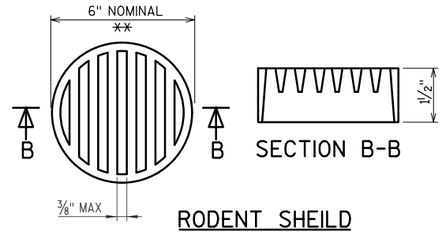
CROSS SECTION THRU BRIDGE AT PIER
(LOOKING PERPENDICULAR TO PIER)



BACKFILL STRUCTURE LIMITS
TYPICAL SECTION THRU ABUTMENT
(A1 ABUTMENT WITH CONCRETE APPROACH)

A FACTOR OF 2.0 WAS USED TO CONVERT CU YDS TO TONS

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

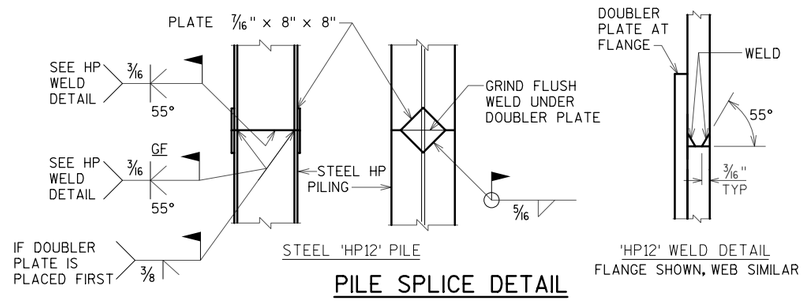


RODENT SHEILD

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

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

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



PILE SPLICE DETAIL

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-32-245

DRAWN BY RAD | PLANS CK'D. NCK

MISCELLANEOUS TYPICAL DETAILS

SHEET 3 OF 31
74

PLOT TIME: 14:58 PM
PLOT DATE: 8/1/2023
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PLOT TIME: 10:55:55 PM
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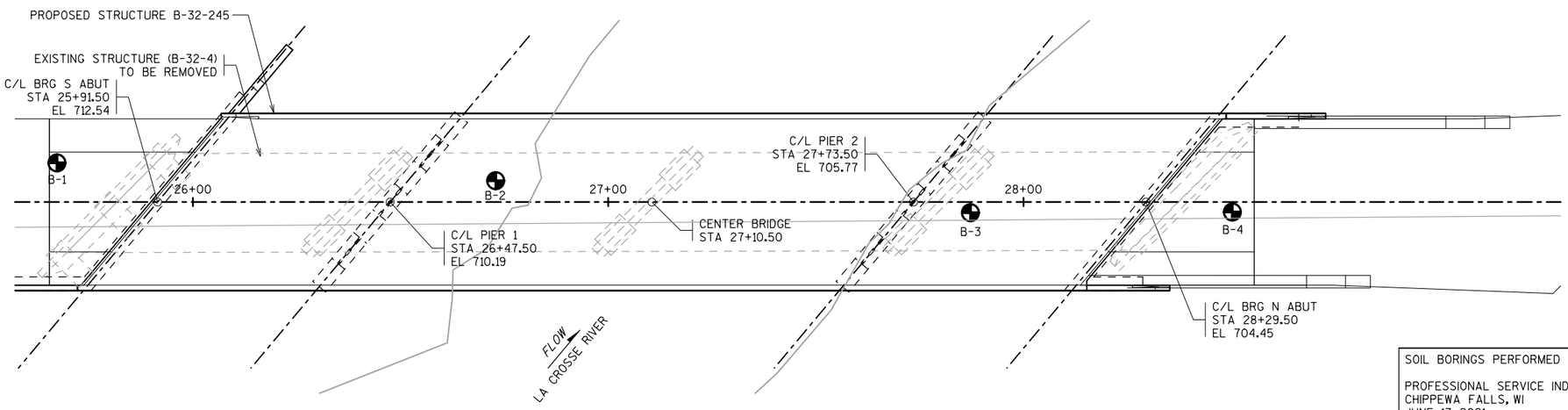
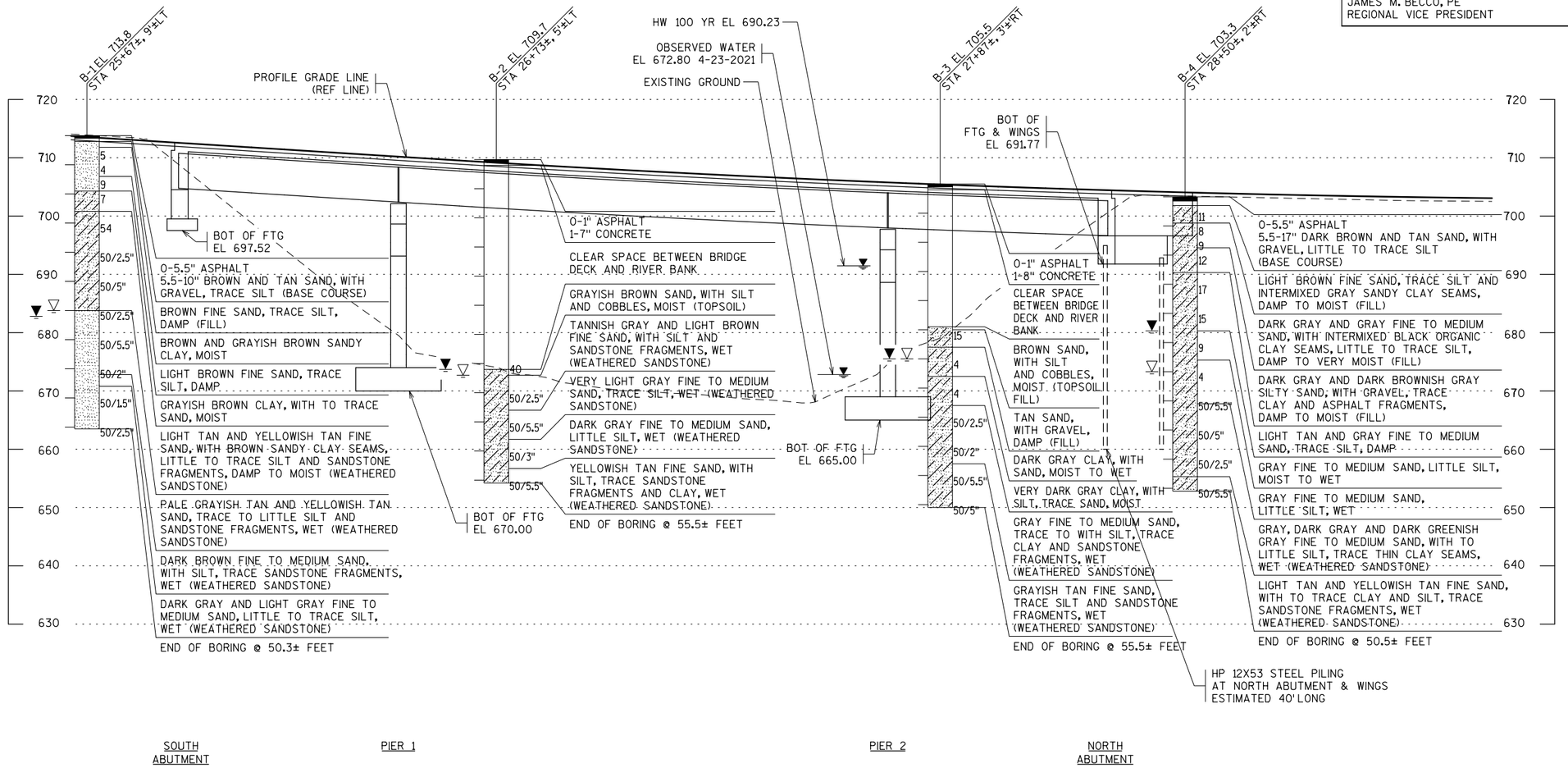
STATE PROJECT NUMBER

7323-00-71





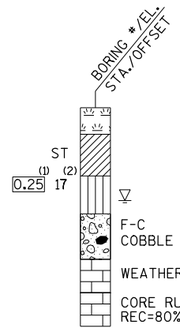
SOIL BORINGS PERFORMED BY:

PROFESSIONAL SERVICE INDUSTRIES, INC.
CHIPPEWA FALLS, WI
JUNE 17, 2021
REPORTED BY:
JAMES M. BECCO, PE
REGIONAL VICE PRESIDENT

MATERIAL SYMBOLS

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

LEGEND OF BORING



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

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

GROUND WATER ELEVATION

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

ABBREVIATIONS

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

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

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

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-32-245

DRAWN BY RAD | PLANS CK'D. NCK

SUBSURFACE EXPLORATION

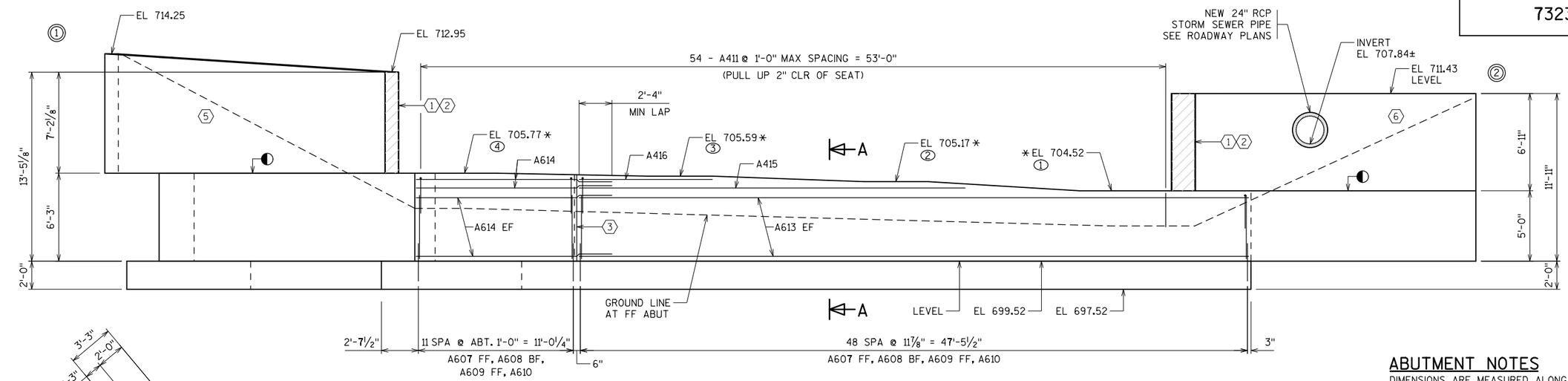
SHEET 4 OF 31

75

8

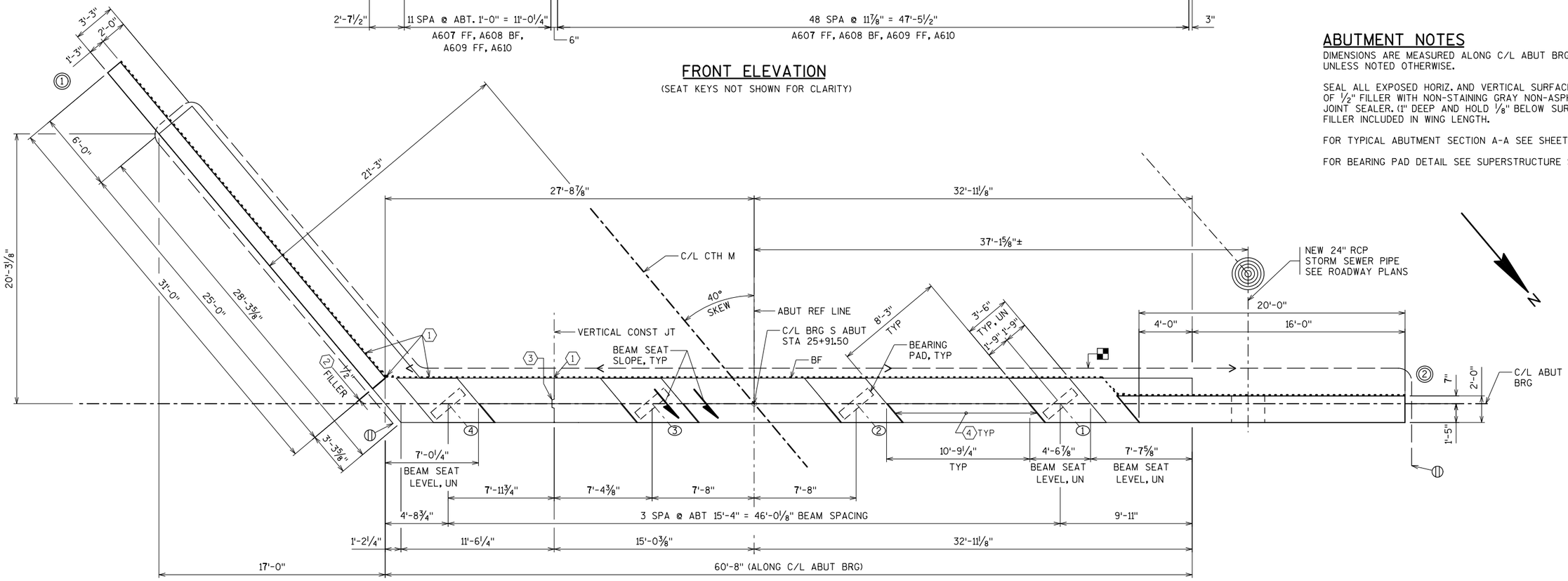
8

STATE PROJECT NUMBER
7323-00-71



FRONT ELEVATION

(SEAT KEYS NOT SHOWN FOR CLARITY)



PLAN

ABUTMENT NOTES

DIMENSIONS ARE MEASURED ALONG C/L ABUT BRG UNLESS NOTED OTHERWISE.

SEAL ALL EXPOSED HORIZ. AND VERTICAL SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-ASPHALTIC JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE). FILLER INCLUDED IN WING LENGTH.

FOR TYPICAL ABUTMENT SECTION A-A SEE SHEET 9.

FOR BEARING PAD DETAIL SEE SUPERSTRUCTURE SHEETS.

LEGEND

* ELEVATIONS AND DIMENSIONS TAKEN ALONG C/L OF BRG SOUTH ABUTMENT.

(1) 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZ & VERT JOINTS ON BACKFACE.

(2) 1/2" FILLER & SEALER EXTEND FROM BEAM SEAT TO TOP OF WING. INCLUDED IN WING LENGTH.

(3) VERTICAL CONST JT KEYWAY FORMED BY A SURFACED BEVELED 2"x8". BEVEL EXPOSED EDGES 3/4".

(4) 3/4" CORK FILLER ON VERTICAL BEAM SEAT FACES THAT RUN PARALLEL WITH GIRDER.

(5) SEE "SOUTH ABUTMENT WING 1 DETAILS" FOR WING PLANS AND REINFORCEMENT.

(6) SEE "SOUTH ABUTMENT WING 2 DETAILS" FOR WING PLANS AND REINFORCEMENT.

◐ OPTIONAL CONST JOINT FORMED BY BEVELED 2"X6" (V-GROOVE ON FRONT FACE IF JOINT IS USED).

▬ PLACE BOTTOM HALF OF RUBBERIZED MEMBRANE WATERPROOFING HORIZ IN THIS AREA ON LEVEL PORTION.

⊗ STEEL TROWEL TOP SURFACE OF ABUTMENT, PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE ABUTMENT TOP BEFORE PLACING BEARING PADS. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03"

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

(11) ATTACH RODENT SHIELD AT END OF PIPE UNDERDRAIN, SEE DETAIL ON SHEET 3. DISCHARGE WRAPPED PIPE UNDERRAIN WELL OUTSIDE LIMITS OF THE STRUCTURE

◎ INDICATES WING NUMBER.

SEAT SLOPE DIRECTION MEASURED ALONG C/L BEAM

ABUT = ABUTMENT
FF = FRONT FACE
BF = BACK FACE
EF = EACH FACE
T = TOP
B = BOTTOM
UN = UNLESS NOTED

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-32-245

DRAWN BY RAD | PLANS CK'D. NCK

SOUTH ABUTMENT

SHEET 5 OF 31
76

PLOT TIME: 10:05:57 PM
PLOT DATE: 8/1/2023
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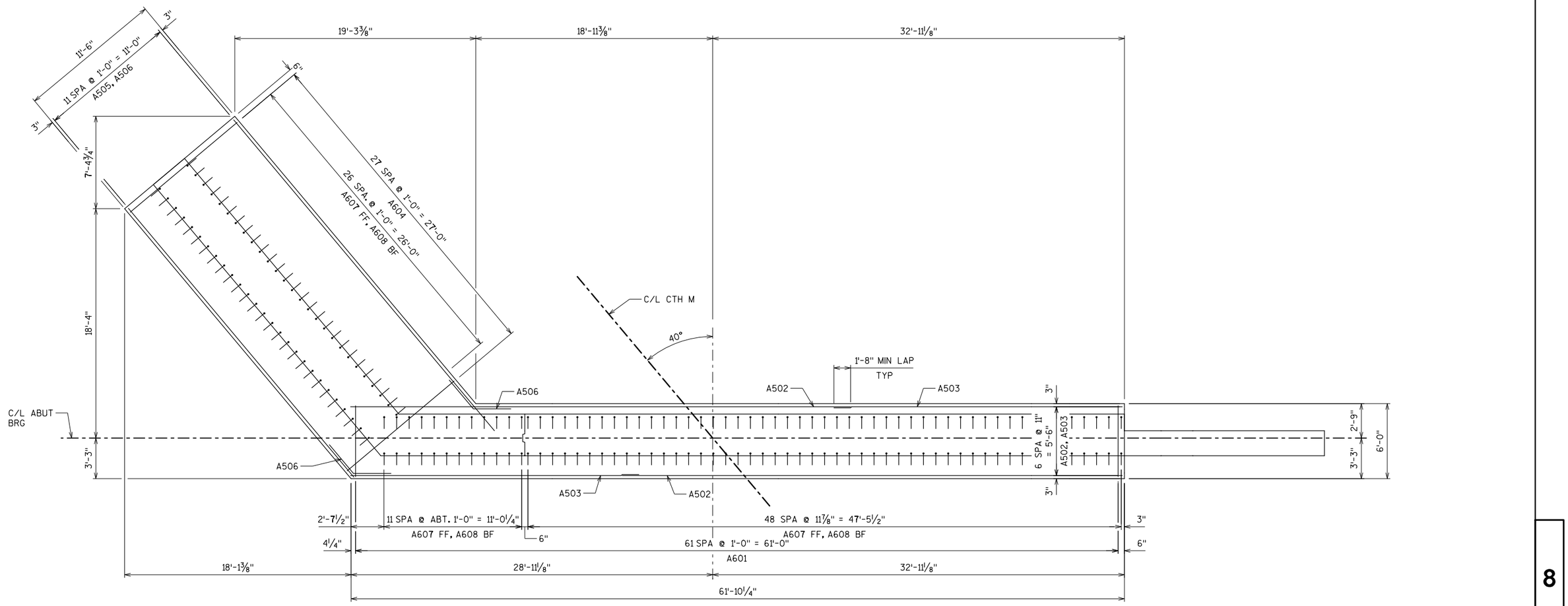
STATE PROJECT NUMBER
7323-00-71



FOOTING LAYOUT

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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-32-245

DRAWN BY RAD | PLANS CK'D. NCK

SOUTH ABUTMENT

SHEET 6 OF 31

77

PLOT DATE: 8/1/2023 PLOT TIME: 1:05:57 PM

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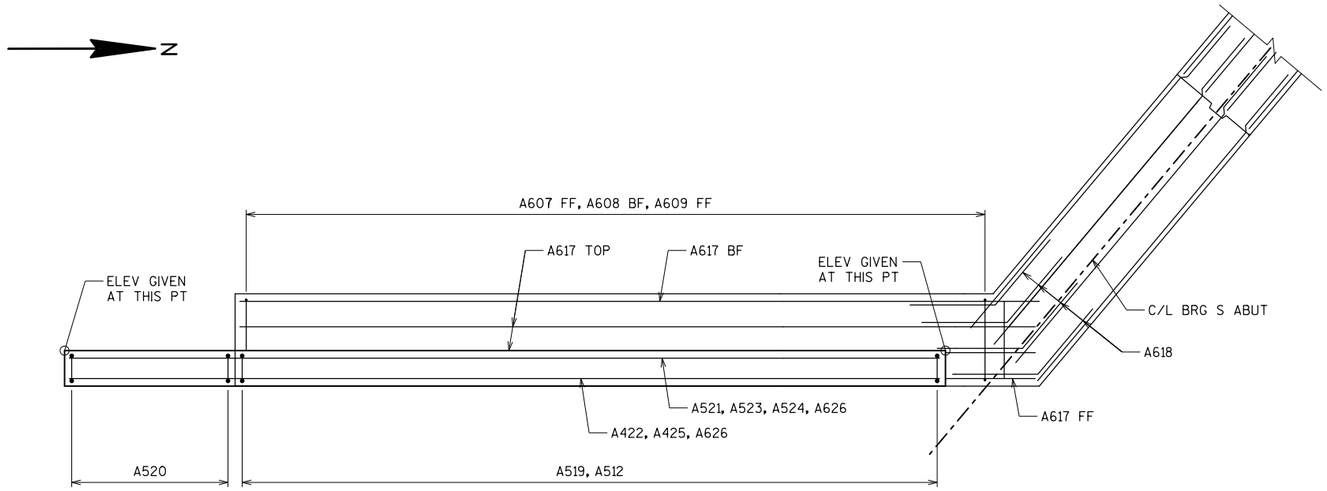
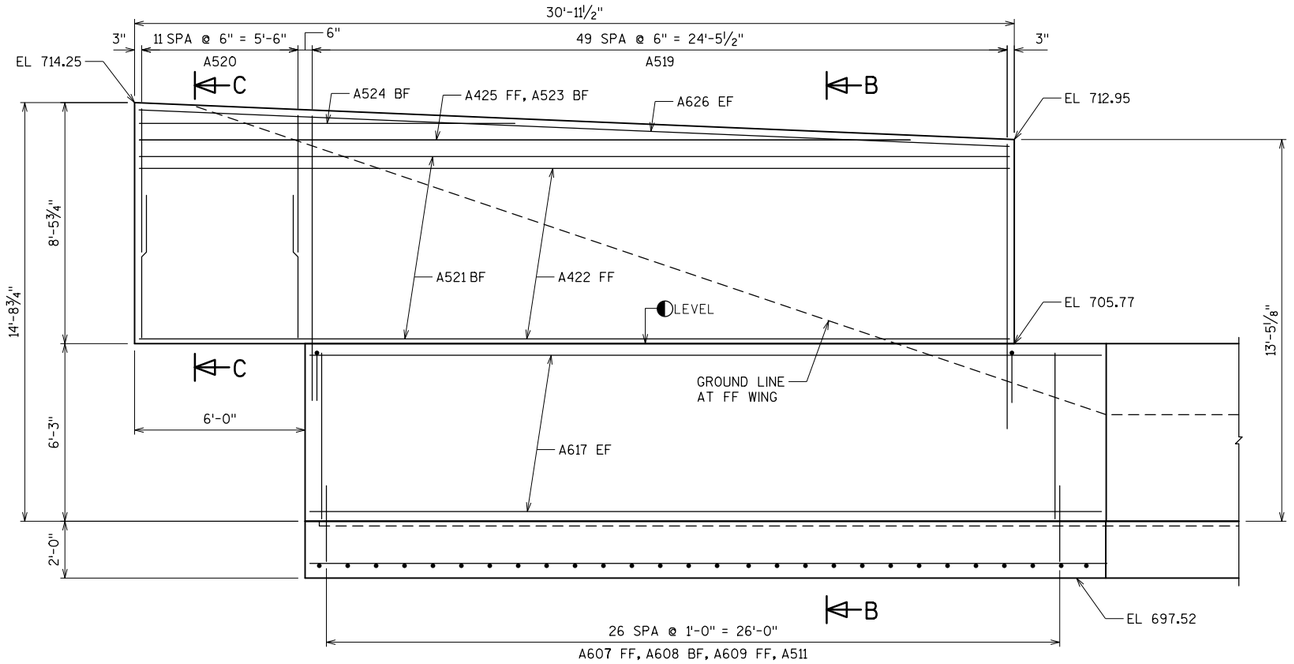
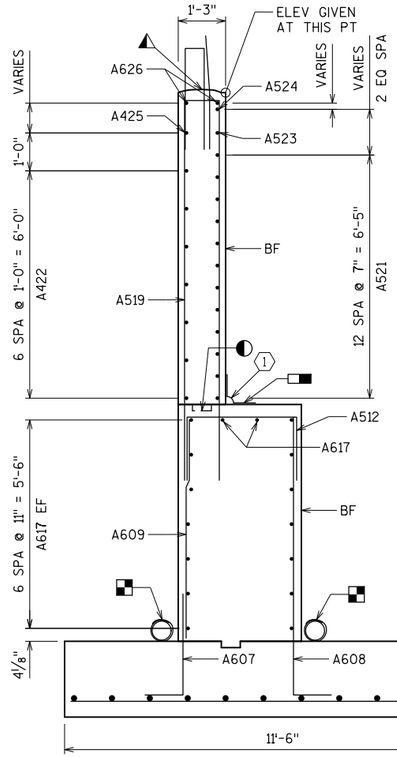


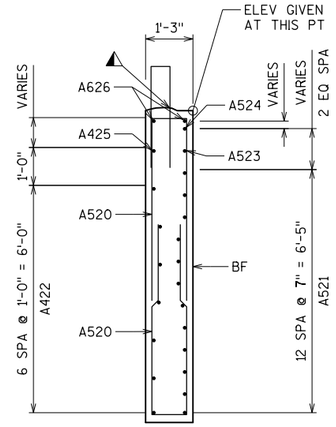
PLAN - WING 1



ELEVATION - WING 1



SECTION B-B



SECTION C-C

NOTES

1. CONSTRUCTION JOINT. STRIKE OFF AS SHOWN. SEE PARAPET SHEET FOR BARS PLACED WITH WING.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-32-245

DRAWN BY RAD | PLANS CK'D. NCK

SOUTH ABUTMENT WING 1 DETAILS

SHEET 7 OF 31

78

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PLOT DATE: 8/1/2023 PLOT TIME: 10:55:58 PM

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STATE PROJECT NUMBER
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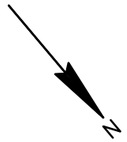
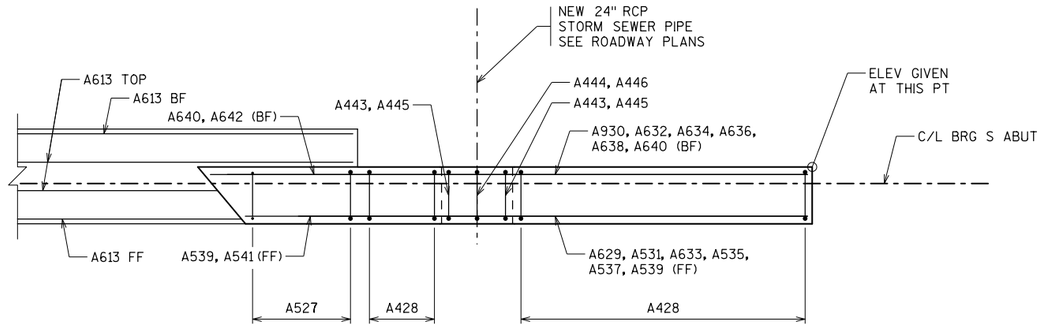
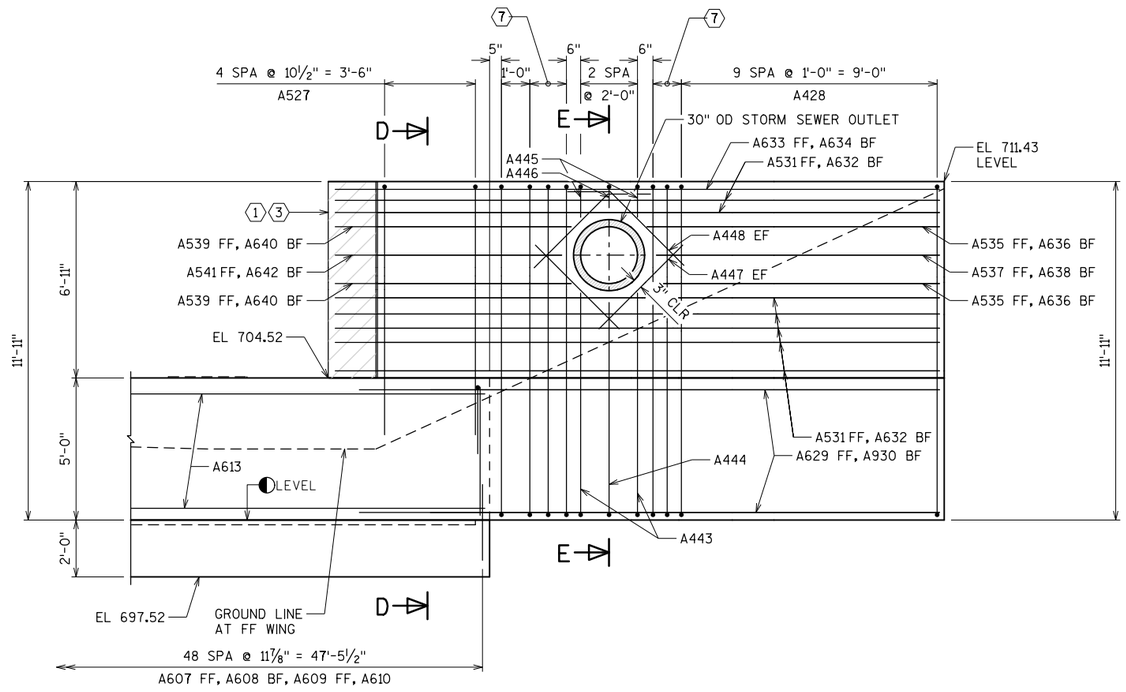
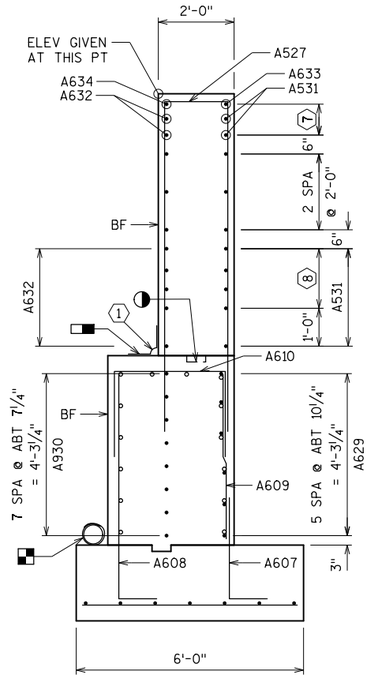




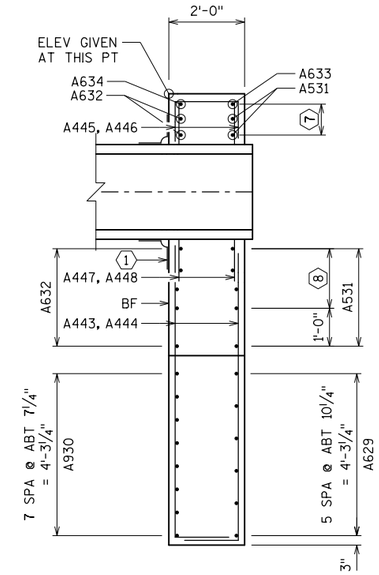
PLAN - WING 2



ELEVATION - WING 2



SECTION D-D



SECTION E-E

LEGEND

⟨7⟩ 2 SPACES AT ABOUT 6", 1'-0" MAX

⟨2⟩ 3 SPACES AT ABOUT 6⅜", 1'-0" MAX

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-32-245

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SOUTH ABUTMENT
WING 2 DETAILS

SHEET 8 OF 31

79

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PLOT DATE: 8/1/2023 PLOT TIME: 1:05:59 PM

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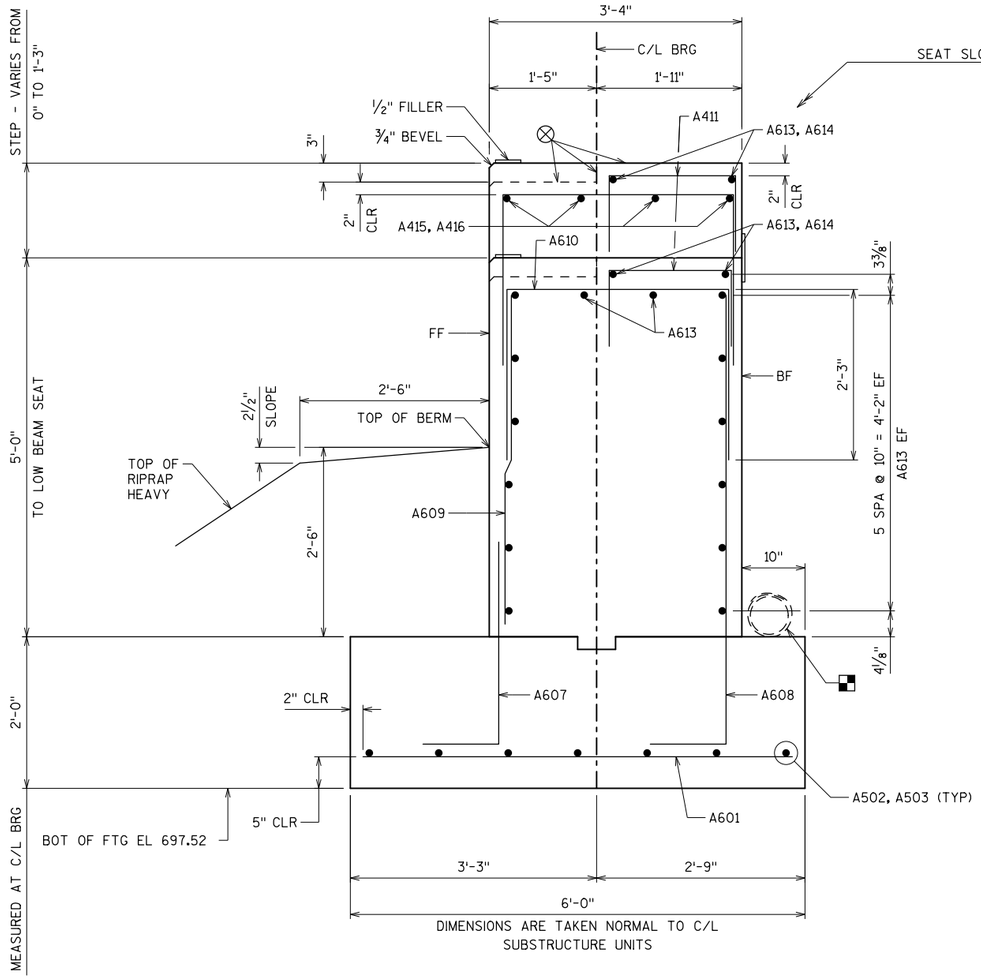
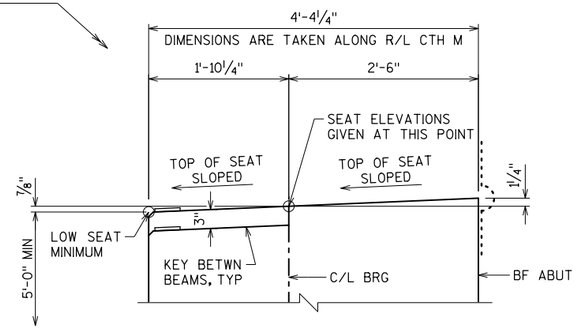


SECTION A-A
TYPICAL SECTION THRU BODY



SEAT SLOPE DETAIL
SOUTH ABUT

BAR SERIES TABLE		
MARK	NO. REQ'D.	LENGTH (FT-IN)
A505	1 SERIES OF 12	28-0 TO 32-5

NOTES

THIS SHEET TO BE USED IN CONJUNCTION WITH SHEETS 5, 6, 7 & 8.

SEE SHEET 5 FOR LEGEND AND ABUTMENT NOTES.

FOR PILE SPLICE DETAIL SEE SHEET 3.

FOR BEARING PAD DETAIL SEE SUPERSTRUCTURE SHEETS.

FF = FRONT FACE
BF = BACK FACE
EF = EACH FACE
EXIST = EXISTING

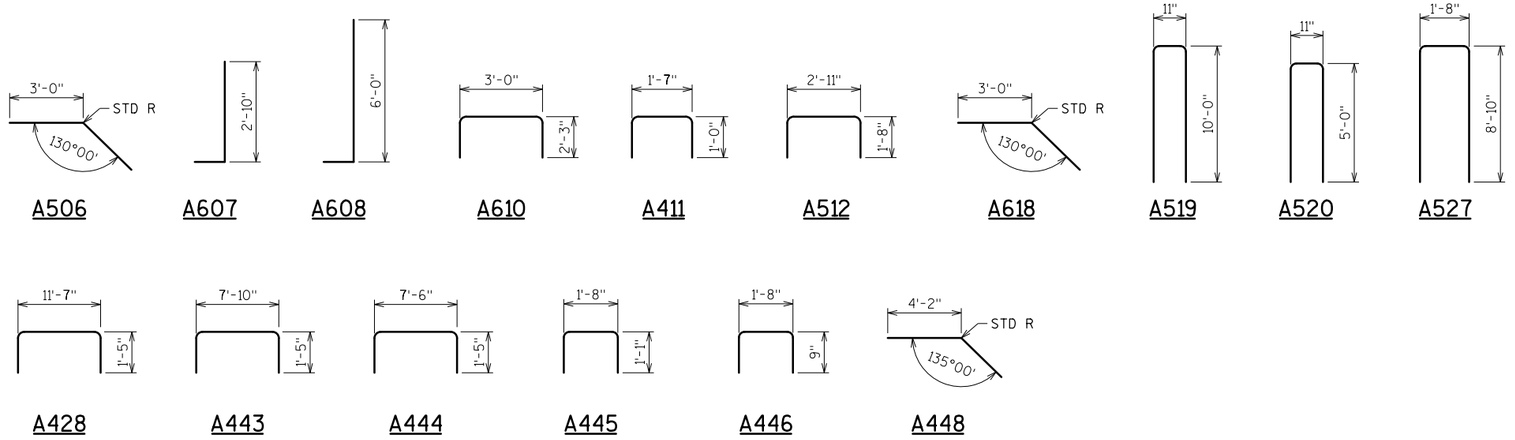
NOTE:

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

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT.

BILL OF BARS — SOUTH ABUTMENT

BAR MARK	COAT	NO. REQ'D.	LENGTH (FT-IN)	BAR SERIES	BENT	LOCATION
A601		62	5 - 8			FOOTING TRANSVERSE
A502		7	40 - 0			FOOTING LONGITUDINAL
A503		7	23 - 1			FOOTING LONGITUDINAL
A604		28	11 - 2			FOOTING TRANSVERSE
A505		12	30 - 3	X		FOOTING LONGITUDINAL
A506		12	6 - 0		X	FOOTING CORNER
A607	X	88	4 - 0		X	FOOTING DOWEL FF
A608	X	88	7 - 0		X	FOOTING DOWEL BF
A609	X	88	4 - 7			BODY VERTICAL
A610	X	61	7 - 2		X	BODY TIE
A411	X	54	3 - 5		X	BODY KEYWAY
A512	X	27	6 - 0		X	BODY TIE
A613	X	16	47 - 7			BODY HORIZONTAL
A614	X	20	14 - 0			BODY HORIZONTAL
A415	X	4	27 - 6			BODY HORIZONTAL
A416	X	4	9 - 6			BODY HORIZONTAL
A617	X	16	27 - 2			BODY HORIZONTAL
A618	X	16	6 - 0		X	BODY CORNER
A519	X	50	20 - 8		X	WING 1 VERTICAL
A520	X	24	10 - 8		X	WING 1 VERTICAL
A521	X	13	30 - 8			WING 1 HORIZONTAL BF
A422	X	7	30 - 7			WING 1 HORIZONTAL FF
A523	X	1	26 - 3			WING 1 HORIZONTAL BF
A524	X	1	9 - 5			WING 1 HORIZONTAL BF
A425	X	1	26 - 3			WING 1 HORIZONTAL FF
A626	X	2	30 - 8			WING 1 HORIZONTAL EF
A527	X	5	19 - 1		X	WING 2 VERTICAL
A428	X	32	14 - 5		X	WING 2 VERTICAL
A629	X	6	18 - 0			WING 2 HORIZONTAL FF
A930	X	8	20 - 6			WING 2 HORIZONTAL BF
A531	X	7	19 - 9			WING 2 HORIZONTAL FF
A632	X	7	21 - 3			WING 2 HORIZONTAL BF
A633	X	1	19 - 9			WING 2 HORIZONTAL TOP FF
A634	X	1	21 - 3			WING 2 HORIZONTAL TOP BF
A535	X	2	10 - 3			WING 2 HORIZONTAL FF
A636	X	2	10 - 3			WING 2 HORIZONTAL BF
A537	X	1	9 - 11			WING 2 HORIZONTAL FF
A638	X	1	9 - 11			WING 2 HORIZONTAL BF
A539	X	2	6 - 10			WING 2 HORIZONTAL FF
A640	X	2	8 - 3			WING 2 HORIZONTAL BF
A541	X	1	6 - 6			WING 2 HORIZONTAL FF
A642	X	1	7 - 11			WING 2 HORIZONTAL BF
A443	X	4	10 - 6		X	WING 2 VERTICAL
A444	X	2	10 - 2		X	WING 2 VERTICAL
A445	X	2	3 - 8		X	WING 2 VERTICAL TOP
A446	X	1	3 - 0		X	WING 2 VERTICAL TOP
A447	X	4	4 - 2			WING 2 BLOCKOUT
A448	X	4	5 - 2		X	WING 2 BLOCKOUT



A506 A607 A608 A610 A411 A512 A618 A519 A520 A527

A428 A443 A444 A445 A446 A448

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-32-245

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SOUTH ABUTMENT DETAILS

SHEET 9 OF 31

80

8

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PLOT DATE: 8/1/2023 PLOT TIME: 1:06:07 PM

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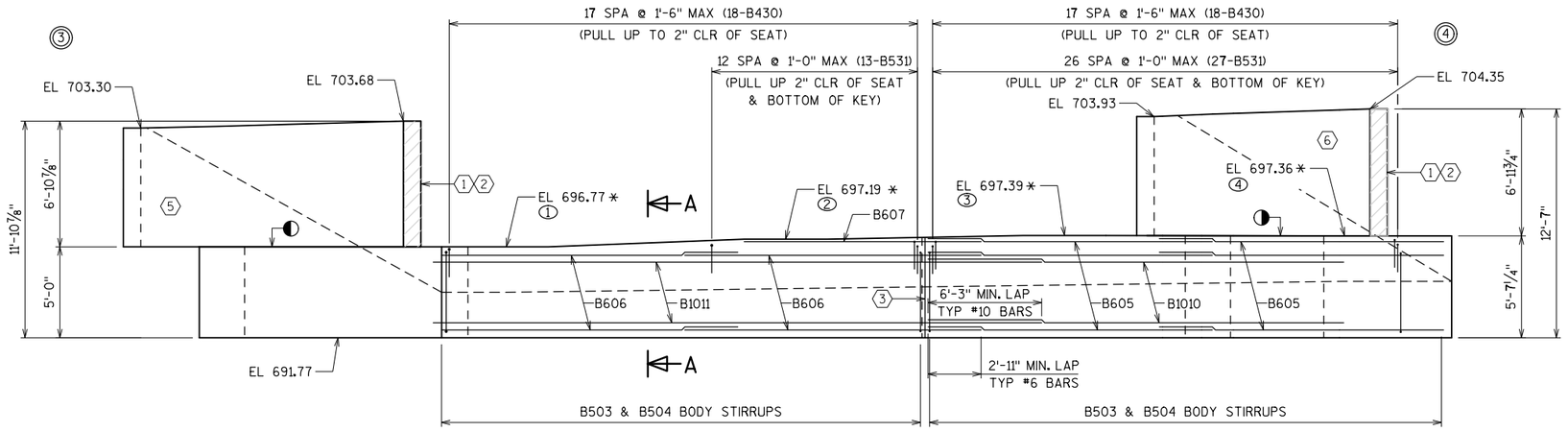
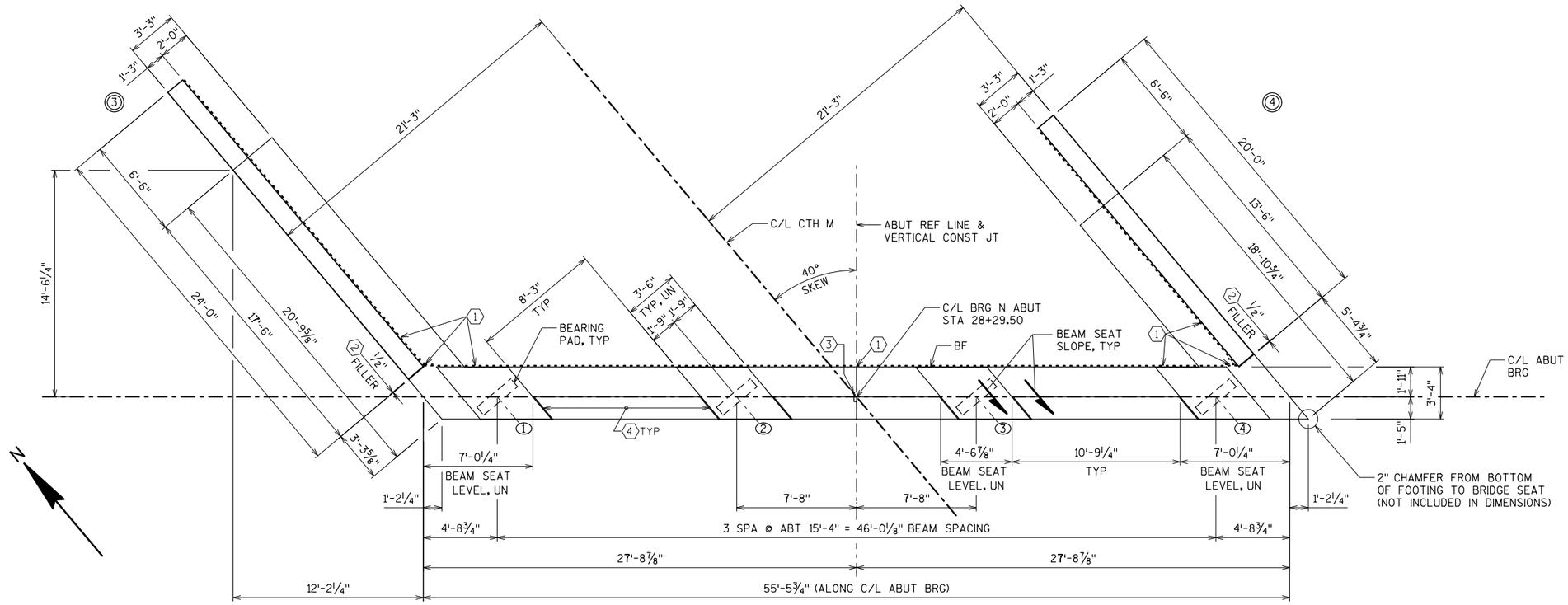


FRONT ELEVATION

(SEAT KEYS NOT SHOWN FOR CLARITY)



PLAN

LEGEND

* ELEVATIONS AND DIMENSIONS TAKEN ALONG C/L OF BRG & PILES NORTH ABUTMENT.

(1) 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZ & VERT JOINTS ON BACKFACE.

(2) ½" FILLER & SEALER EXTEND FROM BEAM SEAT TO TOP OF WING. INCLUDED IN WING LENGTH.

(3) VERTICAL CONST JT KEYWAY FORMED BY A SURFACED BEVELED 2"x8". BEVEL EXPOSED EDGES ¾".

(4) ¾" CORK FILLER ON VERTICAL BEAM SEAT FACES THAT RUN PARALLEL WITH GIRDER.

(5) SEE "NORTH ABUTMENT WING 3 DETAILS" FOR WING PLANS AND REINFORCEMENT.

(6) SEE "NORTH ABUTMENT WING 4 DETAILS" FOR WING PLANS AND REINFORCEMENT.

◐ OPTIONAL CONST JOINT FORMED BY BEVELED 2"X6" (V-GROOVE ON FRONT FACE IF JOINT IS USED).

▬ PLACE BOTTOM HALF OF RUBBERIZED MEMBRANE WATERPROOFING HORIZ IN THIS AREA ON LEVEL PORTION.

⊗ STEEL TROWEL TOP SURFACE OF ABUTMENT. PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE ABUTMENT TOP BEFORE PLACING BEARING PADS. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03"

◎ INDICATES WING NUMBER.

SEAT SLOPE DIRECTION MEASURED ALONG C/L BEAM

ABUT = ABUTMENT
FF = FRONT FACE
BF = BACK FACE
EF = EACH FACE
T = TOP
B = BOTTOM
UN = UNLESS NOTED

ABUTMENT NOTES

DIMENSIONS ARE MEASURED ALONG C/L ABUT BRG UNLESS NOTED OTHERWISE.

SEAL ALL EXPOSED HORIZ. AND VERTICAL SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-ASPHALTIC JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE). FILLER INCLUDED IN WING LENGTH.

FOR TYPICAL ABUTMENT SECTION A-A SEE SHEET 14.

FOR BEARING PAD DETAIL SEE SUPERSTRUCTURE SHEETS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-32-245

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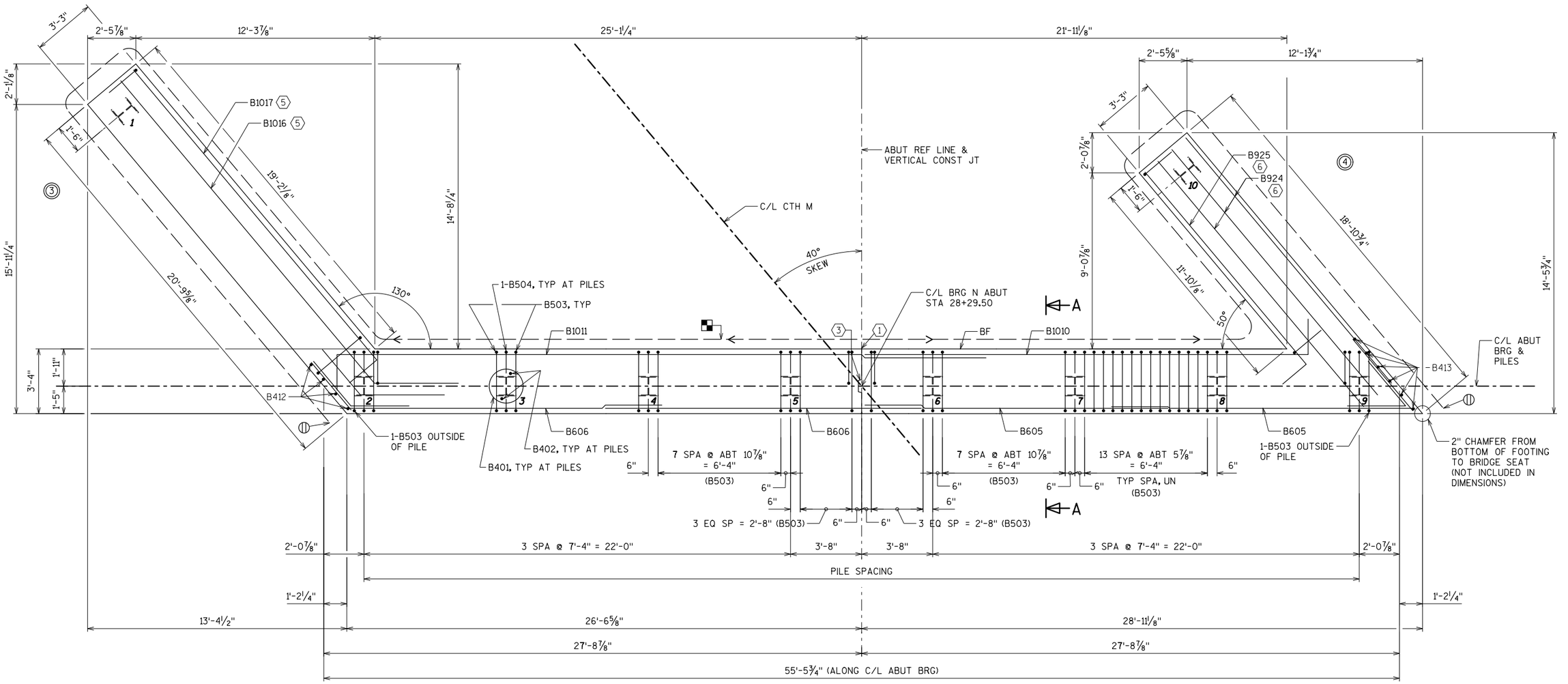
NORTH ABUTMENT

SHEET 10 OF 31
81

8

STATE PROJECT NUMBER
7323-00-71



FOOTING & PILE LAYOUT

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-32-245

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NORTH ABUTMENT

SHEET 11 OF 31

82

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STATE PROJECT NUMBER
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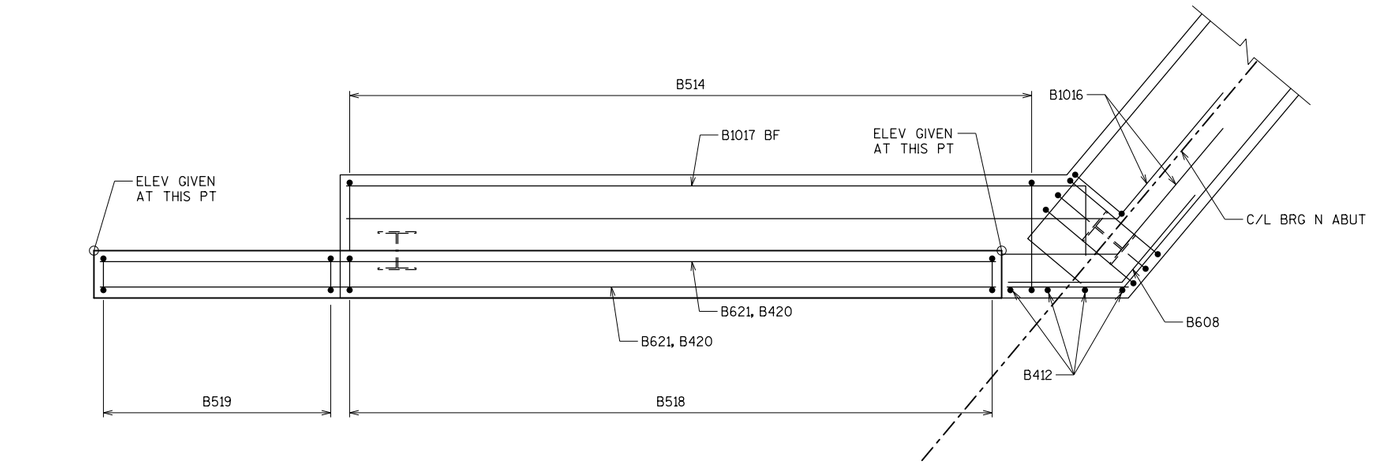
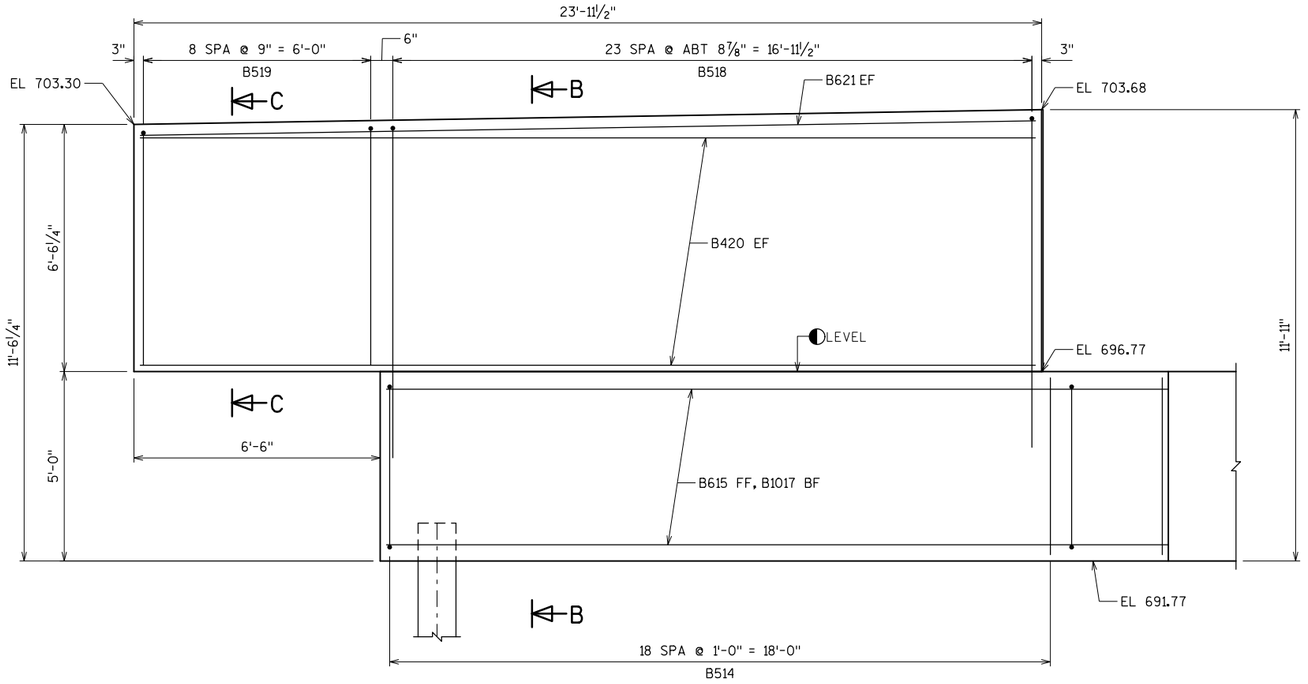
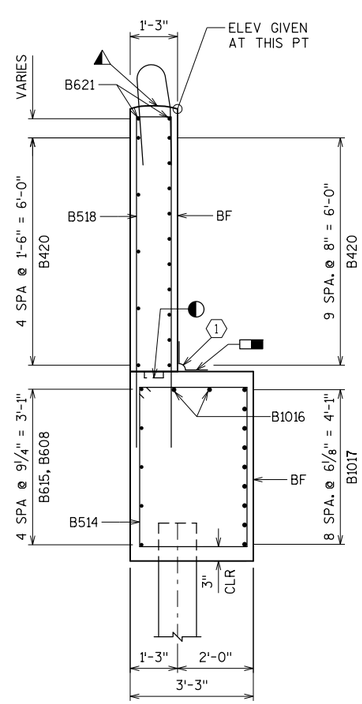


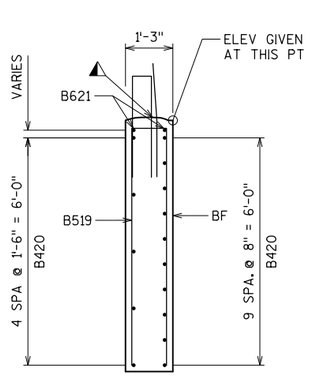
PLAN - WING 3



ELEVATION - WING 3



SECTION B-B



SECTION C-C

NOTES

1. CONSTRUCTION JOINT. STRIKE OFF AS SHOWN. SEE PARAPET SHEET FOR BARS PLACED WITH WING.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-32-245

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NORTH ABUTMENT WING 3 DETAILS

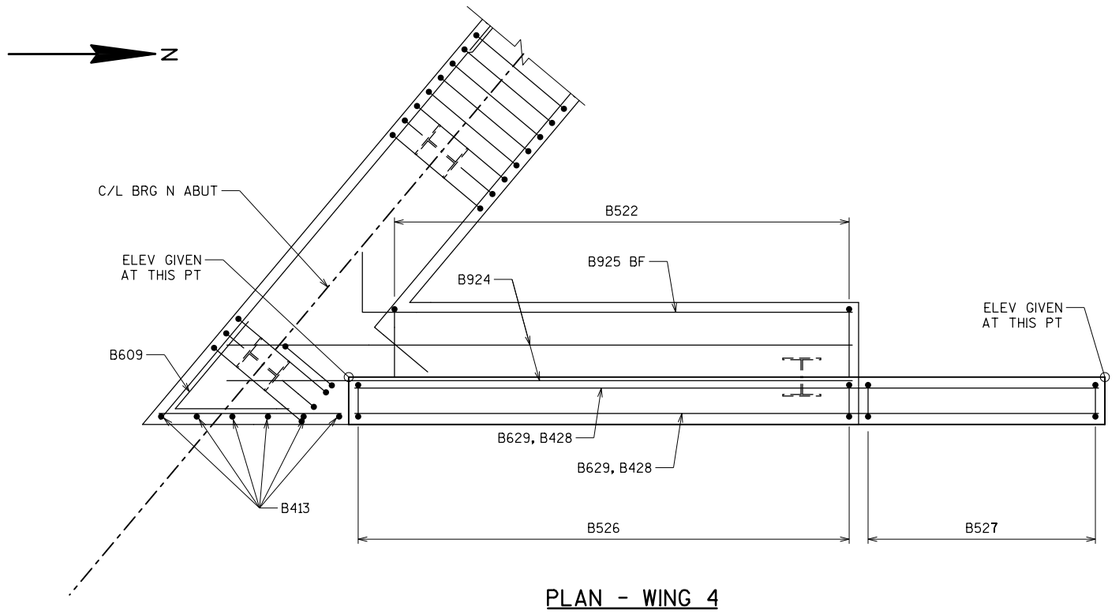
SHEET 12 OF 31

83

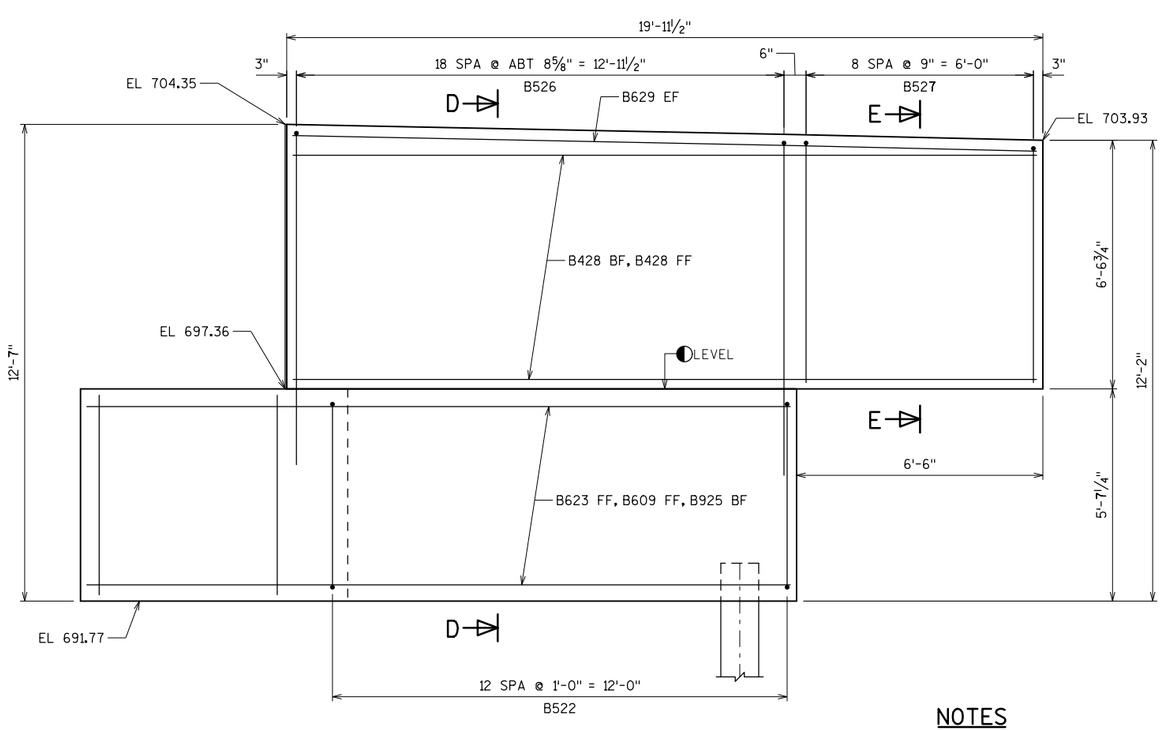
8

8

STATE PROJECT NUMBER
7323-00-71



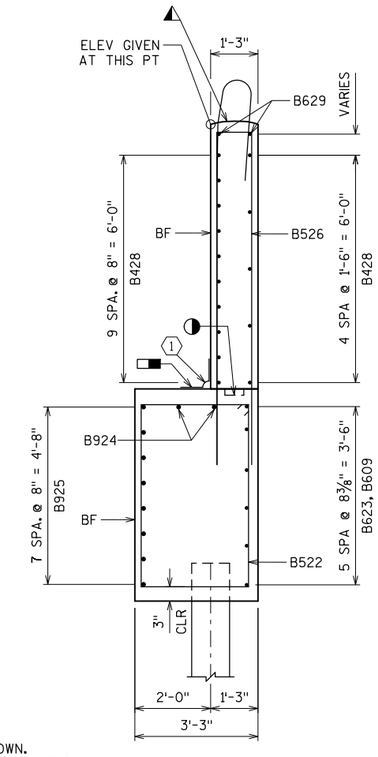
PLAN - WING 4



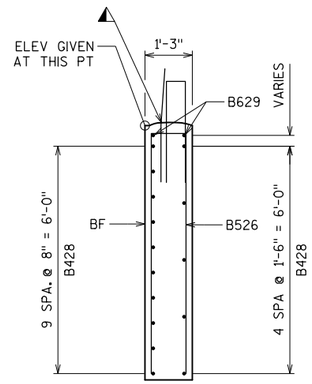
ELEVATION - WING 4

NOTES

1. CONSTRUCTION JOINT. STRIKE OFF AS SHOWN. SEE PARAPET SHEET FOR BARS PLACED WITH WING.



SECTION D-D



SECTION E-E

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-32-245

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NORTH ABUTMENT WING 4 DETAILS

SHEET 13 OF 31

84

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8

PLOT TIME: 1:06:11 PM

PLOT DATE: 8/1/2023

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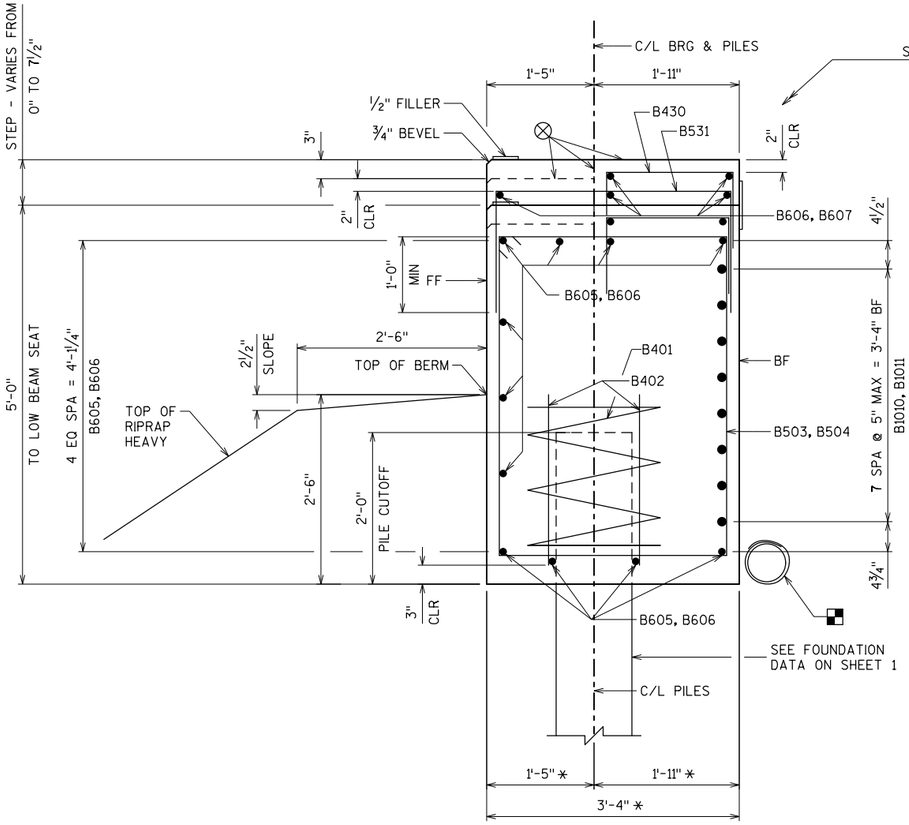
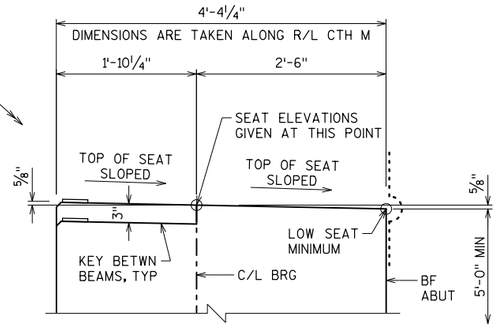


SECTION A-A
TYPICAL SECTION THRU BODY



SEAT SLOPE DETAIL
NORTH ABUT

LEGEND CONT. (FROM SHEET 10)

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

Ⓓ ATTACH RODENT SHIELD AT END OF PIPE UNDERDRAIN, SEE DETAIL ON SHEET 3.
DISCHARGE WRAPPED PIPE UNDERRAIN WELL OUTSIDE LIMITS OF THE STRUCTURE

NOTES

THIS SHEET TO BE USED IN CONJUNCTION WITH SHEETS 10, 11, 12 & 13.

SEE SHEET 10 FOR LEGEND AND ABUTMENT NOTES.

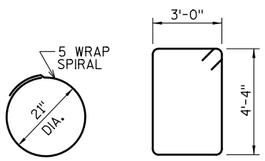
FOR PILE SPLICE DETAIL SEE SHEET 3.

FOR BEARING PAD DETAIL SEE SUPERSTRUCTURE SHEETS.

FF = FRONT FACE
BF = BACK FACE
EF = EACH FACE
EXIST = EXISTING

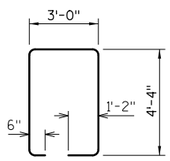
BILL OF BARS — NORTH ABUTMENT

BAR MARK	COAT	NO. REQ'D.	LENGTH (FT-IN)	BAR SERIES	BENT	LOCATION
B401		8	28 - 0		X	BODY AT PILES
B402		16	2 - 3			BODY AT PILES
B503		82	15 - 4		X	BODY STIRRUP
B504		8	13 - 4		X	BODY STIRRUP AT PILE
B605		32	15 - 8			BODY HORIZONTAL
B606		26	16 - 4			BODY HORIZONTAL
B607		3	13 - 1			BODY HORIZONTAL
B608		5	6 - 0		X	BODY HORIZONTAL CORNER
B609		6	6 - 0		X	BODY HORIZONTAL CORNER
B1010		8	24 - 6		X	BODY HORIZONTAL BF
B1011		8	35 - 1		X	BODY HORIZONTAL BF
B412		4	4 - 8			BODY VERTICAL END
B413		6	5 - 3			BODY VERTICAL END
B514	X	19	15 - 2		X	WING 3 STIRRUP
B615	X	5	20 - 8			WING 3 HORIZONTAL FF
B1016	X	2	24 - 5		X	WING 3 HORIZONTAL TOP
B1017	X	9	21 - 1		X	WING 3 HORIZONTAL BF
B518	X	24	18 - 2		X	WING 3 VERTICAL
B519	X	9	13 - 2		X	WING 3 VERTICAL
B420	X	15	23 - 7			WING 3 HORIZONTAL EF
B621	X	2	23 - 7			WING 3 HORIZONTAL TOP EF
B522	X	13	16 - 2		X	WING 4 STIRRUP
B623	X	6	18 - 3			WING 4 HORIZONTAL FF
B924	X	2	16 - 6			WING 4 HORIZONTAL TOP
B925	X	8	14 - 4		X	WING 4 HORIZONTAL BF
B526	X	19	18 - 2		X	WING 4 VERTICAL
B527	X	9	13 - 4		X	WING 4 VERTICAL
B428	X	15	19 - 5			WING 4 HORIZONTAL EF
B629	X	2	19 - 7			WING 4 HORIZONTAL TOP EF
B430	X	36	3 - 5		X	BODY KEYWAY
B531	X	39	7 - 2		X	BODY TIE



B401

B503



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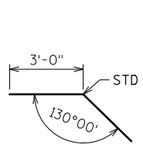

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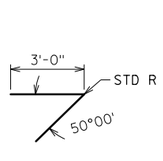

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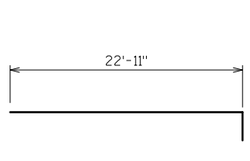

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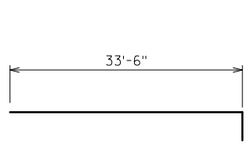

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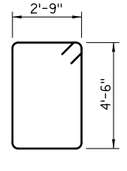

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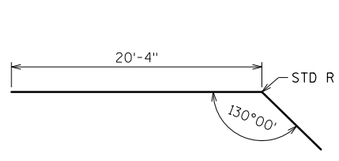

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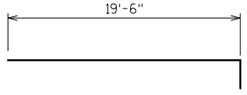

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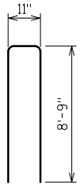

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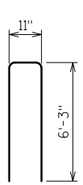

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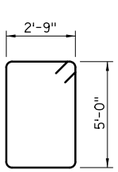

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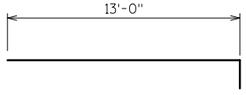

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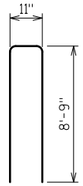

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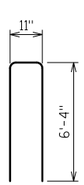

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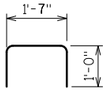

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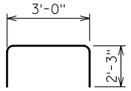

B531

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-32-245

DRAWN BY RAD | PLANS CK'D. NCK

NORTH ABUTMENT DETAILS

SHEET 14 OF 31

85

8

8

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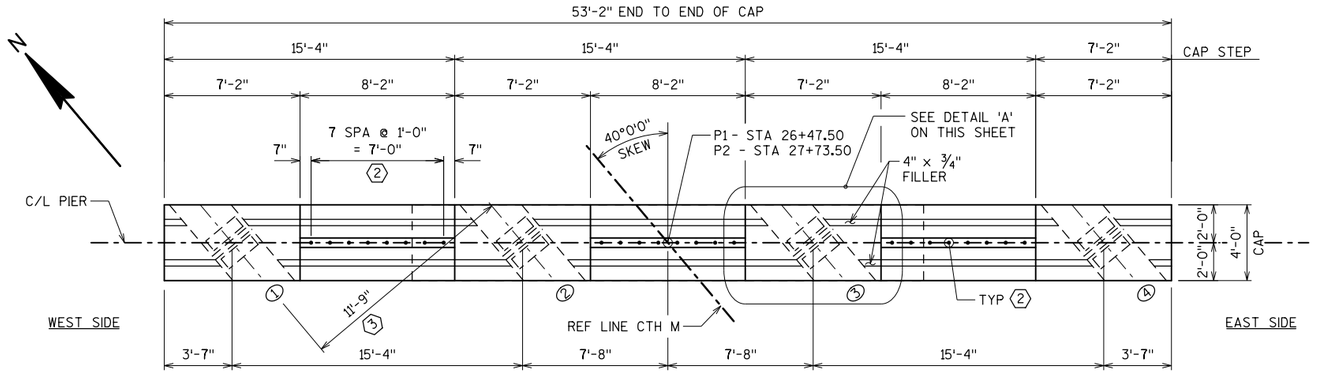
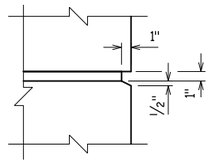


CAP PLAN - PIER 1 & 2



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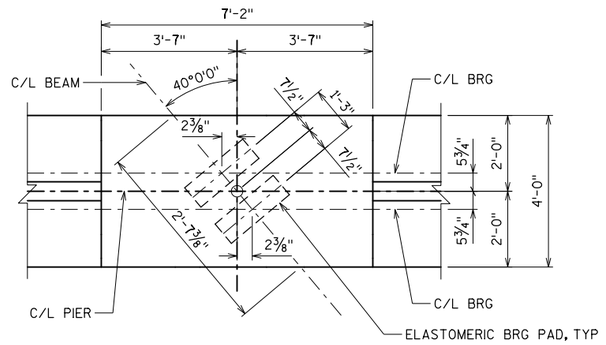
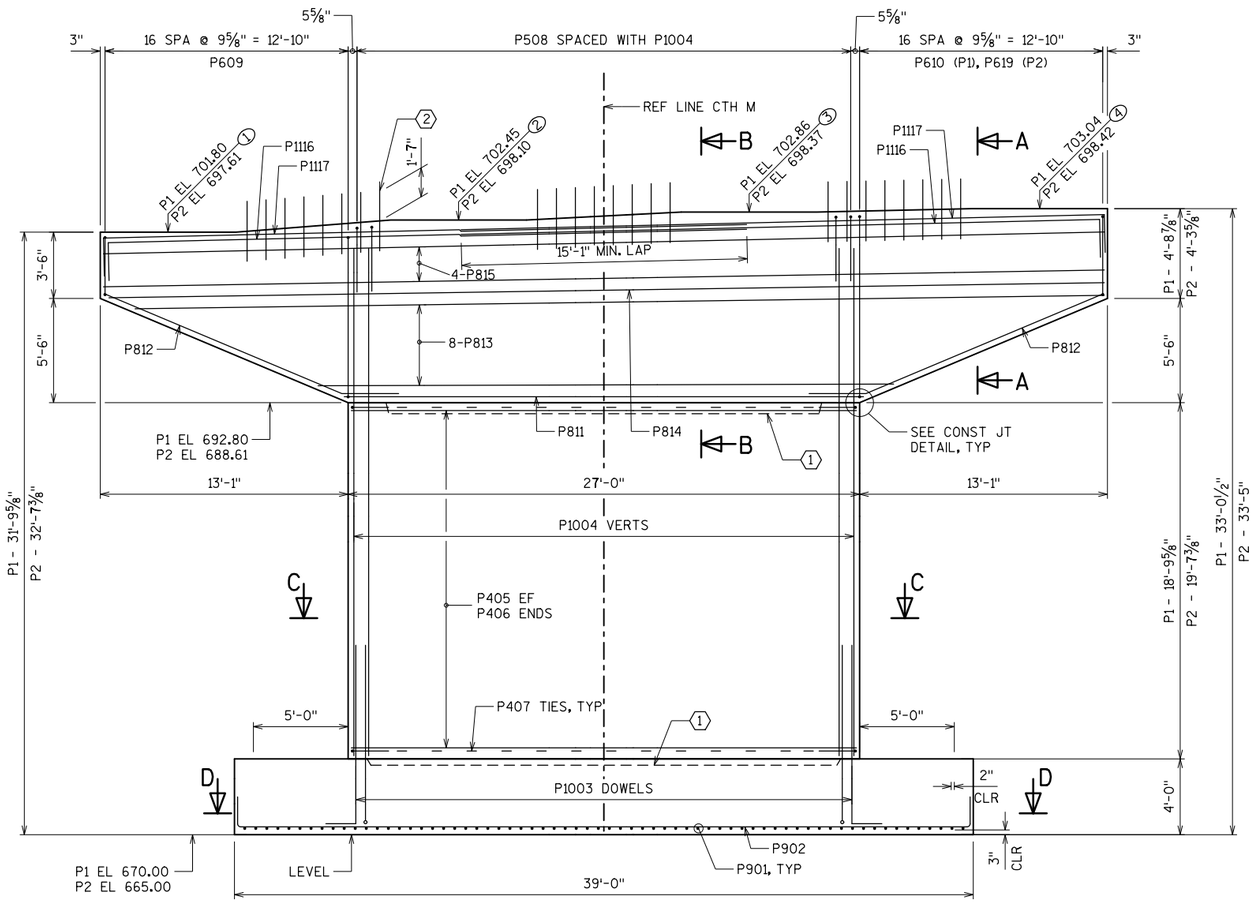
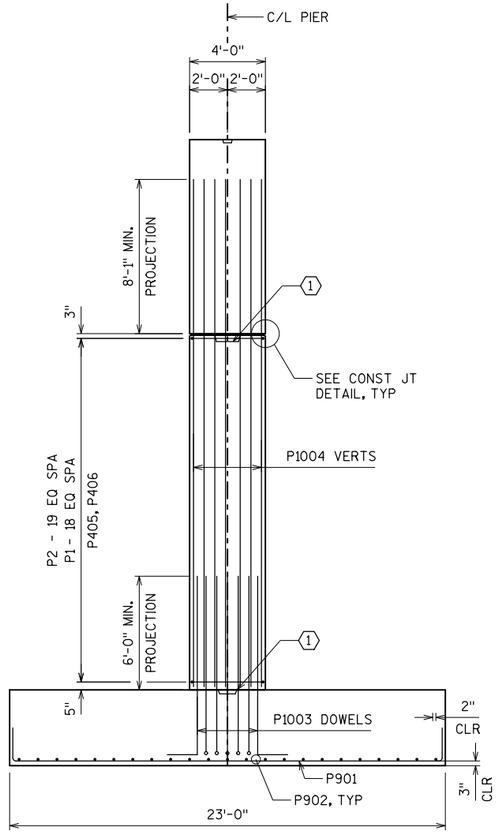


DETAIL A
TYPICAL BEAM SEAT LAYOUT



ELEVATION - PIER 1 & 2
(LOOKING UPSTATION)



END VIEW - PIER 1 & 2

PIER NOTES & LEGEND

COFFERDAM NOT SHOWN FOR CLARITY.

SEE SHEET 16 FOR SECTION A-A, B-B, C-C & D-D.

(1) 1'-4" SQUARE X 4" DEEP HORIZ CONST JOINT FORMED BY BEVELED KEYWAY.

(2) P718 DOWEL BARS @ 12" MAX. SPACING - MAY BE PLACED AFTER CONC IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE.

(3) TYPICAL BEAM SPACING

◯ INDICATES NEW GIRDER LINE ELEVATION TAKEN AT C/L PIER AND C/L GIRDER.

P1 = PIER 1
P2 = PIER 2

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

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-32-245

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PIER 1 & 2 DETAILS

SHEET 15 OF 31
86

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8

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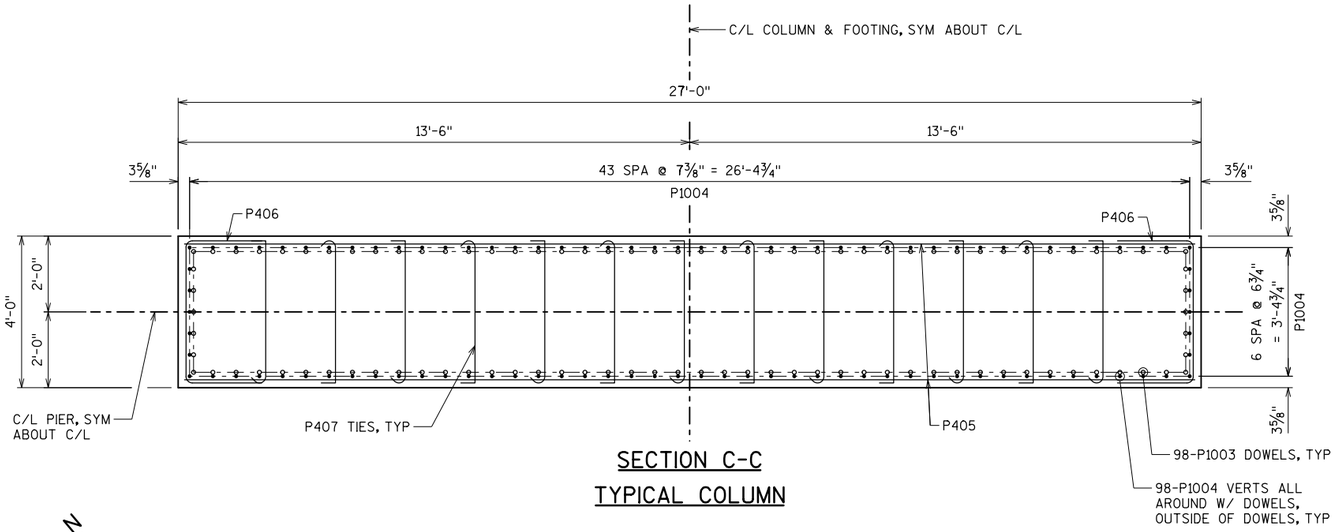
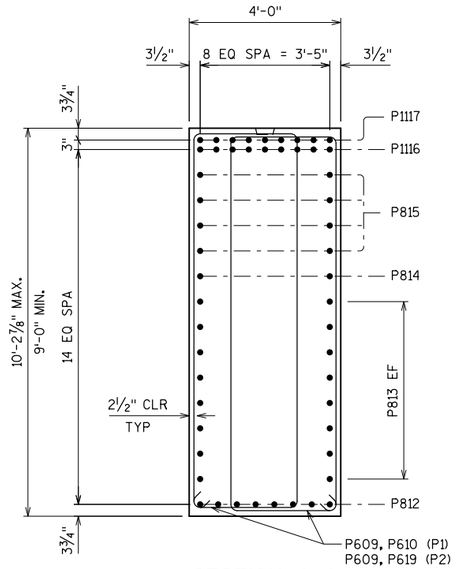
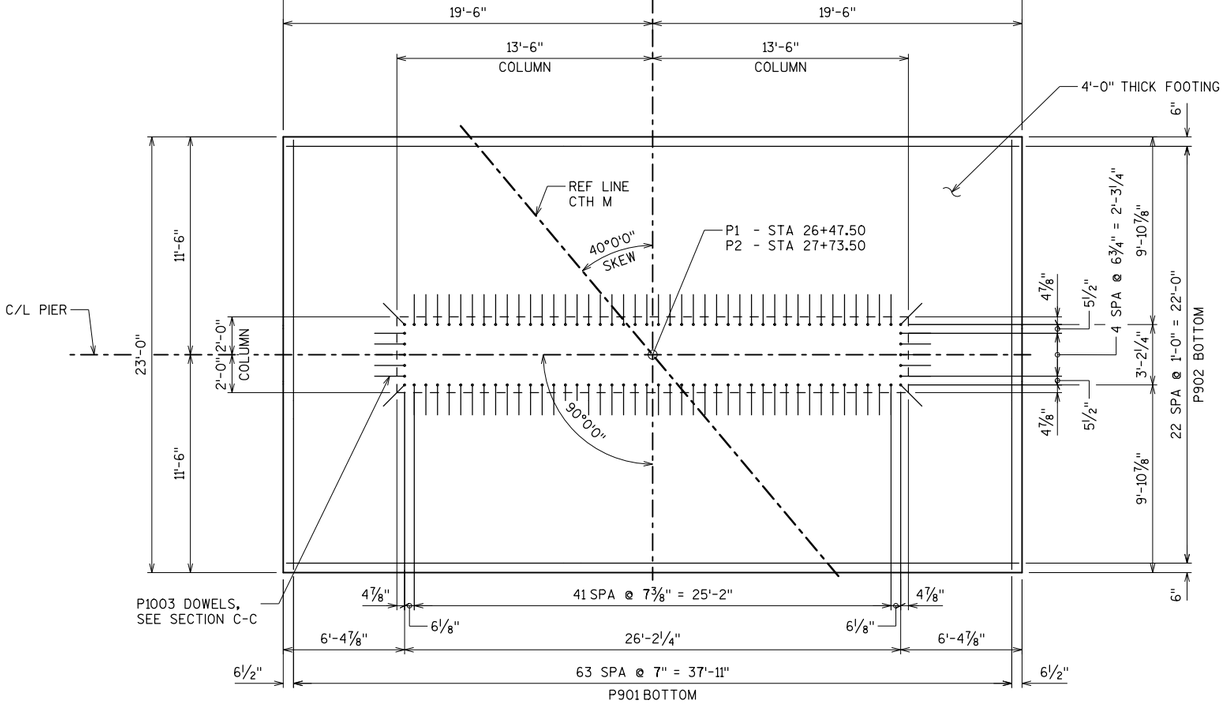


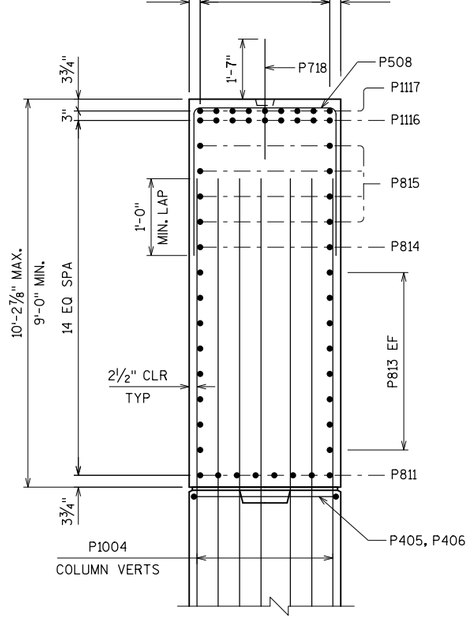
SECTION C-C
TYPICAL COLUMN



SECTION A-A
AT CANTILEVER



SECTION D-D
TYPICAL FOOTING PLAN



SECTION B-B
AT COLUMN

NOTES
SEE SHEET 15 FOR PIER NOTES & LEGEND.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-32-245

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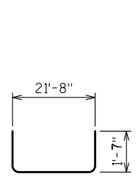
PIER 1 & 2 DETAILS

SHEET 16 OF 31
87

8

STATE PROJECT NUMBER

7323-00-71



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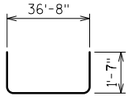

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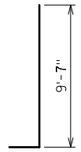

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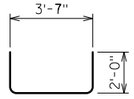
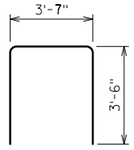


P406

P407

NOTE: USE STD HOOKS



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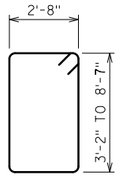

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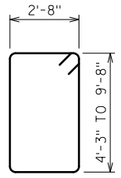

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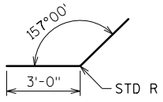

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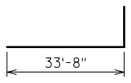

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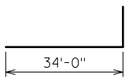

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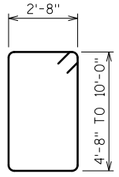

P619

NOTE:

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

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT.

BILL OF BARS — PIER 1 & PIER 2

BAR MARK	COAT	P1 NO. REQ'D	P2 NO. REQ'D.	LENGTH (FT-IN)	BAR SERIES	BENT	LOCATION
P901		66	66	25 - 4		X	FOOTING TRANSVERSE
P902		23	23	41 - 4		X	FOOTING LONGITUDINAL
P1003	X	98	98	11 - 1		X	FOOTING DOWEL
P1004	X	98	98	26 - 9			COLUMN VERTICAL
P405	X	38	40	26 - 7			COLUMN HORIZONTAL
P406	X	38	40	7 - 5		X	COLUMN END
P407	X	247	260	4 - 4		X	COLUMN TIE
P508	X	44	44	10 - 4		X	CAP TIE
P609	X	34	34	17 - 11	X	X	CAP VERTICAL WEST END
P610	X	34		20 - 1	X	X	CAP VERTICAL EAST END
P811	X	8	8	27 - 5			CAP HORIZONTAL BOTTOM
P812	X	16	16	16 - 7		X	CAP HORIZONTAL TAPER
P813	X	16	16	40 - 9	X		CAP HORIZONTAL EF
P814	X	2	2	52 - 6			CAP HORIZONTAL EF
P815	X	8	8	52 - 3	X		CAP HORIZONTAL EF
P1116	X	18	18	35 - 4		X	CAP HORIZONTAL TOP
P1117	X	18	18	35 - 8		X	CAP HORIZONTAL TOP
P718	X	24	24	3 - 2			DIAPHRAGM DOWEL
P619	X	-	34	20 - 10	X	X	CAP VERTICAL EAST END
				-			
				-			

BAR SERIES TABLE

MARK	NO. REQ'D.	LENGTH (FT-IN)
P609	4 SERIES OF 17	12-6 TO 23-4
P610	2 SERIES OF 17	14-8 TO 25-6
P813	4 SERIES OF 8	30-4 TO 51-2
P815	4 SERIES OF 4	52-7 TO 52-0
P619	2 SERIES OF 17	15-6 TO 26-2

8

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NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-32-245

DRAWN BY RAD | PLANS CK'D. NCK

PIER 1 & 2
DETAILS

SHEET 17 OF 31

88

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PLOT DATE: 8/1/2023
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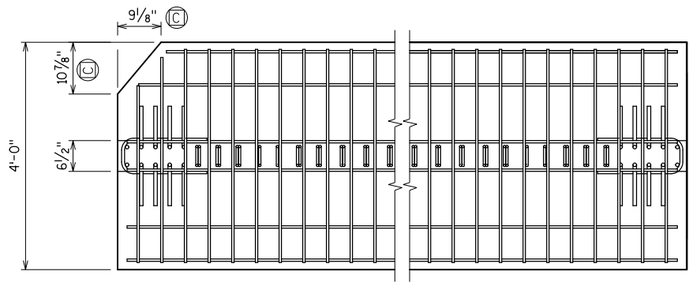
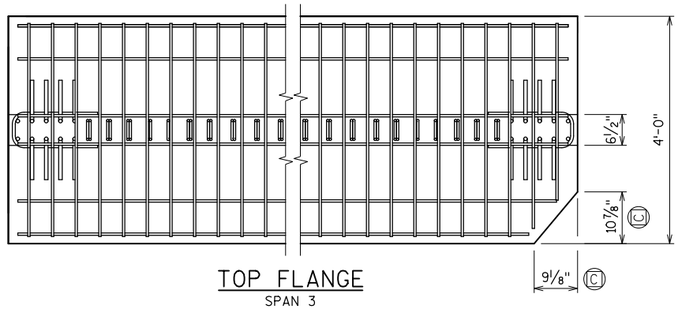
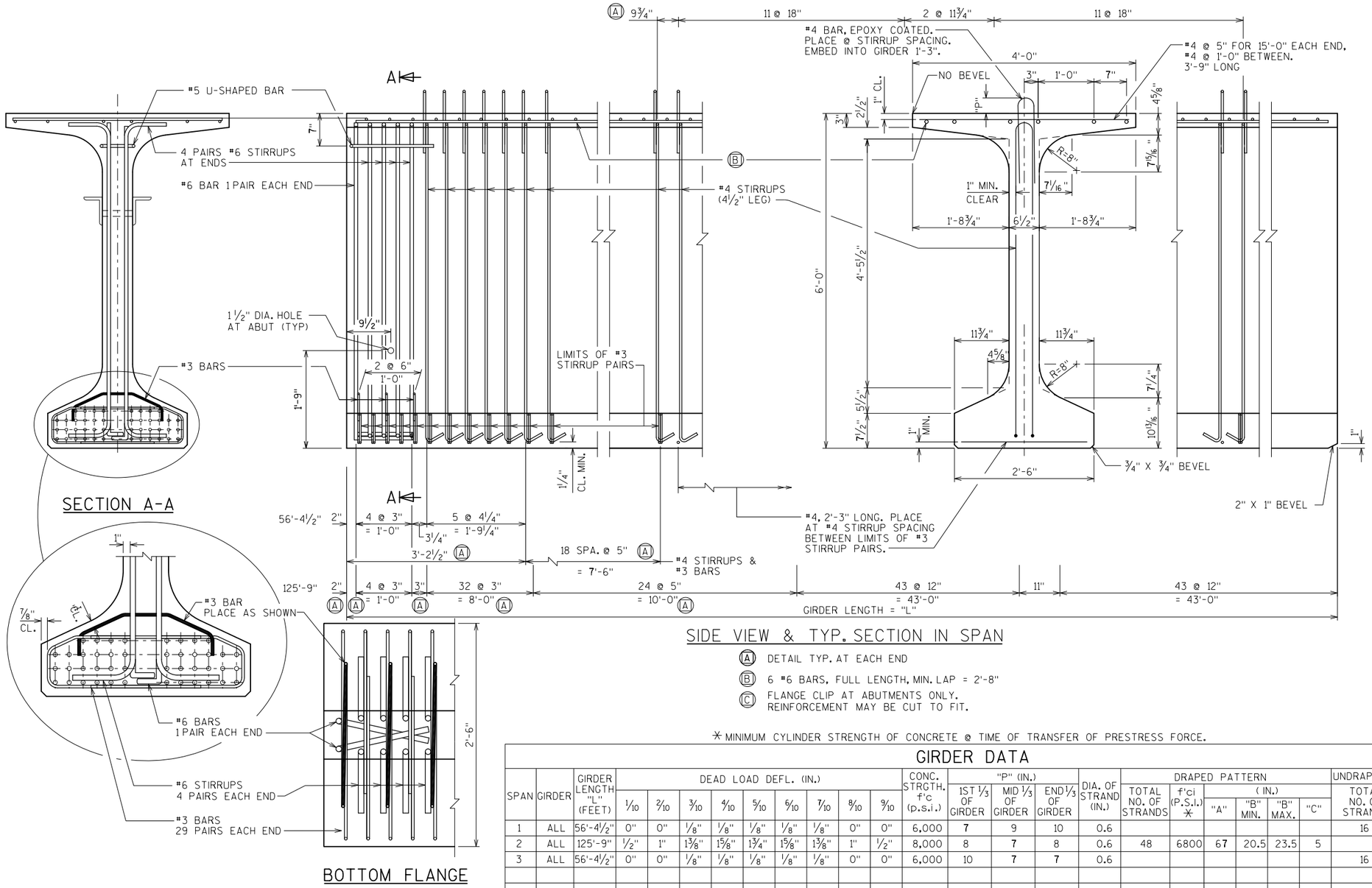


TOP FLANGE
SPAN 1



TOP FLANGE
SPAN 3



SECTION A-A

BOTTOM FLANGE

SIDE VIEW & TYP. SECTION IN SPAN

Ⓐ DETAIL TYP. AT EACH END

Ⓑ 6 #6 BARS, FULL LENGTH, MIN. LAP = 2'-8"

Ⓒ FLANGE CLIP AT ABUTMENTS ONLY. REINFORCEMENT MAY BE CUT TO FIT.

NOTES

TOP OF GIRDER TO BE ROUGH FLOATED AND BROOMED TRANSVERSELY, EXCEPT THE OUTSIDE 15" OF GIRDER, WHICH SHALL RECEIVE A SMOOTH FINISH. AN APPROVED CONCRETE SEALER SHALL BE APPLIED TO ALL SMOOTH SURFACES INCLUDING THE OUTSIDE 15" OF THE TOP FLANGE.

DO NOT APPLY CONCRETE SEALER OR EPOXY TO SURFACES RECEIVING APPLICATION OF CONCRETE STAINING.

THE GIRDERS SHALL BE PROVIDED WITH A SUITABLE LIFTING DEVICE FOR HANDLING AND ERECTING THE GIRDERS.

STRANDS SHALL BE FLUSH WITH END OF GIRDER. FOR GIRDER ENDS EMBEDDED COMPLETELY IN CONCRETE, END OF STRANDS SHALL BE COATED WITH NON-BITUMINOUS JOINT SEALER. FOR GIRDER ENDS THAT ARE FINALLY EXPOSED, COAT THE GIRDER ENDS, EXPOSED STRAND ENDS AND ALL NON-BONDING SURFACES WITHIN 2 FEET OF THE GIRDER ENDS WITH A NON-PIGMENTED EPOXY CONFORMING TO AASHTO M-235 TYPE III, GRADE 2, CLASS B OR C. THE EPOXY SHALL BE APPLIED AT LEAST 3 DAYS AFTER MOIST CURING HAS CEASED AND PRIOR TO THE APPLICATION OF THE SEALER.

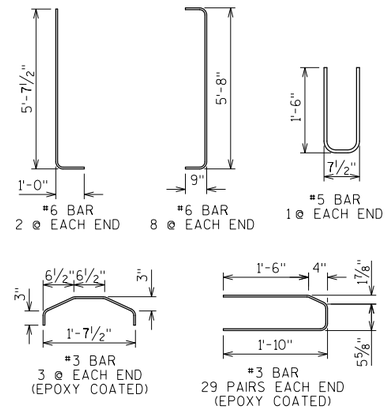
ALL GIRDERS SHALL BE CAST FULL LENGTH AS SHOWN.

SPACING SHOWN FOR #4 STIRRUPS IS FOR GRADE 60 REINFORCEMENT.

AN EQUIVALENT OF WELDED WIRE FABRIC (WWF) ASTM A1064 MAY BE SUBSTITUTED FOR THE STIRRUP REINFORCEMENT SHOWN, UPON APPROVAL OF THE STRUCTURES MAINTENANCE SECTION. IF USED, WWF SUBSTITUTION DETAILS SHALL BE SUBMITTED ELECTRONICALLY TO THE WISDOT FABRICATION LIBRARY AND ACCEPTED PRIOR TO SHOP DRAWING SUBMITTAL.

PRESTRESSING STRANDS SHALL BE (0.6" DIA.)-7 WIRE LOW-RELAXATION STRANDS WITH AN ULTIMATE STRENGTH OF 270,000 PSI.

FOR DIAPHRAGM INSERT & CONNECTION DETAILS SEE "STEEL DIAPHRAGM" SHEET.



✳ MINIMUM CYLINDER STRENGTH OF CONCRETE @ TIME OF TRANSFER OF PRESTRESS FORCE.

GIRDER DATA

SPAN	GIRDER	GIRDER LENGTH "L" (FEET)	DEAD LOAD DEFL. (IN.) 1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10	CONC. STRGTH. f'c (p.s.i.)	"P" (IN.) 1ST 1/3 OF GIRDER	MID 1/3 OF GIRDER	END 1/3 OF GIRDER	DIA. OF STRAND (IN.)	DRAPED PATTERN TOTAL NO. OF STRANDS	f'ci (P.S.I.) ✳	(IN.) "A"	"B" MIN.	"B" MAX.	"C"	UNDRAPED PATTERN TOTAL NO. OF STRANDS	f'ci (P.S.I.) ✳
1	ALL	56'-4½"	0"	0"	⅛"	⅛"	⅛"	⅛"	⅛"	0"	0"	6,000	7	9	10	0.6							16	5,000
2	ALL	125'-9"	½"	1"	1⅜"	1⅝"	1¾"	1⅝"	1⅜"	1"	½"	8,000	8	7	8	0.6	48	6800	67	20.5	23.5	5		
3	ALL	56'-4½"	0"	0"	⅛"	⅛"	⅛"	⅛"	⅛"	0"	0"	6,000	10	7	7	0.6							16	5,000

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-32-245

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72W" PRESTRESSED GIRDER DETAILS

SHEET 18 OF 31
89

1-22
G72W

PLOT DATE: 8/1/2023 PLOT TIME: 1:06:58 PM
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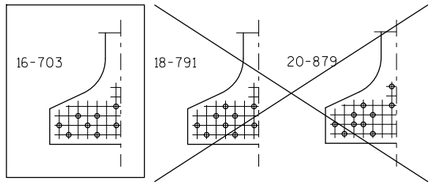
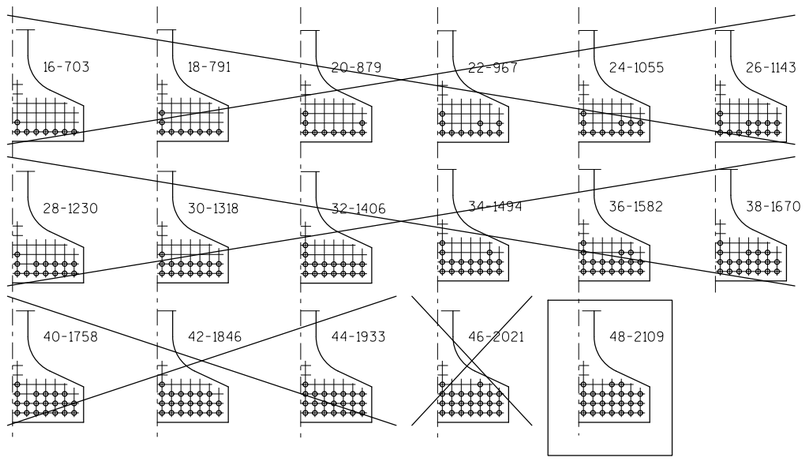
STATE PROJECT NUMBER
7323-00-71



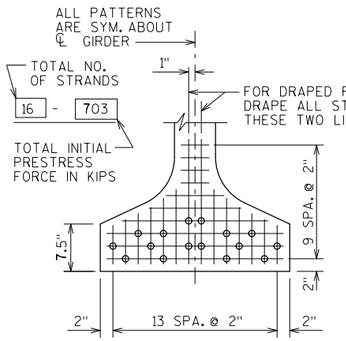
STANDARD ARRANGEMENTS TO RAISE CENTER OF GRAVITY TO AVOID DRAPING OF STRANDS

0.6" DIA. STRANDS



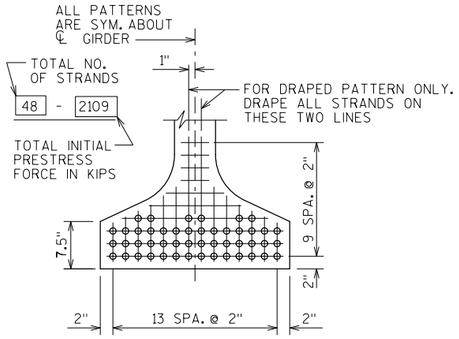
ARRANGEMENT AT ℄ SPAN - FOR GIRDERS WITH DRAPED STRANDS

0.6" DIA. STRANDS



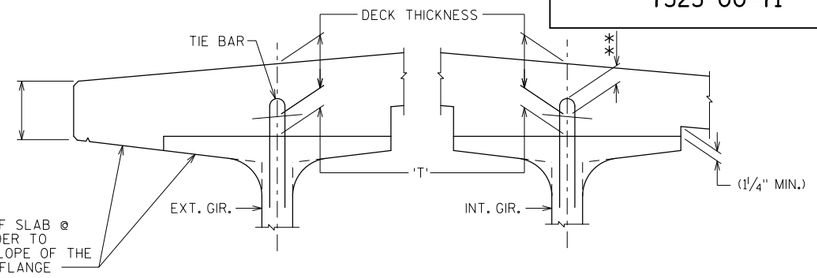
TYP. STRAND PATTERN

SPAN 1 & 3



TYP. STRAND PATTERN

SPAN 2



DECK HAUNCH DETAIL

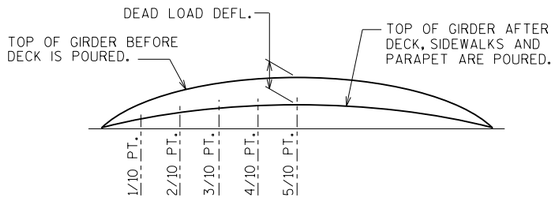
IF 1¼" MINIMUM HAUNCH HEIGHT AT EDGE OF GIRDER CANNOT BE MAINTAINED, THE GRADE LINE MAY BE REVISED BY THE ENGINEER AT THE OPTION OF THE CONTRACTOR, THE PLAN DECK THICKNESS SHALL BE HELD. NOTIFY THE STRUCTURES SECTION IF THE GRADE LINE IS RAISED FROM THE PLAN PROFILE BY MORE THAN ½" OR,

** IF 3" MINIMUM DECK EMBEDMENT OF TIE BAR CANNOT BE OBTAINED.

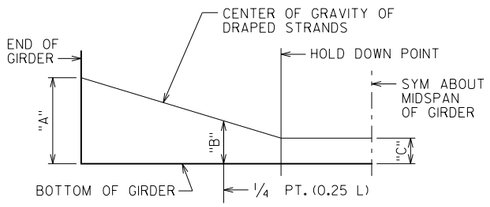
TO DETERMINE 'T', ELEV. OF TOP OF GIR'S. AT ℄ OF SUBSTRUCTURE UNITS & AT 1/10 POINTS OF EACH SPAN SHALL BE TAKEN. THEN FOLLOW THIS PROCESS:

TOP OF DECK ELEV. AT FINAL GRADE
- TOP OF GIRDER ELEVATION
+ DEAD LOAD DEFLECTION
- DECK THICKNESS
= HAUNCH HEIGHT 'T'

NOTE: AN AVERAGE HAUNCH ('T') OF 3⅝" WAS USED IN THE QUANTITY "CONCRETE MASONRY BRIDGES".



DEAD LOAD DEFLECTION DIAGRAM



DRAPED STRAND PROFILE

*THE THEORETICAL INITIAL CAMBER VALUE AT THE TIME OF STRAND RELEASE AT MIDSPAN MULTIPLIED BY A FACTOR OF 1.4 TO ACCOUNT FOR CAMBER GROWTH FROM THE TIME OF STRAND RELEASE TO JOBSITE PLACEMENT.

SPAN	CAMBER (IN.) *
1 & 3	⅜"
2	3⅜"

THESE VALUES ARE NOT TO BE USED IN DETERMINING 'T', USE ACTUAL GIRDER SHOTS.

THESE VALUES ARE FOR INFORMATIONAL PURPOSES ONLY.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-32-245

DRAWN BY RAD | PLANS CK'D. NCK

72W" PRESTRESSED GIRDER DETAILS

SHEET 19 OF 31

90

G72W
7-19

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STATE PROJECT NUMBER
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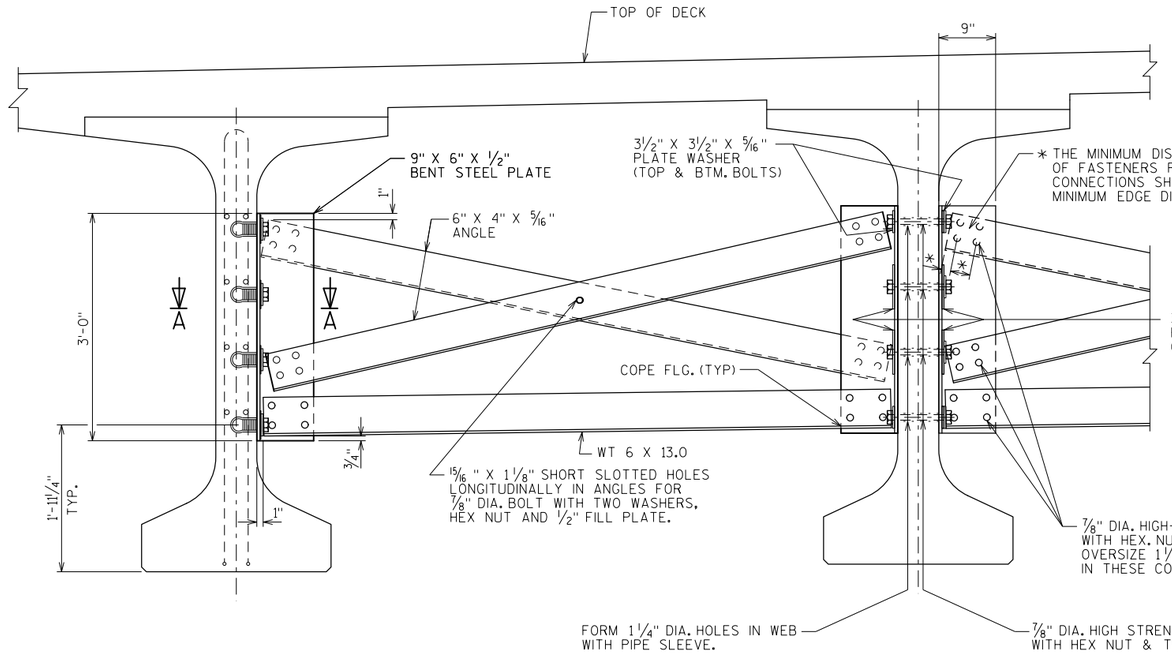
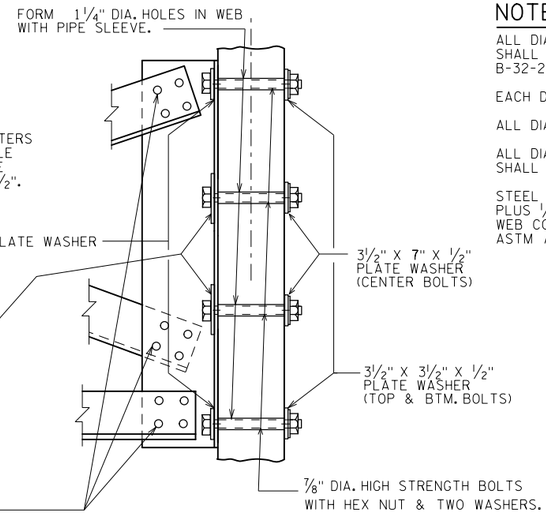


PART TRANSVERSE SECTION AT DIAPHRAGM

(72W" PRESTRESSED GIRDER)



SECTION AT INTERIOR GIRDERS

(FOR STAGGERED DIAPHRAGMS)

NOTES

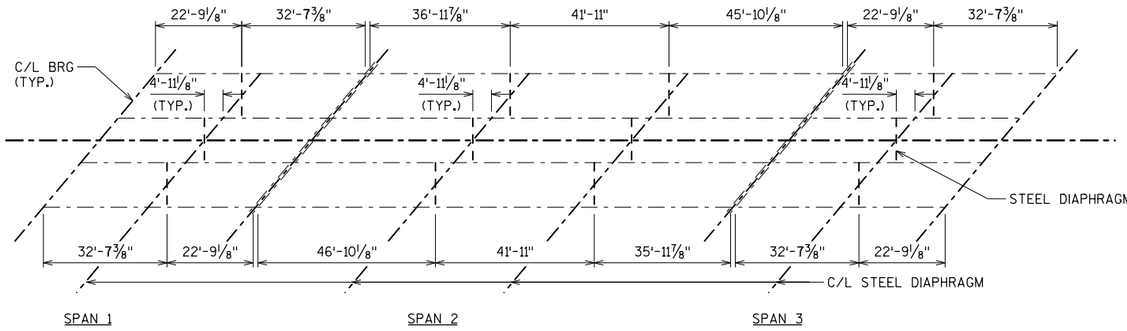
ALL DIAPHRAGM MATERIAL NOT EMBEDDED IN THE CONCRETE GIRDER SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "STEEL DIAPHRAGMS B-32-245", EACH.

EACH DIAPHRAGM BETWEEN GIRDERS SHALL CONSTITUTE ONE UNIT.

ALL DIAPHRAGM STRUCTURAL STEEL SHALL BE ASTM A709 GRADE 36.

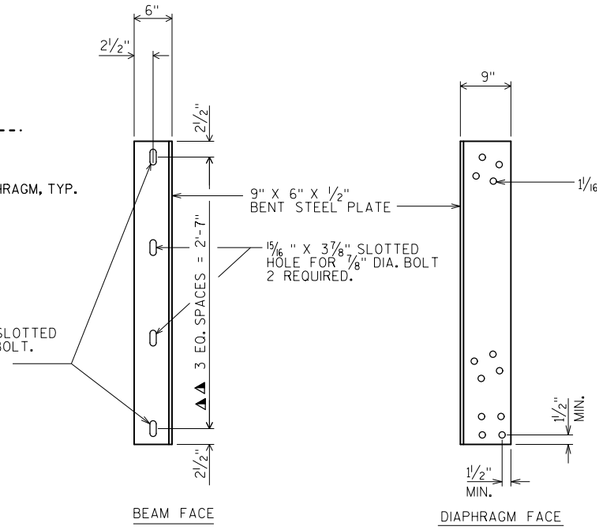
ALL DIAPHRAGM MATERIAL INCLUDING BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED AFTER FABRICATION.

STEEL DIAPHRAGM TO CONCRETE WEB CONNECTION SHALL BE SNUG-TIGHT PLUS 1/4 TURN, UNLESS NOTED OTHERWISE. HIGH STRENGTH BOLTS FOR WEB CONNECTION SHALL MEET THE REQUIREMENTS FOR ASTM A325 OR ASTM A449.

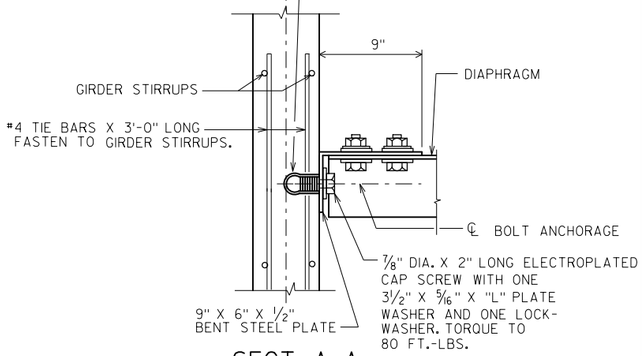


STEEL DIAPHRAGM PLAN

INSERT SPACING



DIAPHRAGM SUPPORT



SECT. A-A

(FOR EXTERIOR ATTACHMENT)

"L" = 3 1/2"; TOP AND BOTTOM BOLTS
"L" = 7"; CENTER BOLTS

▲▲ BOLT HOLES SHALL BE SPACED SO AS TO MISS PRESTRESSED STRANDS IN CONCRETE BEAMS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-32-245

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STEEL DIAPHRAGM DETAILS

SHEET 20 OF 31

91

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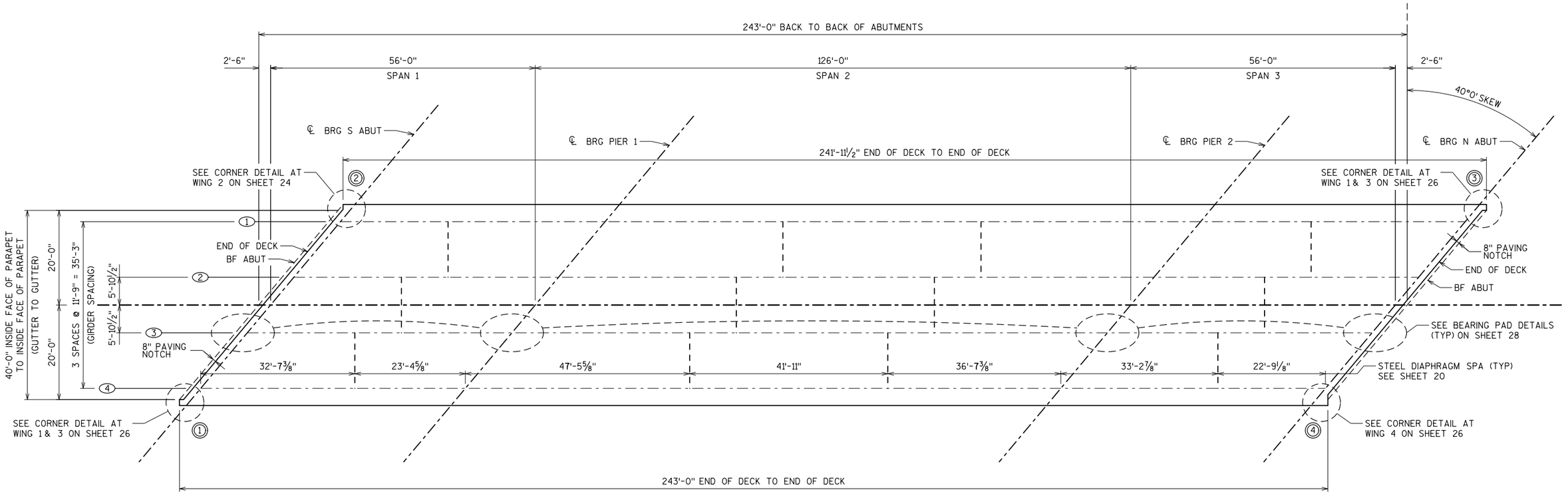
8

STATE PROJECT NUMBER
7323-00-71



DECK PLAN

FINAL TOP OF DECK ELEVATIONS - B-32-245																															
	C/L ABUT	0.1 PT	0.2 PT	0.3 PT	0.4 PT	0.5 PT	0.6 PT	0.7 PT	0.8 PT	0.9 PT	C/L PIER 1	0.1 PT	0.2 PT	0.3 PT	0.4 PT	0.5 PT	0.6 PT	0.7 PT	0.8 PT	0.9 PT	C/L PIER 2	0.1 PT	0.2 PT	0.3 PT	0.4 PT	0.5 PT	0.6 PT	0.7 PT	0.8 PT	0.9 PT	C/L ABUT
WEST EDGE OF DECK	711.39	711.15	710.92	710.68	710.45	710.21	709.98	709.74	709.51	709.27	709.04	708.54	708.06	707.59	707.15	706.72	706.32	705.94	705.57	705.23	704.91	704.77	704.63	704.51	704.38	704.26	704.14	704.03	703.92	703.81	703.71
GIRDER 1	711.56	711.33	711.09	710.86	710.62	710.39	710.15	709.92	709.68	709.45	709.22	708.71	708.22	707.75	707.30	706.87	706.46	706.08	705.71	705.36	705.03	704.89	704.68	704.55	704.43	704.31	704.19	704.07	703.96	703.86	703.81
GIRDER 2	712.21	711.98	711.74	711.51	711.27	711.04	710.80	710.57	710.33	710.10	709.86	709.34	708.83	708.35	707.89	707.44	707.02	706.61	706.23	705.86	705.52	705.37	705.23	705.09	704.96	704.83	704.70	704.58	704.46	704.34	704.23
PROFILE GRADE	712.54	712.30	712.07	711.83	711.60	711.36	711.13	710.89	710.66	710.42	710.19	709.66	709.15	708.65	708.18	707.73	707.30	706.89	706.49	706.12	705.77	705.62	705.47	705.33	705.19	705.06	704.93	704.80	704.68	704.56	704.45
GIRDER 3	712.63	712.39	712.16	711.92	711.69	711.45	711.22	710.98	710.75	710.51	710.28	709.75	709.23	708.73	708.25	707.79	707.35	706.93	706.53	706.15	705.79	705.63	705.48	705.34	705.20	705.06	704.93	704.80	704.67	704.55	704.43
GIRDER 4	712.81	712.57	712.34	712.10	711.87	711.63	711.40	711.16	710.93	710.69	710.46	709.93	709.40	708.88	708.39	707.91	707.46	707.02	706.60	706.21	705.83	705.67	705.52	705.36	705.21	705.07	704.93	704.79	704.66	704.53	704.41
EAST EDGE OF DECK	712.89	712.65	712.42	712.18	711.95	711.71	711.48	711.24	711.01	710.77	710.54	710.01	709.48	708.96	708.46	707.98	707.52	707.08	706.65	706.25	705.87	705.71	705.55	705.40	705.25	705.10	704.96	704.82	704.68	704.55	704.43

NOTES:

SEE SHEET X FOR SECTION A-A & B-B.

◪ CONST JOINT KEYWAY FORMED BY A BEVELED 2" X 1 1/2"

⬭ INDICATES NEW GIRDER LINE.

GL= GIRDER LENGTH, SEE GIRDER DETAILS

◎ INDICATES WING

FF = FRONT FACE
BF = BACK FACE
EF = EACH FACE
(T) = TOP
(B) = BOTTOM

SUPERSTRUCTURE NOTES:

BOTTOM TRANSVERSE BAR STEEL SHALL BE SUPPORTED BY CONTINUOUS BAR CHAIRS WITH A CENTER TO CENTER SPACING NOT TO EXCEED 4'-0". ONE LINE OF CONTINUOUS BAR CHAIRS SHALL BE PLACED NEAR EACH EDGE OF SLAB TO SUPPORT THE END OF THE BOTTOM TRANSVERSE BAR STEEL.

TOP LONGITUDINAL BAR STEEL SHALL BE SUPPORTED BY CONTINUOUS BAR CHAIRS IN TRANSVERSE DIRECTION ON 4'-0" CENTERS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-32-245

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SUPERSTRUCTURE

SHEET 21 OF 31

92

PLOT DATE: 8/1/2023 PLOT TIME: 10:07:00 PM

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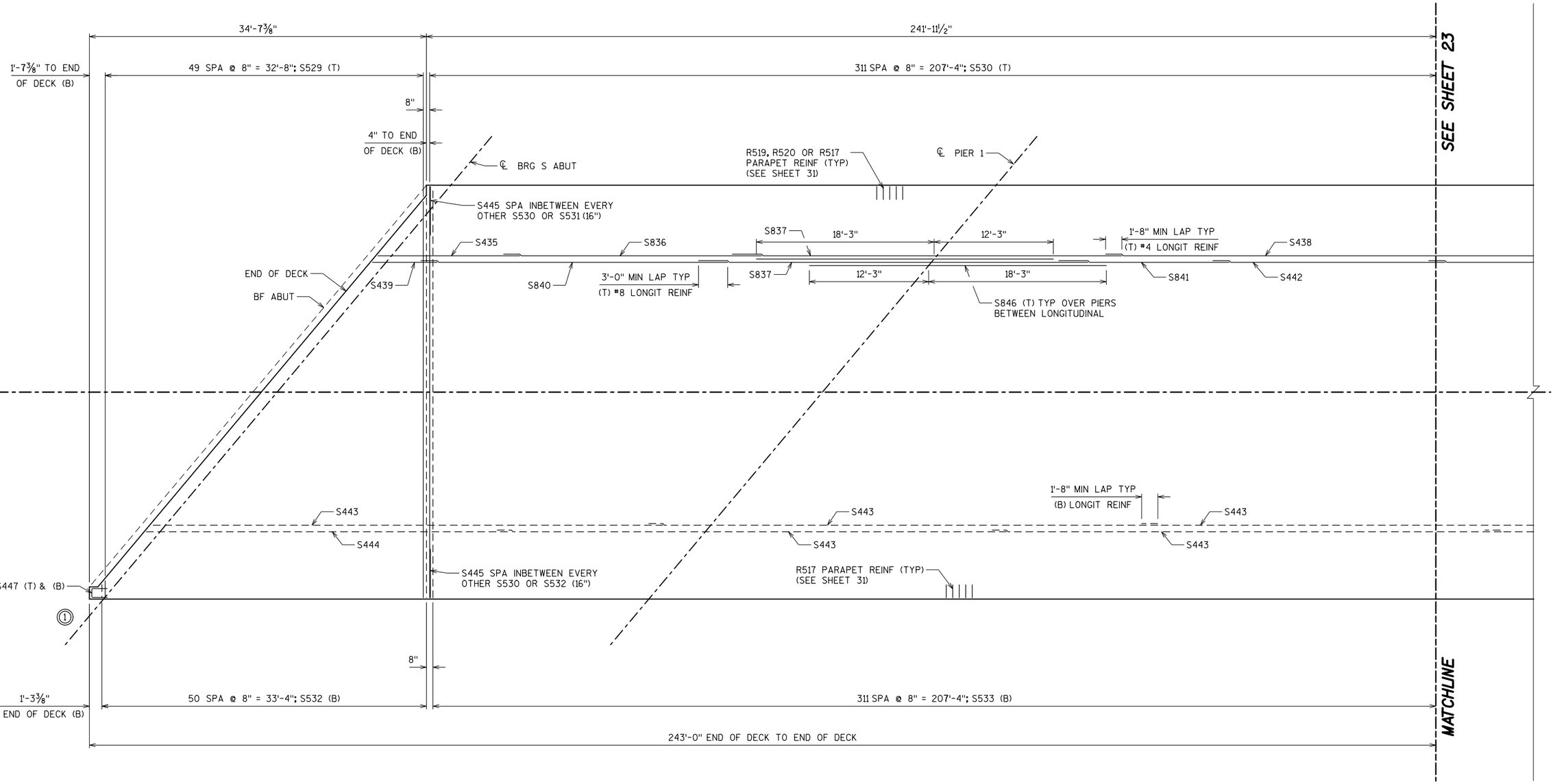

FF = FRONT FACE
BF = BACK FACE
EF = EACH FACE
(T) = TOP
(B) = BOTTOM

◎ INDICATES WING NUMBER.

DECK PLAN
(SHOWING REINFORCEMENT)

——————— INDICATES TOP BAR REINFORCEMENT

– – – – – – – INDICATES BOTTOM BAR REINFORCEMENT

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-32-245

DRAWN BY RAD | PLANS CK'D. NCK

SUPERSTRUCTURE

SHEET 22 OF 31

93

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8

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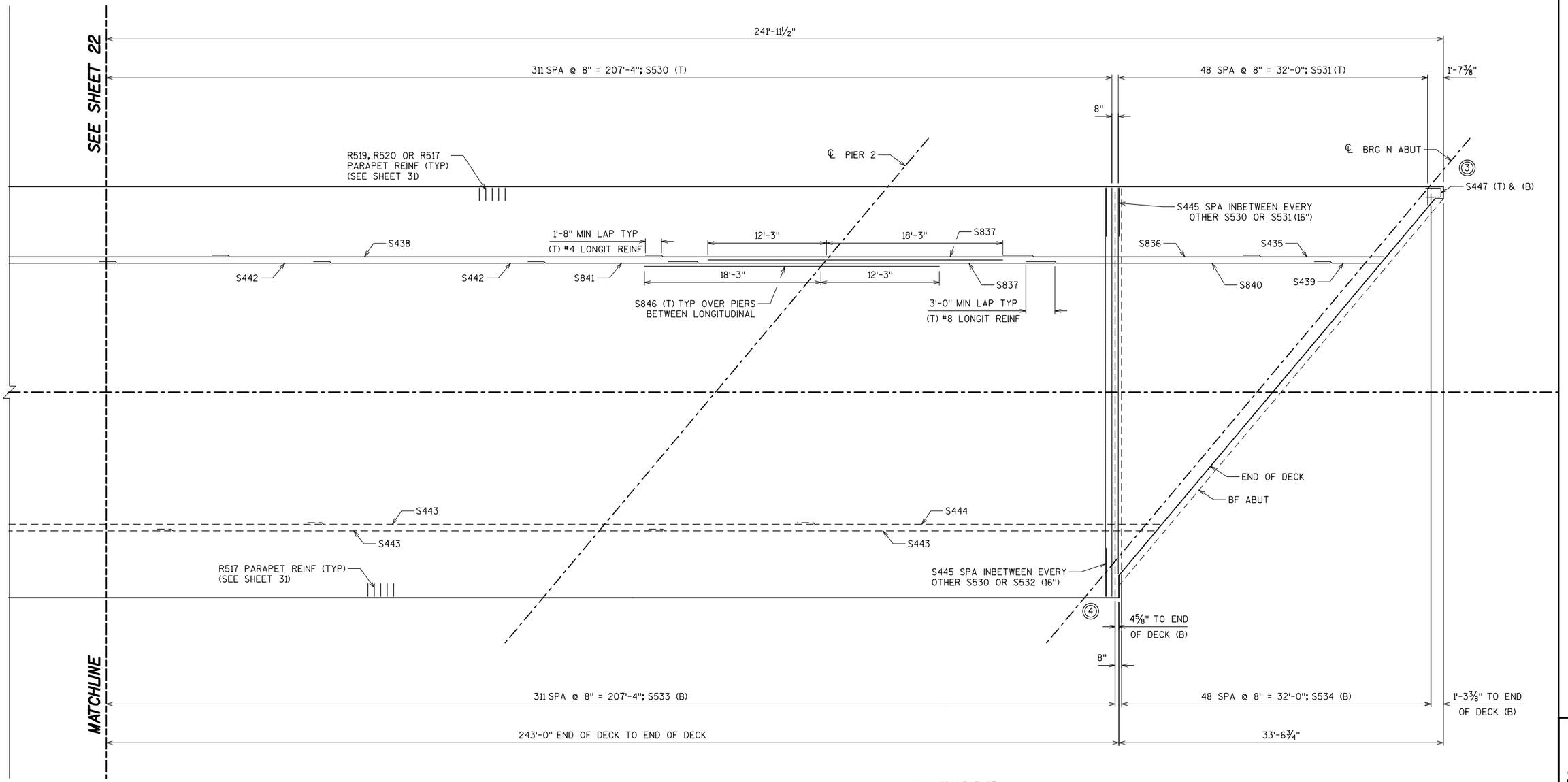

DECK PLAN
(SHOWING REINFORCEMENT)

———— INDICATES TOP BAR REINFORCEMENT

– – – – – – – INDICATES BOTTOM BAR REINFORCEMENT

FF = FRONT FACE
BF = BACK FACE
EF = EACH FACE
(T) = TOP
(B) = BOTTOM

◎ INDICATES WING NUMBER.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-32-245

DRAWN BY RAD | PLANS CK'D. NCK

SUPERSTRUCTURE

SHEET 23 OF 31

94

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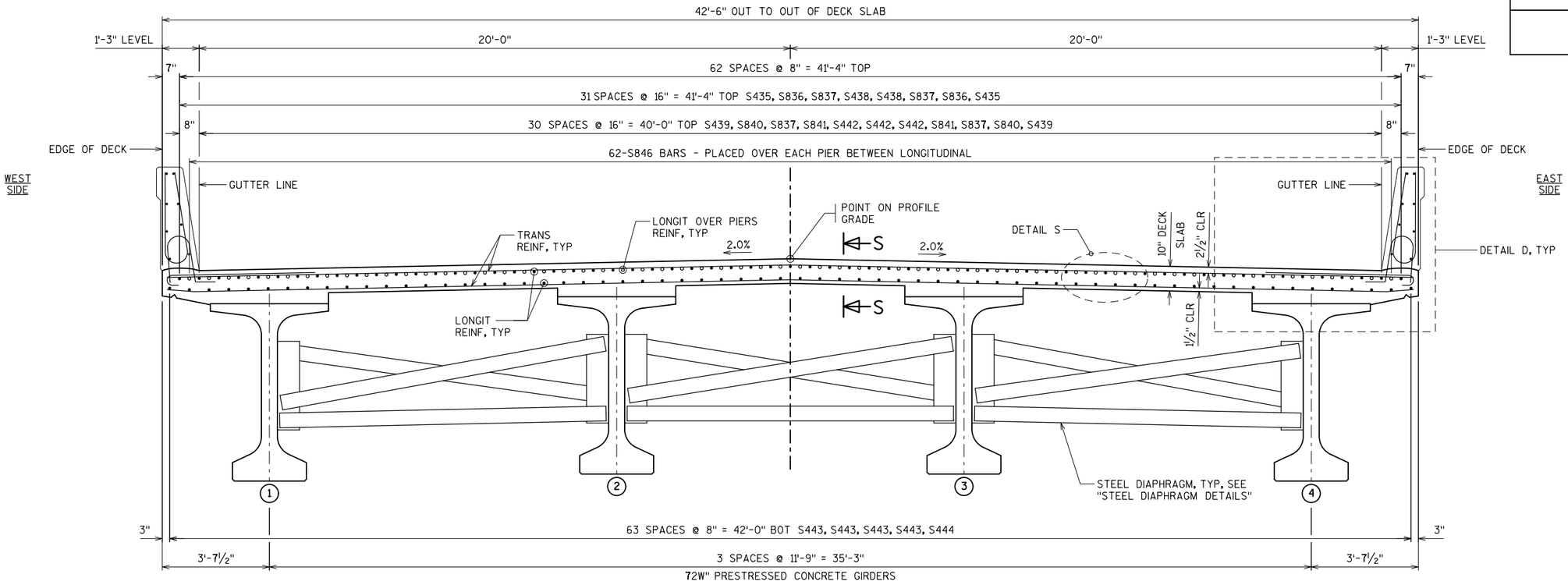
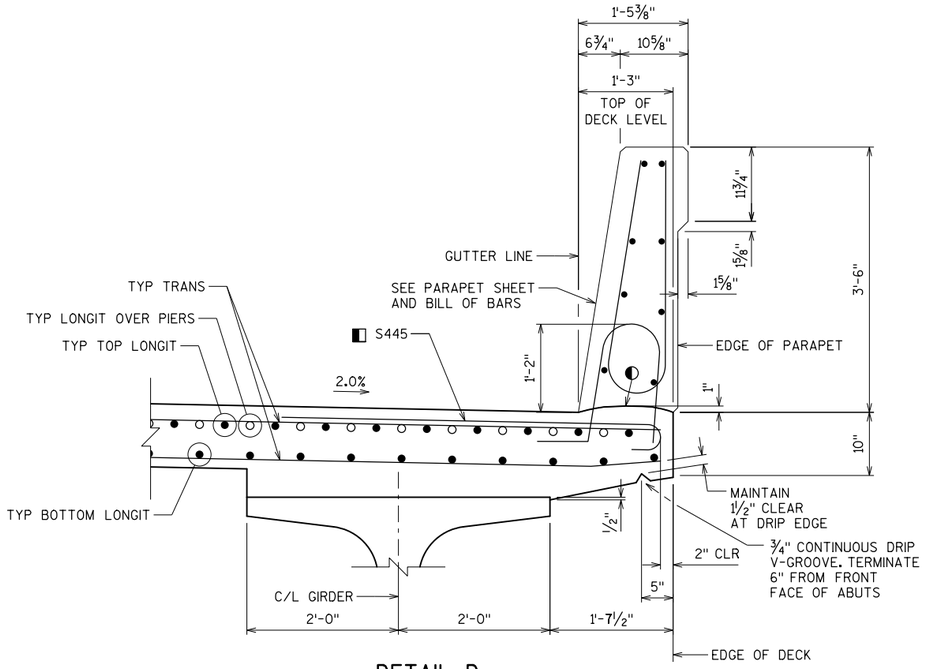
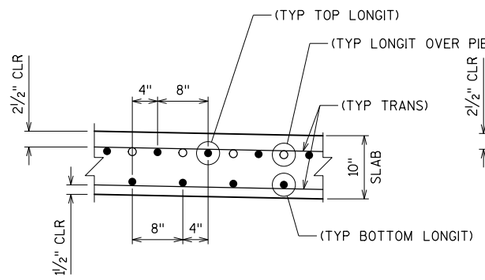


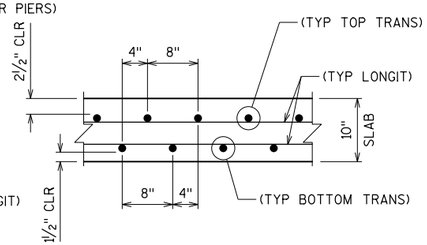
TYPICAL CROSS SECTION THRU DECK
(LOOKING NORTH)



DETAIL D
TYPICAL SECTION THRU PARAPET ON BRIDGE



DETAIL S
(TYPICAL LONGITUDINAL BAR SPACING UNLESS OTHERWISE NOTED)



DETAIL S-S
(TYPICAL TRANSVERSE BAR SPACING UNLESS OTHERWISE NOTED)

NOTES
SEE SHEET 29 FOR BILL OF BARS.

◧ PLACE S445 BETWEEN EVERY OTHER TRANSVERSE BAR. TIE TO TOP MAT.

◐ CONSTRUCTION JOINT. STRIKE OFF AS SHOWN.

INDICATES NEW GIRDER LINE.

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

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-32-245

DRAWN BY RAD | PLANS CK'D. NCK

SUPERSTRUCTURE DETAILS

SHEET 24 OF 31

95

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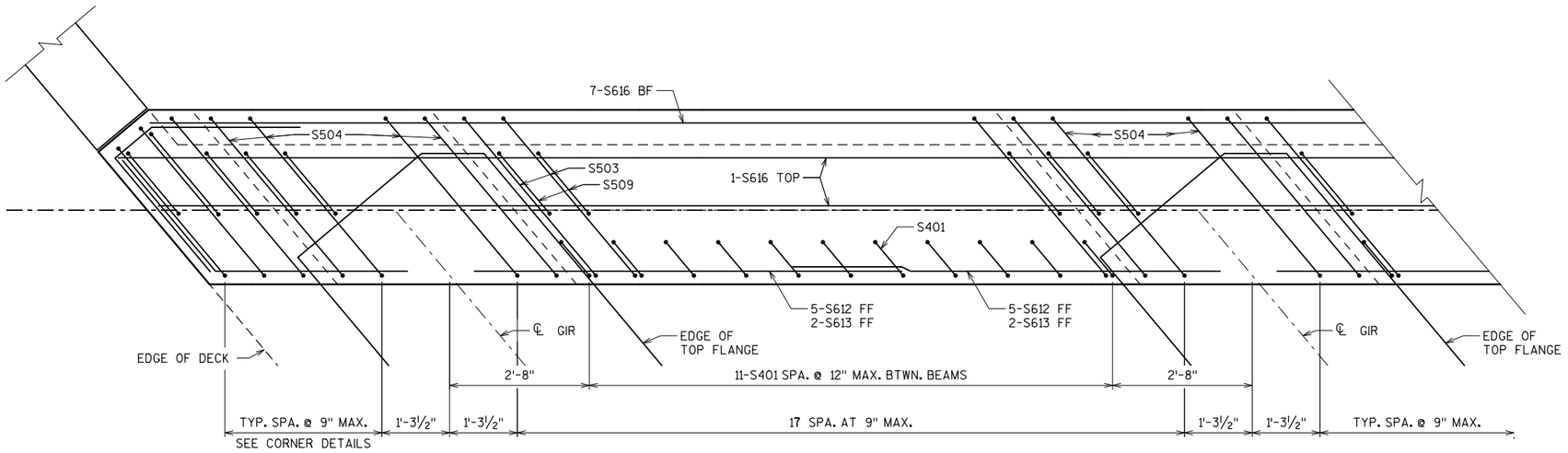
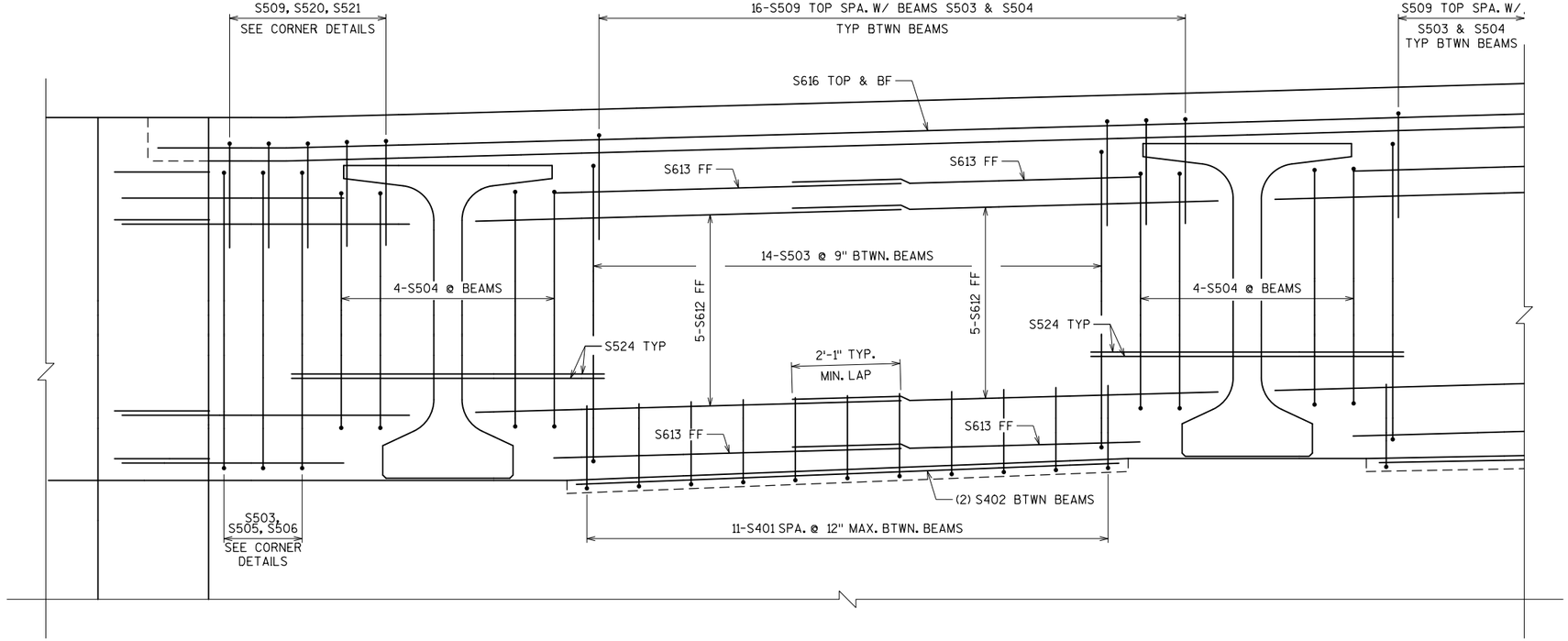


PARTIAL PLAN SECTION AT ABUTMENT DIAPHRAGM

(DECK REINFORCEMENT NOT SHOWN FOR CLARITY)



PARTIAL TRANSVERSE SECTION AT ABUTMENT DIAPHRAGM

(DECK REINFORCEMENT NOT SHOWN FOR CLARITY)
(S616 BF HORIZONTAL NOT SHOWN FOR CLARITY)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-32-245

DRAWN BY RAD | PLANS CK'D. NCK

SUPERSTRUCTURE DETAILS

SHEET 25 OF 31

96

G72WDET
1-21

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PLOT TIME: 10:07:03 PM
PLOT DATE: 8/1/2023
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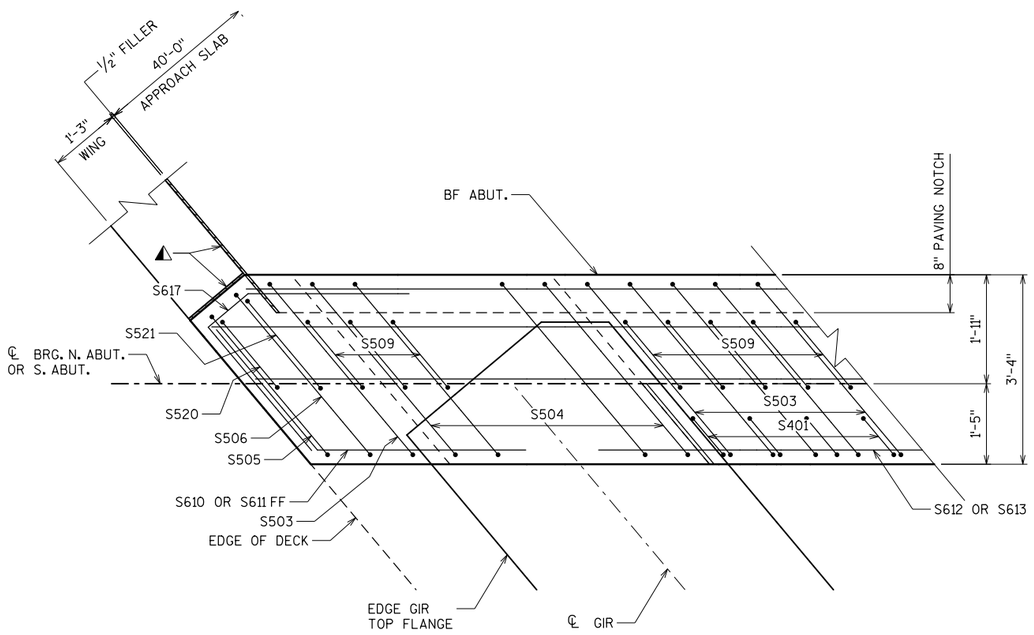
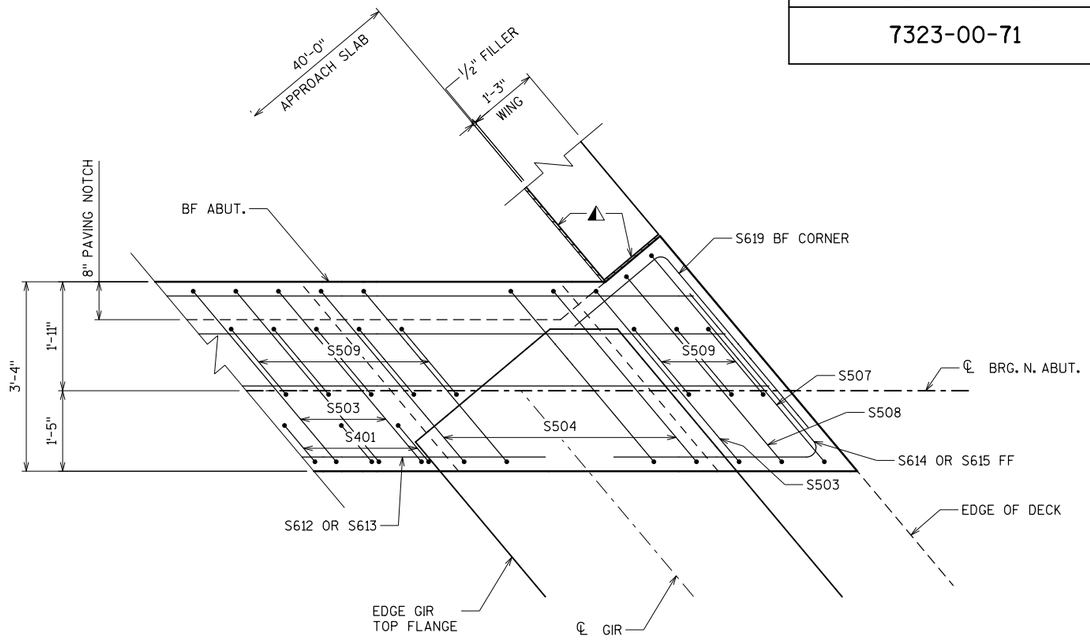
STATE PROJECT NUMBER
7323-00-71



CORNER AT WING 1 & 3 DETAIL



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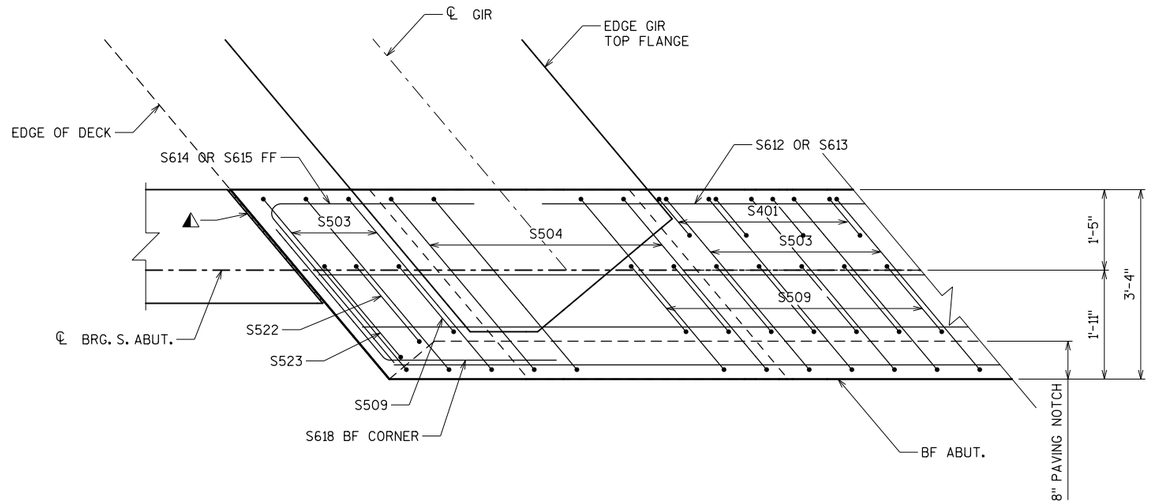

CORNER AT WING 2 DETAIL

LEGEND

⚠ SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER, (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-32-245

DRAWN BY RAD | PLANS CK'D. NCK

SUPERSTRUCTURE DETAILS

SHEET 26 OF 31

97

G72WDET
1-21

PLOT DATE: 8/1/2023 PLOT TIME: 10:07:03 PM
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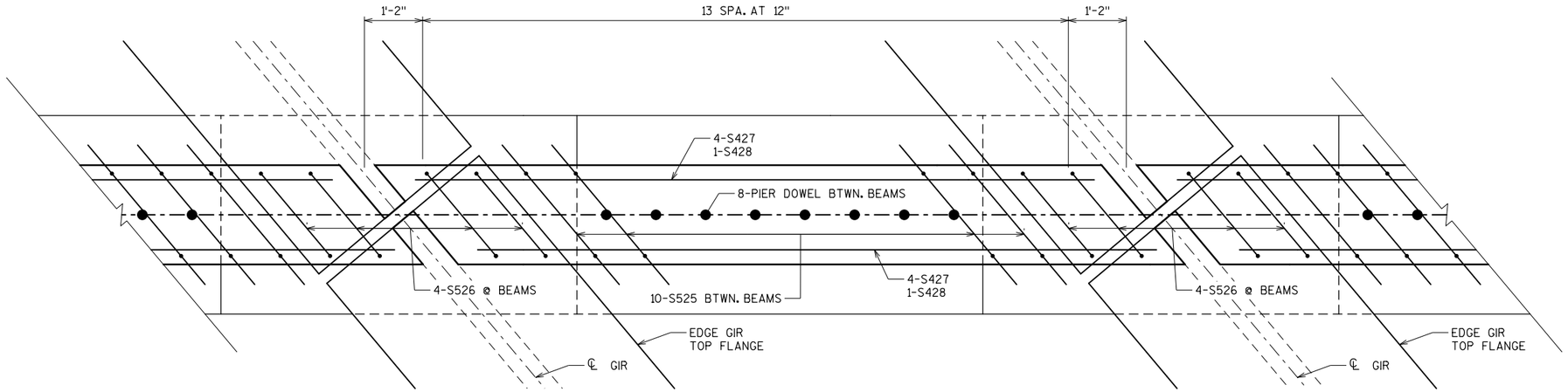
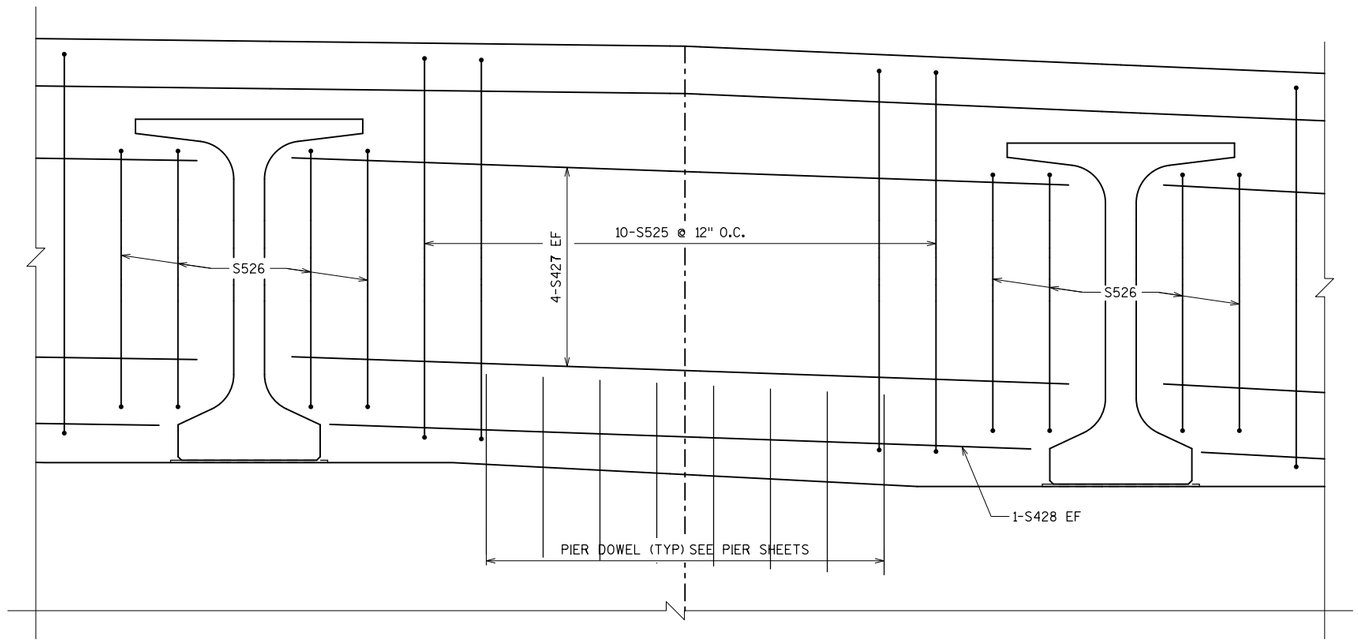
STATE PROJECT NUMBER
7323-00-71



PARTIAL PLAN SECTION AT PIER DIAPHRAGM

(DECK REINFORCEMENT NOT SHOWN FOR CLARITY)



PARTIAL TRANSVERSE SECTION AT PIER DIAPHRAGM

(DECK REINFORCEMENT NOT SHOWN FOR CLARITY)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-32-245

DRAWN BY RAD | PLANS CK'D. NCK

SUPERSTRUCTURE DETAILS

SHEET 27 OF 31

98

G72WDET

8

8

PLOT TIME: 1:07:04 PM

PLOT DATE: 8/1/2023

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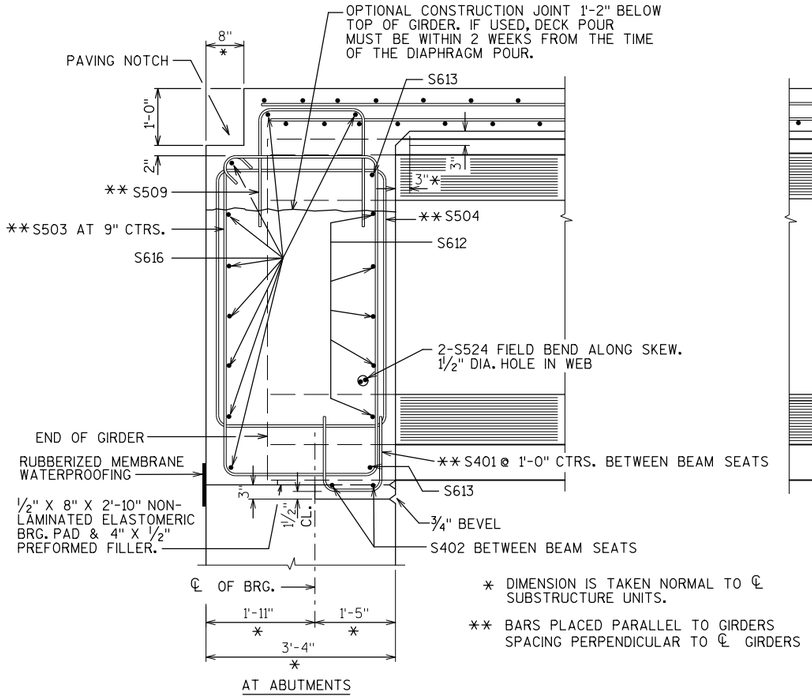

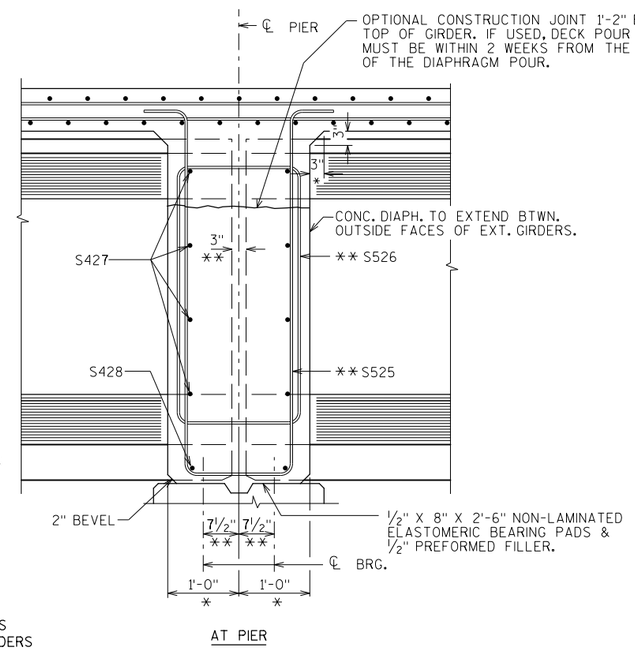

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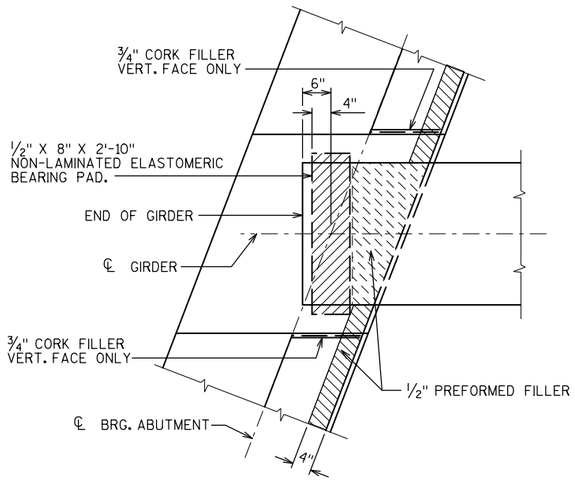

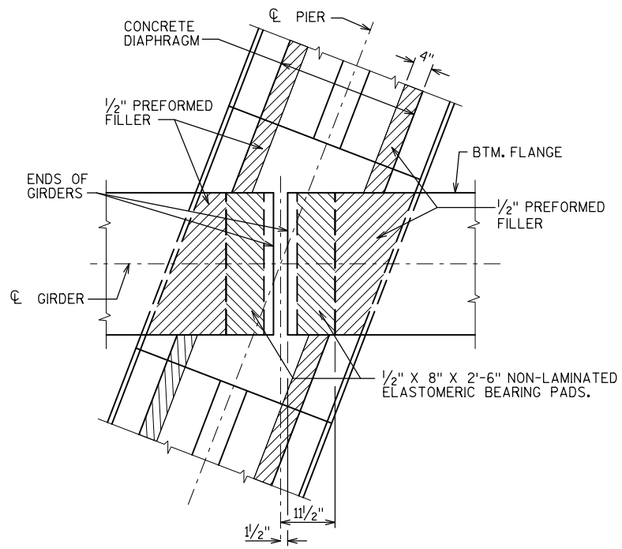

BEARING PAD DETAILS

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-32-245

DRAWN BY RAD | PLANS CK'D. NCK

SUPERSTRUCTURE DETAILS

SHEET 28 OF 31

99

G72WDET
1-21

8

8

PLOT TIME: 1:07:04 PM

PLOT DATE: 8/1/2023

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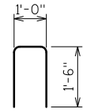

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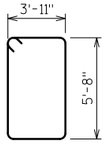

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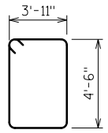

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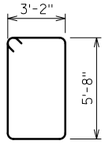

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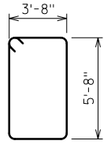

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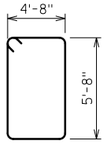

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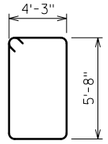

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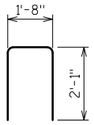

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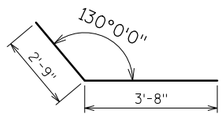

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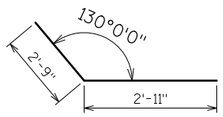

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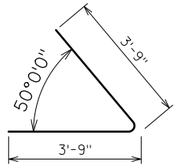

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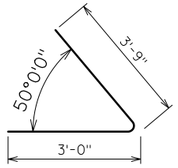

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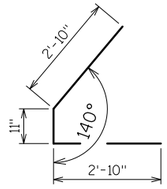

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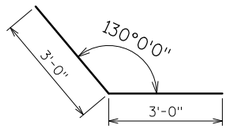

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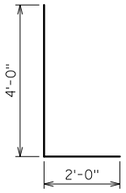

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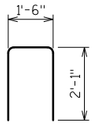

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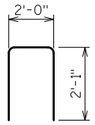

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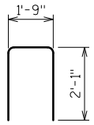

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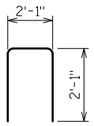

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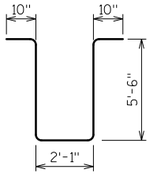

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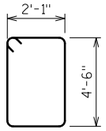

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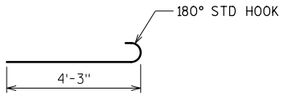

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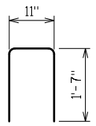

S447

BILL OF BARS — SUPERSTRUCTURE

BAR MARK	COAT	NO. REQ'D.	LENGTH (FT-IN)	BAR SERES	BENT	LOCATION
S401	X	66	3 - 10		X	ABUT DIAPH VERT KEY
S402	X	12	10 - 3			ABUT DIAPH HORIZ KEY
S503	X	90	19 - 10		X	ABUT DIAPH STIRRUP
S504	X	32	17 - 6		X	ABUT DIAPH STIRRUP @ BEAMS
S505	X	2	18 - 4		X	ABUT DIAPH STIRRUP WING 1 & 3
S506	X	2	19 - 4		X	ABUT DIAPH STIRRUP WING 1 & 3
S507	X	1	21 - 4		X	ABUT DIAPH STIRRUP WING 4
S508	X	1	20 - 6		X	ABUT DIAPH STIRRUP WING 4
S509	X	104	5 - 7		X	ABUT DIAPH VERT DOWEL
S610	X	10	6 - 5		X	ABUT DIAPH HORIZ WING 1 & 3 FF
S611	X	4	5 - 8		X	ABUT DIAPH HORIZ WING 1 & 3 FF
S612	X	60	8 - 2			ABUT DIAPH HORIZ BTWN GIRS FF
S613	X	24	7 - 2			ABUT DIAPH HORIZ BTWN GIRS FF
S614	X	10	7 - 4		X	ABUT DIAPH HORIZ WING 2 & 4 FF
S615	X	4	6 - 7		X	ABUT DIAPH HORIZ WING 2 & 4 FF
S616	X	36	28 - 6			ABUT DIAPH HORIZ BF & TOP
S617	X	14	6 - 7		X	ABUT DIAPH HORIZ WING 1 & 3 BF
S618	X	7	6 - 0		X	ABUT DIAPH HORIZ WING 2 BF
S619	X	7	5 - 10		X	ABUT DIAPH HORIZ WING 4 BF
S520	X	2	5 - 5		X	ABUT DIAPH VERT DOWEL WING 1 & 3
S521	X	2	5 - 11		X	ABUT DIAPH VERT DOWEL WING 1 & 3
S522	X	1	5 - 8		X	ABUT DIAPH VERT DOWEL WING 2
S523	X	1	6 - 0		X	ABUT DIAPH VERT DOWEL WING 2
S524	X	16	6 - 0			ABUT DIAPH HORIZ THRU GIRS
S525	X	60	14 - 3		X	PIER DIAPH VERT
S526	X	24	13 - 10		X	PIER DIAPH VERT @ BEAMS
S427	X	48	13 - 8			PIER DIAPH HORIZ
S428	X	12	12 - 4			PIER DIAPH HORIZ
S529	X	50	21 - 3	X		DECK TRANSV TOP
S530	X	312	42 - 2			DECK TRANSV TOP
S531	X	49	20 - 10	X		DECK TRANSV TOP
S532	X	51	21 - 2	X		DECK TRANSV BOTTOM
S533	X	312	42 - 2			DECK TRANSV BOTTOM
S534	X	49	20 - 5	X		DECK TRANSV BOTTOM
S435	X	64	14 - 7			DECK LONGIT TOP
S836	X	64	26 - 6			DECK LONGIT TOP
S837	X	126	40 - 0			DECK LONGIT TOP
S438	X	64	46 - 6			DECK LONGIT TOP
S439	X	62	6 - 8			DECK LONGIT TOP
S840	X	62	31 - 6			DECK LONGIT TOP
S841	X	62	17 - 6			DECK LONGIT TOP
S442	X	93	23 - 10			DECK LONGIT TOP
S443	X	256	52 - 6			DECK LONGIT BOTTOM
S444	X	64	37 - 6			DECK LONGIT BOTTOM
S445	X	358	4 - 10		X	DECK TRANSV TOP EDGE
S846	X	124	30 - 6			DECK LONGIT TOP OVER PIERS
S447	X	4	3 - 11		X	DECK CORNERS AT WING 1 & 3

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

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT.

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

BAR SERIES TABLE — SUPERSTRUCTURE

MARK	NO. REQ'D.	LENGTH (FT-IN)	LOCATION
S529	1 SERIES OF 50	1-9 TO 40-8	DECK TRANSV TOP
S531	1 SERIES OF 49	1-9 TO 39-10	DECK TRANSV TOP
S532	1 SERIES OF 51	1-4 TO 41-0	DECK TRANSV BOTTOM
S534	1 SERIES OF 49	1-4 TO 39-5	DECK TRANSV BOTTOM

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

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-32-245

DRAWN BY RAD | PLANS CK'D. NCK

SUPERSTRUCTURE DETAILS

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PLOT DATE: 8/1/2023
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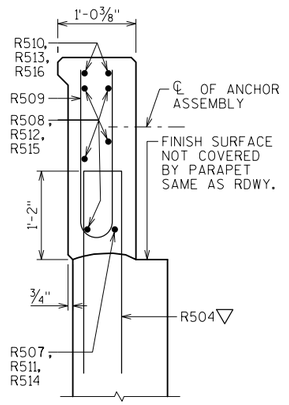

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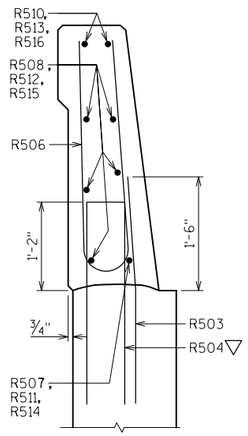

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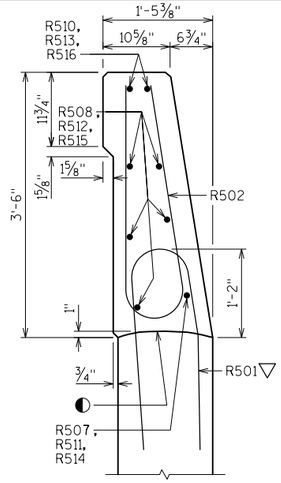

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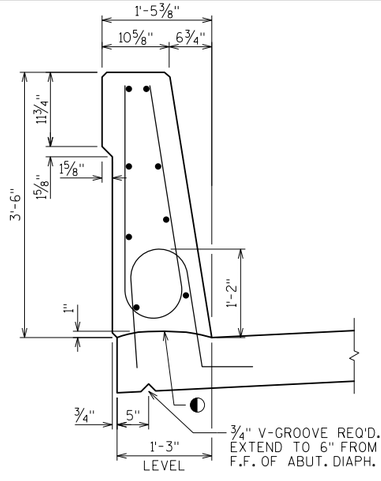
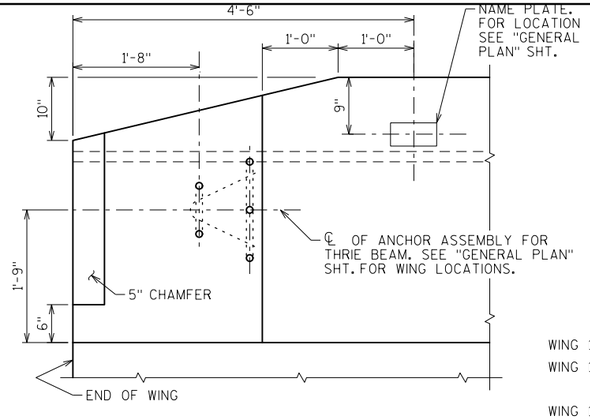


SECTION THRU PARAPET ON DECK

SEE SHEET 31 FOR PARAPET REINFORCEMNET ON DECK



PARAPET END TREATMENT DETAIL

LOOKING AT INSIDE FACE OF PARAPET

STATE PROJECT NUMBER

7323-00-71

BILL OF BARS

FOR ABUTMENT PARAPETS

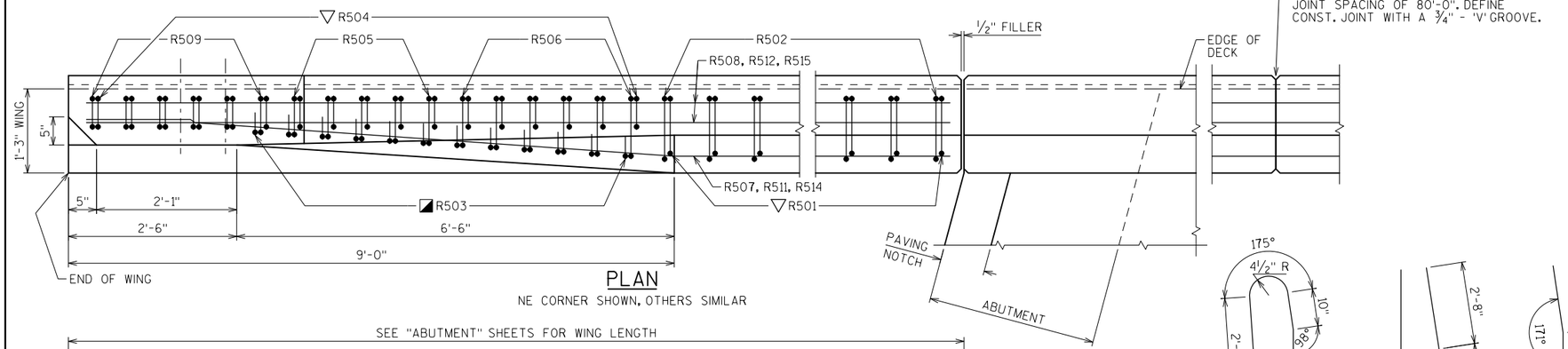
	BAR MARK	COAT	SOUTH ABUT.	NORTH ABUT.	LENGTH	BENT	BAR SERIES	LOCATION
	R501	X	33	40	5'-10	X		PARAPET VERT.
	R502	X	33	40	6'-8"	X		PARAPET VERT.
	R503	X	12	24	3'-0"	X		PARAPET VERT.
	R504	X	17	34	5'-7"	X		PARAPET VERT.
	R505	X	5	10	6'-5"	X		PARAPET VERT.
	R506	X	6	12	6'-6"	X		PARAPET VERT.
WING 1	R507	X	1		30'-7"	X		PARAPET HORIZ.
WING 1	R508	X	5		30'-7"			PARAPET HORIZ.
	R509	X	6	12	5'-5"	X	⚠	PARAPET VERT.
WING 1	R510	X	2		30'-7"	X		PARAPET HORIZ.
WING 3	R511	X		1	23'-7"	X		PARAPET HORIZ.
WING 3	R512	X		5	23'-7"			PARAPET HORIZ.
WING 3	R513	X		2	23'-7"	X		PARAPET HORIZ.
WING 4	R514	X		1	19'-7"	X		PARAPET HORIZ.
WING 4	R515	X		5	19'-7"			PARAPET HORIZ.
WING 4	R516	X		2	19'-7"	X		PARAPET HORIZ.

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

BAR SERIES TABLE

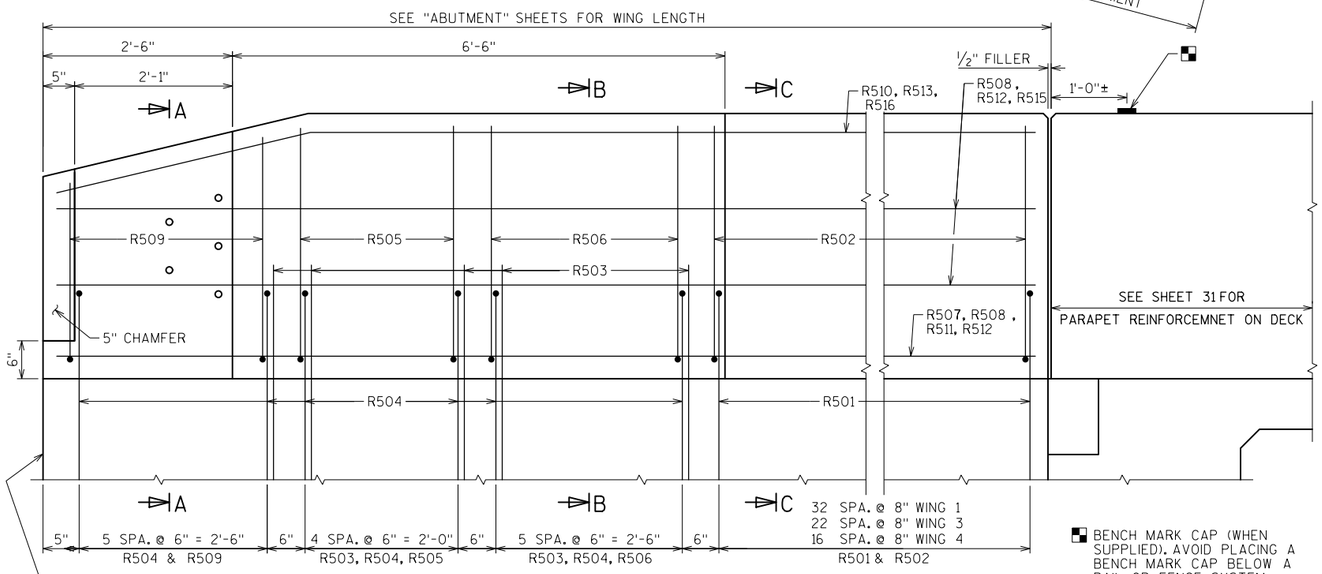
BAR MARK	NO. REQ'D	LENGTH
R509	3 SERIES OF 6	4'-9" TO 6'-1"

BUNDLE AND TAG EACH SERIES SEPARATELY.



PLAN

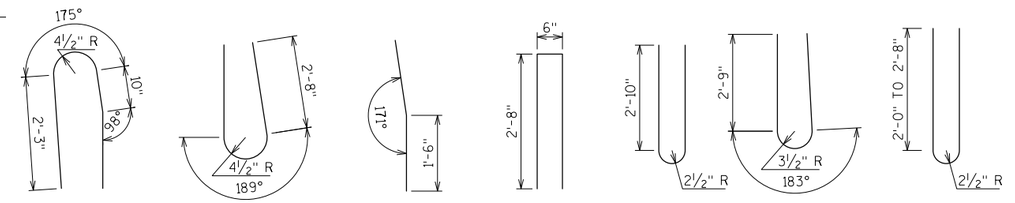
NE CORNER SHOWN, OTHERS SIMILAR



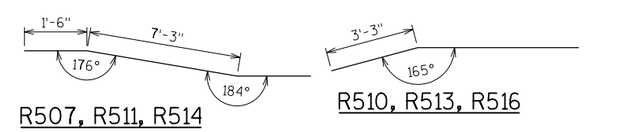
INSIDE ELEVATION

NE CORNER SHOWN, OTHERS SIMILAR

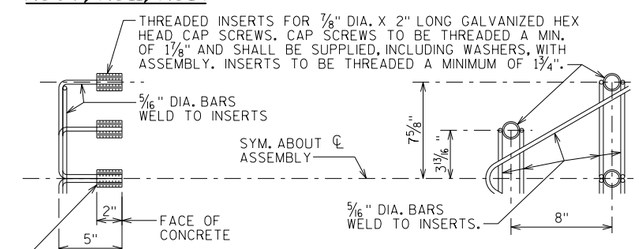
■ BENCH MARK CAP (WHEN SUPPLIED). AVOID PLACING A BENCH MARK CAP BELOW A RAIL OR FENCE SYSTEM THAT IS ATTACHED TO THE TOP OF THE PARAPET.



R501 R502 R503 R504 R505 R506 R509



R507, R511, R514 R510, R513, R516



DETAIL OF ANCHOR ASSEMBLY

NOTE: HEX HEAD CAP SCREWS & WASHERS TO BE GALVANIZED IN ACCORDANCE WITH AASHTO M232 CLASS C.

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

◐ 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 R503 BARS CORRECTLY ALONG TRANSITION OF PARAPET.

▽ R501 AND R504 BARS TO BE TIED TO WING STEEL BEFORE WING IS POURED.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-32-245

DRAWN BY RAD | PLANS CK'D. NCK

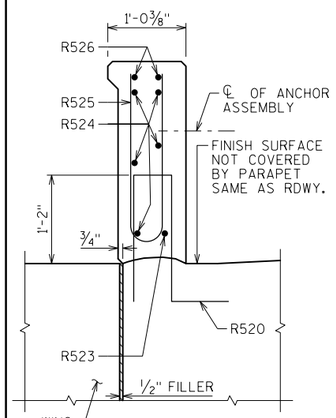
SINGLE SLOPE PARAPET 42SS

SHEET 30 OF 31

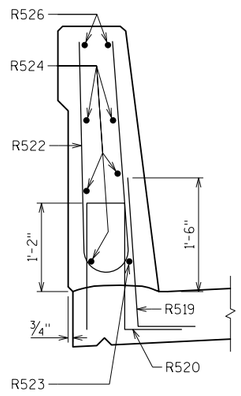
101

8

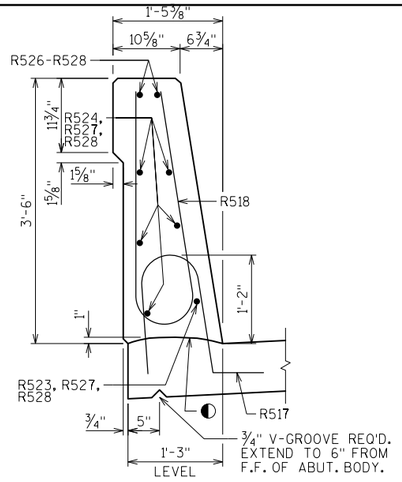
PLOT TIME: 10:07:13 PM
PLOT DATE: 8/1/2023
FILE NAME : X:\KOVL\LCCHD\159874\5-final-dsgn\5i-drawings\20-Struct\B-32-245\Sheet\b32245ri.dgn



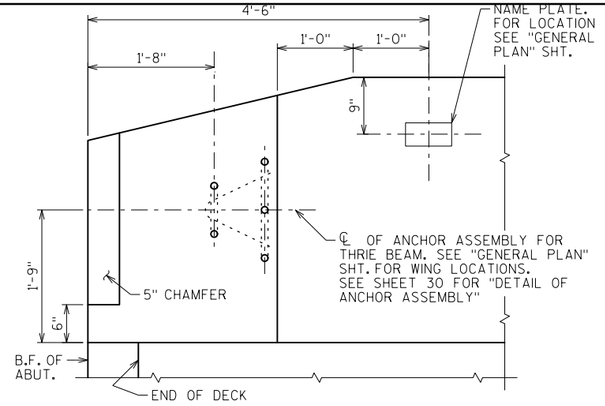
SECTION A-A



SECTION B-B



SECTION C-C



PARAPET END TREATMENT DETAIL

LOOKING AT INSIDE FACE OF PARAPET

STATE PROJECT NUMBER

7323-00-71

BILL OF BARS

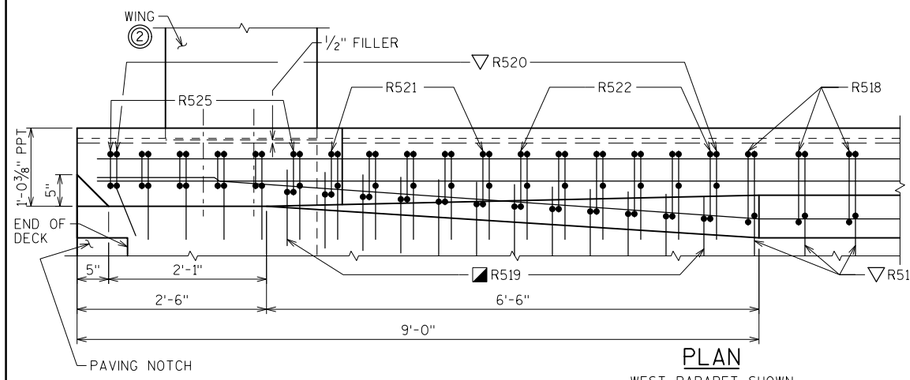
BAR MARK	COAT	WEST RAIL	EAST RAIL	LENGTH	BENT	BAR SERIES	LOCATION
R517	X	350	365	4'-5"	X		PARAPET VERT.
R518	X	350	365	6'-8"	X		PARAPET VERT.
R519	X	12		2'-9"	X		PARAPET VERT.
R520	X	17		4'-4"	X		PARAPET VERT.
R521	X	5		6'-5"	X		PARAPET VERT.
R522	X	6		6'-6"	X		PARAPET VERT.
R523	X	1		20'-0"	X		PARAPET HORIZ.
R524	X	5		20'-0"			PARAPET HORIZ.
R525	X	6		5'-5"	X	◭	PARAPET VERT.
R526	X	2		20'-0"	X		PARAPET HORIZ.
R527	X	48		38'-9"			PARAPET HORIZ.
R528	X		48	42'-0"			PARAPET HORIZ.

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

BAR SERIES TABLE

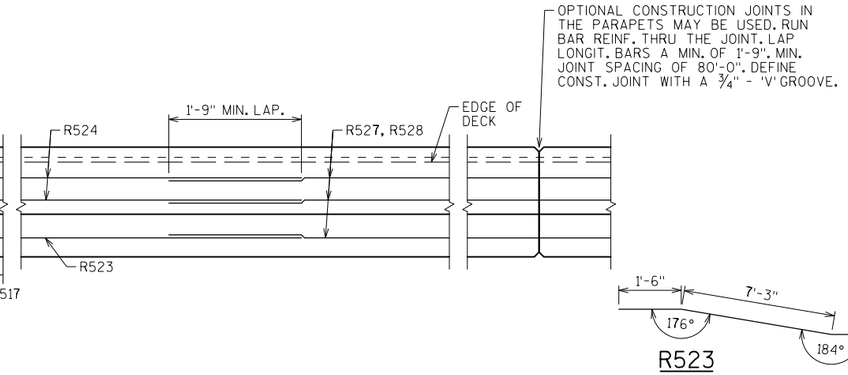
BAR MARK	NO. REQ'D	LENGTH
R525	1 SERIES OF 6	4'-9" TO 6'-1"

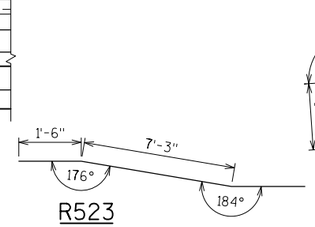
BUNDLE AND TAG EACH SERIES SEPARATELY.

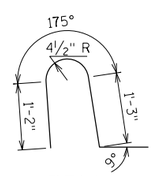


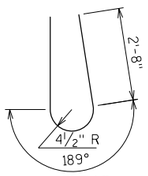
PLAN

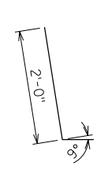
WEST PARAPET SHOWN

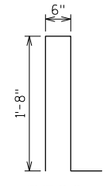


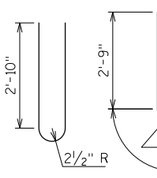


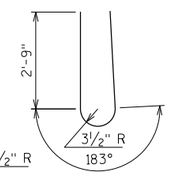


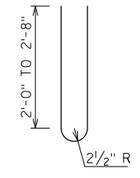


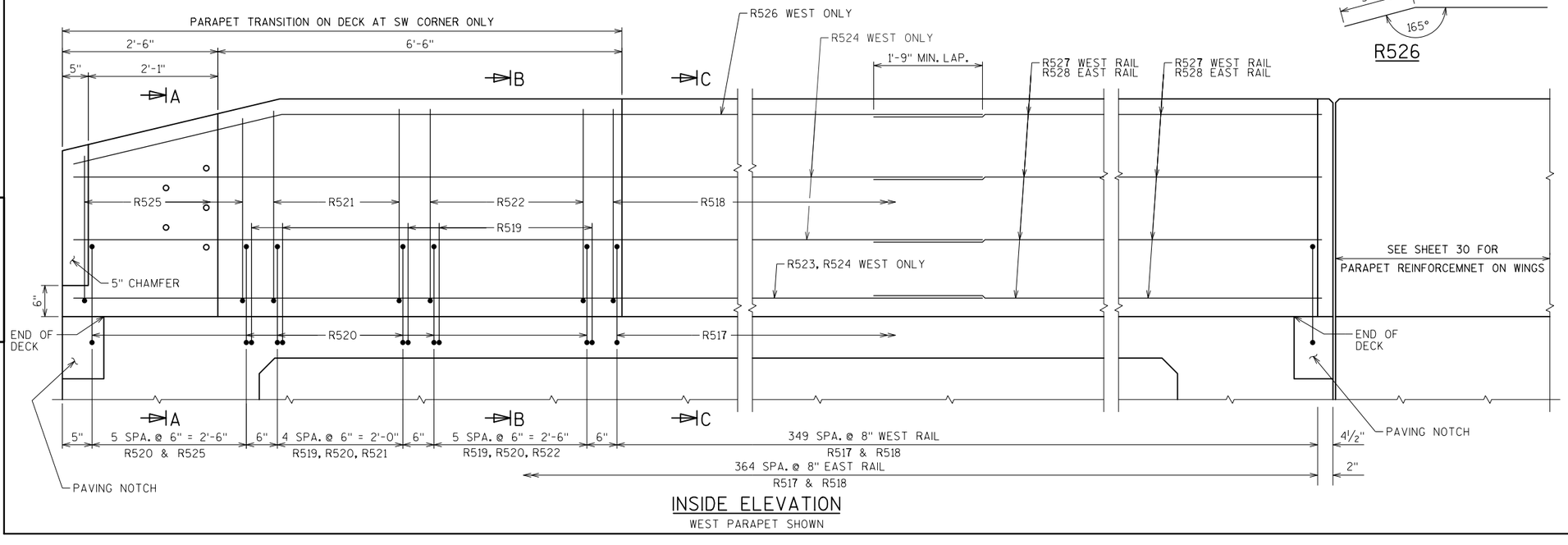












INSIDE ELEVATION

WEST PARAPET SHOWN

◐ CONST. JOINT - STRIKE OFF AS SHOWN

◪ USE CARE TO PLACE R519 BARS CORRECTLY ALONG TRANSITION OF PARAPET.

▽ R517, R519, AND R520 BARS TO BE TIED TO SUPERSTRUCTURE STEEL BEFORE SUPERSTRUCTURE IS POURED.

◎ INDICATES WING NUMBER.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-32-245

DRAWN BY RAD | PLANS CK'D. NCK

SINGLE SLOPE PARAPET 42SS

SHEET 31 OF 31

102

8

8

EARTHWORK

STATION	REAL STATION	DISTANCE	AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)			CUMULATIVE VOL (CY)			
			CUT	FILL	FBS	CUT	FILL	FBS	CUT 1.00 NOTES 1,2	CUT W/ EBS 1.00	EXPANDED FILL 1.30 NOTE 3	MASS ORDINATE NOTE 2
23+69.42	2369.42	0.00	13.24	0.12	1.32	0	0	0	0	0	0	0
24+29.80	2429.80	60.38	87.03	0.80	8.70	112	1	11	112	123	16	96
24+30.00	2430.00	0.20	162.33	0.77	16.23	1	0	0	113	124	16	97
24+33.37	2433.37	3.37	176.59	0.22	17.66	21	0	2	134	147	18	116
24+58.35	2458.35	24.98	192.53	7.95	19.25	171	4	17	305	335	46	260
24+86.45	2486.45	28.10	170.29	9.77	17.03	189	9	19	494	543	82	412
25+00.00	2500.00	13.55	151.59	9.75	15.16	81	5	8	575	632	99	476
25+37.14	2537.14	37.14	133.99	13.92	13.40	196	16	20	771	848	146	625
25+48.39	2548.39	11.25	128.92	20.54	12.89	55	7	5	826	908	161	665
25+82.84	2582.84	34.45	83.60	54.33	8.36	236	48	14	962	1,058	242	720
STRUCTURE B-32-245												
28+31.03	2831.03	0.00	25.57	350.45	2.56	0	0	0	962	1,058	242	720
28+50.00	2850.00	18.97	61.17	213.40	6.12	30	198	4	992	1,092	504	488
28+68.61	2868.61	18.61	65.71	401.26	6.57	44	212	3	1,036	1,139	784	252
28+80.43	2880.43	11.82	66.68	500.83	6.67	29	197	3	1,065	1,171	1,044	21
29+08.54	2908.54	28.11	66.42	445.87	6.64	69	493	7	1,134	1,247	1,694	-560
29+33.54	2933.54	25.00	69.69	384.30	6.97	63	384	6	1,197	1,316	2,201	-1,004
29+43.01	2943.01	9.47	71.58	332.65	7.16	25	126	2	1,222	1,343	2,367	1,145
29+71.11	2971.11	28.10	83.26	206.99	8.33	81	281	8	1,303	1,432	2,743	-1,440
29+96.10	2996.10	24.99	94.48	131.01	9.45	82	156	8	1,385	1,522	2,956	-1,571
30+00.08	3000.08	3.98	99.10	114.69	9.91	14	18	1	1,399	1,537	2,981	-1,582
30+50.00	3050.00	49.92	155.01	28.61	15.50	229	125	23	1,628	1,789	3,173	-1,545
31+00.00	3100.00	50.00	175.65	14.70	17.57	306	40	25	1,934	2,120	3,258	1,324
31+16.00	3116.00	16.00	88.29	1.05	8.83	78	5	7	2,012	2,205	3,273	-1,261

NOTES:

1 - EXISTING ASPHALTIC PAVEMENT IS INCLUDED IN COMMON EXCAVATION TOTALS

2 - EBS IS ASSUMED UNUSABLE AND NOT INLCUDED IN CUMULATIVE CUT VOLUME OR MASS ORDINATE CALUCLATIONS

3 - INCLUDES REQUIRED FILL FOR EBS BACKFILL

9

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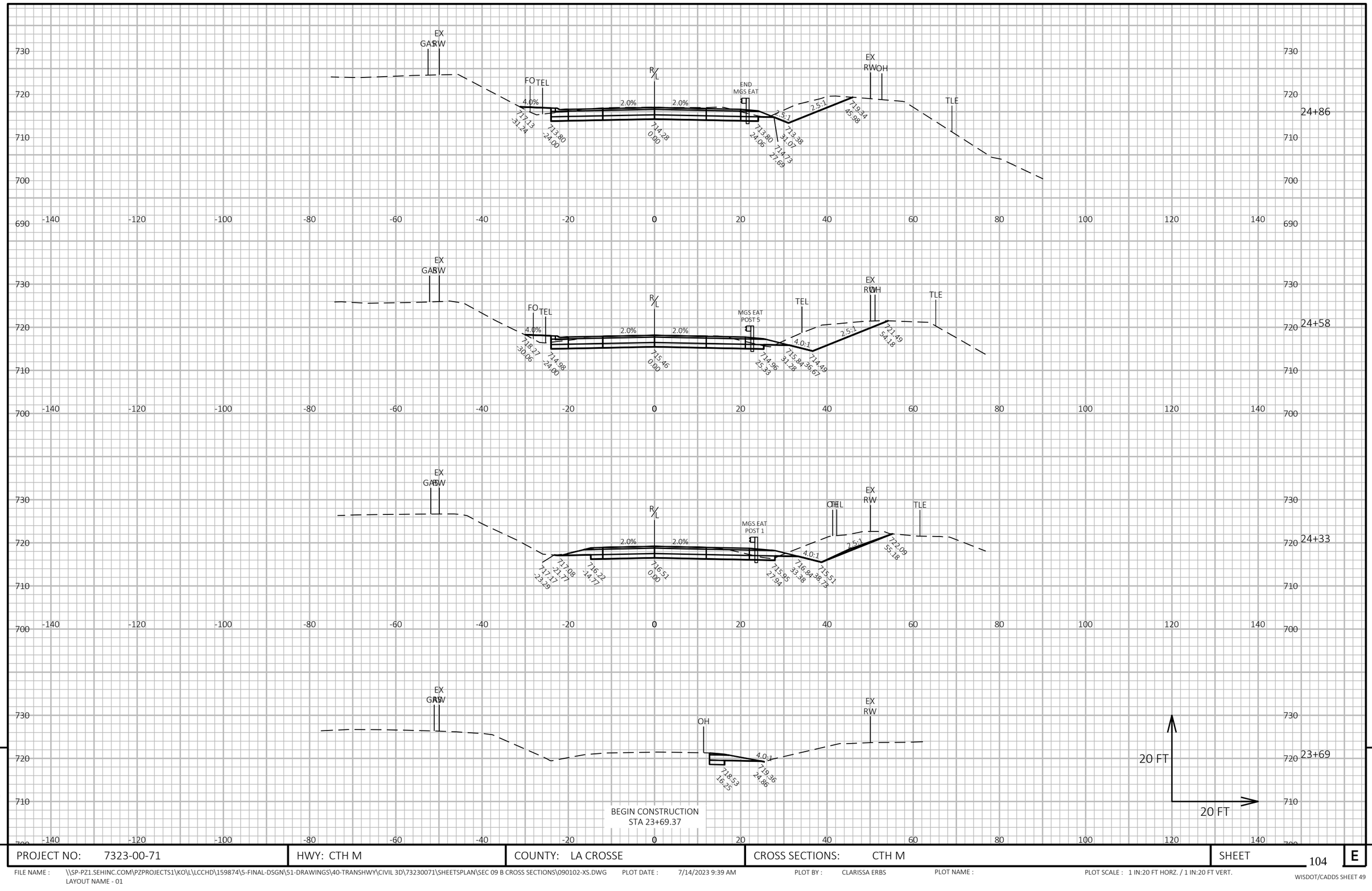
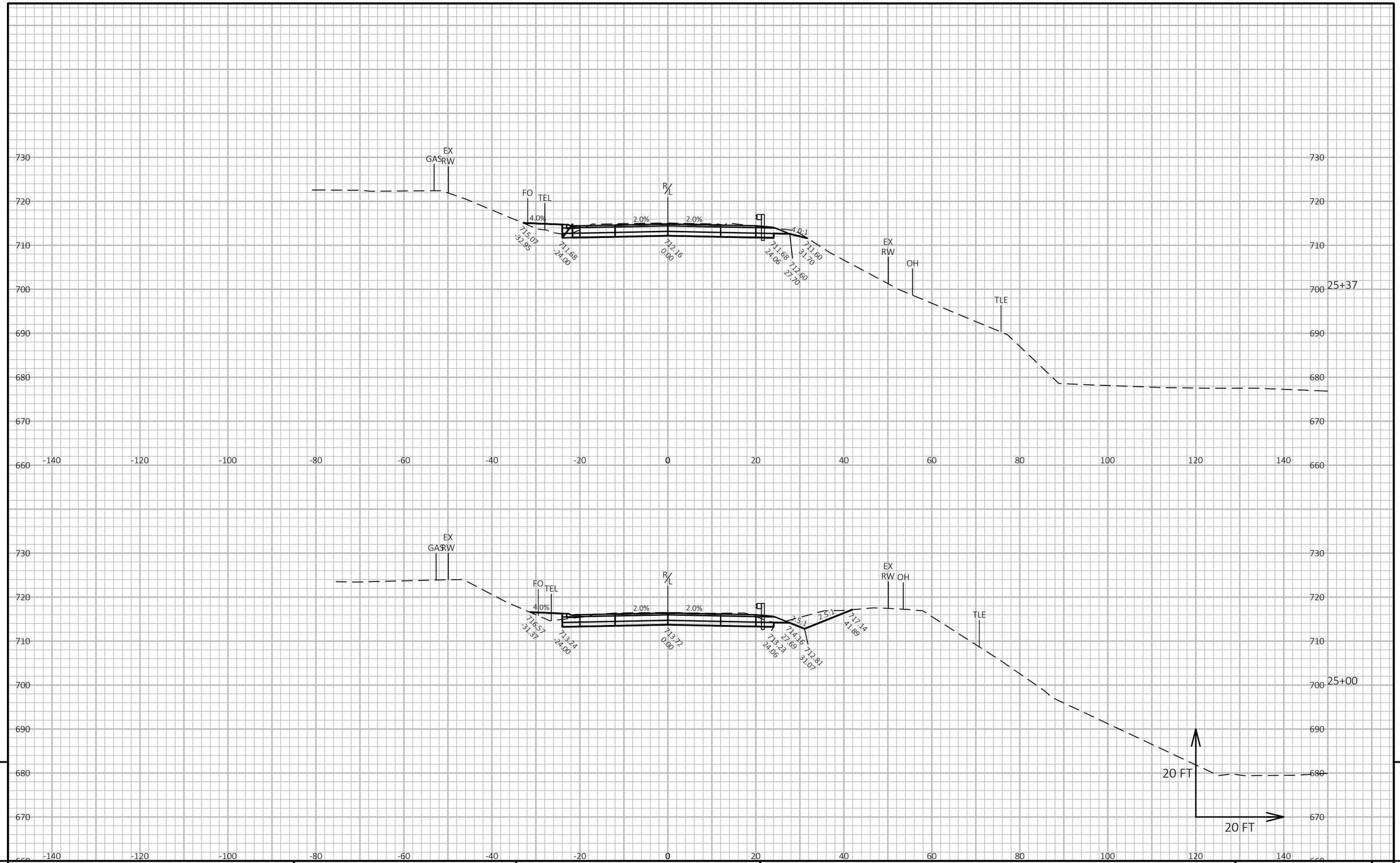
PROJECT NO: 7323-00-71 | HWY: CTH M | COUNTY: LA CROSSE | EARTHWORK DATA | SHEET 103 | E



PROJECT NO: 7323-00-71	HWY: CTH M	COUNTY: LA CROSSE	CROSS SECTIONS: CTH M	SHEET 104	E

FILE NAME : \\SP-PZ1.SEHINC.COM\PZPROJECTS1\KO\L\LCCHD\159874\5-FINAL-DSGN\51-DRAWINGS\40-TRANSHWY\CIVIL 3D\73230071\SHEETSPLAN\SEC 09 B CROSS SECTIONS\090102-XS.DWG
LAYOUT NAME - 01
PLOT DATE : 7/14/2023 9:39 AM
PLOT BY : CLARISSA ERBS
PLOT NAME :
PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:20 FT VERT.
WISDOT/CADDS SHEET 49



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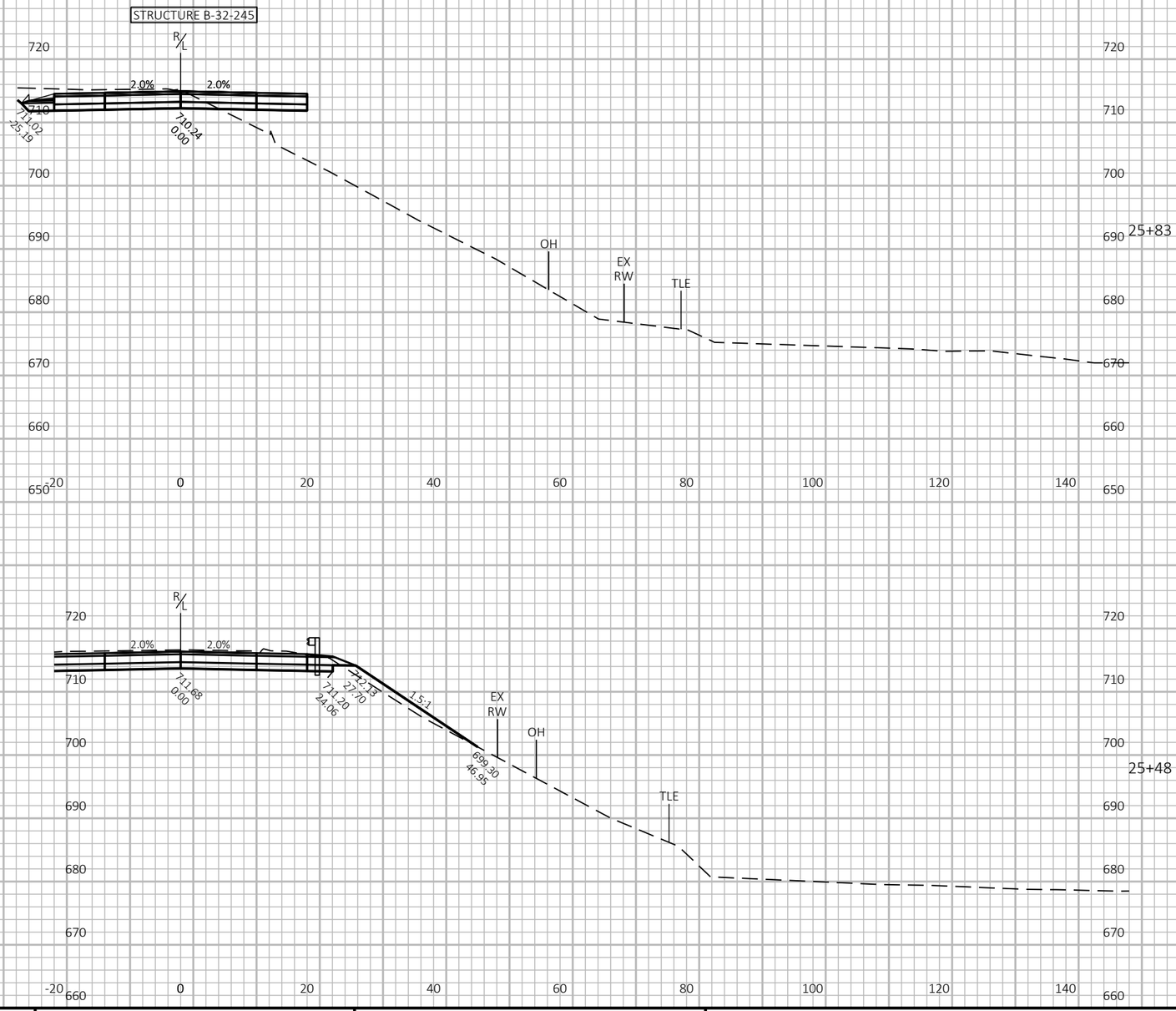
PROJECT NO: 7323-00-71	HWY: CTH M	COUNTY: LA CROSSE	CROSS SECTIONS: CTH M	SHEET 105	E

FILE NAME : \\SP-PZ1.SEHINC.COM\PZPROJECTS1\KO\L\LCCHD\159874\5-FINAL-DSGN\51-DRAWINGS\40-TRANSHWY\CIVIL 3D\73230071\SHEETSPLAN\SEC 09 B CROSS SECTIONS\090102-XS.DWG
LAYOUT NAME - 02

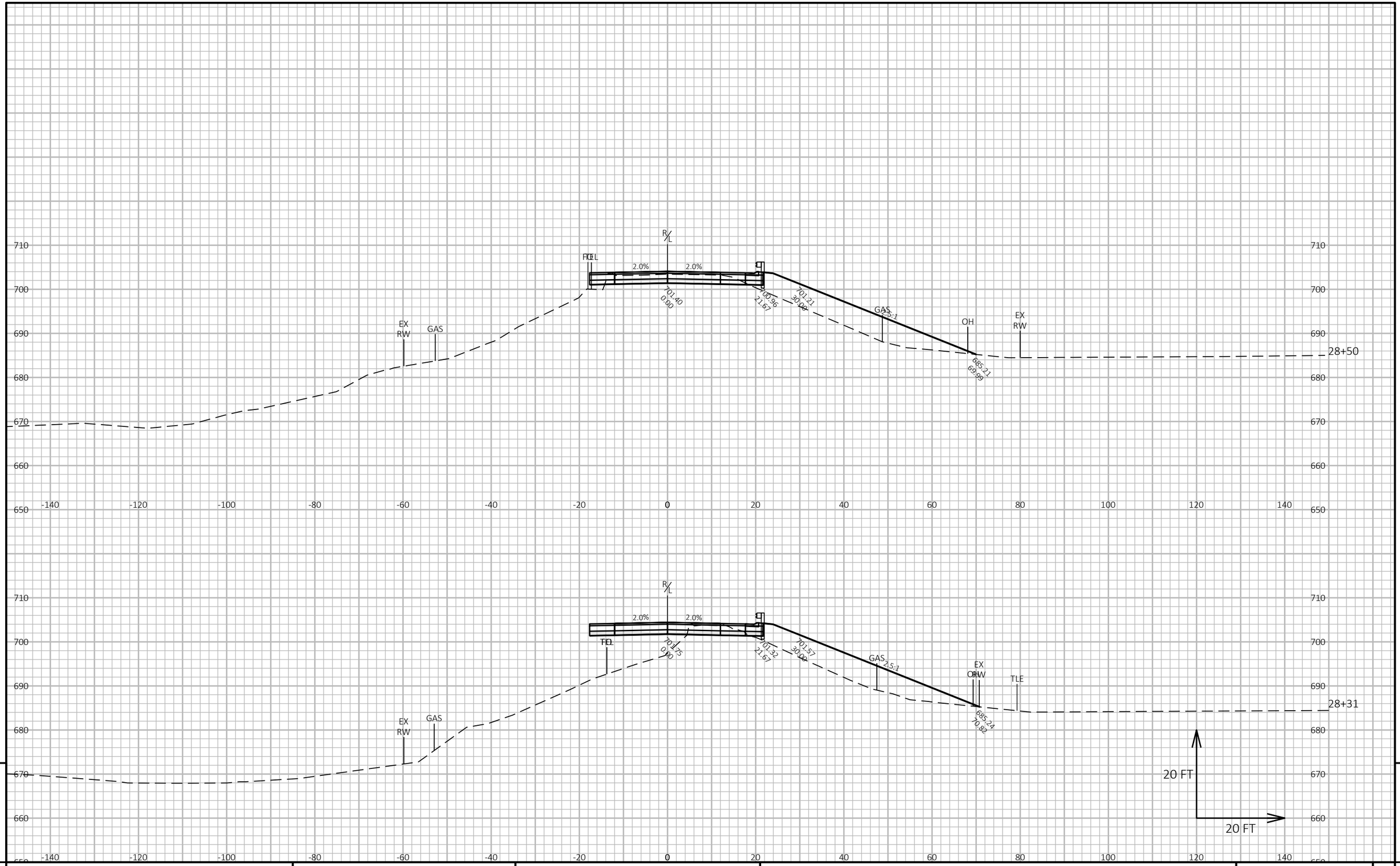
PLOT DATE : 7/14/2023 9:39 AM PLOT BY : CLARISSA ERBS PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:20 FT VERT.

WISDOT/CADDS SHEET 49



PROJECT NO: 7323-00-71	HWY: CTH M	COUNTY: LA CROSSE	CROSS SECTIONS: CTH M	SHEET 106	E

FILE NAME : \\SP-PZ1.SEHINC.COM\PZPROJECTS1\KO\L\LCCHD\159874\5-FINAL-DSGN\51-DRAWINGS\40-TRANSHWY\CIVIL 3D\73230071\SHEETSPLAN\SEC 09 B CROSS SECTIONS\090102-XS.DWG PLOT DATE : 7/14/2023 9:39 AM PLOT BY : CLARISSA ERBS PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:20 FT VERT.
LAYOUT NAME - 03
WISDOT/CADDS SHEET 49



9

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PROJECT NO: 7323-00-71	HWY: CTH M	COUNTY: LA CROSSE	CROSS SECTIONS: CTH M	SHEET 107	E

FILE NAME : \\SP-PZ1.SEHINC.COM\PZPROJECTS1\KO\L\LCCHD\159874\5-FINAL-DSGN\51-DRAWINGS\40-TRANSHWY\CIVIL 3D\73230071\SHEETSPLAN\SEC 09 B CROSS SECTIONS\090102-XS.DWG
LAYOUT NAME - 04

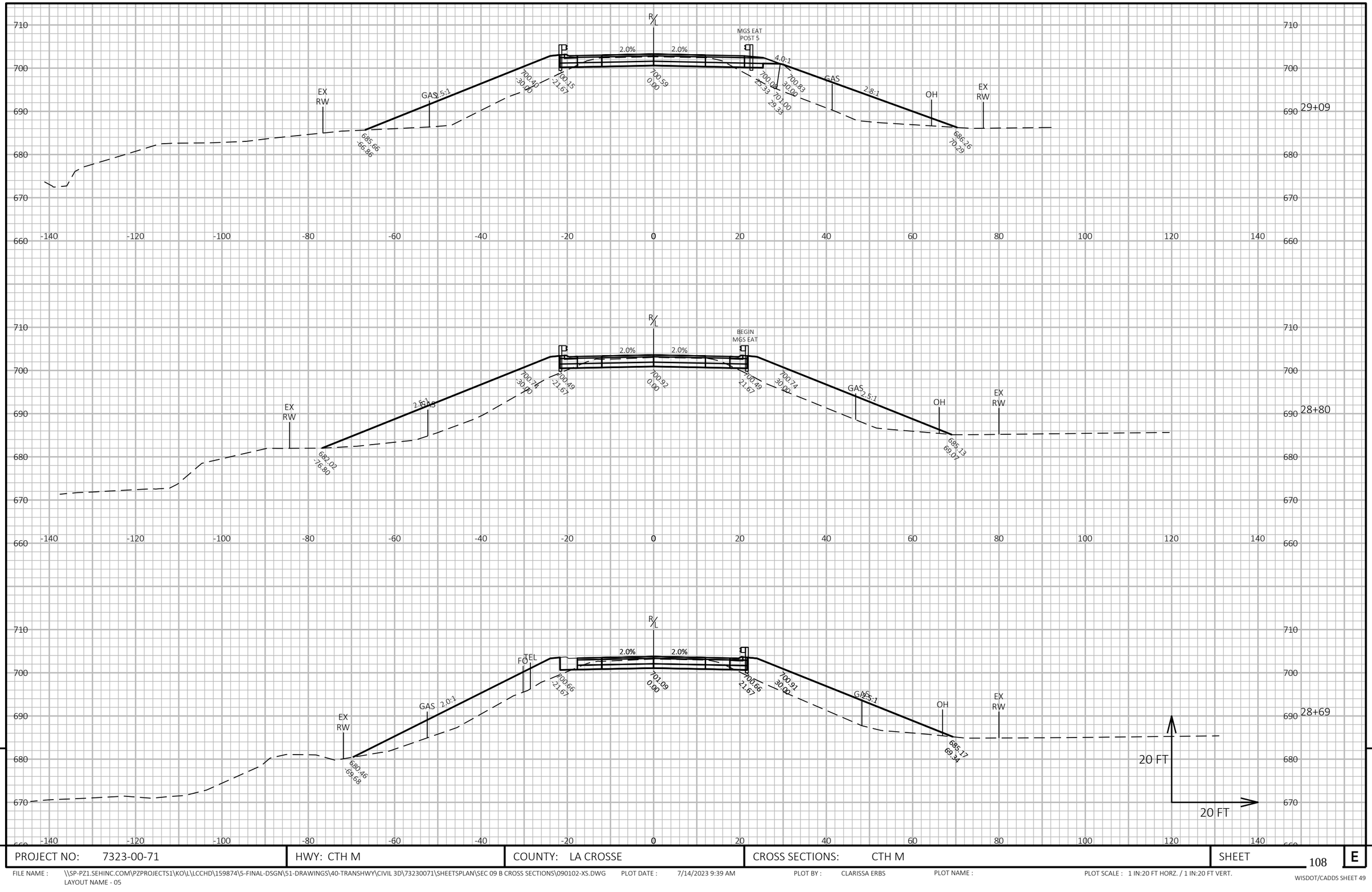
PLOT DATE : 7/14/2023 9:39 AM

PLOT BY : CLARISSA ERBS

PLOT NAME :

PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:20 FT VERT.

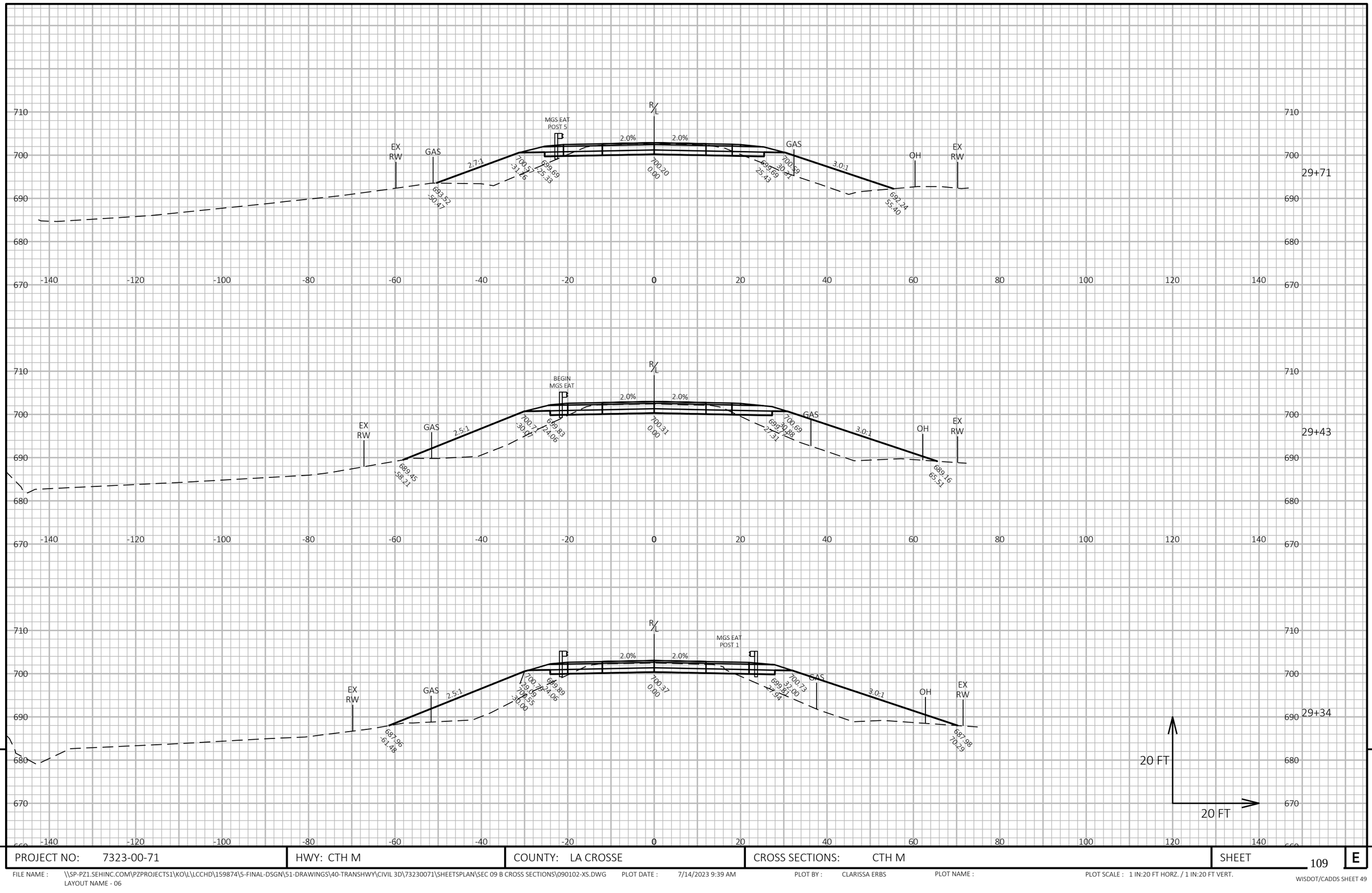
WISDOT/CADDS SHEET 49



9 9

PROJECT NO: 7323-00-71	HWY: CTH M	COUNTY: LA CROSSE	CROSS SECTIONS: CTH M	SHEET 108	E

FILE NAME : \\SP-PZ1.SEHINC.COM\PZPROJECTS1\KO\L\LCCHD\159874\5-FINAL-DSGN\51-DRAWINGS\40-TRANSHWY\CIVIL 3D\73230071\SHEETSPLAN\SEC 09 B CROSS SECTIONS\090102-XS.DWG PLOT DATE : 7/14/2023 9:39 AM PLOT BY : CLARISSA ERBS PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:20 FT VERT.
LAYOUT NAME - 05



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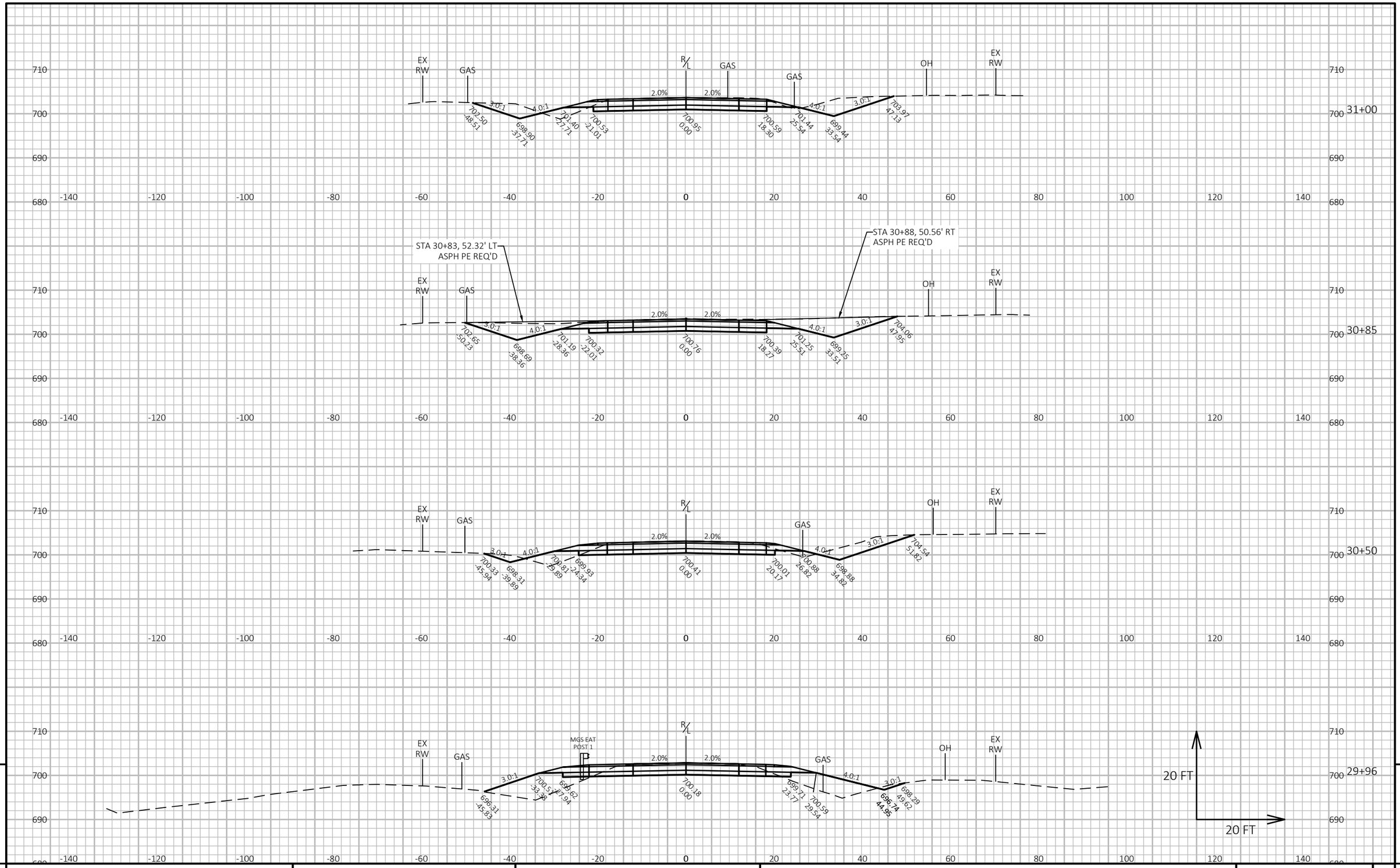
PROJECT NO: 7323-00-71	HWY: CTH M	COUNTY: LA CROSSE	CROSS SECTIONS: CTH M	SHEET 109	E

FILE NAME : \\SP-PZ1.SEHINC.COM\PZPROJECTS1\KO\L\LCCHD\159874\5-FINAL-DSGN\51-DRAWINGS\40-TRANSHWY\CIVIL 3D\73230071\SHEETSPLAN\SEC 09 B CROSS SECTIONS\090102-XS.DWG
LAYOUT NAME - 06
PLOT DATE : 7/14/2023 9:39 AM
PLOT BY : CLARISSA ERBS
PLOT NAME :
PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:20 FT VERT.
WISDOT/CADDS SHEET 49



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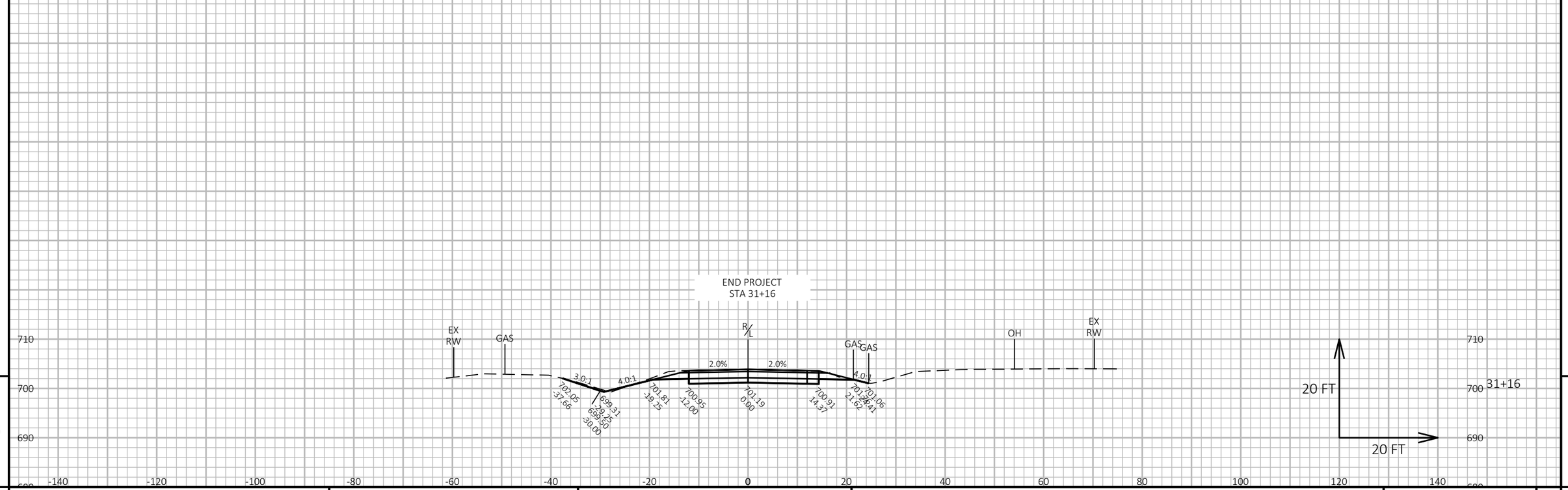
PROJECT NO: 7323-00-71	HWY: CTH M	COUNTY: LA CROSSE	CROSS SECTIONS: CTH M	SHEET 110	E

FILE NAME : \\SP-PZ1.SEHINC.COM\PZPROJECTS1\KO\L\LCCHD\159874\5-FINAL-DSGN\51-DRAWINGS\40-TRANSHWY\CIVIL 3D\73230071\SHEETSPLAN\SEC 09 B CROSS SECTIONS\090102-XS.DWG PLOT DATE : 7/14/2023 9:39 AM PLOT BY : CLARISSA ERBS PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:20 FT VERT.
LAYOUT NAME - 07

WISDOT/CADDS SHEET 49



9

9

PROJECT NO: 7323-00-71	HWY: CTH M	COUNTY: LA CROSSE	CROSS SECTIONS: CTH M	SHEET 111	E

FILE NAME : \\SP-PZ1.SEHINC.COM\PZPROJECTS1\KO\L\LCCHD\159874\5-FINAL-DSGN\51-DRAWINGS\40-TRANSHWY\CIVIL 3D\73230071\SHEETSPLAN\SEC 09 B CROSS SECTIONS\090102-XS.DWG
LAYOUT NAME - 08

PLOT DATE : 7/14/2023 9:39 AM

PLOT BY : CLARISSA ERBS

PLOT NAME :

PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:20 FT VERT.

WISDOT/CADDS SHEET 49

Wisconsin Department of Transportation

Dedicated people creating transportation solutions
through innovation and exceptional service.

http://www.dot.wisconsin.gov