LAX

NOV 2017

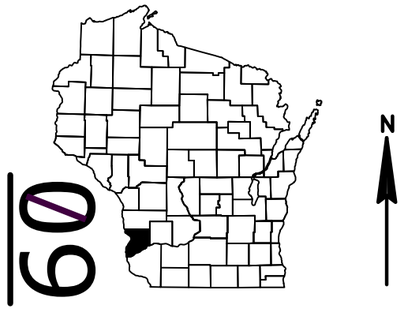
PROJECT ID: 5180-04-83

WITH: 5180-04-83

COUNTY: CRAWFORD COUNTY

ORDER OF SHEETS

TOTAL SHEETS = 118



DESIGN DESIGNATION 5180-04-03

A.A.D.T.	2013	=	2000-2500
A.A.D.T.	2033	=	2200-2800
D.H.V.		=	16.5
D.D.		=	60/40
T.		=	19.6%
DESIGN SPEED		=	60 MPH
ESALS		=	890,000

CONVENTIONAL SYMBOLS

PLAN

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

PROFILE

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

UTILITIES

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

BRIDGEPORT - BOSCOBEL

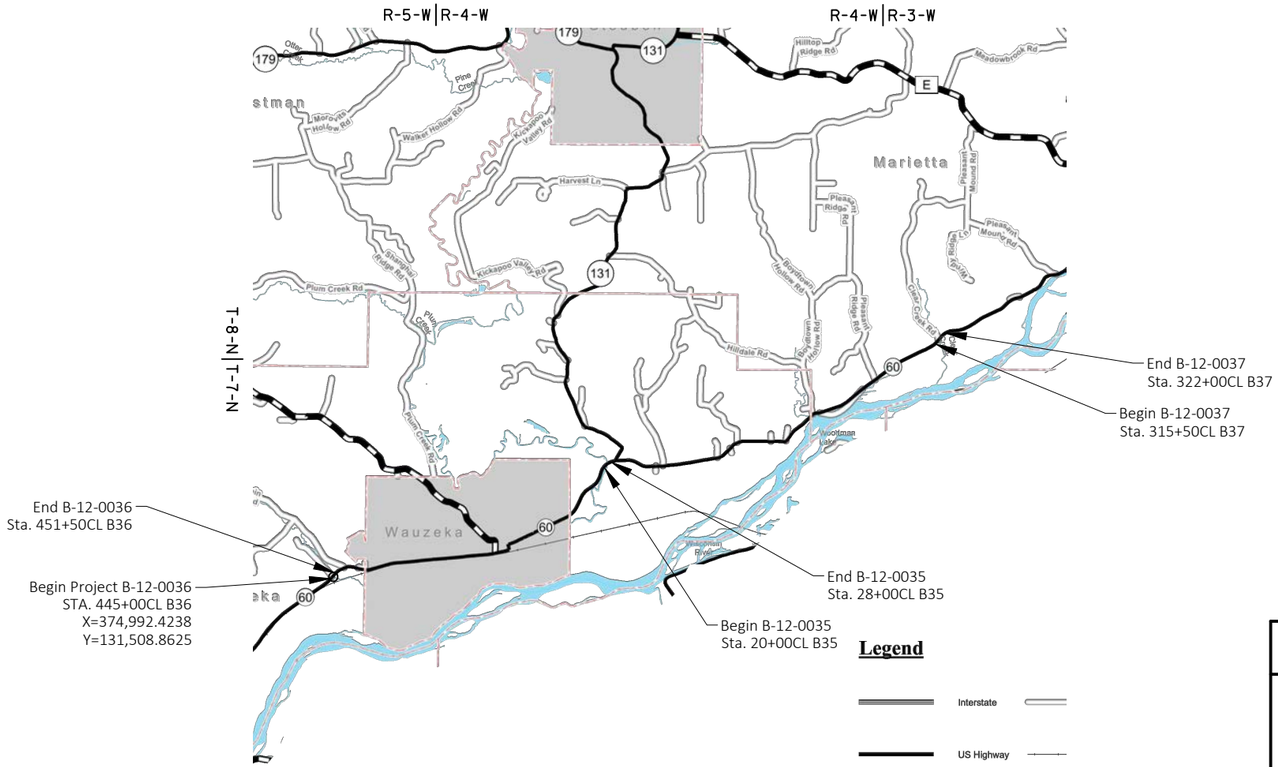
STRUCTURES B-12-35/36/37

STH 60

CRAWFORD COUNTY

STATE PROJECT NUMBER
5180-04-83

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
PROJECT ID	WISC 2017506	1
5180-04-83		



R-5-W | R-4-W LAYOUT R-4-W | R-3-W

SCALE 0 2 MI

TOTAL NET LENGTH OF CENTERLINE = 0.000 Miles

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COUNTY COORDINATES, CRAWFORD COUNTY, NAD83 (YEAR), IN U.S. SURVEY FEET. VALUES ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	SURVEYOR
Designer	KATHLEEN KLUDY, P.E.
Project Manager	TODD WALDO, P.E.
Regional Examiner	REGIONAL EXAMINER
Regional Supervisor	REINY YAHNKE, P.E.

APPROVED FOR THE DEPARTMENT

DATE: 6-27-2017 Todd Waldo (Signature)

E

FILE NAME : N:\PDS\C3D\51800403\SHEETS PLAN\51800403_TITLE SHEET.DWG PLOT DATE : 6/27/2017 10:59 AM PLOT BY : KLUDY, KATHLEEN M PLOT NAME :

GENERAL NOTES

1. WHEN THE QUANTITY OF THE ITEM OF BASE AGGREGATE DENSE OR ASPHALTIC SURFACE IS MEASURED FOR PAYMENT BY THE TON, THE THICKNESS SHOWN ON THE PLAN IS APPROXIMATE. THE ACTUAL THICKNESS WILL DEPEND ON THE DISTRIBUTION OF THE MATERIAL AS DIRECTED BY THE ENGINEER IN THE FIELD.

2. THE LOCATION OF EXISTING UTILITY INSTALLATIONS AS SHOWN ON THE PLAN ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN. IT IS THE CONTRACTORS RESPONSIBILITY TO CONTACT ANY UTILITIES NOT ON PLAN.

3. REMOVAL OF ASPHALTIC SURFACES WHERE AN ABUTTING ASPHALTIC SURFACE IS TO REMAIN IN PLACE SHALL REQUIRE A SAWCUT MEETING THE APPROVAL OF THE ENGINEER IN THE FIELD.

4. SILT FENCE SHALL BE PLACED AS SHOWN ON THE PLAN OR AS DIRECTED BY THE ENGINEER IN THE FIELD. SILT FENCE SHALL BE PLACED PRIOR TO CONSTRUCTION.

5. PRIOR TO THE PLACEMENT OF STEEL PLATE BEAM GUARD OR MGS GUARD, THE SHOULDERS SHALL BE IN PLACE, SHAPED AND COMPACTED UNLESS SHOWN OTHERWISE.

6. THE LOCATION OF ALL PERMANENT SIGNING SHALL BE VERIFIED BY THE ENGINEER IN THE FIELD PRIOR TO PLACEMENT.

WISDOT

WISCONSIN DEPARTMENT OF TRANSPORTATION
SOUTHWEST REGION - LA CROSSE OFFICE
3550 MORMON COULEE RD
LA CROSSE, WI 54601
ATTN: TIMOTHY MAEDKE, P.E.
PHONE: (608) 789-6317
EMAIL: timothy.maedke@dot.wi.gov

DESIGN CONTACT:
WISCONSIN DEPARTMENT OF TRANSPORTATION
SOUTHWEST REGION - LA CROSSE OFFICE
3550 MORMON COULEE RD
LA CROSSE, WI 54601
ATTN: KATHLEEN KLUDY, P.E.
PHONE: (608) 785-9948
EMAIL: kathleen.kludy@dot.wi.gov

DNR LIAISON

DNR SERVICE CENTER
3550 MORMON COULEE RD
La Crosse, Wi 54601
ATTN:KAREN KALVELAGE (CRAWFORD COUNTY)
PHONE: (608) 785-9115
EMAIL: karen.kalvelage@wisconsin.gov

UTILITY COMPANIES & PERSONNEL

COMMUNICATION LINE

CENTURYLINK - COMMUNICATION LINE
ATTN: RYAN NIEMEIER
333N FRONT ST
LA CROSSE, WI 54602
PHONE: (608) 796-5190
EMAIL: ryan.niemeier@centurylink.com

ELECTRIC

ATC MANAGEMENT, INC - ELECTRICITY
ATTN: Mike Olsen
801 O'KEEFE RD
DE PERE, WI 54115-6113
PHONE: (920) 338-6552
EMAIL: molsen@atcllc.com

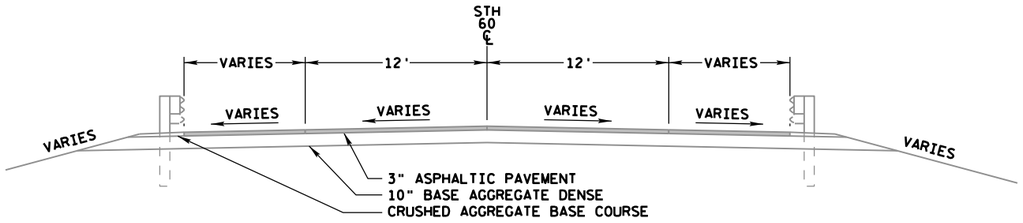
DAIRYLAND POWER COOPERATIVE - ELECTRICITY
ATTN: JANE EGGEN
3200 EAST AVE S
P.O. BOX 817
LA CROSSE, WI 54602
PHONE: (608) 787-1248
EMAIL: jme@dairynet.com

SCENIC RIVERS ENERGY COOPERATIVE
ATTN: ANDY KILCOYNE
231 N SHERIDAN ST
LANCASTER, WI 53813
PHONE: (608) 723-2121
EMAIL: akilcoyne@srec.net

GAS/PETROLEUM

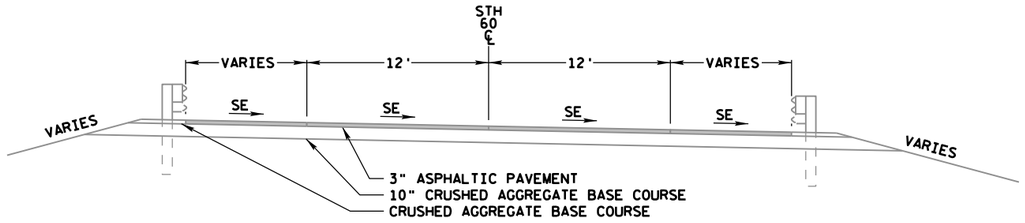
MADISON GAS AND ELECTRIC COMPANY - GAS/PETROLEUM
ATN:JANE ROSSEN
P.O. BOX 1231
MADISON, WI 53701-1231
PHONE: (608) 252-7099
EMAIL: grossing@mge.com

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



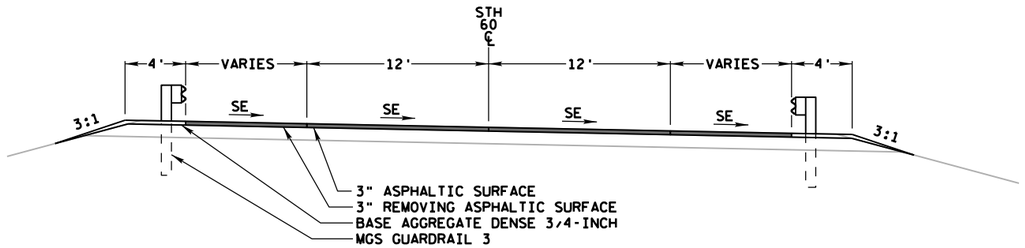
EXISTING TANGENT TYPICAL SECTION

B-12-0036 APPROACHES B-12-0037 APPROACHES



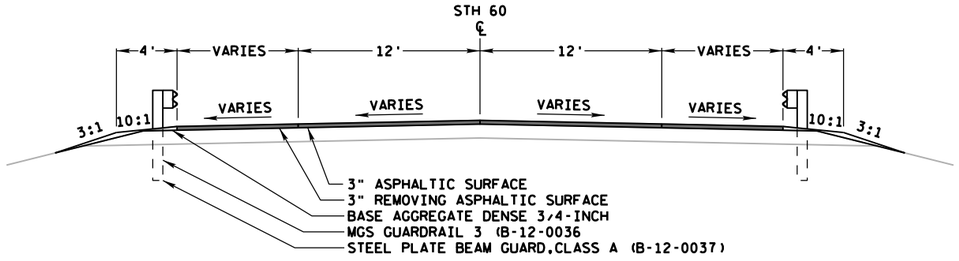
EXISTING SUPERELEVATED TYPICAL SECTION

B-12-0035 APPROACHES



PROPOSED TYPICAL SECTION

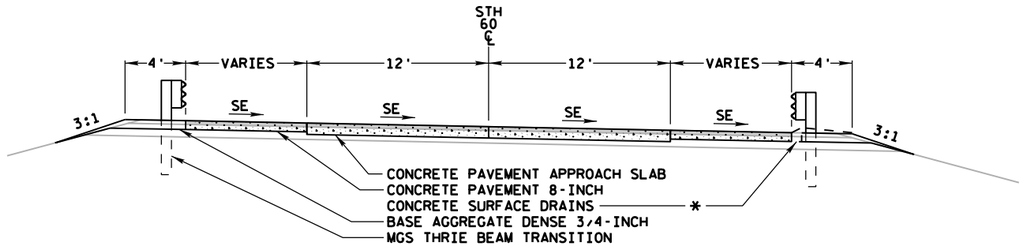
B-12-0035 APPROACHES
STATION 22+92CL B-35 TO STATION 23+02CL B-35



PROPOSED TYPICAL SECTION

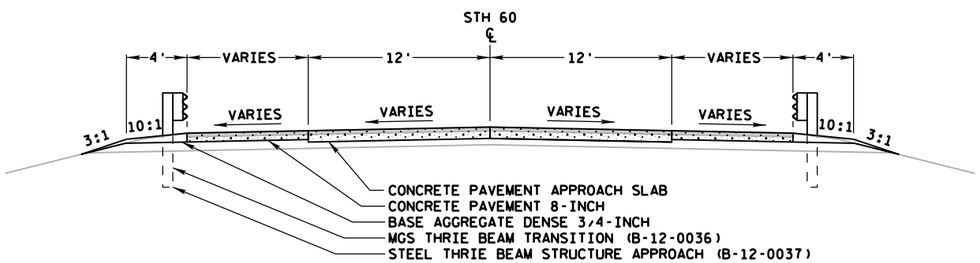
B-12-0036 APPROACHES
STATION 447+20CL B-36 TO STATION 447+40CL B-36
STATION 448+56CL B-36 TO STATION 448+66CL B-36

B-12-0037 APPROACHES
STATION 316+42CL B-37 TO STATION 317+98CL B-37
STATION 319+15CL B-37 TO STATION 319+25CL B-37



PROPOSED TYPICAL SECTION

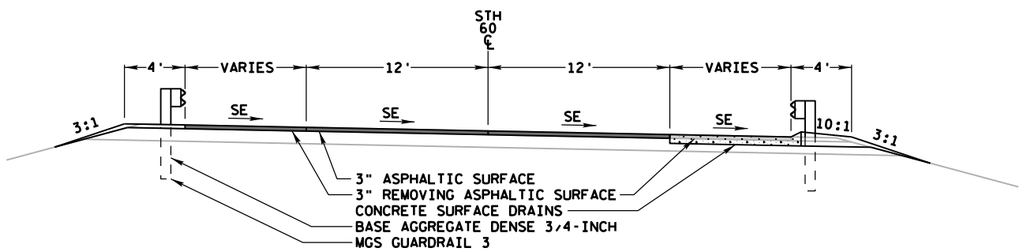
B-12-0035 APPROACHES
STATION 23+02CL B-35 TO STATION 23+26CL B-35
STATION 26+69CL B-35 TO STATION 26+88CL B-35*



PROPOSED TYPICAL SECTION

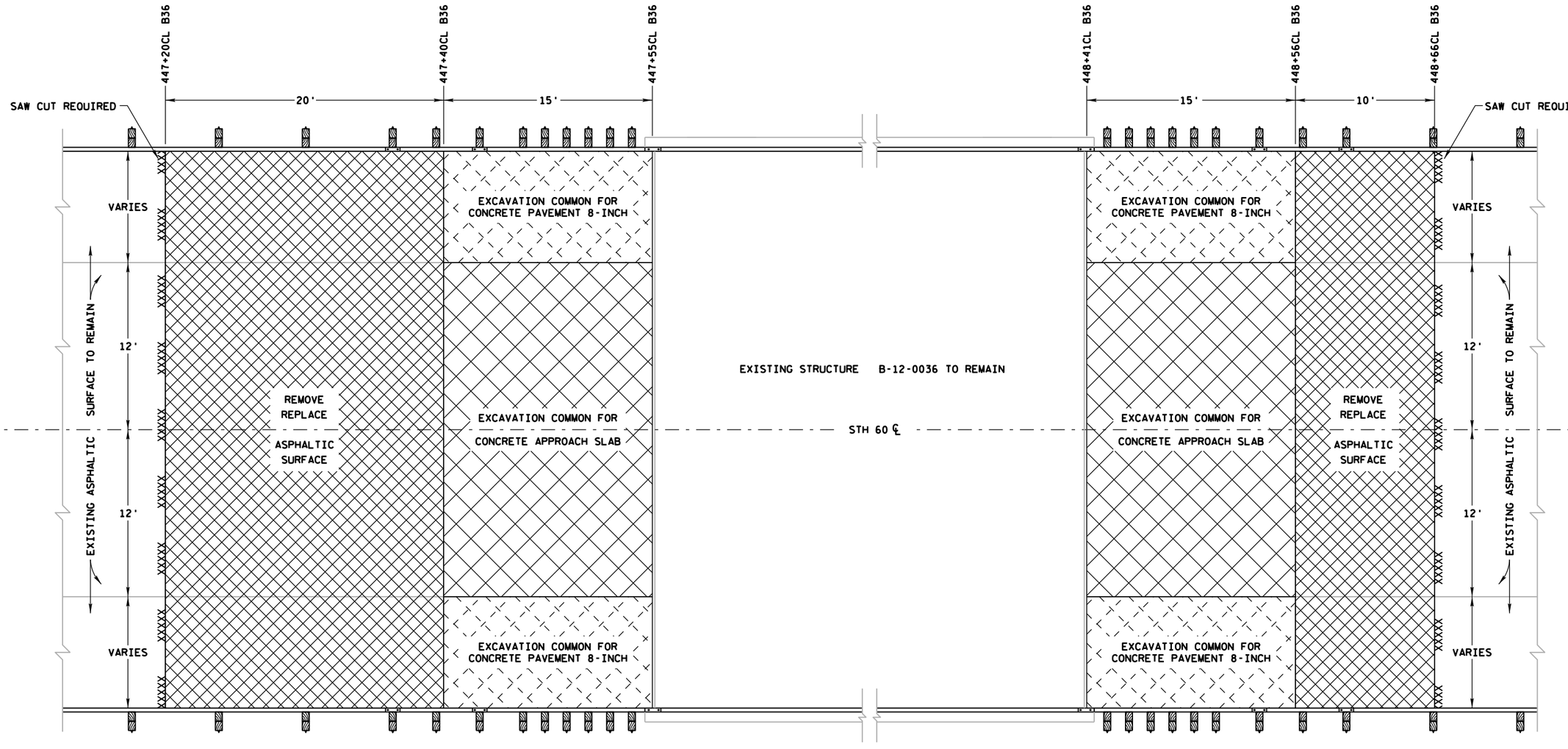
B-12-0036 APPROACHES
STATION 447+40CL B-36 TO STATION 447+55CL B-36
STATION 448+41CL B-36 TO STATION 448+56CL B-36

B-12-0037 APPROACHES
STATION 317+98CL B-37 TO STATION 318+17CL B-37
STATION 318+92CL B-37 TO STATION 319+15CL B-37

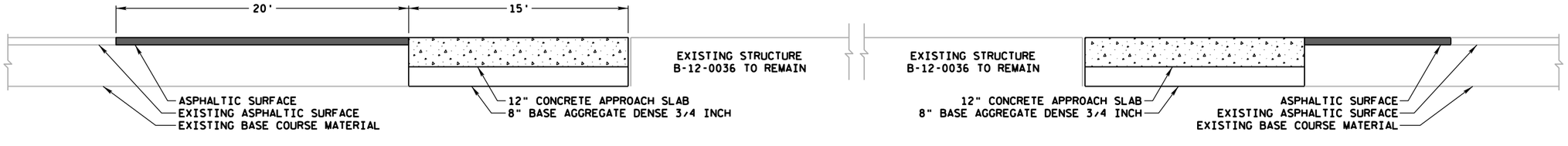


PROPOSED TYPICAL SECTION

B-12-0035 APPROACHES
STATION 26+88CL B-35 TO STATION 27+19CL B-35



PLAN VIEW

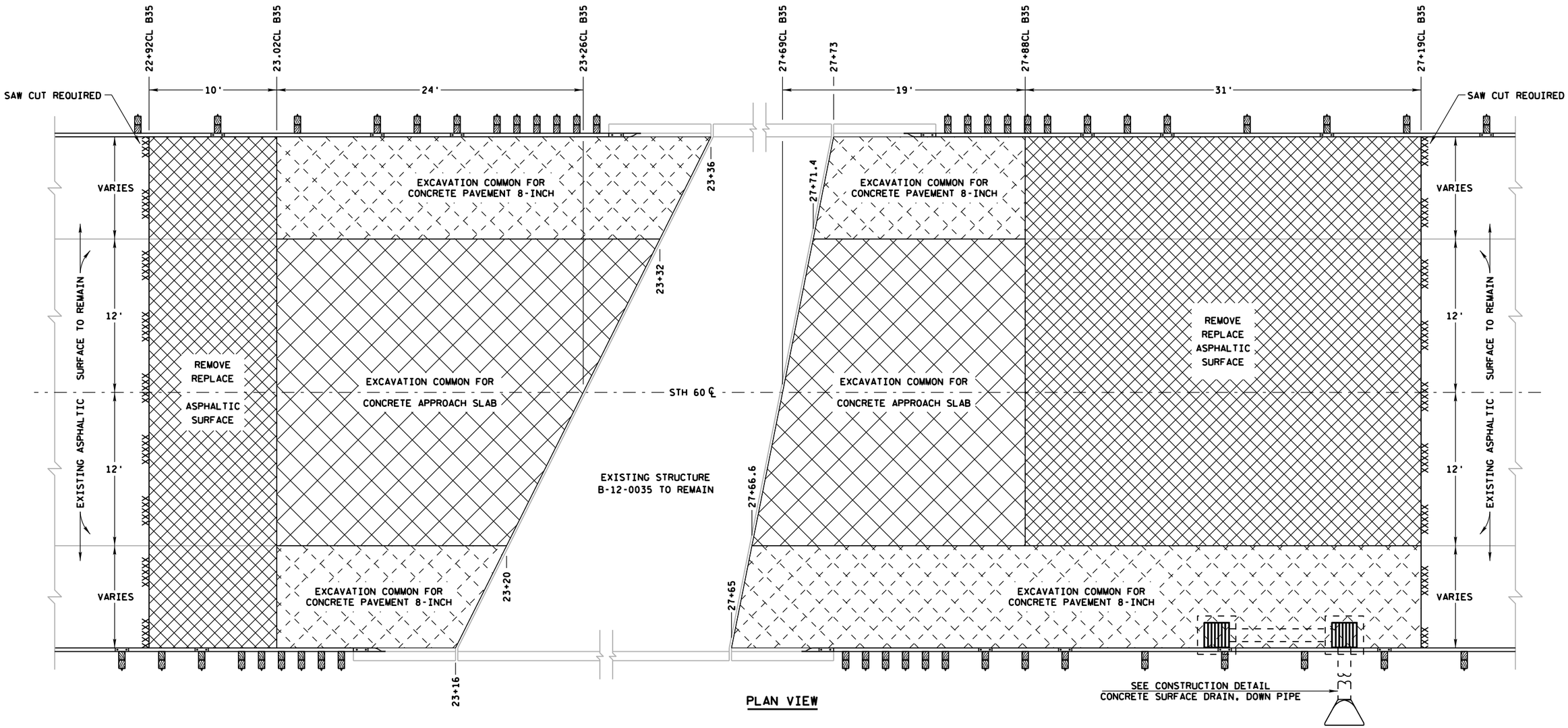


PROFILE VIEW AT CENTER LINE

STRUCTURE APPROACH DETAIL

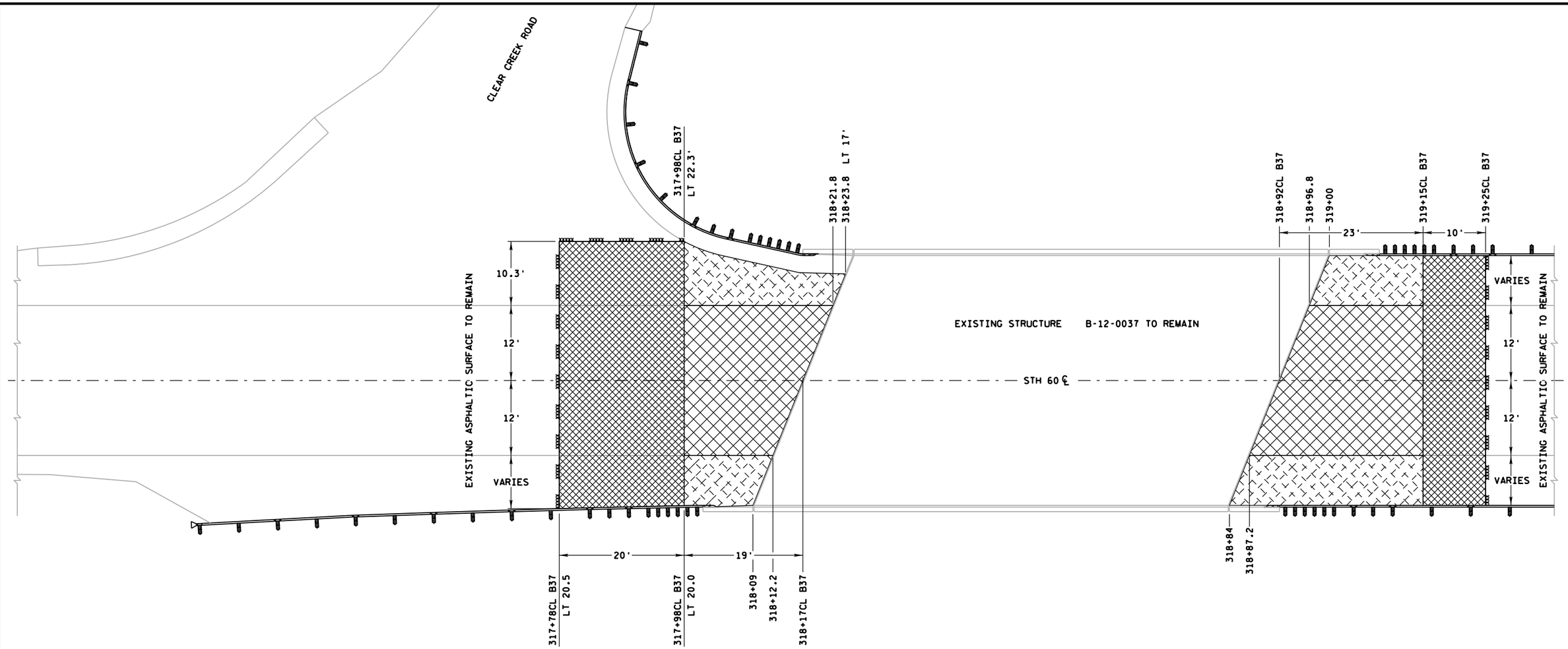
PROJECT NO: 5180-04-83	HWY: STH 60	COUNTY: CRAWFORD	CONSTRUCTION DETAIL --- B-12-0036 APPROACH	SHEET 4	E

2

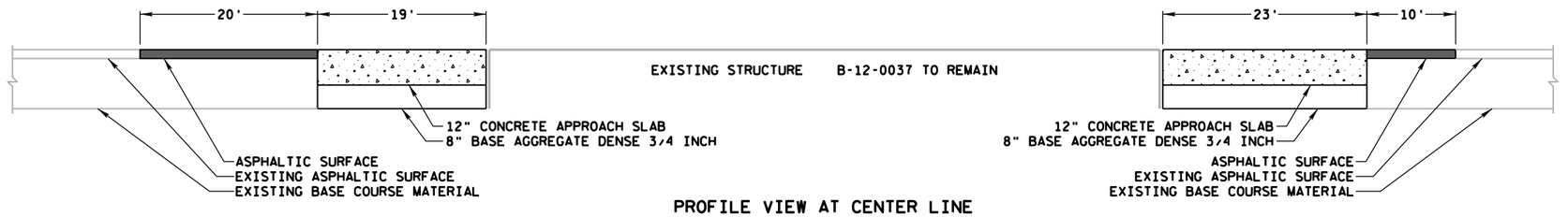


STRUCTURE APPROACH DETAIL

PROJECT NO: 5180-04-83	HWY: STH 60	COUNTY: CRAWFORD	CONSTRUCTION DETAIL --- B-12-0035 APPROACH	SHEET 5	E



PLAN VIEW



PROFILE VIEW AT CENTER LINE

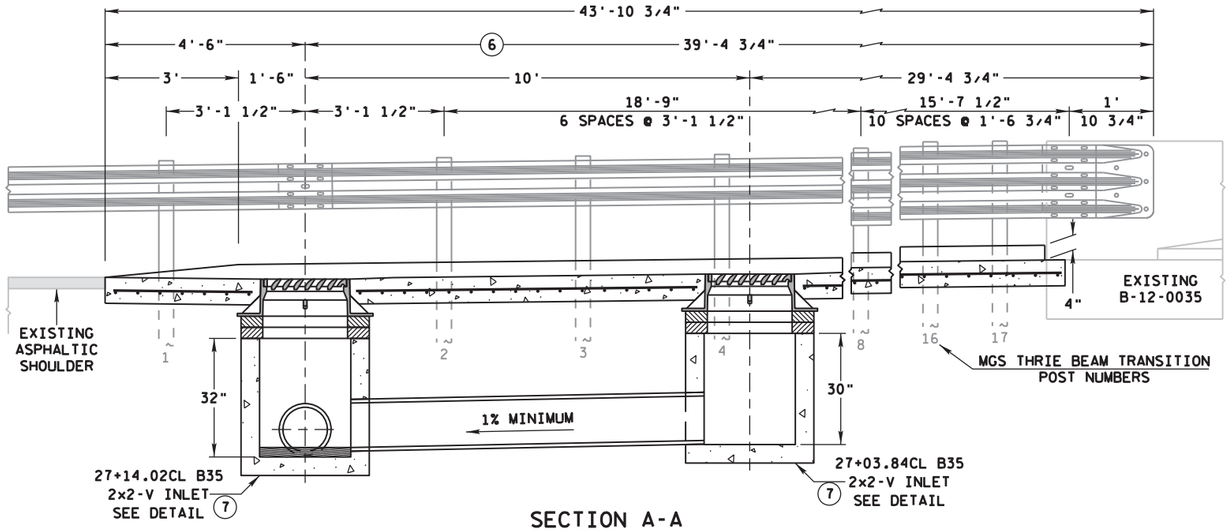
LEGEND

- SAW CUT REQUIRED
- REMOVE & REPLACE ASPHALTIC SURFACE
- EXCAVATION COMMON FOR CONCRETE APPROACH SLAB
- EXCAVATION COMMON FOR CONCRETE PAVEMENT 8-INCH

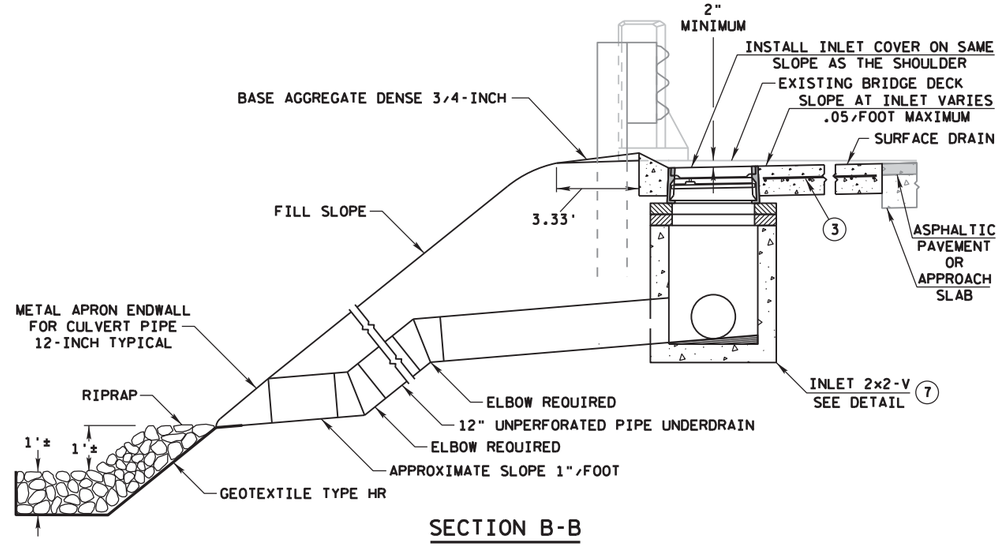
STRUCTURE APPROACH DETAIL

PROJECT NO: 5180-04-83	HWY: STH 60	COUNTY: CRAWFORD	CONSTRUCTION DETAIL-B-12-0037 APPROACH	SHEET 6	E

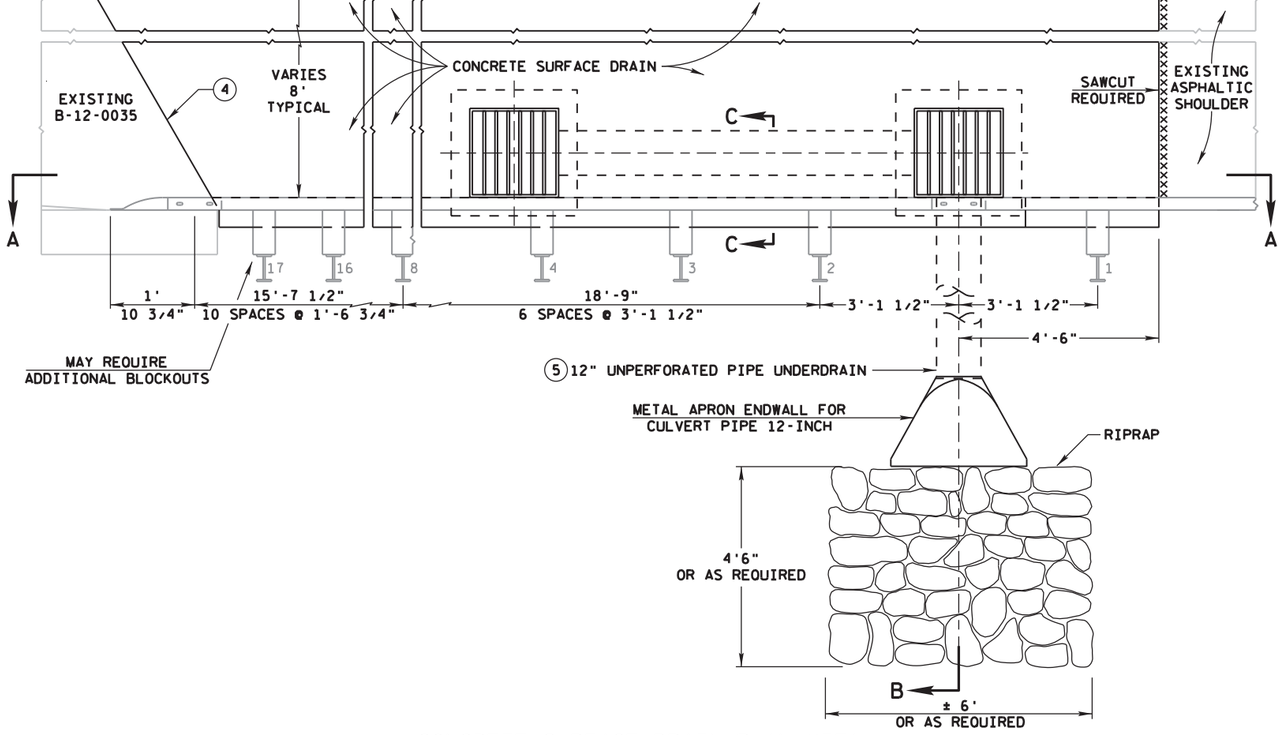
FILE NAME : N:\PDS\c3d\51800403\Design\eplans\021005_cd.dgn PLOT DATE : 21-JUN-2017 10:34 PLOT BY : dotwow PLOT NAME : PLOT SCALE : 16.000000:1.000000
WISDOT/CADDS SHEET 42



SECTION A-A



SECTION B-B



CONCRETE SURFACE DRAIN PLAN VIEW

GENERAL NOTES

1 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.

2 FOR THE PLACEMENT OF THE CASTING AND ADJUSTMENT RINGS, A BUTYL BASE MASTIC WRAP SHALL BE INSTALLED AROUND THE CASTING AND ADJUSTMENT RINGS TO PROVIDE A WATERTIGHT SEAL. THE WRAP SHALL OVERLAP ONTO THE CASTING AND SIDE OF INLET BY A MINIMUM OF 2-INCHES. AREAS TO BE WRAPPED SHALL BE THOUROUGHLY CLEANED WITH A WIRE BRUSH AND PAINTED WITH AN ADHESIVE PRIMER. INSTALLATION OF WRAP IS INCIDENTAL TO PLACEMENT OF INLET.

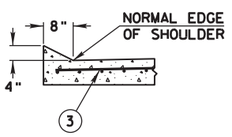
(3) ALL STEEL REINFORCEMENT SHALL BE EMBEDDED 2-INCHES CLEAR UNLESS OTHERWISE SHOWN OR NOTED. MINIMUM REINFORCEMENT SHALL BE 6"x 6" - W4.0 OR NO.3 BARS LONGITUDINAL AND TRANSVERSE SPACING 12" C-C.

(4) HOT POURED SEALANT UNLESS OTHERWISE SPECIFIED.

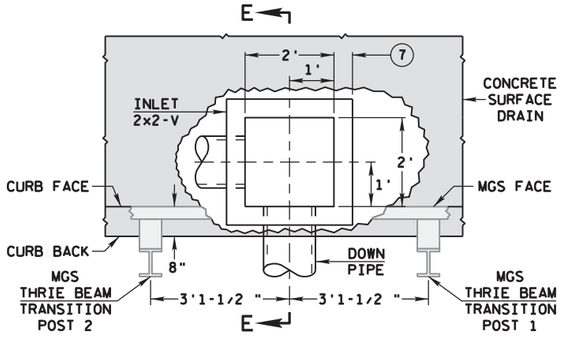
(5) THE PIPE UNDERDRAIN MAY BE ANY ONE OF THE SIX MATERIALS LISTED IN THE STANDARD SPECIFICATIONS SECTION 612.2 EXCEPT DRAIN TILE.

(6) THIS DIMENSION MAY VARY DEPENDING ON THE MGS GUARDRAIL POST SPACING. THE TYPICAL LOCATION FOR THE SURFACE DRAIN IS WHERE THE POST SPACING WIDENS TO 6'-3".

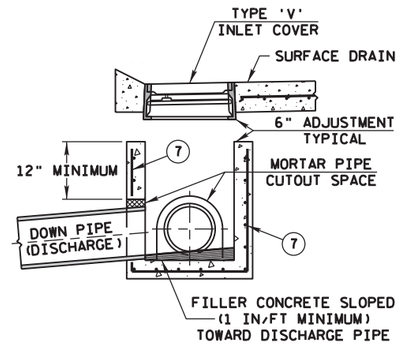
(7) FOR MORE DETAILS SEE STANDARD DETAIL DRAWINGS "INLET COVERS TYPE F, HM, HM-S, S, T, V, HM-GJ, & HM-GJ-S" AND "INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT".



SECTION C-C



INLET PLAN VIEW

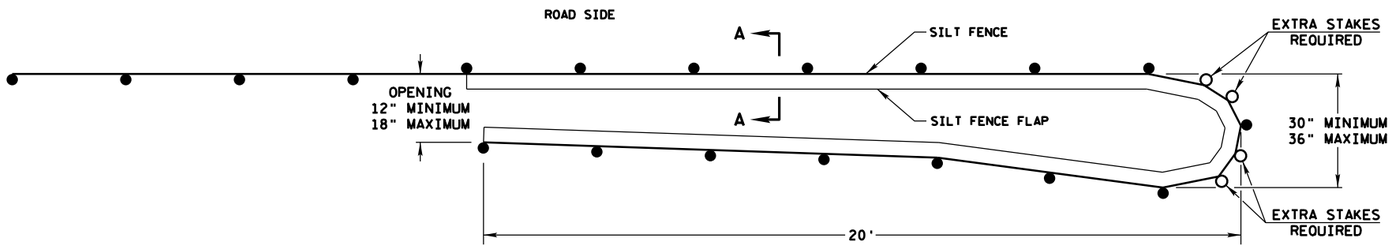


SECTION E-E

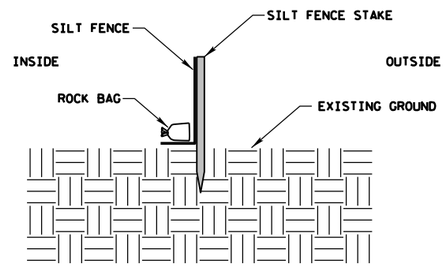
2

DESIGN NOTE:
USE WHEN ENVIRONMENTAL COMMITMENTS INDICATE TURN-AROUNDS ARE NEEDED DURING CONSTRUCTION.

NOTES:
SILT FENCE POSTS FOR THE TURN-AROUND SHALL BE ON THE OUTSIDE OF THE TURN-AROUND.
PLACE TURN-AROUND BY DRIVING IN STAKES AND PLACING ROCK BAGS ON SILT FENCE FLAP.
USE 10 ROCK BAGS PER TEMPORARY SMALL ANIMAL TURN-AROUND.
DO NOT TRENCH IN ACCORDING TO SILT FENCE REQUIREMENTS.
TO BE PAID FOR AS SILT FENCE.



PLAN VIEW



SECTION AA

TEMPORARY SMALL ANIMAL TURN-AROUND

2

M3-2
24"X12"
EAST
M1-6
24"X24"
60
W12-52
48"X48"
MAX.
16'
WIDTH

1

M3-4
24"X12"
WEST
M1-6
24"X24"
60
W12-52
48"X48"
MAX.
16'
WIDTH

2

M1-6
24"X24"
60
W12-52
48"X48"
MAX.
16'
WIDTH

3

W03-3

4

9 MILES AHEAD
W057-52
48"X36"

5

4 MILES AHEAD
W057-52
48"X36"

6

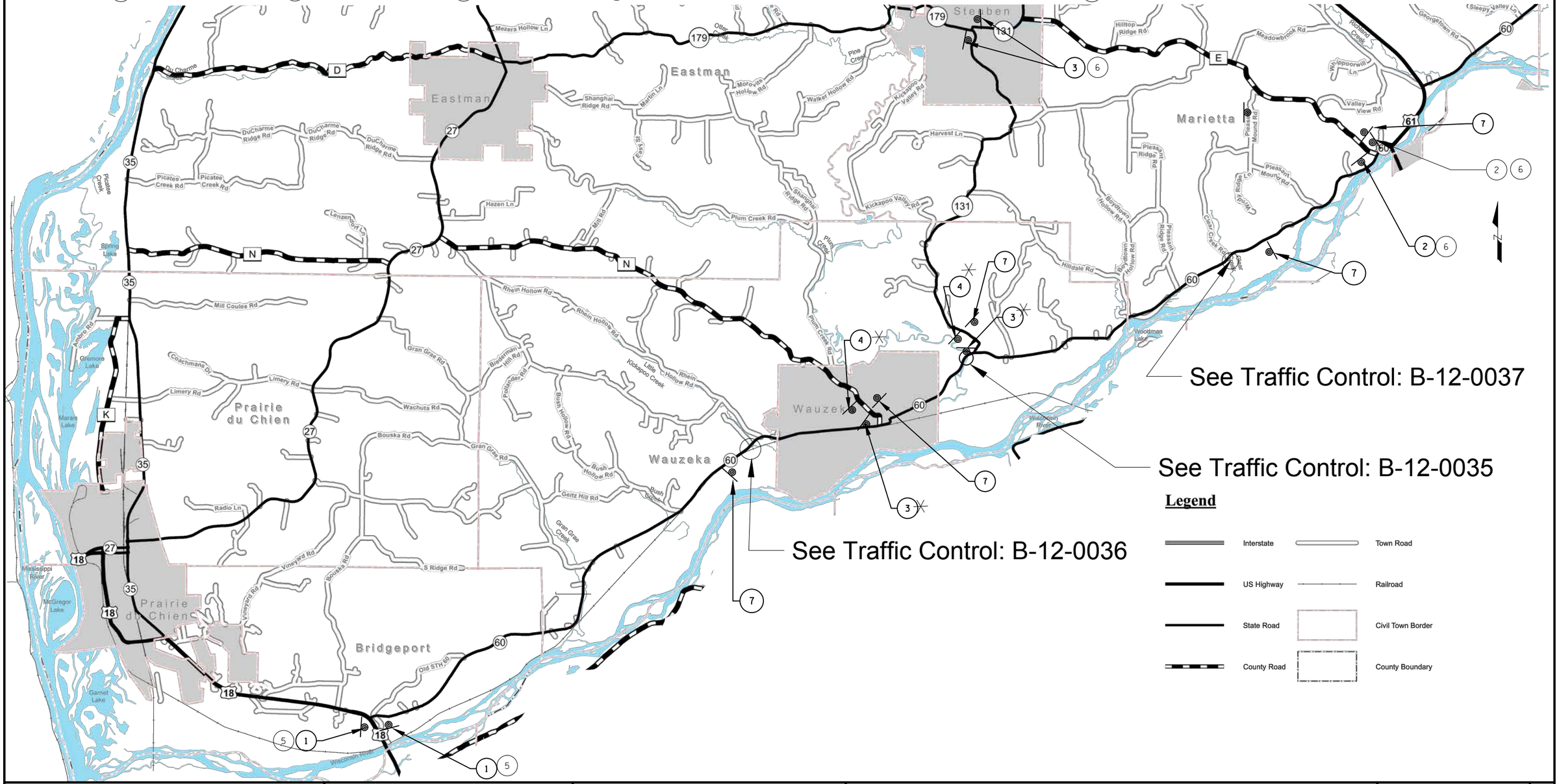
20 MILES AHEAD
W057-52
48"X36"

6

END ROAD WORK
G20-2A
48"X24"

7

*3 & 4 Distance Between Sign Posts is 250 FT



See Traffic Control: B-12-0037

See Traffic Control: B-12-0035

See Traffic Control: B-12-0036

Legend

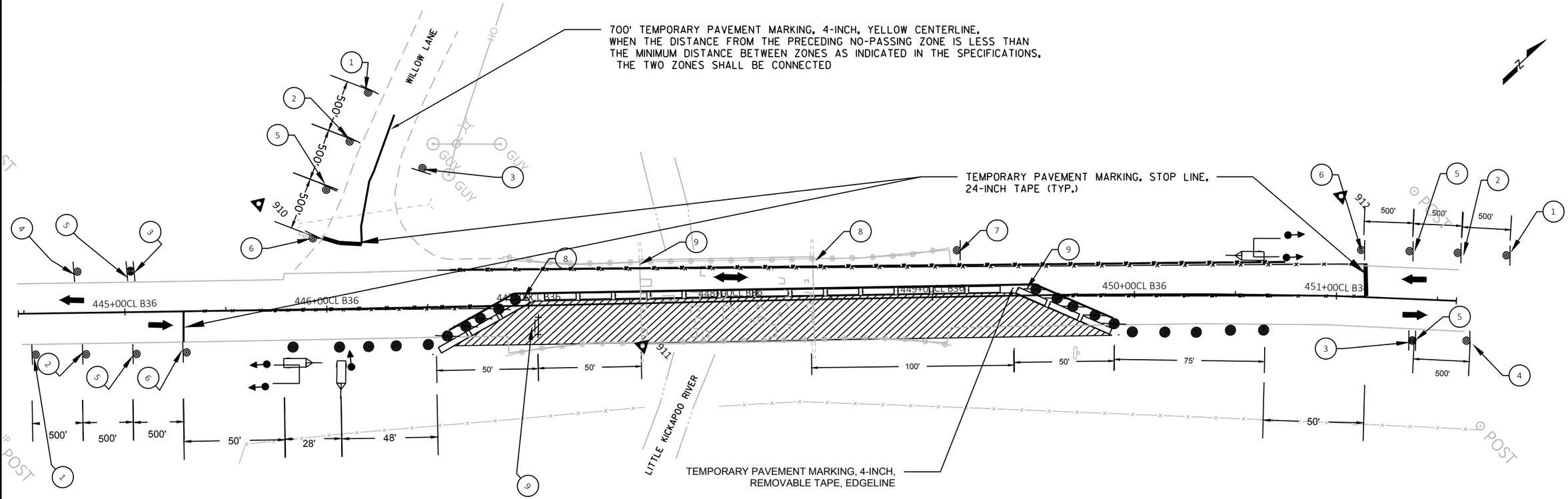
- Interstate
- US Highway
- State Road
- County Road
- Town Road
- Railroad
- Civil Town Border
- County Boundary

PROJECT NO: 5180-04-83	HWY: STH 60	COUNTY: CRAWFORD	TRAFFIC CONTROL - ADVANCED WARNING	SHEET 9	E

FILE NAME : N:±PDS±C3D±51800403±SHEETS OTHER±TRAFFIC CONTROL±025001_TC.DWG
LAYOUT NAME - Plan 1 IN 50 FT

PLOT DATE : 5/9/2017 8:54 AM PLOT BY : KLUDY, KATHLEEN M PLOT NAME : PLOT SCALE : **********

WISDOT/CADDS SHEET 42



LEGEND

- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- TRAFFIC CONTROL DRUM
- SIGN ON PERMANENT SUPPORT
- REMOVING PAVEMENT MARKING
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK AREA
- DIRECTION OF TRAFFIC
- FLAGS, 16" X 16" MIN., (ORANGE)
- TEMPORARY SIGNAL WITH BACKPLATE AND 12-INCH LENSES
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAILER MOUNTED TRAFFIC SIGNAL

TRAFFIC CONTROL GENERAL NOTES

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

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

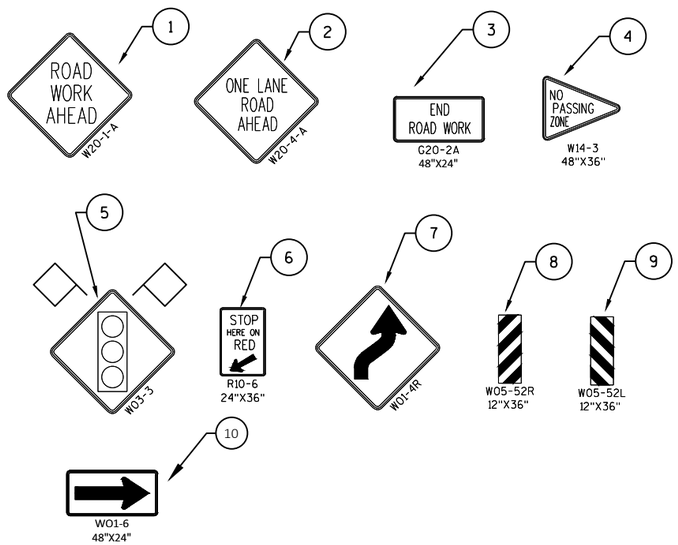
ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED.

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

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

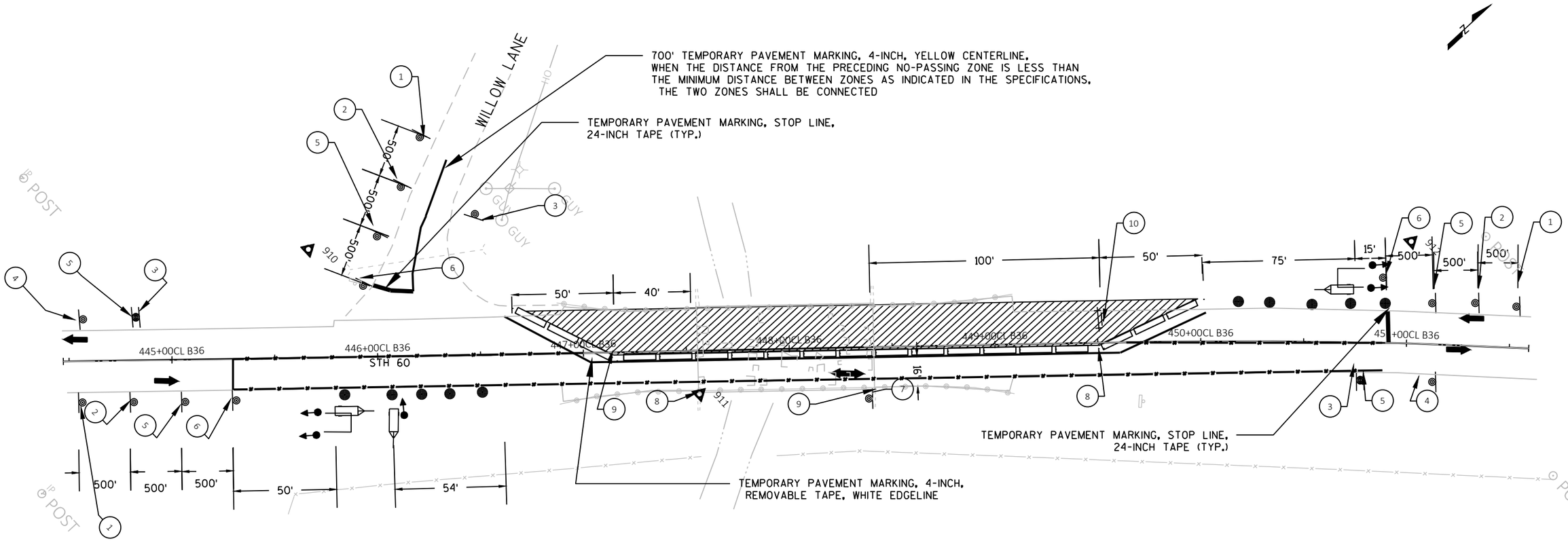
ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

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



PROJECT NO: 5180-04-83	HWY: STH 60	COUNTY: CRAWFORD	TRAFFIC CONTROL: B-12-36 STAGE 1	SHEET 10	E

2



LEGEND

- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- SIGN ON PERMANENT SUPPORT
- REMOVING PAVEMENT MARKING
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK AREA
- DIRECTION OF TRAFFIC
- FLAGS, 16" X 16" MIN., (ORANGE)
- TEMPORARY SIGNAL WITH BACKPLATE AND 12-INCH LENSES
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAILER MOUNTED TRAFFIC SIGNAL

TRAFFIC CONTROL GENERAL NOTES

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

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

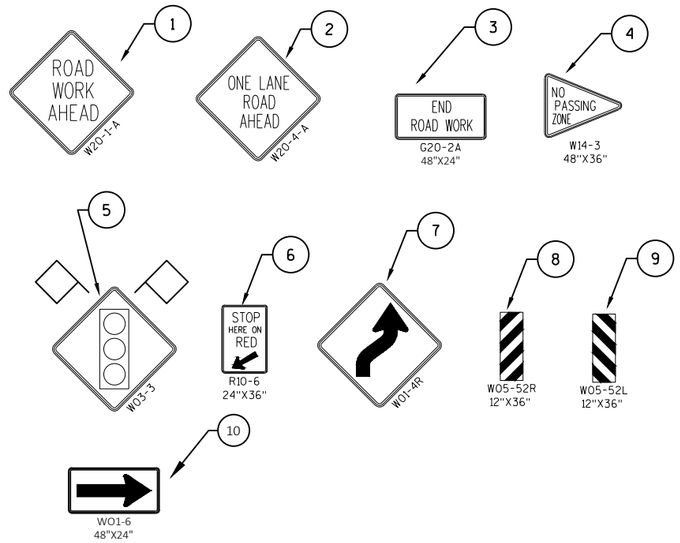
ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED.

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

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

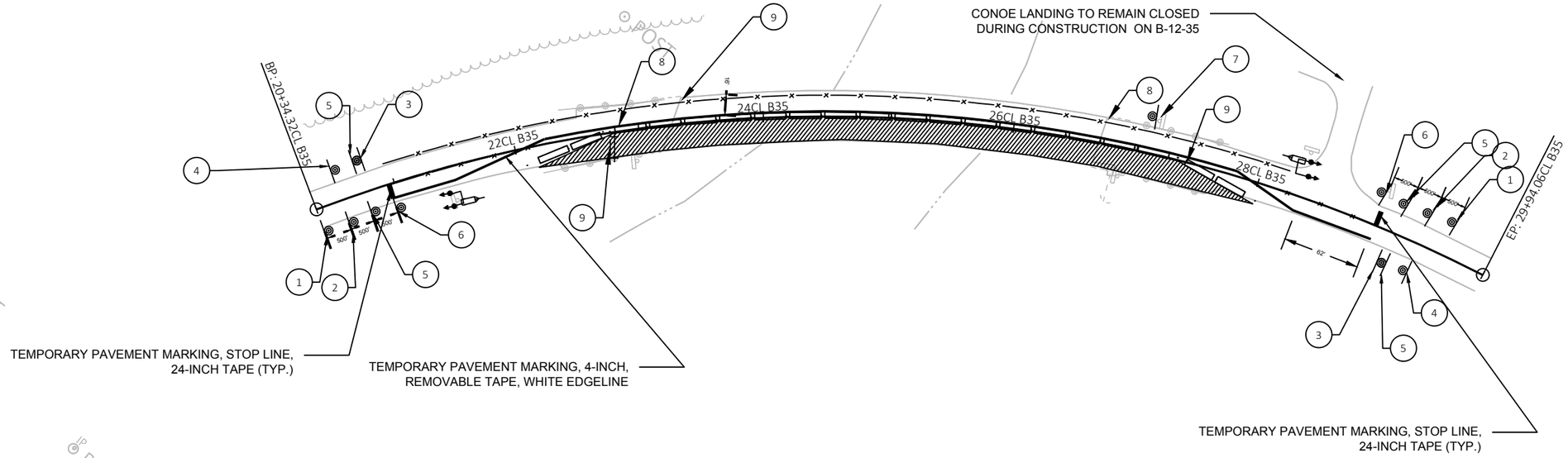
ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

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



PROJECT NO: 5180-04-83	HWY: STH 60	COUNTY: CRAWFORD	TRAFFIC CONTROL: B-12-36 STAGE 2	SHEET 11	E

SIGNING, PAVEMENT MARKING AND LANE CONTROL REQUIREMENTS SHALL CONFORM TO STANDARD DETAIL DRAWINGS 9 G 2-24C BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION, AND 15 D 33: TRAFFIC CONTROL, ONE LANE ROAD WITH TEMPORARY SIGNAL. MIRROR TRAFFIC CONTROL FOR WORK ZONE ON LEFT HALF OF ROADWAY.



LEGEND

- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- TRAFFIC CONTROL DRUM
- SIGN ON PERMANENT SUPPORT
- REMOVING PAVEMENT MARKING
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK AREA
- DIRECTION OF TRAFFIC
- FLAGS, 16" X 16" MIN., (ORANGE)
- TEMPORARY SIGNAL WITH BACKPLATE AND 12-INCH LENSES
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAILER MOUNTED TRAFFIC SIGNAL

TRAFFIC CONTROL GENERAL NOTES

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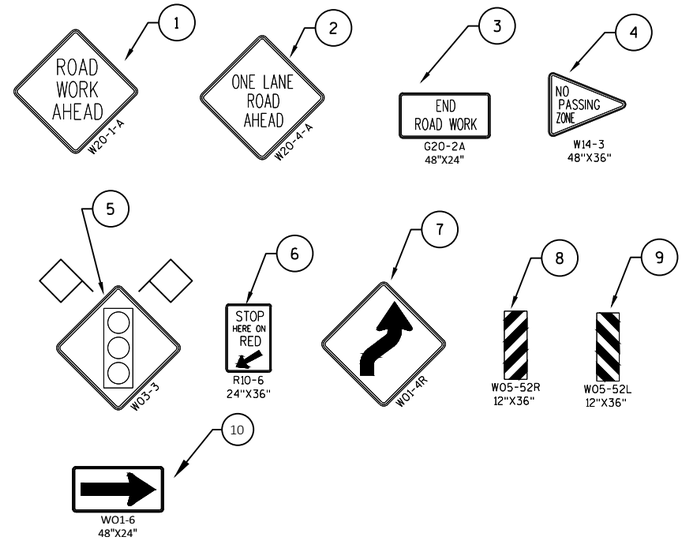
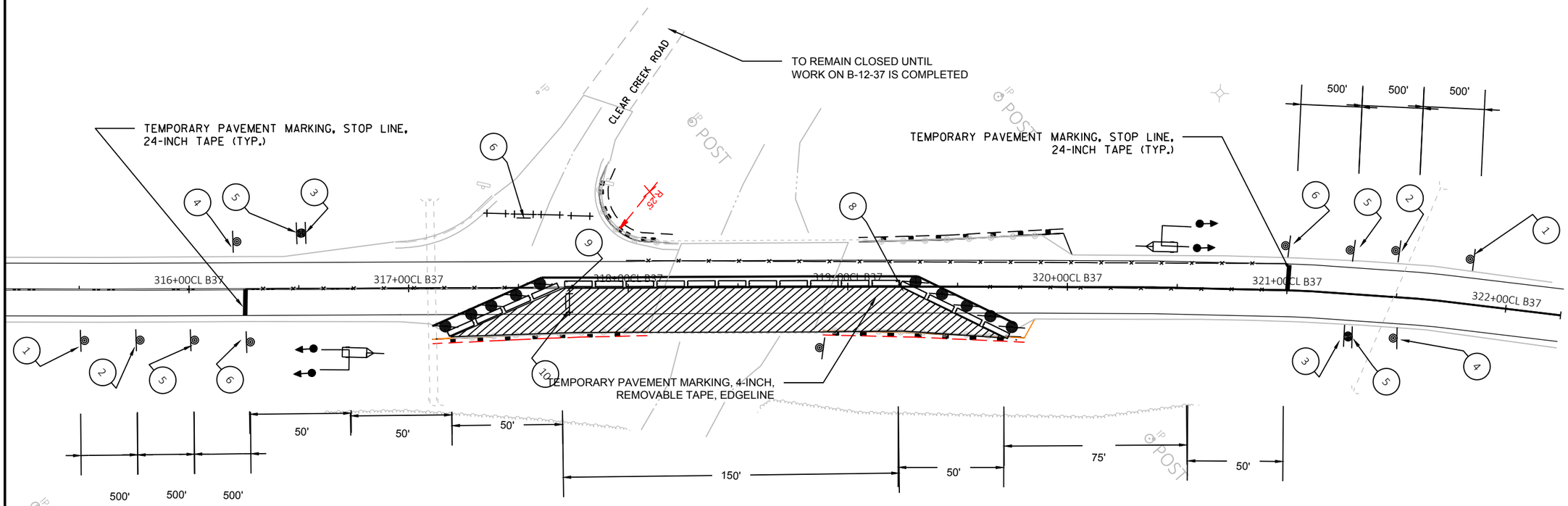
PLACE TEMPORARY PAVEMENT MARKING EDGELINE AND CENTERLINE, AND REMOVE EXISTING PAVEMENT MARKINGS IF LANE CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS AS NOTED ON DETAIL.



PROJECT NO: 5180-04-83	HWY: STH 60	COUNTY: CRAWFORD	TRAFFIC CONTROL: B-12-35 STAGE 1	SHEET 12	E

FILE NAME : N:\PDS\C3D\51800403\SHEETS OTHER\TRAFFIC CONTROL\025007_TC.DWG
LAYOUT NAME - 025007_TC
PLOT DATE : 5/9/2017 9:54 AM PLOT BY : KLUDY, KATHLEEN M PLOT NAME : PLOT SCALE : ##########

2



LEGEND

- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- SIGN ON PERMANENT SUPPORT
- REMOVING PAVEMENT MARKING
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK AREA
- DIRECTION OF TRAFFIC
- FLAGS, 16" X 16" MIN., (ORANGE)
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAILER MOUNTED TRAFFIC SIGNAL

TRAFFIC CONTROL GENERAL NOTES

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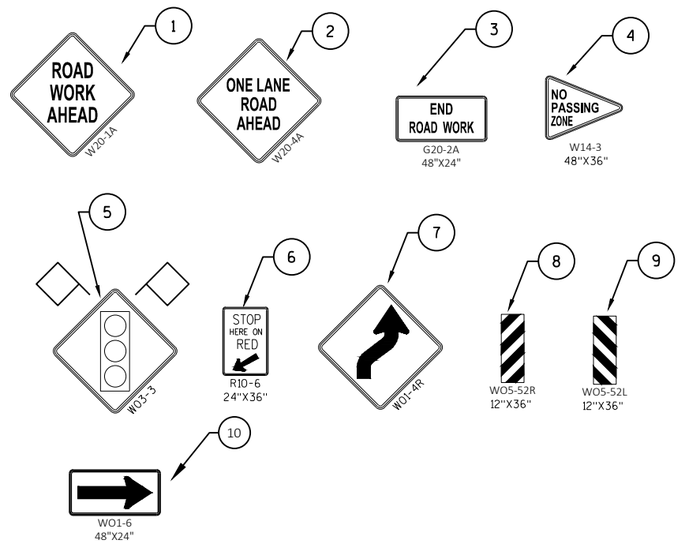
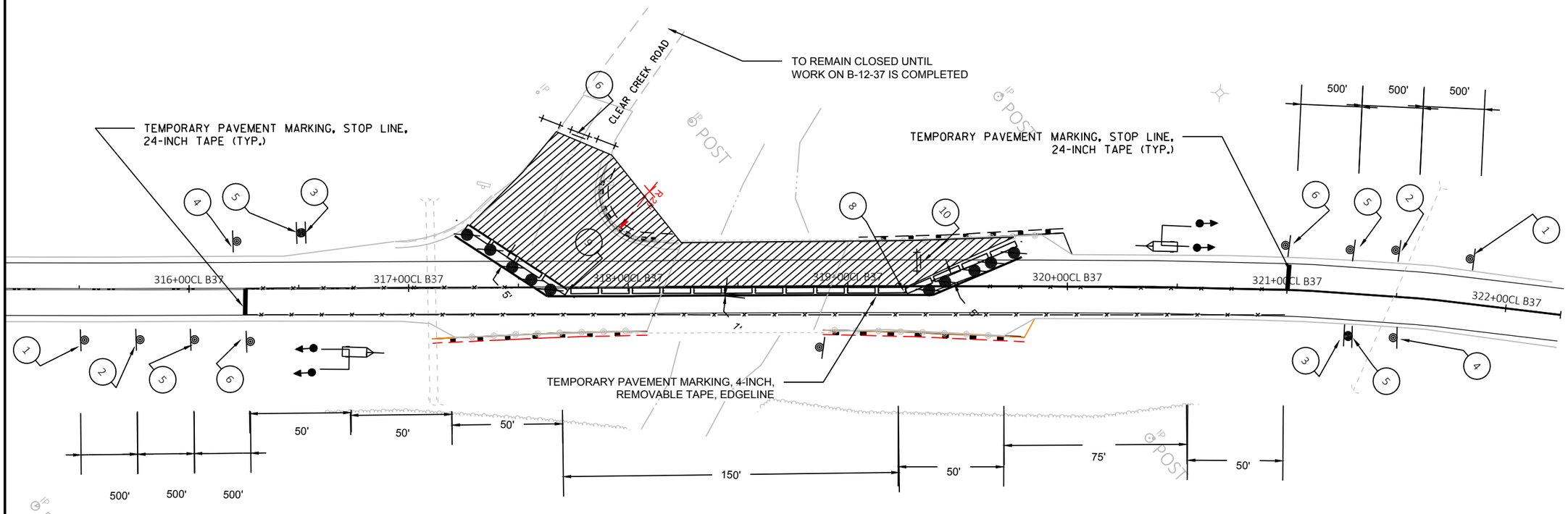


PROJECT NO: 5180-04-83	HWY: STH 60	COUNTY: CRAWFORD	TRAFFIC CONTROL: B-12-37 STAGE 1	SHEET 13	E

2



LEGEND

- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- SIGN ON PERMANENT SUPPORT
- REMOVING PAVEMENT MARKING
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK AREA
- DIRECTION OF TRAFFIC
- FLAGS, 16" X 16" MIN., (ORANGE)
- TYPE III BARRICADE WITH ATTACHED SIGN
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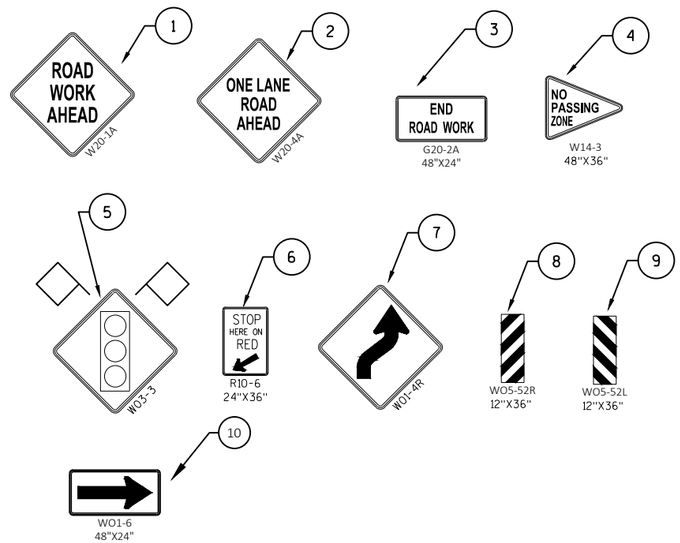
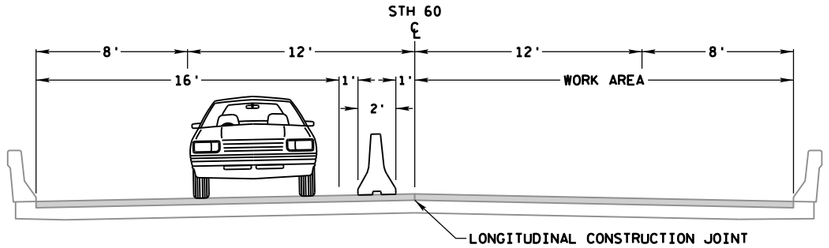
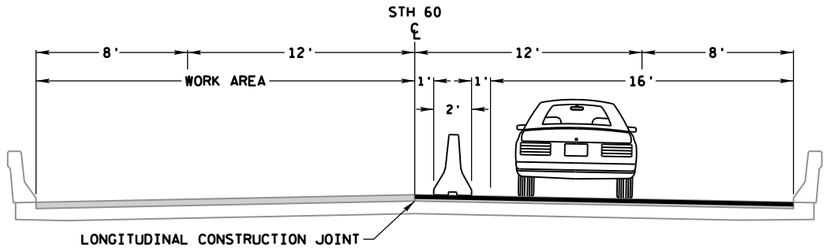


PROJECT NO: 5180-04-83	HWY: STH 60	COUNTY: CRAWFORD	TRAFFIC CONTROL: B-12-37 STAGE 2	SHEET 14	E



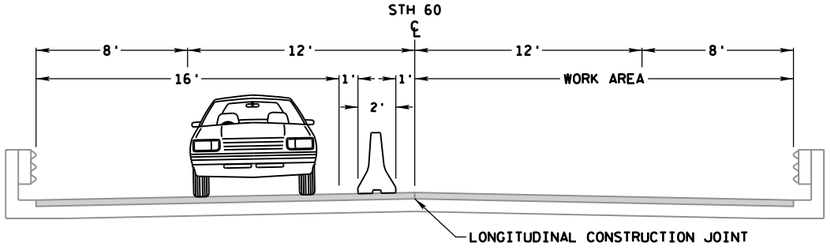
STH 60 STAGE 1

B-12-35 , B-12-37



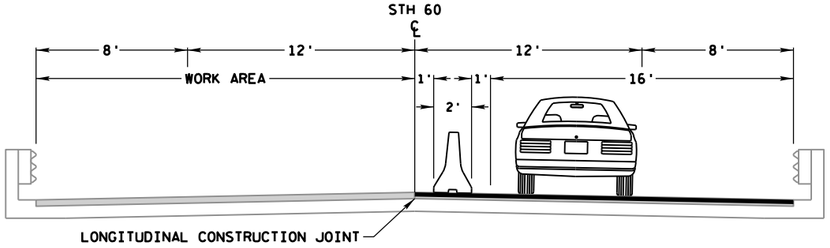
STH 60 STAGE 2

B-12-35 , B-12-37



STH 60 STAGE 1

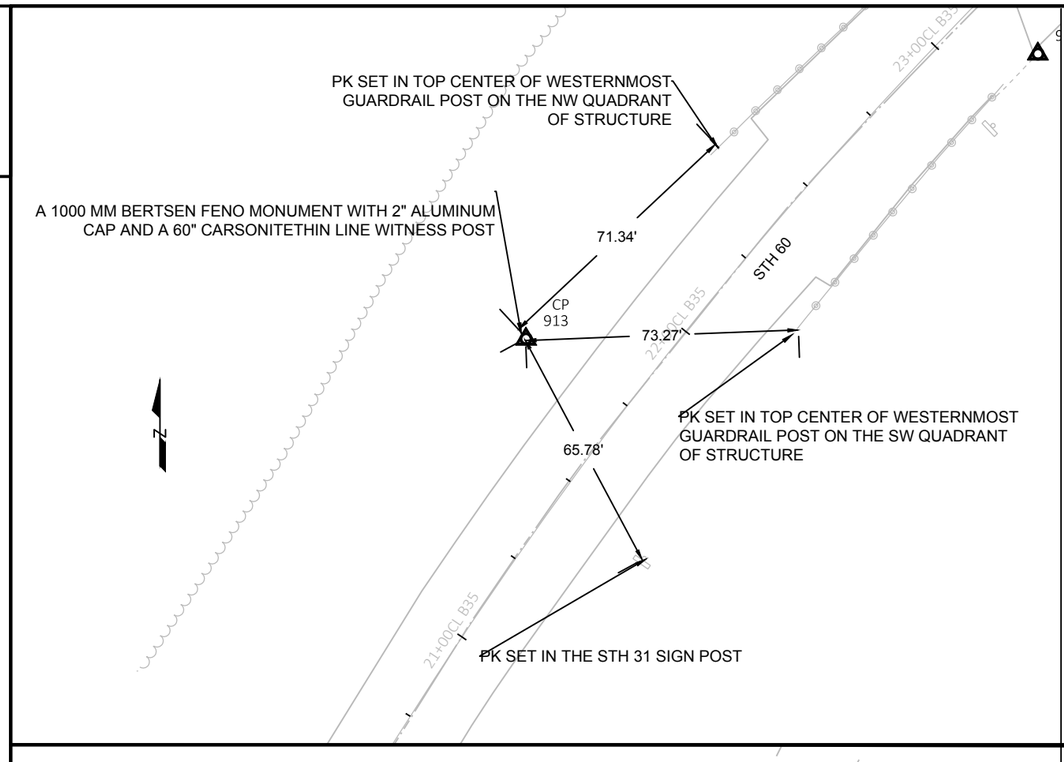
B-12-36

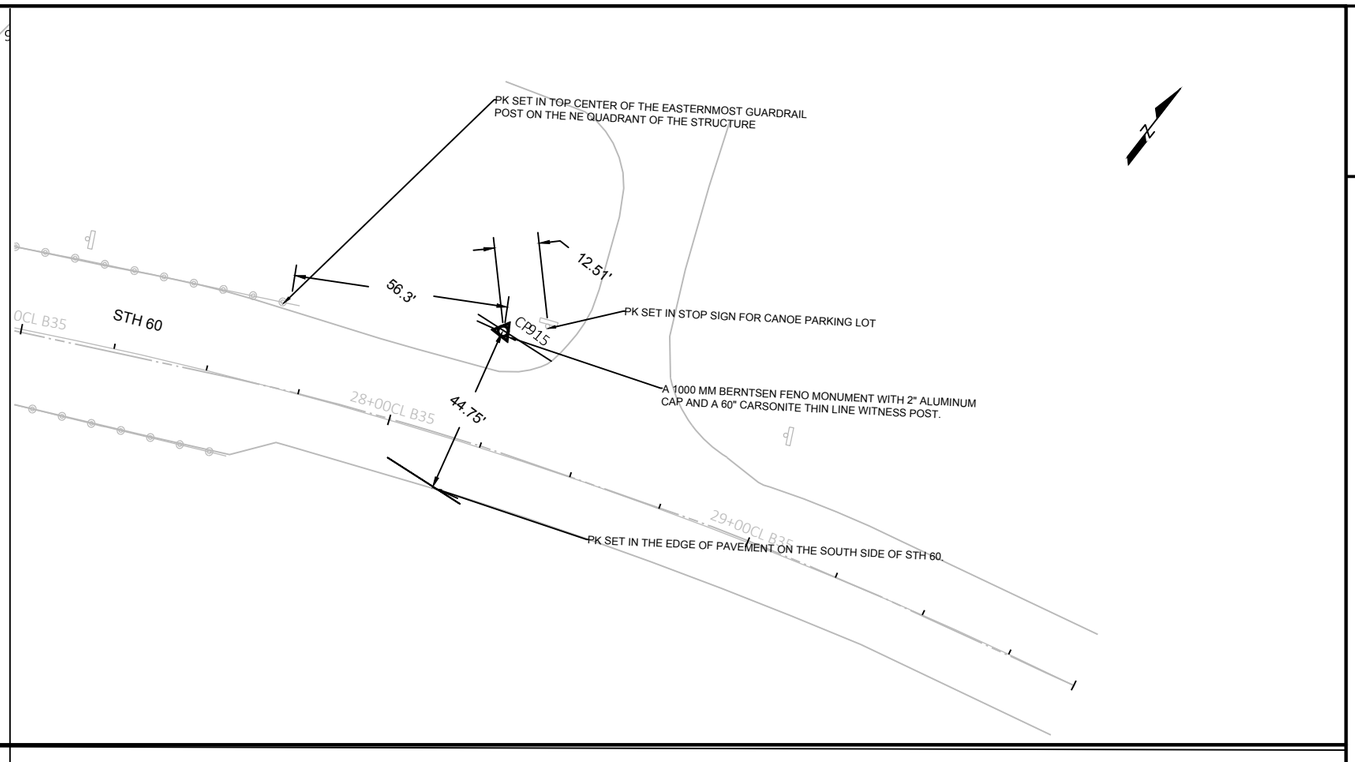


STH 60 STAGE 2

B-12-36

2





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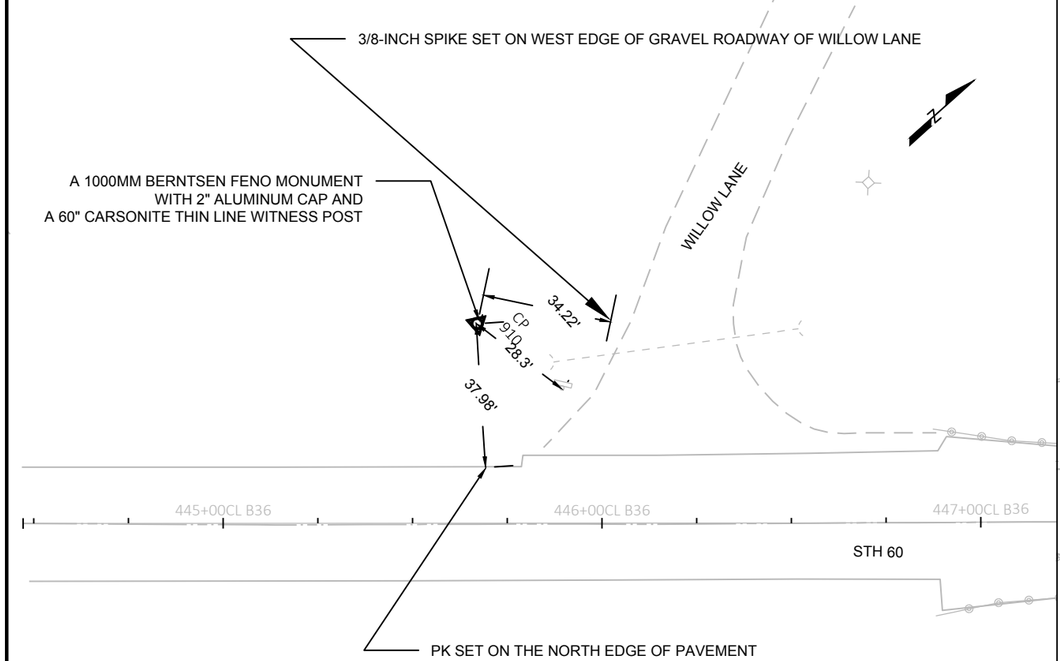
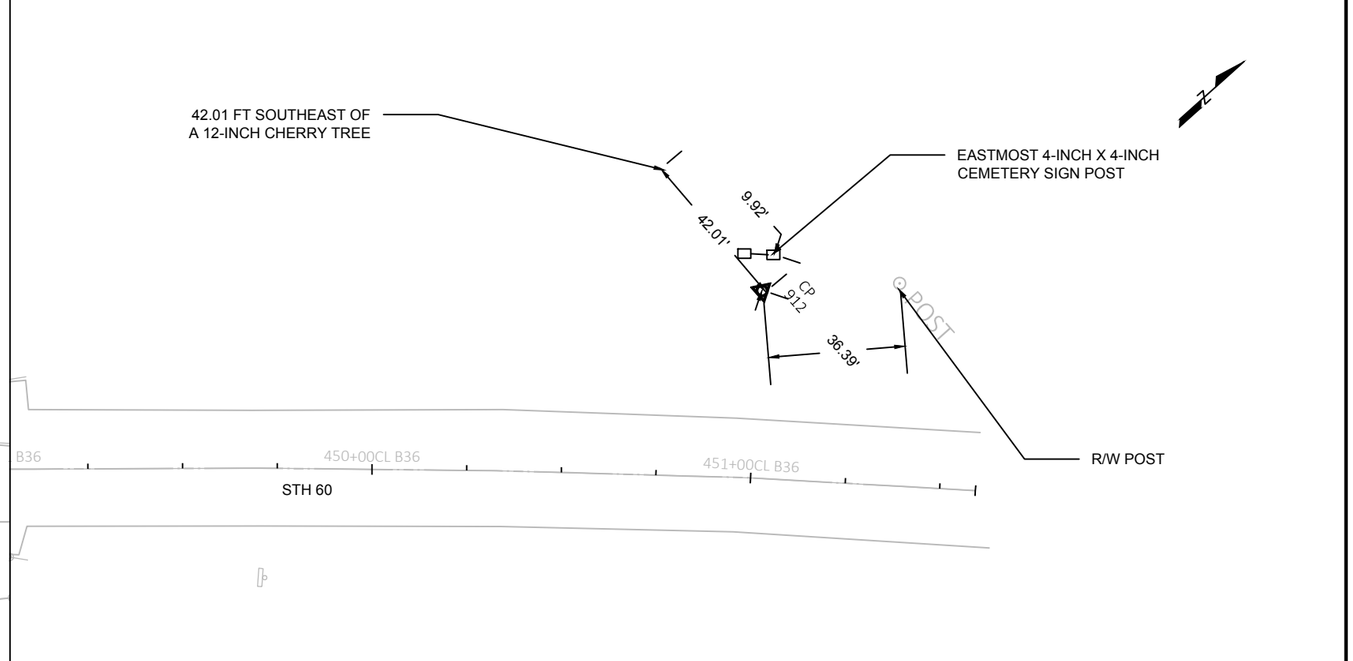
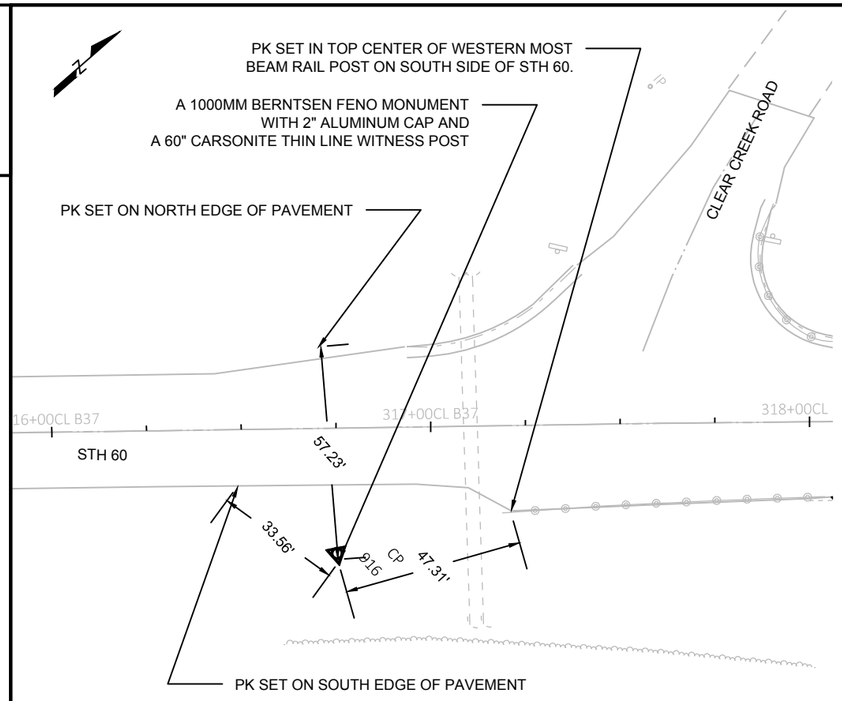
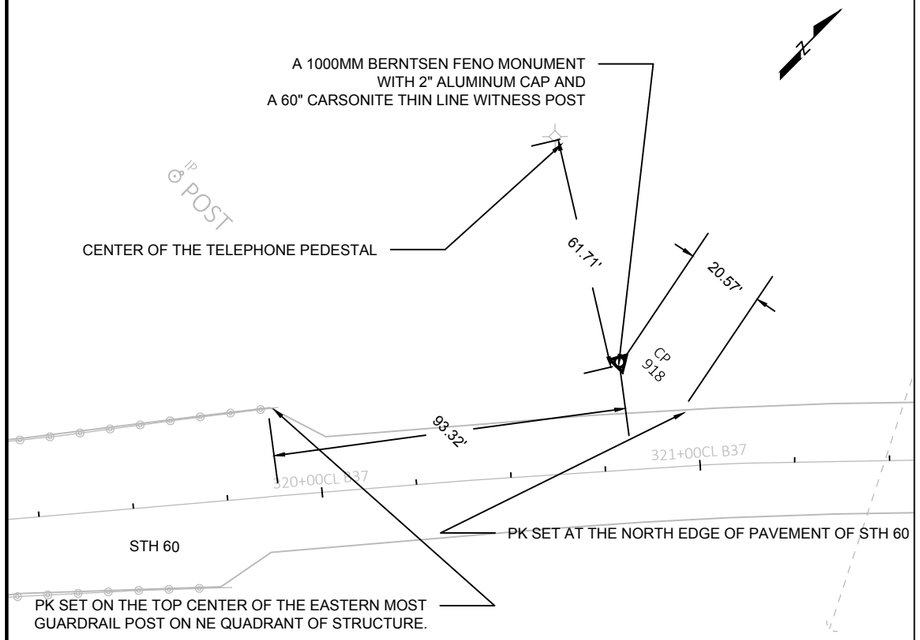




PROJECT NO: 5180-04-83	HWY: STH 60	COUNTY: CRAWFORD	CONTROL POINTS	SHEET 16	E


N
PK SET IN TOP CENTER OF WESTERN MOST
BEAM RAIL POST ON SOUTH SIDE OF STH 60.
A 1000MM BERNTSEN FENO MONUMENT
WITH 2" ALUMINUM CAP AND
A 60" CARSONITE THIN LINE WITNESS POST
PK SET ON NORTH EDGE OF PAVEMENT
IP
CLEAR CREEK ROAD
316+00CL B37
317+00CL B37
318+00CL
STH 60
57.23'
33.56'
9.16'
CP
47.31'
PK SET ON SOUTH EDGE OF PAVEMENT


N
A 1000MM BERNTSEN FENO MONUMENT
WITH 2" ALUMINUM CAP AND
A 60" CARSONITE THIN LINE WITNESS POST
IP
POST
CENTER OF THE TELEPHONE PEDESTAL
61.71'
20.57'
CP
9.18
93.32'
320+00CL B37
321+00CL B37
STH 60
PK SET AT THE NORTH EDGE OF PAVEMENT OF STH 60
PK SET ON THE TOP CENTER OF THE EASTERN MOST
GUARDRAIL POST ON NE QUADRANT OF STRUCTURE.

5180-04-83

Line	Item	Item Description	Unit	Total	Qty
0002	203.0200	Removing Old Structure (station) 01. 24+97CL B35	LS	1.000	1.000
0004	203.0210.S	Abatement of Asbestos Containing Material (structure) 01. B-12-0037	LS	1.000	1.000
0006	204.0110	Removing Asphaltic Surface	SY	341.000	341.000
0008	204.0150	Removing Curb & Gutter	LF	66.000	66.000
0010	204.0165	Removing Guardrail	LF	919.000	919.000
0012	204.0190	Removing Surface Drains	EACH	1.000	1.000
0014	205.0100	Excavation Common	CY	362.000	362.000
0016	206.1000	Excavation for Structures Bridges (structure) 01. B-12-0035	LS	1.000	1.000
0018	210.1500	Backfill Structure Type A	TON	60.000	60.000
0020	213.0100	Finishing Roadway (project) 01. 5180-04-83	EACH	1.000	1.000
0022	305.0110	Base Aggregate Dense 3/4-Inch	TON	59.000	59.000
0024	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	148.000	148.000
0026	415.0080	Concrete Pavement 8-Inch	SY	189.000	189.000
0028	415.0410	Concrete Pavement Approach Slab	SY	310.000	310.000
0030	416.0610	Drilled Tie Bars	EACH	10.000	10.000
0032	416.1010	Concrete Surface Drains	CY	10.000	10.000
0034	455.0605	Tack Coat	GAL	24.000	24.000
0036	465.0105	Asphaltic Surface	TON	61.000	61.000
0038	492.2010.S	Sealing Cracks and Joints with Hot-Applied Sealant	GAL	1.600	1.600
0040	502.0100	Concrete Masonry Bridges	CY	6.000	6.000
0042	502.3100	Expansion Device (structure) 01. B-12-0035	LS	1.000	1.000
0044	502.3200	Protective Surface Treatment	SY	2,315.000	2,315.000
0046	502.3210	Pigmented Surface Sealer	SY	405.000	405.000
0048	502.4204	Adhesive Anchors No. 4 Bar	EACH	4.000	4.000
0050	502.4205	Adhesive Anchors No. 5 Bar	EACH	54.000	54.000
0052	502.4206	Adhesive Anchors No. 6 Bar	EACH	7.000	7.000
0054	505.0400	Bar Steel Reinforcement HS Structures	LB	85.000	85.000
0056	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	2,175.000	2,175.000
0058	509.0301	Preparation Decks Type 1	SY	115.000	115.000
0060	509.0302	Preparation Decks Type 2	SY	111.000	111.000
0062	509.0500	Cleaning Decks	SY	2,252.000	2,252.000
0064	509.1000	Joint Repair	SY	20.000	20.000
0066	509.1500	Concrete Surface Repair	SF	23.000	23.000
0068	509.2000	Full-Depth Deck Repair	SY	3.000	3.000
0070	509.2500	Concrete Masonry Overlay Decks	CY	130.100	130.100
0072	509.9050.S	Cleaning Parapets	LF	940.000	940.000
0074	516.0500	Rubberized Membrane Waterproofing	SY	3.000	3.000
0076	521.1012	Apron Endwalls for Culvert Pipe Steel 12-Inch	EACH	1.000	1.000

5180-04-83

Line	Item	Item Description	Unit	Total	Qty
0078	601.0415	Concrete Curb & Gutter 6-Inch Sloped 30-Inch Type J	LF	66.000	66.000
0080	603.8000	Concrete Barrier Temporary Precast Delivered	LF	1,422.500	1,422.500
0082	603.8125	Concrete Barrier Temporary Precast Installed	LF	2,845.000	2,845.000
0084	606.0200	Riprap Medium	CY	1.000	1.000
0086	606.0300	Riprap Heavy	CY	18.000	18.000
0088	611.0654	Inlet Covers Type V	EACH	2.000	2.000
0090	611.3220	Inlets 2x2-FT	EACH	2.000	2.000
0092	612.0212	Pipe Underdrain Unperforated 12-Inch	LF	45.000	45.000
0094	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	30.000	30.000
0096	614.0010	Barrier System Grading Shaping Finishing	EACH	11.000	11.000
0098	614.0150	Anchor Assemblies for Steel Plate Beam Guard	EACH	1.000	1.000
0100	614.0200	Steel Thrie Beam Structure Approach	LF	84.000	84.000
0102	614.0345	Steel Plate Beam Guard Short Radius	LF	25.000	25.000
0104	614.0370	Steel Plate Beam Guard Energy Absorbing Terminal	EACH	3.000	3.000
0106	614.0390	Steel Plate Beam Guard Short Radius Terminal	EACH	1.000	1.000
0108	614.2500	MGS Thrie Beam Transition	LF	312.000	312.000
0110	614.2610	MGS Guardrail Terminal EAT	EACH	8.000	8.000
0112	618.0100	Maintenance And Repair of Haul Roads (project) 01. 5180-04-83	EACH	1.000	1.000
0114	619.1000	Mobilization	EACH	1.000	1.000
0116	625.0500	Salvaged Topsoil	SY	15.000	15.000
0118	627.0200	Mulching	SY	15.000	15.000
0120	628.1504	Silt Fence	LF	1,560.000	1,560.000
0122	628.1520	Silt Fence Maintenance	LF	3,120.000	3,120.000
0124	628.1905	Mobilizations Erosion Control	EACH	3.000	3.000
0126	628.1910	Mobilizations Emergency Erosion Control	EACH	4.000	4.000
0128	628.2004	Erosion Mat Class I Type B	SY	8.000	8.000
0130	628.7010	Inlet Protection Type B	EACH	2.000	2.000
0132	628.7570	Rock Bags	EACH	110.000	110.000
0134	629.0210	Fertilizer Type B	CWT	8.000	8.000
0136	630.0120	Seeding Mixture No. 20	LB	2.000	2.000
0138	630.0200	Seeding Temporary	LB	2.000	2.000
0140	633.5200	Markers Culvert End	EACH	1.000	1.000
0142	638.2102	Moving Signs Type II	EACH	2.000	2.000
0144	642.5001	Field Office Type B	EACH	1.000	1.000
0146	643.0100	Traffic Control (project) 01. 5180-04-83	EACH	1.000	1.000
0148	643.0300	Traffic Control Drums	DAY	2,385.000	2,385.000
0150	643.0420	Traffic Control Barricades Type III	DAY	495.000	495.000
0152	643.0705	Traffic Control Warning Lights Type A	DAY	180.000	180.000
0154	643.0715	Traffic Control Warning Lights Type C	DAY	1,170.000	1,170.000

5180-04-83

Line	Item	Item Description	Unit	Total	Qty
0156	643.0900	Traffic Control Signs	DAY	2,058.000	2,058.000
0158	645.0111	Geotextile Type DF Schedule A	SY	20.000	20.000
0160	645.0120	Geotextile Type HR	SY	80.000	80.000
0162	646.0106	Pavement Marking Epoxy 4-Inch	LF	5,054.000	5,054.000
0164	646.0600	Removing Pavement Markings	LF	5,054.000	5,054.000
0166	649.0400	Temporary Pavement Marking Removable Tape 4-Inch	LF	2,745.000	2,745.000
0168	649.1400	Temporary Pavement Marking Stop Line Removable Tape 24-Inch	LF	92.000	92.000
0170	650.4500	Construction Staking Subgrade	LF	120.000	120.000
0172	650.5000	Construction Staking Base	LF	120.000	120.000
0174	650.6000	Construction Staking Pipe Culverts	EACH	1.000	1.000
0176	650.7000	Construction Staking Concrete Pavement	LF	120.000	120.000
0178	650.9910	Construction Staking Supplemental Control (project) 01. 5180-04-83	LS	1.000	1.000
0180	661.0100	Temporary Traffic Signals for Bridges (structure) 01. B-12-0035	LS	1.000	1.000
0182	661.0100	Temporary Traffic Signals for Bridges (structure) 02. B-12-0036	LS	1.000	1.000
0184	661.0100	Temporary Traffic Signals for Bridges (structure) 03. B-12-0037	LS	1.000	1.000
0186	690.0150	Sawing Asphalt	LF	446.000	446.000
0188	ASP.1T0A	On-the-Job Training Apprentice at $5.00/HR	HRS	1,200.000	1,200.000
0190	ASP.1T0G	On-the-Job Training Graduate at $5.00/HR	HRS	600.000	600.000
0192	SPV.0035	Special 01. Scour Repair, Grout	CY	65.000	65.000
0194	SPV.0035	Special 02. Scour Repair, Grout Bags	CY	139.000	139.000
0196	SPV.0035	Special 03. Scour Repar, Grout Mats	CY	45.000	45.000
0198	SPV.0060	Special 01. Cleaning and Painting Bearings	EACH	4.000	4.000
0200	SPV.0105	Special 01. Refurbish Steel Post Base Plates	LS	1.000	1.000
0202	SPV.0105	Special 02. Steel Railing Type W Rehabilitation	LS	1.000	1.000
0204	SPV.0165	Special 01. Articulating Block Fabrication Mat Slope Repair	SF	2,895.000	2,895.000

3

REMOVING ASPHALTIC SURFACE

CATEGORY	STATION	TO	STATION	LOCATION	204.0110 SY	REMARKS
0010	22+92CL B35	-	23+02CL B35	B-12-0035	50	
0010	26+89CL B35	-	26+99CL B35	B-12-0035	50	
0010	447+31CL B36	-	447+41CL B36	B-12-0036	50	
0010	448+56CL B36	-	448+65CL B36	B-12-0036	50	
0010	317+78CL B37	-	317+99CL B37	B-12-0037	91	
0010	319+15CL B37	-	319+25CL B37	B-12-0037	50	
				TOTAL 0010	341	

REMOVING GUARDRAIL

CATEGORY	STATION	TO	STATION	LOCATION	204.0165 LF	REMARKS
0010	22+20CL B35	-	23+23CL B35	RT	85	B-12-0035
0010	22+38CL B35	-	22+93CL B35	LT	85	B-12-0035
0010	26+77CL B35	-	27+61CL B35	RT	85	B-12-0035
0010	26+84CL B35	-	27+68CL B35	LT	85	B-12-0035
0010	446+86CL B36	-	447+55CL B36	LT	68	B-12-0036
0010	446+86CL B36	-	447+55CL B36	RT	68	B-12-0036
0010	448+41CL B36	-	449+10CL B36	LT	68	B-12-0036
0010	448+41CL B36	-	449+10CL B36	RT	68	B-12-0036
0010	317+18CL B37	-	318+05CL B37	RT	85	B-12-0037
0010	318+04CL B37	-	318+16CL B37	LT	52	B-12-0037
0010	318+90CL B37	-	319+75CL B37	RT	85	B-12-0037
0010	319+02CL B37	-	319+90CL B37	LT	85	B-12-0037
				TOTAL 0010	919	

EXCAVATION COMMON

CATEGORY	STATION	TO	STATION	LOCATION	205.0100 CY	REMARKS
0010	23+02CL B35	-	23+26CL B35	B-12-0035	75	APPROACH SLAB & SHOULDER
0010	26+69CL B35	-	26+89CL B35	B-12-0035	60	APPROACH SLAB & SHOULDER
0010	27+14CL B35			STH 60 RT	12	DOWN PIPE AND INLETS
0010	447+41CL B36	-	447+55CL B36	B-12-0036	45	APPROACH SLAB & SHOULDER
0010	448+40CL B36	-	448+56CL B36	B-12-0036	45	APPROACH SLAB & SHOULDER
0010	317+99CL B37	-	318+16CL B37	B-12-0037	55	APPROACH SLAB & SHOULDER
0010	318+92CL B37	-	319+15CL B37	B-12-0037	70	APPROACH SLAB & SHOULDER
				TOTAL 0010	362	

REMOVING SURFACE DRAINS

CATEGORY	STATION	TO	STATION	LOCATION	204.0190 EACH	REMARKS
0010	26+69CL B35	-	26+88CL B35	RT	1	B-12-0035
				TOTAL 0010	1	

3

BEAM GUARD SUMMARY

CATEGORY	STATION	TO	STATION	LOCATION	614.0200 STEEL THRIE BEAM STRUCTURE APPROACH LF	614.0345 STEEL PLATE BEAM GUARD SHORT RADIUS LF	614.0370 STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL EACH	614.0390 STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL EACH	614.2500 MGS THRIE BEAM TRANSITION LF	614.2610 MGS GUARDRAIL TERMINAL EAT EACH	614.0010 BARRIER SYSTEM GRADING SHAPING FINISHING EACH	REMARKS	305.0110 BASE AGGREGATE DENSE 3/4 - INCH TON	FOR INFORMATION ONLY TOPSOIL SY	MULCHING SY	FERTILIZER TYPE B CWT	SEEDING MIXTURE NO. 20 LB	SEEDING TEMPORARY LB
0010	22+17CL B35	-	22+54CL B35	RT						1	1	B-12-0035	3	28	28	0.10	1.50	1.50
0010	22+54CL B35	-	22+93CL B35	RT					39			B-12-0035	2					
0010	22+31CL B35	-	22+84CL B35	LT						1	1	B-12-0035	3	44	44	0.10	2.00	2.00
0010	22+84CL B35	-	23+23CL B35	LT					39			B-12-0035	2					
0010	27+23CL B35	-	27+76CL B35	LT						1	1	B-12-0035	3	106	106	0.10	3.60	3.60
0010	26+84CL B35	-	27+23CL B35	LT					39			B-12-0035	2					
0010	27+16CL B35	-	27+69CL B35	RT						1	1	B-12-0035	3	42	42	0.10	1.90	1.90
0010	26+77CL B35	-	27+16CL B35	RT					39			B-12-0035	2					
0010	446+62CL B36	-	447+15CL B36	LT						1	1	B-12-0036	3	32	32	0.10	1.60	1.60
0010	447+15CL B36	-	447+55CL B36	LT					39			B-12-0036	2					
0010	446+62CL B36	-	447+15CL B36	RT						1	1	B-12-0036	3	28	28	0.10	1.50	1.50
0010	447+15CL B36	-	447+55CL B36	RT					39			B-12-0036	2					
0010	448+80CL B36	-	449+33CL B36	RT						1	1	B-12-0036	3	46	46	0.10	2.00	2.00
0010	448+41CL B36	-	448+80CL B36	RT					39			B-12-0036	2					
0010	448+80CL B36	-	449+33CL B36	LT						1	1	B-12-0036	3	28	28	0.10	1.50	1.50
0010	448+41CL B36	-	448+80CL B36	LT					39			B-12-0036	2					
0010	317+14CL B37	-	318+04CL B37	RT	21							B-12-0037	2					
0010	317+14CL B37	-	317+64CL B37	RT			1				1	B-12-0037	3	47	47	0.10	2.00	2.00
0010	318+00CL B37	-	318+21CL B37	LT	21							B-12-0037	2					
0010	CLEAR CREEK RD	-	318+00CL B37	LT		25						25 FT RADIUS (FIELD VERIFY) B-12-37	2					
0010	CLEAR CREEK RD			LT				1				B-12-0037						
0010	318+88CL B37	-	319+09CL B37	RT	21							B-12-0037	2					
0010	319+09CL B37	-	319+59CL B37	RT			1				1	B-12-0037	3	103	103	0.10	3.50	3.50
0010	319+05CL B37	-	319+26CL B37	LT	21							B-12-0037	2					
0010	319+26CL B37	-	319+76CL B37	LT			1				1	B-12-0037	3	56	56	0.10	2.30	2.30
				TOTAL 0010	84	25	3	1	312	8	11		59	560	560	1.10	23.40	23.40

CURB AND GUTTER SUMMARY SUMMARY

CATEGORY	STATION	TO	STATION	LOCATION	204.0150 REMOVING CURB AND GUTTER LF	601.0415 CONCRETE CURB & GUTTER 6-INCH SLOPED 30-INCH TYPE J LF	REMARKS
0010	317+87CL B37	-	318+21CL B37	LT	66	66	CLEAR CREEK RD TO B-12-0037
				TOTAL 0010	66	66	

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ASPHALT SUMMARY

CATEGORY	STATION	TO	STATION	LOCATION	455.0605 TACK COAT GAL	465.0105 ASPHALTIC SURFACE TON	REMARKS
0010	22+92CL B35	-	23+03CL B35	B-12-0035	3.5	9	
0010	26+89CL B35	-	26+99CL B35	B-12-0035	3.5	9	
0010	447+31CL B36	-	447+55CL B36	B-12-0036	3.5	9	
0010	448+56CL B36	-	448+65CL B36	B-12-0036	3.5	9	
0010	317+78CL B37	-	317+99CL B37	B-12-0037	6.5	16	
0010	319+15CL B37	-	319+25CL B37	B-12-0037	3.5	9	
				TOTAL 0010	24.0	61	

CONCRETE PAVEMENT 8-INCH

CATEGORY	STATION	TO	STATION	LOCATION	415.0080 SY	REMARKS
0010	23+02CL B35	-	23+21CL B35	RT	15	B-12-0035
0010	23+02CL B35	-	23+35CL B35	LT	31	B-12-0035
0010	26+69CL B35	-	26+88CL B35	LT	19	B-12-0035
0010	447+41CL B36	-	447+55CL B36	RT	12	B-12-0036
0010	447+41CL B36	-	447+55CL B36	LT	14	B-12-0036
0010	448+41CL B36	-	448+56CL B36	LT	14	B-12-0036
0010	448+41CL B36	-	448+56CL B36	RT	13	B-12-0036
0010	317+98CL B37	-	318+12CL B37	RT	12	B-12-0037
0010	317+98CL B37	-	318+20CL B37	LT	18	B-12-0037
0010	318+89CL B37	-	319+15CL B37	RT	25	B-12-0037
0010	318+96CL B37	-	319+15CL B37	LT	16	B-12-0037
				TOTAL 0010	189	

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CONCRETE BARRIER TEMPORARY SUMMARY

CATEGORY	STATION	TO	STATION	603.8000 CONCRETE BARRIER TEMPORARY PRECAST DELIVERED LF	603.8125 CONCRETE BARRIER TEMPORARY PRECAST INSTALLED LF	REMARKS
0010	21+50CL B35	-	27+88CL B35	660	1,320	B-12-0035
0010	446+52CL B36	-	450+00CL B36	375	750	B-12-0036
0010	316+45CL B37	-	320+05CL B37	387.50	775	B-12-0037
				1,422.50	2,845	

STATE PROJECT NO: 5180-04-83	HWY STH 60	COUNTY: CRAWFORD	MISCELLANEOUS QUANTITIES	SHEET NO: 23	E

TRAFFIC CONTROL SIGNS

CATEGORY	LOCATION	LT/RT	643.0900 DAY	NO. SIGN	SIGN NO.	SIGN	SIZE	STAGE
0010	B-12-0035	RT	14	1	W20-1A	ROADWORK AHEAD		STAGE 1 RT LN CLOSED
0010	B-12-0035	RT	14	1	W20-4A	ONE LANE ROAD AHEAD		STAGE 1 RT LN CLOSED
0010	B-12-0035	LT	14	1	W14-3	NO PASSING ZONE	48"X36"	STAGE 1 RT LN CLOSED
0010	B-12-0035	LT	14	1	W03-3	SIGNAL HEAD		STAGE 1 RT LN CLOSED
0010	B-12-0035	RT	14	1	W03-3	SIGNAL HEAD		STAGE 1 RT LN CLOSED
0010	B-12-0035	LT	14	1	G20-2A	END ROAD WORK	48"X24"	STAGE 1 RT LN CLOSED
0010	B-12-0035	RT	14	1	R10-6	STOP HERE ON RED	24"X36"	STAGE 1 RT LN CLOSED
0010	B-12-0035	LT	14	1	W05-52L		12"X36"	STAGE 1 RT LN CLOSED
0010	B-12-0035	RT	14	1	W01-6	ARROW TO THE LEFT	48"X24"	STAGE 1 RT LN CLOSED
0010	B-12-0035	RT	14	1	W05-52R		12"X36"	STAGE 1 RT LN CLOSED
0010	B-12-0035	LT	14	1	W05-52R		12"X36"	STAGE 1 RT LN CLOSED
0010	B-12-0035	LT	14	1	W01-4R			STAGE 1 RT LN CLOSED
0010	B-12-0035	RT	14	1	WO5-52L		12"X36"	STAGE 1 RT LN CLOSED
0010	B-12-0035	LT	14	1	R10-6	STOP HERE ON RED	24"X36"	STAGE 1 RT LN CLOSED
0010	B-12-0035	RT	14	1	G20-2A	END ROAD WORK	48"X24"	STAGE 1 RT LN CLOSED
0010	B-12-0035	LT	14	1	W03-3	SIGNAL HEAD		STAGE 1 RT LN CLOSED
0010	B-12-0035	RT	14	1	W03-3	SIGNAL HEAD		STAGE 1 RT LN CLOSED
0010	B-12-0035	RT	14	1	W14-3	NO PASSING ZONE	48"X36"	STAGE 1 RT LN CLOSED
0010	B-12-0035	LT	14	1	W20-4A	ONE LANE ROAD AHEAD		STAGE 1 RT LN CLOSED
0010	B-12-0035	LT	14	1	W20-1A	ROADWORK AHEAD		STAGE 1 RT LN CLOSED
0010	B-12-0035	RT	14	1	W20-1A	ROADWORK AHEAD		STAGE 2 LT LN CLOSED
0010	B-12-0035	RT	14	1	W20-4A	ONE LANE ROAD AHEAD		STAGE 2 LT LN CLOSED
0010	B-12-0035	LT	14	1	W14-3	NO PASSING ZONE	48"X36"	STAGE 2 LT LN CLOSED
0010	B-12-0035	LT	14	1	W03-3	SIGNAL HEAD		STAGE 2 LT LN CLOSED
0010	B-12-0035	RT	14	1	W03-3	SIGNAL HEAD		STAGE 2 LT LN CLOSED
0010	B-12-0035	LT	14	1	G20-2A	END ROAD WORK	48"X24"	STAGE 2 LT LN CLOSED
0010	B-12-0035	RT	14	1	R10-6	STOP HERE ON RED	24"X36"	STAGE 2 LT LN CLOSED
0010	B-12-0035	LT	14	1	W05-52L		12"X36"	STAGE 2 LT LN CLOSED
0010	B-12-0035	RT	14	1	W01-6	ARROW TO THE LEFT	48"X24"	STAGE 2 LT LN CLOSED
0010	B-12-0035	RT	14	1	W05-52R		12"X36"	STAGE 2 LT LN CLOSED
0010	B-12-0035	LT	14	1	W05-52R		12"X36"	STAGE 2 LT LN CLOSED
0010	B-12-0035	LT	14	1	W01-4R			STAGE 2 LT LN CLOSED
0010	B-12-0035	RT	14	1	WO5-52L		12"X36"	STAGE 2 LT LN CLOSED
		PAGE 1 SUBTOTAL	462					

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TRAFFIC CONTROL SIGNS CONT.

CATEGORY	LOCATION	LT/RT	643.0900 DAY	NO. SIGN	SIGN NO.	SIGN	SIZE	STAGE
0010	B-12-0035	LT	14	1	R10-6	STOP HERE ON RED	24"X36"	STAGE 2 LT LN CLOSED
0010	B-12-0035	RT	14	1	G20-2A	END ROAD WORK	48"X24"	STAGE 2 LT LN CLOSED
0010	B-12-0035	LT	14	1	W03-3	SIGNAL HEAD		STAGE 2 LT LN CLOSED
0010	B-12-0035	RT	14	1	W03-3	SIGNAL HEAD		STAGE 2 LT LN CLOSED
0010	B-12-0035	RT	14	1	W14-3	NO PASSING ZONE	48"X36"	STAGE 2 LT LN CLOSED
0010	B-12-0035	LT	14	1	W20-4A	ONE LANE ROAD AHEAD		STAGE 2 LT LN CLOSED
0010	B-12-0035	LT	14	1	W20-1A	ROADWORK AHEAD		STAGE 2 LT LN CLOSED
0010	BOAT LANDING PARKING LOT CLOSED	CENTER	14	1	R11-2	ROAD CLOSED		STAGES 1&2 B-12-35
0010	B-12-0036	RT	14	1	W20-1A	ROADWORK AHEAD		STAGE 1 RT LN CLOSED
0010	B-12-0036	RT	14	1	W20-4A	ONE LANE ROAD AHEAD		STAGE 1 RT LN CLOSED
0010	B-12-0036	LT	14	1	W14-3	NO PASSING ZONE	48"X36"	STAGE 1 RT LN CLOSED
0010	B-12-0036	LT	14	1	W03-3	SIGNAL HEAD		STAGE 1 RT LN CLOSED
0010	B-12-0036	RT	14	1	W03-3	SIGNAL HEAD		STAGE 1 RT LN CLOSED
0010	B-12-0036	LT	14	1	G20-2A	END ROAD WORK	48"X24"	STAGE 1 RT LN CLOSED
0010	B-12-0036	RT	14	1	R10-6	STOP HERE ON RED	24"X36"	STAGE 1 RT LN CLOSED
0010	B-12-0036	LT	14	1	W05-52L		12"X36"	STAGE 1 RT LN CLOSED
0010	B-12-0036	RT	14	1	W01-6	ARROW TO THE LEFT	48"X24"	STAGE 1 RT LN CLOSED
0010	B-12-0036	RT	14	1	W05-52R		12"X36"	STAGE 1 RT LN CLOSED
0010	B-12-0036	LT	14	1	W05-52R		12"X36"	STAGE 1 RT LN CLOSED
0010	B-12-0036	LT	14	1	W01-4R			STAGE 1 RT LN CLOSED
0010	B-12-0036	RT	14	1	WO5-52L		12"X36"	STAGE 1 RT LN CLOSED
0010	B-12-0036	LT	14	1	R10-6	STOP HERE ON RED	24"X36"	STAGE 1 RT LN CLOSED
0010	B-12-0036	RT	14	1	G20-2A	END ROAD WORK	48"X24"	STAGE 1 RT LN CLOSED
0010	B-12-0036	LT	14	1	W03-3	SIGNAL HEAD		STAGE 1 RT LN CLOSED
0010	B-12-0036	RT	14	1	W03-3	SIGNAL HEAD		STAGE 1 RT LN CLOSED
0010	B-12-0036	RT	14	1	W14-3	NO PASSING ZONE	48"X36"	STAGE 1 RT LN CLOSED
0010	B-12-0036	LT	14	1	W20-4A	ONE LANE ROAD AHEAD		STAGE 1 RT LN CLOSED
0010	B-12-0036	LT	14	1	W20-1A	ROADWORK AHEAD		STAGE 1 RT LN CLOSED
0010	B-12-0036	RT	14	1	W20-1A	ROADWORK AHEAD		STAGE 2 LT LN CLOSED
0010	B-12-0036	RT	14	1	W20-4A	ONE LANE ROAD AHEAD		STAGE 2 LT LN CLOSED
0010	B-12-0036	LT	14	1	W14-3	NO PASSING ZONE	48"X36"	STAGE 2 LT LN CLOSED
0010	B-12-0036	LT	14	1	W03-3	SIGNAL HEAD		STAGE 2 LT LN CLOSED
0010	B-12-0036	RT	14	1	W03-3	SIGNAL HEAD		STAGE 2 LT LN CLOSED
0010	B-12-0036	LT	14	1	G20-2A	END ROAD WORK	48"X24"	STAGE 2 LT LN CLOSED
0010	B-12-0036	RT	14	1	R10-6	STOP HERE ON RED	24"X36"	STAGE 2 LT LN CLOSED
	PAGE 2 SUBTOTAL		490					

TRAFFIC CONTROL SIGNS CONT.

CATEGORY	LOCATION	LT/RT	643.0900 DAY	NO. SIGN	SIGN NO.	SIGN	SIZE	STAGE
0010	B-12-0036	LT	14	1	W05-52L		12"X36"	STAGE 2 LT LN CLOSED
0010	B-12-0036	RT	14	1	W01-6	ARROW TO THE LEFT	48"X24"	STAGE 2 LT LN CLOSED
0010	B-12-0036	RT	14	1	W05-52R		12"X36"	STAGE 2 LT LN CLOSED
0010	B-12-0036	LT	14	1	W05-52R		12"X36"	STAGE 2 LT LN CLOSED
0010	B-12-0036	LT	14	1	W01-4R			STAGE 2 LT LN CLOSED
0010	B-12-0036	RT	14	1	WO5-52L		12"X36"	STAGE 2 LT LN CLOSED
0010	B-12-0036	LT	14	1	R10-6	STOP HERE ON RED	24"X36"	STAGE 2 LT LN CLOSED
0010	B-12-0036	RT	14	1	G20-2A	END ROAD WORK	48"X24"	STAGE 2 LT LN CLOSED
0010	B-12-0036	LT	14	1	W03-3	SIGNAL HEAD		STAGE 2 LT LN CLOSED
0010	B-12-0036	RT	14	1	W03-3	SIGNAL HEAD		STAGE 2 LT LN CLOSED
0010	B-12-0036	RT	14	1	W14-3	NO PASSING ZONE	48"X36"	STAGE 2 LT LN CLOSED
0010	B-12-0036	LT	14	1	W20-4A	ONE LANE ROAD AHEAD		STAGE 2 LT LN CLOSED
0010	B-12-0036	LT	14	1	W20-1A	ROADWORK AHEAD		STAGE 2 LT LN CLOSED
0010	B-12-0037	RT	14	1	W20-1A	ROADWORK AHEAD		STAGE 1 RT LN CLOSED
0010	B-12-0037	RT	14	1	W20-4A	ONE LANE ROAD AHEAD		STAGE 1 RT LN CLOSED
0010	B-12-0037	LT	14	1	W14-3	NO PASSING ZONE	48"X36"	STAGE 1 RT LN CLOSED
0010	B-12-0037	LT	14	1	W03-3	SIGNAL HEAD		STAGE 1 RT LN CLOSED
0010	B-12-0037	RT	14	1	W03-3	SIGNAL HEAD		STAGE 1 RT LN CLOSED
0010	B-12-0037	LT	14	1	G20-2A	END ROAD WORK	48"X24"	STAGE 1 RT LN CLOSED
0010	B-12-0037	RT	14	1	R10-6	STOP HERE ON RED	24"X36"	STAGE 1 RT LN CLOSED
0010	B-12-0037	LT	14	1	W05-52L		12"X36"	STAGE 1 RT LN CLOSED
0010	B-12-0037	RT	14	1	W01-6	ARROW TO THE LEFT	48"X24"	STAGE 1 RT LN CLOSED
0010	B-12-0037	RT	14	1	W05-52R		12"X36"	STAGE 1 RT LN CLOSED
0010	B-12-0037	LT	14	1	W05-52R		12"X36"	STAGE 1 RT LN CLOSED
0010	B-12-0037	LT	14	1	W01-4R			STAGE 1 RT LN CLOSED
0010	B-12-0037	RT	14	1	WO5-52L		12"X36"	STAGE 1 RT LN CLOSED
0010	B-12-0037	LT	14	1	R10-6	STOP HERE ON RED	24"X36"	STAGE 1 RT LN CLOSED
0010	B-12-0037	RT	14	1	G20-2A	END ROAD WORK	48"X24"	STAGE 1 RT LN CLOSED
0010	B-12-0037	LT	14	1	W03-3	SIGNAL HEAD		STAGE 1 RT LN CLOSED
0010	B-12-0037	RT	14	1	W03-3	SIGNAL HEAD		STAGE 1 RT LN CLOSED
0010	B-12-0037	RT	14	1	W14-3	NO PASSING ZONE	48"X36"	STAGE 1 RT LN CLOSED
0010	B-12-0037	LT	14	1	W20-4A	ONE LANE ROAD AHEAD		STAGE 1 RT LN CLOSED
0010	B-12-0037	LT	14	1	W20-1A	ROADWORK AHEAD		STAGE 1 RT LN CLOSED
0010	B-12-0037	RT	14	1	W20-1A	ROADWORK AHEAD		STAGE 2 LT LN CLOSED
0010	B-12-0037	RT	14	1	W20-4A	ONE LANE ROAD AHEAD		STAGE 2 LT LN CLOSED
0010	B-12-0037	LT	14	1	W14-3	NO PASSING ZONE	48"X36"	STAGE 2 LT LN CLOSED

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TRAFFIC CONTROL SIGNS CONT.

CATEGORY	LOCATION	LT/RT	643.0900 DAY	NO. SIGN	SIGN NO.	SIGN	SIZE	STAGE
0010	B-12-0037	LT	14	1	W03-3	SIGNAL HEAD		STAGE 2 LT LN CLOSED
0010	B-12-0037	RT	14	1	W03-3	SIGNAL HEAD		STAGE 2 LT LN CLOSED
0010	B-12-0037	LT	14	1	G20-2A	END ROAD WORK	48"X24"	STAGE 2 LT LN CLOSED
0010	B-12-0037	RT	14	1	R10-6	STOP HERE ON RED	24"X36"	STAGE 2 LT LN CLOSED
0010	B-12-0037	LT	14	1	W05-52L		12"X36"	STAGE 2 LT LN CLOSED
0010	B-12-0037	RT	14	1	W01-6	ARROW TO THE LEFT	48"X24"	STAGE 2 LT LN CLOSED
0010	B-12-0037	RT	14	1	W05-52R		12"X36"	STAGE 2 LT LN CLOSED
0010	B-12-0037	LT	14	1	W05-52R		12"X36"	STAGE 2 LT LN CLOSED
0010	B-12-0037	LT	14	1	W01-4R			STAGE 2 LT LN CLOSED
0010	B-12-0037	RT	14	1	WO5-52L		12"X36"	STAGE 2 LT LN CLOSED
0010	B-12-0037	LT	14	1	R10-6	STOP HERE ON RED	24"X36"	STAGE 2 LT LN CLOSED
0010	B-12-0037	RT	14	1	G20-2A	END ROAD WORK	48"X24"	STAGE 2 LT LN CLOSED
0010	B-12-0037	LT	14	1	W03-3	SIGNAL HEAD		STAGE 2 LT LN CLOSED
0010	B-12-0037	LT	14	1	W20-1A	ROADWORK AHEAD		STAGE 2 LT LN CLOSED
0010	CLEAR CREEK RD CLOSURER	LT	14	1	W20-3A	ROADWORK AHEAD		STAGE 1&2 B-12-37
0010	CLEAR CREEK RD CLOSURER	LT	14	1	W20-3D	ROAD CLOSED 500 FT		STAGE 1&2 B-12-37
0010	CLEAR CREEK RD CLOSURER	CENTER	14	1	R11-2	ROAD CLOSED		STAGE 1&2 B-12-37
0010	USH 18/STH 60	RT	14	1	M3-2	EAST	24"X12"	ADVANCED WARNING
0010	USH 18/STH 60	RT	14	1	M1-6	STH 60	24"X24"	ADVANCED WARNING
0010	USH 18/STH 60	RT	14	1	W12-52	MAX. 16 FT WIDTH	48"X48"	ADVANCED WARNING
0010	USH 18/STH 60	RT	14	1	W057-52	8 3/4 MILES AHEAD	48"X36"	ADVANCED WARNING
0010	CTY N/STH 60	RT	14	1	M3-2	EAST	24"X12"	ADVANCED WARNING
0010	CTY N/STH 60	RT	14	1	M1-6	STH 60	24"X24"	ADVANCED WARNING
0010	CTY N/STH 60	RT	14	1	W12-52	MAX. 16 FT WIDTH	48"X48"	ADVANCED WARNING
0010	CTY N/STH 60	RT	14	1	W03-3	SIGNAL HEAD		ADVANCED WARNING
0010	STH 131/STH 60	RT	14	1	M1-6	STH 60	24"X24"	ADVANCED WARNING
0010	STH 131/STH 60	RT	14	1	W12-52	MAX. 16 FT WIDTH	48"X48"	ADVANCED WARNING
0010	STH 131/STH 60	RT	14	1	W03-3	SIGNAL HEAD		ADVANCED WARNING
0010	STH 131/STH 179	RT	14	1	M1-6	STH 60	24"X24"	ADVANCED WARNING
0010	STH 131/STH 179	RT	14	1	W12-52	MAX. 14 FT WIDTH	48"X48"	ADVANCED WARNING
0010	STH 131/STH 179	LT	14	1	M1-6	STH 60	24"X24"	ADVANCED WARNING
0010	STH 131/STH 179	LT	14	1	W12-52	MAX. 16 FT WIDTH	48"X48"	ADVANCED WARNING
0010	STH 60/CTY E	RT	14	1	M3-4	WEST	24"X12"	ADVANCED WARNING
0010	STH 60/CTY E	RT	14	1	M1-6	STH 60	24"X24"	ADVANCED WARNING
0010	STH 60/CTY E	RT	14	1	W12-52	MAX. 16 FT WIDTH	48"X48"	ADVANCED WARNING
0010	STH 60/CTY E	RT	14	1	W057-52	3 1/2 MILES AHEAD	48"X36"	ADVANCED WARNING
0010	STH 60	LT	14	1	M3-4	WEST	24"X12"	ADVANCED WARNING
0010	STH 60	LT	14	1	M1-6	STH 60	24"X24"	ADVANCED WARNING
0010	STH 60	LT	14	1	W12-52	MAX. 16 FT WIDTH	48"X48"	ADVANCED WARNING
0010	STH 60	LT	14	1	W057-52	3 1/2 MILES AHEAD	48"X36"	ADVANCED WARNING
0010	PAGE 4 SUBTOTAL		602					
	GRAND TOTAL 0010		2,058					

RIRAP SUMMARY

CATEGORY	STATION	LOCATION	606.0200 RIPRAP MEDIUM CY	645.0120 GEOTEXTILE TYPE HR SY	REMARKS
0010	17+14CL B35	B-12-0035	1	30	DOWN PIPE
		TOTAL 0010	1	30	

MOVING SIGNS TYPE II

CATEGORY	CURRENT STATION	LOCATION	NEW STATION	638.2102 EACH	SIGN NO.	REMARKS
0010	22+96CL B35	B-12-0035 RT	26+96CL B35	1	J2-1	NORTH, STH 131, LEFT TURN ARROW
0010	26+96CL B35	B-12-0035 RT	29+50CL B35	1	D1-2	STRAIGHT ARROW, GOTHAM, LEFT ARROW, STEUBEN
		TOTAL 0010		2		

TEMPORARY PAVEMENT MARKING STOP LINE REMOVABLE TAPE 24-INCH

CATEGORY	STATION	LOCATION	649.1400 LF	REMARKS	STAGE
0010	20+96CL B35	STH 60 RT	12	B-12-0035	STAGE 1&2
0010	29+00CL B35	STH 60 LT	12	B-12-0035	STAGE 1&2
0010	445+30CL B36	STH 60 RT	12	B-12-0036	STAGE 1&2
0010	446+00CL B36	WILLOW LANE	20	B-12-0036	STAGE 1 & 2
0010	451+15CL B36	STH 60 LT	12	B-12-0036	STAGE 1&2
0010	316+26CL B37	STH 60 RT	12	B-12-0037	STAGE 1&2
0010	321+00CL B37	STH 60 LT	12	B-12-0037	STAGE 1&2
		TOTAL 0010	92		

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH

CATEGORY	STATION	TO	STATION	STRUCTURE	LOCATION	649.0400 WHITE EDGELINE LF	REMARKS
0010	20+96CL B35	-	22+34CL B35	B-12-0035	STH 60 LT	737	STAGE 1
0010	20+96CL B35	-	29+00CL B35	B-12-0035	STH 60 LT	815	STAGE 2
0010	446+75CL B36	-	449+89CL B36	B-12-0036	STH 60 LT	300	STAGE 1
0010	446+65CL B36	-	450+55CL B36	B-12-0036	STH 60 LT	351	STAGE 2
0010	317+00CL B37	-	319+76CL B37	B-12-0037	STH 60 RT	275	STAGE 1
0010	317+25CL B37	-	319+80CL B37	B-12-0037	STH 60 RT	267	STAGE 2
					TOTAL 0010	2,745	

3

SAWING ASPHALT

690.0150

CATEGORY	STATION	TO	STATION	LOCATION	LF	REMARKS
0010			22+92CL B35	B-12-0035	40	
0010	22+92CL B35	-	23+26CL B35	B-12-0035	34	LONGITUDINAL SAW CUT FOR STAGE 1
0010	26+69CL B35	-	26+99CL B35	B-12-0035	30	LONGITUDINAL SAW CUT FOR STAGE 1
0010			26+99CL B35	B-12-0035	41	
0010			447+31CL B36	B-12-0036	40	
0010	447+31CL B36	-	447+55CL B36	B-12-0036	26	LONGITUDINAL SAW CUT FOR STAGE 1
0010	448+41CL B36	-	448+65CL B36	B-12-0036	24	LONGITUDINAL SAW CUT FOR STAGE 1
0010			448+65CL B36	B-12-0036	40	
0010			317+78CL B37	B-12-0037	41	
0010	317+78CL B37	-	318+16CL B37	B-12-0037	38	LONGITUDINAL SAW CUT FOR STAGE 1
0010	316+94CL B37	-	317+98CL B37	B-12-0037	20	LOGITUDINAL SAW CUT ACROSS CLEAR CREEK ROAD
0010	319+93CL B37	-	319+25CL B37	B-12-0037	32	LONGITUDINAL SAW CUT FOR STAGE 1
0010			319+25CL B37	B-12-0037	40	
				TOTAL 0010	446	

PAVEMENT MARKING EPOXY 4-INCH

646.0106

CATEGORY	STATION	TO	STATION	LOCATION	WHITE EDGELINE LF	DOUBLE YELLOW CENTERLINE LF	REMARKS
0010	20+96CL B35	-	22+34CL B35	CL		276	B-12-0035
0010	20+96CL B35	-	28+33CL B35	LT	737		B-12-0035
0010	27+96CL B35	-	29+00CL B35	CL		208	B-12-0035
0010	20+96CL B35		29+00CL B35	RT	815		B-12-0035
0010	445+40CL B36	-	446+90CL B36	CL		300	B-12-0036
0010	446+50CL B36	-	451+15CL B36	LT	465		B-12-0036
0010	449+60CL B36	-	451+15CL B36	CL		310	B-12-0036
0010	445+40CL B36	-	451+15CL B36	RT	558		B-12-0036
0010	316+26CL B37	-	317+57CL B37	CL		262	B-12-0037
0010	318+00CL B37	-	321+00CL B37	LT	350		B-12-0037
0010	319+50CL B37	-	321+00CL B37	CL		300	B-12-0037
0010	316+26CL B37	-	321+00CL B37	RT	473		B-12-0037
				SUBTOTAL	3,398	1,656	
				TOTAL 0010		5,054	

REMOVING PAVEMENT MARKINGS

646.0600

CATEGORY	STATION	TO	STATION	LOCATION	LF	REMARKS
0010	20+96CL B35	-	22+34CL B35	B-12-0035	276	STAGE 1 CL
0010	20+96CL B35	-	28+33CL B35	B-12-0035	737	STAGE 1 EDGELINE LT
0010	27+96CL B35	-	29+00CL B35	B-12-0035	208	STAGE 1 CL
0010	20+96CL B35	-	29+00CL B35	B-12-0035	815	STAGE 2 EDGELINE RT
0010	445+40CL B36	-	446+90CL B36	B-12-0036	300	STAGE 1 CL
0010	446+50CL B36	-	451+15CL B36	B-12-0036	465	STAGE 1 EDGELINE LT
0010	449+60CL B36	-	451+15CL B36	B-12-0036	310	STAGE 1 CL
0010	445+40CL B36	-	449+95CL B36	B-12-0036	558	STAGE 2 EDGELINE RT
0010	316+26CL B37	-	317+57CL B37	B-12-0037	262	STAGE 1 CL
0010	318+00CL B37	-	321+00CL B37	B-12-0037	350	STAGE 1 EDGELINE LT
0010	319+50CL B37	-	321+00CL B37	B-12-0037	300	STAGE 1 CL
0010	316+26CL B37	-	321+00CL B37	B-12-0037	473	STAGE 2 EDGELINE
				TOTAL 0010	5,054	

CONCRETE PAVEMENT APPROACH

CATEGORY	STATION	TO	STATION	LOCATION	305.0120 BASE AGGREGATE DENSE 1 1/4 INCH TON	415.0410 CONCRETE PAVEMENT APPROACH SLAB SY	650.4500 CONSTRUCTION STAKING SUBGRADE LF	650.5000 CONSTRUCTION STAKING BASE LF	650.7000 CONSTRUCTION STAKING CONCRETE PAVEMENT LF	REMARKS
0010	23+02CL B35	-	23+26CL B35	B-12-0035	31	65	30	30	30	
0010	26+69CL B35	-	26+89CL B35	B-12-0035	25	55	20	20	20	
0010	447+41CL B36	-	447+55CL B36	B-12-0036	19	40	15	15	15	
0010	448+40CL B36	-	448+56CL B36	B-12-0036	20	40	15	15	15	
0010	317+99CL B37	-	318+16CL B37	B-12-0037	24	50	20	20	20	
0010	318+82CL B37	-	319+15CL B37	B-12-0037	29	60	20	20	20	
				TOTAL 0010	148	310	120	120	120	

TRAFFIC CONTROL SUMMARY

CATEGORY	STATION	TO	STATION	LOCATION	NO. DRUMS	643.0300 TRAFFIC CONTROL DRUMS DAY	NO. BARRICADES TYPE III	643.0420 TRAFFIC CONTROL BARRICADES TYPE III DAY	NO. WARNING LIGHTS TYPE A	643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A DAY	NO. WARNING LIGHTS TYPE C	643.0715 TRAFFIC CONTROL WARNING LIGHTS TYPE C DAY	REMARKS
0010	20+96CL B35	-	29+00CL B35	B-12-0035	13	585	1	45			6	270	STAGE 1&2
0010	28+38CL B35	-	28+78CL B35	CANOE LANDING PARKING LOT CLOSURER			4	180	2	90			STAGE 1&2
0010	447+20CL B36	-	452+50CL B36	B-12-0036	20	900	1	45			10	450	STAGE 1&2
0010	315+60CL B37	-	321+40CL B37	B-12-0037	20	900	1	45			10	450	STAGE 1&2
				CLEAR CREEK RD CLOSURER			4	180	2	90			
				TOTAL 0010		2,385		495		180		1,170	

TEMPORARY TRAFFIC SIGNALS FOR BRIDGES (STRUCTURE) 01. B-12-0035

CATEGORY	LOCATION	661.0100.01 LS	REMARKS
0010	B-12-0035	1	
	TOTAL 0010	1	

TEMPORARY TRAFFIC SIGNALS FOR BRIDGES (STRUCTURE) 02. B-12-0036

CATEGORY	LOCATION	661.0100.02 LS	REMARKS
0010	B-12-0036	1	
	TOTAL 0010	1	

TEMPORARY TRAFFIC SIGNALS FOR BRIDGES (STRUCTURE) 03. B-12-0037

CATEGORY	LOCATION	661.0100.03 LS	REMARKS
0010	B-12-0037	1	
	TOTAL 0010	1	

EROSION CONTROL SUMMARY

CATEGORY	STATION	TO	STATION	LOCATION	625.0500 SALVAGE TOPSOIL SY	627.0200 MULCHING SY	628.1905 MOBILIZATIONS EROSION CONTROL EACH	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL EACH	628.2004 EROSION MAT CLASS I TYPE B SY	628.1504 SILT FENCE LF	628.1520 SILT FENCE MAINTENANCE LF	628.7010 INLET PROTECTION TYPE B EACH	628.7570 ROCK BAGS EACH	629.0210 FERTILIZER TYPE B CWT	630.0120 SEEDING MIXTURE NO. 20 LB	630.0200 SEEDING TEMPORARY LB	REMARKS
0010				B-12-0035			1	2									
0010	22+08CL B35	-	23+04CL B35	RT						127	254		10				
0010	22+30CL B35	-	23+33CL B35	LT						147	294		10				
0010	26+68CL B35	-	27+76CL B35	RT						162	324		10				
0010	26+68CL B35	-	27+76CL B35	LT						145	290		10				
0010	27+04CL B35			RT								1					INLET
0010	27+14CL B35			RT	15	15			8			1		8	2	2	DROP INLET PIPE AND INLET
0010				B-12-0036			1	1									
0010	448+42CL B36	-	449+38CL B36	LT						130	260		10				
0010	448+42CL B36	-	449+38CL B36	RT						124	248		10				
0010	446+56CL B36	-	447+55CL B36	RT						125	250		10				
0010	446+56CL B36	-	447+55CL B36	LT						127	254		10				
0010				B-12-0037			1	1									
0010	317+12CL B37	-	318+14CL B37	RT						129	258		10				
0010	318+00CL B37	-	318+50CL B37	LT						80	160						
0010	318+89CL B37	-	319+91CL B37	RT						133	266		10				
0010	319+00CL B37	-	320+05CL B37	LT						131	262		10				
0010	UNDISTRIBUTED																
				TOTAL 0010	15	15	3	4	8	1,560	3,120	2	110	8	2	2	

DRAINAGE SUMMARY

CATEGORY	STATION	LOCATION	416.0610 DRILLED TIE BARS EACH	416.1010 CONCRETE SURFACE DRAINS CY	521.1012 APRON ENDWALLS FOR CULVERT PIPE STEEL 12-INCH EACH	611.0654 INLET COVERS TYPE V EACH	611.3220 INLET 2X2-FT EACH	612.0212 PIPE UNDERDRAIN UNPERFORATED LF	633.5200 MARKERS CULVERT END EACH	650.6000 CONSTRUCTION STAKING PIPE CULVERTS EACH	REMARKS
0010	27+14CL B35	RT	10	10	1	2	2	45	1	1	B-12-0035
		TOTAL 0010	10	10	1	2	2	45	1	1	

PI STA = 25+44.16CL B35
Y = 140153.121
X = 394191.819
DELTA = 47°50'35"
D = 4°59'06"
T = 509.85'
L = 959.74'
R = 1149.37'
PC STA = 20+34.32CL B35
PT STA = 29+94.06CL B35
S.E.= 0.59'/FT
R.O. = 165'

TEMPORARY SMALL ANIMAL TURN-AROUND NECESSARY SEE CONSTRUCTION DETAIL

MGS THRIE BEAM TRANSITION WITH MGS GUARDRAIL EAT

WING REPAIR RQ'D.
SEE STRUCTURE PLANS FOR STRUCTURE WORK

CANOE LANDING IS CLOSED DURING CONSTRUCUTION.

TEMPORARY SMALL ANIMAL TURN-AROUND NECESSARY SEE CONSTRUCTION DETAIL

SEE STRUCTURE PLAN FOR STRUCTURE WORK.

B-12-0035

22+00CL B35
23+00CL B35
24+00CL B35
25+00CL B35
26+00CL B35
27+00CL B35
28+00CL B35
29+00CL B35
STH 60

MOVE SIGN 1 FROM STATION 22+96CL B35 TO STATION 26+96CL B35

KICKAPOO RIVER

REMOVE CONCRETE SURFACE DRAIN

SEE CONSTRUCTION DETAIL FOR CONCRETE SURFACE DRAIN, INLETS AND DOWN PIPE

SEEDING MIXTURE NO. 20, SEEDING TEMPORARY AND MULCHING

RIPRAP, MEDIUM

BEGIN CONSTRUCTION B-12-0035
STA. 22+00CL B35

END CONSTRUCTION B-12-0035
STA. 28+00 CL B35

MOVE SIGN 2 FROM STATION 26+96CL B35 TO STATION 29+50CL B35

EXCAVATION COMMON AND REPLACE WITH CONCRETE PAVEMENT 7-INCH

EXCAVATION COMMON AND REPLACE WITH CONCRETE APPROACH SLAB

REMOVE AND REPLACE WITH ASPHALTIC SURFACE

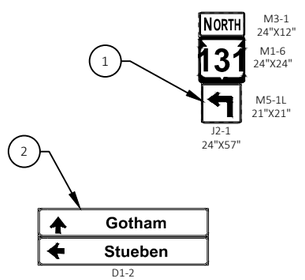
SILT FENCE

SAW CUT REQURED

EXCAVATION COMMON AND REPLACE CONCRETE SURFACE DRAIN WITH DOWN PIPE

SUPERELEVATION TABLE
CURVE PI 25+44.16CL B35

Station	Type	Left	Right
18+81.32CL B35	End NC	-0.02	-0.02
19+32.32CL B35	Zero Super	0	-0.02
19+83.32CL B35	Rev. Crown	0.02	-0.02
20+85.32CL B35	Begin FS	0.059	-0.059
29+43.02CL B35	End FS	0.059	-0.059
21+87.32CL B35	Rev. Crown	0.02	-0.02
30+96.02CL B35	Zero Super	0	-0.02
31+47.022CL B35	Begin NC	-0.02	-0.02



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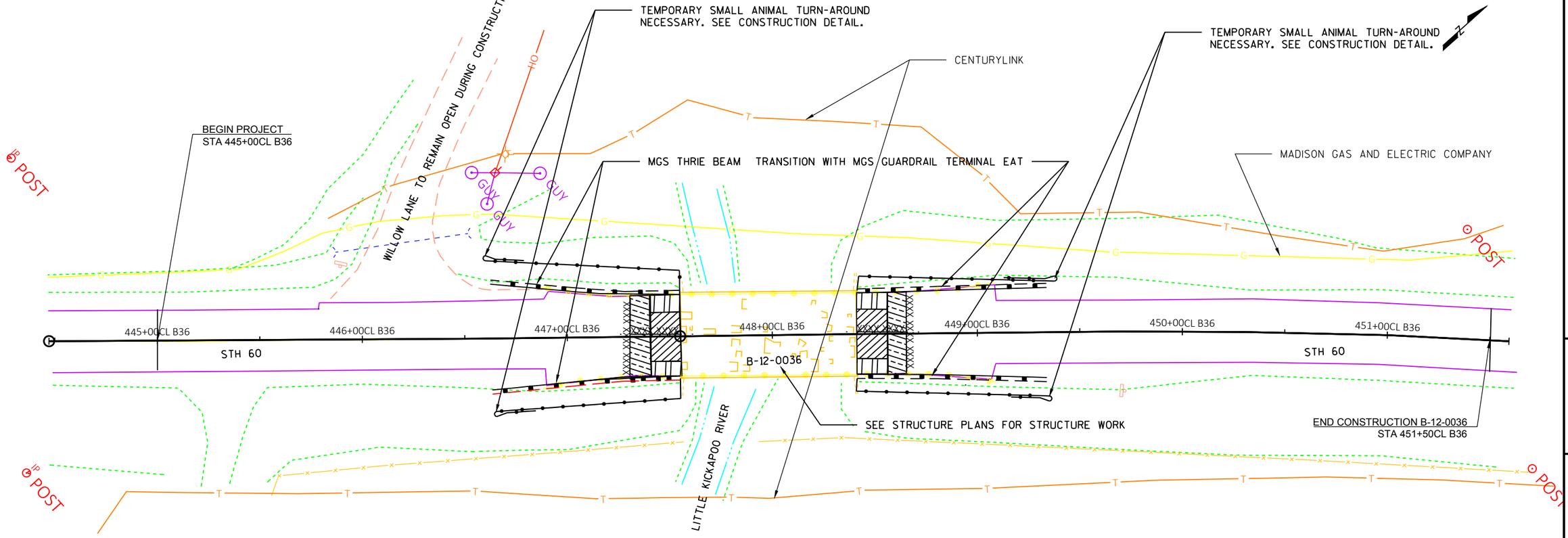
PLOT BY : KLUDY, KATHLEEN M
PLOT NAME :
PLOT SCALE : ##########



EXCAVATION COMMON AND REPLACE WITH CONCRETE PAVEMENT 7-INCH

EXCAVATION COMMON AND REPLACE WITH CONCRETE APPROACH SLAB

REMOVE AND REPLACE WITH ASPHALTIC SURFACE

SILT FENCE

XXXX XXXX SAW CUT REQURED

PROJECT NO: 5180-04-83	HWY: STH 60	COUNTY: CRAWFORD	B-12-0036	SHEET 33	E

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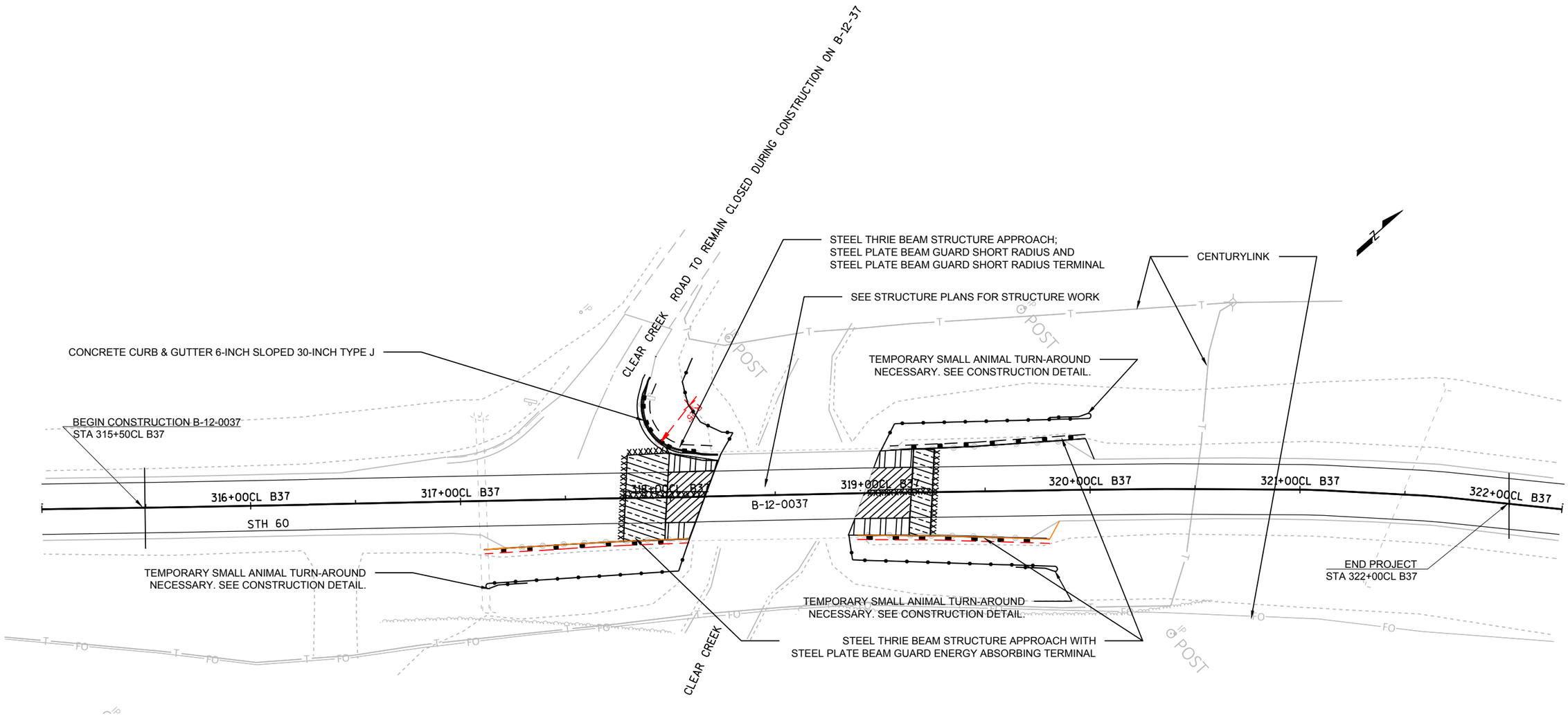
WISDOT/CADDS SHEET 44

5



EXCAVATION COMMON AND REPLACE WITH CONCRETE PAVEMENT 7-INCH

EXCAVATION COMMON AND REPLACE WITH CONCRETE APPROACH SLAB

REMOVE AND REPLACE WITH ASPHALTIC SURFACE

SILT FENCE

XXXXXXXX SAW CUT REQURED

PROJECT NO: 5180-04-83	HWY: STH 60	COUNTY: CRAWFORD	B-12-0037	SHEET 34	E

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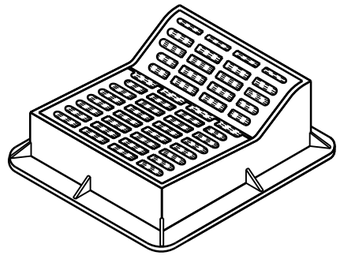
LAYOUT NAME - 050205_pn

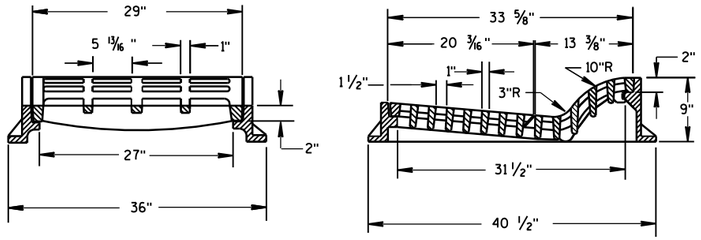
PLOT DATE : 6/26/2017 1:32 PM PLOT BY : KLUDY, KATHLEEN M PLOT NAME : PLOT SCALE : **********

Standard Detail Drawing List

08A05-19C	INLET COVERS TYPE F, HM, HM-S, S, T, V, HM-GJ, & HM-GJ-S
08C07-02	INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT
08D01-19	CONCRETE CURB, CONCRETE CURB AND GUTTER AND TIES
08D03-06	CONCRETE SURFACE DRAINS DROP INLET TYPE AT STRUCTURES
08E09-06	SILT FENCE
08E10-02	INLET PROTECTION TYPE A, B, C AND D
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
09G02-04A	BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION
09G02-04B	BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION
09G02-04C	BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION
13A03-06	CONCRETE PAVEMENT SHOULDERS
13B02-08A	CONCRETE PAVEMENT APPROACH SLAB
13B02-08B	STRUCTURAL APPROACH SLAB AND CONCRETE PAVEMENT APPROACH SLAB
14B07-14A	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14B	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14C	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14D	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14E	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14F	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14G	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14H	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B15-09A	STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATION & ELEMENTS
14B15-09B	STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATION & ELEMENTS
14B15-09C	STEEL PLATE BEAM GUARD, CLASS "A", INSTALLATION & ELEMENTS
14B16-04A	ANCHORAGE FOR STEEL PLATE BEAM GUARD TYPE 2
14B16-04B	ANCHORAGE FOR STEEL PLATE BEAM GUARD TYPE 2
14B18-06A	STEEL PLATE BEAM GUARD, CLASS "A" (AT BRIDGES, OBSTACLES AND SIDEROADS/DRIVEWAYS)
14B20-11A	STEEL THRIE BEAM STRUCTURE APPROACH
14B24-08A	STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL
14B24-08B	STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL
14B24-08C	STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL
14B42-04A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-04B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-04C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B44-02A	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-02B	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-02C	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B45-04A	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04B	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04C	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04D	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04E	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04F	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04G	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04H	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04I	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04J	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04K	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04L	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
15A03-02A	FLEXIBLE MARKER POST FOR CULVERT END
15A03-02B	FLEXIBLE MARKER POST FOR CULVERT END
15C03-03	BARRICADES AND SIGNS FOR SIDEROAD CLOSURES
15C08-17A	LONGITUDINAL MARKING (MAINLINE)
15C19-04A	MOVING PAVEMENT MARKING OPERATION TWO-LANE TWO-WAY ROADWAY
15D33-04	TRAFFIC CONTROL, ONE LANE ROAD WITH TEMPORARY SIGNALS

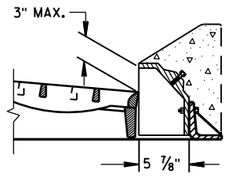
6





TYPE "F"

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



ALTERNATIVE CURB BOX FOR TYPE "HM" COVER

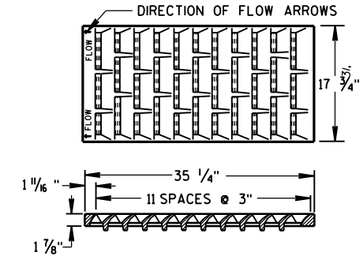
USE WITH TYPES G & J CONCRETE CURB & GUTTER, 30 INCH
NOTED AS TYPE HM-GJ ON DRAINAGE TABLE

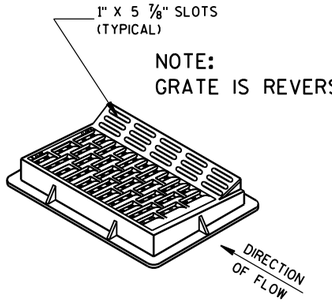
NOTE:
SPECIAL GRATE FOR THE
TYPE "H" COVER MAY ALSO BE
USED FOR THE TYPE "HM-GJ" COVER
NOTED AS TYPE HM-GJ-S ON DRAINAGE TABLE

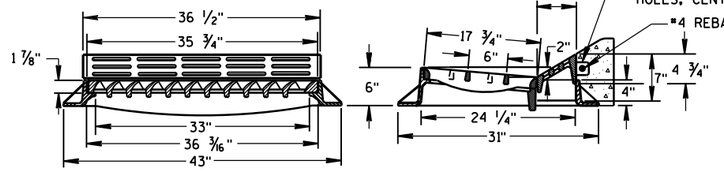
GENERAL NOTES

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

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



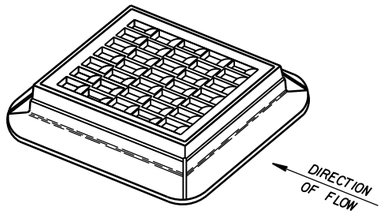


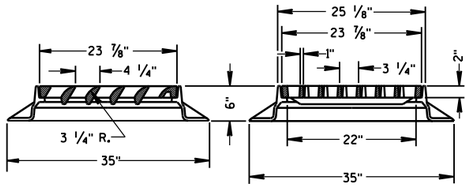


TYPE "HM"

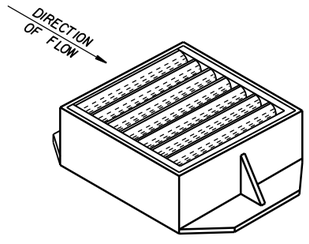
USE WITH TYPES A & D CONCRETE CURB & GUTTER, 36 INCH.

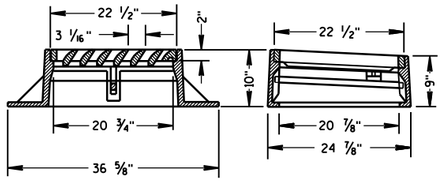
NOTE:
SPECIAL GRATE FOR THE
TYPE "H" COVER MAY ALSO BE
USED FOR THE TYPE "HM" COVER
NOTED AS TYPE HM-S ON DRAINAGE TABLE





TYPE "S"





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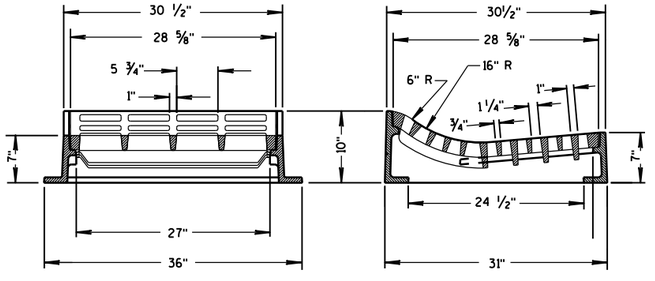
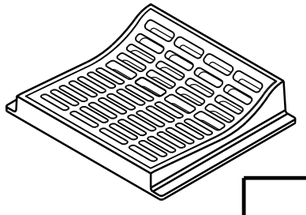




TYPE "T"

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

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

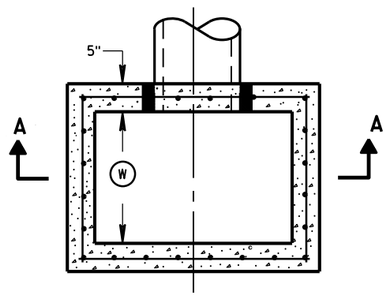
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
11/27/2013
DATE

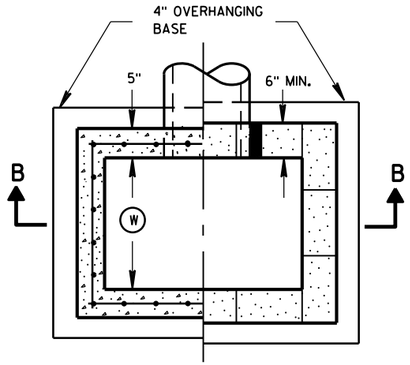
/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER

FHWA

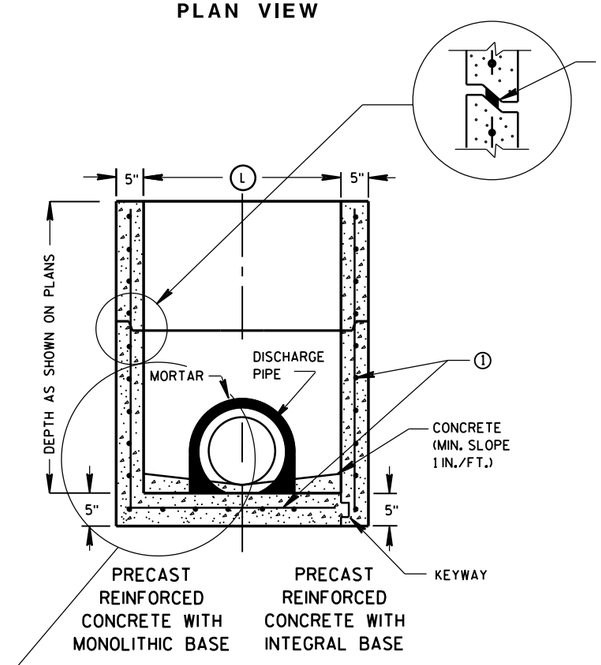
6
S.D.D. 8 A 5-19c



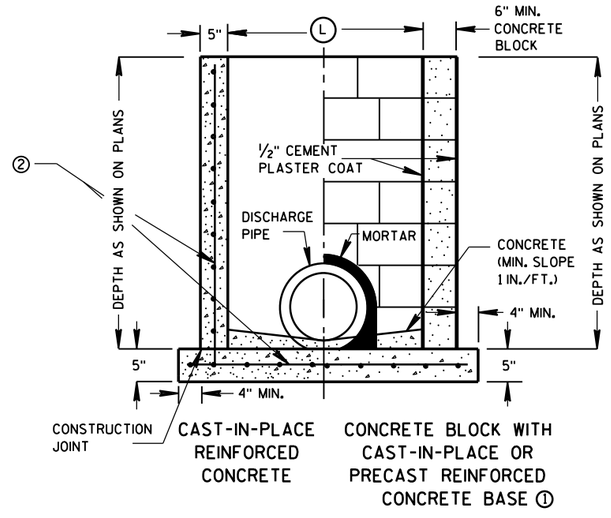
PLAN VIEW



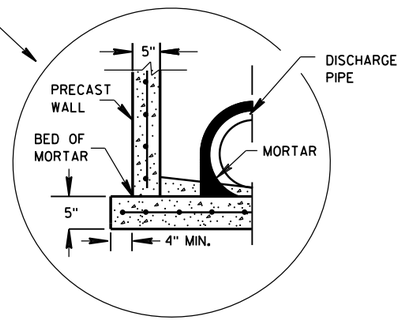
PLAN VIEW



SECTION A-A



SECTION B-B



SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

① FOR PRECAST INLETS PROVIDE REINFORCING STEEL IN ACCORDANCE TO ASTM C 913.

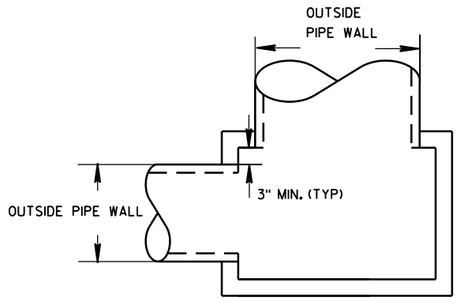
② CONTRACTOR TO PROVIDE DRAWING(S) STAMPED BY A PROFESSIONAL ENGINEER FOR STEEL REINFORCING DESIGN FOR CAST-IN-PLACE STRUCTURES.

INLET COVER MATRIX

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

PIPE MATRIX

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



DETAIL "A"

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept., 2016
DATE
/S/ Rodney Taylor
ROADWAY STANDARDS D IT
UNIT SUPERVIS
FHWA

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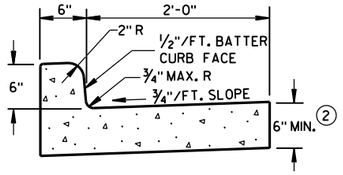
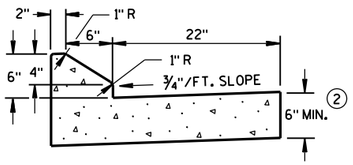
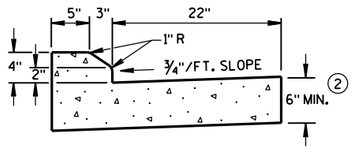
S.D.D. 8 C 7-2



TYPES A & D ①

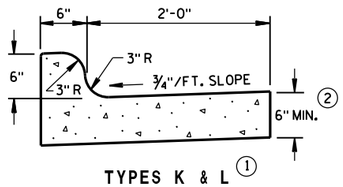


6" SLOPED CURB TYPES G & J ①

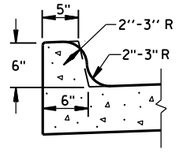


4" SLOPED CURB TYPES G & J ①

CONCRETE CURB & GUTTER 30"

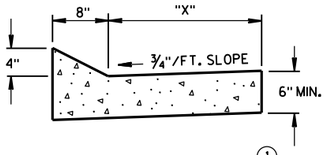


TYPES K & L ①



OPTIONAL CURB SHAPE FOR TYPES K & L ①

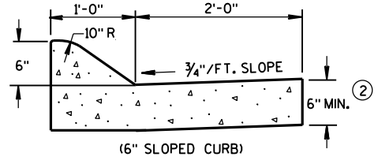
CONCRETE CURB & GUTTER 30"



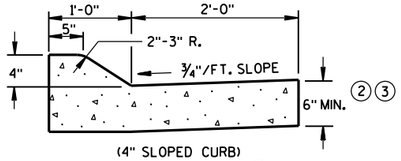
TYPES TBT & TBTT ①

CONCRETE CURB & GUTTER

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

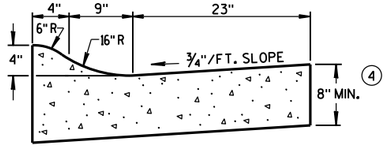


(6" SLOPED CURB)



(4" SLOPED CURB)

TYPES A & D ①



4" SLOPED CURB TYPES R & T ①⑤

CONCRETE CURB & GUTTER 36"

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, R AND TBTT.

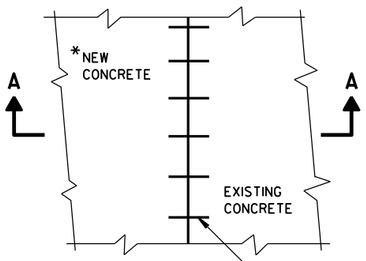
② THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.

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

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

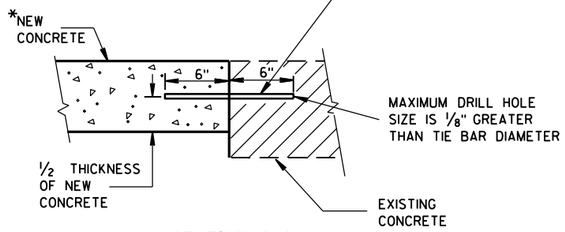
⑤ THE FACE OF CURB IS 6" FROM THE BACK OF CURB.

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



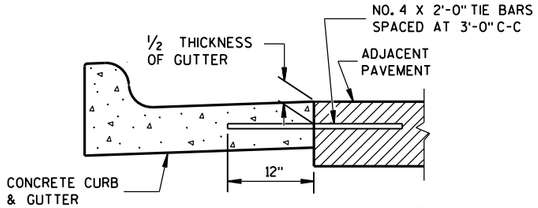
*NEW CURB & GUTTER, SURFACE DRAINS, CONCRETE PAVEMENT OR OTHER NEW CONCRETE.

PLAN VIEW

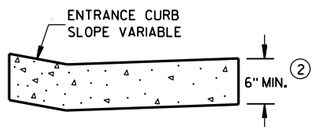


SECTION A-A

TIE BARS DRILLED INTO EXISTING PAVEMENT

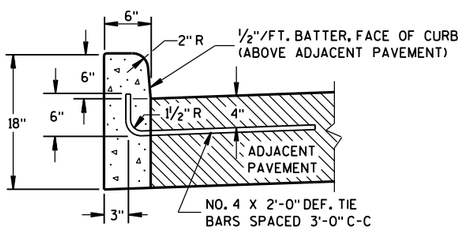


TYPICAL TIE BAR LOCATION ①

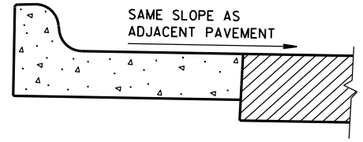


DRIVEWAY ENTRANCE CURB

(WHEN DIRECTED BY THE ENGINEER)

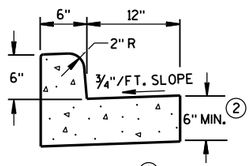


① TYPES A & D



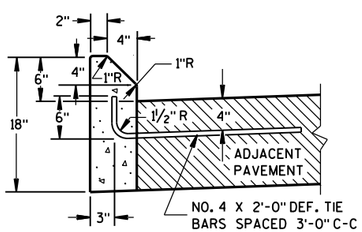
⑥ REVERSE SLOPE GUTTER

(TYPICAL FOR ALL CURB & GUTTER TYPES)



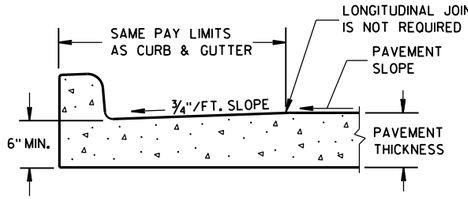
① TYPES A & D

CONCRETE CURB & GUTTER 18"

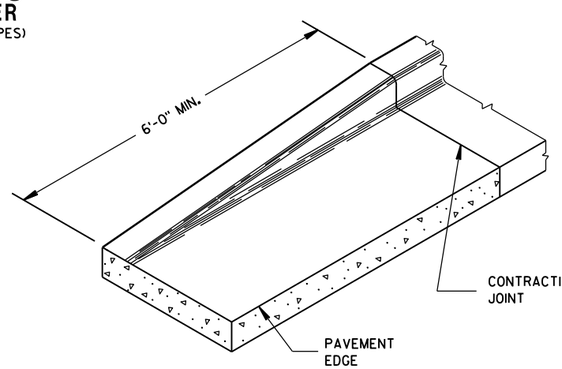


① TYPES G & J

CONCRETE CURB



PARTIAL SECTION OF PAVEMENT WITH INTEGRAL CURB & GUTTER



END SECTION CURB & GUTTER

CONCRETE CURB, CONCRETE CURB & GUTTER AND TIES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

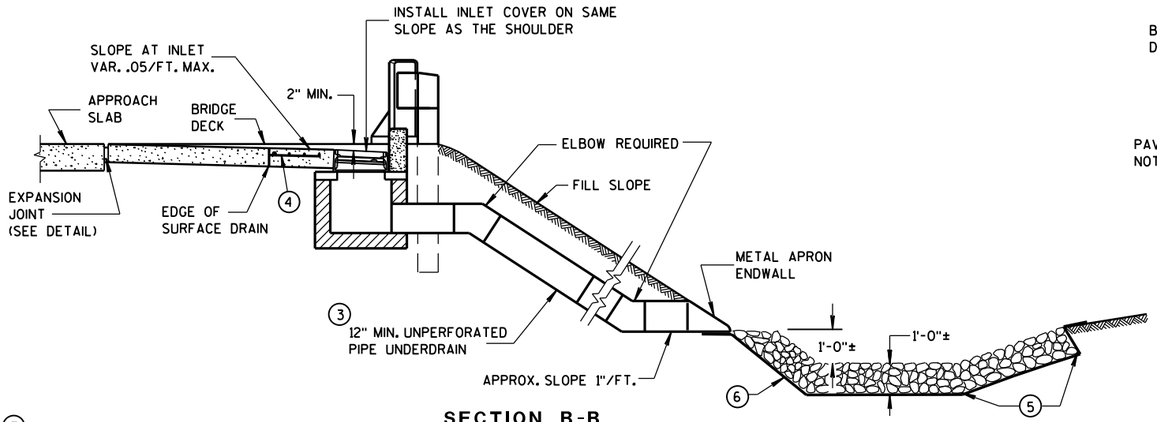
June, 2016 — DATE

/S/ Jerry H. Zogg — ROADWAY STANDARDS DEVELOPMENT ENGINEER

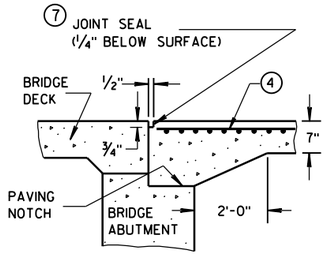
FHWA

6

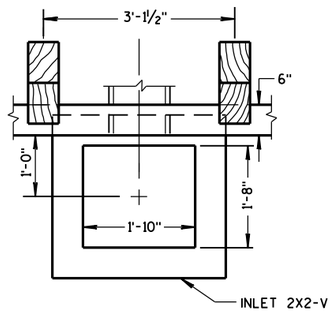
S.D.D. 8 D 1-19



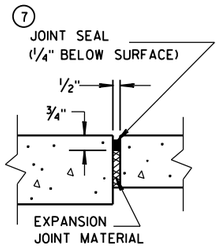
SECTION B-B



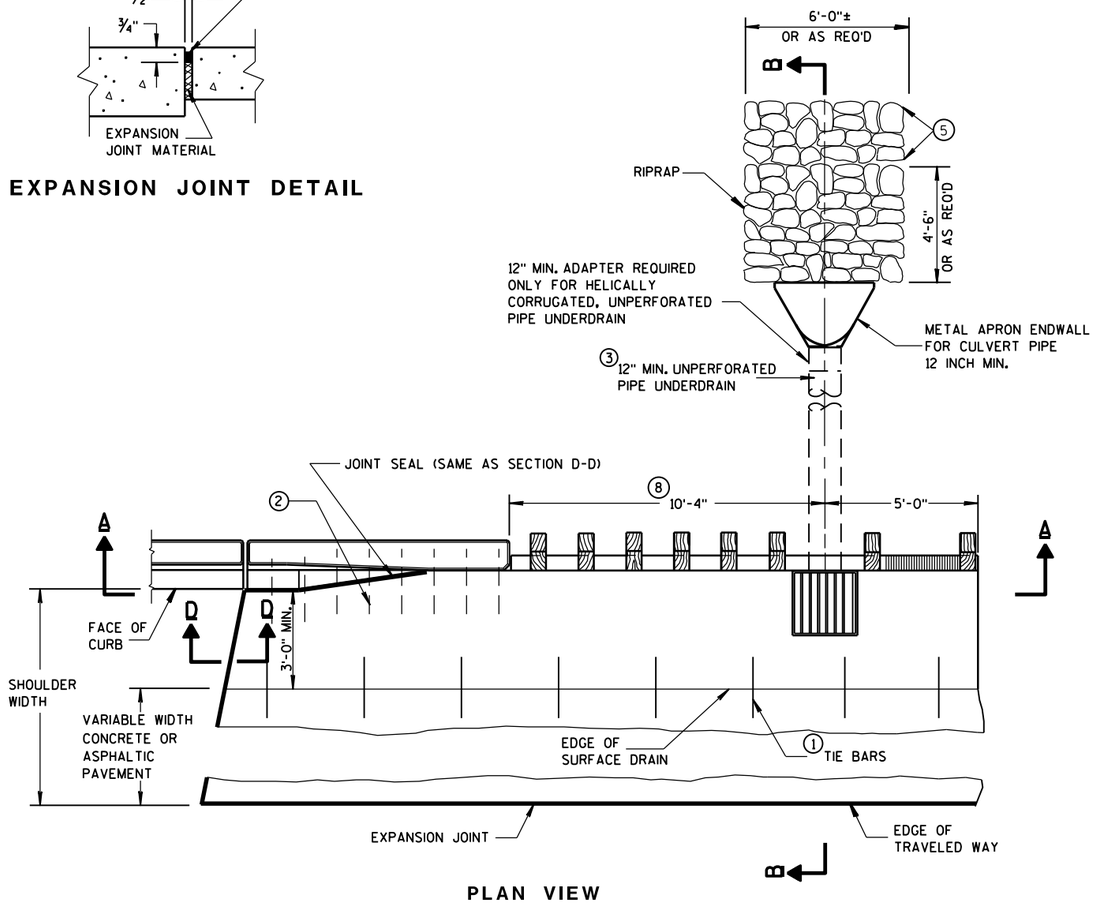
SECTION D-D



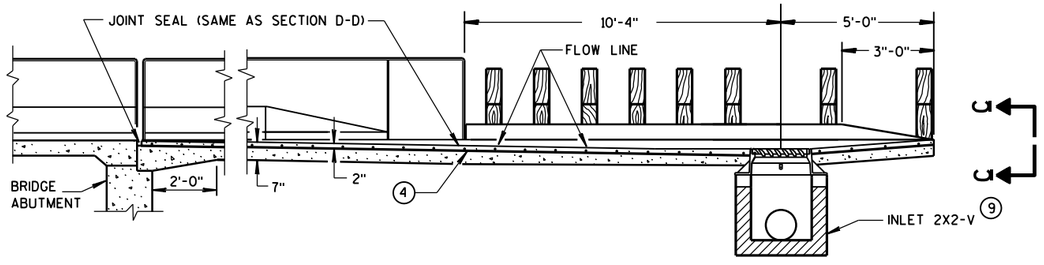
PLAN VIEW



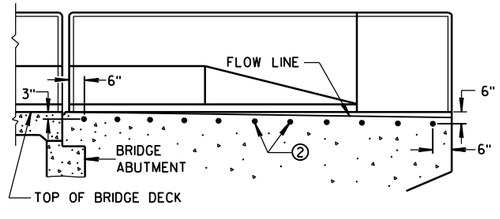
EXPANSION JOINT DETAIL



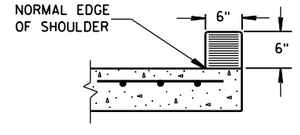
PLAN VIEW



SECTION A-A



LOCATION OF TIE BARS IN WINGWALL



SECTION C-C

GENERAL NOTES

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

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

(1) NO. 4 X 2'-0" TIE BARS SPACED AT 3'-0" CENTERS TO BE USED ONLY WHEN ADJACENT TO P.C. CONCRETE.

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

(3) THE PIPE UNDERDRAIN MAY BE ANY ONE OF THE SIX MATERIALS LISTED IN THE STANDARD SPECIFICATIONS SECTION 612.2 EXCEPT DRAIN TILE.

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

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

(6) GEOTEXTILE FABRIC, TYPE 'R'

(7) HOT POURED SEALANT UNLESS OTHERWISE SPECIFIED.

(8) THIS DIMENSION MAY VARY DEPENDING ON THE SPACING OF POSTS FOR THE STEEL PLATE BEAM GUARD. THE TYPICAL LOCATION FOR THE SURFACE DRAIN IS WHERE THE POST SPACING WIDENS TO 3'-1½".

(9) SEE CURRENT STANDARD DETAIL DRAWINGS 8A5 AND 8C7 FOR DETAILS.

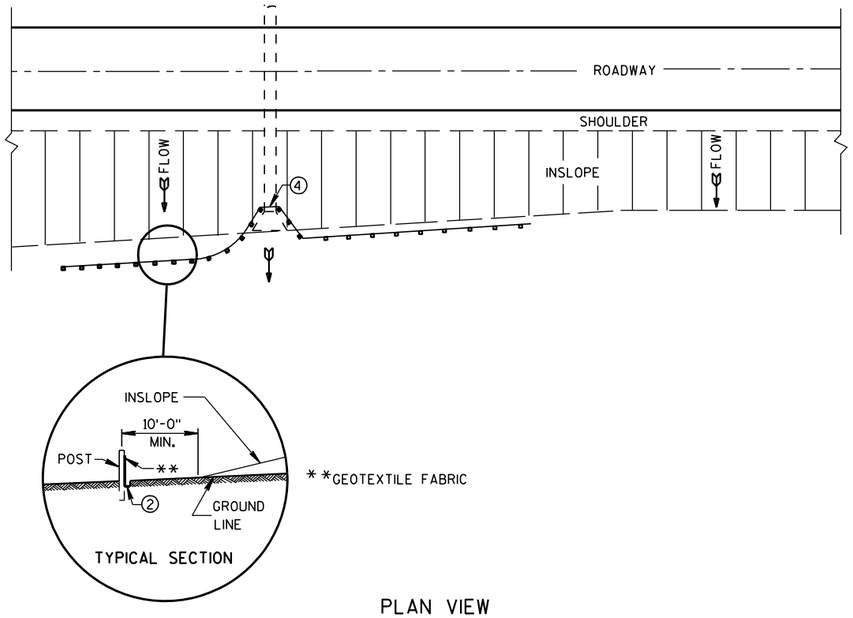
CONCRETE SURFACE DRAINS DROP INLET TYPE AT STRUCTURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
9/4/08 DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER
FHWA

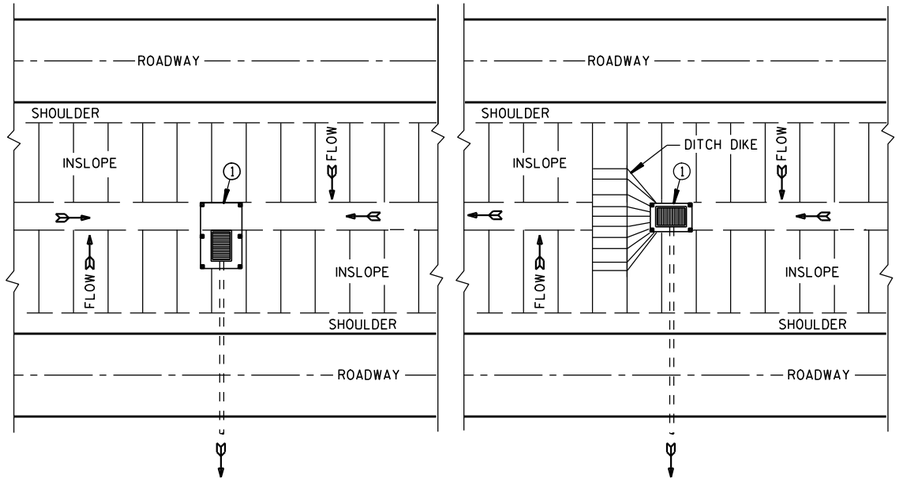
6

S.D.D. 8 D 3-6



PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



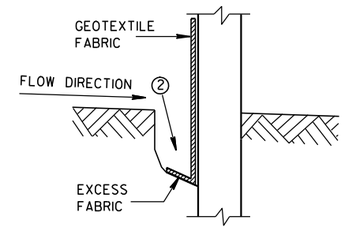
PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

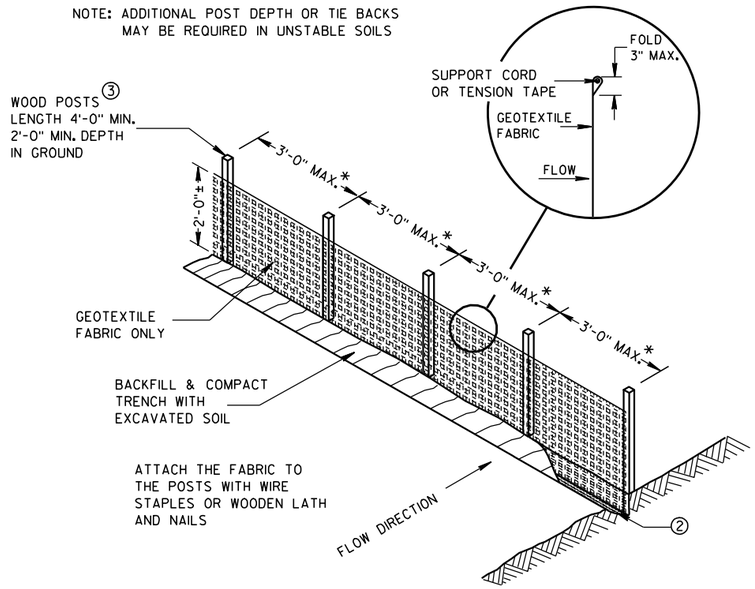
GENERAL NOTES

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

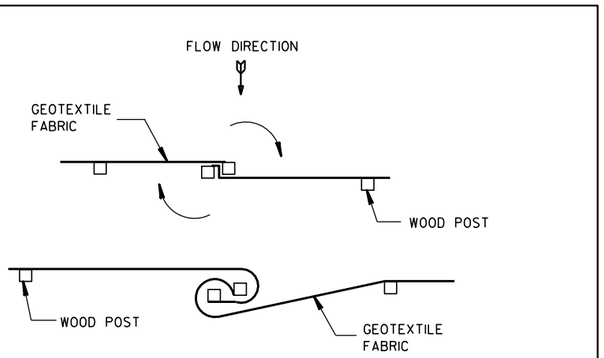
1. HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
2. FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
3. WOOD POSTS SHALL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



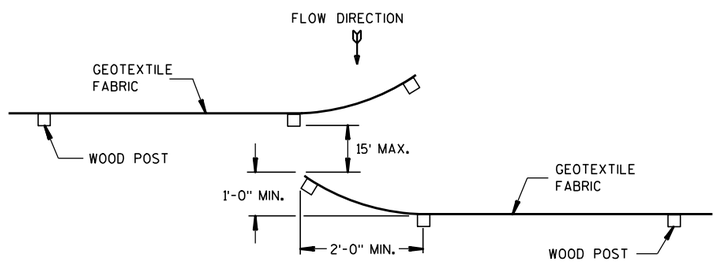
TRENCH DETAIL



SILT FENCE

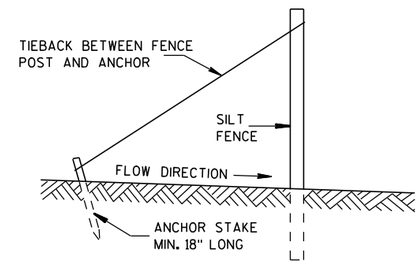


TWIST METHOD



HOOK METHOD

JOINING TWO LENGTHS OF SILT FENCE 5



SILT FENCE TIE BACK

(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

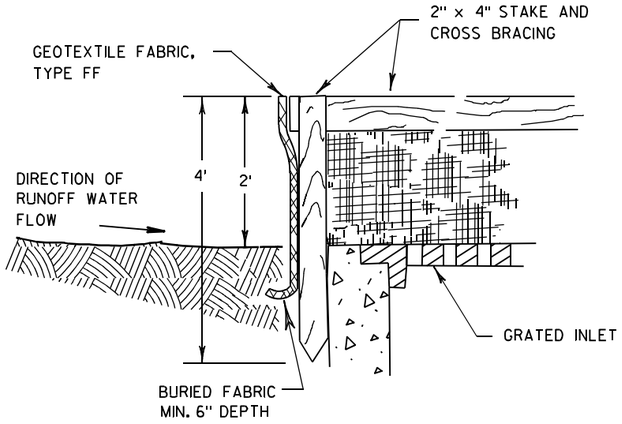
APPROVED
4-29-05 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

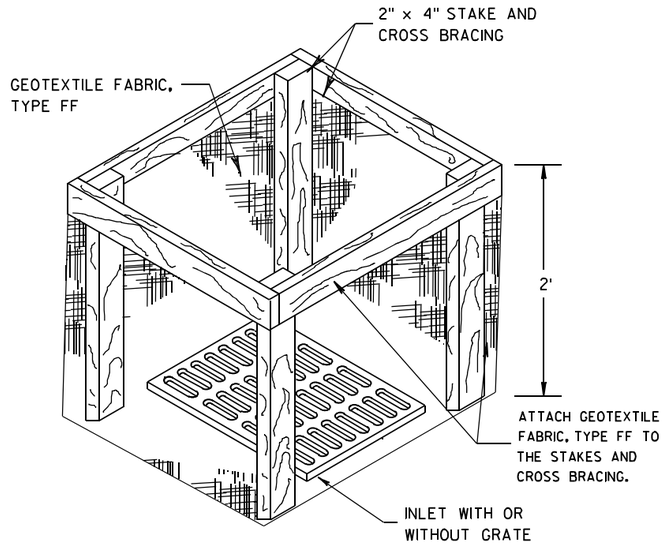
6

S.D.D. 8 E 9-6

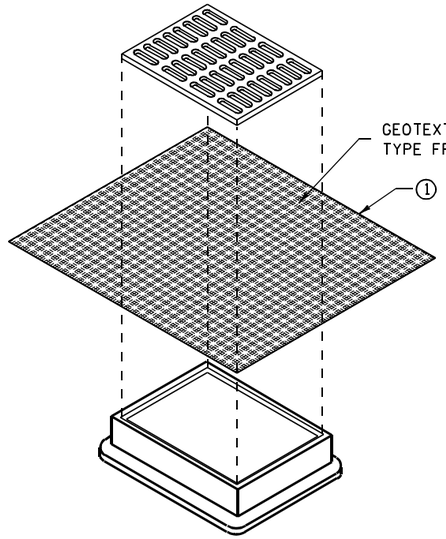
6

S.D.D. 8 E 9-6



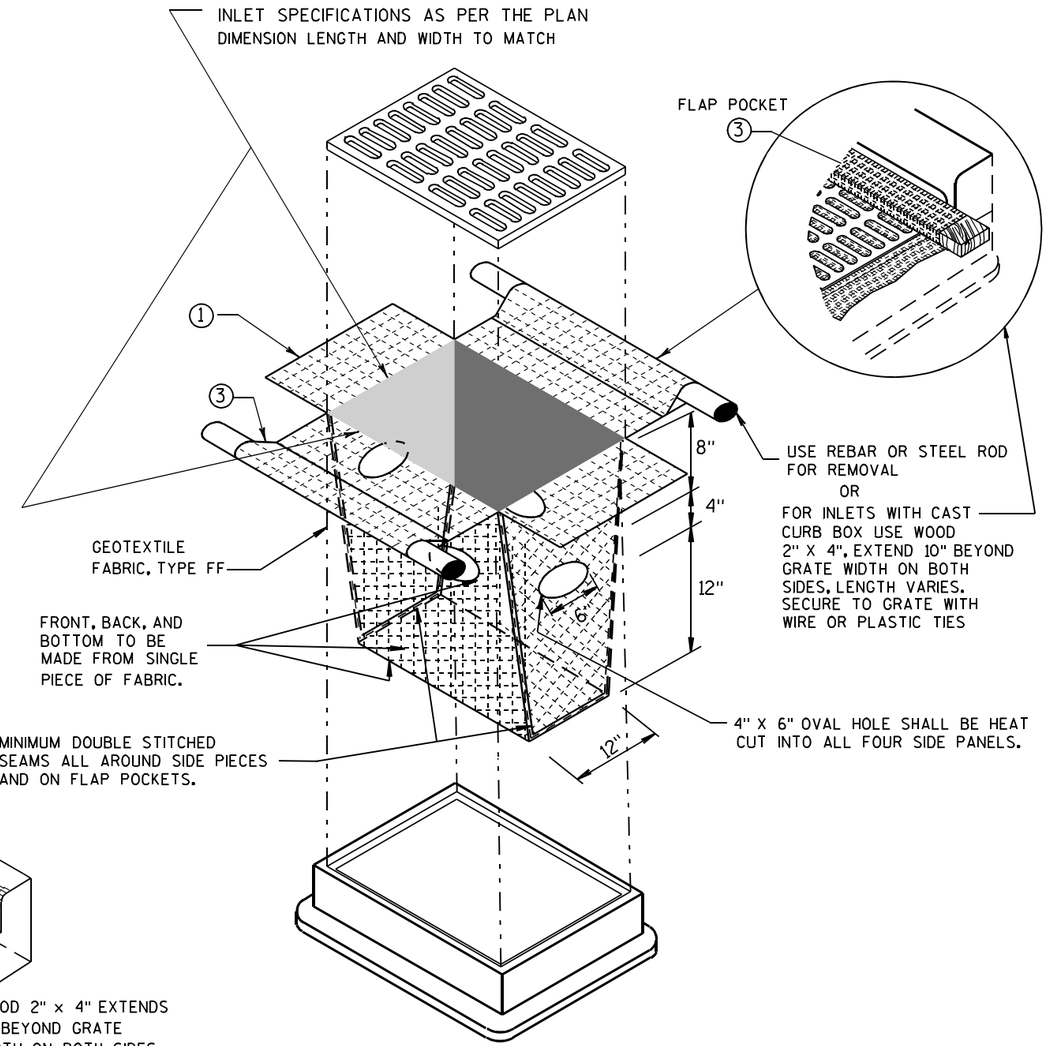


INLET PROTECTION, TYPE A



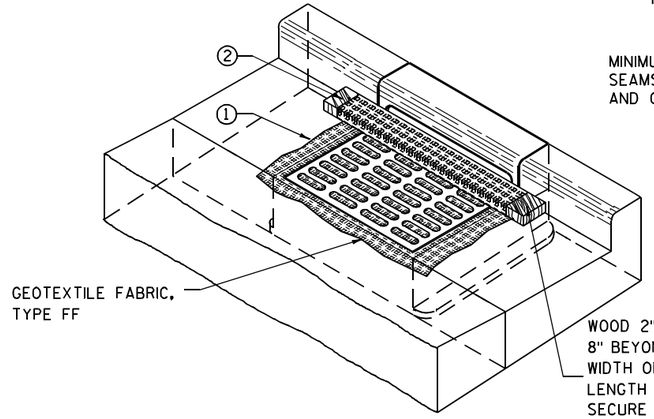
INLET PROTECTION, TYPE B
(WITHOUT CURB BOX)

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



INLET PROTECTION, TYPE D

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



INLET PROTECTION, TYPE C (WITH CURB BOX)

GENERAL NOTES

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

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

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

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

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

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

INSTALLATION NOTES

TYPE B & C

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

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

TYPE D

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

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

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

INLET PROTECTION
TYPE A, B, C, AND D

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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

METAL APRON ENDWALLS

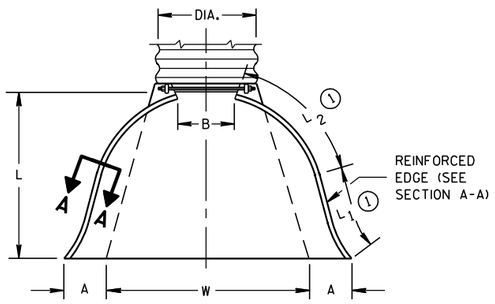
PIPE DIA. (IN.)	MIN. THICK. (Inches)		DIMENSIONS (Inches)							APPROX. SLOPE	BODY
	STEEL	ALUM.	A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")		
12	.064	.060	6	6	6	21	12	17 1/2	24	2 1/2 to 1	1 Pc.
15	.064	.060	7	8	6	26	14	21 3/4	30	2 1/2 to 1	1 Pc.
18	.064	.060	8	10	6	31	15	28 1/4	36	2 1/2 to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

× EXCEPT CENTER PANEL SEE GENERAL NOTES

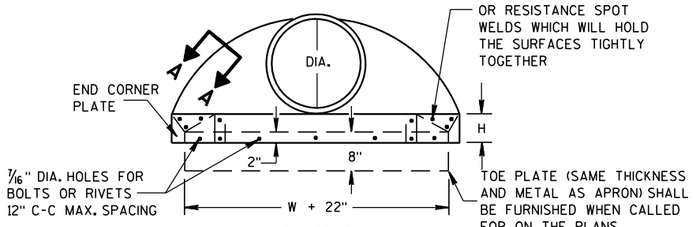
REINFORCED CONCRETE APRON ENDWALLS

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

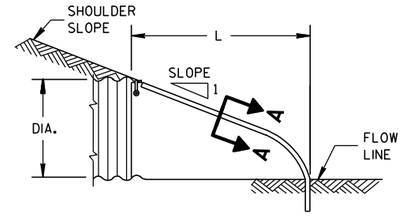
*MINIMUM
**MAXIMUM



PLAN VIEW

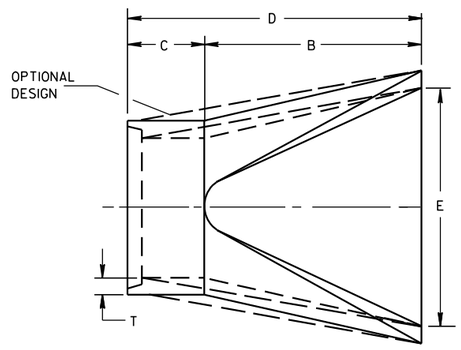


END VIEW

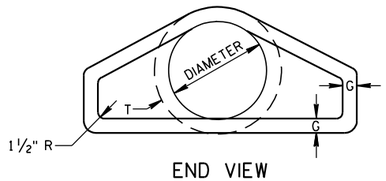


SIDE ELEVATION

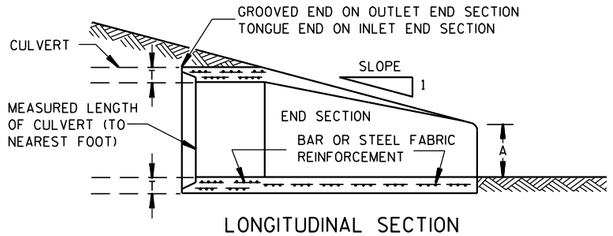
METAL ENDWALLS



PLAN

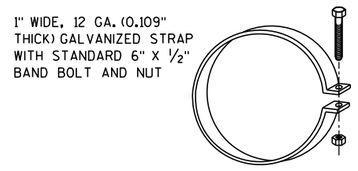


END VIEW



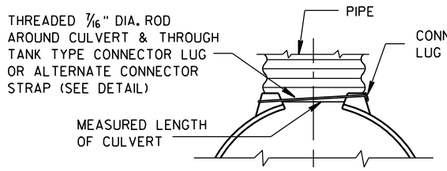
LONGITUDINAL SECTION

CONCRETE ENDWALLS

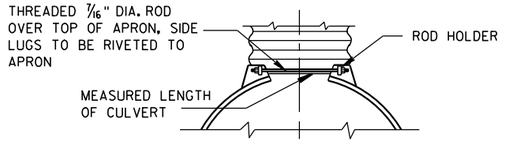


ALTERNATE FOR TYPE 1 CONNECTION

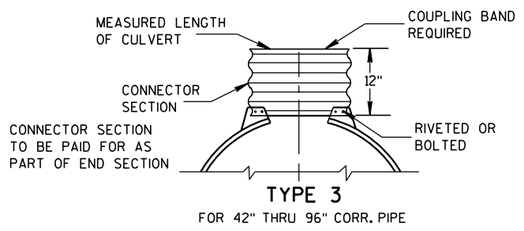
END SECTION CONNECTOR STRAP



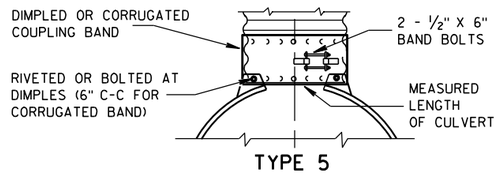
TYPE 1
FOR 12" THRU 24" CORR. PIPE



TYPE 2
FOR 30" THRU 96" CORR. PIPE



TYPE 3
FOR 42" THRU 96" CORR. PIPE



TYPE 5
ALTERNATE FOR:
ALL SIZES CORRUGATED CIRCULAR PIPE

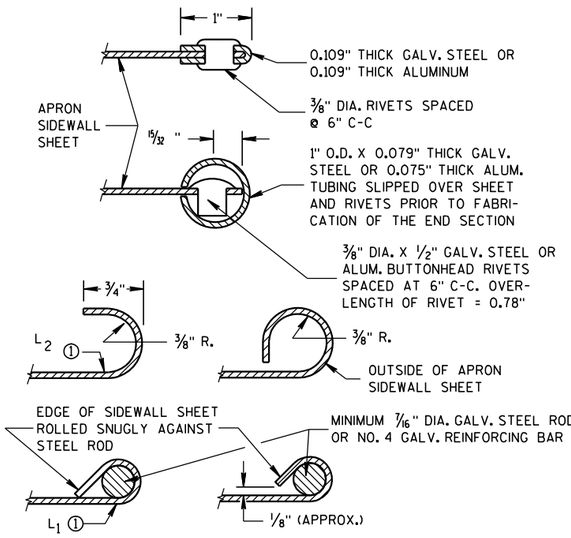
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL. AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

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

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

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

CONNECTION DETAILS



SECTION A-A

GENERAL NOTES

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

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

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

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

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

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

APRON ENDWALLS FOR CULVERT PIPE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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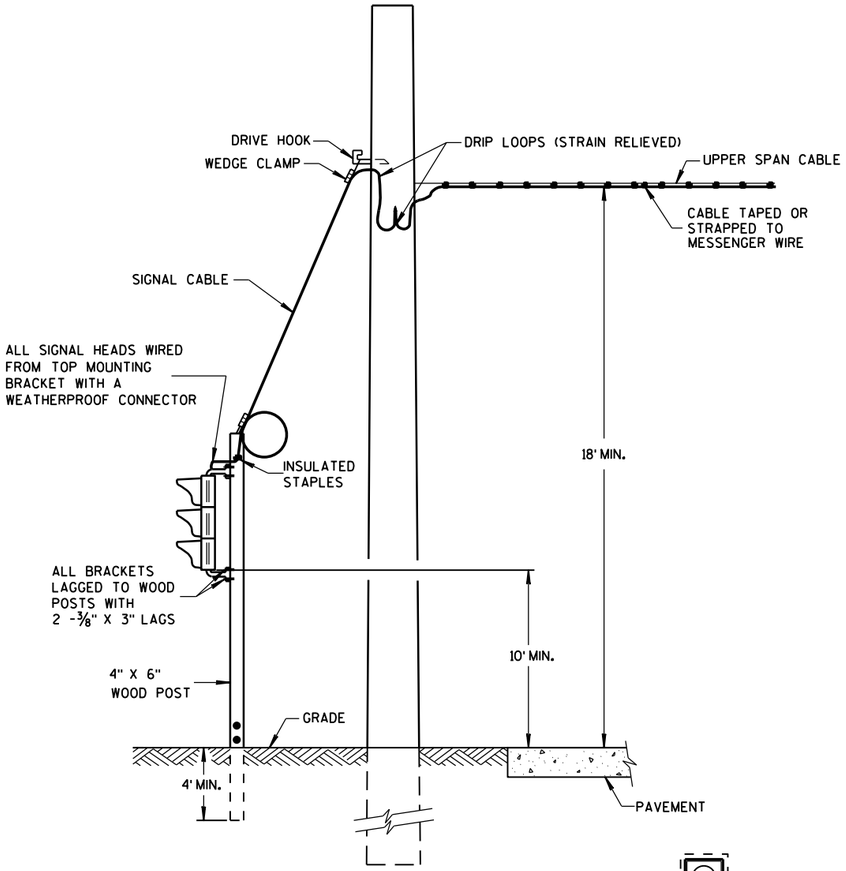
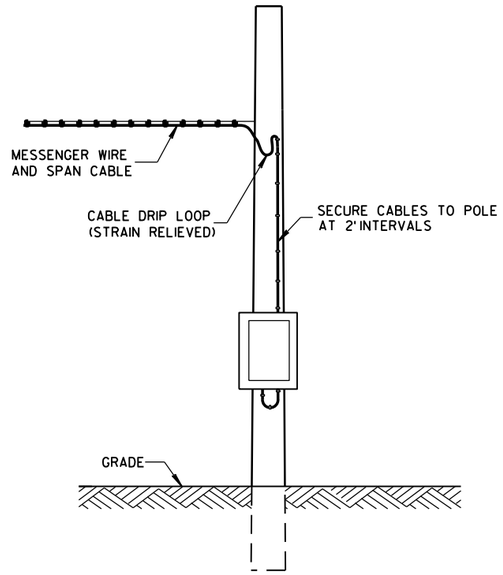
S.D.D. 8 F 1-11



TYPICAL DROP TO TRAFFIC SIGNAL FACE



POLE MOUNT CABINET INSTALLATION

GENERAL NOTES

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

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

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

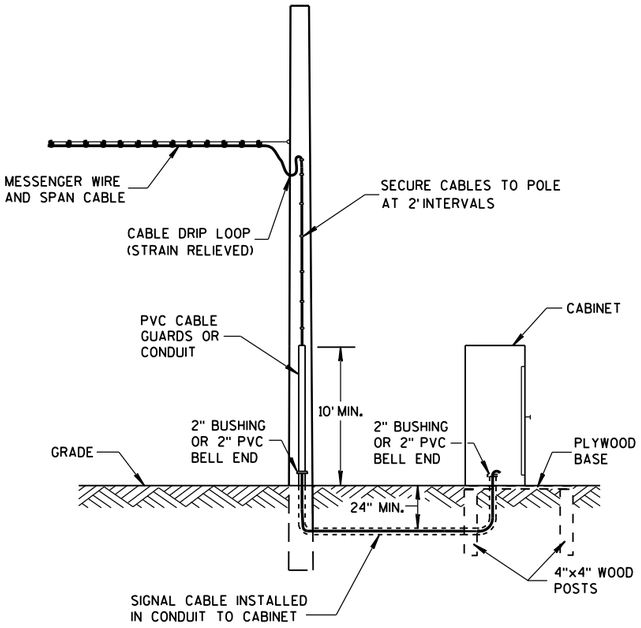
WOOD POLES (NONBREAKAWAY) SHALL BE NO CLOSER TO EDGE OF PAVEMENT THAN OFFSET DISTANCE CHART ALLOWS OR 4 FEET BEHIND PROTECTIVE BARRIER (BEAM GUARD, ETC.).

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

VERTICAL CLEARANCE ETC. PER NEC.

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

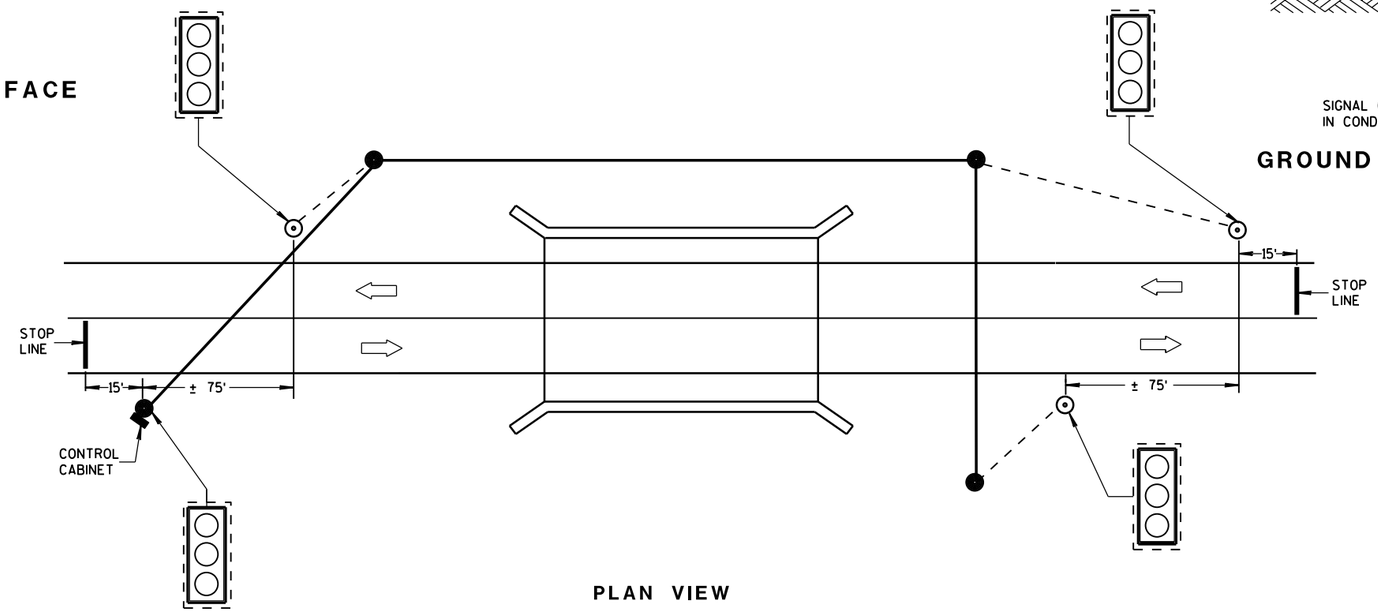
EACH TRAFFIC SIGNAL FACE SHALL HAVE A BACKPLATE.



GROUND MOUNT CABINET INSTALLATION

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

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



PLAN VIEW

TYPICAL BRIDGE TEMPORARY TRAFFIC SIGNAL LOCATION

LEGEND

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

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

BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept., 2016 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL

FHWA

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S.D.D. 9 G 2-4a

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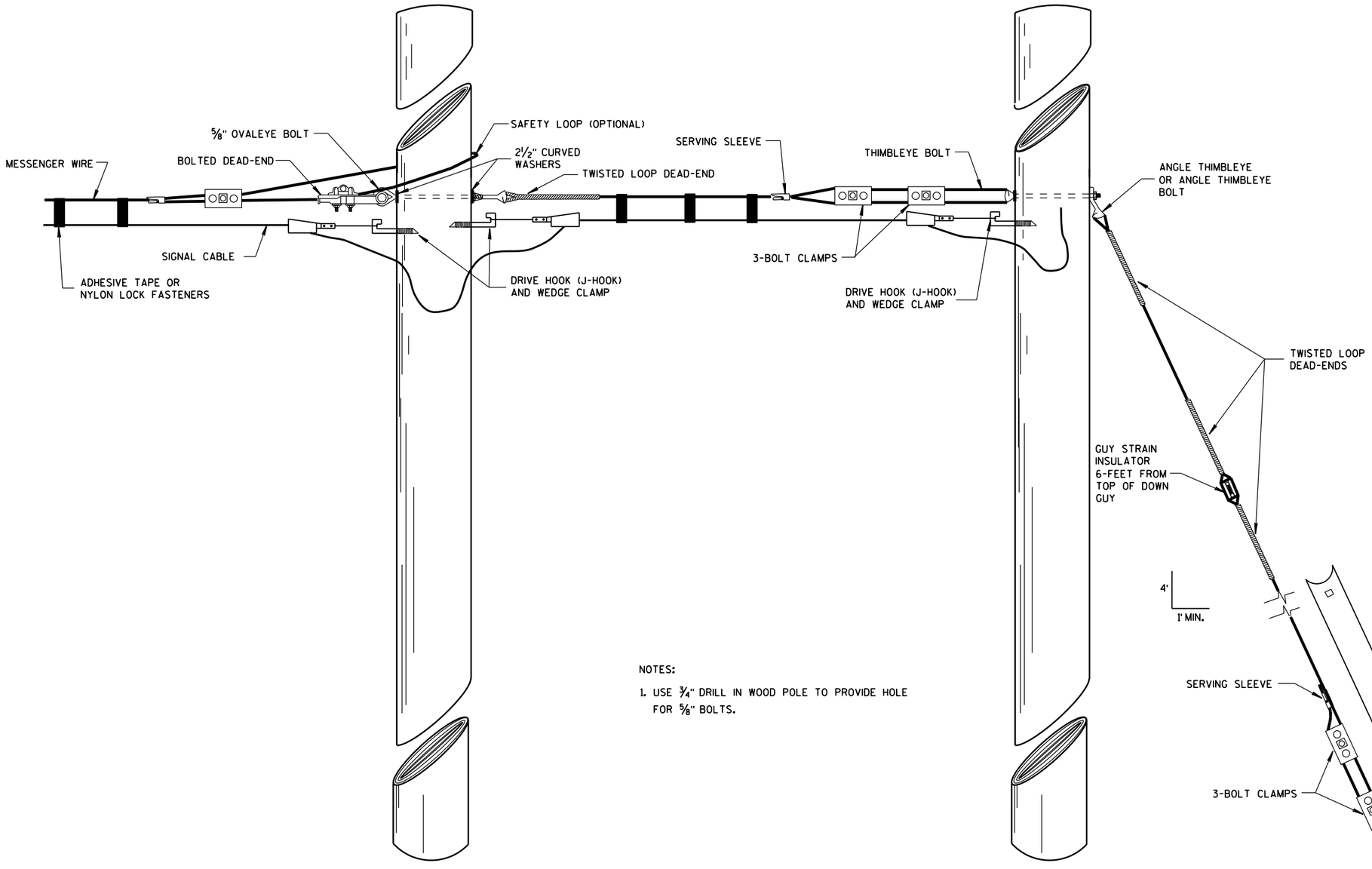
S.D.D. 9 G 2-4a



SPAN WIRE POLE

GUY POLE

NOTES:

1. USE 3/4" DRILL IN WOOD POLE TO PROVIDE HOLE FOR 5/8" BOLTS.

TYPICAL DEAD-ENDINGS OR GUYING

BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

Sept., 2016
DATE

/S/ Ahmet Demirbilek
STATE ELECTRICAL

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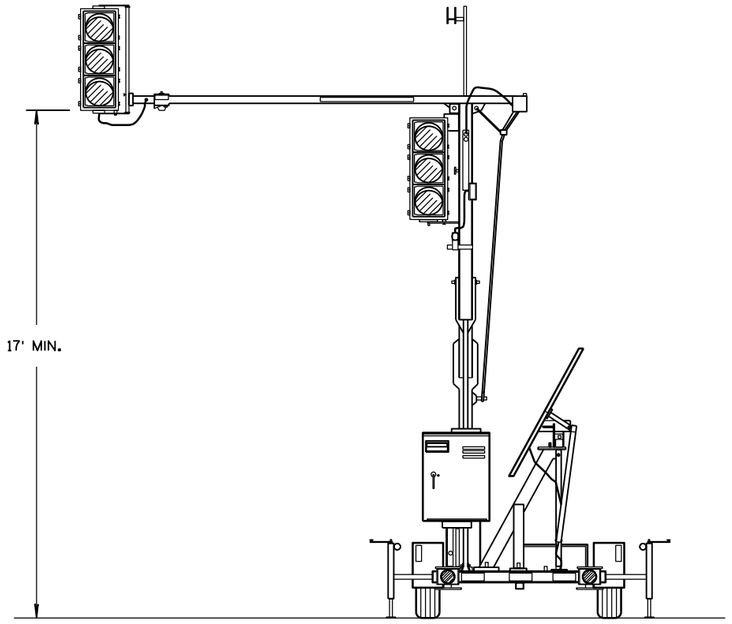
S.D.D. 9 G 2-4b

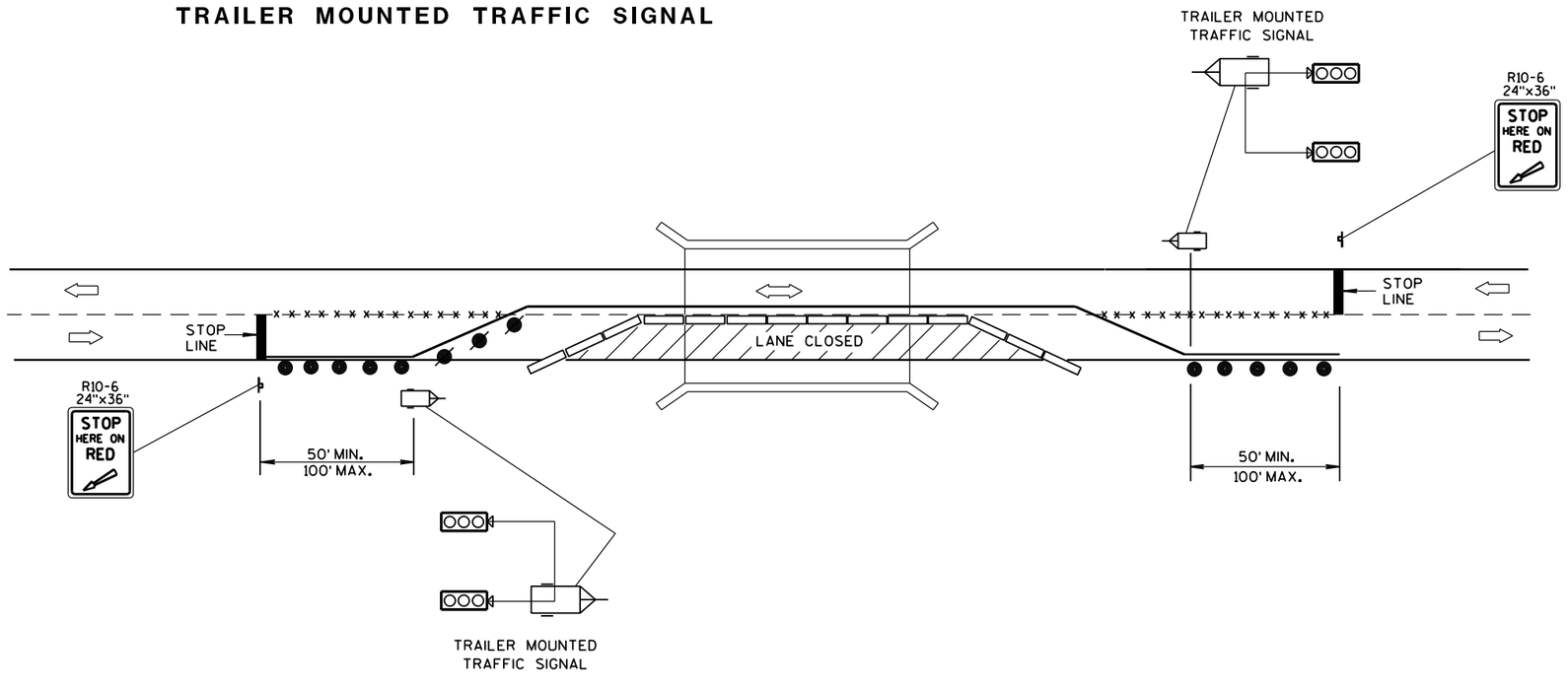


TRAILER MOUNTED TRAFFIC SIGNAL

GENERAL NOTES

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

SIGNING, PAVEMENT MARKING AND LANE CONTROL REQUIREMENTS SHALL CONFORM TO STANDARD DETAIL DRAWING 15 D 33.



TYPICAL TRAILER MOUNTED TRAFFIC SIGNAL LOCATION

LEGEND

- POST MOUNTED SIGN
- REMOVING PAVEMENT MARKING
- DRUM WITH/WITHOUT WARNING LIGHT, TYPE C (STEADY-BURN)
- TEMPORARY PRECAST CONCRETE BARRIER
- TRAILER MOUNTED TRAFFIC SIGNAL
- DIRECTION OF TRAFFIC FLOW

BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept., 2016 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
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S.D.D. 9 G 2-4c

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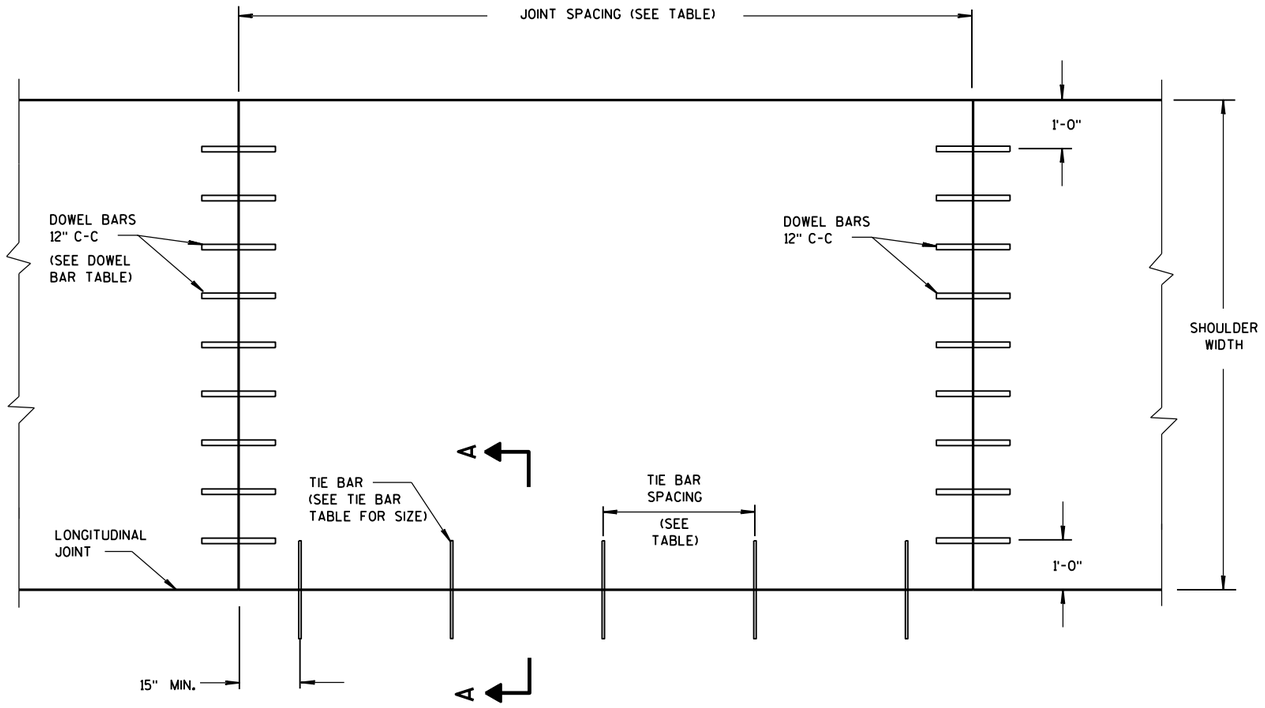
S.D.D. 9 G 2-4c



PLAN VIEW

CONCRETE PAVEMENT SHOULDER

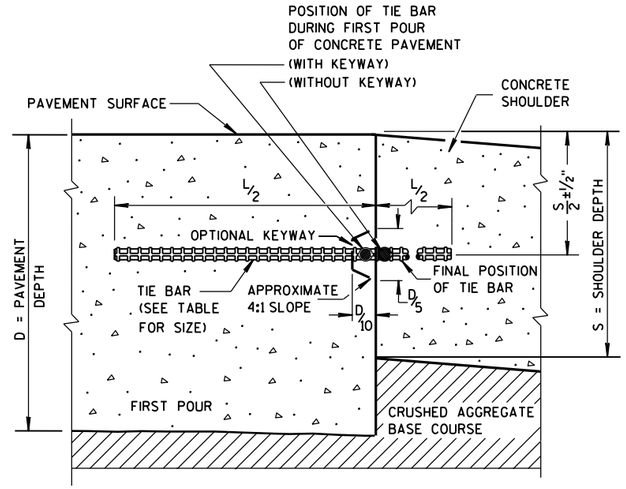
GENERAL NOTES

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

TRANSVERSE JOINT DETAILS ARE SHOWN ELSEWHERE IN THE PLAN.

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

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



SECTION A-A

LONGITUDINAL CONSTRUCTION JOINT

TIE BAR TABLE

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

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

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

PAVEMENT DEPTH, DOWEL BAR SIZE AND JOINT SPACING TABLE

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

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

CONCRETE PAVEMENT SHOULDERS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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S.D.D. 13 A 3-6

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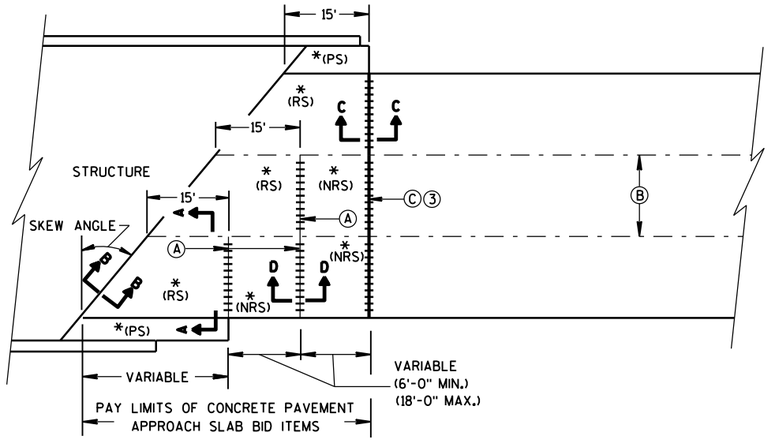
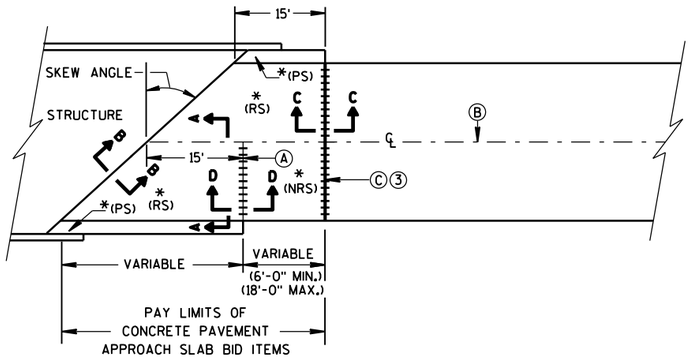
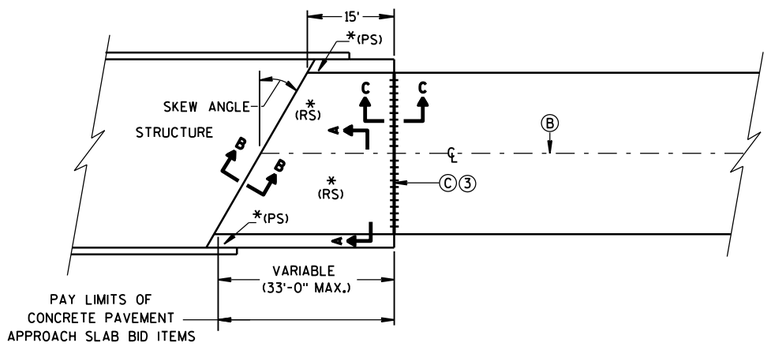
S.D.D. 13 A 3-6



SKEWED APPROACH
(PAVEMENT MORE THAN 2 LANES)



SKEWS >20°
(PAVEMENT WIDTH ≤30')



SKEWS ≤20°
(PAVEMENT WIDTH ≤30')

APPROACH SLAB AND ADJACENT PAVEMENT

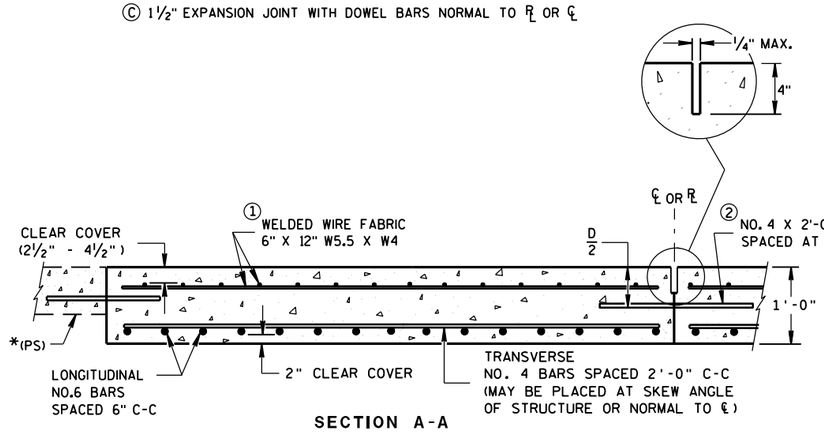
*(RS) = REINFORCED CONCRETE SLAB
*(PS) = PAVED CONCRETE SHOULDER OR CONCRETE DRAINAGE SLAB
(SEE DETAILS ELSEWHERE IN THE PLAN)
*(NRS) = NON-REINFORCED CONCRETE SLAB

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

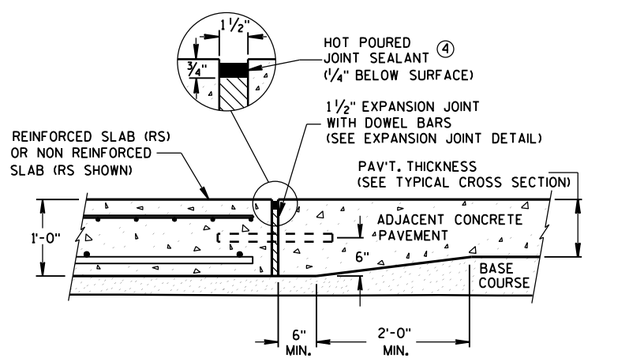
Ⓐ STANDARD CONTRACTION JOINT NORMAL TO ℄ OR ℄

Ⓑ STANDARD LONGITUDINAL JOINT WITH TIE BARS.

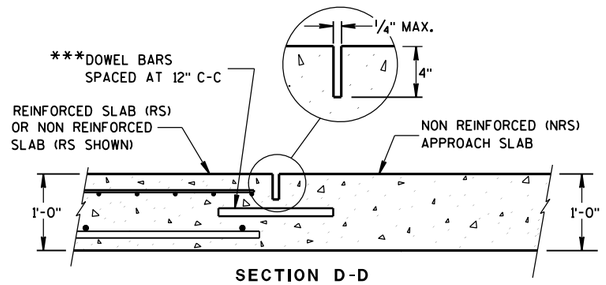
Ⓒ 1½" EXPANSION JOINT WITH DOWEL BARS NORMAL TO ℄ OR ℄



SECTION A-A
REINFORCEMENT POSITIONING DETAIL



SECTION C-C
TRANSITION DETAIL
APPROACH SLAB TO ADJACENT PAVEMENT



SECTION D-D
CONTRACTION JOINT

GENERAL NOTES

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

TACK WELD DOWEL BARS TO THE BASKETS ON ALTERNATE ENDS.

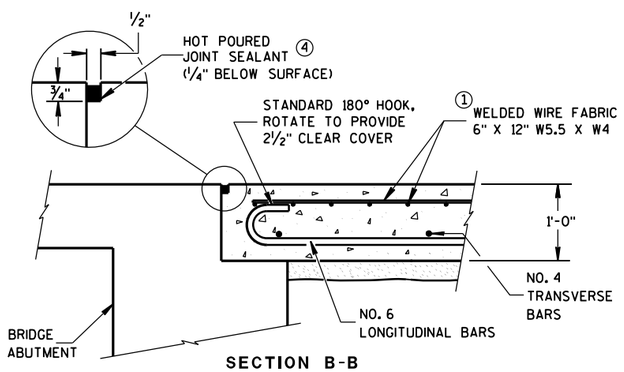
① THE CONTRACTOR MAY USE NO. 4 BARS SPACED AT 2'-0" C-C IN BOTH THE LONGITUDINAL AND TRANSVERSE DIRECTIONS FOR TOP REINFORCEMENT AS AN ALTERNATIVE TO THE WELDED WIRE FABRIC.

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

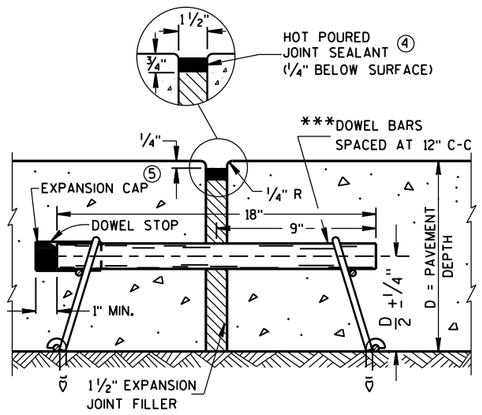
③ DO NOT CONSTRUCT AN EXPANSION JOINT OR INSTALL DOWEL BARS WHEN ABUTTING AN HMA PAVEMENT.

④ USE A JOINT SEALANT MEETING THE REQUIREMENTS OF ASTM D6690.

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



SECTION B-B
BEND DETAIL
BOTTOM REINFORCEMENT



EXPANSION JOINT DETAIL

CONCRETE PAVEMENT APPROACH SLAB

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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S.D.D. 13 B 2-8a

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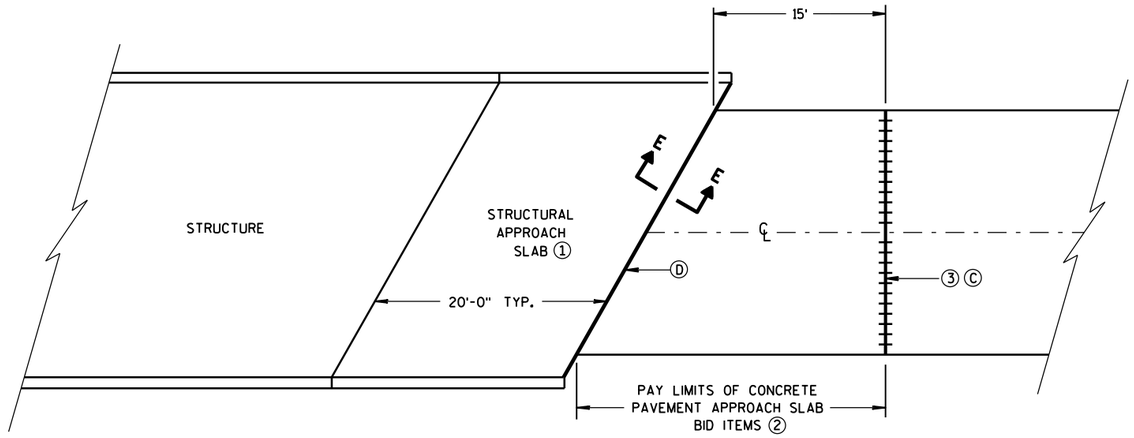
S.D.D. 13 B 2-8a



GENERAL NOTES

ALL PROJECTS THAT INVOLVE A STRUCTURAL APPROACH SLAB WILL ALSO HAVE A CONCRETE PAVEMENT APPROACH SLAB.

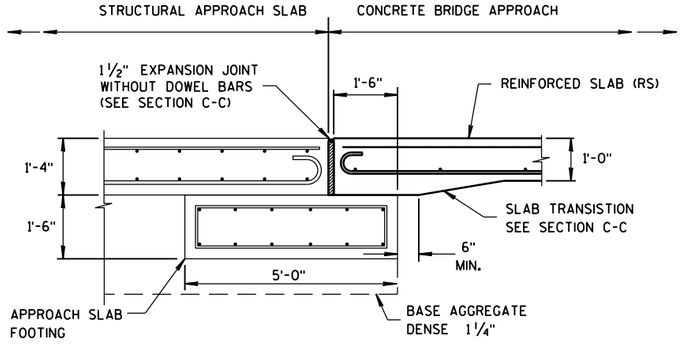
(1) SEE BRIDGE PLAN.

(2) CONFORM TO SHEET 13 B 2(A) FOR CONCRETE PAVEMENT APPROACH SLAB DETAILS.

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

(C) 1½" EXPANSION JOINT WITH DOWEL BARS NORMAL TO ℄ OR ℄

(D) 1½" EXPANSION JOINT (NO DOWELS)



SECTION E-E

FOOTING DETAIL

STRUCTURAL APPROACH SLAB TO CONCRETE BRIDGE APPROACH

STRUCTURAL APPROACH SLAB AND CONCRETE PAVEMENT APPROACH SLAB

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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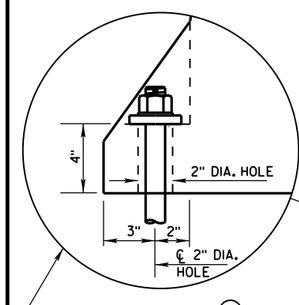
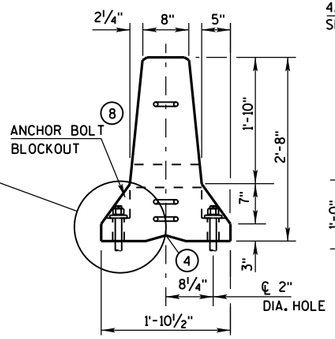
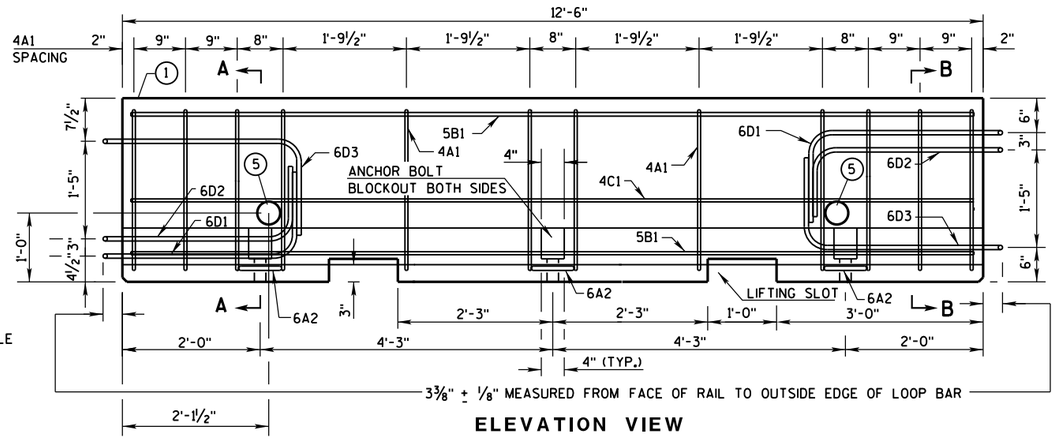
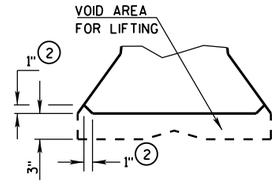




END VIEW



ELEVATION VIEW



DETAIL "B"
LIFTING SLOT DETAIL

GENERAL NOTES

THESE GENERAL NOTES APPLY TO SHEETS 14B7-14(a) THRU 14B7-14(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 ADHESIVE ANCHORS PER MANUFACTURER'S RECOMMENDATIONS. PROVIDE MANUFACTURER'S INFORMATION TO PROJECT ENGINEER.

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

(2) 1" CHAMFER TO PREVENT SPALLING.

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

(4) "V" NOTCH IS OPTIONAL.

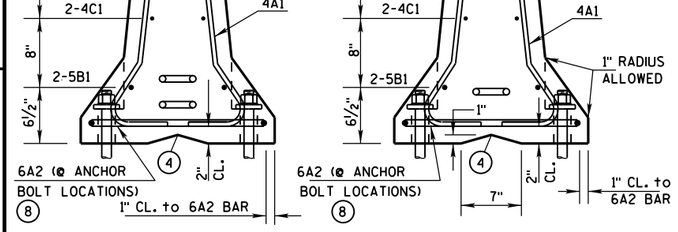
(5) THE 4" DIAMETER, 11 GAUGE STEEL, ROUND MECHANICAL TUBING SLEEVE FOR LIFTING (OPTIONAL).

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

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

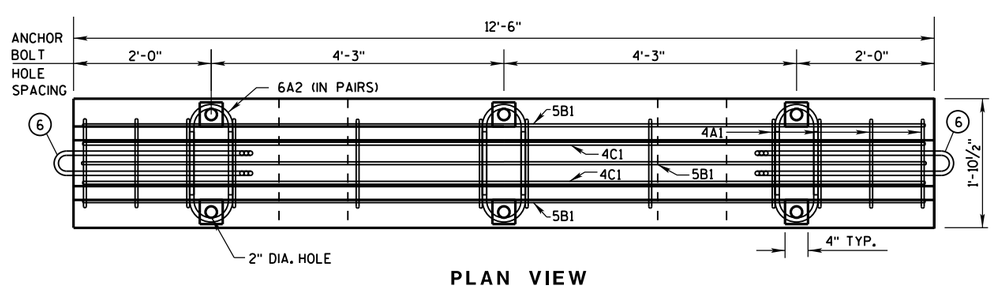
(8) SEE SHEET D FOR ANCHORING CRITERIA.

(9) 1" CHAMFER OPTIONAL.



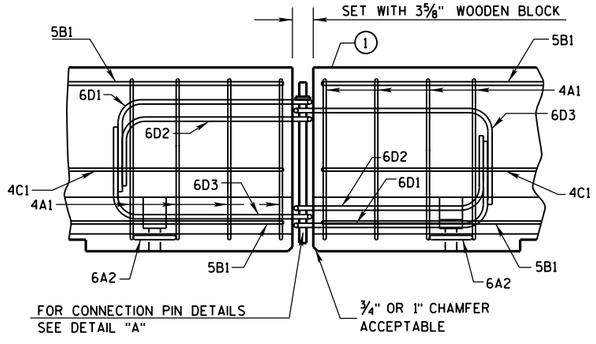
SECTION A-A
(STIRRUP PLACEMENT)

SECTION B-B
(STIRRUP PLACEMENT)

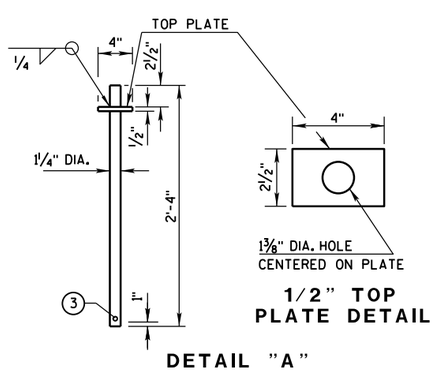


PLAN VIEW

DETAILS OF BARRIER SECTION

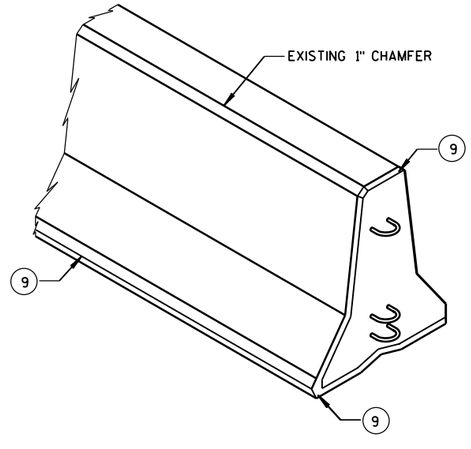


DETAILS OF BARRIER CONNECTION



1/2" TOP
PLATE DETAIL

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



CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

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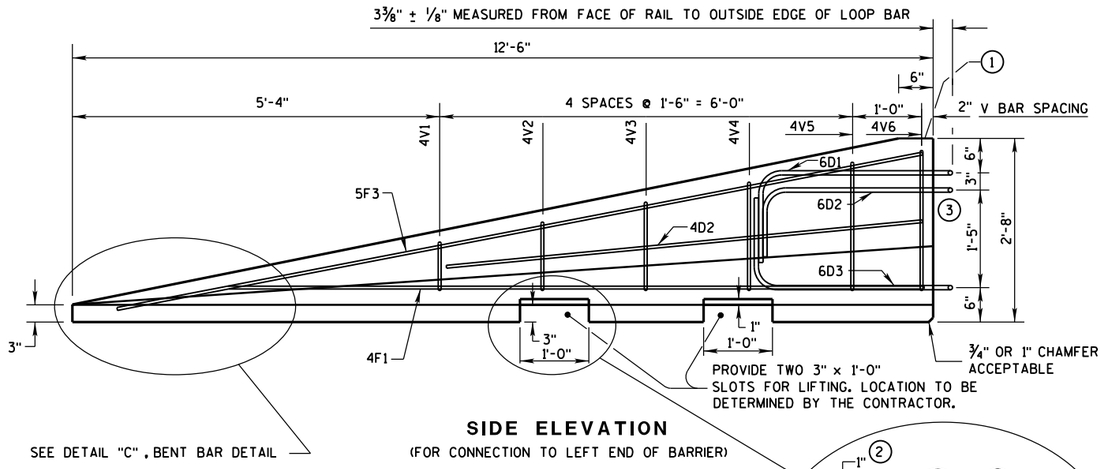
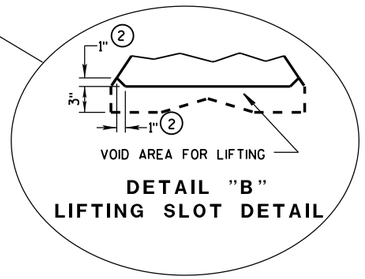
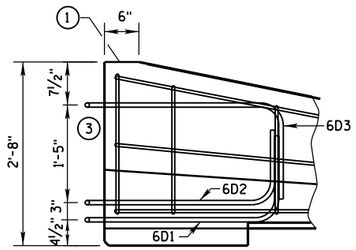
S.D.D. 14 B 7-14a



SIDE ELEVATION
(FOR CONNECTION TO LEFT END OF BARRIER)



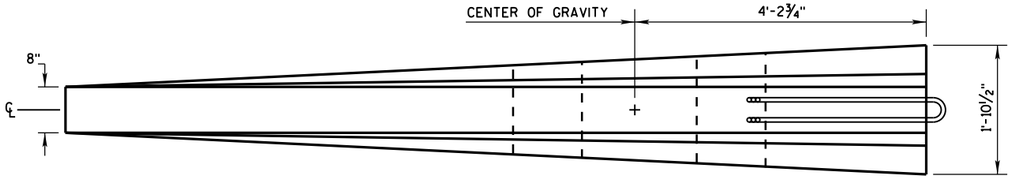
DETAIL "B"
LIFTING SLOT DETAIL



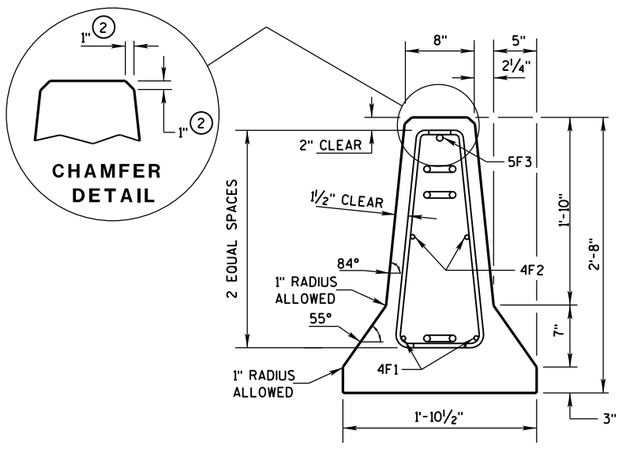
SIDE ELEVATION
LOOP BAR ASSEMBLY INVERTED
FOR OPPOSITE END.
(FOR CONNECTION TO RIGHT END OF BARRIER)

GENERAL NOTES

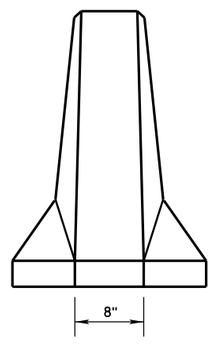
1. MARK ONE END OF EACH BARRIER PERMANENTLY BY FORMING INTO THE BARRIER THE FOLLOWING INFORMATION:
   a. TYPE WICBTP
   b. MANUFACTURER
   c. DATE MANUFACTURED (MONTH AND YEAR)
2. 1" CHAMFER TO PREVENT SPALLING.
3. NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.



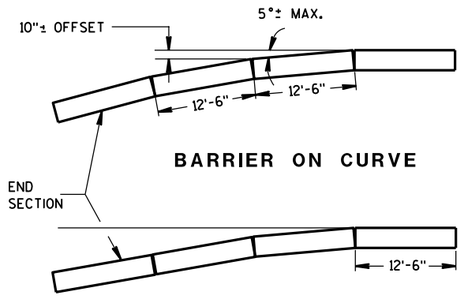
PLAN VIEW



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"

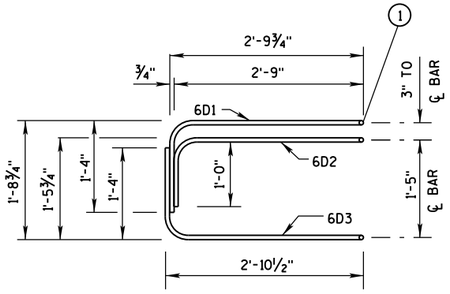
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

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

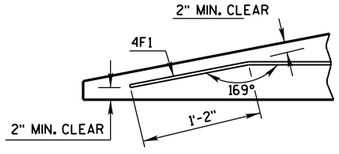
BARRIER TAPER SECTION BILL OF MATERIALS

(PER 12'-6" BARRIER TAPER SECTION)

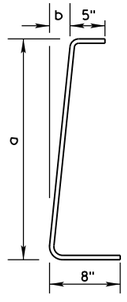
BAR	BAR SIZE	NO. OF BARS	LENGTH FT.
4V1	4	2	1'-11"
4V2	4	2	2'-2"
4V3	4	2	2'-6"
4V4	4	2	2'-9"
4V5	4	2	3'-2"
4V6	4	2	3'-4"
4F1	4	2	12'-0"
4F2	4	2	7'-6"
5F3	5	1	11'-9"
LOOP ASSEMBLY			
6D1	6	1	8'-5"
6D2	6	1	7'-7"
6D3	6	1	8'-6"



ELEVATION
LOOP BAR ASSEMBLY



DETAIL "C"
BENT BAR DETAIL



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

4V BARS
2 AT EACH SIZE REQUIRED
FOR STIRRUP ASSEMBLY

TAPER BARRIER SECTION

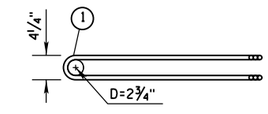
GENERAL NOTES

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

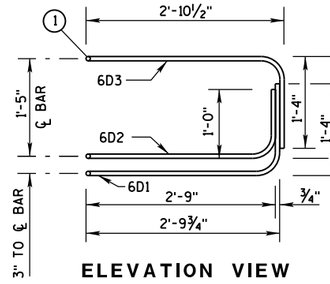
BARRIER SECTION BILL OF MATERIALS

(PER 12'-6" BARRIER SECTION)

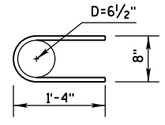
BAR	BAR SIZE	NO. OF BARS	LENGTH FT.
4A1	4	12	6'-0"
6A2	6	6	2'-11"
5B1	5	3	12'-2"
4C1	4	2	12'-2"
LOOP ASSEMBLY			
6D1	6	2	8'-5"
6D2	6	2	7'-7"
6D3	6	2	8'-6"



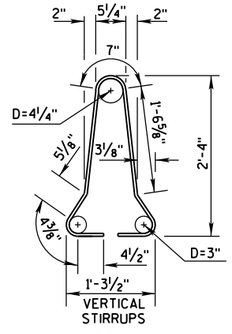
PLAN VIEW
LOOP BAR ASSEMBLY
(MARKED END SHOWN, INVERT FOR OTHER END)



ELEVATION VIEW



6A2



4A1

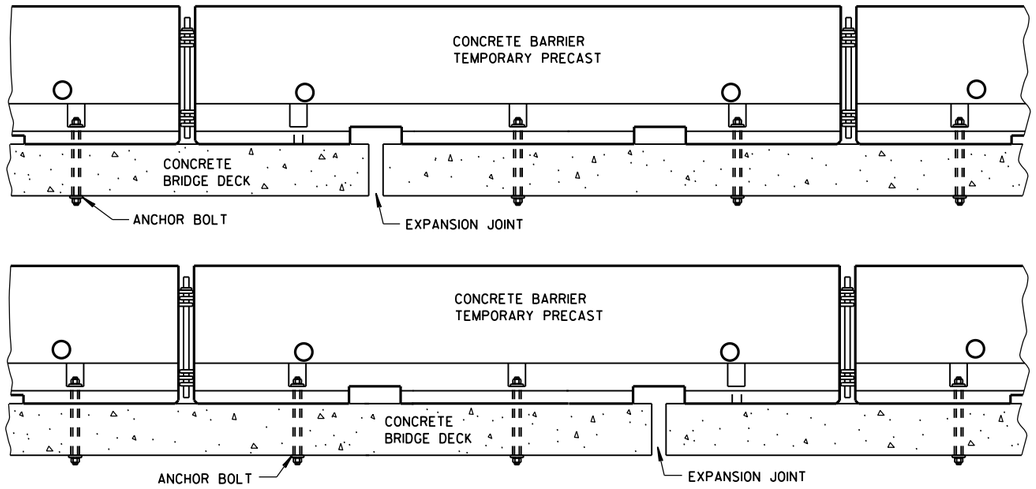
BARRIER SECTION

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

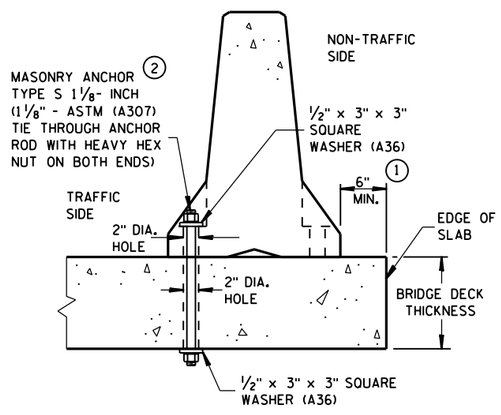
6

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



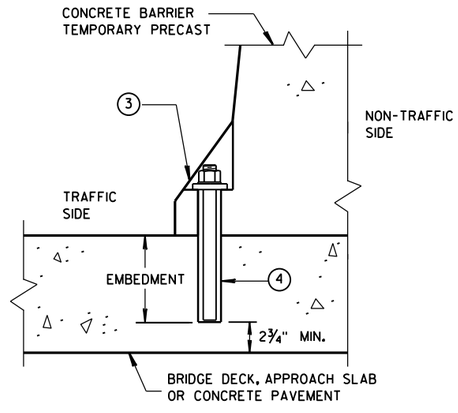
TREATMENT AT BRIDGE DECK EXPANSION JOINTS

(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 INSTALLATION ON CONCRETE BRIDGE DECK, CONCRETE APPROACH SLAB, OR CONCRETE PAVEMENT ②

(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.

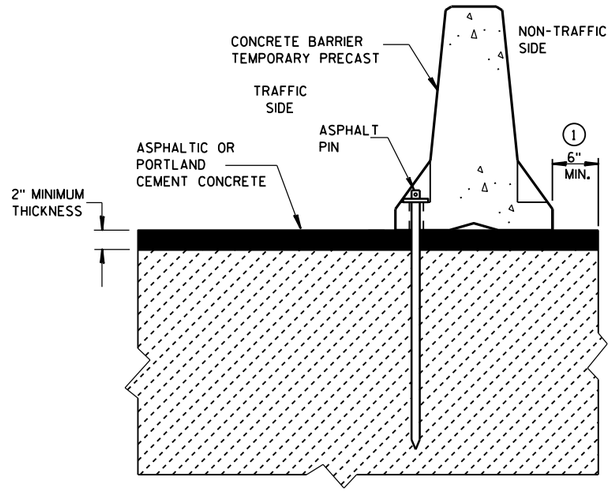
② ANCHORING IS INCIDENTAL TO CONCRETE BARRIER TEMPORARY PRECAST.

WITH THE APPROVAL OF THE ENGINEER, REMOVABLE ADHESIVE BONDED 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 ALL ANCHOR 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 MATERIAL IDENTIFIED ON THE CURRENT WISDOT APPROVED PRODUCTS LIST.

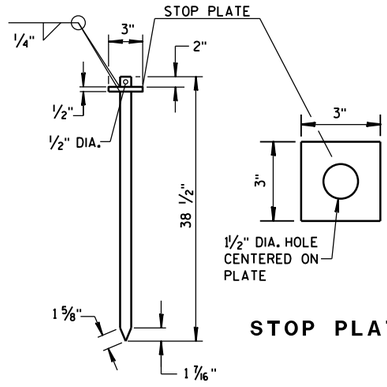
③ 1⅛" DIAMENTER A307 THREADED ROD, ½" X 3" X 3" SQUARE PLATE WASHER WITH ASTM A36 STEEL, ASTM A563A HEAVY HEX NUT.

④ ADHESIVE ANCHORS WITH A MINIMUM BOND STRENGTH OF 1,800 PSI AND 5¼" EMBEDMENT. SEE 603.2 AND 603.3.1.2 OF THE WISCONSIN STANDARD SPECIFICATIONS FOR MORE INFORMATION ON ADHESIVE ANCHORS.



STAKE DOWN INSTALLATION FOR ASPHALTIC OR PORTLAND CEMENT CONCRETE SURFACE

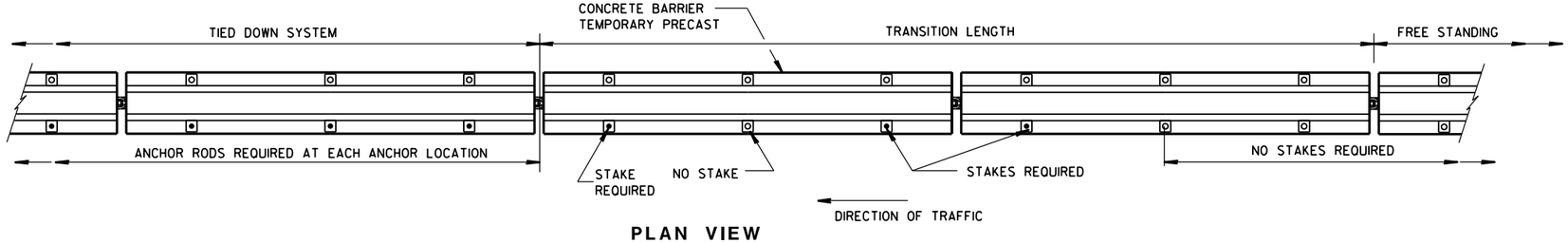
(STAKING IS INCIDENTAL TO CONCRETE BARRIER TEMPORARY PRECAST)



STOP PLATE

ASPHALT PIN

(ASTM A36 STEEL)



PLAN VIEW

FREE STANDING TRANSITION TO TIED-DOWN SYSTEM

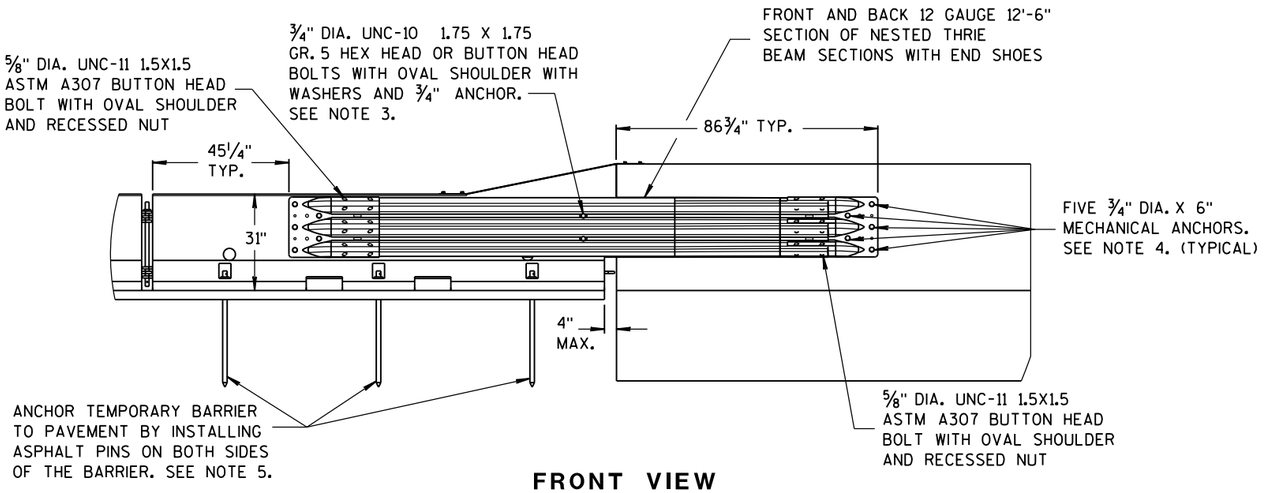
(PLACE TRANSITION IN A TANGENT SECTION OF BARRIER PARALLEL TO THE ROADWAY. IF TRANSITION OCCURS ON STRUCTURAL SLAB, ANCHOR AS SHOWN.)

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

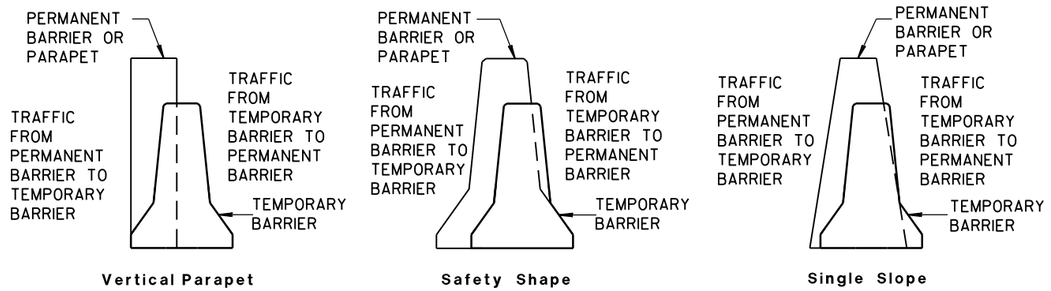
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

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



FRONT VIEW

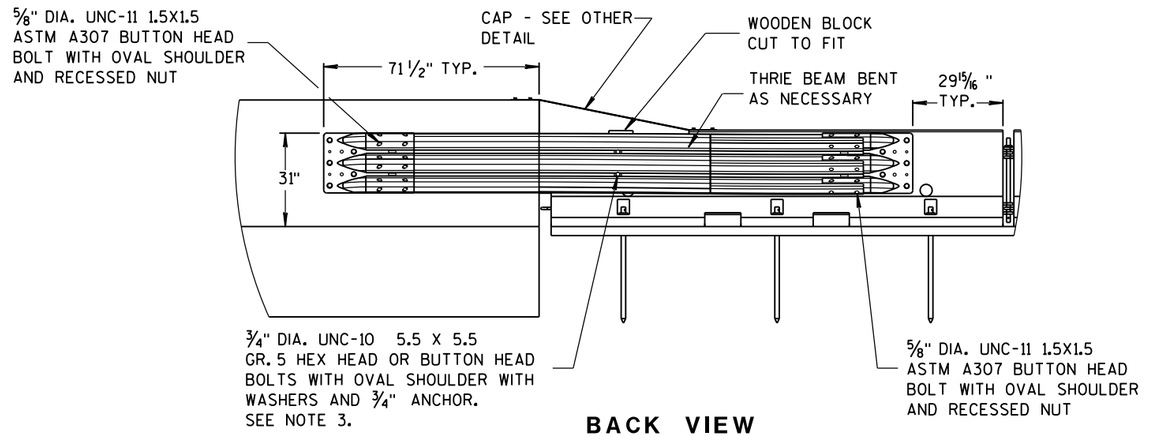


TEMPORARY BARRIER PLACEMENT FOR BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM

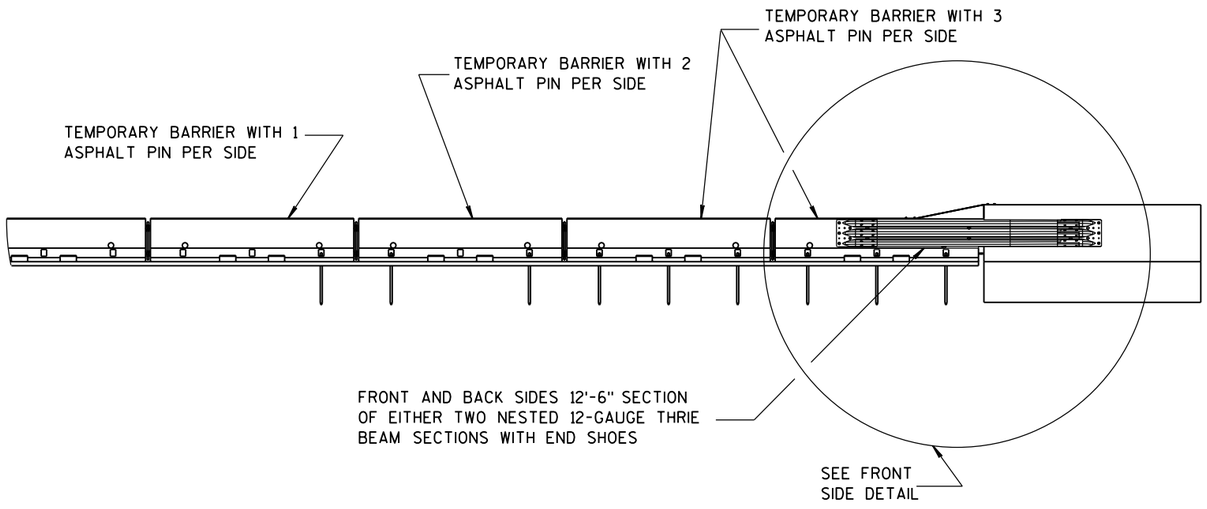
NOTES

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

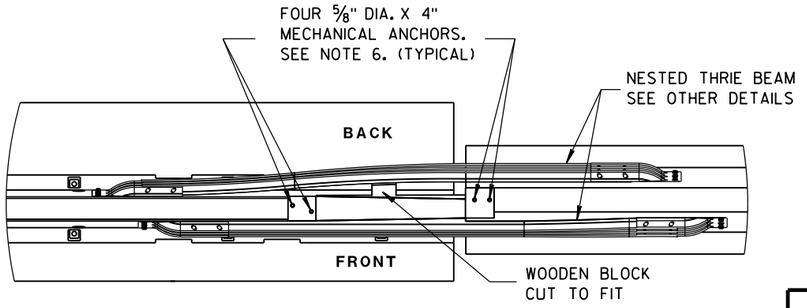
1. CAP END PLATE PLACED FLUSH WITH UPSTREAM END OF PERMANENT BARRIER OR PARAPET.
2. THRIE BEAM PIECES ARE OFFSET 15¼" TO PREVENT INTERFERENCE FROM THE ANCHORS ON OPPOSING SIDES.
3. MINIMUM MECHANICAL OR ADHESIVE ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 9.48 KIPS AND ULTIMATE SHEAR LOAD 10.48 KIPS.
4. MINIMUM MECHANICAL OR ADHESIVE ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 17.9 KIPS AND ULTIMATE SHEAR LOAD 21.96 KIPS.
5. MAY BE USED ON CONCRETE OR ASPHALT PAVEMENTS. ASPHALT OPTION SHOWN. FOR CONCRETE OPTION SEE OTHER DETAILS.
6. MINIMUM MECHANICAL OR ADHESIVE ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 12.14 KIPS AND ULTIMATE SHEAR LOAD 17.5 KIPS.



BACK VIEW



FRONT VIEW



PLAN VIEW

BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

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

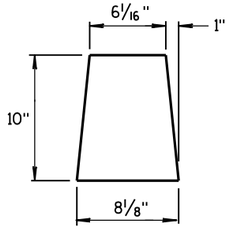
GUSSET 1

GUSSET 2

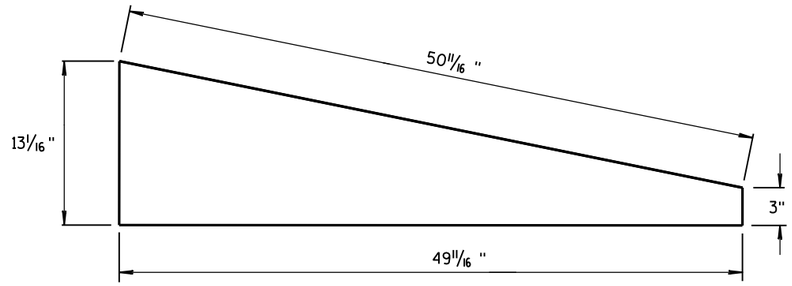
GUSSET 3

GUSSET 4

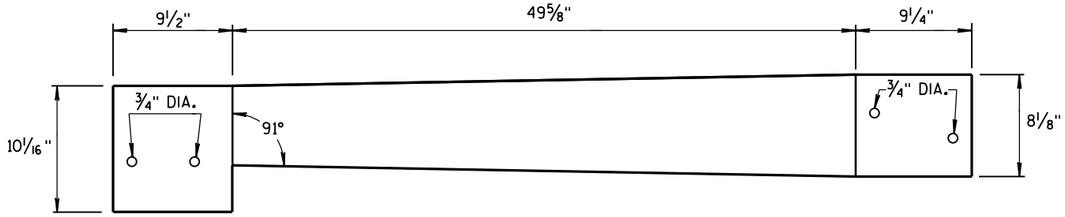
GUSSETS

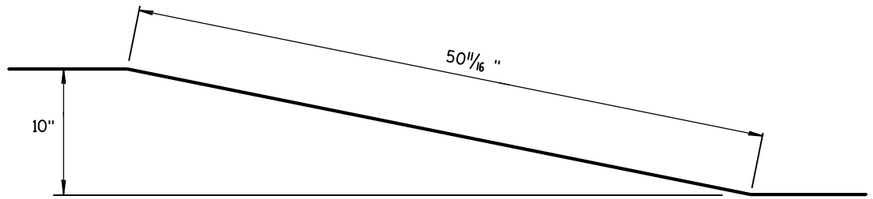


END PLATE

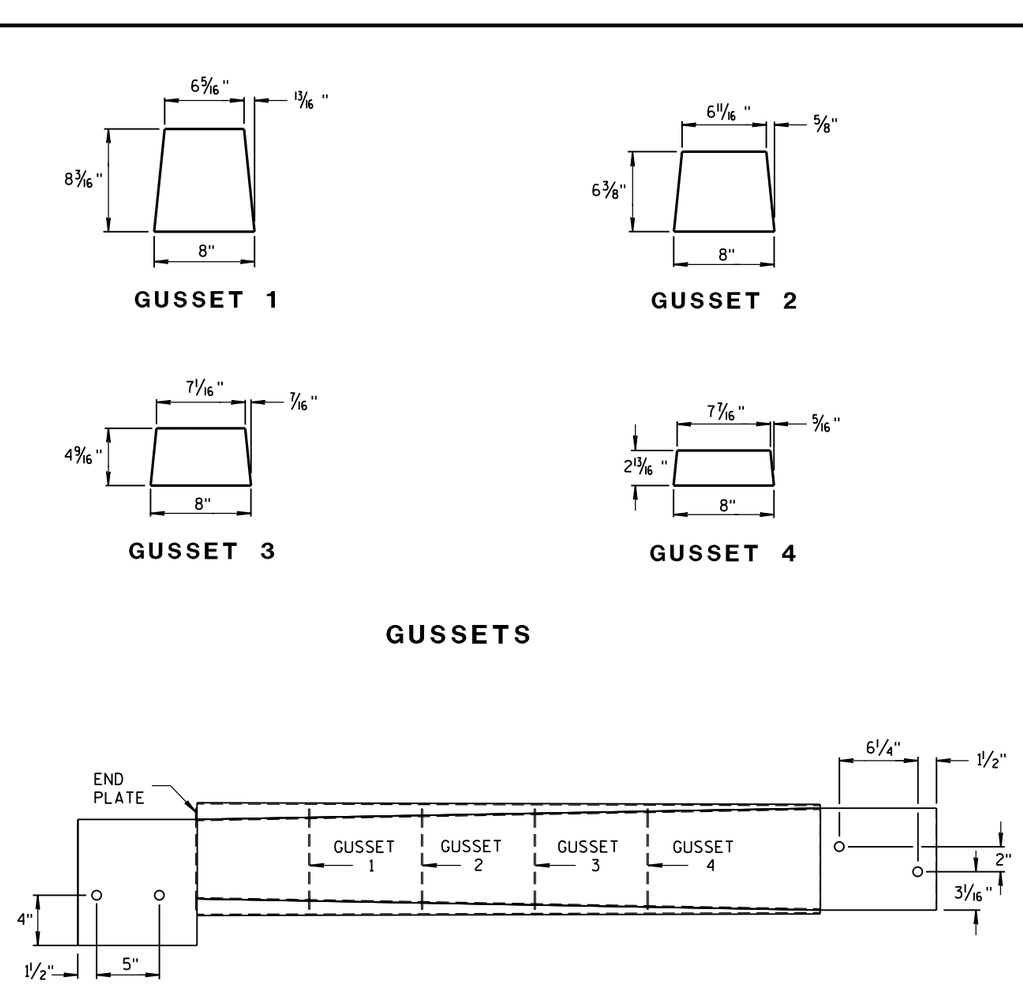


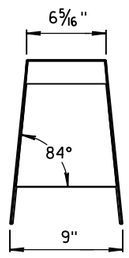
SIDE PLATE





TOP PLATE





SECTION C-C

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.

NOTES

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

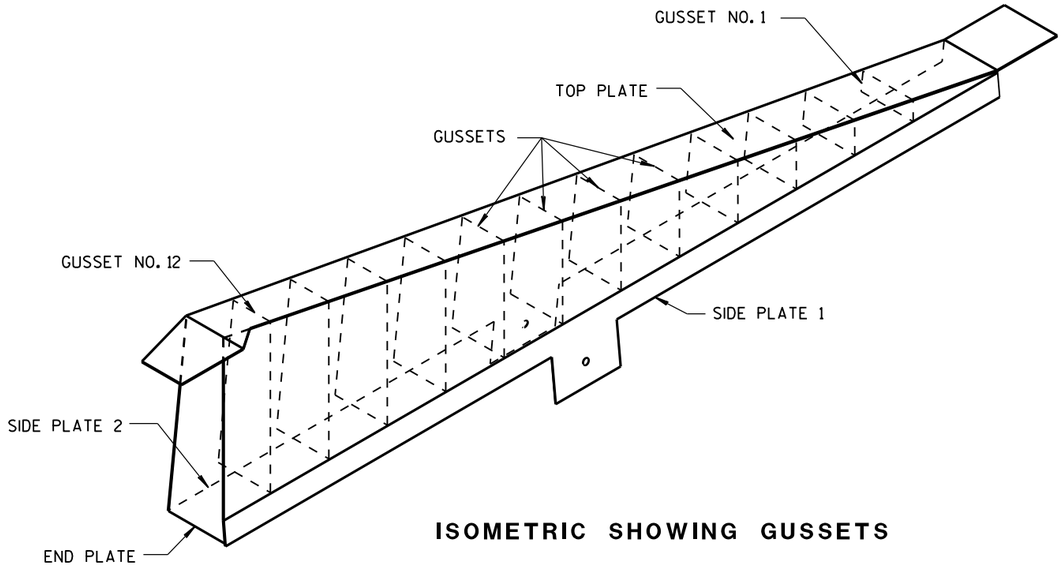
CAP DETAILS FOR TEMPORARY CONCRETE BARRIER TO 42" PERMANENT CONCRETE BARRIER

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

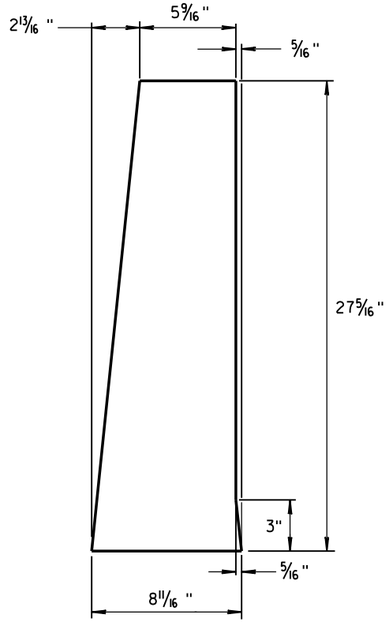
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

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

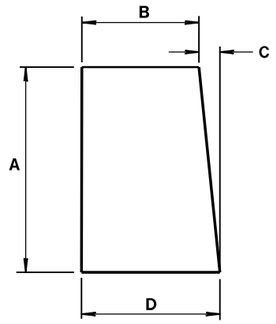


ISOMETRIC SHOWING GUSSETS



END PLATE

1/8" STEEL PLATE



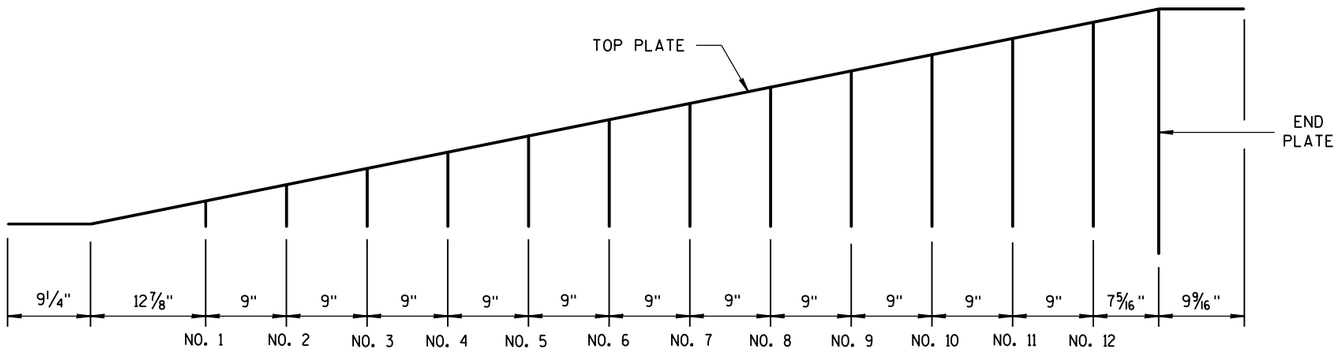
GUSSETS 1 - 12

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

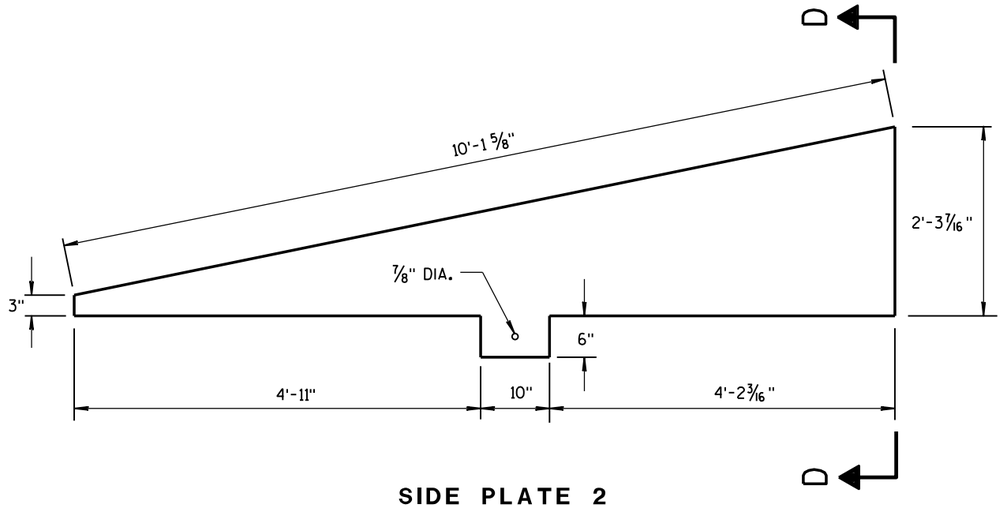
CAP DETAILS FOR TEMPORARY CONCRETE BARRIER TO 56" PERMANENT CONCRETE BARRIER

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

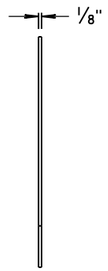
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

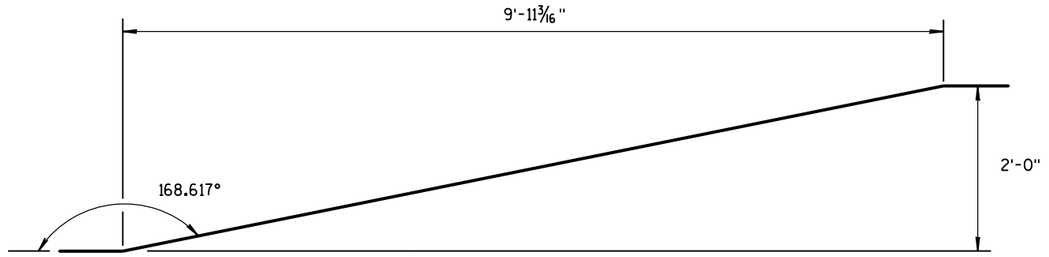
S.D.D. 14 B 7-14g



SIDE PLATE 2

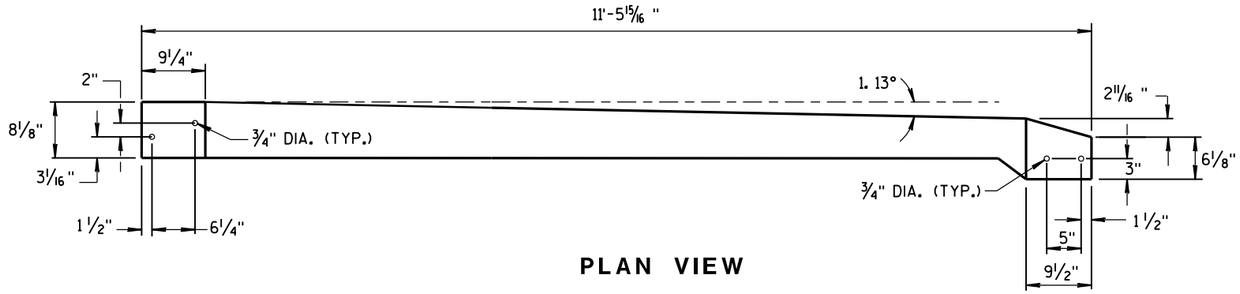


END VIEW



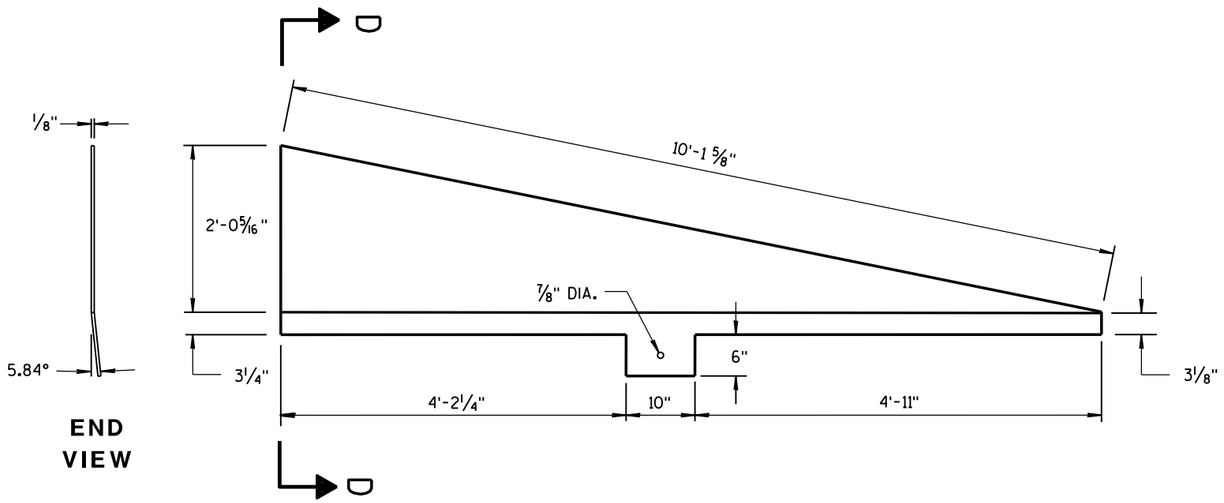
SIDE VIEW

TOP PLATE



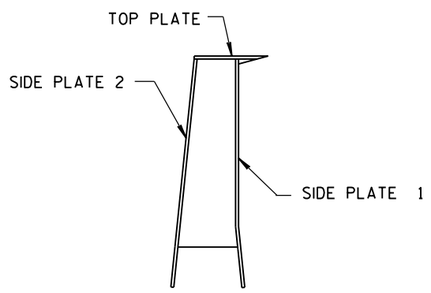
PLAN VIEW

TOP PLATE



END VIEW

SIDE PLATE 1



SECTION D-D

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

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2014 — DATE
/S/ Jerry H. Zoda — ROADWAY STANDARD DEVELOPMENT ENGINEER
FHWA

6

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

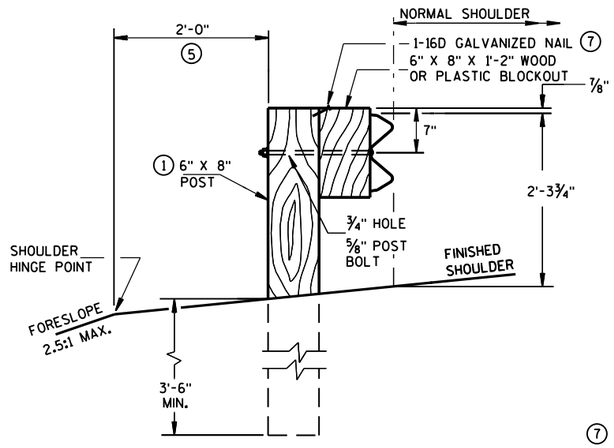
6

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

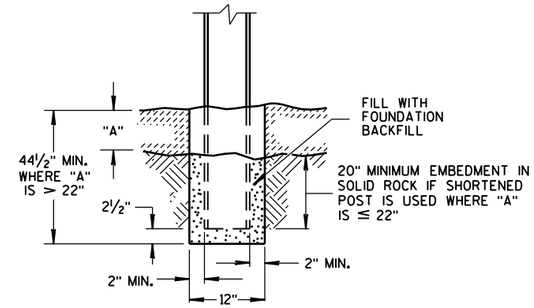
GENERAL NOTES

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

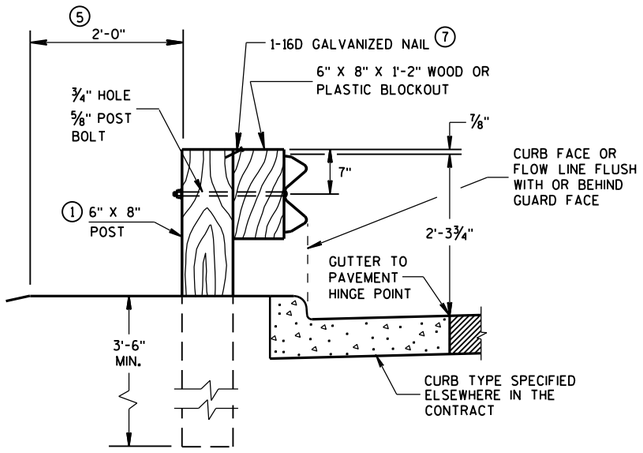
INSTALL BEAM GUARD SECTIONS AND ALL NECESSARY HARDWARE ACCORDING TO THE APPLICABLE PLAN AND CURRENT STANDARD AND SUPPLEMENTAL SPECIFICATIONS.
ALL DIMENSIONS ARE SUBJECT TO MANUFACTURER'S TOLERANCES EXCEPT WHERE ALLOWABLE TOLERANCES ARE SHOWN.



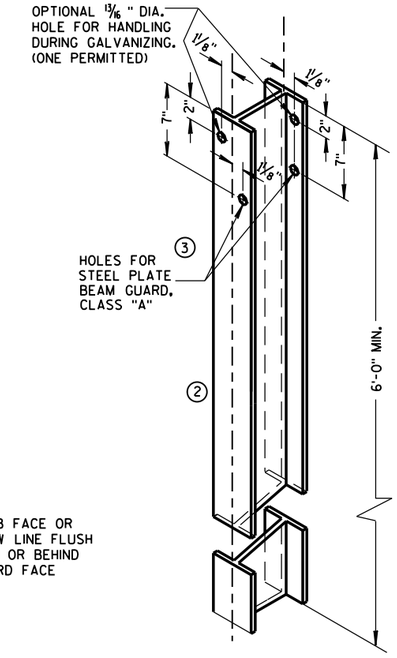
END VIEW
LOCATED ALONG A ROADWAY SHOULDER
STANDARD INSTALLATION



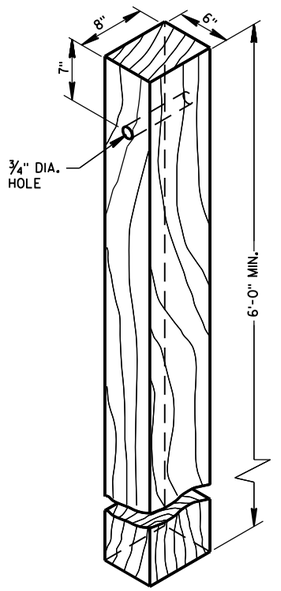
END VIEW
SETTING STEEL OR WOOD POST IN ROCK ⑥



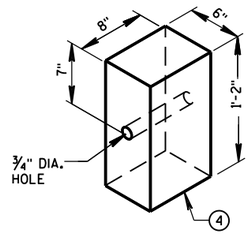
END VIEW
LOCATED ALONG A CURBED ROADWAY



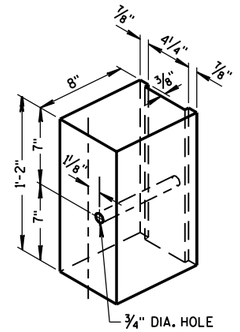
STEEL POST &
HOLE PUNCHING DETAIL
(W6 X 9) ①
ALL HOLES 13/16" DIAMETER EXCEPT AS NOTED



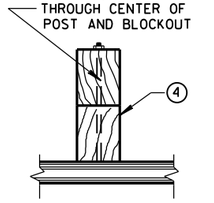
WOOD POST
(6"X8") NOMINAL



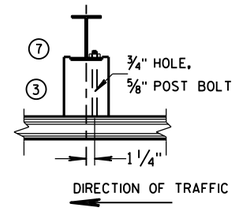
WOOD OR PLASTIC
BLOCKOUT FOR
WOOD POSTS



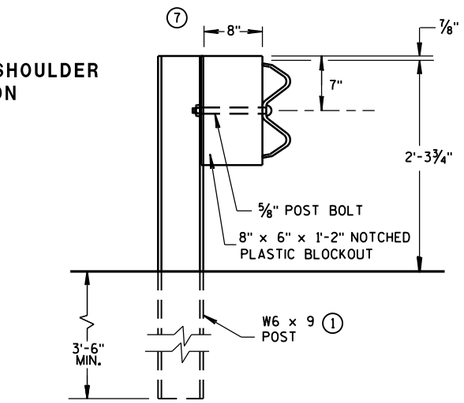
TYPICAL NOTCHED ①
PLASTIC BLOCKOUT
FOR STEEL POSTS



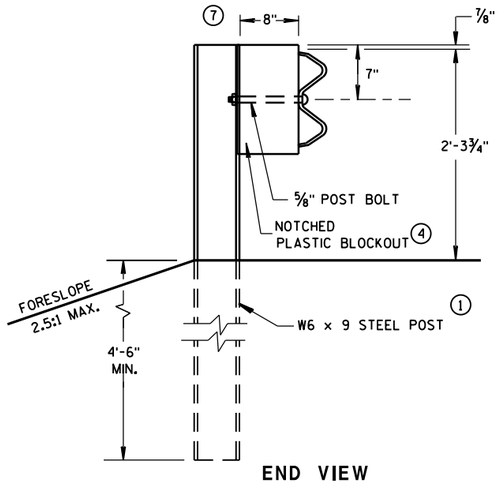
PLAN VIEW
WOOD POST, BLOCKOUT & BEAM



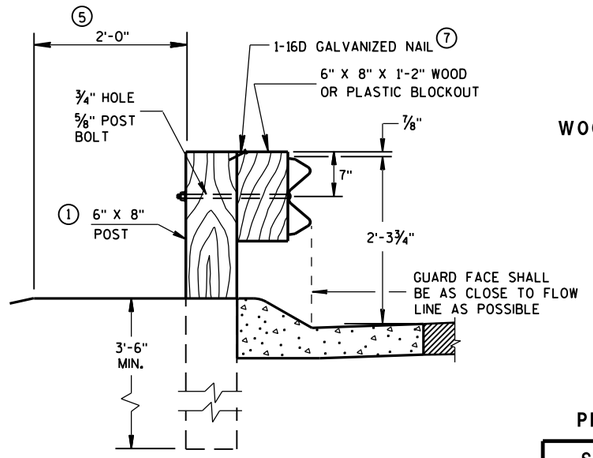
PLAN VIEW
STEEL POST, NOTCHED
PLASTIC BLOCKOUT & BEAM



END VIEW
STEEL POST & NOTCHED
PLASTIC BLOCKOUT ALTERNATIVE
STANDARD INSTALLATION



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



END VIEW
LOCATED ALONG A
MOUNTABLE CURBED ROADWAY

TYPICAL INSTALLATION OF STEEL PLATE BEAM GUARD

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR 57

6

S.D.D. 14 B 15-9a

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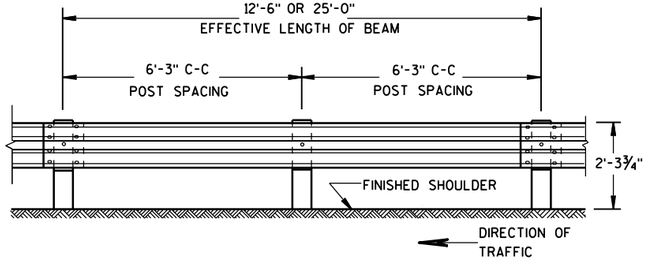
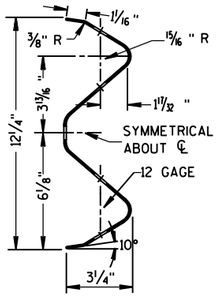
S.D.D. 14 B 15-9a

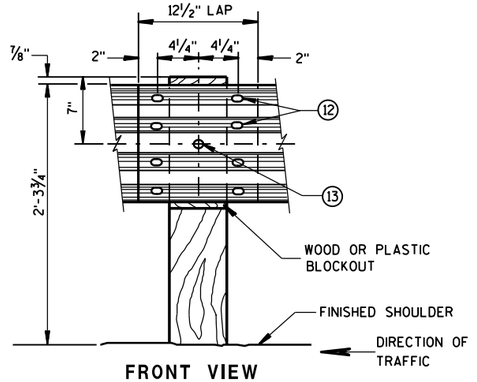


FRONT VIEW

POST SPACING STANDARD INSTALLATION



SECTION THRU W BEAM



FRONT VIEW

BEAM SPLICE AT WOOD POST AND POST MOUNTING DETAIL

GENERAL NOTES

(8) PROVIDE SILVER REFLECTIVE SHEETING ON ALL REFLECTORS EXCEPT THOSE LOCATED ALONG THE LEFT EDGE OF ONE-WAY ROADWAYS, WHICH SHALL BE PROVIDED WITH YELLOW REFLECTIVE SHEETING. SHEETING IS TYPE H. SEE STANDARD SPECIFICATION 637.

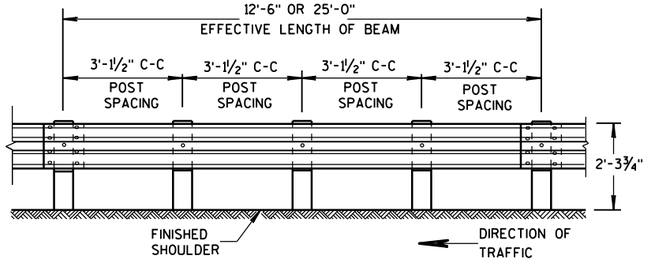
(9) DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

(10) REVERSE EVERY OTHER REFLECTOR FOR 2-WAY VISIBILITY. THE CONTRACTOR MAY FURNISH TWO-SIDED REFLECTORS IN LIEU OF ONE-SIDED REFLECTORS.

(11) PROVIDE AN ANGLE OF BEND OF 90° ± 1° FOR TWO-SIDED REFLECTORS.

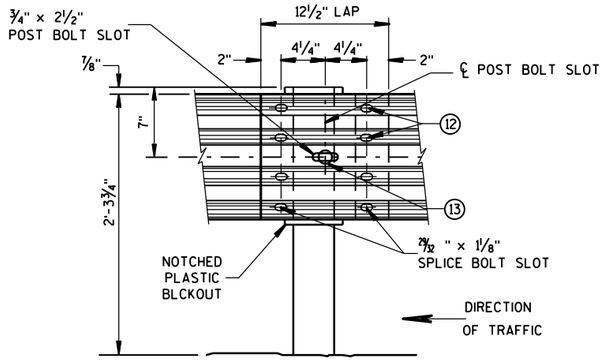
(12) 8 -⅝" ϕ X 2" BUTTON HEAD BOLTS WITH OVAL SHOULDERS & RECESS NUTS.

(13) ⅝" DIA. BUTTON HEAD BOLT AND RECESS NUT WITH ⅝" DIA. F844 FLAT WASHER UNDER NUT.



FRONT VIEW

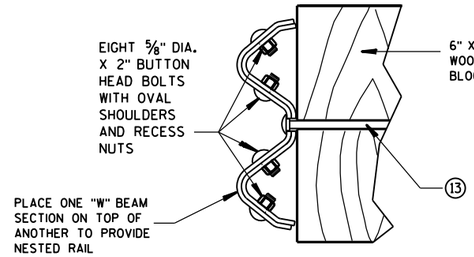
POST SPACING FOR LONGER POST AT HALF POST SPACING W BEAM (LHW)



FRONT VIEW

BEAM SPLICE AT STEEL POST

TYPICAL SPLICING DETAILS OF STEEL PLATE BEAM GUARD

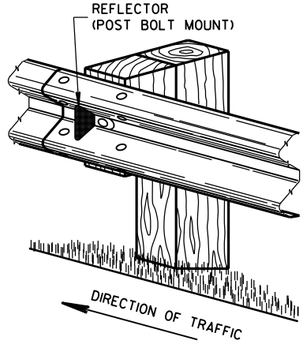


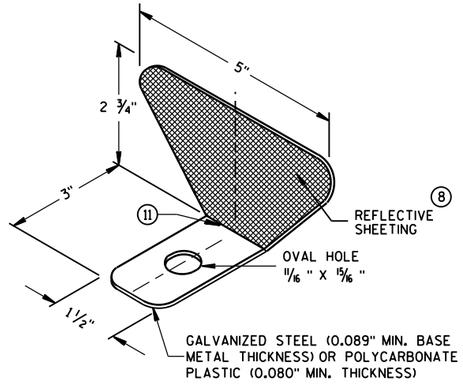
NESTED W BEAM (NW)

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

REFLECTOR SPACING (9)

	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 (10)	6
	> 200'	50' C-C	1	
TWO WAY TRAFFIC	< 200'	50' C-C	2 (11)	3
	> 200'	100' C-C	2	



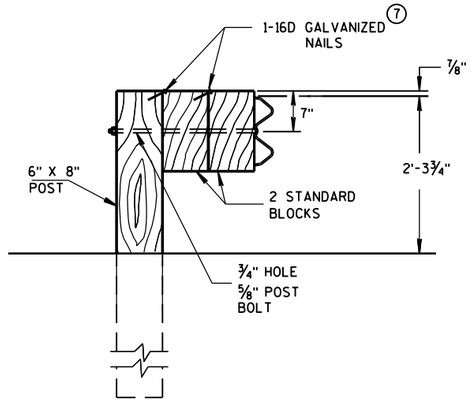


ONE SIDED REFLECTOR DETAIL AND TYPICAL INSTALLATION (8)

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

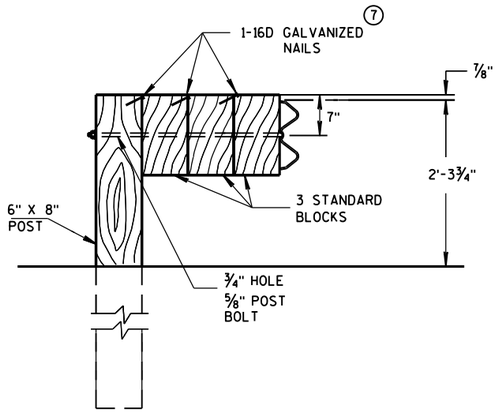
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6
S.D.D. 14 B 15-9b



DETAIL FOR DOUBLE BLOCKS

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

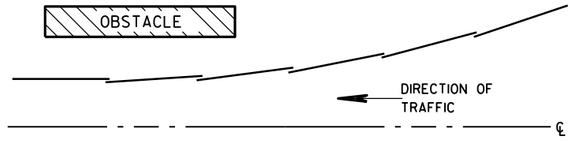


DETAIL FOR TRIPLE BLOCKS

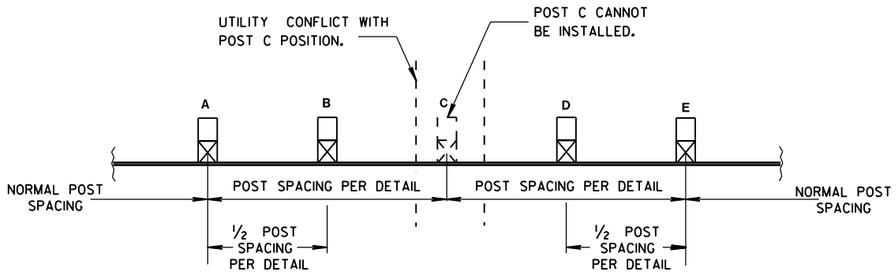
TRIPLE BLOCK DETAIL IS LIMITED TO ONE LOCATION WITHIN A BEAM GUARD RUN.

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.



PLAN VIEW
BEAM LAPPING DETAIL



POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

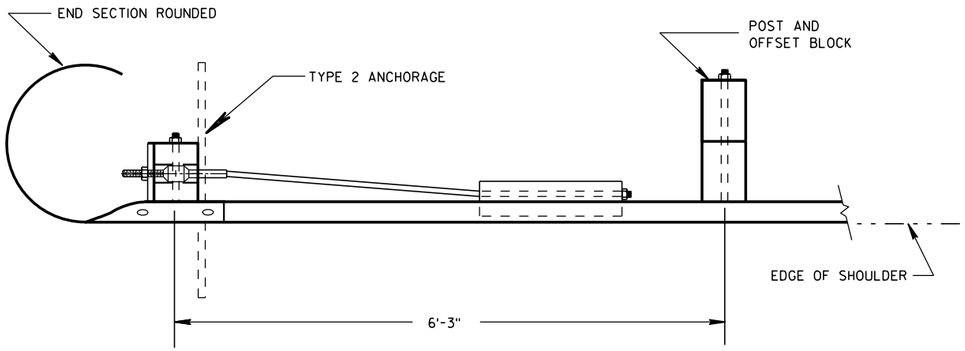
June 2016
DATE

/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER

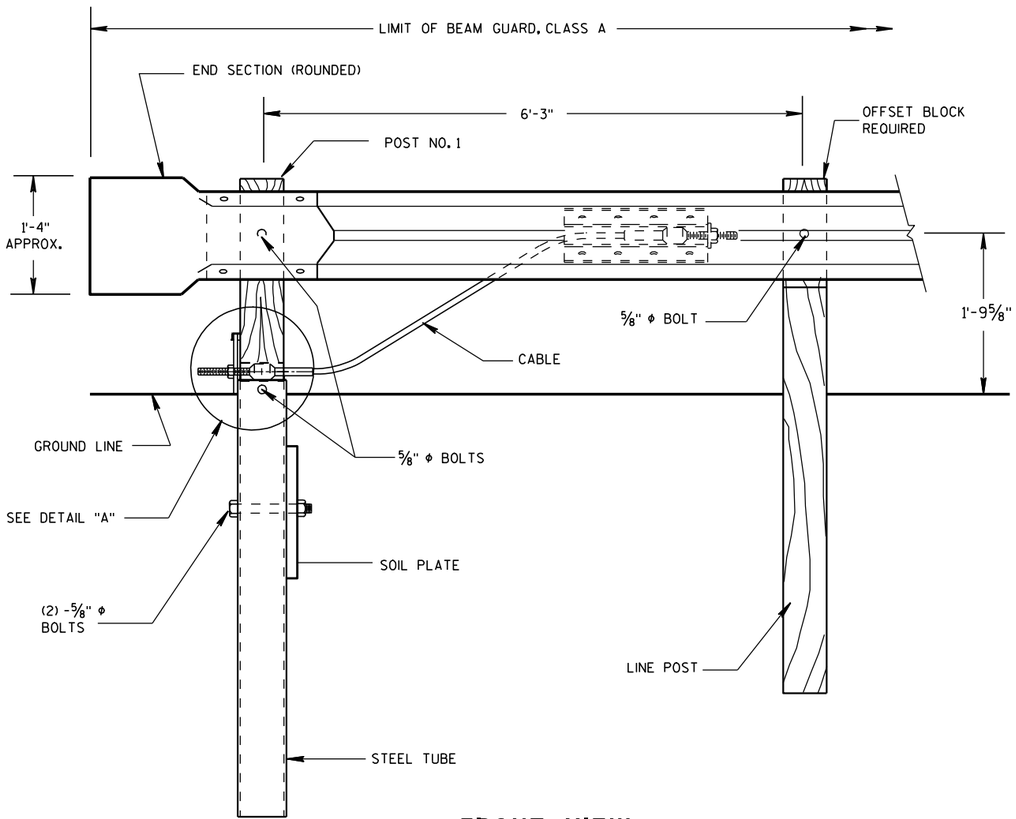
FHWA

6

S.D.D. 14 B 15-9c



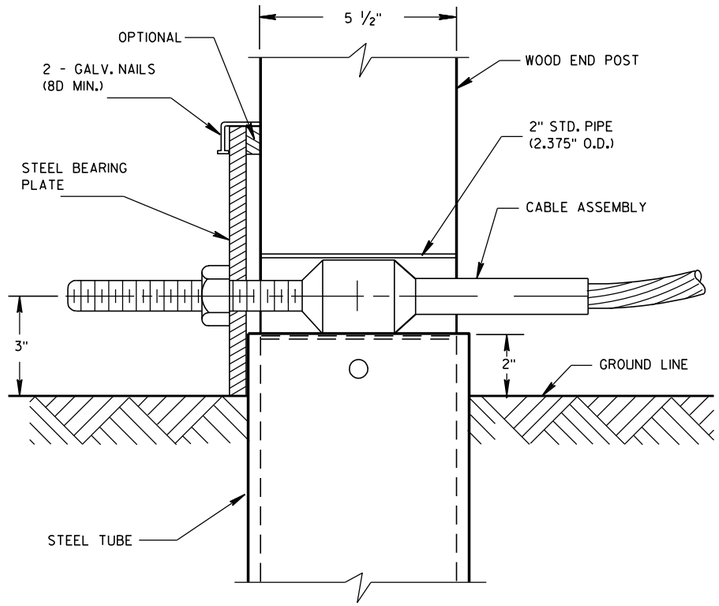
PLAN VIEW



FRONT VIEW

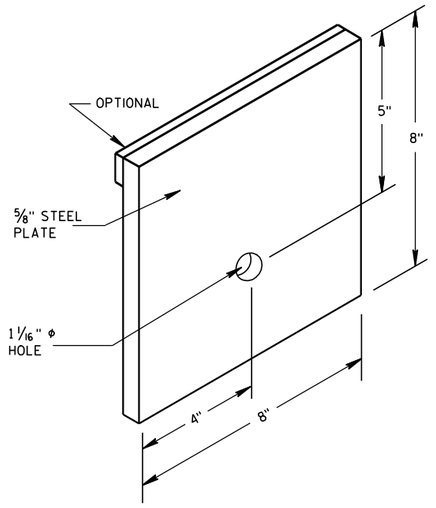
END TREATMENT WITH TYPE 2 ANCHORAGE

(USE ON ONE-WAY ROADWAYS ONLY - DEPARTING END)



DETAIL "A"

POST NO. 1



STEEL BEARING PLATE

ANCHORAGE FOR STEEL
PLATE BEAM GUARD
TYPE 2

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO.....T

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S.D.D. 14 B 16-4a

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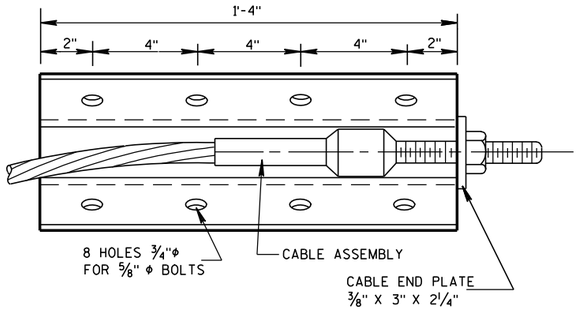
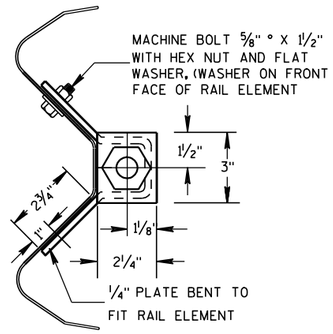
S.D.D. 14 B 16-4a

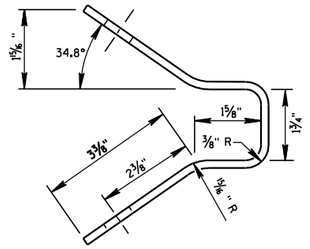


FRONT VIEW

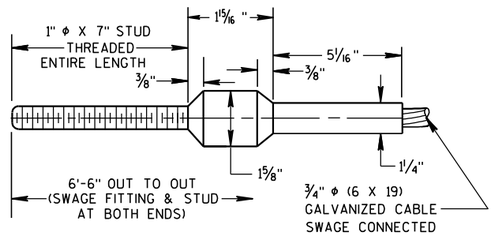


END VIEW

ANCHOR PLATE DETAIL



END VIEW OF BRACKET



CABLE ASSEMBLY

CABLE, SWAGE FITTING, STUD AND NUT SHALL DEVELOP
A MINIMUM BREAKING STRENGTH OF 40,000 LB
(TIGHTEN UNTIL TAUT)

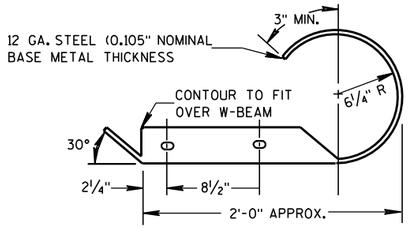
GENERAL NOTES

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

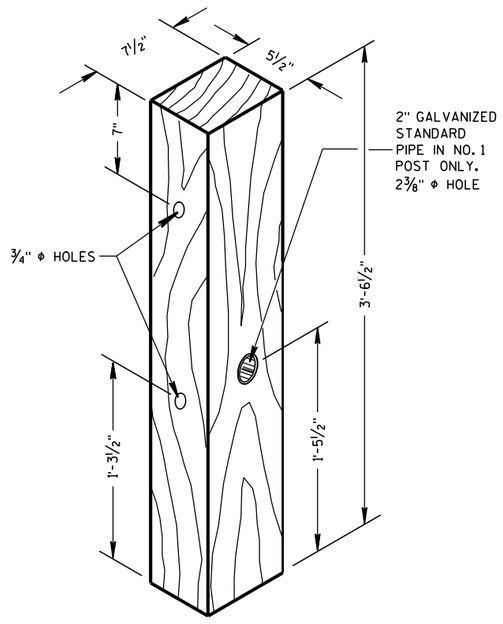
STRUCTURAL TUBING SHALL CONFORM TO THE REQUIREMENTS OF ASTM A-500 GRADE B OR ASTM A-501.

POST NO. 1 SHALL BE WOOD BREAKAWAY POST INSERTED AND BOLTED INTO STEEL TUBE.

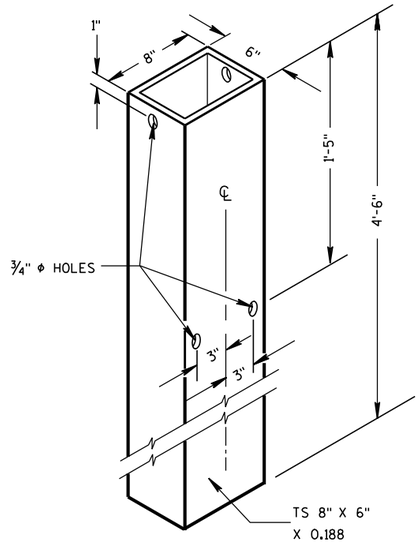
TYPE 2 ANCHORAGE SHALL CONSIST OF A STEEL TUBE, SOIL PLATE WOOD BREAKAWAY POST, BEARING PLATE, ANCHOR PLATE, CABLE ASSEMBLY AND ALL ASSOCIATED HARDWARE, ALL STEEL PARTS SHALL BE GALVANIZED.



PLAN VIEW

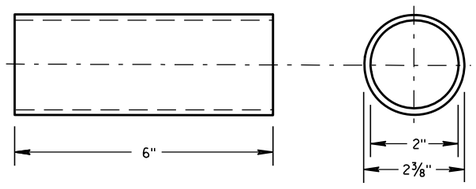


WOOD BREAKAWAY POST



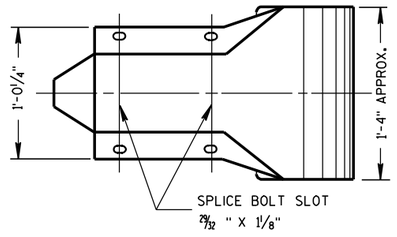
STEEL TUBE

STEEL TUBE SHALL CONFORM TO
REQUIREMENTS OF ASTM A500

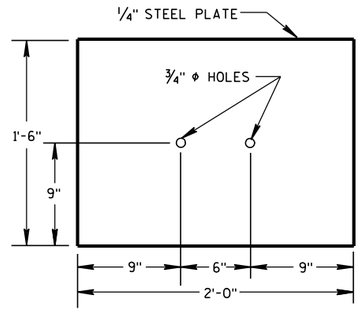


BREAKAWAY TERMINAL POST SLEEVE

GALVANIZED STANDARD STRENGTH STEEL PIPE, ASTM 53 GRADE "B"



FRONT VIEW
W BEAM END SECTION ROUNDED



SOIL PLATE

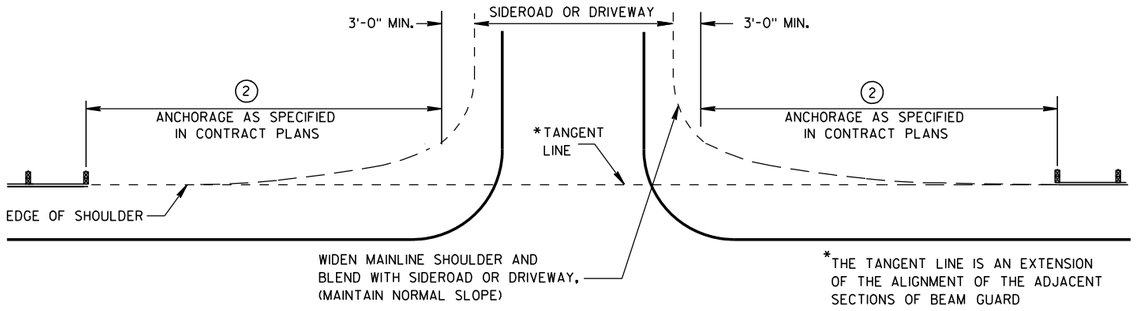
ANCHORAGE FOR STEEL
PLATE BEAM GUARD
TYPE 2

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

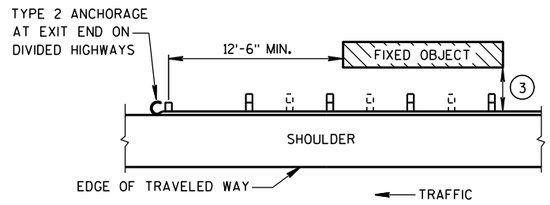
APPROVED
8/21/2007
DATE
/S/ Jerry H. [illegible]
ROADWAY STANDARDS ENGINEER
ENT
FHWA

6

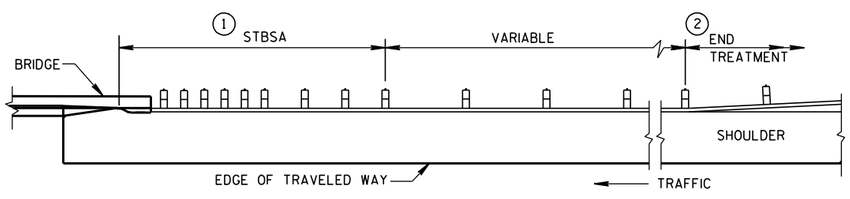
S.D.D. 14 B 16-4b



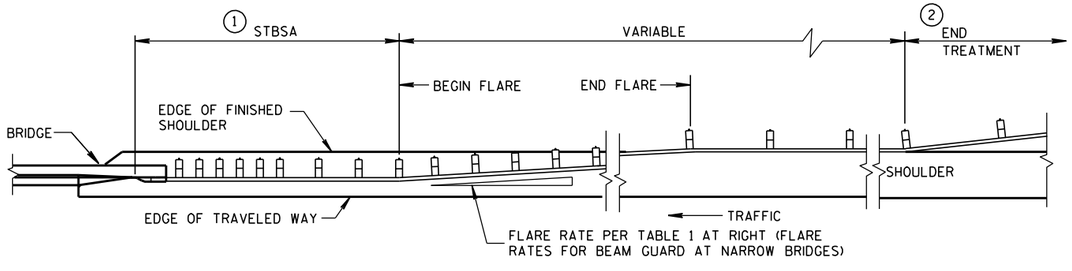
BEAM GUARD AT SIDEROADS OR DRIVEWAYS



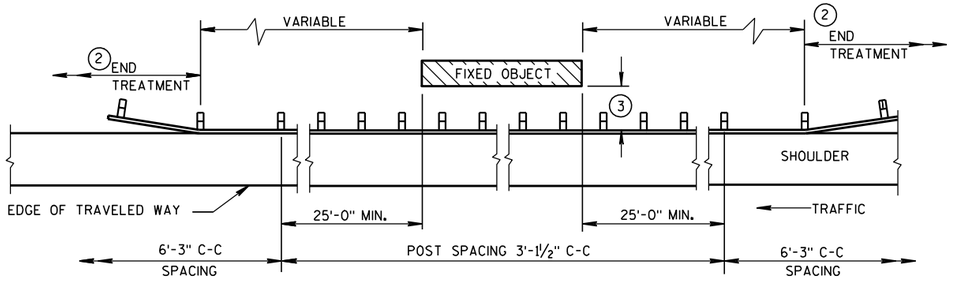
BEAM GUARD AT OBSTACLES EXIT END - ONE WAY TRAFFIC



BEAM GUARD AT FULL WIDTH BRIDGES



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



BEAM GUARD AT OBSTACLES - TWO WAY TRAFFIC
(RAIL TO OBSTACLE CLEARANCE 3'-6" TO 4'-6")

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"

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

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

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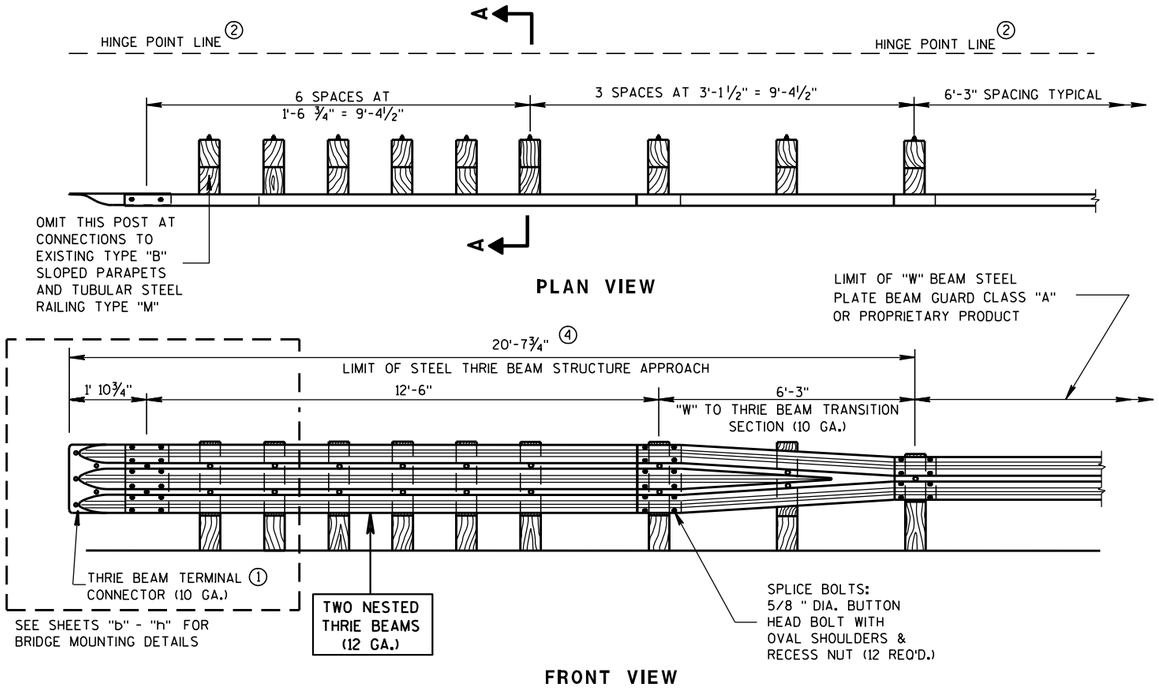
S.D.D. 14 B 18-6a



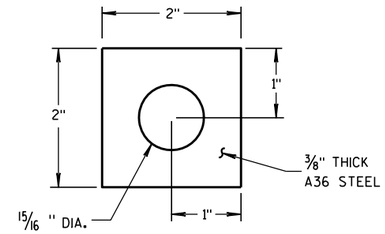


PLATE WASHER DETAIL

GENERAL NOTES

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

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

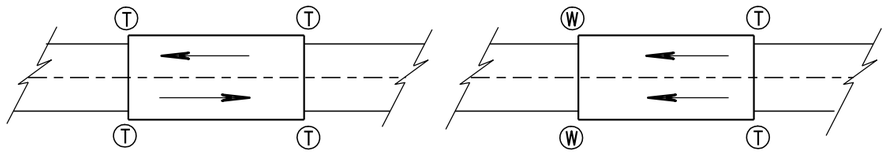
IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2 1/2" , AND 12" DIAMETER AROUND POST. SEE 14B15 FOR MORE DETAILS.

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

② MINIMUM EMBEDMENT SHALL BE 4'-0". WHERE EXISTING CONDITIONS DO NOT PERMIT THE APPROPRIATE EARTHWORK SHOWN ON THE PLAN TYPICAL SECTIONS OR DETAILS, THE ENGINEER MAY ALLOW THE REDUCTION OR ELIMINATION OF THE 2 FOOT DISTANCE TO THE HINGE POINT. OTHERWISE BUILD AS THE PLAN SHOWS OR AS THE ENGINEER DIRECTS. IF THE 2 FOOT DISTANCE TO THE HINGE POINT IS REDUCED OR ELIMINATED, INCREASE THE POST EMBEDMENT DEPTH TO 4'-6" OR MORE.

③ POST BOLTS ARE 5/8" DIAMETER ASTM A307 BUTTON HEAD BOLT. A POST BOLT REQUIRES A 5/8" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX AND A 5/8" DIAMETER F844 FLAT WASHER. LENGTH OF POST BOLT MAY VARY.

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



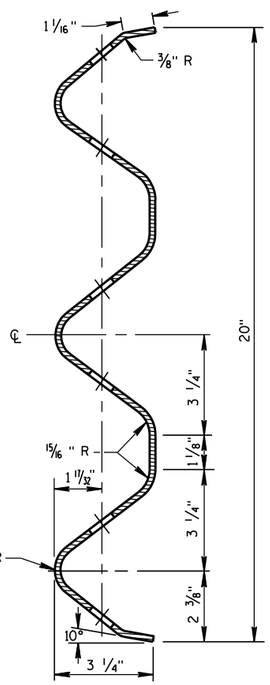
TWO WAY TRAFFIC

ONE WAY TRAFFIC

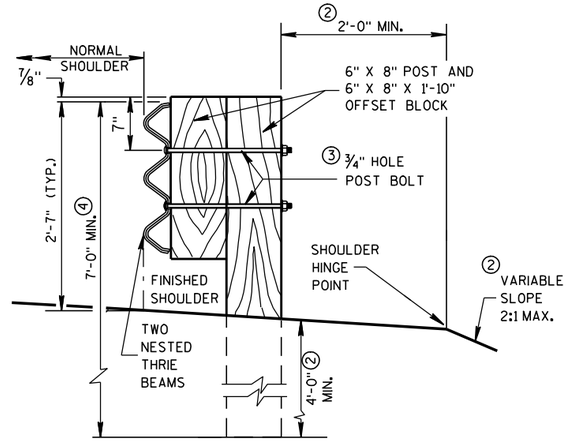
T THRIE BEAM CONNECTION

W W-BEAM CONNECTION WHEN REQUIRED

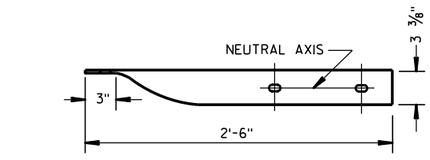
TYPICAL LOCATIONS OF THRIE BEAM AND W-BEAM CONNECTIONS TO BRIDGE

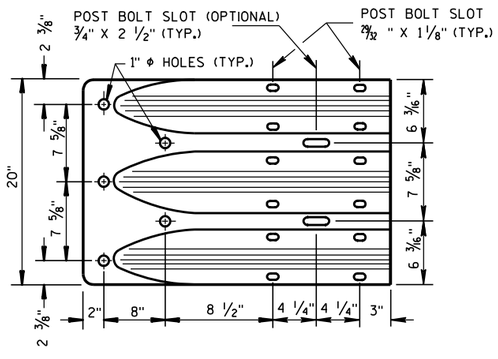


SECTION THRU THRIE BEAM RAIL ELEMENT

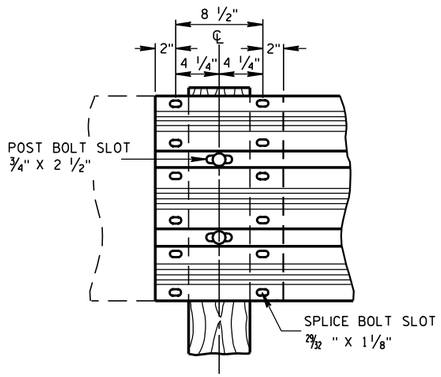


SECTION A-A





THRIE BEAM TERMINAL CONNECTOR



THRIE BEAM SPLICE

STEEL THRIE BEAM STRUCTURE APPROACH

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA

BILL OF MATERIALS

NOTE NO.	QTY.	DESCRIPTION
(1)	4	WOOD BREAKAWAY TERMINAL POST: 5½" X 7½" X 3'-9"
(2)	**	STEEL TUBE: OPTION 1 - QUANITY OF 4 TS 8" X 6" X 0.188", 4'-6" LONG OR OPTION 2 - QUANITY OF 2 TS 8" X 6" X 0.188", 6'-0" AND 2 TS 8" X 6" X 0.188", 4'-6" LONG
(3)	2	SOIL PLATE: 2'-0" X 1'-6" X ¼" **
(4)	4	WOOD BREAKAWAY CRT POST: 6" X 8" X 6'-0"
(5)	6	WOOD OFFSET BLOCKS: 6' X 8" X 1'-2"
(6)	1	PIPE SLEEVE: 2" X 5 ½" STANDARD PIPE
(7)	1	BEARING PLATE
(8)	1	BCT CABLE ASSEMBLY
(9)	1	CABLE ANCHOR BOX
(10)	1	STRUT & YOKE
(11)	1	STEEL PLATE BEAM, END PANEL 12 GA. 13'-6½" LONG FOR SKT-350, ET-2000 AND ET-2000 PLUS
(12)	3	STEEL PLATE BEAM: 12 GA. 13'-6½"
(13)	1	ET-2000/ET-2000 PLUS GUARDRAIL EXTRUDER OR SKT-350 IMPACT HEAD: AS FURNISHED BY MANUFACTURER
(14)	1	0.040" ALUMINUM SHEET WITH REFLECTIVE SHEETING TYPE F PER SECTION 637 OF THE STANDARD SPECIFICATIONS
(15)	1	E.A.T. MARKER POST

GENERAL NOTES

FOLLOW MANUFACTURE'S BOLTING RECOMMENDATIONS. IF NONE ARE AVAILABLE, INSTALL ⅝" ø X 1'-6" BUTTON HEAD BOLTS AT ALL POSTS EXCEPT FOR POST 1.

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

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

(C) THE 13 SLOT FIRST RAIL PANEL MAY BE USED IN LIEU OF THE 3 SLOT RAIL PANEL ON SKT-350 ONLY.

(D) THE TOP OF THE STEEL TUBE ON POSTS 1 THROUGH 4 SHALL NOT BE MORE THAN 3" ABOVE THE FINISH GROUND ELEVATION.

(E) THE CENTER OF THE UPPER 3½" DIAMETER HOLE ON POST 5 THROUGH 8 SHALL BE ¾" ABOVE THE FINISHED GROUND LINE.

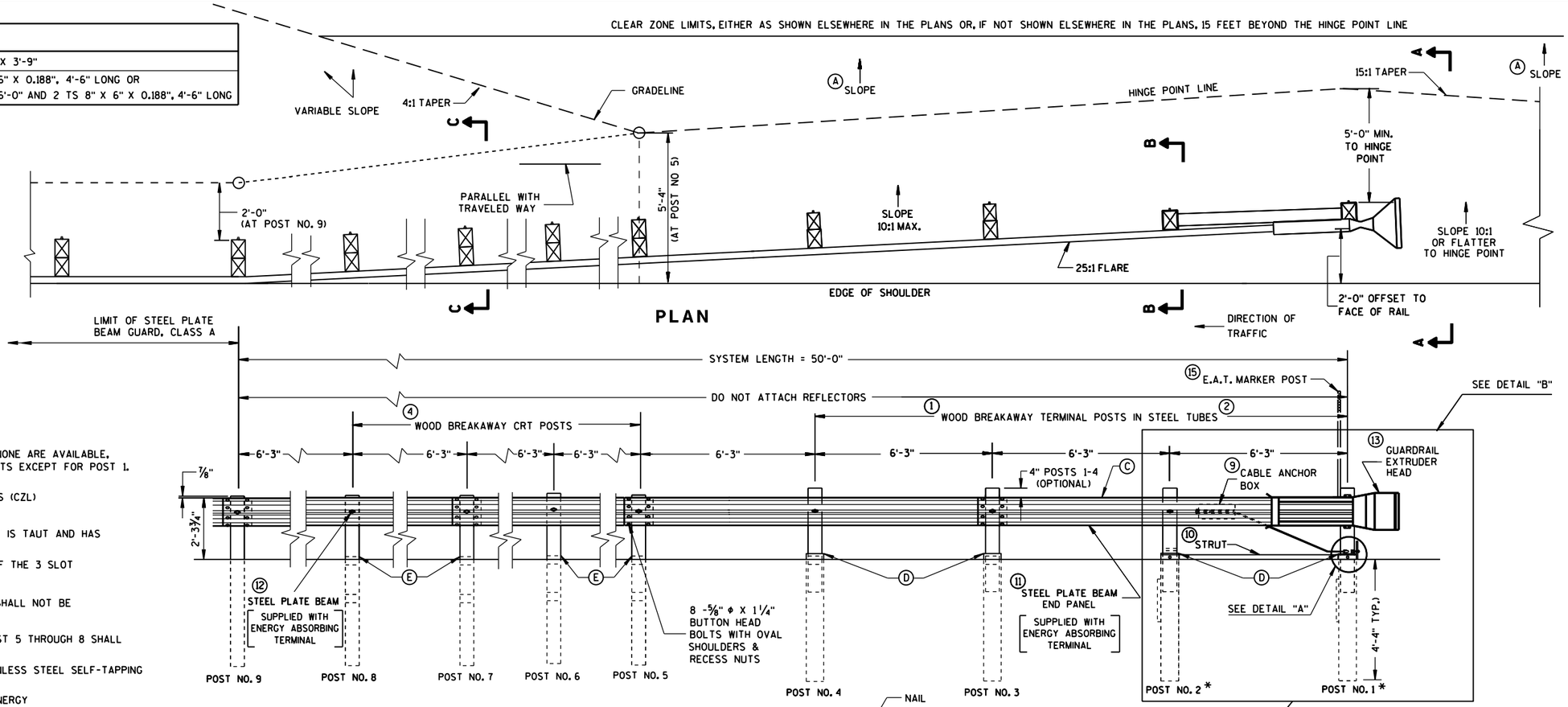
(F) ATTACH ALUMINUM SHEET TO E.A.T. HEAD USING 4 STAINLESS STEEL SELF-TAPPING SCREWS. ONE SCREW PER CORNER.

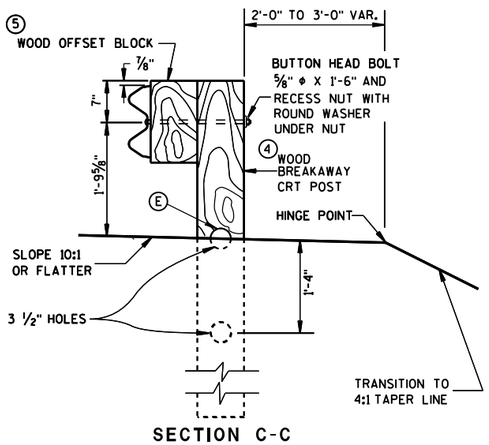
STEEL POSTS SHALL NOT BE ALLOWED FOR USE WITH ENERGY ABSORBING TERMINALS.

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

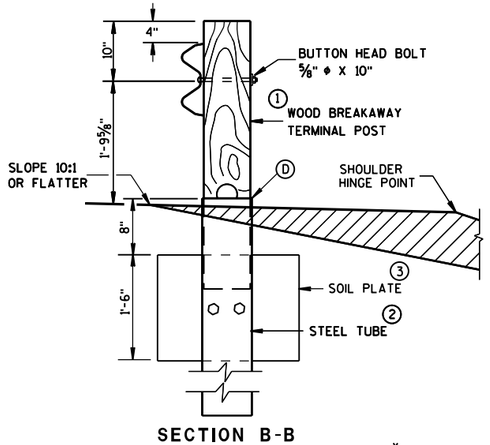
* DO NOT ATTACH BLOCKOUTS TO POSTS 1 AND 2.

** SDD SHOWS 4 - 54 INCH STEEL TUBES WITH SOIL PLATES INSTALLED ON POST 1 AND POST 2. POST 3 AND 4 DO NOT NEED SOIL PLATES. AN ALTERNATIVE INSTALLATION WOULD CONSIST OF 2 - 72 INCH STEEL TUBES ON POST 1 AND POST 2 AND 54 INCH SOIL TUBES ON POSTS 3 AND 4. THE ALTERNATIVE INSTALLATION DOES NOT REQUIRE SOIL PLATES.

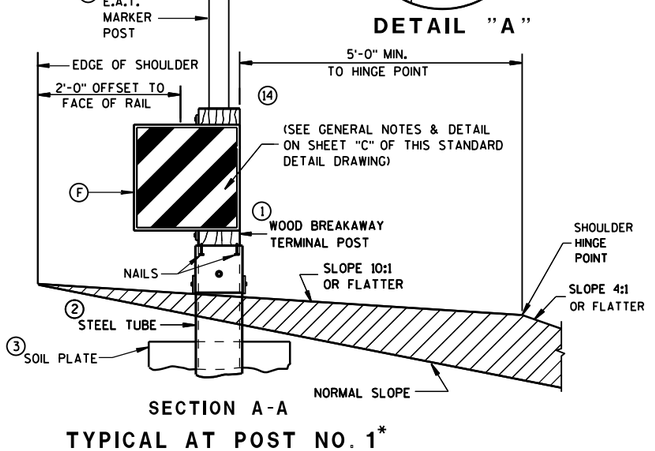




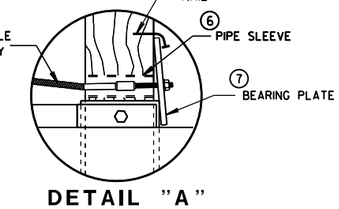
SECTION C-C
TYPICAL AT POST NOS. 6, 8



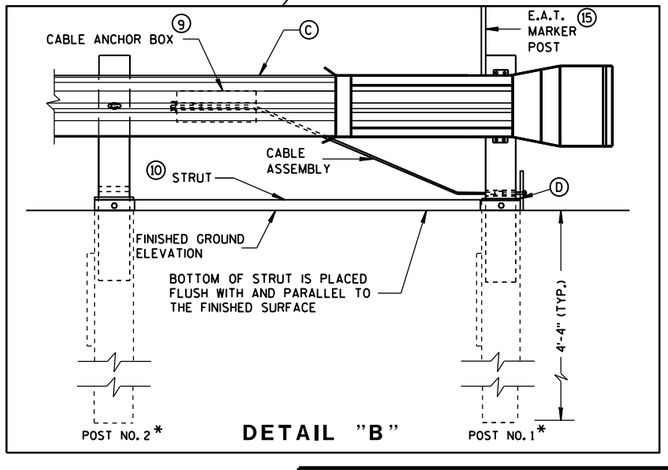
SECTION B-B
TYPICAL AT POST NO. 2*



SECTION A-A
TYPICAL AT POST NO. 1*



DETAIL "A"

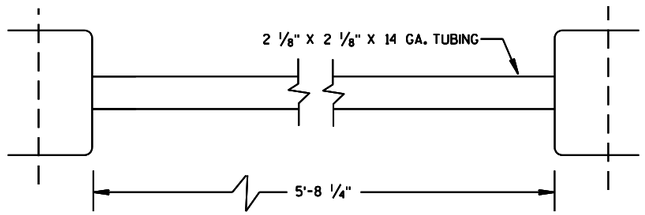


DETAIL "B"

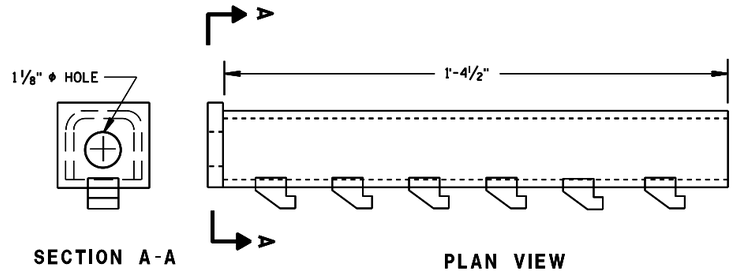
STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

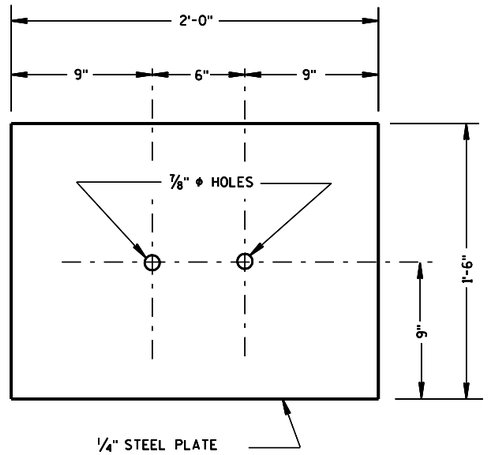
S.D.D. 14 B 24-8a



⑩ STRUT DETAIL (SKT-350)

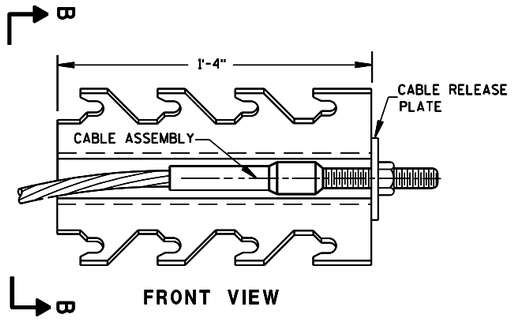


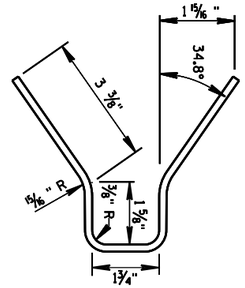
⑨ CABLE ANCHOR BOX (ET-2000/ET-2000 PLUS)



③ SOIL PLATE

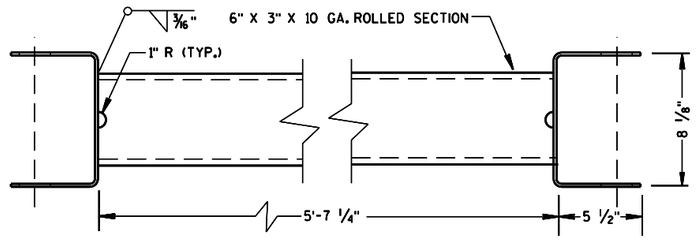
(SKT-350, ET-2000/ET-2000 PLUS)





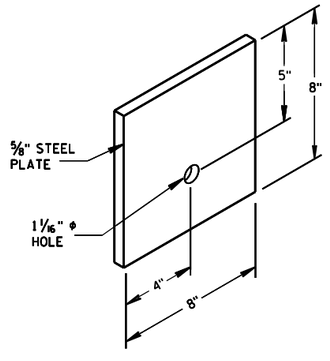
⑨ CABLE ANCHOR BOX (SKT-350)

(SKT-350)



⑩ STRUT DETAIL (ET-2000/ET-2000 PLUS)

(ET-2000/ET-2000 PLUS)



⑦ STEEL BEARING PLATE

(SKT-350, ET-2000/ET-2000 PLUS)

STEEL PLATE BEAM GUARD
ENERGY ABSORBING TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

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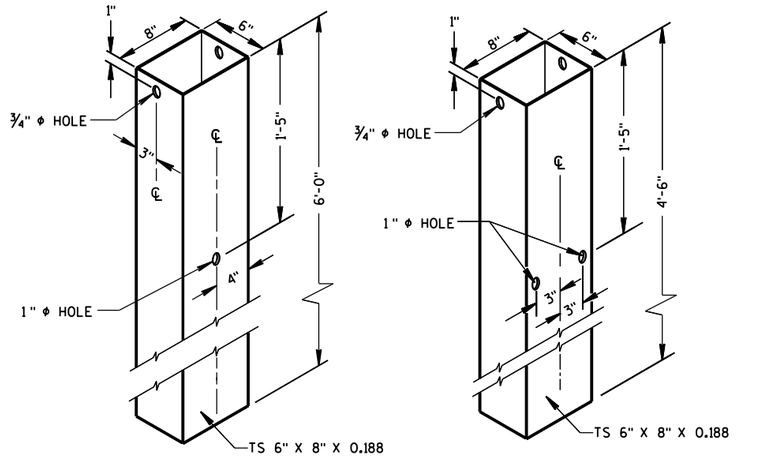
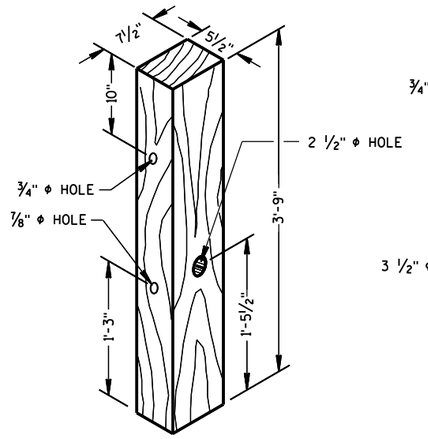
S.D.D. 14 B 24-8b

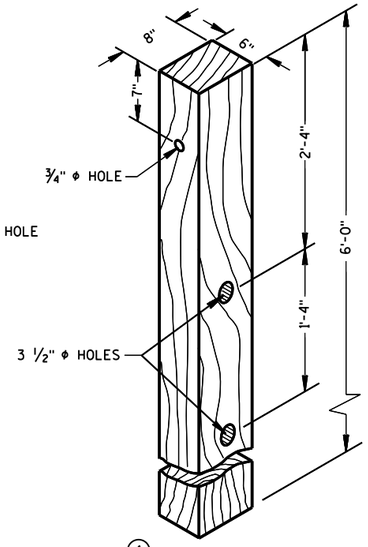


② 72" STEEL TUBE
(POSTS NO. 1-4

② 54" STEEL TUBE
(POSTS NO. 1-4



① TERMINAL POST
(POSTS NO. 1-4



④ CRT POST
(POSTS NO'S 5-8

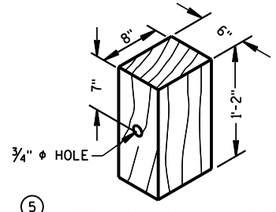
WOOD BREAKAWAY POSTS

GENERAL NOTES

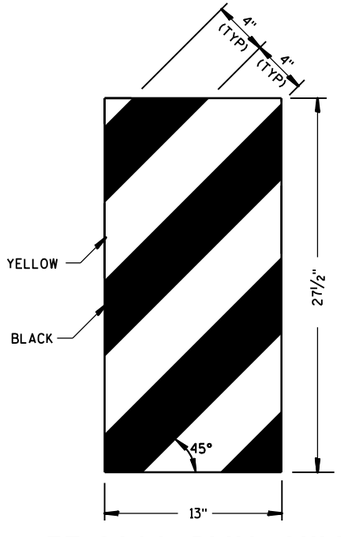
WHEN ROCK IS ENCOUNTERED DURING EXCAVATION, A 12 INCH DIA. POST HOLE EXTENDING 20 INCHES DEEP INTO THE ROCK MAY BE USED IF APPROVED BY THE ENGINEER. GRANULAR MATERIAL SHALL BE PLACED IN THE BOTTOM OF THE HOLE APPROXIMATELY 2 ½" INCHES DEEP TO PROVIDE DRAINAGE. THE SOIL TUBES SHALL BE FIELD CUT TO LENGTH, PLACED IN THE HOLE AND BACKFILLED WITH ADEQUATELY COMPACTED MATERIAL EXCAVATED FROM THE HOLE.

SEE APPROVED PRODUCTS LIST FOR ACCEPTABLE E. A. T. MARKER POST.

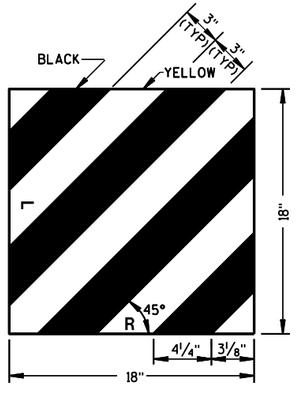
(G) ½" DIA. X 3" LAG BOLT WITH WASHER.



⑤ WOOD OFFSET BLOCK
REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2

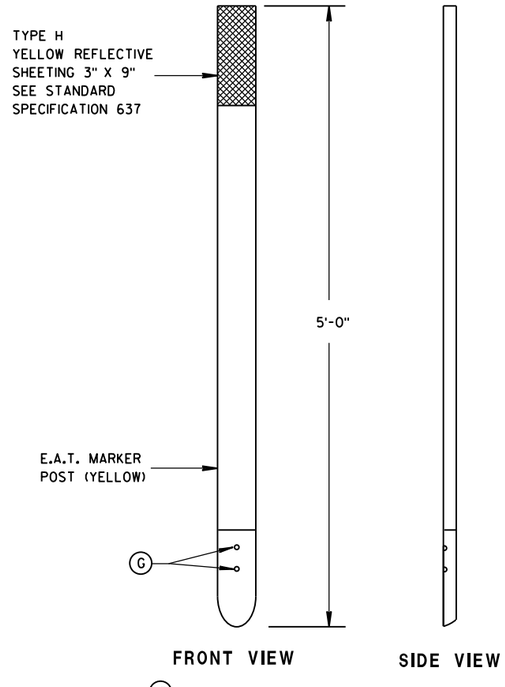


ET-2000 PLUS ONLY

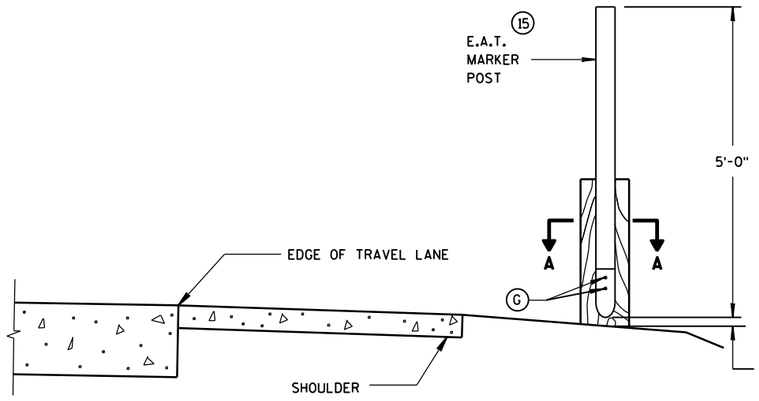


ET-2000 AND SKT-350

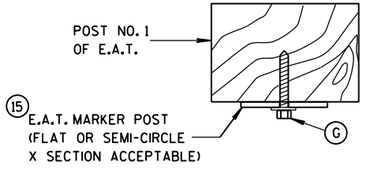
⑭ REFLECTIVE SHEETING DETAILS



⑮ E.A.T. MARKER POST



TYPICAL INSTALLATION OF E.A.T.
MARKER POST BACKSIDE OF POST NO. 1
(E.A.T. AND RAIL REMOVED FOR CLARITY)



SECTION A-A

STEEL PLATE BEAM GUARD
ENERGY ABSORBING TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2014
DATE
/S/ Jerry H. Zoda
ROADWAY STANDARDS ENGINEER
FHWA

6

S.D.D. 14 B 24-8c

6

S.D.D. 14 B 24-8c

(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.

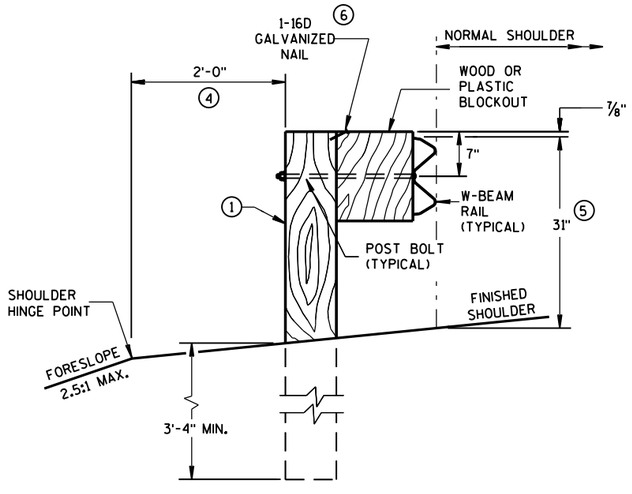
(2) USE WOOD OR APPROVED PLASTIC BLOCKOUTS. WOOD BLOCKOUTS MAY BE CONSTRUCTED OUT OF TWO OR MORE WOOD BLOCKOUTS. SEE ALTERNATE WOOD BLOCKOUT DETAIL. DIMENSIONS OF APPROVED PLASTIC BLOCKOUTS MAY VARY.

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

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

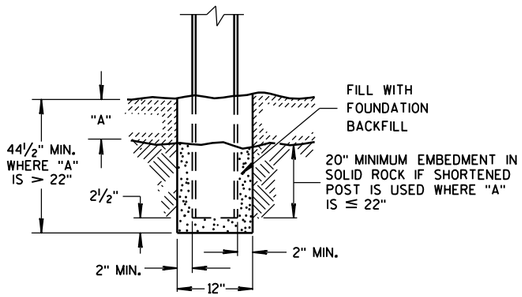
(5) FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS ± 1". FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27¾" TO 32".

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



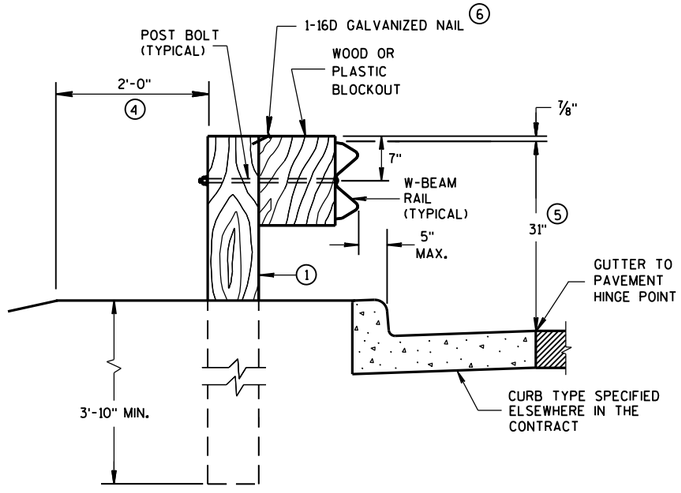
END VIEW

LOCATED ALONG A ROADWAY SHOULDER
STANDARD INSTALLATION



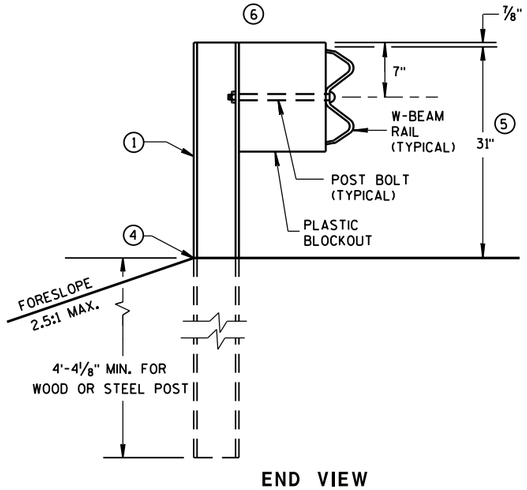
END VIEW

SETTING STEEL OR WOOD POST IN ROCK (3)



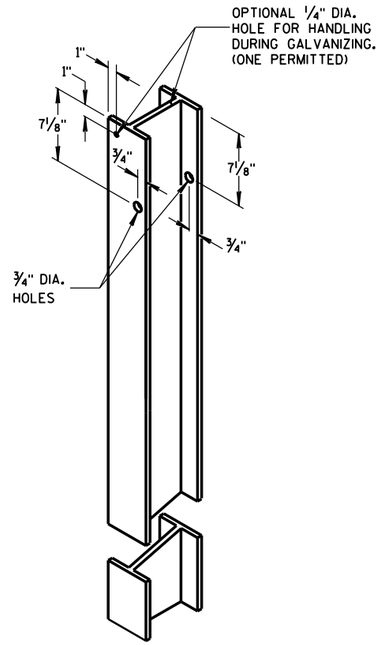
END VIEW

LOCATED ALONG A CURBED ROADWAY

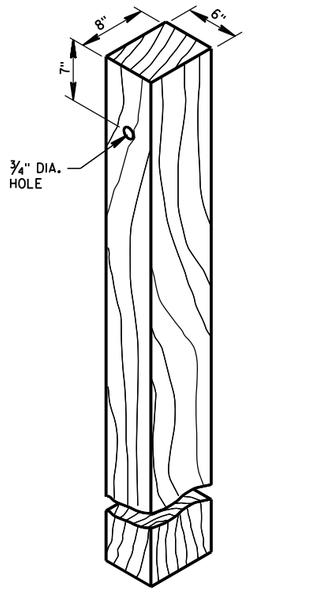


END VIEW

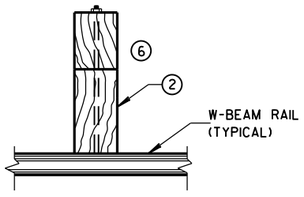
MGS LONGER POST AT HALFPOST SPACING W BEAM (K)



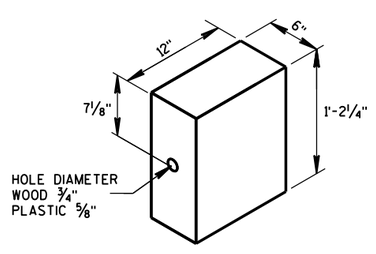
STEEL POST &
HOLE PUNCHING DETAIL
(w6X9) (1)



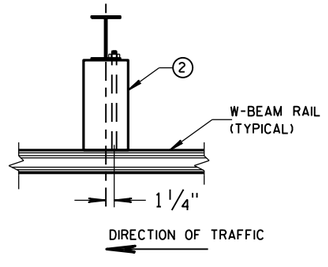
WOOD POST
(6" X 8") NOMINAL (1)



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 TRANSPOR

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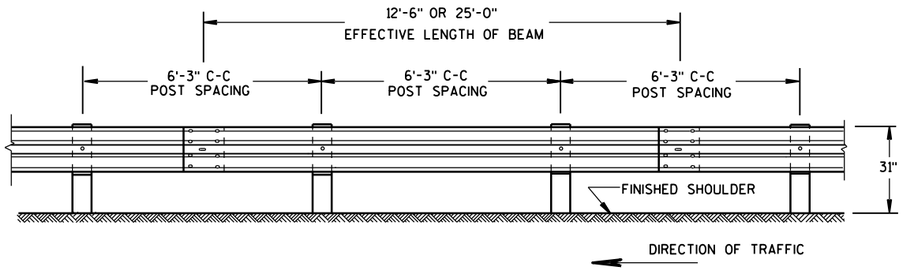
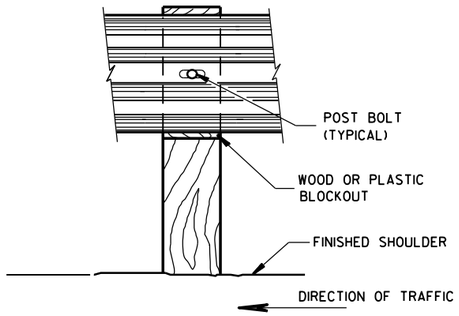
S.D.D. 14 B 42-4a



FRONT VIEW

POST SPACING STANDARD INSTALLATION



FRONT VIEW AT WOOD POST

7. PROVIDE SILVER REFLECTIVE SHEETING ON ALL REFLECTORS EXCEPT THOSE LOCATED ALONG THE LEFT EDGE OF ONE-WAY ROADWAYS, WHICH SHALL BE PROVIDED WITH YELLOW REFLECTIVE SHEETING. SHEETING IS TYPE H. SEE STANDARD SPECIFICATION 637.

8. 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.

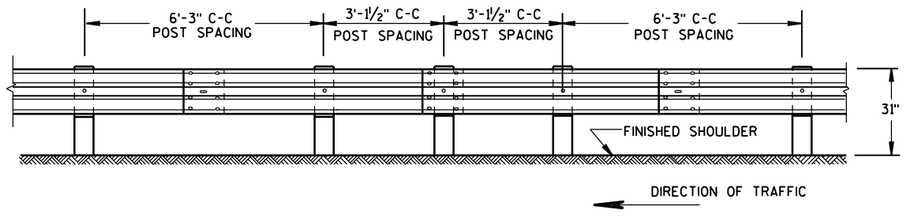
9. REVERSE EVERY OTHER REFLECTOR FOR 2-WAY VISIBILITY. THE CONTRACTOR MAY FURNISH TWO-SIDED REFLECTORS IN LIEU OF ONE-SIDED REFLECTORS.

10. PROVIDE AN ANGLE OF BEND OF 90° ± 1° FOR TWO-SIDED REFLECTORS.

11. 25 FEET OF HALF POST SPACING IS REQUIRED ON APPROACH AND DEPARTURE ENDS OF QUARTER POST SPACING.

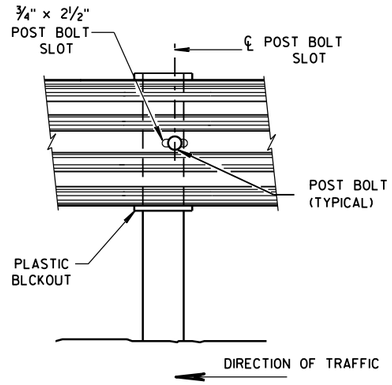
POST BOLTS ARE A 5/8" DIAMETER ASTM A307 GUARDRAIL BOLT. A POST BOLT REQUIRES 5/8" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT AND 5/8" DIAMETER F844 FLAT WASHER. POST BOLTS MAY BE LONGER IF MULTIPLE BLOCKOUTS ARE BEING USED.

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.

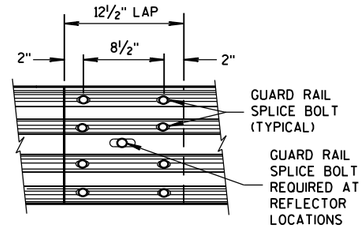


FRONT VIEW

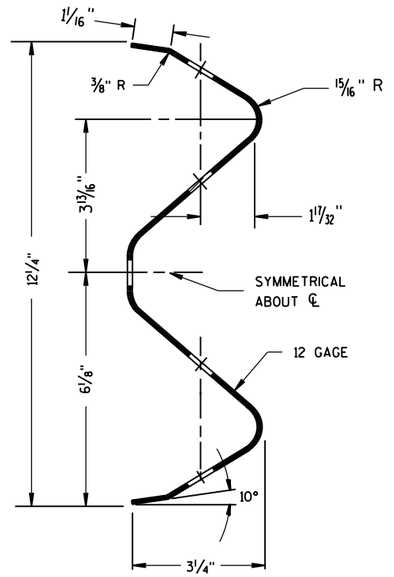
HALF POST SPACING (HS) AND HALF POST SPACING WITH LONGER POSTS (K)



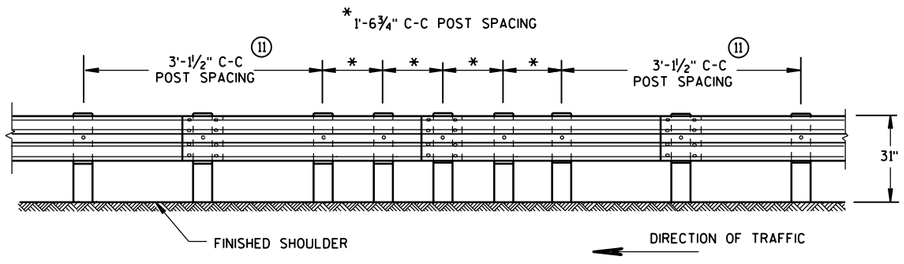
FRONT VIEW AT STEEL POST



FRONT VIEW
MID-SPAN BEAM SPLICE

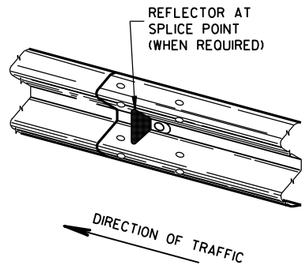


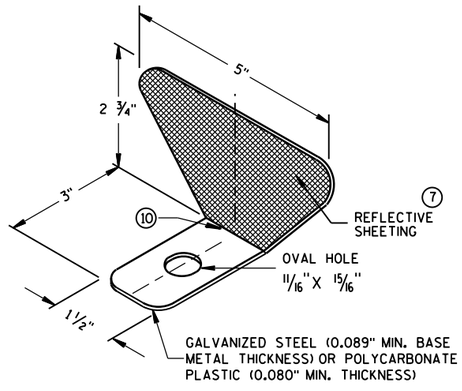
SECTION THRU W-BEAM RAIL



FRONT VIEW

QUARTER POST SPACING (QS)





ONE SIDED REFLECTOR DETAIL AND TYPICAL INSTALLATION (7)

REFLECTOR SPACING (8)

	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 (9)	6
	> 200'	50' C-C	1	
TWO WAY TRAFFIC	< 200'	50' C-C	2	3
	> 200'	100' C-C	2 (10)	

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

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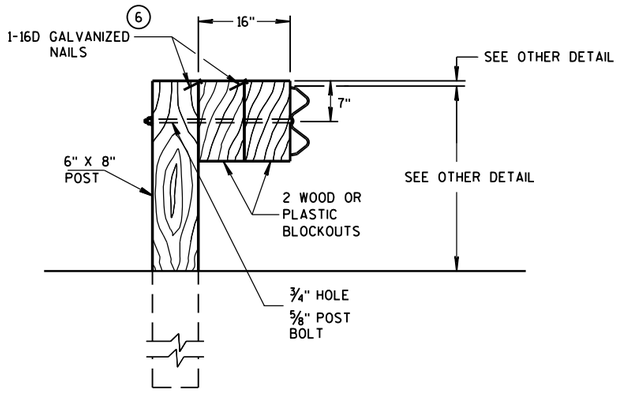
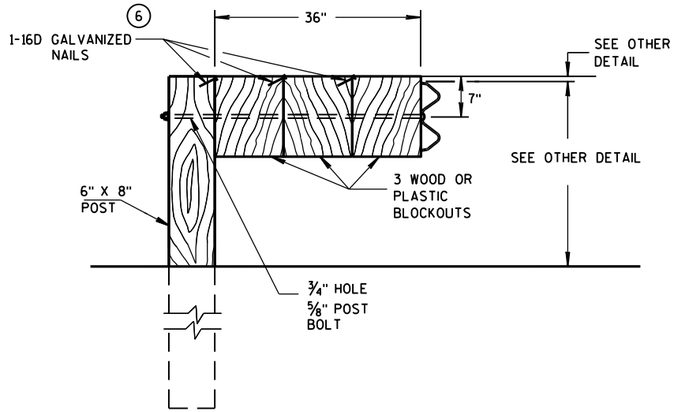


DETAIL FOR 16" BLOCKOUT DEPTH

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.

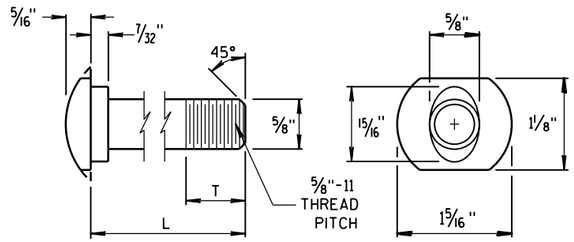


DETAIL FOR 36" BLOCKOUT DEPTH

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.

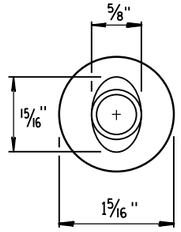
DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.

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.

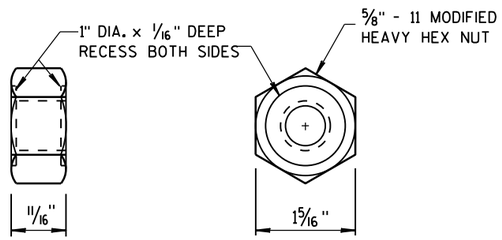


POST BOLT TABLE

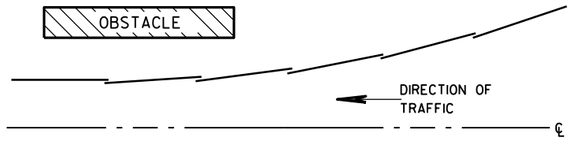
L	T (MIN.)
1 1/4"	1 1/8"
2"	1 3/4"
10"	4"
14"	4 1/16"
18"	4"
21"	4 1/16"
25"	4"



ALTERNATE BOLT HEAD

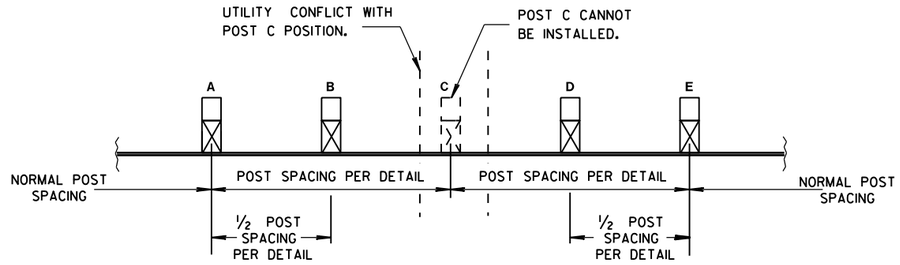


POST BOLT, SPLICE BOLT AND RECESS NUT

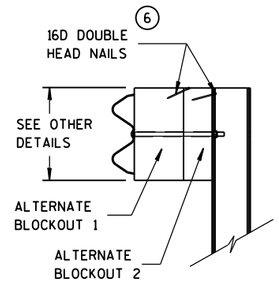


PLAN VIEW

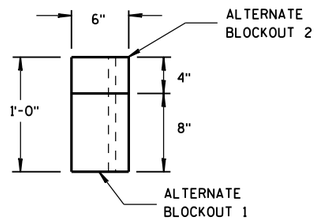
BEAM LAPPING DETAIL



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
June 2016 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER
FHWA

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S.D.D. 14 B 42-4c

GENERAL NOTES

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

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

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

(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.

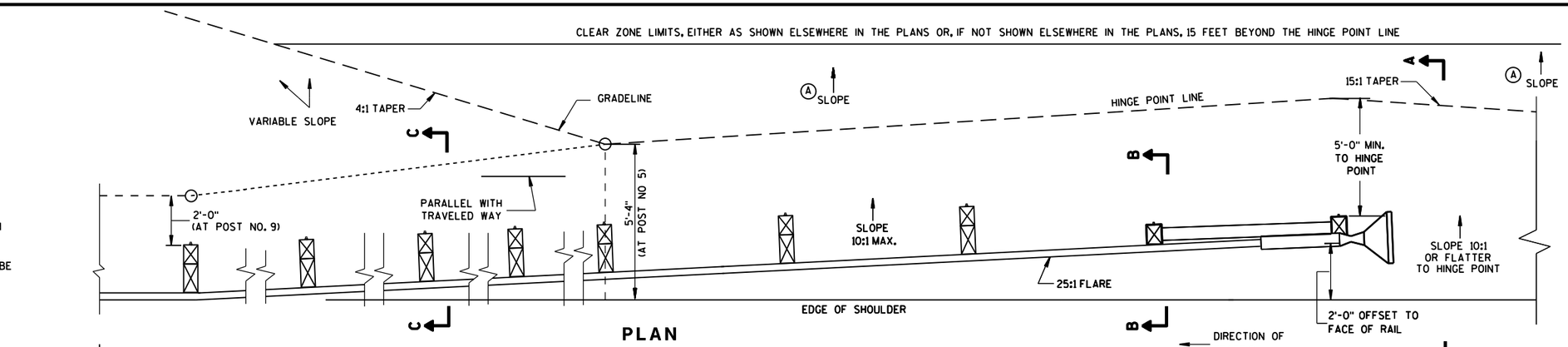
SEE SDD 14B42 FOR MORE INFORMATION.

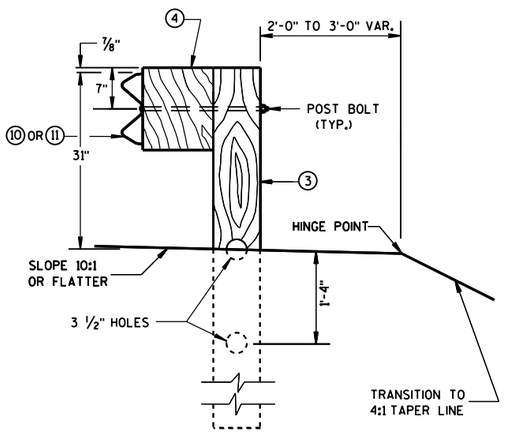
* DO NOT ATTACH BLOCKOUTS TO POSTS 1 AND 2.

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

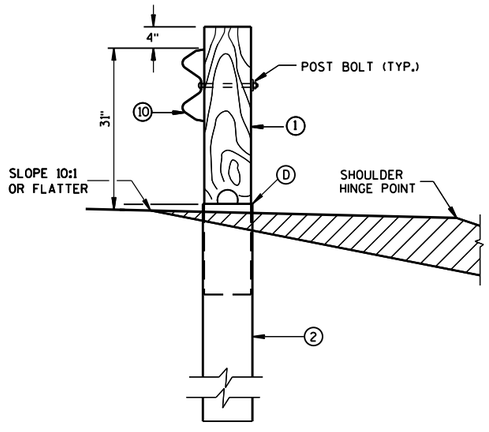
W-BEAM RAIL SPLICES ARE LOCATED AT POST NUMBER 3, AND BETWEEN POST 5 AND 6, BETWEEN POSTS 7 AND 8, AND MIDDLE OF THE SPAN AFTER POST 9.

THE CENTER OF THE UPPER 3½" DIAMETER HOLE ON POST NUMBER 3 THROUGH POST 9 IS TO BE FLUSH WITH THE GROUND LINE UP TO A MAXIMUM OF 2" ABOVE GROUND LINE.

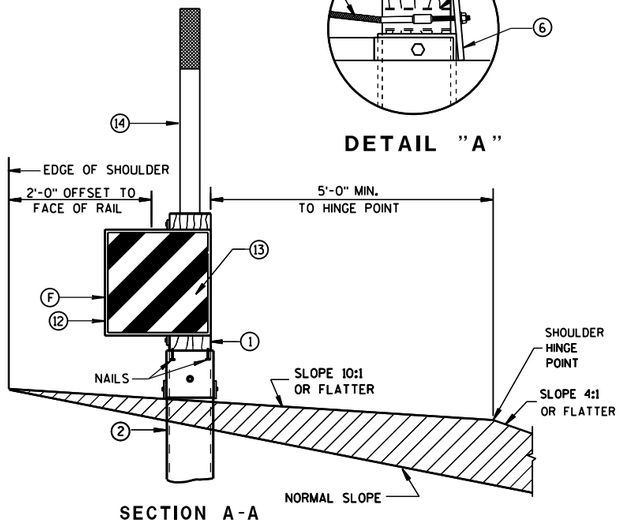




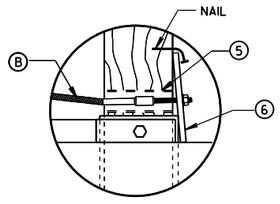
SECTION C-C
TYPICAL AT POST NOS. 3-9



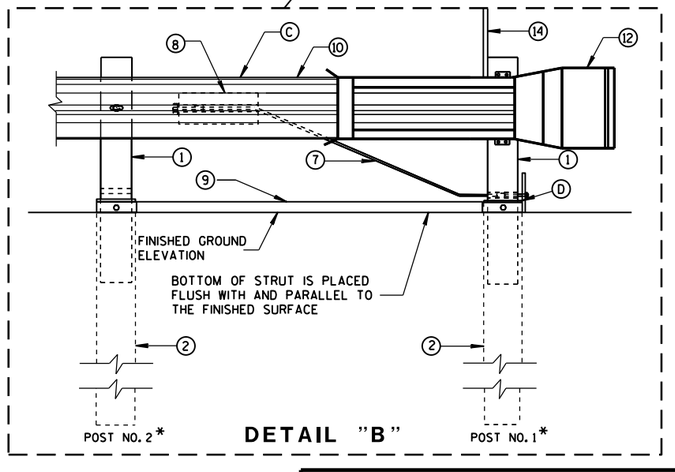
SECTION B-B
TYPICAL AT POST NO. 2*



SECTION A-A
TYPICAL AT POST NO. 1*



DETAIL "A"

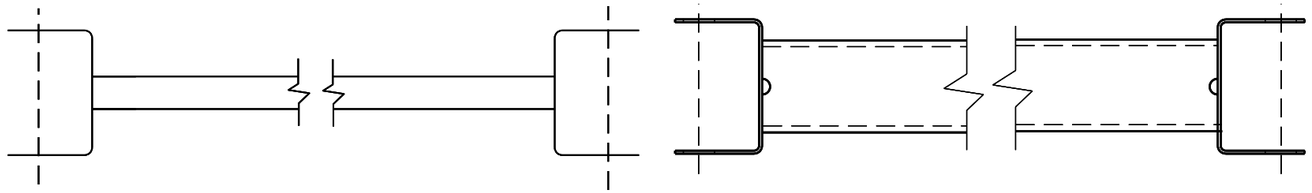


DETAIL "B"

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

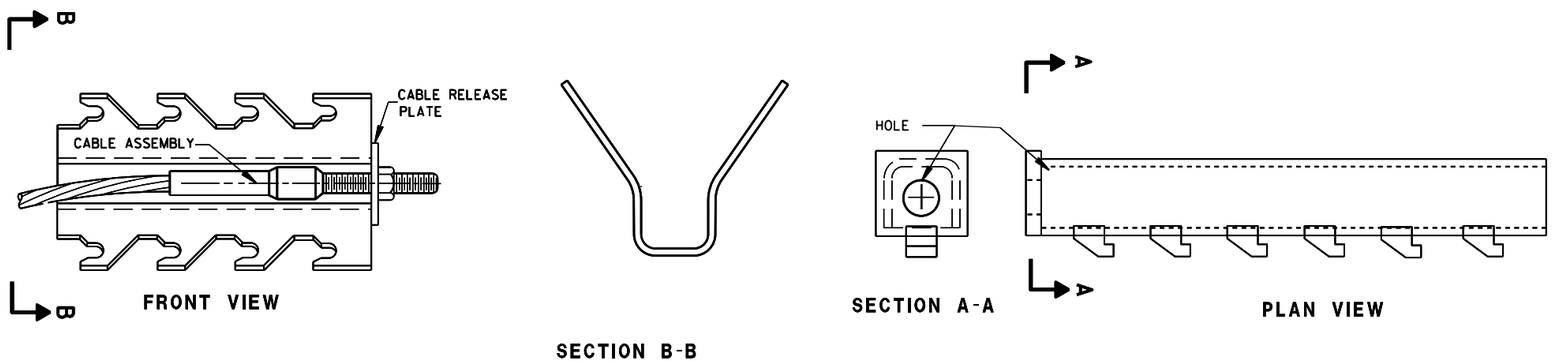
S.D.D. 14 B 44-2a



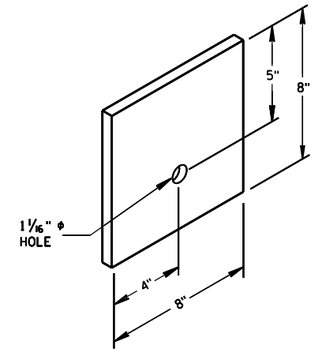
GENERIC GROUND STRUT (9) (H)

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 F PER SECTION 637 OF THE STANDARD SPECIFICATIONS
(14)	EAT MARKER POST - YELLOW (SEE APPROVED PRODUCTS LIST)



GENERIC ANCHOR CABLE BOX (8) (H)

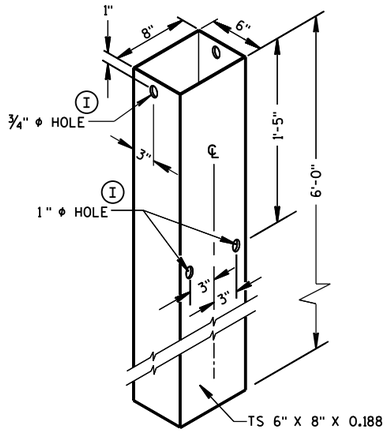


BEARING PLATE (6)

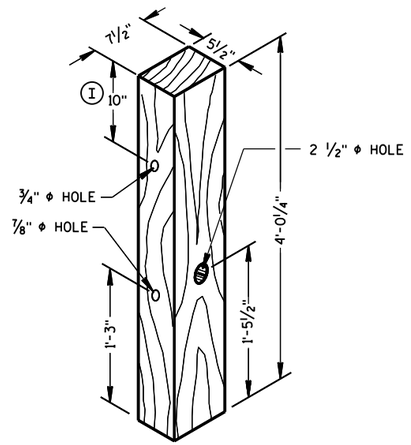
MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6
S.D.D. 14 B 44-2b

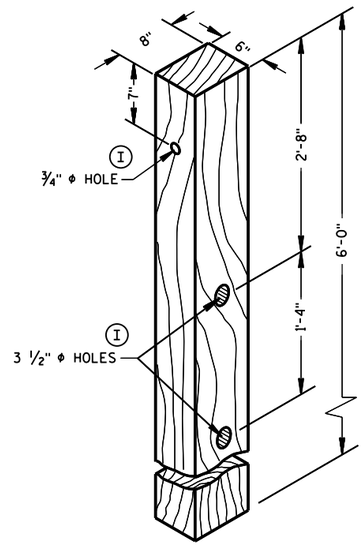


FOUNDATION TUBE (2)



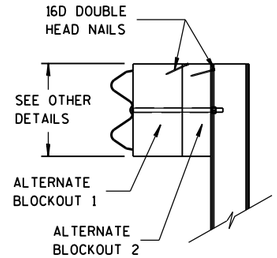
POSTS NUMBER 1 AND 2

WOOD BREAKAWAY POST (1)

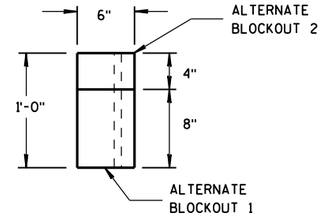


POSTS NUMBER 3-9

WOOD CRT POST (3)

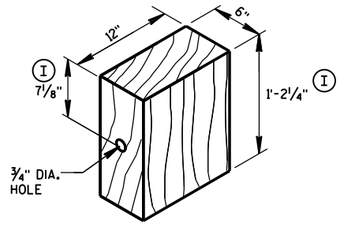


SIDE VIEW



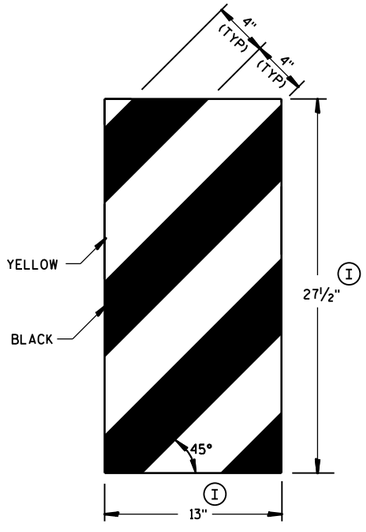
TOP VIEW

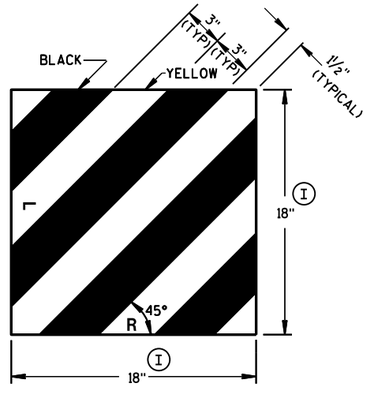
ALTERNATE WOOD BLOCKOUT DETAIL



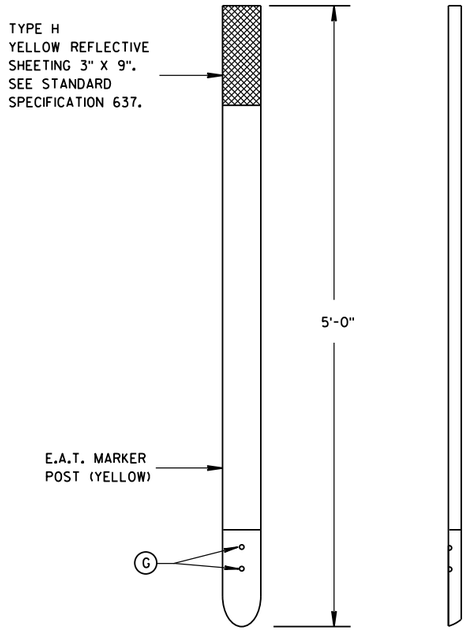
WOOD BLOCKOUT (4)

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





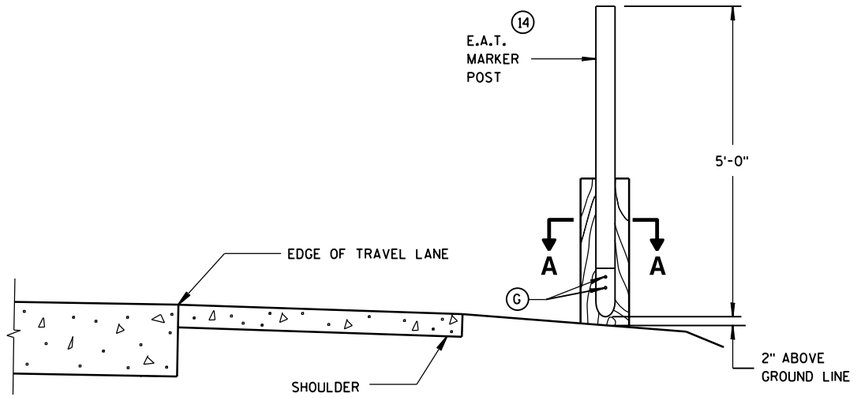
GENERIC REFLECTIVE SHEETING (13) (H)



FRONT VIEW

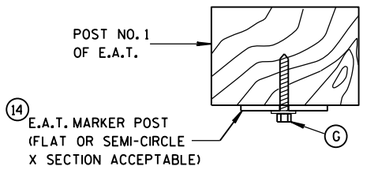
SIDE VIEW

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

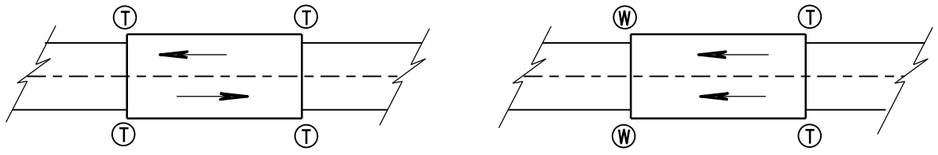
MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2014 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER
FHWA

6

S.D.D. 14 B 44-2c



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

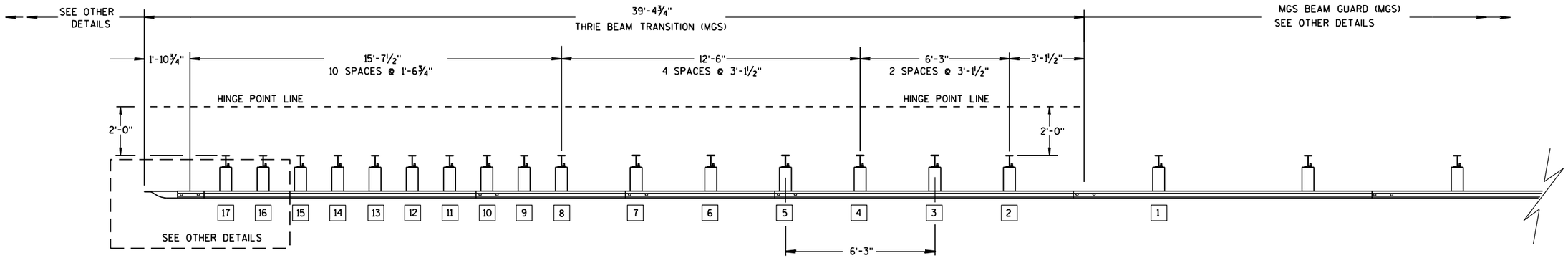
IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2½", AND 12" DIAMETER AROUND POST. SEE 14B42 FOR MORE DETAILS.

TRANSITION USES STEEL POSTS ONLY.

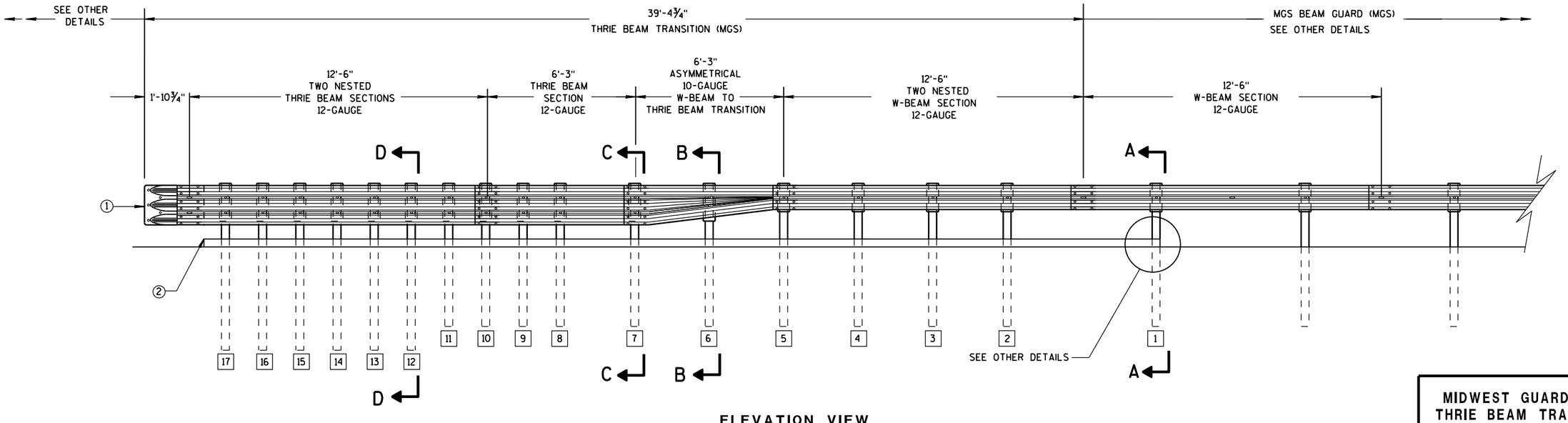
SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

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

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



PLAN VIEW



ELEVATION VIEW

MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

S.D.D. 14 B 45-4a

GENERAL NOTES

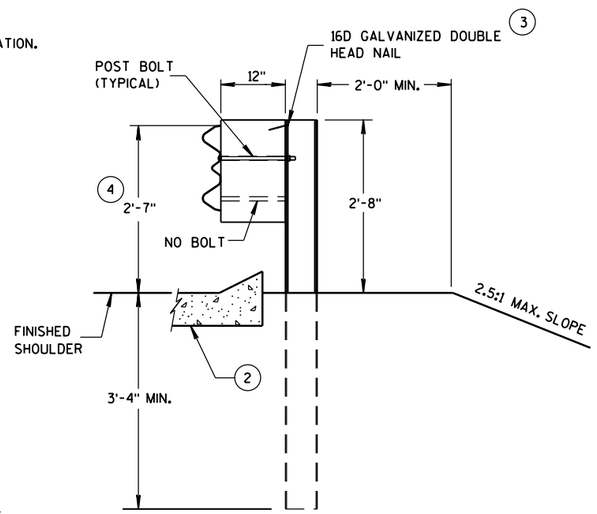
(2) OPTIONAL CURB AND GUTTER OR DRAINAGE_FEATURE SEE PLAN FOR INFORMATION.

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

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

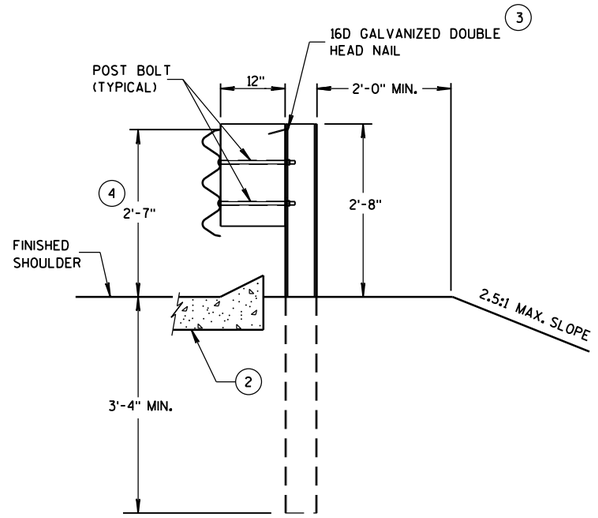
SECTION A-A

POSTS 1-5



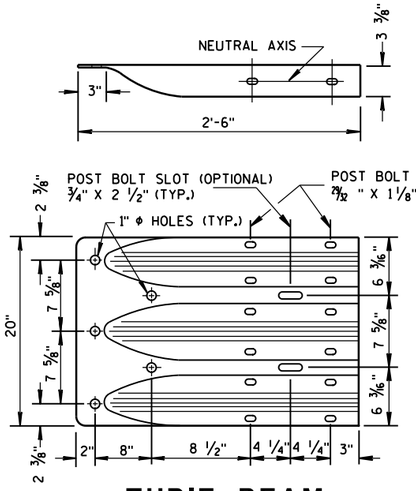
SECTION B-B

POST 6



SECTION C-C

POSTS 7-11



THRIE BEAM TERMINAL CONNECTOR

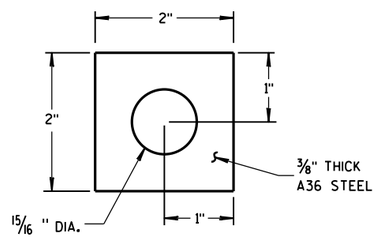
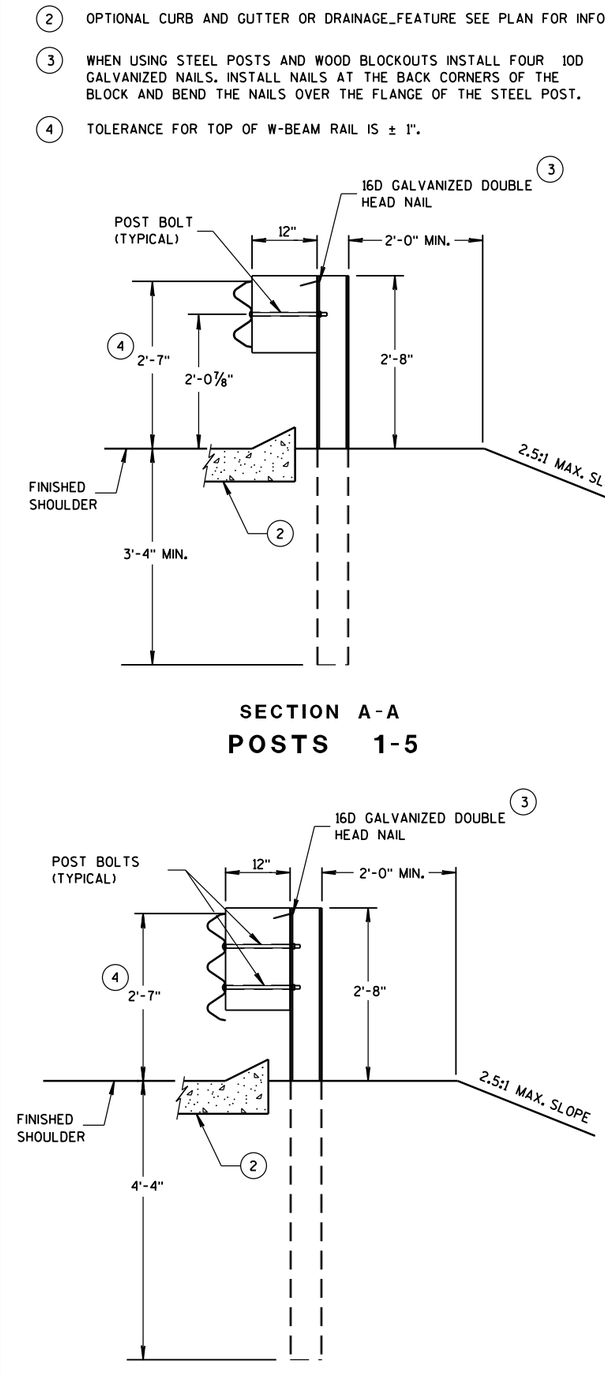
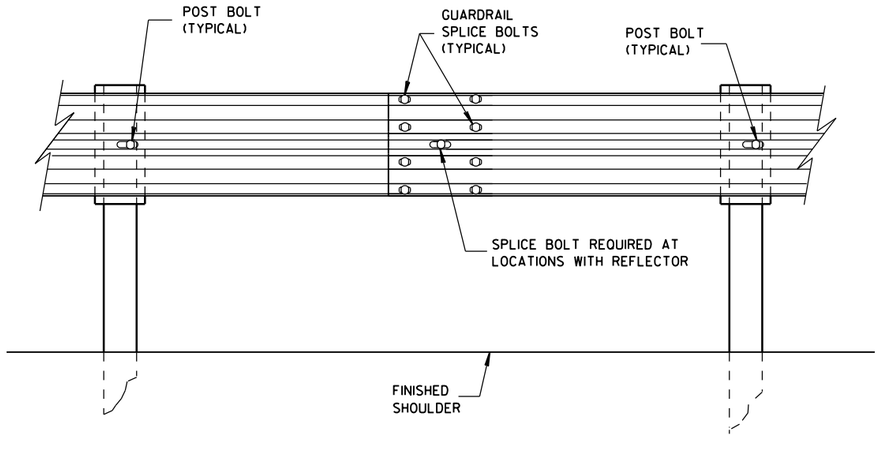


PLATE WASHER DETAIL

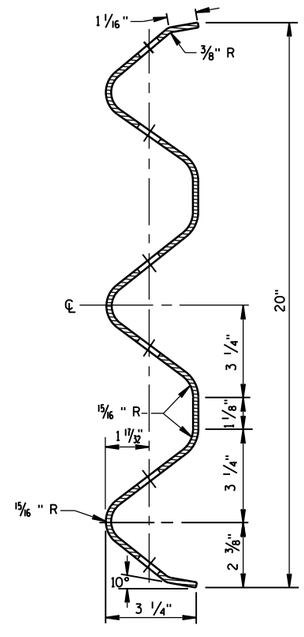


SECTION D-D

POSTS 12-17



SPLICE DETAIL



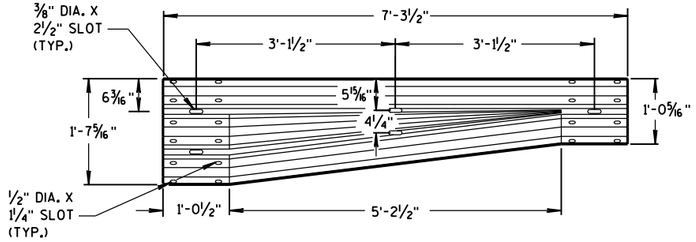
SECTION THRU THRIE BEAM RAIL ELEMENT

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

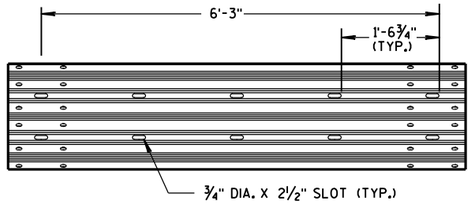
STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

6

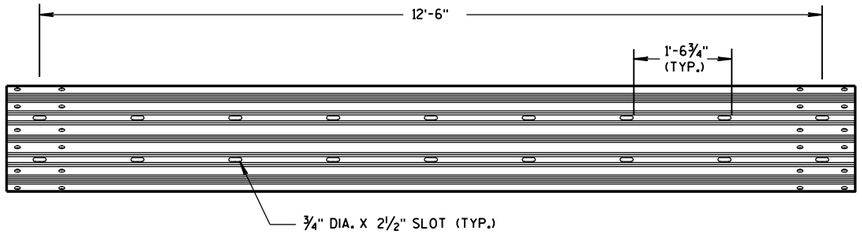
S.D.D. 14 B 45-4b



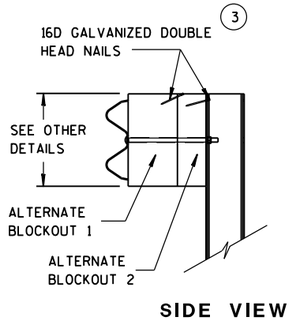
W-BEAM TO THRIE BEAM TRANSITION SECTION



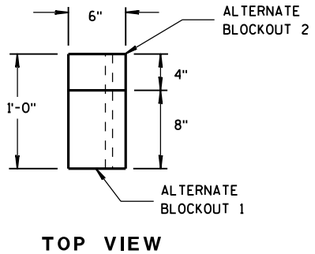
6'-3" THRIE BEAM SECTION



12'-6" THRIE BEAM SECTION

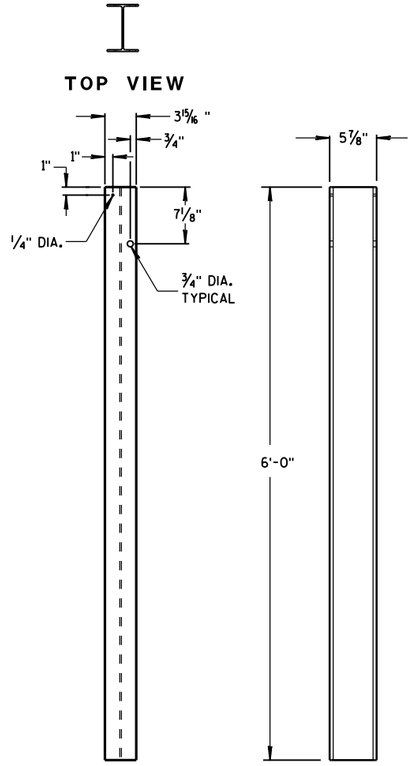


SIDE VIEW



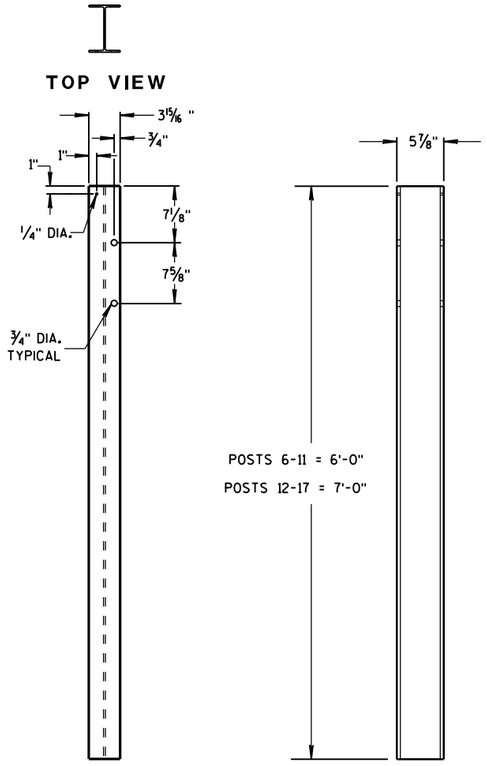
TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL



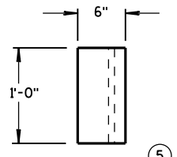
FRONT VIEW SIDE VIEW

STEEL POSTS 1-5

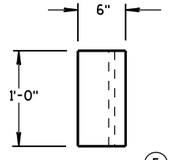


FRONT VIEW SIDE VIEW

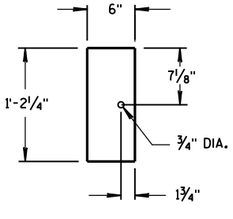
STEEL POSTS 6-17



TOP VIEW (5)

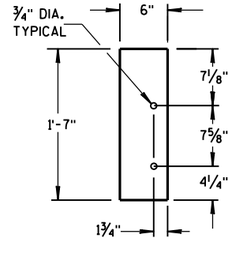


TOP VIEW (5)



FRONT VIEW

BLOCKOUT POSTS 1-5



FRONT VIEW

BLOCKOUT POSTS 6-17

GENERAL NOTES

STEEL POSTS ARE W6X9 OR W6X8.5.

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

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

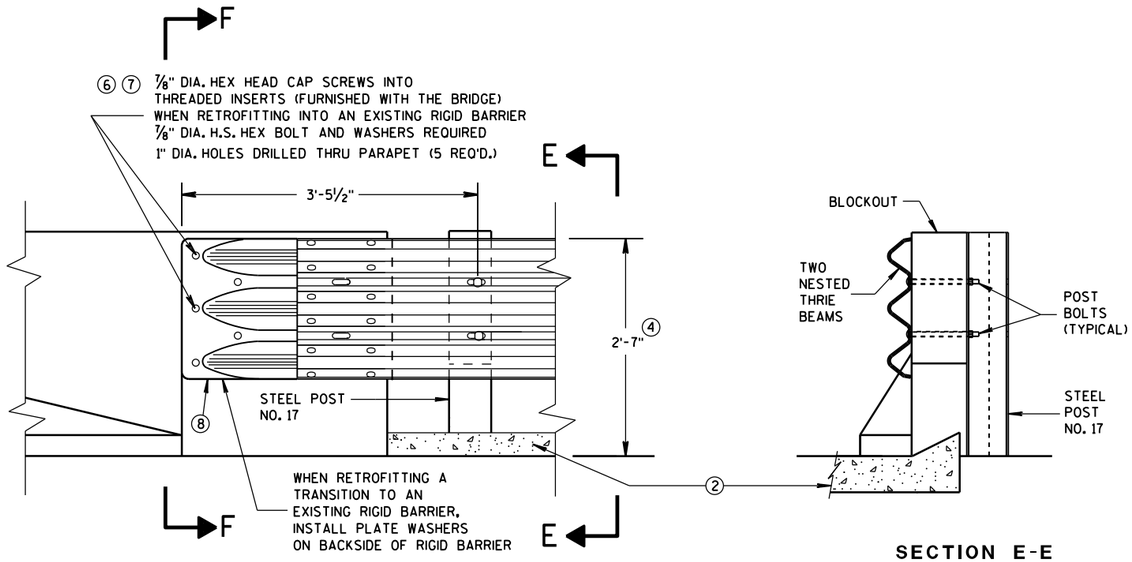
(5) WOOD BLOCKS MAY BE CONSTRUCTED OUT OF 2 WOOD BLOCKS. SEE ALTERNATE WOOD BLOCK DETAIL.

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

S.D.D. 14 B 45-4c



FRONT VIEW

SECTION E-E

THRIE BEAM CONNECTION TO BRIDGE PARAPET WITH SQUARE ENDS

GENERAL NOTES

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

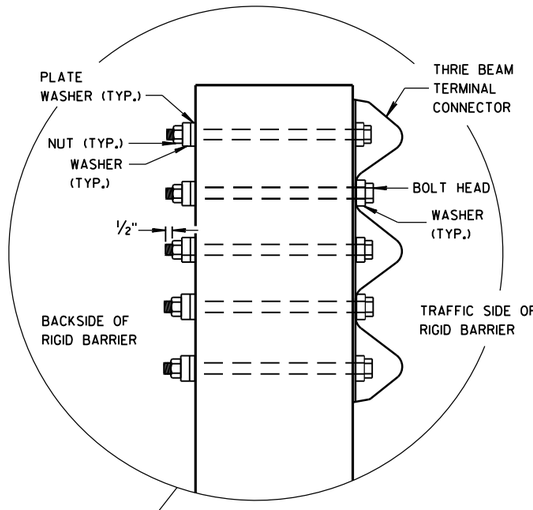
② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

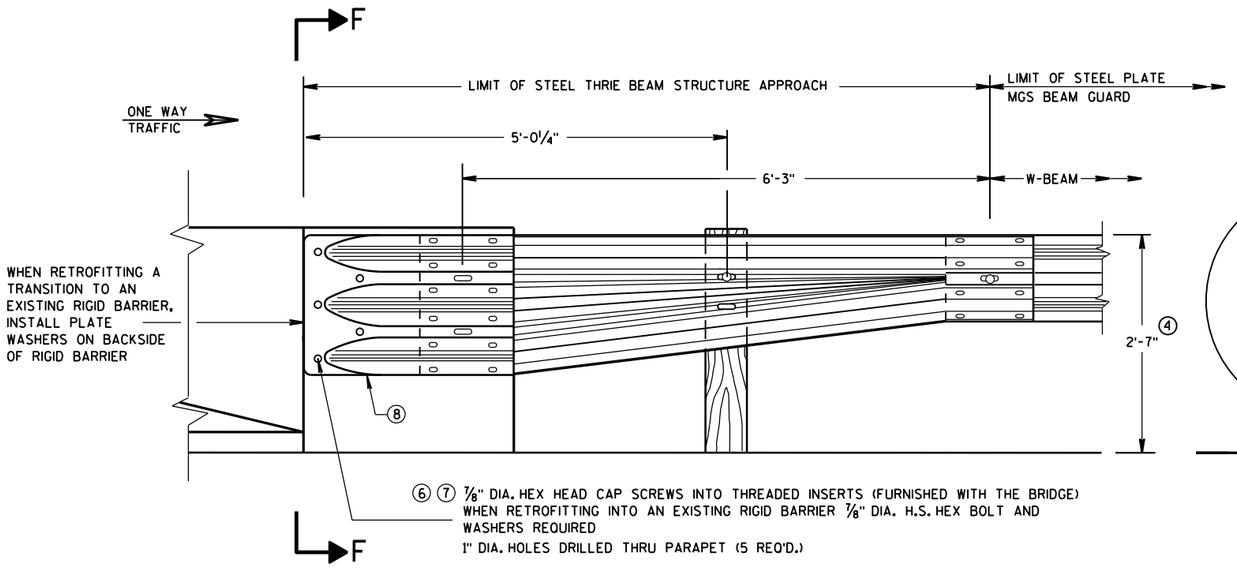
④ TOLERANCE FOR TOP OF BEAM IS ± 1".

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

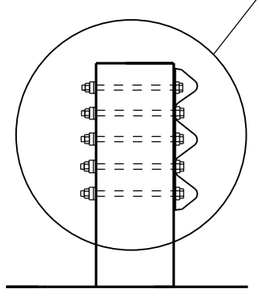
⑦ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/8" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.

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

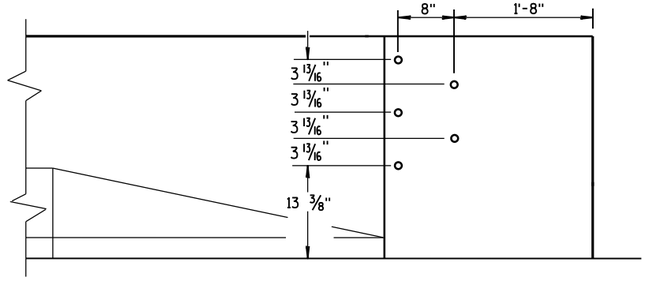




FRONT VIEW



SECTION F-F



DRILL HOLE LOCATION

W BEAM TRANSITION AND CONNECTION TO BRIDGE PARAPETS WITH SQUARE ENDS

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

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June, 2015 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

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6

S.D.D. 14 B 45-4d

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S.D.D. 14 B 45-4d

GENERAL NOTES

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

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

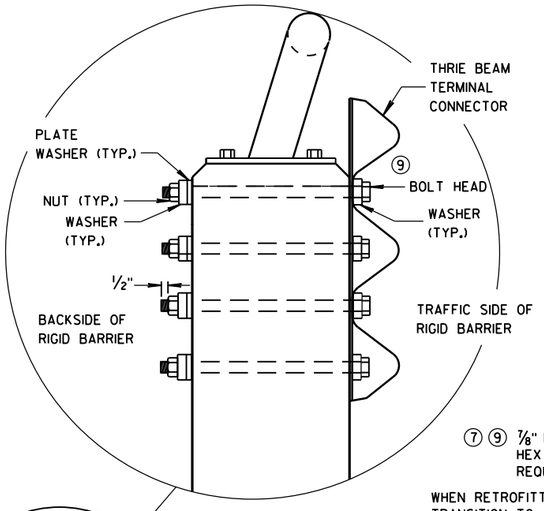
(4) TOLERANCE FOR TOP OF BEAM IS ± 1".

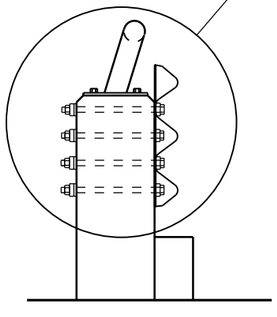
(6) DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

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

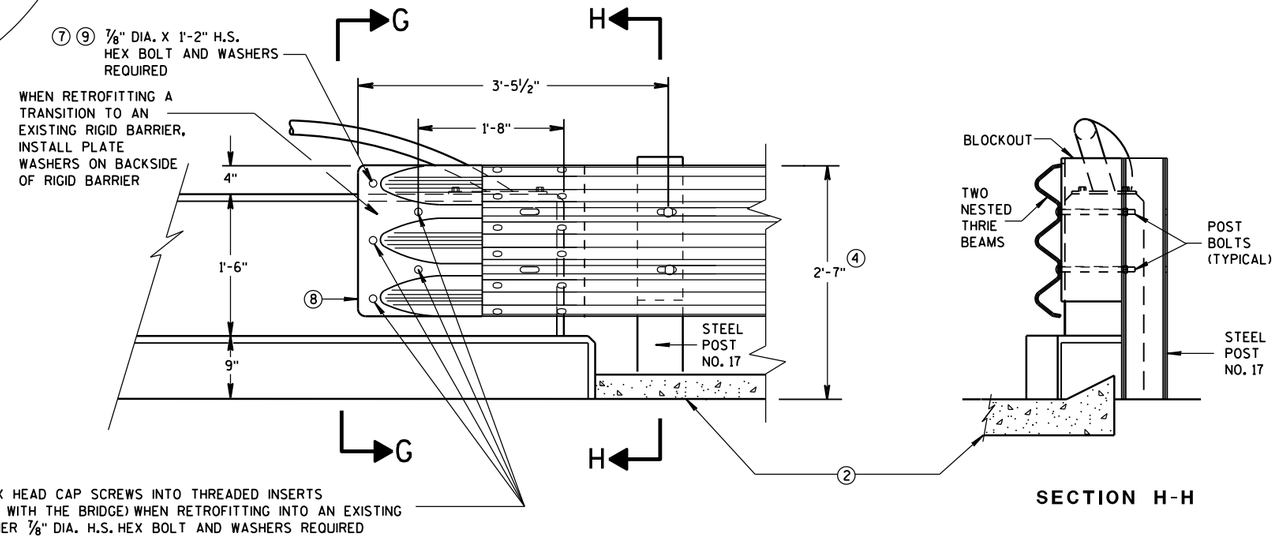
(8) THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 1/2".

(9) 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.





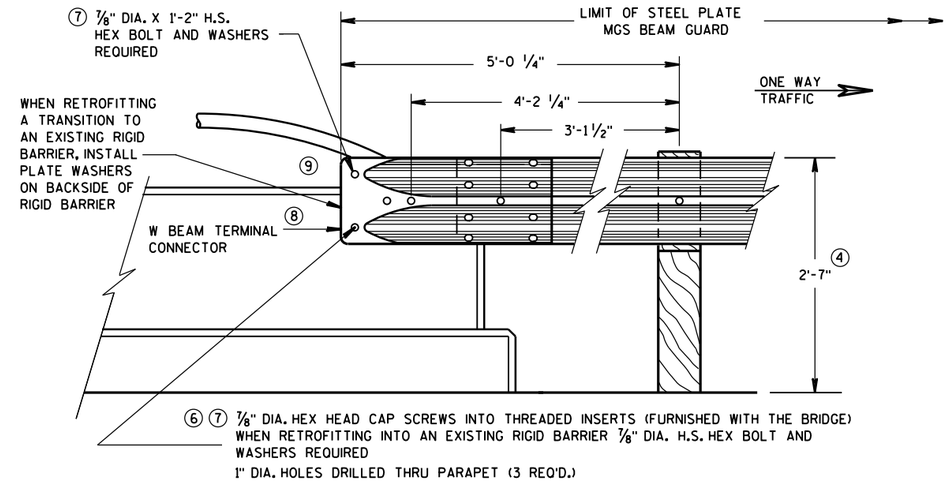
SECTION G-G



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
June, 2015 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS DEVELOPMENT ENGINEER
77
NT
FHWA

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S.D.D. 14 B 45-4e

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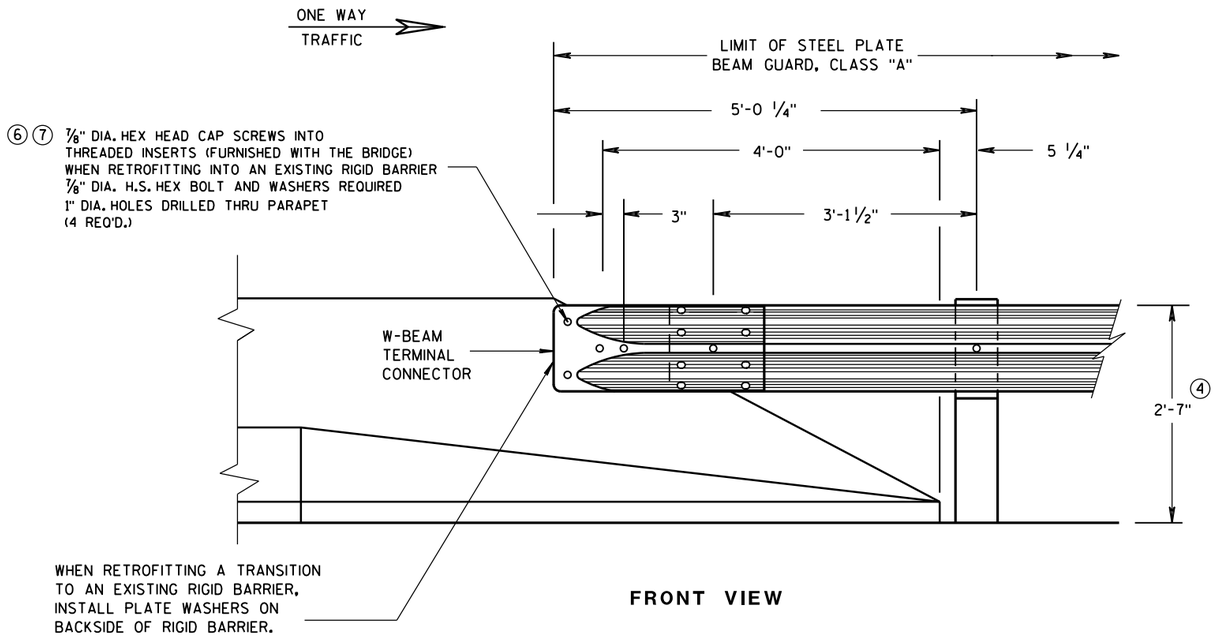
S.D.D. 14 B 45-4e



FRONT VIEW

W BEAM CONNECTION TO PARAPETS WITH SLOPED ENDS

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

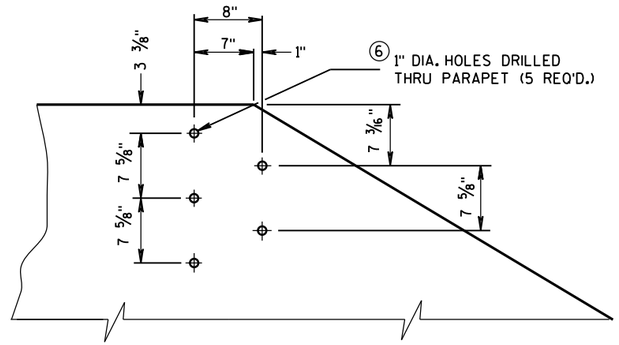
GENERAL NOTES

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

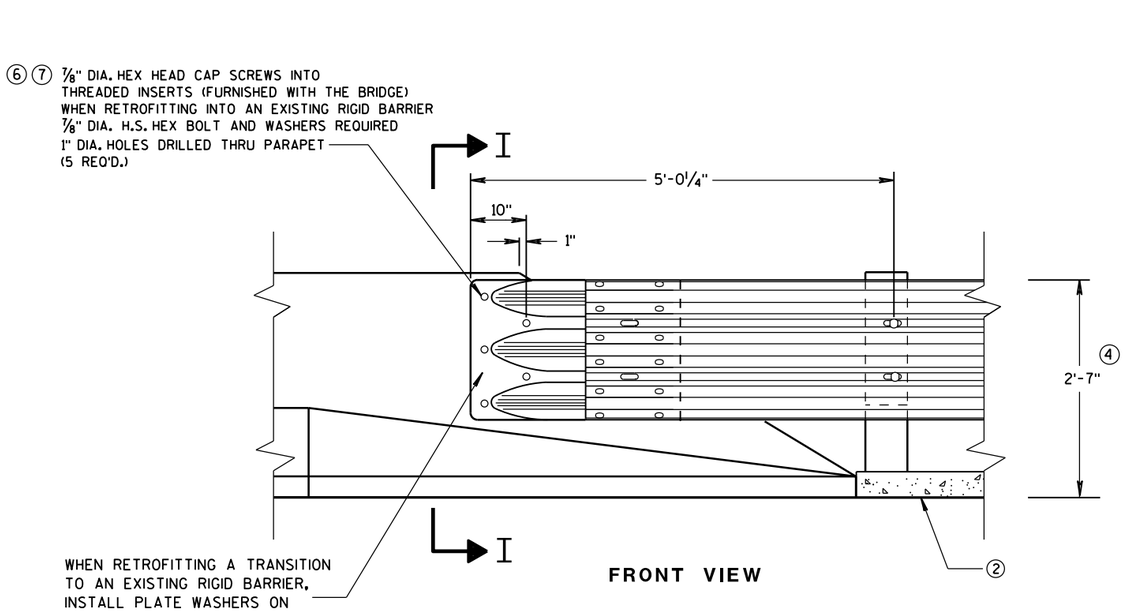
④ TOLERANCE FOR TOP OF BEAM IS ± 1".

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

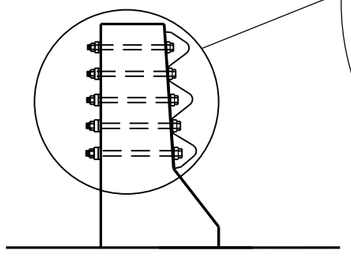
⑦ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/8" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.



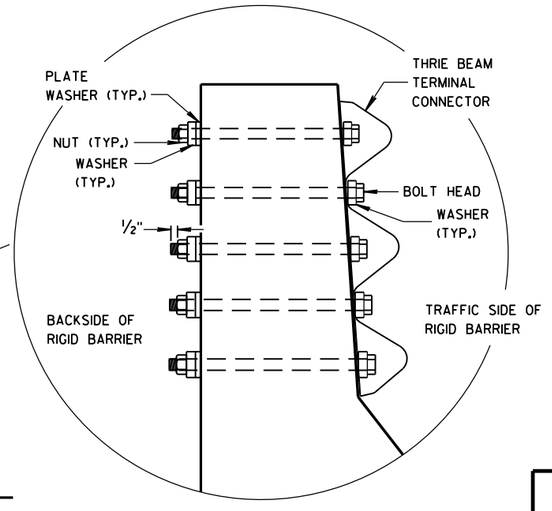
DRILL HOLE LOCATION AND PATTERN
FOR THRIE BEAM CONNECTION



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
June, 2015 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS DEVELOPMENT ENGINEER
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S.D.D. 14 B 45-4f

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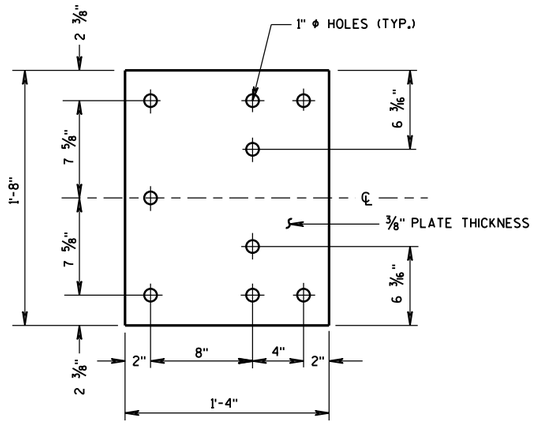
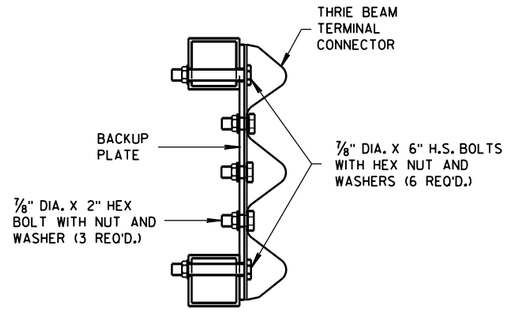
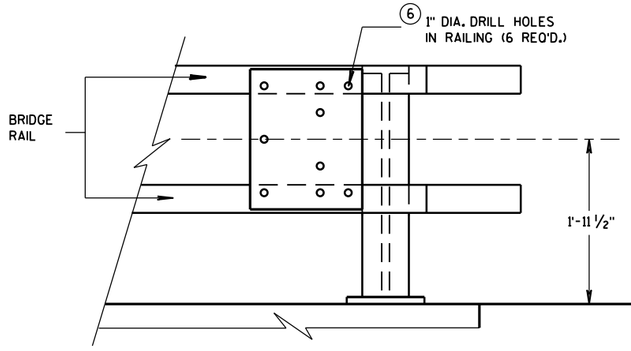


BACK-UP PLATE DETAIL



SECTION J-J

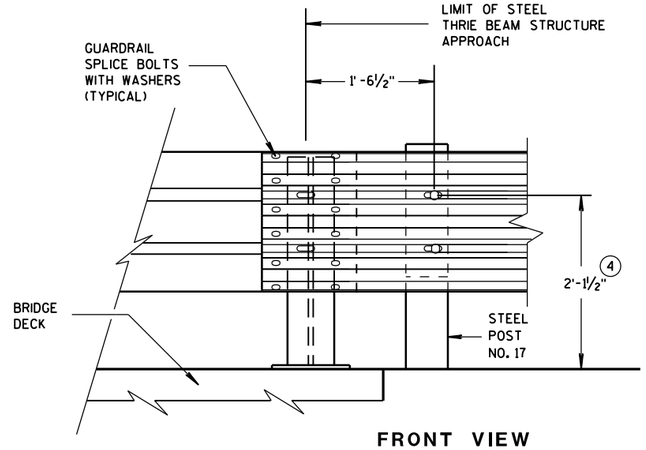


BACK-UP PLATE MOUNTING ONTO BRIDGE RAILING

GENERAL NOTES

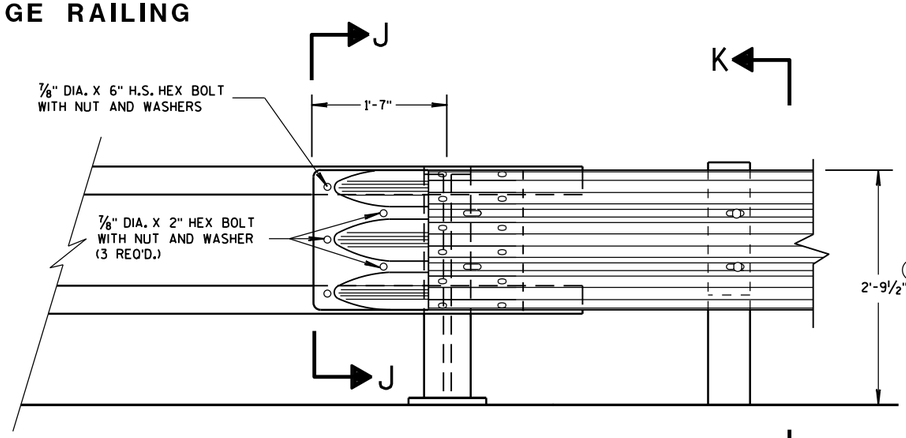
④ TOLERANCE FOR TOP OF BEAM IS ± 1".

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

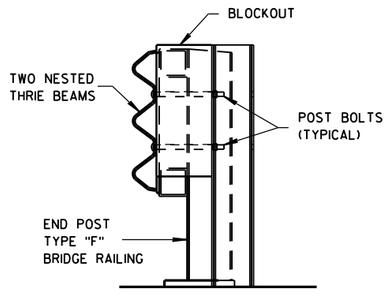


FRONT VIEW

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
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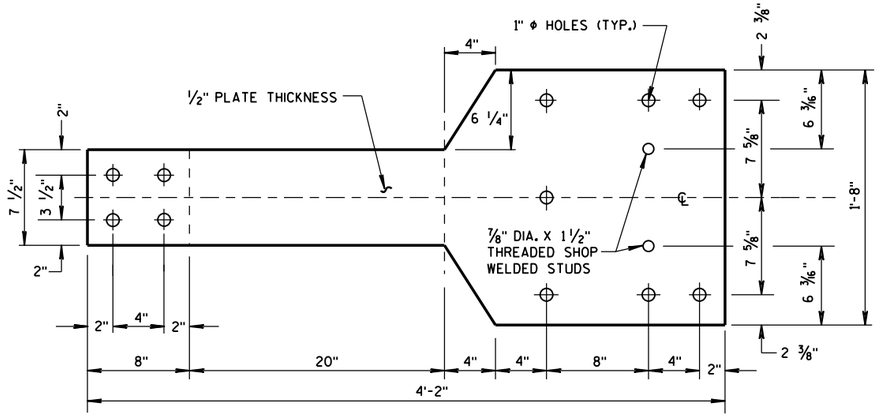
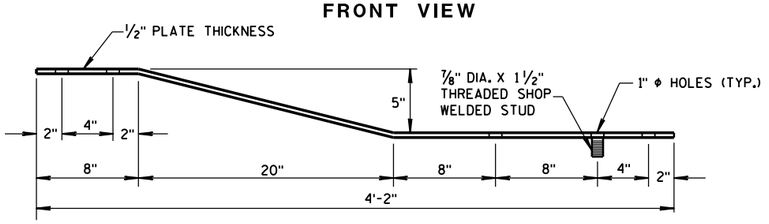
GENERAL NOTES

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

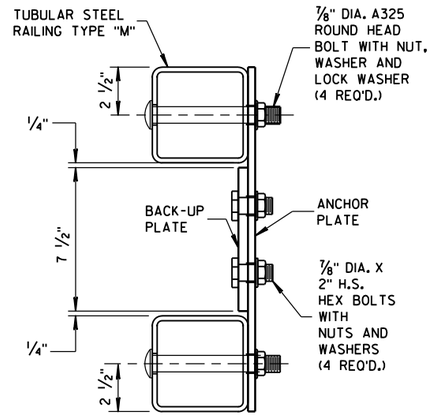


FRONT VIEW

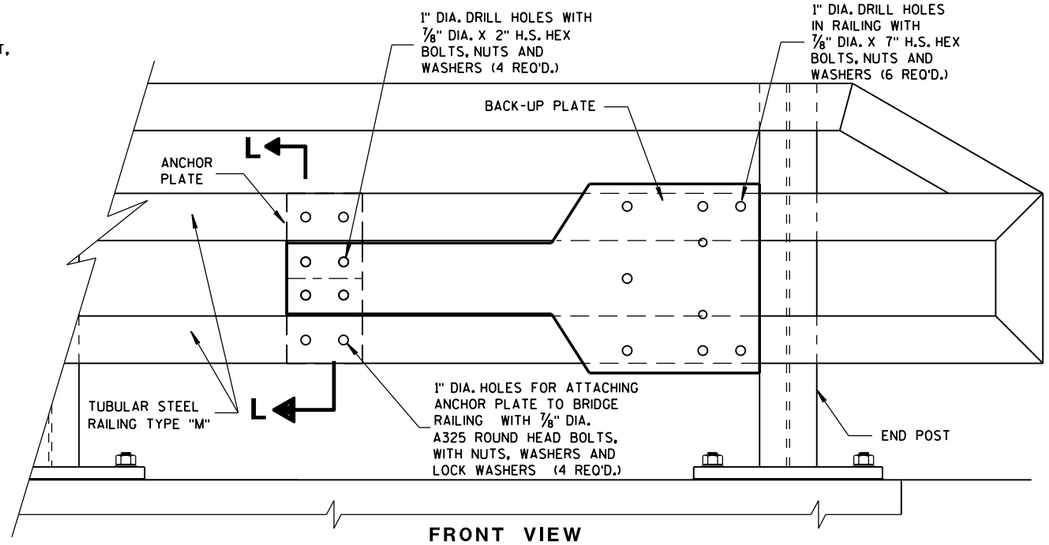


PLAN VIEW

BACK-UP PLATE DETAIL, TYPE "M"

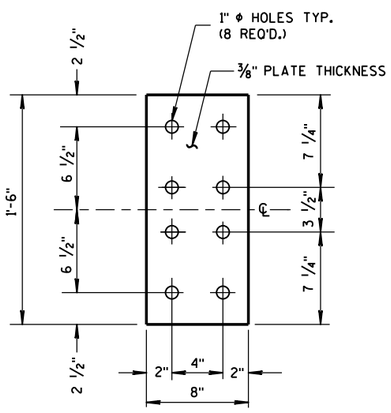


SECTION L-L



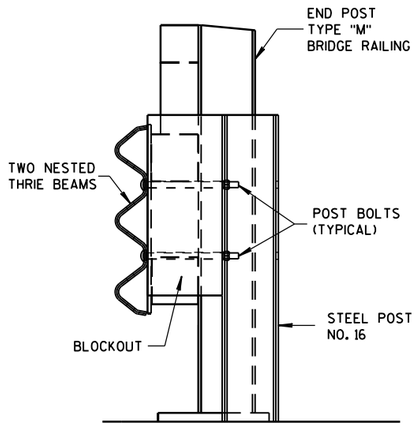
FRONT VIEW

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

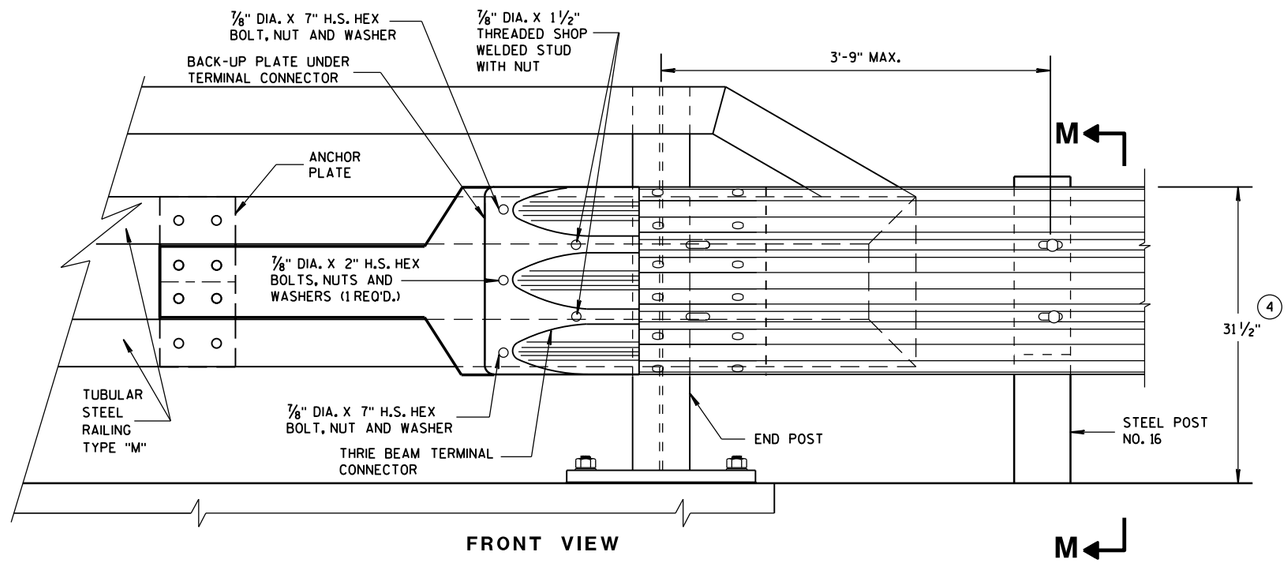


FRONT VIEW

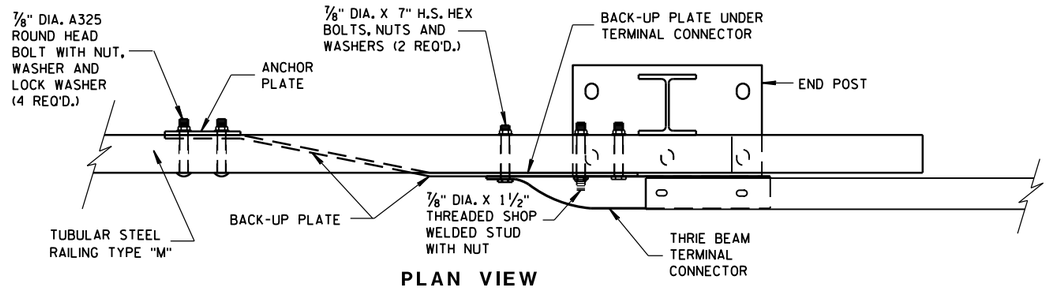
ANCHOR PLATE DETAIL, TYPE "M"



SECTION M-M



FRONT VIEW



PLAN VIEW

THRIE BEAM CONNECTION TO TUBULAR RAILING, TYPE "M"

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
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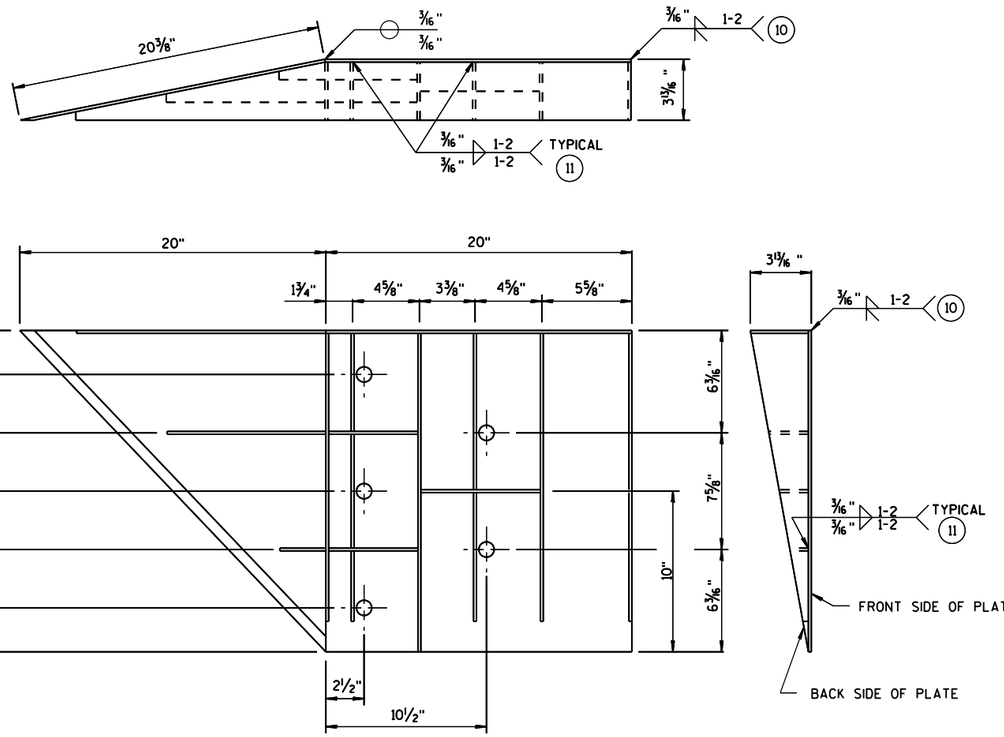

WELDING INSTRUCTION

(VIEWED FROM BACK SIDE OF PLATE)

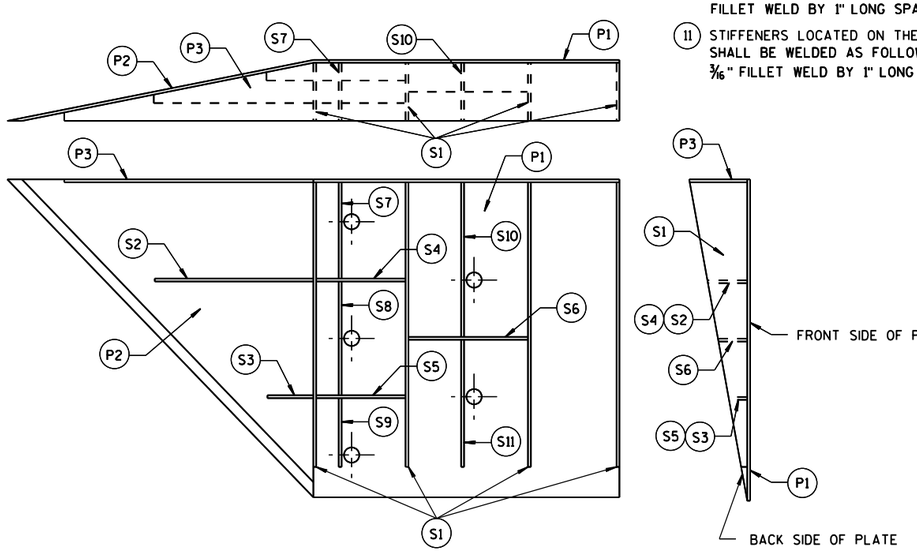

PLATE AND STIFFENER IDENTIFICATION

(VIEWED FROM BACK SIDE OF PLATE)

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.

(10) 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.

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

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 3/8" 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 1/32"	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)

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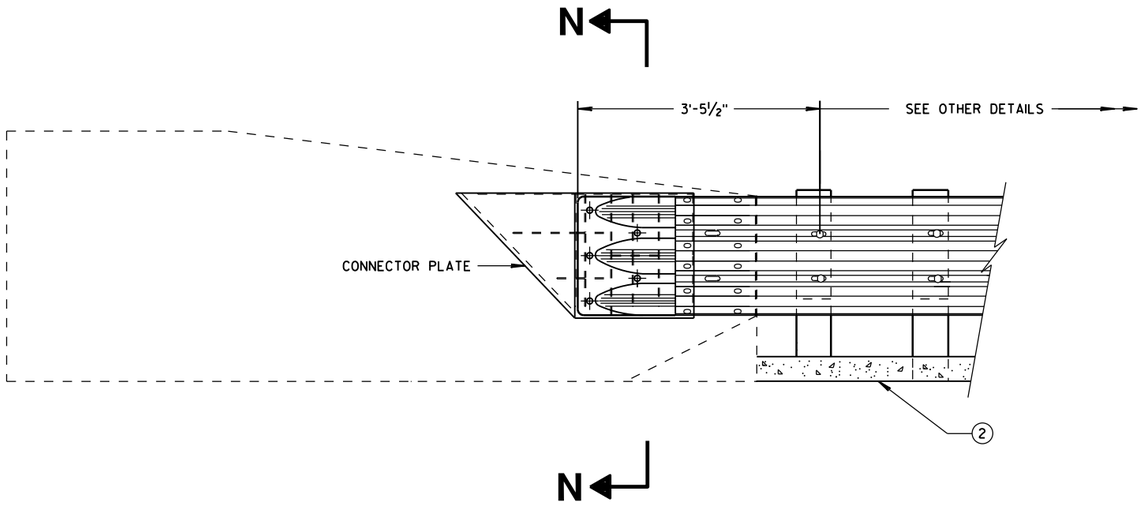
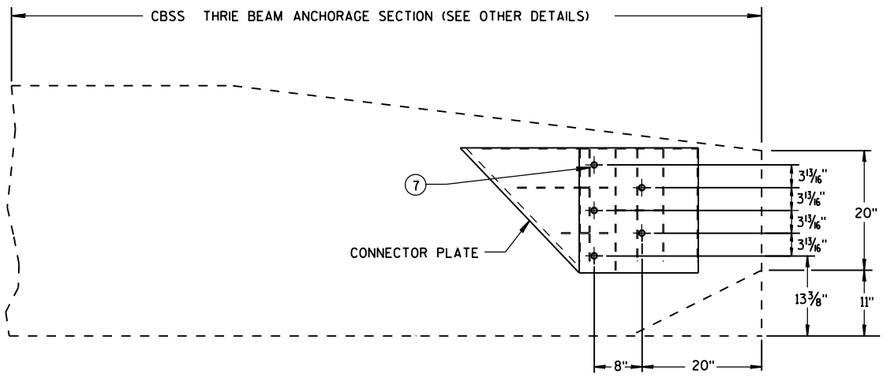


THRIE BEAM CONNECTION TO SINGLE SLOPE BARRIER



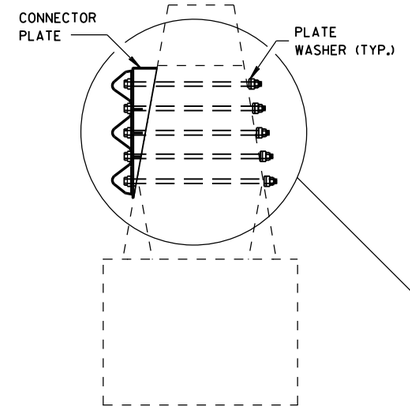
SINGLE SLOPE CONNECTION PLATE PLACEMENT

GENERAL NOTES

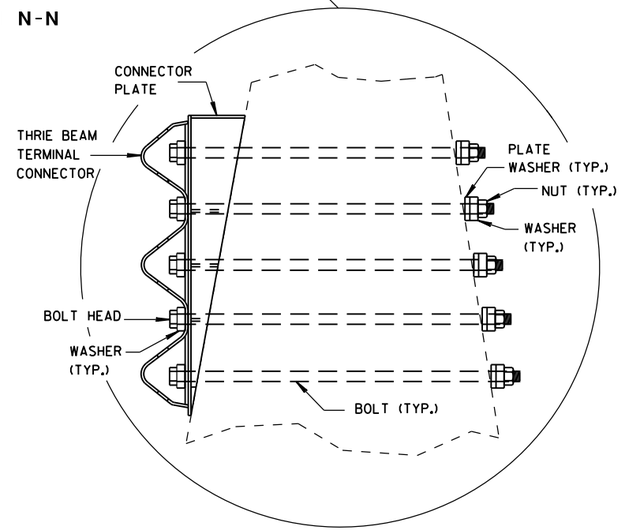
CONNECTOR PLATE, DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

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

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

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June, 2015 — DATE
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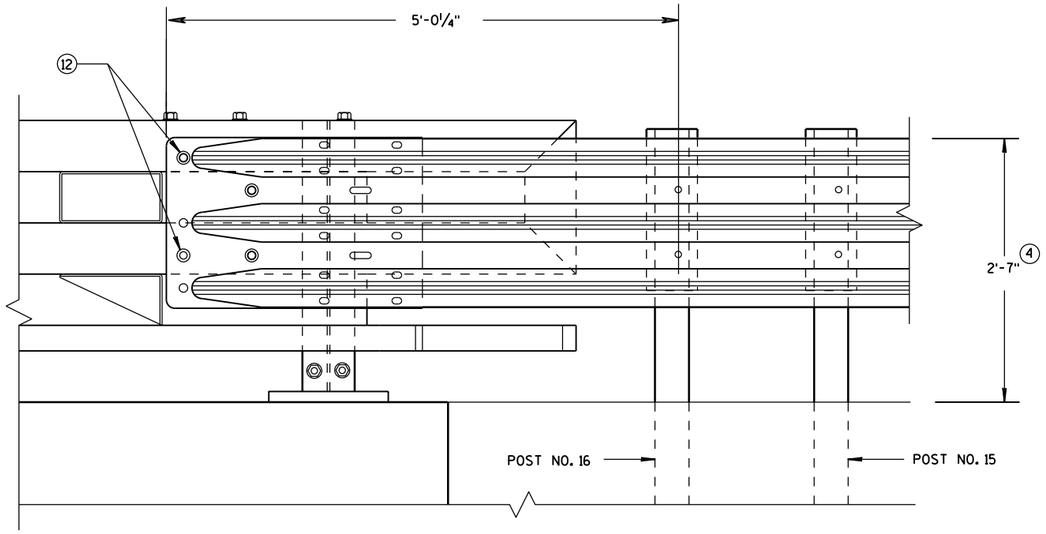
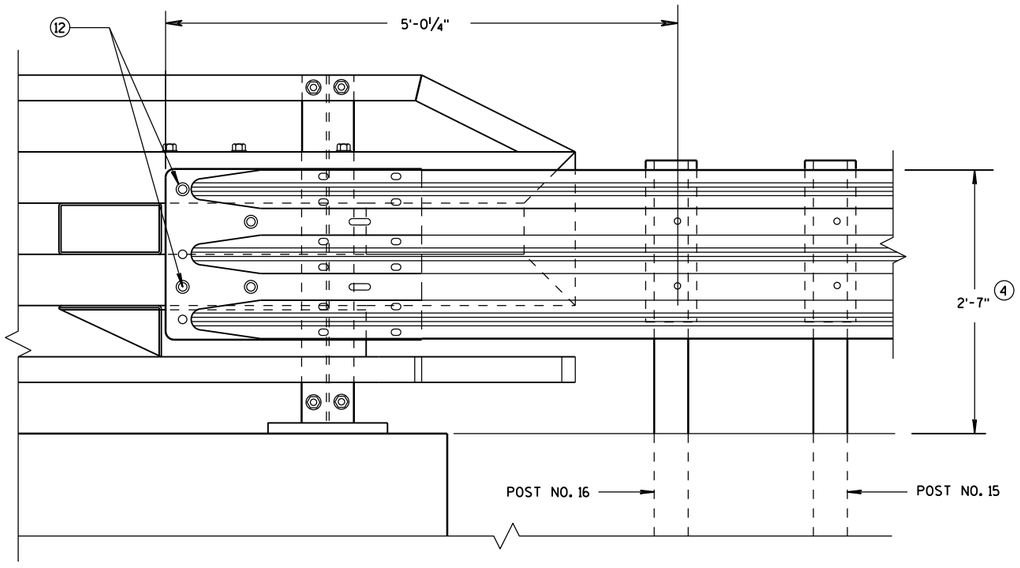


ELEVATION OF DETAIL AT NY3 END POST

THRIE BEAM RAIL ATTACHMENT



ELEVATION OF DETAIL AT NY4 END POST

THRIE BEAM RAIL ATTACHMENT

GENERAL NOTES

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

(12) 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. ON BACKSIDE OF PARAPET ONE ROUND WASHER, AND NUT REQUIRED. BOLT THREAD IS TO EXTEND ½-INCH BEYOND NUT.

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June, 2015
DATE

/S/ Jerry H. Zogg
ROADWAY STANDARDS D 83 NT
ENGINEER

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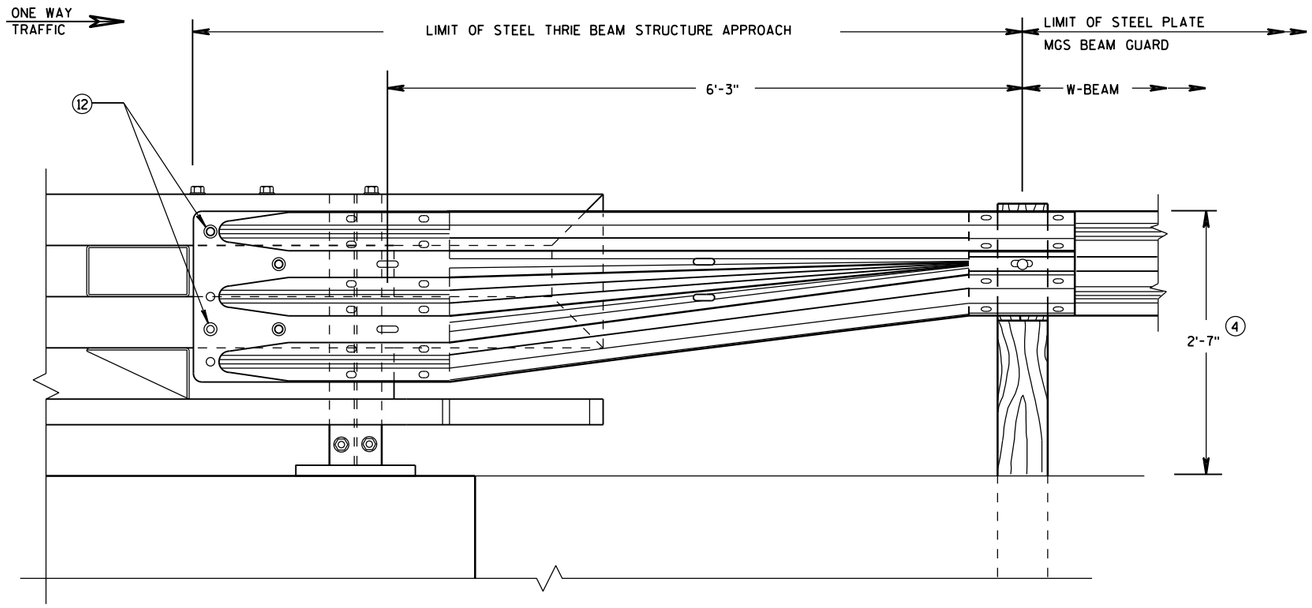


FRONT VIEW

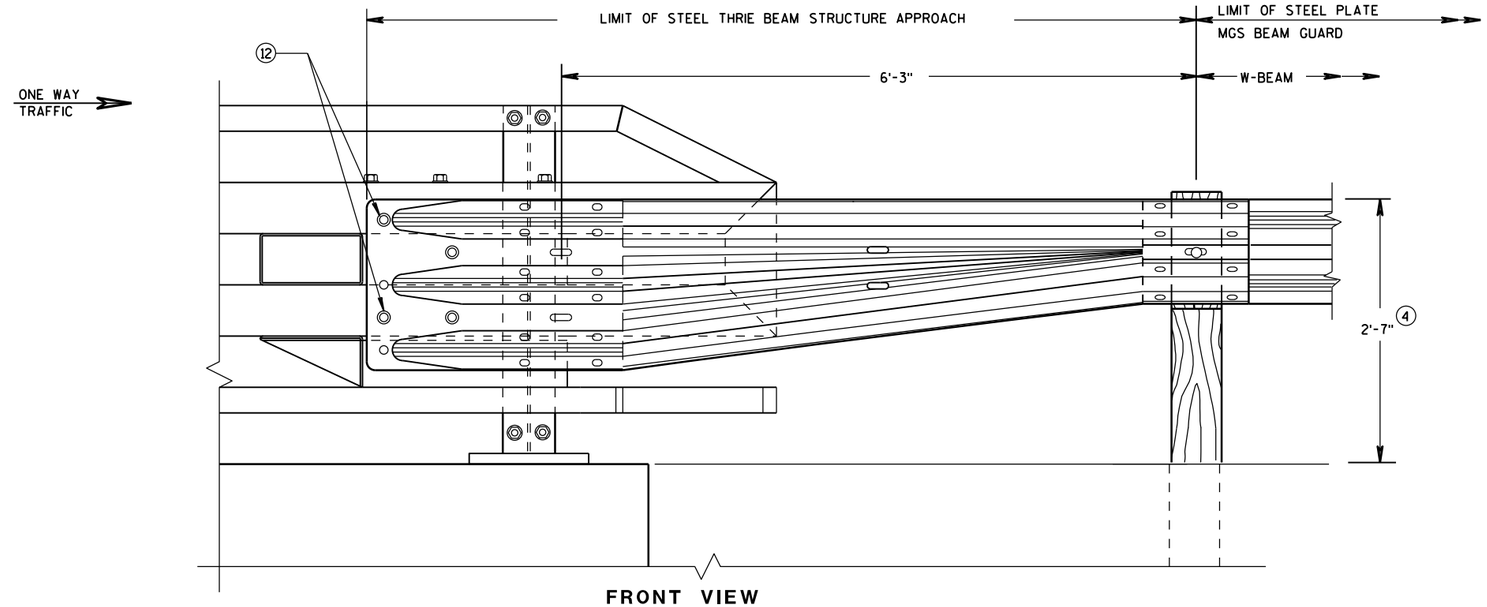
W BEAM TRANSITION AND CONNECTION TO BRIDGE RAILING TYPE "NY3"

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

GENERAL NOTES

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

(12) 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. ON BACKSIDE OF PARAPET ONE ROUND WASHER, AND NUT REQUIRED. BOLT THREAD IS TO EXTEND ½-INCH BEYOND NUT.



FRONT VIEW

W BEAM TRANSITION AND CONNECTION TO BRIDGE RAILING TYPE "NY4"

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

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

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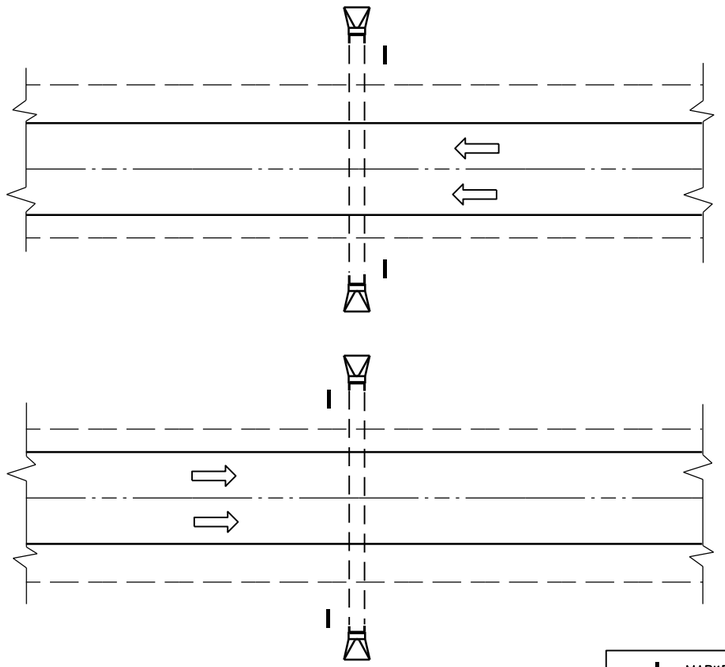
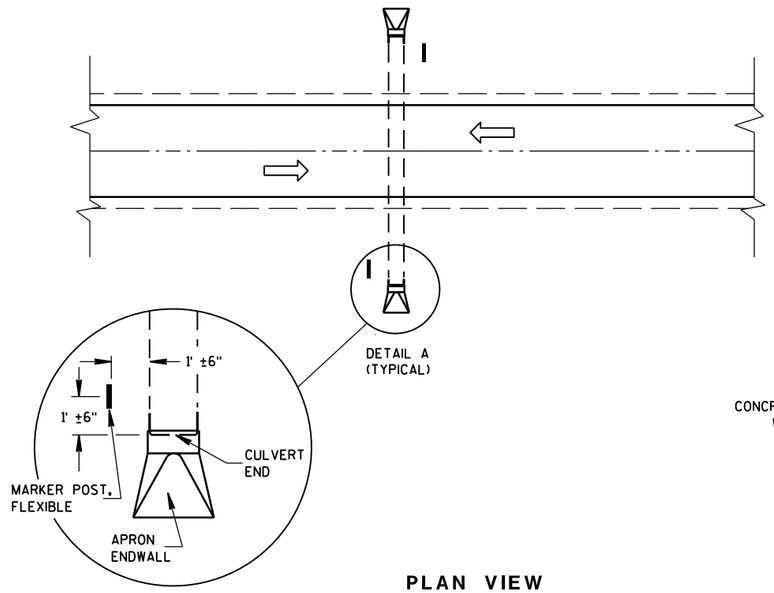


PLAN VIEW

DIVIDED HIGHWAY



DETAIL A
(TYPICAL)

PLAN VIEW

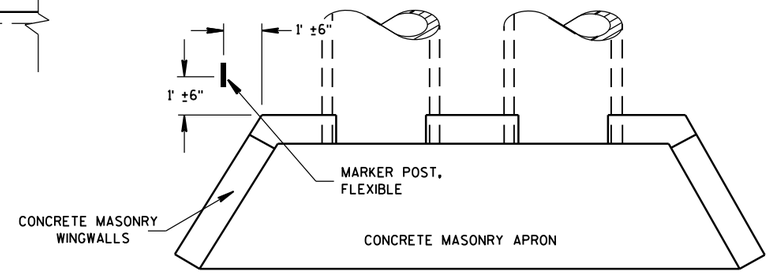
UNDIVIDED HIGHWAY

MARKER POST, FLEXIBLE

DIRECTION OF TRAFFIC FLOW

GENERAL NOTES

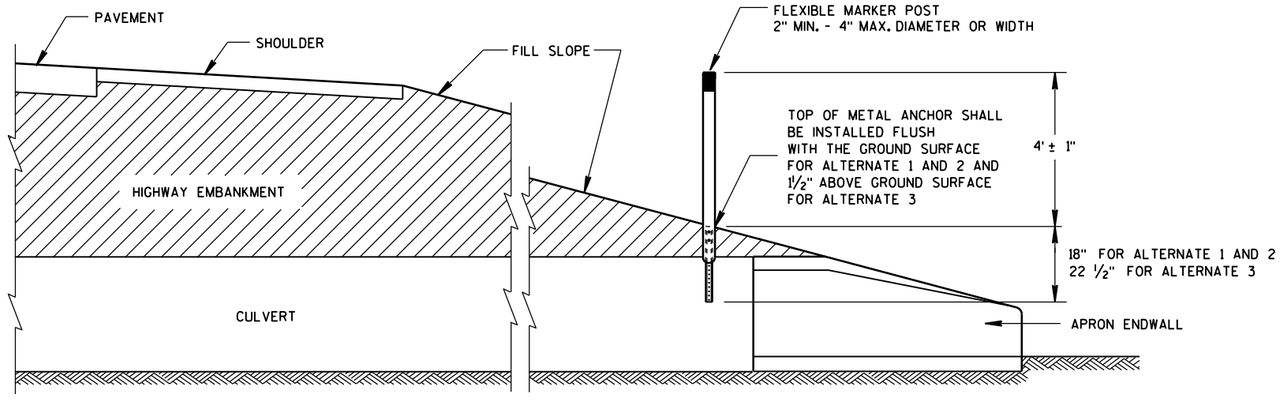
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.



PLAN VIEW

CONCRETE MASONRY ENDWALLS FOR CULVERT PIPE AND PIPE ARCH

FLEXIBLE MARKER POST LOCATION



CROSS SECTION

FLEXIBLE MARKER POST

FLEXIBLE MARKER POST FOR CULVERT END

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

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

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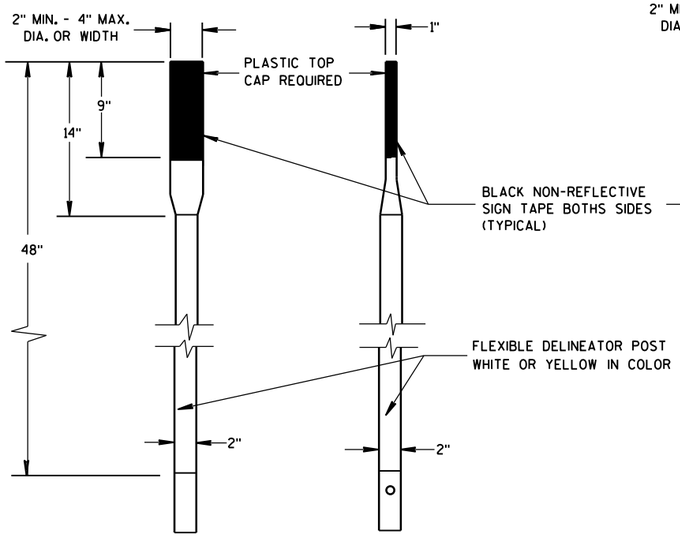
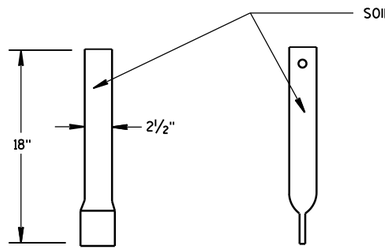
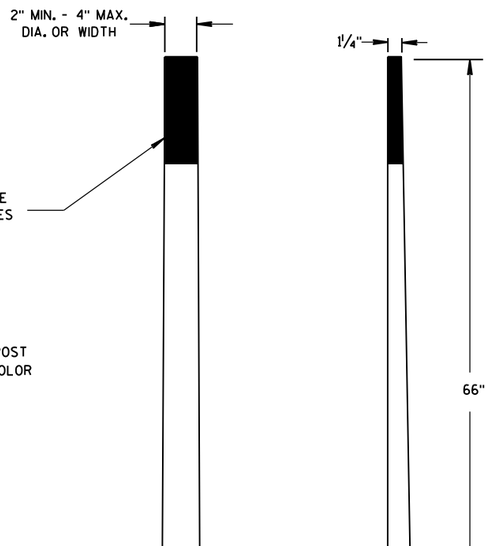
S.D.D. 15 A 3-2a





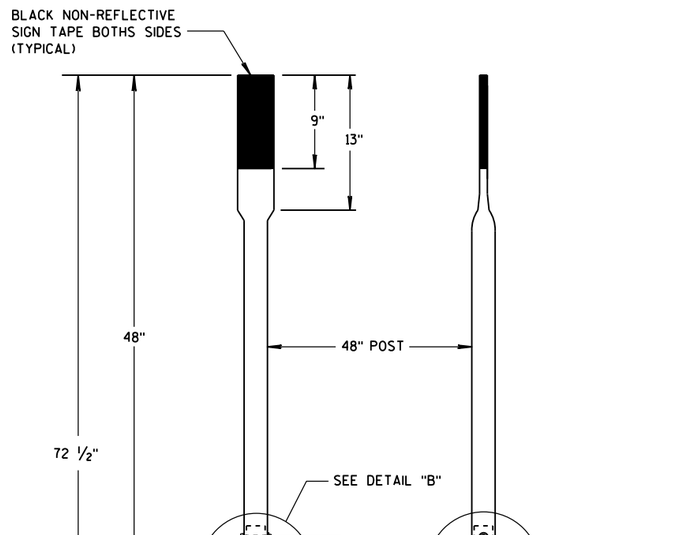
FRONT VIEW SIDE VIEW

ALTERNATE 1



FRONT VIEW SIDE VIEW

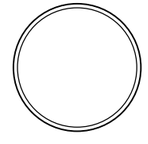
ALTERNATE 2



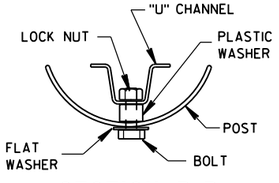
FRONT VIEW SIDE VIEW

ALTERNATE 3

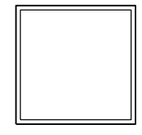
FLEXIBLE MARKER POSTS



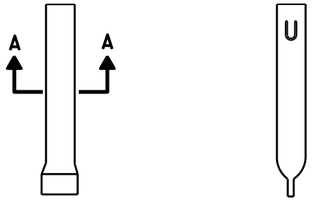
SECTION A-A



SECTION B-B

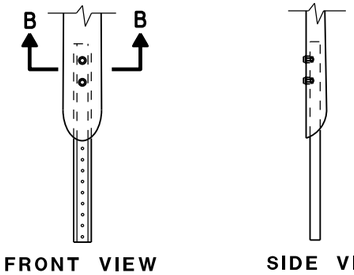


SECTION C-C



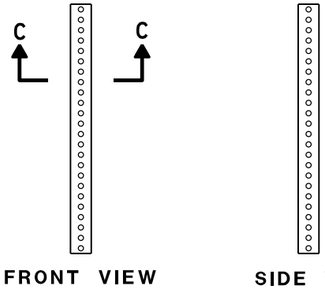
FRONT VIEW SIDE VIEW

ALTERNATE 1



FRONT VIEW SIDE VIEW

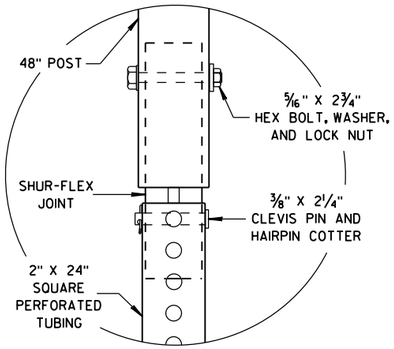
ALTERNATE 2



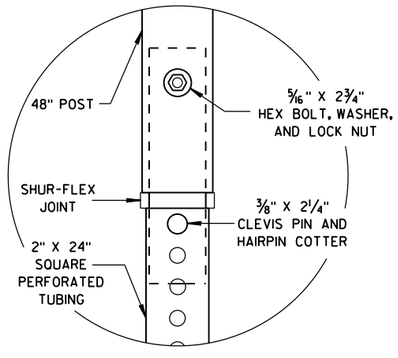
FRONT VIEW SIDE VIEW

ALTERNATE 3

FLEXIBLE MARKER POST ANCHORS



DETAIL B



DETAIL C

FLEXIBLE MARKER POST
FOR CULVERT END

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

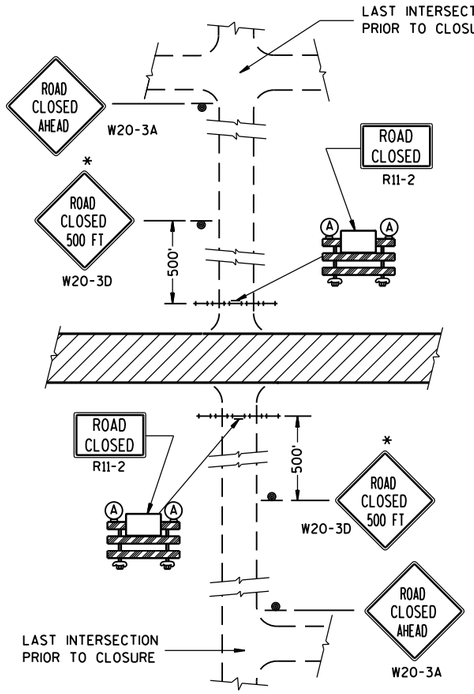
APPROVED
10/1/2012 — DATE
/S/ Travis Feltes — STATE TRAFFIC ENGINEER
FHWA

6

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

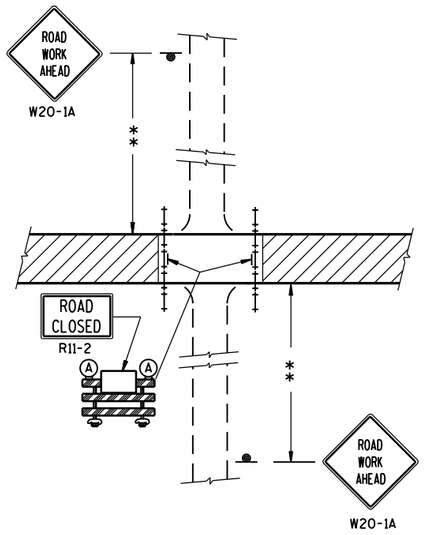
6

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



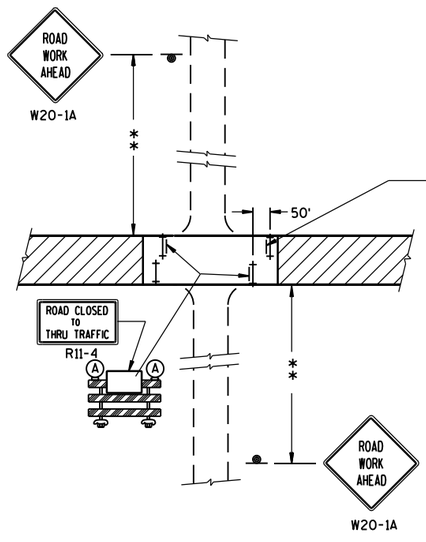
DETAIL 1

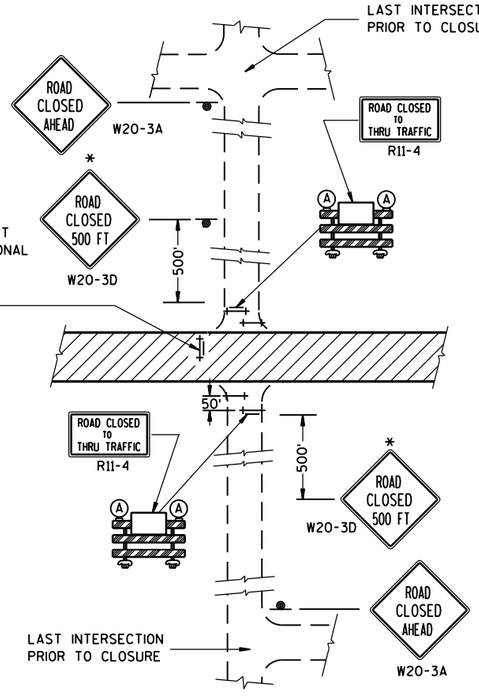
(NO ACCESS TO PROJECT)



DETAIL 2

(PUBLIC CROSS-TRAFFIC MAINTAINED. NO ACCESS TO PROJECT).





DETAIL 3

(PUBLIC CROSS-TRAFFIC MAINTAINED. CONTRACTOR, LOCAL BUSINESS AND RESIDENT ACCESS).

DETAIL 4

(CONTRACTOR, LOCAL BUSINESS AND RESIDENT ACCESS TO PROJECT)

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.

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

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 AND R11-4 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.

ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:
R11-2 SHALL BE 48" X 30".
R11-4 AND R11-3 SHALL BE 60" X 30".

*OMIT THE "ROAD CLOSED 500 FT." SIGN IF THE LAST INTERSECTION IS 500 FT. OR LESS FROM THE WORK ZONE.

**500' MAX. OR AT LAST INTERSECTION WHICHEVER IS CLOSER.

LEGEND

- SIGN ON PERMANENT SUPPORT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- (A) TYPE "A" WARNING LIGHT (FLASHING)
- WORK AREA

BARRICADES AND SIGNS FOR SIDEROAD CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept. 2015 — DATE
/S/ Peter Amakobe Atepe
STATEWIDE WORK ZO... SAFETY ENGI... — FHWA

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S.D.D. 15 C 3-3

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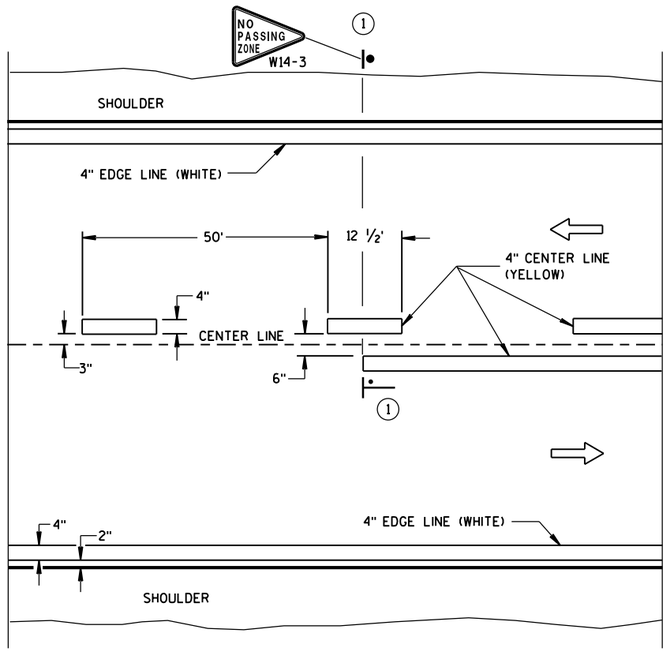
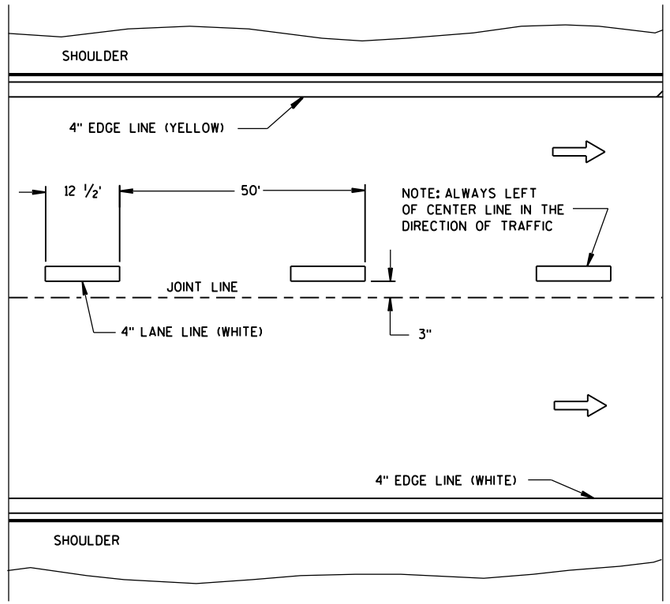
S.D.D. 15 C 3-3



TWO WAY TRAFFIC



ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING

GENERAL NOTES

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

(1) NO PASSING ZONE W14-3 SIGN SHALL BE LOCATED WITHIN 50 FEET OF THE "T" MARKING.

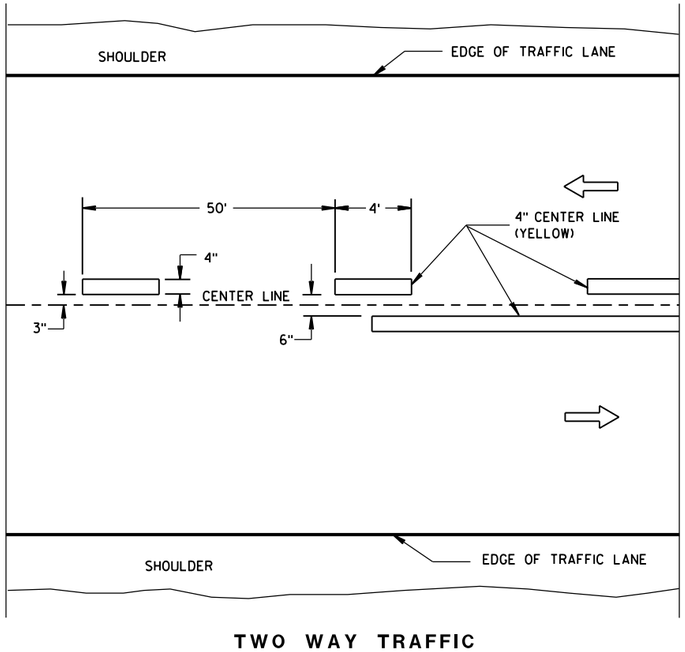
NOTE

ARROW SYMBOL (⇨) SHOWS DIRECTION OF TRAVEL

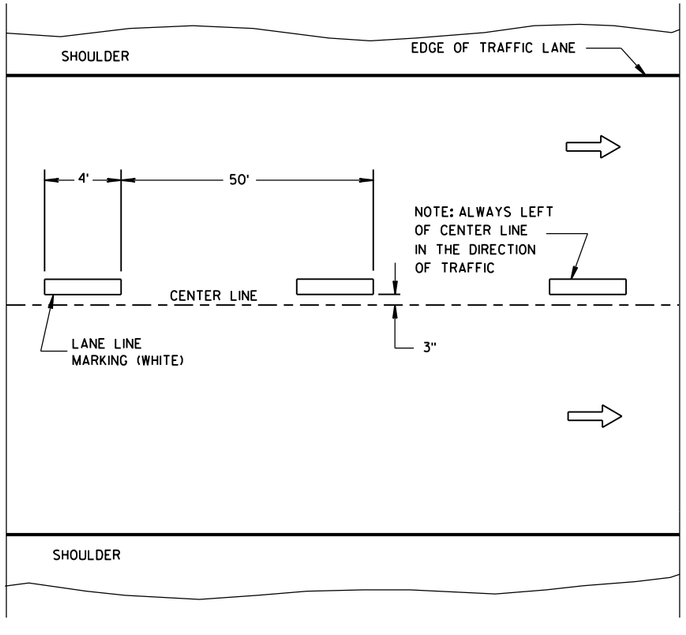
LEGEND

"T" MARKING

POST MOUNTED SIGN



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY PAVEMENT MARKING

LONGITUDINAL MARKING (MAINLINE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept., 2016 — DATE
/S/ Matthew R. Rauch — STATE SIGNING AND MARKING ENGINEER
FHWA

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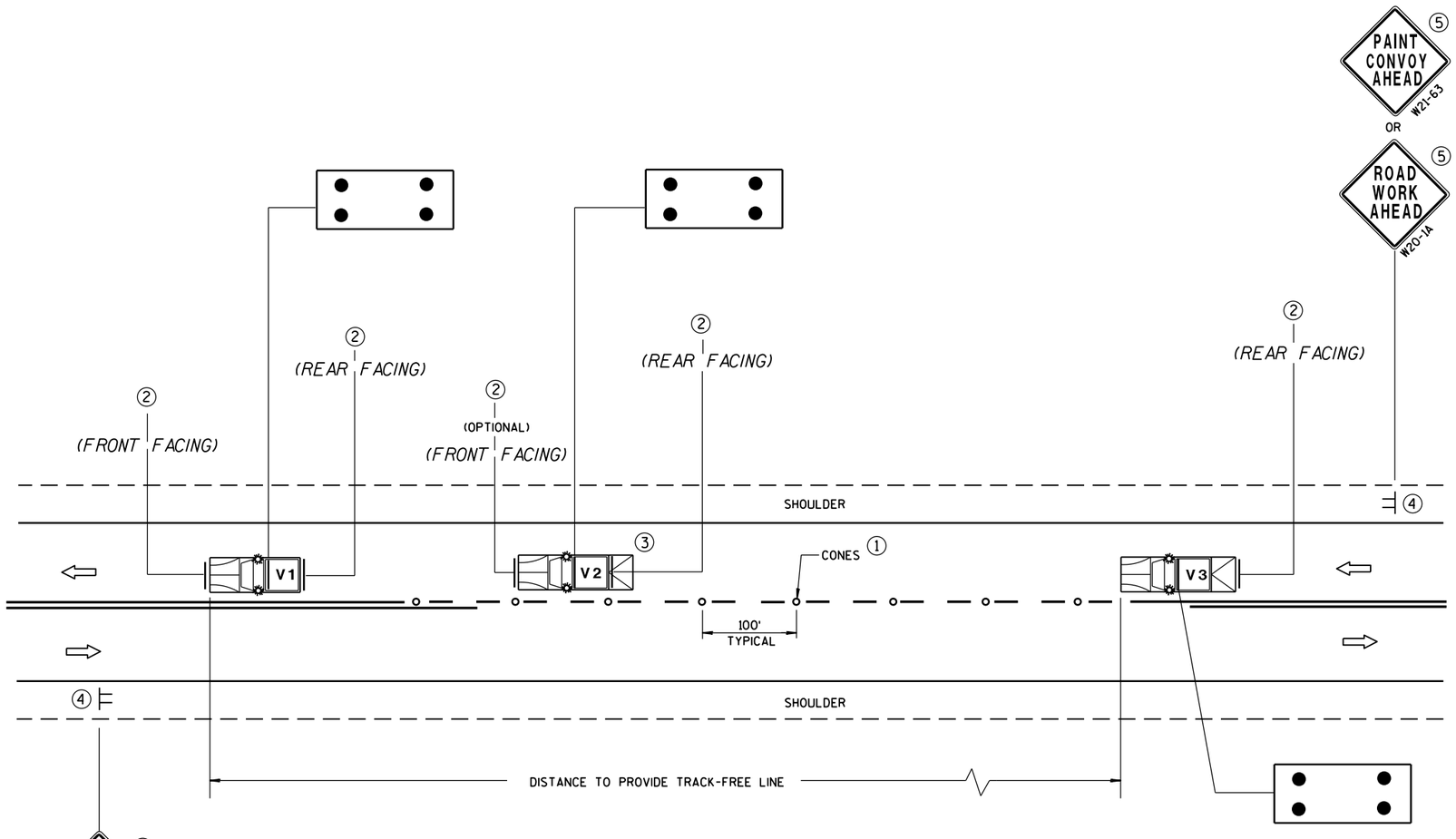
S.D.D. 15 C 8-17a



MOVING PAVEMENT MARKING OPERATIONS
TWO-LANE TWO-WAY ROADWAY

GENERAL NOTES

ALL VEHICLES SHALL BE EQUIPPED WITH TWO 360 DEGREE HIGH INTENSITY YELLOW FLASHING LIGHTS OR STROBE LIGHTS AND OPERATED WITH HEADLIGHTS TURNED ON.

VEHICLES SHALL BE EQUIPPED WITH REAR FACING TYPE B OR C FLASHING ARROW PANEL OPERATING IN CAUTION MODE. SIGNS PLACED ON VEHICLES MUST NOT OBSCURE THE ARROW PANEL.

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

IF SPEED LIMIT IS 40 MPH OR LESS STATIONARY SIGNS MAY BE OMITTED IF CONES ARE USED.

ALTERNATE SIGN MESSAGES, SUCH AS "PAINT CREW AHEAD" OR "ROAD PAINTING AHEAD" MAY BE USED.

DISTANCE BETWEEN VEHICLES MAY VARY ACCORDING TO TERRAIN, SIGHT DISTANCE, PAINT DRYING TIME, AND OTHER FACTORS. WHENEVER ADEQUATE STOPPING SIGHT DISTANCE EXISTS TO THE REAR, SHADOW VEHICLES SHOULD MAINTAIN THE MINIMUM DISTANCE FROM THE WORK VEHICLE AND PROCEED AT THE SAME SPEED AS THE WORK VEHICLE. SHADOW VEHICLES SHOULD SLOW DOWN IN ADVANCE OF VERTICAL OR HORIZONTAL CURVES THAT RESTRICT SIGHT DISTANCE.

THE WORK AND SHADOW VEHICLES SHOULD PULL OVER PERIODICALLY TO ALLOW TRAFFIC TO PASS.

THIS DRAWING SHALL BE USED FOR CENTERLINE OR EDGELINE MARKING.

WHEN NO WORK ACTIVITY IS TAKING PLACE, REMOVE OR TURN THE STATIONARY WARNING SIGNS AWAY FROM TRAFFIC.

(1) CONES MAY BE OMITTED ON PAINTED LINE IF APPROVED BY THE ENGINEER. CONSIDER PAVEMENT MARKING DRY OR CURE TIMES AND TRAFFIC VOLUME.

(2) USE STANDARD SIGN W21-64 WITH APPROPRIATE ARROW.

WET PAINT W21-64 OR WET PAINT W21-64

(3) OPTIONAL TRUCK-MOUNTED ATTENUATOR.

(4) SIGNS SHALL BE REPEATED APPROXIMATELY EVERY THREE MILES.

(5) IF CONSTRUCTION WORK ZONE SIGNS ARE IN PLACE, W20-1 OR W21-63 ARE NOT REQUIRED.

LEGEND

V1	LEAD VEHICLE
V2	SHADOW VEHICLE
V3	TRAIL VEHICLE WITH TMA
TMA	TRUCK-MOUNTED ATTENUATOR
	SIGN ON TEMPORARY SUPPORT
	DIRECTION OF TRAFFIC
	CONES
	FLASHING ARROW PANEL (CAUTION)

MOVING PAVEMENT MARKING OPERATION TWO-LANE TWO-WAY ROADWAY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION
APPROVED June 2016 — DATE /S/ Peter Amakobe Atepe — STATEWIDE WORK ZON SAFETY ENGINE FHWA

6

S.D.D. 15 C 19-4a

6

S.D.D. 15 C 19-4a

LEGEND

- SIGN ON PERMANENT SUPPORT
- REMOVING PAVEMENT MARKING
- TYPE III BARRICADE WITH ATTACHED SIGN
- CONCRETE BARRIER TEMPORARY PRECAST
- FLAGS, 16" x 16" MIN., (ORANGE)
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- ASPHALTIC PAVEMENT WIDENING
- DIRECTION OF TRAFFIC
- 4" X 6" WOOD POST
- TEMPORARY SIGNAL WITH BACKPLATE AND 12-INCH LENSES ON BREAKAWAY POLE

W057-52
36"x24"

INSTALL ON EACH APPROACH AT THE CLOSEST INTERSECTION WITH A STATE OR COUNTY TRUNK HIGHWAY, OR AS DIRECTED BY THE ENGINEER. WIDTH ON SIGN TO BE APPROX. 1-FOOT LESS THAN AVAILABLE WIDTH. (OMIT IF AVAILABLE WIDTH IS MORE THAN 16 FEET.)

GENERAL NOTES

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

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

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

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

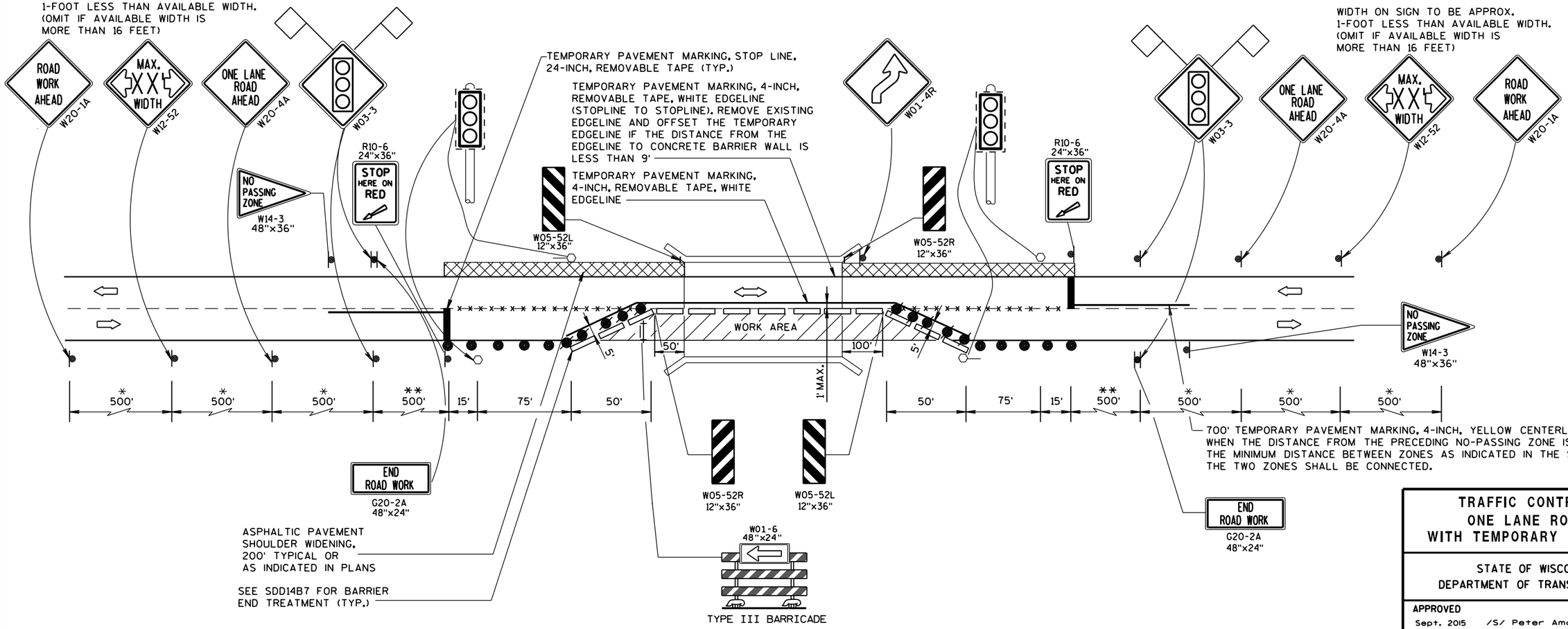
SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE FHWA'S MANUAL OF STANDARD HIGHWAY SIGNS OR THE WISCONSIN STANDARD SIGN PLATES.

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

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

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

** USE 300' SPACING IF PRE-CONSTRUCTION REGULATORY SPEED LIMIT IS 35 MPH OR LESS.



TRAFFIC CONTROL, ONE LANE ROAD WITH TEMPORARY SIGNALS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

Sept. 2015 — DATE

/S/ Peter Amakobe Atepe — STATEWIDE WORK ZONE SAFETY ENGINEER

FHWA

C

6

S.D.D. 15 D 33-4

6

S.D.D. 15 D 33-4

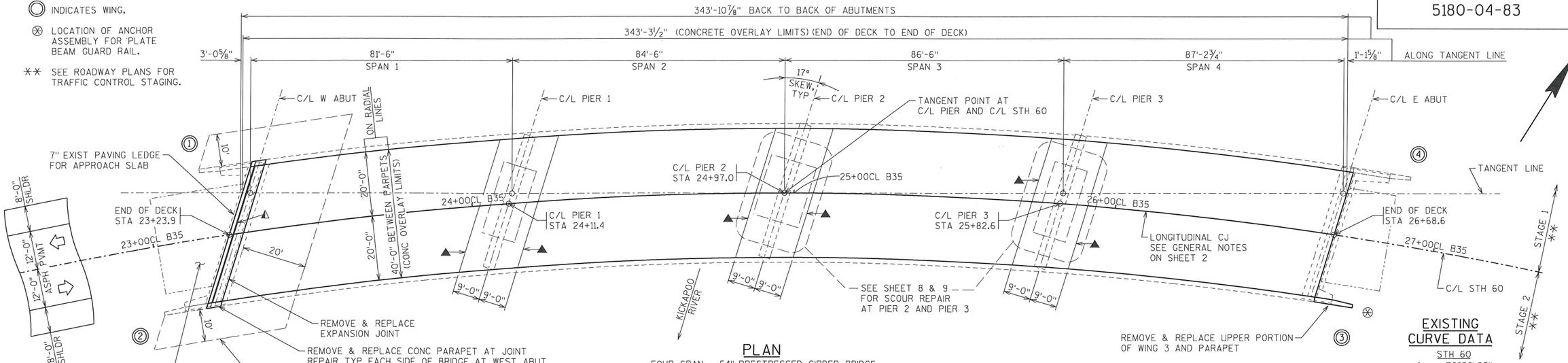
STATE PROJECT NUMBER

5180-04-83

◎ INDICATES WING.

⊛ LOCATION OF ANCHOR ASSEMBLY FOR 'PLATE BEAM GUARD RAIL.

✳✳ SEE ROADWAY PLANS FOR TRAFFIC CONTROL STAGING.



PLAN

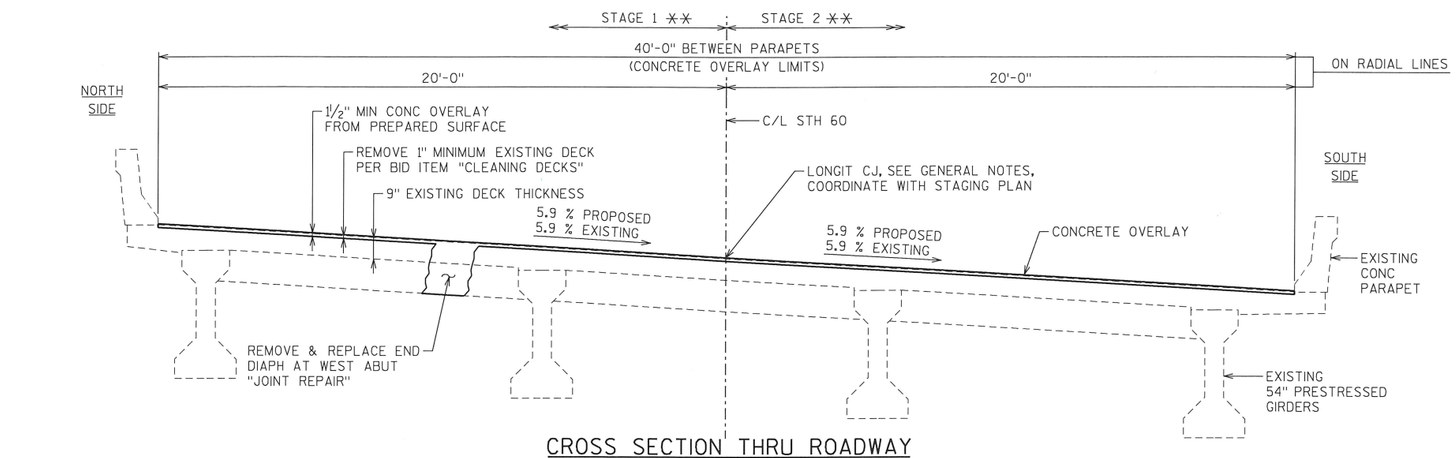
FOUR SPAN - 54" PRESTRESSED GIRDER BRIDGE
TOP OF DECK SHOWN

CAUTION CONTRACTOR TO DETERMINE EXACT EXISTING UTILITY LOCATIONS. ALL UTILITIES TO REMAIN IN SERVICE. COORDINATE WITH THE UTILITY COMPANIES.

EXISTING CURVE DATA

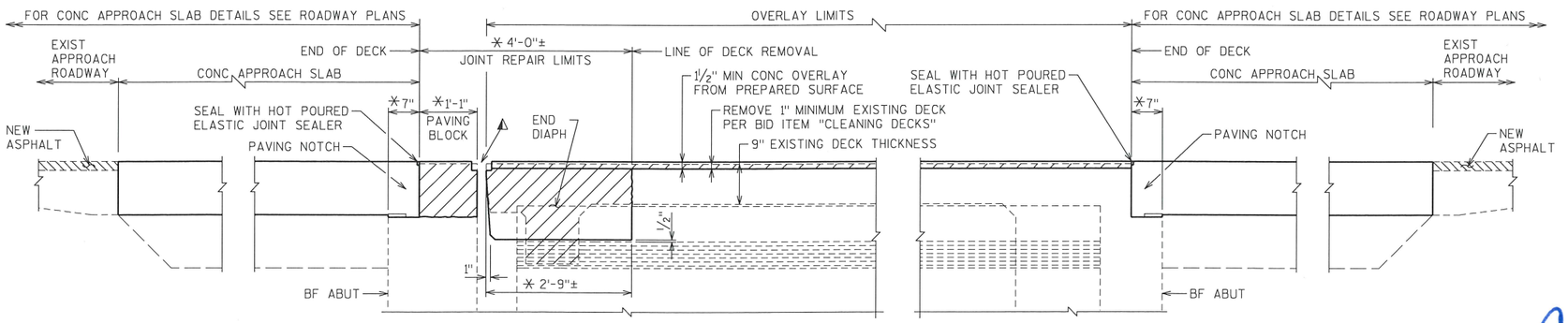
STH 60

Δ = 70°58' 03"
D = 5.00
T = 816.88'
L = 1419.35'
R = 1145.92'
SE = 5.9%



CROSS SECTION THRU ROADWAY

(LOOKING EAST)



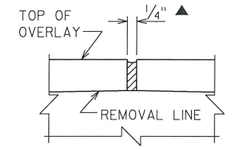
SECTION - JOINT REPAIR AT WEST END OF DECK

SECTION - JOINT REPAIR AT EAST END OF DECK

▨ INDICATES REMOVAL

✳DIMENSIONS GIVEN ARE NORMAL TO C/L OF SUBSTRUCTURE UNIT.

▲ STRIP SEAL EXPANSION DEVICE, (DESIGN OPENING)



TRANSVERSE JOINT

▲ ¼" SAW CUT FULL DEPTH OF OVERLAY.

PROVIDE HOT POURED ELASTIC JOINT SEALER.

HOLD ALL ⅛" BELOW SURFACE OF OVERLAY.

COST OF ALL ITEMS AND SAWING IS INCIDENTAL TO THE BID ITEM "CONCRETE MASONRY OVERLAY DECKS".

DESIGN DATA

LIVE LOAD:

DESIGN LOADING: HS-20
INVENTORY RATING HS-20
OPERATING RATING HS-33
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV) = 200 KIPS

MATERIAL PROPERTIES:

CONCRETE MASONRY - SUPERSTRUCTURE _____ f'c = 4,000 psi
- OVERLAY _____ f'c = 4,000 psi
- ALL OTHER _____ f'c = 3,500 psi

HIGH STRENGTH BAR STEEL REINFORCEMENT
AASHTO GRADE 60 _____ fy = 60,000 psi

LIST OF DRAWINGS

TRAFFIC DATA

ADT (2013) = 2000-2500
ADT (2033) = 2200-2800
DHV = 16.5
DD = 60/40
T = 19.6 %
DESIGN SPEED = 60 MPH

WISCONSIN CHRISTOPHER J. BLUM E-33157 MADISON WI PROFESSIONAL ENGINEER 6-21-17

SEH CONTACT: CHRIS BLUM, PE, 608.620.6192
WISDOT BRIDGE OFFICE CONTACT: BILL DREHER, PE, 608.266.8489

NO.	DATE	REVISION	BY

SEH
SHORT ELLIOTT HENDRICKSON INC.

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher SDR 08/01/17
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE B-12-35

STH 60 OVER KICKAPOO RIVER

COUNTY	TOWN/~~CITY/VILLAGE~~
CRAWFORD	WAUZEKA

DESIGN SPEC. REHABILITATION N/A

DESIGNED BY	NCK	DESIGN CK'D.	CJB	DRAWN BY	DLF	PLANS CK'D.	CJB

CONCRETE OVERLAY

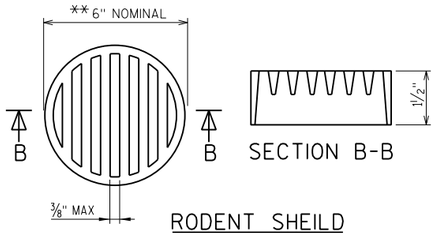
S 91 OF 10

8

8

PLOT TIME: 2:31:48 PM
PLOT DATE: 6/2/2017
FILE NAME : S:\UZ\W\Witsw\140521\4-prelim-dsgn-rpts\43-prelim-dsgn\CAD\B-12-35\dgn\bi2035gl.dgn

STATE PROJECT NUMBER
5180-04-83

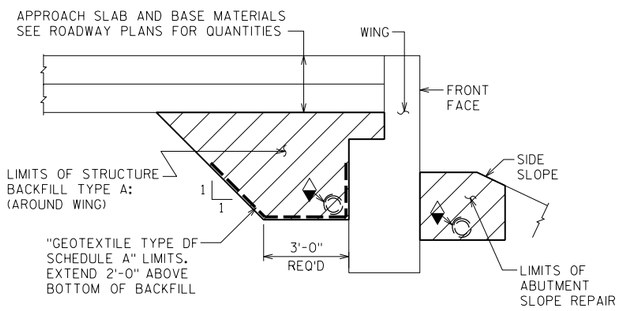


RODENT SHEILD

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

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

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



BACKFILL STRUCTURE LIMITS AT WING 3

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

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

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

ALL STATIONS AND ELEVATIONS ARE IN FEET.

ALL DIMENSIONS ARE IN FEET AND INCHES UNLESS OTHERWISE NOTED.

STATIONING MAY VARY BASED ON EXACT LOCATION OF BRIDGE TO PROPOSED ALIGNMENT.

DIMENSIONS AND STATIONING SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS AND INSPECTION REPORTS. EXISTING BRIDGE PLANS AVAILABLE AT WISDOT.

CONTRACTOR TO DETERMINE EXACT EXISTING UTILITY LOCATIONS. ALL UTILITIES TO REMAIN IN SERVICE. COORDINATE WITH THE UTILITY COMPANIES.

APPROACH SLABS DESIGN, PLANS AND QUANTITY ARE ROADWAY PLANS ITEM.

ANY EXCAVATION REQUIRED TO COMPLETE THE OVERLAY OR APPROACH SLAB AT THE ABUTMENTS, TO BE CONSIDERED INCIDENTAL TO THE BID ITEM "CONCRETE MASONRY OVERLAY DECKS". EXCAVATION FOR THE SE WINGWALL REPAIRS IS CONSIDERED "EXCAVATION FOR STRUCTURES BRIDGES B-12-35".

THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES BRIDGES B-12-35" SHALL BE THE EXISTING GROUNDLINE.

AT THE BACKFACE OF ABUTMENTS ALL VOLUME WHICH CANNOT BE PLACED BEFORE WINGWALL CONSTRUCTION AND IS NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH STRUCTURE BACKFILL.

A MINIMUM OF 1-INCH OF CONCRETE SHALL BE REMOVED FROM THE ENTIRE BRIDGE DECK UNDER THE BID ITEM "CLEANING DECKS". CONTRACTOR TO VERIFY COMPLETENESS OF REMOVALS WITH THE FIELD ENGINEER.

LONGITUDINAL CONSTRUCTION JOINT IN OVERLAY MAY BE USED. LOCATION TO BE DETERMINED BY THE FIELD ENGINEER. COORDINATE WITH STAGING PLANS.

PREPARATION DECKS TYPE 1, PREPARAION DECKS TYPE 2, AND FULL-DEPTH DECK REPAIR AREAS ARE BASED ON THE PLANS AND AS DETERMINED, LOCATED, MARKED AND MEASURED BY THE FIELD ENGINEER. DECK PREPARATION AND FULL-DEPTH DECK PREPAIRS SHALL BE FILLED WITH "CONCRETE MASONRY OVERLAY DECKS".

GROUND PENETRATING RADAR FOR INFORMATION ONLY.

BOTTOM OF THE EXISTING DECK WILL BE INSPECTED FOR AREAS OF FULL-DEPTH DECK REPAIR PRIOR TO DECK PREPARATION OPERATIONS.

BOTTOM OF THE EXISTING DECK IS TO BE INSPECTED FOR AREAS OF DISTRESS AFTER COMPLETION OF THE DECK PREPARTION AND PRIOR TO OVERLAYING THE BRIDGE.

ALL CONCRETE REMOVAL NOT COVERED WITH A CONCRETE OVERLAY SHALL BE DEFINED BY A 1-INCH DEEP SAW CUT.

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

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

THE FIRST DIGIT OF A THREE DIGIT BAR MARK OR THE FIRST TWO DIGITS OF A FOUR DIGIT BAR MARK SIGNIFIES THE BAR SIZE.

PROFILE GRADE LINE SHALL BE DETERMINED IN THE FIELD BASED ON A MINIMUM OVERLAY THICKNESS OF 1½" PLACED ABOVE THE DECK SURFACE AFTER SURFACE PREPARATION. EXPECTED AVERAGE OVERLAY THICKNESS IS 2". IF EXPECTED AVERAGE OVERLAY THICKNESS IS EXCEEDED BY MORE THAN ½", CONTACT THE STRUCTURES DESIGN SECTION.

EXPANSION JOINT ASSEMBLY, INCLUDING ANCHOR STUDS AND HARDWARE SHALL BE PAID FOR IN THE LUMP SUM PRICE BID AS "EXPANSION DEVICE B-12-35"

AFTER DECK CLEANING OPERATIONS, CLEAN AND FILL EXISTING DECK CRACKS WITH LOW VISCOSITY CRACK SEALER PER SECTION 502.2.11 AS DIRECTED BY THE FIELD ENGINEER. COST IS INCIDENTAL TO BID ITEM " CONCRETE MASONRY OVERLAY DECKS".

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

SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF ½" FILLER WITH NON-BITUMINOUS JOINT SEALER PER SECTION 502.209 (1" DEEP & HOLD ⅛" BELOW SURFACE OF CONCRETE).

BEVEL EXPOSED EDGES OF CONCRETE ¾" UNLESS OTHERWISE NOTED.

AT THE EAST END OF BRIDGE DECK, THE DECK JOINT IS COMPRISED OF A FILLER AND SEALANT, THERE IS NO STRIP SEAL OR COVER PLATED EXPANSION JOINT.

CONTRACTOR TO CLEAN AND PAINT EXISTING BEARINGS AT WEST ABUTMENT IN PLACE.

TOTAL ESTIMATED QUANTITIES - B-12-35

	BID ITEM NUMBER	BID ITEMS	UNIT	TOTALS
(1)	203.0200	REMOVING OLD STRUCTURE STA 24+97.00	LS	1
	206.1000	EXCAVATION FOR STRUCTURES BRIDGES B-12-35	LS	1
(4)	210.1500	BACKFILL STRUCTURE TYPE A	TON	60
	492.2010.S	SEALING CRACKS AND JOINTS WITH HOT-APPLIED SEALANT	GAL	0.5
(2)	502.0100	CONCRETE MASONRY BRIDGES	CY	6
	502.3100	EXPANSION DEVICE B-12-35	LS	1
(11)	502.3200	PROTECTIVE SURFACE TREATMENT	SY	1550
(11)	502.3210	PIGMENTED SURFACE SEALER	SY	320
	502.4204	ADHESIVE ANCHORS NO. 4 BAR	EA	4
	502.4205	ADHESIVE ANCHORS NO. 5 BAR	EA	54
	502.4206	ADHESIVE ANCHORS NO. 6 BAR	EA	7
	505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	85
	505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	2175
	509.0301	PREPARATION DECKS TYPE 1	SY	16
	509.0302	PREPARATION DECKS TYPE 2	SY	63
(5)	509.0500	CLEANING DECKS	SY	1535
	509.1000	JOINT REPAIR	SY	20
(13)	509.1500	CONCRETE SURFACE REPAIR	SF	1
(13)	509.2000	FULL-DEPTH DECK REPAIR	SY	1
(3)	509.2500	CONCRETE MASONRY OVERLAY DECKS	CY	85
(12)	509.9050.S	CLEANING PARAPETS	LF	750
	516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	3
(10)	612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	30
	614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	EA	1
	645.0111	GEOTEXTILE TYPE DF SCHEDULE A	SY	20
(7)	SPV.0035.01	SCOUR REPAIR, GROUT	CY	21
(8)	SPV.0035.02	SCOUR REPAIR, GROUT BAGS	CY	77
(9)	SPV.0035.03	SCOUR REPAIR, GROUT MATS	CY	45
(6)	SPV.0060.01	CLEANING AND PAINTING BEARINGS	EA	4
	SPV.0165.01	ARTICULATING BLOCK FABRICATION MAT SLOPE REPAIR	SF	1575
		NON-BID ITEMS		
		FILLER	SIZE	½" & ¾"

QUANTITIES NOTES

(1) PERTAINS TO WINGWALL 3 REPAIR UPPER PORTION ONLY AS SHOWN IN PLAN.

(2) CONCRETE FOR WINGWALL REPAIR PORTION.

(3) CONCRETE FOR:
* PREPARATION DECKS TYPE 1 & 2, *FULL-DEPTH DECK REPAIR.
AND JOINT REPAIR INCLUDING PAVING BLOCK, OVERLAY AND PARAPET.

(4) A FACTOR OF 2.0 WAS USED TO CONVERT CU YDS TO TONS.

(5) BASED ON 1" DEEP BY LIMITS OF OVERLAY.

(6) BID ITEM IS FOR WEST ABUTMENT EXPANSION BEARINGS. SEE SPECIFICATIONS.

(7) GROUT TO FILL VOIDS UNDER FOOTING/SEAL.

(8) GROUT THAT MAKES UP THE GROUT BAG. TYPICAL GROUT BAG IS 3' WIDE X 4' LONG X 1'-0" MAX THICKNESS.

(9) GROUT THAT MAKES UP THE GROUT MAT. TYPICAL GROUT MAT IS 8-INCHES THICK.

(10) INCLUDES RODENT SHIELD FOR PIPE UNDERDRAIN PER SDD 8F6-4.

(11) APPLY A PROTECTIVE SURFACE TREATMENT TO TOP OF BRIDGE DECK, TOP OF APPROACH SLAB NOTCH AND, TOP OF APPROACH SLABS. APPLY PIGMENTED SURFACE SEALER TO TOP, END AND INSIDE FACES OF PARAPET. APPLICATION AND QUANTITY FOR PROTECTIVE SURFACE TREATEMENT ON APPROACH SLABS ARE CONSIDERED INCIDENTAL TO BRIDGE BID ITEM "PROTECTIVE SURFACE TREATEMENT".

(12) INCLUDES PARAPETS ON WINGWALLS.

(13) UNDISTRIBUTED AMOUNT.

* THESE QUANTITIES TOTALS ARE AN ESTIMATE AND ARE INCLUDED IN BID ITEM "CONCRETE MASONRY OVERLAY, DECKS".

-PREPARATION DECKS TYPE 1 = 1.0 CY
-PREPARATION DECKS TYPE 2 = 5.0 CY
-FULL-DEPTH DECK REPAIR = 0.1 CY

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-12-35

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NOTES AND QUANTITIES

SHEET 2 OF 10

92

8

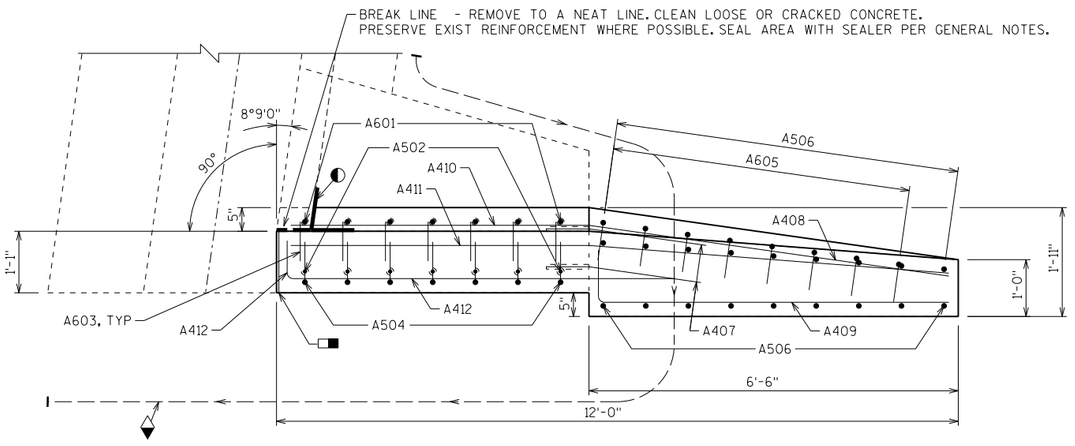
8

PLOT DATE: 6/21/2017 PLOT TIME: 2:31:48 PM

FILE NAME : S:\UZ\W\Wi+sw\14052\14-prelim-dsgn-rpts\43-prelim-dsgn\CAD\B-12-35\dgn\bl2035g2.dgn

STATE PROJECT NUMBER

5180-04-83



PLAN - WING 3

NOTES:

1. REMOVE TO EXIST CJ AND REMOVE LOOSE OR CRACKED CONCRETE. ROUGHEN AND CLEAN SURFACE. PLACE NEW CONC ABOVE THIS JT AND REPAIR AREAS. SAVE EXIST REINF AND INCORP INTO NEW WALL WHERE POSSIBLE. (HATCHED AREA INDICATES POSSIBLE CRACKED OUT AREAS).
2. ½" FILLER. INCLUDED IN WING LENGTH. EXTEND FROM TOP OF SEAT TO TOP OF WING, AND PARAPET.
3. 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZ & VERT JOINTS ON BACKFACE.
4. ▲ PLACE BOTTOM HALF OF RUBBERIZED MEMBRANE WATERPROOFING (RMW) HORIZ IN THIS AREA.
5. ◆ PIPE UNDERDRAIN WRAPPED (6-INCH) SLOPE 0.5% MIN TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE.

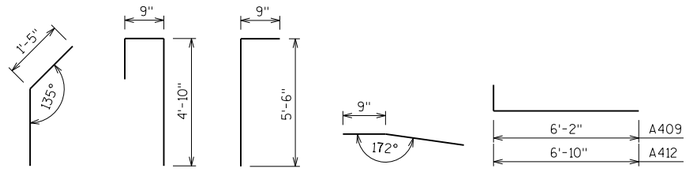
NOTE: THE FIRST DIGIT OF THE BAR MARK SIGNIFIES THE ENGLISH BAR DIAMETER SIZE.

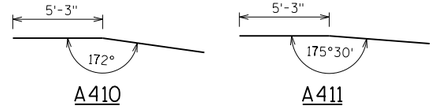
DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT.

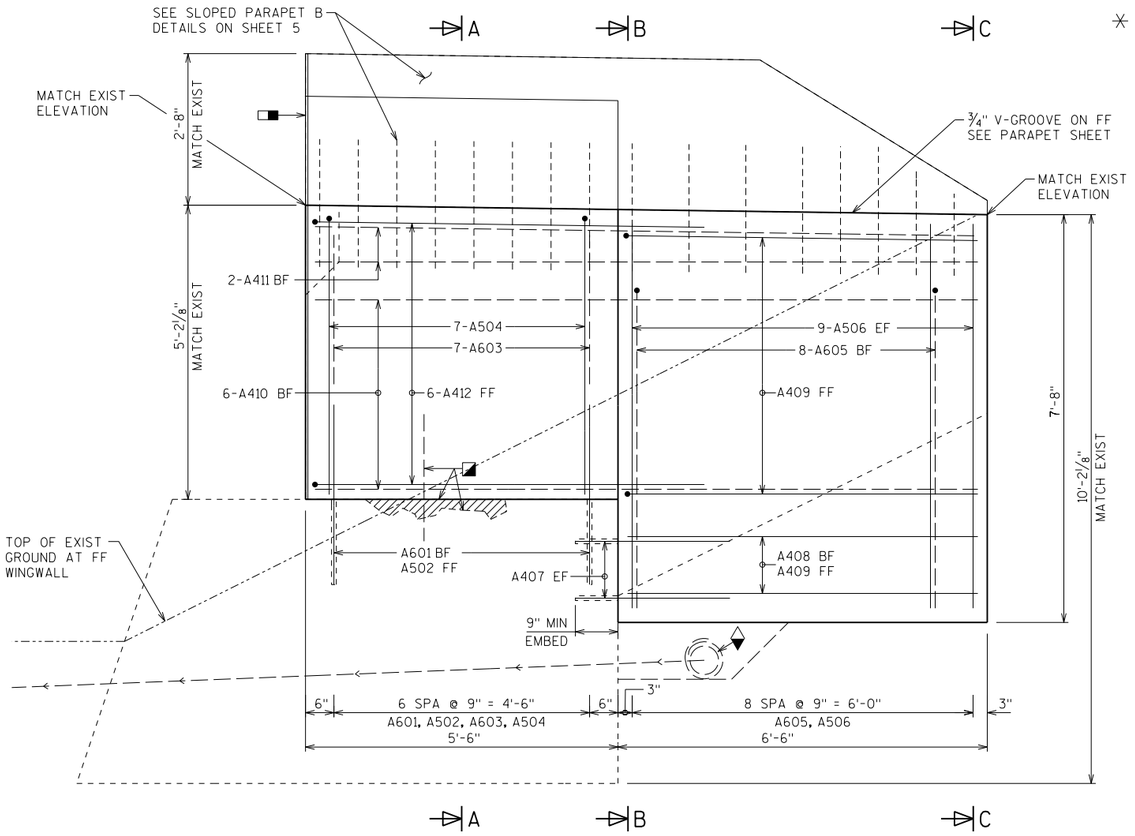
BILL OF BARS — WING 3

	BAR MARK	COAT	NO. REQ'D.	LENGTH (FT-IN)	BAR SERIES	BENT	LOCATION
▲	A601		7	4 - 10			VERT DWL BF
▲	A502		7	3 - 2			VERT DWL FF
	A603	X	7	3 - 9		X	VERT BF
	A504	X	7	7 - 6		X	VERT FF
	A605	X	8	6 - 2		X	VERT BF
	A506	X	18	7 - 2			VERT EF
▲	A407		4	2 - 9		X	HORIZ DWL EF
	A408	X	2	6 - 2			HORIZ BF
	A409	X	8	7 - 1		X	HORIZ FF
	A410	X	6	11 - 7		X	HORIZ BF
	A411	X	2	11 - 7		X	HORIZ BF AT TOP
	A412	X	6	7 - 5		X	HORIZ FF

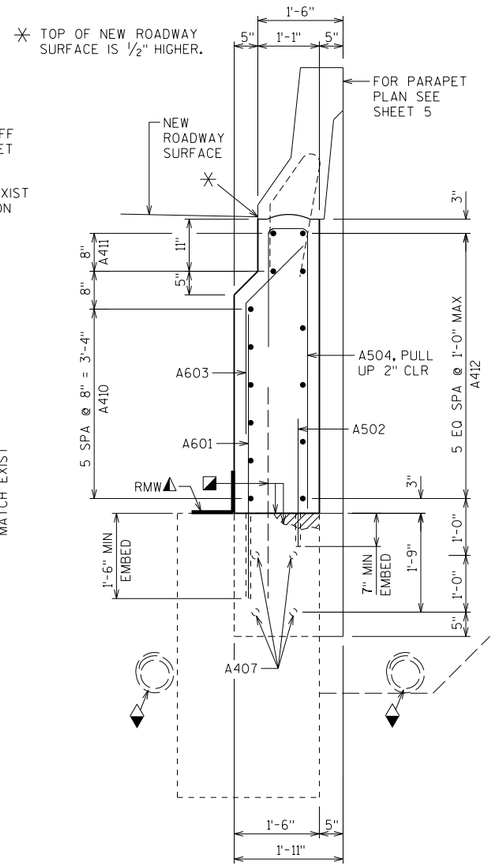
▲ ADHESIVE ANCHORS



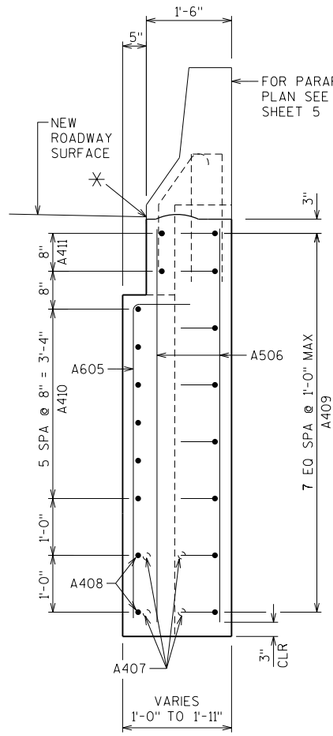




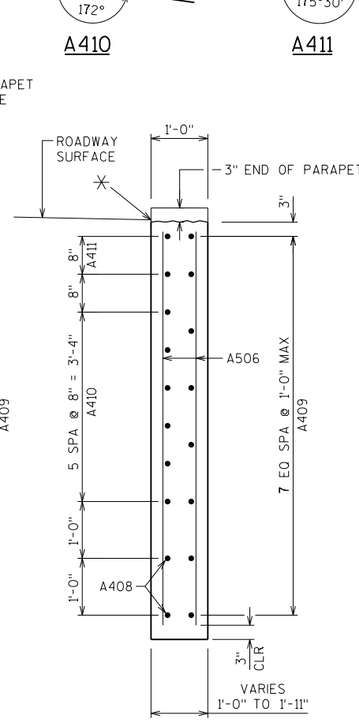
ELEVATION - WING 3



SECTION A



SECTION B



SECTION C

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-12-35

DRAWN BY DLF | PLANS CK'D. CJB

WINGWALL REPAIR DETAILS

SHEET 3 OF 10

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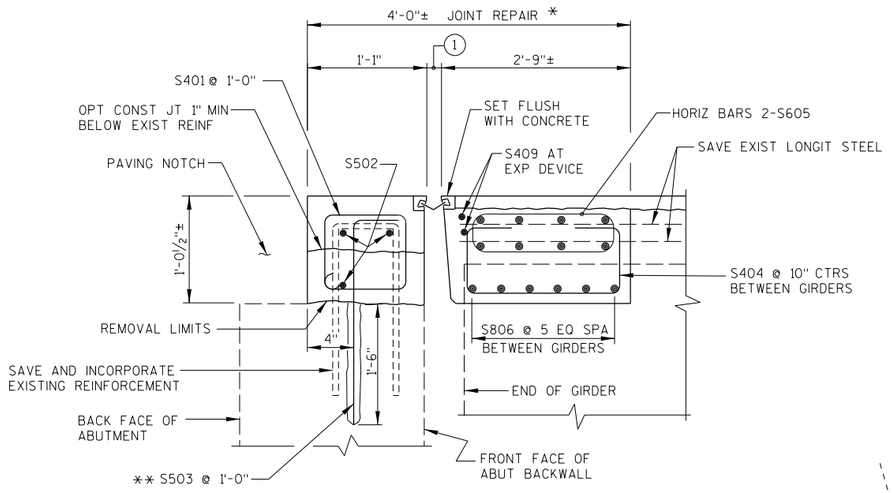
PLOT TIME: 2:31:49 PM

PLOT DATE: 6/21/2017

FILE NAME : S:\UZ\W\Wi+sw\14052\14-prelim-dsgn-rpts\43-prelim-dsgn\CAD\B-12-35\dgn\bl2035di.dgn

(1) SET NEW JOINT ACCORDING TO TEMPERATURE TABLE ON SHEET 6



SECTION THRU PROPOSED JOINT
NORMAL TO ℄ SUBSTRUCTURE

* CONCRETE USED IN THE JOINT REPAIR AREA IS INCLUDED AND PAID FOR IN THE BID ITEM "CONCRETE MASONRY OVERLAY DECKS".

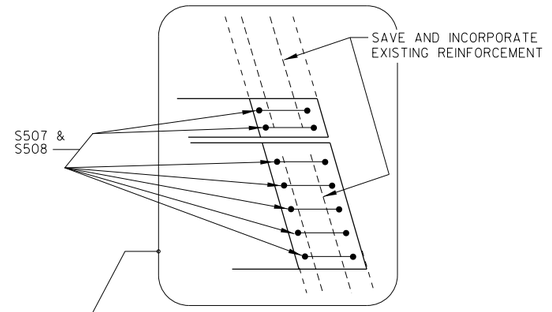
** ADHESIVE ANCHORS NO. 5 BAR, EMBED 1'-6" IN CONCRETE. SPACE AT 1'-0', TURN 10" LEG AS NECESSARY TO FIT.

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

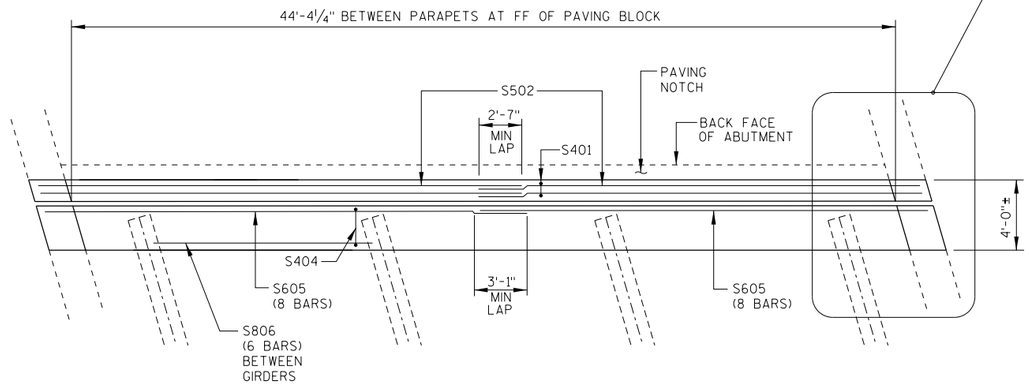
BILL OF BARS

BAR MARK	COAT	NO REQ'D	LENGTH (FT-IN)	BAR SERIES	BENT	LOCATION
S401	X	45	2 - 9		X	PAVING BLK VERT STIRRUP
S502	X	6	24 - 4			PAVING BLK HORIZ
▲ S503	X	47	3 - 1		X	PAVING BLK DOWEL
S404	X	39	3 - 11		X	JOINT TRANS
S605	X	16	24 - 7			JOINT HORIZ
S806	X	18	9 - 8			DIAPH STEEL
S507	X	14	4 - 10		X	PARAPET VERT
S508	X	14	4 - 3		X	PARAPET VERT
S409	x	6	12 - 0			AT DEVICE BET GIRDERS

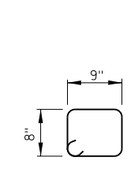
▲ ADHESIVE ANCHORS



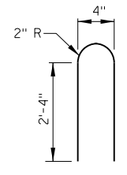
TYPICAL BOTH SIDES OF DECK



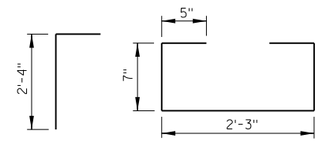
PLAN AT WEST ABUTMENT
(AT WEST END OF DECK)



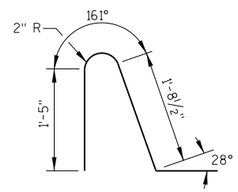
S401



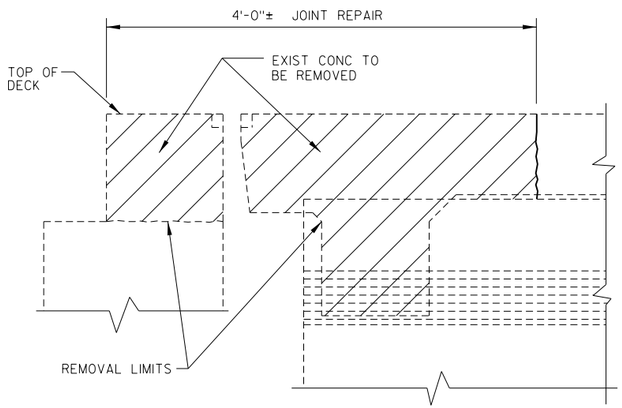
S507



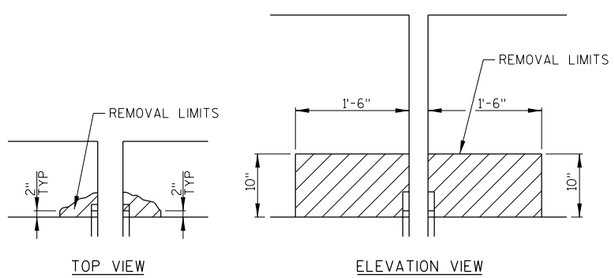
S503 S404



S508



JOINT REPAIR-REMOVAL
NORMAL TO C/L SUBSTRUCTURE



TOP VIEW ELEVATION VIEW

ALTERNATE CONCRETE REMOVAL DETAIL AT EXISTING PARAPET

NOTES:

SAWCUTS SHALL NOT INTERFERE WITH EXISTING REINFORCEMENT

COST SHALL BE INCLUDED IN JOINT REPAIR

GALVANIZED JOINT PLATE AT PARAPETS SHALL NOT BE USED. JOINT TO REMAIN EXPOSED AT PARAPET.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-12-35

DRAWN BY DLF | PLANS CK'D. CJB

JOINT REPAIR DETAILS

SHEET 4 OF 10
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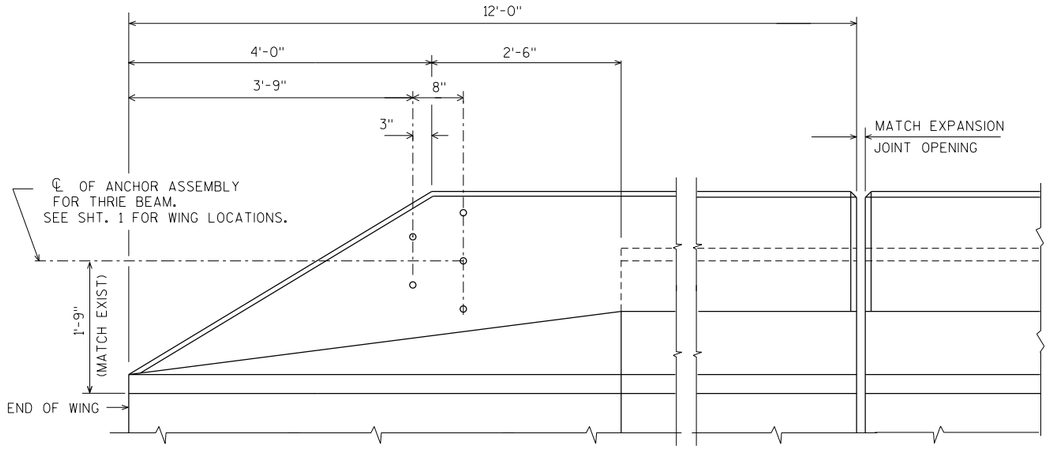
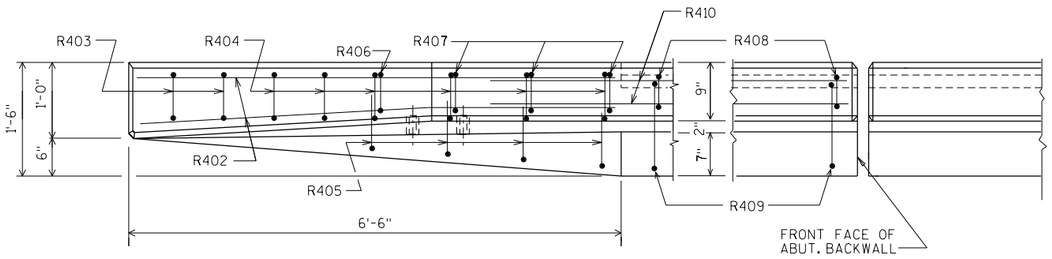
STATE PROJECT NUMBER

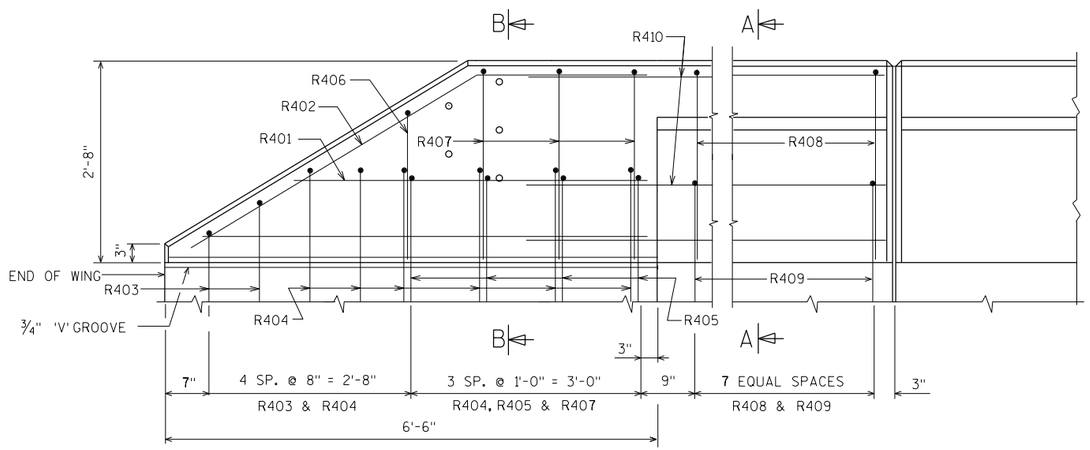
5180-04-83



INSIDE ELEVATION - WING 3



PLAN - WING 3

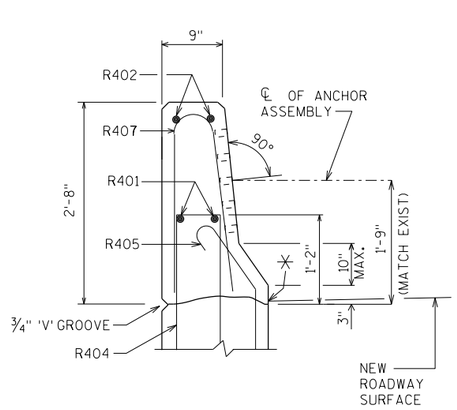


OUTSIDE ELEVATION - WING 3

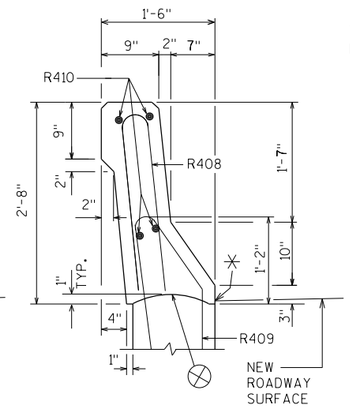
SEE SHEET 1 FOR ORIENTATION OR VIEW

⊗ CONST. JOINT - STRIKE OFF AS SHOWN AND LEAVE ROUGH

✳ TOP OF NEW ROADWAY SURFACE IS ½" HIGHER.



SECTION B



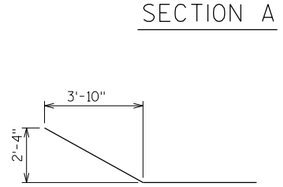
SECTION A

BILL OF BARS

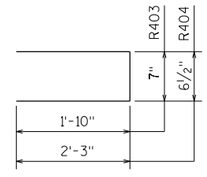
FOR ABUTMENT PARAPET AT WING 3

THE FIRST DIGIT OF THE BAR MARK SIGNIFIES THE BAR SIZE.
EPOXY COAT ALL PARAPET REINF.

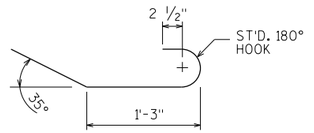
BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	LOCATION
R401	X	2	4 - 6		WING 3
R402	X	2	6 - 8	X	WING 3
R403	X	2	4 - 1	X	WING 3
R404	X	6	4 - 11	X	WING 3
R405	X	4	3 - 1	X	WING 3
R406	X	1	4 - 0	X	WING 3
R407	X	3	5 - 0	X	WING 3
R408	X	12	4 - 10	X	WING 3
R409	X	12	4 - 7	X	WING 3
R410	X	4	7 - 6		WING 3



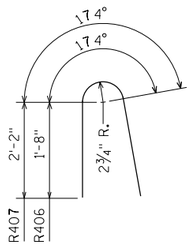
R402



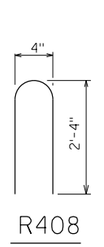
R403, R404



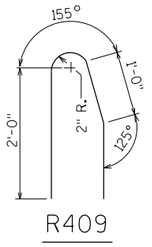
R405



R406, R407



R408



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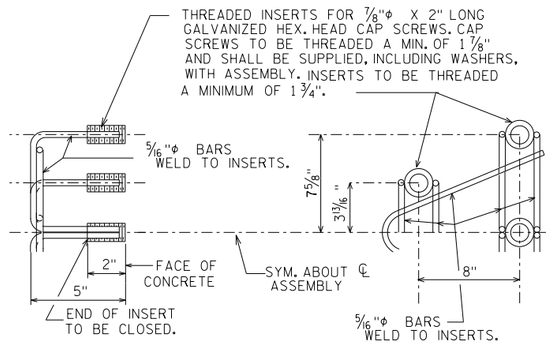

DETAIL OF ANCHOR ASSEMBLY

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

NOTE:
THIS SLOPED FACE PARAPET B SHEET IS FROM THE EXISTING PLAN DETAILS FOR WING 3 OR BRIDGE B-12-35 MODIFIED WITH THE THRIE BEAM GUARD RAIL ANCHOR ASSEMBLY

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-12-35

DRAWN BY DLF | PLANS CK'D. CJB

SLOPED FACE PARAPET B

SHEET 5 OF 10

95

PPTB
07-11

8

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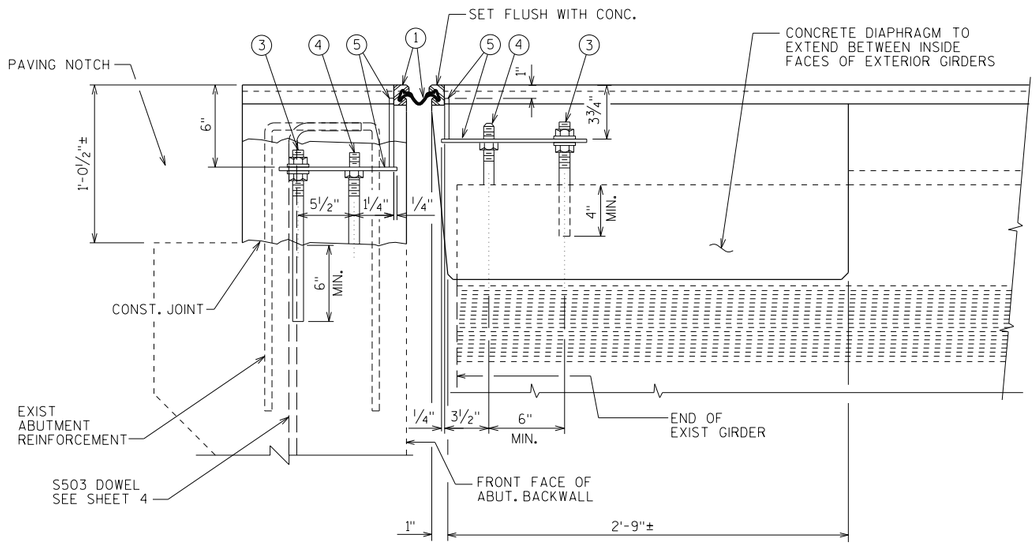
PLOT TIME: 2:31:49 PM

PLOT DATE: 6/21/2017

FILE NAME : S:\UZ\WW\Wi\sw\14052\l4-prelim-dsgn-rpts\43-prelim-dsgn\CAD\B-12-35\dgn\bl2035pptb.dgn



SECTION THRU JOINT AT ABUTMENT

NORMAL TO ℄ SUBSTRUCTURE

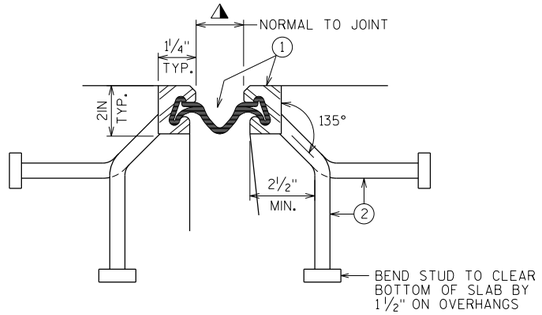
⚠ TEMPERATURE TABLE

SHADED UNDERSIDE DECK TEMP. (°F)	JOINT OPENING (IN.) (NORMAL TO JT.)
90°	1¾"
80°	2"
70°	2³⁄₁₆"
60°	2⅛"
50°	2⅝"
45°	2¾"
40°	2⅞"
30°	3⅛"

A SMALL JOINT OPENING DUE TO A HIGH TEMPERATURE AT TIME OF CONSTRUCTION MAY REQUIRE NEOPRENE STRIP SEAL INSTALLATION INTO STEEL EXTRUSIONS PRIOR TO SETTING THE EXPANSION JOINT.

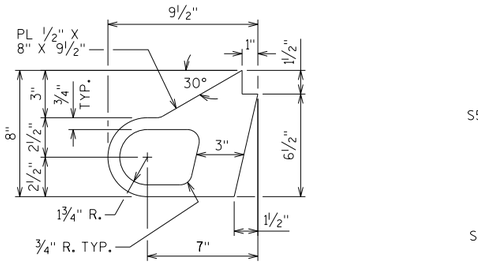
LEGEND

1. NEOPRENE STRIP SEAL (4" - INCH) AND STEEL EXTRUSIONS.
2. STUDS ⅝"Φ X 6¾" LONG AT 6" ALTERNATE CENTERS. WELD TO EXTRUSIONS AND 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 PLATE TO NO. 1 AT 1'-6" CENTERS BETWEEN GIRDERS.
3. ¾" Φ THREADED ROD WITH 2 NUTS AND PLATE WASHERS. GROUT THREADED ROD INTO FIELD DRILLED HOLES ON ℄ OF GIRDER. 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 AND 1" Φ HOLE FOR NO. 4.
6. GALVANIZED PLATE ⅜" X 1'-2" X 2'-0" LONG WITH HOLES FOR NO. 7. BEND AS SHOWN.
7. ¾"Φ X 1½" STAINLESS STEEL SOCKET FLAT HEAD SCREWS WITH ANTI-SEIZE LUBRICANT. PLACE IN COUNTERSUNK HOLE. 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 COUNTERSUNK HOLE FOR NO. 7. PLACE SLOT PARALLEL TO DIRECTION OF MOVEMENT.

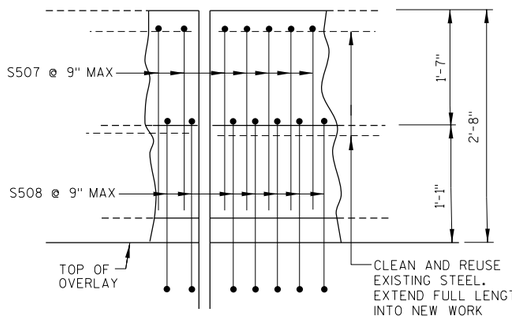


SECTION THRU JOINT

EXTERIOR GIRDER TO EDGE OF DECK AND AT PARAPETS

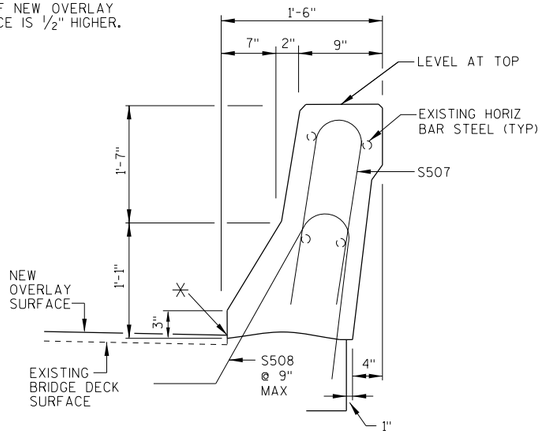


ALTERNATE STRIP SEAL ANCHOR



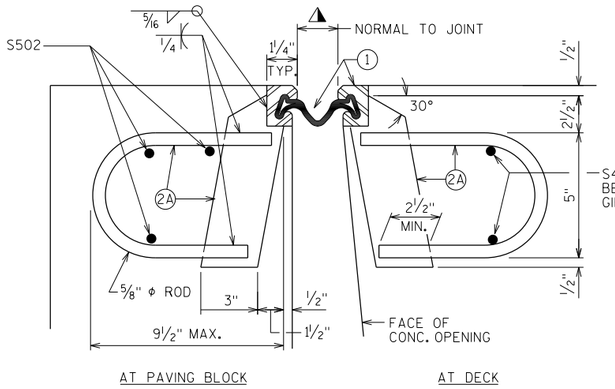
PARAPET ELEVATION

✳ TOP OF NEW OVERLAY SURFACE IS ½" HIGHER.



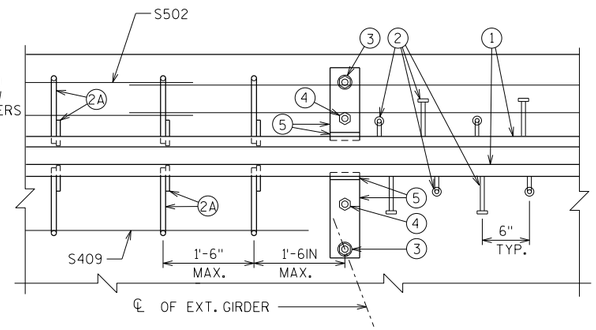
SECTION THROUGH PARAPET

REMOVE AND REPLACE PARAPET IN AREA OF JOINT REPAIR AS NEEDED TO INSTALL EXPANSION DEVICE. WORK TO BE INCLUDED IN BID ITEM "JOINT REPAIR". UTILIZE EXISTING BAR STEEL AS POSSIBLE.



SECTION THRU JOINT

ROADWAY TRAFFIC AREA BETWEEN EXTERIOR GIRDERS.



PART PLAN

NOTES

ONE FIELD SPLICE PERMITTED IN STEEL EXTRUSIONS, UNLESS MORE ARE REQUIRED FOR STAGED CONSTRUCTION, HANDLING OR GALVANIZING REQUIREMENTS. IF USED, DETAILS SHALL BE SUBMITTED FOR APPROVAL. NO SPLICING PERMITTED IN NEOPRENE STRIP SEAL.

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

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

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

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

STRIP SEAL EXPANSION JOINT ASSEMBLY, INCLUDING ANCHOR STUDS AND HARDWARE WILL BE PAID FOR AT THE LUMP SUM PRICE BID FOR "EXPANSION DEVICE B-12-35".

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-12-35

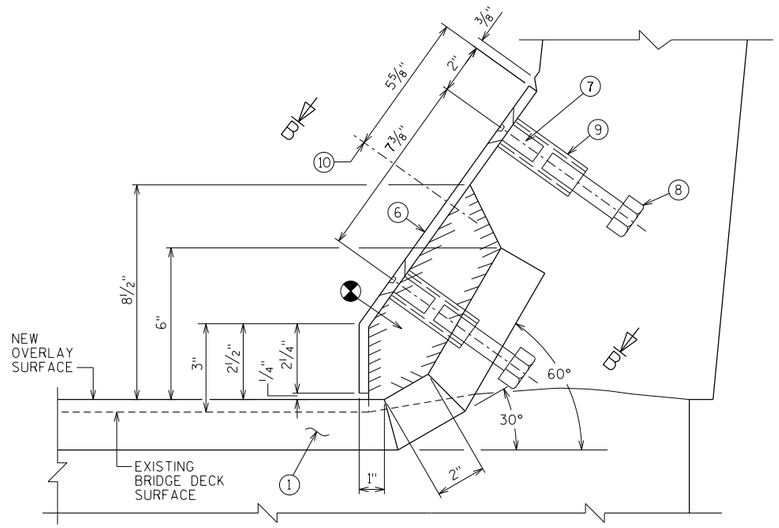
DRAWN BY DLF | PLANS CK'D. CJB

EXPANSION DEVICE

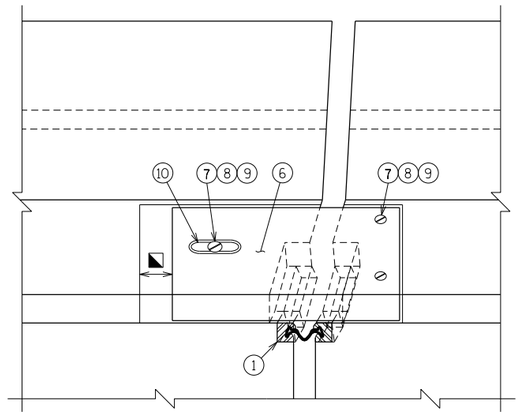
SHEET 6 OF 10
96

JTSS_SLPFAC
1-14

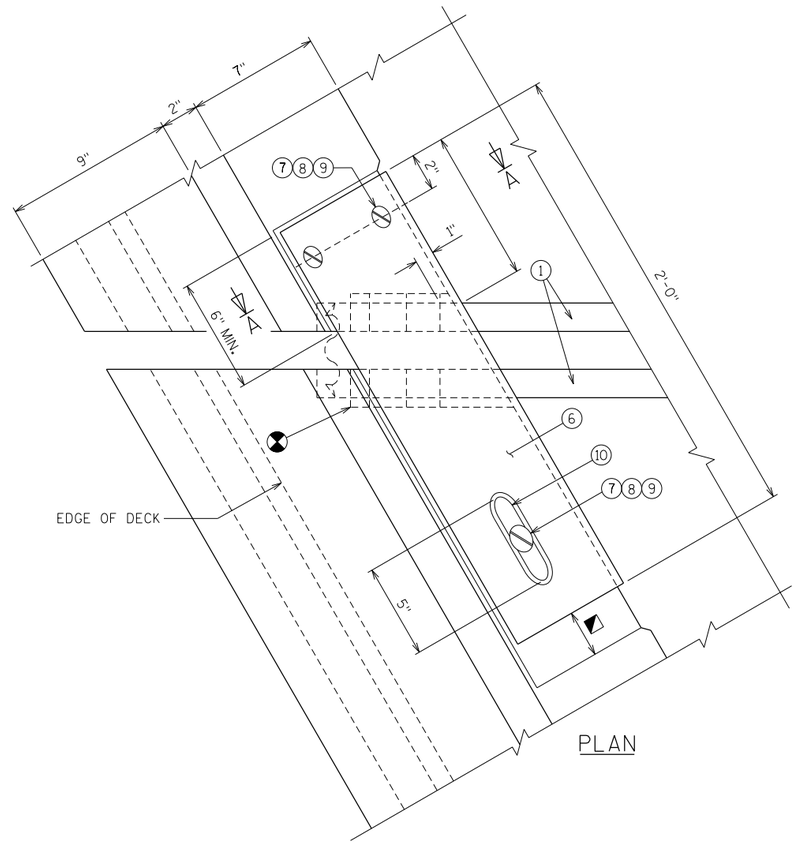
STATE PROJECT NUMBER
5180-04-83



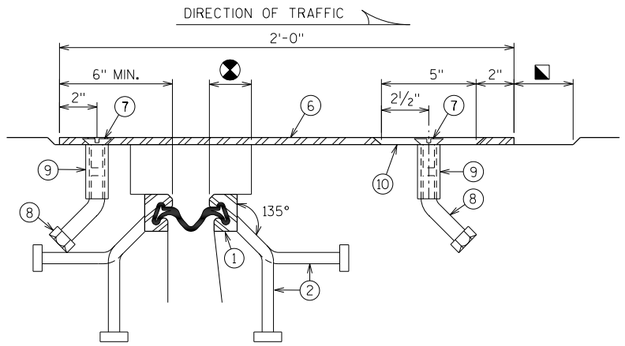
SECTION A-A



VIEW OF PARAPET PLATE
FROM ROADWAY



PLAN



SECTION B-B

⊠ BLOCK OUT CONCRETE 2" EACH SIDE OF JOINT OPENING.

◪ JOINT OPENING DIMENSION ALONG SKEW PLUS 1/2".

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-12-35

DRAWN BY	DLF	PLANS CK'D.	CJB

COVER PLATE DETAILS

SHEET 7 OF 10

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JTSS_SLPFAC
1-14

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PLOT DATE: 6/21/2017 PLOT TIME: 2:31:50 PM
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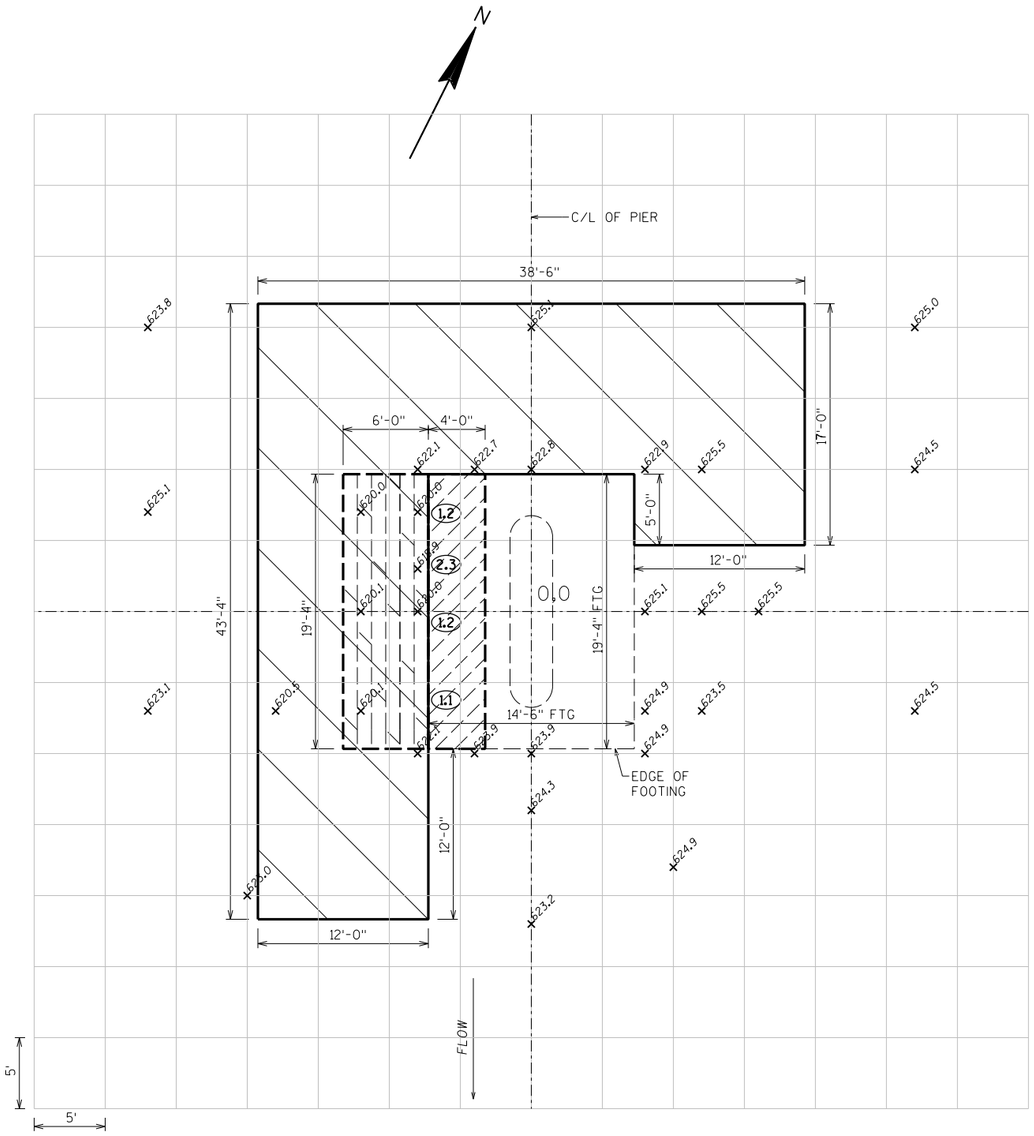
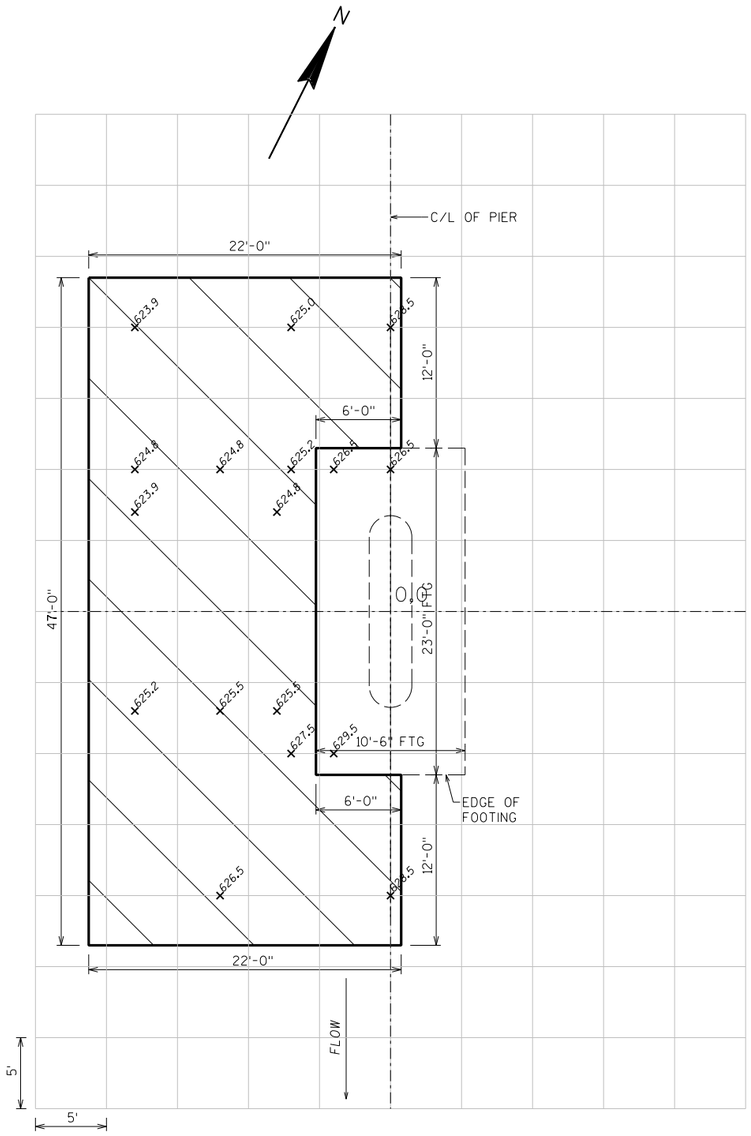
STATE PROJECT NUMBER
5180-04-83



PLAN AT PIER 2 FOOTING

SEE SHEET 9 FOR ADDITION DETAILS



PLAN AT PIER 3 FOOTING

SEE SHEET 9 FOR ADDITION DETAILS

NOTES

IT IS EXPECTED THAT DIMENSIONS AND QUANTITIES MAY/WILL VARY BASED ON ACTUAL COMPLETED INPLACE LIMITS. COORDINATE LIMITS AND COMPLETENESS OF PROPOSED WORK.

RIVER BOTTOM ELEVATION AND EXTENT OF SCOUR AND UNDERMINING OF FOOTING ARE FROM THE "UNDERWATER BRIDGE INSPECTION REPORT.

GROUT BAGS SHALL BE 3'WIDE X 4'LONG WITH 1'-0" MAX THICKNESS.

REMOVE OR CUT GROUT TUBE FLUSH WITH TOP OF BAGS AFTER FILLING CAVITY BELOW FOOTING WITH GROUT AND BEFORE PLACING MAT.

BAGS AND MAT ARE TO BE PLACED SO THAT THERE IS NO GAP BETWEEN THE BAGS AND FOOTING.

ADJACENT MATS SHALL BE JOINED BY FIELD SEWING OR ZIPPERING BEFORE FILLING THE MATS WITH GROUT.

BID ITEMS PERTAINING TO PIER SCOUR PROTECTION ARE:
"SCOUR REPAIR, GROUT"
"SCOUR REPAIR, GROUT BAGS"
"SCOUR REPAIR, GROUT MATS"

LEGEND

- ×600.0 — INDICATES GROUND ELEVATION LOCATION. (SHOT IS BASED ON DEPTH FROM WATER ELEVATION OF 633.5 ON 11-10-2016)
- (X) — VERTICAL DIMENSION OF VOID BENEATH FOOTING/SEAL TO BE GROUTED (THICKNESS OF GROUT IN FEET).
- GROUT BAGS TO FACILITATE GROUT FILLING OF VOID. LOCATION IS APPROXIMATE AND BAGS MAY NEED TO BE REPOSITIONED TO RETAIN GROUT FOR VOID FILLING.
- GROUT MATS.
- GROUT BAG.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-12-35

DRAWN BY DLF | PLANS CK'D. CJB

SCOUR, UNDERMINING AND EROSION CONTROL DETAILS

STATE PROJECT NUMBER
5180-04-83

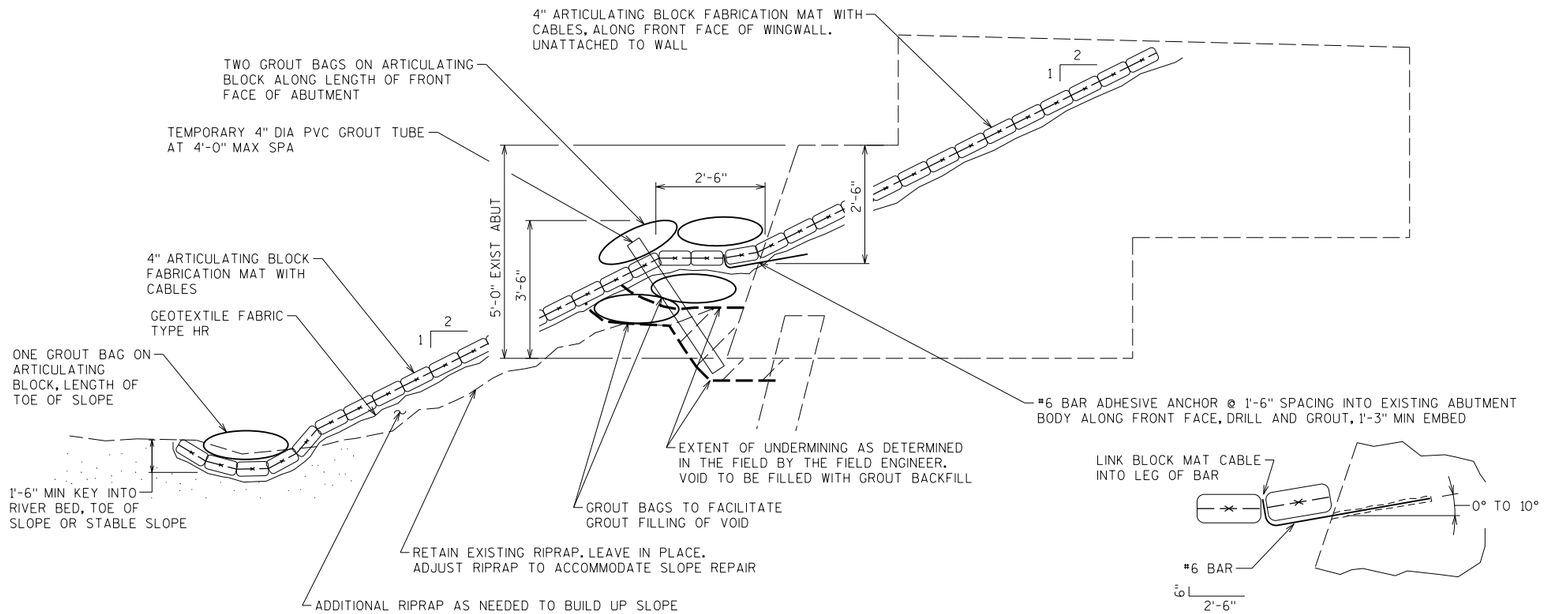
NOTES

SEE SHEET 8 FOR NOTES & LEGEND.

BID ITEM FOR ABUTMENT SLOPE REPAIR AT WEST ABUTMENT SHALL BE "ARTICULATING BLOCK FABRICATION MAT SLOPE REPAIR". WHICH INCLUDES ARTICULATING BLOCK FABRICATION MAT, RIPRAP, GEOTEXTILE FABRIC, GROUT TUBE AND ADHESIVE ANCHORS.

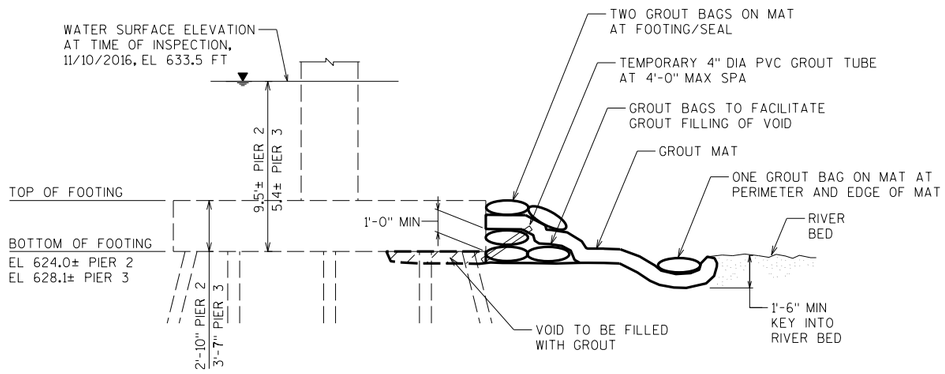
GROUT BAGS SHALL BE PAID FOR UNDER BID ITEM "SCOUR REPAIR, GROUT BAGS".

GROUT TO FILL VOID SHALL BE PAID FOR UNDER BID ITEM "SCOUR REPAIR, GROUT".

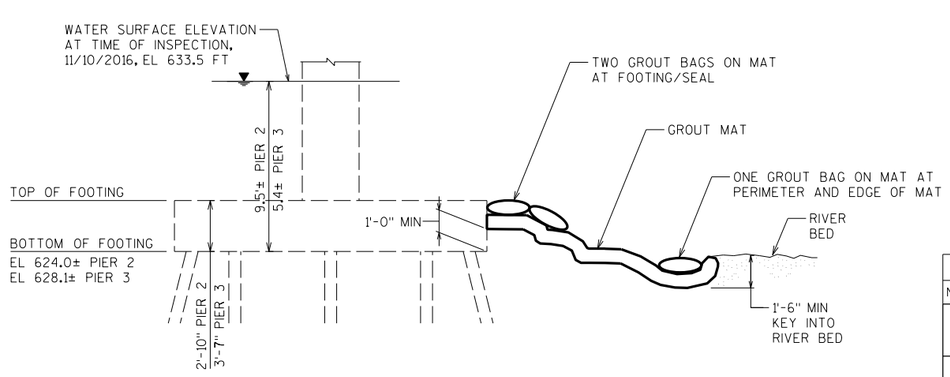


ABUTMENT SLOPE REPAIR

WEST ABUTMENT
(SEE SHEET 1 FOR EXTENTS)



TYPICAL SECTION
WITH VOIDS UNDER FOOTING



TYPICAL SECTION
NO VOIDS UNDER FOOTING

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-12-35

DRAWN BY DLF | PLANS CK'D. CJB

SCOUR, UNDERMINING AND EROSION CONTROL DETAILS

SHEET 9 OF 10

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PLOT DATE: 6/21/2017 PLOT TIME: 2:31:51 PM

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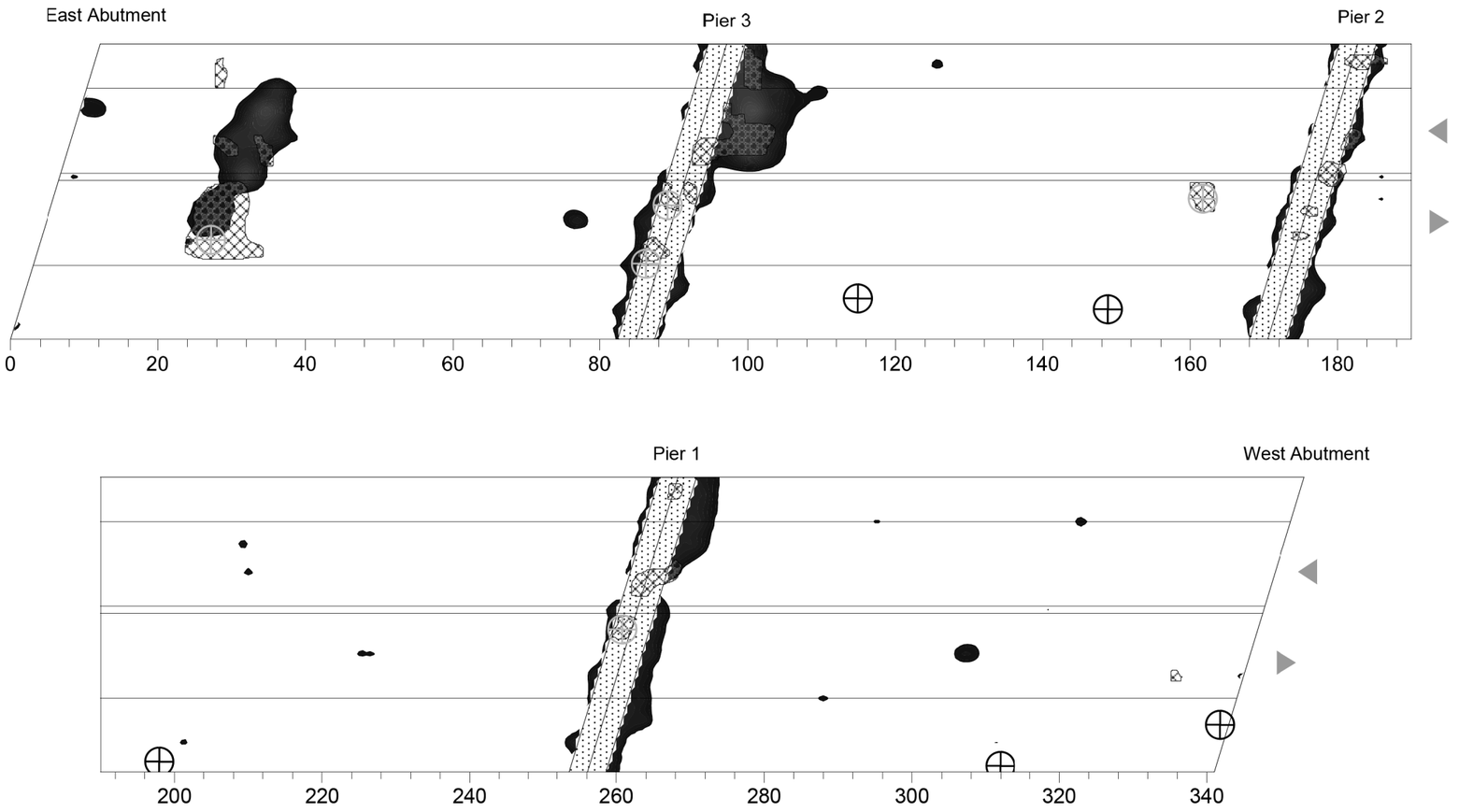
FOR INFORMATION ONLY

STATE PROJECT NUMBER

5180-04-83



Rebar-level deterioration detected by GPR

Increasing severity -->

Delamination / debonding detected by IR

Delamination Confirmed Through Sounding

Impact Echo Test Location

Direction of traffic

Conditions not detectable with GPR

Estimated Deck Prep Items	Quantity (sq. ft.)	% of deck area
Type 1	140.30	1.02
Type 2	563.56	4.10
Full Depth	0.00	0.00

Condition Evaluation Using Ground Penetrating Radar

B120035
STH 60 over Kickapoo River

Concrete Condition

Analyzed by: SB/EAG Date: 7/18/14
Checked by: AJC/KRM Date: 8/16/14

INFRASENSE, Inc.

Sheet: 1 of 1

NOTE:

THIS SHEET FOR INFORMATION ONLY. FOR COLORED VERSION OF THIS SHEET SEE SPECS.

PREPARATION DECKS TYPE 1, PREPARAION DECKS TYPE 2, AND FULL-DEPTH DECK REPAIR AREAS ARE BASED ON THE PLANS AND AS DETERMINED, LOCATED, MARKED AND MEASURED BY THE FIELD ENGINEER. DECK PREPARATION AND FULL-DEPTH DECK PREPAIRS SHALL BE FILLED WITH "CONCRETE MASONRY OVERLAY DECKS".

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-12-35

DRAWN BY DLF | PLANS CK'D. CJB

CONDITION EVALUATION (INFORMATION ONLY)

SHEET 10 OF 10

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PLOT TIME: 2:31:51 PM

PLOT DATE: 6/21/2017

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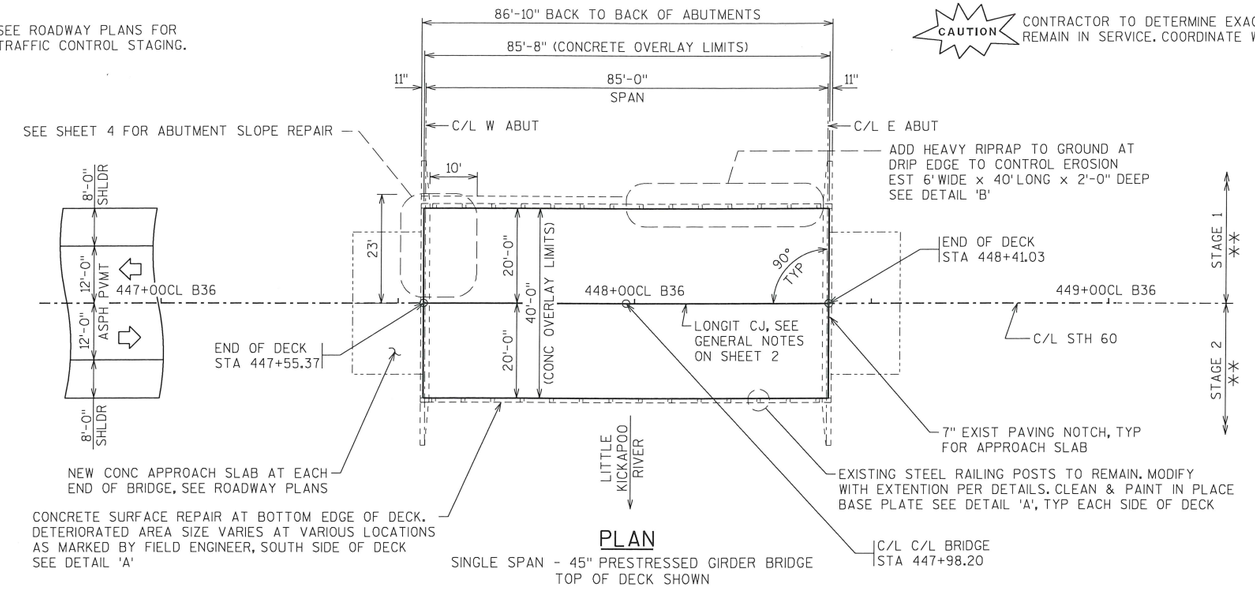
STATE PROJECT NUMBER
5180-04-83

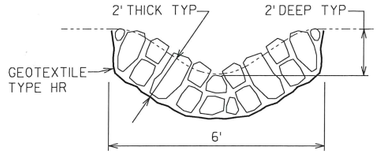
** SEE ROADWAY PLANS FOR TRAFFIC CONTROL STAGING.



PLAN

SINGLE SPAN - 45" PRESTRESSED GIRDER BRIDGE
TOP OF DECK SHOWN

CAUTION CONTRACTOR TO DETERMINE EXACT EXISTING UTILITY LOCATIONS. ALL UTILITIES TO REMAIN IN SERVICE. COORDINATE WITH THE UTILITY COMPANIES.



DETAIL B
RIPRAP HEAVY

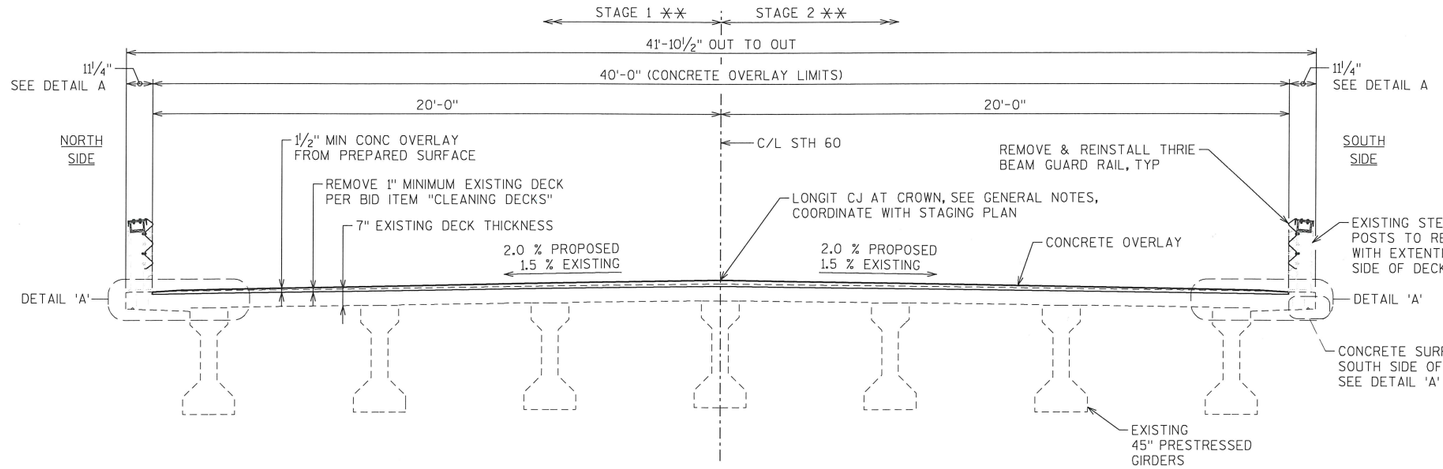
DESIGN DATA

LIVE LOAD:
DESIGN LOADING: HS-20
INVENTORY RATING HS-27
OPERATING RATING HS-51
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV) = 250 KIPS

MATERIAL PROPERTIES:
CONCRETE MASONRY - SUPERSTRUCTURE _____ f'c = 4,000 psi
- OVERLAY _____ f'c = 4,000 psi
- ALL OTHER _____ f'c = 3,500 psi
HIGH STRENGTH BAR STEEL REINFORCEMENT
AASHTO GRADE 60 _____ fy = 60,000 psi

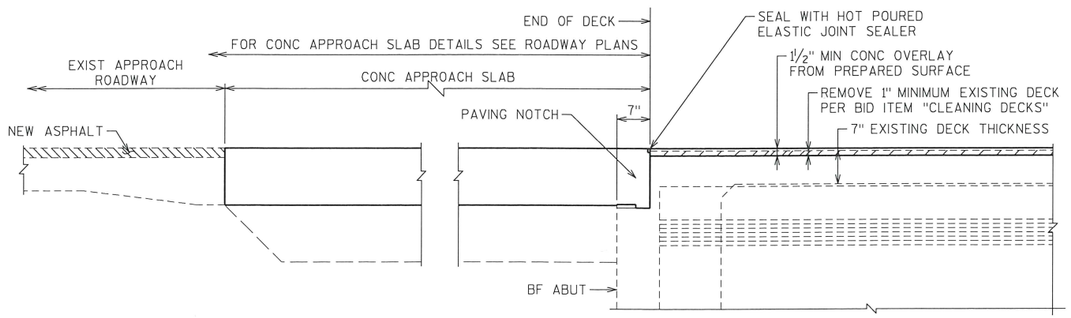
TRAFFIC DATA

ADT (2013)	=	2000-2500
ADT (2033)	=	2200-2800
DHV	=	16.5
DD	=	60/40
T	=	19.6 %
DESIGN SPEED	=	60 MPH



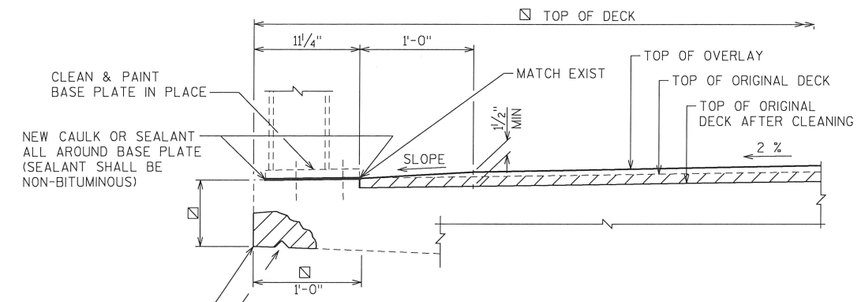
CROSS SECTION THRU ROADWAY

(LOOKING EAST)



TYPICAL SECTION AT END OF DECK

▨ INDICATES REMOVAL



DETAIL A

(TYPICAL EACH SIDE OF DECK UNLESS NOTED OTHERWISE)

▨ COAT WITH "PROTECTIVE SURFACE TREATMENT" PER THE STANDARD SPECIFICATIONS, DETAIL A AND THE GENERAL NOTES ON SHEETS 2.

LIST OF DRAWINGS

WISCONSIN PROFESSIONAL ENGINEER
CHRISTOPHER J. BLUM
E-33157
MADISON
WI
6-21-17

SEH CONTACT: CHRIS BLUM, PE, 608.620.6192
WISDOT BRIDGE OFFICE CONTACT: BILL DREHER, PE, 608.266.8489

NO.	DATE	REVISION	BY

SEH
SHORT ELLIOTT HENDRICKSON INC.

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher SDR 08/01/17
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE B-12-36

STH 60 OVER LITTLE KICKAPOO RIVER

COUNTY	TOWN/~~CITY/VILLAGE~~
CRAWFORD	WAUZEKA

DESIGN SPEC. REHABILITATION N/A

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
NCK	CJB	DLF	CJB

CONCRETE OVERLAY

SI 101 OF 4

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PLOT TIME: 12:38:52 PM
PLOT DATE: 6/21/2017
FILE NAME : S:\UZ\WI\tsw\140521\4-prelim-dsgn-rpts\43-prelim-dsgn\CAD\B-12-36\dgn\b12036gl.dgn

STATE PROJECT NUMBER
5180-04-83

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

ALL STATIONS AND ELEVATIONS ARE IN FEET.

ALL DIMENSIONS ARE IN FEET AND INCHES UNLESS OTHERWISE NOTED.

STATIONING MAY VARY BASED ON EXACT LOCATION OF BRIDGE TO PROPOSED ALIGNMENT.

DIMENSIONS AND STATIONING SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS AND INSPECTION REPORTS. EXISTING BRIDGE PLANS AVAILABLE AT WISDOT.

CONTRACTOR TO DETERMINE EXACT EXISTING UTILITY LOCATIONS. ALL UTILITIES TO REMAIN IN SERVICE. COORDINATE WITH THE UTILITY COMPANIES.

APPROACH SLABS DESIGN, PLANS AND QUANTITY ARE ROADWAY PLANS ITEM.

ANY EXCAVATION REQUIRED TO COMPLETE THE OVERLAY OR APPROACH SLABS AT THE ABUTMENTS, TO BE CONSIDERED INCIDENTAL TO THE BID ITEM "CONCRETE MASONRY OVERLAY DECKS".

A MINIMUM OF 1-INCH OF CONCRETE SHALL BE REMOVED FROM THE ENTIRE BRIDGE DECK UNDER THE BID ITEM "CLEANING DECKS". CONTRACTOR TO VERIFY COMPLETENESS OF REMOVALS WITH THE FIELD ENGINEER.

LONGITUDINAL CONSTRUCTION JOINT IN OVERLAY MAY BE USED. LOCATION TO BE DETERMINED BY THE FIELD ENGINEER. COORDINATE WITH STAGING PLANS.

PREPARATION DECKS TYPE 1, PREPARAION DECKS TYPE 2, AND FULL-DEPTH DECK REPAIR AS DETERMINED, LOCATED, MARKED AND MEASURED BY THE FIELD ENGINEER. DECK PREPARATION AND FULL-DEPTH DECK PREPAIRS SHALL BE FILLED WITH "CONCRETE MASONRY OVERLAY DECKS".

BOTTOM OF THE EXISTING DECK WILL BE INSPECTED FOR AREAS OF FULL-DEPTH DECK REPAIR PRIOR TO DECK PREPARATION OPERATIONS.

BOTTOM OF THE EXISTING DECK IS TO BE INSPECTED FOR AREAS OF DISTRESS AFTER COMPLETION OF THE DECK PREPARTION AND PRIOR TO OVERLAYING THE BRIDGE.

ALL CONCRETE REMOVAL NOT COVERED WITH A CONCRETE OVERLAY SHALL BE DEFINED BY A 1-INCH DEEP SAW CUT.

PROFILE GRADE LINE SHALL BE DETERMINED IN THE FIELD BASED ON A MINIMUM OVERLAY THICKNESS OF 1½" PLACED ABOVE THE DECK SURFACE AFTER SURFACE PREPARATION. EXPECTED AVERAGE OVERLAY THICKNESS IS 2⅛". IF EXPECTED AVERAGE OVERLAY THICKNESS IS EXCEEDED BY MORE THAN ½", CONTACT THE STRUCTURES DESIGN SECTION.

AFTER DECK CLEANING OPERATIONS, CLEAN AND FILL EXISTING DECK CRACKS WITH LOW VISCOSITY CRACK SEALER PER SECTION 502.2.11 AS DIRECTED BY THE FIELD ENGINEER. COST IS INCIDENTAL TO BID ITEM " CONCRETE MASONRY OVERLAY DECKS".

AT THE ABUTMENTS, THE DECK JOINT IS COMPRISED OF A FILLER AND SEALANT, THERE IS NO STRIP SEAL OR COVER PLATED EXPANSION JOINT.

TOTAL ESTIMATED QUANTITIES - B-12-36

	BID ITEM NUMBER	BID ITEMS	UNIT	TOTALS
	492.2010.S	SEALING CRACKS AND JOINTS WITH HOT-APPLIED SEALANT	GAL	0.5
(4)	502.3200	PROTECTIVE SURFACE TREATMENT	SY	415
	509.0301	PREPARATION DECKS TYPE 1	SY	85
	509.0302	PREPARATION DECKS TYPE 2	SY	40
(1)	509.0500	CLEANING DECKS	SY	380
(5)	509.1500	CONCRETE SURFACE REPAIR	SF	21
(6)	509.2000	FULL-DEPTH DECK REPAIR	SY	1
(2)	509.2500	CONCRETE MASONRY OVERLAY DECKS	CY	23.1
	606.0300	RIPRAP HEAVY	CY	18
	645.0120	GEOTEXTILE TYPE HR	SY	50
	SPV.0035.01	SCOUR REPAIR, GROUT	CY	9
	SPV.0035.02	SCOUR REPAIR, GROUT BAGS	CY	12
(3)	SPV.0105.01	REFURBISH STEEL POST BASE PLATES	LS	1
	SPV.0105.02	STEEL RAILING TYPE W REHABILITAION	LS	1
	SPV.0165.01	ARTICULATING BLOCK FABRICATION MAT SLOPE REPAIR	SF	240
		NON-BID ITEMS		
		FILLER	SIZE	¾"

QUANTITIES NOTES

(1) BASED ON 1" DEEP BY LIMITS OF OVERLAY.

(2) CONCRETE FOR:
* PREPARATION DECKS TYPE 1 & 2, *FULL-DEPTH DECK REPAIR.
AND, OVERLAY.

(3) CLEAN AND PAINT BASE PLATES IN PLACE. INCLUDES CAULK OR SEALANT APPLIED AROUND BASE PLATE.

(4) APPLY A PROTECTIVE SURFACE TREATMENT TO TOP OF BRIDGE DECK, TOP OF APPROACH SLAB NOTCH AND, TOP OF APPROACH SLABS.
APPLICATION AND QUANTITY FOR PROTECTIVE SURFACE TREATEMENT ON APPROACH SLABS ARE CONSIDERED INCIDENTAL TO BRIDGE BID ITEM "PROTECTIVE SURFACE TREATEMENT".

(5) INCLUDES AREAS ON SOUTH SIDE OF DECK ESTIMATED AT SIX LOCATIONS WITH EACH LOCATION ESTIMATED AS 1'-2" WIDE BY 3'LONG.

(6) UNDISTRIBUTED AMOUNT.

* THESE QUANTITIES TOTALS ARE AN ESTIMATE AND ARE INCLUDED IN BID ITEM "CONCRETE MASONRY OVERLAY, DECKS".

-PREPARATION DECKS TYPE 1 = 5.0 CY
-PREPARATION DECKS TYPE 2 = 2.0 CY
-FULL-DEPTH DECK REPAIR = 0.1 CY

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-12-36

DRAWN BY DLF | PLANS CK'D. CJB

NOTES AND QUANTITIES

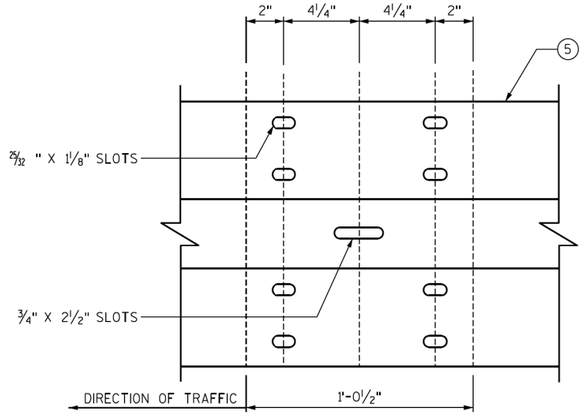
SHEET 2 OF 4

102

8

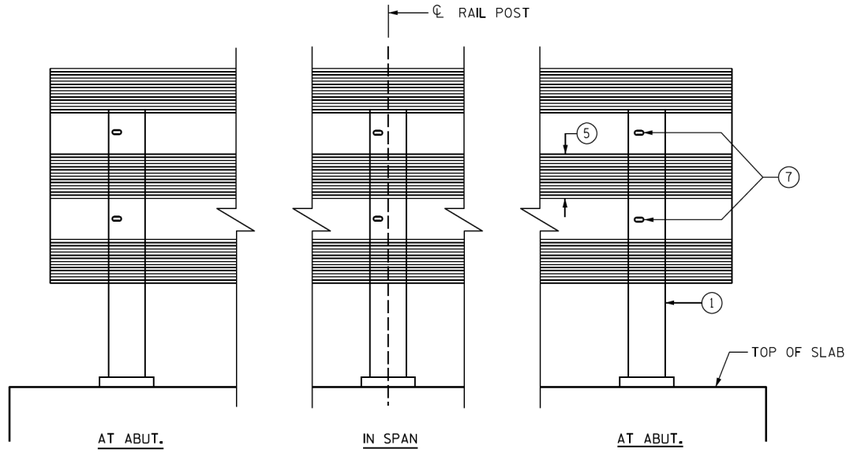
8

STATE PROJECT NUMBER
5180-04-83

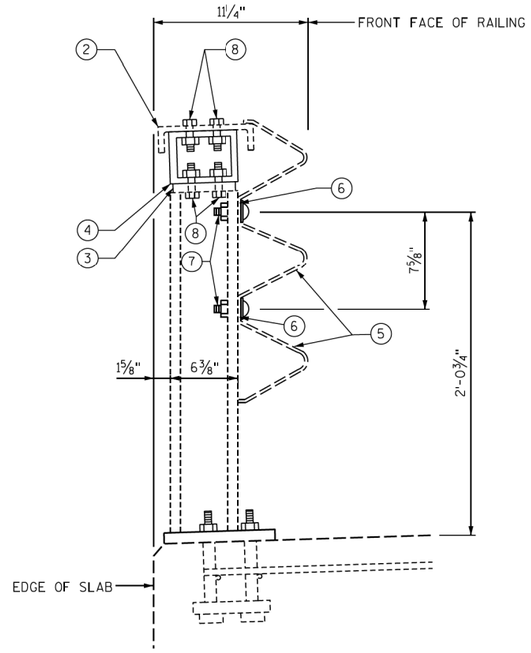


RAIL MEMBER SPLICE

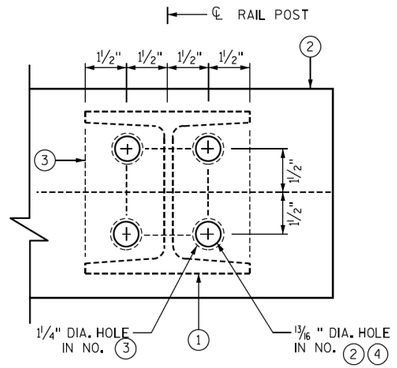
⅝" DIA. BUTTON HEAD OVAL SHOULDER BOLTS WITH HEX. NUTS AT ALL SLOTS



ELEVATION



SECTION THRU RAILING



AT POST CONNECTION

CHANNEL MEMBER DETAIL

LEGEND

1. EXISTING W6 X 25, DRILL 2 - ¾" DIA. HOLES FOR BOLT NO. 7.
2. EXISTING C8 X 11.5, WITH ⅜ " DIA. HOLES, ATTACH TO NO. 4 WITH BOLTS NO. 8.
3. EXISTING PLATE ½" X 5¾" X 6", WITH 1¼" DIA. HOLE FOR BOLTS NO. 8.
4. STRUCTURAL TUBE 6" X 4" X ⅜", WITH ⅜ " DIA. HOLES, 6" LONG, ATTACH TO NO. 3 WITH BOLTS NO. 8.
5. REINSTALL W-RAIL ATTACH TO NO. 1 WITH BOLTS NO. 7.
6. 1¾" X 3" MOUNTING BOLT WASHER, EIGHT GAGE GALVANIZED.
7. ⅝" DIA. BUTTON HEAD RAIL MOUNTING BOLT WITH ROUND WASHER AND NUT, 2 PER POST.
8. ⅝" DIA. X 2" LG. HEX. BOLTS WITH NUT AND TWO WASHERS EACH, 4 REQ'D PER POST CONNECTION.

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

BID ITEM SHALL BE "STEEL RAILING TYPE "W" REHABILITATION" WHICH SHALL INCLUDE ALL MATERIALS AND LABOR NECESSARY TO RAISE ITEMS NO. 2 & NO. 5 BETWEEN THE LONGIT. LIMITS OF RAILING AS SHOWN IN ELEVATION AND SHALL BE PAID FOR AS A LUMP SUM ITEM.

ALL MATERIALS USED IN FABRICATION SHALL BE MADE FROM MATERIALS CONFORMING TO A.S.T.M. DESIGNATION A709 GRADE 36 UNLESS NOTED OTHERWISE.

SHIM PLATES 6" X 1/16" X 6" MAY BE USED BETWEEN TOP OF POST AND CHANNEL MEMBER TO ACHIEVE VERTICAL ALIGNMENT.

ALL MATERIAL SHALL BE GALVANIZED AFTER FABRICATION.

PRIOR TO GALVANIZING, ALL STEEL STRUCTURAL TUBE SHALL BE GIVEN A NO. 6 BLAST CLEANING BY S.S.P.C. SPECIFICATIONS.

RAIL MEMBERS SHALL BE LAPPED IN THE DIRECTION OF TRAFFIC AND THE UPPER RAIL SHALL LAP THE LOWER RAIL.

NEW BOLTS AND REFLECTORS SHALL BE FURNISHED AND USED TO RESET THE STRUCTURAL TUBES AND W-RAIL.

TOTAL ESTIMATED QUANTITIES

STRUCTURE NUMBER	EXISTING POSTS EACH		RAIL MEMBER LIN. FT.	
	LT	RT	LT	RT
B-12-36	14	14	87	87

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-12-36

DRAWN BY DLF | PLANS CK'D. CJB

STEEL RAILING, TYPE W REHABILITATION DETAILS

SHEET 3 OF 4

103

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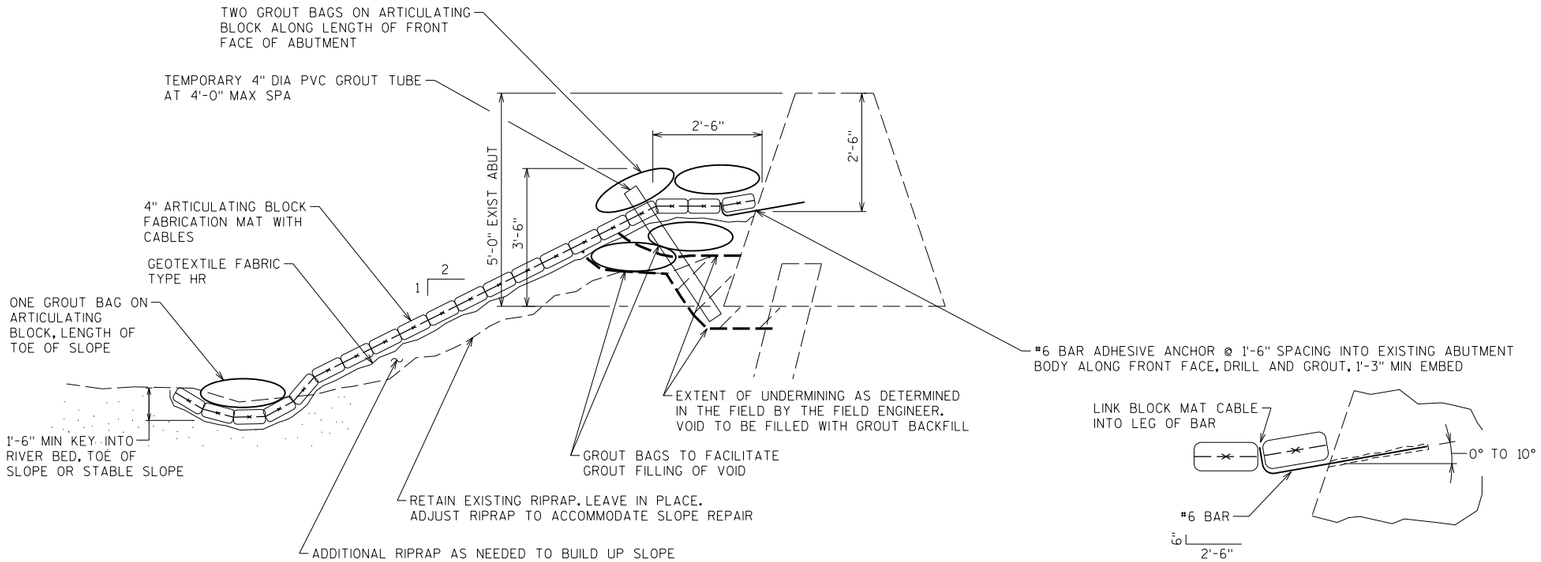
PLOT TIME: 12:38:53 PM
PLOT DATE: 6/21/2017
FILE NAME : S:\DZ\WI\sw\14052\V4-prelim-dsgn-rpts\43-prelim-dsgn\CAD\B-12-36\dgn\bl2036rehabW.dgn

STATE PROJECT NUMBER
5180-04-83



ABUTMENT SLOPE REPAIR

WEST ABUTMENT
(SEE SHEET 1 FOR EXTENTS)

NOTES

BID ITEM FOR EROSION CONTROL AT WEST ABUTMENT SHALL BE "ARTICULATING BLOCK FABRICATION MAT SLOPE REPAIR". WHICH INCLUDES ARTICULATING BLOCK FABRICATION MAT, RIPRAP, GEOTEXTILE FABRIC, GROUT TUBE AND ADHESIVE ANCHORS.

GROUT BAGS SHALL BE PAID FOR UNDER BID ITEM "SCOUR REPAIR, GROUT BAGS".

GROUT TO FILL VOID SHALL BE PAID FOR UNDER BID ITEM "SCOUR REPAIR, GROUT".

IT IS EXPECTED THAT DIMENSIONS AND QUANTITIES MAY/WILL VARY BASED ON ACTUAL COMPLETED INPLACE LIMITS. COORDINATE LIMITS AND COMPLETENESS OF PROPOSED WORK.

EXTENT OF SCOUR AND UNDERMINING OF ABUTMENT ARE FROM THE BRIDGE INSPECTION REPORT AND FIELD VISIT.

GROUT BAGS SHALL BE 3' WIDE X 4' LONG WITH 1'-0" MAX THICKNESS.

BAGS AND MAT ARE TO BE PLACED SO THAT THERE IS NO GAP BETWEEN THE BAGS, MAT AND ABUTMENT.

ADJACENT MATS SHALL BE JOINED BEFORE FILLING THE MATS WITH GROUT.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-12-36

DRAWN BY DLF | PLANS CK'D. CJB

SCOUR, UNDERMINING AND EROSION CONTROL DETAILS

SHEET 4 OF 4

104

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8

PLOT DATE: 6/21/2017 PLOT TIME: 12:39:14 PM

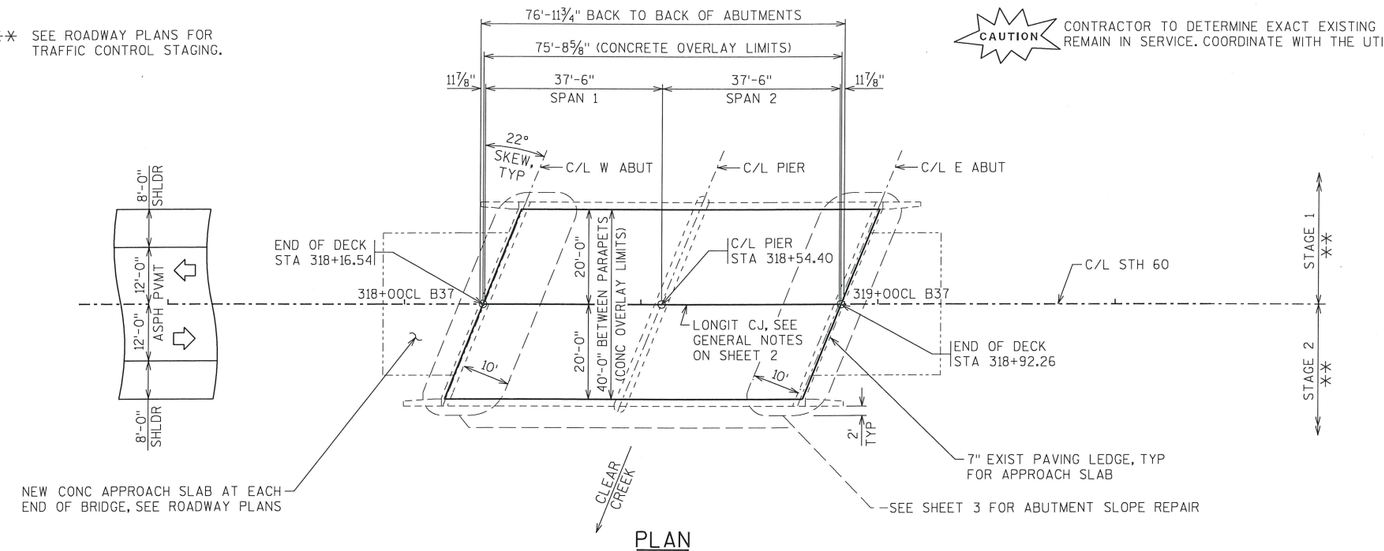
FILE NAME : S:\DZ\WI\WI+sw\14052\4-prelim-dsgn-rpts\43-prelim-dsgn\CAD\B-12-36\dgn\bl2036scour.dgn

STATE PROJECT NUMBER

5180-04-83

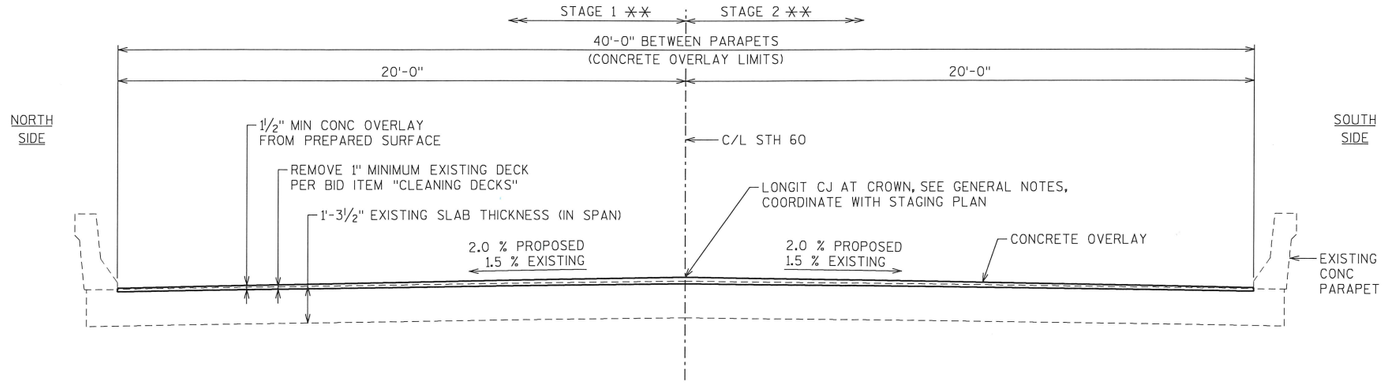
** SEE ROADWAY PLANS FOR TRAFFIC CONTROL STAGING.

CAUTION CONTRACTOR TO DETERMINE EXACT EXISTING UTILITY LOCATIONS. ALL UTILITIES TO REMAIN IN SERVICE. COORDINATE WITH THE UTILITY COMPANIES.



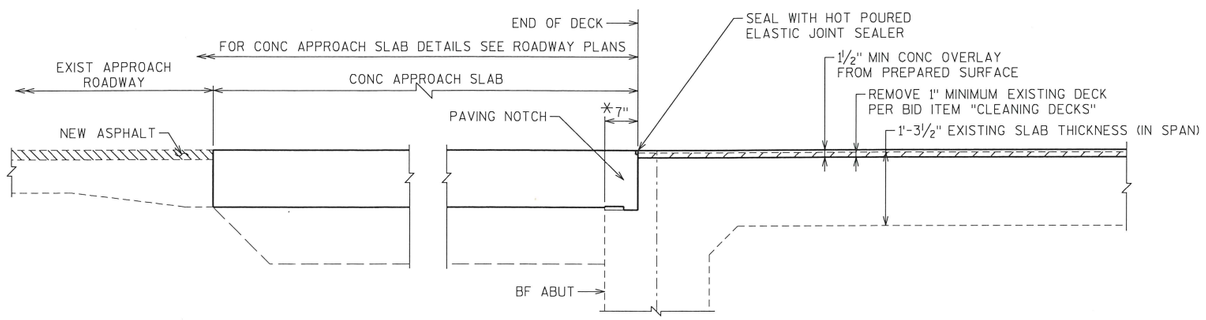
PLAN

TWO SPAN - HAUNCHED SLAB BRIDGE
TOP OF DECK SHOWN



CROSS SECTION THRU ROADWAY

(LOOKING EAST)



TYPICAL SECTION AT END OF DECK

INDICATES REMOVAL

*DIMENSIONS GIVEN ARE NORMAL TO C/L OF SUBSTRUCTURE UNIT.

DESIGN DATA

LIVE LOAD:

DESIGN LOADING: HS-20
- INVENTORY RATING HS25
- OPERATING RATING HS42
- WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV) = 200 KIPS

MATERIAL PROPERTIES;
- CONCRETE MASONRY - SUPERSTRUCTURE _____ f'c = 4,000 psi
- OVERLAY _____ f'c = 4,000 psi
- ALL OTHER _____ f'c = 3,500 psi
- HIGH STRENGTH BAR STEEL REINFORCEMENT AASHTO GRADE 60 _____ fy = 60,000 psi

TRAFFIC DATA

ADT (2013)	=	2000-2500
ADT (2033)	=	2200-2800
DHV	=	16.5
DD	=	60/40
T	=	19.6 %
DESIGN SPEED	=	60 MPH

LIST OF DRAWINGS

NO.	DATE	REVISION	BY

SEH
SHORT ELLIOTT HENDRICKSON INC.

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher SDR 08/01/17
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-12-37

STH 60 OVER CLEAR CREEK

COUNTY	TOWN ~~CITY/VILLAGE~~
CRAWFORD	MARIETTA

DESIGN SPEC. REHABILITATION N/A

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
NCK	CJB	DLF	CJB

CONCRETE OVERLAY

S 105 OF 3

WISCONSIN PROFESSIONAL ENGINEER
CHRISTOPHER J. BLUM
E-33157
MADISON
WI
6-21-17

SEH CONTACT: CHRIS BLUM, PE, 608.620.6192
WISDOT BRIDGE OFFICE CONTACT: BILL DREHER, PE, 608.266.8489

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PLOT TIME: 12:38:19 PM
PLOT DATE: 6/21/2017
FILE NAME : S:\UZ\WK\Wit\sw\140521\4-prelim-dsgn-rpts\43-prelim-dsgn\CAD\B-12-37\dgn\b12037gl.dgn

STATE PROJECT NUMBER
5180-04-83

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

ALL STATIONS AND ELEVATIONS ARE IN FEET.

ALL DIMENSIONS ARE IN FEET AND INCHES UNLESS OTHERWISE NOTED.

STATIONING MAY VARY BASED ON EXACT LOCATION OF BRIDGE TO PROPOSED ALIGNMENT.

DIMENSIONS AND STATIONING SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS AND INSPECTION REPORTS. EXISTING BRIDGE PLANS AVAILABLE AT WISDOT.

CONTRACTOR TO DETERMINE EXACT EXISTING UTILITY LOCATIONS. ALL UTILITIES TO REMAIN IN SERVICE. COORDINATE WITH THE UTILITY COMPANIES.

APPROACH SLABS DESIGN, PLANS AND QUANTITY ARE ROADWAY PLANS ITEM.

ANY EXCAVATION REQUIRED TO COMPLETE THE OVERLAY OR APPROACH SLABS AT THE ABUTMENTS, TO BE CONSIDERED INCIDENTAL TO THE BID ITEM "CONCRETE MASONRY OVERLAY DECKS".

A MINIMUM OF 1-INCH OF CONCRETE SHALL BE REMOVED FROM THE ENTIRE BRIDGE DECK UNDER THE BID ITEM "CLEANING DECKS". CONTRACTOR TO VERIFY COMPLETENESS OF REMOVALS WITH THE FIELD ENGINEER.

LONGITUDINAL CONSTRUCTION JOINTS IN OVERLAY MAY BE USED. LOCATION TO BE DETERMINED BY THE FIELD ENGINEER. COORDINATE WITH STAGING PLANS.

PREPARATION DECKS TYPE 1, PREPARAION DECKS TYPE 2, AND FULL-DEPTH DECK REPAIR AS DETERMINED, LOCATED, MARKED AND MEASURED BY THE FIELD ENGINEER. DECK PREPARATION AND FULL-DEPTH DECK PREPAIRS SHALL BE FILLED WITH "CONCRETE MASONRY OVERLAY DECKS".

BOTTOM OF THE EXISTING DECK WILL BE INSPECTED FOR AREAS OF FULL-DEPTH DECK REPAIR PRIOR TO DECK PREPARATION OPERATIONS.

BOTTOM OF THE EXISTING DECK IS TO BE INSPECTED FOR AREAS OF DISTRESS AFTER COMPLETION OF THE DECK PREPARTION AND PRIOR TO OVERLAYING THE BRIDGE.

ALL CONCRETE REMOVAL NOT COVERED WITH A CONCRETE OVERLAY SHALL BE DEFINED BY A 1-INCH DEEP SAW CUT.

PROFILE GRADE LINE SHALL BE DETERMINED IN THE FIELD BASED ON A MINIMUM OVERLAY THICKNESS OF 1½" PLACED ABOVE THE DECK SURFACE AFTER SURFACE PREPARATION. EXPECTED AVERAGE OVERLAY THICKNESS IS 2⅛". IF EXPECTED AVERAGE OVERLAY THICKNESS IS EXCEEDED BY MORE THAN ½", CONTACT THE STRUCTURES DESIGN SECTION.

AFTER DECK CLEANING OPERATIONS, CLEAN AND FILL EXISTING DECK CRACKS WITH LOW VISCOSITY CRACK SEALER PER SECTION 502.2.11 AS DIRECTED BY THE FIELD ENGINEER. COST IS INCIDENTAL TO BID ITEM " CONCRETE MASONRY OVERLAY DECKS".

APPLY A PROTECTIVE SURFACE TREATMENT TO TOP OF BRIDGE DECK, TOP OF APPROACH SLABS AND TOP OF APPROACH SLAB NOTCH. APPLY PIGMENTED SURFACE SEALER TO TOP AND INSIDE FACES OF PARAPET PER THE STANDARD SPECIFICATIONS.

AT THE ABUTMENTS, THE DECK JOINT IS COMPRISED OF A FILLER AND SEALANT, THERE IS NO STRIP SEAL OR COVER PLATED EXPANSION JOINT.

TOTAL ESTIMATED QUANTITIES - B-12-37

	BID ITEM NUMBER	BID ITEMS	UNIT	TOTALS
	492.2010.S	SEALING CRACKS AND JOINTS WITH HOT-APPLIED SEALANT	GAL	0.6
(3)	502.3200	PROTECTIVE SURFACE TREATMENT	SY	350
(3)	502.3210	PIGMENTED SURFACE SEALER	SY	85
	509.0301	PREPARATION DECKS TYPE 1	SY	14
	509.0302	PREPARATION DECKS TYPE 2	SY	8
(2)	509.0500	CLEANING DECKS	SY	337
(5)	509.1500	CONCRETE SURFACE REPAIR	SF	1
(5)	509.2000	FULL-DEPTH DECK REPAIR	SY	1
(1)	509.2500	CONCRETE MASONRY OVERLAY DECKS	CY	22
(4)	509.9050.S	CLEANING PARAPETS	LF	190
	SPV.0035.01	SCOUR REPAIR, GROUT	CY	35
	SPV.0035.02	SCOUR REPAIR, GROUT BAGS	CY	50
	SPV.0165.01	ARTICULATING BLOCK FABRICATION MAT SLOPE REPAIR	SF	1080
		NON-BID ITEMS		
		FILLER	SIZE	¾"

QUANTITIES NOTES

(1) CONCRETE FOR:
* PREPARATION DECKS TYPE 1 & 2, *FULL-DEPTH DECK REPAIR.
AND, OVERLAY.

(2) BASED ON 1" DEEP BY LIMITS OF OVERLAY.

(3) APPLY A PROTECTIVE SURFACE TREATMENT TO TOP OF BRIDGE DECK, TOP OF APPROACH SLAB NOTCH AND, TOP OF APPROACH SLABS. APPLY PIGMENTED SURFACE SEALER TO TOP, END AND INSIDE FACES OF PARAPET. APPLICATION AND QUANTITY FOR PROTECTIVE SURFACE TREATEMENT ON APPROACH SLABS ARE CONSIDERED INCIDENTAL TO BRIDGE BID ITEM "PROTECTIVE SURFACE TREATEMENT".

(4) INCLUDES PARAPETS ON WINGWALLS.

(5) UNDISTRIBUTED AMOUNT.

* THESE QUANTITIES TOTALS ARE AN ESTIMATE AND ARE INCLUDED IN BID ITEM "CONCRETE MASONRY OVERLAY, DECKS".

-PREPARATION DECKS TYPE 1 = 0.8 CY
-PREPARATION DECKS TYPE 2 = 0.4 CY
-FULL-DEPTH DECK REPAIR = 0.3 CY

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-12-37

DRAWN BY DLF | PLANS CK'D. CJB

NOTES AND QUANTITIES

SHEET 2 OF 3

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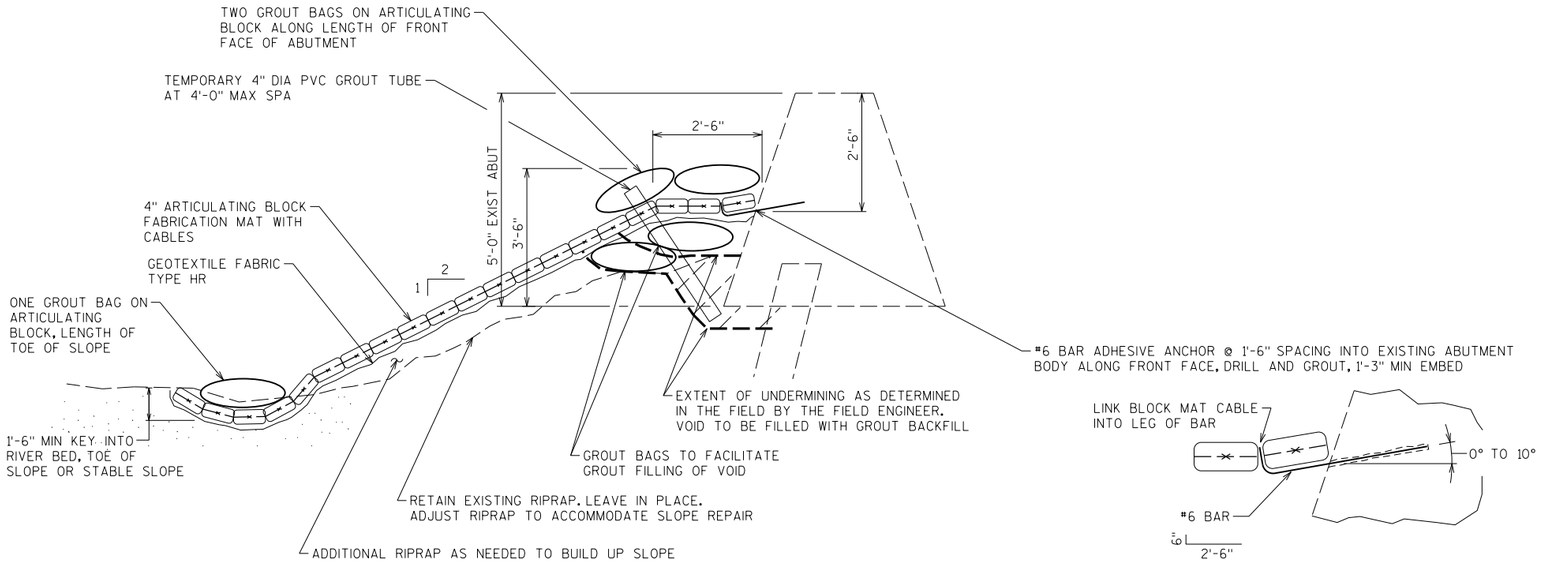
PLOT DATE: 6/21/2017 PLOT TIME: 12:38:19 PM

FILE NAME : S:\UZ\W\WI\sw\14052\l4-prelim-dsgn-rpts\43-prelim-dsgn\CAD\B-12-37\dgn\bl2037g2.dgn

STATE PROJECT NUMBER
5180-04-83



ABUTMENT SLOPE REPAIR

WEST AND EAST ABUTMENT
(SEE SHEET 1 FOR EXTENTS)

NOTES

BID ITEM FOR EROSION CONTROL AT BOTH ABUTMENTS SHALL BE "ARTICULATING BLOCK FABRICATION MAT SLOPE REPAIR". WHICH INCLUDES ARTICULATING BLOCK FABRICATION MAT, RIPRAP, GEOTEXTILE FABRIC, GROUT TUBE AND ADHESIVE ANCHORS.

GROUT BAGS SHALL BE PAID FOR UNDER BID ITEM "SCOUR REPAIR, GROUT BAGS".

GROUT TO FILL VOID SHALL BE PAID FOR UNDER BID ITEM "SCOUR REPAIR, GROUT".

IT IS EXPECTED THAT DIMENSIONS AND QUANTITIES MAY/WILL VARY BASED ON ACTUAL COMPLETED INPLACE LIMITS. COORDINATE LIMITS AND COMPLETENESS OF PROPOSED WORK.

EXTENT OF SCOUR AND UNDERMINING OF ABUTMENTS ARE FROM THE BRIDGE INSPECTION REPORT AND FIELD VISIT.

GROUT BAGS SHALL BE 3' WIDE X 4' LONG WITH 1'-0" MAX THICKNESS.

BAGS AND MAT ARE TO BE PLACED SO THAT THERE IS NO GAP BETWEEN THE BAGS, MAT AND ABUTMENT.

ADJACENT MATS SHALL BE JOINED BEFORE FILLING THE MATS WITH GROUT.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-12-37

DRAWN BY DLF | PLANS CK'D. CJB

SCOUR, UNDERMINING AND EROSION CONTROL DETAILS

SHEET 3 OF 3

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8

PLOT DATE: 6/21/2017 PLOT TIME: 12:38:19 PM

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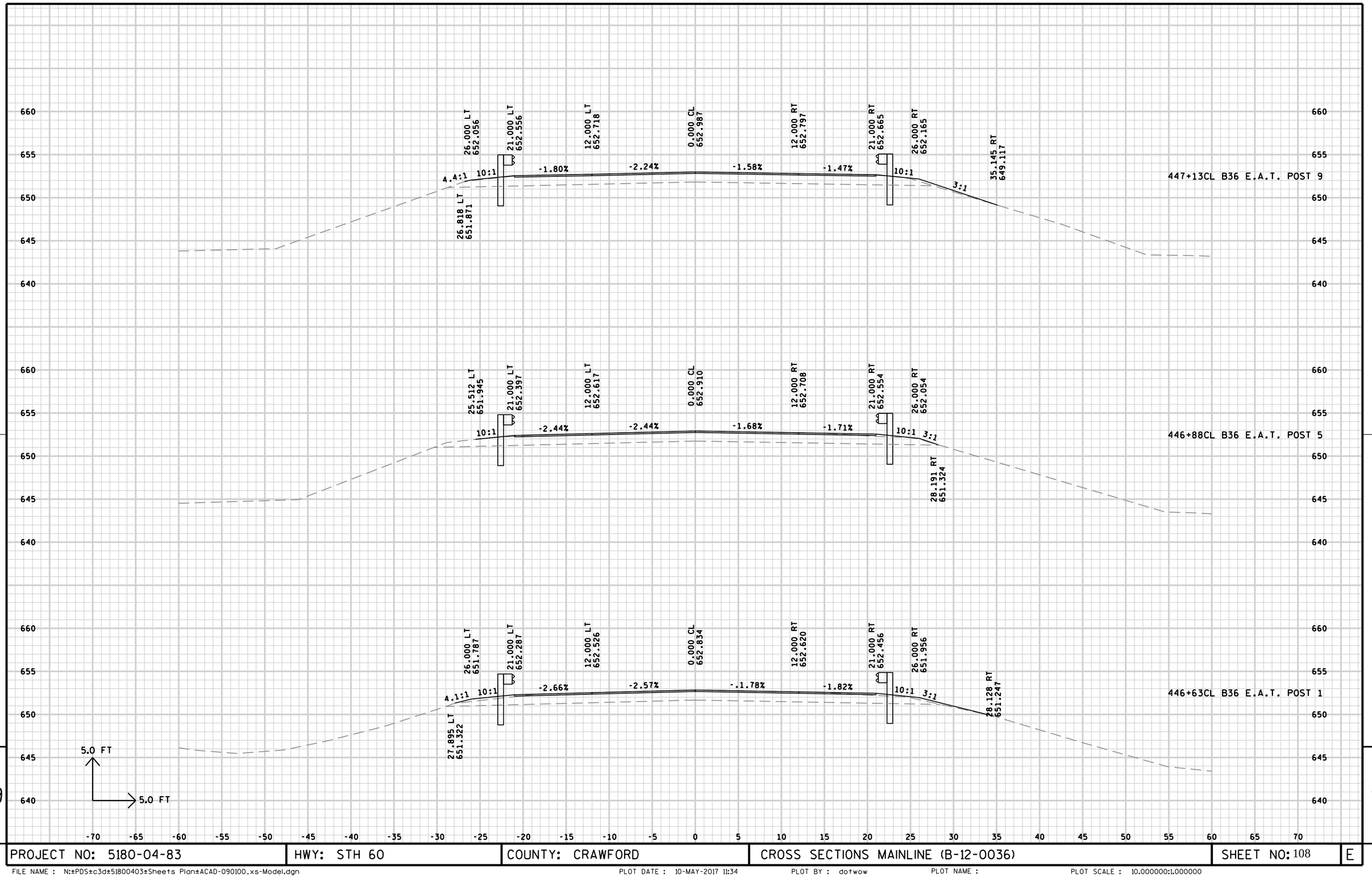

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9

PROJECT NO: 5180-04-83	HWY: STH 60	COUNTY: CRAWFORD	CROSS SECTIONS MAINLINE (B-12-0036)	SHEET NO: 108	E

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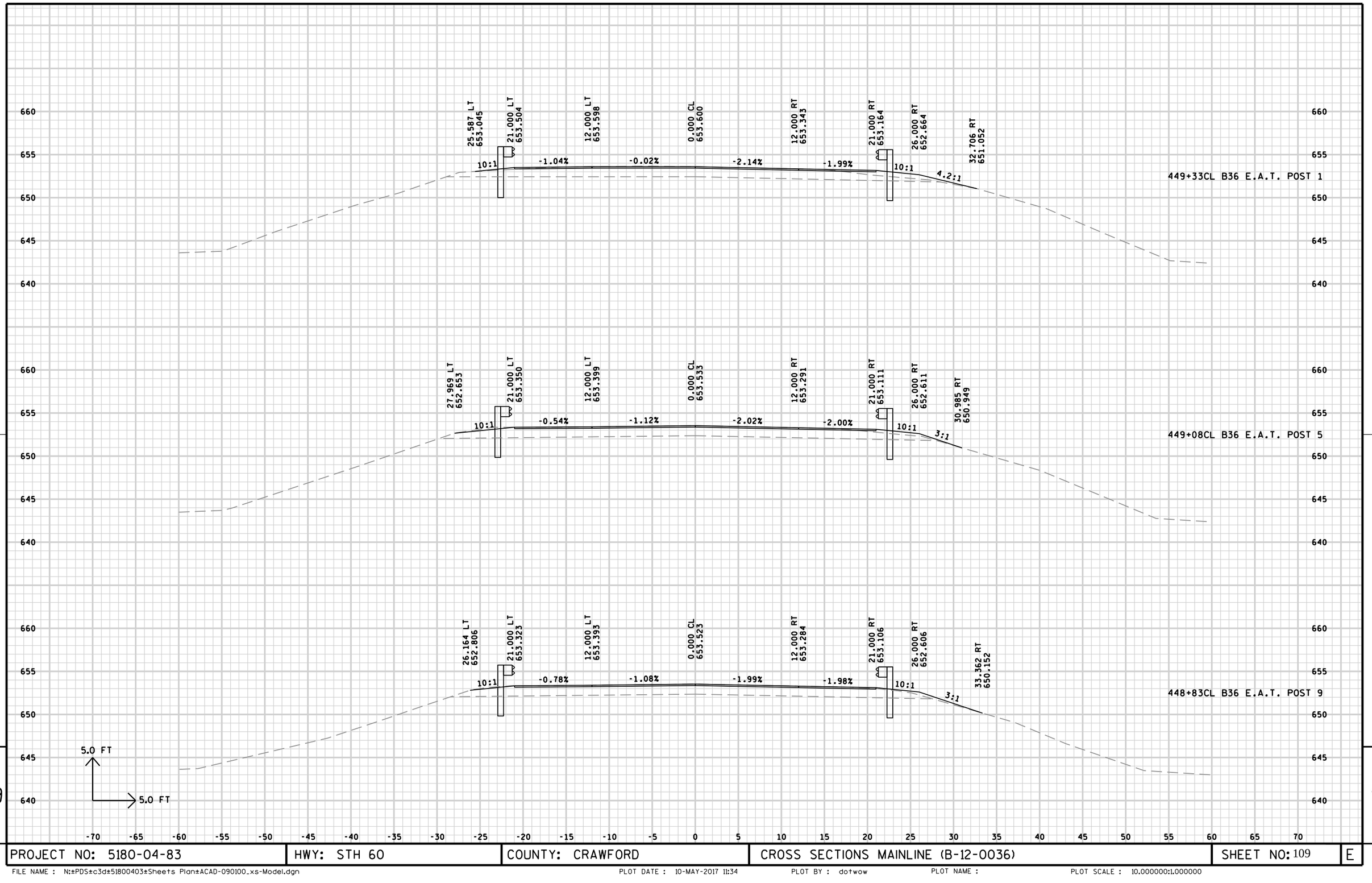

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PROJECT NO: 5180-04-83	HWY: STH 60	COUNTY: CRAWFORD	CROSS SECTIONS MAINLINE (B-12-0036)	SHEET NO: 109	E

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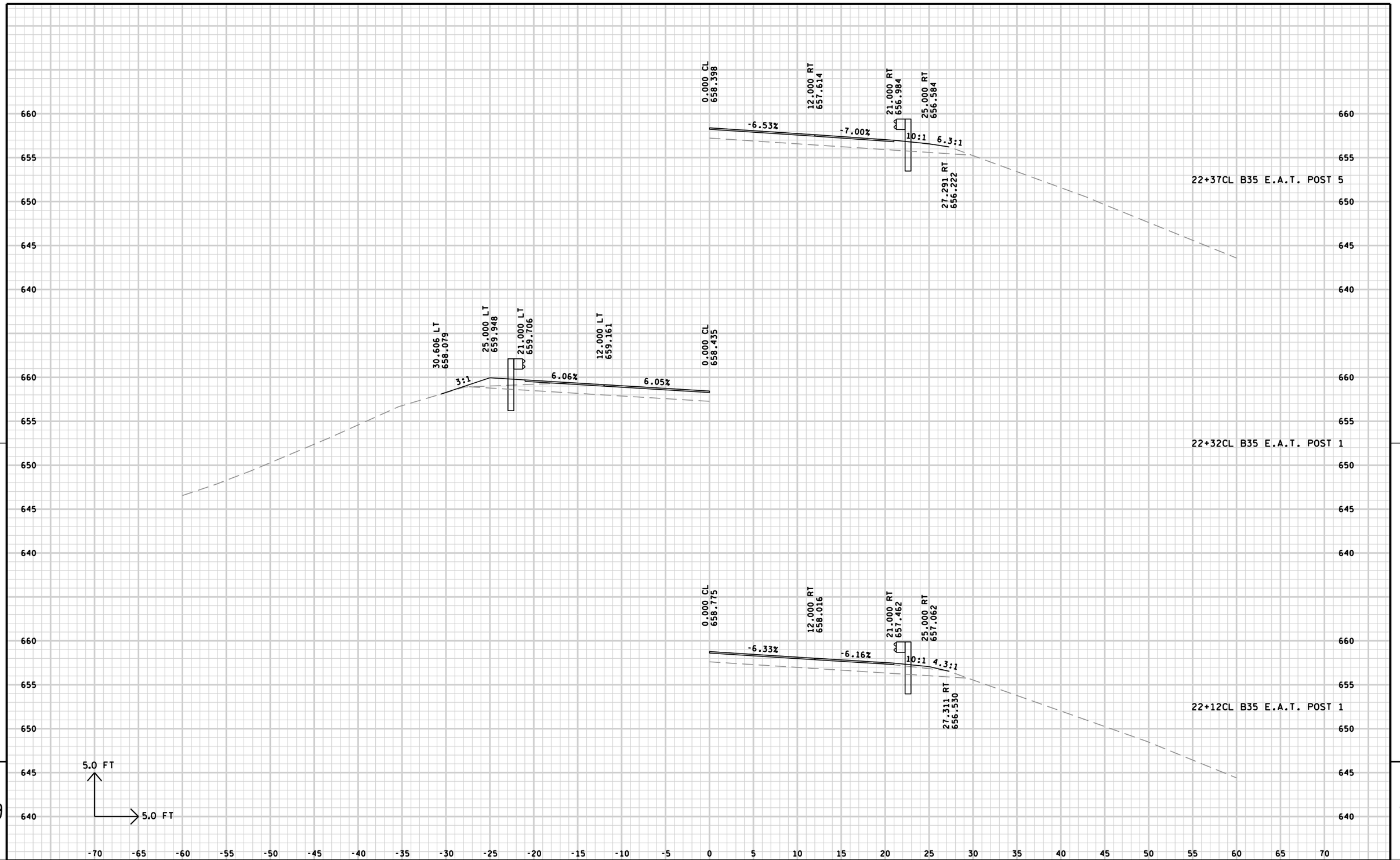

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9

PROJECT NO: 5180-04-83	HWY: STH 60	COUNTY: CRAWFORD	CROSS SECTIONS MAINLINE (B-12-0035)	SHEET NO: 110	E

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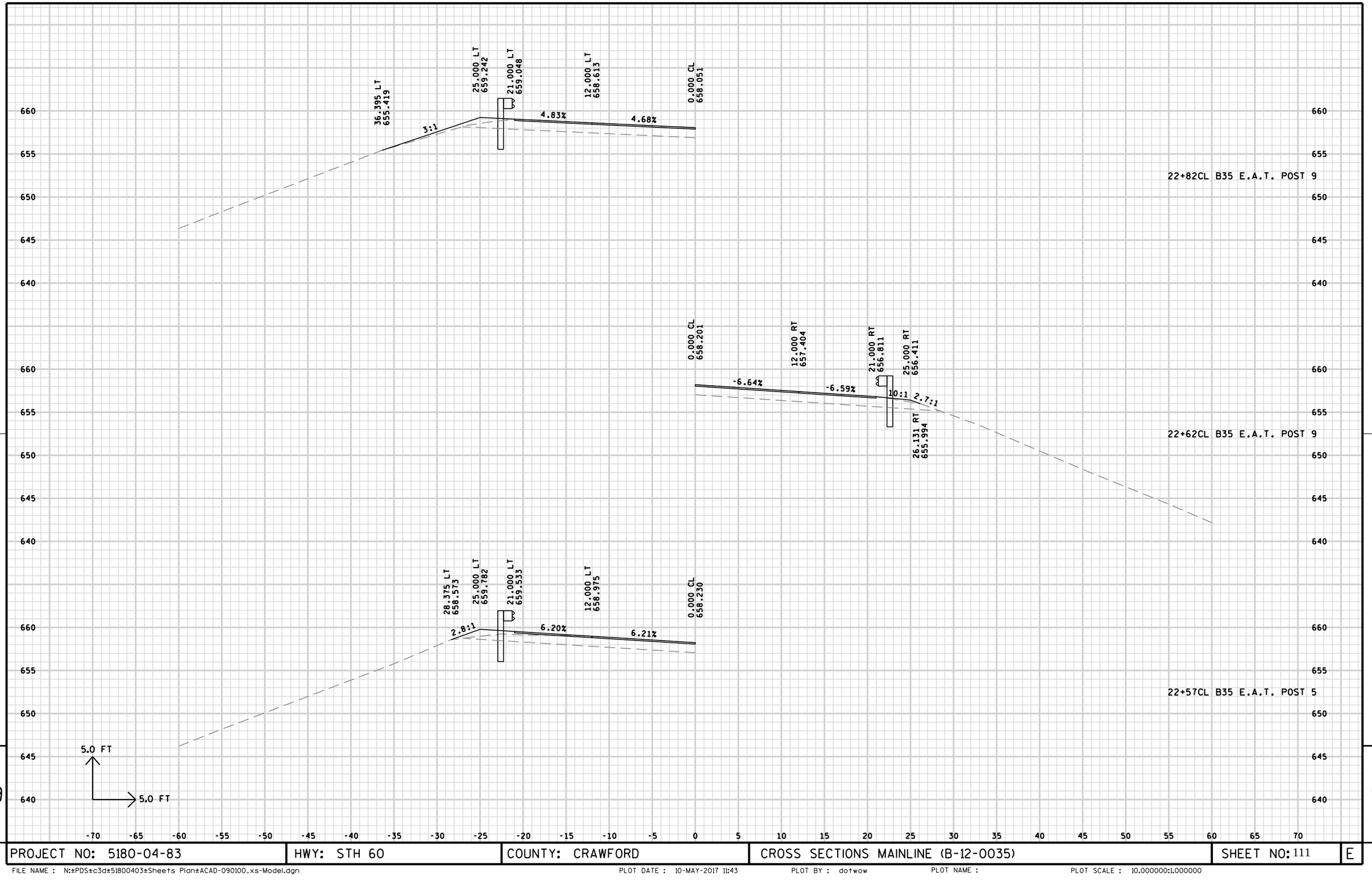

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PROJECT NO: 5180-04-83	HWY: STH 60	COUNTY: CRAWFORD	CROSS SECTIONS MAINLINE (B-12-0035)	SHEET NO: 111	E

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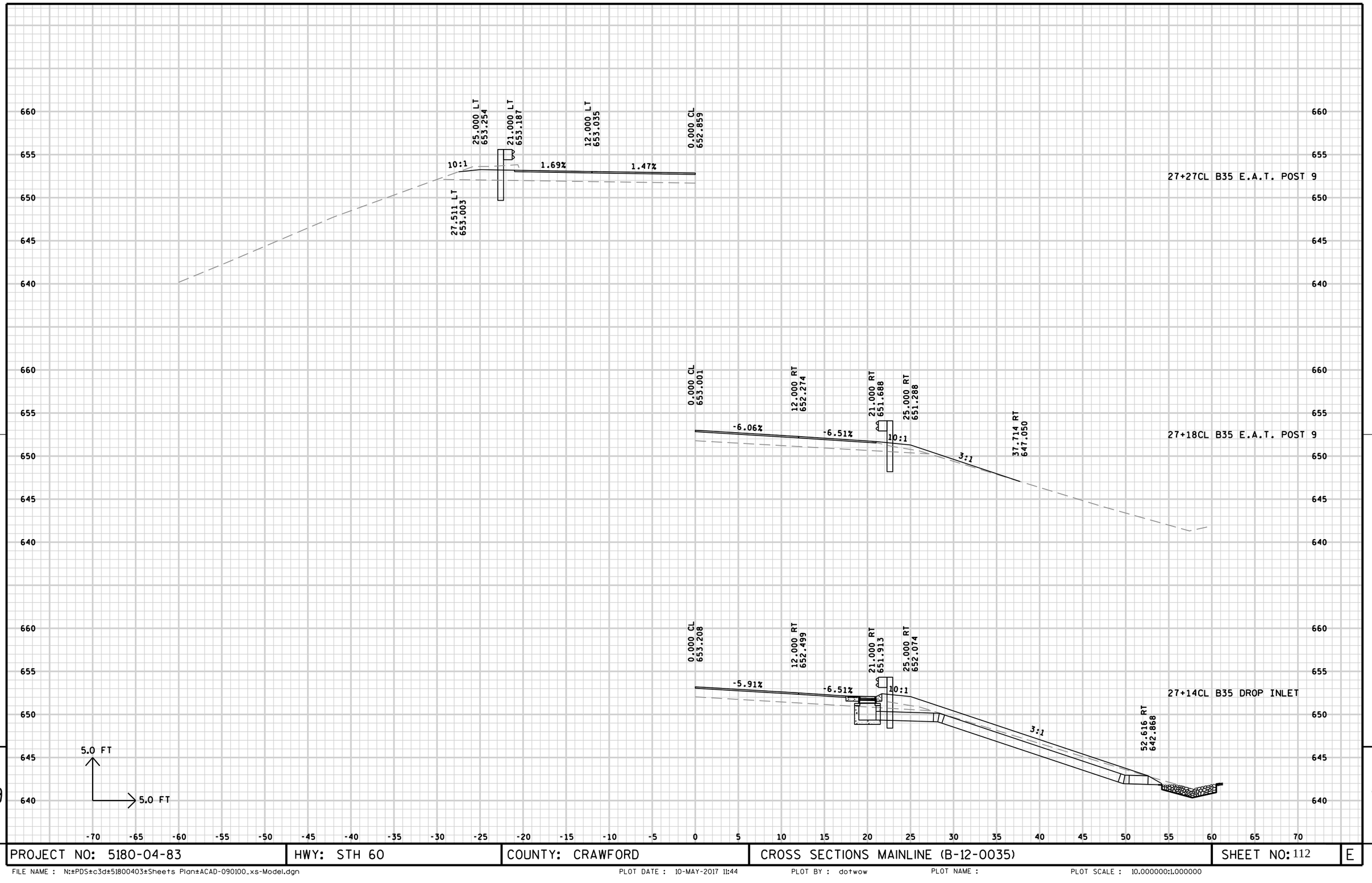

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PROJECT NO: 5180-04-83	HWY: STH 60	COUNTY: CRAWFORD	CROSS SECTIONS MAINLINE (B-12-0035)	SHEET NO: 112	E

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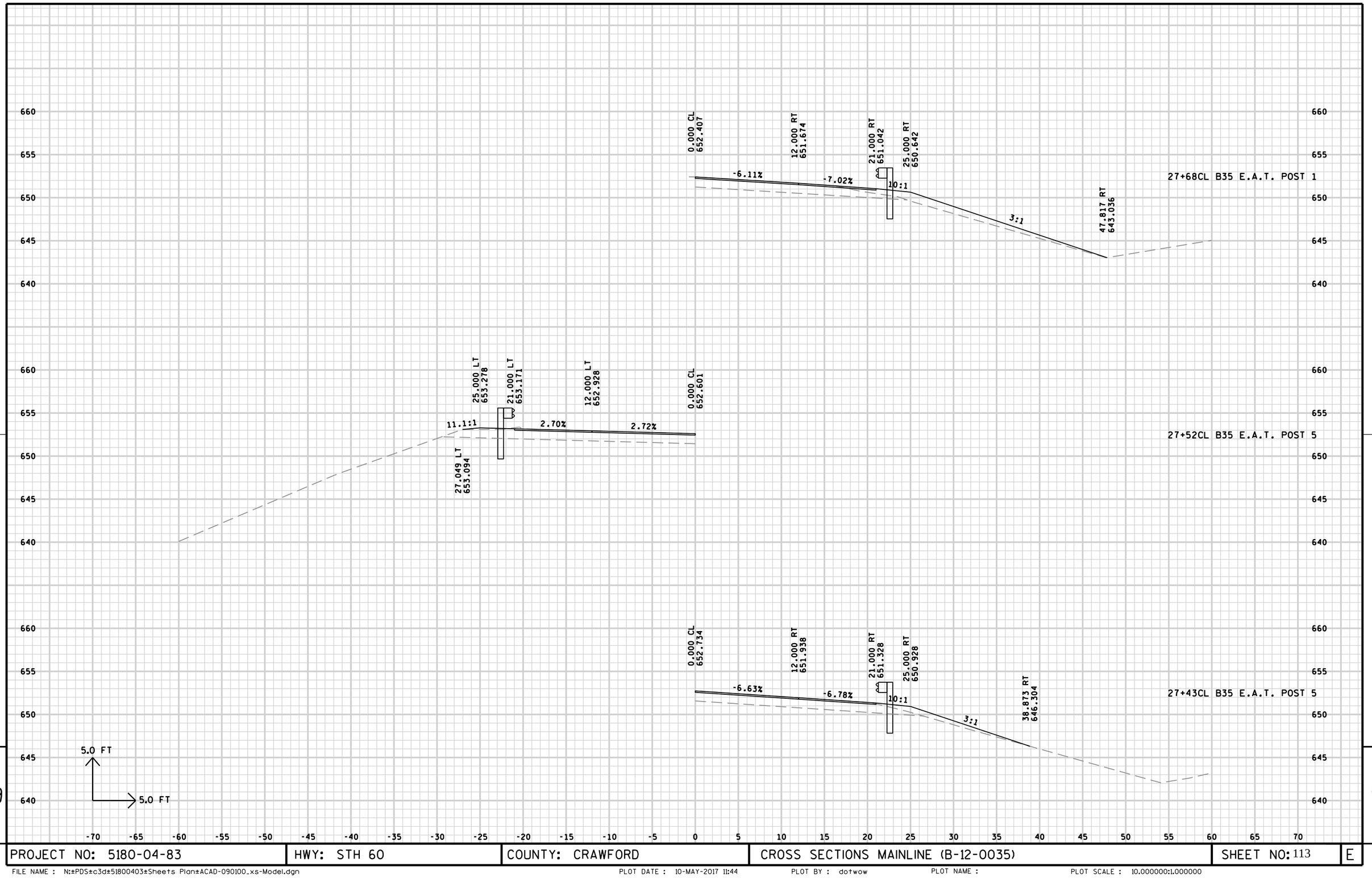

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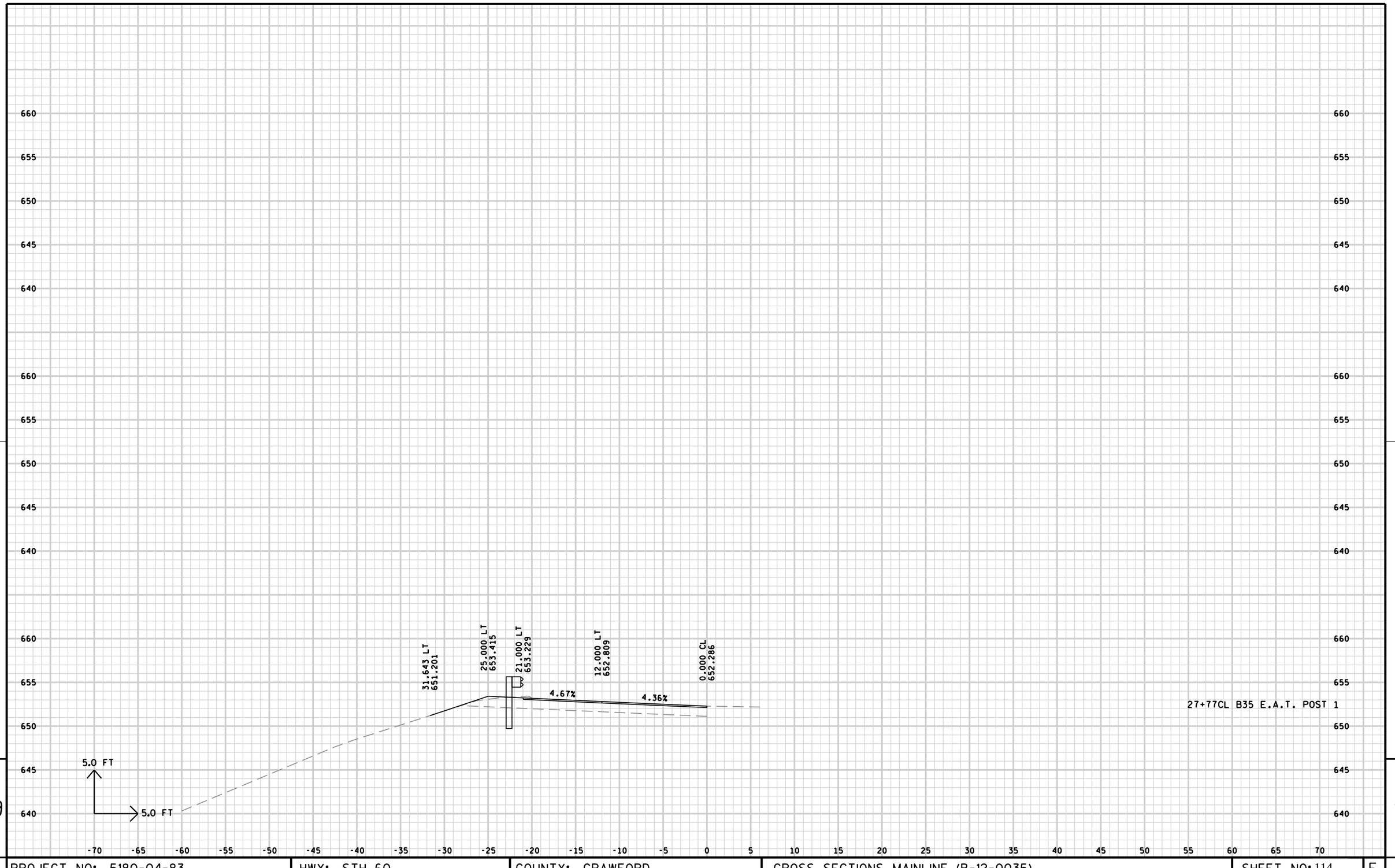
PROJECT NO: 5180-04-83	HWY: STH 60	COUNTY: CRAWFORD	CROSS SECTIONS MAINLINE (B-12-0035)	SHEET NO: 113	E

FILE NAME : N:±PDS±c3d±51800403±Sheets Plan±ACAD-090100_xs-Model.dgn PLOT DATE : 10-MAY-2017 11:44 PLOT BY : dotwow PLOT NAME : PLOT SCALE : 10.000000:1.000000



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PROJECT NO: 5180-04-83	HWY: STH 60	COUNTY: CRAWFORD	CROSS SECTIONS MAINLINE (B-12-0035)	SHEET NO: 114	E

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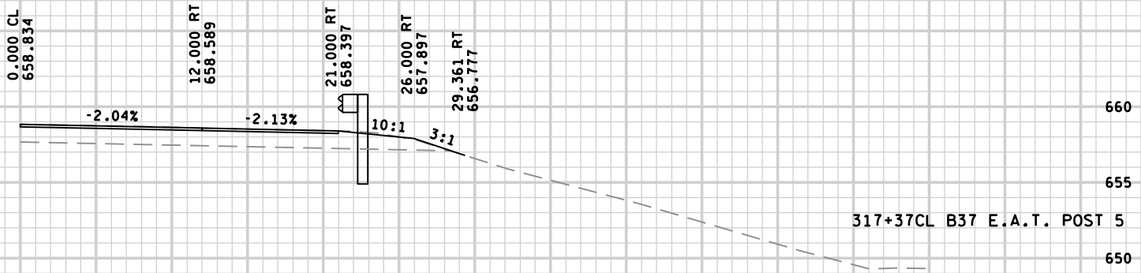
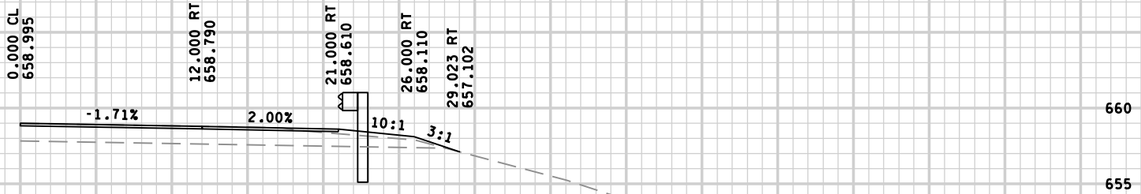
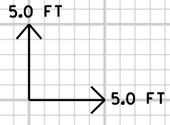
317+62CL B37 E.A.T. POST 9



317+37CL B37 E.A.T. POST 5



317+12CL B37 E.A.T. POST 1



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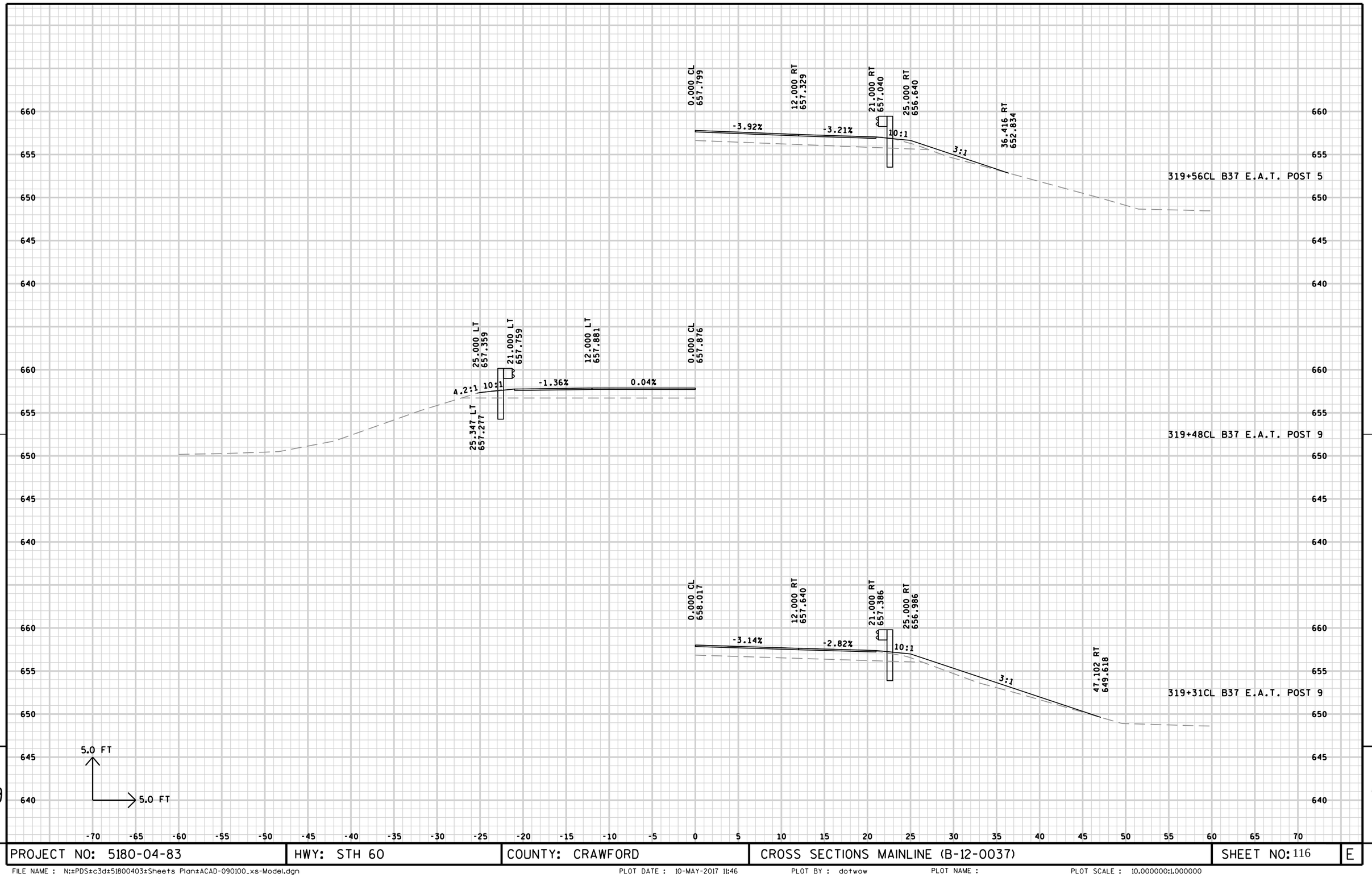
9

PROJECT NO: 5180-04-83	HWY: STH 60	COUNTY: CRAWFORD	CROSS SECTIONS MAINLINE (B-12-0037)	SHEET NO: 115	E

FILE NAME : N:±PDS±c3d±51800403±Sheets Plan±ACAD-090100_xs-Model.dgn PLOT DATE : 10-MAY-2017 11:45 PLOT BY : dotwow PLOT NAME : PLOT SCALE : 10.000000:1.000000



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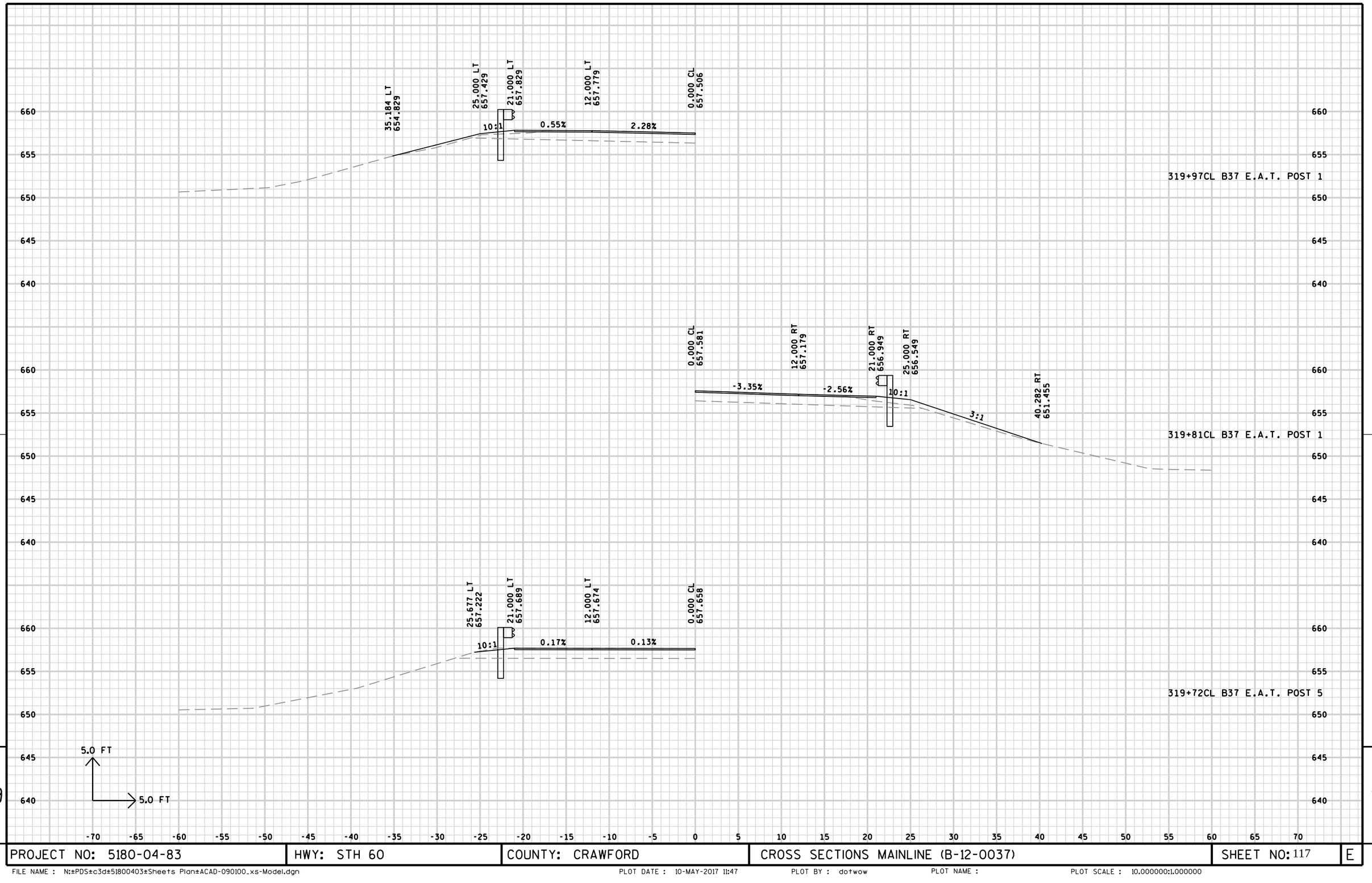

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PROJECT NO: 5180-04-83	HWY: STH 60	COUNTY: CRAWFORD	CROSS SECTIONS MAINLINE (B-12-0037)	SHEET NO: 117	E

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FILE NAME : N:±PDS±c3d±51800403±Sheets Plan±ACAD-090100_xs-Model.dgn PLOT DATE : 10-MAY-2017 11:47 PLOT BY : dotwow PLOT NAME : PLOT SCALE : 10.000000:1.000000

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