LAX APR 13

PROJECT ID: 1071-06-65

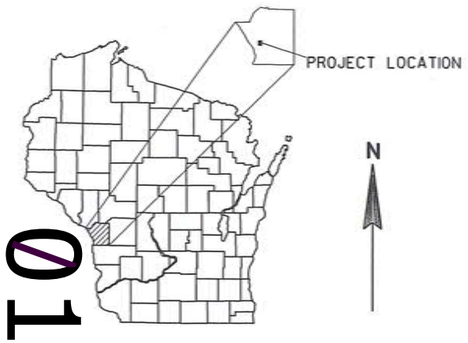
WITH: N/A

COUNTY: LA CROSSE

ORDER OF SHEETS

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

TOTAL SHEETS = 186



STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

STH 157 INTERCHANGE BRIDGES

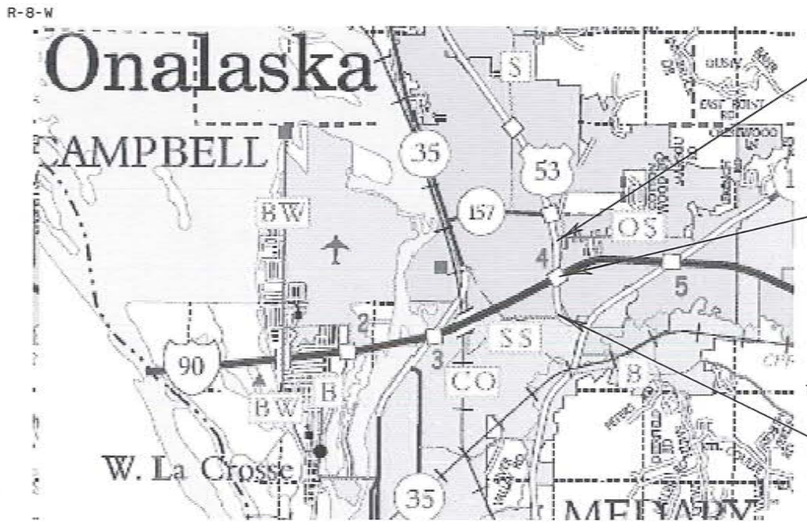
B-32-55 & 56 OVER I-90 AT STH 157

IH 90

LA CROSSE COUNTY

STATE PROJECT NUMBER
1071-06-65

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
1071-06-65	-	-



DESIGN DESIGNATION

A.A.D.T. (2016)	=	32500
A.A.D.T. (2036)	=	41400
D.H.V.	=	10.3%
D.D.	=	58/42
T.	=	6.9%
DESIGN SPEED	=	50 (MPH)
ESALS	=	6,533,500

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
- 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

LAYOUT
SCALE 0 1 MI.

TOTAL NET LENGTH OF CENTERLINE = 0.157 MI. (URBAN)

-"COORDINATES ON THIS PLAN ARE REFERENCED TO THE WISCONSIN COUNTY COORDINATE SYSTEM (WCCS), 'LA CROSSE' COUNTY,"NAD83(91)

-"ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCED TO THE NAVD88(91)"

ORIGINAL PLANS PREPARED BY

KSA K. SINGH & ASSOCIATES, INC. Engineers, Scientists, Environmental Consultants

WISCONSIN EYAD K. OMARI E-39585 MILWAUKEE WI PROFESSIONAL ENGINEER

11/01/2012 (Date) Eyad K. Omari (Signature)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	KSA
Designer	KSA
Project Manager	ANTHONY VANDER WIELEN
Regional Examiner	ANTHONY VANDER WIELEN
Regional Supervisor	JOE GREGAS
C.O. Examiner	

APPROVED FOR THE DEPARTMENT

DATE: 11/1/2012 (Signature)

E

FILE NAME : PLOT DATE : PLOT BY : PLOT NAME : PLOT SCALE :

WISDOT/CADDS SHEET 10

2

ABBREVIATIONS

ADT	AVERAGE DAILY TRAFFIC
AGG	AGGREGATE
BAD	BASE AGGREGATE DENSE
BM	BENCH MARK
CB	CATCH BASIN
C&G	CURB AND GUTTER
C-C	CENTER TO CENTER
CONC	CONCRETE
CSD	CONCRETE SURFACE DRAIN
CTR	CENTER
CWT	HUNDREDWEIGHT
CY	CUBIC YARD
D	DEGREE OF CURVE
Δ	DELTA
DD	DIRECTIONAL DISTRIBUTION
DHV	DESIGN HOUR VOLUME
DIA	DIAMETER
E	EAST
EB	EASTBOUND
EL OR ELEV	ELEVATION
EXIST	EXISTING
FS	FULL SUPERELEVATION
FT	FOOT
HE	HIGHWAY EASEMENT
HMA	HOT MIX ASPHALT
INCID	INCIDENTAL
INL	INLET
L	LENGTH OF CURVE
LF	LINEAR FOOT
LONG	LONGITUDINAL
LT	LEFT
MH	MANHOLE
MIN	MINIMUM
ML OR M/L	MATCH LINE
N	NORTH
NB	NORTHBOUND
NC	NORMAL CROWN
NTS	NOT TO SCALE
PAVT	PAVEMENT
PC	POINT OF CURVATURE
PCC	POINT OF COMPOUND CURVATURE
PI	POINT OF INTERSECTION
PLE	PERMANENT LIMITED EASEMENT
PT	POINT OF TANGENCY
PVC	POINT OF VERTICAL CURVATURE
PVI	POINT OF VERTICAL INTERSECTION
PVT	POINT OF VERTICAL TANGENCY
R	RADIUS
RCPSS	REINFORCED CONCRETE PIPE STORM SEWER
REQD	REQUIRED
R/L	REFERENCE LINE
RO	RUN OFF LENGTH
RT	RIGHT
RW OR R/W	RIGHT-OF-WAY
S	SOUTH
SB	SOUTHBOUND
SDD	STANDARD DETAIL DRAWINGS
SHT	SHEET
SS	STORM SEWER
STA	STATION
SY	SQUARE YARD
SYM	SYMMETRICAL
T	TANGENT LENGTH
TEMP	TEMPORARY
TYP	TYPICAL
V	VELOCITY OR DESIGN SPEED
VAR	VARIABLE OR VARIES
W	WEST
WB	WESTBOUND
YD	YARD

UTILITY CONTACTS

TO OBTAIN LOCATION OF
PARTICIPANTS UNDERGROUND
FACILITIES BEFORE YOU
DIG IN WISCONSIN

FAX-A-LOCATE 1-800-338-3860

WISCONSIN STATUTE 182.0175 (1974)
REQUIRES MINIMUM OF 3 WORKING DAYS
NOTICE BEFORE YOU EXCAVATE
IN WISCONSIN

CITY OF ONALASKA WATER & SEWER

JIM PRINDLE
415 MAIN ST
ONALASKA, WI 54650
(608) 780-8345
JPRDINLE@CITYOFONALASKA.COM

CITY OF ONALASKA - STREET LIGHTING

DAN MCDONALD
415 MAIN ST
ONALASKA, WI 54650
(608) 780-1150
DMCDONALD@CITYOFONALASKA.COM

WISCONSIN DEPARTMENT OF TRANSPORTATION

WINGA, ANDREW R
3550 MORMON COULEE ROAD
LA CROSSE, WI 54601
(608) 785-9061
ANDREW.WINGA@DOT.WI.GOV

OTHER AGENCIES

WISCONSIN DEPARTMENT OF NATURAL RESOURCES

KAREN KALVELAGE
3550 MORMON COULEE ROAD
LA CROSSE, WI 54601
(608) 785-9115
KAREN.KALVELAGE@WISCONSIN.GOV

CONSULTANT CONTACT

MALAS, MAC
3636 NORTH 124TH STREET
WAUWATOSA, WI 53222
(414) 821-1171
MMALAS@KSACONSULTANTS.COM

GENERAL NOTES

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

THE CONTRACTOR SHALL NOTIFY DIGGERS HOTLINE AND AFFECTED UTILITIES PRIOR TO THE START OF WORK. ANY LOCAL MUNICIPAL UTILITY WHICH IS NOT A MEMBER OF THE DIGGERS HOTLINE MUST BE CONTACTED SEPARATELY.

WHEN THE QUANTITY OF HMA PAVEMENT OR BASE AGGREGATE IS MEASURED FOR PAYMENT BY THE TON, THE DEPTH OR THICKNESS OF THE LAYER SHOWN ON THE PLAN IS APPROXIMATE AND THE ACTUAL THICKNESS WILL DEPEND ON THE DISTRIBUTION OF THE MATERIAL AS DIRECTED BY THE ENGINEER.

INLET PROTECTION IS REQUIRED AT ALL INLETS AS PER DETAIL OR AS DIRECTED BY THE ENGINEER.

REMOVAL OF EROSION CONTROL DEVICES IS INCLUDED IN THE COST OF THEIR RESPECTIVE BID ITEMS.

THE EROSION CONTROL FEATURES AS SHOWN IN THE PLANS ARE AT SUGGESTED LOCATIONS. EXACT LOCATIONS WILL BE DETERMINED BY THE ENGINEER IN THE FIELD.

DISTURBED AREAS WITHIN THE RIGHT OF WAY, EXCEPT THE AREAS WITHIN THE FINISHED SHOULDER POINTS, SHALL BE SALVAGED TOPSOILED, FERTILIZED, SEEDED AND INSTALL EROSION CONTROL MAT AS DIRECTED BY THE ENGINEER.

SEED, INSTALL EROSION CONTROL MAT, AND FERTILIZE ALL SALVAGED TOPSOILED AREAS WITHIN 7 WORKING DAYS AFTER GRADING WORK IS COMPLETED

STATIONING, DISTANCES AND OFFSETS FOR SIGNS SHOWN IN THE PLANS ARE APPROXIMATE AND THE FINAL LOCATION OF SIGNS ARE TO BE DETERMINED BY THE ENGINEER.

SIGNS IN CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE COVERED AS DIRECTED BY THE ENGINEER AND PAID FOR UNDER ITEMS TRAFFIC CONTROL COVERING SIGNS TYPE I OR TRAFFIC CONTROL COVERING SIGNS TYPE II

TRAFFIC CONTROL DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.

CONCRETE JOINTS SHALL MATCH ABUTTING PAVEMENT AND CURB AND GUTTER JOINTS UNLESS OTHERWISE DESIGNATED BY THE ENGINEER.

THE LOCATIONS OF LONGITUDINAL JOINTS IN HMA PAVEMENT SHALL BE APPROVED BY THE ENGINEER.

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

SMOOTH AND EVEN JOINTS SHALL BE PROVIDED WHERE MATCHING EXISTING BY SAWCUTTING.

ORDER OF SHEETS SECTION 2

GENERAL NOTES
PROJECT OVERVIEW
TYPICAL SECTIONS
PAVEMENT DETAIL
EROSION CONTROL
PERMANENT SIGNING
PAVEMENT MARKING
TRAFFIC CONTROL
DETOUR PLAN

DIGGERS HOTLINE

Call 811 3 Work Days Before You Dig
or Toll Free (800) 242-8511
Hearing Impaired TDD (800) 542-2289
www.DiggersHotline.com

2

2

CITY OF ONALASKA

N

265

IH 90

B-32-55 STH 157

S 65+0

S 70+0

S 75+0

S 80+0

N 65+0

N 70+0

N 75+0

N 80+0

B-32-56 USH 53/STH 157

BM #2
730.264
BM SET CHIS SQ
NORTHING=154075.5460
EASTING=456288.7530
SET CHIS SQ

STA 63+00
BEGIN PROJECT

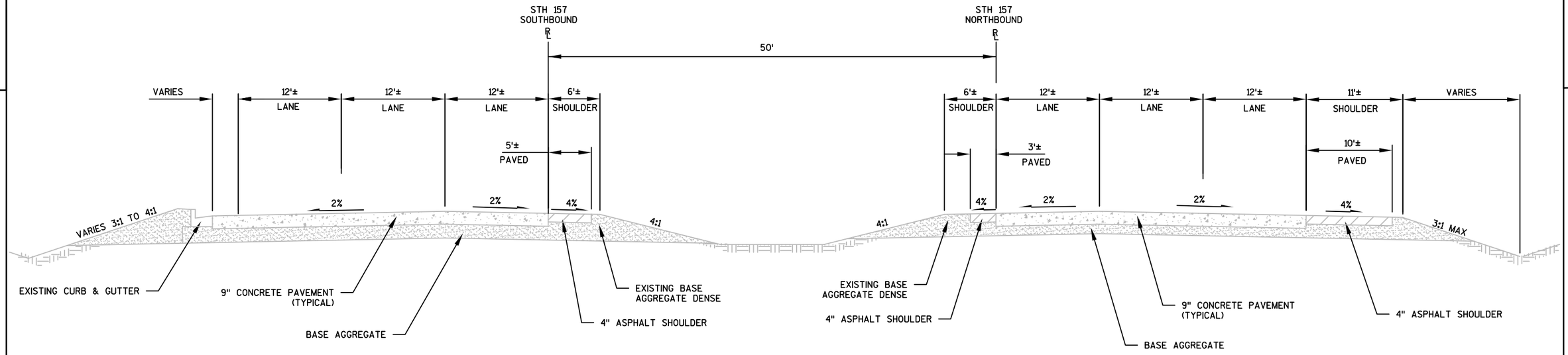
STA 74+00
END PROJECT

CITY OF ONALASKA

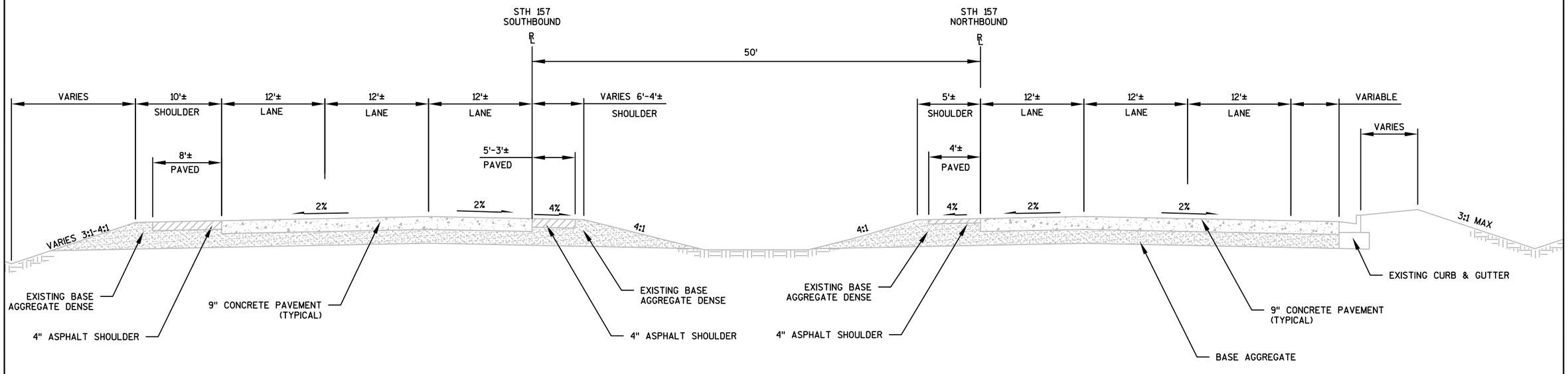
BM #1
712.490
BENCH MARK
NORTHING=154277.1400
EASTING=456657.6200
REBAR W/CAP
421' EAST OF EAST EDGE OF B-32-56

PROJECT NO:1071-06-65	HWY: STH 157	COUNTY:LA CROSSE	PROJECT OVERVIEW	SHEET	E

FILE NAME : P:\8384 I90_53_35 INTERCHANGE\TRANSPORTATION\CIVIL3D\157 ROADWAY PLANS\020201_PO.DWG PLOT DATE : 11/1/2012 PLOT BY : GUST JUNTTILA PLOT NAME : ---------- PLOT SCALE : 1 IN:200 FT WISDOT/CADDS SHEET 42



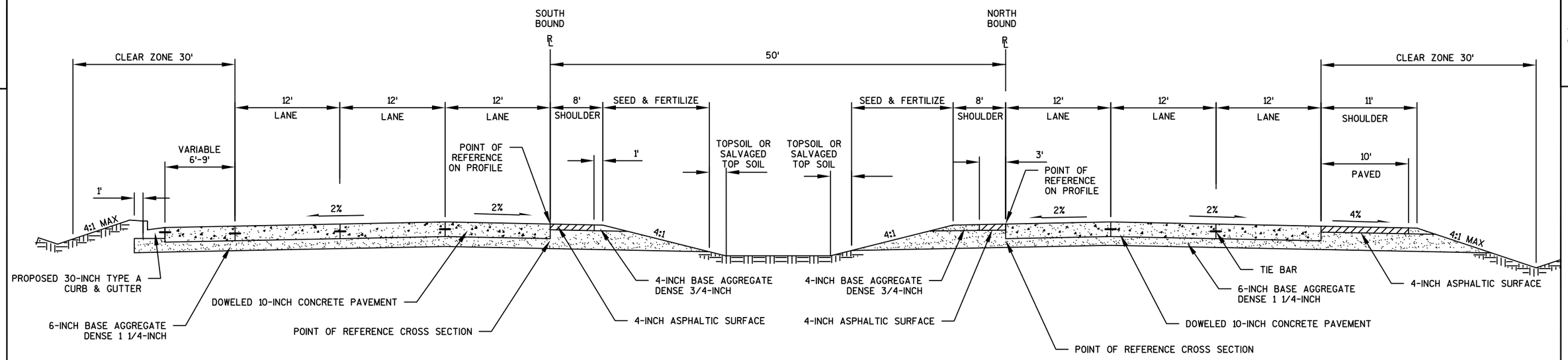
EXISTING TYPICAL SECTION
STA 63+50 TO 66+03 SB
STA 63+00 TO 66+51 NB



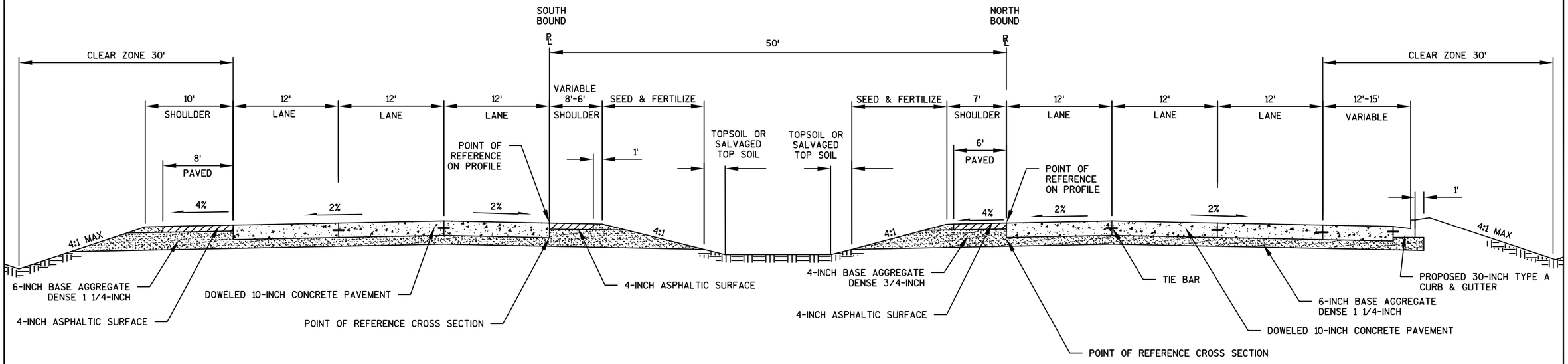
EXISTING TYPICAL SECTION
STA 68+86 TO 74+00 SB
STA 69+33 TO 71+75 NB

PROJECT NO: 1071-06-65	HWY: STH 157	COUNTY: LA CROSSE	TYPICAL SECTIONS	SHEET 4

FILE NAME : PLOT DATE : 11/1/2012 PLOT BY : GUST JUNTTILA PLOT NAME : ---------- PLOT SCALE : N/A WISDOT/CADDS SHEET 45



PROPOSED TYPICAL SECTION
STA 63+50 TO 66+03 SB
STA 63+00 TO 66+51 NB



PROPOSED TYPICAL SECTION
STA 68+86 TO 74+00 SB
STA 69+33 TO 71+75 NB

PROJECT NO: 1071-06-65	HWY: STH 157	COUNTY: LA CROSSE	TYPICAL SECTIONS	SHEET 5

2

SIGN

N

(2)
BEGIN CONSTRUCTION
STA 60+25

(3)

12'

2%

(2)

MATCH LINE S 62+39

S 60+00 S 61+00 S 62+00

N 60+00 N 61+00 N 62+00

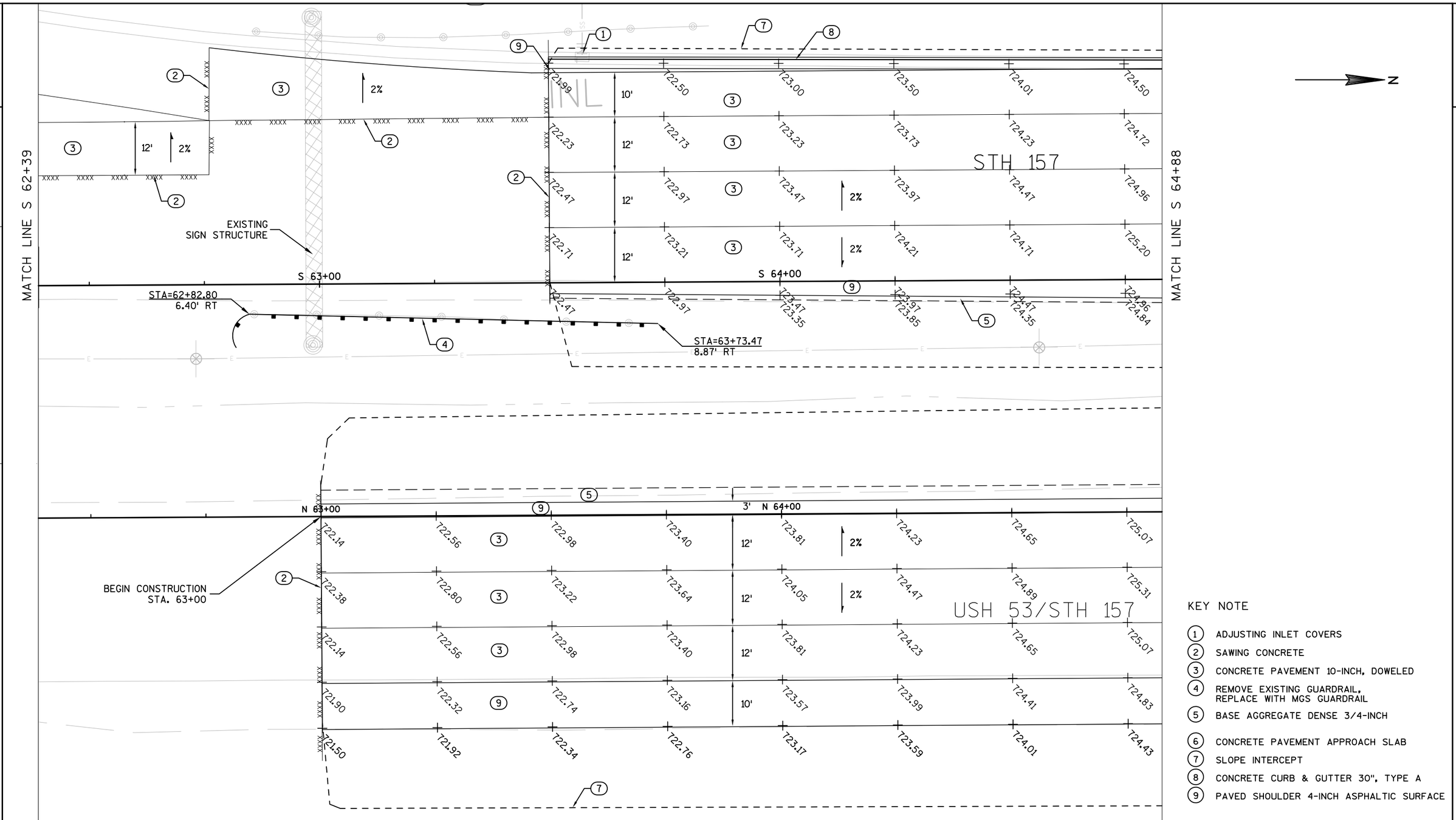
SIGN SIGN

KEY NOTE

1. ADJUSTING INLET COVERS
2. SAWING CONCRETE
3. CONCRETE PAVEMENT 10-INCH, DOWELED
4. REMOVE EXISTING GUARDRAIL, REPLACE WITH MGS GUARDRAIL
5. BASE AGGREGATE DENSE 3/4-INCH
6. CONCRETE PAVEMENT APPROACH SLAB
7. SLOPE INTERCEPT
8. CONCRETE CURB & GUTTER 30", TYPE A
9. PAVED SHOULDER 4-INCH ASPHALTIC SURFACE

PROJECT NO:1071-06-65	HWY: STH 157	COUNTY:LA CROSSE	PAVEMENT DETAIL	SHEET 6	E

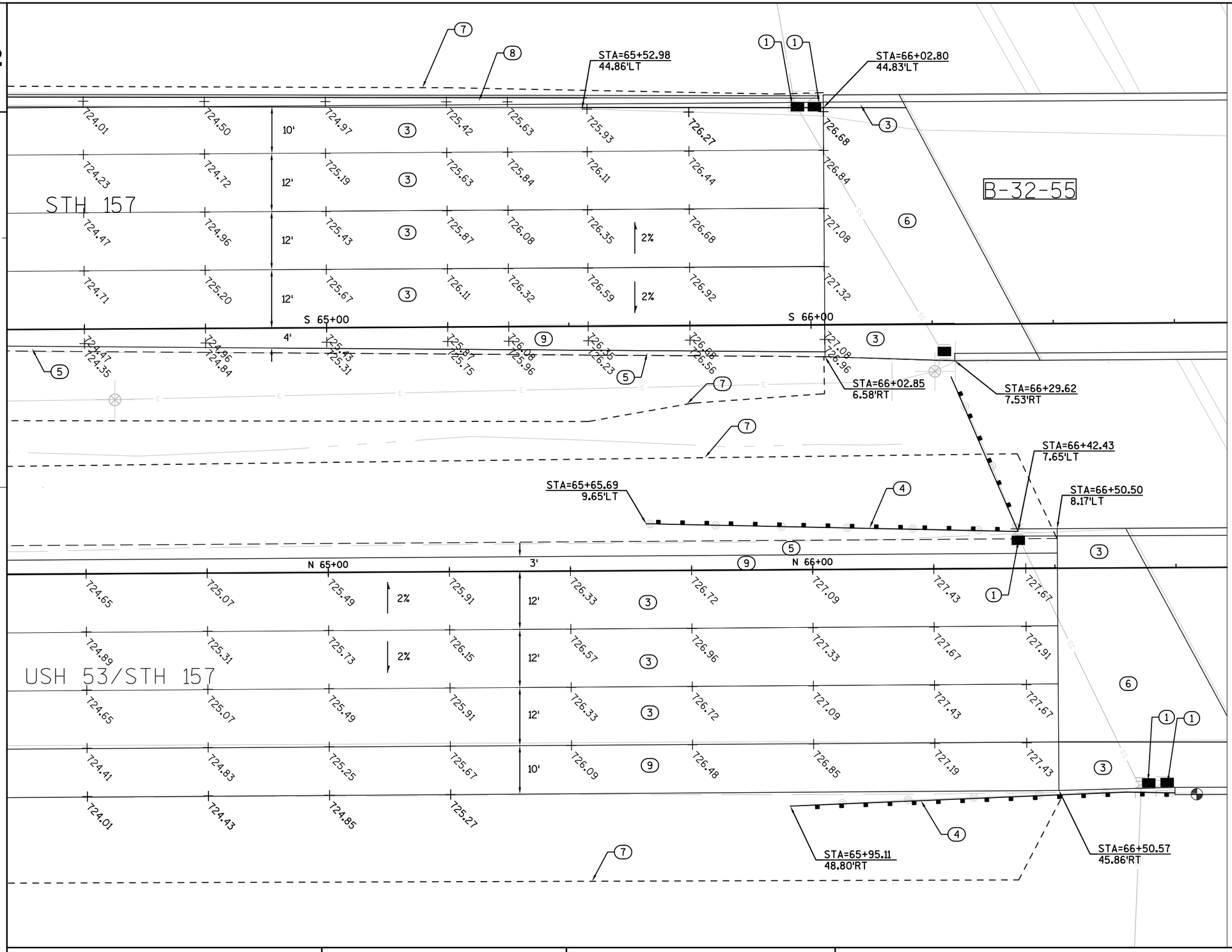
FILE NAME : P:\8384 I90_53_35 INTERCHANGE\TRANSPORTATION\CIVIL3D\157 ROADWAY PLANS\021202_PD.DWG PLOT DATE : 11/1/2012 PLOT BY : GUST JUNTTILA PLOT NAME : ---------- PLOT SCALE : 1:20_XREF



KEY NOTE

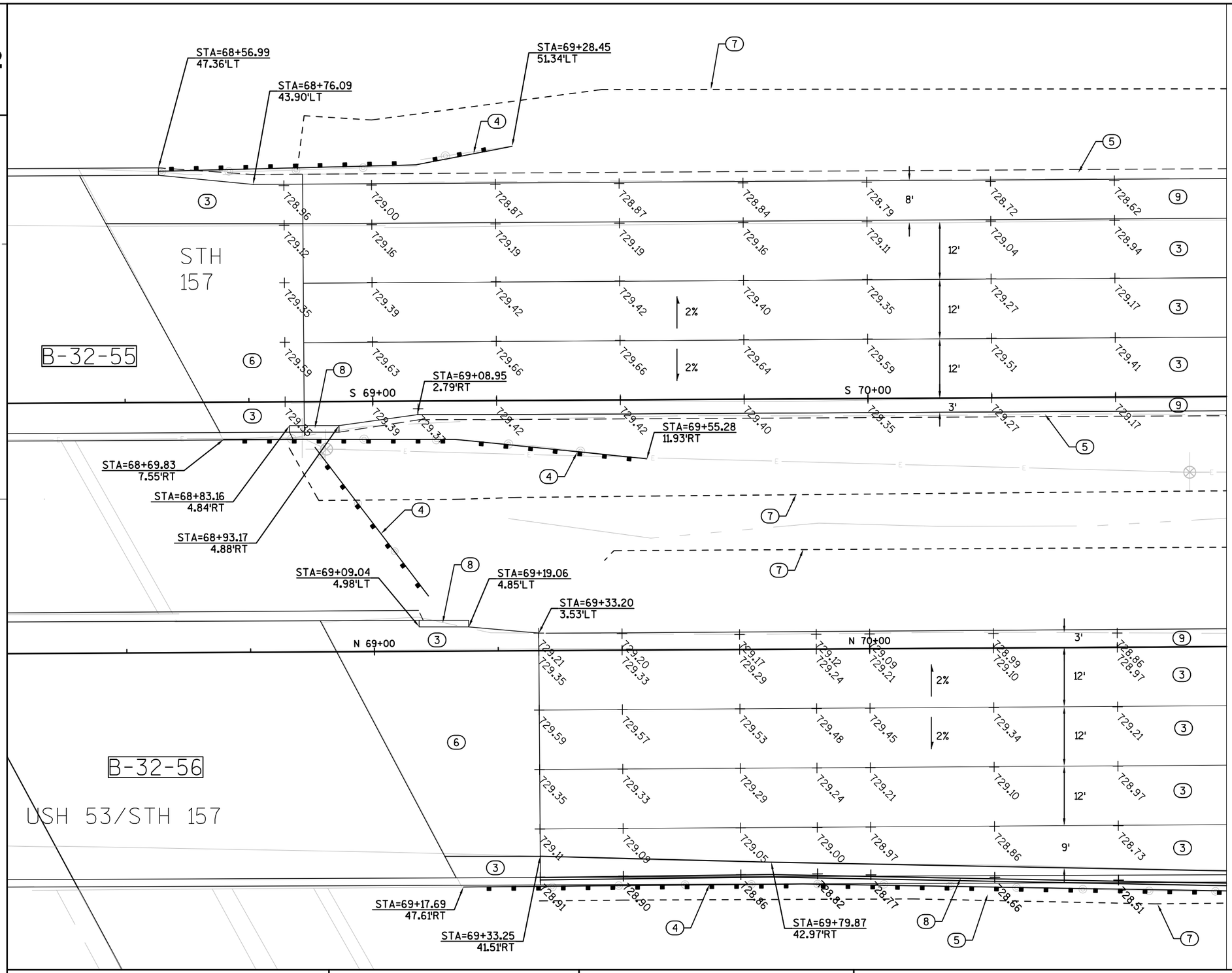
1. ADJUSTING INLET COVERS
2. SAWING CONCRETE
3. CONCRETE PAVEMENT 10-INCH, DOWELED
4. REMOVE EXISTING GUARDRAIL, REPLACE WITH MGS GUARDRAIL
5. BASE AGGREGATE DENSE 3/4-INCH
6. CONCRETE PAVEMENT APPROACH SLAB
7. SLOPE INTERCEPT
8. CONCRETE CURB & GUTTER 30", TYPE A
9. PAVED SHOULDER 4-INCH ASPHALTIC SURFACE

PROJECT NO: 1071-06-65	HWY: STH 157	COUNTY: LA CROSSE	PAVEMENT DETAIL	SHEET 7	E



PROJECT NO: 1071-06-65	HWY: STH 157	COUNTY: LA CROSSE	PAVEMENT DETAIL	SHEET 8	E

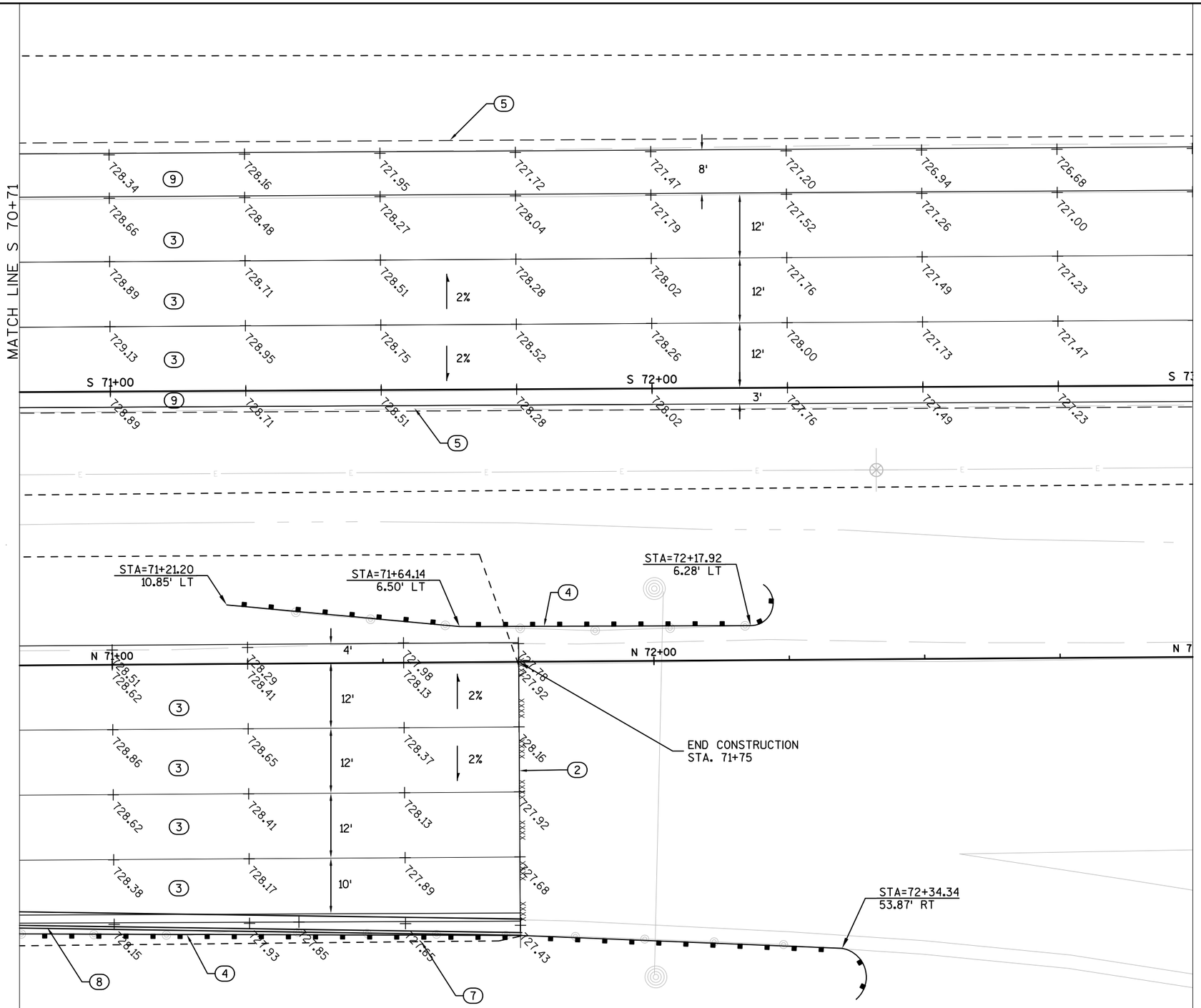
FILE NAME : P:\8384 I90_53_35 INTERCHANGE\TRANSPORTATION\CIVIL3D\157 ROADWAY PLANS\021202_PD.DWG PLOT DATE : 11/1/2012 PLOT BY : GUST JUNTTILA PLOT NAME : ---------- PLOT SCALE : 1:20 XREF
WISDOT/CADDS SHEET 42



KEY NOTE

1. ADJUSTING INLET COVERS
2. SAWING CONCRETE
3. CONCRETE PAVEMENT 10-INCH, DOWELED
4. REMOVE EXISTING GUARD RAIL, REPLACE WITH MGS GUARDRAIL
5. BASE AGGREGATE DENSE 3/4-INCH
6. CONCRETE PAVEMENT APPROACH SLAB
7. SLOPE INTERCEPT
8. CONCRETE CURB & GUTTER 30", TYPE A
9. PAVED SHOULDER 4-INCH ASPHALTIC SURFACE

PROJECT NO: 1071-06-65	HWY: STH 157	COUNTY: LA CROSSE	PAVEMENT DETAIL	SHEET 9	E



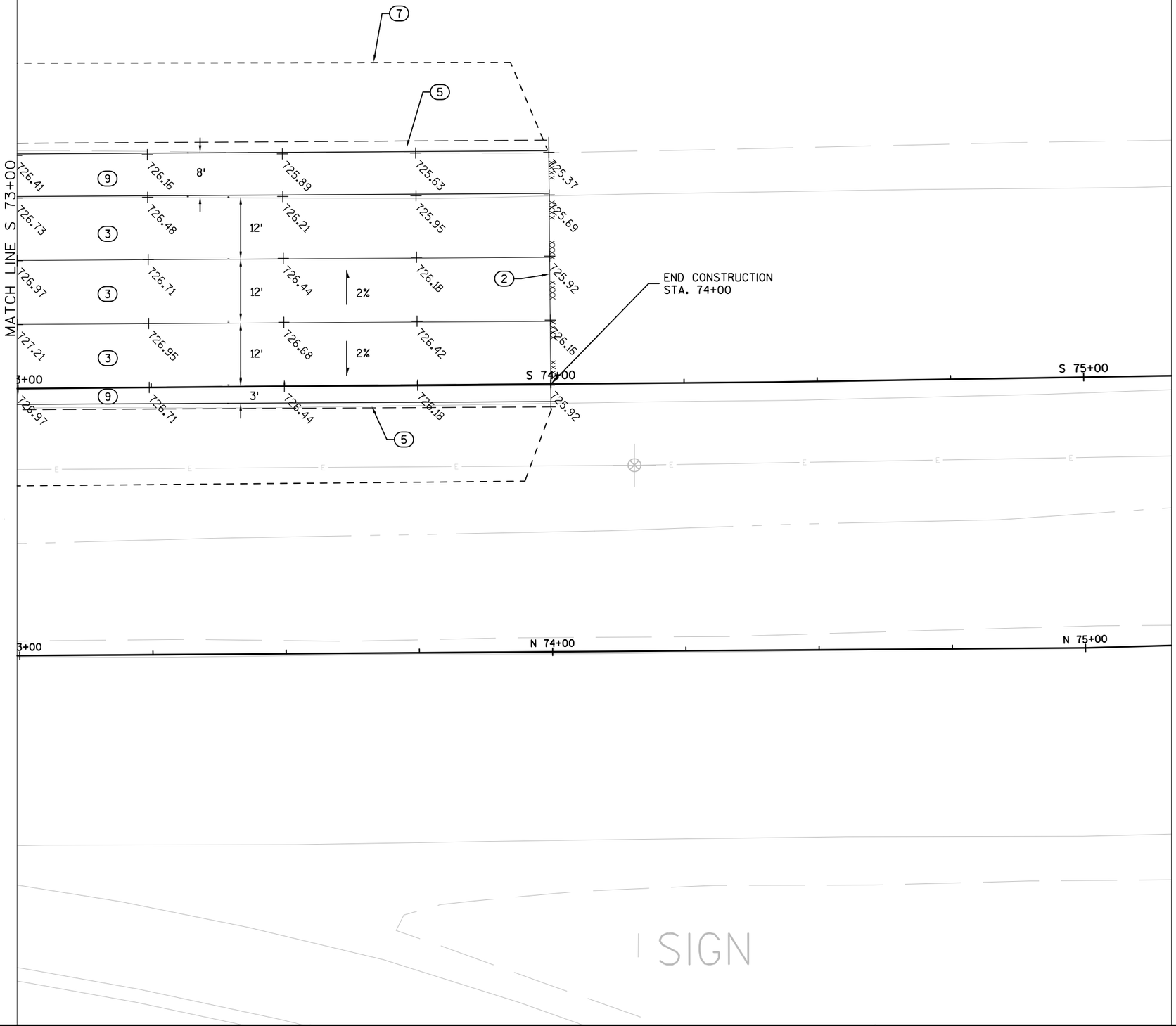
N

KEY NOTE

1. ADJUSTING INLET COVERS
2. SAWING CONCRETE
3. CONCRETE PAVEMENT 10-INCH, DOWELED
4. REMOVE EXISTING GUARDRAIL, REPLACE WITH MGS GUARDRAIL
5. BASE AGGREGATE DENSE 3/4-INCH
6. CONCRETE PAVEMENT APPROACH SLAB
7. SLOPE INTERCEPT
8. CONCRETE CURB & GUTTER 30", TYPE A
9. PAVED SHOULDER 4-INCH ASPHALTIC SURFACE

PROJECT NO:1071-06-65	HWY: STH 157	COUNTY:LA CROSSE	PAVEMENT DETAIL	SHEET 10	E

FILE NAME : P:\8384 I90_53_35 INTERCHANGE\TRANSPORTATION\CIVIL3D\157 ROADWAY PLANS\021202_PD.DWG PLOT DATE : 11/1/2012 PLOT BY : GUST JUNTTILA PLOT NAME : ---------- PLOT SCALE : 1:20_XREF
WISDOT/CADDS SHEET 42



N

KEY NOTE

1. ADJUSTING INLET COVERS
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7. SLOPE INTERCEPT
8. CONCRETE CURB & GUTTER 30", TYPE A
9. PAVED SHOULDER 4-INCH ASPHALTIC SURFACE

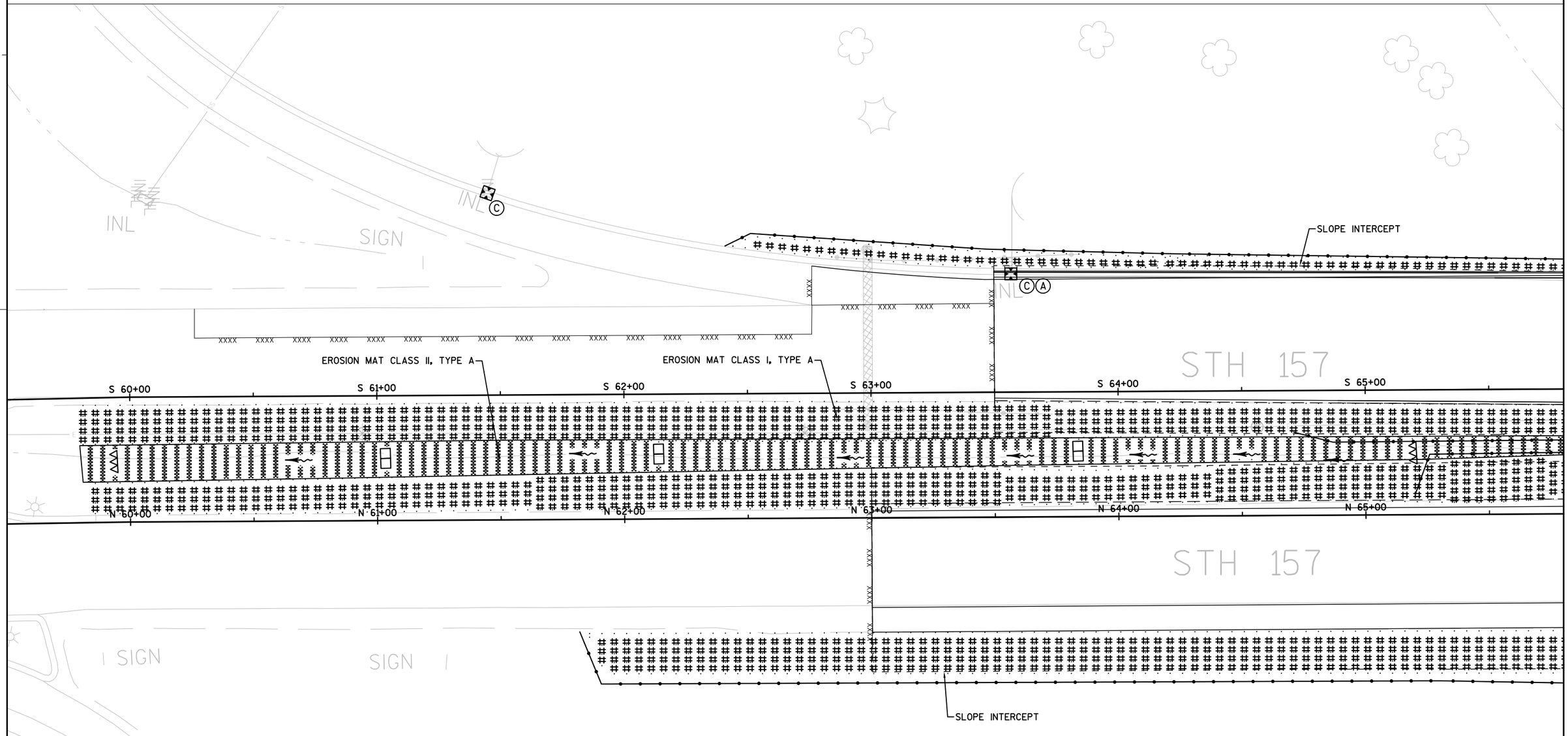
PROJECT NO:1071-06-65	HWY: STH 157	COUNTY:LA CROSSE	PAVEMENT DETAIL	SHEET 11	E

FILE NAME : P:\8384 I90_53_35 INTERCHANGE\TRANSPORTATION\CIVIL3D\157 ROADWAY PLANS\021202_PD.DWG PLOT DATE : 11/1/2012 PLOT BY : GUST JUNTTILA PLOT NAME : ---------- PLOT SCALE : 1:20_XREF
WISDOT/CADDS SHEET 42

LEGEND

- EROSION MAT CLASS I, TYPE A
- EROSION MAT CLASS II, TYPE A
- SILT FENCE
- EROSION BALE, BARRIER
- SURFACE WATER FLOW
- SLOPE INTERCEPT
- INLET PROTECTION, TYPE (A)(B)(C)
- TEMPORARY DITCH CHECK

N



PROJECT NO:1071-06-65	HWY: STH 157	COUNTY:LA CROSSE	EROSION CONTROL	SHEET	E

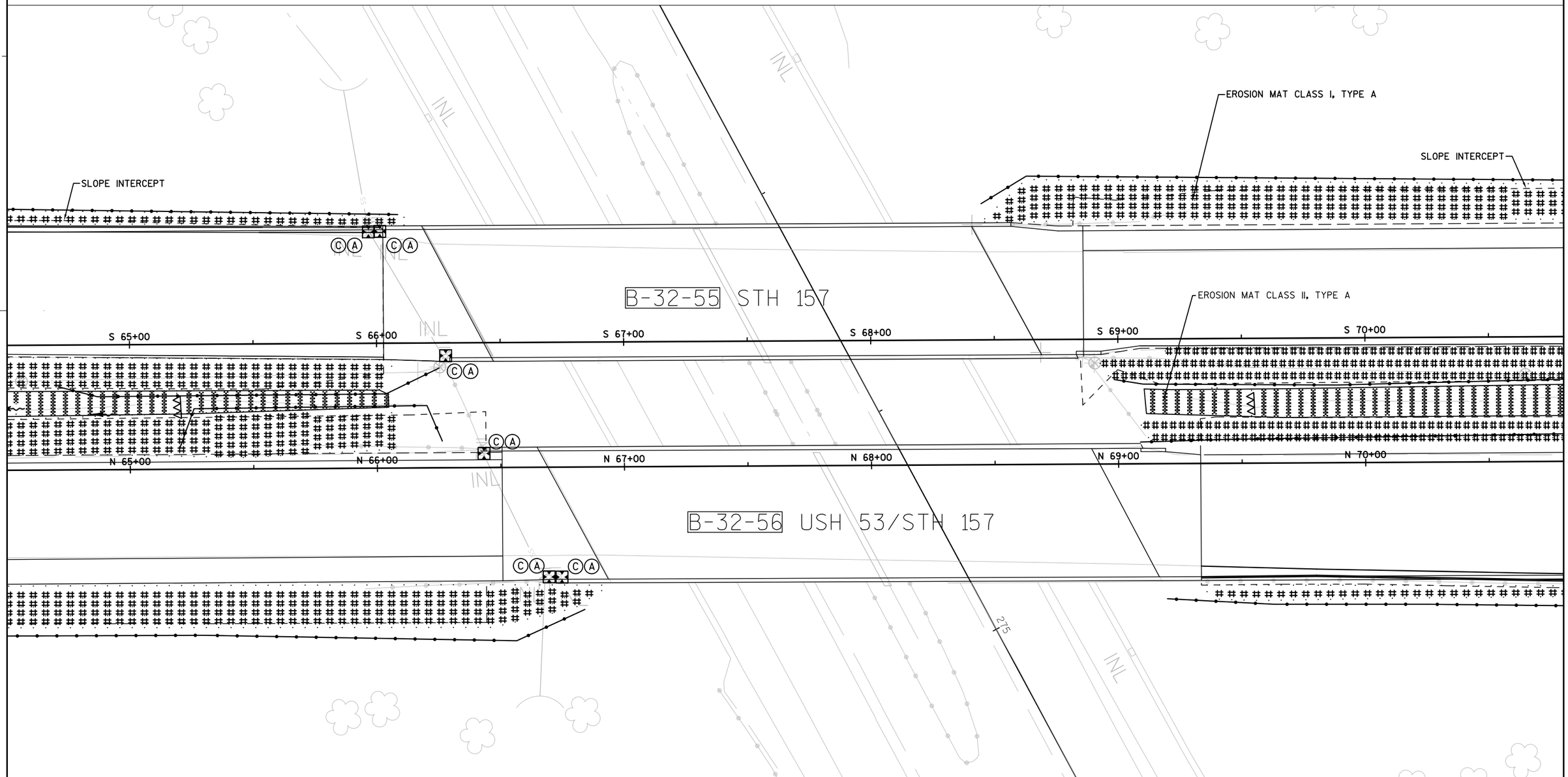
FILE NAME : P:\8384 I90_53_35 INTERCHANGE\TRANSPORTATION\CIVIL3D\157 ROADWAY PLANS\022201_EC.DWG
PLOT DATE : 11/1/2012 PLOT BY : GUST JUNTTILA PLOT NAME : ---------- PLOT SCALE : 1:40
WISDOT/CADDS SHEET 42

2

LEGEND

- ###### EROSION MAT CLASS I, TYPE A
- EROSION MAT CLASS II, TYPE A
- SILT FENCE
- EROSION BALE, BARRIER
- SURFACE WATER FLOW
- SLOPE INTERCEPT
- INLET PROTECTION, TYPE (A)(B)(C)
- TEMPORARY DITCH CHECK

N



PROJECT NO:1071-06-65	HWY: STH 157	COUNTY:LA CROSSE	EROSION CONTROL	SHEET 13	E

FILE NAME : P:\8384 I90_53_35 INTERCHANGE\TRANSPORTATION\CIVIL3D\157 ROADWAY PLANS\022201_EC.DWG PLOT DATE : 11/1/2012 PLOT BY : GUST JUNTTILA PLOT NAME : ---------- PLOT SCALE : 1:40 WISDOT/CADDS SHEET 42

2

LEGEND

EROSION MAT CLASS I, TYPE A

EROSION MAT CLASS II, TYPE A

SILT FENCE

EROSION BALE, BARRIER

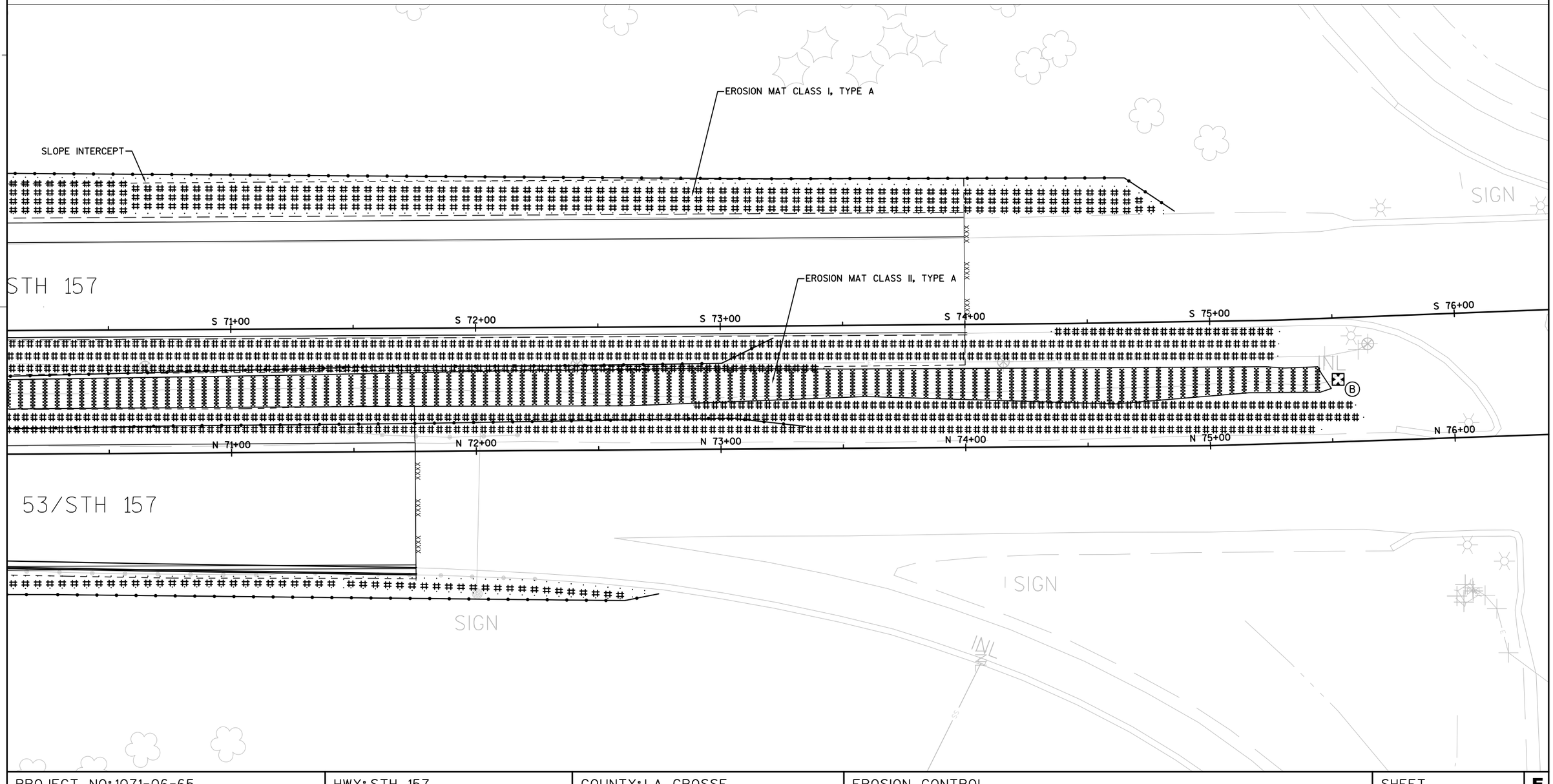
SURFACE WATER FLOW

SLOPE INTERCEPT

INLET PROTECTION, TYPE (A)(B)(C)

TEMPORARY DITCH CHECK

N



PROJECT NO:1071-06-65	HWY: STH 157	COUNTY:LA CROSSE	EROSION CONTROL	SHEET 14	E

2

N

IH 90

B-32-55 STH 157

B-32-56 USH 53/STH 157

S 62+00 S 64+00 S 66+00 S 68+00 S 70+00 S 72+00 S 74+00 S

N 62+0 N 64+0 N 66+0 N 68+0 N 70+0 N 72+0 N 74+0 N

① SPEED LIMIT 45
R2-1
36"X48"

② I5-1
30" X 30"

③ M6-2
30"X30"

④ EXIT 30 MPH
W13-2B
48" X 90"

⑤ EAST
M3-2
24"X12"

⑥ INTERSTATE 157
J4-1
36"X54"

PROJECT NO:1071-06-65	HWY: STH 157	COUNTY:LA CROSSE	PERMANENT SIGNING	SHEET	E

FILE NAME : P:\8384 I90_53_35 INTERCHANGE\TRANSPORTATION\CIVIL3D\157 ROADWAY PLANS\023201_PS.DWG PLOT DATE : 11/1/2012 PLOT BY : GUST JUNTTILA PLOT NAME : PLOT SCALE : 1:100 WISDOT/CADDS SHEET 42

2

N

131R
132

53 NORTH
Holmen

E6-1
18.0' X 10' 6"

133R
134

157 OS
Main St
EXIT
ONLY

E6-1
15.0' X 12.0'

125R
126

157 OS
Main St
EXIT 1/4 MILE
EXIT ONLY

E6-1
14.0' X 12.0'

127R
128

WEST SOUTH
90 53
Minnesota

E6-1
17.0' X 9' 6"

129R 130

Onalaska Exits
Main St 1/8
Sand Lake Rd 1

D2-2
19.0' X 8' 6"

101R
102

157 EAST

E6-1
17.0' X 7' 6"

103R
104

WEST SOUTH
90 53
Minnesota
NEXT RIGHT

E6-51
14.0' X 11.0'

105R
106

90 EAST
Madison
EXIT 1/4 MILE

E6-51
12.0' X 9' 6"

107R
108

WEST SOUTH
90 53
Minnesota

E6-1
17.0' X 9' 6"

2

PROJECT NO:1071-06-65	HWY:157	COUNTY:LA CROSSE	PERMANENT SIGNING	SHEET 16	E

FILE NAME :$$....designfile....$$ PLOT DATE : $$...plottingdate...$$ PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$

2

N

121R
122

WEST SOUTH
90 53
Minnesota
EXIT 1/4 MILE

E6-51
14.0' X 11.0'

123R
124

90 EAST
Madison

E6-1
15.0' X 7' 6"

119R 120

90 EAST
Madison
NEXT RIGHT

E6-51
11.0' X 9'

117R

ONLY
REMOVE

118

ONLY

R3-5R
42" X 48"

113R
114

TO 16 157 EAST
La Crosse

E6-1
18.0' X 10' 6"

115R
116

SS WEST
EXIT ONLY

E6-1
14.0' X 7' 6"

109R
110

SS
JCT 1/4 MILE

E6-51
11.0' X 6' 6"

111R
112

90 EAST
Madison

E6-1
15.0' X 7' 6"

PROJECT NO: 1071-06-65	HWY: 157	COUNTY: LA CROSSE	PERMANENT SIGNING	SHEET 17	E

FILE NAME :$$....designfile....$$ PLOT DATE : $$...plottingdate...$$ PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$

2

KEY NOTE

(1) EDGE MARKING - SOLID 4" YELLOW ON LEFT SIDE
- SOLID 4" WHITE ON RIGHT SIDE

(2) CHANNELIZING - SOLID 8" WHITE WET REFLECTIVE TAPE

(3) LANE MARKING - 4" WHITE WET REFLECTIVE TAPE

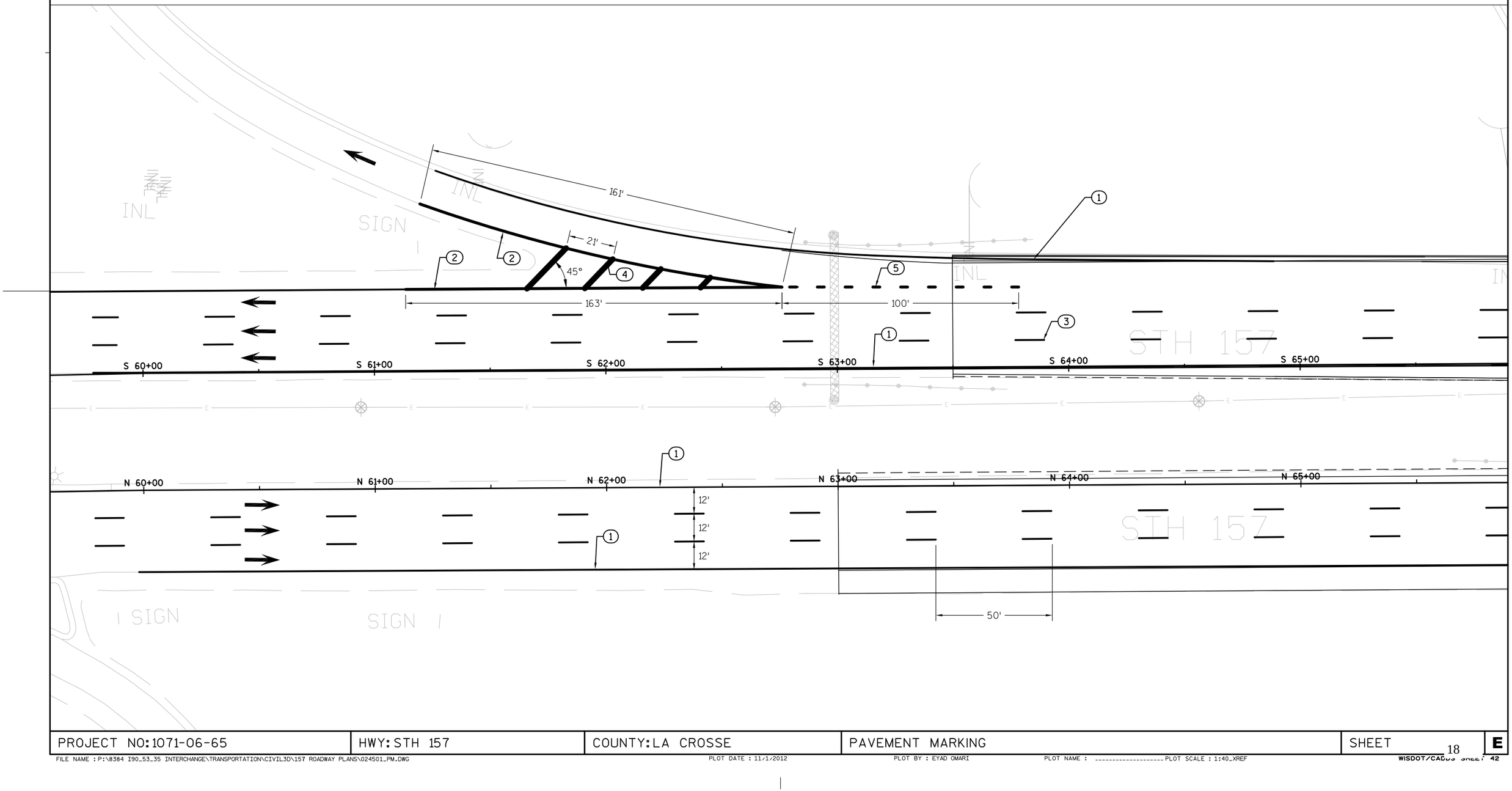
(4) DIAGONAL MARKING - 24" WHITE

(5) DOTTED EDGE EXTENSION MARKING - 8" WHITE WET REFLECTIVE (3' LINE, 9' GAP). SEE NOTE 3.

NOTES:

1. ARROWS SHOWN ON THIS MARKING PLAN DESIGNATE TRAFFIC FLOW, AND SHALL NOT BE TAKEN AS PROPOSED PAVEMENT MARKINGS.
2. PLACE WHITE EDGE OF TAPE 6" LEFT FROM JOINT
3. 3' LINE 9' GAP, EXCEPT RETRACE THE EXISTING LINE-GAP PATTERN WHERE EXISTING MARKINGS ARE IN PLACE.
4. RETRACE EXISTING DIAGONAL MARKINGS.

N



PROJECT NO:1071-06-65	HWY: STH 157	COUNTY:LA CROSSE	PAVEMENT MARKING	SHEET 18	E

KEY NOTE

(1) EDGE MARKING - SOLID 4" YELLOW ON LEFT SIDE
- SOLID 4" WHITE ON RIGHT SIDE

(2) CHANNELIZING - SOLID 8" WHITE WET REFLECTIVE TAPE

(3) LANE MARKING - 4" WHITE WET REFLECTIVE TAPE

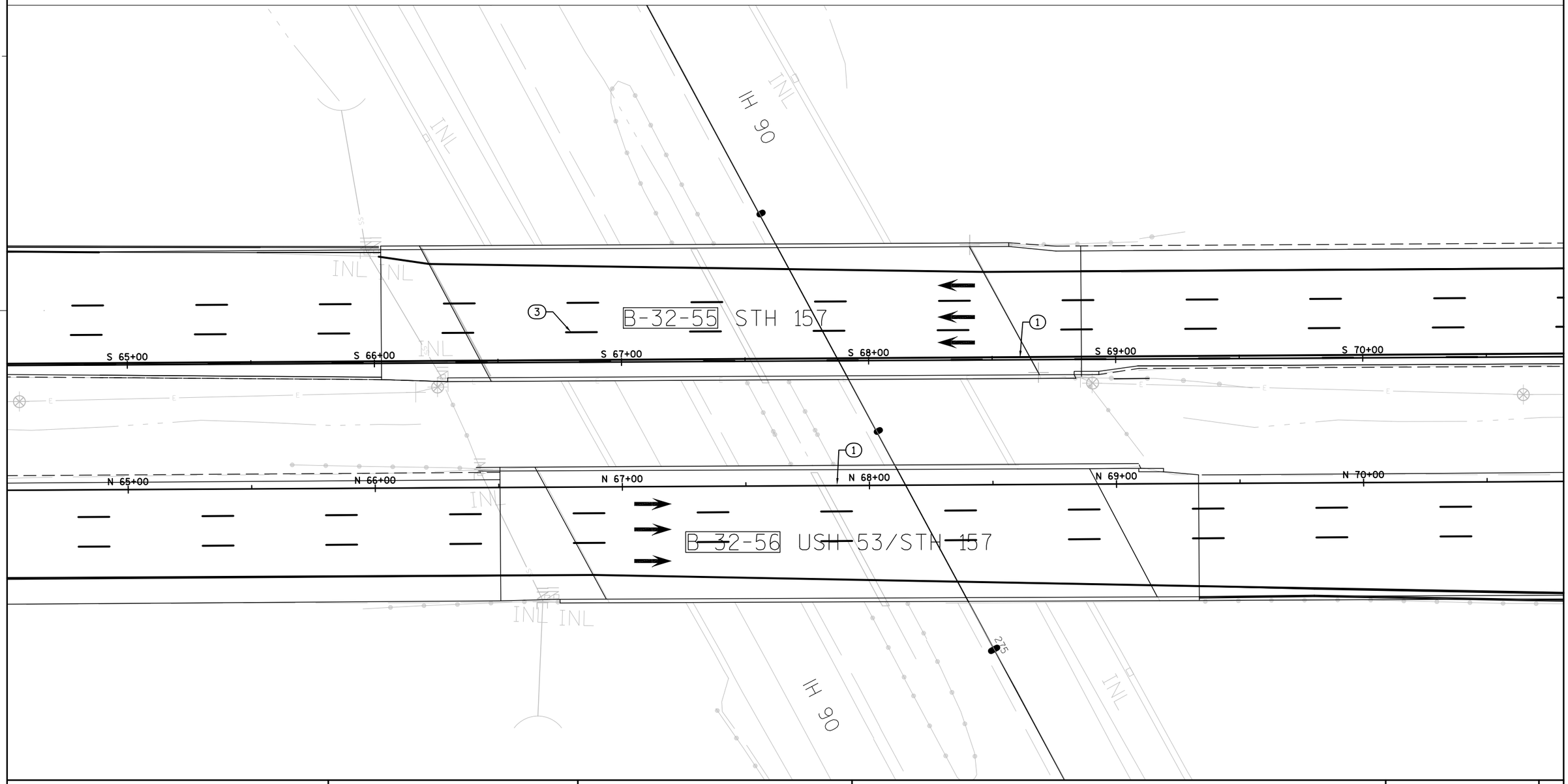
(4) DIAGONAL MARKING - 24" WHITE

(5) DOTTED EDGE EXTENSION MARKING - 8" WHITE WET REFLECTIVE (3' LINE, 9' GAP). SEE NOTE 3.

NOTES:

1. ARROWS SHOWN ON THIS MARKING PLAN DESIGNATE TRAFFIC FLOW, AND SHALL NOT BE TAKEN AS PROPOSED PAVEMENT MARKINGS.
2. PLACE WHITE EDGE OF TAPE 6" LEFT FROM JOINT
3. 3' LINE 9' GAP, EXCEPT RETRACE THE EXISTING LINE-GAP PATTERN WHERE EXISTING MARKINGS ARE IN PLACE.
4. RETRACE EXISTING DIAGONAL MARKINGS.

N



PROJECT NO: 1071-06-65	HWY: STH 157	COUNTY: LA CROSSE	PAVEMENT MARKING	SHEET 19	E

2

KEY NOTE

(1) EDGE MARKING - SOLID 4" YELLOW ON LEFT SIDE
- SOLID 4" WHITE ON RIGHT SIDE

(2) CHANNELIZING - SOLID 8" WHITE WET REFLECTIVE TAPE

(3) LANE MARKING - 4" WHITE WET REFLECTIVE TAPE

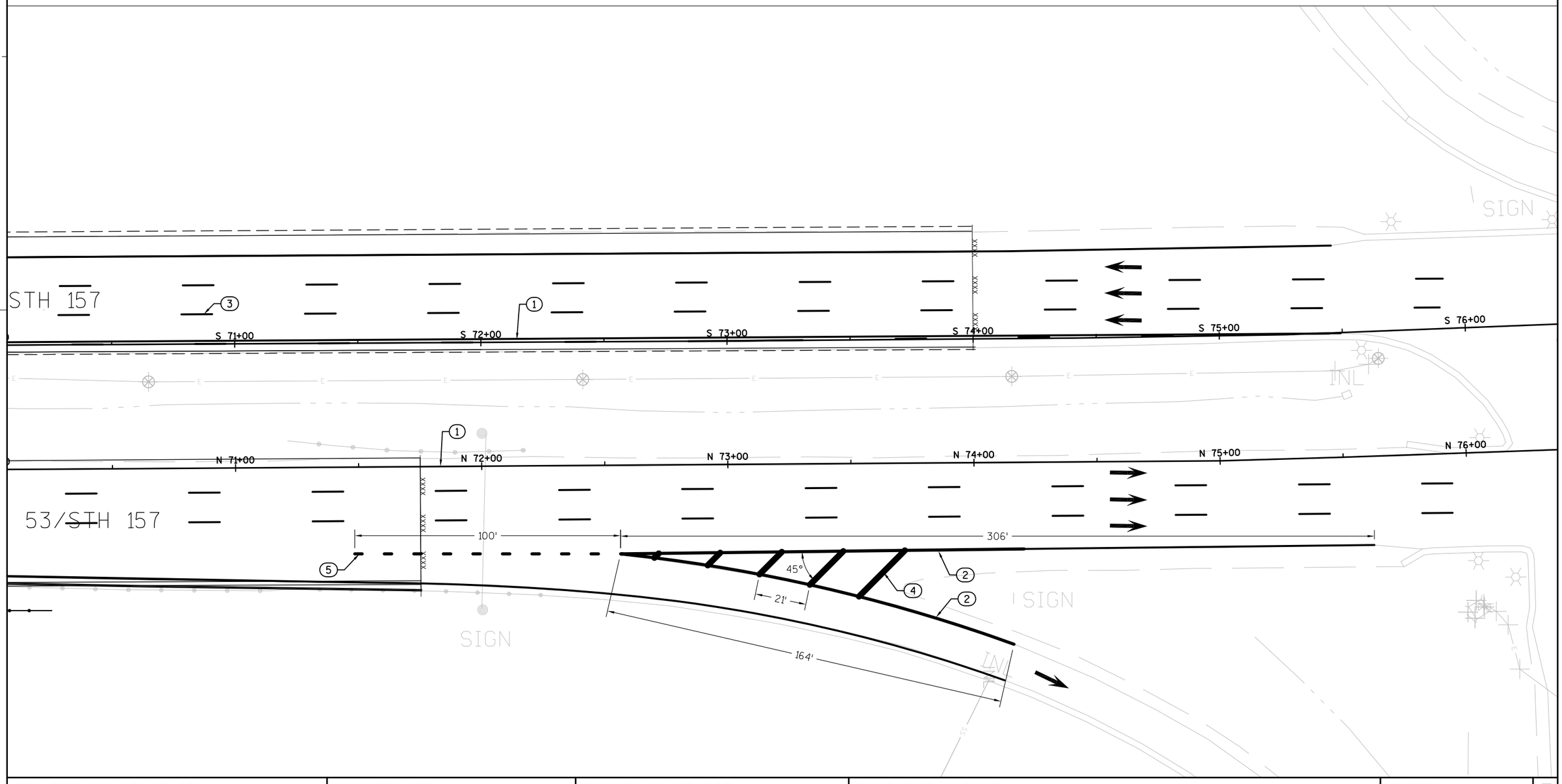
(4) DIAGONAL MARKING - 24" WHITE

(5) DOTTED EDGE EXTENSION MARKING - 8" WHITE WET REFLECTIVE (3' LINE, 9' GAP). SEE NOTE 3.

NOTES:

1. ARROWS SHOWN ON THIS MARKING PLAN DESIGNATE TRAFFIC FLOW, AND SHALL NOT BE TAKEN AS PROPOSED PAVEMENT MARKINGS.
2. PLACE WHITE EDGE OF TAPE 6" LEFT FROM JOINT
3. 3' LINE 9' GAP, EXCEPT RETRACE THE EXISTING LINE-GAP PATTERN WHERE EXISTING MARKINGS ARE IN PLACE.
4. RETRACE EXISTING DIAGONAL MARKINGS.

N



PROJECT NO: 1071-06-65	HWY: STH 157	COUNTY: LA CROSSE	PAVEMENT MARKING	SHEET 20	E

FILE NAME : P:\8384 I90_53_35 INTERCHANGE\TRANSPORTATION\CIVIL3D\157 ROADWAY PLANS\024501_PM.DWG PLOT DATE : 11/1/2012 PLOT BY : EYAD OMARI PLOT NAME : ---------- PLOT SCALE : 1:40 WISDOT/CADDS SHEET 42

I-90 EB RAMP CLOSED
5/23/13 TO 10/31/13

NOTE:
ENGINEER TO CONFIRM ACTUAL DATES ACCORDING TO CONTRACTOR'S SCHEDULE

1	DETOUR M04-8 24" X 12"	
2	TO M04-5 24" X 12"	
3	INTERSTATE 90 MB1-1 24" X 24"	
4	53 M1-4 24" X 24"	
5	EAST MB3-2 24" X 12"	
6	W EST MB3-4 24" X 12"	
7	SOUTH MB3-3 24" X 12"	
8	M06-3 21" X 21"	
9	M06-1 21" X 21"	
10	M06-1 21" X 21"	
11	M06-2 21" X 21"	
12	M06-2 21" X 21"	

COVER
INTERSTATE 90 EAST
Madison

PROJECT NO: 1071-06-65	HWY: STH 157	COUNTY: LA CROSSE	DETOUR PLAN - IH-90 EB RAMP CLOSURE	SHEET E

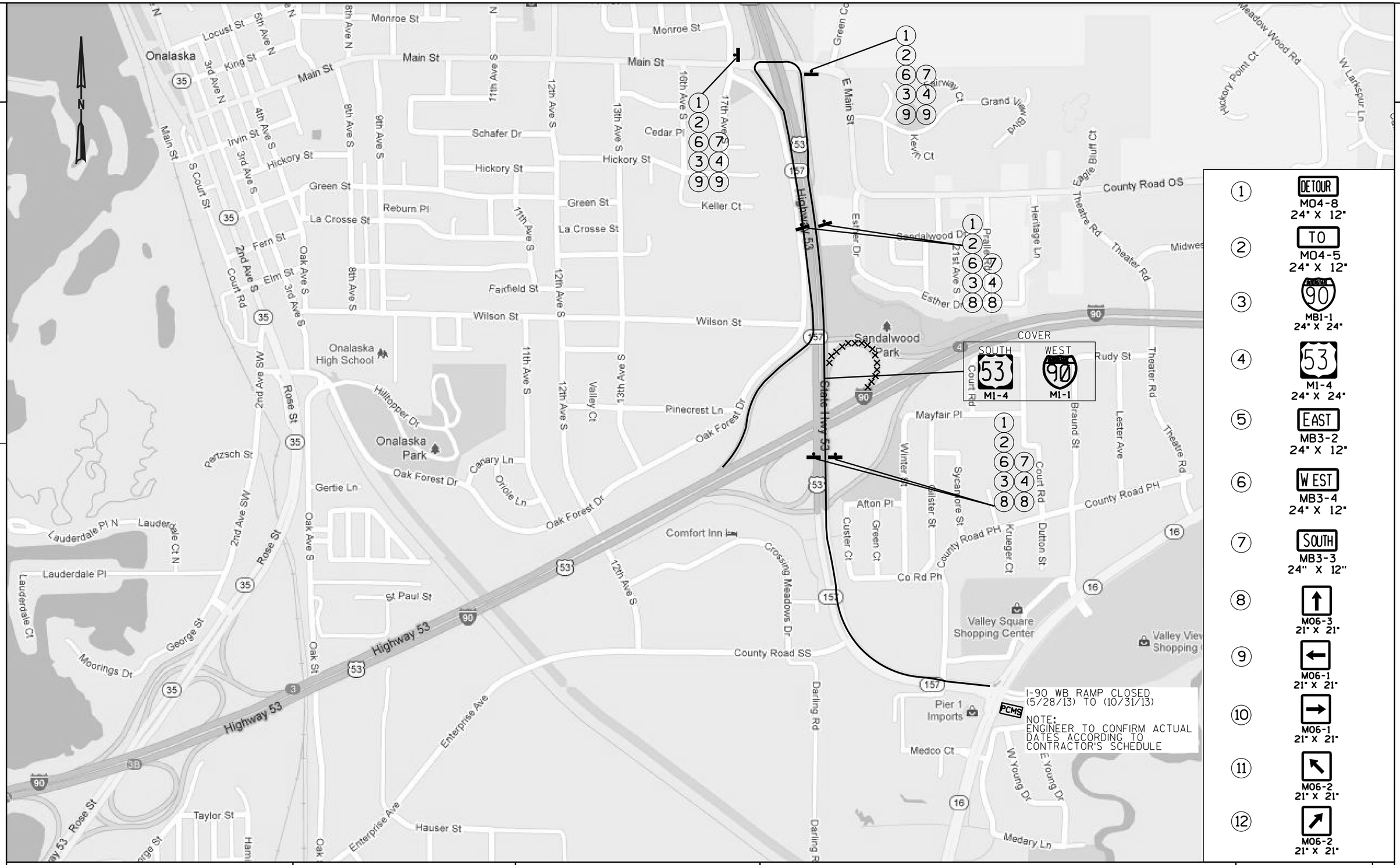
FILE NAME :

PLOT DATE : 11/1/2012

PLOT BY : GUST JUNTTILA

PLOT NAME :

PLOT SCALE : N/A



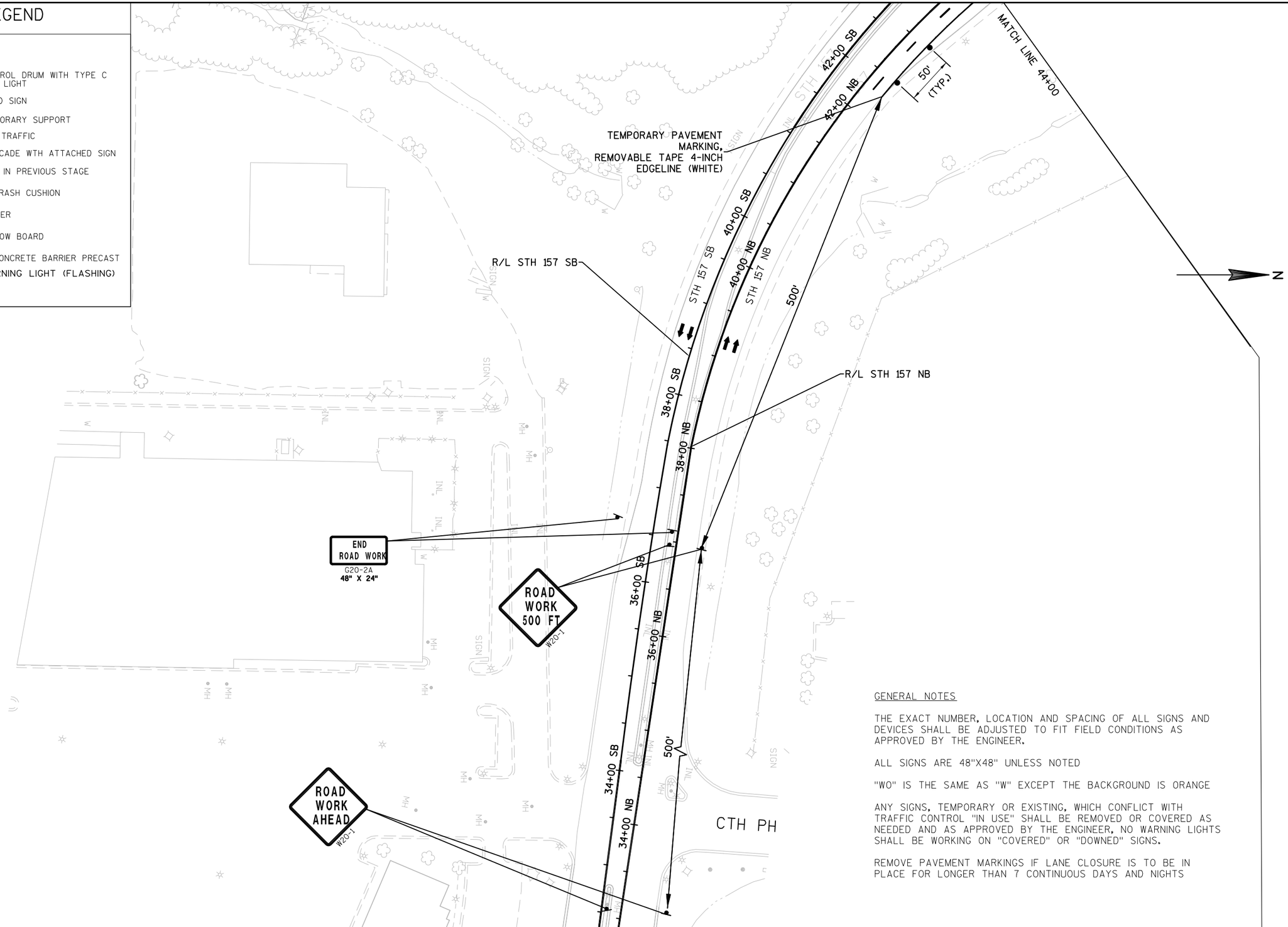
PROJECT NO: 1071-06-65	HWY: STH 157	COUNTY: LA CROSSE	DETOUR PLAN - IH-90 WB RAMP CLOSURE	SHEET 22 E

FILE NAME : PLOT DATE : 11/1/2012 PLOT BY : GUST JUNTTILA PLOT NAME : PLOT SCALE : N/A

WISDOT/CADDS SHEET 42

LEGEND

- WORK ZONE
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- POST MOUNTED SIGN
- SIGN ON TEMPORARY SUPPORT
- DIRECTION OF TRAFFIC
- TYPE III BARRICADE WTH ATTACHED SIGN
- CONSTRUCTED IN PREVIOUS STAGE
- CC — TEMPORARY CRASH CUSHION
- TYPE III BARRIER
- FLASHING ARROW BOARD
- TEMPORARY CONCRETE BARRIER PRECAST
- Ⓐ — TYPE A WARNING LIGHT (FLASHING)



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.

ALL SIGNS ARE 48"X48" UNLESS 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 AND AS APPROVED BY THE ENGINEER, NO WARNING LIGHTS SHALL BE WORKING ON "COVERED" OR "DOWNED" SIGNS.

REMOVE PAVEMENT MARKINGS IF LANE CLOSURE IS TO BE IN PLACE FOR LONGER THAN 7 CONTINUOUS DAYS AND NIGHTS

PROJECT NO: 1071-06-65	HWY: STH 157	COUNTY: LA CROSSE	STAGE 1 CONSTRUCTION OF TEMPORARY PAVEMENT	SHEET	E

LEGEND

- WORK ZONE
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- POST MOUNTED SIGN
- SIGN ON TEMPORARY SUPPORT
- DIRECTION OF TRAFFIC
- TYPE III BARRICADE WTH ATTACHED SIGN
- CONSTRUCTED IN PREVIOUS STAGE
- CC TEMPORARY CRASH CUSHION
- TYPE III BARRIER
- FLASHING ARROW BOARD
- TEMPORARY CONCRETE BARRIER PRECAST
- Ⓐ TYPE A WARNING LIGHT (FLASHING)

CROSSING MEADOWS DR.

N

ROAD WORK AHEAD W20-1

END ROAD WORK G20-2A 48" X 24"

200'

STH 157 SB

STH 157 NB

R/L STH 157 SB

LANE CLOSED R11-2(MOD) 48" X 30"

TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE 4-INCH EDGELINE (YELLOW)

44+00 SB
46+00 SB
48+00 SB
50+00 SB
52+00 SB
54+00 SB
56+00 SB
58+00 SB

46+00 NB
48+00 NB
50+00 NB
52+00 NB
54+00 NB
56+00 NB
58+00 NB

50' (TYP.)

TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE 4-INCH EDGELINE (WHITE)

REMOVE EXISTING PAVEMENT MARKING

R/L STH 157 NB

LANE CLOSED R11-2(MOD) 48" X 30"

W1-4B

25 M.P.H. W013-1 48" X 48"

MATCH LINE 44+00

END ROAD WORK G20-2A 48" X 24"

EB OFF RAMP

209'

ROAD WORK AHEAD W20-1

EB ON RAMP

MATCH LINE 59+50

NB R/L | WORK ZONE 12' CLOSED | NB 12' | NB 12'

PROJECT NO: 1071-06-65	HWY: STH 157	COUNTY: LA CROSSE	STAGE 1 CONSTRUCTION OF TEMPORARY PAVEMENT	SHEET E

FILE NAME : P:\8384 I90_53_35 INTERCHANGE\TRANSPORTATION\CIVIL3D\157 ROADWAY PLANS\026001_SX1.DWG PLOT DATE : 11/1/2012 PLOT BY : EYAD OMARI PLOT SCALE : 1:100

2

LEGEND

- WORK ZONE
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- POST MOUNTED SIGN
- SIGN ON TEMPORARY SUPPORT
- DIRECTION OF TRAFFIC
- TYPE III BARRICADE WTH ATTACHED SIGN
- CONSTRUCTED IN PREVIOUS STAGE
- CC — TEMPORARY CRASH CUSHION
- TYPE III BARRIER
- FLASHING ARROW BOARD
- TEMPORARY CONCRETE BARRIER PRECAST
- Ⓐ — TYPE A WARNING LIGHT (FLASHING)

N

NB TRAFFIC

NB R/L | WORK ZONE | NB 12' | NB 12'

SB TRAFFIC

SB 12' | SB 12' | WORK ZONE | SB R/L

EB ON RAMP

R/L IH 90 WB

R/L IH 90 EB

EB 268+00 / WB 268+00

EB 270+00 / WB 270+00

IH 90 WB

EB 272+00 / WB 272+00

EB 274+00

EB 276+00 / WB 276+00

R/L STH 157 SB

MATCH LINE 59+50

MATCH LINE 74+50

REMOVE EXISTING 4' WIDE SHOULDER
REPLACE WITH 6' WIDE SHOULDER

REMOVE EXISTING GUARD RAIL
REPLACE IN STAGE 4

TEMPORARY PAVEMENT MARKING,
REMOVABLE TAPE 4-INCH EDGELINE
(WHITE)

TEMPORARY PAVEMENT MARKING,
REMOVABLE TAPE 4-INCH EDGELINE
(YELLOW)

REMOVE EXISTING 6' WIDE SHOULDER
REPLACE WITH 8' WIDE SHOULDER

50' (TYP.)

STH 157 SB

B-32-55

60+00 SB | 62+00 SB | 64+00 SB | 66+00 SB | 68+00 SB | 70+00 SB | 72+00 SB | 74+00 SB

60+00 NB | 62+00 NB | 64+00 NB | 66+00 NB | 68+00 NB | 70+00 NB | 72+50 NB | 74+00 NB

STH 157 NB

B-32-56

LANE CLOSED
R11-2(MOD)
48" X 30"

END ROAD WORK
G20-2A
48" X 24"

BUILD PROPOSED CROSSOVERS

REMOVE EXISTING 6' SHOULDER
REPLACE WITH 8' SHOULDER

MAINTAIN 2 LANES FOR THROUGH TRAFFIC AT 11' SPACING

TEMPORARY PAVEMENT MARKING,
REMOVABLE TAPE 4-INCH EDGELINE
(YELLOW)

TEMPORARY PAVEMENT MARKING,
REMOVABLE TAPE 4-INCH EDGELINE
(WHITE)

PROTECT EXISTING SIGN

EB ON RAMP

BUILD PROPOSED CROSSOVERS

REMOVE EXISTING 4' SHOULDER
REPLACE WITH 8' SHOULDER

REMOVE EXISTING GAURD RAIL
RE-INSTALL IN STAGE 1

R/L STH 157 NB

WB ON RAMP

PROJECT NO:1071-06-65	HWY: STH 157	COUNTY: LA CROSSE	STAGE 1 CONSTRUCTION OF TEMPORARY PAVEMENT	SHEET E

FILE NAME : P:\8384 I90_53_35 INTERCHANGE\TRANSPORTATION\CIVIL3D\157 ROADWAY PLANS\026001_SX1.DWG
PLOT DATE : 11/1/2012
PLOT BY : EYAD OMARI
PLOT SCALE : 1:100

LEGEND

- WORK ZONE
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- POST MOUNTED SIGN
- SIGN ON TEMPORARY SUPPORT
- DIRECTION OF TRAFFIC
- TYPE III BARRICADE WTH ATTACHED SIGN
- CONSTRUCTED IN PREVIOUS STAGE
- CC — TEMPORARY CRASH CUSHION
- TYPE III BARRIER
- FLASHING ARROW BOARD
- TEMPORARY CONCRETE BARRIER PRECAST
- Ⓐ TYPE A WARNING LIGHT (FLASHING)

N

EB ON RAMP

EB OFF RAMP

EB ON RAMP

EB ON RAMP

R/L IH 90 WB

R/L IH 90 EB

EB 268+00

WB 268+00

EB 270+00

WB 270+00

EB 272+00

WB 272+00

190 IH 90 WB

384'

364' OF CULVERT PIPE TEMPORARY 12-INCH

R/L STH 157 SB

R/L STH 157 NB

54+00 SB

56+00 SB

58+00 SB

60+00 SB

62+00 SB

64+00 SB

66+00 SB

68+00 SB

54+00 NB

56+00 NB

58+00 NB

60+00 NB

62+00 NB

64+00 NB

66+00 NB

68+00 NB

STH 157 SB

STH 157 NB

B-32-55

B-32-56

EB 274+00

EB 27

POINT#1
STA 61+56.51 O/S 31.31R
12" N 709.08

POINT#2
STA 65+20.06 O/S 26.16R
12" S 717.68

DATA TABLE

POINT NO.	STATION	OFFSET
1	60+00 SB	8.5' RT
2	60+57 SB	8.5' RT
3	61+15 NB	0'
4	62+29 NB	18' LT
5	64+46 NB	25' LT
6	65+50 SB	8.5' RT
7	66+21 SB	8.5' RT
8	66+21 NB	8.5' LT
9	68+83 SB	8.5' RT
10	69+30 NB	8.5' LT
11	69+81 SB	8.5' RT
12	71+57 NB	8.5' LT
13	74+05 NB	19' LT
14	75+43 SB	8.5' RT
15	75+00 NB	8.5' LT
16	61+64 SB	23' RT
17	61+64 NB	8' LT
18	65+17 SB	15' RT
19	65+17 NB	14' LT
20	70+81 SB	25' RT
21	70+81 NB	8.5' LT
22	74+54 SB	20' RT
23	74+54 NB	11.5' LT

R/L STH 157 SB

R/L STH 157 NB

50'

4' 12' 12' 12' 25' 25' 12' 12' 12' 10'

0.5% 0.5%

PROPOSED TYPICAL SECTION
MEDIAN CROSSOVER

LEGEND

- ASPHALTIC SURFACE TEMPORARY 4-INCH
- BASE AGGREGATE DENSE 1¼ INCH, 10-INCH

PROJECT NO:1071-06-65	HWY: STH 157	COUNTY: LA CROSSE	STAGE 1 CONSTRUCTION OF TEMPORARY PAVEMENT	SHEET	E

DATA TABLE

POINT NO.	STATION	OFFSET
1	60+00 SB	8.5' RT
2	60+57 SB	8.5' RT
3	61+15 NB	0'
4	62+29 NB	18' LT
5	64+46 NB	25' LT
6	65+50 SB	8.5' RT
7	66+21 SB	8.5' RT
8	66+21 NB	8.5' LT
9	68+83 SB	8.5' RT
10	69+30 NB	8.5' LT
11	69+81 SB	8.5' RT
12	71+57 NB	8.5' LT
13	74+05 NB	19' LT
14	75+43 SB	8.5' RT
15	75+00 NB	8.5' LT
16	61+64 SB	23' RT
17	61+64 NB	8' LT
18	65+17 SB	15' RT
19	65+17 NB	14' LT
20	70+81 SB	25' RT
21	70+81 NB	8.5' LT
22	74+54 SB	20' RT
23	74+54 NB	11.5' LT

LEGEND

- WORK ZONE
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- POST MOUNTED SIGN
- SIGN ON TEMPORARY SUPPORT
- DIRECTION OF TRAFFIC
- TYPE III BARRICADE WTH ATTACHED SIGN
- CONSTRUCTED IN PREVIOUS STAGE
- CC TEMPORARY CRASH CUSHION
- TYPE III BARRIER
- FLASHING ARROW BOARD
- TEMPORARY CONCRETE BARRIER PRECAST
- Ⓐ TYPE A WARNING LIGHT (FLASHING)

N

384' OF CULVERT PIPE TEMPORARY 12-INCH

POINT#3
STA 70+75.41 O/S 26.47R
12" N 721.39

POINT#4
STA 74+59.34 O/S 27.77R
12" S 717.50

WILSON STREET

OAK FOREST DRIVE

WB ON RAMP

WB OFF RAMP

R/L STH 157 SB

R/L STH 157 NB

ATHLETIC FIELD

70+00 SB | 72+00 SB | 74+00 SB | 76+00 SB | 78+00 SB | 80+00 SB | 82+00 SB

70+00 NB | 72+00 NB | 74+00 NB | 76+00 NB | 78+00 NB | 80+00 NB | 82+00 NB

EB 276+00

WB 276+00

PROJECT NO: 1071-06-65	HWY: STH 157	COUNTY: LA CROSSE	STAGE 1 CONSTRUCTION OF TEMPORARY PAVEMENT	SHEET E

LEGEND

- WORK ZONE
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- POST MOUNTED SIGN
- SIGN ON TEMPORARY SUPPORT
- DIRECTION OF TRAFFIC
- TYPE III BARRICADE WTH ATTACHED SIGN
- CONSTRUCTED IN PREVIOUS STAGE
- CC — TEMPORARY CRASH CUSHION
- TYPE III BARRIER
- FLASHING ARROW BOARD
- TEMPORARY CONCRETE BARRIER PRECAST
- (A) — TYPE A WARNING LIGHT (FLASHING)

N

WILSON STREET

ATHLETIC FIELD

OAK FOREST DRIVE

WB ON RAMP

END ROAD WORK
G20-2A
48" X 24"

LANE CLOSED
R11-2(MOD)
48" X 30"

MATCH LINE 74+50

R/L STH 157 SB

TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE 4-INCH LANE LINE (WHITE)

TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE 4-INCH EDGELINE (WHITE)

50' (TYP.)

350'

76+00 SB
78+00 SB
80+00 SB
82+00 SB
84+00 SB
86+00 SB
88+00 SB
90+00

76+00 NB
78+00 NB
80+00 NB
82+00 NB
84+00 NB
86+00 NB
88+00 NB
90+00

STH 157 NB

TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE 4-INCH EDGELINE (YELLOW)

R/L STH 157 NB

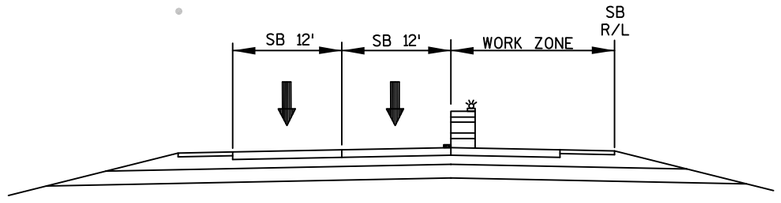
MATCH LINE 90+00

ROAD WORK AHEAD
W20-1

WB OFF RAMP

END ROAD WORK
G20-2A
48" X 24"

SB TRAFFIC



PROJECT NO:1071-06-65	HWY: STH 157	COUNTY: LA CROSSE	STAGE 1 CONSTRUCTION OF TEMPORARY PAVEMENT	SHEET E

2

N

MATCH LINE 90+00

TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE 4-INCH EDGELINE (WHITE)

LANE CLOSED
R11-2(MOD)
48" X 30"

W04-1

BEGIN TAPER

300'

50'
(TYP.)

R/L STH 157 SB

W11-4B

25
M.P.H.
W13-1
48"X48"

ROAD WORK 500 FT
W20-1

500'

ROAD WORK AHEAD
W20-1

W04-1

W4-3R
COVER

SB ON RAMP

92+00 SB
94+00 SB
96+00 SB
98+00 SB
100+00 SB
102+00 SB

STH 157 SB

92+00 NB
94+00 NB
96+00 NB
98+00 NB
100+00 NB
102+00 NB

STH 157 NB

NB OFF RAMP

END ROAD WORK
G20-2A
48" X 24"

R/L STH 157 NB

ROAD WORK AHEAD
W20-1

E MAIN ST
INTERCHANGE

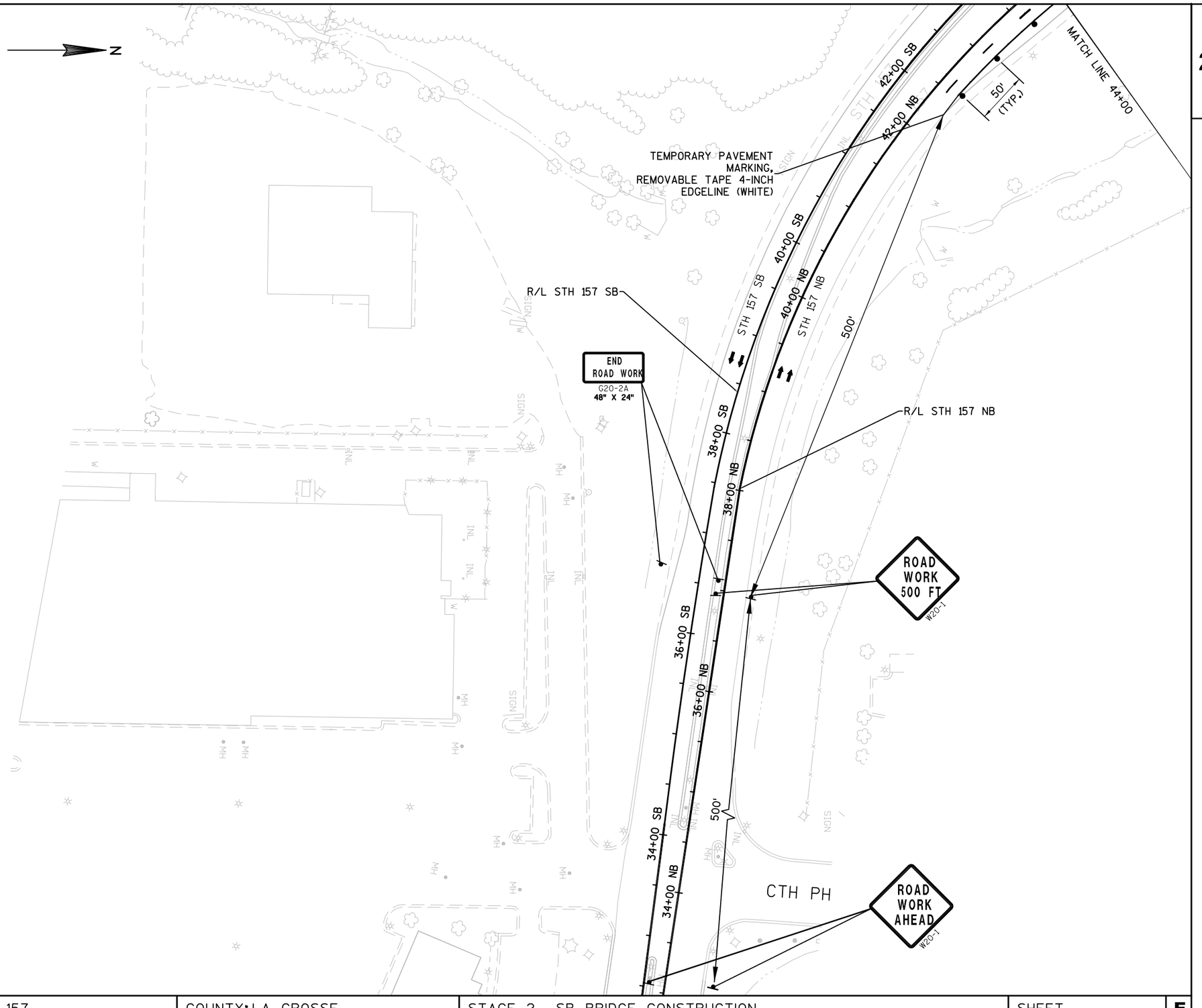
LEGEND

- WORK ZONE
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- POST MOUNTED SIGN
- SIGN ON TEMPORARY SUPPORT
- DIRECTION OF TRAFFIC
- TYPE III BARRICADE WTH ATTACHED SIGN
- CONSTRUCTED IN PREVIOUS STAGE
- CC — TEMPORARY CRASH CUSHION
- TYPE III BARRIER
- FLASHING ARROW BOARD
- TEMPORARY CONCRETE BARRIER PRECAST
- Ⓐ — TYPE A WARNING LIGHT (FLASHING)

PROJECT NO: 1071-06-65	HWY: STH 157	COUNTY: LA CROSSE	STAGE 1 CONSTRUCTION OF TEMPORARY PAVEMENT	SHEET	E

LEGEND

- WORK ZONE
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- POST MOUNTED SIGN
- SIGN ON TEMPORARY SUPPORT
- DIRECTION OF TRAFFIC
- TYPE III BARRICADE WTH ATTACHED SIGN
- CONSTRUCTED IN PREVIOUS STAGE
- CC — TEMPORARY CRASH CUSHION
- TYPE III BARRIER
- FLASHING ARROW BOARD
- TEMPORARY CONCRETE BARRIER PRECAST
- Ⓐ — TYPE A WARNING LIGHT (FLASHING)



PROJECT NO: 1071-06-65	HWY: STH 157	COUNTY: LA CROSSE	STAGE 2 SB BRIDGE CONSTRUCTION	SHEET E

FILE NAME : P:\8384 I90_53_35 INTERCHANGE\TRANSPORTATION\CIVIL3D\157 ROADWAY PLANS\026001_SX1.DWG PLOT DATE : 11/1/2012 PLOT BY : EYAD OMARI PLOT SCALE : 1:100

LEGEND

- WORK ZONE
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- POST MOUNTED SIGN
- SIGN ON TEMPORARY SUPPORT
- DIRECTION OF TRAFFIC
- TYPE III BARRICADE WTH ATTACHED SIGN
- CONSTRUCTED IN PREVIOUS STAGE
- CC — TEMPORARY CRASH CUSHION
- TYPE III BARRIER
- FLASHING ARROW BOARD
- TEMPORARY CONCRETE BARRIER PRECAST
- (A) TYPE A WARNING LIGHT (FLASHING)

N

CROSSING MEADOWS DR.

CTH SS

STH 157 SB

STH 157 NB

R/L STH 157 SB

R/L STH 157 NB

END ROAD WORK
G20-2A
48" X 24"

ROAD WORK AHEAD
W20-1

200'

LANE CLOSED
R11-2(MOD)
48" X 30"

LANE CLOSED
R11-2(MOD)
48" X 30"

W1-4B

25 M.P.H.
W013-1
48" X 48"

ROAD WORK AHEAD
W20-1

EB OFF RAMP

EB ON RAMP

EB ON RAMP

44+00 SB

46+00 SB

46+00 NB

48+00 SB

48+00 NB

50+00 SB

50+00 NB

52+00 SB

52+00 NB

54+00 SB

54+00 NB

56+00 SB

56+00 NB

58+00 SB

58+00 NB

50' (TYP.)

TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE 4-INCH EDGELINE (YELLOW)

TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE 4-INCH EDGELINE (WHITE)

MATCH LINE 44+00

MATCH LINE 59+50

NB R/L | WORK ZONE 12' CLOSED | NB 12' | NB 12'

PROJECT NO: 1071-06-65	HWY: STH 157	COUNTY: LA CROSSE	STAGE 2 SB BRIDGE CONSTRUCTION	SHEET	E

FILE NAME : P:\8384 I90_53_35 INTERCHANGE\TRANSPORTATION\CIVIL3D\157 ROADWAY PLANS\026001_SX1.DWG PLOT DATE : 11/1/2012 PLOT BY : EYAD OMARI PLOT SCALE : 1:100

2

LEGEND

- WORK ZONE
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- POST MOUNTED SIGN
- SIGN ON TEMPORARY SUPPORT
- DIRECTION OF TRAFFIC
- TYPE III BARRICADE WTH ATTACHED SIGN
- CONSTRUCTED IN PREVIOUS STAGE
- CC — TEMPORARY CRASH CUSHION
- TYPE III BARRIER
- FLASHING ARROW BOARD
- TEMPORARY CONCRETE BARRIER PRECAST
- Ⓐ — TYPE A WARNING LIGHT (FLASHING)

N

NB BRIDGE

WORK ZONE

52'

1.5' | 11' | 11' | 1.5' | 2' | 1.5' | 11' | 11' | 1.5'

EB ON RAMP

R/L IH 90 EB

R/L IH 90 WB

EB 268+00 WB 268+00

EB 270+00 WB 270+00

EB 272+00 WB 272+00

IH 90 WB

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH EDGE LINE (WHITE)

EB ON RAMP

MATCH LINE 59+50

LANE CLOSED
R11-2(MOD)
48" X 30"

R11-2 (MOD)
48" X 30"
RAMP CLOSED
TYPE III BARRICADE

TRAFFIC SHALL BE DETOURED TO STH 16

STH 157 SB

60+00 SB | 62+00 SB | 64+00 SB | 66+00 SB | 68+00 SB | 70+00 SB | 72+00 SB | 74+00 SB

60+00 NB | 62+00 NB | 64+00 NB | 66+00 NB | 68+00 NB | 70+00 NB | 72+00 NB | 74+00 NB

STH 157

B-32-55

EB 274+00

CC

STH 157 NB

B-32-56

50' (TYP.)

TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE 4-INCH LANE LINE (WHITE)

TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE 4-INCH EDGELINE (WHITE)

W5-52L
12" X 36"

R/L STH 157 NB

TEMPORARY PAVEMENT MARKING 4-INCH EDGELINE (YELLOW)

EB 276+00 WB 276+00

END ROAD WORK
G20-2A
48" X 24"

EB ON RAMP

MATCH LINE 59+50

R/L STH 157 SB

TEMPORARY PAVEMENT MARKING REMOVEABLE TAPE 4-INCH EDGELINE (YELLOW)

TEMPORARY PAVEMENT MARKING REMOVEABLE 4-INCH EDGELINE (WHITE)

TYPE III BARRICADE

TEMPORARY PAVEMENT MARKING REMOVEABLE 4-INCH (WHITE)

MATCH LINE 74+50

25'

W1-4B

25 M.P.H.
W013-1
48" X 48"

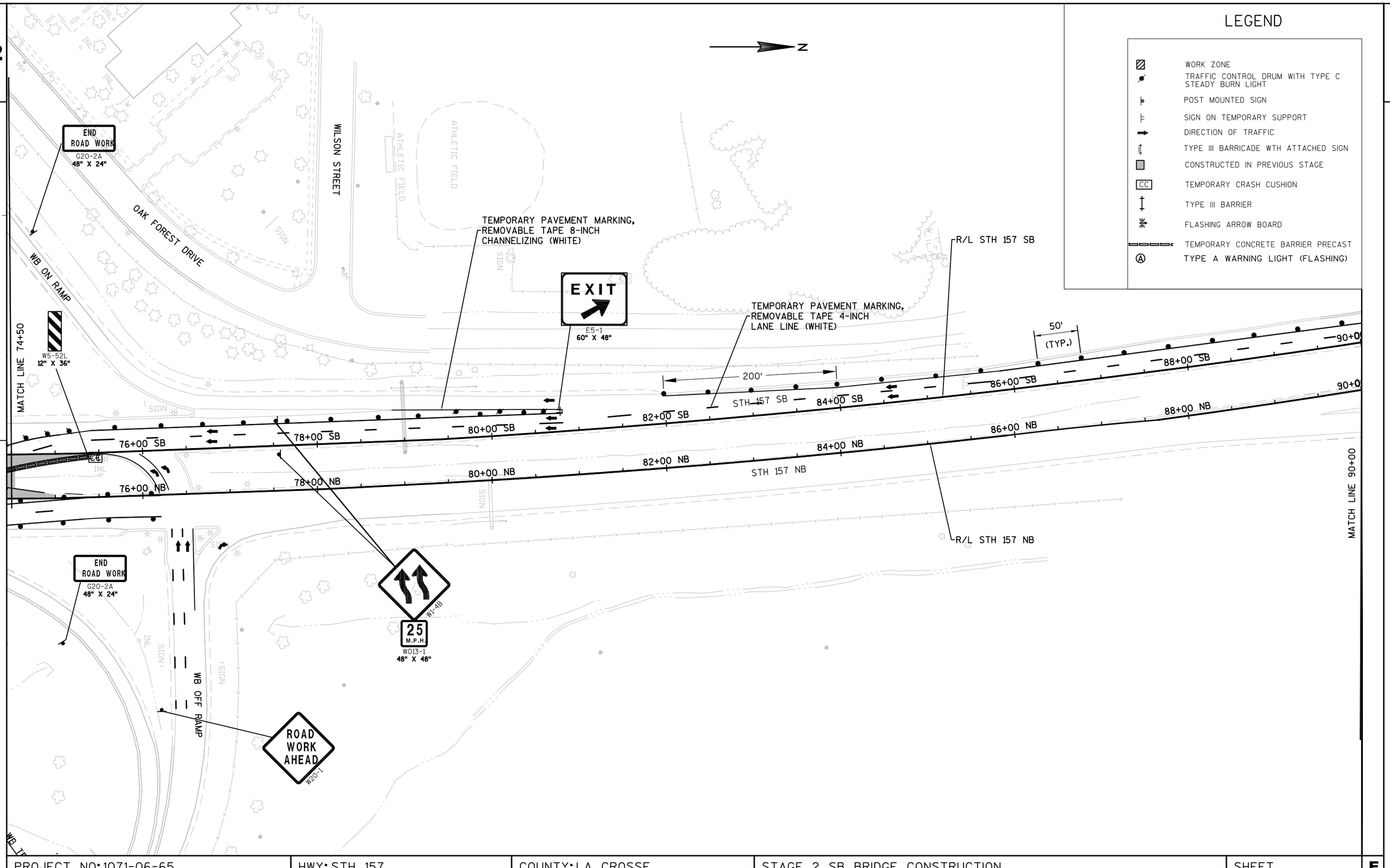
R11-2
48" X 30"
RAMP CLOSED
TYPE III BARRICADE

WB ON RAMP

TRAFFIC SHALL BE DETOURED TO E. MAIN STREET

PROJECT NO:1071-06-65	HWY:STH 157	COUNTY:LA CROSSE	STAGE 2 SB BRIDGE CONSTRUCTION	SHEET	E

FILE NAME : P:\8384 I90_53_35 INTERCHANGE\TRANSPORTATION\CIVIL3D\157 ROADWAY PLANS\026001_SX1.DWG PLOT DATE : 11/1/2012 PLOT BY : EYAD OMARI PLOT SCALE : 1:100



PROJECT NO: 1071-06-65	HWY: STH 157	COUNTY: LA CROSSE	STAGE 2 SB BRIDGE CONSTRUCTION	SHEET E

FILE NAME : P:\8384 I90_53_35 INTERCHANGE\TRANSPORTATION\CIVIL3D\157 ROADWAY PLANS\026001_SX1.DWG PLOT DATE : 11/1/2012 PLOT BY : EYAD OMARI PLOT SCALE : 1:100

LEGEND

- WORK ZONE
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- POST MOUNTED SIGN
- SIGN ON TEMPORARY SUPPORT
- DIRECTION OF TRAFFIC
- TYPE III BARRICADE WTH ATTACHED SIGN
- CONSTRUCTED IN PREVIOUS STAGE
- CC — TEMPORARY CRASH CUSHION
- TYPE III BARRIER
- FLASHING ARROW BOARD
- TEMPORARY CONCRETE BARRIER PRECAST
- Ⓐ — TYPE A WARNING LIGHT (FLASHING)

N

MATCH LINE 90+00

LANE CLOSED
R11-2(MOD)
48" X 30"

R/L STH 157 SB

50'
(TYP.)

TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE 4-INCH EDGELINE (WHITE)

W04-1

25 M.P.H.
W013-1
48" X 48"

ROAD WORK 500 FT
W20-1

W4-3R
COVER

ROAD WORK AHEAD
W20-1

500'

500'

500'

SB ON RAMP

92+00 SB
94+00 SB
96+00 SB
98+00 SB
100+00 SB
102+00 SB

STH 157 SB

92+00 NB
94+00 NB
96+00 NB
98+00 NB
100+00 NB
102+00 NB

STH 157 NB

NB OFF RAMP

E MAIN ST
INTERCHANGE

TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE 4-INCH LANE LINE (WHITE)

R/L STH 157 NB

END ROAD WORK
G20-2A
48" X 24"

PROJECT NO:1071-06-65	HWY:STH 157	COUNTY:LA CROSSE	STAGE 2 SB BRIDGE CONSTRUCTION	SHEET	E

FILE NAME : P:\8384 I90_53_35 INTERCHANGE\TRANSPORTATION\CIVIL3D\157 ROADWAY PLANS\026001_SX1.DWG PLOT DATE : 11/1/2012 PLOT BY : EYAD OMARI PLOT SCALE : 1:100

2

2

N

LEGEND

- WORK ZONE
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- POST MOUNTED SIGN
- SIGN ON TEMPORARY SUPPORT
- DIRECTION OF TRAFFIC
- TYPE III BARRICADE WTH ATTACHED SIGN
- CONSTRUCTED IN PREVIOUS STAGE
- CC TEMPORARY CRASH CUSHION
- TYPE III BARRIER
- FLASHING ARROW BOARD
- TEMPORARY CONCRETE BARRIER PRECAST
- Ⓐ TYPE A WARNING LIGHT (FLASHING)

ROAD WORK AHEAD W20-1

RIGHT LANE CLOSED 1/2 MILE W20-5

RIGHT LANE CLOSED 1500 FT W20-5

R/L IH 90 WB

R/L IH 90 EB

IH 90 WB

IH 90 EB

WB 230+00 WB 232+00 WB 234+00 WB 236+00 WB 238+00 WB 240+00 WB 242+00 WB 244+00

EB 230+00 EB 232+00 EB 234+00 EB 236+00 EB 240+00 EB 242+00 EB 244+00

2600'

1600'

MATCH LINE 244+95

I 90/USH 53

GREAT RIVER STATE TRAIL

SUBSTATION

PROJECT NO: 1071-06-65	HWY: STH 157	COUNTY: LA CROSSE	STAGE 2 SB BRIDGE CONSTRUCTION (IH 90 RIGHT LANE CLOSURE)	SHEET	E

FILE NAME : P:\8384 I90_53_35 INTERCHANGE\TRANSPORTATION\CIVIL3D\157 ROADWAY PLANS\026001_SX1.DWG PLOT DATE : 11/1/2012 PLOT BY : EYAD OMARI PLOT SCALE : 1:100

2

2

LEGEND

- WORK ZONE
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
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- DIRECTION OF TRAFFIC
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- CONSTRUCTED IN PREVIOUS STAGE
- CC — TEMPORARY CRASH CUSHION
- TYPE III BARRIER
- FLASHING ARROW BOARD
- TEMPORARY CONCRETE BARRIER PRECAST
- Ⓐ — TYPE A WARNING LIGHT (FLASHING)

N

MATCH LINE 244+95

MATCH LINE 260+27

ROAD WORK AHEAD W20-1

RIGHT LANE CLOSED 1/2 MILE W20-5

RIGHT LANE CLOSED 1500 FT W20-5

W04-2R

R/L IH 90 WB

R/L IH 90 EB

IH 90 WB

IH 90 EB

90/USH 53

WB 246+00 WB 248+00 WB 250+00 WB 252+00 WB 254+00 WB 256+00 WB 258+00 WB 260+00

EB 246+00 EB 248+00 EB 250+00 EB 252+00 EB 254+00 EB 256+00 EB 258+00 EB 260+00

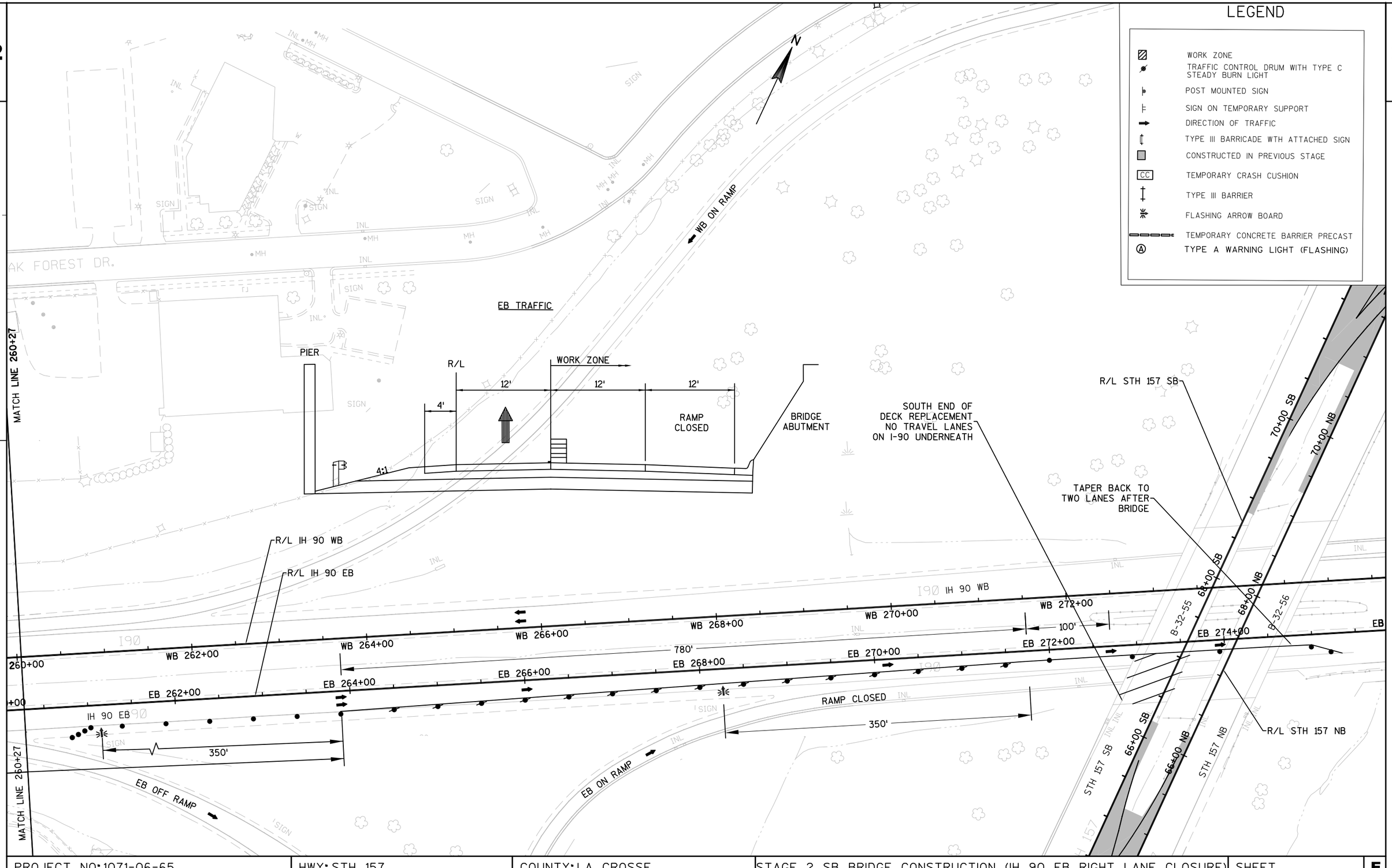
2600' 1600' 575' 1000'

12th AVE S.

INL MH SIGN POOL

PROJECT NO:1071-06-65	HWY: STH 157	COUNTY:LA CROSSE	STAGE 2 SB BRIDGE CONSTRUCTION (IH 90 EB RIGHT LANE CLOSURE)	SHEET E

FILE NAME : P:\8384 I90_53_35 INTERCHANGE\TRANSPORTATION\CIVIL3D\157 ROADWAY PLANS\026001_SX1.DWG PLOT DATE : 11/1/2012 PLOT BY : EYAD OMARI PLOT SCALE : 1:100



PROJECT NO: 1071-06-65	HWY: STH 157	COUNTY: LA CROSSE	STAGE 2 SB BRIDGE CONSTRUCTION (IH 90 EB RIGHT LANE CLOSURE)	SHEET	E

2

LEGEND

- WORK ZONE
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- POST MOUNTED SIGN
- SIGN ON TEMPORARY SUPPORT
- DIRECTION OF TRAFFIC
- TYPE III BARRICADE WTH ATTACHED SIGN
- CONSTRUCTED IN PREVIOUS STAGE
- CC TEMPORARY CRASH CUSHION
- TYPE III BARRIER
- FLASHING ARROW BOARD
- TEMPORARY CONCRETE BARRIER PRECAST
- Ⓐ TYPE A WARNING LIGHT (FLASHING)

N

MATCH LINE 318+88

EB 318+00

WB 320+00

EB 320+00

WB 322+00

EB 322+00

WB 324+00

EB 324+00

WB 326+00

EB 326+00

WB 328+00

EB 328+00

WB 330+00

EB 330+00

WB 332+00

EB 332+00

WB 334+00

W04-2R

R/L IH 90 WB

R/L IH 90 EB

575'

500'

1600'

500'

2600'

IH 90 WB

IH 90 EB

STH 16 OFF RAMP

RIGHT LANE CLOSED 1500 FT W20-5

ROAD WORK 500 FT W20-1

ROAD WORK AHEAD W20-1

RIGHT LANE CLOSED 1/2 MILE W20-5

ROAD WORK 1 MILE W20-1

W04-1

PROJECT NO:1071-06-65	HWY: STH 157	COUNTY: LA CROSSE	STAGE 2 SB BRIDGE CONSTRUCTION (IH 90 WB RIGHT LANE CLOSURE)	SHEET	E

LEGEND

- WORK ZONE
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- POST MOUNTED SIGN
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- CONSTRUCTED IN PREVIOUS STAGE
- CC — TEMPORARY CRASH CUSHION
- TYPE III BARRIER
- FLASHING ARROW BOARD
- TEMPORARY CONCRETE BARRIER PRECAST
- Ⓐ — TYPE A WARNING LIGHT (FLASHING)

N

R/L IH 90 WB

R/L IH 90 EB

MATCH LINE 244+95

I 90/USH 53

IH 90 WB

WB 230+00 WB 232+00 WB 234+00 WB 236+00 WB 238+00 WB 240+00 WB 242+00 WB 244+00

EB 230+00 EB 232+00 EB 234+00 EB 236+00 EB 240+00 EB 242+00 EB 244+00

IH 90 EB

I 90/USH 53

INL MH SIGN SUBSTATION

PROJECT NO:1071-06-65	HWY: STH 157	COUNTY:LA CROSSE	STAGE 2 SB BRIDGE CONSTRUCTION (IH 90 EB LEFT LANE CLOSURE)	SHEET	E

FILE NAME : P:\8384 I90_53_35 INTERCHANGE\TRANSPORTATION\CIVIL3D\157 ROADWAY PLANS\026001_SX1.DWG PLOT DATE : 11/1/2012 PLOT BY : EYAD OMARI PLOT SCALE : 1:100

2

2

LEGEND

- WORK ZONE
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- POST MOUNTED SIGN
- SIGN ON TEMPORARY SUPPORT
- DIRECTION OF TRAFFIC
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- CONSTRUCTED IN PREVIOUS STAGE
- CC — TEMPORARY CRASH CUSHION
- TYPE III BARRIER
- FLASHING ARROW BOARD
- TEMPORARY CONCRETE BARRIER PRECAST
- Ⓐ — TYPE A WARNING LIGHT (FLASHING)

N

MATCH LINE 244+95

MATCH LINE 244+95

R/L IH 90 WB

R/L IH 90 EB

ROAD WORK AHEAD W20-1

LEFT LANE CLOSED 1/2 MILE W20-5

LEFT LANE CLOSED 1500 FT W20-5

W04-2L

IH 90

I 90/USH 53

IH 90 WB

IH 90 EB

WB 246+00

WB 248+00

WB 250+00

WB 252+00

WB 254+00

WB 256+00

WB 258+00

WB 260+00

EB 246+00

EB 248+00

EB 250+00

EB 252+00

EB 254+00

EB 256+00

EB 258+00

EB 260+00

2600'

1600'

575'

1000'

MATCH LINE 260+27

SIGN

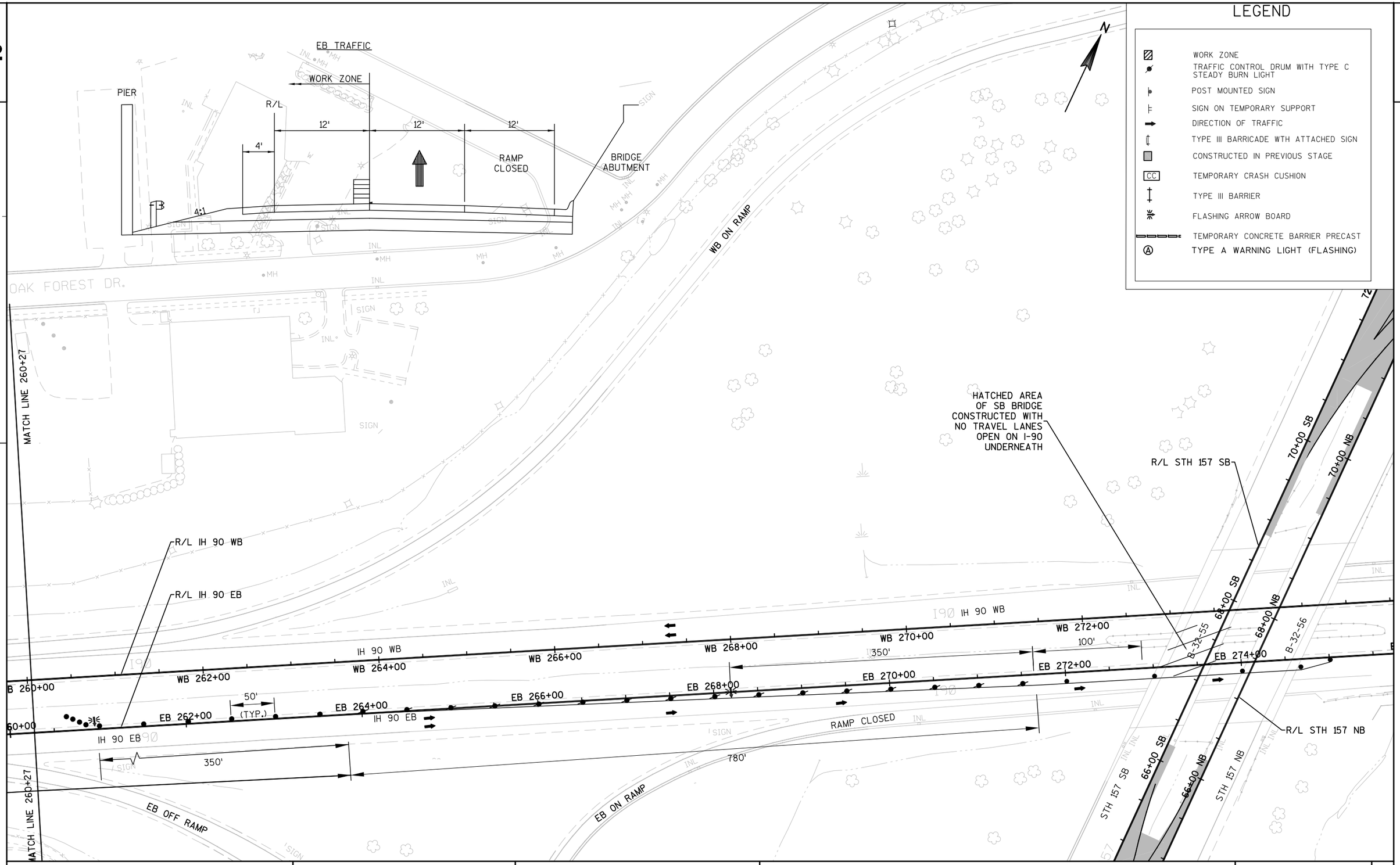
POOL

INL

MH

PROJECT NO: 1071-06-65	HWY: STH 157	COUNTY: LA CROSSE	STAGE 2 SB BRIDGE CONSTRUCTION (IH 90 EB LEFT LANE CLOSURE)	SHEET	E

FILE NAME : P:\8384 I90_53_35 INTERCHANGE\TRANSPORTATION\CIVIL3D\157 ROADWAY PLANS\026001_SX1.DWG PLOT DATE : 11/1/2012 PLOT BY : EYAD OMARI PLOT SCALE : 1:100



PROJECT NO: 1071-06-65	HWY: STH 157	COUNTY: LA CROSSE	STAGE 2 SB BRIDGE CONSTRUCTION (IH90 EB LEFT LANE CLOSURE)	SHEET	E

FILE NAME : P:\8384 I90_53_35 INTERCHANGE\TRANSPORTATION\CIVIL3D\157 ROADWAY PLANS\026001_SX1.DWG PLOT DATE : 11/1/2012 PLOT BY : EYAD OMARI PLOT SCALE : 1:100

2

LEGEND

- WORK ZONE
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- TYPE III BARRIER
- FLASHING ARROW BOARD
- TEMPORARY CONCRETE BARRIER PRECAST
- Ⓐ — TYPE A WARNING LIGHT (FLASHING)

WB ON RAMP

WB TRAFFIC

WORK ZONE

R/L

PIER

12'

12'

12'

4'

4:1

BRIDGE ABUTMENT

RAMP CLOSED

72+00 SB

72+00 NB

70+00 SB

70+00 NB

R/L STH 157 SB

68+00 SB

68+00 NB

66+00 SB

66+00 NB

STH 157 NB

B-32-55

B-32-56

EB 274+00

WB 276+00

EB 276+00

WB 278+00

EB 278+00

WB 280+00

EB 280+00

WB 282+00

EB 282+00

WB 284+00

EB 284+00

WB 286+00

EB 286+00

EB 288+00

IH 90 WB

IH 90 EB

I 90

100'

R/L IH 90 WB

R/L IH 90 EB

R/L STH 157 NB

MATCH LINE 287+76

PROJECT NO: 1071-06-65	HWY: STH 157	COUNTY: LA CROSSE	STAGE 2 SB BRIDGE CONSTRUCTION (IH 90 WB LEFT LANE CLOSURE)	SHEET	E

FILE NAME : P:\8384 I90_53_35 INTERCHANGE\TRANSPORTATION\CIVIL3D\157 ROADWAY PLANS\026001_SX1.DWG PLOT DATE : 11/1/2012 PLOT BY : EYAD OMARI PLOT SCALE : 1:100

2

LEGEND

- WORK ZONE
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
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- TYPE III BARRIER
- FLASHING ARROW BOARD
- TEMPORARY CONCRETE BARRIER PRECAST
- Ⓐ — TYPE A WARNING LIGHT (FLASHING)

MATCH LINE 287+76

100'

WB 288+00

EB 288+00

WB 290+00

EB 290+00

IH 90 WB

WB 292+00

EB 292+00

IH 90 EB

LANE CLOSED
R11-2(MOD)
48" X 30"

WB 294+00

EB 294+00

R/L IH 90 WB

R/L IH 90 EB

WB 296+00

350'

EB 296+00

WB 298+00

EB 298+00

WB 300+00

EB 300+00

780'

WB 302+00

EB 302+00

MATCH LINE 303+34

MATCH LINE 287+76

FOOTBRIDGE

I 90

SIGN

POOL

PROJECT NO:1071-06-65	HWY: STH 157	COUNTY:LA CROSSE	STAGE 2 SB BRIDGE CONSTRUCTION (IH 90 WB LEFT LANE CLOSURE)	SHEET	E

FILE NAME : P:\8384 I90_53_35 INTERCHANGE\TRANSPORTATION\CIVIL3D\157 ROADWAY PLANS\026001_SX1.DWG PLOT DATE : 11/1/2012 PLOT BY : EYAD OMARI PLOT SCALE : 1:100

LEGEND

- WORK ZONE
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- TYPE III BARRIER
- FLASHING ARROW BOARD
- TEMPORARY CONCRETE BARRIER PRECAST
- Ⓐ — TYPE A WARNING LIGHT (FLASHING)

N

MATCH LINE 303+34

WB 304+00

EB 304+00

475'

WB 306+00

50'

EB 306+00

WB 308+00

EB 308+00

WB 310+00

EB 310+00

WB 312+00

1000'

EB 312+00

WB 314+00

IH 90 EB

EB 314+00

IH 90 EB

WB 316+00

EB 316+00

R/L IH 90 WB

W04-2L

R/L IH 90 EB

WB 318+00

EB 318+00

MATCH LINE 318+87

I 90

THEATER RD.

SIGN

INL

MH

W

PROJECT NO:1071-06-65	HWY: STH 157	COUNTY:LA CROSSE	STAGE 2 SB BRIDGE CONSTRUCTION (IH 90 WB LEFT LANE CLOSURE)	SHEET E

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2

LEGEND

- WORK ZONE
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- TEMPORARY CONCRETE BARRIER PRECAST
- Ⓐ — TYPE A WARNING LIGHT (FLASHING)

N

WB 318+00
EB 318+00
MATCH LINE
MATCH LINE 318+88
318+87
WB 320+00
EB 320+00
575'
WB 322+00
EB 322+00
WB 324+00
EB 324+00
1600'
WB 326+00
EB 326+00
WB 328+00
EB 328+00
IH 90 WB
IH 90 EB
WB 330+00
EB 330+00
2600'
WB 332+00
EB 332+00
R/L IH 90 WB
R/L IH 90 EB

LEFT LANE CLOSED 1500 FT W20-5

LEFT LANE CLOSED 1/2 MILE W20-5

ROAD WORK AHEAD W20-1

ROAD WORK 1 MILE W20-1

PROJECT NO:1071-06-65	HWY: STH 157	COUNTY:LA CROSSE	STAGE 2 SB BRIDGE CONSTRUCTION (IH 90 WB LEFT LANE CLOSURE)	SHEET	E

2

2

LEGEND

- WORK ZONE
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
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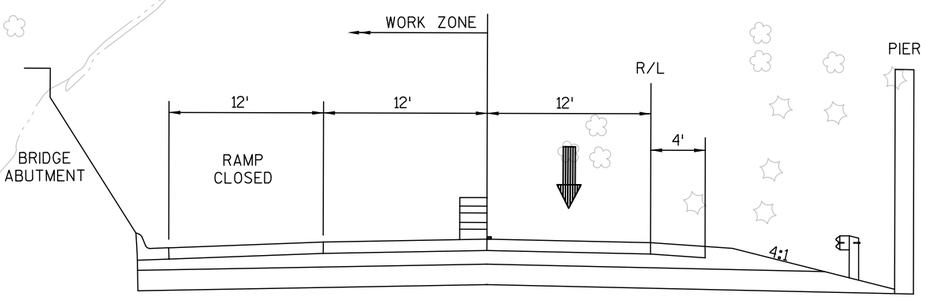
- CC — TEMPORARY CRASH CUSHION
- TYPE III BARRIER
- FLASHING ARROW BOARD
- TEMPORARY CONCRETE BARRIER PRECAST
- Ⓐ — TYPE A WARNING LIGHT (FLASHING)

74+00 SB
74+00 NB
72+00 SB
72+00 NB
70+00 SB
70+00 NB
68+00 SB
68+00 NB
66+00 SB
66+00 NB
B-32-55
B-32-56
WB ON RAMP
I SIGN
INL
CONSTRUCTION ON NORTH END OF SB BRIDGE WITH NO TRAVEL LANES OPEN ON I-90 UNDERNEATH
R/L STH 157 SB
RAMP CLOSED
100'
500'
780'
WB 276+00
WB 278+00
WB 280+00
WB 282+00
WB 284+00
WB 286+00
EB 274+00
EB 276+00
EB 278+00
EB 280+00
EB 282+00
EB 284+00
EB 286+00
EB 288+00
IH 90, WB
IH 90 EB
R/L STH 157 NB
STH 157 NB
R/L IH 90 WB
R/L IH 90 EB
MATCH LINE 287+76
WB TRAFFIC



PROJECT NO: 1071-06-65	HWY: STH 157	COUNTY: LA CROSSE	STAGE 2 SB BRIDGE CONSTRUCTION (IH 90 WB RIGHT LANE CLOSURE)	SHEET	E

FILE NAME : P:\8384 I90_53_35 INTERCHANGE\TRANSPORTATION\CIVIL3D\157 ROADWAY PLANS\026001_SX1.DWG PLOT DATE : 11/1/2012 PLOT BY : EYAD OMARI PLOT SCALE : 1:100

2

LEGEND

- WORK ZONE
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
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- TYPE III BARRIER
- FLASHING ARROW BOARD
- TEMPORARY CONCRETE BARRIER PRECAST
- Ⓐ — TYPE A WARNING LIGHT (FLASHING)

MATCH LINE 287+76

WB 288+00

EB 288+00

WB 290+00

100'

EB 290+00

WB 292+00

EB 292+00

WB 294+00

EB 294+00

WB 296+00

EB 296+00

WB 298+00

350'

EB 298+00

WB 300+00

EB 300+00

50'

WB 302+00

EB 302+00

WB 304+00

EB 304+00

MATCH LINE 303+34

MATCH LINE 287+76

R/L IH 90 WB

R/L IH 90 EB

IH 90 EB

IH 90 WB

SIGN 780'

FOOTBRIDGE

SIGN

POOL

PROJECT NO:1071-06-65	HWY: STH 157	COUNTY:LA CROSSE	STAGE 2 SB BRIDGE CONSTRUCTION (IH 90 WB RIGHT LANE CLOSURE)	SHEET	E

FILE NAME : P:\8384 I90_53_35 INTERCHANGE\TRANSPORTATION\CIVIL3D\157 ROADWAY PLANS\026001_SX1.DWG PLOT DATE : 11/1/2012 PLOT BY : EYAD OMARI PLOT SCALE : 1:100

2

LEGEND

- WORK ZONE
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- POST MOUNTED SIGN
- SIGN ON TEMPORARY SUPPORT
- DIRECTION OF TRAFFIC
- TYPE III BARRICADE WTH ATTACHED SIGN
- CONSTRUCTED IN PREVIOUS STAGE
- CC — TEMPORARY CRASH CUSHION
- TYPE III BARRIER
- FLASHING ARROW BOARD
- TEMPORARY CONCRETE BARRIER PRECAST
- Ⓐ — TYPE A WARNING LIGHT (FLASHING)

N

MATCH LINE 303+34

EB 302+00

WB 304+00

50'

EB 304+00

WB 306+00

EB 306+00

475'

WB 308+00

EB 308+00

R/L IH 90 WB

R/L IH 90 EB

WB 310+00

EB 310+00

1000'

WB 312+00

EB 312+00

W04-2L

LEFT LANE CLOSED 1500 FT W20-5

LEFT LANE CLOSED 1/2 MILE W20-5

ROAD WORK 1 MILE W20-1

IH 90 WB

WB 314+00

575'

EB 314+00

IH 90 EB

1600'

WB 316+00

EB 316+00

2600'

WB 318+00

EB 318+00

MATCH LINE 318+87

THEATER RD.

PROJECT NO: 1071-06-65	HWY: STH 157	COUNTY: LA CROSSE	STAGE 2 SB BRIDGE CONSTRUCTION (IH 90 WB RIGHT LANE CLOSURE)	SHEET	E

FILE NAME : P:\8384 I90_53_35 INTERCHANGE\TRANSPORTATION\CIVIL3D\157 ROADWAY PLANS\026001_SX1.DWG PLOT DATE : 11/1/2012 PLOT BY : EYAD OMARI PLOT SCALE : 1:100

LEGEND

- WORK ZONE
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- POST MOUNTED SIGN
- SIGN ON TEMPORARY SUPPORT
- DIRECTION OF TRAFFIC
- TYPE III BARRICADE WTH ATTACHED SIGN
- CONSTRUCTED IN PREVIOUS STAGE
- CC TEMPORARY CRASH CUSHION
- TYPE III BARRIER
- FLASHING ARROW BOARD
- TEMPORARY CONCRETE BARRIER PRECAST
- Ⓐ TYPE A WARNING LIGHT (FLASHING)

N

END ROAD WORK
G20-2A
48" X 24"

ROAD WORK 500 FT
W20-1

ROAD WORK AHEAD
W20-1

R/L STH 157 SB

R/L STH 157 NB

TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE 4-INCH EDGELINE (WHITE)

STH 157 SB

STH 157 NB

42+00 SB

42+00 NB

40+00 SB

40+00 NB

38+00 SB

38+00 NB

36+00 SB

36+00 NB

34+00 SB

34+00 NB

50' (TYP.)

500'

500'

CTH PH

PROJECT NO: 1071-06-65	HWY: STH 157	COUNTY: LA CROSSE	STAGE 3 NB BRIDGE CONSTRUCTION	SHEET	E

FILE NAME : P:\8384 I90_53_35 INTERCHANGE\TRANSPORTATION\CIVIL3D\157 ROADWAY PLANS\026001_SX1.DWG PLOT DATE : 11/1/2012 PLOT BY : EYAD OMARI PLOT SCALE : 1:100

LEGEND

- WORK ZONE
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- POST MOUNTED SIGN
- SIGN ON TEMPORARY SUPPORT
- DIRECTION OF TRAFFIC
- TYPE III BARRICADE WTH ATTACHED SIGN
- CONSTRUCTED IN PREVIOUS STAGE
- CC — TEMPORARY CRASH CUSHION
- TYPE III BARRIER
- FLASHING ARROW BOARD
- TEMPORARY CONCRETE BARRIER PRECAST
- (A) TYPE A WARNING LIGHT (FLASHING)

CROSSING MEADOWS DR.

N

END ROAD WORK
G20-2A
48" X 24"

ROAD WORK AHEAD
W20-1

EB OFF RAMP

EB ON RAMP

R/L STH 157 SB

TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE 4-INCH EDGELINE (YELLOW)

STH 157 SB

STH 157 NB

44+00 SB
46+00 SB
48+00 SB
50+00 SB
52+00 SB
54+00 SB
56+00 SB
58+00 SB

46+00 NB
48+00 NB
50+00 NB
52+00 NB
54+00 NB
56+00 NB
58+00 NB

200'

50'
(TYP.)

LANE CLOSED
R11-2(MOD)
48" X 30"

R/L STH 157 NB

TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE 4-INCH EDGELINE (WHITE)

W11-4B

25 M.P.H.
W013-1
48" X 48"

MATCH LINE 44+00

MATCH LINE 59+50

NB R/L
WORK ZONE 12' CLOSED
NB 12'
NB 12'

PROJECT NO: 1071-06-65	HWY: STH 157	COUNTY: LA CROSSE	STAGE 3 NB BRIDGE CONSTRUCTION	SHEET E

FILE NAME : P:\8384 I90_53_35 INTERCHANGE\TRANSPORTATION\CIVIL3D\157 ROADWAY PLANS\026001_SX1.DWG PLOT DATE : 11/1/2012 PLOT BY : EYAD OMARI PLOT SCALE : 1:100

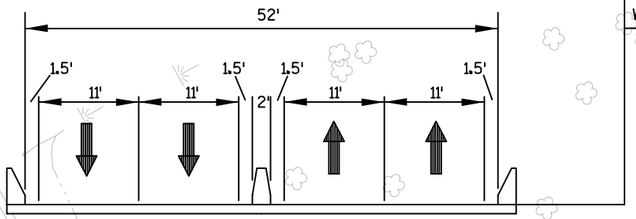
2

LEGEND

- WORK ZONE
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- POST MOUNTED SIGN
- SIGN ON TEMPORARY SUPPORT
- DIRECTION OF TRAFFIC
- TYPE III BARRICADE WTH ATTACHED SIGN
- CONSTRUCTED IN PREVIOUS STAGE
- CC — TEMPORARY CRASH CUSHION
- TYPE III BARRIER
- FLASHING ARROW BOARD
- TEMPORARY CONCRETE BARRIER PRECAST
- Ⓐ — TYPE A WARNING LIGHT (FLASHING)

N

SB BRIDGE



WORK ZONE

R/L IH 90 WB

R/L IH 90 EB

EB ON RAMP

EB 268+00

WB 268+00

EB 270+00

WB 270+00

I90 IH 90 WB

EB 272+00

WB 272+00

R/L STH 157 SB

MATCH LINE 59+50

TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE 4-INCH EDGELINE (WHITE)

LANE CLOSED
R11-2(MOD)
48" X 30"

W5-52L
12" X 36"

EXIT
E5-1
60" X 48"

TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE 8-INCH CHANNELIZING (WHITE)

TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE 4-INCH LANE LINE (WHITE)

TEMPORARY PAVEMENT MARKING 4-INCH EDGELINE (YELLOW)

50'

MATCH LINE 74+50

STH 157 SB

60+00 SB | 62+00 SB | 64+00 SB | 66+00 SB | 68+00 SB | 70+00 SB | 72+00 SB | 74+00 SB

B-32-55

CC

60+00 NB | 62+00 NB | 64+00 NB | 66+00 NB | 68+00 NB | 70+00 NB | 72+00 NB | 74+00 NB

STH 157

STH 157 NB

B-32-56

TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE 4-INCH EDGELINE (WHITE)

W1-4B
25
M.P.H.
W013-1
48" X 48"

END ROAD WORK
C20-2A
48" X 24"

TYPE III BARRICADE

R/L STH 157 NB

EB 274+00

WB 276+00

EB 276+00

EXIT
E5-1
60" X 48"

25'

WB ON RAMP

EB ON RAMP

PROJECT NO:1071-06-65	HWY: STH 157	COUNTY:LA CROSSE	STAGE 3 NB BRIDGE CONSTRUCTION	SHEET	E

FILE NAME : P:\8384 I90_53_35 INTERCHANGE\TRANSPORTATION\CIVIL3D\157 ROADWAY PLANS\026001_SX1.DWG PLOT DATE : 11/1/2012 PLOT BY : EYAD OMARI PLOT SCALE : 1:100

2

N

WILSON STREET

ATHLETIC FIELD

END ROAD WORK
G20-2A
48" X 24"

OAK FOREST DRIVE

WB ON RAMP

MATCH LINE 74+50

TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE 8-INCH CHANNELIZING (WHITE)

TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE 4-INCH EDGELINE (WHITE)

EXIT
E5-1
60" X 48"

200'

50'

R/L STH 157 SB

LANE CLOSED
R11-2(MOD)
48" X 30"

STH 157 SB

76+00 SB
78+00 SB
80+00 SB
82+00 SB
84+00 SB
86+00 SB
88+00 SB
90+00

76+00 NB
78+00 NB
80+00 NB
82+00 NB
84+00 NB
86+00 NB
88+00 NB
90+00

STH 157 NB

R/L STH 157 NB

MATCH LINE 90+00

WB OFF RAMP

END ROAD WORK
G20-2A
48" X 24"

ROAD WORK AHEAD
W20-1

LEGEND

- WORK ZONE
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- POST MOUNTED SIGN
- SIGN ON TEMPORARY SUPPORT
- DIRECTION OF TRAFFIC
- TYPE III BARRICADE WTH ATTACHED SIGN
- CONSTRUCTED IN PREVIOUS STAGE
- CC — TEMPORARY CRASH CUSHION
- TYPE III BARRIER
- FLASHING ARROW BOARD
- TEMPORARY CONCRETE BARRIER PRECAST
- A — TYPE A WARNING LIGHT (FLASHING)

PROJECT NO:1071-06-65	HWY: STH 157	COUNTY: LA CROSSE	STAGE 3 NB BRIDGE CONSTRUCTION	SHEET	E

2

N

MATCH LINE 90+00

TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE 4-INCH EDGELINE (WHITE)

TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE 4-INCH LANE LINE (WHITE)

W04-1

W04-1

W04-1

25 M.P.H.
W013-1
48" X 48"

ROAD WORK 500 FT
W20-1

W04-1

W4-3R
COVER

ROAD WORK AHEAD
W20-1

END ROAD WORK
G20-2A
48" X 24"

500'

500'

500'

SB ON RAMP

92+00 SB

94+00 SB

96+00 SB

98+00 SB

100+00 SB

102+00 SB

STH 157 SB

92+00 NB

94+00 NB

96+00 NB

98+00 NB

100+00 NB

102+00 NB

STH 157 NB

NB OFF RAMP

R/L STH 157 SB

R/L STH 157 NB

E MAIN ST
INTERCHANGE

LEGEND

- WORK ZONE
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
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- TYPE III BARRIER
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- TEMPORARY CONCRETE BARRIER PRECAST
- Ⓐ — TYPE A WARNING LIGHT (FLASHING)

PROJECT NO:1071-06-65	HWY: STH 157	COUNTY:LA CROSSE	STAGE 3 NB BRIDGE CONSTRUCTION	SHEET	E

FILE NAME : P:\8384 I90_53_35 INTERCHANGE\TRANSPORTATION\CIVIL3D\157 ROADWAY PLANS\026001_SX1.DWG PLOT DATE : 11/1/2012 PLOT BY : EYAD OMARI PLOT SCALE : 1:100

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- TEMPORARY CONCRETE BARRIER PRECAST
- Ⓐ — TYPE A WARNING LIGHT (FLASHING)

N

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH EDGELINE (WHITE)

MATCH LINE 44+00

42+00 SB

42+00 NB

40+00 SB

40+00 NB

38+00 SB

38+00 NB

36+00 SB

36+00 NB

34+00 SB

34+00 NB

STH 157 SB

STH 157 NB

50' (TYP.)

500'

500'

R/L STH 157 SB

R/L STH 157 NB

END ROAD WORK
C20-2A
48" X 24"

ROAD WORK 500 FT
W20-1

ROAD WORK AHEAD
W20-1

CTH PH

SIGN

INL

MH

PROJECT NO: 1071-06-65	HWY: STH 157	COUNTY: LA CROSSE	STAGE 4 REMOVAL OF TEMPORARY PAVEMENT	SHEET	E

FILE NAME : P:\8384 I90_53_35 INTERCHANGE\TRANSPORTATION\CIVIL3D\157 ROADWAY PLANS\026001_SX1.DWG PLOT DATE : 11/1/2012 PLOT BY : EYAD OMARI PLOT SCALE : 1:100

LEGEND

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- TYPE III BARRIER
- FLASHING ARROW BOARD
- TEMPORARY CONCRETE BARRIER PRECAST
- (A) — TYPE A WARNING LIGHT (FLASHING)

CROSSING MEADOWS DR.

CTH SS

ROAD WORK AHEAD W20-1

END ROAD WORK G20-2A 48" X 24"

200'

STH 157 SB

STH 157 NB

R/L STH 157 SB

R/L STH 157 NB

44+00 SB

46+00 SB

46+00 NB

48+00 SB

48+00 NB

50+00 SB

50+00 NB

52+00 SB

52+00 NB

54+00 SB

54+00 NB

56+00 SB

56+00 NB

58+00 SB

58+00 NB

50' (TYP.)

LANE CLOSED R11-2(MOD) 48" X 30"

LANE CLOSED R11-2(MOD) 48" X 30"

W1-4B

25 M.P.H. W013-1 48" X 48"

TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE 4-INCH EDGELINE (WHITE)

TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE 4-INCH EDGELINE (YELLOW)

ROAD WORK AHEAD W20-1

EB OFF RAMP

EB ON RAMP

EB ON RAMP

SEPTIC

MATCH LINE 44+00

MATCH LINE 59+50

NB R/L — WORK ZONE 12' CLOSED — NB 12' — NB 12'

PROJECT NO: 1071-06-65	HWY: STH 157	COUNTY: LA CROSSE	STAGE 4 REMOVAL OF TEMPORARY PAVEMENT	SHEET E

FILE NAME : P:\8384 I90_53_35 INTERCHANGE\TRANSPORTATION\CIVIL3D\157 ROADWAY PLANS\026001_SX1.DWG PLOT DATE : 11/1/2012 PLOT BY : EYAD OMARI PLOT SCALE : 1:100

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LEGEND

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- DIRECTION OF TRAFFIC
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- TYPE III BARRIER
- FLASHING ARROW BOARD
- TEMPORARY CONCRETE BARRIER PRECAST
- Ⓐ — TYPE A WARNING LIGHT (FLASHING)

N

EB ON RAMP

EB 268+00

WB 268+00

EB 270+00

WB 270+00

EB 272+00

WB 272+00

R/L IH 90 WB

R/L IH 90 EB

190 IH 90 WB

MATCH LINE 59+50

END ROAD WORK
G20-2A
48" X 24"

R/L STH 157 SB

TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE 4-INCH EDGELINE (YELLOW)

TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE 4-INCH LANE LINE (WHITE)

RESTORE MEDIAN

RESTORE MEDIAN

50' (TYP.)

MATCH LINE 74+50

STH 157 SB

60+00 SB

62+00 SB

64+00 SB

66+00 SB

68+00 SB

70+00 SB

72+00 SB

74+00 SB

B-32-55

EB 274+00

60+00 NB

62+00 NB

64+00 NB

66+00 NB

68+00 NB

70+00 NB

72+00 NB

74+00 NB

STH 157 NB

B-32-56

LANE CLOSED
R11-2(MOD)
48" X 30"

R/L STH 157 NB

TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE 4-INCH EDGELINE (YELLOW)

TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE 4-INCH LANE LINE (WHITE)

WB ON RAMP

EB 276+00

WB 276+00

END ROAD WORK
G20-2A
48" X 24"

EB ON RAMP

NB R/L

WORK ZONE 12' CLOSED

NB 12'

NB 12'

PROJECT NO: 1071-06-65	HWY: STH 157	COUNTY: LA CROSSE	STAGE 4 REMOVAL OF TEMPORARY PAVEMENT	SHEET	E

2

N

WILSON STREET

ATHLETIC FIELD

OAK FOREST DRIVE

WB ON RAMP

END ROAD WORK
G20-2A
48" X 24"

LANE CLOSED
R11-2(MOD)
48" X 30"

MATCH LINE 74+50

TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE 4-INCH EDGE LINE (WHITE)

TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE 4-INCH LANE LINE (WHITE)

R/L STH 157 SB

50' (TYP.)

350'

STH 157 SB

STH 157 NB

76+00 SB
78+00 SB
80+00 SB
82+00 SB
84+00 SB
86+00 SB
88+00 SB
90+00

76+00 NB
78+00 NB
80+00 NB
82+00 NB
84+00 NB
86+00 NB
88+00 NB
90+00

R/L STH 157 NB

MATCH LINE 90+00

END ROAD WORK
G20-2A
48" X 24"

WB OFF RAMP

ROAD WORK AHEAD
W20-1

LEGEND

- WORK ZONE
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
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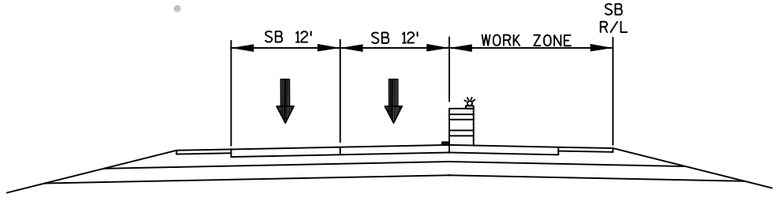
- SIGN ON TEMPORARY SUPPORT
- DIRECTION OF TRAFFIC
- TYPE III BARRICADE WTH ATTACHED SIGN
- CONSTRUCTED IN PREVIOUS STAGE
- CC — TEMPORARY CRASH CUSHION
- TYPE III BARRIER
- FLASHING ARROW BOARD
- TEMPORARY CONCRETE BARRIER PRECAST
- (A) — TYPE A WARNING LIGHT (FLASHING)

SB TRAFFIC



PROJECT NO: 1071-06-65	HWY: STH 157	COUNTY: LA CROSSE	STAGE 4 REMOVAL OF TEMPORARY PAVEMENT	SHEET	E

2

N

LEGEND

- WORK ZONE
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- POST MOUNTED SIGN
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- TEMPORARY CONCRETE BARRIER PRECAST
- Ⓐ — TYPE A WARNING LIGHT (FLASHING)

MATCH LINE 90+00

R/L STH 157 SB

LANE CLOSED
R11-2(MOD)
48" X 30"

W04-1

50' (TYP.)

W11-4B

25 M.P.H.
W013-1
48" X 48"

ROAD WORK 500 FT
W20-1

500'

500'

W04-1

W4-3R
COVER

ROAD WORK AHEAD
W20-1

SB ON RAMP

92+00 SB
94+00 SB
96+00 SB
98+00 SB
100+00 SB
102+00 SB

STH 157 SB

92+00 NB
94+00 NB
96+00 NB
98+00 NB
100+00 NB
102+00 NB

STH 157 NB

BEGIN TAPER

NB OFF RAMP

E MAIN ST
INTERCHANGE

R/L STH 157 NB

END ROAD WORK
G20-2A
48" X 24"

PROJECT NO: 1071-06-65	HWY: STH 157	COUNTY: LA CROSSE	STAGE 4 REMOVAL OF TEMPORARY PAVEMENT	SHEET	E

FILE NAME : P:\8384 I90_53_35 INTERCHANGE\TRANSPORTATION\CIVIL3D\157 ROADWAY PLANS\026001_SX1.DWG PLOT DATE : 11/1/2012 PLOT BY : EYAD OMARI PLOT SCALE : 1:100

DATE 01FEB13 E S T I M A T E O F Q U A N T I T I E S

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	1071-06-65 QUANTITY
0010	203.0200	REMOVING OLD STRUCTURE (STATION) 01. 66'S'+45.05	LS	1.000	1.000
0020	203.0225.S	DEBRIS CONTAINMENT (STRUCTURE) 01. B-32-55	LS	1.000	1.000
0030	203.0225.S	DEBRIS CONTAINMENT (STRUCTURE) 02. B-32-56	LS	1.000	1.000
0040	204.0100	REMOVING PAVEMENT	SY	8,350.000	8,350.000
0050	204.0165	REMOVING GUARDRAIL	LF	850.000	850.000
0060	205.0100	EXCAVATION COMMON	CY	4,324.000	4,324.000
0070	206.1000	EXCAVATION FOR STRUCTURES BRIDGES (STRUCTURE) 01. B-32-55	LS	1.000	1.000
0080	208.0100	BORROW	CY	630.000	630.000
0090	208.1100	SELECT BORROW	CY	533.000	533.000
0100	210.0100	BACKFILL STRUCTURE	CY	230.000	230.000
0110	213.0100	FINISHING ROADWAY (PROJECT) 01. 1071-06-65	EACH	1.000	1.000
0120	305.0110	BASE AGGREGATE DENSE 3/4-INCH	TON	385.000	385.000
0130	305.0120	BASE AGGREGATE DENSE 1 1/4-INCH	TON	5,190.000	5,190.000
0140	311.0110	BREAKER RUN	TON	210.000	210.000
0150	415.0100	CONCRETE PAVEMENT 10-INCH	SY	6,370.000	6,370.000
0160	415.0410	CONCRETE PAVEMENT APPROACH SLAB	SY	700.000	700.000
0170	415.6000.S	ROUTE AND SEAL	LF	2,225.000	2,225.000
0180	416.0610	DRILLED TIE BARS	EACH	165.000	165.000
0190	416.0620	DRILLED DOWEL BARS	EACH	491.000	491.000
0200	416.0750.S	CONCRETE PAVEMENT PARTIAL DEPTH REPAIR JOINT REPAIR	LF	96.000	96.000
0210	416.0752.S	CONCRETE PAVEMENT PARTIAL DEPTH REPAIR CRACK REPAIR	LF	96.000	96.000
0220	465.0105	ASPHALTIC SURFACE	TON	301.000	301.000
0230	465.0125	ASPHALTIC SURFACE TEMPORARY	TON	1,080.000	1,080.000
0240	502.0100	CONCRETE MASONRY BRIDGES	CY	492.000	492.000
0250	502.3100	EXPANSION DEVICE (STRUCTURE) 01. B-32-55	LS	1.000	1.000
0260	502.3100	EXPANSION DEVICE (STRUCTURE) 02. B-32-56	LS	1.000	1.000
0270	502.3200	PROTECTIVE SURFACE TREATMENT	SY	3,100.000	3,100.000
0280	502.5005	MASONRY ANCHORS TYPE L NO. 5 BARS	EACH	364.000	364.000
0290	505.0605	BAR STEEL REINFORCEMENT HS COATED BRIDGES	LB	106,990.000	106,990.000
0300	506.2610	BEARING PADS ELASTOMERIC LAMINATED	EACH	14.000	14.000
0310	506.3025	WELDED STUD SHEAR CONNECTORS 7/8X8-INCH	EACH	2,556.000	2,556.000
0320	506.7000.S	BEARING REPLACEMENT (STRUCTURE) 01. B-32-55	EACH	14.000	14.000
0330	509.0301	PREPARATION DECKS TYPE 1	SY	62.000	62.000
0340	509.0302	PREPARATION DECKS TYPE 2	SY	25.000	25.000
0350	509.0500	CLEANING DECKS	SY	625.000	625.000
0360	509.1000	JOINT REPAIR	SY	50.000	50.000
0370	509.1500	CONCRETE SURFACE REPAIR	SF	80.000	80.000
0380	509.2000	FULL-DEPTH DECK REPAIR	SY	5.000	5.000
0390	509.2500	CONCRETE MASONRY OVERLAY DECKS	CY	142.000	142.000
0400	509.9020.S	EPOXY CRACK SEALING	LF	200.000	200.000
0410	516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	70.000	70.000
0420	517.0900.S	PREPARATION AND COATING OF TOP FLANGES (STRUCTURE) 01. B-32-55	LS	1.000	1.000
0430	517.3000.S	STRUCTURE OVERCOATING CLEANING AND PRIMING (STRUCTURE) 01. B-32-55	LS	1.000	1.000
0440	517.3000.S	STRUCTURE OVERCOATING CLEANING AND PRIMING (STRUCTURE) 02. B-32-56	LS	1.000	1.000

3

DATE 01FEB13 E S T I M A T E O F Q U A N T I T I E S

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	1071-06-65 QUANTITY
0450	517.4000.S	CONTAINMENT AND COLLECTION OF WASTE MATERIALS (STRUCTURE) 01. B-32-55	LS	1.000	1.000
0460	517.4000.S	CONTAINMENT AND COLLECTION OF WASTE MATERIALS (STRUCTURE) 02. B-32-56	LS	1.000	1.000
0470	520.4012	CULVERT PIPE TEMPORARY 12-INCH	LF	748.000	748.000
0480	601.0409	CONCRETE CURB & GUTTER 30-INCH TYPE A	LF	515.000	515.000
0490	603.8000	CONCRETE BARRIER TEMPORARY PRECAST DELIVERED	LF	1,730.000	1,730.000
0500	603.8125	CONCRETE BARRIER TEMPORARY PRECAST INSTALLED	LF	3,280.000	3,280.000
0510	604.9010.S	SLOPE PAVING REPAIR CRUSHED AGGREGRATE	CY	48.000	48.000
0520	604.9015.S	RESEAL CRUSHED AGGREGATE SLOPE PAVING	SY	768.000	768.000
0530	611.8115	ADJUSTING INLET COVERS	EACH	7.000	7.000
0540	614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	EACH	2.000	2.000
0550	614.0200	STEEL THRIE BEAM STRUCTURE APPROACH	LF	84.000	84.000
0560	614.0230	STEEL THRIE BEAM	LF	100.000	100.000
0570	614.0905	CRASH CUSHIONS TEMPORARY	EACH	4.000	4.000
0580	614.2300	MGS GUARDRAIL 3	LF	450.000	450.000
0590	614.2500	MGS THRIE BEAM TRANSITION	LF	40.000	40.000
0600	614.2610	MGS GUARDRAIL TERMINAL EAT	EACH	6.000	6.000
0610	614.2620	MGS GUARDRAIL TERMINAL TYPE 2	EACH	3.000	3.000
0620	619.1000	MOBILIZATION	EACH	1.000	1.000
0630	623.0200	DUST CONTROL SURFACE TREATMENT	SY	7,550.000	7,550.000
0640	624.0100	WATER	MGAL	30.000	30.000
0650	625.0100	TOPSOIL	SY	390.000	390.000
0660	625.0500	SALVAGED TOPSOIL	SY	7,350.000	7,350.000
0670	628.1104	EROSION BALES	EACH	5.000	5.000
0680	628.1504	SILT FENCE	LF	3,080.000	3,080.000
0690	628.1520	SILT FENCE MAINTENANCE	LF	3,080.000	3,080.000
0700	628.1905	MOBILIZATIONS EROSION CONTROL	EACH	3.000	3.000
0710	628.1910	MOBILIZATIONS EMERGENCY EROSION CONTROL	EACH	2.000	2.000
0720	628.2002	EROSION MAT CLASS I TYPE A	SY	6,000.000	6,000.000
0730	628.2021	EROSION MAT CLASS II TYPE A	SY	1,750.000	1,750.000
0740	628.7005	INLET PROTECTION TYPE A	EACH	5.000	5.000
0750	628.7010	INLET PROTECTION TYPE B	EACH	1.000	1.000
0760	628.7015	INLET PROTECTION TYPE C	EACH	6.000	6.000
0770	628.7504	TEMPORARY DITCH CHECKS	LF	45.000	45.000
0780	628.7560	TRACKING PADS	EACH	2.000	2.000
0790	629.0205	FERTILIZER TYPE A	CWT	1.000	1.000
0800	630.0130	SEEDING MIXTURE NO. 30	LB	30.000	30.000
0810	634.0614	POSTS WOOD 4X6-INCH X 14-FT	EACH	4.000	4.000
0820	635.0300	SIGN SUPPORTS REPLACING BASE CONNECTION BOLTS	EACH	2.000	2.000
0830	637.0101	SIGNS TYPE I	SF	2,260.500	2,260.500
0840	637.0202	SIGNS REFLECTIVE TYPE II	SF	84.000	84.000
0850	638.2601	REMOVING SIGNS TYPE I	EACH	16.000	16.000
0860	638.2602	REMOVING SIGNS TYPE II	EACH	5.000	5.000
0870	638.3000	REMOVING SMALL SIGN SUPPORTS	EACH	4.000	4.000
0880	642.5201	FIELD OFFICE TYPE C	EACH	1.000	1.000
0890	643.0100	TRAFFIC CONTROL (PROJECT) 01. 1071-06-65	EACH	1.000	1.000
0900	643.0300	TRAFFIC CONTROL DRUMS	DAY	19,330.000	19,330.000
0910	643.0420	TRAFFIC CONTROL BARRICADES TYPE III	DAY	700.000	700.000
0920	643.0705	TRAFFIC CONTROL WARNING LIGHTS TYPE A	DAY	1,240.000	1,240.000

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DATE 01FEB13 E S T I M A T E O F Q U A N T I T I E S

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	1071-06-65 QUANTITY
0930	643.0715	TRAFFIC CONTROL WARNING LIGHTS TYPE C	DAY	6,550.000	6,550.000
0940	643.0800	TRAFFIC CONTROL ARROW BOARDS	DAY	120.000	120.000
0950	643.0900	TRAFFIC CONTROL SIGNS	DAY	4,920.000	4,920.000
0960	643.0910	TRAFFIC CONTROL COVERING SIGNS TYPE I	EACH	2.000	2.000
0970	643.0920	TRAFFIC CONTROL COVERING SIGNS TYPE II	EACH	1.000	1.000
0980	643.1050	TRAFFIC CONTROL SIGNS PCMS	DAY	2.000	2.000
0990	643.2000	TRAFFIC CONTROL DETOUR (PROJECT) 01. 1071-06-65	EACH	1.000	1.000
1000	643.3000	TRAFFIC CONTROL DETOUR SIGNS	DAY	240.000	240.000
1010	646.0106	PAVEMENT MARKING EPOXY 4-INCH	LF	6,200.000	6,200.000
1020	646.0600	REMOVING PAVEMENT MARKINGS	LF	17,965.000	17,965.000
1030	646.0871.S	PAVEMENT MARKING WET REFLECTIVE TAPE 4-INCH	LF	1,650.000	1,650.000
1040	646.0873.S	PAVEMENT MARKING WET REFLECTIVE TAPE 8-INCH	LF	650.000	650.000
1050	647.0746	PAVEMENT MARKING DIAGONAL EPOXY 24-INCH	LF	125.000	125.000
1060	649.0400	TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH	LF	28,535.000	28,535.000
1070	650.4000	CONSTRUCTION STAKING STORM SEWER	EACH	2.000	2.000
1080	650.4500	CONSTRUCTION STAKING SUBGRADE	LF	860.000	860.000
1090	650.7000	CONSTRUCTION STAKING CONCRETE PAVEMENT	LF	860.000	860.000
1100	650.9910	CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (PROJECT) 01. 1071-06-65	LS	1.000	1.000
1110	650.9920	CONSTRUCTION STAKING SLOPE STAKES	LF	860.000	860.000
1120	652.0130	CONDUIT RIGID METALLIC 2 1/2-INCH	LF	1,040.000	1,040.000
1130	652.0225	CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH	LF	300.000	300.000
1140	653.0135	PULL BOXES STEEL 24X36-INCH	EACH	6.000	6.000
1150	690.0250	SAWING CONCRETE	LF	565.000	565.000
1160	715.0415	INCENTIVE STRENGTH CONCRETE PAVEMENT	DOL	2,121.000	2,121.000
1170	715.0502	INCENTIVE STRENGTH CONCRETE STRUCTURES	DOL	2,952.000	2,952.000
1180	SPV.0060	SPECIAL 01. INLET REPAIR	EACH	7.000	7.000
1190	SPV.0105	SPECIAL 01. WELD INSPECTION STRUCTURE B-32-55	LS	1.000	1.000
1200	SPV.0180	SPECIAL 01. PIGMENTED CONCRETE SURFACE TREATMENT	SY	270.000	270.000

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REMOVING PAVEMENT

CATEGORY	STATION	LOCATION	204.0100 REMOVING PAVEMENT SY
0010	60+25 - 63+50	STH 157 SB	450
	63+50 - 66+03	STH 157 SB	1550
	68+86 - 74+00	STH 157 SB	2850
	63+00 - 66+51	STH 157 NB	2050
	69+33 - 71+75	STH 157 NB	1450
	TOTAL		8,350

TRAFFIC CONTROL DETOUR

CATEGORY	LOCATION	643.2000 TRAFFIC CONTROL DETOUR EACH
0010	STH 157	1
	TOTAL	1

REMOVING GUARDRAIL

CATEGORY	STATION	LOCATION	204.0165 REMOVING GUARDRAIL LF
0010	62+82 - 63+73	STH 157 SB	90
	65+65 - 66+50	STH 157 NB	190
	68+57 - 69+55	STH 157 SB	200
	69+17 - 72+18	STH 157 NB	370
	TOTAL		850

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Division	From/To Station	Location	Common Excavation (1) Item # 205.0100 Cut (2)	Common Excavation (1) Item # 205.0100 Undistributed EBS Excavation (3)	Salvaged/Unusable Pavement Material (4)	Available Material (5)	Reduced EBS in Fill (6) Factor 0.80	Expanded EBS Backfill (7) Item # 208.1100 Select Borrow Factor 1.30	Unexpanded Fill (8)	Expanded Fill (9) Factor 1.20	Mass Ordinate +/- (10)	Waste (11)	Borrow (12) Item # 208.0100	Comment:
	63+50 - 66+03	STH 157 SB	856	0	335	521	0	0	2	2	519	854		
	68+86 - 74+00	STH 157 SB	1,072	0	580	492	0	0	18	22	470	1,050		
1	63+00 - 66+51	STH 157 NB	1,309	0	405	904	0	0	2	2	902	1,307		
	69+33 - 71+75	STH 157 NB	676	0	310	366	0	0	2	2	364	674		
	66+00 - 74+50	CROSSOVERS		410	0	0	328	533	0	0	0	0	630	
Division 1 Subtotal			3,914	410	1,630	2,284	328	533	24	29	2,255	3,885	630	
Subtotal Common Excavation				4,324										
Grand Total			3,914	410	1,630	2,284	328	533	24	29	2,255	3,885	630	
Total Common				4,324										

1) Common Excavation is the sum of the Cut and EBS Excavation columns. Item number 205.0100
2) Salvaged/Unusable Pavement Material is included in Cut unless existing pavement is below subgrade. (Existing Pavement EBS)
3) EBS Excavation to be backfilled with Select Borrow
4) Existing pavement volume (CY), not available for fill
5) Available Material = Cut - Salvaged/Unusable Pavement Material (0 if negative)
6) Reduced EBS in Fill - For Information Only. Excavated EBS material is assumed to be unused in Fills including outside the 1:1 slope. EBS in Fill Reduction factor = 0.8
7) Expanded EBS Backfill - This is to be filled with Select Borrow material. EBS Backfill Factor = 1.3. Item number 208.1100
8) Unexpanded Fill = Fill from Endarea Earthwork Volumes + Existing Pavement EBS
9) Fill Factor = 1.20, Expanded Fill = Unexpanded Fill x 1.20
10) Mass Ordinate = (Available Material) - (Expanded Fill). Plus quantity indicates an excess of material within the Division. Minus quantity indicates a shortage of material within the Division.
11) Waste = EBS + Salvaged/Unusable Pavement Material + (Mass Ordinate if positive within Division)
12) Borrow = Mass Ordinate if negative within Division

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PAVEMENT ITEMS

CATEGORY	STATION	LOCATION	415.0100 CONCRETE PAVEMENT 10-INCH SY	465.0105 ASPHALTIC SURFACE TON	465.0125 ASPHALTIC SURFACE TEMPORARY TON	415.0410 CONCRETE PAVEMENT APPROACH SLABS SY	416.0620 DRILLED DOWEL BARS EACH	416.0610 DRILLED TIE BARS EACH	415.6000.S ROUT AND SEAL LF
0010	60+25 - 63+50	STH 157 SB	430	--	--	--	325	--	--
	63+50 - 66+03	STH 157 SB	1,280	25	--	180	47	84	255
	68+86 - 74+00	STH 157 SB	2,060	140	--	180	36	--	1,030
	66+00 - 66+25	STH 157 SB	--	--	515	--	--	--	--
	68+75 - 74+43	STH 157 SB	--	--	565	--	--	--	--
	63+00 - 66+50	STH 157 NB	1,400	115	--	170	36	--	700
	69+33 - 71+75	STH 157 NB	1,200	21	--	170	47	81	240
	TOTAL		6,370	301	1,080	700	491	165	2,225

CURB AND GUTTER ITEMS

CATEGORY	STATION		LOCATION	601.0409 CONCRETE CURB & GUTTER 30-INCH TYPE A LF
0010	63+50	- 66+03	STH 157 SB	260
	69+33	- 71+75	STH 157 NB	255
	TOTAL			515

BASE AGGREGATE ITEMS

CATEGORY	STATION	LOCATION	305.0120 BASE AGGREGATE DENSE 1 1/4 INCH TON	305.0110 BASE AGGREGATE DENSE 3/4 INCH TON	311.0110 BREAKER RUN TON
0010	63+50 - 66+03	STH 157 SB	490	40	--
	68+86 - 74+00	STH 157 SB	900	150	--
	63+00 - 66+50	STH 157 NB	640	170	--
	69+33 - 71+75	STH 157 NB	460	25	--
	60+00 - 66+25	CROSSOVER	1,300	--	--
	68+75 - 74+50	CROSSOVER	1,400	--	--
	63+00 - 74+00	UNDISTRIBUTED	--	--	210
		TOTAL	5,190	385	210

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FINISHING ROADWAY

CATEGORY	STATION	LOCATION	213.0100 FINISHING ROADWAY (1071-06-65) EACH
0010	63+00 - 74+00	STH 157	1
	TOTAL		1

SURFACE TREATMENT

CATEGORY	LOCATION	623.0200 DUST CONTROL SURFACE TREATMENT SY	624.0100 WATER MGAL
0010	STH 157	7550	30
	TOTAL	7,550	30

SAW CUTTING ITEMS

CATEGORY	STATION	LOCATION	690.0250 SAWING CONCRETE LF
0010	60+25 - 63+50	STH 157 SB	365
	63+50	STH 157 SB	50
	74+00	STH 157 SB	50
	63+00	STH 157 NB	50
	71+75	STH 157 NB	50
	TOTAL		565

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CONSTRUCTION STAKING

CATEGORY	LOCATION	650.4000 CONSTRUCTION STAKING STORM SEWER EACH	650.4500 CONSTRUCTION STAKING SUBGRADE LF	650.7000 CONSTRUCTION STAKING CONCRETE PAVEMENT LF	650.9910 CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (I.D. 1071-06-65) LS	650.9920 CONSTRUCTION STAKING SLOPE STAKES LF
0010	STH 157					
	63+00 - 74+00	2	860	860	1	860
	TOTAL	2	860	860	1	860

CONDUIT

CATEGORY	LOCATION	652.0225 CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH LF
0010	STH 157 (UNDISTRIBUTED*)	300

* TO BE PLACED AS DIRECTED BY THE ENGINEER

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PAVEMENT MARKING

CATEGORY	STATION		646.0106 PAVEMENT MARKING EPOXY 4-INCH WHITE LF	646.0106 PAVEMENT MARKING EPOXY 4-INCH YELLOW LF	646.0871.S PAVEMENT MARKING WET REFLECTIVE TAPE 4-INCH WHITE	646.0873.S PAVEMENT MARKING WET REFLECTIVE TAPE 8-INCH WHITE LF	647.0746 PAVEMENT MARKING DIAGONAL EPOXY 24-INCH LF	REMARKS
0010	STH 157							
	59+50	- 76+00	3,100	3,100	1,650	650	125	
	SUBTOTAL		3,100	3,100	1,650	650	125	
	TOTAL		6,200		1,650	650	125	

PULL BOXES

CATEGORY	LOCATION	653.0135 PULL BOXES STEEL 24 X 36 INCH EACH
0010	STH 157 (UNDISTRIBUTED*)	6
	TOTAL	6

* TO BE DISTRIBUTED AS DIRECTED BY THE ENGINEER

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STORM SEWER ITEMS

CATEGORY	POINT NUMBER	STATION	OFFSET FT	RIM OR FLANGE ELEV	STR DEPTH FT	FROM STR	TO STR	INLET ELEV	DISCH ELEV	SLOPE	520.4012 CULVERT PIPE TEMPORARY 12-INCH LF
		STH 157 SB									
0010	1	61+56	31.31 RT			2	1	717.68	709.08	2.37%	364
	2	65+20	26.26 RT								
	3	70+75	26.47 RT			3	4	721.4	717.50	1.01%	384
	4	74+60	27.77 RT								
	TOTAL										748

EROSION MATERIALS

CATEGORY	STATION		LOCATION	628.2002 EROSION MAT CLASS I TYPE A SY	628.2021 EROSION MAT CLASS II TYPE A SY	630.0130 SEEDING MIXTURE NO. 30 LB	629.0200 FERTILIZER TYPE A CWT	625.0100 TOPSOIL SY	625.0500 SALVAGED TOPSOIL SY	628.1504 SILT FENCE LF	628.1520 SILT FENCE MAINTENANCE LF	628.7504 TEMPORARY DITCH CHECKS LF	628.70(05)(10)(15) INLET PROTECTION TYPE A B C EACH	628.1104 EROSION BALES EACH	628.7560 TRACKING PADS EACH	628.1905 MOBILIZATION EROSION CONTROL EACH	628.1910 MOBILIZATION EMERGENCY EROSION CONTROL EACH
0010	STH 157 SB																
	59+79	- 75+60	RT	4,850	1,750	30	1	330	6,250	2,030	2,030	45	3 1 3	5	1	3	2
	59+79	- 75+60	LT	1,150	--	--	--	60	1,100	1,050	1,050	--	2 - 3	--	1		
	TOTAL			6,000	1,750	30	1	390	7,350	3,080	3,080	45	5 1 6	5	2	3	2

PERMANENT SIGNING

CATEGORY	SIGN NUMBER	SIGN CODE	SIGN SIZE INCH	637.0202 SIGNS REFLECTIVE TYPE II SF	634.0614 POSTS WOOD 4x6-INCH x 14-FT EACH	638.3000 REMOVING SMALL SIGN SUPPORTS EACH	638.2602 REMOVING SIGNS TYPE II EACH	SIGN MESSAGE
0010	1	R2-1	36" X 48"	12	1	1	1	SPEED LIMIT 45
	2	I5-1	30" X 30"	6	1	1	1	AIRPORT
	3	M6-2	30" X 30"	6				DIRECTIONAL ARROW
	4	W13-2B	48" X 90"	30	1	1	1	RAMP 30 M.P.H.
	5	M3-2	24" X 12"	2		1	1	EAST
	6	J4-1	36" X 54"	14	1			INTERSTATE 157
	TOTAL			70	4	4	4	

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TRAFFIC CONTROL

CATEGORY	LOCATION	643.0100 TRAFFIC CONTROL EACH
0010	PROJECT	1
	TOTAL	1

INLET ADJUSTMENT AND INLET REPAIR

CATEGORY	STATION	LOCATION	OFFSET	611.8115 ADJUSTING INLET COVERS EACH	SPV.0060.01 INLET REPAIR EACH
0010	66+27	STH 157 SB	5' RT	1	1
	63+50	STH 157 SB	0' RT	1	1
	65+98	STH 157 SB	45' LT	1	1
	66+02	STH 157 SB	45' LT	1	1
	66+43	STH 157 NB	5' LT	1	1
	66+67	STH 157 NB	45' RT	1	1
	66+73	STH 157 NB	45' RT	1	1
TOTAL				7	7

MOBILIZATION

CATEGORY	LOCATION	619.1000 MOBILIZATION EACH
0010	STH 157	1
	TOTAL	1

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TRAFFIC CONTROL ITEMS

CATEGORY	STAGE	LOCATION	STAGE DURATION DAYS	TRAFFIC CONTROL DRUMS EACH	TRAFFIC CONTROL DRUMS DAYS	TRAFFIC CONTROL BARRICADES TYPE III EACH	TRAFFIC CONTROL BARRICADES TYPE III DAYS	TRAFFIC CONTROL WARNING LIGHTS TYPE A EACH	TRAFFIC CONTROL WARNING LIGHTS TYPE A DAYS	TRAFFIC CONTROL WARNING LIGHTS TYPE C EACH	TRAFFIC CONTROL WARNING LIGHTS TYPE C DAYS	TRAFFIC CONTROL SIGNS EACH	TRAFFIC CONTROL SIGNS DAYS	TRAFFIC CONTROL ARROW BOARDS EACH	TRAFFIC CONTROL ARROW BOARDS DAYS	CRASH CUSHION TEMPORARY EACH	CONCRETE BARRIER TEMPORARY PRECAST DELIVERED LF	CONCRETE BARRIER TEMPORARY PRECAST INSTALLED LF	TRAFFIC CONTROL TYPE II SIGN COVERING EACH
0010	1	STH 157	5	172	860	5	25	10	50	13	65	40	200	--	--	--	--	--	1
		IH 90		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		SUBTOTAL		172	860	5	25	10	50	13	65	40	200	--	--	--	--	--	--
	2	STH 157	60	190	11,400	8	480	14	840	68	4,080	51	3060	--	--	2	--	1,550	
		IH 90 EB RT LN Closure	20	30	600	--	--	--	--	15	300	8	160	2	40	--	--	--	--
		IH 90 EB LT LN Closure	10	31	310	--	--	--	--	16	160	8	80	2	20	--	--	--	--
		IH 90 WB LT LN Closure	10	52	520	1	10	2	20	16	160	10	100	2	20	--	--	--	--
		IH 90 WB RT LN Closure	20	61	1,220	--	--	--	--	24	480	8	160	2	40	--	--	--	--
		SUBTOTAL		364	14,050	9	490	16	860	139	5,180	85	3,560	8	120	2	--	1,550	
	3	STH 157	20	178	3,560	8	160	14	280	62	1,240	48	960	--	--	2	1,730	1,730	--
		IH 90		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		SUBTOTAL		178	3,560	8	160	14	280	62	1,240	48	960	--	--	2	1,730	1,730	
	4	STH 157	5	172	860	5	25	10	50	13	65	40	200	--	--	--	--	--	--
		IH 90		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		SUBTOTAL		172	860	5	25	10	50	13	65	40	200	--	--	--	--	--	--
		TOTAL			19,330		700		1,240		6,550		4,920		120	4	1,730	3,280	1

TEMPORARY PAVEMENT MARKING

CATEGORY	STATION			649.0400 PAVEMENT MARKING Removable Tape 4-INCH WHITE LF	646.0600 REMOVE PAVEMENT MARKINGS LF	REMARKS
0010	STAGE 1					
	48+35	-	51+85		175	LANE SHIFT LINES NB
	42+25	-	51+85	960		WHITE EDGE LINE NB
	48+35	-	58+35	1,000		YELLOW EDGE LINE NB
	59+00	-	75+50	1,650		YELLOW EDGE LINE SB
	58+50	-	75+50	700		WHITE EDGE LINE SB
	59+50	-	66+50	700		WHITE EDGE LINE NB
	82+00	-	85+60		90	LANE SHIFT LINE SB
	76+50	-	85+50	900		WHITE EDGE LINE SB
	82+00	-	94+75	1,275		WHITE EDGE LINE SB
				350	250	WHITE LINE EB OFF RAMP
				350	250	WHITE LINE WB OFF RAMP
	SUBTOTAL			7,885	765	
	STAGE 2					
	59+00	-	76+00		1,700	YELLOW EDGE LINE SB
	59+00	-	76+00		850	WHITE LANE LINES SB
	59+00	-	76+00		1,700	WHITE EDGE LINE SB
	59+00	-	76+00		1,700	WHITE LANE LINES SB
	59+00	-	76+00		1,700	WHITE EDGE LINE SB
	59+00	-	76+00		1,700	YELLOW EDGE LINE NB
	59+00	-	76+00		1,700	WHITE EDGE LINE NB
	59+00	-	76+00		850	WHITE LANE LINES NB
	59+00	-	76+00	3,400	1,700	YELLOW MEDIAN LINE NB-SB
	59+00	-	76+00	4,000	1,700	WHITE EDGE LINE NB-SB
	59+00	-	76+00	850	850	WHITE LANE LINES NB-SB
	72+50	-	73+50		200	WB ON RAMP
	SUBTOTAL			8,250	12,950	
	STAGE 3					
	59+00	-	76+00	3,400	1,700	YELLOW MEDIAN LINE NB-SB
	59+00	-	76+00	3,400	1,700	WHITE EDGE LINE NB-SB
	59+00	-	76+00	850	850	WHITE LANE LINES NB-SB
	71+50	-	74+00	500		WB ON RAMP
	SUBTOTAL			8,150	4,250	
	STAGE 4					
	59+00	-	76+00	3,400		YELLOW MEDIAN LINE NB-SB
	59+00	-	76+00	850		WHITE LANE LINES NB-SB
	SUBTOTAL			4,250		
	TOTAL			28,535	17,965	

TRAFFIC DETOUR ITEMS

CATEGORY	DETOUR	643.0910 TRAFFIC CONTROL TYPE I SIGN COVERING EACH	643.1050 TRAFFIC CONTROL SIGNS PCMS EACH	STAGE DURATION DAYS	643.3000 TRAFFIC CONTROL DETOUR SIGNS EACH	643.3000 TRAFFIC CONTROL DETOUR SIGNS DAYS
I-90 EB RAMP CLOSURE						
0010	STH 157 SB	1	1	60	30	60
	STH 16				10	60
I-90 WB RAMP CLOSURE						
0010	STH 157 NB	1		60	40	60
	E. MAIN STREET				4	60
	STH 16		1			
	TOTAL	2	2			240

CONCRETE PAVEMENT REPAIR

CATEGORY	LOCATION	416.0750.S CONCRETE PAVEMENT PARTIAL DEPTH REPAIR JOINT REPAIR LF	416.0752.S CONCRETE PAVEMENT PARTIAL DEPTH REPAIR CRACK REPAIR LF
0010	STH 157	96	96
	TOTAL	96	96

3

BEAM GUARD

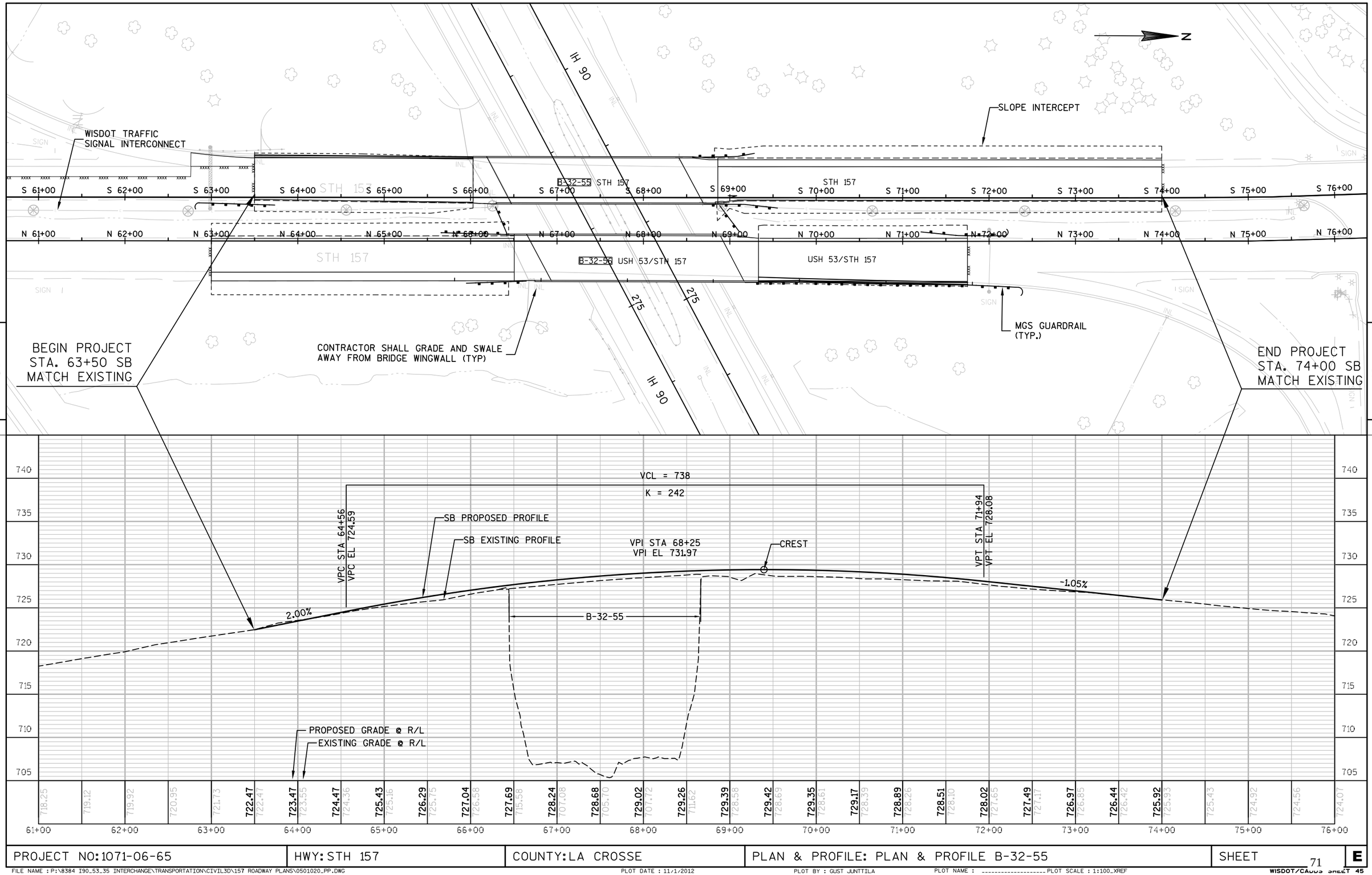
CATEGORY	STATION	OFFSET	LOCATION	614.0200 STEEL THRIE BEAM STRUCTURE APPROACH LF	614.0230 STEEL THRIE BEAM LF	614.2300 MGS GUARDRAIL 3 LF	614.2500 MGS THRIE BEAM TRANSITION LF	614.2610 MGS GUARDRAIL TERMINAL EAT EACH	614.2620 MGS GUARDRAIL TERMINAL TYPE II EACH
0010	62+82 - 63+73	6.40' RT	STH 157 SB	--	--	100	--	1	1
	65+65 - 66+42	9.65' LT	STH 157 NB	21	25	--	--	1	--
	65+95 - 66+50	48.80' RT	STH 157 NB	21	25	--	--	1	--
	68+57 - 69+28	47.36' LT	STH 157 SB	21	25	--	--	1	--
	68+69 - 69+55	7.55' RT	STH 157 SB	21	25	--	--	1	--
	69+17 - 72+34	47.61' RT	STH 157 NB	--	--	250	40	--	1
	71+21 - 72+18	10.85' LT	STH 157 NB	--	--	100	--	1	1
	TOTAL			84	100	450	40	6	3

FIELD OFFICE

CATEGORY	LOCATION	642.5201 FIELD OFFICE TYPE C EACH
0010	STH 157	1
	TOTAL	1

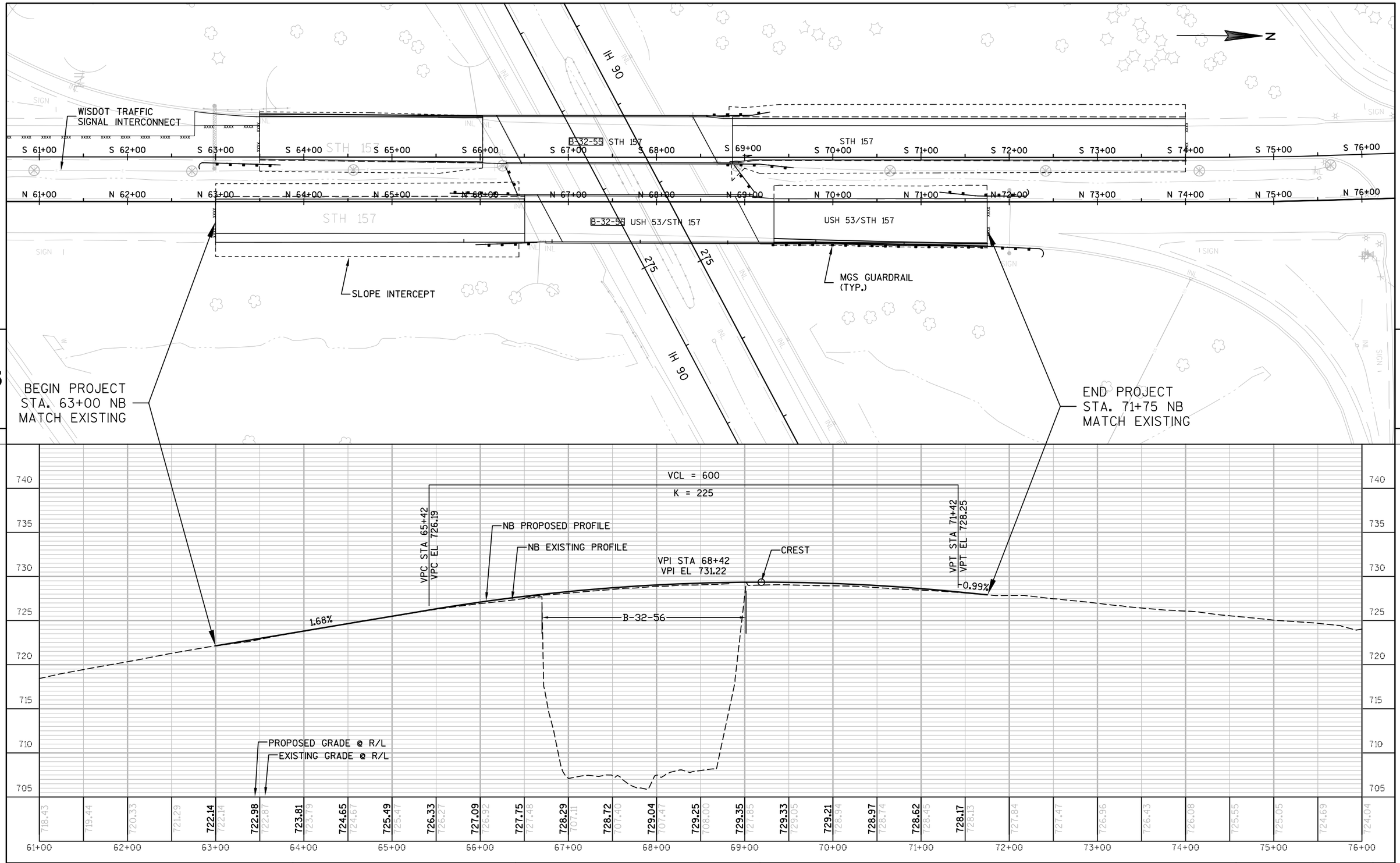
PERMANENT SIGNING

Sign Number	Location Station	Sign Code	Sign Size (Width x Height)	Description	Order Line 1	Order Line 2	Order Line 3	Order Line 4	638.2601 Removing Signs Type 1 Each	638.2602 Removing Signs Type 2 Each	637.0101 Signs Type 1 Sq. Ft.	637.0202 Signs Reflective Type 2 Sq. Ft.	635.0300 Sign Supports Replacing Base Connection Bolts Each
101 R	88+50 EB	E6-1	17'-0" x 9'-0"	Exit Gore Sign (Overhead)	EAST	157	[DA] [DA]		1				
102	88+50 EB	E6-2	17'-0" x 7'-6"	Exit Gore Sign (Overhead)	157 EAST	[DA] [DA]					127.5		
103 R	88+50 EB	E6-51	14'-0" x 11'-0"	Advanced Exit Guide Sign (Overhead)	WEST SOUTH	90 53	Minnesota	NEXT RIGHT	1				
104	88+50 EB	E6-51	14'-0" x 11'-0"	Advanced Exit Guide Sign (Overhead)	WEST SOUTH	90 53	Minnesota	NEXT RIGHT			154		
105 R	79+00 EB	E6-51	11'-0" x 11'-6"	Advanced Exit Guide Sign (Overhead)	EAST	90	Madison	1/4 MILE	1				
106	79+00 EB	E6-51	12'-0" x 9'-6"	Advanced Exit Guide Sign (Overhead)	90 EAST	Madison	1/4 MILE				114		
107 R	79+00 EB	E6-1	17'-0" x 9'-0"	Exit Gore Sign (Overhead)	WEST SOUTH	90 53 [TR]	Minnesota		1				
108	79+00 EB	E6-1	17'-0" x 9'-6"	Exit Gore Sign (Overhead)	WEST SOUTH	90 53 [TR]	Minnesota				161.5		
109 R	63+00 EB	E6-51	12'-0 x 7'-6"	Advanced Exit Guide Sign (Overhead)	SS	JCT 1/4 MILE			1				
110	63+00 EB	E6-51	11'-0" x 6'-6"	Advanced Exit Guide Sign (Overhead)	SS	JCT 1/4 MILE					71.5		
111 R	63+00 EB	E6-1	15'-0" x 7'-6"	Exit Gore Sign (Overhead)	90 EAST	[TR]	Madison		1				
112	63+00 EB	E6-1	15'-0" x 7'-6"	Exit Gore Sign (Overhead)	90 EAST	[TR]	Madison				112.5		
113 R	54+00 EB	E6-1	20'-0" x 10'-0"	Exit Gore Sign (Overhead)	TO 16 157 EAST	La Crosse	[DA] [DA]		1				
114	54+00 EB	E6-1	18'-0" x 10'-6"	Exit Gore Sign (Overhead)	TO 16 157 EAST	La Crosse	[DA] [DA]				189		
115 R	54+00 EB	E6-1	14'-0" x 7'-0"	Exit Gore Sign (Overhead)	SS WEST	EXIT [DA] ONLY			1				
116	54+00 EB	E6-1	14'-0" x 7'-6"	Exit Gore Sign (Overhead)	SS WEST	EXIT [DA] ONLY					105		
117 R	48+50 EB	R3-5-R	3'-6" x 4'-0"	Arrow Up Right/Only						1			
118	48+50 EB	R3-5-R	3'-6" x 4'-0"	Arrow Up Right/Only								14	
119 R	49+00 WB	E6-51	12'-0" x 9'-6"	Advanced Exit Guide Sign (Overhead)	90 EAST	Madison	NEXT RIGHT		1				
120	49+00 WB	E6-51	11'-0" x 9'-0"	Advanced Exit Guide Sign (Overhead)	90 EAST	Madison	NEXT RIGHT				99		
121 R	55+75 WB	E6-51	14'-0" x 11'-6"	Advanced Exit Guide Sign (Overhead)	WEST SOUTH	90 53	Minnesota	1/4 MILE	1				
122	55+75 WB	E6-51	14'-0" x 11"	Advanced Exit Guide Sign (Overhead)	WEST SOUTH	90 53	Minnesota	EXIT 1/4 MILE			154		
123 R	55+75 WB	E6-1	15'-0" x 9'-0"	Exit Gore Sign (Overhead)	EAST	90 [TR]	Madison		1				
124	55+75 WB	E6-1	15'-0" x 7'-6"	Exit Gore Sign (Overhead)	90 EAST	Madison [TR]					112.5		
125 R	72+00 WB	E6-1	15'-0" x 12'-6"	Exit Gore Sign (Overhead)	157 OS	Main St	1/4 MILE	EXIT [DA] ONLY	1				
126	72+00 WB	E6-1	14'-0" x 12'-0"	Exit Gore Sign (Overhead)	157 OS	Main St	EXIT 1/4 MILE	EXIT [DA] ONLY			168		
127 R	72+00 WB	E6-1	17'-0" x 9'-0"	Exit Gore Sign (Overhead)	WEST SOUTH	90 53 [TR]	Minnesota		1				
128	72+00 WB	E6-1	17'-0" x 9'-6"	Exit Gore Sign (Overhead)	WEST SOUTH	90 53 [TR]	Minnesota				161.5		
129R	80+00 WB	D2-2	19'-0" x 8'-6"	Destination/Distance (Two)	Onalaska Exits	Main St 1/8	Sand Lake Rd 1		1				
130	80+00 WB	D2-2	19'-0" x 8'-6"	Destination/Distance (Two)	Onalaska Exits	Main St 1/8	Sand Lake Rd 1				161.5		2
131R	88+00 WB	E6-1	17'-0" x 7'-6"	Exit Gore Sign (Overhead)	53 NORTH	[DA] [DA]			1				
132	88+00 WB	E6-1	18'-0" x 10'-6"	Exit Gore Sign (Overhead)	53 NORTH	Holmen	[DA] [DA]				189		
133R	88+00 WB	E6-1	16'-0" x 10'-0"	Exit Gore Sign (Overhead)	157 OS	Main St [TR]	EXIT ONLY		1				
134	88+00 WB	E6-1	15'-0" x 12'-0"	Exit Gore Sign (Overhead)	157 OS	Main St	[TR] EXIT ONLY [TR]				180		
								Totals	16	1	2260.5	14	2



PROJECT NO:1071-06-65	HWY: STH 157	COUNTY:LA CROSSE	PLAN & PROFILE: PLAN & PROFILE B-32-55	SHEET	E

FILE NAME : P:\8384 I90_53_35 INTERCHANGE\TRANSPORTATION\CIVIL3D\157 ROADWAY PLANS\0501020_PP.DWG PLOT DATE : 11/1/2012 PLOT BY : GUST JUNTTILA PLOT NAME : ---------- PLOT SCALE : 1:100_XREF
WISDOT/CADDS SHEET 45

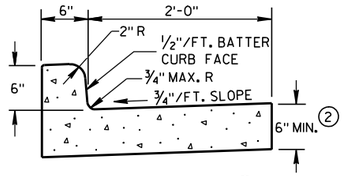


PROJECT NO:1071-06-65	HWY: STH 157	COUNTY:LA CROSSE	PLAN & PROFILE: PLAN & PROFILE B-32-56	SHEET 72	E

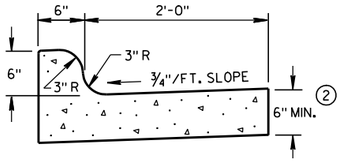
Standard Detail Drawing List

08D01-17	CONCRETE CURB, CONCRETE CURB AND GUTTER AND TIES
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E10-02	INLET PROTECTION TYPE A, B, C AND D
08E14-01	TRACKING PAD
09B02-07	CONDUIT
09B04-09	PULL BOX
12A03-10	NAME PLATE (STRUCTURES)
13B02-06	CONCRETE PAVEMENT APPROACH SLAB
13C01-15	CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES
13C08-02	CONCRETE PAVEMENT PARTIAL DEPTH REPAIR
13C13-07	URBAN DOWELED CONCRETE PAVEMENT
13C18-01A	CONCRETE PAVEMENT JOINTING
13C18-01B	CONCRETE PAVEMENT STEEL REINFORCEMENT
13C18-01C	CONCRETE PAVEMENT JOINT TIES
14B07-13A	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-13B	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-13C	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-13D	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-13E	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-13F	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-13G	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-13H	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B08-01A	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-01B	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-01C	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-01D	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B15-07A	STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATION & ELEMENTS
14B15-07B	STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATION & ELEMENTS
14B15-07C	STEEL PLATE BEAM GUARD, CLASS "A", INSTALLATION & ELEMENTS
14B18-06A	STEEL PLATE BEAM GUARD, CLASS "A" (AT BRIDGES, OBSTACLES AND SIDEROADS/DRIVEWAYS)
14B20-11C	STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO VERTICAL FACED PARAPETS
14B42-02A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-02B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-02C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B44-01A	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-01B	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-01C	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B45-03A	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03B	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03C	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03D	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03E	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03F	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03G	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03H	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03I	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03J	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B47-01A	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
14B47-01B	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
14B47-01C	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
15C02-04A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-04B	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-04C	DETOUR SIGNING FOR MAINLINE CLOSURES
15C08-15A	PAVEMENT MARKING (MAINLINE)
15C08-15B	PAVEMENT MARKING (INTERSECTIONS)
15C31-01A	PAVEMENT MARKING (RAMPS AND GORES)
15D03-01	TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H. WITH BARRIER
15D12-02	TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H.

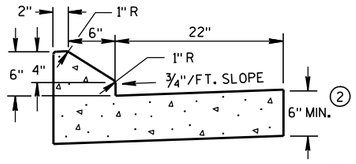
6



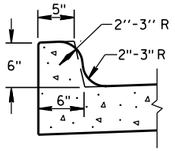
TYPES A & D (1)



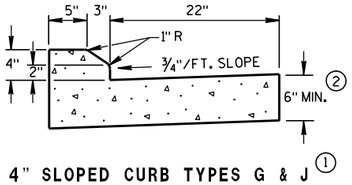
TYPES K & L (1)



6" SLOPED CURB TYPES G & J (1)

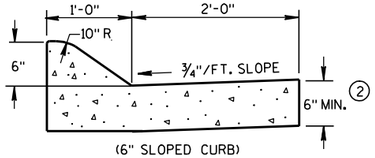


OPTIONAL CURB SHAPE FOR TYPES K & L (1)

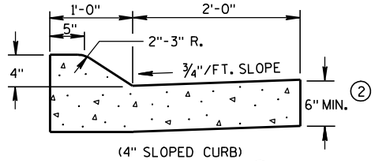


4" SLOPED CURB TYPES G & J (1)

CONCRETE CURB & GUTTER 30"

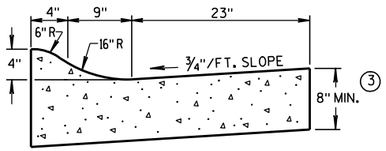


(6" SLOPED CURB)



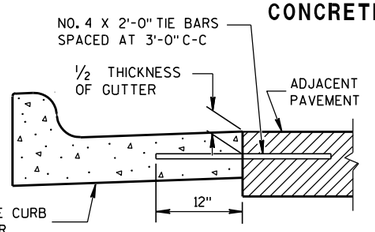
(4" SLOPED CURB)

TYPES A & D (1)

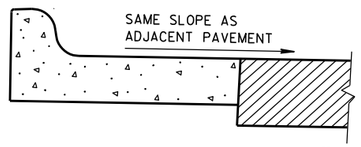


4" SLOPED CURB TYPES R & T (1) (4)

CONCRETE CURB & GUTTER 36"



TYPICAL TIE BAR LOCATION (1)



REVERSE SLOPE GUTTER (5)
(TYPICAL FOR ALL CURB & GUTTER TYPES)

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS 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 & GUTTER SHALL CONFORM TO THE DETAILS SHOWN FOR CONCRETE CURB & GUTTER INCLUDING THE TRANSVERSE GUTTER SLOPE. A LONGITUDINAL CONSTRUCTION JOINT IS NOT REQUIRED WITH INTEGRAL CURB AND GUTTER.

WHERE THE TRANSVERSE JOINTS IN THE PAVEMENT ARE REQUIRED TO BE SEALED, THE JOINTS IN THE INTEGRAL CURB AND GUTTER SHALL BE SEALED TO THE FACE OF CURB WITH THE SAME TYPE OF SEALANT. THE COST OF FURNISHING AND INSTALLING THIS SEALANT SHALL BE INCIDENTAL TO THE ITEM CONCRETE CURB AND GUTTER.

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

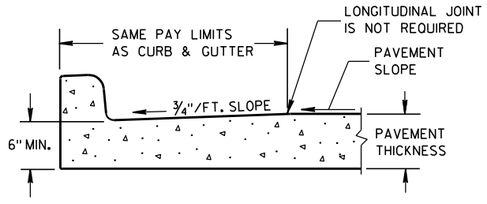
(1) TIE BARS ARE REQUIRED FOR CURB AND GUTTER TYPES A, G, K AND R.

(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.

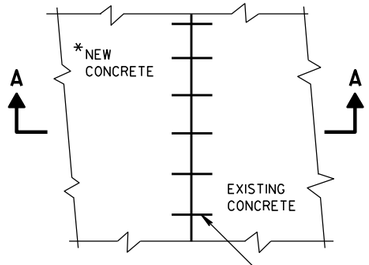
(3) THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 8" MINIMUM GUTTER THICKNESS IS MAINTAINED.

(4) THE FACE OF CURB IS 6" FROM THE BACK OF CURB.

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

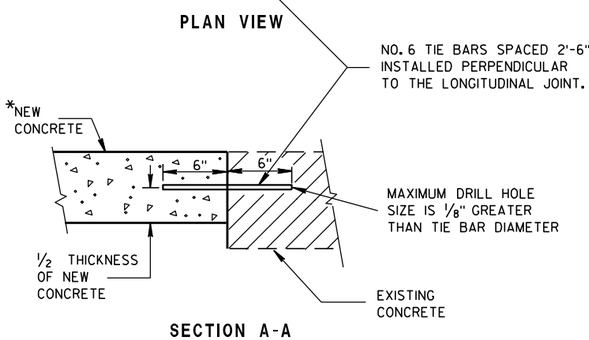


PARTIAL SECTION OF PAVEMENT WITH INTEGRAL CURB & GUTTER



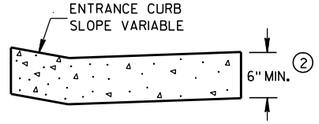
PLAN VIEW

*NEW CURB & GUTTER, SURFACE DRAINS, CONCRETE PAVEMENT OR OTHER NEW CONCRETE.

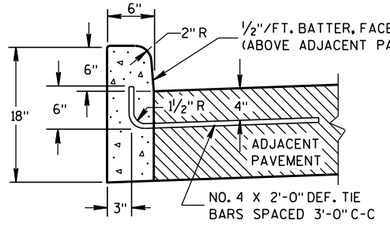


SECTION A-A

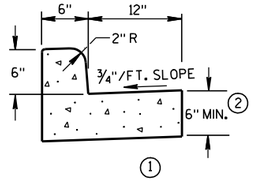
TIE BARS DRILLED INTO EXISTING PAVEMENT



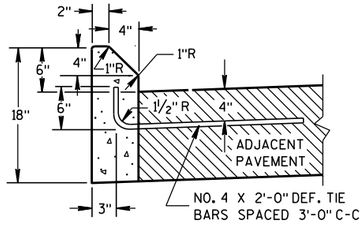
DRIVEWAY ENTRANCE CURB
(WHEN DIRECTED BY THE ENGINEER)



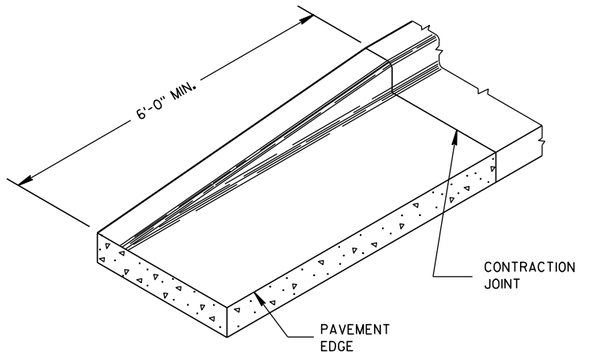
(1)
TYPES A & D



(1)
TYPES A & D
CONCRETE CURB & GUTTER 18"



(1)
TYPES G & J



END SECTION CURB & GUTTER

CONCRETE CURB

CONCRETE CURB, CONCRETE CURB & GUTTER AND TIES	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED	
9/4/08 DATE	/S/ Jerry H. [illegible] ROADWAY STANDARDS ENGINEER
FHWA	

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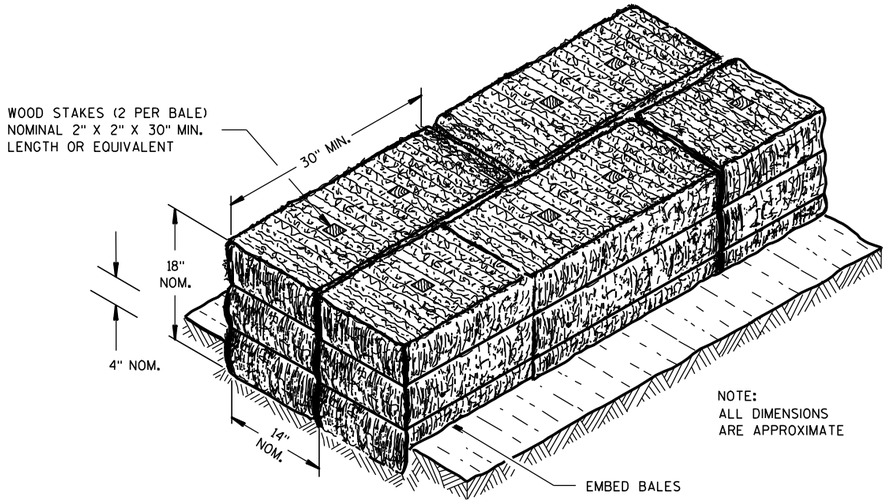
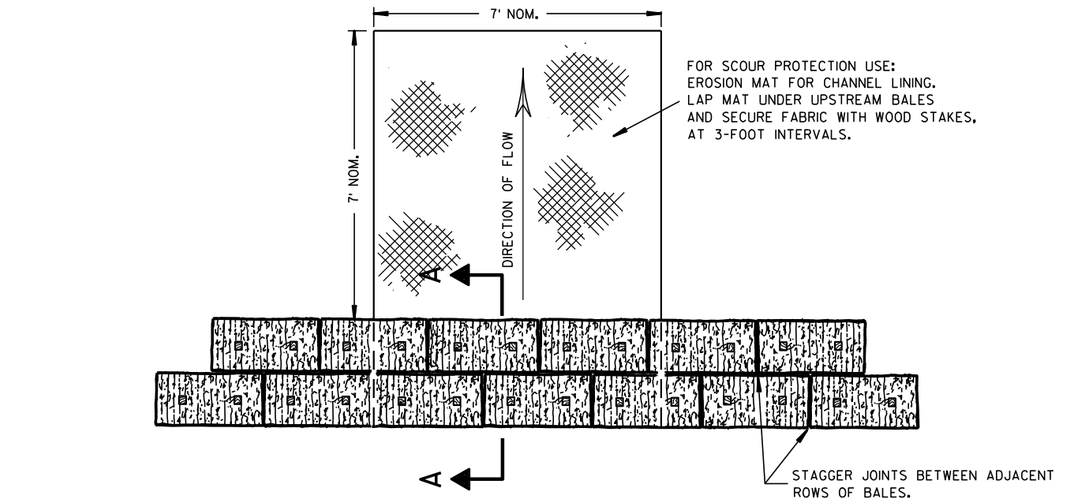
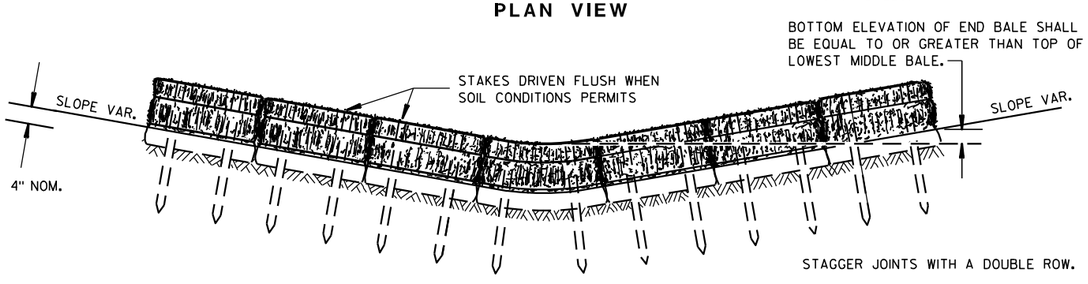


SECTION A-A



PLAN VIEW



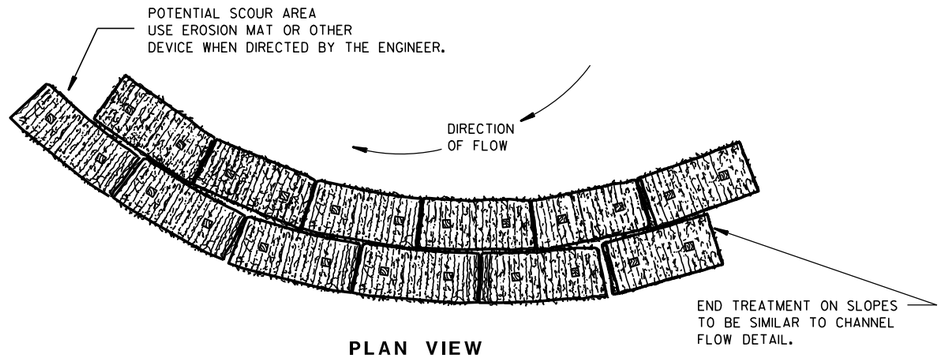
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES (1)

GENERAL NOTES

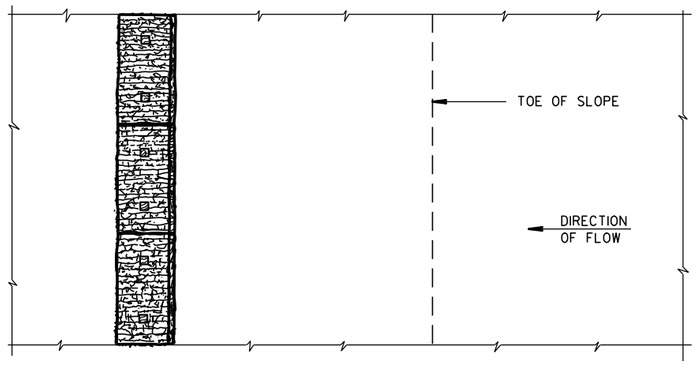
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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

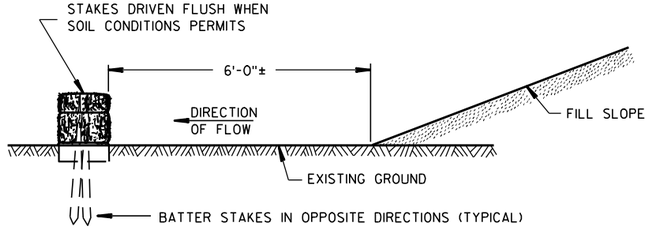


PLAN VIEW

WHEN ALTERING THE DIRECTION OF FLOW



PLAN VIEW



FRONT ELEVATION

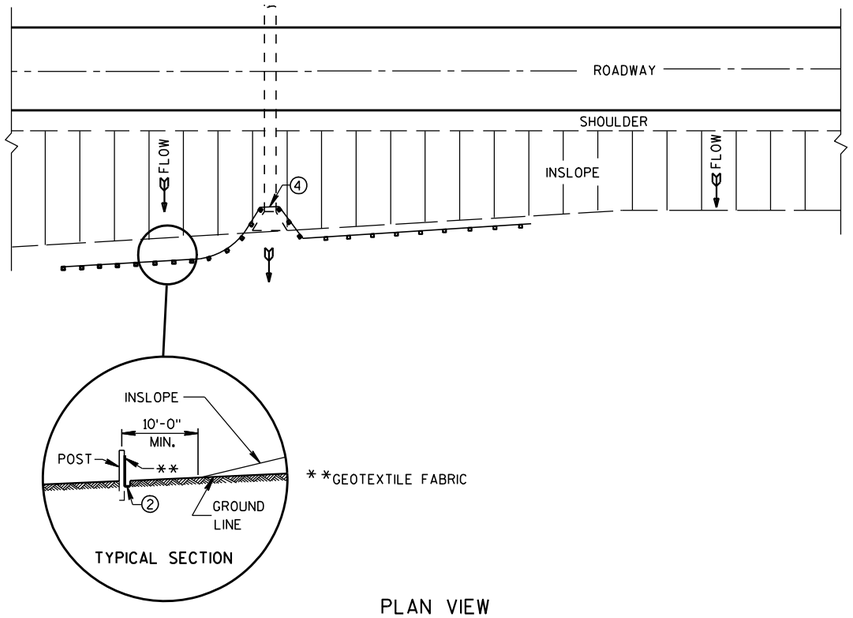
WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE

EROSION BALES FOR SHEET FLOW

TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS

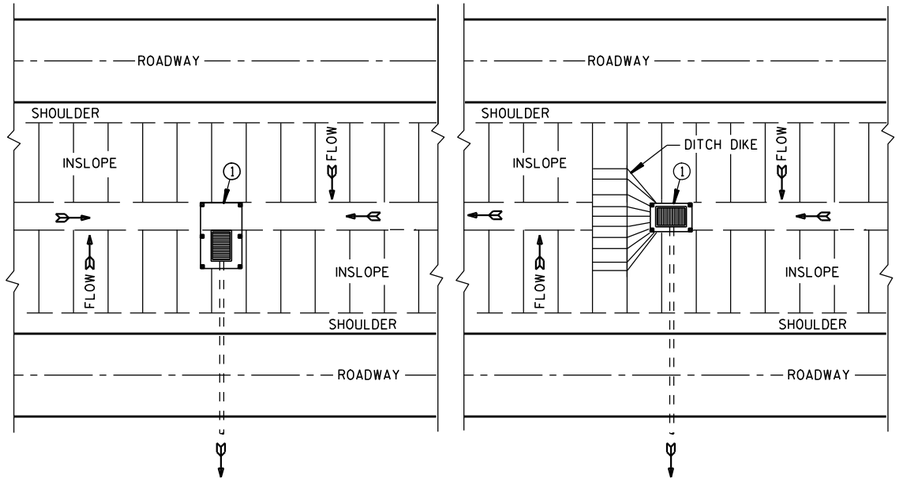
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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



PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



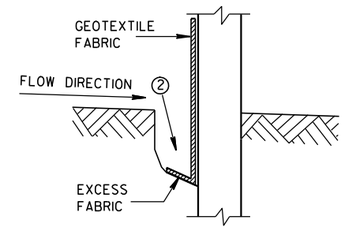
PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

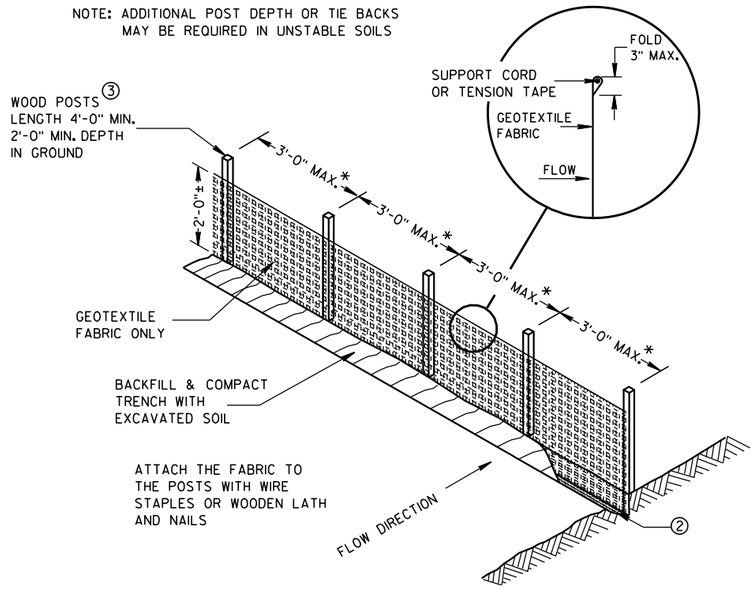
GENERAL NOTES

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

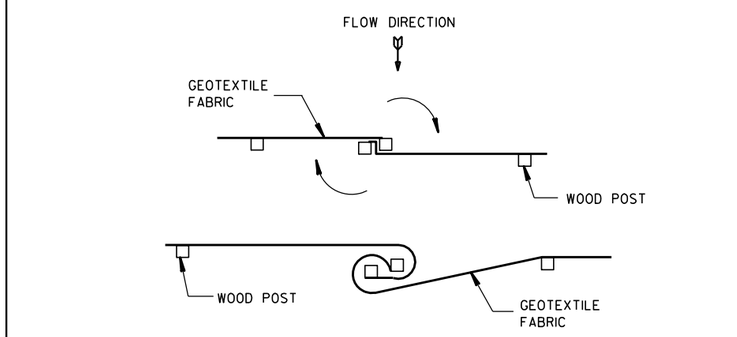
1. HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
2. FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
3. WOOD POSTS SHALL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



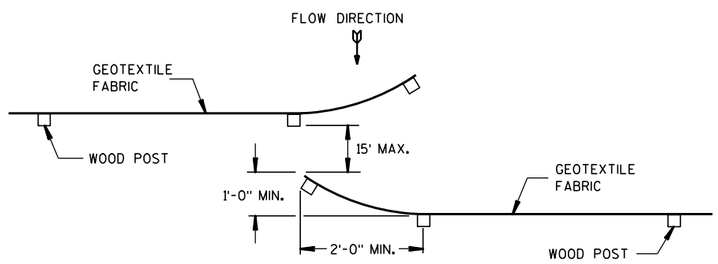
TRENCH DETAIL



SILT FENCE

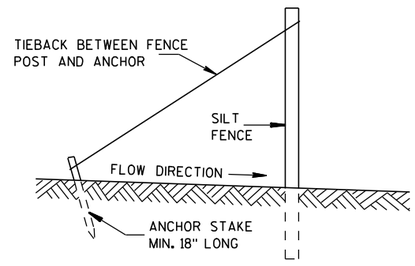


TWIST METHOD



HOOK METHOD

JOINING TWO LENGTHS OF SILT FENCE 5



SILT FENCE TIE BACK

(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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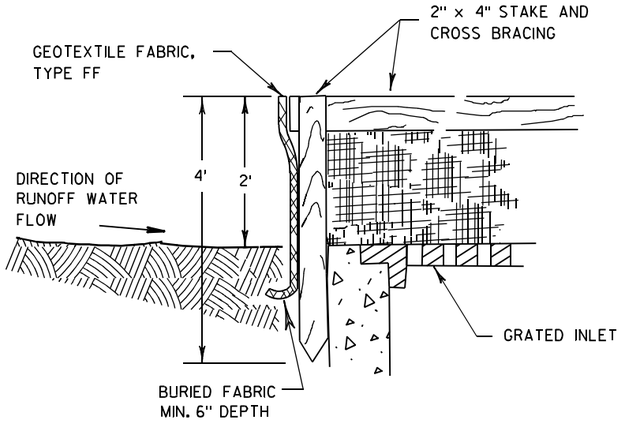
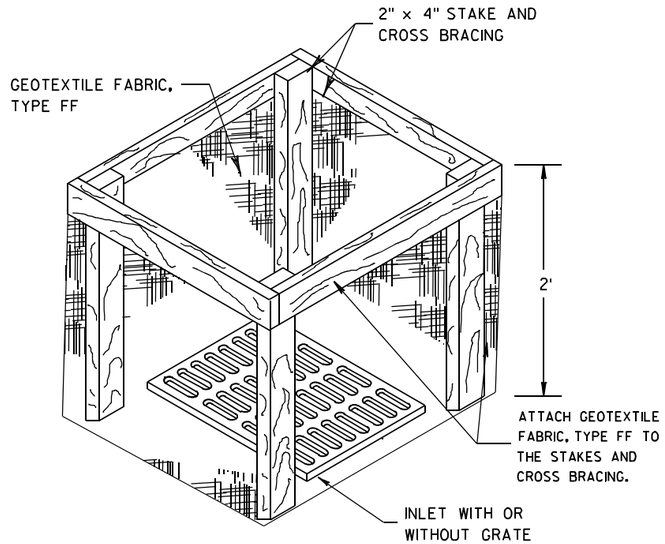
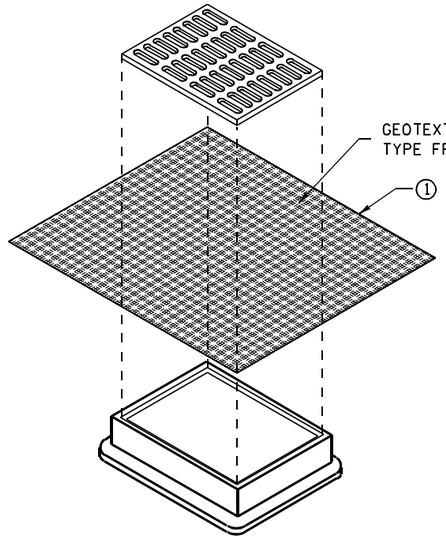


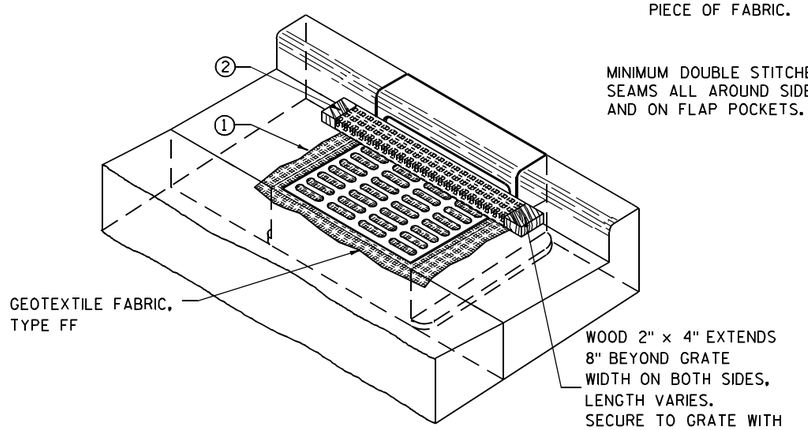


INLET PROTECTION, TYPE A

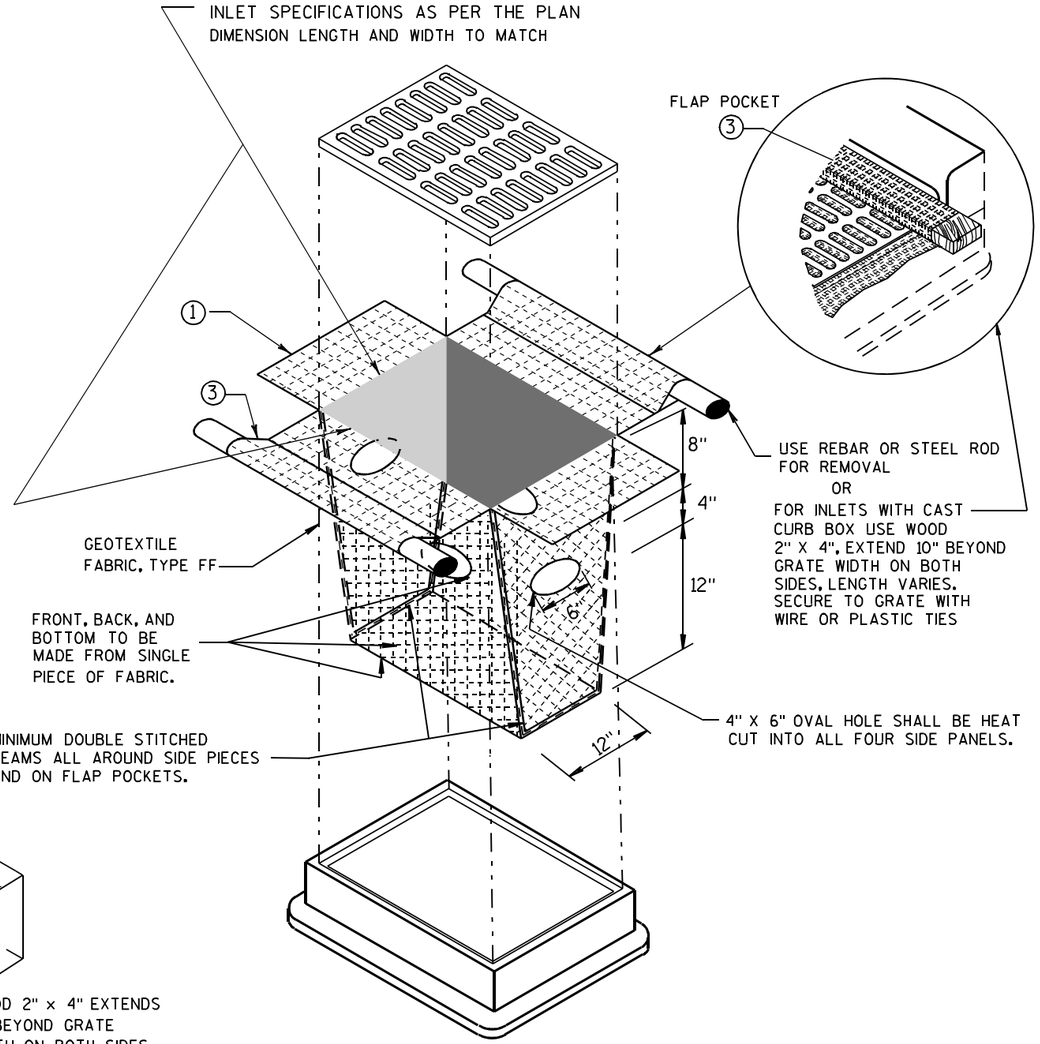


INLET PROTECTION, TYPE B
(WITHOUT CURB BOX)

(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

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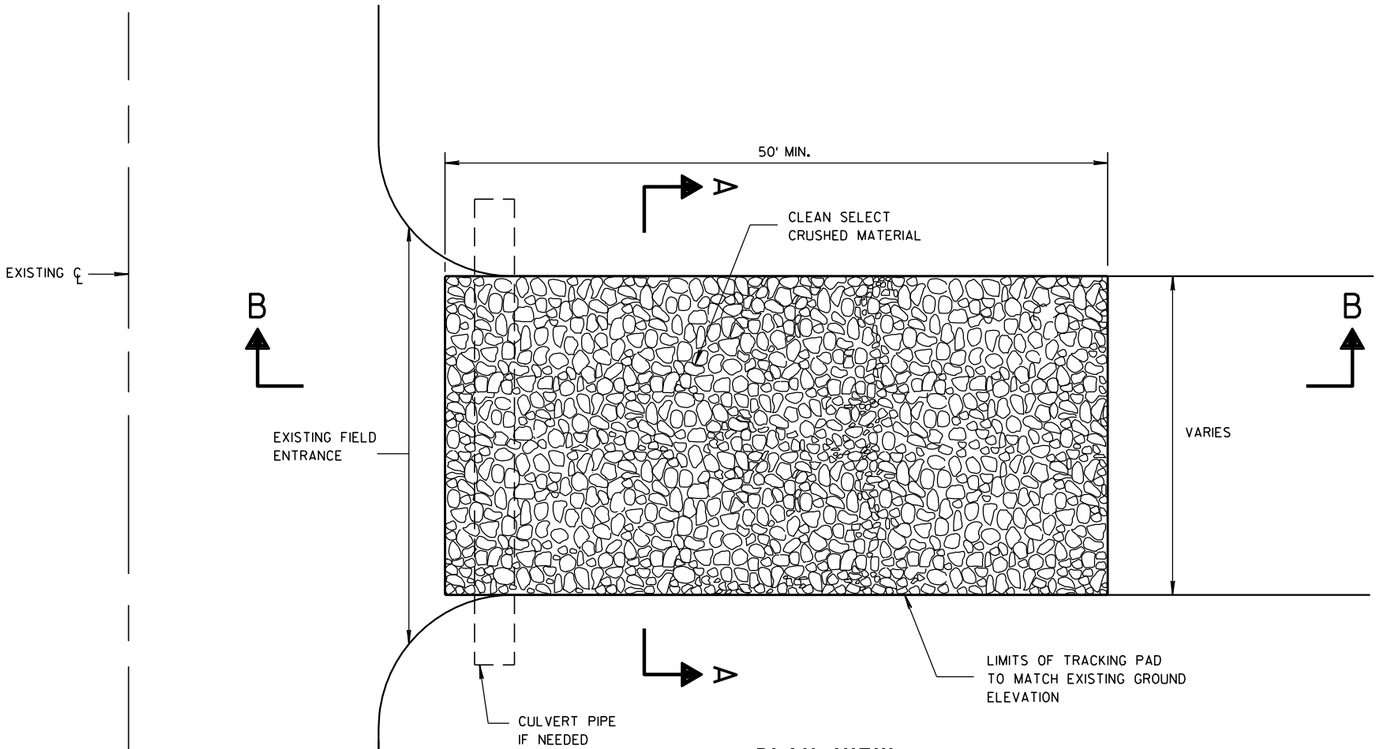
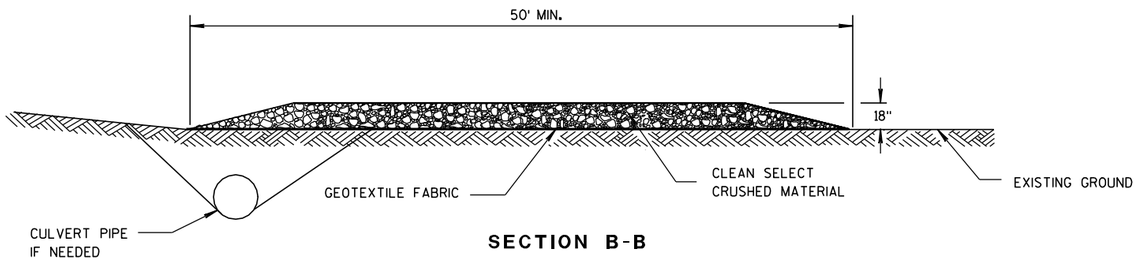
S.D.D. 8 E 10-2



PLAN VIEW



SECTION B-B

GENERAL NOTES

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

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

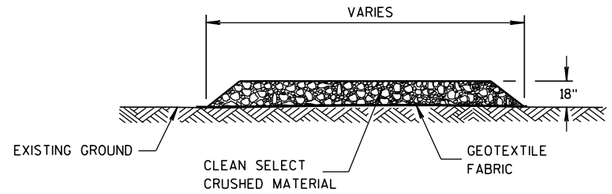
TRACKING PAD TO BE REMOVED AFTER CONSTRUCTION IS COMPLETED.

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

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

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

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



SECTION A-A

TRACKING PAD

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S.D.D. 8 E 14-1

TRACKING PAD

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

3/24/2011	/S/ Jerry H. Zoda	
DATE	ROADWAY STANDARDS ENGINEER	ENT

FHWA

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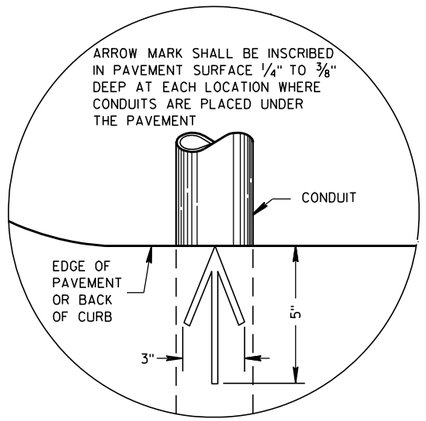
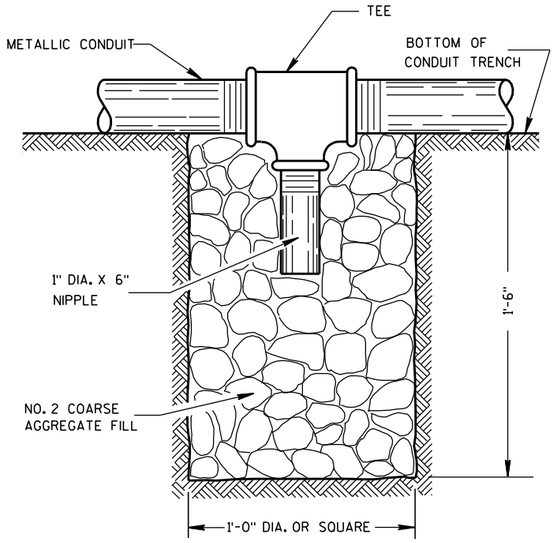
S.D.D. 8 E 14-1



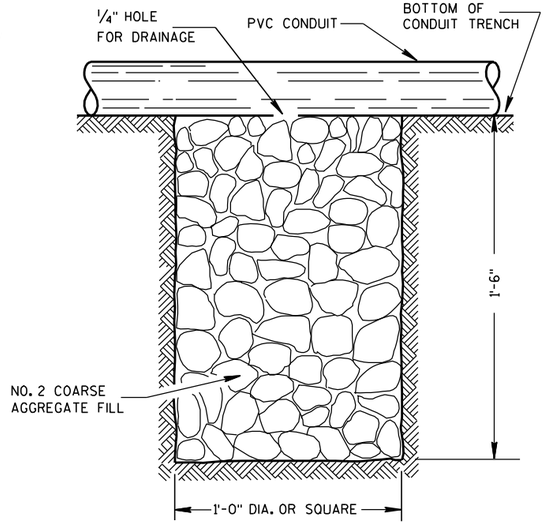
PLAN VIEW

ARROW MARK



NOTE: INSTALL AT LOCATIONS WHERE METALLIC CONDUITS CANNOT BE PITCHED TO DRAIN INTO A PULL BOX.

DRAIN SUMP FOR METALLIC CONDUIT



NOTE: INSTALL AT LOCATIONS WHERE PVC CONDUITS CANNOT BE PITCHED TO DRAIN INTO A PULL BOX.

DRAIN SUMP FOR PVC CONDUIT

GENERAL NOTES

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

METALLIC (STANDARD SPECIFICATION 652.2.2) OR NONMETALLIC (STANDARD SPECIFICATION 652.2.3) CONDUIT SHALL BE FURNISHED AND PLACED AS SHOWN.

DEPTH OF CONDUIT INSTALLED BELOW THE TRAVELED WAY SHALL BE 24 INCHES MINIMUM AND 36 INCHES MAXIMUM.

DEPTH OF CONDUIT INSTALLED THAT IS NOT BELOW THE TRAVELED WAY SHALL BE 18 INCHES MINIMUM AND 36 INCHES MAXIMUM.

ANY EXCEPTION TO THE MAXIMUM DEPTH SHALL BE ONLY WITH THE WRITTEN APPROVAL OF THE ENGINEER.

THE TRENCH SHALL NOT BE BACKFILLED PRIOR TO INSPECTION OF THE CONDUIT.

ALL METALLIC CONDUIT RACEWAY ENDS SHALL BE REAMED AND THREADED.

ALL METALLIC CONDUIT IN WHICH WIRE OR CABLE IS TO BE INSTALLED SHALL BE BUSHED WITH APPROVED THREADED BUSHINGS BEFORE INSTALLATION OF THE WIRE OR CABLE.

ALL METALLIC CONDUITS IN WHICH WIRE OR CABLE IS NOT TO BE INSTALLED SHALL BE CAPPED WITH THREADED PROTECTIVE CAPS, AS APPROVED BY THE ENGINEER.

ALL NONMETALLIC CONDUIT SHALL BE CAPPED OR PLUGGED IMMEDIATELY AFTER INSTALLATION AND SHALL REMAIN CAPPED OR PLUGGED UNTIL WIRE/CABLES ARE INSTALLED.

NONMETALLIC CONDUITS IN WHICH WIRE OR CABLE IS NOT BEING INSTALLED SHALL REMAIN CAPPED OR PLUGGED.

BENDING OF PVC ELECTRICAL CONDUIT SHALL BE ACCOMPLISHED BY USING A BLANKET OR EMERSION TYPE TANK DESIGNED FOR THE PURPOSE OF BENDING PVC ELECTRICAL CONDUIT.

ALL CUT ENDS SHALL BE TRIMMED INSIDE AND OUTSIDE TO REMOVE ALL ROUGH EDGES ON NONMETALLIC CONDUIT. (SEE NEC 347.5)

WHEN REQUIRED TO CONNECT NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY U.L. LISTED ADAPTER FITTINGS SHALL BE USED.

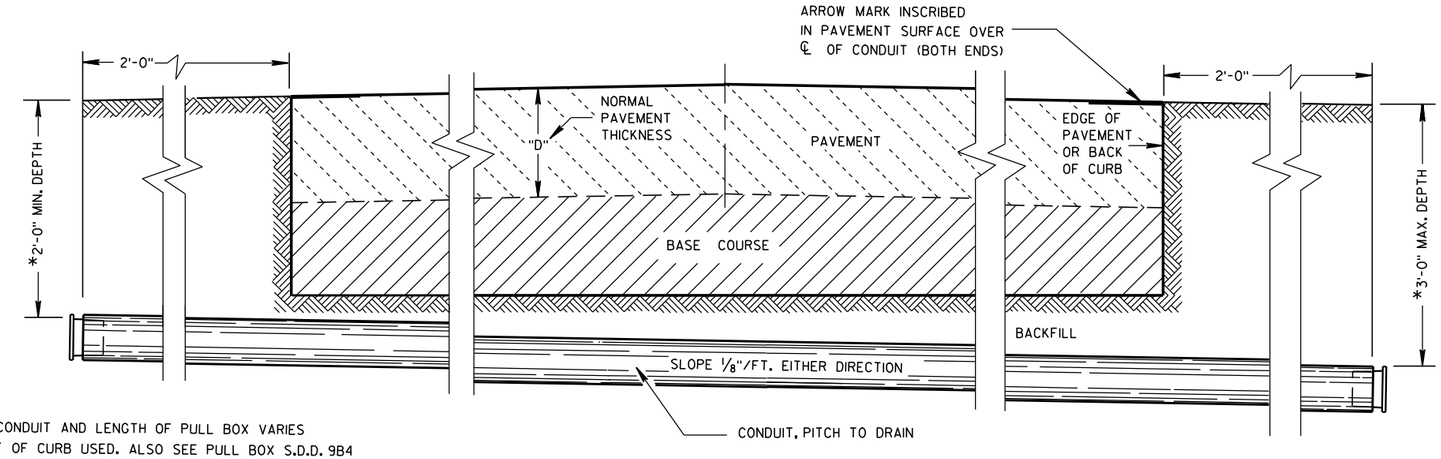
PRIOR TO CONDUIT ACCEPTANCE, CONDUIT CAPS OR PLUGS SHALL BE REMOVED, AND THE CAPS, PLUGS AND CONDUIT ENDS SHALL BE THOROUGHLY CLEANED AND THEN THE CAPS OR PLUGS REINSTALLED TO ENSURE THAT THE CAPS OR PLUGS CAN BE EASILY REMOVED IN THE FUTURE.

ALL CONDUIT BEING FURNISHED AND INSTALLED SHALL HAVE THE U.L. LABEL FIRMLY ATTACHED.

CONDUIT RUNS SHALL BE THE SAME SIZE OF CONDUIT FROM ONE END TO THE OTHER (FROM PULL BOX TO PULL BOX-OR-JUNCTION BOX TO JUNCTION BOX-OR-BASE TO BASE, ETC.).

POLY ROPE OR A PULL WIRE SHALL BE INSTALLED AS STATED IN THE STANDARD SPECIFICATION, ITEM 652.3.1.1.

ALL CONDUIT RUNS SHALL BE STRAIGHT (WITHOUT BENDS) FROM PULL BOX TO PULL BOX, PULL BOX TO BASE AND BASE TO BASE AS SHOWN ON THE PLANS.



*DEPTH OF CONDUIT AND LENGTH OF PULL BOX VARIES WITH HEIGHT OF CURB USED. ALSO SEE PULL BOX S.D.D. 9B4

SIDE ELEVATION

DETAIL FOR CONDUIT UNDER PAVED HIGHWAYS

CONDUIT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

10/23/03 — DATE

/S/ Balu Ananthanarayanan — STATE ELECTRICAL ENGI — HWYS

FHWA

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S.D.D. 9 B 2-7

TABLE OF NOMINAL DIMENSIONS AND WEIGHTS

DIMENSION IN INCHES		CORRUGATED STEEL PIPE								
PIPE DIAMETER (INSIDE)	A	12	12	12	18	18	18	24	24	24
PIPE LENGTH **	B	24	30	36	24	30	36	36	42	48
WALL THICKNESS	C	0.064	0.064	0.064	0.064	0.064	0.064	0.064	0.064	0.064
COVER	D	10 1/4	10 1/4	10 1/4	16 1/4	16 1/4	16 1/4	22 1/4	22 1/4	22 1/4
FRAME	E	14 1/2	14 1/2	14 1/2	20 1/2	20 1/2	20 1/2	26 1/2	26 1/2	26 1/2
FRAME	F	8 1/2	8 1/2	8 1/2	14 1/2	14 1/2	14 1/2	20 1/2	20 1/2	20 1/2
FRAME	G	11 1/2	11 1/2	11 1/2	17 1/2	17 1/2	17 1/2	23 1/2	23 1/2	23 1/2
WEIGHT IN POUNDS *										
FRAME AND COVER		60	60	60	110	110	110	155	155	155

* THE ACTUAL WEIGHT OF THE MANHOLE FRAME AND COVER MAY VARY WITHIN 5 PERCENT PLUS OR MINUS OF THE WEIGHTS SHOWN.

** NORMALLY USED LENGTHS. THE PROJECT ENGINEER SHALL DETERMINE IF PIPE LENGTHS, OTHER THAN THOSE SPECIFIED, SHALL BE USED, TO A MAXIMUM OF 48" (CONTINUOUS LENGTH, NON-SPLICED). THE ADDITIONAL LENGTH SHALL BE INCIDENTAL TO THE PULL BOX BID PRICE.

GENERAL NOTES

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

ALL FRAMES AND COVERS SHALL BE HEAVY DUTY TYPE, SUITABLE FOR VEHICULAR TRAFFIC LOADS.

PULL BOXES LOCATED IN THE ROADWAYS SHALL HAVE LOCKING COVERS.

ENTRANCE HOLES INTO PULL BOXES SHALL BE CUT WITH A CIRCULAR HOLE SAW OR HYDRAULIC CONDUIT PUNCH. HOLE SIZE SHALL BE THE OUTSIDE DIAMETER OF THE CONDUIT THAT IS TO FIT IN THE OPENING PLUS NO MORE THAN 1/4".

THE CONTRACTOR SHALL NOT INSTALL WIRE IN ANY PULL BOX UNTIL ITS INSTALLATION HAS BEEN INSPECTED AND ACCEPTED BY THE ENGINEER.

GROUNDING LUGS (MECHANICAL CONNECTORS) SHALL BE U.L. LISTED AND APPROVED FOR USE WITH COPPER WIRE. THE MECHANICAL CONNECTION (INSIDE AND OUTSIDE) TO THE PULL BOX, SHALL BE TOTALLY AND PERMANENTLY SEALED WITH A SILICONE OR RUBBERIZED CAULKING COMPOUND AS APPROVED BY THE ENGINEER.

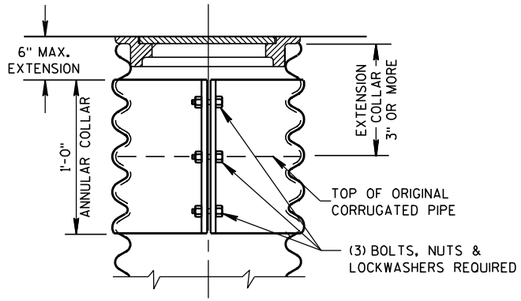
GROUNDING LUGS ARE NOT REQUIRED IN PULL BOXES WHEN VOLTAGES OF LESS THAN 50 VOLTS AC ARE THE ONLY VOLTAGES ENCOUNTERED IN THE BOXES.

ALL METALLIC CONDUIT IN WHICH WIRE AND/OR CABLE IS TO BE INSTALLED, SHALL BE BUSHED BEFORE INSTALLATION OF THE WIRE AND/OR CABLE.

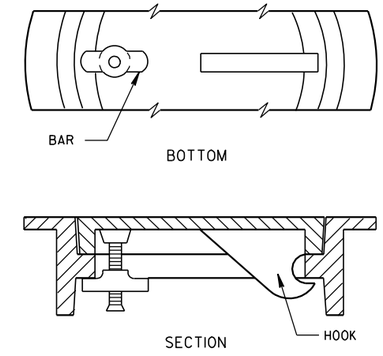
S.D.D. 9B2, "CONDUIT", APPLIES TO THIS DRAWING.

WHEN PULL BOXES ARE INSTALLED FOR FUTURE USE, DO NOT INSTALL THE EQUIPMENT GROUNDING LUG. THE EQUIPMENT GROUNDING LUG, THE EQUIPMENT GROUNDING ELECTRODE AND THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE REQUIRED AND INSTALLED UNDER A FUTURE WIRING CONTRACT.

IF PULL BOX EQUIPMENT GROUNDING IS REQUIRED USING AN EQUIPMENT GROUNDING ELECTRODE IN EACH PULL BOX, THE EQUIPMENT GROUNDING ELECTRODE SHALL BE 5/8" X 8'-0", COPPERCLAD AND BE EXOTHERMICALLY WELDED TO A #4 AWG, COPPER, STRANDED WIRE (BARE OR GREEN INSULATED). THE #4 AWG WIRE SHALL BE 4 FEET IN LENGTH, NEATLY COILED, TAPED AND AVAILABLE FOR USE WHEN REQUIRED.

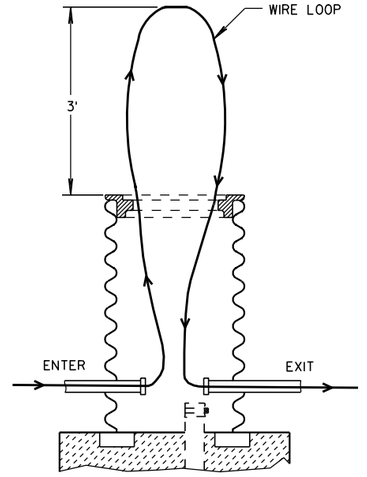


CORRUGATED PIPE EXTENDER

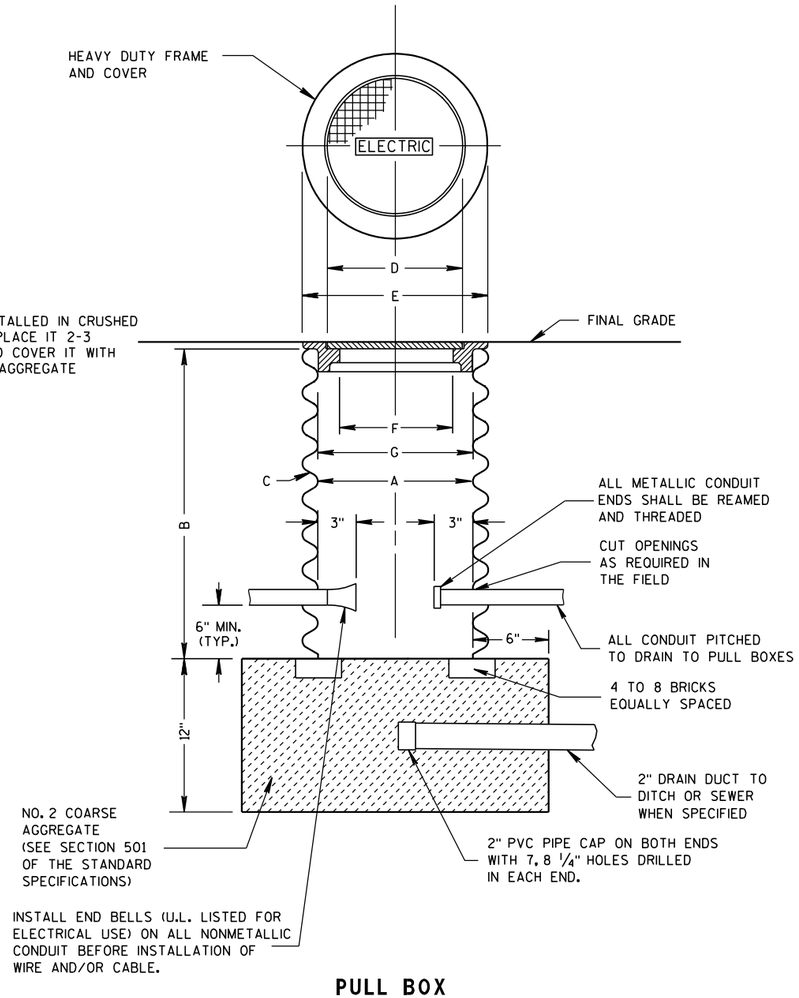


ALTERNATE COVER (LOCKING)

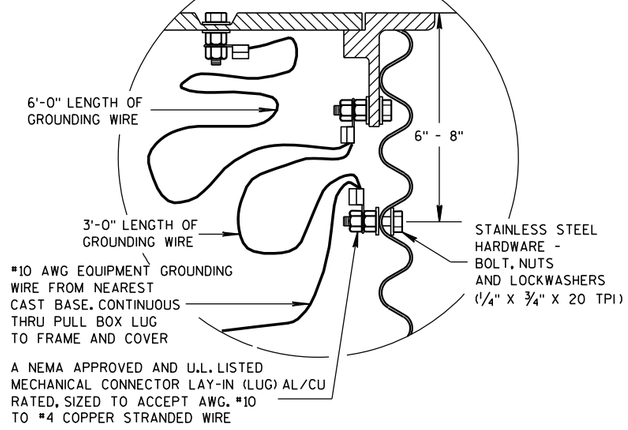
TIGHTENING BAR TYPE



MEASUREMENT DETAIL FOR WIRE/CABLE IN THE PULL BOX



PULL BOX

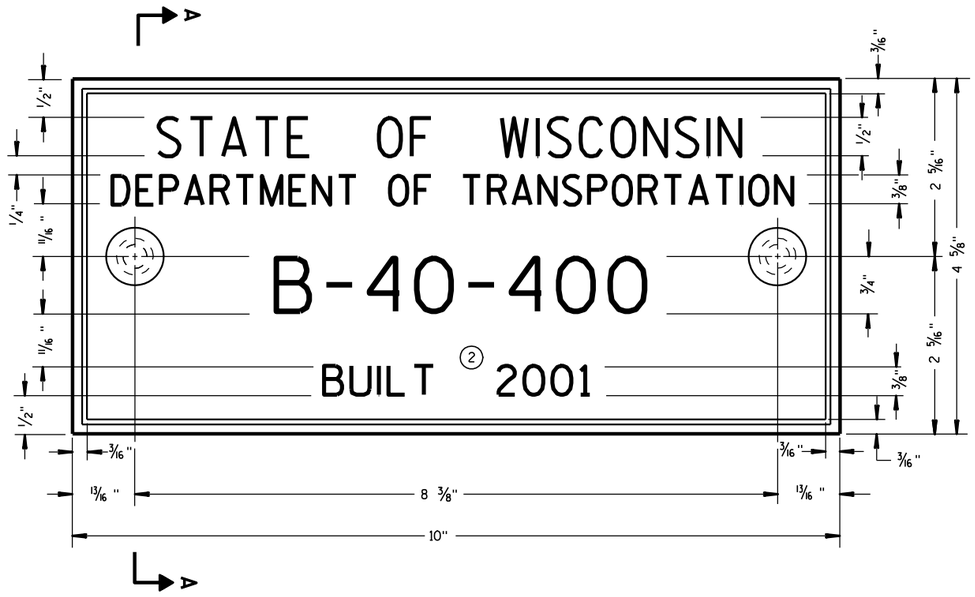


EQUIPMENT GROUNDING LUG AND LOCATION IN STEEL PULL BOXES

PULL BOX

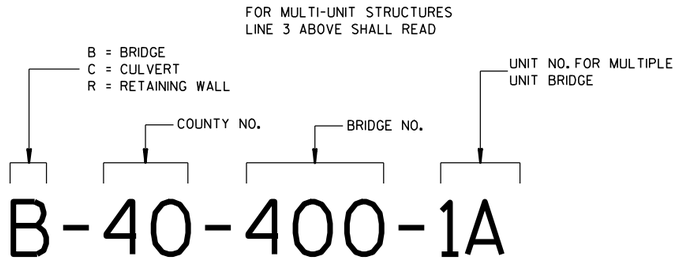
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
9/27/06 DATE
/S/ Balu Ananthanarayanan
STATE ELECTRICAL ENGI
FHWA



TYPICAL NAME PLATE

(BRIDGES, CULVERTS, AND RETAINING WALLS)



NUMBERING DESIGNATION MULTI-UNIT STRUCTURES

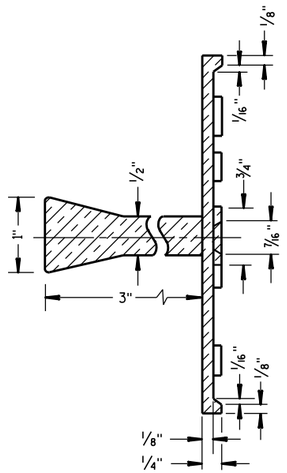
GENERAL NOTES

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

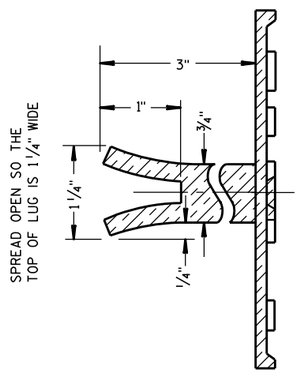
THE BRIDGE NUMBER AND YEAR BUILT SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND YEAR BUILT.

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

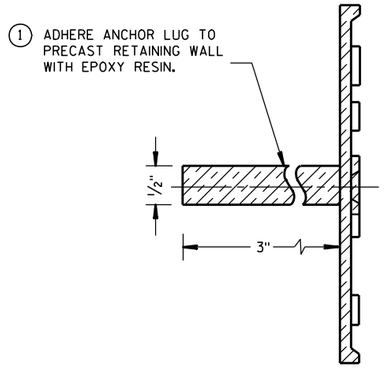
(2) REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.



SECTION A-A



ALTERNATE LUG



ALTERNATE LUG

(FOR ATTACHMENT TO PRECAST STRUCTURES)

NAME PLATE (STRUCTURES)	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED	
3/26/10 DATE	/S/ Scot Beck -- CHIEF STRUCTURAL DEVELOP ENGINEER
FHWA	

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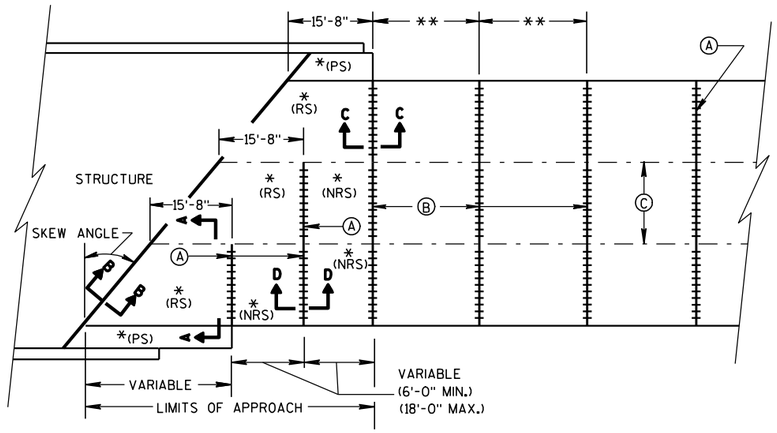
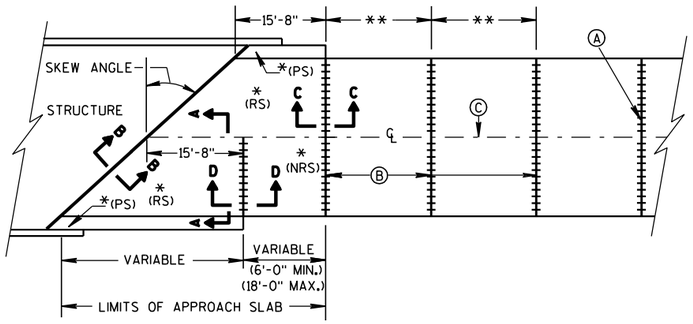
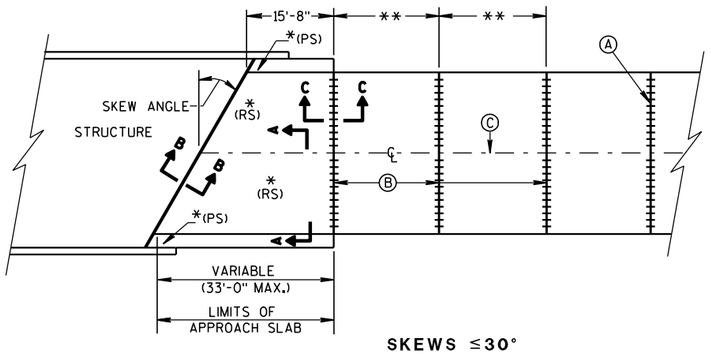
S.D.D. 12 A 3-10



SKEWED APPROACH
(PAVEMENT MORE THAN 2 LANES)



SKEWS >30°
(PAVEMENT WIDTH ≤30')



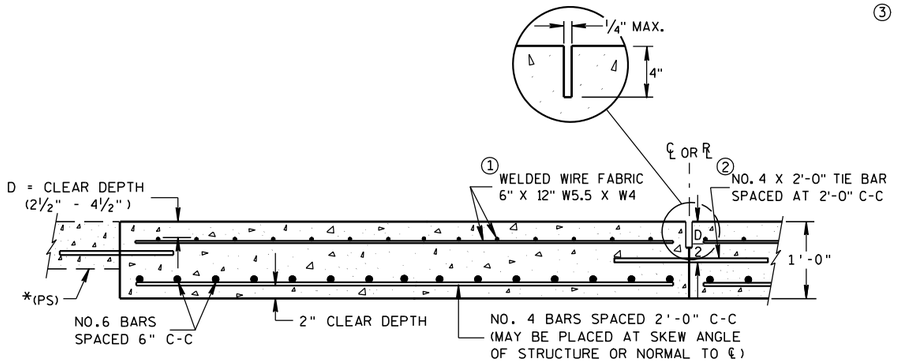
SKEWS ≤30°
(PAVEMENT WIDTH ≤30')

APPROACH SLAB AND ADJACENT PAVEMENT

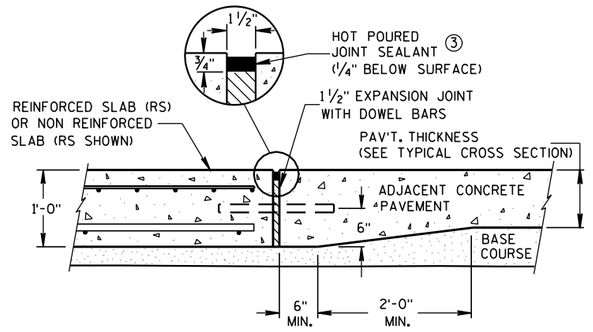
*(RS) = REINFORCED CONCRETE SLAB
*(PS) = PAVED CONCRETE SHOULDER: CONCRETE PAVEMENT, OR CONCRETE SURFACE DRAIN
(SEE DETAILS ELSEWHERE IN THE PLAN)
*(NRS) = NON-REINFORCED CONCRETE SLAB

**STANDARD TRANSVERSE JOINT SPACING
(SEE SDD 13C4, SDD 13C11, & SDD 13C13)

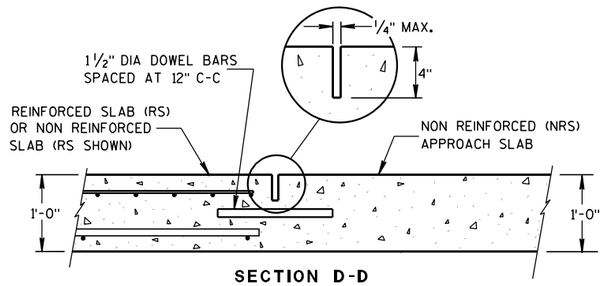
(A) STANDARD CONTRACTION JOINT NORMAL TO ℄ OR ℄
(B) 1½" EXPANSION JOINT WITH DOWEL BARS NORMAL TO ℄ OR ℄
(C) STANDARD LONGITUDINAL JOINT AND TIE BARS.



SECTION A-A
REINFORCEMENT POSITIONING DETAIL



SECTION C-C
TRANSITION DETAIL
APPROACH SLAB TO ADJACENT PAVEMENT



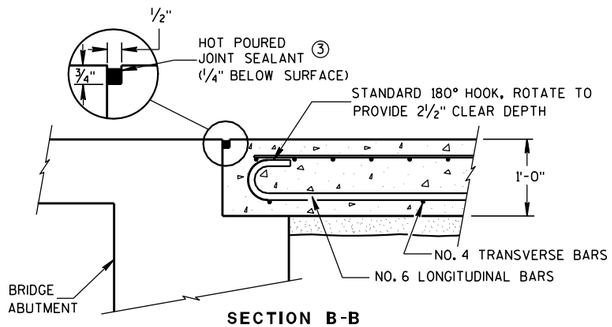
SECTION D-D
CONTRACTION JOINT

GENERAL NOTES

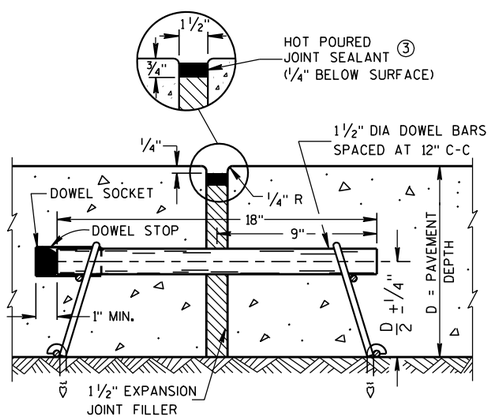
APPROACH SLABS ABUTTING AN HMA PAVEMENT OVER BASE COURSE DO NOT NEED TO BE DOWELED.

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.

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 TIE BARS BETWEEN REINFORCED SLABS WHERE SLAB REINFORCEMENT BARS EXTEND ACROSS THE CENTERLINE OR REFERENCE LINE.
3. USE A JOINT SEALANT MEETING THE REQUIREMENTS OF ASTM D6690.



SECTION B-B
BEND DETAIL
BOTTOM REINFORCEMENT



EXPANSION JOINT

CONCRETE PAVEMENT APPROACH SLAB

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
12/11/2009 — DATE
/S/ Deb Bischoff — PAVEMENT POLICY & DE — ENGINEER
FHWA

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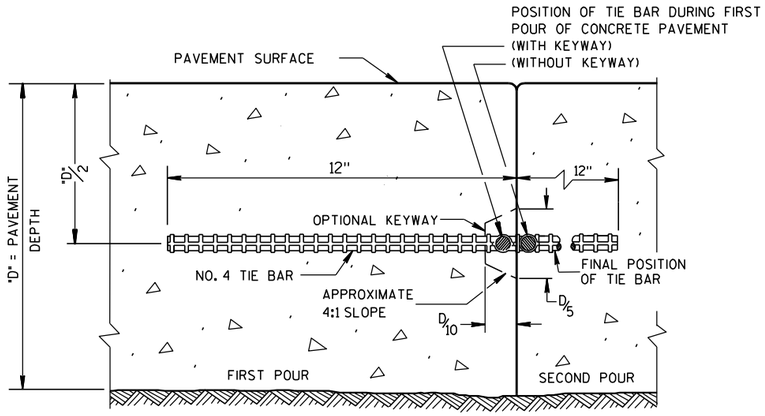
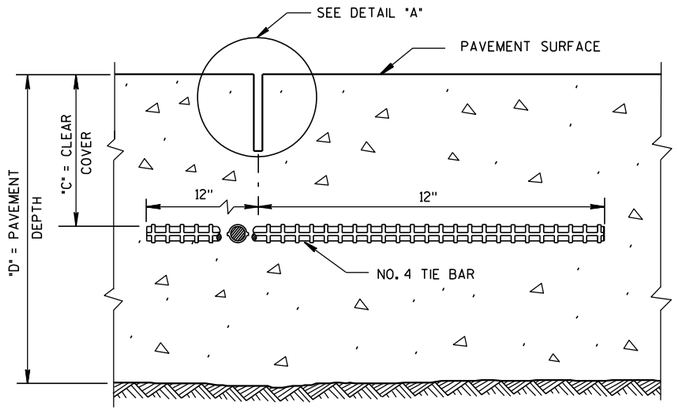
S.D.D. 13 B 2-6



CONSTRUCTION JOINT



SAWED JOINT

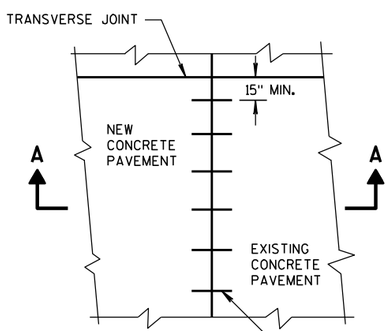
GENERAL NOTES

DO NOT SEAL OR FILL LONGITUDINAL JOINTS.

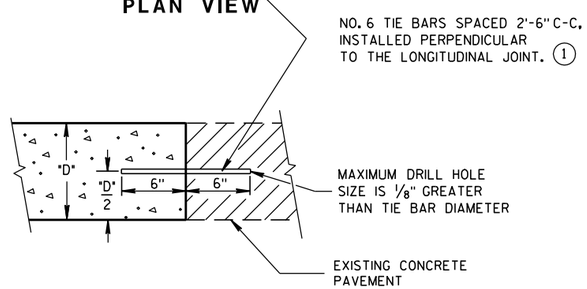
CREATE A LONGITUDINAL JOINT FOR PAVEMENT WIDTHS GREATER THAN 15 FEET.

CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

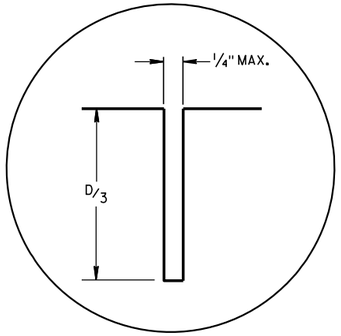
(1) ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.



PLAN VIEW

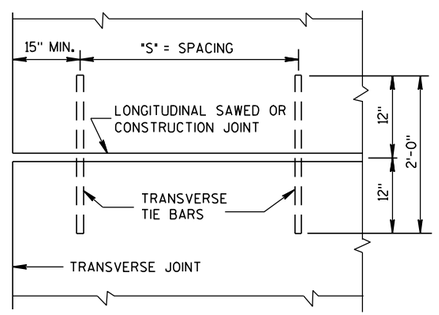


SECTION A-A
LONGITUDINAL CONSTRUCTION JOINT TIE BARS ANCHORED INTO EXISTING PAVEMENT



DETAIL "A"

PAVEMENT DEPTH "D"	CLEAR COVER "C"	MAXIMUM TIE BAR SPACING "S"	
		PAVEMENT WIDTH	
		24' OR 26'	≥ 30'
6, 6 1/2"	3"±1/2"	48"	42"
7, 7 1/2"	3 1/4"±1"	45"	36"
8, 8 1/2"	3 3/4"±1"	39"	30"
9, 9 1/2"	4 1/4"±1"	33"	27"
10, 10 1/2"	4 3/4"±1"	30"	24"
11, 11 1/2"	5 1/4"±1"	27"	21"
12"	5 3/4"±1"	24"	21"



PLAN VIEW
SHOWING LOCATION OF TIE BARS

CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

10-5-2010 DATE

/S/ Deb Bischoff
PAVEMENT POLICY & DESIGN ENGINEER

FHWA

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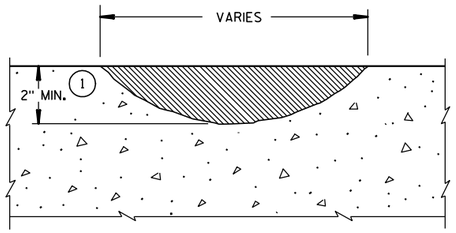
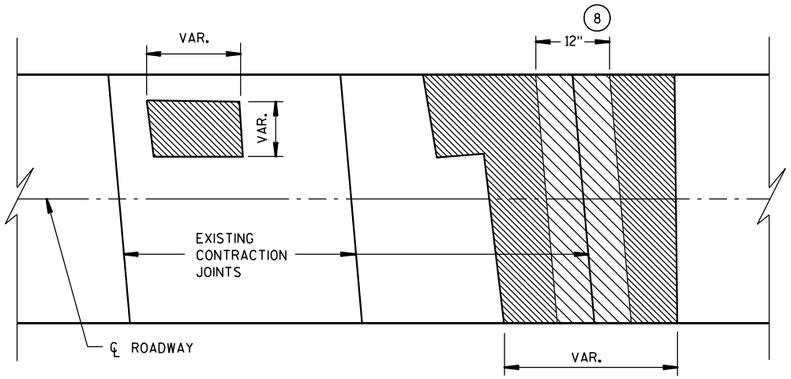
S.D.D. 13 C 1-15

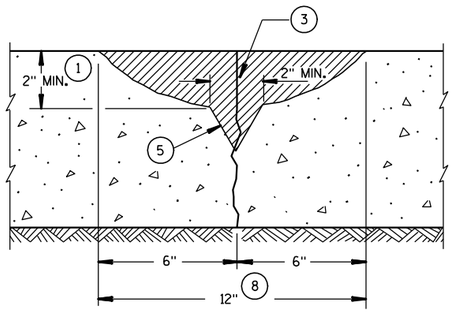


PROFILE VIEW

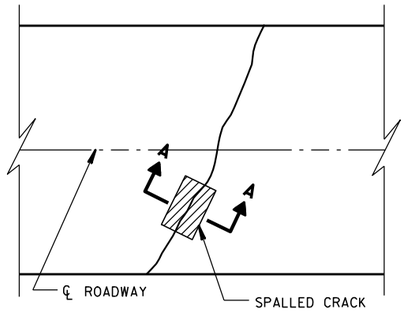


PLAN VIEW

SURFACE REPAIR



SECTION A-A

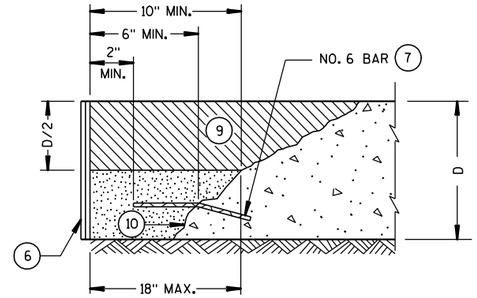


PLAN VIEW

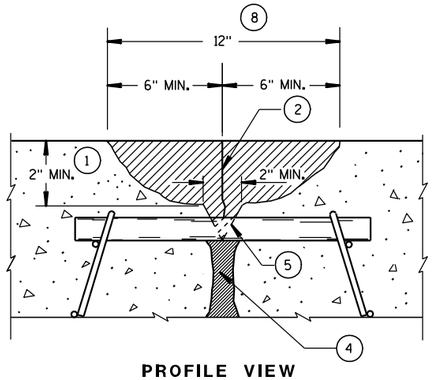
CRACK REPAIR

GENERAL NOTES

1. REMOVE ALL CONCRETE, TO LIMITS SHOWN, TO A MAXIMUM OF ½ THE PAVEMENT DEPTH OR TOP OF DOWELS.
2. IF REPAIR IS DEEPER THAN ANTICIPATED SAWCUT, COMPRESSION RELIEF MATERIAL MUST BE USED. THE THICKNESS OF COMPRESSION RELIEF MATERIAL MUST BE EQUAL TO OR GREATER THAN THE WIDTH OF THE JOINT OR CRACK (1/4"). THIS MATERIAL SHOULD EXTEND FULL DEPTH OF THE REPAIR.
3. COMPRESSION RELIEF MATERIAL MUST BE USED. THE THICKNESS OF COMPRESSION RELIEF MATERIAL MUST BE EQUAL TO OR GREATER THAN THE WIDTH OF THE JOINT OR CRACK (1/4"). THIS MATERIAL SHOULD EXTEND FULL DEPTH OF THE REPAIR.
4. CLEAN, DRY SAND WHEN NECESSARY.
5. REMOVE UNSOUND MATERIAL BY CHIPPING AT 1:1 SLOPE.
6. ¼" MINIMUM PREFORMED JOINT FILLER IF ADJACENT TO CONCRETE. EDGING REQUIRED. FULLY FORMED EDGE IF ADJACENT TO SHOULDER.
7. PAVEMENT TIES AS SHOWN. ALL EMBEDMENTS 6" MINIMUM AND INSTALLED WITH GROUT.
8. OVER 12" (NOMINAL WIDTH) WILL BE PAID AS SURFACE REPAIR.
9. PAID AS JOINT OR CRACK REPAIR.
10. FULL-DEPTH ADJUSTMENT SHALL BE CHIPPED TO BOTTOM OF PCC PAVEMENT AT 1:1 SLOPE.
11. BEYOND 18" WILL BE PAID AS SURFACE REPAIR.

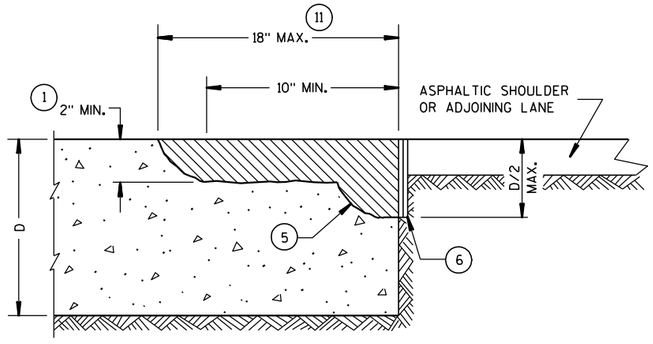


PROFILE VIEW

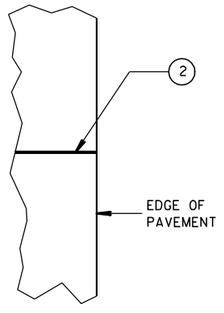


PROFILE VIEW

JOINT REPAIR

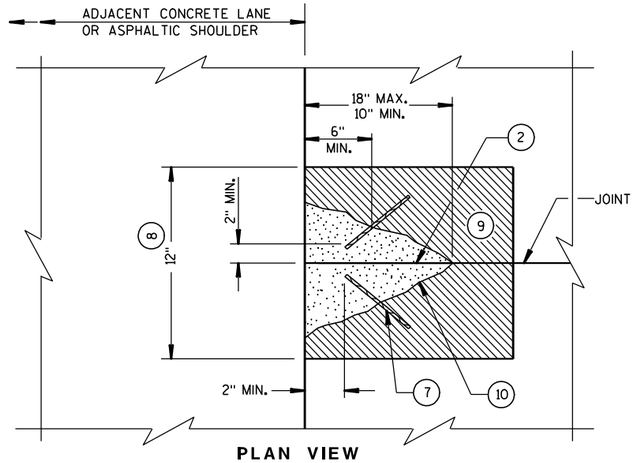


PROFILE VIEW



PLAN VIEW

EDGE REPAIR



PLAN VIEW

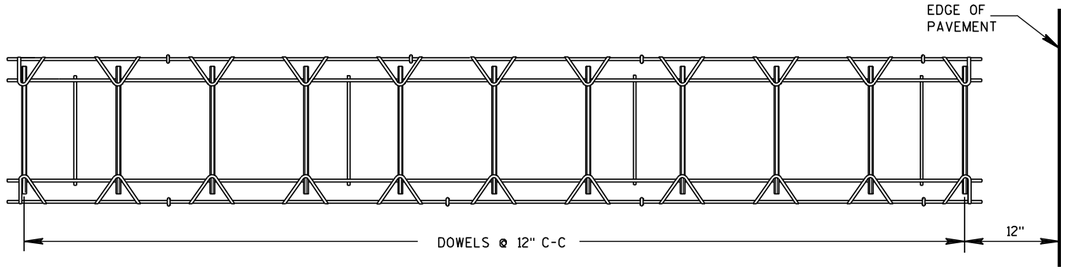
FULL DEPTH REPAIR ADJUSTMENT

CONCRETE PAVEMENT PARTIAL DEPTH REPAIR

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
3/21/03 DATE
/S/ Bill Ducker PAVEMENT ENGR
FHWA

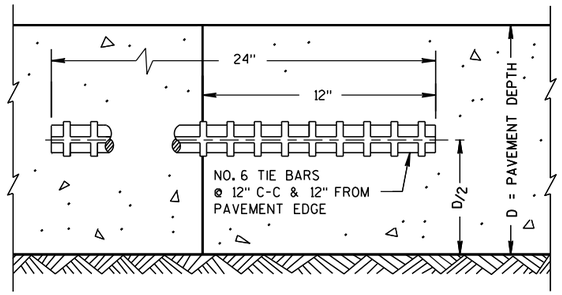
S.D.D. 13 C 8-2



PLAN VIEW

SIDE VIEW

CONTRACTION JOINT DOWEL ASSEMBLY ①



TRANSVERSE CONSTRUCTION JOINT

GENERAL NOTES

CONTRACTION JOINTS

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

DO NOT SEAL OR FILL CONTRACTION JOINTS.

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

FOR PAVEMENT SLABS OF VARYING WIDTHS, CENTER THE DOWEL ASSEMBLY ACROSS THE LANES. LOCATE THE INNER AND OUTER MOST DOWEL BARS SO THAT THE CENTER OF THE BARS ARE A MINIMUM OF 6 INCHES AND A MAXIMUM OF 12 INCHES FROM THE LONGITUDINAL JOINT AND THE EDGE OF PAVEMENT.

CONSTRUCTION JOINTS

LOCATE CONSTRUCTION JOINTS A MINIMUM OF 4 FEET FROM THE NEAREST CONTRACTION JOINT AND ALIGN PARALLEL TO CONTRACTION JOINTS.

THE CONTRACTOR MAY INSERT TIE BARS THROUGH THE HEADER BOARD AFTER THE CONCRETE HAS BEEN PLACED.

① THE ENGINEER MAY APPROVE THE USE OF ALTERNATIVE DESIGNS OF THE DOWEL ASSEMBLY. THE CONTRACTOR MAY USE MECHANICAL DOWEL BAR INSERTERS INSTEAD OF DOWEL ASSEMBLIES.

② ANCHOR DOWEL BARS INTO DRILLED HOLES WITH AN EPOXY.

③ APPLY A THIN UNIFORM COATING OF SURFACE TREATMENT TO THE FREE END OF DOWEL BARS TO PREVENT BONDING.

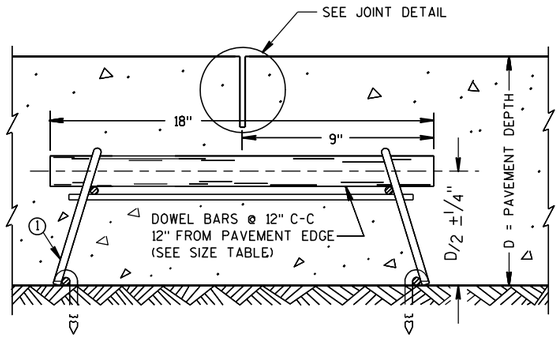
④ SPACE DOWEL BARS INSTALLED BY DRILLING 1'-3" ON CENTER. CENTER THE GROUPING OF DOWEL BARS INSIDE THE SLAB BASED ON ALL THE FOLLOWING SITUATIONS:

BETWEEN THE EDGES OF PAVEMENTS WITHOUT LONGITUDINAL JOINTS OR BETWEEN THE EDGE OF PAVEMENT AND NEAREST LONGITUDINAL JOINT OR BETWEEN TWO ADJACENT LONGITUDINAL JOINTS.

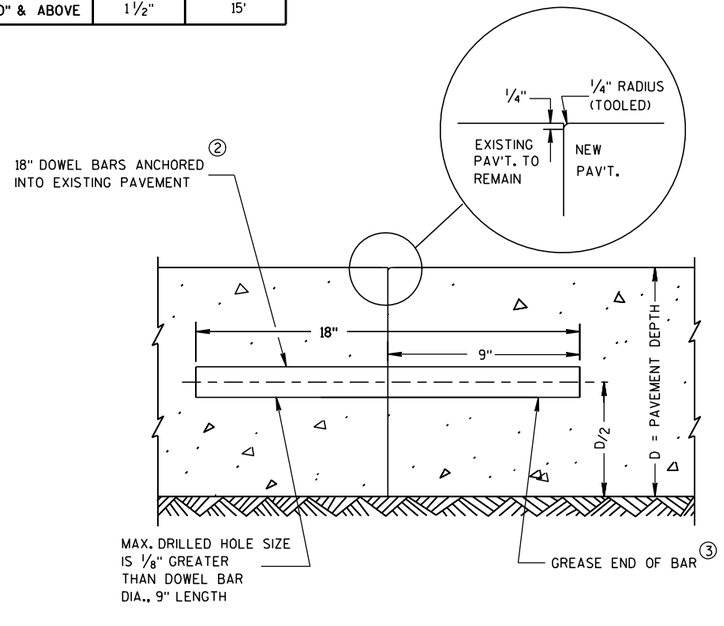
⑤ SECURE BASKETS WITH ANCHORS TO HOLD DOWEL BARS IN THE CORRECT POSITION AND ALIGNMENT. TYPE, LOCATION, NUMBER AND LENGTH OF ANCHORS ARE DEPENDENT UPON FIELD CONDITIONS.

PAVEMENT DEPTH, DOWEL BAR SIZE AND JOINT SPACING TABLE

PAVEMENT DEPTH (D)	DOWEL BAR DIAMETER	CONTRACTION JOINT SPACING
5 1/2", 6",6 1/2"	NONE	12'
7",7 1/2"	1"	14'
8",8 1/2"	1 1/4"	15'
9",9 1/2"	1 1/4"	15'
10" & ABOVE	1 1/2"	15'

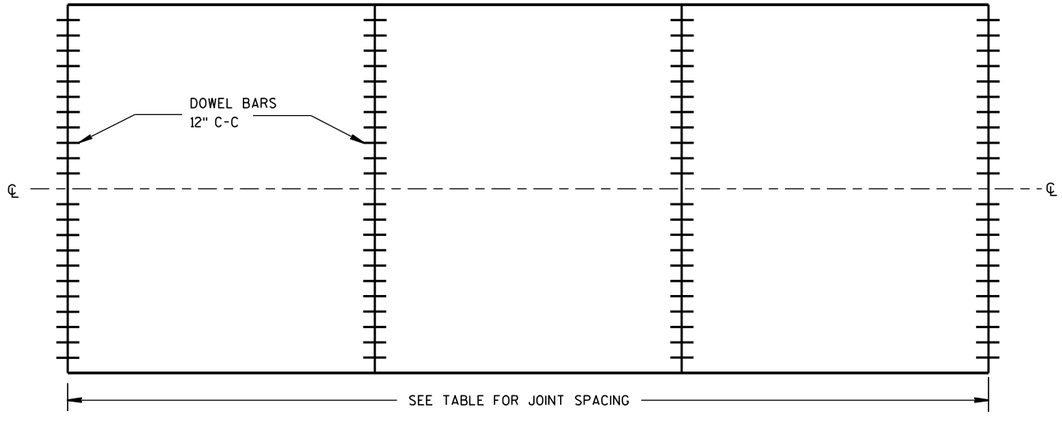


DOWELED CONTRACTION JOINT

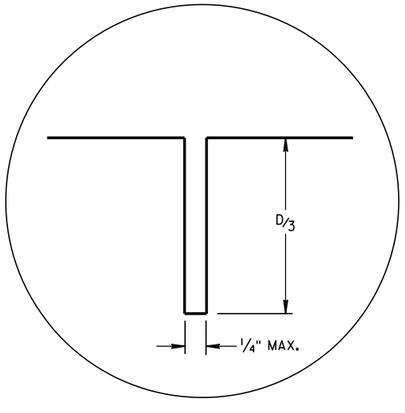


TRANSVERSE CONTRACTION JOINTS ABUTTING EXISTING PAVEMENT

④ DOWEL BAR DETAIL



CONTRACTION JOINT LOCATIONS



JOINT DETAIL

URBAN DOWELED CONCRETE PAVEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
12/11/2009 DATE
/S/ Deb Bischoff PAVEMENT POLICY & DE
NEER
FHWA

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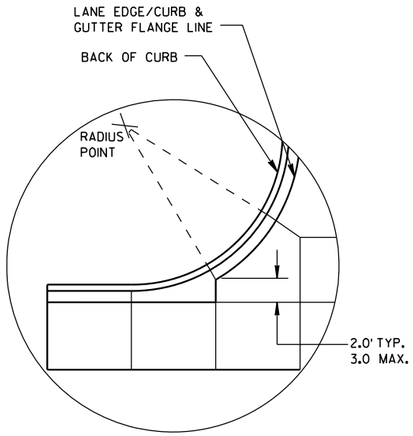
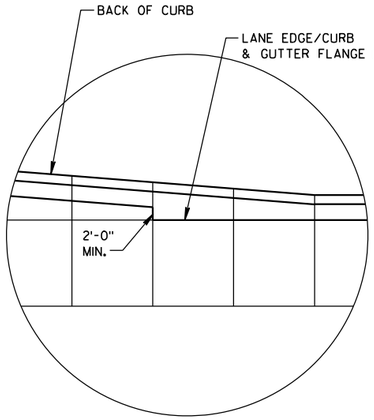
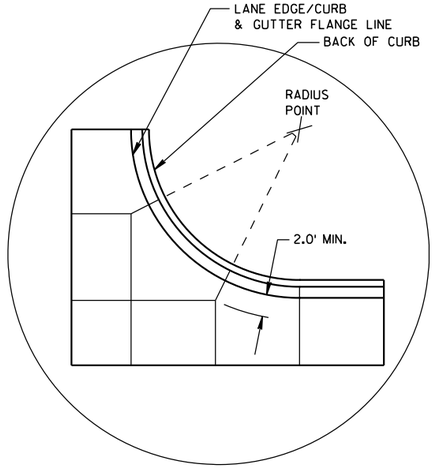


DETAIL "A"



DETAIL "B"



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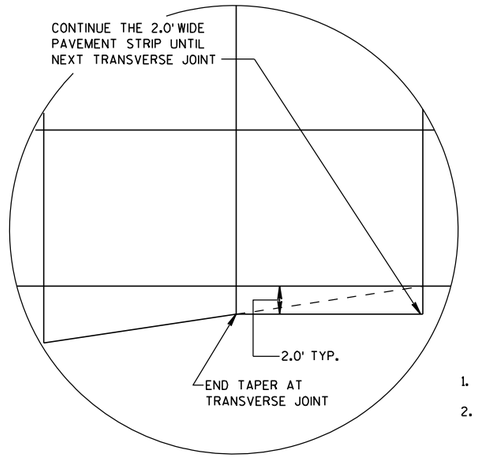


DETAIL "D"

GENERAL NOTES

THE PRIMARY ROADWAY CONTROLS THE TRANSVERSE JOINT PATTERN.

ALIGN NEW JOINTS WITH EXISTING JOINTS OR CRACKS.

CONSTRUCT TRANSVERSE JOINTS PERPENDICULAR TO THE ROADWAY.

ADJUST TRANSVERSE JOINTS TO ALIGN WITH UTILITY FIXTURES (E.G. MANHOLES AND INLETS) IN THE PAVEMENT STRUCTURE WHEN POSSIBLE. WATER VALVES DO NOT REQUIRE JOINT ADJUSTMENT.

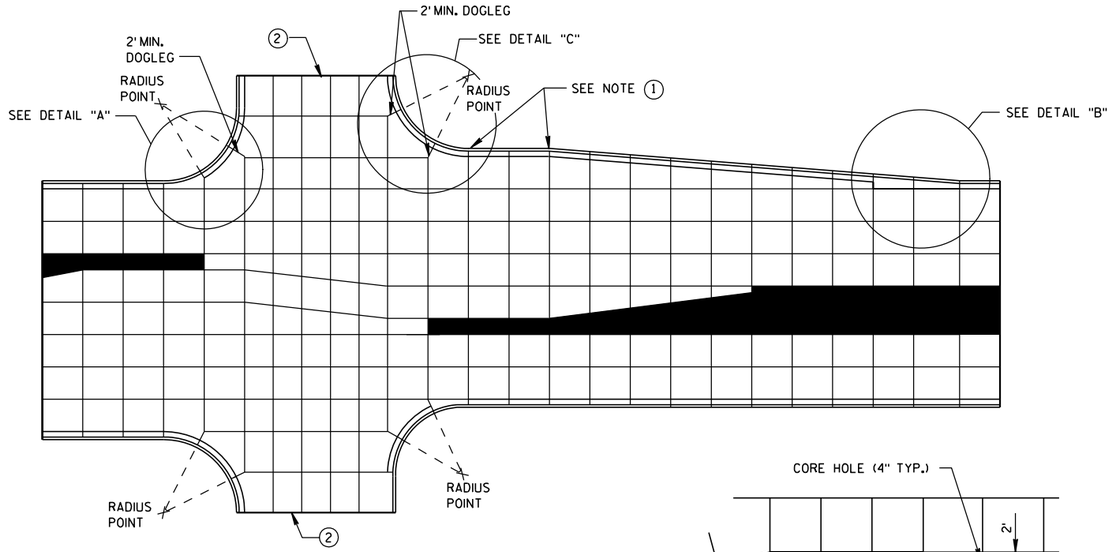
AVOID SLABS LESS THAN 2 FEET WIDE OR GREATER THAN 15 FEET WIDE.

SEE TABLE FOR TRANSVERSE JOINT SPACING. JOINT SPACING SPECIFIED IS MAXIMUM AND ACTUAL SPACING CAN BE ADJUSTED TO ACCOMMODATE INTERSECTIONS.

AVOID ANGLES LESS THAN 60° BY DOGLEGGING JOINTS THROUGH CURVE RADIUS POINTS. USE 90° ANGLES WHEN POSSIBLE.

CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

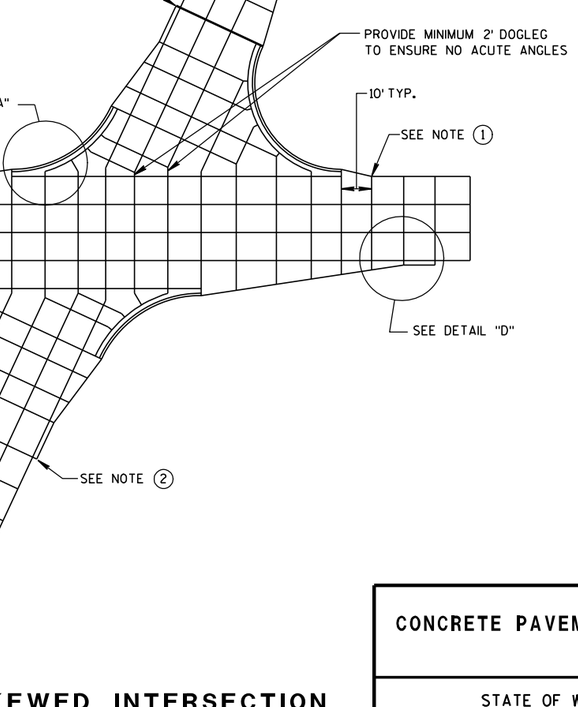
1. PROVIDE TRANSVERSE JOINTS AT ALL PAVEMENT WIDTH CHANGES.
2. CONSTRUCT DOWELED EXPANSION JOINT ON THE SIDE ROAD OF AN INTERSECTION IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH. ALIGN EXPANSION JOINT WITH EDGE OF RADIUS.
3. THE ENGINEER MAY APPROVE SLIGHT VARIATIONS FROM THESE JOINTING DETAILS.



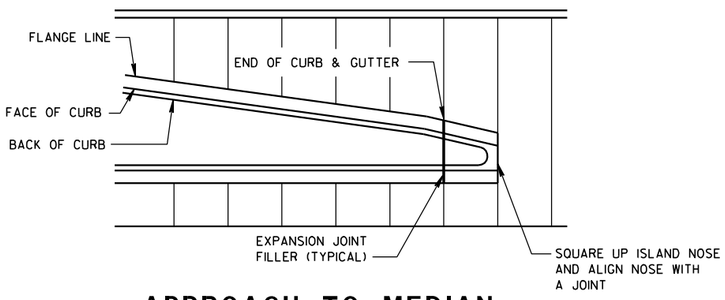
STANDARD INTERSECTION

PAVEMENT DEPTH AND JOINT SPACING TABLE

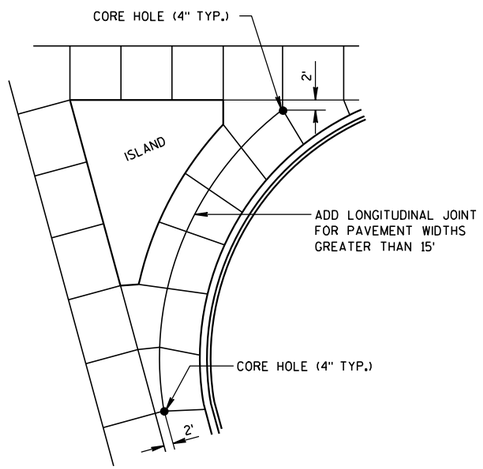
PAVEMENT DEPTH (D)	CONTRACTION JOINT SPACING
6", 6½"	12'
7", 7½"	14'
8" & ABOVE	15'



SKEWED INTERSECTION



APPROACH TO MEDIAN



LARGE RIGHT TURN

CONCRETE PAVEMENT JOINTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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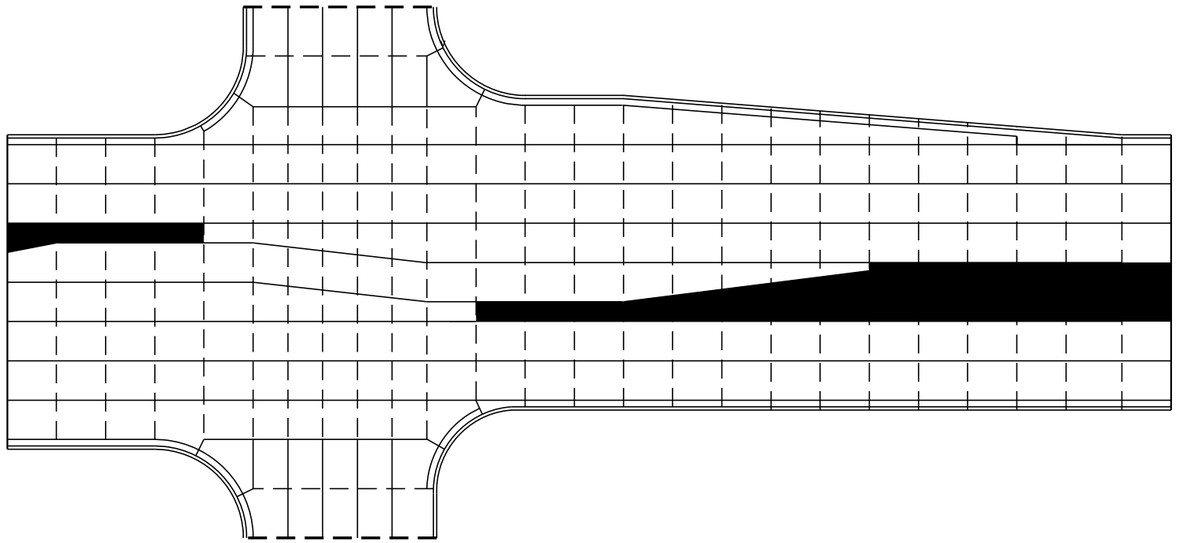
LEGEND

POTENTIAL DOWELED EXPANSION JOINT

DOWELED JOINT

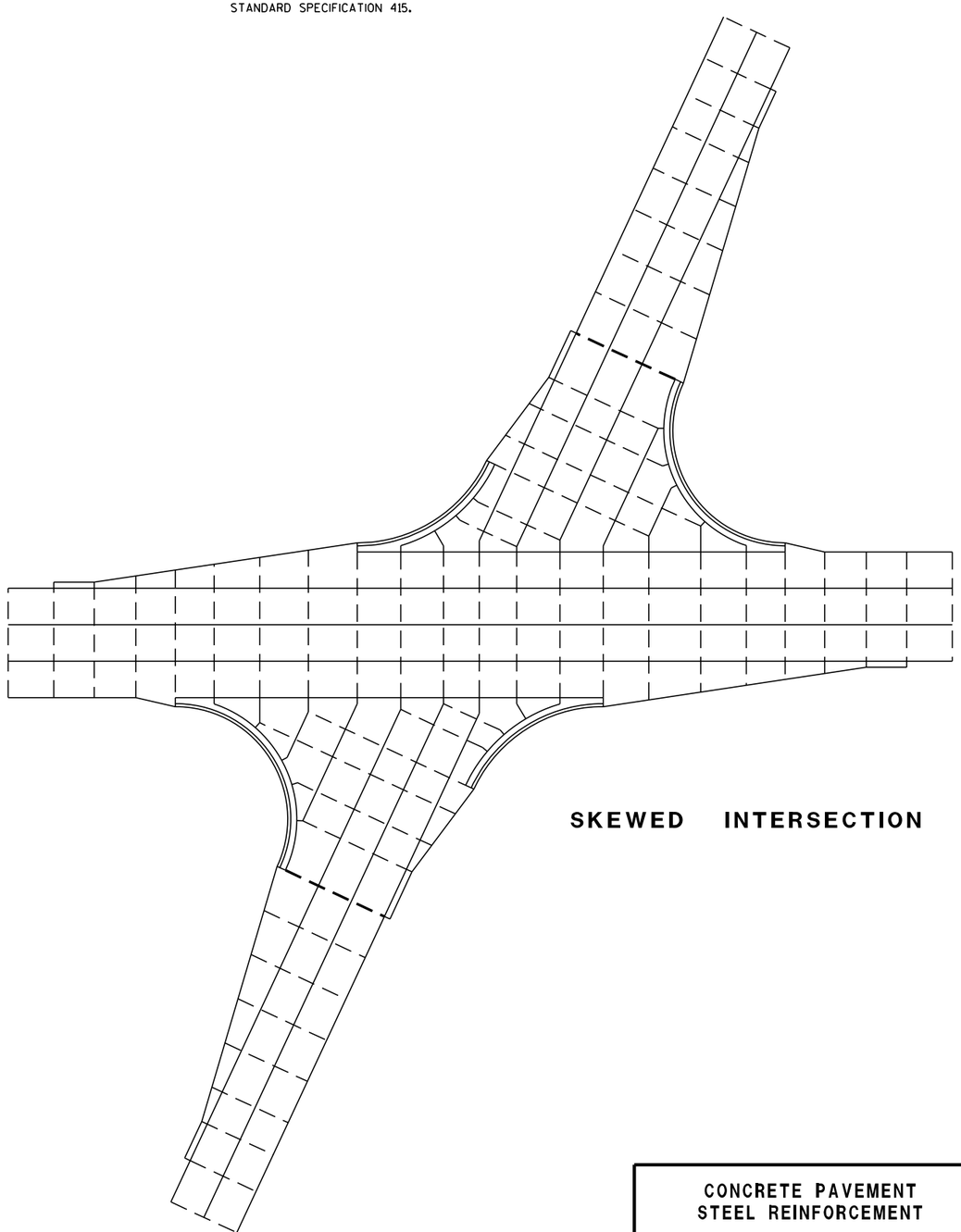
TIED JOINT



STANDARD INTERSECTION

GENERAL NOTES

USE AN EXPANSION JOINT FILLER MEETING THE REQUIREMENTS OF STANDARD SPECIFICATION 415.



SKEWED INTERSECTION

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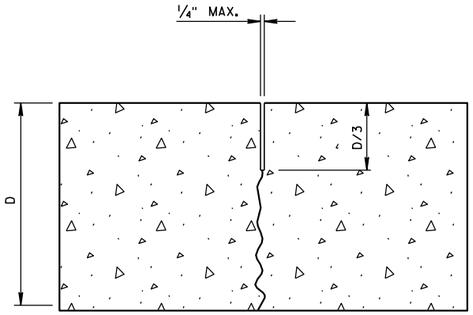
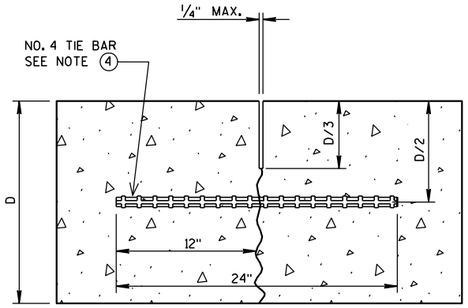
S.D.D. 13 C 18-1b

CONCRETE PAVEMENT
STEEL REINFORCEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



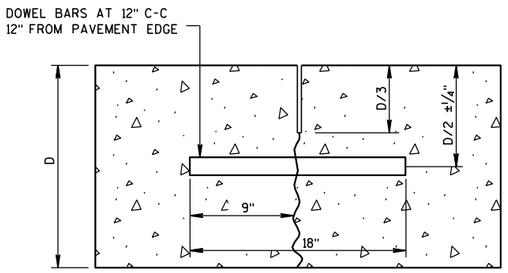
UNDOWELED-TRANSVERSE



TIED LONGITUDINAL

GENERAL NOTES

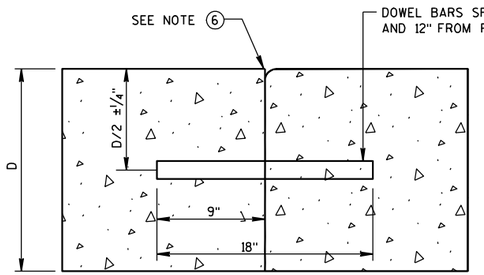
1. USE DOWELED EXPANSION JOINTS ON SIDE ROADS AT INTERSECTIONS (TO ISOLATE THE SIDE ROAD FROM THE THROUGH STREET) IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH.
2. SPACE CONTRACTION JOINTS IN ACCORDANCE WITH 13C4, 13C11 OR 13C13.
3. LOCATE CONSTRUCTION JOINTS A MINIMUM OF 4 FEET FROM THE NEAREST CONTRACTION JOINT AND ALIGN PARALLEL TO THE CONTRACTION JOINTS.
4. SPACE TIE BARS AT LONGITUDINAL CONSTRUCTION OR CONTRACTION JOINTS IN ACCORDANCE WITH SDD 13C1.
5. CONSTRUCTION JOINTS CAN BE FORMED OR SAWED.
6. IF JOINT IS FORMED, PROVIDE A 1/4-INCH RADIUS.



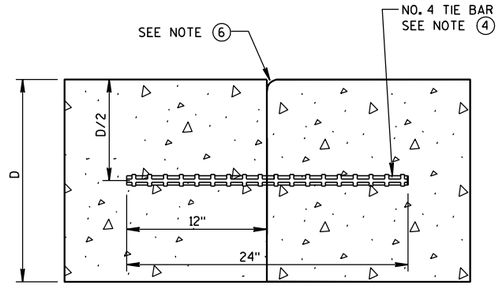
DOWELED-TRANSVERSE

CONTRACTION JOINTS

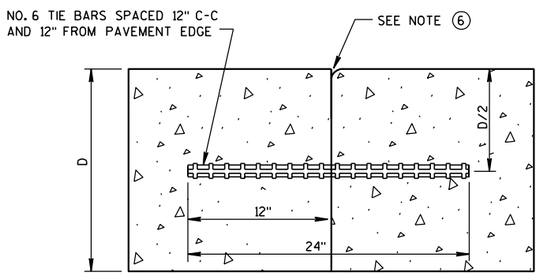
SEE NOTE (2)



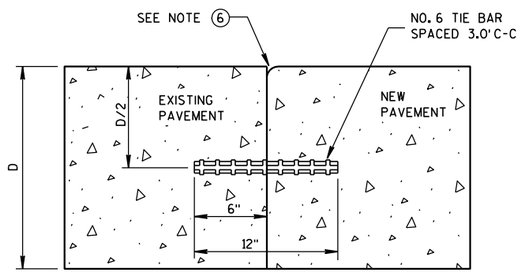
DOWELED TRANSVERSE



TIED LONGITUDINAL



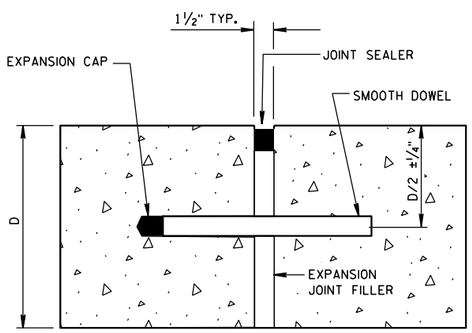
TIED TRANSVERSE
SEE NOTE (3)



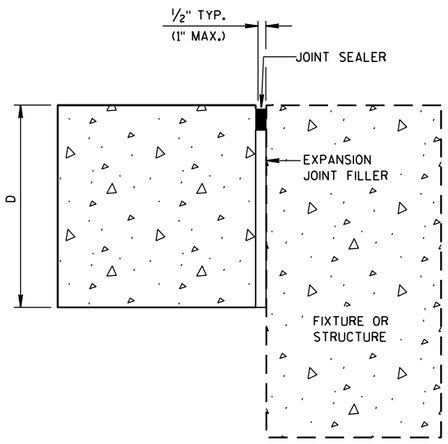
TIED LONGITUDINAL TO EXISTING

CONSTRUCTION JOINTS

SEE NOTE (5)



DOWELED-TRANSVERSE
SEE NOTE (1)



UNTIED-LONGITUDINAL

EXPANSION JOINTS

CONCRETE PAVEMENT
JOINT TYPES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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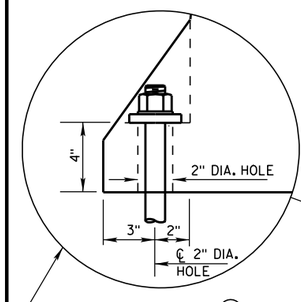
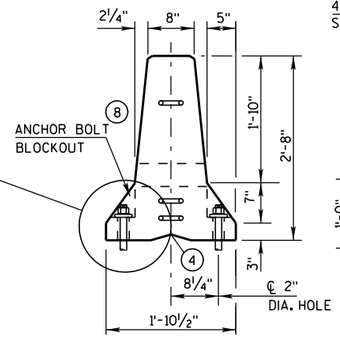
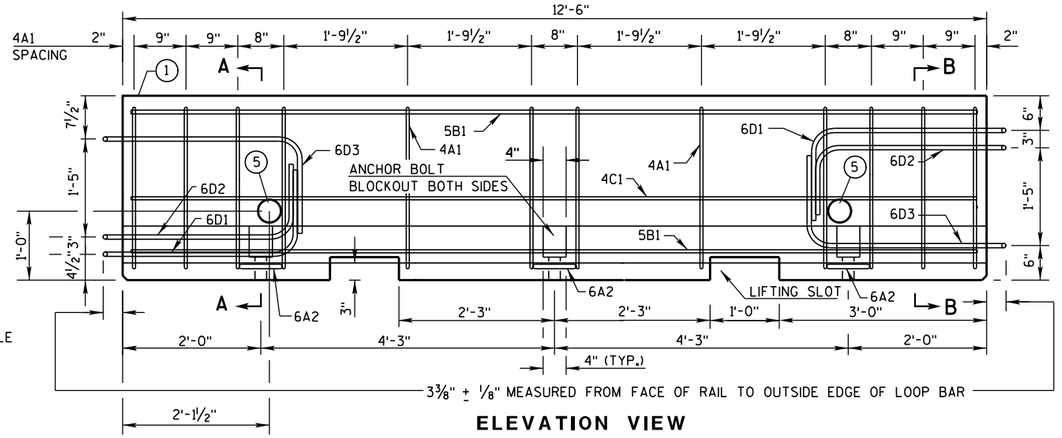
S.D.D. 13 C 18-1c

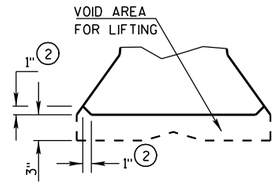




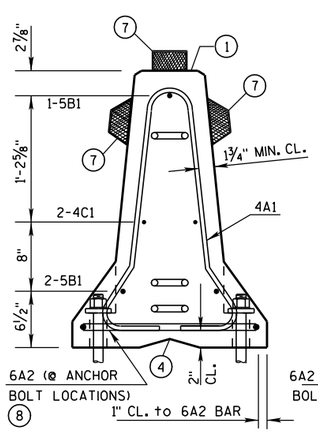
END VIEW



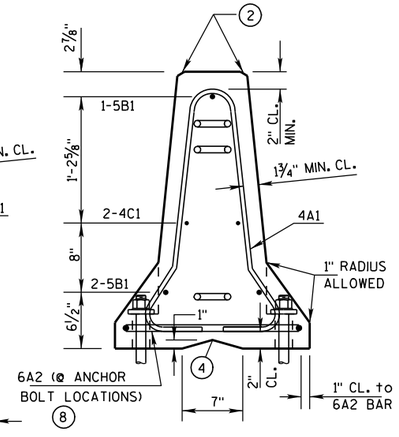
ELEVATION VIEW



DETAIL "B"
LIFTING SLOT DETAIL



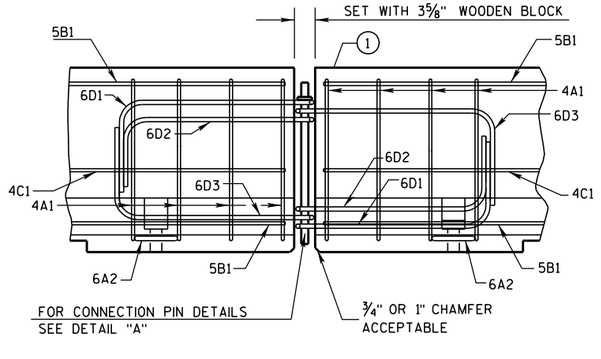
SECTION A-A
(STIRRUP PLACEMENT)



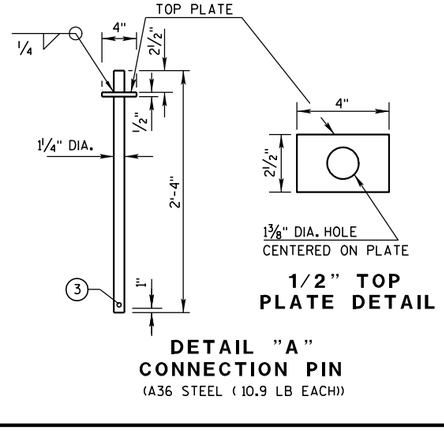
SECTION B-B
(STIRRUP PLACEMENT)

PLAN VIEW

DETAILS OF BARRIER SECTION

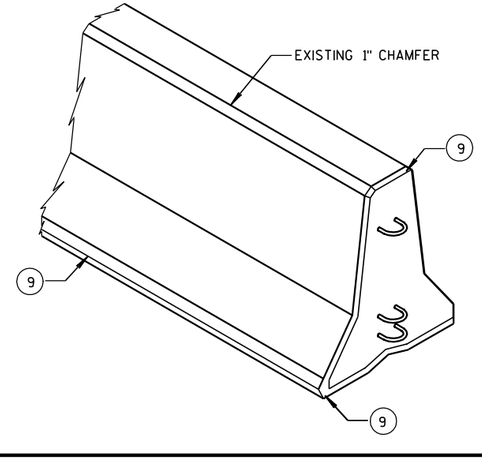


DETAILS OF BARRIER CONNECTION



1/2" TOP PLATE DETAIL

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



GENERAL NOTES

THESE GENERAL NOTES APPLY TO SHEETS 14B7-13(a) THRU 14B7-13(h).

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 EPOXY 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: WICBTP
- 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 ANCHORING CRITERIA.

(9) 1" CHAMFER OPTIONAL.

CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO.....

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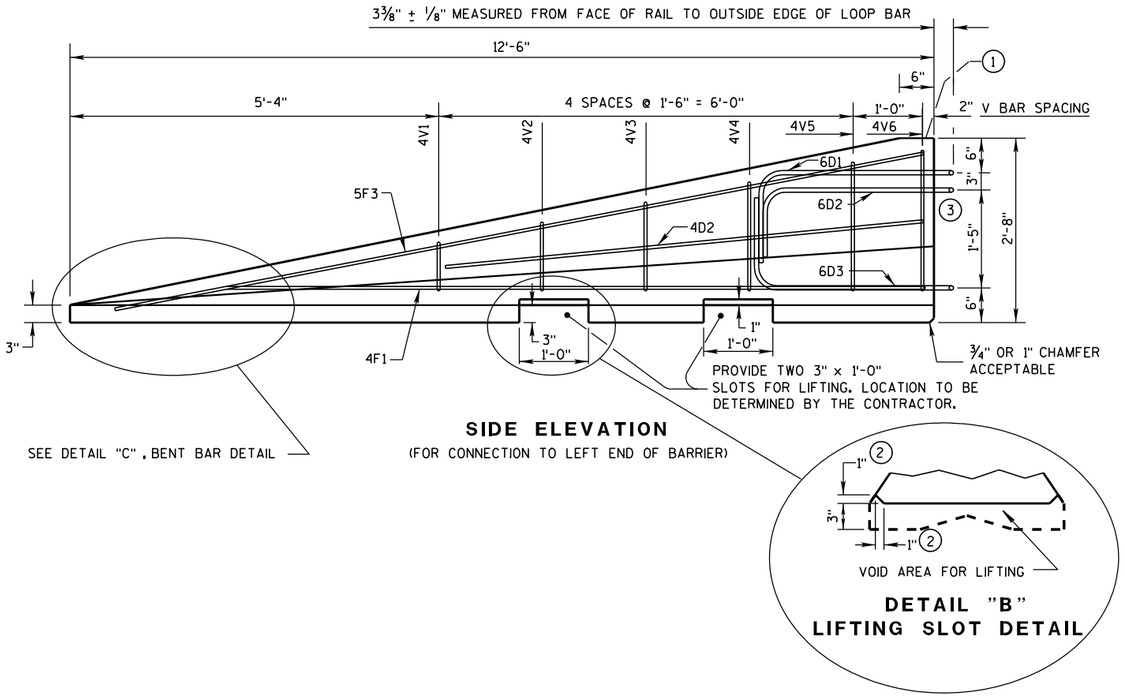
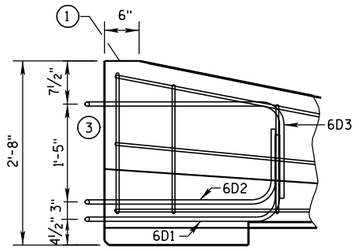
S.D.D. 14 B 7-13a



SIDE ELEVATION

(FOR CONNECTION TO LEFT END OF BARRIER)

DETAIL "B"
LIFTING SLOT DETAIL

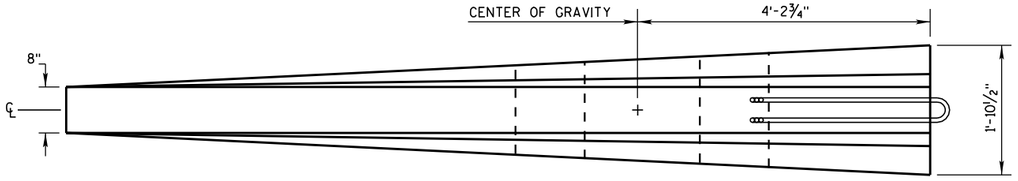


SIDE ELEVATION

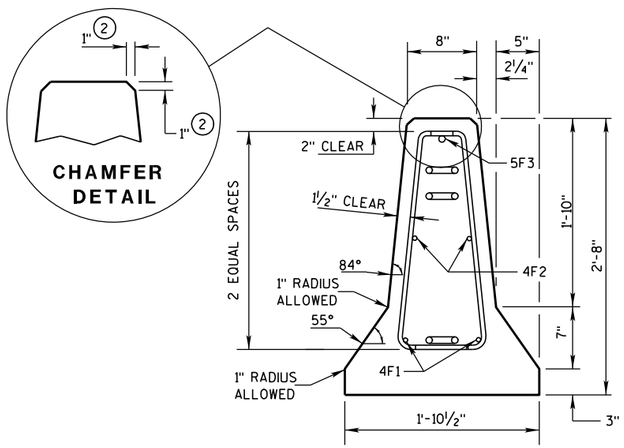
LOOP BAR ASSEMBLY INVERTED
FOR OPPOSITE END.
(FOR CONNECTION TO RIGHT END OF BARRIER)

GENERAL NOTES

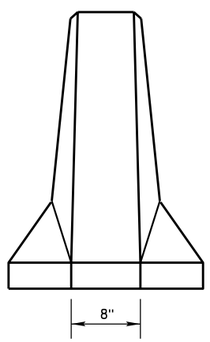
1. MARK ONE END OF EACH BARRIER PERMANENTLY BY FORMING INTO THE BARRIER THE FOLLOWING INFORMATION:
   a. TYPE WICBTP
   b. MANUFACTURER
   c. DATE MANUFACTURED (MONTH AND YEAR)
2. 1" CHAMFER TO PREVENT SPALLING.
3. NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.



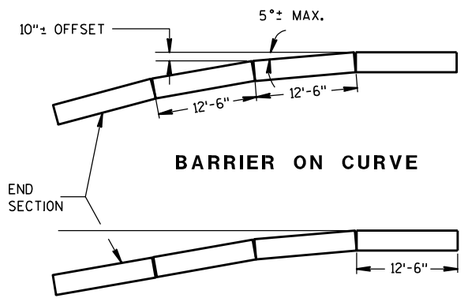
PLAN VIEW



END SECTION



FRONT ELEVATION



BARRIER ON CURVE

FLARE AT BARRIER END

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 TRANSPORTATION

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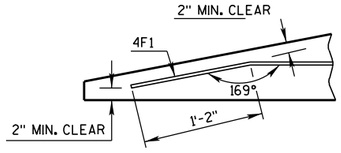
S.D.D. 14 B 7-13b

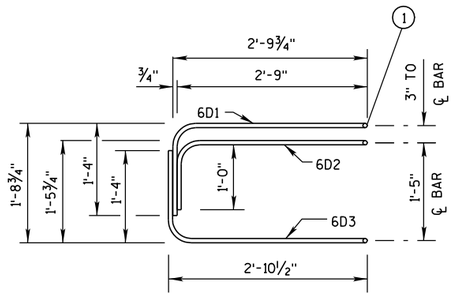
BARRIER TAPER SECTION BILL OF MATERIALS

(PER 12'-6" BARRIER TAPER SECTION)

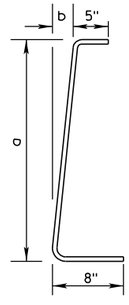
BAR	BAR SIZE	NO. OF BARS	LENGTH FT.
4V1	4	2	1'-11"
4V2	4	2	2'-2"
4V3	4	2	2'-6"
4V4	4	2	2'-9"
4V5	4	2	3'-2"
4V6	4	2	3'-4"
4F1	4	2	12'-0"
4F2	4	2	7'-6"
5F3	5	1	11'-9"
LOOP ASSEMBLY			
6D1	6	1	8'-5"
6D2	6	1	7'-7"
6D3	6	1	8'-6"



DETAIL "C"
BENT BAR DETAIL



ELEVATION
LOOP BAR ASSEMBLY



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

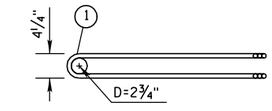
GENERAL NOTES

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

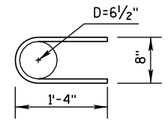
BARRIER SECTION BILL OF MATERIALS

(PER 12'-6" BARRIER SECTION)

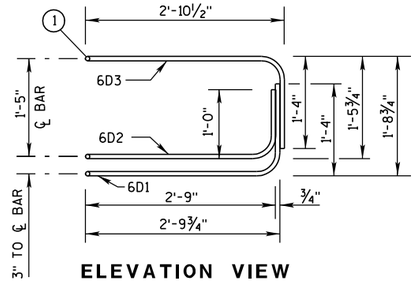
BAR	BAR SIZE	NO. OF BARS	LENGTH FT.
4A1	4	12	6'-0"
6A2	6	6	2'-11"
5B1	5	3	12'-2"
4C1	4	2	12'-2"
LOOP ASSEMBLY			
6D1	6	2	8'-5"
6D2	6	2	7'-7"
6D3	6	2	8'-6"



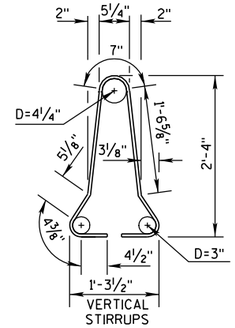
PLAN VIEW
LOOP BAR ASSEMBLY
(MARKED END SHOWN, INVERT FOR OTHER END)



6A2



ELEVATION VIEW



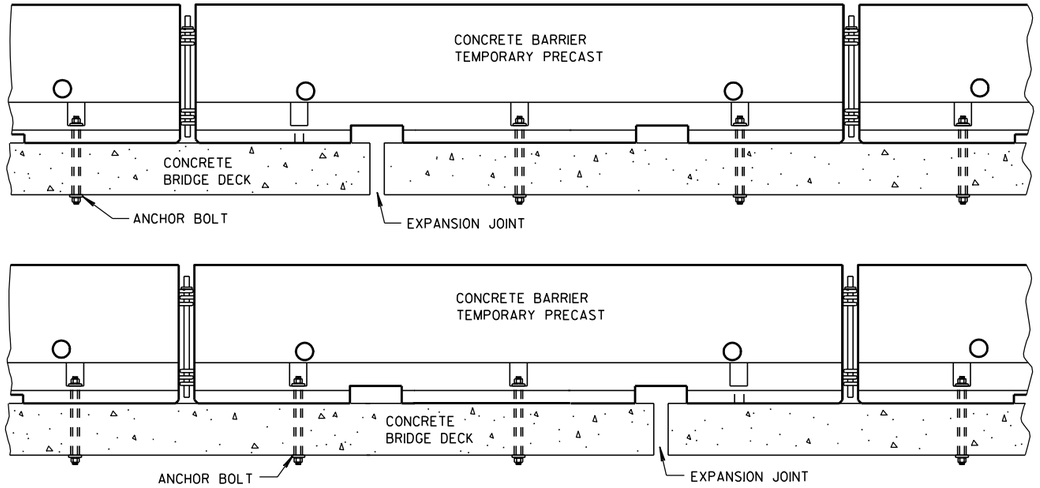
4A1

BARRIER SECTION

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

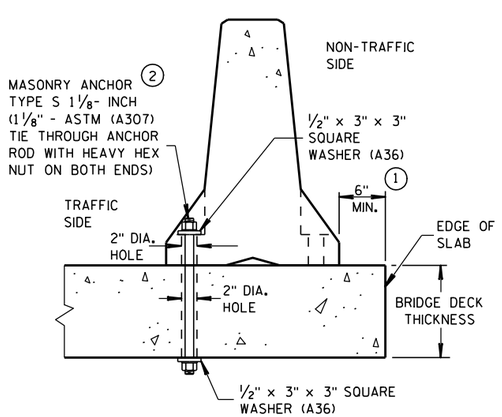
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6
S.D.D. 14 B 7-13c



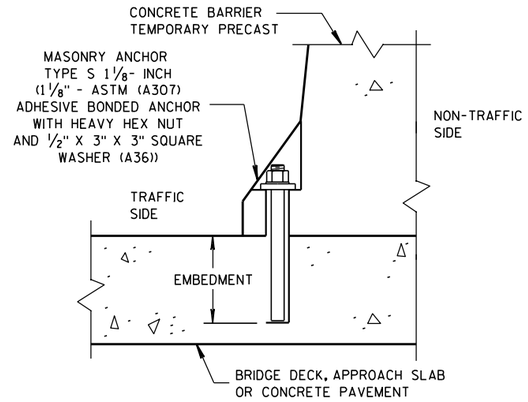
TREATMENT AT BRIDGE DECK EXPANSION JOINTS

(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.)



THROUGH BOLTED ANCHOR INSTALLATION ON BRIDGE DECK

(DO NOTUSE ON CONCRETE BRIDGE DECK WITH ASPHALT OVERLAY)



REMOVABLE ADHESIVE BONDED ANCHOR (2) INSTALLATION ON CONCRETE BRIDGE DECK, CONCRETE APPROACH SLAB, OR CONCRETE PAVEMENT

(DO NOT USE ON CONCRETE WITH AN ASPHALTIC OVERLAY)

GENERAL NOTES

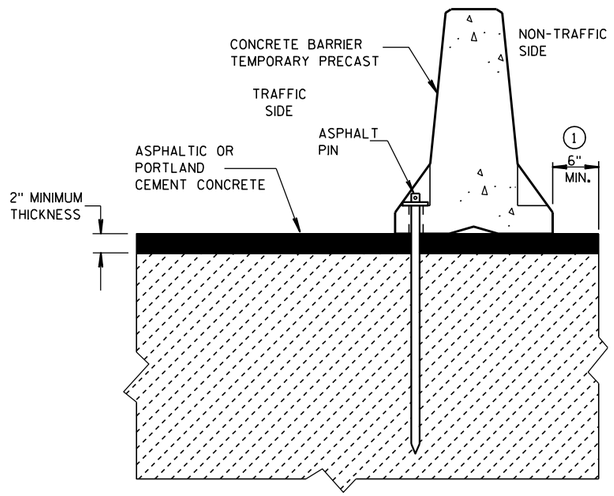
(1) CONCRETE BARRIER TEMPORARY PRECAST, 12'-6" SHALL BE ANCHORED IF:
THE DISTANCE TO A 2 FOOT OR GREATER DROPOFF THAT IS STEEPER THAN 3H : 1V, FOR EXAMPLE THE EDGE OF A BRIDGE DECK OR A DROPOFF AT THE EDGE OF PAVEMENT, IS LESS THAN 4 FEET FROM THE SIDE OF THE BARRIER CLOSEST TO THE DROPOFF AND THE POSTED SPEED IS 45 MPH OR GREATER, OR

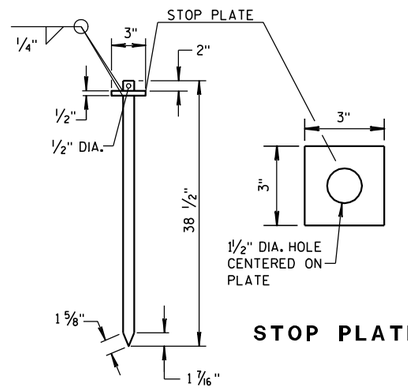
THE DISTANCE TO A 2 FOOT OR GREATER DROPOFF THAT IS STEEPER THAN 3H : 1V, FOR EXAMPLE THE EDGE OF A BRIDGE DECK OR A DROPOFF AT THE EDGE OF PAVEMENT. IS LESS THAN 2 FEET FROM THE SIDE OF THE BARRIER CLOSEST TO THE DROPOFF AND THE POSTED SPEED IS 40 MPH OR LESS.

(2) ANCHORING IS INCIDENTAL TO CONCRETE BARRIER TEMPORARY PRECAST.

WITH THE APPROVAL OF THE ENGINEER, REMOVABLE ADHESIVE BONDED (EPOXY) ANCHOR BOLT INSTALLATION MAY BE USED IN LIEU OF THROUGH BOLTED ANCHOR INSTALLATION. THE ADHESIVE BONDED ANCHOR BOLT MUST BE REMOVABLE. USE ASTM (A307) MASONRY ANCHORS TYPE S 1⅛-INCH, EMBEDDED TO A DEPTH SUFFICIENT TO DEVELOP THE ULTIMATE CAPACITY OF THE ANCHOR BOLT AND PROVIDE DOCUMENTATION TO CONFIRM THIS.

UPON REMOVAL OR RELOCATION OF THE BARRIER UNITS, REMOVE ALLANCHOR BOLTS AND COMPLETELY FILL IN THE REMAINING HOLES IN CONCRETE BRIDGE DECKS, CONCRETE APPROACH SLABS AND CONCRETE PAVEMENTS THAT ARE TO REMAIN, WITH A NON-SHRINK COMMERICAL GROUT OR EPOXY MATERIAL IDENTIFIED ON THE CURRENT WISDOT APPROVED PRODUCTS LIST.



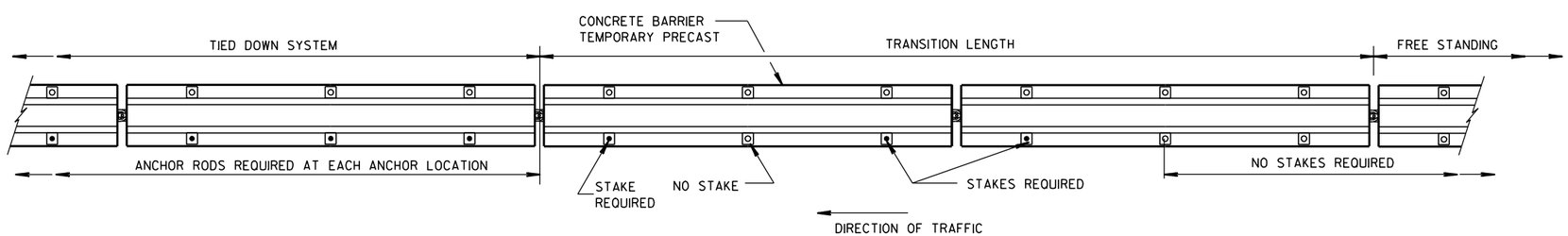


STOP PLATE

ASPHALT PIN
(ASTM A36 STEEL)

STAKE DOWN INSTALLATION FOR ASPHALTIC OR PORTLAND CEMENT CONCRETE SURFACE

(STAKING IS INCIDENTAL TO CONCRETE BARRIER TEMPORARY PRECAST)



PLAN VIEW

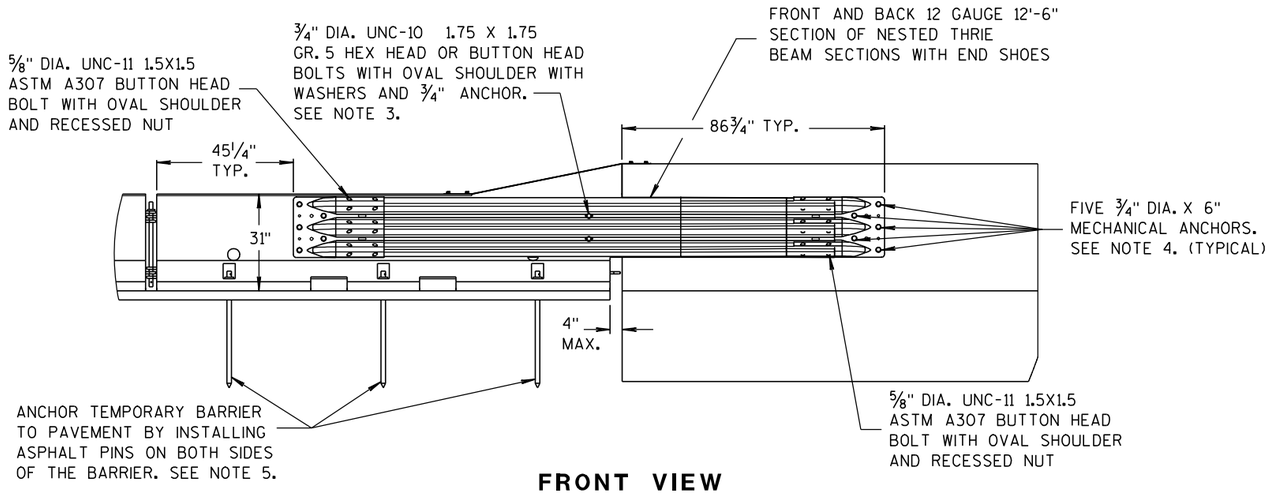
FREE STANDING TRANSITION TO TIED-DOWN SYSTEM

(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 TRANSPO...

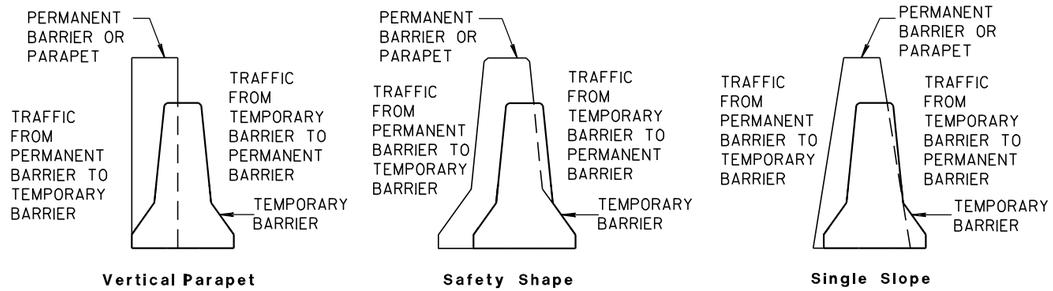
6
S.D.D. 14 B 7-13d



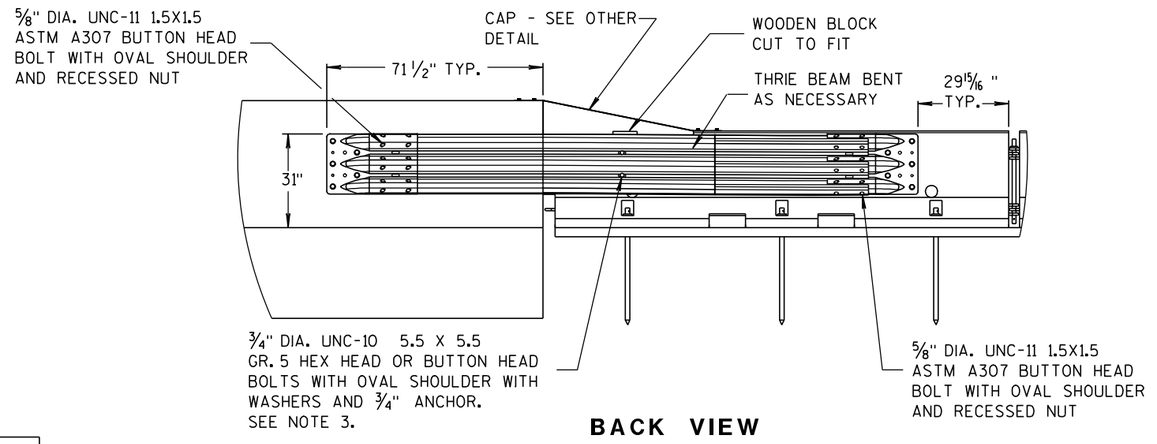
FRONT VIEW

NOTES

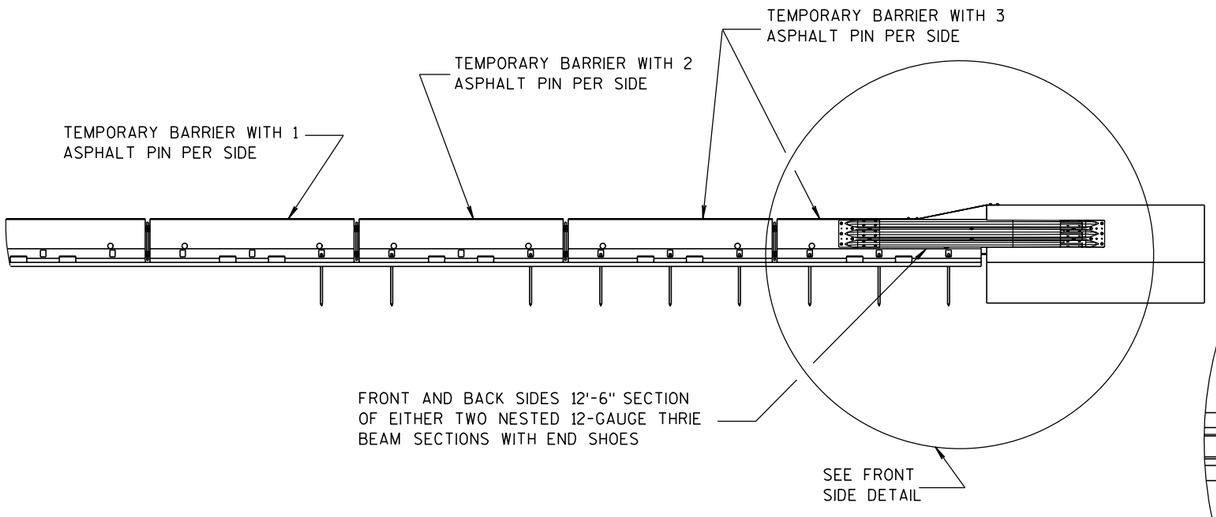
1. CAP END PLATE PLACED FLUSH WITH UPSTREAM END OF PERMANENT BARRIER OR PARAPET.
2. THRIE BEAM PIECES ARE OFFSET 15 1/4" TO PREVENT INTERFERENCE FROM THE ANCHORS ON OPPOSING SIDES.
3. MINIMUM MECHANICAL OR EPOXY ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 9.48 KIPS AND ULTIMATE SHEAR LOAD 10.48 KIPS.
4. MINIMUM MECHANICAL OR EPOXY 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 EPOXY ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 12.14 KIPS AND ULTIMATE SHEAR LOAD 17.5 KIPS.



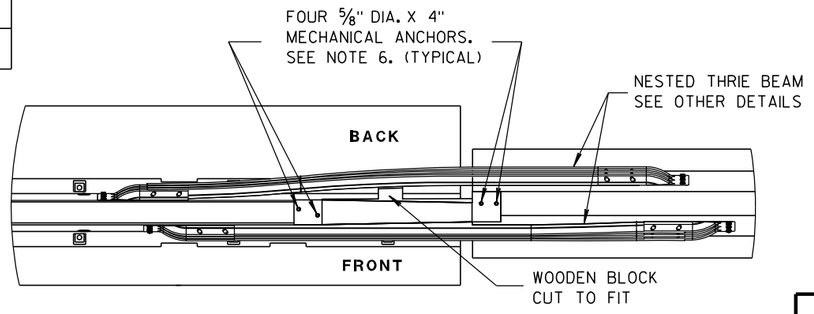
TEMPORARY BARRIER PLACEMENT FOR BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM



BACK VIEW



FRONT VIEW



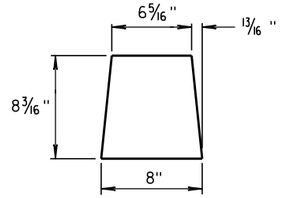
PLAN VIEW

BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM

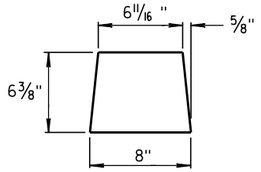
CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

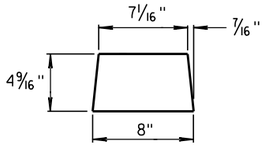
6
S.D.D. 14 B 7-13e



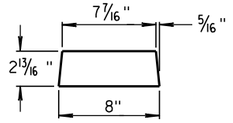
GUSSET 1



GUSSET 2

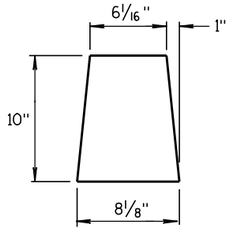


GUSSET 3

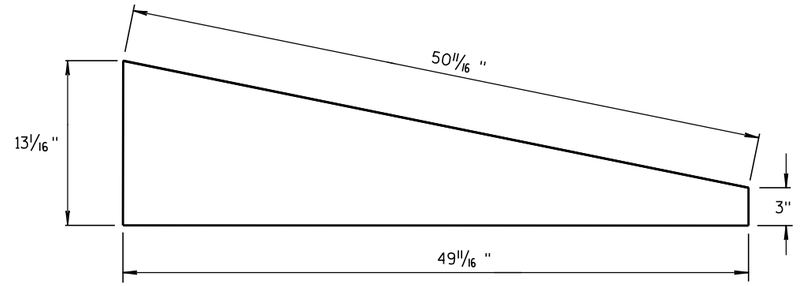


GUSSET 4

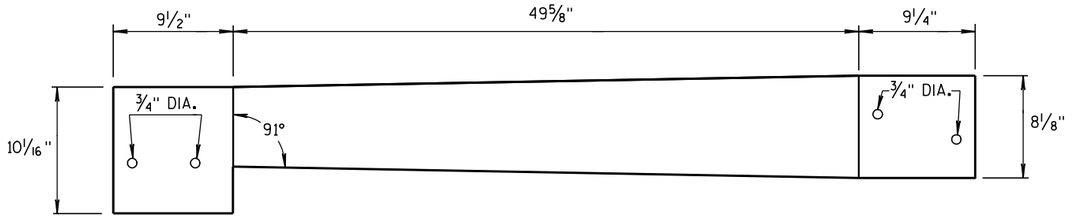
GUSSETS

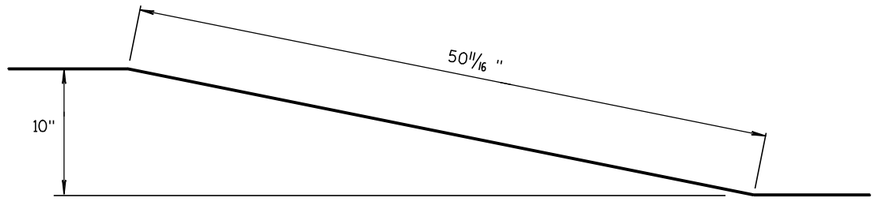


END PLATE

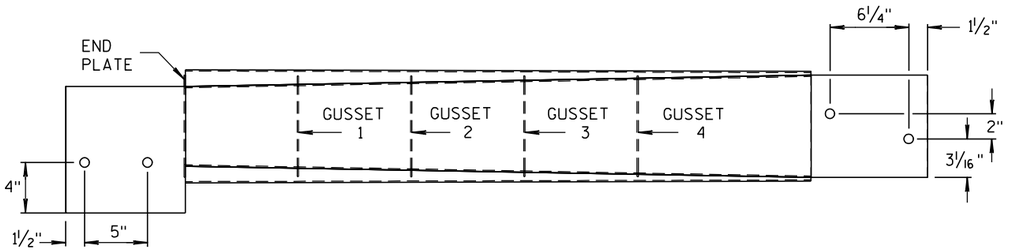


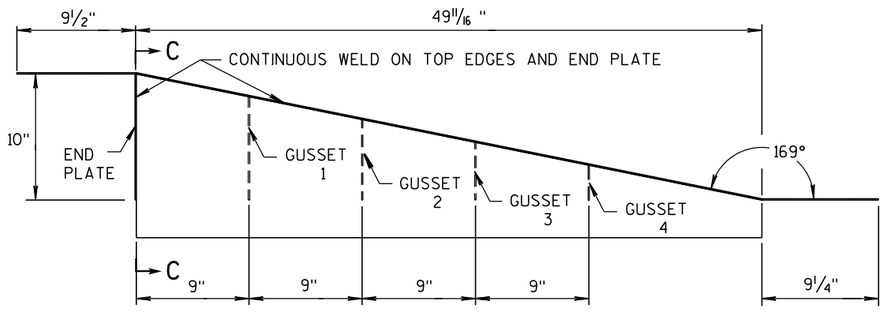
SIDE PLATE

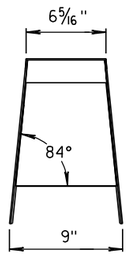




TOP PLATE







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

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

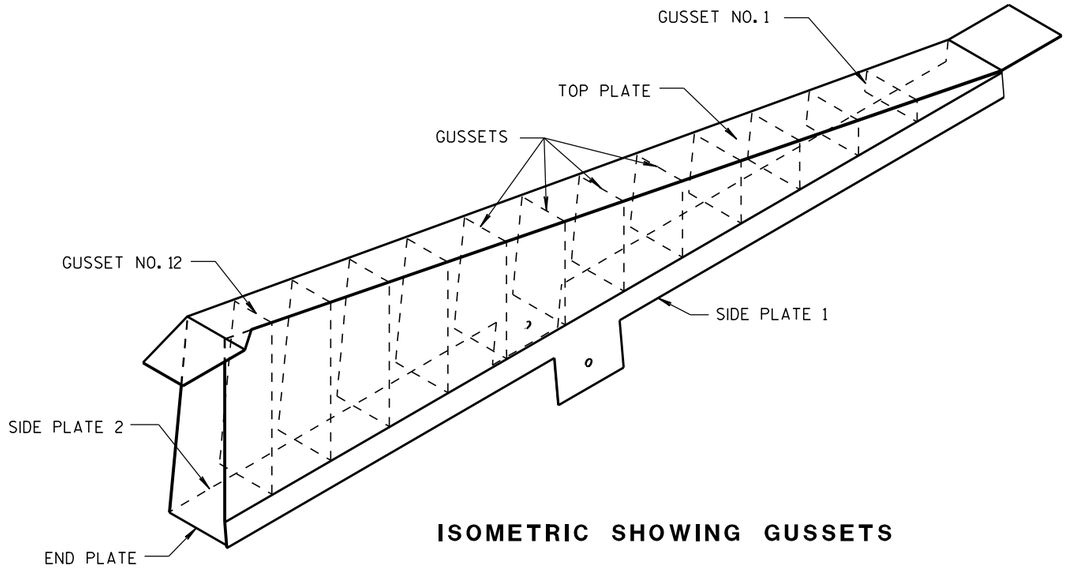
SIDE PLATES, TOP PLATE, END PLATE AND GUSSETS ARE 12 GAUGE ASTM A36 GALVANIZED STEEL.

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

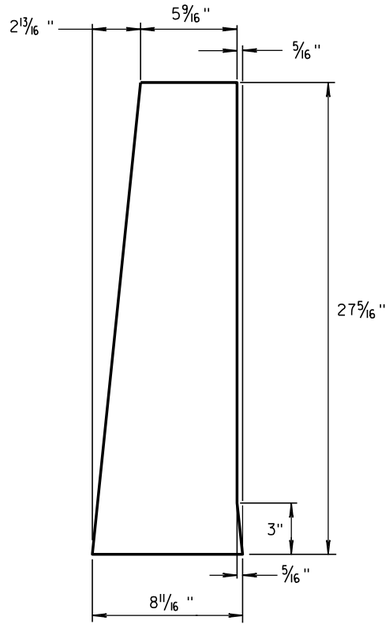
STATE OF WISCONSIN
DEPARTMENT OF TRANSPO...

6

S.D.D. 14 B 7-13f

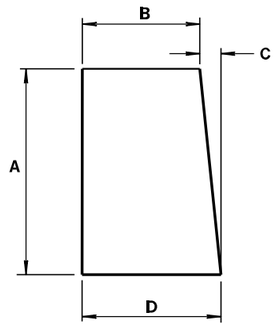


ISOMETRIC SHOWING GUSSETS



END PLATE

1/8" STEEL PLATE



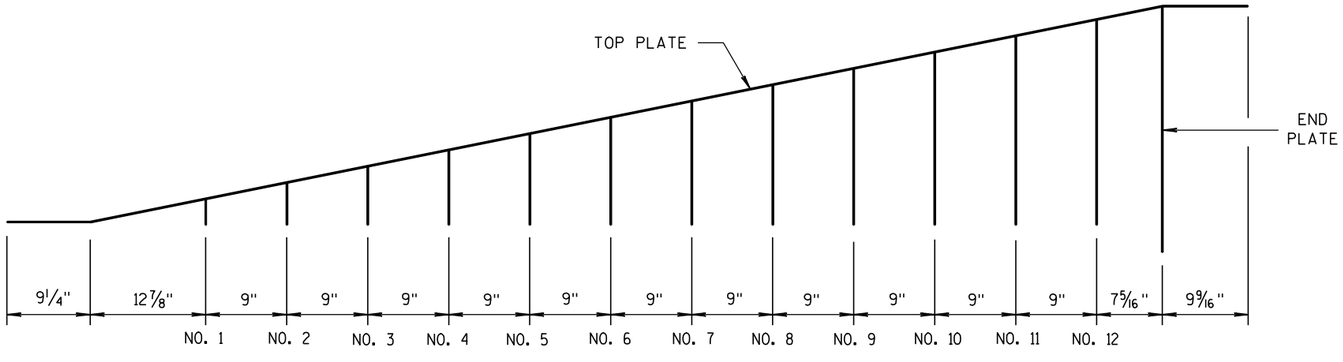
GUSSETS 1 - 12

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"

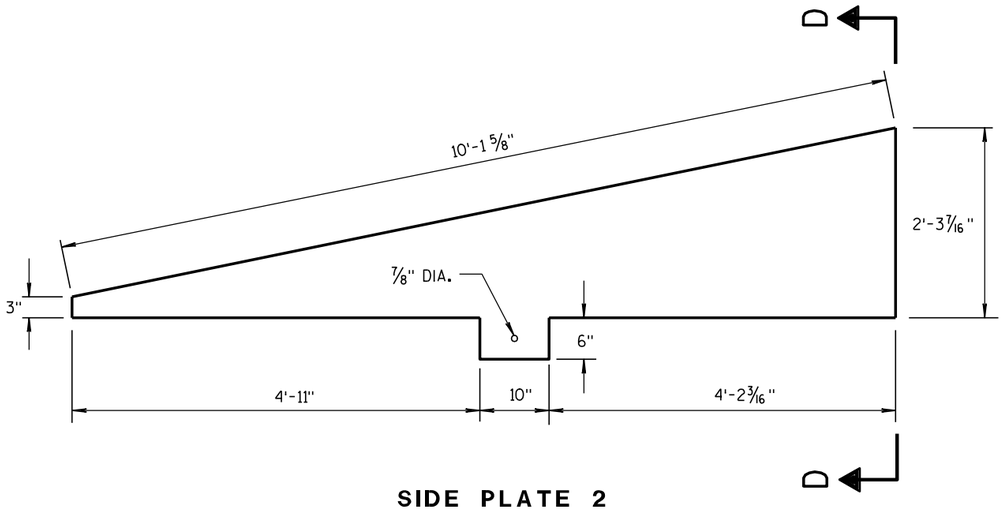
STATE OF WISCONSIN
DEPARTMENT OF TRANSPO...

6

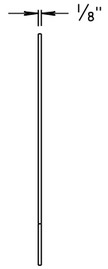
S.D.D. 14 B 7-13g

6

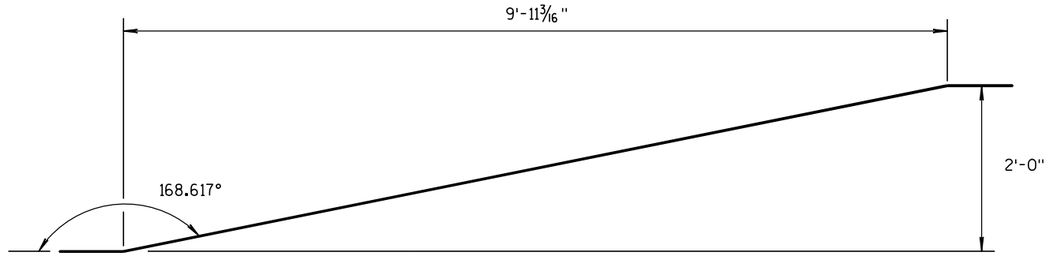
S.D.D. 14 B 7-13g



SIDE PLATE 2

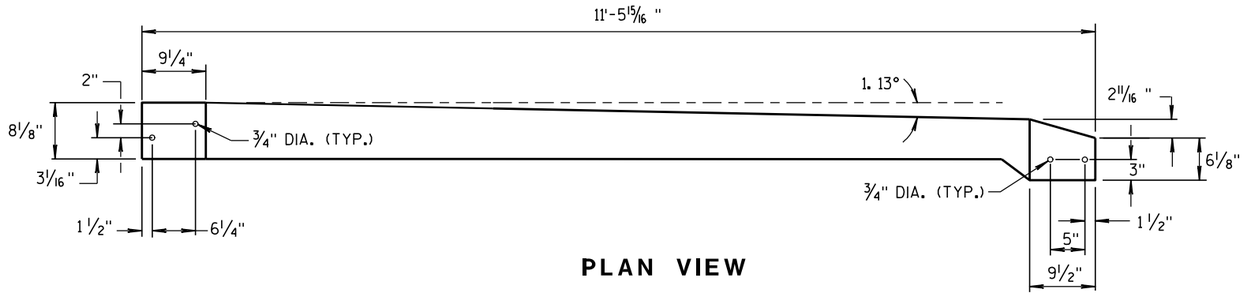


END VIEW



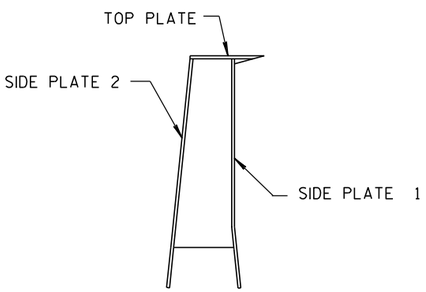
SIDE VIEW

TOP PLATE

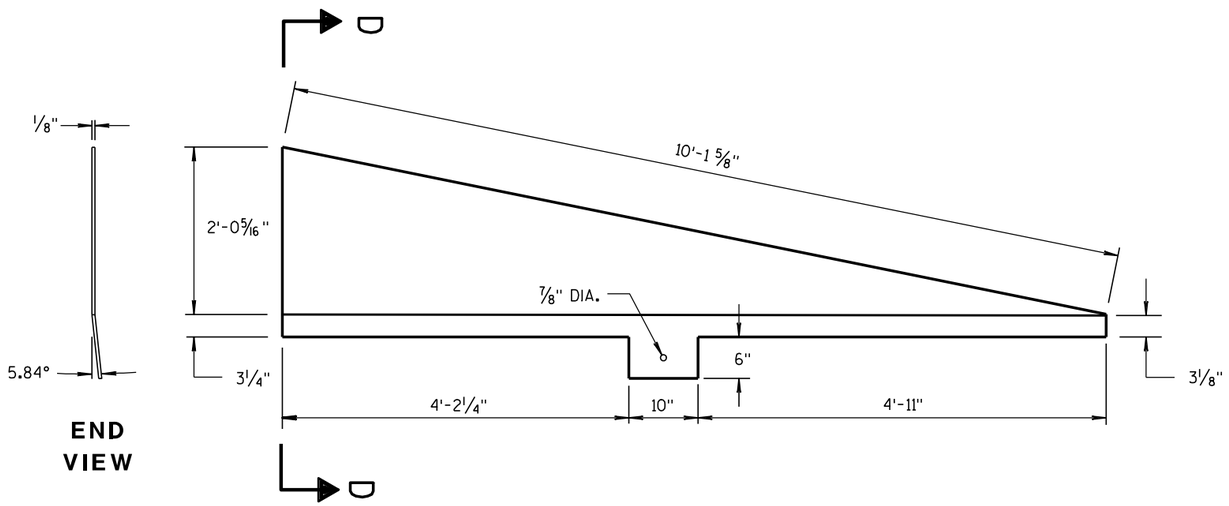


PLAN VIEW

TOP PLATE



SECTION D-D



END VIEW

SIDE PLATE 1

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

CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/31/2012 — DATE

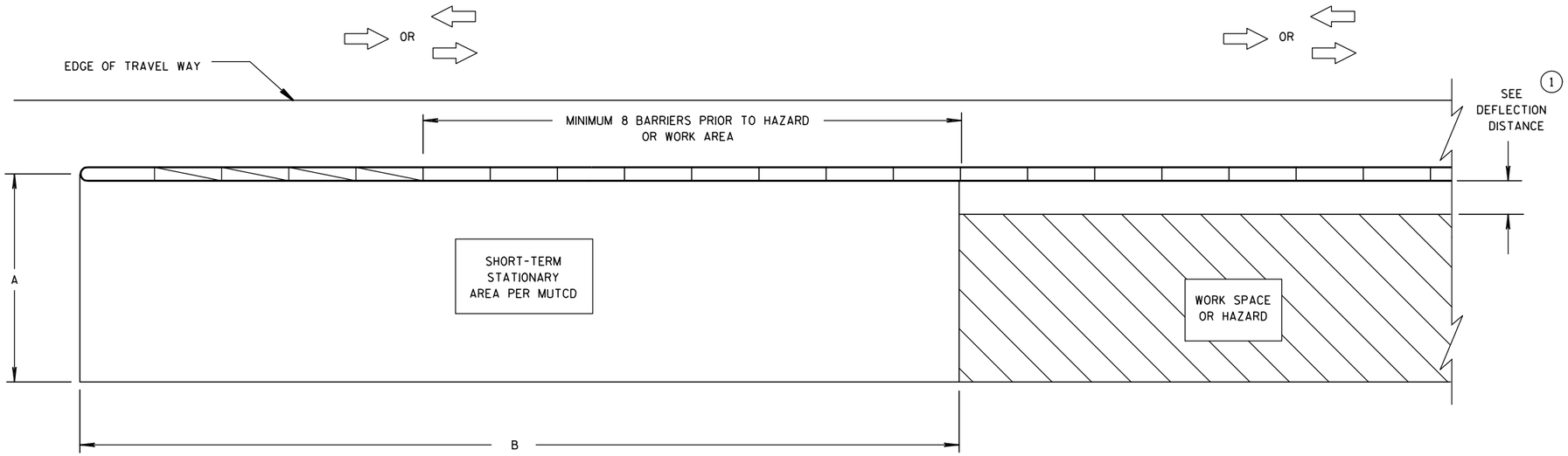
/S/ Jerry H. ---- — ROADWAY STANDARDS ENGINEER

ENT

FHWA

6

S.D.D. 14 B 7-13h



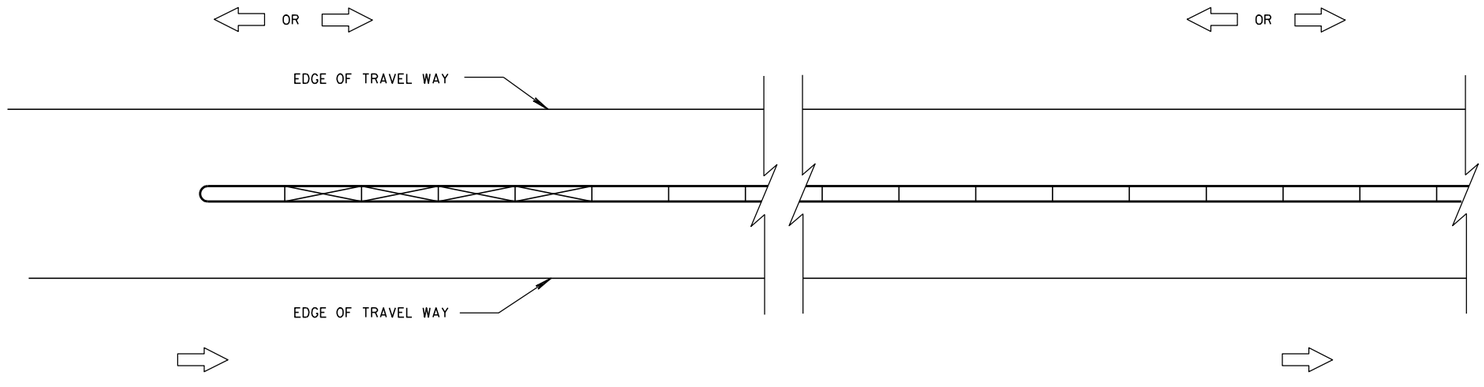
CRASH CUSHION/SAND BARREL ARRAY AND TEMPORARY BARRIER INSTALLATION FOR TRAFFIC ON ONE SIDE OF BARRIER

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.

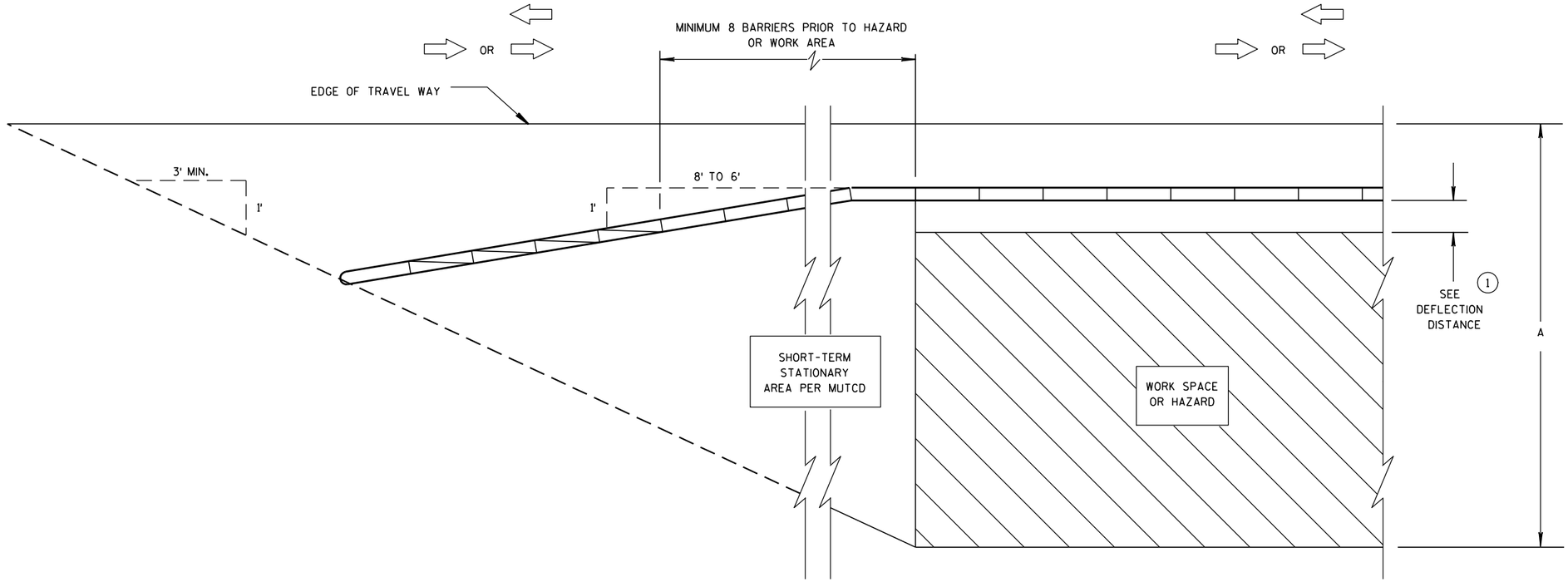
(1) FOR DEFLECTION INFORMATION SEE STANDARD DETAIL DRAWING 14B7.

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

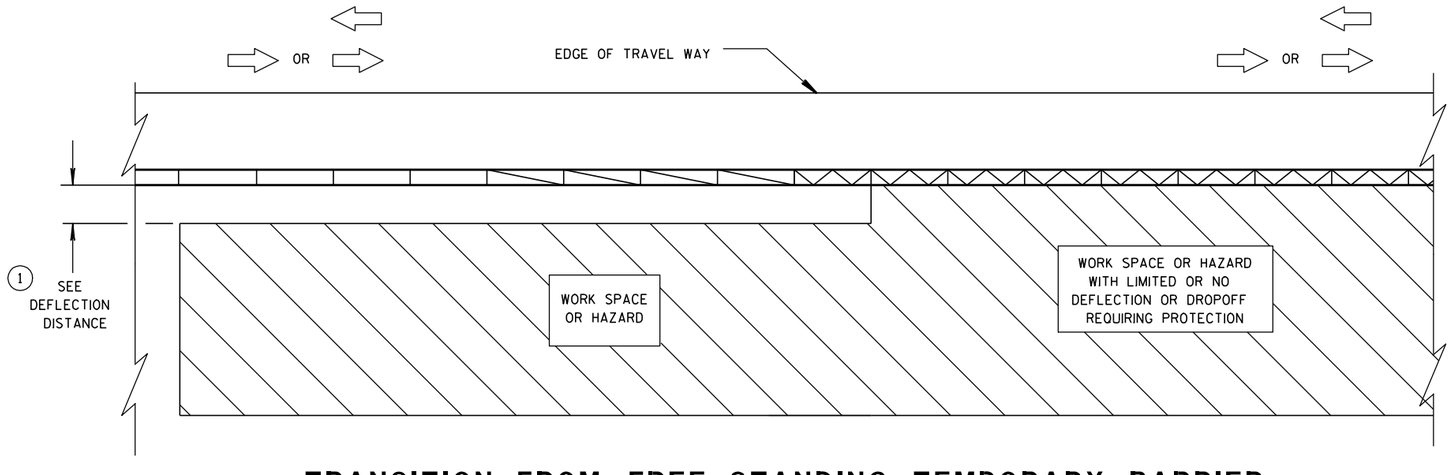
CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6
S.D.D. 14 B 8-1a



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

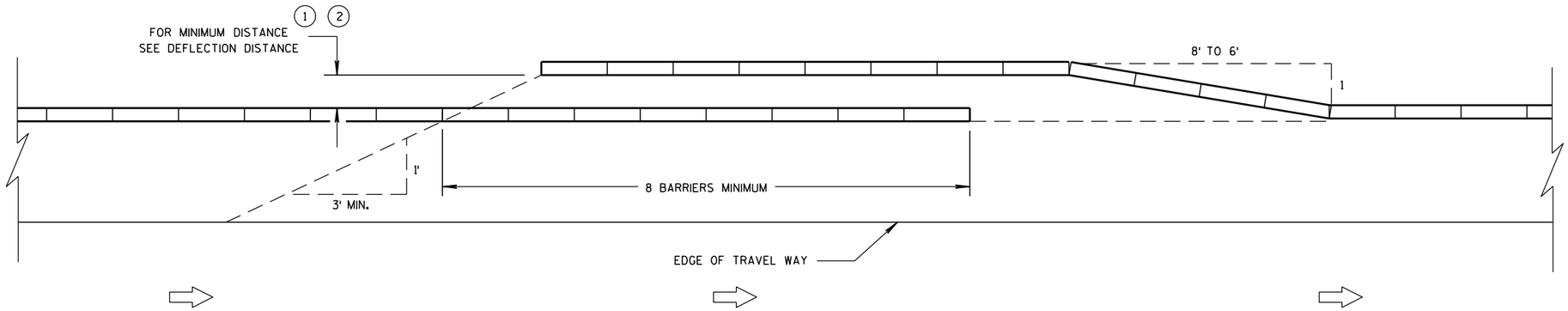
- DIRECTION OF TRAVEL
- CRASH CUSHION OR SAND BARREL ARRAY
- SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS
- SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS
- 3 PINS PLACED ON TRAFFIC SIDE OF BARRIER
- PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET
- FREE STANDING TEMPORARY BARRIER

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

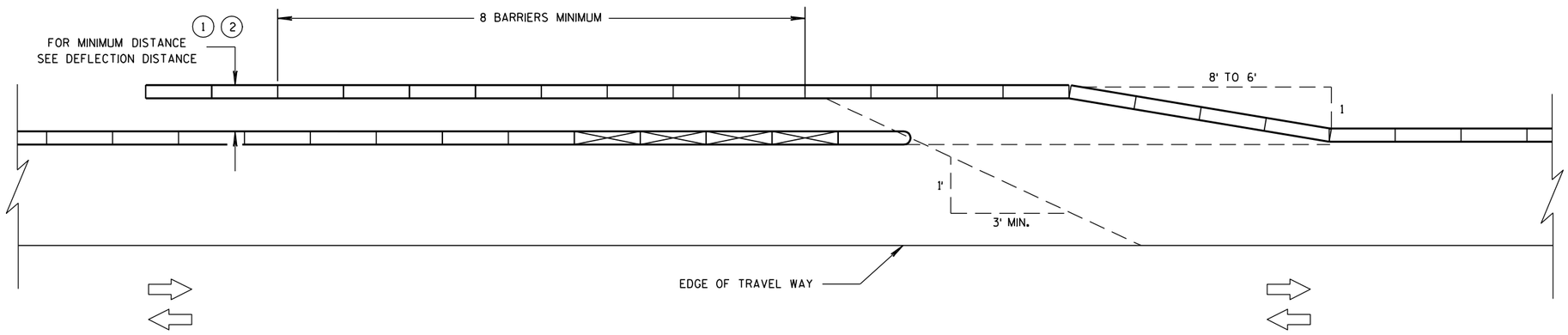
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

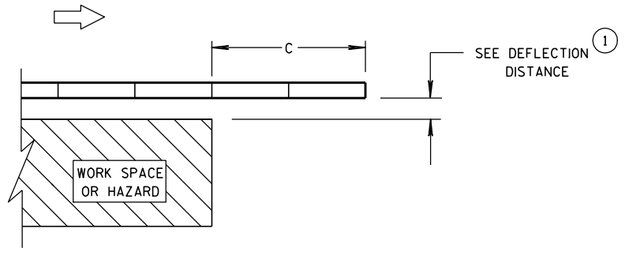
S.D.D. 14 B 8-1b



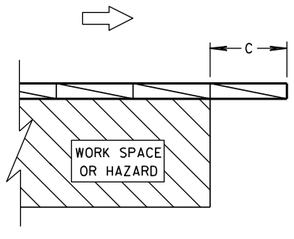
TEMPORARY BARRIER OVERLAP - ONE-WAY TRAFFIC



TEMPORARY BARRIER OVERLAP - TWO-WAY TRAFFIC



ENDING TEMPORARY BARRIER DOWNSTREAM - UNANCHORED



ENDING TEMPORARY BARRIER DOWNSTREAM - ANCHORED

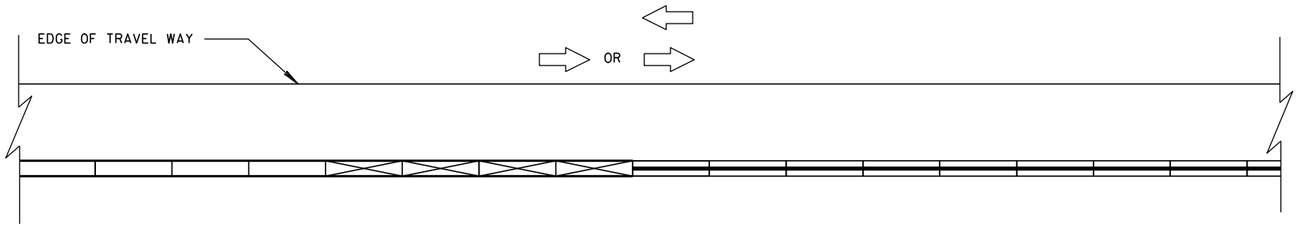
LEGEND

- 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

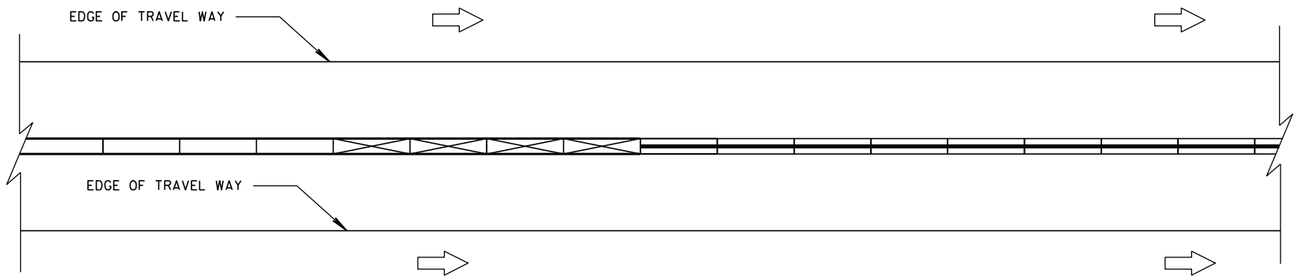
CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6
S.D.D. 14 B 8-1c



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

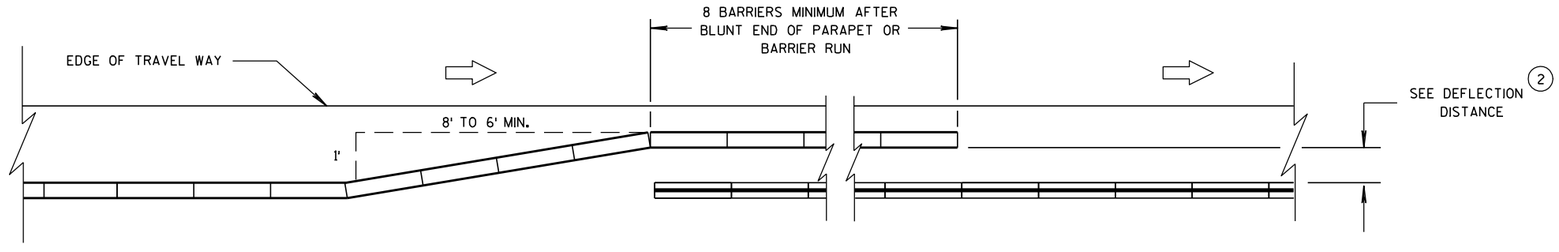
SEE FREE STANDING TRANSITION
TO TIED-DOWN SYSTEM DETAILS

SEE BI-DIRECTIONAL TRANSITION
TO TIED-DOWN SYSTEM DETAILS

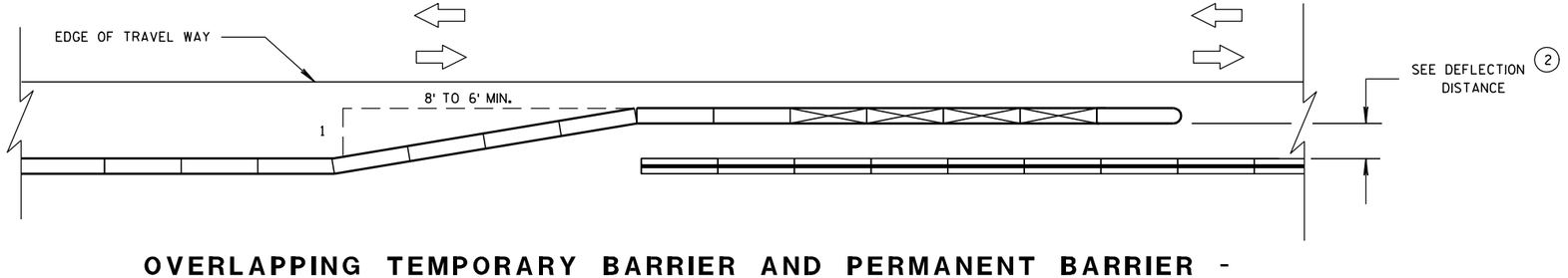
3 PINS PLACED ON
TRAFFIC SIDE OF BARRIER

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 TRANSPO...

6

S.D.D. 14 B 8-1d

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) W6 X 9 OR W6 X 8.5 STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS ARE ACCEPTABLE ALTERNATIVES FOR 6" X 8" WOOD POSTS WITH WOOD OR PLASTIC BLOCKOUTS. USE APPROVED NOTCHED PLASTIC BLOCKOUTS WITH STEEL POSTS. APPROVED PLASTIC BLOCKOUT DESIGNS MAY VARY FROM THIS TYPICAL DETAIL WHEN USED IN CONJUNCTION WITH STEEL POSTS.

DO NOT MIX STEEL POSTS AND WOOD POSTS IN A SINGLE INSTALLATION.

(2) USE STRUCTURAL STEEL POSTS CONFORMING TO ASTM A 36. GALVANIZED POSTS ACCORDING TO AASHTO M 111. EITHER SET THE POSTS IN DRILLED HOLES OR DRIVE TO GRADE. REMOVE MUSHROOMING CAUSED BY DRIVING AND REPAIR DAMAGED SPELTER COATING ON GALVANIZED POSTS.

(3) INSTALL STEEL POSTS WITH HOLES ON APPROACHING TRAFFIC SIDE.

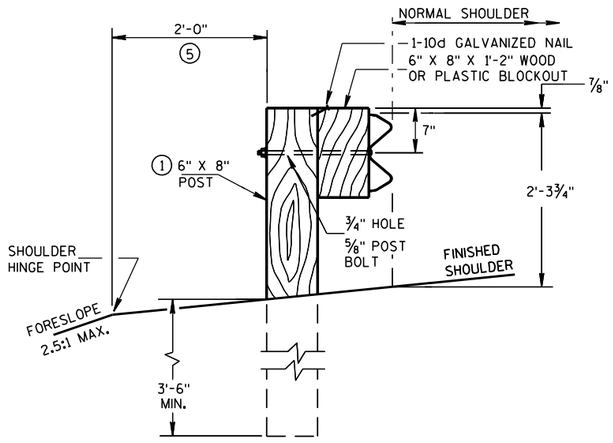
(4) USE EITHER WOOD OR APPROVED PLASTIC BLOCKOUTS ON WOOD POSTS.

(5) IF THE DISTANCE FROM BACK OF POST TO SHOULDER HINGE POINT IS LESS THAN 2 FEET INSTALL LONGER POST AT HALF POST SPACING, W BEAM (LHW).

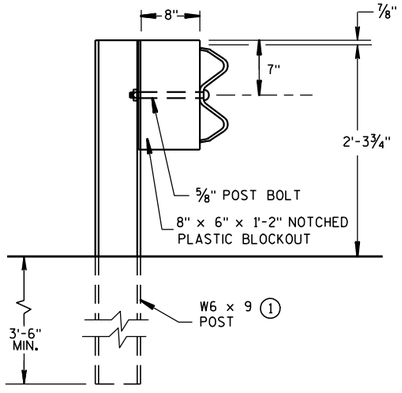
(6) IF ROCK IS ENCOUNTERED DURING EXCAVATION, THE ENGINEER MAY APPROVE USING A 12 INCH DIAMETER POST HOLE EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE APPROXIMATELY 2½ INCHES DEEP. CUT THE POSTS TO LENGTH AND PLACE IN YHE HOLE. BACKFILL WITH MATERIAL EXCAVATED FROM THE HOLE AND COMPACT ADEQUATEY.

INSTALL BEAM GUARD SECTIONS AND ALL NECESSARY HARDWARE ACCORDING TO THE APPLICABLE PLAN AND CURRENT STANDARD AND SUPPLEMENTAL SPECIFICATIONS.

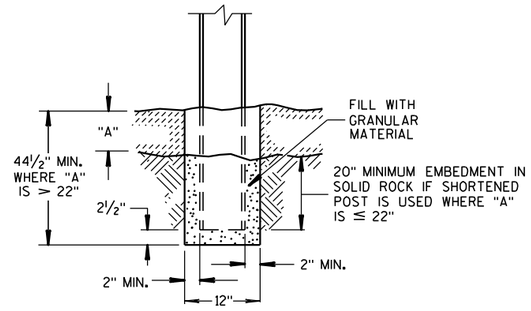
ALL DIMENSIONS ARE SUBJECT TO MANUFACTURER'S TOLERANCES EXCEPT WHERE ALLOWABLE TOLERANCES ARE SHOWN.



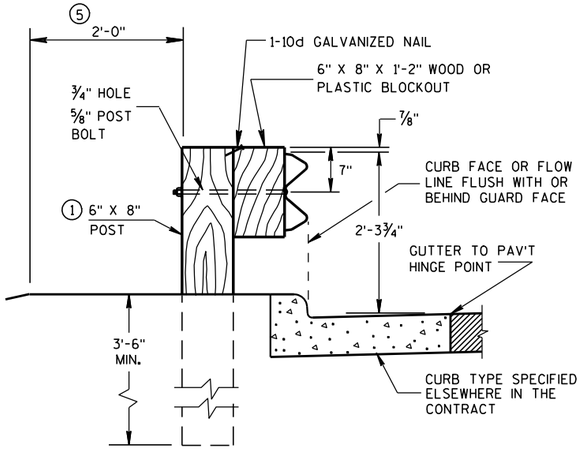
END VIEW
LOCATED ALONG A ROADWAY SHOULDER
STANDARD INSTALLATION



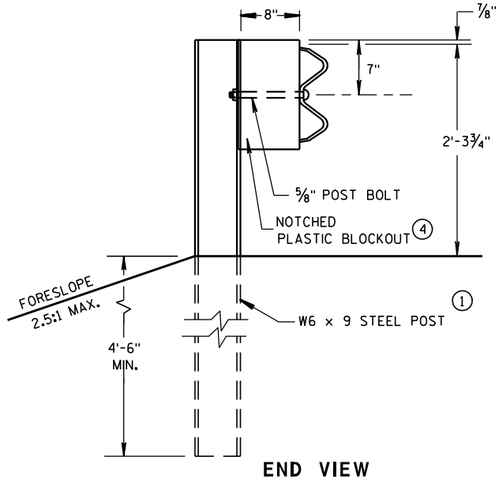
END VIEW
STEEL POST & NOTCHED
PLASTIC BLOCKOUT ALTERNATIVE
STANDARD INSTALLATION



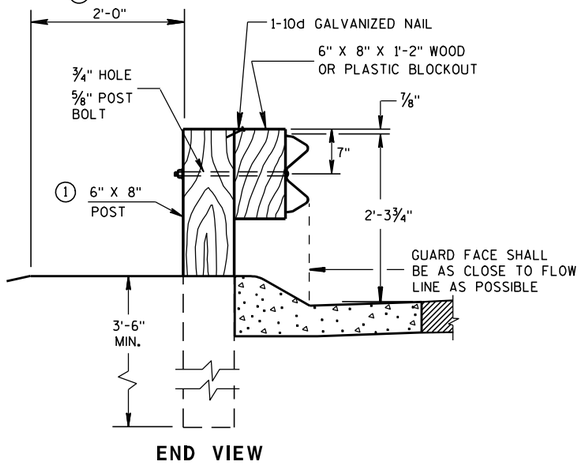
END VIEW
SETTING STEEL OR WOOD POST IN ROCK (6)



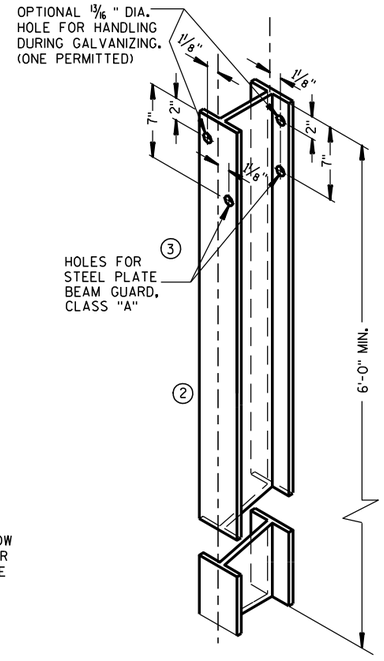
END VIEW
LOCATED ALONG A CURBED ROADWAY



END VIEW
LONGER POST AT HALF
POST SPACING W BEAM
(LHW)

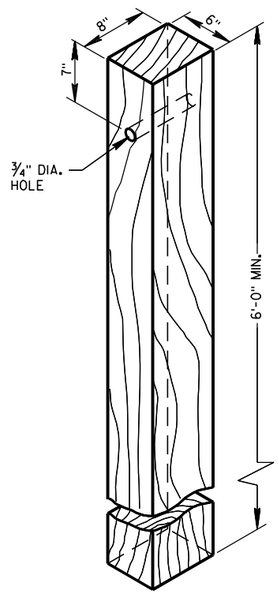


END VIEW
LOCATED ALONG A
MOUNTABLE CURBED ROADWAY

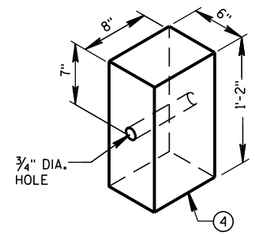


STEEL POST &
HOLE PUNCHING DETAIL
(W6 X 9) (1)

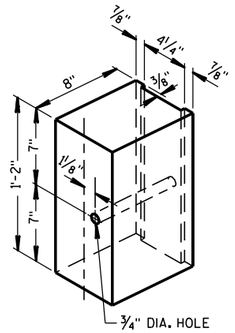
ALL HOLES 13/16" DIAMETER EXCEPT AS NOTED



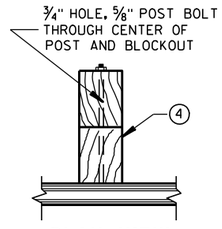
WOOD POST
(6"X8") NOMINAL



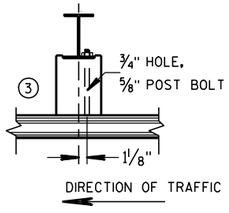
WOOD OR PLASTIC
BLOCKOUT FOR
WOOD POSTS



TYPICAL NOTCHED (1)
PLASTIC BLOCKOUT
FOR STEEL POSTS



PLAN VIEW
WOOD POST,
BLOCKOUT & BEAM



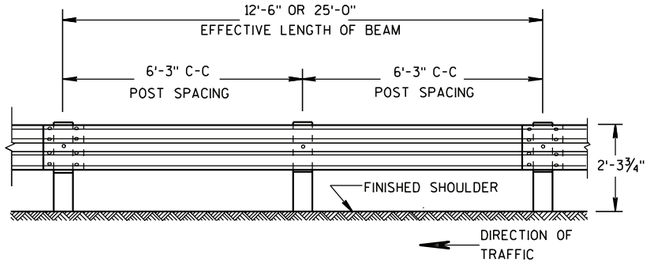
PLAN VIEW
STEEL POST, NOTCHED
PLASTIC BLOCKOUT & BEAM

TYPICAL INSTALLATION OF STEEL PLATE BEAM GUARD

STEEL PLATE BEAM GUARD,
CLASS "A"
INSTALLATION & ELEMENTS

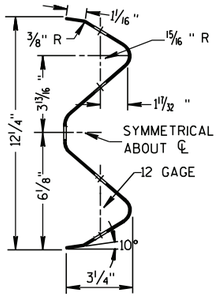
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6
S.D.D. 14 B 15-7a

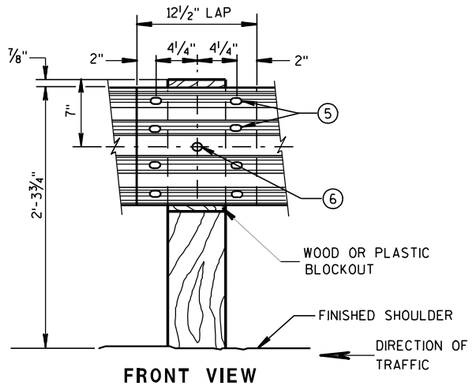


FRONT VIEW

POST SPACING STANDARD INSTALLATION



SECTION THRU W BEAM

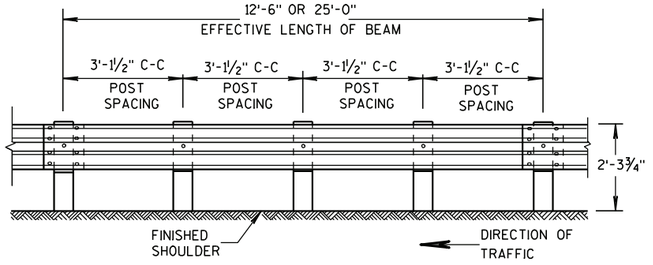


FRONT VIEW

BEAM SPLICE AT WOOD POST AND POST MOUNTING DETAIL

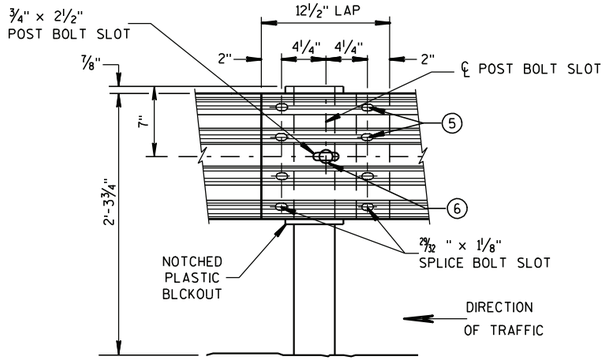
GENERAL NOTES

1. PROVIDE TYPE "H" SILVER REFLECTIVE SHEETING ON ALL REFLECTORS EXCEPT THOSE LOCATED ALONG THE LEFT EDGE OF ONE-WAY ROADWAYS, WHICH SHALL BE PROVIDED WITH TYPE "H" YELLOW REFLECTIVE SHEETING.
2. DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.
3. REVERSE EVERY OTHER REFLECTOR FOR 2-WAY VISIBILITY. THE CONTRACTOR MAY FURNISH TWO-SIDED REFLECTORS IN LIEU OF ONE-SIDED REFLECTORS.
4. PROVIDE AN ANGLE OF BEND OF 90° ± 1° FOR TWO-SIDED REFLECTORS.
5. 8 - 5/8" ϕ X 2 " BUTTON HEAD BOLTS WITH OVAL SHOULDERS & RECESS NUTS.
6. 5/8" ϕ X 1'-6" BUTTON HEAD BOLT AND AND RECESS NUT WITH ROUND WASHER UNDER NUT.



FRONT VIEW

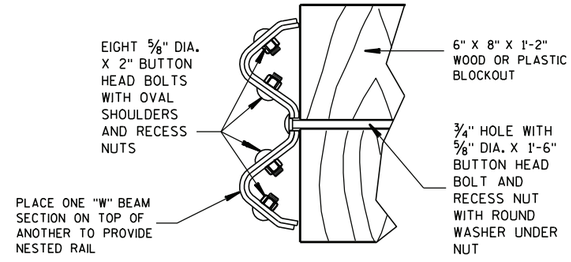
POST SPACING FOR LONGER POST AT HALF POST SPACING W BEAM (LHW)



FRONT VIEW

BEAM SPLICE AT STEEL POST

TYPICAL SPLICING DETAILS OF STEEL PLATE BEAM GUARD

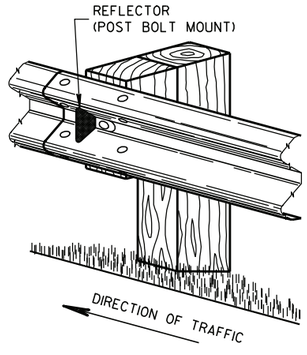


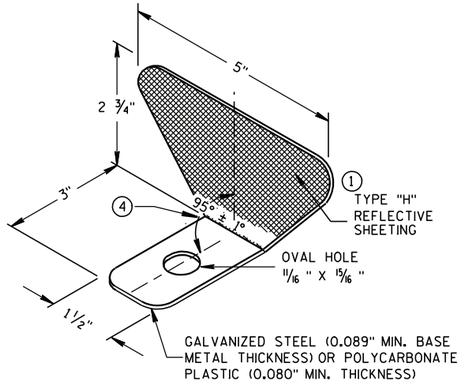
NESTED W BEAM (NW)

USE ALL OTHER STANDARD BEAM GUARD DETAILS FOR CONSTRUCTING NESTED W BEAM (NW)

REFLECTOR SPACING (2)

	BEAM GUARD LENGTH	REFLECTOR SPACING	NO. SURFACES REFLECTORIZED	MIN. NO. REFLECTORS
ONE WAY TRAFFIC	< 200'	50' C-C	1	3
	> 200'	100' C-C	1	
TWO WAY TRAFFIC	< 200'	25' C-C	1 (3)	6
	> 200'	50' C-C	1	
TWO WAY TRAFFIC	< 200'	50' C-C	2	3
	> 200'	100' C-C	2 (4)	



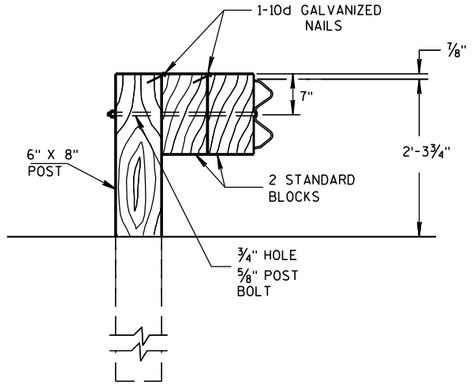


ONE SIDED REFLECTOR DETAIL AND TYPICAL INSTALLATION (1)

STEEL PLATE BEAM GUARD,
CLASS "A",
INSTALLATION & ELEMENTS

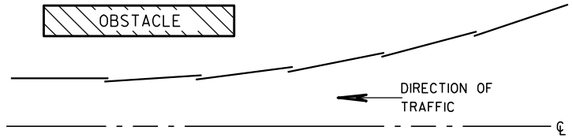
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6
S.D.D. 14 B 15-7b

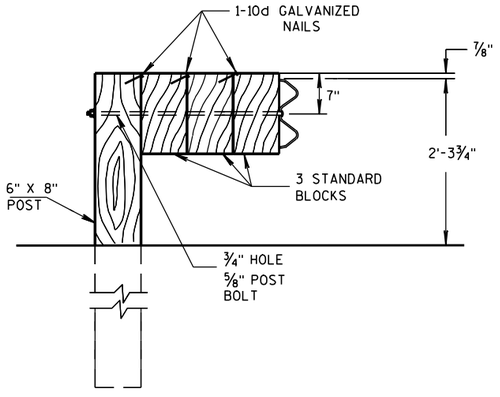


DETAIL FOR DOUBLE BLOCKS

THE NUMBER OF DOUBLE BLOCK POSTS WITHIN A BARRIER RUN IS UNLIMITED

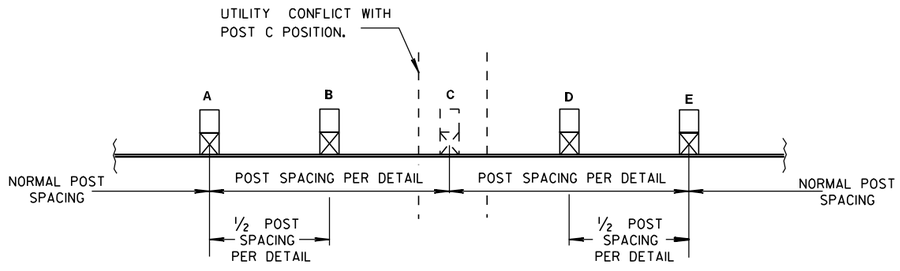


PLAN VIEW
BEAM LAPPING DETAIL



DETAIL FOR TRIPLE BLOCKS

TRIPLE BLOCK DETAIL IS LIMITED TO ONE LOCATION WITHIN A BEAM GUARD RUN.



POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION

NOTES: USE DOUBLE OR TRIPLE BLOCKS WHEN UNDERGROUND OBSTACLES PREVENT THE POST FROM BEING INSTALLED.

DO NOT USE EXTRA 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.

STEEL PLATE BEAM GUARD, CLASS "A", INSTALLATION & ELEMENTS

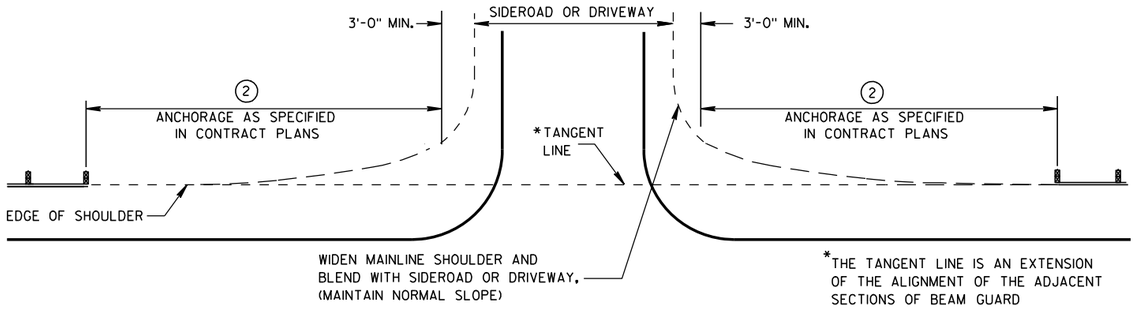
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

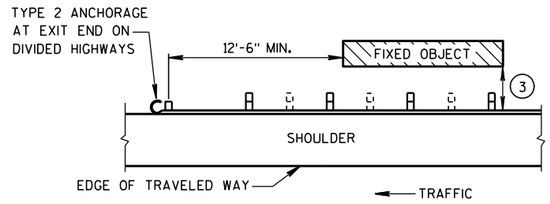
5/23/11	/S/ Jerry H. Zogg	
DATE	ROADWAY STANDARDS ENGINEER	ENT

FHWA

6
S.D.D. 14 B 15-7c



BEAM GUARD AT SIDEROADS OR DRIVEWAYS



BEAM GUARD AT OBSTACLES EXIT END - ONE WAY TRAFFIC

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE PERTINENT STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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

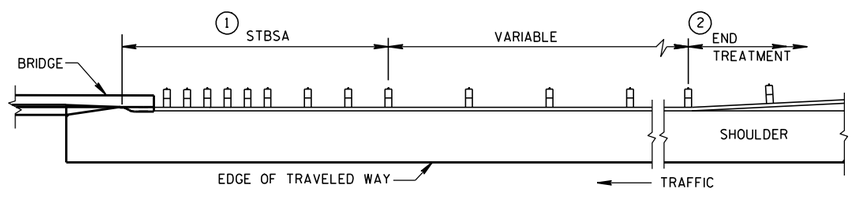
THE LOCATIONS AND LENGTHS OF BEAM GUARD ARE SHOWN ELSEWHERE IN THE PLAN.

(1) STEEL THRIE BEAM STRUCTURAL APPROACH (STBSA) - SEE CURRENT SDD 14B20.

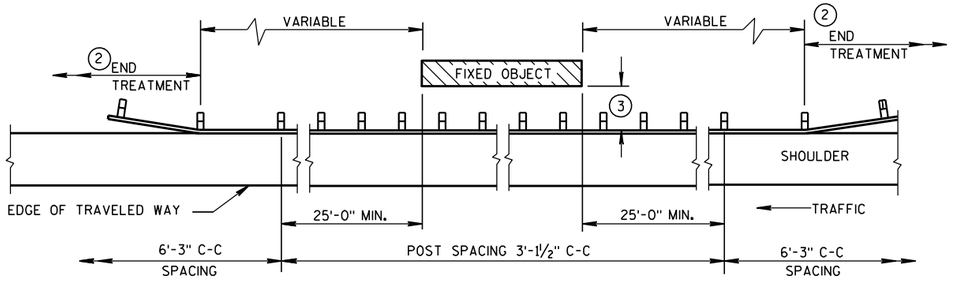
(2) USE AN APPROVED END TREATMENT FOR THE TRAFFIC APPROACH SIDE OF BRIDGE/OBSTACLES. USE TYPE 2 ANCHORAGE ONLY AT THE DOWNSTREAM ENDS OF BEAM GUARD LOCATED ALONG ROADWAYS WITH ONE WAY TRAFFIC.

(3)

MINIMUM LATERAL DISTANCE FROM FACE OF BEAM GUARD TO FIXED OBJECT	POST SPACING
3'-6"	3' - 1½"
4'-6"	6' - 3"

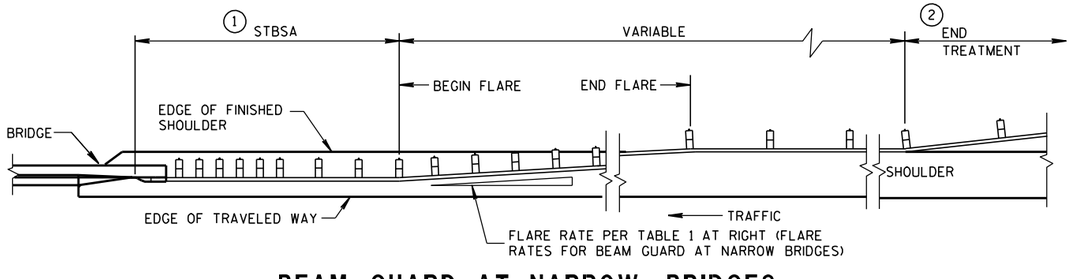


BEAM GUARD AT FULL WIDTH BRIDGES



BEAM GUARD AT OBSTACLES - TWO WAY TRAFFIC

(RAIL TO OBSTACLE CLEARANCE 3'-6" TO 4'-6")



BEAM GUARD AT NARROW BRIDGES
(FLARED TO SHOULDER EDGE, THEN PARALLEL TO ROADWAY)

TABLE 1
FLARE RATES FOR BEAM GUARD AT NARROW BRIDGES

POSTED SPEED (MPH)	FLARE RATE
25	13:1
30	15:1
35	16:1
40	18:1
45	21:1
50	24:1
55	26:1
65	30:1

STEEL PLATE BEAM GUARD CLASS "A" AT BRIDGES, OBSTACLES AND SIDEROADS/DRIVEWAYS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8-21-07 DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

6
S.D.D. 14 B 18-6a

GENERAL NOTES

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

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

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

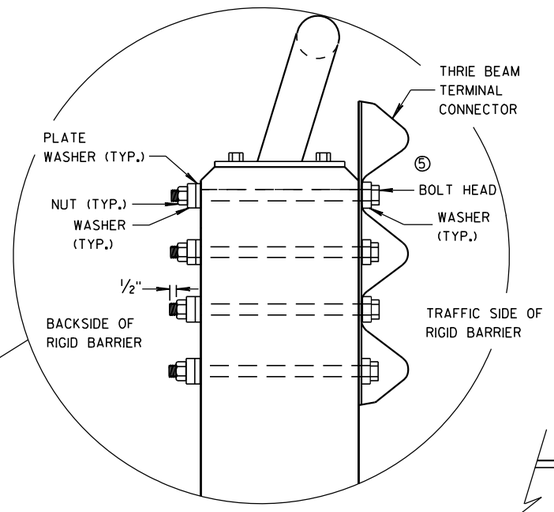
② BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM TERMINAL CONNECTOR. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X ⅝" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.

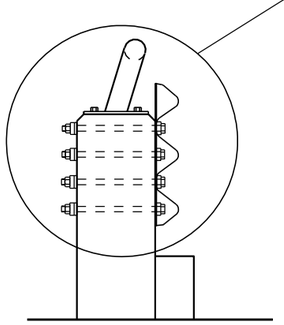
③ THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 ½".

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

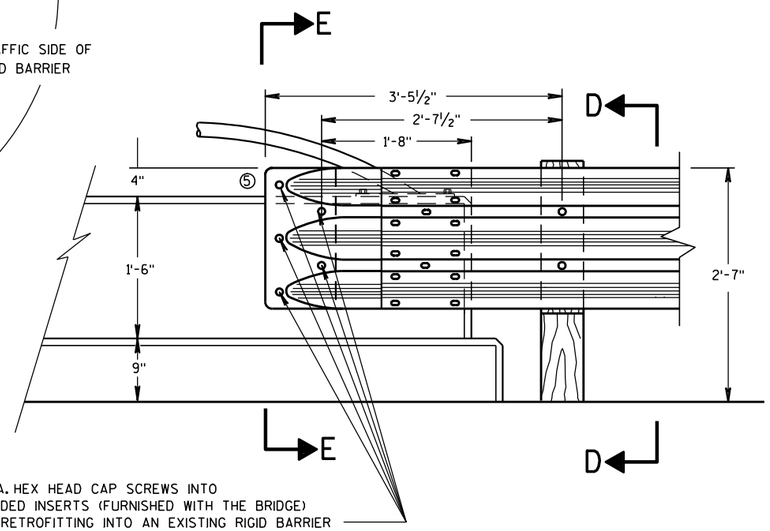
⑤ BOLT, NUT AND WASHERS NOT REQUIRED FOR THIS LOCATION WHEN RETROFITTING AN EXISTING PAPAPET AND THE HOLE IS EITHER ABOVE PARAPET OR WITHIN 4 INCHES OF THE EDGE OF PARAPET.

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





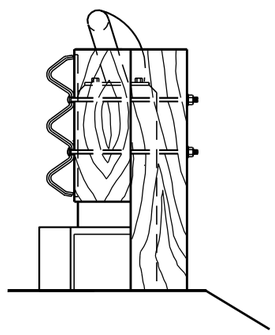
SECTION E-E



① ② ⅞" DIA. HEX HEAD CAP SCREWS INTO THREADED INSERTS (FURNISHED WITH THE BRIDGE) WHEN RETROFITTING INTO AN EXISTING RIGID BARRIER ⅞" DIA. H.S. HEX BOLT AND WASHERS REQUIRED

1" DIA. HOLES DRILLED THRU PARAPET (4 REQ'D.)

FRONT VIEW

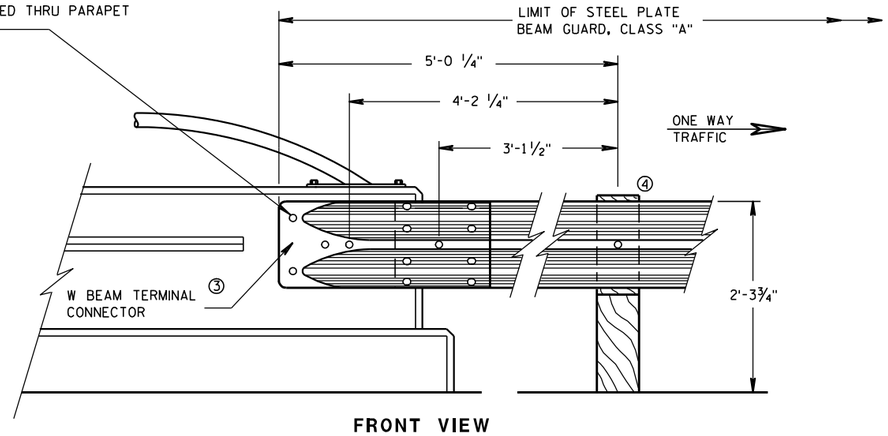


SECTION D-D

THRIE BEAM CONNECTION TO VERTICAL FACED PARAPETS

① ② ⅞" DIA. HEX HEAD CAP SCREWS INTO THREADED INSERTS (FURNISHED WITH THE BRIDGE) WHEN RETROFITTING INTO AN EXISTING RIGID BARRIER ⅞" DIA. H.S. HEX BOLT AND WASHERS REQUIRED

1" DIA. HOLES DRILLED THRU PARAPET (4 REQ'D.)



FRONT VIEW

W BEAM CONNECTION TO VERTICAL FACE PARAPET

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

STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO VERTICAL FACED PARAPETS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8/31/2012 — DATE
/S/ Jerry H. Zaa — ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

6

S.D.D. 14 B 20-11c

6

S.D.D. 14 B 20-11c

GENERAL NOTES

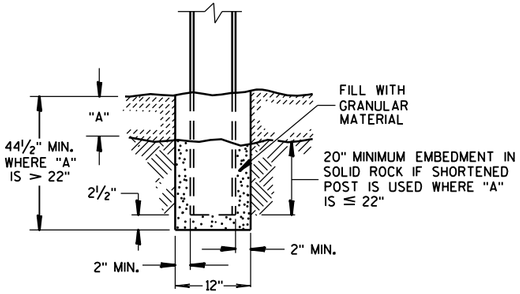
1. WOOD OR STEEL POSTS (w6X9 OR w6X8.5) MAY BE USED. DO NOT INTERMIX WOOD AND STEEL POSTS. INSTALL STEEL POSTS WITH HOLES ON APPROACHING TRAFFIC SIDE.

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.

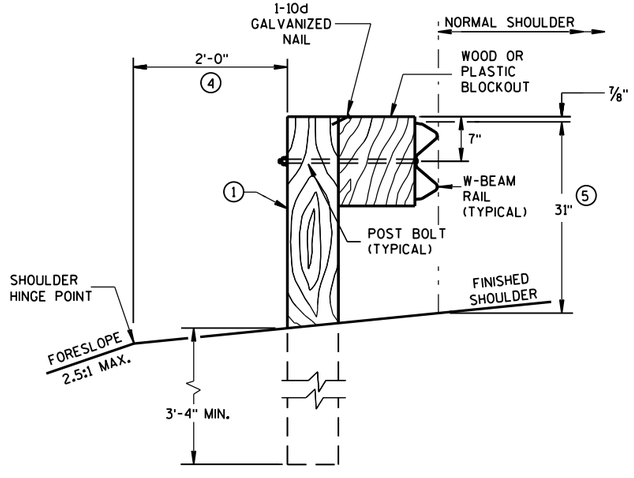
3. IF ROCK IS ENCOUNTERED DURING EXCAVATION, PROVIDE A HOLE 12 INCHES IN DIAMETER EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2½INCHES OF GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE. CUT THE POSTS THE TO LENGTH AMD INSTALL. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT. BACKFILL IS TO 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 27¾" TO 32".

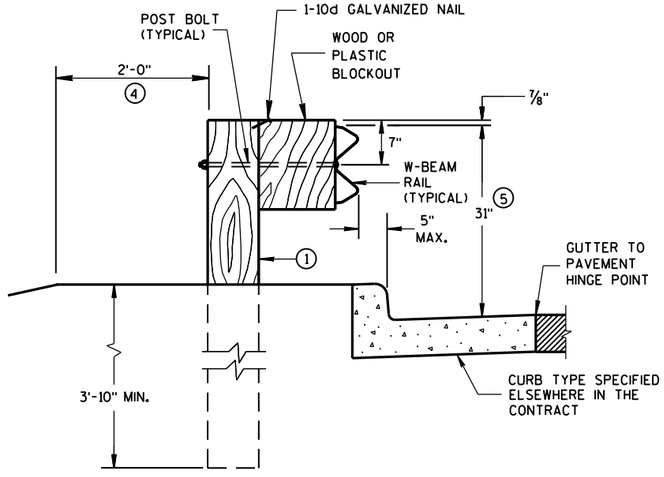


END VIEW
SETTING STEEL OR WOOD POST IN ROCK ③



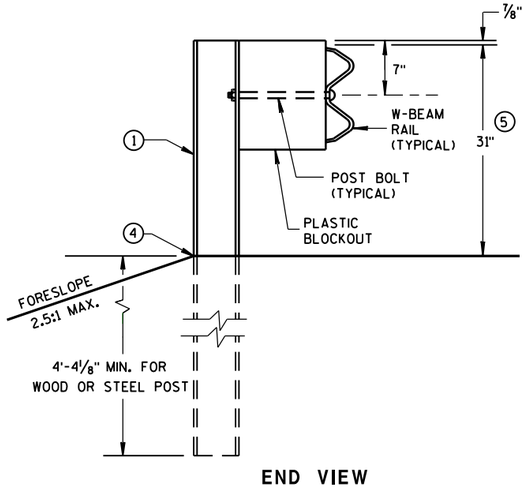
END VIEW

LOCATED ALONG A ROADWAY SHOULDER
STANDARD INSTALLATION



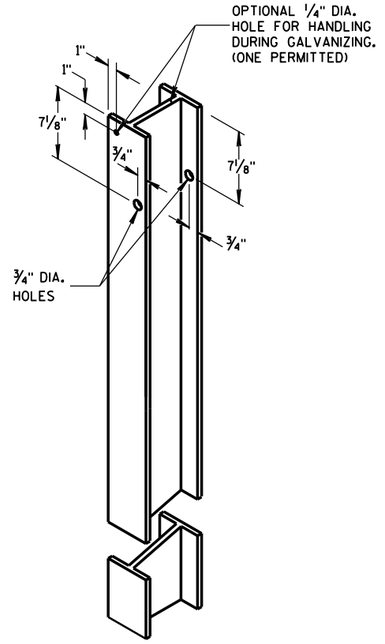
END VIEW

LOCATED ALONG A CURBED ROADWAY

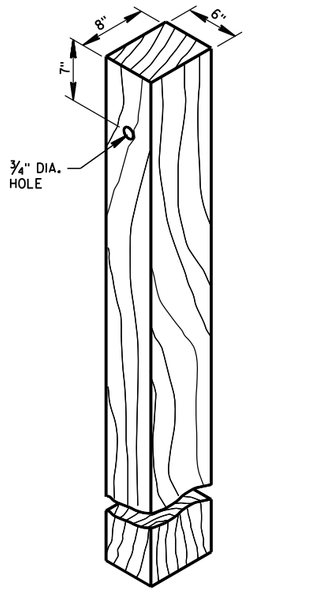


END VIEW

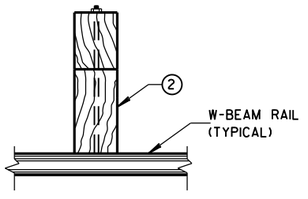
MGS LONGER POST AT HALFPOST SPACING W BEAM (K)



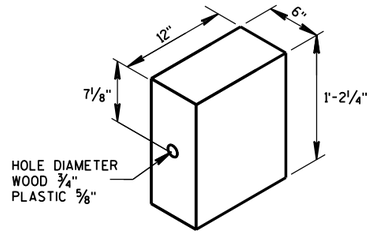
STEEL POST &
HOLE PUNCHING DETAIL
(w6X9) ①



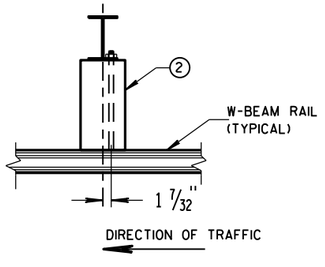
WOOD POST
(6" X 8") NOMINAL ①



PLAN VIEW
WOOD POST,
BLOCKOUT & BEAM



WOOD OR
PLASTIC BLOCKOUT ②

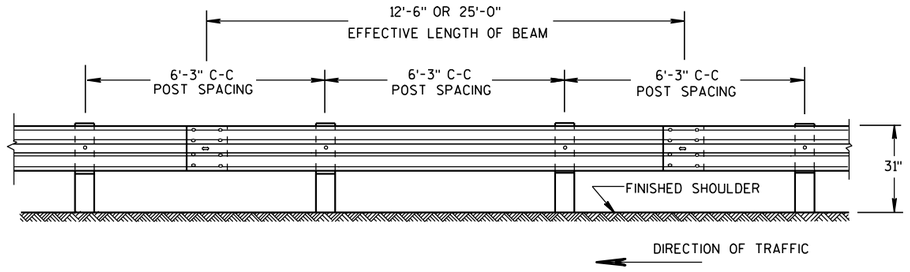


PLAN VIEW
STEEL POST,
PLASTIC BLOCKOUT & BEAM

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

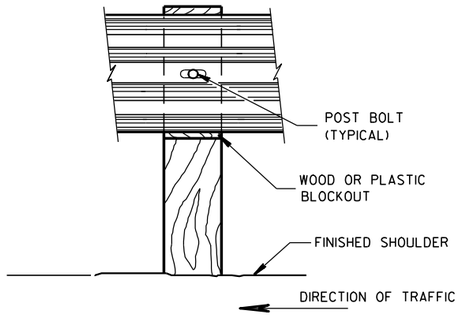
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6
S.D.D. 14 B 42-2a



FRONT VIEW

POST SPACING STANDARD INSTALLATION



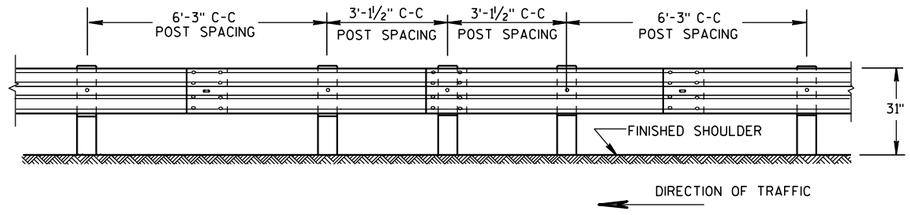
FRONT VIEW AT WOOD POST

GENERAL NOTES

1. PROVIDE TYPE "H" SILVER REFLECTIVE SHEETING ON ALL REFLECTORS EXCEPT THOSE LOCATED ALONG THE LEFT EDGE OF ONE-WAY ROADWAYS, WHICH SHALL BE PROVIDED WITH TYPE "H" YELLOW REFLECTIVE SHEETING.
2. DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL. RAIL SPLICE LOCATIONS ARE THE ONLY ACCEPTABLE LOCATIONS FOR REFLECTORS.
3. REVERSE EVERY OTHER REFLECTOR FOR 2-WAY VISIBILITY. THE CONTRACTOR MAY FURNISH TWO-SIDED REFLECTORS IN LIEU OF ONE-SIDED REFLECTORS.
4. PROVIDE AN ANGLE OF BEND OF 90° ± 1° FOR TWO-SIDED REFLECTORS.
5. 25 FEET OF HALF POST SPACING IS REQUIRED ON APPROACH AND DEPARTURE ENDS OF QUARTER POST SPACING.

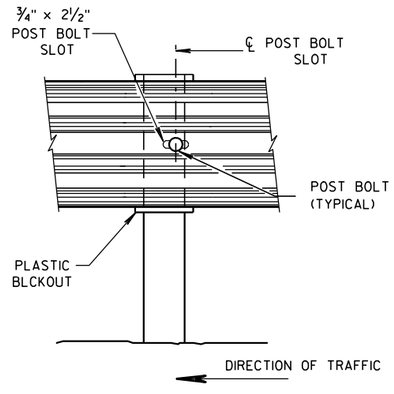
POST BOLTS ARE A 5/8" DIAMETER ASTM A307 GUARDRAIL BOLT. A POST BOLT REQUIRES 5/8" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT AND 5/8" DIAMETER F844 FLAT WASHER. POST BOLTS MAY BE LONGER IF MULTIPLE BLOCKOUTS ARE BEING USED.

GUARD RAIL SPLICE BOLTS ARE A 5/8" DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES 5/8" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.

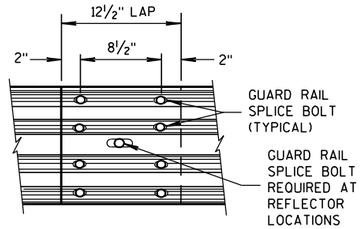


FRONT VIEW

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

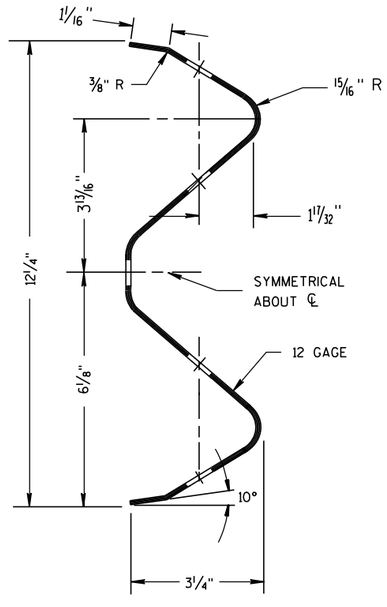


FRONT VIEW AT STEEL POST

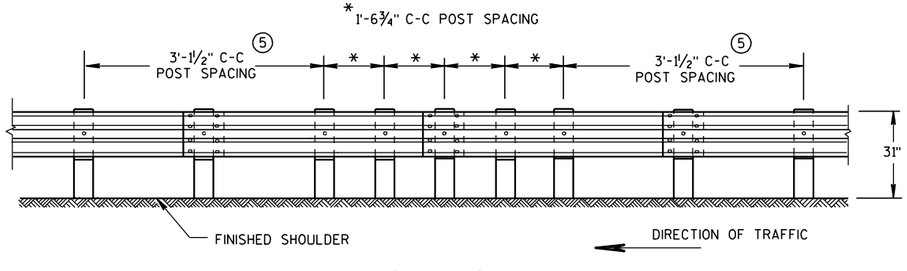


FRONT VIEW

MID-SPAN BEAM SPLICE

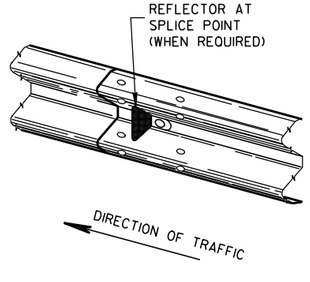


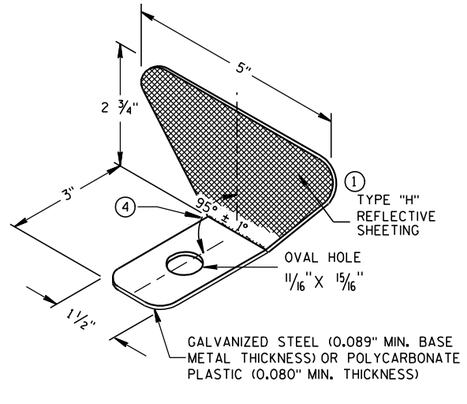
SECTION THRU W-BEAM RAIL



FRONT VIEW

QUARTER POST SPACING (QS)





ONE SIDED REFLECTOR DETAIL AND TYPICAL INSTALLATION ①

REFLECTOR SPACING ②

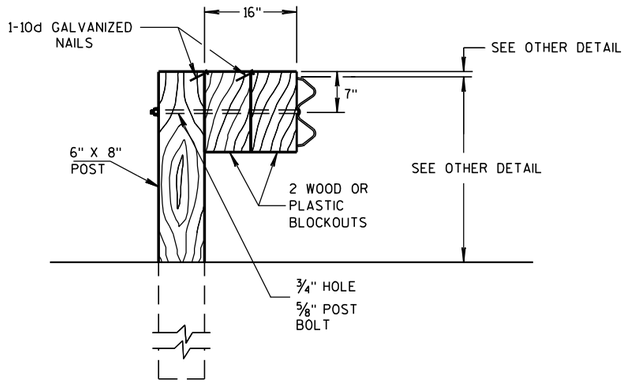
	BEAM GUARD LENGTH	REFLECTOR SPACING	NO. SURFACES REFLECTORIZED	MIN. NO. REFLECTORS
ONE WAY TRAFFIC	< 200' > 200'	50' C-C 100' C-C	1 1	3
TWO WAY TRAFFIC	< 200' > 200'	25' C-C 50' C-C	1 1 ③	6
TWO WAY TRAFFIC	< 200' > 200'	50' C-C 100' C-C	2 2 ④	3

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

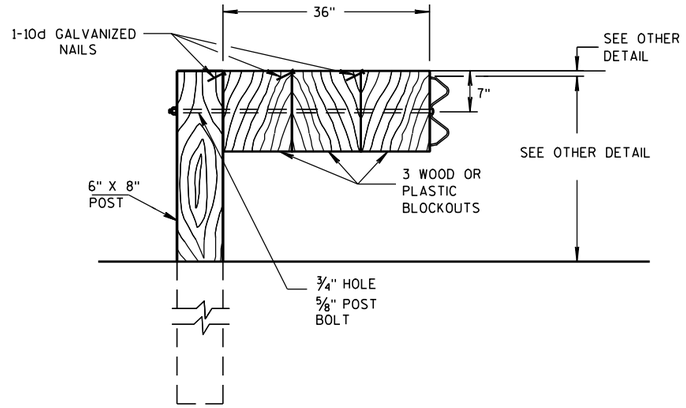
S.D.D. 14 B 42-2b

S.D.D. 14 B 42-2b



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.

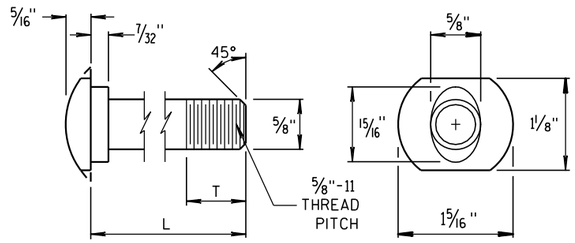


DETAIL FOR 36" BLOCKOUT DEPTH

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.

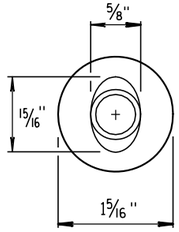
DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.

NOTE: 1. ALL FILLETS SHALL HAVE A MINIMUM RADIUS OF 1/16".
2. IF THE BOLT EXTENDS MORE THAN 1/4" FROM THE NUT THE BOLT SHOULD BE TRIMMED BACK.

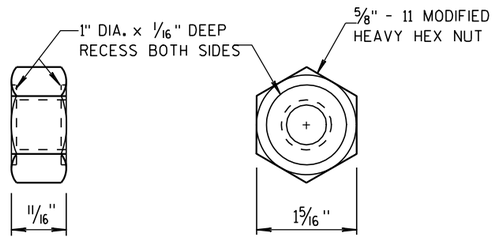


POST BOLT TABLE

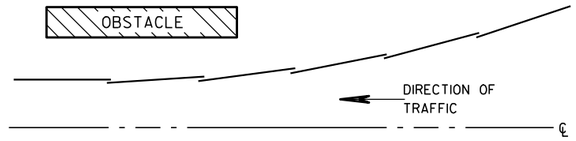
L	T (MIN.)
1 1/4"	1 1/8"
2"	1 3/4"
10"	4"
14"	4 1/16"
18"	4"
21"	4 1/16"
25"	4"



ALTERNATE BOLT HEAD

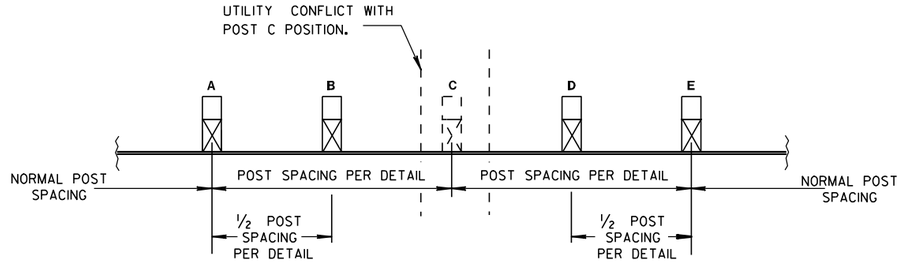


POST BOLT AND RECESS NUT

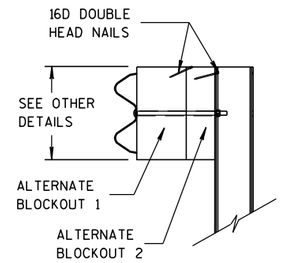


PLAN VIEW

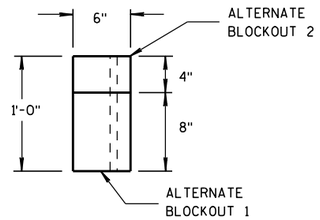
BEAM LAPPING DETAIL



POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION



SIDE VIEW



TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

11/15/2011
DATE

/S/ Jerry H. [illegible]
ROADWAY STANDARDS ENGINEER

FHWA

ENT

6

S.D.D. 14 B 42-2c

6

S.D.D. 14 B 42-2c

GENERAL NOTES

(A) THE SLOPE IN THE AREA BOUNDED BY THE EXTENDED VEHICLE RUNOUT PATH (EVRP), 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 MANUFACTURES REQUIRE DIFFERENT PERFORATED W-BEAM RAIL END PANELS. SEE MANUFACTURES INFORMATION.

(D) THE TOP OF THE STEEL TUBE ON POST 1 AND POST 2 SHALL NOT BE MORE THAN 3" ABOVE THE FINISH GROUND ELEVATION.

(F) SHEETING IS ATTACHED TO 0.040 ALUMINUM SHEET AND ATTACHED TO E.A.T. HEAD USING 4 STAINLESS STEEL SELF-TAPPING SCREWS. ONE SCREW PER CORNER OF E.A.T.

(G) ½" DIAMETER X 3" LONG LAG BOLT AND WASHER.

(H) HARDWARE VARIES BETWEEN DIFFERENT MANUFACTURES. SEE MANUFACTURE'S DRAWING FOR INFORMATION.

(I) DIMENSIONS MAY VARY. SEE MANUFACTURE'S INFORMATION.

SEE SDD 14B42 FOR MORE INFORMATION.

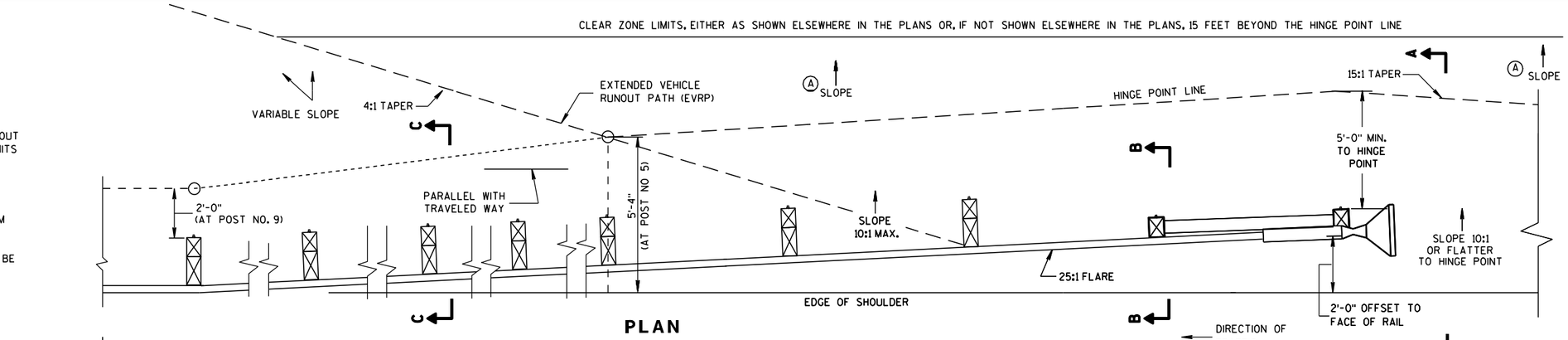
* DO NOT ATTACH BLOCKOUTS TO POSTS 1 AND 2.

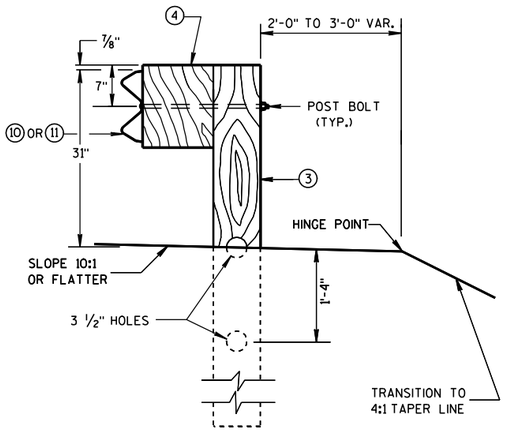
DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

W-BEAM RAIL SPLICES ARE LOCATED AT POST NUMBER 3, AND BETWEEN POST 5 AND 6, BETWEEN POSTS 7 AND 8, AND MIDDLE OF THE SPAN AFTER POST 9.

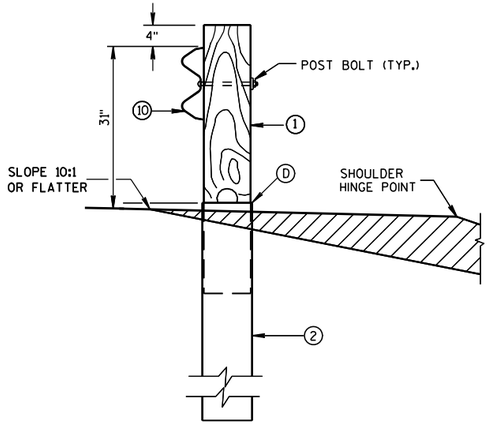
PATTERN AND COLORS ON REFLECTIVE SHEETING TYPE H ARE TO CONFORM TO OM3-L OR OM3-R OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

THE CENTER OF THE UPPER 3½" DIAMETER HOLE ON POST NUMBER 3 THROUGH POST 9 IS TO BE FLUSH WITH THE GROUND LINE (± ¾")

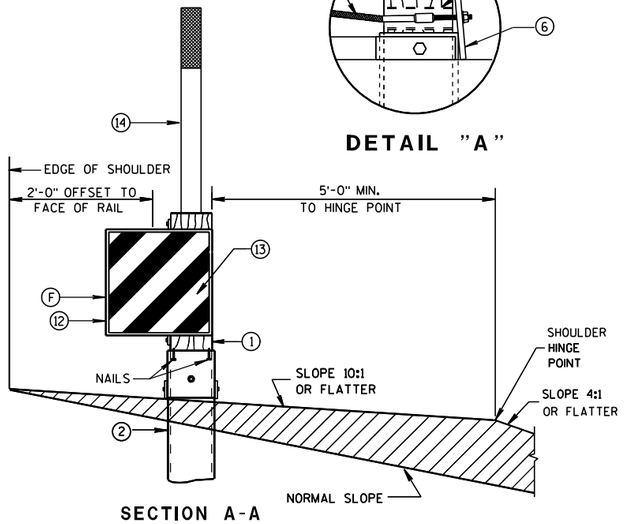




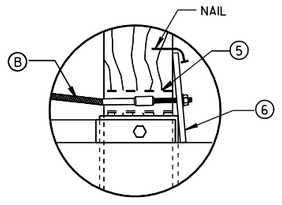
SECTION C-C
TYPICAL AT POST NOS. 3-9



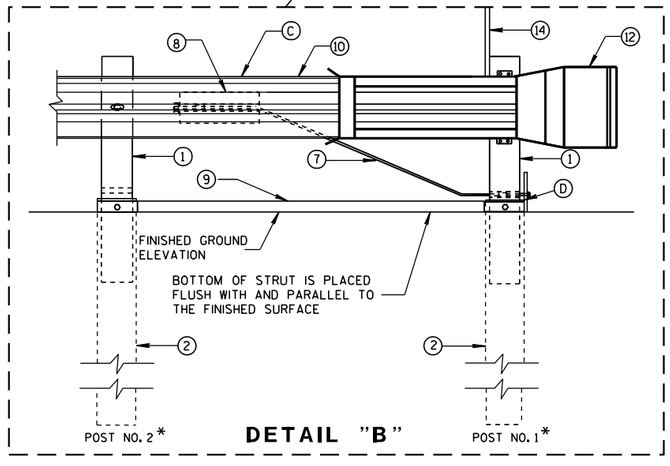
SECTION B-B
TYPICAL AT POST NO. 2*



SECTION A-A
TYPICAL AT POST NO. 1*



DETAIL "A"

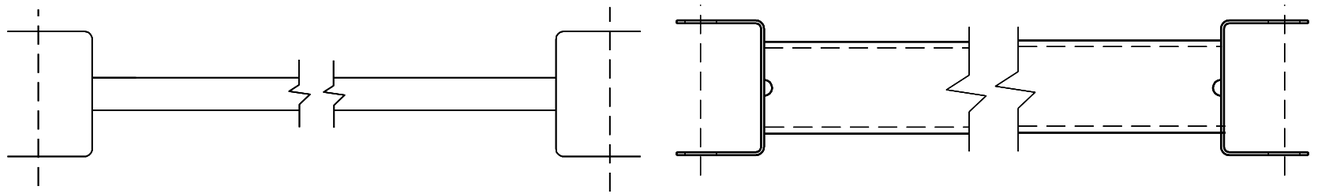


DETAIL "B"

MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6
S.D.D. 14 B 44-1a

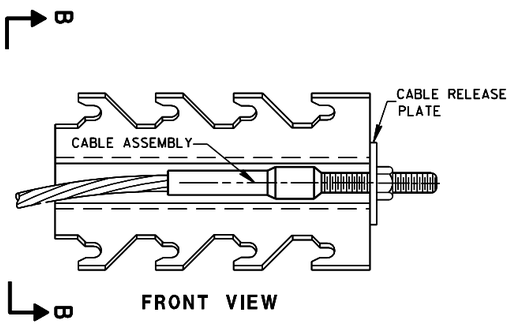


(9) (H)

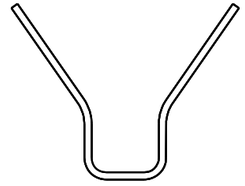
GENERIC GROUND STRUT

BILL OF MATERIALS

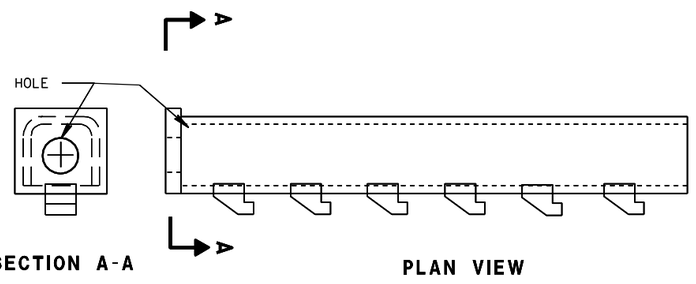
PART NO.	DESCRIPTION MATERIALS PROVIDED BY MGS EAT MANUFACTURER. SEE MANUFACTURER'S DETAILS FOR MORE INFORMATION.
(1)	WOOD BREAKAWAY POST
(2)	6" X 8" X 0.188", 6'-0" LONG FOUNDATION TUBE AT POSTS 1 AND 2
(3)	WOOD CRT
(4)	WOOD BLOCKOUT
(5)	PIPE SLEEVE
(6)	BEARING PLATE
(7)	BCT CABLE ASSEMBLY
(8)	ANCHOR 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)	END SECTION EAT
(13)	0.040" ALUMINUM SHEET WITH REFLECTIVE SHEETING TYPE H (ONLY THE SHEETING IS SUPPLIED BY THE MANUFACTURER)
(14)	EAT MARKER POST - YELLOW (SEE APPROVED PRODUCTS LIST)



FRONT VIEW



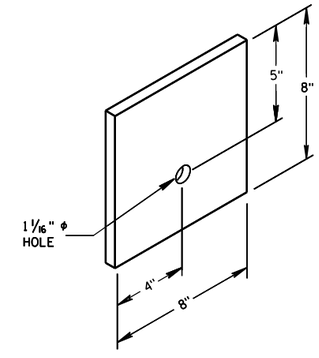
SECTION B-B



SECTION A-A

PLAN VIEW

GENERIC ANCHOR CABLE BOX (8) (H)



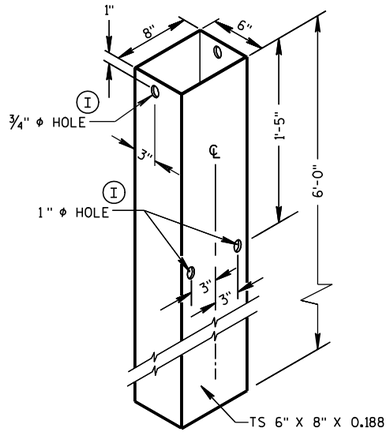
BEARING PLATE (6)

MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)

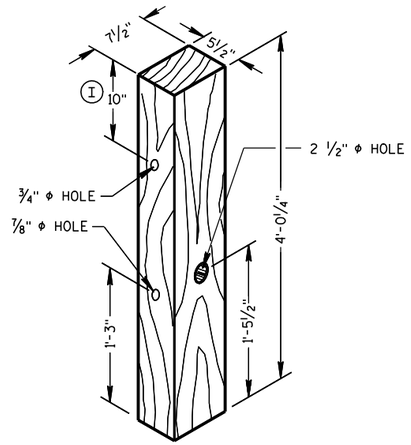
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

S.D.D. 14 B 44-1b

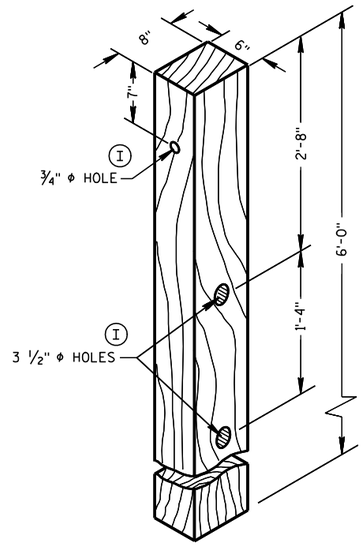


FOUNDATION TUBE (2)



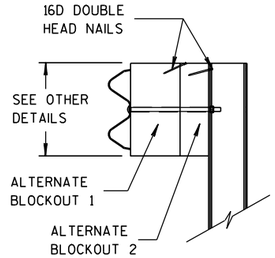
POSTS NUMBER 1 AND 2

WOOD BREAKAWAY POST (1)

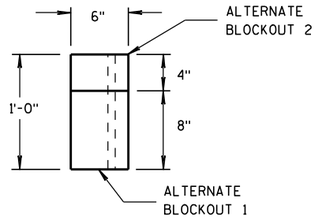


POSTS NUMBER 3-9

WOOD CRT POST (3)

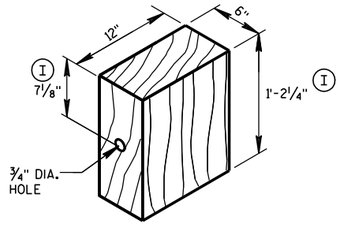


SIDE VIEW



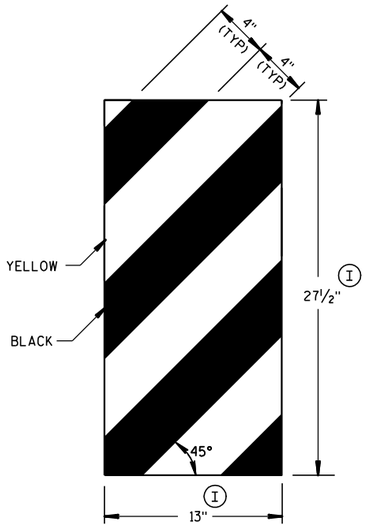
TOP VIEW

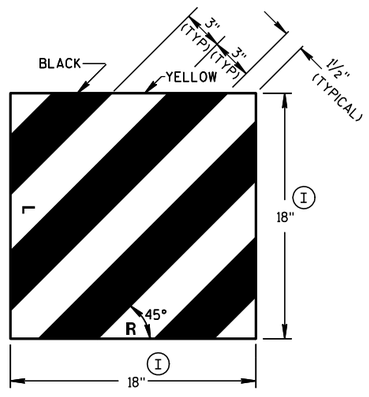
ALTERNATE WOOD BLOCKOUT DETAIL



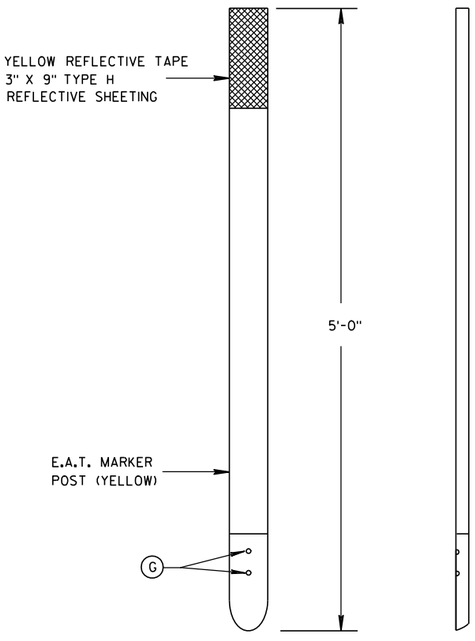
WOOD BLOCKOUT (4)

REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2





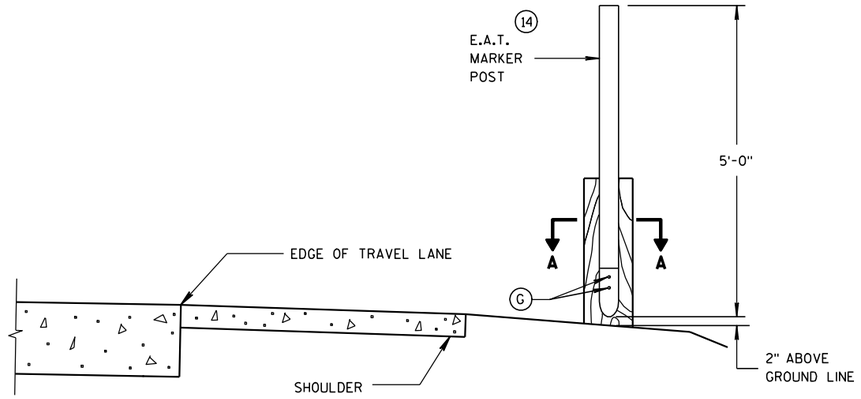
GENERIC REFLECTIVE SHEETING (13) (H)



FRONT VIEW

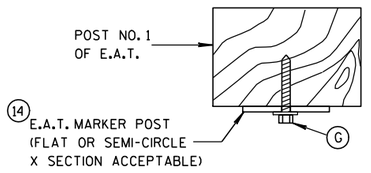
SIDE VIEW

E.A.T. MARKER POST (14)



TYPICAL INSTALLATION OF E.A.T. MARKER POST BACKSIDE OF POST NO. 1

(E.A.T. AND RAIL REMOVED FOR CLARITY)



SECTION A-A

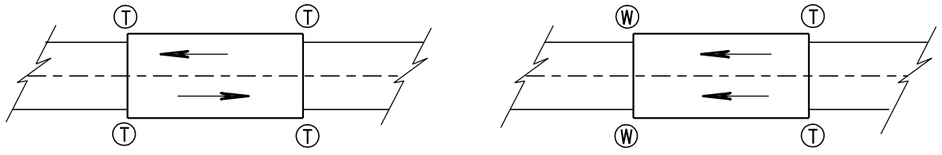
MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
5/23/2011
DATE
/S/ Jerry H. [illegible]
ROADWAY STANDARDS ENGINEER
FHWA

6

S.D.D. 14 B 44-1c



TWO WAY TRAFFIC

ONE WAY TRAFFIC

Ⓣ THRIE BEAM CONNECTION

Ⓦ W-BEAM CONNECTION WHEN REQUIRED

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

GENERAL NOTES

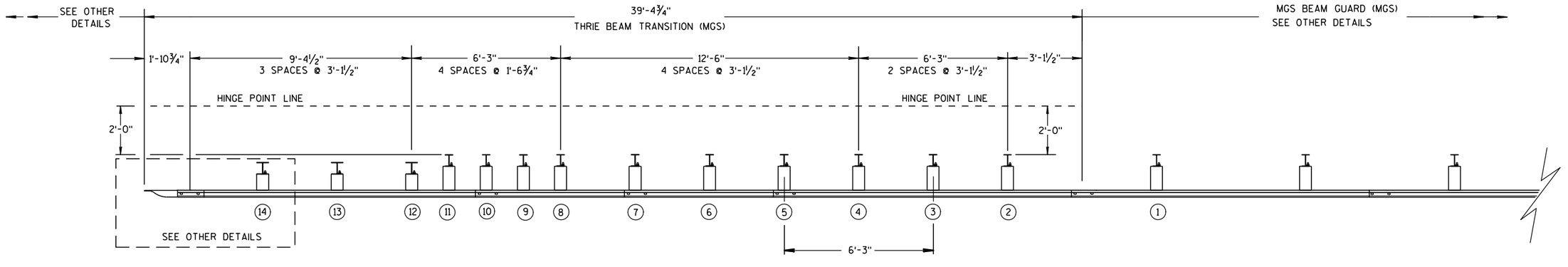
BOLT THE THRIE BEAM TO ALL POSTS AND BLOCKOUTS. DRILL OR PUNCH BOLT HOLES IN THE BEAM IF THE POST SPACING IS LESS THAN 6'-3.

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

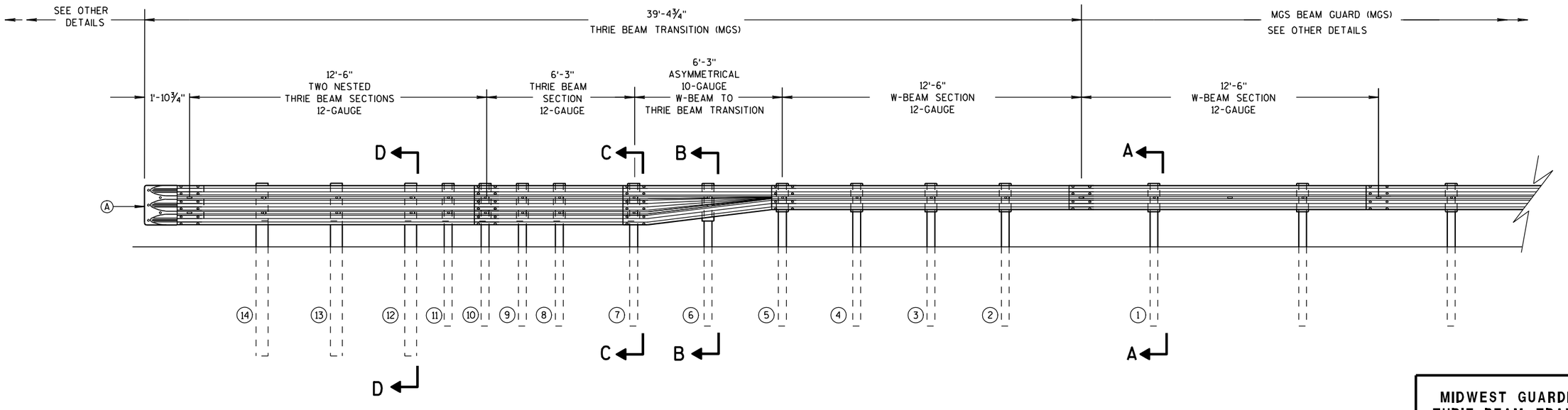
TRANSITION USES STEEL POSTS ONLY.

SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

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



PLAN VIEW



ELEVATION VIEW

MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION

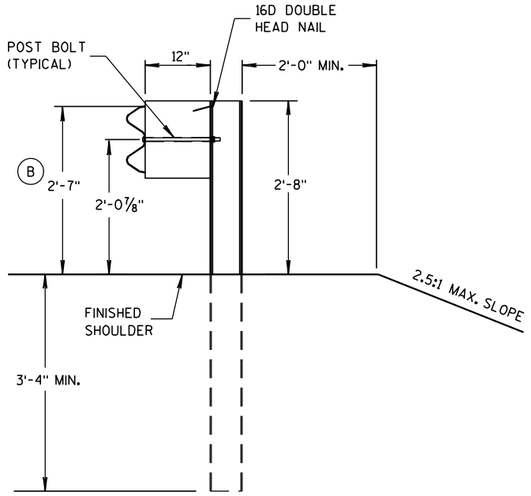
MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6
S.D.D. 14 B 45-3a

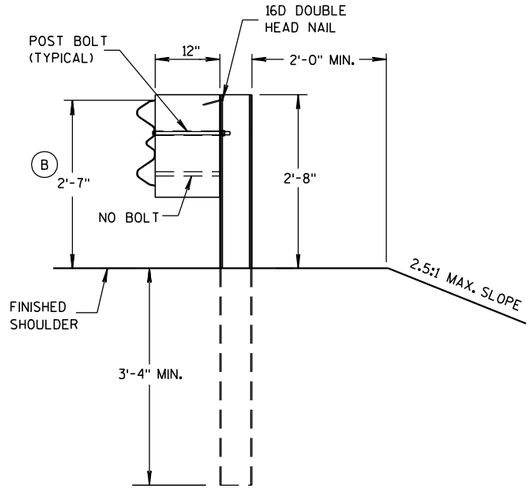
GENERAL NOTES

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



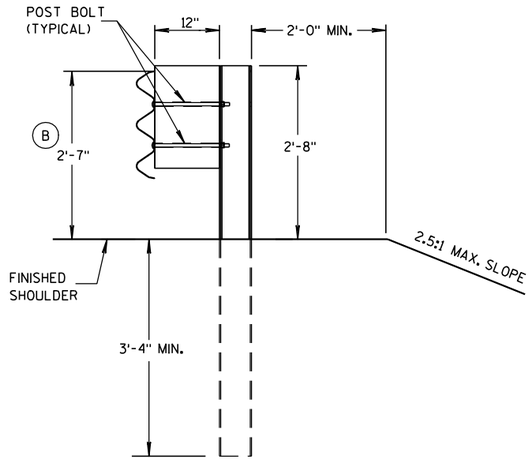
SECTION A-A

POSTS 1-5



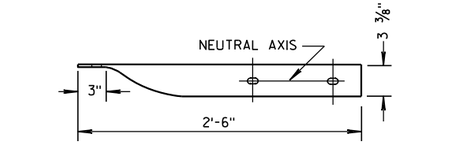
SECTION B-B

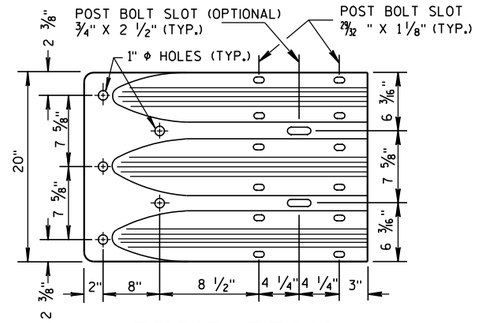
POST 6



SECTION C-C

POSTS 7-11

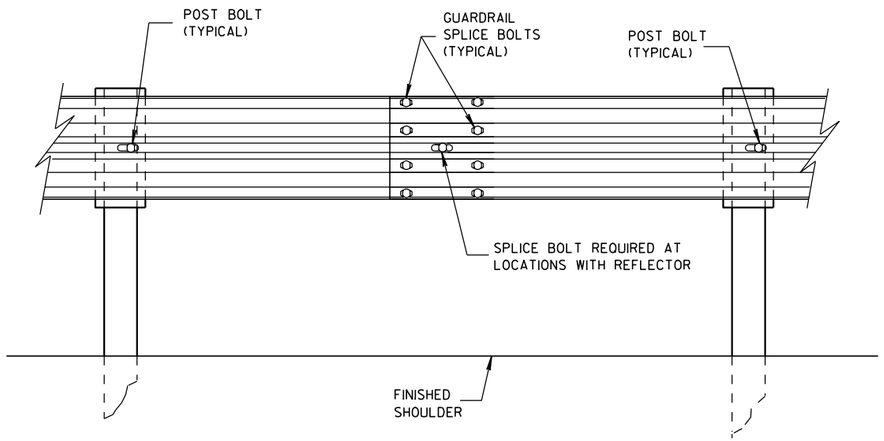




THRIE BEAM TERMINAL CONNECTOR

SECTION D-D

POSTS 12-14



SPLICE DETAIL

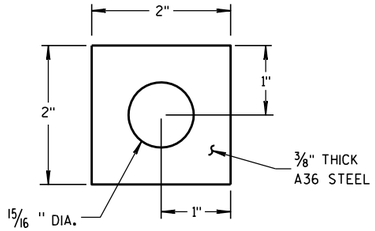
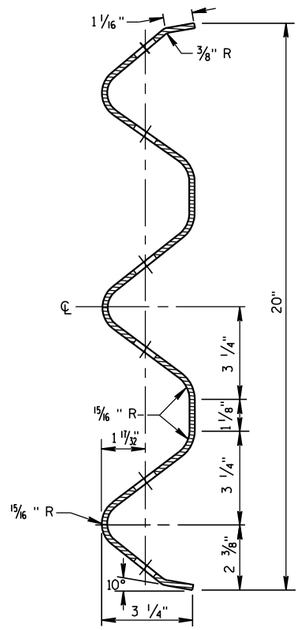


PLATE WASHER DETAIL

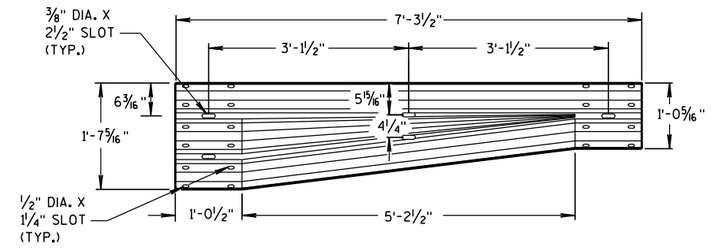


SECTION THRU THRIE BEAM RAIL ELEMENT

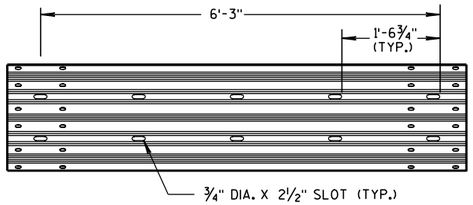
MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

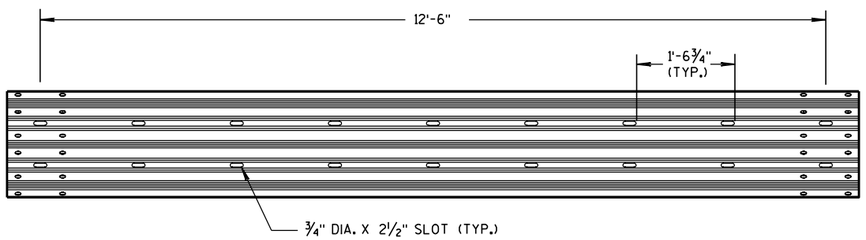
6
S.D.D. 14 B 45-3b



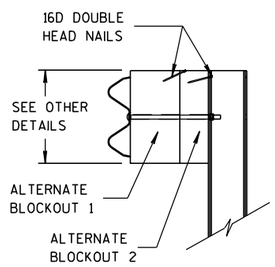
W-BEAM TO THRIE BEAM TRANSITION SECTION



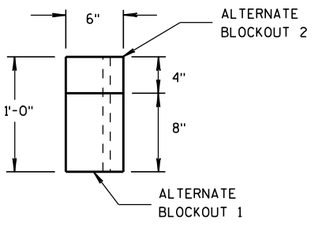
6'-3" THRIE BEAM SECTION



12'-6" THRIE BEAM SECTION

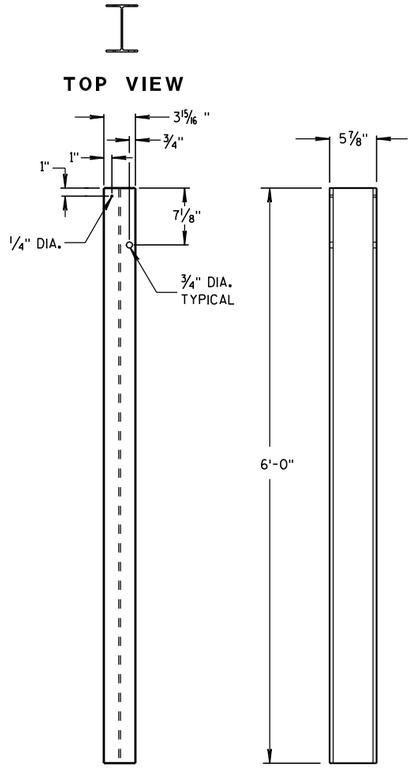


SIDE VIEW

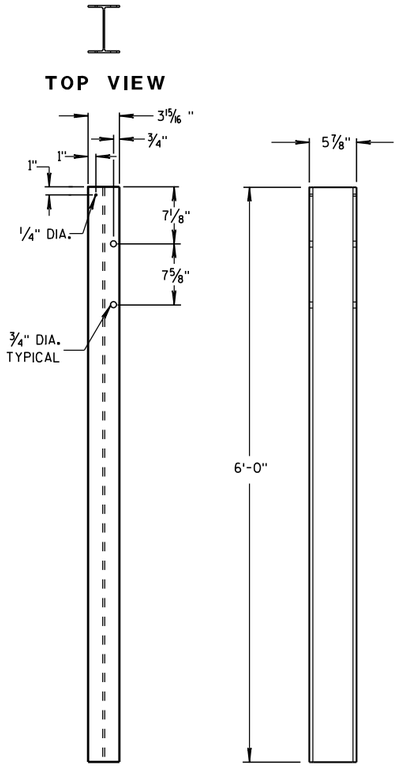


TOP VIEW

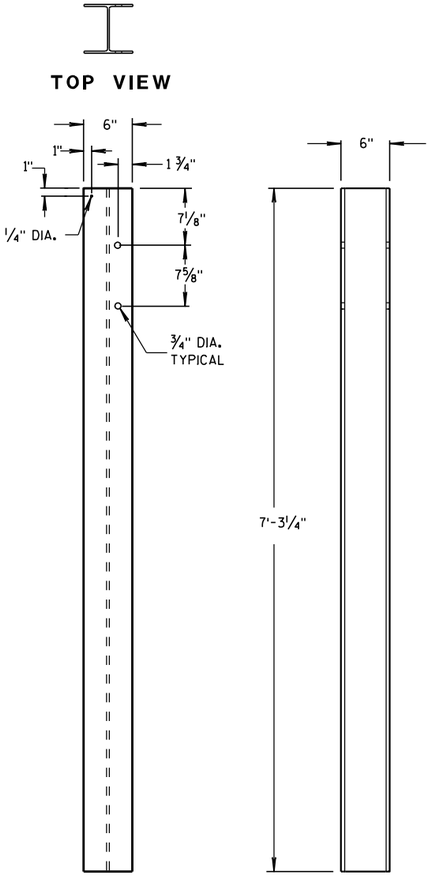
ALTERNATE WOOD BLOCKOUT DETAIL



STEEL POSTS 1-5

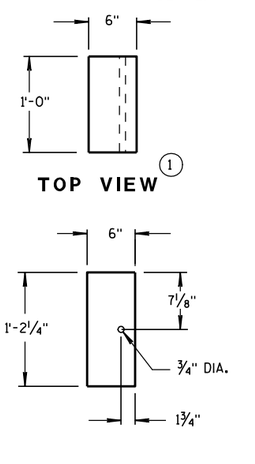


STEEL POSTS 6-11

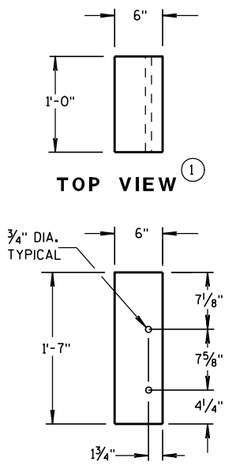


STEEL POSTS 12-14

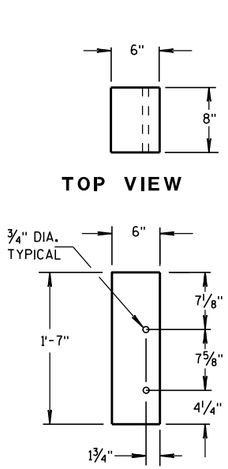
① WOOD BLOCKS MAY BE CONSTRUCTED OUT OF 2 WOOD BLOCKS. SEE ALTERNATE WOOD BLOCK DETAIL.



BLOCKOUT POSTS 1-5



BLOCKOUT POSTS 6-11



BLOCKOUT POSTS 12-14

STEEL POST SIZES

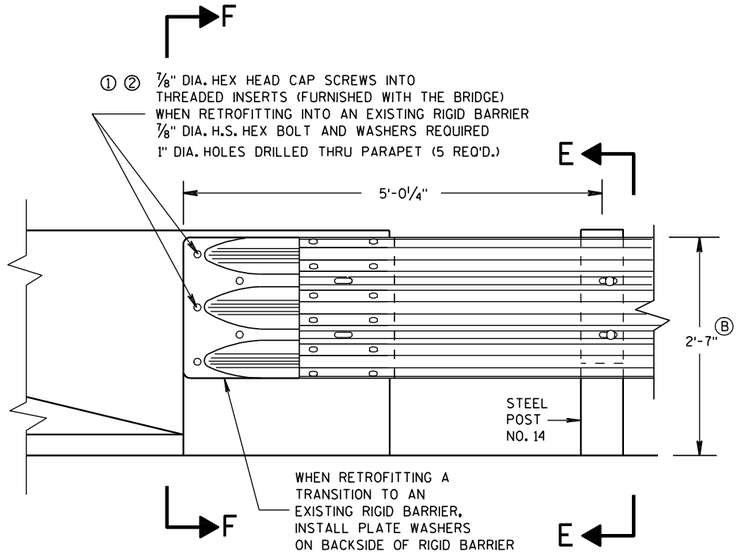
POST NUMBER	SECTION TYPE	LENGTH
①	W6x9	72"
②	W6x9	72"
③	W6x9	72"
④	W6x9	72"
⑤	W6x9	72"
⑥	W6x9	72"
⑦	W6x9	72"
⑧	W6x9	72"
⑨	W6x9	72"
⑩	W6x9	72"
⑪	W6x9	72"
⑫	W6x15	87 1/8"
⑬	W6x15	87 1/8"
⑭	W6x15	87 1/8"

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

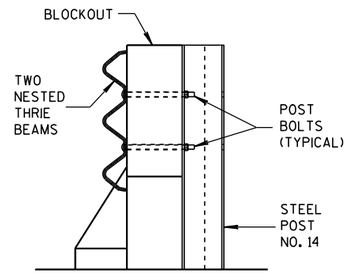
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

S.D.D. 14 B 45-3c



FRONT VIEW



SECTION E-E

GENERAL NOTES

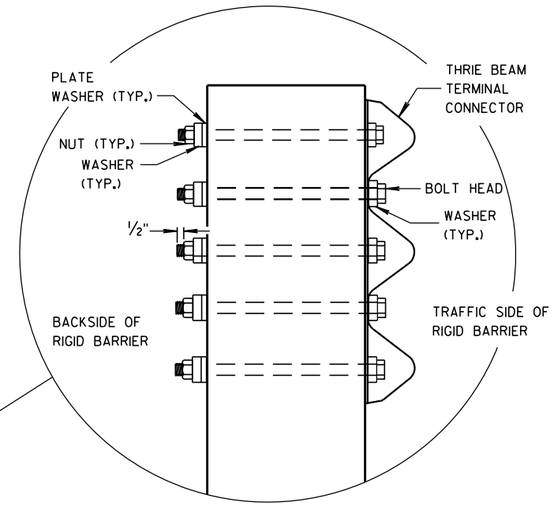
THESE ARE TYPICAL CONNECTION DETAILS. ADJUST THE POSTION OF CONNECTIONS TO EXISTING BRIDGES TO FIT THE ACTUAL BRIDGE AND SITE DIMENSIONS.

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

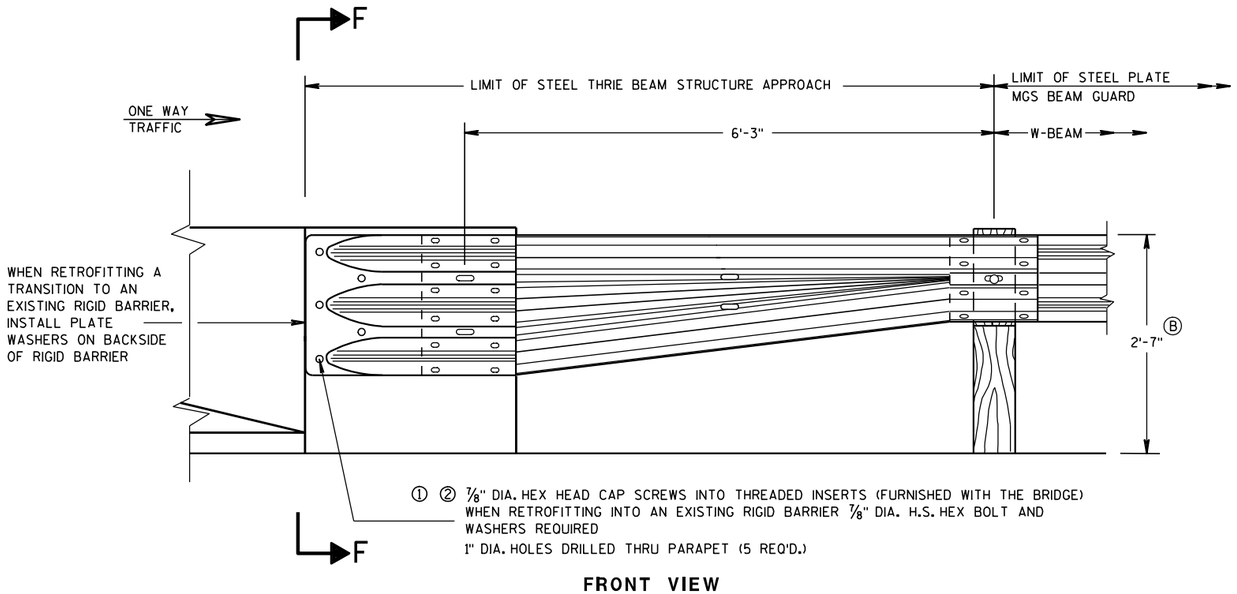
② BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/8" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.

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

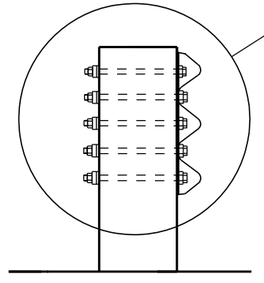
Ⓑ TOLERANCE FOR TOP OF BEAM IS ± 1".



THRIE BEAM CONNECTION TO BRIDGE PARAPET WITH SQUARE ENDS



FRONT VIEW



SECTION F-F

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

8/31/2012 — DATE

/S/ Jerry H. [illegible] — ROADWAY STANDARDS DEVELOPMENT ENGINEER

FHWA

6
S.D.D. 14 B 45-3d

GENERAL NOTES

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

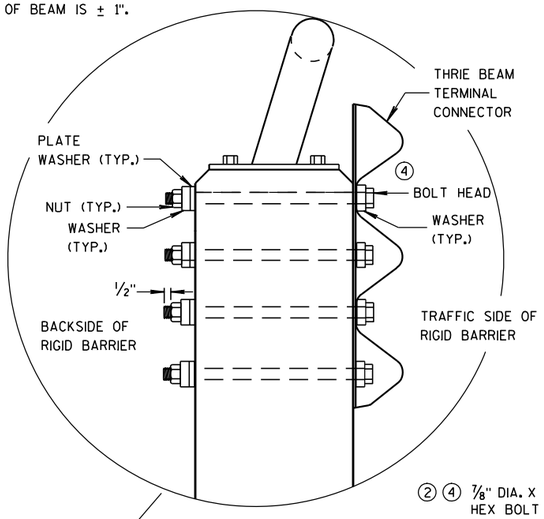
① DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

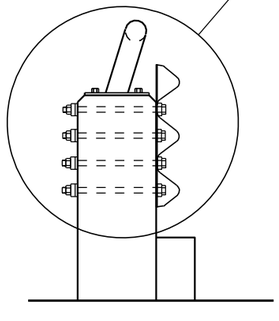
② BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/8" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.

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

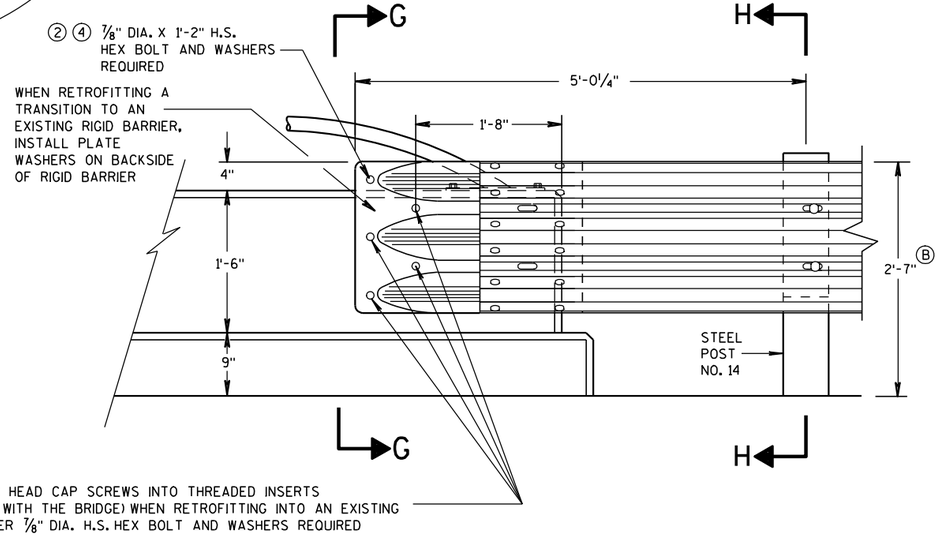
④ BOLT, NUT AND WASHERS NOT REQUIRED FOR THIS LOCATION WHEN RETROFITTING AN EXISTING PAPAPET AND THE HOLE IS EITHER ABOVE PARAPET OR WITHIN 4 INCHES OF THE EDGE OF PARAPET.

Ⓑ TOLERANCE FOR TOP OF BEAM IS ± 1".

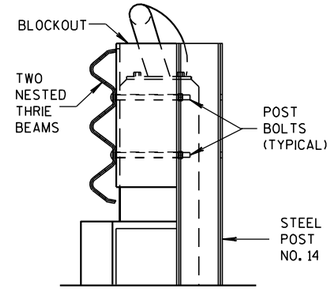




SECTION G-G

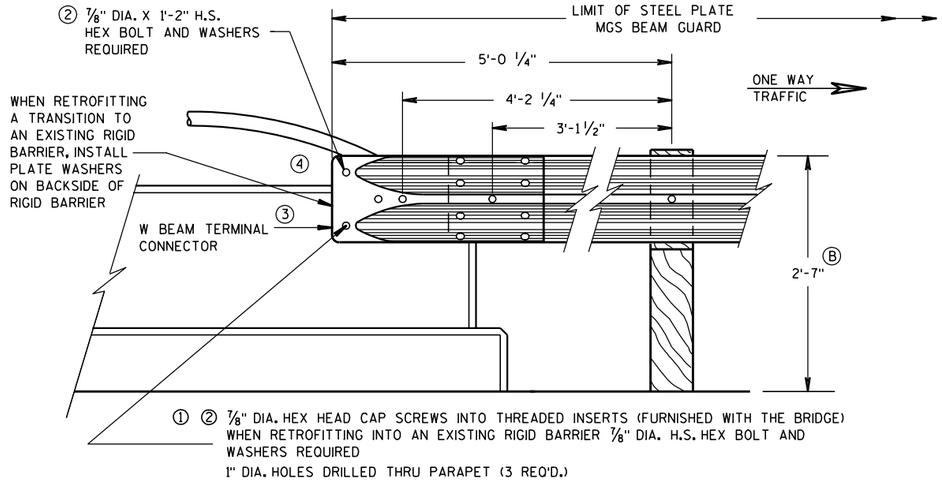


FRONT VIEW



SECTION H-H

THRIE BEAM CONNECTION TO VERTICAL FACED PARAPETS



FRONT VIEW

W BEAM CONNECTION TO VERTICAL FACE PARAPET

(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

8-31-2012
DATE

/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER

FHWA

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S.D.D. 14 B 45-3e

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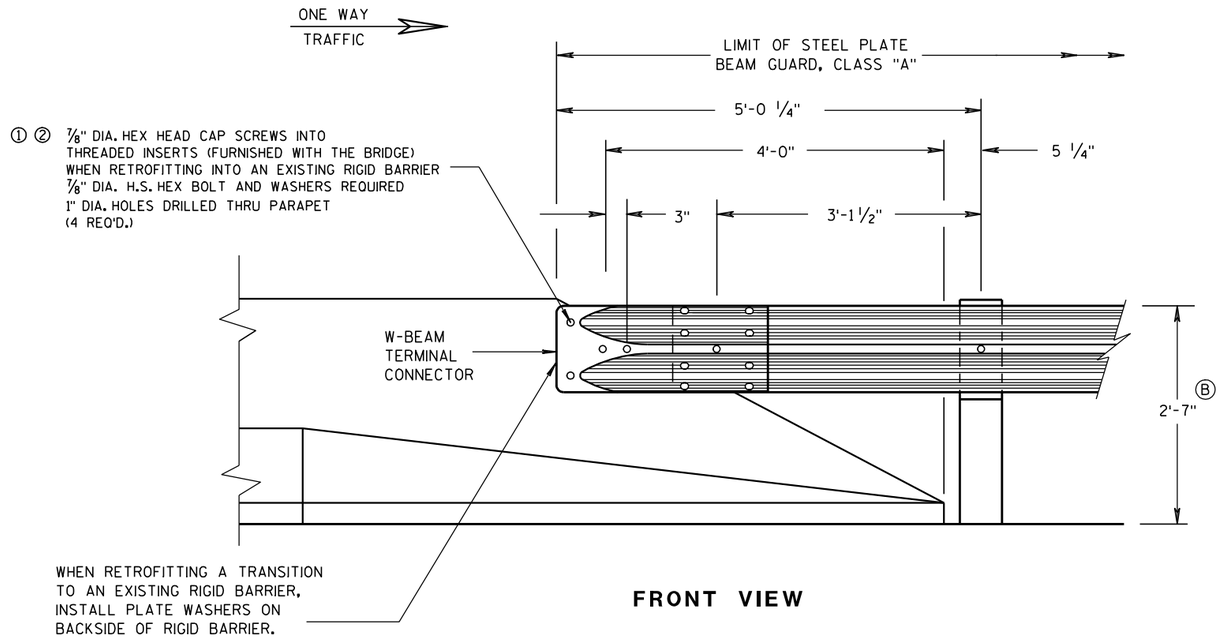
S.D.D. 14 B 45-3e



FRONT VIEW

W BEAM CONNECTION TO PARAPETS WITH SLOPED ENDS

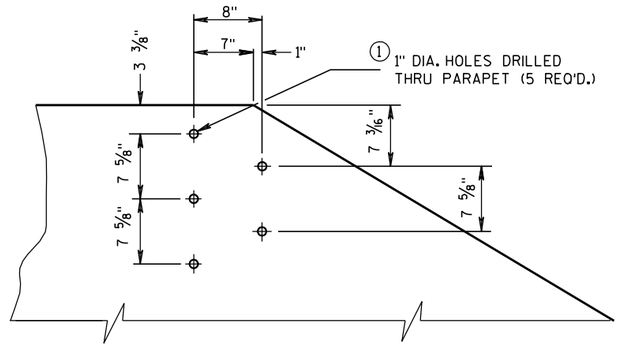
(USE ONLY AT TRAFFIC EXIT END OF ONE WAY BRIDGE)

GENERAL NOTES

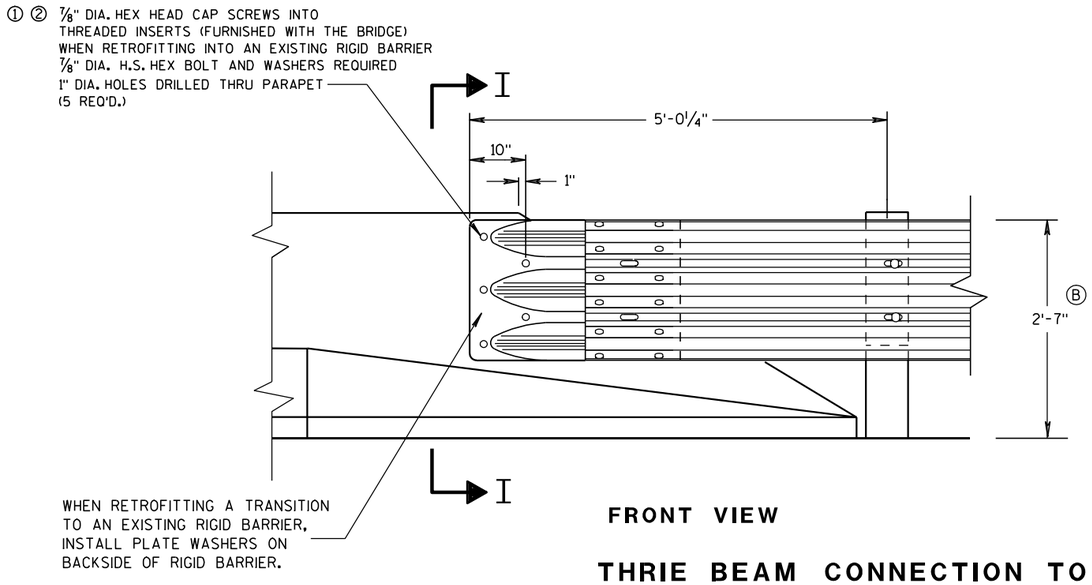
① DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

② BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM 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 5/8" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.

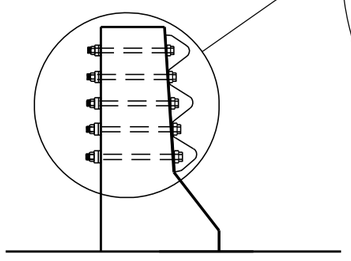
Ⓑ TOLERANCE FOR TOP OF BEAM IS ± 1".



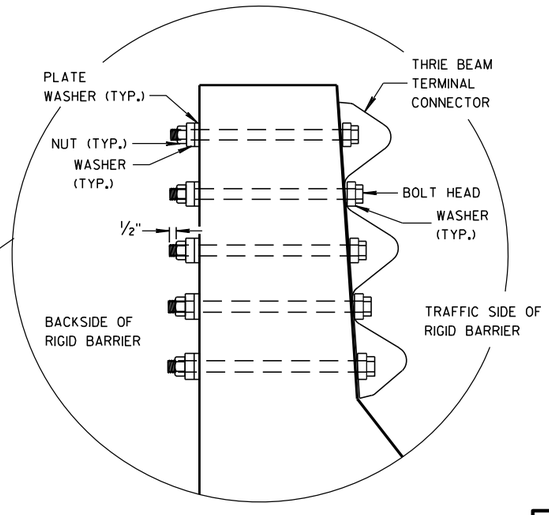
DRILL HOLE LOCATION AND PATTERN FOR THRIE BEAM CONNECTION



FRONT VIEW



SECTION I-I



THRIE BEAM CONNECTION TO BRIDGE PARAPETS WITH SLOPED ENDS

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/31/2012 — DATE

/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER

FHWA

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6

S.D.D. 14 B 45-3f

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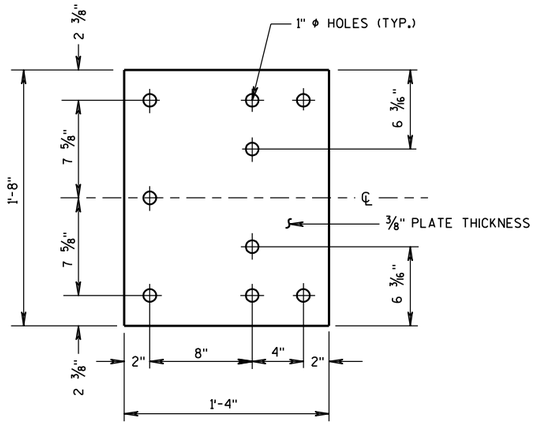
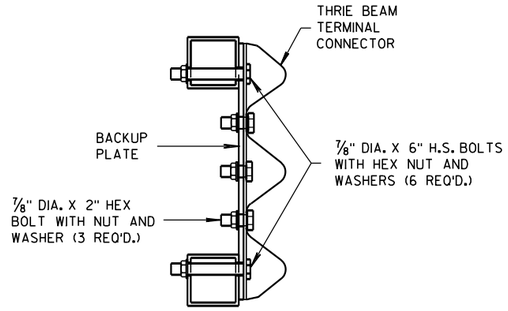
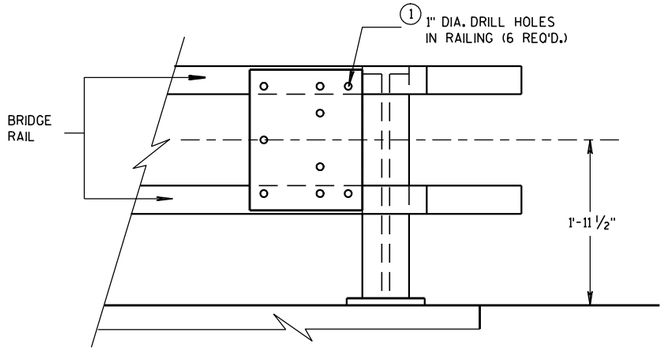
S.D.D. 14 B 45-3f



BACK-UP PLATE DETAIL



SECTION J-J

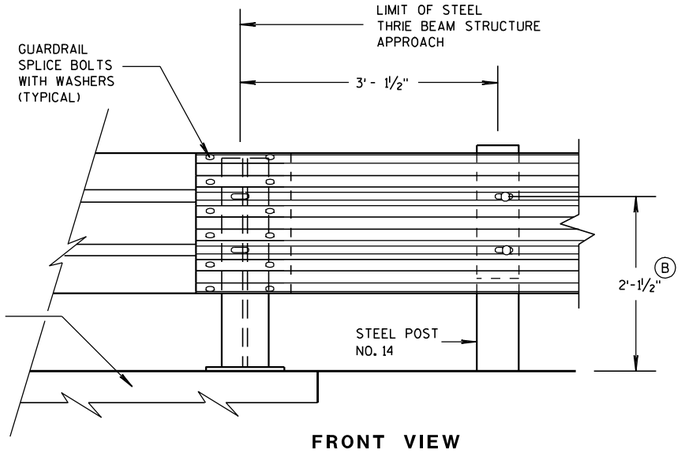


BACK-UP PLATE MOUNTING ONTO BRIDGE RAILING

GENERAL NOTES

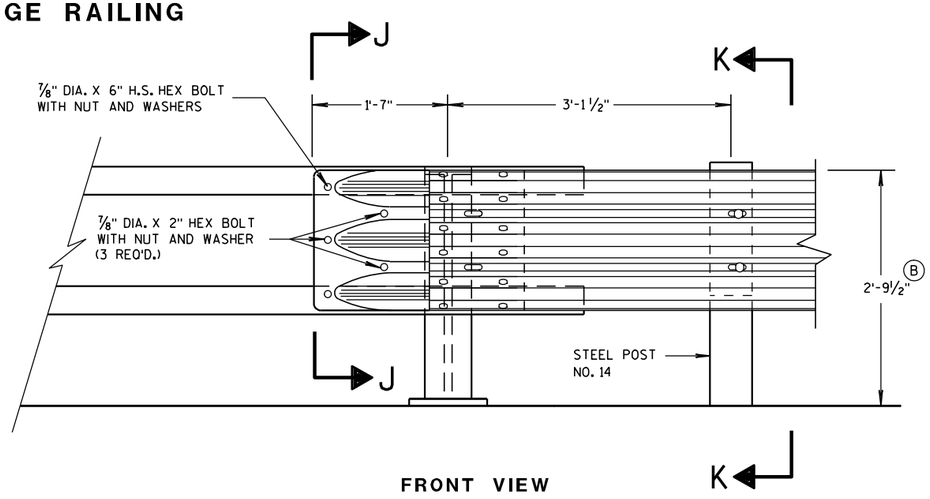
1. DRILLING HOLES THROUGH THE PAPRPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

B. TOLERANCE FOR TOP OF BEAM IS ± 1".

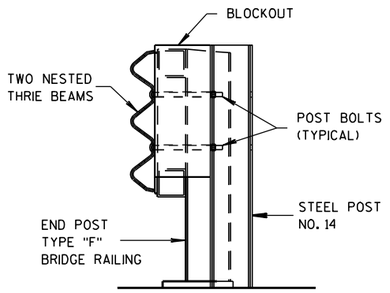


FRONT VIEW

THRIE BEAM CONNECTION TO STEEL RAILING TYPE "W"



FRONT VIEW



SECTION K-K

THRIE BEAM CONNECTION TO TUBULAR RAILING TYPE "F"

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8/31/2012 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

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S.D.D. 14 B 45-3g

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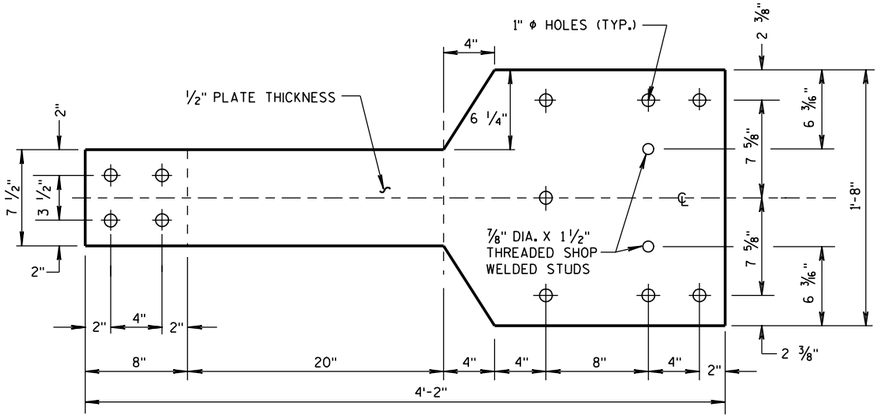
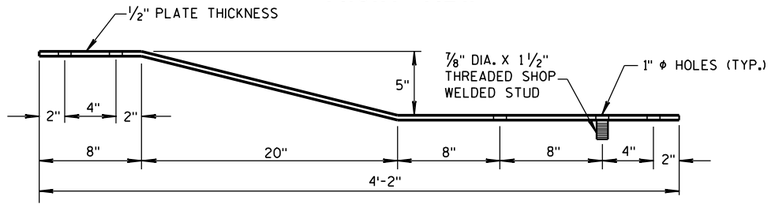
S.D.D. 14 B 45-3g

GENERAL NOTES

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

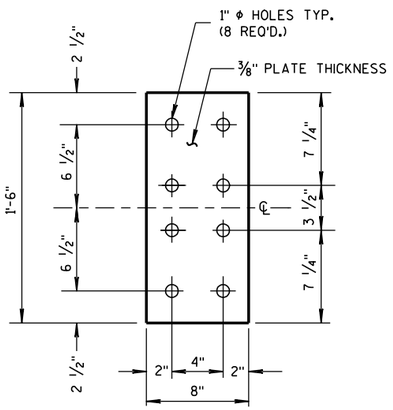


FRONT VIEW



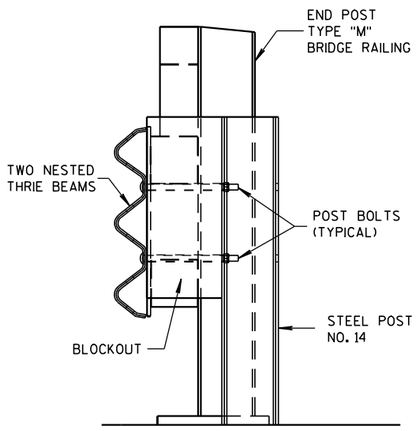
PLAN VIEW

BACK-UP PLATE DETAIL, TYPE "M"

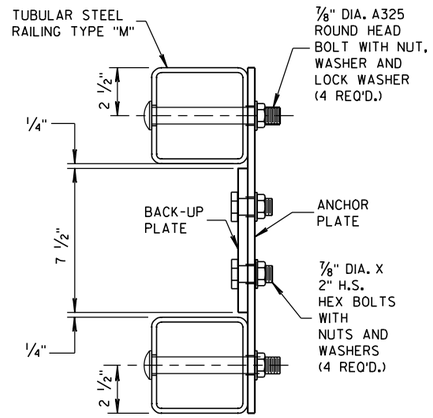


FRONT VIEW

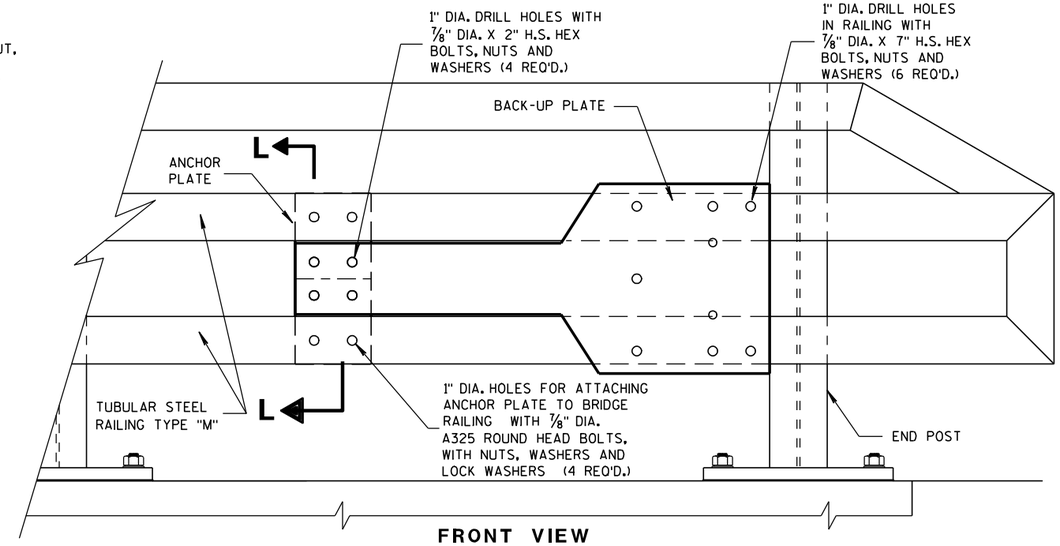
ANCHOR PLATE DETAIL, TYPE "M"



SECTION M-M

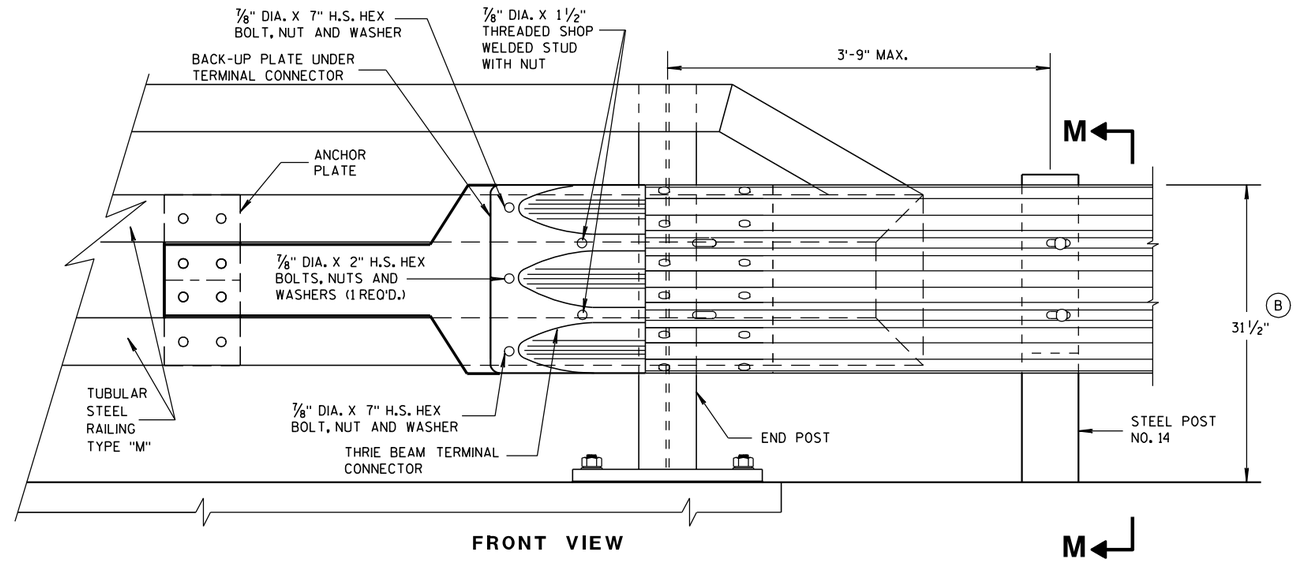


SECTION L-L

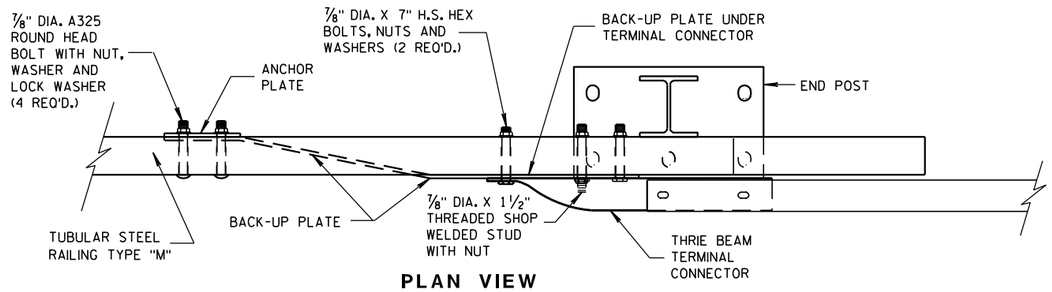


FRONT VIEW

ANCHOR AND BACK-UP PLATE MOUNTING TO BRIDGE RAILING, TYPE "M"



FRONT VIEW



PLAN VIEW

THRIE BEAM CONNECTION TO TUBULAR RAILING, TYPE "M"

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8-31-2012 DATE
/S/ Jerry H. [illegible]
ROADWAY STANDARDS ENGINEER

FHWA

6 S.D. 14 B 45-3h

GENERAL NOTES

COVER PLATE PANELS ARE 3/16" THICK.

ALL STIFFENERS ARE 1/4" THICK.

CONNECTOR PLATE SHALL BE FABRICATED FROM ASTM GRADE A36 STEEL AND GALVANIZED.

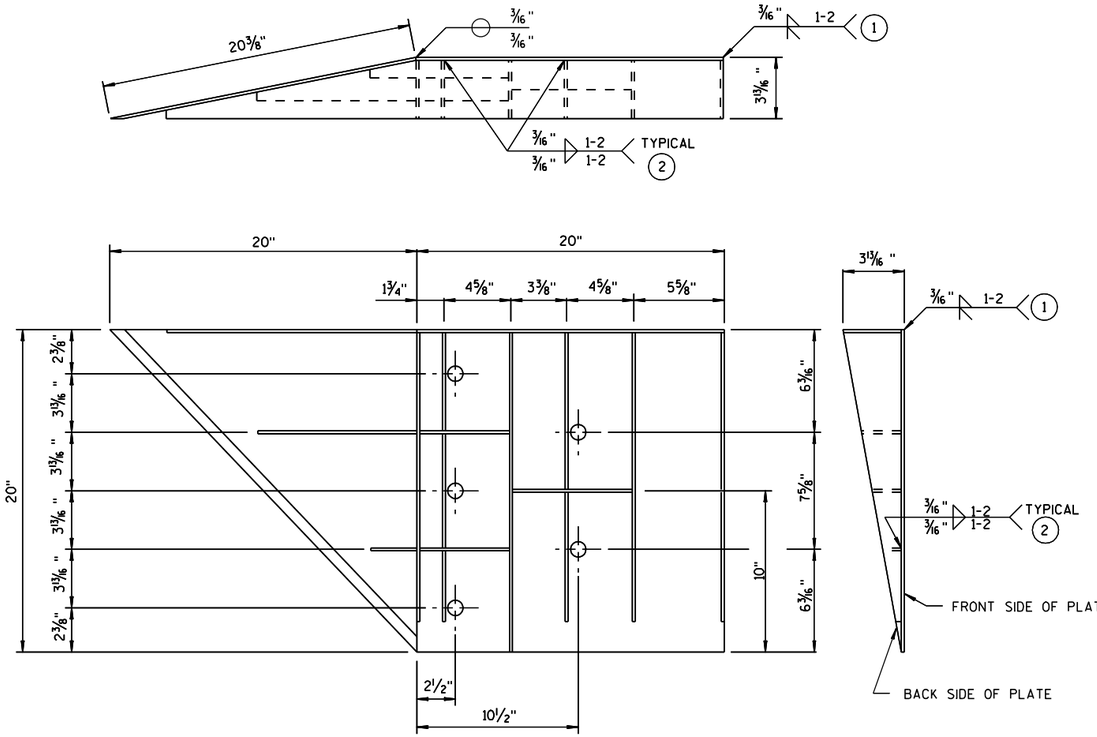
FOR GALVANIZED REQUIREMENTS, SEE SECTION 614 OF THE STANDARD SPECIFICATIONS.

ALL HOLE DIAMETERS SHALL BE 1".

FOR OPPOSITE SIDE INSTALLATION MIRROR DRAWINGS.

(1) STIFFENERS LOCATED AT THE OUTSIDE EDGES OF THE COVER PLATES SHALL BE WELDED AS FOLLOWS:
SINGLE BEVEL GROOVE WELD ON EXTERNAL SIDES AND 3/16" FILLET WELD BY 1" LONG SPACED AT 2" ON INTERNAL SIDES.

(2) STIFFENERS LOCATED ON THE INSIDE OF THE COVER PLATE SHALL BE WELDED AS FOLLOWS:
3/16" FILLET WELD BY 1" LONG SPACED AT 2".



WELDING INSTRUCTION

(VIEWED FROM BACK SIDE OF PLATE)

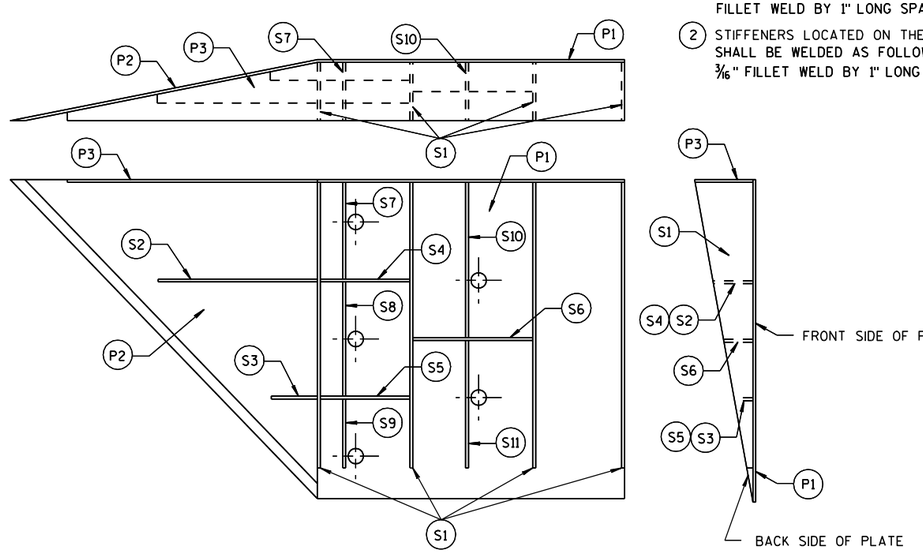


PLATE AND STIFFENER IDENTIFICATION

(VIEWED FROM BACK SIDE OF PLATE)

CONNECTOR PLATE DIMENSION (PER ASSEMBLY)				
PLATE	QUANTITY	SHAPE	SIZE (A x B x C x D)	THICKNESS
P1	1		20" x 20"	3/16"
P2	1		20" x 20" x 28 9/16"	3/16"
P3	1		39" x 3 5/8" x 20" x 19 5/16"	3/16"
S1	4		18 7/16" x 3 5/8" x 18 3/4"	1/4"
S2	1		10 1/4" x 2 7/16" x 10 3/8" x 1/2"	1/4"
S3	1		3" x 1 1/16" x 3 1/8" x 1/2"	1/4"
S4	1		6 1/8" x 2 7/16"	1/4"
S5	1		6 1/8" x 1 1/16"	1/4"
S6	1		7 3/4" x 1 3/4"	1/4"
S7	1		2 9/16" x 6" x 3 5/8" x 5 7/8"	1/4"
S8	1		1 5/32" x 7 1/2" x 2 1/2" x 7 3/8"	1/4"
S9	1		6 1/16" x 6 3/16" x 1 3/32"	1/4"
S10	1		1 7/8" x 9 7/8" x 3 5/8" x 9 11/16"	1/4"
S11	1		8 1/2" x 8 3/4" x 1 13/16"	1/4"

SINGLE SLOPE CONNECTION PLATE

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8/31/2012
DATE
/S/ Jerry H ...
ROADWAY STANDARDS ENGINEER
120
...MENT
FHWA

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S.D.D. 14 B 45-3i

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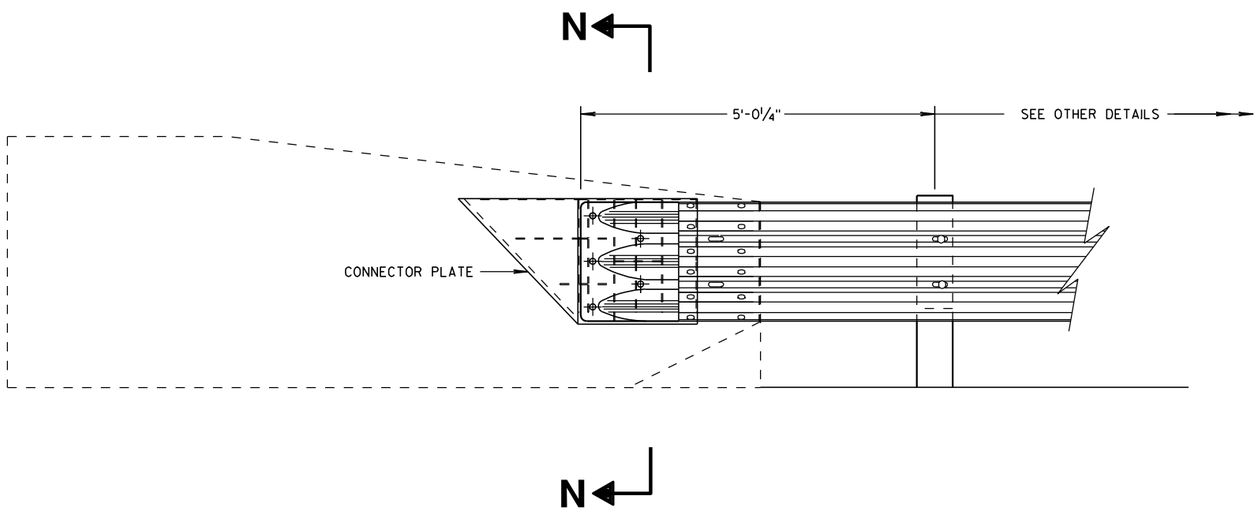
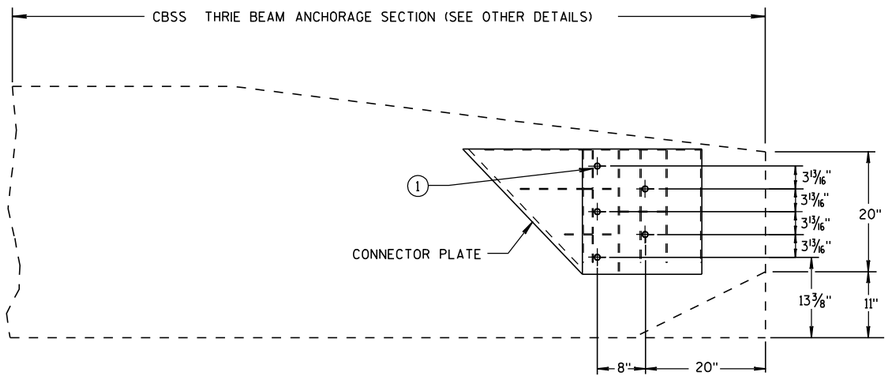
S.D.D. 14 B 45-3i



THRIE BEAM CONNECTION TO SINGLE SLOPE BARRIER

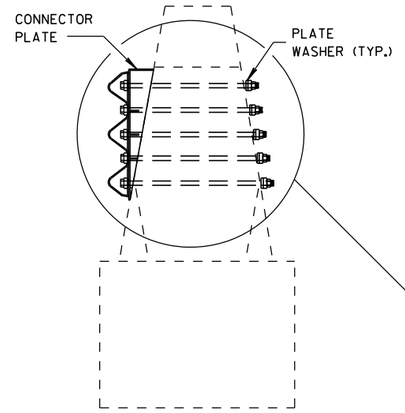


SINGLE SLOPE CONNECTION PLATE PLACEMENT

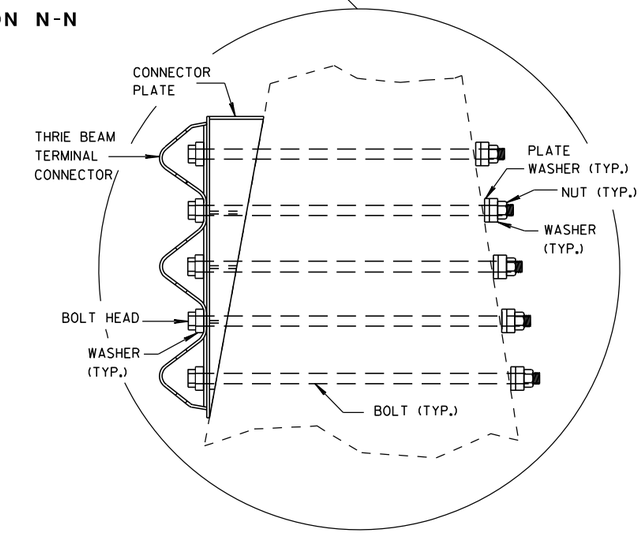
GENERAL NOTES

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

(1) 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 ⅝" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.



SECTION N-N



MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8/31/2012 — DATE
/S/ Jerry H. [illegible] — ROADWAY STANDARDS ENGINEER
FHWA

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S.D.D. 14 B 45-3j

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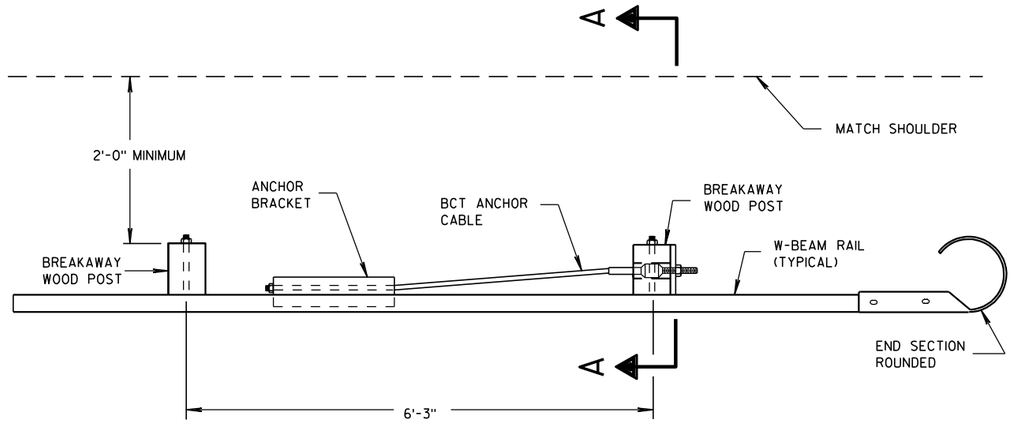
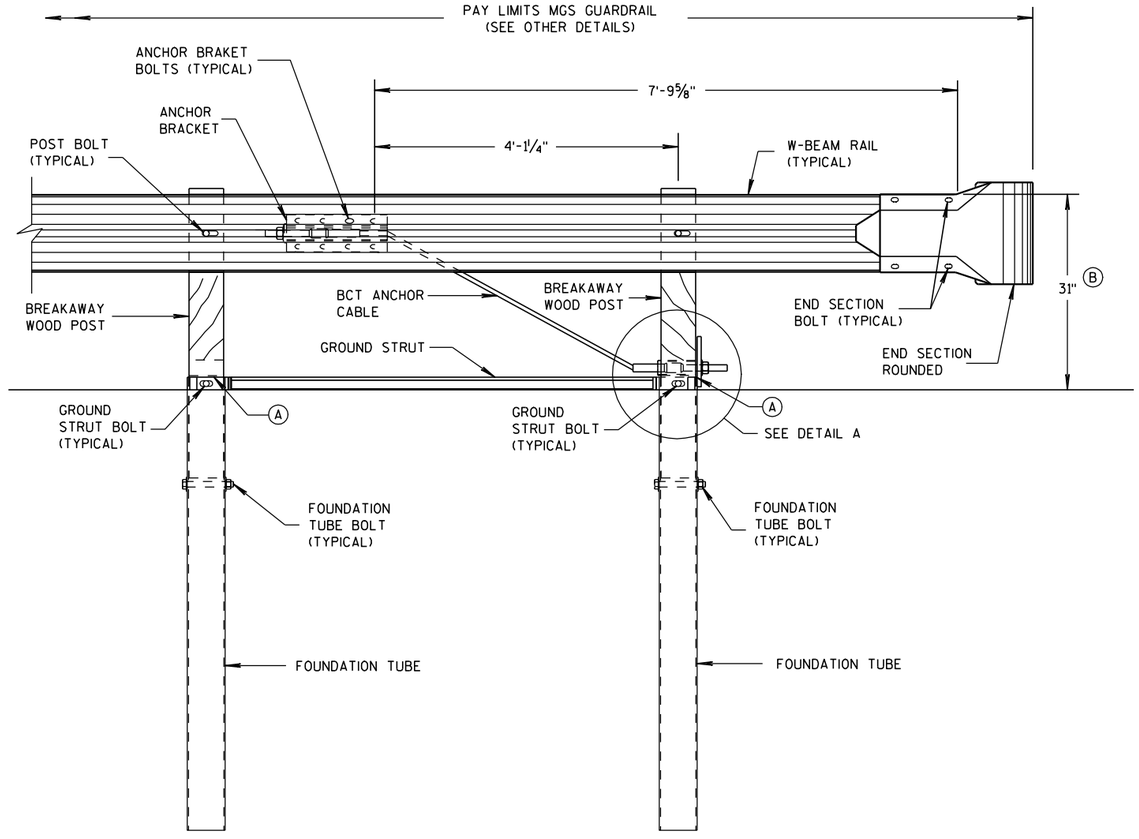
S.D.D. 14 B 45-3j

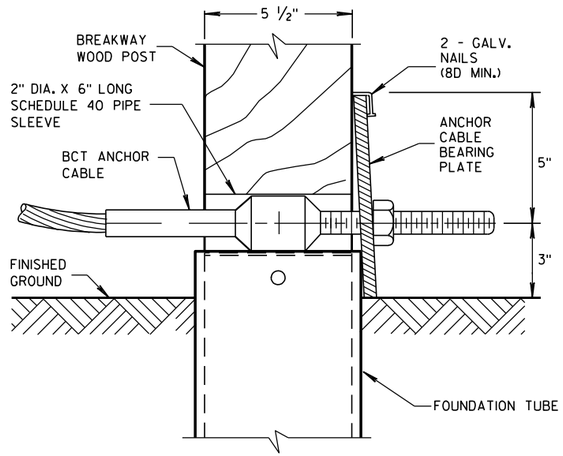


PLAN VIEW



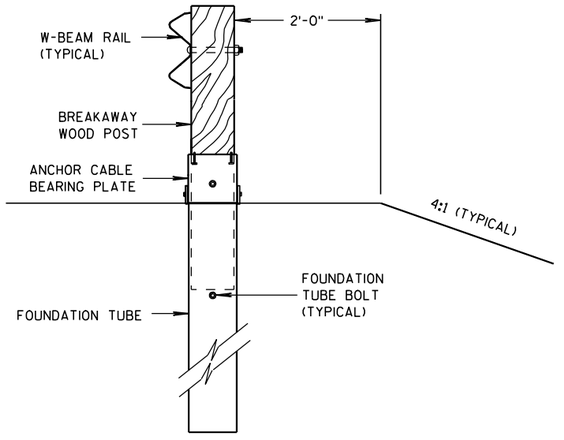
FRONT VIEW

END RAIL DETAIL



DETAIL A

POST NO. 1
GROUNG STRUT NOT SHOWN FOR CLARITY.



SECTION A-A

GENERAL NOTES

SEE SDD 14 B 42 FOR MORE INFORMATION.

POST BOLTS ARE A ⅝" DIAMETER X 10" LONG GUARDRAIL BOLT. A POST BOLT REQUIRES A ⅝" DIAMETER DH MODIFIED (RECESSED) HEAVY HEX NUT AND ⅝" DIAMETER FLAT WASHER.

FOUNDATION TUBE BOLTS ARE A ⅞" DIAMETER X 7½" LONG HEAVY HEX HEAD BOLT. A FOUNDATION TUBE BOLT REQUIRES A ⅞" DIAMETER DH HEAVY HEX NUT AND A ⅝" DIAMETER FLAT WASHER.

GROUND STRUT BOLTS ARE A ⅝" DIAMETER X 10" LONG HEAVY HEX HEAD BOLT. A GROUND STRUT BOLT REQUIRES A ⅝" DIAMETER DH HEAVY HEX NUT AND A ⅝" DIAMETER FLAT WASHER.

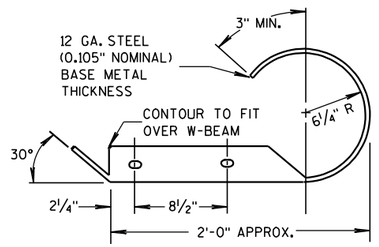
ANCHOR BRAKET BOLTS ARE A ⅝" DIAMETER X 1½" LONG HEAVY HEX HEAD BOLT. AN ANCHOR BRAKET BOLT REQUIRES A ⅝" DIAMETER DH HEAVY HEX NUT AND A FLAT WASHER.

END SECTION BOLTS ARE A ⅝" DIAMETER X 1½" HEAVY HEX HEAD BOLT. AN END SECTION BOLT REQUIRES ⅝" DIAMETER DH HEAVY HEX NUT AND A ⅝" DIAMETER FLAT WASHER.

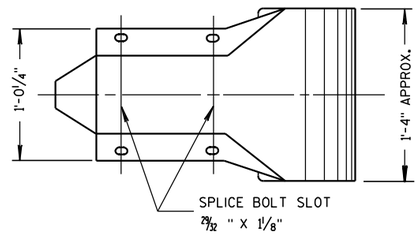
W-BEAM END SECTION ROUNDED HAS THE SAME MATERIAL PROPERTIES AS STANDARD STEEL RAIL.

(A) TOP OF FOUNDATION TUBE SHALL BE NO MORE THAN 3" ABOVE FINISHED GROUND.

(B) FOR NEW CONSTRUCTION TOP OF RAIL IS 31" ± 1".
FOR EXISTING INSTALLATIONS TOP OF RAIL IS BETWEEN 27¾" TO 32" ± 1".



PLAN VIEW



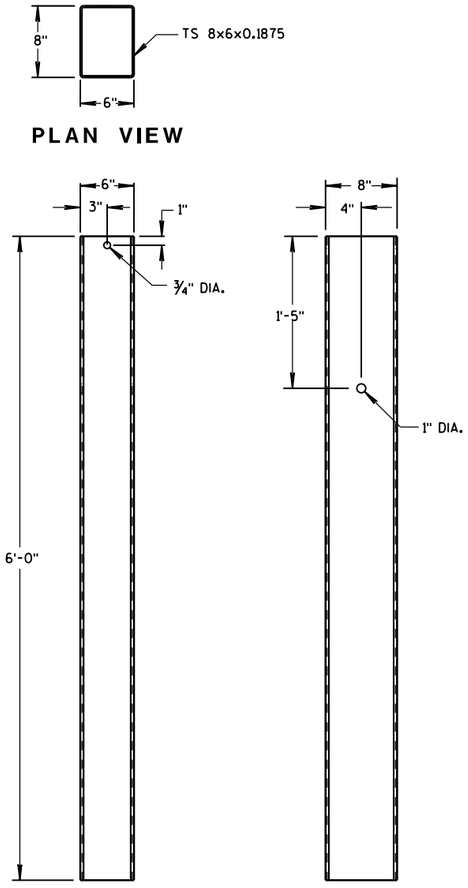
FRONT VIEW

W BEAM END SECTION ROUNDED

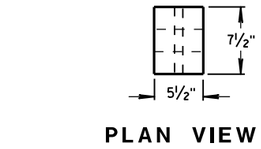
MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL

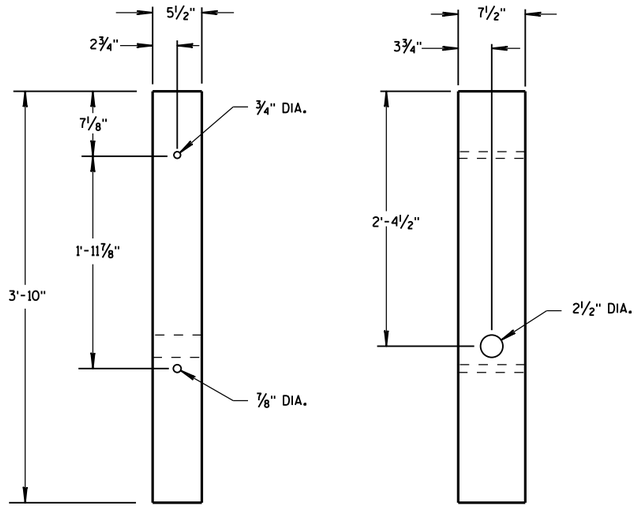
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6
S.D.D. 14 B 47-1a



FOUNDATION TUBE



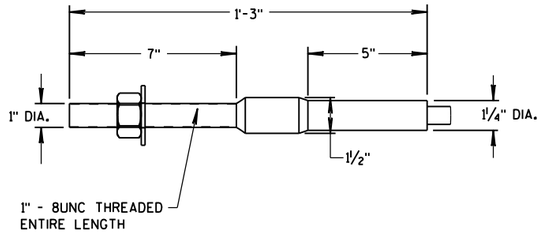


BREAKAWAY WOOD POST

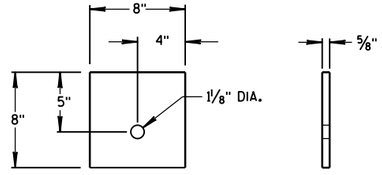
GENERAL NOTES

BCT ANCHOR CABLE IS A ⅜" DIAMETER 6X19 IWRC IPS GALVANIZED WIRE ROPE. THE SWAGED FITTINGS AND STUD ARE REQUIRED. THE END FITTING SHALL BE MACHINED FROM HOT-ROLLED CARBON STEEL CONFORMING TO ASTM A576 GRADE 1035 AND GALVANIZED ACCORDING TO ASTM A123. THE TREADED STUD SHOULD CONFORM TO ASTM A325 OR SAE GRADE 5. MINIMUM BREAKING STRENGTH OF WIRE ROPE IS 43,000 LB. WIRE ROPE IS TO BE TAUT.

BCT ANCHOR CABLE



DETAIL B



ANCHOR CABLE
BEARING PLATE

MIDWEST GUARDRAIL
SYSTEM (MGS) TYPE 2 TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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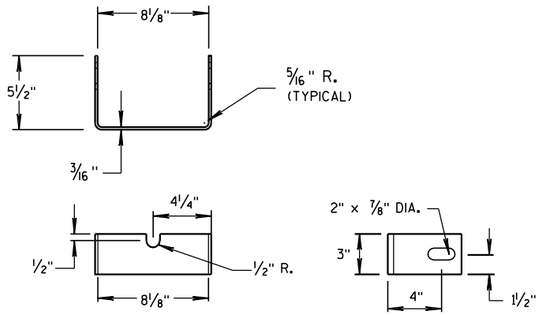
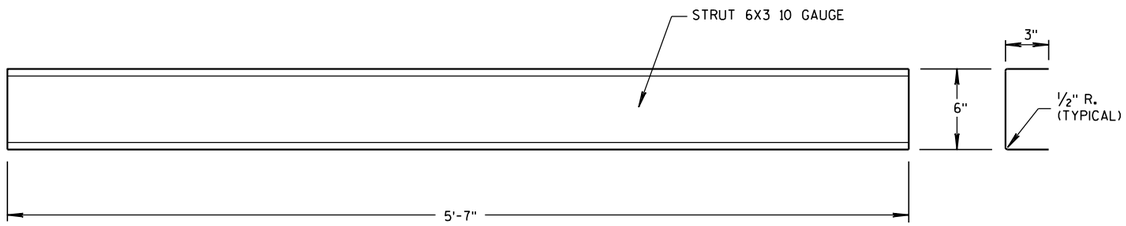
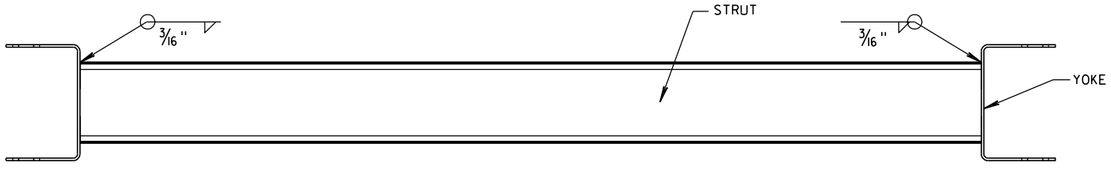
S.D.D. 14 B 47-1b



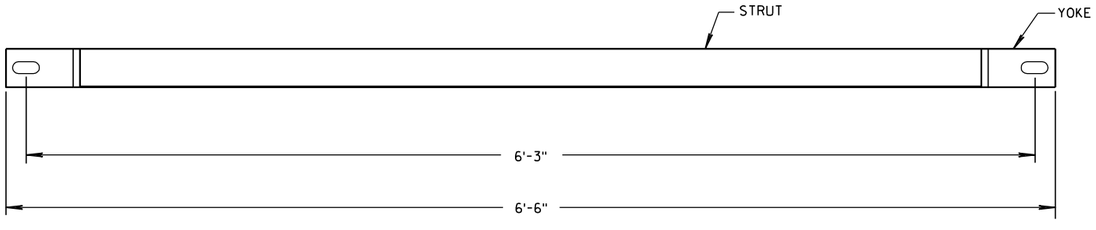
YOKE DETAIL



STRUT DETAIL

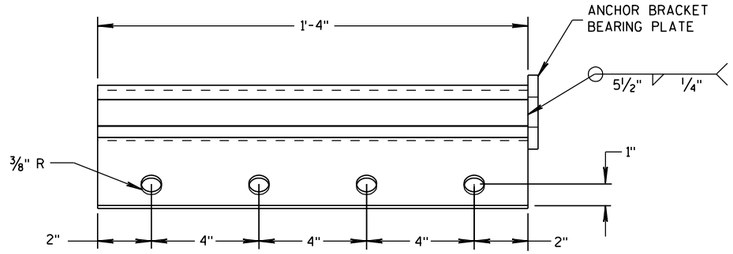


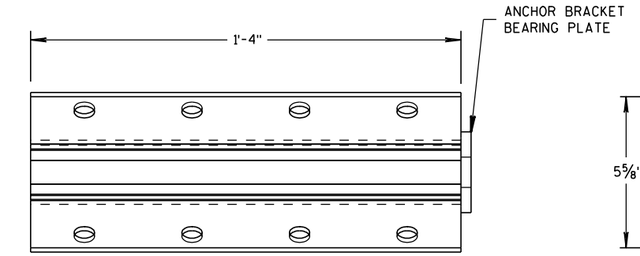
PLAN VIEW

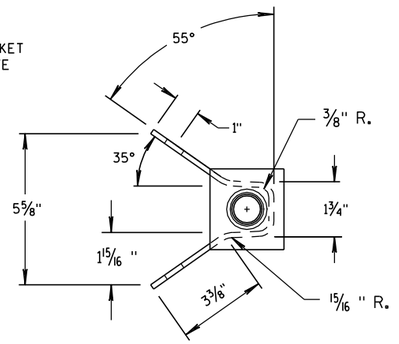


FRONT VIEW

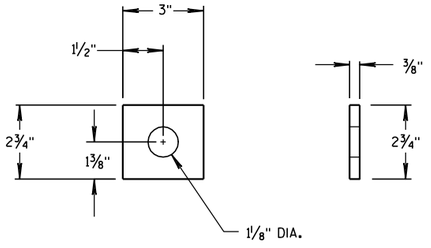
GROUND STRUT DETAIL







ANCHOR BRACKET



ANCHOR BRACKET BEARING PLATE

MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

5/23/2011
DATE

/S/ Jerry H. [illegible]
ROADWAY STANDARDS ENGINEER

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FHWA

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S.D.D. 14 B 47-1c

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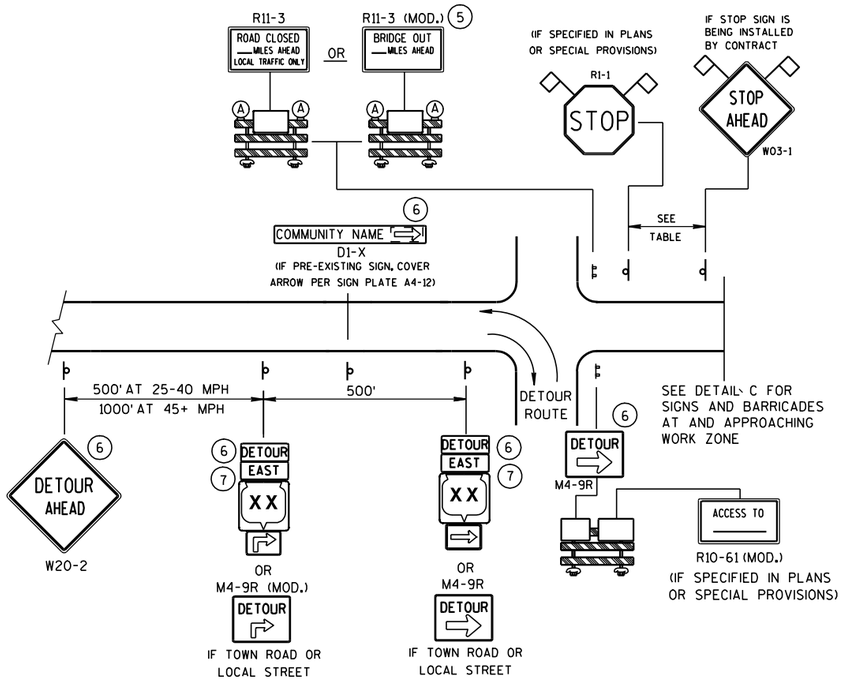
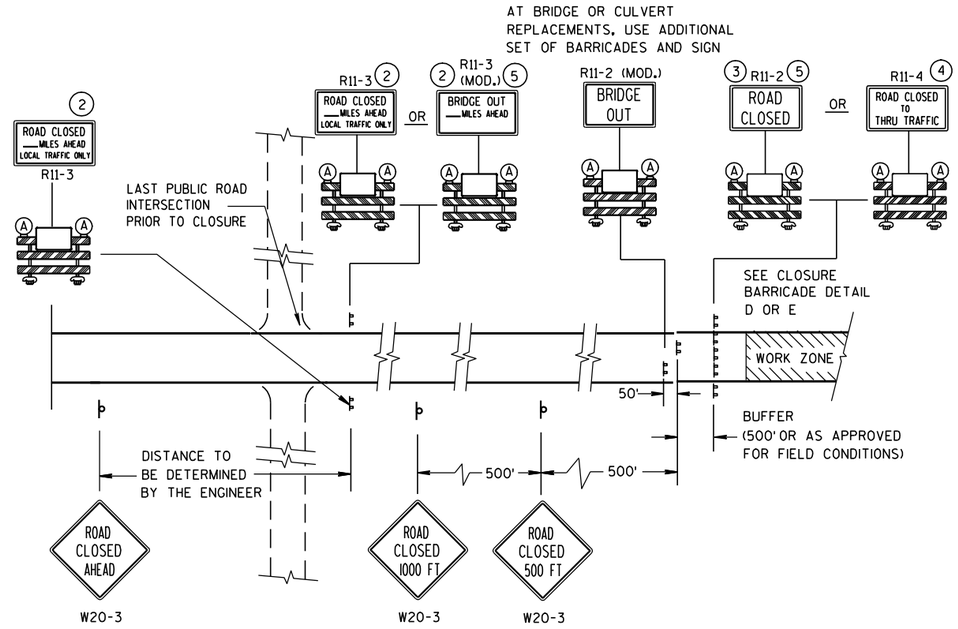
S.D.D. 14 B 47-1c



DETAIL A

MAINLINE CLOSURE WITH POSTED DETOUR

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

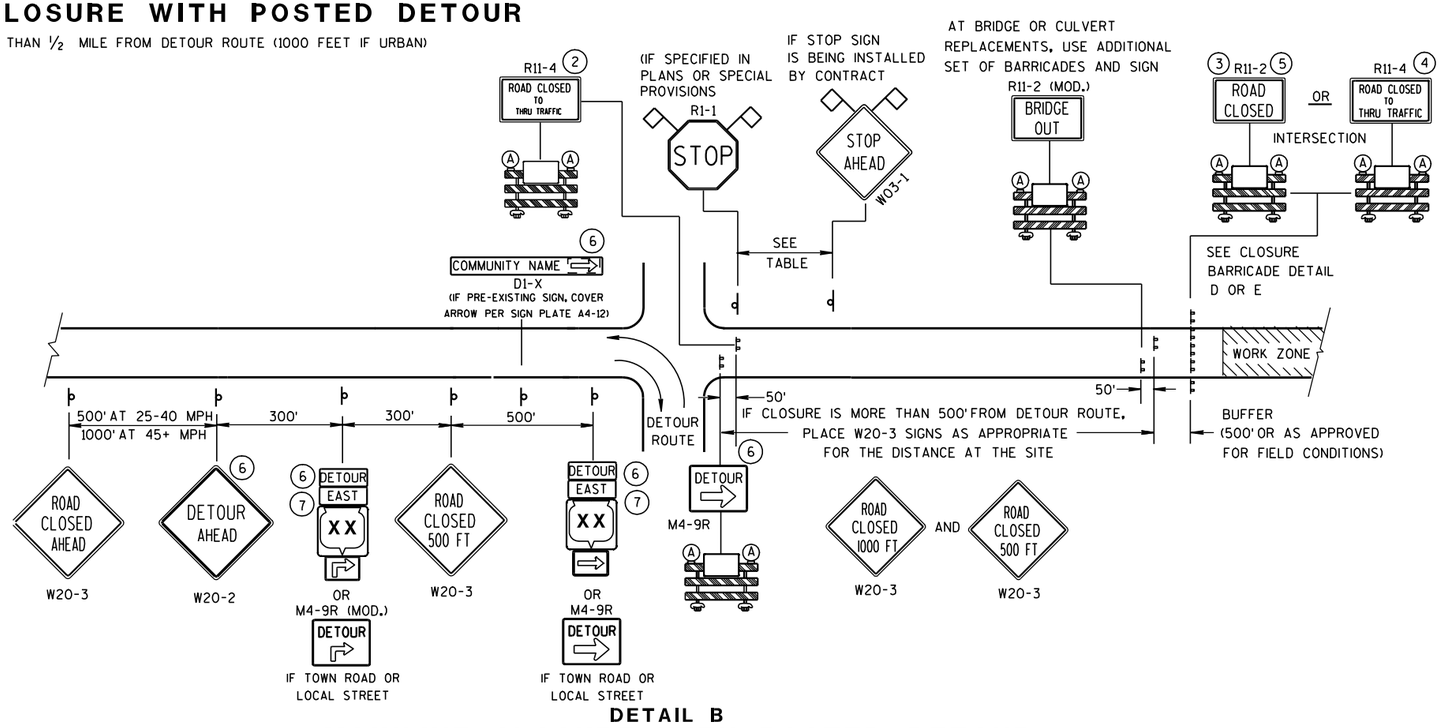


DETAIL C

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 15C2-4b
FOR GENERAL NOTES
AND FOOTNOTES ① THROUGH ⑦



DETAIL B

MAINLINE CLOSURE WITH POSTED DETOUR

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

LEGEND

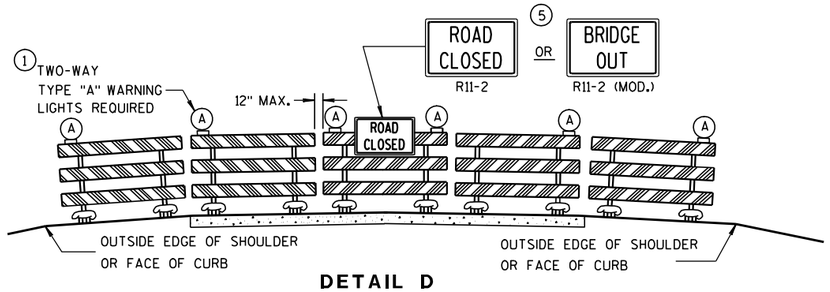
- POST MOUNTED SIGN
- TYPE III BARRICADES
- (A) TYPE "A" LOW INTENSITY FLASHING WARNING LIGHT (FOR NIGHT USE)
- WORK ZONE
- DETOUR / EAST — M4-8 / M3-X
- XX — M1-4; COUNTY XX — M1-5A; XX — M1-6
- M05-1; M06-1
- FLAGS, 16" X 16" MIN., (ORANGE)

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

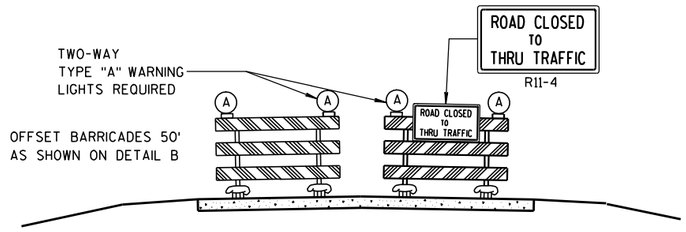
S.D.D. 15 C 2-4a



DETAIL D

ROAD CLOSURE BARRICADE DETAIL

APPROACH VIEW



DETAIL E

LANE CLOSURE BARRICADE DETAIL

APPROACH VIEW

SEE SDD 15C2-4a 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 BARRICADES SHALL COVER NO MORE THAN THE TOP RAIL. THE SIGNS SHALL NOT COVER ANY PORTION OF THE MIDDLE OR BOTTOM RAILS.

THE REFLECTIVE SHEETING USED ON R11-2, R11-3, R11-4, R10-61 AND R1-1 SIGNS SHALL COMPLY WITH SUBSECTION 637.2.2.2 OF THE STANDARD SPECIFICATIONS.

"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, R11-4 AND R10-61 SHALL BE 60" X 30".
- M4-9 SHALL BE 30" X 24".
- M3-X AND M4-8 SHALL BE 24" X 12". (30" X 15" IF NEEDED TO MATCH EXISTING SIGNS.)
- M1-4, M1-5A, AND M1-6 SHALL BE 24" X 24". (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS.)
- M05-1 AND M06-1 SHALL BE 21" X 21". (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS.)
- 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 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 LANE 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 MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

9/16/03
DATE

/S/ Thomas N. N[illegible]
CHIEF SIGNS AND MARKINGS ENGINEER

FHWA

6

S.D.D. 15 C 2-4b

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

GENERAL NOTES

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

IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. MODIFY EXISTING SIGNS WHERE POSSIBLE.

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

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

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

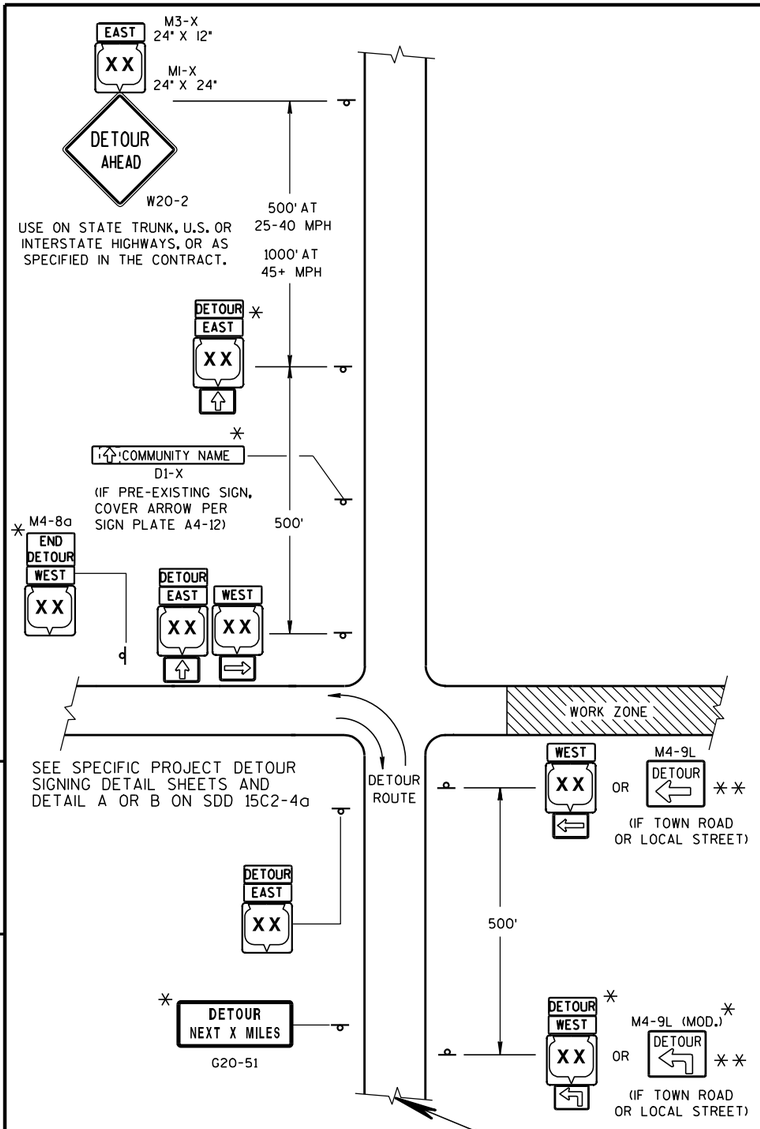
"MO" SIGNS ARE THE SAME AS "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

SIGN SIZES SHALL BE AS FOLLOWS:

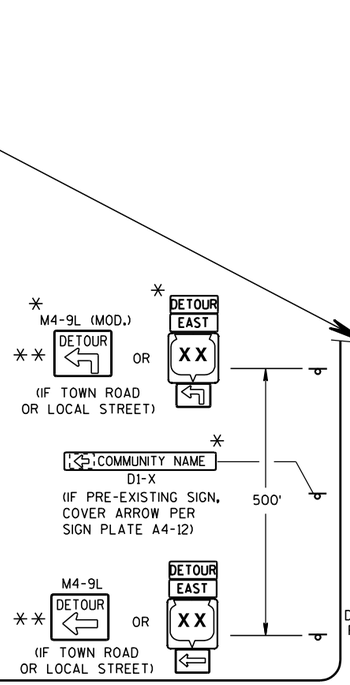
M3-X AND M4-8 SHALL BE 24" X 12". (30" X 15" IF NEEDED TO MATCH EXISTING SIGNS.)
M1-4, M1-5A, AND M1-6 SHALL BE 24" X 24". (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS.)
M05-1 AND M06-1 SHALL BE 21" X 21". (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS.)
M4-9 SHALL BE 30" X 24".
M4-8a SHALL BE 24" X 18".
G20-51 SHALL BE 60" X 24".
W20-2 SHALL BE 48" X 48".
D1-X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.

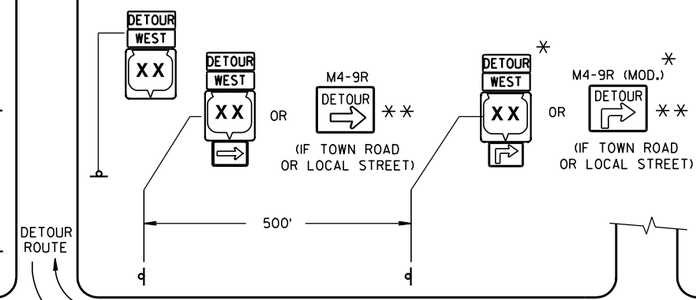
* OPTIONAL SIGNS. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS.

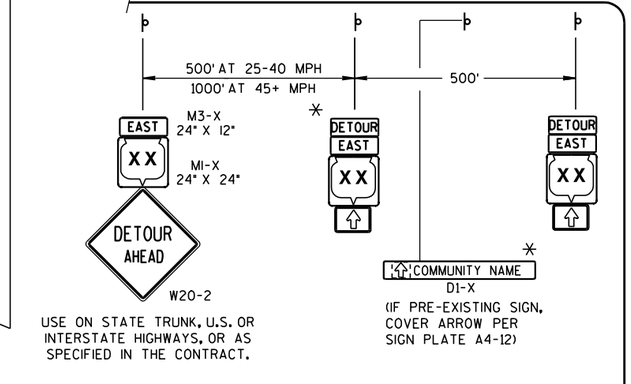
** FOR A TOWN ROAD OR LOCAL STREET DETOURED ONTO A STATE TRUNK HIGHWAY, PLACE A ROAD NAME PLAQUE ABOVE THE M4-9 SIGN AS SPECIFIED IN THE CONTRACT.

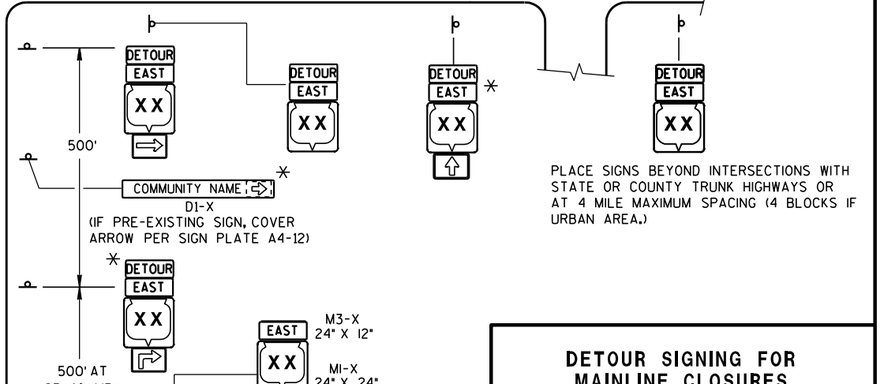


MATCH POINT









LEGEND

- POST MOUNTED SIGN
- WORK ZONE
- DETOUR EAST — M4-8 / M3-X
- XX OR COUNTY XX OR XX — M1-4 / M1-5A / M1-6
- M05-1 OR M06-1 OR M06-1

DETAIL F

DETOUR SIGNING

DETOUR SIGNING FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

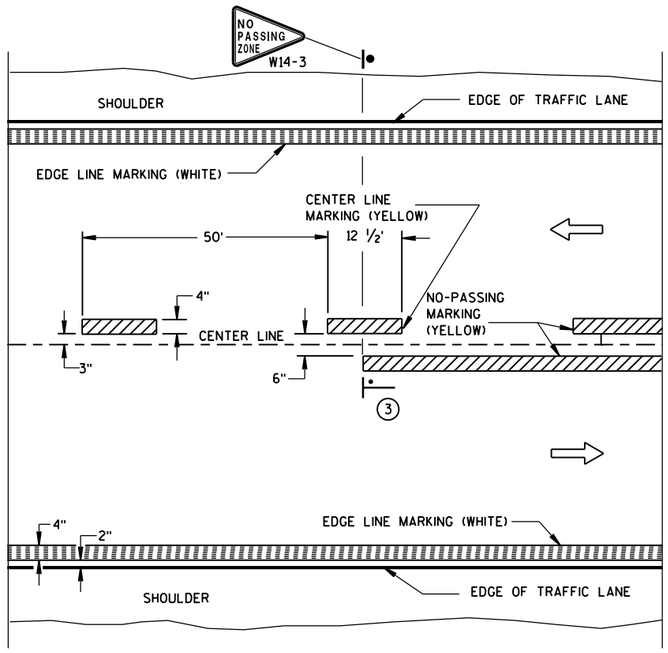
APPROVED
9-16-03 DATE
/S/ Thomas N. [illegible] CHIEF SIGNS AND MAR 127 INEER
FHWA

6

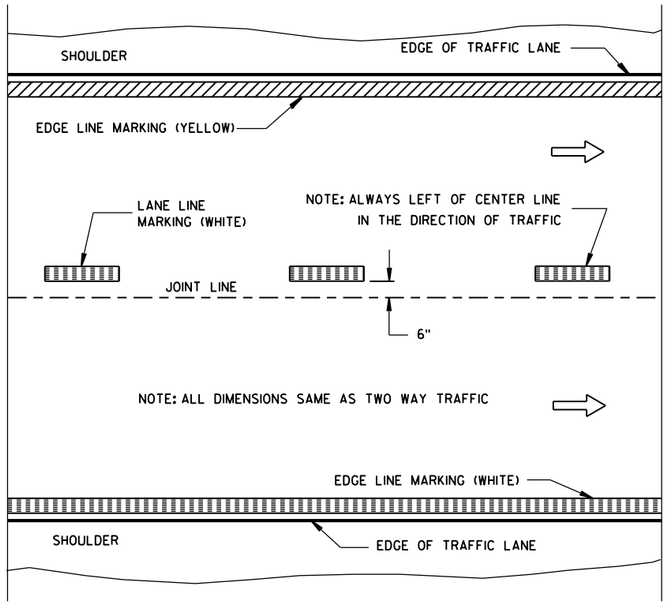
S.D.D. 15 C 2-4c

6

S.D.D. 15 C 2-4c

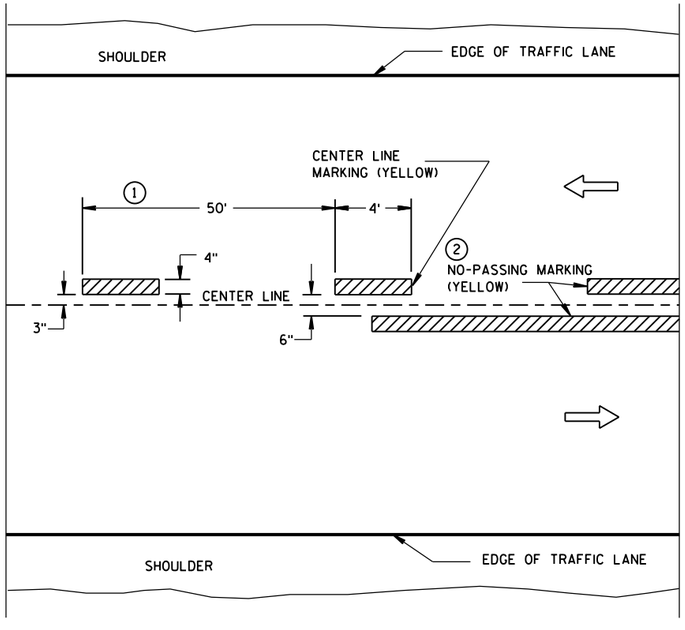


TWO WAY TRAFFIC

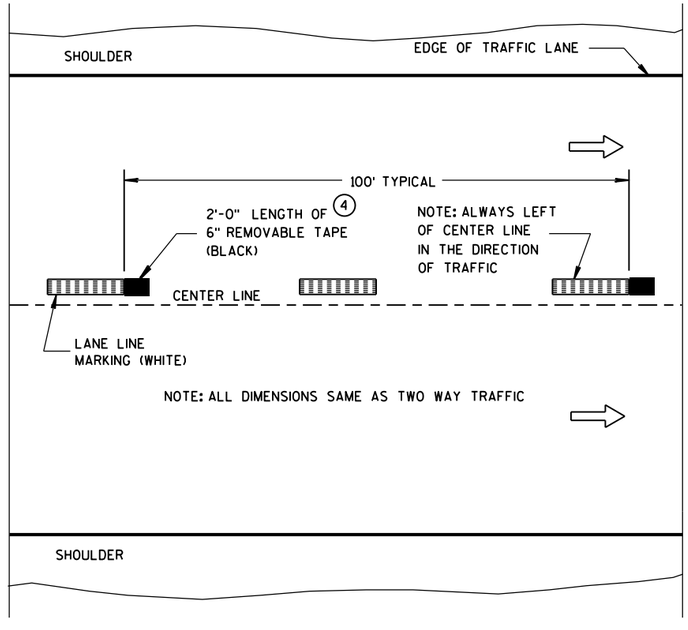


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY (INTERMEDIATE) PAVEMENT MARKING

(SHOWS CYCLE FOR TEMPORARY CENTER LINE OR TEMPORARY LANE LINE MARKING)

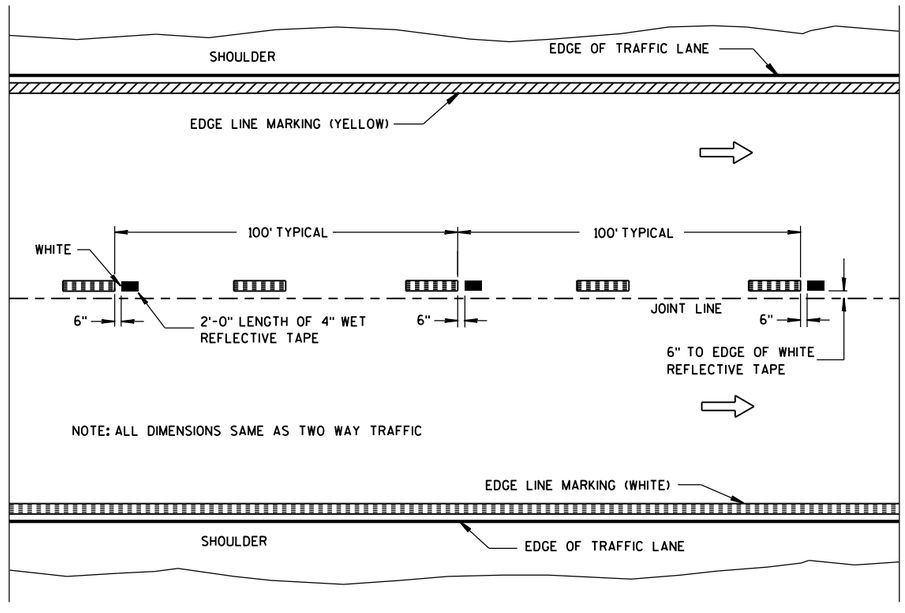
GENERAL NOTES

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

1. HALF CYCLE LENGTHS (25'±) WITH 2' MINIMUM STRIPE LENGTHS SHALL BE PROVIDED ON ROADWAYS (INCLUDING TEMPORARY TRAVELED WAYS) WITH REVERSE CURVATURE, CURVATURE OF OVER 5 DEGREES OR WHEN DIRECTED BY THE ENGINEER TO MARK UNUSUAL ALIGNMENT OF THE TRAVELED WAY.
2. NO PASSING ZONE TEMPORARY PAVEMENT MARKING IS REQUIRED TO BE PLACED, WHERE APPROPRIATE, ALONG WITH CENTERLINE TEMPORARY PAVEMENT MARKING WHEN A SAME DAY PERMANENT PAVEMENT MARKING ITEM IS INCLUDED IN THE CONTRACT.
3. NO PASSING ZONE MARKINGS ARE PLACED ACCORDING TO "T" MARKINGS. IF EXISTING NO PASSING ZONE W14-3 SIGNS ARE BEYOND 50 FEET IN EITHER DIRECTION, THE SIGNS SHALL BE MOVED TO THE "T" MARKINGS.
4. CONCRETE ONLY.

NOTE

ARROW SYMBOL (⇨) SHOWS DIRECTION OF TRAVEL



WET REFLECTIVE TAPE SUPPLEMENT TO
SPRAYED OR NON WET REFLECTIVE TAPE LANE LINE

LEGEND

"T" MARKING

POST MOUNTED SIGN

PAVEMENT MARKING (MAINLINE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

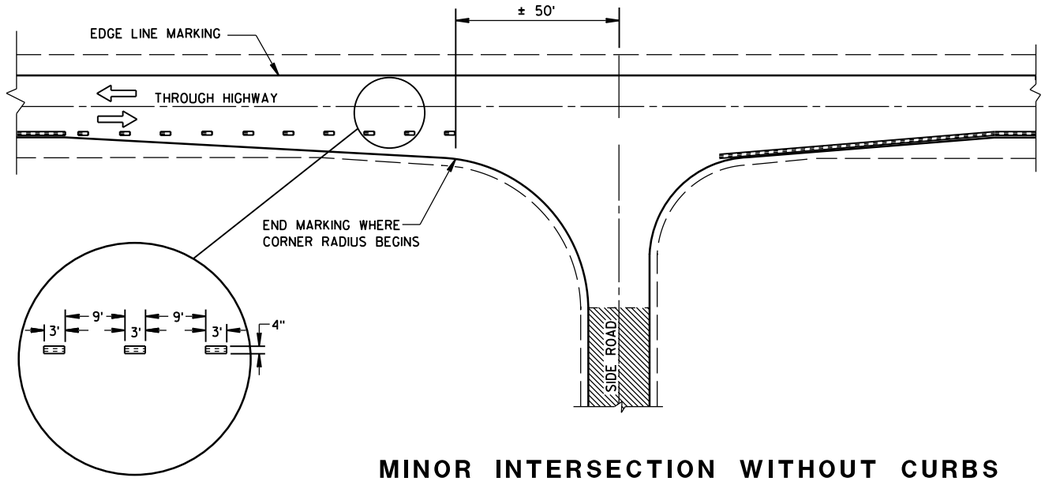
APPROVED
10-1-2012 — DATE
/S/ Travis Feltes — STATE TRAFFIC ENGINEER
FHWA

6

S.D.D. 15 C 8-15a

6

S.D.D. 15 C 8-15a



MINOR INTERSECTION WITHOUT CURBS

GENERAL NOTES

EDGE LINES SHALL BE OMITTED THROUGH INTERSECTIONS. EDGE LINES SHALL BE CONTINUED THROUGH DRIVEWAYS.

(1) WHEN DISTANCE "A" IS LESS THAN 250 FEET, OMIT LANE LINE.

(2) WHEN DISTANCE "B" IS LESS THAN 100 FEET, OMIT CHANNELIZING LANE LINE.

(3) ALTERNATIVE MARKING SHALL BE PROVIDED WHEN SPECIFIED IN THE CONTRACT. TYPICAL SITUATIONS WHERE THIS MARKING MAY BE REQUIRED ARE WHERE THE INTERSECTION IS ON A SHARP HORIZONTAL CURVE OR CREST VERTICAL CURVE IN AN UNLIGHTED AREA SUCH THAT THE EDGE LINE MAY BE MISLEADING TO THE MOTORIST OR DISAPPEAR FROM SIGHT.

(4) THE EDGE LINE IN THE TAPER AREAS OF THE BYPASS LANE AND THE BYPASS LANE SHALL BE LOCATED 1-FOOT FROM EDGE OF PAVEMENT TO THE OUTSIDE EDGE OF EDGE LINE.

(5) BARRIER LINE ENDS AT SIDE ROAD PAVEMENT/SURFACE EDGE EXTENSION.

(6) BARRIER LINE STARTS 500 FEET PRIOR TO THE BYPASS TAPER.

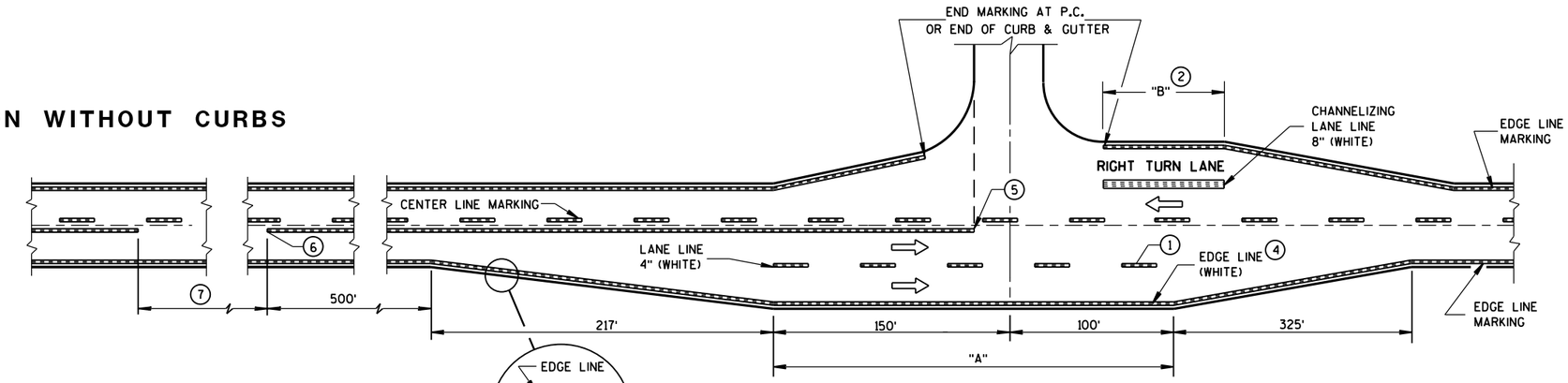
(7) IF THE DISTANCE BETWEEN 2 SUCCESSIVE NO-PASSING ZONES IS LESS THAN THE MINIMUM DISTANCE BETWEEN ZONES, CONNECT THE 2 ZONES.

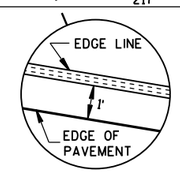
(8) 3' LINE 9' GAP, EXCEPT RETRACE THE EXISTING LINE - GAP PATTERN WHERE EXISTING MARKINGS ARE IN PLACE.

ARROW SYMBOL (⇨) SHOWS DIRECTION OF TRAVEL

(7)

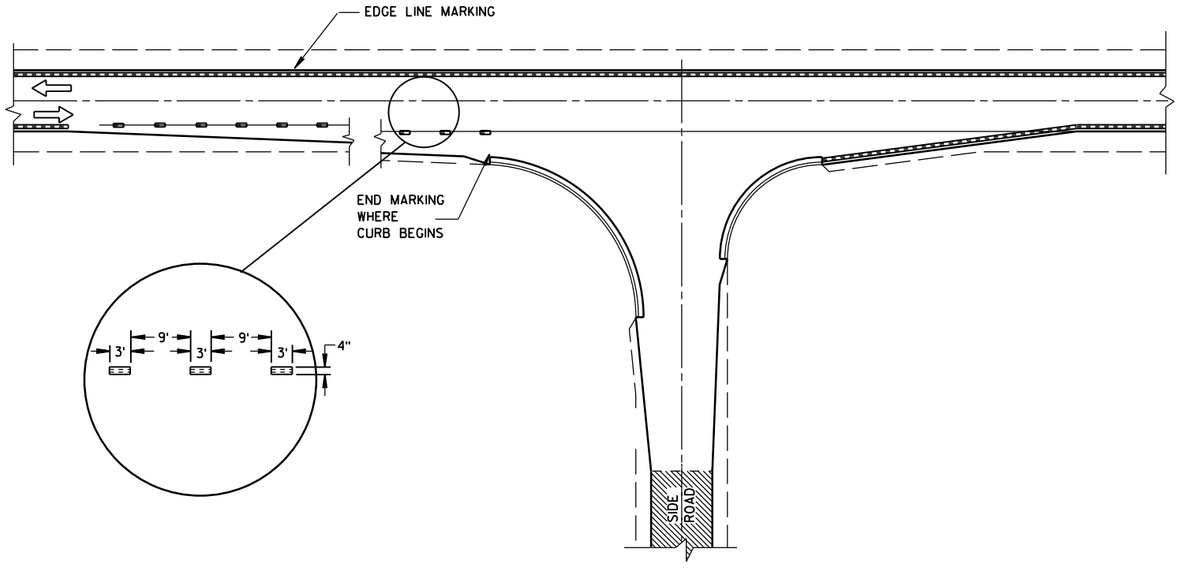
POSTED SPEED (MPH)	MINIMUM DISTANCE BETWEEN ZONES (FEET)
25 - 30	528
35 - 40	528
45 - 50	686
55	792





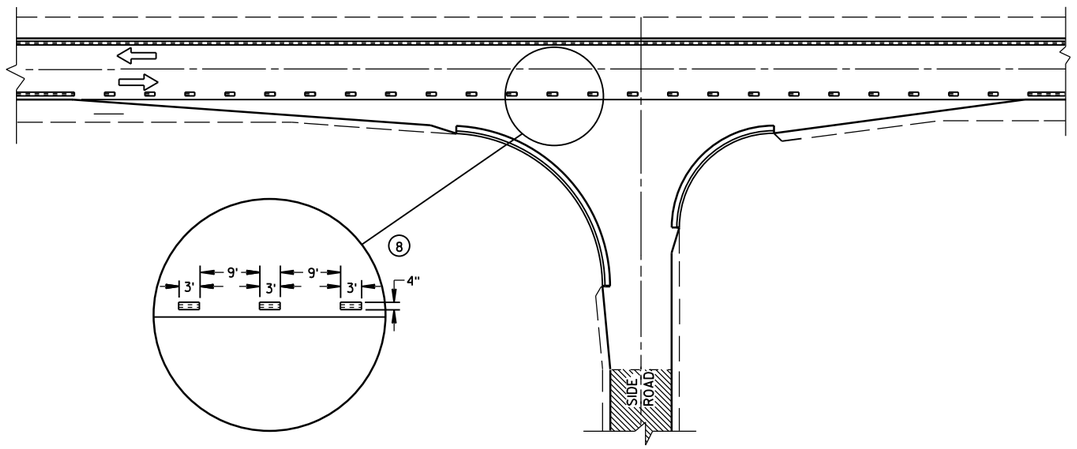
MAJOR INTERSECTIONS

(INTERSECTION WITH FULL RIGHT TURN LANE OR BYPASS LANES)



MINOR INTERSECTION WITH CURBS

(TYPICAL MARKING)



MINOR INTERSECTION WITH CURBS

(3) (FOR SPECIAL CONDITIONS AS SPECIFIED)

PAVEMENT MARKING
(INTERSECTIONS)

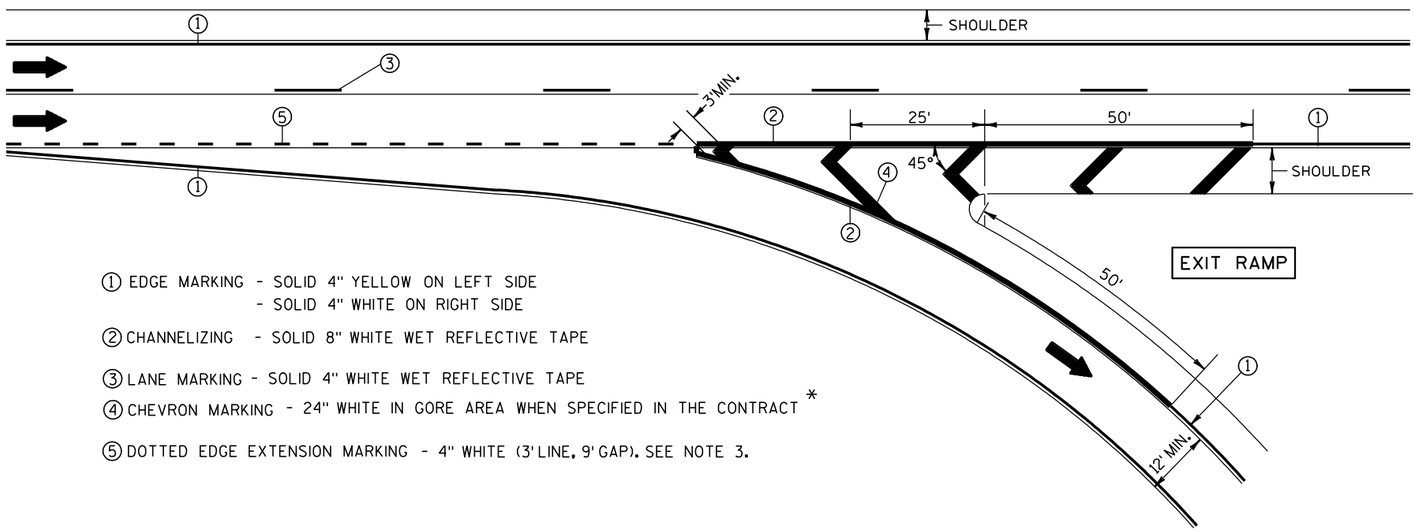
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

S.D.D. 15 C 8-15b

6

S.D.D. 15 C 8-15b



① EDGE MARKING - SOLID 4" YELLOW ON LEFT SIDE
- SOLID 4" WHITE ON RIGHT SIDE

② CHANNELIZING - SOLID 8" WHITE WET REFLECTIVE TAPE

③ LANE MARKING - SOLID 4" WHITE WET REFLECTIVE TAPE

④ CHEVRON MARKING - 24" WHITE IN GORE AREA WHEN SPECIFIED IN THE CONTRACT *

⑤ DOTTED EDGE EXTENSION MARKING - 4" WHITE (3' LINE, 9' GAP). SEE NOTE 3.

NOTES:

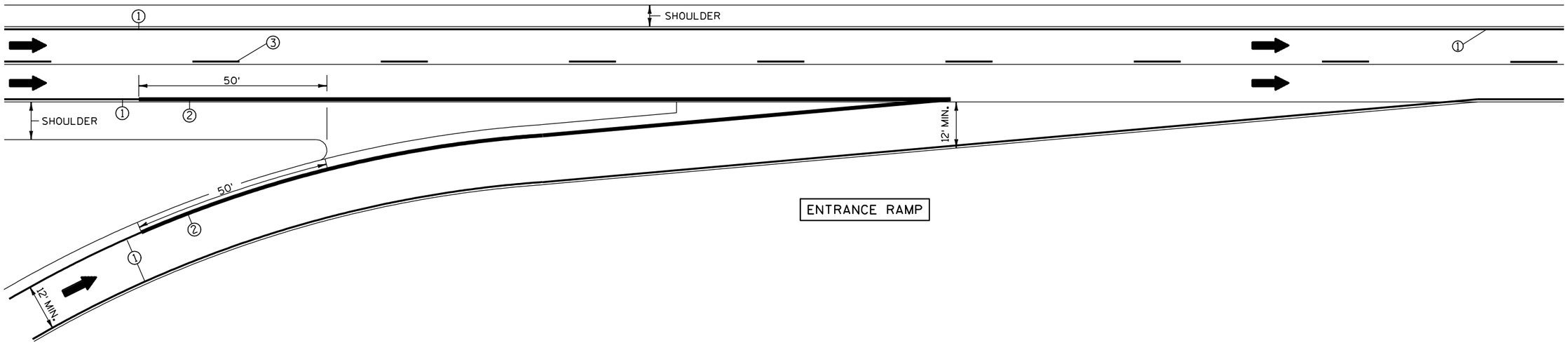
1. ARROWS SHOWN ON THIS MARKING PLAN DESIGNATE TRAFFIC FLOW, AND SHALL NOT BE TAKEN AS PROPOSED PAVEMENT MARKINGS.

2. PLACE WHITE EDGE OF TAPE 6" LEFT FROM JOINT.

3. 3' LINE 9' GAP, EXCEPT RETRACE THE EXISTING LINE-GAP PATTERN WHERE EXISTING MARKINGS ARE IN PLACE.

4. RETRACE EXISTING DIAGONAL MARKINGS.

* REFER TO DESIGN NOTES.



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6

S.D.D. 15 C 31-1a

S.D.D. 15 C 31-1a

PAVEMENT MARKING
(RAMPS AND GORES)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

LEGEND

- POST WITH ATTACHED SIGN
- DRUM WITH WARNING LIGHT (TYPE C)
- DRUM
- ARROW BOARD
- REMOVING PAVEMENT MARKING
- TEMPORARY PRECAST CONCRETE BARRIER
- DIRECTION OF TRAFFIC
- WORK ZONE

GENERAL NOTES :

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

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 SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET, (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS.

ALL SIGNS ARE 48"x48" 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 AND AS APPROVED BY THE ENGINEER.

(1) CONSIDER ROADWAY GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARD SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS FOR A MINIMUM 1500 FEET IN FRONT OF DRUMS.

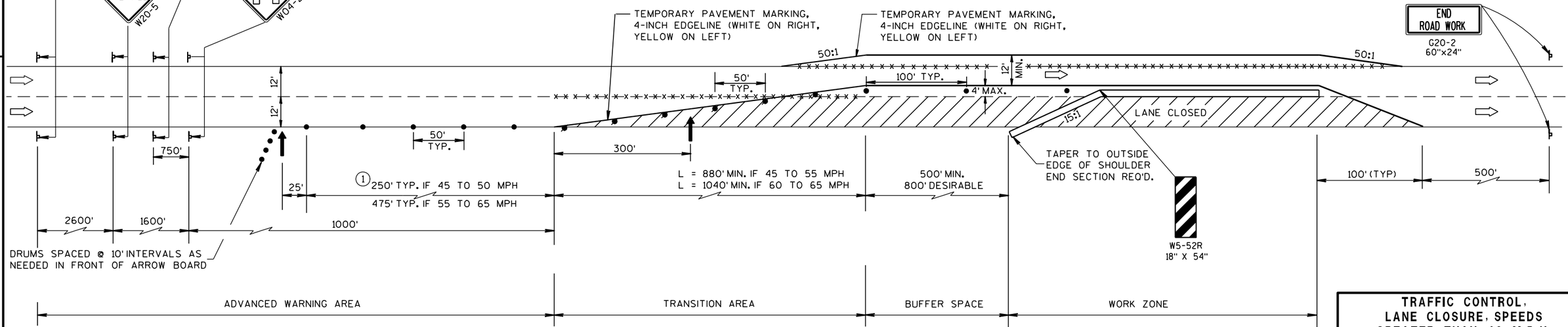
FOR A LANE CLOSURE THAT IS IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, THE ADVANCED WARNING SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS.

REMOVE PAVEMENT MARKINGS IF LANE CLOSURE IS TO BE IN PLACE FOR LONGER THAN 7 CONTINUOUS DAYS AND NIGHTS.

IF THE HORIZONTAL ALIGNMENT IS SUCH THAT A CURVE MAY REQUIRE ADDITIONAL DELINEATION, THE DEVICE SPACING MAY BE DECREASED TO 50 FEET.

ADJUSTMENTS IN BUFFER SPACE NEED TO BE INCORPORATED WHEN THE LANE CLOSURE OCCURS NEAR AN INTERCHANGE EXIT OR ENTRANCE RAMP OR INTERSECTION. THE LANE CLOSURE MUST TAKE PLACE FAR ENOUGH IN ADVANCE OF AN EXIT OR ENTRANCE RAMP TO STILL ALLOW FOR ADEQUATE BUFFER SPACE. THE MINIMUM LENGTH OF THE BUFFER SPACE BEFORE AN EXIT RAMP SHOULD BE 1/2 THE LENGTH OF THE TRANSITION AREA. THE ENTRANCE RAMP SHOULD BE FOLLOWED BY THE ORIGINAL BUFFER SPACE LENGTH OF 800 FEET DESIRABLE PRIOR TO ANOTHER TRAFFIC CONTROL CHANGE SUCH AS A CROSSOVER MANEUVER.

NO EQUIPMENT OR MATERIAL SHALL BE LOCATED WITHIN THE WORK ZONE OTHER THAN BEHIND THE PRECAST CONCRETE BARRIER.



TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H. WITH BARRIER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7-14-94 DATE
/S/ Chester J. [illegible]
DIRECTOR, OFFICE OF [illegible]
FHWA

6

S.D.D. 15 D 3-1

6

S.D.D. 15 D 3-1

LEGEND

- POST WITH ATTACHED SIGN
- POST WITH ATTACHED SIGN IN DRUM
- DRUM WITH WARNING LIGHT (TYPE C)
- DRUM
- ARROW BOARD
- 8' TYPE III BARRICADE
- REMOVING PAVEMENT MARKING
- DIRECTION OF TRAFFIC

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 SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET, (500 FEET DESIREABLE) DISTANCE TO EXISTING SIGNS.

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

ALL SIGNS ARE 48"x48" 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 AND AS APPROVED BY THE ENGINEER. NO WARNING LIGHTS SHALL BE WORKING ON "COVERED" OR "DOWNED" SIGNS.

(1) CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARD SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS FOR A MINIMUM 1500 FEET IN FRONT OF DRUMS.

FOR A LANE CLOSURE THAT IS IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, THE ADVANCED WARNING SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS.

GENERAL NOTES CONTINUED:

REMOVE PAVEMENT MARKINGS IF LANE CLOSURE IS TO BE IN PLACE FOR LONGER THAN 7 CONTINUOUS DAYS AND NIGHTS.

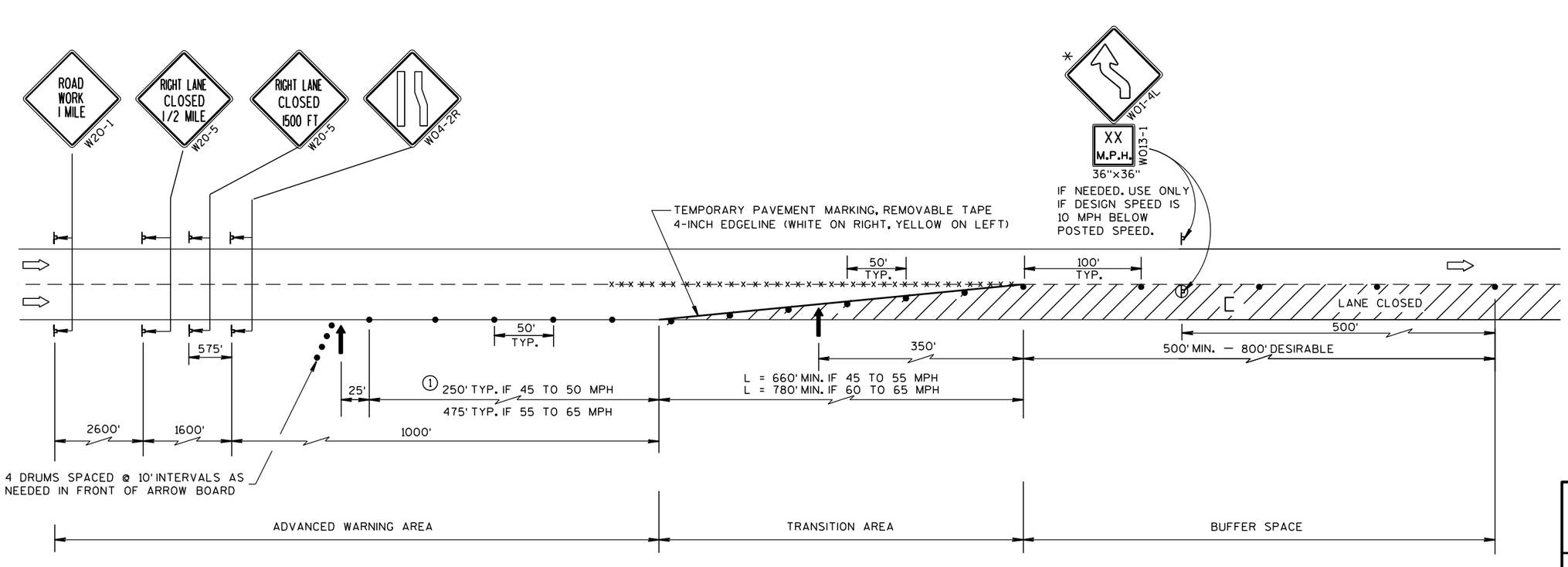
WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

IF THE HORIZONTAL ALIGNMENT IS SUCH THAT A CURVE MAY REQUIRE ADDITIONAL DELINEATION, THE DEVICE SPACING MAY BE DECREASED TO 50 FEET.

IF LANE CLOSURE IS MORE THAN 1 MILE, PLACE A TYPE III BARRICADE APPROXIMATELY EVERY 1/4 MILE ACROSS THE CLOSED LANE TO HELP ENFORCE THE DRUM LINE.

ADJUSTMENTS IN BUFFER SPACE NEED TO BE INCORPORATED WHEN THE LANE CLOSURE OCCURS NEAR AN INTERCHANGE EXIT OR ENTRANCE RAMP. THE LANE CLOSURE MUST MUST TAKE PLACE FAR ENOUGH IN ADVANCE OF AN EXIT OR ENTRANCE RAMP TO STILL ALLOW FOR ADEQUATE BUFFER SPACE. THE MINIMUM LENGTH OF THE BUFFER SPACE BEFORE AN EXIT RAMP SHOULD BE 1/2 THE LENGTH OF THE TRANSITION AREA. THE ENTRANCE RAMP SHOULD BE FOLLOWED BY THE ORIGINAL BUFFER SPACE LENGTH OF 800 FEET DESIRABLE PRIOR TO ANOTHER TRAFFIC CONTROL CHANGE SUCH AS A CROSSOVER MANEUVER.

* THE LEFT REVERSE CURVE SIGN (WO1-4L) IS ONLY REQUIRED WHEN THIS DETAIL IS USED IN COMBINATION WITH "SINGLE LANE CROSSOVER" DETAIL.



TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H.

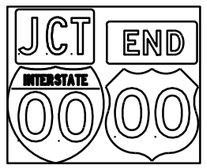
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8-7-95 DATE
/S/ Chester J. [illegible]
DIRECTOR, OFFICE O
FHWA

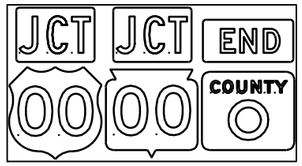
6
S.D.D. 15 D 12-2

TYPICAL ASSEMBLIES

J1-1

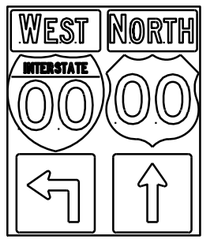


J1-2

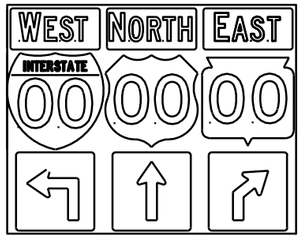


J1-3

J2-1

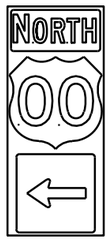


J2-2

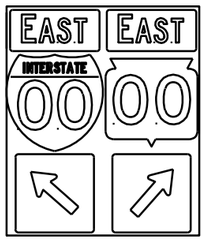


J2-3

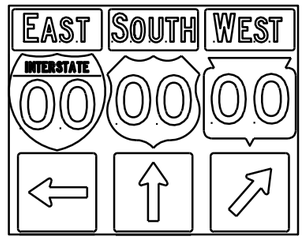
JV



J3-1

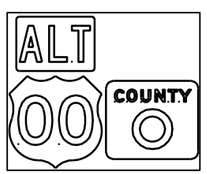


J3-2

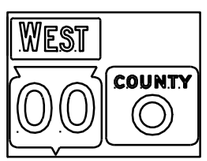


J3-3

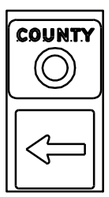
J4-1



J4-2



J4-2



J13-1

J12-1

J32-1

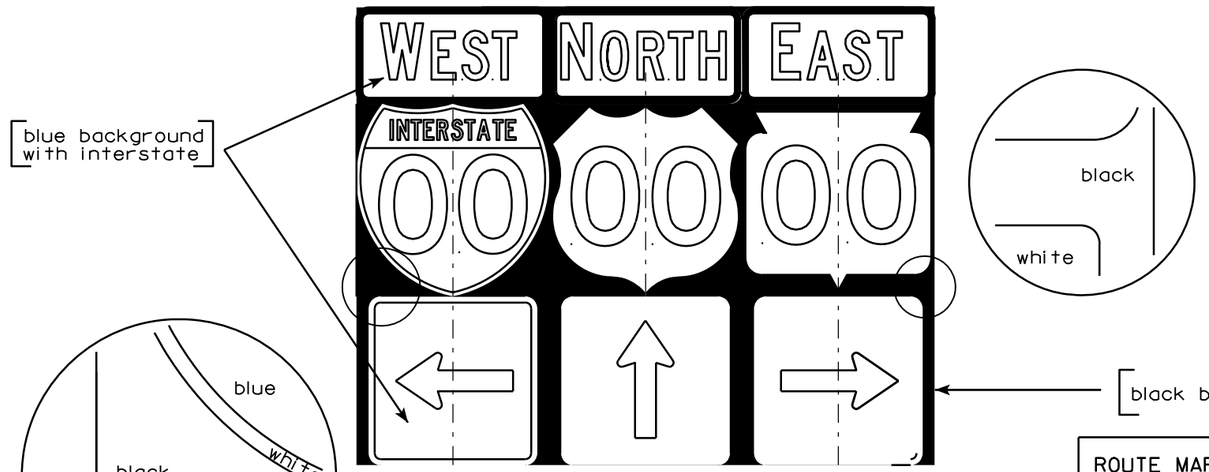
J33-1

J23-1

J22-1

NOTES

1. Signs are Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Black Non-reflective
   Message - see Note 5
3. Message Series - See Note 5
4. Corners shall be square since base material is plywood.
5. The colors and message spacing on each marker shall be according to the applicable route marker panel specifications.
6. Certain marker heads require the component pieces to be the same color. As an example, all the components used with an M1-1 Interstate marker shall be blue.
7. Single panel j-assemblies shall only be used with route marker shields that are same size. If the route marker shields are different size use multiple piece component.
8. Route assemblies that have 24 inch route shields and have dimensions greater than 48 inches (both vertical and horizontal) shall have one horizontal splice between the arrows and route shields. Vertical splices shall not be used on route assemblies with a horizontal dimension of 144 inches or less. The contractor shall not use more than one vertical joint per sign and the joint shall be between route shields.
9. Route assemblies that have 36 inch shields and have dimensions greater than 48 inchs (both vertical and horizontal) shall have two horizontal splices. One horizontal splice shall be between the cardinal direction and route shields and the other horizontal splice shall be between the arrows and route shields. Vertical splices shall not be used on route assemblies with a horizontal dimension of 144 or less. The contractor shall not use more than one vertical joint per sign and the joint shall be between route shields.



ROUTE MARKERS & COMPONENTS IN TYPICAL ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 10/21/09 PLATE NO. A2-1S.6

7

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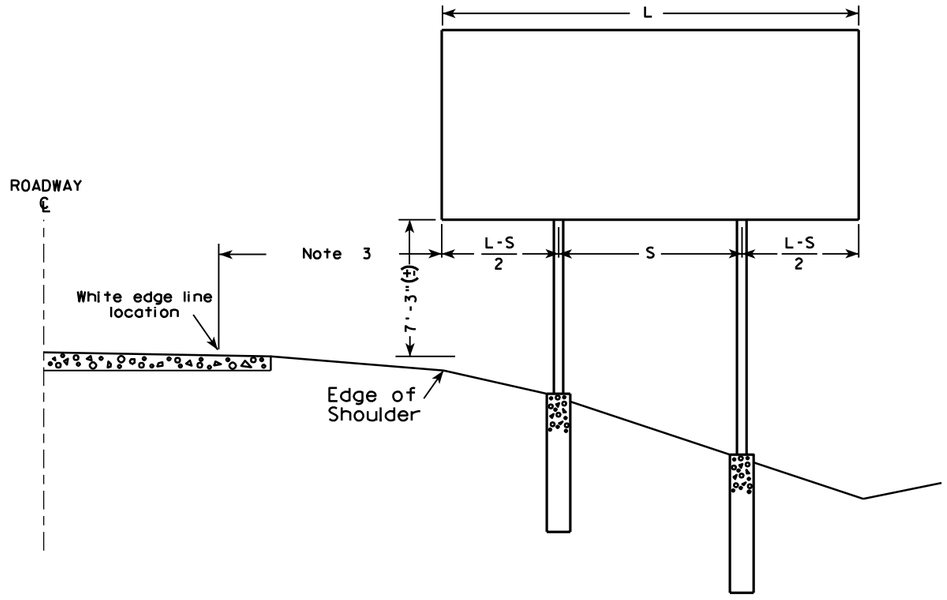
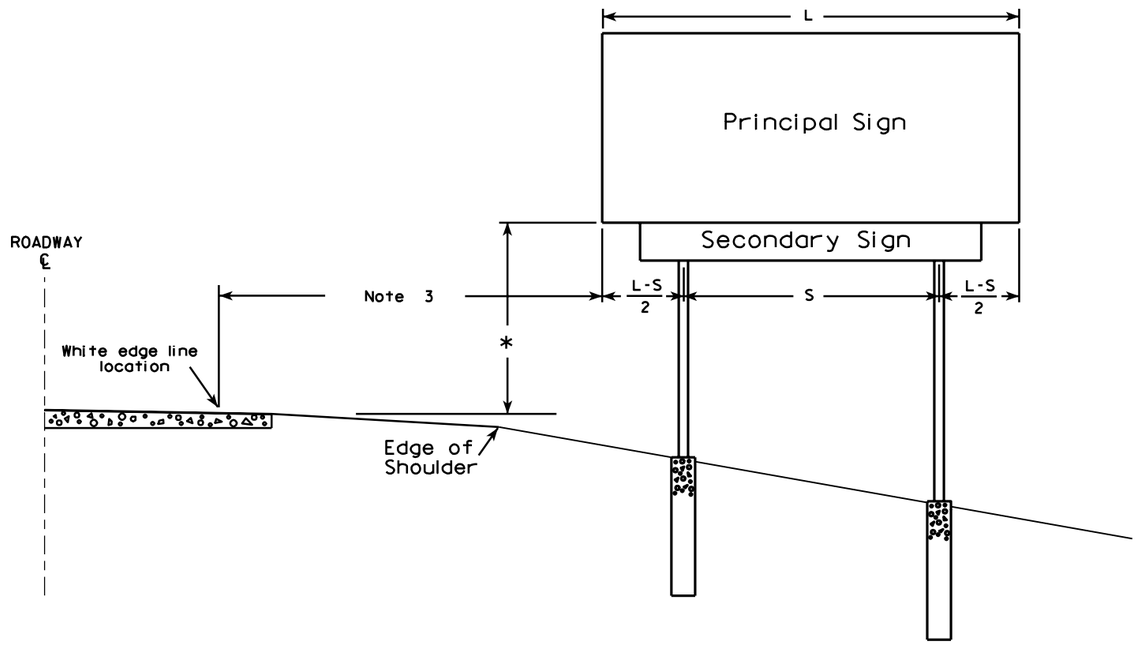
PROJECT NO:

SHEET NO: 133 E





GENERAL NOTES

1. For a 2 post installation, S equals 3L/5, but shall not be less than 9 ft.
2. For a 3 post installation, S equals 5L/7, but shall not be less than 18 ft., and the space between any two posts shall not be less than 9 ft.
3. Unless noted in the plan, the sign offset distance shall be a minimum of 17'-6", desirable 30'-0".
4. The (±) tolerance shown on this sheet is 3 in.
5. The vertical sign height clearance detailed is measured from the bottom of the sign to the near edge of pavement.
6. Post lengths shown in the miscellaneous quantities are estimated lengths. The contractor shall verify post lengths at the time of final grading.
7. Refer to the Traffic Guidelines Manual for further guidance on minimum vertical clearance requirements.

* Clearance is 8'-3"(±) when the secondary sign is 3 ft. or less in height. For secondary signs larger than 3 ft., the clearance to the bottom of the secondary sign shall be 5'-3"(±).

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TYPICAL INSTALLATION OF TYPE I SIGNS

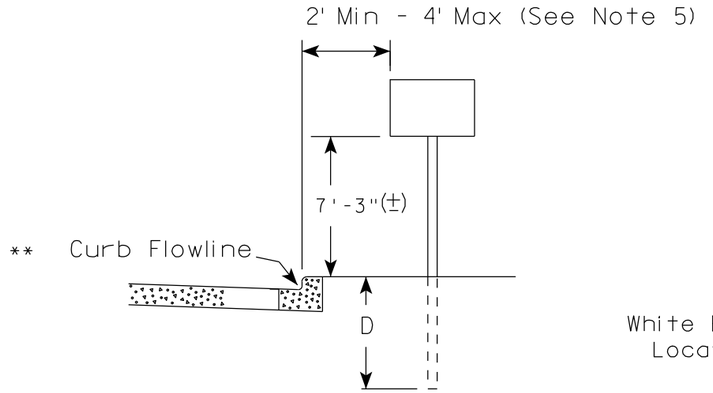
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

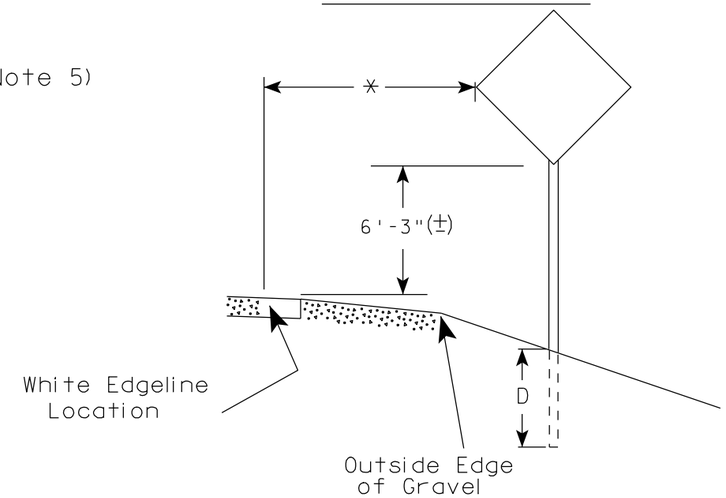
DATE 4/02/08 PLATE NO. A4-1.9

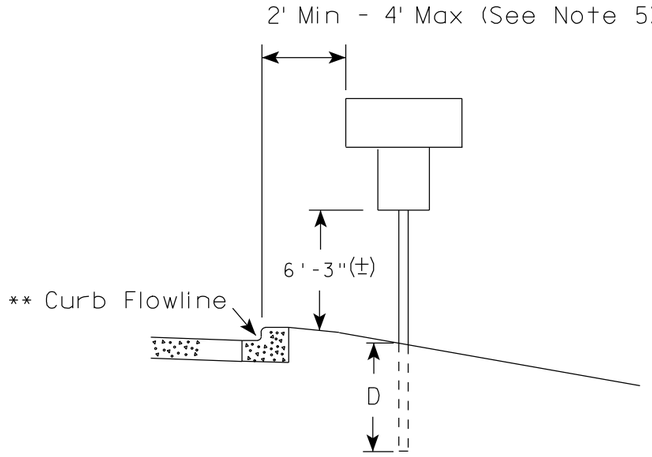
PROJECT NO:				SHEET NO: 134	E

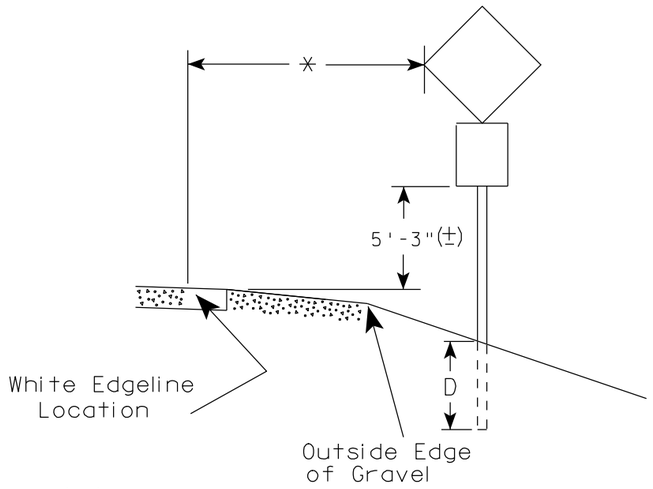
URBAN AREA



RURAL AREA (See Note 2)







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

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

GENERAL NOTES

1. Signs wider than 4 feet or larger than 20 sq. ft. shall be mounted on multiple posts. Refer to plate A4-4.
2. If signs are mounted on barrier wall, see A4-10 sign plate.
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 J assemblies (A4-5) is 7'-3" (±) or 6'-3" (±) per urban or rural detail respectively.
5. Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±).
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. The (±) tolerance for mounting height is 3 inches.
8. Folding stop signs (R1-1F) shall be mounted at a height of 5'-3" (±) or as directed by the Engineer.
9. 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) & End of Road Markers (W5-56 & W5-56A) shall be mounted at a height of 4'-3" (±).

POST EMBEDMENT DEPTH

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

TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch for State Traffic Engineer

DATE 9/21/2011 PLATE NO. A4-3.16

7

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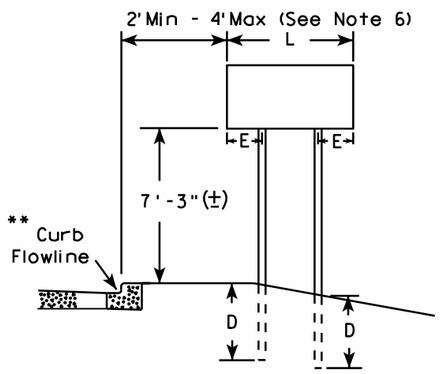
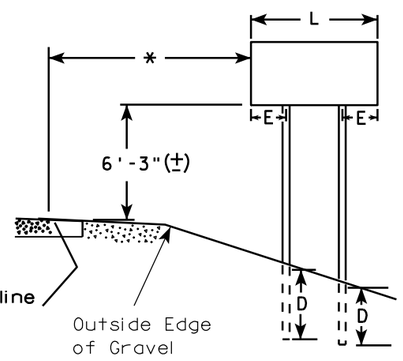
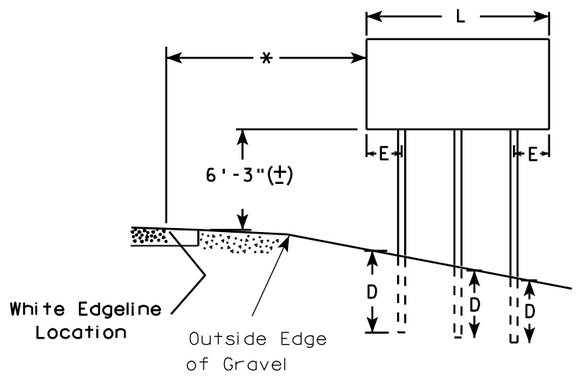
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 135 | E

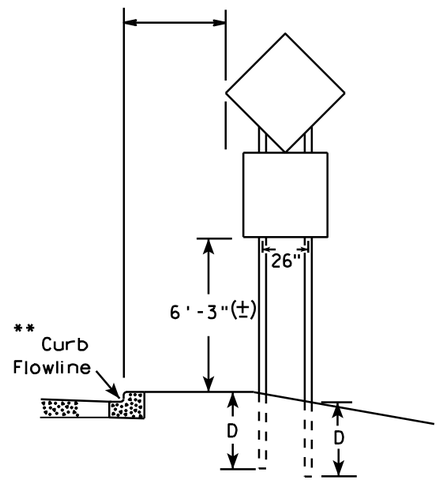
URBAN AREA



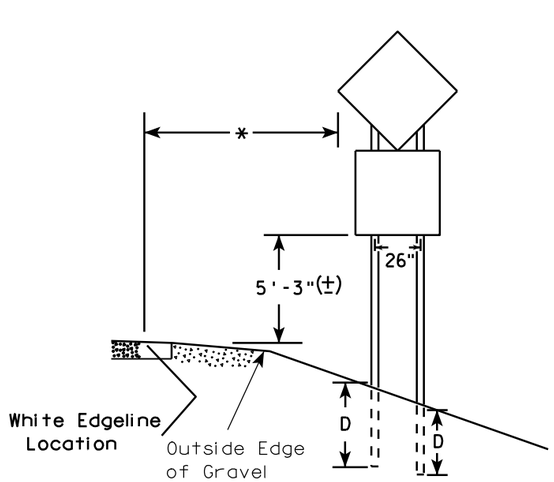
RURAL AREA (See Note 3)







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 120"	L/5

SIGN SHAPE OTHER THAN DIAMOND (THREE POSTS REQUIRED)	
L	E
Greater than 120" less than 168"	12"

SIGN SHAPE OTHER THAN DIAMOND (FOUR POSTS REQUIRED)	
L	E
168" and greater	12"

POST EMBEDMENT DEPTH

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

GENERAL NOTES

1. For multiple 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. Minimum mounting height for J assemblies (A4-5) is 7'-3" (±) or 6'-3" (±) per urban or rural detail respectively.
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. Folding stop signs (R1-1F) 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) & End of Road Markers (W5-56 & W5-56A) 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 or 20 S.F. or less in area.

TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

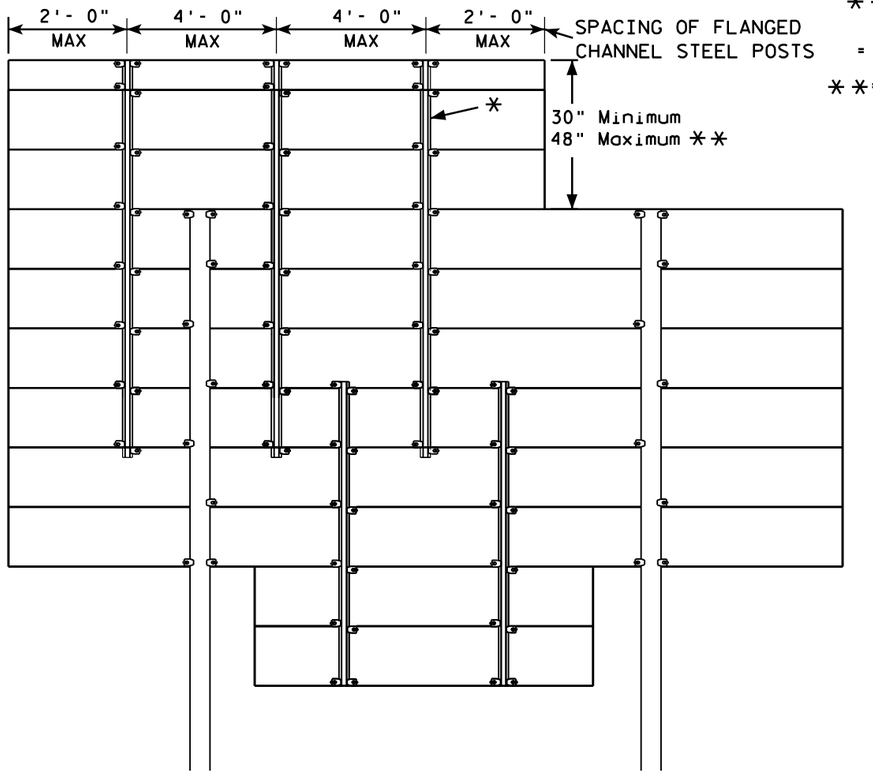
DATE 9/21/2011 PLATE NO. A4-4.11

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 136	E

FILE NAME : C:\Users\PROJECTS\tr_stdplate\A44.DGN PLOT DATE : 21-SEP-2011 13:36 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 109.249131:1.000000

WISDOT/CADDS SHEET 42

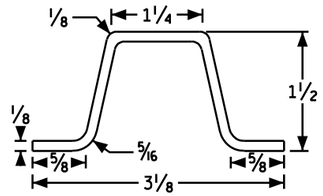
GROUND MOUNTED SIGN



*=2.00 lb/ft FLANGED CHANNEL, MIN. YIELD STRENGTH = 60,000 PSI (GRADE 60) GALVANIZED

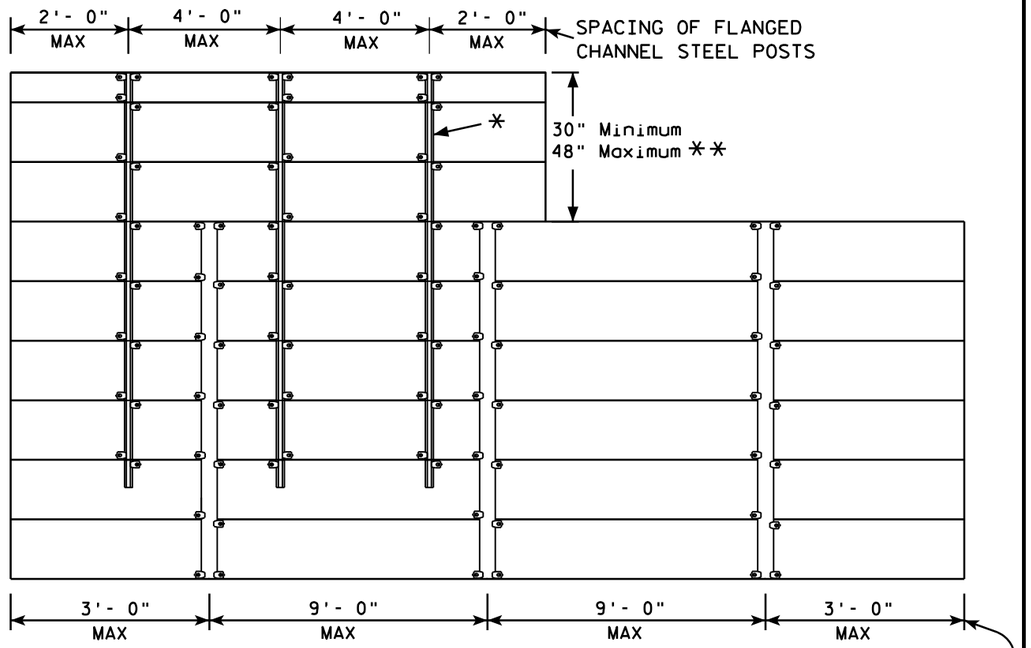
**=FOR 48" HEIGHT PANELS ON OVERHEAD STRUCTURES, ENTIRE SIGN SHALL BE CENTERED VERTICALLY ABOUT THE DEPTH OF THE TRUSS.

FLANGE CHANNEL DETAIL



NOT TO SCALE

SIGN BRIDGE MOUNTED SIGN



GENERAL NOTES

1. Flanged channel steel posts shall conform to size and material above, and shall be considered as incidental to other items in the contract.
2. Number of Flanged channel steel supports varies with length of panel and shall be spaced as shown:

   PANEL LENGTH 8'-0" OR LESS = 2 CHANNELS
   PANEL LENGTH 9'- 0" - 12'- 0" = 3 CHANNELS
   PANEL LENGTH 13'- 0" OR MORE = 4 CHANNELS

   If the flanged channel steel posts can not be horizontally spaced as shown, they can be moved so as to securely hold the sign.
3. The EXIT NUMBER PANEL shall normally be positioned above the guide sign aligned with the right edge of the guide sign. If the guide sign indicates a left exit, the EXIT NUMBER PANEL shall be aligned with the left edge of the guide sign.
4. If the bolt holes in the top panel (EXIT NUMBER), or sub panel (NEXT EXIT) line up with holes in main sign panel, stitch bolts shall be used in addition to the channels.
5. Provide post clips for each sign as shown. (Please note the differences between a ground mounted versus Sign bridge mounted sign as far as number of clips required on the main supports or beams)

7

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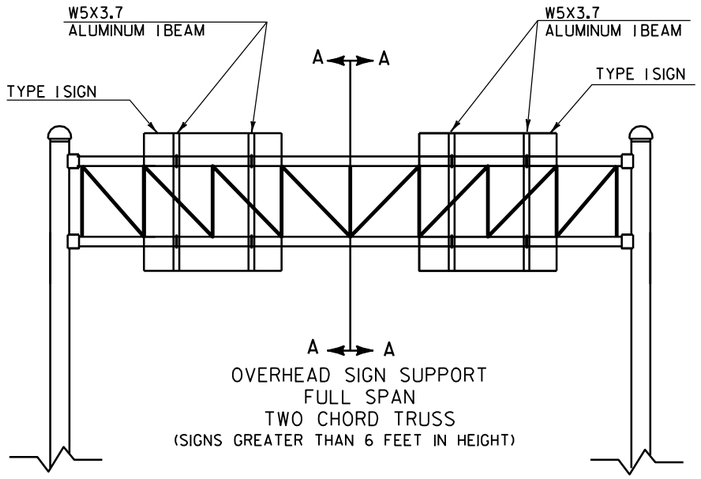
ATTACHMENT OF GUIDE SIGNS TO SUPPORTS

WISCONSIN DEPT OF TRANSPORTATION

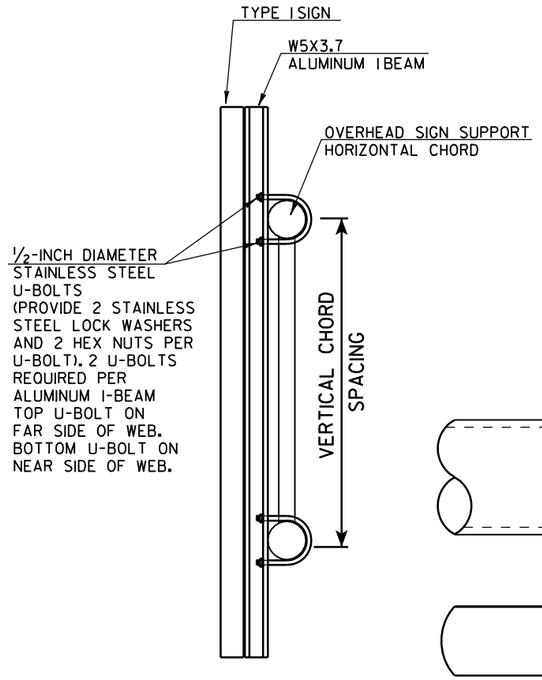
APPROVED Matthew R Rauch for State Traffic Engineer

DATE 6/7/10 PLATE NO. A4-6.11

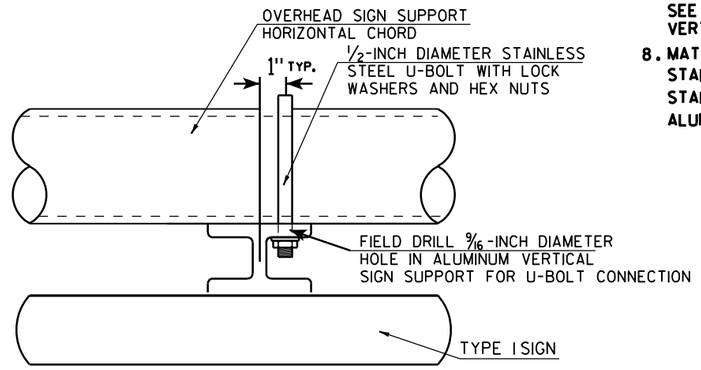
PROJECT NO:				SHEET NO: 137	E



OVERHEAD SIGN SUPPORT
FULL SPAN
TWO CHORD TRUSS
(SIGNS GREATER THAN 6 FEET IN HEIGHT)



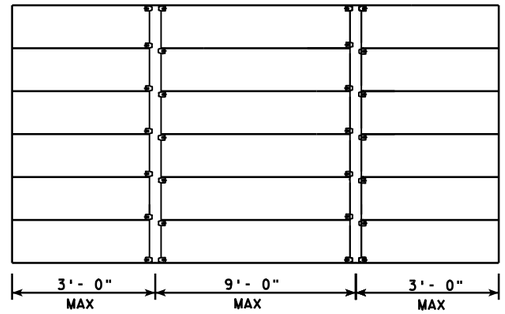
CUT SECTION A-A



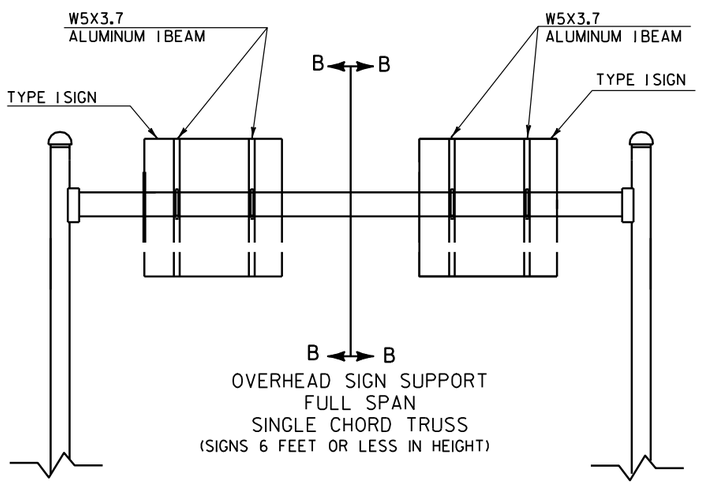
TYPICAL SIGN CONNECTION FOR
TWO CHORD TRUSS
PLAN VIEW

GENERAL NOTES

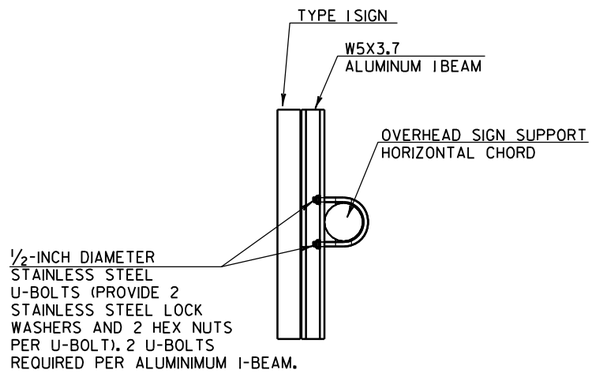
1. USE STAINLESS STEEL U-BOLTS, WASHERS, AND NUTS.
2. USE CLIPS ON EVERY EXTRUDED PANEL JOINT PER SIGN PLATE A4-6.
3. USE ALUMINUM VERTICAL SIGN SUPPORT BEAMS HAVING A 5 INCH BEAM DEPTH AND WEIGHT OF 3.7 LBS PER FOOT.
4. U-BOLTS SHALL BE STAINLESS STEEL AND MANUFACTURED TO THE PROPER SIZE TO FIT THE CHORDS OF THE OVERHEAD SIGN STRUCTURE.
5. DIAMETER OF U-BOLTS SHALL BE AS SHOWN.
6. THE LENGTH OF THE ALUMINUM VERTICAL SIGN SUPPORT BEAMS SHALL BE THE SAME AS THE HEIGHT OF THE SIGN THEY ARE SUPPORTING. BEAM LENGTHS MAY BE LONGER FOR PROPER ATTACHMENT TO CHORDS.
7. MINIMUM NUMBER OF BRACKETS PER SIGN IS TWO. SEE DETAIL BELOW FOR SPACING OF ALUMINUM VERTICAL SIGN SUPPORTS
8. MATERIAL NOTES:
   STAINLESS STEEL U-BOLTS AND LOCKWASHERS ASTM 304.
   STAINLESS STEEL HEX NUTS ASTM A276.
   ALUMINUM I-BEAMS ARE 6061-T6.



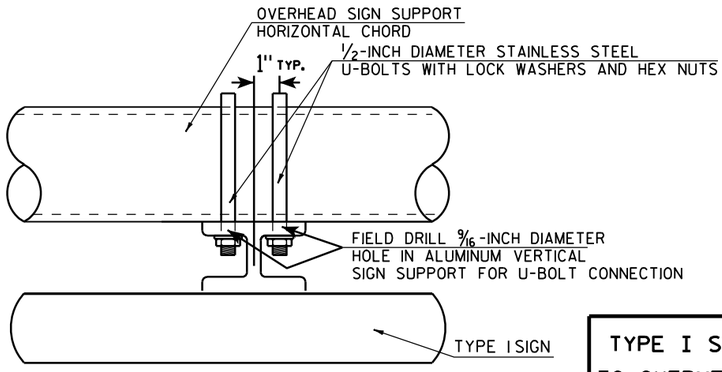
SPACING OF W5X3.7 ALUMINUM
VERTICAL SIGN SUPPORT



OVERHEAD SIGN SUPPORT
FULL SPAN
SINGLE CHORD TRUSS
(SIGNS 6 FEET OR LESS IN HEIGHT)



CUT SECTION B-B



TYPICAL SIGN CONNECTION FOR
SINGLE CHORD TRUSS
PLAN VIEW

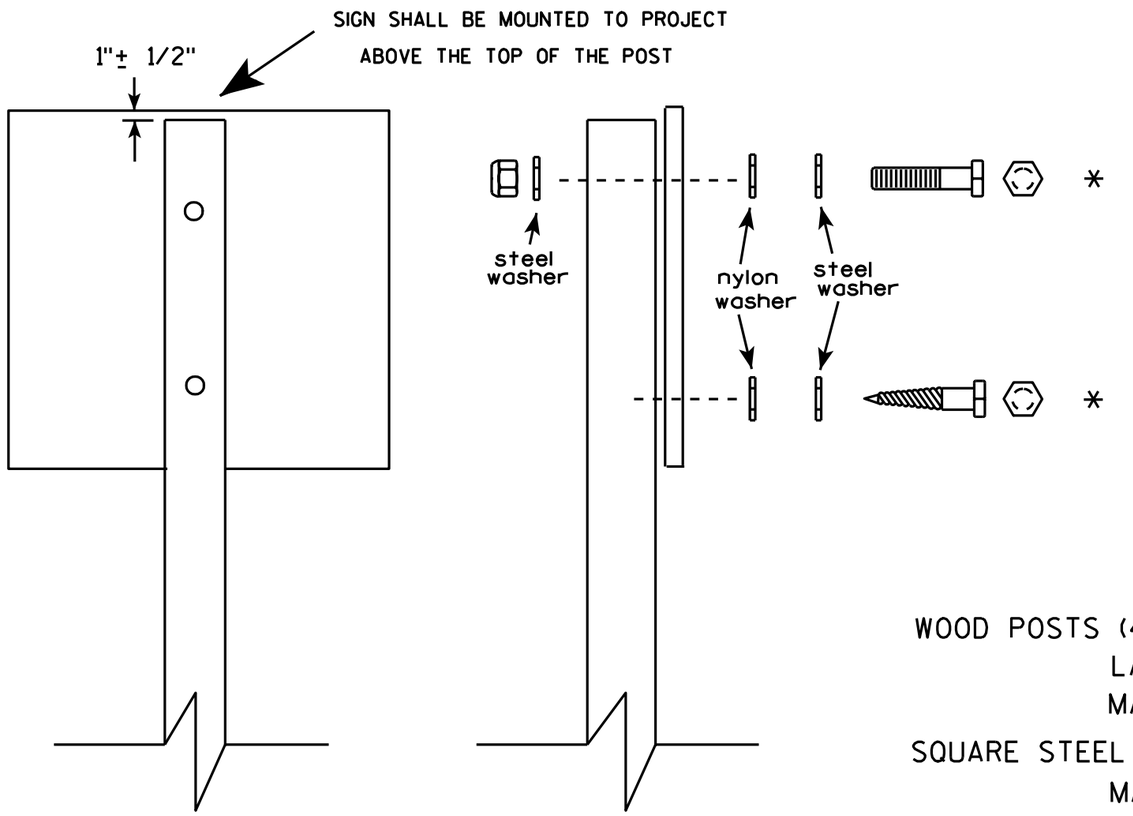
TYPE I SIGN CONNECTION TO OVERHEAD SIGN SUPPORT

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch for State Traffic Engineer

DATE 11/12/12 PLATE NO. A4-7.3

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 138	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

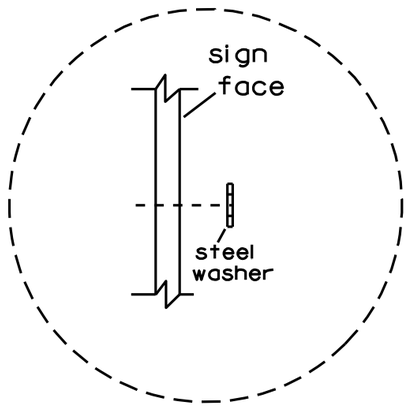
b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.

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.

WOOD POSTS (4" x 4" or 4" x 6")
LAG SCREWS - 3/8" X 3"
MACHINE BOLTS - 5/16" X 6-1/2" or 7" Length w/ nuts

SQUARE STEEL POSTS (2" x 2")
MACHINE BOLTS - 3/8" X 3-1/4" Length w/ nuts
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 for all Type H signs.



Washer Placement when Sign Has Other Than Type H or Type F Face

* 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 3/23/10 PLATE NO. A4-8.7

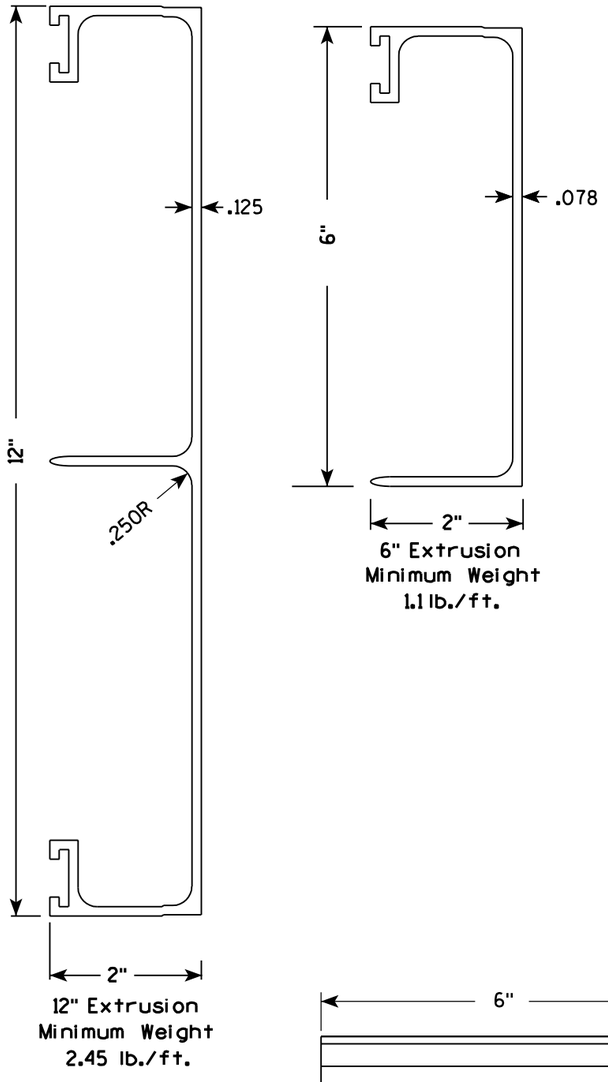
PROJECT NO:

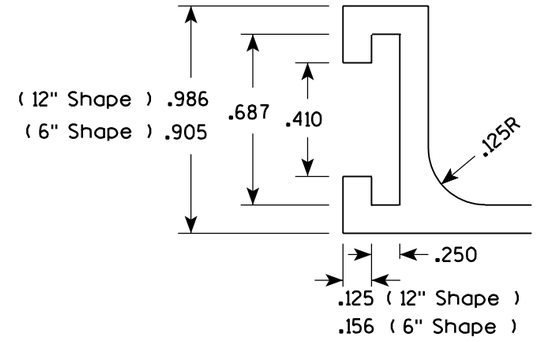
SHEET NO: 139 E

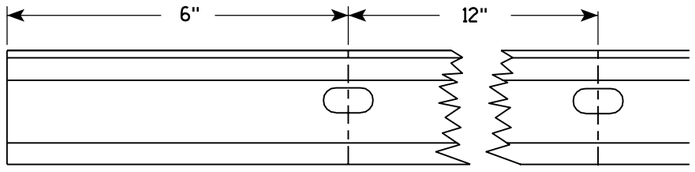
7

7

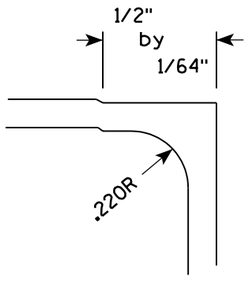
Extruded Shape







Punch 7/16" x 7/8" oval holes beginning 6" in from end of extrusion 12" CC on both edges of 6" and 12" panels.

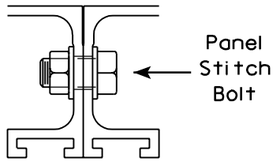


Hardware

STITCH BOLT, WASHER & NUT

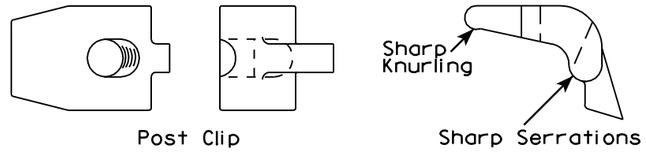
The hardware includes:

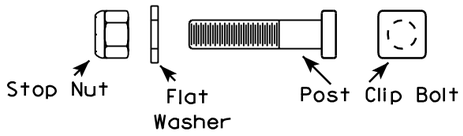
3/8 " - 16 X 3/4 " Economy Bolt 2024-T4 alloy
3/8 " - Stainless steel stop nut
3/8" X .064 Flat Washers, Alclad 2024-T4 alloy



POST CLIP, POST CLIP BOLT, WASHER & NUT

Post Clip shall be Alum. Alloy 356-T6
Post Clip Bolt shall be Stainless Steel.
Flat washer shall be 3/8" X .091, Stainless Steel.
Stop nut shall be stainless steel.





NOTES

1. The contractor may select any brand of extrusion that conforms to the illustrations or meets with the approval of the engineer, but all extrusions used on this contract shall be of the same brand.
2. Panel Stitch Bolts shall be used to assemble adjacent panels. Maximum stitch bolt spacing shall be 24" C-C, and a minimum of 4 bolts shall be used to connect any two extrusions.
3. Post Clips shall be used to attach the sign panel to the sign support.

ALUMINUM EXTRUSIONS FOR TYPE I SIGNS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Chester J Spagg
for State Traffic Engineer

DATE 11/18/99 PLATE NO. A5-2.9

PROJECT NO:

SHEET NO: 140 E

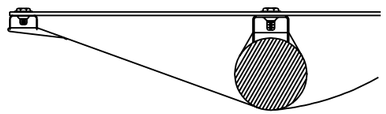
FILE NAME : C:\Users\Projects\tr_stdplate\A52.DGN PLOT DATE : 28-SEP-2005 07:20 PLOT BY : DOTDZK

WISDOT/CADDS SHEET 42

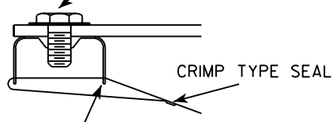
7

7

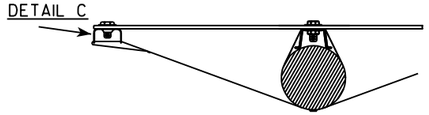
BRACE BANDING

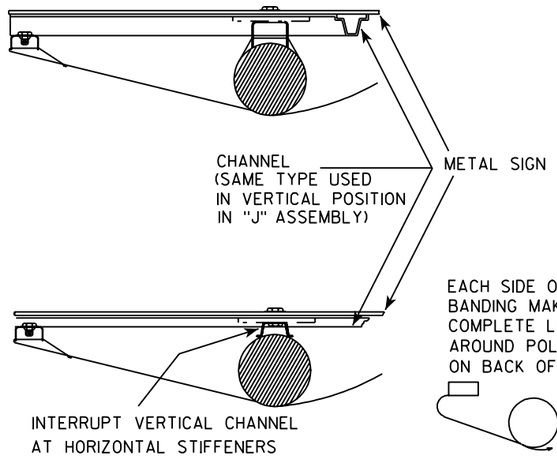


DETAIL C
CADMIUM PLATED STEEL BOLT
THROUGH BLACK BORDER



DETAIL C

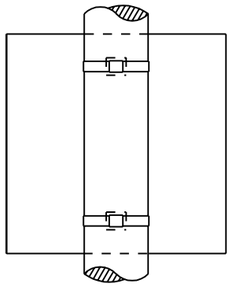


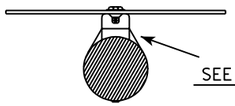


EACH SIDE OF BRACE
BANDING MAKES ONE
COMPLETE LOOP
AROUND POLE-SEAL
ON BACK OF POLE

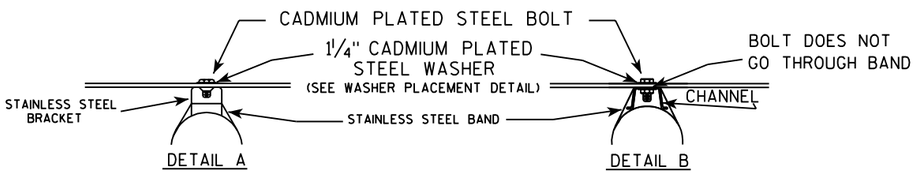
BRACKET BANDING

SINGLE SIGN





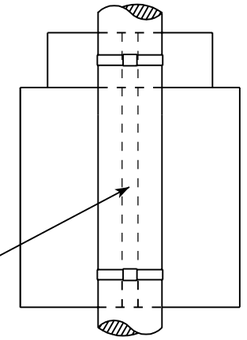
SEE DETAIL A



DETAIL A

DETAIL B

"J" ASSEMBLY

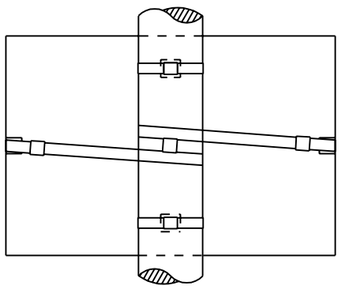


CHANNEL
SEE TYPICAL PANEL
INSTALLATION SHEET

SEE DETAIL B

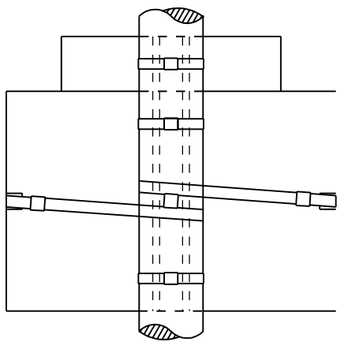
GENERAL NOTES

1. Signs 4' or greater in width shall have one brace band installed at the center of the sign.
2. Signs 3' or greater in height shall have three bracket bands installed. Signs less than 3' 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.

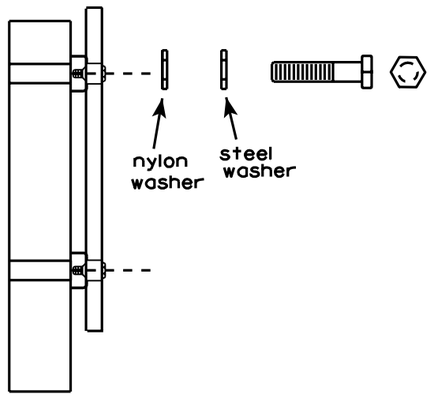


BRACE BANDING

BRACE BANDING SHALL BE TIGHTENED FIRMLY BUT NOT SO TIGHT AS TO APPRECIABLY CURVE FACE OF SIGN.



WASHER PLACEMENT



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

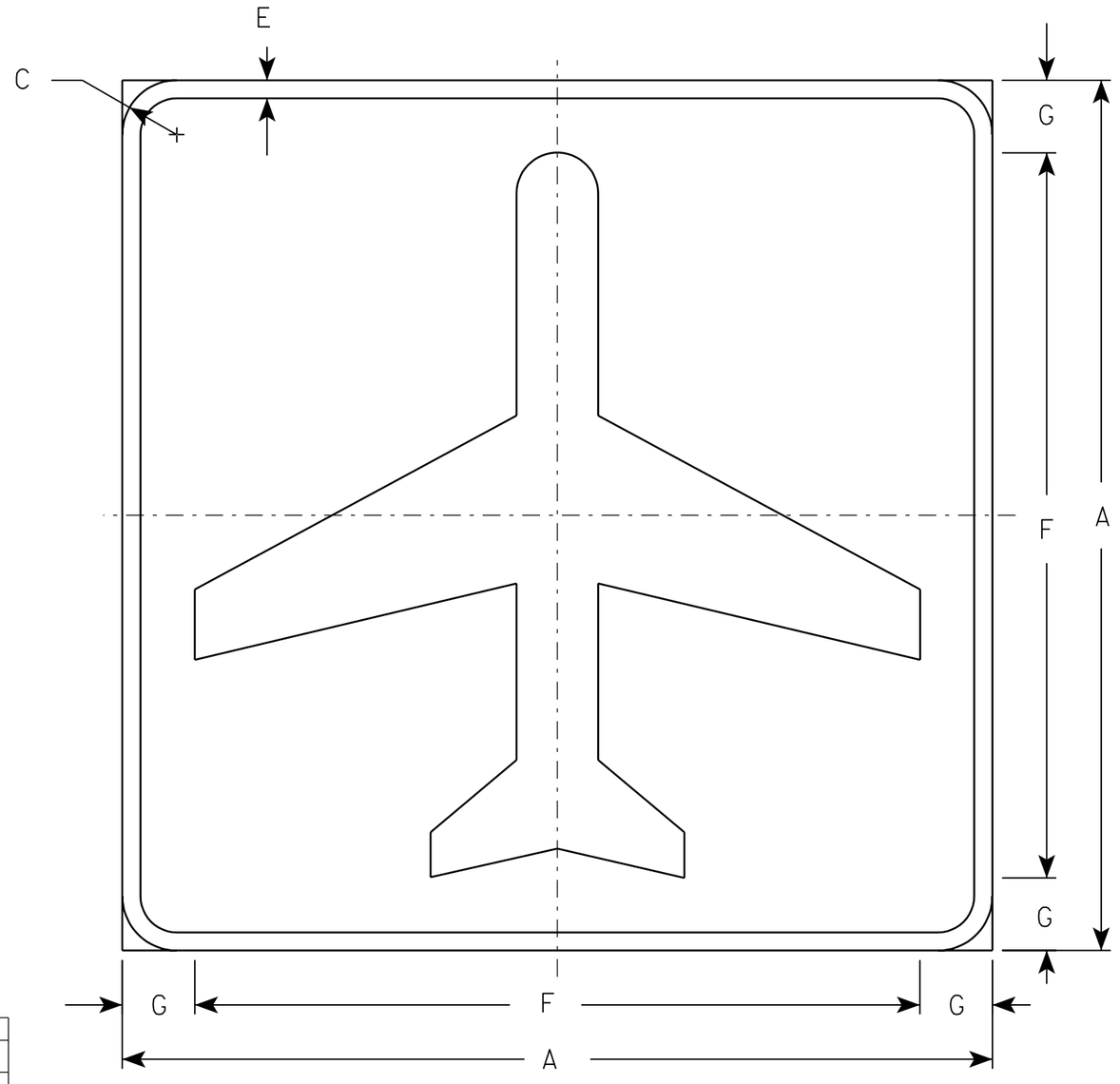
STANDARD SIGN
SIGN BANDING DETAILS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/08/05 PLATE NO. A5-9.2

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 141	E



I5 - 1

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Green
   Message - White - Type H Reflective
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.

Metric equivalent for this sign is:

SIZE	
1	450 mm X 450 mm
2	600 mm X 600 mm
3	750 mm X 750 mm
4	
5	

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.	Area m2
1	18		1 1/8		3/8	15	1 1/2																				2.25	0.20
2	24		1 1/2		1/2	20	2																				4.0	0.37
3	30		2 1/4		3/4	25	2 1/2																				6.25	0.58
4																												
5																												

STANDARD SIGN
I5-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Chester J Spang for State Traffic Engineer

DATE 1/25/02 PLATE NO. I5-1.3

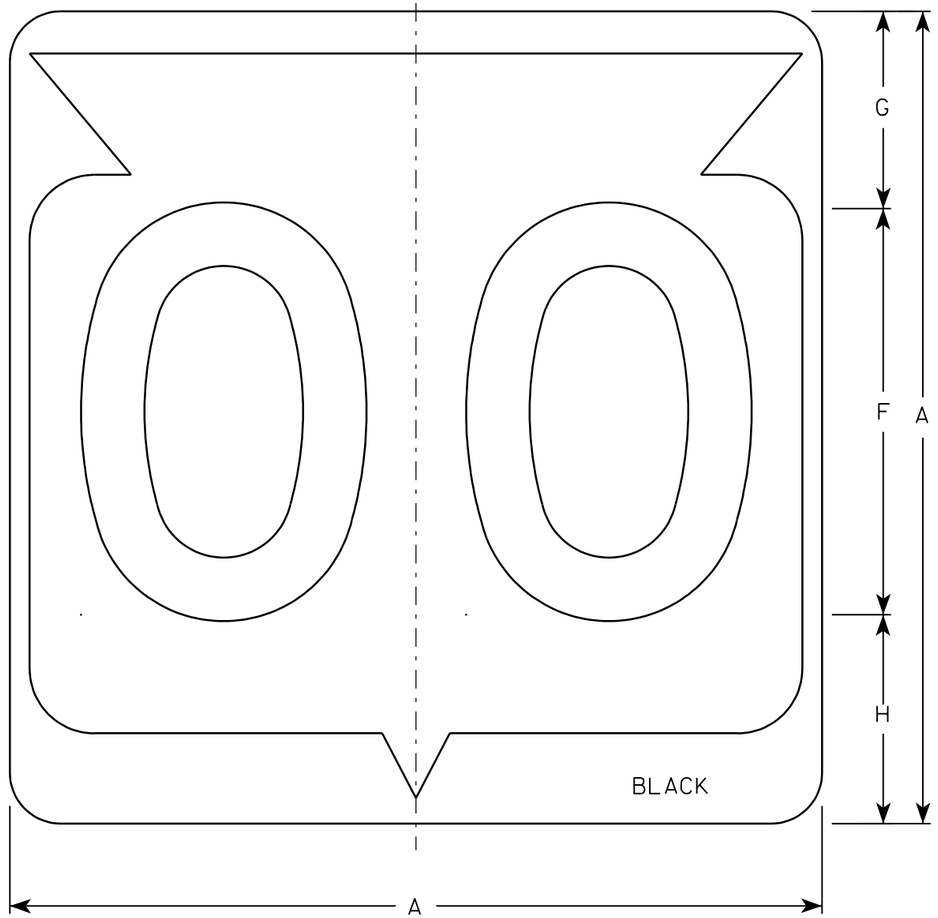
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 142	E

FILE NAME : C:\Users\Projects\tr_stdplate\I51.DGN PLOT DATE : 13-OCT-2005 11:47 PLOT BY : DITJPH PLOT NAME : PLOT SCALE : 3.973889:1.000000

WISDOT/CADDS SHEET 42

7

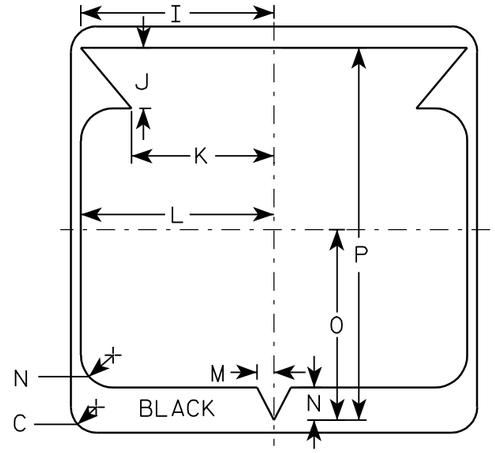
7



M1-6

NOTES

1. Sign is Type II - See Note 6 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White & Black - See Note 6
   Message - Black
3. Message Series - See note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate Series numerals and adjust spacing as per plate A10-1.
6. Permanent Signs
   Background - Type H Reflective
   Detour or temporary Signs
   Background - Reflective



Metric equivalent for this sign is:

SIZE	
1	
2	600 mm X 600 mm
3	900 mm X 900 mm
4	900 mm X 900 mm
5	900 mm X 900 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																												
2	24		1 1/2			12	5 1/2	6 1/2	10 1/4	2 1/2	8 7/8	11 1/2	1	1 7/8	11 1/4	21 7/8											4.0	.36
3	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0	.81
4	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0	.81
5	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0	.81

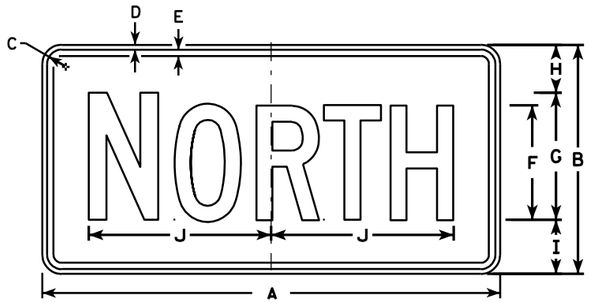
STATE ROUTE MARKER M1-6 FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

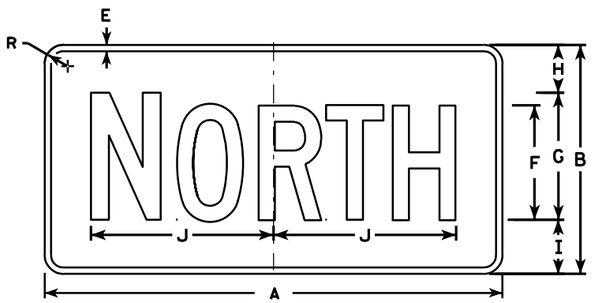
APPROVED Chester J Spang for State Traffic Engineer

DATE 3/20/02 PLATE NO. M1-6.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 143	E

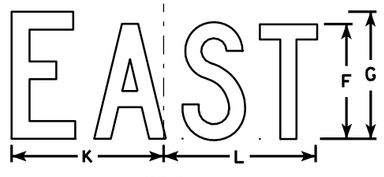


M3-1
MK3-1
MO3-1

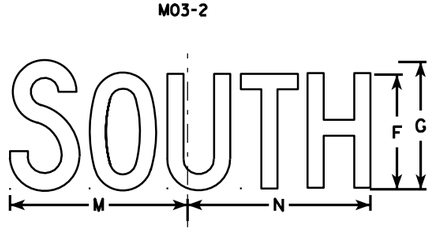


MB3-1
MG3-1
MM3-1
MN3-1

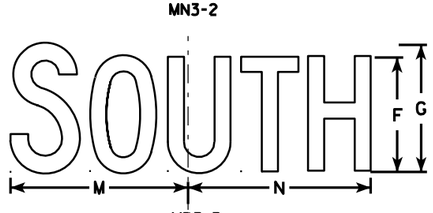
M3-2
MK3-2
MO3-2



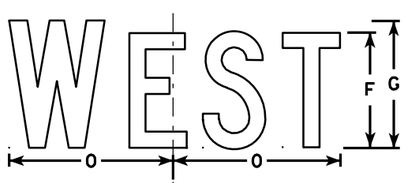
MB3-2
MG3-2
MM3-2
MN3-2



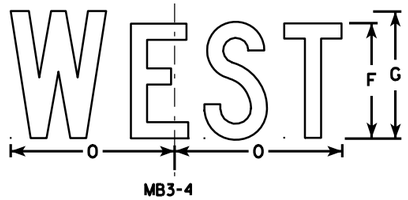
M3-3
MK3-3
MO3-3



MB3-3
MG3-3
MM3-3
MN3-3



M3-4
MK3-4
MO3-4



MB3-4
MG3-4
MM3-4
MN3-4

NOTES

1. All Signs Type II - See Note 5 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - See note 5
   Message - See note 5
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. M3-1 thru M3-4 Background - White - Type H Reflective (Detour or temporary signs - Reflective) Message - Black
   MB3-1 thru MB3-4 Background - Blue Message - White - Type H Reflective (Detour or temporary signs - Reflective)
   MG3-1 thru MG3-4 Background - Green Message - White - Type H Reflective
   MK3-1 thru MK3-4 Background - Green Message - White - Type H Reflective
   MM3-1 thru MM3-4 Background - White - Type H Reflective Message - Green
   MN3-1 thru MN3-4 Background - Brown Message - White - Type H Reflective
   M03-1 thru M03-4 Background - Orange - Reflective Message - Black
6. Note the first letter of each direction is larger than the remainder of the message.

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																											
2	24	12	1 1/8	3/8	3/8	6	7	2 1/4	2 3/4	10 1/4	7 7/8	8 3/8	10 1/4	9 3/4	8 3/4			1 1/2									2.00
3	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5
4	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5
5	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5

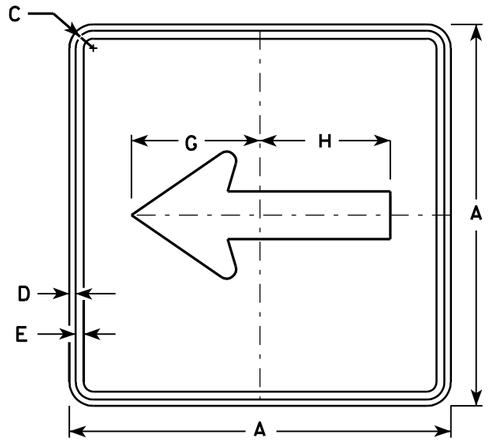
STANDARD SIGNS
M3-1 thur M3-4
SERIES

WISCONSIN DEPT OF TRANSPORTATION

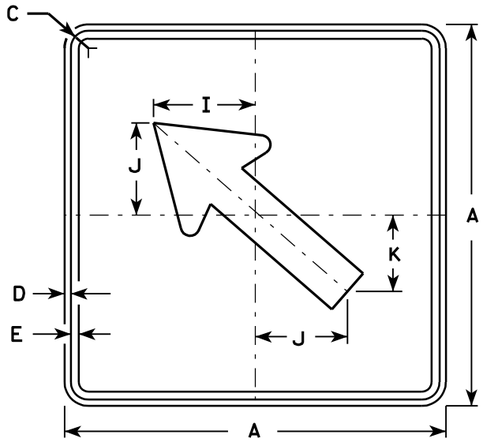
APPROVED Matthew R Rauch for State Traffic Engineer

DATE 11/10/10 PLATE NO. M3-1.12

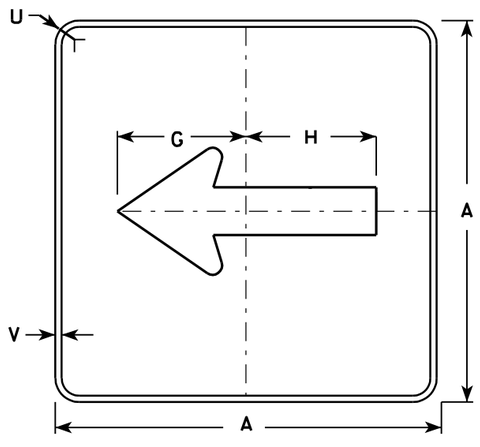
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 144	E



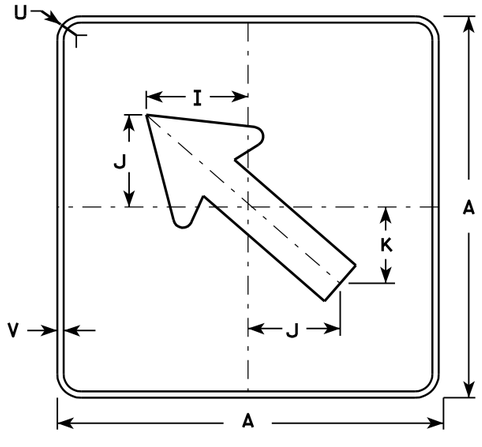
M6-1
MK6-1
MM6-1
MO6-1
MR6-1



M6-2
MK6-2
MM6-2
MO6-2
MR6-2



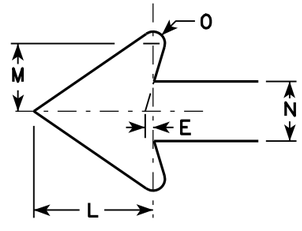
MB6-1
MG6-1
MN6-1



MB6-2
MG6-2
MN6-2

NOTES

1. Signs are Type II - See Note 4 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - See note 4
   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. M6-1 and M6-2 Background - White - Type H Reflective (Detour or temporary Signs - Reflective) Message - Black
   MB6-1 and MB6-2 Background - Blue Message - White - Type H Reflective (Detour or temporary Signs - Reflective)
   MG6-1 and MG6-2 Background - Green Message - White - Type H Reflective
   MK6-1 and MK6-2 Background - Green Message - White - Type H Reflective
   MM6-1 and MM6-2 Background - White - Type H Reflective Message - Green
   MN6-1 and MN6-2 Background - Brown Message - White - Type H Reflective
   MO6-1 and MO6-2 Background - Orange - Reflective Message - Black
   MR6-1 and MR6-2 Background - Brown Message - Yellow - Type H Reflective



Metric equivalent for this sign is:

SIZE	
1	
2	525 mm X 525 mm
3	750 mm X 750 mm
4	750 mm X 750 mm
5	750 mm X 750 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																												
2	21		1 1/8	3/8	3/8		7 1/2	7 1/8	5 5/8	5	4 1/4	5 1/4	3	2 5/8	1/2						1 1/2	1/2					3.06	0.28
3	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2					6.25	0.56
4	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2					6.25	0.56
5	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2					6.25	0.56

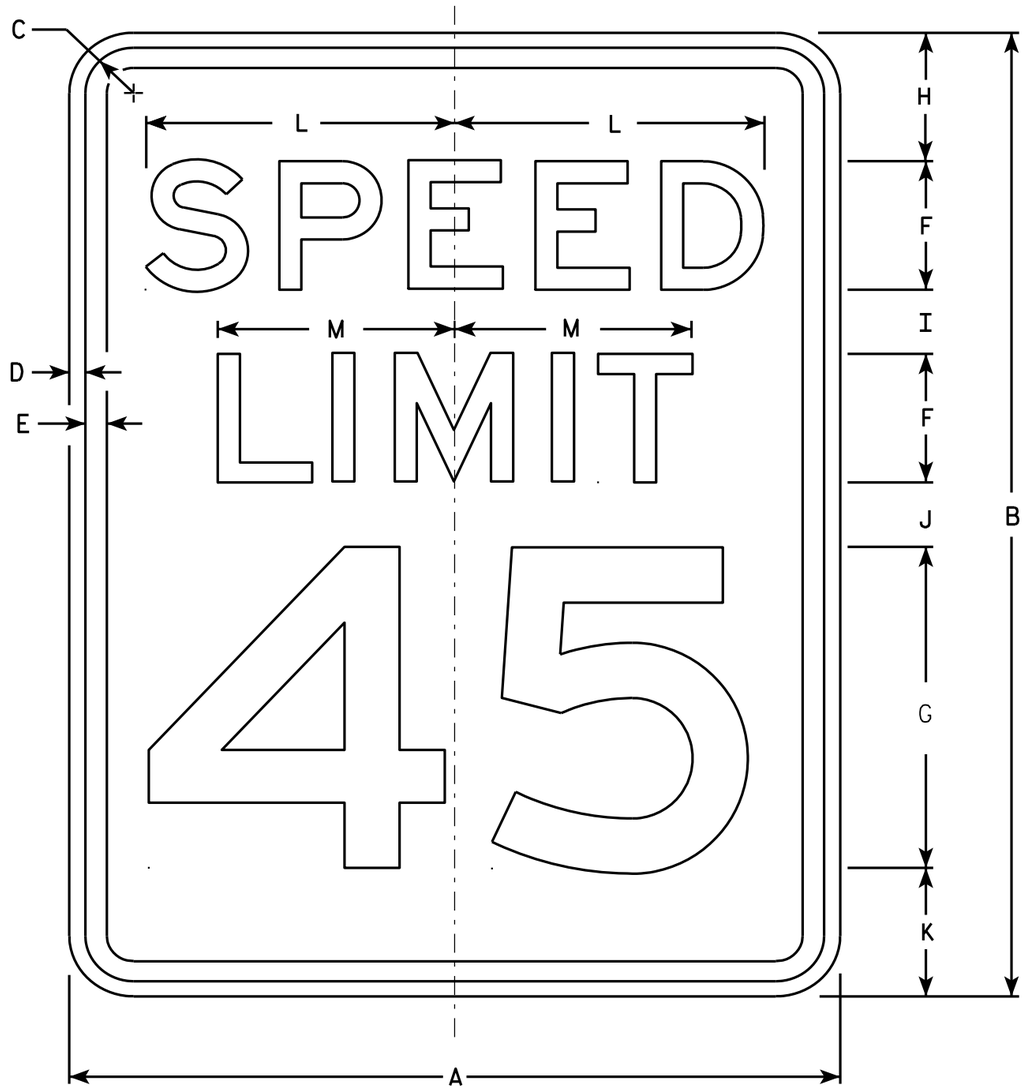
STANDARD SIGN M6-1 & M6-2 SERIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/16/10 PLATE NO. M6-1.12

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 145	E



R2-1

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 - E
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 adjust spacing to achieve proper balance.

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	18	24	1 1/8	3/8	1/2	3	8	3	2	2	3	7 1/4	5 1/2														3.0
2S	24	30	1 1/8	3/8	1/2	4	10	3	2 1/4	3 3/8	3 3/8	9 5/8	7 3/8														5.0
2M	30	36	1 3/8	1/2	5/8	5	12	5	2 1/2	2 1/2	4	12	9 1/4														7.5
3	36	48	1 3/8	1/2	5/8	6	14	6	5	5	6	14 3/8	11														12.0
4	36	48	1 3/8	1/2	5/8	6	14	6	5	5	6	14 3/8	11														12.0
5	48	60	2 1/4	3/4	1	8	20	6	4 1/2	6 3/4	6 3/4	19 1/4	14 5/8														20.0

STANDARD SIGN
R2-1

WISCONSIN DEPT OF TRANSPORTATION

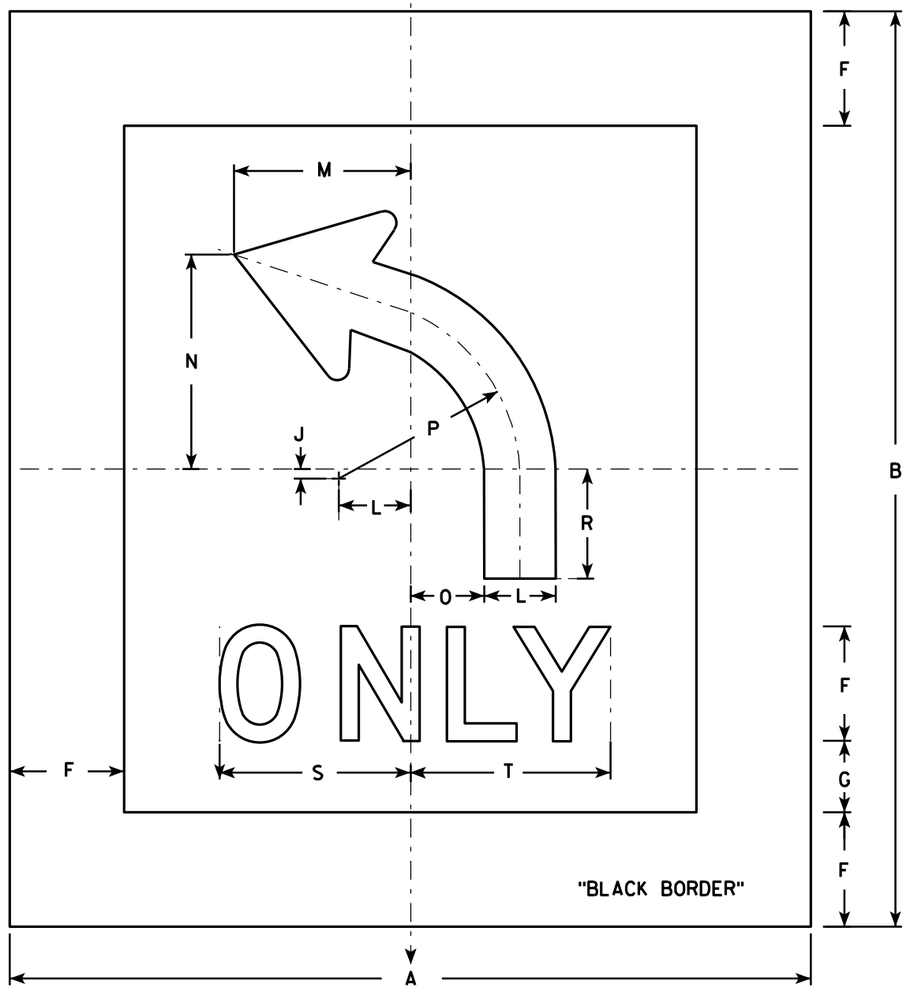
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/26/10 PLATE NO. R2-1.13

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 146 | E

FILE NAME : C:\Users\PROJECTS\tr_stdplate\R21.DGN PLOT DATE : 28-MAY-2010 08:32 PLOT BY : ditjph PLOT NAME : PLOT SCALE : 4.717577:1.000000

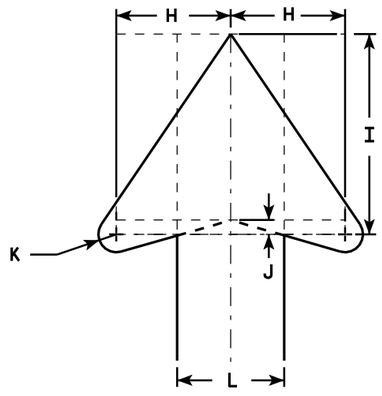
WISDOT/CADDS SHEET 42



R3-5L

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. When base material is metal, the corners shall be rounded.
5. R3-5R is the same as R3-5L except curved portion of arrow points right.
6. The 6" border is non-reflective black.



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	42	48				6	3 3/4	4	7	1/2	5/8	3 3/4	9 1/4	11 1/4	3 7/8	9 1/2		5 3/4	10	10 1/2							1.26
2M	42	48				6	3 3/4	4	7	1/2	5/8	3 3/4	9 1/4	11 1/4	3 7/8	9 1/2		5 3/4	10	10 1/2							1.26
3																											
4																											
5																											

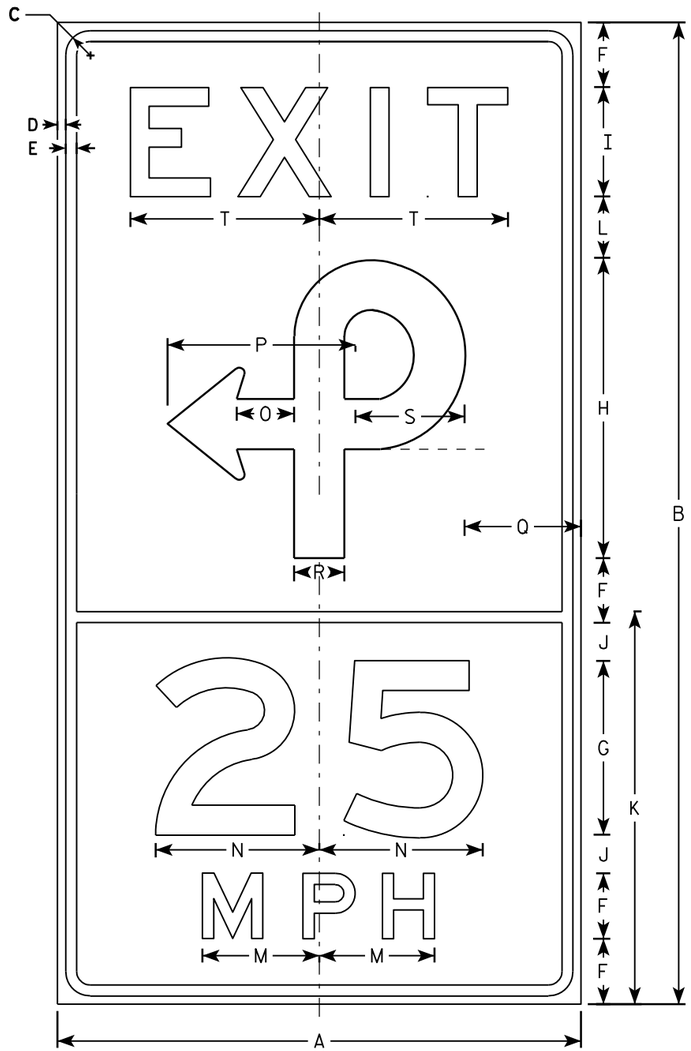
STANDARD SIGN
R3-5

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/24/11 PLATE NO. R3-5.6

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 147	E



W13-2B

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Yellow
   Message - Black
3. Message Series - E
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	90	2 1/4	3/4	1	6	16	27 1/2	10	3 1/2	36	5 1/2	10 3/4	15	5 1/4	17 1/4	10 3/4	4 5/8	10	17 3/8							30
2M	48	90	2 1/4	3/4	1	6	16	27 1/2	10	3 1/2	36	5 1/2	10 3/4	15	5 1/4	17 1/4	10 3/4	4 5/8	10	17 3/8							30
3																											
4																											
5																											

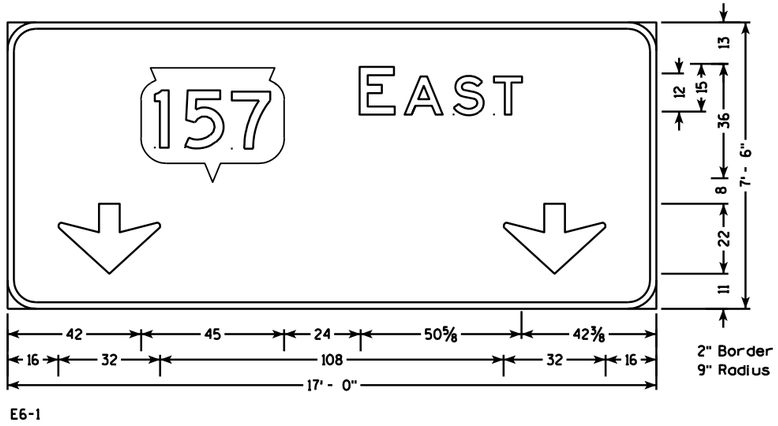
STANDARD SIGN
W13-2B

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/31/12 PLATE NO. W13-2B.3

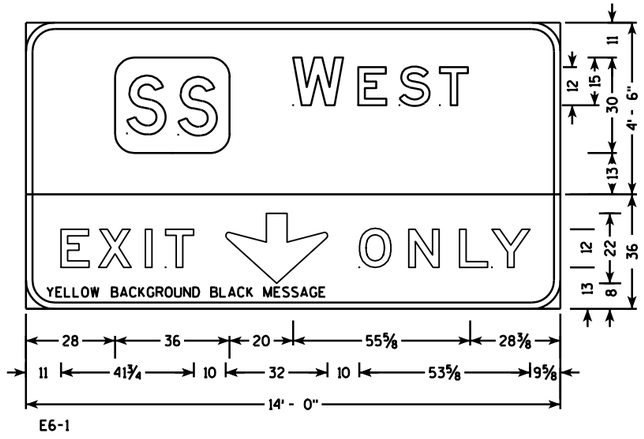
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 148 | E



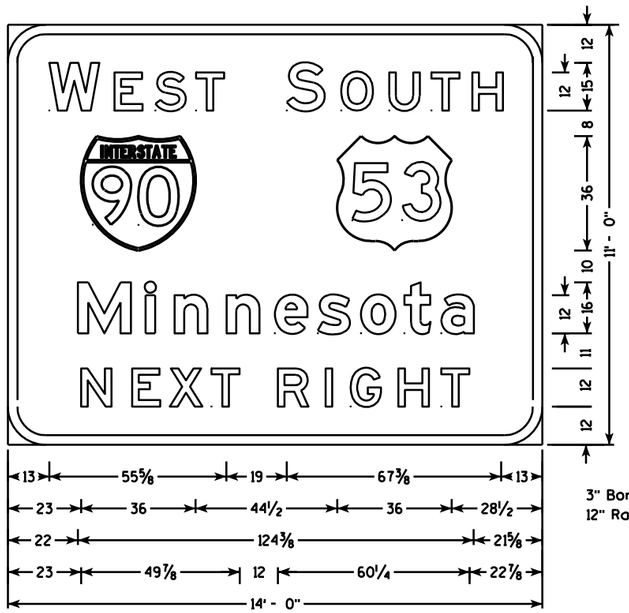
E6-1

NOTES

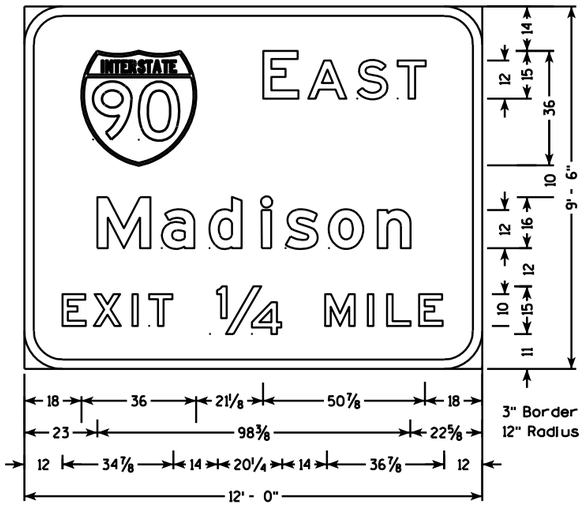
1. All Signs are Type I - Type SH Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Green except as Shown
   Message - White except as Shown
3. Message Series - E Modified except all cap WORDS are Series E



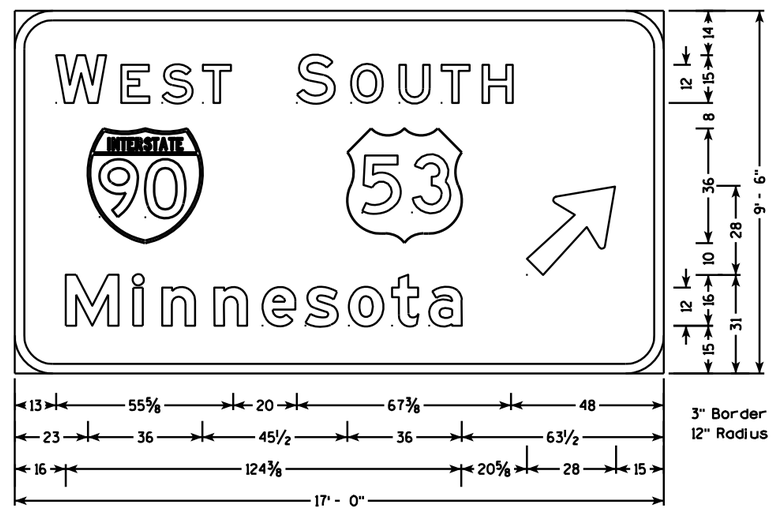
E6-1



E6-51



E6-51

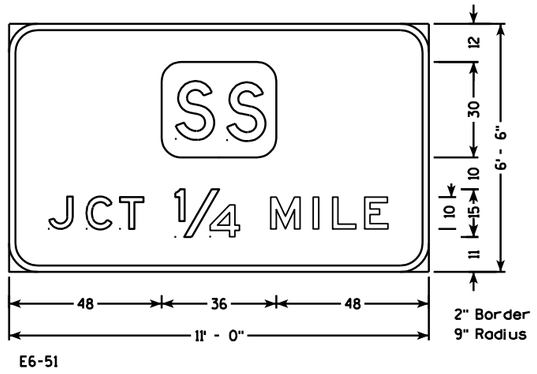


E6-1

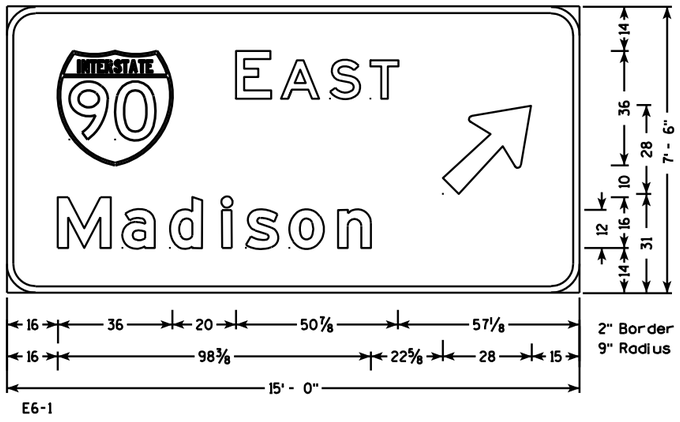
7

7

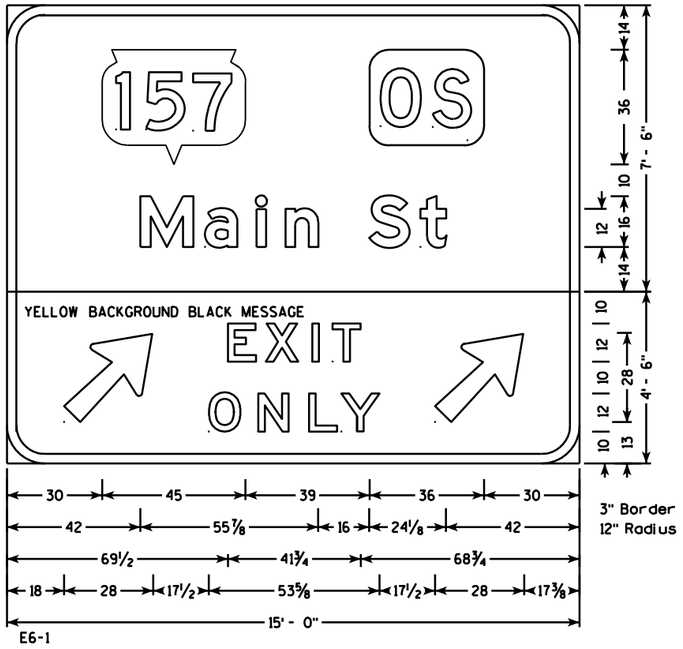
PROJECT NO: 1071-06-35	HWY: 190	COUNTY: LA CROSSE	PERMANENT SIGNING	SHEET NO: 149	E



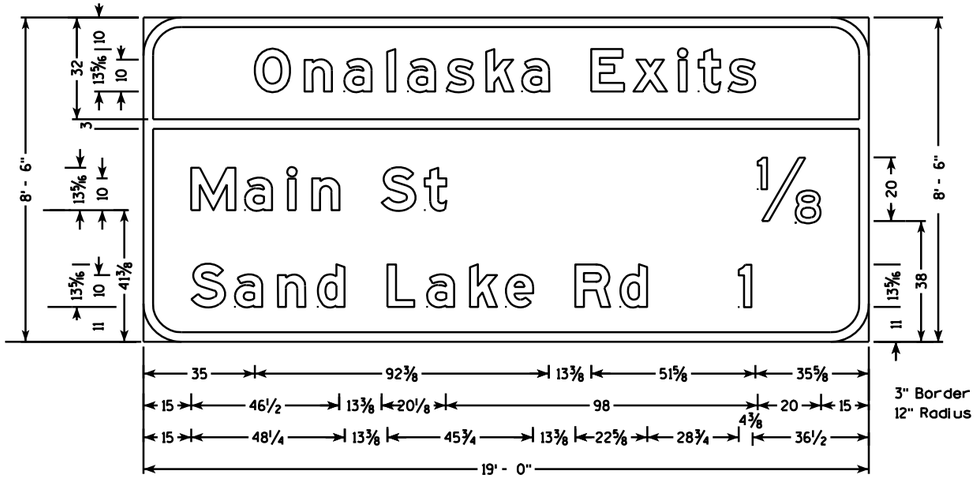
E6-51

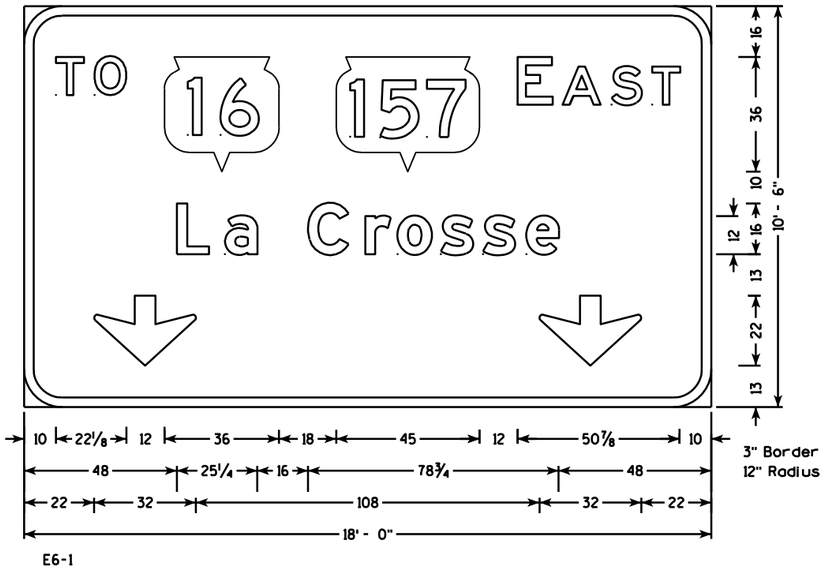


E6-1



E6-1





E6-1

NOTES

1. All Signs are Type I - Type SH Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Green except as Shown
   Message - White except as Shown
3. Message Series - E Modified except all cap WORDS are Series E

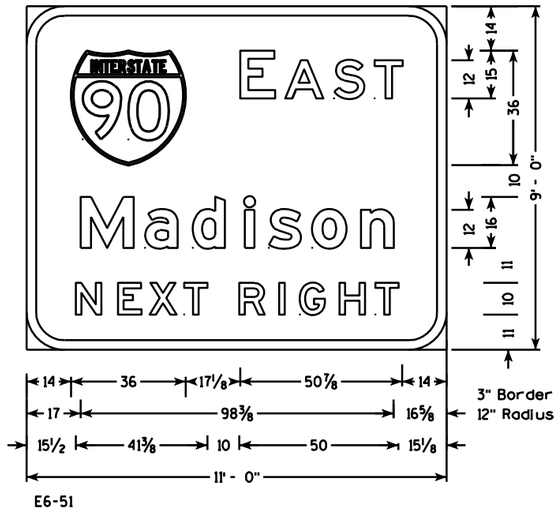
7

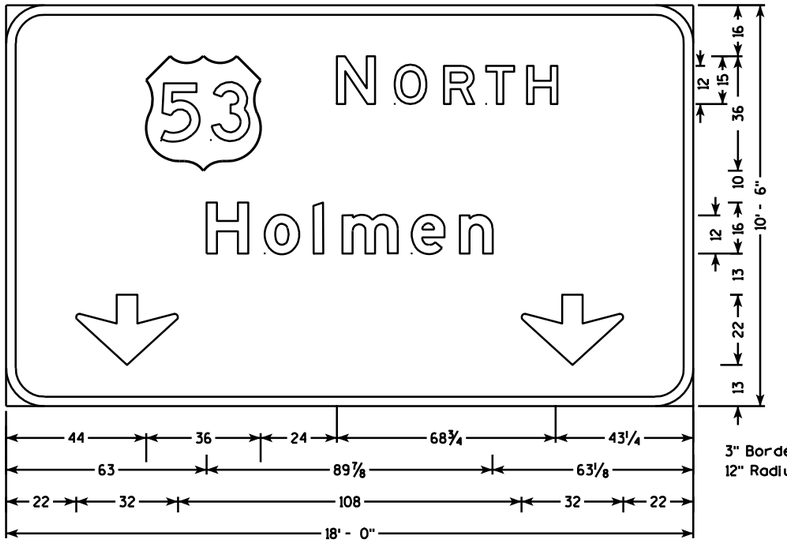
7

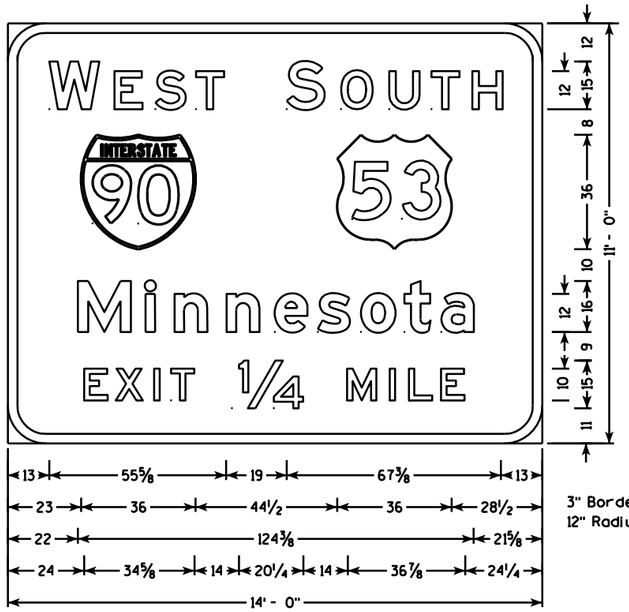
PROJECT NO: 1071-06-35	HWY: 190	COUNTY: LA CROSSE	PERMANENT SIGNING	SHEET NO: 150	E

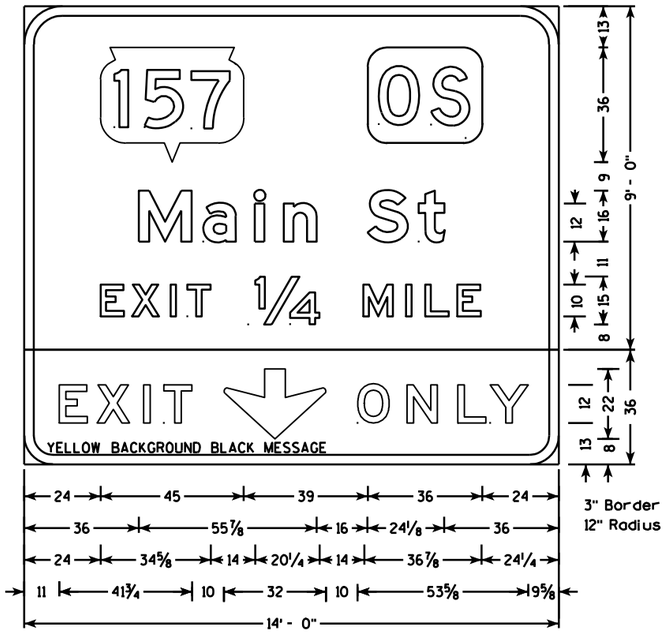
NOTES

1. All Signs are Type I- Type SH Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Green except as Shown
   Message - White except as Shown
3. Message Series - E Modified except all cap WORDS are Series E









7

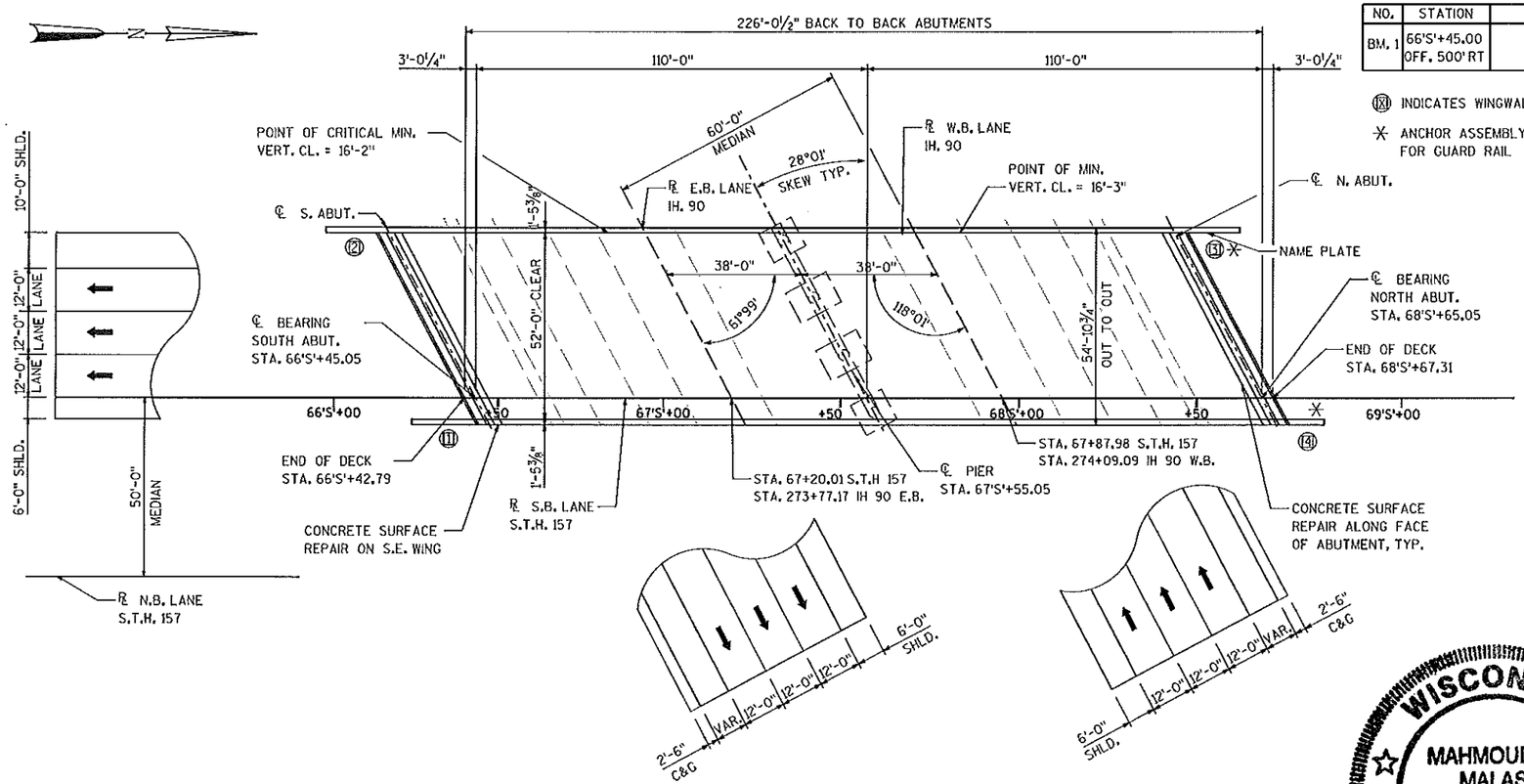
7

PROJECT NO: 1071-06-35	HWY: 190	COUNTY: LA CROSSE	PERMANENT SIGNING	SHEET NO: 151	E

STATE PROJECT NUMBER
1071-06-65

BENCH MARK

NO.	STATION	DESCRIPTION	ELEV.
BM. 1	66'S'+45.00 OFF. 500' RT	REBAR W/ CAP	712.49

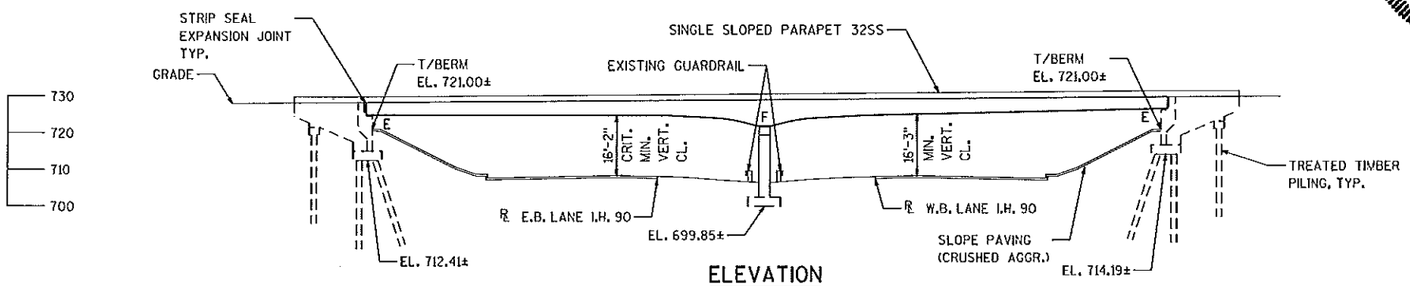


(21) INDICATES WINGWALL NUMBER

⚹ ANCHOR ASSEMBLY FOR GUARD RAIL

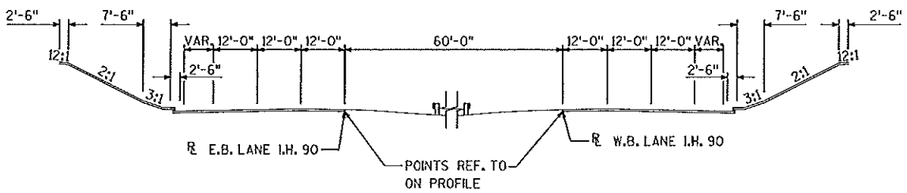
PLAN

DECK REPLACEMENT OF 2 SPAN CONTINUOUS STEEL BEAMS



ELEVATION

NORMAL TO I.H. 90



TYPICAL SECTION THRU I.H. 90

DESIGN DATA

LIVE LOAD:

DESIGN RATING = HS-20
INVETORY RATING = HS-19
OPERATING RATING = HS-32
WIS. MAX. STD. PERMIT VEHICLE LOAD = 205 KIPS

DESIGN FOR A 20 PSF FUTURE WEARING SURFACE

ULTIMATE DESIGN STRESSES (NEW WORK):

CONCRETE MASONRY, DECK----------f'c = 4,000 psi
CONCRETE MASONRY, ALL OTHER-------f'c = 3,500 psi
HIGH STRENGTH BAR STEEL
REINFORCEMENT GRADE 60----------fy = 60,000 psi

TRAFFIC DATA S.T.H. 157

A.D.T. = 32,500 (2016)
= 41,400 (2036)

R.D.S. = 50 MPH

% TRUCKS = 8.6%

TRAFFIC DATA I.H. 90 EB

A.D.T. = 43,700 (2016)
= 56,700 (2036)

R.D.S. = 70 MPH

TRAFFIC DATA I.H. 90 WB

A.D.T. = 36,100 (2016)
= 46,800 (2036)

R.D.S. = 70 MPH

WISCONSIN
MAHMOUD N. MALAS
E-27922
MILWAUKEE, WI
PROFESSIONAL ENGINEER

1/29/2013

LIST OF DRAWINGS

1. GENERAL PLAN
2. CROSS SECTION AND QUANTITIES
3. PROPOSED CROSS SECTION
4. SOUTH ABUTMENT
5. NORTH ABUTMENT
6. SOUTH ABUTMENT WINGWALL DETAILING
7. NORTH ABUTMENT WINGWALL DETAILING
8. WINGWALLS & SLOPE PAVING
9. SUPERSTRUCTURE
10. SUPERSTRUCTURE DETAILS
11. GIRDER DETAILS
12. BEARING REPLACEMENT DETAILS
13. EXPANSION JOINT
14. EXPANSION JOINT DETAILS 1
15. EXPANSION JOINT DETAILS 2
16. SINGLE SLOPE PARAPET 32SS

STRUCTURES DESIGN CONTACTS

BUREAU OF STRUCTURES:
WILLIAM DREHER (608) 266-8489

CONSULTANT CONTACT:
MAHMOUD MALAS (262) 821-1171, EXT. 119

NO.	DATE	REVISION	BY

KSA K. Singh & Associates, Inc.
Engineers, Scientists and Environmental Management Consultants

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
ACCEPTED William C. Dreher KAR 01/30/13
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-32-55

S.T.H. 157 OVER I-90

COUNTY LA CROSSE ~~TOWN/CITY/VILLAGE~~ ONALASKA

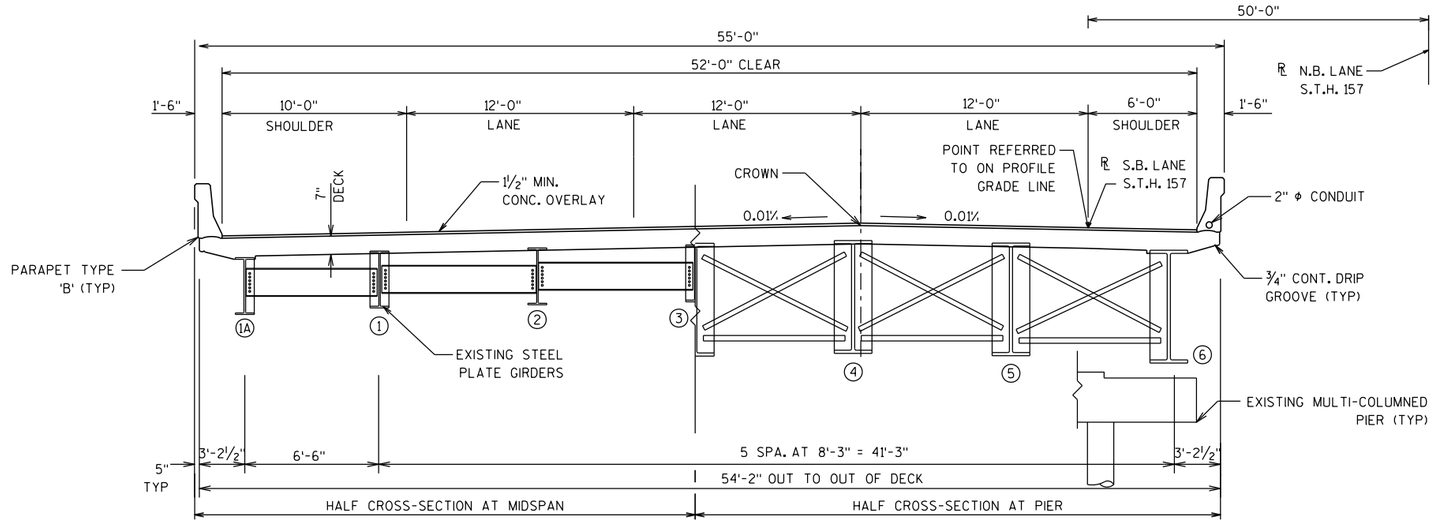
DESIGN SPEC. AASHTO LRFD DESIGN SPEC. 5th EDITION

DESIGNED BY	DRJ	DESIGN CK'D.	MNM	DRAWN BY	DRJ	PLANS CK'D.	MNM

GENERAL PLAN

SHEET 1 OF 16

STATE PROJECT NUMBER
1071-06-65

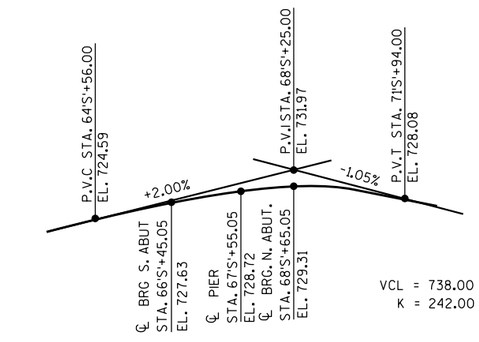


EXISTING CROSS SECTION

(LOOKING NORTH)

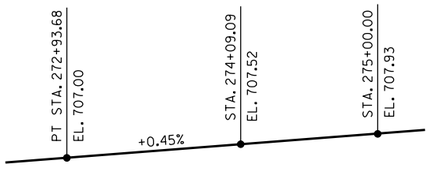
TOTAL ESTIMATED QUANTITIES

	NO.	BID ITEMS	UNIT	TOTAL
	203.0200	REMOVING OLD STRUCTURE, STA. 66'S'+45.05	LS	1
	203.0225.S.01	DEBRIS CONTAINMENT STRUCTURE, B-32-55	LS	1
	206.1000	EXCAVATION FOR STRUCTURES BRIDGES, B-32-55	LS	1
	210.0100	BACKFILL STRUCTURE	CY	230
	502.0100	CONCRETE MASONRY BRIDGES	CY	492
	502.3100	EXPANSION DEVICE, B-32-55	LS	1
	502.3200	PROTECTIVE SURFACE TREATMENT	SY	1,580
	502.5005	MASONRY ANCHORS TYPE L NO. 5 BARS	EACH	240
	505.0605	BAR STEEL REINFORCEMENT HS COATED BRIDGES	LB	102,630
	506.2610	BEARING PADS ELASTOMERIC LAMINATED	EACH	14
	506.3025	WELDED STUD SHEAR CONNECTORS 7/8X8-INCH	EACH	2,556
	506.7000.S.01	BEARING REPLACEMENT, B-32-55	EACH	14
◑	509.1500	CONCRETE SURFACE REPAIR	SF	40
	509.9020.S.01	CRACK SEALING EPOXY	LF	100
	516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	50
	517.0900.S.01	PREPARATION AND COATING OF TOP FLANGES, B-32-55	LS	1
◪	517.3000.S.01	STRUCTURE OVERCOATING CLEANING AND PRIMING, B-32-55	LS	1
	517.4000.S.01	CONTAINMENT AND COLLECTION OF WASTE MATERIALS STRUCTURE, B-32-55	LS	1
	604.9010.S.01	SLOPE PAVING REPAIR CRUSHED AGGREGATE	CY	24
	604.9015.S.01	RESEAL CRUSHED AGGREGATE SLOPE PAVING	SY	378
	614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	EACH	2
	652.0130	CONDUIT RIGID METALLIC 2 1/2-INCH	LF	1,040
	SPV.0105.01	WELD INSPECTION STRUCTURE B-32-55	LS	1
◭	SPV.0180.01	PIGMENTED CONCRETE SURFACE TREATMENT	SY	135
		NON BID ITEMS		
		PREFORMED JOINT FILLER	SIZE	½", 1½"
		BRIDGE SEAT PROTECTION	LS	



PROFILE GRADE LINE S.B. LANE S.T.H. 157

(PROPOSED)



PROFILE GRADE LINE W.B. I.H. 90

(EXISTING)

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

ALL STATIONS AND ELEVATIONS ARE IN FEET.

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

BEVEL EXPOSED EDGES OF CONCRETE ¾" UNLESS OTHERWISE NOTED.

ALL DETAILS, MATERIALS AND FABRICATION SHALL CONFORM TO THE STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE SPECIFICATIONS OF THE STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION, EDITION OF 2012.

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

PROTECTIVE SURFACE TREATMENT SHALL BE APPLIED TO THE ENTIRE ROADWAY DECK, FRONT FACE OF PARAPETS, AND THE TOP OF THE PARPETS.

THE WISCONSIN DEPARTMENT OF TRANSPORTATION WILL FURNISH THE CONTRACTOR WITH THE BENCHMARK CAPS TO BE INSTALLED AS SHOWN ON THE PLANS.

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

THE GRADATION OF THE STRUCTURE BACKFILL SHALL MEET THE REQUIREMENTS OF SECTION 209.2.2 OF THE STANDARD SPECIFICATIONS FOR GRADE 1 MATERIALS.

STRUCTURAL STEEL SHALL BE PAINTED LIGHT GRAY (FEDERAL COLOR NUMBER 26293).

THE EXISTING STRUCTURE, B-32-55, IS A 2 SPAN STEEL DECK GIRDER STRUCTURE WITH AN OVERALL WIDTH OF 55'-0" AND AN OVERALL LENGTH OF 226'-0½". THE PARAPETS AND DECK ARE TO BE REMOVED.

DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS.

CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO ANY FABRICATION AND CONSTRUCTION.

INFORMATION ON THESE DRAWINGS RELATED TO THE EXISTING BRIDGE IS BASED UPON AVAILABLE DRAWING FROM THE WISCONSIN DEPARTMENT OF TRANSPORTATION, NO GUARANTEE OR WARRANTY IS MADE THAT THE INFORMATION IS ALL INCLUSIVE OR TOTALLY ACCURATE. THERFORE, THE CONTRACTOR SHALL MAKE ITS OWN DETERMINATION OF THE ACTUAL CONDITIONS TO BE ENCOUNTERED.

◑ CONCRETE SURFACE REPAIR AS DIRECTED BY THE FIELD ENGINEER. QUANTITIES SHOWN ON THE PLANS ARE APPROXIMATE.

USE EXISTING BAR STEEL REINFORCEMENT WHERE SHOWN AND EXTEND 24 BAR DIAMETERS INTO NEW WORK.

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

CONTRACTOR SHALL SUPPLY A NEW NAME PLATE OR RE-USE THE EXISTING ONE IN ACCORDANCE WITH SECTION 502.3 OF THE STANDARD SPECIFICATIONS AND THE STANDARD DETAILED DRAWINGS. THE NEW NAME PLATE SHALL SHOW THE ORIGINAL CONSTRUCTION YEAR OF 1967.

CONTRACTOR SHALL TRANSFER EDGES OF STEEL GIRDER FLANGES PRIOR TO REMOVAL BY MARKING TOP OF DECK TO ENSURE NO DAMAGE DURING SAWCUTTING OF THE DECK.

ALL CONCRETE REMOVAL SHALL BE DEFINED BY A 1" DEEP SAWCUT.

◪ CLEAN & PAINT FIRST 5 FEET OF GIRDERS AND ENTIRE END DIAPHRAGMS. ALSO CLEAN AND PAINT ALL EXISTING BEARINGS.

◭ PAINT VERTICAL ABUTMENT SURFACES GRAY OR MATCH TO EXISTING COLOR SHALL BE APPROVED BY THE ENGINEER.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-32-55

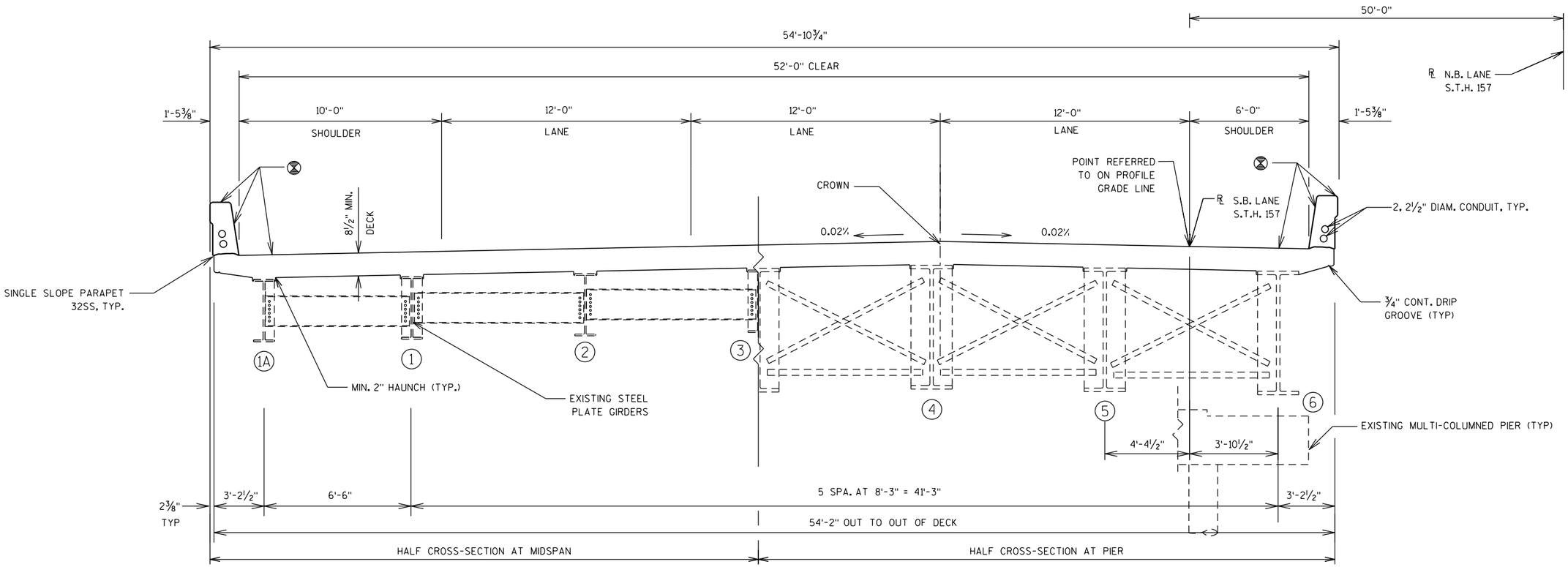
DRAWN BY DRJ | PLANS CK'D. BNS

CROSS SECTION & QUANTITIES

8

8

STATE PROJECT NUMBER
1071-06-65



PROPOSED CROSS SECTION

(LOOKING NORTH)

8

8

⊗ APPLY PROTECTIVE SURFACE TREATMENT

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-32-55

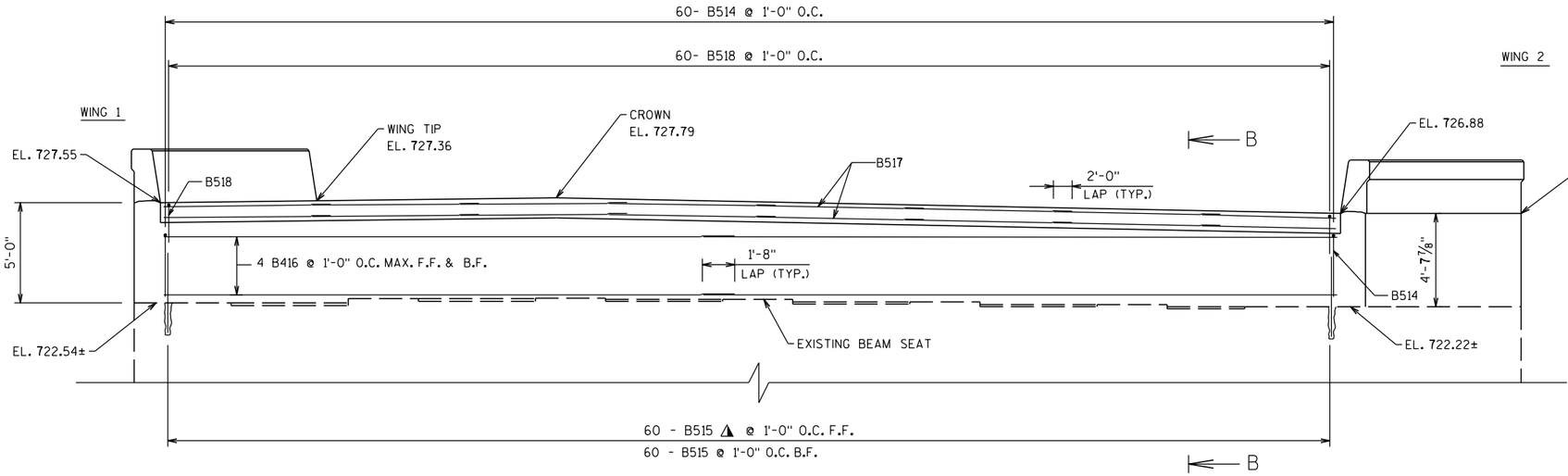
DRAWN BY DRJ | PLANS CK'D. BNS

PROPOSED
CROSS SECTION

SHEET 3 OF 16
154

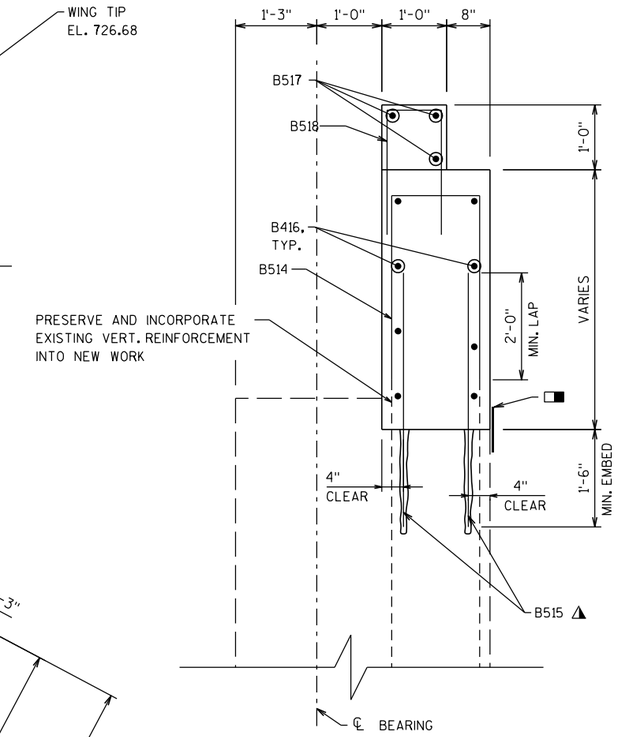
STATE PROJECT NUMBER

1071-06-65

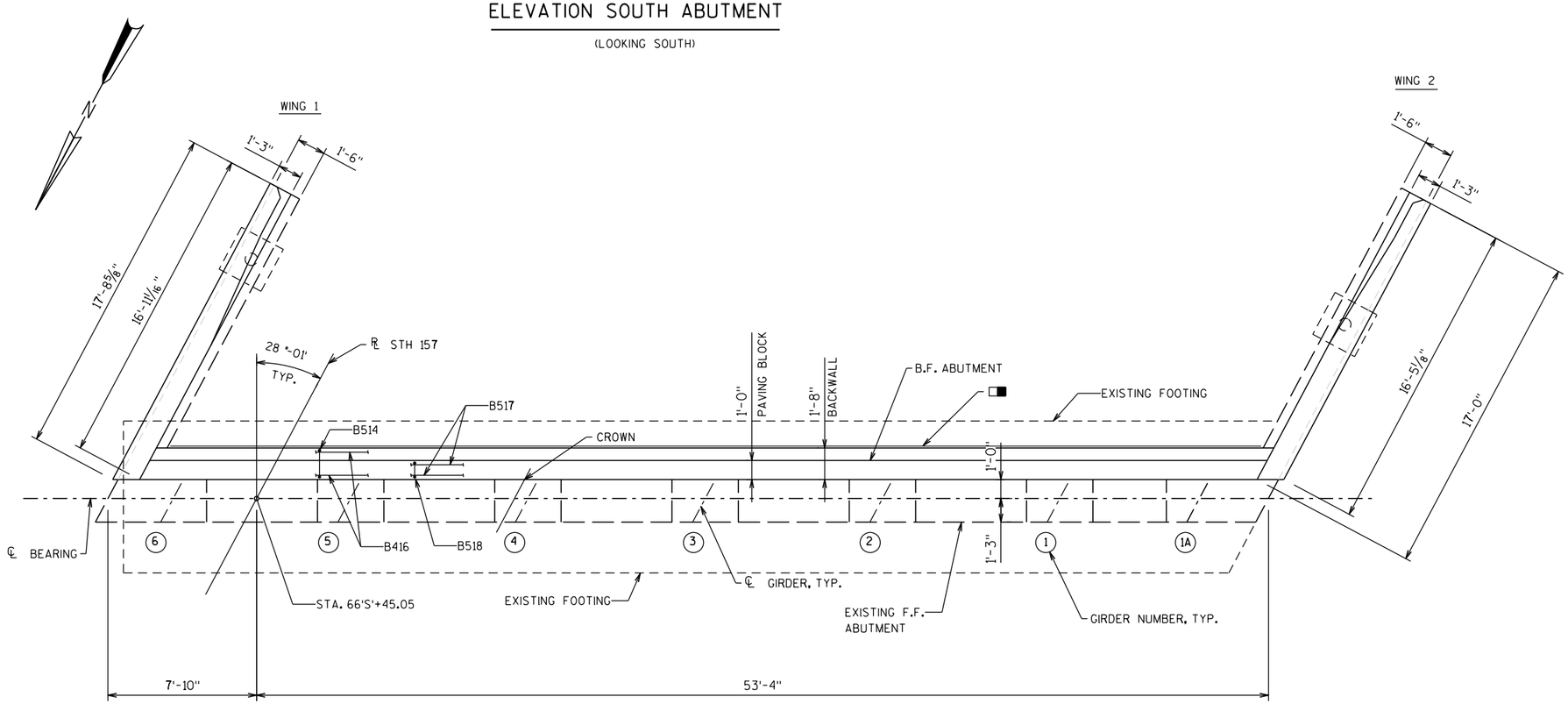


ELEVATION SOUTH ABUTMENT

(LOOKING SOUTH)



SECTION B-B



PLAN SOUTH ABUTMENT

LEGEND

◭ SUPPLEMENTAL MASONRY ANCHORS TYPE L NO. 5 BARS. MINIMUM PULLOUT CAPACITY OF 19 KIPS. EMBED A MINIMUM OF 1'-6" IN CONCRETE.

* EXTEND EXISTING BARS A MINIMUM OF 24 BAR DIAMETERS INTO NEW WORK.

18" RUBBERIZED MEMBRANE WATERPROOFING.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-32-55

DRAWN BY NLD | PLANS CK'D. BNS

SOUTH ABUTMENT

SHEET 4 OF 16

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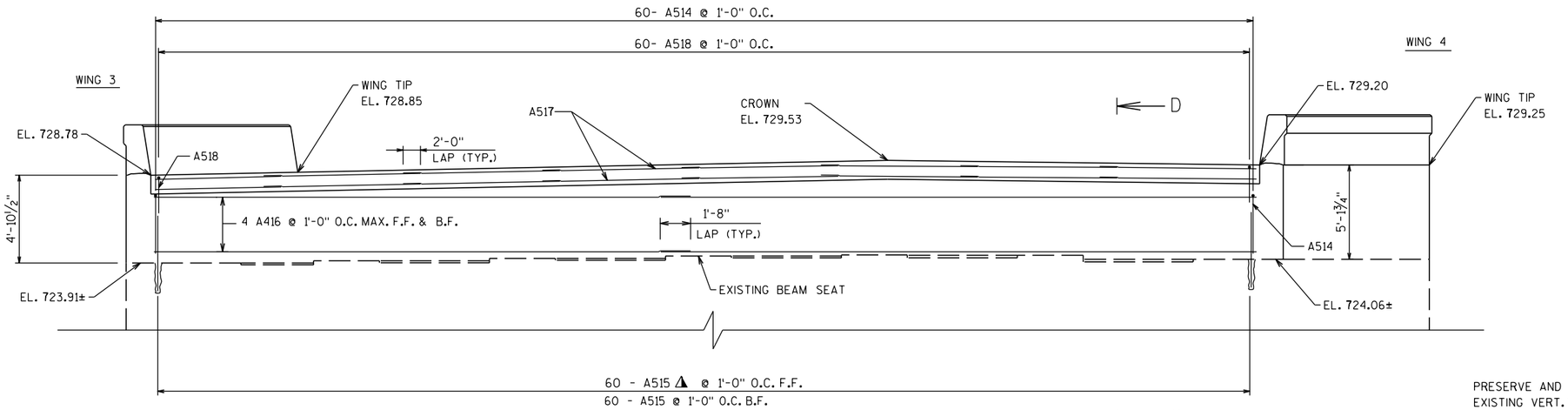
8

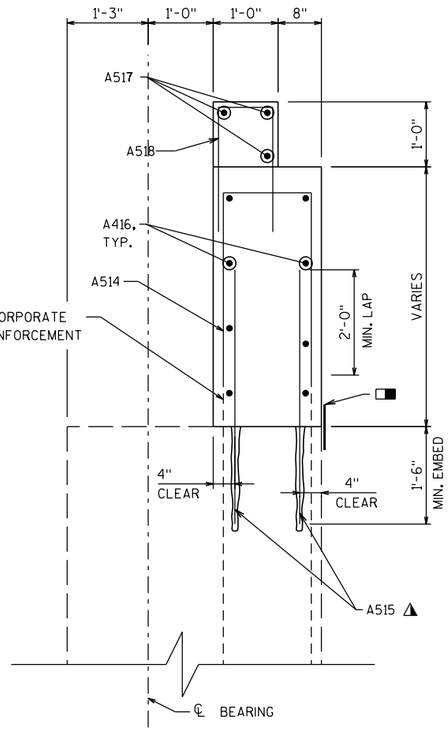
8

STATE PROJECT NUMBER
1071-06-65

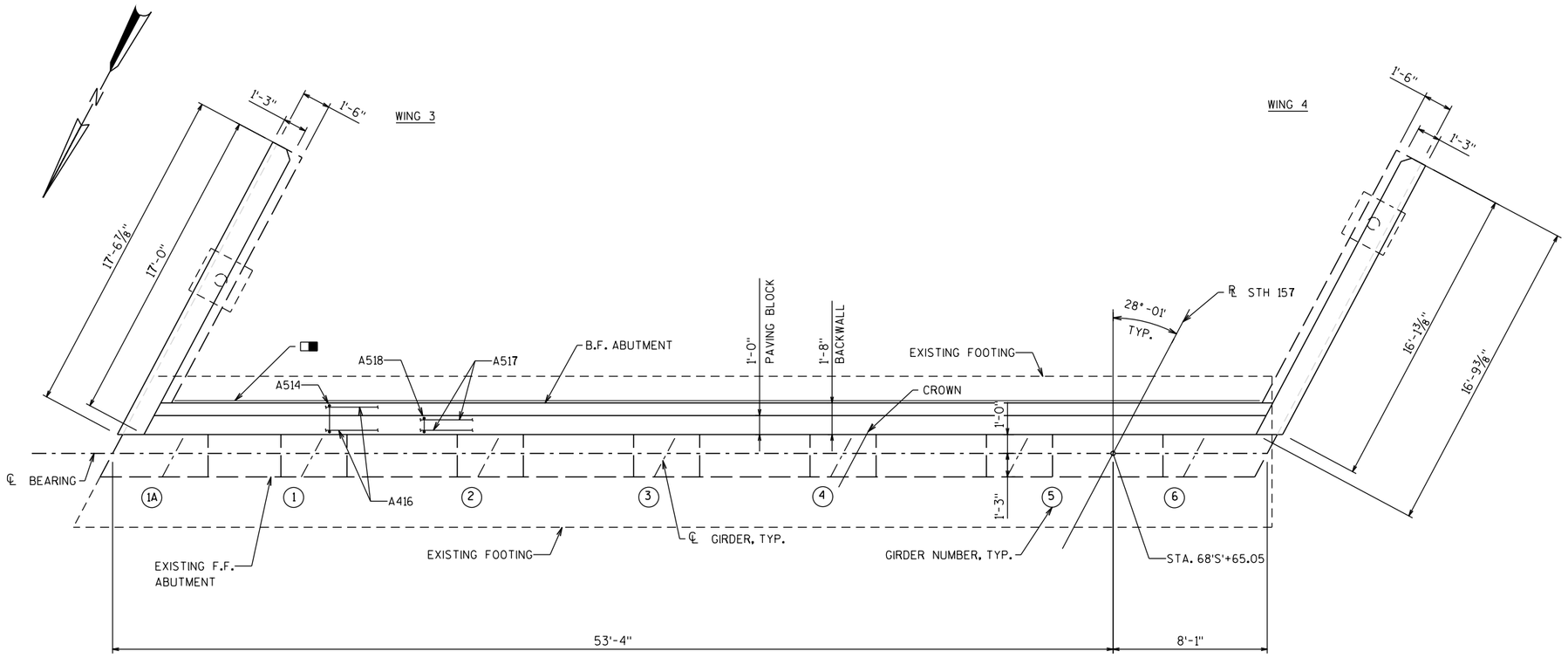


ELEVATION NORTH ABUTMENT

(LOOKING NORTH)



SECTION D-D



PLAN NORTH ABUTMENT

LEGEND

◭ SUPPLEMENTAL MASONRY ANCHORS TYPE L NO. 5 BARS. MINIMUM PULLOUT CAPACITY OF 19 KIPS. EMBED A MINIMUM OF 1'-6" IN CONCRETE.

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▭ 18" RUBBERIZED MEMBRANE WATERPROOFING.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-32-55

DRAWN BY NLD | PLANS CK'D. BNS

NORTH ABUTMENT

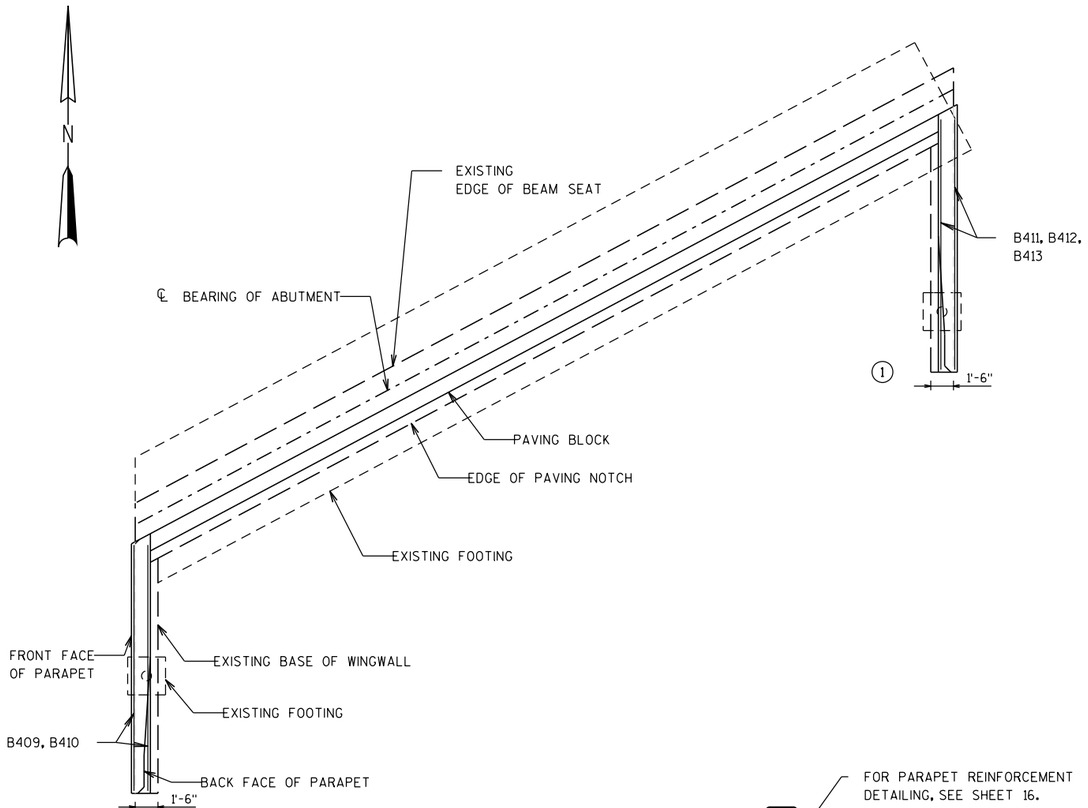
SHEET 5 OF 16
156

8

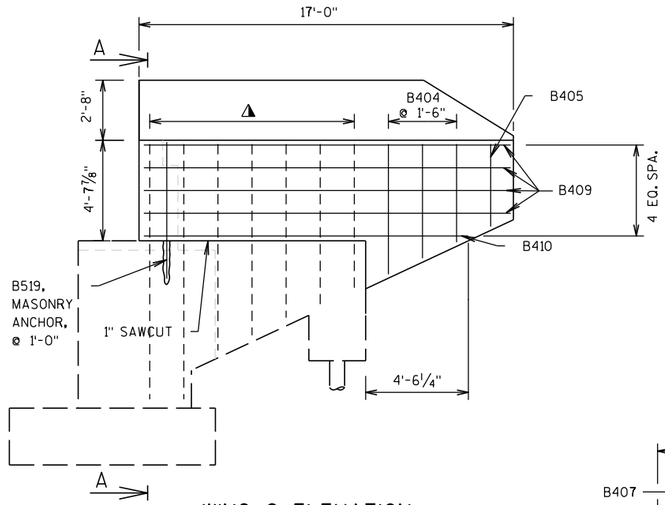
8

STATE PROJECT NUMBER

1071-06-65

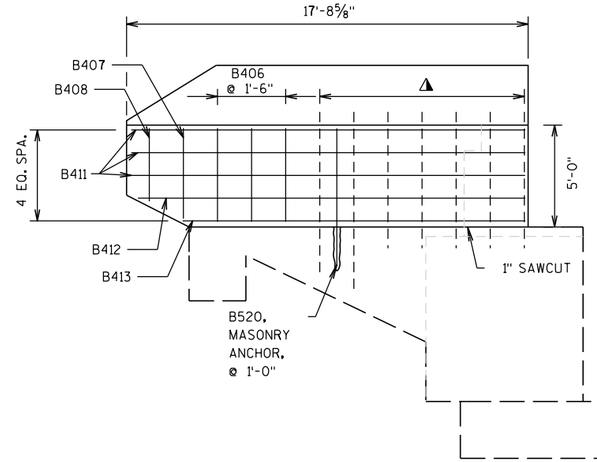


SOUTH ABUTMENT PLAN



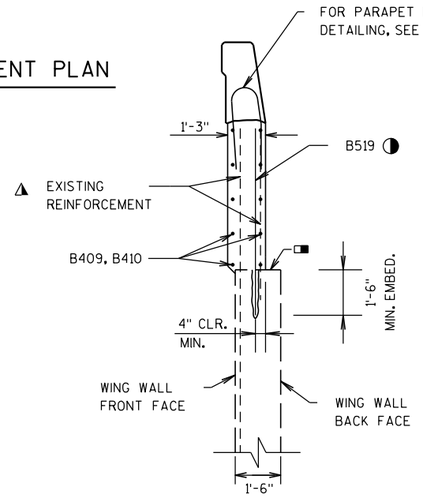
WING 2 ELEVATION

FRONT FACE

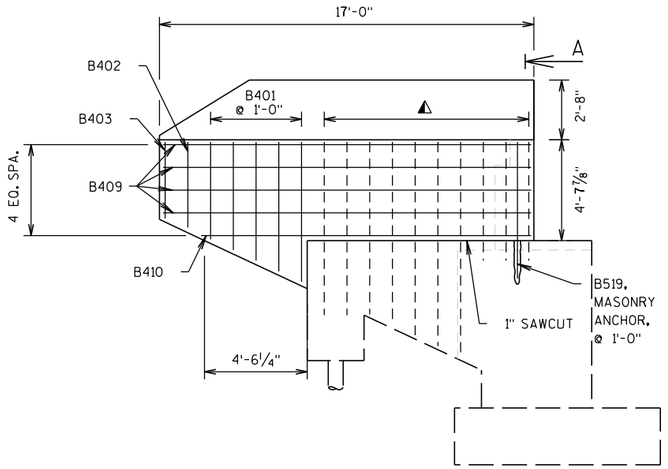


WING 1 ELEVATION

FRONT FACE, BACK FACE



SECTION A-A



WING 2 ELEVATION

BACK FACE

NOTES

◭ EXISTING REINFORCING. IF SALVAGEABLE, CLEAN AND REUSE FULL LENGTH OF BAR. IF NOT SALVAGEABLE, NEW NO. 5 TYPE L MASONRY ANCHORS SHALL BE USED. BARS SHALL BE INCIDENTAL TO THE BID ITEM "CONCRETE MASONRY BRIDGES".

◑ MASONRY ANCHORS TYPE L NO. 5 BARS. MINIMUM PULLOUT CAPACITY OF 19 KIPS. EMBED A MINIMUM OF 1'-6" IN CONCRETE.

* EXTEND EXISTING BARS A MINIMUM OF 24 BAR DIAMETERS INTO NEW WORK.

▭ 18" RUBBERIZED MEMBRANE WATERPROOFING

(#) WINGWALL NUMBER

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-32-55

DRAWN BY NLD | PLANS CK'D. BNS

SOUTH ABUTMENT
WINGWALL DETAILING

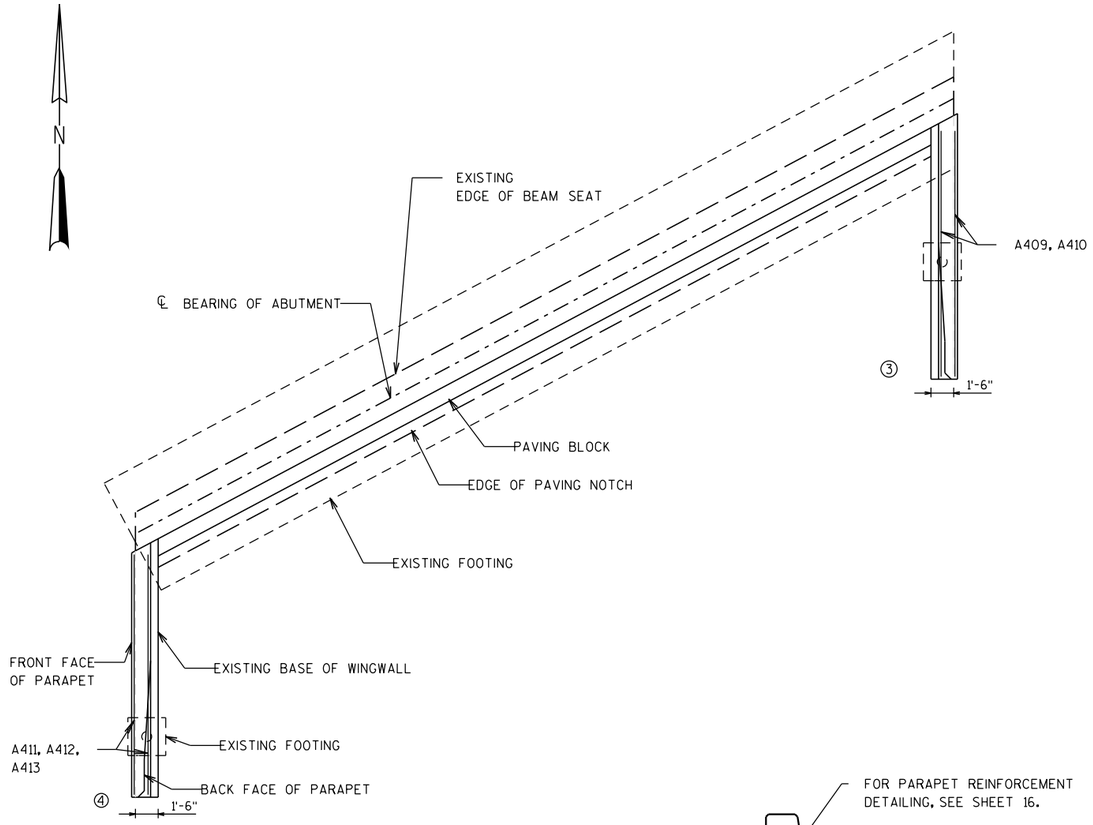
SHEET 6 OF 16
157

8

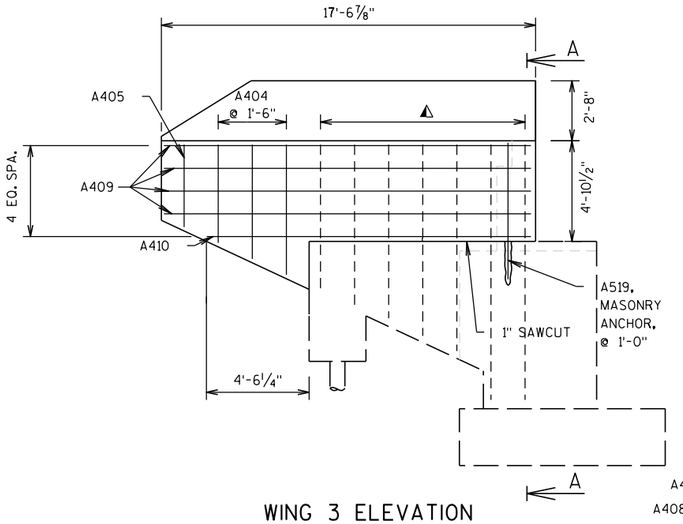
8

STATE PROJECT NUMBER

1071-06-65

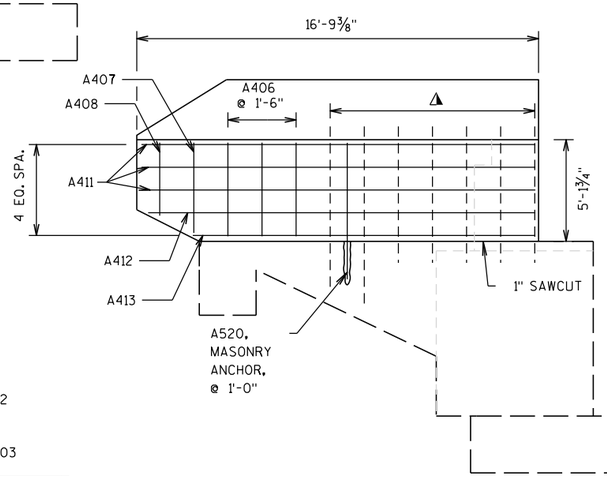


NORTH ABUTMENT PLAN



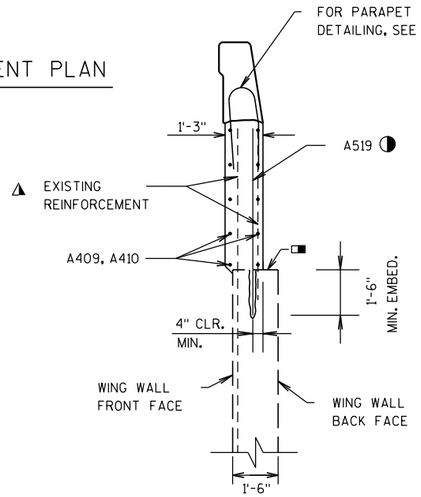
WING 3 ELEVATION

FRONT FACE

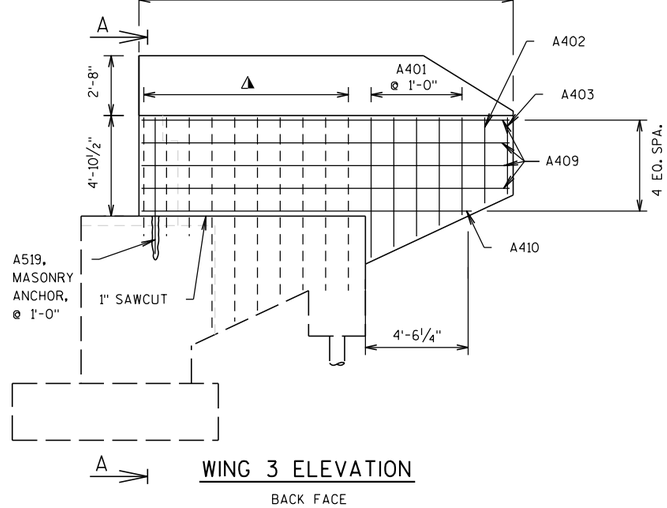


WING 4 ELEVATION

FRONT FACE, BACK FACE



SECTION A-A



WING 3 ELEVATION

BACK FACE

NOTES

◭ EXISTING REINFORCING. IF SALVAGEABLE, CLEAN AND REUSE FULL LENGTH OF BAR. IF NOT SALVAGEABLE, NEW NO. 5 TYPE L MASONRY ANCHORS SHALL BE USED. BARS SHALL BE INCIDENTAL TO THE BID ITEM "CONCRETE MASONRY BRIDGES".

◑ MASONRY ANCHORS TYPE L NO. 5 BARS. MINIMUM PULLOUT CAPACITY OF 19 KIPS. EMBED A MINIMUM OF 1'-6" IN CONCRETE.

* EXTEND EXISTING BARS A MINIMUM OF 24 BAR DIAMETERS INTO NEW WORK.

▬ 18" RUBBERIZED MEMBRANE WATERPROOFING

Ⓝ WINGWALL NUMBER

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-32-55

DRAWN BY NLD | PLANS CK'D. BNS

NORTH ABUTMENT
WINGWALL DETAILING

SHEET 7 OF 16

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8

8

STATE PROJECT NUMBER

1071-06-65

NORTH ABUTMENT BILL OF BARS

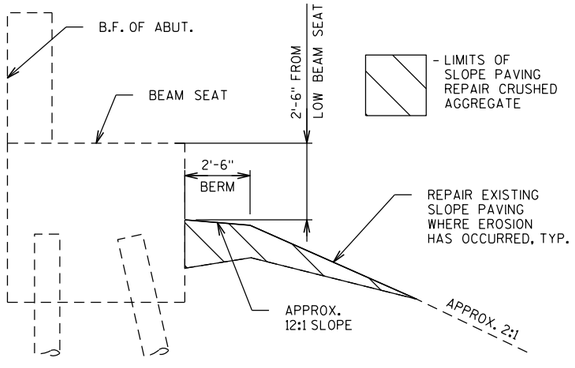
MARK	COAT	NO. REQUIRED	LENGTH	BENT	SERIES	LOCATION
B401	X	5	05'-06"		Δ	WING WALLS 2 - VERTICAL, BACK FACE
B402	X	1	03'-09"			WING WALLS 2 - VERTICAL, BACK FACE
B403	X	1	03'-00"			WING WALLS 2 - VERTICAL, BACK FACE
B404	X	3	05'-03"		Δ	WING WALLS 2 - VERTICAL, FRONT FACE
B405	X	1	03'-07"			WING WALLS 2 - VERTICAL, FRONT FACE
B406	X	6	04'-08"			WING WALLS 1 - VERTICAL, FRONT AND BACK FACE
B407	X	2	04'-06"			WING WALLS 1 - VERTICAL, FRONT AND BACK FACE
B408	X	2	03'-04"			WING WALLS 1 - VERTICAL, FRONT AND BACK FACE
B409	X	8	16'-01"			WING WALL 2 - HORIZONTAL, FRONT AND BACK FACE
B410	X	2	15'-07"			WING WALL 2 - HORIZONTAL, FRONT AND BACK FACE
B411	X	6	16'-07"			WING WALL 1 - HORIZONTAL, FRONT AND BACK FACE
B412	X	2	16'-05"			WING WALL 1 - HORIZONTAL, FRONT AND BACK FACE
B413	X	2	15'-09"			WING WALL 1 - HORIZONTAL, FRONT AND BACK FACE
B514	X	63	06'-09"	X		ABUTMENT BACKWALL - VERTICAL
B515	X	126	04'-02"			BACKWALL MASONRY ANCHORS - VERTICAL
B416	X	16	31'-07"			ABUTMENT BACKWALL - HORIZONTAL
B517	X	27	08'-04"			PAVING BLOCK - HORIZONTAL
B518	X	60	06'-01"	X		PAVING BLOCK - VERTICAL
B519	X	11	05'-02"			WING WALL 2 MASONRY ANCHOR
B520	X	12	05'-06"			WING WALL 1 MASONRY ANCHOR

△ LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR AVERAGE WEIGHT CALCULATION. SEE BAR SERIES TABLE FOR ACTUAL HEIGHTS.

BAR SERIES

BAR MARK	NO. REQ'D	LENGTH
B401	1 SERIES OF 5	4'-6" TO 6'-6"
B404	1 SERIES OF 3	4'-6" TO 6'-0"

⚹ BUNDLE AND TAG EACH SEPARATELY.



SLOPE PAVING AT ABUTMENTS

SOUTH ABUTMENT BILL OF BARS

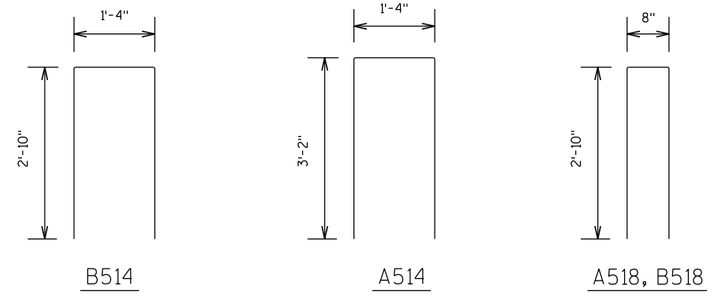
MARK	COAT	NO. REQUIRED	LENGTH	BENT	SERIES	LOCATION
A401	X	5	05'-08"		Δ	WING WALLS 3 - VERTICAL, BACK FACE
A402	X	1	04'-00"			WING WALLS 3 - VERTICAL, BACK FACE
A403	X	1	03'-03"			WING WALLS 3 - VERTICAL, BACK FACE
A404	X	3	05'-05"		Δ	WING WALLS 3 - VERTICAL, FRONT FACE
A405	X	1	03'-10"			WING WALLS 3 - VERTICAL, FRONT FACE
A406	X	6	04'-09"			WING WALLS 4 - VERTICAL, FRONT AND BACK FACE
A407	X	2	04'-07"			WING WALLS 4 - VERTICAL, FRONT AND BACK FACE
A408	X	2	03'-05"			WING WALLS 4 - VERTICAL, FRONT AND BACK FACE
A409	X	8	16'-08"			WING WALL 3 - HORIZONTAL, FRONT AND BACK FACE
A410	X	2	16'-02"			WING WALL 3 - HORIZONTAL, FRONT AND BACK FACE
A411	X	6	15'-09"			WING WALL 4 - HORIZONTAL, FRONT AND BACK FACE
A412	X	2	15'-08"			WING WALL 4 - HORIZONTAL, FRONT AND BACK FACE
A413	X	2	15'-00"			WING WALL 4 - HORIZONTAL, FRONT AND BACK FACE
A514	X	63	07'-05"	X		ABUTMENT BACKWALL - VERTICAL
A515	X	126	04'-00"			BACKWALL MASONRY ANCHORS - VERTICAL
A416	X	16	31'-07"			ABUTMENT BACKWALL - HORIZONTAL
A517	X	27	08'-04"			PAVING BLOCK - HORIZONTAL
A518	X	60	06'-01"	X		PAVING BLOCK - VERTICAL
A519	X	12	05'-05"			WING WALL 3, MASONRY ANCHOR
A520	X	11	05'-08"			WING WALL 4, MASONRY ANCHOR

△ LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR AVERAGE WEIGHT CALCULATION. SEE BAR SERIES TABLE FOR ACTUAL HEIGHTS.

BAR SERIES

BAR MARK	NO. REQ'D	LENGTH
A401	1 SERIES OF 5	4'-8" TO 6'-8"
A404	1 SERIES OF 3	4'-8" TO 6'-2"

⚹ BUNDLE AND TAG EACH SEPARATELY.



BENDING DIAGRAMS

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-32-55

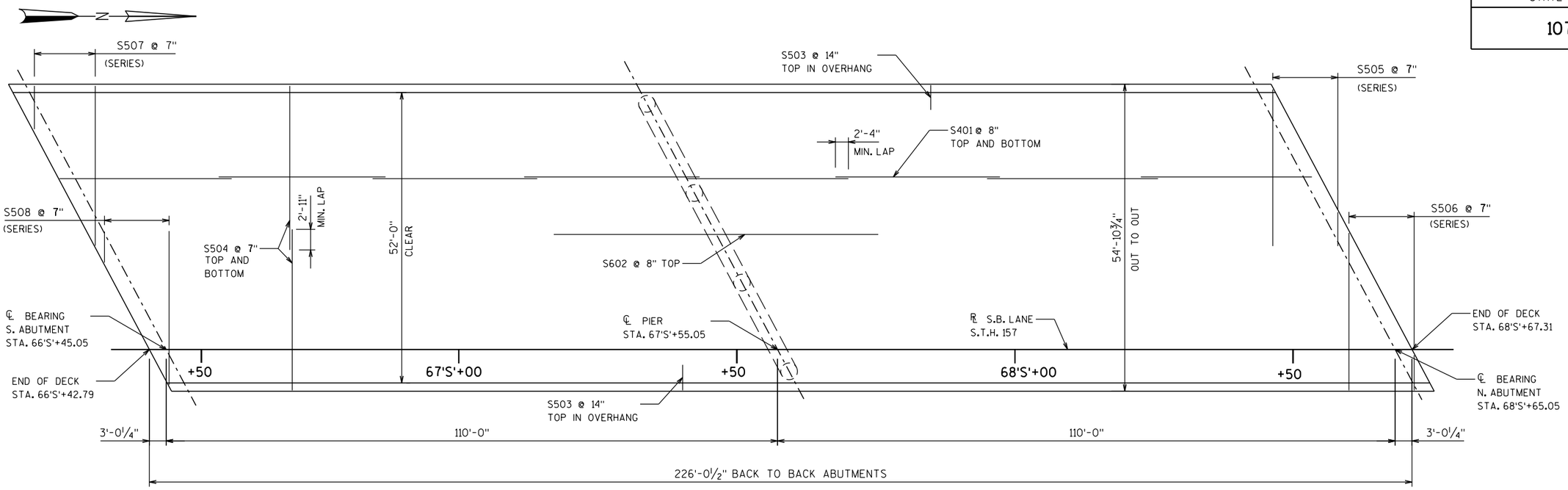
DRAWN BY NLD | PLANS CK'D. BNS

WINGWALLS & SLOPE PAVING

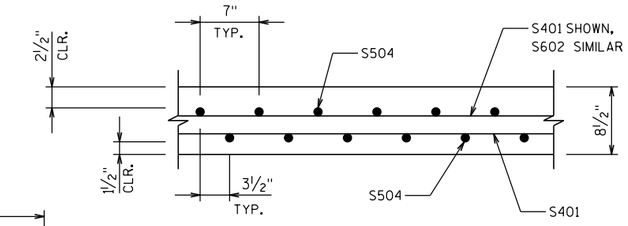
SHEET 8 OF 16

STATE PROJECT NUMBER

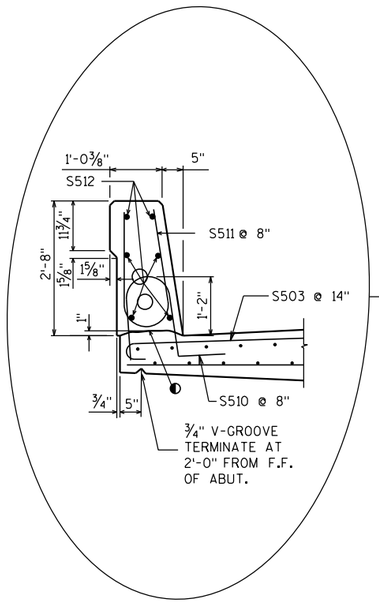
1071-06-65



DECK PLAN

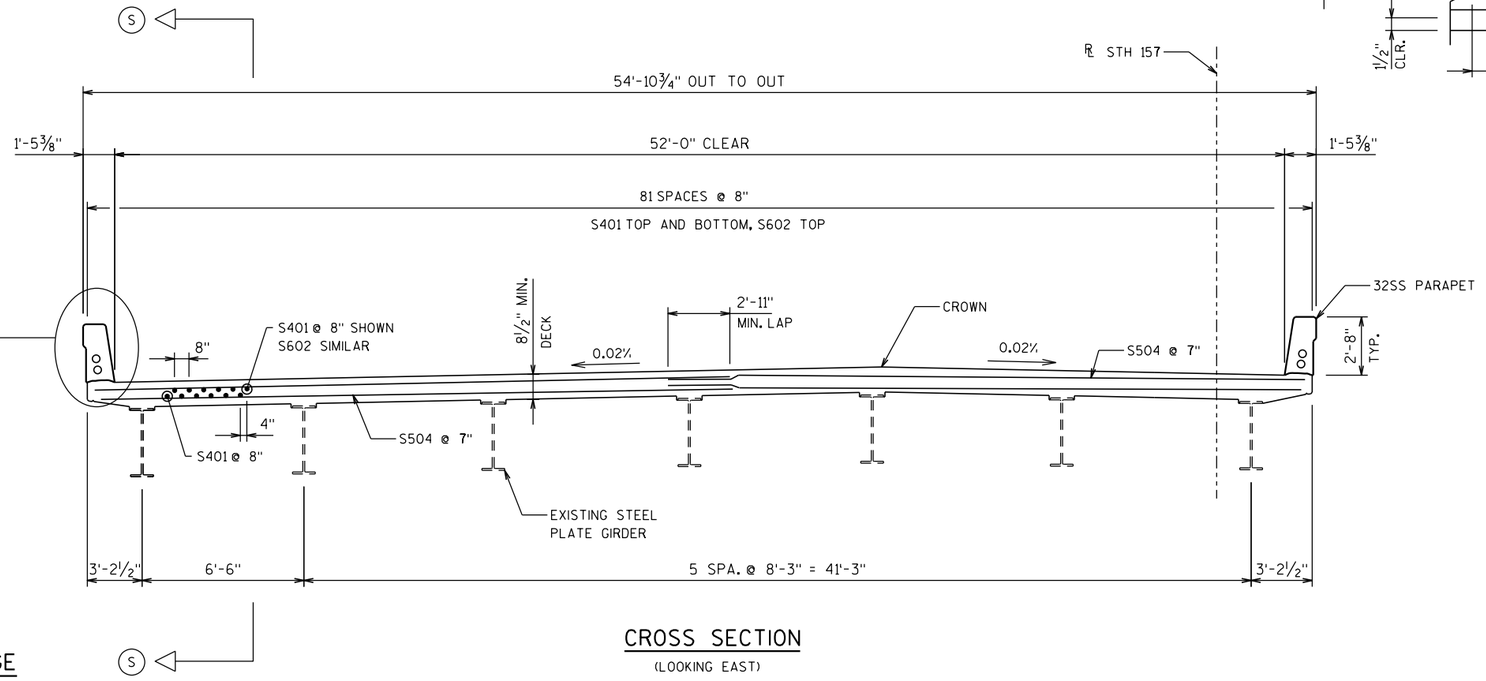


SECTION S-S



SECTION THRU PARAPET ON BRIDGE

◐ CONSTRUCTION JOINT- STRIKE OFF AS SHOWN.



CROSS SECTION

(LOOKING EAST)

NOTES

THE RATE OF PLACING CONCRETE SHALL EQUAL OR EXCEED 1/2 SPAN LENGTH PER HOUR BUT NEED NOT EXCEED 100 CU. YDS. PER HOUR.

THE CONTRACTOR MAY SUBMIT A POURING SEQUENCE FOR APPROVAL TO THE STRUCTURES DESIGN SECTION.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-32-55

DRAWN BY NLD | PLANS CK'D. BNS

SUPERSTRUCTURE

SHEET 9 OF 16
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STATE PROJECT NUMBER

1071-06-65

ELEVATIONS AT TOP OF DECK (T.O.D.) & TOP OF STEEL (T.O.S)

LOCATION		CL S. ABUT	0.1 SPAN	0.2 SPAN	0.3 SPAN	0.4 SPAN	0.5 SPAN	0.6 SPAN	0.7 SPAN	0.8 SPAN	0.9 SPAN	CL PIER	0.1 SPAN	0.2 SPAN	0.3 SPAN	0.4 SPAN	0.5 SPAN	0.6 SPAN	0.7 SPAN	0.8 SPAN	0.9 SPAN	CL N. ABUT
WEST EDGE OF DECK	T.O.D.	726.88	727.02	727.16	727.29	727.42	727.54	727.66	727.77	727.88	727.99	728.08	728.18	728.26	728.35	728.42	728.50	728.56	728.63	728.68	728.74	728.78
GIRDER 1	T.O.D.	726.93	727.08	727.21	727.35	727.47	727.59	727.71	727.82	727.93	728.03	728.13	728.22	728.31	728.39	728.47	728.54	728.61	728.67	728.73	728.78	728.83
	T.O.S.	726.08										727.23										727.76
GIRDER 2	T.O.D.	727.11	727.25	727.39	727.52	727.64	727.76	727.88	727.99	728.09	728.19	728.29	728.38	728.47	728.55	728.62	728.69	728.76	728.82	728.88	728.93	728.97
	T.O.S.	726.14										727.28										727.86
GIRDER 3	T.O.D.	727.33	727.47	727.60	727.73	727.86	727.97	728.09	728.20	728.30	728.40	728.49	728.58	728.66	728.74	728.82	728.89	728.95	729.01	729.06	729.11	729.15
	T.O.S.	726.27										727.36										727.96
GIRDER 4	T.O.D.	727.55	727.69	727.82	727.95	728.07	728.18	728.30	728.40	728.50	728.60	728.69	728.78	728.86	728.94	729.01	729.08	729.14	729.19	729.25	729.29	729.33
	T.O.S.	726.40										727.48										728.07
GIRDER 5	T.O.D.	727.77	727.91	728.04	728.16	728.28	728.40	728.50	728.61	728.71	728.80	728.89	728.98	729.06	729.13	729.20	729.27	729.33	729.38	729.43	729.47	729.51
	T.O.S.	726.54										727.60										728.17
CROWN	T.O.D.	727.79	727.93	728.06	728.18	728.30	728.42	728.52	728.63	728.73	728.82	728.91	729.00	729.08	729.15	729.22	729.28	729.34	729.40	729.45	729.49	729.53
GIRDER 6	T.O.D.	727.69	727.82	727.95	728.07	728.19	728.30	728.41	728.51	728.61	728.70	728.79	728.87	728.95	729.02	729.09	729.15	729.21	729.26	729.31	729.36	729.39
	T.O.S.	726.52										727.56										728.11
PGL	T.O.D.	727.63	727.76	727.89	728.01	728.13	728.24	728.35	728.45	728.54	728.64	728.72	728.80	728.88	728.95	729.02	729.08	729.14	729.19	729.23	729.28	729.31
GIRDER 7	T.O.D.	727.58	727.71	727.84	727.96	728.07	728.18	728.29	728.39	728.48	728.57	728.66	728.74	728.82	728.89	728.95	729.01	729.07	729.12	729.17	729.21	729.24
	T.O.S.	726.39										727.52										727.91
EAST EDGE OF DECK	T.O.D.	727.55	727.68	727.81	727.93	728.04	728.15	728.26	728.36	728.45	728.54	728.63	728.71	728.78	728.85	728.92	728.98	729.03	729.08	729.13	729.17	729.20

NOTE: ELEVATIONS ARE TO TOP OF EXISTING STEEL.

BILL OF BARS (SUPERSTRUCTURE)

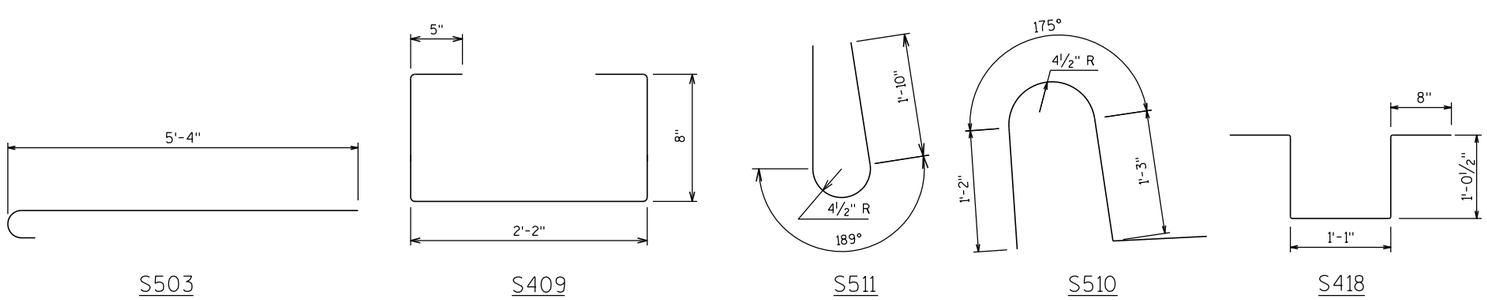
BAR MARK	COAT	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
S401	X	1320	30'-4"			SLAB LONGITUDINAL REINF. (TOP & BOT.)
S602	X	83	58'-2"			SLAB LONGITUDINAL (OVER PIER) REINF. (TOP)
S503	X	390	5'-4"	X		SLAB OVERHANG TRANSVERSE REINF. (TOP)
S504	X	1354	28'-7"			SLAB TRANSVERSE REINF. (TOP & BOT.)
S505	X	43	17'-3"		△	SLAB TRANSVERSE REINF. (TOP & BOT.)
S506	X	41	16'-11"		△	SLAB TRANSVERSE REINF. (TOP & BOT.)
S507	X	39	16'-5"		△	SLAB TRANSVERSE REINF. (TOP & BOT.)
S508	X	41	16'-5"		△	SLAB TRANSVERSE REINF. (TOP & BOT.)
S409	X	152	4'-0"	X		DIAPH.-STIRRUP-VERT.
S510	X	678	4'-5"	X		PARAPET VERTICAL
S511	X	678	5'-0"	X		PARAPET VERTICAL
S512	X	48	57'-11"			PARAPET HORIZONTAL
S413	X	42	36'-5"			HAUNCH LONGITUDINAL REINF.
S414	X	20	9'-0"			DIAPH.-HORIZONTAL
S415	X	4	7'-0"			DIAPH.-HORIZONTAL
S416	X	20	9'-0"			EXPANSION DEVICE- HORIZ. BETWEEN GIRDERS
S417	X	4	7'-0"			EXPANSION DEVICE- HORIZ. BETWEEN GIRDERS
S418	X	947	3'-11"	X		HAUNCH VERTICAL REINF.
S619	X	50	9'-0"			DIAPH.-HORIZONTAL
S620	X	10	7'-0"			DIAPH.-HORIZONTAL

△ LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR AVERAGE WEIGHT CALCULATION. SEE BAR SERIES TABLE FOR ACTUAL HEIGHTS.

BAR SERIES

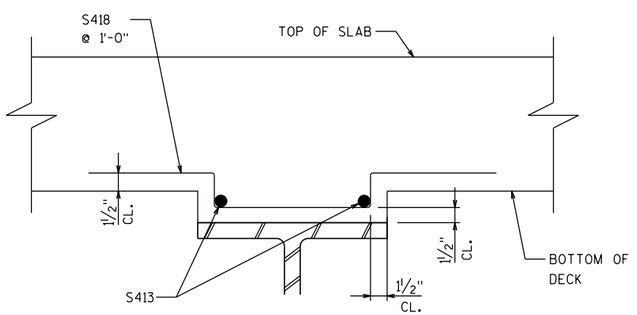
BAR MARK	NO. REQ'D	LENGTH
S505	1 SERIES OF 43	5'-9" TO 28'-9"
S506	1 SERIES OF 41	6'-0 TO 27'-10"
S507	1 SERIES OF 39	6'-0" TO 26'-10"
S508	1 SERIES OF 41	5'-10" TO 27'-8"

*BUNDLE AND TAG EACH SERIES SEPARATELY.

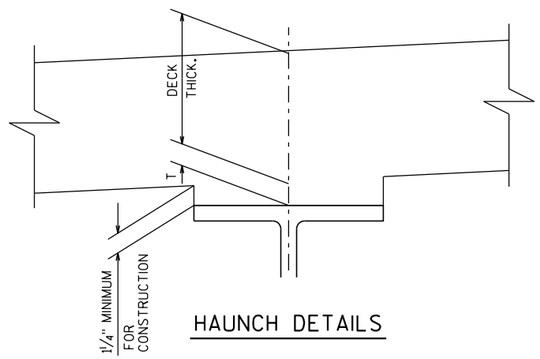


S503 S409 S511 S510 S418

BENDING DIAGRAMS



HAUNCH DETAILS



HAUNCH DETAILS

NOTES

"T" HAUNCH HEIGHT AT CENTERLINE OF GIRDER.

DETERMINE "T" AFTER ALL STRUCTURAL STEEL HAS BEEN ERECTED.

ELEVATIONS OF THE TOP FLANGES SHALL BE AT CENTERLINE OF BEARINGS AND AT 0.1 POINTS.

TOP OF DECK ELEV. AT FINAL GRADE

\- TOP OF STEEL ELEV. AFTER ERECTION

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

\- SLAB THICKNESS

= "T" VALUE FOR SETTING HAUNCH

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STATE OF WISCONSIN
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STRUCTURES DESIGN SECTION

STRUCTURE B-32-55

DRAWN BY NLD | PLANS CK'D. BNS

SUPERSTRUCTURE DETAILS

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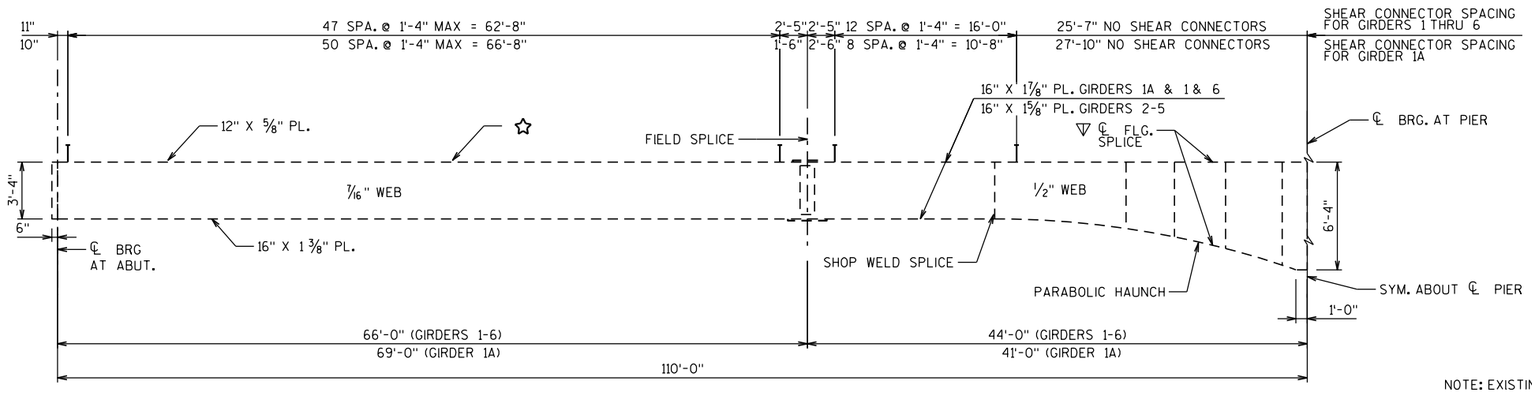
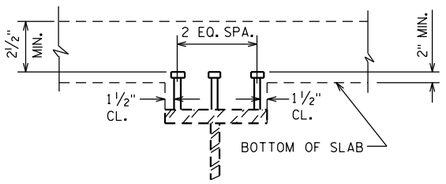


NOTE: EXISTING INTERMEDIATE DIAPHRAGMS NOT SHOWN.

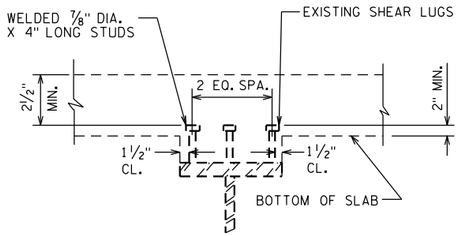
GIRDER ELEVATION

NOTE: USE THREE FIELD WELDED ⅞" DIA. STUDS EQUALLY SPACED WITH A MIN. OF 1½" CL. FROM THE FLANGE EDGE. STUDS SHALL NOT BE PLACED OVER FIELD SPLICE PLATES.

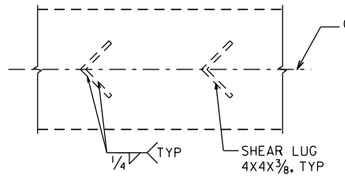


⊖ USE DIFFERENT LENGTH STUDS IF 2" MIN. CLEARANCE OR EXTENSION CRITERIA IS VIOLATED.

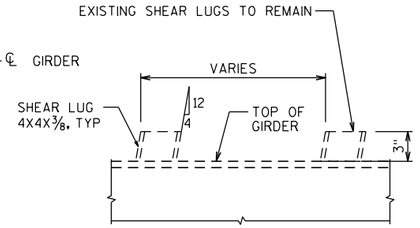
SHEAR CONN. DETAILS



EXISTING SHEAR LUG DETAIL GIRDER 1A



PLAN



ELEVATION

EXISTING SHEAR LUG DETAIL GIRDERS 1-6

	S. ABUT	0.1 PT.	0.2 PT.	0.3 PT.	0.4 PT.	0.5 PT.	0.6 PT.	0.7 PT.	0.8 PT.	0.9 PT.	PIER 1	0.1PT.	0.2 PT.	0.3 PT.	0.4 PT.	0.5 PT.	0.6 PT.	0.7 PT.	0.8 PT.	0.9 PT.	N. ABUT
DEAD LOAD DEFLECTION, INCH	0	0.8	1.5	1.8	1.9	1.7	1.3	0.8	0.3	0.1	0	0.8	1.5	1.8	1.9	1.7	1.3	0.8	0.3	0.1	0

STEEL GIRDER DEFLECTION DUE TO WEIGHT OF CONCRETE DECK AND PARAPET (INCHES)
DEFLECTION ARE THEORETICAL AND MAY VARY IN THE FIELD.

DEAD LOAD DEFLECTION DIAGRAM

LEGEND

☆ EXISTING SHEAR CONNECTORS TO REMAIN, NOT SHOWN FOR CLARITY. EXERCISE CARE NOT TO DAMAGE THE TOP FLANGES OF GIRDERS OR SHEAR CONNECTORS WITH JACKHAMMER OR OTHER TOOLS.

▽ A CERTIFIED WELD INSPECTOR SHALL INSPECT THESE WELDS ONCE DECK IS REMOVED. ITEM APPLIES TO GIRDERS 1-6. WORK SHALL BE COVERED UNDER THE BID ITEM, "WELD INSPECTION STRUCTURE B-32-55".

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DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-32-55

DRAWN BY DRJ | PLANS CK'D. BNS

GIRDER DETAILS

SHEET 11 OF 16

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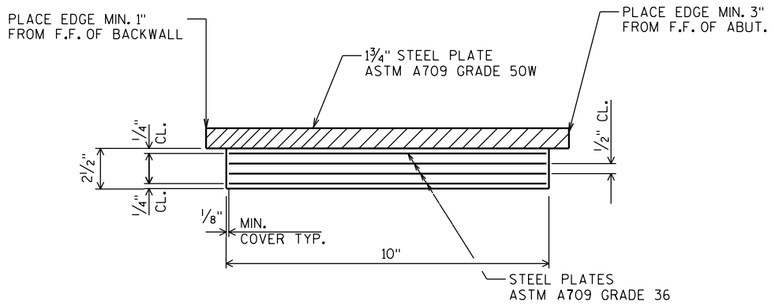
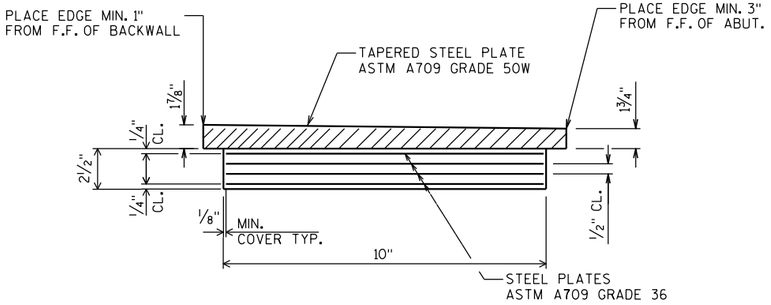


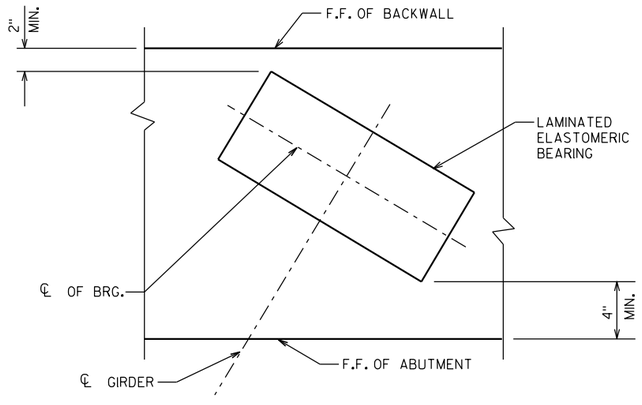
SECTION THRU ELASTOMERIC BEARING

NORTH ABUTMENT



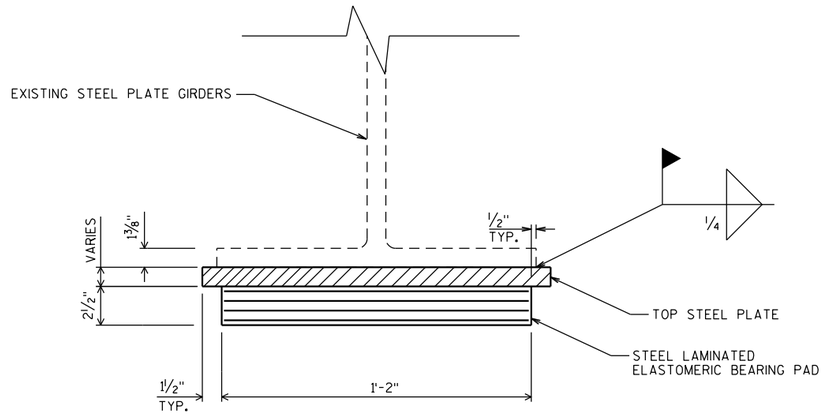
SECTION THRU ELASTOMERIC BEARING

SOUTH ABUTMENT

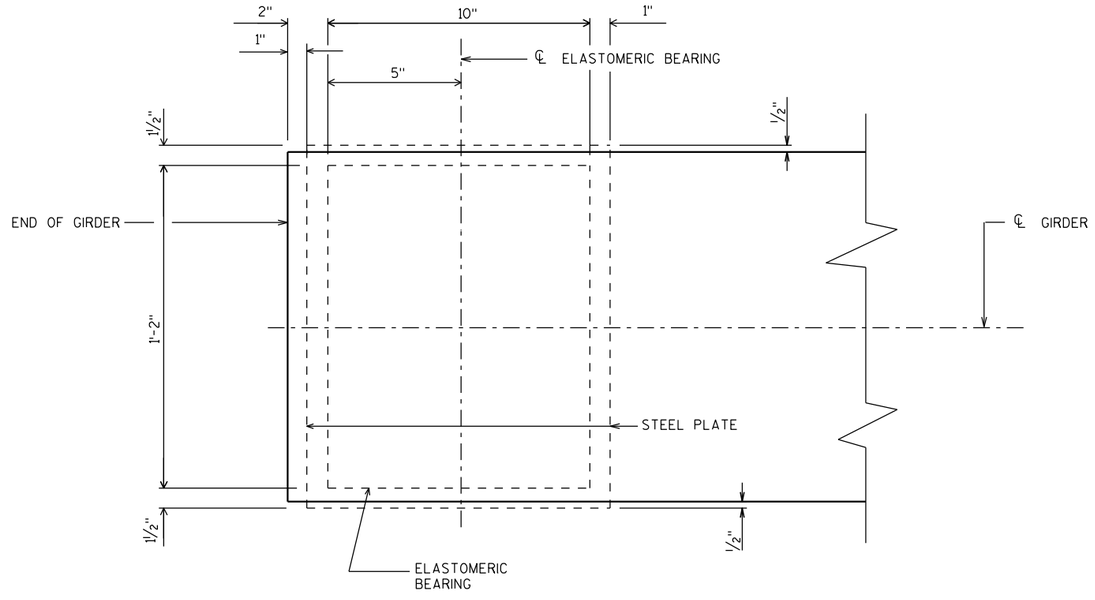


CLEARANCE DIAGRAM

AT SKEWED ABUTMENTS



END VIEW



PLAN VIEW

(TYP. ABUTMENT)

NOTES

ALL MATERIAL USED FOR BEARINGS SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "BEARING REPLACEMENT STRUCTURE B-32-55".

ON BEARING REPLACEMENTS, COMPRESSION LOAD AND ADHESION TESTS WILL BE WAIVED WHERE BEARINGS ARE DETAILED TO MEET HEIGHT REQUIREMENTS.

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

ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUTS.

ELASTOMER MATERIAL PROPERTIES SHALL CONFORM TO WISDOT STANDARD.

REMOVE EXISTING EXPANSION BEARINGS & EXISTING ANCHOR BOLTS FLUSH WITH CONCRETE BEARING SURFACE & GRIND SMOOTH.

PAINT TOP STEEL PLATE TO MATCH EXISTING COLOR USED ON GIRDERS. SEE GENERAL NOTES FOR FEDERAL COLOR NUMBER.

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NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-32-55

DRAWN BY DRJ | PLANS CK'D. BNS

BEARING REPLACEMENT DETAILS

SHEET 12 OF 16

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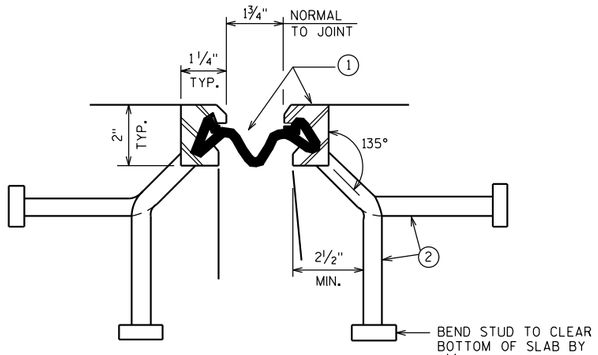
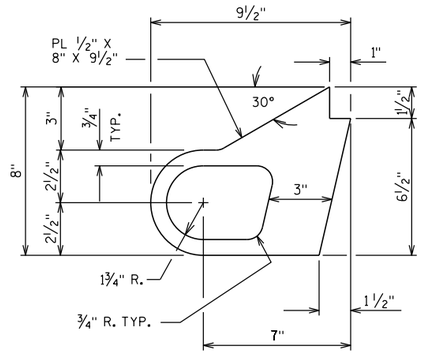


SECTION THRU JOINT

EXTERIOR GIRDER TO EDGE OF DECK & AT PARAPETS



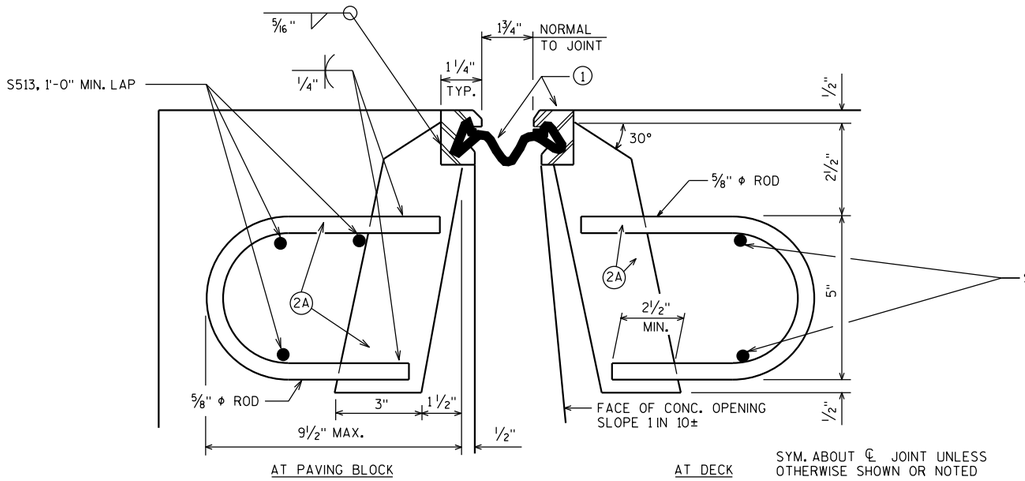
ALTERNATE STRIP SEAL ANCHOR

LEGEND

1. NEOPRENE STRIP STEAL (4 - INCH) & STEEL EXTRUSIONS. SET JOINT OPENING AT JOINT OPENING AT 1¾-INCH. MEASURED NORMAL TO ℄ OF ABUTMENTS.
2. STUDS ⅝" Φ x 6⅜" LONG AT 6" ALTERNATE CENTERS. WELD TO EXTRUSIONS & BEND AS SHOWN AFTER WELDING.

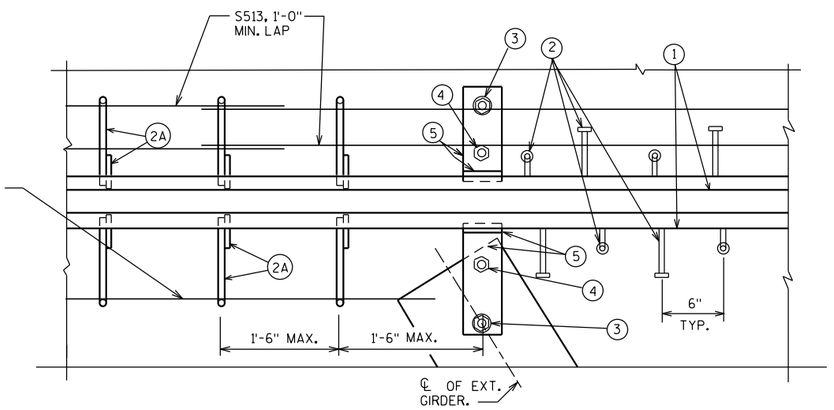
2A. ½" THICK ANCHOR PLATE WITH ⅝" Φ ROD (OR ALTERNATE STRIP SEAL ANCHOR). WELD ROD TO ANCHOR PLATE, WELD ANCHOR PL. TO NO. 1 AT 1'-6" CTRS. BETWEEN GIRDERS.

3. ¾" Φ THREADED ROD WITH 2 NUTS AND WASHERS. FOR STEEL GIRDERS WELD THREADED ROD TO TOP FLANGE OR ATTACH BY BOLTING THRU FLANGE. ON ABUTMENT SIDE GROUT THREADED ROD INTO FIELD DRILLED HOLES IN ABUTMENT BACKWALL AS SHOWN.
4. ¾" Φ THREADED ROD WITH NUT. TACK WELD NUT TO NO. 5.
5. FABRICATE SUPPORT FROM 3" x ½" BAR AS SHOWN OR EQUIVALENT. ONE PER GIRDER PER SIDE. SHOP OR FIELD WELD TO NO. 1. IF FIELD WELDED, COVER WELDED AREAS WITH EPOXY-COATING MATERIAL. PROVIDE 1½" Φ HOLE FOR NO. 3 & 1" Φ HOLE FOR NO. 4.
6. GALVANIZED PLATE ⅜" x 10½" x 2'-0".
7. ¾" Φ x 1½" STAINLESS STEEL SOCKET FLAT HEAD SCREWS WITH ANTI-SEIZE LUBRICANT. RECESS 1/16" BELOW PLATE SURFACE.
8. ¾" Φ x 4" GALVANIZED HEX HEAD BOLT. BEND 45°.
9. ¾" Φ x 2¼" GALVANIZED THREADED COUPLING.
10. 1" x 5" SLOTTED CSK. HOLE FOR NO. 7. PLACE SLOT PARALLEL TO DIRECTION OF MOVEMENT.



SECTION THRU JOINT

ROADWAY TRAFFIC AREA BETWEEN EXTERIOR GIRDERS.



PART PLAN

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-32-55

DRAWN BY DRJ | PLANS CK'D. BNS

EXPANSION JOINT

SHEET 13 OF 16
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STATE PROJECT NUMBER

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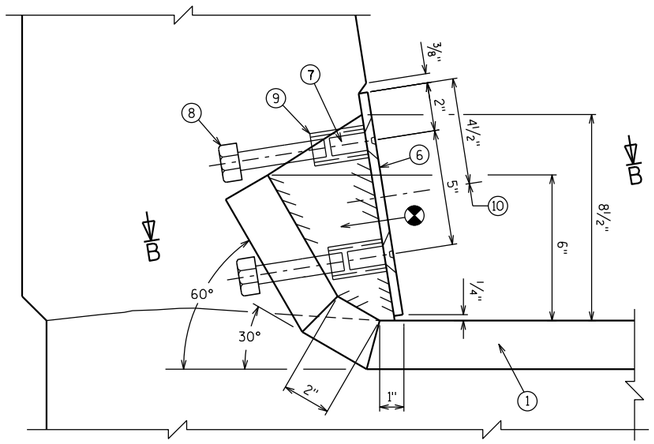
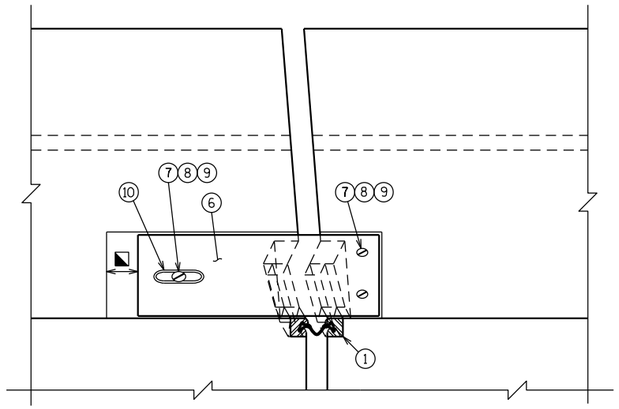


SECTION A-A



VIEW OF PARAPET PLATE FROM ROADWAY

NOTES

ONE FIELD SPLICE PERMITTED IN STEEL EXTRUSIONS. IF USED, DETAILS SHALL BE SUBMITTED FOR APPROVAL. NO SPLICING PERMITTED IN NEOPRENE STRIP SEAL.

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

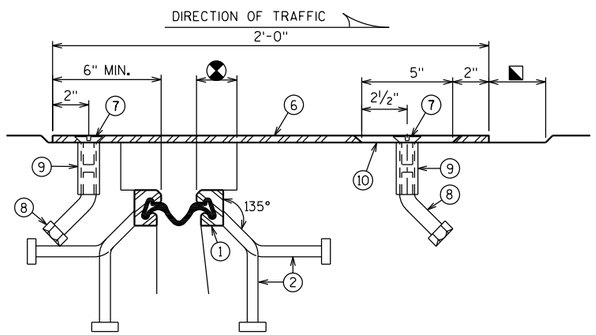
FABRICATOR SHALL PROVIDE MEANS OF KEEPING GALVANIZED EXTRUSIONS CLEAN & SMOOTH DURING SHIPMENT AND PRIOR TO APPLYING LUBRICANT ADHESIVE FOR NEOPRENE GLAND INSTALLATION.

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

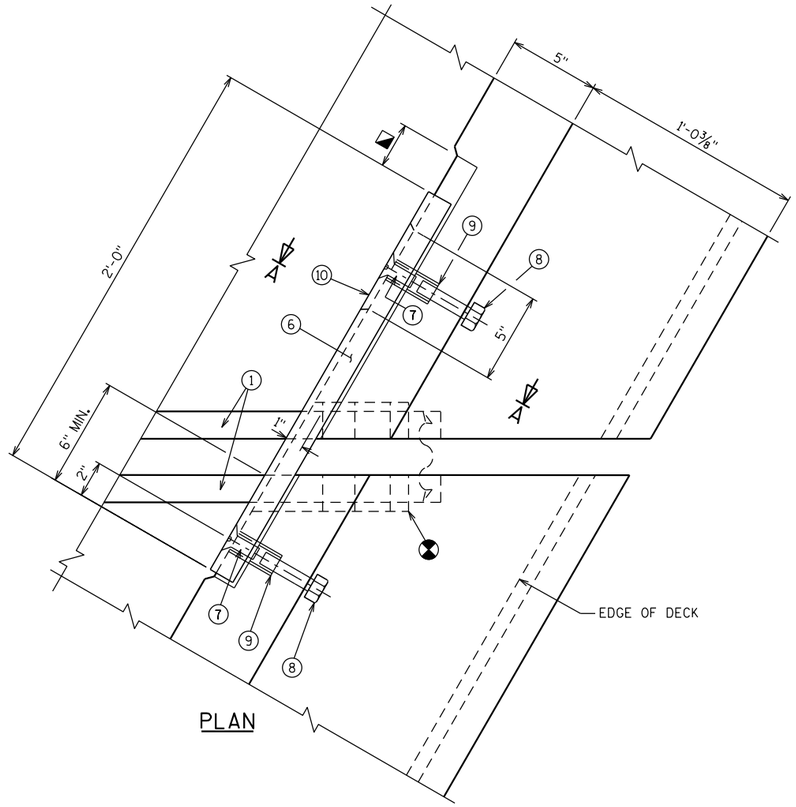
ANCHOR SYSTEM NO. 8 & NO. 9 SHALL CONFORM TO ASTM A307 & SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C & D.

STRIP SEAL EXPANSION JOINT ASSEMBLY, INCLUDING PARAPET PLATES, ANCHOR STUDS, & HARDWARE, CONNECTIONS AND FIELD DRILLING, WILL BE PAID FOR AT THE LUMP SUM PRICE BID FOR "EXPANSION DEVICE, B-32-55".

REFER TO SHEET 13 FOR LEGEND.



SECTION B-B



PLAN

LEGEND

⊗ BLOCK OUT CONCRETE 2" EACH SIDE FOR JOINT OPENING

◪ JOINT OPENING DIM. ALONG SKEW PLUS 1/2"

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-32-55

DRAWN BY DRJ | PLANS CK'D. BNS

EXPANSION JOINT DETAILS 1

SHEET 14 OF 16

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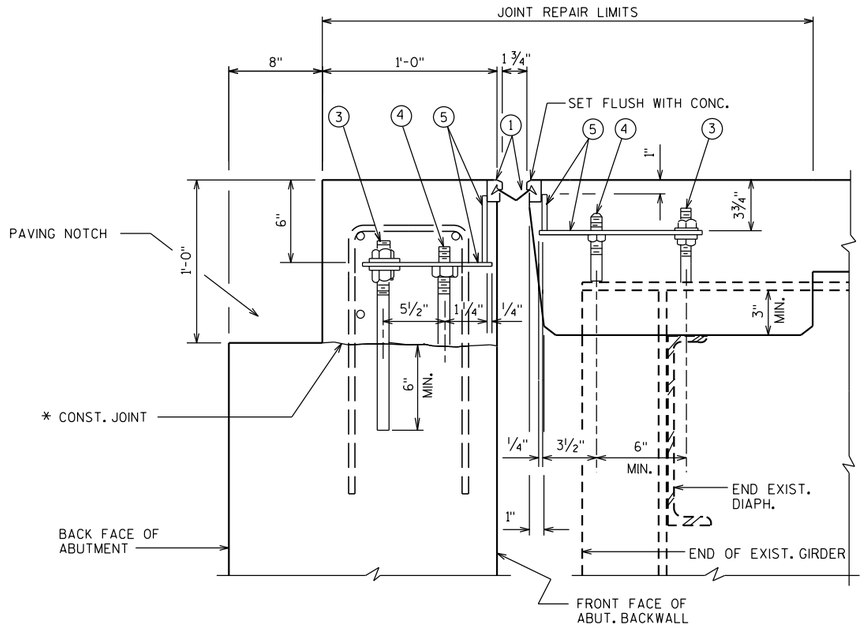
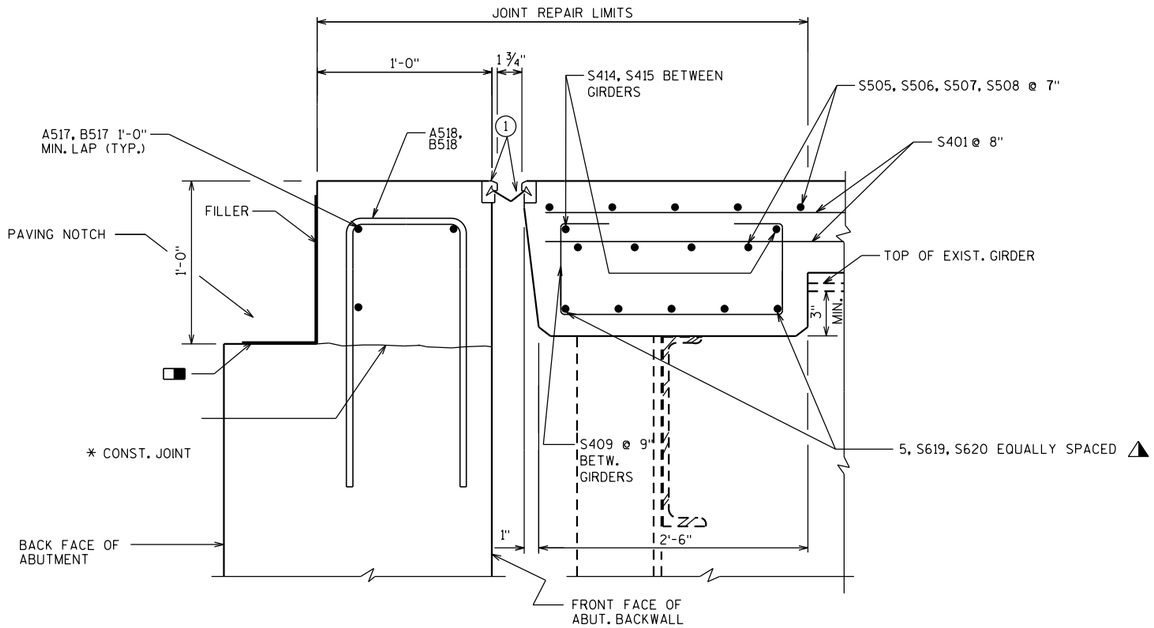


TYPICAL SECTION THRU JOINT AT ABUTMENT

NORMAL TO ℄ EXPANSION JOINT



TYPICAL SECTION THRU PAVING BLOCK AT ABUTMENT

NORMAL TO ℄ EXPANSION JOINT

* POUR CONCRETE ABOVE THIS JOINT AFTER SUPERSTRUCTURE IS IN PLACE. STRIKE OFF AND LEAVE ROUGH.

8

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LEGEND

(X) REFER TO LEGEND ON SHEET 13

PARALLEL TO ℄ OF GIRDER

18" RUBBERIZED MEMBRANE WATERPROOFING

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-32-55

DRAWN BY	DRJ	PLANS CK'D.	BNS

EXPANSION JOINT DETAILS 2

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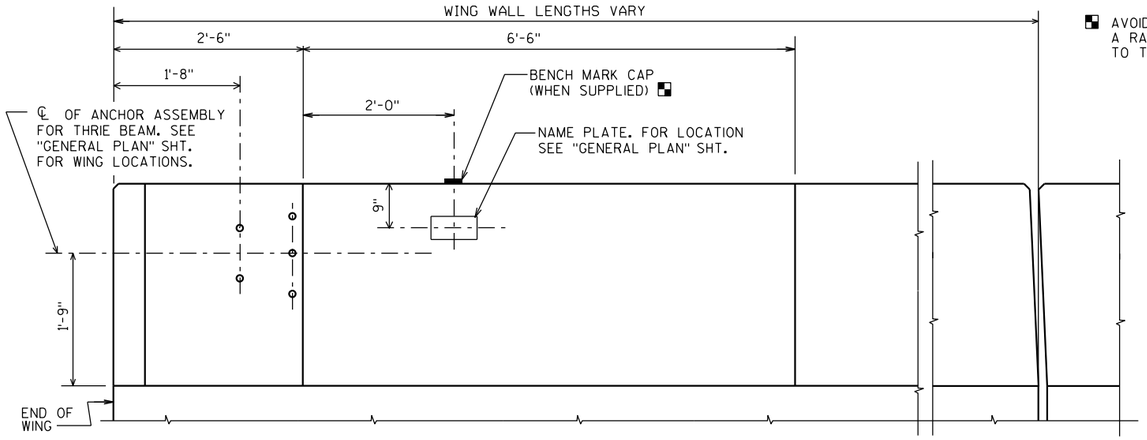
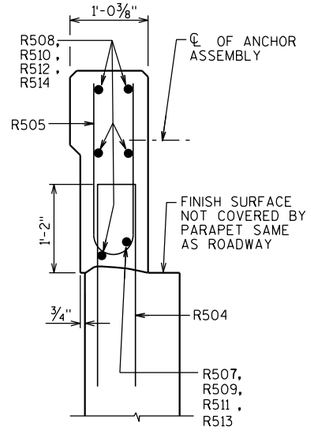
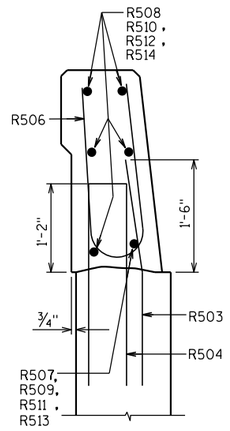


INSIDE ELEVATION

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



SECTION A-A

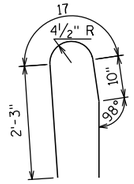


SECTION B-B

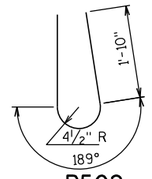
BILL OF BARS

FOR ABUTMENT PARAPETS

BAR MARK	COAT	S. ABUT.	N. ABUT.	LENGTH	BENT	BAR SERIES	LOCATION
R501	X	27	27	5'-10"	X		PARAPET VERT.
R502	X	27	27	5'-0"	X		PARAPET VERT.
R503	X	24	24	3'-0"	X		PARAPET VERT.
R504	X	34	34	5'-7"	X		PARAPET VERT.
R505	X	22	22	4'-9"	X	⚠	PARAPET VERT.
R506	X	12	12	4'-10"	X	⚠	PARAPET VERT.
R507	X	1		17'-10"	X		PARAPET HORIZ. - WINGWALL 1
R508	X	5		17'-5"			PARAPET HORIZ. - WINGWALL 1
R509	X	1		17'-1"	X		PARAPET HORIZ. - WINGWALL 2
R510	X	5		16'-8"			PARAPET HORIZ. - WINGWALL 2
R511	X		1	17'-8"	X		PARAPET HORIZ. - WINGWALL 3
R512	X		5	17'-3"			PARAPET HORIZ. - WINGWALL 3
R513	X		1	16'-10"			PARAPET HORIZ. - WINGWALL 4
R514	X		5	16'-5"			PARAPET HORIZ. - WINGWALL 4



R501



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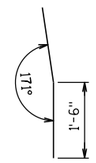
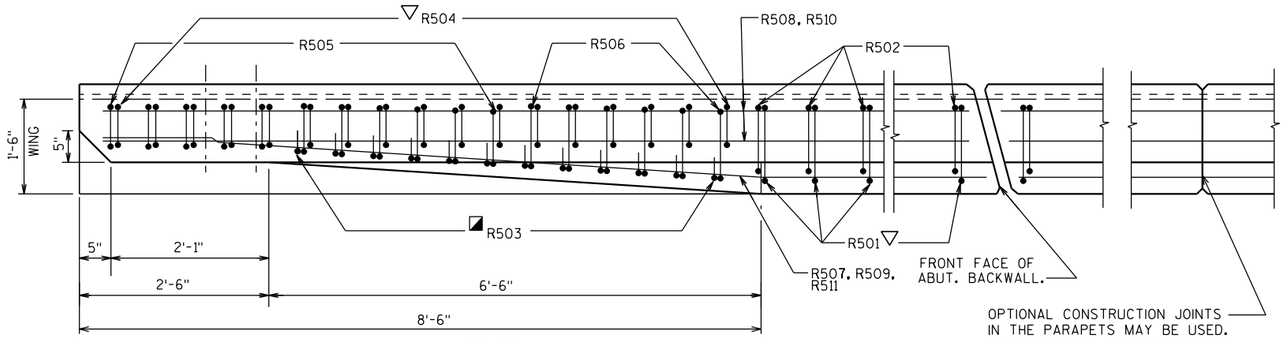
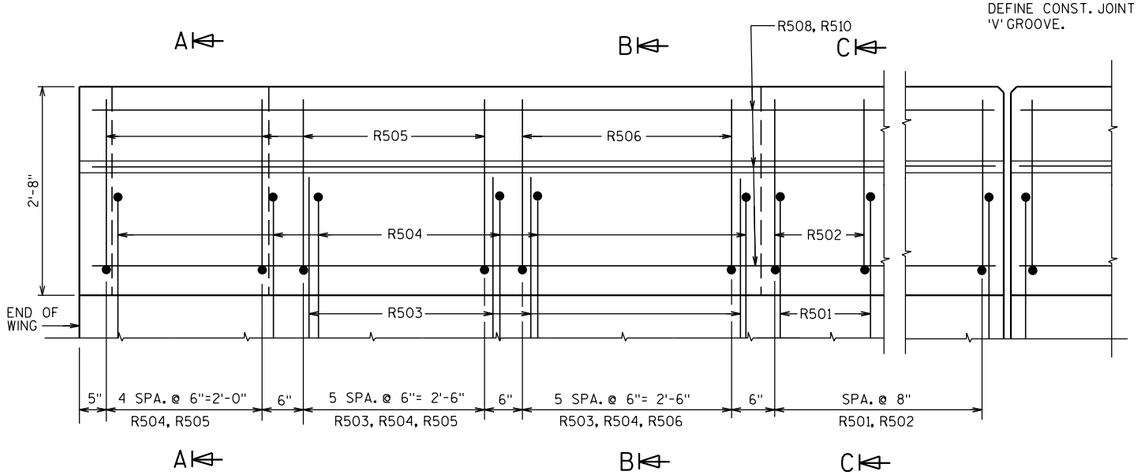


R503

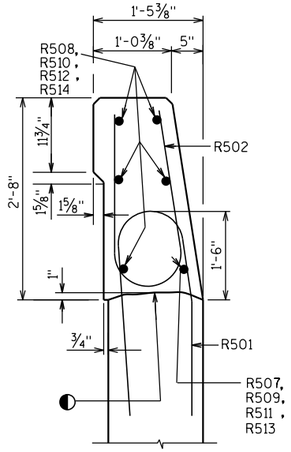


PLAN

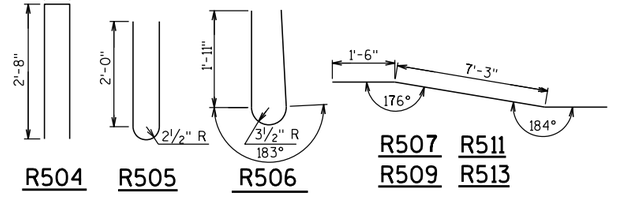
OPTIONAL CONSTRUCTION JOINTS IN THE PARAPETS MAY BE USED. RUN BAR REINF. THRU THE JOINT. LAP LONGIT. BARS A MIN. OF 1'-9". MIN. JOINT SPACING OF 80'-0". DEFINE CONST. JOINT WITH A 3/4" - 'V' GROOVE.



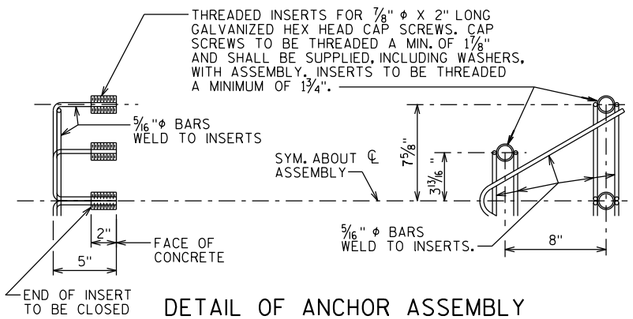
OUTSIDE ELEVATION



SECTION C-C



R504 R505 R506 R507 R509 R511 R513



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.

BAR SERIES TABLE

BAR MARK	NO. REQUIRED	LENGTH
R505	4 SERIES OF 11	4'-8" TO 4'-10"
R506	4 SERIES OF 6	4'-10" TO 4'-11"

⚠ LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR LENGTH CALCULATIONS. SEE BAR SERIES FOR ACTUAL LENGTHS. BUNDLE AND TAG EACH SERIES SEPARATELY.

◐ CONST. JOINT - STRIKE OFF AS SHOWN.

◪ R503 BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. USE CARE TO PLACE R503 BARS CORRECTLY ALONG TRANSITION OF PARAPET.

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

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-32-55

DRAWN BY DRJ | PLANS CK'D. BNS

SINGLE SLOPE PARAPET 32SS

SHEET 16 OF 16
167

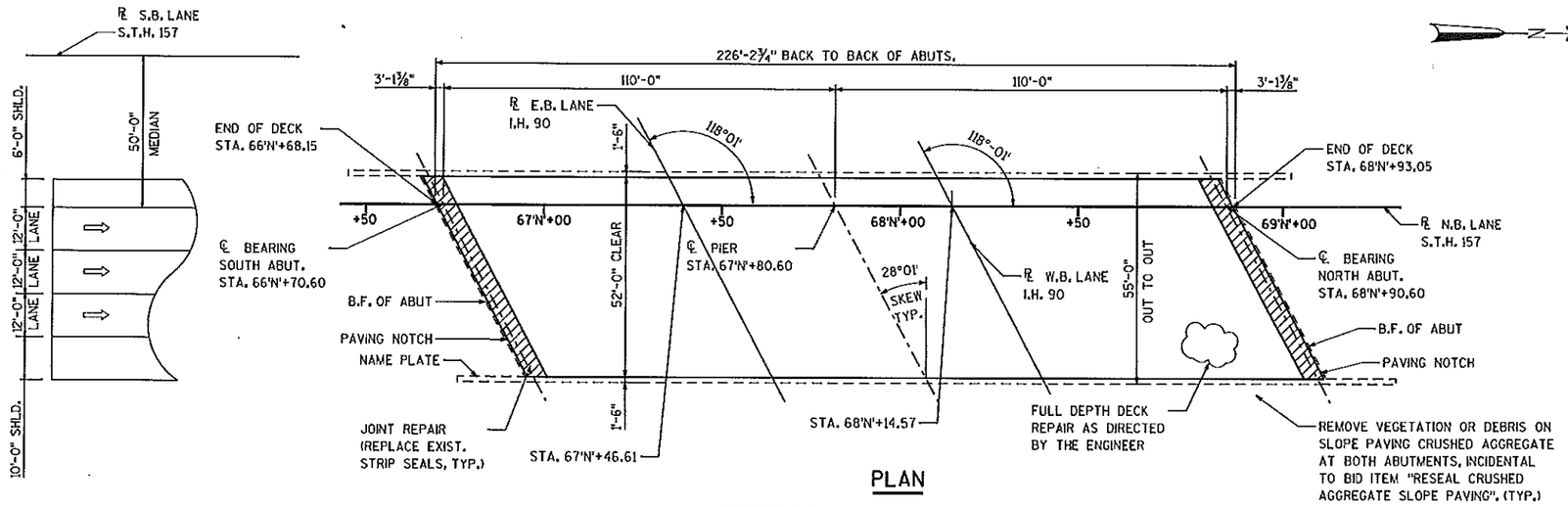
8

8

STATE PROJECT NUMBER
1071-06-65

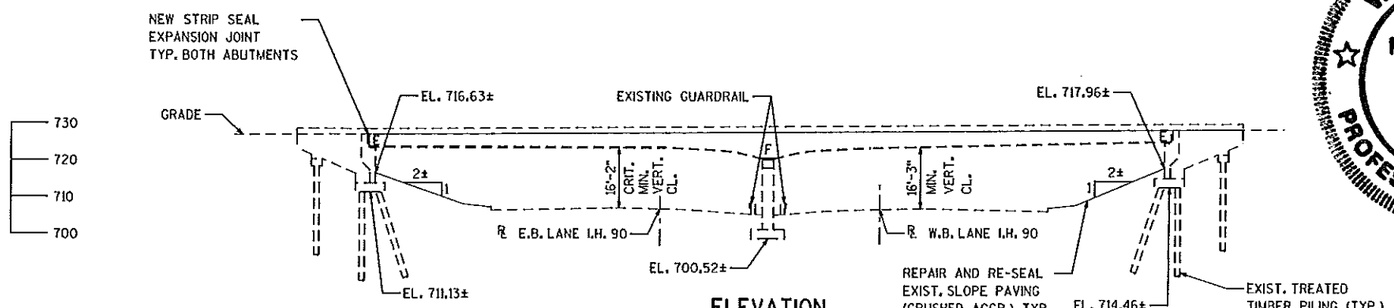
BENCH MARK

NO.	STATION	DESCRIPTION	ELEV.
BM. 1	66'N'+70.00 OFF. 450' RT	REBAR W/ CAP	712.49



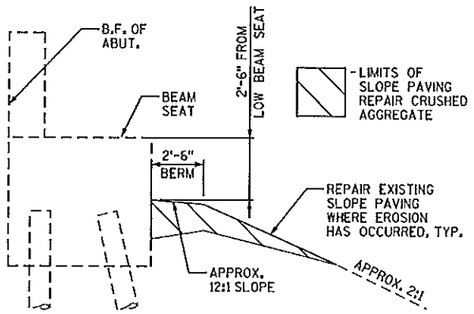
PLAN

CONCRETE OVERLAY OF 2 SPAN CONTINUOUS STEEL BEAMS

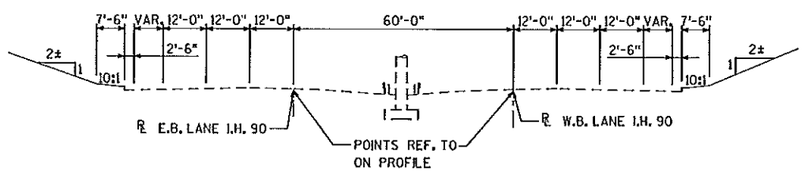


ELEVATION

NORMAL TO I.H. 90



SLOPE PAVING AT ABUTMENTS (TYP.)



TYPICAL SECTION THRU I.H. 90

DESIGN DATA

LIVE LOAD:
DESIGN RATING = HS-20
INVETORY RATING = HS-23
OPERATING RATING = HS-38
WIS. MAX. STD. PERMIT VEHICLE LOAD = 230 KIPS

ULTIMATE DESIGN STRESSES (NEW WORK):
CONCRETE MASONRY, DECK----------f'c = 4,000 psi
HIGH STRENGTH BAR STEEL
REINFORCEMENT GRADE 60----------fy = 60,000 psi

TRAFFIC DATA S.T.H. 157

A.D.T. = 30,800 (2016)
= 38,600 (2036)

R.D.S. = 50 MPH

% TRUCKS = 8.6%

TRAFFIC DATA I.H. 90 EB

A.D.T. = 43,700 (2016)
= 56,700 (2036)

R.D.S. = 70 MPH

TRAFFIC DATA I.H. 90 WB

A.D.T. = 36,100 (2016)
= 46,800 (2036)

R.D.S. = 70 MPH

WISCONSIN
MAHMOUD N. MALAS
E-27922
MILWAUKEE, WI
PROFESSIONAL ENGINEER

11/1/12

LIST OF DRAWINGS

1. GENERAL PLAN
2. CROSS SECTION AND QUANTITIES
3. EXPANSION JOINT
4. EXPANSION JOINT DETAILS 2
5. EXPANSION JOINT DETAILS 3

STRUCTURES DESIGN CONTACTS

BUREAU OF STRUCTURES:
WILLIAM DREHER (608) 266-8489

CONSULTANT CONTACT:
MAHMOUD MALAS (262) 821-1171, EXT. 119

NO.	DATE	REVISION	BY

KSA K. Singh & Associates, Inc.
Engineers, Scientists and Enviromental Management Consultants

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
ACCEPTED William C. Dreher KAR 01/18/13
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-32-56

STH 157 OVER I-90

COUNTY LA CROSSE
~~TOWN~~/CITY/VILLAGE ONALASKA

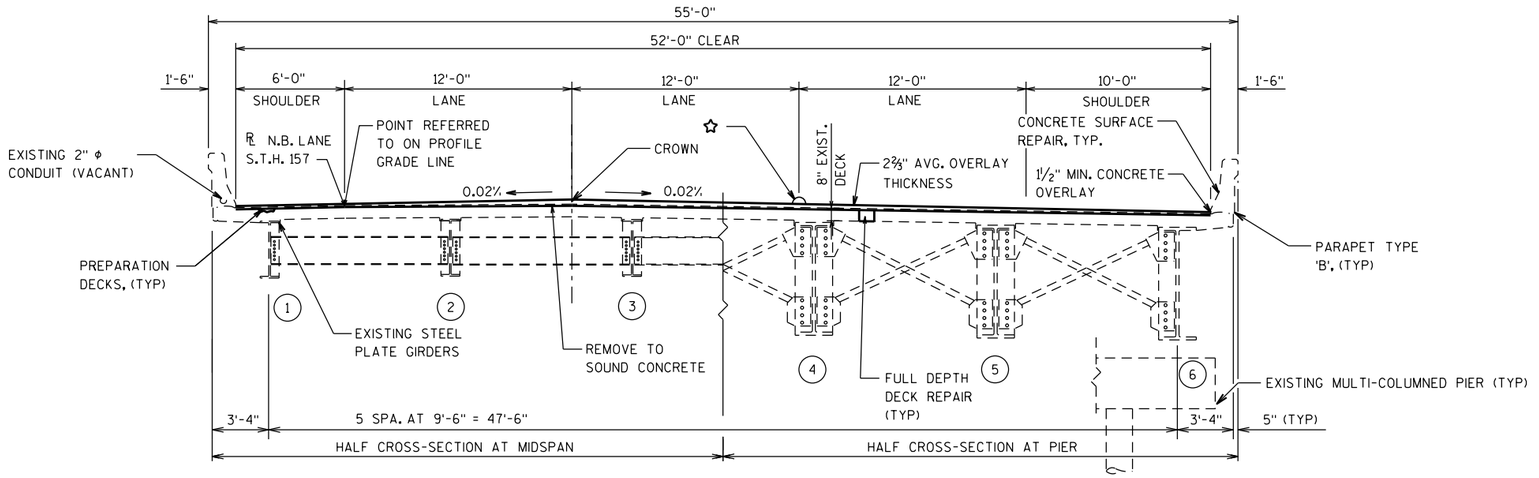
DESIGN SPEC. REHABILITATION N/A

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
DRJ	MNM	DRJ	MNM

GENERAL PLAN

SHEET 1 OF 5

STATE PROJECT NUMBER
1071-06-65

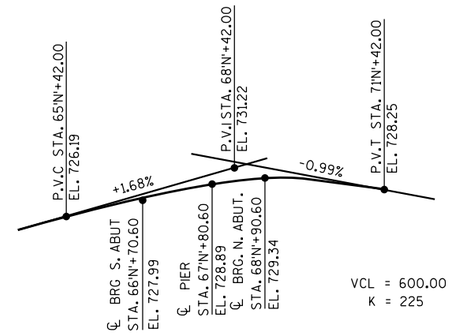


PROPOSED CROSS SECTION

(LOOKING NORTH)

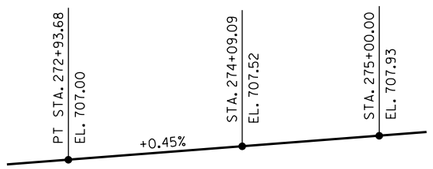
TOTAL ESTIMATED QUANTITIES

	NO.	BID ITEMS	UNIT	TOTAL
	203.0225.S.02	DEBRIS CONTAINMENT STRUCTURE, B-32-56	LS	1
	502.3100	EXPANSION DEVICE, B-32-56	LS	1
	502.3200	PROTECTIVE SURFACE TREATMENT	SY	1,520
	502.5005	MASONRY ANCHORS TYPE L NO. 5 BARS	EACH	124
	505.0605	BAR STEEL REINFORCEMENT HS COATED BRIDGES	LB	4,360
	509.0301	PREPARATION DECKS TYPE 1	SY	62
	509.0302	PREPARATION DECKS TYPE 2	SY	25
	509.0500	CLEANING DECKS	SY	625
	509.1000	JOINT REPAIR	SY	50
◑	509.1500	CONCRETE SURFACE REPAIR	SF	40
	509.2000	FULL DEPTH DECK REPAIR	SY	5
	509.2500	CONCRETE MASONRY OVERLAY DECKS, B-32-56	CY	142
	509.9020.S.02	CRACK SEALING EPOXY	LF	100
	516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	20
◪	517.3000.S.02	STRUCTURE OVERCOATING CLEANING AND PRIMING, B-32-56	LS	1
	517.4000.S.02	CONTAINMENT AND COLLECTION OF WASTE MATERIALS STRUCTURE, B-32-56	LS	1
	604.9010.S.02	SLOPE PAVING REPAIR CRUSHED AGGREGATE	CY	24
	604.9015.S.02	RESEAL CRUSHED AGGREGATE SLOPE PAVING	SY	390
◭	SPV.0180.02	PIGMENTED CONCRETE SURFACE TREATMENT	SY	135
		NON BID ITEMS		
		PREFORMED JOINT FILLER	SIZE	½", 1½"



PROFILE GRADE LINE N.B. LANE S.T.H. 157

(PROPOSED)



PROFILE GRADE LINE W.B. I.H. 90

(EXISTING)

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS.

ALL DIMENSIONS AND DETAILS SHOWN ON THESE PLANS PERTINENT TO THE PROPOSED CONSTRUCTION SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO THE START OF CONSTRUCTION.

TOP OF EXISTING DECK ELEVATIONS SHALL BE DETERMINED FROM A FIELD SURVEY AT LOCATIONS DEEMED NECESSARY FOR ESTABLISHING OVERLAY THICKNESS.

A MINIMUM OF 1" OF CONCRETE SHALL BE REMOVED FROM THE ENTIRE BRIDGE DECK UNDER THE BID ITEM "CLEANING DECKS".

PROFILE GRADE LINE SHALL BE DETERMINED BASED ON A MINIMUM OVERLAY THICKNESS OF 1½" PLACED ABOVE THE DECK SURFACE AFTER CLEANING. EXPECTED AVERAGE OVERLAY THICKNESS IS 2⅔". THE CROSS-SLOPE WILL CHANGE FROM 0.015% TO 0.02% WHICH WILL CAUSE THE VARIATION IN OVERLAY THICKNESS. IF EXPECTED AVERAGE OVERLAY THICKNESS IS EXCEEDED BY MORE THAN ¼", CONTACT THE DESIGN ENGINEER.

STRUCTURAL STEEL SHALL BE PAINTED LIGHT GRAY (FEDERAL COLOR NUMBER 26293). OBTAIN ENGINEER APPROVAL PRIOR TO APPLICATION.

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

ANY EXCAVATION REQUIRED TO COMPLETE THE OVERLAY OR PAVING BLOCK AT ABUTMENTS IS INCIDENTAL TO THE BID ITEM, "CONCRETE MASONRY OVERLAY DECKS".

ALL CONCRETE REMOVAL NOT COVERED WITH A CONCRETE OVERLAY SHALL BE DEFINED BY A 1" DEEP SAW CUT.

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

EXISTING LONGITUDINAL AND TRANSVERSE CRACKS SHALL BE CLEANED AND FILLED WITH PENETRATING EPOXY AS DIRECTED BY THE FIELD ENGINEER. PRODUCTS USED SHALL BE FROM THE WISDOT APPROVED LIST. MATERIAL, EQUIPMENT, AND LABOR NECESSARY TO COMPLETE THIS WORK IS INCIDENTIAL TO THE BID ITEM "CONCRETE MASONRY OVERLAY, DECKS".

IF A NEW NAME PLATE IS REQUIRED, THE ORIGINAL CONSTRUCTION YEAR IS 1984.

ALL PREVIOUS PATCHES SHALL BE REMOVED UNDER THE BID ITEM "PREPARATION DECKS".

PROTECTIVE SURFACE TREATMENT IS TO BE APPLIED TO THE TOP OF DECK AND THE INSIDE FACES AND TOPS OF PARAPETS PER MANUFACTURER'S RECOMMENDATIONS.

PREPARATION DECKS, CONCRETE SURFACE REPAIR, AND FULL DEPTH DECK REPAIR SHALL BE AS DETERMINED BY THE ENGINEER IN THE FIELD.

LOCATIONS OF SLOPE PAVING REPAIR WILL BE DETERMINED BY THE ENGINEER IN FIELD. RE-SEAL ALL SLOPE PAVING FOR BOTH ABUTMENTS.

ALL EXPOSED CONCRETE EDGES SHALL HAVE ¾" CHAMFER UNLESS OTHERWISE NOTED.

◑ CONCRETE SURFACE REPAIR AS DIRECTED BY THE FIELD ENGINEER. QUANTITIES SHOWN ON THE PLANS ARE APPROXIMATE.

☆ REMOVE RAISED PAVEMENT MARKINGS PRIOR TO CLEANING DECKS. WORK IS INCIDENTAL TO ITEM "CLEANING DECKS", (TYP).

◪ CLEAN AND PAINT FIRST 5 FEET OF GIRDERS ON BOTH ENDS AND BOTH END DIAPHRAGMS. ALSO CLEAN AND PAINT ALL EXISTING BEARINGS.

◭ PAINT VERTICAL ABUTMENT SURFACES GRAY OR MATCH TO EXISTING COLOR.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-32-56

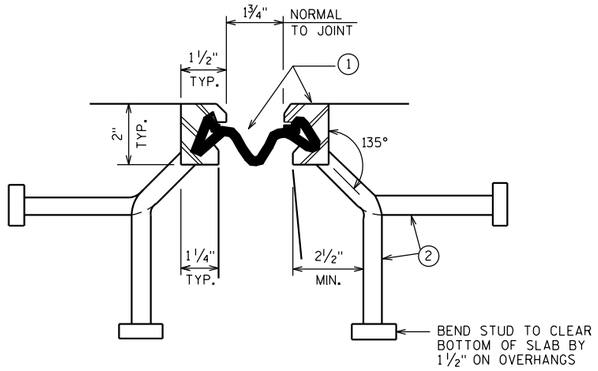
DRAWN BY DRJ | PLANS CK'D. BNS

CROSS SECTION & QUANTITIES

8

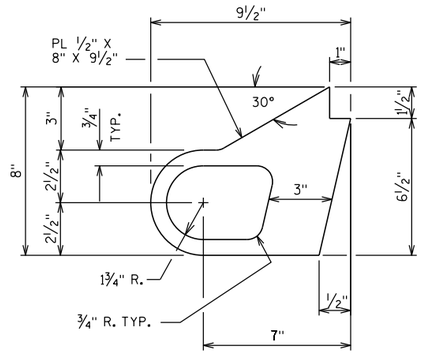
8

STATE PROJECT NUMBER
1071-06-65



SECTION THRU JOINT

EXTERIOR GIRDER TO EDGE OF DECK & AT PARAPETS



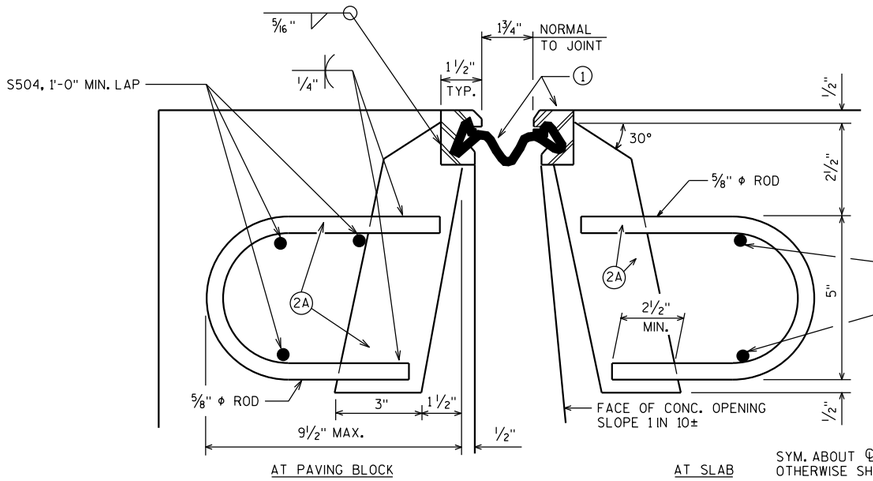
ALTERNATE STRIP SEAL ANCHOR

LEGEND

1. NEOPRENE STRIP STEAL (4 - INCH) & STEEL EXTRUSIONS. SET JOINT OPENING AT JOINT OPENING AT 1¾-INCH. MEASURED NORMAL TO ℄ OF ABUTMENTS.
2. STUDS ⅝" Φ x 6⅜" LONG AT 6" ALTERNATE CENTERS. WELD TO EXTRUSIONS & BEND AS SHOWN AFTER WELDING.

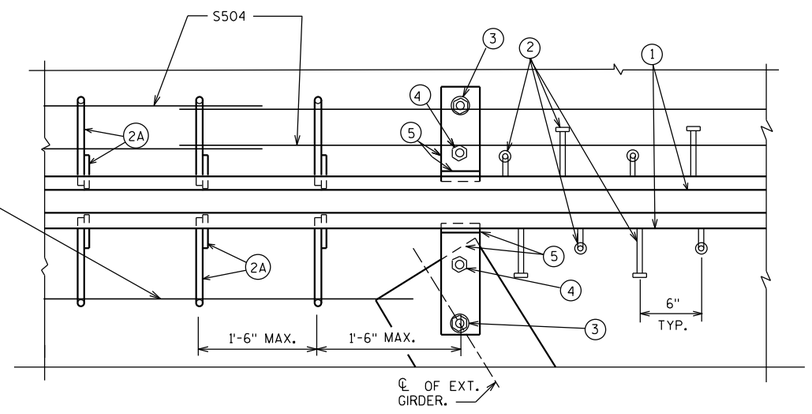
2A. ½" THICK ANCHOR PLATE WITH ⅝" Φ ROD (OR ALTERNATE STRIP SEAL ANCHOR). WELD ROD TO ANCHOR PLATE, WELD ANCHOR PL. TO NO. 1 AT 1'-6" CTRS. BETWEEN GIRDERS.

3. ¾" Φ THREADED ROD WITH 2 NUTS AND WASHERS. FOR STEEL GIRDERS WELD THREADED ROD TO TOP FLANGE OR ATTACH BY BOLTING THRU FLANGE. ON ABUTMENT SIDE GROUT THREADED ROD INTO FIELD DRILLED HOLES IN ABUTMENT BACKWALL AS SHOWN.
4. ¾" Φ THREADED ROD WITH NUT. TACK WELD NUT TO NO. 5.
5. FABRICATE SUPPORT FROM 3" x ½" BAR AS SHOWN OR EQUIVALENT. ONE PER GIRDER PER SIDE. SHOP OR FIELD WELD TO NO. 1. IF FIELD WELDED, COVER WELDED AREAS WITH EPOXY-COATING MATERIAL. PROVIDE 1 ½" Φ HOLE FOR NO. 3 & 1" Φ HOLE FOR NO. 4.
6. GALVANIZED PLATE ⅜" x 10½" x 2'-0".
7. ¾" Φ x 1 ½" STAINLESS STEEL SOCKET FLAT HEAD SCREWS WITH ANTI-SEIZE LUBRICANT. RECESS 1/16" BELOW PLATE SURFACE.
8. ¾" Φ x 4" GALVANIZED HEX HEAD BOLT. BEND 45°.
9. ¾" Φ x 2¼" GALVANIZED THREADED COUPLING.
10. 1" x 5" SLOTTED CSK. HOLE FOR NO. 7. SLOT PARALLEL TO DIRECTION OF MOVEMENT.



SECTION THRU JOINT

ROADWAY TRAFFIC AREA BETWEEN EXTERIOR GIRDERS.



PART PLAN

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-32-56

DRAWN BY	DRJ	PLANS CK'D.	BNS

EXPANSION JOINT

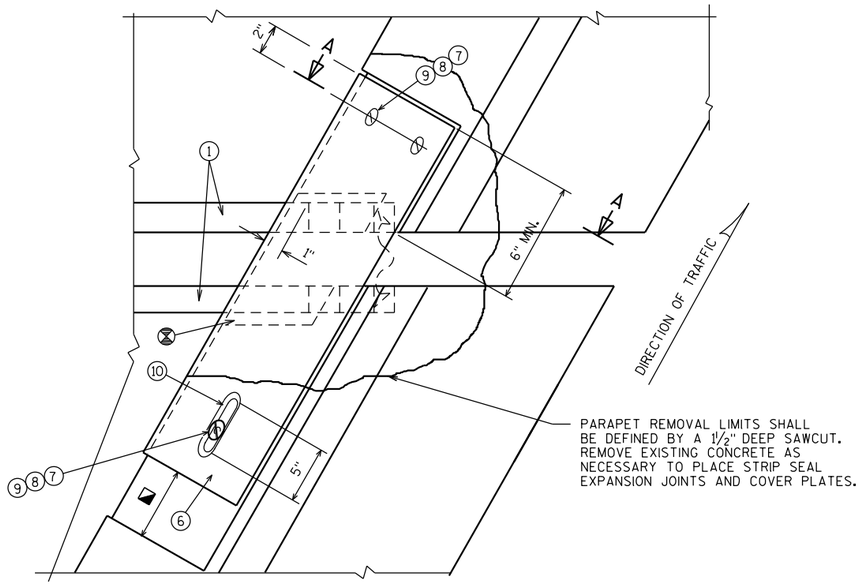
SHEET 3 OF 5
170

8

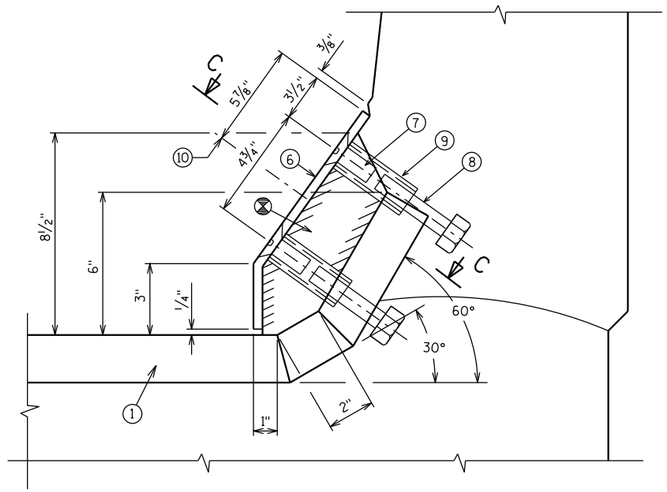
8

STATE PROJECT NUMBER

1071-06-65



PLAN



SECTION A-A

NOTES

ONE FIELD SPLICE PERMITTED IN STEEL EXTRUSIONS. IF USED, DETAILS SHALL BE SUBMITTED FOR APPROVAL. NO SPLICING PERMITTED IN NEOPRENE STRIP SEAL.

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

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

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

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

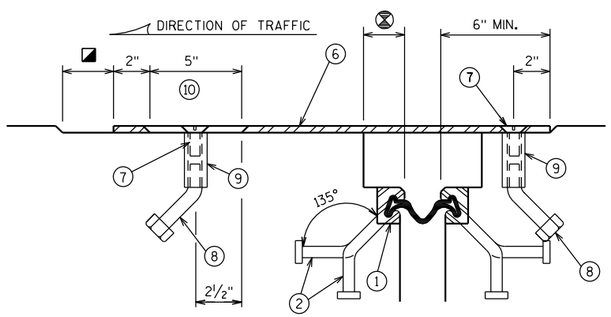
SALVAGE AND REUSE EXISTING BAR STEEL REINFORCEMENT WHERE POSSIBLE AND BEND INTO NEW WORK.

STRIP SEAL EXPANSION JOINT ASSEMBLY, INCLUDING PARAPET PLATES, ANCHOR STUDS, & HARDWARE, CONNECTIONS AND FIELD DRILLING, WILL BE PAID FOR AT THE LUMP SUM PRICE BID FOR "EXPANSION DEVICE, B-32-56".

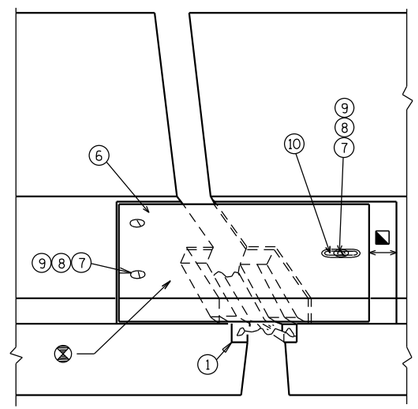
REMOVE EXISTING PARAPET, PLATES, AND WING TO 1½" BELOW NEW STEEL EXTRUSION. INSTALL NEW PLATES TO MATCH EXISTING PARAPET.

ALL NEW TRANSVERSE STEEL SHALL BE PLACED PARALLEL TO THE JOINT.

REFER TO SHEET 3 FOR LEGEND.



SECTION C-C



VIEW OF PARAPET PLATES FROM ROADWAY

LEGEND

- BLOCK OUT CONCRETE 2" EACH SIDE FOR JOINT OPENING
- JOINT OPENING DIM. ALONG SKEW PLUS ½"

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-32-56

DRAWN BY DRJ | PLANS CK'D. BNS

EXPANSION JOINT DETAILS 2

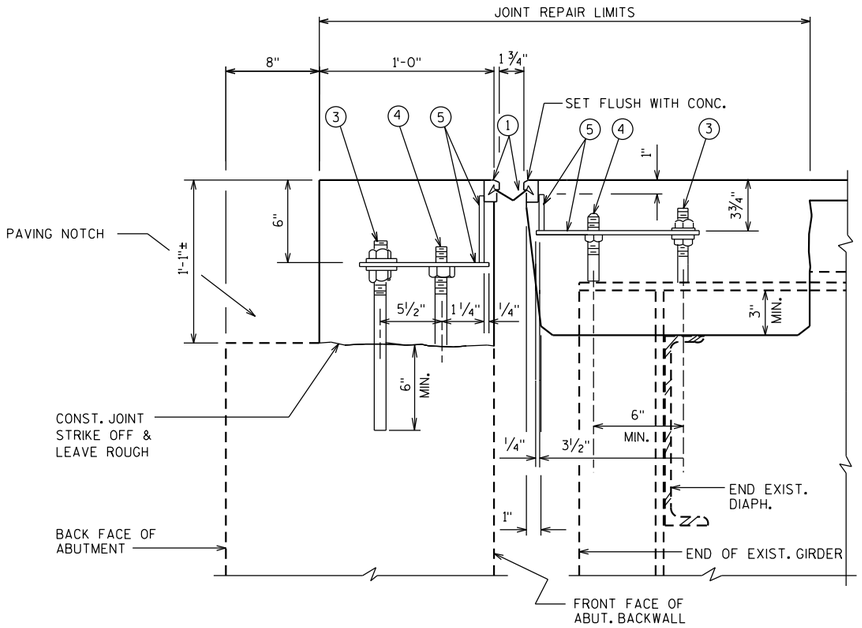
SHEET 4 OF 5

8

8

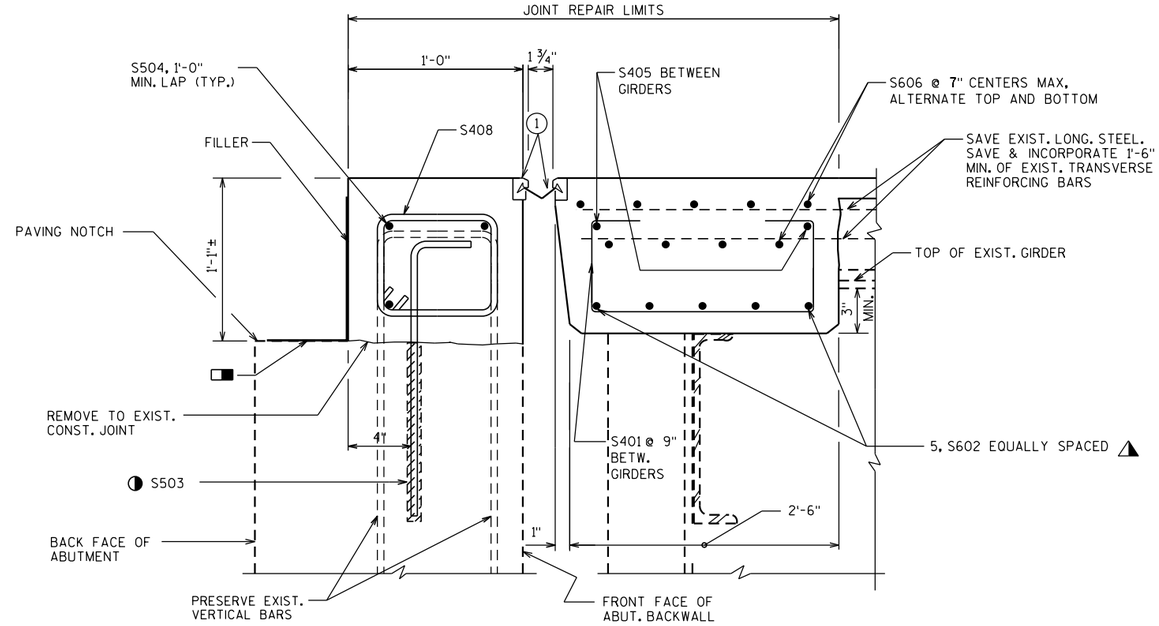
STATE PROJECT NUMBER

1071-06-65



TYPICAL SECTION THRU JOINT AT ABUTMENT

NORMAL TO ℄ EXPANSION JOINT

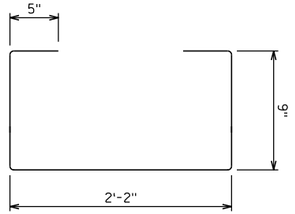


TYPICAL SECTION THRU PAVING BLOCK AT ABUTMENT

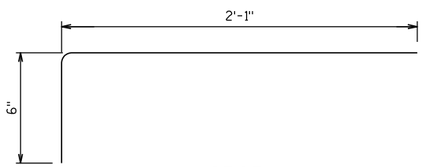
NORMAL TO ℄ EXPANSION JOINT

BILL OF BARS

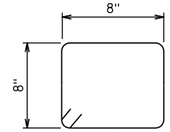
BAR MARK	COAT	NO. REQ'D	LENGTH	BENT	LOCATION
S401	X	150	4'-2"	X	DIAPH.-STIRRUP-VERT.
S602	X	50	10'-5"		DIAPH.-TRANS.
S503	X	124	2'-6"	X	PAVING BLOCK-MASONRY ANCHOR-VERT.
S504	X	54	8'-6"		PAVING BLOCK-TRANS.
S405	X	20	10'-5"		DIAPH.-TRANS.
S606	X	36	34'-6"		DIAPH.-TRANS.
S407	X	20	10'-5"		EXPANSION DEVICE- HORIZ. BETWEEN GIRDERS
S408	X	124	2'-6"	X	PAVING BLOCK-STIRRUP



S401



S503



S408

BENDING DIAGRAMS

LEGEND

- (X) REFER TO LEGEND ON SHEET 3
- ◭ PARALLEL TO ℄ OF GIRDER
- ◑ PRESERVE EXISTING VERTICAL REINFORCING BARS DURING REMOVAL OF PAVING BLOCK. REPLACE WITH "MASONRY ANCHORS TYPE L NO. 5 BARS" SPACED AT 1'-0" AND EMBEDDED 1'-6" MINIMUM. PROVIDE A MINIMUM PULLOUT CAPACITY OF 19 KIPS. TURN HORIZONTAL LEG AS NECCESARY TO FIT.
- ▬ 18" RUBBERIZED MEMBRANE WATERPROOFING

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-32-56

DRAWN BY DRJ | PLANS CK'D. BNS

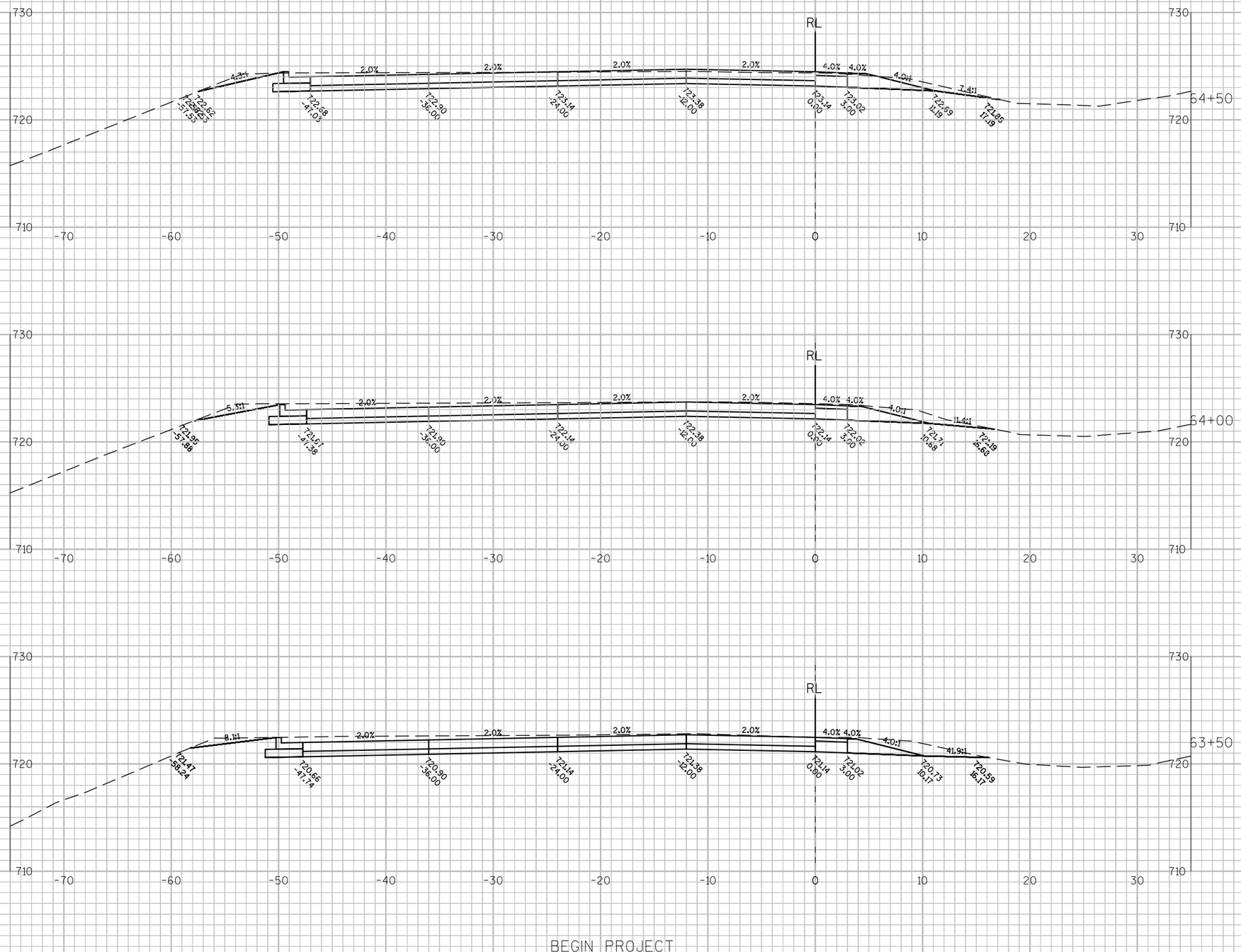
EXPANSION JOINT DETAILS 3

SHEET 5 OF 5

172

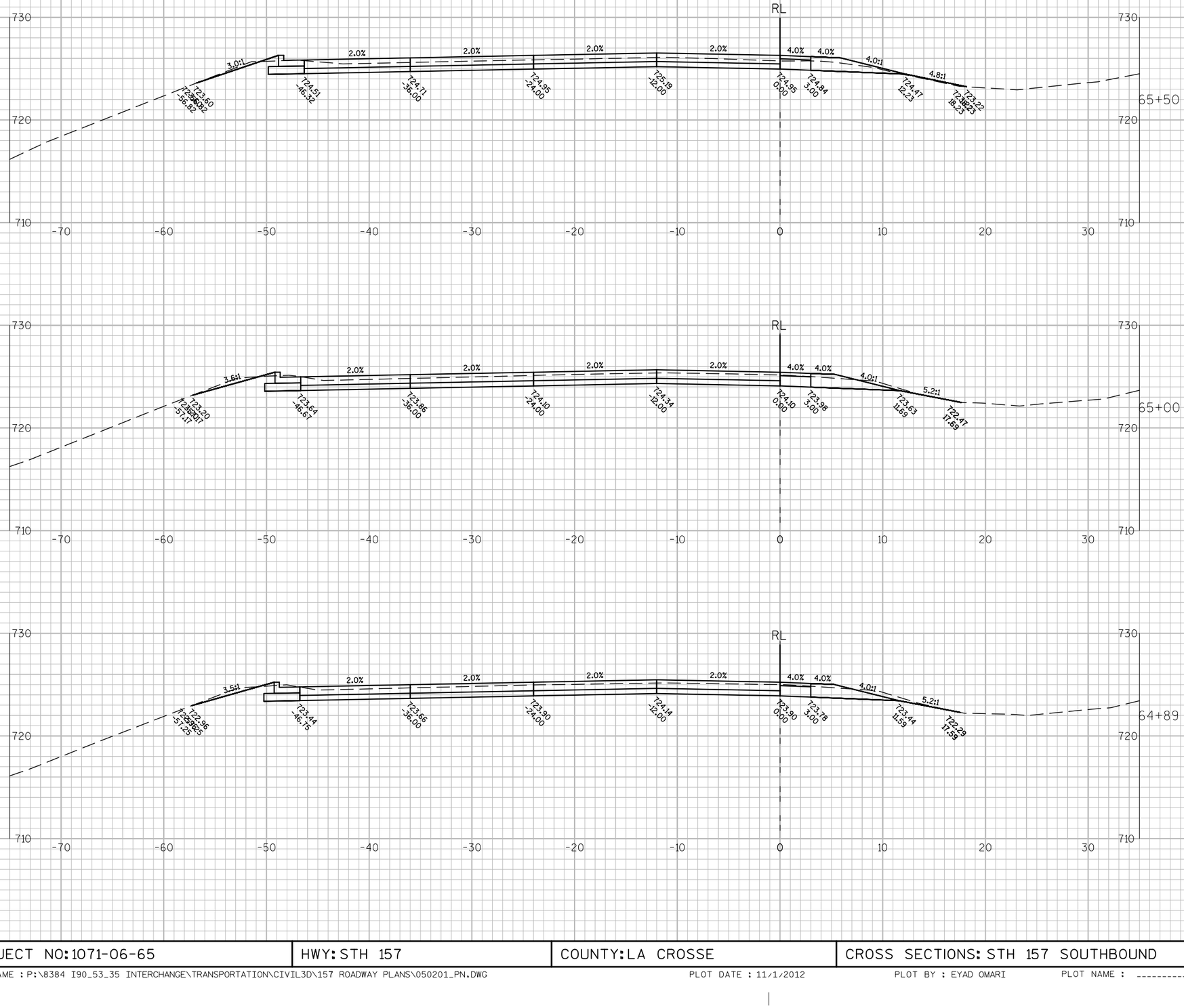
8

8

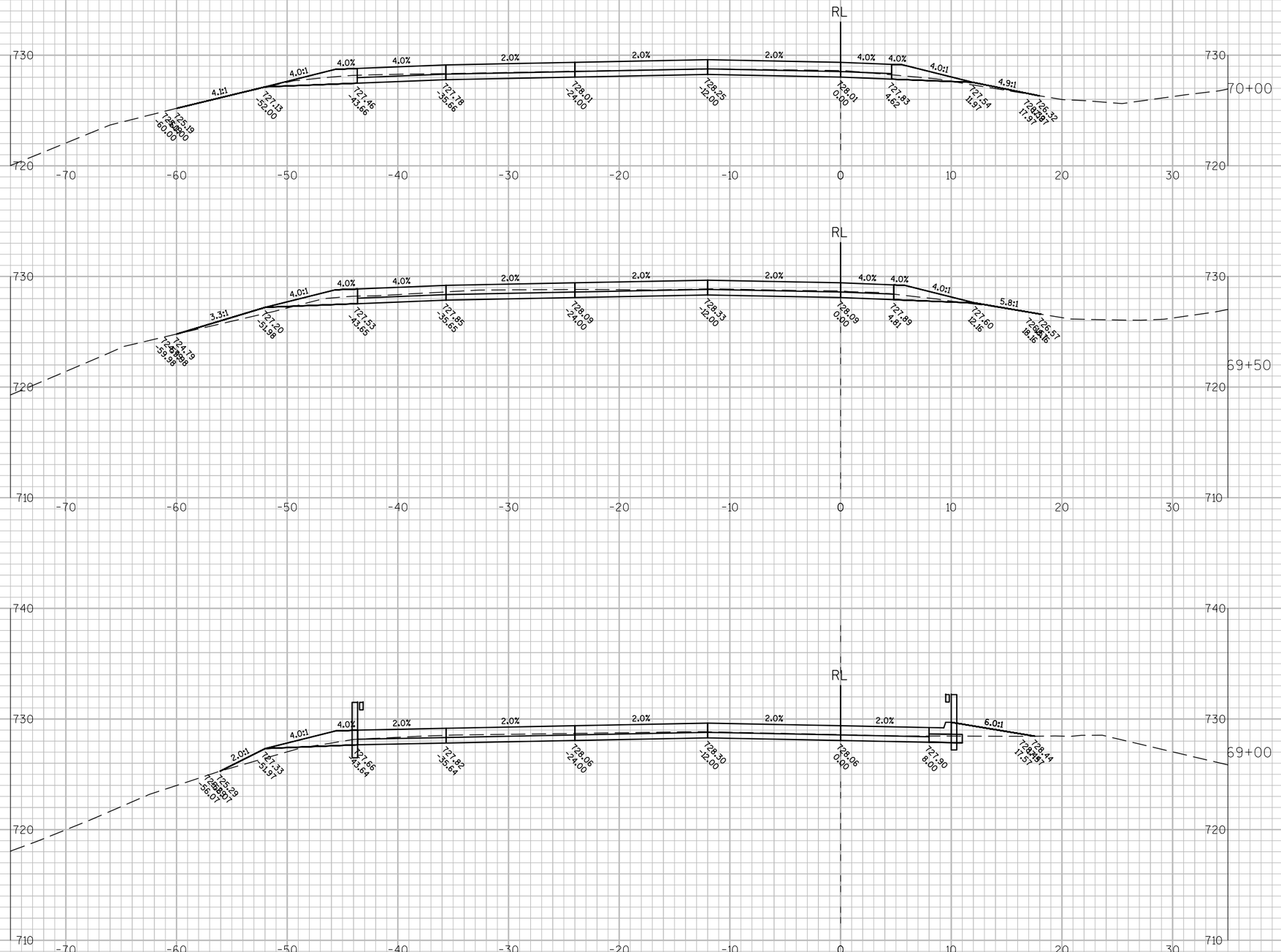


PROJECT NO: 1071-06-65	HWY: STH 157	COUNTY: LA CROSSE	CROSS SECTIONS: STH 157 SOUTHBOUND	SHEET 173

FILE NAME : P:\8384 I90_53_35 INTERCHANGE\TRANSPORTATION\CIVIL 3D\157 ROADWAY PLANS\050201_PN.DWG PLOT DATE : 11/1/2012 PLOT BY : EYAD OMARI PLOT NAME : ---------- PLOT SCALE : 1:10_XREF

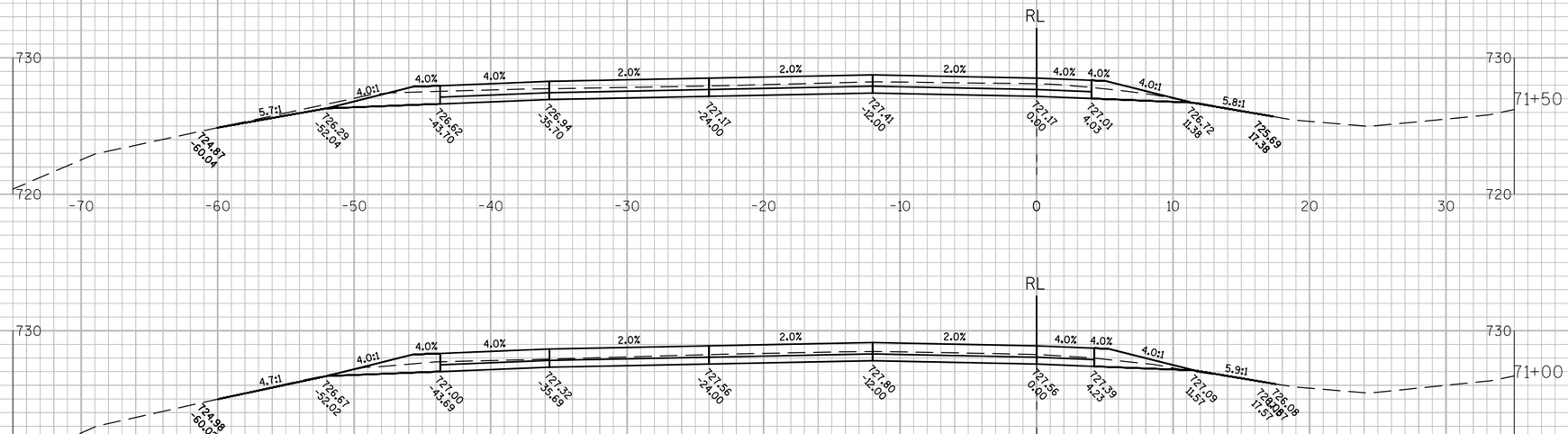


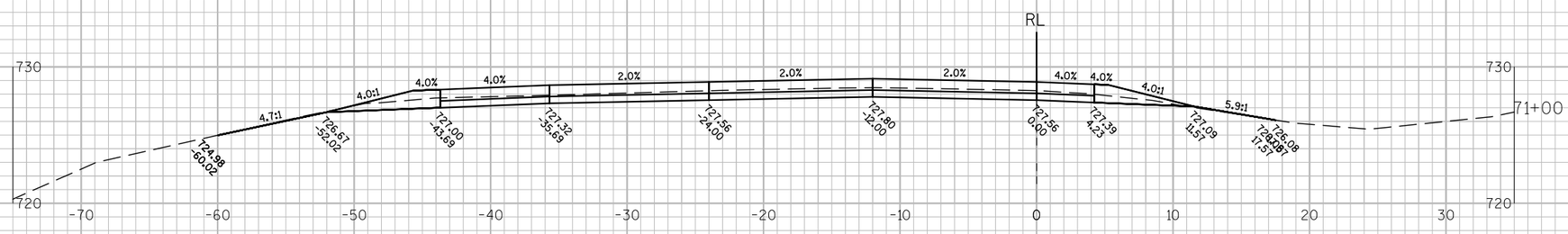
PROJECT NO: 1071-06-65	HWY: STH 157	COUNTY: LA CROSSE	CROSS SECTIONS: STH 157 SOUTHBOUND	SHEET 174

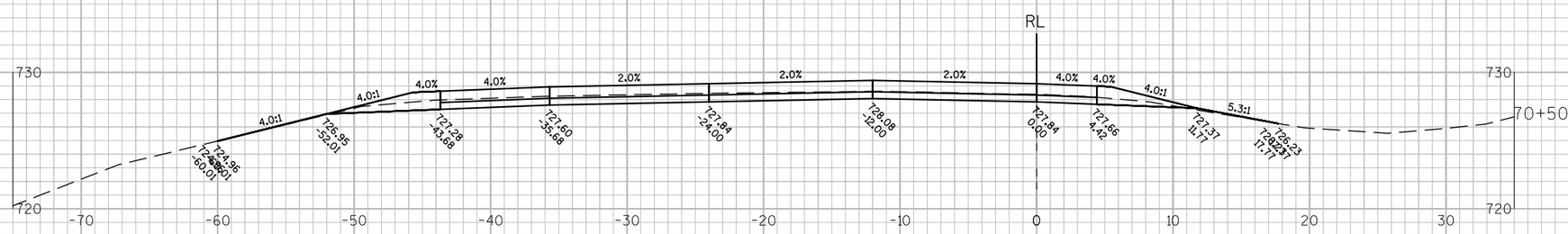


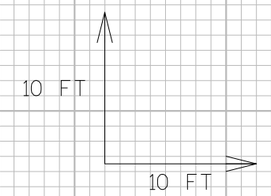
PROJECT NO: 1071-06-65	HWY: STH 157	COUNTY: LA CROSSE	CROSS SECTIONS: STH 157 SOUTHBOUND	SHEET 175

FILE NAME : P:\8384 I90_53_35 INTERCHANGE\TRANSPORTATION\CIVIL3D\157 ROADWAY PLANS\050201_PN.DWG PLOT DATE : 11/1/2012 PLOT BY : EYAD OMARI PLOT NAME : ---------- PLOT SCALE : 1:10_XREF



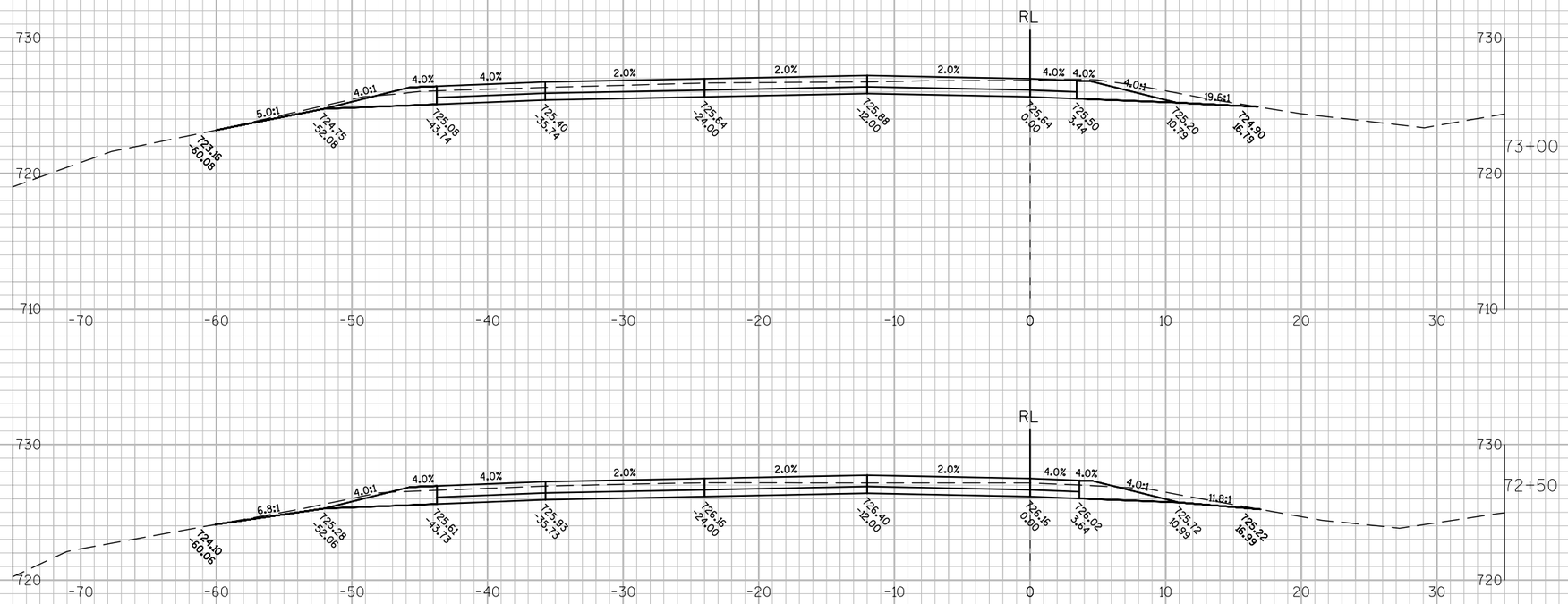


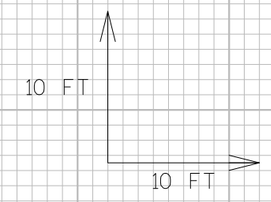




PROJECT NO: 1071-06-65	HWY: STH 157	COUNTY: LA CROSSE	CROSS SECTIONS: STH 157 SOUTHBOUND	SHEET 176

FILE NAME : P:\8384 I90_53_35 INTERCHANGE\TRANSPORTATION\CIVIL3D\157 ROADWAY PLANS\050201_PN.DWG PLOT DATE : 11/1/2012 PLOT BY : EYAD OMARI PLOT NAME : ---------- PLOT SCALE : 1:10_XREF

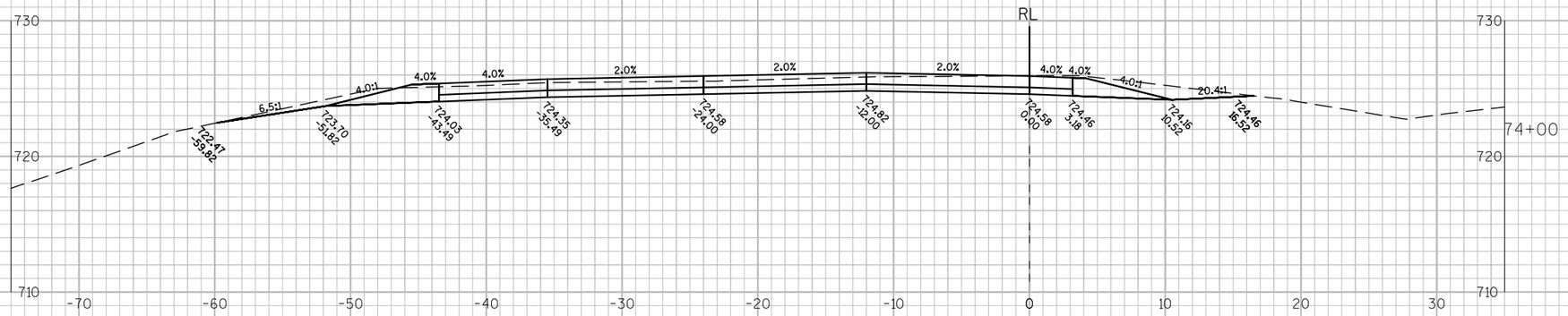


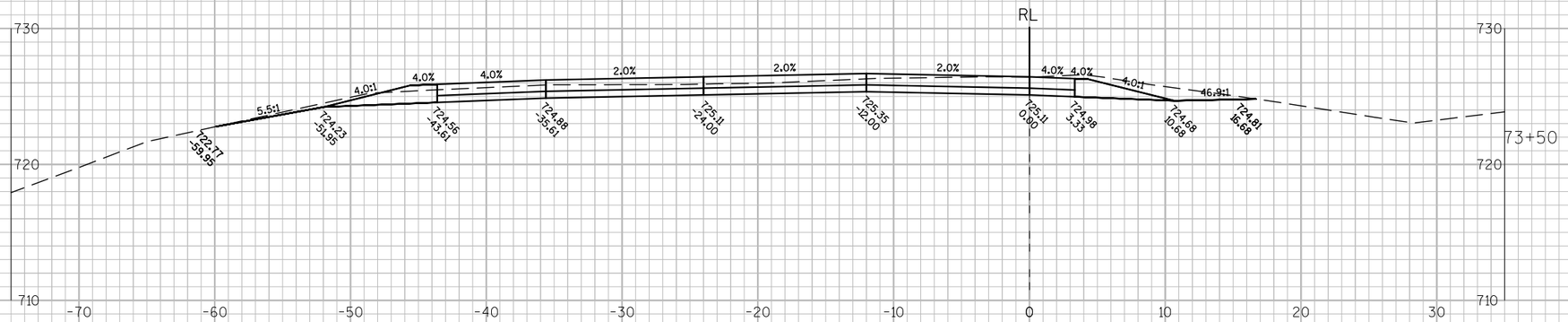


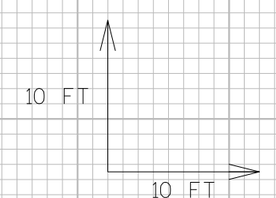
PROJECT NO: 1071-06-65	HWY: STH 157	COUNTY: LA CROSSE	CROSS SECTIONS: STH 157 SOUTHBOUND	SHEET 177	E

FILE NAME : P:\8384 I90_53_35 INTERCHANGE\TRANSPORTATION\CIVIL3D\157 ROADWAY PLANS\050201_PN.DWG PLOT DATE : 11/1/2012 PLOT BY : EYAD OMARI PLOT NAME : ---------- PLOT SCALE : 1:10_XREF

END PROJECT







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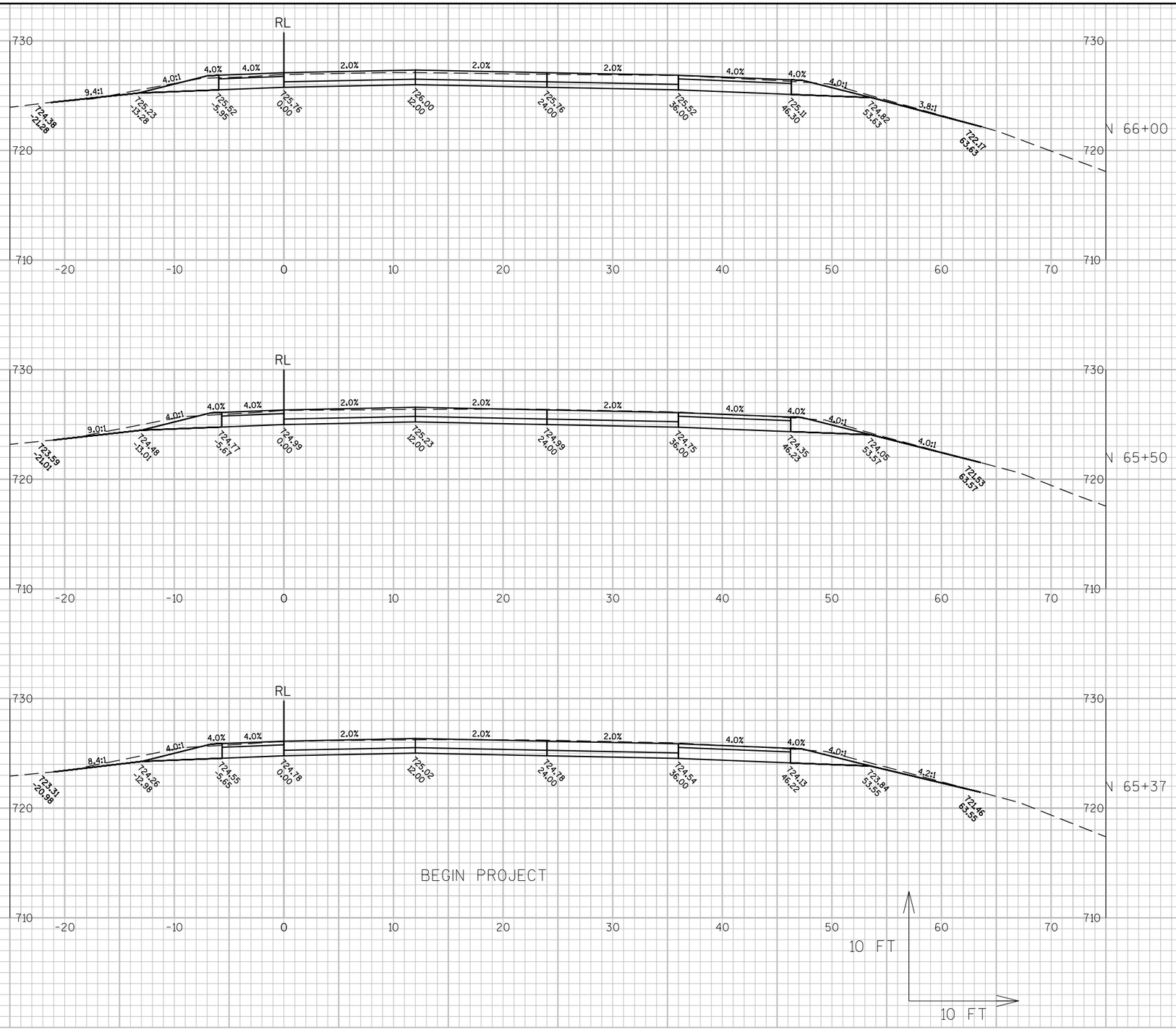
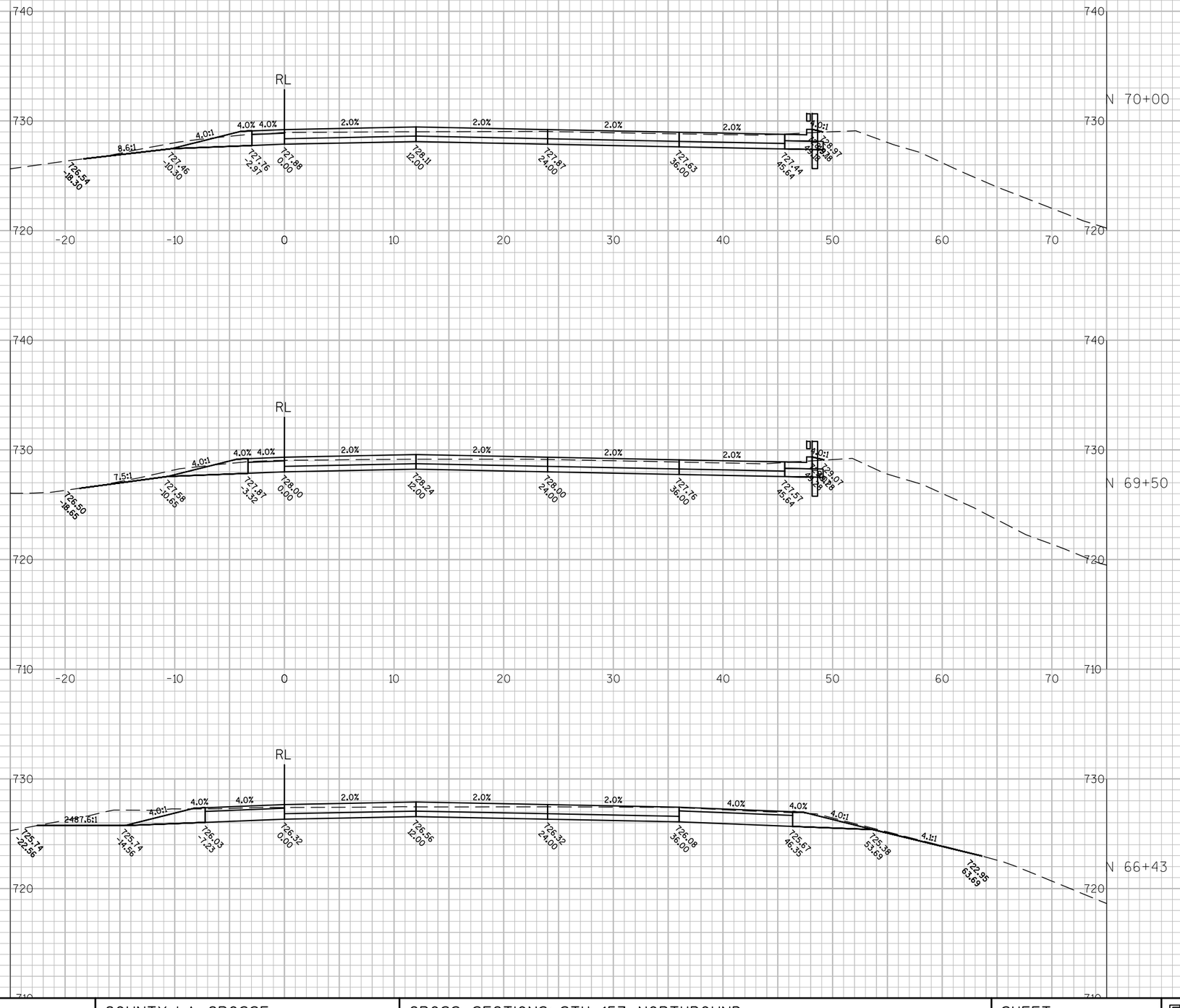


PROJECT NO: 1071-06-65	HWY: STH 157	COUNTY: LA CROSSE	CROSS SECTIONS: STH 157 NORTHBOUND	SHEET 179



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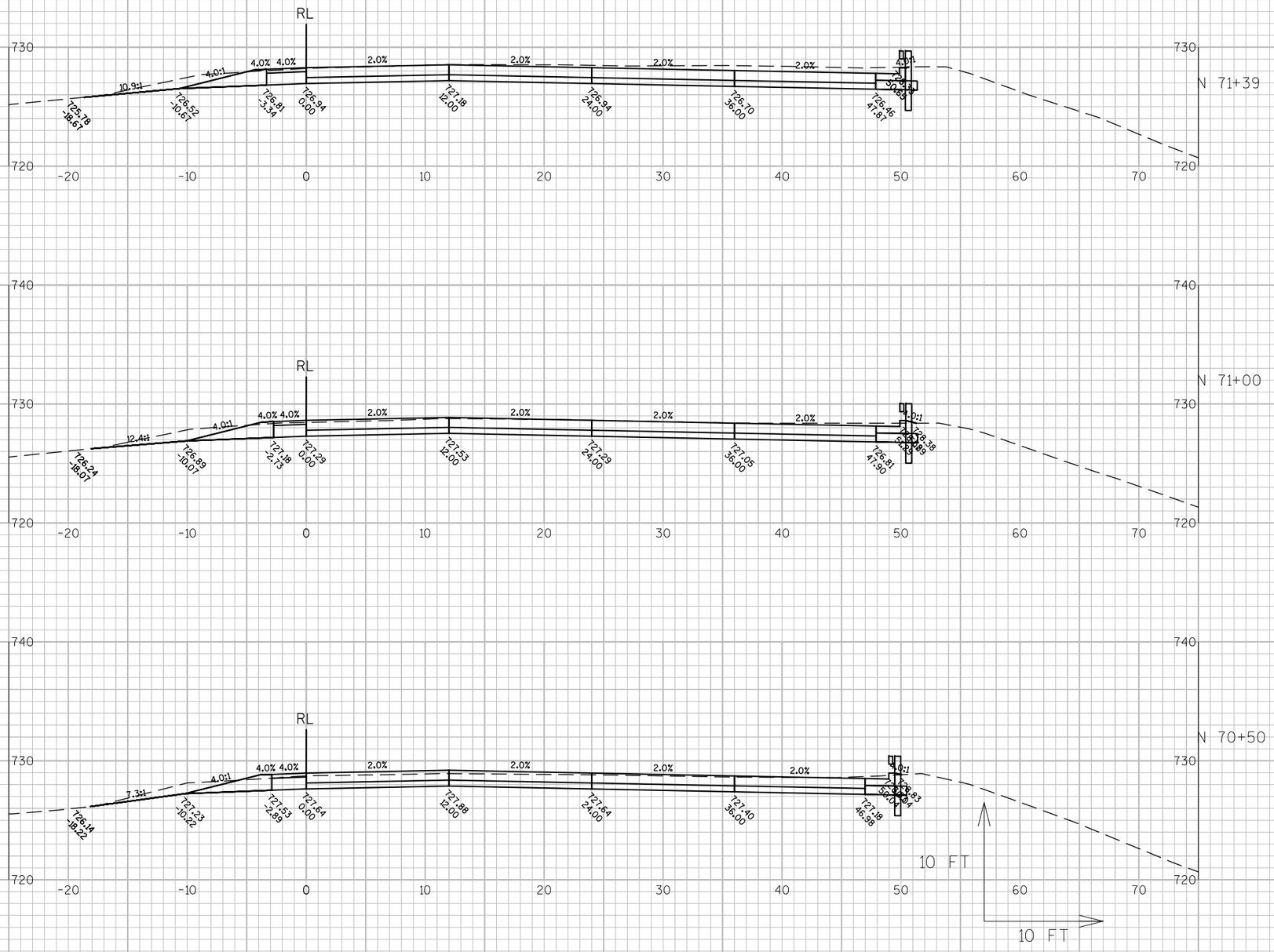
END PROJECT



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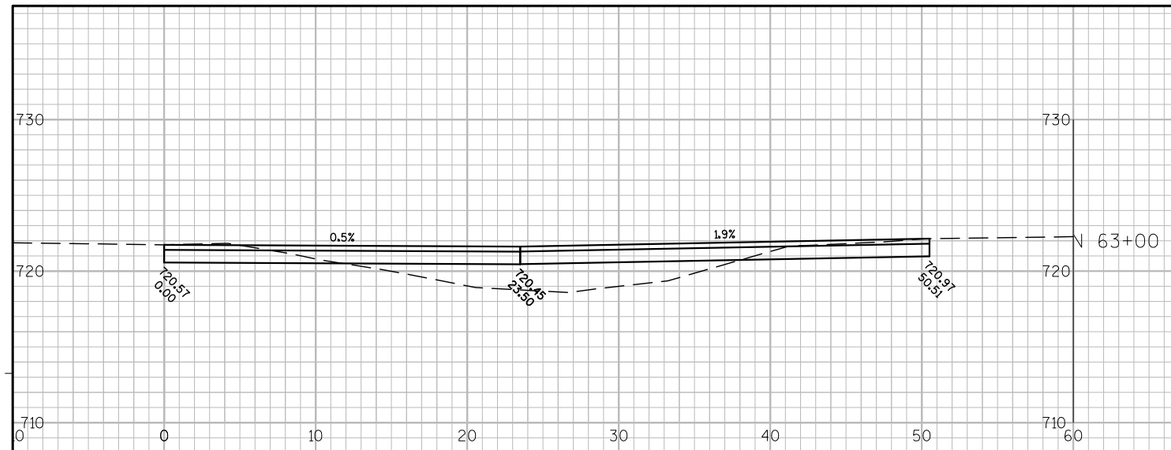
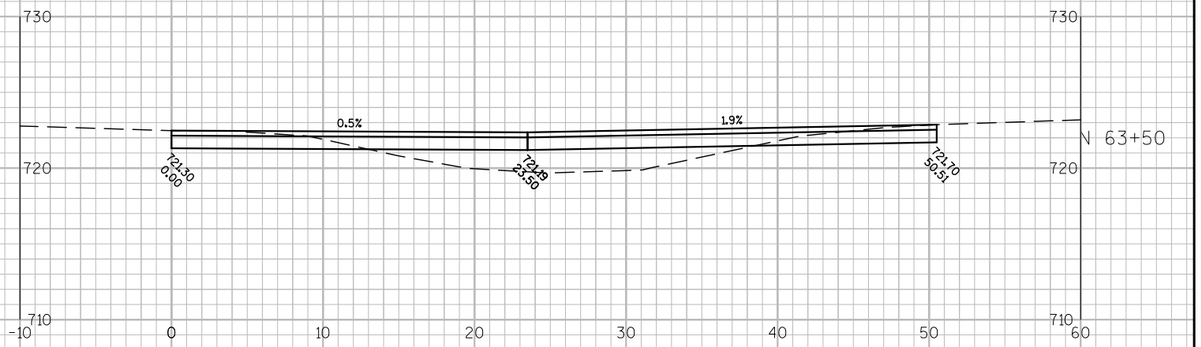
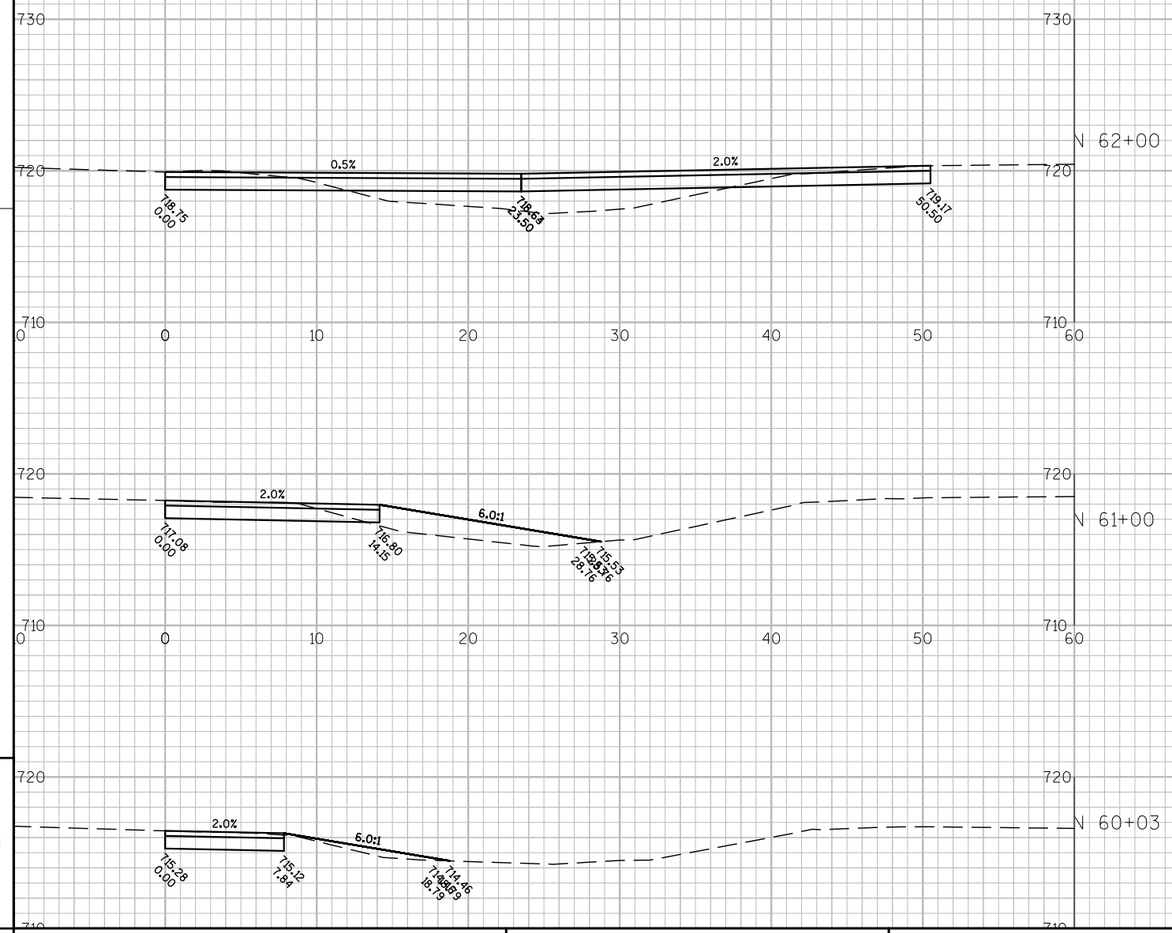
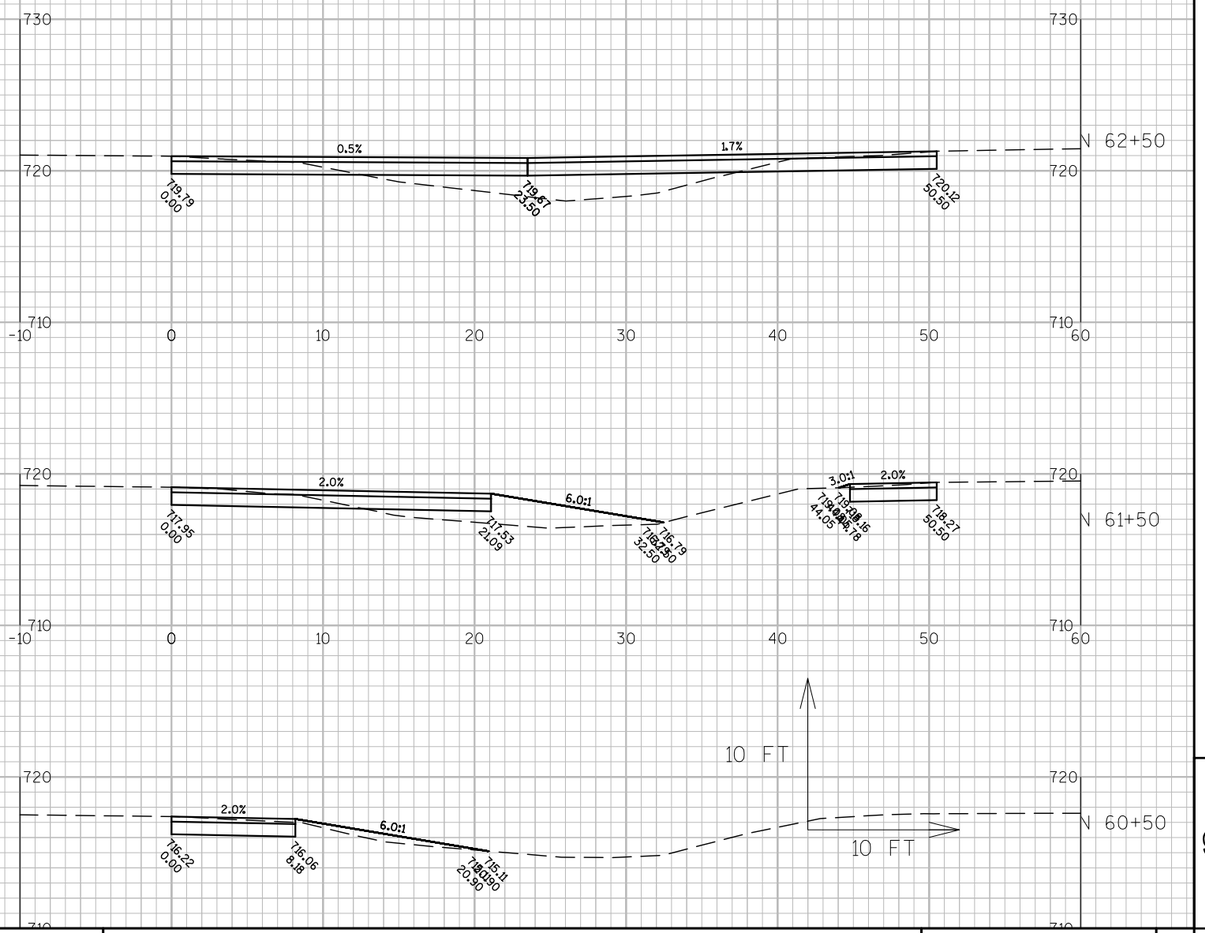




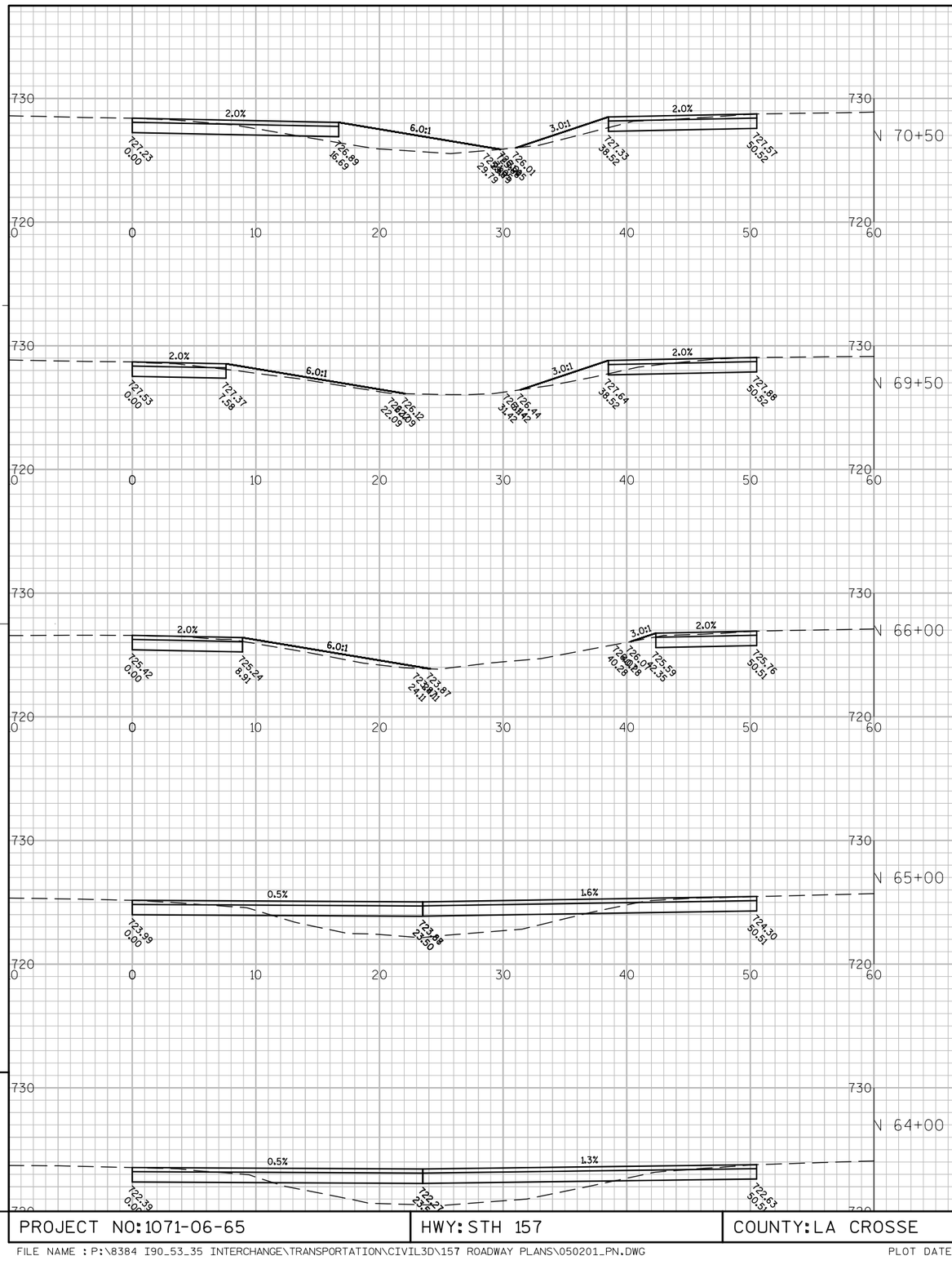


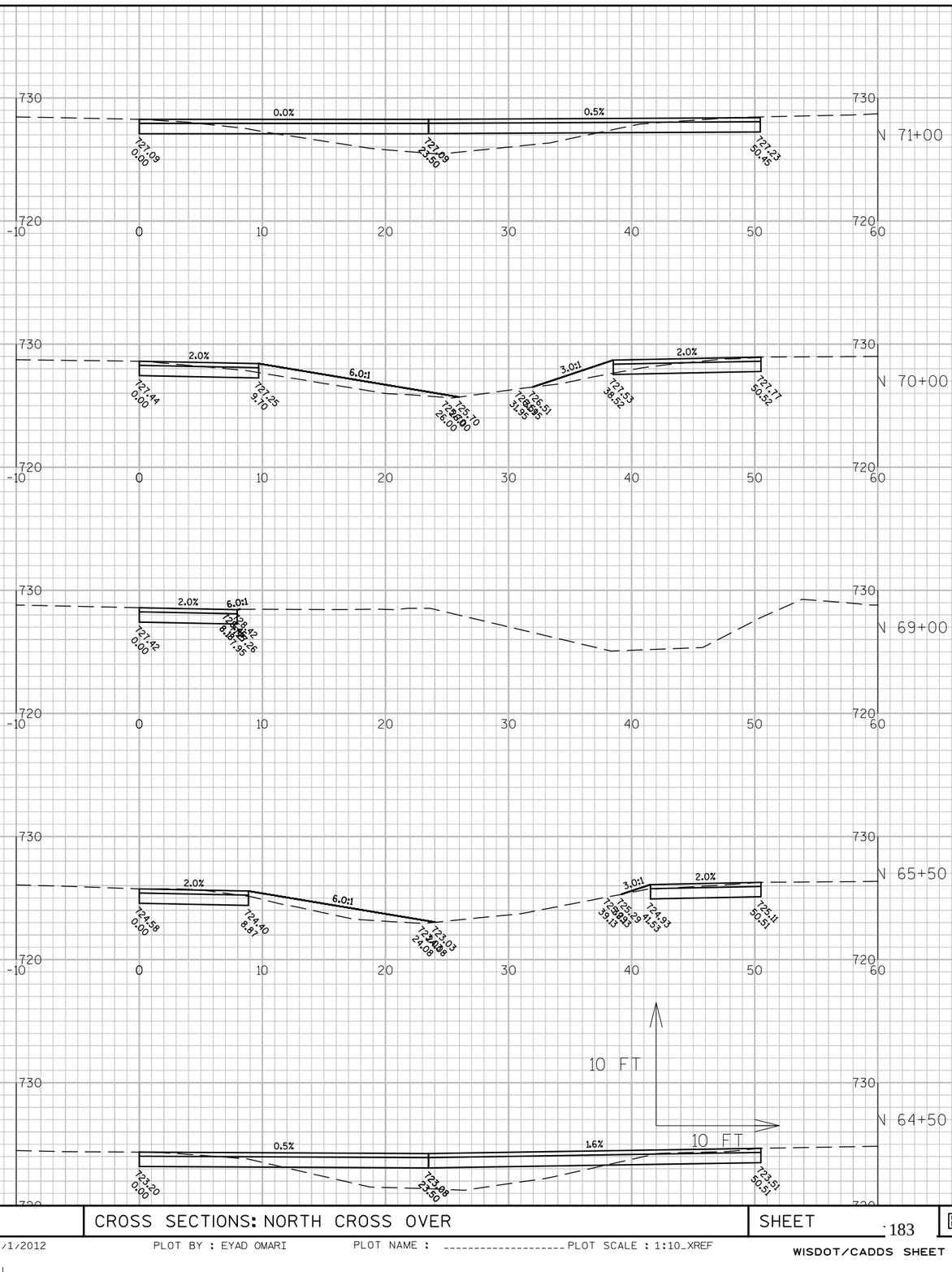


PROJECT NO: 1071-06-65	HWY: STH 157	COUNTY: LA CROSSE	CROSS SECTIONS: SOUTH CROSS OVER	SHEET 182

FILE NAME : P:\8384 I90_53_35 INTERCHANGE\TRANSPORTATION\CIVIL3D\157 ROADWAY PLANS\050201_PN.DWG PLOT DATE : 11/1/2012 PLOT BY : EYAD OMARI PLOT NAME : _____ PLOT SCALE : 1:10_XREF

WISDOT/CADDS SHEET 49





PROJECT NO: 1071-06-65	HWY: STH 157	COUNTY: LA CROSSE	CROSS SECTIONS: NORTH CROSS OVER	SHEET	E

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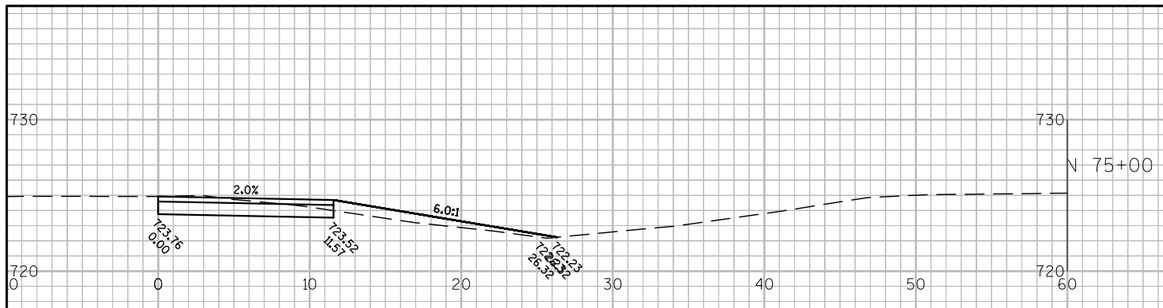

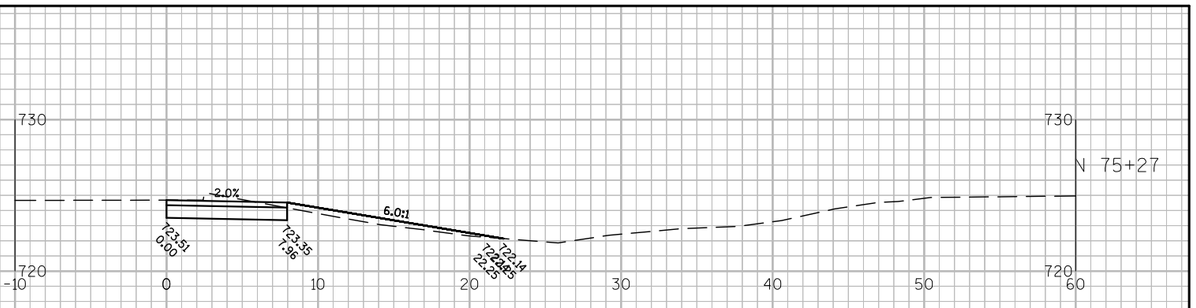

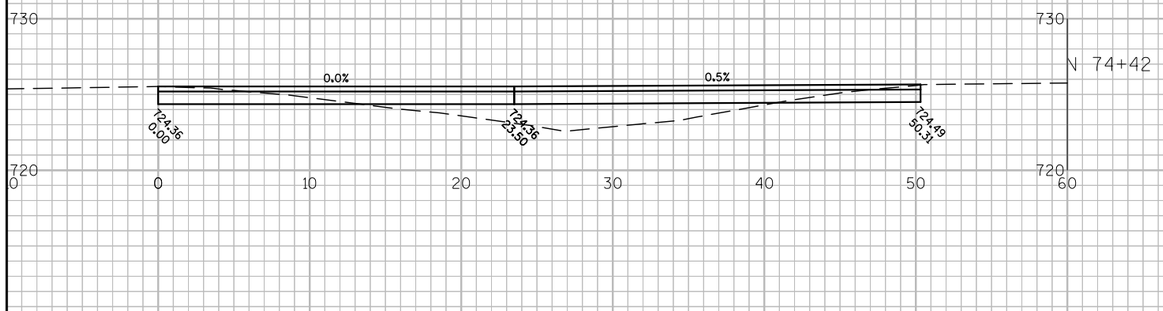

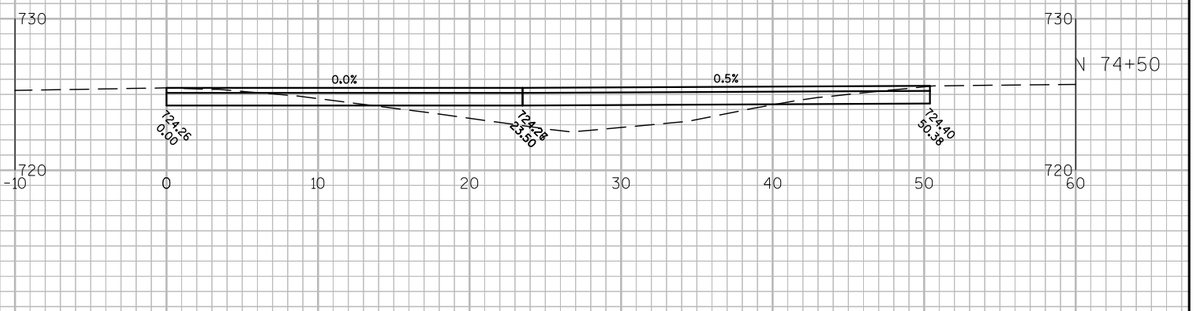

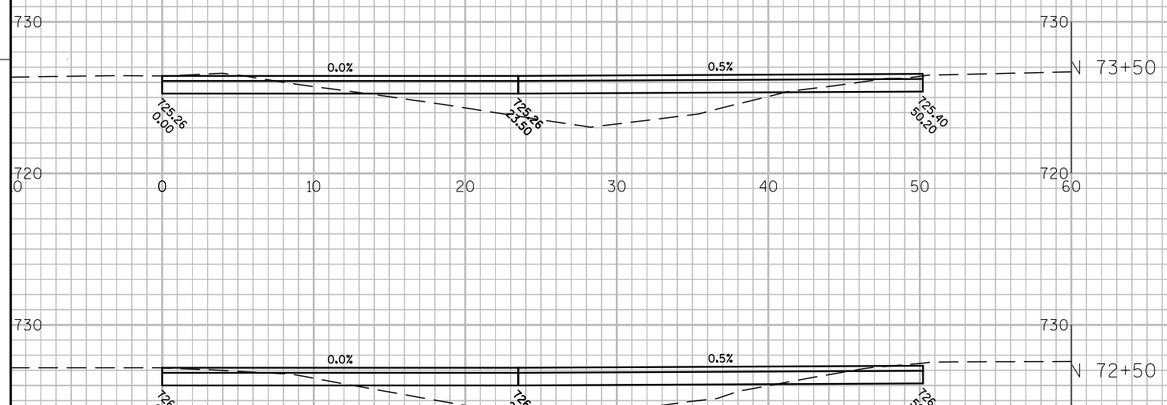

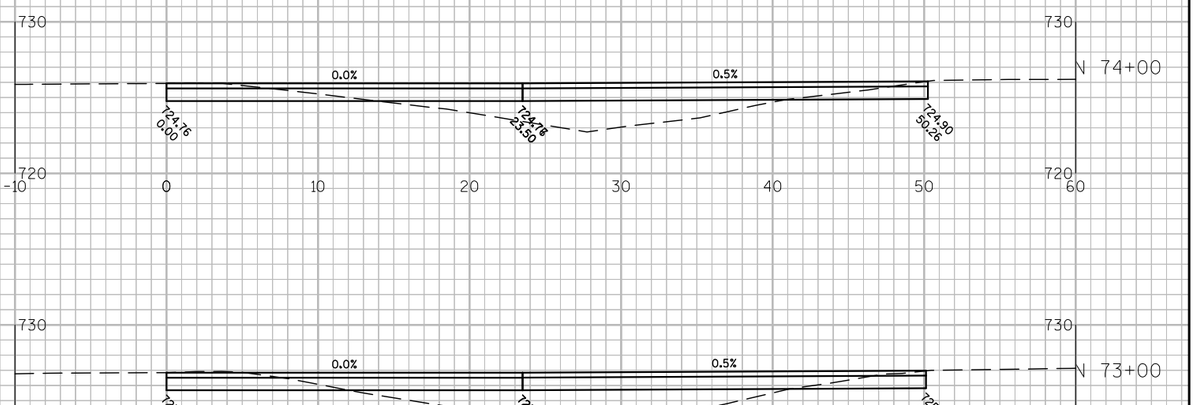

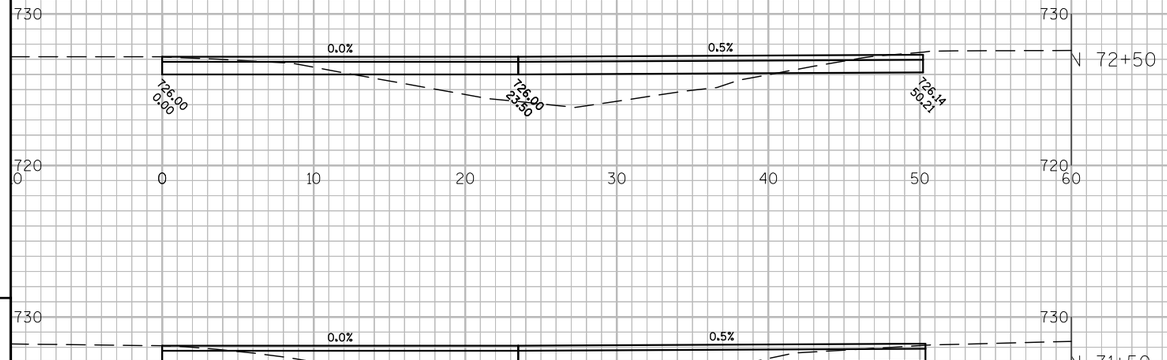

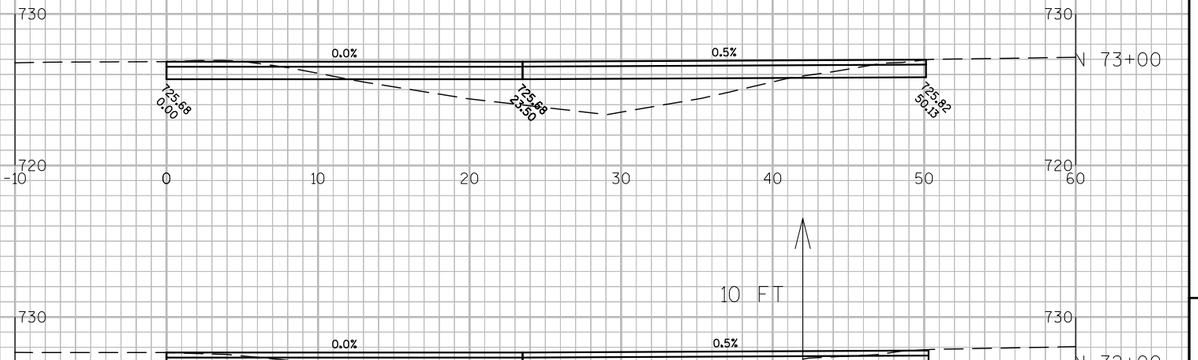

PROJECT NO: 1071-06-65	HWY: STH 157	COUNTY: LA CROSSE	CROSS SECTIONS: NORTH CROSS OVER	SHEET 184

Notes

Wisconsin Department of Transportation

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