LAX

AUGUST 2021

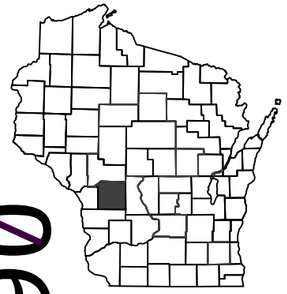
PROJECT ID: 5130-00-80

WITH: N/A

COUNTY: MONROE

ORDER OF SHEETS

TOTAL SHEETS = 164



06

N

DESIGN DESIGNATION

A.A.D.T.	2022	=	2800
A.A.D.T.	2042	=	3400
D.H.V.		=	306
D.D.		=	60/40
T.		=	10.6%
DESIGN SPEED		=	40 MPH
ESALS		=	720,000

CONVENTIONAL SYMBOLS

PLAN

- CORPORATE LIMITS
- PROPERTY LINE
- LOT LINE
- LIMITED HIGHWAY EASEMENT
- EXISTING RIGHT OF WAY
- PROPOSED OR NEW R/W LINE
- SLOPE INTERCEPT
- REFERENCE LINE (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

WILTON - ELROY

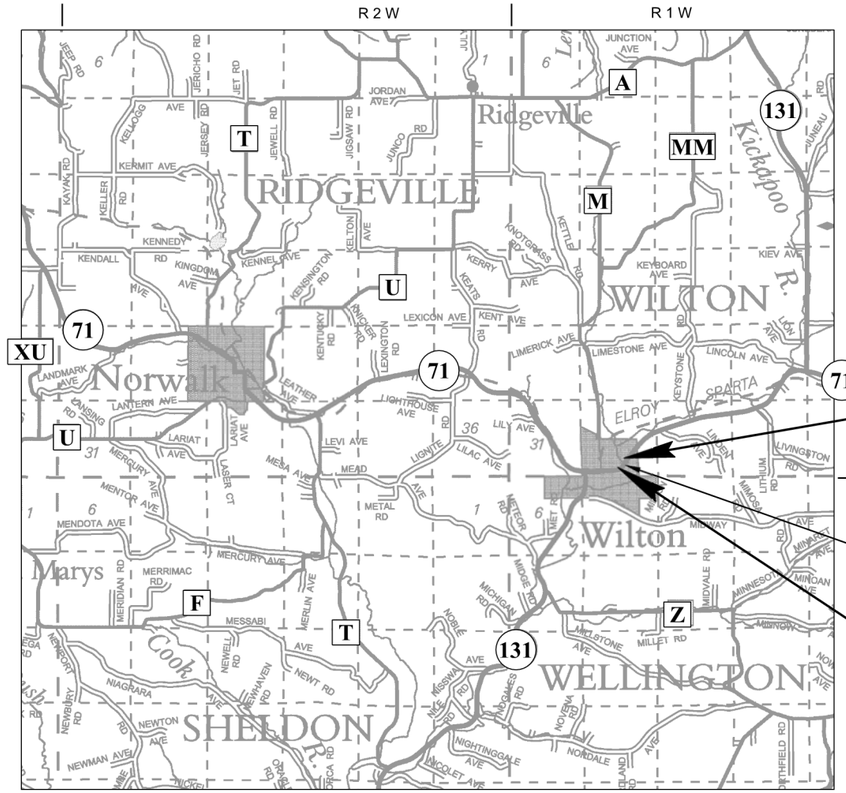
KICKAPOO RIVER BRIDGE, B-41-0303

STH 71

MONROE COUNTY

STATE PROJECT NUMBER
5130-00-80

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
5130-00-80	WISC 2021448	1



LAYOUT

SCALE 0 2 MI

TOTAL NET LENGTH OF CENTERLINE = 0.129 MI

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

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 54601-4034
608.782.3161 main | 888.908.8166 fax
www.sehinc.com

WISCONSIN
TOREY R. LEONARD
E-42982-6
HOLMEN, WI
PROFESSIONAL ENGINEER

4/16/2021 (Date) (Signature)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	SEH
Designer	SEH
Project Manager	CRAIG FISHER
Regional Examiner	SW REGION
Regional Supervisor	IAN WINGER

APPROVED FOR THE DEPARTMENT

DATE: 4/19/2021 (Signature)

E

FILE NAME : \\SEHLX\PROJECTS\UZ\W\WITSW\147349\CIVIL 3D\51300000\SHEETSPLAN\SEC 01 TITLE\010101-TI.DWG

PLOT DATE : 3/27/2021 3:14 PM

PLOT BY : SEH INC

PLOT NAME :

GENERAL NOTES

ELEVATIONS SHOWN ON THE PLAN ARE REFERENCED TO THE APPROXIMATE USGS DATUM.

WHEN THE QUANTITY OF BASE AGGREGATE OR ASPHALTIC SURFACE IS MEASURED FOR PAYMENT BY THE TON OR CUBIC YARD, THE DEPTH OR THICKNESS OF THE LAYER SHOWN ON THE PLANS IS APPROXIMATE AND THE ACTUAL THICKNESS WILL DEPEND ON THE DISTRIBUTION OF THE MATERIAL AS DIRECTED BY THE ENGINEER.

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

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

THE EXACT LOCATION OF THE EROSION CONTROL DEVICES SHALL BE DETERMINED IN THE FIELD.

UNLESS OTHERWISE SHOWN,DISTURBED AREAS WITHIN THE RIGHT-OF-WAY, EXCEPT THE AREAS WITHIN THE FINISHED SHOULDER POINTS, ARE TO BE 4-INCH SALVAGED TOPSOILED, FERTILIZED, AND SEEDED AND MULCHED OR EROSION MATTED.

THE LOCATION OF ALL DRIVEWAYS WILL BE DETERMINED BY THE ENGINEER.

A VERTICAL SAWCUT SHALL BE MADE THROUGH EXISTING PAVEMENTS AT REMOVAL LIMITS.

EXCAVATION BELOW SUBGRADE (EBS) IS NOT USED TO BALANCE YARDAGE AND IS NOT SHOWN ON THE CROSS SECTIONS BUT IS MEASURED AND PAID FOR AS COMMON EXCAVATION.

THE 4.5" HMA PAVEMENT 4 LT 58-28 S SHALL CONSIST OF A 2" UPPER LAYER AND A 2.5" LOWER LAYER.

THE CONTRACTOR'S PAVING OPERATIONS SHALL BE CONSISTENT WITH THE PLAN TYPICAL SECTIONS AND CONSTRUCTED TO PREVENT HMA LONGITUDINAL JOINTS FROM BEING LOCATED WITHIN A DRIVING, TURNING, PASSING, OR PARKING LANE.

SILT FENCE IS TO BE PLACED AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER, AND IN PLACE PRIOR TO BRIDGE REMOVAL.

BEARINGS SHOWN ON THE PLAN ARE REFERENCED TO THE EXISTING ROADWAY CENTERLINE AND ARE ASSUMED.

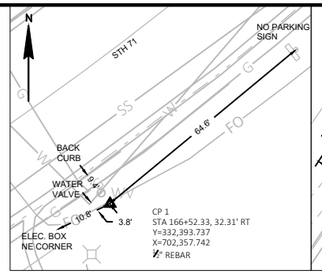
WETLANDS ARE PRESENT OUTSIDE OF THE EXISTING TOE OF SLOPES. AREAS OUTSIDE OF THE SLOPE INTERCEPTS SHALL NOT BE DISTURBED.

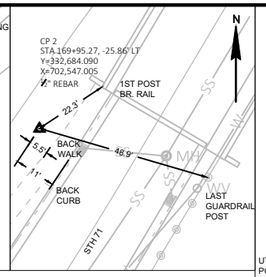
A CONVERSION FACTOR OF 2.1 TONS/CY IS USED TO ESTIMATE QUANTITIES FOR BASE AGGREGATE DENSE 3/4-INCH.

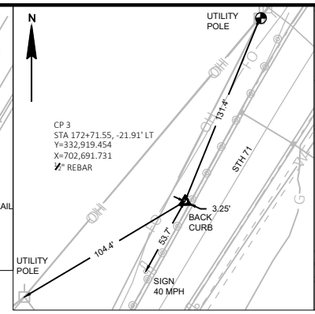
A CONVERSION FACTOR OF 2.0 TONS/CY IS USED TO ESTIMATE QUANTITIES FOR BASE AGGREGATE DENSE 1 1/4-INCH.

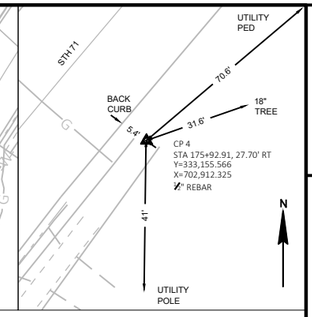
A CONVERSION FACTOR OF 1.8 TONS/CY IS USED TO ESTIMATE QUANTITIES FOR SELECT CRUSHED MATERIAL.

A CONVERSION FACTOR OF 112 LBS/IN/SY IS USED TO ESTIMATE QUANTITIES FOR HMA PAVEMENT.









CONTROL TIES

STANDARD ABBREVIATIONS

ABUT	ABUTMENT	CWT	HUNDREDWEIGHT
AC	ACRE	HYD	HYDRANT
AGG	AGGREGATE	ID	INSIDE DIAMETER
AECPRC	APRON ENDWALL FOR CULVERT PIPE REINFORCED CONCRETE	INV	INVERT
		IP	IRON PIPE OR PIN
AECPCS	APRON ENDWALL FOR CULVERT PIPE CORRUGATED STEEL	LHF	LEFT-HAND FORWARD
		L	LENGTH OF CURVE
ASPH	ASPHALTIC	LF	LINEAR FOOT
AVG	AVERAGE	LC	LONG CHORD OF CURVE
ADT	AVERAGE DAILY TRAFFIC	LS	LUMP SUM
BF	BACK FACE	MH	MANHOLE
BM	BENCH MARK	MOR	MID POINT OF RADIUS
BR	BRIDGE	MCE	MARKERS CULVERT END
CE	COMMERCIAL ENTRANCE	NC	NORMAL CROWN
CL OR C/L OR ℄	CENTER LINE	NO	NUMBER
Δ	CENTRAL ANGLE OR DELTA	OBLIT	OBLITERATE
CONC	CONCRETE	PAVT	PAVEMENT
CPRC	CULVERT PIPE REINFORCED CONCRETE	PE	PRIVATE ENTRANCE
CPCS	CULVERT PIPE CORRUGATED STEEL	PVRC	POINT OF VERTICAL REVERSE CURVE
CR	CREEK	QOR	QUARTER POINT OF RADIUS
CY	CUBIC YARD	R	RADIUS
C & G	CURB AND GUTTER	REQ'D	REQUIRED
D	DEGREE OF CURVE	RES	RESIDENCE OR RESIDENTIAL
DHV	DESIGN HOUR VOLUME	RHF	RIGHT-HAND FORWARD
DISCH	DISCHARGE	R/W	RIGHT-OF-WAY
DG	DITCH GRADE	R	RIVER
DWY	DRIVEWAY	RDWY	ROADWAY
X	EAST GRID COORDINATE	R/L OR ~	REFERENCE LINE
EAT	STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL	SALV	SALVAGED
		SAN	SANITARY SEWER
EOR	END POINT OF RADIUS	SF	SQUARE FEET
EL	ELEVATION	SY	SQUARE YARD
ENT	ENTRANCE	SDD	STANDARD DETAIL DRAWINGS
ESALS	EQUIVALENT SINGLE AXLE LOADS	STA	STATION
EXC	EXCAVATION	SS	STORM SEWER
EBS	EXCAVATION BELOW SUBGRADE	SSPRC	STORM SEWER PIPE REINFORCED CONCRETE
EXIST	EXISTING	SE	SUPERELEVATION RATE
FC	FACE OF CURB	TC	TOP OF CURB
FF	FACE TO FACE	T OR TN	TOWN
FERT	FERTILIZE	T	TRUCKS (PERCENT OF)
FE	FIELD ENTRANCE	TYP	TYPICAL
FL	FLOW LINE	VAR	VARIABLE
FO	FIBER OPTIC	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)			SLOPE RANGE (PERCENT)		
LAND USE:	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER
ROW CROPS	.08 .22	.16 .30	.22 .38	.12 .26	.20 .34	.27 .44	.15 .30	.24 .37	.33 .50	.19 .34	.28 .41	.38 .56
MEDIAN STRIP-TURF	.19 .24	.20 .26	.24 .30	.19 .25	.22 .28	.26 .33	.20 .26	.23 .30	.30 .37	.20 .27	.25 .32	.30 .40
SIDE SLOPE-TURF			.25 .32			.27 .34			.28 .36			.30 .38
PAVEMENT:												
ASPHALT	.70 - .95											
CONCRETE	.80 - .95											
BRICK	.70 - .80											
DRIVES, WALKS	.75 - .85											
ROOFS	.75 - .95											
GRAVEL ROADS, SHOULDERS	.40 - .60											

TOTAL PROJECT AREA = 2.23 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 2.33 ACRES

ORDER OF SECTION 2 SHEETS

DESIGN CONTACTS

SEH
ATTENTION: TOREY LEONARD
329 JAY STREET, SUITE 301
LA CROSSE, WI 54601
PHONE: 608.498.4019
EMAIL: TLEONARD@SEHINC.COM

WISDOT SW REGION
ATTENTION: CRAIG FISHER
3550 MORMON COULEE RD
LA CROSSE, WI 54601
PHONE: 608.785-9946
EMAIL: CRAIG.FISHER@DOT.WI.GOV

WDNR LIASON
DNR SERVICE CENTER
ATTENTION: KAREN KALVELAGE
3550 MORMON COULEE RD
LA CROSSE, WI 54601
PHONE: 608.785.9115
EMAIL: KAREN.KALVELAGE@WISCONSIN.GOV

UTILITY CONTACTS

ALLIANT ENERGY - ELECTRICITY
ATTENTION: MARY MONTGOMERY
200 FIRST ST
CEDAR RAPIDS, IA 52401
PHONE: 319.786.4768
EMAIL: MARYMONTGOMERY@ALLIANTENERGY.COM

CENTURYLINK - COMMUNICATION
ATTENTION: MONTY PARKER
20 S. WILSON AVE.
RICE LAKE, WI 54868
PHONE: 715.234.5528
EMAIL: MONTY.PARKER@CENTURYLINK.COM

MEDIACOM WISCONSIN LLC - COMMUNICATION
ATTENTION: CRAIG EGGERT
207 W PEARLE ST
P.O. BOX 226
DECORAH, IA 52101-0226
PHONE: 563.419.5160
EMAIL: CEGGERT@MEDIACOMCC.COM

MADISON GAS AND ELECTRIC COMPANY - GAS/PETROLEUM
ATTENTION: JANE ROSSING
P.O. BOX 1231
MADISON, WI 53701-1231
PHONE: 608.252.7099
EMAIL: WORKPLANS@MGE.COM

VILLAGE OF WILTON - WATER
ATTENTION: VILLAGE CLERK
400 EAST STREET
WILTON, WI 54670
PHONE: 608.435.6666
EMAIL: VILLAGEOFWILTON@CENTURYTEL.NET

2

N

END PROJECT
STA 174+00.00

BEGIN PROJECT 5130-00-80
STA 167+20.00

PROPOSED
STRUCTURE
B-41-303

EXISTING
STRUCTURE
B-41-15

TEMPORARY ONE-WAY
BY-PASS BRIDGE

TEMPORARY ONE-WAY BY-PASS
PAVEMENT AND SIDEWALK

KICKAPOO RIVER

KICKAPOO RIVER

STH 71/131 (WALKER ST)

BLDG

MH

GUY

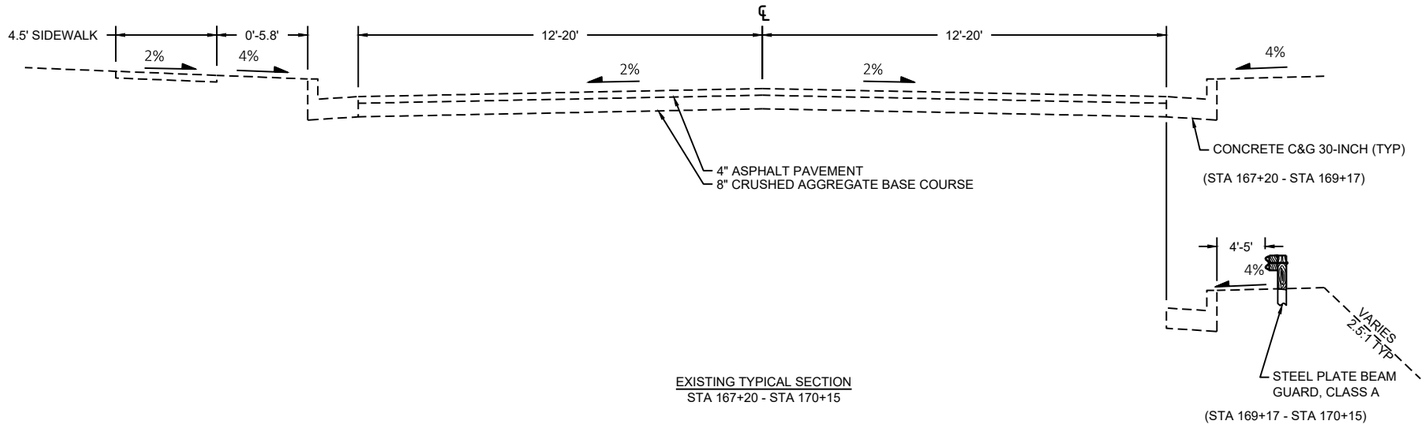
POST

PROJECT NO: 5130-00-80	HWY: STH 71	COUNTY: MONROE	PROJECT OVERVIEW	SHEET 3	E

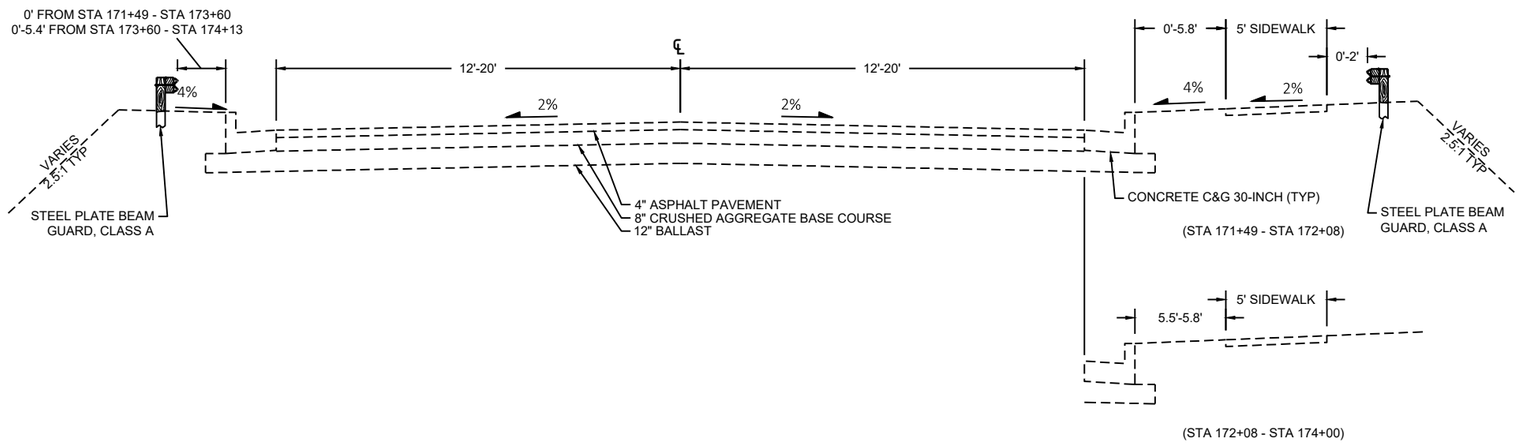
FILE NAME : \\SEHLX\PROJECTS\UZ\W\WITSW\147349\CIVIL 3D\51300000\SHEETSPLAN\SEC 02 DETAILS\020201-PO (PROJECT OVERVIEW).DWG
LAYOUT NAME - 01

PLOT DATE : 3/27/2021 3:15 PM PLOT BY : SEH PLOT NAME : PLOT SCALE : 1 IN:100 FT

2



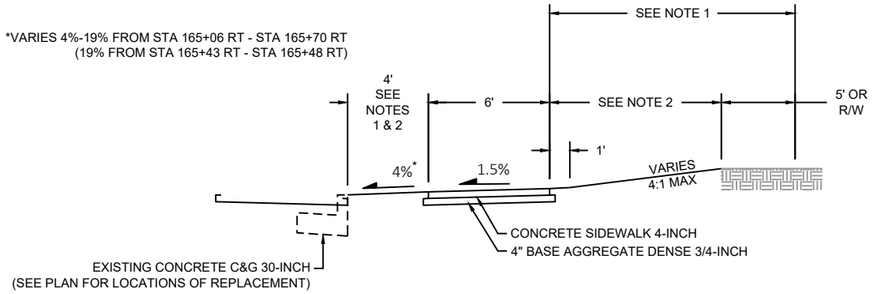
EXISTING TYPICAL SECTION
STA 167+20 - STA 170+15



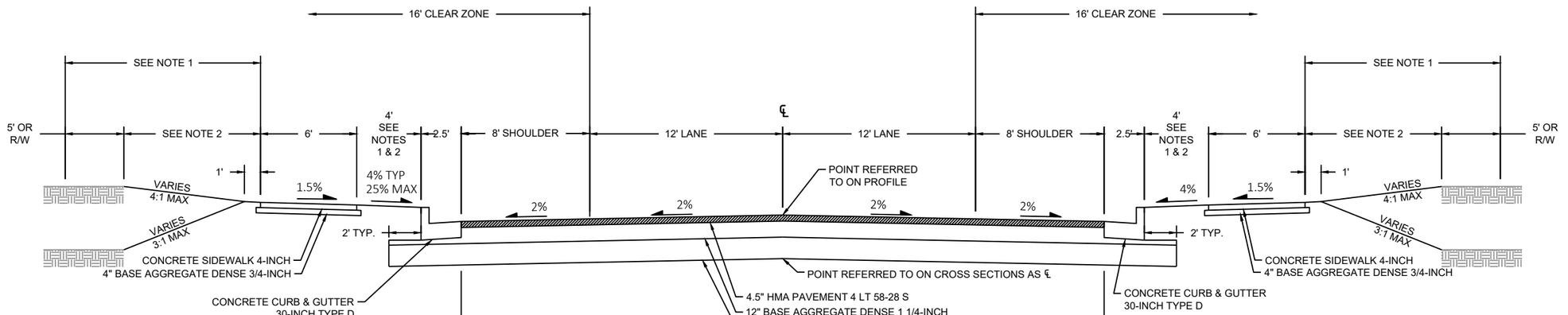
EXISTING TYPICAL SECTION
STA 171+49 - STA 174+00

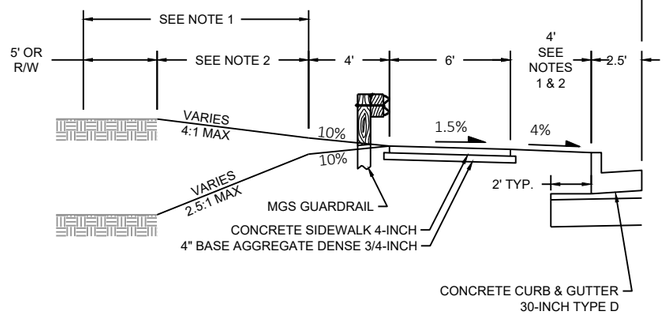
PROJECT NO: 5130-00-80	HWY: STH 71	COUNTY: MONROE	TYPICAL SECTIONS	SHEET 4	E

NOTES:
1. SEEDING, FERTILIZER TYPE B, AND EROSION MAT LIMITS
2. SALVAGED TOPSOIL LIMITS
3. BASE BELOW CONCRETE PAVEMENT APPROACH SLABS SHALL CONSIST 4.5" OF BASE AGGREGATE DENSE 1 1/4-INCH OVER 16" SELECT CRUSHED MATERIAL.
4. BASE BELOW CONCRETE PAVEMENT 8-INCH SHALL CONSIST 8.5" OF BASE AGGREGATE DENSE 1 1/4-INCH OVER 16" SELECT CRUSHED MATERIAL.

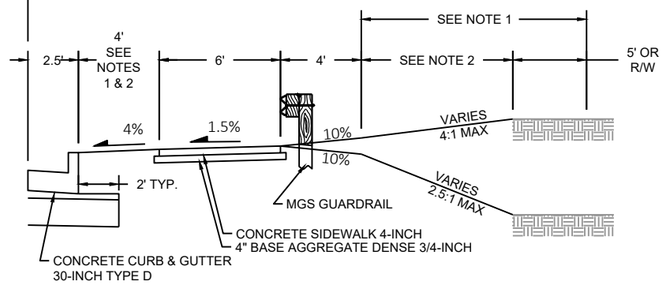


FINISHED TYPICAL SECTION
STA 165+06 RT - STA 167+20 RT





PARTIAL FINISHED SECTION LEFT W/ GUARDRAIL
STA 168+99.59 - STA 170+05.08
STA 171+69.92 - STA 172+72.44



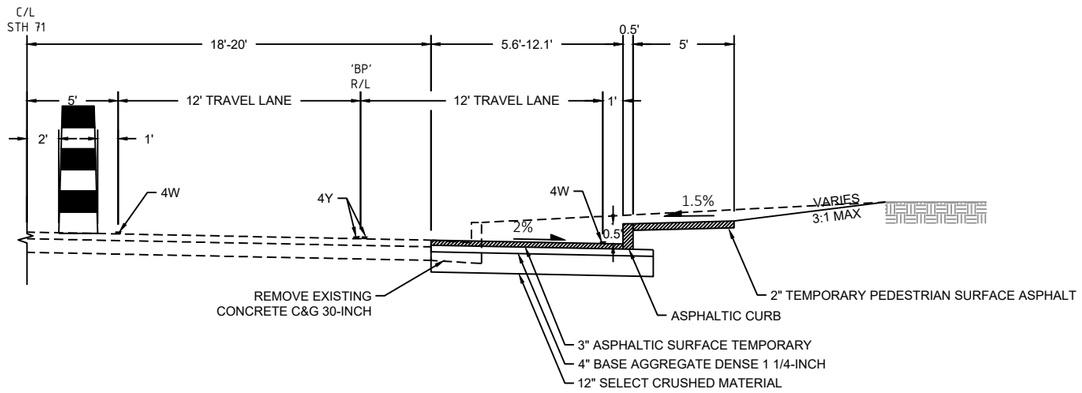
PARTIAL FINISHED SECTION RIGHT W/ GUARDRAIL
STA 169+05.41 - STA 170+05.08
STA 171+69.52 - STA 172+72.44

FINISHED TYPICAL SECTION
STA 167+20 - STA 170+23.75
STA 171+53.25 - STA 174+00

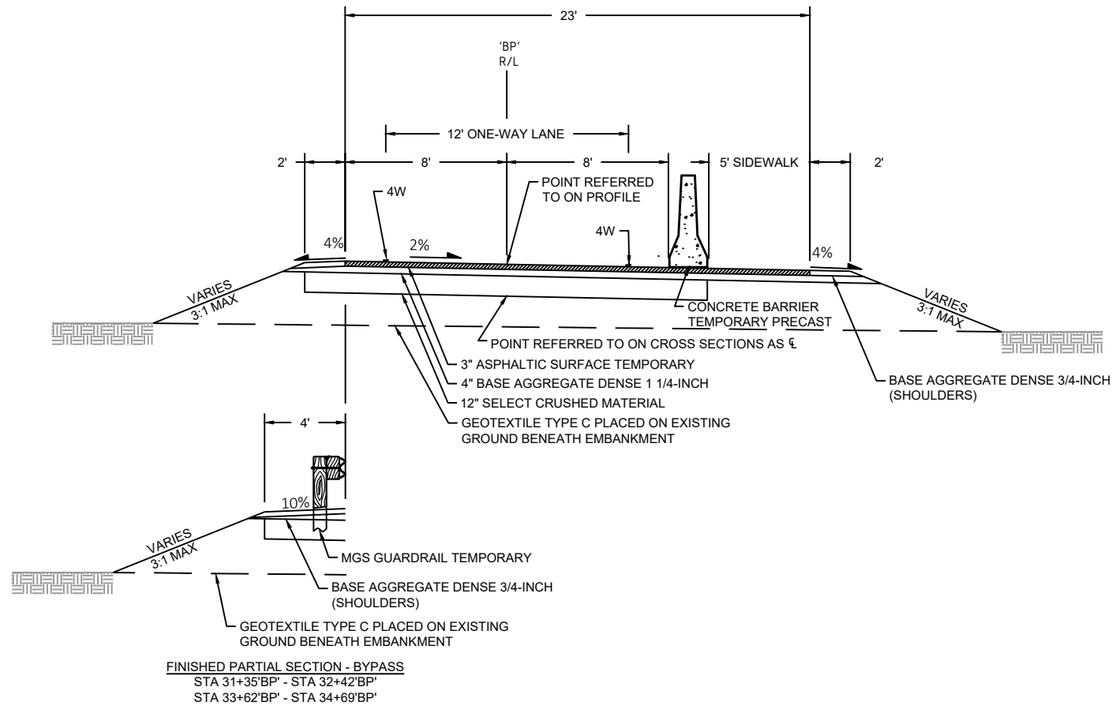
PROJECT NO: 5130-00-80	HWY: STH 71	COUNTY: MONROE	TYPICAL SECTIONS	SHEET 5	E

FILE NAME : \\SEHLX\PROJECTS\UZ\W\WITSW\147349\CIVIL 3D\51300000\SHEETSPLAN\SEC 02 DETAILS\020301-TS (TYPICAL SECTIONS).DWG
LAYOUT NAME - 02
PLOT DATE : 3/27/2021 3:15 PM
PLOT BY : ----
PLOT NAME :
PLOT SCALE : 1 IN:7.5 FT
WISDOT/CADDS SHEET 42

TEMPORARY PAVEMENT MARKING KEY
4W TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (WHITE)
4Y TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (YELLOW)

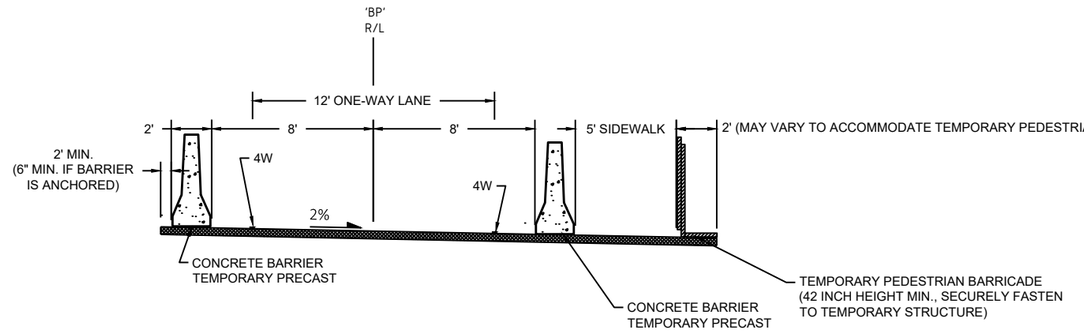


FINISHED TYPICAL SECTION - BYPASS
STA 28+56'BP' - STA 30+75'BP'



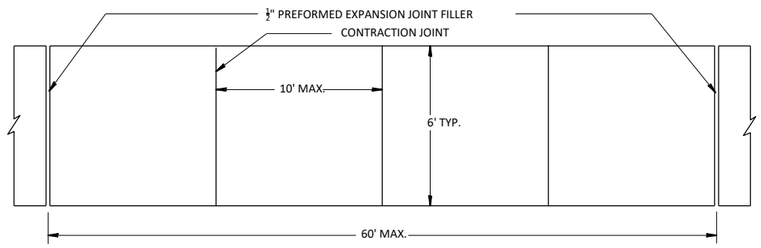
FINISHED PARTIAL SECTION - BYPASS
STA 31+35'BP' - STA 32+42'BP'
STA 33+62'BP' - STA 34+69'BP'

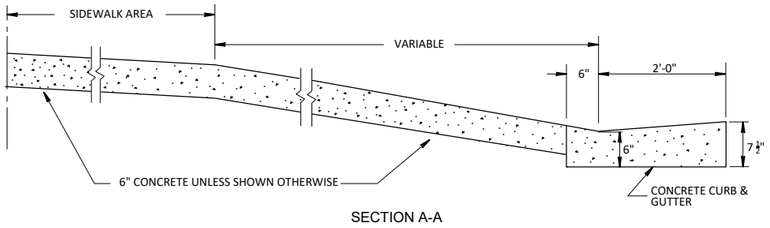
FINISHED TYPICAL SECTION - BYPASS
STA 30+75'BP' - STA 32+42'BP'
STA 33+62'BP' - STA 35+82'BP'



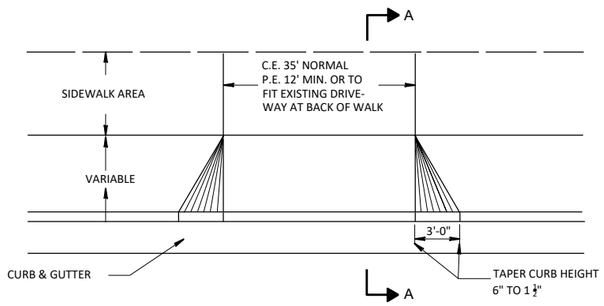
FINISHED TYPICAL SECTION - BYPASS
STA 32+42'BP' - STA 33+62'BP'
(THROUGH TEMPORARY STRUCTURE)

PROJECT NO: 5130-00-80	HWY: STH 71	COUNTY: MONROE	TYPICAL SECTIONS	SHEET 6	E

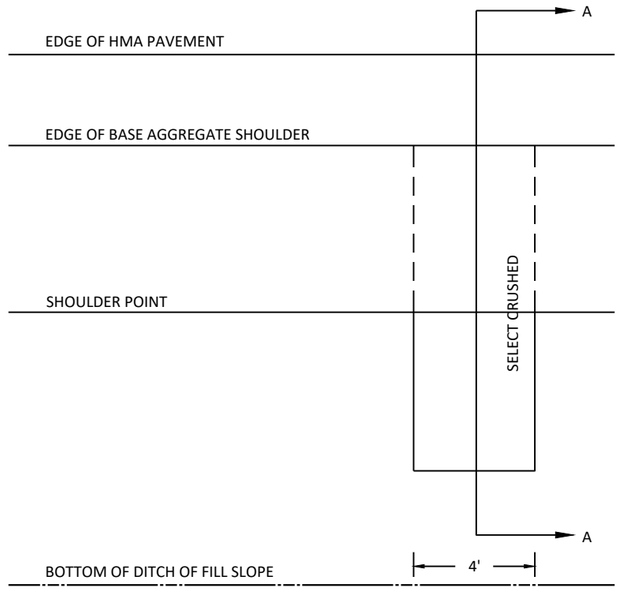




SECTION A-A



PRIVATE AND COMMERCIAL ENTRANCES

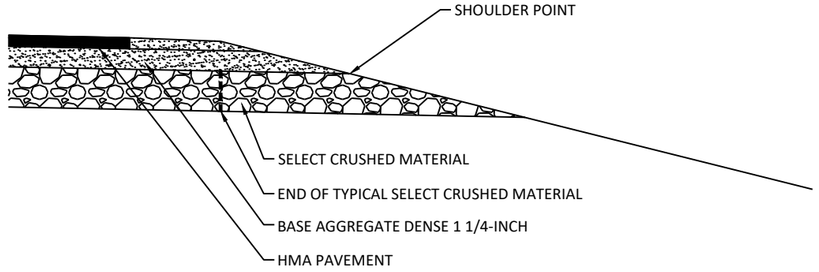


NOTES
SEE TYPICAL SECTIONS AND CROSS SECTION FOR SHOULDER DIMENSIONS AND SLOPES.

DO NOT COVER RELIEF TRENCH WITH TOPSOIL OR ANY OTHER MATERIAL THAT WOULD PREVENT SUGRADE DRAINAGE.

RELIEF TRENCHES NOT SHOWN ON CROSS SECTIONS, ONLY TYPICAL SELECT CRUSHED MATERIAL IS SHOWN..

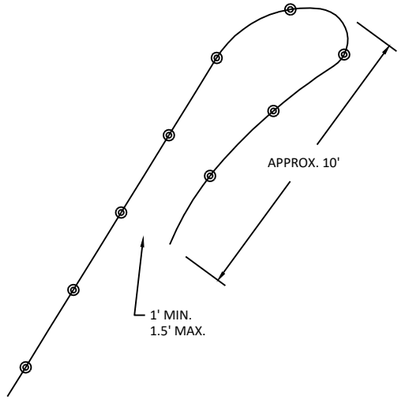
PROVIDE RELIEF TRENCH AT THE FOLLOWING LOCATIONS:
- EVERY 200' OF ROADWAY
- PROFILE LOW POINTS
- TEMPORARY STRUCTURE WHERE PROFILE DRAINS TO STRUCTURE



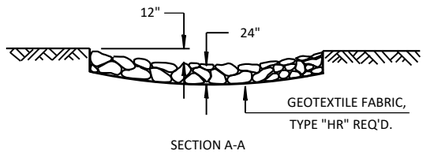
SECTION A-A

RELIEF TRENCH DETAIL-BYPASS

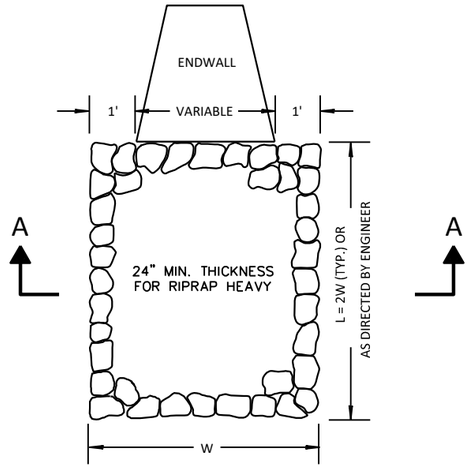
POSTS TO BE ON OUTSIDE OF J-HOOK. INSTALL J-HOOK AT ENDS OF SILT FENCE AND ANY ACCESS OPENINGS NEEDED.



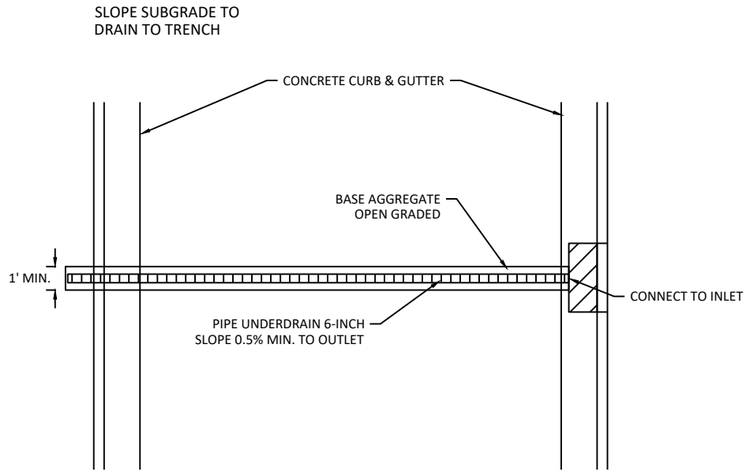
SILT FENCE J-HOOK DETAIL



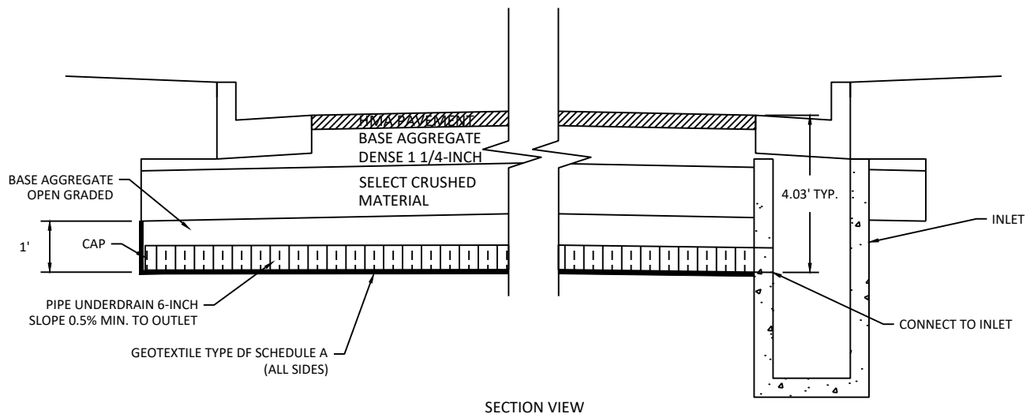
SECTION A-A



RIPRAP HEAVY TREATMENT AT CULVERTS

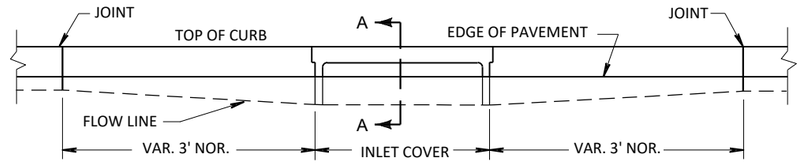


PLAN VIEW

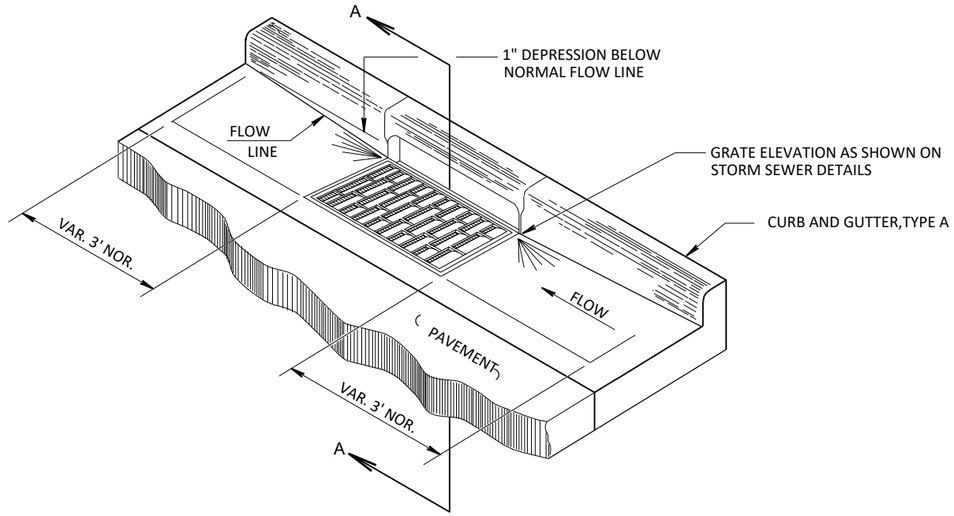


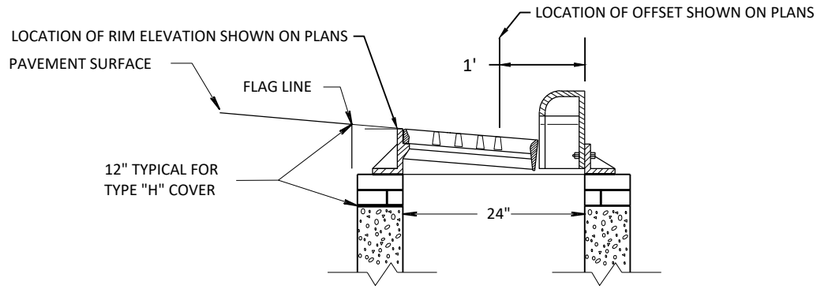
SECTION VIEW

PIPE UNDERDRAIN (6-INCH) WITH GEOTEXTILE FABRIC AND AGGREGATE



ELEVATION





SECTION A-A

DETAIL OF CURB AND GUTTER AT INLETS

2

CONCRETE SIDEWALK 4-INCH

5.0'

164+90.52, -27.73' LT

165+43.06, -27.99' LT

165+01.01, -19.50' LT

165+50.08, -19.63' LT

BEGIN CONSTRUCTION
STA 164+90.5

CURB RAMP REQUIRED
SEE CONSTRUCTION DETAILS

165+00

166+00

167+00

STH 71

CONCRETE
SIDEWALK 7-INCH
THRU CE DRIVEWAY

165+15.63, 20.27' RT

165+74.00, 22.86' RT

165+00.04, 19.94' RT

4.0'

165+06.49, 26.50' RT

6.0'

165+06.53, 32.50' RT

CONCRETE SIDEWALK 4-INCH

17.5' RAD TO BOC
165+77.09, 40.38' RT

7-INCH
CONC. CE

17.5' RAD TO BOC
166+45.17, 40.21' RT

SLOPE INTERCEPT (TYP)

168+77.39, -25.01' LT

168+65.04, -32.50' LT

MGS EAT POST 1
168+99.59, -28.00' LT

167+32.00, -26.50' LT

168+64.69, -26.50' LT

169+53.75, -20.00' LT

BEGIN PROJECT
STA 167+20

40'

168+00

169+00

170+00

STH 71

ASPH. PE

168+60.65, 32.50' RT

168+77.39, 24.51' RT

168+98.62, 22.50' RT

SLOPE INTERCEPT (TYP)

MGS EAT POST 1
169+05.41, 28.00' RT

PROJECT NO: 5130-00-80	HWY: STH 71	COUNTY: MONROE	PLAN DETAILS	SHEET 9	E

2

2

173+08.15, -32.47' LT

173+08.56, -26.47' LT

172+92.73, -24.49' LT

CONCRETE SIDEWALK 4-INCH

MGS EAT POST 1
172+72.44, -28.00' LT

173+80.00, -33.00' LT

172+22.56, -20.00' LT

172+85.11, -20.00' LT

B-41-303

172+00

STH 71

173+00

174+00

END PROJECT
STA 174+00

40'

172+85.06, 22.50' RT

174+39.84, 22.92' RT

172+22.56, 20.00' RT

MGS EAT POST 1
172+72.44, 28.00' RT

172+92.73, 24.51' RT

173+08.68, 26.52' RT

173+08.27, 32.51' RT

AGG. PE

174+12.87, 33.46' RT

CONCRETE SIDEWALK 4-INCH

R/W

PROJECT NO: 5130-00-80	HWY: STH 71	COUNTY: MONROE	PLAN DETAILS	SHEET 10	E

FILE NAME : \\SEHLX\PROJECTS\UZ\W\WITSW\147349\CIVIL 3D\51300000\SHEETSPLAN\SEC 02 DETAILS\021201-PD (PLAN DETAILS).DWG
LAYOUT NAME - 02

PLOT DATE : 3/27/2021 3:17 PM PLOT BY : TOREY LEONARD PLOT NAME : PLOT SCALE : ##########

WISDOT/CADDS SHEET 42

2

166+00

28+00BP

27+71.89, 19.92' RT

PC: 28+46.54BP

PCC: 28+93.09BP

167+00

STH 71

168+00

STH 71

PRC: 30+39.76BP

30+00BP

29+00BP

5'

10'

BEGIN ASPHALTIC CURB
28+55.55, 15.83' RT

MATCH TO SIDEWALK
27+78.05, 29.04' RT

45' RAD (OFF SHEET)
28+60.61, 60.69' RT

1.5% MAX. CROSS SLOPE IN
TEMPORARY SIDEWALK AREA

R/W

TLE

170+00

30+96.48, -11.81' LT

END ASPHALTIC CURB
30+75.00, 11.53' RT

PT: 31+17.07BP

PC: 31+30.64BP

31+00BP

31+34.51, -8.89' LT

30+84.76, 0.91' RT

31+00.38, 15.89' RT

CRASH CUSHION TEMP. REQ'D
31+23.94, 8.89' RT

PROPOSED
TEMPORARY
STRUCTURE

PT: 32+47.42BP

32+00BP

33+00BP

R/W

TLE

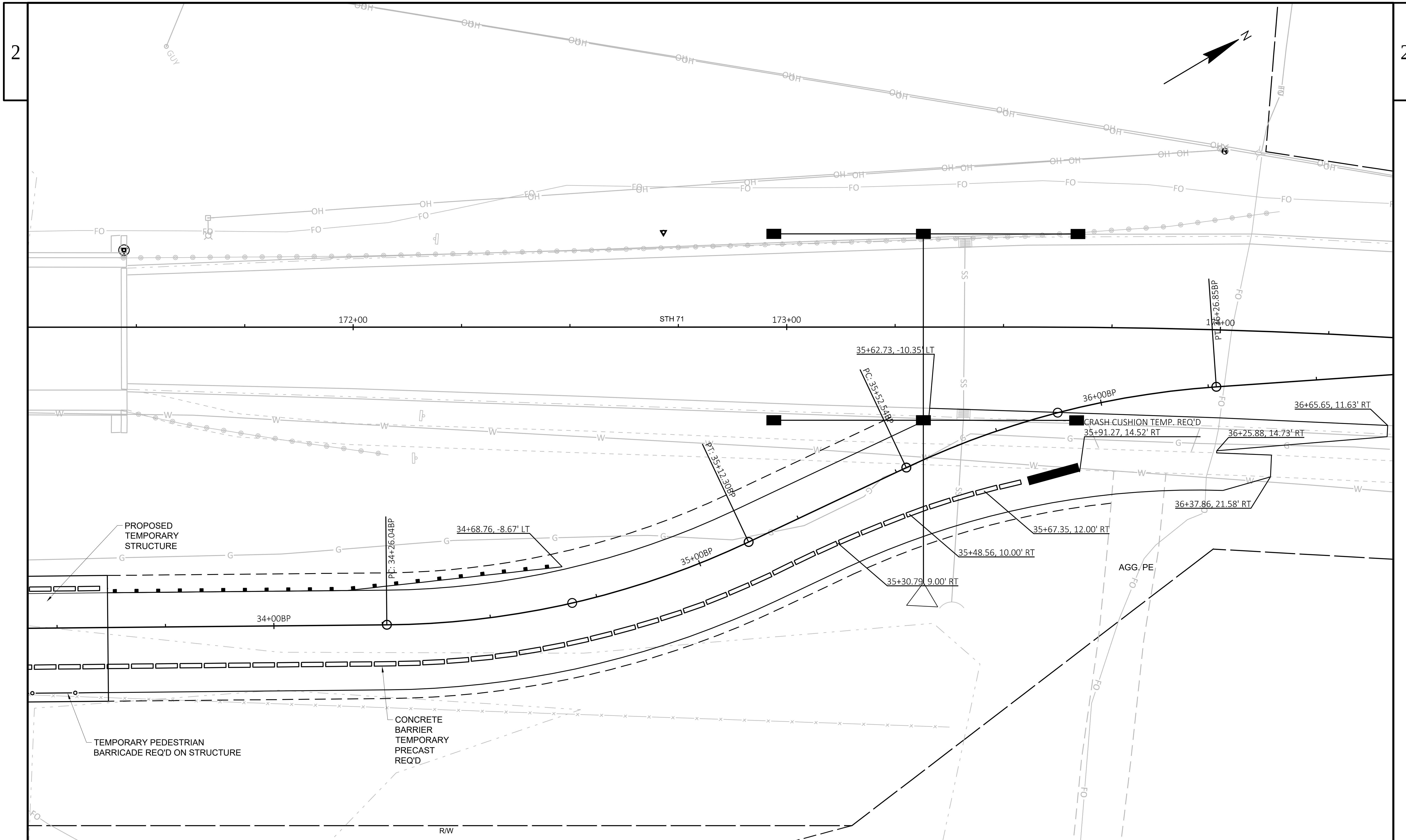
CONCRETE
BARRIER
TEMPORARY
PRECAST
REQ'D

TEMPORARY PEDESTRIAN
BARRICADE REQ'D ON STRUCTURE

PROJECT NO: 5130-00-80	HWY: STH 71	COUNTY: MONROE	PLAN DETAILS - TEMPORARY BYPASS	SHEET 11	E

FILE NAME : \\SEHLX\PROJECTS\UZ\W\WITSW\147349\CIVIL 3D\51300000\SHEETSPLAN\SEC 02 DETAILS\021202-PD (PLAN DETAILS-BYPASS).DWG
LAYOUT NAME - 01

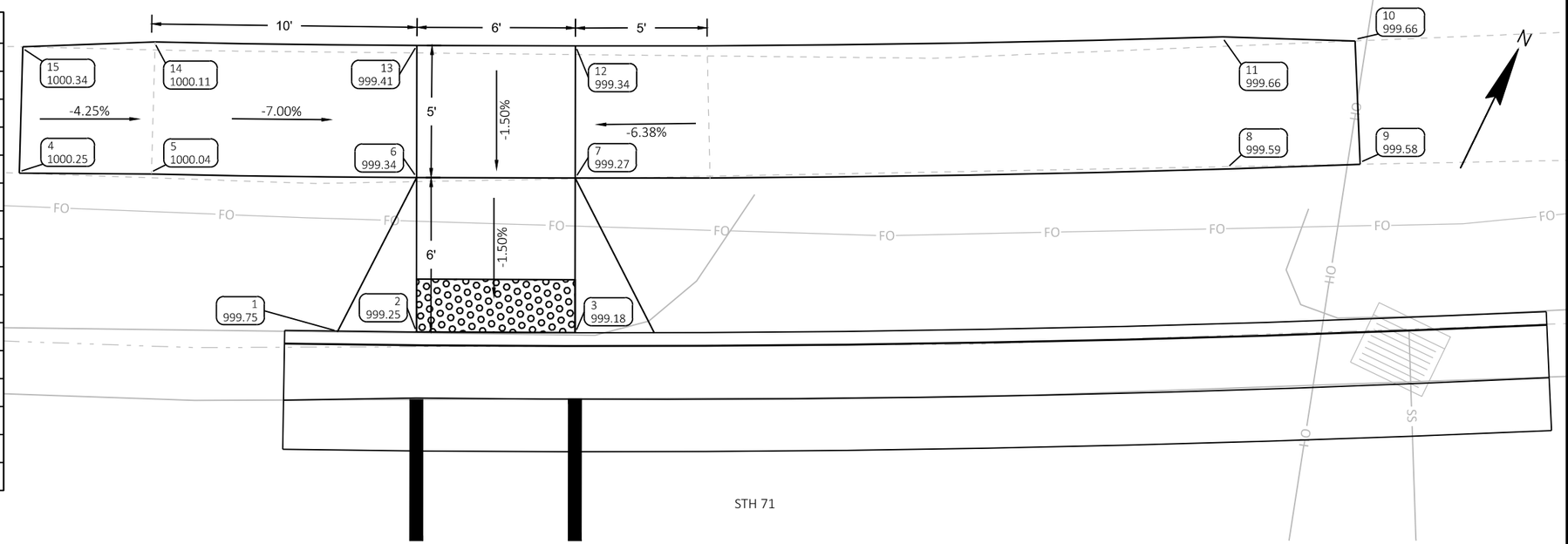
PLOT DATE : 3/27/2021 3:17 PM PLOT BY : TOREY LEONARD PLOT NAME : PLOT SCALE : 1 IN:20 FT



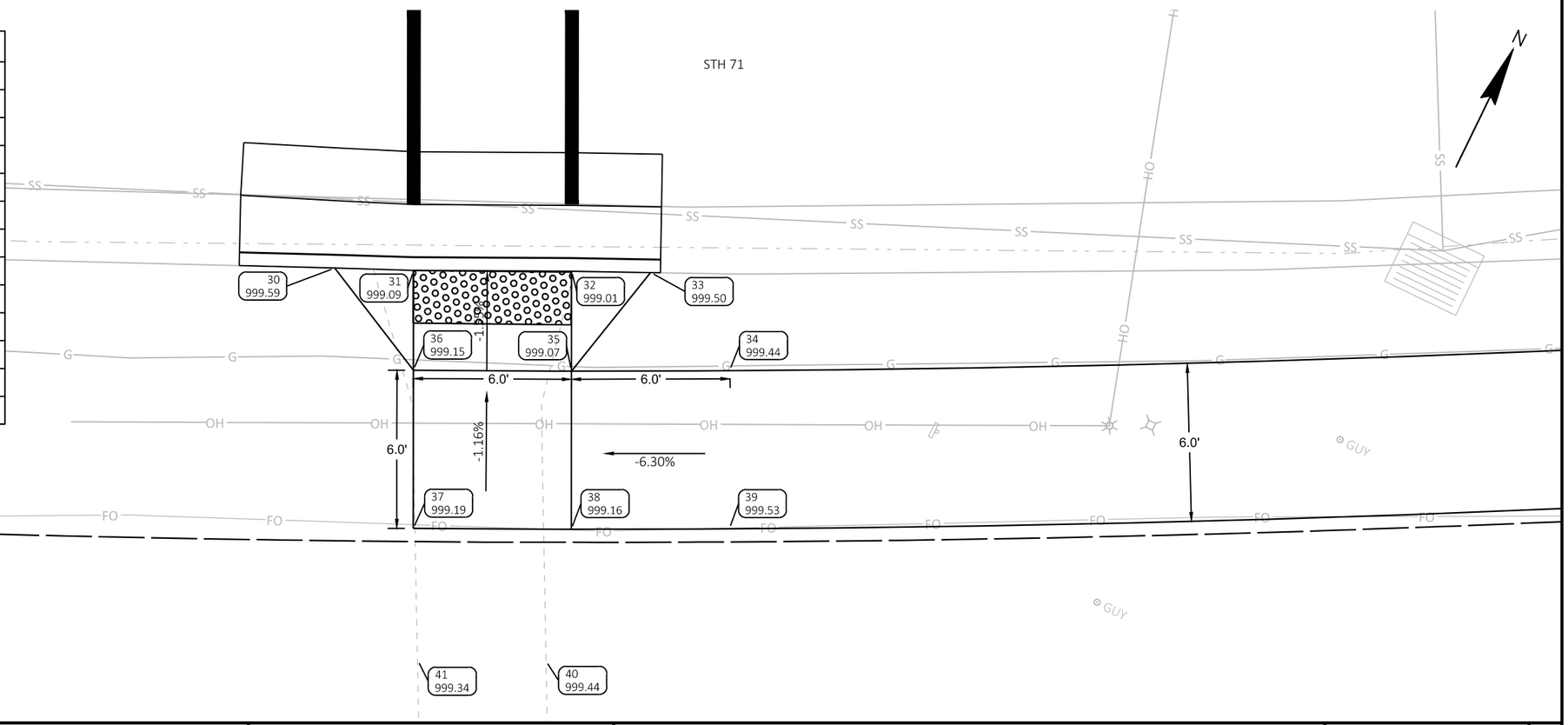
2
N
172+00
STH 71
173+00
174+00
PT: 36+26.85BP
35+62.73, -10.35' LT
PC: 35+52.54BP
36+00BP
36+65.65, 11.63' RT
CRASH CUSHION TEMP. REQ'D
35+91.27, 14.52' RT
36+25.88, 14.73' RT
PT: 35+12.30BP
34+68.76, -8.67' LT
PC: 34+26.04BP
35+00BP
36+37.86, 21.58' RT
35+67.35, 12.00' RT
35+48.56, 10.00' RT
35+30.79, 9.00' RT
AGG. PE
PROPOSED
TEMPORARY
STRUCTURE
34+00BP
CONCRETE
BARRIER
TEMPORARY
PRECAST
REQ'D
TEMPORARY PEDESTRIAN
BARRICADE REQ'D ON STRUCTURE
R/W

PROJECT NO: 5130-00-80	HWY: STH 71	COUNTY: MONROE	PLAN DETAILS - TEMPORARY BYPASS	SHEET 12	E

CurbRamp-North					
POINT NUMBER	STATION	OFFSET	ELEVATION	NORTHING	EASTING
1	165+03.07	22.13' LT	999.75	332365.09	702200.86
2	165+06.13	22.13' LT	999.25	332366.35	702203.56
3	165+12.30	22.13' LT	999.18	332368.93	702208.98
4	164+90.52	27.87' LT	1000.25	332365.24	702187.41
5	164+95.69	27.96' LT	1000.04	332367.39	702191.93
6	165+06.09	27.98' LT	999.34	332371.62	702201.03
7	165+12.30	27.99' LT	999.27	332374.21	702206.44
8	165+37.88	27.98' LT	999.59	332385.24	702228.55
9	165+43.06	27.99' LT	999.58	332387.57	702232.97
10	165+43.03	32.66' LT	999.66	332391.69	702230.77
11	165+37.82	32.98' LT	999.66	332389.65	702226.19
12	165+12.31	32.99' LT	999.34	332378.72	702204.28
13	165+06.05	32.98' LT	999.41	332376.13	702198.86
14	164+95.73	32.96' LT	1000.11	332371.95	702189.88
15	164+90.52	32.65' LT	1000.34	332369.61	702185.46



CurbRamp-South					
POINT NUMBER	STATION	OFFSET	ELEVATION	NORTHING	EASTING
30	165+03.54	22.65' RT	999.59	332324.71	702220.23
31	165+06.46	22.72' RT	999.09	332325.92	702222.97
32	165+12.30	22.71' RT	999.01	332328.50	702228.39
33	165+15.22	22.76' RT	999.50	332329.76	702231.11
34	165+18.11	26.50' RT	999.44	332327.70	702235.43
35	165+12.30	26.50' RT	999.07	332325.09	702230.03
36	165+06.49	26.50' RT	999.15	332322.51	702224.61
37	165+06.53	32.50' RT	999.19	332317.10	702227.21
38	165+12.30	32.50' RT	999.16	332319.68	702232.63
39	165+18.07	32.50' RT	999.53	332322.29	702238.03
40	165+11.39	37.50' RT	999.44	332314.76	702233.93
41	165+06.73	37.50' RT	999.34	332312.67	702229.53



2

PROJECT NO: 5130-00-80	HWY: STH 71	COUNTY: MONROE	CURB RAMP DETAILS	SHEET 13	E

FILE NAME : \\SEHLX\PROJECTS\UZ\W\WITSW\147349\CIVIL 3D\51300000\SHEETSPLAN\SEC 02 DETAILS\021301-CR (CURB RAMP DETAILS).DWG
LAYOUT NAME - 01
PLOT DATE : 3/27/2021 3:18 PM
PLOT BY : TOREY LEONARD
PLOT NAME :
PLOT SCALE : 1 IN:5 FT
WISDOT/CADDS SHEET 42

NOTES:
INSTALL SILT FENCE, TURBIDITY BARRIER, AND INLET PROTECTION PRIOR TO GROUND DISTURBING ACTIVITIES. ADJUST INLET PROTECTION AS NEED TO ACCOMMODATE CONSTRUCTION STAGING.

APPLY SEEDING MIXTURE NO. 20 AND FERTILIZER TYPE B TO ALL DISTURBED AREAS UNLESS OTHERWISE SHOWN.

EROSION MAT AND RESTORATION WITHIN THIS AREA TO BE INSTALLED UPON COMPLETION OF STAGE 2 CONSTRUCTION.

INSTALL J-HOOKS AT SILT FENCE ENDS SEE CONSTRUCTION DETAILS

DELINEATED WETLAND BOUNDARY (TYP)

TLE

R/W

SEED MIXTURE NO. 40 ALONG WIDEWALK

LEGEND

- SEEDING TEMPORARY, NO OTHER SEEDING REQUIRED
- SEEDING MIXTURE NO. 40
- EROSION MAT URBAN CLASS I TYPE B
- EROSION MAT CLASS II TYPE B
- SILT FENCE
- TURBIDITY BARRIER
- SURFACE WATER FLOW
- TEMPORARY DITCH CHECK
- INLET PROTECTION TYPE C (TYP)

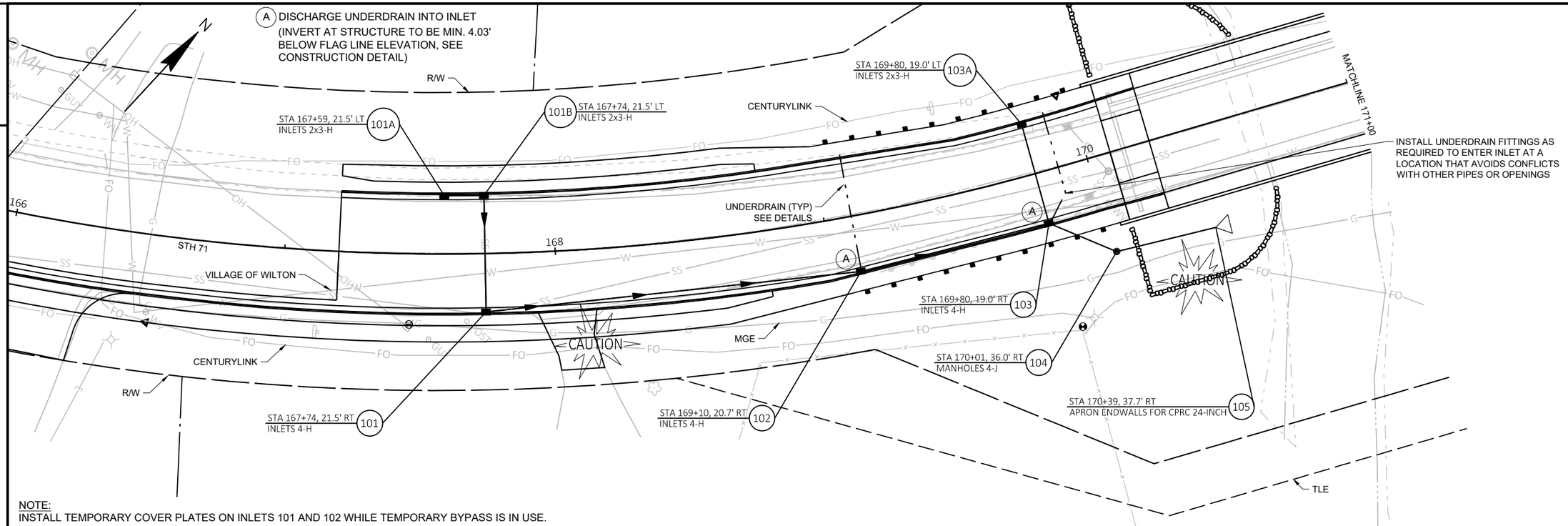
PROJECT NO: 5130-00-80	HWY: STH 71	COUNTY: MONROE	EROSION CONTROL - STAGES 1 AND 2	SHEET 14	E

FILE NAME : \\SEHLX\PROJECTS\UZ\W\WITSW\147349\CIVIL 3D\51300000\SHEETSPLAN\SEC 02 DETAILS\022001-EC (EROSION CONTROL, STAGE 1).DWG
LAYOUT NAME - 01

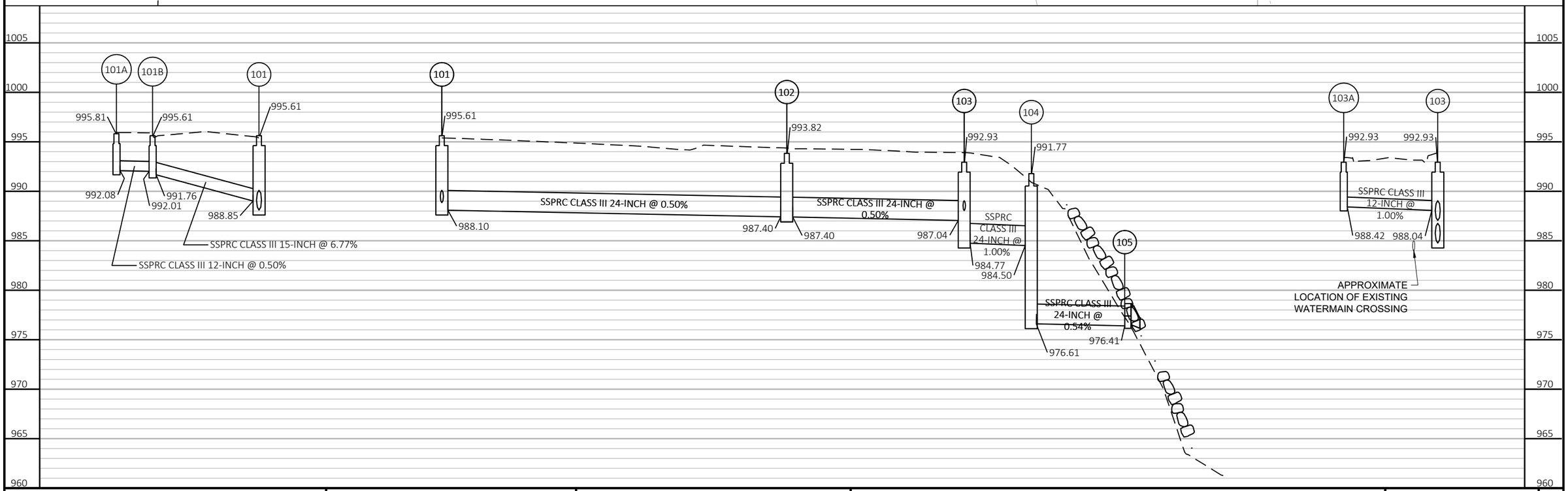
PLOT DATE : 3/30/2021 8:55 AM PLOT BY : TOREY LEONARD PLOT NAME : PLOT SCALE : 1 IN:60 FT

WISDOT/CADDS SHEET 42

2



NOTE:
INSTALL TEMPORARY COVER PLATES ON INLETS 101 AND 102 WHILE TEMPORARY BYPASS IS IN USE.



PROJECT NO: 5130-00-80	HWY: STH 71	COUNTY: MONROE	STORM SEWER	SHEET 15	E

NOTE:
INSTALL TEMPORARY COVER PLATES ON INLETS 202, 202A, AND 202B WHILE TEMPORARY BYPASS IS IN USE.

201A STA 172+97, 21.5' LT INLETS 4-H

201 STA 173+32, 21.5' LT INLETS 2x3-H

201B STA 173+67, 21.5' LT INLETS 2x3-H

ALLIANT/ MEDIACOM

CENTURYLINK

R/W

MATCHLINE 171+00

UNDERDRAIN SEE DETAILS

172

STH 71

174

176

VILLAGE OF WILTON

A

CAUTION

STA 172+97, 21.5' RT INLETS 4-H 202A

MGE

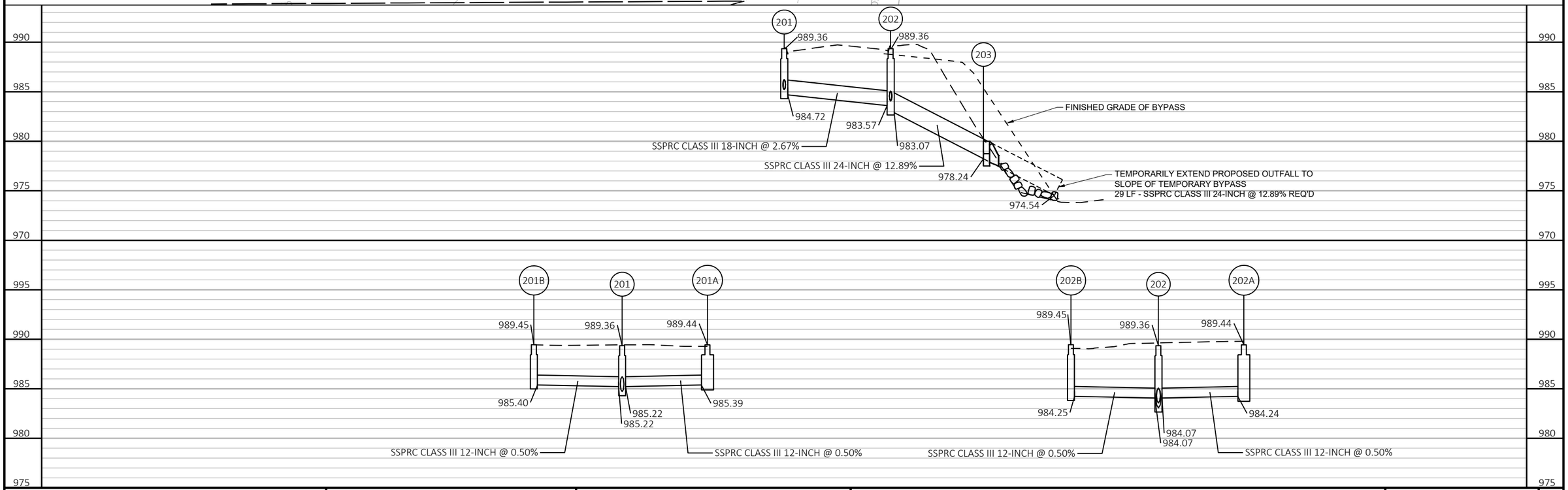
STA 173+32, 59.0' RT APRON ENDWALLS FOR CPRC 24-INCH 203

202B STA 173+67, 21.5' RT INLETS 2x3-H

202 STA 173+32, 21.5' RT INLETS 2x3-H

STA 173+31.50, 87.5' RT
TEMPORARILY EXTEND PROPOSED OUTFALL TO SLOPE OF TEMPORARY BYPASS

(A) DISCHARGE UNDERDRAIN INTO INLET (INVERT AT STRUCTURE TO BE MIN. 4.03' BELOW FLAG LINE ELEVATION, SEE CONSTRUCTION DETAIL)



PROJECT NO: 5130-00-80	HWY: STH 71	COUNTY: MONROE	STORM SEWER	SHEET 16	E

FILE NAME : \\SEHLX\PROJECTS\UZ\W\WITSW\147349\CIVIL 3D\51300000\SHEETSPLAN\SEC 02 DETAILS\022501-SS (STORM SEWER DETAILS).DWG
LAYOUT NAME - 02
PLOT DATE : 3/27/2021 3:11 PM PLOT BY : SEH PLOT NAME : PLOT SCALE : 1 IN:40 FT
WISDOT/CADDS SHEET 41

2

2

EXISTING "WELCOME TO WILTON" SIGN TO BE REMOVED BY OTHERS

MARKING LINE SAME DAY EPOXY 4-INCH
(DOUBLE YELLOW)

168+00

169+00

170+00

171+00

172+00

173+00

174+00

175+00

SPEED LIMIT 40 MOVE

SPEED LIMIT 40 MOVE

ADOPT A HIGHWAY WILTON LIONS CLUB MOVE

END SOLID YELLOW EASTBOUND, BEGIN 12.5' SKIP/37.5 GAP
STA 172+85

W11-2
30"X30"

W16-7L
24"X12"

165+00

MARKING LINE SAME DAY EPOXY 4-INCH
(DOUBLE YELLOW)

166+00

167+00

W11-2
30"X30"

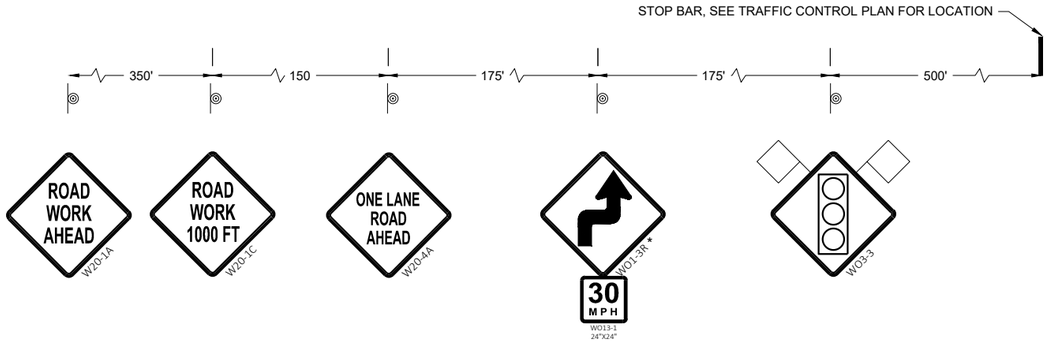
W16-7L
24"X12"

PROJECT NO: 5130-00-80	HWY: STH 71	COUNTY: MONROE	PERMANENT SIGNING AND PAVEMENT MARKING	SHEET 17	E

FILE NAME : \\SEHLX\PROJECTS\UZ\W\WITSW\147349\CIVIL 3D\51300000\SHEETSPLAN\SEC 02 DETAILS\023201-PS (PERMANENT SIGNING).DWG
LAYOUT NAME - 01

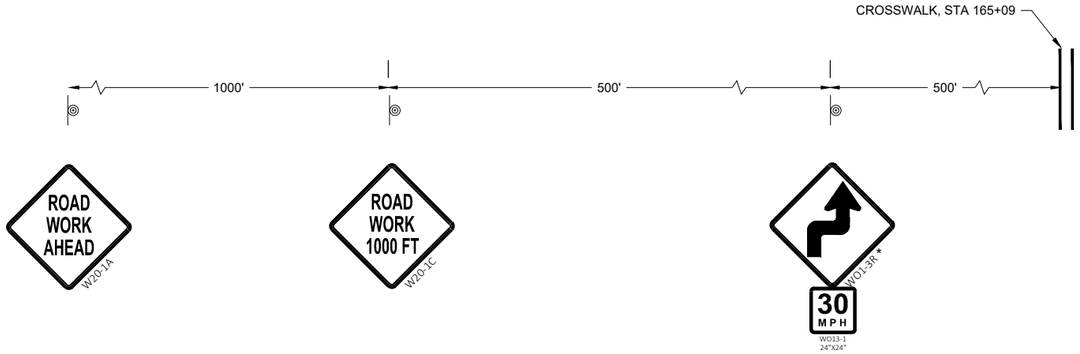
PLOT DATE : 3/30/2021 5:39 AM PLOT BY : TOREY LEONARD PLOT NAME : PLOT SCALE : 1 IN:50 FT

WISDOT/CADDS SHEET 42



*EASTBOUND SIGN SHOWN, WESTBOUND TO USE WO1-3L

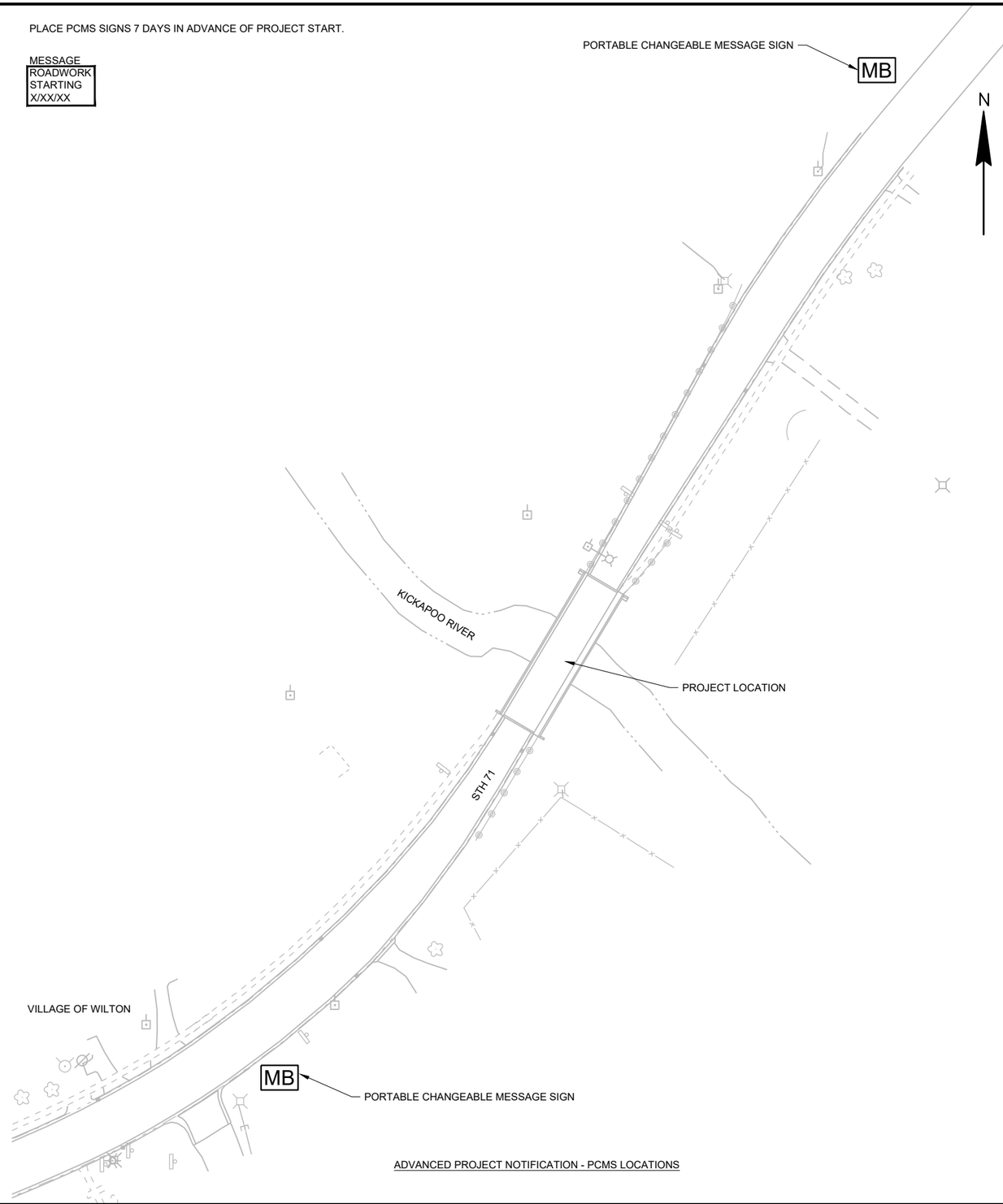
TYPICAL ADVANCED SIGNING - STAGE 2
(EASTBOUND SHOWN, MIRROR FOR WESTBOUND)



TYPICAL ADVANCED SIGNING - STAGE 3
(EASTBOUND TRAVEL DIRECTION, SEE TRAFFIC CONTROL PLAN FOR WESTBOUND SIGNAGE)

PLACE PCMS SIGNS 7 DAYS IN ADVANCE OF PROJECT START.

MESSAGE
ROADWORK
STARTING
X/XX/XX



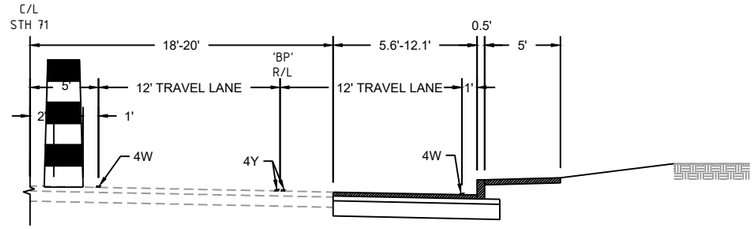
ADVANCED PROJECT NOTIFICATION - PCMS LOCATIONS

2

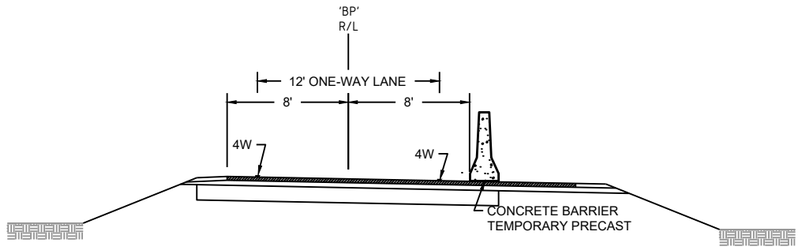
PROJECT NO: 5130-00-80	HWY: STH 71	COUNTY: MONROE	TRAFFIC CONTROL PLAN - GENERAL DETAILS	SHEET 18	E

2

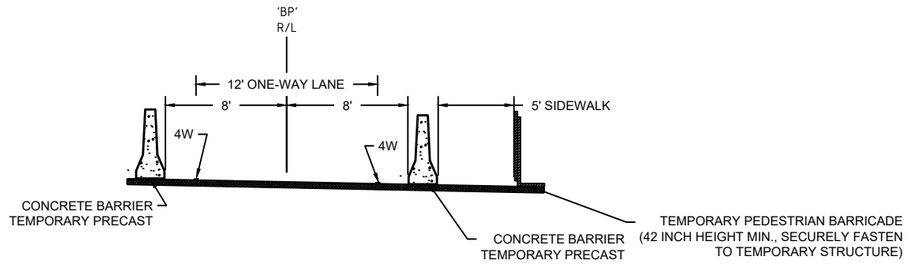
TEMPORARY PAVEMENT MARKING KEY
4W TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (WHITE)
4Y TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (YELLOW)



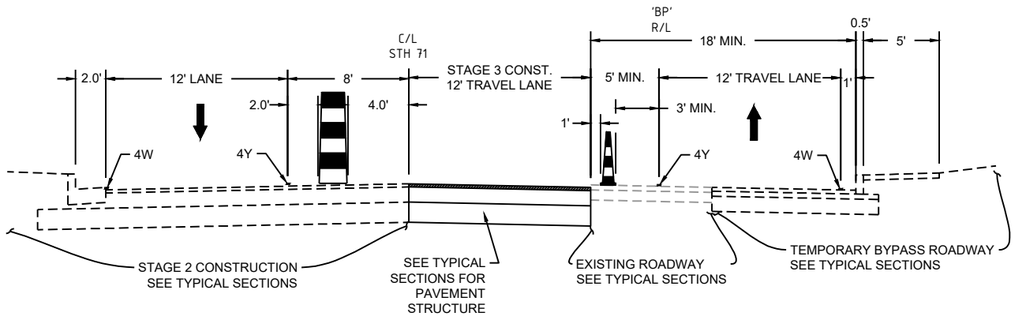
TYPICAL SECTION - BYPASS TRAFFIC CONTROL (STAGE 2)
STA 28+56'BP' - STA 30+75'BP'



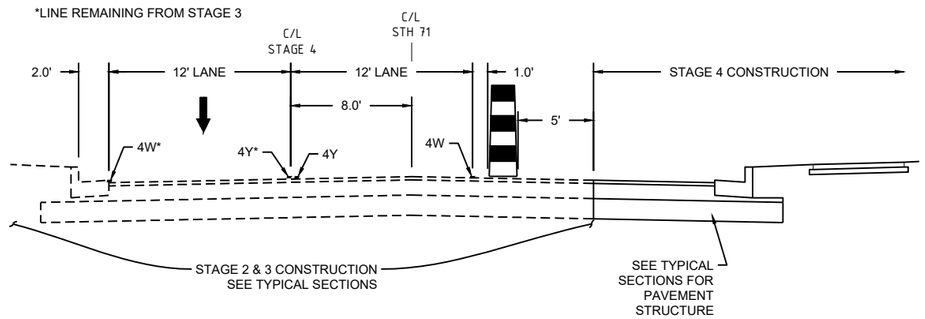
TYPICAL SECTION - BYPASS TRAFFIC CONTROL (STAGE 2 AND 3)
STA 30+75'BP' - STA 32+42'BP'
STA 33+62'BP' - STA 35+82'BP'



FINISHED SECTION - BYPASS TRAFFIC CONTROL (STAGES 2 AND 3)
STA 32+42'BP' - STA 33+62'BP'
(THROUGH TEMPORARY STRUCTURE)



TYPICAL SECTION - STAGE 3 TRAFFIC CONTROL
STA 167+20 - STA 168+70
(LEFT SIDE SIMILAR THROUGH STA 174+00)



TYPICAL SECTION - STAGE 4 TRAFFIC CONTROL
STA 167+20 - STA 174+00

PROJECT NO: 5130-00-80	HWY: STH 71	COUNTY: MONROE	TRAFFIC CONTROL PLAN - GENERAL DETAILS	SHEET 19	E

2

TEMPORARY PEDESTRIAN SURFACE PLYWOOD REQ'D

CONSTRUCT PERMANENT SIDEWALK AND CURB RAMP, STA 165+09 LT
SEE CONSTRUCTION STAGING PLAN AND SDD 15D30 TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION FOR ADDITIONAL INFORMATION

CONSTRUCT STORM SEWER CROSSING
UTILIZING FLAGGING OPERATIONS. INLETS TO BE
CONSTRUCTED UNDER SHOULDER CLOSURE.

SIDEWALK CLOSED
R9-9
24"X12"

SIDEWALK CLOSED
R9-9
24"X12"

MARKING CROSSWALK EPOXY
TRANSVERSE LINE 6-INCH
(MAY USE TEMPORARY MARKING LINE
REMOVABLE TAPE 8-INCH UNTIL OTHER
FINAL MARKINGS ARE APPLIED)

CONSTRUCT PERMANENT SIDEWALK
AND CURB RAMP
FROM STA 165+09 RT TO STA 166+30 RT

165

170

30

STH 71

171+87.50

CONSTRUCT STORM SEWER CROSSING
UTILIZING FLAGGING OPERATIONS. INLETS TO BE
CONSTRUCTED UNDER SHOULDER CLOSURE.

175

STH 71

45

SIDEWALK CLOSED
R9-9
24"X12"

171+87.50

CLOSE LEFT SHOULDER AND CONSTRUCT CURB RAMP AT STA 165+09 LT.

CLOSE RIGHT SHOULER, CONSTRUCT BYPASS AND PERMANENT SIDEWALK FROM BEGIN CONSTRUCTION TO STA 166+09 RT.

MAINTAIN 13-FT MIN. WIDTH FROM CENTERLINE TO TRAFFIC CONTROL DRUM EACH TRAVEL DIRECTION AT ALL TIMES.

SEE SDD 15D28 TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY FOR SIGNING AND TRAFFIC CONTROL REQUIREMENTS.

PROJECT NO: 5130-00-80	HWY: STH 71	COUNTY: MONROE	TRAFFIC CONTROL PLAN - STAGE 1	SHEET 20	E

2

END ROAD WORK
G20-2A
48"X24"

400'

R9-11
24"X12"

MARKING LINE REMOVAL 4-INCH

165

R11-2B
48"X30"
BRIDGE OUT
TYPE III BARRICADE

WO1-6
48" X 24"
TYPE III BARRICADE

SIDEWALK CLOSED
R9-9
24"X12"

STH 71

TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (DOUBLE YELLOW)

SEE "TRAFFIC CONTROL PLAN - TYPICAL ADVANCED SIGNING" SHEET FOR ADDITIONAL INFORMATION

TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (WHITE)

30

+30

TEMPORARY MARKING STOP LINE REMOVABLE TAPE 18-INCH

STOP HERE ON RED
R10-6
24"X36"

WO1-6
48" X 24"
TYPE III BARRICADE

WO1-6
48"X24"

+24

CRASH CUSHION TEMPORARY

WO1-6
48"X24"

WO1-6
48"X24"

WO5-52R
12"X36"

WO5-52L
12"X36"

WO5-52R
12"X36"

WO5-52L
12"X36"

30 MPH
WO13-1
24"X24"

WO1-6
48"X24"

171+87.50

171+87.50

170

R11-2B
48"X30"
BRIDGE OUT
TYPE III BARRICADE

WO1-6
48" X 24"
TYPE III BARRICADE

WO1-6
48"X24"

STOP HERE ON RED
R10-6
24"X36"

SEE "TRAFFIC CONTROL PLAN - TYPICAL ADVANCED SIGNING" SHEET FOR ADDITIONAL INFORMATION

MARKING LINE REMOVAL 4-INCH

175

STH 71

+79

TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (DOUBLE YELLOW)

TEMPORARY MARKING STOP LINE REMOVABLE TAPE 18-INCH

END ROAD WORK
G20-2A
48"X24"

400'

+91

35

CRASH CUSHION TEMPORARY

TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (WHITE)

WO1-6
48"X24"

171+87.50

171+87.50

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- SIGN ON PERMANENT SUPPORT
- TYPE A WARNING LIGHT (FLASHING)
- CONCRETE BARRIER TEMPORARY PRECAST
- TEMPORARY PEDESTRIAN BARRIER
- WORK AREA
- DIRECTION OF TRAFFIC
- TEMPORARY SIGNAL, SEE SDD 09G02 FOR EXACT PLACEMENT

CONSTRUCT STRUCTURE, APPROACH SLABS, AND WESTBOUND ROADWAY.

SEE THE FOLLOWING STANDARD DETAILS DRAWINGS FOR ADDITIONAL INFORMATION NOT SHOWN:

- SDD 15D31 TRAFFIC CONTROL, TEMPORARY BYPASS ROADWAY
- SDD 15D33 TRAFFIC CONTROL, ONE LANE ROAD WITH TEMPORARY SIGNALS
- SDD 15D30 TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION

PROJECT NO: 5130-00-80	HWY: STH 71	COUNTY: MONROE	TRAFFIC CONTROL PLAN - STAGE 2	SHEET 21	E

FILE NAME : \\SEHLX\PROJECTS\UZ\W\WITSW\147349\CIVIL 3D\51300000\SHEETSPLAN\SEC 02 DETAILS\025002-TC (TRAFFIC CONTROL, STAGE 2).DWG
LAYOUT NAME - 01
PLOT DATE : 3/30/2021 5:15 AM PLOT BY : TOREY LEONARD PLOT NAME : PLOT SCALE : 1 IN:50 FT
WISDOT/CADDS SHEET 44

2

END ROAD WORK
G20-2A
48"X24"

400'

WO1-6
48" X 24"
TYPE III BARRICADE

TRAFFIC CONTROL CONES 42-INCH SPACED AT 25 FEET REQUIRED IN THIS AREA, SEE TRAFFIC CONTROL TYPICAL SECTION

TEMPORARY MARKING LINE
REMOVABLE TAPE 4-INCH (YELLOW)

TEMPORARY MARKING LINE
REMOVABLE TAPE 4-INCH (WHITE)

STH 71

165

28

30

170

12' MIN

WO1-6
48"X24"

WO5-52L
12"X36"

WO5-52R
12"X36"

WO1-6
48"X24"

WO13-1
24"X24"
30 MPH

SEE "TRAFFIC CONTROL PLAN - GENERAL DETAILS" SHEET FOR ADDITIONAL INFORMATION

TEMPORARY MARKING LINE
REMOVABLE TAPE 4-INCH (WHITE)
(STAGE 2 MARKING TO REMAIN
PRIOR TO STA 35+31'BP'

TEMPORARY MARKING LINE
REMOVABLE TAPE 4-INCH (YELLOW)
(STAGE 2 MARKING TO REMIAIN
BEYOND STA 31+43'BP')

TEMPORARY MARKING LINE
REMOVABLE TAPE 4-INCH (YELLOW)

TEMPORARY MARKING LINE
REMOVABLE TAPE 4-INCH (WHITE)

WO1-6
48"X24"

175

38

STH 71

350'

ROAD WORK AHEAD
W20-1A

36

STA 36+29'BP'
BEGIN TEMPORARY MARKING LINE
REMOVABLE TAPE 4-INCH (YELLOW)

500'

END ROAD WORK
G20-2A
48"X24"

34

TEMPORARY MARKING LINE
REMOVABLE TAPE 4-INCH (WHITE)
(STAGE 2 MARKING TO REMAIN
PRIOR TO STA 35+31'BP'

WO1-6
48"X24"

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM (OR TRAFFIC CONTROL CONES 42-INCH AS NOTED)
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- SIGN ON PERMANENT SUPPORT
- TYPE A WARNING LIGHT (FLASHING)
- CONCRETE BARRIER TEMPORARY PRECAST
- TEMPORARY PEDESTRIAN BARRIER
- WORK AREA
- DIRECTION OF TRAFFIC
- TRAFFIC CONTROL FLEXIBLE TUBULAR MARKER

CONSTRUCT EASTBOUND TRAVEL LANE, PAVE LOWER LAYER OF HMA PAVEMENT.

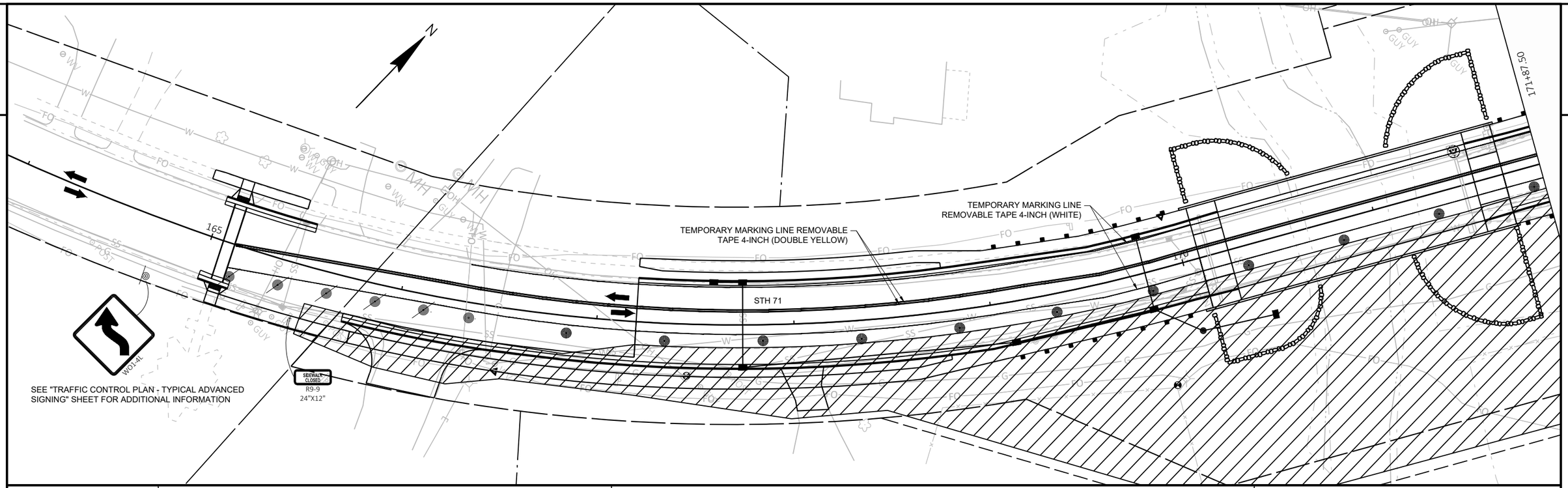
SEE THE FOLLOWING STANDARD DETAILS DRAWINGS FOR ADDITIONAL INFORMATION NOT SHOWN:

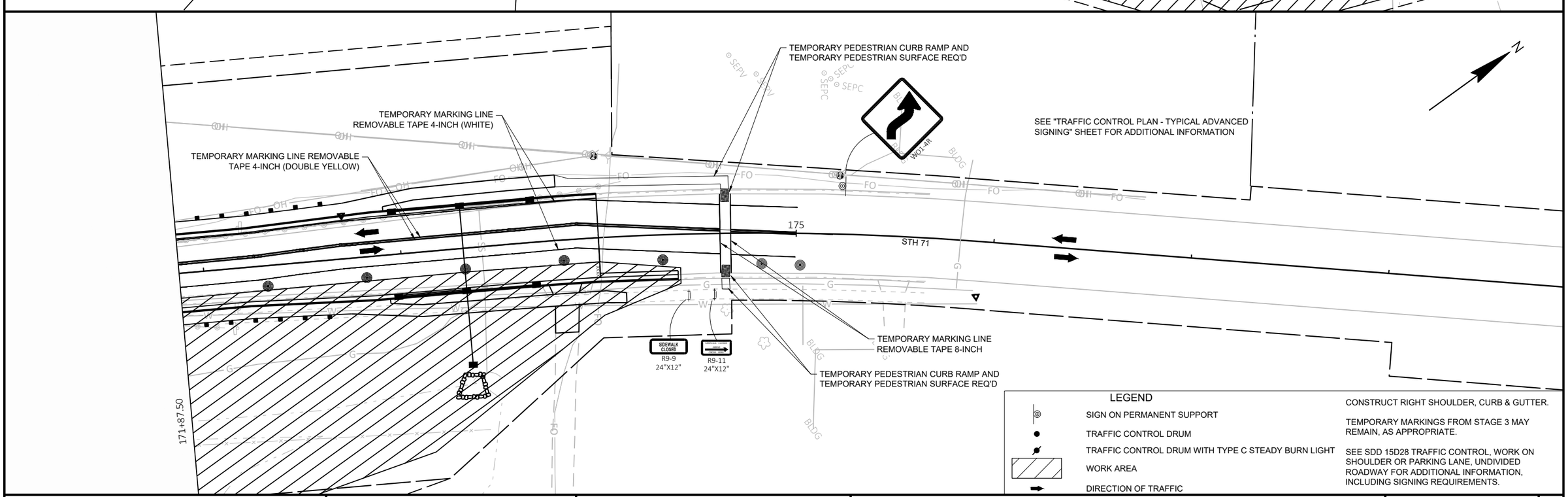
- SDD 15D31 TRAFFIC CONTROL, TEMPORARY BYPASS ROADWAY

PROJECT NO: 5130-00-80	HWY: STH 71	COUNTY: MONROE	TRAFFIC CONTROL PLAN - STAGE 3	SHEET 22	E

FILE NAME : \\SEHLX\PROJECTS\UZ\W\WITSW\147349\CIVIL 3D\51300000\SHEETSPLAN\SEC 02 DETAILS\025003-TC (TRAFFIC CONTROL, STAGE 3).DWG
LAYOUT NAME - 01
PLOT DATE : 3/30/2021 5:16 AM PLOT BY : TOREY LEONARD PLOT NAME : PLOT SCALE : 1 IN:50 FT
WISDOT/CADDS SHEET 44

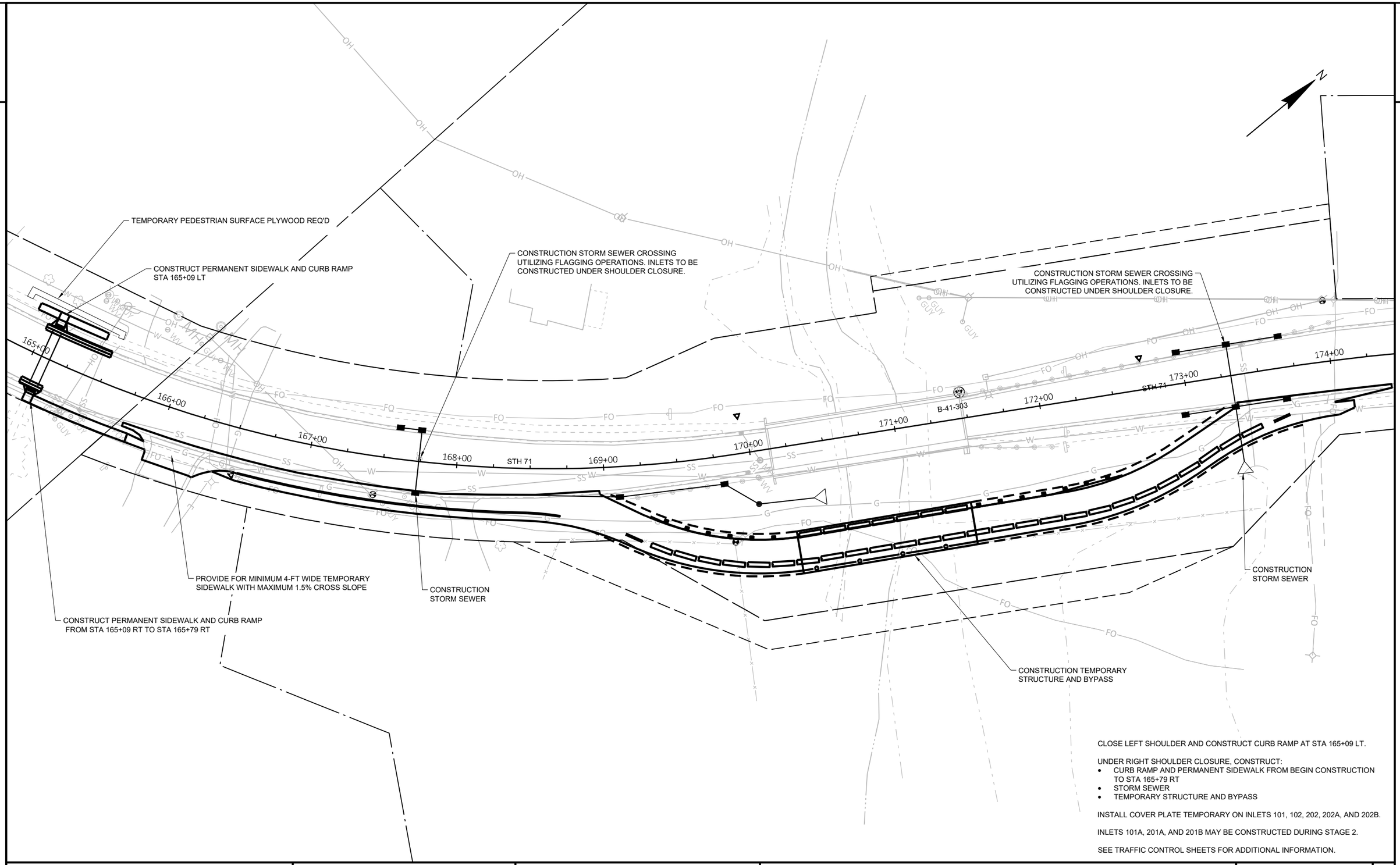
2





PROJECT NO: 5130-00-80	HWY: STH 71	COUNTY: MONROE	TRAFFIC CONTROL PLAN - STAGE 4	SHEET 23	E

2



CLOSE LEFT SHOULDER AND CONSTRUCT CURB RAMP AT STA 165+09 LT.

UNDER RIGHT SHOULDER CLOSURE, CONSTRUCT:

- CURB RAMP AND PERMANENT SIDEWALK FROM BEGIN CONSTRUCTION TO STA 165+79 RT
- STORM SEWER
- TEMPORARY STRUCTURE AND BYPASS

INSTALL COVER PLATE TEMPORARY ON INLETS 101, 102, 202, 202A, AND 202B.

INLETS 101A, 201A, AND 201B MAY BE CONSTRUCTED DURING STAGE 2.

SEE TRAFFIC CONTROL SHEETS FOR ADDITIONAL INFORMATION.

PROJECT NO: 5130-00-80	HWY: STH 71	COUNTY: MONROE	STAGED CONSTRUCTION - STAGE 1	SHEET 24	E

2

CONSTRUCT PERMANENT STRUCTURE,
CONCRETE APPROACH SLABS, AND
LEFT HALF OF ROADWAY

CONSTRUCTION
STORM SEWER

165+00
166+00
167+00
168+00
169+00
170+00
171+00
172+00
173+00
174+00
STH 71
B-41-303

CONSTRUCT PERMANENT STRUCTURE AND LEFT HALF OF ROADWAY.

CONSTRUCT STORM SEWER INLET 103A AND CROSSING PIPE.

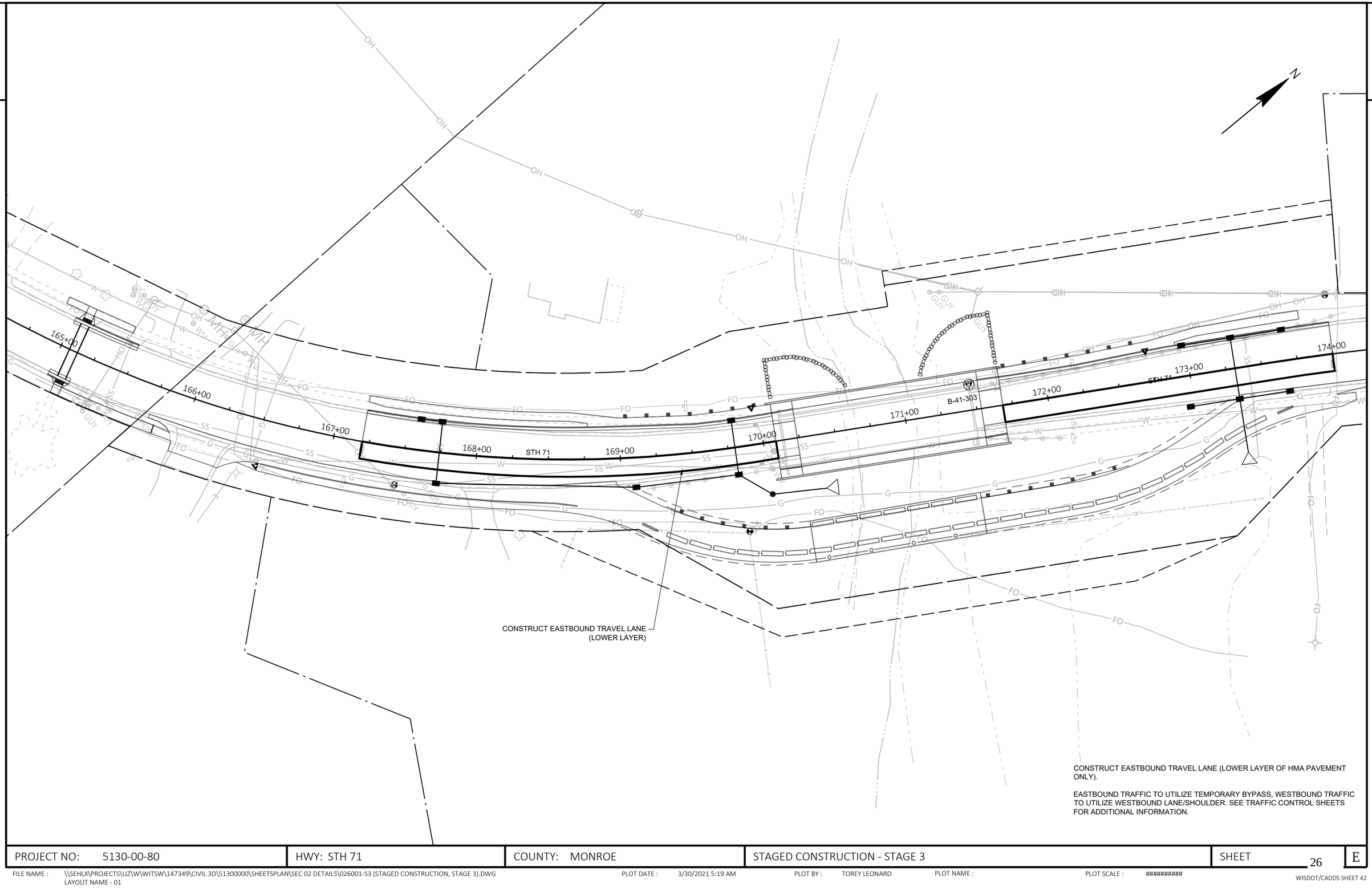
TRAFFIC TO UTILIZE SINGLE LANE BYPASS UNDER TEMPORARY SIGNALS. SEE TRAFFIC CONTROL SHEETS FOR ADDITIONAL INFORMATION.

PROJECT NO: 5130-00-80	HWY: STH 71	COUNTY: MONROE	STAGED CONSTRUCTION - STAGE 2	SHEET 25	E

FILE NAME : \\SEHLX\PROJECTS\UZ\W\WITSW\147349\CIVIL 3D\51300000\SHEETSPLAN\SEC 02 DETAILS\026001-S2 (STAGED CONSTRUCTION, STAGE 2).DWG
LAYOUT NAME - 01

PLOT DATE : 3/30/2021 5:18 AM PLOT BY : TOREY LEONARD PLOT NAME : PLOT SCALE : ##########

2



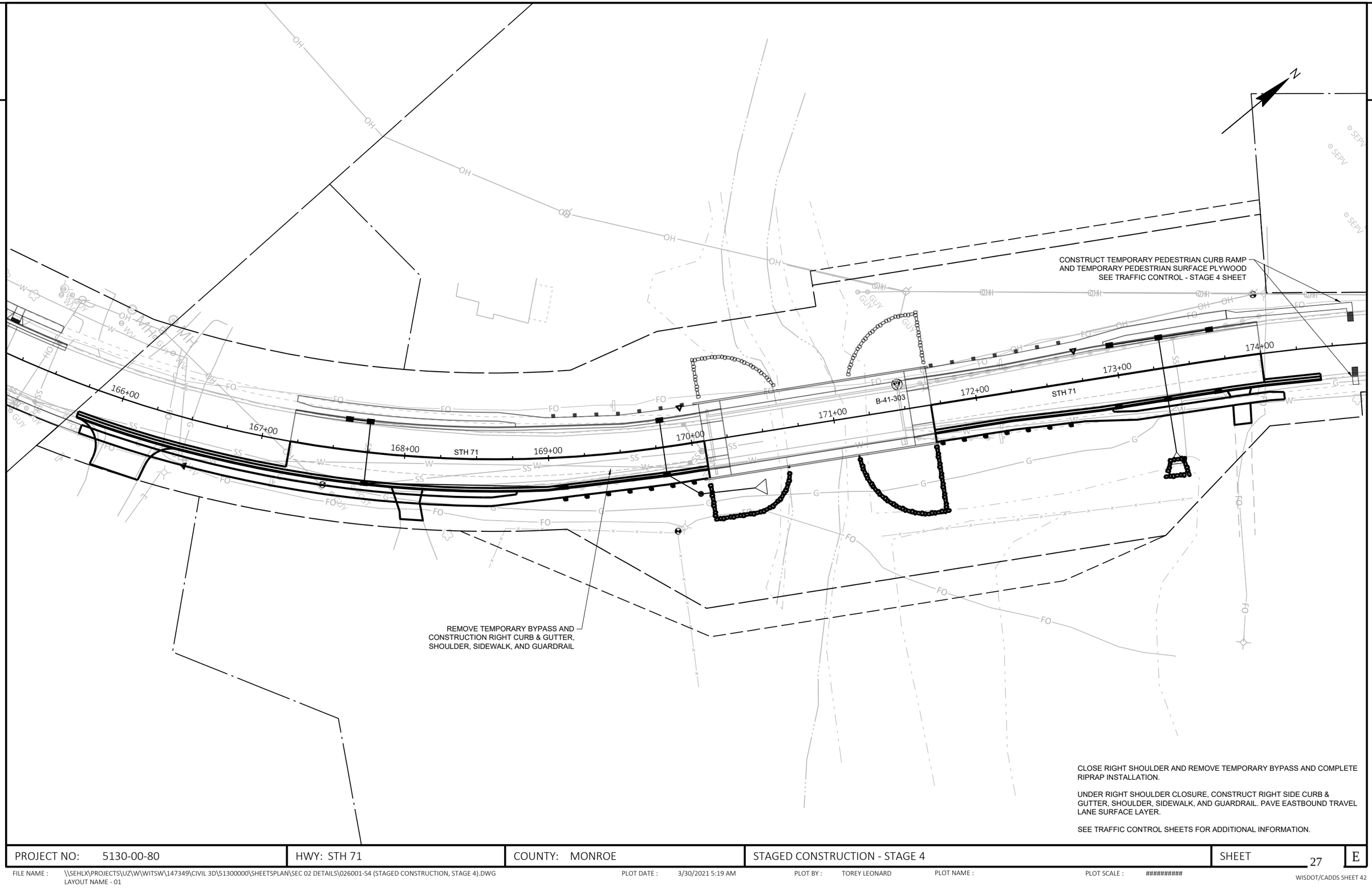
CONSTRUCT EASTBOUND TRAVEL LANE (LOWER LAYER OF HMA PAVEMENT ONLY).

EASTBOUND TRAFFIC TO UTILIZE TEMPORARY BYPASS, WESTBOUND TRAFFIC TO UTILIZE WESTBOUND LANE/SHOULDER. SEE TRAFFIC CONTROL SHEETS FOR ADDITIONAL INFORMATION.

PROJECT NO: 5130-00-80	HWY: STH 71	COUNTY: MONROE	STAGED CONSTRUCTION - STAGE 3	SHEET 26	E

FILE NAME : \\SEHLX\PROJECTS\UZ\W\WITSW\147349\CIVIL 3D\51300000\SHEETSPLAN\SEC 02 DETAILS\026001-S3 (STAGED CONSTRUCTION, STAGE 3).DWG
LAYOUT NAME - 01
PLOT DATE : 3/30/2021 5:19 AM PLOT BY : TOREY LEONARD PLOT NAME : PLOT SCALE : ##########
WISDOT/CADDS SHEET 42

2



CLOSE RIGHT SHOULDER AND REMOVE TEMPORARY BYPASS AND COMPLETE RIPRAP INSTALLATION.

UNDER RIGHT SHOULDER CLOSURE, CONSTRUCT RIGHT SIDE CURB & GUTTER, SHOULDER, SIDEWALK, AND GUARDRAIL. PAVE EASTBOUND TRAVEL LANE SURFACE LAYER.

SEE TRAFFIC CONTROL SHEETS FOR ADDITIONAL INFORMATION.

PROJECT NO: 5130-00-80	HWY: STH 71	COUNTY: MONROE	STAGED CONSTRUCTION - STAGE 4	SHEET 27	E

CURVE 1
PI STA = 162+50.29
Y = 332239.636
X = 701973.995
DELTA = 21°44'51"
D = 4°29'59"
T = 244.59'
L = 483.30'
R = 1273.30'
PC STA = 160+05.70
Y = 332229.948
X = 701729.594
PT STA = 164+89.00
Y = 332339.189
X = 702197.412
BK = N87°43'47.9"E
AH = N65°58'57.0"E

CURVE 2
PI STA = 167+48.78
Y = 332444.923
X = 702434.700
DELTA = 35°12'47"
D = 6°59'57"
T = 259.78'
L = 503.10'
R = 818.60'
PC STA = 164+89.00
Y = 332339.189
X = 702197.412
PT STA = 169+92.10
Y = 332668.134
X = 702567.598
BK = N65°58'57.0"E
AH = N30°46'09.6"E

CURVE 3
PI STA = 174+75.02
Y = 333083.077
X = 702814.653
DELTA = 9°29'00"
D = 3°59'59"
T = 118.82'
L = 237.10'
R = 1432.50'
PC STA = 173+56.20
Y = 332980.981
X = 702753.866
PT STA = 175+93.30
Y = 333173.761
X = 702891.430
BK = N30°46'09.6"E
AH = N40°15'09.5"E

CURVE 4
PI STA = 26+42.61BP
Y = 332321.916
X = 702158.648
DELTA = 3°49'04"
D = 4°29'59"
T = 42.44'
L = 84.85'
R = 1273.30'
PC STA = 26+00.17BP
Y = 332307.263
X = 702118.820
PT STA = 26+85.02BP
Y = 332339.189
X = 702197.412
BK = N69°48'01.3"E
AH = N65°58'57.0"E

CURVE 5
PI STA = 28+69.92BP
Y = 332417.516
X = 702364.906
DELTA = 13°20'05"
D = 28°38'52"
T = 23.38'
L = 46.55'
R = 200.00'
PC STA = 28+46.54BP
Y = 332407.612
X = 702343.728
PT STA = 28+93.09BP
Y = 332432.037
X = 702383.229
BK = N64°56'14.9"E
AH = N51°36'10.0"E

CURVE 6
PI STA = 29+66.61BP
Y = 332477.704
X = 702440.852
DELTA = 10°03'25"
D = 6°51'25"
T = 73.52'
L = 146.67'
R = 835.60'
PC STA = 28+93.09BP
Y = 332432.037
X = 702383.229
PT STA = 30+39.76BP
Y = 332532.731
X = 702489.615
BK = N51°36'10.0"E
AH = N41°32'44.6"E

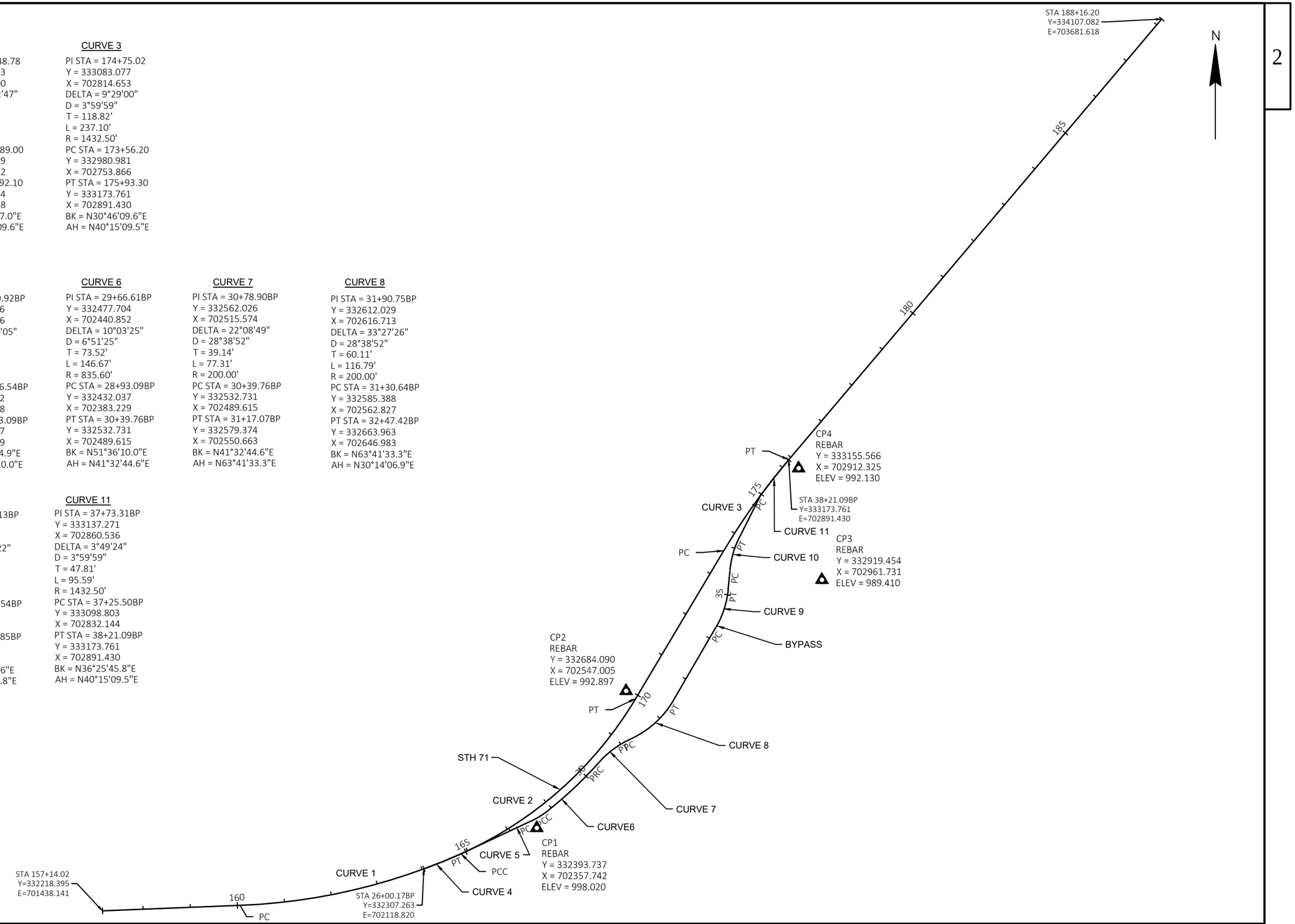
CURVE 7
PI STA = 30+78.90BP
Y = 332562.026
X = 702515.574
DELTA = 22°08'49"
D = 28°38'52"
T = 39.14'
L = 77.31'
R = 200.00'
PC STA = 30+39.76BP
Y = 332532.731
X = 702489.615
PT STA = 31+17.07BP
Y = 332579.374
X = 702550.663
BK = N41°32'44.6"E
AH = N63°41'33.3"E

CURVE 8
PI STA = 31+90.75BP
Y = 332612.029
X = 702616.713
DELTA = 33°27'26"
D = 28°38'52"
T = 60.11'
L = 116.79'
R = 200.00'
PC STA = 31+30.64BP
Y = 332585.388
X = 702562.827
PT STA = 32+47.42BP
Y = 332663.963
X = 702646.983
BK = N63°41'33.3"E
AH = N30°14'06.9"E

CURVE 9
PI STA = 34+69.85BP
Y = 332856.134
X = 702758.987
DELTA = 24°42'48"
D = 28°38'52"
T = 43.81'
L = 86.27'
R = 200.00'
PC STA = 34+26.04BP
Y = 332818.280
X = 702736.924
PT STA = 35+12.30BP
Y = 332899.745
X = 702763.203
BK = N30°14'07.1"E
AH = N05°31'18.6"E

CURVE 10
PI STA = 35+90.13BP
Y = 332977.207
X = 702770.692
DELTA = 21°17'22"
D = 28°38'52"
T = 37.59'
L = 74.31'
R = 200.00'
PC STA = 35+52.54BP
Y = 332939.791
X = 702767.075
PT STA = 36+26.85BP
Y = 333010.757
X = 702787.647
BK = N05°31'18.6"E
AH = N26°48'40.8"E

CURVE 11
PI STA = 37+73.31BP
Y = 333137.271
X = 702860.536
DELTA = 3°49'24"
D = 3°59'59"
T = 47.81'
L = 95.59'
R = 1432.50'
PC STA = 37+25.50BP
Y = 333098.803
X = 702832.144
PT STA = 38+21.09BP
Y = 333173.761
X = 702891.430
BK = N36°25'45.8"E
AH = N40°15'09.5"E



PROJECT NO: 5130-00-80	HWY: STH 71	COUNTY: MONROE	ALIGNMENT DETAIL	SHEET 28	E

Estimate Of Quantities

5130-00-80

Line	Item	Item Description	Unit	Total	Qty
0002	201.0105	Clearing	STA	6.000	6.000
0004	201.0205	Grubbing	STA	6.000	6.000
0006	203.0600.S	Removing Old Structure Over Waterway With Minimal Debris (station) 01. 170+83.00	LS	1.000	1.000
0008	204.0100	Removing Concrete Pavement	SY	97.000	97.000
0010	204.0110	Removing Asphaltic Surface	SY	49.000	49.000
0012	204.0150	Removing Curb & Gutter	LF	1,326.000	1,326.000
0014	204.0155	Removing Concrete Sidewalk	SY	330.000	330.000
0016	204.0165	Removing Guardrail	LF	433.000	433.000
0018	204.0170	Removing Fence	LF	218.000	218.000
0020	204.0210	Removing Manholes	EACH	1.000	1.000
0022	204.0220	Removing Inlets	EACH	6.000	6.000
0024	204.0245	Removing Storm Sewer (size) 01. 12-Inch	LF	80.000	80.000
0026	204.0245	Removing Storm Sewer (size) 02. 18-Inch	LF	84.000	84.000
0028	204.0245	Removing Storm Sewer (size) 03. 24-Inch	LF	308.000	308.000
0030	205.0100	Excavation Common	CY	8,532.000	8,532.000
0032	206.1000	Excavation for Structures Bridges (structure) 01. B-41-303	LS	1.000	1.000
0034	208.0100	Borrow	CY	6,601.000	6,601.000
0036	210.1500	Backfill Structure Type A	TON	1,160.000	1,160.000
0038	213.0100	Finishing Roadway (project) 01. 5130-00-80	EACH	1.000	1.000
0040	305.0110	Base Aggregate Dense 3/4-Inch	TON	277.000	277.000
0042	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	2,118.000	2,118.000
0044	312.0110	Select Crushed Material	TON	2,942.000	2,942.000
0046	415.0080	Concrete Pavement 8-Inch	SY	54.000	54.000
0048	415.0410	Concrete Pavement Approach Slab	SY	80.000	80.000
0050	416.0160	Concrete Driveway 6-Inch	SY	18.000	18.000
0052	416.0170	Concrete Driveway 7-Inch	SY	99.000	99.000
0054	455.0605	Tack Coat	GAL	117.000	117.000
0056	460.2000	Incentive Density HMA Pavement	DOL	380.000	380.000
0058	460.5224	HMA Pavement 4 LT 58-28 S	TON	579.000	579.000
0060	465.0120	Asphaltic Surface Driveways and Field Entrances	TON	4.000	4.000
0062	465.0125	Asphaltic Surface Temporary	TON	282.000	282.000
0064	465.0310	Asphaltic Curb	LF	223.000	223.000
0066	502.0100	Concrete Masonry Bridges	CY	470.000	470.000
0068	502.3200	Protective Surface Treatment	SY	763.000	763.000
0070	502.3210	Pigmented Surface Sealer	SY	138.000	138.000
0072	503.0172	Prestressed Girder Type I 72W-Inch	LF	896.000	896.000
0074	505.0400	Bar Steel Reinforcement HS Structures	LB	8,360.000	8,360.000
0076	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	68,360.000	68,360.000

5130-00-80

Line	Item	Item Description	Unit	Total	Qty
0078	506.2605	Bearing Pads Elastomeric Non-Laminated	EACH	14.000	14.000
0080	506.4000	Steel Diaphragms (structure) 01. B-41-303	EACH	12.000	12.000
0082	513.7093	Railing Steel Type 3T	LF	342.000	342.000
0084	516.0500	Rubberized Membrane Waterproofing	SY	38.000	38.000
0086	522.1024	Apron Endwalls for Culvert Pipe Reinforced Concrete 24-Inch	EACH	2.000	2.000
0088	526.0100	Temporary Structure (station) 01. 33+02 BP	LS	1.000	1.000
0090	550.0020	Pre-Boring Rock or Consolidated Materials	LF	130.000	130.000
0092	550.1120	Piling Steel HP 12-Inch X 53 Lb	LF	715.000	715.000
0094	601.0411	Concrete Curb & Gutter 30-Inch Type D	LF	1,296.000	1,296.000
0096	602.0405	Concrete Sidewalk 4-Inch	SF	7,733.000	7,733.000
0098	602.0415	Concrete Sidewalk 6-Inch	SF	182.000	182.000
0100	602.0420	Concrete Sidewalk 7-Inch	SF	280.000	280.000
0102	602.0515	Curb Ramp Detectable Warning Field Natural Patina	SF	24.000	24.000
0104	603.8000	Concrete Barrier Temporary Precast Delivered	LF	595.000	595.000
0106	603.8125	Concrete Barrier Temporary Precast Installed	LF	595.000	595.000
0108	606.0300	Riprap Heavy	CY	854.000	854.000
0110	608.0312	Storm Sewer Pipe Reinforced Concrete Class III 12-Inch	LF	193.000	193.000
0112	608.0315	Storm Sewer Pipe Reinforced Concrete Class III 15-Inch	LF	43.000	43.000
0114	608.0318	Storm Sewer Pipe Reinforced Concrete Class III 18-Inch	LF	43.000	43.000
0116	608.0324	Storm Sewer Pipe Reinforced Concrete Class III 24-Inch	LF	297.000	297.000
0118	611.0530	Manhole Covers Type J	EACH	1.000	1.000
0120	611.0624	Inlet Covers Type H	EACH	12.000	12.000
0122	611.2004	Manholes 4-FT Diameter	EACH	1.000	1.000
0124	611.3004	Inlets 4-FT Diameter	EACH	5.000	5.000
0126	611.3230	Inlets 2x3-FT	EACH	7.000	7.000
0128	611.8120.S	Cover Plates Temporary	EACH	5.000	5.000
0130	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	200.000	200.000
0132	614.0150	Anchor Assemblies for Steel Plate Beam Guard	EACH	4.000	4.000
0134	614.0905	Crash Cushions Temporary	EACH	2.000	2.000
0136	614.1000	MGS Guardrail Temporary	LF	25.000	25.000
0138	614.1100	MGS Guardrail Temporary Thrie Beam Transition	LF	78.800	78.800
0140	614.1200	MGS Guardrail Temporary Terminal EAT	EACH	2.000	2.000
0142	614.2300	MGS Guardrail 3	LF	50.000	50.000
0144	614.2500	MGS Thrie Beam Transition	LF	157.600	157.600
0146	614.2610	MGS Guardrail Terminal EAT	EACH	4.000	4.000
0148	618.0100	Maintenance And Repair of Haul Roads (project) 01.	EACH	1.000	1.000

5130-00-80

Line	Item	Item Description	Unit	Total	Qty
		5130-00-80			
0150	619.1000	Mobilization	EACH	1.000	1.000
0152	624.0100	Water	MGAL	166.000	166.000
0154	625.0500	Salvaged Topsoil	SY	2,994.000	2,994.000
0156	628.1504	Silt Fence	LF	1,628.000	1,628.000
0158	628.1520	Silt Fence Maintenance	LF	1,628.000	1,628.000
0160	628.1905	Mobilizations Erosion Control	EACH	4.000	4.000
0162	628.1910	Mobilizations Emergency Erosion Control	EACH	6.000	6.000
0164	628.2008	Erosion Mat Urban Class I Type B	SY	2,047.000	2,047.000
0166	628.2023	Erosion Mat Class II Type B	SY	8,182.000	8,182.000
0168	628.6005	Turbidity Barriers	SY	104.000	104.000
0170	628.7015	Inlet Protection Type C	EACH	14.000	14.000
0172	628.7504	Temporary Ditch Checks	LF	38.000	38.000
0174	629.0210	Fertilizer Type B	CWT	6.000	6.000
0176	630.0120	Seeding Mixture No. 20	LB	132.000	132.000
0178	630.0140	Seeding Mixture No. 40	LB	43.000	43.000
0180	630.0160	Seeding Mixture No. 60	LB	8.000	8.000
0182	630.0200	Seeding Temporary	LB	87.000	87.000
0184	630.0500	Seed Water	MGAL	607.000	607.000
0186	633.5200	Markers Culvert End	EACH	2.000	2.000
0188	634.0614	Posts Wood 4x6-Inch X 14-FT	EACH	5.000	5.000
0190	637.2230	Signs Type II Reflective F	SF	16.500	16.500
0192	638.2102	Moving Signs Type II	EACH	3.000	3.000
0194	638.3000	Removing Small Sign Supports	EACH	3.000	3.000
0196	642.5001	Field Office Type B	EACH	1.000	1.000
0198	643.0300	Traffic Control Drums	DAY	4,088.000	4,088.000
0200	643.0410	Traffic Control Barricades Type II	DAY	260.000	260.000
0202	643.0420	Traffic Control Barricades Type III	DAY	1,136.000	1,136.000
0204	643.0500	Traffic Control Flexible Tubular Marker Posts	EACH	10.000	10.000
0206	643.0600	Traffic Control Flexible Tubular Marker Bases	EACH	10.000	10.000
0208	643.0705	Traffic Control Warning Lights Type A	DAY	1,368.000	1,368.000
0210	643.0715	Traffic Control Warning Lights Type C	DAY	1,208.000	1,208.000
0212	643.0900	Traffic Control Signs	DAY	4,180.000	4,180.000
0214	643.1050	Traffic Control Signs PCMS	DAY	14.000	14.000
0216	643.1070	Traffic Control Cones 42-Inch	DAY	168.000	168.000
0218	643.5000	Traffic Control	EACH	1.000	1.000
0220	644.1420	Temporary Pedestrian Surface Plywood	SF	679.000	679.000
0222	644.1601	Temporary Pedestrian Curb Ramp	DAY	56.000	56.000
0224	644.1810	Temporary Pedestrian Barricade	LF	120.000	120.000
0226	645.0105	Geotextile Type C	SY	2,779.000	2,779.000

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Line	Item	Item Description	Unit	Total	Qty
0228	645.0111	Geotextile Type DF Schedule A	SY	104.000	104.000
0230	645.0120	Geotextile Type HR	SY	1,659.000	1,659.000
0232	646.4520	Marking Line Same Day Epoxy 4-Inch	LF	1,815.000	1,815.000
0234	646.7420	Marking Crosswalk Epoxy Transverse Line 6-Inch	LF	80.000	80.000
0236	646.9000	Marking Removal Line 4-Inch	LF	656.000	656.000
0238	649.0150	Temporary Marking Line Removable Tape 4-Inch	LF	7,184.000	7,184.000
0240	649.0250	Temporary Marking Line Removable Tape 8-Inch	LF	160.000	160.000
0242	649.0850	Temporary Marking Stop Line Removable Tape 18-Inch	LF	25.000	25.000
0244	650.4000	Construction Staking Storm Sewer	EACH	15.000	15.000
0246	650.4500	Construction Staking Subgrade	LF	1,158.000	1,158.000
0248	650.5000	Construction Staking Base	LF	1,158.000	1,158.000
0250	650.5500	Construction Staking Curb Gutter and Curb & Gutter	LF	1,338.000	1,338.000
0252	650.6500	Construction Staking Structure Layout (structure) 01. B-41-303	LS	1.000	1.000
0254	650.9000	Construction Staking Curb Ramps	EACH	2.000	2.000
0256	650.9910	Construction Staking Supplemental Control (project) 01. 5130-00-80	LS	1.000	1.000
0258	650.9920	Construction Staking Slope Stakes	LF	2,316.000	2,316.000
0260	661.0100	Temporary Traffic Signals for Bridges (structure) 01. B-41-0303	LS	1.000	1.000
0262	690.0150	Sawing Asphalt	LF	362.000	362.000
0264	690.0250	Sawing Concrete	LF	133.000	133.000
0266	715.0415	Incentive Strength Concrete Pavement	DOL	500.000	500.000
0268	715.0502	Incentive Strength Concrete Structures	DOL	2,820.000	2,820.000
0270	999.2000.S	Installing and Maintaining Bird Deterrent System	EACH	1.000	1.000
0272	ASP.1T0A	On-the-Job Training Apprentice at $5.00/HR	HRS	1,000.000	1,000.000
0274	ASP.1T0G	On-the-Job Training Graduate at $5.00/HR	HRS	1,000.000	1,000.000
0276	SPV.0090	Special 01. Pipe Underdrain (6-inch) with Geotextile Fabric and Aggregate	LF	132.000	132.000

NOTE:
ALL ITEMS AND QUANTITIES ON THIS SHEET ARE FOR ENGINEERS ESTIMATE CATEGORY 0010

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CLEARING AND GRUBBING

STATION	201.0105 CLEARING STA	201.0205 GRUBBING STA	COMMENT
169+70 - 170+60	1	1	LEFT
168+70 - 173+55	5	5	RIGHT
PROJECT TOTALS	6	6	

PAVEMENT REMOVALS

STAGE	STATION	204.0100 REMOVING CONCRETE PAVEMENT SY	204.0110 REMOVING ASPHALTIC SURFACE SY	204.0150 REMOVING CURB & GUTTER LF	204.0155 REMOVING CONCRETE SIDEWALK SY	COMMENT
1	164+90 - 165+43, LT	-	-	-	28	
	165+30, LT	15	-	-	-	APRON
	165+09, RT	-	-	-	9	
	165+01 - 165+50, LT	-	11	48	-	C&G PATCH AREA
	165+00 - 165+16, RT	-	4	16	-	C&G PATCH AREA
	166+10, RT	67	-	-	-	MARTIN DRIVEWAY
	165+74 - 167+20, RT		34			C&G PATCH AREA
	165+74 - 169+04, RT	-	-	322	-	
	173+03 - 174+13, RT	-	-	-	60	
	173+24 - 174+40, RT	-	-	108	-	
	173+82, RT	15	-	-	-	APRON
2	167+20 - 170+13, LT	-	-	293	-	
	167+20 - 170+13, LT	-	-	-	145	
	171+47 - 174+00, LT	-	-	253	-	
3	169+04 - 170+13, RT	-	-	109		
	171+47 - 173+24, RT	-	-	177		
4	171+48 - 173+03, RT	-	-	-	88	
	PROJECT TOTALS	97	49	1326	330	

REMOVING GUARDRAIL & FENCE

STATION	204.0165 REMOVING GUARDRAIL LF	204.0170 REMOVING FENCE LF
169+16 - 170+13, RT	101	-
171+47 - 174+12, LT	269	-
171+47 - 172+08, RT	63	-
171+19 - 173+38, RT	-	218
PROJECT TOTAL	433	218

REMOVING STORM

STATION	OFFSET	204.0210 REMOVING MANHOLES EA	204.0220 REMOVING INLETS EA	204.0245 REMOVING STORM SEWER 12-INCH LF	204.0245 REMOVING STORM SEWER 18-INCH LF	204.0245 REMOVING STORM SEWER 24-INCH LF	COMMENT
STA 167+74	20.1' LT	-	1	-	-	-	
STA 167+74	21.4' RT	-	1	-	-	-	
STA 167+74	CL	-	-	44	-	-	CROSSES ROADWAY
STA 167+74 - STA 170+49	RT	-	-	-	-	279	BETWEEN INLET/MANHOLE/OUTFALL
STA 170+06	6.6' RT	1	-	-	-	-	
STA 169+96	14.2' LT	-	1	-	-	-	
STA 169+96	13.7' RT	-	1	-	-	-	
STA 170+03	CL	-	-	23	-	-	BETWEEN INLET & MANHOLE
STA 170+06	6.6' RT	-	-	13	-	-	BETWEEN INLET & MANHOLE
STA 173+41	19.2' LT	-	1	-	-	-	
STA 173+41	20' RT	-	1	-	-	-	
STA 173+41	CL	-	-	-	84	-	CROSSES ROADWAY/TO ENDWALL
STA 173+32						29	TEMPORARY EXTENSION PIPE
	PROJECT TOTALS	1	6	80	84	308	

NOTE:
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COMMON EXCAVATION AND BORROW

DIVISION	FROM/TO STATION	205.0100 COMMON EXCAVATION CUT (1)	UNEXPANDED FILL	EXPANDED FILL (2) FACTOR 1.30	MASS ORDINATE +/ (3)	WASTE	208.0100 BORROW	COMMENT
DIVISION 1								
STAGE 1 (CONSTRUCT BYPASS)	27+71.857/35+80.136	917	4,424	5,751	-4,834	0	4,834	
DIVISION 1 SUBTOTAL		917	4,424	5,751	4,834	0	4,834	
DIVISION 2								
STAGE 2 (CONSTRUCT WB HALF OF ROAD)	167+20/174+00	1,237	2,311	3,004	-1,767	0	1,767	
DIVISION 2 SUBTOTAL		1,237	2,311	3,004	-1,767	0	1,767	
DIVISION 3								
STAGE 3 (CONSTRUCT EB LANE)	167+20/174+00	609	0	0	609	609	0	
DIVISION 3 SUBTOTAL		609	0	0	609	609	0	
DIVISION 4								
STAGE 4 (CONSTRUCT EB SHOULDER, REMOVE BYPASS)	165+07.626/174+07.847	5,769	324	421	5,348	5,348	0	
DIVISION 4 SUBTOTAL		5,769	324	421	5,348	5,348	0	
GRAND TOTAL		8,532	7,059	9,176	-644	5,957	6,601	
	TOTAL COMMON EXC	8,532						

NOTES:
(1) EXISTING ASPHALTIC PAVEMENT IS INCLUDED IN COMMON EXCAVATION TOTALS
(2) EXPANDED FILL FACTOR=1.30
(3) THE MASS ORDINATE + OR - QTY CALCULATED FOR THE DIVISION. PLUS QUANTITY INDICATES AN EXCESS OF MATERIAL WITHIN THE DIVISION. MINUS INDICATES A SHORTAGE OF MATERIAL WITHIN THE DIVISION.

AGGREGATE

STAGE	STATION	305.0110 BASE AGGREGATE DENSE 3/4-INCH TON	305.0120 BASE AGGREGATE DENSE 1 1/4-INCH TON	312.0110 SELECT CRUSHED MATERIAL TON	624.0100 WATER MGAL	NOTES
1	27+71 BP - 30+80 BP	-	102	338	14	
	30+80 BP - 32+42 BP	14	114	242	12	
	33+62 BP - 35+82 BP	22	185	377	18	
	164+90 - 165+43, LT	11	-	-	-	BELOW SIDEWALK
	165+06 - 165+79, RT	15	-	-	-	BELOW SIDEWALK
2	167+20 - 170+09	53	504	605	35	BAD 3/4-INCH BELOW SIDEWALK
	171+68 - 174+00	39	406	487	28	BAD 3/4-INCH BELOW SIDEWALK
3	167+20 - 170+09	-	259	311	18	
	171+68 - 174+00	-	206	247	14	
4	165+74 - 170+09	73	158	189	13	BAD 3/4-INCH BELOW SIDEWALK
	171+68 - 174+40	47	122	146	10	BAD 3/4-INCH BELOW SIDEWALK
	166+11, RT	-	44	-	2	COMMERCIAL ENTRANCE
	168+05, RT	-	12	-	1	PRIVATE DRIEWAY
	173+82, RT	3	6	-	1	AGGREGATE DRIVEWAY
	PROJECT TOTALS	277	2118	2942	166	

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CONCRETE PAVEMENT

STAGE	STATION	415.0080 CONCRETE PAVEMENT 8-INCH SY	415.0410 CONCRETE PAVEMENT APPROACH SLAB SY	416.0160 CONCRETE DRIVEWAY 6-INCH SY	416.0170 CONCRETE DRIVEWAY 7-INCH SY	602.0405 CONCRETE SIDEWALK 4-INCH SF	602.0415 CONCRETE SIDEWALK 6-INCH SF	602.0420 CONCRETE SIDEWALK 7-INCH SF	NOTES
1	164+90 - 165+43, LT	-	-	-	-	304	-	-	
	165+06 - 165+79, RT	-	-	-	-	511	-	-	
2	167+20 - 170+24, LT	27	40	-	-	1842	-	-	
	171+53 - 173+80, LT	27	40	-	-	1384	-	-	
4	165+79 - 170+09, RT	-	-	-	-	2291	-	-	
	166+09, RT	-	-	-	99	-	-	280	COMMERCIAL DRIVEWAY
	168+04, RT	-	-	10	-	-	106	-	PRIVATE DRIVEWAY APRON
	171+68 - 174+13, RT	-	-	-	-	1401	-	-	
	173+81, RT	-	-	8	-	-	76	-	PRIVATE DRIVEWAY APRON
	PROJECT TOTALS	54	80	18	99	7733	182	280	

ASPHALT ITEMS

STAGE	STATION	455.0605 TACK COAT GAL	460.5224 HMA PAVEMENT 4 LT 58-28 S TON	465.0120 ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES TON	465.0125 ASPHALTIC SURFACE TEMPORARY TON	465.0310 ASPHALTIC CURB LF	NOTES
1	165+01 - 165+50, LT	1	3	-	-	-	CURB & GUTTER PATCH AREA
	165+00 - 165+16, RT	1	1	-	-	-	CURB & GUTTER PATCH AREA
	27+71 BP - 30+80 BP	-	-	-	95	223	-
	30+80 BP - 32+42 BP	-	-	-	71	-	-
	33+62 BP - 35+82 BP	-	-	-	116	-	-
2	167+20 - 170+09	-	86	-	-	-	BINDER ONLY
	171+68 - 174+00	-	69	-	-	-	BINDER ONLY
3	167+20 - 170+09	-	55	-	-	-	BINDER ONLY
	171+68 - 174+00	-	44	-	-	-	BINDER ONLY
4	167+20 - 170+09	62	139	-	-	-	SURFACE LAYER, ENTIRE ROADWAY
	171+68 - 174+00	50	110	-	-	-	SURFACE LAYER, ENTIRE ROADWAY
	167+20 - 170+09	-	34	-	-	-	BINDER ONLY , EB SHOULDER
	171+68 - 174+00	-	26	-	-	-	BINDER ONLY , EB SHOULDER
	165+74 - 167+20,RT	2	9	-	-	-	CURB & GUTTER PATCH AREA
	174+00 - 174+40,RT	1	3	-	-	-	CURB & GUTTER PATCH AREA
	168+04, RT	-	-	4	-	-	PRIVATE DRIVEWAY
	PROJECT TOTALS	117	579	4	282	223	

NOTE:
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CURB & GUTTER

STAGE	STATION	601.0411 CONCRETE CURB & GUTTER 30-INCH TYPE D LF
1	165+01 - 165+50, LT	48
	165+00 - 165+16, RT	16
2	167+20 - 170+09, LT	282
	171+68 - 174+00, LT	233
4	165+74 - 170+09, RT	446
	171+68 - 174+40, RT	271
	PROJECT TOTALS	1296

DETECTABLE WARNING FIELD

STAGE	LOCATION	602.0515 DETECTABLE WARNING FIELD NATURAL PATINA SF
1	165+09, LT	12
	165+09, RT	12
	PROJECT TOTALS	24

RIPRAP

LOCATION	606.0300 RIPRAP HEAVY (1) CY	645.0120 GEOTEXTILE TYPE HR (1) SY
173+31	9	14
PROJECT TOTALS	9	14

(1) SEE STRUCTURE PLAN FOR ADDITIONAL QUANTITY

NOTE:
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STORM SEWER ITEMS

STATION - STATION / STRUCTURE - STRUCTURE	LOCATION	522.1024 ARPON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 24-INCH EACH	608.0312 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 12-INCH LF	608.0315 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 15-INCH LF	608.0318 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 18-INCH LF	608.03240 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 24-INCH LF	611.0530 MANHOLE COVERS TYPE J EACH	611.0624 INLET COVERS TYPE H EACH	611.2004 MANHOLES 4-FT DIAMETER EACH	611.3004 INLETS 4-FT DIAMETER EACH	611.3230 INLETS 2 x 3-FT EACH	611.8120.S COVER PLATES TEMPORARY EACH	633.5200 MARKERS CULVERT END EACH	SPV. 0090.01 PIPE UNDERDRAIN 6-INCH WITH GEOTEXTITLE FABRIC AND AGGREGATE LF	REMARKS
167+59	LT	-	-	-	-	-	-	1	-	-	1	-	-	-	101A
167+74	LT	-	-	-	-	-	-	1	-	-	1	-	-	-	101B
167+74	RT	-	-	-	-	-	-	1	-	1	-	-	-	-	101
169+10	RT	-	-	-	-	-	-	1	-	1	-	-	-	-	102
169+80	LT	-	-	-	-	-	-	1	-	-	1	-	-	-	103A
169+80	RT	-	-	-	-	-	-	1	-	1	-	-	-	-	103
170+01	RT	-	-	-	-	-	1	-	1	-	-	-	-	-	104, STEPS REQ'D
170+46	RT	1	-	-	-	-	-	-	-	-	-	-	1	-	105
173+06	LT/RT	-	-	-	-	-	-	2	-	2	-	-	-	-	201A & 202A
173+32	LT/RT	1	-	-	-	-	-	2	-	-	2	-	1	-	201 & 202, 203
173+46	LT/RT	-	-	-	-	-	-	2	-	-	2	-	-	-	201B & 202B
101A - 101B	LT	-	15	-	-	-	-	-	-	-	-	-	-	-	
101B - 101	CL	-	-	43	-	-	-	-	-	-	-	-	-	-	
101 - 102	RT	-	-	-	-	92	-	-	-	-	-	-	-	-	
102 - 103	RT	-	-	-	-	72	-	-	-	-	-	-	-	-	
103 - 104	RT	-	-	-	-	28	-	-	-	-	-	-	-	-	
104 - 105	RT	-	-	-	-	38	-	-	-	-	-	-	-	-	
103A - 103	CL	-	38	-	-	-	-	-	-	-	-	-	-	-	
201A - 201	LT	-	35	-	-	-	-	-	-	-	-	-	-	-	
201B - 201	LT	-	35	-	-	-	-	-	-	-	-	-	-	-	
201 - 202	CL	-	-	-	43	-	-	-	-	-	-	-	-	-	
202 - 203	RT	-	-	-	-	38	-	-	-	-	-	-	-	-	JOINT TIES REQUIRED FOR ALL PIPE SECTIONS
202A - 202	RT	-	35	-	-	-	-	-	-	-	-	-	-	-	
202B-202	RT	-	35	-	-	-	-	-	-	-	-	-	-	-	
INLET 101	RT	-	-	-	-	-	-	-	-	-	-	1	-	-	INLET 101
INLET 102	RT	-	-	-	-	-	-	-	-	-	-	1	-	-	INLET 102
INLET 202	RT	-	-	-	-	-	-	-	-	-	-	1	-	-	INLET 202
INLET 202A	RT	-	-	-	-	-	-	-	-	-	-	1	-	-	INLET 202A
INLET 202B	RT	-	-	-	-	-	-	-	-	-	-	1	-	-	INLET 202B
173+32	RT	-	-	-	-	29	-	-	-	-	-	-	-	-	TEMPORARY OUTFALL EXTENSION
167+20 - 170+09	LT/RT	-	-	-	-	-	-	-	-	-	-	-	-	88	
171+68 - 174+00	LT/RT	-	-	-	-	-	-	-	-	-	-	-	-	44	
	PROJECT TOTAL	**2**	**193**	**43**	**43**	**297**	**1**	**12**	**1**	**5**	**7**	**5**	**2**	**132**	

NOTE:
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CONCRETE BARRIER TEMPORARY AND CRASH CUSHION TEMPORARY

STAGE	STATION	603.8000 CONCRETE BARRIER TEMPORARY PRECAST DELIVERED LF	603.8125 CONCRETE BARRIER TEMPORARY PRECAST INSTALLED LF	614.0905 CRASH CUSHIONS TEMPORARY EA	BACK WIDTH FT	OBJECT MARKING PATTERN	TRAFFIC DIRECTION	TRAFFIC LOCATION	CRASH CUSHION SHIELDS
1	31+24 BP	-	-	1	2	OM-3R (WO-58R)	UNIDIRECTIONAL	L	SINGLE TEMPORARY BARRIER
	31+24 BP - 35+91 BP	595	595	-	-	-	-	-	-
	35+91 BP	-	-	1	2	OM-3L (WO5-58L)	UNIDIRECTIONAL	R	SINGLE TEMPORARY BARRIER
	PROJECT TOTALS	595	595	2					

MGS GUARDRAIL

STAGE	STATION	614.1000 MGS GUARDRAIL TEMPORARY LF	614.1100 MGS GUARDRAIL TEMPORARY THRIE BEAM TRANSITION LF	614.1200 MGS GUARDRAIL TEMPORARY TERMINAL EAT EA	614.2300 MGS GUARDRAIL 3 LF	614.2500 MGS THRIE BEAM TRANSITION LF	614.2610 MGS GUARDRAIL TERMINAL EAT EA
1	31+35 BP - 32+42 BP	12.5	39.4	1	-	-	-
	33+61 BP - 34+69 BP	12.5	39.4	1	-	-	-
2	168+99 - 170+08, LT	-	-	-	12.5	39.4	1
	171+67 - 172+73, LT	-	-	-	12.5	39.4	1
4	169+05 - 170+08, RT	-	-	-	12.5	39.4	1
	171+67 - 172+72, RT	-	-	-	12.5	39.4	1
	PROJECT TOTALS	25	78.8	2	50	157.6	4

LANDSCAPING

STAGE	STATION	LOCATION	625.0500 SALVAGED TOPSOIL SY	629.0210 FERTILIZER TYPE B CWT	630.0120 SEEDING MIXTURE NO. 20 LB	630.0140 SEEDING MIXTURE NO. 40 LB	630.0160 SEEDING MIXTURE NO. 60 LB	630.0200 SEEDING TEMPORARY LB	630.0500 SEED WATER MGAL	645.0105 GEOTEXTILE TYPE C SY
1	27+00 BP - 32+93 BP	RT	-	-	-	2	-	24	-	245
	32+93 BP - 37+00 BP	RT	-	-	-	-	-	45	-	1978
	UNDISTRIBUTED QTY		-	-	-	1	-	18	-	556
	SUBTOTAL STAGE 1		0	0	0	3	0	87	0	2779
2	164+89 - 170+75	LT	306	1	8	6	-	-	62	-
	170+75 - 174+03	LT	1519	1	45	-	-	-	308	-
	UNDISTRIBUTED QTY		457	1	14	2	-	-	93	-
	SUBTOTAL STAGE 2		2282	3	67	8	0	0	463	0
4	165+72 - 170+75	RT	356	1	10	21	-	-	72	-
	170+75 - 174+26	RT	213	1	42	4	6	-	43	-
	UNDISTRIBUTED QTY		143	1	13	7	2	-	29	-
	SUBTOTAL STAGE 4		712	3	65	32	8	0	144	0
	PROJECT TOTAL		2994	6	132	43	8	87	607	2779

NOTE: LANDSCAPING ITEMS FOR RESTORATION OF CURB RAMP CONSTRUCTION AT STA 165+09 ARE INCLUDED IN STAGE 2 DUE TO SMALL QUANTITIES.

MOBILIZATION EROSION CONTROL

DESCRIPTION	628.1905 MOBILIZATION EROSION CONTROL EACH	628.1910 MOBILIZATION EMERGENCY EROSION CONTROL EACH
PROJECT 5130-00-80	4	6
PROJECT TOTAL	4	6

NOTE:
ALL ITEMS AND QUANTITIES ON THIS SHEET ARE FOR ENGINEERS ESTIMATE CATEGORY 0010

EROSION CONTROL

STAGE	STATION	LOCATION	628.1504 SILT FENCE LF	628.1520 SILT FENCE MAINTENANCE LF	628.2008 EROSION MAT URBAN CLASS I TYPE B SY	628.2023 EROSION MAT CLASS II TYPE B SY	628.6005 TURBIDITY BARRIER SY	628.7015 INLET PROTECTION TYPE C EACH	628.7504 TEMPORARY DITCH CHECKS LF
1	165+44	23' RT	-	-	-	-	-	1	-
	167+74	21.5' RT	-	-	-	-	-	1	-
	169+10	21' RT	-	-	-	-	-	1	-
	169+80	19' RT	-	-	-	-	-	1	-
	173+06	21.5' RT	-	-	-	-	-	1	-
	173+32	21.5' RT	-	-	-	-	-	1	-
	173+46	21.5' RT	-	-	-	-	-	1	-
	32+47 BP	26' LT	-	-	-	-	-	-	15
	33+53 BP	26' LT	-	-	-	-	-	-	15
	27+00 BP - 32+93 BP	RT	329	329	54	710	83	-	-
	32+93 BP - 37+00 BP	RT	471	471	-	1623	-	-	-
	UNDISTRIBUTED QTY		200	200	14	584	21	-	8
	SUBTOTAL STAGE 1		1000	1000	68	2917	104	7	38
2	165+44	20' LT	-	-	-	-	-	1	-
	167+59	20' LT	-	-	-	-	-	1	-
	167+74	20' LT	-	-	-	-	-	1	-
	169+80	20' LT	-	-	-	-	-	1	-
	173+06	20' LT	-	-	-	-	-	1	-
	173+31	20' LT	-	-	-	-	-	1	-
	173+46	20' LT	-	-	-	-	-	1	-
	164+89 - 170+75	LT	118	118	287	264	-	-	-
	170+75 - 174+03	LT	384	384	-	1665	-	-	-
	UNDISTRIBUTED QTY		126	126	72	483	0	-	0
	SUBTOTAL STAGE 2		628	628	359	2412	0	7	0
4	165+72 - 170+75	RT	-	-	1122	359	-	-	-
	170+75 - 174+26	RT	-	-	174	1923	-	-	-
	UNDISTRIBUTED QTY		0	0	324	571	0	-	0
	SUBTOTAL STAGE 4		0	0	1620	2853	0	0	0
	PROJECT TOTALS		1628	1628	2047	8182	104	14	38

PERMANENT SIGNING

FINAL LOCATION	MESSAGE	SIGN CODE	SIGN SIZE	634.0614 POSTS WOOD 4x6-INCH 14-FT EA	637.2230 SIGNS TYPE II REFLECTIVE F SF	638.2102 MOVING SIGNS TYPE II EA	638.3000 REMOVING SMALL SIGN SUPPORTS EA	EXISTING SIGN LOCATION
165+02, RT	PEDESTRIAN CROSSING	W11-2	30" x 30"	1	6.25	-	-	
	DIAGONAL ARROW	W16-7L	24" x 12"		2.00	-	-	
165+19, LT	PEDESTRIAN CROSSING	W11-2	30" x 30"	1	6.25	-	-	
	DIAGONAL ARROW	W16-7L	24" x 12"		2.00	-	-	
172+15, LT	SPEED LIMIT 40	-	-	1	-	1	1	172+19, LT
172+18, RT	SPEED LIMIT 40	-	-	1	-	1	1	172+16, RT
172+72, RT	ADOPT A HIGHWAY	-	-	1	-	1	1	172+14, RT
	PROJECT TOTALS			5	16.5	3	3	

NOTE:
ALL ITEMS AND QUANTITIES ON THIS SHEET ARE FOR ENGINEERS ESTIMATE CATEGORY 0010

TRAFFIC CONTROL

STAGE	LOCATION	APPROX. SERVICE PERIOD DAYS	643.0300 TRAFFIC CONTROL DRUMS QTY	643.0300 DAYS	643.0410 TRAFFIC CONTROL BARRICADES TYPE II QTY	643.0410 DAYS	643.0420 TRAFFIC CONTROL BARRICADES TYPE III QTY	643.0420 DAYS	643.0500 TRAFFIC CONTROL FLEXIBLE TUBULAR MARKER POSTS EACH	643.0600 TRAFFIC CONTROL FLEXIBLE TUBULAR MARKER BASES EACH	643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A QTY	643.0705 DAYS	643.0715 TRAFFIC CONTROL WARNING LIGHTS TYPE C QTY	643.0715 DAYS	643.0900 TRAFFIC CONTROL SIGNS QTY	643.0900 DAYS	643.1050 TRAFFIC CONTROL SIGNS PCMS DAY	643.1070 TRAFFIC CONTROL CONES 42-INCH QTY	643.1070 DAY	661.0100 TEMPORARY TRAFFIC SIGNALS FOR BRIDGES (STRUCTURES) LS	NOTES
1	MAINLINE	24	41	984	-	-	-	-	-	-	-	-	-	-	11	264	14	-	-	-	SHOULDER CLOSURE
2	BYPASS/MAINLINE	88	22	1936	2	176	12	1056			14	1232	11	968	39	3432	-	-	-	1	
3	BYPASS/MAINLINE	12	46	552	-	-	2	24	10	10	2	24	6	72	17	204	-	14	168	-	
4	MAINLINE	28	22	616	3	84	2	56	-	-	4	112	6	168	10	280	-	-	-	-	
	PROJECT TOTALS			4088		260		1136	10	10		1368		1208		4180	14		168	1	

TEMPORARY PEDESTRIAN

STAGE	STATION	644.1420 TEMPORARY PEDESTRIAN SURFACE PLYWOOD SF	644.1601 TEMPORARY PEDESTRIAN CURB RAMP DAY	644.1810 TEMPORARY PEDESTRIAN BARRICADE LF	NOTES
1	164+79 - 165+54, LT	289	-	-	
	32+42 BP - 33+62 BP	-	-	120	ON TEMP STRUCTURE
4	173+80 - 174+66, LT	368	28	-	
	174+64, RT	22	28	-	
	PROJECT TOTALS	679	56	120	

PAVEMENT MARKINGS

STATION	LOCATION	646.4520 MARKING LINE SAME DAY EPOXY 4-INCH SOLID YELLOW LF	646.4520 SKIPS YELLOW LF	646.7420 MARKING CROSSWALK EPOXY TRANSVERSE LINE 6-INCH LF	646.9000 MARKING REMOVAL LINE 4-INCH LF	COMMENTS
165+12 - 167+20	CENTERLINE	-	-	-	416	STAGE 2
173+80 - 175+00	CENTERLINE	-	-	-	240	STAGE 2
165+12 - 174+98	CENTERLINE	1761	-	-	-	STAGE 4
172+86 - 174+98	CENTERLINE	-	54	-	-	STAGE 4
165+09	CROSSWALK	-	-	80	-	STAGE 4
	PROJECT TOTALS	1815		80	656	

NOTE:
ALL ITEMS AND QUANTITIES ON THIS SHEET ARE FOR ENGINEERS ESTIMATE CATEGORY 0010

TEMPORARY PAVEMENT MARKINGS

			649.0150 TEMPORARY MARKING LINE REMOVABLE TAPE 4 INCH		649.0250 TEMPORARY MARKING LINE REMOVABLE TAPE 8-INCH	649.0850 TEMPORARY MARKING STOP LINE REMOVABLE TAPE 18-INCH	
STAGE	STATION	LOCATION	WHITE LF	YELLOW LF	WHITE LF	LF	COMMENTS
1	165+09, LT/RT	MAINLINE	-	-	80	-	
2	165+12 - 167+20	MAINLINE	-	-	-	-	CENTERLINE
	174+00 - 174+97	MAINLINE	-	-	-	-	CENTERLINE
	26+60 BP -36+80 BP, RT	BYPASS ROUTE	1028				EDGELINE
	27+08 BP - 37+25 BP	BYPASS ROUTE	-	644	-	-	DOUBLE YELLOW
	27+08 BP - 37+25 BP, LT	BYPASS ROUTE	1014	-	-	-	LT EDGELINE, WHITE
	30+30 BP	BYPASS ROUTE	-	-	-	13	STOP LINE
	36+79 BP	BYPASS ROUTE	-	-	-	12	STOP LINE
	36+80 BP - 37+25 BP	BYPASS ROUTE	-	93	-	-	DOUBLE YELLOW
	174+98 - 176+33, LT	MAINLINE	138	-	-	-	LT EDGELINE, WHITE
3	30+30 BP - 31+43 BP	BYPASS ROUTE	-	113	-	-	LT EDGELINE, YELLOW
	35+31 BP - 36+29 BP	BYPASS ROUTE	99	-	-	-	LT EDGELINE, WHITE
	35+31 BP - 36+71 BP	BYPASS ROUTE	136	-	-	-	RT EDGELINE, WHITE
	36+29 BP - 37+25 BP	BYPASS ROUTE	-	98	-	-	LT EDGELINE, YELLOW
	165+12 - 175+00	MAINLINE	862	986	-	-	WESTBOUND EDGELINES
4	165+12 - 175+00	MAINLINE	986	987	-	-	2ND YELLOW CL; EB EDGE
	174+64, LT/RT	MAINLINE	-	-	80	-	
		PROJECT TOTALS	7184		160	25	

NOTE:
ALL ITEMS AND QUANTITIES ON THIS SHEET ARE FOR ENGINEERS ESTIMATE CATEGORY 0010

3

3

CONSTRUCTION STAKING

STATION		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	650.9000 CONSTRUCTION STAKING CURB RAMPS EACH	650.9920 CONSTRUCTION STAKING SLOPE STAKES LF	650.9910 CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (5130-00-80) LS	COMMENTS
167+59	LT	1	-	-	-	-	-	-	101A
167+74	LT	1	-	-	-	-	-	-	101B
167+74	RT	1	-	-	-	-	-	-	101
169+10	RT	1	-	-	-	-	-	-	102
169+80	LT	1	-	-	-	-	-	-	103A
169+80	RT	1	-	-	-	-	-	-	103
170+01	RT	1	-	-	-	-	-	-	104
170+46	RT	1	-	-	-	-	-	-	105
173+06	LT/RT	2	-	-	-	-	-	-	201A & 202A
173+32	LT/RT	2	-	-	-	-	-	-	201 & 202
173+32	RT	1	-	-	-	-	-	-	203
173+46	LT/RT	2	-	-	-	-	-	-	201B & 202B
165+00 - 170+24		-	304	304	822	2	608	-	MAINLINE
171+53 - 174+00		-	247	247	516	-	494	-	MAINLINE
28+56 BP - 32+42 BP		-	386	386	-	-	772	-	BYPASS
33+61 BP - 35-82 BP		-	221	221	-	-	442	-	BYPASS
PROJECT		-	-	-	-	-	-	1	
PROJECT TOTALS		15	1158	1158	1338	2	2316	1	

SAWCUTS

STAGE	STATION	690.0150 SAWING ASPHALT LF	690.0250 SAWING CONCRETE LF	COMMENTS
1	164+87, LT	-	5	SIDEWALK
	165+48, LT	-	5	SIDEWALK
	165+01 - 165+50, LT	52	5	C&G PATCH
	165+00 - 165+16, RT	20	5	C&G PATCH
	165+09, RT	-	5	SIDEWALK
	166+12, RT	-	39	DRIVEWAY
	168+07, RT	16	-	DRIVEWAY
	168+97, RT	-	3	C&G
	174+13, RT	-	5	SIDEWALK
	174+40, RT	-	3	C&G
2	167+20, LT	20	8	MATCH IN POINT
	174+00, LT	20	3	MATCH IN POINT
3	167+20, RT	12	-	MATCH IN POINT
	174+00, RT	12	-	MATCH IN POINT
4	165+74 - 167+20, RT	152	-	C&G PATCH
	166+12, RT	-	39	DRIVEWAY
	168+07, RT	16	-	DRIVEWAY
	174+00 - 174+40, RT	42	3	C&G PATCH
	174+13, RT	-	5	SIDEWALK
	PROJECT TOTALS	362	133	

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
TRANSPORTATION PROJECT PLAT TITLE SHEET
5130-00-20
WILTON - ELROY
KICKAPOO RIVER BRIDGE, B-41-015
STH 71
MONROE COUNTY

CONVENTIONAL SYMBOLS

SECTION LINE
QUARTER LINE
SIXTEENTH LINE
NEW REFERENCE LINE
NEW R/W LINE
EXISTING R/W OR HE LINE
PROPERTY LINE
LOT, TIE & OTHER MINOR LINES
SLOPE INTERCEPT
CORPORATE LIMITS
UNDERGROUND FACILITY (COMMUNICATIONS, ELECTRIC, ETC)
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

SECTION CORNER SYMBOL
SECTION CORNER MONUMENT
GEODETIC SURVEY MONUMENT
SIXTEENTH CORNER MONUMENT
SIGN
OFF-PREMISE 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 ABBREVIATIONS

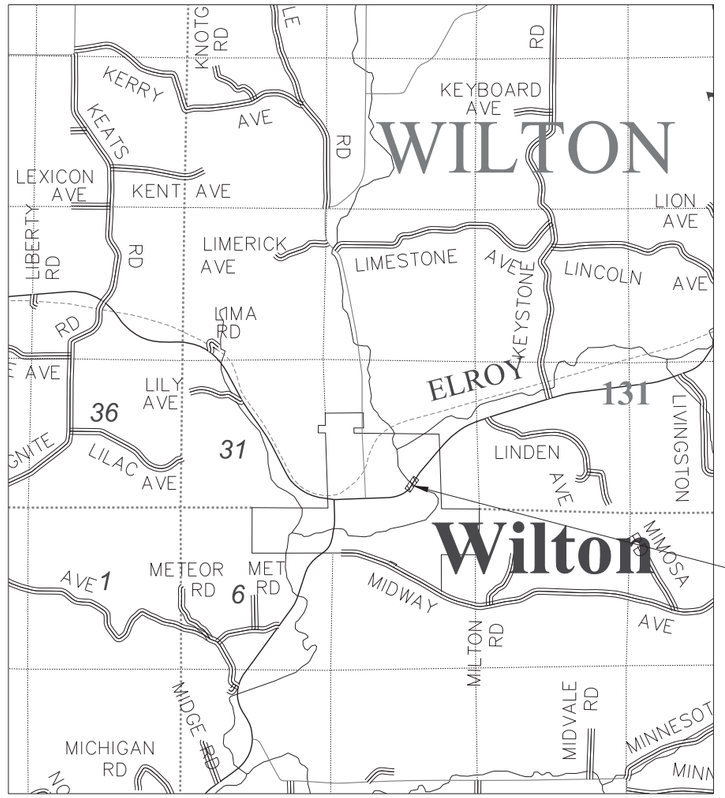
ACCESS RIGHTS	AR	POINT OF INTERSECTION	PI
ACRES	AC	PROPERTY LINE	PL
AHEAD	AH	RECORDED AS	(100')
ALUMINUM	ALUM	REEL / IMAGE	R/I
AND OTHERS	ET AL	REFERENCE LINE	R/L
BACK	BK	REMAINING	REM
BLOCK	BLK	RESTRICTIVE DEVELOPMENT EASEMENT	RDE
CENTERLINE	C/L	RIGHT	RT
CERTIFIED SURVEY MAP	CSM	RIGHT OF WAY	R/W
CONCRETE	CONC	SECTION	SEC
COUNTY	CO	SEPTIC VENT	SEPV
COUNTY TRUNK HIGHWAY	CTH	SQUARE FEET	SF
DISTANCE	DIST	STATE TRUNK HIGHWAY	STH
CORNER	COR	STATION	STA
DOCUMENT NUMBER	DOC	TELEPHONE PEDESTAL	TP
EASEMENT	EASE	TEMPORARY LIMITED EASEMENT	TLE
EXISTING	EX	TRANSPORTATION PROJECT PLAT	TPP
GAS VALVE	GV	UNITED STATES HIGHWAY	USH
GRID NORTH	GN	VOLUME	V
HIGHWAY EASEMENT	HE		
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		
POINT OF COMPOUND CURVE	PCC		

CURVE DATA

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

CONVENTIONAL UTILITY SYMBOLS

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



LAYOUT
SCALE 0 0.5 MI.

THE NOTES,CONVENTIONAL SIGNS, AND ABBREVIATIONS ARE ASSOCIATED WITH EACH TRANSPORTATION PROJECT PLAT FOR PROJECT 5130-00-20

NOTES:

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

NGS CONTROL POINT UTILIZED: PID: DH5087 DESIGNATION: 06 151W, MONROE COUNTY, WI.

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 RIGHT-OF-WAY IS MEASURED 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 (TLEs) ON THIS PLAT EXPIRE AT THE COMPLETION OF THE CONSTRUCTION PROJECT FOR WHICH THIS INSTRUMENT IS GIVEN.

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.

PARCEL IDENTIFICATION NUMBERS MAY NOT POINT TO ALL AREAS OF ACQUISITION, AS NOTED ON THE SCHEDULE OF LANDS & INTERESTS REQUIRED.

FOR EXISTING HIGHWAY RIGHT-OF-WAY AND ACCESS POINTS OF REFERENCE SEE INDIVIDUAL TPP DETAIL PAGES

FOR THE LATEST ACCESS / DRIVEWAY INFORMATION, CONTACT THE PLANNING UNIT OF THE WISCONSIN DEPARTMENT OF TRANSPORTATION OFFICE IN LA CROSSE.

4

PROJECT NUMBER 5130-00-20 - 4. 01
SHEET 2 OF 2

FILE NAME : \\SEHLX\PROJECTS\UZ\W\WITSW\147349\CIVIL 3D\51300000\RW\4.01.DWG
LAYOUT NAME: TPP Title 34x22
PLOT DATE : 9/16/2015 3:04 PM PLOT BY : NICK ENGH PLOT NAME : _____ APPRAISAL PLAT DATE : _____

TRANSPORTATION PROJECT PLAT NO: 5130-00-20 - 4.01

PART OF THE SOUTHWEST 1/4 OF THE SOUTHEAST 1/4 OF SECTION 32, T16N, R1W, VILLAGE OF WILTON, MONROE COUNTY, WISCONSIN

STH 71, WILTON - ELROY, KICKAPOO RIVER BRIDGE B-41-015, MONROE COUNTY

TO PROPERLY ESTABLISH, LAY OUT, WIDEN, ENLARGE, EXTEND, CONSTRUCT, RECONSTRUCT, IMPROVE, OR MAINTAIN A PORTION OF THE HIGHWAY DESIGNATED ABOVE, THE STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DEEMS IT NECESSARY TO RELOCATE OR CHANGE SAID HIGHWAY AND ACQUIRE CERTAIN LANDS AND INTERESTS OR RIGHTS IN LANDS FOR THE ABOVE PROJECT.

TO EFFECT THIS CHANGE, PURSUANT TO AUTHORITY GRANTED UNDER SECTION 84.02 (3), 84.09, AND 84.30, WISCONSIN STATUTES, THE DEPARTMENT OF TRANSPORTATION HEREBY ORDERS THAT:

1. THAT PORTION OF SAID HIGHWAY AS SHOWN ON THIS PLAT IS LAID OUT AND ESTABLISHED TO THE LINES AND WIDTHS AS SO SHOWN FOR THE ABOVE PROJECT.
2. THE LANDS OR INTERESTS OR RIGHTS IN LANDS AS SHOWN ON THIS PLAT ARE REQUIRED BY THE DEPARTMENT FOR THE ABOVE PROJECT AND SHALL BE ACQUIRED IN THE NAME OF THE STATE OF WISCONSIN, PURSUANT TO THE PROVISIONS OF SECTION 84.09 (1) OR (2), WISCONSIN STATUTES.

FOR THE LATEST ACCESS / DRIVEWAY INFORMATION, CONTACT THE PLANNING UNIT OF THE WISCONSIN DEPARTMENT OF TRANSPORTATION OFFICE IN LA CROSSE.

EXISTING HIGHWAY RIGHT-OF-WAY SHOW HEREIN IS BASED ON THE FOLLOWING POINTS OF REFERENCE: PROJECT S 0313(1) CSM VOL 9 PG 170

NGS CONTROL POINT UTILIZED: PID: DH5087 DESIGNATION: 06 151W, MONROE COUNTY, WI.

FOR ADDITIONAL INFORMATION REFER TO THE TITLE SHEET, RECORDED IN THE OFFICE OF THE REGISTER OF DEEDS, IN MONROE COUNTY, AS SHEET 2 OF 2 OF THIS DOCUMENT.

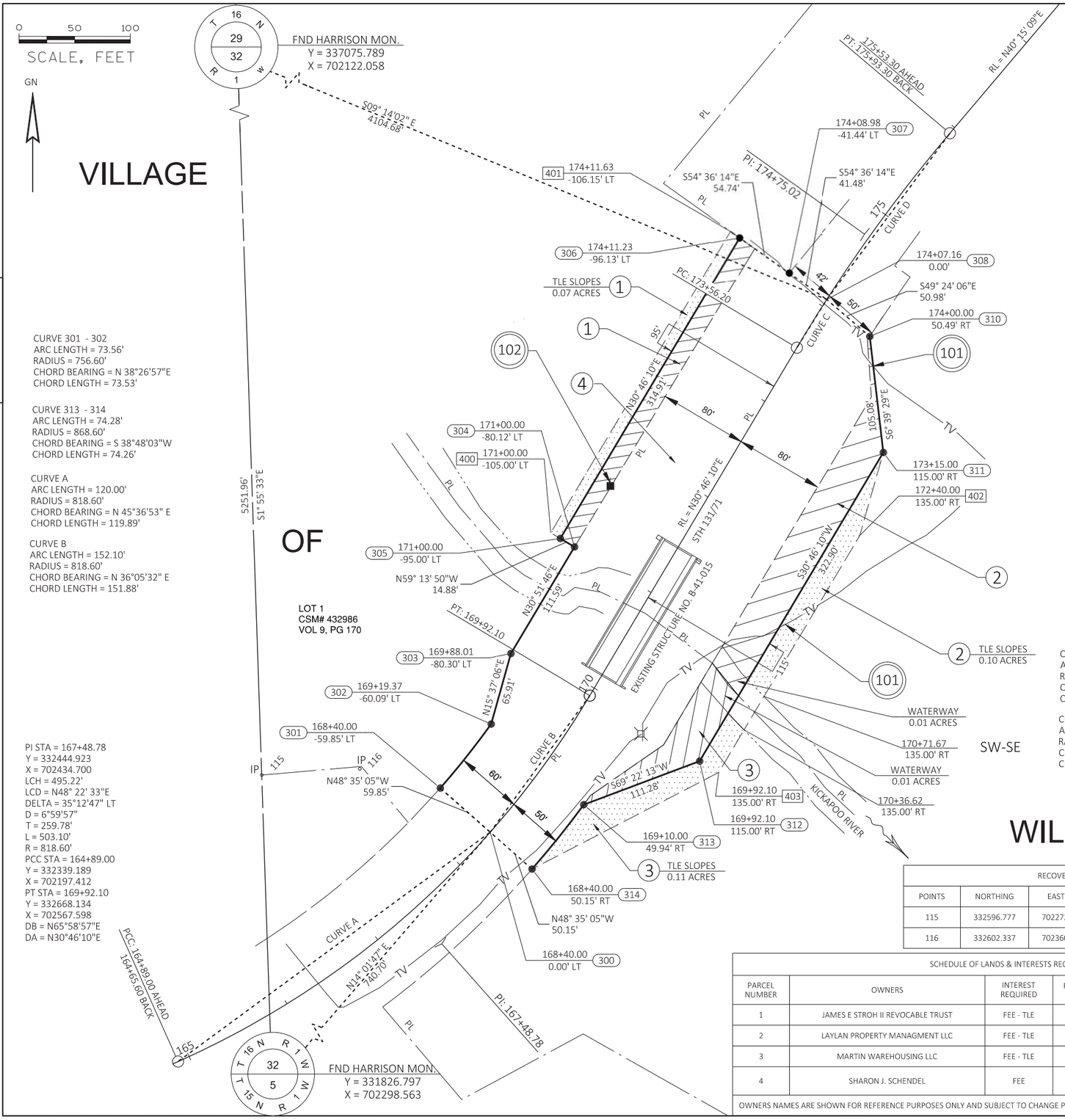
POSITIONS SHOWN ON THIS PLAT ARE WISCONSIN COORDINATE REFERENCE SYSTEM COORDINATES (WISCRS), MONROE COUNTY, NAD83(2011), IN U.S. SURVEY FEET. VALUES ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

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.

ACCEPTED FOR RECORDING AND FILING IN THE OFFICE OF THE REGISTER OF DEEDS IN MONROE COUNTY, WISCONSIN AT 10:55:17 AM ON January 08, 2020 DOCUMENT 685471 AND FILED IN MF 307B

Deb Brandt
SIGNATURE OF REGISTER OF DEEDS

RESERVED FOR REGISTER OF DEEDS
PROJECT NUMBER 5130-00-20 - 4.01
SHEET 1 OF 2



CURVE 301 - 302
ARC LENGTH = 73.56'
RADIUS = 756.60'
CHORD BEARING = N 38°26'57"E
CHORD LENGTH = 73.53'

CURVE 313 - 314
ARC LENGTH = 74.28'
RADIUS = 868.60'
CHORD BEARING = S 38°48'03"W
CHORD LENGTH = 74.26'

CURVE A
ARC LENGTH = 120.00'
RADIUS = 818.60'
CHORD BEARING = N 45°36'53" E
CHORD LENGTH = 119.89'

CURVE B
ARC LENGTH = 152.10'
RADIUS = 818.60'
CHORD BEARING = N 36°05'32" E
CHORD LENGTH = 151.88'

PI STA = 167+48.78
Y = 332444.923
X = 702434.700
LCH = 495.22'
LCD = N48° 22' 33"E
DELTA = 35°12'47" LT
D = 6°59'57"
T = 259.78'
L = 503.10'
R = 818.60'
PCC STA = 164+89.00
Y = 332339.189
X = 702197.412
PT STA = 169+92.10
Y = 332668.134
X = 702567.598
DB = N65°58'57"E
DA = N30°46'10"E

PI STA = 174+75.02
Y = 333083.077
X = 702814.653
LCH = 236.83'
LCD = N35° 30' 40"E
DELTA = 9°29'00" RT
D = 3°59'59"
T = 118.82'
L = 237.10'
R = 1432.50'
PC STA = 173+56.20
Y = 332980.981
X = 702753.866
PT STA = 175+93.30
Y = 333173.761
X = 702891.430
DB = N30°46'10"E
DA = N40°15'10"E

CURVE C
ARC LENGTH = 50.96'
RADIUS = 1432.50'
CHORD BEARING = N31°47'19"E
CHORD LENGTH = 50.96'

CURVE D
ARC LENGTH = 186.14'
RADIUS = 1432.50'
CHORD BEARING = N 36°31'49" E
CHORD LENGTH = 186.01'

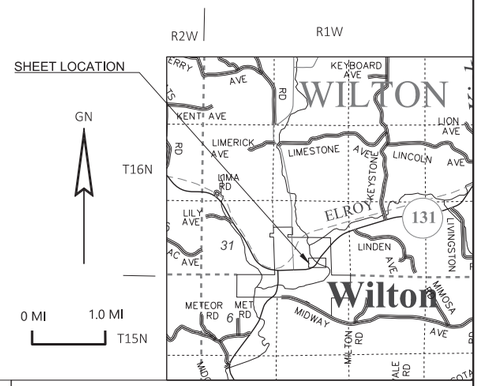
UTIILTY INTEREST TABLE		
UTILITY NUMBER	UTILITY OWNER	INTEREST REQUIRED
101	CENTURYLINK (MONROE COUNTY TELEPHONE COMPANY)	RELEASE OF RIGHTS
102	ALLIANT ENERGY	RELEASE OF RIGHTS

EASEMENT TABLE			
OWNER	EASEMENT INFORMATION	PARCEL	UTILITY NUMBER
CENTURYLINK (MONROE COUNTY TELEPHONE COMPANY)	VOL 21 PG 764 DOC # 357604	1 & 4	101
	VOL 22 PG 626 DOC # 358044	1 & 2	101
	VOL 24 PG 221 DOC # 358767	2	101
	VOL 21 PG 688 DOC # 357547	3	101
ALLIANT ENERGY	NO EASEMENT OF RECORD	1	102

RW POINTS		
POINT	NORTH	EAST
300	332545.404	702478.127
301	332584.993	702433.246
302	332642.574	702478.965
303	332706.050	702496.710
304	332801.836	702553.953
305	332809.446	702541.171
306	333080.030	702702.275
307	333048.324	702746.896
308	333024.297	702780.711
310	332991.124	702819.416
311	332886.749	702831.600
312	332609.302	702666.410
313	332570.097	702562.270
314	332512.226	702515.739

RECOVERED MONUMENT TABLE					
POINTS	NORTHING	EASTING	STATION	OFFSET	DESCRIPTION
115	332596.777	702272.921	167+14.81	180.43'LT	3/4" IRON BAR
116	332602.337	702360.849	167+98.83	124.74' LT	3/4" IRON BAR

SCHEDULE OF LANDS & INTERESTS REQUIRED						
PARCEL NUMBER	OWNERS	INTEREST REQUIRED	R/W NEW ACRES	R/W EXISTING ACRES	R/W TOTRAL ACRES	TLE ACRES
1	JAMES E STROH II REVOCABLE TRUST	FEE - TLE	0.10	0.00	0.10	0.07
2	LAYLAN PROPERTY MANAGMENT LLC	FEE - TLE	0.22	0.58	0.80	0.10
3	MARTIN WAREHOUSING LLC	FEE - TLE	0.10	0.37	0.47	0.11
4	SHARON J. SCHENDEL	FEE	0.00	0.62	0.62	0.00
OWNERS NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY AND SUBJECT TO CHANGE PRIOR TO TRANSFER OF LAND INTEREST TO THE DEPARTMENT						



SEH
10 N BRIDGE ST
CHIPPEWA FALLS WI 54729

I, JASON L. CANCE PROFESSIONAL LAND SURVEYOR, HEREBY CERTIFY THAT IN FULL COMPLIANCE WITH THE PROVISIONS OF SECTION 84.095 OF THE WISCONSIN STATUTES AND UNDER THE DIRECT ON OF THE DEPARTMENT OF TRANSPORTATION SW REGION, I HAVE SURVEYED AND MAPPED THIS TRANSPORTATION PROJECT PLAT AND SUCH PLAT CORRECTLY REPRESENTS ALL EXTERIOR BOUNDARIES OF THE SURVEYED LAND.

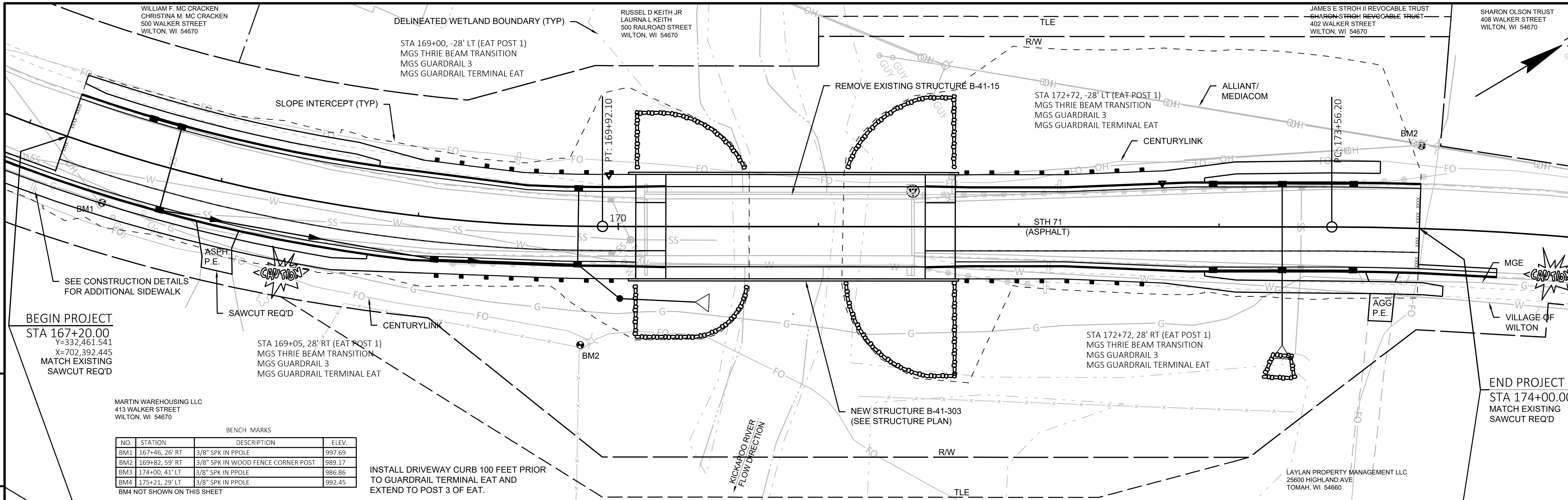
WISCONSIN JASON L. CANCE S-2688 CHIPPEWA FALLS WI LAND SURVEYOR

SIGNATURE: DATE: 12-19-2019
PRINT NAME: JASON L. CANCE
REGISTRATION NUMBER: S-2688

THIS PLAT AND RELOCATION ORDER ARE APPROVED FOR THE WISCONSIN DEPARTMENT OF TRANSPORTATION SOUTHWEST REGION
SIGNATURE: DATE: 12-19-2019
PRINT NAME: CORY SCHLAGEL

FILE NAME : \\SEHLX\PROJECTS\UZ\W\WITSW\147349\CIVIL 3D\51300000\RW\4.01.DWG
APPRAISAL PLAT DATE : 10/15/2019
PLOT DATE : 12/17/2019 12:27 PM PLOT BY : NICK ENGH PLOT NAME : PLOT SCALE : 1 IN:100 FT

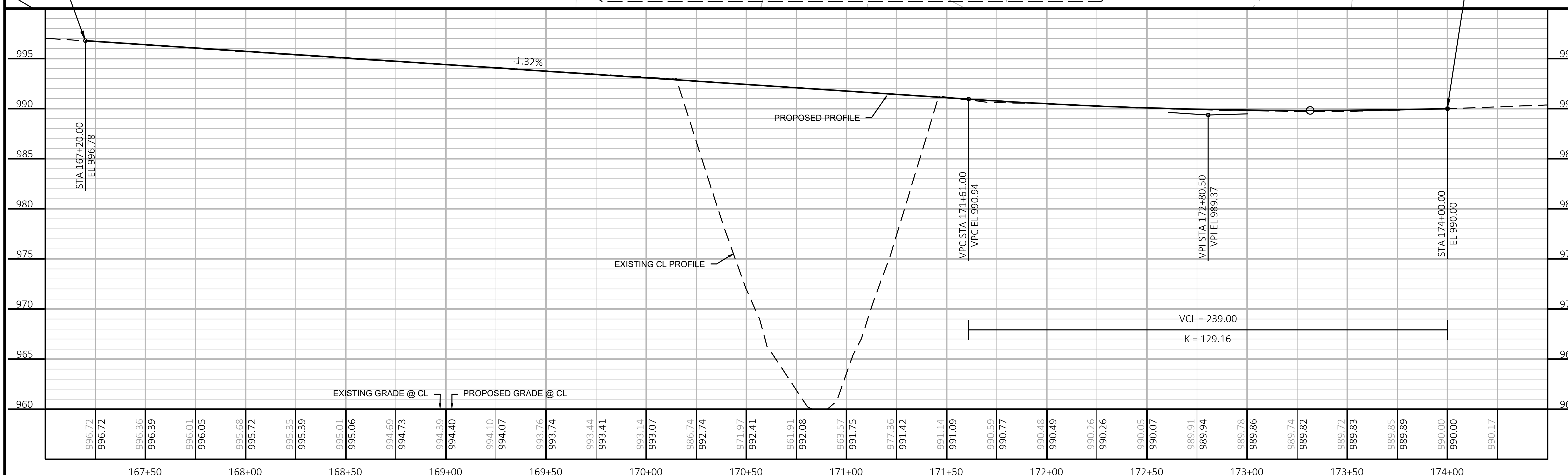
5130-00-20 4.01



BENCH MARKS

NO.	STATION	DESCRIPTION	ELEV.
BM1	167+46, 26' RT	3/8" SPK IN PPOLE	997.69
BM2	169+82, 59' RT	3/8" SPK IN WOOD FENCE CORNER POST	989.17
BM3	174+00, 41' LT	3/8" SPK IN PPOLE	986.86
BM4	175+21, 29' LT	3/8" SPK IN PPOLE	992.45

BM4 NOT SHOWN ON THIS SHEET



PROJECT NO: 5130-00-80	HWY: STH 71	COUNTY: MONROE	PLAN AND PROFILE: STH 71/131	SHEET 44	E

FILE NAME : \\SEHLX\PROJECTS\UZ\W\WITSW\147349\CIVIL 3D\51300000\SHEETSPLAN\SEC 05 PNP\050101-PP (PNP MAINLINE).DWG
LAYOUT NAME - 01
PLOT DATE : 3/27/2021 3:30 PM PLOT BY : SEH PLOT NAME : PLOT SCALE : 1 IN:50 FT

SEE PLAN DETAILS FOR ADDITIONAL INFORMATION

DELINEATED WETLAND BOUNDARY (TYP)

TLE

R/W

STA 31+32'BP', -11' LT (EAT POST 1)
MGS THRIE BEAM TEMPORARY TRANSITION
MGS GUARDRAIL TEMPORARY
MGS GUARDRAIL TEMPORARY TERMINAL EAT

KICKAPOO RIVER
FLOW DIRECTION

STA 34+70'BP', -13' LT (EAT POST 1)
MGS THRIE BEAM TEMPORARY TRANSITION
MGS GUARDRAIL TEMPORARY
MGS GUARDRAIL TEMPORARY TERMINAL EAT

30BP

170

STH 71

31BP

32BP

33BP

34BP

35BP

36BP

37BP

SAWCUT, REMOVE, AND REPAVE ASPHALT DRIVEWAY AS NEEDED TO ACHIEVE PROPER CROSS SLOPE FOR PEDESTRIAN SURFACE

CRASH CUSHION TEMPORARY

SLOPE INTERCEPT

TEMPORARY STRUCTURE

MATCH TO EXISTING SIDEWALK
SAWCUT REQ'D

EX R/W

MATCH EXISTING STH 71
STA 30+54.97'BP'
EL 994.59

MATCH EXISTING STH 71
STA 35+90.14'BP'
EL 989.22

R/W

TLE

-1.31%

-2.24%

PROPOSED PROFILE

EXISTING PROFILE

2.04%

1.12%

STA 30+56.08
EL 994.58

VPC STA 33+70.82
VPC EL 987.53

VPI STA 34+35.82
VPI EL 986.07

VPT STA 35+00.82
VPT EL 987.40

STA 35+90.03
EL 989.22

VCL = 130.00

K = 30.37

995 990 985 980 975 970 965 960

995.97 995.96 995.57 995.64 995.24 995.31 994.94 994.98 994.65 994.66 994.76 994.15 994.73 993.59 994.66 993.03 993.30 992.47 990.95 991.91 988.52 991.35 986.80 990.79 976.87 990.23 963.85 989.67 961.96 989.11 967.95 988.55 971.68 987.99 974.07 987.43 973.34 987.01 974.07 986.80 975.48 986.78 977.66 986.98 981.11 987.38 985.51 987.89 989.75 988.40 989.57 988.91 989.34 989.33 989.60 989.61 989.85 989.89

29+50 30+00 30+50 31+00 31+50 32+00 32+50 33+00 33+50 34+00 34+50 35+00 35+50 36+00 36+50

PROJECT NO: 5130-00-80	HWY: STH 71	COUNTY: MONROE	PLAN AND PROFILE: TEMPORARY BY-PASS, STH 71/131	SHEET 45	E

FILE NAME : \\SEHLX\PROJECTS\UZ\W\WITSW\147349\CIVIL 3D\51300000\SHEETSPLAN\SEC 05 PNP\050102-PP (PNP BY-PASS).DWG
LAYOUT NAME - 01

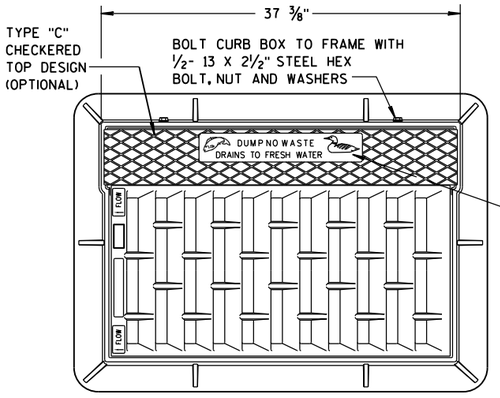
PLOT DATE : 3/30/2021 10:20 AM PLOT BY : SEH PLOT NAME : PLOT SCALE : 1 IN:50 FT

WISDOT/CADDS SHEET 44

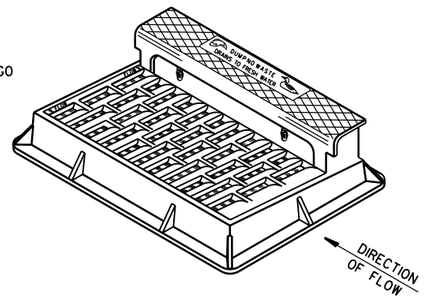
Standard Detail Drawing List

08A05-19A	INLET COVERS TYPE A, H, A-S, H-S & Z
08A05-19D	INLET COVER TYPE BW, MANHOLE COVERS, TYPE K, J, J-S, L & M
08B09-02	MANHOLES 3-FT, 4-FT, 5-FT, 6-FT, 7-FT AND 8-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
08D01-22A	CONCRETE CURB & GUTTER
08D01-22B	CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS
08D05-20E	CURB RAMPS TYPES 5, 6, 7A, 7B & 8
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
08F04-07	JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL
09G02-05A	BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION
09G02-05B	BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION
09G02-05C	BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION
12A03-10	NAME PLATE (STRUCTURES)
13A03-06	CONCRETE PAVEMENT SHOULDERS
13B02-09A	CONCRETE PAVEMENT APPROACH SLAB
13C01-19	CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES
13C13-09	URBAN DOWELED CONCRETE PAVEMENT
13C19-03	HMA LONGITUDINAL JOINTS
14B07-15A	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-15B	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-15C	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-15D	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-15E	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-15F	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-15G	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-15H	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-15I	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B08-02A	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-02B	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-02C	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-02D	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-02E	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B42-06A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-06B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-06C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-06D	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
15C02-08A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-08B	BARRICADES AND SIGNS FOR VARIOUS CLOSURES
15C05-05	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 M.P.H. OR LESS
15C08-20A	LONGITUDINAL MARKING (MAINLINE)
15C12-07	TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION
15C33-04	STOP LINE AND CROSSWALK PAVEMENT MARKING
15D28-04	TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY
15D30-06A	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
15D30-06B	TRAFFIC CONTROL, TEMPORARY ADA COMPLIANT PEDESTRIAN ACCOMMODATION
15D30-06C	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
15D31-03	TRAFFIC CONTROL, TEMPORARY BYPASS ROADWAY
15D33-06	TRAFFIC CONTROL, ONE LANE ROAD WITH TEMPORARY SIGNALS
15D38-02A	TEMPORARY TRAFFIC CONTROL SIGN MOUNTING
15D38-02B	ATTACHMENT OF SIGNS TO POSTS
15D39-02	TRAFFIC CONTROL, DROP-OFF SIGNING

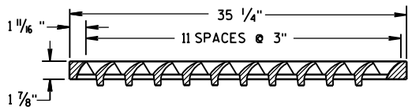
6

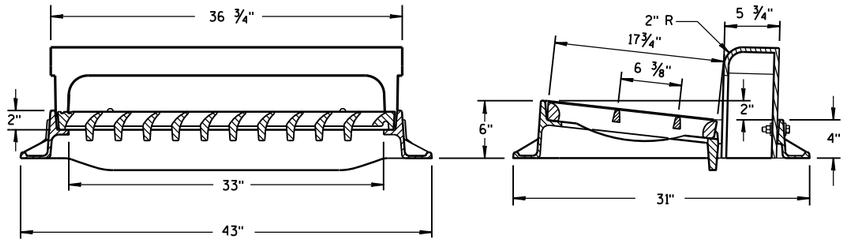


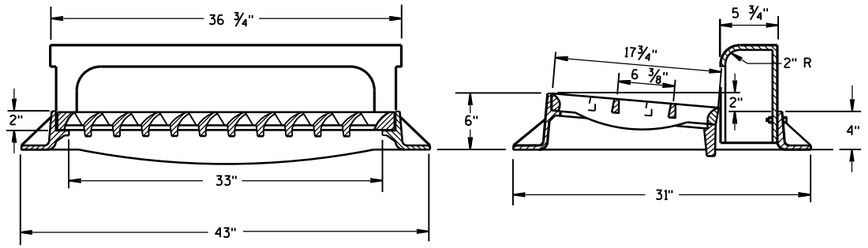
NOTE:
GRATE IS REVERSIBLE.



NOTE: CURB BOX HEIGHT ADJUSTABLE 6" TO 9"

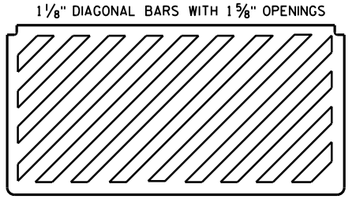






TYPE "H"

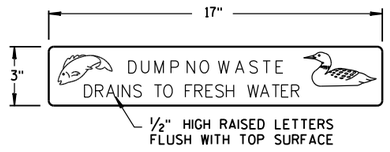
NOTE: EITHER CASTING IS ACCEPTABLE



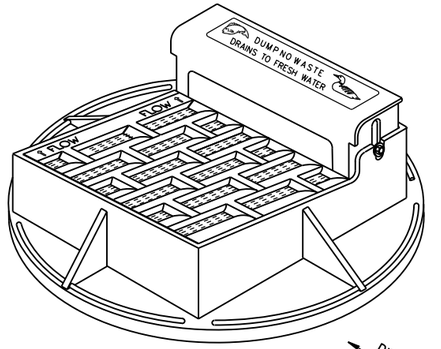
SPECIAL GRATE FOR TYPE "H" COVER

(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"

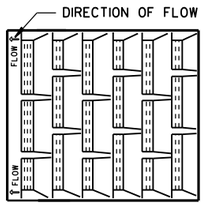
NOTE:
GRATE IS REVERSIBLE.

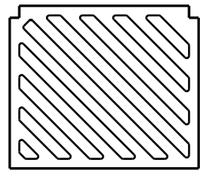
GENERAL NOTES

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.

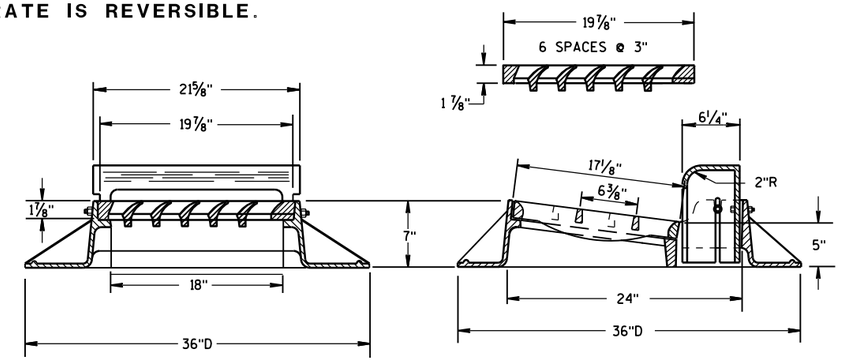




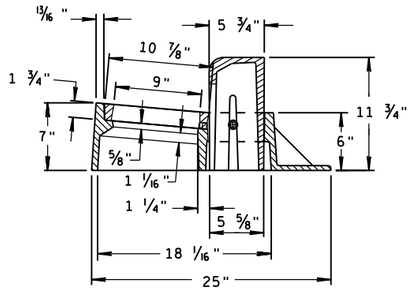
SPECIAL GRATE FOR TYPE "A" COVER

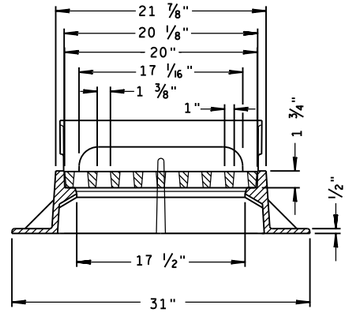
(MEASURES 19 3/4" X 17" X 1 7/8")

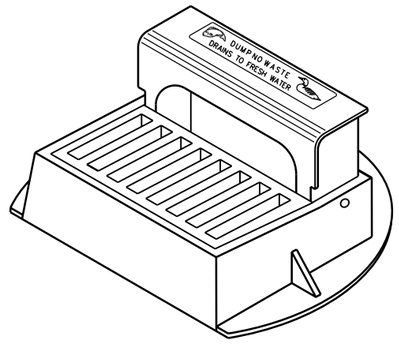
(NOTED AS TYPE A-S ON DRAINAGE TABLE)



TYPE "A"







TYPE "Z"

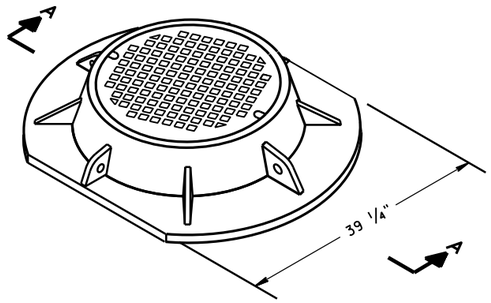
INLET COVERS
TYPE A, H, A-S, H-S & Z

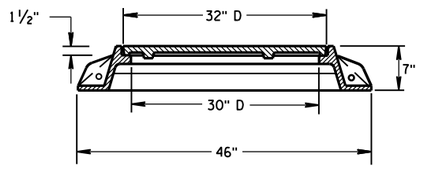
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

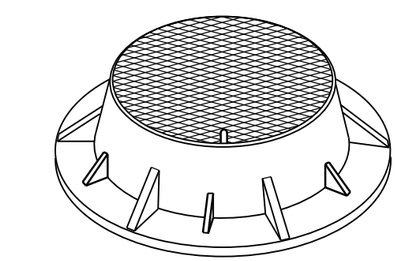
6

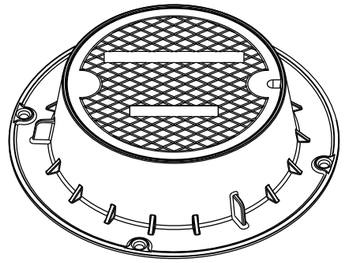
S.D.D. 8 A 5-19a

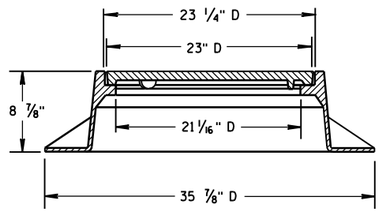


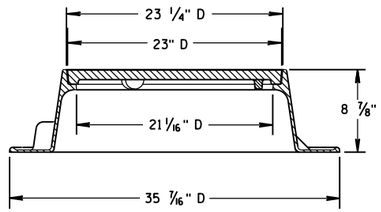


SECTION A-A
TYPE "K"









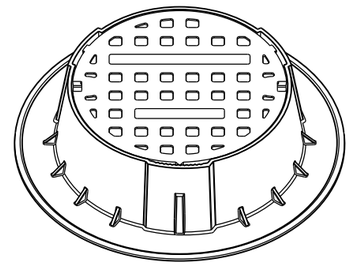
TYPE "J"
NOTE: EITHER CASTING IS ACCEPTABLE

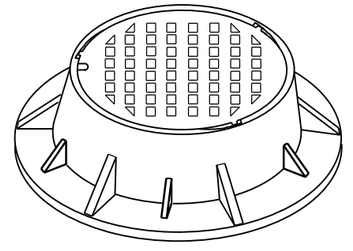
GENERAL NOTES

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.

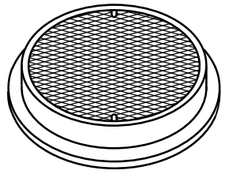
DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR MANHOLE COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

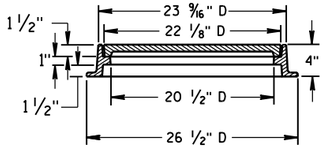
ROUND FRAMES AND COVERS SHALL HAVE CONTINUOUSLY MACHINED BEARING SURFACES TO PREVENT ROCKING AND RATTLING.



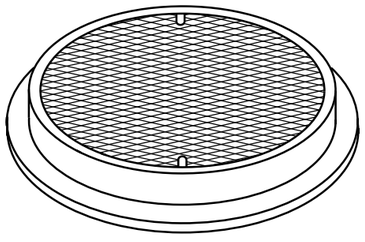


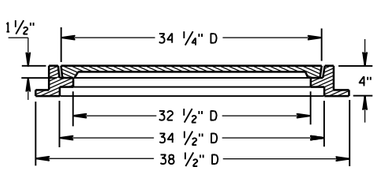
TYPE "J" SPECIAL
TYPE "B" NON-ROCKING SELF-SEAL LID
(NOTED AS TYPE J-S ON THE DRAINAGE TABLE)
NOTE: EITHER CASTING IS ACCEPTABLE



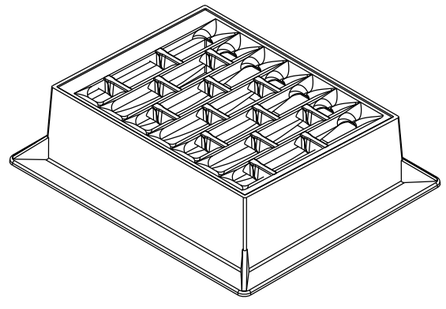


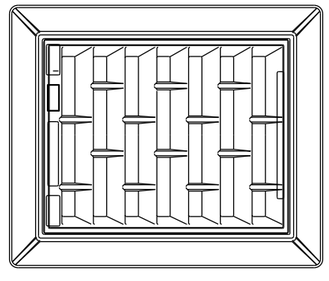
TYPE "L"

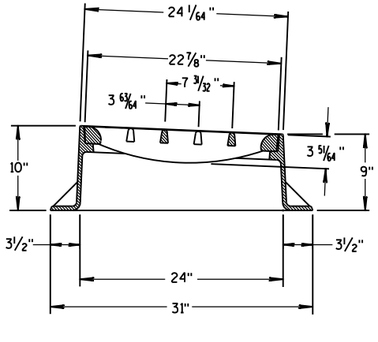


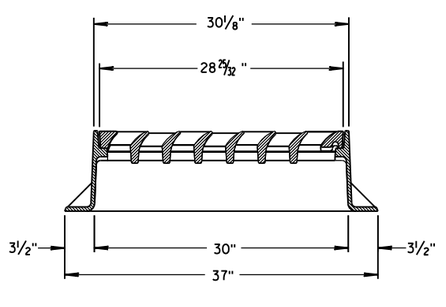


TYPE "M"









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
FHWA

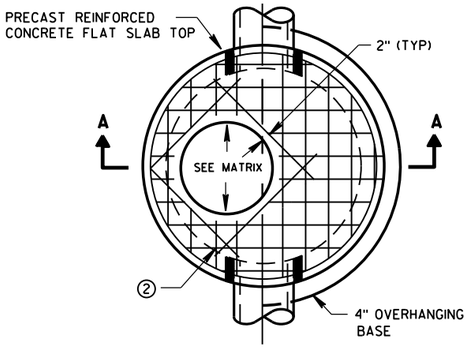
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER

6

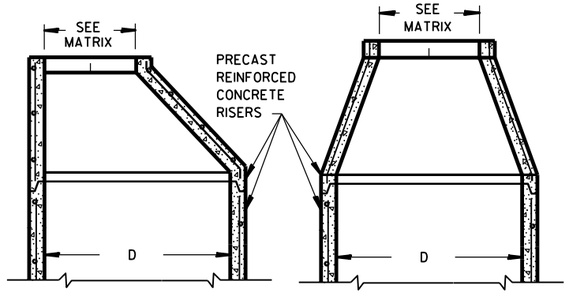
S.D.D. 8 A 5-19d

6

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

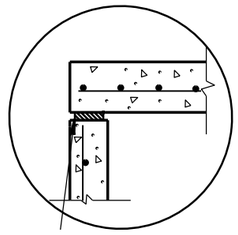


PLAN VIEW CIRCULAR OPENING

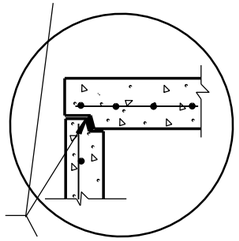


OPTIONAL PRECAST REINFORCED CONCRETE ECCENTRIC TOP

OPTIONAL PRECAST REINFORCED CONCRETE CONCENTRIC TOP

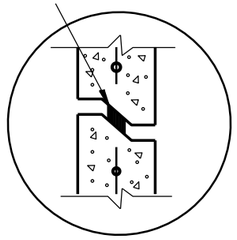


TOP WITH PLAIN END JOINT



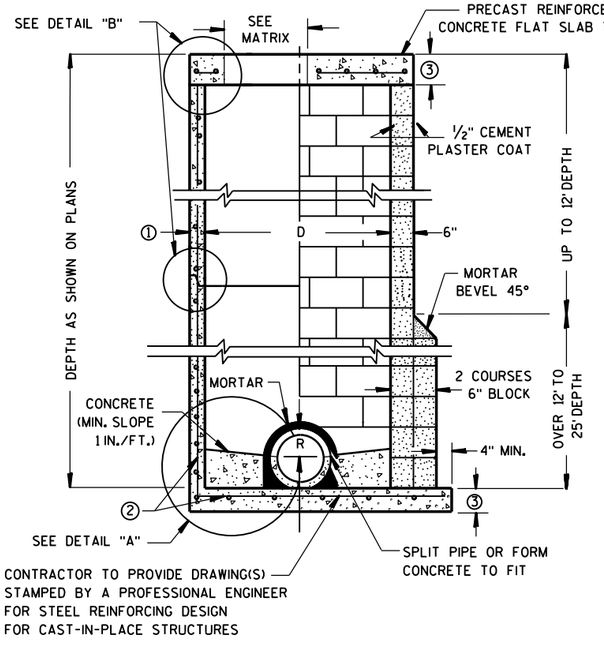
JOINTS TO BE SEALED WITH A BUTYL RUBBER SEAL PER SEALANT MANUFACTURERS RECOMMENDATIONS CONFORMING TO ASTM C990 (TYP)

TOP WITH TONGUE AND GROOVE JOINT



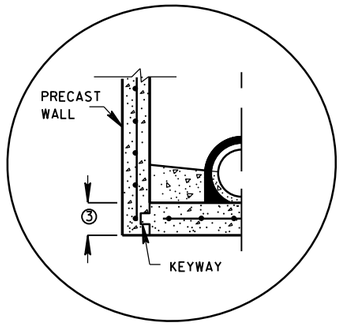
RISER WITH TONGUE AND GROOVE JOINT

DETAIL "B"

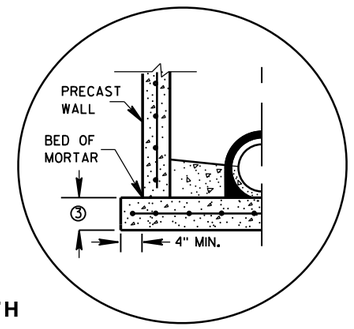


PRECAST REINFORCED CONCRETE WITH MONOLITHIC BASE

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

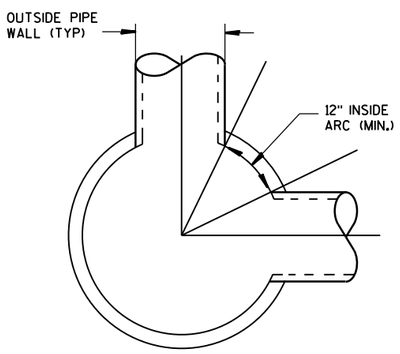


PRECAST REINFORCED CONCRETE WITH INTEGRAL BASE OPTION



SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

DETAIL "A"



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

ECCENTRIC CONE TOPS MAY BE USED ON ALL STRUCTURES, AND 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" 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.

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

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

ALL PRECAST MANHOLE UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF AASHTO DESIGNATION M 199.

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 INCHES FOR 3-FT, 5 INCHES FOR 4-FT, 6 INCHES FOR 5-FT, 7 INCHES FOR 6-FT, 8 INCHES FOR 7-FT AND 9 INCHES FOR 8-FT DIAMETER PRECAST MANHOLES.

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

③ PRECAST FLAT SLAB TOPS AND BASES WITH A DIAMETER OF 48" AND LESS SHALL HAVE A MINIMUM THICKNESS OF 6". PRECAST FLAT SLAB TOPS AND BASES WITH A DIAMETER LARGER THAN 48" SHALL HAVE A MINIMUM THICKNESS OF 8".

MANHOLE COVER OPENING MATRIX

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

PIPE MATRIX

MANHOLE SIZE	MAXIMUM INSIDE PIPE DIAMETER FOR TWO PIPES	
	180° SEPARATION (IN)	90° SEPARATION (IN)
3-FT	15	12
4-FT	24	18
5-FT	36	24
6-FT	42	36
7-FT	48	36
8-FT	60	42

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

Sept., 2016
DATE

/S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT
UNIT SUPERV

FHWA

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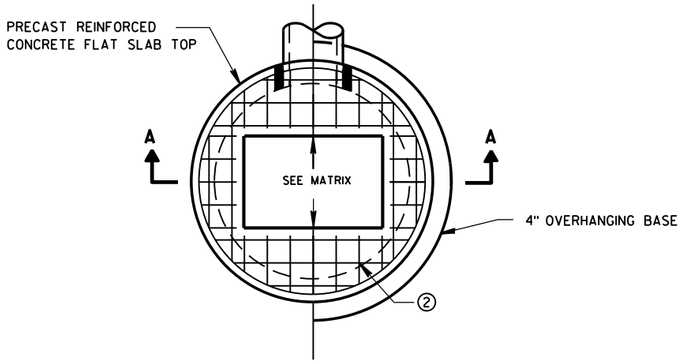
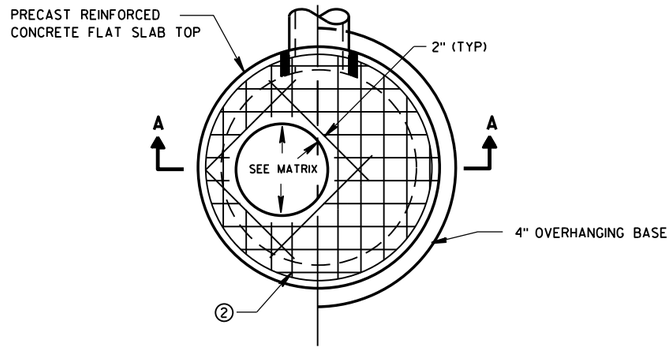
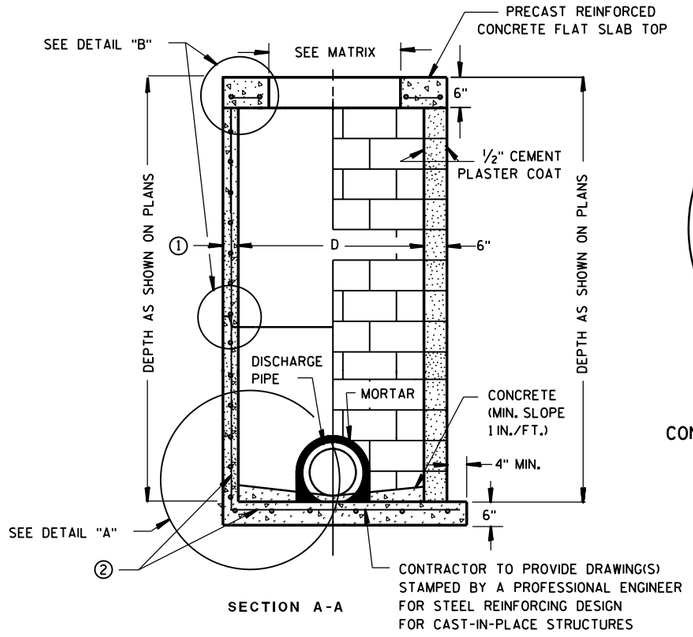
S.D.D. 8 B 9-2



PLAN VIEW RECTANGULAR OPENING



PLAN VIEW CIRCULAR OPENING

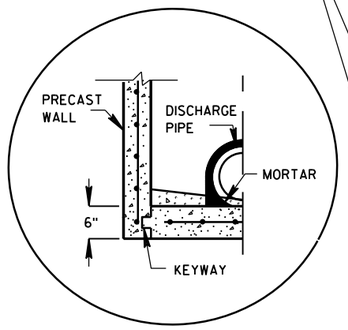


SECTION A-A

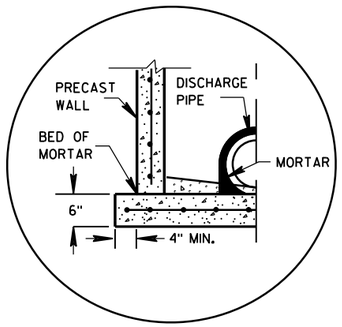
PRECAST REINFORCED CONCRETE WITH MONOLITHIC BASE

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

CIRCULAR INLETS W/ FLAT TOP

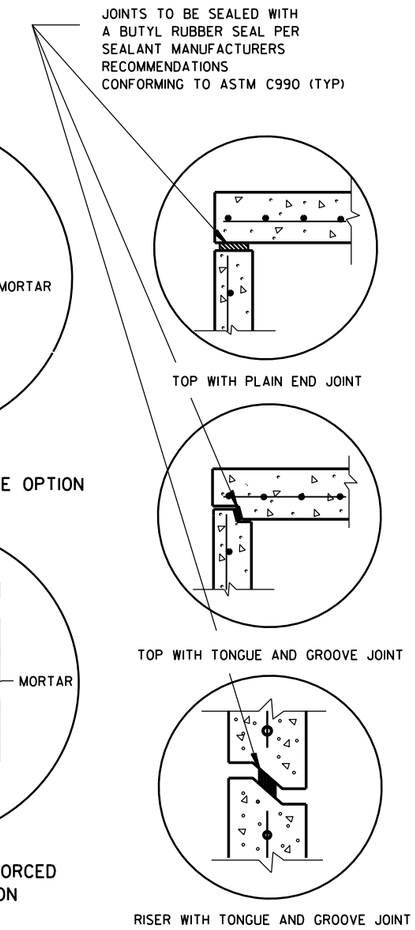


PRECAST REINFORCED CONCRETE WITH INTEGRAL BASE OPTION



SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

DETAIL "A"



TOP WITH PLAIN END JOINT

TOP WITH TONGUE AND GROOVE JOINT

RISER WITH TONGUE AND GROOVE JOINT

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.

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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.

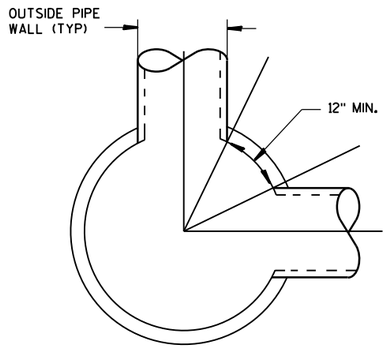
FOR ADDITIONAL CONFIGURATIONS, MAINTAIN A MINIMUM OF 12 INCHES AS MEASURED FROM THE INSIDE OF THE STRUCTURE WALL BETWEEN THE OUTSIDE PIPE WALLS OF ADJACENT PIPES. SEE DETAIL "C".

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 ENT
FHWA — UNIT SUPERVI

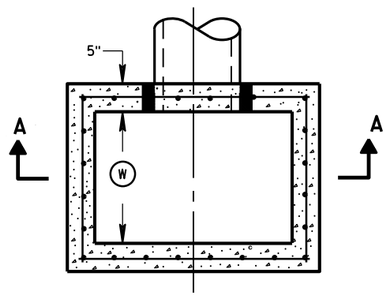
INLETS 3-FT AND 4-FT DIAMETER

6

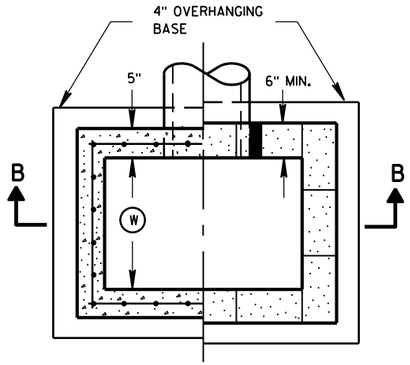
S.D.D. 8 C 6-2

6

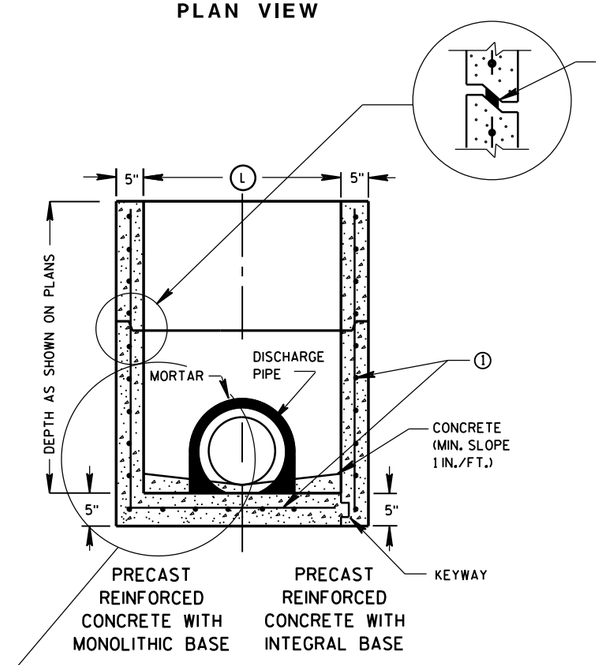
S.D.D. 8 C 6-2



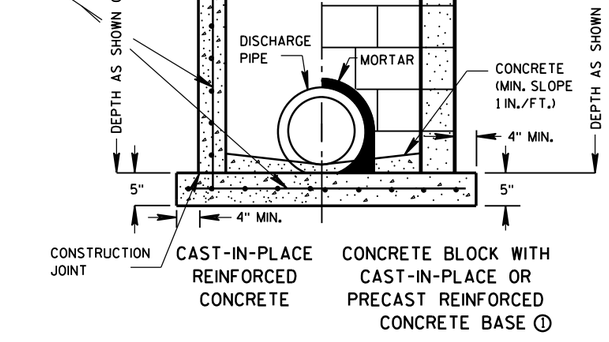
PLAN VIEW



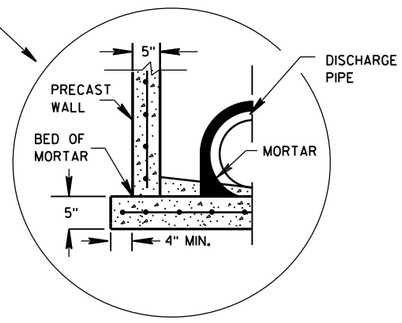
PLAN VIEW



SECTION A-A



SECTION B-B



SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

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.

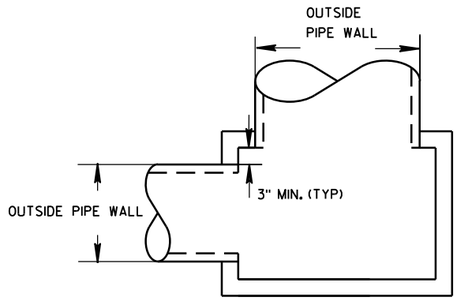
② CONTRACTOR TO PROVIDE DRAWING(S) STAMPED BY A PROFESSIONAL ENGINEER FOR STEEL REINFORCING DESIGN FOR CAST-IN-PLACE STRUCTURES.

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

STATE OF WISCONSIN
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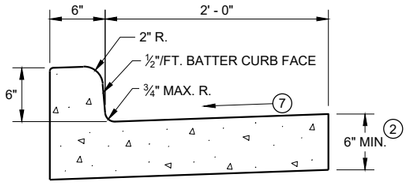
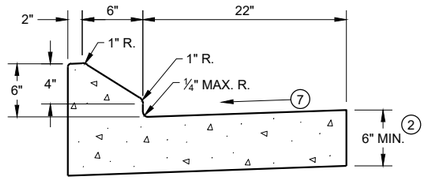
Sept., 2016 — DATE
/S/ Rodney Taylor
ROADWAY STANDARDS D IT UNIT SUPERVIS
FHWA

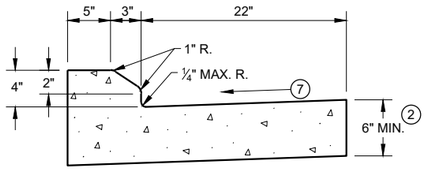
INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT



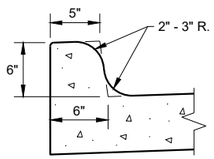
TYPES A (1) & D



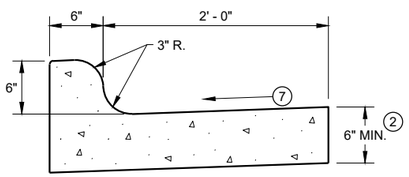
6" SLOPED CURB TYPES G (1) & J



4" SLOPED CURB TYPES G (1) & J

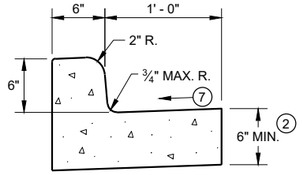


TYPES K (1) & L
(OPTIONAL CURB SHAPE)



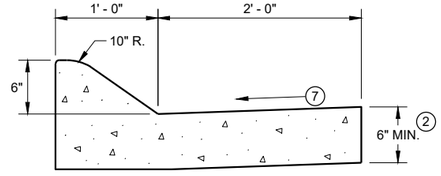
TYPES K (1) & L

CONCRETE CURB AND GUTTER 30"

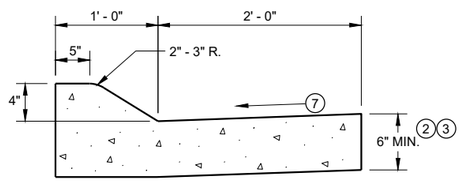


TYPES A (1) & D

CONCRETE CURB AND GUTTER 18"

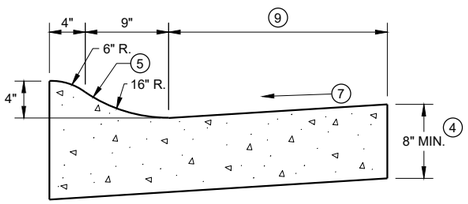


6" SLOPED CURB TYPES A (1) & D



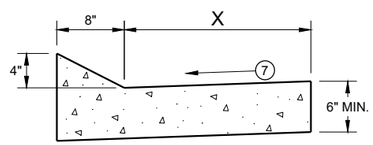
4" SLOPED CURB TYPES A (1) & D

CONCRETE CURB AND GUTTER 36"



4" SLOPED CURB TYPES R (1) & T

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

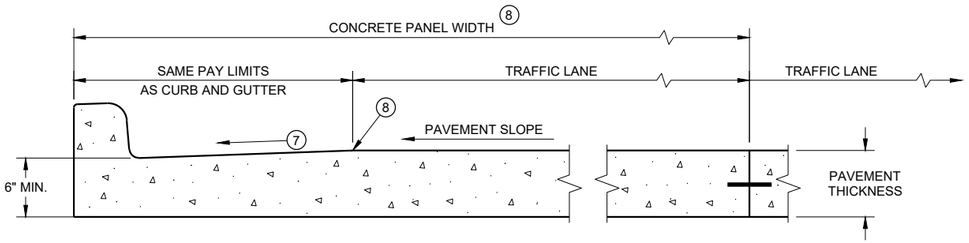


TYPES TBT & TBTT (1)

CONCRETE CURB AND GUTTER

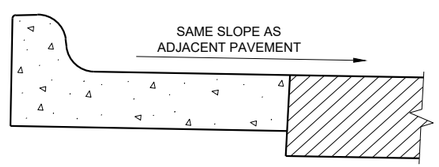
PAVEMENT THICKNESS AND MAXIMUM CONCRETE PANEL WIDTH TABLE

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.

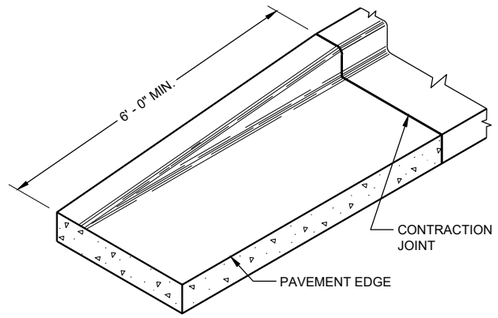
(9) CONCRETE CURB AND GUTTER 4-INCH SLOPED 30-INCH TYPE "R" AND "T" = 17 INCHES
CONCRETE CURB AND GUTTER 4-INCH SLOPED 36-INCH TYPE "R" AND "T" = 23 INCHES

CONCRETE CURB AND GUTTER

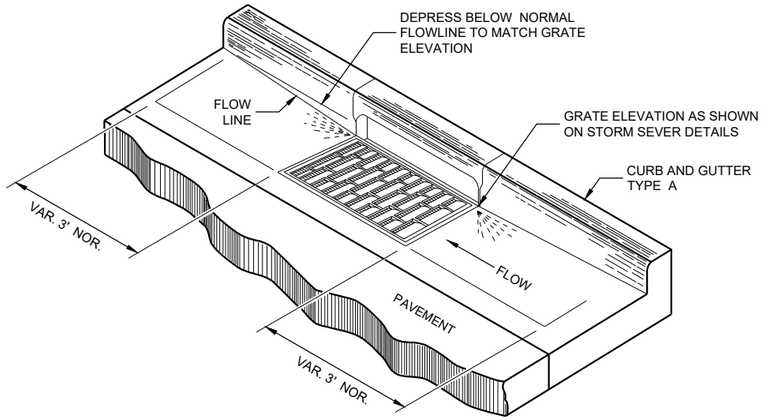
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

SDD 08D01 - 22a
SDD 08D01 - 22a



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.

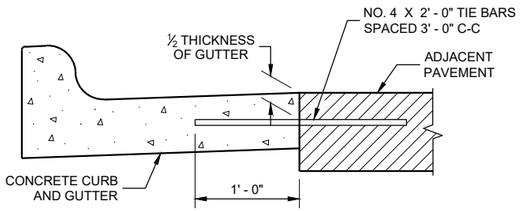
PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

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

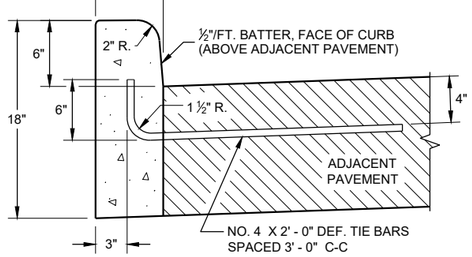
(1) TIE BARS ARE REQUIRED FOR CURB AND GUTTERS TYPES A, G, K, R, AND TBTT.

(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.

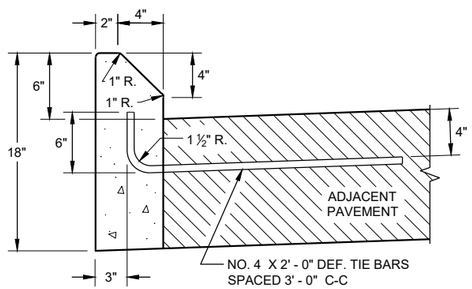
(9) REFER TO SDD 08D18 AND 08D19 FOR ADDITIONAL DRIVEWAY ENTRANCE CURB DETAILS.



TYPICAL TIE BAR LOCATION (1)

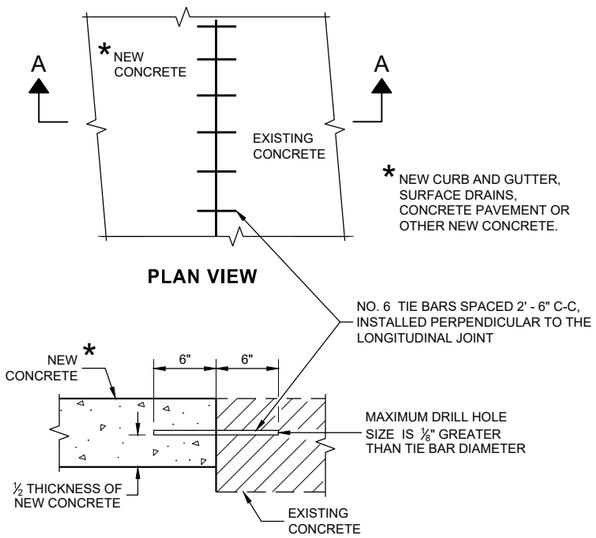


TYPES A (1) & D



TYPES G (1) & J

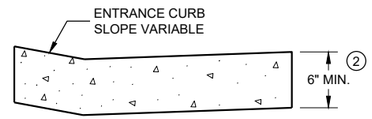
CONCRETE CURB



PLAN VIEW

SECTION A - A

TIE BARS DRILLED INTO EXISTING PAVEMENT



DRIVEWAY ENTRANCE CURB (9)

(WHEN DIRECTED BY THE ENGINEER)

CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS

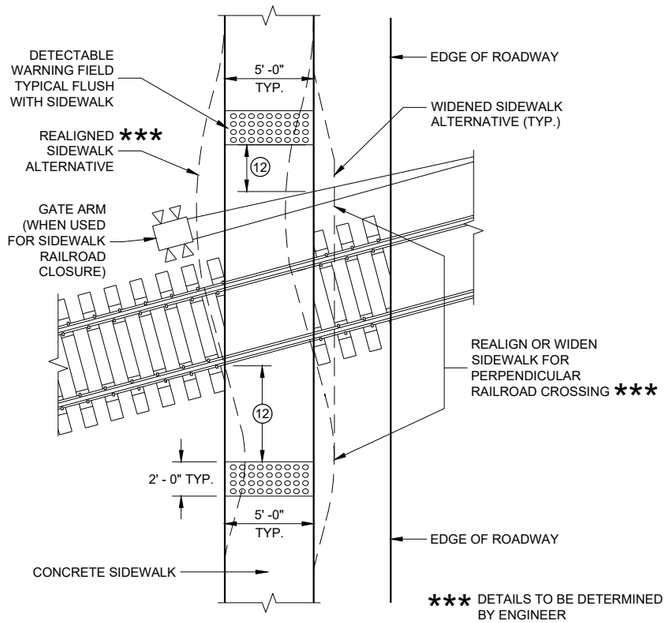
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2021 — DATE
/S/ Rodnery Taylor — ROADWAY STANDARDS DEVE ENGINEER

FHWA

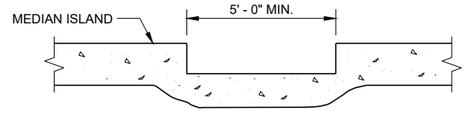
6

SDD08D01 - 22b

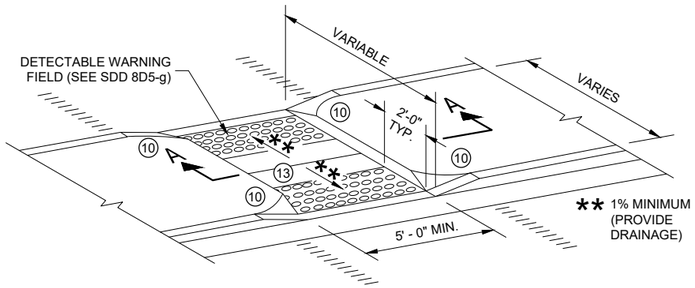


CURB RAMP TYPE 8

DETECTABLE WARNINGS AT RAILROAD CROSSING



SECTION A - A FOR TYPE 5



CURB RAMP TYPE 5

MEDIAN ISLAND NON-ELEVATED PEDESTRIAN CROSSING

GENERAL NOTES

AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.

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.

SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2%.

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

(2) GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN ½ - INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5% AND NOT TO EXCEED 7%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.

(3) AN 8.33% CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.

(4) ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

(6) PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LEVEL LANDING SIZE IS 5 FEET BY 5 FEET.

(10) INSTALL TRANSITION NOSE (INCIDENTAL TO OTHER PAY ITEMS). DO NOT MARK TRANSITION NOSE.

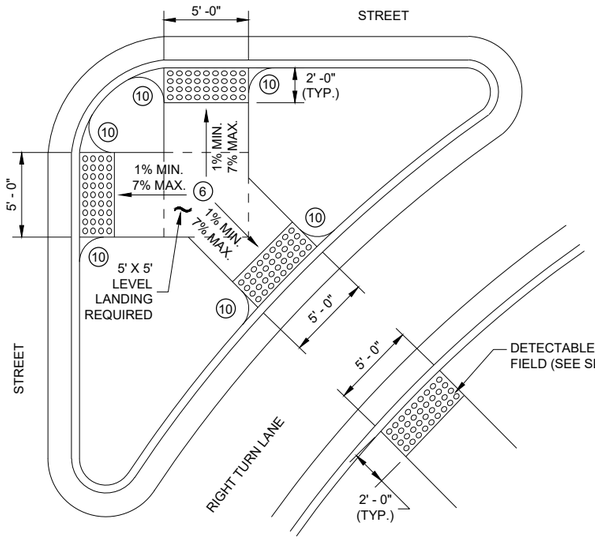
(11) SLOPE SIDEWALK TOWARD LANDING AS SHOWN WHERE THERE IS NO TERRACE OR WHERE THE TERRACE WIDTH IS LESS THAN 6 FEET WIDE.

(12) THE EDGE OF THE DETECTABLE WARNING FIELD NEAREST TO A RAILROAD CROSSING SHALL BE 1.5 FEET ±0.1' FROM THE FACE OF THE GATE ARM IF THE GATE ARM EXTENDS ACROSS THE SIDEWALK. WHERE THERE IS NO PEDESTRIAN GATE, THE EDGE OF THE DETECTABLE WARNING FIELD NEAREST TO THE RAILROAD CROSSING SHALL BE 15 FEET FROM THE NEAREST RAIL.

(13) DO NOT INSTALL DETECTABLE WARNING FIELDS AT THE EDGES OF STEET-LEVEL PEDESTRIAN REFUGE ISLANDS IF A MINIMUM 2 FOOT CONCRETE SURFACE WITHOUT DETECTABLE WARNINGS (MEASURED IN THE DIRECTION OF PEDESTRIAN TRAVEL) CANNOT BE ACHIEVED.

LEGEND

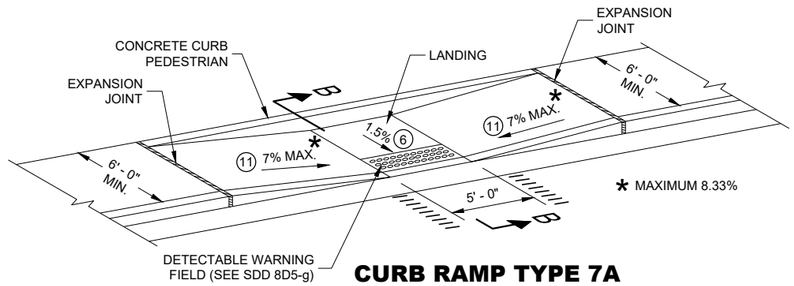
- ½" EXPANSION JOINT SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)



CURB RAMP TYPE 6

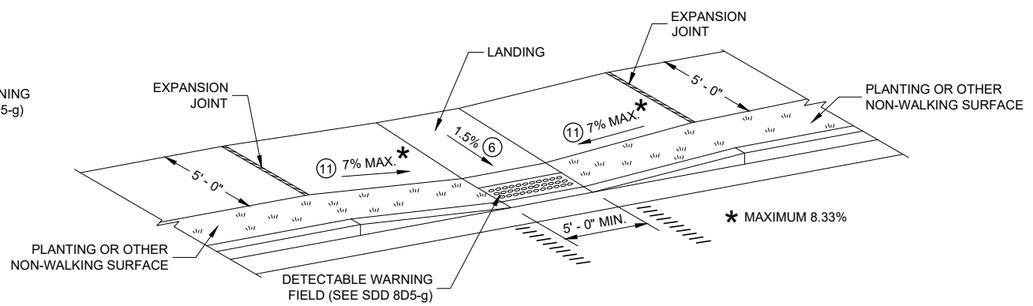
DETECTABLE WARNING AT ISLANDS

REFER TO GENERAL NOTES (2) AND (3) FOR ALL ISLAND CURB RAMPS



CURB RAMP TYPE 7A

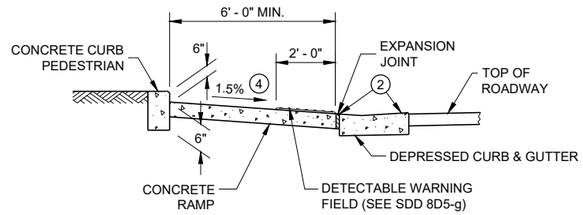
MID BLOCK CROSSING



CURB RAMP TYPE 7B

MID BLOCK CROSSING

NOTE: THESE PARALLEL AND PARALLEL/PERPENDICULAR CURB RAMPS MAY BE USED AT INTERSECTIONS AND MID BLOCK LOCATIONS.



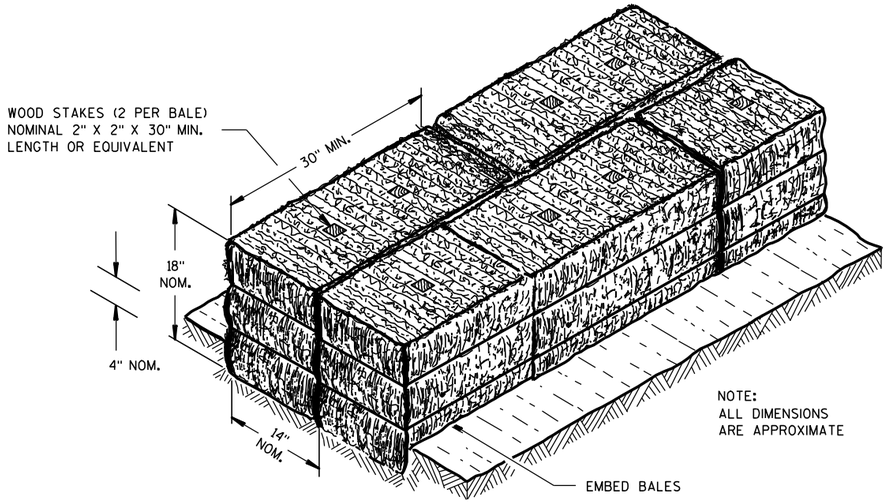
SECTION B - B FOR TYPE 7A

CURB RAMPS TYPE 5, 6, 7A, 7B & 8

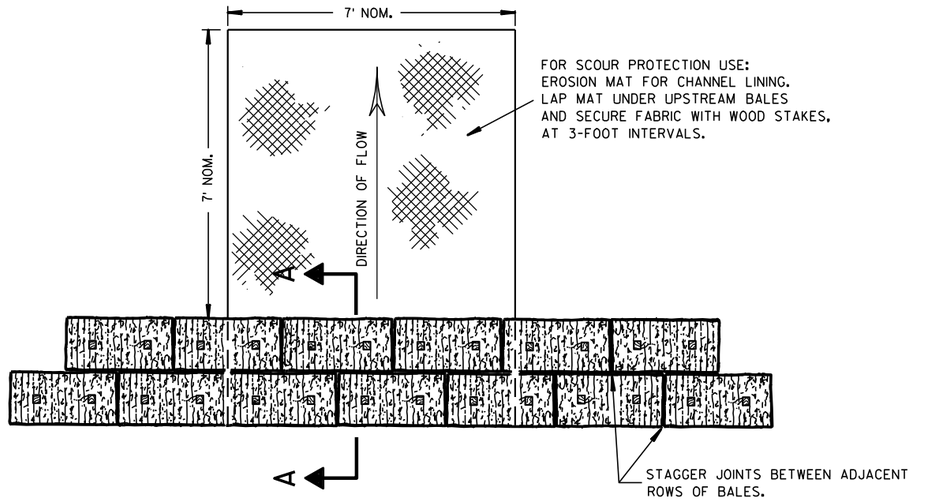
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

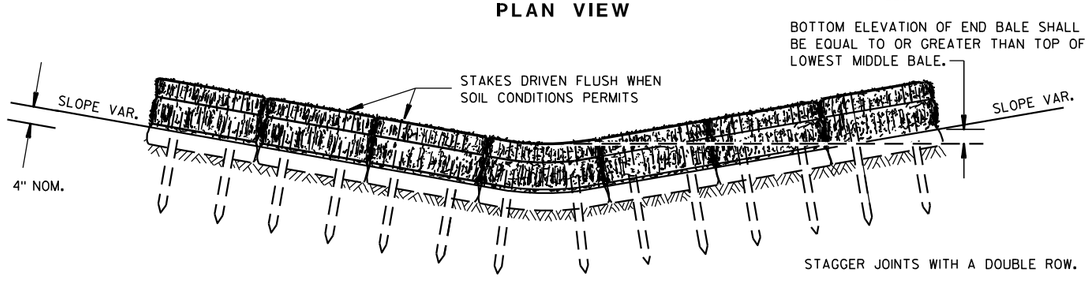
SDD 08D05 - 20e



SECTION A-A



PLAN VIEW



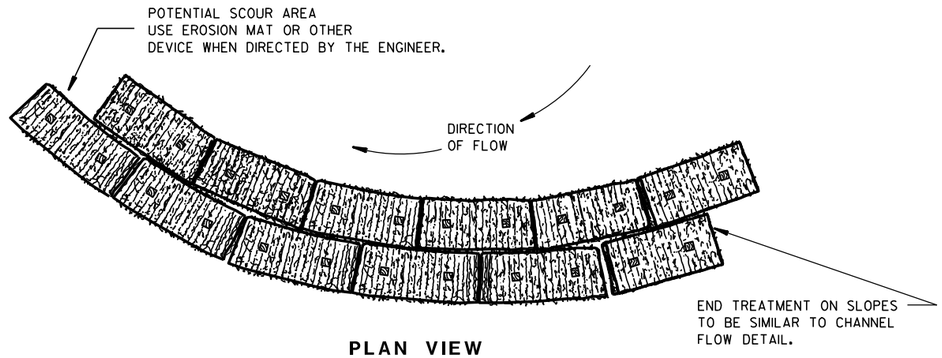
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES (1)

GENERAL NOTES

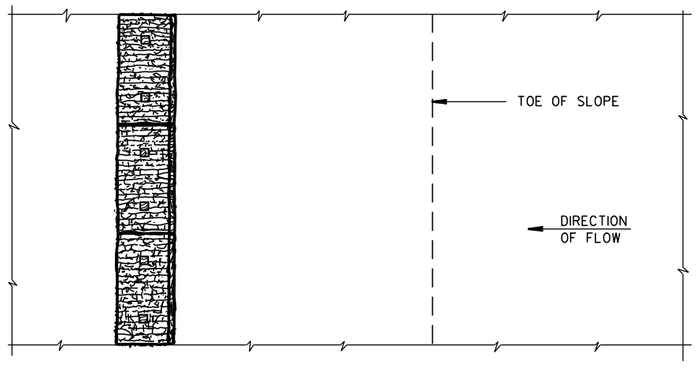
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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

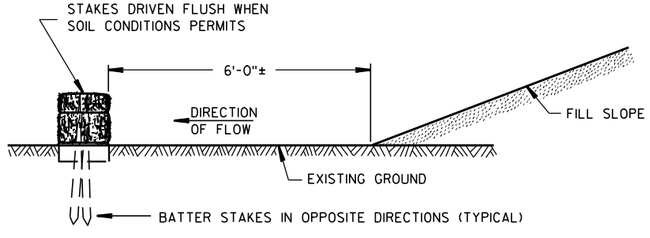


PLAN VIEW

WHEN ALTERING THE DIRECTION OF FLOW



PLAN VIEW



FRONT ELEVATION

WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE

EROSION BALES FOR SHEET FLOW

TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

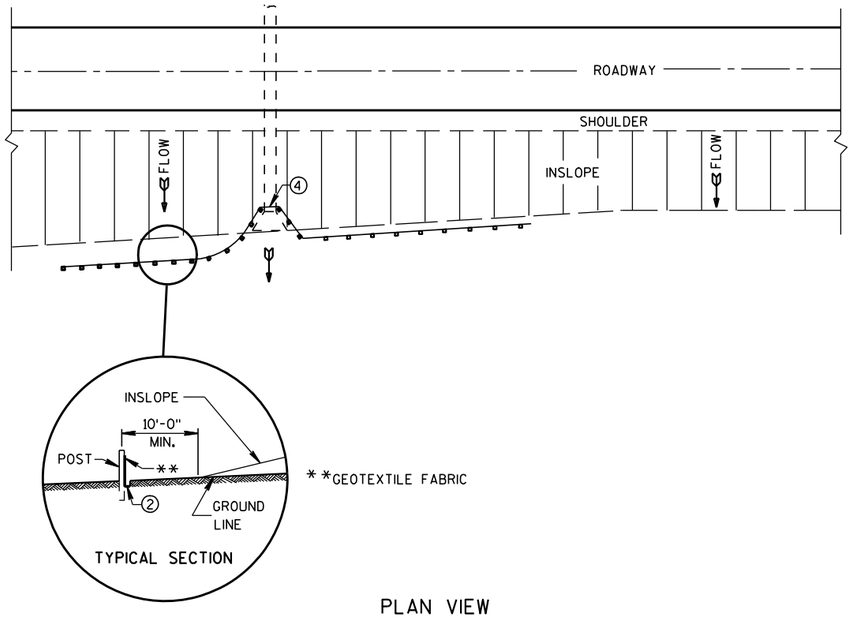
6/04/02 — DATE

/S/ Beth Cannestra — CHIEF ROADWAY DEVELOPMENT ENGINEER

FHWA

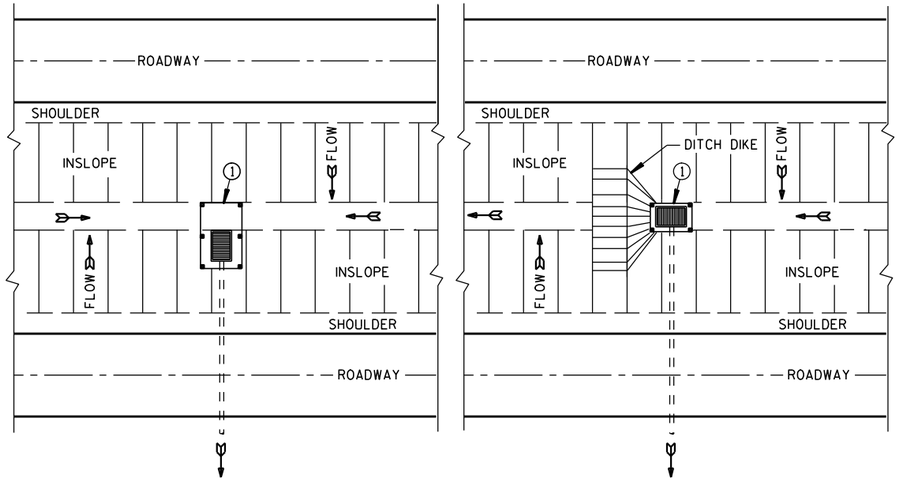
6

S.D.D. 8 E 8-3



PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

GENERAL NOTES

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

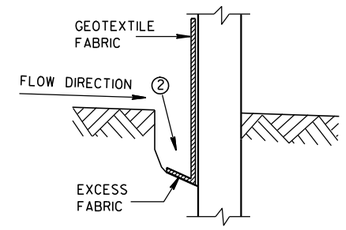
① HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.

② FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.

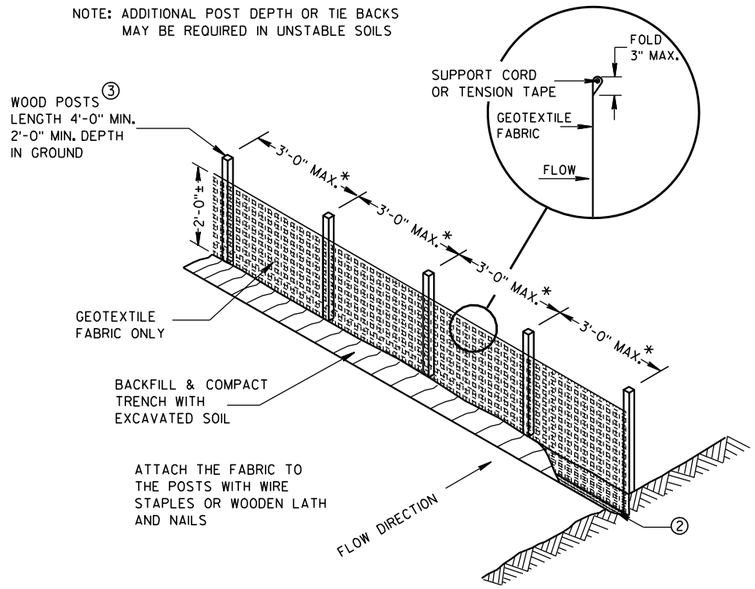
③ WOOD POSTS SHALL BE A MINIMUM SIZE OF 1⅛" X 1⅛" OF OAK OR HICKORY.

④ SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.

⑤ CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.

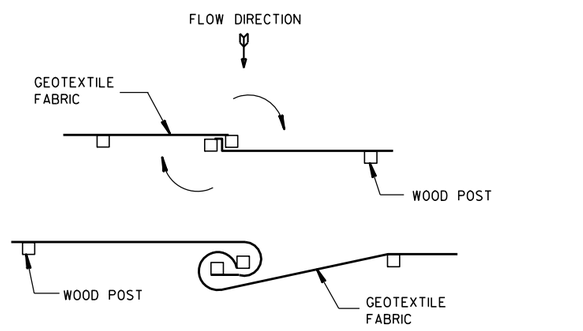


TRENCH DETAIL

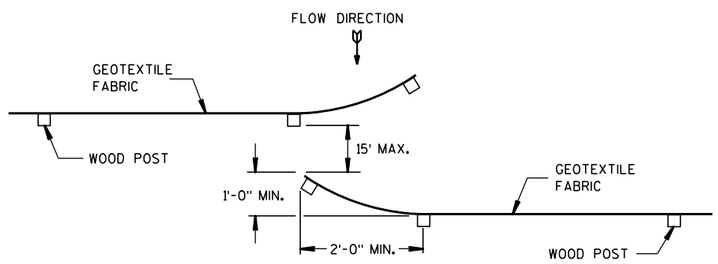


*NOTE: 8'-0" POST SPACING ALLOWED IF A WOVEN GEOTEXTILE FABRIC IS USED.

SILT FENCE

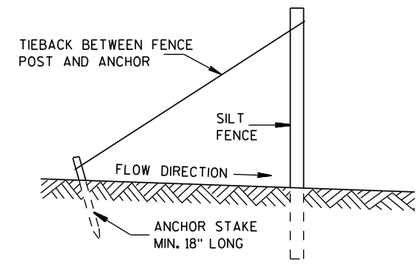


TWIST METHOD



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

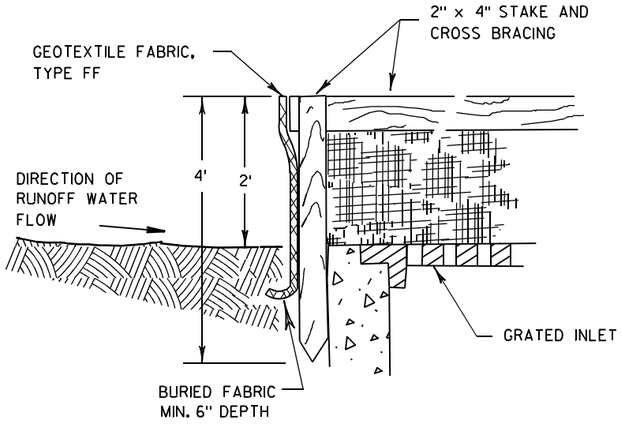
APPROVED
4-29-05 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

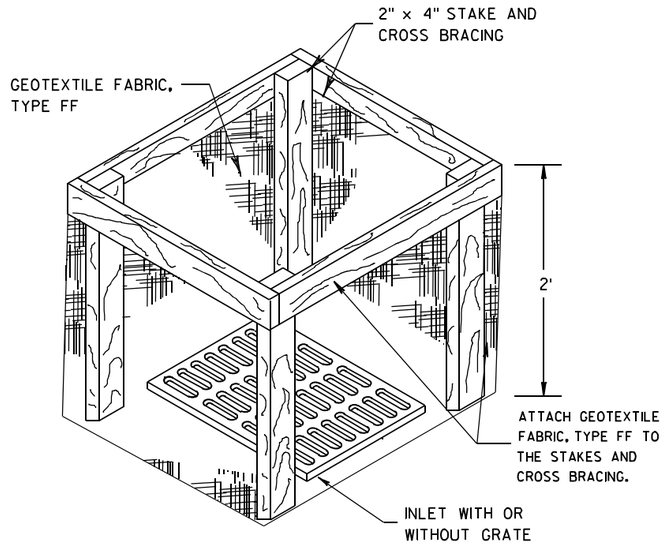
6

S.D.D. 8 E 9-6

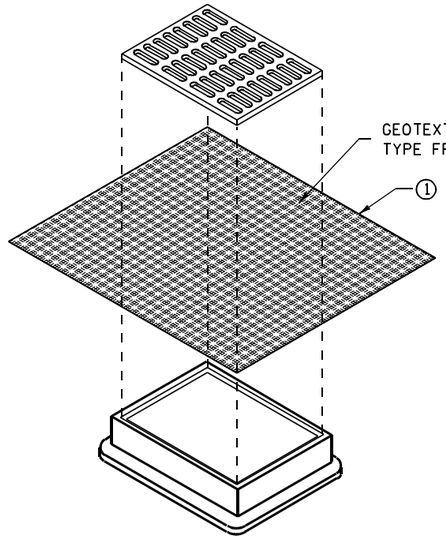
6

S.D.D. 8 E 9-6



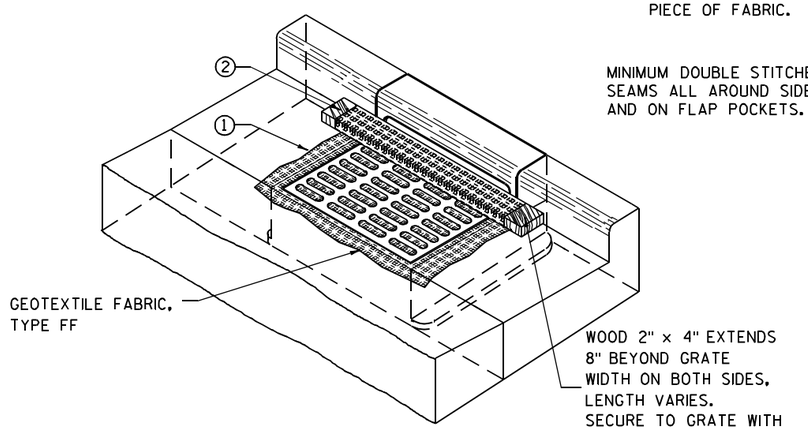


INLET PROTECTION, TYPE A

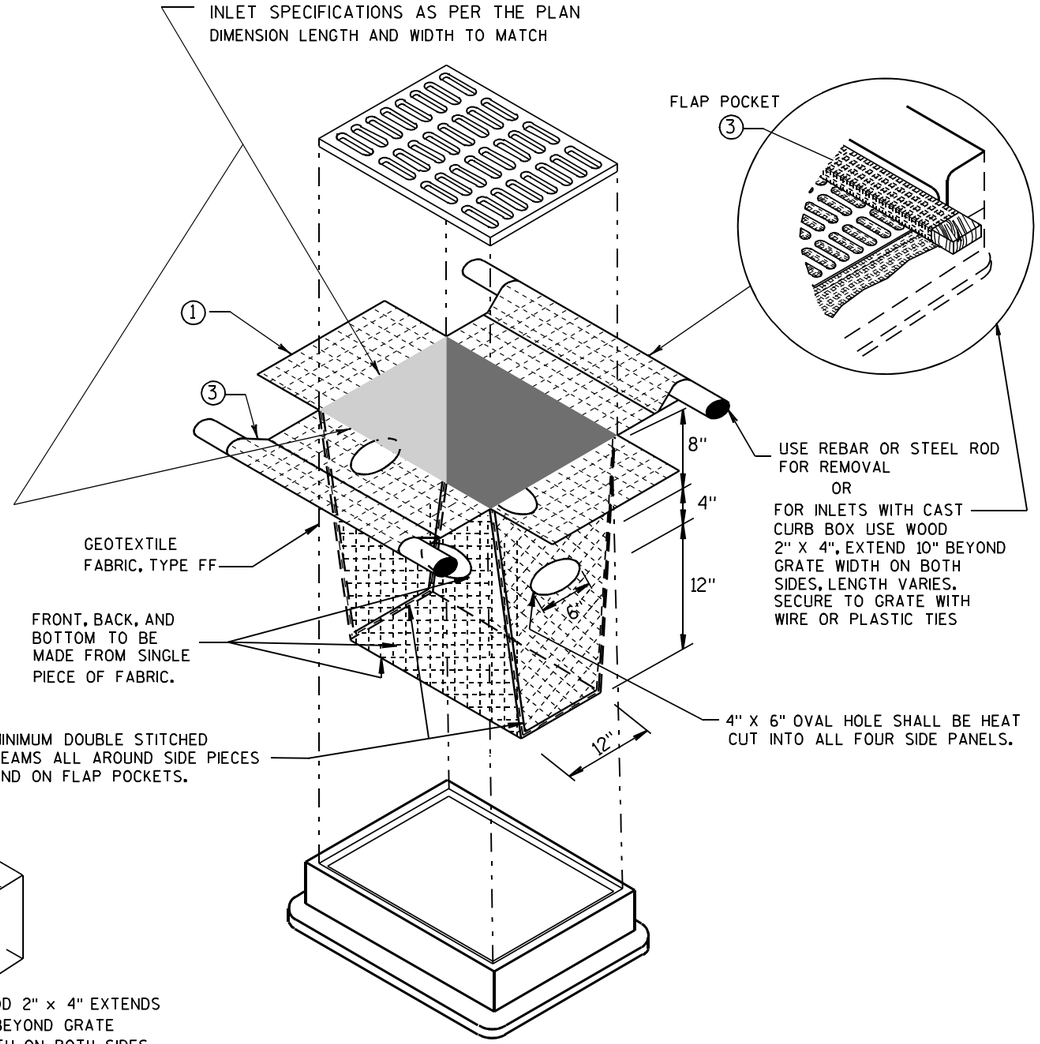


INLET PROTECTION, TYPE B
(WITHOUT CURB BOX)

(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

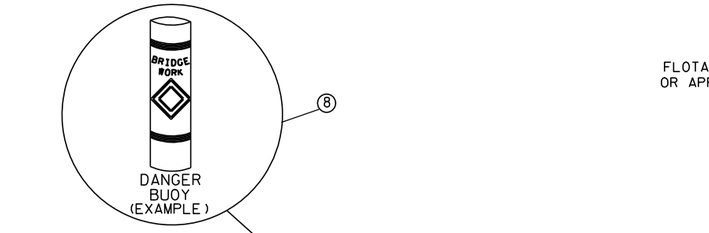
APPROVED

10/16/02
DATE

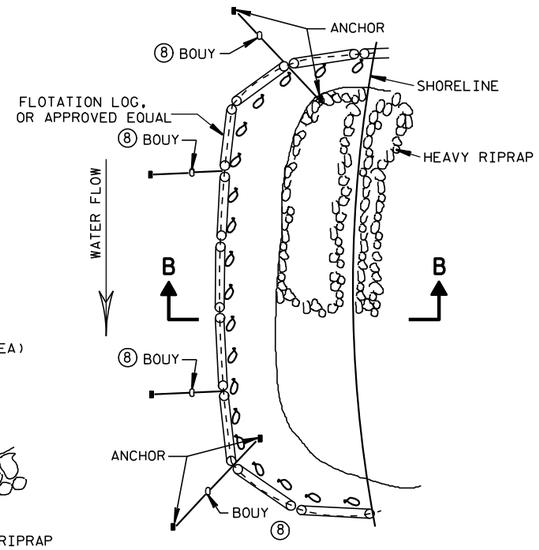
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER

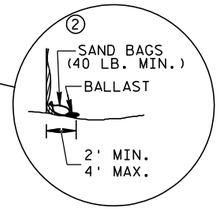
FHWA

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

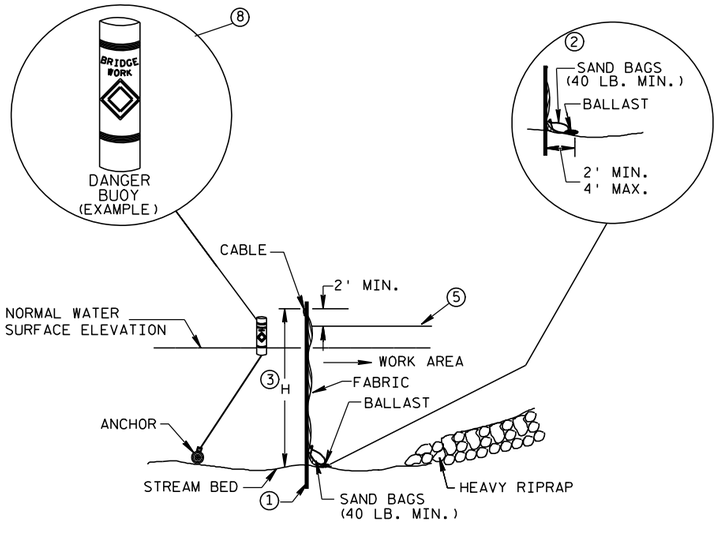


SECTION B-B

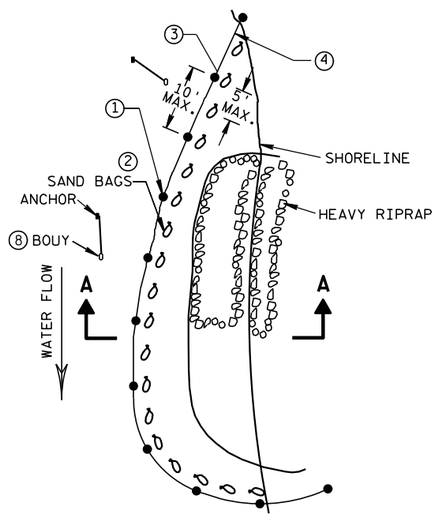




TURBIDITY BARRIER FLOAT ALTERNATIVE
CAUTION - SEE NOTE 6



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 SANDBAGS TO BE USED AS ADDITIONAL BALLAST WHEN ORDERED BY THE ENGINEER TO MEET ADVERSE FIELD CONDITIONS. SPACE AS APPROPRIATE FOR SITE CONDITIONS.

③ WHEN BARRIER HEIGHT, H, EXCEEDS 8 FT., POST SPACING MAY NEED TO BE DECREASED.

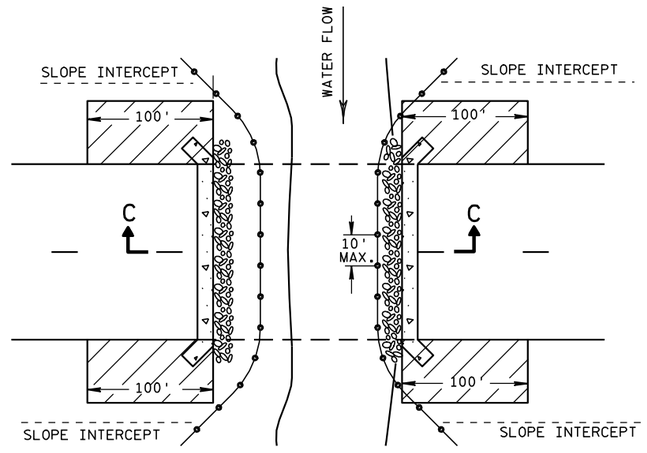
④ IN WATERWAYS SUBJECT TO FLUCTUATING WATER ELEVATIONS, PROVISIONS SHOULD BE MADE TO ALLOW THE WATER TO EQUALIZE ON EACH SIDE OF THE BARRIER. THIS MAY BE ACCOMPLISHED BY LEAVING A PORTION OF THE BARRIER OPEN ON THE UPSTREAM END.

⑤ ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION PERIOD. MIMIMUM BARRIER HEIGHT SHALL BE 2'GREATER THAN EITHER THE O2 ELEVATION OR THE ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION, WICHEVER IS GREATER.

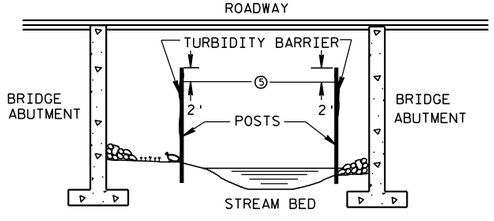
⑥ FLOAT ALTERNATIVE WILL ONLY BE ALLOWED WITH WRITTEN APPROVAL OF THE ENGINEER, AND IS MEANT FOR LOCATIONS WHERE BED ROCK PREVENTS THE INSTALLATION OF POSTS.

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

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



PLAN VIEW



SECTION C-C

TURBIDITY BARRIER DETAIL SHOWING TYPICAL PLACEMENT AT STRUCTURES

TURBIDITY BARRIER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6

S.D.D. 8 E 11-2

6

S.D.D. 8 E 11-2

METAL APRON ENDWALLS

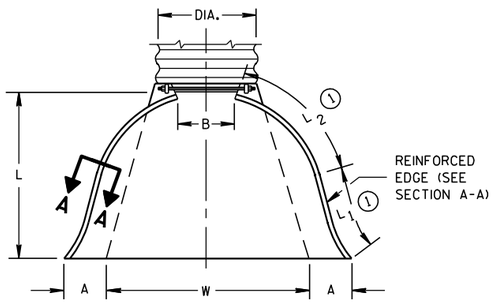
PIPE DIA. (IN.)	MIN. THICK. (Inches) STEEL	MIN. THICK. (Inches) ALUM.	DIMENSIONS (Inches) A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")	APPROX. SLOPE	BODY
12	.064	.060	6	6	6	21	12	17 1/2	24	2 1/2 to 1	1 Pc.
15	.064	.060	7	8	6	26	14	21 3/4	30	2 1/2 to 1	1 Pc.
18	.064	.060	8	10	6	31	15	28 1/4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

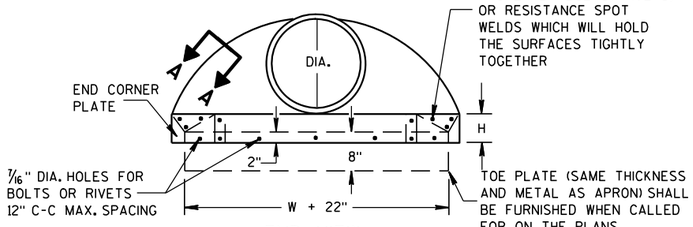
REINFORCED CONCRETE APRON ENDWALLS

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



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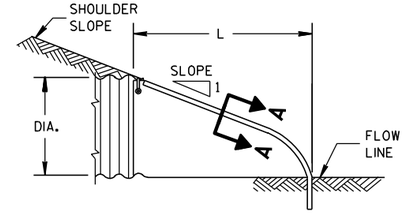
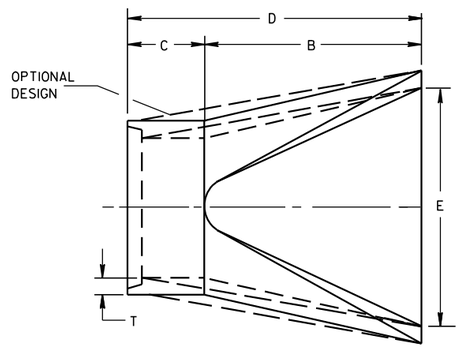
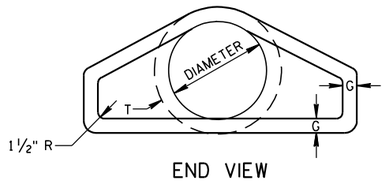


SIDE ELEVATION

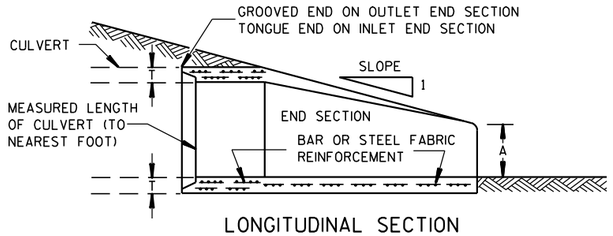
METAL ENDWALLS



PLAN

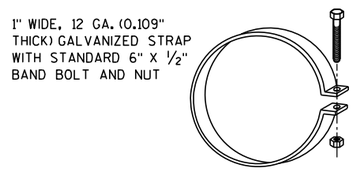


END VIEW



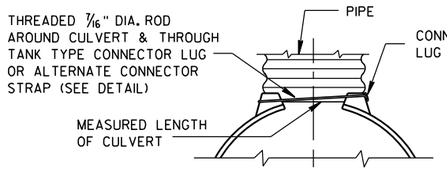
LONGITUDINAL SECTION

CONCRETE ENDWALLS

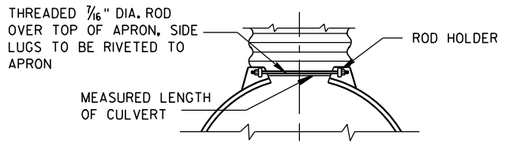


ALTERNATE FOR TYPE 1 CONNECTION

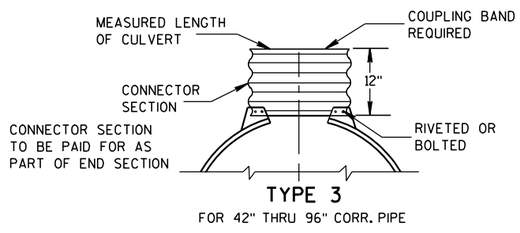
END SECTION CONNECTOR STRAP



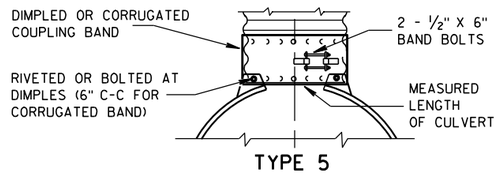
TYPE 1
FOR 12" THRU 24" CORR. PIPE



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

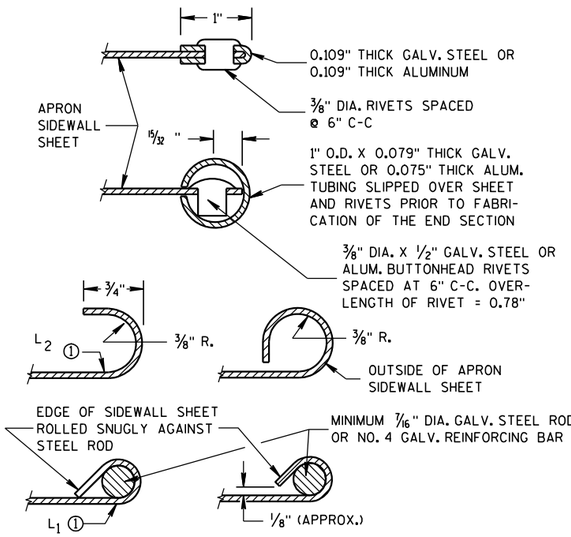
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL. AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

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.

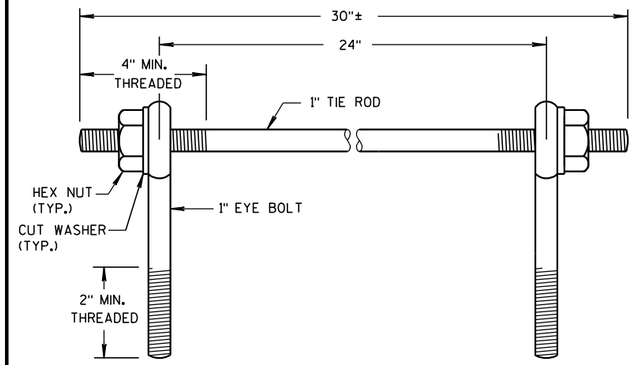
APRON ENDWALLS FOR CULVERT PIPE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

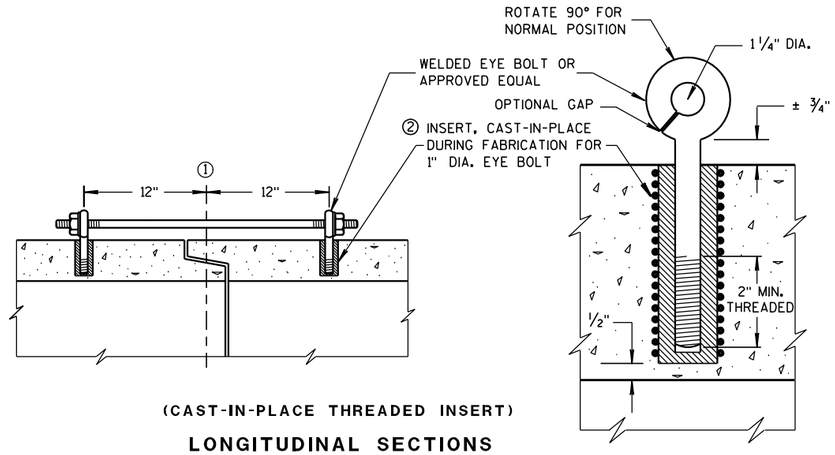
APPROVED
11/30/94 DATE
/S/ Rory L. Rhinesmith
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

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 ℄ OF TONGUE AND GROOVE OR BELL AND SPIGOT JOINTS.

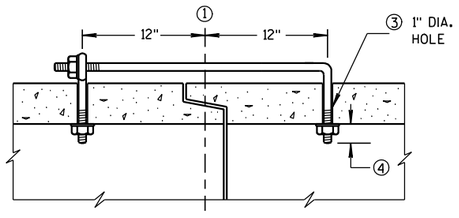
② THE INSIDE OF THE THREADED INSERTS SHALL BE CLEAN TO ALLOW THE INSERTION OF THREADED EYE BOLTS.

③ HOLES SHALL BE CAST-IN-PLACE OR DRILLED 12 INCHES FROM ℄ OF TONGUE AND GROOVE.

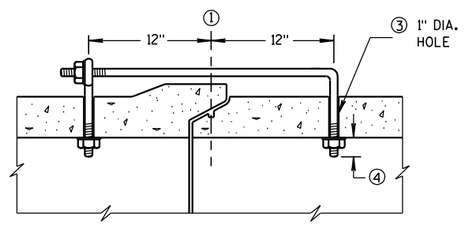
④ BOLT PROJECTION INSIDE OF PIPE SHALL NOT EXCEED 2 INCHES.

⑤ OPENING TO BE ROD DIAMETER PLUS 1 INCH.

⑥ LENGTH ADEQUATE TO EXTEND TO WITHIN 1/2 INCH OF THE INNER SURFACE OF THE PIPE.



(TONGUE & GROOVE PIPE)

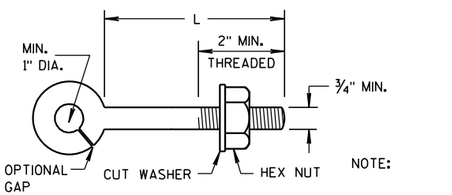


(MODIFIED BELL PIPE)

LONGITUDINAL SECTION

EYE BOLT DIMENSION TABLE

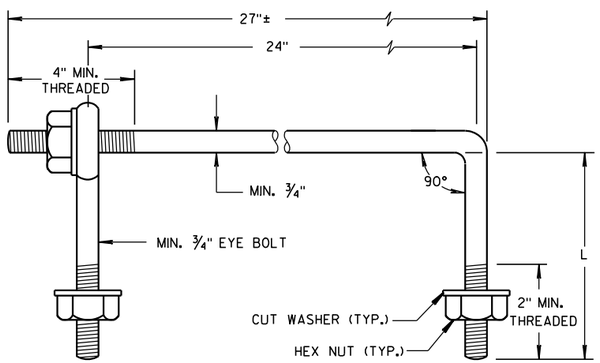
PIPE SIZE	L = LENGTH	
	TONGUE & GROOVE PIPE	MODIFIED BELL PIPE
18" TO 24"	4 1/2"	6 1/4"
30"	5"	7"
36"	5 1/2"	7"
42"	6"	
48"	6 1/2"	
60"	7 1/2"	
66"	8"	



NOTE:

EYE BOLT

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



EYE BOLT AND TIE ROD

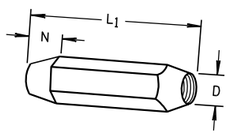
(JOINT TIES FOR 18" TO 66" DIA. CONCRETE PIPE)

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

ADJUSTABLE TIE ROD TABLE

PIPE DIAMETER	TIE ROD DIAMETER	D	L_1	N
12-60	5/8	5/8	5	1/2
66-84	3/4	3/4	5	1/2
90-108	1	1	7	1 1/16

DIMENSIONS SHOWN ARE IN INCHES



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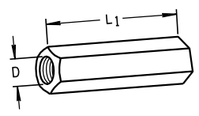
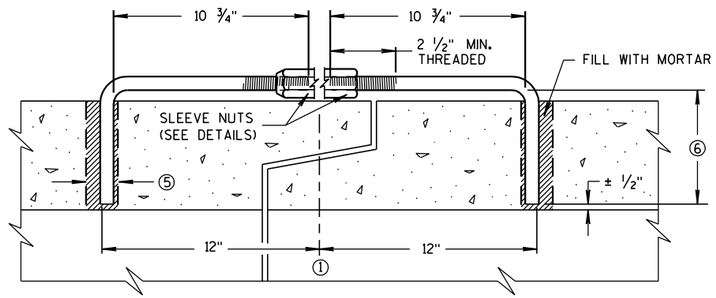


PLAIN

RIGHT AND LEFT THREADS

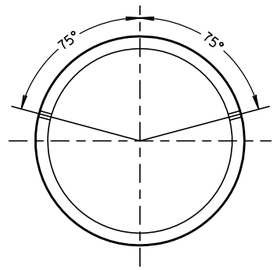
SLEEVE NUTS



LONGITUDINAL SECTION

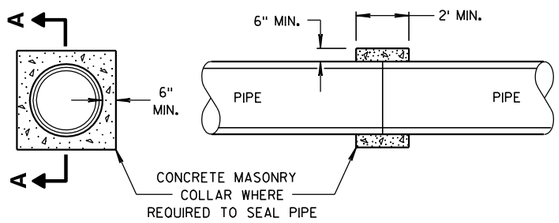
(JOINT TIES FOR 12" TO 108" DIA. CONCRETE PIPE)

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
6/5/2012 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER
60
FHWA

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S.D.D. 8 F 4-7

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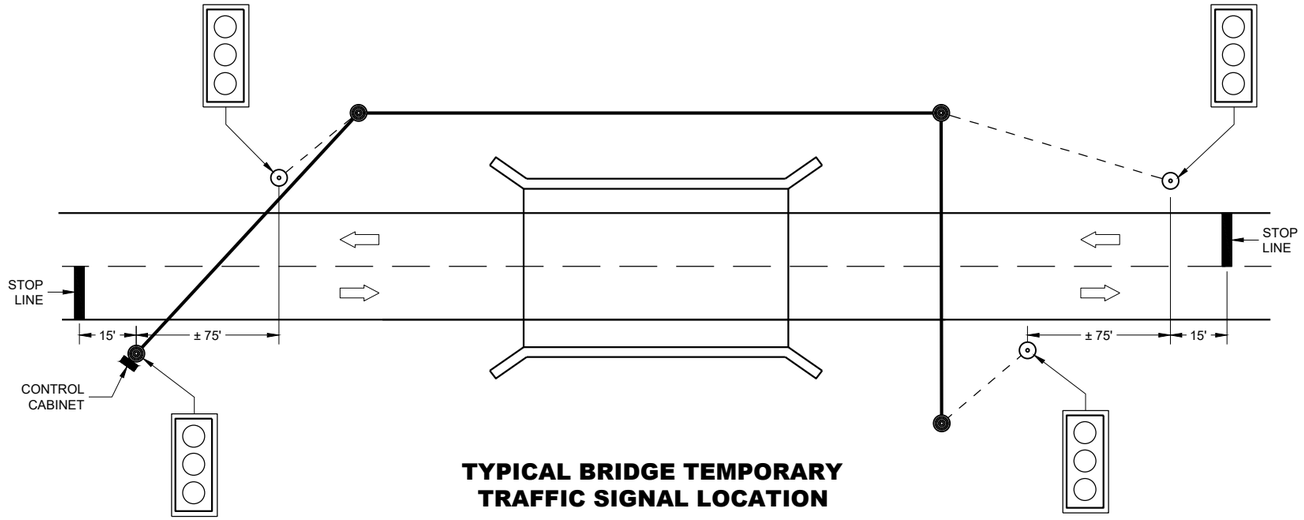
S.D.D. 8 F 4-7



TYPICAL BRIDGE TEMPORARY TRAFFIC SIGNAL LOCATION

LEGEND

- WOOD POLE (NON-BREAKAWAY)
- WOOD POST (BREADAWAY)
- SIGNAL CABLE
- SIGNAL CABLE W/MESSENGER
- DIRECTION OF TRAFFIC
- LED TRAFFIC SIGNAL WITH BACKPLATE (3-12")

GENERAL NOTES

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

POLE MOUNTED TRAFFIC SIGNAL CONTROL CABINET MAY BE MOUNTED ON THE SERVICE POLE IF THE ELECTRICAL UTILITY ALLOWS THE INSTALLATION.

WHEN UTILITY POLES ARE USED TO SPAN THE TEMPORARY OVERHEAD CABLE, WRITTEN PERMISSION MUST BE OBTAINED FROM THE OWNER OF THE POLES AND GIVEN TO THE PROJECT MANAGER. ALL PERTINENT UTILITY AND CODE CLEARANCES SHALL BE MAINTAINED.

WOOD POLES (NON-BREAKAWAY) SHALL BE NO CLOSER TO EDGE OF PAVEMENT THAN OFFSET DISTANCE CHART ALLOWS OR 4 FEET BEHIND PROTECTIVE BARRIER (BEAM GUARD, ETC.).

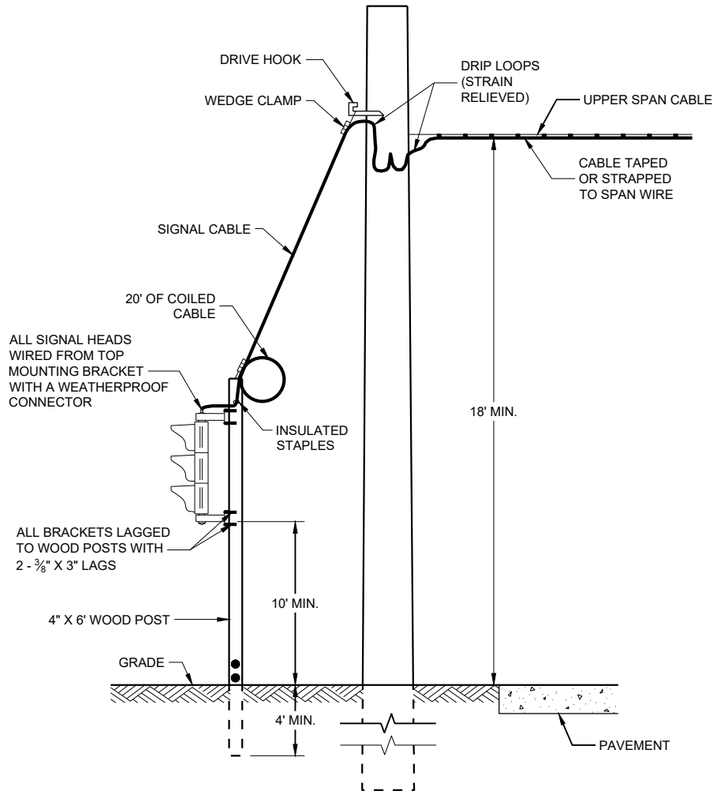
WOOD POSTS (BREAKAWAY) SHALL BE NO CLOSER THAN 2 FEET OUTSIDE OF SHOULDER.

VERTICAL CLEARANCE ETC. PER NEC.

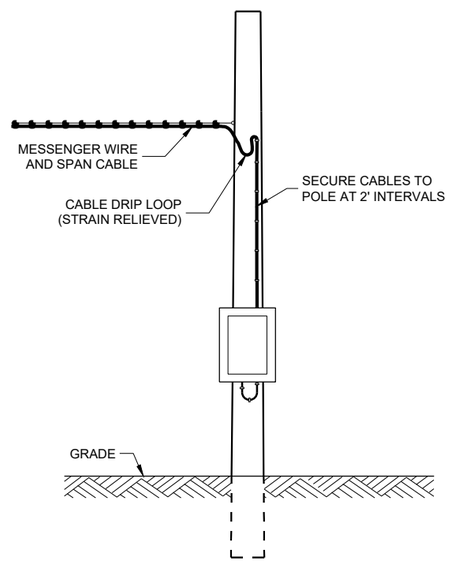
TRAFFIC SIGNAL FACES SHALL BE TYPICALLY PLACED 12 FEET FROM EDGE OF PAVEMENT.

EACH TRAFFIC SIGNAL SHALL HAVE A BACKPLATE.

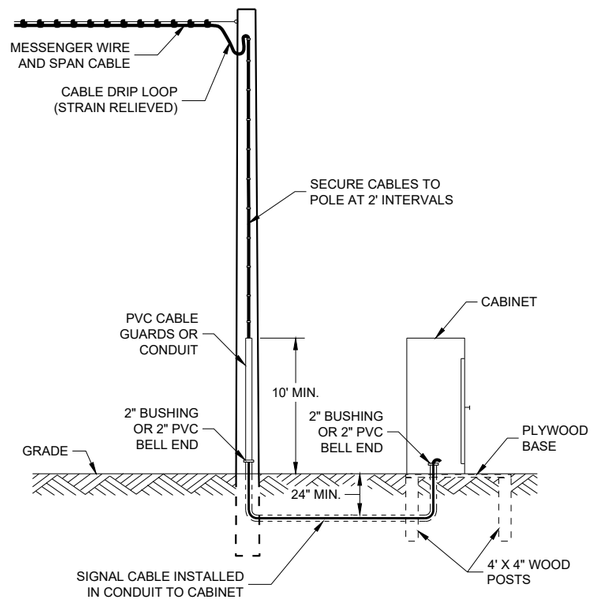
SIGNING, PAVEMENT MARKING AND LANE CONTROL REQUIREMENTS SHALL CONFORM TO STANDARD DETAIL DRAWING 15D33.



TYPICAL DROP TO TRAFFIC SIGNAL FACE



POLE MOUNT CABINET INSTALLATION



GROUND MOUNT CABINET INSTALLATION

MINIMUM POLE LENGTHS	CLASS	POLE BURIAL DEPTHS
25'	V	5'
30'	V	6'
35'	IV	7'
40'	IV	8'
45'	IV	9'

OFFSET DISTANCES FOR TEMPORARY NON-BREAKAWAY POLES	
SPEED LIMIT	OFFSET DISTANCE*
GREATER THAN 45 MPH	18 FT
45 MPH OR LESS	12 FT
45 MPH OR LESS W/CURBS	2 FT

* NOTE: OFFSET MEASURED FROM OUTER EDGE OF OUTSIDE THRU LANE.

BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
March 2018 — DATE
/S/ Ahmet Demirbilek — ROADWAY STANDARDS DEVE ENGINEER

FHWA

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SDD09G02 - 05a

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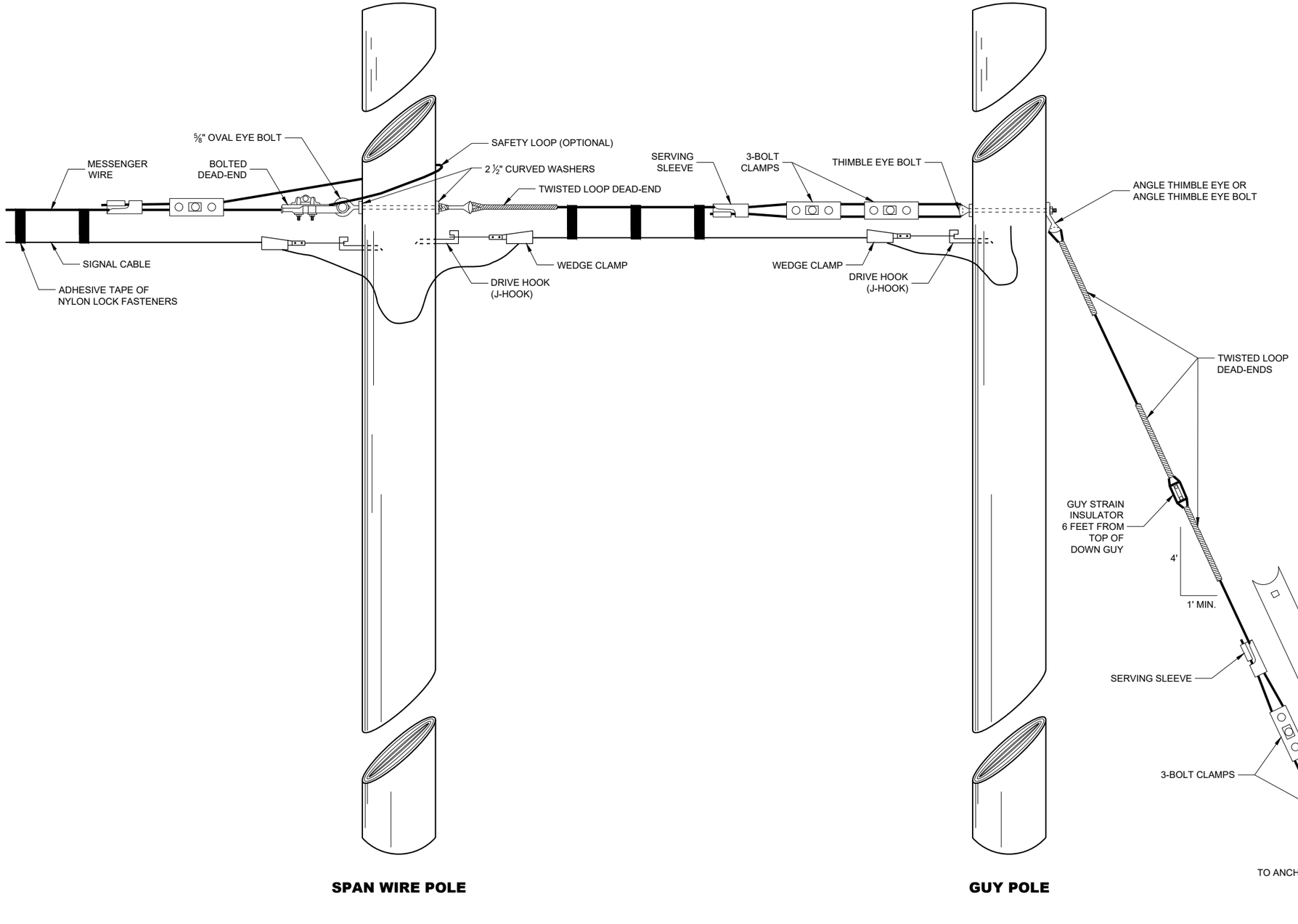
SDD09G02 - 05a

GENERAL NOTES

USE ¾" DRILL IN WOOD POLE TO PROVIDE FOR ⅝" BOLTS.



SPAN WIRE POLE

GUY POLE

TYPICAL DEAD-ENDINGS OR GUYING

BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2015 — DATE
/S/ Ahmet Demerbilek — ROADWAY STANDARDS DEVE ENGINEER

FHWA

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SDD09G02 - 05b

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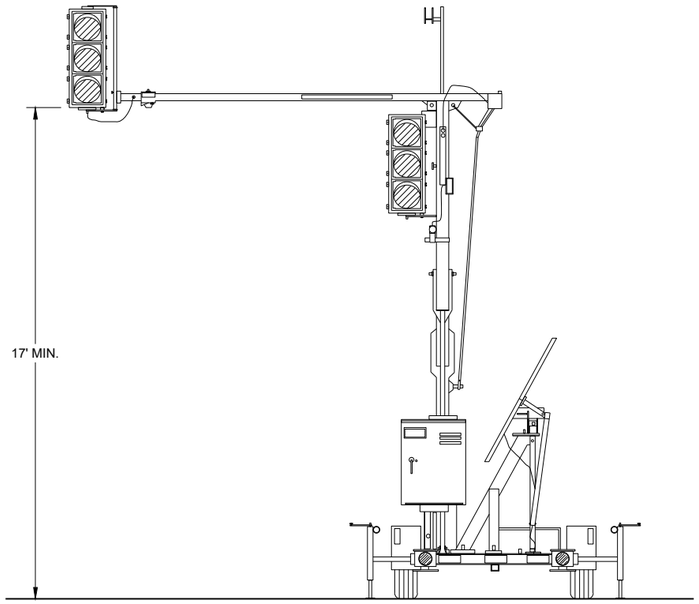
SDD09G02 - 05b

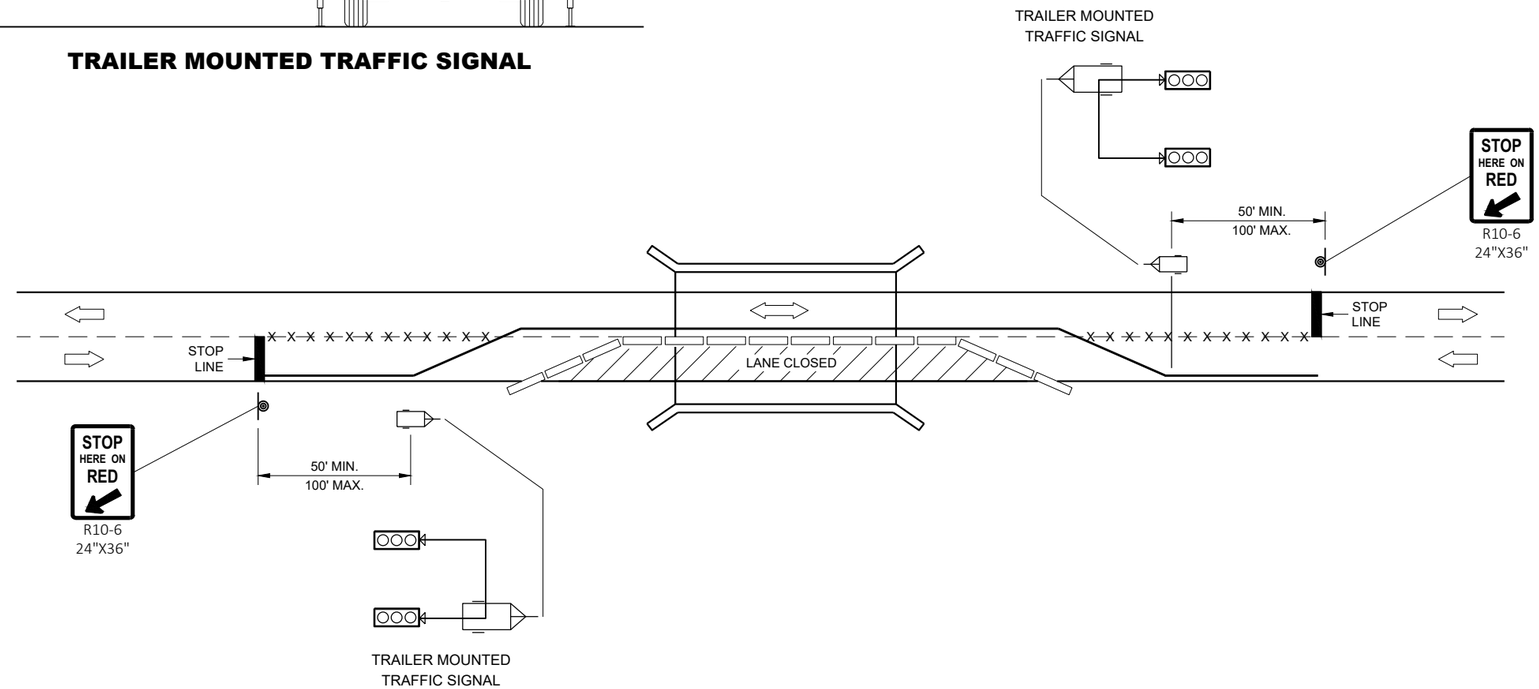


TRAILER MOUNTED TRAFFIC SIGNAL

GENERAL NOTES

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

SIGNING, PAVEMENT MARKING AND LANE CONTROL REQUIREMENTS SHALL CONFORM TO STANDARD DETAIL DRAWING 15D33.



TYPICAL TRAILER MOUNTED TRAFFIC SIGNAL LOCATION

LEGEND

- POST MOUNTED SIGN
- TEMPORARY PRECAST CONCRETE BARRIER
- TRAILER MOUNTED TRAFFIC SIGNAL
- REMOVE PAVEMENT MARKINGS
- DIRECTION OF TRAFFIC

BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

June 2015
DATE

/S/ Ahmet Demerbilek
ROADWAY STANDARDS DEVE ENGINEER

FHWA

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SDD09G02 - 05c

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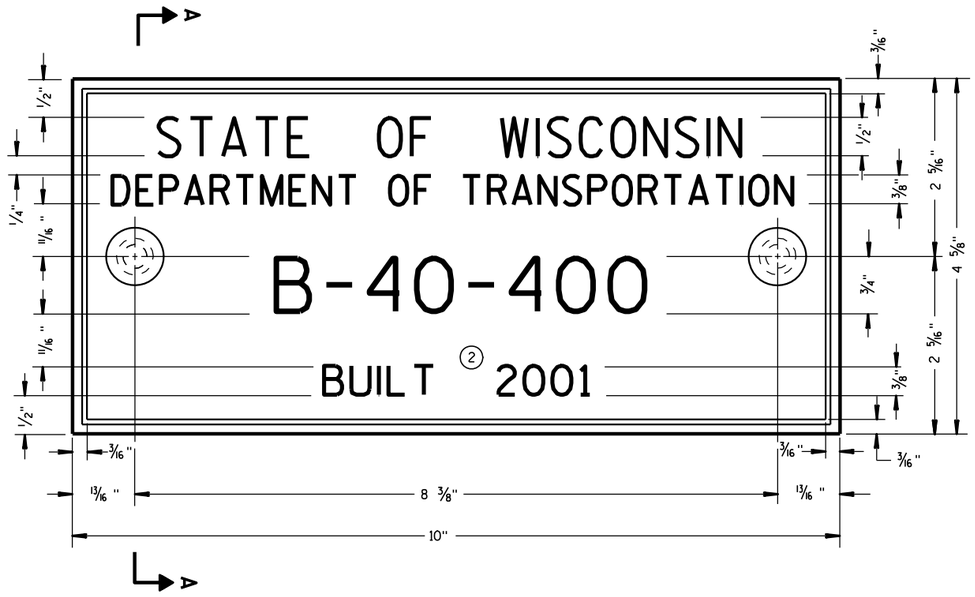
SDD09G02 - 05c



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

NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES

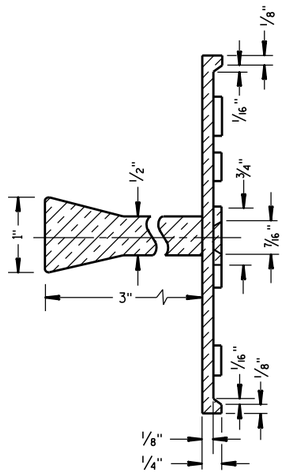
GENERAL NOTES

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.

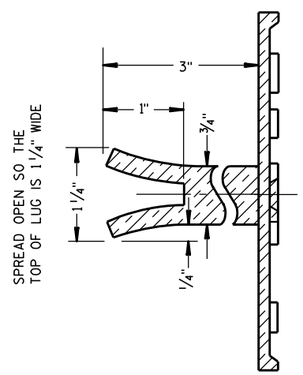
THE BRIDGE NUMBER AND YEAR BUILT SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND YEAR BUILT.

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

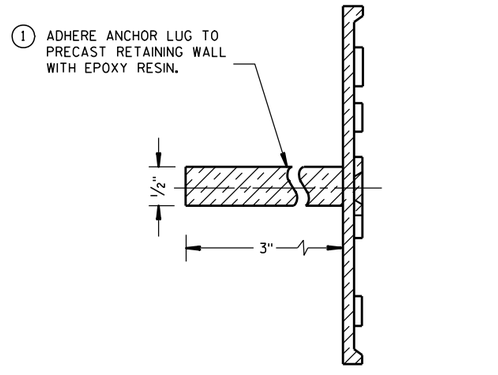
(2) REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.



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 Becker CHIEF STRUCTURAL DEVELOPMENT ENGINEER

FHWA

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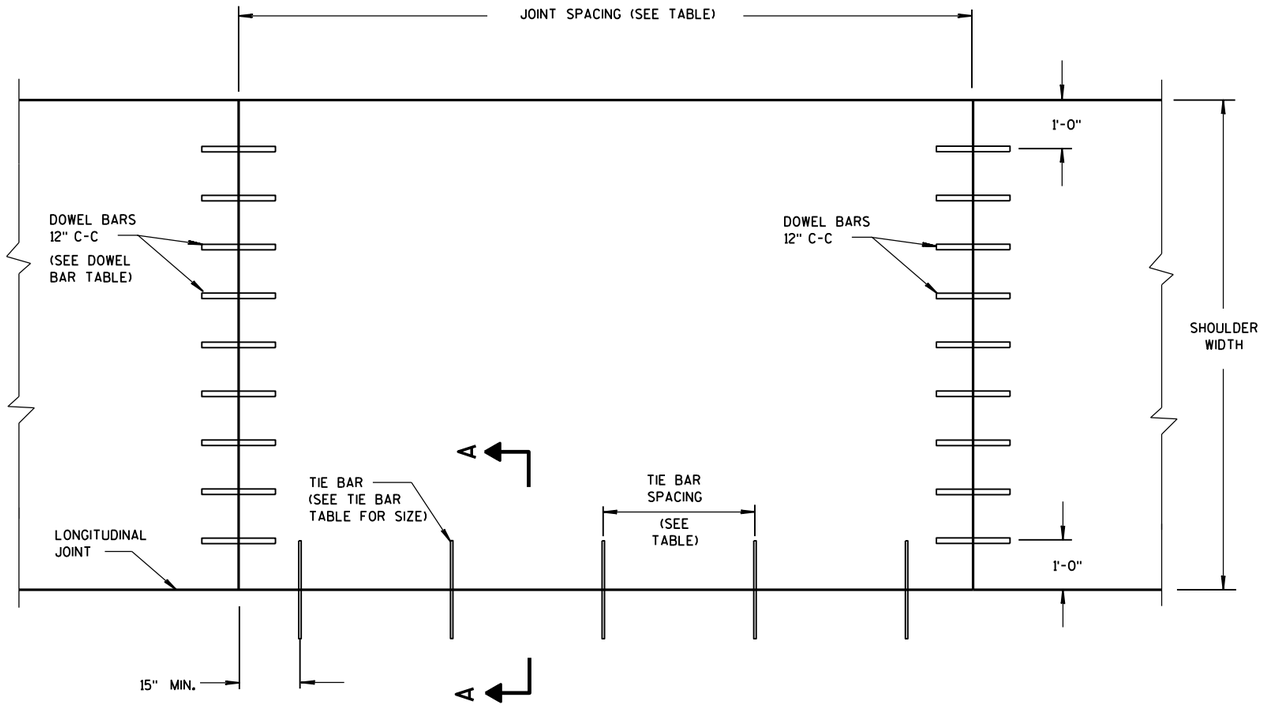
S.D.D. 12 A 3-10



PLAN VIEW

CONCRETE PAVEMENT SHOULDER

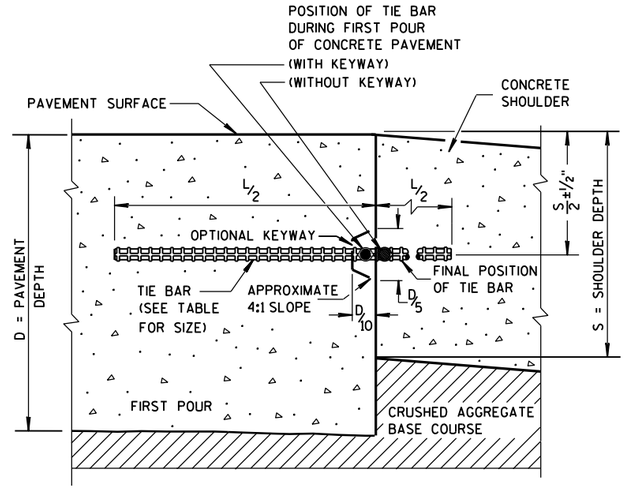
GENERAL NOTES

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

PAVEMENT DEPTH, DOWEL BAR SIZE AND JOINT SPACING TABLE

PAVEMENT DEPTH (D)	DOWEL BAR DIAMETER***	CONTRACTION JOINT SPACING
5 ½", 6", 6 ½"	NONE	12'
7", 7 ½"	1"	14'
8", 8 ½"	1 ¼"	15'
9", 9 ½"	1 ¼"	15'
10" & ABOVE	1 ½"	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 FOR THE AVERAGE THICKNESS OF THE CROSS SECTION.

CONCRETE PAVEMENT SHOULDERS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June, 2015 — DATE
/S/ Peter Kemp, P.E. — PAVEMENT SUPERV
FHWA

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S.D.D. 13 A 3-6

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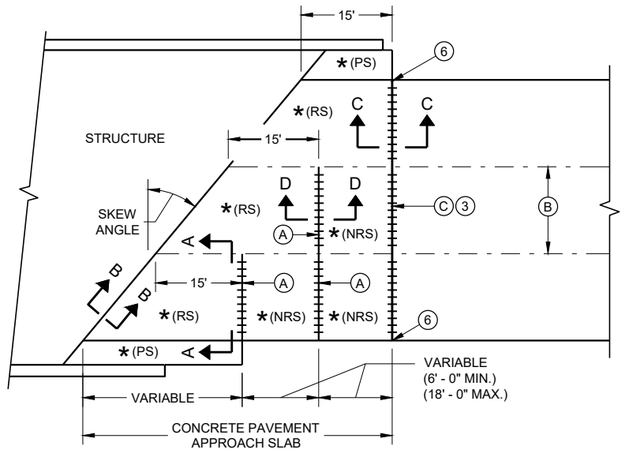
S.D.D. 13 A 3-6



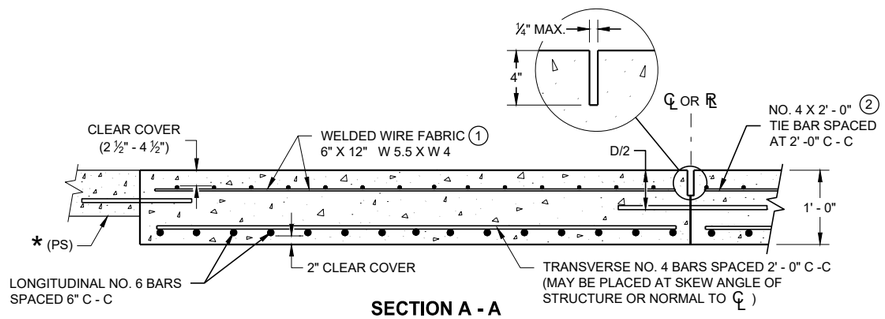
SKEWED APPROACH
(PAVEMENT MORE THAN TWO LANES)

* (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.

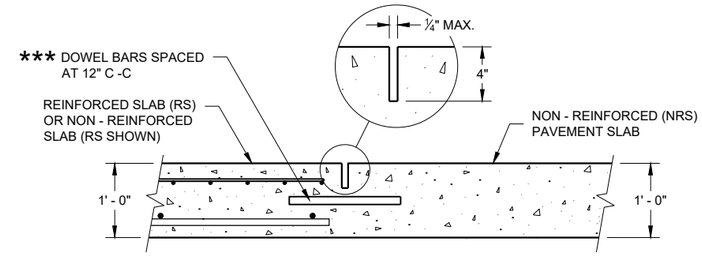
(5) PLACE EXPANSION CAP ON THE END OF THE DOWEL THAT IS NOT TACK WELDED TO THE BASKET. DO NOT FORCE DOWEL BAR PAST THE DOWEL STOP.

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

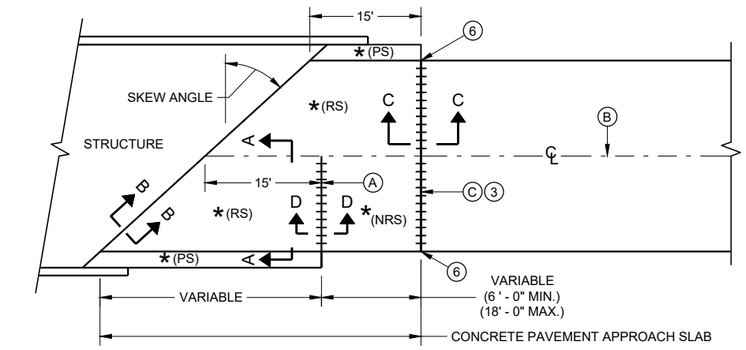
(A) STANDARD CONTRACTION JOINT NORMAL TO ℄ OR ℞.

(B) STANDARD LONGITUDINAL JOINT WITH TIE BARS.

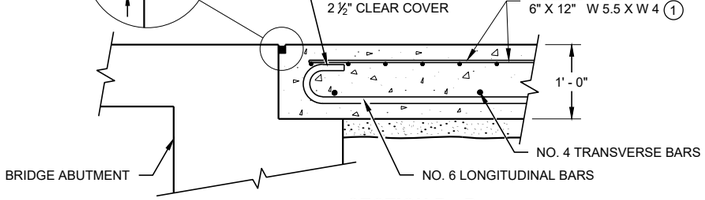
(C) 1 ½" EXPANSION JOINT WITH DOWEL BARS NORMAL TO ℄ OR ℞ .



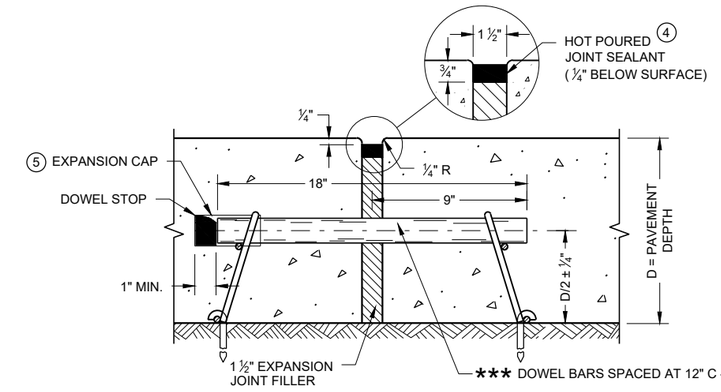
SECTION D - D
CONTRACTION JOINT



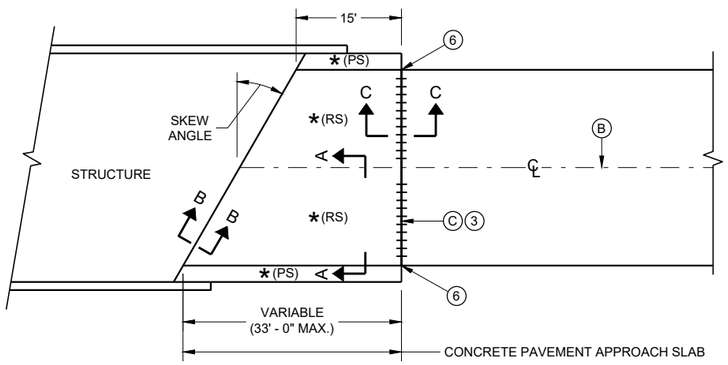
SKEWS > 20°
(PAVEMENT WIDTH ≤ 30')



SECTION B - B
BEND DETAIL
BOTTOM REINFORCEMENT

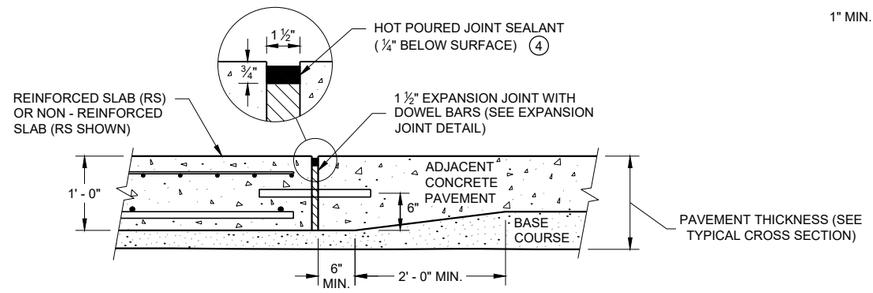


EXPANSION JOINT DETAIL



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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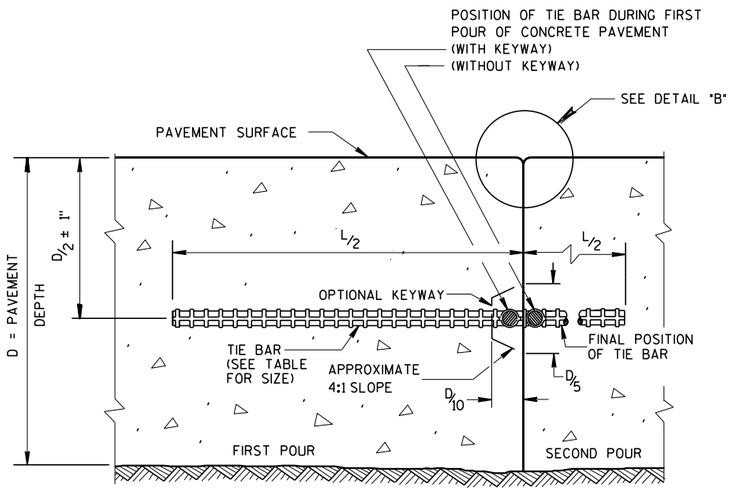
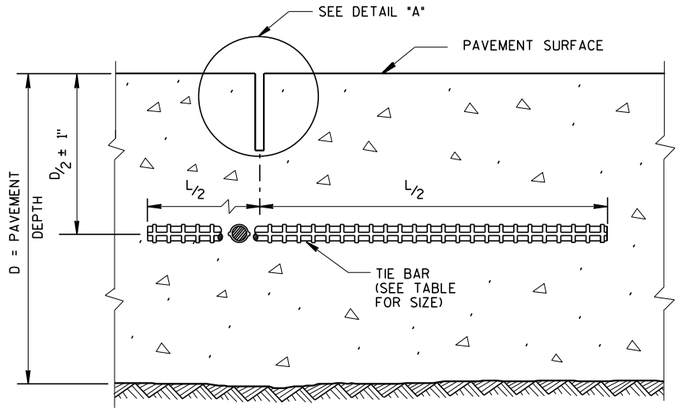
SDD 13B02 - 09a



CONSTRUCTION JOINT



SAWED JOINT

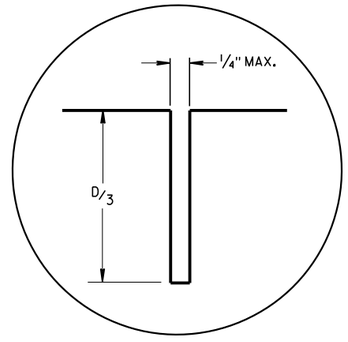
GENERAL NOTES

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

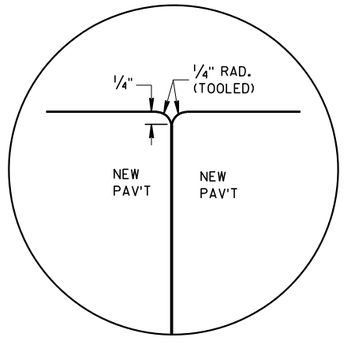
CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

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

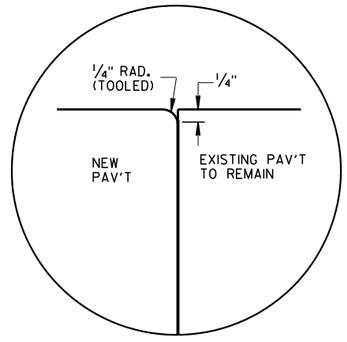
(2) PAVEMENT THAT WAS IN PLACE PRIOR TO THE CONTRACT.



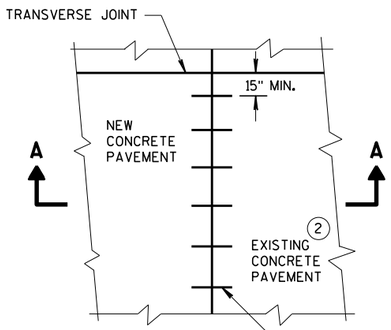
DETAIL "A"



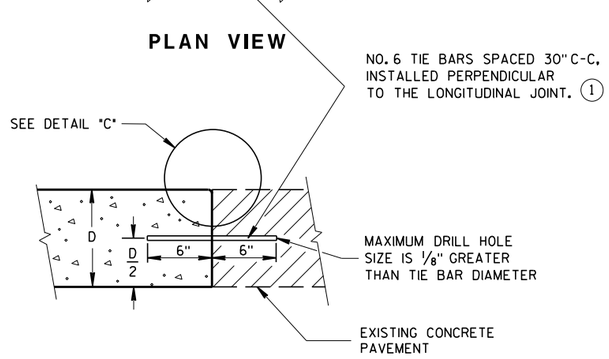
DETAIL "B"



DETAIL "C"



PLAN VIEW



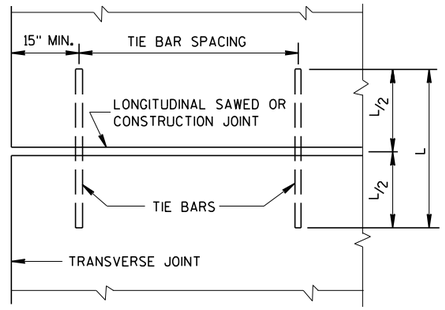
SECTION A-A
LONGITUDINAL CONSTRUCTION JOINT TIE BARS ANCHORED INTO EXISTING PAVEMENT

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 Kerr, P.E. — PAVEMENT SUPE
FHWA

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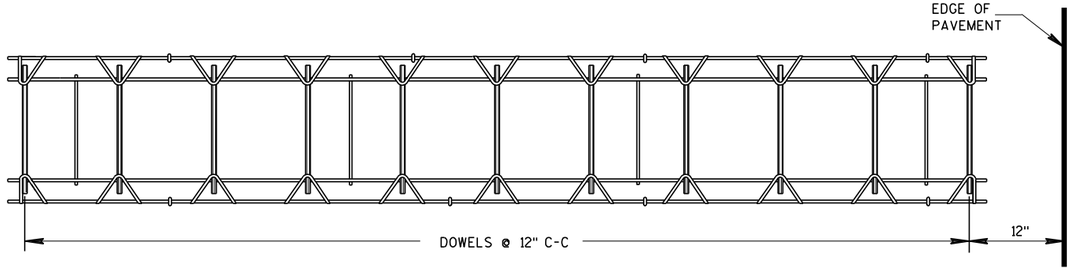
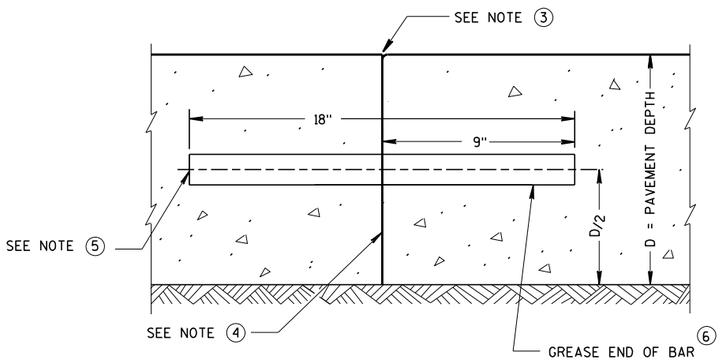
S.D.D. 13 C 1-19



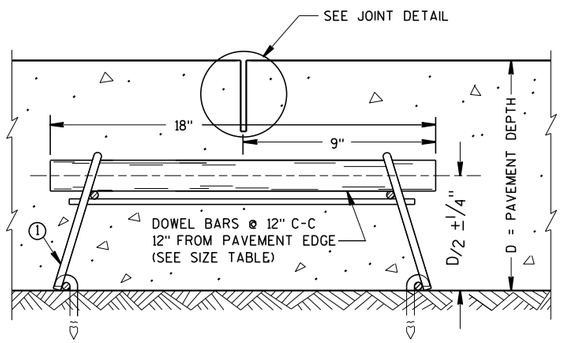
PLAN VIEW

SIDE VIEW

CONTRACTION JOINT DOWEL ASSEMBLY ①



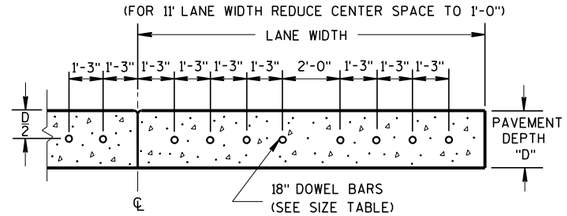
TRANSVERSE CONSTRUCTION JOINT



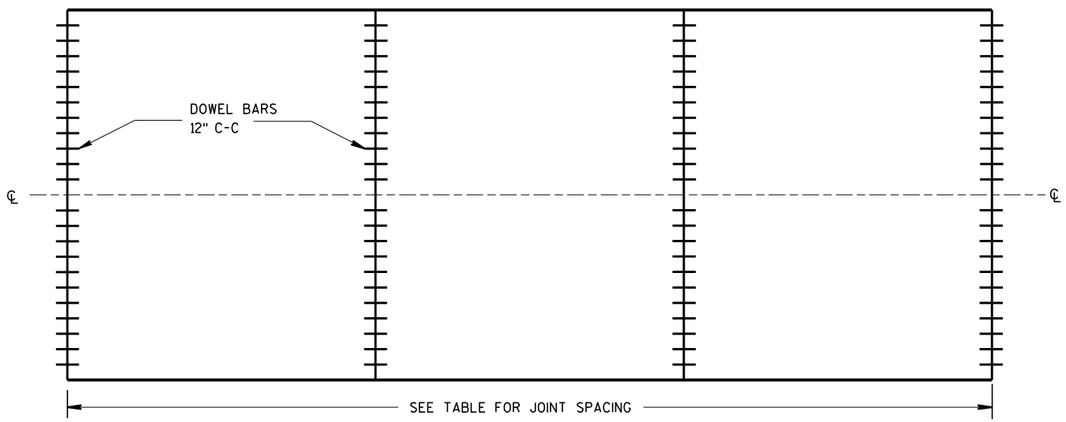
DOWELED CONTRACTION JOINT

PAVEMENT DEPTH, DOWEL BAR SIZE AND JOINT SPACING TABLE

PAVEMENT DEPTH (D)	DOWEL BAR DIAMETER	CONTRACTION JOINT SPACING
5 ½", 6", 6 ½"	NONE	12'
7", 7 ½"	1"	14'
8", 8 ½"	1 ¼"	15'
9", 9 ½"	1 ¼"	15'
10" & ABOVE	1 ½"	15'



DRILLED DOWEL BAR CONSTRUCTION JOINT ⑦



CONTRACTION JOINT LOCATIONS

GENERAL NOTES

CONTRACTION JOINTS

CONSTRUCT TRANSVERSE CONTRACTION JOINTS NORMAL TO THE CENTERLINE. SHOW THE LOCATION OF CONTRACTION JOINTS THROUGH INTERSECTIONS ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

INSTALL DOWEL BARS PARALLEL TO THE PAVEMENT CENTERLINE AND PAVEMENT SURFACE.

FOR PAVEMENT SLABS OF VARYING WIDTHS, LOCATE THE OUTER MOST DOWEL BAR SO THAT THE CENTER OF THE BAR IS A MINIMUM OF 6 INCHES AND A MAXIMUM OF 18 INCHES FROM THE LONGITUDINAL JOINT AND THE FREE EDGE OF PAVEMENT.

CONSTRUCTION JOINTS

LOCATE CONSTRUCTION JOINTS A MINIMUM OF 6 FEET FROM THE NEAREST CONTRACTION JOINT AND ALIGN PARALLEL TO CONTRACTION JOINTS.

① OBTAIN THE ENGINEER'S APPROVAL FOR THE USE OF ALTERNATIVE DESIGNS OF THE DOWEL ASSEMBLY. USE MECHANICAL DOWEL BAR INSERTERS OR DOWEL ASSEMBLIES WHEN CONSTRUCTING CONTRACTION JOINTS.

② SECURE BASKETS WITH ANCHORS TO HOLD DOWEL BARS IN THE CORRECT POSITION AND ALIGNMENT. TYPE, LOCATION, NUMBER AND LENGTH OF ANCHORS ARE DEPENDENT UPON FIELD CONDITIONS.

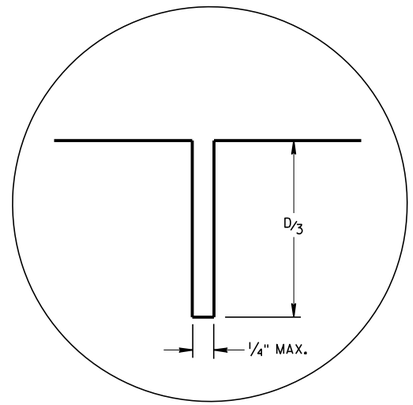
③ FORM OR SAW CONSTRUCTION JOINTS. PROVIDE A ¼-INCH RADIUS AT FORMED JOINTS.

④ PROVIDE A SMOOTH VERTICAL FACE FOR THE ENTIRE DEPTH OF THE PAVEMENT WHEN FORMING CONSTRUCTION JOINTS.

⑤ INSTALL DOWEL BARS AT CONSTRUCTION JOINTS BY FORMING OR DRILLING. INSTALL FORMED DOWEL BARS 12 INCHES C-C AND 12 INCHES FROM PAVEMENT EDGE. REMOVE EXCESS CONCRETE FROM THE FREE END OF THE DOWEL BAR IF DOWEL BARS ARE FORMED THROUGH A HEADER BOARD. INSTALL DRILLED DOWEL BARS ACCORDING TO *DRILLED DOWEL BAR CONSTRUCTION JOINT* DETAIL.

⑥ APPLY A THIN UNIFORM COATING OF SURFACE TREATMENT TO THE FREE END OF DOWEL BARS TO PREVENT BONDING.

⑦ ANCHOR DOWEL BARS INTO DRILLED HOLES WITH AN EPOXY. MAXIMUM DRILLED HOLE SIZE IS ⅛-INCH GREATER THAN DOWEL BAR DIAMETER, 9 INCHES IN LENGTH.



JOINT DETAIL

URBAN DOWELED CONCRETE PAVEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
March 2018
DATE

/S/ Peter Kemp P.E.
PAVEMENT SUP

FHWA

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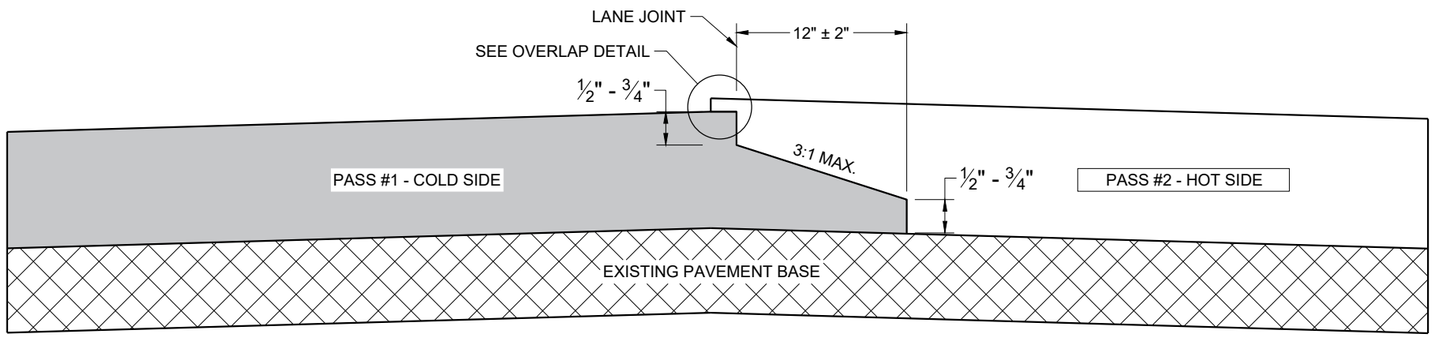
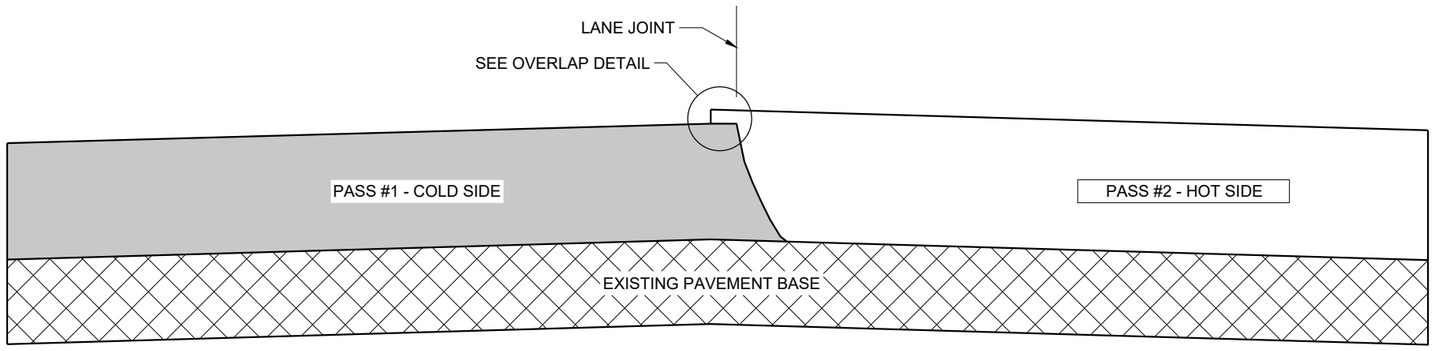
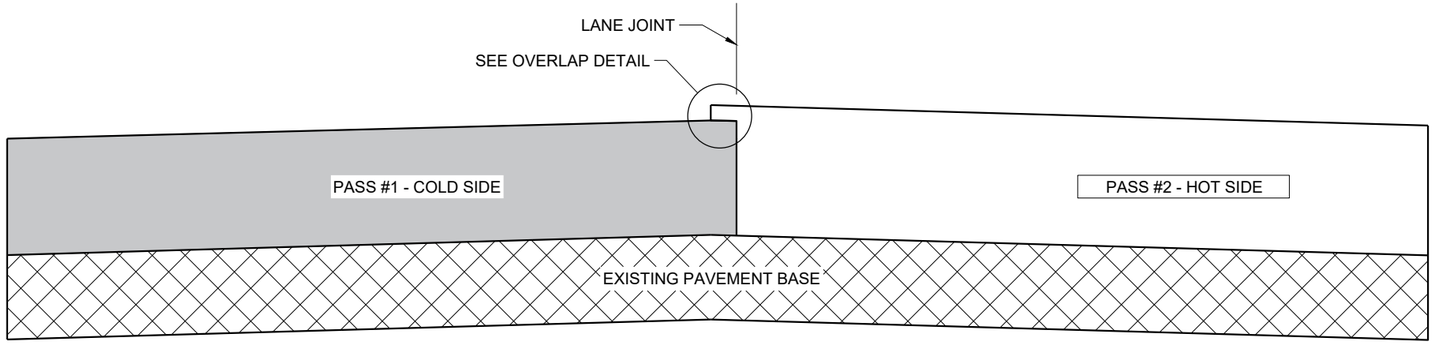
S.D.D. 13 C 13-9



TYPICAL PAVEMENT CROSS SECTION
NOTCHED WEDGE JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT (MILLED)

GENERAL NOTES

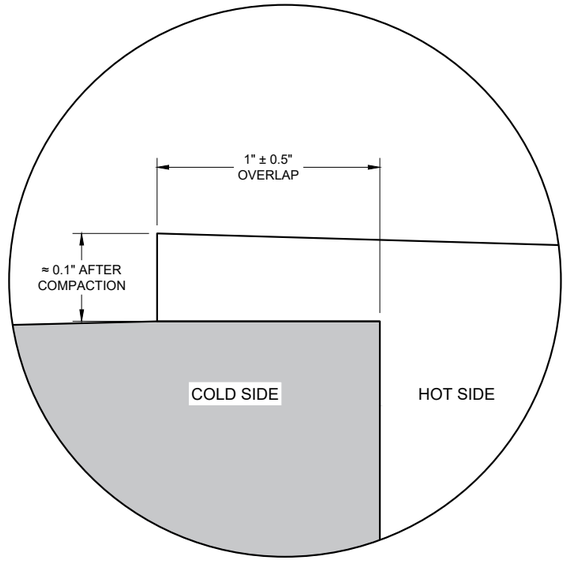
IN ADDITION TO THE DETAILS PROVIDED IN THIS DRAWING, CONFORM TO STANDARD SPECIFICATION 450.3.2.8 FOR WHEN A NOTCHED WEDGE JOINT IS REQUIRED AND FOR GENERAL JOINT CONSTRUCTION REQUIREMENTS.

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

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

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

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



OVERLAP DETAIL (TYPICAL)

HMA LONGITUDINAL JOINTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2020
DATE

/S/ Steven Hefel
HMA PAVEMENT ENGIN

FHWA

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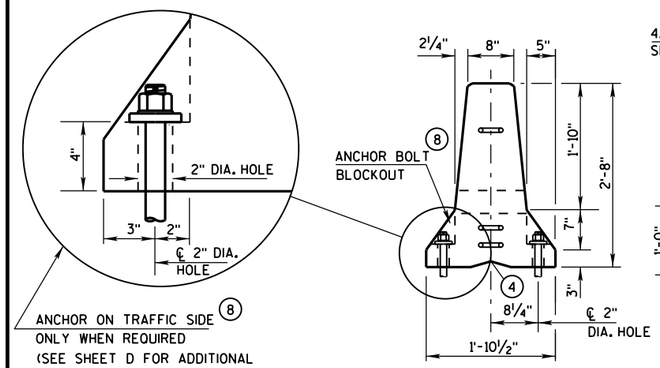
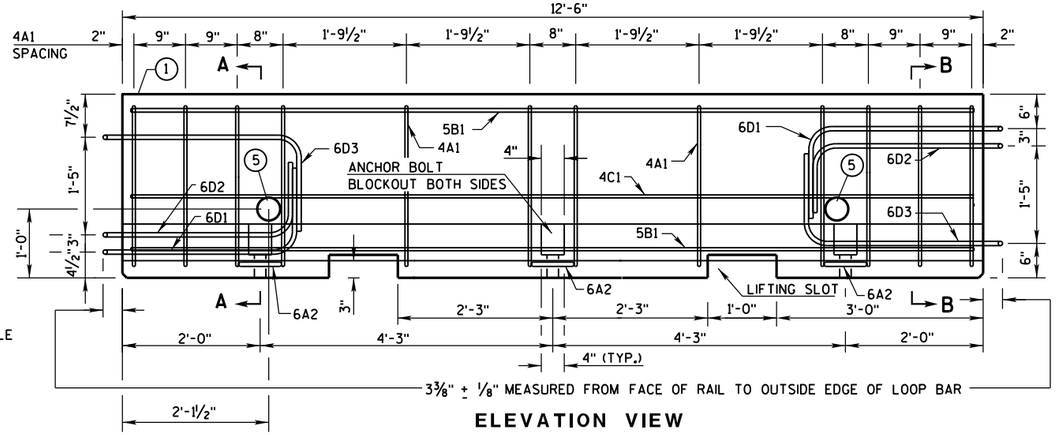
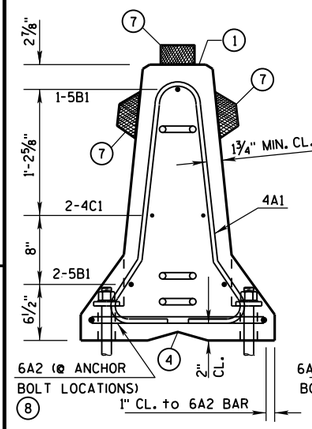
SDD 13C19 - 03



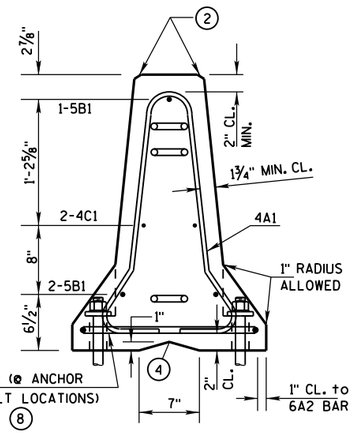
END VIEW



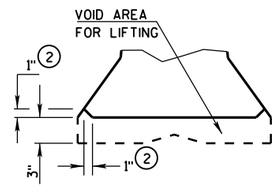
ELEVATION VIEW



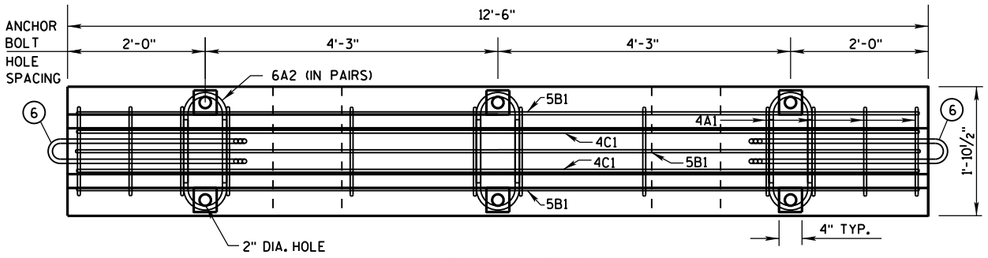
SECTION A-A
(STIRRUP PLACEMENT)



SECTION B-B
(STIRRUP PLACEMENT)

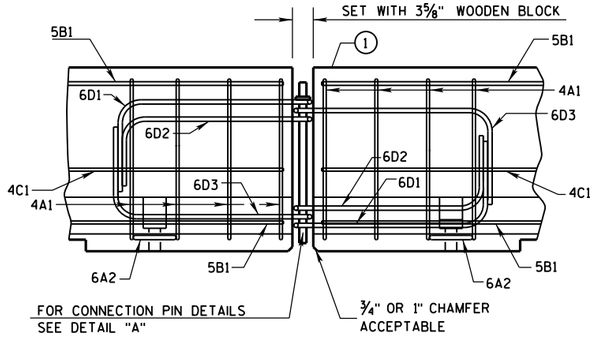


DETAIL "B"
LIFTING SLOT DETAIL

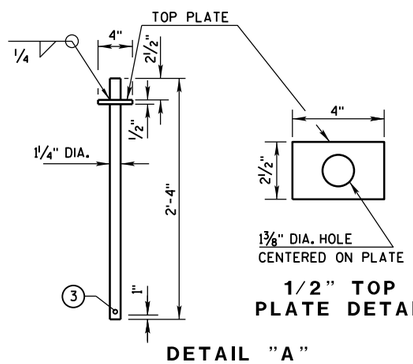


PLAN VIEW

DETAILS OF BARRIER SECTION

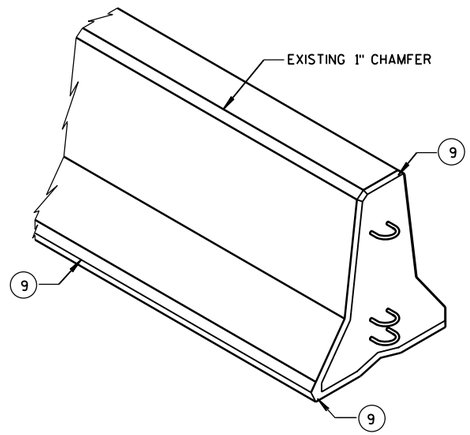


DETAILS OF BARRIER CONNECTION



1/2" TOP PLATE DETAIL

DETAIL "A"
CONNECTION PIN
(A36 STEEL (10.9 LB EACH))



GENERAL NOTES

THESE GENERAL NOTES APPLY TO SHEETS 14B7-15(a) THRU 14B7-15(i).

DO NOT INTERMIX CONCRETE BARRIER TEMPORARY PRCAST, 12'-6" (CBTP12.5) WITH OTHER TEMPORARY CONCRETE BARRIERS.

USE ASTM A-615, GRADE 60, DEFORMED STEEL BARS FOR BARS 4A1, 6A2, 5B1 AND 4C1 IN THE BARRIER SECTION AND FOR 4V1, 4V2, 4V3, 4V4, 4V5, 4V6, 4F1, 4F2 AND 5F3 IN THE BARRIER TAPER SECTION.

LOOP BARS 6D1, 6D2 AND 6D3 SHALL BE ¾" SMOOTH STEEL BARS WITH A MINIMUM YIELD STRENGTH OF 60 KSI, A TENSILE STRENGTH OF NOT LESS THAN 1.25 TIMES THE YIELD STRENGTH BUT A MINIMUM OF 80 KSI, A MINIMUM 14% ELONGATION IN 8 INCHES AND PASSING A 180 DEGREE BEND TEST USING A 3-½" PIN BEND DIAMETER FOR BEND TESTS. THE LOOPS SHALL BE INSTALLED WITHIN ⅛" OF THE PLAN DIMENSION.

CONSTRUCT LIFTING SLOTS AS SPECIFIED ON THE PLANS TO FACILITATE THE DRAINAGE OF WATER AFTER INSTALLATION.

PLACE BARRIER ON A PAVED SURFACE. REMOVE ALL LOOSE DIRT AND SAND FROM THE ROADWAY SURFACE PRIOR TO PLACEMENT OF THE BARRIER.

INSTALL MECHANICAL OR ADHESIVE ANCHORS PER MANUFACTURER'S RECOMMENDATIONS. PROVIDE MANUFACTURER'S INFORMATION TO PROJECT ENGINEER.

(1) MARK ONE END OF EACH BARRIER PERMANENTLY BY FORMING INTO THE BARRIER THE FOLLOWING INFORMATION:
- a. TYPE: WI CBTP
- b. MANUFACTURER
- c. DATE MANUFACTURED (MONTH AND YEAR)

(2) 1" CHAMFER TO PREVENT SPALLING.

(3) A ⅜" HOLE IN THE CONNECTION PIN, AT THE LOCATION SHOWN, IS ACCEPTABLE, BUT NOT REQUIRED..

(4) "V" NOTCH IS OPTIONAL.

(5) THE 4" DIAMETER, 11 GAUGE STEEL, ROUND MECHANICAL TUBING SLEEVE FOR LIFTING (OPTIONAL).

(6) NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.

(7) USE DELINEATORS CONFORMING TO SECTION 633 OF THE STANDARD SPECIFICATIONS. CONTRACTOR MAY USE ALTERNATE SHAPES AND HOUSING. INSTALL DELINEATORS ACCORDING TO MANUFACTURES INSTRUCTION. INSTALL YELLOW REFLECTORS WHEN BARRIER IS LOCATED TO THE LEFT OF TRAFFIC AND WHITE REFLECTORS WHEN BARRIER IS LOCATED TO THE RIGHT OF TRAFFIC. SPACE DELINEATORS A MAXIMUM OF 25 FEET APART. PROVIDE TOP MOUNTED DELINEATORS IN ADDITION TO THE SIDE MOUNTED DELINEATORS ON ALL BARRIER INSTALLATIONS LOCATED ON A CURVED ALIGNMENT LONGER THAN 200 FEET AND ON BARRIERS USED TO SEPARATE OPPOSING TRAFFIC.

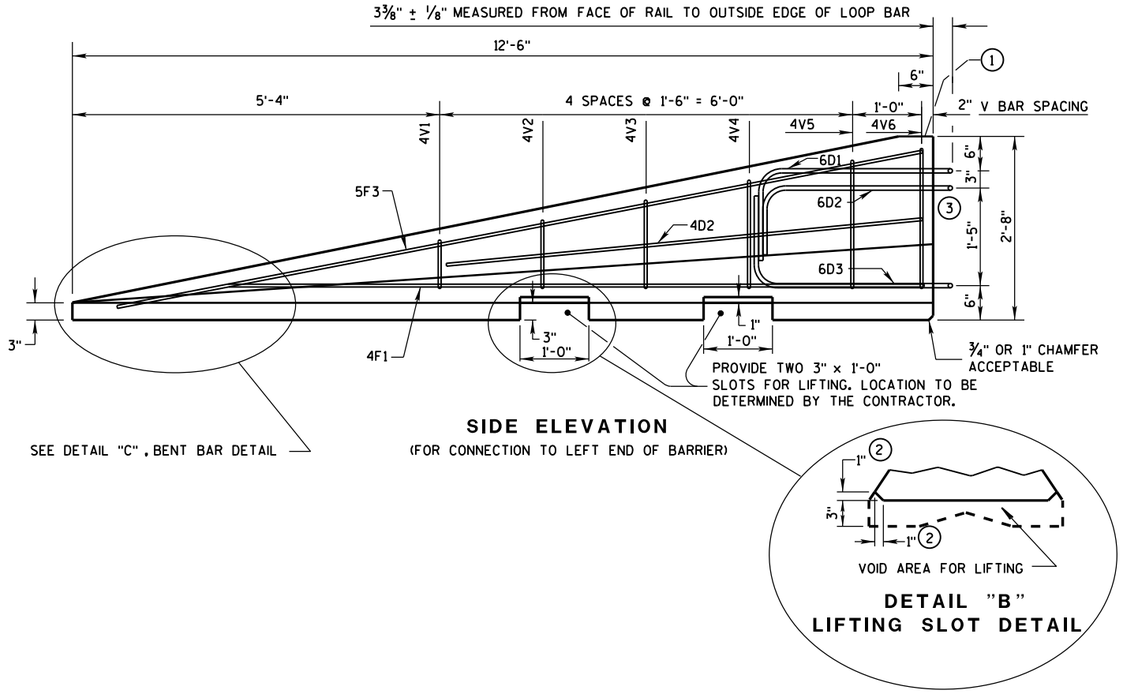
(8) SEE SHEET D FOR HOW TO ANCHOR BARRIER. SEE SHEET E FOR WHEN TO ANCHOR BARRIER.

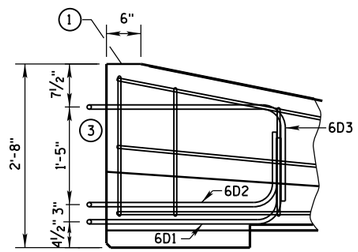
(9) 1" CHAMFER OPTIONAL.

f'c = 4,000 psi

CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR 70



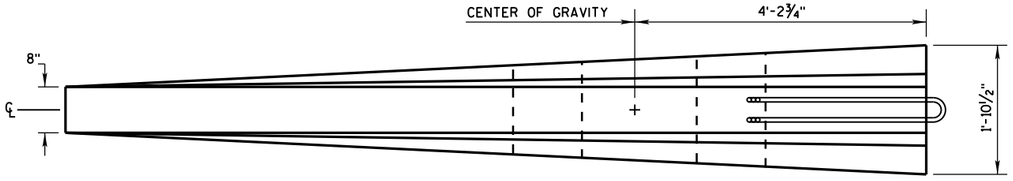


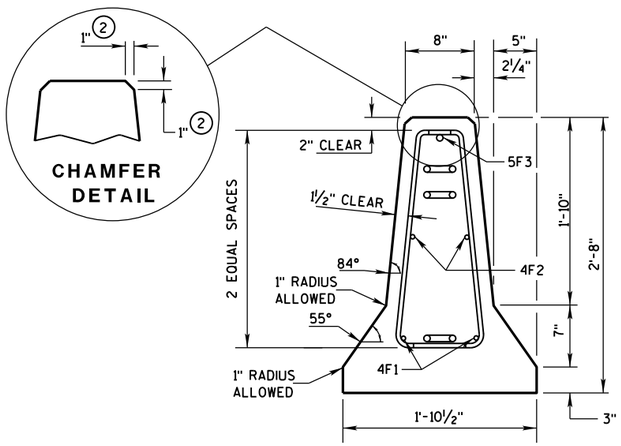
GENERAL NOTES

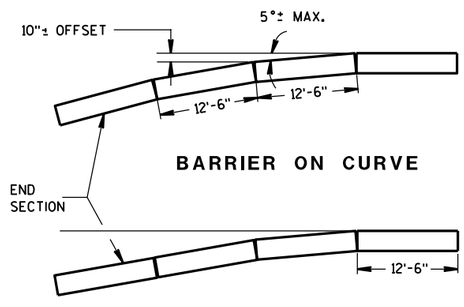
(1) MARK ONE END OF EACH BARRIER PERMANENTLY BY FORMING INTO THE BARRIER THE FOLLOWING INFORMATION:
- a. TYPE WICBTP
- b. MANUFACTURER
- c. DATE MANUFACTURED (MONTH AND YEAR)

(2) 1" CHAMFER TO PREVENT SPALLING.

(3) NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.







POSTED SPEED, (MPH)	FLARE RATE
40 OR LESS	6:1
45 OR GREATER	8:1

DETAILS OF BARRIER TAPER SECTION

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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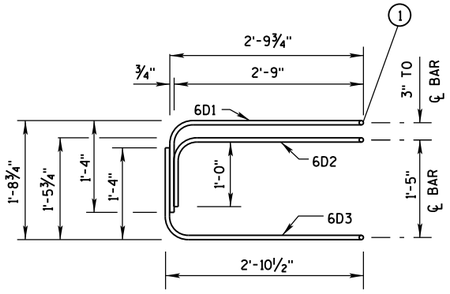
S.D.D. 14 B 7-15b

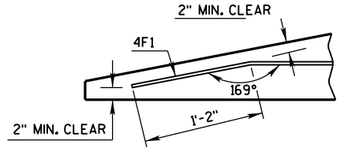
BARRIER TAPER SECTION BILL OF MATERIALS

(PER 12'-6" BARRIER TAPER SECTION)

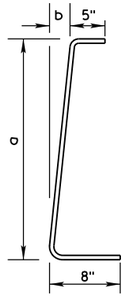
BAR	BAR SIZE	NO. OF BARS	LENGTH FT.
4V1	4	2	1'-11"
4V2	4	2	2'-2"
4V3	4	2	2'-6"
4V4	4	2	2'-9"
4V5	4	2	3'-2"
4V6	4	2	3'-4"
4F1	4	2	12'-0"
4F2	4	2	7'-6"
5F3	5	1	11'-9"
LOOP ASSEMBLY			
6D1	6	1	8'-5"
6D2	6	1	7'-7"
6D3	6	1	8'-6"



ELEVATION
LOOP BAR ASSEMBLY



DETAIL "C"
BENT BAR DETAIL



BAR	a	b
V1	10"	1"
V2	1'-1"	1¼"
V3	1'-5"	1⅝"
V4	1'-8"	1⅞"
V5	2'-0½"	2⅜"
V6	2'-3"	2¾"

4V BARS
2 AT EACH SIZE REQUIRED
FOR STIRRUP ASSEMBLY

TAPER BARRIER SECTION

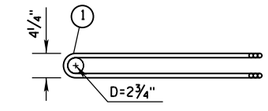
GENERAL NOTES

(1) NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.

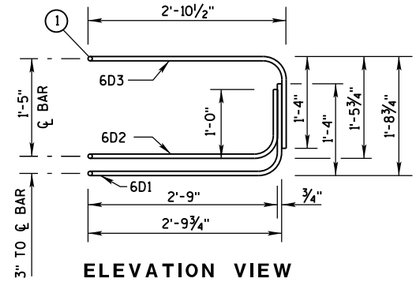
BARRIER SECTION BILL OF MATERIALS

(PER 12'-6" BARRIER SECTION)

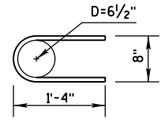
BAR	BAR SIZE	NO. OF BARS	LENGTH FT.
4A1	4	12	6'-0"
6A2	6	6	2'-11"
5B1	5	3	12'-2"
4C1	4	2	12'-2"
LOOP ASSEMBLY			
6D1	6	2	8'-5"
6D2	6	2	7'-7"
6D3	6	2	8'-6"



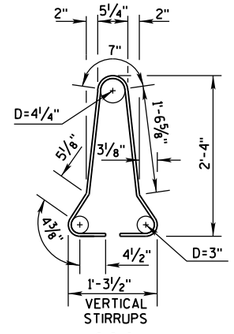
PLAN VIEW
LOOP BAR ASSEMBLY
(MARKED END SHOWN, INVERT FOR OTHER END)



ELEVATION VIEW



6A2



4A1

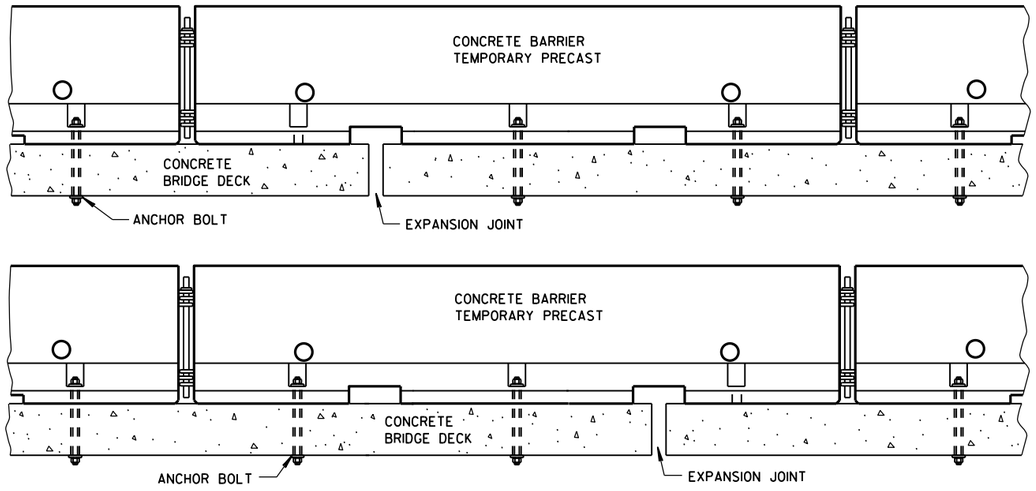
BARRIER SECTION

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

S.D.D. 14 B 7-15c



TREATMENT AT BRIDGE DECK EXPANSION JOINTS

(NO SINGLE CONCRETE BARRIER SECTION SHALL BE ANCHORED TO BOTH THE BRIDGE DECK AND THE APPROACH SLAB. ALL ANCHOR BOLT LOCATIONS SHALL BE ANCHORED TO THE DECK IN ACCORDANCE WITH THE DETAIL. NO MORE THAN ONE ANCHOR BOLT SHALL BE ELIMINATED FROM A BARRIER SECTION WHEN SPANNING AN EXPANSION JOINT.)

GENERAL NOTES

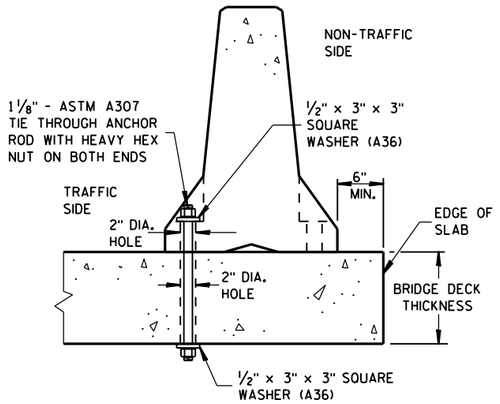
SEE SHEET E FOR WHEN TO ANCHOR. OTHER PARTS OF THE PLAN MAY SHOW ADDITIONAL LOCATIONS REQUIRING ANCHORING.

REMOVE ALL ANCHORS WHEN NO LONGER NEEDED. FILL CONCRETE PAVEMENTS, DECKS AND APPROACH SLABS WITH NON-SHRINK COMMERICAL GROUT FROM THE APPROVED PRODUCT LIST. FILL ASPHALT PAVEMENTS WITH ASTM D6690 TYPE II RUBBERIZED CRACK FILLER.

(1) 1⅛" DIAMENTER A307 THREADED ROD. ½" X 3" X 3" SQUARE PLATE WASHER WITH ASTM A36 STEEL. ASTM A563A HEAVY HEX NUT.

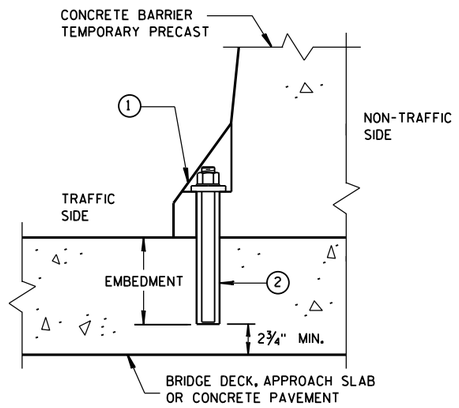
(2) ADHESIVE ANCHORS WITH A MINIMUM BOND STRENGTH OF 1,800 PSI AND 5¼" EMBEDMENT. SEE 603.2 AND 603.3.1.2 OF THE WISCONSIN STANDARD SPECIFICATIONS FOR MORE INFORMATION ON ADHESIVE ANCHORS.

(3) ASPHALT SURFACE SHOWN. CONTRACTOR MAY DRILL THROUGH CONCRETE PAVEMENT AND THAN DRIVE ASPHALT ANCHOR PIN.



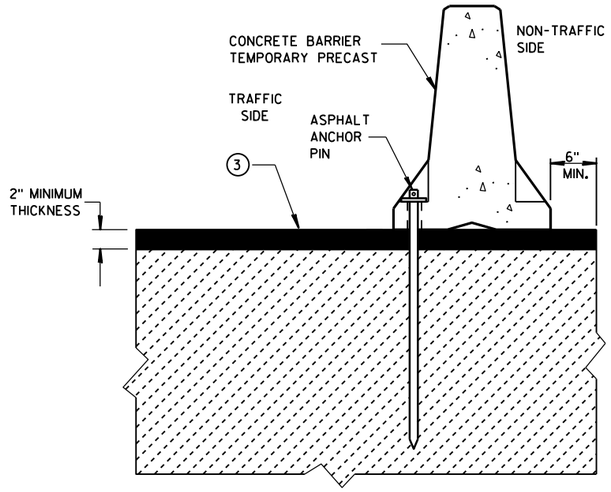
THROUGH BOLTED ANCHOR INSTALLATION ON BRIDGE DECK

(DO NOTUSE ON CONCRETE BRIDGE DECK WITH ASPHALT OVERLAY)

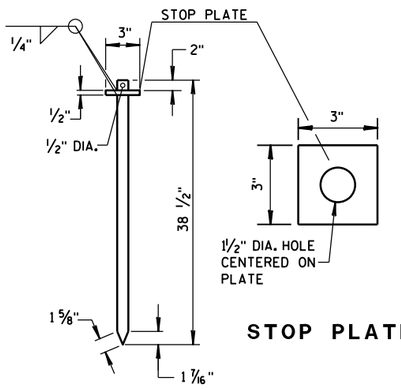


REMOVABLE ADHESIVE ANCHOR INSTALLATION ON CONCRETE BRIDGE DECK, CONCRETE APPROACH SLAB, OR CONCRETE PAVEMENT

(DO NOT USE ON CONCRETE WITH AN ASPHALTIC OVERLAY)



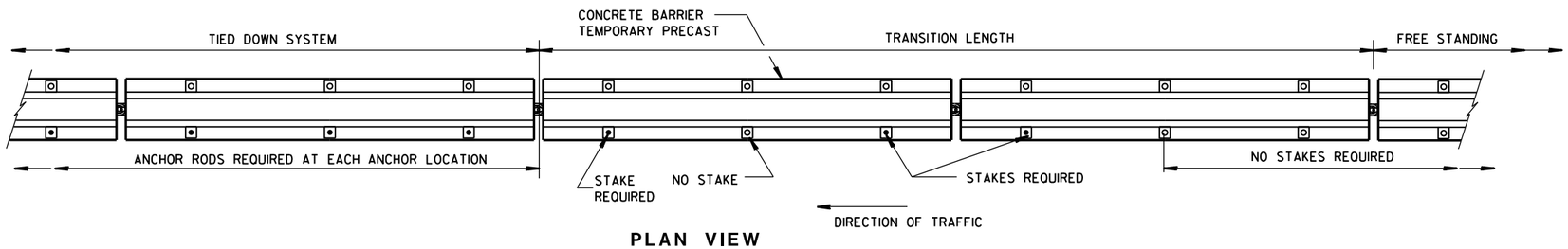
STAKE DOWN INSTALLATION FOR ASPHALTIC SURFACE



STOP PLATE

ASPHALT ANCHOR PIN

(ASTM A36 STEEL)



PLAN VIEW

FREE STANDING TRANSITION TO TIED-DOWN SYSTEM

(PLACE TRANSITION IN A TANGENT SECTION OF BARRIER PARALLEL TO THE ROADWAY. IF TRANSITION OCCURS ON STRUCTURAL SLAB, ANCHOR AS SHOWN.)

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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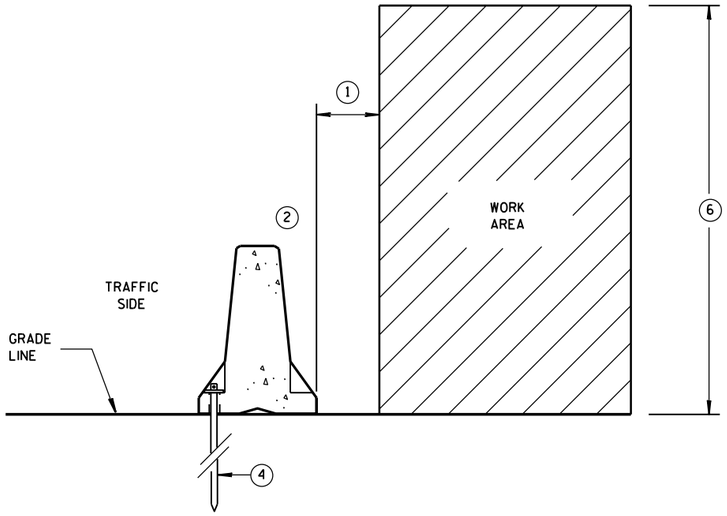
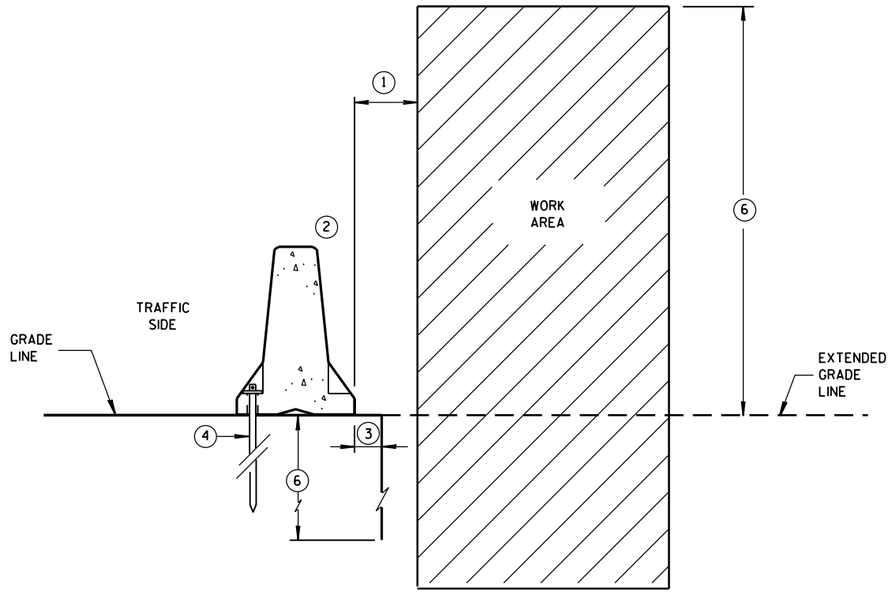
S.D.D. 14 B 7-15d



ANCHORED BARRIER SPACE REQUIREMENTS FOR HAZARDS EXTENDED ABOVE THE GRADE LINE

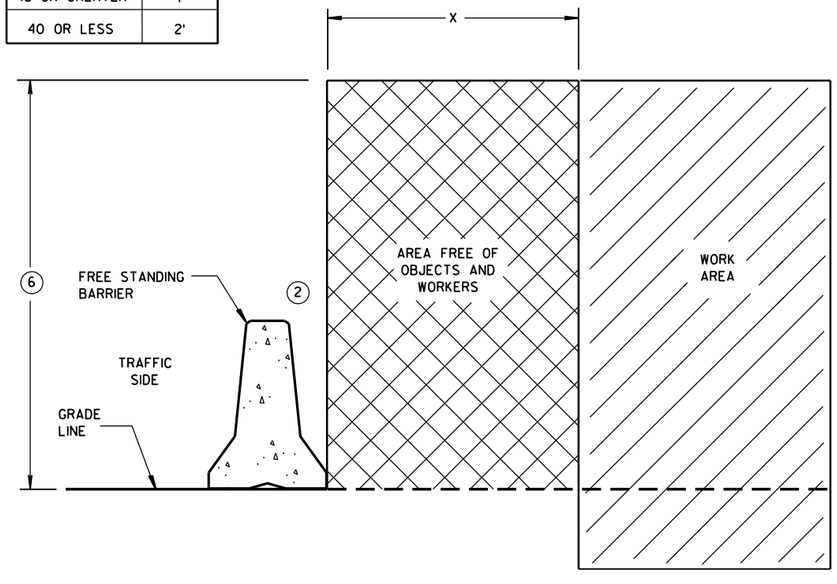


ANCHORED BARRIER SPACE REQUIREMENTS ON VERTICAL DROP OFFS

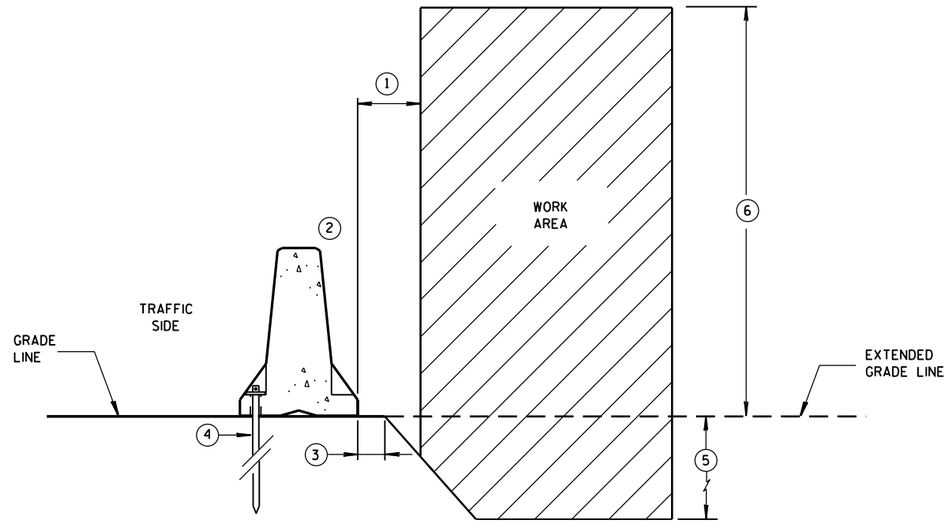
GENERAL NOTES

1. WHEN OBJECTS EXTEND ABOVE THE GRADE, A MINIMUM OF 1 FOOT IS REQUIRED FROM BACK OF BARRIER TO OBJECT. SEE OTHER DETAILS FOR FOR THE MINIMUM OFFSET FROM BACK OF BARRIER TO SLOPES OR VERTICAL DROPS.
2. OBJECTS ARE NOT TO BE PLACED ON, MOUNTED TO, OR LEANED AGAINST THE BARRIER WITHOUT PERMISSION OF THE PROJECT ENGINEER.
3. SEE OTHER DETAIL ON SHEET "D" FOR SPACE REQUIREMENTS.
4. SEE BOLT THROUGH DECK, REMOVABLE ADHESIVE ANCHOR, OR A STAKE DOWN FOR ASPHALTIC SURFACE TREATMENT DETAILS. ASPHALTIC ANCHOR SHOWN.
5. DEPTH OF 3 FEET OR MORE.
6. Y = 6'-6".

POSTED SPEED MPH	X
45 OR GREATER	4'
40 OR LESS	2'



FREE STANDING BARRIER SPACE REQUIREMENTS



ANCHORED BARRIER SPACE REQUIREMENTS ON SLOPES

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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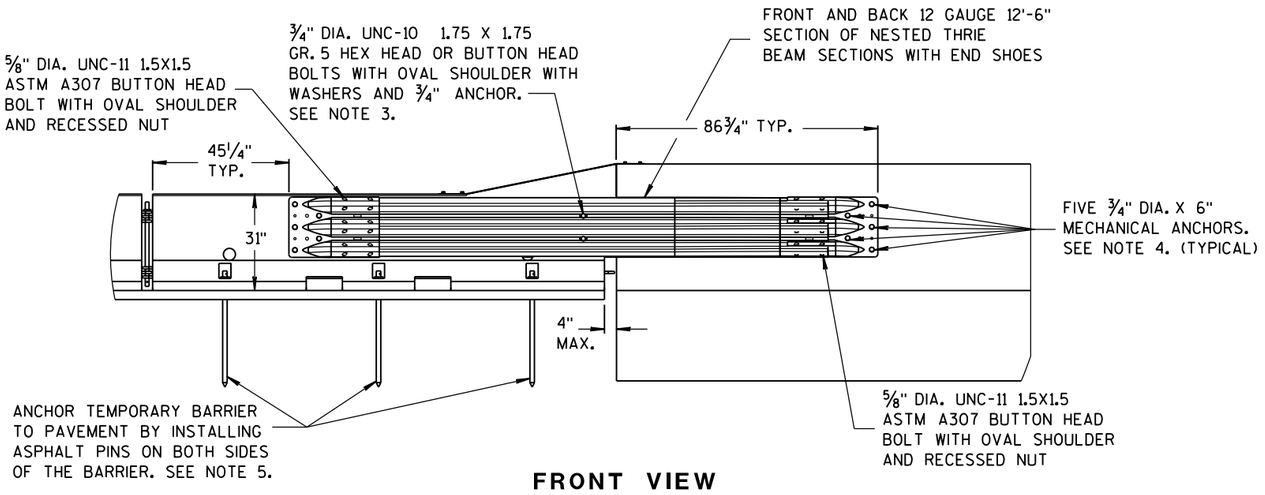
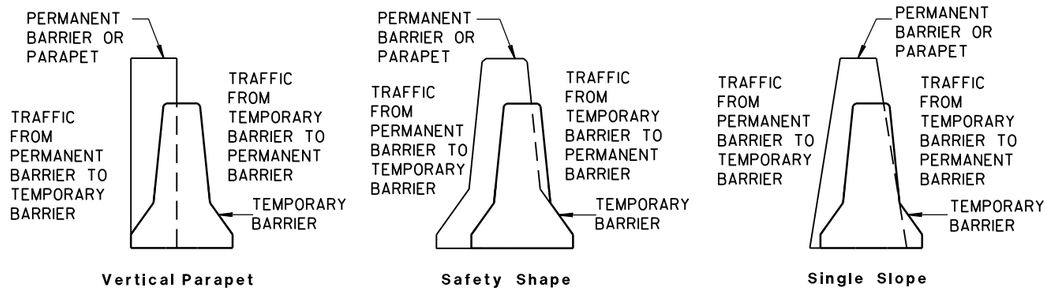
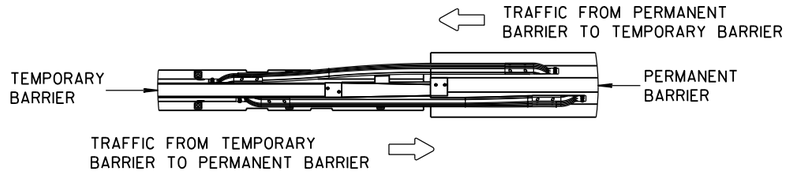
S.D.D. 14 B 7-15e



FRONT VIEW



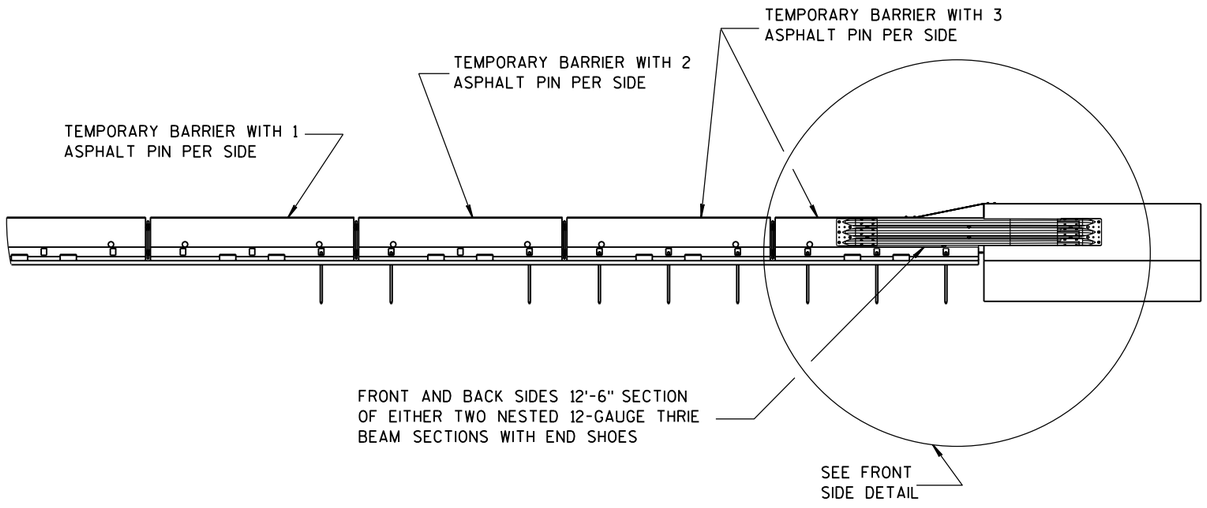


TEMPORARY BARRIER PLACEMENT FOR BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM

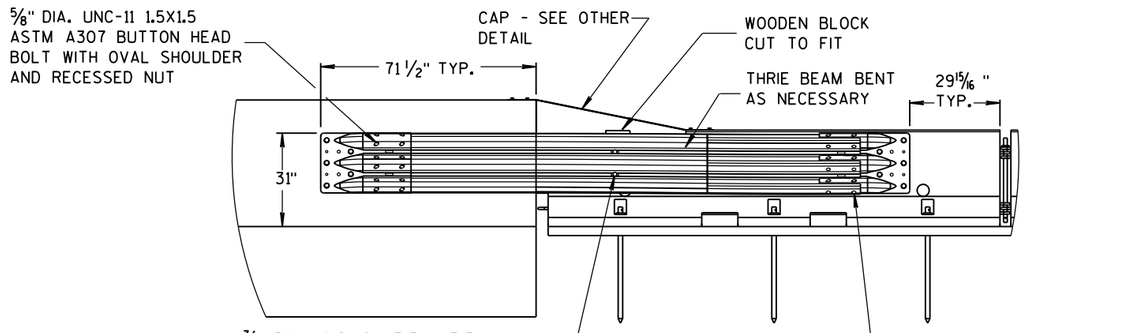
NOTES

NESTED THRIE BEAM IS REQUIRED ON BOTH SIDES OF THE TEMPORARY BARRIER FOR ALL INSTALLATIONS REGARDLESS OF TRAFFIC.

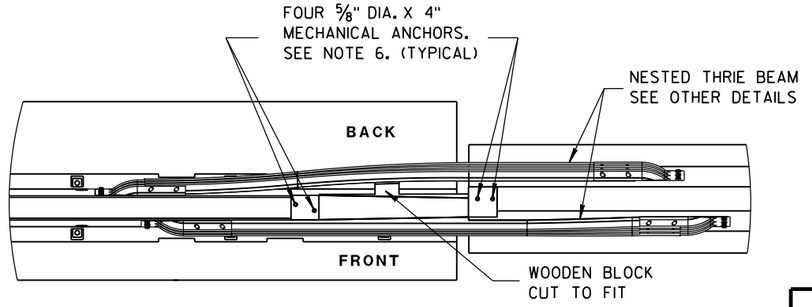
1. CAP END PLATE PLACED FLUSH WITH UPSTREAM END OF PERMANENT BARRIER OR PARAPET.
2. THRIE BEAM PIECES ARE OFFSET 15 1/4" TO PREVENT INTERFERENCE FROM THE ANCHORS ON OPPOSING SIDES.
3. MINIMUM MECHANICAL OR ADHESIVE ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 9.48 KIPS AND ULTIMATE SHEAR LOAD 10.48 KIPS.
4. MINIMUM MECHANICAL OR ADHESIVE ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 17.9 KIPS AND ULTIMATE SHEAR LOAD 21.96 KIPS.
5. MAY BE USED ON CONCRETE OR ASPHALT PAVEMENTS. ASPHALT OPTION SHOWN. FOR CONCRETE OPTION SEE OTHER DETAILS.
6. MINIMUM MECHANICAL OR ADHESIVE ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 12.14 KIPS AND ULTIMATE SHEAR LOAD 17.5 KIPS.



FRONT VIEW



BACK VIEW



PLAN VIEW

BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM

CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

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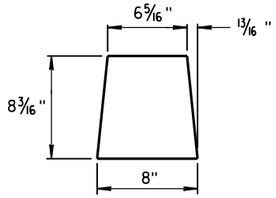
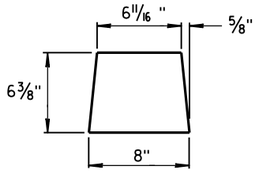
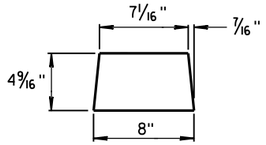
S.D.D. 14 B 7-15f



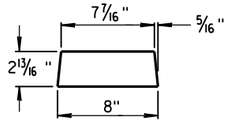
GUSSET 1



GUSSET 2

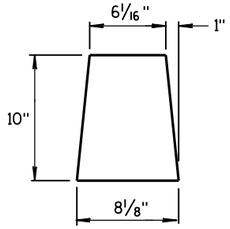


GUSSET 3

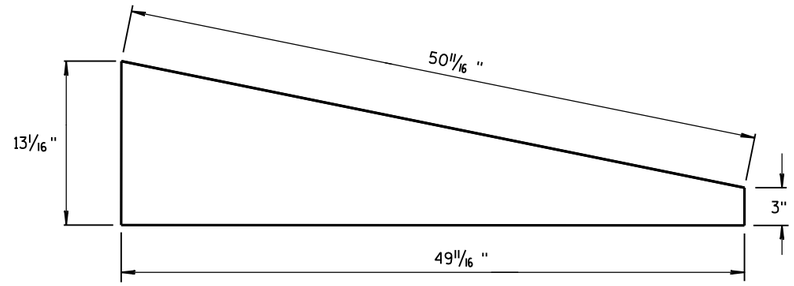


GUSSET 4

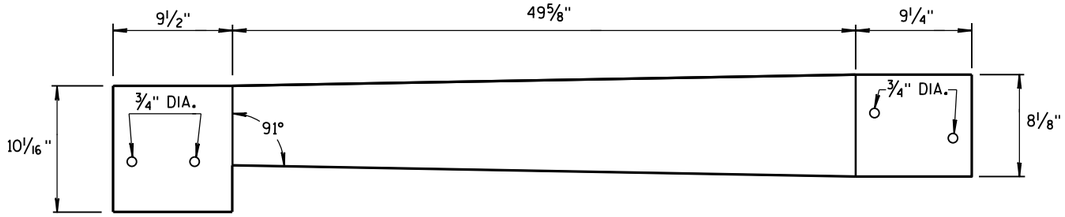
GUSSETS

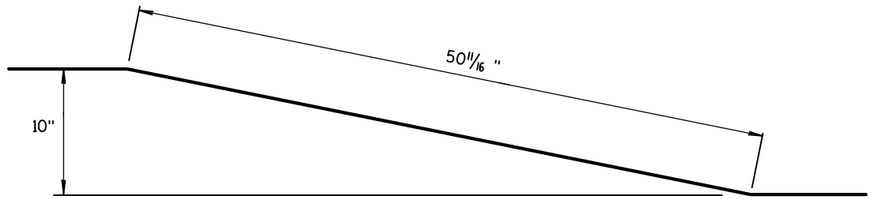


END PLATE



SIDE PLATE

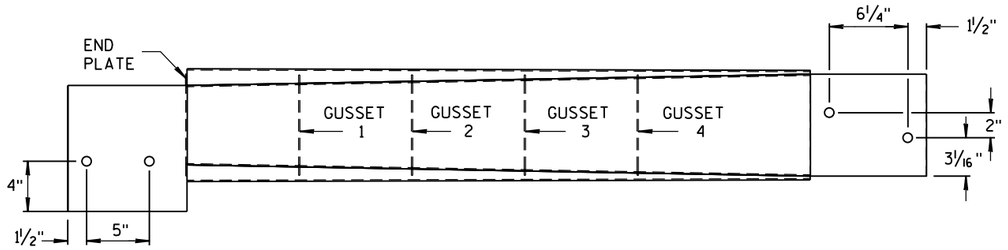


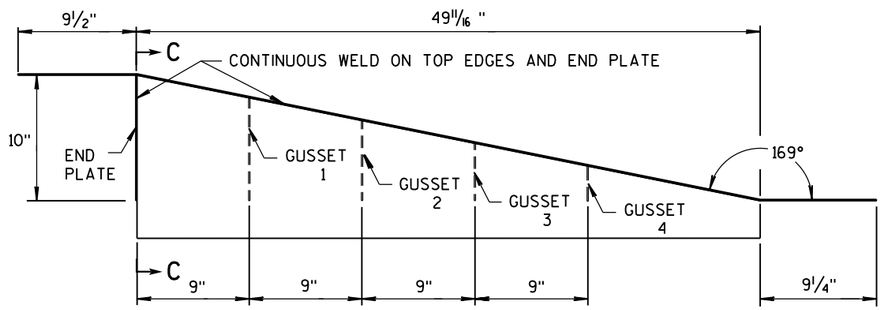


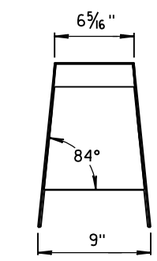
TOP PLATE

SIDE, TOP AND END PLATES FOR CAP FROM TEMPORARY CONCRETE BARRIER TO 42" PERMANENT CONCRETE BARRIER

SIDE PLATES, TOP PLATE, END PLATE AND GUSSETS ARE 12 GAUGE ASTM A36 GALVANIZED STEEL.







SECTION C-C

NOTES

1. FOUR GUSSETS AND END PLATE ARE STITCH WELDED ON THREE SIDES.
2. TWO TRIANGULAR SIDE PLATES ARE STITCH WELDED TO TOP PLATE, END PLATE, AND GUSSETS.

CAP DETAILS FOR TEMPORARY CONCRETE BARRIER TO 42" PERMANENT CONCRETE BARRIER

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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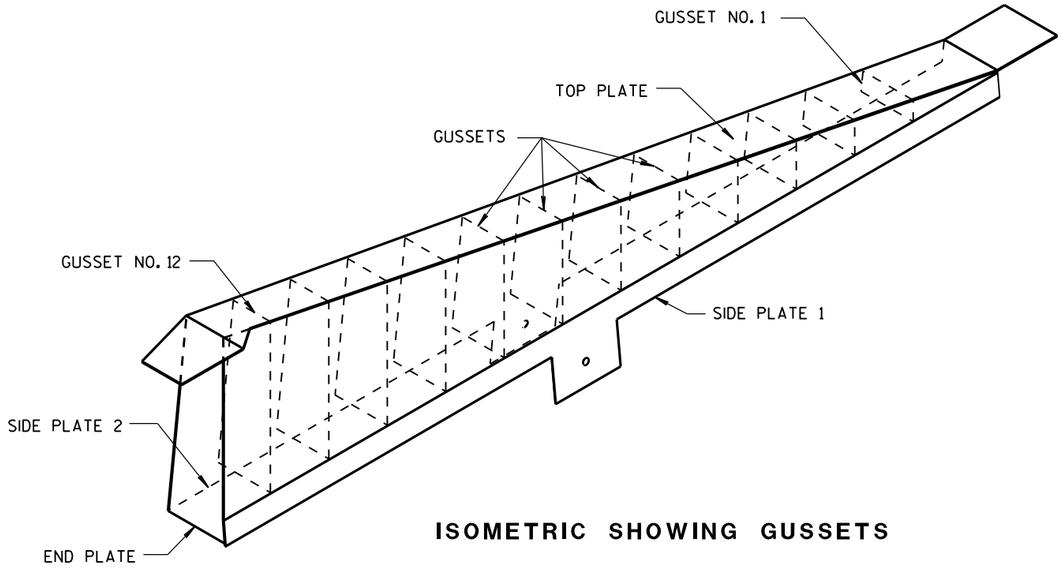
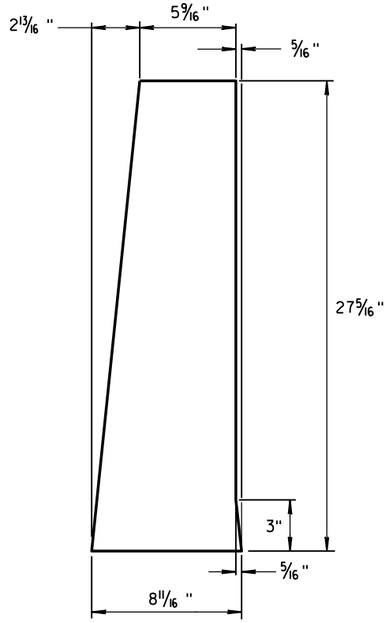
S.D.D. 14 B 7-15g

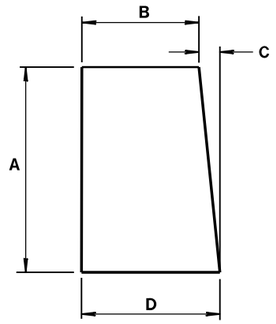


ISOMETRIC SHOWING GUSSETS



END PLATE

1/8" STEEL PLATE



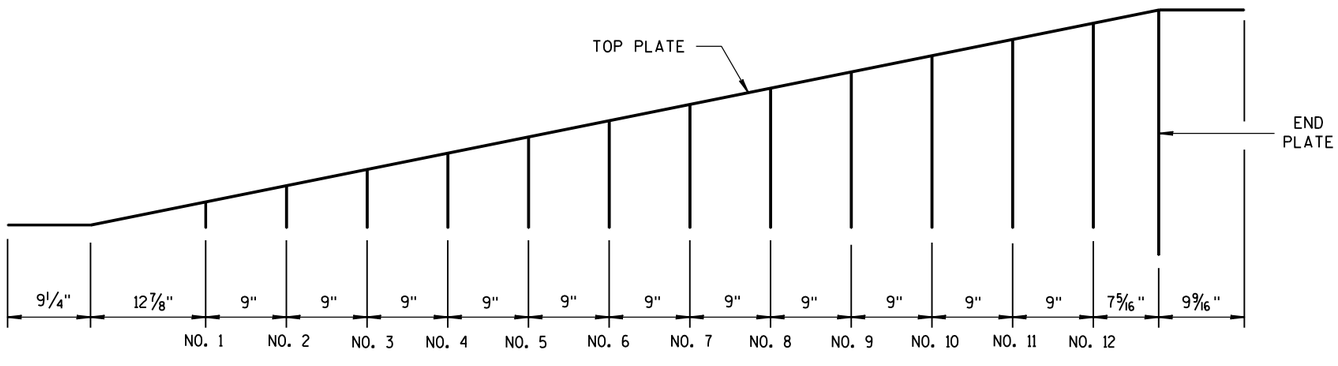
GUSSETS 1 - 12

ALL GUSSETS 1/8" STEEL PLATE

GUSSET DIMENSIONS				
GUSSET NO.	A	B	C	D
1	2 7/8"	7 3/4"	1/4"	8
2	4 11/16 "	7 9/16 "	1/2"	8
3	6 1/2"	7 3/8"	11/16 "	8 1/16 "
4	8 5/16 "	7 3/16 "	7/8"	8 1/16 "
5	10 1/8"	7"	1 1/16 "	8 1/16 "
6	11 15/16 "	6 13/16 "	1 1/4"	8 1/16 "
7	13 3/4"	6 5/8"	1 7/16 "	8 1/16 "
8	15 9/16 "	6 7/16 "	1 9/16 "	8 1/16 "
9	17 3/8"	6 1/4"	1 13/16 "	8 1/16 "
10	19 3/16 "	6 1/16 "	1 15/16 "	8 1/16 "
11	21"	5 7/8"	2 3/16 "	8 1/16 "
12	22 13/16 "	5 11/16 "	2 5/16 "	8 1/16 "

SIDE PLATES, TOP PLATE, END PLATE AND GUSSETS ARE 12 GAUGE ASTM A36 STEEL AND GALVANIZED.

GUSSETS AND END PLATE ARE STITCH WELDED ON 3 SIDES. TWO TRIANGULAR SIDE PLATES ARE STITCH WELDED TO TOP PLATE, END PLATE AND GUSSETS.



GUSSET LOCATION

CAP DETAILS FOR TEMPORARY CONCRETE BARRIER TO 56" PERMANENT CONCRETE BARRIER

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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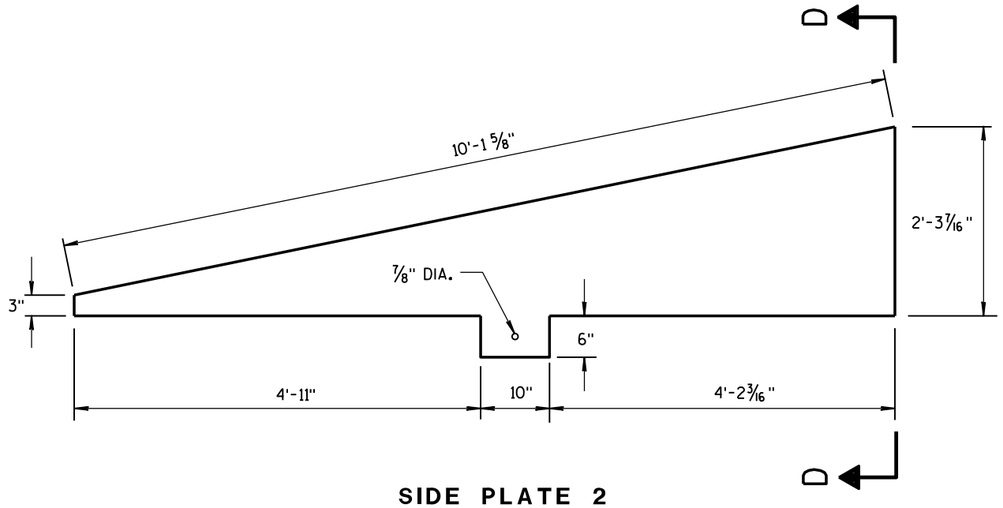
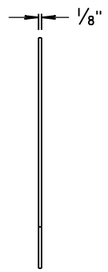
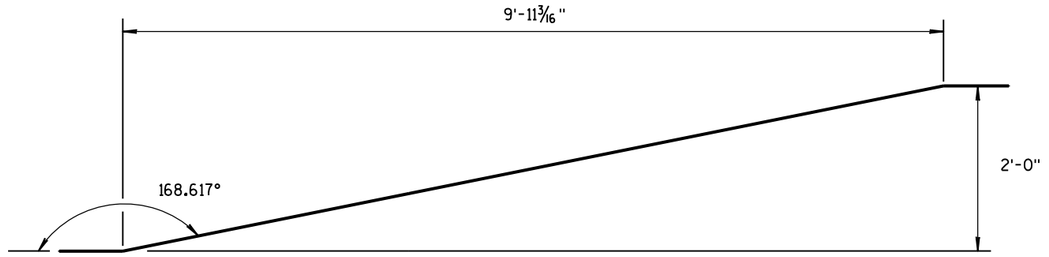
S.D.D. 14 B 7-15h



SIDE PLATE 2

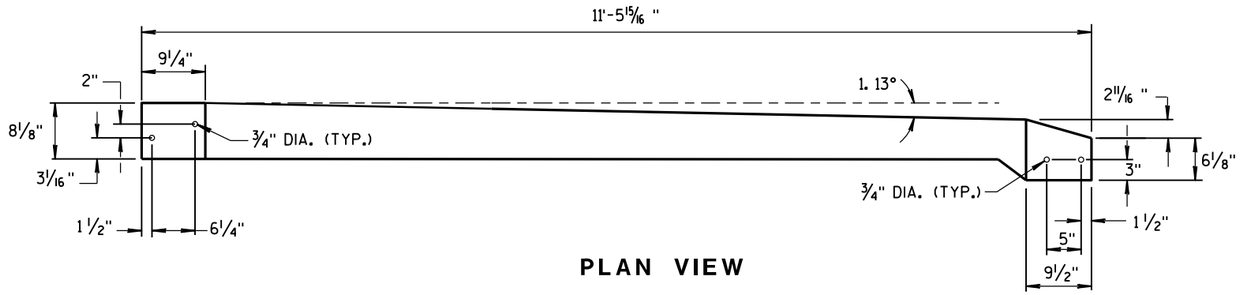


END VIEW



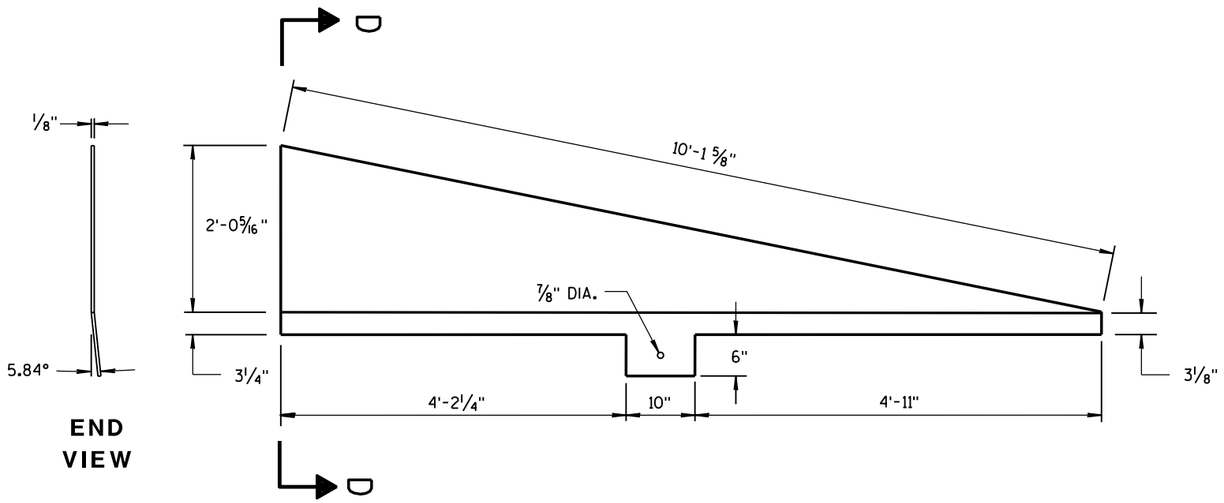
SIDE VIEW

TOP PLATE



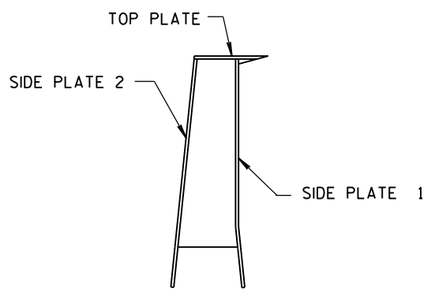
PLAN VIEW

TOP PLATE



END VIEW

SIDE PLATE 1



SECTION D-D

CAP DETAILS FOR TEMPORARY CONCRETE BARRIER TO 56" PERMANENT CONCRETE BARRIER

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2017
DATE
FHWA

/S/ Rodney Taylor
ROADWAY STANDARDS UNIT SUPERV

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S.D.D. 14 B 7-15i

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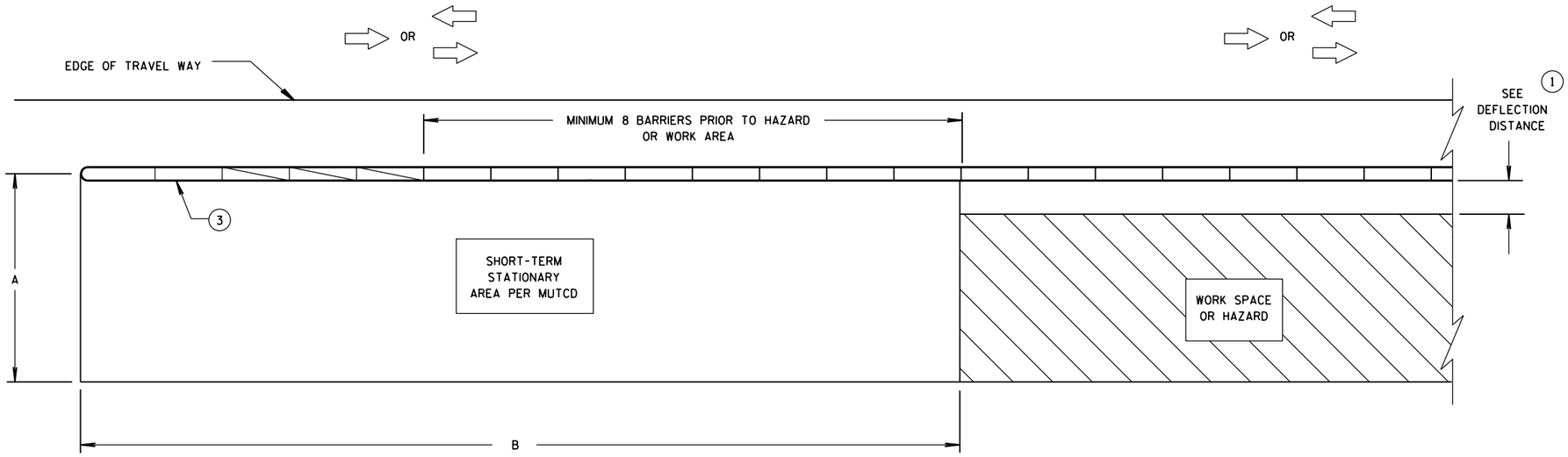
S.D.D. 14 B 7-15i



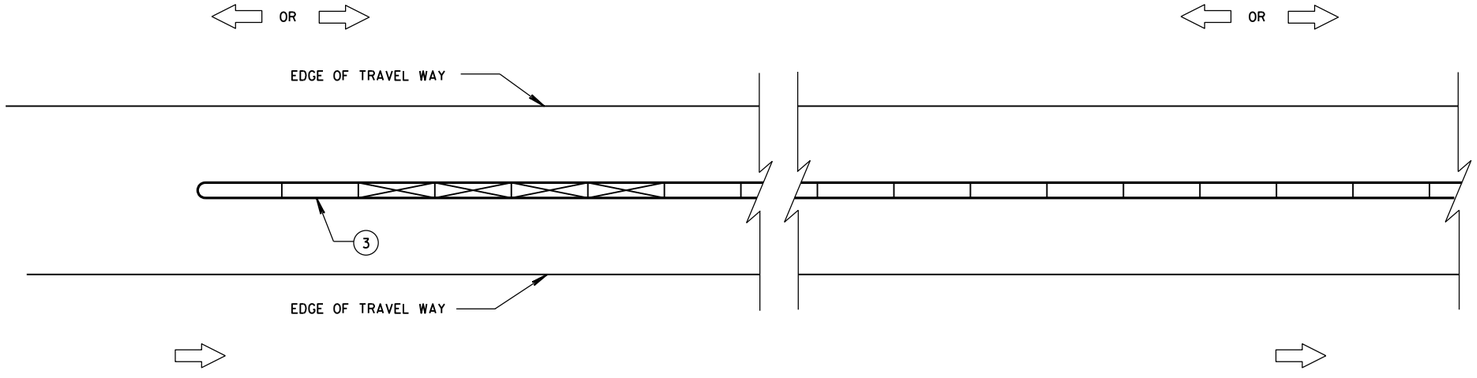
CRASH CUSHION/SAND BARREL ARRAY AND TEMPORARY BARRIER INSTALLATION FOR TRAFFIC ON ONE SIDE OF BARRIER

DIMENSION A TABLE (2)

FACILITY	POSTED SPEED MPH	DIMENSION A	
		MIN. FT	MAX. FT
FREEWAY/EXPRESSWAY	ALL	15	20
NON-FREEWAY/EXPRESSWAY	GREATER THAN OR EQUAL TO 45	10	15
NON-FREEWAY/EXPRESSWAY	LESS THAN 45	8	10
AADT LESS THAN 1,500	ALL	8	10

DIMENSION B TABLE (2)

POSTED SPEEDS MPH	DIMENSION B FT
20	115
25	155
30	200
35	250
40	305
45	360
50	425
55	495
60	570
65	645



CRASH CUSHION/SAND BARREL ARRAY AND TEMPORARY BARRIER INSTALLATION FOR TRAFFIC ON BOTH SIDES OF BARRIER

LEGEND

- DIRECTION OF TRAVEL
- CRASH CUSHION OR SAND BARREL ARRAY
- SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS
- SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS
- 3 PINS PLACED ON TRAFFIC SIDE OF BARRIER
- PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET
- FREE STANDING TEMPORARY BARRIER

GENERAL NOTES

SEE STANDARD DETAIL DRAWING 14B7 FOR MORE INFORMATION.

DETAILS PROVIDE A GENERAL LAYOUT OF TEMPORARY CONCRETE BARRIER, CRASH CUSHIONS, SAND BARREL ARRAYS AND TIE DOWN TRANSITIONS. DETAILS PROVIDED MAY NOT FIT ALL POSSIBLE SITUATIONS OR SITE CONDITIONS. SEE OTHER SECTIONS OF THE CONTRACT OR PROJECT ENGINEER FOR MORE DETAILS.

ADDITIONAL TEMPORARY BARRIER MAY BE REQUIRED TO PROTECT TRAVELING PUBLIC FROM HAZARDS, CONTRACTOR'S OPERATIONS OR TO CONTROL TRAFFIC.

TEMPORARY BARRIER MAY BE REQUIRED TO BE ANCHORED TO PAVEMENT OR BRIDGE DECK.

FOR DETAILS ON CRASH CUSHION OR SAND BARREL ARRAYS SEE OTHER SECTIONS OF THE PLAN AND MANUFACTURE'S DETAILS.

SLOPES LEADING TO TEMPORARY BARRIER, CRASH CUSHION OR SAND BARREL ARRAY ARE 10:1 OR LESS.

(1) FOR DEFLECTION INFORMATION SEE STANDARD DETAIL DRAWING 14B7.

(2) VALUES PROVIDED MAY NOT FIT ALL POSSIBLE SITUATIONS OR SITE CONDITIONS. SEE OTHER SECTIONS OF THE CONTRACT OR PROJECT ENGINEER FOR MORE DETAILS.

(3) ANCHOR TEMPORARY BARRIER ACCORDING TO CRASH CUSHION OR SAND BARREL MANUFACTURER'S RECOMMENDATIONS. IF MANUFACTURER'S RECOMMENDATIONS ARE NOT PROVIDED, ANCHOR 3 PINS ON TRAFFIC SIDE.

CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS

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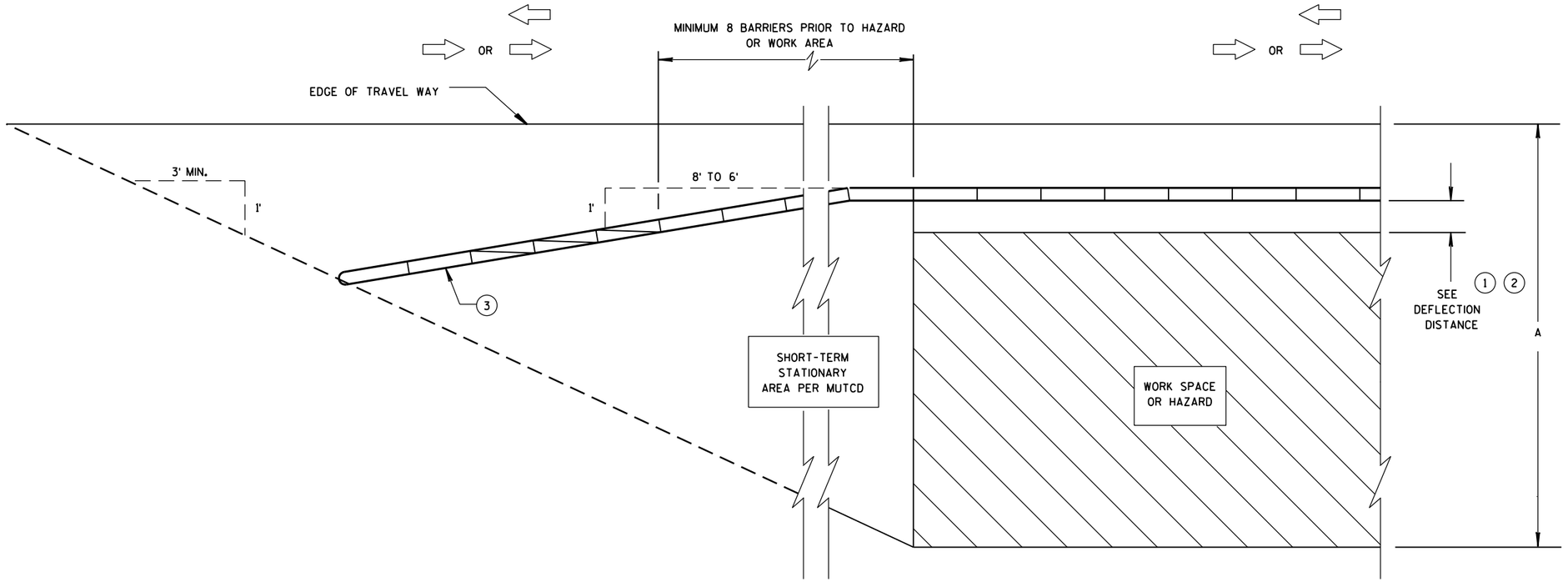
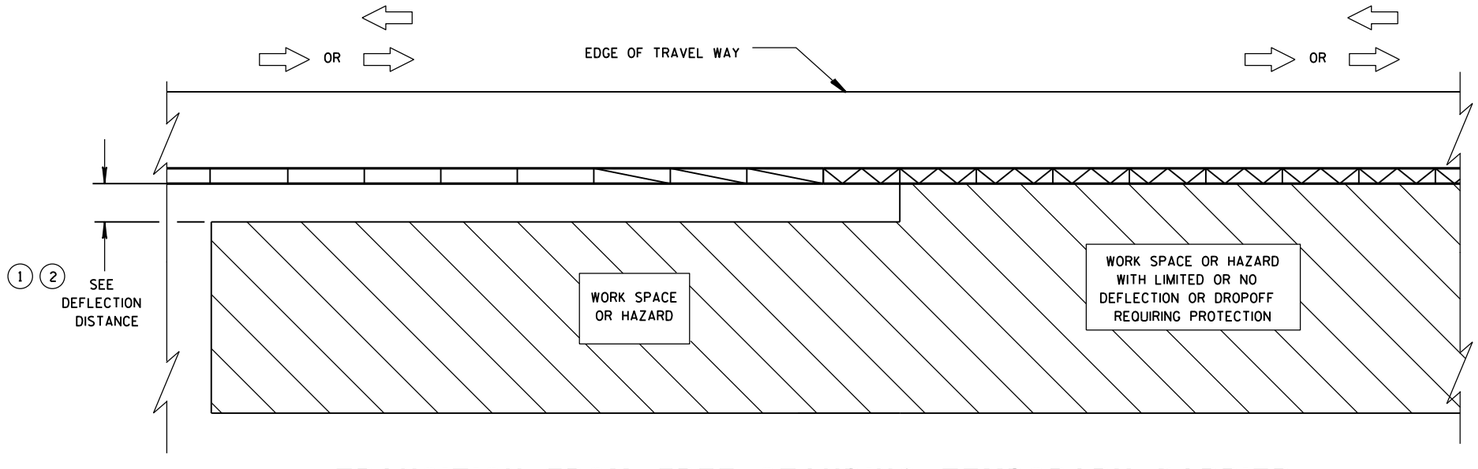
S.D.D. 14 B 8-2a



CRASH CUSHION/SAND BARREL ARRAY AND TEMPORARY BARRIER INSTALLATION FOR TRAFFIC ON ONE SIDE - FLARED INSTALLATION



TRANSITION FROM FREE STANDING TEMPORARY BARRIER TO ANCHORED BARRIER

LEGEND

- DIRECTION OF TRAVEL
- CRASH CUSHION OR SAND BARREL ARRAY
- SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS
- SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS
- 3 PINS PLACED ON TRAFFIC SIDE OF BARRIER
- PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET
- FREE STANDING TEMPORARY BARRIER

CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

S.D.D. 14 B 8-2b

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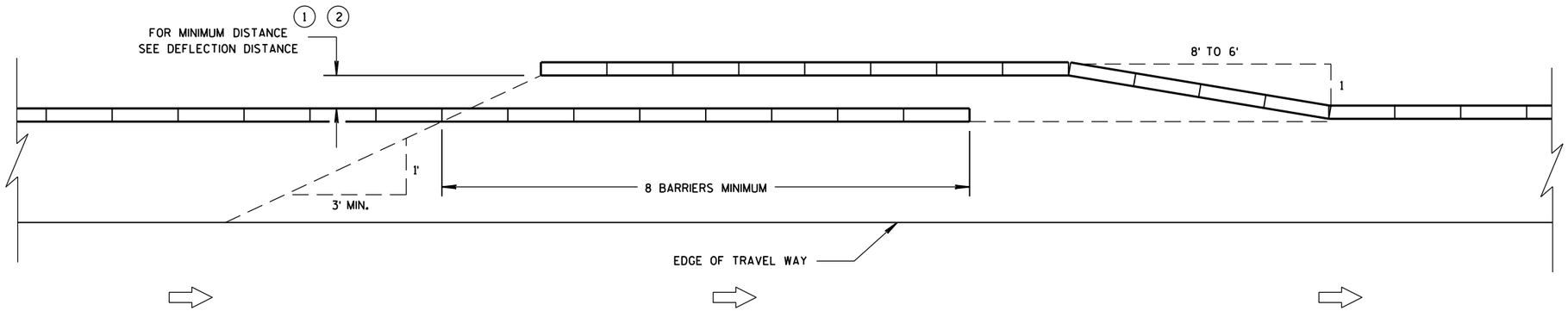
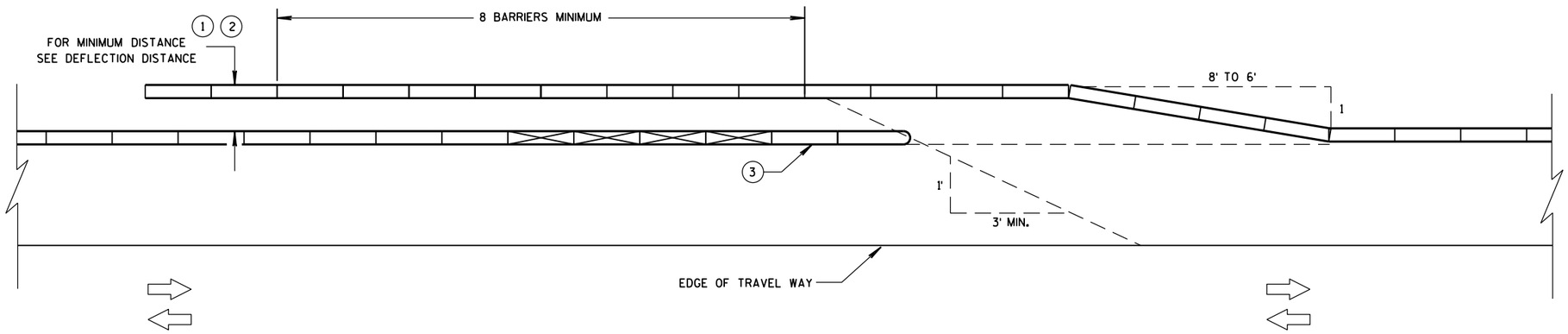
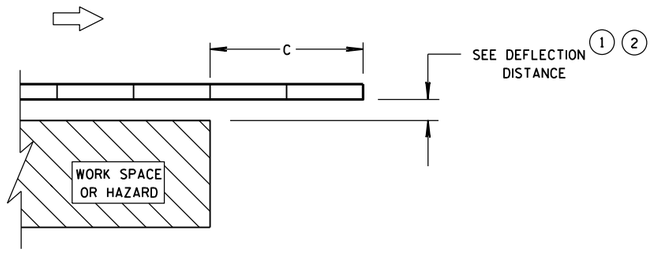
S.D.D. 14 B 8-2b



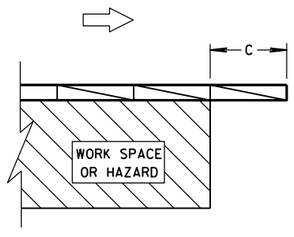
TEMPORARY BARRIER OVERLAP - ONE-WAY TRAFFIC



TEMPORARY BARRIER OVERLAP - TWO-WAY TRAFFIC



ENDING TEMPORARY BARRIER DOWNSTREAM - UNANCHORED



ENDING TEMPORARY BARRIER DOWNSTREAM - ANCHORED

LEGEND

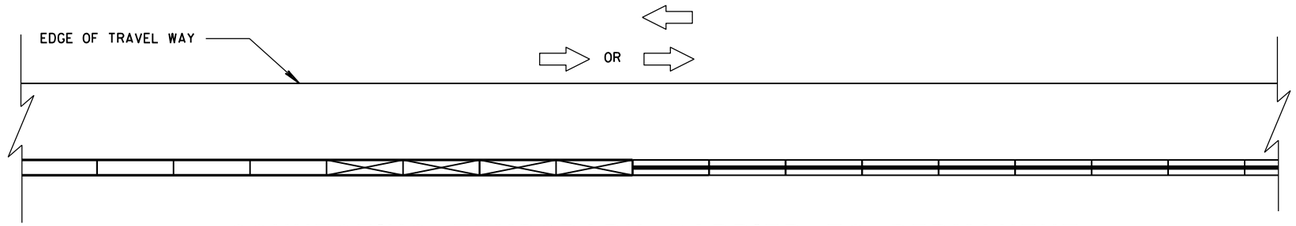
- DIRECTION OF TRAVEL
- CRASH CUSHION OR SAND BARREL ARRAY
- SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS
- SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS
- 3 PINS PLACED ON TRAFFIC SIDE OF BARRIER
- PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET
- FREE STANDING TEMPORARY BARRIER

CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS

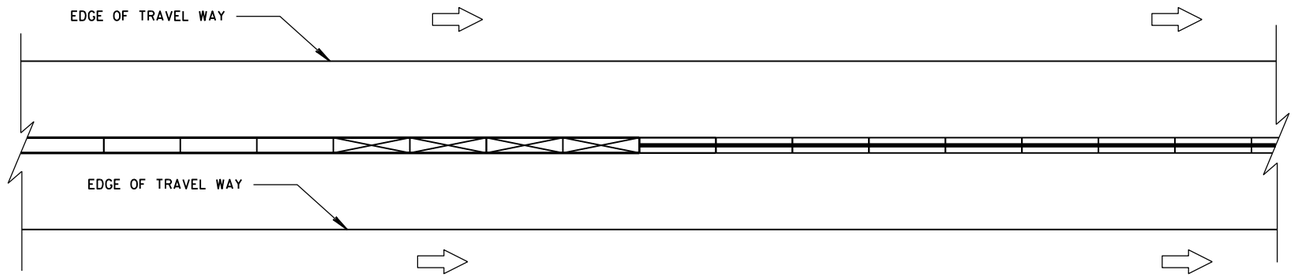
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

S.D.D. 14 B 8-2c



CONNECTING TEMPORARY BARRIER TO PERMANENT
CONCRETE BARRIER-TRAFFIC ON ONE SIDE



CONNECTING TEMPORARY BARRIER TO PERMANENT
CONCRETE BARRIER-TRAFFIC ON BOTH SIDES

LEGEND

DIRECTION OF TRAVEL

CRASH CUSHION OR
SAND BARREL ARRAY

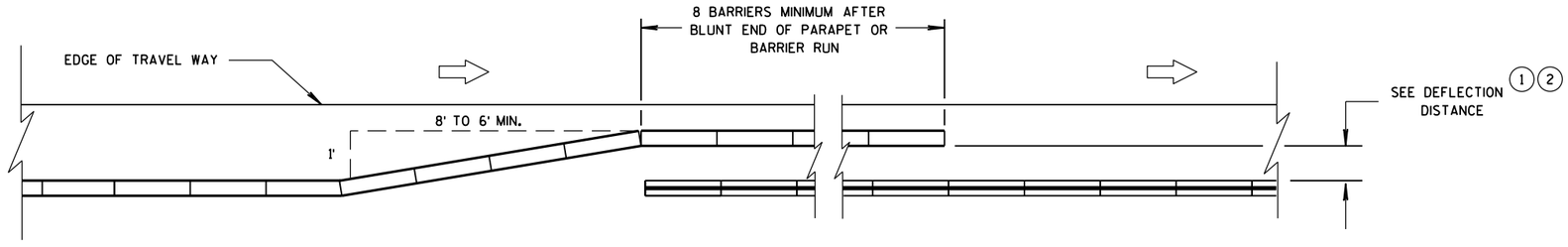
SEE FREE STANDING TRANSITION
TO TIED-DOWN SYSTEM DETAILS

SEE BI-DIRECTIONAL TRANSITION
TO TIED-DOWN SYSTEM DETAILS

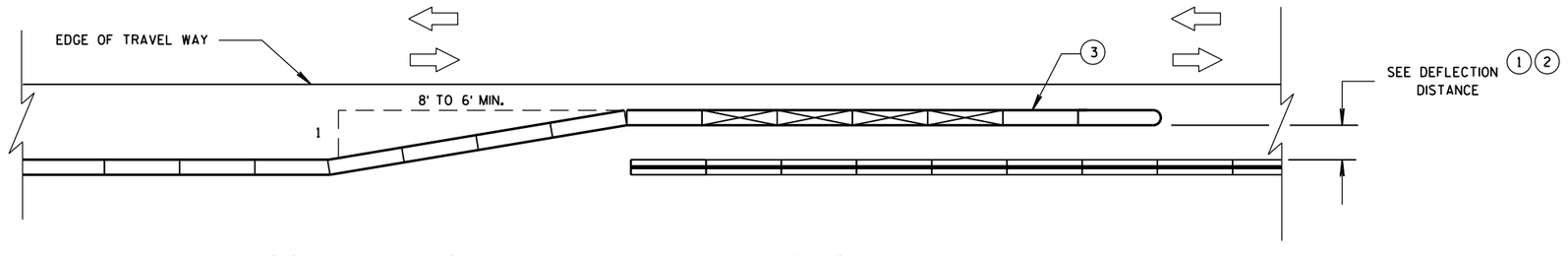
3 PINS PLACED ON
TRAFFIC SIDE OF BARRIER

PERMANENT CONCRETE BARRIER
OR CONCRETE PARAPET

FREE STANDING TEMPORARY
BARRIER



OVERLAPPING TEMPORARY BARRIER AND PERMANENT BARRIER -
ONE WAY TRAFFIC



OVERLAPPING TEMPORARY BARRIER AND PERMANENT BARRIER -
TWO WAY TRAFFIC

CRASH CUSHION/SAND BARREL
ARRAY AND OTHER TEMPORARY
BARRIER LAYOUT DETAILS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

S.D.D. 14 B 8-2d

LEGEND

DIRECTION OF TRAVEL

CRASH CUSHION OR SAND BARREL ARRAY

SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS

SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS

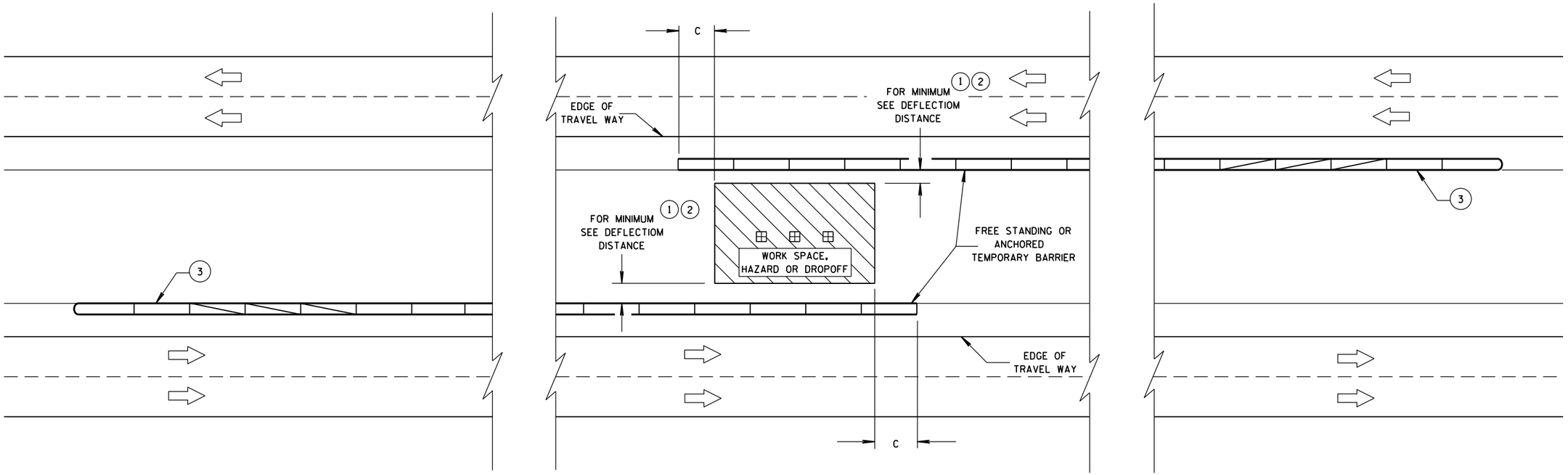
3 PINS PLACED ON TRAFFIC SIDE OF BARRIER

PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET

FREE STANDING TEMPORARY BARRIER

DIMENSION C TABLE (2)

AVAILABLE DEFLECTION DISTANCE	MINIMUM LENGTH OF BARRIER BEYOND HAZARD FT
GREATER THAN 8'	12.5
LESS THAN OR EQUAL TO 8' BUT GREATER THAN 4'	50
LESS THAN OR EQUAL TO 4'	100



CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June, 2015
DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINNER
FHWA

6

S.D.D. 14 B 8-2e

(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.

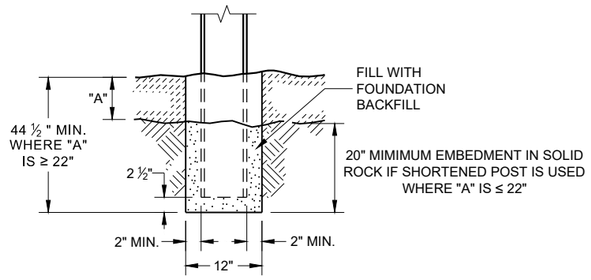
(3) IF ROCK IS ENCOUNTERED DURING EXCAVATION, PROVIDE A HOLE 12 INCHES IN DIAMETER EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2 1/2" INCHES OF GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE. CUT THE POSTS THE TO LENGTH AMD INSTALL. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT. BACKFILL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

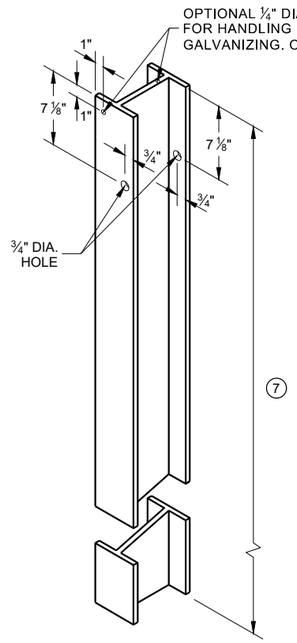
(5) FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS +1". FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27 ¾" TO 32".

(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.

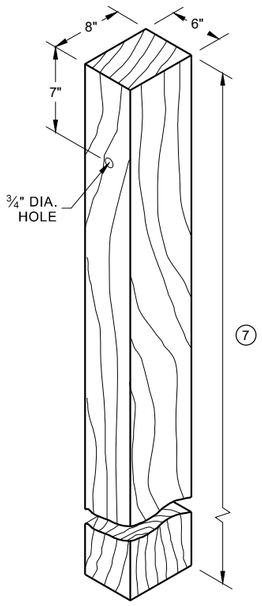
(7) TOTAL POST LENGTH FOR TYPE K IS 7' - 0".
TOTAL POST LENGTH FOR OTHER MGS TYPES IS 6' - 0".



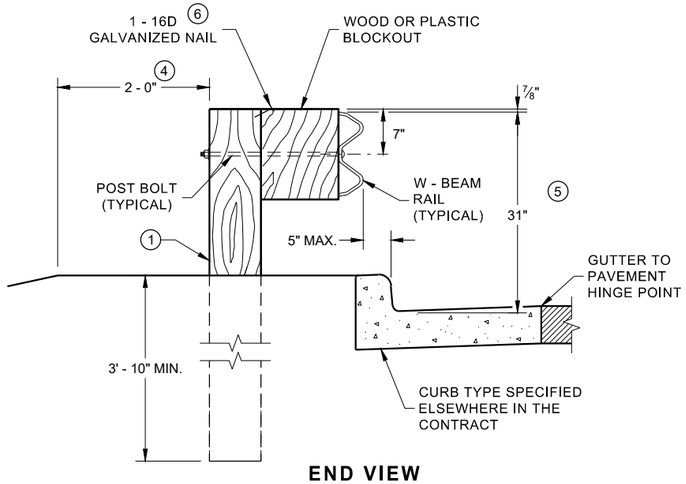
END VIEW
SETTING STEEL OR WOOD POST IN ROCK (3)



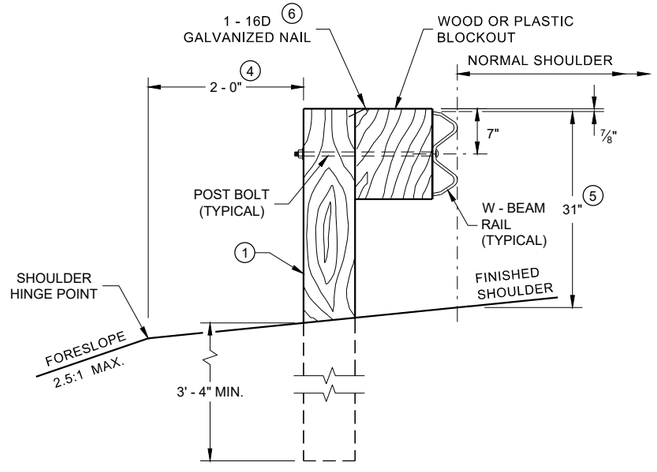
STEEL POST & HOLE PUNCHING DETAIL (W 6 X 9) (1)



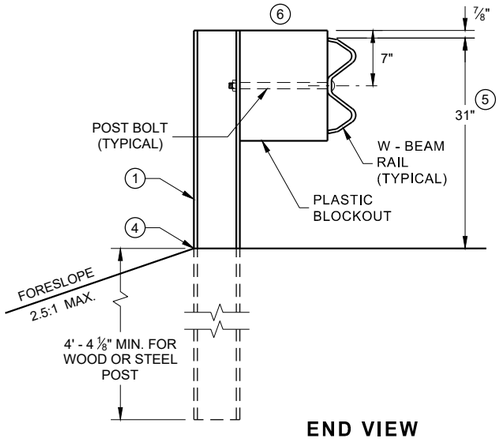
WOOD POST (6" X 8") NOMINAL (1)



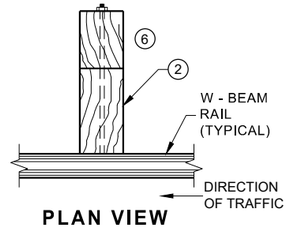
END VIEW
LOCATED ALONG A CURBED ROADWAY



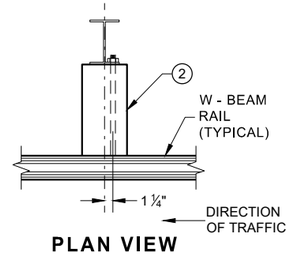
END VIEW
LOCATED ALONG A ROADWAY SHOULDER STANDARD INSTALLATION



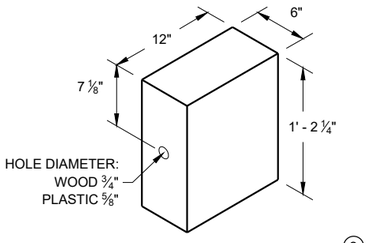
END VIEW
MGS LONGER POST AT HALFPOST SPACING W BEAM (K)



PLAN VIEW
WOOD POST, BLOCKOUT & BEAM



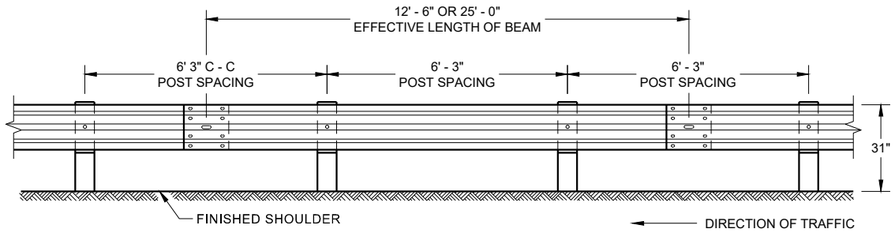
PLAN VIEW
STEEL POST, PLASTIC BLOCKOUT & BEAM



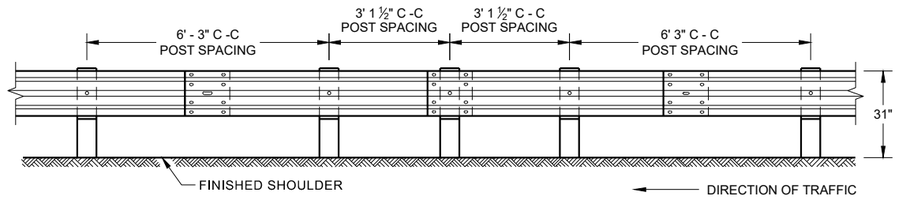
WOOD OR PLASTIC BLOCKOUT (2)

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

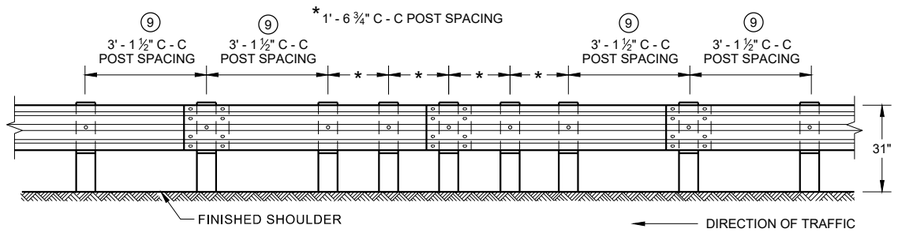
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



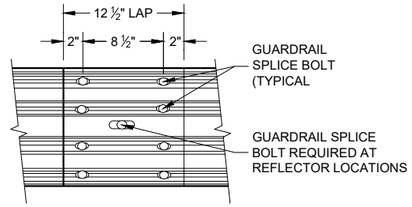
FRONT VIEW
POST SPACING STANDARD INSTALLATION



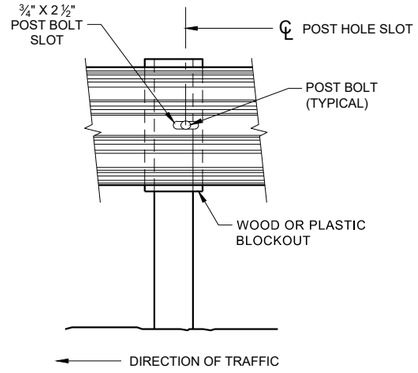
FRONT VIEW
HALF POST SPACING (HS) AND
HALF POST SPACING WITH LONGER POSTS (K)



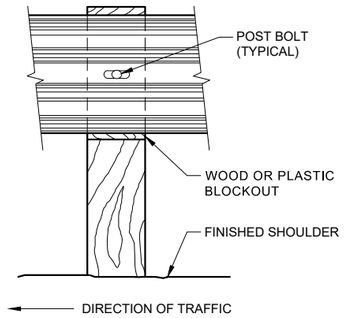
FRONT VIEW
QUARTER POST SPACING (QS)



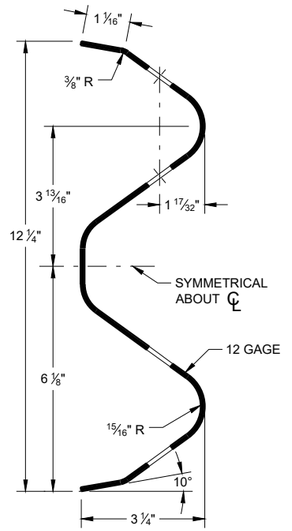
FRONT VIEW
MID-SPAN BEAM SPLICE



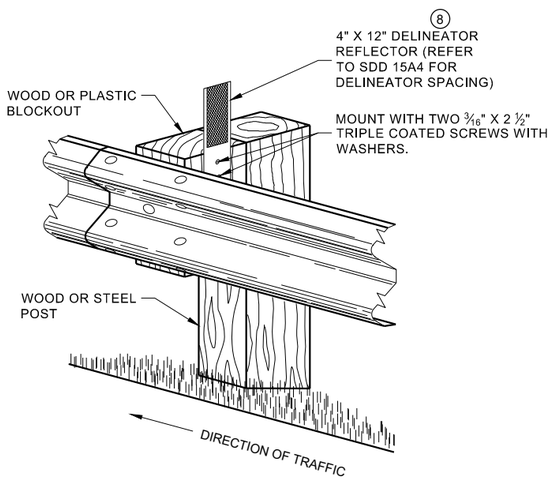
FRONT VIEW AT STEEL POST



FRONT VIEW AT WOOD POST



SECTION THRU W-BEAM RAIL



ONE SIDED REFLECTOR DETAIL
AND TYPICAL INSTALLATION

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.

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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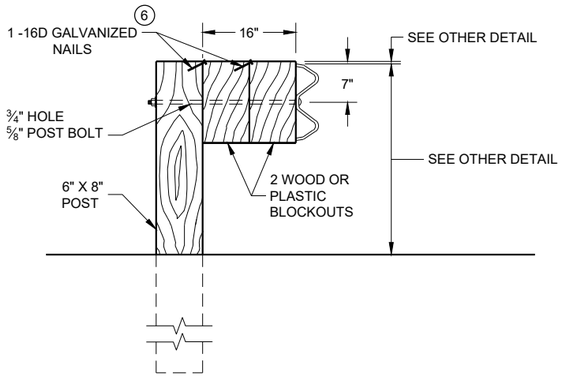
SDD 14B42 - 06b

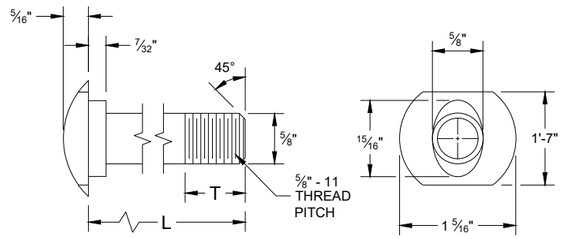


DETAIL FOR 16" BLOCKOUT DEPTH

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.

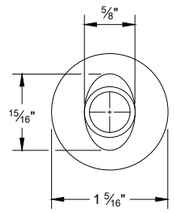
NOTE:

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.

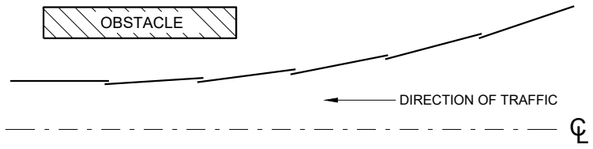


POST BOLT TABLE

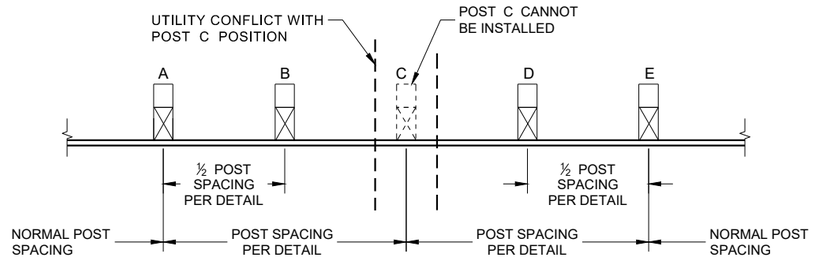
L	T (MIN.)
1 ¼"	1 ⅛"
2"	1 ¾"
10"	4"
14"	4 1⁄16"
18"	4"
21"	4 1⁄16"
25"	4"



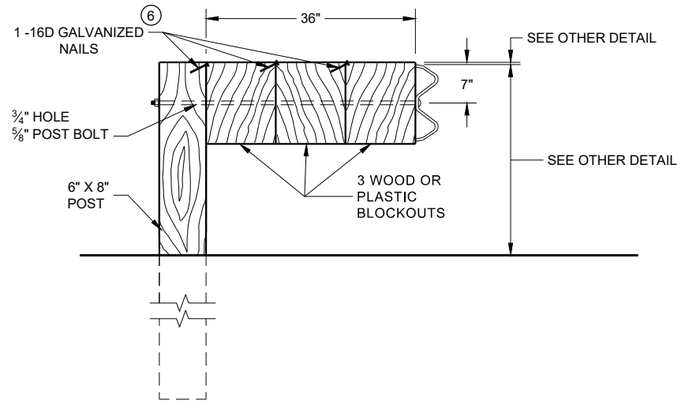
ALTERNATE BOLT HEAD



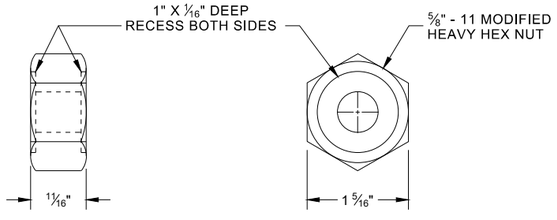
PLAN VIEW
BEAM LAPPING DETAIL



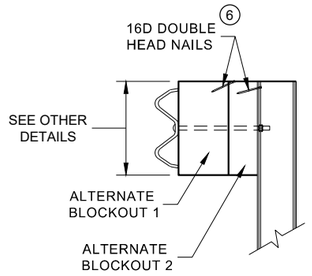
POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION



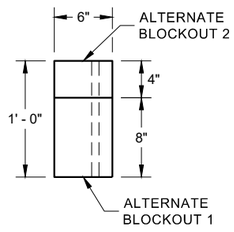
DETAIL FOR 36" BLOCKOUT DEPTH



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

6

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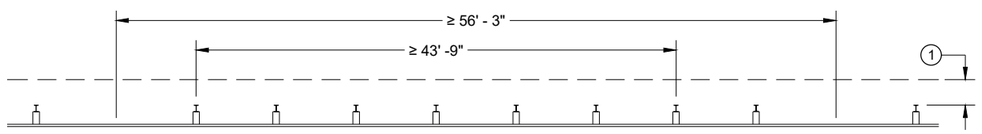
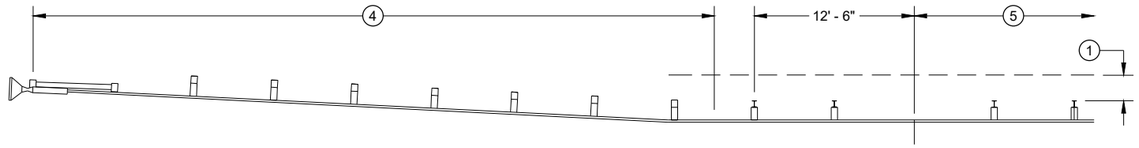
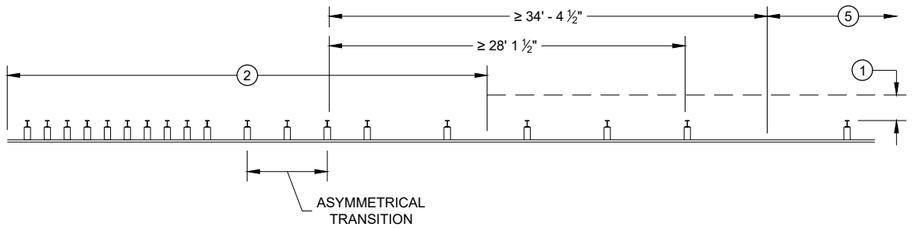


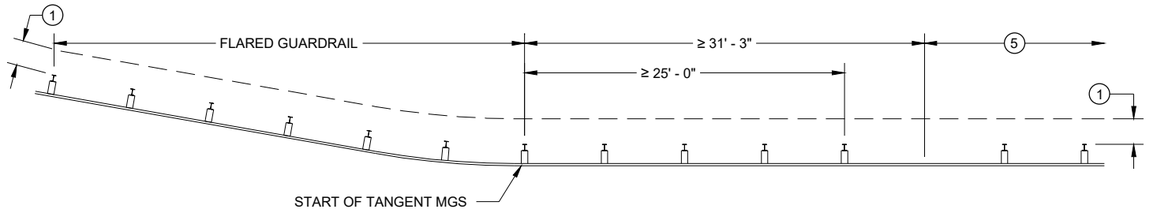
MISSING POST IN NORMAL BEAM GUARD RUN



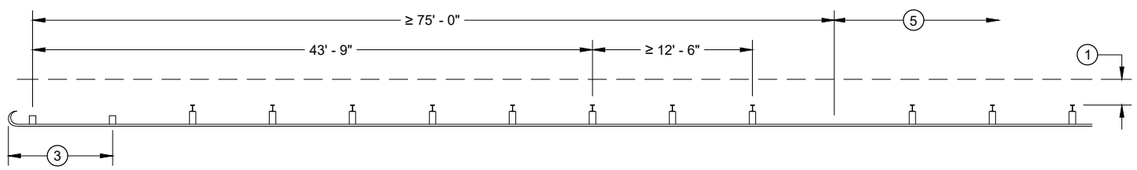
MISSING POST IN NORMAL BEAM GUARD RUN NEAR EAT



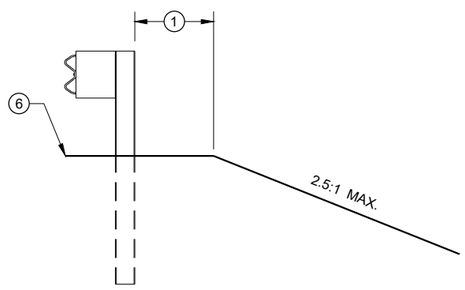
MISSING POST NEAR APPROACH THRIE BEAM TRANSITION



MISSING POST IN NORMAL BEAM GUARD RUN NEAR FLARED BEAM GUARD



MISSING POST IN NORMAL BEAM GUARD RUN NEAR TYPE 2 TERMINAL



CROSS SECTION VIEW

(1) MINIMUM OF 2 FEET OF GRADING BEHIND POST.

(2) SEE SDD 14B45 FOR MORE DETAILS.

(3) SEE SDD 14B47 FOR MORE DETAILS.

(4) SEE SDD 14B44 FOR MORE DETAILS.

(5) SEE MISSING POST IN NORMAL BEAM GUARD RUN FOR DISTANCE TO NEXT MISSING POST AND AREA FOR WELL DRAINED, COMPACTED SOILS.

(6) SEE PLAN FOR SHOULDER DESIGN.

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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SDD 14B42 - 06d

GENERAL NOTES

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

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

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

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

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

DIMENSIONS MAY VARY, MANUFACTURER'S INFORMATION.

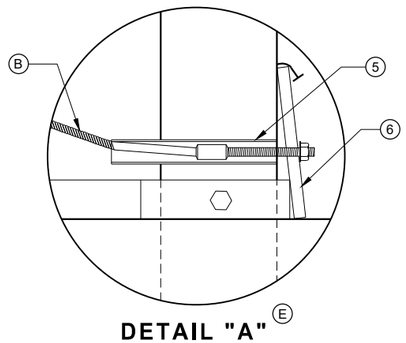
SEE SDD 14B42 FOR MORE INFORMATION.

* DO NOT ATTACH BLOCKOUTS TO POST 1 AND 2.

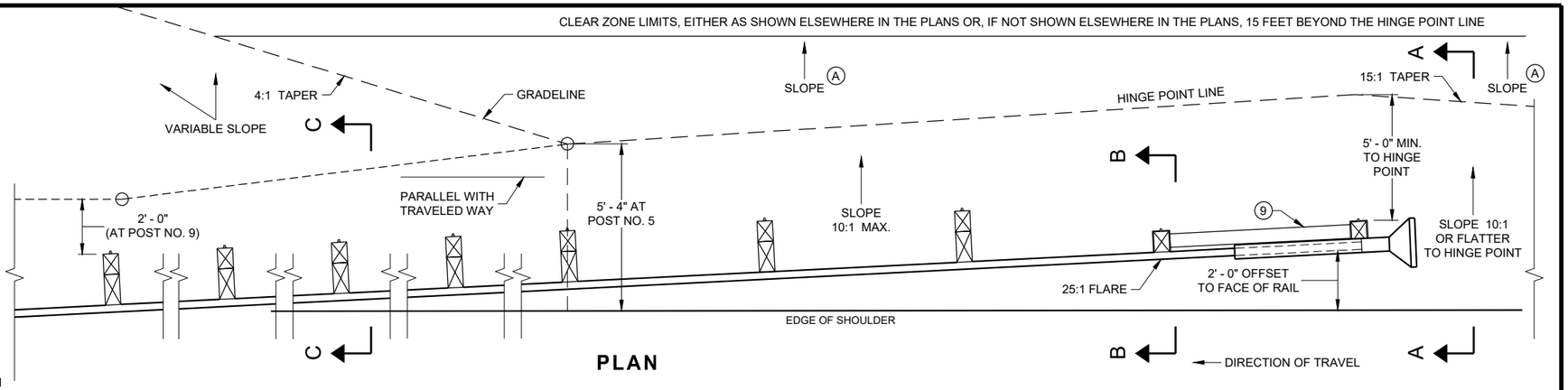
DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

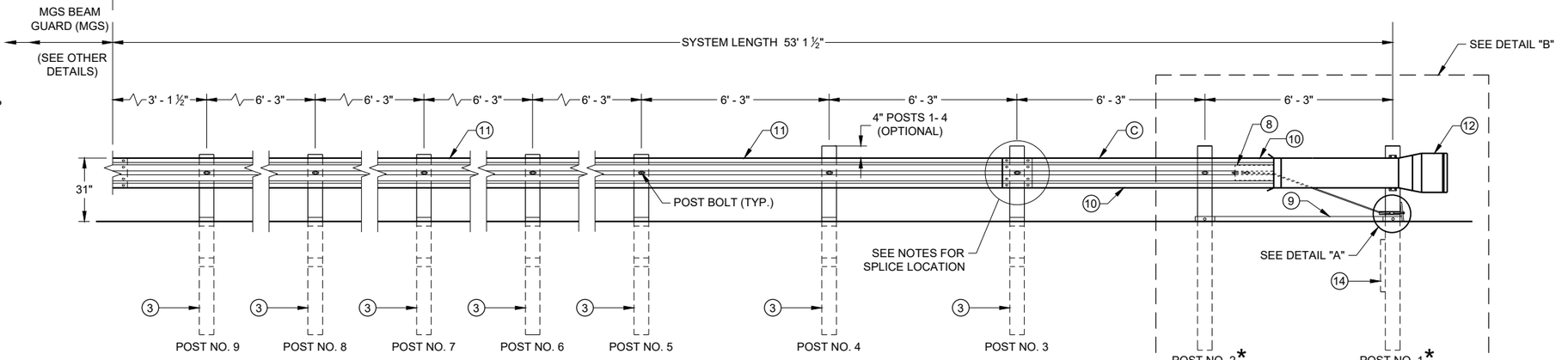
SEE MANUFACTURER'S DRAWING FOR SPLICE LOCATION, HARDWARE DIMENSIONS AND INSTALLATION INSTRUCTIONS.

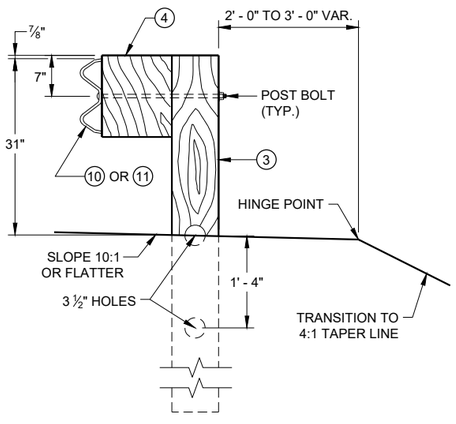
THE CENTER OF THE UPPER 3 ½" DIAMETER HOLE ON POST NUMBER 3 THROUGH POST 9 IS TO BE FLUSH WITH THE GROUND LINE UP TO A MAXIMUM OF 2" ABOVE GROUND LINE. WOOD BLOCKS ON POSTS NUMBERED 3 THROUGH 9 MAY BE ADJUSTED UP TO 3" ABOVE THE TOP OF POST.



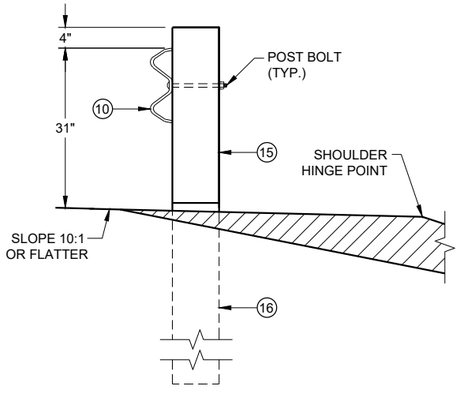
DETAIL "A" (E)



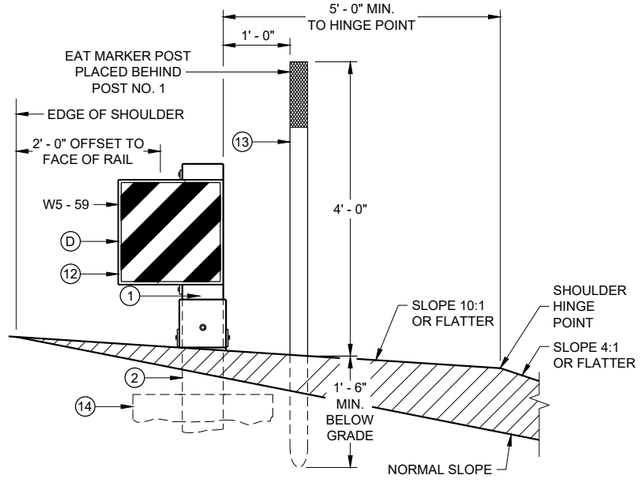




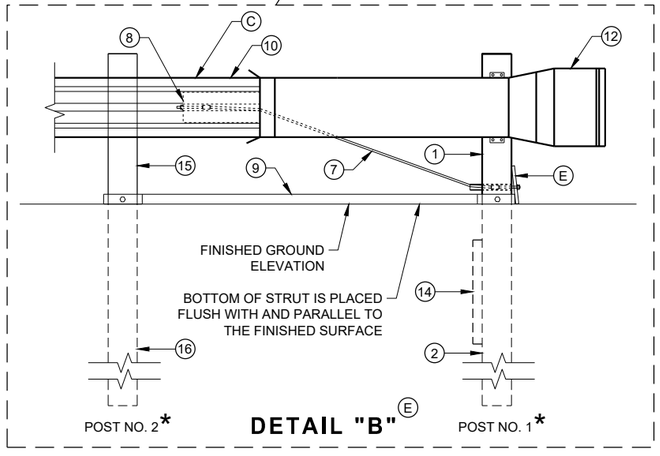
SECTION C - C
TYPICAL AT POST NOS. 3 - 9



SECTION B - B
TYPICAL AT POST NO. 2*



SECTION A - A
TYPICAL AT POST NO. 1*



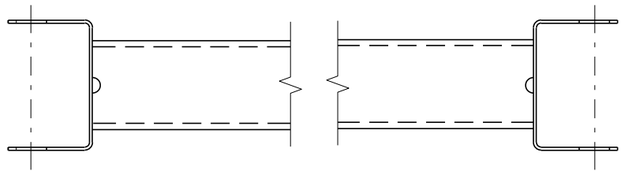
DETAIL "B" (E)

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

SDD 14B44 - 04a

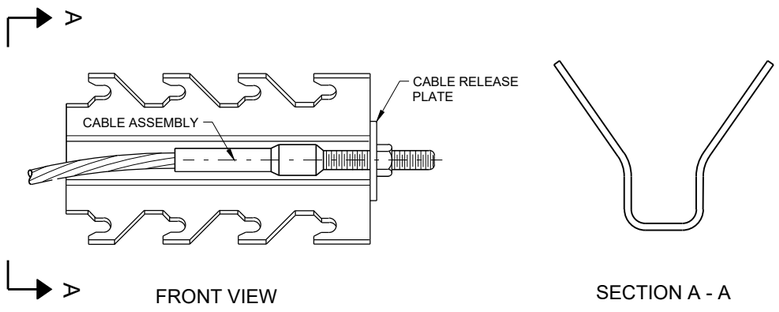
SDD 14B44 - 04a



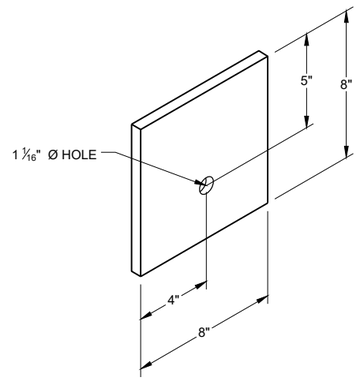
GENERIC GROUND STRUT ⑨ Ⓔ

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 ⑨ Ⓔ



BEARING PLATE ⑥ Ⓔ

6

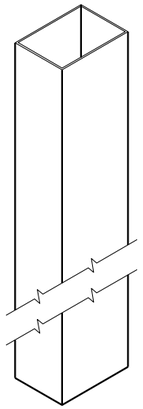
6

SDD 14B44 - 04b

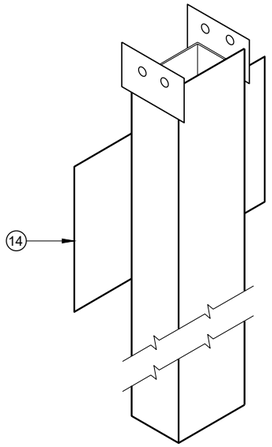
SDD 14B44 - 04b

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

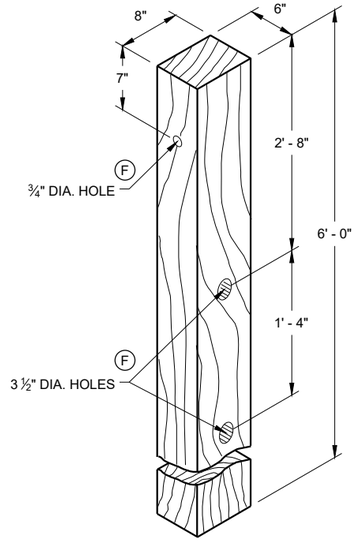
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



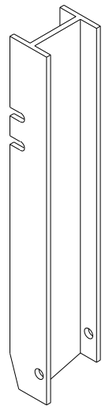
UPPER POST NO. 1 (1) (E)



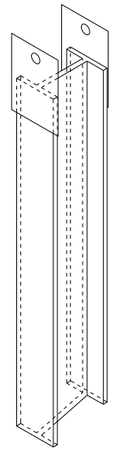
LOWER POST NO. 1 (2) (E)



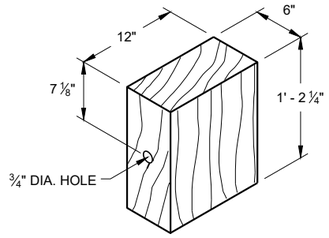
WOOD CRT POST (3) (E)
POSTS NUMBER 3-9



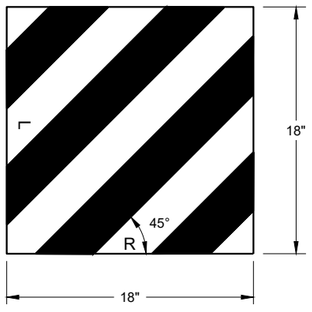
UPPER POST NO. 2 (15) (E)



LOWER POST NO. 2 (16) (E)

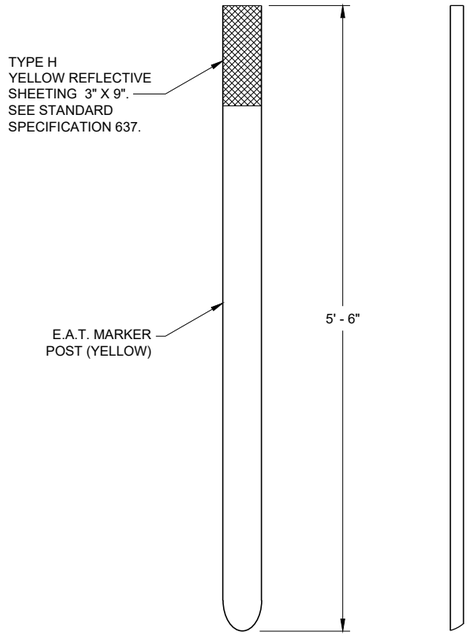


WOOD BLOCKOUT (4)
REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2



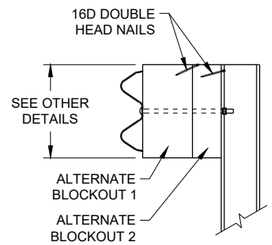
W5 - 59

REFLECTIVE SHEETING DETAIL (E)

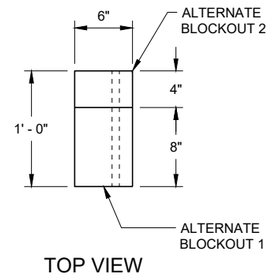


FRONT VIEW SIDE VIEW

E.A.T. MARKER POST (13)



SIDE VIEW



TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL

MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)

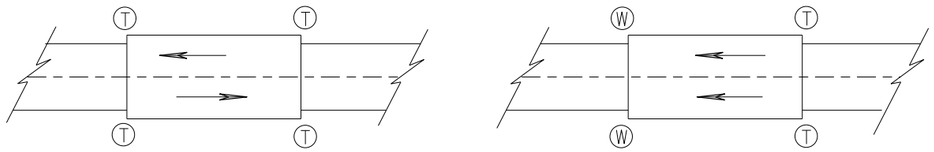
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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.

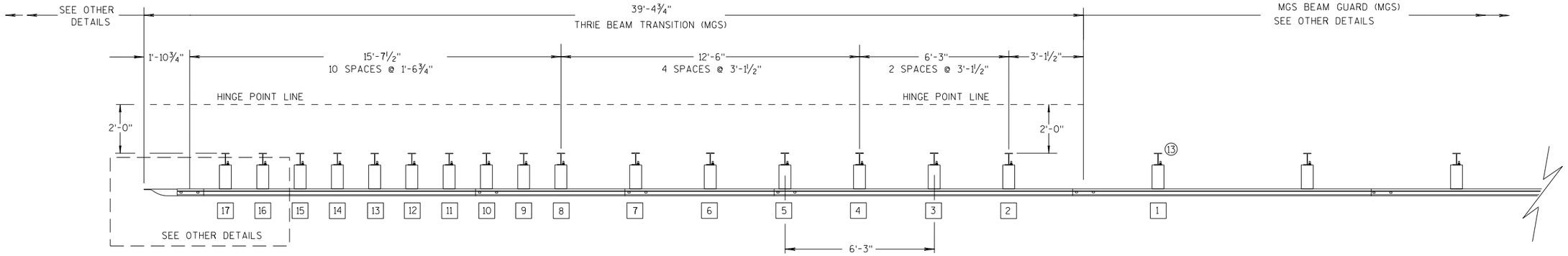
SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

POST 2 THROUGH 17 USES STEEL POST ONLY

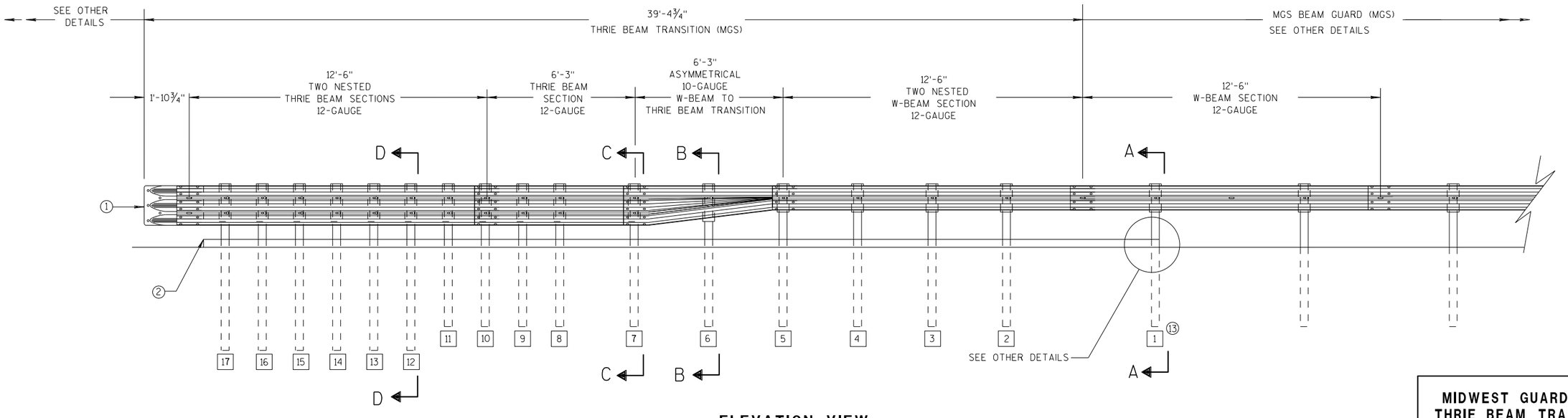
(1) BRIDGE RAILING TYPE "W" DOES NOT REQUIRE A TERMINAL CONNECTOR.

(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

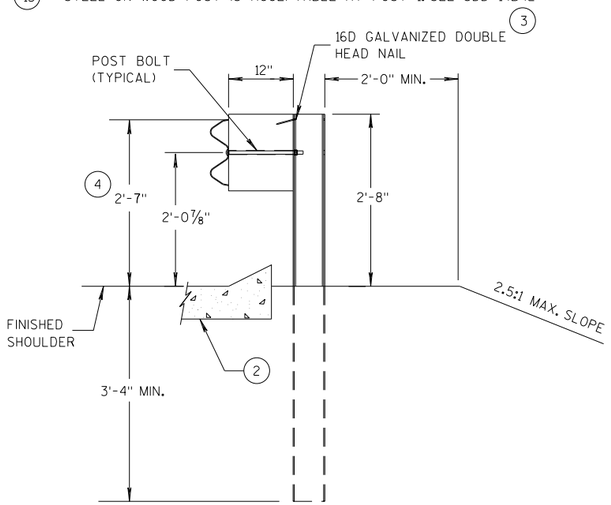
GENERAL NOTES

(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.

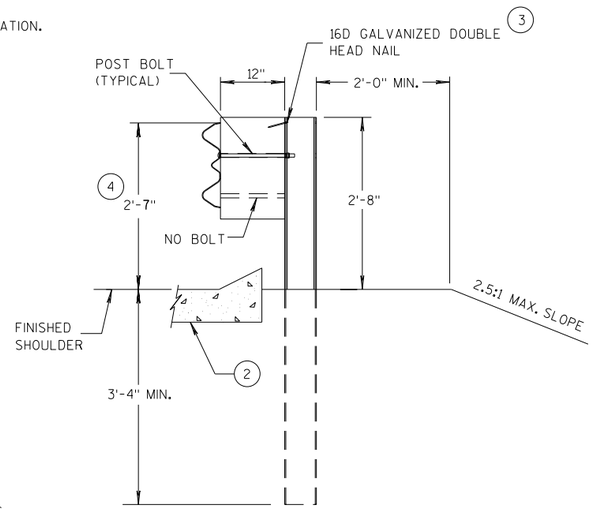
(4) TOLERANCE FOR TOP OF W-BEAM RAIL IS ± 1".

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



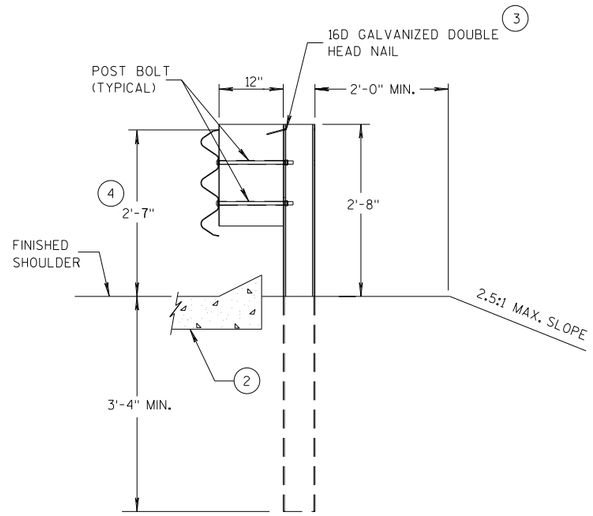
SECTION A-A (13)

POSTS 1-5



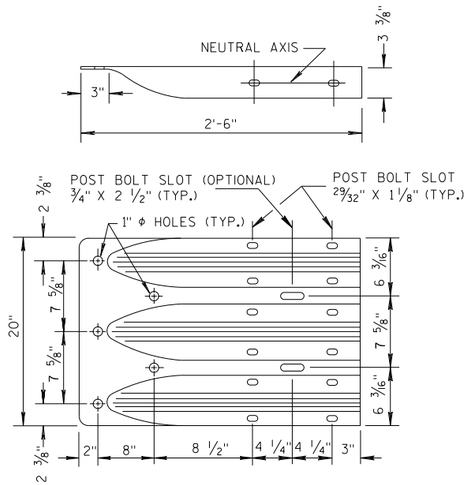
SECTION B-B

POST 6

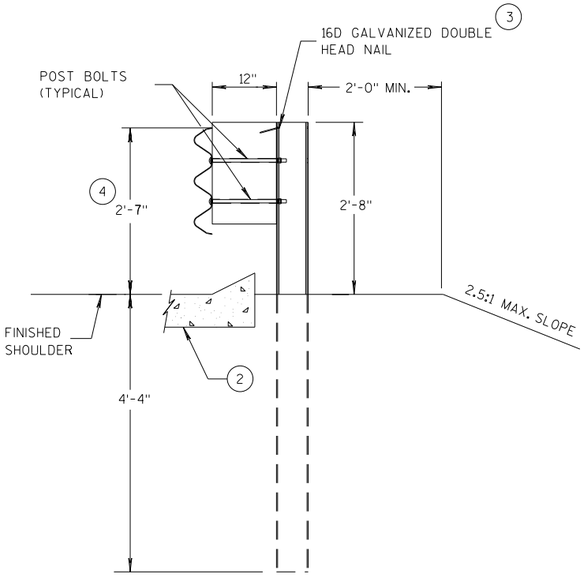


SECTION C-C

POSTS 7-11

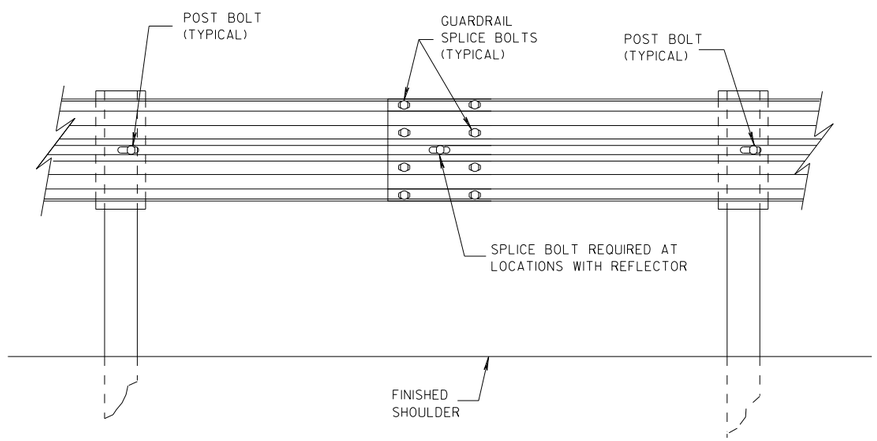


THRIE BEAM TERMINAL CONNECTOR



SECTION D-D

POSTS 12-17



SPLICE DETAIL

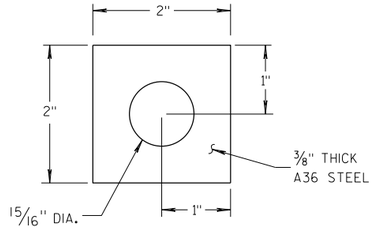
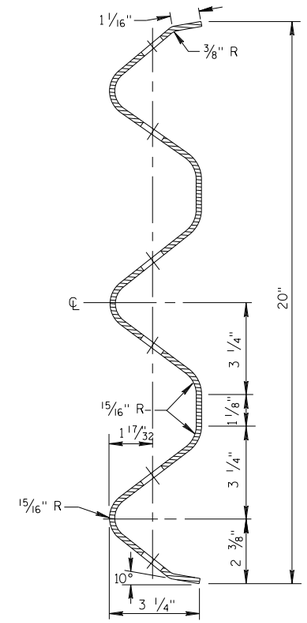


PLATE WASHER DETAIL



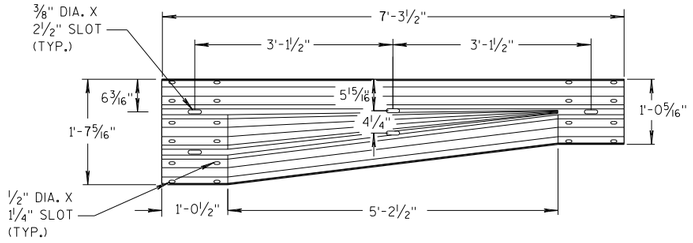
SECTION THRU THRIE BEAM RAIL ELEMENT

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

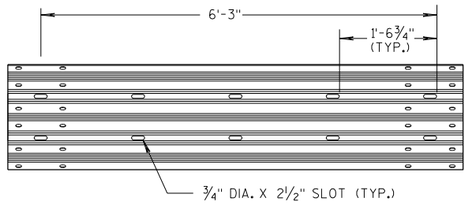
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOF

6

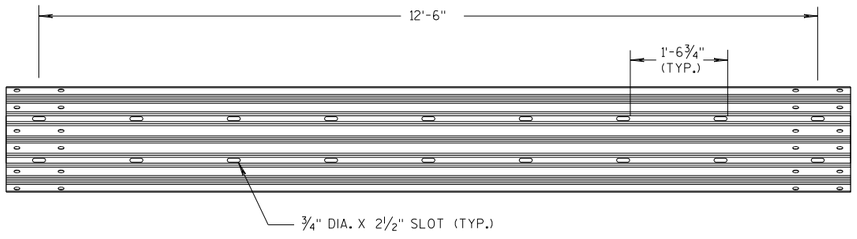
S.D.D. 14 B 45-5b



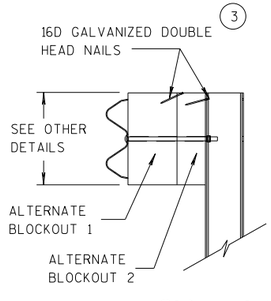
W-BEAM TO THRIE BEAM TRANSITION SECTION



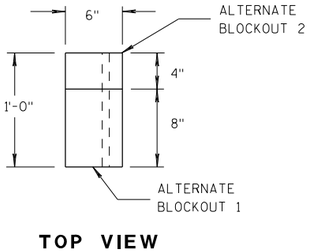
6'-3" THRIE BEAM SECTION



12'-6" THRIE BEAM SECTION

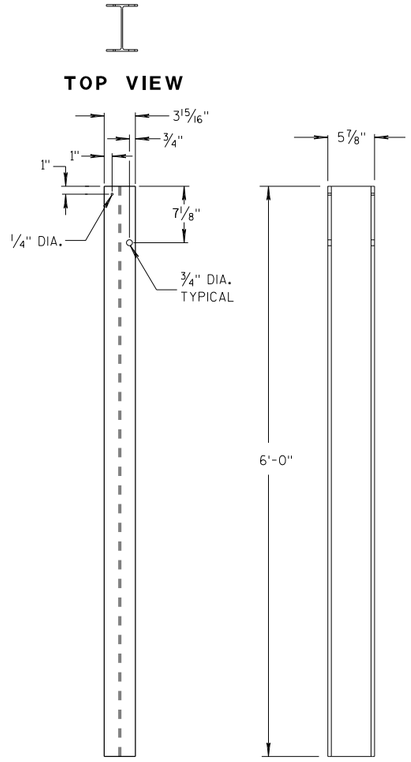


SIDE VIEW



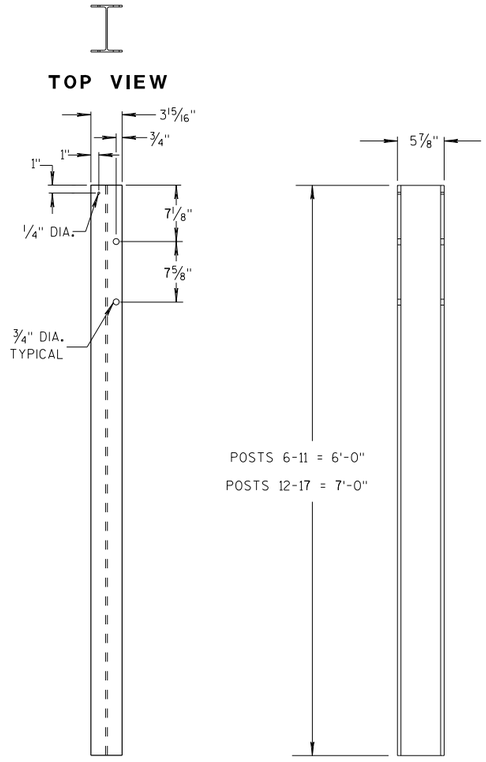
TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL



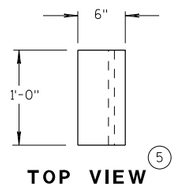
FRONT VIEW SIDE VIEW

STEEL POSTS 1-5 (13)

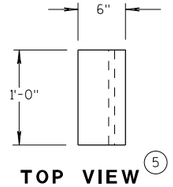


FRONT VIEW SIDE VIEW

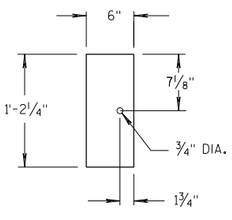
STEEL POSTS 6-17



TOP VIEW (5)

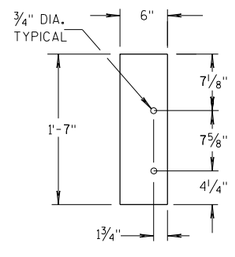


TOP VIEW (5)



FRONT VIEW

BLOCKOUT POSTS 1-5



FRONT VIEW

BLOCKOUT POSTS 6-17

GENERAL NOTES

STEEL POSTS ARE W6X9 OR W6X8.5.

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

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

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

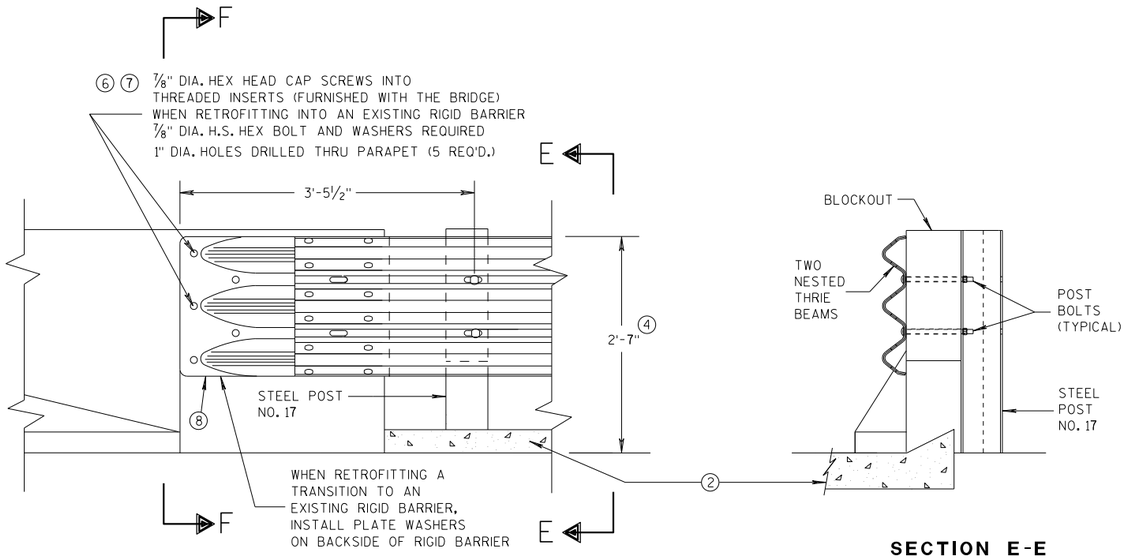
(13) STEEL OR WOOD POST IS ACCEPTABLE AT POST 1. SEE SDD 14B42.

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

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



FRONT VIEW

SECTION E-E

THRIE BEAM CONNECTION TO BRIDGE PARAPET WITH SQUARE ENDS

GENERAL NOTES

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

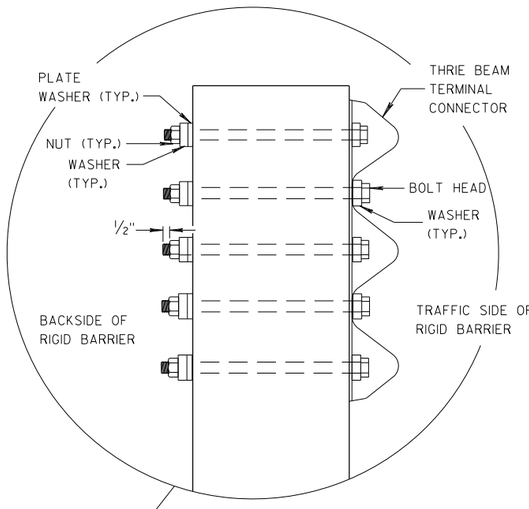
② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

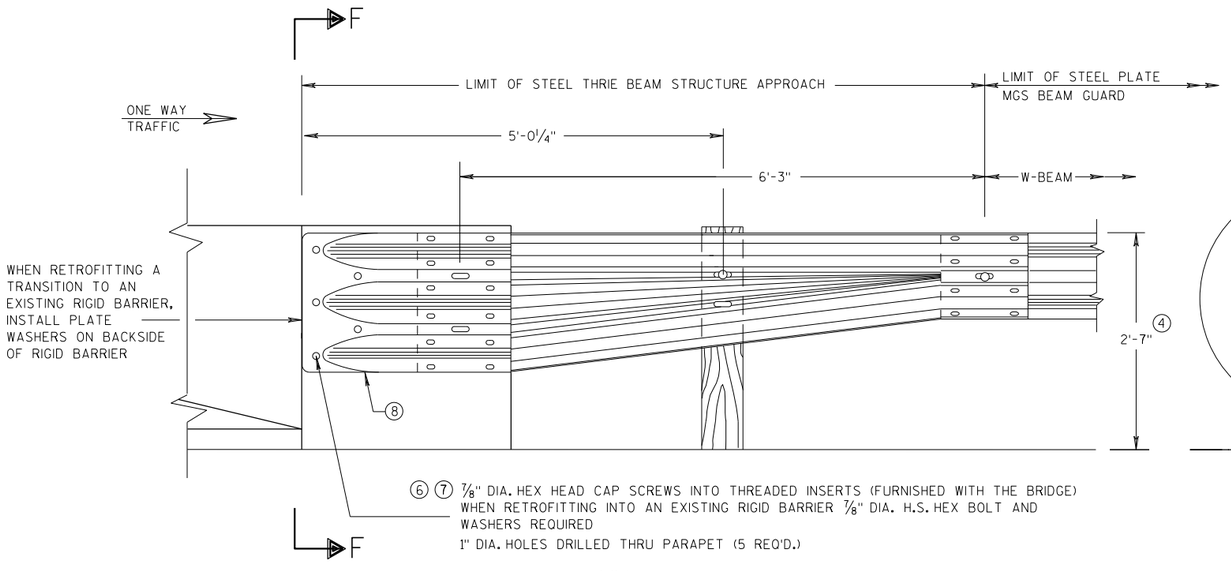
④ TOLERANCE FOR TOP OF BEAM IS ± 1".

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

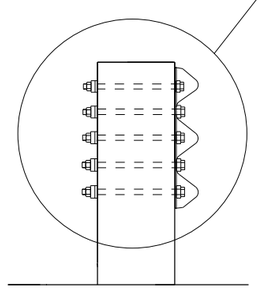
⑦ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE.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

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

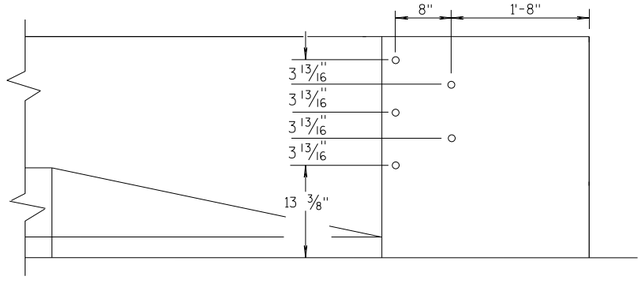




FRONT VIEW



SECTION F-F



DRILL HOLE LOCATION

W BEAM TRANSITION AND CONNECTION TO BRIDGE PARAPETS WITH SQUARE ENDS

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

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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

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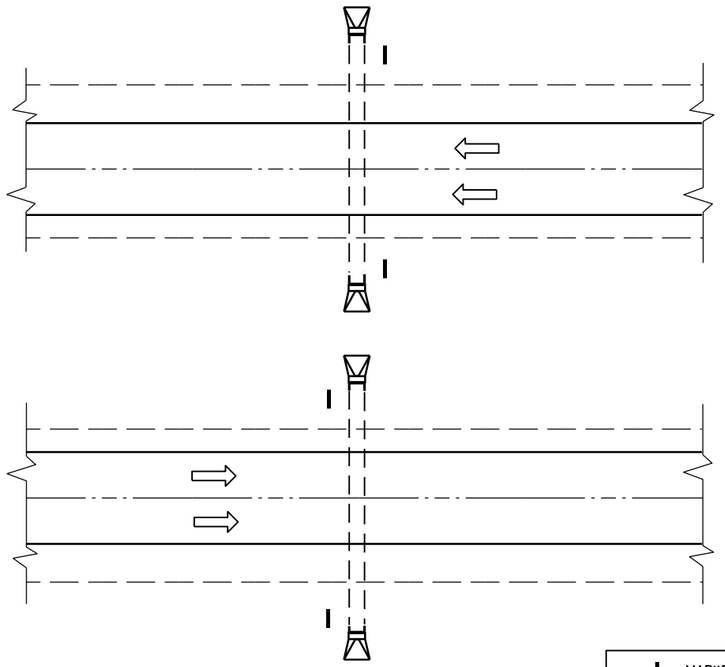
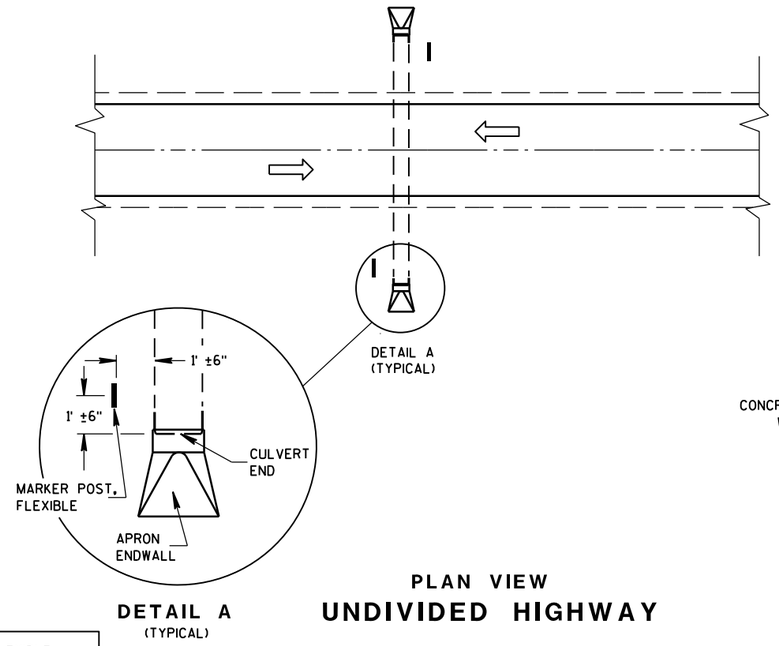
S.D.D. 14 B 45-5d



PLAN VIEW

DIVIDED HIGHWAY



DETAIL A
(TYPICAL)

PLAN VIEW

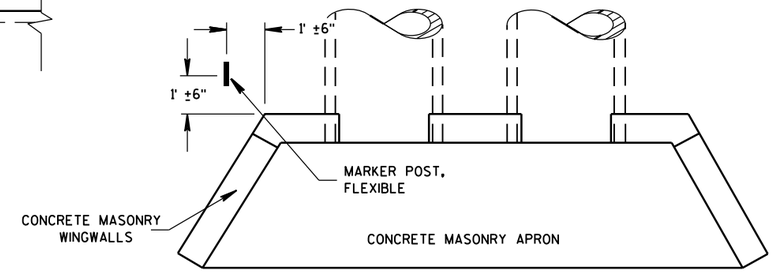
UNDIVIDED HIGHWAY

MARKER POST, FLEXIBLE

DIRECTION OF TRAFFIC FLOW

GENERAL NOTES

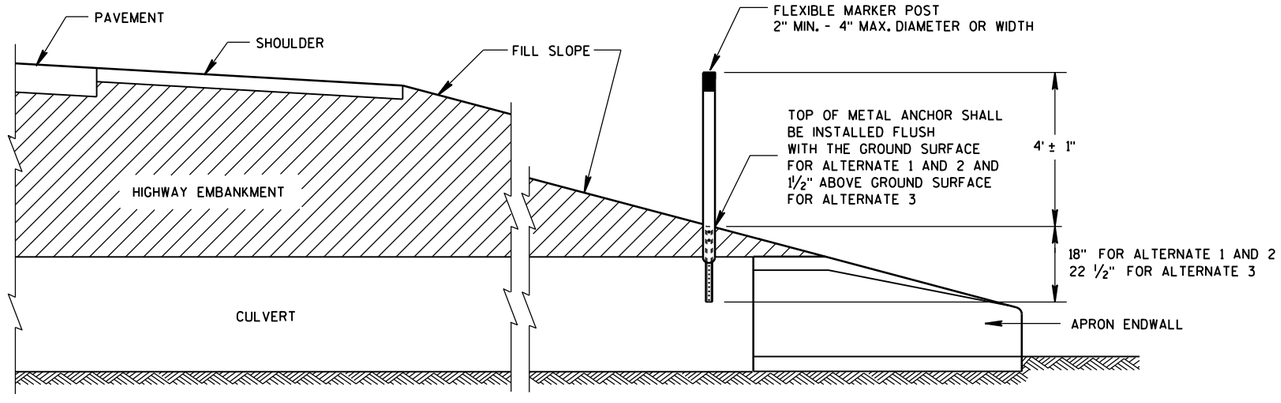
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.



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

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

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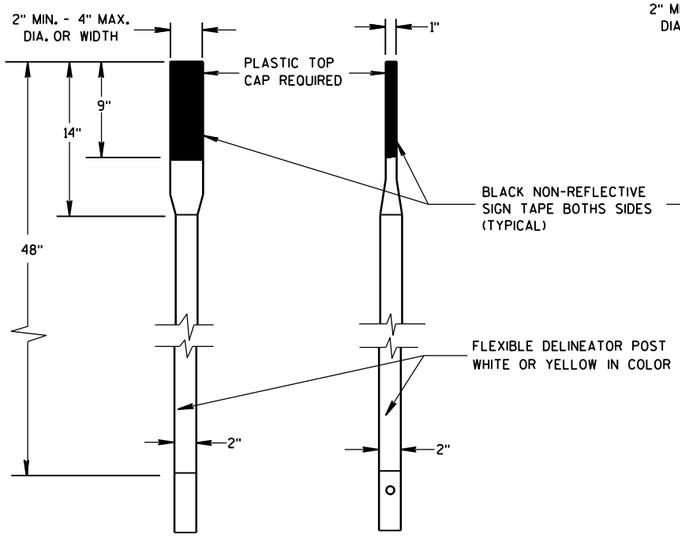
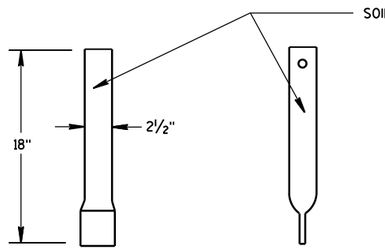
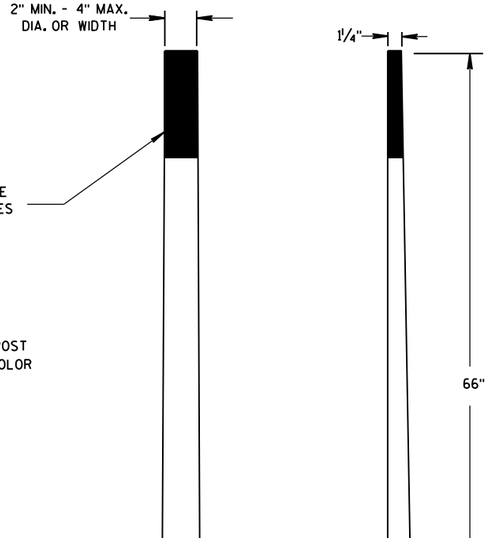
S.D.D. 15 A 3-2a





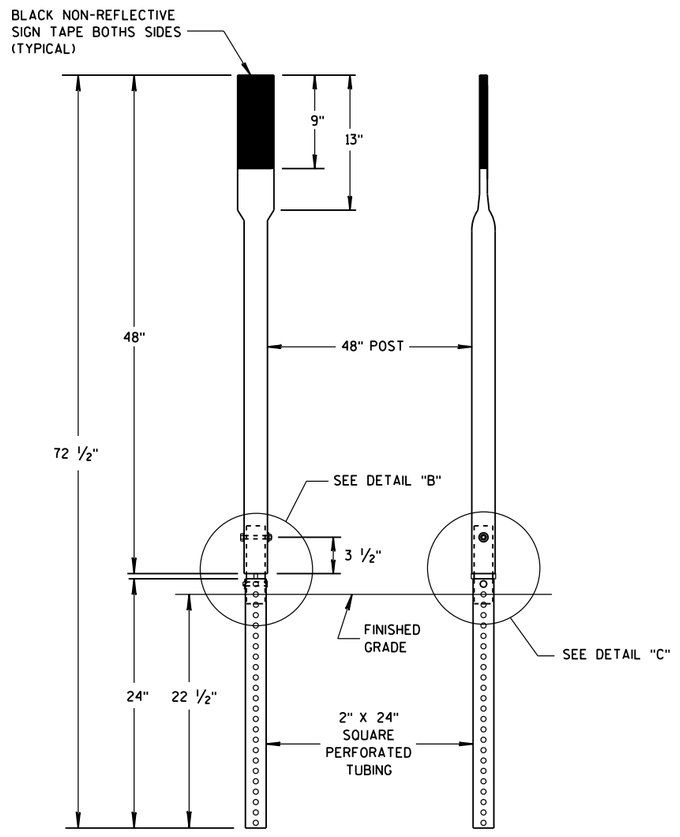
FRONT VIEW SIDE VIEW

ALTERNATE 1



FRONT VIEW SIDE VIEW

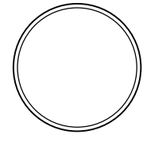
ALTERNATE 2



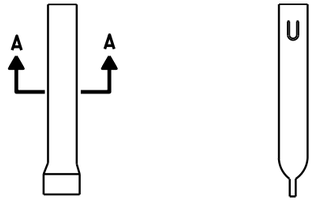
FRONT VIEW SIDE VIEW

ALTERNATE 3

FLEXIBLE MARKER POSTS

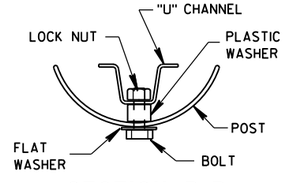


SECTION A-A

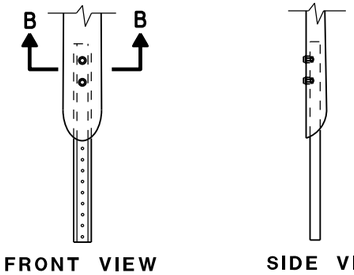


FRONT VIEW SIDE VIEW

ALTERNATE 1

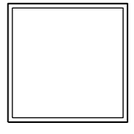


SECTION B-B

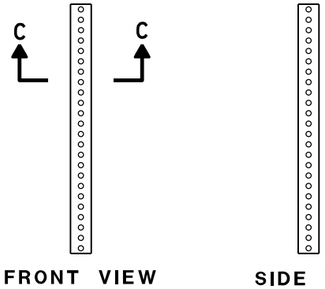


FRONT VIEW SIDE VIEW

ALTERNATE 2



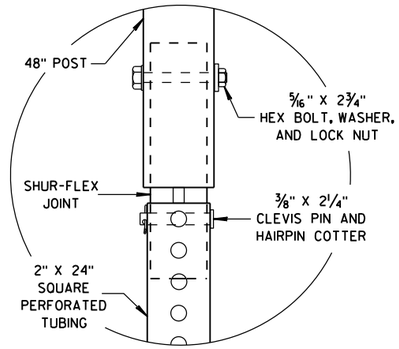
SECTION C-C



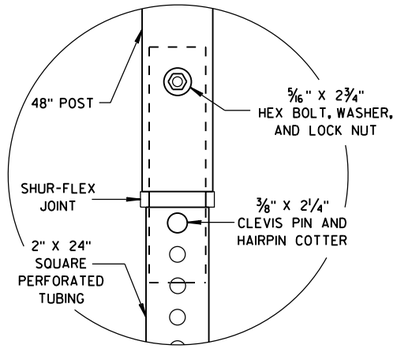
FRONT VIEW SIDE VIEW

ALTERNATE 3

FLEXIBLE MARKER POST ANCHORS



DETAIL B



DETAIL C

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

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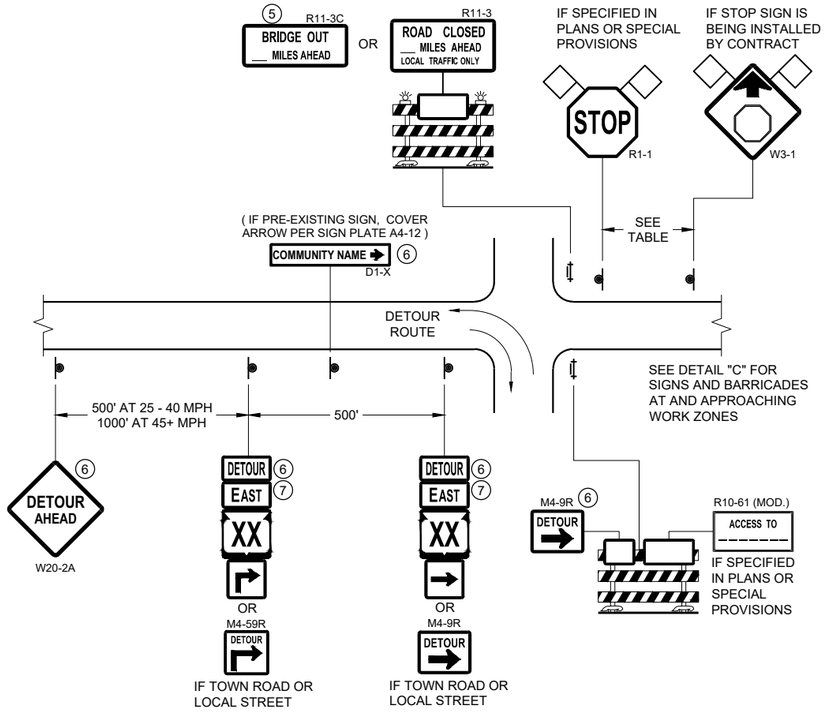
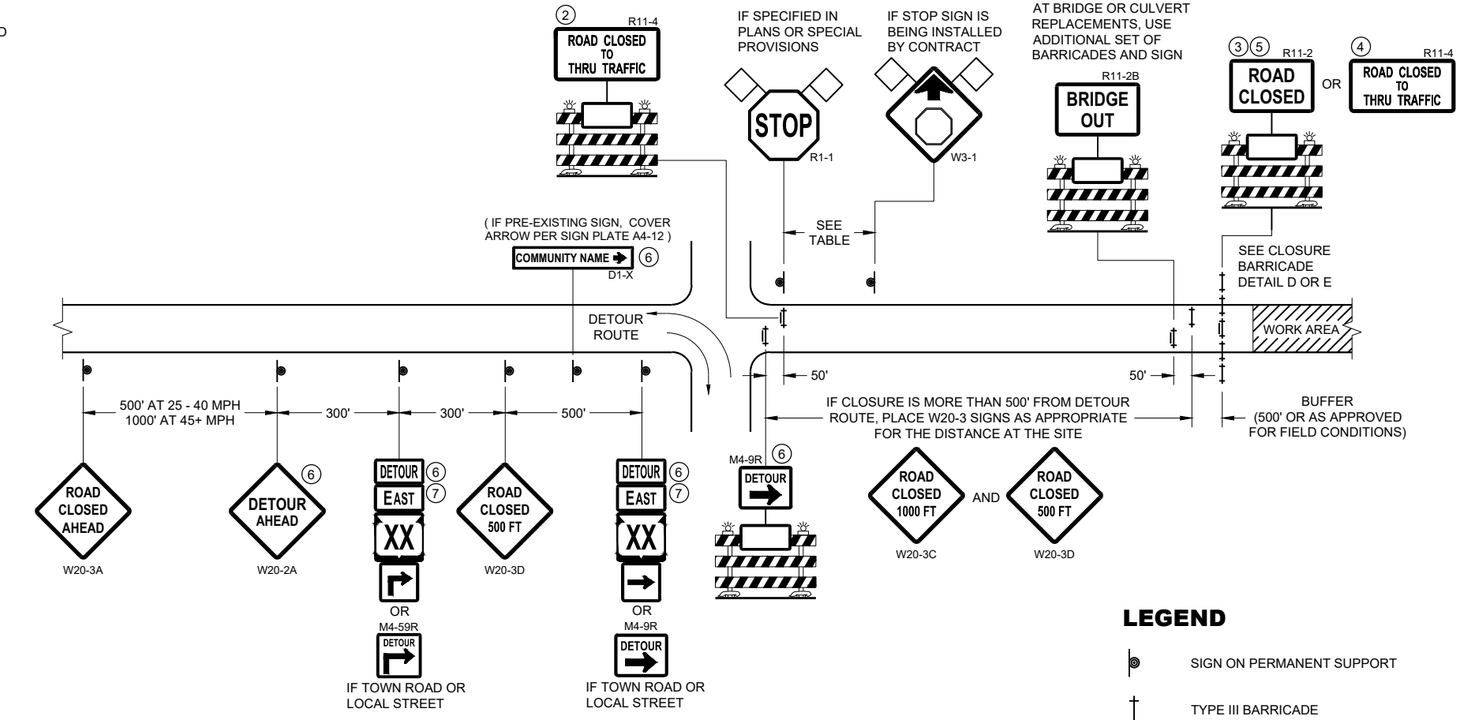
S.D.D. 15 A 3-2b



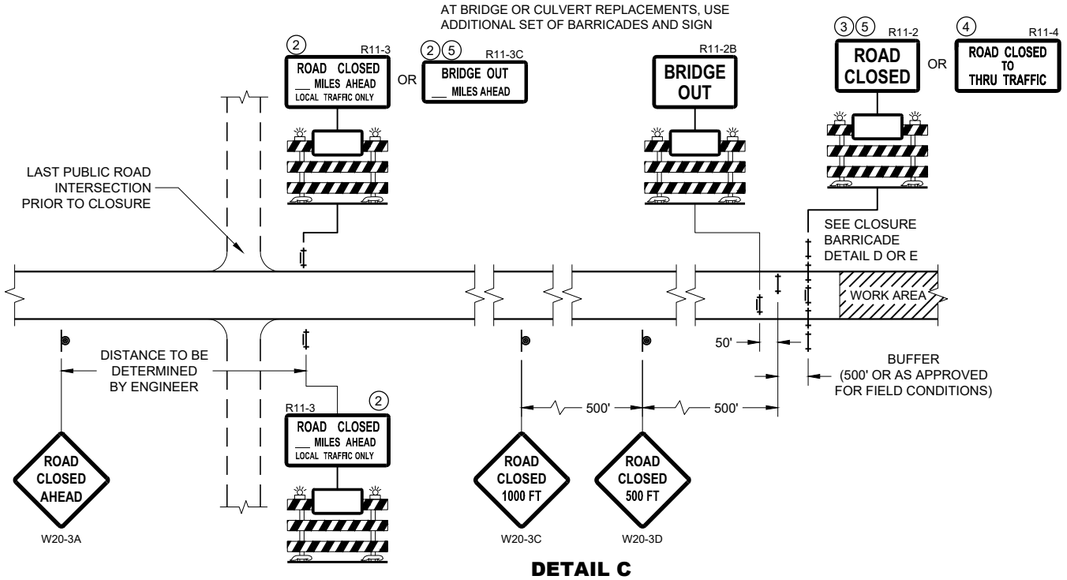
DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR

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



DETAIL B
MAINLINE CLOSURE WITH POSTED DETOUR

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



DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR

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

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

LEGEND

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

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

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

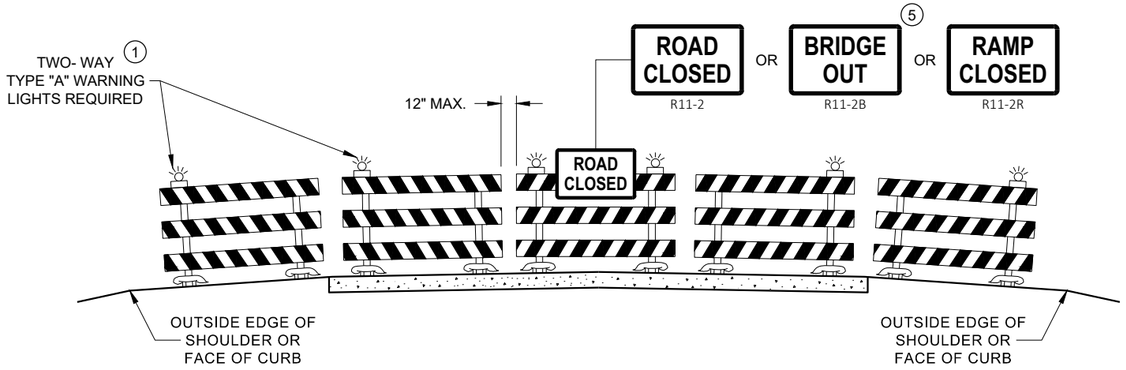
APPROVED
February 2020
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA

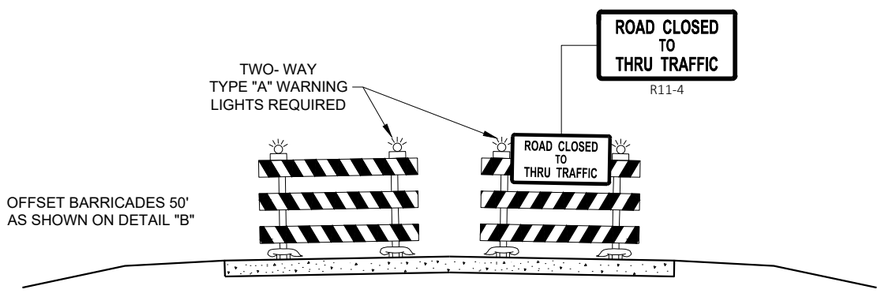
6

SDD 15C02 - 08a

SDD 15C02 - 08a



DETAIL D
ROAD CLOSURE BARRICADE DETAIL
APPROACH VIEW



DETAIL E
LANE CLOSURE BARRICADE DETAIL
APPROACH VIEW

SEE SDD 15C2 - SHEET "a" FOR LEGEND

GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

BARRICADES AND SIGNS FOR VARIOUS CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6

SDD 15C02 - 08b

6

SDD 15C02 - 08b

GENERAL NOTES

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

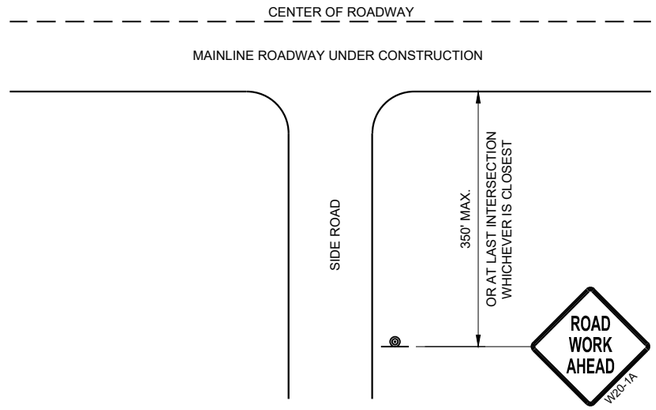
THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS, 36"X36" SIGNS MAY BE USED INSTEAD OF 48" X 48" SIGNS.

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

IF A "STOP" SIGN MUST BE REMOVED FOR A WORK OPERATION, A TEMPORARY "STOP" SIGN SHALL BE PLACED PRIOR TO THE SIGN REMOVAL, OR A FLAGGER SHALL BE PROVIDED UNTIL THE SIGN IS REESTABLISHED.

* THE THIRD W20-1 SIGN IS REQUIRED ONLY IF THERE IS AN INTERSECTION BETWEEN THE "ROAD WORK 500 FEET" SIGN AND THE WORK ZONE. ADJUST THE PLACEMENT OF THIS SIGN BASED ON INTERSECTION LOCATION AND OTHER FIELD CONDITIONS.



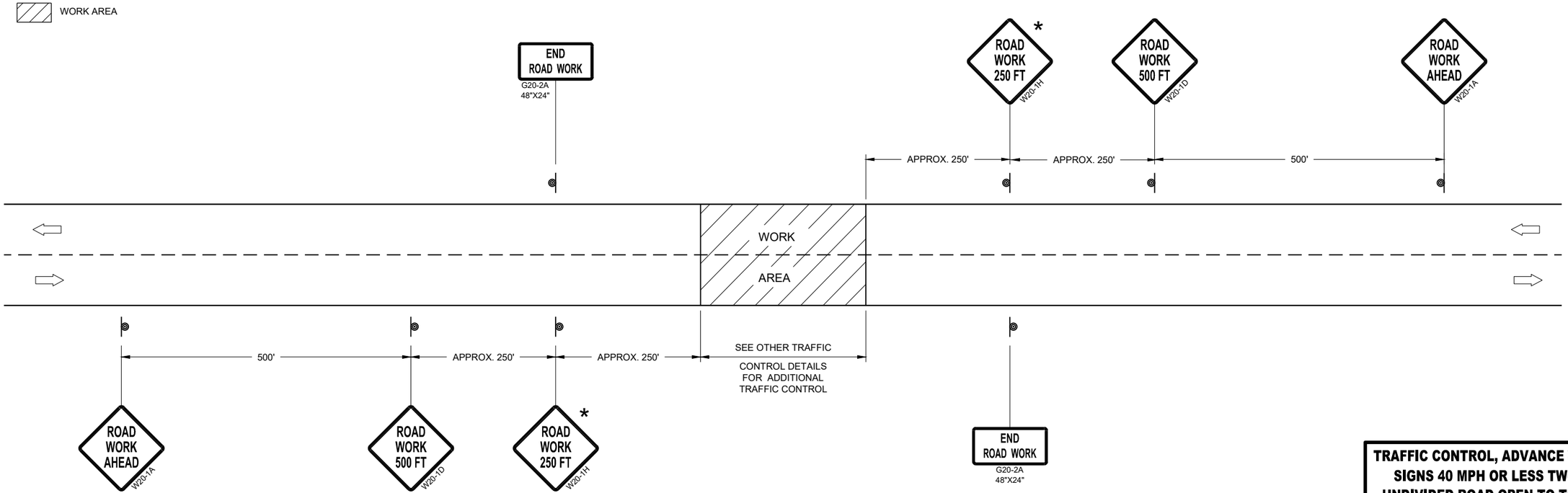
TYPICAL SIDE ROAD APPROACH WARNING SIGN DETAIL

LEGEND

SIGN ON PERMANENT SUPPORT

DIRECTION OF TRAFFIC

WORK AREA



TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40MPH OR LESS

TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 MPH OR LESS TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFICE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
July 2018
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

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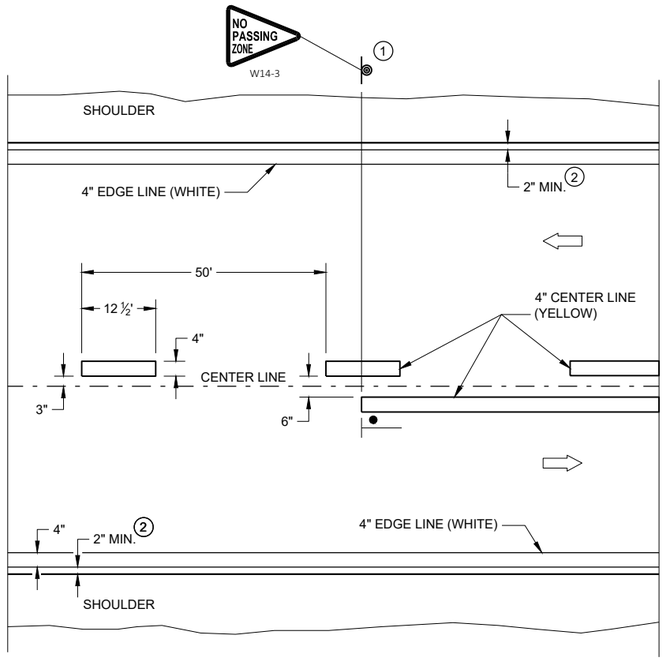
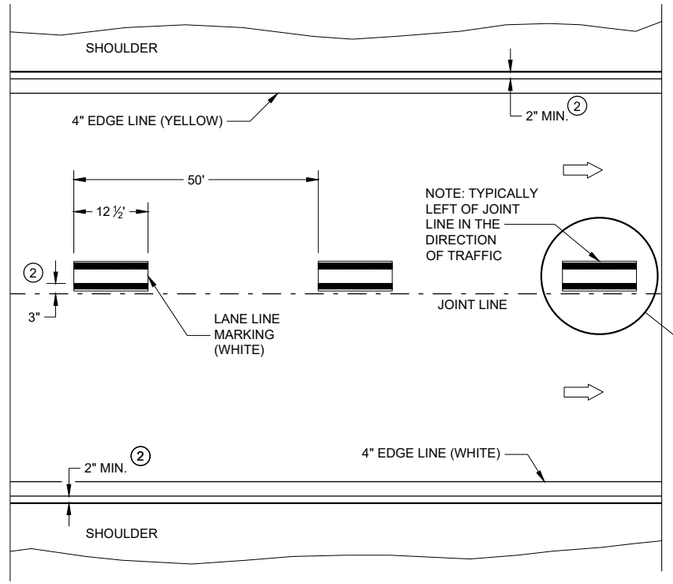
SDD 15C05 - 05

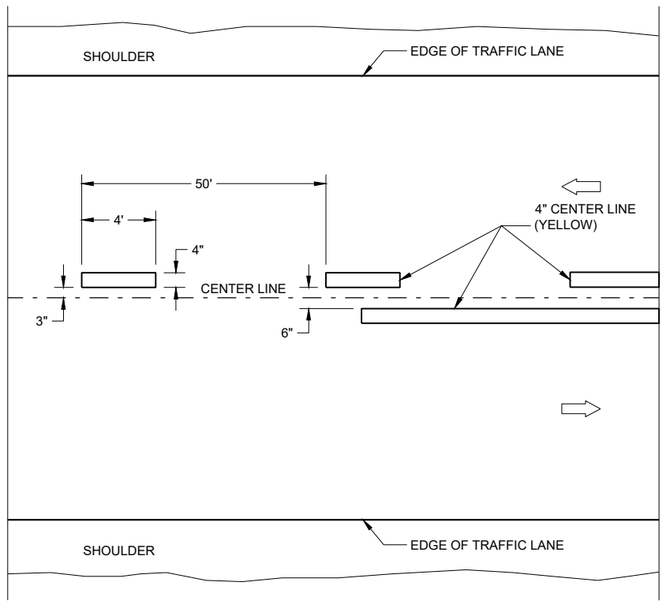


TWO WAY TRAFFIC

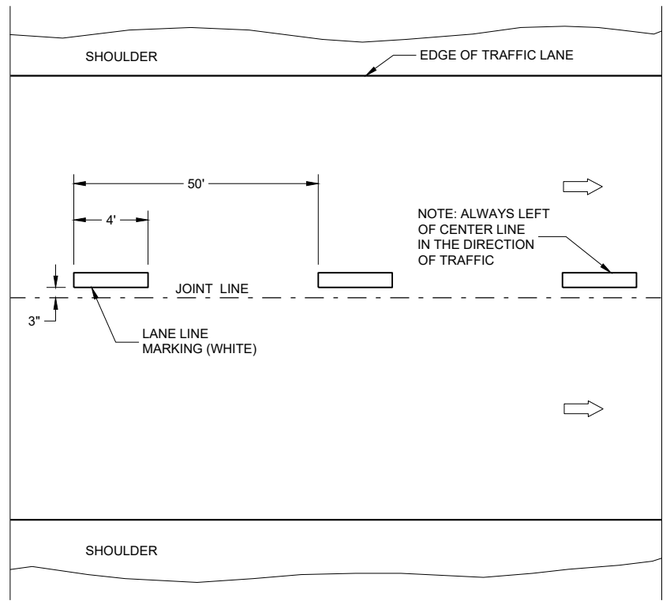


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY PAVEMENT MARKING

GENERAL NOTES

DETAILS OF CONSTRUCTION NO SHOWN ON THIS DRAWING SHALL CONFORM TO STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS.

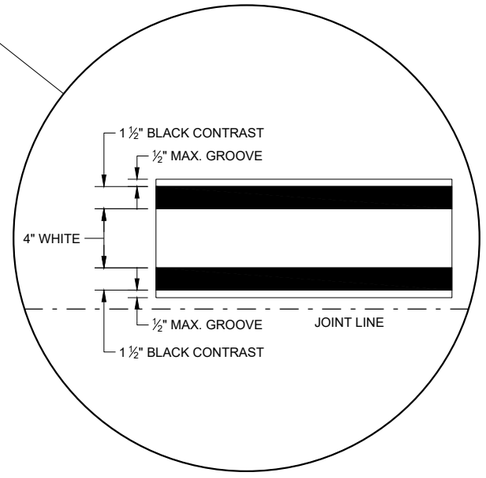
1. LOCATE THE NO PASSING ZONE W14-3 SIGN WITH 50 FEET OF THE "T" MARKING
2. MEASURE FROM EDGE OF MARKING TO JOINT LINE. THIS DOES NOT INCLUDE SPACE NEEDED FOR GROOVING OPERATIONS.

LEGEND

"T" MARKING

SIGN ON PERMANENT SUPPORT

DIRECTION OF TRAFFIC



LONGITUDINAL MARKING (MAINLINE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2020
DATE

/S/ Matthew Rauch
STATEWIDE SIGNING AND M
ENGINEER

FHWA

SDD 15C08 - 20a

SDD 15C08 - 20a

LEGEND

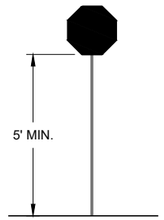
SIGN ON PORTABLE OR PERMANENT SUPPORT

TEMPORARY PORTABLE RUMBLE STRIP ARRAY

DIRECTION OF TRAFFIC

WORK AREA

FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF



STOP/SLOW PADDLE ON SUPPORT STAFF

GENERAL NOTES

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

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

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

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

THE FIRST ADVANCE WARNING SIGN SHOULD TYPICALLY BE LOCATED IN ADVANCE OF THE ANTICIPATED TRAFFIC BACKUP OR QUEUE.

WHEN A SIDE ROAD OR RAMP INTERSECTS THE FACILITY ON WHICH THE WORK IS BEING PERFORMED, ADDITIONAL TRAFFIC CONTROLS SHALL BE PROVIDED AS SPECIFIED IN THE PLANS AND/OR THE SPECIAL PROVISIONS OR AS APPROVED BY THE ENGINEER.

FLAGGING

FLAGGERS SHALL BE IN SIGHT OF EACH OTHER OR IN DIRECT COMMUNICATION AT ALL TIMES. THEY SHALL BE EQUIPPED WITH STOP/SLOW PADDLES FASTENED ON SUPPORT STAFFS. WHEN THE FLAGGING OPERATION IS NOT IN EFFECT REMOVE TEMPORARY PORTABLE RUMBLE STRIPS PRIOR TO COVERING OR REMOVING ALL ADVANCE SIGNING.

(1) FOR MOVING WORK OPERATIONS, POST ADDITIONAL W20-7A FLAGGER SIGNS AT APPROXIMATELY 3,500' INTERVALS IN THE MOVING WORK OPERATION OR AS APPROVED BY THE ENGINEER.

(2) SIGN NOT REQUIRED IF FLAGGING OPERATION OCCURS WITHIN A SIGNED ROAD WORK ZONE AREA.

WHEN THE DISTANCE BETWEEN FLAGGERS EXCEEDS 2 MILES, A PILOT CAR IS REQUIRED. WHEN CURVES REDUCE SIGHT DISTANCE BELOW 400', A PILOT CAR IS REQUIRED.

TEMPORARY PORTABLE RUMBLE STRIPS

UTILIZE TEMPORARY PORTABLE RUMBLE STRIPS ON ALL FLAGGING OPERATIONS.

(3) EACH TEMPORARY PORTABLE RUMBLE STRIP ARRAY CONSISTS OF THREE RUMBLE STRIPS SPACED ACCORDING TO MANUFACTURER'S RECOMMENDATION, PLACED TRANSVERSE ACROSS THE LANE AT LOCATIONS SHOWN.

ONLY USE TEMPORARY PORTABLE RUMBLE STRIPS FOR THE APPROVED PRODUCTS LIST.

INSTALL TEMPORARY RUMBLE STRIPS PER MANUFACTURER'S RECOMMENDATIONS.

PLACE ADVANCE SIGNING PRIOR TO INSTALLING TEMPORARY RUMBLE STRIPS.

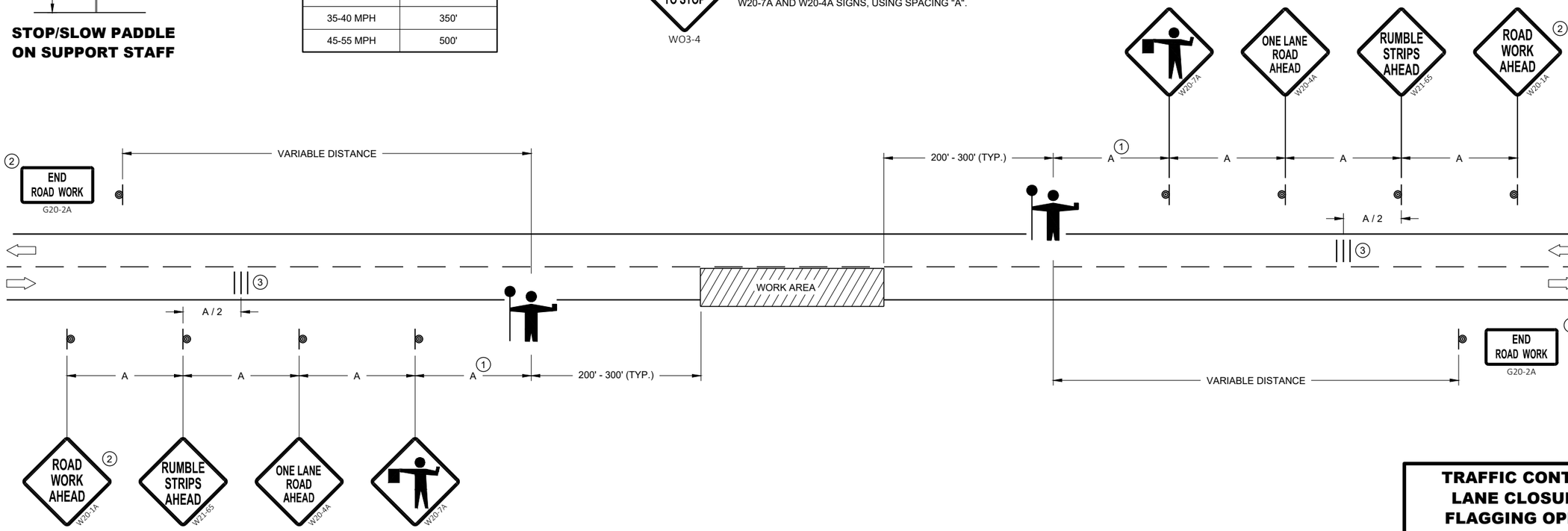
DO NOT INSTALL TEMPORARY PORTABLE RUMBLE STRIPS ON GRAVEL, MILLED SURFACES, OR ASPHALT THAT HAS BEEN PAVED LESS THAN 12 HOURS.

SIGN AND TEMPORARY RUMBLE STRIP ARRAY SPACING TABLE

SPEED LIMIT	SPACING "A"
25-30 MPH	200'
35-40 MPH	350'
45-55 MPH	500'

WO3-4

USE OF WO3-4 SIGN IS OPTIONAL. WHEN USED, THIS SIGN SHALL BE LOCATED BETWEEN THE W20-7A AND W20-4A SIGNS, USING SPACING "A".



TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION

TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2019
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

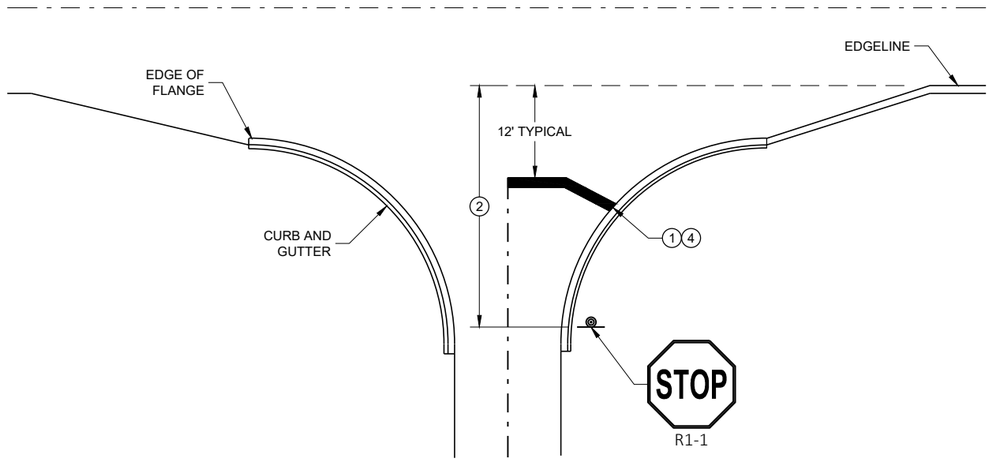
6

SDD 15C12 - 07

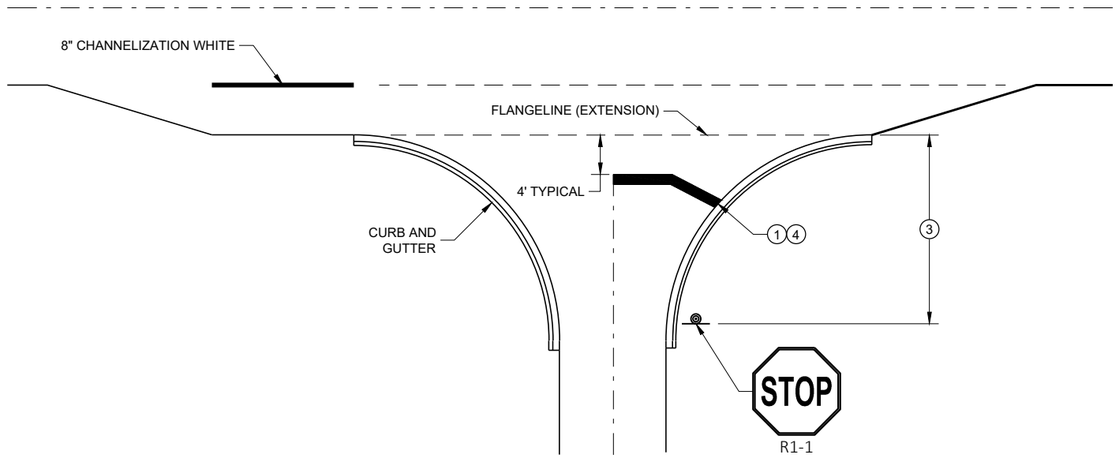
GENERAL NOTES

STOP SIGN SHALL BE PLACED A MINIMUM OF 6 FEET TO A MAXIMUM OF 50 FEET FROM THE EDGELINE LOCATION.

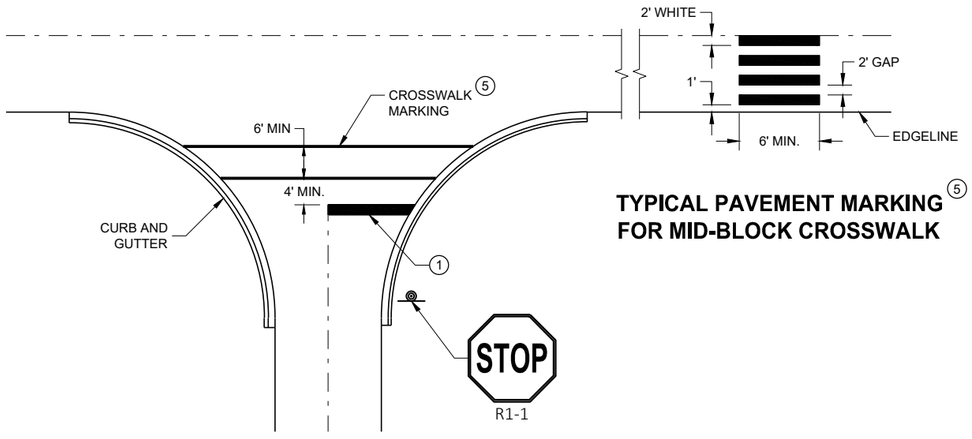
1. 18-INCH STOP LINES MAY BE DELETED OR ADDED BY THE REGION MARKING ENGINEER BASED ON VISIBILITY AND SIGHT LINES.
2. NO STOP LINE IS REQUIRED IF STOP SIGN IS LESS THAN OR EQUAL TO 40 FEET FROM THE EDGELINE.
3. NO STOP LINE IS REQUIRED IF STOP SIGN IS LESS THAN OR EQUAL TO 30 FEET FROM THE FLANGELINE EXTENSION.
4. MOVE CLOSER TO THE EDGE OF TRAVEL LINE AS NEEDED FOR VISIBILITY AND SIGHT LINES (NO CLOSER THAN 4 FEET).
5. LADDER BAR CROSSWALKS SHOULD ONLY BE USED FOR MID BLOCK CROSSINGS. USE 2 - 6" TRANSVERSE LINES INSTEAD.



TYPICAL STOP LINE PAVEMENT MARKING WITH CURB AND GUTTER

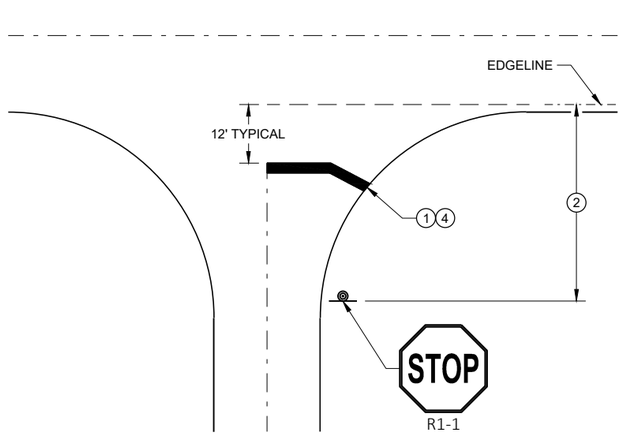


TYPICAL STOP LINE PAVEMENT MARKING FOR SIDEROADS WITH RIGHT TURN LANE



TYPICAL STOP LINE PAVEMENT MARKING FOR SIDEROADS WITH CROSSWALK MARKING

TYPICAL PAVEMENT MARKING 5 FOR MID-BLOCK CROSSWALK



TYPICAL STOP LINE PAVEMENT MARKING WITHOUT CURB AND GUTTER

STOP LINE AND CROSSWALK PAVEMENT MARKING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2019
DATE

/S/ Matthew Rauch
STATE SIGNING AND MAF ENGINEER

FHWA

6

SDD 15C33 - 04

6

SDD 15C33 - 04

LEGEND

SIGN ON PERMANENT SUPPORT

TRAFFIC CONTROL DRUM

DIRECTION OF TRAFFIC

WORK ZONE

GENERAL NOTES

ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS IN URBAN AREAS, 36" X 36" SIGNS MAY BE USED IF APPROVED BY THE REGIONAL TRAFFIC UNIT.

"WO" SIGN IS THE SAME AS "W" SIGN EXCEPT THE BACKGROUND IS ORANGE.

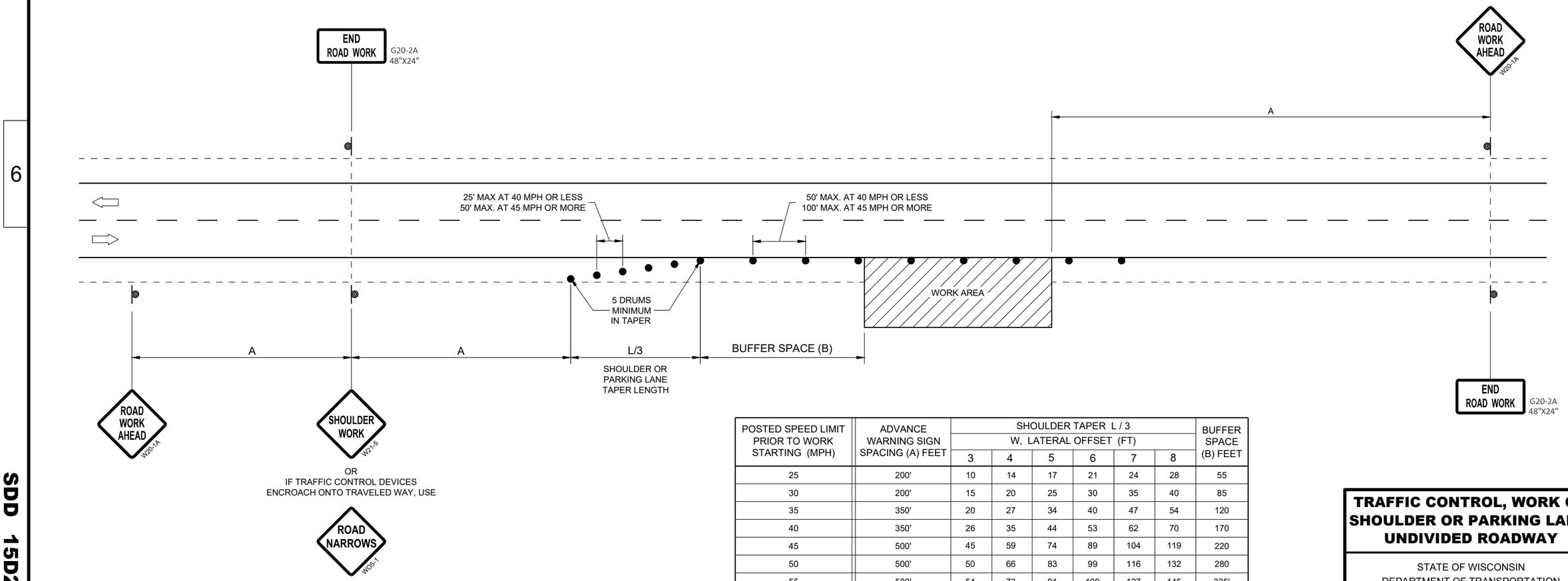
ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH THE TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

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

CHANNELIZING DEVICES PLACED ADJACENT TO WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

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

W20-1A AND G20-2A SIGNS ARE NOT REQUIRED IF THE WORK AREA IS WITHIN A LARGER WORK ZONE WHERE THESE SIGNS ARE ALREADY PRESENT. G20-2A SIGNS MAY ALSO BE OMITTED IF DURATION OF WORK IS LESS THAN 7 CONTINUOUS DAYS AND NIGHTS.



POSTED SPEED LIMIT PRIOR TO WORK STARTING (MPH)	ADVANCE WARNING SIGN SPACING (A) FEET	SHOULDER TAPER L / 3 W, LATERAL OFFSET (FT)						BUFFER SPACE (B) FEET
		3	4	5	6	7	8	
25	200'	10	14	17	21	24	28	55
30	200'	15	20	25	30	35	40	85
35	350'	20	27	34	40	47	54	120
40	350'	26	35	44	53	62	70	170
45	500'	45	59	74	89	104	119	220
50	500'	50	66	83	99	116	132	280
55	500'	54	73	91	109	127	145	335'

TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2020
DATE

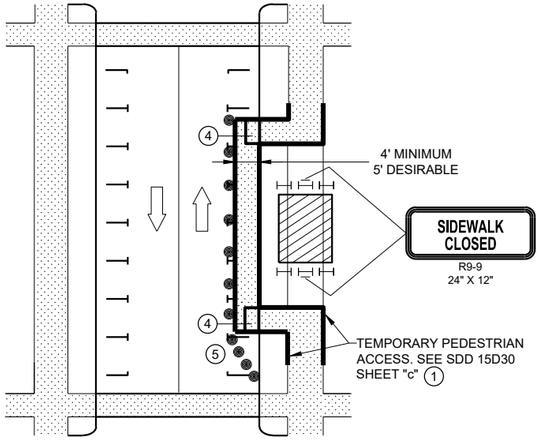
/S/ Andrew Heidtke
STATEWIDE WORK ZONE T SAFETY ENGINEER

FHWA

SDD 15D28 - 04

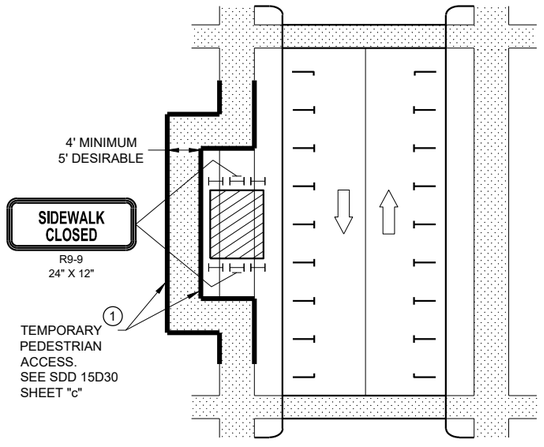
SDD 15D28 - 04

NOTE: MAY BE USED ON ROADWAY WITH POSTED SPEED OF LESS THAN 40 MPH.

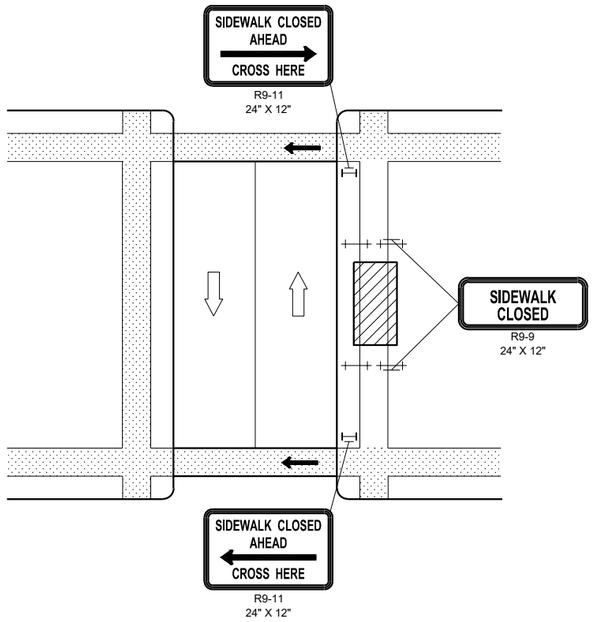


MID-BLOCK SIDEWALK CLOSURE IN PARKING LANE

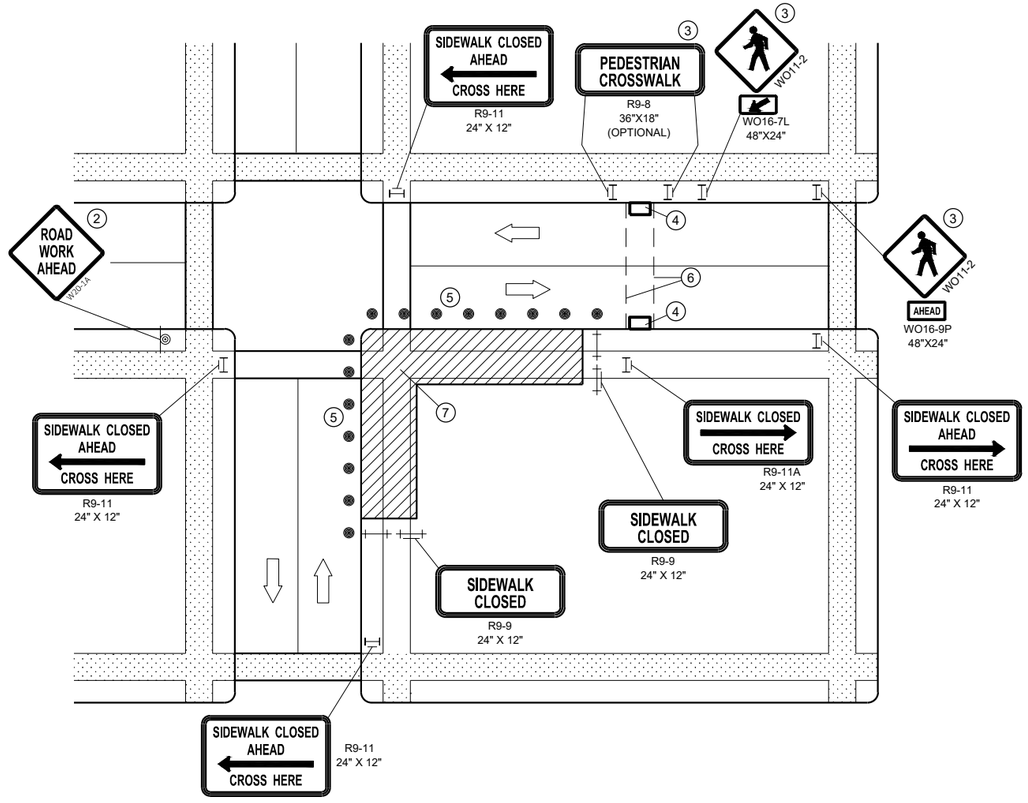
NOTE: LAYOUT SAME AS ABOVE.



SIDEWALK DIVERSION



MID-BLOCK SIDEWALK CLOSURE



CORNER SIDEWALK CLOSURE WITH TEMPORARY CROSSWALK

GENERAL NOTES

WHEN CLOSING OR RELOCATING CROSSWALKS OR SIDEWALKS, PROVIDE DETECABLE TEMPORARY FACILITIES AND INCLUDE ACCESSIBILITY FEATURES CONSISTENT WITH EXISTING PEDESTRIAN FACILITIES.

TEMPORARY TRAFFIC CONTROL DEVICES FOR PEDESTRIANS ARE SHOWN. OTHER DEVICES MAY BE NECESSARY TO CONTROL VEHICULAR TRAFFIC. STAGE WORK AS NECESSARY, TO PROVIDE A TEMPORARY PEDESTRIAN ACCESS ROUTE AT ALL TIMES. FOR ROADWAYS WITH NO AVAILABLE DETOURS, MAINTAIN ONE OPEN SIDEWALK AT ALL TIMES.

"WO" SIGN IS THE SAME AS "W" SIGN, EXCEPT THE BACKGROUND IS ORANGE.

FOR NIGHTIME CLOSURE, USE TYPE "A" FLASHING WARNING LIGHTS ON BARRICADES, SUPPORTING SIGNS AND CLOSING SIDEWALK. USE TYPE "C" STEADY BURN LIGHTS ON CHANNELIZING DEVICES SEPARATING THE WORK AREA FROM VEHICULAR TRAFFIC.

PEDESTRIAN TRAFFIC SIGNAL DISPLAY CONTROLLING CLOSED CROSSWALK SHALL BE COVERED OR DEACTIVATED.

POST MOUNTED SIGNS LOCATED ADJACENT TO A SIDEWALK SHALL HAVE A 7 FOOT MINIMUM CLEARANCE FROM THE BOTTOM OF THE SIGN TO THE SIDEWALK SURFACE.

ALTERNATE SIDEWALK WORK BETWEEK LEFT AND RIGHT SIDE OF ROADWAY TO MAINTAIN PEDESTRIAN ACCESS.

(1) IF SIDEWALK CLOSURE AFFECTS AN ACCESSIBLE AND DETECTABLE FACILITY, MAINTAIN ACCESSIBILITY AND DETECTABILITY ALONG THE ALTERNATE PEDESTRIAN ROUTE

(2) "ROAD WORK AHEAD" SIGNS ARE NOT REQUIRED IF THE SIDEWALK CLOSURE OCCURS WITHIN A LARGER WORK ZONE WHERE ADVANCE WARNING SIGNS ARE ALREADY PRESENT, OR IF THE WORK AREA AND EQUIPMENT ARE MORE THAN 2 FEET BEHIND THE CURB.

(3) IF TEMPORARY PEDESTRIAN CROSSWALK IS NOT PROVIDED, OMIT R9-8 AND WO11-2 SIGN ASSEMBLIES. IF PROVIDED INCLUDE ON BOTH SIDES OF THE CROSSWALK.

(4) TEMPORARY CURB RAMPS. SEE SDD 15D30 SHEET "b'.

(5) DRUMS OR BARRICADES AT 25 FOOT SPACING. STREET PARKING SHALL BE PROHIBITED FOR AT LEAST 50 FEET IN ADVANCE OF THE MID-BLOCK CROSSWALK.

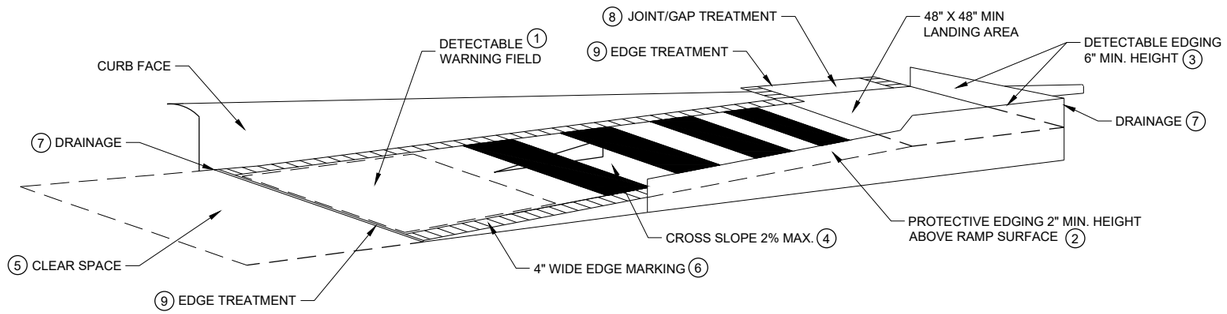
(6) TEMPORARY PAVEMENT MARKING FOR CROSSWALK LINES.

(7) LIMIT WORK TO ONE QUADRANT AT A TIME TO MINIMIZE PEDESTRIAN DISRUPTION.

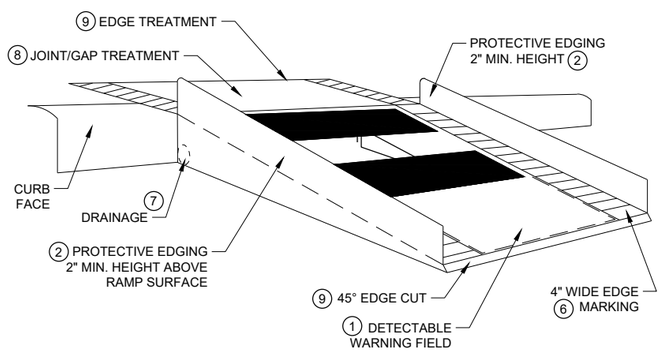
LEGEND

- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM
- TYPE II BARRICADE WITH/WITHOUT SIGN (ALL WITH ONE WARNING LIGHT, TYPE A, LOW INTENSITY FLASHING)
- TYPE III BARRICADE WITH/WITHOUT SIGN (ALL WITH ONE WARNING LIGHT, TYPE A, LOW INTENSITY FLASHING)
- UNDER PEDESTRIAN TRAFFIC
- WORK AREA
- PEDESTRIAN CHANNELIZATION DEVICE
- DIRECTION OF TRAFFIC

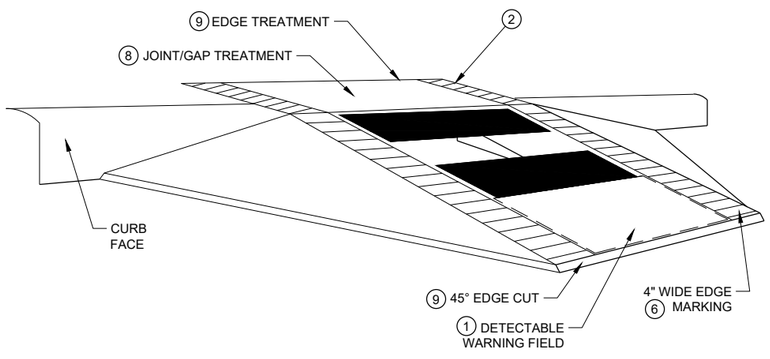
TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION



TEMPORARY CURB RAMP PARALLEL TO CURB



WITH PROTECTIVE EDGE



WITH SIDE APRON

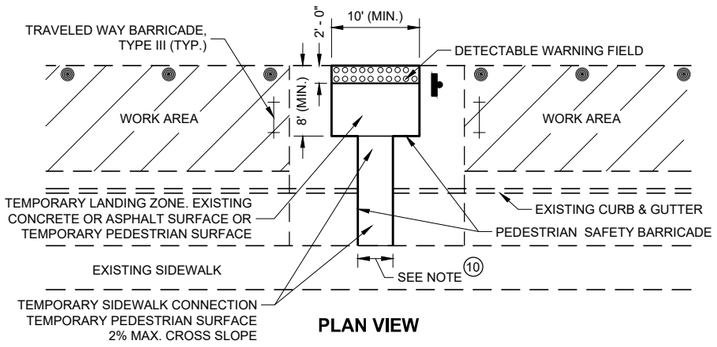
TEMPORARY CURB RAMP PERPENDICULAR TO CURB

GENERAL NOTES

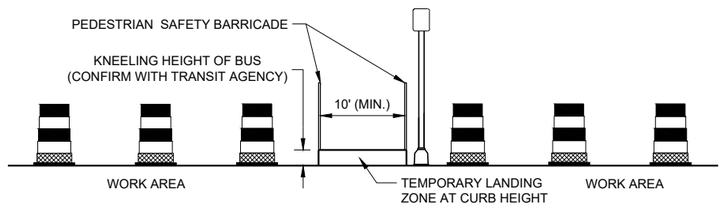
NOTIFY THE BUS COMPANY 7 DAYS IN ADVANCE OF THE BUS STOP RELOCATION.

ALTERNATE SIDEWALK WORK BETWEEN LEFT AND RIGHT SIDE OF ROADWAY TO MAINTAIN PEDESTRIAN ACCESS.

1. CURB RAMPS SHALL BE 48" MIN. WIDTH WITH A A FIRM, STABLE AND SLIP RESISTANT SURFACE. INSTALL CONTRASTING DETECTABLE WARNING FIELD AT PEDESTRIAN STREET CROSSINGS. REFER TO SDD 08D05, SHEET "e".
2. PROTECTIVE EDGING WITH A 2" MIN. HEIGHT SHALL BE INSTALLED WHEN A CURB RAMP OR LANDING PLATFORM HAS A VERTICAL DROP OF 6" OR GREATER OR HAS A SIDE APRON SLOPE STEEPER THAN 1:3 (33%). PROTECTIVE EDGING SHOULD BE CONSIDERED WHEN CURB RAMPS OR LANDING PLATFORMS HAVE A VERTICAL DROP OF 3" OR MORE.
3. DETECTABLE EDGING WITH 6" MIN. HEIGHT AND CONTRASTING COLOR SHALL BE INSTALLED ON ALL CURB RAMP LANDINGS WHERE THE WALKWAY CHANGES DIRECTION (TURNS).
4. CURB RAMPS AND LANDINGS SHALL HAVE A 1:50 (2%) MAX. CROSS-SLOPE.
5. CLEAR SPACE OF 48" X 48" SHALL BE PROVIDED ABOVE AND BELOW THE CURB RAMP.
6. THE CURB RAMP WALKWAY EDGE SHALL BE MARKED WITH A YELLOW COLOR, 4" WIDE MARKING, UNLESS A CONTRASTING DETECTABLE WARNING FIELD IS PROVIDED.
7. DO NOT RESTRICT WATER FLOW IN THE GUTTER SYSTEM.
8. LATERAL JOINTS OR GAPS BETWEEN SURFACES SHALL BE LESS THAN ½" WIDTH.
9. CHANGES BETWEEN SURFACE HEIGHTS SHALL NOT EXCEED ½". LATERAL EDGES SHALL BE VERTICAL UP TO ¼" HIGH AND BEVELED AT 1:2 BETWEEN ¼" AND ½".
10. 5" WIDE MIN. WITH PEDESTRIAN SAFETY BARRICADE, 10' WIDE MIN. WITHOUT PEDESTRIAN SAFETY BARRICADE.



PLAN VIEW



PROFILE VIEW

TEMPORARY BUS STOP PAD

LEGEND

- TRAFFIC CONTROL DRUM
- TYPE III BARRICADE
- WORK AREA

TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION

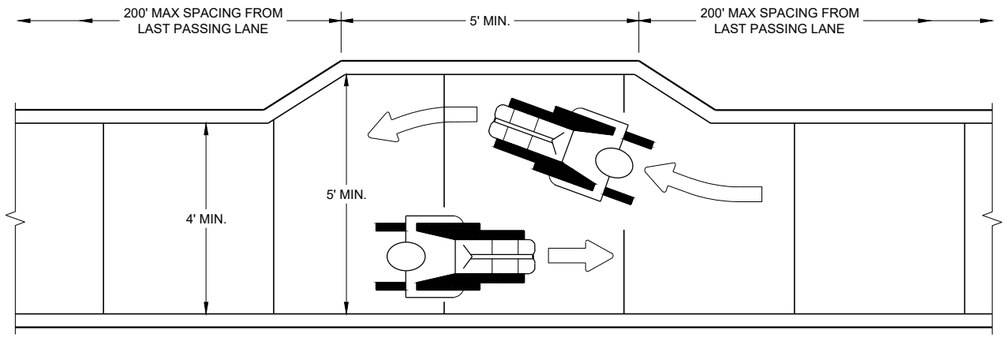
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTA

6

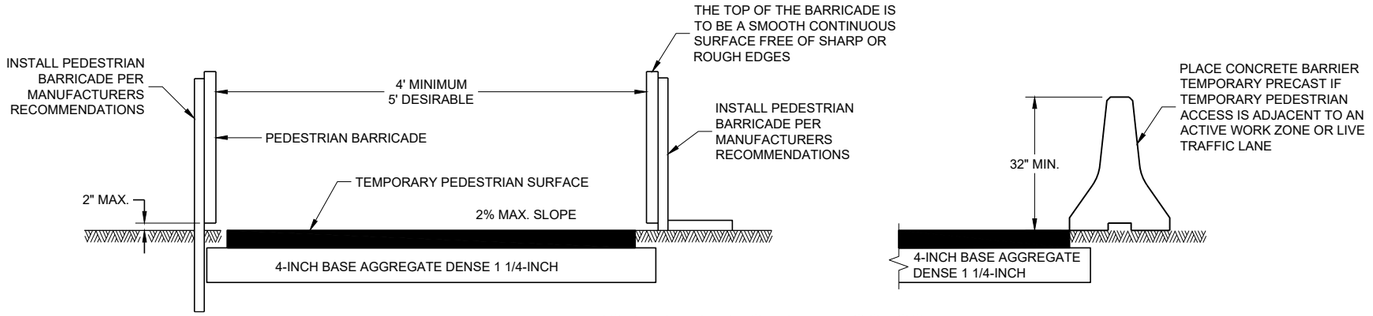
SDD 15D30 - 06b

6

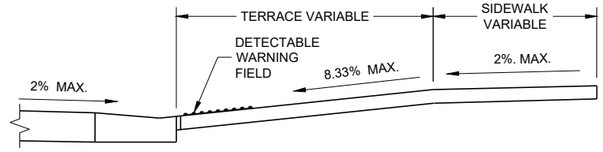
SDD 15D30 - 06b



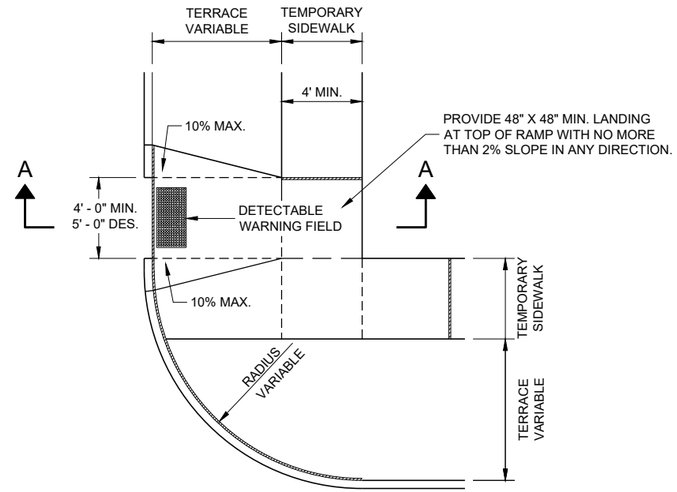
NARROW SIDEWALK PASSING DETAIL



TEMPORARY PEDESTRIAN ACCESS



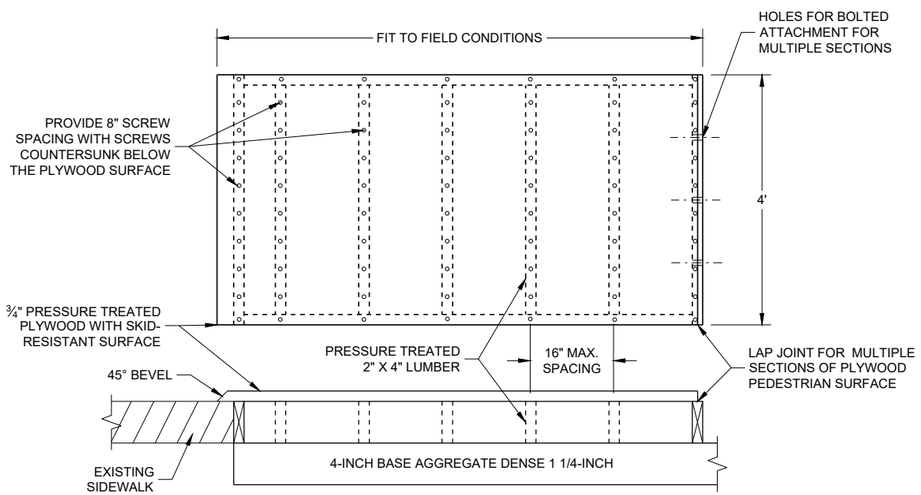
SECTION A - A



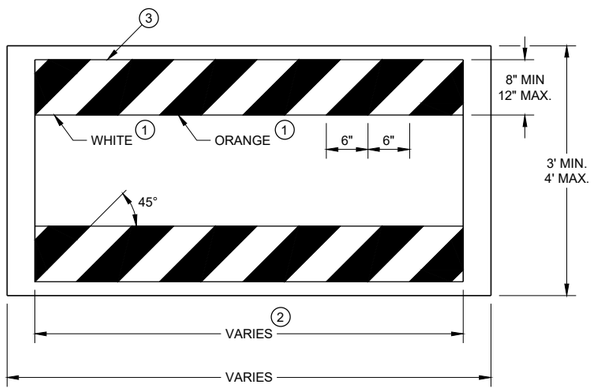
PLAN VIEW

TEMPORARY TYPE 3 RAMP

(OUTSIDE OF CROSSWALK AREA)



TEMPORARY PEDESTRIAN SURFACE PLYWOOD



TEMPORARY PEDESTRIAN BARRICADE *

GENERAL NOTES

BARRICADE DEVICE SELECTED FROM APPROVED PRODUCT LIST

(1) REFLECTIVE SHEETING SHALL FOLLOW THE REQUIREMENTS IN THE APPROVED PRODUCTS LISTING FOR SIGN SHEETING.

(2) SHEETING REQUIRED ON MORE THAN 50% OF BARRICADE WIDTH.

(3) PLACE SHEETING ON BOTH SIDES OF THE BARRICADE.

* USE THIS DETAIL FOR SHEETING PLACEMENT REFERENCE.

TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2019
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

SDD 15D30 - 06c

6

SDD 15D30 - 06c

S	BUFFER SPACE (DESIRABLE)
25	55'
30	85'
35	120'
40	170'
45	220'
50	280'
55	335'

S = NON-CONSTRUCTION SPEED LIMIT (MPH)

END ROAD WORK
G20-2A
48"x24"

NO PASSING ZONE
W14-3
48"x36"

BEGIN TEMPORARY PAVEMENT MARKING, 4-INCH SOLID YELLOW CENTERLINE ✳✳

1000' 500' 400' 500' 200' 50' 50' 25' TYP.

W01-6 48"x24" ✳✳✳

R11-2 48"x30" ROAD CLOSED

TYPE III BARRICADE

FOR BRIDGE OR CULVERT REPLACEMENTS SUBSTITUTE
BRIDGE OUT
R11-2B
48"x30"

ROAD CLOSURE OR BRIDGE/CULVERT REPLACEMENT

BUFFER SPACE (SEE TABLE)

WORK AREA

BUFFER SPACE (SEE TABLE)

TEMPORARY STEEL PLATE BEAM GUARD AND END TREATMENT WHEN INCLUDED IN THE CONTRACT. FOR LAYOUT, SEE DETAILS ELSEWHERE IN THE PLAN.

W05-52L 12"x36"

W05-52R 12"x36"

25' TYP.

OR

W01-3L
W01-4L
W01-3R
W01-4R
W013-1
XX M.P.H.
24"x24"

ROAD WORK 1000 FT
W20-1C

ROAD WORK AHEAD
W20-1A

50' 50' 400' 200' 500' 500' 1000'

END TEMPORARY PAVEMENT MARKING, 4-INCH SOLID YELLOW CENTERLINE ✳✳

BEGIN TEMPORARY PAVEMENT MARKING, 4-INCH WHITE EDGELINE

END TEMPORARY PAVEMENT MARKING, 4-INCH WHITE EDGELINE

TEMPORARY PAVEMENT MARKING, 4-INCH WHITE EDGELINES. (USE REMOVABLE TAPE WHERE TEMPORARY MARKING CROSSES PERMANENT PAVEMENT)

TEMPORARY PAVEMENT MARKING, 4-INCH DOUBLE YELLOW CENTERLINE AND 2-WAY YELLOW RAISED PAVEMENT MARKERS AT 25' SPACING. USE REMOVABLE TAPE WHERE TEMPORARY MARKING CROSSES PERMANENT PAVEMENT.

GENERAL NOTES

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

THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

"WO" IS THE SAME AS "W" EXCEPT THE BACKGROUND IS ORANGE.

SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE FHWA'S MANUAL OF STANDARD HIGHWAY SIGNS OR THE WISCONSIN STANDARD SIGN PLATES.

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

EQUIPMENT, VEHICLES, OR MATERIAL SHOULD NOT BE STORED IN BUFFER SPACE.

✳ IF ADVISORY SPEED IS GREATER THAN 30 MPH, USE THE W01-4 SIGN. IF ADVISORY SPEED IS 30 MPH OR LESS, USE THE W01-3 SIGN.

✳✳ WHEN THE DISTANCE TO/FROM THE NEXT CLOSEST NO-PASSING ZONE IS LESS THAN THE MINIMUM DISTANCE BETWEEN ZONES AS INDICATED IN THE SPECIFICATIONS, THE TWO ZONES SHALL BE CONNECTED.

✳✳✳ OMIT THESE W01-6 SIGNS IF THE ADVISORY SPEED OF THE CURVE IS GREATER THAN 30 MPH.

LEGEND

- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY-BURN LIGHT
- TRAFFIC CONTROL DRUM
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- Ⓐ TYPE "A" WARNING LIGHT (FLASHING)
- TEMPORARY DELINEATOR, (WHITE) (SINGLE DELINEATOR)
- TEMPORARY RAISED PAVEMENT MARKERS (TWO-WAY YELLOW)
- XXX REMOVE PAVEMENT MARKING
- DIRECTION OF TRAFFIC
- TEMPORARY STEEL PLATE BEAM GUARD AND END TREATMENT
- WORK AREA

TRAFFIC CONTROL, TEMPORARY BYPASS ROADWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept. 2015 — DATE
/S/ Peter Amakobe Atepe — STATEWIDE WORK ZONE SAFETY ENGINEER — FHWA

6

S.D.D. 15 D 31-3

LEGEND

TYPE III BARRICADE WITH ATTACHED SIGN

SIGN ON PERMANENT SUPPORT

TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT

TRAFFIC CONTROL DRUM

FLAGS, 16" X 16" MIN. (ORANGE)

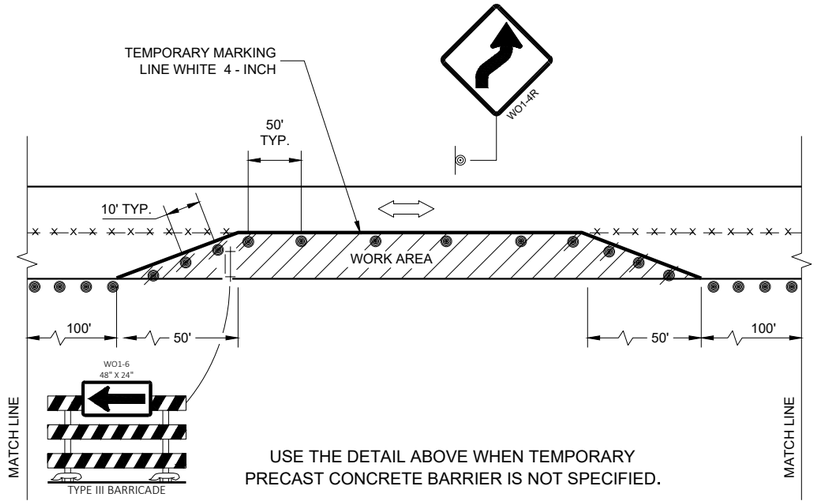
REMOVING PAVEMENT MARKING

DIRECTION OF TRAFFIC

ASPHALTIC PAVEMENT WIDENING

CONCRETE BARRIER TEMPORARY PRECAST

TEMPORARY SIGNAL. SEE SDD 09G02 FOR EXACT PLACEMENT



USE THE DETAIL ABOVE WHEN TEMPORARY PRECAST CONCRETE BARRIER IS NOT SPECIFIED.

GENERAL NOTES

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

THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE..

THIS LANE CLOSURE IS TYPICAL FOR CLOSING RIGHT LANE - REVERSE FOR CLOSING LEFT LANE.

ALL SIGNS ARE 48" x 48" UNLESS OTHERWISE NOTED.

"WO" IS THE SAME AS "W" EXCEPT THE BACKGROUND IS ORANGE.

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

PLACE TEMPORARY PAVEMENT MARKING EDGELINE AND CENTERLINE AND REMOVE EXISTING PAVEMENT MARKINGS IF LANE CLOSURE IS TO BE IN PLACE 4 OR MORE CONTINUOUS DAYS AND NIGHTS OR AS NOTED ON DETAIL.

(1) 500 FOOT SPACING SHOWN IS FOR ROADWAYS WITH A PRE-CONSTRUCTION REGULATORY SPEED LIMIT OF 45 MPH OR MORE. FOR 35 - 40 MPH, USE 350 FOOT TYPICAL SPACING. FOR 25 - 30 MPH, USE 200 FOOT TYPICAL SPACING.

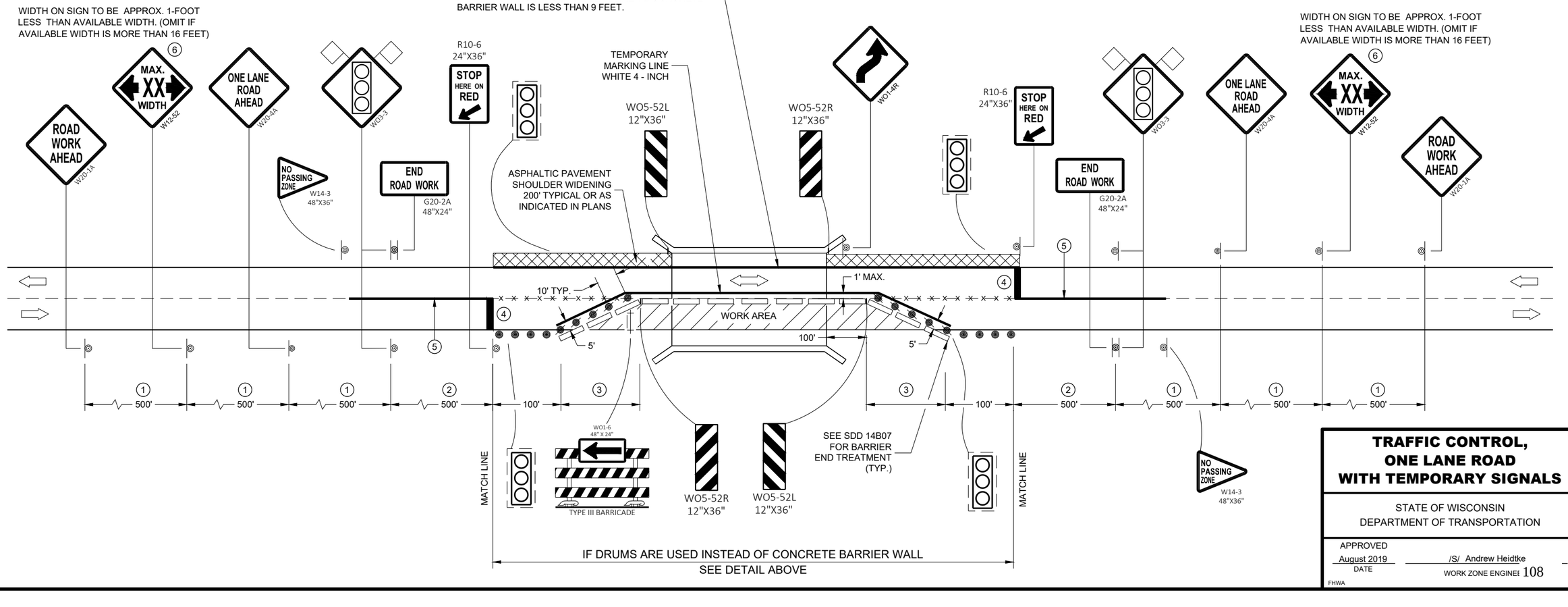
(2) USE 300 FOOT SPACING IF THE PRE - CONSTRUCTION REGULATORY SPEED IS 35 MPH OR LESS.

(3) DIMENSION DETERMINED BY CBTP TAPER FROM EDGE LINE TO TANGENT SECTION OF THE ROAD.

(4) TEMPORARY MARKING STOP LINE REMOVABLE TAPE 18 - INCH.

(5) 700 FOOT TEMPORARY MARKING LINE, DOUBLE YELLOW 4 - INCH . WHEN THE DISTANCE FOR THE PRECEDING NO - PASSING ZONE IS LESS THAN THE MINIMUM DISTANCE BETWEEN ZONES AS INDICATED IN THE SPECIFICATIONS, THE TWO ZONES SHALL BE CONNECTED.

(6) SEE SDD 15C02 - SHEET "F" FOR ADVANCED WIDTH RESTRICTION SIGNING.



TRAFFIC CONTROL, ONE LANE ROAD WITH TEMPORARY SIGNALS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

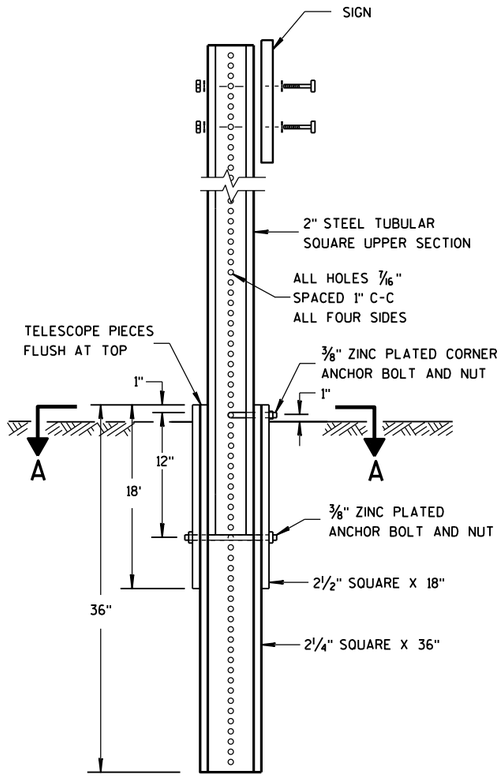
APPROVED
August 2019
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEER

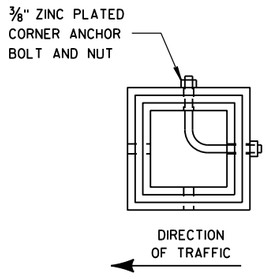
FHWA

SDD 15D33 - 06

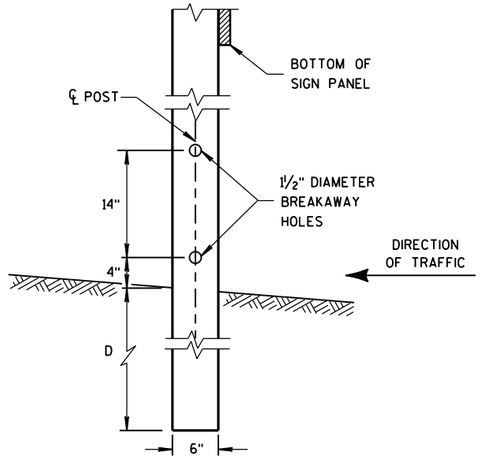
SDD 15D33 - 06



DETAIL OF TUBULAR STEEL SIGN POST



SECTION A-A



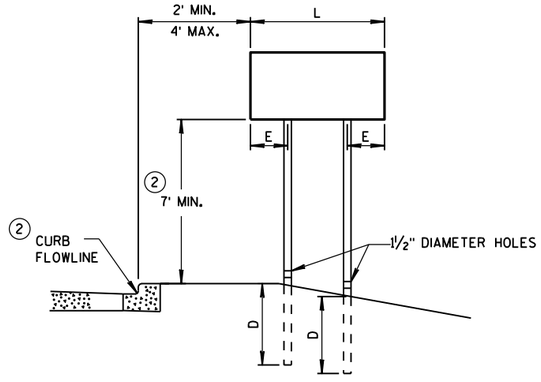
4"x6" WOOD POST MODIFICATION

GENERAL NOTES

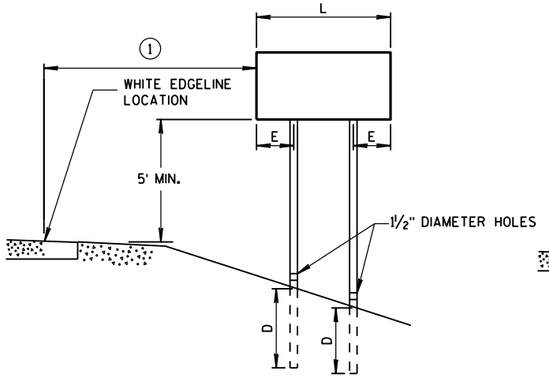
(1) 6 FEET FROM THE EDGE OF PAVEMENT (EDGE LINE LOCATION) UNLESS OTHERWISE DIRECTED BY THE PROJECT ENGINEER. LATERAL OFFSET SHOULD BE ADJUSTED TO AVOID THE DITCH FLOWLINE.

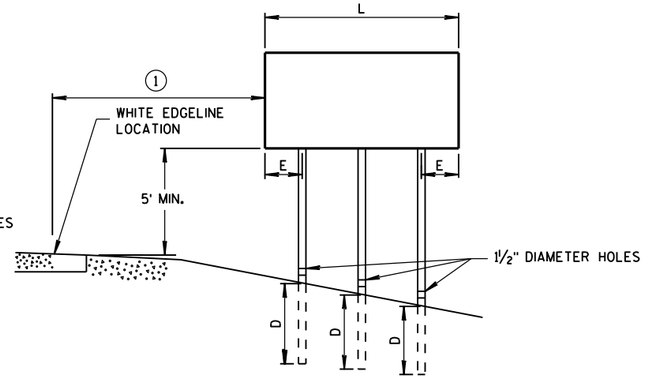
(2) THE EXISTENCE OF CURB AND GUTTER DOES NOT IN ITSELF MANDATE THE VERTICAL CLEARANCE ILLUSTRATED. THAT HEIGHT IS TYPICALLY MEASURED WHERE THERE IS SIDEWALK ADJACENT TO THE ROADWAY OR PARKING IS PERMITTED. IN THE ABSENCE OF SIDEWALK, VERTICAL CLEARANCE IS MEASURED FROM THE TOP OF THE CURB. IF NO SIDEWALK AND NO PARKING, VERTICAL CLEARANCE MAY BE REDUCED TO 5 FOOT MINIMUM. OFFSET OF SIGNS IS MEASURED FROM THE CURB FLOWLINE.

(3) FOR SIGNS REQUIRING 4 POSTS, SPACE INTERMEDIATE POSTS EVENLY.



URBAN AREA





RURAL AREA

POST MOUNTING DETAIL FOR TEMPORARY TRAFFIC CONTROL FIXED MESSAGE SIGNS

TUBULAR STEEL POSTS

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

SIGNS WIDER THAN 3 FEET OR LARGER THAN 9 SQ. FT. SHALL BE MOUNTED ON MULTIPLE POSTS (SEE ABOVE TABLE).

SIGNS LARGER THAN 27 SQ. FT. SHALL NOT BE MOUNTED ON TUBULAR STEEL POSTS.

WOOD POST EMBEDMENT DEPTH

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

4" X 6" WOOD POST

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

SEE NOTE (3)

TEMPORARY TRAFFIC CONTROL SIGN MOUNTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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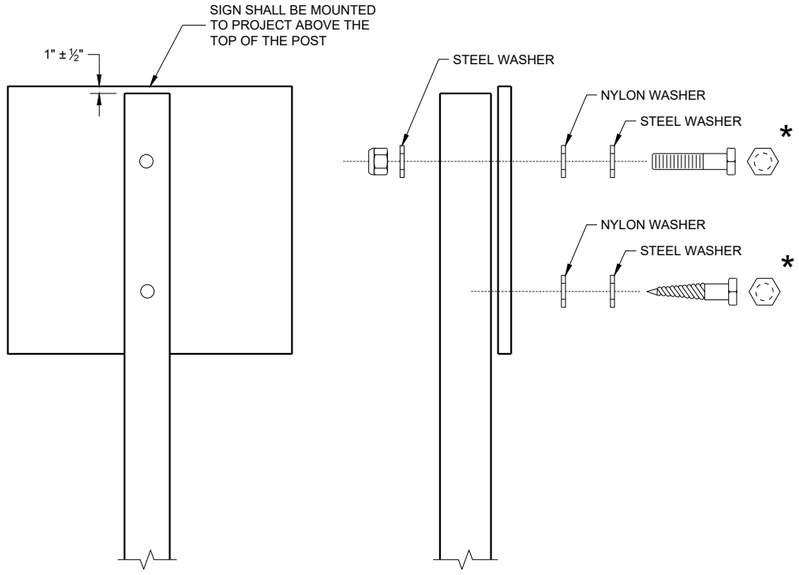
S.D.D. 15 D 38-2a



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

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

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

WOOD POST (4" x 6")
LAG SCREWS - ⅜" x 3"
MACHINE BOLTS - 5/16" x 6 ½" OR 7" LENGTH W/NUTS

SQUARE STEEL POST (2" x 2")
MACHINE BOLTS - ⅜" x 3 ¼" LENGTH W/NUTS
RIVETS - 9/32" (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL O.D. FLANGE 0.720 - 0.765 INCH, GRIP RANGE 0.042 - 0.375 INCH

WASHERS (ALL POSTS) -
1 ¼" O.D. x ⅜" I.D. x 1/16" STEEL
1 ¼" O.D. x ⅜" I.D. x 0.080 NYLON

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

6

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SDD 15D38 - 02b

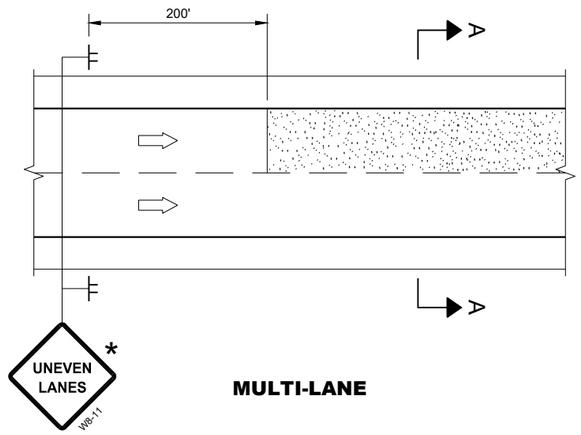
SDD15D38 - 02b

ATTACHMENT OF SIGNS TO POSTS

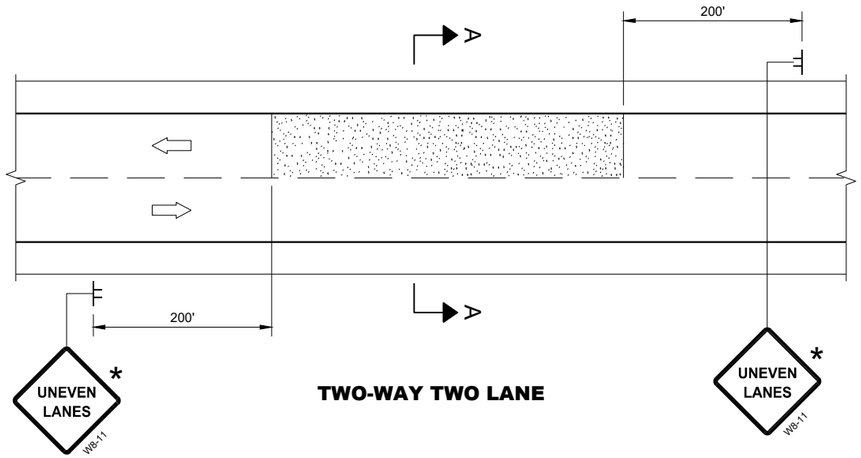
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2017
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA



MULTI-LANE



TWO-WAY TWO LANE

GENERAL NOTES

FOR SPOT LOCATIONS USE ENGINEERING JUDGEMENT WHEN PLACING ADDITIONAL SIGNS.

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

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

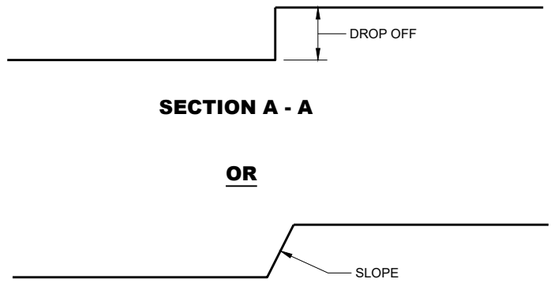
WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

* IF THE DROP-OFF IS CONTINUOUS ALONG THE PROJECT, PLACE ADDITIONAL SIGNS EVERY 1 MILE AND AFTER EVERY ENTRANCE RAMP.

(1) USE CLOSER SPACING WHEN DELINEATING DROP-OFF.

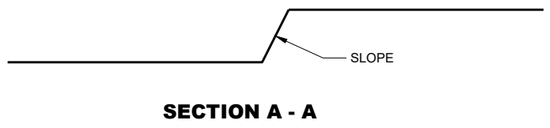
LEGEND

- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM
- TYPE III BARRICADE WITH ATTACHED SIGN
- TYPE "A" WARNING LIGHT (FLASHING)
- DIRECTION OF TRAFFIC
- WORK AREA WITH DROP-OFF
- MILLED SURFACE

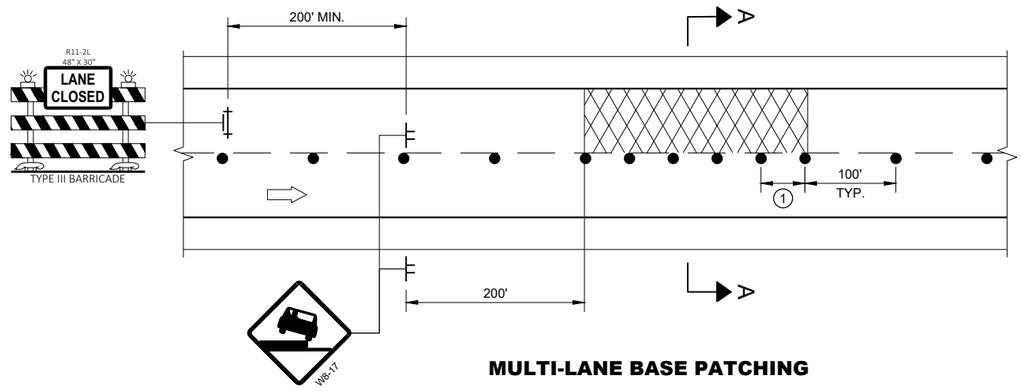


SECTION A - A

OR

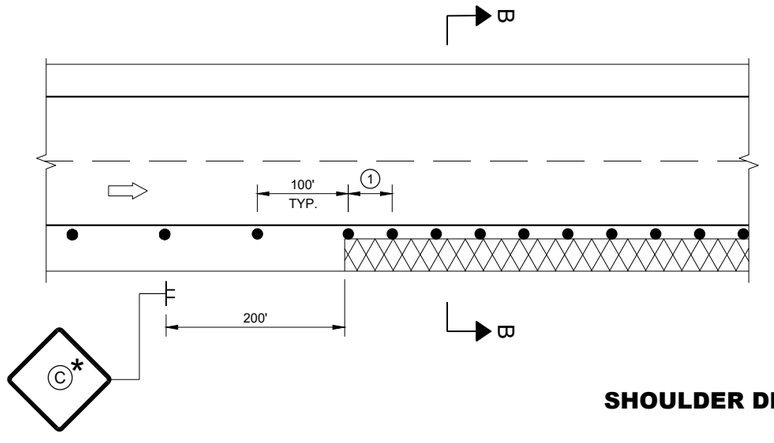


SECTION A - A

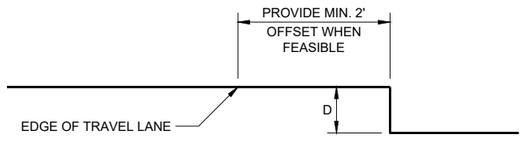


MULTI-LANE BASE PATCHING

ADJACENT LANE DROP-OFFS



SHOULDER DROP-OFFS



SECTION B - B

D	SIGN (C)
< 2" WITH A SLOPE STEEPER THAN 3:1	LOW SHOULDER WO8-9
2" < 6" WITH A SLOPE STEEPER THAN 3:1	SHOULDER DROP - OFF W8-9A PROVIDE A 3:1 OR FLATTER SLOPE OF MATERIAL ADJACENT TO THE PAVEMENT

TRAFFIC CONTROL, DROP-OFF SIGNING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
March 2018
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

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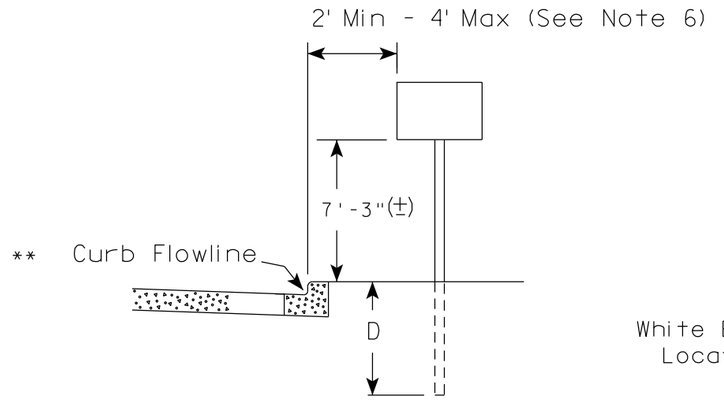
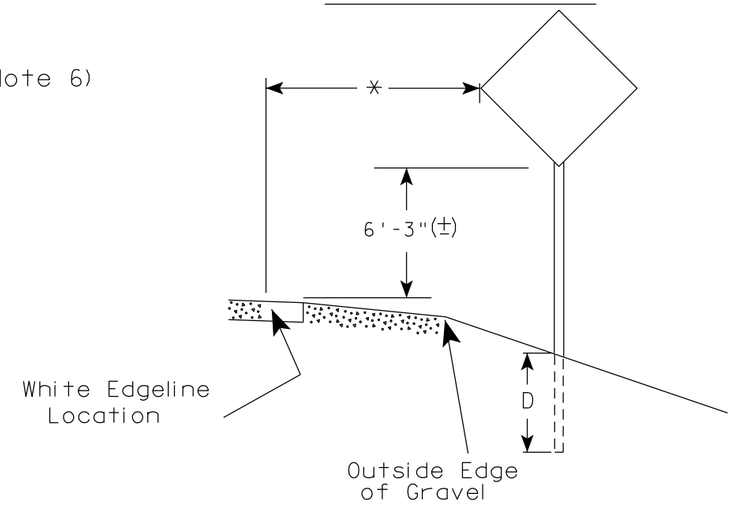
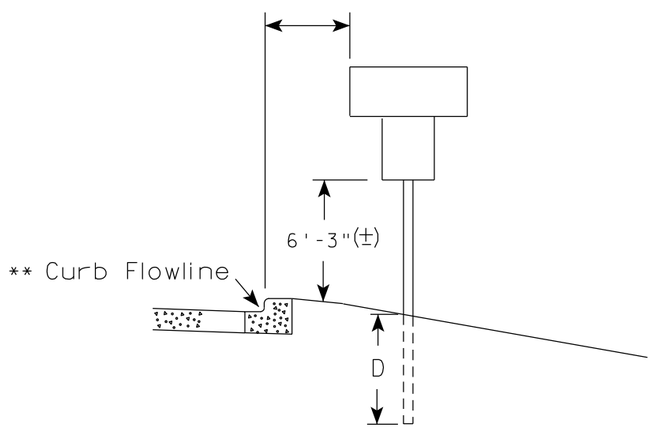
SDD 15D39 - 02

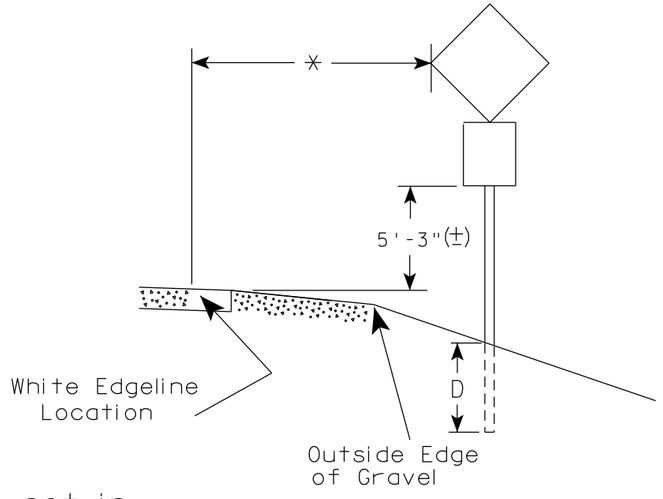
URBAN AREA



RURAL AREA (See Note 2)







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

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

POST EMBEDMENT DEPTH

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

GENERAL NOTES

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

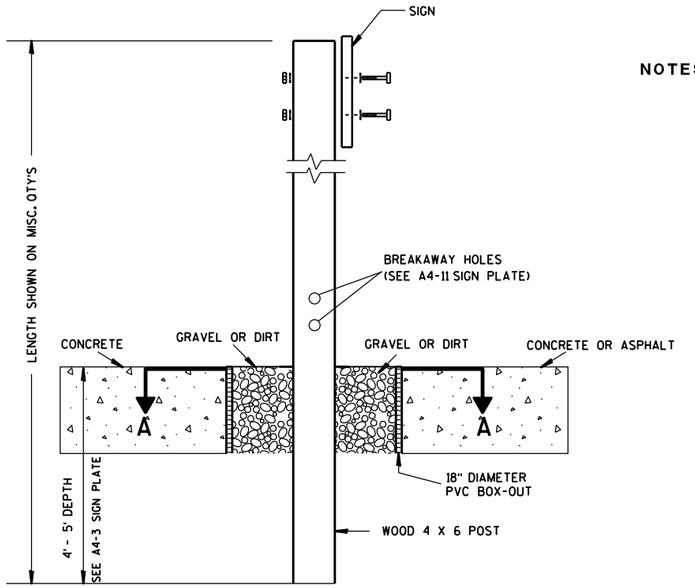
TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

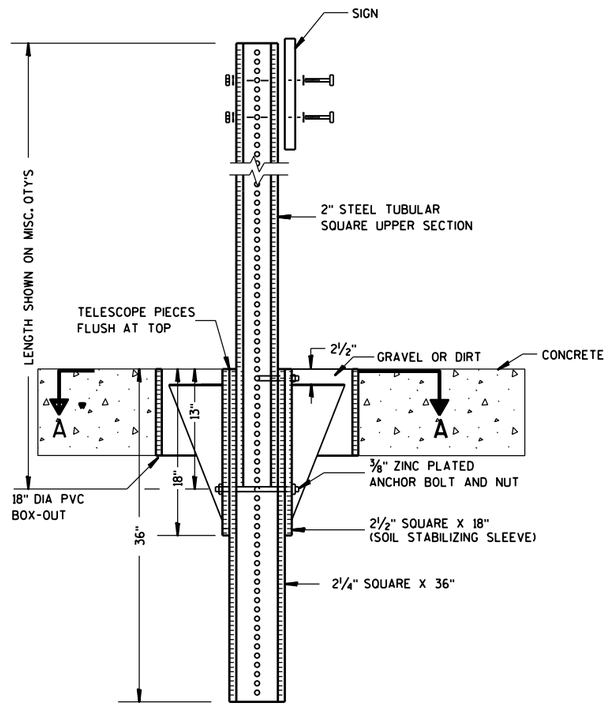
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 112	E



ELEVATION VIEW

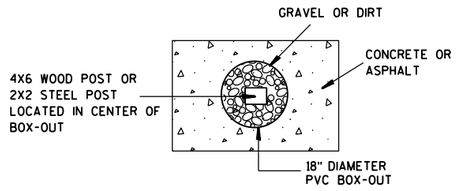
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

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



ELEVATION VIEW

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



PLAN VIEW

FOR NEW CONCRETE/ASPHALT INSTALLATIONS

SIGN POST BOX-OUTS A4-3B

WISCONSIN DEPT OF TRANSPORTATION

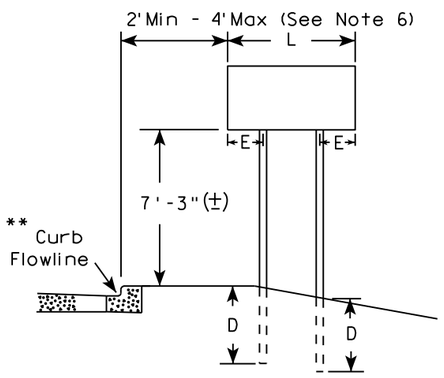
APPROVED Matthew R Rauch
for State Traffic Engineer

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

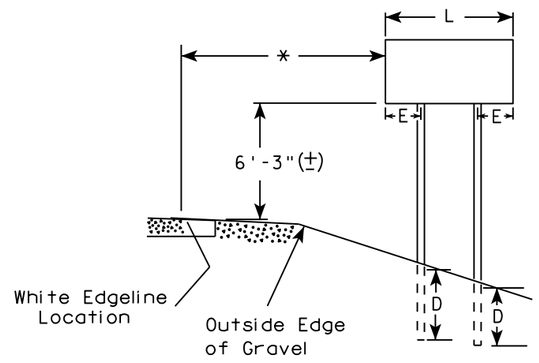
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

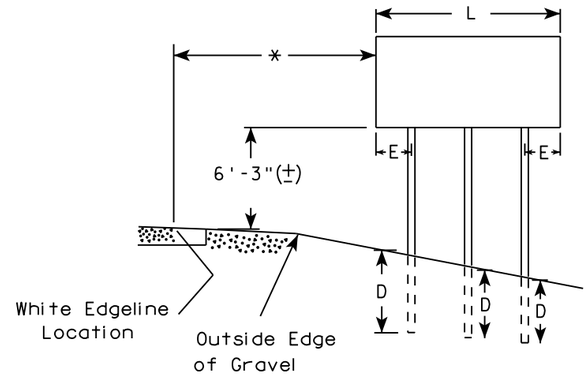
FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A43B.DGN PLOT DATE : 27-JAN-2014 09:48 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 13.659812:1.000000 WISDOT/CADDS SHEET 42

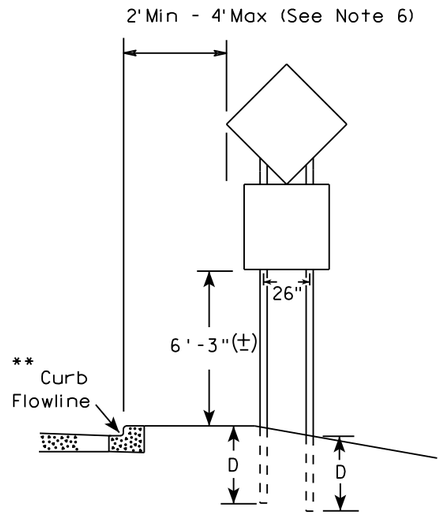
URBAN AREA



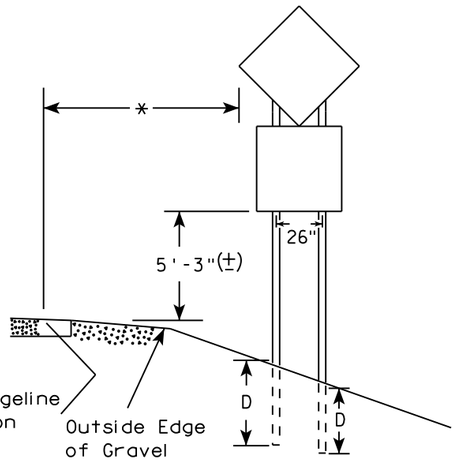
RURAL AREA (See Note 3)







48" DIAMOND WARNING SIGN



48" DIAMOND WARNING SIGN

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

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

GENERAL NOTES

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

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

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

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

POST EMBEDMENT DEPTH

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

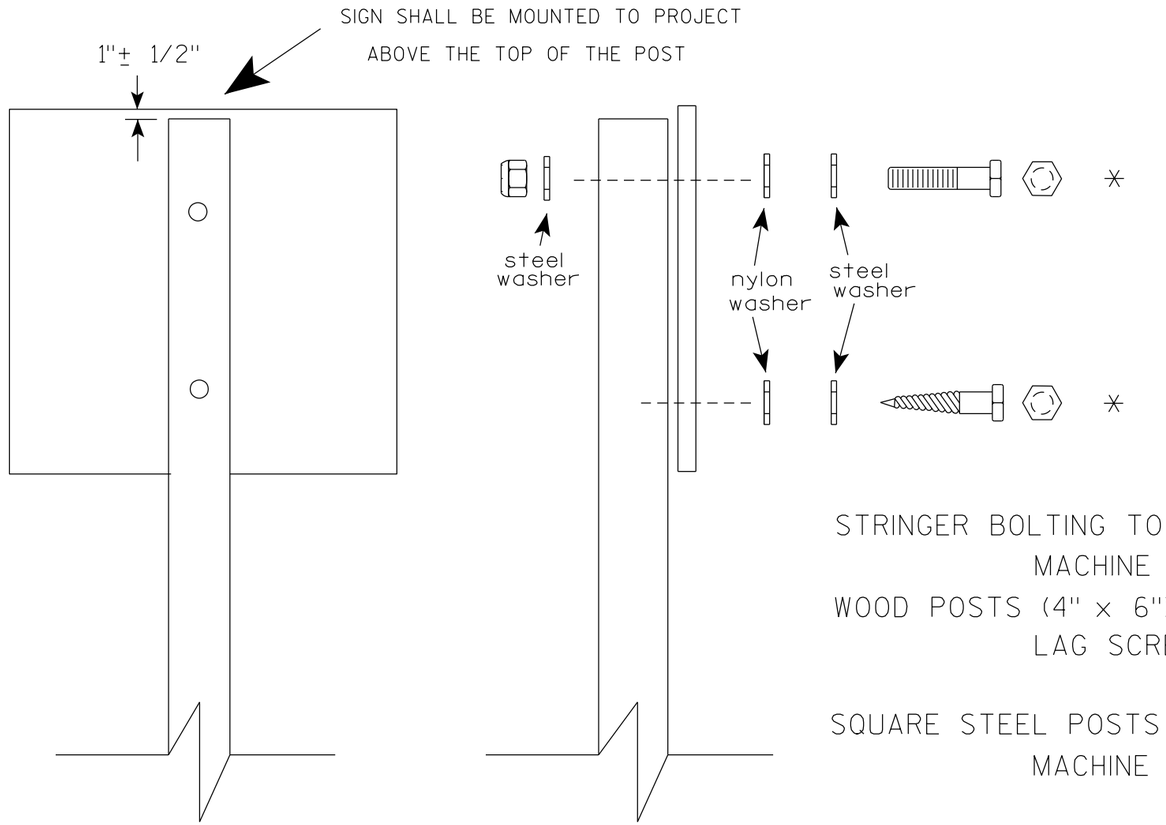
TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 114	E



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

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

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

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

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

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

WOOD POSTS (4" x 6")

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

SQUARE STEEL POSTS (2" x 2")

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

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

WASHERS (ALL POSTS) -

1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON

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

ATTACHMENT OF SIGNS TO POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

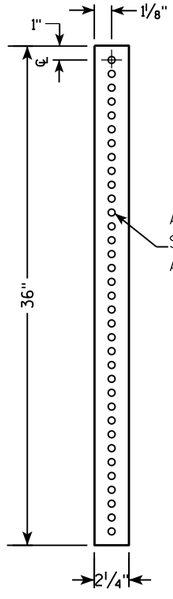
DATE 4/1/2020 PLATE NO. A4-8.9

PROJECT NO:

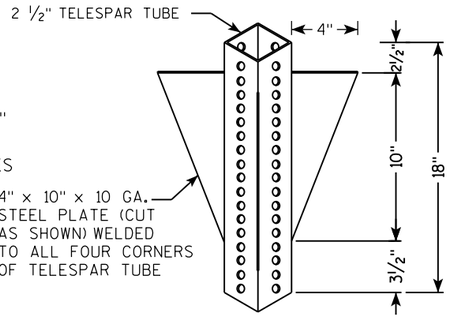
SHEET NO: 115 E

TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM

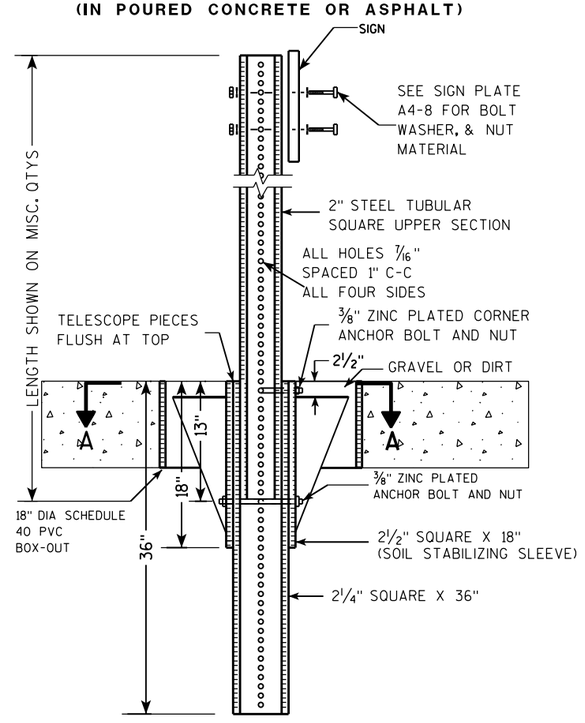
2 ¼ " SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH



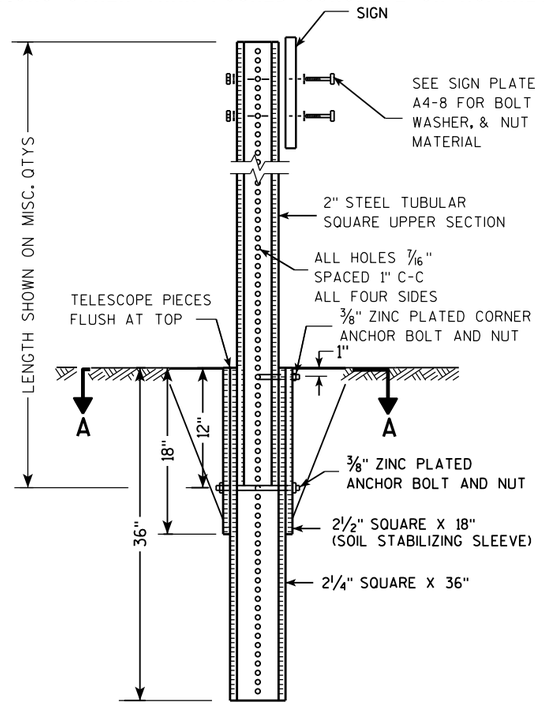
2 ½ " SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH

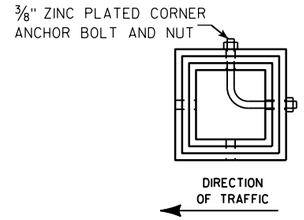


DETAIL OF TUBULAR STEEL SIGN POST
(IN POURED CONCRETE OR ASPHALT)



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





SECTION A-A

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

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

TUBULAR STEEL
SIGN POST
A4-9

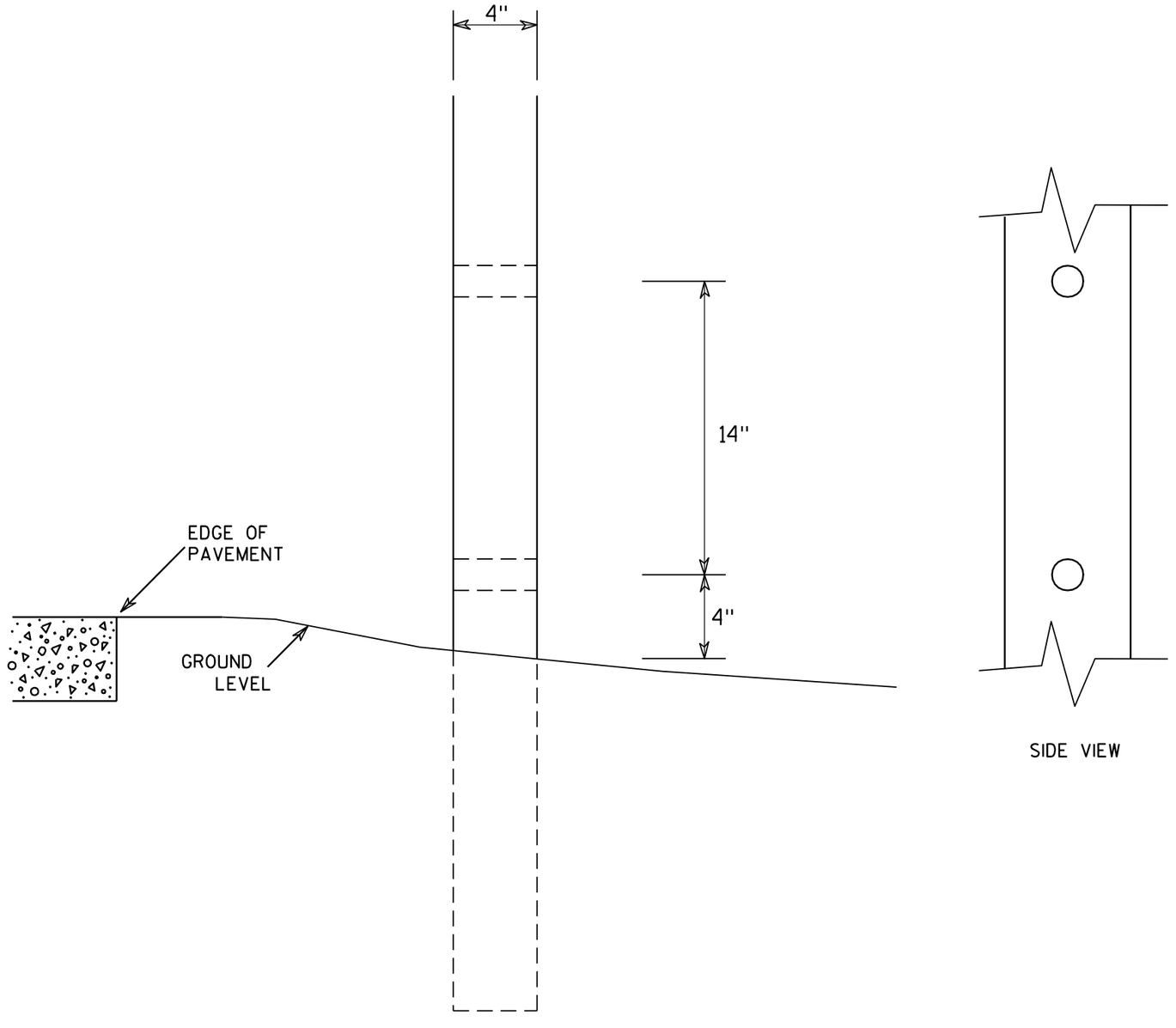
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/05/15 PLATE A4-9.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

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



SIDE VIEW

GENERAL NOTES

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

4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

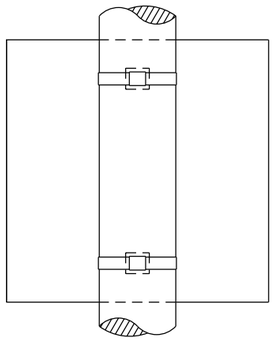
APPROVED Chester J Spang for State Traffic Engineer

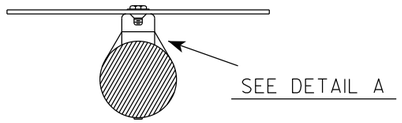
DATE 3/27/97 PLATE NO. A4-11.2

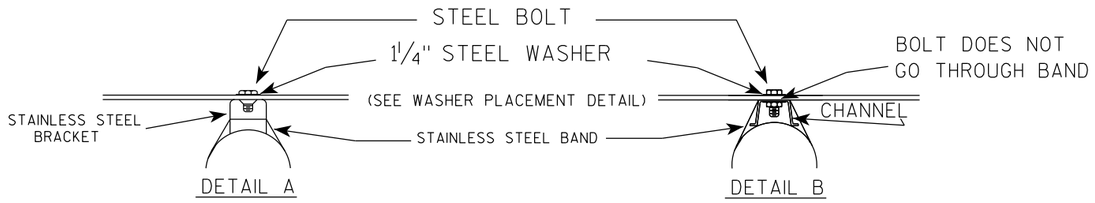
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 117	E

BANDING

SINGLE SIGN



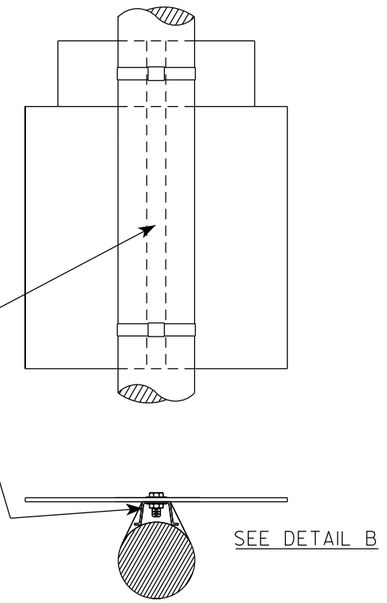




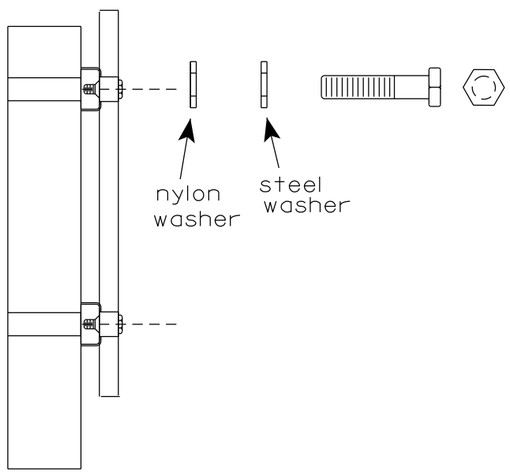
GENERAL NOTES

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

"J" ASSEMBLY



WASHER PLACEMENT



WASHERS (ALL POSTS) -
1-1/4" O.D. X ⅜" I.D. X 1/16" STEEL
1-1/4" O.D. X ⅜" I.D. X .080 NYLON
FOR ALL TYPE H SIGNS

STANDARD SIGN
SIGN BANDING DETAILS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

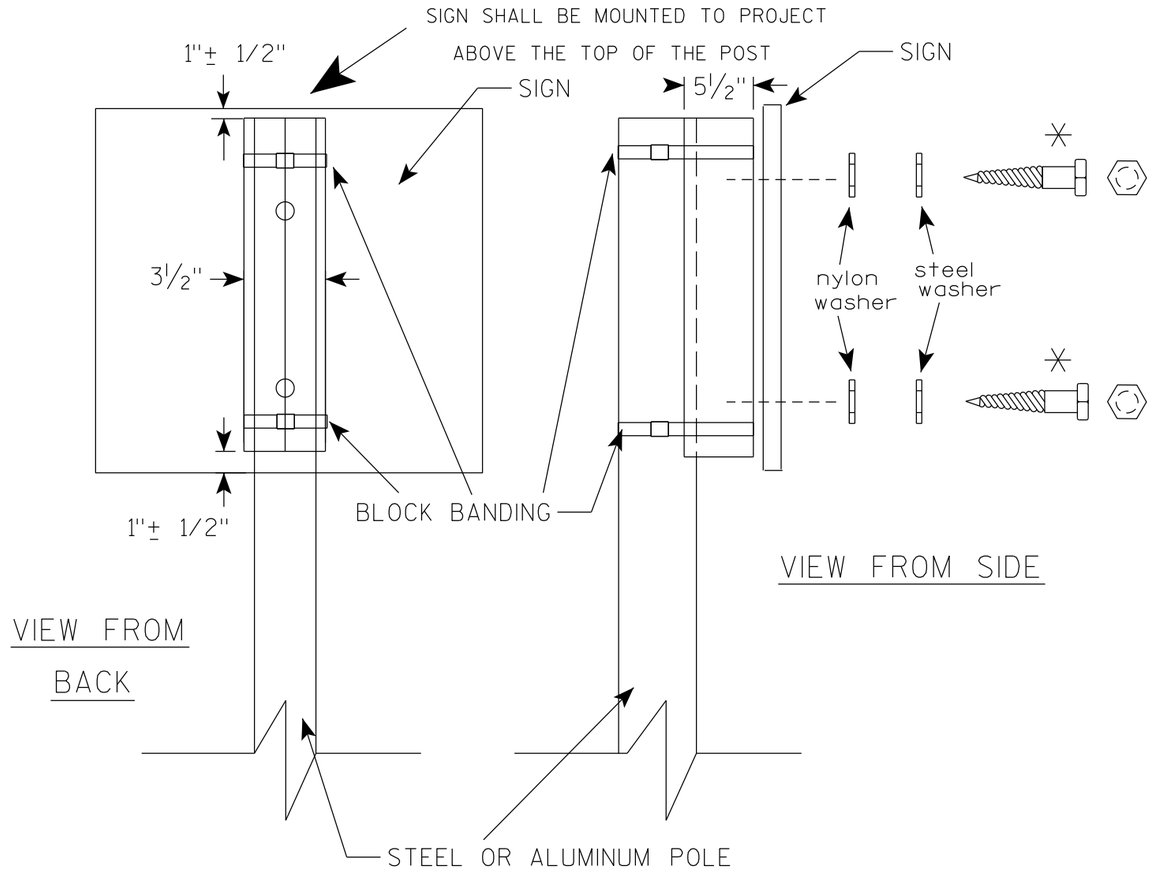
DATE 6/10/19 PLATE NO. A5-9.4

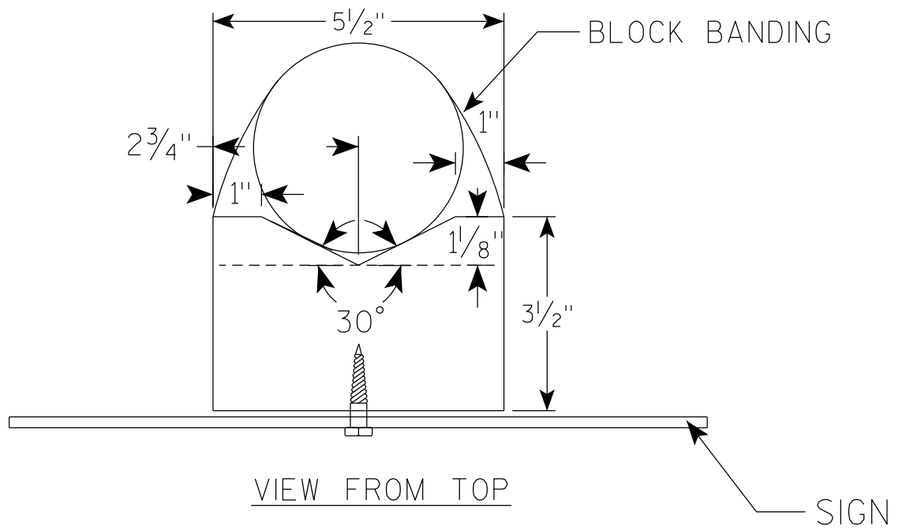
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 118	E

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

7

7





GENERAL NOTES

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

✳ LAG BOLTS SHALL BE ⅜" X 2½"

BLOCK BANDING DETAIL (V-BLOCK OPTION)

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

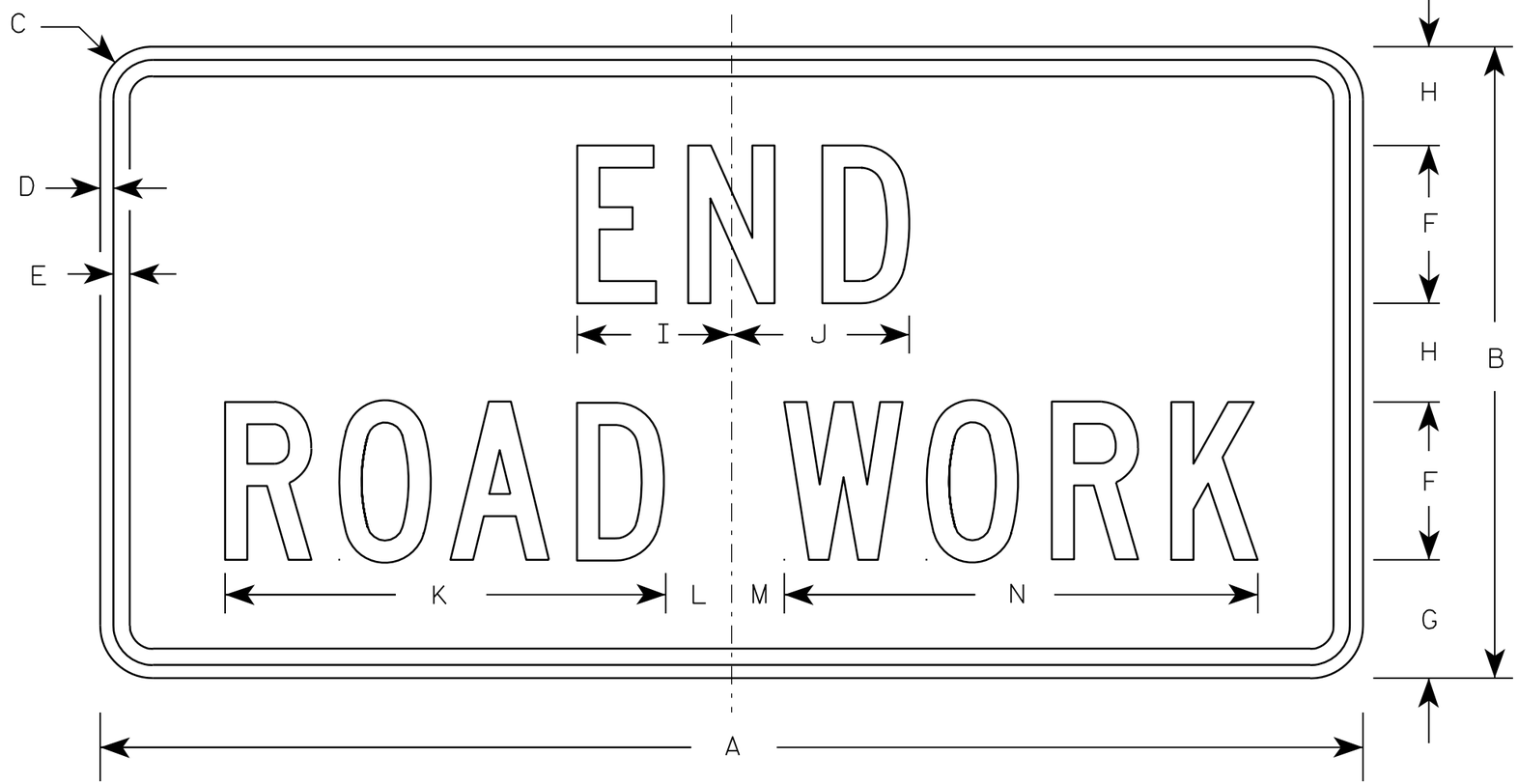
DATE 6/10/19 PLATE NO. A5-10.2

PROJECT NO: | SHEET NO: 119 | E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\A510.dgn PLOT DATE : 10-JUN 2019 4:15 PLOT BY : mscj9h

WISDOT/CADDS SHEET 42

7 7



G20-2A

NOTES

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

Metric equivalent for this sign is:

SIZE	
1	900 mm X 450 mm
2	1200 mm X 600 mm
3	1200 mm X 600 mm
4	1200 mm X 600 mm
5	1200 mm X 600 mm

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.	Area m2
1	36	18	1 1/8	3/8	1/2	4	3 3/4	2 1/2	4 1/8	4 1/8	11 1/8	2	1	12 1/8													4.5	0.41
2	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
3	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
4	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
5	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72

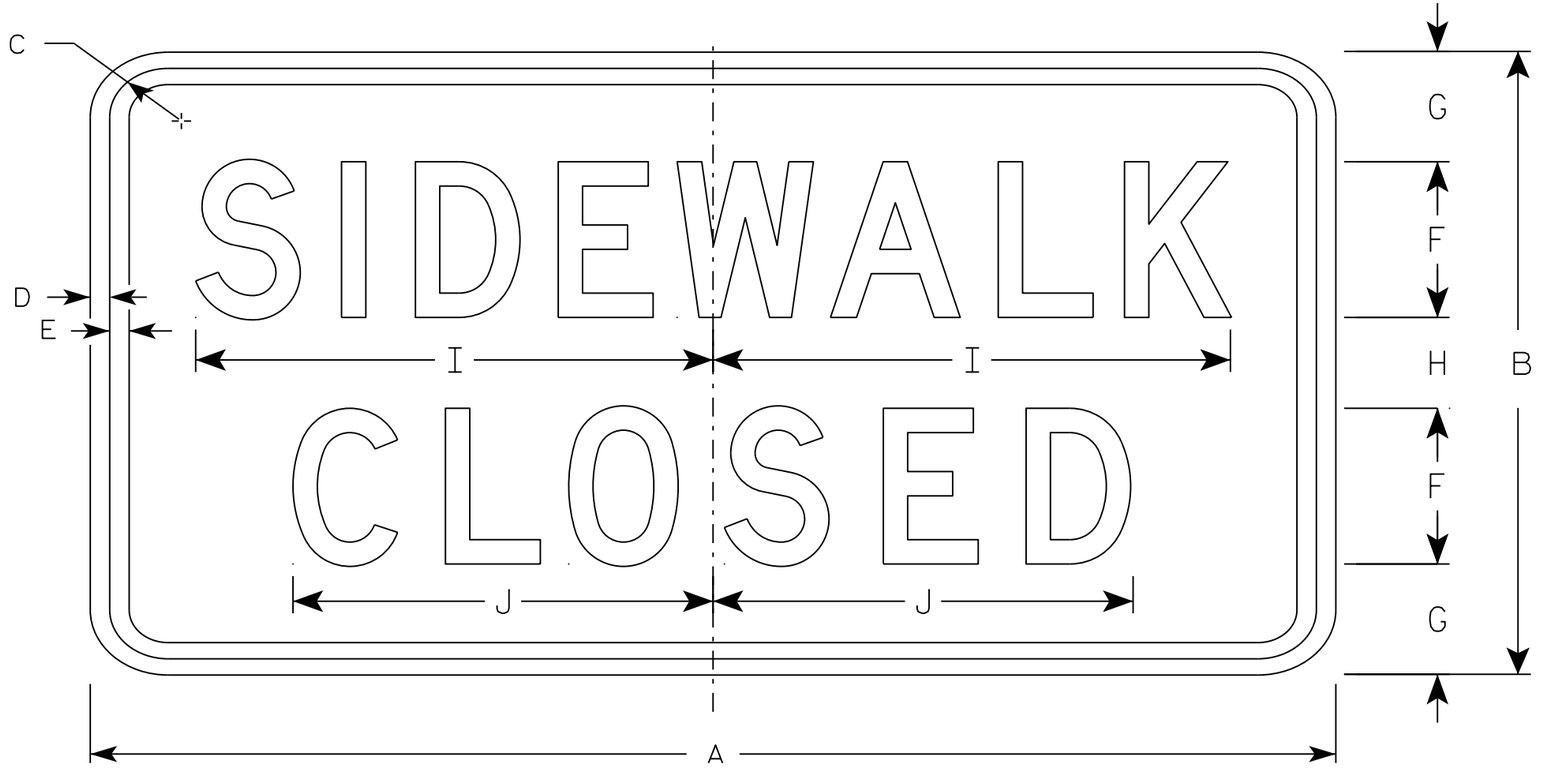
STANDARD SIGN
G20-2A

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 9/30/09 PLATE NO. G20-2A.8

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 120	E



R9-9

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Use Size 2 for Sidewalks. Use Size 3 for Paths and Trails.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24	12	1 3/4	1/2	1/2	3	2 1/8	1 3/4	10	8 1/8																	2.0
2M	24	12	1 3/4	1/2	1/2	3	2 1/8	1 3/4	10	8 1/8																	2.0
3	30	18	1 3/4	1/2	1/2	4	3 1/2	3	12 1/2	10 1/4																	3.75
4																											
5																											

STANDARD SIGN
R9-9

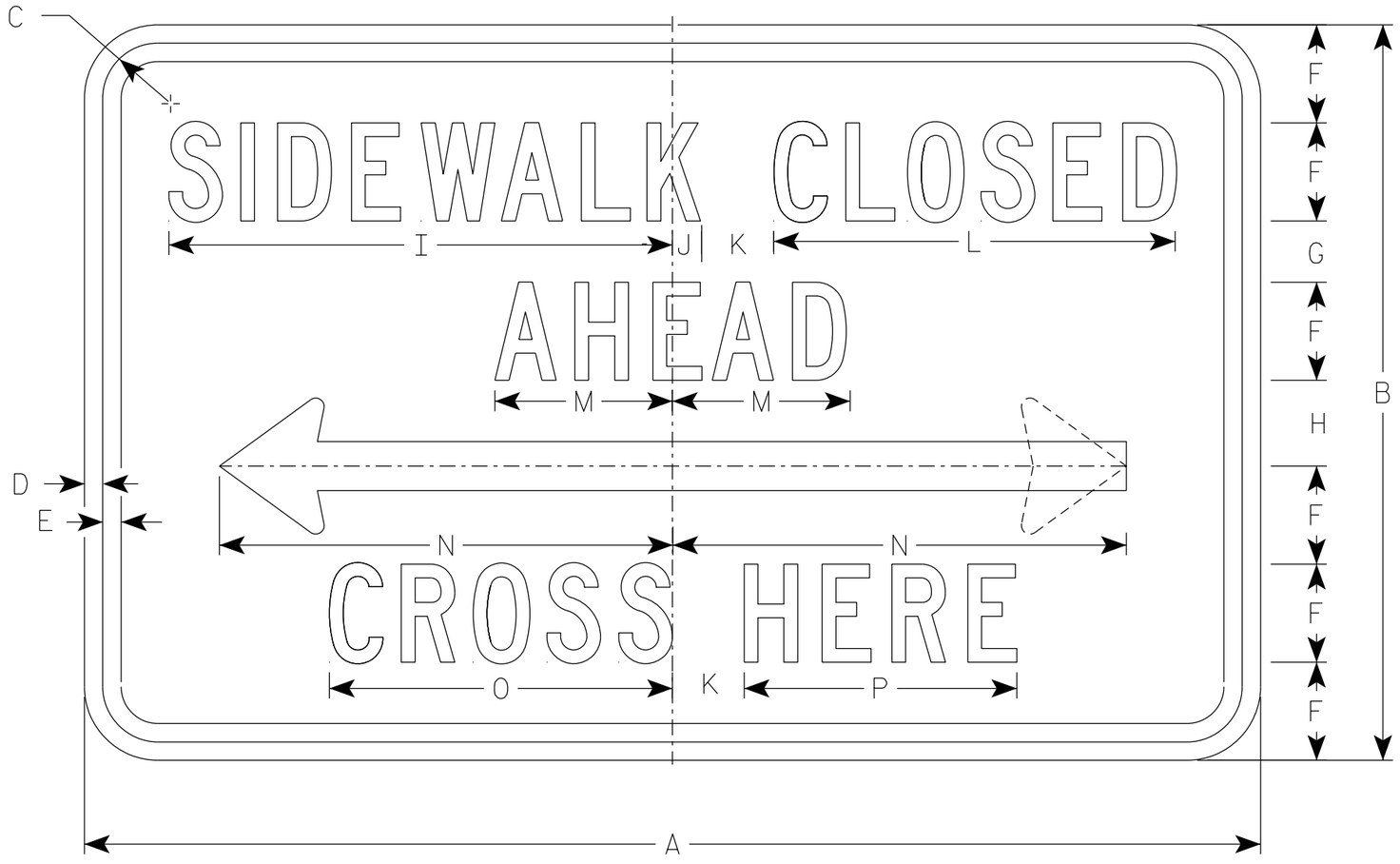
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

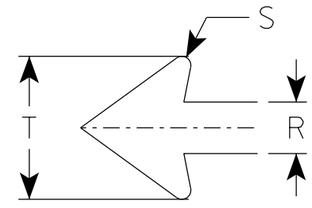
DATE 8/11/16 PLATE 121 R9-9.6

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

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\R99.DGN PLOT DATE : 11-AUG-2016 11:33 PLOT BY : $$ plotuser $$ PLOT NAME : PLOT SCALE : 2.918761:1.000000



R9-11



NOTES

1. Sign is Type II - Type H Reflective
2. Color:
   Background - White
   Message - Black
3. Message Series - C except Size 1 is Series D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Use Size 2 for Sidewalks. Use Size 3 for Paths and Trails.
6. R9-11 D (double arrow)
   R9-11 L (left arrow)
   R9-11 R (right arrow)

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24	12	1 1/8	3/8	3/8	1 1/2	1 1/2	1 1/2	9 3/4	5/8	1 1/2	7 5/8	3 1/2	9 1/4	6 5/8	5 1/8		1	1/8	2 3/4							2.0
2M	24	12	1 1/8	3/8	3/8	1 1/2	1 1/2	1 1/2	9 3/4	5/8	1 1/2	7 5/8	3 1/2	9 1/4	6 5/8	5 1/8		1	1/8	2 3/4							2.0
3	30	15	1 1/8	3/8	1/2	2	1 1/2	1 1/2	13	3/4	2	10 1/4	4 5/8	12 3/8	8 7/8	6 7/8		1 1/4	1/4	3 5/8							3.125
4																											
5																											

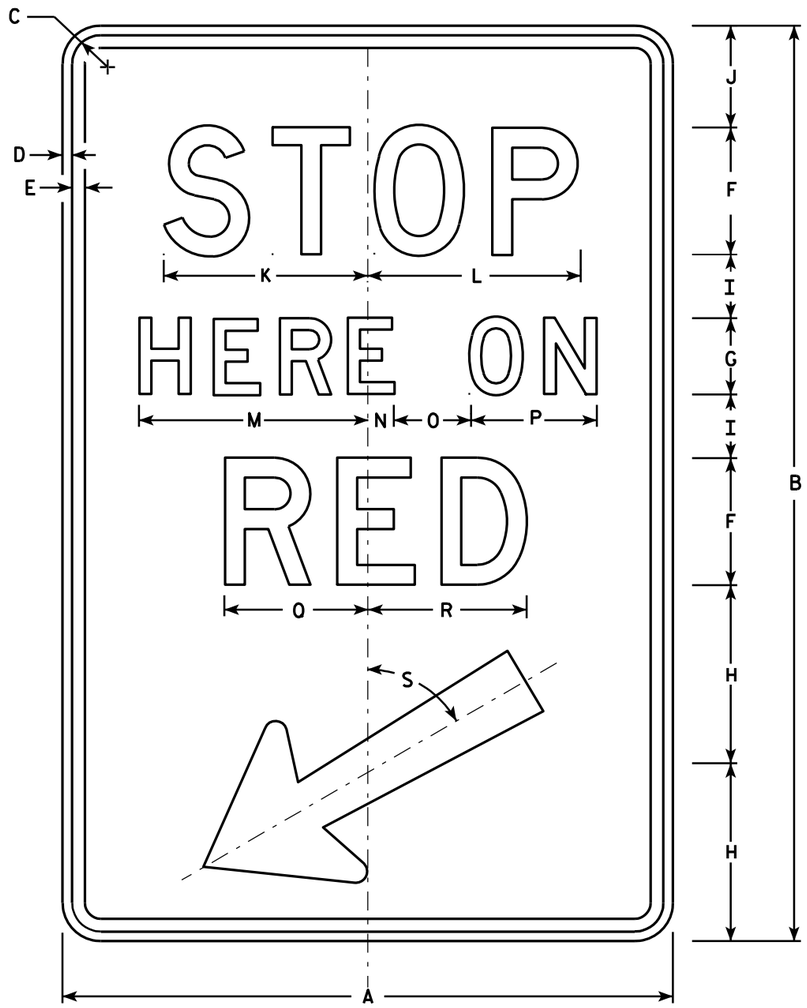
STANDARD SIGN
R9-11

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 3/30/2021 PLATE NO. R9-11.4

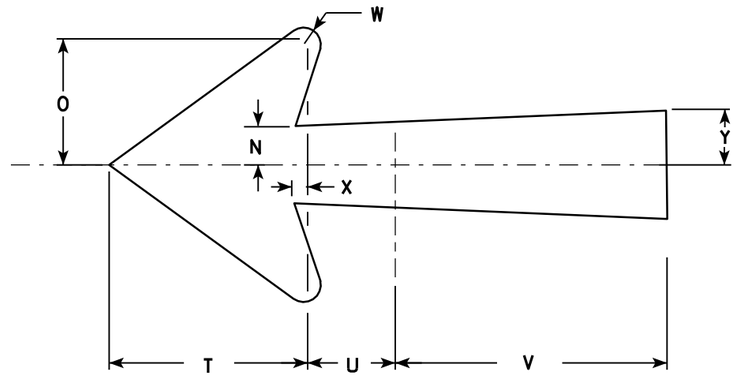
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 122 | E



R10-6

NOTES

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



Arrow Detail

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	O	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24	36	1 1/8	3/8	1/2	5	3	7	2 1/2	4	8	8 3/8	9	1	3	5	5 5/8	6 1/4	60°	5 1/4	2 1/4	7 1/8	1/2	3/8	1 3/8		6.0
2M	24	36	1 1/8	3/8	1/2	5	3	7	2 1/2	4	8	8 3/8	9	1	3	5	5 5/8	6 1/4	60°	5 1/4	2 1/4	7 1/8	1/2	3/8	1 3/8		6.0
3																											
4																											
5																											

STANDARD SIGN
R10-6

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 4/5/11 PLATE NO. R10-6.6

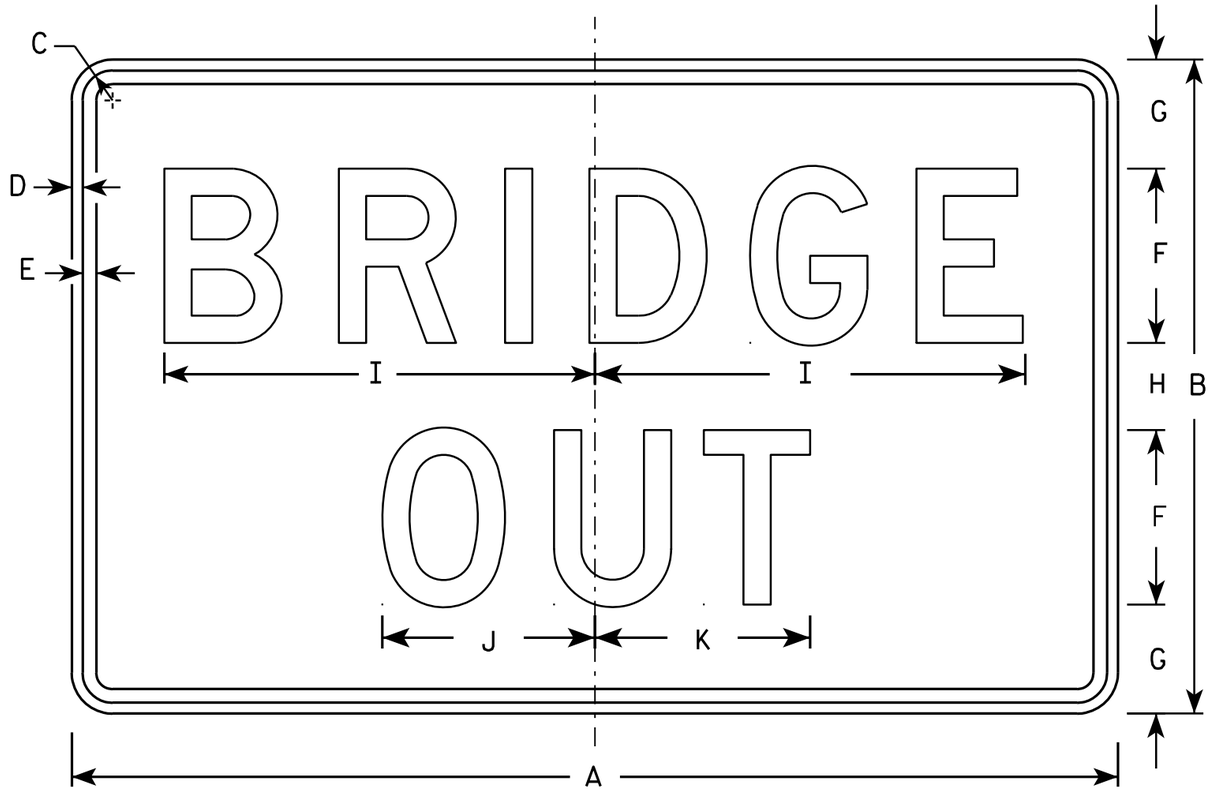
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 123	E

FILE NAME : C:\Users\PROJECTS\tr_stdplate\R106.DGN PLOT DATE : 05-APR-2011 09:50 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 5.959043:1.000000

WISDOT/CADDS SHEET 42

7

7



R11-2B

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	48	30	1 3/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
2M	48	30	1 3/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
3	48	30	1 3/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
4	48	30	1 3/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
5	48	30	1 3/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0

STANDARD SIGN
R11-2B

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

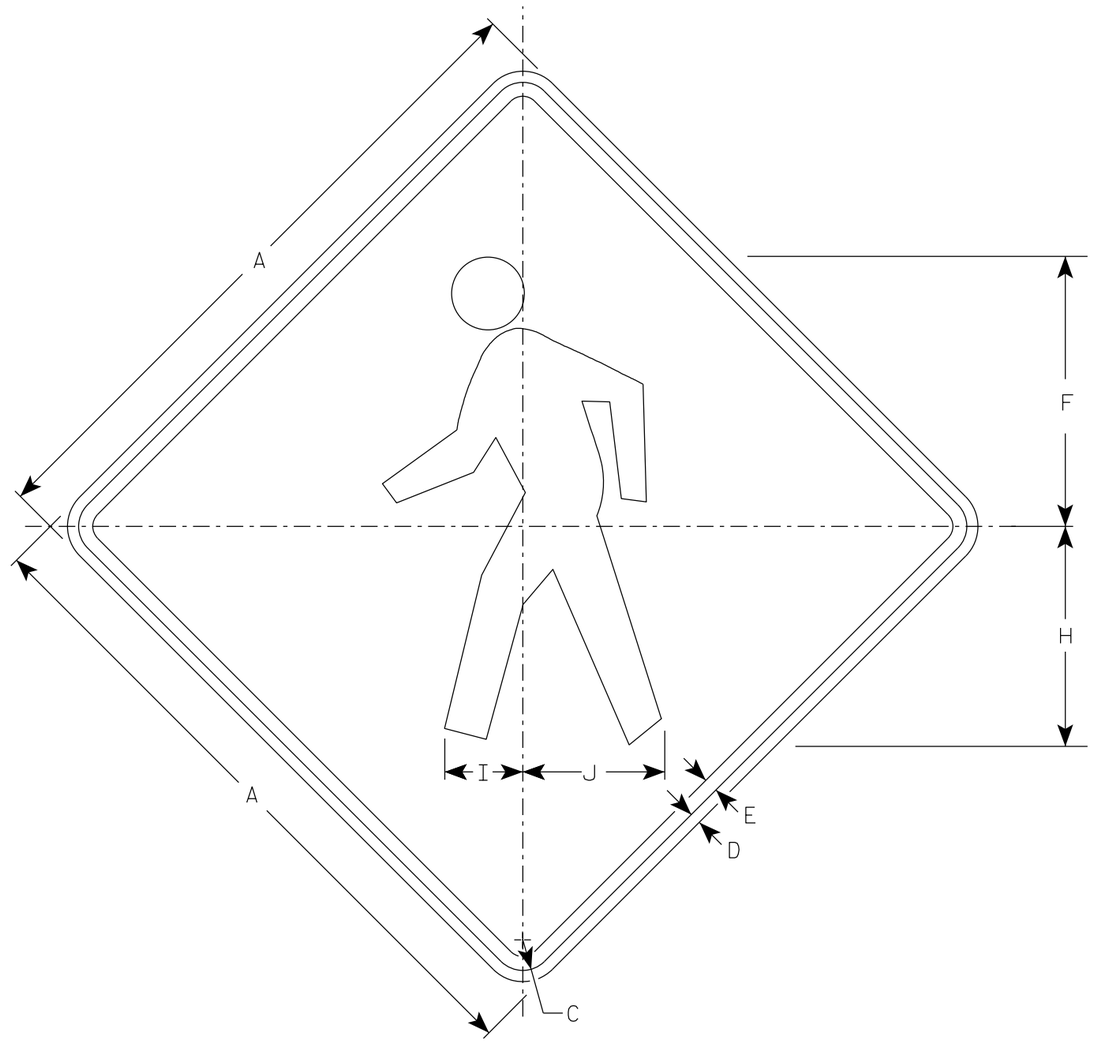
DATE 4/1/11 PLATE NO. R11-2B.2

PROJECT NO:

SHEET NO: 124 E

FILE NAME : C:\Users\PROJECTS\tr_stdplate\R112B.DGN PLOT DATE : 01-APR-2011 14:23 PLOT BY : mscj9h

WISDOT/CADDS SHEET 42



W11-2

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24		1 1/8	3/8	1/2	9 3/4		7 7/8	2 7/8	5 1/8																	4.0
2S	30		1 3/8	1/2	5/8	12 1/8		9 7/8	3 1/2	6 3/8																	6.25
2M	36		1 5/8	5/8	3/4	14 1/2		11 7/8	4 1/4	7 5/8																	9.0
3	36		1 5/8	5/8	3/4	14 1/2		11 7/8	4 1/4	7 5/8																	9.0
4	48		2 1/4	3/4	1	19 3/8		15 3/4	5 5/8	10 1/4																	16.0
5																											

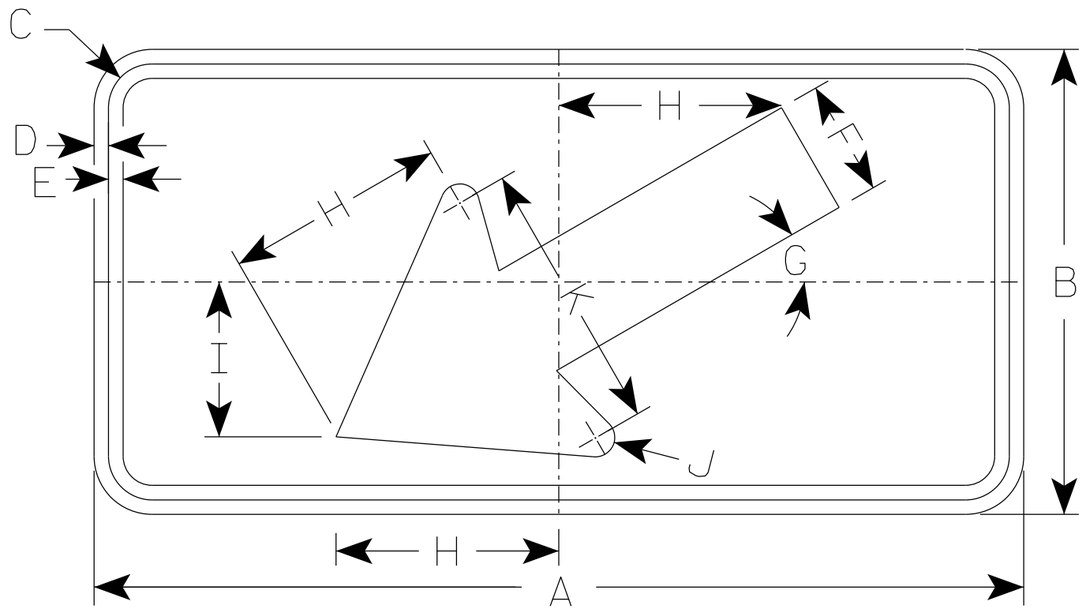
STANDARD SIGN
W11-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 4/8/2020 PLATE NO. W11-2.8

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 125	E



W16-7L

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
   Background - Yellow
   Message - Black
3. W16-7R is the same as W16-7L except the arrow is reversed along the vertical centerline.

* For 36" x 36" Warning Signs, use 30" x 18" W16-7L signs.
* For 48" x 48" Warning Signs, use 48" x 24" W16-7L signs.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24	12	1 1/8	3/8	3/8	3	30°	5 3/4	4	1/2	7																2.0
* 2M	30	18	1 1/8	3/8	1/2	4 1/2	30°	8 1/2	6	5/8	10 1/4																3.75
* 3	30	18	1 1/8	3/8	1/2	4 1/2	30°	8 1/2	6	5/8	10 1/4																3.75
* 4	48	24	1 3/8	1/2	5/8	6	30°	11 1/2	8	1	14																8.0
5																											

STANDARD SIGN
W16-7

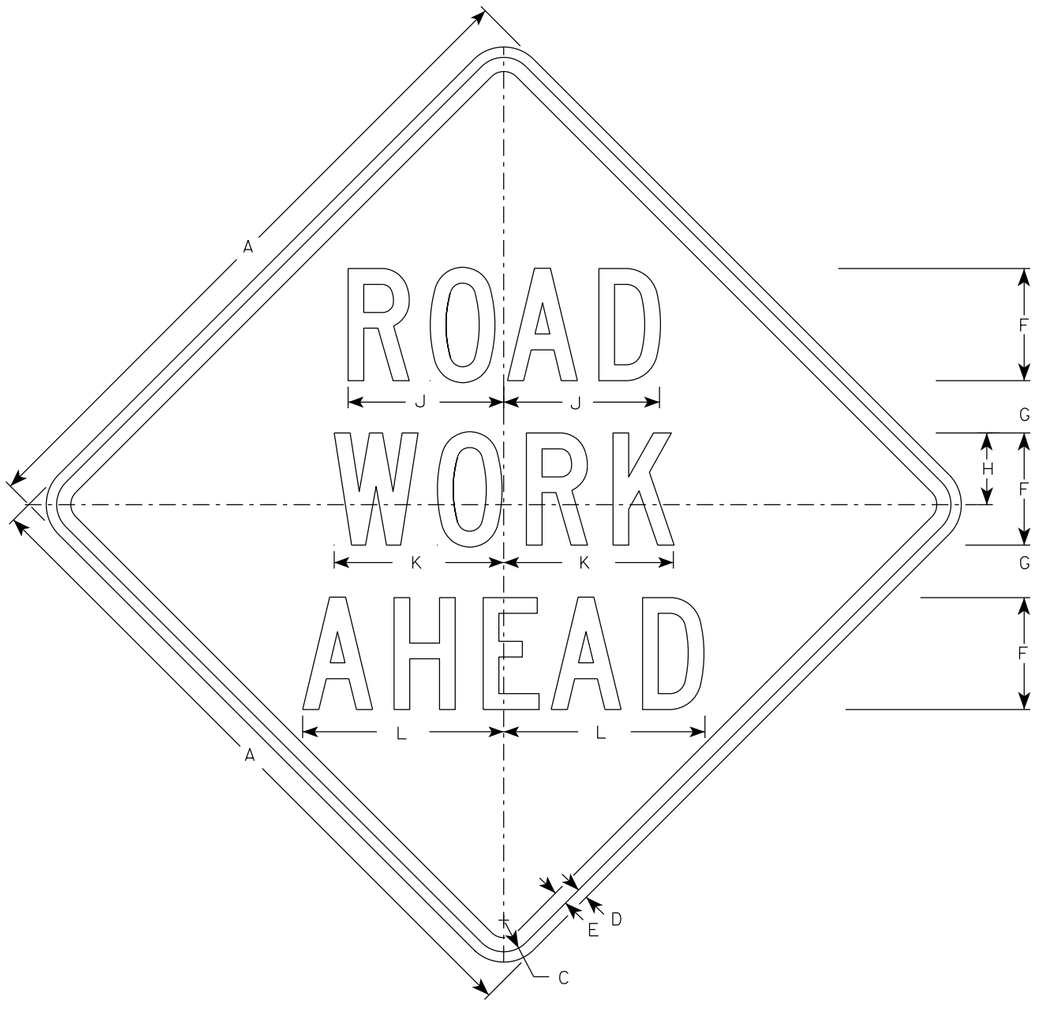
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

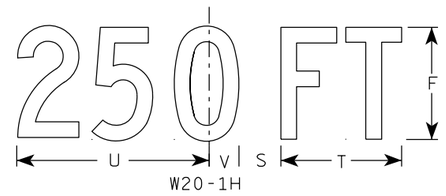
DATE 3/16/2021 PLATE NO. W16-7.8

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 126	E

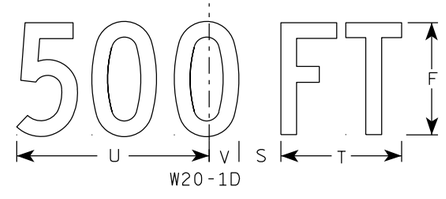
7



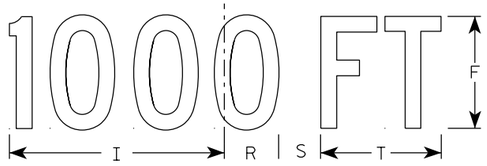
W20-1A



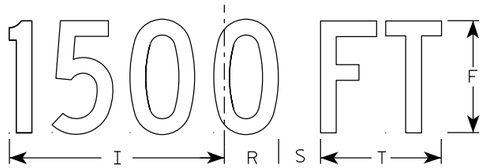
W20-1H



W20-1D



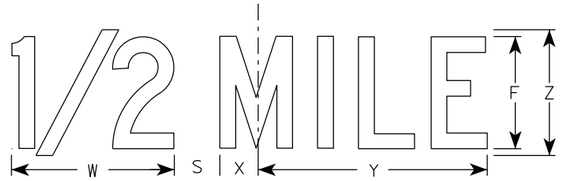
W20-1C



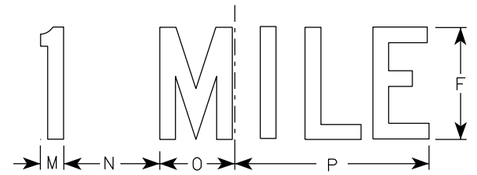
W20-1B

NOTES

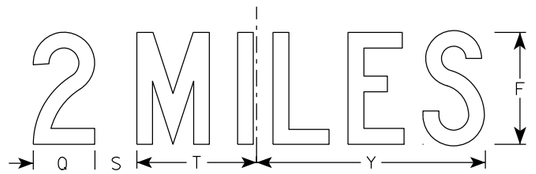
1. Sign is Type II - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.



W20-1G



W20-1F



W20-1E

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	5	2 5/8	3 1/4	10 1/8	7	7 5/8	8 7/8	1 1/8	4 1/2	3 1/2	9	3 1/4	2 1/2	2 1/4	5 5/8	9	1 3/8	8	1 3/4	10 3/4	6	9.0
2S	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
2M	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
3	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
4	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
5	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0

STANDARD SIGN
W20-1A, B, C, D, E, F, G & H

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/25/2020 PLATE NO. W20-1.11

PROJECT NO:

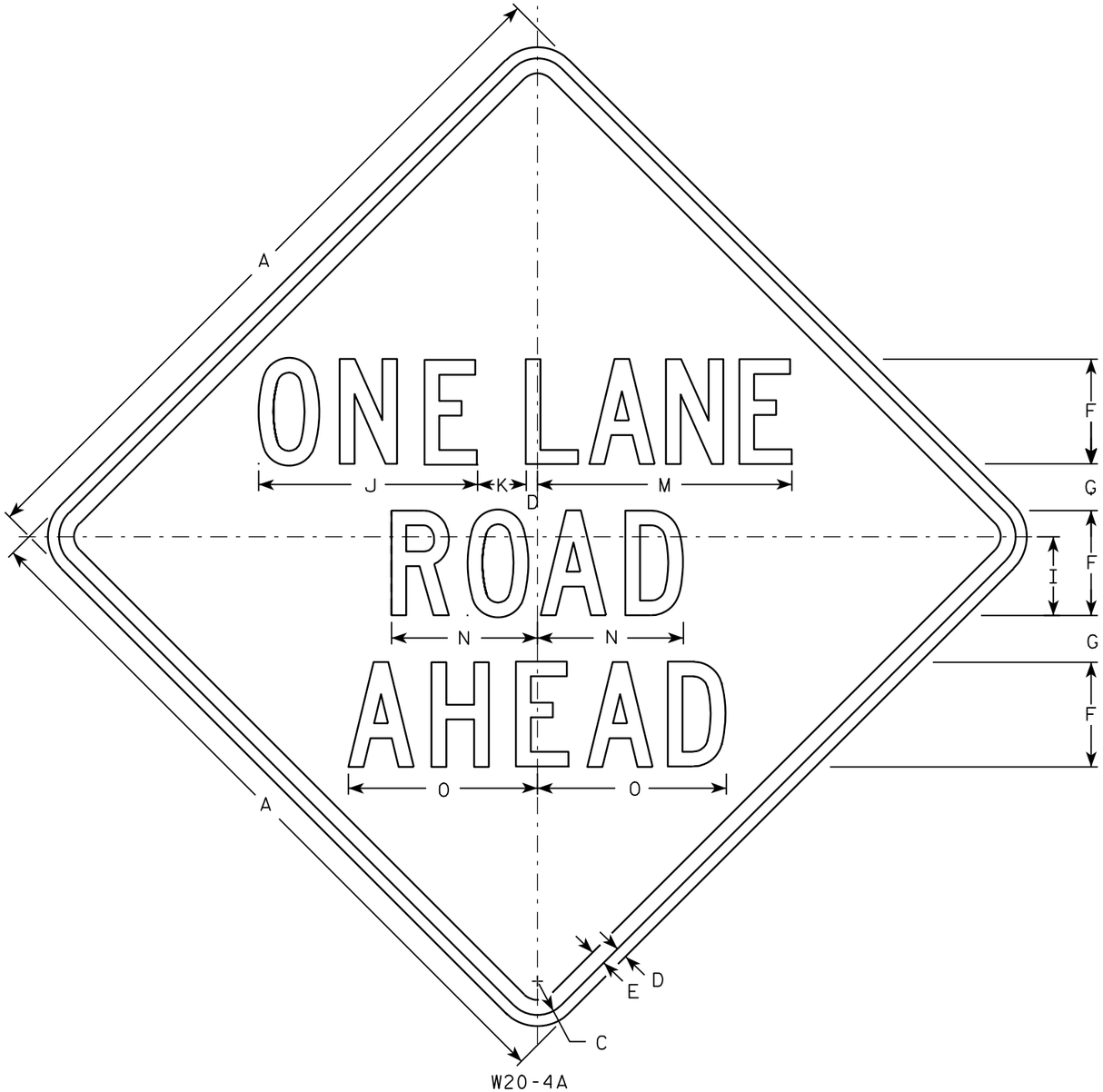
SHEET NO: E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\W201.DGN PLOT DATE : 25-MARCH-2020 PLOT BY : dotc4c

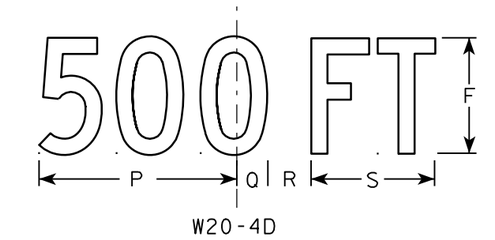
WISDOT/CADDS SHEET 42

7

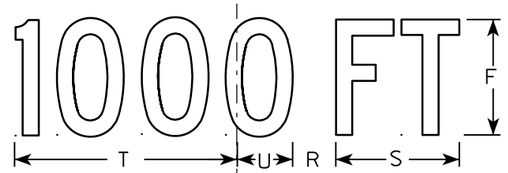
7



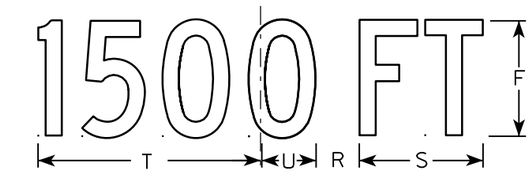
W20-4A



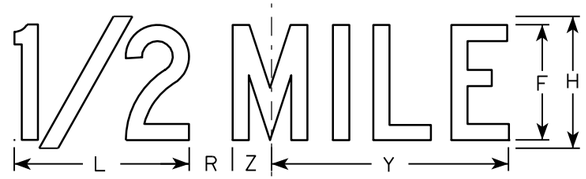
W20-4D



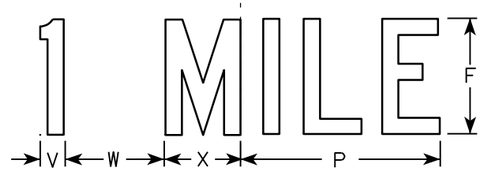
W20-4C



W20-4B



W20-4G



W20-4F

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	5	2 3/8	6	3 3/4	10 3/8	2 3/8	8	13 1/2	7	8 7/8	9	1 3/8	1 7/8	5 5/8	10 1/8	2 1/2	1 1/8	4 1/2	3 1/2	10 3/4	1 3/4	9.0
2S	48		2 1/4	3/4	1	7	3 1/8	8	5 1/4	14 5/8	3 1/4	10 5/8	17 3/4	9 3/4	12 5/8	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	14 3/8	2 3/8	16.0
2M	48		2 1/4	3/4	1	7	3 1/8	8	5 1/4	14 5/8	3 1/4	10 5/8	17 3/4	9 3/4	12 5/8	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	14 3/8	2 3/8	16.0
3	48		2 1/4	3/4	1	7	3 1/8	8	5 1/4	14 5/8	3 1/4	10 5/8	17 3/4	9 3/4	12 5/8	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	14 3/8	2 3/8	16.0
4	48		2 1/4	3/4	1	7	3 1/8	8	5 1/4	14 5/8	3 1/4	10 5/8	17 3/4	9 3/4	12 5/8	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	14 3/8	2 3/8	16.0
5	48		2 1/4	3/4	1	7	3 1/8	8	5 1/4	14 5/8	3 1/4	10 5/8	17 3/4	9 3/4	12 5/8	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	14 3/8	2 3/8	16.0

STANDARD SIGN
W20-4A, B, C, D, F & G

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

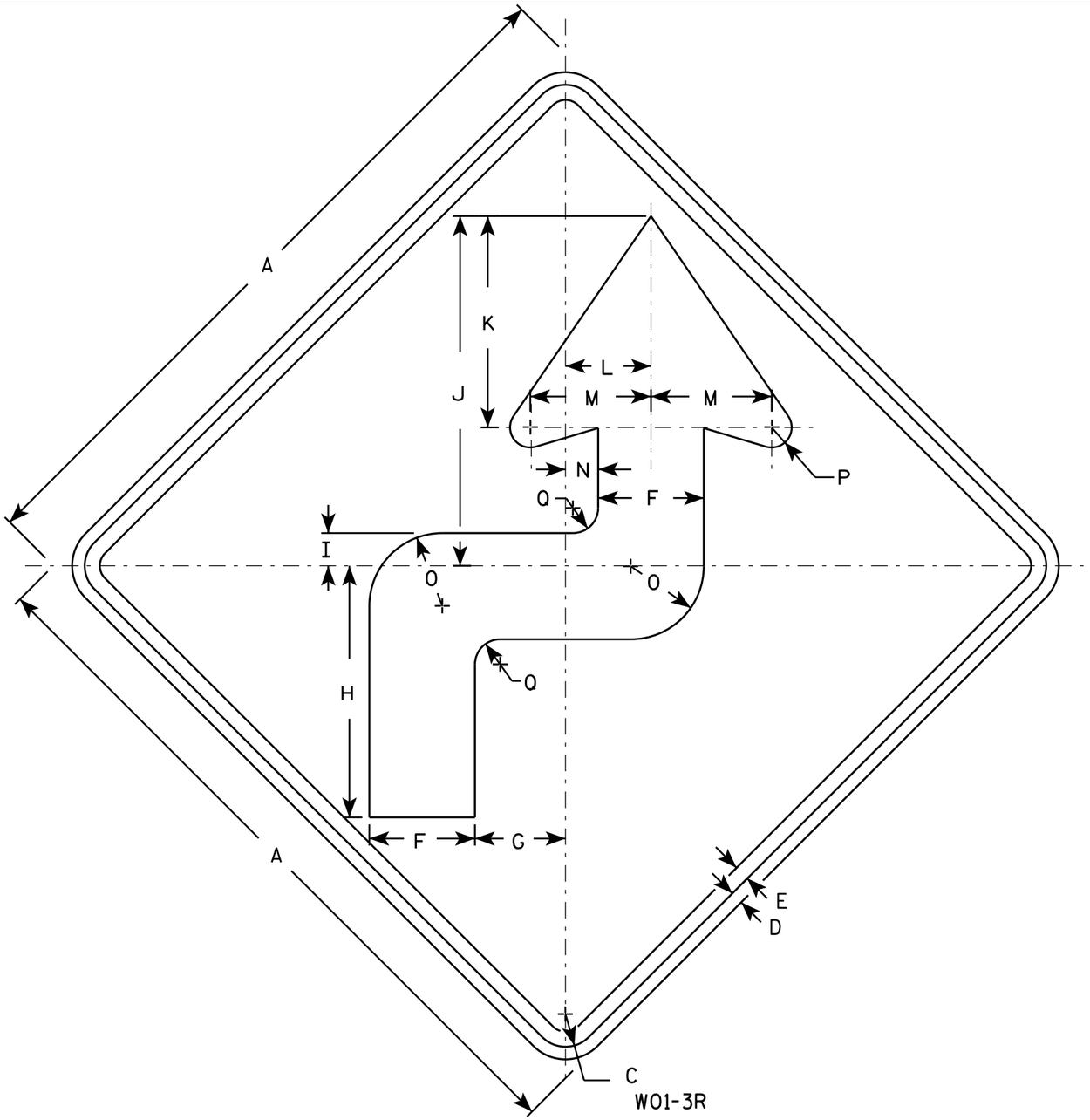
DATE 3/18/11 PLATE NO. W20-4.9

PROJECT NO:

SHEET NO: 128 E

FILE NAME : C:\Users\PROJECTS\tr_stdplate\W204.DGN PLOT DATE : 18-MAR-2011 12:11 PLOT BY : mscj9h

WISDOT/CADDS SHEET 42



W01-3R

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. W01-3L is the same as W01-3R except the arrow is reversed along the vertical centerline.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	5 1/4	4 1/2	12 1/2	1 5/8	17 3/8	10 1/2	4 1/4	6	1 5/8	3 5/8	1	1 1/4										9.0
2S	48		2 1/4	3/4	1	7	6	16 5/8	2 1/4	23 1/4	14	5 5/8	8	2 1/8	4 7/8	1 1/4	1 5/8										16.0
2M	48		2 1/4	3/4	1	7	6	16 5/8	2 1/4	23 1/4	14	5 5/8	8	2 1/8	4 7/8	1 1/4	1 5/8										16.0
3	48		2 1/4	3/4	1	7	6	16 5/8	2 1/4	23 1/4	14	5 5/8	8	2 1/8	4 7/8	1 1/4	1 5/8										16.0
4	48		2 1/4	3/4	1	7	6	16 5/8	2 1/4	23 1/4	14	5 5/8	8	2 1/8	4 7/8	1 1/4	1 5/8										16.0
5	48		2 1/4	3/4	1	7	6	16 5/8	2 1/4	23 1/4	14	5 5/8	8	2 1/8	4 7/8	1 1/4	1 5/8										16.0

STANDARD SIGN
W01-3

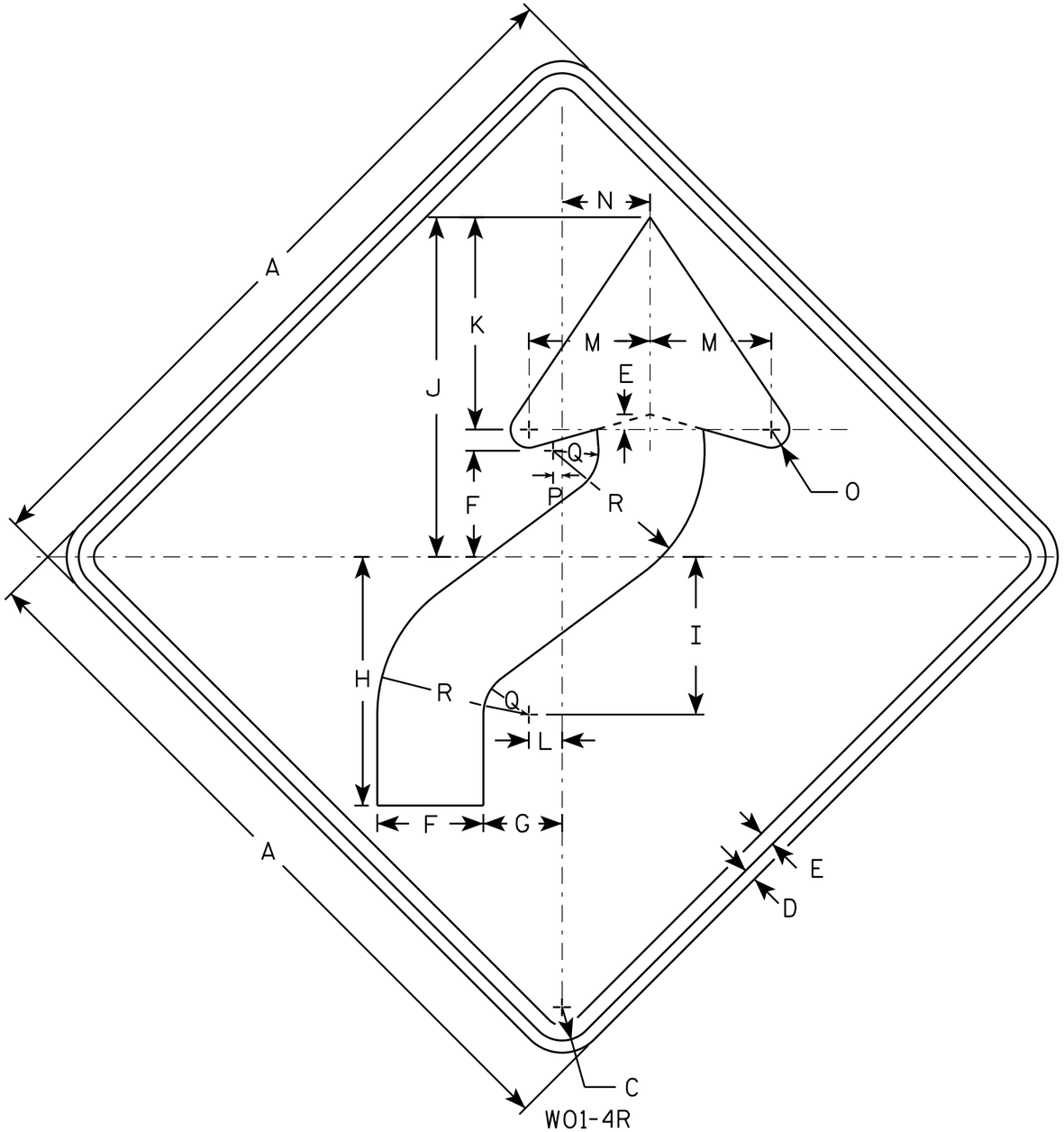
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/18/13 PLATE W01-3.1

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

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\W013.DGN PLOT DATE : 28-FEB-2014 11:35 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 6.567217:1.000000



W01-4R

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. W01-4L is the same as W01-4R except the arrow is reversed along the vertical centerline.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	5 1/4	4	12 3/8	7 7/8	16 7/8	10 1/2	1 5/8	6	4 1/2	1	1/2	2 1/4	7 1/2									9.0
2S	48		2 1/4	3/4	1	7	5 1/4	16 1/2	10 1/2	22 1/2	14	2 1/4	8	6	1 1/4	5/8	3	10									16.0
2M	48		2 1/4	3/4	1	7	5 1/4	16 1/2	10 1/2	22 1/2	14	2 1/4	8	6	1 1/4	5/8	3	10									16.0
3	48		2 1/4	3/4	1	7	5 1/4	16 1/2	10 1/2	22 1/2	14	2 1/4	8	6	1 1/4	5/8	3	10									16.0
4	48		2 1/4	3/4	1	7	5 1/4	16 1/2	10 1/2	22 1/2	14	2 1/4	8	6	1 1/4	5/8	3	10									16.0
5	48		2 1/4	3/4	1	7	5 1/4	16 1/2	10 1/2	22 1/2	14	2 1/4	8	6	1 1/4	5/8	3	10									16.0

STANDARD SIGN
W01-4

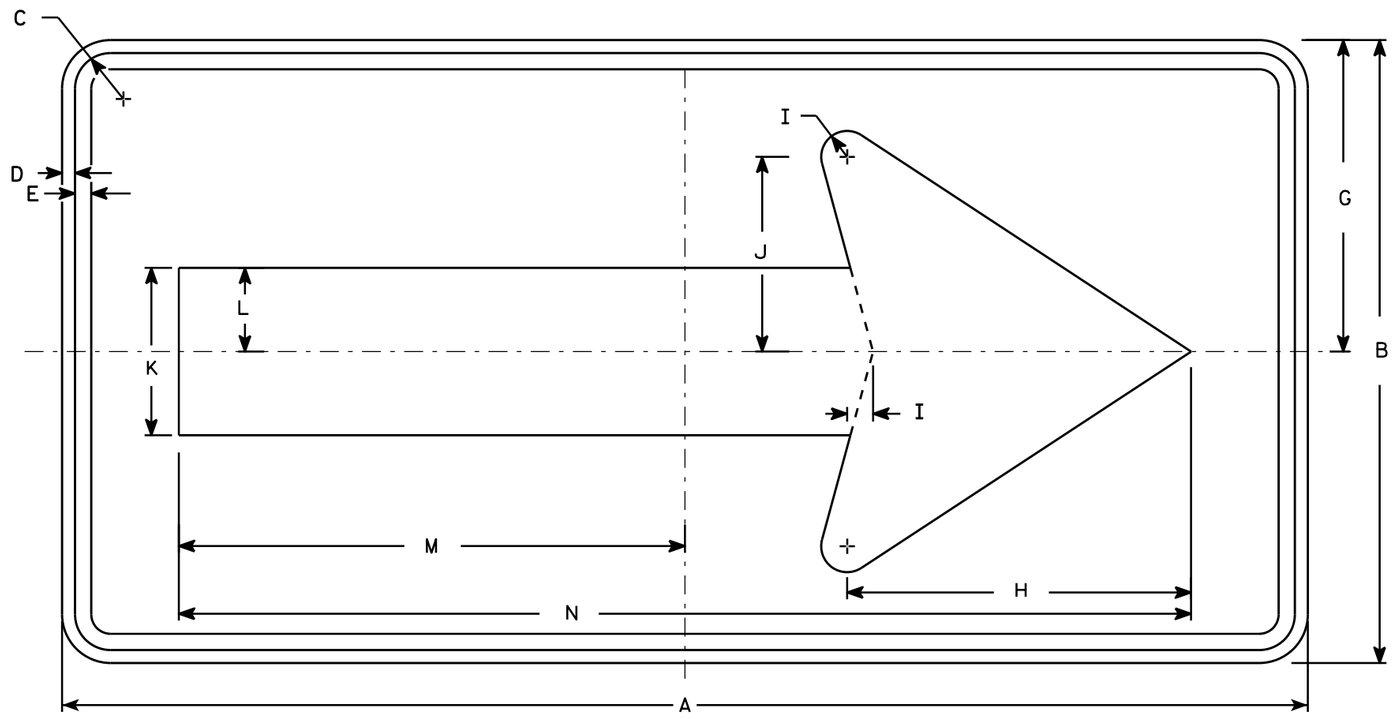
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/18/13 PLATE NO W01-4.1

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

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\W014.DGN PLOT DATE : 28-FEB-2014 11:35 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 6.755110:1.000000
WISDOT/CADDS SHEET 42



W01-6

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	48	24	1 3/8	1/2	5/8		12	13 1/4	1	7 1/2	6 1/2	3 1/4	19 1/2	39													8.0
2M	48	24	1 3/8	1/2	5/8		12	13 1/4	1	7 1/2	6 1/2	3 1/4	19 1/2	39													8.0
3	60	30	1 3/8	1/2	5/8		15	16 1/4	1 1/4	9 1/4	8	4	24 3/8	48 3/4													12.5
4	60	30	1 3/8	1/2	5/8		15	16 1/4	1 1/4	9 1/4	8	4	24 3/8	48 3/4													12.5
5	60	30	1 3/8	1/2	5/8		15	16 1/4	1 1/4	9 1/4	8	4	24 3/8	48 3/4													12.5

STANDARD SIGN
W01-6

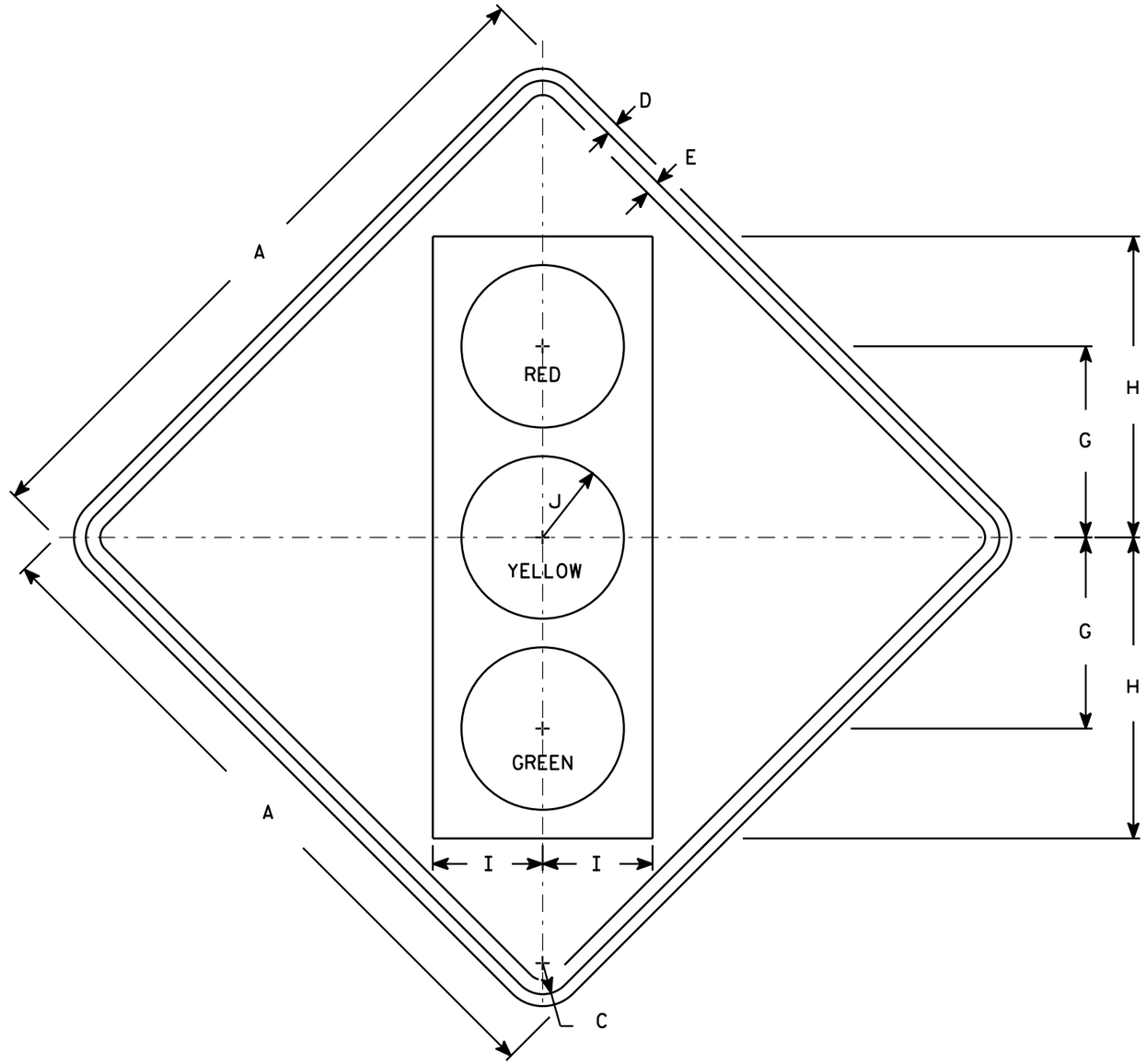
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/18/13 PLATE NO. W01-6.1

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\W016.DGN PLOT DATE : 28-FEB-2014 11:37 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 5.837526:1.000000 WISDOT/CADDS SHEET 42



W03-3

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - See Note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. Symbol and border are non-reflective black.
   Top circle - Type H Reflectorized Red
   Center circle - Same as background
   Bottom circle - Type H Reflectorized Green

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4		10	15 3/4	5 3/4	4 1/4																	9.0
2S	48		2 1/4	3/4	1		12 1/2	20	7 1/2	5																	16.0
2M	48		2 1/4	3/4	1		12 1/2	20	7 1/2	5																	16.0
3	48		2 1/4	3/4	1		12 1/2	20	7 1/2	5																	16.0
4	48		2 1/4	3/4	1		12 1/2	20	7 1/2	5																	16.0
5	48		2 1/4	3/4	1		12 1/2	20	7 1/2	5																	16.0

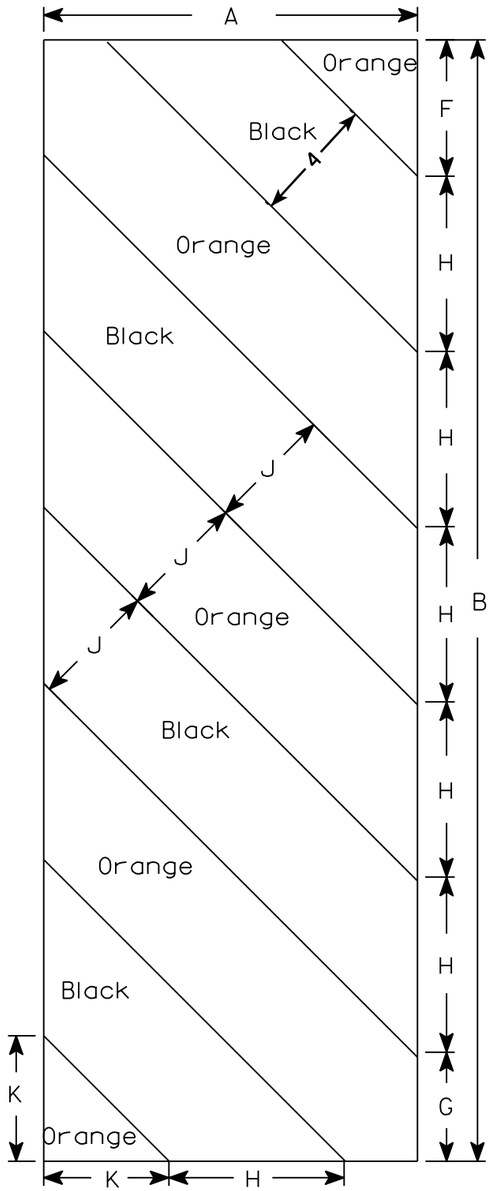
STANDARD SIGN
W03-3

WISCONSIN DEPT OF TRANSPORTATION

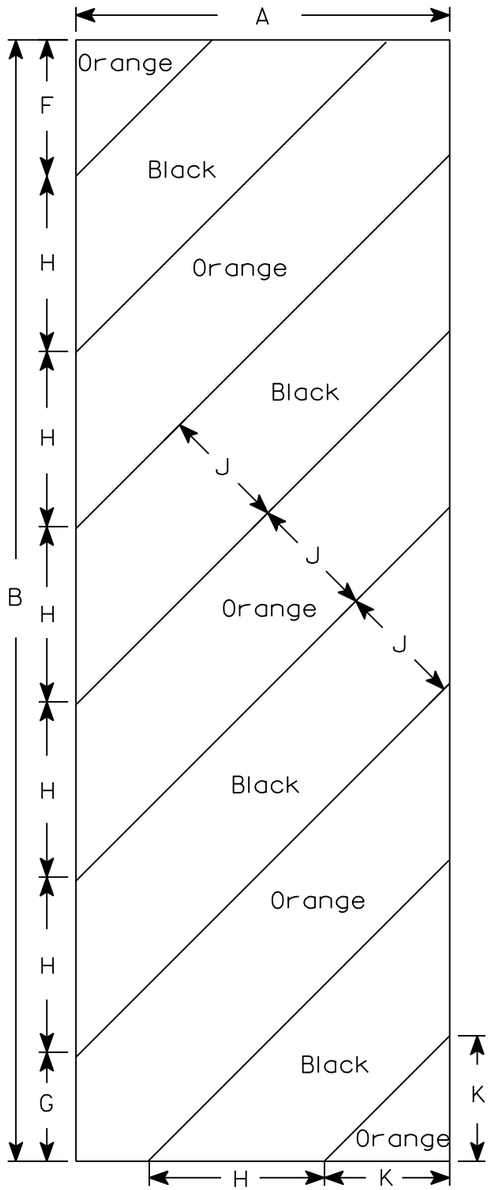
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/20/13 PLATE 132 W03-3.1

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E



W05-52L



W05-52R

NOTES

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

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

STANDARD SIGN

W05-52L & W05-52R

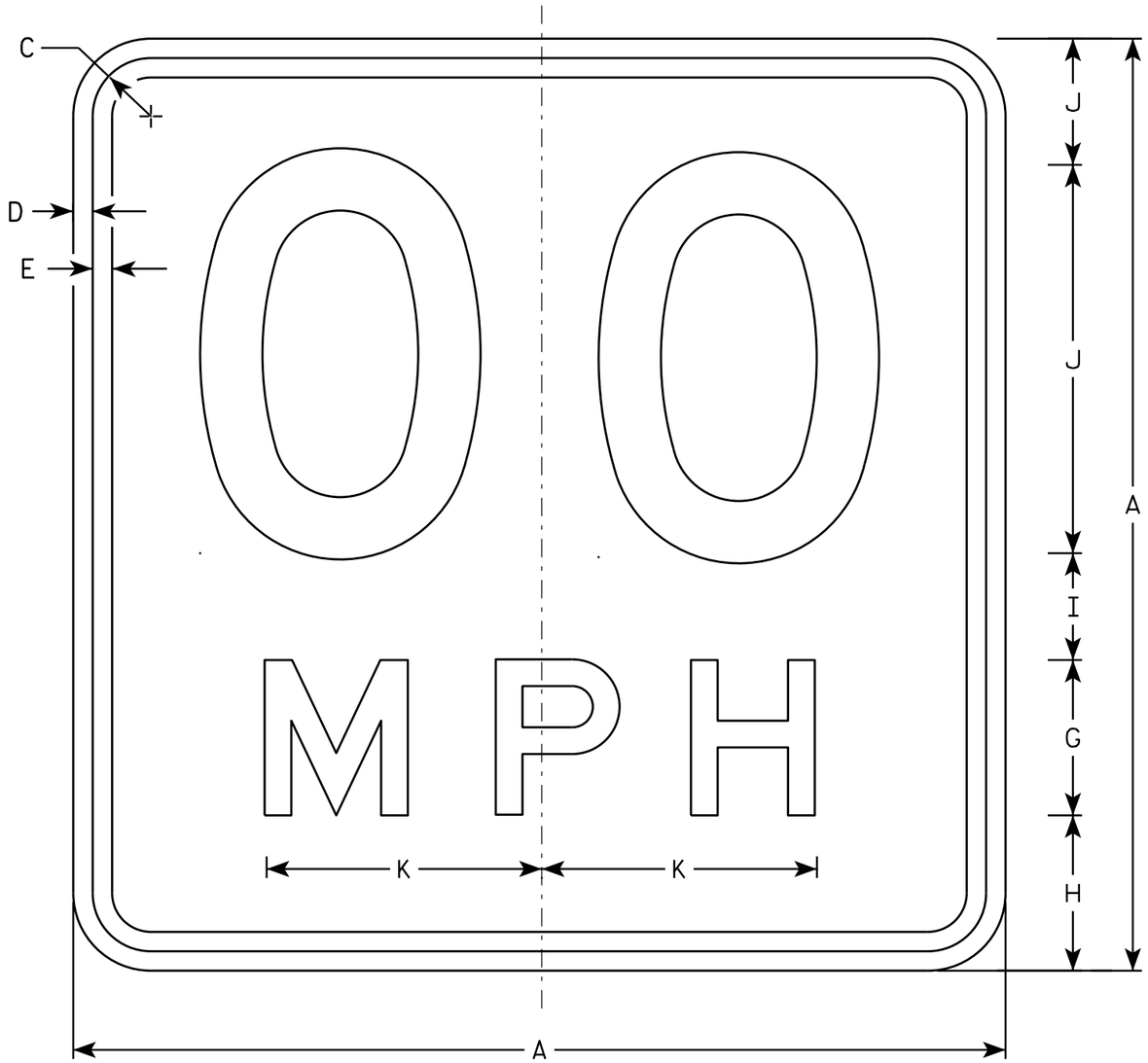
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/20/13 PLATE No. W05-52.1

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\W0552.DGN PLOT DATE : 28-FEB-2014 11:39 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 4.864607:1.000000 WISDOT/CADDS SHEET 42



W013-1

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Message Series - See Note 6
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate numerals and optically space about centerline to achieve proper balance.
6. Line 1 is Series D
   Line 2 is Series E

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24		1 1/8	3/8	1/2	10	4	4	2 3/4	3 1/4	7 1/8																4.00
2S	36		1 5/8	5/8	3/4	16	6	5 1/2	4	4 1/2	10 5/8																9.00
2M	36		1 5/8	5/8	3/4	16	6	5 1/2	4	4 1/2	10 5/8																9.00
3	36		1 5/8	5/8	3/4	16	6	5 1/2	4	4 1/2	10 5/8																9.00
4	36		1 5/8	5/8	3/4	16	6	5 1/2	4	4 1/2	10 5/8																9.00
5	36		1 5/8	5/8	3/4	16	6	5 1/2	4	4 1/2	10 5/8																9.00

STANDARD SIGN
W013-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/21/13 PLATE 134 W013-1.1

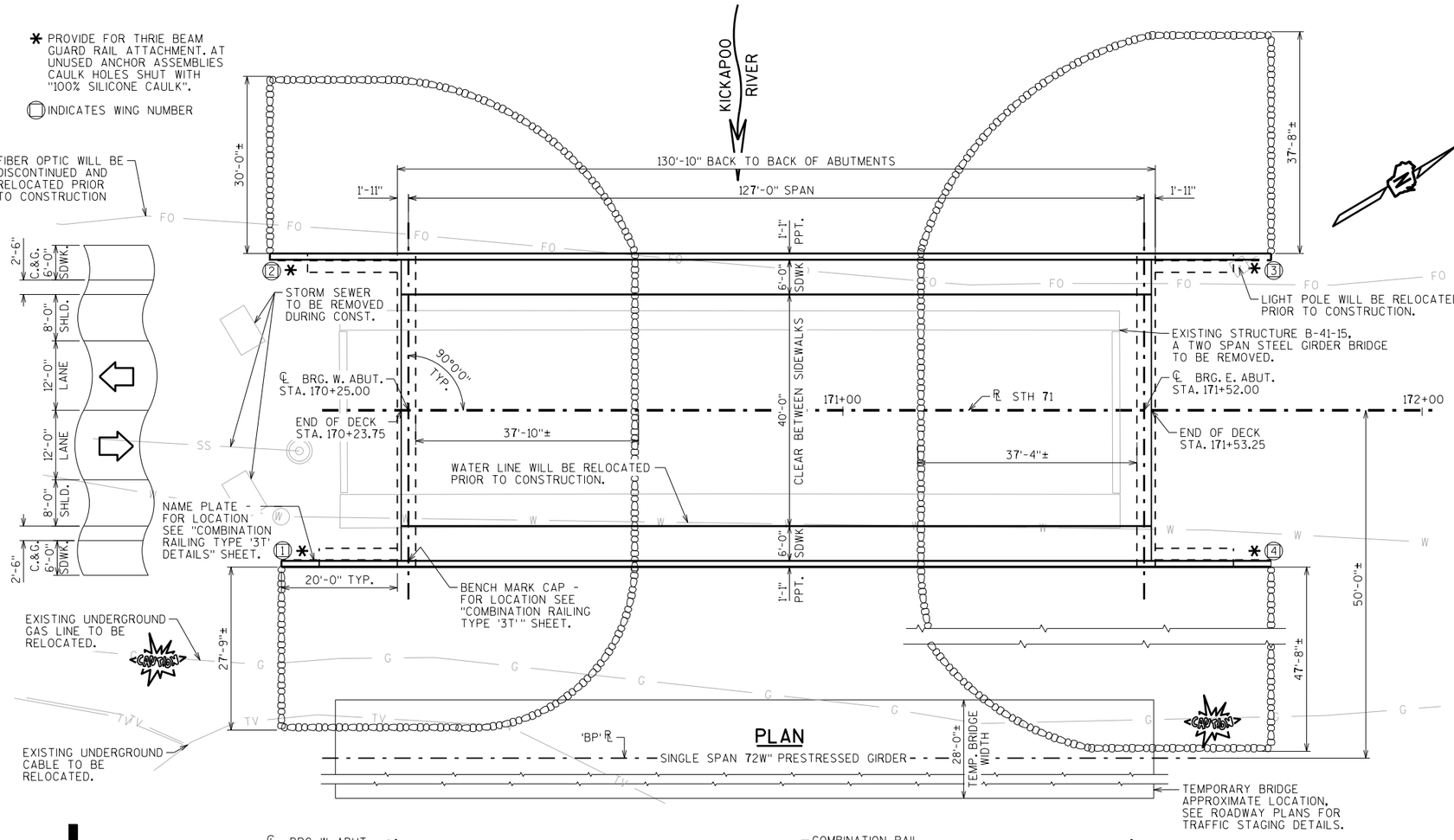
PROJECT NO: | HWY: | COUNTY: | SHEET NO: E

STATE PROJECT NUMBER

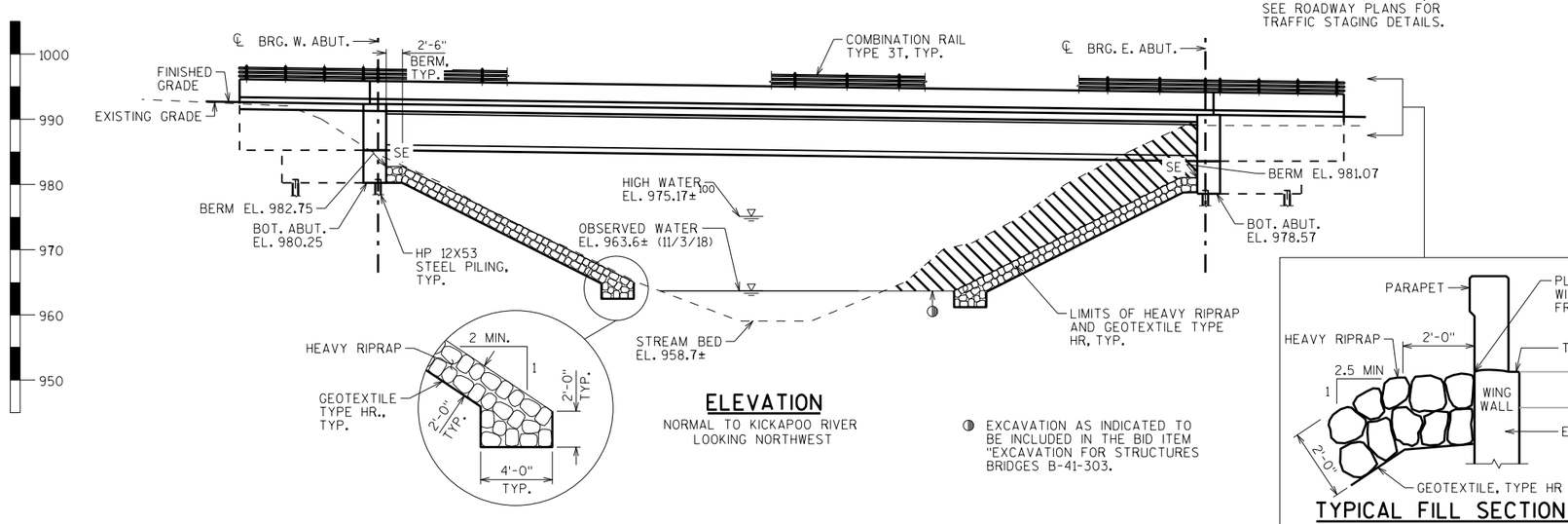
5130-00-80

* PROVIDE FOR THRIE BEAM GUARD RAIL ATTACHMENT. AT UNUSED ANCHOR ASSEMBLIES CAULK HOLES SHUT WITH "100% SILICONE CAULK".

(1) INDICATES WING NUMBER



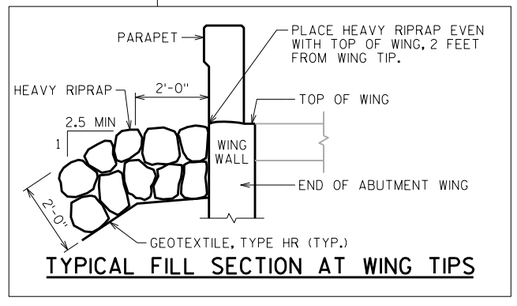
PLAN



ELEVATION

NORMAL TO KICKAPOO RIVER
LOOKING NORTHWEST

◑ EXCAVATION AS INDICATED TO BE INCLUDED IN THE BID ITEM "EXCAVATION FOR STRUCTURES BRIDGES B-41-303.



TYPICAL FILL SECTION AT WING TIPS

DESIGN DATA

LIVE LOAD:

DESIGN LOADING: HL-93
INVENTORY RATING FACTOR: RF = 1.13
OPERATING RATING FACTOR: RF = 1.74
WISCONSIN STANDARD PERMIT VEHICLE (WIS.-SPV): 250 (KIPS)

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

MATERIAL PROPERTIES:

CONCRETE MASONRY:
SUPERSTRUCTURE — f'c = 4,000 P.S.I.
ALL OTHER — f'c = 3,500 P.S.I.

BAR STEEL REINFORCEMENT:
GRADE 60 — fy = 60,000 P.S.I.

72W" PRESTRESSED GIRDERS:
CONCRETE MASONRY — f'c = 8,000 P.S.I.
STRANDS: 0.6" DIA. WITH ULTIMATE TENSILE STRENGTH OF 270,000 P.S.I.

FOUNDATION DATA

ABUTMENTS TO BE SUPPORTED ON HP 12X53 STEEL PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 220 TONS ** PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA.
ESTIMATED 15'-0" LONG AT THE WEST ABUTMENT.
PREBORING 10'-0" REQ'D AT WEST ABUMENT ONLY.
ESTIMATED 40'-0" LONG AT THE EAST ABUTMENT.

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

HYDRAULIC DATA

100 YEAR FREQUENCY

Q_{100} = 4800 C.F.S.
$VEL._{100}$ = 5.95 F.P.S.
$HW._{100}$ = EL. 975.17
WATERWAY AREA = 806.72 SQ. FT.
DRAINAGE AREA = 34.3 SQ. MI.
ROADWAY OVERTOPPING = N/A
SCOUR CRITICAL CODE = 5

2 YEAR FREQUENCY

Q_2 = 725 C.F.S.
$VEL._2$ = 3.25 F.P.S.
$HW._2$ = EL. 967.35

TEMPORARY STRUCTURE

Q_5 = 1400 C.F.S.
$VEL._5$ = 5.51 F.P.S.
$HW._5$ = EL. 970.08
FLOW AREA = 254.08 SQ. FT.

TRAFFIC VOLUME

STH 71

ADT = 3400 (2043)
R.D.S. = 40 M.P.H.

LIST OF DRAWINGS

STRUCTURE DESIGN CONTACTS:

STACIE WEIS (608) 261-6109
DOMINIQUE BECHLE (608) 261-8205

NO.	DATE	REVISION	BY

WISCONSIN DEPARTMENT OF TRANSPORTATION — BUREAU OF STRUCTURES

ACCEPTED DMB 5/21/21
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE B-41-303

STH 71 OVER THE KICKAPOO RIVER

COUNTY	VILLAGE
MONROE	WILTON

DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

DESIGNED BY	DESIGNED CK'D.	DRAWN BY	PLANS CK'D.
SEW	JDM	DDS/SEW	SEW

GENERAL PLAN

SHEET 1 OF 17

135

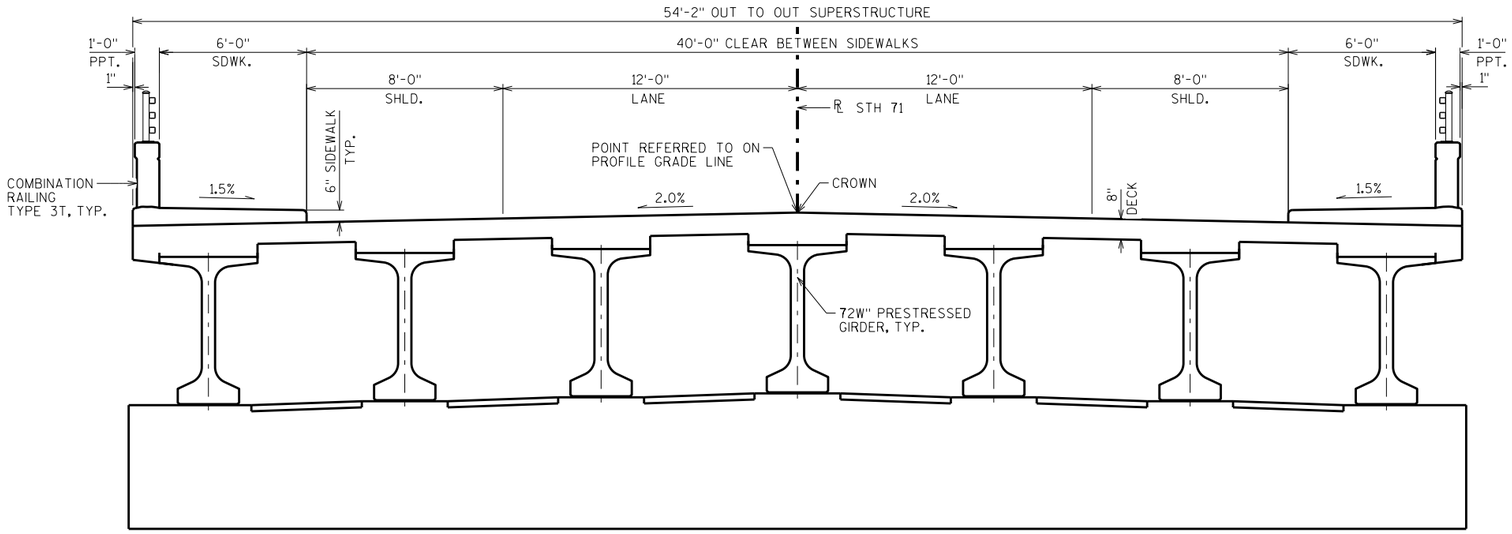
I.D. 5130-00-00A

DATE: MAY 2021

SCALE = 11.00

STATE PROJECT NUMBER

5130-00-80



CROSS SECTION

LOOKING EAST

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

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

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

BEVEL EXPOSED EDGES OF CONCRETE ¾" UNLESS OTHERWISE NOTED.

THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES B-41-303" SHALL BE THE EXISTING GROUNDLINE.

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

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

THE QUANTITY FOR BACKFILL STRUCTURE IS CALCULATED BASED ON THE DETAIL SHOWN IN THE PLANS.

ELASTOMERIC BEARING PADS NEED NOT BE INDIVIDUALLY MOLDED PROVIDED THE CUT EDGES ARE SMOOTH AND TRUE.

PROTECTIVE SURFACE TREATMENT TO BE APPLIED TO THE ENTIRE EXPOSED TOP OF DECK SURFACES BETWEEN SIDEWALKS, CURBS & TOPS OF SIDEWALKS AS WELL AS THE THE VERTICAL AND HORIZONTAL SURFACES OF PAVING NOTCHES AT ABUTMENT DIAPHRAGMS.

PIGMENTED SURFACE SEALER TO BE APPLIED TO THE FRONT FACE AND THE TOP OF THE PARAPETS, INCLUDING PARAPETS ON WINGS.

THE SLOPE OF THE FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH HEAVY RIPRAP AND GEOTEXTILE TYPE "HR" TO THE EXTENT SHOWN ON SHEET 1 AND THE ABUTMENT DETAILS.

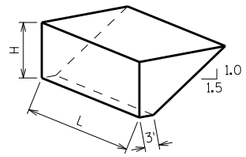
THE HAUNCH CONCRETE QUANTITY IS BASED ON THE AVERAGE HAUNCH SHOWN ON THE "72W" PRESTRESSED GIRDER DETAILS 2" SHEET.

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

REFER TO ROADWAY PLANS FOR TEMPORARY STRUCTURE DETAILS.

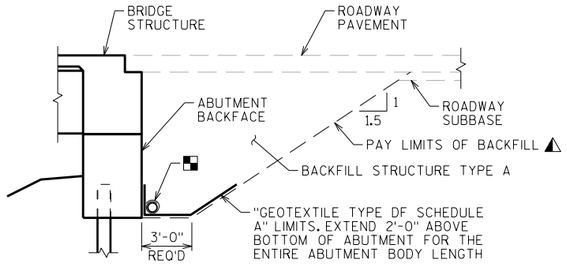
TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	SUPER.	WEST ABUT.	EAST ABUT.	TOTALS
203.0600.S	REMOVING OLD STRUCTURE OVER WATERWAY WITH MINIMAL DEBRIS STA. 170+83.00	LS	———	———	———	1
206.1000	EXCAVATION FOR STRUCTURES BRIDGES B-41-303	LS	———	———	———	1
210.1500	BACKFILL STRUCTURE TYPE A	TON	———	580	580	1,160
502.0100	CONCRETE MASONRY BRIDGES	CY	339	66	65	470
502.3200	PROTECTIVE SURFACE TREATMENT	SY	763	———	———	763
502.3210	PIGMENTED SURFACE SEALER	SY	138	———	———	138
503.0172	PRESTRESSED GIRDER TYPE I 72W-INCH	LF	896	———	———	896
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	———	4,180	4,180	8,360
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	58,500	4,960	4,900	68,360
506.2605	BEARING PADS ELASTOMERIC NON-LAMINATED	EACH	14	———	———	14
506.4000	STEEL DIAPHRAGMS B-41-303	EACH	12	———	———	12
513.7093	RAILING STEEL TYPE 3T	LF	342	———	———	342
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	———	19	19	38
526.0100	TEMPORARY STRUCTURE STA. 33+02	LS	———	———	———	1
550.0020	PRE-BORING ROCK OR CONSOLIDATED MATERIALS	LF	———	130	———	130
550.1120	PILING STEEL HP 12-INCH 53 LB	LF	———	195	520	715
606.0300	RIPRAP HEAVY	CY	———	375	470	845
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	———	100	100	200
614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	EACH	4	———	———	4
645.0111	GEOTEXTILE TYPE DF SCHEDULE A	SY	———	52	52	104
645.0120	GEOTEXTILE TYPE HR	SY	———	720	925	1,645
	NON-BID ITEMS					
	FILLER	SIZE	———	———	———	½", ¾"



ABUTMENT BACKFILL DIAGRAM FOR WINGS PARALLEL TO ROADWAY

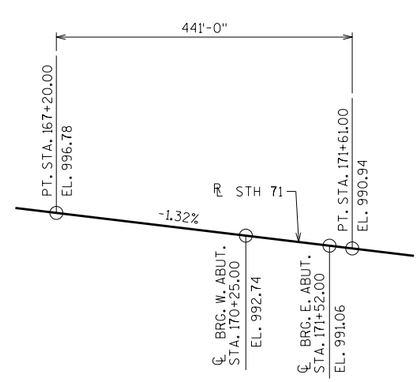
L = OUT TO OUT OF ABUTMENT, INCLUDING WINGS (FT)
H = AVERAGE ABUTMENT FILL HEIGHT (FT)
EF = EXPANSION FACTOR (1.20 FOR CY BID ITEMS AND 1.00 FOR TON BID ITEMS)
V_{CF} = (L)(3.0')(H) + (L)(0.5)(1.5H)(H)
V_{CY} = V_{CF} (EF)/27
V_{TON} = V_{CY} (2.0)



TYPICAL SECTION THRU ABUTMENT

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

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



PROFILE GRADE LINE - STH 71

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-41-303

DRAWN BY DDS | PLANS CK'D. SEW

CROSS SECTION & QUANTITIES

SHEET 2

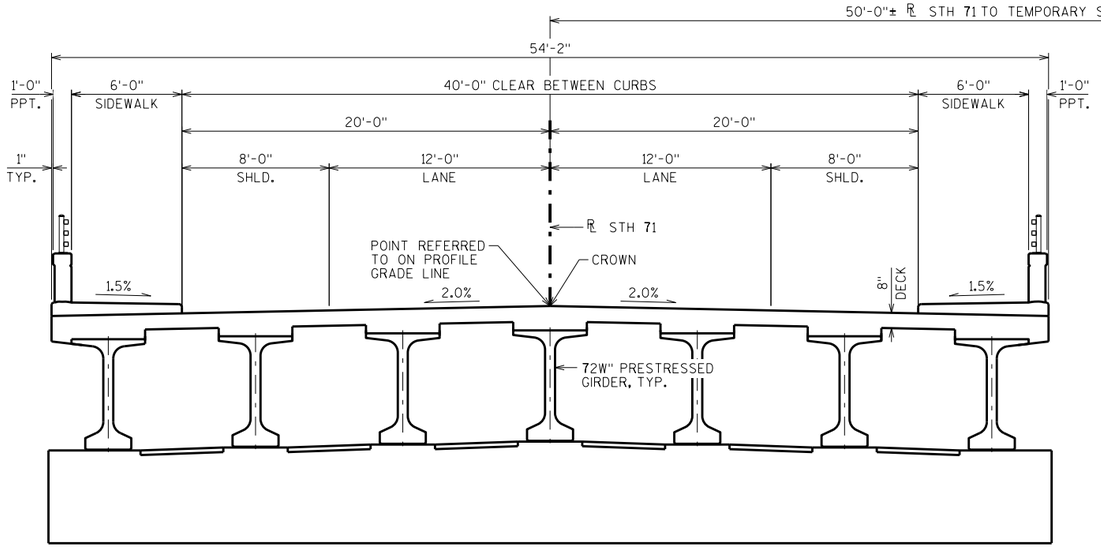
136

8

8

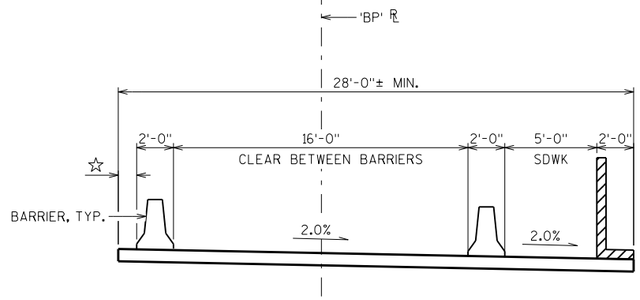
SCALE = 3.00

STATE PROJECT NUMBER
5130-00-80



B-41-303

CROSS SECTION THRU ROADWAY ℄ STH 71 OVER THE KICKAPOO RIVER - LOOKING EAST



TEMPORARY STRUCTURE

(SEE ROADWAY PLANS FOR ADDITIONAL TEMPORARY BYPASS INFORMATION)

☆TEMPORARY CONCRETE BARRIER MINIMUM DEFLECTION CLEARANCE

DRIVING SURFACE	BARRIER CONNECTION	CONSTRUCTION POSTED SPEED	
		40 MPH OR LESS	45 MPH OR GREATER
ASPHALTIC OVERLAY	UNANCHORED	2'-0"	4-0"
REINFORCED CONCRETE			
	ANCHORED	6"	

NOTE:
SEE ROADWAY PLANS FOR FULL STAGING DETAILS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-41-303

DRAWN BY DDS | PLANS CK'D. SEW

TEMPORARY STRUCTURE CROSS SECTION

SHEET 3

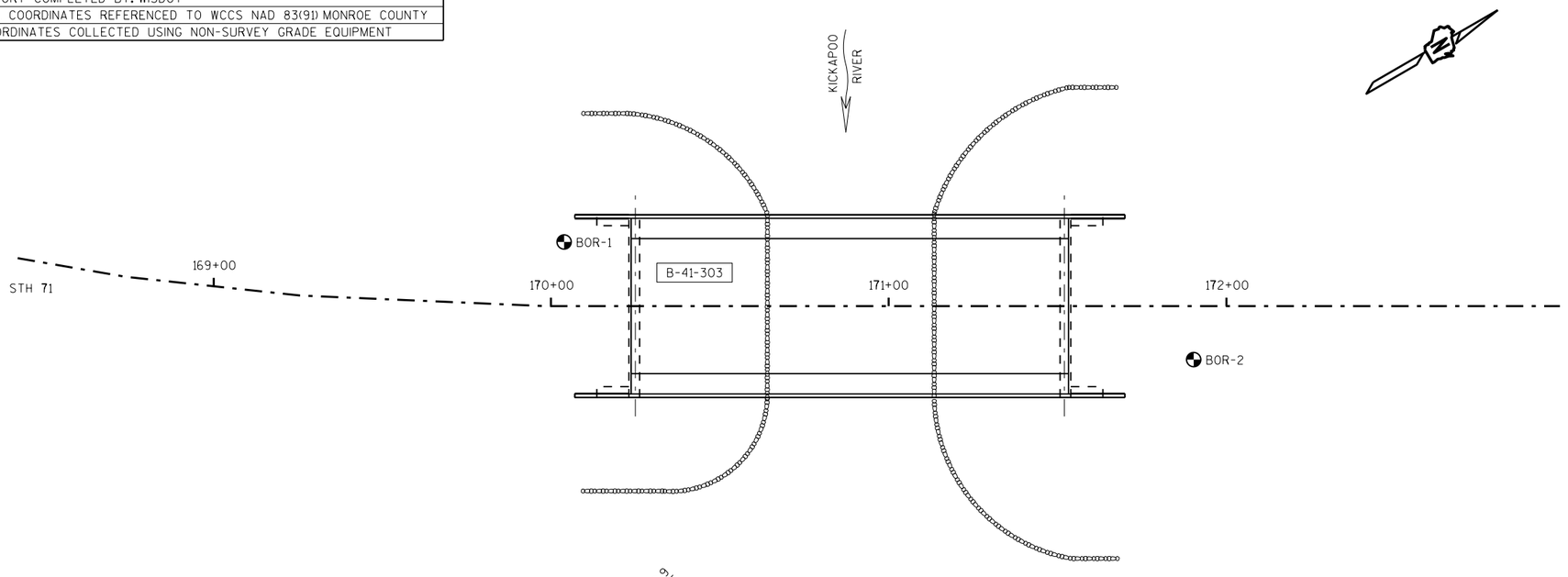
137

SCALE = 4.00

8

8

BORING #	DATE COMPLETED	NORTHING (Y)	EASTING (X)
1	7/07/2020	332689	702559
2	7/08/2020	332831	702684
BORINGS COMPLETED BY: WISDOT			
REPORT COMPLETED BY: WISDOT			
ALL COORDINATES REFERENCED TO WCCS NAD 83(91) MONROE COUNTY			
COORDINATES COLLECTED USING NON-SURVEY GRADE EQUIPMENT			



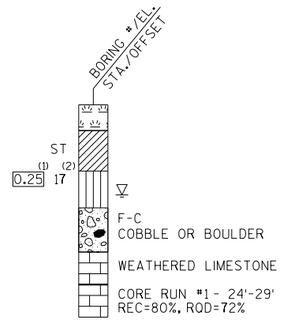
STATE PROJECT NUMBER

5130-00-80

MATERIAL SYMBOLS

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

LEGEND OF BORING



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

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

GROUND WATER ELEVATION

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

ABBREVIATIONS

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

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

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

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-41-303

DRAWN BY TLP/SEW | PLANS CK'D. SEW

SUBSURFACE EXPLORATION

SHEET 4

138

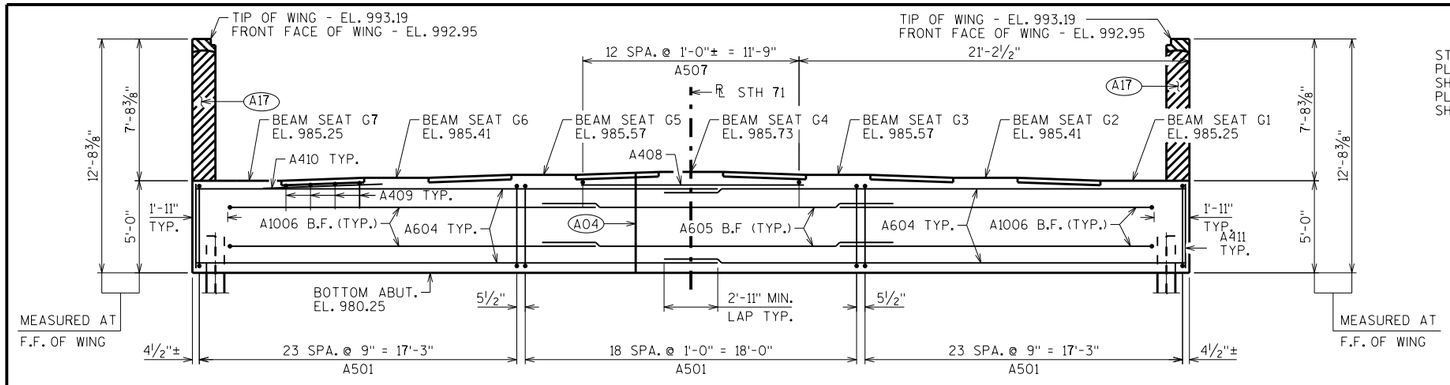
SCALE = 20

8

8

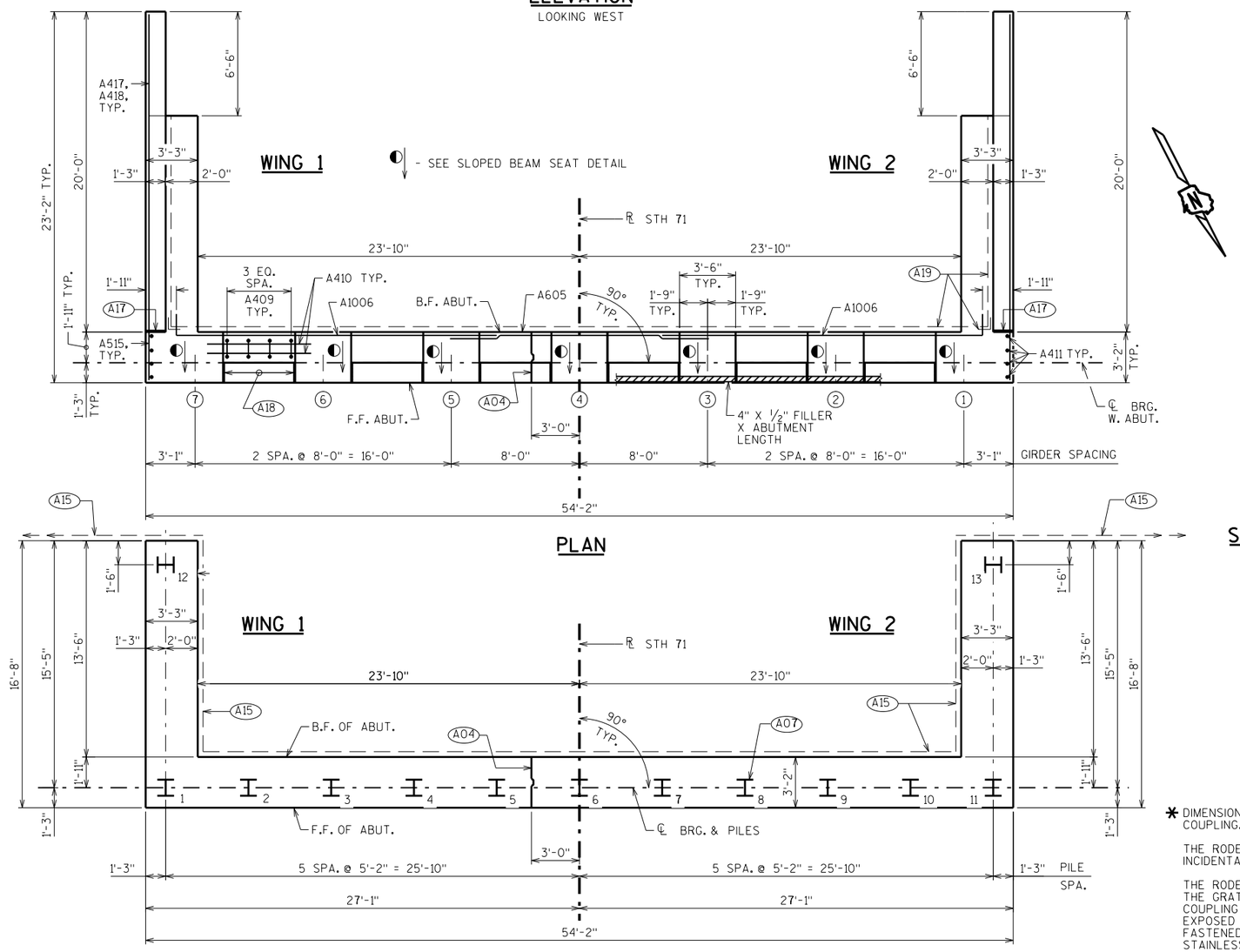
STATE PROJECT NUMBER

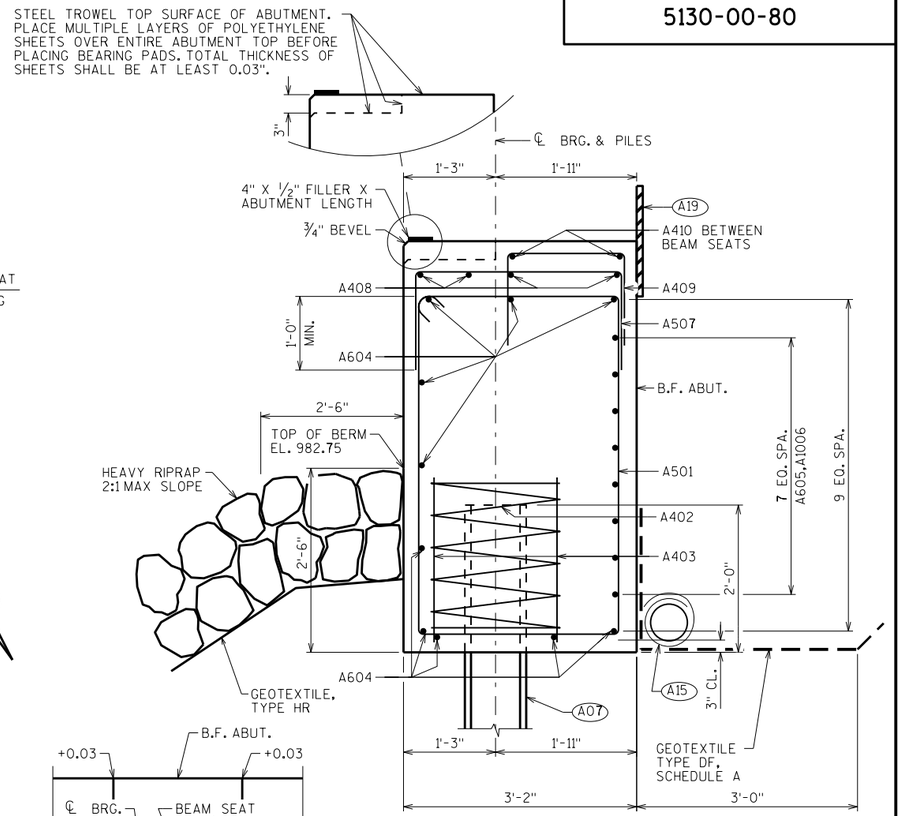
5130-00-80



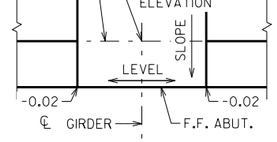
ELEVATION

LOOKING WEST

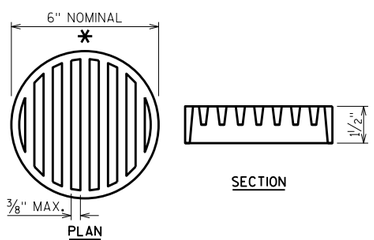




SECTION THRU BODY



SLOPED BEAM SEAT DETAIL



RODENT SHIELD DETAIL

(A04) VERT. CONST. JOINT: KEYWAY FORMED BY A BEVELED 2" x 8". ¾" "V" GROOVE @ THE FRONT FACE AND 18" RMW @ BACKFACE. FOR OPTIONAL DETAILS SEE "ALTERNATE CONSTRUCTION JOINT" SHEET.

(A07) SUPPORT ABUTMENT ON HP 12 X 53 STEEL PILING, ESTIMATED 15'-0" LONG WITH A REQUIRED DRIVING RESISTANCE OF 220 TONS PER PILE. PRE-BORING REQUIRED FOR A MINIMUM 10'-0".

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

(A17) 1/2" FILLER (INCLUDED IN WING LENGTH): SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.

(A18) 3/4" CORK FILLER UP VERT. BEAM SEAT FACES THAT RUN PARALLEL WITH GIRDER.

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

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

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

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

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-41-303

DRAWN BY DDS | PLANS CK'D. SEW

WEST ABUTMENT

SHEET 5

139

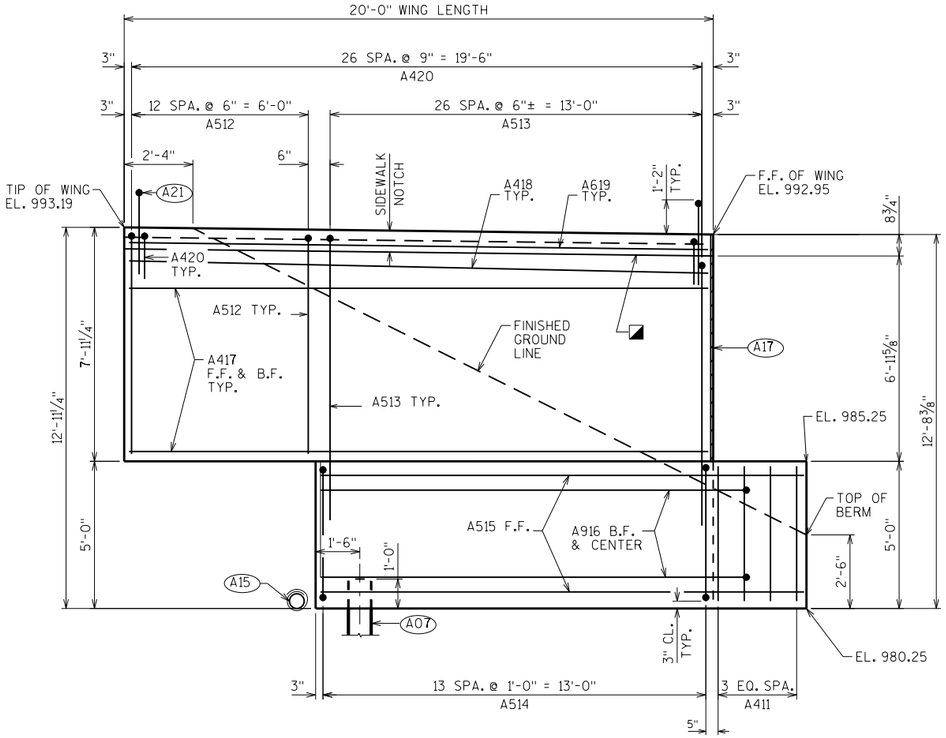
8

8

SCALE = 4.00

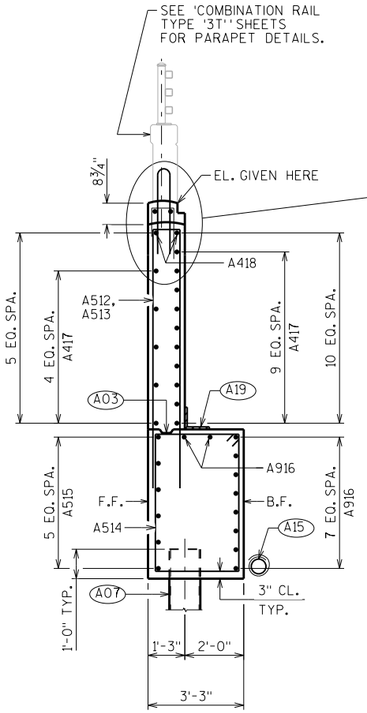
STATE PROJECT NUMBER

5130-00-80

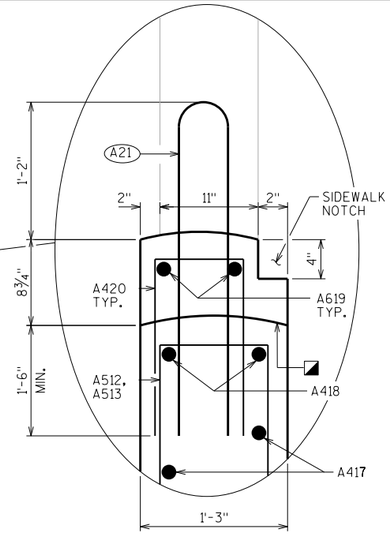


WING 1 SHOWN

WING 2 SIMILAR



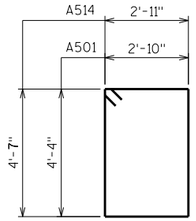
SECTION THRU WING



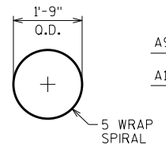
BILL OF BARS

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

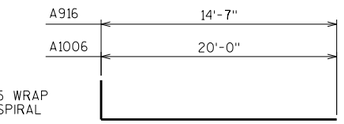
BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
A501		67	15'-0"	X		BODY - STIRRUP
A402		11	28'-0"	X		BODY - PILES - 1 PER BODY PILE
A403		22	2'-3"			BODY - PILES - 2 PER BODY PILE
A604		22	28'-5"			BODY - HORIZ. - F.F. & CENTER
A605		8	18'-2"			BODY - HORIZ. - B.F. - CENTER
A1006		16	21'-7"	X		BODY - HORIZ. - B.F. - ENDS
A507		13	5'-7"	X		BODY - VERT. - TOP CENTER
A408		4	12'-2"			BODY - HORIZ. - TOP CENTER
A409		24	3'-11"	X		BODY - VERT.
A410		12	6'-6"			BODY - HORIZ.
A411		8	4'-7"			BODY - VERT. - ENDS
A512	X	26	14'-2"	X		WINGS 1&2 - VERT.
A513	X	54	18'-8"	X		WINGS 1&2 - VERT.
A514	X	28	15'-8"	X		WINGS 1&2 - STIRRUPS
A515	X	12	16'-4"			WINGS 1&2 - HORIZ.- F.F.
A916	X	20	15'-11"	X		WINGS 1&2 - HORIZ.- B.F. & CENTER
A417	X	30	19'-8"			WINGS 1&2 - HORIZ.
A418	X	4	19'-8"			WINGS 1&2 - HORIZ.- TOP
A619	X	4	19'-8"			WINGS 1&2 - HORIZ. - TOP
A420	X	54	4'-8"	X		WINGS 1&2 - VERT. - TOP



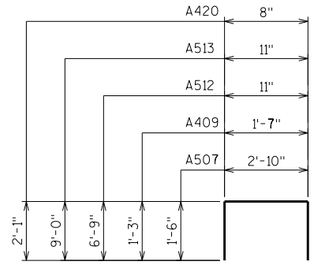
A501, A514



A402



A1006, A916



A507, A409, A512, A513, A420

(A03) OPTIONAL CONST. JOINT: KEYWAY FORMED BY BEVELED 2" X 6". (18" RMW @ B.F. & 3/4" "V" GROOVE @ F.F. IF JOINT IS USED).

(A07) SUPPORT ABUTMENT ON HP 12 X 53 STEEL PILING, ESTIMATED 15'-0" LONG WITH A REQUIRED DRIVING RESISTANCE OF 220 TONS PER PILE. PRE-BORING REQUIRED FOR A MINIMUM OF 10'-0".

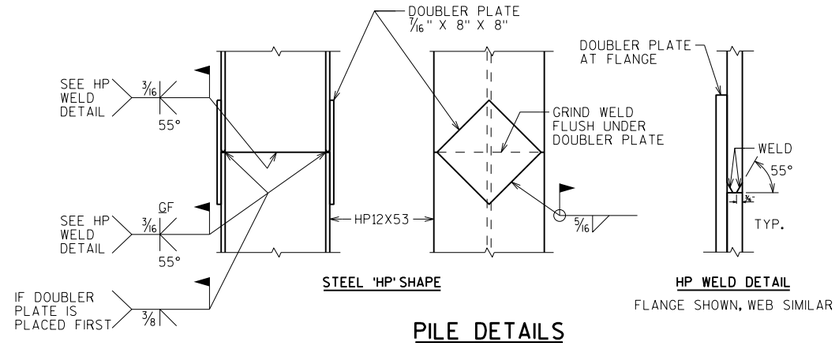
(A15) PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. RODENT SHIELD REQUIRED.

(A17) 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.

(A19) 1/2" FILLER (INCLUDED IN WING LENGTH): SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.

(A21) FOR PPT. BARS AND DIMENSIONS SEE "COMBINATION RAILING PARAPET TYPE '3T'" SHEET.

◪ CONSRUCTION JOINT STRIKE OFF LEAVE ROUGH



STEEL 'HP' SHAPE

HP WELD DETAIL

FLANGE SHOWN, WEB SIMILAR

PILE DETAILS

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-41-303

DRAWN BY DDS | PLANS CK'D. SEW

WEST ABUTMENT DETAILS

SHEET 6

140

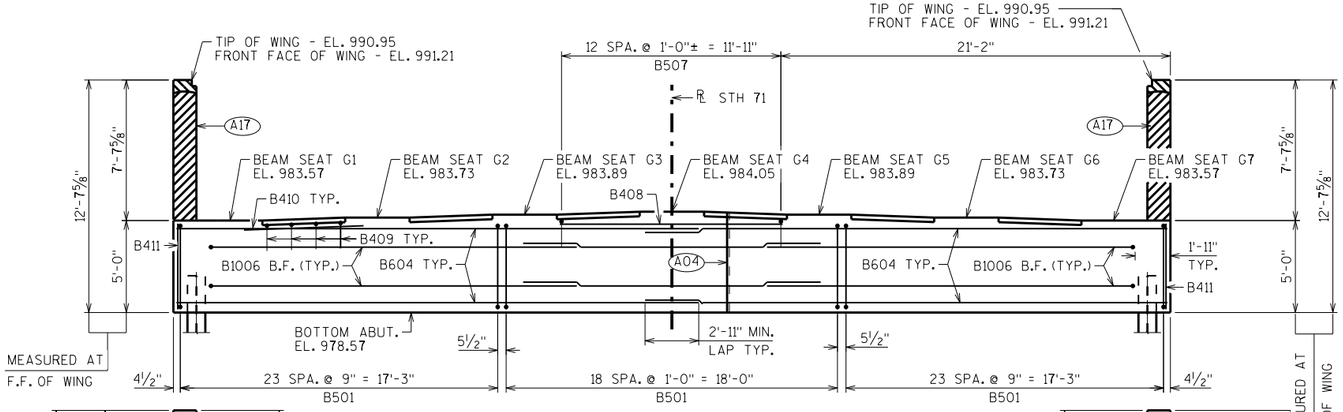
SCALE = 2.50

8

8

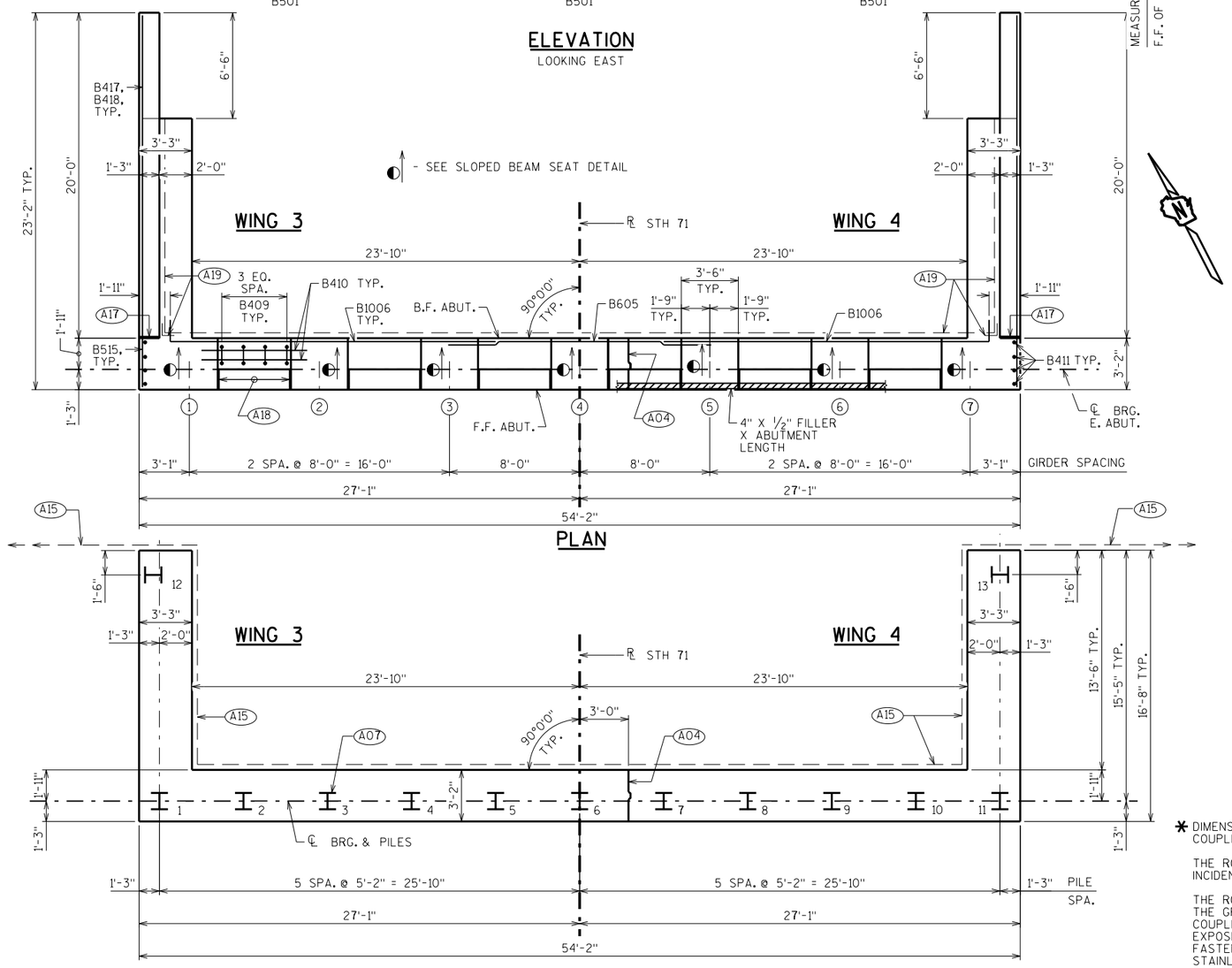
STATE PROJECT NUMBER

5130-00-80



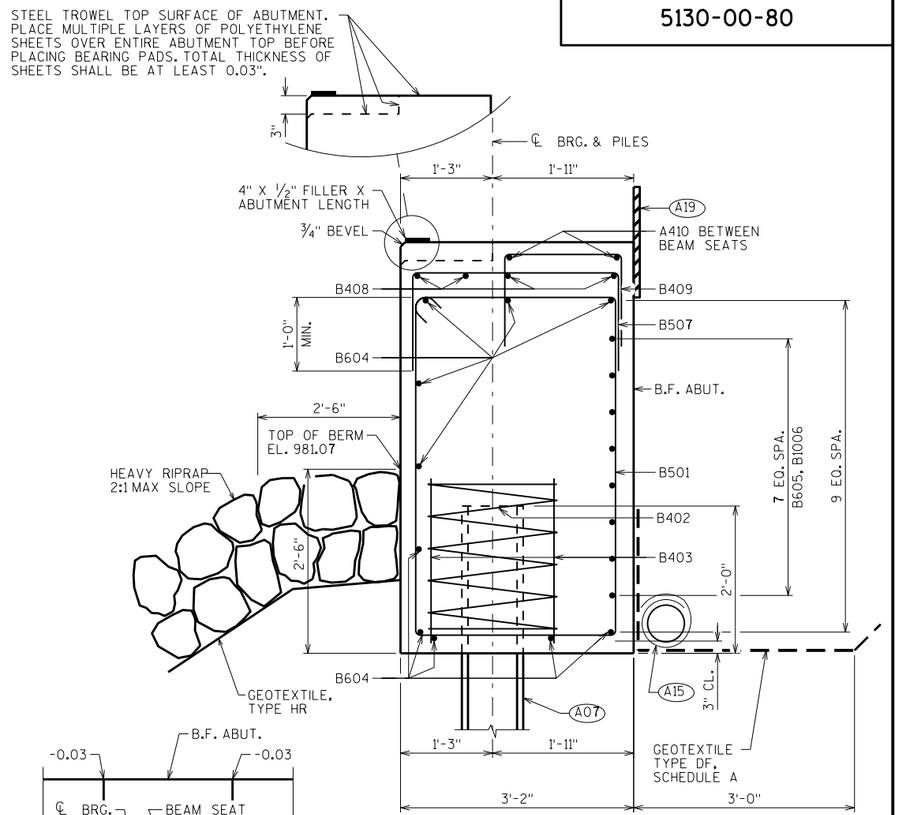
ELEVATION

LOOKING EAST

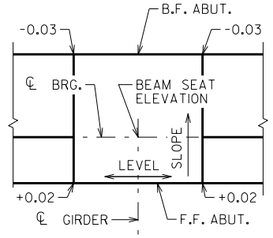


PLAN

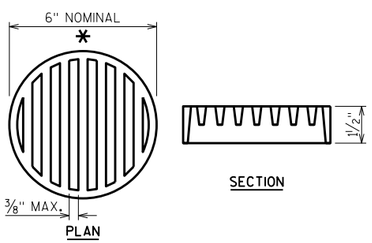
PILE PLAN



SECTION THRU BODY



SLOPED BEAM SEAT DETAIL



RODENT SHIELD DETAIL

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

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

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

(A04) VERT. CONST. JOINT: KEYWAY FORMED BY A BEVELED 2" x 8". 3/4" "V" GROOVE @ THE FRONT FACE AND 18" RMW @ BACKFACE. FOR OPTIONAL DETAILS SEE "ALTERNATE CONSTRUCTION JOINT" SHEET.

(A07) SUPPORT ABUTMENT ON HP 12 X 53 STEEL PILING, ESTIMATED 40'-0" LONG WITH A REQUIRED DRIVING RESISTANCE OF 220 TONS PER PILE.

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

(A17) 1/2" FILLER (INCLUDED IN WING LENGTH): SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.

(A18) 3/4" CORK FILLER UP VERT. BEAM SEAT FACES THAT RUN PARALLEL WITH GIRDER.

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

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-41-303

DRAWN BY DDS | PLANS CK'D. SEW

EAST ABUTMENT

SHEET 7

141

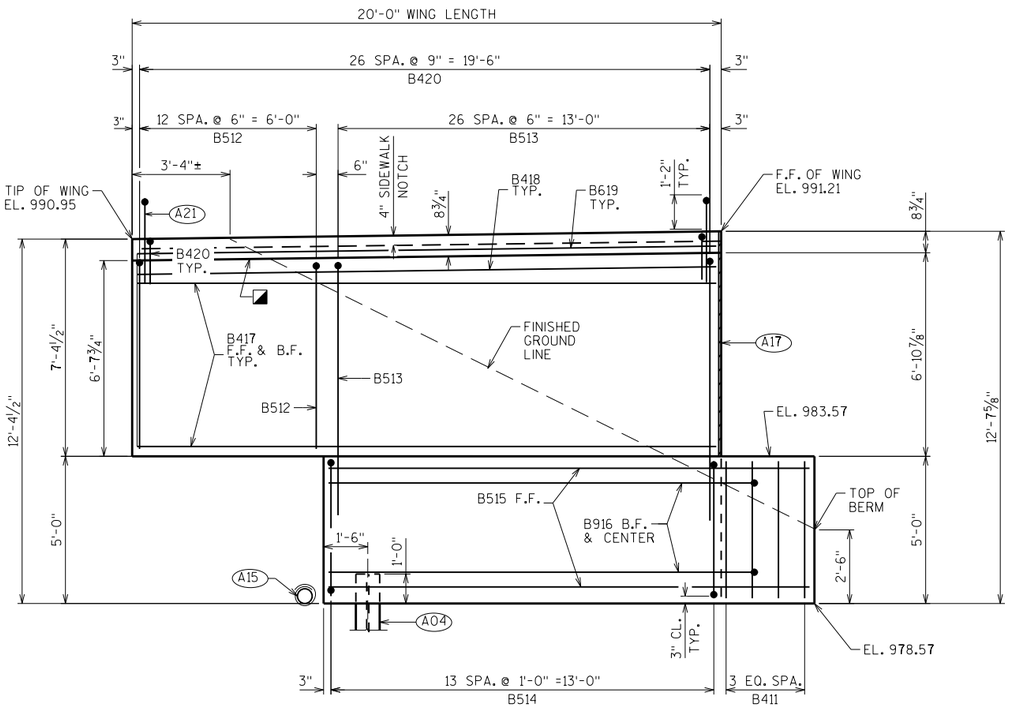
SCALE = 4.00

8

8

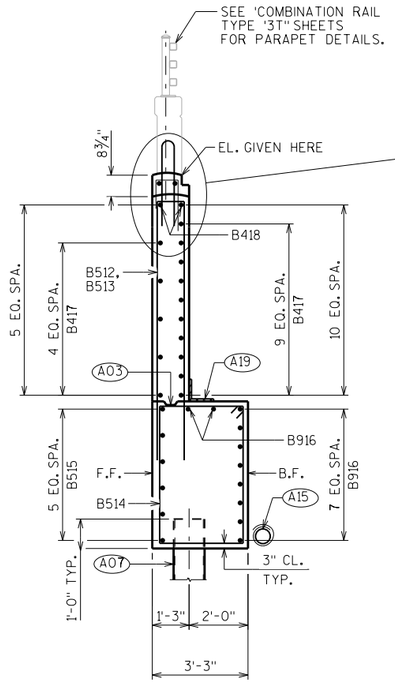
STATE PROJECT NUMBER

5130-00-80

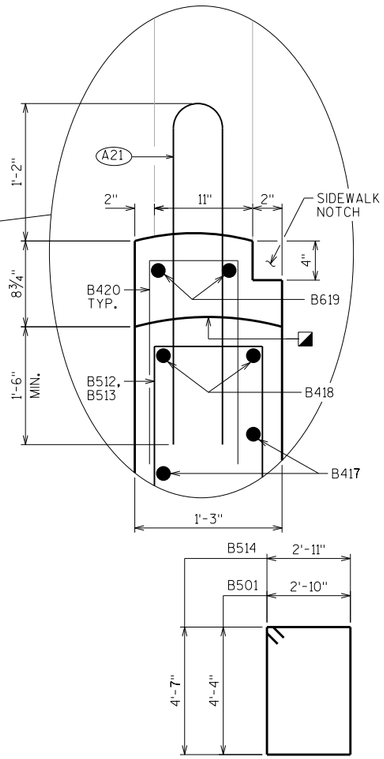


WING 3 SHOWN

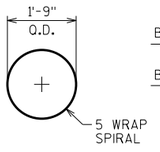
WING 4 SIMILAR



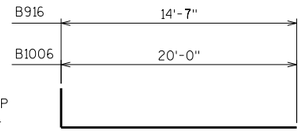
SECTION THRU WING



B501, B514



B402

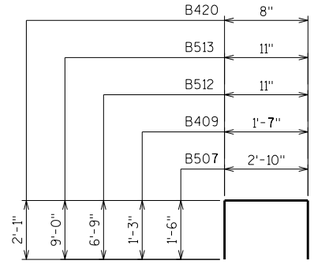


B1006, B916

BILL OF BARS

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

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
B501		67	15'-0"	X		BODY - STIRRUP
B402		11	28'-0"	X		BODY - PILES - 1 PER BODY PILE
B403		22	2'-3"			BODY - PILES - 2 PER BODY PILE
B604		22	28'-5"			BODY - HORIZ. - F.F. & CENTER
B605		8	18'-2"			BODY - HORIZ. - B.F. - CENTER
B1006		16	21'-7"	X		BODY - HORIZ. - B.F. - ENDS
B507		13	5'-7"	X		BODY - VERT. - TOP - CENTER
B408		4	12'-2"			BODY - HORIZ. - TOP - CENTER
B409		24	3'-11"	X		BODY - VERT.
B410		12	6'-6"			BODY - HORIZ.
B411		8	4'-7"			BODY - VERT. - ENDS
B512	X	26	14'-2"	X		WINGS 3&4 - VERT.
B513	X	54	18'-8"	X		WINGS 3&4 - VERT.
B514	X	28	15'-8"	X		WINGS 3&4 - STIRRUPS
B515	X	12	16'-4"			WINGS 3&4 - HORIZ. - F.F.
B916	X	20	15'-1"	X		WINGS 3&4 - HORIZ. - B.F. & CENTER
B417	X	30	19'-8"			WINGS 3&4 - HORIZ.
B418	X	4	19'-8"			WINGS 3&4 - HORIZ. - TOP
B619	X	4	19'-8"			WINGS 3&4 - HORIZ. - TOP
B420	X	54	4'-8"	X		WINGS 3&4 - VERT. - TOP



B507, B409, B512, B513, B420

(A03) OPTIONAL CONST. JOINT: KEYWAY FORMED BY BEVELED 2" X 6". (18" RMW @ B.F. & 3/4" "V" GROOVE @ F.F. IF JOINT IS USED).

(A07) SUPPORT ABUTMENT ON HP 12 X 53 STEEL PILING, ESTIMATED 40'-0" LONG WITH A REQUIRED DRIVING RESISTANCE OF 220 TONS PER PILE.

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

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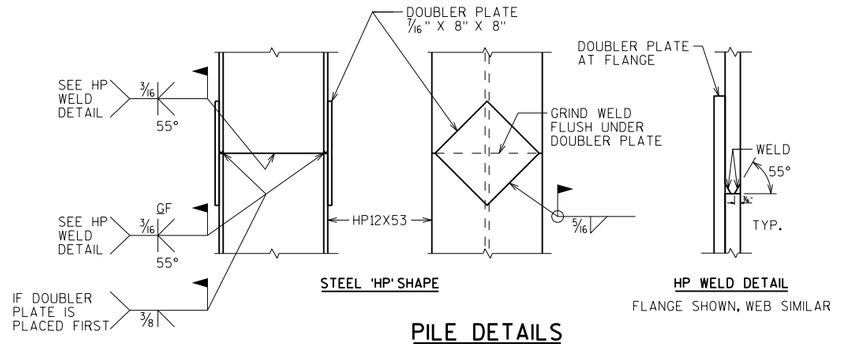
(A19) 1/2" FILLER (INCLUDED IN WING LENGTH): SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.

(A21) FOR PPT. BARS AND DIMENSIONS SEE "COMBINATION RAILING PARAPET TYPE '3T'" SHEET.

◪ CONSRUCTION JOINT STRIKE OFF LEAVE ROUGH



STEEL 'HP' SHAPE

HP WELD DETAIL

FLANGE SHOWN, WEB SIMILAR

PILE DETAILS

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-41-303

DRAWN BY DDS | PLANS CK'D. SEW

EAST ABUTMENT DETAILS

SHEET 8

142

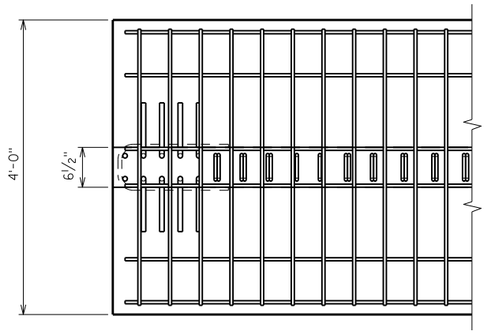
SCALE = 2.50

8

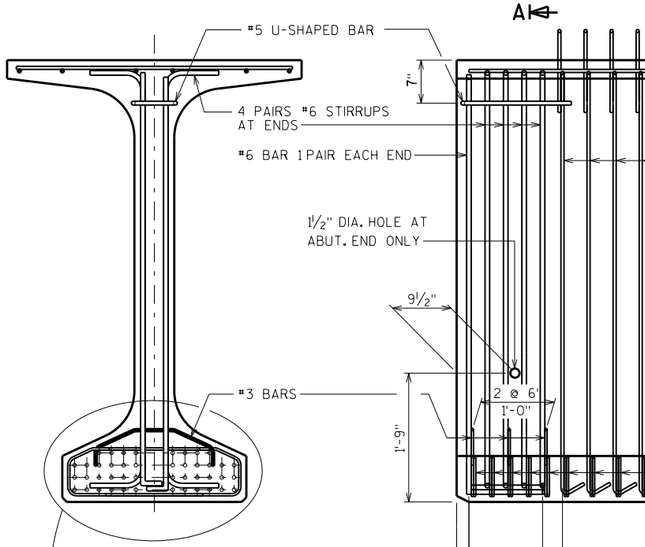
8

STATE PROJECT NUMBER

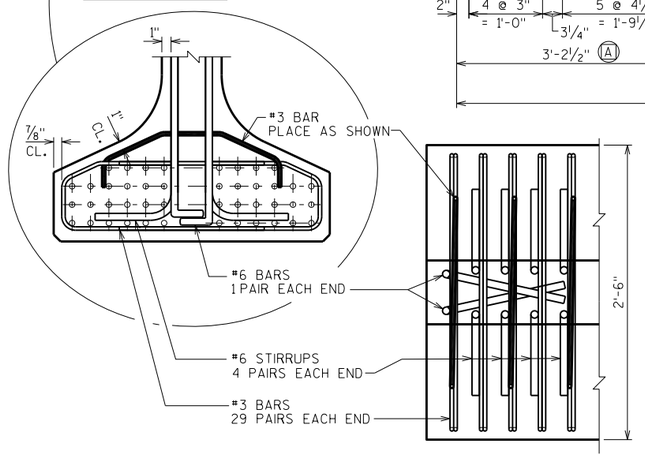
5130-00-80



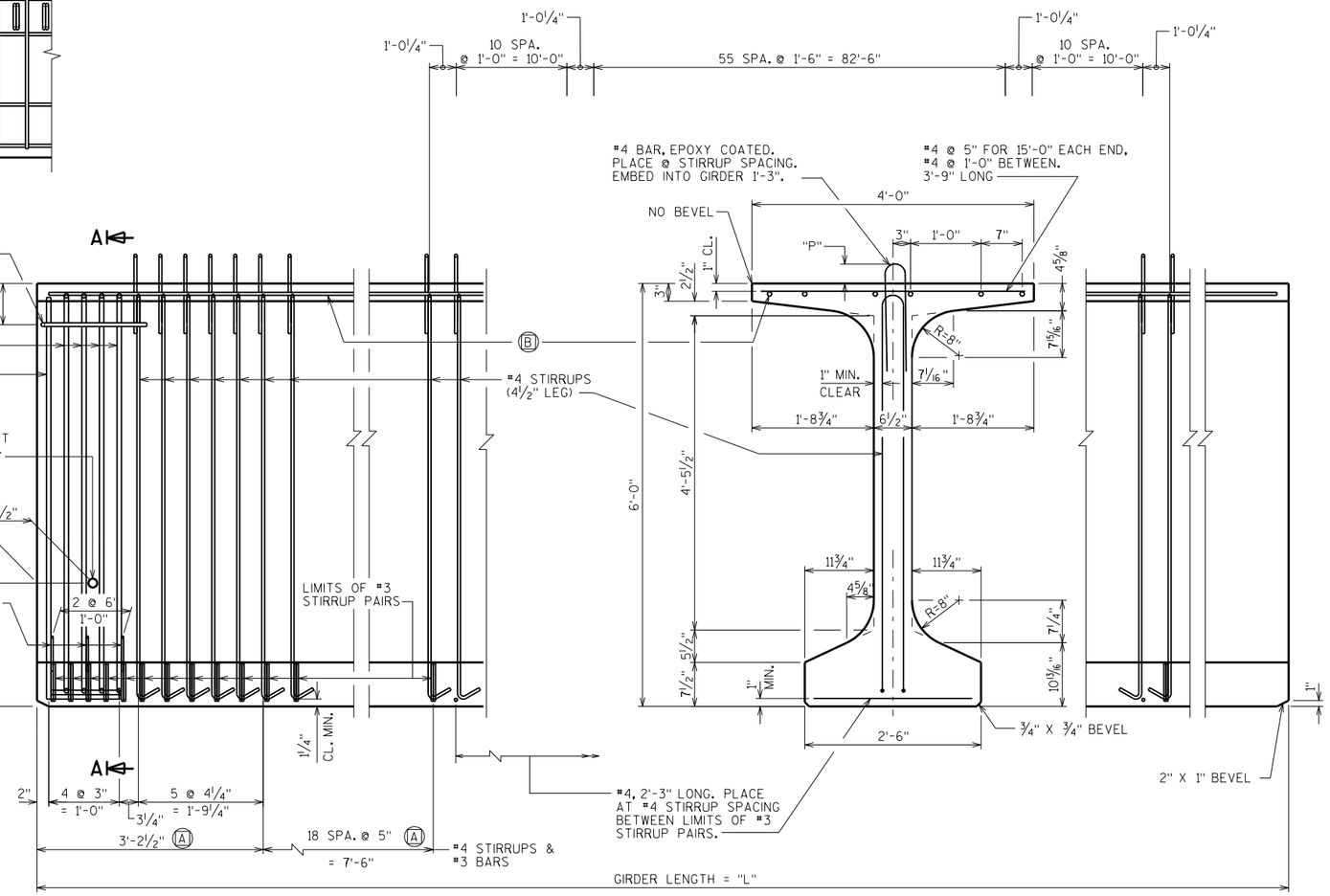
TOP FLANGE



SECTION A-A



BOTTOM FLANGE



SIDE VIEW & TYP. SECTION IN SPAN

Ⓐ DETAIL TYP. AT EACH END

Ⓑ 6 #4 BARS, FULL LENGTH, MIN. LAP = 1'-11"

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.

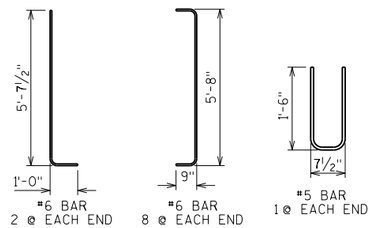
ALL GIRDERS SHALL BE CAST FULL LENGTH AS SHOWN.

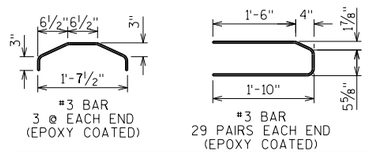
SPACING SHOWN FOR #4 STIRRUPS IS FOR GRADE 60 REINFORCEMENT.

AN EQUIVALENT OF WELDED WIRE FABRIC (WWF) ASTM A1064 MAY BE SUBSTITUTED FOR THE STIRRUP REINFORCEMENT SHOWN, UPON ACCEPTANCE 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.) IST 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	1-7	128	0.5	0.9	1.3	1.5	1.6	1.5	1.3	0.9	0.5	8,000	8	7	8	0.6	34	6,800	66	20.25	23.25	5		

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-41-303

DRAWN BY DDS | PLANS CK'D. SEW

72W" PRESTRESSED GIRDER DETAILS 1

SHEET 9

143

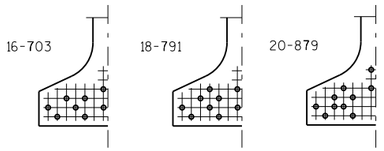
SCALE = 1.00

8

8

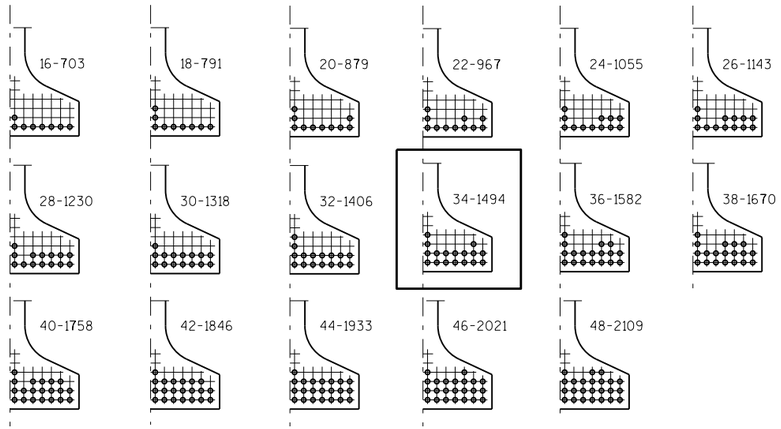
STATE PROJECT NUMBER

5130-00-80



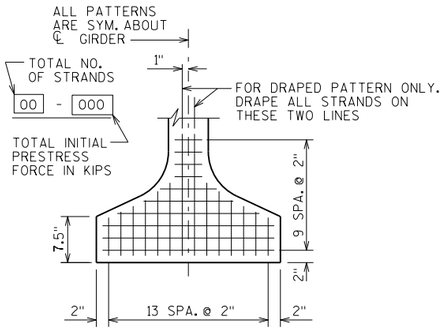
STANDARD ARRANGEMENTS TO RAISE CENTER OF GRAVITY TO AVOID DRAPING OF STRANDS

0.6" DIA. STRANDS

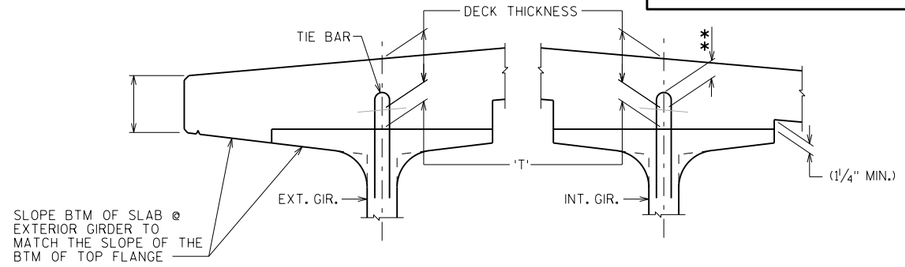


ARRANGEMENT AT ℄ SPAN - FOR GIRDERS WITH DRAPED STRANDS

0.6" DIA. STRANDS



TYP. STRAND PATTERN



DECK HAUNCH DETAIL

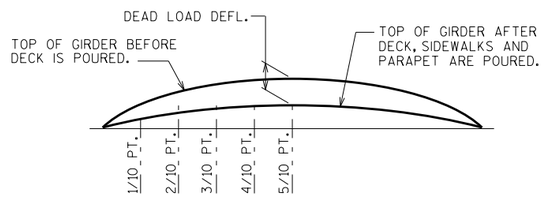
IF 1¼" MINIMUM HAUNCH HEIGHT AT EDGE OF GIRDER CANNOT BE MAINTAINED, THE GRADE LINE MAY BE REVISED BY THE ENGINEER AT THE OPTION OF THE CONTRACTOR, THE PLAN DECK THICKNESS SHALL BE HELD. NOTIFY THE STRUCTURES SECTION IF THE GRADE LINE IS RAISED FROM THE PLAN PROFILE BY MORE THAN ½" OR,

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

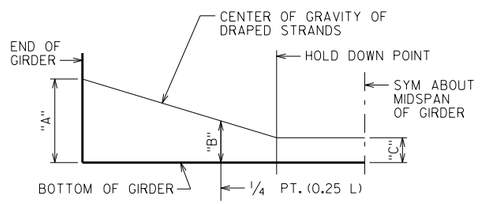
TO DETERMINE 'T', ELEV. OF TOP OF GIR'S. AT ℄ OF SUBSTRUCTURE UNITS & AT 1/10 POINTS OF EACH SPAN SHALL BE TAKEN. THEN FOLLOW THIS PROCESS:

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 3.0" 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	2.63

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
STRUCTURES DESIGN SECTION

STRUCTURE B-41-303

DRAWN BY DDS | PLANS CK'D. SEW

72W" PRESTRESSED GIRDER DETAILS 2

SHEET 10

144

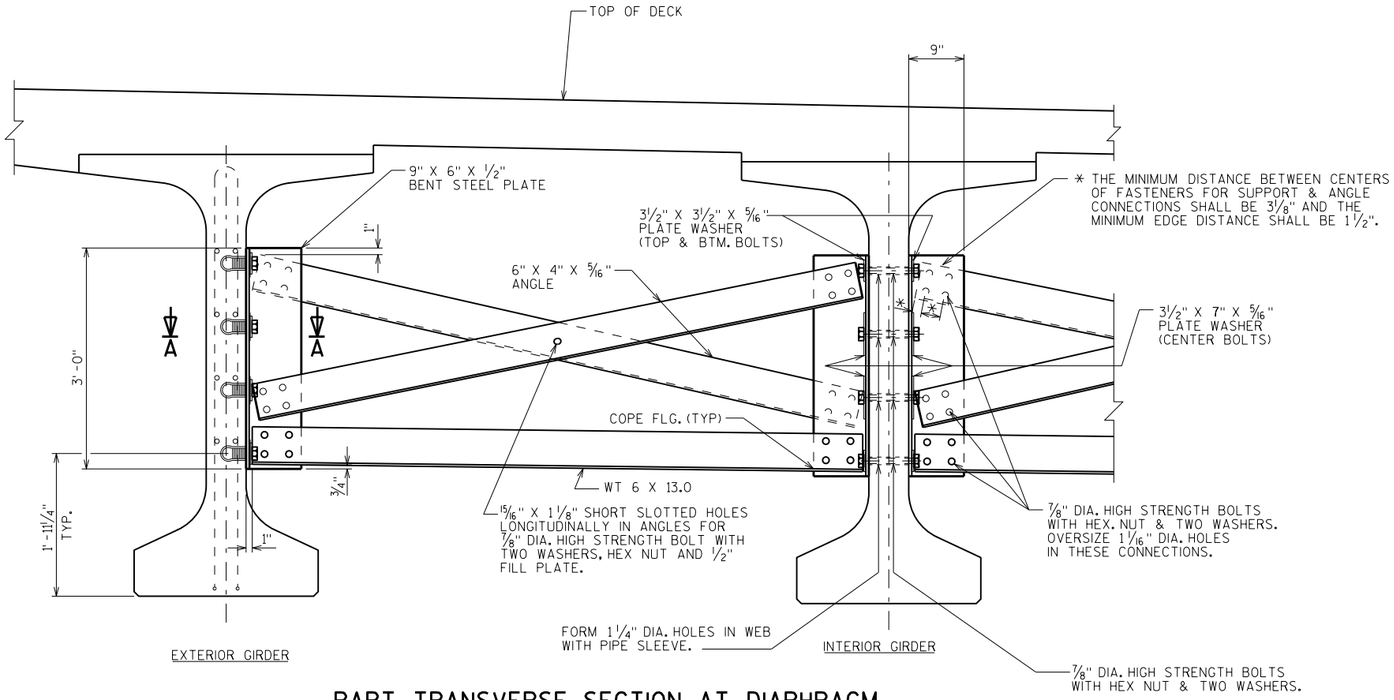
SCALE = 1.00

8

8

STATE PROJECT NUMBER

5130-00-80



PART TRANSVERSE SECTION AT DIAPHRAGM

(72W" PRESTRESSED GIRDER)

NOTES

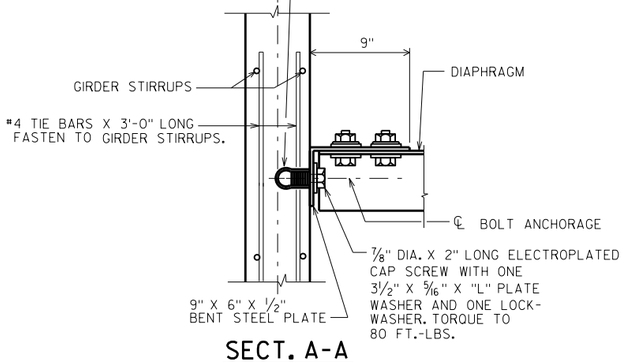
ALL DIAPHRAGM MATERIAL NOT EMBEDDED IN THE CONCRETE GIRDER SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "STEEL DIAPHRAGMS B-41-303", EACH.

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.

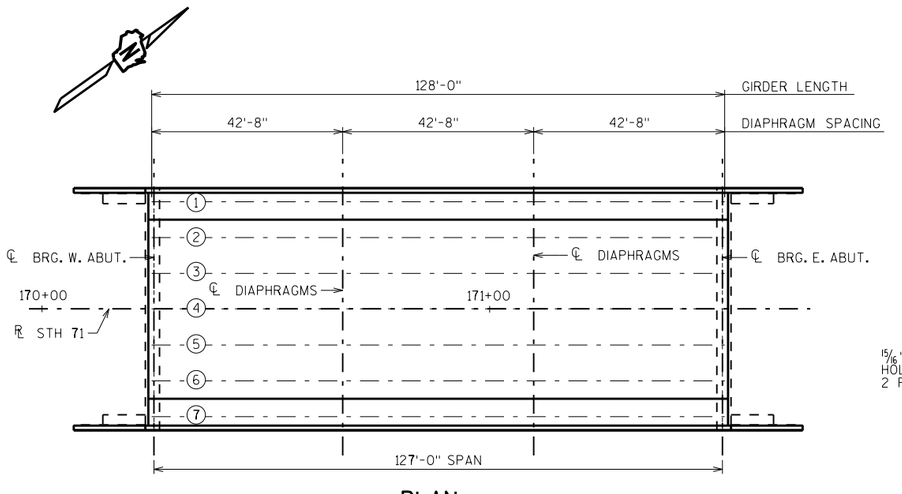
STEEL DIAPHRAGM TO CONCRETE WEB CONNECTION SHALL BE SNUG-TIGHT PLUS 1/4 TURN, UNLESS NOTED OTHERWISE. HIGH STRENGTH BOLTS FOR WEB CONNECTION SHALL MEET THE REQUIREMENTS FOR ASTM A325 OR ASTM A449.



SECT. A-A

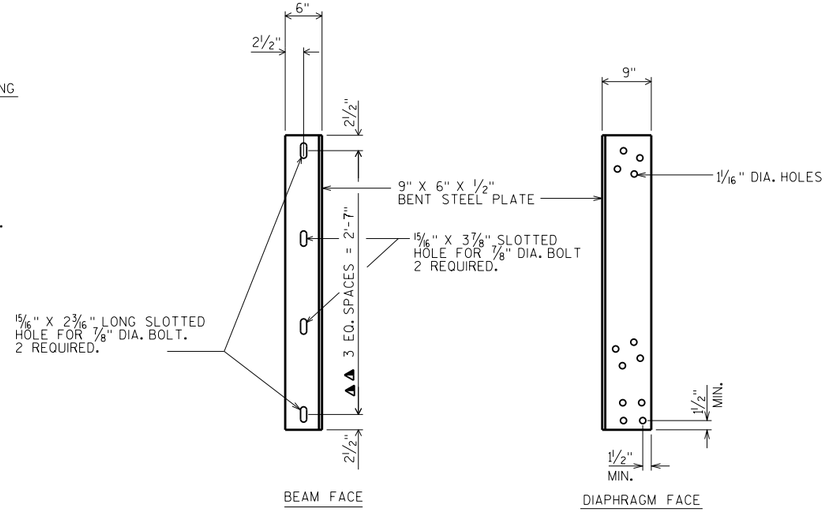
(FOR EXTERIOR ATTACHMENT)

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



PLAN

DIAPHRAGM MEASURED FROM THE ENDS OF GIRDERS



DIAPHRAGM SUPPORT

◯ INDICATES GIRDER NUMBER

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

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-41-303

DRAWN BY DDS | PLANS CK'D. SEW

STEEL DIAPHRAGM

SHEET 11

145

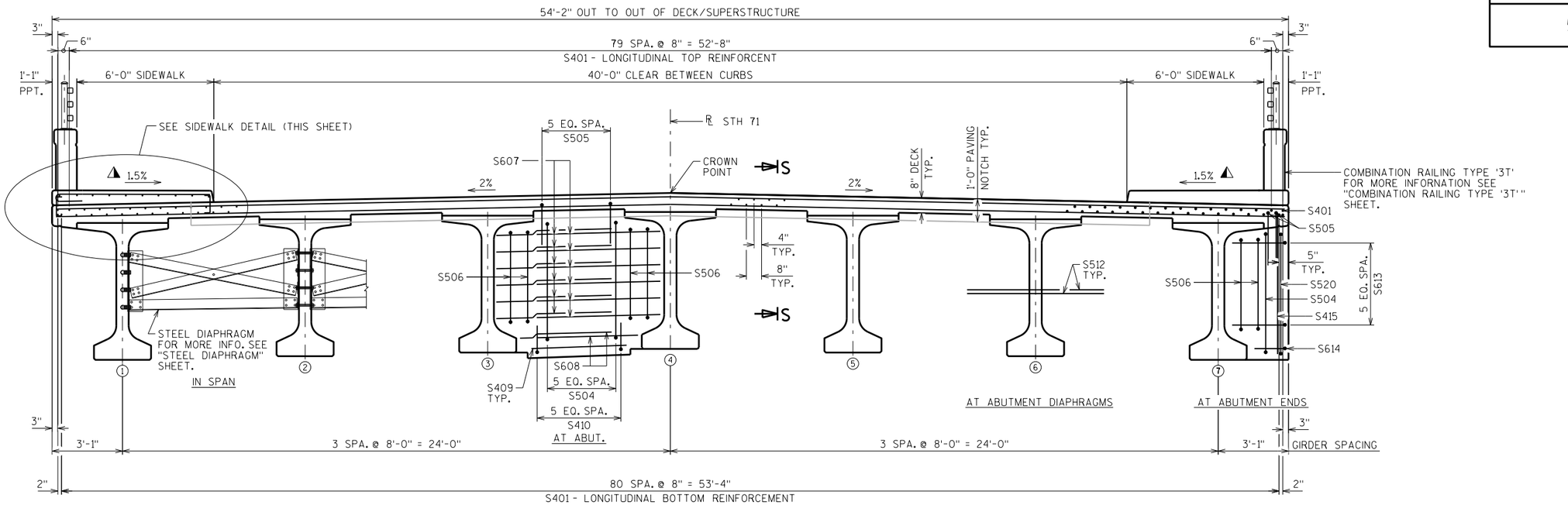
SCALE = 1.00

8

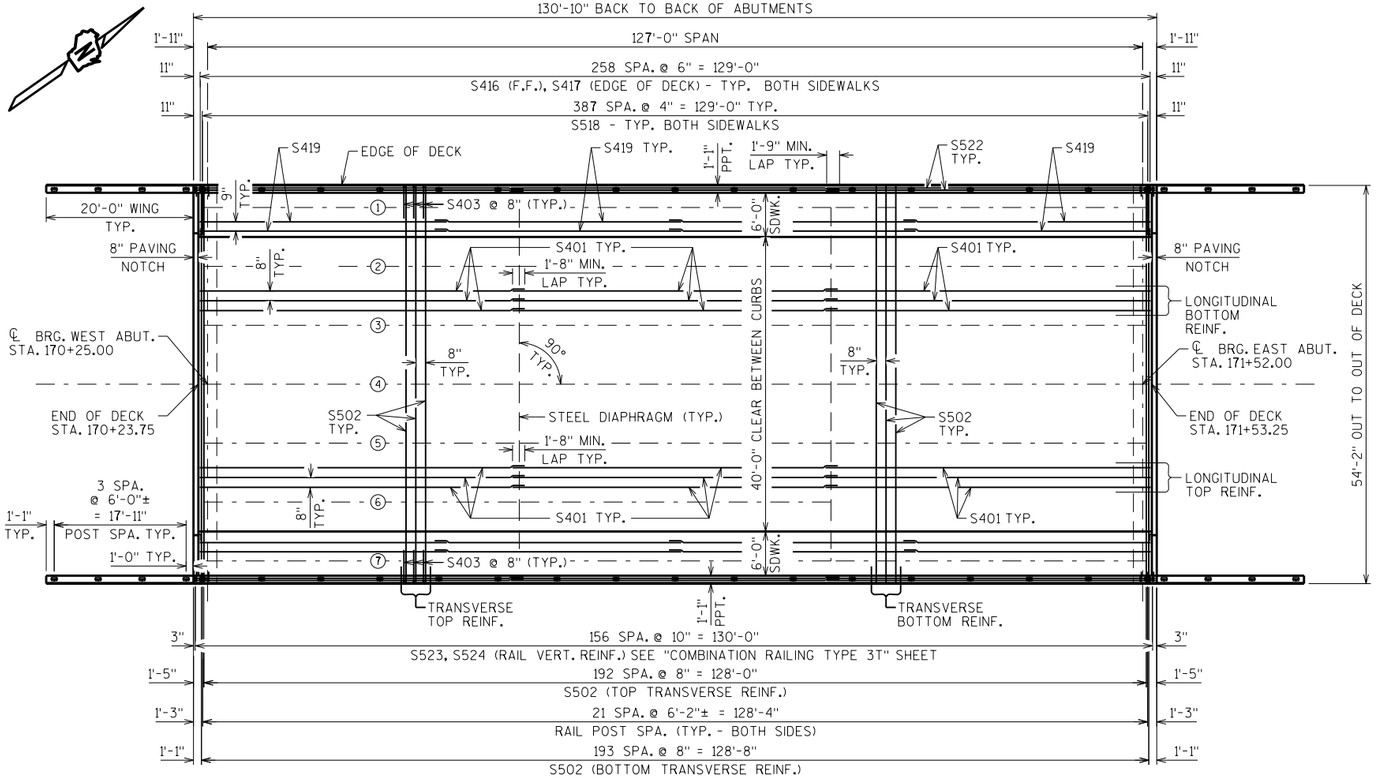
8

STATE PROJECT NUMBER

5130-00-80

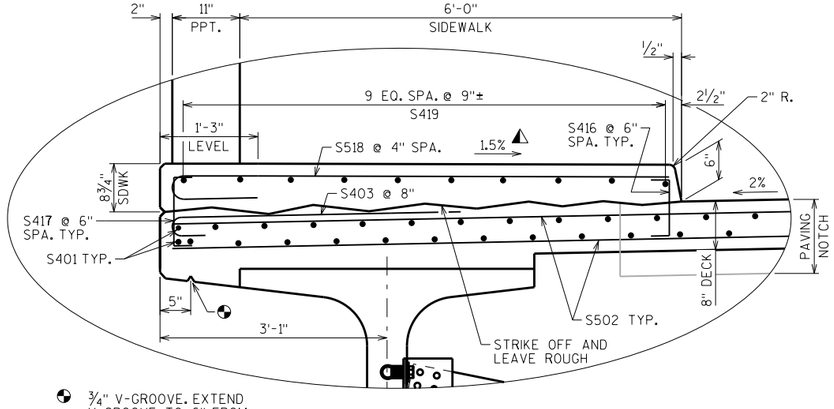


CROSS SECTION THRU ROADWAY - LOOKING EAST



○ INDICATES GIRDER NUMBER

PLAN

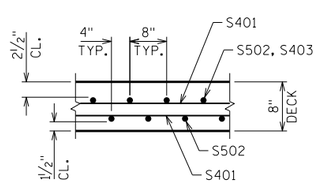


3/4" V-GROOVE. EXTEND V-GROOVE TO 6" FROM F.F. OF ABUT. DIAPHRAGM V-GROOVE REQUIRED.

CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

SIDEWALK DETAIL

TYP. - BOTH SIDES



SECTION S-S

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-41-303

DRAWN BY DDS | PLANS CK'D. SEW

SUPERSTRUCTURE

SHEET 12

146

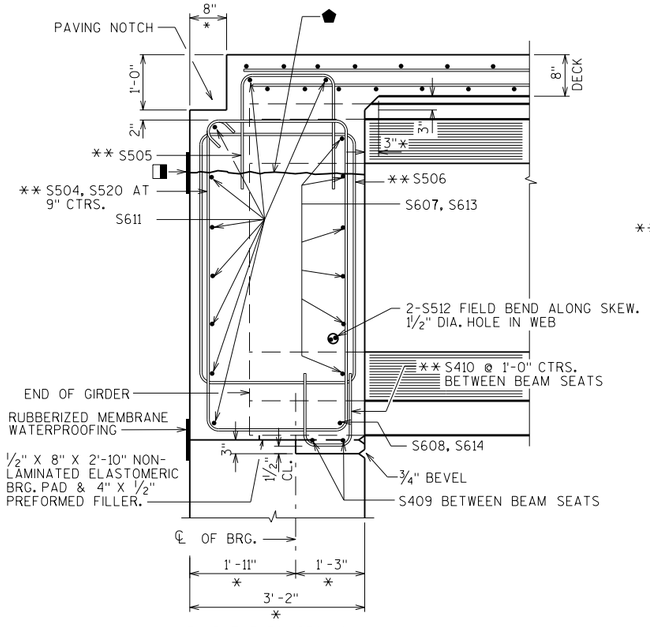
SCALE = 10.00

8

8

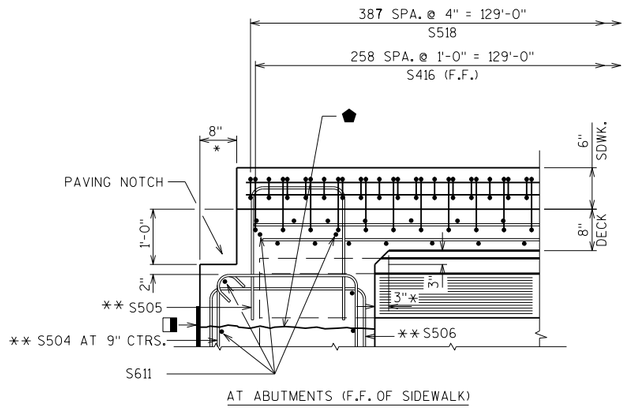
STATE PROJECT NUMBER

5130-00-80



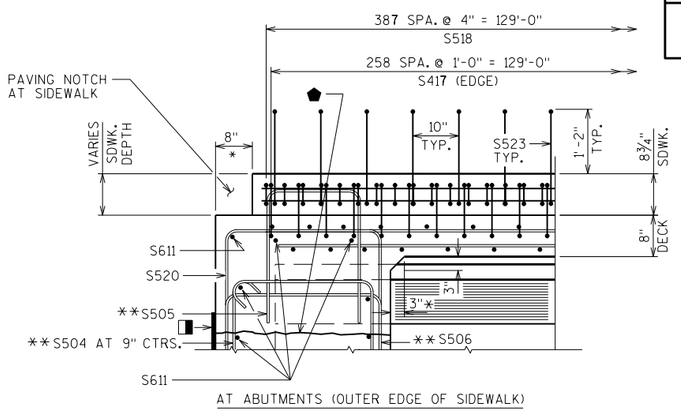
AT ABUTMENTS (DECK ONLY)

PART LONGIT. SECTION



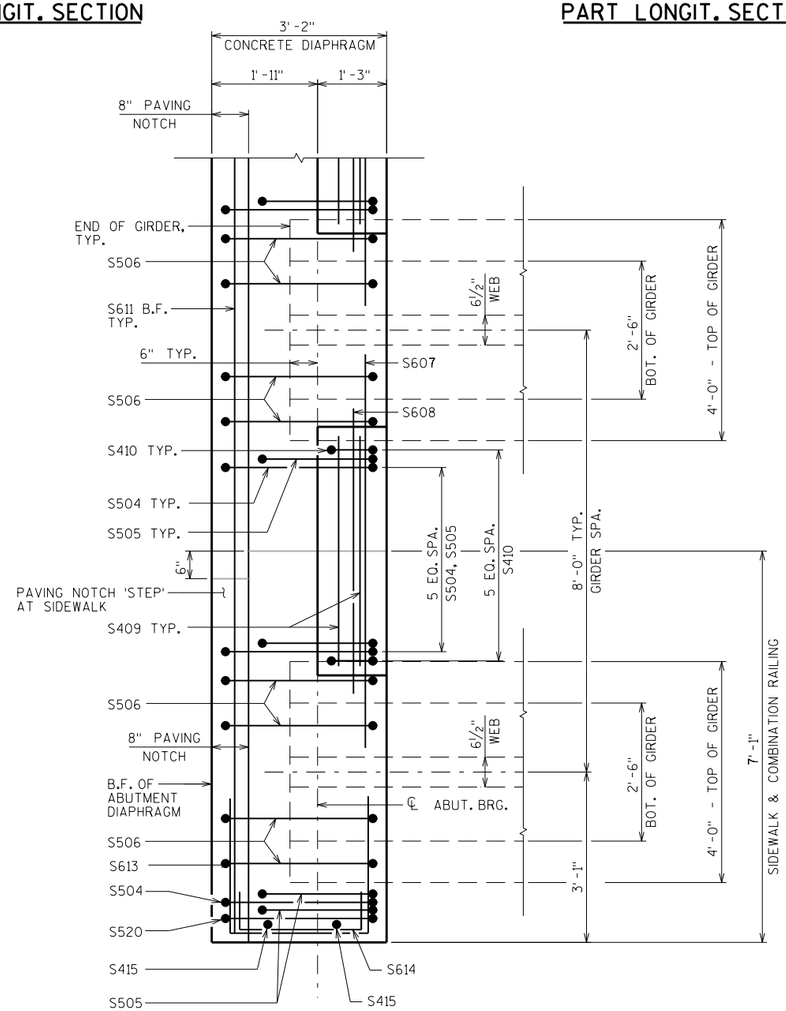
AT ABUTMENTS (F.F. OF SIDEWALK)

PART LONGIT. SECTION



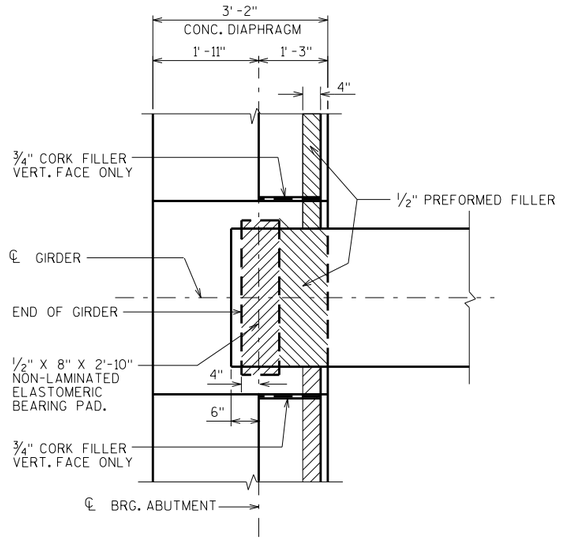
AT ABUTMENTS (OUTER EDGE OF SIDEWALK)

PART LONGIT. SECTION



ABUTMENT DIAPHRAGM PLAN

ABUTMENT DIAPHRAGM AT WING 1 SHOWN
OTHERS SIMILAR



BEARING PAD DETAIL

* DIMENSION IS TAKEN NORMAL TO ℄ SUBSTRUCTURE UNITS.

** BARS PLACED PARALLEL TO GIRDERS SPACING PERPENDICULAR TO ℄ GIRDERS

⬟ OPTIONAL CONSTRUCTION JOINT 1'-2" BELOW TOP OF GIRDER. IF USED, DECK POUR MUST BE WITHIN 2 WEEKS FROM THE TIME OF THE DIAPHRAGM POUR.

◨ RUBBERIZED MEMBRANE WATERPROOFING IF CONST. JOINT IS USED. (COST INCIDENTAL TO BID ITEM, "CONCRETE MASONRY BRIDGES")

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-41-303

DRAWN BY DDS | PLANS CK'D. SEW

SUPERSTRUCTURE CROSS SECTION DETAILS

SHEET 13

147

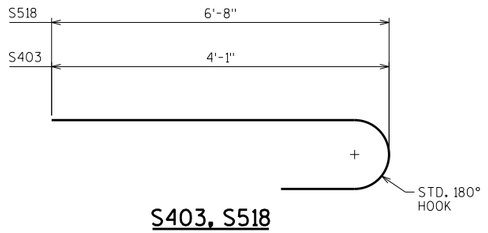
SCALE = 1.33

8

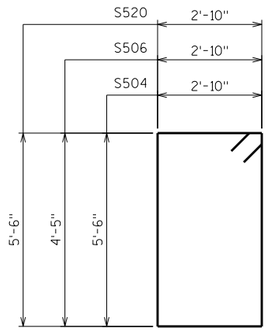
8

STATE PROJECT NUMBER

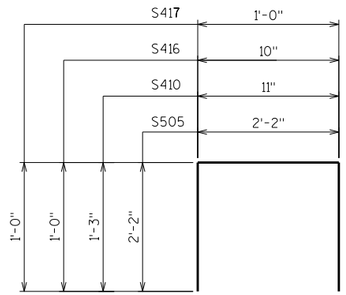
5130-00-80



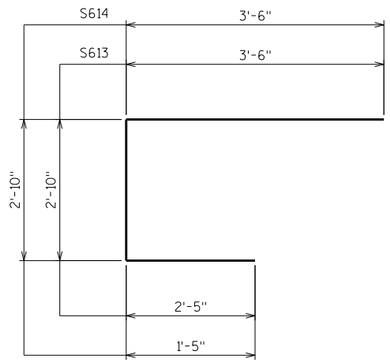
S403, S518



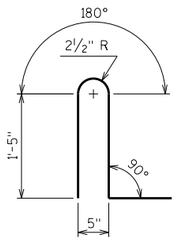
S504, S506, S520



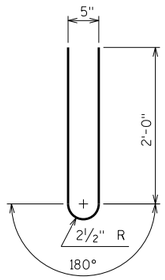
S505, S410, S416, S417



S613, S614



S523



S524

BILL OF BARS

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

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
S401	X	501	44'-2"			DECK - LONGITUDINAL - TOP & BOTTOM
S502	X	387	53'-10"			DECK - TRANSVERSE - TOP & BOTTOM
S403	X	374	4'-7"	X		DECK - TRANSVERSE - TOP - EDGES OF DECK
S504	X	72	17'-4"	X		ABUT. DIAPH. - STIRRUP
S505	X	72	6'-3"	X		ABUT. DIAPH. - VERT.
S506	X	56	15'-2"	X		ABUT. DIAPH.- STIRRUP AT GIRDERS
S607	X	72	5'-0"			ABUT. DIAPH. - HORIZ.
S608	X	12	5'-2"			ABUT. DIAPH. - HORIZ. - BOTTOM
S409	X	24	4'-2"			ABUT. DIAPH. - HORIZ.
S410	X	72	3'-3"	X		ABUT. DIAPH. - VERT.
S611	X	18	53'-10"			ABUT. DIAPH. - HORIZ. - B.F.
S512	X	28	6'-0"			ABUT. DIAPH. - HORIZ. - THRU GIRDERS
S613	X	72	8'-5"	X		ABUT. DIAPH. - HORIZ. - ENDS
S614	X	4	7'-5"	X		ABUT. DIAPH. - HORIZ. - ENDS - BOTTOM
A415	X	8	5'-6"			ABUT. DIAPH. - VERT.
S416	X	518	2-8"	X		DECK/SIDEWALK TIES - F.F. OF SIDEWALK
S417	X	518	2'-10"	X		DECK/SIDEWALK TIES - EDGE OF DECK/SIDEWALK
S518	X	776	7'-1"	X		SIDEWALK - TRANSVERSE
S419	X	60	44'-2"			SIDEWALK - LONGITUDINAL
S520	X	4	17'-4"	X		ABUT DIAPH. - STIRRUP - END
S521		NOT	USED			
S522	X	48	44'-7"			PARAPET - HORIZ.
S523	X	314	4'-4"	X		PARAPET - VERT.
S524	X	314	4'-9"	X		PARAPET - VERT.

TOP OF DECK ELEVATIONS

EOD = EDGE OF DECK

	℄ BRG. W. ABUT.	1/10 PT.	2/10 PT.	3/10 PT.	4/10 PT.	5/10 PT.	6/10 PT.	7/10 PT.	8/10 PT.	9/10 PT.	℄ BRG. E. ABUT.
N. EOD	992.20	992.03	991.86	991.70	991.53	991.36	991.19	991.02	990.85	990.69	990.52
GIRDER 1	992.26	992.09	991.93	991.76	991.59	991.42	991.25	991.08	990.92	990.75	990.58
GIRDER 2	992.42	992.25	992.09	991.92	991.75	991.58	991.41	991.24	991.08	990.91	990.74
GIRDER 3	992.58	992.41	992.25	992.08	991.91	991.74	991.57	991.40	991.24	991.07	990.90
CROWN/GIRDER 4	992.74	992.57	992.41	992.24	992.07	991.90	991.73	991.56	991.40	991.23	991.06
GIRDER 5	992.58	992.41	992.25	992.08	991.91	991.74	991.57	991.40	991.24	991.07	990.90
GIRDER 6	992.42	992.25	992.09	991.92	991.75	991.58	991.41	991.24	991.08	990.91	990.74
GIRDER 7	992.26	992.09	991.93	991.76	991.59	991.42	991.25	991.08	990.92	990.75	990.58
S. EOD	992.20	992.03	991.86	991.70	991.53	991.36	991.19	991.02	990.85	990.69	990.52

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-41-303

DRAWN BY DDS | PLANS CK'D. SEW

SUPERSTRUCTURE DETAILS

SHEET 14

148

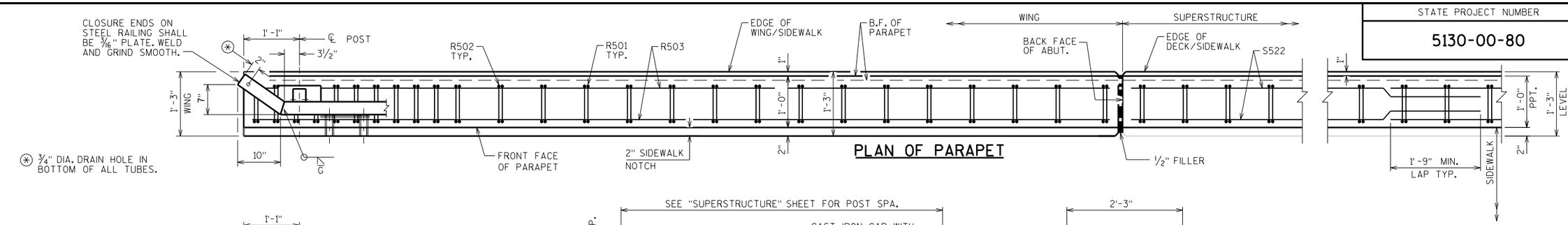
SCALE = 1.00

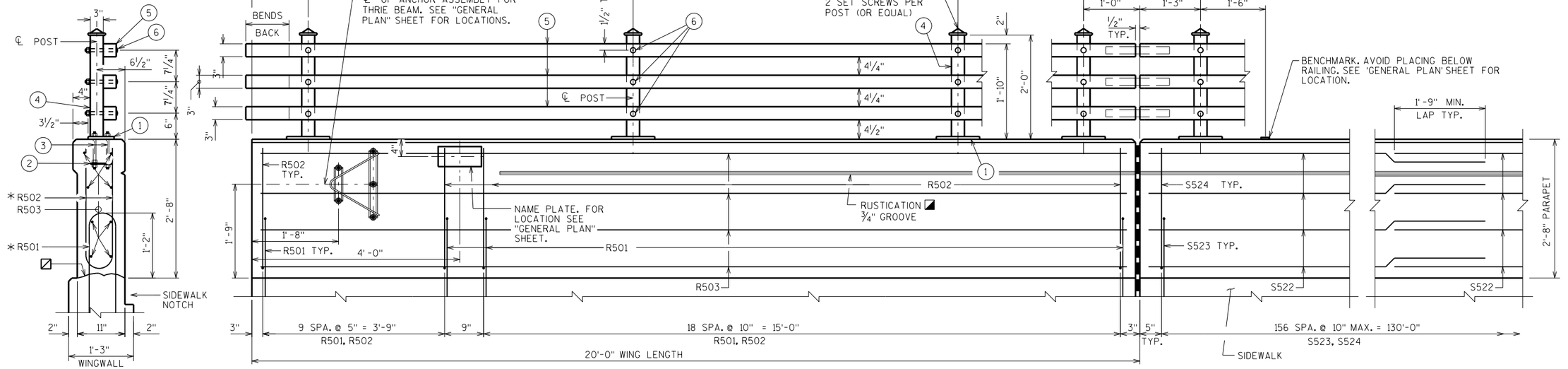
8

8

STATE PROJECT NUMBER

5130-00-80



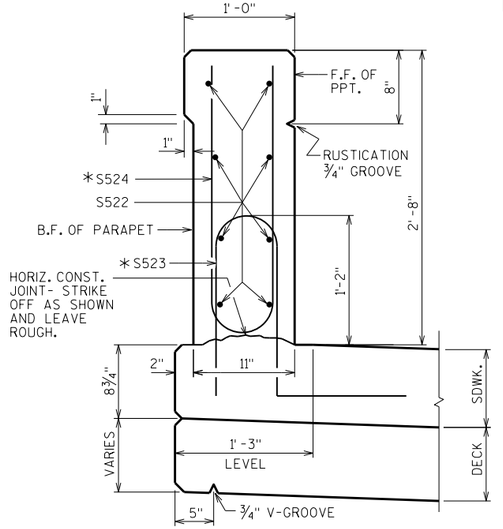


END VIEW

SEE "COMBINATION RAILING TYPE '3T' DETAILS" SHEET FOR CIRCLE NOTES

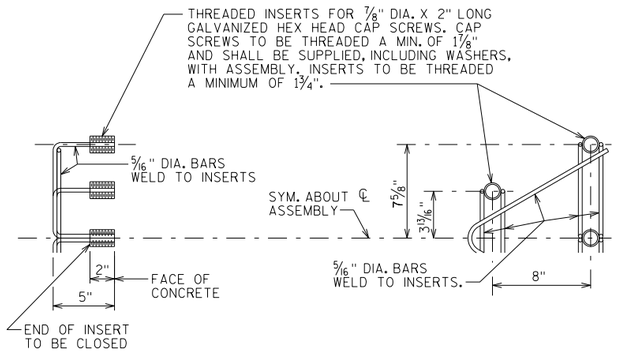
ELEVATION OF PARAPET

◪ END ¾" GROOVE 3" FROM NAME PLATE OR BEAM GUARD (IF NAME PLATE IS NOT PRESENT). OTHERWISE RUN TO END OF PARAPET.



SECTION THRU PARAPET ON BRIDGE

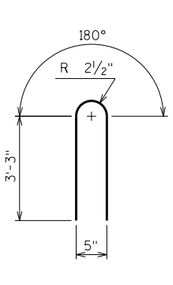
RAILING NOT SHOWN FOR CLARITY
* ADJUST LOCATIONS OF BARS TO ALLOW PLACEMENT OF ANCHOR ASSEMBLY FOR RAILING AND BEAM GUARD.



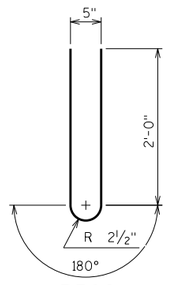
DETAIL OF ANCHOR ASSEMBLY

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.



R501



R502

◪ HORIZ. CONST. JOINT - STRIKE OFF AS SHOWN AND LEAVE ROUGH.

BILL OF BARS

FOR ABUTMENT PARAPETS

BAR MARK	COAT	W. ABUT.	E. ABUT.	LENGTH	BENT	BAR SERIES	LOCATION
R501	X	58	58	7'-1"	X		PARAPET VERT.
R502	X	58	58	4'-9"	X		PARAPET VERT.
R503	X	16	16	19'-8"			PARAPET HORIZ.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-41-303

DRAWN BY DDS | PLANS CK'D. SEW

COMBINATION RAILING TYPE '3T'

SHEET 15

149

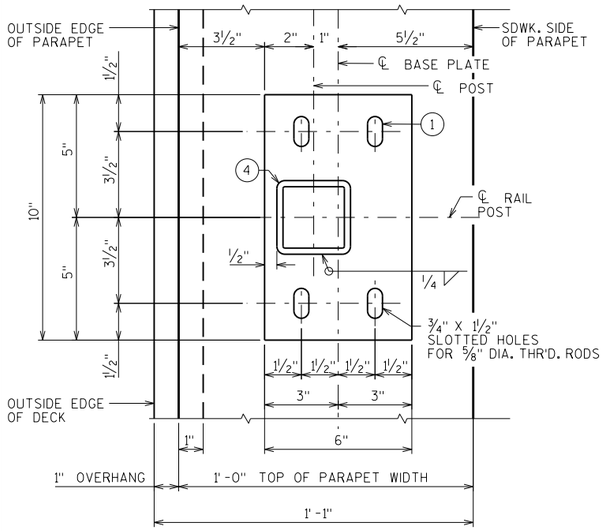
8

8

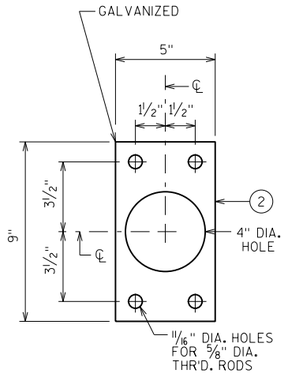
SCALE = 1.00

STATE PROJECT NUMBER

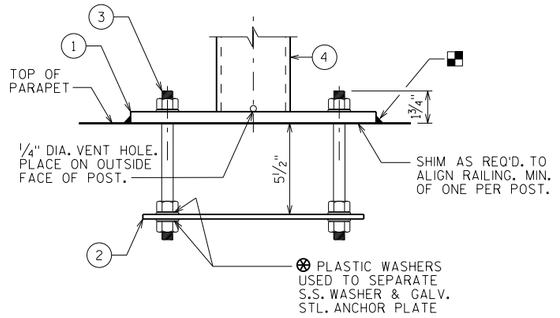
5130-00-80



TYPICAL RAIL POST BASE PLATE

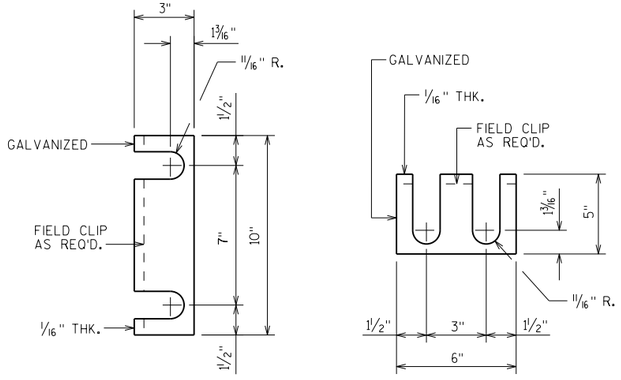


ANCHOR PLATE



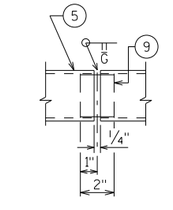
ANCHORAGE FOR RAIL POSTS

✿NOTE: ANCHOR PLATE NOT REQUIRED WHEN ADHESIVE ANCHORS ARE USED.



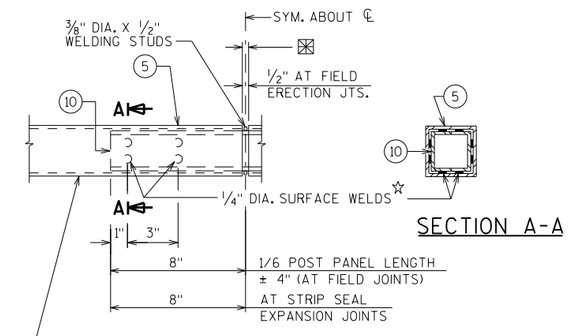
RAIL POST SHIM DETAIL

(2 SETS PER POST)



SHOP RAIL SPLICE DETAIL

(LOCATION MUST BE SHOWN ON SHOP DRAWINGS)



SECTION A-A

FIELD ERECTION JOINT DETAIL

☆ MIN. ⅝" FLAT SURFACE DIA. PUNCHINGS OR STUDS MAY BE USED AS AN ALTERNATE.

PROVIDE ¾" DIA. DRAIN HOLES IN LOW END OF ALL RAILS, CLEAR OF SPLICE SLEEVE.

RDWY. OPENING OR 2½" MIN. FOR STRIP SEAL EXP. JOINT AND ½" OPENING FOR A1 ABUTMENTS

LEGEND

(1) BASE PLATE ⅝" X 6" X 10" WITH ¾" X 1½" SLOTTED HOLES FOR THR'D RODS NO. 3. WELD TO NO. 4 AS SHOWN. SLOTS PARALLEL TO LONG SIDE OF PLATE.

(2) ¼" X 5" X 9" ANCHOR PLATE (GALVANIZED) WITH 11/16" DIA. HOLES FOR THR'D. RODS NO. 3.

(3) ⅝" DIA. X 9" LONG, TYPE 316 STAINLESS STEEL THREADED RODS (MIN. TENSILE STRENGTH = 70 KSI) WITH NUT AND WASHERS OF SAME ALLOY GROUP. ✿

(4) STRUCTURAL TUBING 3" X 3" X 3/16" POSTS, PLACE VERTICAL. WELD TO NO. 1, AND USE 1" DIA. HOLES (FRONT AND BACK) FOR BOLT NO. 6.

(5) STRUCTURAL TUBING 3" X 3" X 3/16" RAILS, WITH 11/16" DIA. HOLES (FRONT AND BACK) FOR BOLT NO. 6. BOLT TO NO. 4.

(6) ⅝" DIA. A325 SLOTTED ROUND HEAD BOLT WITH HEX NUT, 3/16" X 1½" X 1½" WASHER, AND LOCK WASHER.

(9) RECTANGULAR SLEEVE FABRICATED FROM 3/16" PLATES. PROVIDE "SLIDING FIT".

(10) RECTANGULAR SLEEVE FABRICATED FROM 3/16" PLATES. (1'-4" @ FIELD ERECTION JTS.) (1'-4" @ STRIP SEAL EXP. JTS.)

✿ ALTERNATIVE ANCHORAGE: 4 EQUIVALENT STAINLESS STEEL CONCRETE ADHESIVE ANCHORS ⅝-INCH, EMBED 7" IN CONCRETE. ADHESIVE ANCHORS SHALL CONFORM TO SECTIONS 502.2.12 AND 502.3.14 OF THE STANDARD SPECIFICATIONS.

RAILING NOTES

BID ITEM SHALL BE "RAILING STEEL TYPE '3T' ", WHICH SHALL INCLUDE ALL STEEL ITEMS SHOWN.

POST BASE PLATES SHALL BE FLAT WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT, AND VERTICAL. ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUT.

ENDS OF STRUCTURAL TUBING SHALL BE SAWED. GRIND SMOOTH EXPOSED EDGES. ALL CUT ENDS SHALL BE TRUE AND SMOOTH.

ALL PLATES, AND RECTANGULAR SLEEVES SHALL CONFORM TO ASTM A709 GRADE 36. ALL STRUCTURAL TUBING SHALL CONFORM TO ASTM A500 GRADE B.

ANCHORAGES SHALL BE ACCURATELY PLACED TO PROVIDE CORRECT ALIGNMENT OF RAILING. SET NORMAL TO GRADE.

CUT BOTTOM OF POST TO MAKE POST VERTICAL IN BOTH TRANSVERSE AND LONGITUDINAL DIRECTION.

STEEL SHIMS SHALL BE PROVIDED & USED UNDER BASE PLATE NO. 1, WHERE REQUIRED FOR ALIGNMENT, AND SHALL BE GALVANIZED.

CAULK AROUND PERIMETER OF BASE PLATES, NO. 1, AND FILL BOLT SLOT OPENINGS IN SHIMS AND BASE PLATES WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER.

ALL JOINTS IN CONCRETE PARAPET ARE TO BE VERTICAL.

ALL MATERIAL (EXCEPT NO. 3 & 12) SHALL BE GALVANIZED AFTER FABRICATION. PRIOR TO GALVANIZING, THE STEEL RAILING SHALL BE GIVEN A NO. 6 BLAST CLEANING PER SSPC SPECIFICATIONS.

VENT HOLES SHALL BE DRILLED IN POST AND RAIL MEMBERS AS REQUIRED TO FACILITATE GALVANIZING AND DRAINAGE.

RAILING SHALL BE FABRICATED IN LENGTHS THAT INCLUDE 3 OR 4 POSTS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-41-303

DRAWN BY DDS | PLANS CK'D. SEW

COMBINATION RAILING TYPE '3T' DETAILS

SHEET 16

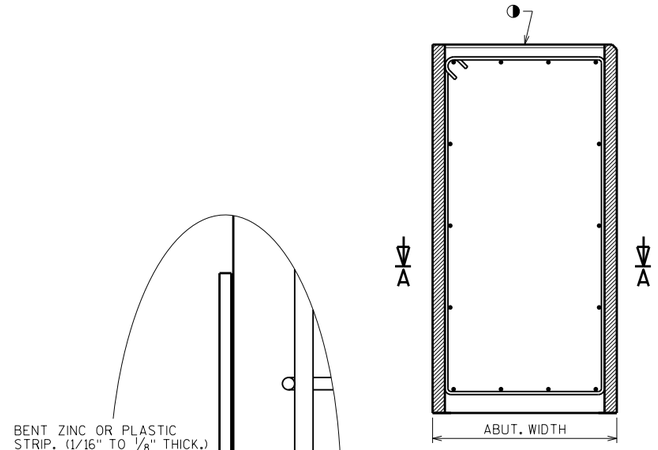
150

SCALE = 1.00

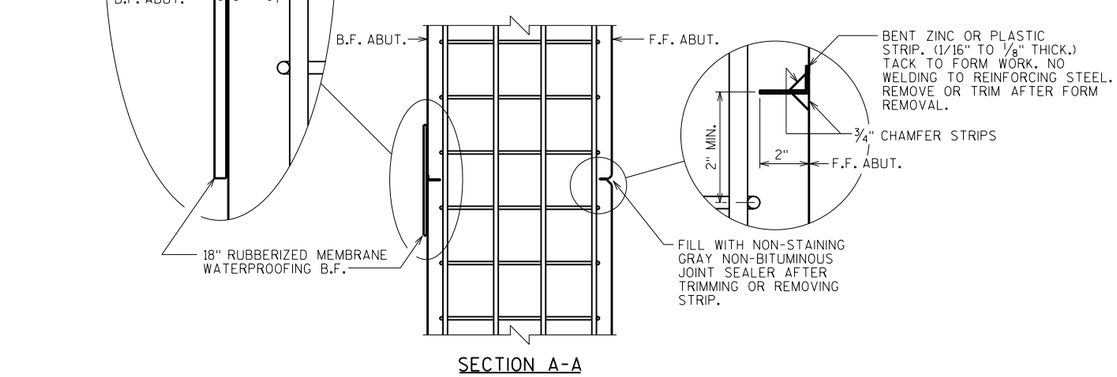
8

8

STATE PROJECT NUMBER
5130-00-80



SECTION THRU ABUTMENT BODY



SECTION A-A

ALTERNATE CONSTRUCTION JOINT AT ABUTMENT

NOTES

PARTIAL ZINC OR PLASTIC BULKHEAD MAY BE USED AS ALTERNATE CONSTRUCTION JOINT, WITH THE PERMISSION OF THE ENGINEER, AT THE CONTRACTOR'S EXPENSE.

VERTICAL CONSTRUCTION JOINT KEYWAY IS NOT REQUIRED WHEN USING ALTERNATE CONSTRUCTION JOINT.

CARE IS TO BE USED IN CASTING CONCRETE AROUND BULKHEAD TO PREVENT DISLOCATION OR MISALIGNMENT OF THE BULKHEAD.

SAW CUTTING JOINT IS NOT ALLOWED.

◑ USE A JOINT TOOL TO CONSTRUCT A CONTRACTION JOINT APPROXIMATELY 1/2" DEEP.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-41-303

DRAWN BY	DDS	PLANS CK'D.	SEW

ALTERNATE CONSTRUCTION JOINT

SHEET 17

151

8

8

SCALE = 1.00

EARTHWORK - STAGE 1 (CONSTRUCT BYPASS)

STATION	REAL STATION	DISTANCE	AREA (SF)		INCREMENTAL VOL (CY) (UNADJUSTED)		CUMULATIVE VOL (CY)		
			CUT	FILL	CUT	FILL	CUT 1.00	EXPANDED FILL 1.30	MASS ORDINATE
					NOTE 1	NOTE 3	NOTE 1		NOTE 8
27+71.857	2771.86	0.00	4.27	0.00	0	0	0	0	0
28+00	2800.00	28.14	32.08	0.00	19	0	19	0	19
28+50	2850.00	50.00	37.79	0.00	65	0	84	0	84
29+00	2900.00	50.00	38.51	0.00	71	0	155	0	155
29+50	2950.00	50.00	38.60	0.00	71	0	226	0	226
30+00	3000.00	50.00	34.50	0.00	68	0	294	0	294
30+50	3050.00	50.00	38.09	0.00	67	0	361	0	361
31+00	3100.00	50.00	115.16	0.00	142	0	503	0	503
31+34.505	3134.51	34.51	126.38	0.00	154	0	657	0	657
31+50	3150.00	15.49	93.05	0.00	63	0	720	0	720
31+60.661	3160.66	10.66	63.53	0.00	31	0	751	0	751
31+86.766	3186.77	26.11	0.22	17.95	31	9	782	12	770
32+00	3200.00	13.23	0.00	58.42	0	19	782	36	746
32+41.69	3241.69	41.69	0.00	453.89	0	396	782	551	231
TEMPORARY STRUCTURE									
33+61.691	3361.69	0.00	0.00	832.22	0	0	782	551	231
34+00	3400.00	38.31	0.00	705.77	0	1,091	782	1,970	-1,188
34+16.939	3416.94	16.94	0.00	673.28	0	433	782	2,532	-1,750
34+38.686	3438.69	21.75	0.00	646.80	0	532	782	3,224	-2,442
34+50	3450.00	11.31	0.00	625.80	0	267	782	3,571	-2,789
34+68.757	3468.76	18.76	0.00	585.89	0	421	782	4,118	-3,336
35+00	3500.00	31.24	0.00	442.23	0	595	782	4,892	-4,110
35+50	3550.00	50.00	57.09	150.86	53	549	835	5,606	-4,771
35+90.136	3590.14	40.14	53.59	0.00	82	112	917	5,751	-4,834

EARTHWORK - STAGE 2 (CONSTRUCT LEFT HALF OF STH 71)

STATION	REAL STATION	DISTANCE	AREA (SF)		INCREMENTAL VOL (CY) (UNADJUSTED)		CUMULATIVE VOL (CY)		
			CUT	FILL	CUT	FILL	CUT 1.00	EXPANDED FILL 1.30	MASS ORDINATE
167+20	16720.00	0.00	69.39	0.71	0	0	0	0	0
167+50	16750.00	30.00	67.50	1.30	76	1	76	1	75
168+00	16800.00	50.00	66.69	1.30	124	2	200	4	196
168+50	16850.00	50.00	69.78	0.31	126	1	326	5	321
168+54.876	16854.88	4.88	72.69	0.00	13	0	339	5	334
168+65.041	16865.04	10.16	72.80	0.00	27	0	366	5	361
168+99.582	16899.58	34.54	73.45	0.04	94	0	460	5	455
169+05.417	16905.42	5.84	73.53	0.06	16	0	476	5	471
169+25.47	16925.47	20.05	70.51	0.08	53	0	529	5	524
169+29.564	16929.56	4.09	69.56	0.13	11	0	540	5	535
169+51.247	16951.25	21.68	64.19	0.69	54	0	594	5	589
169+53.779	16953.78	2.53	63.65	0.77	6	0	600	5	595
170+00	17000.00	46.22	64.49	99.12	110	86	710	117	593
170+05.083	17005.08	5.08	65.56	139.75	12	22	722	146	576
STRUCTURE B-41-303									
171+69.93	17169.93	0.00	59.45	145.86	0	0	722	146	576
172+00	17200.00	30.07	58.95	323.61	66	261	788	485	303
172+22.44	17222.44	22.44	58.90	303.47	49	261	837	824	13
172+47.44	17247.44	25.00	59.14	302.43	55	281	892	1,190	-298
172+50	17250.00	2.56	59.19	304.37	6	29	898	1,227	-329
172+72.437	17272.44	22.44	61.02	323.52	50	261	948	1,567	-619
173+00	17300.00	27.56	61.39	312.14	62	324	1,010	1,988	-978
173+08.284	17308.28	8.28	61.57	324.65	19	98	1,029	2,115	-1,086
173+50	17350.00	41.72	60.23	254.39	94	447	1,123	2,696	-1,573
174+00	17400.00	50.00	63.19	1.08	114	237	1,237	3,004	-1,767

EXISTING ASPHALTIC PAVEMENT IS INCLUDED IN COMMON EXCAVATION TOTALS

EARTHWORK - STAGE 3 (CONSTRUCT EASTBOUND TRAVEL LANE)

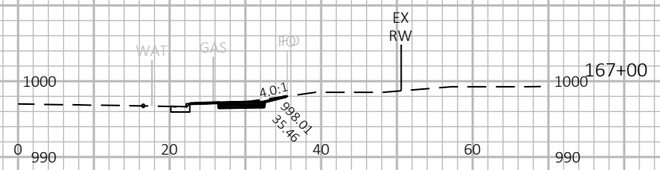
STATION	REAL STATION	DISTANCE	AREA (SF)		INCREMENTAL VOL (CY) (UNADJUSTED)		CUMULATIVE VOL (CY)		
			CUT	FILL	CUT	FILL	CUT 1.00	EXPANDED FILL 1.30	MASS ORDINATE
167+20	16720.00	0.00	32.51	0.00	0	0	0	0	0
167+50	16750.00	30.00	32.00	0.00	36	0	36	0	36
168+00	16800.00	50.00	31.51	0.00	59	0	95	0	95
168+50	16850.00	50.00	31.81	0.00	59	0	154	0	154
168+54.876	16854.88	4.88	31.81	0.00	6	0	160	0	160
168+65.041	16865.04	10.16	31.82	0.00	12	0	172	0	172
169+00	16900.00	34.96	32.13	0.00	41	0	213	0	213
169+05.417	16905.42	5.42	32.23	0.00	6	0	219	0	219
169+25.47	16925.47	20.05	32.40	0.00	24	0	243	0	243
169+29.564	16929.56	4.09	32.35	0.00	5	0	248	0	248
169+50	16950.00	20.44	32.20	0.00	24	0	272	0	272
169+53.779	16953.78	3.78	32.20	0.00	5	0	277	0	277
170+00	17000.00	46.22	33.74	0.00	56	0	333	0	333
170+05.083	17005.08	5.08	34.14	0.00	6	0	339	0	339
STRUCTURE B-41-303									
171+69.93	17169.93	0.00	32.18	0.00	0	0	339	0	339
172+00	17200.00	30.07	31.84	0.00	36	0	375	0	375
172+22.44	17222.44	22.44	31.99	0.00	27	0	402	0	402
172+47.44	17247.44	25.00	31.82	0.00	30	0	432	0	432
172+50	17250.00	2.56	31.81	0.00	3	0	435	0	435
172+72.437	17272.44	22.44	31.70	0.00	26	0	461	0	461
173+00	17300.00	27.56	31.40	0.00	32	0	493	0	493
173+08.284	17308.28	8.28	31.44	0.00	10	0	503	0	503
173+50	17350.00	41.72	30.58	0.00	48	0	551	0	551
174+00	17400.00	50.00	31.96	0.00	58	0	609	0	609

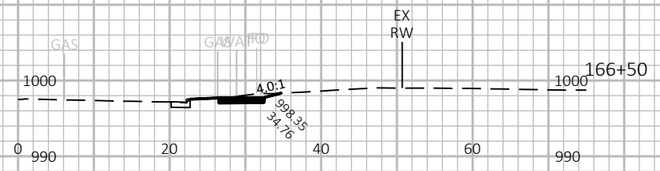
EXISTING ASPHALTIC PAVEMENT IS INCLUDED IN COMMON EXCAVATION TOTALS

EARTHWORK - STAGE 4 (REMOVE BYPASS AND CONSTRUCT RIGHT SHOULDER)

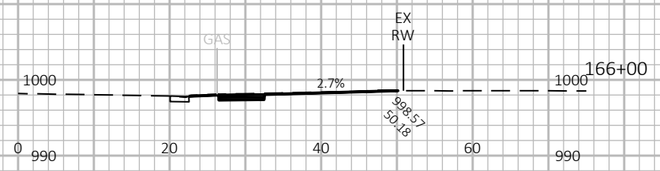
STATION	REAL STATION	DISTANCE	AREA (SF)		INCREMENTAL VOL (CY) (UNADJUSTED)		CUMULATIVE VOL (CY)		
			CUT	FILL	CUT	FILL	CUT 1.00	EXPANDED FILL 1.30	MASS ORDINATE
165+07.62	16507.63	0.00	6.43	0.00	0	0	0	0	0
165+50	16550.00	42.37	3.18	0.29	8	0	8	0	8
166+00	16600.00	50.00	11.75	0.01	14	0	22	0	22
166+50	16650.00	50.00	0.10	9.27	11	9	33	12	21
167+00	16700.00	50.00	3.13	7.19	3	15	36	31	5
167+50	16750.00	50.00	33.71	6.45	34	13	70	48	22
168+00	16800.00	50.00	36.31	4.38	65	10	135	61	74
168+50	16850.00	50.00	33.27	6.26	64	10	199	74	125
168+61.07	16861.08	11.08	33.34	7.77	14	3	213	78	135
168+71.39	16871.39	10.31	32.55	13.69	13	4	226	83	143
169+00	16900.00	28.61	32.22	55.56	34	42	260	138	122
169+50	16950.00	50.00	35.40	39.04	63	97	323	264	59
170+00	17000.00	50.00	162.33	8.37	183	11	506	321	185
170+30.71	17030.72	30.72	577.03	0.86	421	5	927	328	599
STRUCTURE B-41-303									
171+52.14	17152.15	0.00	1029.46	0.12	0	0	927	328	599
172+00	17200.00	47.85	754.50	3.61	1,581	3	2,508	332	2,177
172+50	17250.00	50.00	685.63	0.33	1,333	4	3,841	337	3,504
173+00	17300.00	50.00	494.81	20.70	1,093	19	4,934	361	4,573
173+50	17350.00	50.00	181.24	13.66	626	32	5,560	403	5,157
174+00	17400.00	50.00	34.21	1.40	199	14	5,759	421	5,338
174+07.84	17407.85	7.85	35.31	0.70	10	0	5,769	421	5,348

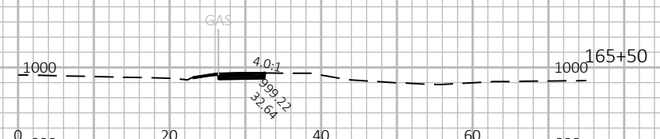
EXISTING ASPHALTIC PAVEMENT IS INCLUDED IN COMMON EXCAVATION TOTALS

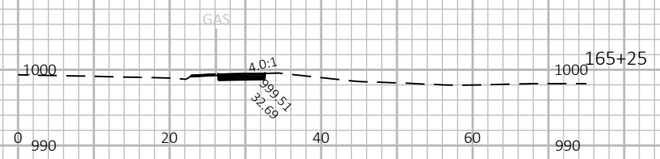


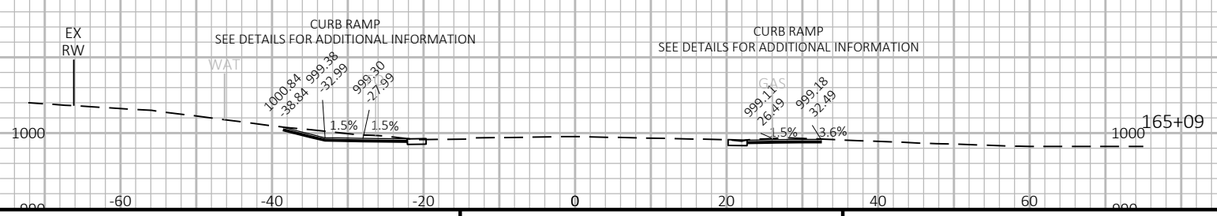


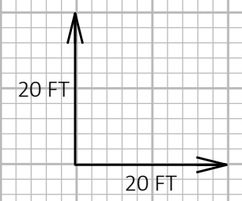
CONCRETE DRIVEWAY
(ONLY TOP SURFACE SHOWN)











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PROJECT NO: 5130-00-80	HWY: STH 71	COUNTY: MONROE	CROSS SECTIONS: STH 71	SHEET 153	E

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LAYOUT NAME - 01A

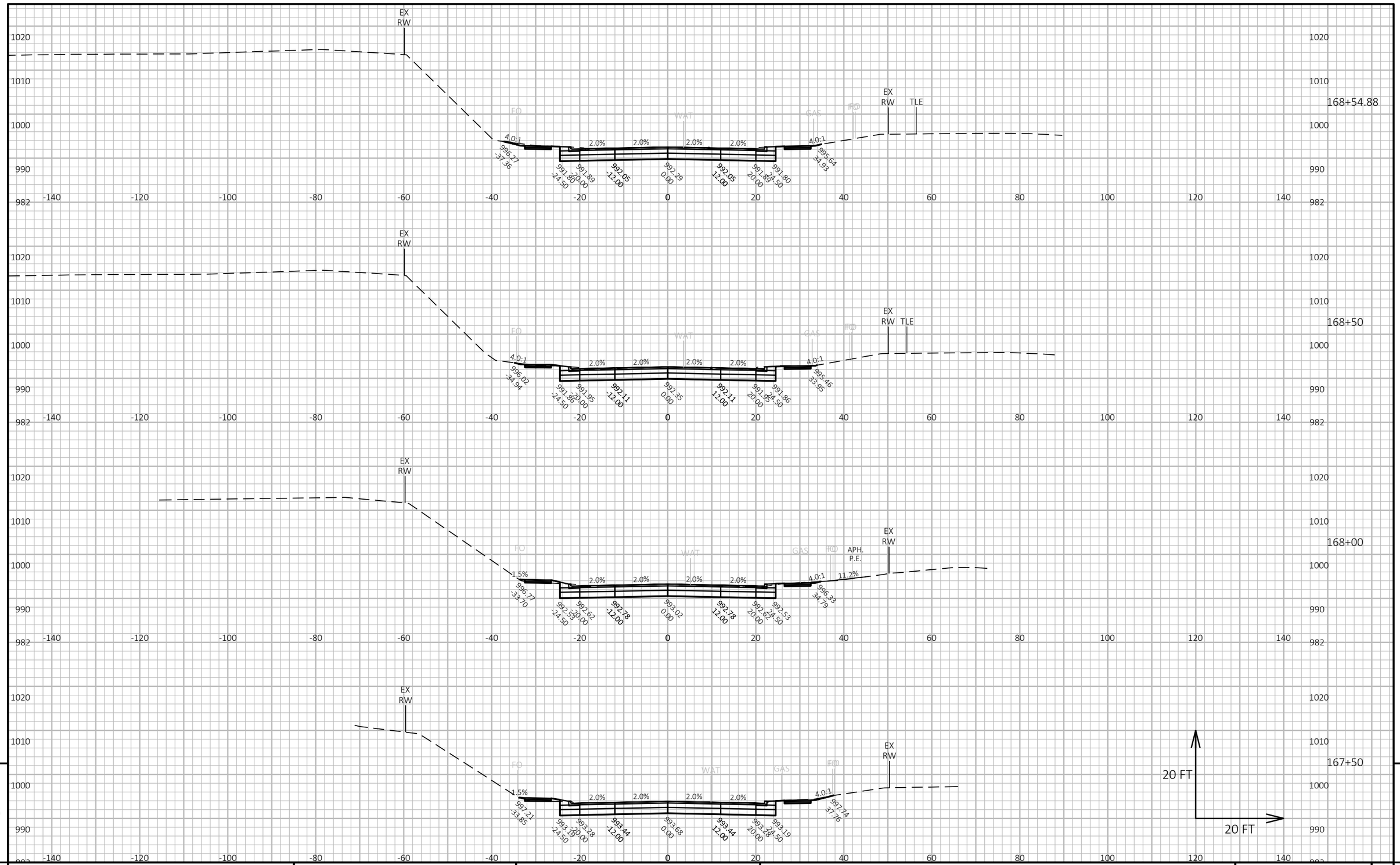
PLOT DATE : 4/16/2021 9:32 AM

PLOT BY : TOREY LEONARD

PLOT NAME :

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

WISDOT/CADDS SHEET 49



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PROJECT NO: 5130-00-80	HWY: STH 71	COUNTY: MONROE	CROSS SECTIONS: STH 71	SHEET 154	E

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LAYOUT NAME - 01

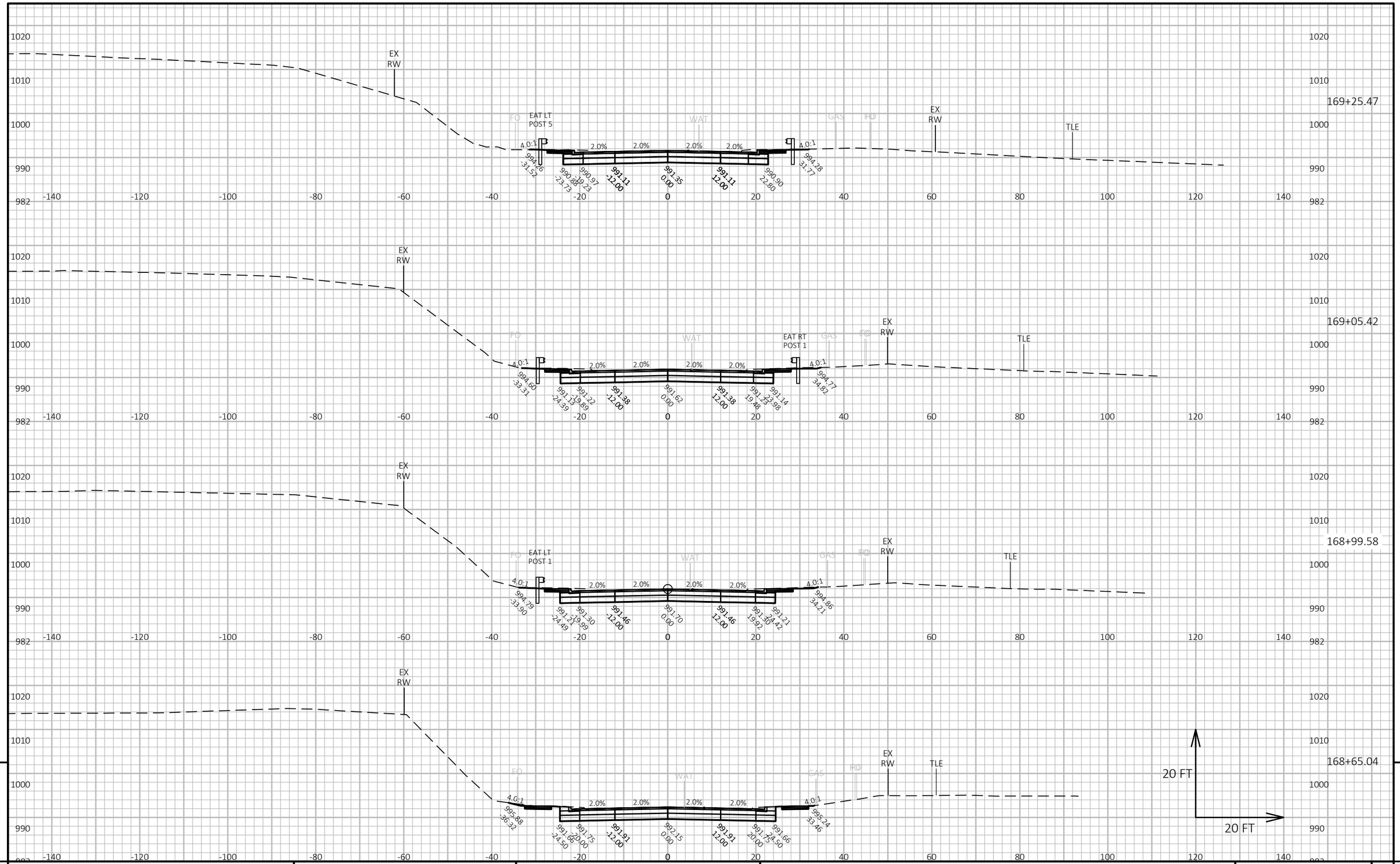
PLOT DATE : 4/16/2021 9:32 AM

PLOT BY : TOREY LEONARD

PLOT NAME :

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

WISDOT/CADDS SHEET 49



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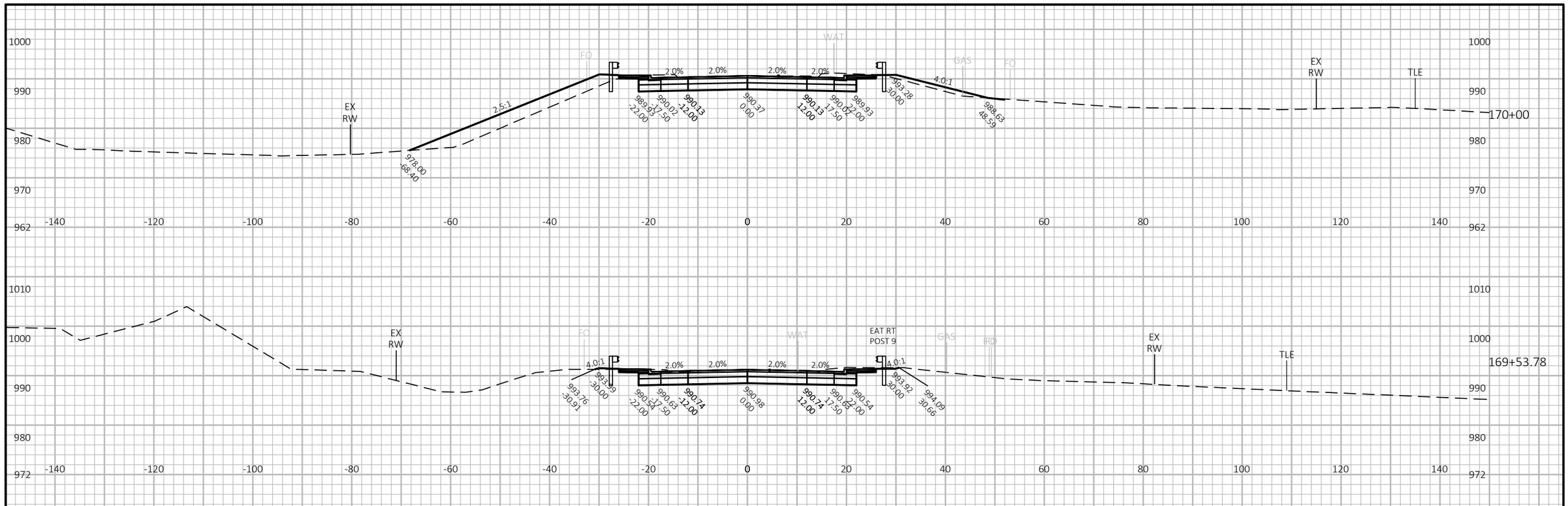
LAYOUT NAME - 02

PLOT DATE : 4/16/2021 9:32 AM PLOT BY : TOREY LEONARD PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:20 FT VERT.

WISDOT/CADDS SHEET 49



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LAYOUT NAME - 03

PLOT DATE : 4/16/2021 9:33 AM PLOT BY : TOREY LEONARD PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:20 FT VERT.

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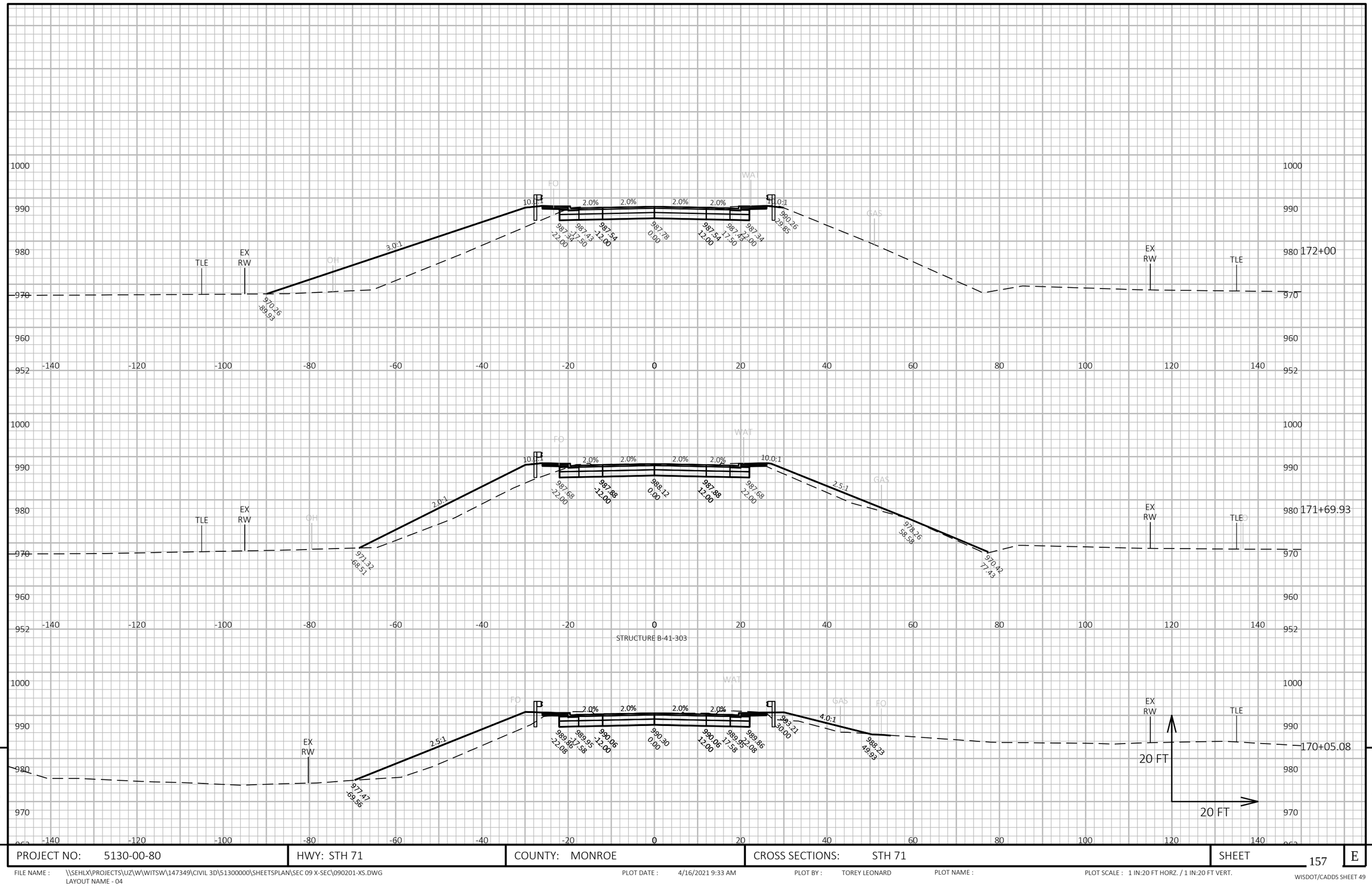

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PROJECT NO: 5130-00-80	HWY: STH 71	COUNTY: MONROE	CROSS SECTIONS: STH 71	SHEET 157	E

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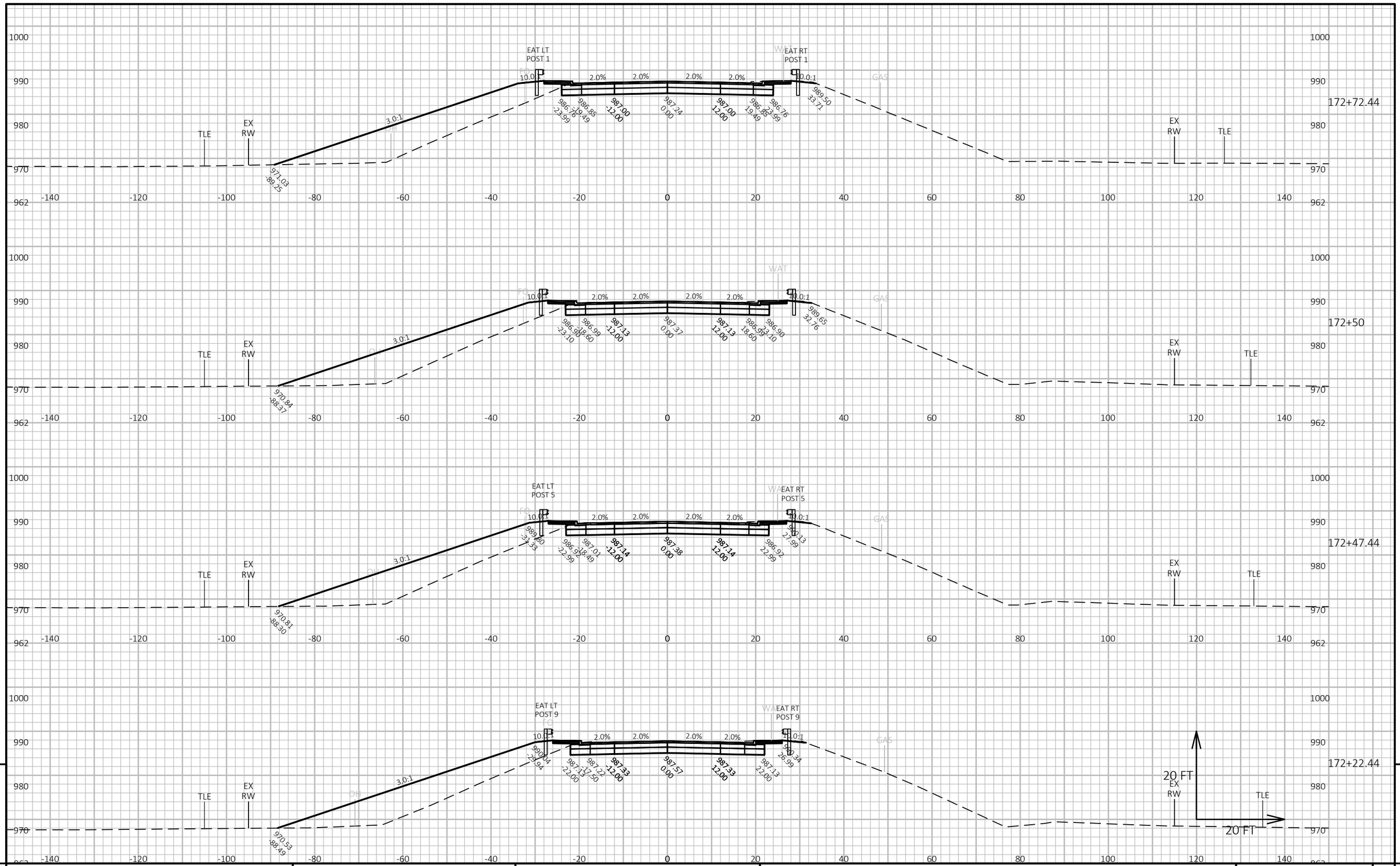
LAYOUT NAME - 04

PLOT DATE : 4/16/2021 9:33 AM PLOT BY : TOREY LEONARD PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:20 FT VERT.

WISDOT/CADDS SHEET 49



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PROJECT NO: 5130-00-80	HWY: STH 71	COUNTY: MONROE	CROSS SECTIONS: STH 71	SHEET 158	E

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LAYOUT NAME - 05

PLOT DATE : 4/16/2021 9:33 AM PLOT BY : TOREY LEONARD PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:20 FT VERT.

WISDOT/CADDS SHEET 49

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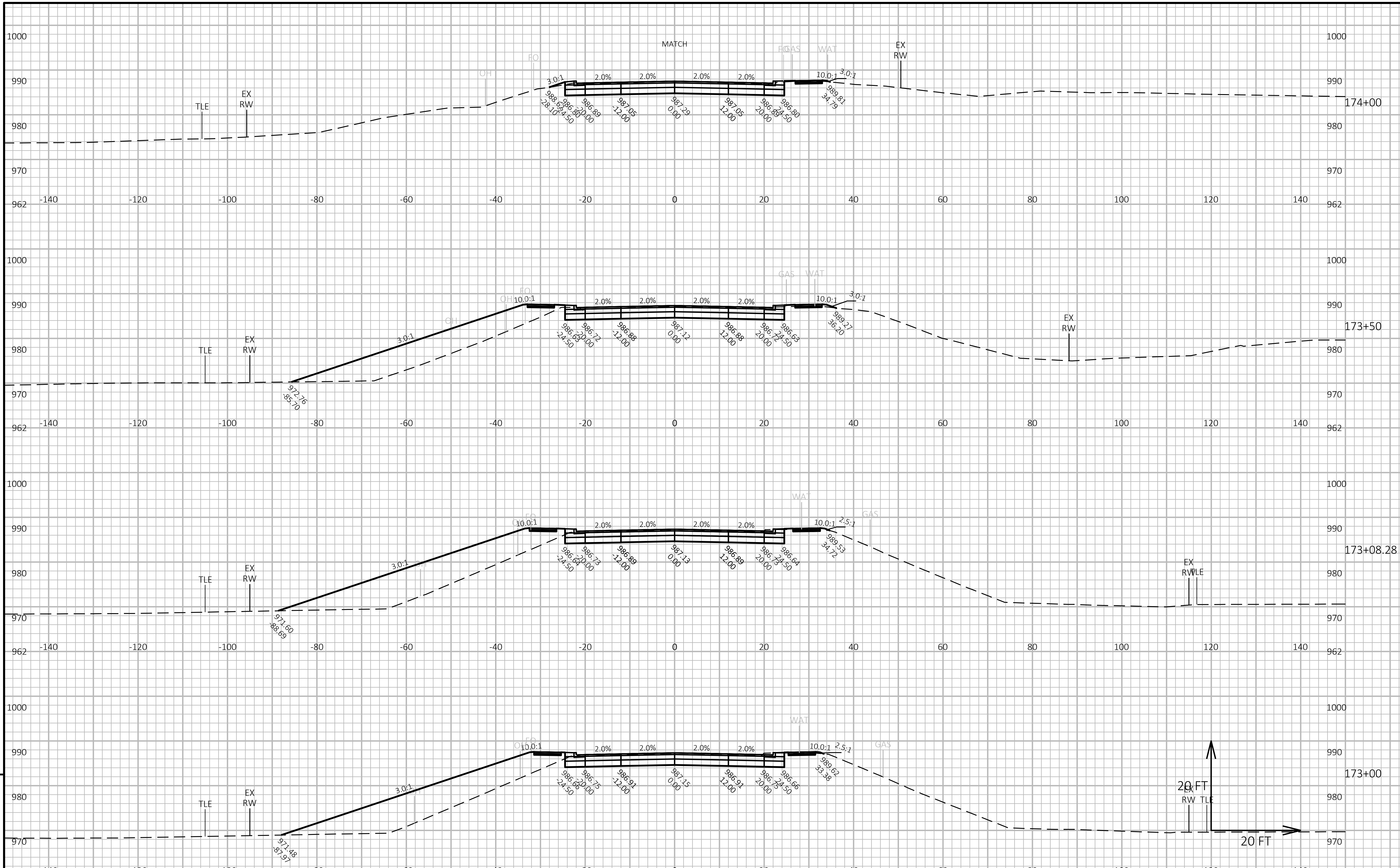

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PROJECT NO: 5130-00-80	HWY: STH 71	COUNTY: MONROE	CROSS SECTIONS: STH 71	SHEET 159	E

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LAYOUT NAME - 06

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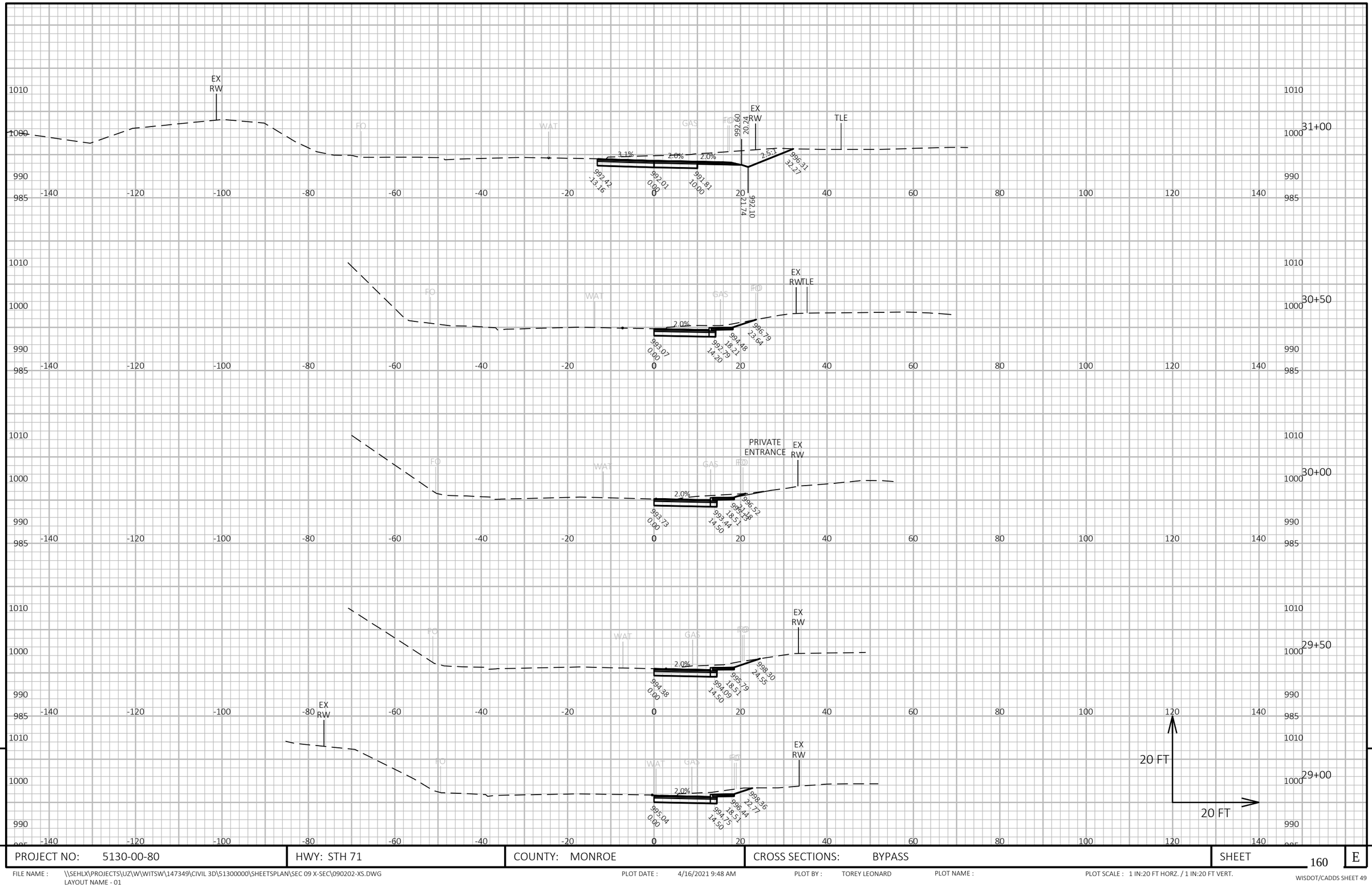

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PROJECT NO: 5130-00-80	HWY: STH 71	COUNTY: MONROE	CROSS SECTIONS: BYPASS	SHEET 160	E

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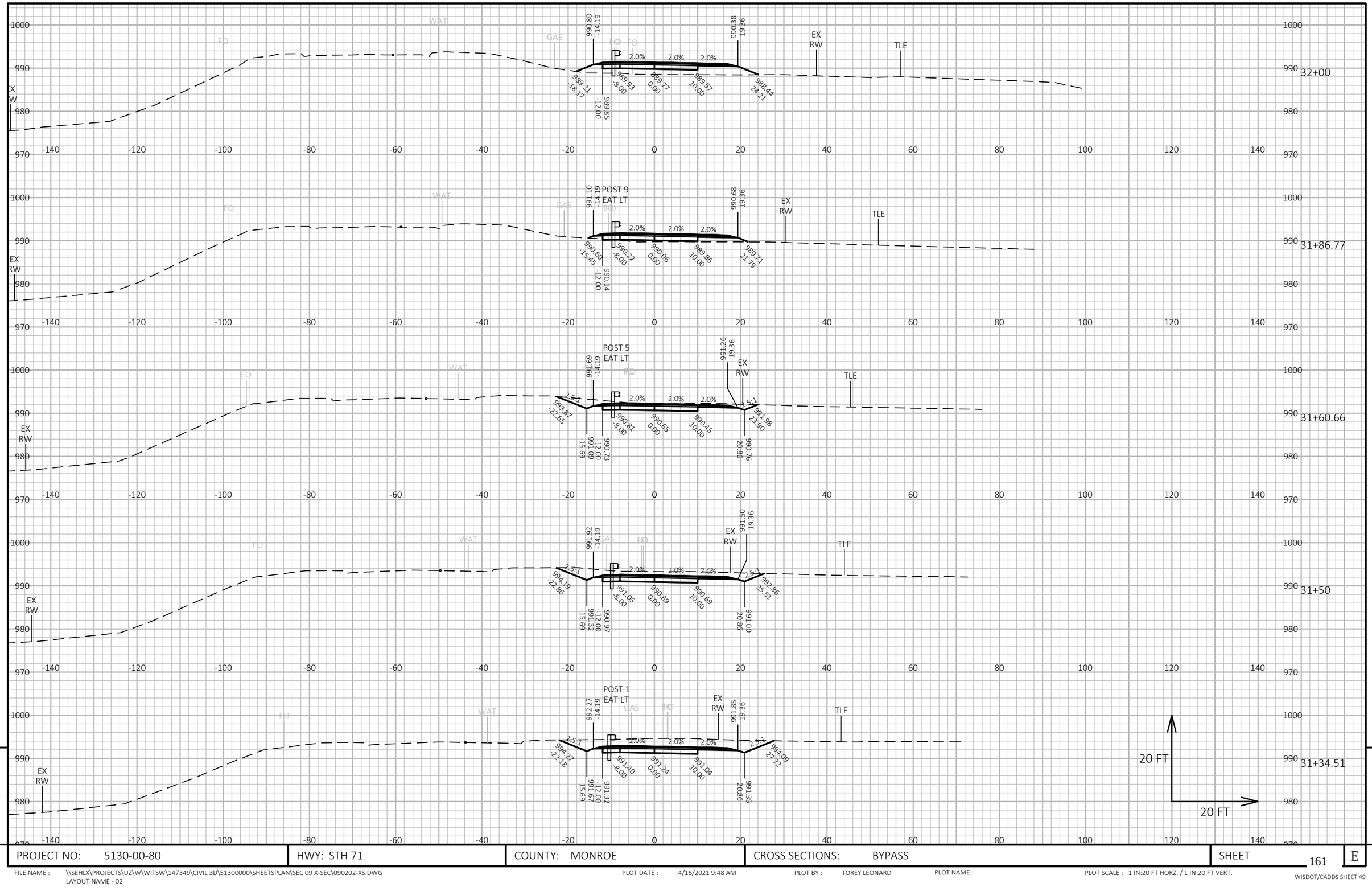
LAYOUT NAME - 01

PLOT DATE : 4/16/2021 9:48 AM PLOT BY : TOREY LEONARD PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:20 FT VERT.

WISDOT/CADDS SHEET 49

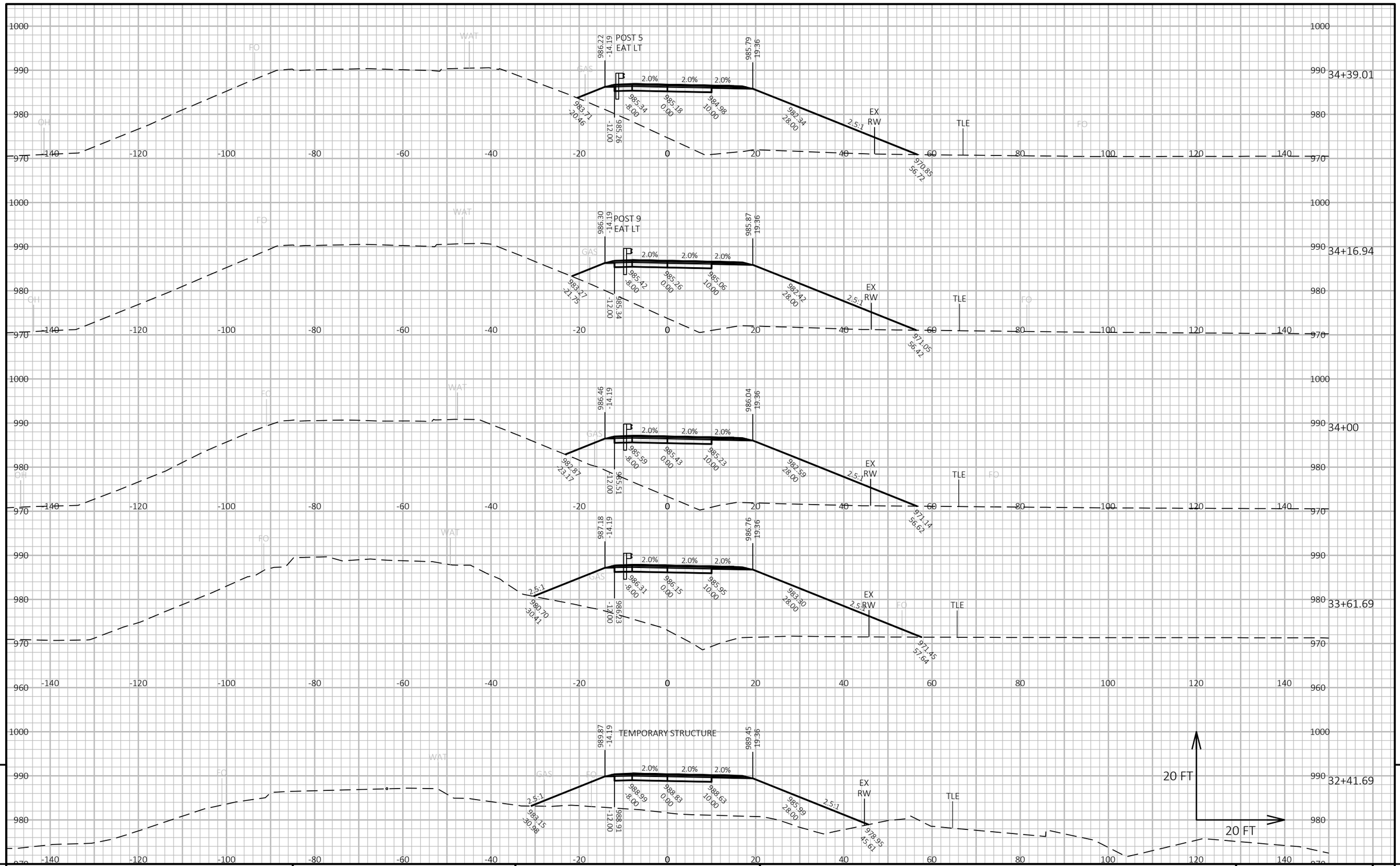


PROJECT NO: 5130-00-80	HWY: STH 71	COUNTY: MONROE	CROSS SECTIONS: BYPASS	SHEET 161	E

FILE NAME : \\SEHLX\PROJECTS\UZ\W\WITSW\147349\CIVIL 3D\51300000\SHEETSPLAN\SEC 09 X-SEC\090202-XS.DWG
LAYOUT NAME - 02

PLOT DATE : 4/16/2021 9:48 AM PLOT BY : TOREY LEONARD PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:20 FT VERT.

WISDOT/CADDS SHEET 49



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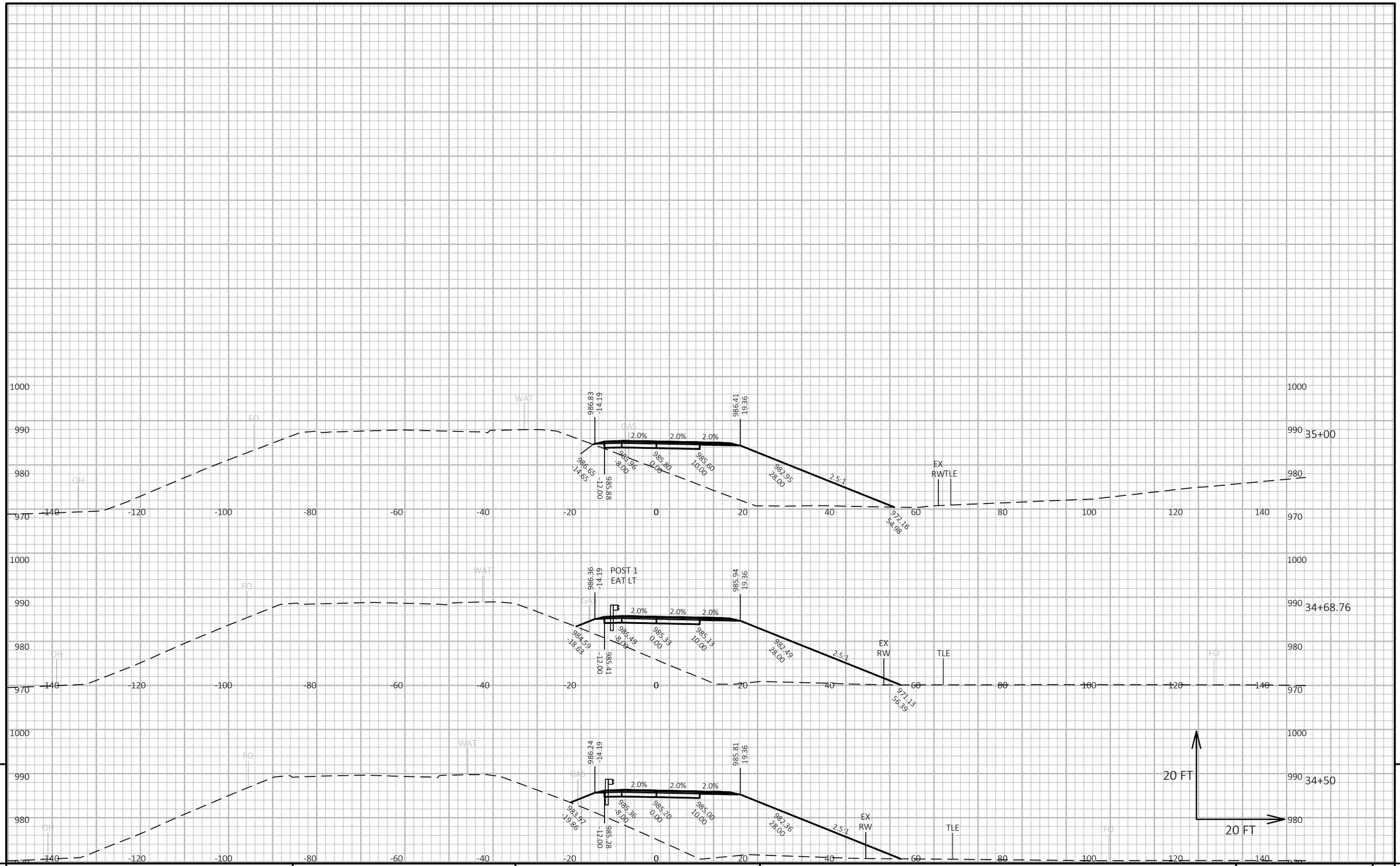
PROJECT NO: 5130-00-80	HWY: STH 71	COUNTY: MONROE	CROSS SECTIONS: BYPASS	SHEET 162	E

FILE NAME : \\SEHLX\PROJECTS\UZ\W\WITSW\147349\CIVIL 3D\51300000\SHEETSPLAN\SEC 09 X-SEC\090202-XS.DWG
LAYOUT NAME - 03

PLOT DATE : 4/16/2021 9:48 AM PLOT BY : TOREY LEONARD PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:20 FT VERT.

WISDOT/CADDS SHEET 49



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PROJECT NO: 5130-00-80	HWY: STH 71	COUNTY: MONROE	CROSS SECTIONS: BYPASS	SHEET 163	E

FILE NAME : \\SEHLX\PROJECTS\UZ\W\WITSW\147349\CIVIL 3D\51300000\SHEETSPLAN\SEC 09 X-SEC\090202-XS.DWG
LAYOUT NAME - 04

PLOT DATE : 4/16/2021 9:48 AM PLOT BY : TOREY LEONARD PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:20 FT VERT.

WISDOT/CADDS SHEET 49

Wisconsin Department of Transportation

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