LAX

Jan 2018

PROJECT ID: 1071-02-61/62/63

WITH:

COUNTY: MONROE

ORDER OF SHEETS

TOTAL SHEETS = 136

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
1071-02-61	WISC 2018032	1
1071-02-62	WISC 2018033	1
1071-02-63	WISC 2018034	1

LA CROSSE - SPARTA

LTL LACRSS&LEON VLY B41-76,77,79,80

IH 90

MONROE COUNTY

STATE PROJECT NUMBER
1071-02-61

SPARTA - TOMAH

FARMERS VALLEY CREEK B-41-88 & -89

IH 90

MONROE COUNTY

STATE PROJECT NUMBER
1071-02-62

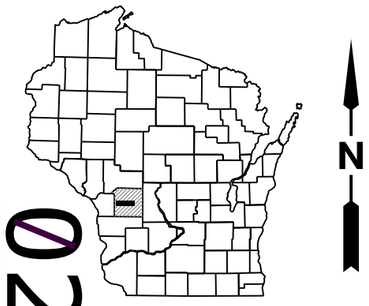
SPARTA - TOMAH

STH 16 BRIDGE B-41-0111

IH 90 EB

MONROE COUNTY

STATE PROJECT NUMBER
1071-02-63



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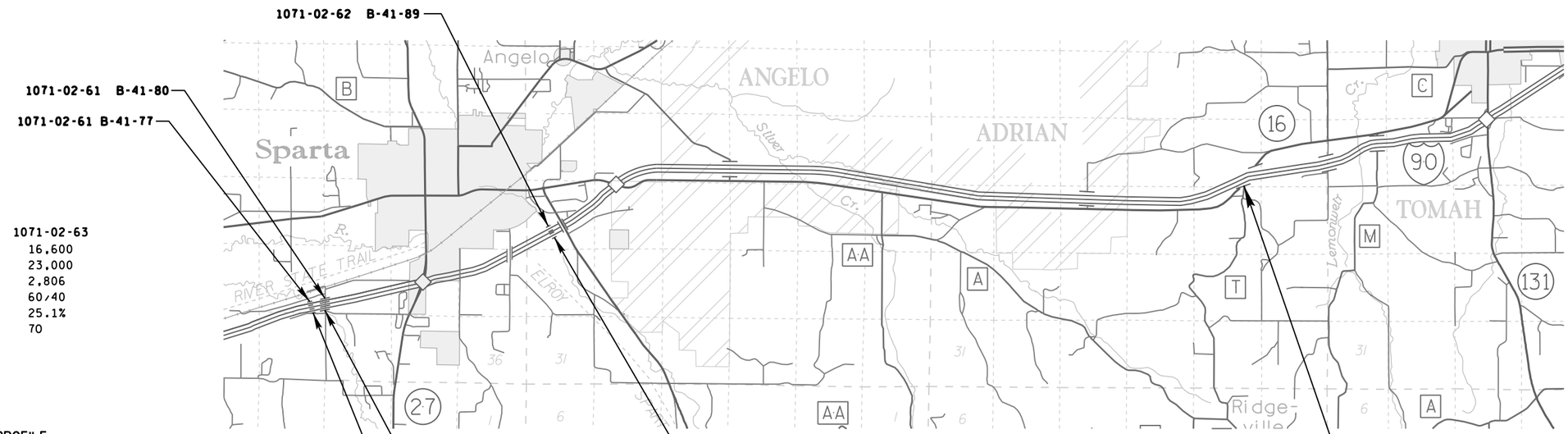
02



DESIGN DESIGNATION

		1071-02-61	1071-02-62	1071-02-63
A.A.D.T. 2012	=	21,600	17,200	16,600
A.A.D.T. 2032	=	29,300	24,200	23,000
D.H.V. 2032	=	3,575	2,952	2,806
D.D.	=	60/40	60/40	60/40
T.	=	25.1%	25.1%	25.1%
DESIGN SPEED	=	70	70	70
ESALS	=			

CONVENTIONAL SYMBOLS

PLAN

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

PROFILE

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

UTILITIES

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

LAYOUT

SCALE 0 1 MI.

TOTAL NET LENGTH OF CENTERLINE = 0.000 MI.

COORDINATES ON THIS PLAN ARE REFERENCED TO THE WISCONSIN COUNTY COORDINATE SYSTEM (WCCS), MONROE COUNTY.

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	WISDOT
Designer	ART SOMMERFIELD
Project Manager	ROBERT WINTERTON
Regional Examiner	
Regional Supervisor	JIM SAVOLDELLI
C.O. Examiner	

APPROVED FOR THE DEPARTMENT

DATE: 8/01/2017 (Signature)

E

GENERAL NOTES

THERE ARE NO KNOWN UTILITY FACILITIES WITHIN THE PROJECT AREA. HOWEVER, IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONFIRM THIS.

ALL CLOSED LANES SHALL BE SWEPT PRIOR TO OPENING TO TRAFFIC

NO EXCAVATION IS ALLOWED EXCEPT FOR THE SURFACE DRAIN AND CONCRETE PAVEMENT CONSTRUCTION

THE FACE OF THE STEEL PLATE BEAM GUARD RAIL SHALL BE FLUSH WITH THE FACE OF THE CURB AND GUTTER.

PAVEMENT REMOVAL WILL BE TO THE NEAREST JOINT OR A SAWED EDGE WILL BE REQUIRED AS DIRECTED BY THE ENGINEER.

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

SHAPING, TRIMMING AND DISPOSAL OF EXISTING SHOULDERS WILL BE INCIDENTAL TO THE BID ITEM OF CRUSHED AGGREGATE BASE COURSE.

WHEN THE QUANTITIES OF ASPHALTIC CONCRETE PAVEMENT IS MEASURED FOR PAYMENT BY THE TON, THE DEPTH OF THICKNESS OF THE MATERIAL THAT IS SHOWN ON THE PLANS IS APPROXIMATE AND THE ACTUAL THICKNESS WILL DEPEND ON THE DISTRIBUTION OF THE MATERIAL AS DIRECTED BY THE ENGINEER.

HMA PAVEMENT LESS THAN 2-1/2 INCH IN DEPTH SHALL BE CONSTRUCTED OF UPPER LAYER MATERIAL.

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

DNR LIAISON

KAREN KALVELAGE
ENVIRONMENTAL ANALYSIS & REVIEW SPECIALIST
WISCONSIN DEPT. OF NATURAL RESOURCES
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DESIGN CONTACTS

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STANDARD ABBREVIATIONS

AC	ACRE
AGG	AGGREGATE
<	ANGLE
AE, AEW	APRON ENDWALL
ASPH.	ASPHALTIC
A.D.T.	AVERAGE DAILY TRAFFIC
A.A.D.T.	ANNUAL AVERAGE DAILY TRAFFIC
B.F.	BACK FACE
BM	BENCHMARK
BTWN	BETWEEN
CTR.	CENTER
C/L	CENTER LINE
Δ	CENTRAL ANGLE OR DELTA
C.E.	COMMERCIAL ENTRANCE
CONST.	CONSTRUCTION
CMCP	CORRUGATED METAL CULVERT PIPE
CMP	CORRUGATED METAL PIPE
CO.	COUNTY
CTH	COUNTY TRUNK HIGHWAY
CR.	CREEK
CABC	CRUSHED AGGREGATE BASE COURSE
CY	CUBIC YARD
CP	CONTROL POINT OR CULVERT PIPE
C&G	CURB AND GUTTER
D	DEGREE OF CURVE
D.H.V.	DESIGN HOURLY VOLUME
DIA.	DIAMETER
D.D.	DIRECTIONAL DISTRIBUTION
DISCH.	DISCHARGE
DMS	DYNAMIC MESSAGE SIGN
EA	EACH
E	EAST
EB	EASTBOUND
ELEC.	ELECTRIC(AL), ELEC. CABLE
EL., ELEV.	ELEVATION
ESALS	EQUIVALENT SINGLE AXLE LOADS
EXC.	EXCAVATION
EXIST	EXISTING
F.F.	FACE TO FACE
FERT.	FERTILIZER
F.E.	FIELD ENTRANCE
F/L, F.L.	FLOW LINE
GALV.	GALVANIZE
H.S.	HIGH STRENGTH
CWT	HUNDRED WEIGHT
INL	INLET
INTER.	INTERSECTION
IH	INTERSTATE HIGHWAY
JT.	JOINT
LT	LEFT
L.H.F.	LEFT HAND FORWARD
L.	LENGTH OF CURVE
L.F.	LINEAR FOOT(FEET)
LC.	LONG CHORD
LS	LUMP SUM
M.P.	MARKER POST
MGAL	1000 GALLONS
N.C.	NORMAL CROWN
N	NORTH
NB	NORTHBOUND
NOR	NORMAL
NO.	NUMBER
PAV'T	PAVEMENT
P.L.E.	PERMANENT LIMITED EASEMENT
P.C.	POINT OF CURVATURE
P.I.	POINT OF INTERSECTION
P.T.	POINT OF TANGENCY
PCC	PORTLAND CEMENT CONCRETE
P.E.	PRIVATE ENTRANCE
PGL	PROFILE GRADE LINE
P.L.	PROPERTY LINE
R	RADIUS OR RANGE
R/L	REFERENCE LINE
R.C.C.P.	REINFORCED CONCRETE CULVERT PIPE
REQ'D	REQUIRED
RT	RIGHT
R.H.F.	RIGHT HAND FORWARD
R/W	RIGHT OF WAY
RD.	ROAD
SHLD.	SHOULDER(S)
SHR.	SHRINKAGE
S	SOUTH
SB	SOUTHBOUND
S.F.	SQUARE FOOT (FEET)
SDD	STANDARD DETAIL DRAWING(S)
STH	STATE TRUNK HIGHWAY
STA.	STATION
S.E.	SUPERELEVATION
S/L	SURVEY LINE
SYM	SYMMETRICAL
T.	PERCENT TRUCKS
TEL.	TELEPHONE
TEMP.	TEMPORARY
T.L.E.	TEMPORARY LIMITED EASEMENT
T.O.C.	TOP OF CURB
TYP	TYPICAL
UNCL.	UNCLASSIFIED
U.G.	UNDERGROUND (CABLE)
VAR	VARIABLE
V.C.	VERTICAL CURVE
V.P.C.	VERTICAL POINT OF CURVATURE
V.P.I.	VERTICAL POINT OF INTERSECTION
V.P.T.	VERTICAL POINT OF TANGENCY
Wt.	WEIGHT
W	WEST
WB	WESTBOUND

2

DIGGERS HOTLINE

Dial 811 or (800) 242-8511

www.DiggersHotline.com

UTILITY CONTACTS

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harlow.jarvis@charter.com

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rboyles@oakdalerec.com

Ben Grilley
Lemonweir Valley Telephone Co-Communication Line
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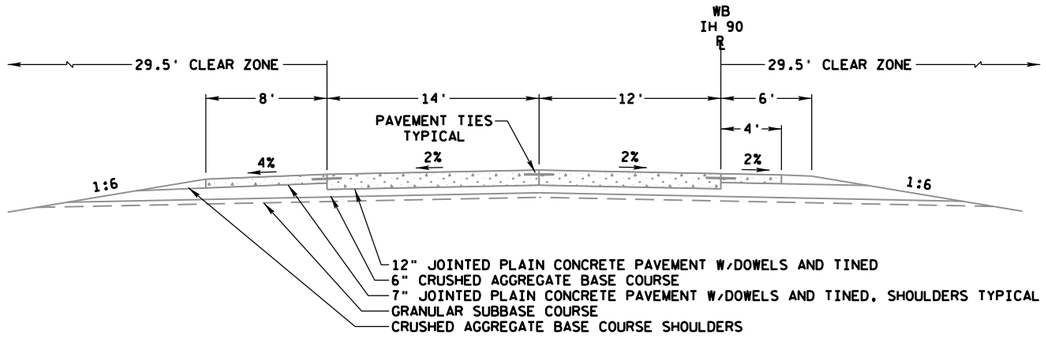
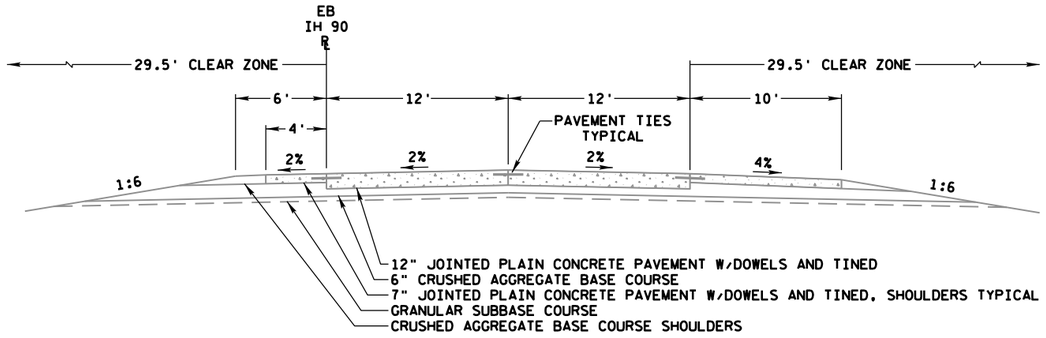
PO Box 267
Camp Douglas, WI 54618-0267
(608) 427-6515 Ext 121
ben.grilley@getlynxx.com



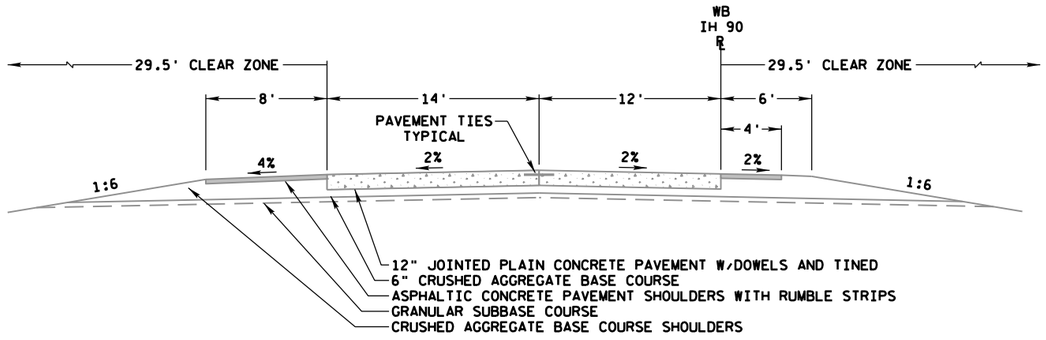
EXISTING TYPICAL SECTION - 1071-02-61/62

WEST AND EAST APPROACHES: B-41-77 & B-41-89
WEST APPROACH: B-41-80



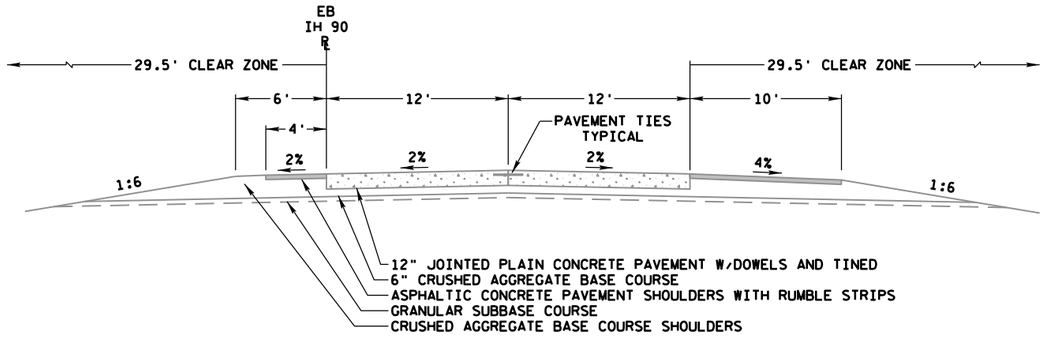
EXISTING TYPICAL SECTION - 1071-02-61/62

WEST AND EAST APPROACHES: B-41-76 & B-41-88
WEST APPROACH: B-41-79



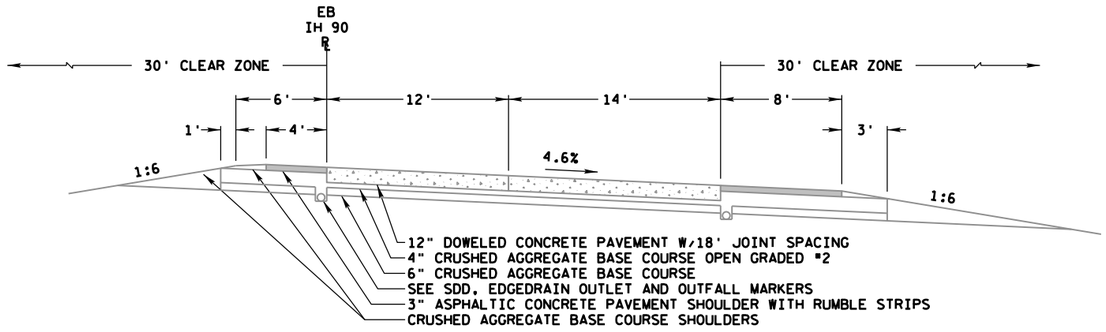
EXISTING TYPICAL SECTION - 1071-02-61/62

EAST APPROACH: B-41-80



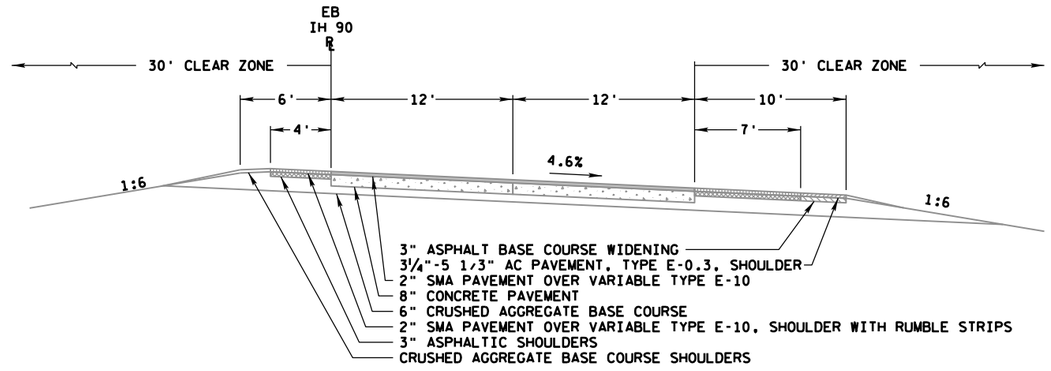
EXISTING TYPICAL SECTION - 1071-02-61/62

EAST APPROACH: B-41-79



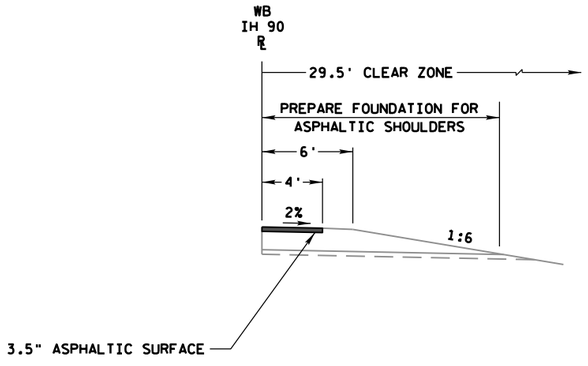
EXISTING TYPICAL SECTION - 1071-02-63

WEST APPROACH: B-41-111



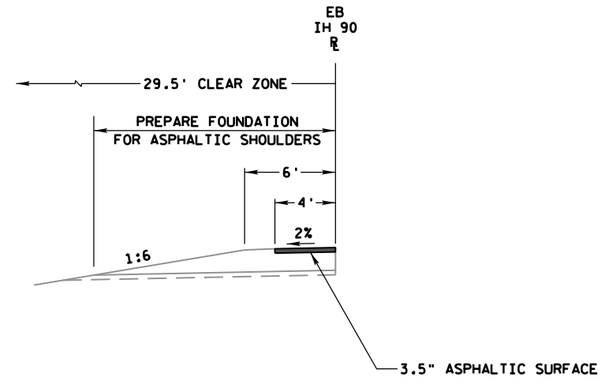
EXISTING TYPICAL SECTION - 1071-02-63

EAST APPROACH: B-41-111



FINISHED TYPICAL SECTION - 1071-02-61/62

EAST APPROACH: B-41-80



FINISHED TYPICAL SECTION - 1071-02-61/62

EAST APPROACH: B-41-79

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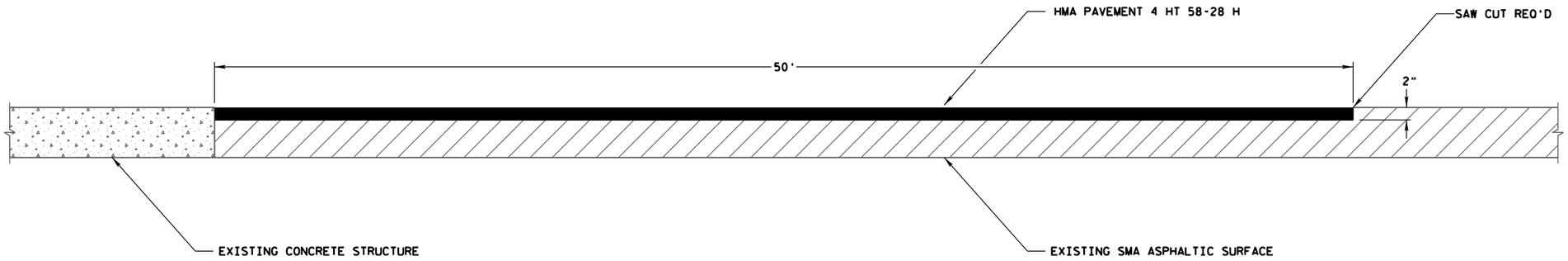

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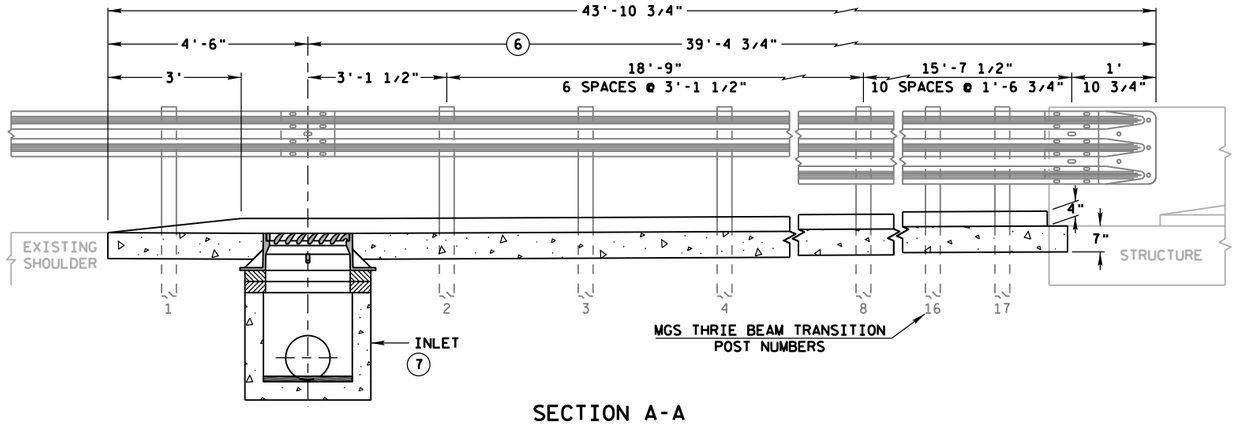
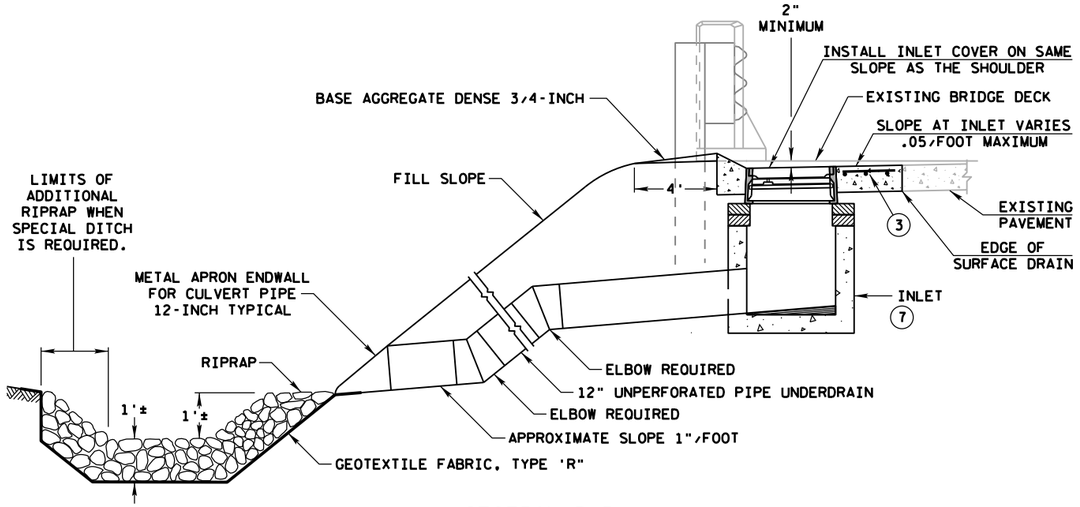


SECTION A-A



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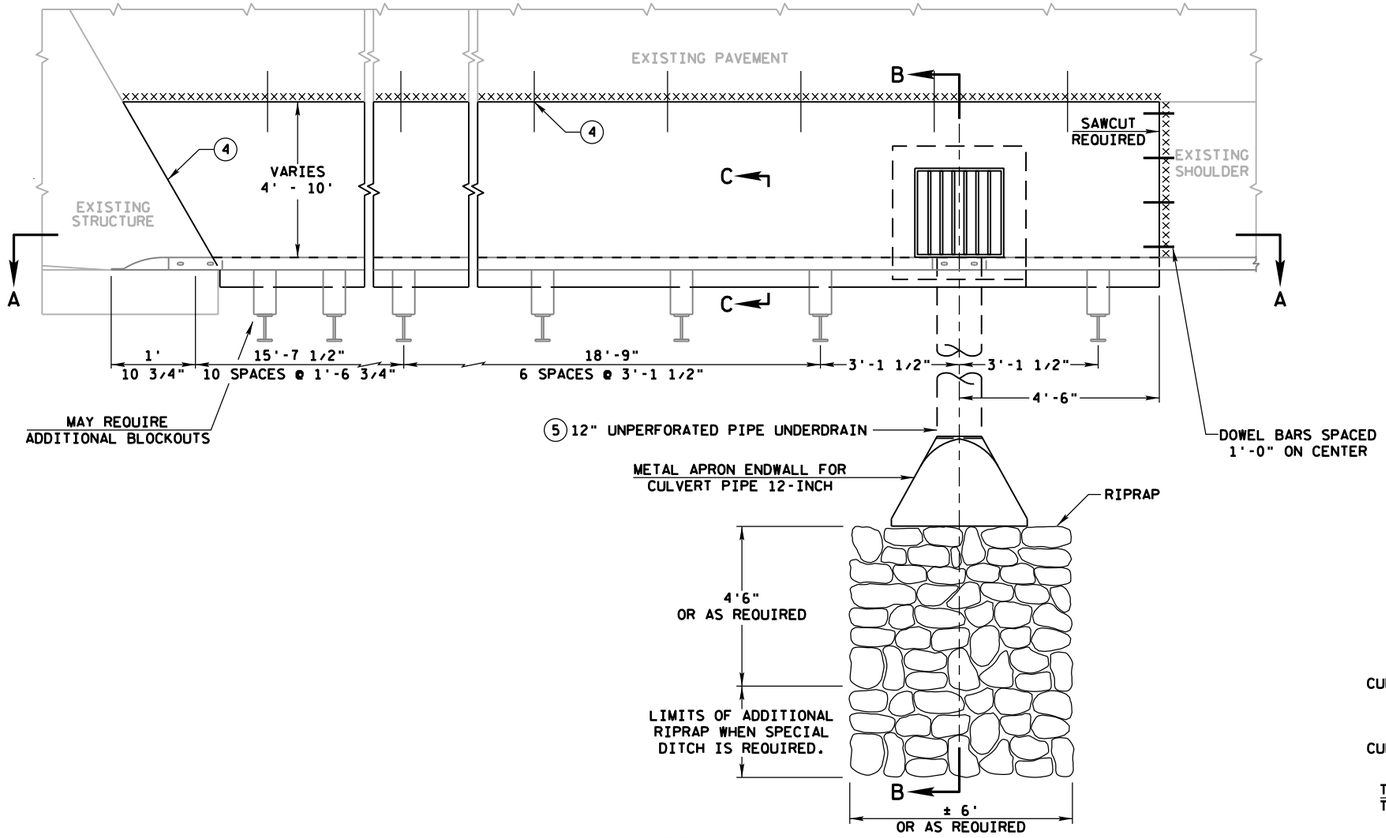
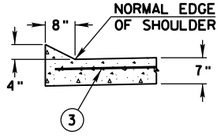


PLAN VIEW



SECTION C-C

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.

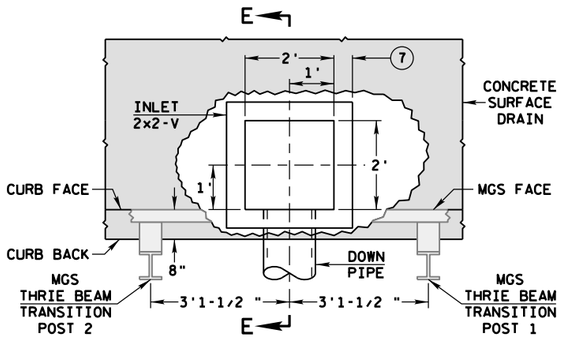
(3) ALL STEEL REINFORCEMENT SHALL BE EMBEDDED 2-INCHES CLEAR UNLESS OTHERWISE SHOWN OR NOTED. MINIMUM REINFORCEMENT SHALL BE 6"x 6" - W4.0 OR NO.3 BARS LONGITUDINAL AND TRANSVERSE SPACING 12" C-C.

(4) NO. 4 X 2'-0" TIE BARS SPACED 3'-0" ON CENTER.

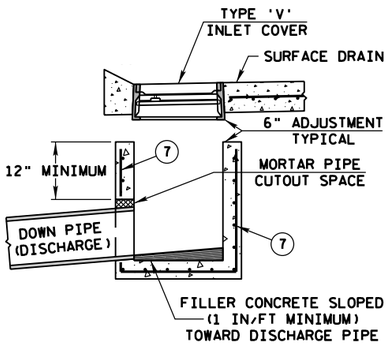
(5) THE PIPE UNDERDRAIN MAY BE ANY ONE OF THE SIX MATERIALS LISTED IN THE STANDARD SPECIFICATIONS SECTION 612.2 EXCEPT DRAIN TILE.

(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".



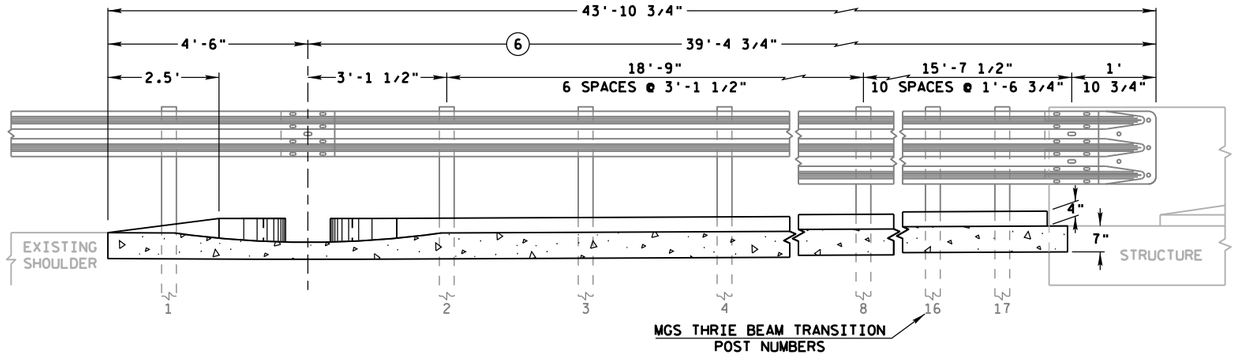
INLET PLAN VIEW



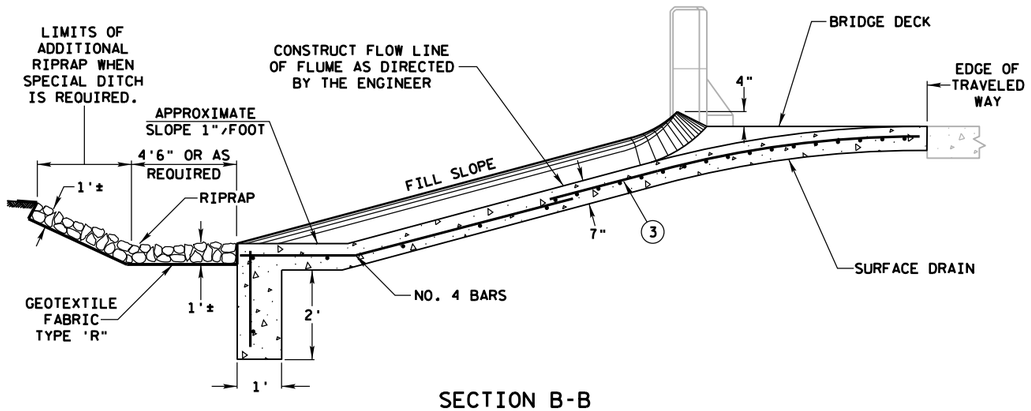
SECTION E-E

PROJECT NO: 1071-02-61, 62	HWY: IH 90	COUNTY: MONROE	CONSTRUCTION DETAIL-CONCRETE SURFACE DRAIN, DOWN PIPE	SHEET	E

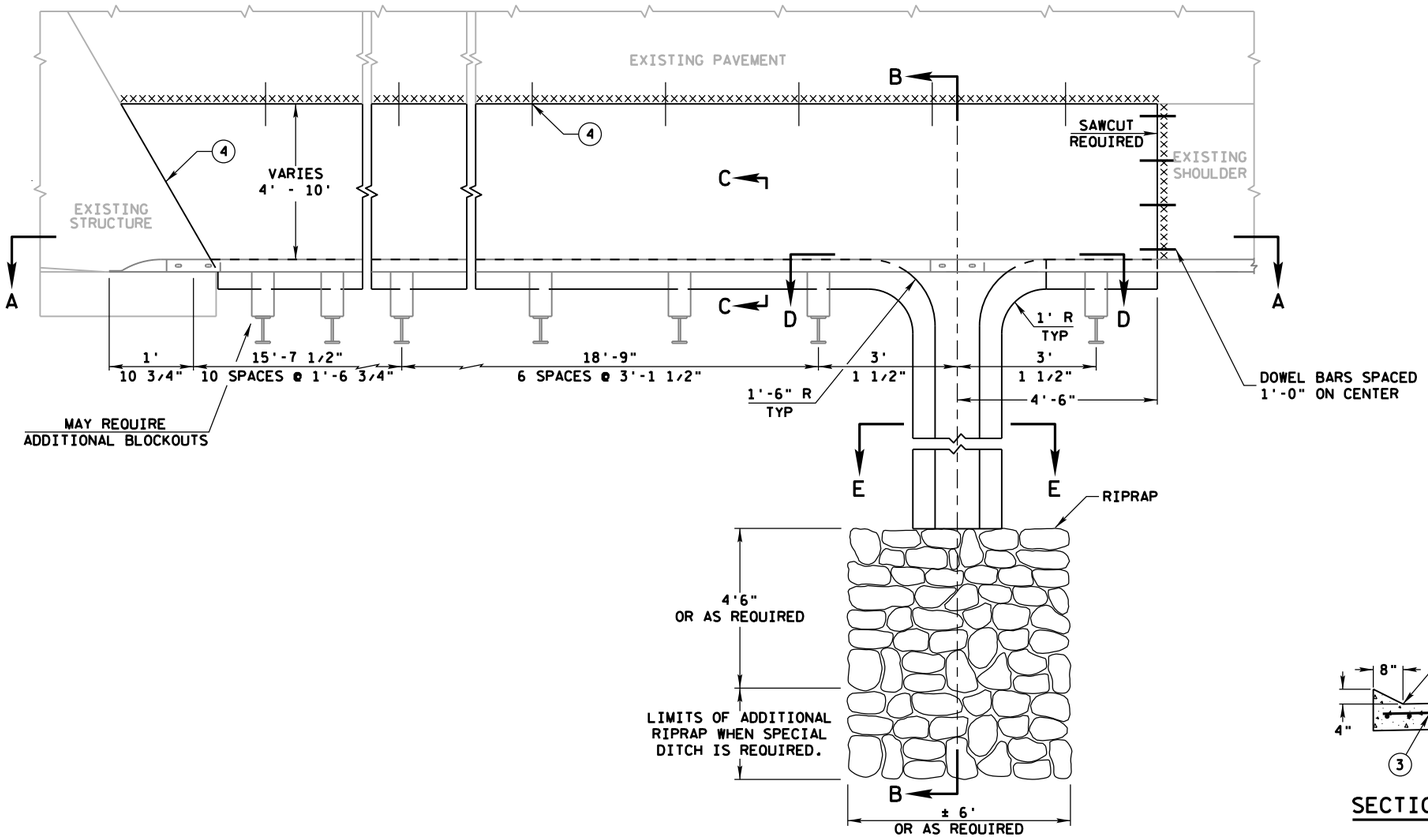
FILE NAME : P:\State\i90\10710231\Cad\eplans\August 2017\021007_cd.dgn PLOT DATE : 01-AUG-2017 08:52 PLOT BY : dotr3w PLOT NAME : PLOT SCALE : 3.407353:1.000000
WISDOT/CADDS SHEET 42



SECTION A-A



SECTION B-B



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.

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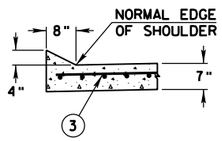
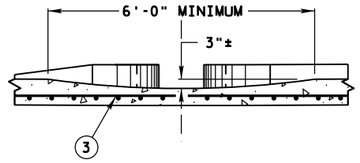
(4) NO. 4 X 2'-0" TIE BARS SPACED 3'-0" ON CENTER

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

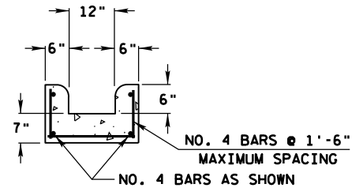
(6) THIS DIMENSION MAY VARY DEPENDING ON THE MGS GUARDRAIL POST SPACING. THE TYPICAL LOCATION FOR THE SURFACE DRAIN IS WHERE THE POST SPACING WIDENS TO 6'-3".



SECTION C-C



SECTION D-D

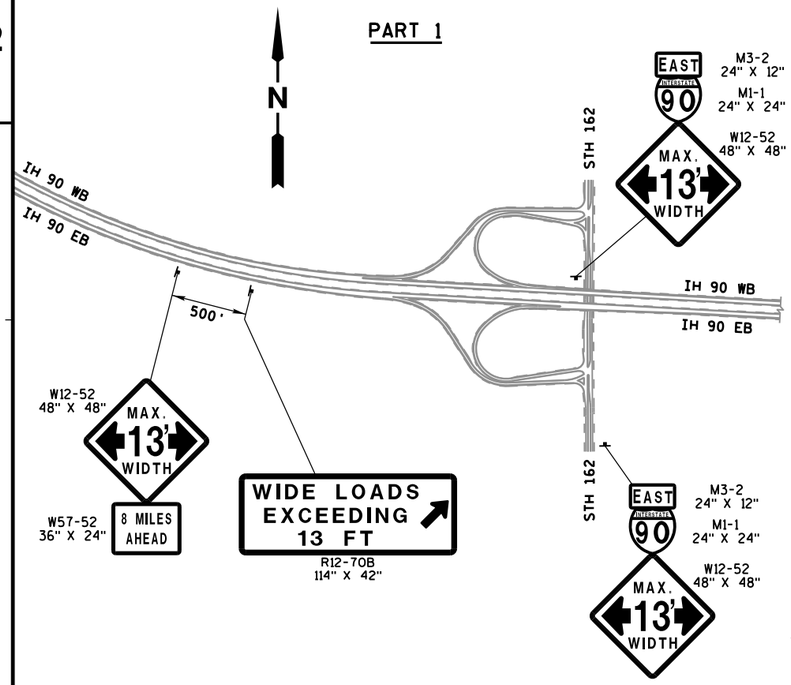


SECTION E-E

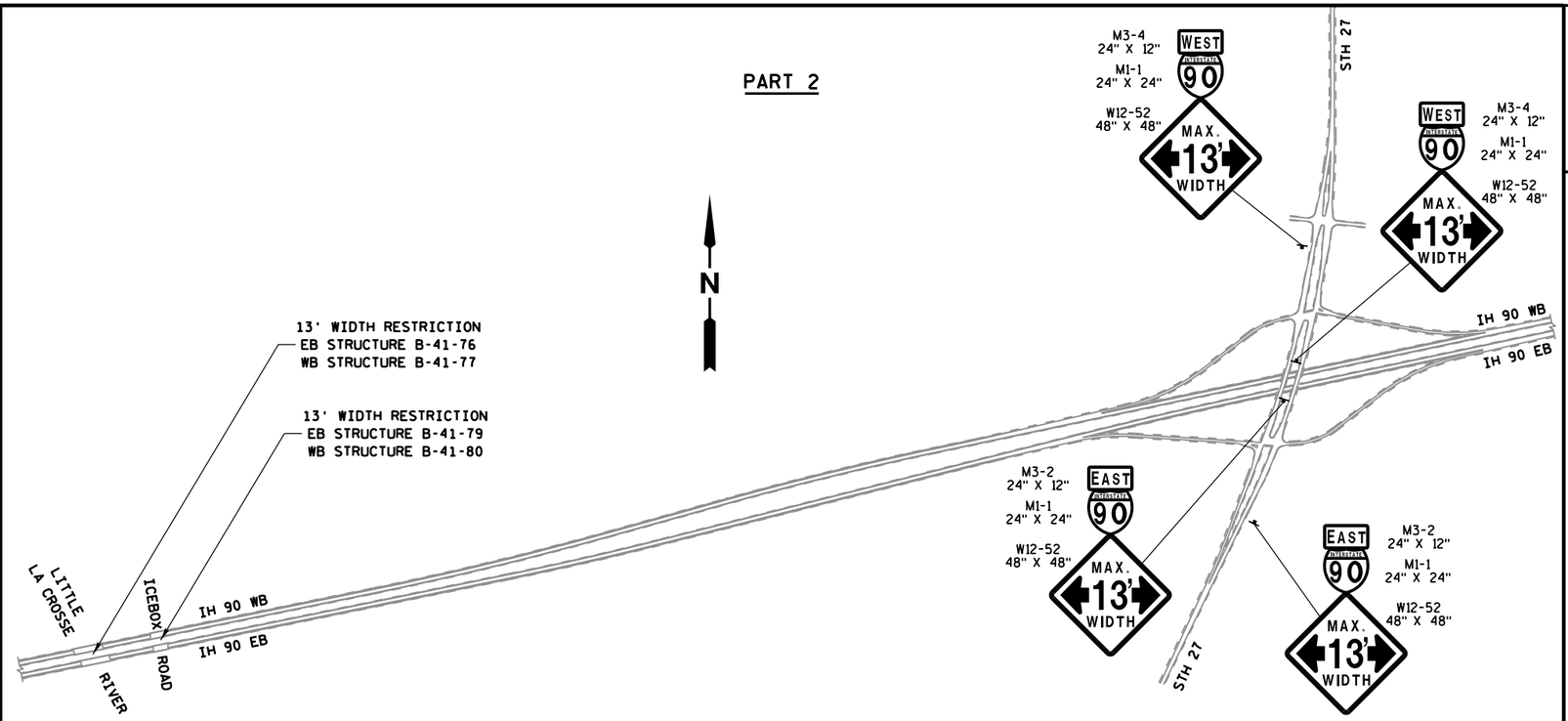
PROJECT NO: 1071-02-61, 62	HWY: IH 90	COUNTY: MONROE	CONSTRUCTION DETAIL-CONCRETE SURFACE DRAIN	SHEET	E

FILE NAME : P:\State\i90\10710231\Cad\eplans\August 2017\021009_cd.dgn PLOT DATE : 01-AUG-2017 08:54 PLOT BY : dotr3w PLOT NAME : PLOT SCALE : 3.407353:1.000000 WISDOT/CADDS SHEET 42

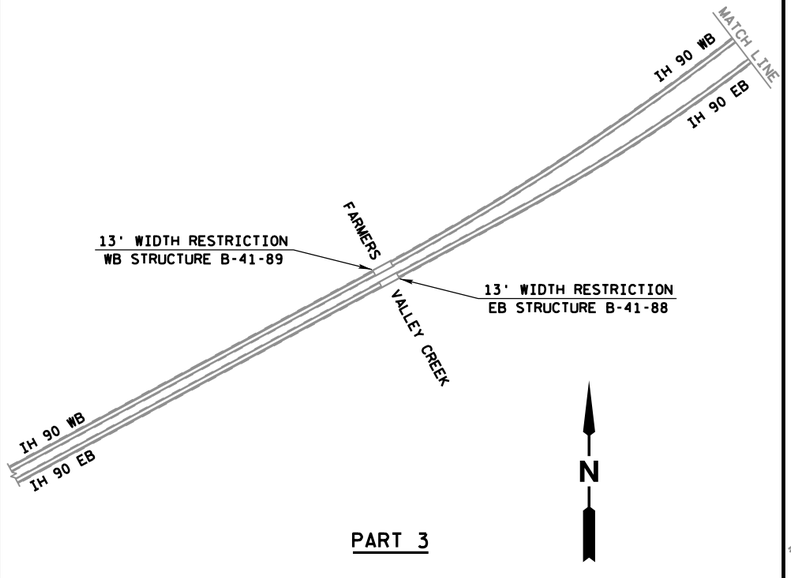
PART 1



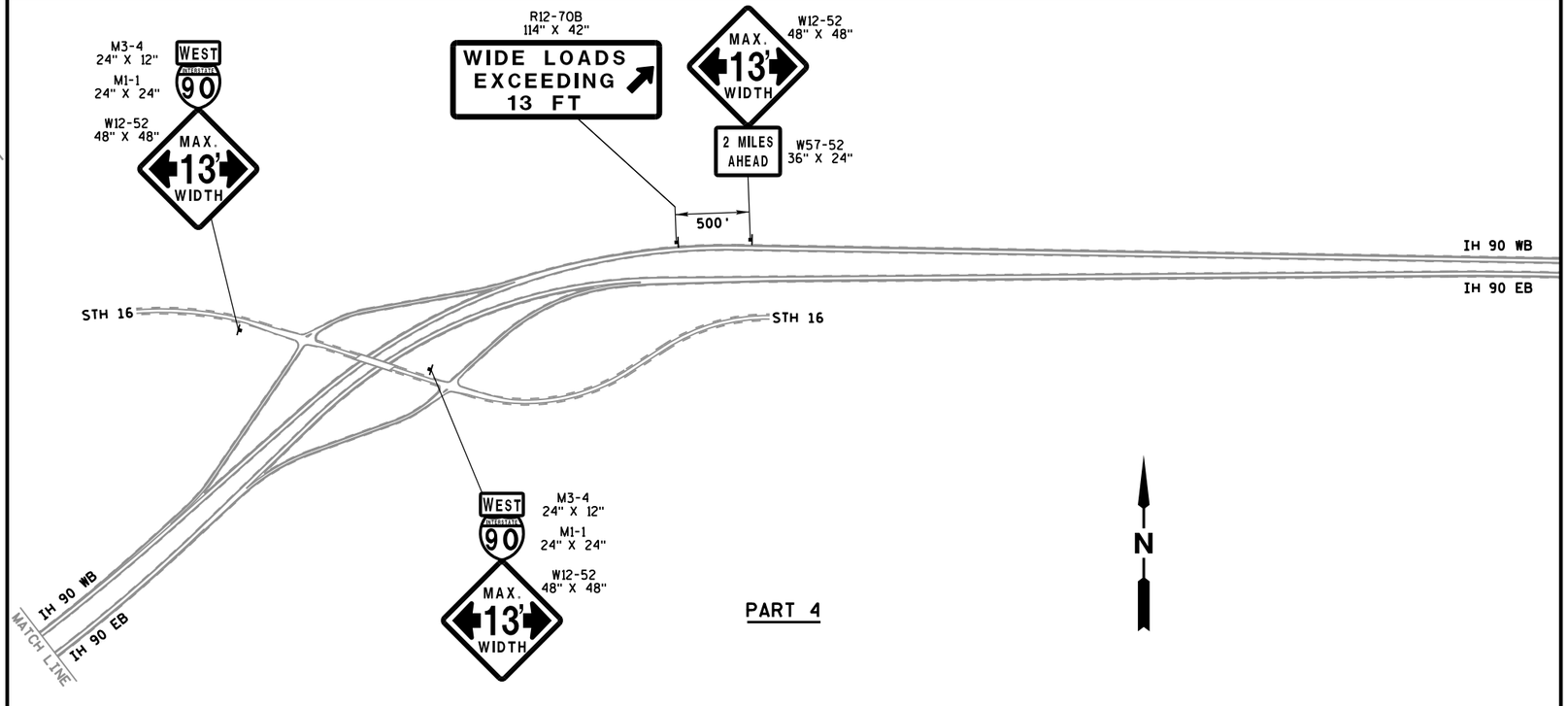
PART 2



PART 3



PART 4



PROJECT NO: 1071-02-61/62/63	HWY: IH 90	COUNTY: MONROE	ADVANCED WARNING SIGNING: STAGE 1	SHEET 9	E

2

LEGEND

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

GENERAL NOTES

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

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

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

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

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

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

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

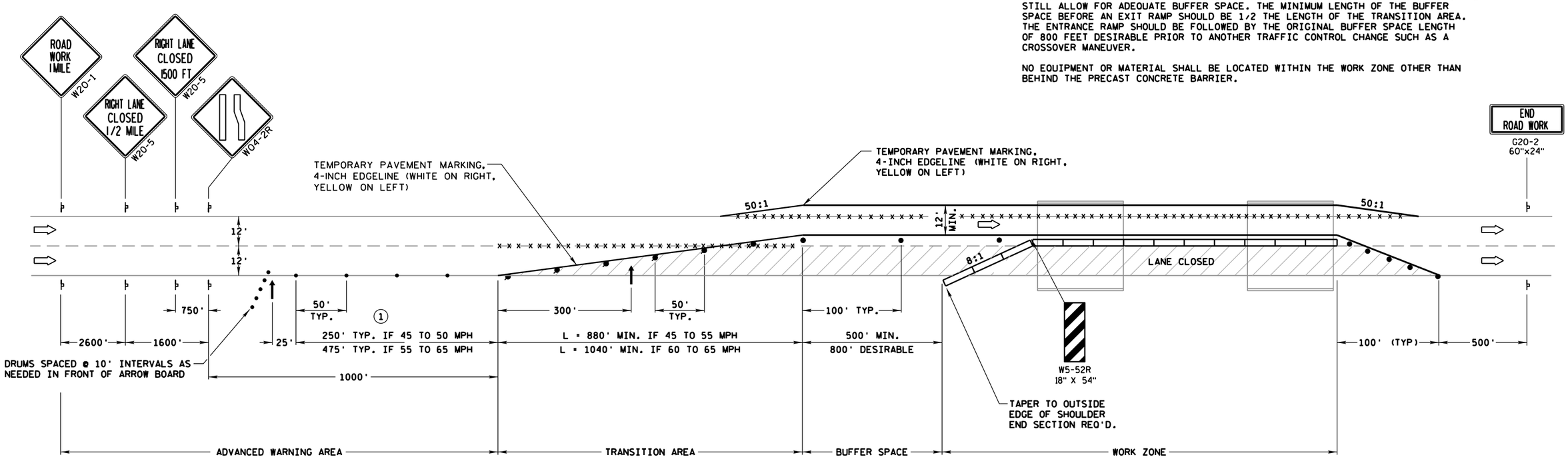
FOR A LANE CLOSURE THAT IS IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, THE ADVANCED WARNING SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS.

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

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

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

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



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 APPROXIMATELY 1-FOOT LESS THAN AVAILABLE WIDTH. (OMIT IF AVAILABLE WIDTH IS MORE THAN 16 FEET)

LEGEND

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

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.

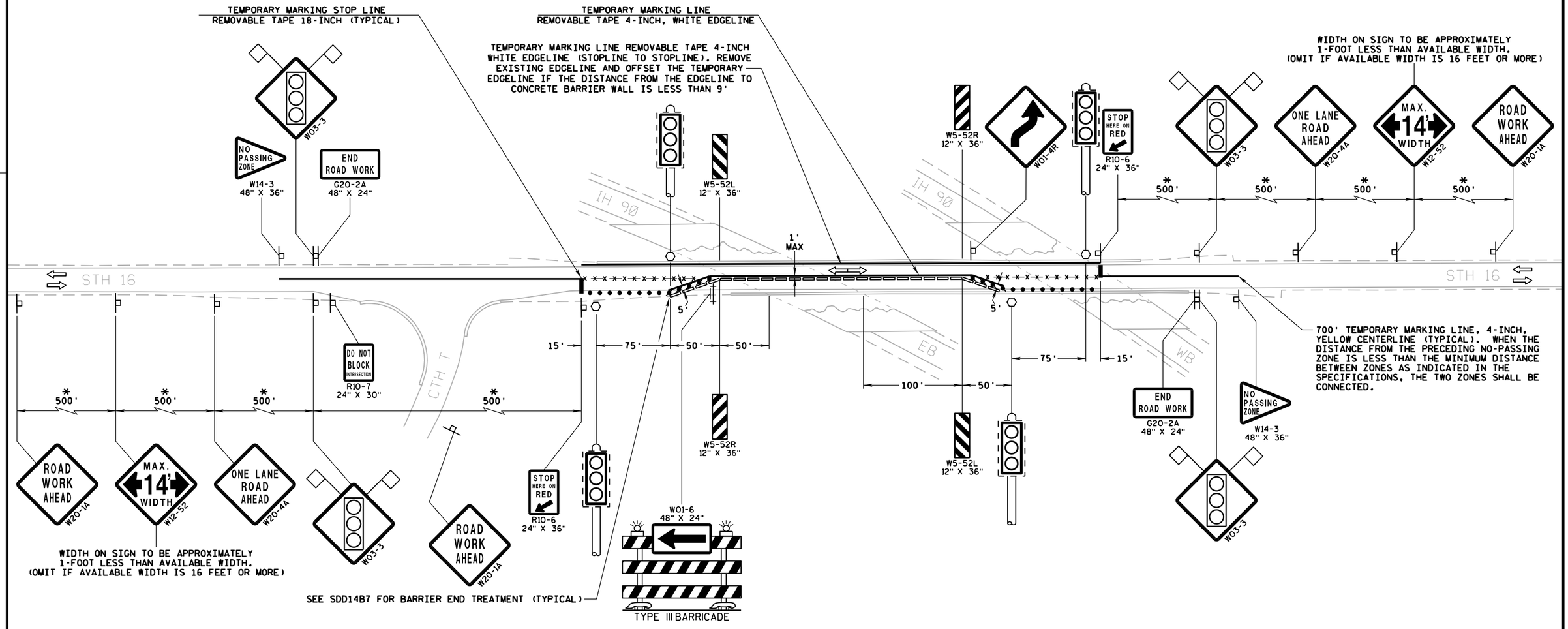
SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE FHWA'S MANUAL OF STANDARD HIGHWAY SIGNS OR THE WISCONSIN STANDARD SIGN PLATES.

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.



PROJECT NO: 1071-02-63	HWY: IH 90	COUNTY: MONROE	TRAFFIC CONTROL - TEMPORARY STOP SIGNALS	SHEET 11	E

					1071-02-61	1071-02-62	1071-02-63
Line	**Item**	**Item Description**	**Unit**	**Total**	**Qty**	**Qty**	**Qty**
0002	203.0200	Removing Old Structure (station) 01. 274+28	LS	1.000	1.000		
0004	203.0200	Removing Old Structure (station) 02. 274+16	LS	1.000	1.000		
0006	203.0200	Removing Old Structure (station) 03. 1278+80	LS	1.000	1.000		
0008	203.0200	Removing Old Structure (station) 04. 1278+80	LS	1.000	1.000		
0010	203.0200	Removing Old Structure (station) 05. 1471+90	LS	1.000		1.000	
0012	203.0200	Removing Old Structure (station) 06. 1471+90	LS	1.000		1.000	
0014	203.0210.S	Abatement of Asbestos Containing Material (structure) 01. B-41-76	LS	1.000	1.000		
0016	203.0210.S	Abatement of Asbestos Containing Material (structure) 02. B-41-77	LS	1.000	1.000		
0018	203.0210.S	Abatement of Asbestos Containing Material (structure) 03. B-41-79	LS	1.000	1.000		
0020	203.0210.S	Abatement of Asbestos Containing Material (structure) 04. B-41-80	LS	1.000	1.000		
0022	203.0210.S	Abatement of Asbestos Containing Material (structure) 05. B-41-88	LS	1.000		1.000	
0024	203.0210.S	Abatement of Asbestos Containing Material (structure) 06. B-41-89	LS	1.000		1.000	
0026	204.0100	Removing Pavement	SY	492.000	336.000	156.000	
0028	204.0110	Removing Asphaltic Surface	SY	533.000	533.000		
0030	204.0115	Removing Asphaltic Surface Butt Joints	SY	222.000			222.000
0032	204.0165	Removing Guardrail	LF	6,659.000	3,527.000	1,719.000	1,413.000
0034	204.0190	Removing Surface Drains	EACH	4.000	4.000		
0036	211.0400	Prepare Foundation for Asphaltic Shoulders	STA	12.000	12.000		
0038	213.0100	Finishing Roadway (project) 01. 1071-02-61	EACH	1.000	1.000		
0040	213.0100	Finishing Roadway (project) 02. 1071-02-62	EACH	1.000		1.000	
0042	213.0100	Finishing Roadway (project) 03. 1071-02-63	EACH	1.000			1.000
0044	305.0110	Base Aggregate Dense 3/4-Inch	TON	198.000	106.000	43.000	49.000
0046	416.0610	Drilled Tie Bars	EACH	234.000	162.000	72.000	
0048	416.0620	Drilled Dowel Bars	EACH	71.000	47.000	24.000	
0050	416.1010	Concrete Surface Drains	CY	128.000	89.000	39.000	
0052	455.0605	Tack Coat	GAL	38.000	27.000		11.000
0054	460.7424	HMA Pavement 4 HT 58-28 H	TON	25.000			25.000
0056	465.0105	Asphaltic Surface	TON	104.000	104.000		
0058	465.0400	Asphaltic Shoulder Rumble Strips	LF	1,290.000	1,200.000		90.000
0060	502.0100	Concrete Masonry Bridges	CY	169.000	115.000	54.000	
0062	502.3100	Expansion Device (structure) 01. B-41-76	LS	1.000	1.000		
0064	502.3100	Expansion Device (structure) 02. B-41-77	LS	1.000	1.000		
0066	502.3100	Expansion Device (structure) 03. B-41-111	LS	1.000			1.000
0068	502.3200	Protective Surface Treatment	SY	5,759.000	3,201.000	1,428.000	1,130.000
0070	502.4104	Adhesive Anchors 1/2-inch	EACH	2,004.000	1,364.000	640.000	

					1071-02-61	1071-02-62	1071-02-63
Line	**Item**	**Item Description**	**Unit**	**Total**	**Qty**	**Qty**	**Qty**
0072	502.4205	Adhesive Anchors No. 5 Bar	EACH	2,450.000	1,620.000	648.000	182.000
0074	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	34,900.000	21,860.000	6,720.000	6,320.000
0076	505.0905	Bar Couplers No. 5	EACH	12.000	12.000		
0078	505.0906	Bar Couplers No. 6	EACH	72.000	72.000		
0080	509.0301	Preparation Decks Type 1	SY	482.000	250.000	111.000	121.000
0082	509.0302	Preparation Decks Type 2	SY	204.000	110.000	29.000	65.000
0084	509.0500	Cleaning Decks	SY	1,030.000			1,030.000
0086	509.1000	Joint Repair	SY	162.000	72.000		90.000
0088	509.1500	Concrete Surface Repair	SF	340.000	290.000	22.000	28.000
0090	509.2000	Full-Depth Deck Repair	SY	24.000	4.000	19.000	1.000
0092	509.2500	Concrete Masonry Overlay Decks	CY	351.000	174.000	78.000	99.000
0094	509.9005.S	Removing Concrete Masonry Deck Overlay (structure) 01. B-41-76	SY	797.000	797.000		
0096	509.9005.S	Removing Concrete Masonry Deck Overlay (structure) 02. B-41-77	SY	803.000	803.000		
0098	509.9005.S	Removing Concrete Masonry Deck Overlay (structure) 03.B-41-79	SY	431.000	431.000		
0100	509.9005.S	Removing Concrete Masonry Deck Overlay (structure) 04. B-41-80	SY	431.000	431.000		
0102	509.9005.S	Removing Concrete Masonry Deck Overlay (structure) 05. B-41-88	SY	565.000		565.000	
0104	509.9005.S	Removing Concrete Masonry Deck Overlay (structure) 06. B-41-89	SY	565.000		565.000	
0106	517.1800.S	Structure Repainting Recycled Abrasive (structure) 01. B-41-76	LS	1.000	1.000		
0108	517.1800.S	Structure Repainting Recycled Abrasive (structure) 02. B-41-77	LS	1.000	1.000		
0110	517.1800.S	Structure Repainting Recycled Abrasive (structure) 03. B-41-111	LS	1.000			1.000
0112	517.3000.S	Structure Overcoating Cleaning and Priming (structure) 01. B-41-111	LS	1.000			1.000
0114	517.4000.S	Containment and Collection of Waste Materials (structure) 01. B-41-111	LS	1.000			1.000
0116	517.4500.S	Negative Pressure Containment and Collection of Waste Materials (structure) 01. B-41-76	LS	1.000	1.000		
0118	517.4500.S	Negative Pressure Containment and Collection of Waste Materials (structure) 02. B-41-77	LS	1.000	1.000		
0120	517.4500.S	Negative Pressure Containment and Collection of Waste Materials (structure) 03. B-41-111	LS	1.000			1.000
0122	517.6001.S	Portable Decontamination Facility	EACH	3.000	2.000		1.000
0124	521.1012	Apron Endwalls for Culvert Pipe Steel 12-Inch	EACH	3.000	3.000		
0126	603.8000	Concrete Barrier Temporary Precast Delivered	LF	5,365.000	3,300.000	1,075.000	990.000

					1071-02-61	1071-02-62	1071-02-63
Line	**Item**	**Item Description**	**Unit**	**Total**	**Qty**	**Qty**	**Qty**
0128	603.8125	Concrete Barrier Temporary Precast Installed	LF	9,530.000	5,400.000	2,150.000	1,980.000
0130	606.0200	Riprap Medium	CY	20.000	15.000	5.000	
0132	611.0654	Inlet Covers Type V	EACH	3.000	3.000		
0134	611.3220	Inlets 2x2-FT	EACH	3.000	3.000		
0136	612.0212	Pipe Underdrain Unperforated 12-Inch	LF	174.000	174.000		
0138	614.0150	Anchor Assemblies for Steel Plate Beam Guard	EACH	24.000	16.000	8.000	
0140	614.2300	MGS Guardrail 3	LF	4,147.000	2,286.000	755.000	1,106.000
0142	614.2500	MGS Thrie Beam Transition	LF	608.000	360.000	160.000	88.000
0144	614.2610	MGS Guardrail Terminal EAT	EACH	10.000	4.000	4.000	2.000
0146	614.2620	MGS Guardrail Terminal Type 2	EACH	2.000	1.000		1.000
0148	618.0100	Maintenance And Repair of Haul Roads (project) 01. 1071-02-61	EACH	1.000	1.000		
0150	618.0100	Maintenance And Repair of Haul Roads (project) 02. 1071-02-62	EACH	1.000		1.000	
0152	618.0100	Maintenance And Repair of Haul Roads (project) 03. 1071-02-63	EACH	1.000			1.000
0154	619.1000	Mobilization	EACH	1.000	0.600	0.300	0.100
0156	625.0105	Topsoil	CY	69.000	44.000	25.000	
0158	628.1905	Mobilizations Erosion Control	EACH	4.000	2.000	2.000	
0160	628.1910	Mobilizations Emergency Erosion Control	EACH	4.000	2.000	2.000	
0162	628.2004	Erosion Mat Class I Type B	SY	320.000	270.000	50.000	
0164	629.0210	Fertilizer Type B	CWT	0.200	0.150	0.050	
0166	630.0130	Seeding Mixture No. 30	LB	6.400	5.400	1.000	
0168	630.0200	Seeding Temporary	LB	8.100	7.100	1.000	
0170	638.2102	Moving Signs Type II	EACH	10.000	4.000	4.000	2.000
0172	638.4000	Moving Small Sign Supports	EACH	10.000	4.000	4.000	2.000
0174	642.5201	Field Office Type C	EACH	1.000	0.500	0.250	0.250
0176	643.0300	Traffic Control Drums	DAY	37,804.000	17,888.000	13,104.000	6,812.000
0178	643.0420	Traffic Control Barricades Type III	DAY	52.000	6.000	6.000	40.000
0180	643.0705	Traffic Control Warning Lights Type A	DAY	104.000	12.000	12.000	80.000
0182	643.0715	Traffic Control Warning Lights Type C	DAY	15,957.000	7,224.000	5,502.000	3,231.000
0184	643.0800	Traffic Control Arrow Boards	DAY	1,412.000	636.000	514.000	262.000
0186	643.0900	Traffic Control Signs	DAY	9,227.000	3,784.000	2,882.000	2,561.000
0188	643.5000	Traffic Control	EACH	1.000	0.500	0.250	0.250
0190	645.0120	Geotextile Type HR	SY	85.000	65.000	20.000	
0192	646.1020	Marking Line Epoxy 4-Inch	LF	21,425.000	9,700.000	7,320.000	4,405.000
0194	646.9000	Marking Removal Line 4-Inch	LF	19,800.000	7,940.000	6,380.000	5,480.000
0196	649.0105	Temporary Marking Line Paint 4-Inch	LF	2,100.000			2,100.000
0198	649.0150	Temporary Marking Line Removable Tape 4-Inch	LF	48,510.000	23,340.000	16,000.000	9,170.000
0200	649.0850	Temporary Marking Stop Line Removable Tape 18-Inch	LF	48.000			48.000

					1071-02-61	1071-02-62	1071-02-63
Line	**Item**	**Item Description**	**Unit**	**Total**	**Qty**	**Qty**	**Qty**
0202	661.0100	Temporary Traffic Signals for Bridges (structure) 01. B-41-111	LS	1.000			1.000
0204	690.0150	Sawing Asphalt	LF	48.000	8.000		40.000
0206	690.0250	Sawing Concrete	LF	784.000	542.000	242.000	
0208	ASP.1T0A	On-the-Job Training Apprentice at $5.00/HR	HRS	1,200.000	1,200.000		
0210	ASP.1T0G	On-the-Job Training Graduate at $5.00/HR	HRS	600.000	600.000		
0212	SPV.0060	Special 01. Cleaning and Painting Bearings	EACH	10.000			10.000
0214	SPV.0060	Special 02. Bearing Maintenance B-41-76	EACH	3.000	3.000		
0216	SPV.0060	Special 03. Bearing Maintenance B-41-111	EACH	7.000			7.000
0218	SPV.0090	Special 01. Cleaning Parapets	LF	1,936.000	1,328.000	608.000	
0220	SPV.0090	Special 02. Welding Steel Cracks	LF	3.000			3.000
0222	SPV.0090	Special 03. Fill Existing Rumble Strips	LF	4,168.000	1,768.000	2,400.000	
0224	SPV.0090	Special 04. Restore Existing Rumble Strips	LF	4,168.000	1,768.000	2,400.000	
0226	SPV.0165	Special 02. Fiber Wrap Column Reinforcing	SF	150.000			150.000

3

SURFACE DRAIN SUMMARY

CATEGORY	LOCATION	204.0100 REMOVING PAVEMENT SY	204.0190 REMOVING SURFACE DRAINS EACH	416.1010 CONCRETE SURFACE DRAINS CY	416.0610 DRILLED TIE BARS EACH	416.0620 DRILLED DOWEL BARS EACH	521.1012 APRON ENDWALLS CULVERT PIPE 12-INCH EACH	611.0654 INLET COVERS TYPE V EACH	611.3220 INLET 2X2-FT EACH	612.0212 PIPE UNDERDRAIN UNPERFORATED 12-INCH LF	690.0250 SAWING CONCRETE LF
0010	B-41-76 SW CORNER	60	1	13	18	9	1	1	1	60	64
0010	B-41-76 NW CORNER	24	-	8	18	3	-	-	-	-	58
0010	B-41-77 SW CORNER	24	-	8	18	3	-	-	-	-	58
0010	B-41-77 NW CORNER	48	1	10	18	7	-	-	-	-	62
0010	B-41-79 NE CORNER	24	-	8	18	3	-	-	-	-	58
0010	B-41-79 SW CORNER	60	1	13	18	9	1	1	1	60	64
0010	B-41-79 NW CORNER	24	-	8	18	3	-	-	-	-	58
0010	B-41-80 SW CORNER	24	-	8	18	3	-	-	-	-	58
0010	B-41-80 NW CORNER	48	1	13	18	7	1	1	1	54	62
0010	1071-02-61 TOTAL	336	4	89	162	47	3	3	3	174	542
0010	B-41-88 NE CORNER	24	-	8	18	3	-	-	-	-	58
0010	B-41-88 SE CORNER	60	-	13	18	9	-	-	-	-	64
0010	B-41-89 NE CORNER	48	-	10	18	3	-	-	-	-	62
0010	B-41-89 SE CORNER	24	-	8	18	9	-	-	-	-	58
0010	1071-02-62 TOTAL	156	0	39	72	24	0	0	0	0	242
	TOTAL	492	4	128	234	71	3	3	3	174	784

3

ASPHALT SUMMARY

CATEGORY	LOCATION	690.0150 SAWING ASPHALT LF	204.0110 REMOVING ASPHALTIC SURFACE SY	204.0115 REMOVING ASPHALTIC SURFACE BUTT JOINTS SY	211.0400 PREPARE FOUNDATION FOR ASPHALTIC SHOULDERS STATION	455.0605 TACK COAT GAL	460.7424 HMA PAVEMENT 4 HT 58-28 H TON	465.0105 ASPHALTIC SURFACE TON	465.0400 ASPHALTIC SHOULDER RUMBLE STRIPS LF	SPV.0090.03 FILL EXISTING RUMBLE STRIPS LF	SPV.0090.04 RESTORE EXISTING RUMBLE STRIPS LF
0010	B-41-76 WEST APPROACH	-	-	-	-	-	-	-	-	1000	1000
0010	B-41-76 TO B-41-79	-	-	-	-	-	-	-	-	270	270
0010	B-41-79 EAST APPROACH	4	89	-	2	5	-	17	200	-	-
0010	B-41-77 WEST APPROACH	-	-	-	-	-	-	-	-	200	200
0010	B-41-77 TO B-41-80	-	-	-	-	-	-	-	-	298	298
0010	B-41-80 EAST APPROACH	4	444	-	10	22	-	87	1000	-	-
0010	1071-02-61 TOTAL	8	533	0	12	27	0	104	1200	1768	1768
0010	B-41-88 WEST APPROACH	-	-	-	-	-	-	-	-	1000	1000
0010	B-41-88 EAST APPROACH	-	-	-	-	-	-	-	-	200	200
0010	B-41-89 WEST APPROACH	-	-	-	-	-	-	-	-	200	200
0010	B-41-89 EAST APPROACH	-	-	-	-	-	-	-	-	1000	1000
0010	1071-02-62 TOTAL	0	0	0	0	0	0	0	0	2400	2400
0010	B-41-111 EAST APPROACH	40	-	222	-	11	25	-	90	-	-
0010	1071-02-63 TOTAL	40	0	222	0	11	25	0	90	0	0
	TOTAL	48	533	222	12	38	25	104	1290	4168	4168

GUARDRAIL SUMMARY

CATEGORY	LOCATION	DIRECTION	204.0165 REMOVING GUARDRAIL LF	614.2300 MGS GUARDRIAL 3 LF	614.2500 MGS THRIE BEAM TRANSITION LF	614.2610 MGS GUARDRAIL TERMINAL E.A.T. EACH	614.2620 MGS GUARDRAIL TERMINAL TYPE 2 EACH	305.0110 BASE AGGREGATE DENSE 3/4 INCH TON	REMARKS
0010	B-41-76	EB	300	206	40	1	-	11	SW CORNER
0010	B-41-76	EB	372	278	40	1	-	14	NW CONER
0010	B-41-76	EB	131	123	8	-	-	5	SE CORNER
0010	B-41-76	EB	131	123	8	-	-	5	NE CORNER
0010	B-41-79	EB	163	123	40	-	-	6	SW CORNER
0010	B-41-79	EB	163	123	40	-	-	6	NW CONER
0010	B-41-79	EB	291	283	8	-	1	11	SE CORNER
0010	B-41-80	WB	348	254	40	1	-	13	SE CORNER
0010	B-41-80	WB	297	203	40	1	-	11	NE CORNER
0010	B-41-80	WB	144	136	8	-	-	5	SW CORNER
0010	B-41-80	WB	157	149	8	-	-	6	NW CONER
0010	B-41-77	WB	176	136	40	-	-	7	SE CORNER
0010	B-41-77	WB	189	149	40	-	-	7	NE CORNER
0010	B-41-77	WB	320	-	-	-	-	-	SW CORNER
0010	B-41-77	WB	345	-	-	-	-	-	NW CONER
0010	1071-02-61 TOTAL		3527	2286	360	4	1	106	
0010	B-41-88	EB	237	143	40	1	-	9	SW CORNER
0010	B-41-88	EB	300	206	40	1	-	11	NW CONER
0010	B-41-88	EB	-	-	-	-	-	1	WASHOUT REPAIR
0010	B-41-89	WB	378	284	40	1	-	14	SE CORNER
0010	B-41-89	WB	216	122	40	1	-	8	NE CORNER
0010	B-41-89	WB	294	-	-	-	-	-	SW CORNER
0010	B-41-89	WB	294	-	-	-	-	-	NW CONER
0010	1071-02-62 TOTAL		1719	755	160	4	0	43	
0010	B-41-111	EB	390	296	40	1	-	14	SW CORNER
0010	B-41-111	EB	438	344	40	1	-	16	NW CONER
0010	B-41-111	EB	474	466	8	-	1	18	SE CORNER
0010	B-41-111	EB	111	-	-	-	-	-	NE CORNER
0010	1071-02-63 TOTAL		1413	1106	88	2	1	49	
	TOTAL		6659	4147	608	10	2	198	

LANDSCAPING ITEMS

CATEGORY	LOCATION	625.0105 TOPSOIL CY	628.2004 EROSION MAT CLASS 1 TYPE B SY	630.0130 SEEDING MIX NO. 30 LB	630.0200 SEEDING TEMPORARY LB	629.0210 FERTILIZER TYPE B CWT	606.0200 RIPRAP MEDIUM CY	645.0120 GEOTEXTILE TYPE HR SY	REMARKS
0010	B-41-76 SW CORNER	4	50	1	1.5	0.05	2	9	SURFACE DRAIN
0010	B-41-76 NW CORNER	4	10	0.2	0.1	0.01	1	4	SURFACE DRAIN
0010	B-41-77 SW CORNER	4	50	1	1.5	0.05	2	9	SURFACE DRAIN
0010	B-41-77 NW CORNER	4	10	0.2	0.1	0.01	1	4	SURFACE DRAIN
0010	B-41-79 SW CORNER	4	50	1.0	1.5	0.05	2	9	SURFACE DRAIN
0010	B-41-79 NW CORNER	4	10	0.2	0.1	0.01	1	4	SURFACE DRAIN
0010	B-41-79 NE CORNER	4	10	0.2	0.1	0.01	1	4	SURFACE DRAIN
0010	B-41-80 SW CORNER	4	10	0.2	0.1	0.01	1	4	SURFACE DRAIN
0010	B-41-80 NW CORNER	4	50	1.0	1.5	0.05	2	9	SURFACE DRAIN
0010	UNDISTRIBUTED	8	20	0.4	0.6	0.02	2	9	
0010	1071-02-61 TOTAL	44	270	5.4	7.1	0.15	15	65	
0010	B-41-88 NE CORNER	5	10	0.20	0.10	0.01	1	4	SURFACE DRAIN
0010	B-41-88 SE CORNER	5	10	0.20	0.10	0.01	1	4	SURFACE DRAIN
0010	B-41-89 NE CORNER	5	10	0.20	0.10	0.01	1	4	SURFACE DRAIN
0010	B-41-89 SE CORNER	5	10	0.20	0.10	0.01	1	4	SURFACE DRAIN
0010	UNDISTRIBUTED	5	10	0.20	0.60	0.01	1	4	
0010	1071-02-62 TOTAL	25	50	1.00	1.00	0.05	5	20	
	TOTAL	69	320	6.4	8.1	0.20	20	85	

MOBILIZATION EROSION CONTROL

CATEGORY	LOCATION	628.1905 MOBILIZATION EROSION CONTROL EACH	628.1910 MOBILIZATION EMERGENCY EROSION CONTROL EACH
0010	UNDISTRIBUTED	2	2
0010	1071-02-61 TOTAL	2	2
0010	UNDISTRIBUTED	2	2
0010	1071-02-62 TOTAL	2	2
	TOTAL	4	4

CONCRETE BARRIER TEMPORARY PRECAST SUMMARY

CATEGORY	LOCATION	603.8000 DELIVERED LF	603.8125 INSTALLED LF	REMARKS
0010	B-41-76 & B-41-79	1050	1050	STAGE 1
0010	B-41-77 & B-41-80	1050	1050	STAGE 1
0010	B-41-76 & B-41-79	-	1050	STAGE 2
0010	B-41-77 & B-41-80	-	1050	STAGE 2
0010	B-41-76	600	600	STAGE 3
0010	B-41-77	600	600	STAGE 3
0010	1071-02-61 TOTAL	3300	5400	
0010	B-41-88	537.5	537.5	STAGE 1
0010	B-41-89	537.5	537.5	STAGE 1
0010	B-41-88	-	537.5	STAGE 2
0010	B-41-89	-	537.5	STAGE 2
0010	1071-02-62 TOTAL	1075	2150	
0010	B-41-111	650	650	STAGE 1
0010	B-41-111	-	650	STAGE 2
0010	STH 16/B-41-111	340	340	STAGE 3A
0010	STH 16/B-41-111	-	340	STAGE 3B
0010	1071-02-63 TOTAL	990	1980	
	TOTAL	5365	9530	

SIGNING SUMMARY

CATEGORY	LOCATION	DIRECTION	638.2102 MOVING SIGNS TYPE II EACH	638.4000 MOVING SMALL SIGN SUPPORTS EACH	REMARKS
0010	B-41-76	EB	1	1	SW CORNER - CLEARANCE MARKER
0010	B-41-76	EB	1	1	NW CONER - CLEARANCE MARKER
0010	B-41-80	WB	1	1	SE CORNER - CLEARANCE MARKER
0010	B-41-80	WB	1	1	NE CORNER -CLEARANCE MARKER
0010	1071-02-61 TOTAL		4	4	
0010	B-41-88	EB	1	1	SW CORNER - CLEARANCE MARKER
0010	B-41-88	EB	1	1	NW CONER - CLEARANCE MARKER
0010	B-41-89	WB	1	1	SE CORNER - CLEARANCE MARKER
0010	B-41-89	WB	1	1	NE CORNER -CLEARANCE MARKER
0010	1071-02-62 TOTAL		4	4	
0010	B-41-111	EB	1	1	SW CORNER - CLEARANCE MARKER
0010	B-41-111	EB	1	1	NW CONER - CLEARANCE MARKER
0010	1071-02-63 TOTAL		2	2	
	TOTAL		10	10	

NOTE: REINSTALL IN SAME LOCATION AFTER THRIE BEAM UPGRADES ARE COMPLETE.

MARKING REMOVAL LINE 4-INCH

CATEGORY	LOCATION	DIRECTION	646.9000 LF	REMARKS
0010	B-41-76 AND B-41-79	EB IH 90	260	STAGE 1: LANE LINES
0010	B-41-76 AND B-41-79	EB IH 90	2050	STAGE 1: EDGE LINE LT
0010	B-41-76 AND B-41-79	EB IH 90	1660	STAGE 2: EDGE LINE RT
0010	B-41-80 AND B-41-77	WB IH 90	260	STAGE 1: LANE LINES
0010	B-41-80 AND B-41-77	WB IH 90	2050	STAGE 1: EDGE LINE LT
0010	B-41-80 AND B-41-77	WB IH 90	1660	STAGE 2: EDGE LINE RT
0010	1071-02-61 TOTAL		7940	
0010	B-41-88	EB IH 90	260	STAGE 1: LANE LINES
0010	B-41-88	EB IH 90	1530	STAGE 1: EDGE LINE LT
0010	B-41-88	EB IH 90	1400	STAGE 2: EDGE LINE RT
0010	B-41-89	WB IH 90	260	STAGE 1: LANE LINES
0010	B-41-89	WB IH 90	1530	STAGE 1: EDGE LINE LT
0010	B-41-89	WB IH 90	1400	STAGE 2: EDGE LINE RT
0010	1071-02-62 TOTAL		6380	
0010	B-41-111	EB IH 90	260	STAGE 1: LANE LINES
0010	B-41-111	EB IH 90	1650	STAGE 1: EDGE LINE LT
0010	B-41-111	EB IH 90	1400	STAGE 2: EDGE LINE RT
0010	B-41-111	STH 16	70	START OF STAGE 3 CENTERLINE
0010	B-41-111	STH 16	2100	END OF STAGE 3 CENTERLINE
0010	1071-02-63 TOTAL		5480	
	TOTAL		19,800	

TRAFFIC CONTROL SUMMARY

CATEGORY	LOCATION	643.0300 DRUMS DAYS	643.0420 BARRICADES TYPE III DAYS	643.0705 WARNING LIGHTS TYPE A DAYS	643.0715 LIGHTS TYPE C DAYS	643.0900 SIGNS DAYS	643.0800 ARROW BOARD DAYS	REMARKS
0010	B-41-76 AND B-41-79	180	3	6	51	33	6	PREP/SINGLE LANE CLOSURE
0010	B-41-77 AND B-41-80	180	3	6	51	33	6	PREP/SINGLE LANE CLOSURE
0010	STH 162 INTERCHANGE	-	-	-	-	567	-	ADVANCED WARNING WIDTH RESTRICTION
0010	STH 27 INTERCHANGE	-	-	-	-	756	-	ADVANCED WARNING WIDTH RESTRICTION
0010	STH 16 INTERCHANGE	-	-	-	-	567	-	ADVANCED WARNING WIDTH RESTRICTION
0010	B-41-76 AND B-41-79	3276	-	-	1323	693	126	STAGE 1/LANE CLOSURE WITH BARRIER
0010	B-41-80 AND B-41-77	3276	-	-	1323	693	126	STAGE 1/LANE CLOSURE WITH BARRIER
0010	B-41-76 AND B-41-79	3536	-	-	1428	748	136	STAGE 2/LANE CLOSURE WITH BARRIER
0010	B-41-80 AND B-41-77	3536	-	-	1428	748	136	STAGE 2/LANE CLOSURE WITH BARRIER
0010	B-41-76	2132	-	-	861	451	56	STAGE 3/LANE CLOSURE WITH BARRIER
0010	B-41-77	2132	-	-	861	451	56	STAGE 3/LANE CLOSURE WITH BARRIER
0010	1071-02-61 TOTAL	17,888	6	12	7224	3784	636	
0010	B-41-88	165	3	6	51	33	6	PREP/SINGLE LANE CLOSURE
0010	B-41-89	165	3	6	51	33	6	PREP/SINGLE LANE CLOSURE
0010	B-41-88	3276	-	-	1323	693	126	STAGE 1/LANE CLOSURE WITH BARRIER
0010	B-41-89	3276	-	-	1323	693	126	STAGE 1/LANE CLOSURE WITH BARRIER
0010	B-41-88	3276	-	-	1428	748	126	STAGE 2/LANE CLOSURE WITH BARRIER
0010	B-41-89	3276	-	-	1428	748	136	STAGE 2/LANE CLOSURE WITH BARRIER
0010	1071-02-62 TOTAL	13,104	6	12	5502	2882	514	
0010	B-41-111	3276	-	-	1323	693	126	STAGE 1/LANE CLOSURE WITH BARRIER
0010	B-41-111	3536	-	-	1428	748	136	STAGE 2/LANE CLOSURE WITH BARRIER
0010	STH 16/B-41-111	520	20	40	240	560	-	STAGE 3A/TEMPORARY SIGNALS
0010	STH 16/B-41-111	520	20	40	240	560	-	STAGE 3B/TEMPORARY SIGNALS
0010	1071-02-63 TOTAL	6812	40	80	3231	2561	262	
	TOTAL	37,804	52	104	15,957	9227	1412	

TEMPORARY MARKING SUMMARY

CATEGORY	LOCATION	DIRECTION	649.0150 REMOVABLE TAPE 4-INCH LF	649.0105 PAINT 4-INCH LF	649.0850 STOP LINE REMOVABLE TAPE 18-INCH LF	REMARKS
0010	B-41-76 AND B-41-79	EB IH 90	2800	-	-	STAGE 1: EDGE LINE RT. WHITE
0010	B-41-76 AND B-41-79	EB IH 90	2050	-	-	STAGE 1: EDGE LINE LT, YELLOW
0010	B-41-80 AND B-41-77	WB IH 90	2800	-	-	STAGE 1: EDGE LINE RT, WHITE
0010	B-41-80 AND B-41-77	WB IH 90	2050	-	-	STAGE 1: EDGE LINE LT, YELLOW
0010	B-41-76 AND B-41-79	EB IH 90	2050	-	-	STAGE 2: EDGE LINE RT, WHITE
0010	B-41-76 AND B-41-79	EB IH 90	2800	-	-	STAGE 2: EDGE LINE LT, YELLOW
0010	B-41-80 AND B-41-77	WB IH 90	2050	-	-	STAGE 2: EDGE LINE RT, WHITE
0010	B-41-80 AND B-41-77	WB IH 90	2800	-	-	STAGE 2: EDGE LINE LT, YELLOW
0010	B-41-76	EB IH 90	2440	-	-	STAGE 3: EDGE LINE RT, WHITE
0010	B-41-76	EB IH 90	1500	-	-	STAGE 3: EDGE LINE LT, YELLOW
0010	B-41-77	WB IH 90	2440	-	-	STAGE 3: EDGE LINE RT, WHITE
0010	B-41-77	WB IH 90	1500	-	-	STAGE 3: EDGE LINE LT, YELLOW
0010	1071-02-61 TOTAL		23,340	0	0	
0010	B-41-88	EB IH 90	2470	-	-	STAGE 1: EDGE LINE RT, WHITE
0010	B-41-88	EB IH 90	1530	-	-	STAGE 1: EDGE LINE LT, YELLOW
0010	B-41-89	WB IH 90	2470	-	-	STAGE 1: EDGE LINE RT, WHITE
0010	B-41-89	WB IH 90	1530	-	-	STAGE 1: EDGE LINE LT, YELLOW
0010	B-41-88	EB IH 90	1530	-	-	STAGE 2: EDGE LINE RT, WHITE
0010	B-41-88	EB IH 90	2470	-	-	STAGE 2: EDGE LINE LT, YELLOW
0010	B-41-89	WB IH 90	1530	-	-	STAGE 2: EDGE LINE RT, WHITE
0010	B-41-89	WB IH 90	2470	-	-	STAGE 2: EDGE LINE LT, YELLOW
0010	1071-02-62 TOTAL		16,000	0	0	
0010	B-41-111	EB IH 90	2590	-	-	STAGE 1: EDGE LINE RT, WHITE
0010	B-41-111	EB IH 90	1650	-	-	STAGE 1: EDGE LINE LT, YELLOW
0010	B-41-111	EB IH 90	1650	-	-	STAGE 2: EDGE LINE RT, WHITE
0010	B-41-111	EB IH 90	2590	-	-	STAGE 2: EDGE LINE LT, YELLOW
0010	B-41-111	STH 16	345	1400	24	STAGE 3A
0010	B-41-111	STH 16	345	700	24	STAGE 3B
0010	1071-02-63 TOTAL		9,170	2,100	48	
	TOTAL		48,510	2,100	48	

MARKING LINE EPOXY 4-INCH

CATEGORY	LOCATION	DIRECTION	646.1020 LF	REMARKS
0010	B-41-76 AND B-41-79	EB	750	LANE LINES: WHITE
0010	B-41-76 AND B-41-79	EB	2050	EDGE LINE: YELLOW
0010	B-41-76 AND B-41-79	EB	2050	EDGE LINE: WHITE
0010	B-41-80 AND B-41-77	WB	750	LANE LINES: WHITE
0010	B-41-80 AND B-41-77	WB	2050	EDGE LINE: YELLOW
0010	B-41-80 AND B-41-77	WB	2050	EDGE LINE: WHITE
0010	1071-02-61 TOTAL		9700	
0010	B-41-88	EB	600	LANE LINES: WHITE
0010	B-41-88	EB	1530	EDGE LINE: YELLOW
0010	B-41-88	EB	1530	EDGE LINE: WHITE
0010	B-41-89	WB	600	LANE LINES: WHITE
0010	B-41-89	WB	1530	EDGE LINE: YELLOW
0010	B-41-89	WB	1530	EDGE LINE: WHITE
0010	1071-02-62 TOTAL		7320	
0010	B-41-111	EB	625	LANE LINES: WHITE
0010	B-41-111	EB	1650	EDGE LINE: YELLOW
0010	B-41-111	EB	1650	EDGE LINE: WHITE
0010	B-41-111	STH 16	480	CENTERLINE SKIPS
0010	1071-02-63 TOTAL		4405	
	TOTAL		21,425	

N

REMOVE CONCRETE PAVEMENT AND
INSTALL A CONCRETE SURFACE DRAIN

1000'
FILL EXISTING RUMBLE STRIPS PRIOR TO STAGE 1 TRAFFIC
RESTORE EXISTING RUMBLE STRIPS

270'
FILL EXISTING RUMBLE STRIPS PRIOR TO STAGE 1 TRAFFIC
RESTORE EXISTING RUMBLE STRIPS

EB OVER THE LITTLE LA CROSSE RIVER

SEE STRUCTURE PLAN B-41-76

B-41-76

E.B. I-90

REMOVING GUARDRAIL
MGS THRIE BEAM TRANSITION
MGS GUARDRAIL 3
MGS GUARDRAIL TERMINAL EAT

REMOVE CONCRETE PAVEMENT AND
INSTALL A CONCRETE SURFACE DRAIN
WITH INLET AND PIPE

OVERLAY CROSS SLOPES AND ELEVATIONS
SHALL MATCH THE EXISTING APPROACH SLABS

BETWEEN B-41-76 AND B-41-79:
REMOVING GUARDRAIL
MGS GUARDRAIL 3
MGS THRIE BEAM TRANSITION

CONCRETE SURFACE DRAIN

PROJECT NO: 1071-02-61	HWY: IH-90	COUNTY: MONROE	PLAN SHEET - B-41-76	SHEET 23	E

N

REMOVE CONCRETE PAVEMENT AND
INSTALL A CONCRETE SURFACE DRAIN

OVERLAY CROSS SLOPES AND ELEVATIONS
SHALL MATCH THE EXISTING APPROACH SLABS

BETWEEN B-41-77 AND B-41-80:
REMOVING GUARDRAIL
MGS GUARDRAIL 3
MGS THRIE BEAM TRANSITION

5

5

W.B. I-90

B-41-77

SEE STRUCTURE PLAN B-41-77

WB OVER THE LITTLE LA CROSSE RIVER

200'
FILL EXISTING RUMBLE STRIPS PRIOR TO STAGE 1 TRAFFIC
RESTORE EXISTING RUMBLE STRIPS

298'
FILL EXISTING RUMBLE STRIPS PRIOR TO STAGE 1 TRAFFIC
RESTORE EXISTING RUMBLE STRIPS

REMOVE CONCRETE PAVEMENT AND
INSTALL A CONCRETE SURFACE DRAIN

CONCRETE SURFACE DRAIN

PROJECT NO: 1071-02-61	HWY: IH-90	COUNTY: MONROE	PLAN SHEET - B-41-77	SHEET 24	E

N

REMOVE CONCRETE PAVEMENT AND
INSTALL A CONCRETE SURFACE DRAIN

REMOVE CONCRETE PAVEMENT AND
INSTALL A CONCRETE SURFACE DRAIN

270'
FILL EXISTING RUMBLE STRIPS PRIOR TO STAGE 1 TRAFFIC
RESTORE EXISTING RUMBLE STRIPS

200'
REMOVE EXISTING ASPHALTIC CONCRETE SHOULDER
PLACE 3.5 INCHES ASPHALTIC SURFACE PRIOR TO STAGE 1 TRAFFIC

EB OVER ICEBOX ROAD

SEE STRUCTURE PLAN B-41-79

B-41-79

E.B. I-90

BETWEEN B-41-76 AND B-41-79:
REMOVING GUARDRAIL
MGS GUARDRAIL 3
MGS THRIE BEAM TRANSITION

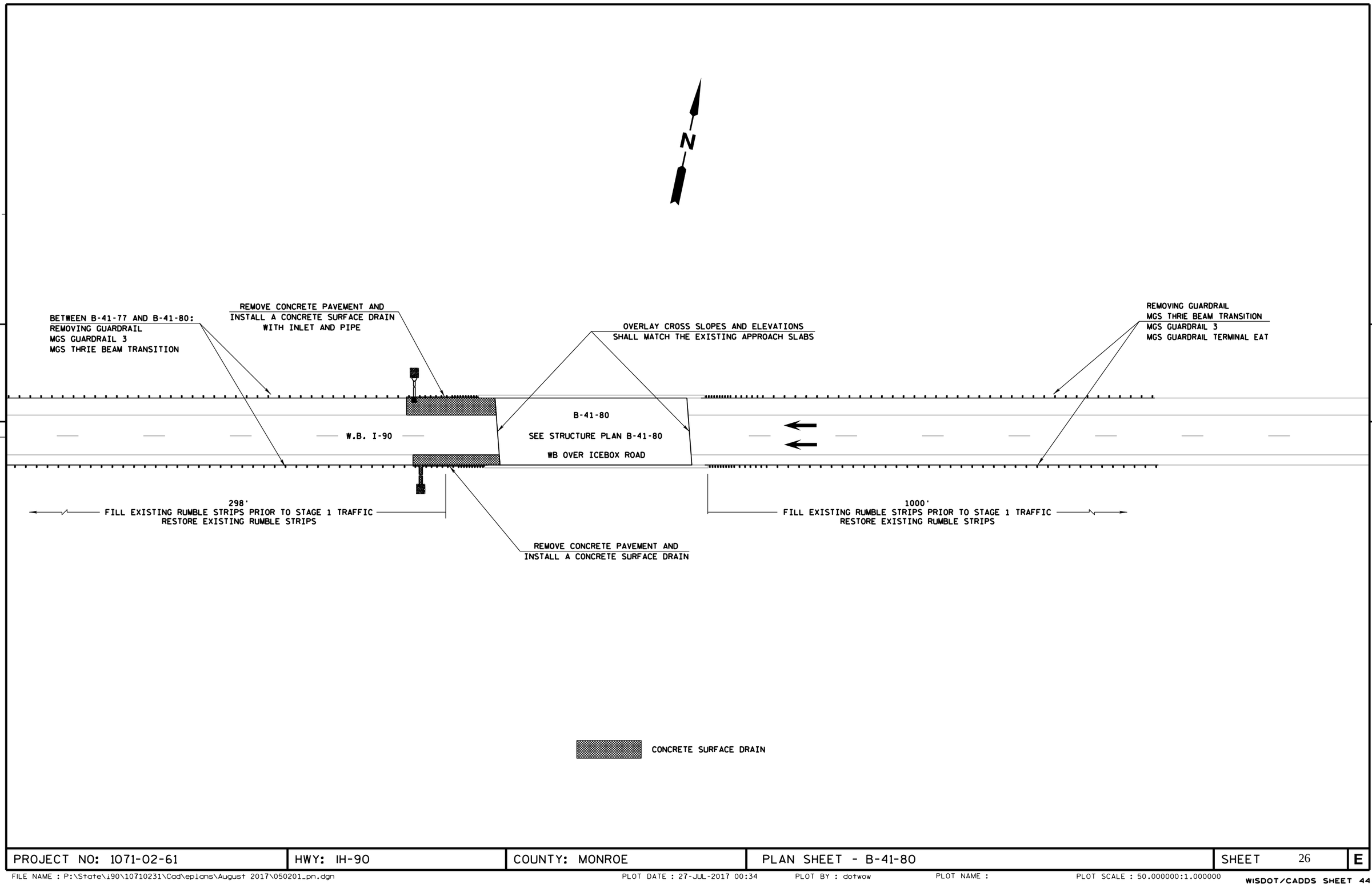
REMOVE CONCRETE PAVEMENT AND
INSTALL A CONCRETE SURFACE DRAIN
WITH INLET AND PIPE

OVERLAY CROSS SLOPES AND ELEVATIONS
SHALL MATCH THE EXISTING APPROACH SLABS

REMOVING GUARDRAIL
MGS THRIE BEAM TRANSITION
MGS GUARDRAIL 3
MGS GUARDRAIL TERMINAL TYPE 2

CONCRETE SURFACE DRAIN

PROJECT NO: 1071-02-61	HWY: IH-90	COUNTY: MONROE	PLAN SHEET - B-41-79	SHEET 25	E



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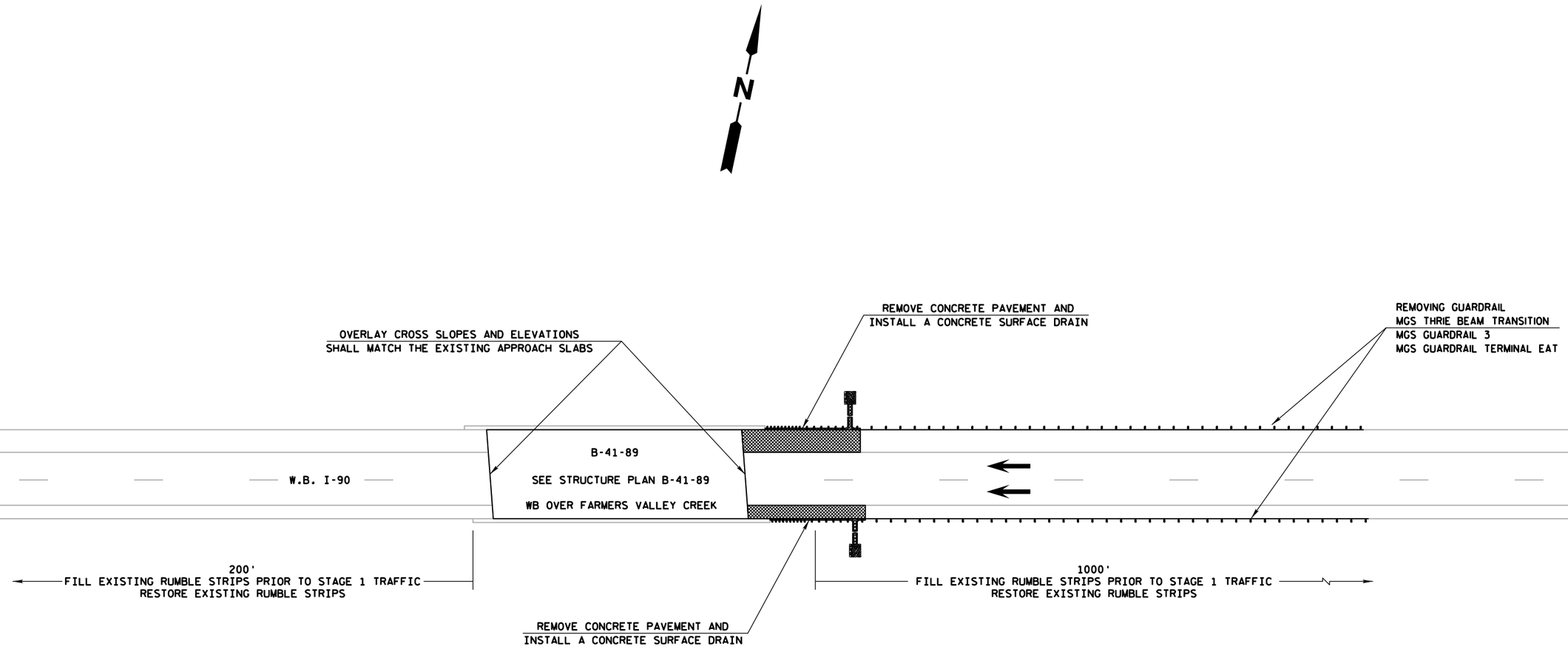

PROJECT NO: 1071-02-62	HWY: IH-90	COUNTY: MONROE	PLAN SHEET - B-41-89	SHEET	E

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WISDOT/CADDS SHEET 44

N

REMOVE CONCRETE PAVEMENT AND
INSTALL A CONCRETE SURFACE DRAIN

1000'
FILL EXISTING RUMBLE STRIPS PRIOR TO STAGE 1 TRAFFIC
RESTORE EXISTING RUMBLE STRIPS

200'
FILL EXISTING RUMBLE STRIPS PRIOR TO STAGE 1 TRAFFIC
RESTORE EXISTING RUMBLE STRIPS

EB OVER FARMERS VALLEY CREEK

(SEE STRUCTURE PLAN B-41-88)

B-41-88

E.B. I-90

REMOVING GUARDRAIL
MGS THRIE BEAM TRANSITION
MGS GUARDRAIL 3
MGS GUARDRAIL TERMINAL EAT

OVERLAY CROSS SLOPES AND ELEVATIONS
SHALL MATCH THE EXISTING APPROACH SLABS

REMOVE CONCRETE PAVEMENT AND
INSTALL A CONCRETE SURFACE DRAIN

CONCRETE SURFACE DRAIN

PROJECT NO: 1071-02-62	HWY: IH-90	COUNTY: MONROE	PLAN SHEET - B-41-88	SHEET	E

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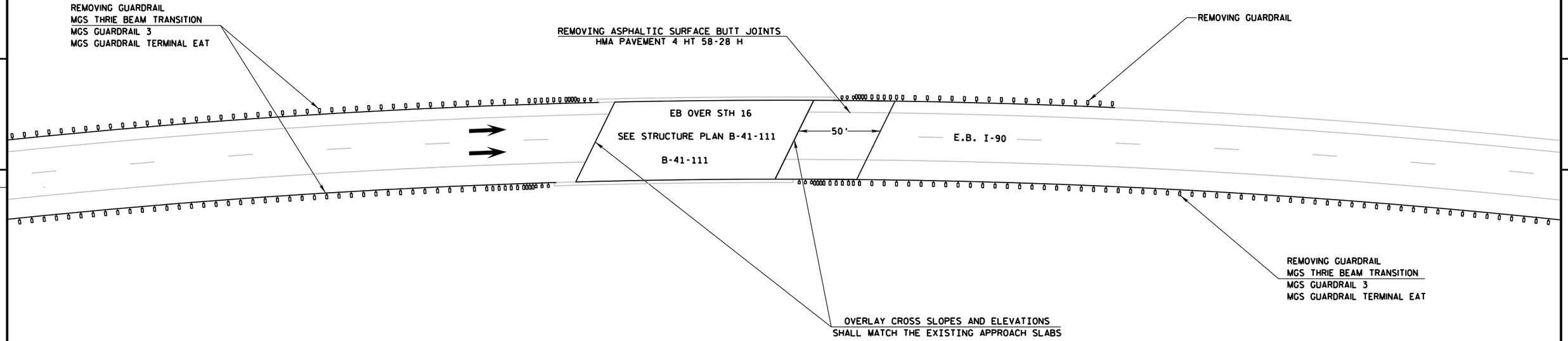
WISDOT/CADDS SHEET 44



PROJECT NO: 1071-02-63	HWY: IH-90	COUNTY: MONROE	PLAN SHEET - B-41-111	SHEET	E

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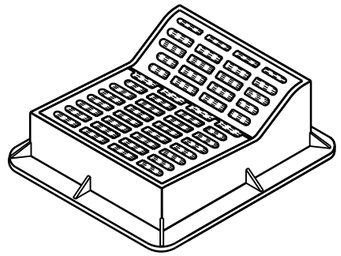
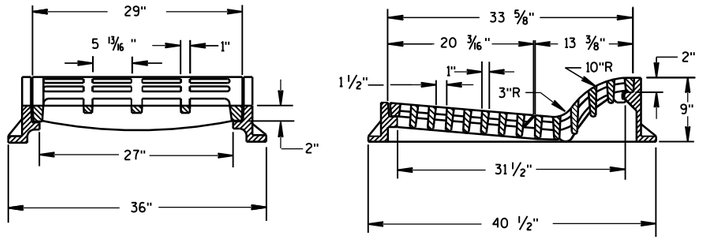
WISDOT/CADDS SHEET 44

Standard Detail Drawing List

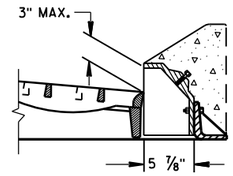
08A05-19C	INLET COVERS TYPE F, HM, HM-S, S, T, V, HM-GJ, & HM-GJ-S
08C07-02	INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT
08D02-06	CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
09G02-04A	BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION
09G02-04B	BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION
09G02-04C	BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION
13A05-05A	SHOULDER RUMBLE STRIP, MILLING
13A05-05B	SHOULDER RUMBLE STRIP, MILLING
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"
14B42-04A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-04B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-04C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B43-03A	MIDWEST GUARDRAIL SYSTEM LONG SPAN MGS (L)
14B43-03B	MIDWEST GUARDRAIL SYSTEM LONG SPAN MGS (L)
14B43-03C	MIDWEST GUARDRAIL SYSTEM LONG SPAN MGS (L)
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)
14B47-02A	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
14B47-02B	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
14B47-02C	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
15C06-08	SIGNING & MARKING FOR TWO LANE BRIDGES
15C08-17A	LONGITUDINAL MARKING (MAINLINE)
15C12-04	TRAFFIC CONTROL FOR LANE CLOSURE (SUITABLE FOR MOVING OPERATIONS)
15D03-04	TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H. WITH BARRIER
15D12-06A	TRAFFIC CONTROL, LANE CLOSURE
15D38-01A	TEMPORARY TRAFFIC CONTROL FIXED MESSAGE SIGNS
15D38-01B	ATTACHMENT OF SIGNS TO POSTS





TYPE "F"

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



ALTERNATIVE CURB BOX FOR TYPE "HM" COVER

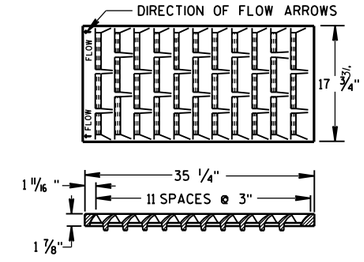
USE WITH TYPES G & J CONCRETE CURB & GUTTER, 30 INCH
NOTED AS TYPE HM-GJ ON DRAINAGE TABLE

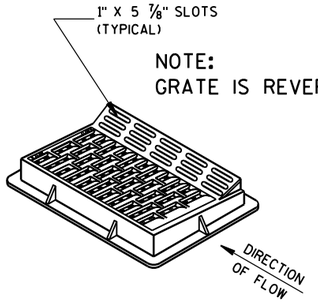
NOTE:
SPECIAL GRATE FOR THE
TYPE "H" COVER MAY ALSO BE
USED FOR THE TYPE "HM-GJ" COVER
NOTED AS TYPE HM-GJ-S ON DRAINAGE TABLE

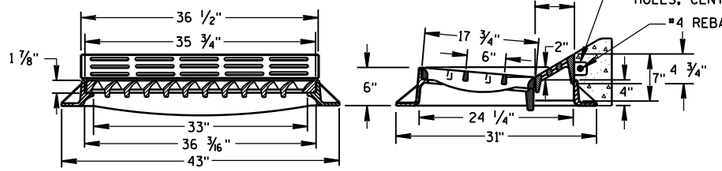
GENERAL NOTES

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

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



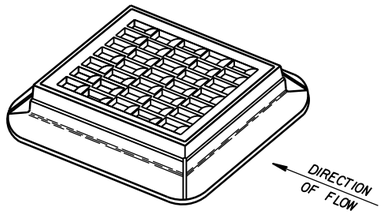


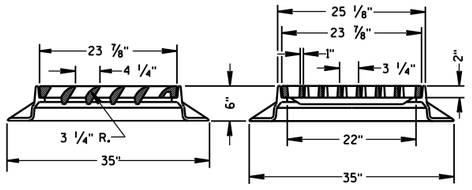


TYPE "HM"

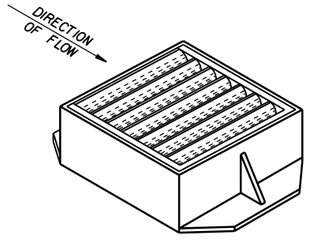
USE WITH TYPES A & D CONCRETE CURB & GUTTER, 36 INCH.

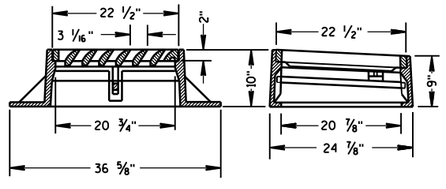
NOTE:
SPECIAL GRATE FOR THE
TYPE "H" COVER MAY ALSO BE
USED FOR THE TYPE "HM" COVER
NOTED AS TYPE HM-S ON DRAINAGE TABLE



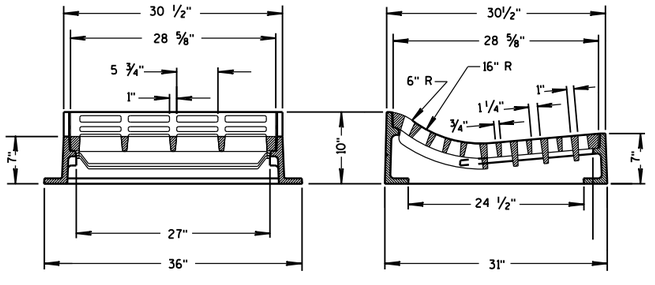


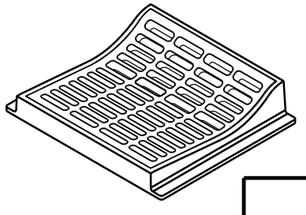
TYPE "S"





TYPE "V"





TYPE "T"

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

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

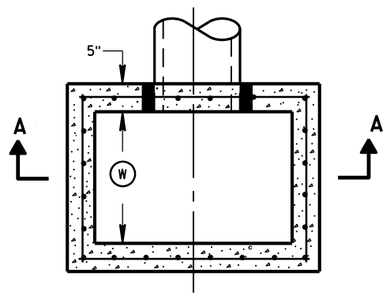
APPROVED
11/27/2013
DATE

/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER

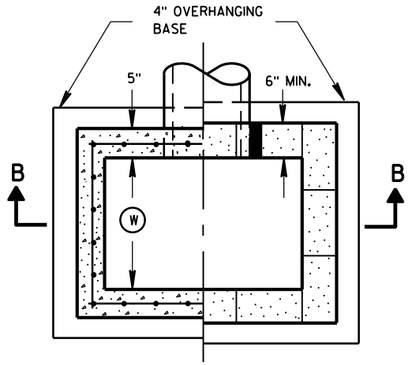
FHWA

6

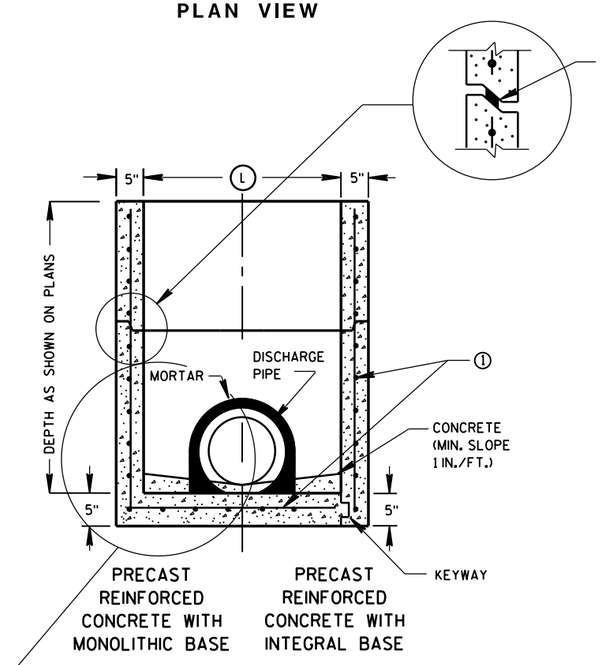
S.D.D. 8 A 5-19c



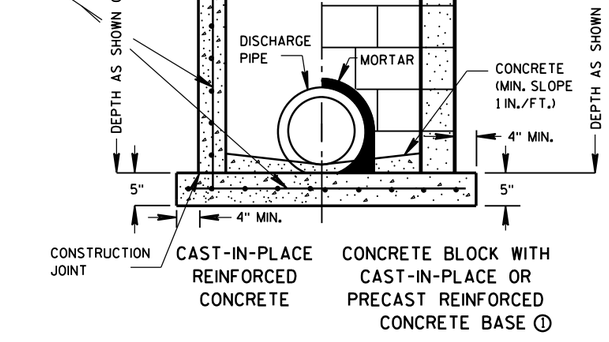
PLAN VIEW



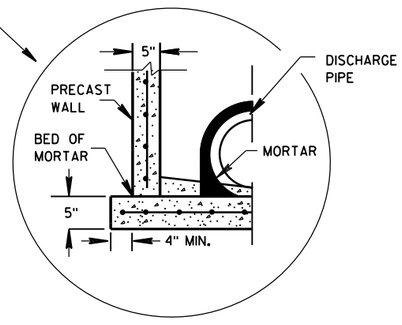
PLAN VIEW



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.

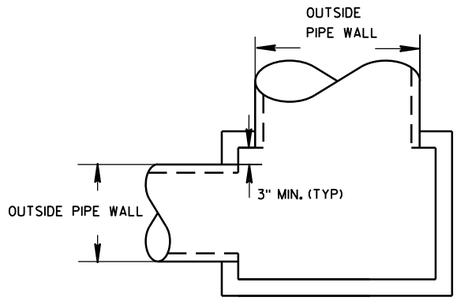
② CONTRACTOR TO PROVIDE DRAWING(S) STAMPED BY A PROFESSIONAL ENGINEER FOR STEEL REINFORCING DESIGN FOR CAST-IN-PLACE STRUCTURES.

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



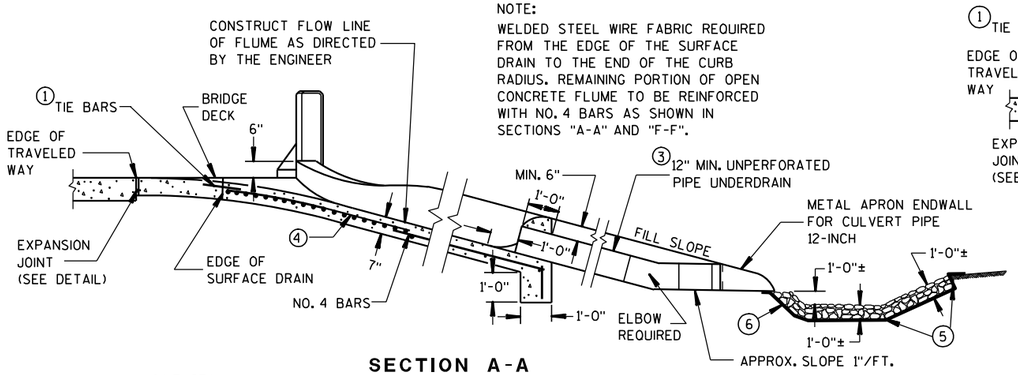
DETAIL "A"

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

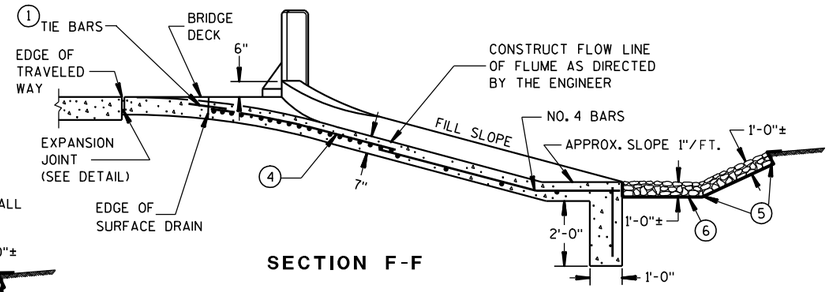
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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



SECTION A-A



SECTION F-F

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

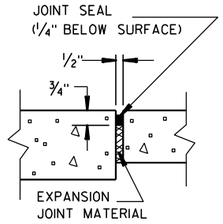
(4) MINIMUM REINFORCEMENT SHALL BE 6" X 6" - W4.0 X W4.0 OR NO. 3 BARS LONGITUDINAL AND TRANSVERSE SPACING 12" C-C.

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

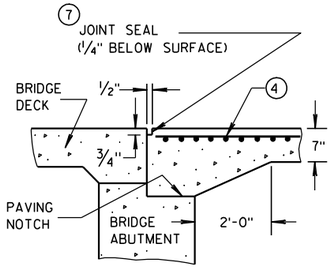
(6) GEOTEXTILE FABRIC, TYPE 'R"

(7) HOT POURED SEALANT UNLESS OTHERWISE SPECIFIED.

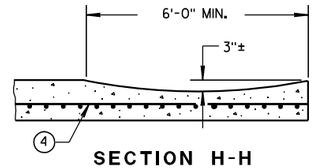
(8) THIS DIMENSION MAY VARY DEPENDING ON THE SPACING OF POSTS FOR THE STEEL PLATE BEAM GUARD. THE TYPICAL LOCATION FOR THE SURFACE DRAIN IS WHERE THE POST SPACING WIDENS TO 3'-1½".



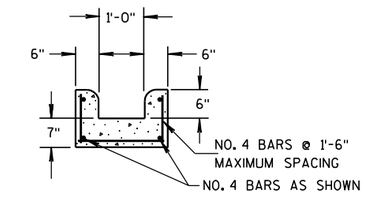
EXPANSION JOINT DETAIL



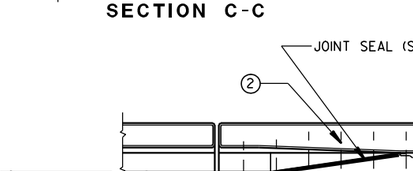
SECTION D-D



SECTION H-H

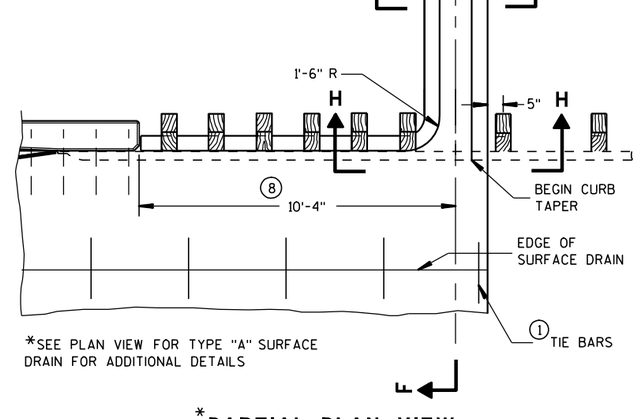


SECTION E-E



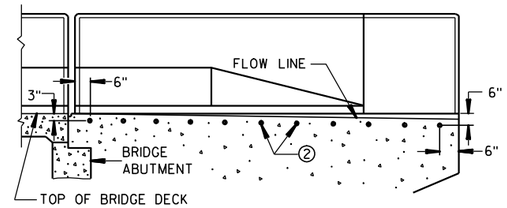
SECTION C-C

PLAN VIEW
SURFACE DRAIN WITH PIPE
TYPE "A"



*SEE PLAN VIEW FOR TYPE "A" SURFACE DRAIN FOR ADDITIONAL DETAILS

*PARTIAL PLAN VIEW
SURFACE DRAIN WITHOUT PIPE
TYPE "B"



LOCATION OF
TIE BARS IN WINGWALL

CONCRETE SURFACE DRAINS
FLUME TYPE
AT STRUCTURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

S.D.D. 8 D 2-6

6

METAL APRON ENDWALLS

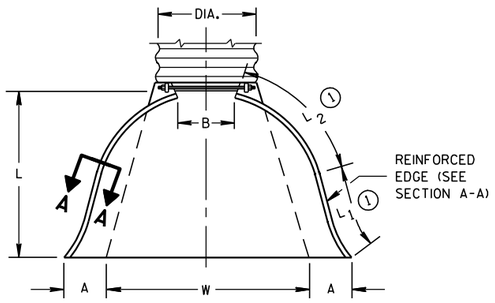
PIPE DIA. (IN.)	MIN. THICK. (Inches) STEEL	MIN. THICK. (Inches) ALUM.	DIMENSIONS (Inches) A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")	APPROX. SLOPE	BODY
12	.064	.060	6	6	6	21	12	17 1/2	24	2 1/2 to 1	1 Pc.
15	.064	.060	7	8	6	26	14	21 3/4	30	2 1/2 to 1	1 Pc.
18	.064	.060	8	10	6	31	15	28 1/4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

× EXCEPT CENTER PANEL SEE GENERAL NOTES

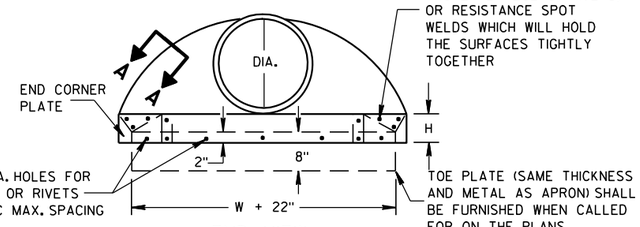
REINFORCED CONCRETE APRON ENDWALLS

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

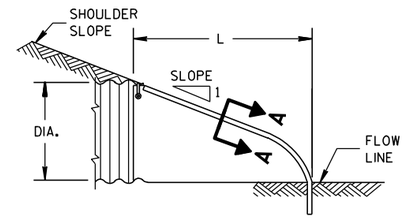
*MINIMUM
**MAXIMUM



PLAN VIEW

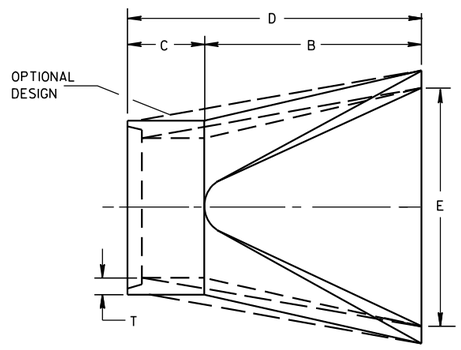


END VIEW

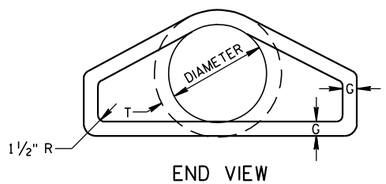


SIDE ELEVATION

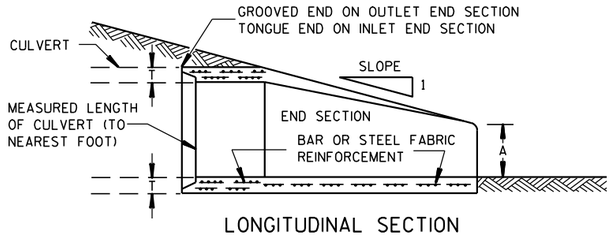
METAL ENDWALLS



PLAN

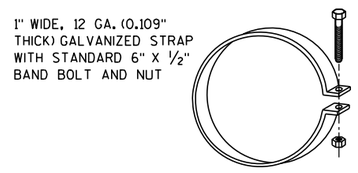


END VIEW



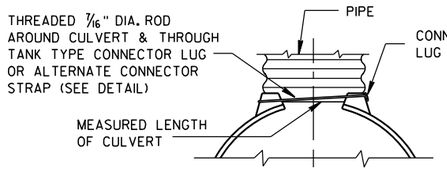
LONGITUDINAL SECTION

CONCRETE ENDWALLS

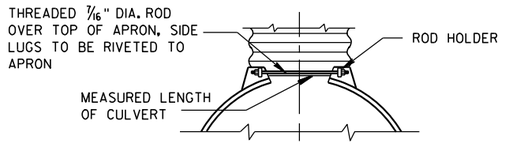


ALTERNATE FOR TYPE 1 CONNECTION

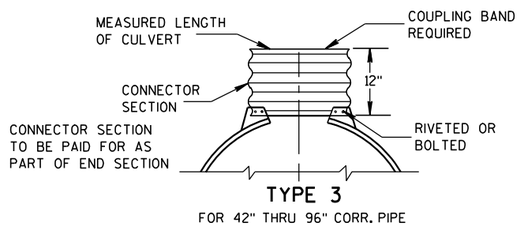
END SECTION CONNECTOR STRAP



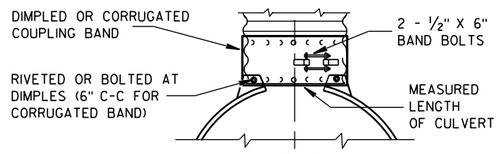
TYPE 1
FOR 12" THRU 24" CORR. PIPE



TYPE 2
FOR 30" THRU 96" CORR. PIPE



TYPE 3
FOR 42" THRU 96" CORR. PIPE



TYPE 5
ALTERNATE FOR:
ALL SIZES CORRUGATED CIRCULAR PIPE

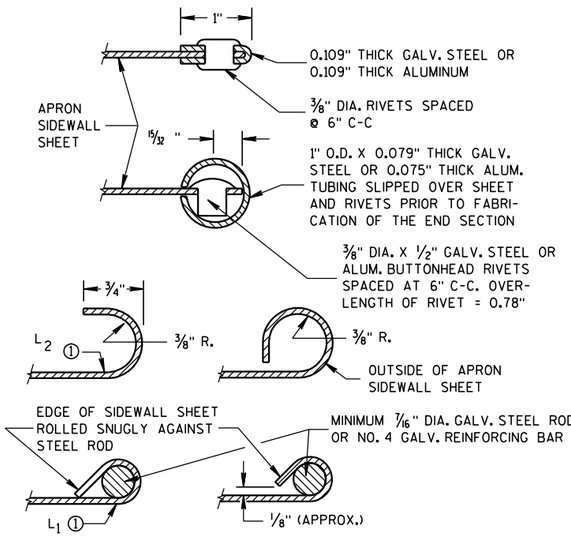
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL. AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

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

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

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

CONNECTION DETAILS



SECTION A-A

GENERAL NOTES

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

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

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

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

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

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

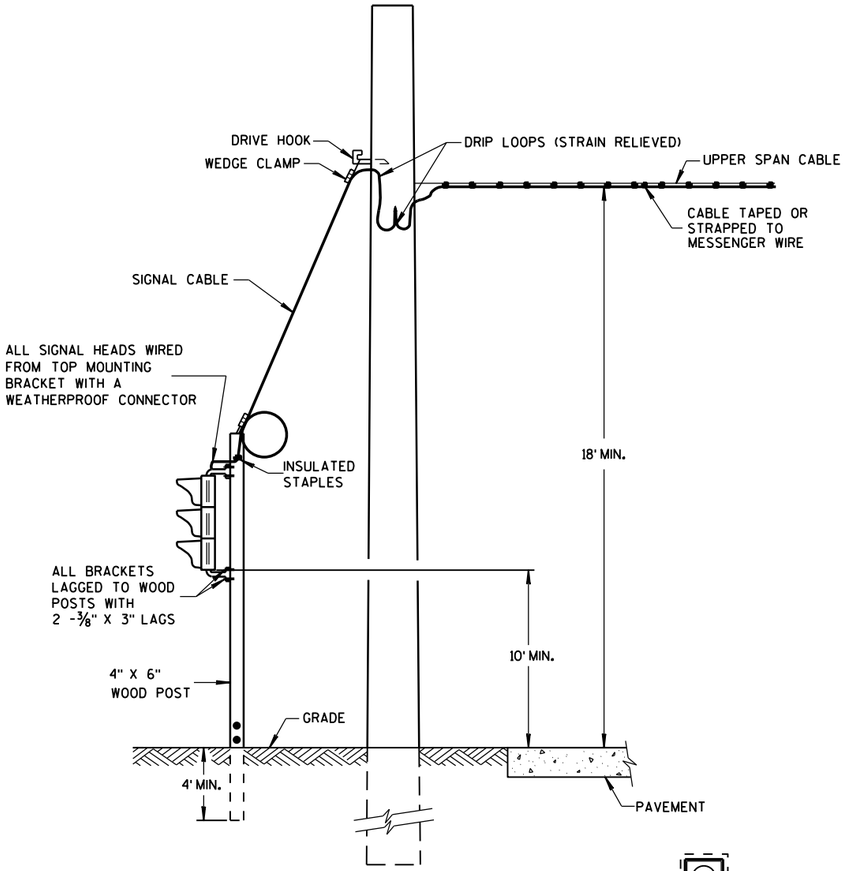
APRON ENDWALLS FOR CULVERT PIPE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

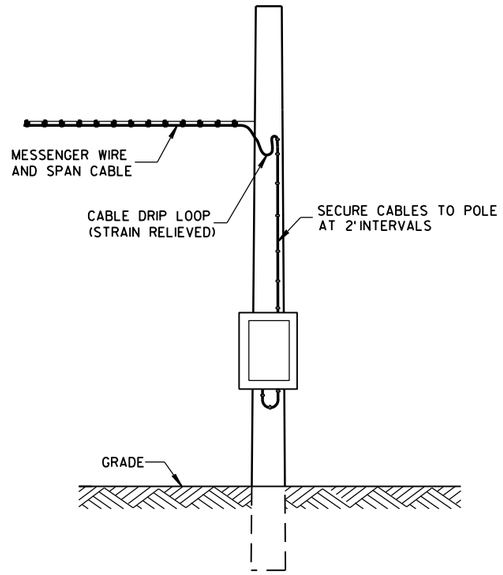
APPROVED
11/30/94 DATE
/S/ Rory L. Rhinesmith
CHIEF ROADWAY DEVELOPMENGINEER
FHWA

6

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.

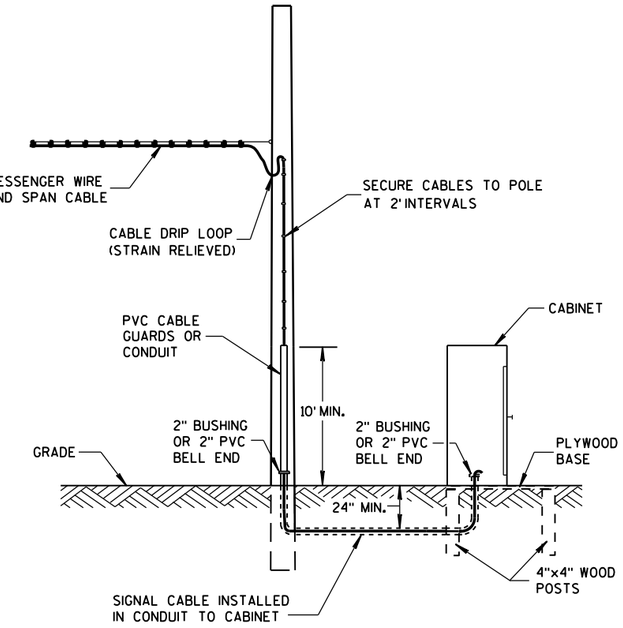
WOOD POLES (NONBREAKAWAY) SHALL BE NO CLOSER TO EDGE OF PAVEMENT THAN OFFSET DISTANCE CHART ALLOWS OR 4 FEET BEHIND PROTECTIVE BARRIER (BEAM GUARD, ETC.).

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.

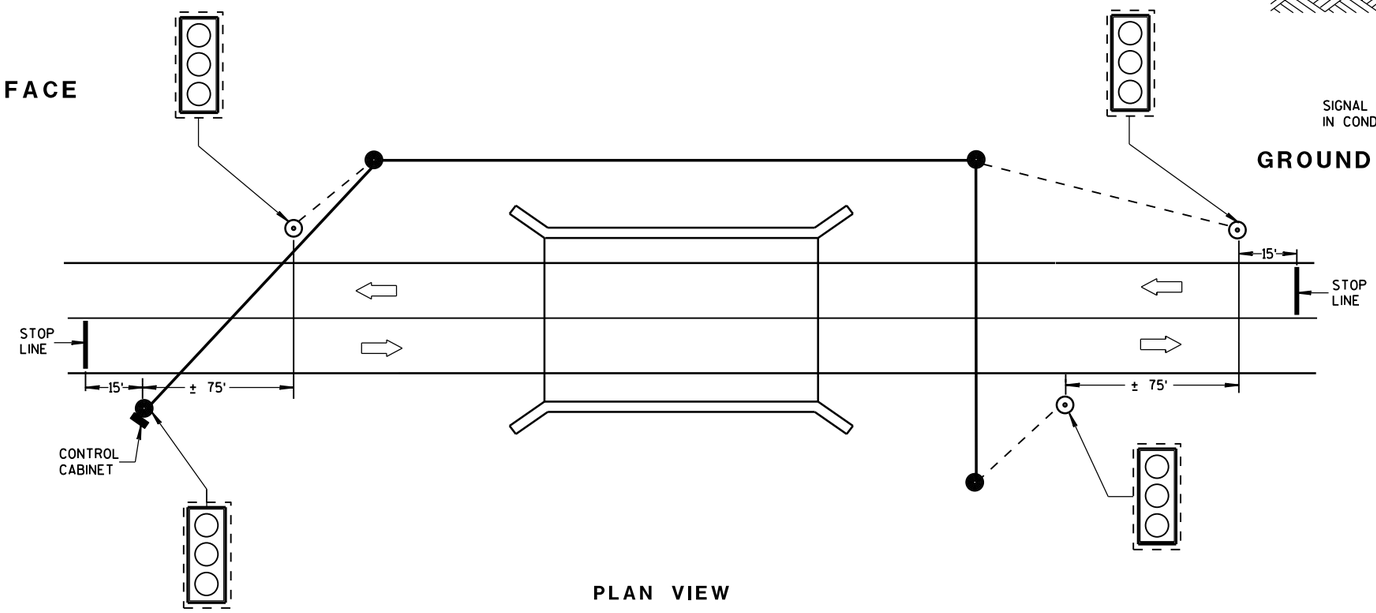
EACH TRAFFIC SIGNAL FACE SHALL HAVE A BACKPLATE.



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

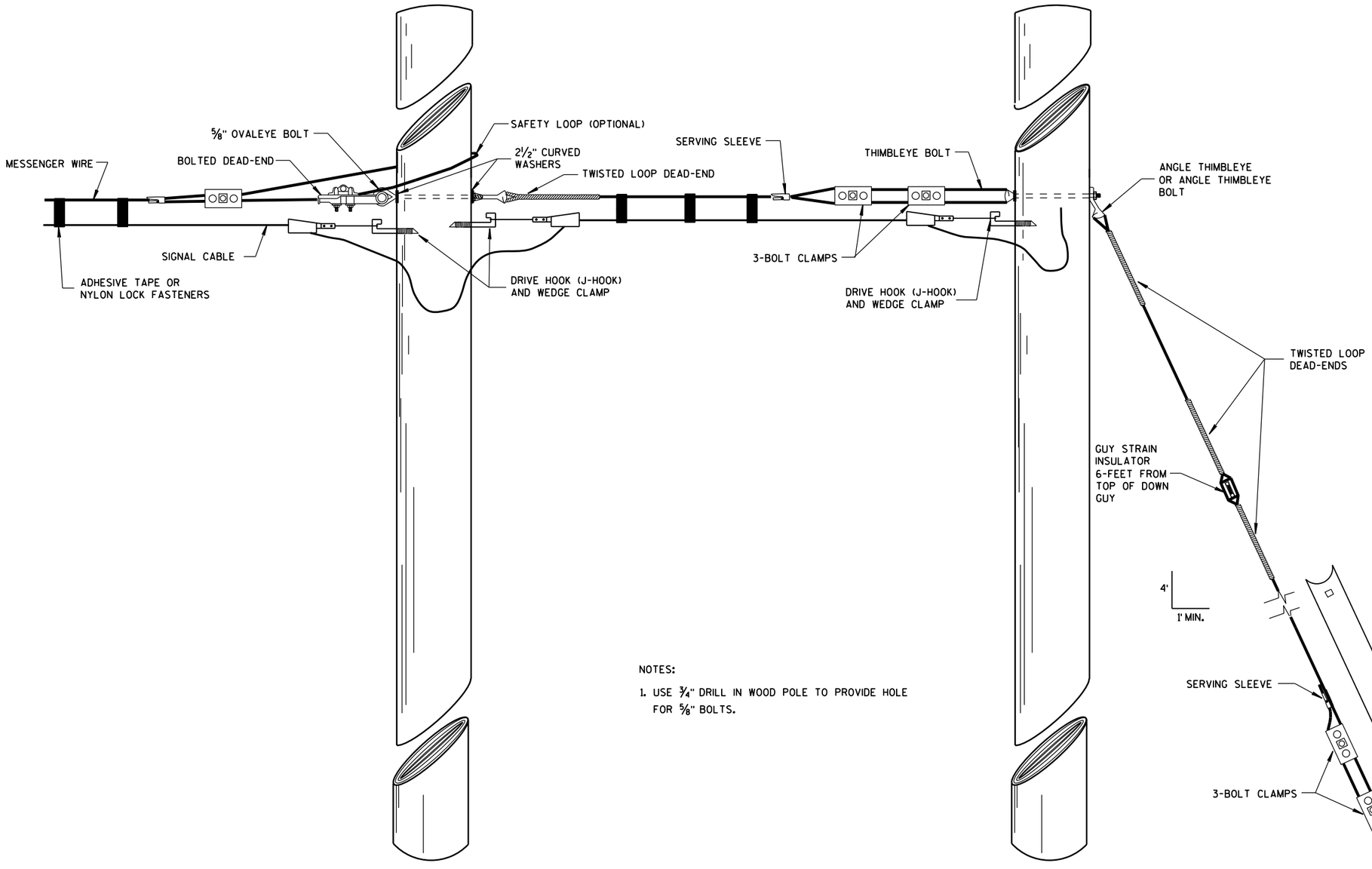
APPROVED
Sept., 2016 (DATE) /S/ Ahmet Demirbilek (STATE ELECTRICAL) 35
FHWA

6

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

6

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

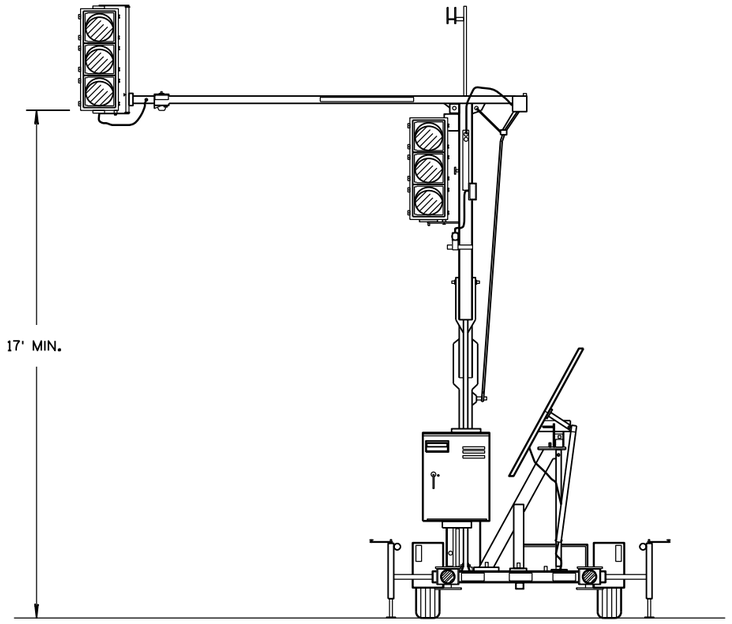
Sept., 2016 — DATE

/S/ Ahmet Demirbilek — STATE ELECTRICAL

FHWA

6

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

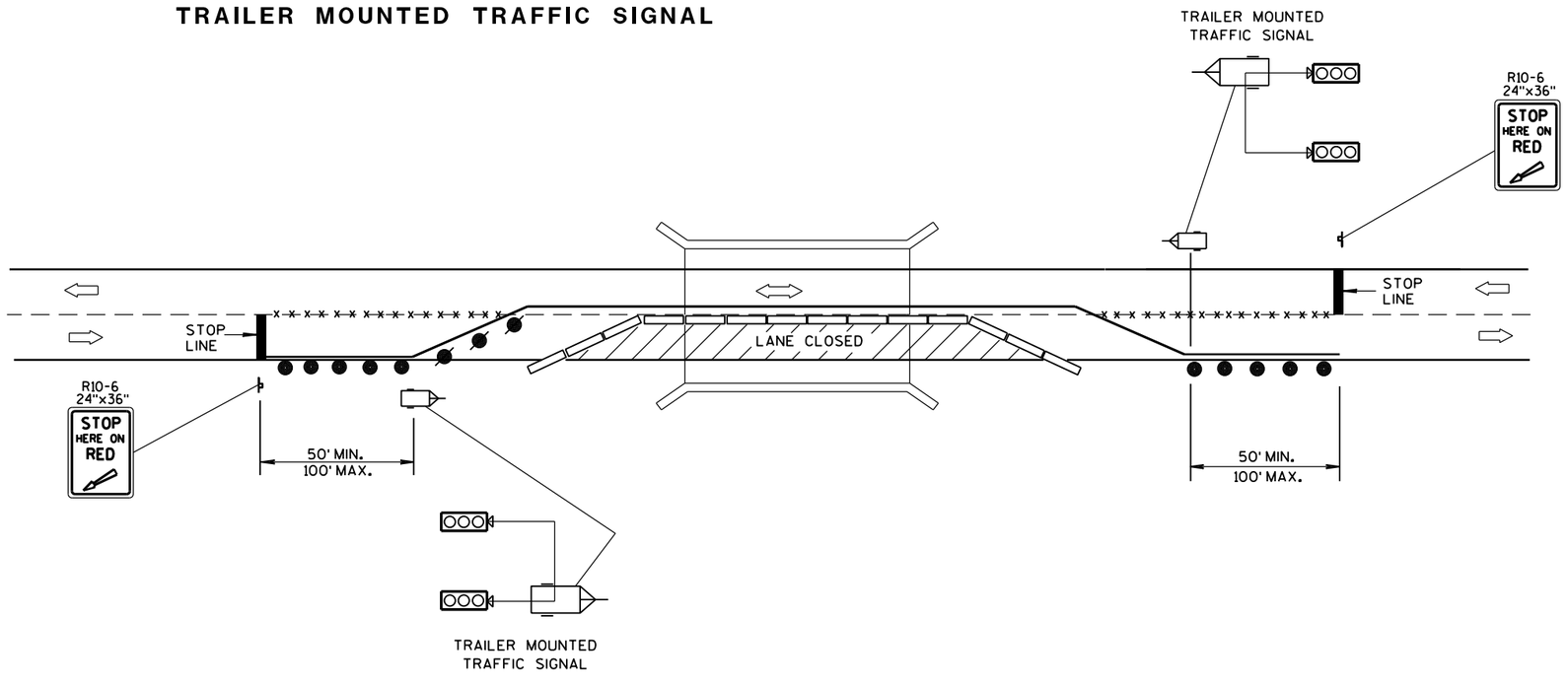


TRAILER MOUNTED TRAFFIC SIGNAL

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

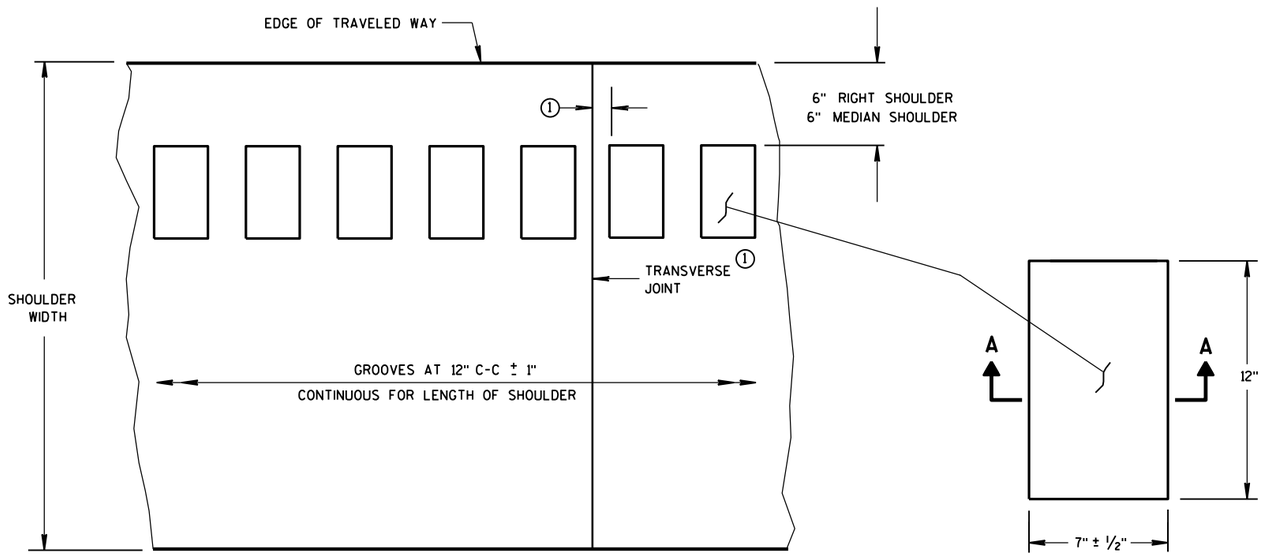
FHWA

6

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

6

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



PLAN VIEW
SHOULDER WITH GROOVES

PLAN VIEW
(SINGLE GROOVE)

PLACEMENT DETAIL FOR MILLED RUMBLE STRIP

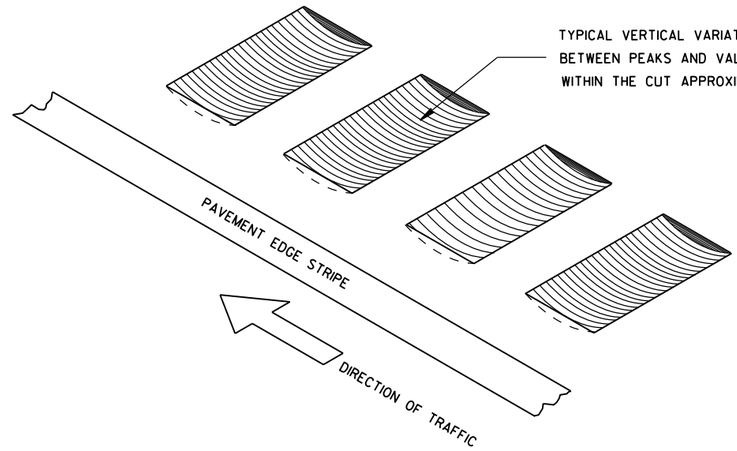
GENERAL NOTES

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

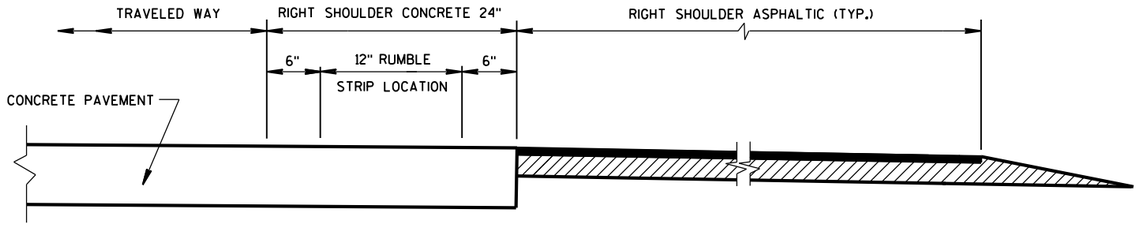
RUMBLE STRIPS ON EXPRESSWAYS

DO NOT INSTALL RUMBLE STRIPS ACROSS SIDE ROAD INTERSECTIONS, COMMERCIAL DRIVEWAYS, PRIVATE DRIVEWAYS OR ADJACENT TO RIGHT TURN LANES, LEFT TURN LANES, TURN LANE TAPERS, BRIDGE DECKS, BRIDGE APPROACHES, OR 100 FEET IN ADVANCE OF RAILROAD CROSSING. THE ATTACHED STANDARD DETAIL DRAWING SHOWS THE LOCATION OF THE RUMBLE STRIPS AT INTERCHANGE AREAS.

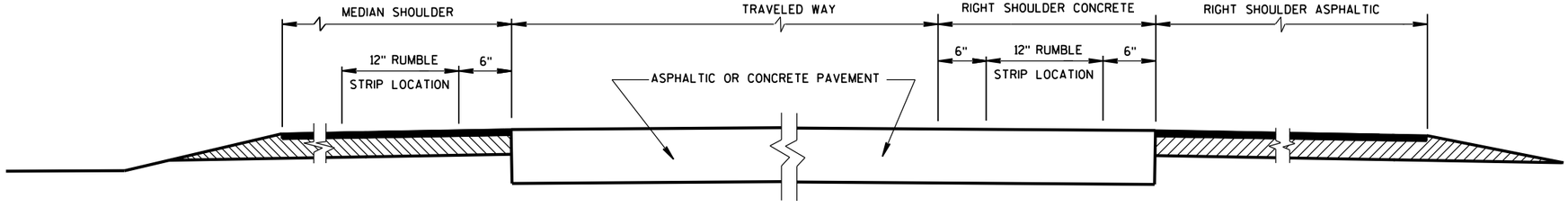
(1) CONCRETE PAVEMENT - RUMBLE STRIPS SHALL BE A MINIMUM OF 6" AWAY FROM TRANSVERSE JOINTS.



ISOMETRIC



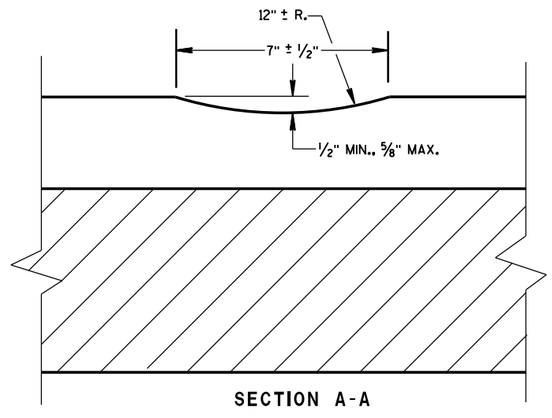
SECTION VIEW
CONCRETE PAVEMENT EXTENDS INTO RIGHT SHOULDER)



SECTION VIEW

TYPICAL LOCATIONS OF SHOULDER RUMBLE STRIPS IN RURAL DIVIDED HIGHWAYS

(ONE ROADWAY IS SHOWN)



SECTION A-A

SHOULDER RUMBLE STRIP, MILLING

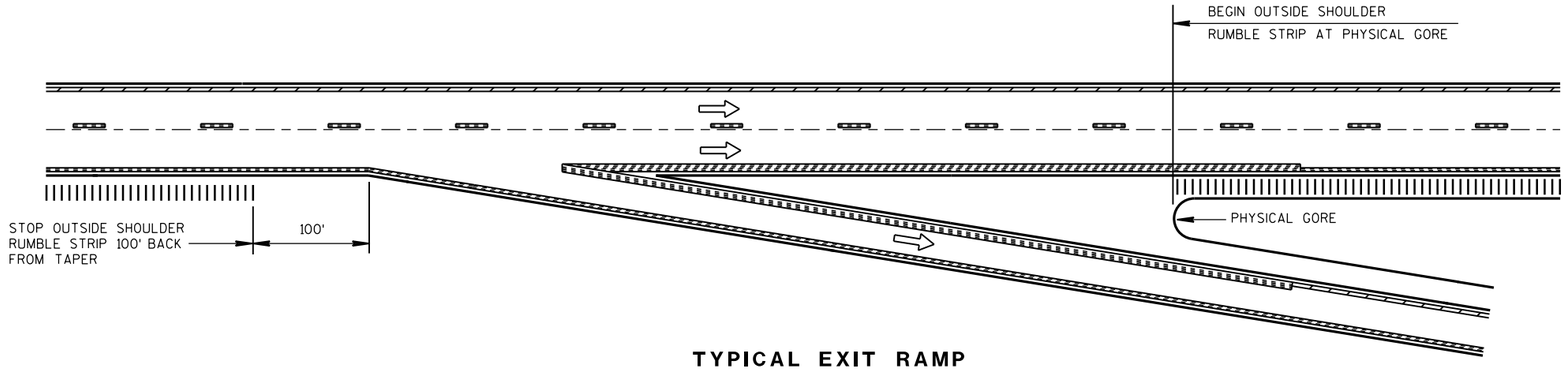
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

S.D.D. 13 A 5-5a

6

S.D.D. 13 A 5-5a



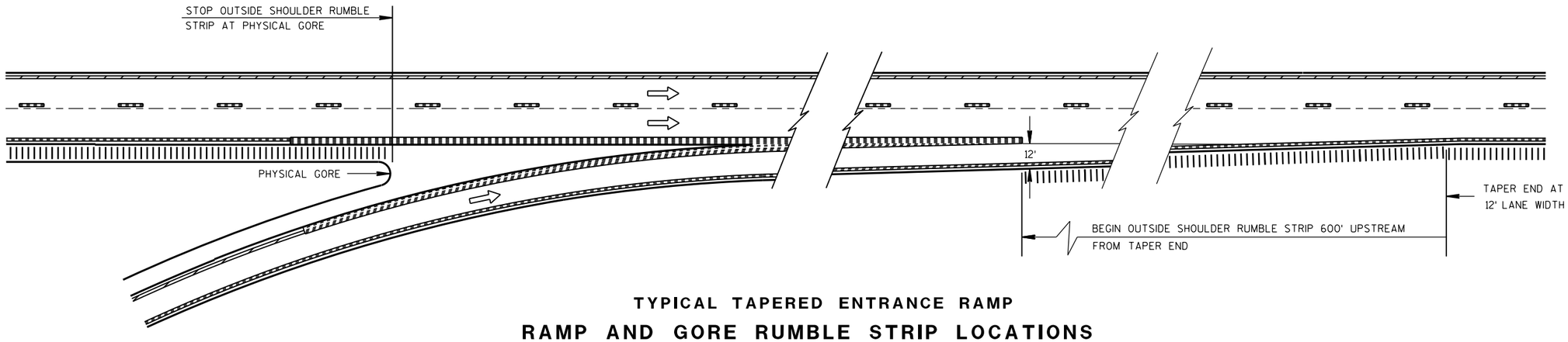
TYPICAL EXIT RAMP

NOTES:

NO RUMBLE STRIP ON EXIT, DIRECTIONAL, OR ENTRANCE RAMPS, EXCEPT NEAR THE ENTRANCE TAPER END AND ALONG THE PARALLEL RAMP AREA AS SHOWN.

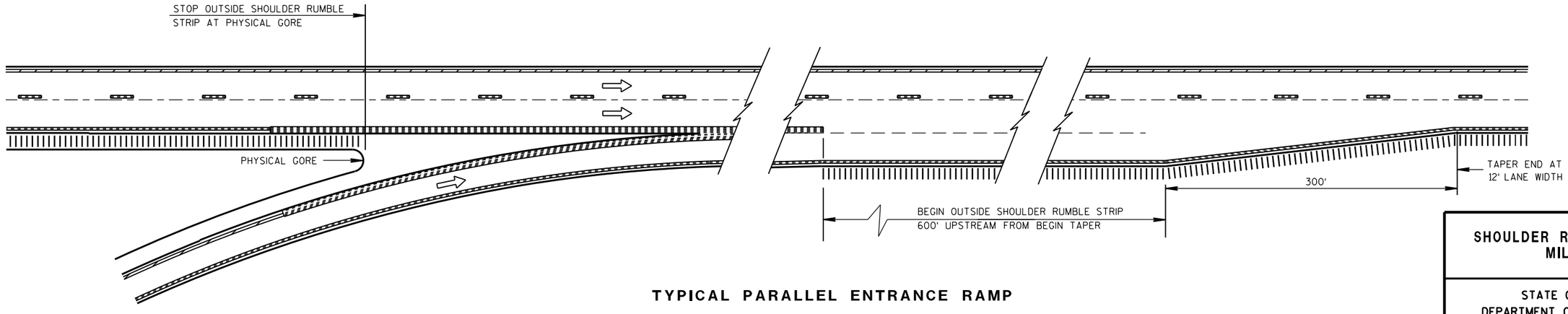
PAVEMENT MARKING DETAILS AND SPECIFICATIONS ARE PROVIDED ELSEWHERE IN THE CONTRACT.

NOTE:
ARROW SYMBOL (⇨)
SHOWS DIRECTION OF TRAVEL



TYPICAL TAPERED ENTRANCE RAMP

RAMP AND GORE RUMBLE STRIP LOCATIONS



TYPICAL PARALLEL ENTRANCE RAMP

RAMP AND GORE RUMBLE STRIP LOCATIONS

SHOULDER RUMBLE STRIP, MILLING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

12/17/2012
DATE

/S/ Jerry H. Zoga
ROADWAY STANDARDS ENGINEER

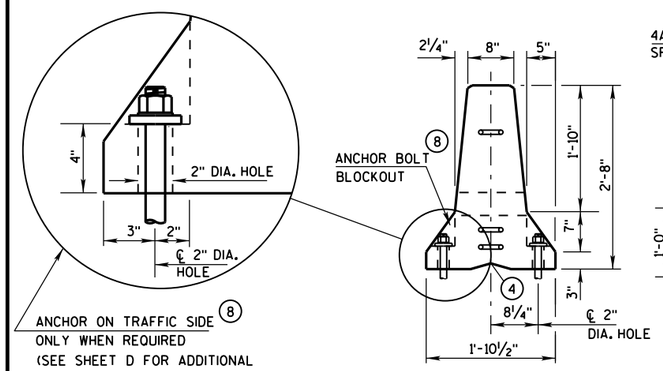
FHWA

6

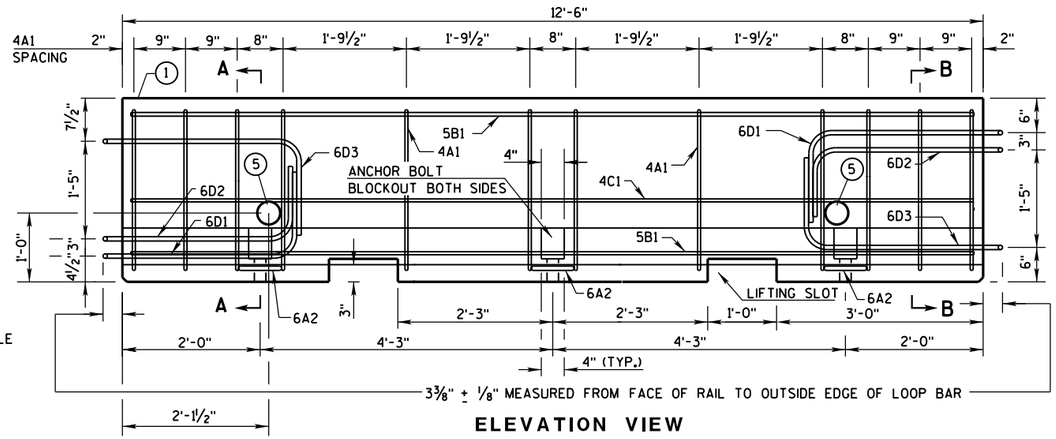
S.D.D. 13 A 5-5b

6

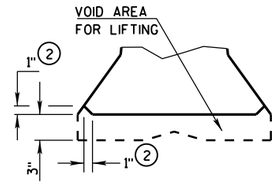
S.D.D. 13 A 5-5b



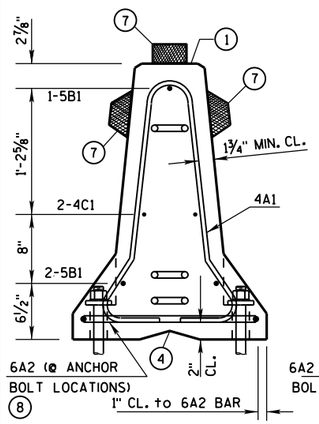
END VIEW



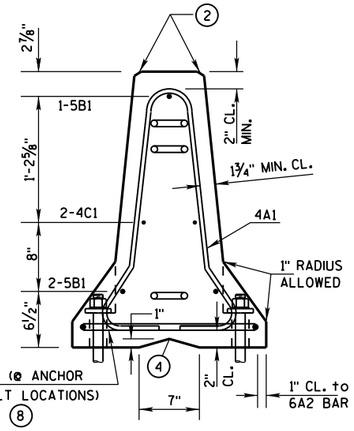
ELEVATION VIEW



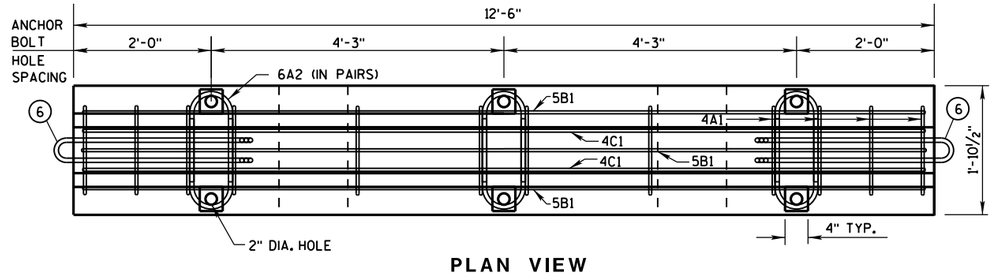
DETAIL "B"
LIFTING SLOT DETAIL



SECTION A-A
(STIRRUP PLACEMENT)

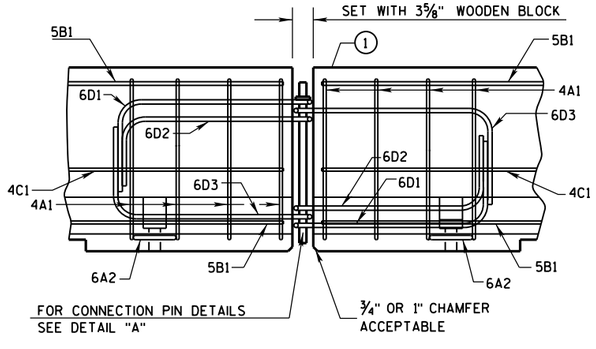


SECTION B-B
(STIRRUP PLACEMENT)

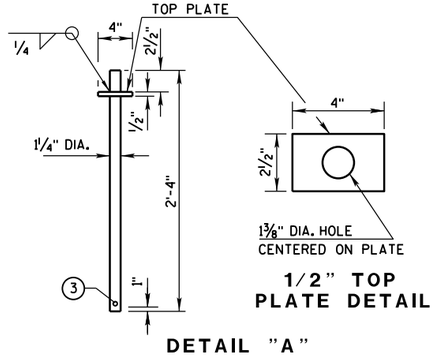


PLAN VIEW

DETAILS OF BARRIER SECTION

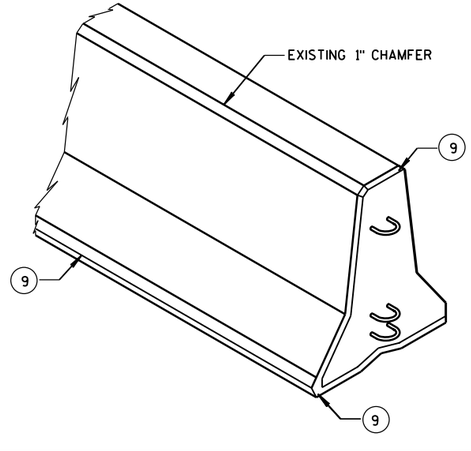


DETAILS OF BARRIER CONNECTION



1/2" TOP
PLATE DETAIL

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



GENERAL NOTES

THESE GENERAL NOTES APPLY TO SHEETS 14B7-14(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.

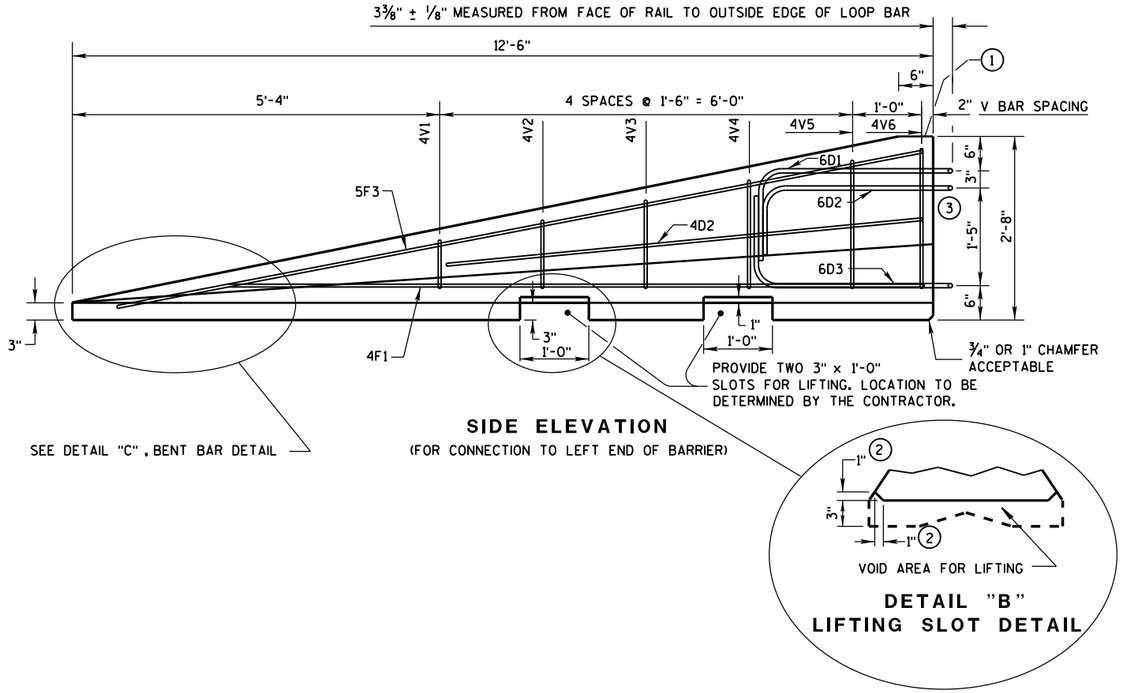
(8) SEE SHEET D FOR ANCHORING CRITERIA.

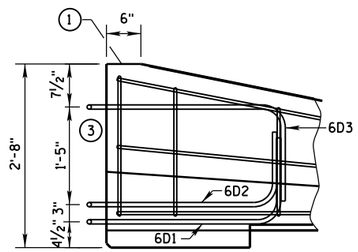
(9) 1" CHAMFER OPTIONAL.

CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

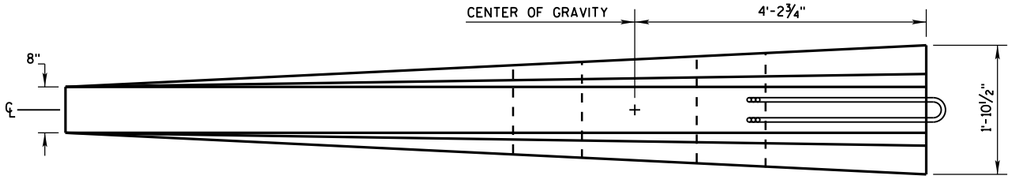
6
S.D.D. 14 B 7-14a

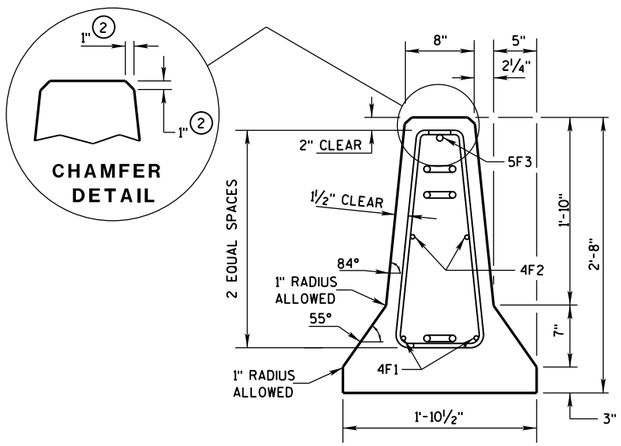


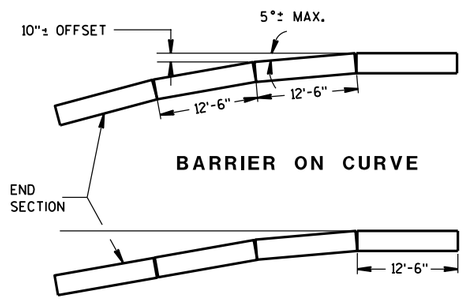


GENERAL NOTES

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







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

DETAILS OF BARRIER TAPER SECTION

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

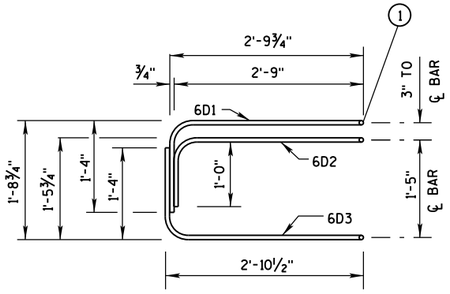
6

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

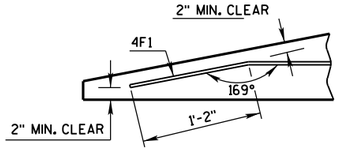
BARRIER TAPER SECTION BILL OF MATERIALS

(PER 12'-6" BARRIER TAPER SECTION)

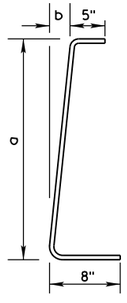
BAR	BAR SIZE	NO. OF BARS	LENGTH FT.
4V1	4	2	1'-11"
4V2	4	2	2'-2"
4V3	4	2	2'-6"
4V4	4	2	2'-9"
4V5	4	2	3'-2"
4V6	4	2	3'-4"
4F1	4	2	12'-0"
4F2	4	2	7'-6"
5F3	5	1	11'-9"
LOOP ASSEMBLY			
6D1	6	1	8'-5"
6D2	6	1	7'-7"
6D3	6	1	8'-6"



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

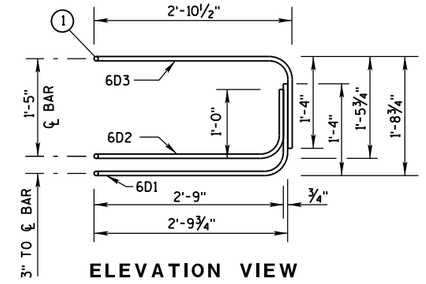
GENERAL NOTES

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

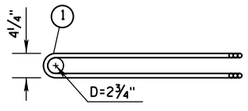
BARRIER SECTION BILL OF MATERIALS

(PER 12'-6" BARRIER SECTION)

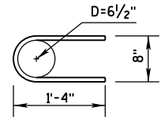
BAR	BAR SIZE	NO. OF BARS	LENGTH FT.
4A1	4	12	6'-0"
6A2	6	6	2'-11"
5B1	5	3	12'-2"
4C1	4	2	12'-2"
LOOP ASSEMBLY			
6D1	6	2	8'-5"
6D2	6	2	7'-7"
6D3	6	2	8'-6"



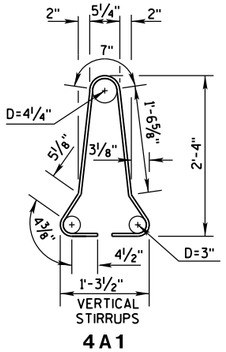
ELEVATION VIEW



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



6A2



4A1

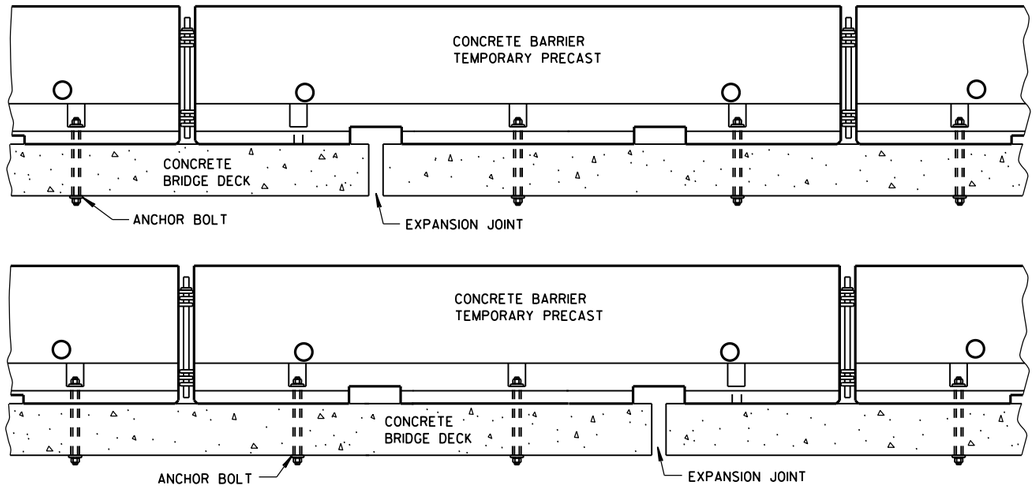
BARRIER SECTION

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

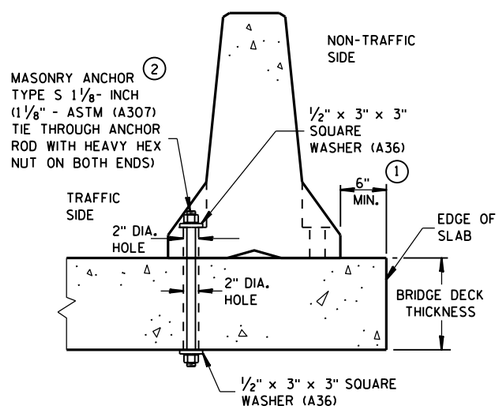
6

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



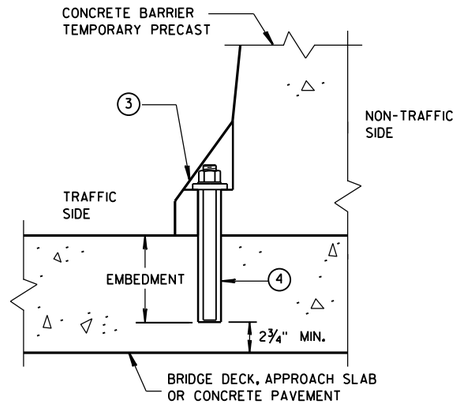
TREATMENT AT BRIDGE DECK EXPANSION JOINTS

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

(DO NOT USE ON CONCRETE WITH AN ASPHALTIC OVERLAY)

GENERAL NOTES

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

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

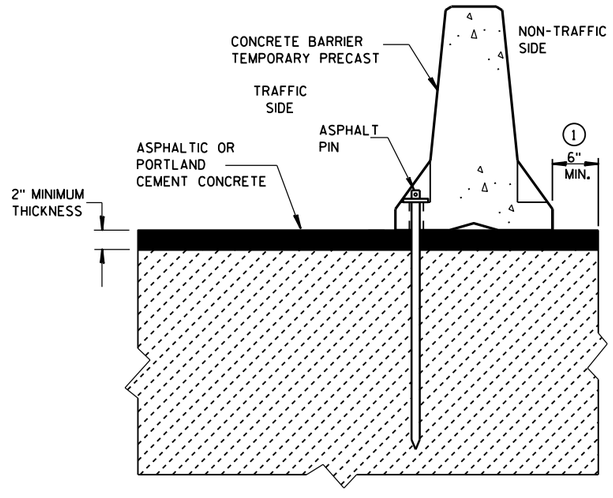
② ANCHORING IS INCIDENTAL TO CONCRETE BARRIER TEMPORARY PRECAST.

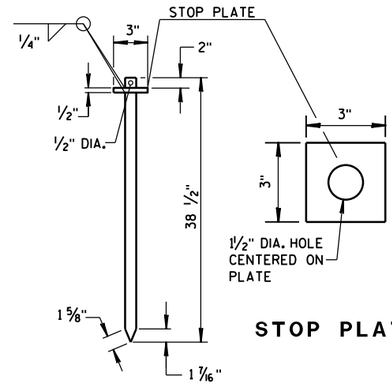
WITH THE APPROVAL OF THE ENGINEER, REMOVABLE ADHESIVE BONDED ANCHOR BOLT INSTALLATION MAY BE USED IN LIEU OF THROUGH BOLTED ANCHOR INSTALLATION. THE ADHESIVE BONDED ANCHOR BOLT MUST BE REMOVABLE. USE ASTM (A307) MASONRY ANCHORS TYPE S 1⅛-INCH, EMBEDDED TO A DEPTH SUFFICIENT TO DEVELOP THE ULTIMATE CAPACITY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



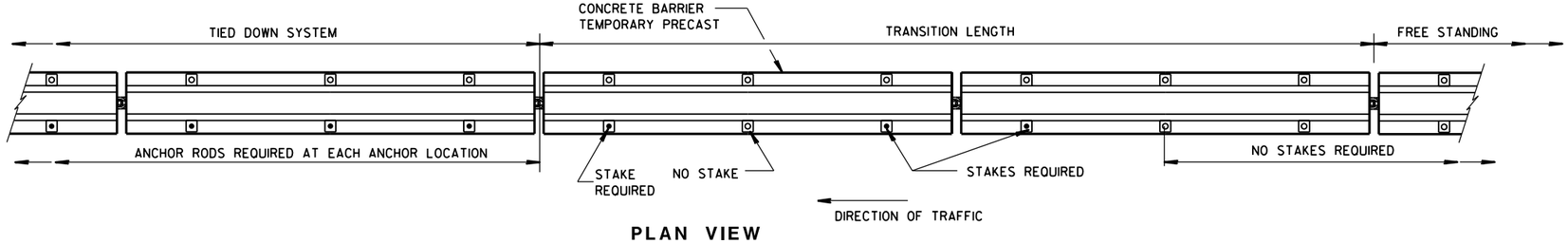


STOP PLATE

ASPHALT PIN
(ASTM A36 STEEL)

STAKE DOWN INSTALLATION FOR ASPHALTIC OR PORTLAND CEMENT CONCRETE SURFACE

(STAKING IS INCIDENTAL TO CONCRETE BARRIER TEMPORARY PRECAST)



PLAN VIEW

FREE STANDING TRANSITION TO TIED-DOWN SYSTEM

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

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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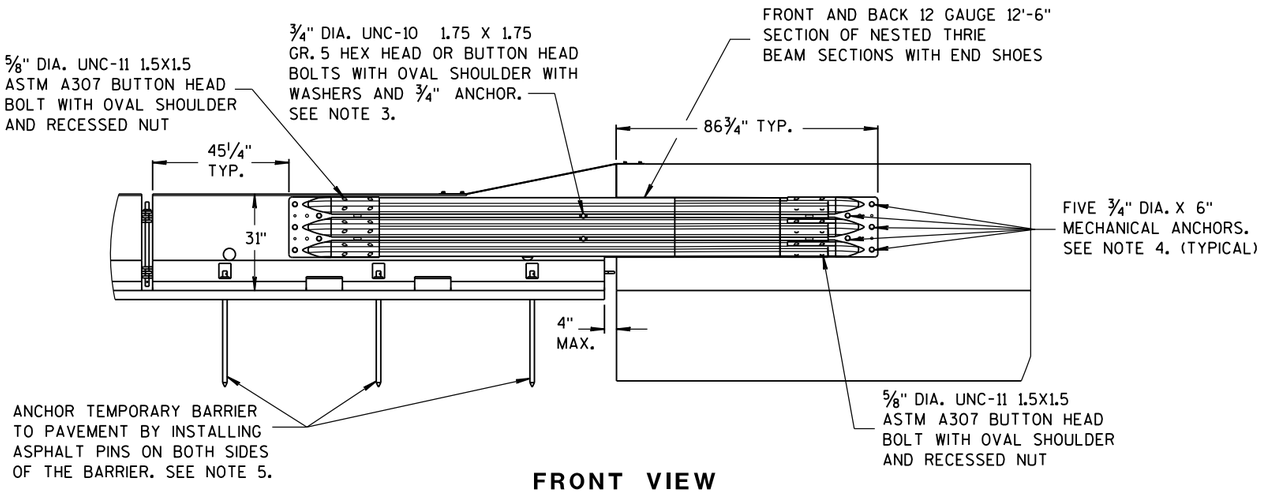
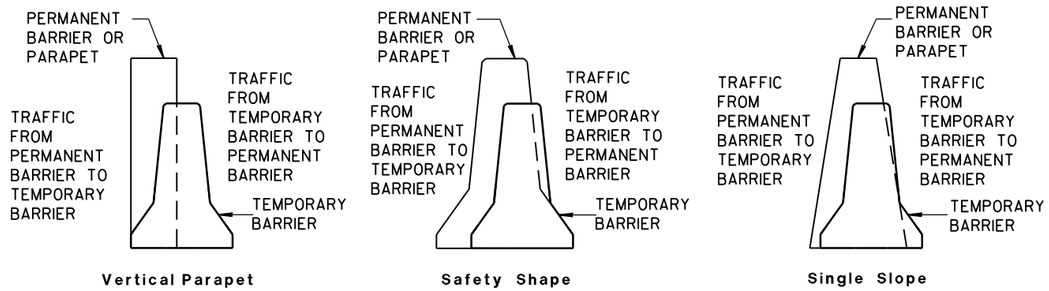
S.D.D. 14 B 7-14d



FRONT VIEW



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

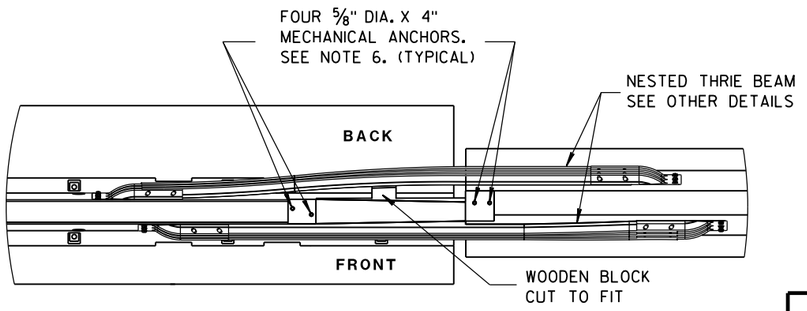
NOTES

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 15 1/4" TO PREVENT INTERFERENCE FROM THE ANCHORS ON OPPOSING SIDES.
3. MINIMUM MECHANICAL OR ADHESIVE ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 9.48 KIPS AND ULTIMATE SHEAR LOAD 10.48 KIPS.
4. MINIMUM MECHANICAL OR ADHESIVE ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 17.9 KIPS AND ULTIMATE SHEAR LOAD 21.96 KIPS.
5. MAY BE USED ON CONCRETE OR ASPHALT PAVEMENTS. ASPHALT OPTION SHOWN. FOR CONCRETE OPTION SEE OTHER DETAILS.
6. MINIMUM MECHANICAL OR ADHESIVE ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 12.14 KIPS AND ULTIMATE SHEAR LOAD 17.5 KIPS.

BACK VIEW

FRONT VIEW



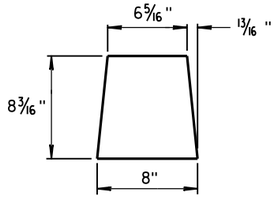
PLAN VIEW

BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM

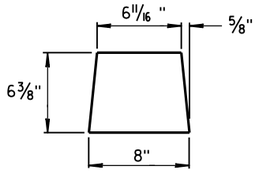
CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

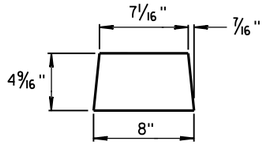
6
S.D.D. 14 B 7-14e



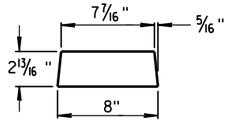
GUSSET 1



GUSSET 2

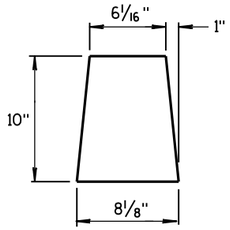


GUSSET 3

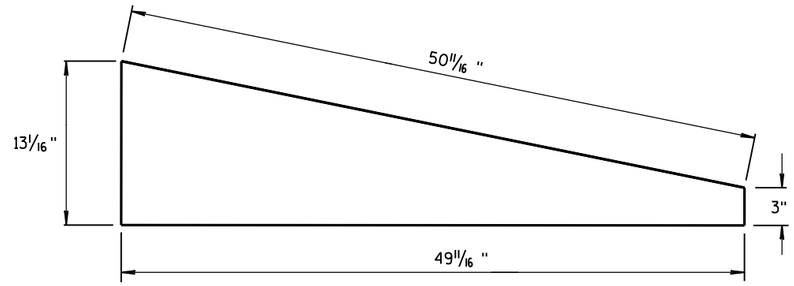


GUSSET 4

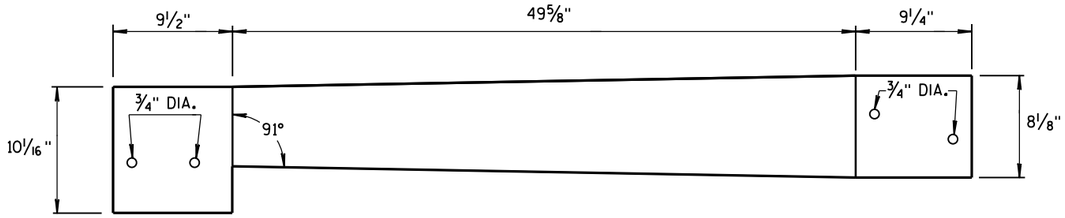
GUSSETS

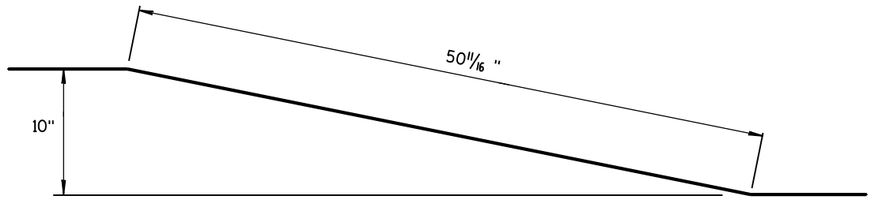


END PLATE



SIDE PLATE

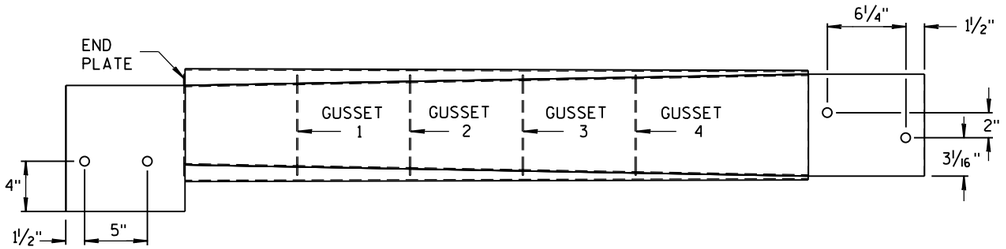


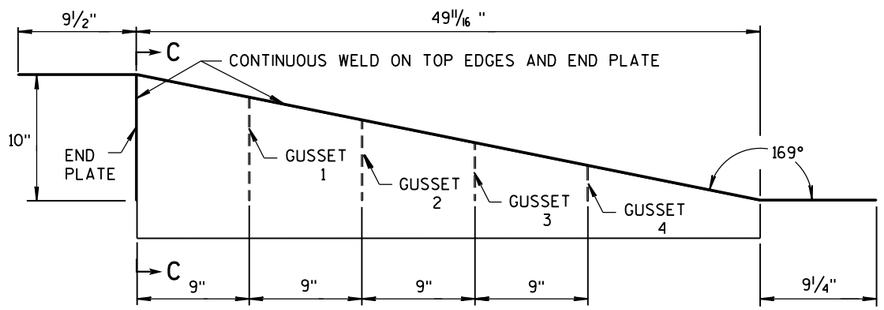


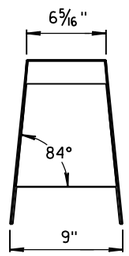
TOP PLATE

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

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







SECTION C-C

NOTES

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

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

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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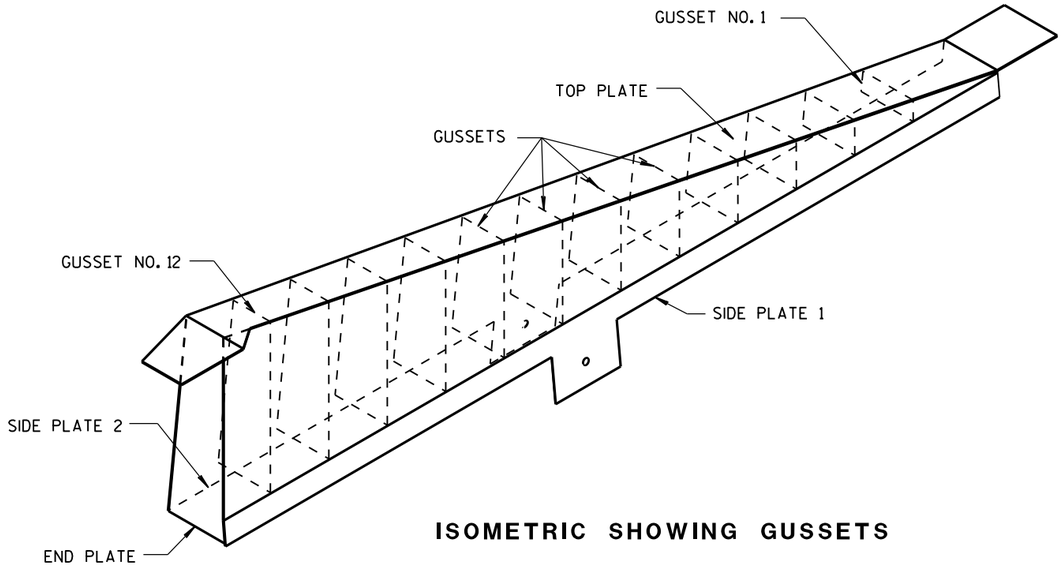
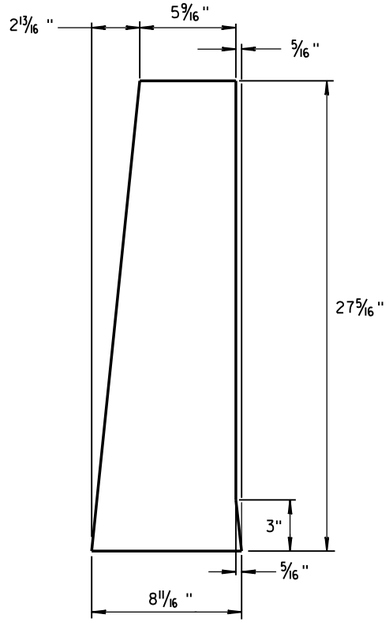
S.D.D. 14 B 7-14f

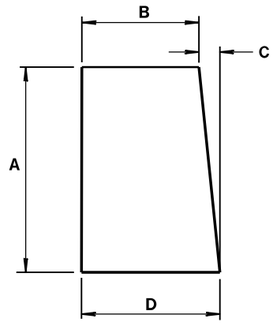


ISOMETRIC SHOWING GUSSETS



END PLATE

1/8" STEEL PLATE



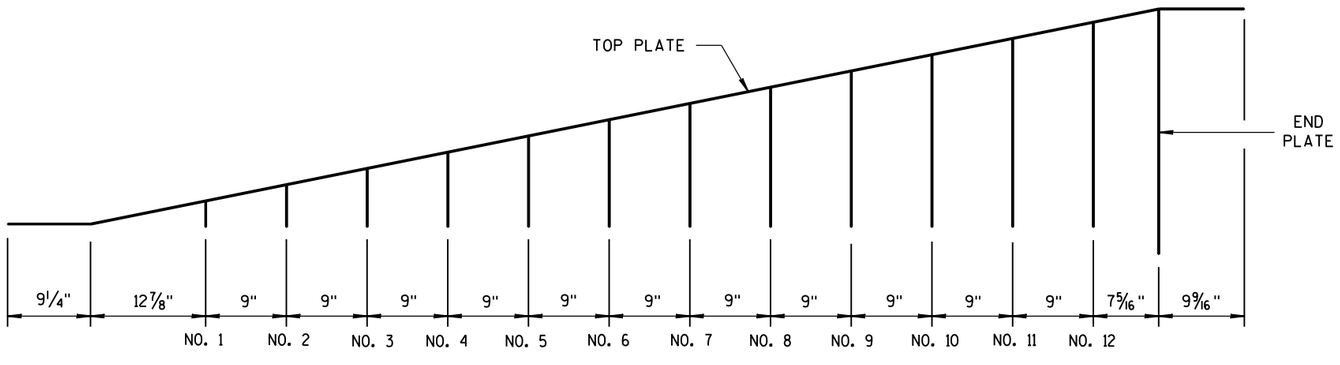
GUSSETS 1 - 12

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

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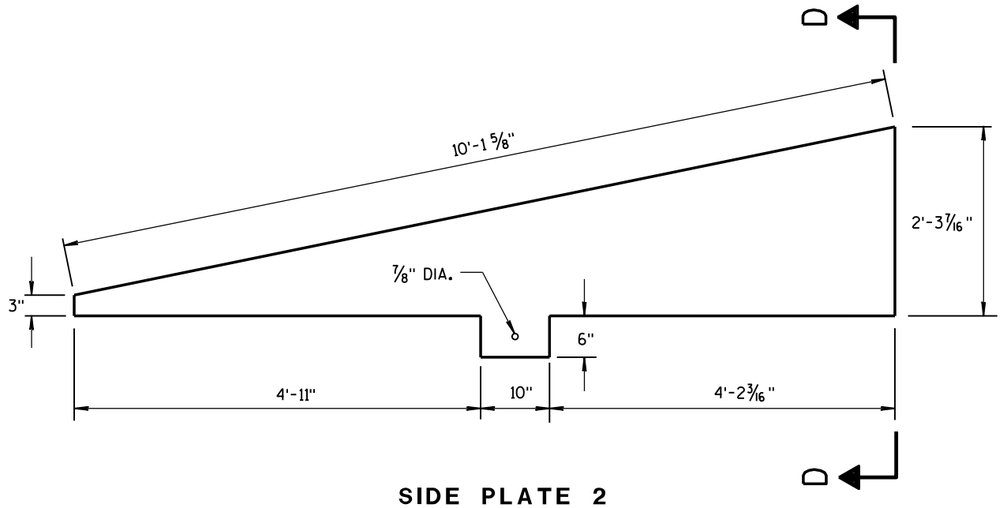
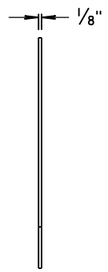
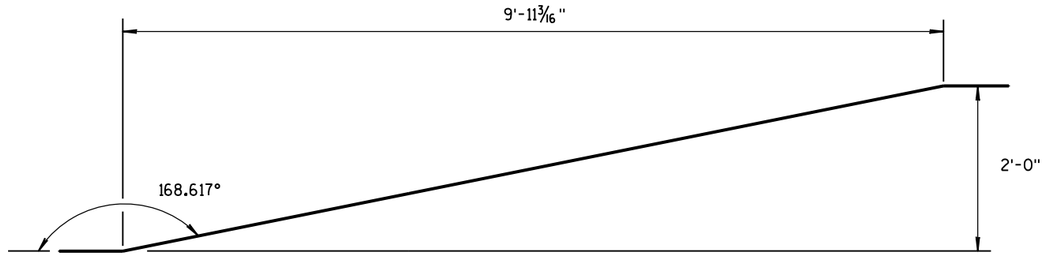
S.D.D. 14 B 7-14g



SIDE PLATE 2

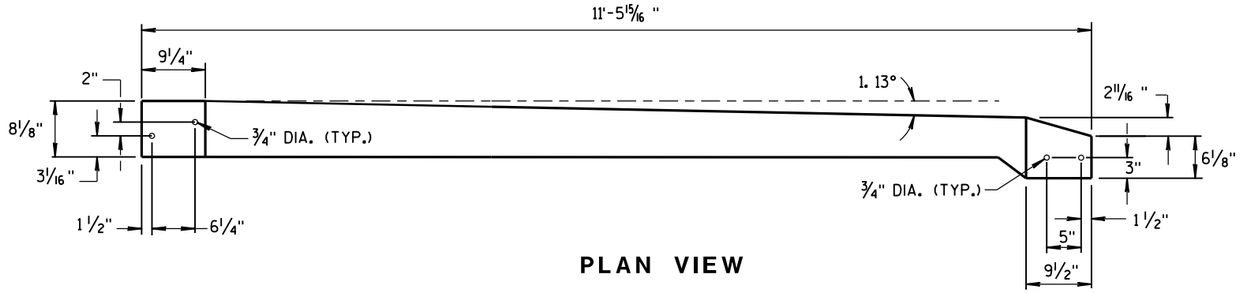


END VIEW



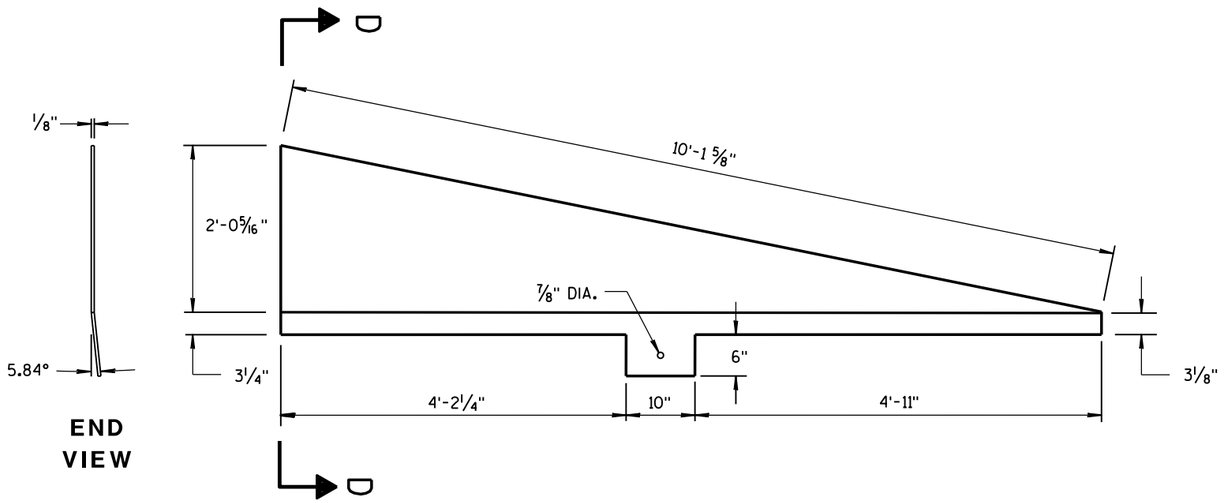
SIDE VIEW

TOP PLATE



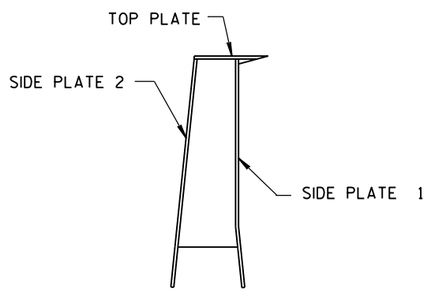
PLAN VIEW

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. Zoga — ROADWAY STANDARD DEVELOPMENT ENGINEER
FHWA

6

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

6

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

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.

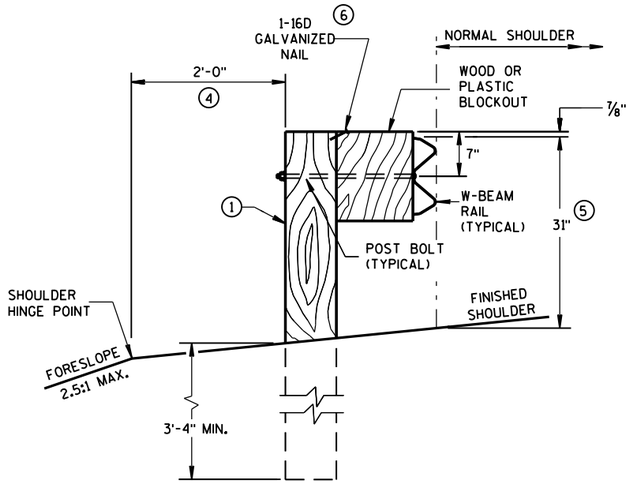
② USE WOOD OR APPROVED PLASTIC BLOCKOUTS. WOOD BLOCKOUTS MAY BE CONSTRUCTED OUT OF TWO OR MORE WOOD BLOCKOUTS. SEE ALTERNATE WOOD BLOCKOUT DETAIL. DIMENSIONS OF APPROVED PLASTIC BLOCKOUTS MAY VARY.

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).

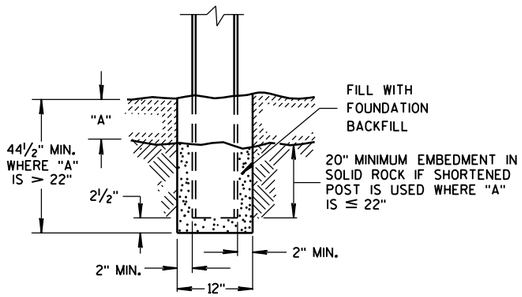
⑤ FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS ± 1". FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27¾" TO 32".

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.



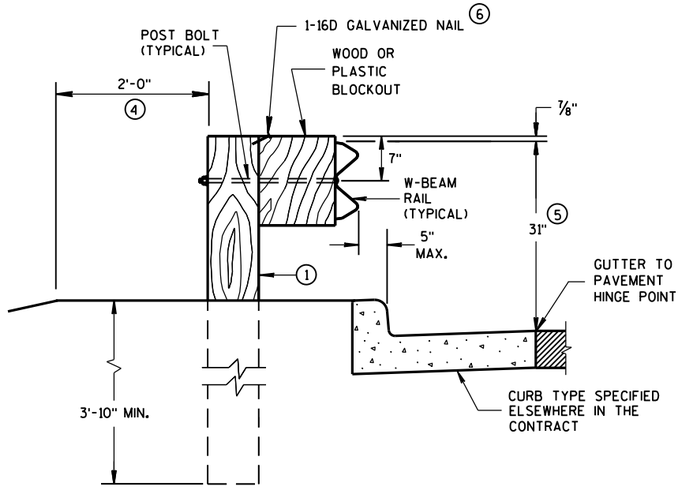
END VIEW

LOCATED ALONG A ROADWAY SHOULDER
STANDARD INSTALLATION



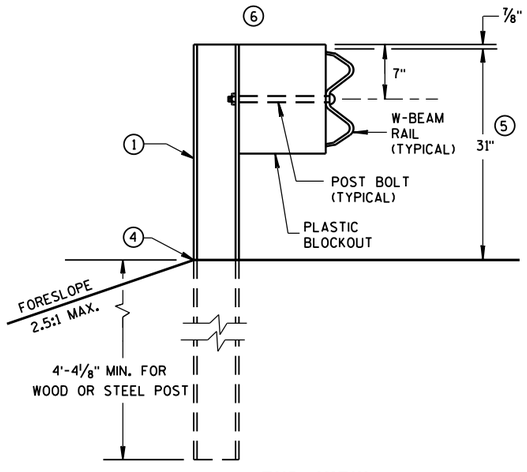
END VIEW

SETTING STEEL OR WOOD POST IN ROCK ③



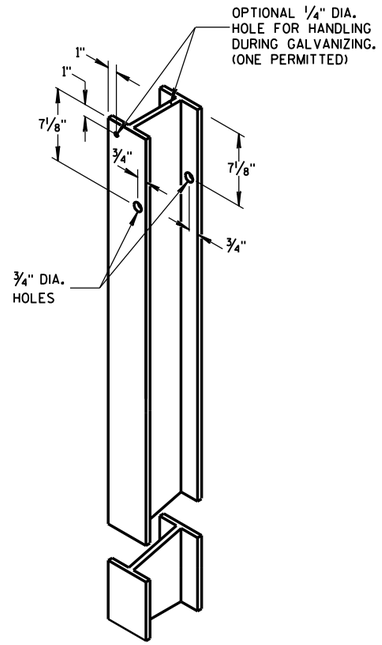
END VIEW

LOCATED ALONG A CURBED ROADWAY

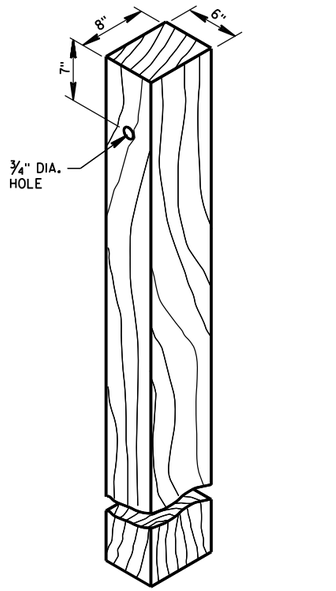


END VIEW

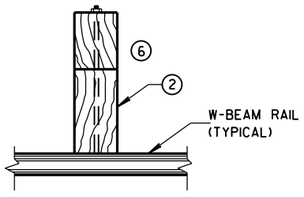
MGS LONGER POST AT HALFPOST SPACING W BEAM (K)



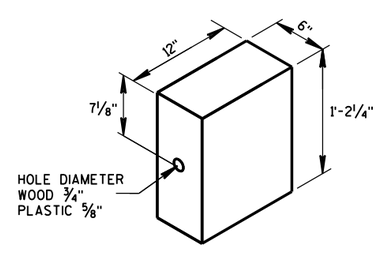
STEEL POST &
HOLE PUNCHING DETAIL
(w6X9) ①



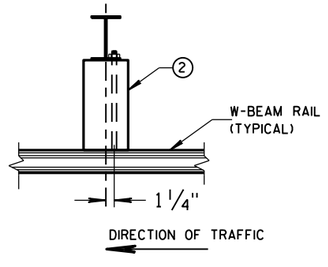
WOOD POST
(6" X 8") NOMINAL ①



PLAN VIEW
WOOD POST,
BLOCKOUT & BEAM



WOOD OR
PLASTIC BLOCKOUT ②



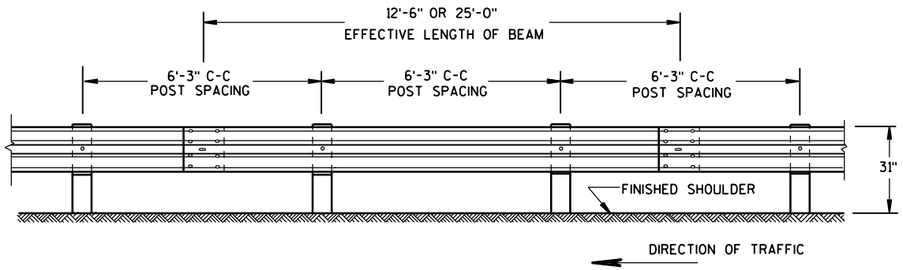
PLAN VIEW
STEEL POST,
PLASTIC BLOCKOUT & BEAM

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

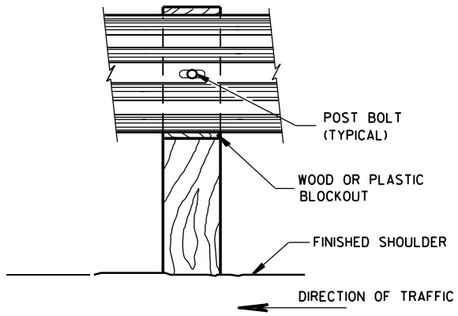
6

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.

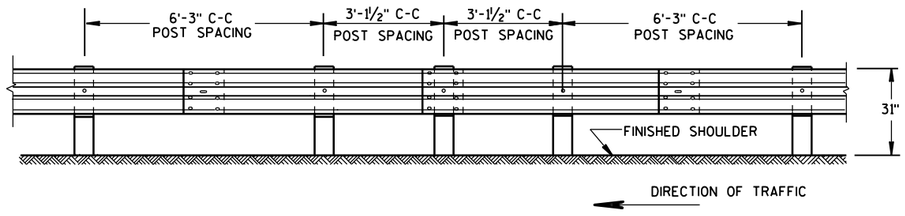
9. REVERSE EVERY OTHER REFLECTOR FOR 2-WAY VISIBILITY. THE CONTRACTOR MAY FURNISH TWO-SIDED REFLECTORS IN LIEU OF ONE-SIDED REFLECTORS.

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.

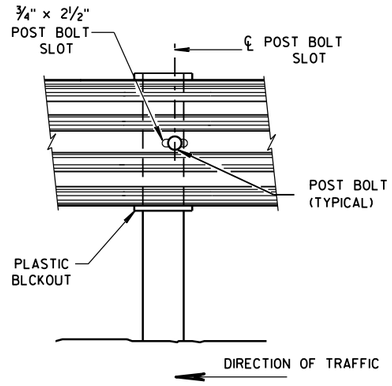
POST BOLTS ARE A 5/8" DIAMETER ASTM A307 GUARDRAIL BOLT. A POST BOLT REQUIRES 5/8" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT AND 5/8" DIAMETER F844 FLAT WASHER. POST BOLTS MAY BE LONGER IF MULTIPLE BLOCKOUTS ARE BEING USED.

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.

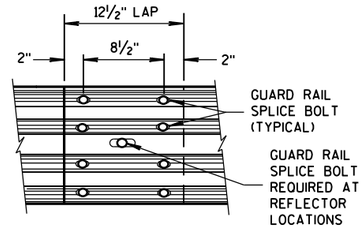


FRONT VIEW

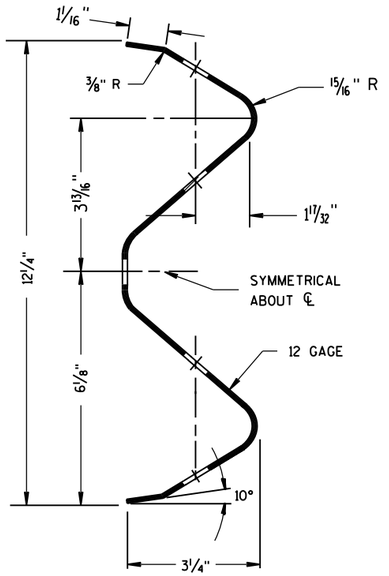
HALF POST SPACING (HS) AND HALF POST SPACING WITH LONGER POSTS (K)



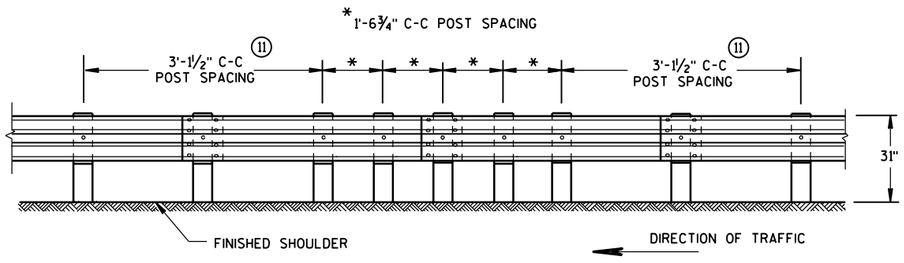
FRONT VIEW AT STEEL POST



FRONT VIEW
MID-SPAN BEAM SPLICE

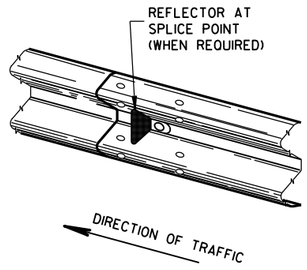


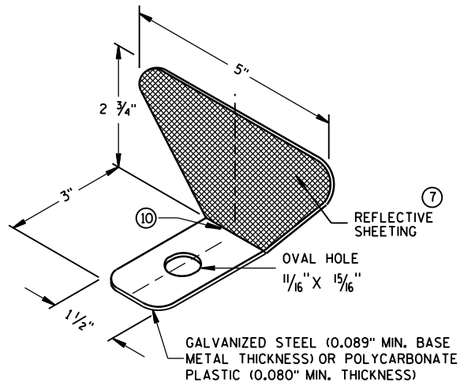
SECTION THRU W-BEAM RAIL



FRONT VIEW

QUARTER POST SPACING (QS)





ONE SIDED REFLECTOR DETAIL AND TYPICAL INSTALLATION 7

REFLECTOR SPACING 8

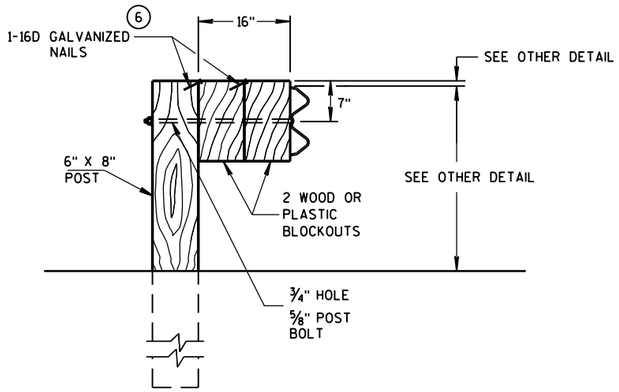
	BEAM GUARD LENGTH	REFLECTOR SPACING	NO. SURFACES REFLECTORIZED	MIN. NO. REFLECTORS
ONE WAY TRAFFIC	< 200'	50' C-C	1	3
	> 200'	100' C-C	1	
TWO WAY TRAFFIC	< 200'	25' C-C	1 9	6
	> 200'	50' C-C	1	
TWO WAY TRAFFIC	< 200'	50' C-C	2	3
	> 200'	100' C-C	2 10	

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

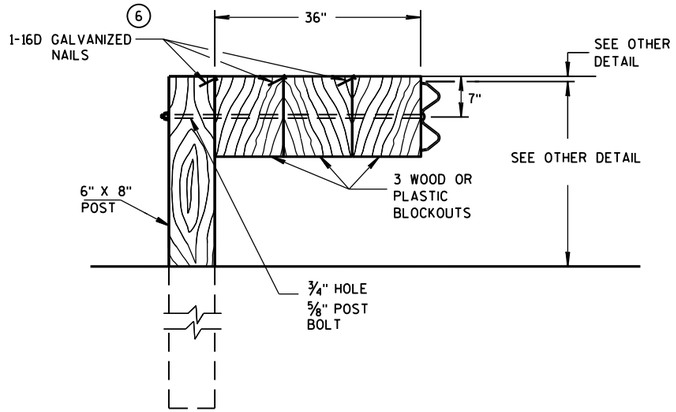
6

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



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.

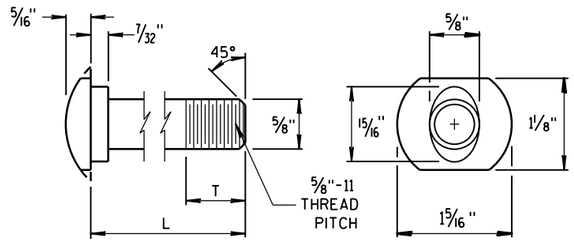


DETAIL FOR 36" BLOCKOUT DEPTH

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.

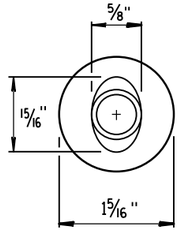
DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.

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.

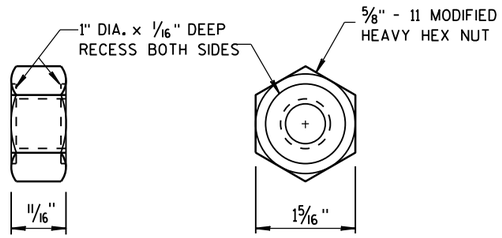


POST BOLT TABLE

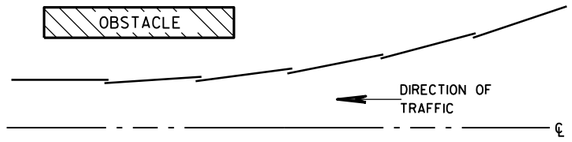
L	T (MIN.)
1¼"	1⅛"
2"	1¾"
10"	4"
14"	4 1/16"
18"	4"
21"	4 1/16"
25"	4"



ALTERNATE BOLT HEAD

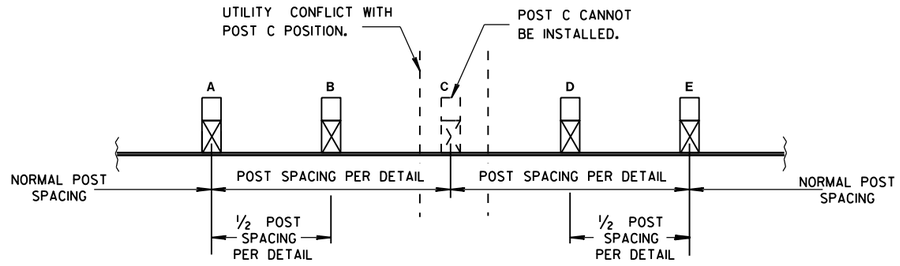


POST BOLT, SPLICE BOLT AND RECESS NUT

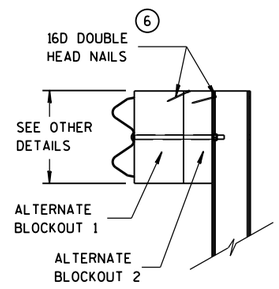


PLAN VIEW

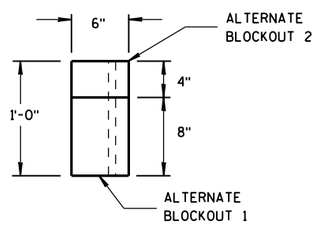
BEAM LAPPING DETAIL



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

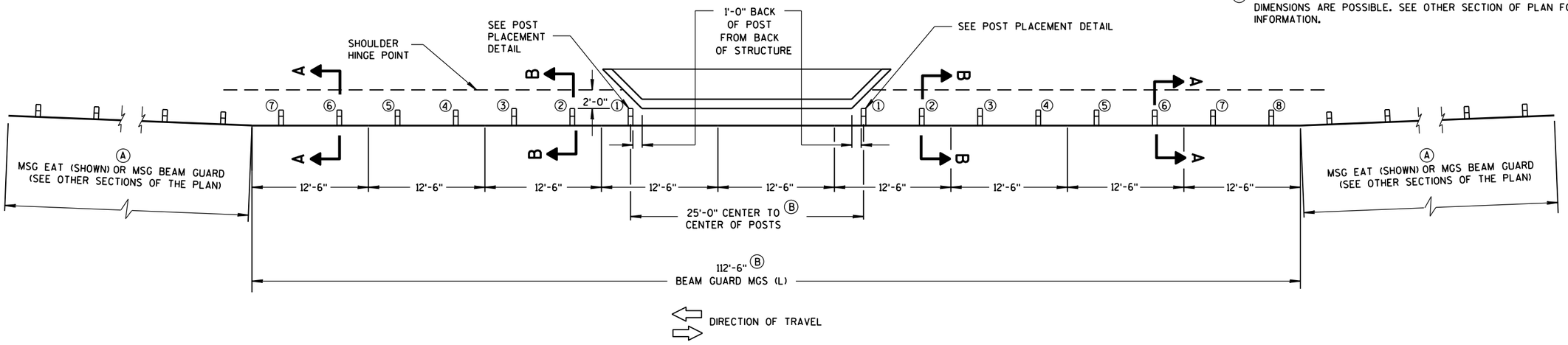
GENERAL NOTES

POSTS 1 THROUGH 3 ARE CRT POSTS.
ALL OTHER POSTS SHALL BE WOOD OR STEEL.

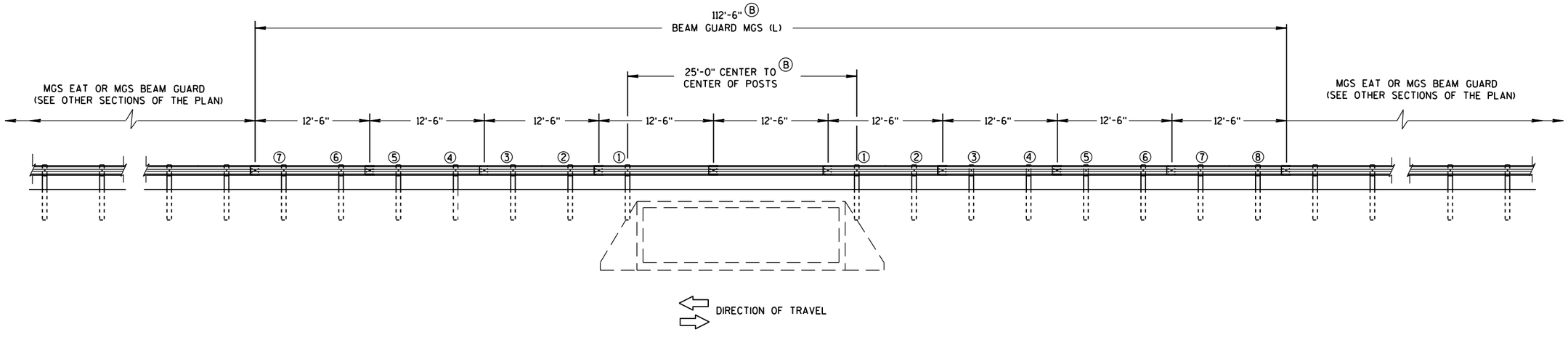
SEE SDD 14 B 42 FOR MORE DETAILS.

(A) FLARE FOR MGS EAT SHOWN. IF INSTALLING MGS NO FLARE NEEDED.

(B) VALUES SHOWN ON DRAWING REPRESENT THE MAXIMUM LENGTH. SHORTER DIMENSIONS ARE POSSIBLE. SEE OTHER SECTION OF PLAN FOR MORE INFORMATION.



PLAN VIEW



ELEVATION VIEW

MIDWEST GUARDRAIL SYSTEM LONG SPAN MGS (L) TWO-WAY TRAFFIC

MIDWEST GUARDRAIL SYSTEM LONG SPAN MGS (L)
STATE OF WISCONSIN DEPARTMENT OF TRANSPOI

6

S.D.D. 14 B 43-3a

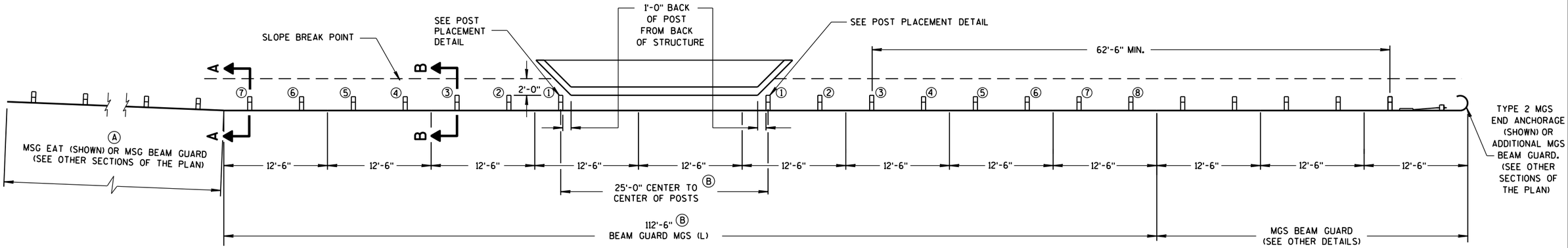
GENERAL NOTES

POSTS 1 THROUGH 3 ARE CRT POSTS.
ALL OTHER POSTS SHALL BE WOOD OR STEEL.

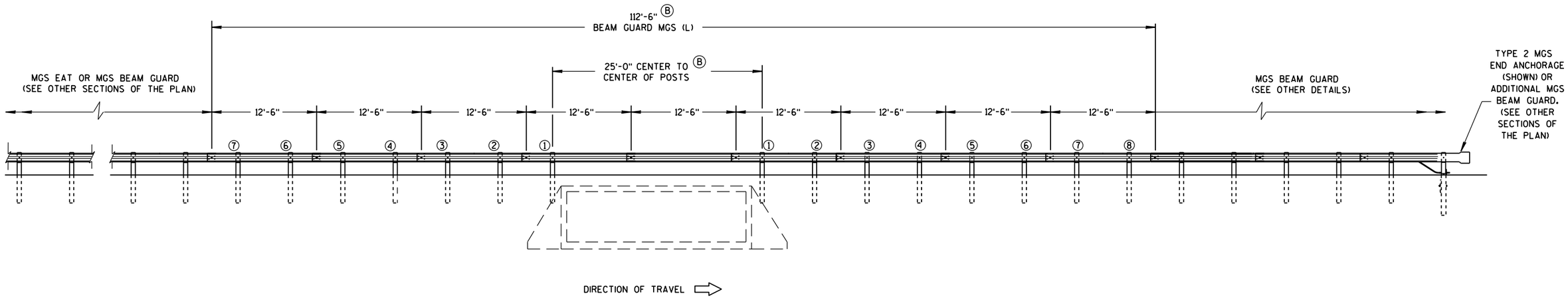
SEE SDD 14 B 42 FOR MORE DETAILS.

(A) FLARE FOR MGS EAT SHOWN. IF INSTALLING MGS NO FLARE NEEDED.

(B) VALUES SHOWN ON DRAWING REPRESENT THE MAXIMUM LENGTH. SHORTER DIMENSIONS ARE POSSIBLE. SEE OTHER SECTION OF PLAN FOR MORE INFORMATION.



PLAN VIEW



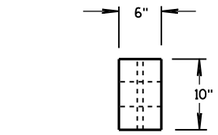
ELEVATION VIEW

MIDWEST GUARDRAIL SYSTEM LONG SPAN MGS (L) ONE-WAY TRAFFIC

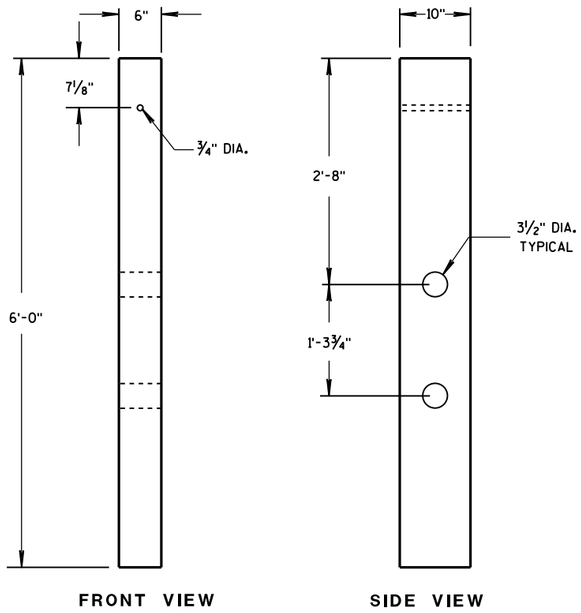
MIDWEST GUARDRAIL SYSTEM LONG SPAN MGS (L)
STATE OF WISCONSIN DEPARTMENT OF TRANSPOI

6

S.D.D. 14 B 43-3b

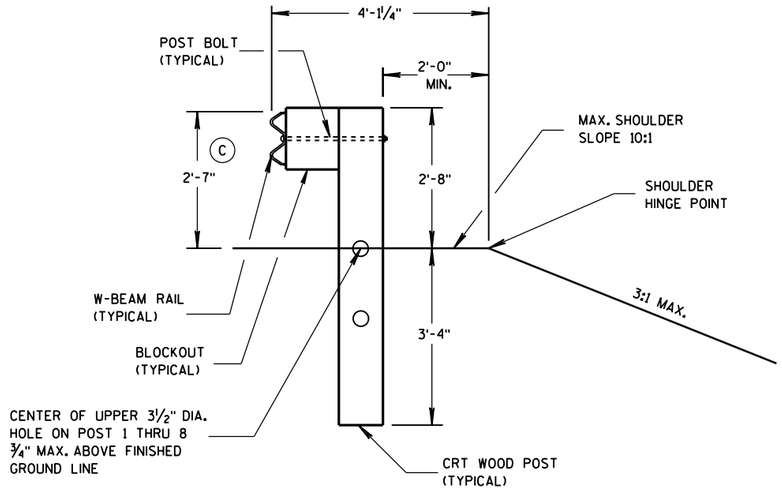


PLAN VIEW



FRONT VIEW SIDE VIEW

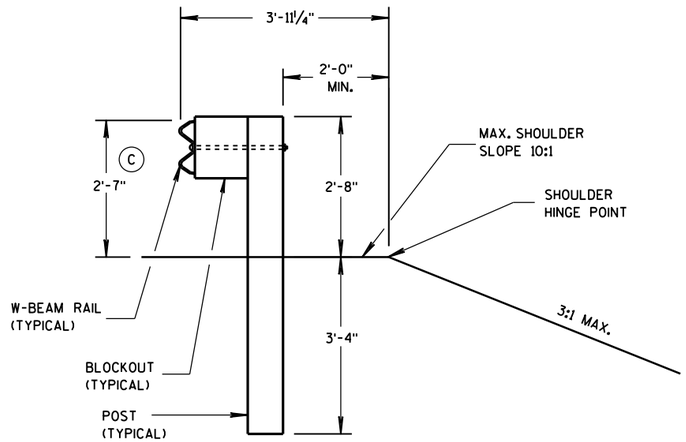
CRT WOOD POST



SECTION B-B

POSTS NO. 1-3

SEE OTHER DETAILS



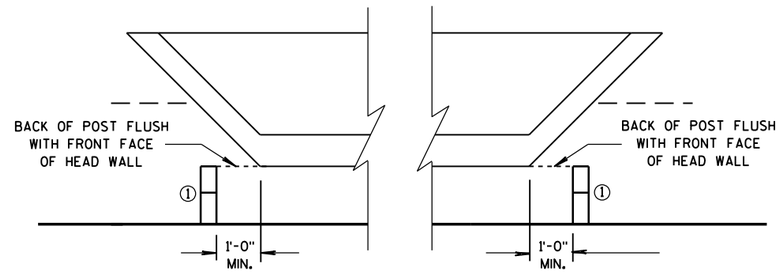
SECTION A-A

POSTS NO. 4-8

SEE OTHER DETAILS

GENERAL NOTES

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



POST PLACEMENT DETAIL

MIDWEST GUARDRAIL SYSTEM
LONG SPAN MGS (L)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

5/10/2013
DATE

/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER

FHWA

6

S.D.D. 14 B 43-3c

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S.D.D. 14 B 43-3c

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.

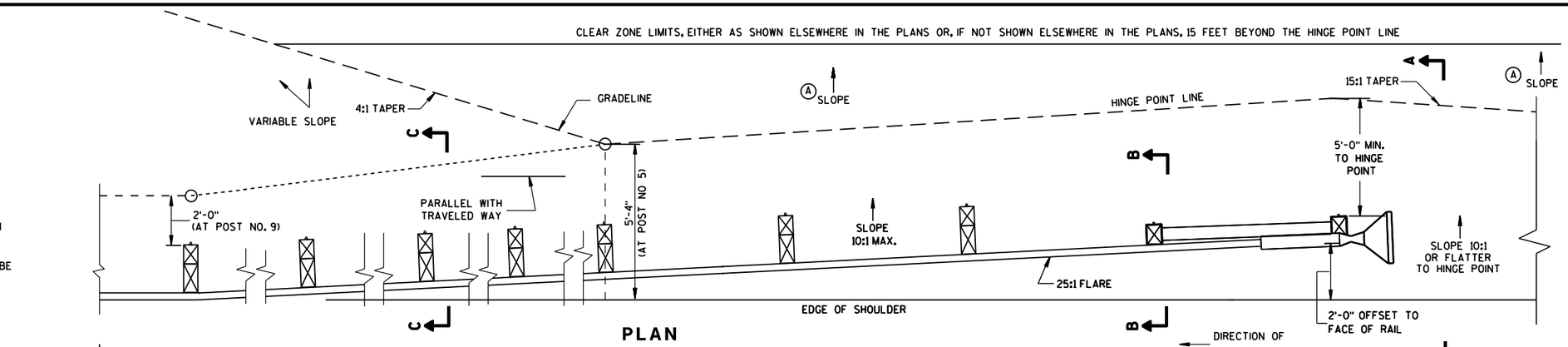
SEE SDD 14B42 FOR MORE INFORMATION.

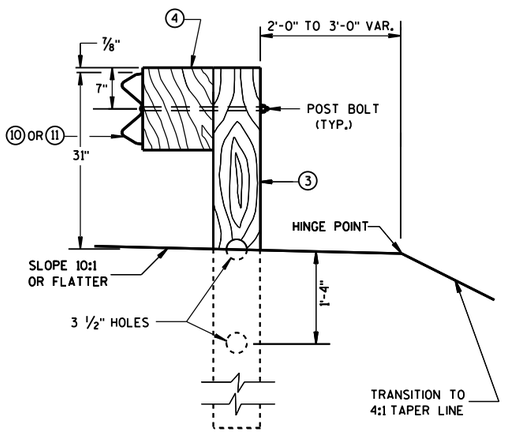
* DO NOT ATTACH BLOCKOUTS TO POSTS 1 AND 2.

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

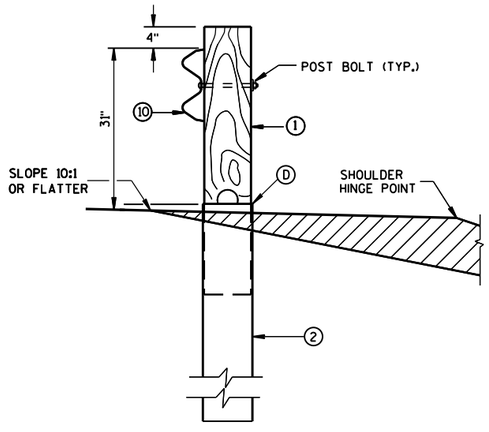
W-BEAM RAIL SPLICES ARE LOCATED AT POST NUMBER 3, AND BETWEEN POST 5 AND 6, BETWEEN POSTS 7 AND 8, AND MIDDLE OF THE SPAN AFTER POST 9.

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.

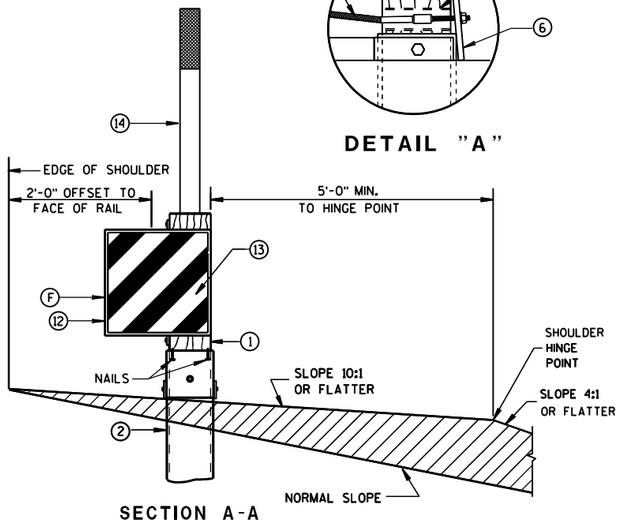




SECTION C-C
TYPICAL AT POST NOS. 3-9

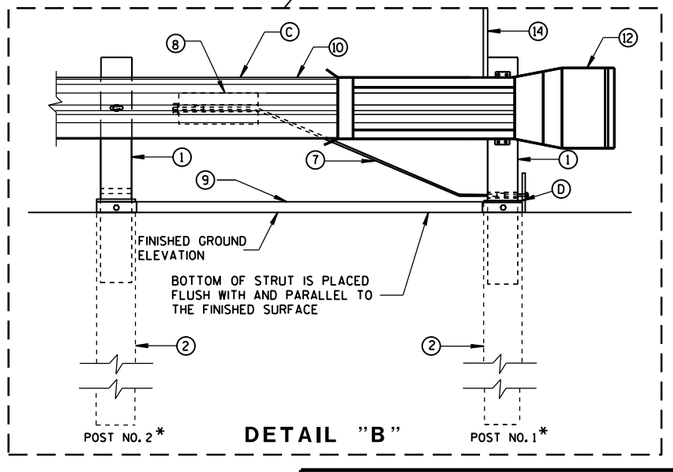


SECTION B-B
TYPICAL AT POST NO. 2*



SECTION A-A
TYPICAL AT POST NO. 1*

DETAIL "A"



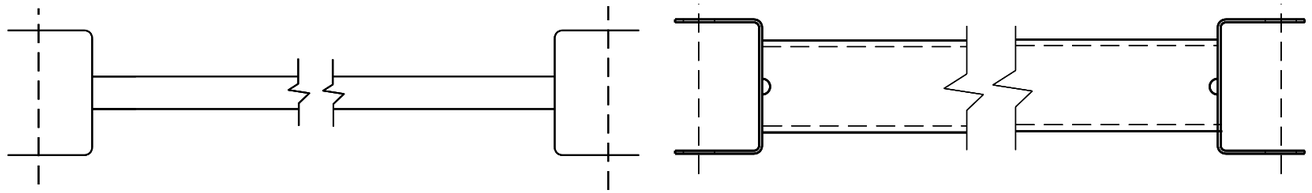
DETAIL "B"

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

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

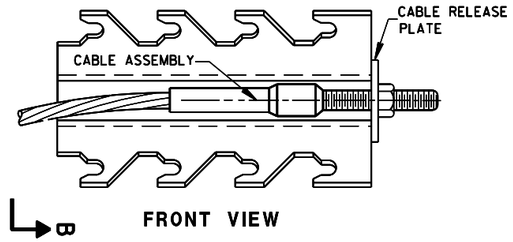
S.D.D. 14 B 44-2a



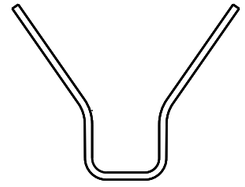
GENERIC GROUND STRUT (9) (H)

BILL OF MATERIALS

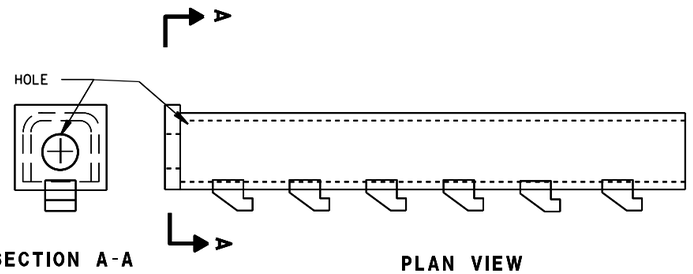
PART NO.	DESCRIPTION MATERIALS PROVIDED BY MGS EAT MANUFACTURER. SEE MANUFACTURER'S DETAILS FOR MORE INFORMATION.
(1)	WOOD BREAKAWAY POST
(2)	6" X 8" X 0.188", 6'-0" LONG FOUNDATION TUBE AT POSTS 1 AND 2
(3)	WOOD CRT
(4)	WOOD BLOCKOUT
(5)	PIPE SLEEVE
(6)	BEARING PLATE
(7)	BCT CABLE ASSEMBLY
(8)	ANCHOR 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)



FRONT VIEW



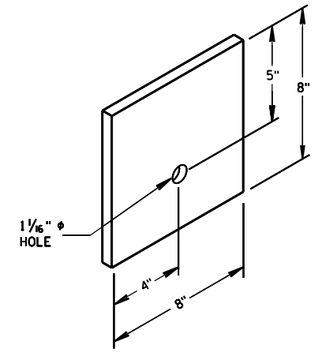
SECTION B-B



SECTION A-A

PLAN VIEW

GENERIC ANCHOR CABLE BOX (8) (H)



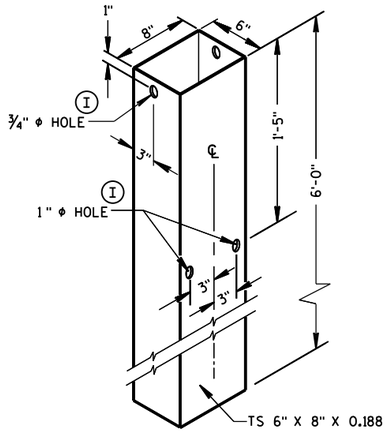
BEARING PLATE (6)

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

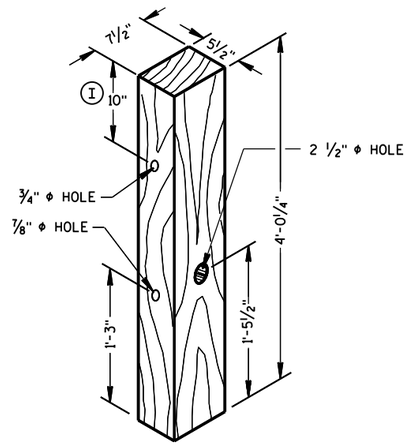
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

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

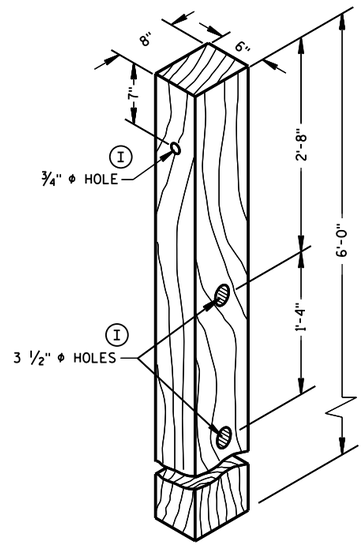


FOUNDATION TUBE (2)



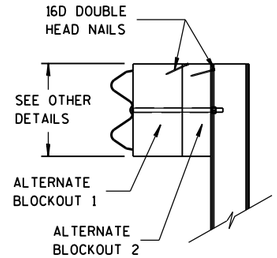
POSTS NUMBER 1 AND 2

WOOD BREAKAWAY POST (1)

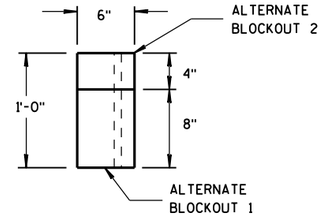


POSTS NUMBER 3-9

WOOD CRT POST (3)

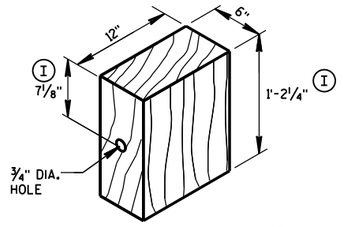


SIDE VIEW



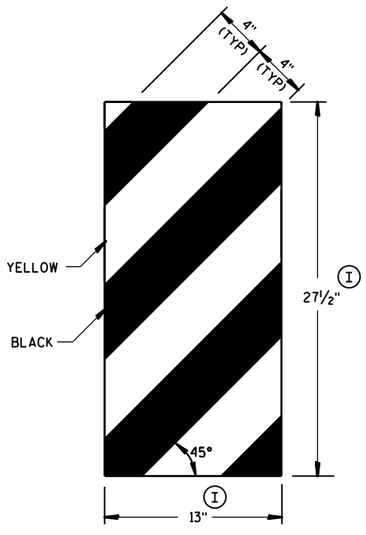
TOP VIEW

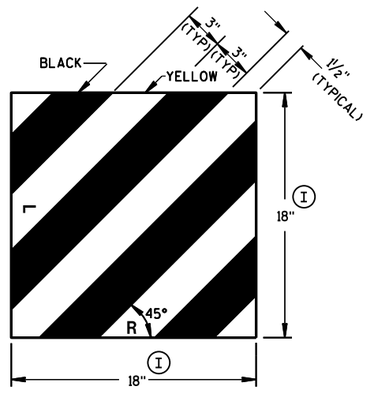
ALTERNATE WOOD BLOCKOUT DETAIL



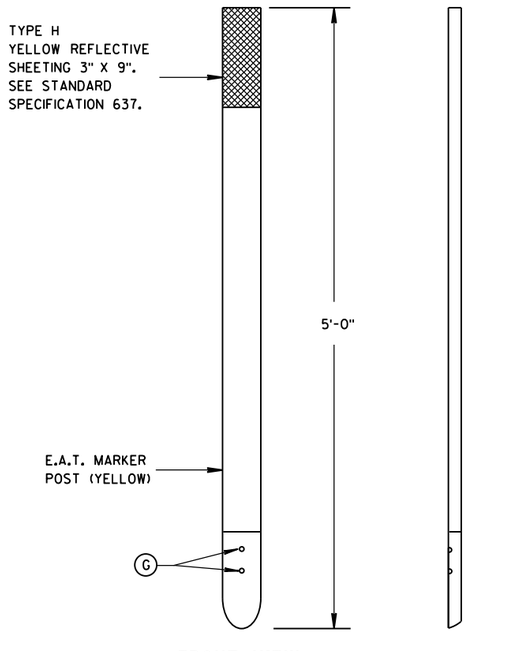
WOOD BLOCKOUT (4)

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





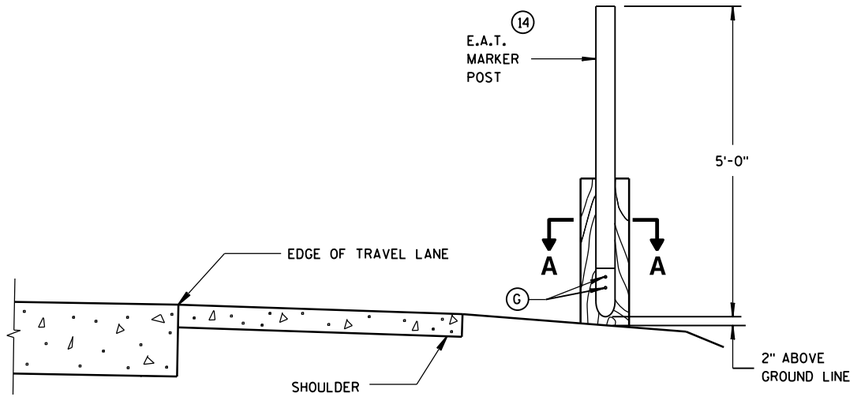
GENERIC REFLECTIVE SHEETING (13) (H)



FRONT VIEW

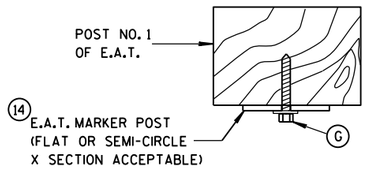
SIDE VIEW

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

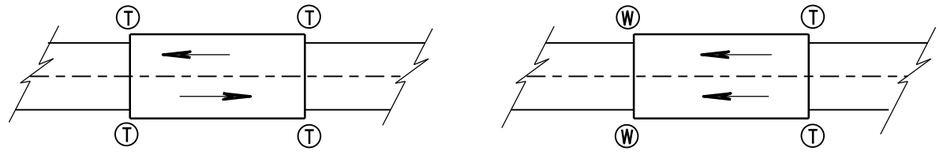
MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)

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

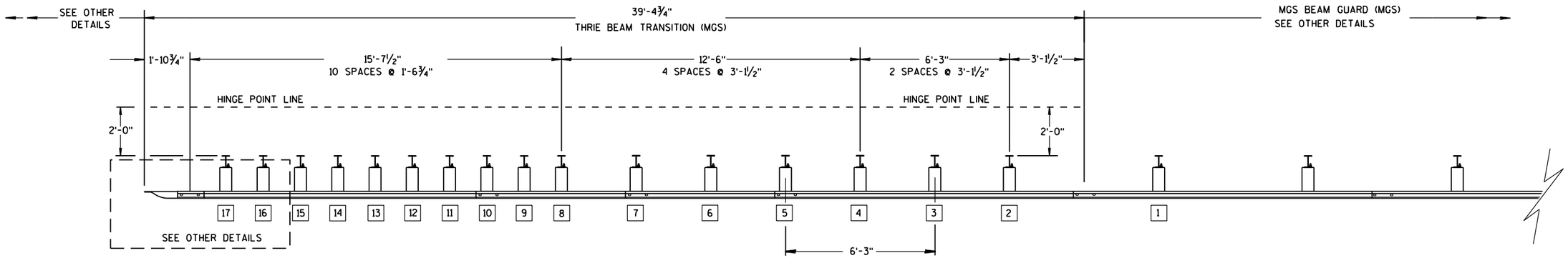
IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2½", AND 12" DIAMETER AROUND POST. SEE 14B42 FOR MORE DETAILS.

TRANSITION USES STEEL POSTS ONLY.

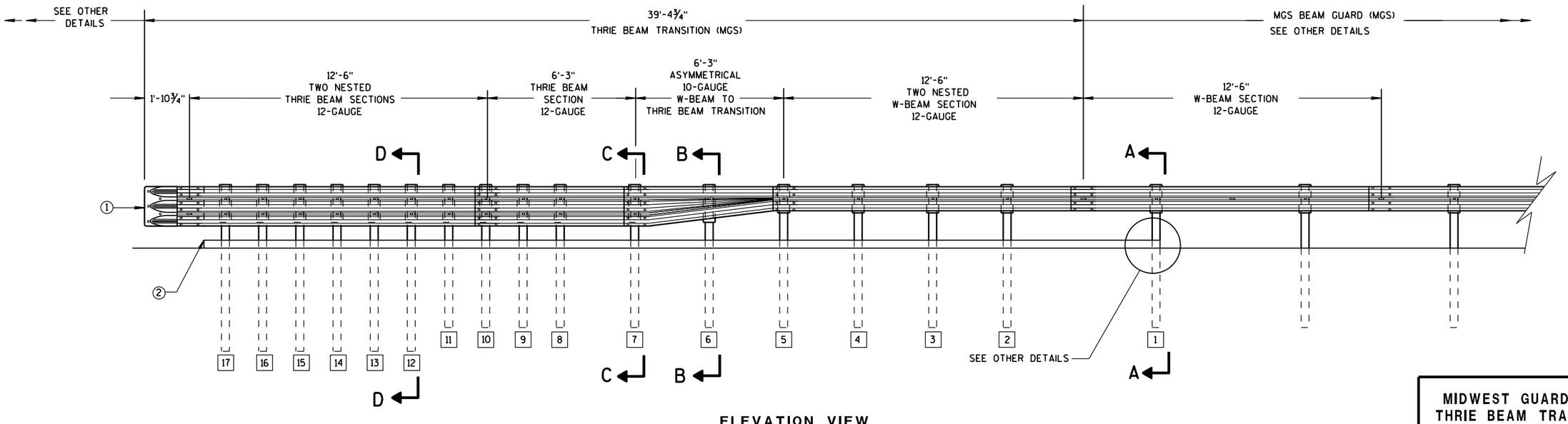
SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

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

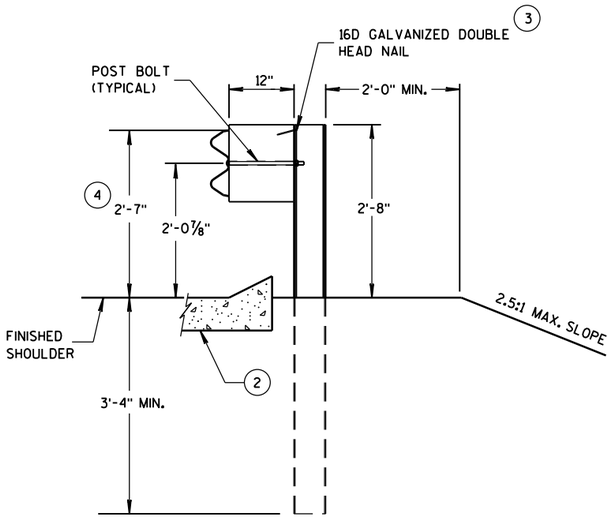
S.D.D. 14 B 45-4a

GENERAL NOTES

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

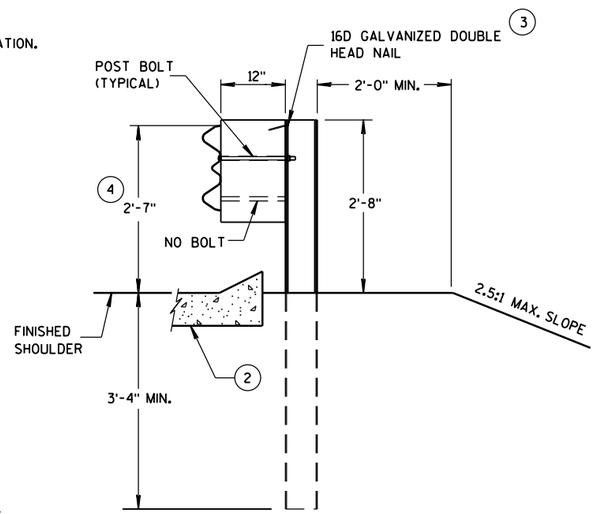
(3) WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 10D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

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



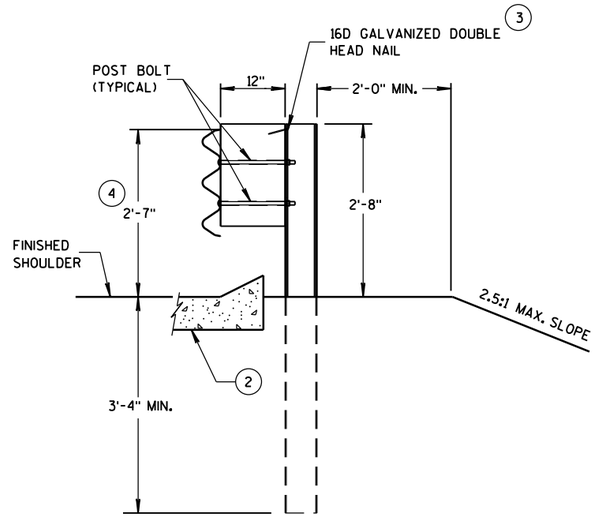
SECTION A-A

POSTS 1-5



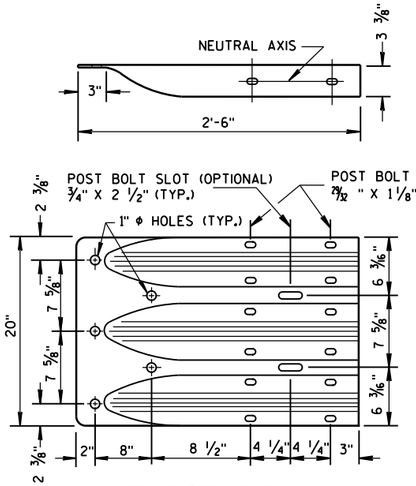
SECTION B-B

POST 6



SECTION C-C

POSTS 7-11



THRIE BEAM TERMINAL CONNECTOR

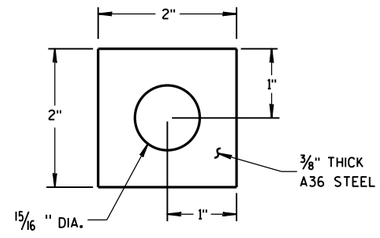
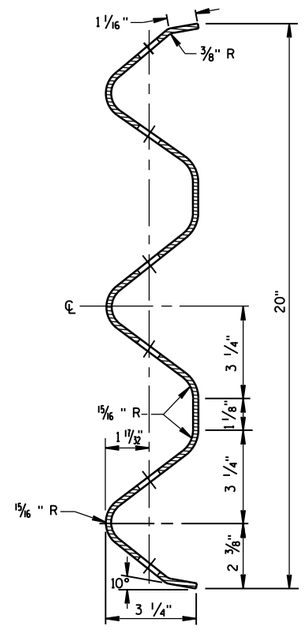
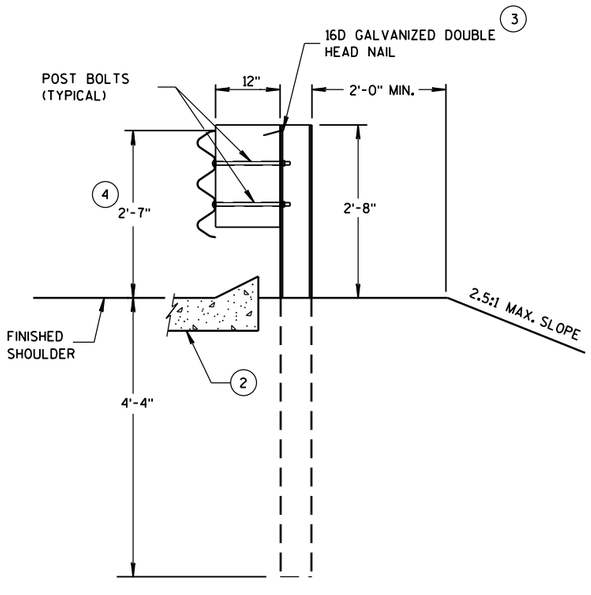


PLATE WASHER DETAIL

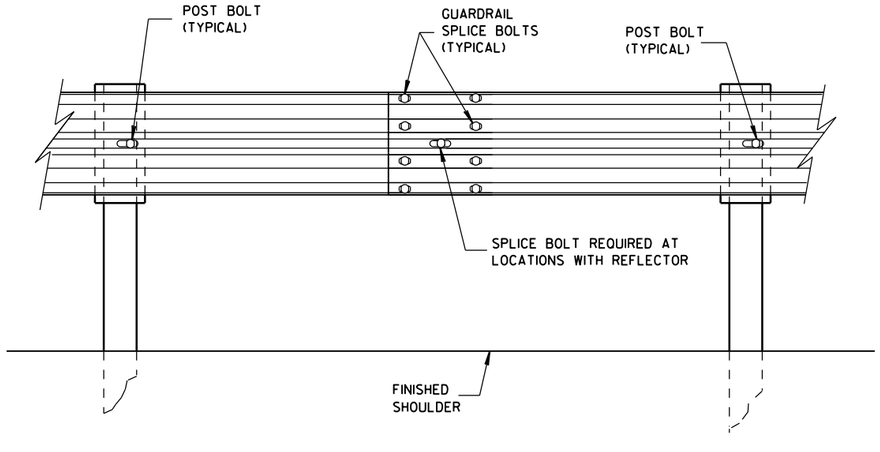


SECTION THRU THRIE BEAM RAIL ELEMENT



SECTION D-D

POSTS 12-17



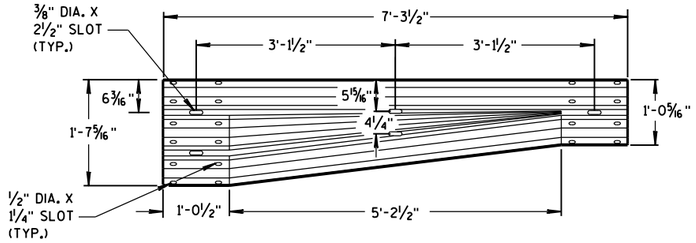
SPLICE DETAIL

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

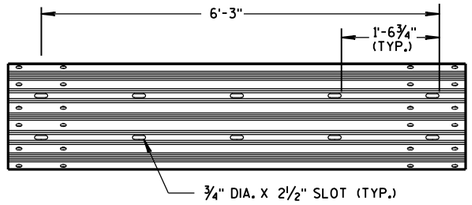
STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

6

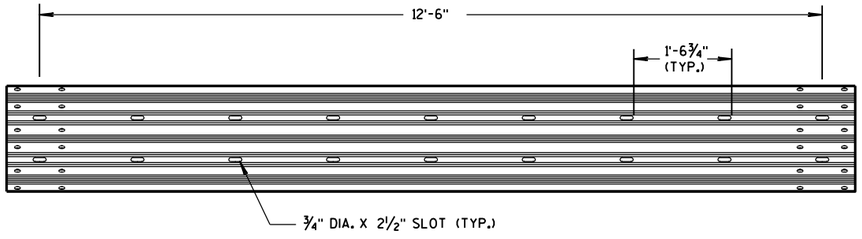
S.D.D. 14 B 45-4b



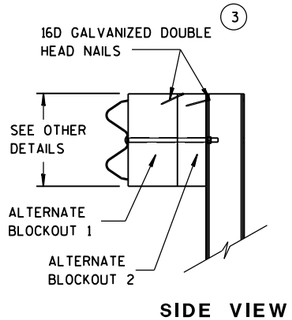
W-BEAM TO THRIE BEAM TRANSITION SECTION



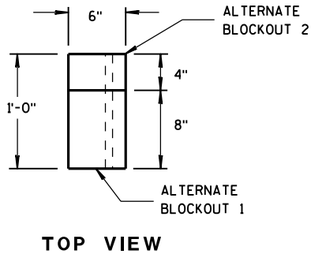
6'-3" THRIE BEAM SECTION



12'-6" THRIE BEAM SECTION

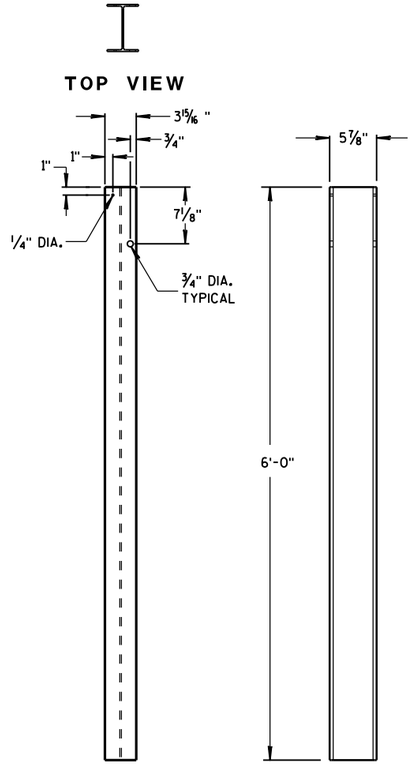


SIDE VIEW

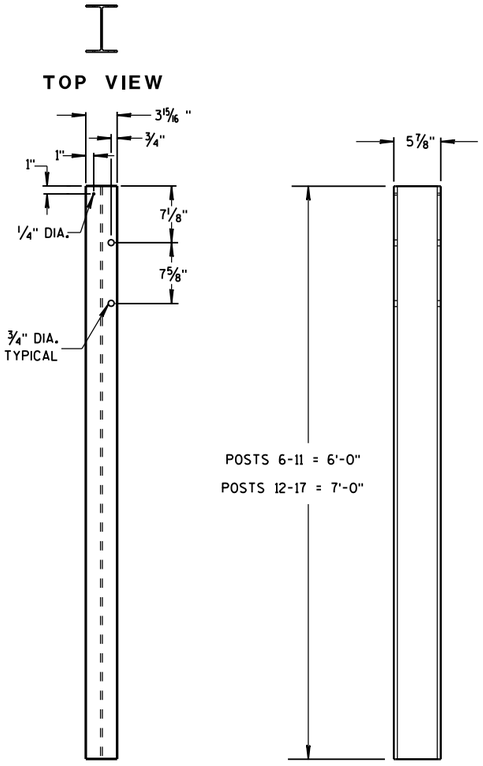


TOP VIEW

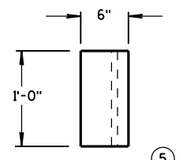
ALTERNATE WOOD BLOCKOUT DETAIL



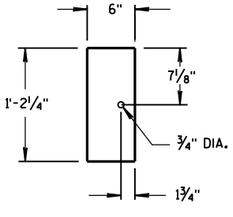
STEEL POSTS 1-5



STEEL POSTS 6-17

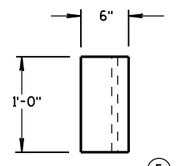


TOP VIEW (5)

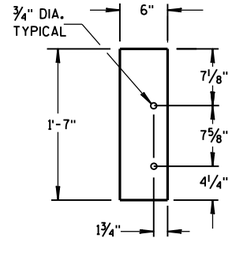


FRONT VIEW

BLOCKOUT POSTS 1-5



TOP VIEW (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.

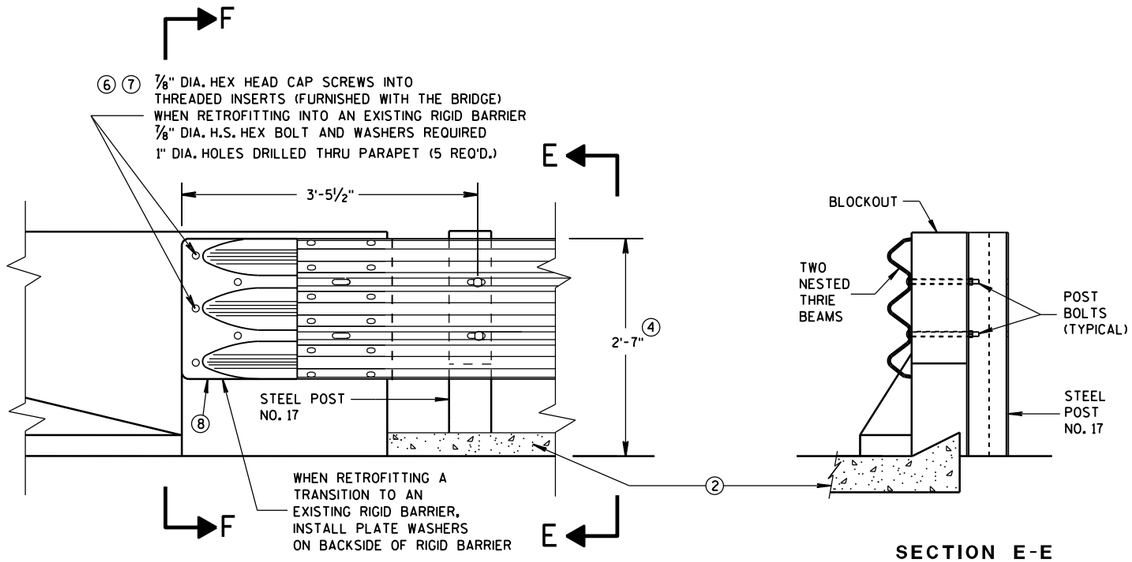
(5) WOOD BLOCKS MAY BE CONSTRUCTED OUT OF 2 WOOD BLOCKS. SEE ALTERNATE WOOD BLOCK DETAIL.

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.

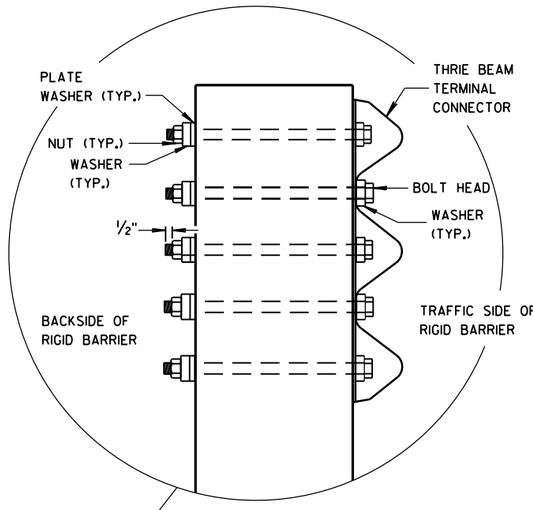
② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

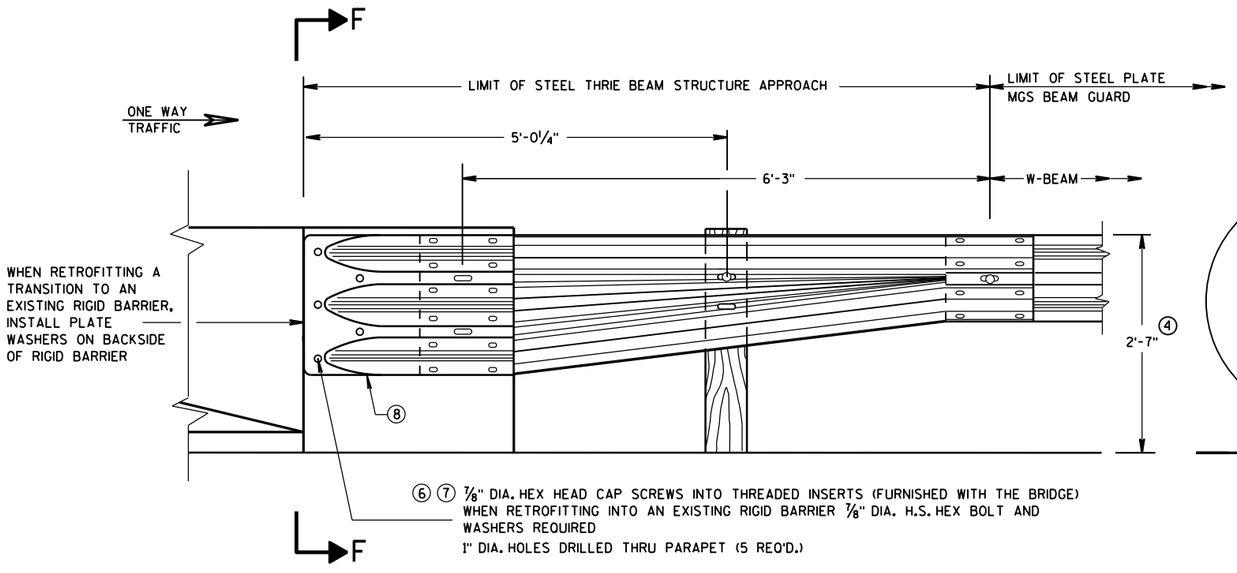
④ TOLERANCE FOR TOP OF BEAM IS ± 1".

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

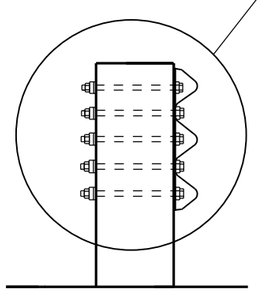
⑦ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE.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

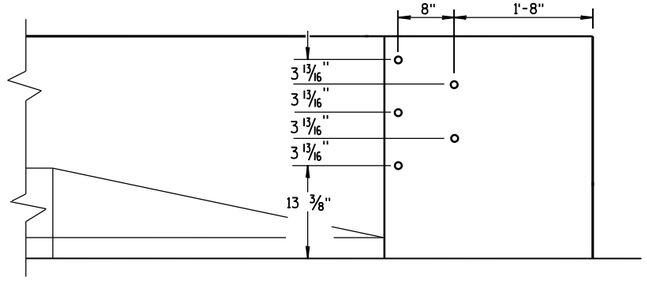




FRONT VIEW



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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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.

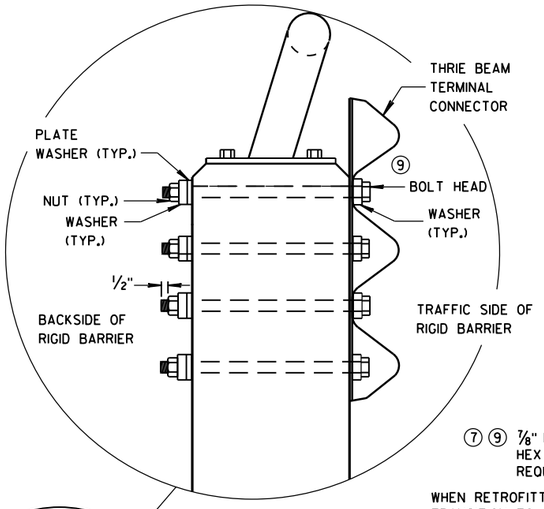
(4) TOLERANCE FOR TOP OF BEAM IS ± 1".

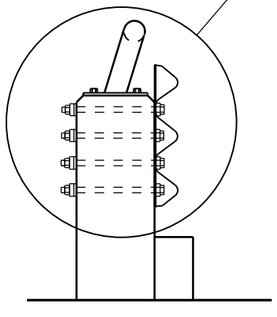
(6) DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

(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.

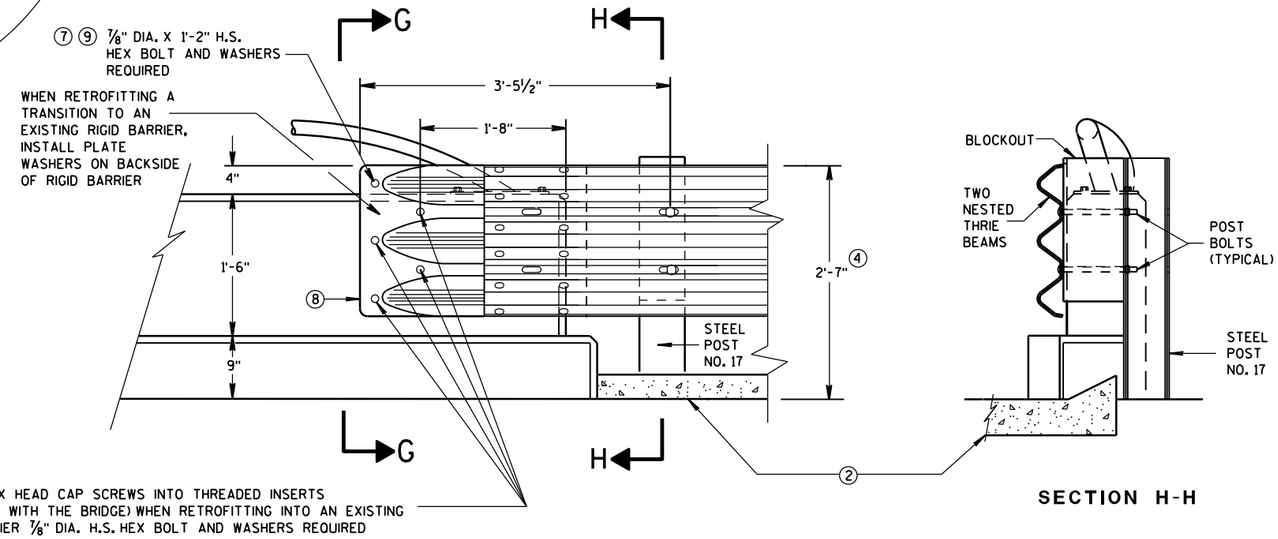
(8) THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 1/2".

(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.





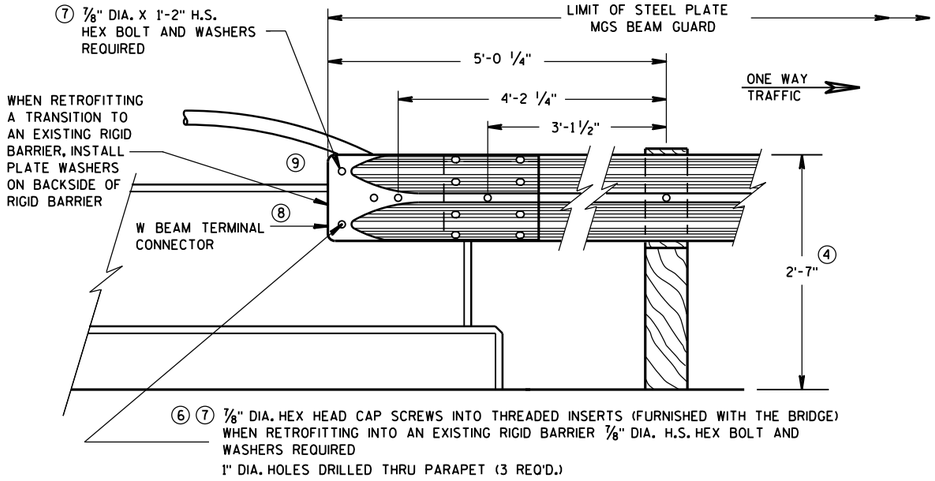
SECTION G-G



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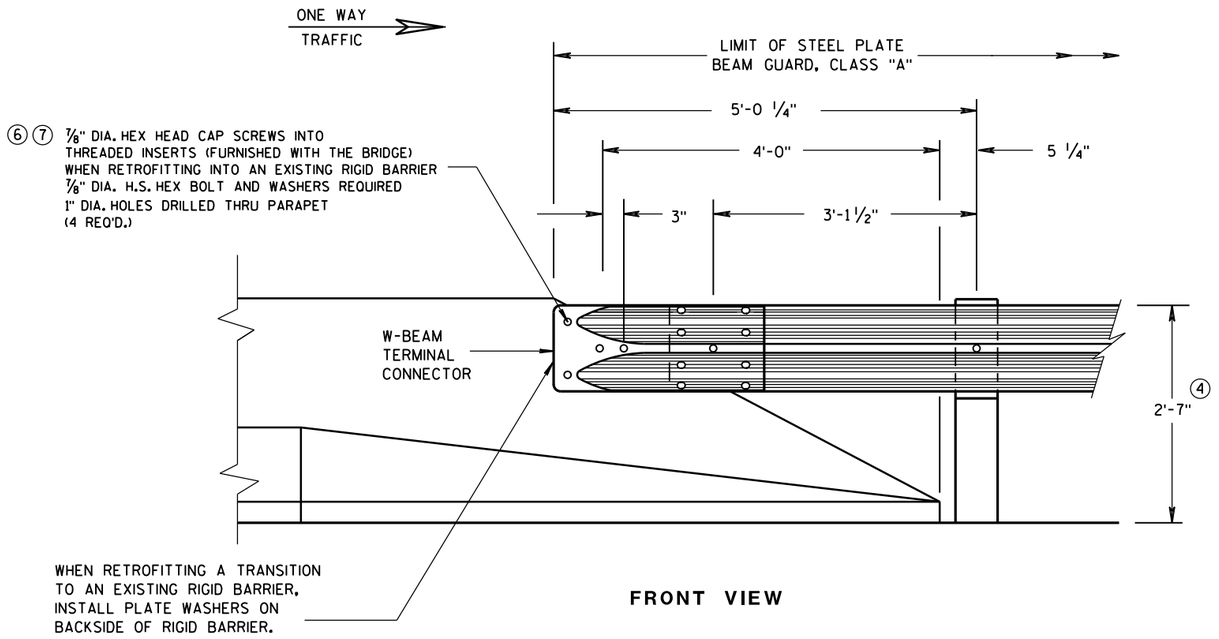
S.D.D. 14 B 45-4e



FRONT VIEW

W BEAM CONNECTION TO PARAPETS WITH SLOPED ENDS

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

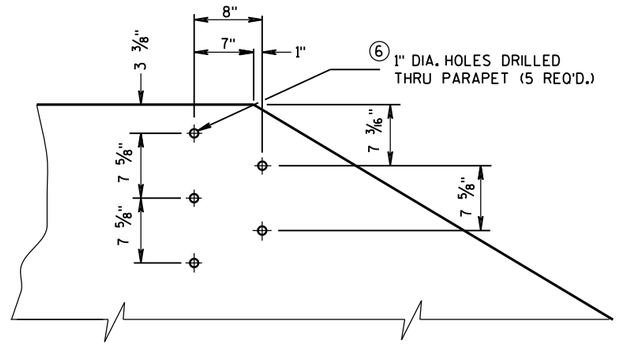
GENERAL NOTES

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

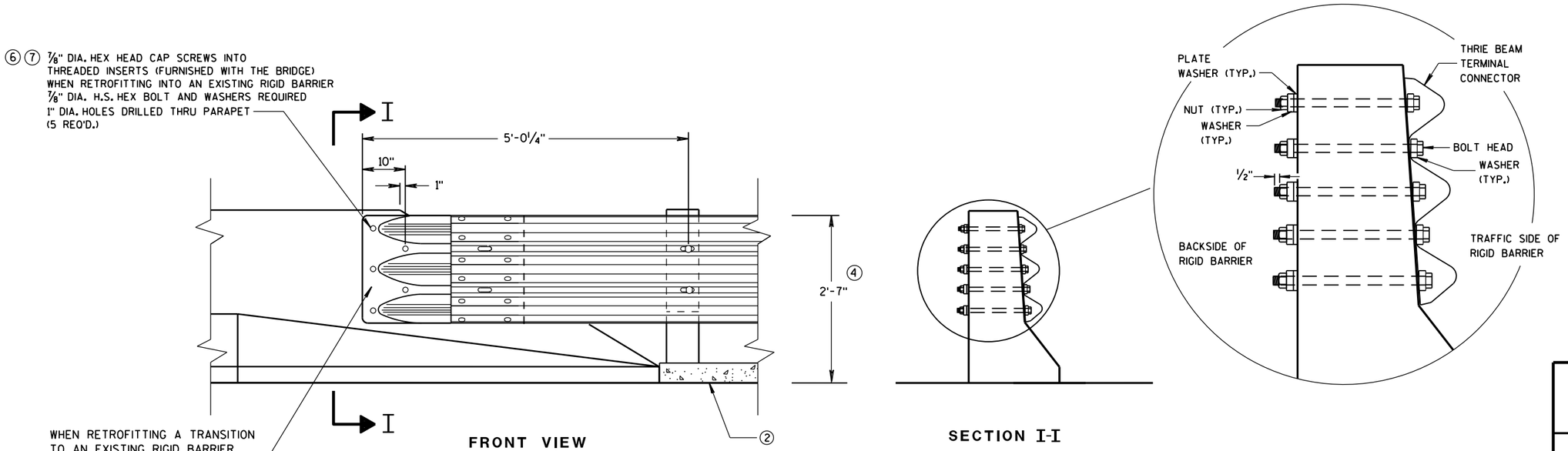
④ TOLERANCE FOR TOP OF BEAM IS ± 1".

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
FHWA

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

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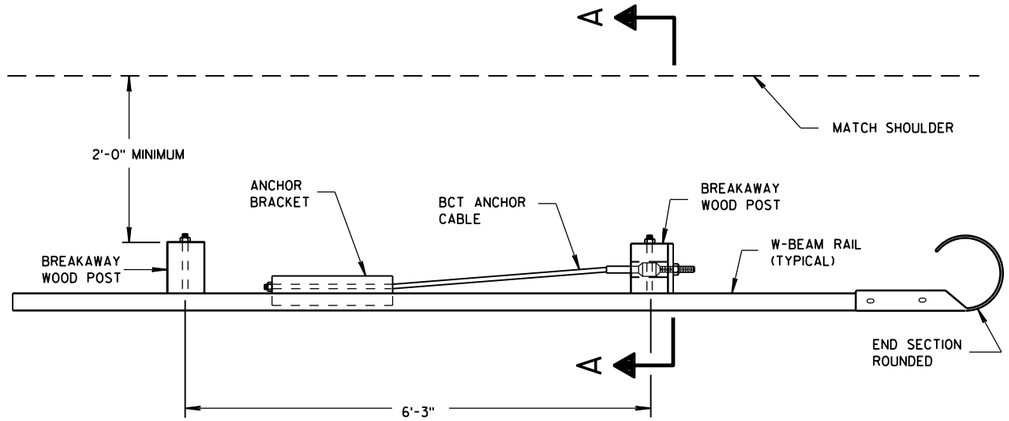
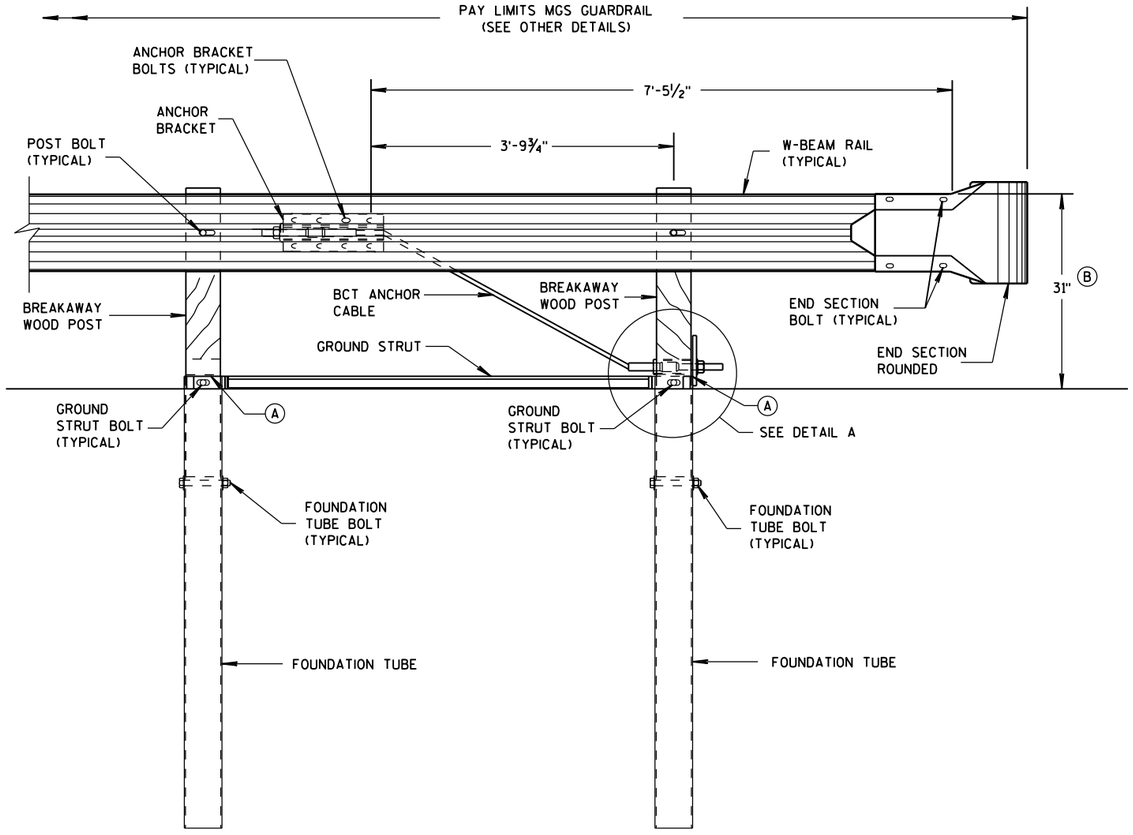
S.D.D. 14 B 45-4f

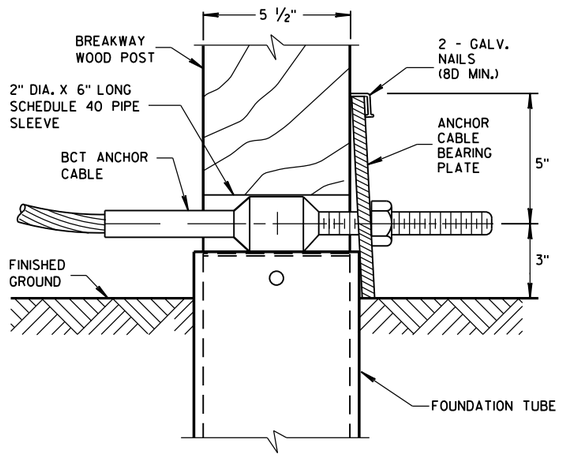


PLAN VIEW



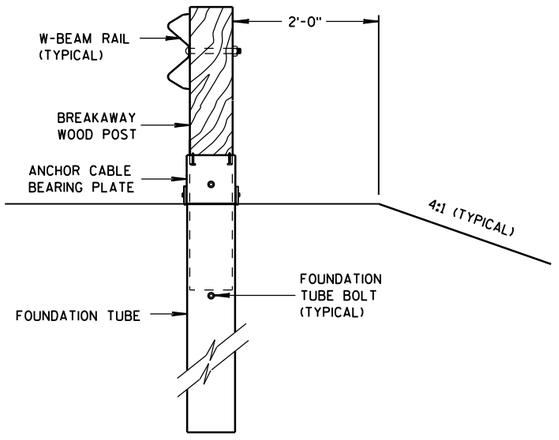
FRONT VIEW

END RAIL DETAIL



DETAIL A

POST NO. 1
GROUNG STRUT NOT SHOWN FOR CLARITY.



SECTION A-A

GENERAL NOTES

SEE SDD 14 B 42 FOR MORE INFORMATION.

END SECTION BOLTS AND NUTS HAVE THE SAME MATERIAL REQUIREMENTS AS SPLICE BOLTS.

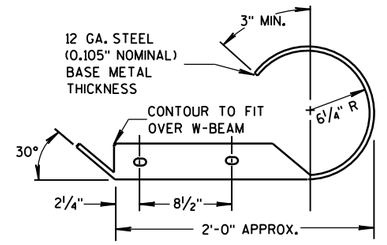
FOUNDATION TUBE BOLTS ARE ⅞" DIAMETER ASTM A307 HEX HEAD BOLT. FOUNDATION TUBE BOLTS REQUIRE ASTM A563 A NUT AND TWO ASTM F844 ⅞" DIAMETER FLAT WASHERS. INSTALL ONE WASHER UNDER BOLT HEAD AND ONE WASHER UNDER NUT.

ANCHOR BRACKET AND GROUND STRUT BOLTS ARE A ⅝" DIAMETER ASTM A307 HEX HEAD BOLT. ANCHOR BRACKET BOLTS REQUIRE ASTM A563 A NUT AND TWO ASTM F844 ⅝" DIAMETER FLAT WASHERS. INSTALL ONE WASHER UNDER BOLT HEAD AND ONE WASHER UNDER NUT.

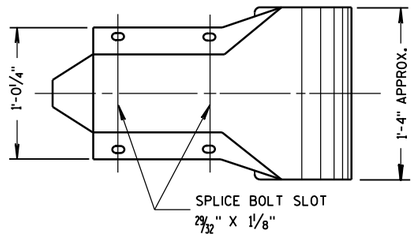
W-BEAM END SECTION ROUNDED HAS THE SAME MATERIAL PROPERTIES AS STANDARD STEEL RAIL.

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

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



PLAN VIEW



FRONT VIEW

W BEAM END SECTION ROUNDED

MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

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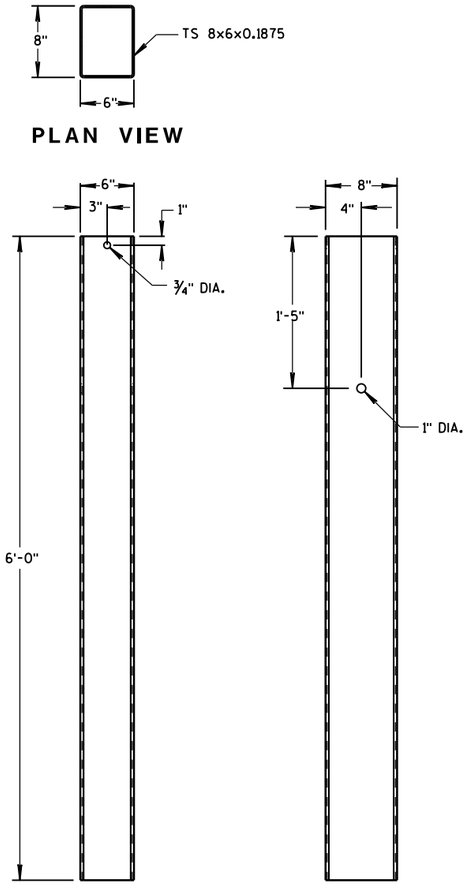
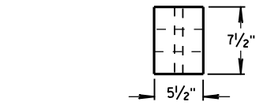
S.D.D. 14 B 47-2a



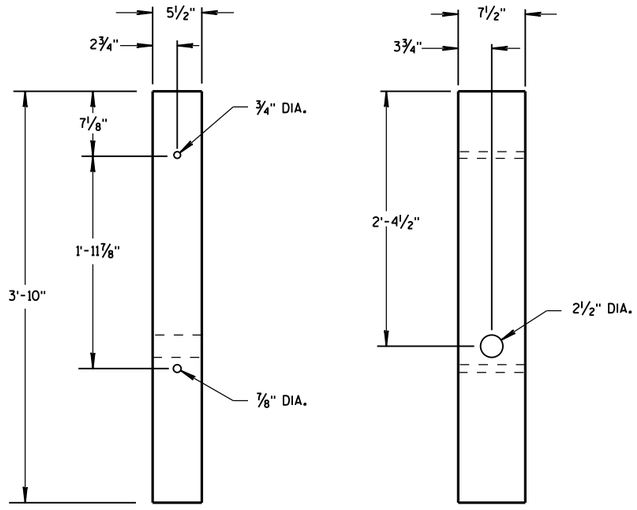
PLAN VIEW

FRONT VIEW SIDE VIEW

FOUNDATION TUBE



PLAN VIEW

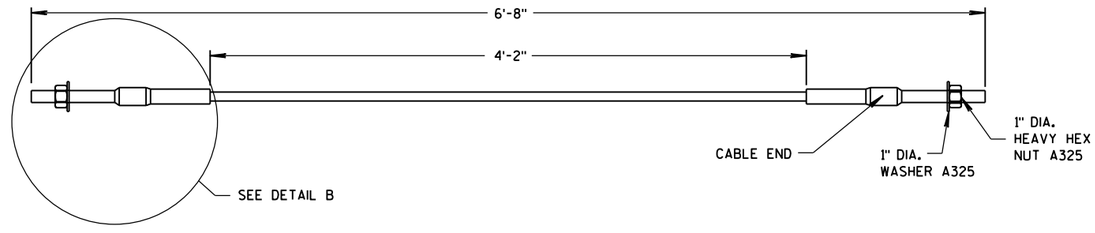


FRONT VIEW SIDE VIEW

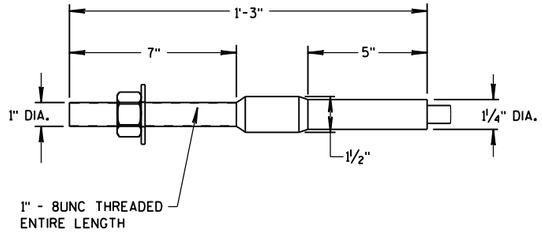
BREAKAWAY WOOD POST

GENERAL NOTES

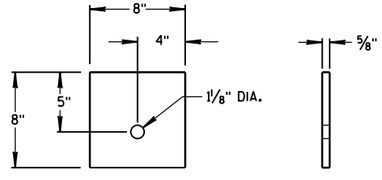
BCT ANCHOR CABLE IS A ¾" DIAMETER 6X19 IWRC IPS GALVANIZED WIRE ROPE. THE SWAGED FITTINGS AND STUD ARE REQUIRED. END FITTING SHALL BE MACHINED FROM HOT-ROLLED CARBON STEEL CONFORMING TO ASTM A576 GRADE 1035 AND GALVANIZED ACCORDING TO ASTM A123. TREADED STUD SHALL CONFORM TO ASTM A325 OR SAE GRADE 5. MINIMUM BREAKING STRENGTH OF WIRE ROPE IS 43,000 LB. WIRE ROPE IS TO BE TAUT.



BCT ANCHOR CABLE



DETAIL B



SIDE VIEW FRONT VIEW

ANCHOR CABLE
BEARING PLATE

MIDWEST GUARDRAIL
SYSTEM (MGS) TYPE 2 TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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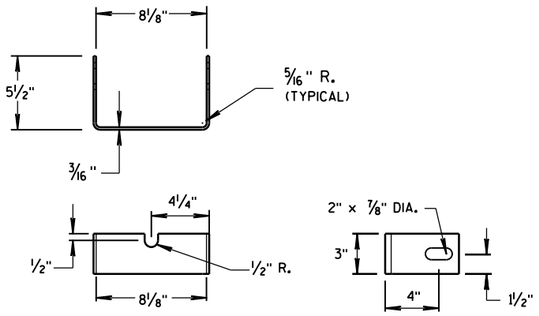
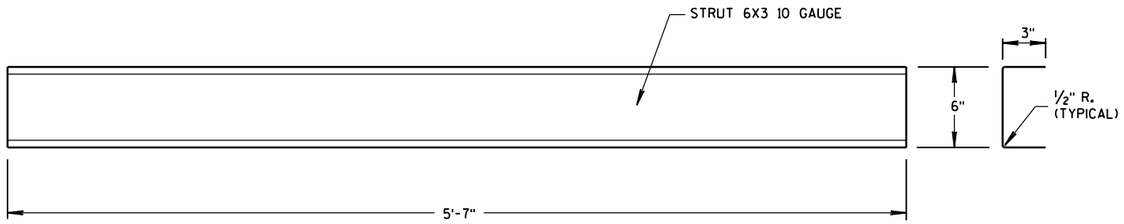
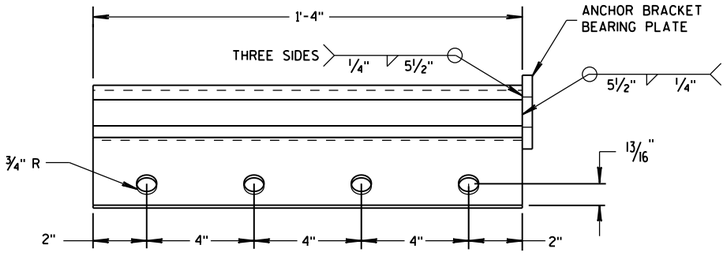
S.D.D. 14 B 47-2b

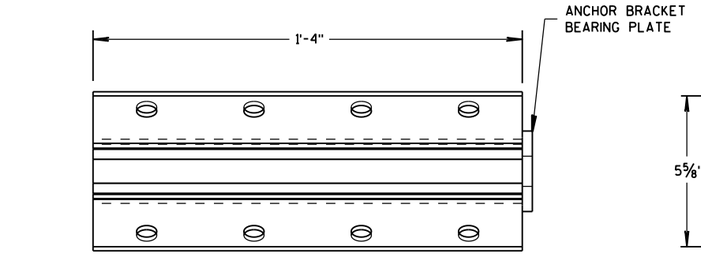


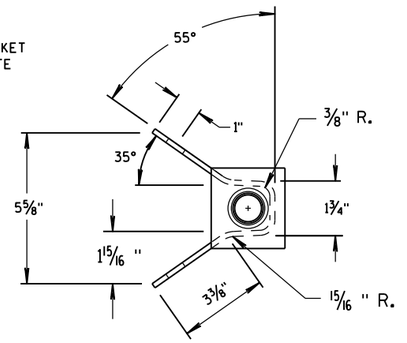
YOKE DETAIL



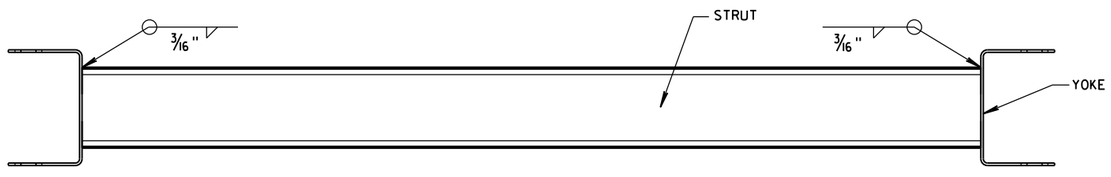
STRUT DETAIL



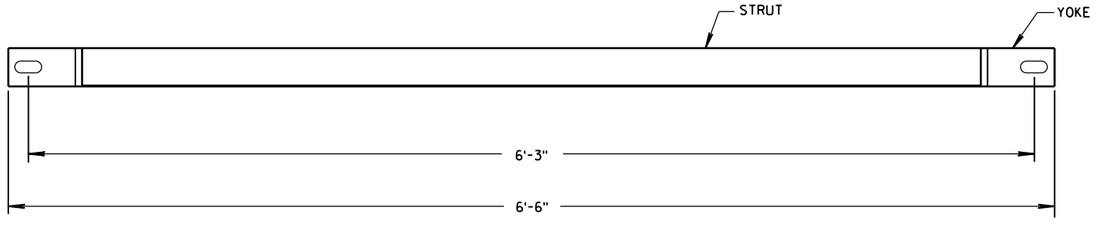




ANCHOR BRACKET

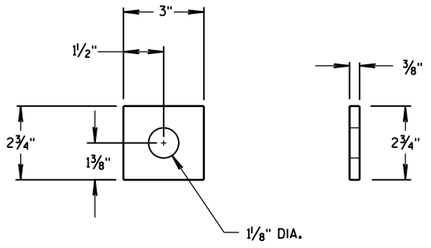


PLAN VIEW



FRONT VIEW

GROUND STRUT DETAIL



ANCHOR BRACKET BEARING PLATE

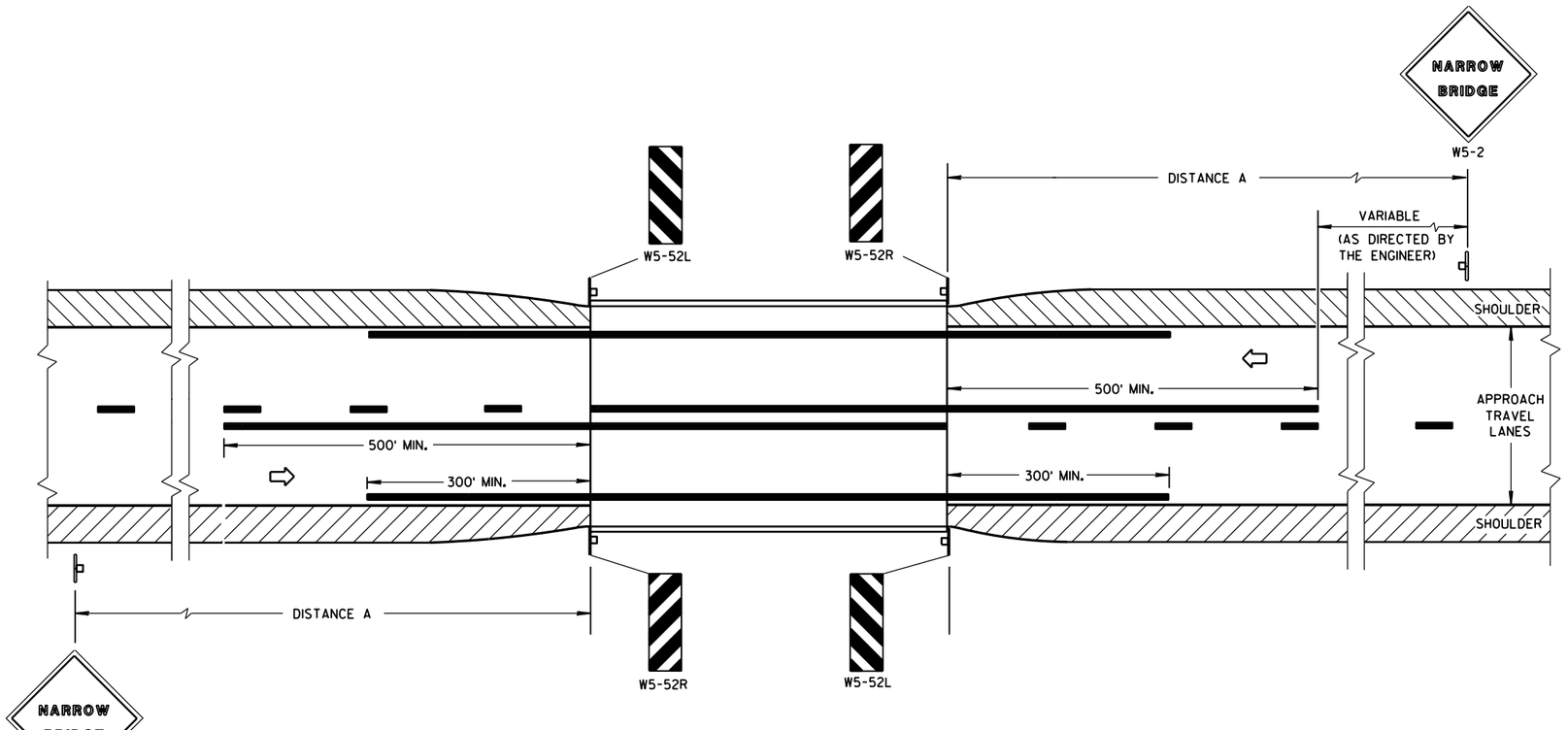
MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6

S.D.D. 14 B 47-2c

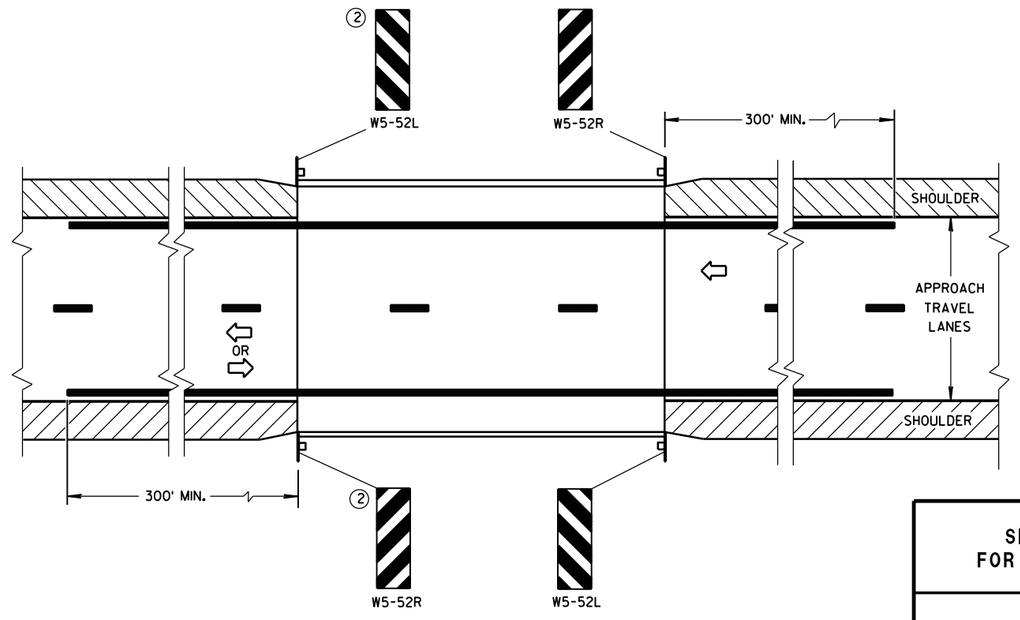


SITUATION 1

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

DISTANCE TABLE

POSTED OR 85th PERCENTILE SPEED	DISTANCE "A"
25	150'
30	200'
35	250'
40	300'
45	400'
50	550'
55	750'



SITUATION 2

WARRANTING CRITERIA:

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

GENERAL NOTES

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

① LOCATE W5-52 SIGN POST(S) BEHIND GUARDRAIL WHEN PRESENT.

② OMIT ON ONE-WAY TRAVELLED WAYS.

③ EDGE OF W5-52 SIGN SHALL BE PLACED IN LINE WITH FACE OF CURB OR PARAPET.

SIGNING & MARKING FOR TWO LANE BRIDGES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
4-18-16 — DATE
/S/ Matthew R. Rauch — STATE SIGNING AND MARKING ENGINEER
FHWA

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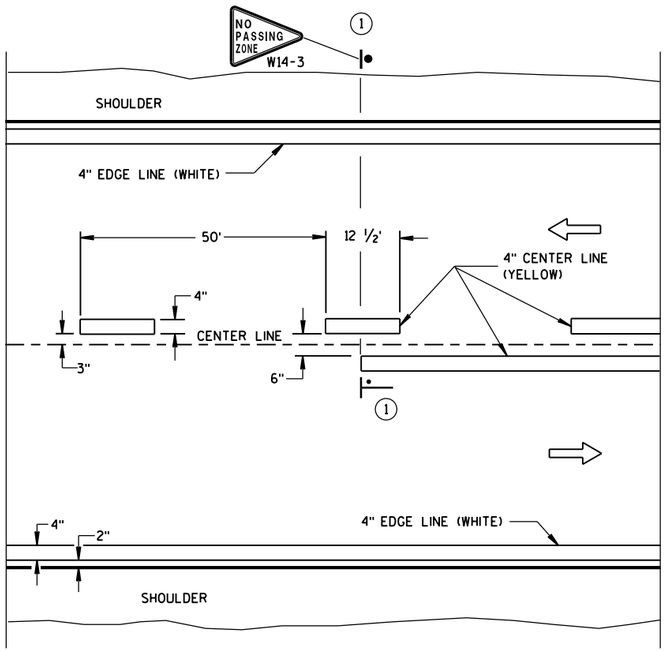
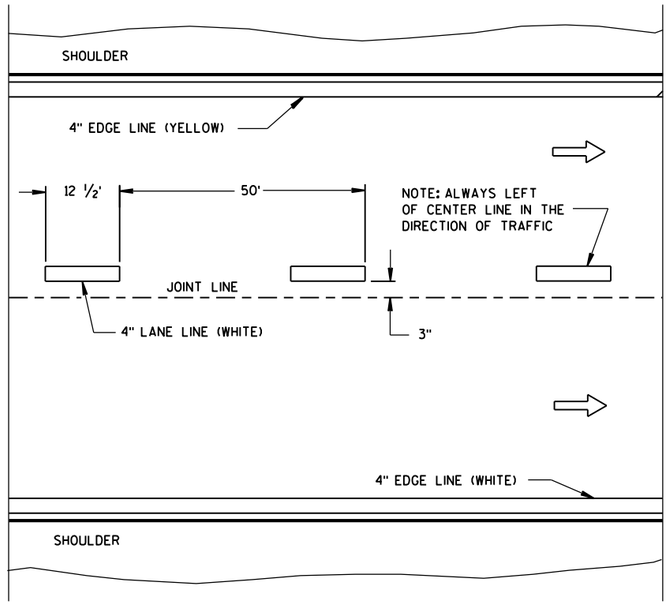
S.D.D. 15 C 6-8



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.

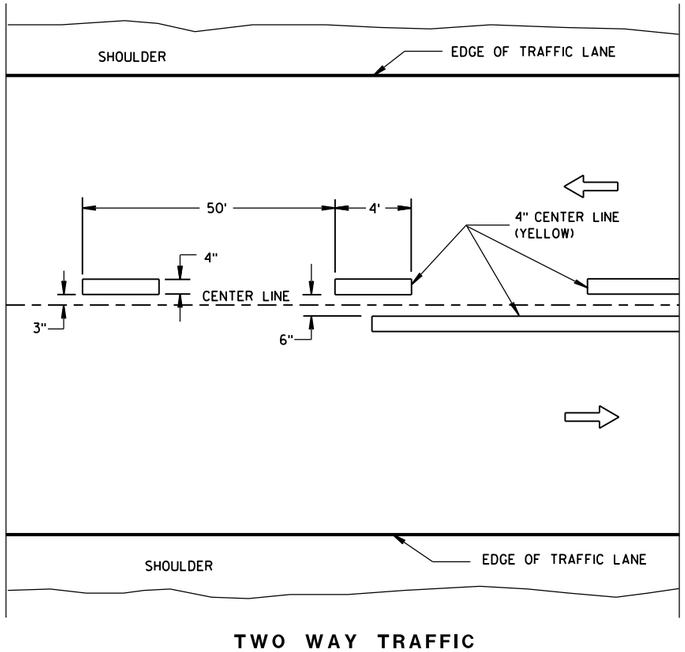
NOTE

ARROW SYMBOL (⇨) SHOWS DIRECTION OF TRAVEL

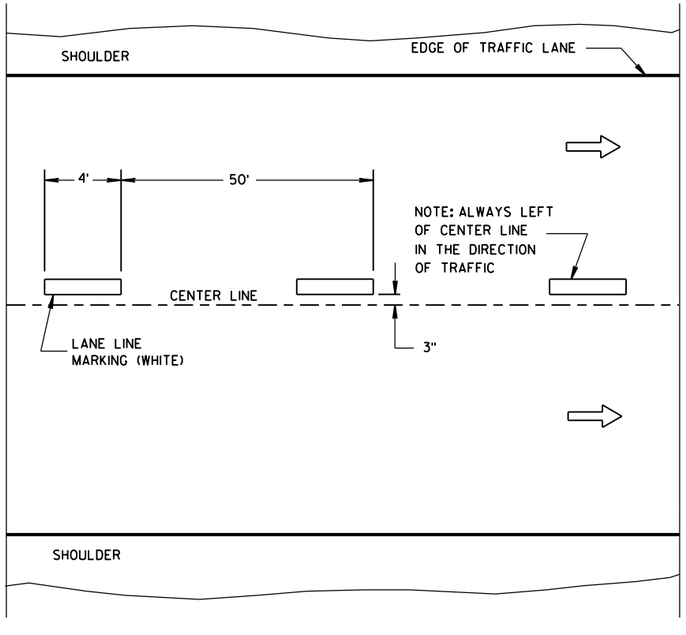
LEGEND

"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 MAR[illegible]INEER
FHWA

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

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

LEGEND

SIGN ON PORTABLE OR PERMANENT SUPPORT

DIRECTION OF TRAFFIC

WORK AREA

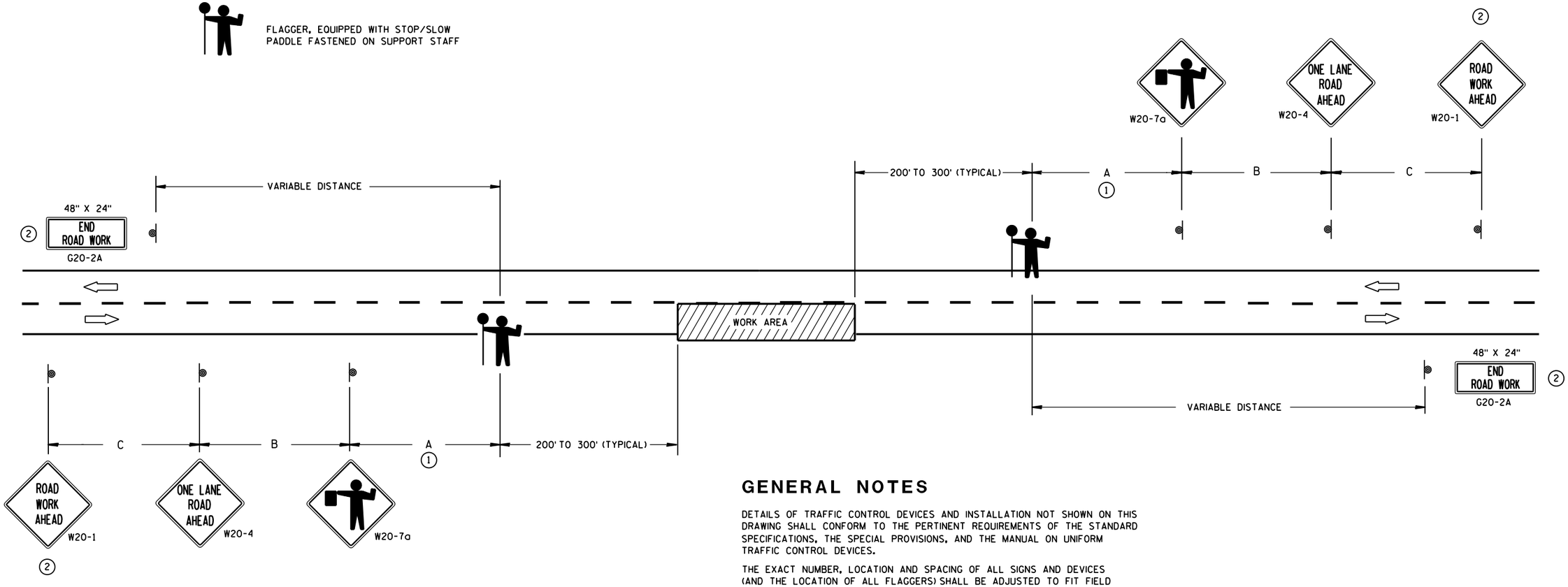
FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF

SIGN SPACING TABLE

SPEED LIMIT	SIGN SPACING A,B,C
25-35 MPH	200'
35-40 MPH	350'
45-55 MPH	500'

W3-4

USE OF THE "BE PREPARED TO STOP" SIGN IS OPTIONAL. WHEN USED, THIS SIGN SHALL BE LOCATED BETWEEN THE W20-7a AND W20-4 SIGNS. A 500' TYPICAL SPACING SHALL BE PROVIDED BETWEEN THE SIGNS.



(1) FOR A MOVING WORK OPERATION,
SIGNING FOR BOTH DIRECTIONS SHALL BE REESTABLISHED (AS SIMULTANEOUSLY AS PRACTICAL) AT APPROXIMATELY 3500 FOOT INTERVALS IN THE MOVING WORK OPERATION OR AS APPROVED BY THE ENGINEER.

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

GENERAL NOTES

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

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

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

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

FLAGGERS SHALL BE IN SIGHT OF EACH OTHER OR IN DIRECT COMMUNICATION AT ALL TIMES. THEY SHALL BE EQUIPPED WITH STOP/SLOW PADDLES FASTENED ON SUPPORT STAFFS. WHEN THE FLAGGING OPERATION IS NOT IN EFFECT, COVER OR REMOVE ALL TEMPORARY TRAFFIC CONTROL SIGNS.

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

TRAFFIC CONTROL FOR LANE CLOSURE (SUITABLE FOR MOVING OPERATIONS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8/2013 — DATE
/S/ Travis Feltes — STATE TRAFFIC ENGINEER
DESIGN
FHWA

6

S.D.D. 15 C 12-4

LEGEND

- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TRAFFIC CONTROL DRUM
- FLASHING ARROW BOARD
- REMOVING PAVEMENT MARKING
- CONCRETE BARRIER TEMPORARY PRECAST
- DIRECTION OF TRAFFIC
- WORK AREA

L, TAPER LENGTH (MPH)							
SPEED (MPH)	W, LATERAL OFFSET (FT)						
	10	11	12	13	14	15	16
45	450	495	540	585	630	675	720
50	500	550	600	650	700	750	800
55	550	605	660	715	770	825	880
60	600	660	720	780	840	900	960
65	650	715	780	845	910	975	1040
70	700	770	840	910	980	1050	1120

W057-52
48"x36"

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).

OR

LOCATED 2600 FEET IN ADVANCE OF R2-1 SIGN AND 500 FEET BEYOND THE "ROAD WORK 1 MILE" SIGN.

OR

R2-1
48"x60"
(BLACK AND WHITE)

LOCATED 500 FEET BEYOND W20-5G SIGN.

IF THE REGULATORY SPEED HAS BEEN REDUCED, A SPEED LIMIT SIGN SHALL BE LOCATED 1500 FEET BEYOND THE END OF THE ACCELERATION LANE OF EACH ENTRANCE RAMP. THERE SHOULD BE A SPEED LIMIT SIGN INCORPORATED A MINIMUM OF EVERY 2 OR 3 MILES.

* INCLUDE RESUME SPEED LIMIT SIGN A MINIMUM OF 200 FEET (500 FEET DESIRABLE) AFTER END ROAD WORK SIGNS.

GENERAL NOTES

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

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

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

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

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

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

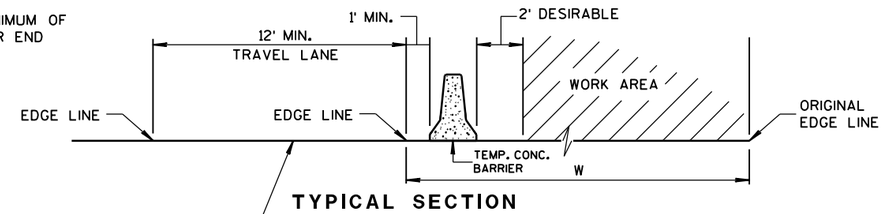
(1) CONSIDER ROADWAY GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARD SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS FOR A MINIMUM 1500 FEET IN FRONT OF DRUM TAPER.

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

REMOVE PAVEMENT MARKINGS IF LANE CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

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

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



TYPICAL SECTION

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept., 2016 — DATE
/S/ Peter Amakobe Atepe
STATEWIDE WORK ZOI SAFETY ENGIN
FHWA

S.D.D. 15 D 3-4

S.D.D. 15 D 3-4

LEGEND

- TYPE III BARRICADE WITH ATTACHED SIGN
- SIGN ON PERMENENT SUPPORT
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TRAFFIC CONTROL DRUM
- FLASHING ARROW BOARD
- (A) TYPE "A" WARNING LIGHT (FLASHING)
- REMOVING PAVEMENT MARKING
- DIRECTION OF TRAFFIC
- WORK AREA

GENERAL NOTES

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

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

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

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

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

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER. NO WARNING LIGHTS SHALL BE WORKING ON "COVERED" OR "DOWNED" SIGNS.

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

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

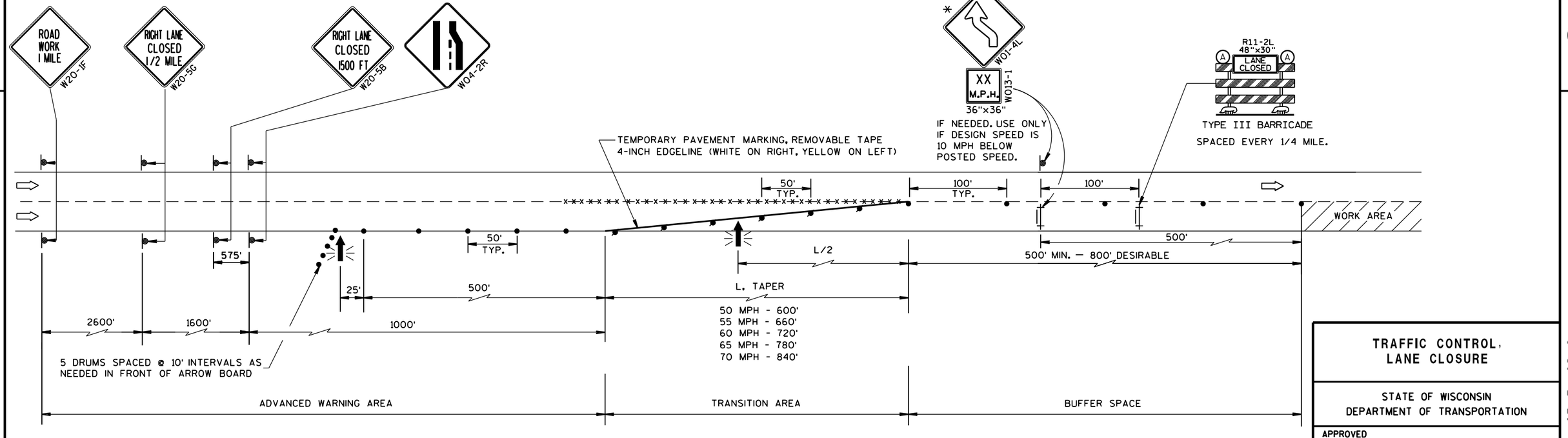
REMOVE PAVEMENT MARKINGS IF LANE CLOSURE IS TO BE IN PLACE FOR LONGER THAN 4 OR MORE DAYS AND NIGHTS.

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

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

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

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



TRAFFIC CONTROL, LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
March 2016 — DATE
/S/ Peter Amakobe Atepe
STATEWIDE WORK ZO SAFETY ENGI IC
FHWA

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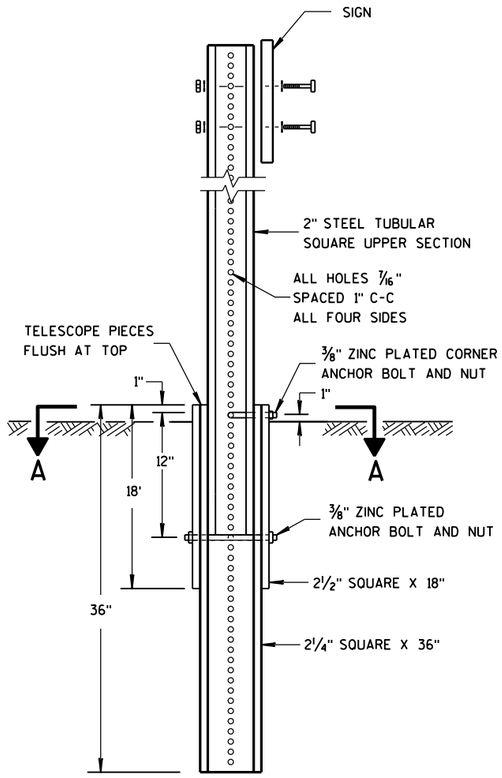
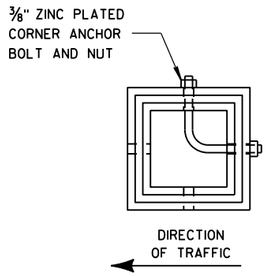
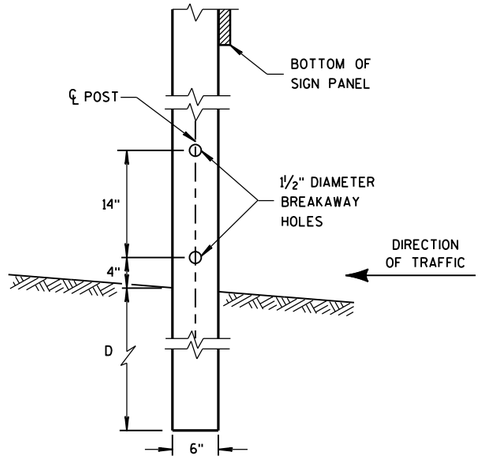
S.D.D. 15 D 12-6a



DETAIL OF TUBULAR STEEL SIGN POST



SECTION A-A



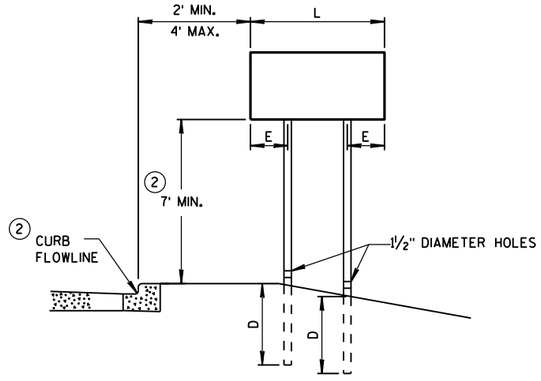
4"x6" WOOD POST MODIFICATION

GENERAL NOTES

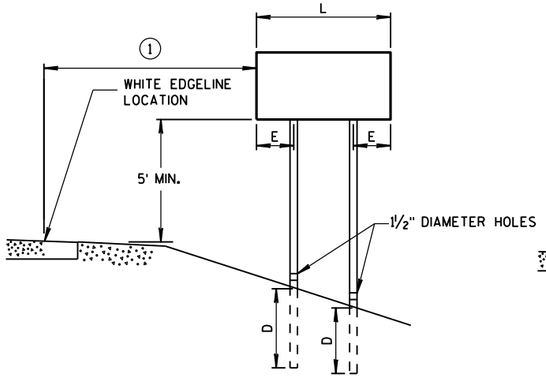
(1) 6 FEET FROM THE EDGE OF PAVEMENT (EDGE LINE LOCATION) UNLESS OTHERWISE DIRECTED BY THE PROJECT ENGINEER. LATERAL OFFSET SHOULD BE ADJUSTED TO AVOID THE DITCH FLOWLINE.

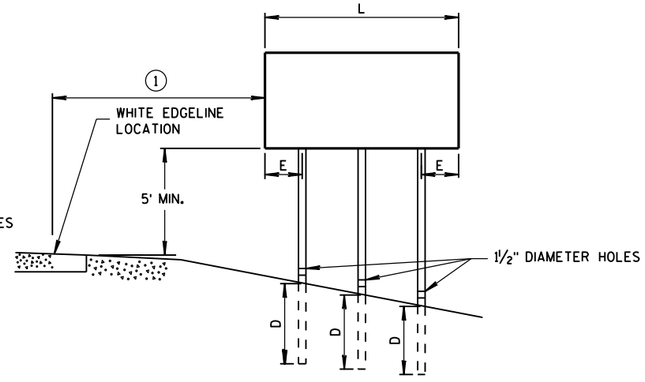
(2) THE EXISTENCE OF CURB AND GUTTER DOES NOT IN ITSELF MANDATE THE VERTICAL CLEARANCE ILLUSTRATED. THAT HEIGHT IS TYPICALLY MEASURED WHERE THERE IS SIDEWALK ADJACENT TO THE ROADWAY OR PARKING IS PERMITTED. IN THE ABSENCE OF SIDEWALK, VERTICAL CLEARANCE IS MEASURED FROM THE TOP OF THE CURB. IF NO SIDEWALK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

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



URBAN AREA





RURAL AREA

POST MOUNTING DETAIL FOR TEMPORARY TRAFFIC CONTROL FIXED MESSAGE SIGNS

TUBULAR STEEL POSTS

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

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

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

WOOD POST EMBEDMENT DEPTH

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

4" X 6" WOOD POST

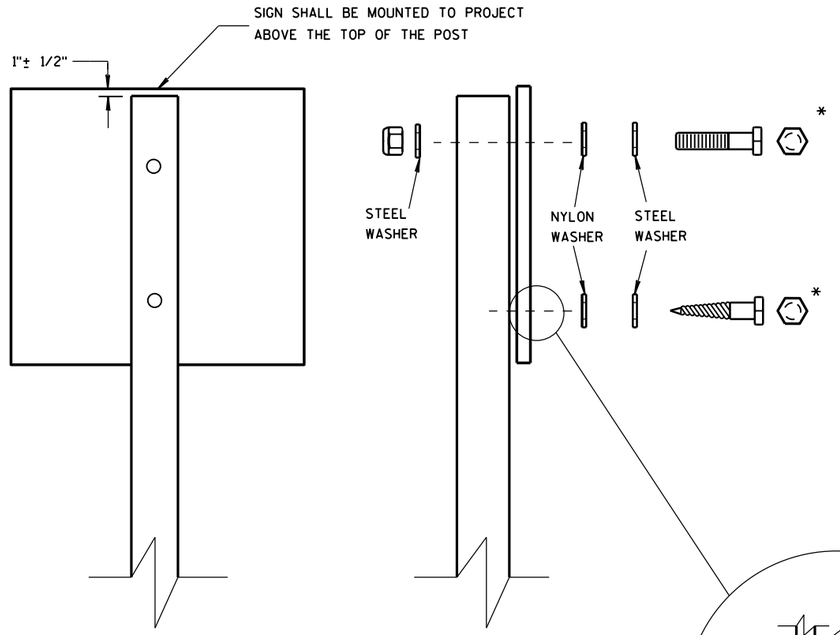
POST SPACING REQUIREMENTS		NUMBER OF WOOD POSTS REQUIRED
L	E	
48" OR LESS AND LESS THAN 20 SQ. FT.	-	1
LESS THAN 60"	12"	2
60" TO 120"	L/5	2
GREATER THAN 120" LESS THAN 168"	12"	3
168" AND GREATER	12"	4

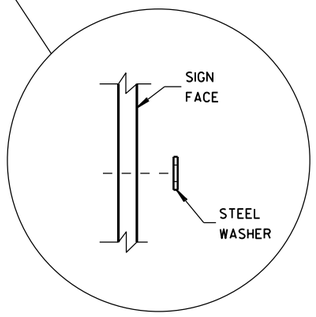
SEE NOTE (3)

TEMPORARY TRAFFIC CONTROL FIXED MESSAGE SIGNS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6
S.D.D. 15 D 38-1a





WASHER PLACEMENT WHEN SIGN HAS OTHER THAN TYPE H OR TYPE F FACE

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

A. HOT DIP GALVANIZED IN ACCORDANCE WITH ASTM DESIGNATION: A 153, CLASS D, OR SC 3

B. ELECTRO-GALVANIZED IN ACCORDANCE WITH ASTM DESIGNATION: B 633, TYPE III, SC 3

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

WOOD POSTS (4" x 4" or 4" x 6")

LAG SCREWS - 3/8" X 3"

MACHINE BOLTS - 5/16" X 6-1/2" OR 7" LENGTH W/ NUTS

SQUARE STEEL POSTS (2" x 2")

MACHINE BOLTS - 3/8" X 3-1/4" LENGTH W/ NUTS

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

WASHERS (ALL POSTS) -

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

1-1/4" O.D. X 3/8" I.D. X .080 NYLON FOR ALL TYPE H SIGNS

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

6

6

S.D.D. 15 D 38-1b

S.D.D. 15 D 38-1b

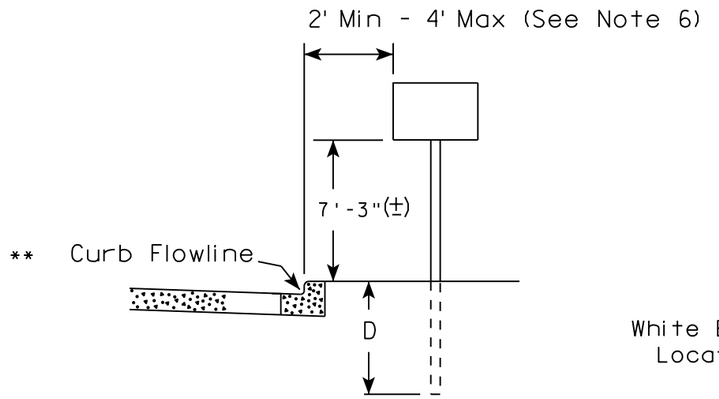
ATTACHMENT OF SIGNS TO POSTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

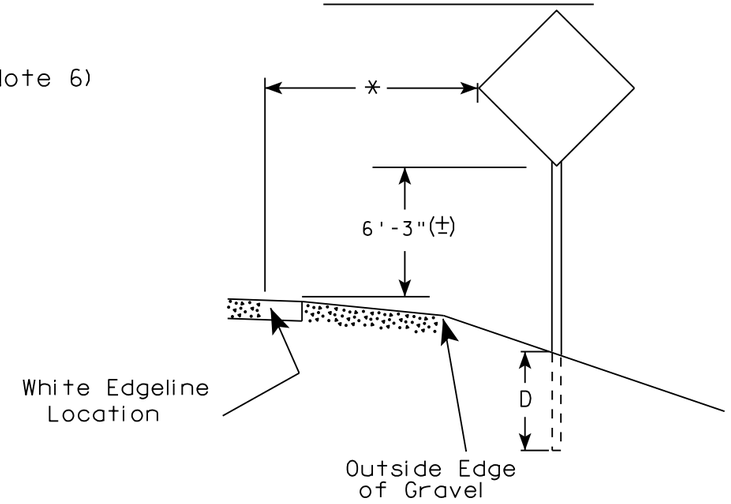
APPROVED
Feb. 2015 — DATE
/S/ Travis Feltes — STATE TRAFFIC ENGINEER
FHWA

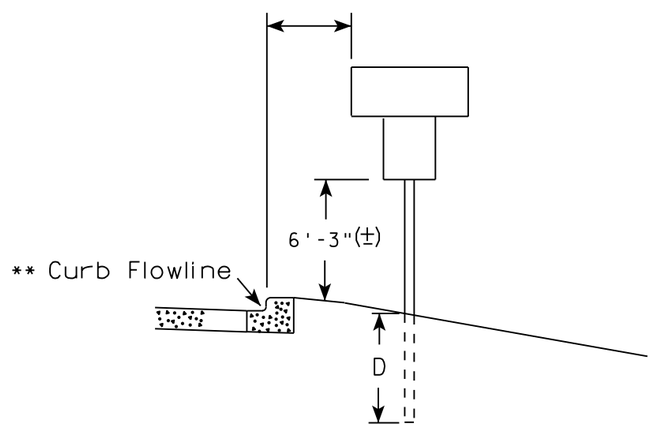
SIGN

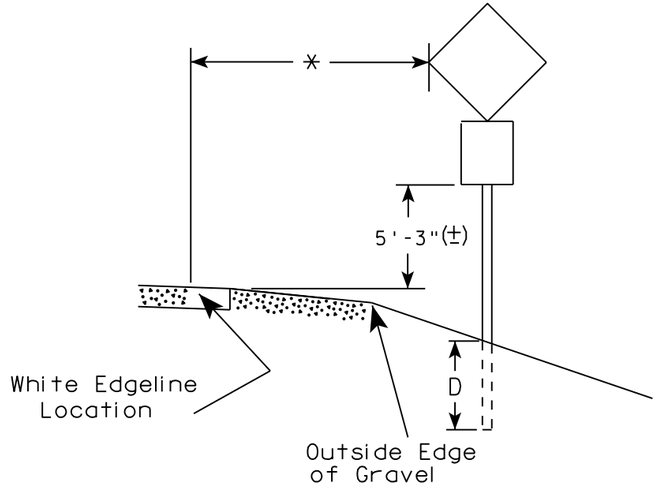
URBAN AREA



RURAL AREA (See Note 2)







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

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

POST EMBEDMENT DEPTH

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

GENERAL NOTES

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

TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

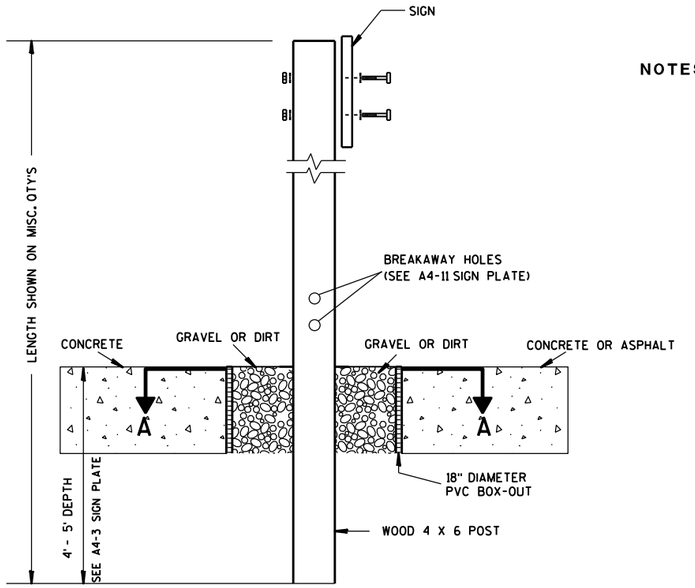
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 8/21/17 PLATE NO. A4-3.21

7 7

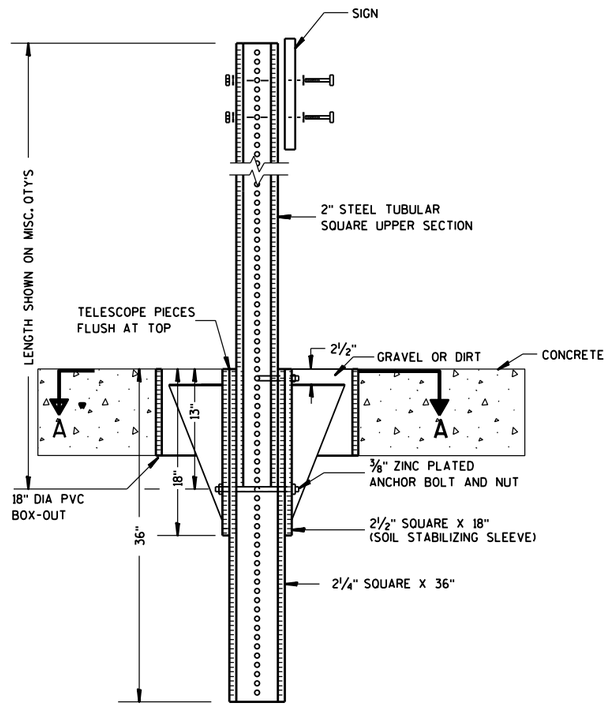
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 73	E



ELEVATION VIEW

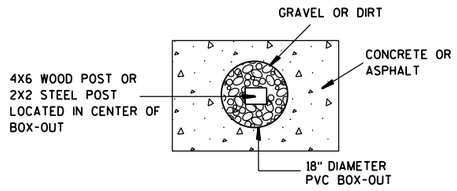
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

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



ELEVATION VIEW

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



PLAN VIEW

FOR NEW CONCRETE/ASPHALT INSTALLATIONS

SIGN POST BOX-OUTS A4-3B

WISCONSIN DEPT OF TRANSPORTATION

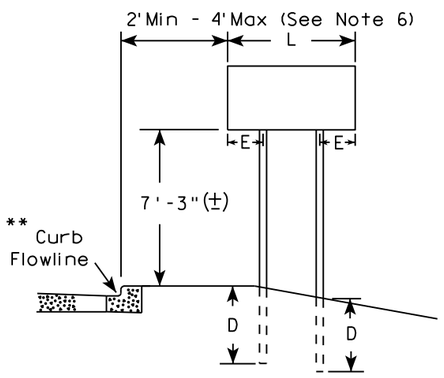
APPROVED Matthew R Rauch
for State Traffic Engineer

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

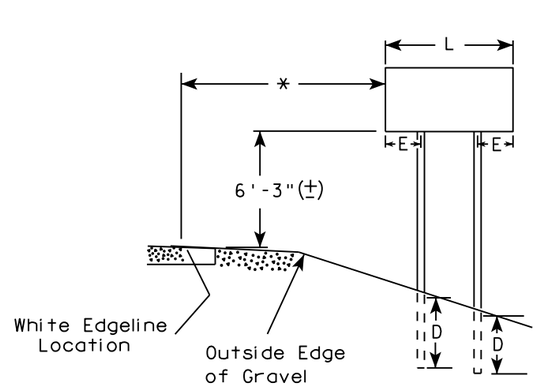
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

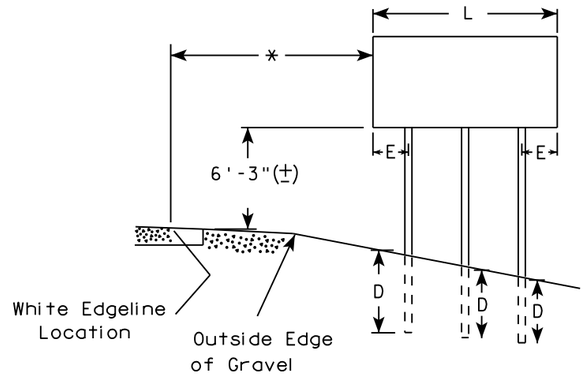
FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A43B.DGN PLOT DATE : 27-JAN-2014 09:48 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 13.659812:1.000000 WISDOT/CADDS SHEET 42

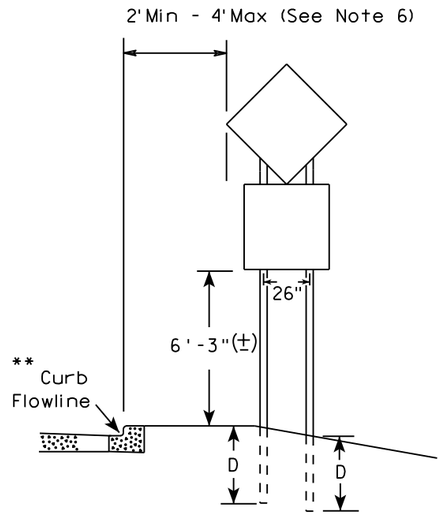
URBAN AREA



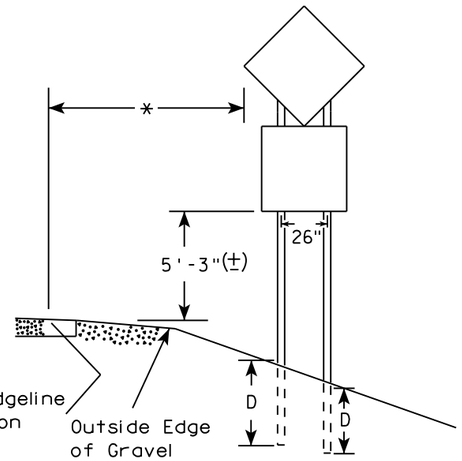
RURAL AREA (See Note 3)







48" DIAMOND WARNING SIGN



48" DIAMOND WARNING SIGN

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

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

GENERAL NOTES

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

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

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

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

POST EMBEDMENT DEPTH

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

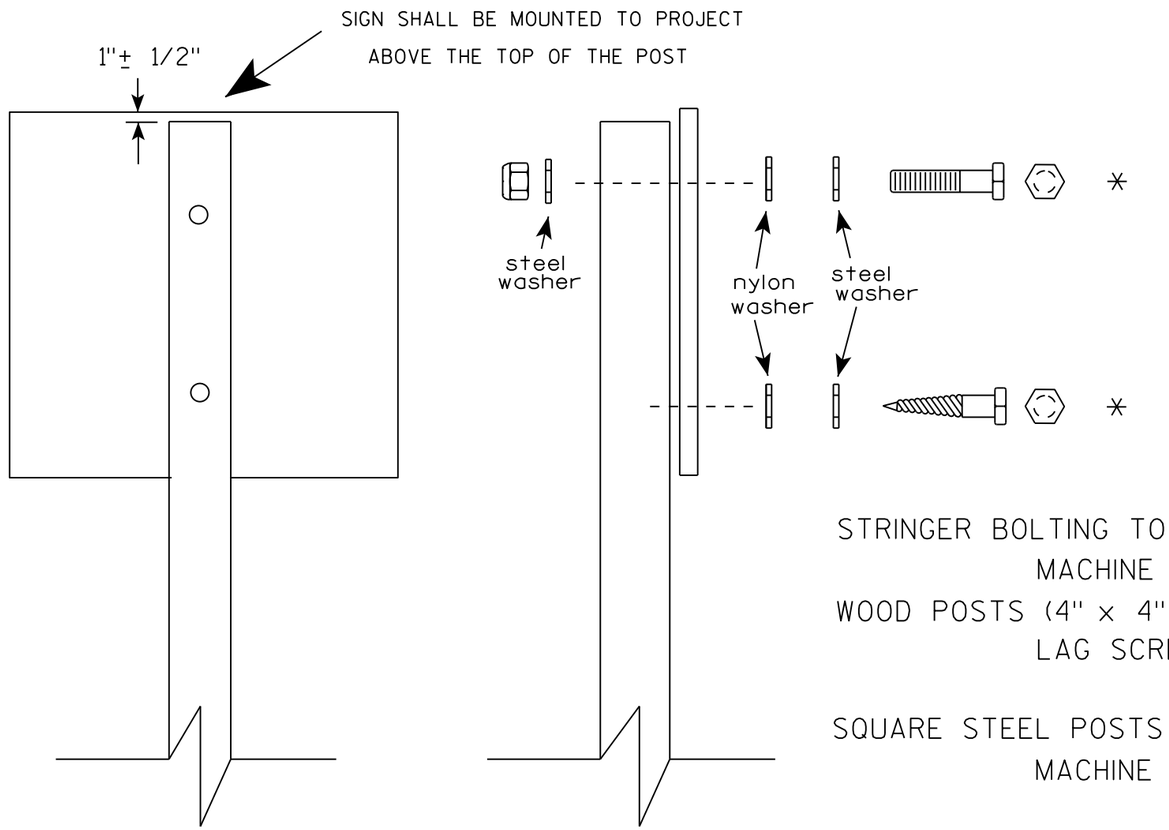
TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

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

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 75	E



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

a. Hot dip galvanized in accordance with ASTM Designation: A 153, Class D, or SC 3
b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.

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

STRINGER BOLTING TO ALUMINUM SIGNS (SEE SIGN PLATE A4-18)
MACHINE BOLTS - 5/16" X 1-3/4" Length w/ lock nuts
WOOD POSTS (4" x 4" or 4" x 6")
LAG SCREWS - 3/8" X 3" (NO STRINGERS ON BACK OF SIGN)
3/8" X 4" (STRINGERS ON BACK OF SIGN)
SQUARE STEEL POSTS (2" x 2")
MACHINE BOLTS - 3/8" X 3-1/4" Length w/ nuts (NO STRINGER ON BACK OF SIGN)
3/8" X 5" Length w/ nuts (STRINGERS ON BACK OF SIGN)
RIVETS - 9/32 " (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL
O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH
WASHERS (ALL POSTS) -
1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON

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

ATTACHMENT OF SIGNS TO POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

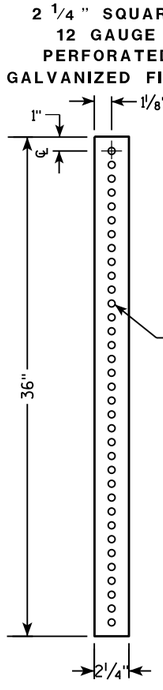
DATE 8/11/16 PLATE NO. A4-8.8

PROJECT NO: SHEET NO: E

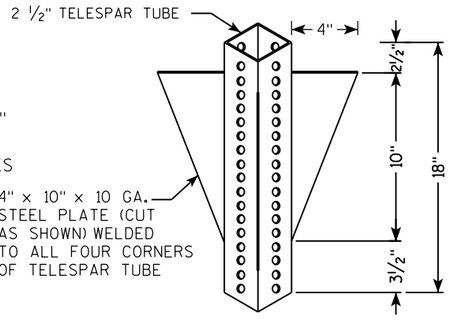
FILE NAME : C:\CAEfiles\Projects\tr_stdplate\A48.DGN PLOT DATE : 11-AUG-2016 11:35 PLOT BY : $$ plotuser $$

TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM

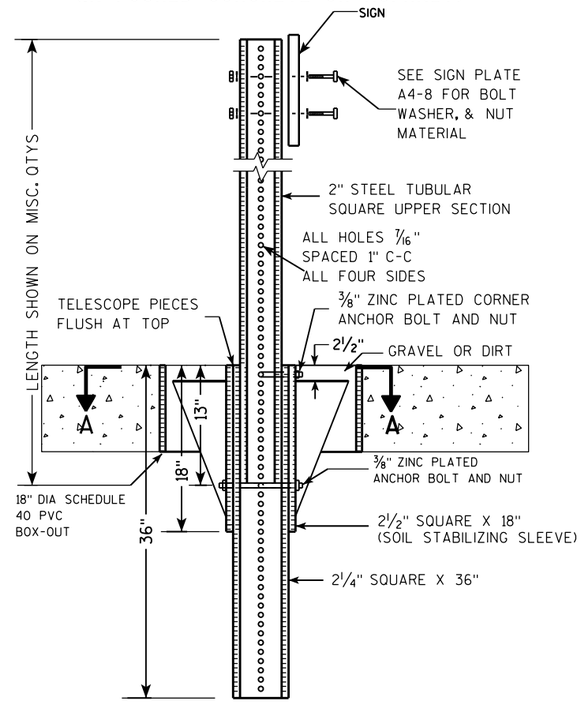
2 1/4 " SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH



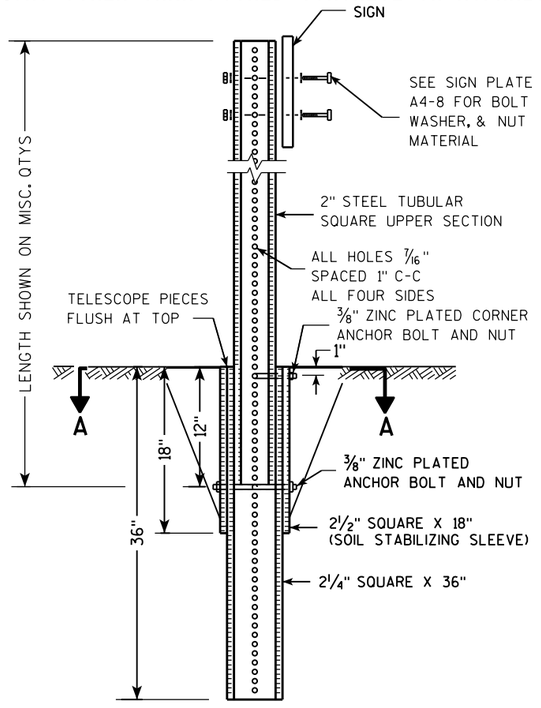
2 1/2 " SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH

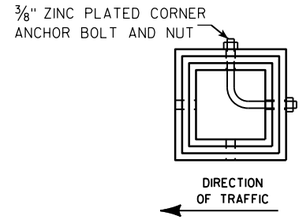


DETAIL OF TUBULAR STEEL SIGN POST
(IN POURED CONCRETE OR ASPHALT)



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





SECTION A-A

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

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

TUBULAR STEEL
SIGN POST
A4-9

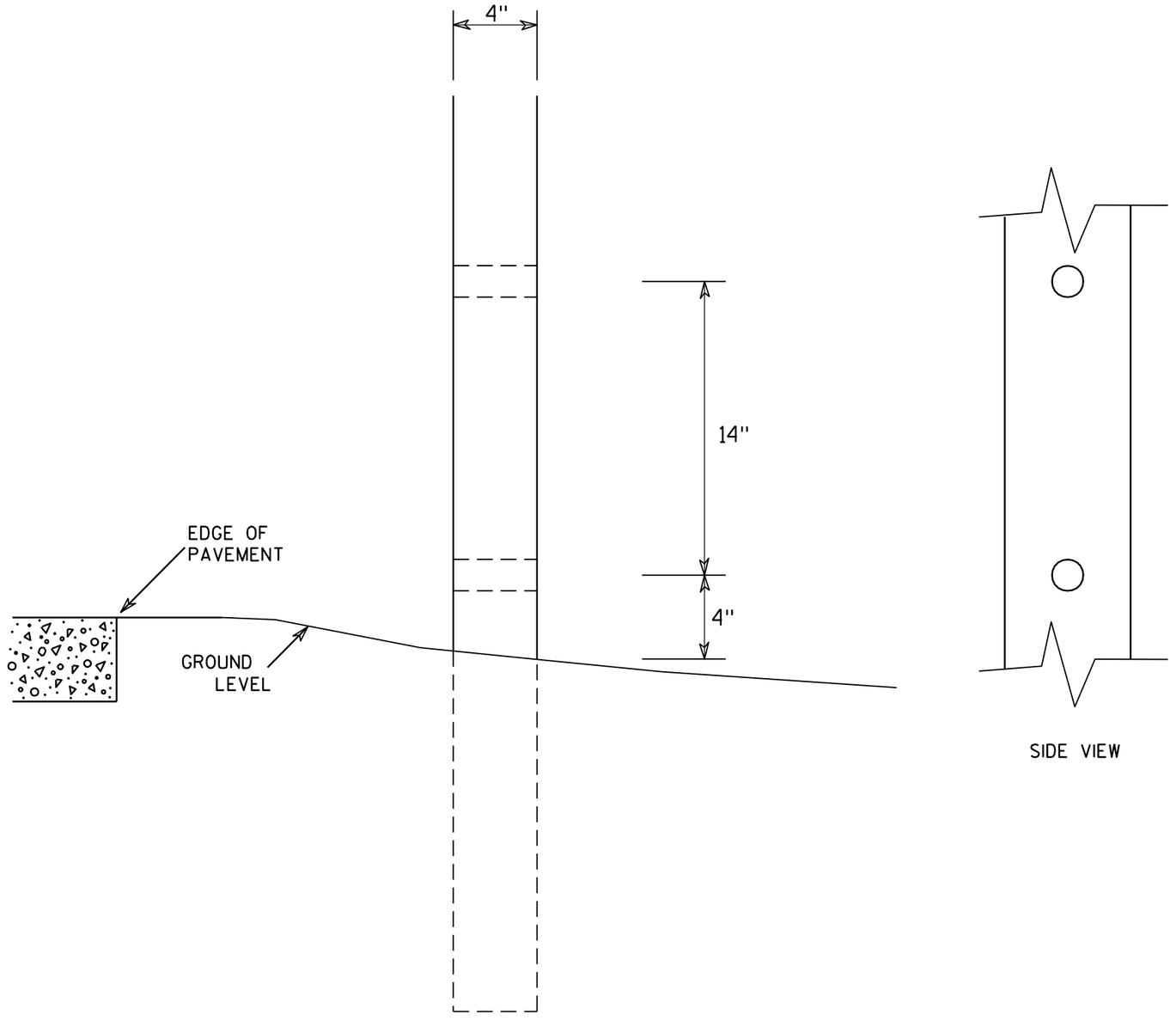
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/05/15 PLATE 77 A4-9.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

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



SIDE VIEW

GENERAL NOTES

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

7

7

4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

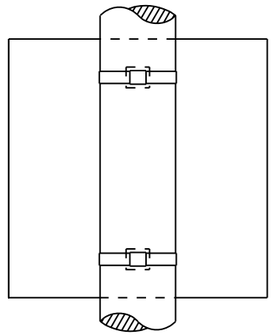
APPROVED Chester J Spang for State Traffic Engineer

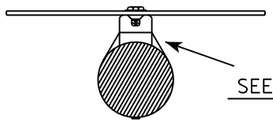
DATE 3/27/97 PLATE NO. A4-11.2

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 78	E

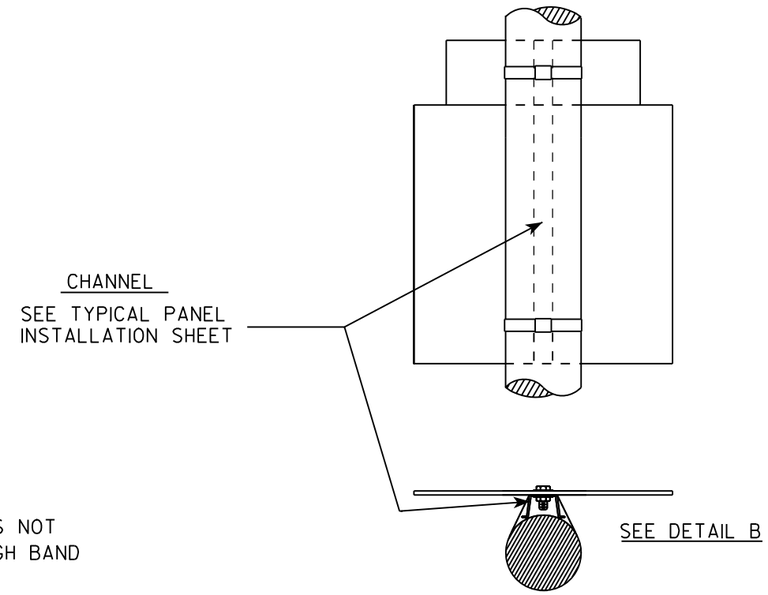
BANDING

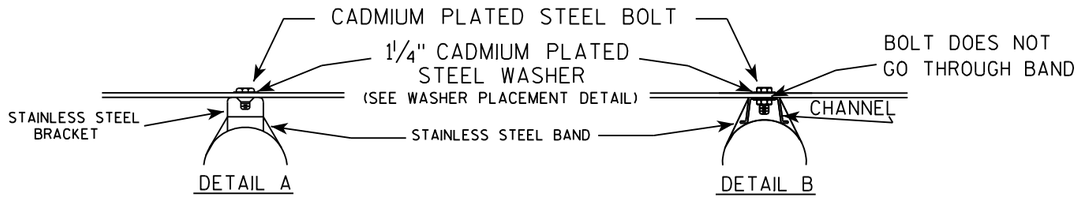
SINGLE SIGN



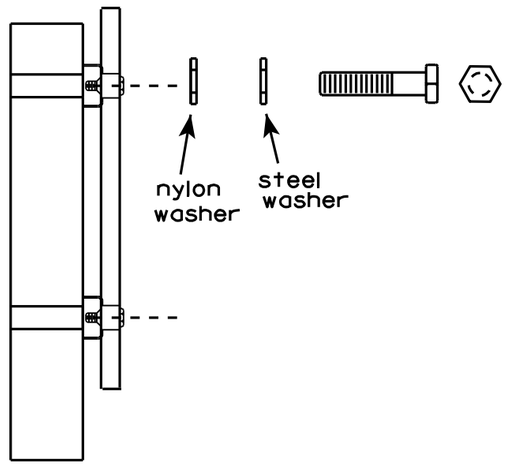


"J" ASSEMBLY





WASHER PLACEMENT



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

GENERAL NOTES

1. Any sign over 3 feet in width shall use the V-Block banding method. See A5-10 standard plate.
2. Signs 3 feet or greater in height shall have three bracket bands installed. Signs less than 3 feet in height shall have two bracket bands installed.
3. Banding and assembly bracket shall be stainless steel. All bands shall be ¾" in width and 0.025" thickness.

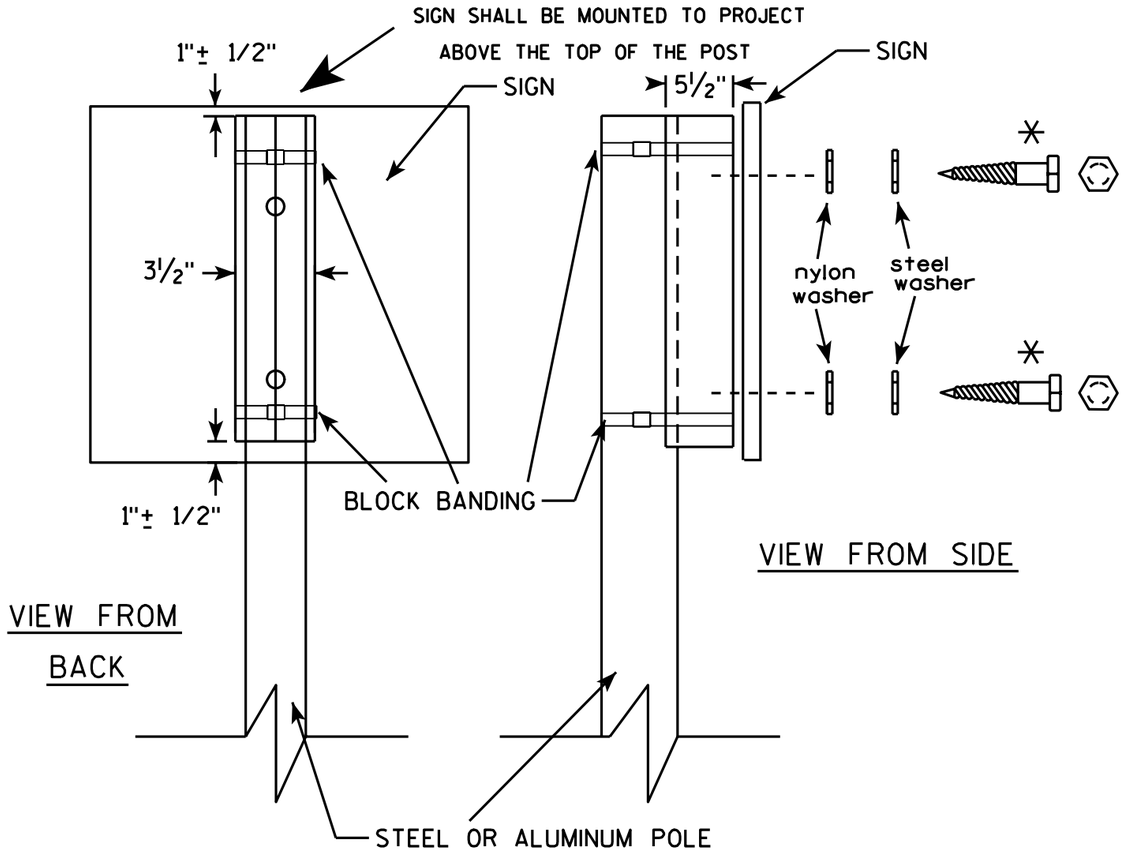
STANDARD SIGN
SIGN BANDING DETAILS

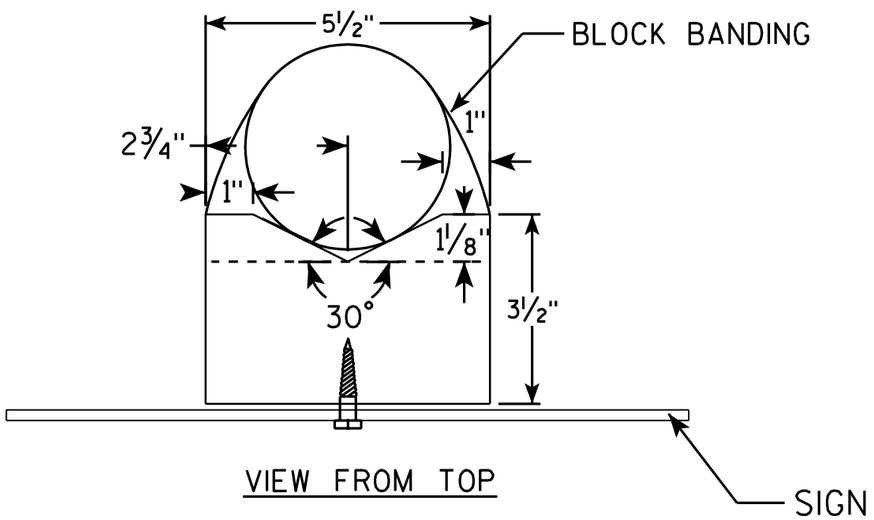
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 8/16/13 PLATE NO. A5-9.3

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 79	E





GENERAL NOTES

1. WOOD 4"X6" POST MATERIAL SHALL CONFORM TO 507.2.2 OF THE WisDOT STANDARD SPECIFICATIONS
2. BLOCK BANDING AND CLIPS SHALL BE STAINLESS STEEL, ¾" WIDTH AND 0.025" THICKNESS
3. SIGNS 3' OR GREATER IN HEIGHT SHALL UTILIZE 3 BLOCK BANDS. SIGNS UNDER 3' IN HEIGHT SHALL UTILIZE 2 BLOCK BANDS
4. ACTUAL NUMBER OF FASTENERS PER SIGN VARIES WITH THE SIGN AREA, BUT NORNALLY THERE ARE TWO. FOR SIGNS GREATER THAN 9 S.F. 3 FASTENERS SHALL BE USED.
5. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
   a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D, or
   b. Cadmium plated in accordance with ASTM Designation : B 766 TYPE 3, Class 12, or
   c. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.
6. ALL BOLTS SHALL HAVE HEXAGONAL HEADS.
7. STEEL WASHERS SHALL BE 1¼" O.D. X ⅜" I.D. X 1/16"
8. NYLON WASHERS SHALL BE 1¼" O.D. X ⅜" I.D. X .080 FOR TYPE H OR TYPE F FACE SIGN

✳ LAG BOLTS SHALL BE ⅜" X 2½"

BLOCK BANDING DETAIL (V-BLOCK OPTION)

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

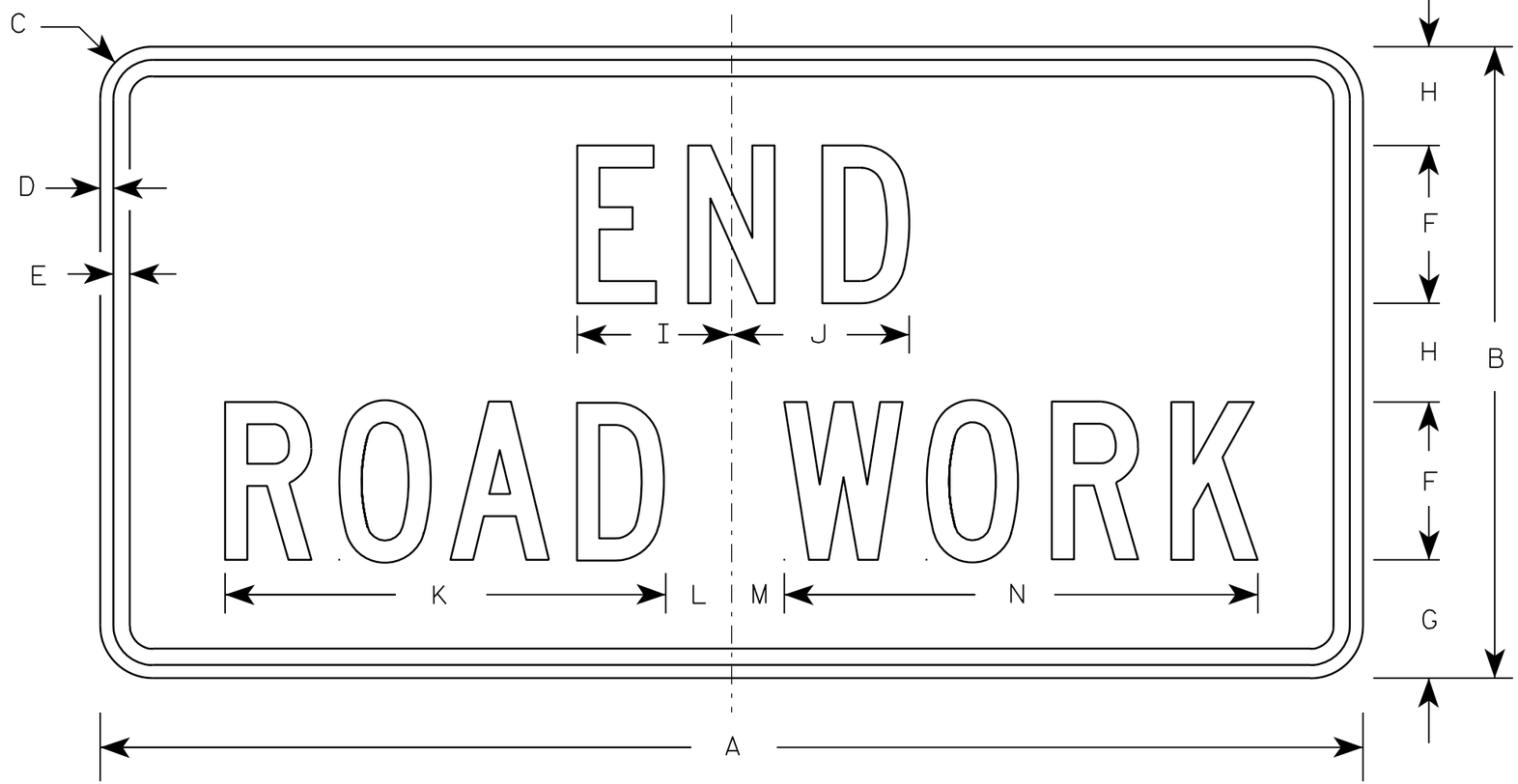
DATE 7/12/07 PLATE NO. A5-10.1

PROJECT NO:

SHEET NO: 80 E

FILE NAME : C:\Users\Projects\tr_stdplate\A510.dgn PLOT DATE : 06-AUG-2007 13:37 PLOT BY : ditjph

WISDOT/CADDS SHEET 42



G20-2A

NOTES

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

Metric equivalent for this sign is:

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

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

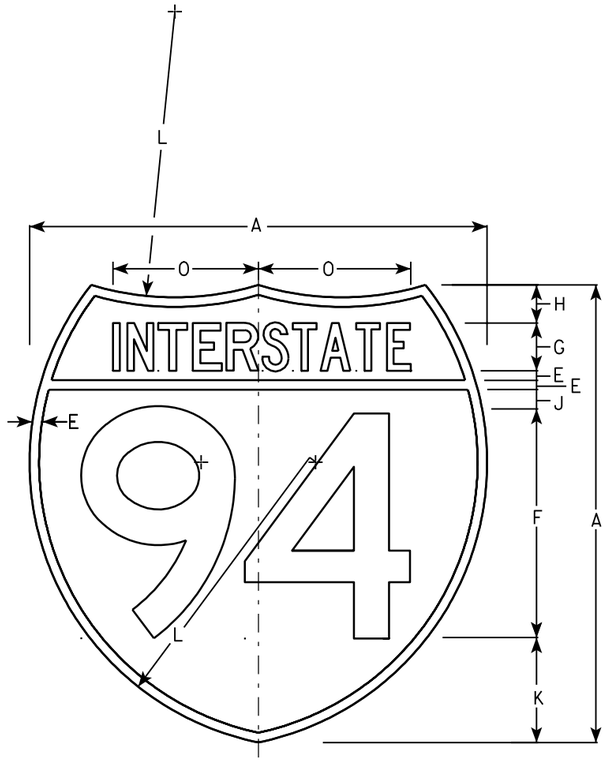
STANDARD SIGN
G20-2A

WISCONSIN DEPT OF TRANSPORTATION

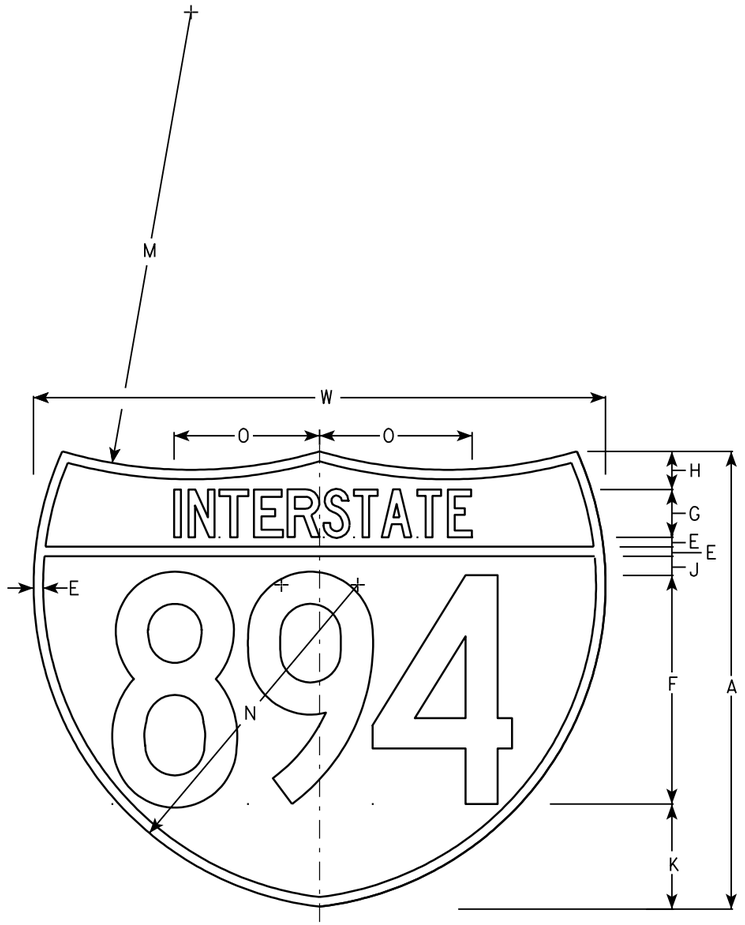
APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 81	E



M1-1



M1-1A

NOTES

1. Sign is Type II - See Note 6 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Top Red - Bottom Blue (See Note 6)
   Message - White - See Note 6
3. Message Series - See note 5
4. Substitute appropriate numerals & ajust spacing as per plate A10-1.
5. M1-1 - Numerals - D
   Interstate - C
   M1-1A - All copy - C
6. Permanent Signs
   Message - Type H Reflective
   Detour or other temporary signs
   Background - Reflective
   Message - Reflective

Metric equivalent for these signs are:

SIZE	M1-1	SIZE	M1-1A
1			
2	600 mm X 600 mm	2	600 mm X 750 mm
3	900 mm X 900 mm	3	900 mm X 1125 mm
4	900 mm X 900 mm	4	900 mm X 1125 mm
5	900 mm X 900 mm	5	900 mm X 1125 mm

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	M1-1 Area sq. ft.	M1-1A Area sq. ft.	M1-1 Area m2	M1-1A Area m2
1																													
2	24				1/2	12	2 1/2	2		1	5 1/2	15	24	17	7 7/8								30			3.13	3.91	.36	.46
3	36				3/4	18	3 3/4	3		1 1/2	8 1/4	22 1/2	36	25 1/2	11 3/4								45			7.03	8.79	.81	1.05
4	36				3/4	18	3 3/4	3		1 1/2	8 1/4	22 1/2	36	25 1/2	11 3/4								45			7.03	8.79	.81	1.05
5	36				3/4	18	3 3/4	3		1 1/2	8 1/4	22 1/2	36	25 1/2	11 3/4								45			7.03	8.79	.81	1.05

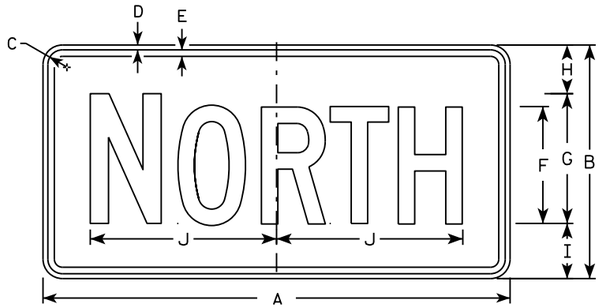
INTERSTATE ROUTE MARKER
M1-1 FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

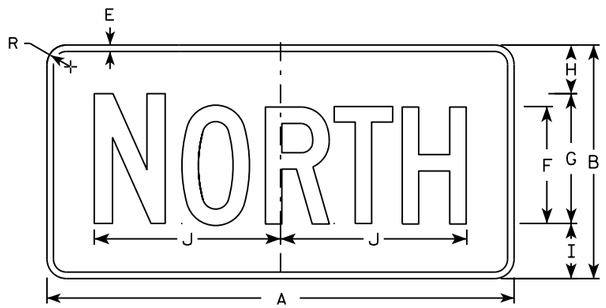
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 08/23/05 PLATE NO. M1-1.8

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 82	E



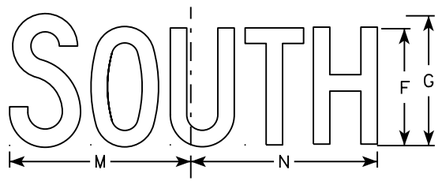
M3-1
MM3-1
MP3-1



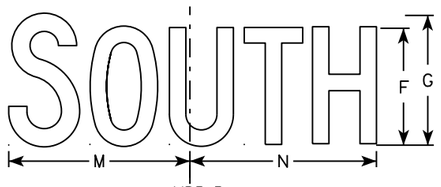
MB3-1
MK3-1
MN3-1

M3-2
MM3-2
MP3-2

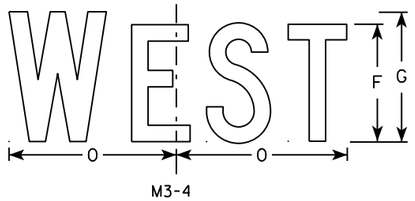
MB3-2
MK3-2
MN3-2



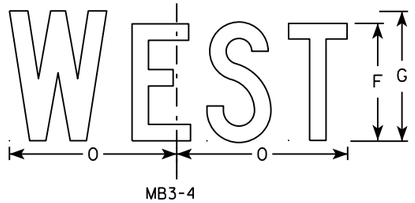
M3-3
MM3-3
MP3-3



MB3-3
MK3-3
MN3-3



M3-4
MM3-4
MP3-4



MB3-4
MK3-4
MN3-4

NOTES

1. All Signs Type II - Type H
2. Color:
   Background - See note 5
   Message - See note 5
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. M3-1 thru M3-4 Background - White
   Message - Black
   MB3-1 thru MB3-4 Background - Blue
   Message - White
   MK3-1 thru MK3-4 Background - Green
   Message - White
   MM3-1 thru MM3-4 Background - White
   Message - Green
   MN3-1 thru MN3-4 Background - Brown
   Message - White
   MP3-1 thru MP3-4 Background - White
   Message - Blue
6. Note the first letter of each direction is larger than the remainder of the message.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24	12	1 1/8	3/8	3/8	6	7	2 1/4	2 3/4	10 1/4	7 7/8	8 3/8	10 1/4	9 3/4	8 3/4			1 1/2									2.00
3	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5
4	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5
5	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5

STANDARD SIGNS
M3-1 thur M3-4
SERIES

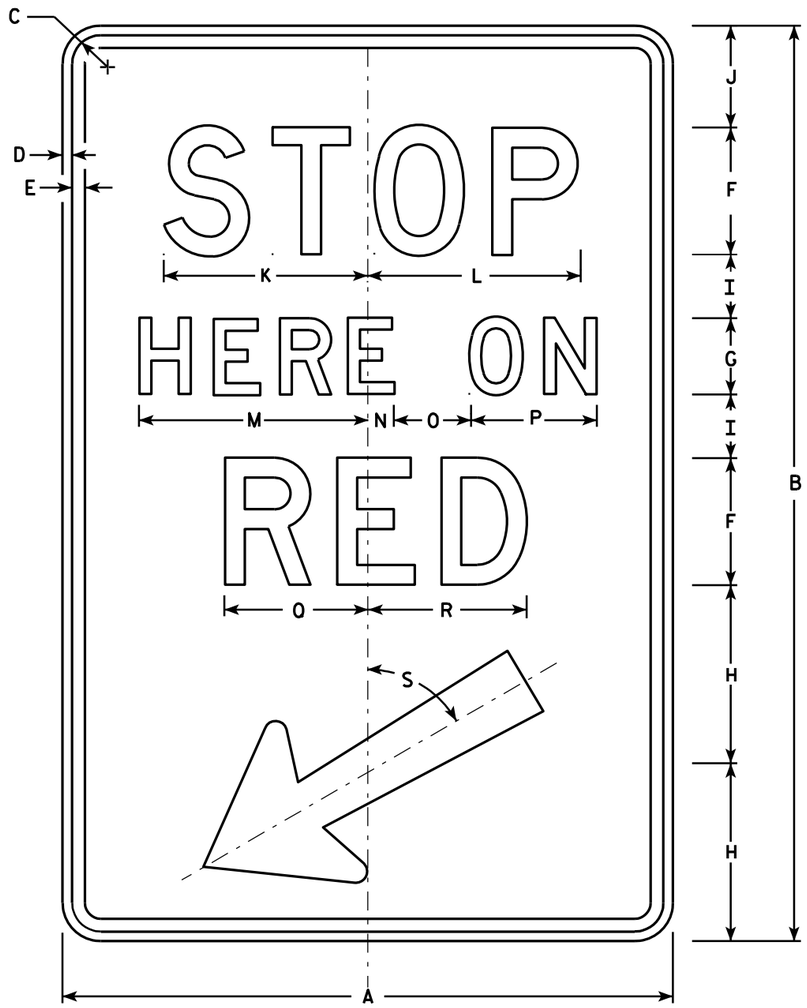
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew P Rauch for State Traffic Engineer

DATE 10/15/15 PLATE NO M3-1.14

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

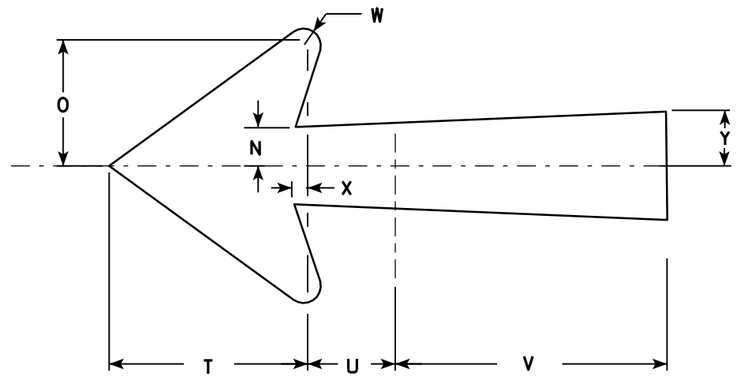
FILE NAME : C:\CAEfiles\Projects\tr_stdplate\M31.DGN PLOT DATE : 01-DEC-2015 17:54 PLOT BY : $$ plotuser $$ PLOT NAME : PLOT SCALE : 11.675051:1.000000



R10-6

NOTES

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



Arrow Detail

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

STANDARD SIGN
R10-6

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 84	E

R10-70

R10-70L

NOTES

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

R10-70R

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	R10-70L&R Area sq. ft.	R10-70 Area sq. ft.
1																												
2S	36	72	2 1/4	3/4	1	6	5	4	18	17 1/2	14 1/8	9 1/8	8 1/2	6	16 3/4	30	23 3/4	66	2 3/8	23 7/8	23 7/8	8 3/4	23 1/4	23 1/2	26 7/8	27	18.0	16.5
2M	36	72	2 1/4	3/4	1	6	5	4	18	17 1/2	14 1/8	9 1/8	8 1/2	6	16 3/4	30	23 3/4	66	2 3/8	23 7/8	23 7/8	8 3/4	23 1/4	23 1/2	26 7/8	27	18.0	16.5
3																												
4																												
5																												

STANDARD SIGN
R10-70

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 4/4/11 PLATE NO. R10-70.2

PROJECT NO:

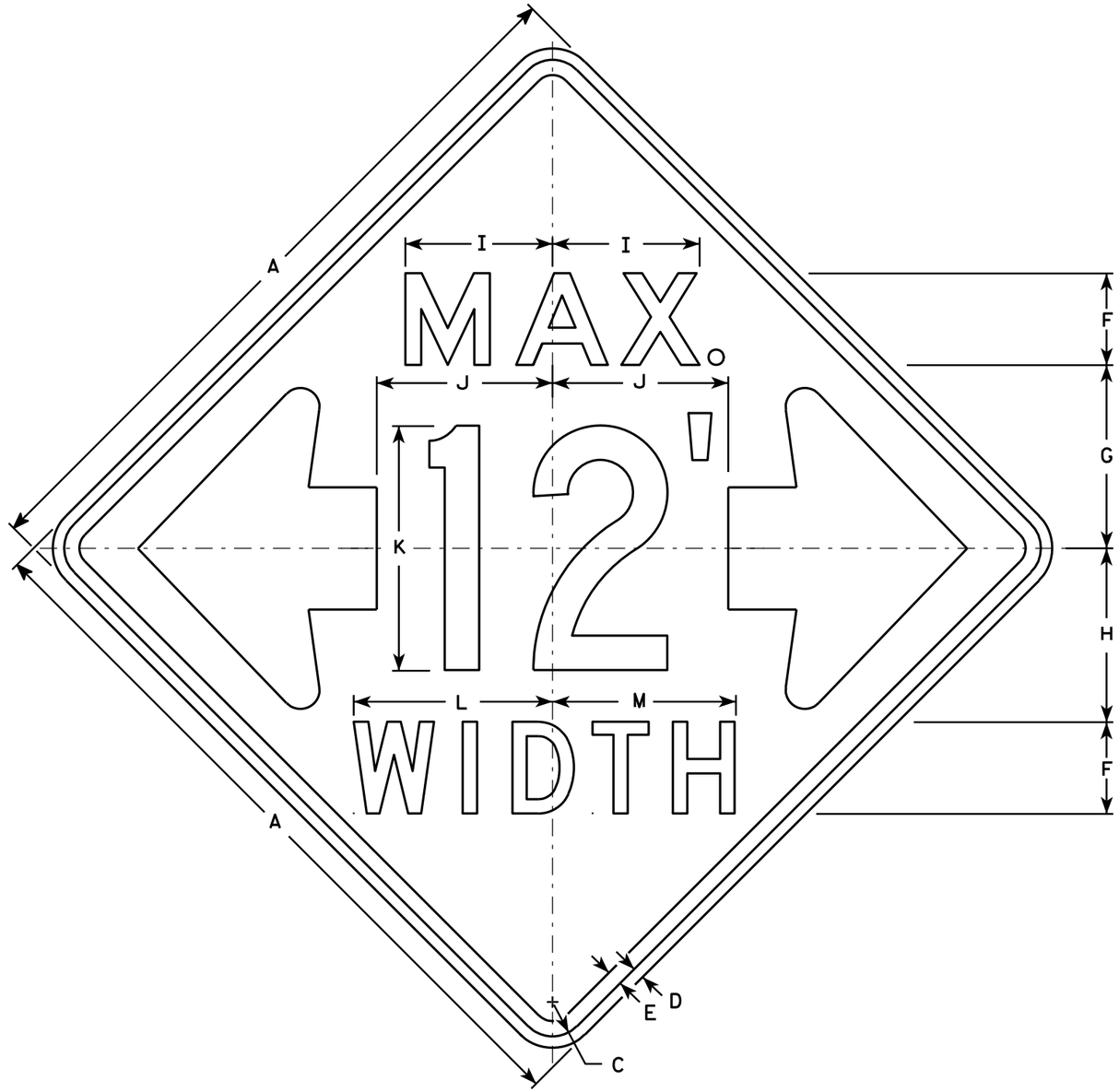
SHEET NO: 85 E

FILE NAME : C:\Users\PROJECTS\tr_stdplate\R1070.DGN PLOT DATE : 04-APR-2011 14:41 PLOT BY : mscj9h PLOT NAME :

WISDOT/CADDS SHEET 42

7

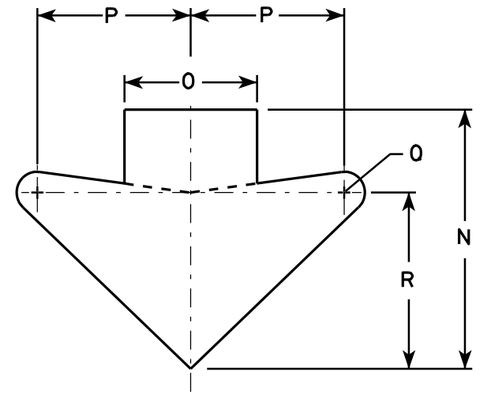
7



W12-52

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Message Series - See note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. The top line is series E, the numerals are series C, and the bottom line is series D.
6. Substitute appropriate numerals and adjust spacing as required.



ARROW DETAIL

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

STANDARD SIGN
W12-52

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

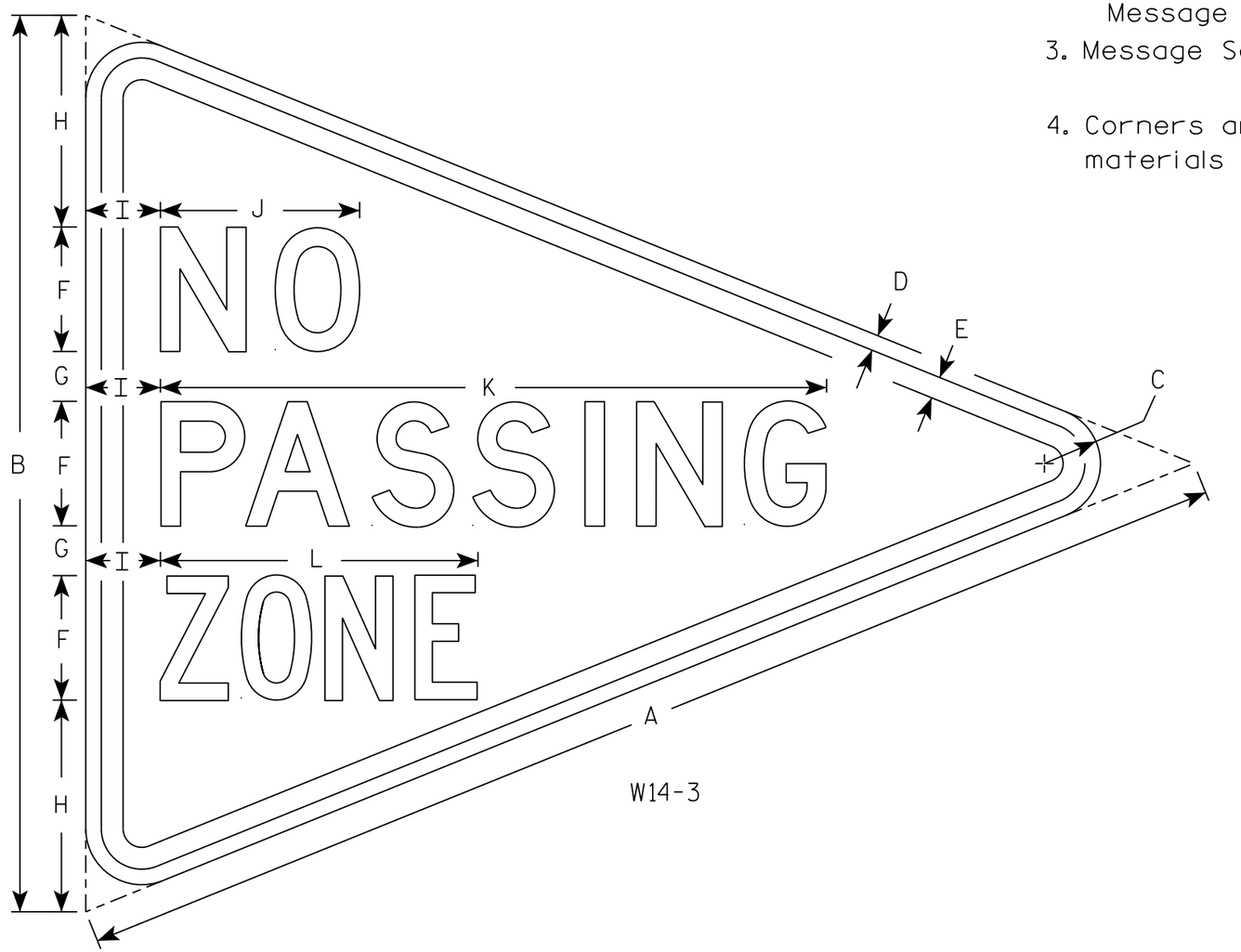
DATE 3/16/11 PLATE NO. W12-52.7

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 86 | E

FILE NAME : C:\Users\PROJECTS\tr_stdplate\W1252.DGN PLOT DATE : 16-MAR-2011 14:45 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 9.137199:1.000000
WISDOT/CADDS SHEET 42

NOTES

1. Sign is Type II- Type F Reflective
2. Color:
   Background - Yellow
   Message - Black
3. Message Series - Lines 1 and 2 are Series D.
   Line 3 is series C.
4. Corners and borders shall be rounded on all base materials for this sign.



W14-3

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	48	36	2 1/4	5/8	7/8	5	2	8 1/2	3	8	26 3/4	12 3/4															5.56
2M																											
3																											
4																											
5																											

STANDARD SIGN
W14-3

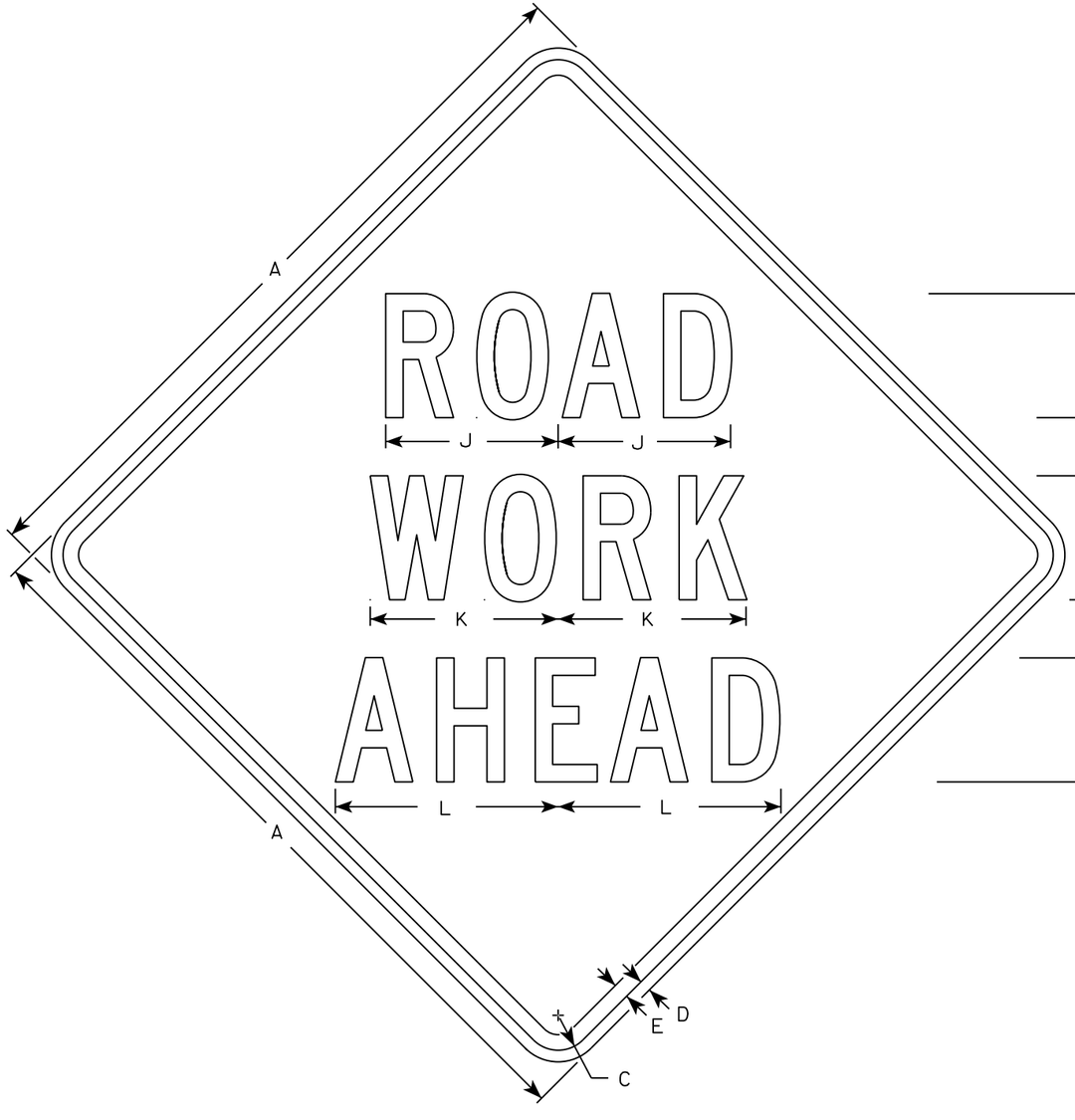
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

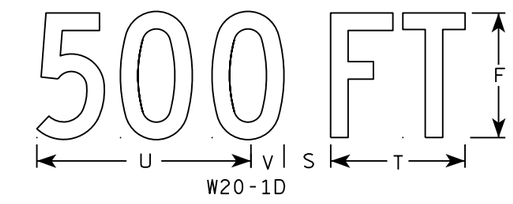
DATE 3/21/17 PLATE NO. W14-3.10

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 87 | E

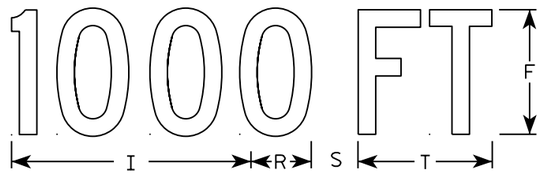
7



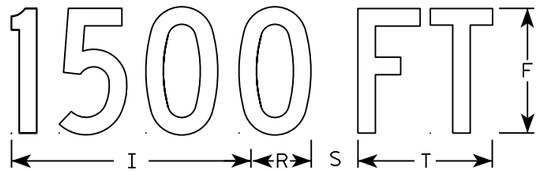
W20-1A



W20-1D

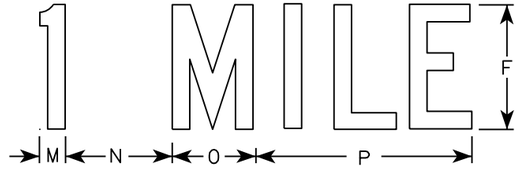


W20-1C

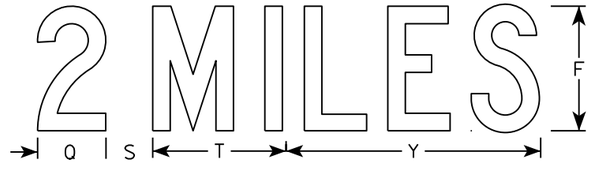


W20-1B

W20-1G



W20-1F



W20-1E

NOTES

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

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

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

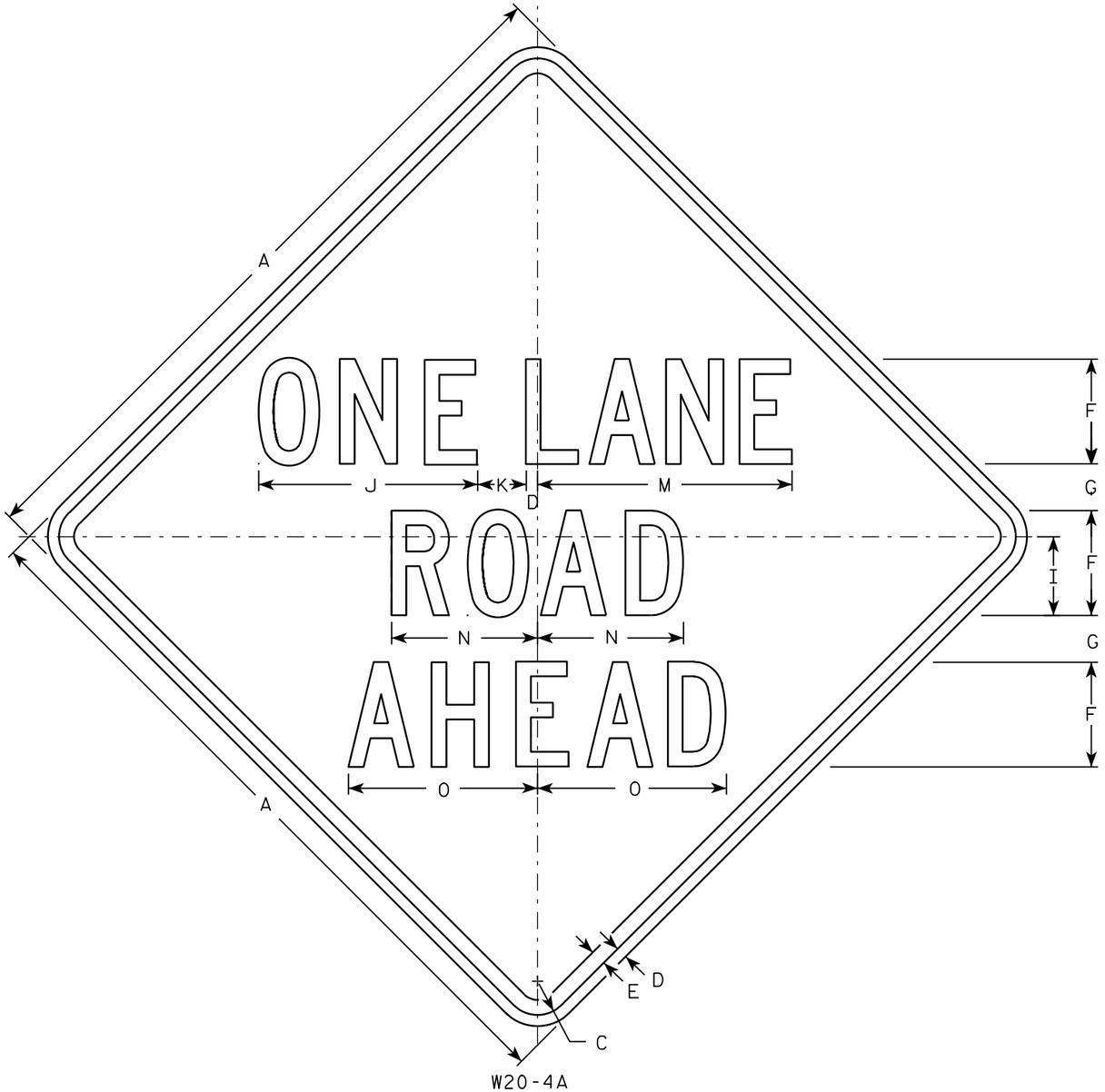
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

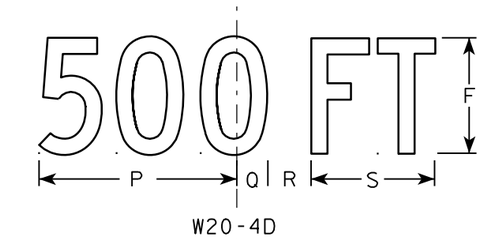
DATE 5/07/15 PLATE NO. W20-1.10

PROJECT NO:

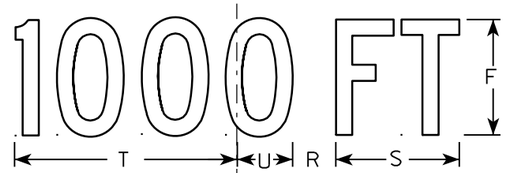
SHEET NO: E



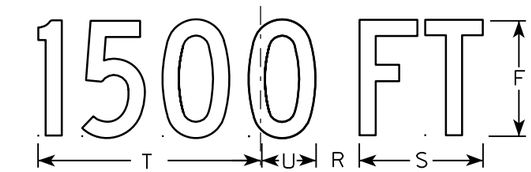
W20-4A



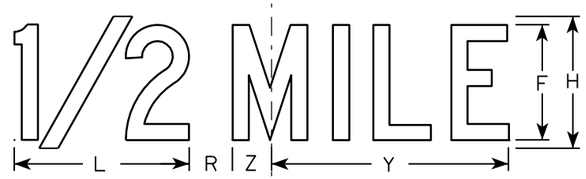
W20-4D



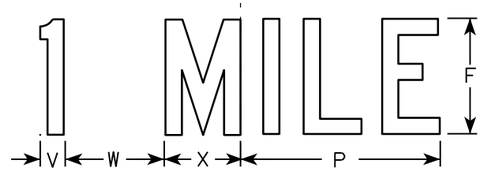
W20-4C



W20-4B



W20-4G



W20-4F

NOTES

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

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

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

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO:

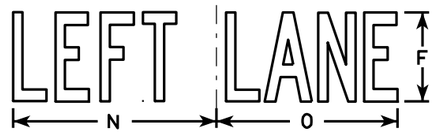
SHEET NO: 89 E

7

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

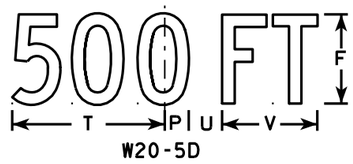
WISDOT/CADDS SHEET 42

W20-56A

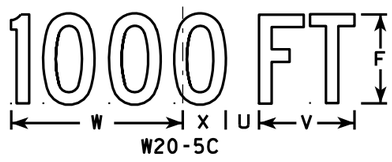


W20-55A

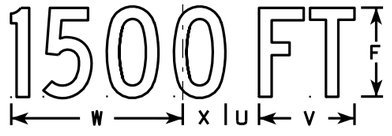
W20-5A



W20-5D



W20-5C



W20-5B

W20-5G

W20-5F

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Message Series - See Note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. " _____ LANE" is Series B.
   All other copy is Series C.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36	6	1 5/8	5/8	3/4	5	1/8	2 1/2	13 1/8	10 3/4	9 1/2	14 1/4	13 5/8	12	12	1 3/8	1 1/8	4 1/2	3 1/2	9	1 1/8	5 5/8	10 1/8	2 1/2	1 3/4	8	9.0
2S	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
2M	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
3	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
4	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
5	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0

STANDARD SIGN
W20-5A, B, C, D, F & G

WISCONSIN DEPT OF TRANSPORTATION

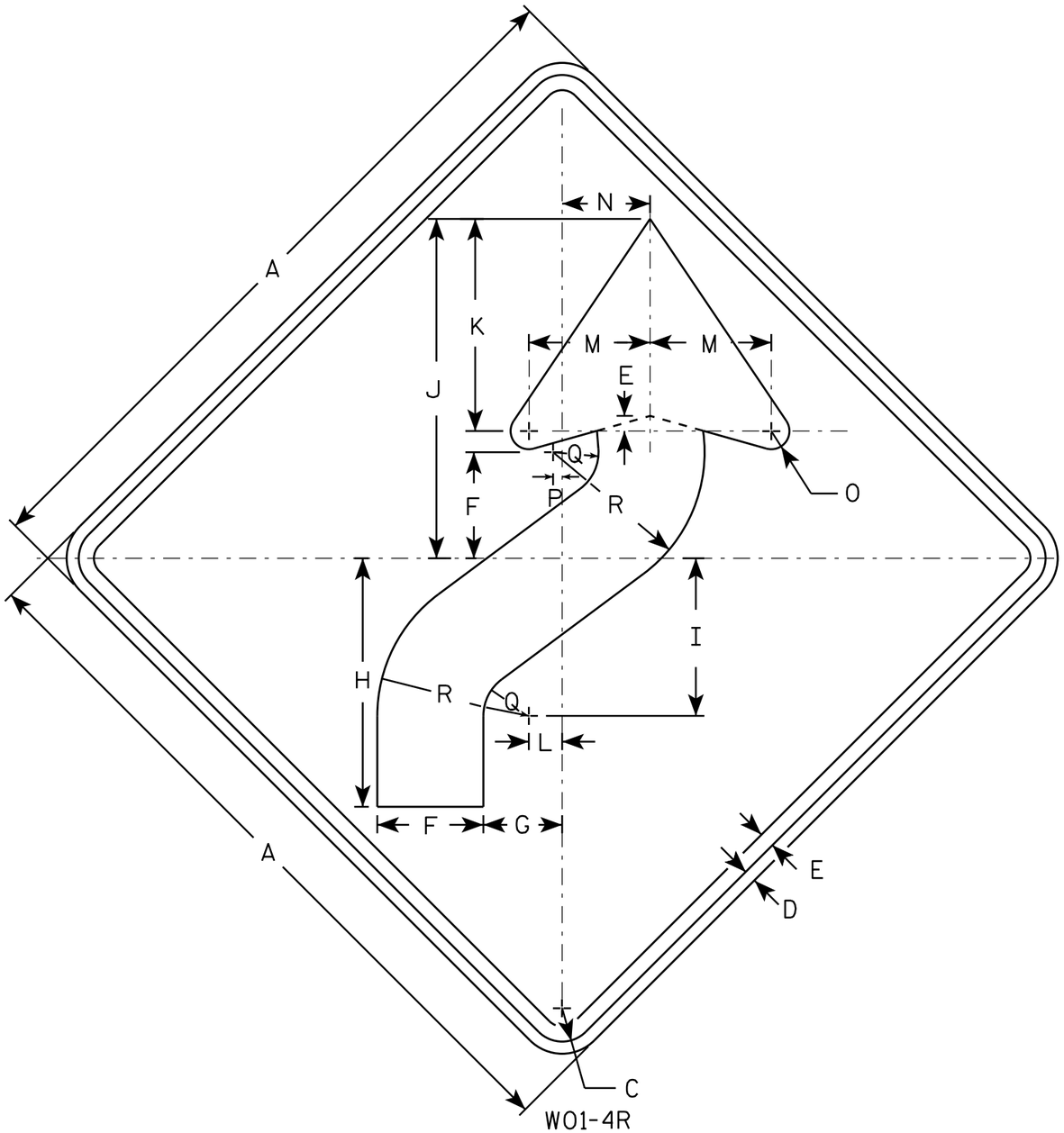
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/18/11 PLATE NO. W20-5.11

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 90 | E

7

FILE NAME : C:\Users\PROJECTS\tr_stdplate\W205.DGN PLOT DATE : 18-MAR-2011 12:15 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 11.918087:1.000000
WISDOT/CADDS SHEET 42



W01-4R

NOTES

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

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

STANDARD SIGN
W01-4

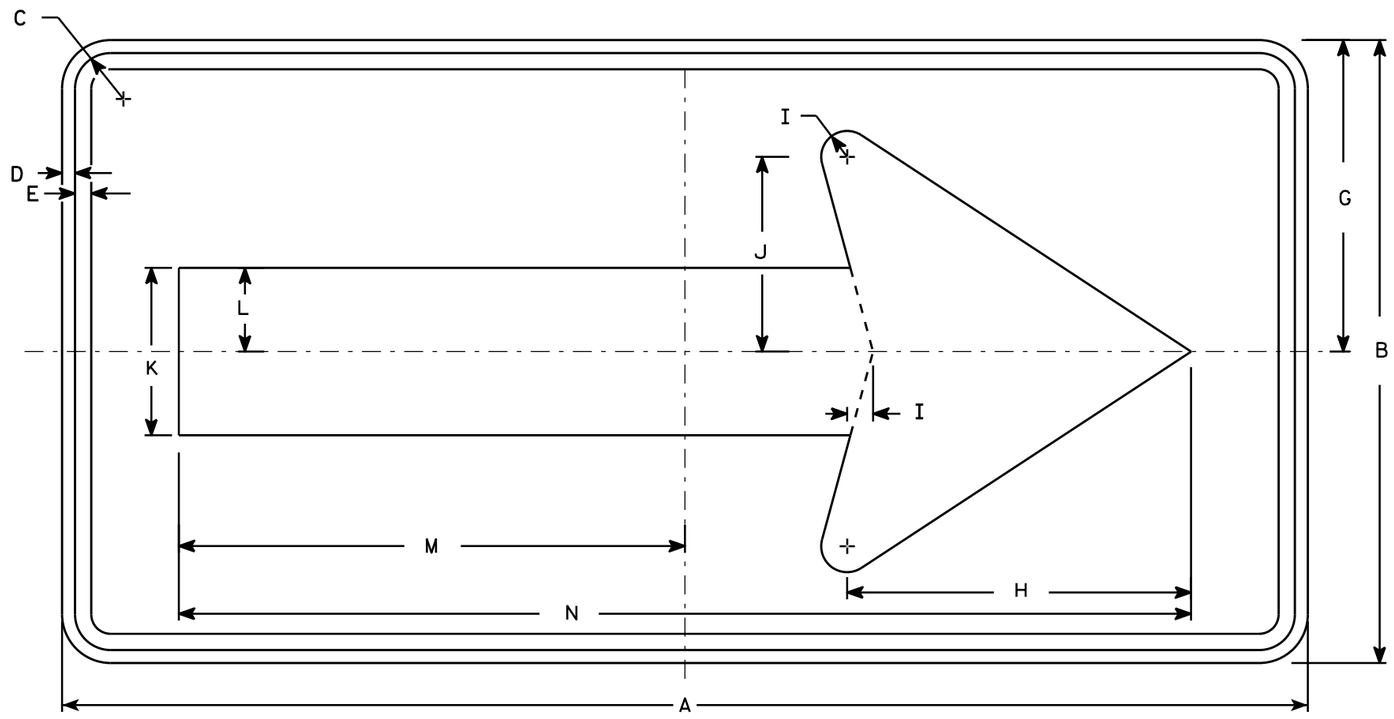
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/18/13 PLATE NO W01-4.1

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

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



W01-6

NOTES

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

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

STANDARD SIGN
W01-6

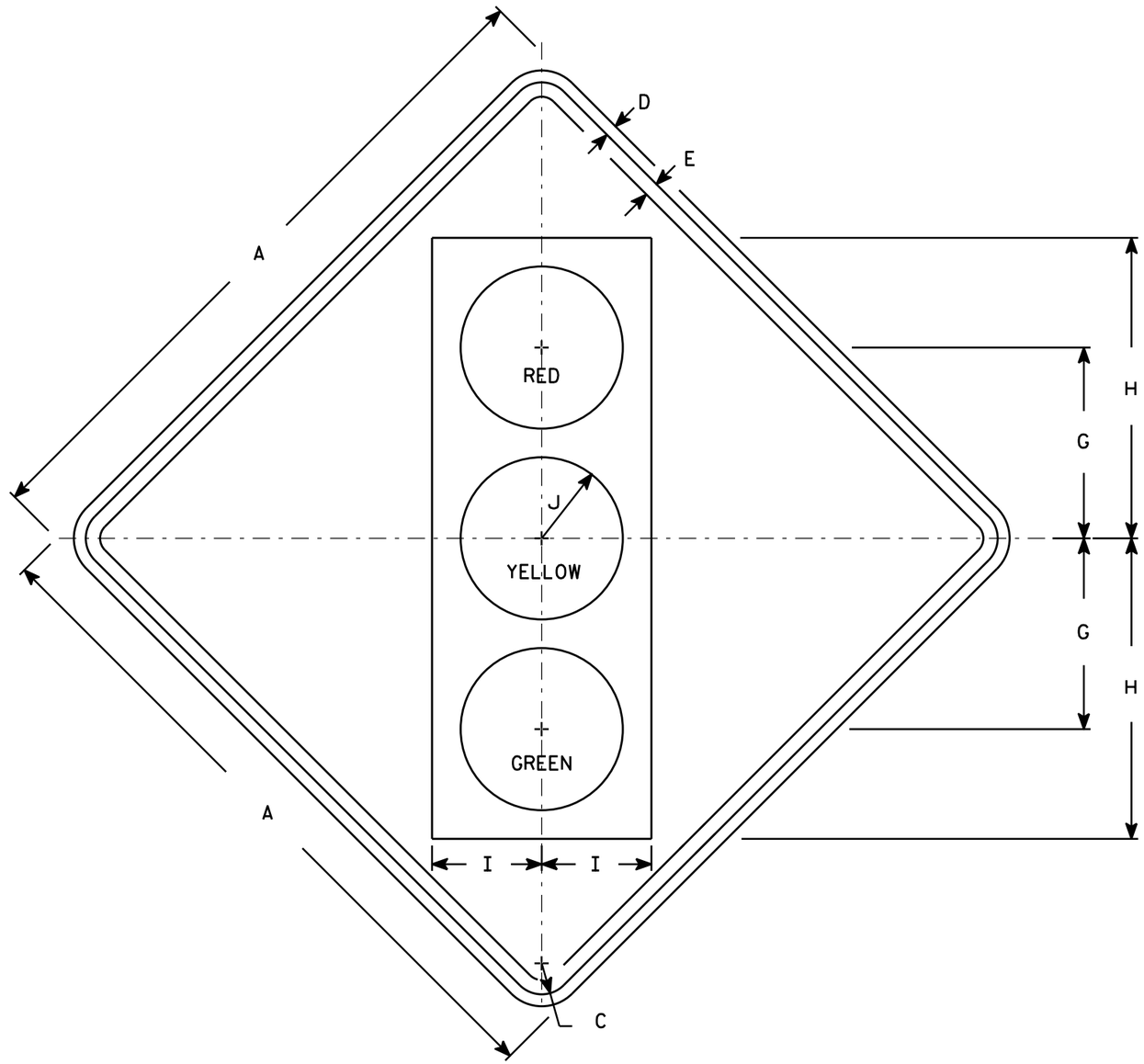
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/18/13 PLATE NO W01-6.1

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

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



W03-3

NOTES

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

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

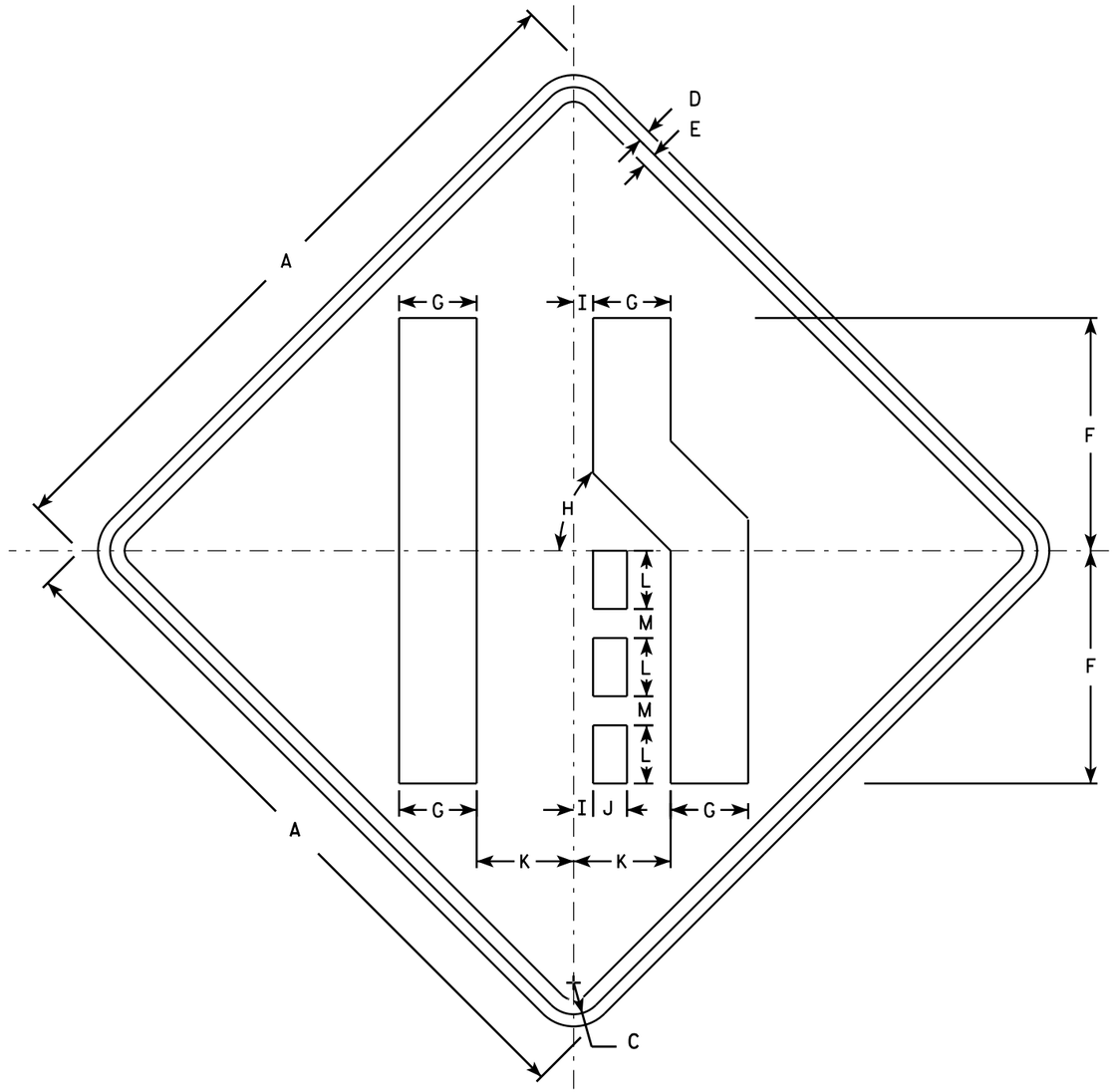
STANDARD SIGN
W03-3

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/20/13 PLATE 93 W03-3.1

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E



W04-2R

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. W04-2L is the same as W04-2R except the symbol is reversed along the vertical centerline.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	12	4	45°	1	1 3/4	5	3	1 1/2														9.0
2S	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
2M	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
3	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
4	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
5	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0

STANDARD SIGN
W04-2

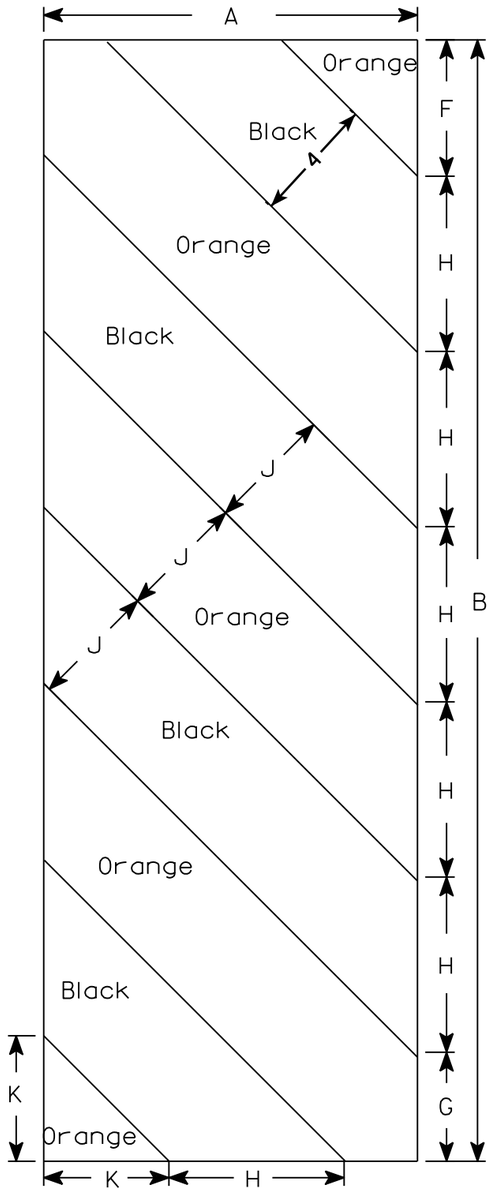
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

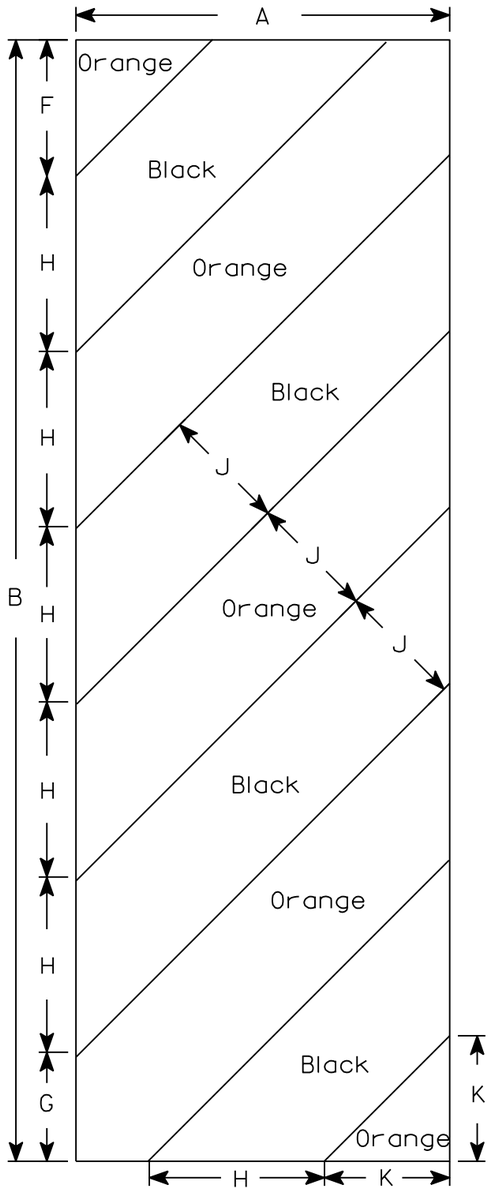
DATE 11/20/13 PLATE 94 "W04-2.1

PROJECT NO:

SHEET NO: E



W05-52L



W05-52R

NOTES

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

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

STANDARD SIGN

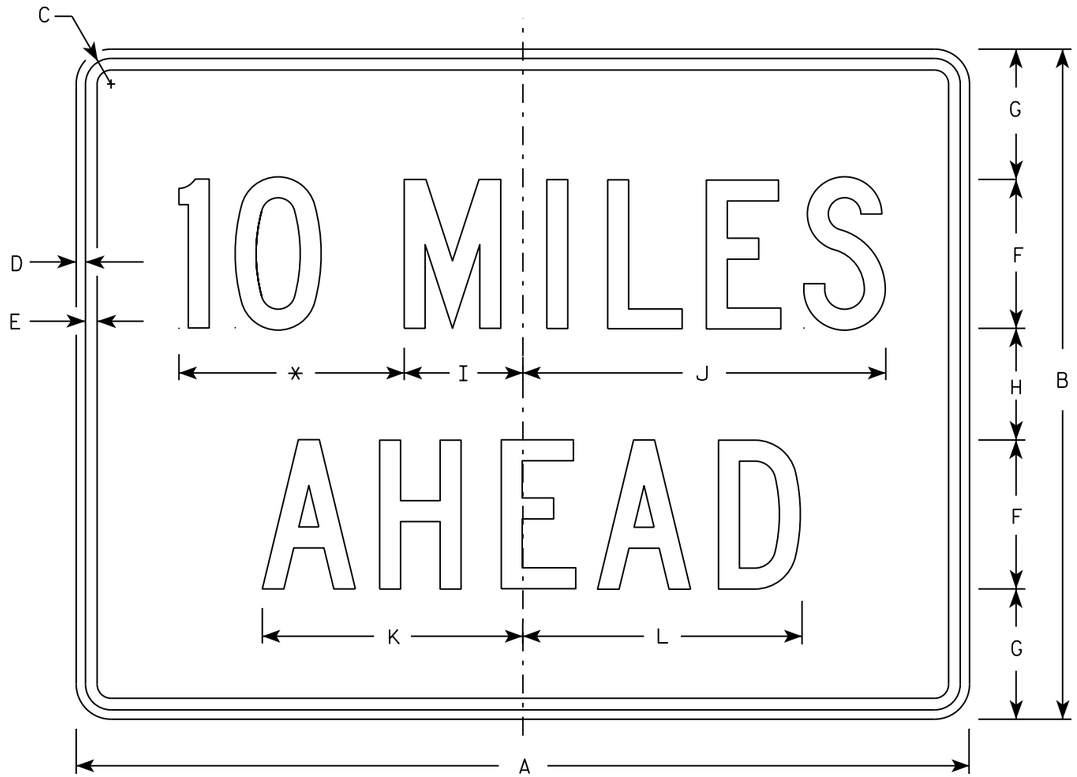
W05-52L & W05-52R

WISCONSIN DEPT OF TRANSPORTATION

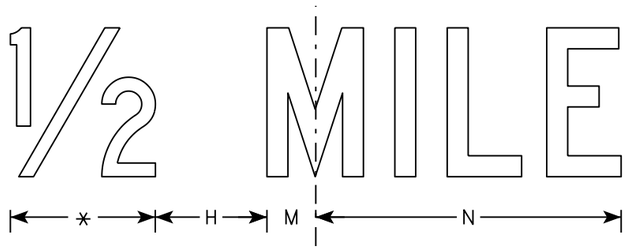
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/20/13 PLATE W05-52.1

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E



W057-52



NOTES

1. Sign is Type II - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate numerals to the nearest quarter mile and optically adjust spacing to achieve proper balance.

* See note 5

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36	24	1 1/8	3/8	1/2	6	4 1/2	3	4 3/4	14 5/8	10 5/8	11 3/8	2	12													6.0
2S	48	36	1 3/8	1/2	5/8	8	7	6	6 3/8	19 1/2	14	15	2 3/4	16 3/8													12.0
2M	48	36	1 3/8	1/2	5/8	8	7	6	6 3/8	19 1/2	14	15	2 3/4	16 3/8													12.0
3	48	36	1 3/8	1/2	5/8	8	7	6	6 3/8	19 1/2	14	15	2 3/4	16 3/8													12.0
4	48	36	1 3/8	1/2	5/8	8	7	6	6 3/8	19 1/2	14	15	2 3/4	16 3/8													12.0
5	48	36	1 3/8	1/2	5/8	8	7	6	6 3/8	19 1/2	14	15	2 3/4	16 3/8													12.0

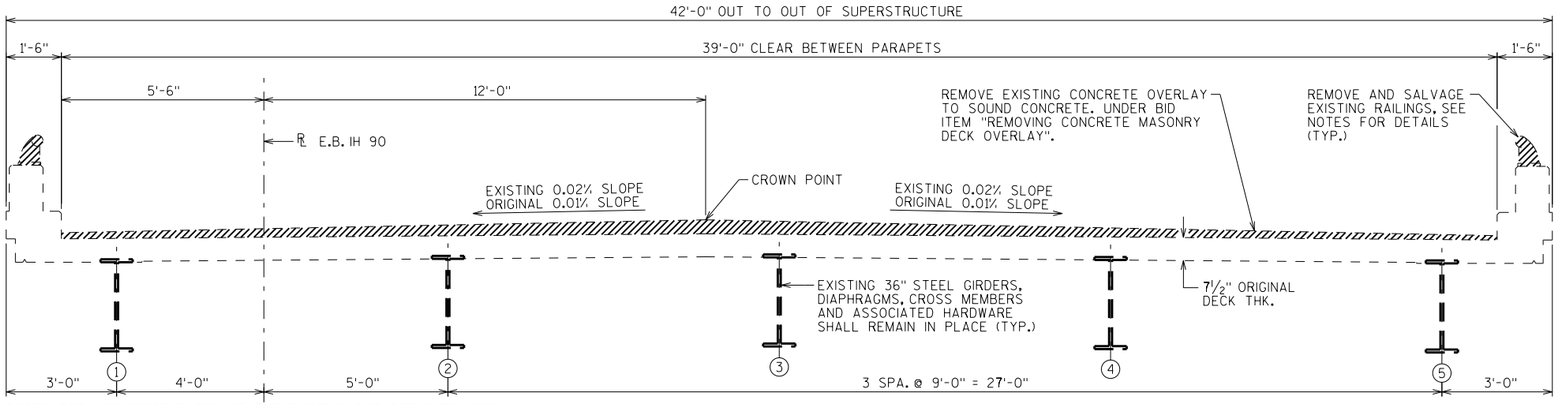
STANDARD SIGN
W057-52

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

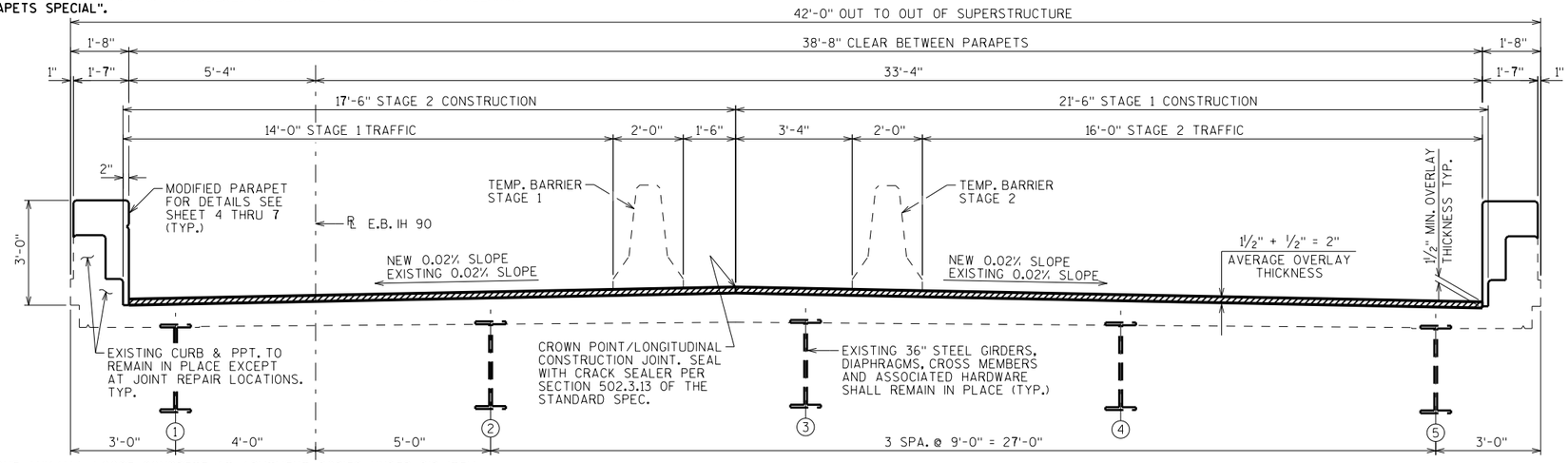
DATE 3/21/17 PLATE NO. W057-52.2

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 96	E



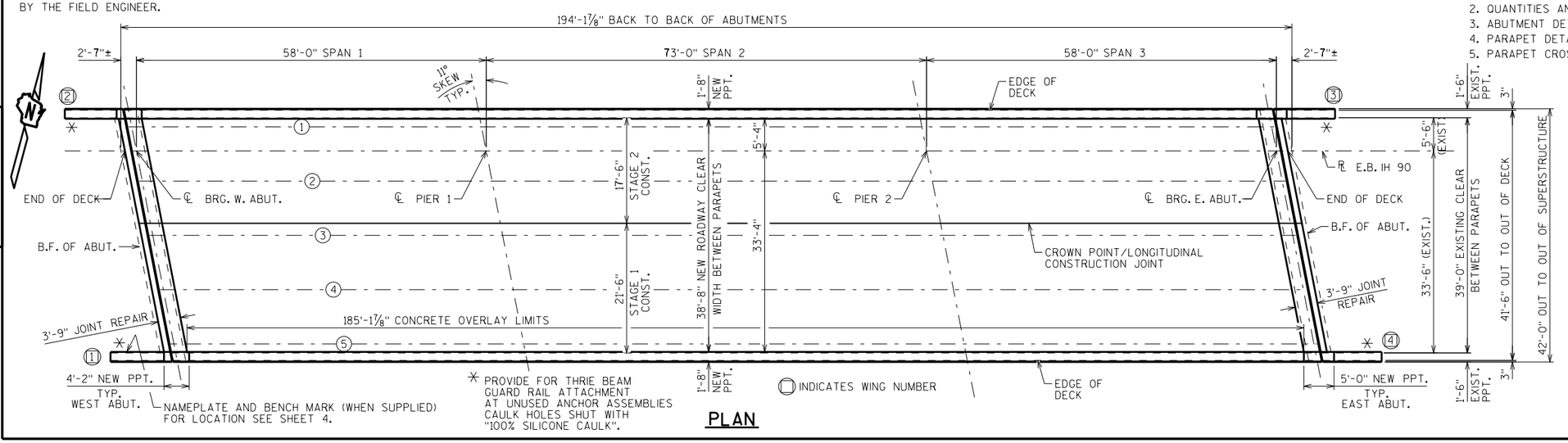
THE ENTIRE EXPOSED TOP AND INSIDE FACES OF THE EXISTING PARAPET SURFACES SHALL BE BLAST CLEANED AND ANY EXPOSED STEEL SHALL BE BRUSHED CLEANED PRIOR TO THE PARAPET BEING BUILT UP (MODIFIED). ALL THE WORK DESCRIBED ABOVE SHALL BE INCLUDED AND/OR CONSIDERED INCIDENTAL TO THE BID ITEM "CLEANING PARAPETS SPECIAL".

EXISTING CROSS SECTION THRU ROADWAY - LOOKING EAST



REMOVE ANY/ALL LOOSE CONCRETE AT ABUTMENT BODIES UNDER BID ITEM "CONCRETE SURFACE REPAIR". SURFACES SHALL BE BLAST CLEANED AND ANY EXPOSED STEEL SHALL BE BRUSH CLEANED PRIOR TO THE CONCRETE SURFACE REPAIRS BEING COMPLETED. REPAIR AREAS SHALL BE DETERMINED BY THE FIELD ENGINEER.

NEW CROSS SECTION THRU ROADWAY - LOOKING EAST



PLAN

DESIGN DATA

LIVE LOAD:

INVENTORY RATING; HS-16
OPERATIONAL RATING; HS-27
MAXIMUM STANDARD PERMIT VEHICLE LOAD = 180 KIPS.

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

MATERIAL PROPERTIES

CONCRETE MASONRY BRIDGES	f'c = 3,500 P.S.I.
CONCRETE MASONRY DECK OVERLAY	f'c = 4,000 P.S.I.
BAR STEEL REINFORCEMENT, GRADE 60	fy = 60,000 P.S.I.

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

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

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

PROTECTIVE SURFACE TREATMENT TO BE APPLIED TO THE ENTIRE TOP OF DECK SURFACE AND THE FRONT FACE AND THE TOP OF THE PARAPET, INCLUDING PARAPETS ON ABUTMENT WINGS.

DIMENSIONS SHOWN ARE BASED ON THE EXISTING ORIGINAL STRUCTURE PLANS.

THE CONTRACTOR SHALL SUPPLY A NEW NAME PLATE IN ACCORDANCE WITH SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS AND THE STANDARD DETAIL DRAWINGS. NAME PLATE TO SHOW ORIGINAL CONSTRUCTION YEAR 1968.

ANY EXCAVATION NECESSARY TO COMPLETE THE JOINT REPAIR AT THE ABUTMENTS IS TO BE CONSIDERED INCIDENTAL TO THE BID ITEM "CONCRETE MASONRY OVERLAY DECKS".

CONTACT THE BUREAU OF STRUCTURES BEFORE PLACEMENT OF OVERLAY IF THE AVERAGE THICKNESS OF THE NEW OVERLAY WILL EXCEED THE AVERAGE OVERLAY SHOWN ON THE PLANS BY MORE THAN ½".

THE EXISTING OVERLAY SHALL BE REMOVED FROM THE BRIDGE DECK UNDER BID ITEM "REMOVING CONCRETE MASONRY DECK OVERLAY B-41-76".

PREPARATION DECKS TYPE 1, PREPARATION DECKS TYPE 2 AND CONCRETE SURFACE REPAIR AREAS SHALL BE DETERMINED BY THE FIELD ENGINEER.

ALL REMOVAL LINES SHALL BE DEFINED BY A 1" DEEP SAW CUT.

APPLY BRIDGE SEAT PROTECTION, AS PER SECTION 502.3.12 OF THE STANDARD SPECIFICATIONS, TO THE TOP SURFACES OF BOTH ABUTMENTS BELOW EXPANSION DEVICES. POWER WASH AND ADEQUATELY DRY SURFACES BEFORE APPLICATION.

REMOVE AND SALVAGE THE EXISTING RAILINGS (INCLUDES RAILS, POSTS AND ALL ASSOCIATED HARDWARE). AFTER REMOVAL, CONTRACTOR IS TO DELIVER RAILING TO THE MONROE COUNTY HIGHWAY DEPT. AND SHALL REMAIN THE PROPERTY OF THE STATE OF WISCONSIN. THIS SHALL BE INCIDENTAL TO "REMOVING OLD STRUCTURE STA. 274+28.00".

FINISH COATING MATERIAL SHALL BE GRAY, FEDERAL COLOR #26293.

LIST OF DRAWINGS

STRUCTURE DESIGN CONTACTS:
AARON BONK (608) 261-0261
ANDREW SMITH (608) 266-0989

NO.	DATE	REVISION	BY

Plans Prepared By WISDOT
BUREAU OF STRUCTURES

ACCEPTED William C. Dreher — CHIEF STRUCTURES DESIGN ENGINEER — DATE 7/25/17

STATE PROJECT NUMBER
1071-02-61

STRUCTURE B-41-76

E.B. IH 90 OVER THE LITTLE LA CROSSE RIVER

COUNTY	MONROE
TOWN/~~CITY/VILLAGE~~	SPARTA
DESIGN SPEC.	REHABILITATION N/A
DESIGNED BY	ADS
DESIGN CK'D.	NAR
DRAWN BY	DDS
PLANS CK'D.	ADS

GENERAL PLAN

SHEET 1 OF 9

97

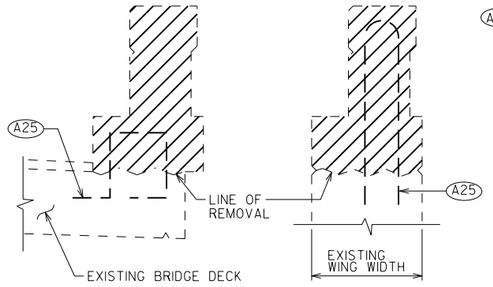
I.D. 1071-02-31A

DATE: JUNE 2017

SCALE = 10.00

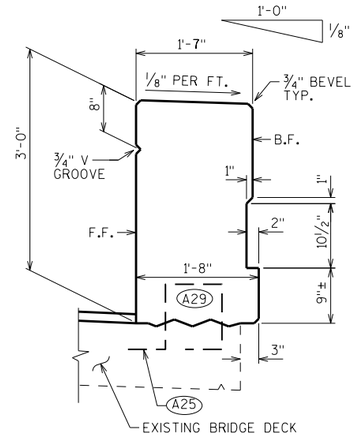
STATE PROJECT NUMBER

1071-02-61



PARAPET REMOVAL DETAILS

SHOWING PPT. REMOVAL AT JOINT REPAIR LOCATIONS ONLY

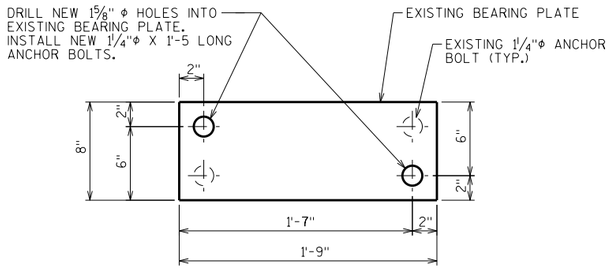


NEW PARAPET SHAPE

AT JOINT REPAIR LOCATIONS ONLY

(A25) SALVAGE EXIST. REINF. & EXTEND FULL LENGTH INTO NEW WORK.

(A29) ROUGHEN SURFACE OF CONCRETE 1/4" DEEP MINIMUM ALL AREAS OF NEW TO EXISTING CONCRETE CONTACT.



REDRILL EXISTING BEARING PLATES

RE-ANCHOR BEARINGS 2,3,5 AT EAST ABUTMENT

NOTES:

ANCHOR BOLTS SHALL BE THREADED 3". PROVIDE ONE STANDARD WROUGHT WASHER AND ONE HEX NUT PER BOLT. PROJECT ANCHOR BOLTS, 3 3/4" ABOVE TOP OF CONCRETE.

CHAMFER ANCHOR BOLTS PRIOR TO THREADING.

ANCHOR BOLTS, NUTS AND WASHERS SHALL CONFORM TO ASTM A709 GRADE 36, OR MATERIAL OF EQUIVALENT YIELD STRENGTH AND ELONGATION.

ANCHOR BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153, CLASS C.

CUT OFF EXISTING ANCHOR BOLTS FLUSH WITH THE TOP OF EXISTING BEARING PLATE.

FILL UNUSED HOLES IN BEARING PLATE WITH "100% SILICONE CAULK".

ALL WORK AND MATERIALS LISTED ABOVE SHALL BE PAID FOR UNDER THE BID ITEM "BEARING MAINTENANCE B-41-76".

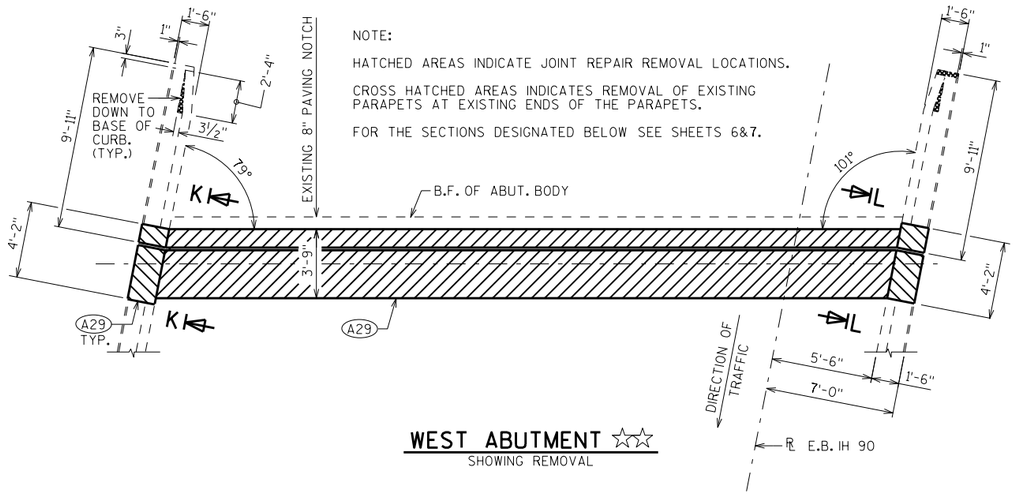
TOTAL ESTIMATED QUANTITIES

	BID ITEM #	DESCRIPTION	QTY.	UNIT
	203.0200	REMOVING OLD STRUCTURE STA. 274+28.00	1	LS
	203.0210.S	ABATEMENT OF ASBESTOS CONTAINING MATERIAL STRUCTURE B-41-76	1	LS
	502.0100	CONCRETE MASONRY BRIDGES	38	CY
	502.3100	EXPANSION DEVICE B-41-76	1	LS
	502.3200	PROTECTIVE SURFACE TREATMENT	1,050	SY
	502.4104	ADHESIVE ANCHORS 1/2-INCH	424	EACH
	502.4205	ADHESIVE ANCHORS NO. 5 BAR	548	EACH
	505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	8,220	LB
	505.0905	BAR COUPLERS NO. 5	6	EACH
	505.0906	BAR COUPLERS NO. 6	36	EACH
	509.0301	PREPARATION DECKS TYPE 1	96	SY
	509.0302	PREPARATION DECKS TYPE 2	58	SY
	509.1000	JOINT REPAIR	37	SY
	509.1500	CONCRETE SURFACE REPAIR	78	SF
	509.2000	FULL-DEPTH DECK REPAIR	1	SY
◆	509.2500	CONCRETE MASONRY OVERLAY DECKS	59	CY
	509.9005.S	REMOVING CONCRETE MASONRY DECK OVERLAY B-41-76	797	SY
	517.1800.S	STRUCTURE REPAINTING RECYCLED ABRASIVE B-41-76	1	LS
	517.4500.S	NEGATIVE PRESSURE CONTAINMENT AND COLLECTION OF WASTE MATERIALS B-41-76	1	LS
	517.6001.S	PORTABLE DECONTAMINATION FACILITY	1	EACH
	614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	4	EACH
	SPV.0060	BEARING MAINTENANCE B-41-76	3	EACH
	SPV.0090	CLEANING PARAPETS SPECIAL	422	LF
		NON-BID ITEMS		
		BRIDGE SEAT PROTECTION	1	LS

◆ BID ITEM ALSO INCLUDES CONCRETE FOR: PREPARATION DECKS TYPE 1, PREPARATION DECKS TYPE 2, JOINT REPAIR AND FULL-DEPTH DECK REPAIR.

WING 1

WING 2



NOTE:

HATCHED AREAS INDICATE JOINT REPAIR REMOVAL LOCATIONS.

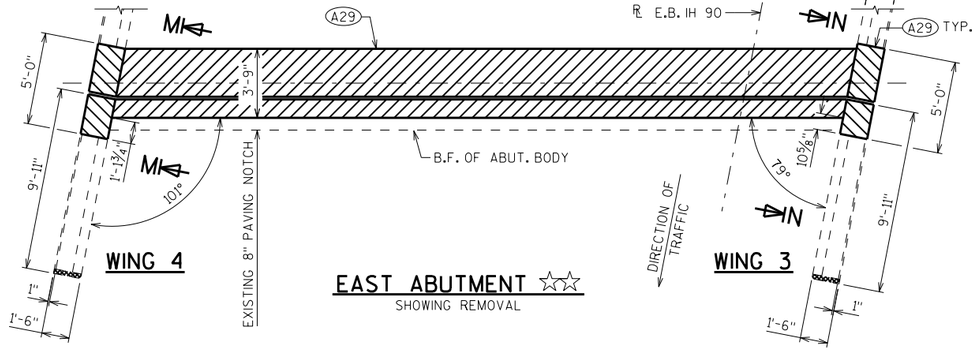
CROSS HATCHED AREAS INDICATES REMOVAL OF EXISTING PARAPETS AT EXISTING ENDS OF THE PARAPETS.

FOR THE SECTIONS DESIGNATED BELOW SEE SHEETS 6&7.

WEST ABUTMENT ☆☆

SHOWING REMOVAL

☆☆ SALVAGE ALL EXISTING HORIZONTAL PARAPET REINFORCEMENT AND ALL DECK LONGITUDINAL REINFORCEMENT AND EXTEND FULL LENGTH INTO NEW WORK, WHILE MAINTAINING 2" MIN. CLEAR.



EAST ABUTMENT ☆☆

SHOWING REMOVAL

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-41-76

DRAWN BY DDS | PLANS CK'D. ADS

QUANTITIES AND DETAILS

SHEET 2

98

SCALE = 1.00

8

8

STATE PROJECT NUMBER

1071-02-61

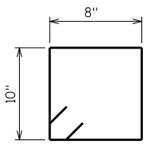
WEST ABUTMENT BILL OF BARS

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

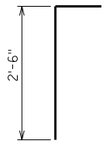
BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
A401	X	40	3'-6"	X		PAVING BLOCK - STIRRUPS
A502	X	40	3'-0"	X		PAVING BLOCK - CONCRETE MASONRY ANCHORS
A503	X	12	6'-6"			PAVING BLOCK - HORIZ.
A504	X	9	7'-0"			PAVING BLOCK - HORIZ.

(M07) 3 COUPLERS TOTAL

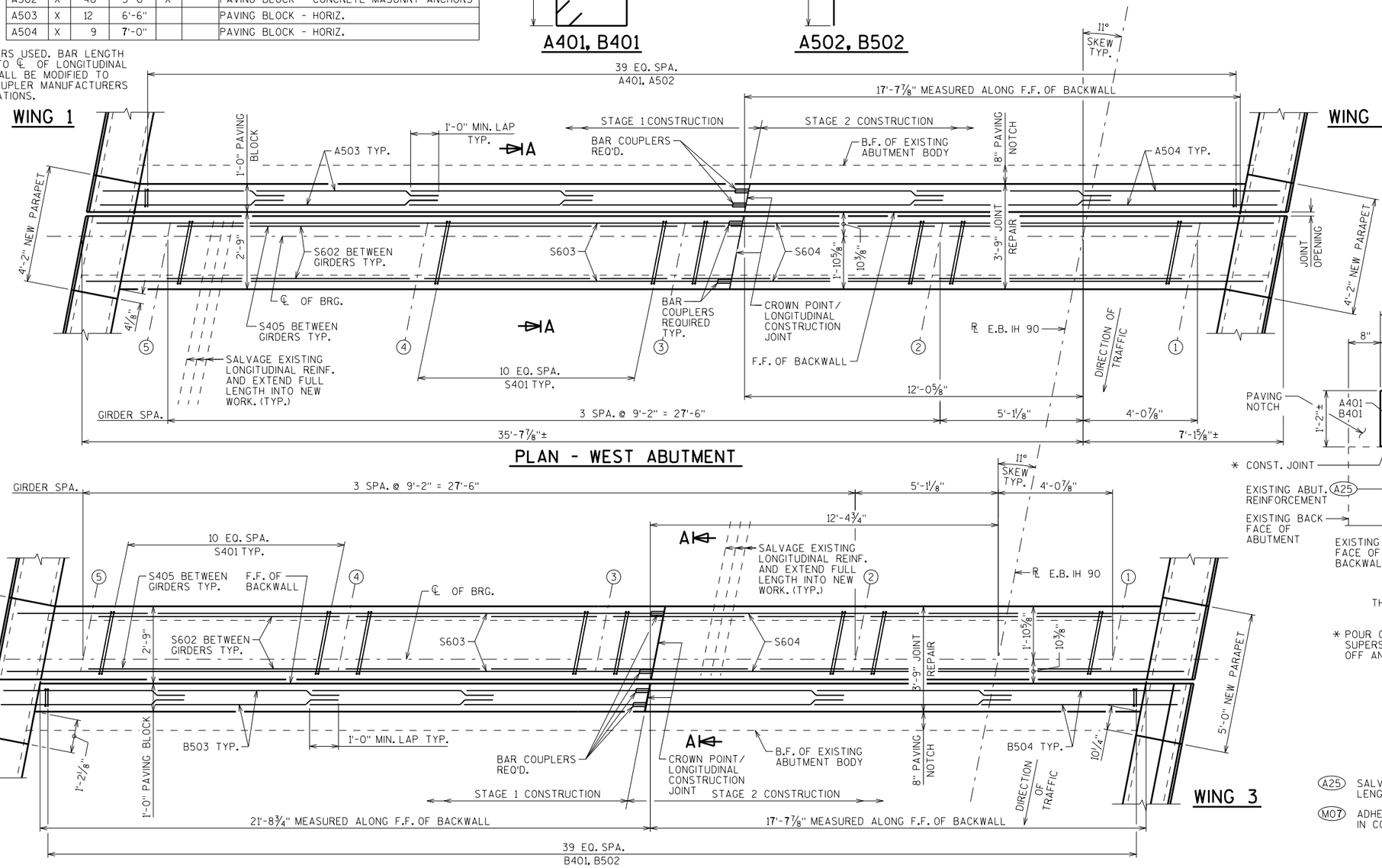
◆◆◆ BAR COUPLERS USED. BAR LENGTH COMPUTED TO ℄ OF LONGITUDINAL JOINT & SHALL BE MODIFIED TO THE BAR COUPLER MANUFACTURERS RECOMMENDATIONS.



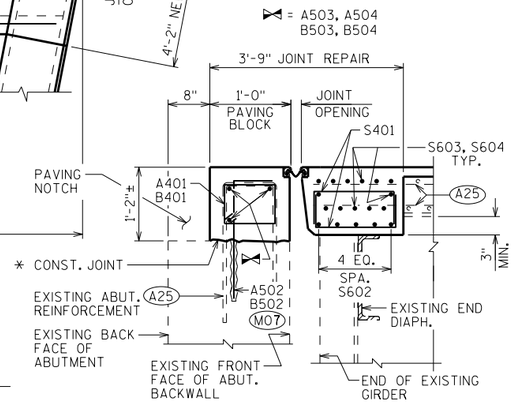
A401, B401



A502, B502



PLAN - WEST ABUTMENT



SECTION A-A
THRU JOINT AT ABUTMENT

* POUR CONCRETE ABOVE THIS JOINT AFTER SUPERSTRUCTURE IS IN PLACE. STRIKE OFF AND LEAVE ROUGH.

(A25) SALVAGE EXIST. REINF. & EXTEND FULL LENGTH INTO NEW WORK.

(M07) ADHESIVE ANCHORS ½"-INCH. EMBED 1'-6" IN CONCRETE.

EAST ABUTMENT BILL OF BARS

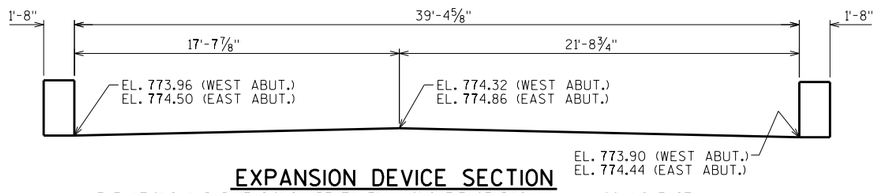
NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
B401	X	40	3'-6"	X		PAVING BLOCK - STIRRUPS
B502	X	40	3'-0"	X		PAVING BLOCK - CONCRETE MASONRY ANCHORS
B503	X	12	6'-6"			PAVING BLOCK - HORIZ.
B504	X	9	7'-0"			PAVING BLOCK - HORIZ.

(M07) 3 COUPLERS TOTAL

◆◆◆ BAR COUPLERS USED. BAR LENGTH COMPUTED TO ℄ OF LONGITUDINAL JOINT & SHALL BE MODIFIED TO THE BAR COUPLER MANUFACTURERS RECOMMENDATIONS.

PLAN - EAST ABUTMENT



EXPANSION DEVICE SECTION
ELEVATIONS AND DIMENSIONS ARE TAKEN ALONG F.F. OF BACKWALL - LOOKING EAST

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-41-76

DRAWN BY DDS | PLANS CK'D. ADS

ABUTMENT DETAILS

SHEET 3

99

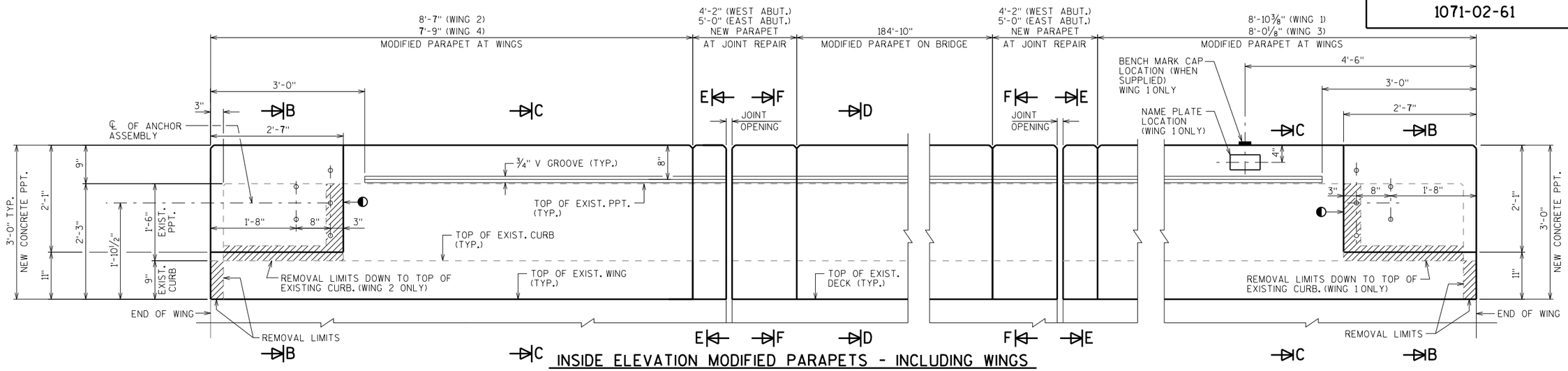
8

8

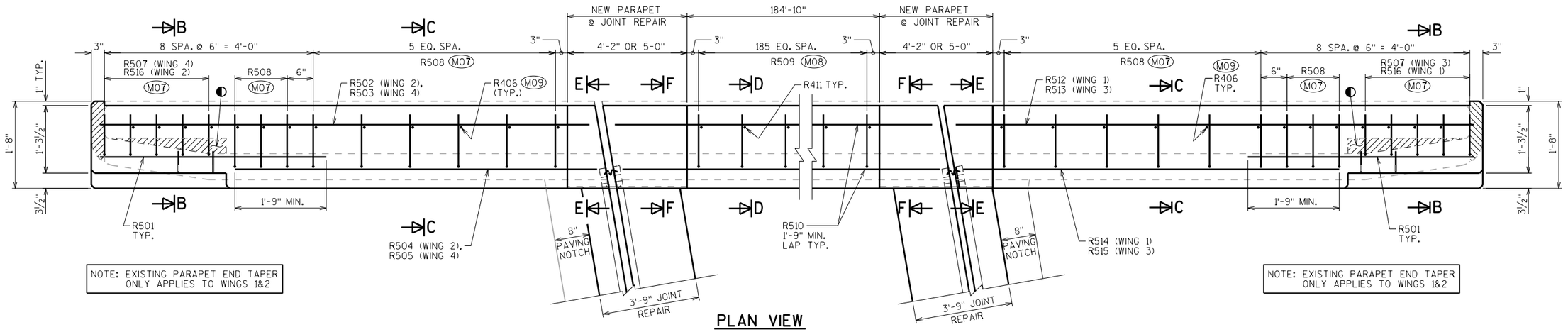
SCALE = 2.00

STATE PROJECT NUMBER

1071-02-61



INSIDE ELEVATION MODIFIED PARAPETS - INCLUDING WINGS



PLAN VIEW

BILL OF BARS

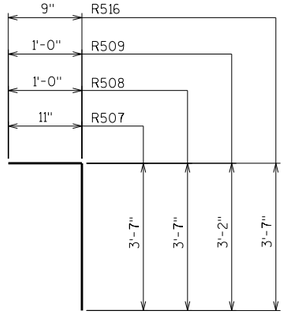
NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
R501	X	16	4'-4"			PPT. AT ALL WINGS - HORIZ.
R502	X	1	9'-3"			PPT. AT WING 2 - HORIZ. - B.F.
R503	X	1	9'-3"			PPT. AT WING 4 - HORIZ. - B.F.
R504	X	4	6'-10"			PPT. AT WING 2 - HORIZ. - F.F.
R505	X	4	6'-10"			PPT. AT WING 4 - HORIZ. - F.F.
(M09) R406	X	52	1'-0"			PPT. AT ALL WINGS - VERT.
(M07) R507	X	10	4'-4"	X		PPT. AT WINGS 3&4 - VERT. - ENDS
(M07) R508	X	36	4'-5"	X		PPT. AT ALL WINGS - VERT.
(M08) R509	X	372	4'-1"	X		PPT. ON BRIDGE - VERT.
R510	X	50	39'-6"			PPT. ON BRIDGE - HORIZ.
(M09) R411	X	372	1'-0"			PPT. ON BRIDGE - VERT. - B.F.
R512	X	1	9'-8"			PPT. AT WING 1 - HORIZ. - B.F.
R513	X	1	9'-8"			PPT. AT WING 3 - HORIZ. - B.F.
R514	X	4	6'-11"			PPT. AT WING 1 - HORIZ. - F.F.
R515	X	4	6'-11"			PPT. AT WING 3 - HORIZ. - F.F.
(M07) R516	X	10	4'-2"	X		PPT. AT WINGS 1&2 - VERT. - ENDS

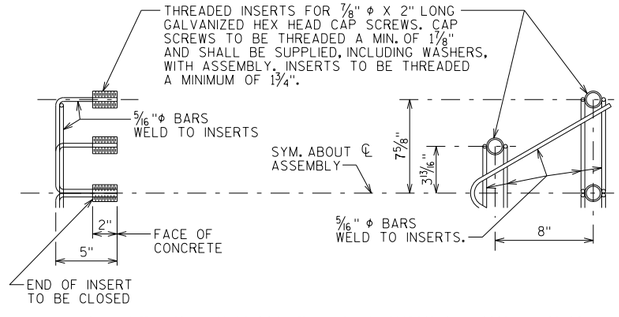
(M07) ADHESIVE ANCHORS NO. 5 BAR. EMBED 1'-6" IN CONCRETE.

(M08) ADHESIVE ANCHORS NO. 5 BAR. EMBED 1'-1" IN CONCRETE.

(M09) ADHESIVE ANCHORS 1/2-INCH. EMBED 5" IN CONCRETE.



◐ REMOVE EXIST. PPT. CONC AS NEEDED TO FIT THRIE BEAM ANCHOR ASSEMBLY



DETAIL OF GALVANIZED ANCHOR ASSEMBLY

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

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

NOTE: SEE SHEET 5 FOR CROSS SECTIONS

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-41-76

DRAWN BY DDS | PLANS CK'D. ADS

PARAPET DETAILS (MODIFIED)

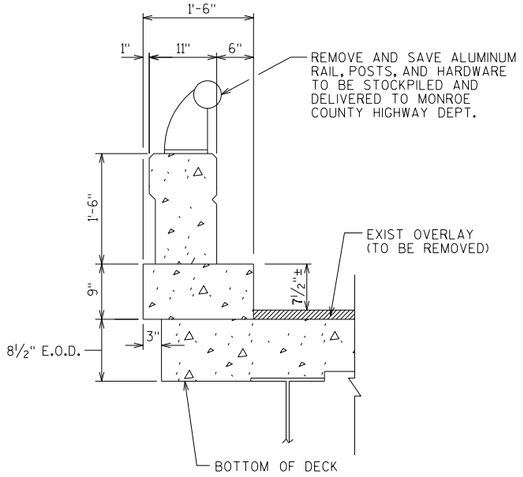
SHEET 4

100

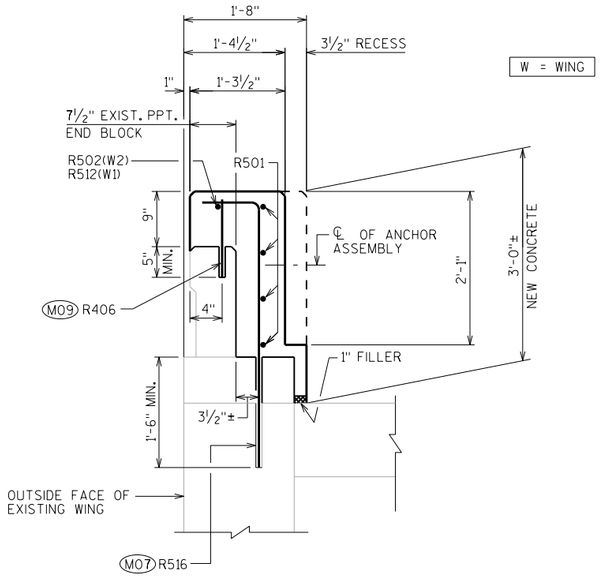
SCALE = 1

STATE PROJECT NUMBER

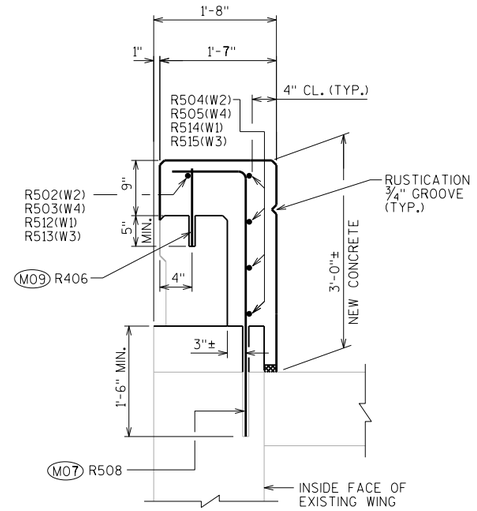
1071-02-61



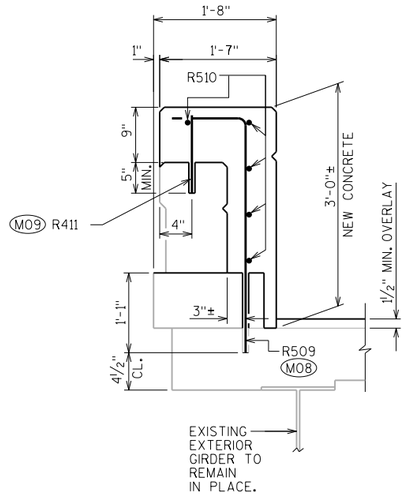
EXISTING SECTION
ON BRIDGE



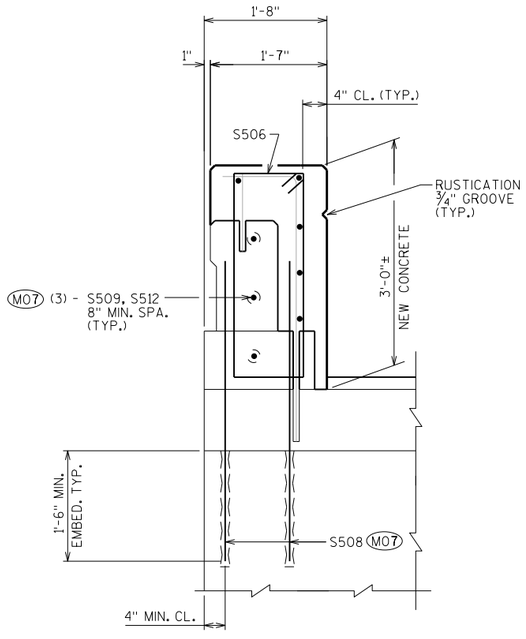
SECTION B-B (WINGS 1&2)



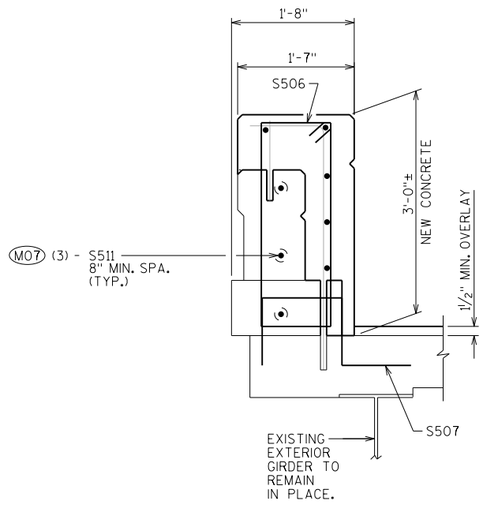
SECTION C-C



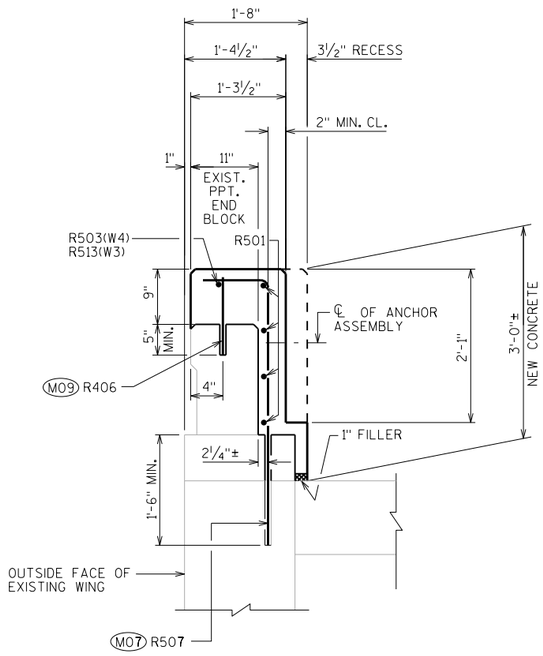
SECTION D-D
ON BRIDGE



SECTION E-E
SEE SHEETS 6&7 FOR ADDITIONAL DETAILS



SECTION F-F
ON BRIDGE
SEE SHEETS 6&7



SECTION B-B (WINGS 3&4)

M07 ADHESIVE ANCHORS NO. 5 BAR. EMBED 1'-6" IN CONCRETE.
M08 ADHESIVE ANCHORS NO. 5 BAR. EMBED 1'-1" IN CONCRETE.
M09 ADHESIVE ANCHORS ½-INCH. EMBED 5" IN CONCRETE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-41-76

DRAWN BY DDS | PLANS CK'D. ADS

PARAPET CROSS SECTIONS

SHEET 5

101

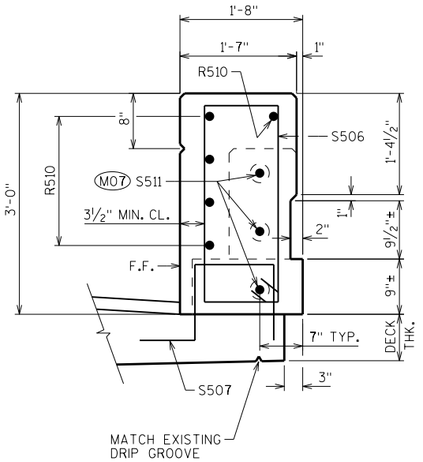
SCALE = 1

8

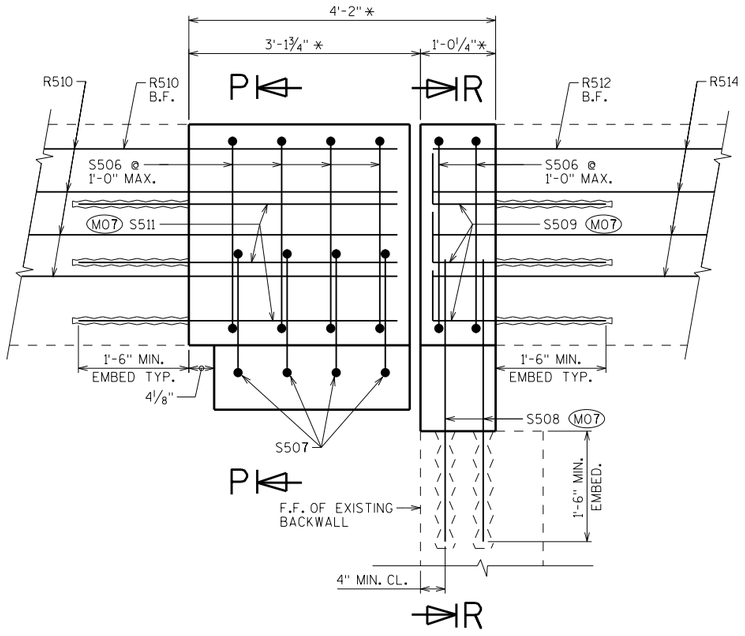
8

STATE PROJECT NUMBER

1071-02-61

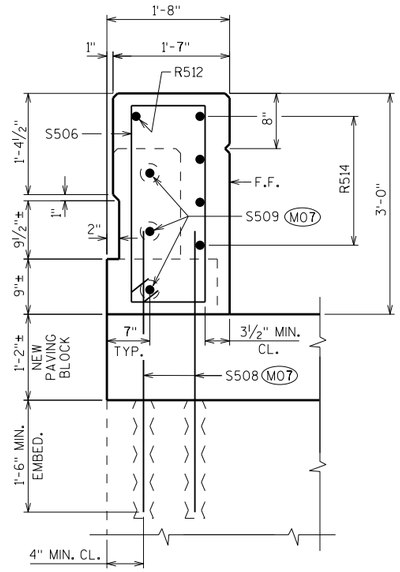


SECTION P-P



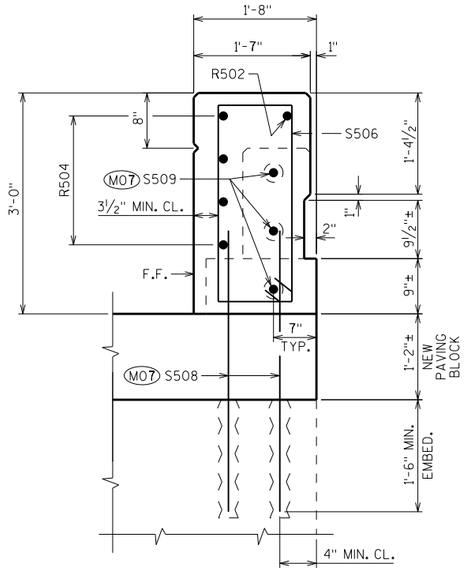
INSIDE ELEVATION - WING 1

SECTION K-K

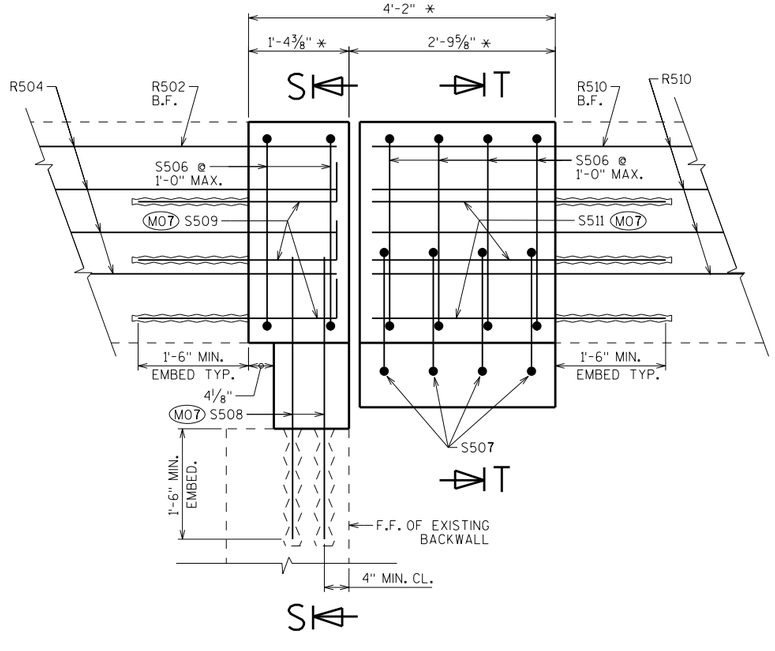


SECTION R-R

* = DIMENSIONS ARE TAKEN ALONG FRONT (ROADWAY) FACE

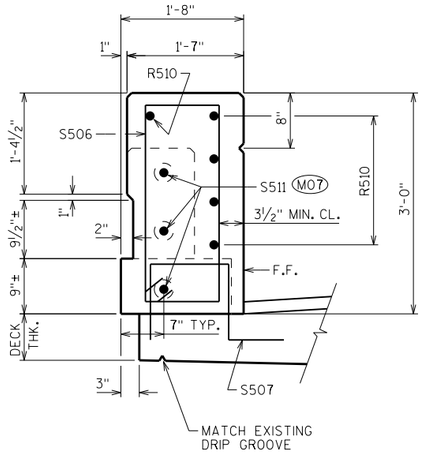


SECTION S-S



INSIDE ELEVATION - WING 2

SECTION L-L



SECTION T-T

M07 ADHESIVE ANCHORS NO. 5 BAR. EMBED 1'-6" IN CONCRETE.

NEW PARAPET CONCRETE IS TO BE INCLUDED UNDER BID ITEM "JOINT REPAIR".

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-41-76

DRAWN BY DDS | PLANS CK'D. ADS

PARAPET DETAILS (NEW)

SHEET 6

102

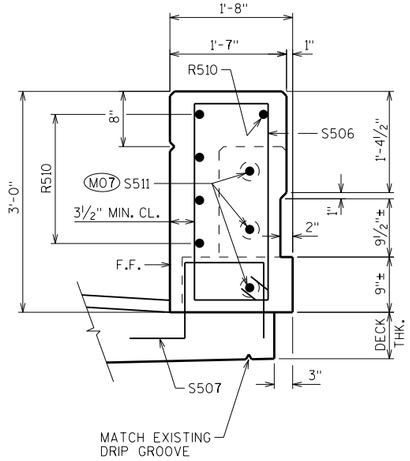
SCALE = 1.00

8

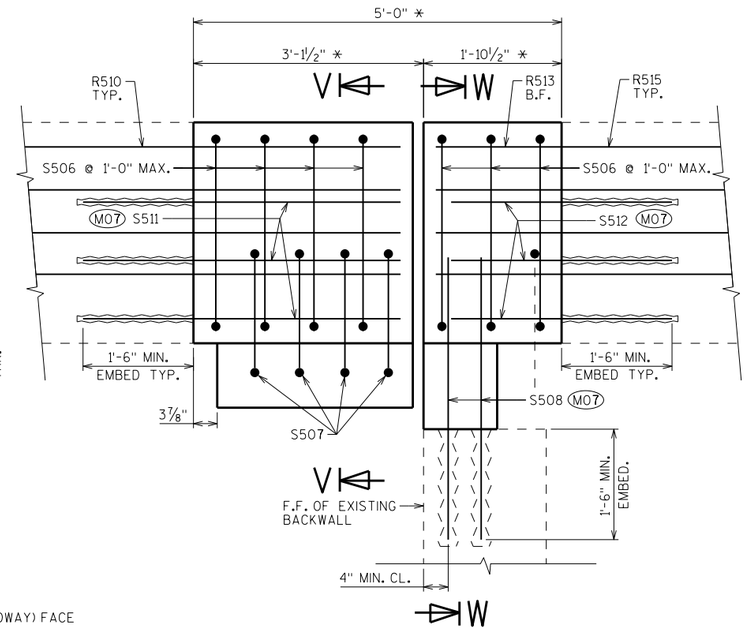
8

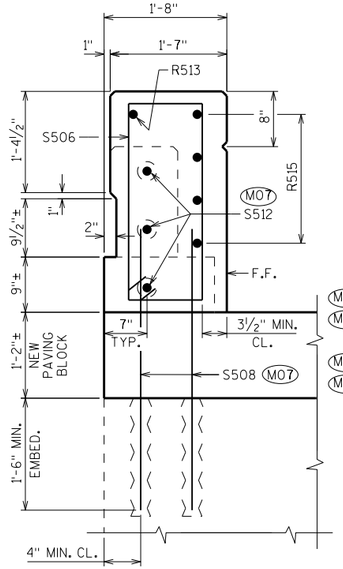
STATE PROJECT NUMBER

1071-02-61



SECTION V-V





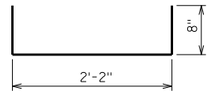
SECTION W-W

JOINT REPAIR BILL OF BARS

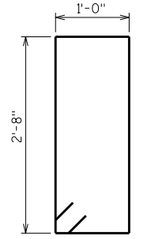
NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
S401	X	176	3'-4"	X		JOINT REPAIR DIAPH. - VERT.
S602	X	30	8'-8"			JOINT REPAIR DIAPH. - HORIZ. - BETWEEN GIRDERS
S603	X	26	18'-11"			SLAB/JOINT REPAIR - HORIZ. - STAGE 1 ◆◆◆
S604	X	26	23'-0"			SLAB/JOINT REPAIR - HORIZ. - STAGE 2 ◆◆◆
S405	X	12	8'-8"			AT EXPANSION DEVICE - BETWEEN GIRDERS
S506	X	26	8'-0"	X		PPT. (NEW) AT JOINT REPAIR - STIRRUPS
S507	X	16	3'-5"	X		PPT. (NEW) AT JOINT REPAIR - VERT.
S508	X	16	4'-8"			PPT. (NEW)/PAVING BLOCK - CONCRETE MASONRY ANCHOR - VERT.
S509	X	6	3'-2"	X		PPT. (NEW) - CONCRETE MASONRY ANCHOR - HORIZ. - WINGS 1&2
S510	X	NOT	USED			
S511	X	12	4'-0"			PPT. (NEW) - CONCRETE MASONRY ANCHOR - HORIZ. - ALL WINGS
S512	X	6	3'-4"			PPT. (NEW) - CONCRETE MASONRY ANCHOR - HORIZ. - WINGS 3&4
S613	X	10	6'-10"			JOINT REPAIR DIAPH. - HORIZ. - STAGE 2 - BTWN. GIRDERS 2&3 ◆◆◆
S614	X	10	1'-8"			JOINT REPAIR DIAPH. - HORIZ. - STAGE 1 - BTWN. GIRDERS 2&3 ◆◆◆
S415	X	4	6'-10"			EXPANSION DEVICE - HORIZ. - BETWEEN GIRDERS 2&3

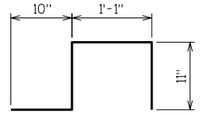
◆◆◆ BAR COUPLERS USED. BAR LENGTH COMPUTED TO ℄ OF LONGITUDINAL JOINT & SHALL BE MODIFIED TO THE BAR COUPLER MANUFACTURERS RECOMMENDATIONS.



S401



S506



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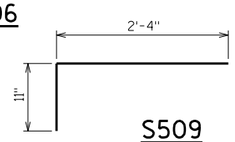
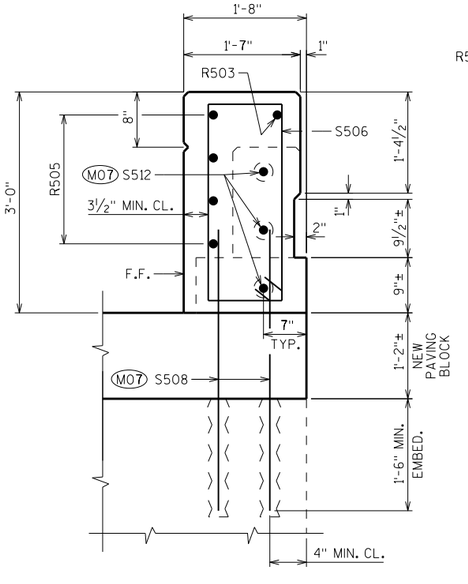
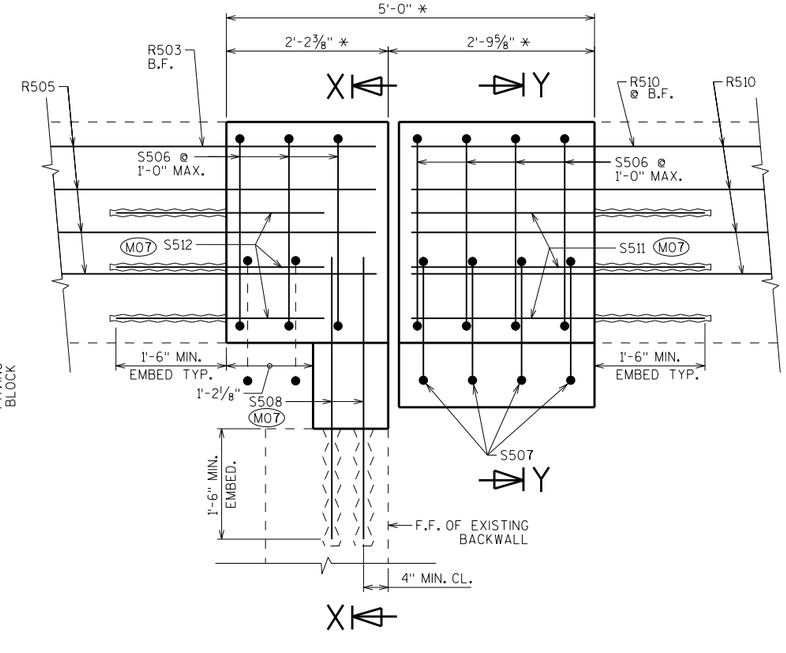
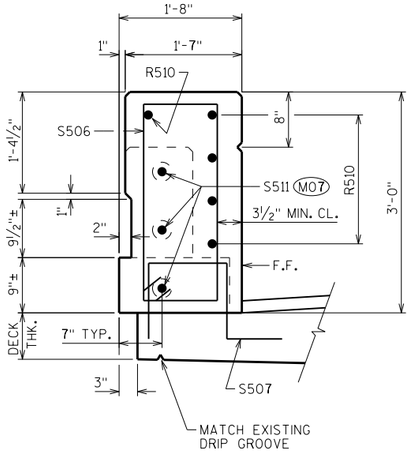


S509



SECTION X-X





SECTION Y-Y

INSIDE ELEVATION - WING 3

SECTION N-N

INSIDE ELEVATION - WING 4

SECTION M-M

* = DIMENSIONS ARE TAKEN ALONG FRONT (ROADWAY) FACE

M07 ADHESIVE ANCHOR NO. 5 BAR. EMBED 1'-6" IN CONCRETE.

NEW PARAPET CONCRETE IS TO BE INCLUDED UNDER BID ITEM "JOINT REPAIR".

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-41-76

DRAWN BY DDS | PLANS CK'D. ADS

PARAPET DETAILS (NEW)

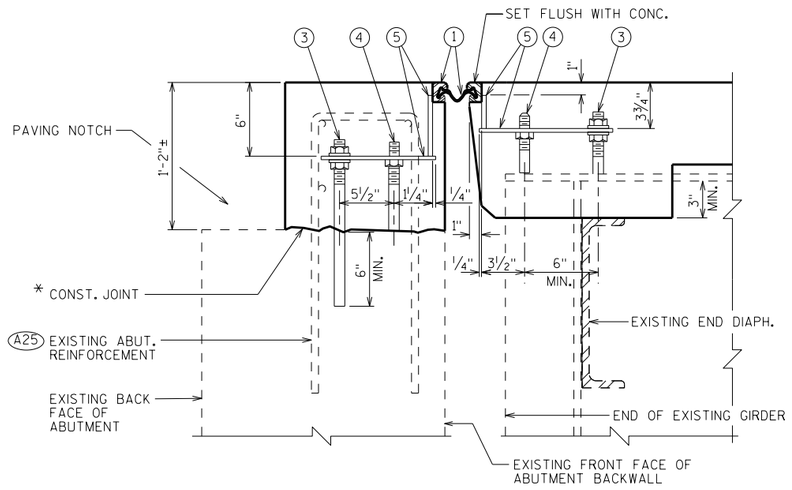
SHEET 7

103

SCALE = 1.00

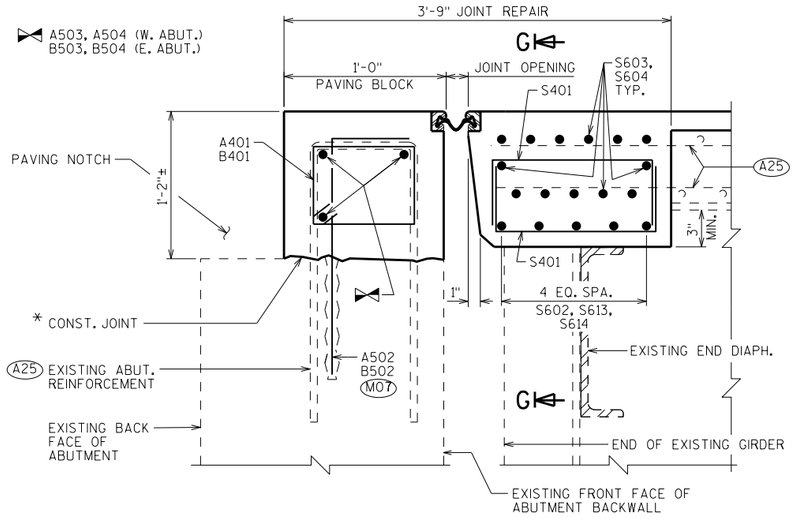
STATE PROJECT NUMBER

1071-02-61



SECTION THRU JOINT AT ABUTMENT

NORMAL TO ℄ SUBSTRUCTURE



SECTION THRU JOINT AT ABUTMENT

NORMAL TO ℄ SUBSTRUCTURE

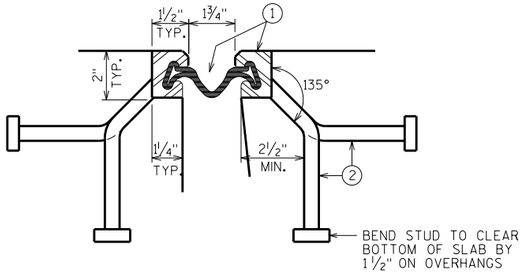
* POUR CONCRETE ABOVE THIS JOINT AFTER SUPERSTRUCTURE IS IN PLACE. STRIKE OFF AND LEAVE ROUGH.

M07 ADHESIVE ANCHORS NO. 5 BAR. EMBED 1'-6" IN CONCRETE.

A25 SALVAGE EXIST. REINF. & EXTEND FULL LENGTH INTO NEW WORK.

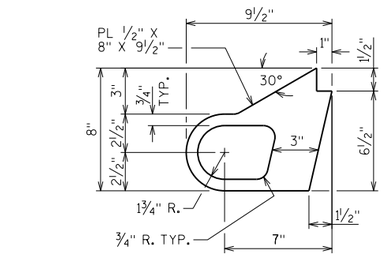
LEGEND

1. NEOPRENE STRIP SEAL (4 - INCH) & STEEL EXTRUSIONS.
2. STUDS ⅝"Φ X 6⅜" LONG AT 6" ALTERNATE CENTERS. WELD TO EXTRUSIONS & BEND AS SHOWN AFTER WELDING.
2A. ½" THICK ANCHOR PLATE WITH ⅝"Φ ROD (OR ALTERNATE STRIP SEAL ANCHOR). WELD ROD TO ANCHOR PLATE. WELD ANCHOR PLATE TO NO. 1 AT 1'-6" CENTERS BETWEEN GIRDERS.
3. ¾" Φ THREADED ROD WITH 2 NUTS AND PLATE WASHERS. WELD THREADED ROD TO TOP FLANGE OR ATTACH BY BOLTING THRU FLANGE. ON ABUTMENT SIDE GROUT THREADED ROD INTO FIELD DRILLED HOLES IN ABUTMENT BACKWALL AS SHOWN.
4. ¾"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. FIELD OR SHOP WELD TO NO. 1. IF FIELD WELDED, COVER WELDED AREAS WITH EPOXY-COATING MATERIAL. PROVIDE 1½" Φ HOLE FOR NO. 3 & 1" Φ HOLE FOR NO. 4.
6. GALVANIZED PLATE ⅜" X LIMITS SHOWN WITH HOLES FOR NO. 7. BEND AS SHOWN.
7. ¾"Φ X 1½" STAINLESS STEEL SOCKET FLAT HEAD SCREWS WITH ANTI-SEIZE LUBRICANT. RECESS 1/16" BELOW PLATE SURFACE.
8. ¾"Φ X 4" GALVANIZED HEX HEAD BOLT. BEND 45°.
9. ¾"Φ X 2¼" GALVANIZED THREADED COUPLING.
10. 1" X 5" SLOTTED CSK. HOLE FOR NO. 7. SLOT PARALLEL TO DIRECTION OF MOVEMENT.

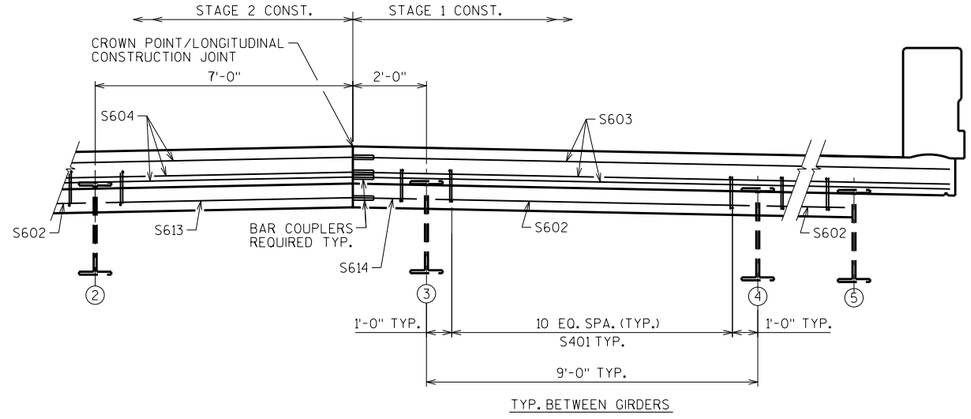


SECTION THRU JOINT

EXTERIOR GIRDER TO EDGE OF SLAB AND AT PARAPETS.

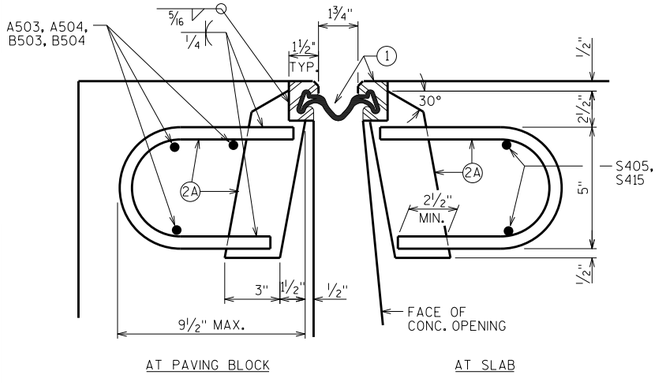


ALTERNATE STRIP SEAL ANCHOR



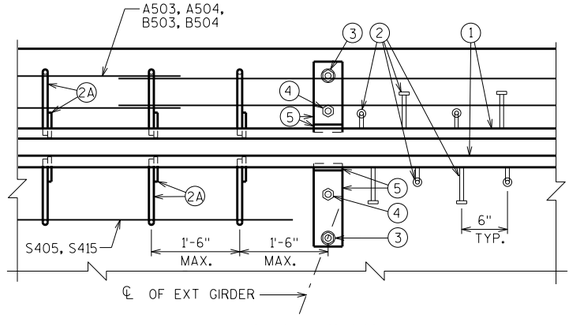
SECTION G-G

LOOKING TOWARDS EAST ABUTMENT
WEST ABUTMENT SIMILAR



SECTION THRU JOINT

ROADWAY TRAFFIC AREA BETWEEN EXTERIOR GIRDERS.



PART PLAN

GENERAL NOTES

ONE FIELD SPLICE PERMITTED IN STEEL EXTRUSIONS. IF USED, DETAILS SHALL BE SUBMITTED FOR APPROVAL. NO SPLICING PERMITTED IN NEOPRENE STRIP SEAL.

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

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

SANDBLAST PLATES & EXTRUSIONS AFTER FABRICATION IN ACCORDANCE WITH SSPC SP. #6 "COMMERCIAL BLAST CLEANING". AFTER BLAST CLEANING THE PLATES & EXTRUSIONS SHALL BE HOT DIPPEDGALVANIZED. SLIP-RESISTANT SURFACE IS APPLIED TO SIDEWALK COVER PLATES BY THE MANUFACTURER AND THEN HOT DIPPED GALVANIZED TO THEIR RECOMMENDATIONS TO MAINTAIN THE INTEGRITY OF THIS SURFACE.

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

STRIP SEAL EXPANSION JOINT ASSEMBLY, INCLUDING ANCHOR STUDS & HARDWARE WILL BE PAID FOR AT THE LUMP SUM PRICE BID FOR "EXPANSION DEVICE B-41-76".

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-41-76

DRAWN BY DDS | PLANS CK'D. ADS

EXPANSION DEVICE

SHEET 8

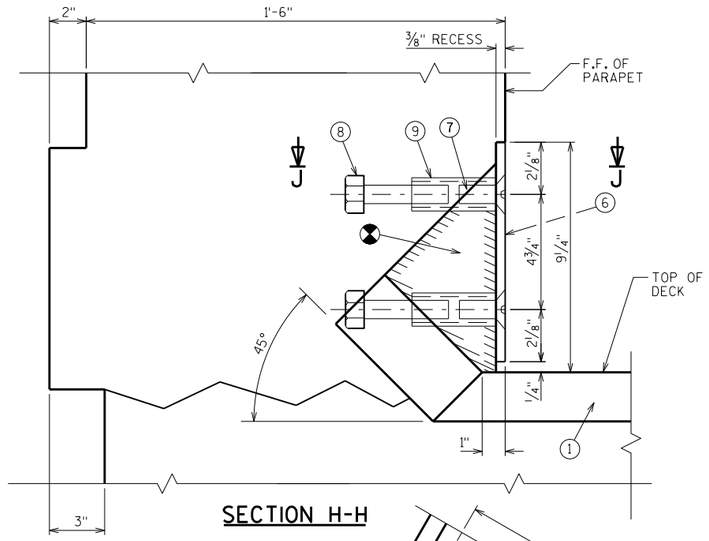
104

SCALE = 1.0

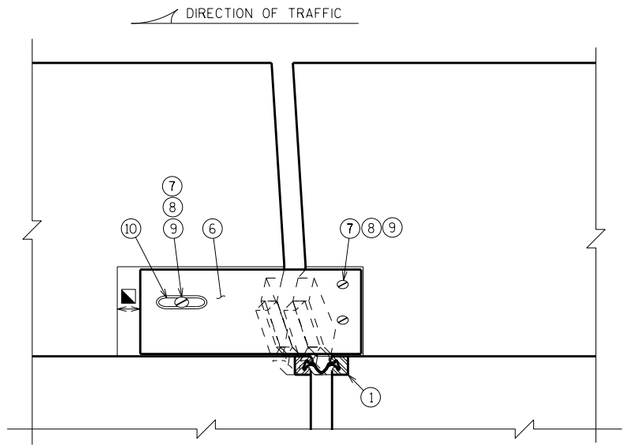
JT400SS
7-10

STATE PROJECT NUMBER

1071-02-61

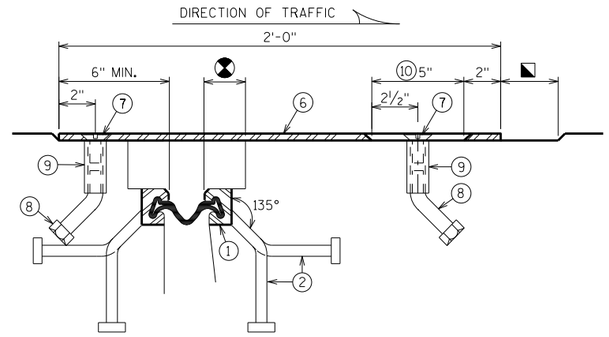


SECTION H-H

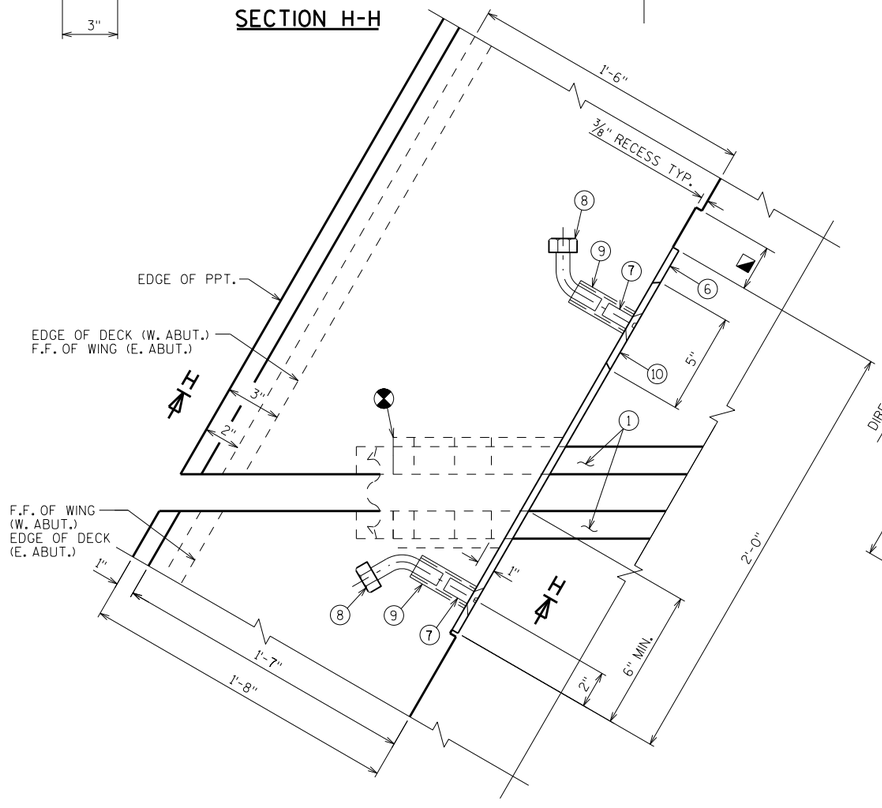


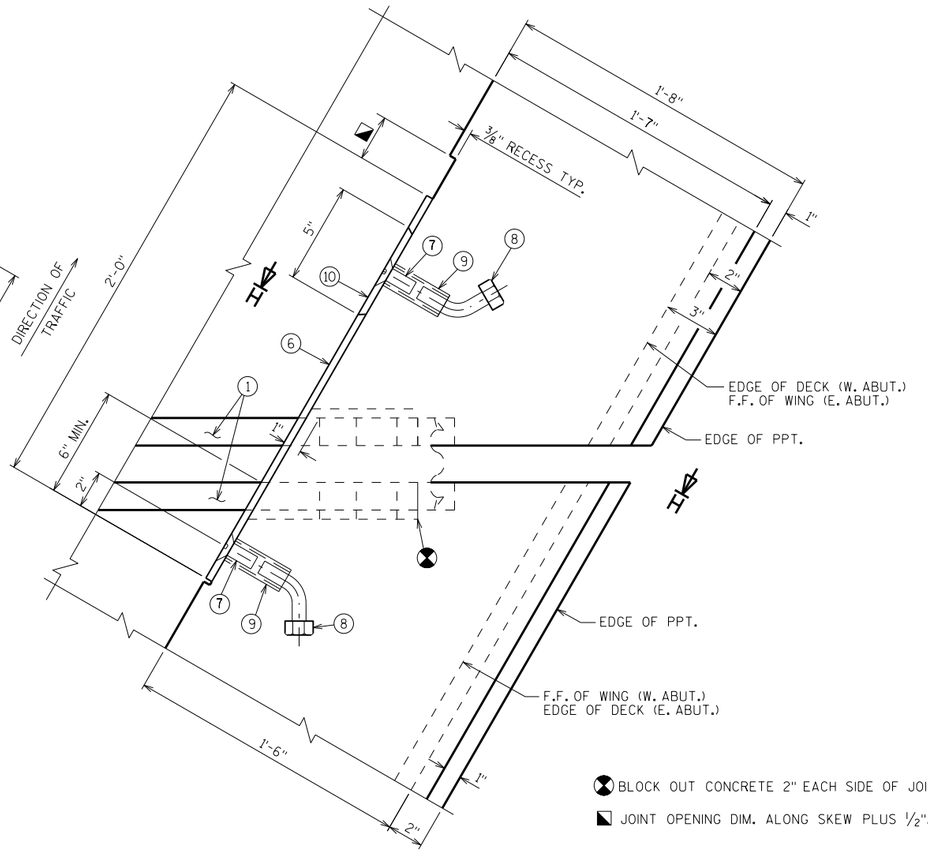
VIEW OF PARAPET PLATE FROM ROADWAY

WING 1 SHOWN
WINGS 2,3&4 SIMILAR



SECTION J-J





PLAN

WEST ABUTMENT SHOWN
EAST ABUTMENT SIMILAR

BLOCK OUT CONCRETE 2" EACH SIDE OF JOINT OPENING.

JOINT OPENING DIM. ALONG SKEW PLUS 1/2".

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-41-76

DRAWN BY DDS | PLANS CK'D. ADS

COVER PLATE DETAILS

SHEET 9

105

7-10
IT40055

SCALE = 1.0

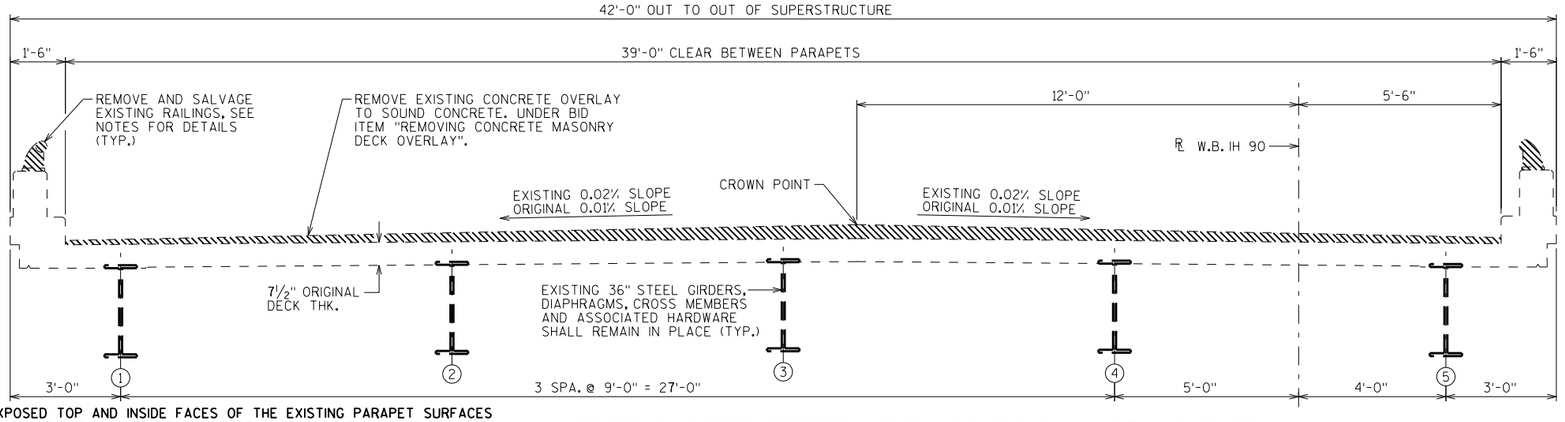
25 20 7 12

8

8

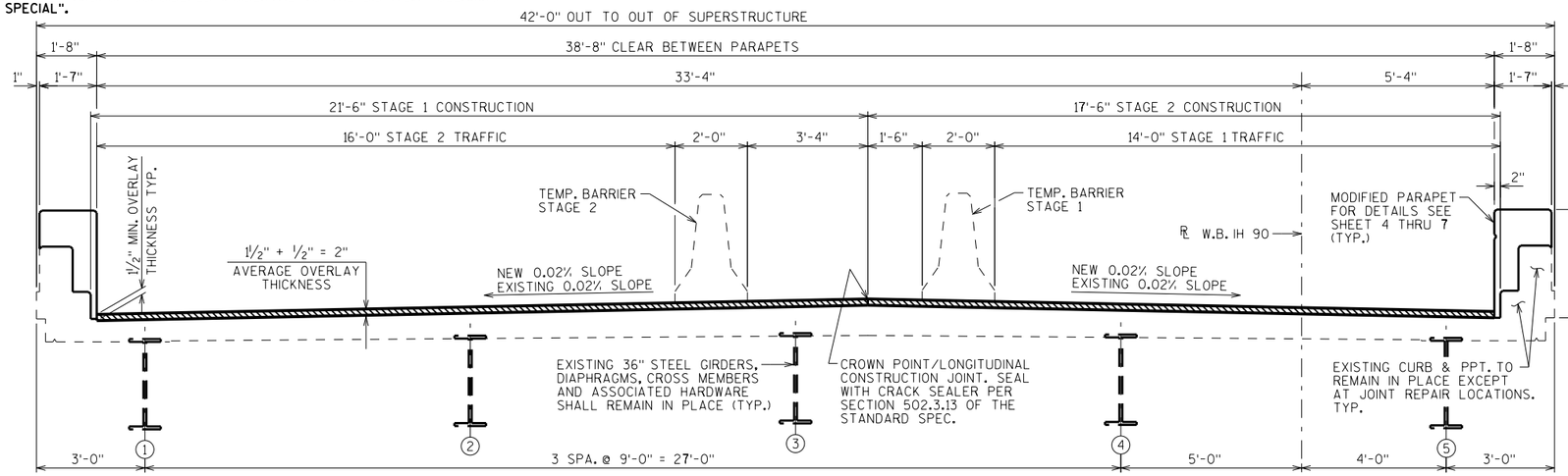
STATE PROJECT NUMBER

1071-02-61



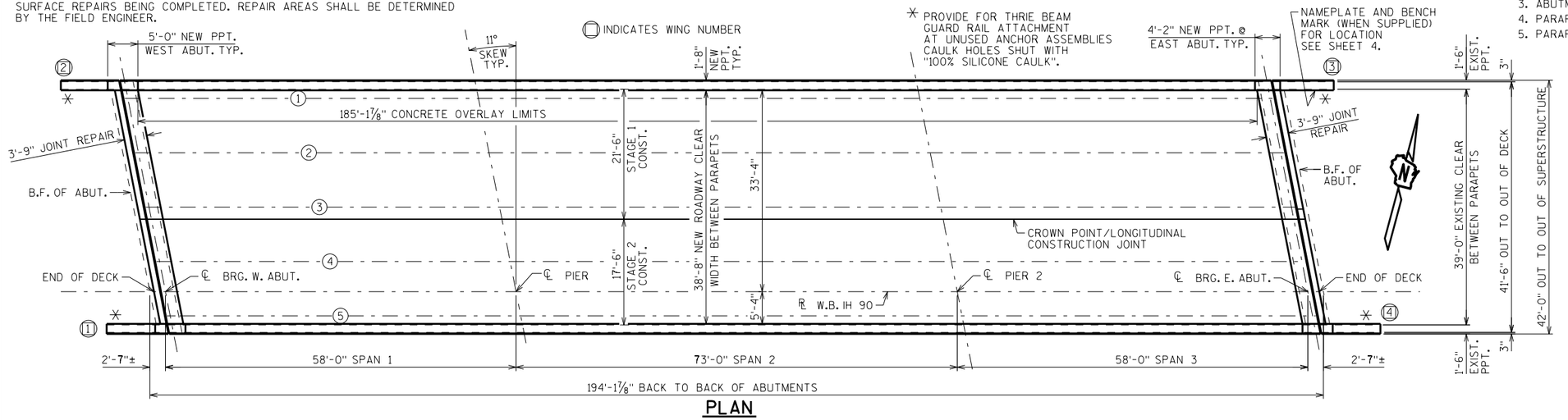
THE ENTIRE EXPOSED TOP AND INSIDE FACES OF THE EXISTING PARAPET SURFACES SHALL BE BLAST CLEANED AND ANY EXPOSED STEEL SHALL BE BRUSHED CLEANED PRIOR TO THE PARAPET BEING BUILT UP (MODIFIED). ALL THE WORK DESCRIBED ABOVE SHALL BE INCLUDED AND/OR CONSIDERED INCIDENTAL TO THE BID ITEM "CLEANING PARAPETS SPECIAL".

EXISTING CROSS SECTION THRU ROADWAY - LOOKING EAST



REMOVE ANY/ALL LOOSE CONCRETE AT ABUTMENT BODIES UNDER BID ITEM "CONCRETE SURFACE REPAIR". SURFACES SHALL BE BLAST CLEANED AND ANY EXPOSED STEEL SHALL BE BRUSH CLEANED PRIOR TO THE CONCRETE SURFACE REPAIRS BEING COMPLETED. REPAIR AREAS SHALL BE DETERMINED BY THE FIELD ENGINEER.

NEW CROSS SECTION THRU ROADWAY - LOOKING EAST



PLAN

DESIGN DATA

LIVE LOAD:

INVENTORY RATING; HS-16
OPERATIONAL RATING; HS-27
MAXIMUM STANDARD PERMIT VEHICLE LOAD = 180 KIPS.

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

MATERIAL PROPERTIES:

CONCRETE MASONRY BRIDGES — f'c = 3,500 P.S.I.
CONCRETE MASONRY DECK OVERLAY — f'c = 4,000 P.S.I.
BAR STEEL REINFORCEMENT, GRADE 60 — fy = 60,000 P.S.I.

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

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

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

PROTECTIVE SURFACE TREATMENT TO BE APPLIED TO THE ENTIRE TOP OF DECK SURFACE AND THE FRONT FACE AND THE TOP OF THE PARAPET, INCLUDING PARAPETS ON ABUTMENT WINGS.

DIMENSIONS SHOWN ARE BASED ON THE EXISTING ORIGINAL STRUCTURE PLANS.

THE CONTRACTOR SHALL SUPPLY A NEW NAME PLATE IN ACCORDANCE WITH SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS AND THE STANDARD DETAIL DRAWINGS. NAME PLATE TO SHOW ORIGINAL CONSTRUCTION YEAR 1968.

ANY EXCAVATION NECESSARY TO COMPLETE THE JOINT REPAIR AT THE ABUTMENTS IS TO BE CONSIDERED INCIDENTAL TO THE BID ITEM "CONCRETE MASONRY OVERLAY DECKS".

CONTACT THE BUREAU OF STRUCTURES BEFORE PLACEMENT OF OVERLAY IF THE AVERAGE THICKNESS OF THE NEW OVERLAY WILL EXCEED THE AVERAGE OVERLAY SHOWN ON THE PLANS BY MORE THAN ½".

THE EXISTING OVERLAY SHALL BE REMOVED FROM THE BRIDGE DECK UNDER BID ITEM "REMOVING CONCRETE MASONRY DECK OVERLAY B-41-77".

PREPARATION DECKS TYPE 1, PREPARATION DECKS TYPE 2 AND CONCRETE SURFACE REPAIR AREAS SHALL BE DETERMINED BY THE FIELD ENGINEER.

ALL REMOVAL LINES SHALL BE DEFINED BY A 1" DEEP SAW CUT.

APPLY BRIDGE SEAT PROTECTION, AS PER SECTION 502.3.12 OF THE STANDARD SPECIFICATIONS, TO THE TOP SURFACES OF BOTH ABUTMENTS BELOW EXPANSION DEVICES. POWER WASH AND ADEQUATELY DRY SURFACES BEFORE APPLICATION.

REMOVE AND SALVAGE THE EXISTING RAILINGS (INCLUDES RAILS, POSTS AND ALL ASSOCIATED HARDWARE). AFTER REMOVAL, CONTRACTOR IS TO DELIVER RAILING TO THE MONROE COUNTY HIGHWAY DEPT. AND SHALL REMAIN THE PROPERTY OF THE STATE OF WISCONSIN. THIS SHALL BE INCIDENTAL TO "REMOVING OLD STRUCTURE STA. 274+16.00".

FINISH COATING MATERIAL SHALL BE GRAY, FEDERAL COLOR #26293.

LIST OF DRAWINGS

1. CONCRETE OVERLAY
2. QUANTITIES AND DETAILS
3. ABUTMENT DETAILS
4. PARAPET DETAILS (MODIFIED)
5. PARAPET CROSS SECTIONS
6. PARAPET DETAILS (NEW)
7. PARAPET DETAILS (NEW)
8. EXPANSION DEVICE
9. COVER PLATE DETAILS

STRUCTURE DESIGN CONTACTS:
AARON BONK (608) 261-0261
ANDREW SMITH (608) 266-0989

NO.	DATE	REVISION	BY

Plans Prepared By WISDOT
BUREAU OF STRUCTURES

ACCEPTED William C. Dreher 7/25/17
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE B-41-77

W.B. IH 90 OVER THE LITTLE LA CROSSE RIVER

COUNTY	TOWN, ~~CITY, VILLAGE~~
MONROE	SPARTA

DESIGN SPEC. REHABILITATION N/A

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
ADS	NAR	DDS	ADS

GENERAL PLAN

SHEET 1 OF 9

106

I.D. 1071-02-31A

DATE: JULY 2017

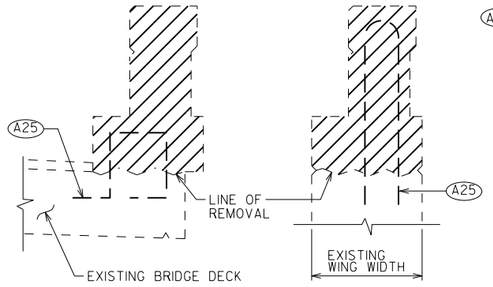
SCALE = 10.00

STATE PROJECT NUMBER

1071-02-61

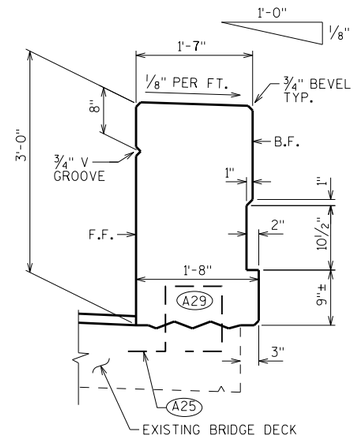
(A25) SALVAGE EXIST. REINF. & EXTEND FULL LENGTH INTO NEW WORK.

(A29) ROUGHEN SURFACE OF CONCRETE 1/4" DEEP MINIMUM ALL AREAS OF NEW TO EXISTING CONCRETE CONTACT.



PARAPET REMOVAL DETAILS

SHOWING PPT. REMOVAL AT JOINT REPAIR LOCATIONS ONLY



NEW PARAPET SHAPE

AT JOINT REPAIR LOCATIONS ONLY

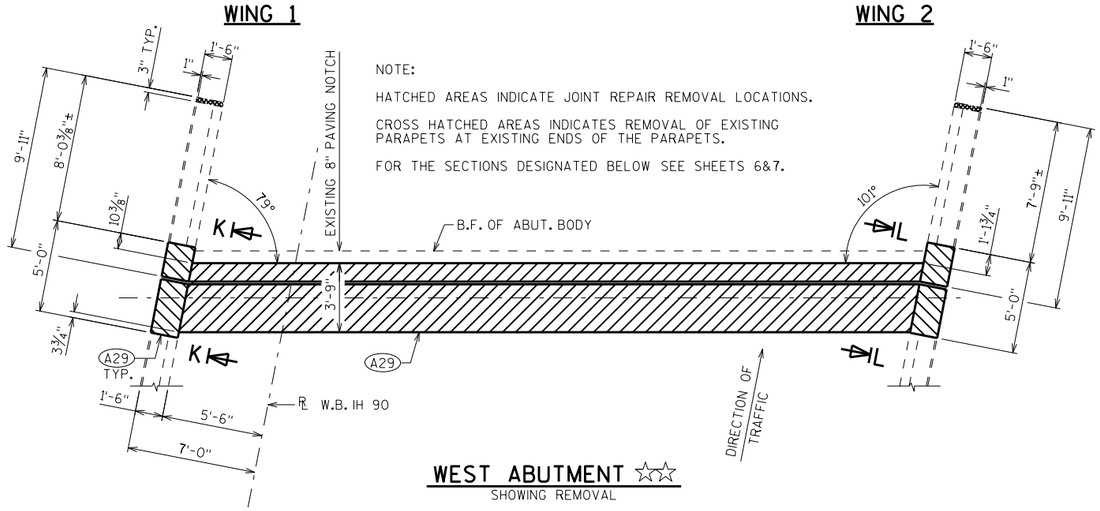
TOTAL ESTIMATED QUANTITIES

	BID ITEM #	DESCRIPTION	QTY.	UNIT
	203.0200	REMOVING OLD STRUCTURE STA. 274+16.00	1	LS
	203.0210.S	ABATEMENT OF ASBESTOS CONTAINING MATERIAL STRUCTURE B-41-77	1	LS
	502.0100	CONCRETE MASONRY BRIDGES	33	CY
	502.3100	EXPANSION DEVICE B-41-77	1	LS
	502.3200	PROTECTIVE SURFACE TREATMENT	1,043	SY
	502.4104	ADHESIVE ANCHORS 1/2-INCH	424	EACH
	502.4205	ADHESIVE ANCHORS NO. 5 BAR	548	EACH
	505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	8,220	LB
	505.0905	BAR COUPLERS NO. 5	6	EACH
	505.0906	BAR COUPLERS NO. 6	36	EACH
	509.0301	PREPARATION DECKS TYPE 1	70	SY
	509.0302	PREPARATION DECKS TYPE 2	27	SY
	509.1000	JOINT REPAIR	35	SY
	509.1500	CONCRETE SURFACE REPAIR	78	SF
	509.2000	FULL-DEPTH DECK REPAIR	1	SY
◈	509.2500	CONCRETE MASONRY OVERLAY DECKS	63	CY
	509.9005.S	REMOVING CONCRETE MASONRY DECK OVERLAY B-41-77	803	SY
	517.1800.S	STRUCTURE REPAINTING RECYCLED ABRASIVE B-41-77	1	LS
	517.4500.S	NEGATIVE PRESSURE CONTAINMENT AND COLLECTION OF WASTE MATERIALS B-41-77	1	LS
	517.6001.S	PORTABLE DECONTAMINATION FACILITY	1	EACH
	614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	4	EACH
	SPV.0090	CLEANING PARAPETS SPECIAL	422	LF
		NON-BID ITEMS		
		BRIDGE SEAT PROTECTION	1	LS

◈ BID ITEM ALSO INCLUDES CONCRETE FOR: PREPARATION DECKS TYPE 1, PREPARATION DECKS TYPE 2 AND JOINT REPAIR AND FULL-DEPTH DECK REPAIR.

WING 1

WING 2



NOTE:

HATCHED AREAS INDICATE JOINT REPAIR REMOVAL LOCATIONS.

CROSS HATCHED AREAS INDICATES REMOVAL OF EXISTING PARAPETS AT EXISTING ENDS OF THE PARAPETS.

FOR THE SECTIONS DESIGNATED BELOW SEE SHEETS 6&7.

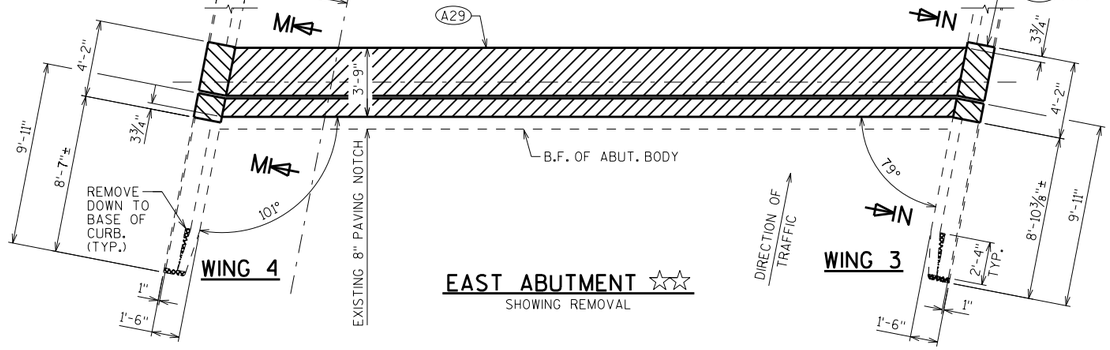
WEST ABUTMENT ☆☆

SHOWING REMOVAL

☆☆ SALVAGE ALL EXISTING HORIZONTAL PARAPET REINFORCEMENT AND ALL DECK LONGITUDINAL REINFORCEMENT AND EXTEND FULL LENGTH INTO NEW WORK, WHILE MAINTAINING 2" MIN. CLEAR.

WING 4

WING 3



EAST ABUTMENT ☆☆

SHOWING REMOVAL

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-41-77

DRAWN BY DDS | PLANS CK'D. ADS

QUANTITIES AND DETAILS

SHEET 2

107

8

8

SCALE = 1.00

STATE PROJECT NUMBER

1071-02-61

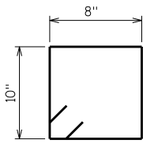
WEST ABUTMENT BILL OF BARS

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

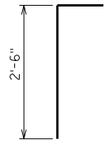
BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
A401	X	40	3'-6"	X		PAVING BLOCK - STIRRUPS
A502	X	40	3'-0"	X		PAVING BLOCK - CONCRETE MASONRY ANCHORS
A503	X	9	7'-0"			PAVING BLOCK - HORIZ.
A504	X	12	6'-6"			PAVING BLOCK - HORIZ.

(M07) 3 COUPLERS TOTAL

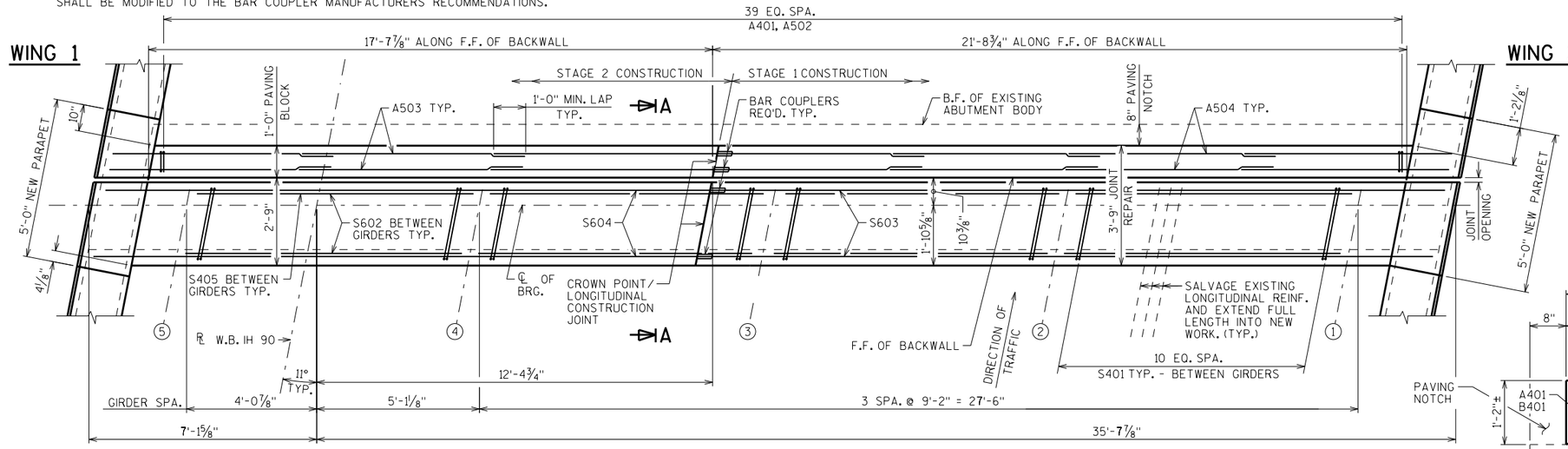
◆◆◆ BAR COUPLERS USED. BAR LENGTH COMPUTED TO ℄ OF LONGITUDINAL JOINT & SHALL BE MODIFIED TO THE BAR COUPLER MANUFACTURERS RECOMMENDATIONS.



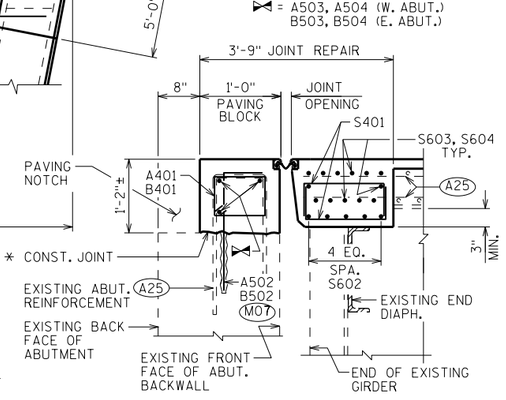
A401, B401



A502, B502



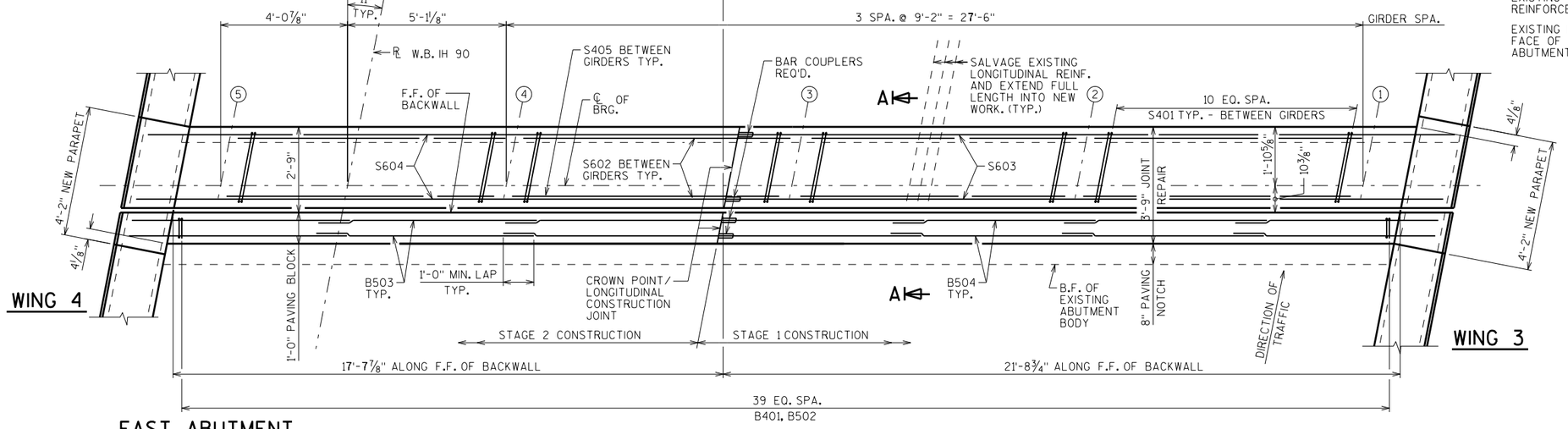
PLAN - WEST ABUTMENT



SECTION A-A

THRU JOINT AT ABUTMENT

* POUR CONCRETE ABOVE THIS JOINT AFTER SUPERSTRUCTURE IS IN PLACE. STRIKE OFF AND LEAVE ROUGH.



(A25) SALVAGE EXIST. REINF. & EXTEND FULL LENGTH INTO NEW WORK.

(M07) ADHESIVE ANCHORS NO. 5 BAR. EMBED 1'-6" IN CONCRETE.

EAST ABUTMENT BILL OF BARS

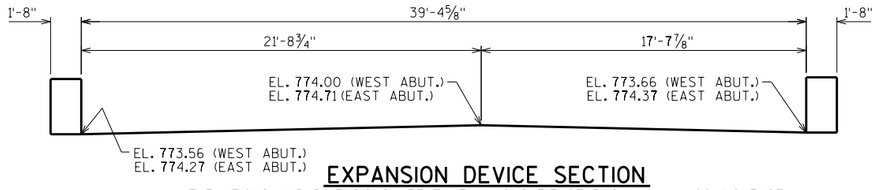
NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
B401	X	40	3'-6"	X		PAVING BLOCK - STIRRUPS
B502	X	40	3'-0"	X		PAVING BLOCK - CONCRETE MASONRY ANCHORS
B503	X	9	7'-0"			PAVING BLOCK - HORIZ.
B504	X	12	6'-6"			PAVING BLOCK - HORIZ.

(M07) 3 COUPLERS TOTAL

◆◆◆ BAR COUPLERS USED. BAR LENGTH COMPUTED TO ℄ OF LONGITUDINAL JOINT & SHALL BE MODIFIED TO THE BAR COUPLER MANUFACTURERS RECOMMENDATIONS.

PLAN - EAST ABUTMENT



EXPANSION DEVICE SECTION

ELEVATIONS AND DIMENSIONS ARE TAKEN ALONG F.F. OF BACKWALL - LOOKING EAST

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-41-77

DRAWN BY DDS | PLANS CK'D. ADS

ABUTMENT DETAILS

SHEET 3

108

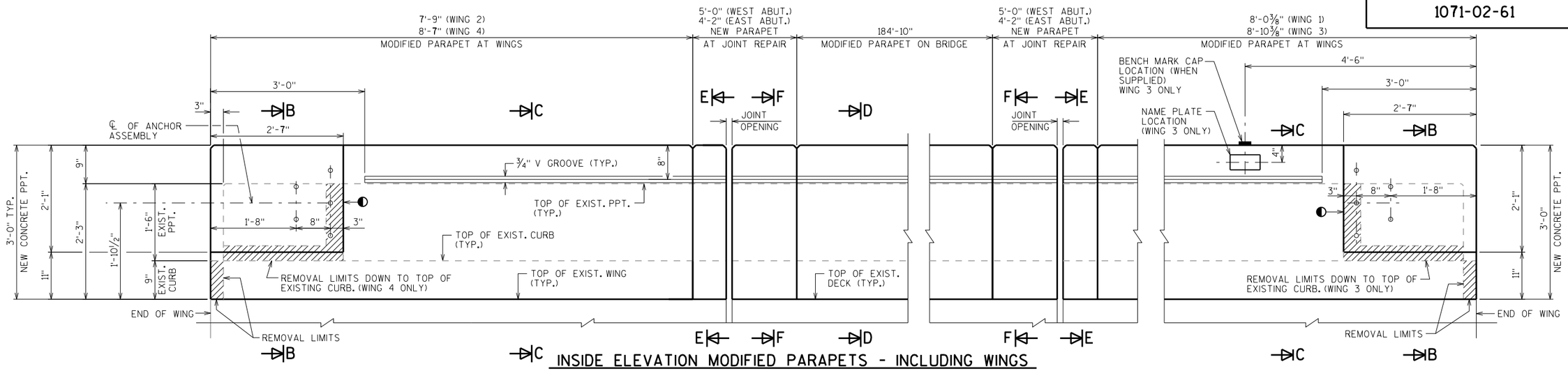
SCALE = 2.00

8

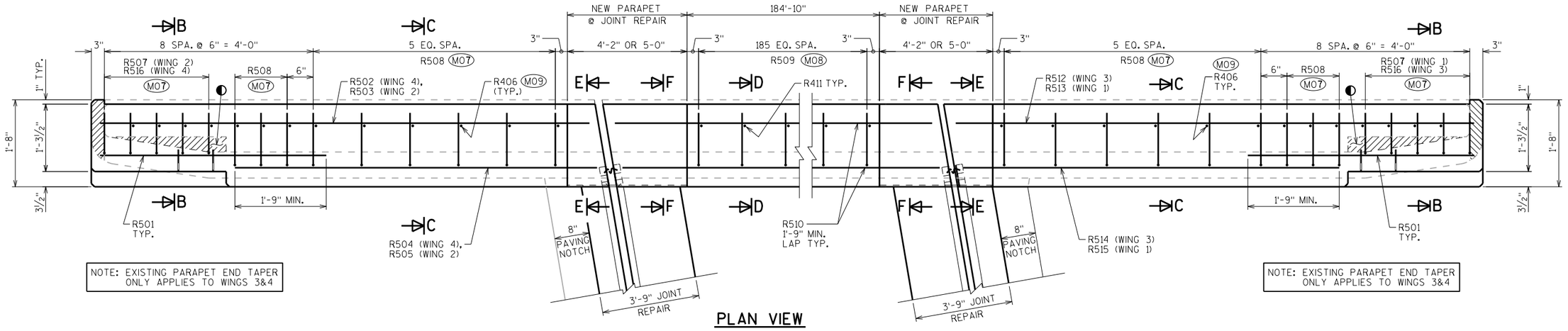
8

STATE PROJECT NUMBER

1071-02-61



INSIDE ELEVATION MODIFIED PARAPETS - INCLUDING WINGS



PLAN VIEW

BILL OF BARS

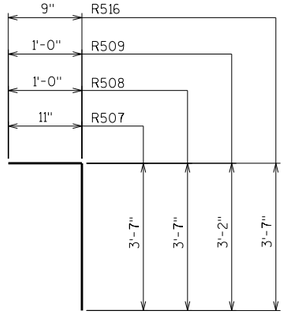
NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
R501	X	16	4'-4"			PPT. AT ALL WINGS - HORIZ.
R502	X	1	9'-3"			PPT. AT WING 4 - HORIZ. - B.F.
R503	X	1	9'-3"			PPT. AT WING 2 - HORIZ. - B.F.
R504	X	4	6'-10"			PPT. AT WING 4 - HORIZ. - F.F.
R505	X	4	6'-10"			PPT. AT WING 2 - HORIZ. - F.F.
(M09) R406	X	52	1'-0"			PPT. AT ALL WINGS - VERT.
(M07) R507	X	10	4'-4"	X		PPT. AT WINGS 1&2 - VERT. - ENDS
(M07) R508	X	36	4'-5"	X		PPT. AT ALL WINGS - VERT.
(M08) R509	X	372	4'-1"	X		PPT. ON BRIDGE - VERT.
R510	X	50	39'-6"			PPT. ON BRIDGE - HORIZ.
(M09) R411	X	372	1'-0"			PPT. ON BRIDGE - VERT. - B.F.
R512	X	1	9'-8"			PPT. AT WING 3 - HORIZ. - B.F.
R513	X	1	9'-8"			PPT. AT WING 1 - HORIZ. - B.F.
R514	X	4	6'-11"			PPT. AT WING 3 - HORIZ. - F.F.
R515	X	4	6'-11"			PPT. AT WING 1 - HORIZ. - F.F.
(A07) R516	X	10	4'-2"	X		PPT. AT WINGS 3&4 - VERT. - ENDS

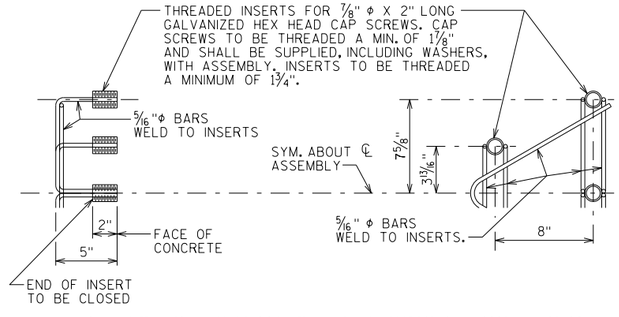
(M07) ADHESIVE ANCHORS NO. 5 BAR. EMBED 1'-6" IN CONCRETE.

(M08) ADHESIVE ANCHORS NO. 5 BAR. EMBED 1'-1" IN CONCRETE.

(M09) ADHESIVE ANCHORS 1/2-INCH. EMBED 5" IN CONCRETE.



◐ REMOVE EXIST. PPT. CONC AS NEEDED TO FIT THRIE BEAM ANCHOR ASSEMBLY



DETAIL OF GALVANIZED ANCHOR ASSEMBLY

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

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

NOTE:
SEE SHEET 5 FOR CROSS SECTIONS

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-41-77

DRAWN BY DDS | PLANS CK'D. ADS

PARAPET DETAILS (MODIFIED)

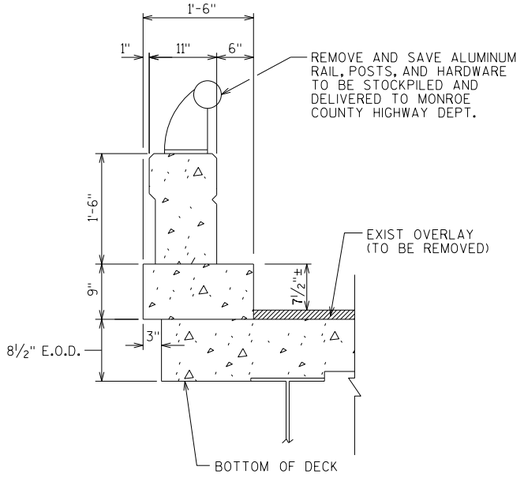
SHEET 4

109

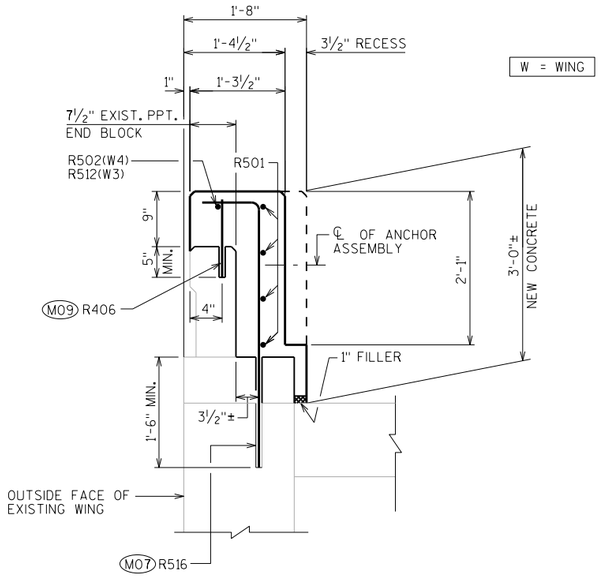
SCALE = 1

STATE PROJECT NUMBER

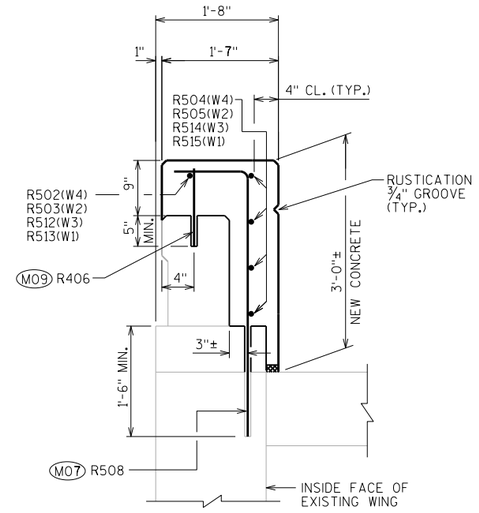
1071-02-61



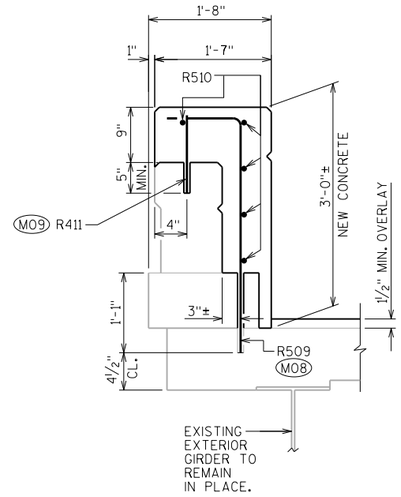
EXISTING SECTION
ON BRIDGE



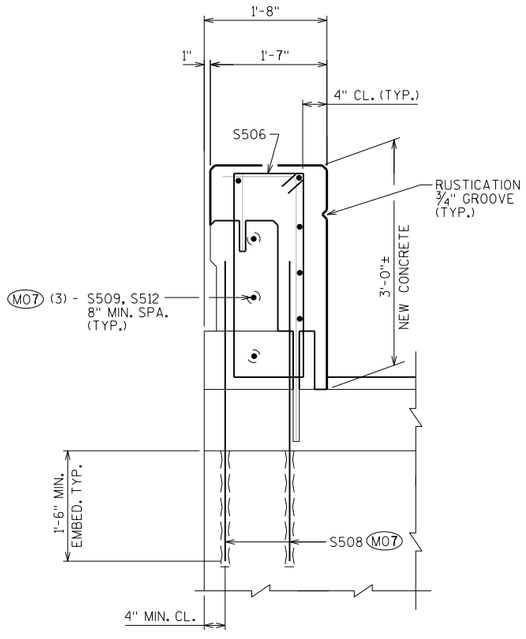
SECTION B-B (WINGS 3&4)



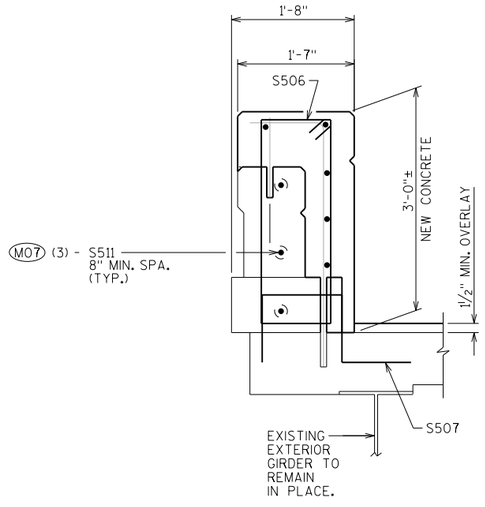
SECTION C-C



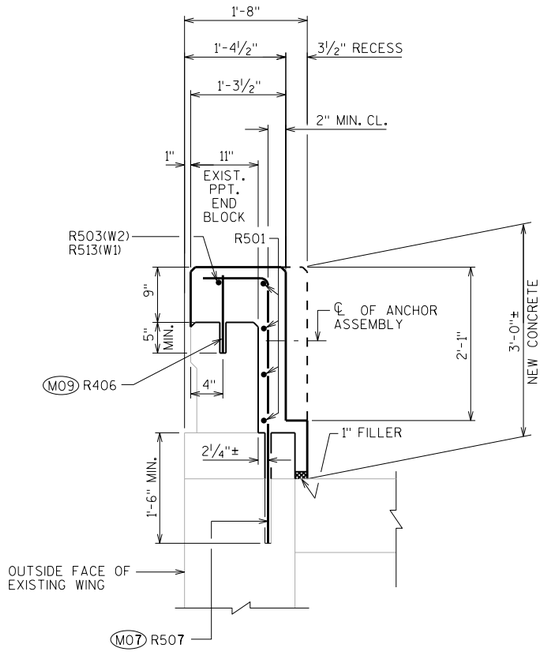
SECTION D-D
ON BRIDGE



SECTION E-E
SEE SHEETS 6&7 FOR ADDITIONAL DETAILS



SECTION F-F
ON BRIDGE
SEE SHEETS 6&7



SECTION B-B (WINGS 1&2)

M07 ADHESIVE ANCHORS NO. 5 BAR. EMBED 1'-6" IN CONCRETE.
M08 ADHESIVE ANCHORS NO. 5 BAR. EMBED 1'-1" IN CONCRETE.
M09 ADHESIVE ANCHORS ½-INCH. EMBED 5" IN CONCRETE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-41-77

DRAWN BY DDS | PLANS CK'D. ADS

PARAPET CROSS SECTIONS

SHEET 5

110

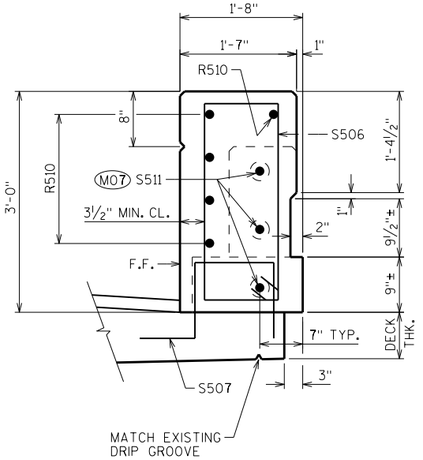
SCALE = 1

8

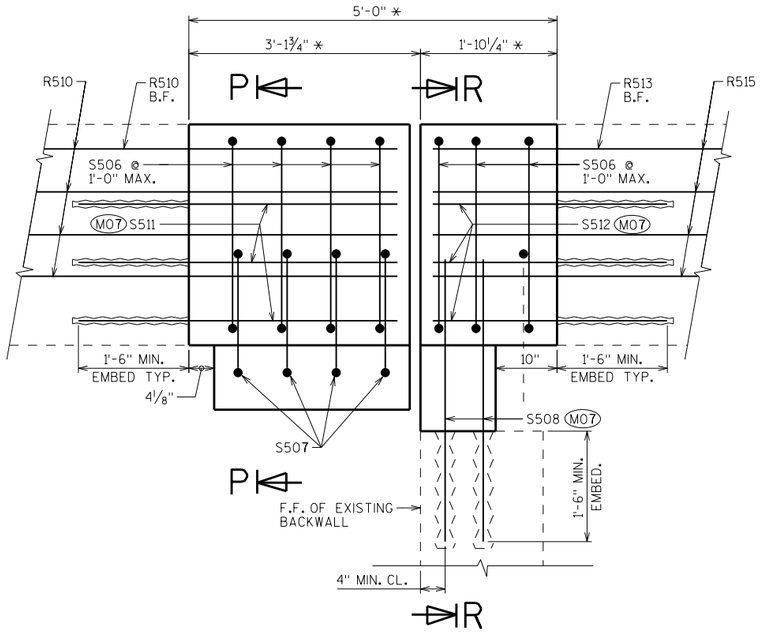
8

STATE PROJECT NUMBER

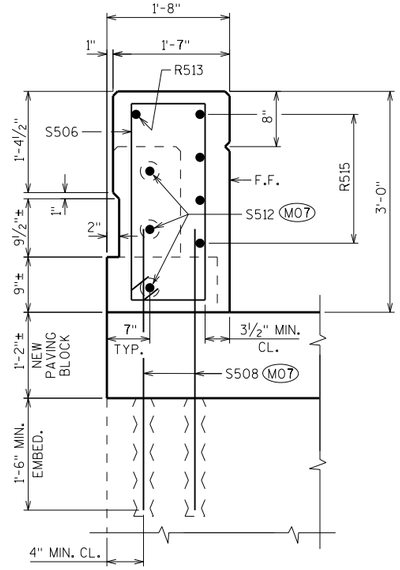
1071-02-61



SECTION P-P



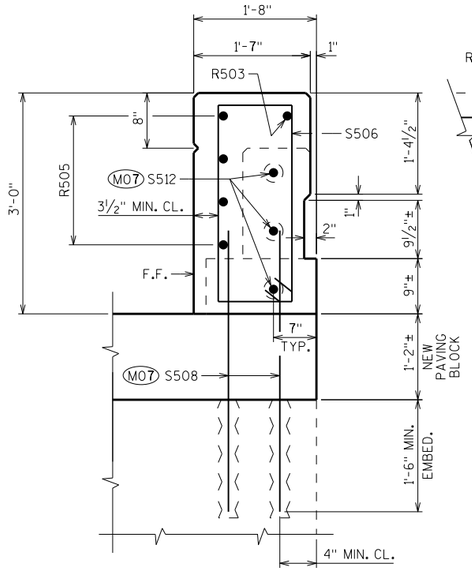
INSIDE ELEVATION - WING 1



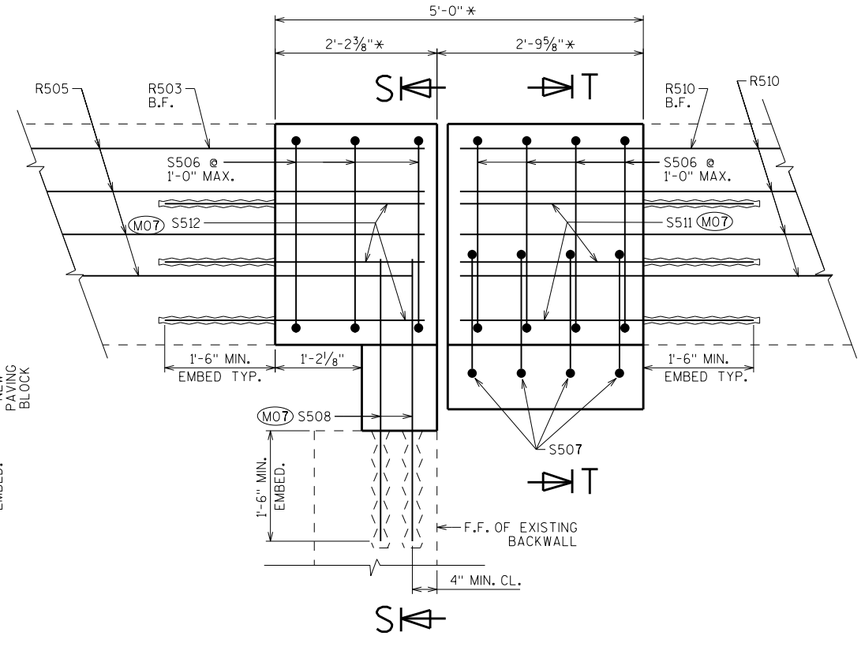
SECTION R-R

* = DIMENSIONS ARE TAKEN ALONG FRONT (ROADWAY) FACE

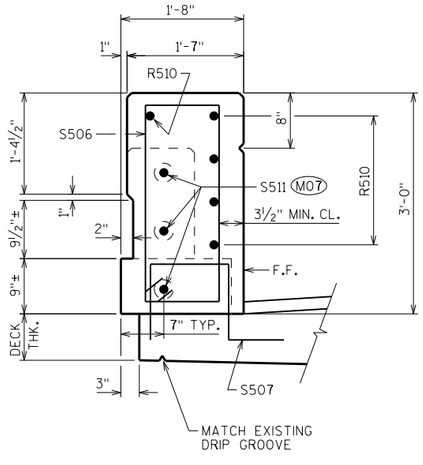
SECTION K-K



SECTION S-S



INSIDE ELEVATION - WING 2



SECTION T-T

SECTION L-L

M07 ADHESIVE ANCHOR NO. 5 BAR. EMBED 1'-6" IN CONCRETE.

NEW PARAPET CONCRETE IS TO BE INCLUDED UNDER BID ITEM "JOINT REPAIR".

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-41-77

DRAWN BY DDS | PLANS CK'D. ADS

PARAPET DETAILS (NEW)

SHEET 6

111

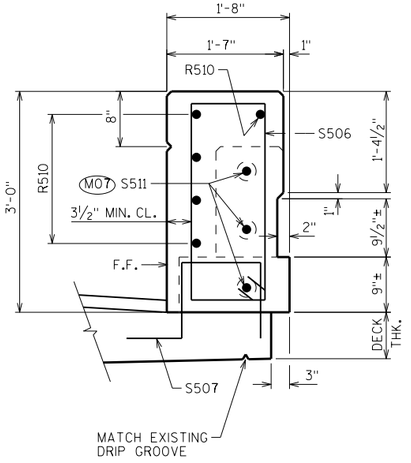
SCALE = 1.00

8

8

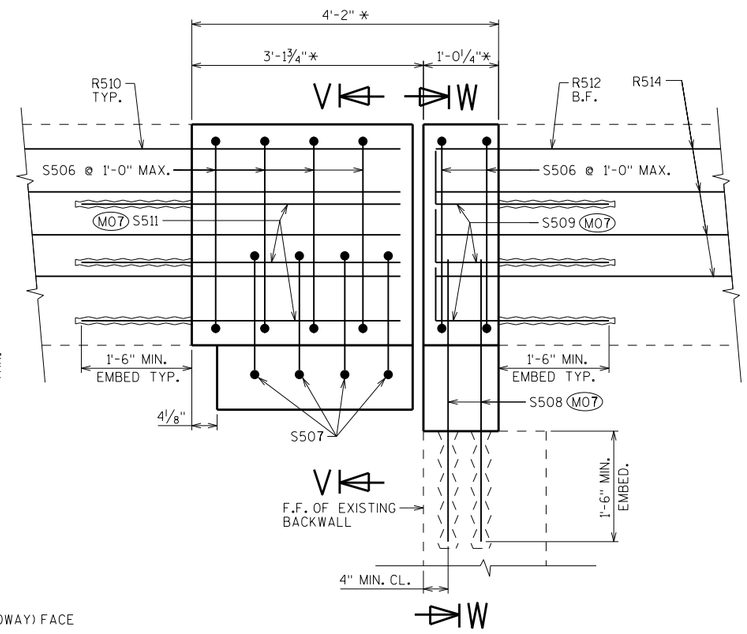
STATE PROJECT NUMBER

1071-02-61



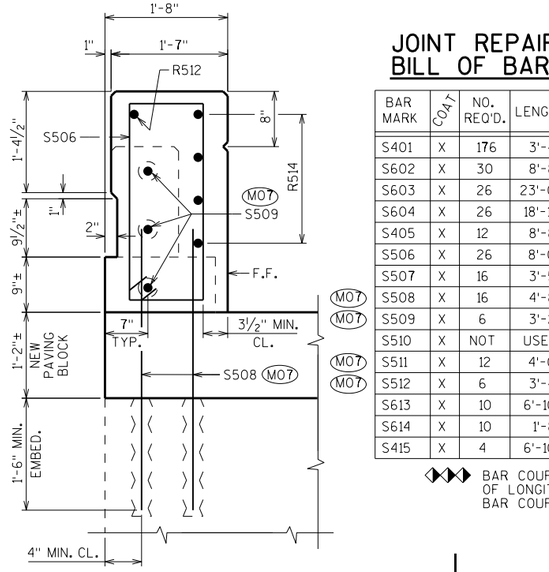
SECTION V-V

* = DIMENSIONS ARE TAKEN ALONG FRONT (ROADWAY) FACE



INSIDE ELEVATION - WING 3

SECTION N-N



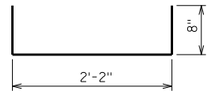
SECTION W-W

JOINT REPAIR BILL OF BARS

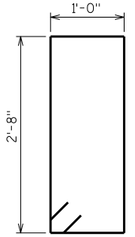
NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
S401	X	176	3'-4"	X		JOINT REPAIR DIAPH. - VERT.
S602	X	30	8'-8"			JOINT REPAIR DIAPH. - HORIZ. - BETWEEN GIRDERS
S603	X	26	23'-0"			SLAB/JOINT REPAIR - HORIZ. - STAGE 1 ◆◆◆
S604	X	26	18'-11"			SLAB/JOINT REPAIR - HORIZ. - STAGE 2 ◆◆◆
S405	X	12	8'-8"			AT EXPANSION DEVICE - BETWEEN GIRDERS
S506	X	26	8'-0"	X		PPT. (NEW) AT JOINT REPAIR - STIRRUPS
S507	X	16	3'-5"	X		PPT. (NEW) AT JOINT REPAIR - VERT.
S508	X	16	4'-8"			PPT. (NEW)/PAVING BLOCK - CONCRETE MASONRY ANCHOR - VERT.
S509	X	6	3'-2"	X		PPT. (NEW) - CONCRETE MASONRY ANCHOR - HORIZ. - WINGS 3&4
S510	X	NOT	USED			
S511	X	12	4'-0"			PPT. (NEW) - CONCRETE MASONRY ANCHOR - HORIZ. - ALL WINGS
S512	X	6	3'-4"			PPT. (NEW) - CONCRETE MASONRY ANCHOR - HORIZ. - WINGS 1&2
S613	X	10	6'-10"			JOINT REPAIR DIAPH. - HORIZ. - STAGE 2 - BTWN. GIRDERS 3&4 ◆◆◆
S614	X	10	1'-8"			JOINT REPAIR DIAPH. - HORIZ. - STAGE 1 - BTWN. GIRDERS 3&4 ◆◆◆
S415	X	4	6'-10"			EXPANSION DEVICE - HORIZ. - BETWEEN GIRDERS 3&4

◆◆◆ BAR COUPLERS USED. BAR LENGTH COMPUTED TO ℄ OF LONGITUDINAL JOINT & SHALL BE MODIFIED TO THE BAR COUPLER MANUFACTURERS RECOMMENDATIONS.



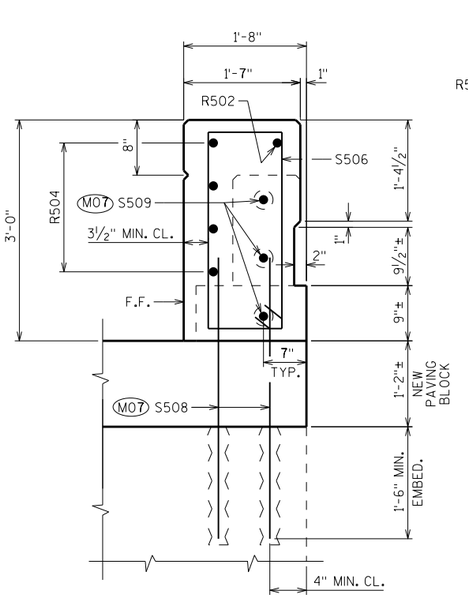
S401



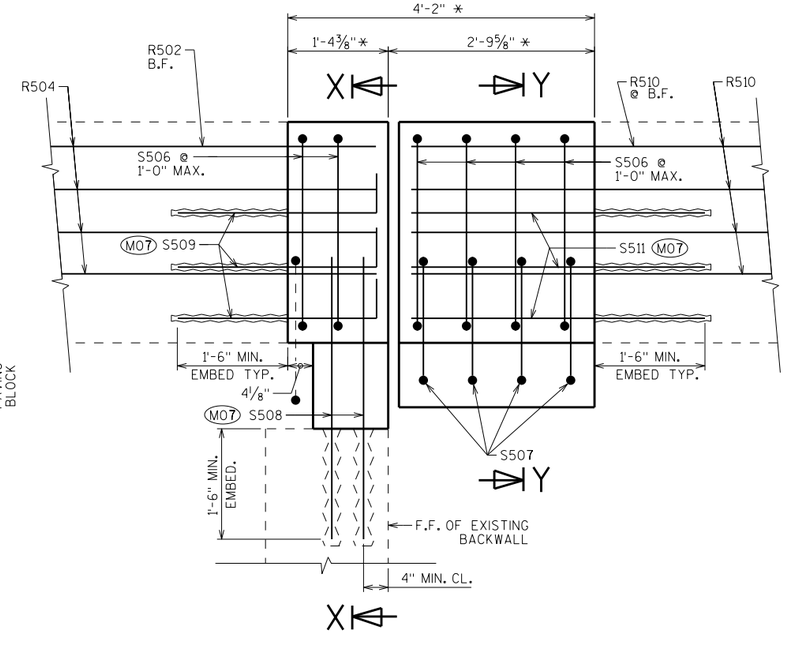
S507

S506

S509

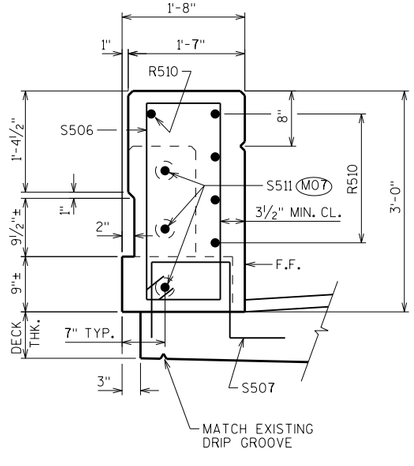


SECTION X-X



INSIDE ELEVATION - WING 4

SECTION M-M



SECTION Y-Y

M07 ADHESIVE ANCHORS NO. 5 BAR. ANCHOR 1'-6" IN CONCRETE.

NEW PARAPET CONCRETE IS TO BE INCLUDED UNDER BID ITEM "JOINT REPAIR".

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-41-77

DRAWN BY DDS | PLANS CK'D. ADS

PARAPET DETAILS (NEW)

SHEET 7

112

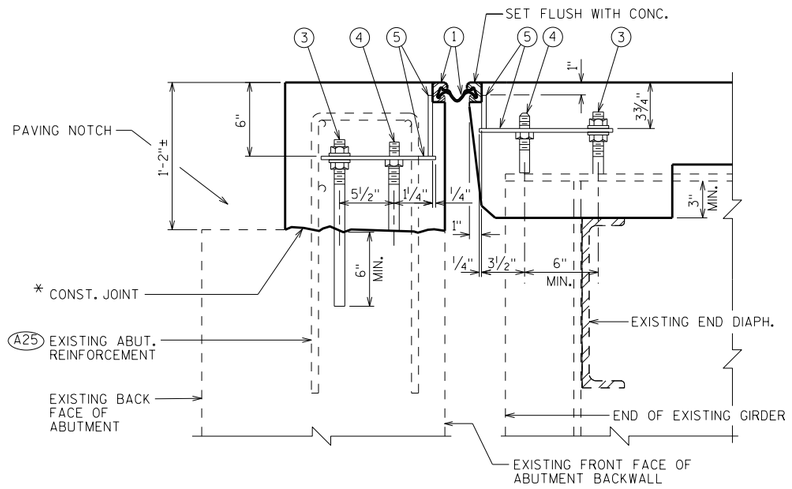
SCALE = 1.00

8

8

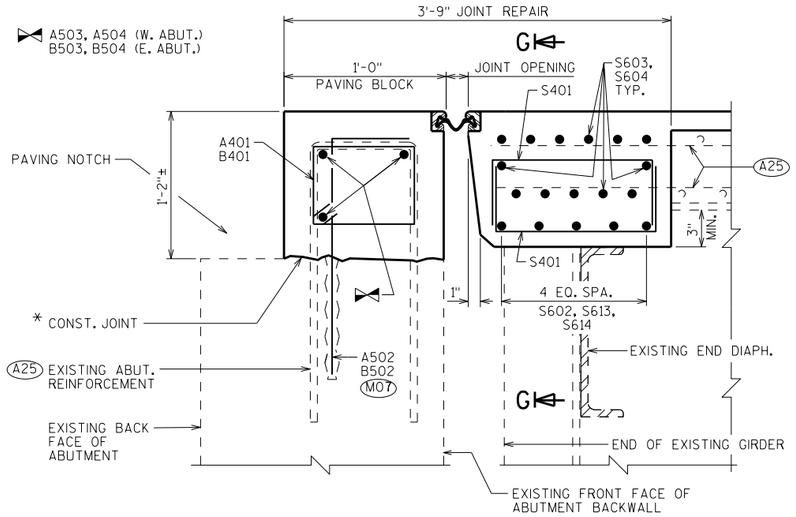
STATE PROJECT NUMBER

1071-02-61



SECTION THRU JOINT AT ABUTMENT

NORMAL TO ℄ SUBSTRUCTURE



SECTION THRU JOINT AT ABUTMENT

NORMAL TO ℄ SUBSTRUCTURE

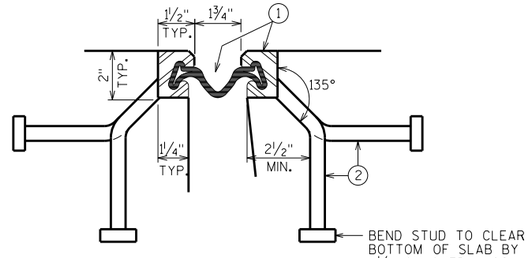
* POUR CONCRETE ABOVE THIS JOINT AFTER SUPERSTRUCTURE IS IN PLACE. STRIKE OFF AND LEAVE ROUGH.

(A25) SALVAGE EXIST. REINF. & EXTEND FULL LENGTH INTO NEW WORK.

(M07) ADHESIVE ANCHORS NO. 5 BAR. EMBED 1'-6" IN CONCRETE.

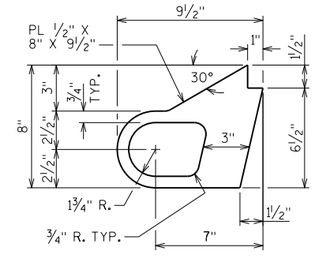
LEGEND

1. NEOPRENE STRIP SEAL (4 - INCH) & STEEL EXTRUSIONS.
2. STUDS ⅝"Φ X 6⅜" LONG AT 6" ALTERNATE CENTERS. WELD TO EXTRUSIONS & BEND AS SHOWN AFTER WELDING.
2A. ½" THICK ANCHOR PLATE WITH ⅝"Φ ROD (OR ALTERNATE STRIP SEAL ANCHOR). WELD ROD TO ANCHOR PLATE. WELD ANCHOR PLATE TO NO. 1 AT 1'-6" CENTERS BETWEEN GIRDERS.
3. ¾" Φ THREADED ROD WITH 2 NUTS AND PLATE WASHERS. WELD THREADED ROD TO TOP FLANGE OR ATTACH BY BOLTING THRU FLANGE. ON ABUTMENT SIDE GROUT THREADED ROD INTO FIELD DRILLED HOLES IN ABUTMENT BACKWALL AS SHOWN.
4. ¾"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. FIELD OR SHOP WELD TO NO. 1. IF FIELD WELDED, COVER WELDED AREAS WITH EPOXY-COATING MATERIAL. PROVIDE 1½" Φ HOLE FOR NO. 3 & 1" Φ HOLE FOR NO. 4.
6. GALVANIZED PLATE ⅜" X LIMITS SHOWN WITH HOLES FOR NO. 7. BEND AS SHOWN.
7. ¾"Φ X 1½" STAINLESS STEEL SOCKET FLAT HEAD SCREWS WITH ANTI-SEIZE LUBRICANT. RECESS 1/16" BELOW PLATE SURFACE.
8. ¾"Φ X 4" GALVANIZED HEX HEAD BOLT. BEND 45°.
9. ¾"Φ X 2¼" GALVANIZED THREADED COUPLING.
10. 1" X 5" SLOTTED CSK. HOLE FOR NO. 7. SLOT PARALLEL TO DIRECTION OF MOVEMENT.

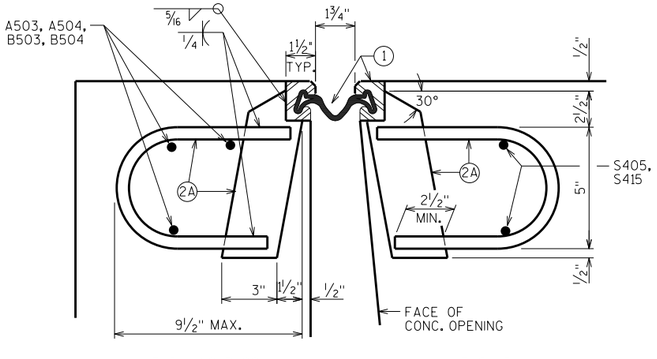


SECTION THRU JOINT

EXTERIOR GIRDER TO EDGE OF SLAB AND AT PARAPETS.

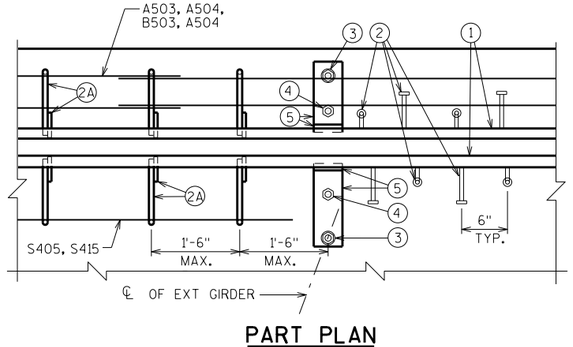


ALTERNATE STRIP SEAL ANCHOR

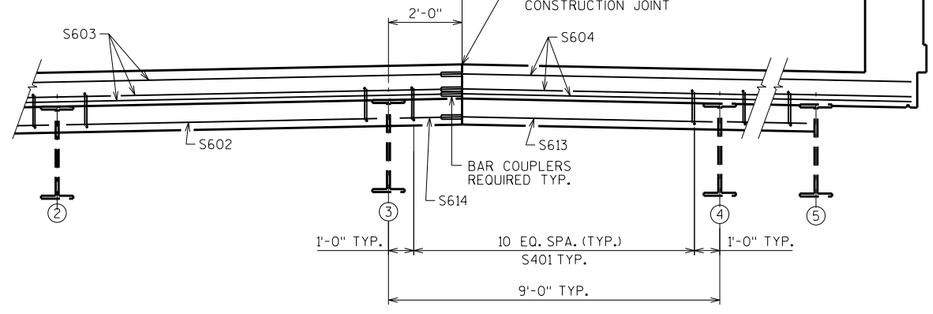


SECTION THRU JOINT

ROADWAY TRAFFIC AREA BETWEEN EXTERIOR GIRDERS.



PART PLAN



TYP. BETWEEN GIRDERS

SECTION G-G

LOOKING TOWARDS EAST ABUTMENT
WEST ABUTMENT SIMILAR

GENERAL NOTES

ONE FIELD SPLICE PERMITTED IN STEEL EXTRUSIONS. IF USED, DETAILS SHALL BE SUBMITTED FOR APPROVAL. NO SPLICING PERMITTED IN NEOPRENE STRIP SEAL.

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

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

SANDBLAST PLATES & EXTRUSIONS AFTER FABRICATION IN ACCORDANCE WITH SSPC SP. #6 "COMMERCIAL BLAST CLEANING". AFTER BLAST CLEANING THE PLATES & EXTRUSIONS SHALL BE HOT DIPPEDGALVANIZED. SLIP-RESISTANT SURFACE IS APPLIED TO SIDEWALK COVER PLATES BY THE MANUFACTURER AND THEN HOT DIPPED GALVANIZED TO THEIR RECOMMENDATIONS TO MAINTAIN THE INTEGRITY OF THIS SURFACE.

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

STRIP SEAL EXPANSION JOINT ASSEMBLY, INCLUDING ANCHOR STUDS & HARDWARE WILL BE PAID FOR AT THE LUMP SUM PRICE BID FOR "EXPANSION DEVICE B-41-77".

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-41-77

DRAWN BY: DDS | PLANS CK'D.: ADS

EXPANSION DEVICE

SHEET 8

113

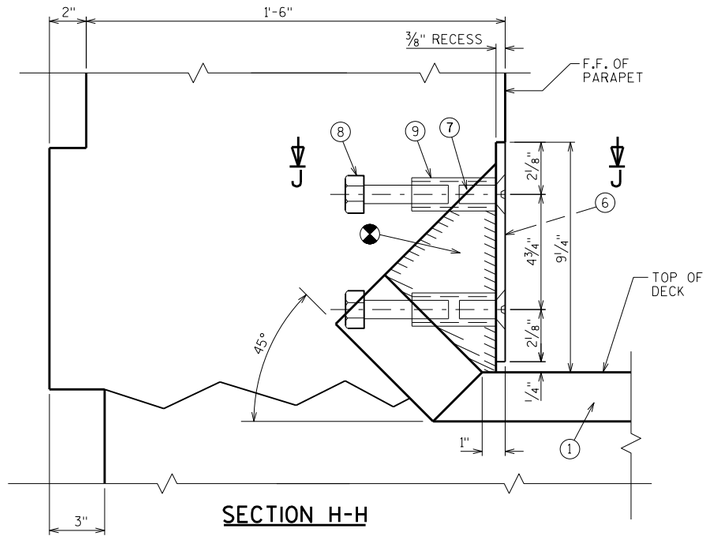
JT400SS
7-10

SCALE = 1.0

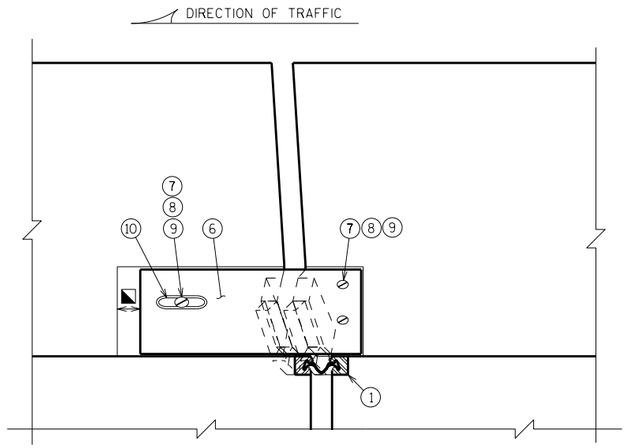
8

STATE PROJECT NUMBER

1071-02-61

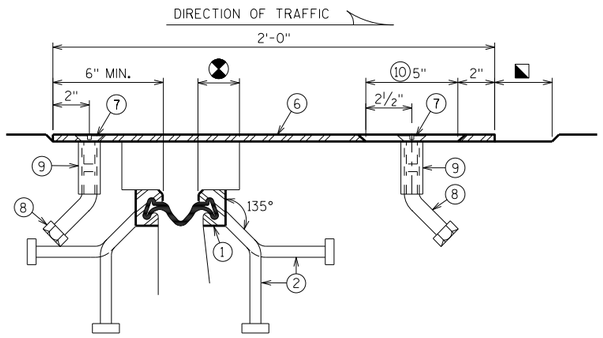


SECTION H-H

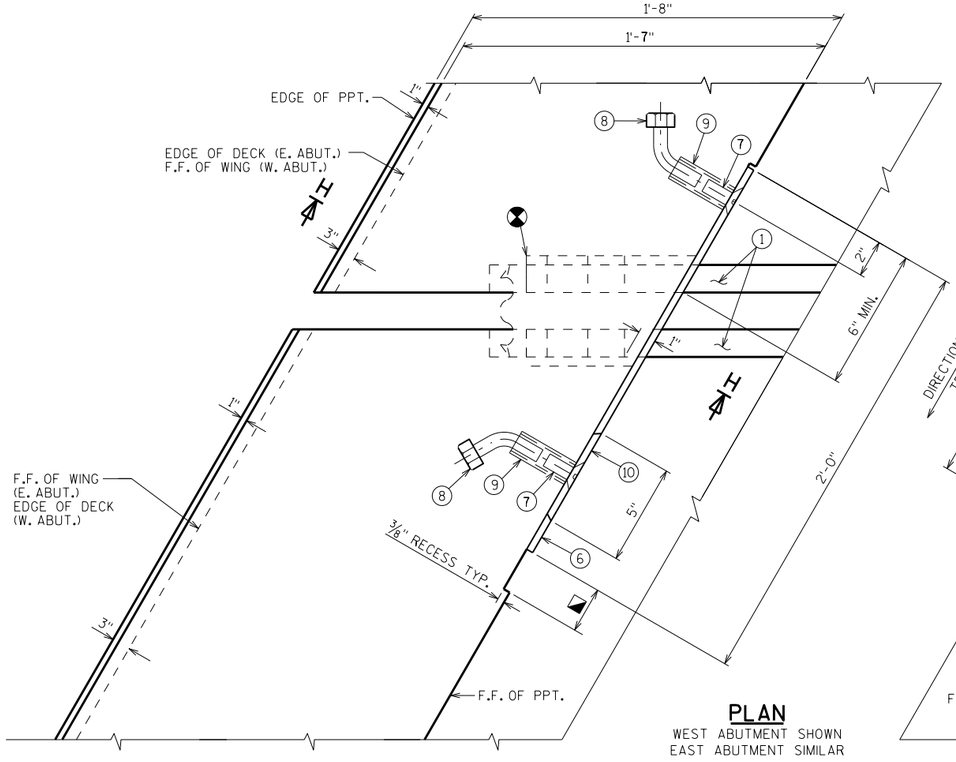


VIEW OF PARAPET PLATE FROM ROADWAY

WING 2 SHOWN
WINGS 1,3&4 SIMILAR

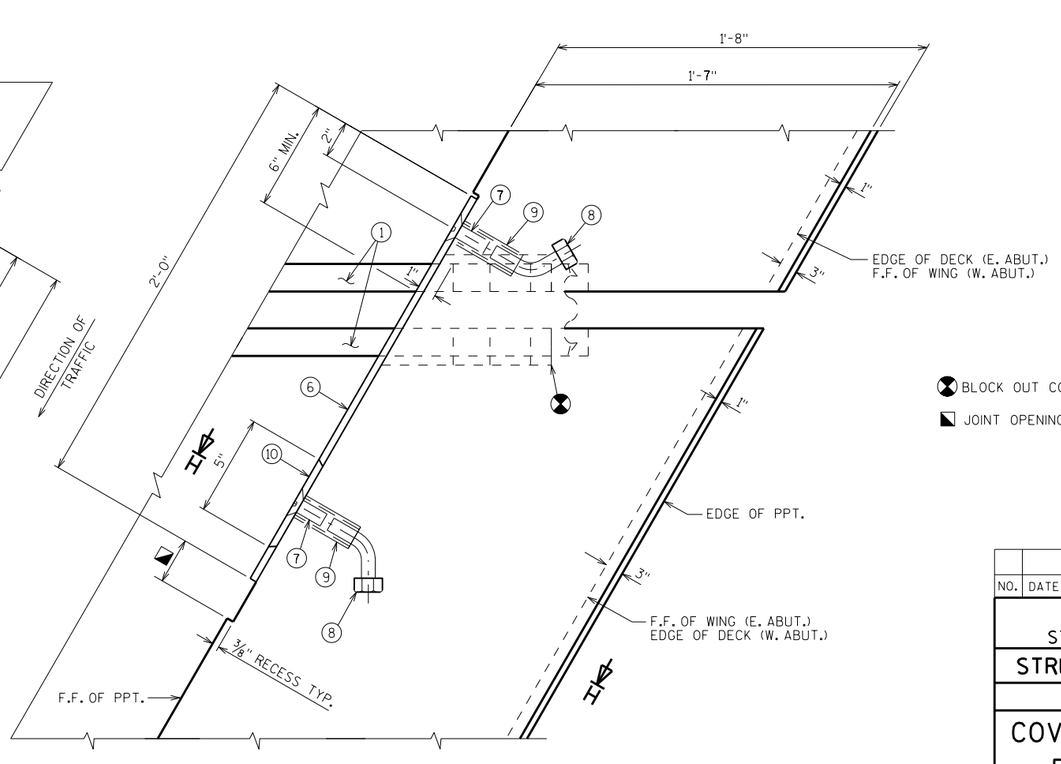


SECTION J-J



PLAN

WEST ABUTMENT SHOWN
EAST ABUTMENT SIMILAR



BLOCK OUT CONCRETE 2" EACH SIDE OF JOINT OPENING.

JOINT OPENING DIM. ALONG SKEW PLUS 1/2".

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-41-77

DRAWN BY DDS | PLANS CK'D. ADS

COVER PLATE DETAILS

SHEET 9

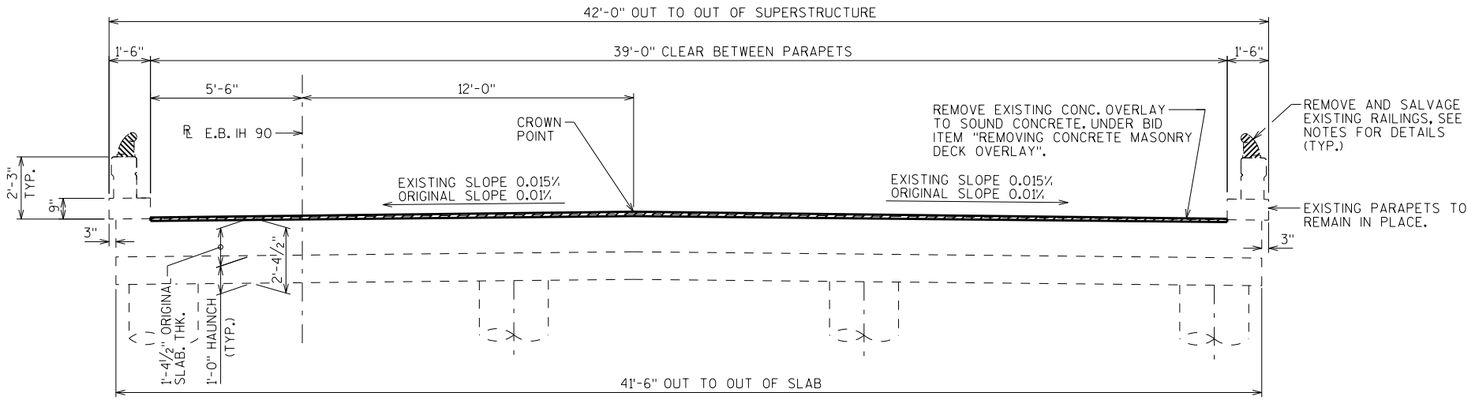
114

8

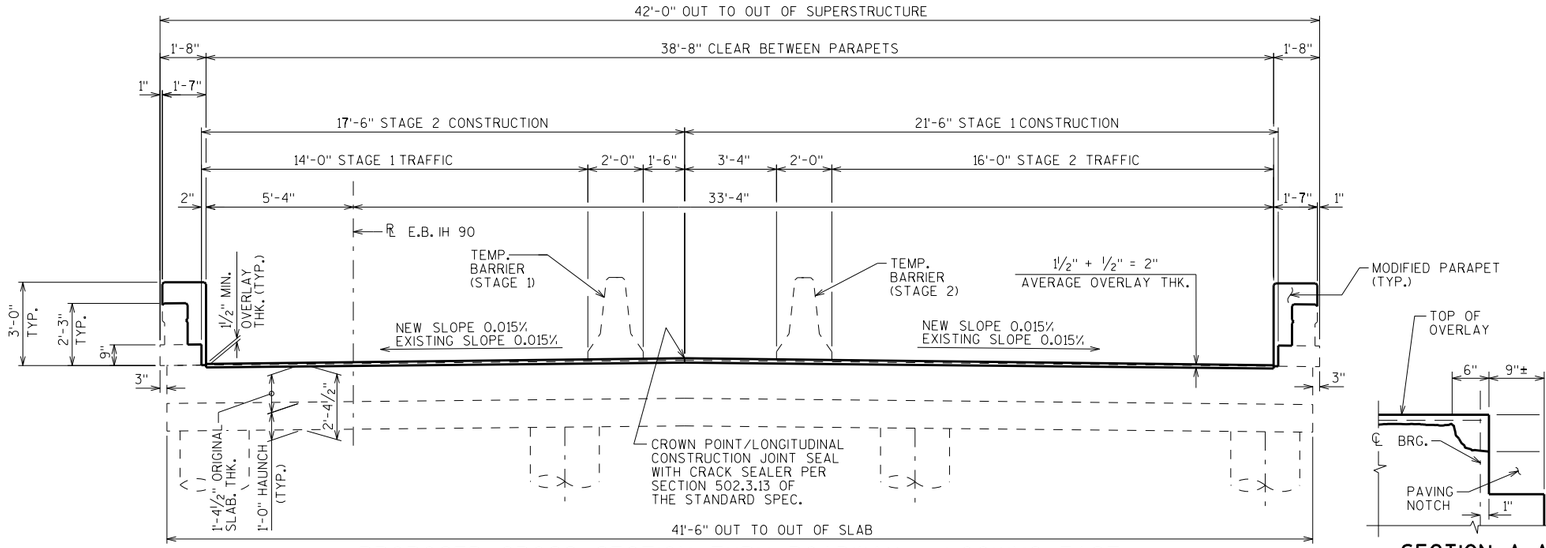
8

SCALE = 1.0

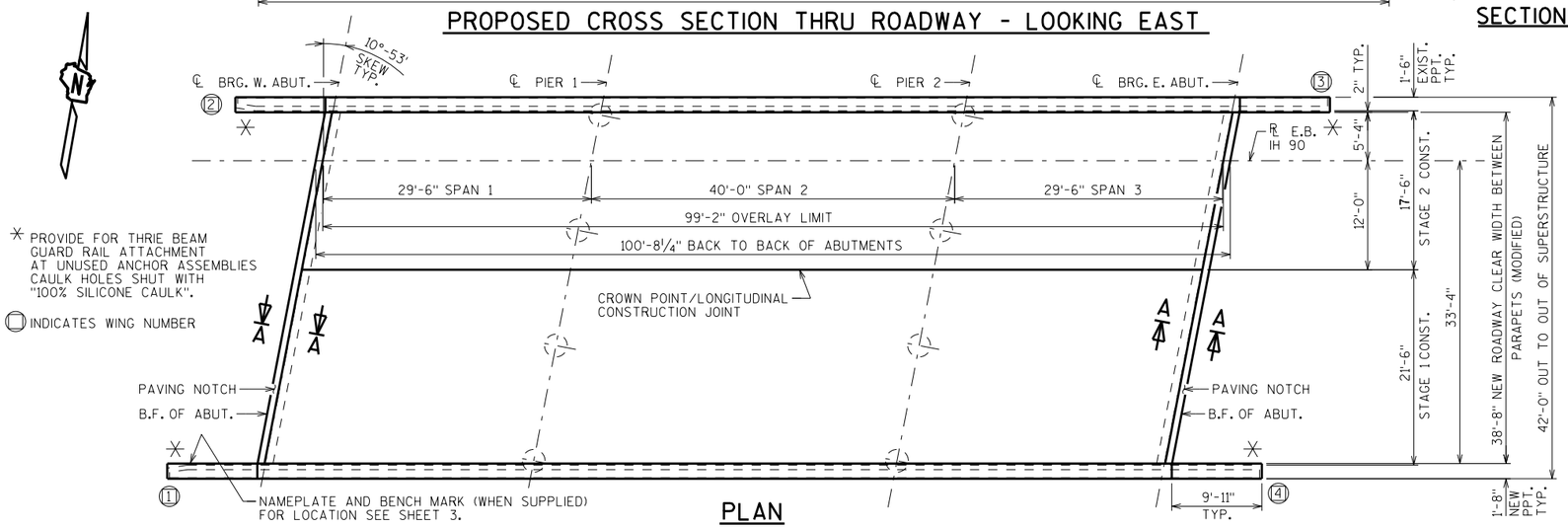
7-10
IT4005S



EXISTING CROSS SECTION THRU ROADWAY - LOOKING EAST



PROPOSED CROSS SECTION THRU ROADWAY - LOOKING EAST



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

(2) INDICATES WING NUMBER

PLAN

SECTION A-A

STATE PROJECT NUMBER

1071-02-61

DESIGN DATA

LIVE LOAD:

INVENTORY RATING; HS-18
OPERATIONAL RATING; HS-30
MAXIMUM STANDARD PERMIT VEHICLE LOAD = 250 KIPS.

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

MATERIAL PROPERTIES:

CONCRETE MASONRY BRIDGES ——— f'c = 3,500 P.S.I.
CONCRETE MASONRY OVERLAY DECKS ——— f'c = 4,000 P.S.I.
BAR STEEL REINFORCEMENT, GRADE 60 ——— fy = 60,000 P.S.I.

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

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

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

PROTECTIVE SURFACE TREATMENT TO BE APPLIED TO THE ENTIRE TOP OF DECK SURFACE AND THE FRONT FACE AND THE TOP OF THE PARAPET, INCLUDING PARAPETS ON ABUTMENT WINGS.

DIMENSIONS SHOWN ARE BASED ON THE EXISTING ORIGINAL STRUCTURE PLANS.

THE CONTRACTOR SHALL SUPPLY A NEW NAME PLATE IN ACCORDANCE WITH SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS AND THE STANDARD DETAIL DRAWINGS. NAME PLATE TO SHOW ORIGINAL CONSTRUCTION YEAR 1968.

ANY EXCAVATION NECESSARY TO COMPLETE THE CONC. OVERLAY AT THE ABUTMENTS IS TO BE CONSIDERED INCIDENTAL TO THE BID ITEM "CONCRETE MASONRY OVERLAY DECKS".

CONTACT THE BUREAU OF STRUCTURES BEFORE PLACEMENT OF OVERLAY IF THE AVERAGE THICKNESS OF THE NEW OVERLAY WILL EXCEED THE AVERAGE OVERLAY SHOWN ON THE PLANS BY MORE THAN ½".

THE EXISTING OVERLAY SHALL BE REMOVED FROM THE BRIDGE DECK UNDER BID ITEM "REMOVING CONCRETE MASONRY DECK OVERLAY B-41-79".

PREPARATION DECKS TYPE 1, PREPARATION DECKS TYPE 2 AND CONCRETE SURFACE REPAIR AREAS SHALL BE DETERMINED BY THE FIELD ENGINEER.

REMOVE AND SALVAGE THE EXISTING RAILINGS (INCLUDES RAILS, POSTS AND ALL ASSOCIATED HARDWARE). AFTER REMOVAL, CONTRACTOR IS TO DELIVER RAILING TO THE MONROE COUNTY HIGHWAY DEPT. AND SHALL REMAIN THE PROPERTY OF THE STATE OF WISCONSIN. THIS SHALL BE INCIDENTAL TO "REMOVING OLD STRUCTURE STA. 1278+80.00".

THE ENTIRE EXPOSED TOP AND INSIDE FACES OF THE EXISTING PARAPET SURFACES SHALL BE BLAST CLEANED AND ANY EXPOSED STEEL SHALL BE BRUSHED CLEANED PRIOR TO THE PARAPET BEING BUILT UP (MODIFIED). ALL THE WORK DESCRIBED ABOVE SHALL BE INCLUDED AND/OR CONSIDERED INCIDENTAL TO THE BID ITEM "CLEANING PARAPETS SPECIAL".

REMOVE ANY/ALL LOOSE CONCRETE AT ABUMENT BODIES AND THE UNDERSIDE OF SLAB UNDER BID ITEM "CONCRETE SURFACE REPAIR". SURFACES SHALL BE BLAST CLEANED AND ANY EXPOSED STEEL SHALL BE BRUSH CLEANED PRIOR TO THE CONCRETE SURFACE REPAIRS BEING COMPLETED. REPAIR AREAS SHALL BE DETERMINED BY THE FIELD ENGINEER.

LIST OF DRAWINGS

1. CONCRETE OVERLAY
2. QUANTITIES & DETAILS
3. PARAPET DETAILS

STRUCTURE DESIGN CONTACT:
AARON BONK (608) 261-0261
ANDREW SMITH (608) 266-0989

NO.	DATE	REVISION	BY

Plans Prepared By **WISDOT**
BUREAU OF STRUCTURES

ACCEPTED William C. Dreher 7/25/17
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE B-41-79

E.B. IH 90 OVER LEON VALLEY RD.

COUNTY	TOWN ~~CITY/VILLAGE~~
MONROE	SPARTA

DESIGN SPEC. REHABILITATION N/A

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
ADS	NAR	DDS	ADS

CONCRETE OVERLAY

SHEET 1 OF 3

115

I.D. 1071-02-31B

DATE: JULY 2017

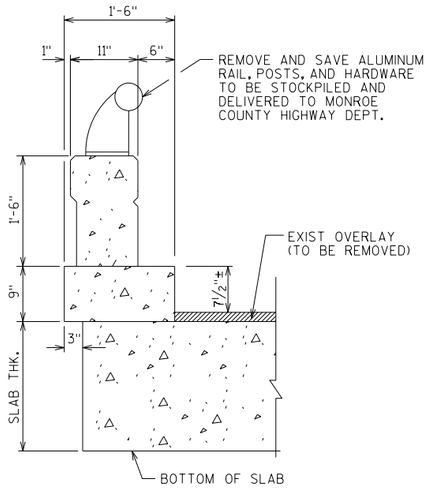
SCALE = 8.00

8

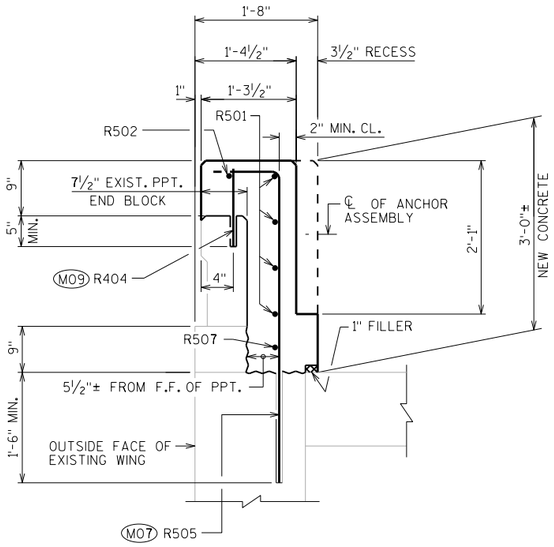
8

STATE PROJECT NUMBER

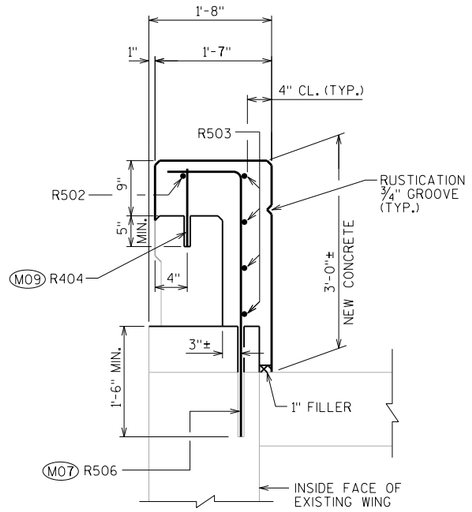
1071-02-61



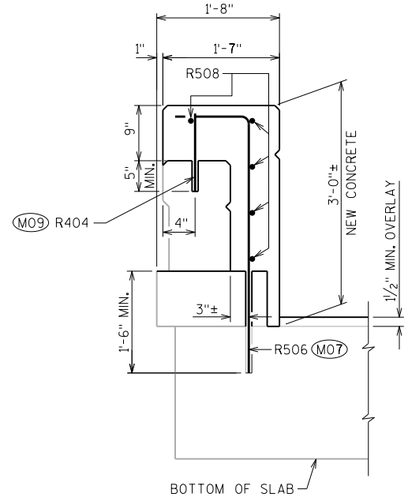
EXISTING SECTION
ON BRIDGE



SECTION B-B (WINGS 1&2)



SECTION C-C



SECTION D-D
ON BRIDGE

FOR SECTION LOCATIONS SEE SHEET 3

M07 ADHESIVE ANCHORS NO. 5 BAR. EMBED 1'-6" IN CONCRETE.

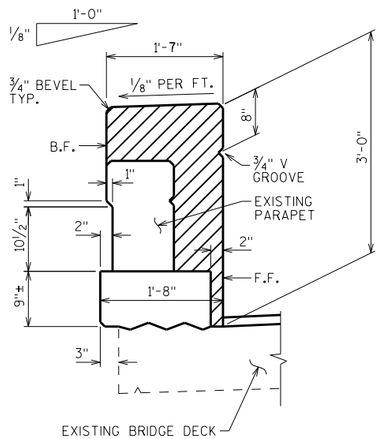
M09 ADHESIVE ANCHORS ½-INCH. EMBED 5" IN CONCRETE.

◆▶ BID ITEM ALSO INCLUDES CONCRETE FOR:
"PREPARATION DECKS TYPE 1"
"PREPARATION DECKS TYPE 2"
AND "FULL-DEPTH DECK REPAIR"

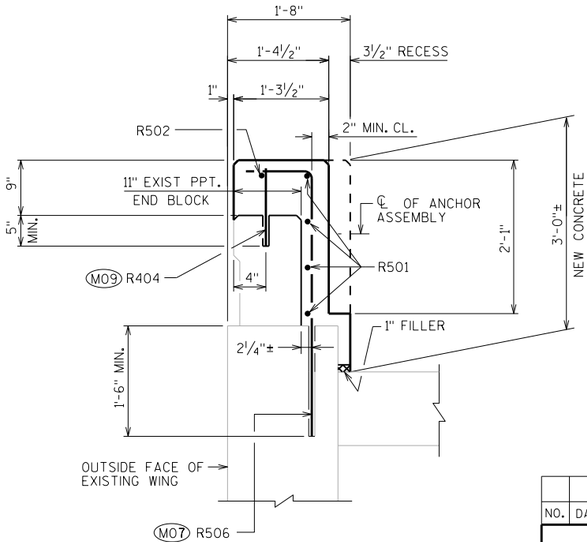
TOTAL ESTIMATED QUANTITIES

	BID ITEM #	DESCRIPTION	QTYS.	UNITS
	203.0200	REMOVING OLD STRUCTURE STA. 1278+80.00	1	LS
	203.0210.S	ABATEMENT OF ASBESTOS CONTAINING MATERIAL STRUCTURE B-41-79	1	LS
	502.0100	CONCRETE MASONRY BRIDGES	22	CY
	502.3200	PROTECTIVE SURFACE TREATMENT	554	SY
	502.4104	ADHESIVE ANCHORS 1/2-INCH	258	EACH
	502.4205	ADHESIVE ANCHORS NO. 5 BAR	262	EACH
	505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	2710	LB
	509.0301	PREPARATION DECKS TYPE 1	42	SY
	509.0302	PREPARATION DECKS TYPE 2	13	SY
	509.1500	CONCRETE SURFACE REPAIR	99	SF
	509.2000	FULL-DEPTH DECK REPAIR	1	SY
◆▶	509.2500	CONCRETE MASONRY OVERLAY DECKS	26	CY
	509.9005.S	REMOVING CONCRETE MASONRY DECK OVERLAY B-41-79	431	SY
	614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	4	EACH
	SPV.0090	CLEANING PARAPETS SPECIAL	242	LF
		NON-BID ITEMS		
		FILLER	1"	SIZE

= NEW CONCRETE FOR NEW PARAPET SHAPE



MODIFIED PARAPET SHAPE
TYP.



SECTION B-B (WINGS 3&4)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-41-79

DRAWN BY DDS | PLANS CK'D. ADS

QUANTITIES & DETAILS

SHEET 2

116

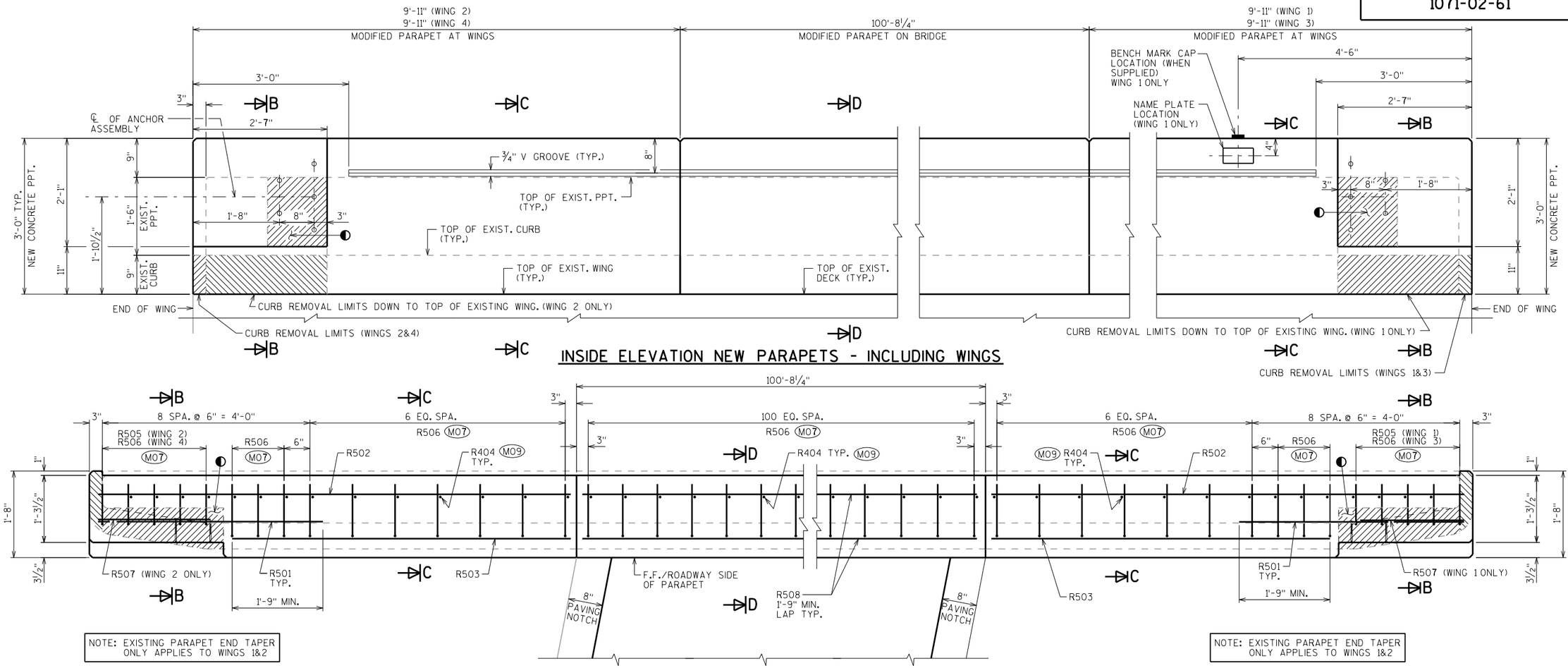
SCALE =

8

8

STATE PROJECT NUMBER

1071-02-61



INSIDE ELEVATION NEW PARAPETS - INCLUDING WINGS

NOTE: EXISTING PARAPET END TAPER ONLY APPLIES TO WINGS 1&2

NOTE: EXISTING PARAPET END TAPER ONLY APPLIES TO WINGS 1&2

PLAN VIEW

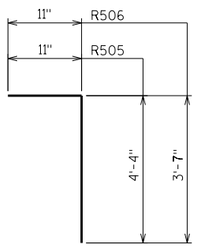
(M07) ADHESIVE ANCHORS NO. 5 BARS. EMBED 1'-6" IN CONCRETE.

(M09) ADHESIVE ANCHORS ½-INCH. EMBED 5" IN CONCRETE.

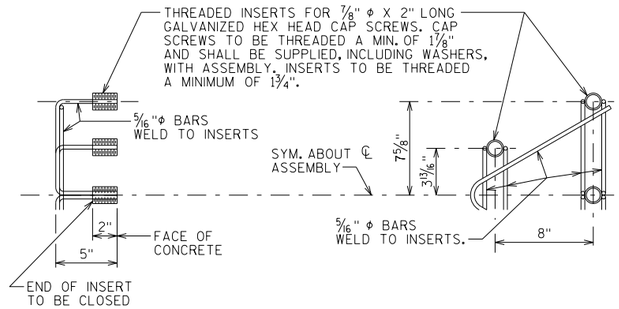
BILL OF BARS

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

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
R501	X	16	4'-4"			PPT. AT ALL WINGS - HORIZ.
R502	X	4	9'-7"			PPT. AT ALL WINGS - HORIZ. - B.F.
R503	X	16	7'-0"			PPT. AT ALL WINGS - HORIZ. - F.F.
(M09) R404	X	258	1'-0"			PPT. AT ALL WINGS & BRIDGE - CONCRETE MASONRY ANCHORS - VERT. - B.F.
(M07) R505	X	10	5'-2"	X		PPT. AT WINGS 1&2 - CONCRETE MASONRY ANCHORS - VERT. - F.F.
(M07) R506	X	252	4'-5"	X		PPT. AT ALL WINGS & BRIDGE - CONCRETE MASONRY ANCHORS - VERT. - F.F.
R507	X	2	2'-0"			PPT. AT WINGS 1&2 - HORIZ. - ENDS
R508	X	30	34'-8"			PPT. ON BRIDGE - HORIZ.



◐ REMOVE EXIST. PPT. CONC AS NEEDED TO FIT THRIE BEAM ANCHOR ASSEMBLY



DETAIL OF GALVANIZED ANCHOR ASSEMBLY

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

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

NOTE: SEE SHEET 2 FOR SECTIONS B,C&D

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-41-79

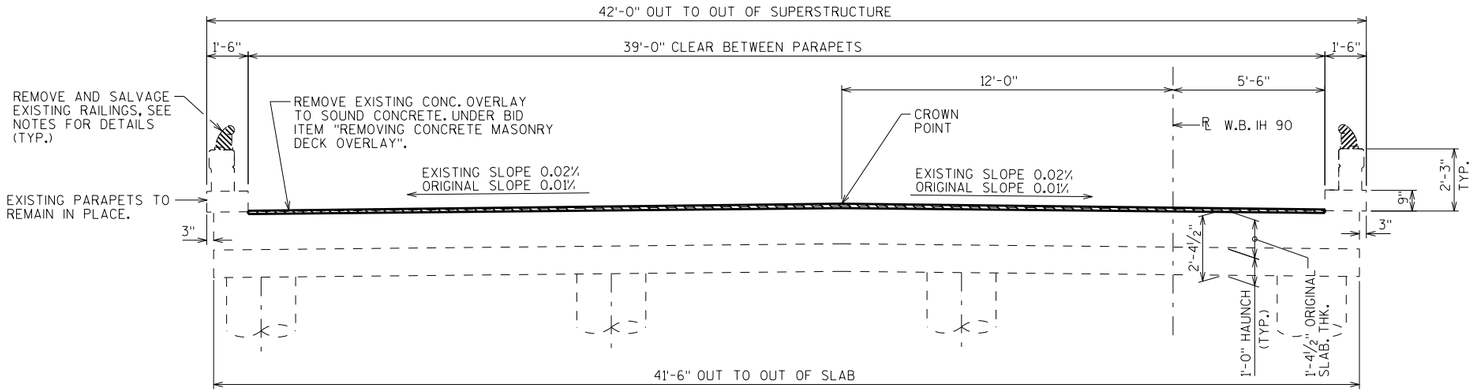
DRAWN BY DDS | PLANS CK'D. ADS

PARAPET DETAILS

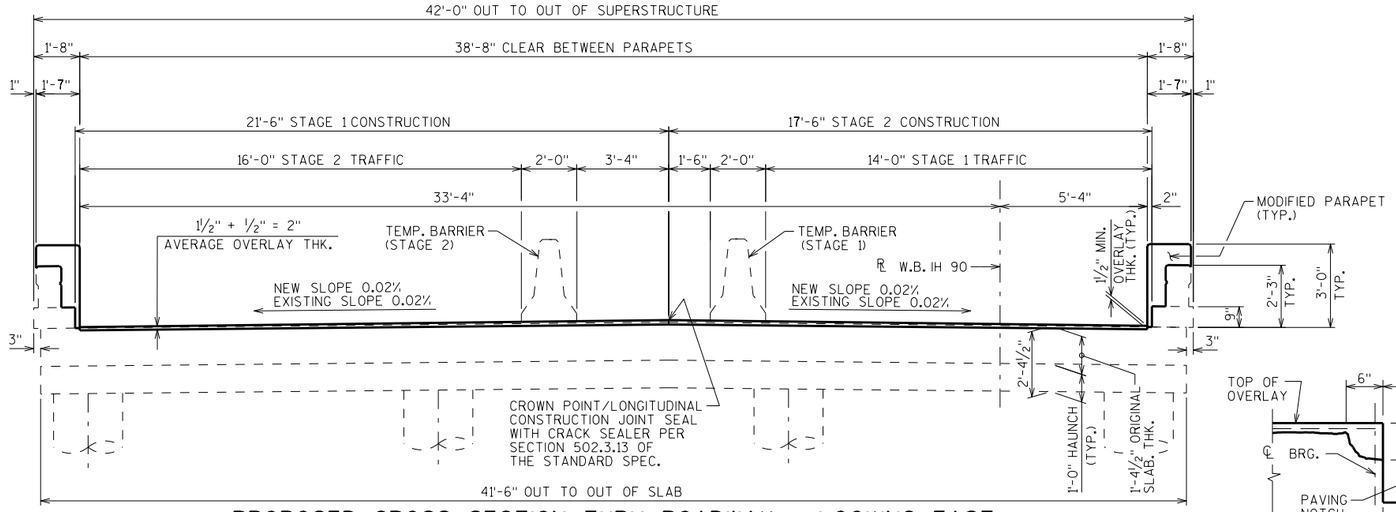
SHEET 3

117

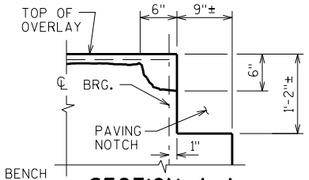
SCALE = 1



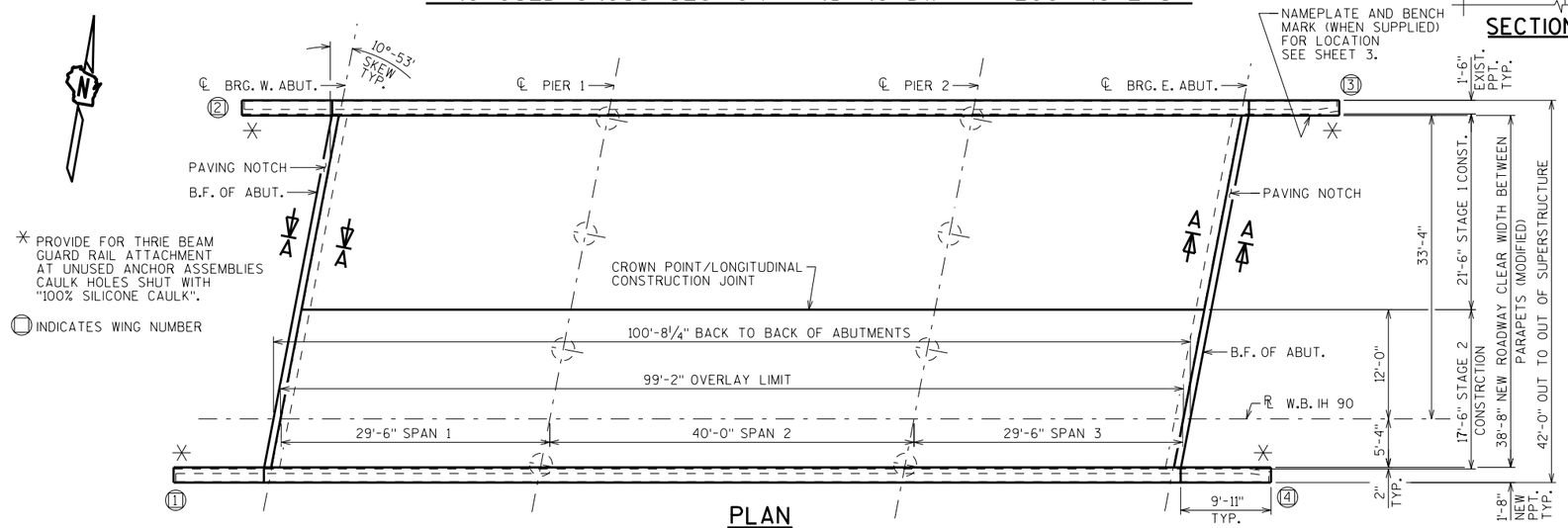
EXISTING CROSS SECTION THRU ROADWAY - LOOKING EAST



PROPOSED CROSS SECTION THRU ROADWAY - LOOKING EAST



SECTION A-A



PLAN

DESIGN DATA

LIVE LOAD:

INVENTORY RATING; HS-18
OPERATIONAL RATING; HS-30
MAXIMUM STANDARD PERMIT VEHICLE LOAD = 250 KIPS.

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

MATERIAL PROPERTIES:

CONCRETE MASONRY BRIDGES — f'c = 3,500 P.S.I.
CONCRETE MASONRY OVERLAY DECKS — f'c = 4,000 P.S.I.
BAR STEEL REINFORCEMENT, GRADE 60 — fy = 60,000 P.S.I.

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

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

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

PROTECTIVE SURFACE TREATMENT TO BE APPLIED TO THE ENTIRE TOP OF DECK SURFACE AND THE FRONT FACE AND THE TOP OF THE PARAPET, INCLUDING PARAPETS ON ABUTMENT WINGS.

DIMENSIONS SHOWN ARE BASED ON THE EXISTING ORIGINAL STRUCTURE PLANS.

THE CONTRACTOR SHALL SUPPLY A NEW NAME PLATE IN ACCORDANCE WITH SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS AND THE STANDARD DETAIL DRAWINGS. NAME PLATE TO SHOW ORIGINAL CONSTRUCTION YEAR 1968.

ANY EXCAVATION NECESSARY TO COMPLETE THE CONC. OVERLAY AT THE ABUTMENTS IS TO BE CONSIDERED INCIDENTAL TO THE BID ITEM "CONCRETE MASONRY OVERLAY DECKS".

CONTACT THE BUREAU OF STRUCTURES BEFORE PLACEMENT OF OVERLAY IF THE AVERAGE THICKNESS OF THE NEW OVERLAY WILL EXCEED THE AVERAGE OVERLAY SHOWN ON THE PLANS BY MORE THAN ½".

THE EXISTING OVERLAY SHALL BE REMOVED FROM THE BRIDGE DECK UNDER BID ITEM "REMOVING CONCRETE MASONRY DECK OVERLAY B-41-80".

PREPARATION DECKS TYPE 1, PREPARATION DECKS TYPE 2 AND CONCRETE SURFACE REPAIR AREAS SHALL BE DETERMINED BY THE FIELD ENGINEER.

REMOVE AND SALVAGE THE EXISTING RAILINGS (INCLUDES RAILS, POSTS AND ALL ASSOCIATED HARDWARE). AFTER REMOVAL, CONTRACTOR IS TO DELIVER RAILING TO THE MONROE COUNTY HIGHWAY DEPT. AND SHALL REMAIN THE PROPERTY OF THE STATE OF WISCONSIN. THIS SHALL BE INCIDENTAL TO "REMOVING OLD STRUCTURE STA. 1278+80.00".

THE ENTIRE EXPOSED TOP AND INSIDE FACES OF THE EXISTING PARAPET SURFACES SHALL BE BLAST CLEANED AND ANY EXPOSED STEEL SHALL BE BRUSHED CLEANED PRIOR TO THE PARAPET BEING BUILT UP (MODIFIED). ALL THE WORK DESCRIBED ABOVE SHALL BE INCLUDED AND/OR CONSIDERED INCIDENTAL TO THE BID ITEM "CLEANING PARAPETS SPECIAL".

REMOVE ANY/ALL LOOSE CONCRETE AT ABUMENT BODIES UNDER BID ITEM "CONCRETE SURFACE REPAIR". SURFACES SHALL BE BLAST CLEANED AND ANY EXPOSED STEEL SHALL BE BRUSH CLEANED PRIOR TO THE CONCRETE SURFACE REPAIRS BEING COMPLETED. REPAIR AREAS SHALL BE DETERMINED BY THE FIELD ENGINEER.

LIST OF DRAWINGS

1. CONCRETE OVERLAY
2. QUANTITIES & DETAILS
3. PARAPET DETAILS

STATE PROJECT NUMBER

1071-02-61

STRUCTURE DESIGN CONTACT:
AARON BONK (608) 261-0261
ANDREW SMITH (608) 266-0989

NO.	DATE	REVISION	BY

Plans Prepared By **WISDOT**
BUREAU OF STRUCTURES

ACCEPTED William C. Dreher — CHIEF STRUCTURES DESIGN ENGINEER — 7/25/17 DATE

STRUCTURE B-41-80

W.B. IH 90 OVER LEON VALLEY RD.

COUNTY	TOWN ~~CITY/VILLAGE~~
MONROE	SPARTA

DESIGN SPEC.					
REHABILITATION	N/A				
DESIGNED BY ADS	DESIGN CK'D. NAR	DRAWN BY DDS	PLANS CK'D. ADS		

CONCRETE OVERLAY

SHEET 1 OF 3

118

I.D. 1071-02-31B

DATE: JULY 2017

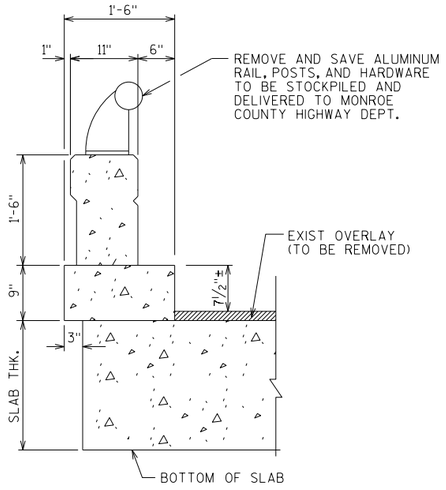
SCALE = 8.00

8

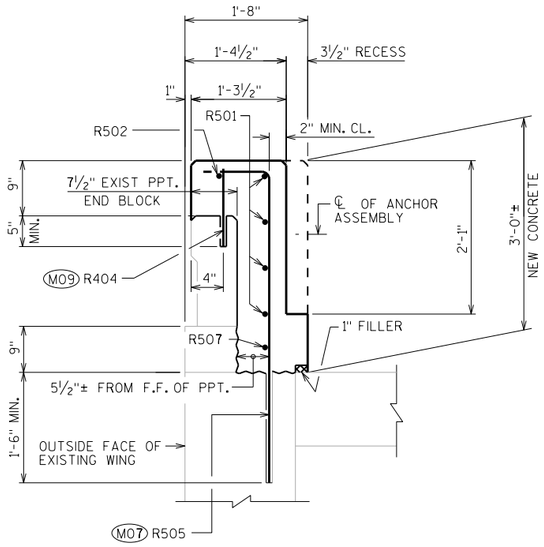
8

STATE PROJECT NUMBER

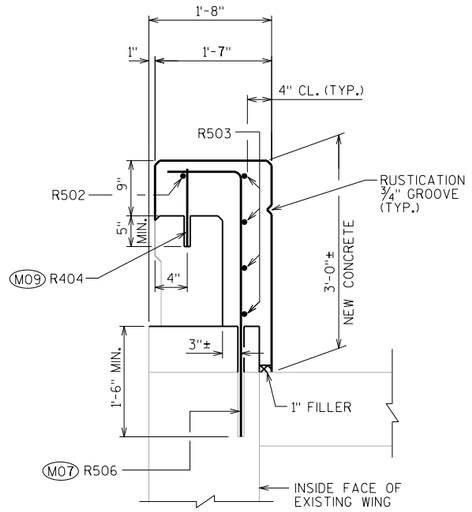
1071-02-61



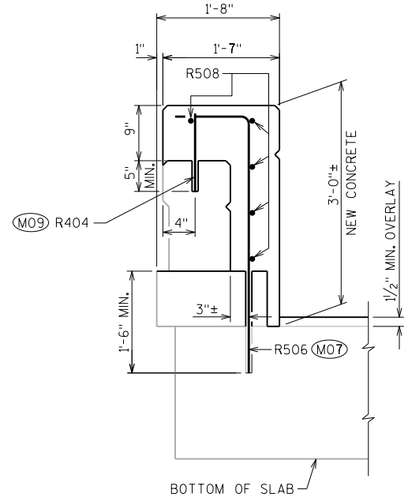
EXISTING SECTION
ON BRIDGE



SECTION B-B (WINGS 3&4)



SECTION C-C



SECTION D-D
ON BRIDGE

FOR SECTION LOCATIONS SEE SHEET 3

M07 ADHESIVE ANCHORS NO. 5 BAR. EMBED 1'-6" IN CONCRETE.

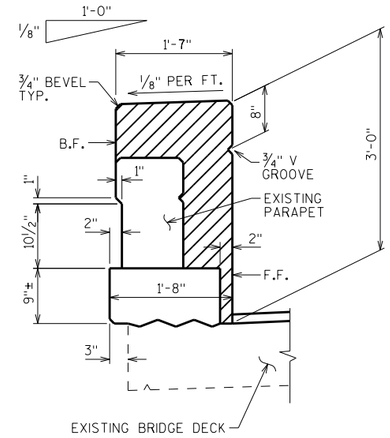
M09 ADHESIVE ANCHORS ½-INCH. EMBED 5" IN COMCRETE.

◆▶ BID ITEM ALSO INCLUDES CONCRETE FOR:
"PREPARATION DECKS TYPE 1"
"PREPARATION DECKS TYPE 2"
AND "FULL-DEPTH DECK REPAIR"

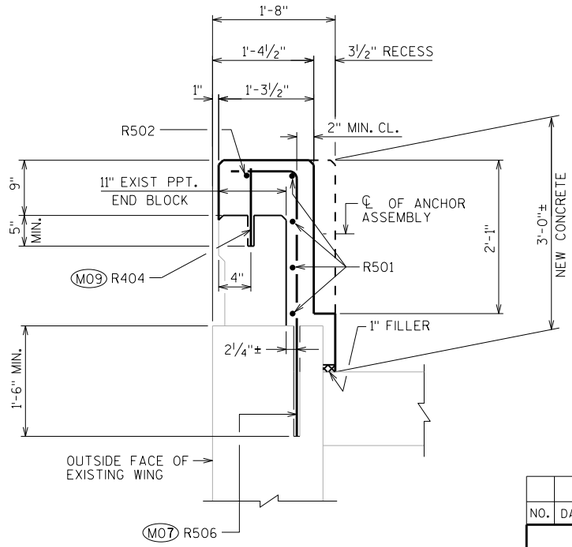
TOTAL ESTIMATED QUANTITIES

	BID ITEM #	DESCRIPTION	QTYS.	UNITS
	203.0200	REMOVING OLD STRUCTURE STA. 1278+80.00	1	LS
	203.0210.S	ABATEMENT OF ASBESTOS CONTAINING MATERIAL STRUCTURE B-41-80	1	LS
	502.0100	CONCRETE MASONRY BRIDGES	22	CY
	502.3200	PROTECTIVE SURFACE TREATMENT	554	SY
	502.4104	ADHESIVE ANCHORS 1/2-INCH	258	EACH
	502.4205	ADHESIVE ANHORS NO. 5 BAR	262	EACH
	505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	2710	LB
	509.0301	PREPARATION DECKS TYPE 1	42	SY
	509.0302	PREPARATION DECKS TYPE 2	12	SY
	509.1500	CONCRETE SURFACE REPAIR	35	SF
	509.2000	FULL-DEPTH DECK REPAIR	1	SY
◆▶	509.2500	CONCRETE MASONRY OVERLAY DECKS	26	CY
	509.9005.S	REMOVING CONCRETE MASONRY DECK OVERLAY B-41-80	431	SY
	614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	4	EACH
	SPV.0090	CLEANING PARAPETS SPECIAL	242	LF
		NON-BID ITEMS		
		FILLER	1"	SIZE

= NEW CONCRETE FOR NEW PARAPET SHAPE



MODIFIED PARAPET SHAPE
TYP.



SECTION B-B (WINGS 1&2)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-41-80

DRAWN BY: DDS | PLANS CK'D.: ADS

QUANTITIES & DETAILS

SHEET 2

119

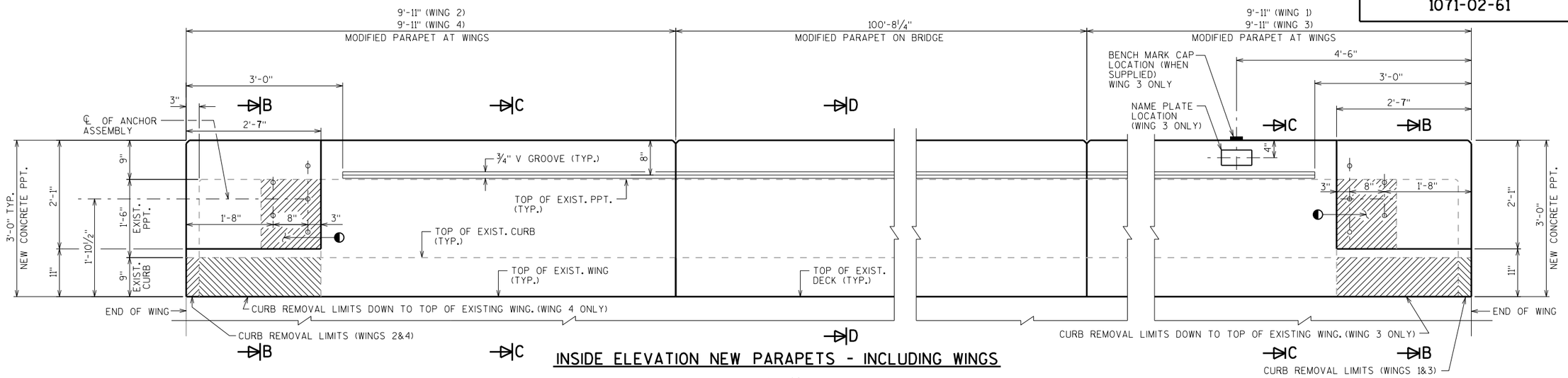
8

8

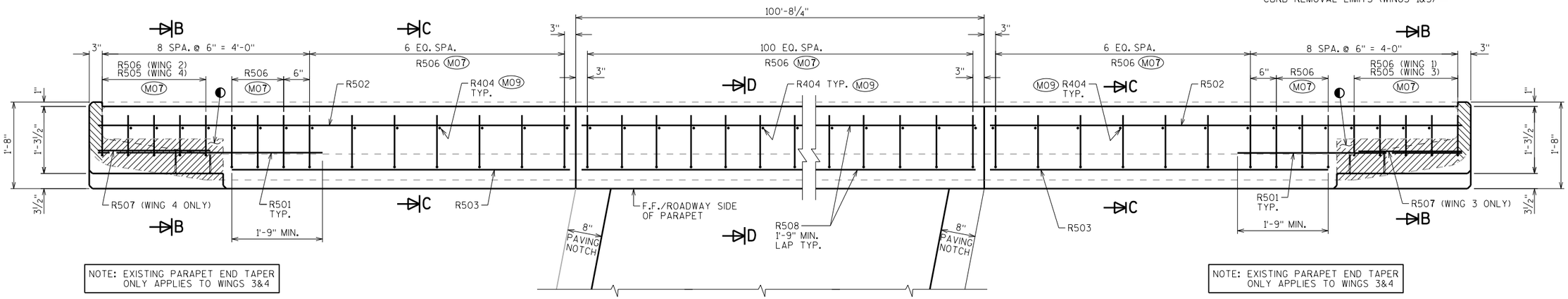
SCALE =

STATE PROJECT NUMBER

1071-02-61



INSIDE ELEVATION NEW PARAPETS - INCLUDING WINGS



PLAN VIEW

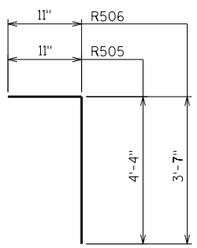
M07 ADHESIVE ANCHORS NO. 5 BARS. EMBED 1'-6" IN CONCRETE.

M09 ADHESIVE ANCHORS ½-INCH. EMBED 5" IN CONCRETE.

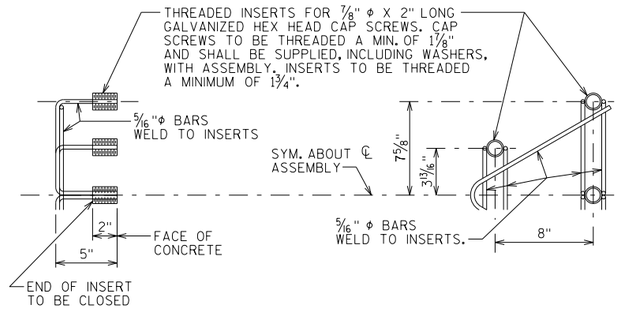
BILL OF BARS

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

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
R501	X	16	4'-4"			PPT. AT ALL WINGS - HORIZ.
R502	X	4	9'-7"			PPT. AT ALL WINGS - HORIZ. - B.F.
R503	X	16	7'-0"			PPT. AT ALL WINGS - HORIZ. - F.F.
M09 R404	X	258	1'-0"			PPT. AT ALL WINGS & BRIDGE - CONCRETE MASONRY ANCHORS - VERT. - B.F.
M07 R505	X	10	5'-2"	X		PPT. AT WINGS 3&4 - CONCRETE MASONRY ANCHORS - VERT. - F.F.
M07 R506	X	252	4'-5"	X		PPT. AT ALL WINGS & BRIDGE - CONCRETE MASONRY ANCHORS - VERT. - F.F.
R507	X	2	2'-0"			PPT. AT WINGS 3&4 - HORIZ. - ENDS
R508	X	30	34'-8"			PPT. ON BRIDGE - HORIZ.



◐ REMOVE EXIST. PPT. CONC AS NEEDED TO FIT THRIE BEAM ANCHOR ASSEMBLY



DETAIL OF GALVANIZED ANCHOR ASSEMBLY

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

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

NOTE: SEE SHEET 2 FOR SECTIONS B,C&D

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-41-80

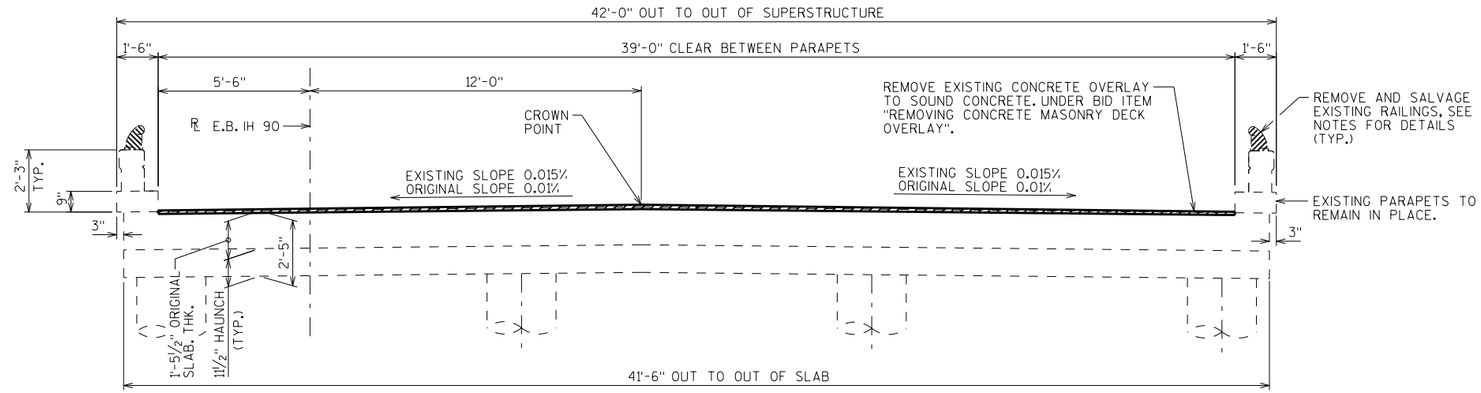
DRAWN BY DDS | PLANS CK'D. ADS

PARAPET DETAILS

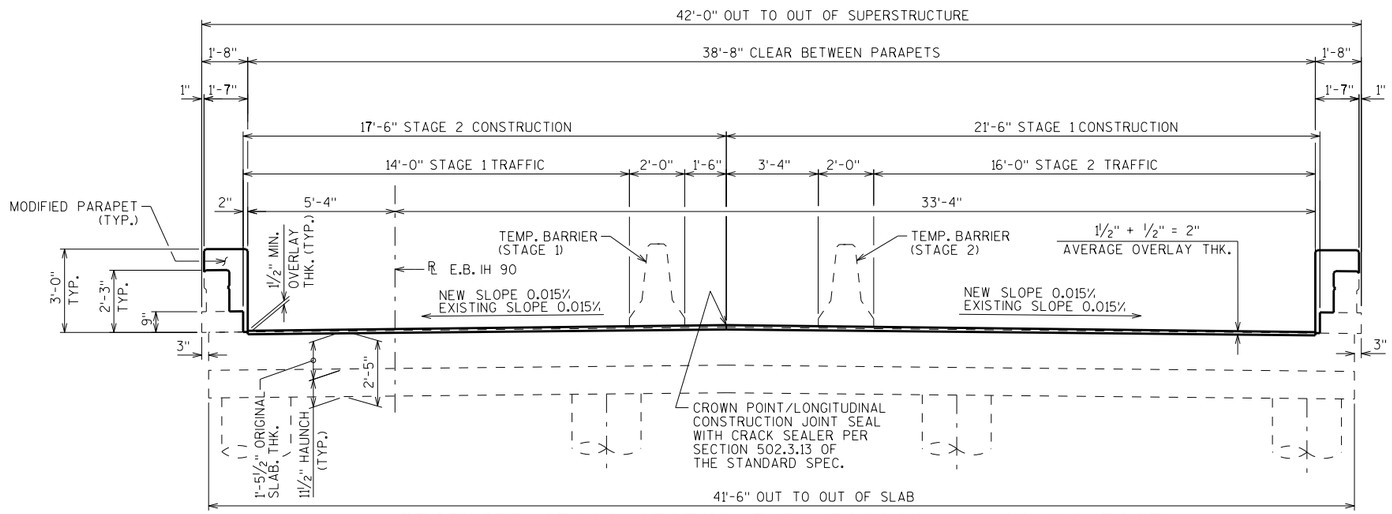
SHEET 3

120

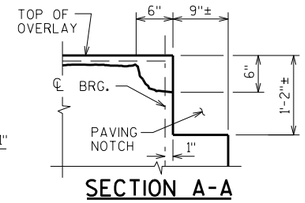
SCALE = 1



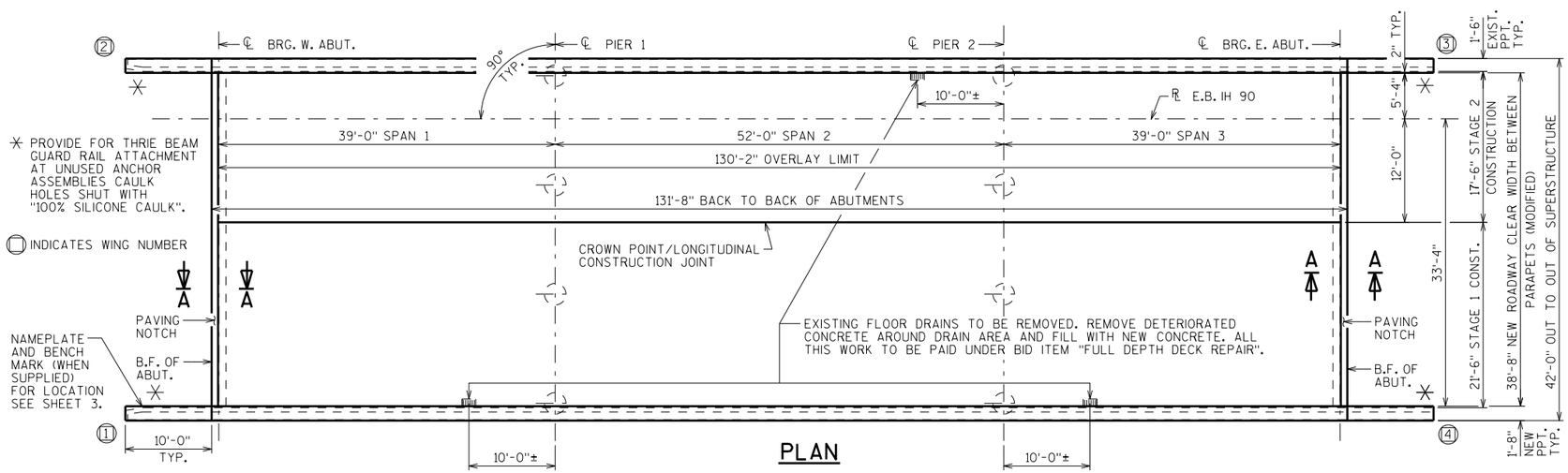
EXISTING CROSS SECTION THRU ROADWAY - LOOKING EAST



PROPOSED CROSS SECTION THRU ROADWAY - LOOKING EAST



SECTION A-A



PLAN

DESIGN DATA

LIVE LOAD:

INVENTORY RATING; HS-16
OPERATIONAL RATING; HS-27
MAXIMUM STANDARD PERMIT VEHICLE LOAD = 250 KIPS.

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

MATERIAL PROPERTIES:

CONCRETE MASONRY BRIDGES —— f'c = 3,500 P.S.I.
CONCRETE MASONRY OVERLAY DECKS —— f'c = 4,000 P.S.I.
BAR STEEL REINFORCEMENT, GRADE 60 —— fy = 60,000 P.S.I.

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

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

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

PROTECTIVE SURFACE TREATMENT TO BE APPLIED TO THE ENTIRE TOP OF DECK SURFACE AND THE FRONT FACE AND THE TOP OF THE PARAPET, INCLUDING PARAPETS ON ABUTMENT WINGS.

DIMENSIONS SHOWN ARE BASED ON THE EXISTING ORIGINAL STRUCTURE PLANS.

THE CONTRACTOR SHALL SUPPLY A NEW NAME PLATE IN ACCORDANCE WITH SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS AND THE STANDARD DETAIL DRAWINGS. NAME PLATE TO SHOW ORIGINAL CONSTRUCTION YEAR 1968.

ANY EXCAVATION NECESSARY TO COMPLETE THE CONC. OVERLAY AT THE ABUTMENTS IS TO BE CONSIDERED INCIDENTAL TO THE BID ITEM "CONCRETE MASONRY OVERLAY DECKS".

CONTACT THE BUREAU OF STRUCTURES BEFORE PLACEMENT OF OVERLAY IF THE AVERAGE THICKNESS OF THE NEW OVERLAY WILL EXCEED THE AVERAGE OVERLAY SHOWN ON THE PLANS BY MORE THAN ½".

THE EXISTING OVERLAY SHALL BE REMOVED FROM THE BRIDGE DECK UNDER BID ITEM "REMOVING CONCRETE MASONRY DECK OVERLAY B-41-88".

PREPARATION DECKS TYPE 1, PREPARATION DECKS TYPE 2 AND CONCRETE SURFACE REPAIR AREAS SHALL BE DETERMINED BY THE FIELD ENGINEER.

REMOVE AND SALVAGE THE EXISTING RAILINGS (INCLUDES RAILS, POSTS AND ALL ASSOCIATED HARDWARE). AFTER REMOVAL, CONTRACTOR IS TO DELIVER RAILING TO THE MONROE COUNTY HIGHWAY DEPT. AND SHALL REMAIN THE PROPERTY OF THE STATE OF WISCONSIN. THIS SHALL BE INCIDENTAL TO "REMOVING OLD STRUCTURE STA. 1471+90.00".

THE ENTIRE EXPOSED TOP AND INSIDE FACES OF THE EXISTING PARAPET SURFACES SHALL BE BLAST CLEANED AND ANY EXPOSED STEEL SHALL BE BRUSHED CLEANED PRIOR TO THE PARAPET BEING BUILT UP (MODIFIED). ALL THE WORK DESCRIBED ABOVE SHALL BE INCLUDED AND/OR CONSIDERED INCIDENTAL TO THE BID ITEM "CLEANING PARAPETS SPECIAL".

REMOVE ANY/ALL LOOSE CONCRETE AT ABUMENT BODIES UNDER BID ITEM "CONCRETE SURFACE REPAIR". SURFACES SHALL BE BLAST CLEANED AND ANY EXPOSED STEEL SHALL BE BRUSH CLEANED PRIOR TO THE ABUT. BODY SURFACE REPAIRS BEING COMPLETED. REPAIR AREAS SHALL BE DETERMINED BY THE FIELD ENGINEER.

LIST OF DRAWINGS

1. CONCRETE OVERLAY
2. QUANTITIES & DETAILS
3. PARAPET DETAILS

STATE PROJECT NUMBER

1071-02-62

STRUCTURE DESIGN CONTACT:
AARON BONK (608) 261-0261
ANDREW SMITH (608) 266-0989

NO.	DATE	REVISION	BY

Plans Prepared By **WISDOT**
BUREAU OF STRUCTURES

ACCEPTED William C. Dreher 7/25/17
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE B-41-88

E.B. IH 90 OVER FARMERS VALLEY CREEK

COUNTY	TOWN ~~CITY/VILLAGE~~
MONROE	ANGELO

DESIGN SPEC. REHABILITATION N/A

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
ADS	NAR	DDS	ADS

CONCRETE OVERLAY

SHEET 1 OF 3

121

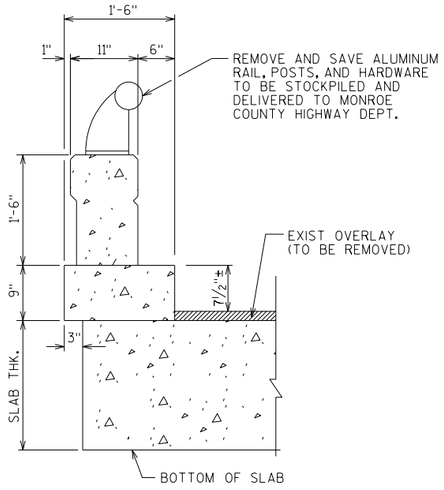
I.D. 1071-02-32

DATE: JULY 2017

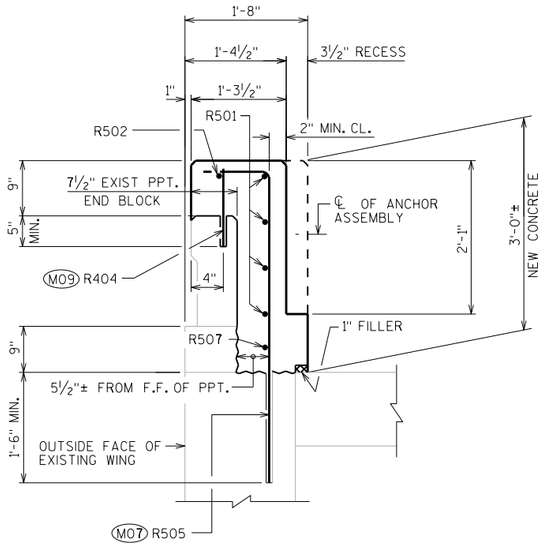
SCALE = 8.00

STATE PROJECT NUMBER

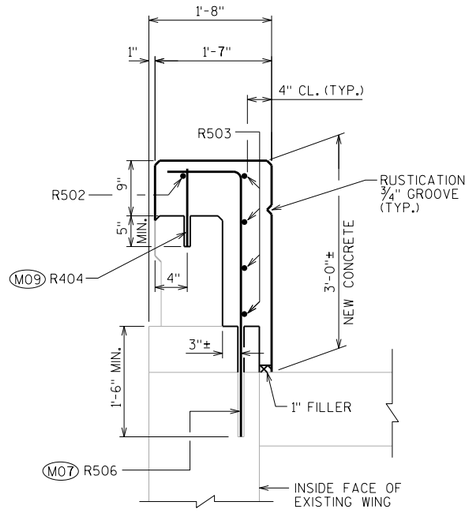
1071-02-62



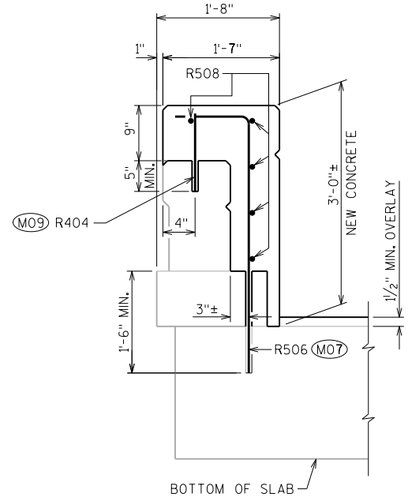
EXISTING SECTION
ON BRIDGE



SECTION B-B (WINGS 1&2)



SECTION C-C



SECTION D-D
ON BRIDGE

FOR SECTION LOCATIONS SEE SHEET 3

M07 ADHESIVE ANCHOR NO. 5 BAR. EMBED 1'-6" IN CONCRETE.

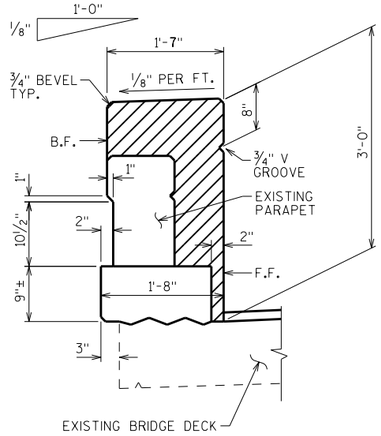
M09 ADHESIVE ANCHORS ½-INCH. EMBED 5" IN CONCRETE.

◆▶ BID ITEM ALSO INCLUDES CONCRETE FOR:
"PREPARATION DECKS TYPE 1"
"PREPARATION DECKS TYPE 2"
AND "FULL-DEPTH DECK REPAIR"

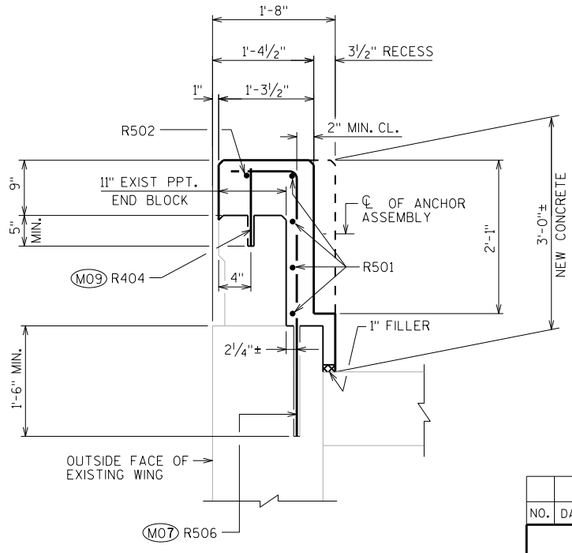
TOTAL ESTIMATED QUANTITIES

	BID ITEM #	DESCRIPTION	QTYS.	UNITS
	203.0200	REMOVING OLD STRUCTURE STA. 1471+90.00	1	LS
	203.0210.S	ABATEMENT OF ASBESTOS CONTAINING MATERIAL STRUCTURE B-41-88	1	LS
	502.0100	CONCRETE MASONRY BRIDGES	27	CY
	502.3200	PROTECTIVE SURFACE TREATMENT	714	SY
	502.4104	ADHESIVE ANCHORS 1/2-INCH	320	EACH
	502.4205	ADHESIVE ANCHORS NO. 5 BAR	324	EACH
	505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	3360	LB
	509.0301	PREPARATION DECKS TYPE 1	53	SY
	509.0302	PREPARATION DECKS TYPE 2	17	SY
	509.1500	CONCRETE SURFACE REPAIR	8	SF
	509.2000	FULL-DEPTH DECK REPAIR	11	SY
◆▶	509.2500	CONCRETE MASONRY OVERLAY DECKS	40	CY
	509.9005.S	REMOVING CONCRETE MASONRY DECK OVERLAY B-41-88	565	SY
	614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	4	EACH
	SPV.0090	CLEANING PARAPETS SPECIAL	304	LF
		NON-BID ITEMS		
		FILLER	1"	SIZE

▨ = NEW CONCRETE FOR NEW PARAPET SHAPE



MODIFIED PARAPET SHAPE
TYP.



SECTION B-B (WINGS 3&4)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-41-88

DRAWN BY: DDS | PLANS CK'D.: ADS

QUANTITIES & DETAILS

SHEET 2

122

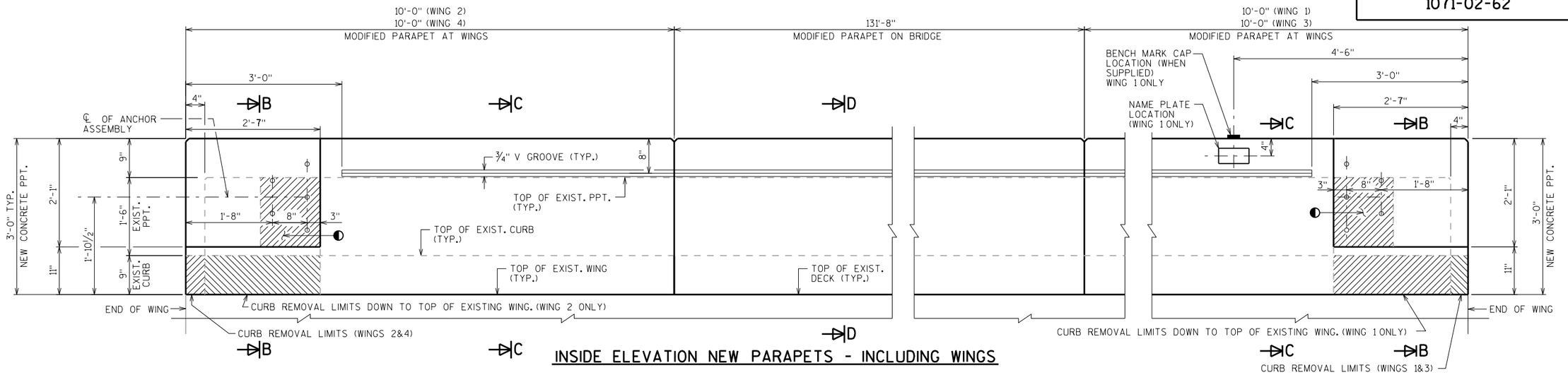
8

8

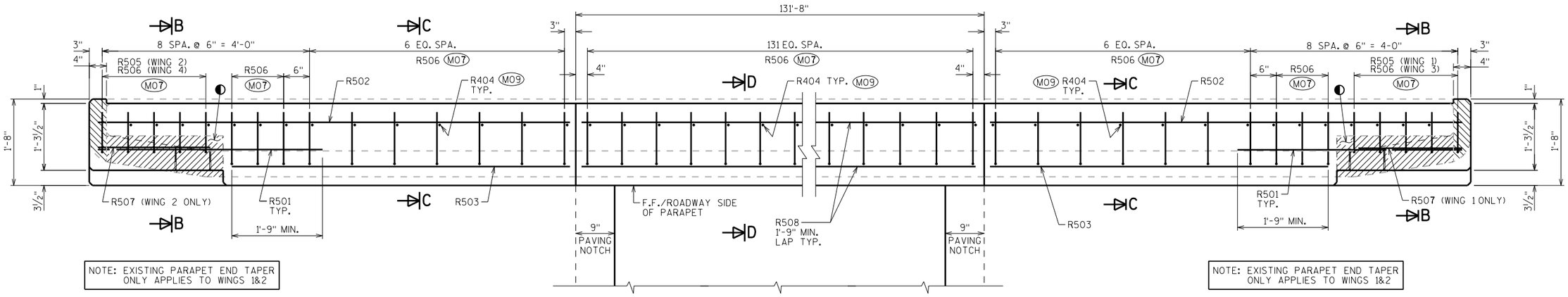
SCALE =

STATE PROJECT NUMBER

1071-02-62



INSIDE ELEVATION NEW PARAPETS - INCLUDING WINGS



PLAN VIEW

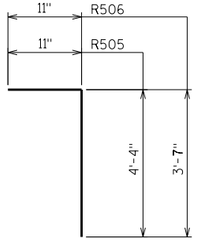
(M07) ADHESIVE ANCHORS NO. 5 BAR. EMBED 1'-6" IN CONCRETE.

(M09) ADHESIVE ANCHORS 1/2-INCH. EMBED 5" IN CONCRETE.

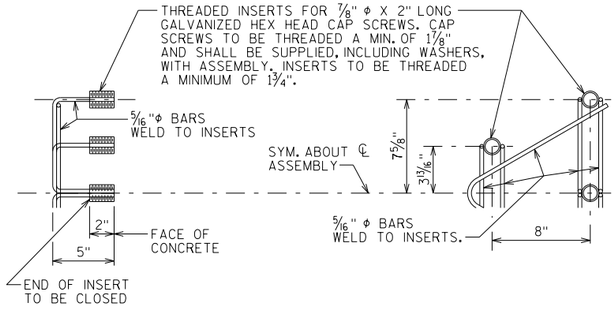
BILL OF BARS

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

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
R501	X	16	4'-4"			PPT. AT ALL WINGS - HORIZ.
R502	X	4	9'-8"			PPT. AT ALL WINGS - HORIZ. - B.F.
R503	X	16	7'-0"			PPT. AT ALL WINGS - HORIZ. - F.F.
(M09) R404	X	320	1'-0"			PPT. AT ALL WINGS & BRIDGE - CONCRETE MASONRY ANCHORS - VERT. - B.F.
(M07) R505	X	10	5'-2"	X		PPT. AT WINGS 1&2 - CONCRETE MASONRY ANCHORS - VERT. - F.F.
(M07) R506	X	314	4'-5"	X		PPT. AT ALL WINGS & BRIDGE - CONCRETE MASONRY ANCHORS - VERT. - F.F.
R507	X	2	2'-0"			PPT. AT WINGS 1&2 - HORIZ. - ENDS
R508	X	30	45'-0"			PPT. ON BRIDGE - HORIZ.



◐ REMOVE EXIST. PPT. CONC AS NEEDED TO FIT THRIE BEAM ANCHOR ASSEMBLY



DETAIL OF GALVANIZED ANCHOR ASSEMBLY

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

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

NOTE:
SEE SHEET 2 FOR SECTIONS B,C&D

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-41-88

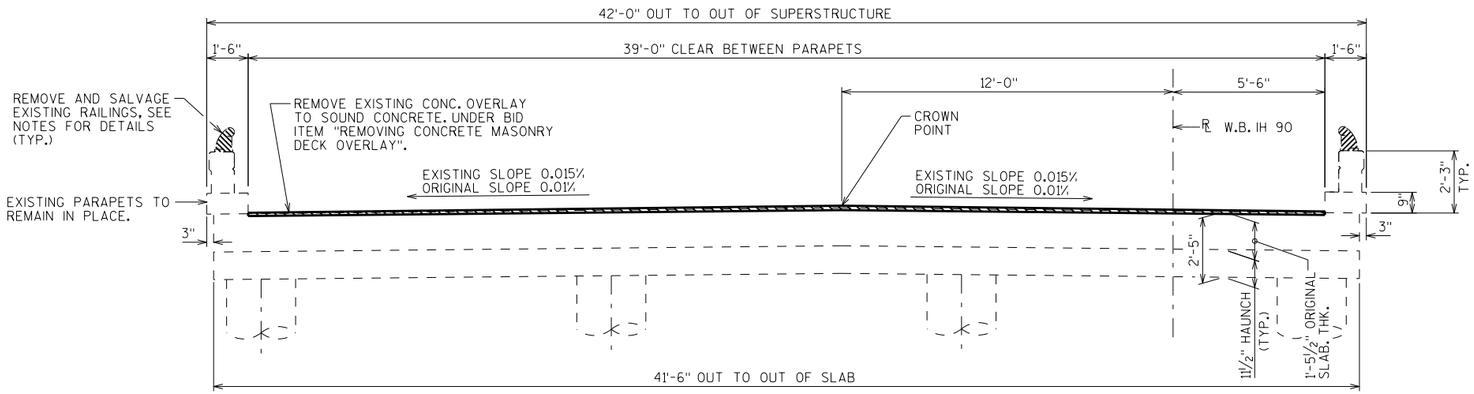
DRAWN BY DDS | PLANS CK'D. ADS

PARAPET DETAILS

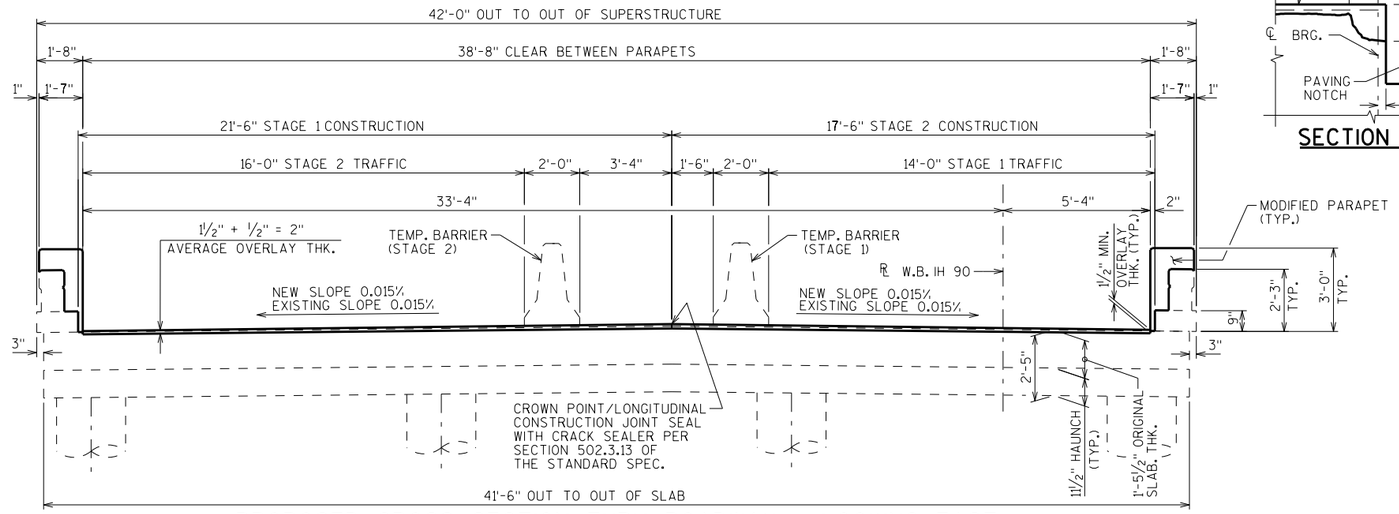
SHEET 3

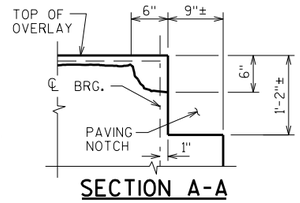
123

SCALE = 1



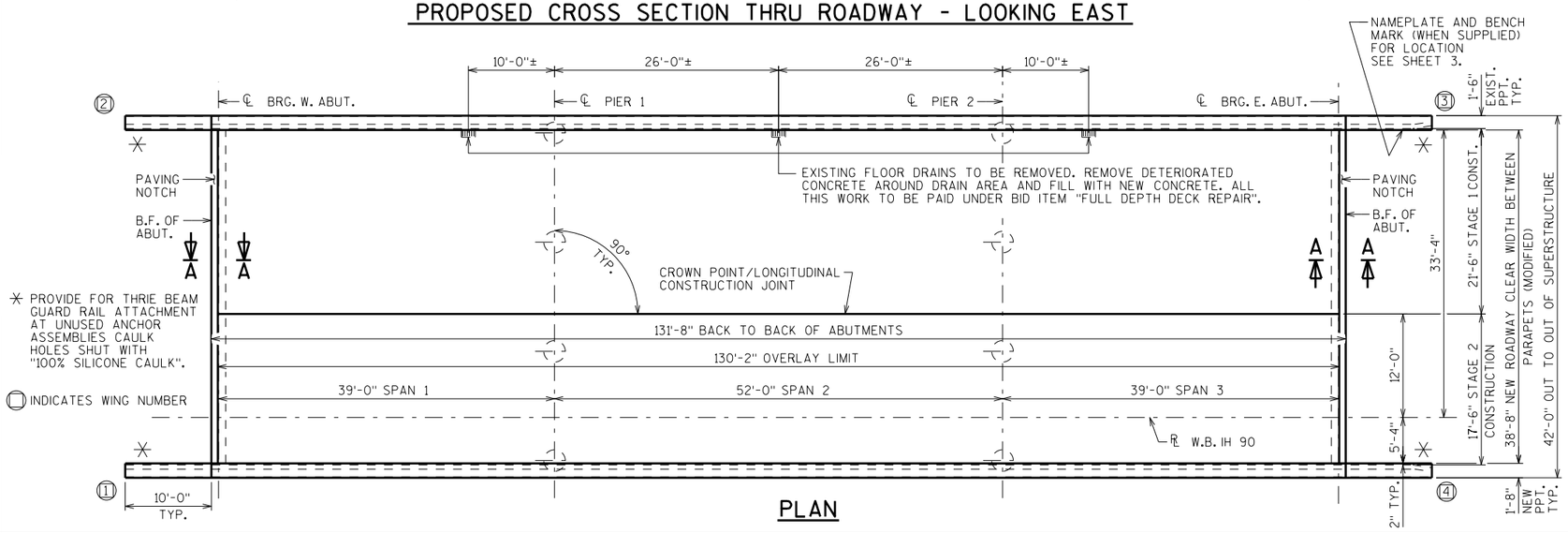
EXISTING CROSS SECTION THRU ROADWAY - LOOKING EAST





SECTION A-A

PROPOSED CROSS SECTION THRU ROADWAY - LOOKING EAST



PLAN

DESIGN DATA

LIVE LOAD:

INVENTORY RATING; HS-16
OPERATIONAL RATING; HS-27
MAXIMUM STANDARD PERMIT VEHICLE LOAD = 250 KIPS.

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

MATERIAL PROPERTIES:

CONCRETE MASONRY BRIDGES — f'c = 3,500 P.S.I.
CONCRETE MASONRY OVERLAY DECKS — f'c = 4,000 P.S.I.
BAR STEEL REINFORCEMENT, GRADE 60 — fy = 60,000 P.S.I.

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

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

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

PROTECTIVE SURFACE TREATMENT TO BE APPLIED TO THE ENTIRE TOP OF DECK SURFACE AND THE FRONT FACE AND THE TOP OF THE PARAPET, INCLUDING PARAPETS ON ABUTMENT WINGS.

DIMENSIONS SHOWN ARE BASED ON THE EXISTING ORIGINAL STRUCTURE PLANS.

THE CONTRACTOR SHALL SUPPLY A NEW NAME PLATE IN ACCORDANCE WITH SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS AND THE STANDARD DETAIL DRAWINGS. NAME PLATE TO SHOW ORIGINAL CONSTRUCTION YEAR 1968.

ANY EXCAVATION NECESSARY TO COMPLETE THE CONC. OVERLAY AT THE ABUTMENTS IS TO BE CONSIDERED INCIDENTAL TO THE BID ITEM "CONCRETE MASONRY OVERLAY DECKS".

CONTACT THE BUREAU OF STRUCTURES BEFORE PLACEMENT OF OVERLAY IF THE AVERAGE THICKNESS OF THE NEW OVERLAY WILL EXCEED THE AVERAGE OVERLAY SHOWN ON THE PLANS BY MORE THAN ½".

THE EXISTING OVERLAY SHALL BE REMOVED FROM THE BRIDGE DECK UNDER BID ITEM "REMOVING CONCRETE MASONRY DECK OVERLAY B-41-89".

PREPARATION DECKS TYPE 1, PREPARATION DECKS TYPE 2 AND CONCRETE SURFACE REPAIR AREAS SHALL BE DETERMINED BY THE FIELD ENGINEER.

REMOVE AND SALVAGE THE EXISTING RAILINGS (INCLUDES RAILS, POSTS AND ALL ASSOCIATED HARDWARE). AFTER REMOVAL, CONTRACTOR IS TO DELIVER RAILING TO THE MONROE COUNTY HIGHWAY DEPT. AND SHALL REMAIN THE PROPERTY OF THE STATE OF WISCONSIN. THIS SHALL BE INCIDENTAL TO "REMOVING OLD STRUCTURE STA. 1471+90.00".

THE ENTIRE EXPOSED TOP AND INSIDE FACES OF THE EXISTING PARAPET SURFACES SHALL BE BLAST CLEANED AND ANY EXPOSED STEEL SHALL BE BRUSHED CLEANED PRIOR TO THE PARAPET BEING BUILT UP (MODIFIED). ALL THE WORK DESCRIBED ABOVE SHALL BE INCLUDED AND/OR CONSIDERED INCIDENTAL TO THE BID ITEM "CLEANING PARAPETS SPECIAL".

REMOVE ANY/ALL LOOSE CONCRETE AT ABUMENT BODIES UNDER BID ITEM "CONCRETE SURFACE REPAIR". SURFACES SHALL BE BLAST CLEANED AND ANY EXPOSED STEEL SHALL BE BRUSH CLEANED PRIOR TO THE ABUTMENT BODY SURFACE REPAIRS BEING COMPLETED. REPAIR AREAS SHALL BE DETERMINED BY THE FIELD ENGINEER.

LIST OF DRAWINGS

STATE PROJECT NUMBER

1071-02-62

STRUCTURE DESIGN CONTACT:
AARON BONK (608) 261-0261
ANDREW SMITH (608) 266-0989

NO.	DATE	REVISION	BY

Plans Prepared By **WISDOT**
BUREAU OF STRUCTURES

ACCEPTED William C. Dreher 7/25/17
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE B-41-89

W.B. IH 90 OVER FARMERS VALLEY CREEK

COUNTY	MONROE	TOWN ~~CITY/VILLAGE~~	ANGELO
DESIGN SPEC.	REHABILITATION		N/A
DESIGNED BY	ADS	DESIGN CK'D.	NAR
DRAWN BY	DDS	PLANS CK'D.	ADS

CONCRETE OVERLAY

SHEET 1 OF 3

124

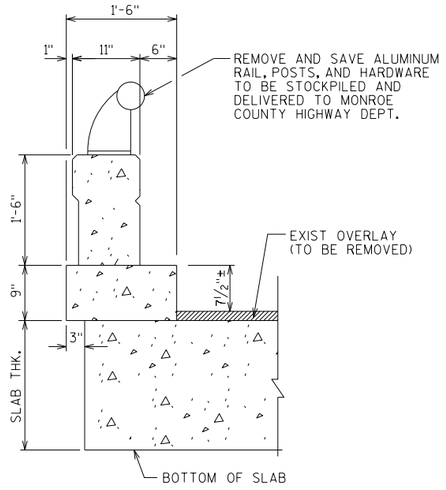
I.D. 1071-02-32

DATE: JULY 2017

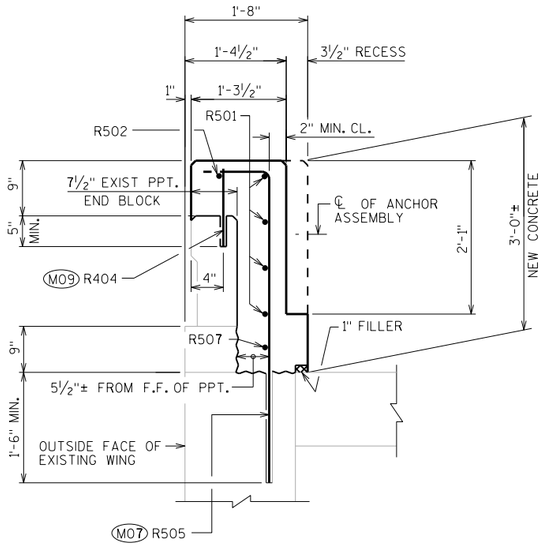
SCALE = 8.00

STATE PROJECT NUMBER

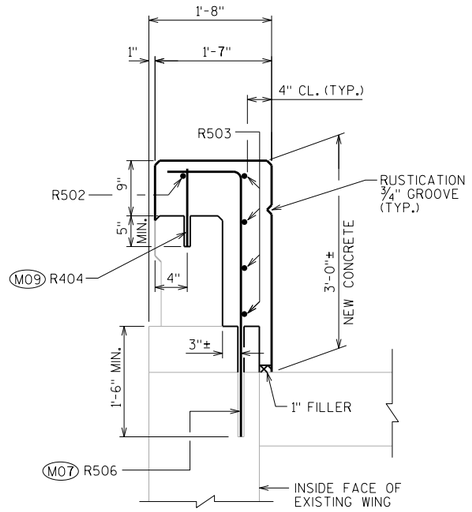
1071-02-62



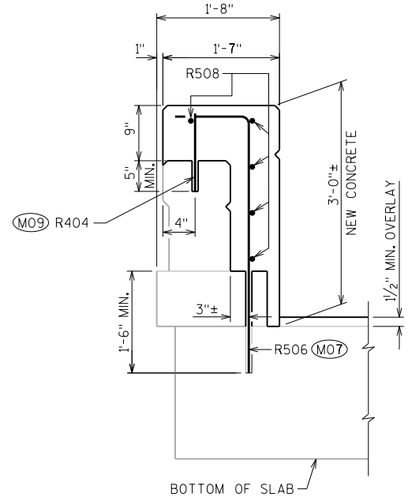
EXISTING SECTION
ON BRIDGE



SECTION B-B (WINGS 3&4)



SECTION C-C



SECTION D-D
ON BRIDGE

M07 ADHESIVE ANCHORS NO. 5 BAR. EMBED 1'-6" IN CONCRETE.

M09 ADHESIVE ANCHORS ½-INCH. EMBED 5" KIN CONCRETE.

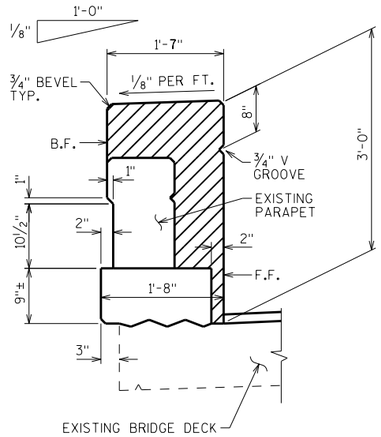
FOR SECTION LOCATIONS SEE SHEET 3

◆▶ BID ITEM ALSO INCLUDES CONCRETE FOR:
"PREPARATION DECKS TYPE 1"
"PREPARATION DECKS TYPE 2"
AND "FULL-DEPTH DECK REPAIR"

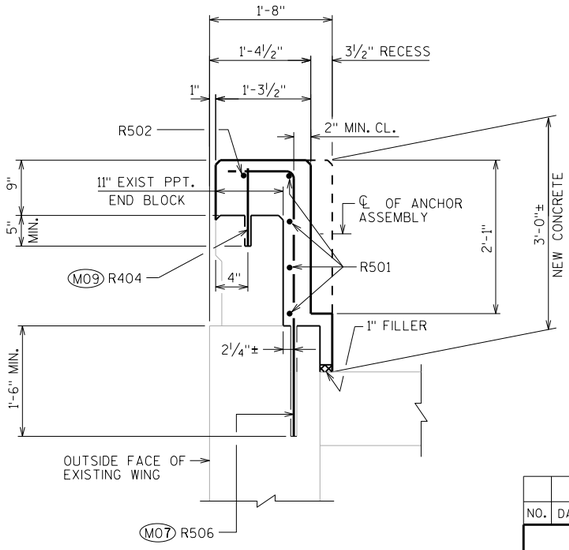
TOTAL ESTIMATED QUANTITIES

	BID ITEM #	DESCRIPTION	QTYS.	UNITS
	203.0200	REMOVING OLD STRUCTURE STA. 1471+90.00	1	LS
	203.0210.S	ABATEMENT OF ASBESTOS CONTAINING MATERIAL STRUCTURE B-41-89	1	LS
	502.0100	CONCRETE MASONRY BRIDGES	27	CY
	502.3200	PROTECTIVE SURFACE TREATMENT	714	SY
	502.4104	ADHESIVE ANCHORS 1/2-INCH	320	EACH
	502.4205	ADHESIVE ANCHORS NO. 5 BAR	324	EACH
	505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	3360	LB
	509.0301	PREPARATION DECKS TYPE 1	58	SY
	509.0302	PREPARATION DECKS TYPE 2	12	SY
	509.1500	CONCRETE SURFACE REPAIR	14	SF
	509.2000	FULL-DEPTH DECK REPAIR	8	SY
◆▶	509.2500	CONCRETE MASONRY OVERLAY DECKS	38	CY
	509.9005.S	REMOVING CONCRETE MASONRY DECK OVERLAY B-41-89	565	SY
	614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	4	EACH
	SPV. 0090	CLEANING PARAPETS SPECIAL	304	LF
		NON-BID ITEMS		
		FILLER	1"	SIZE

= NEW CONCRETE FOR NEW PARAPET SHAPE



MODIFIED PARAPET SHAPE
TYP.



SECTION B-B (WINGS 1&2)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-41-89

DRAWN BY: DDS | PLANS CK'D.: ADS

QUANTITIES & DETAILS

SHEET 2

125

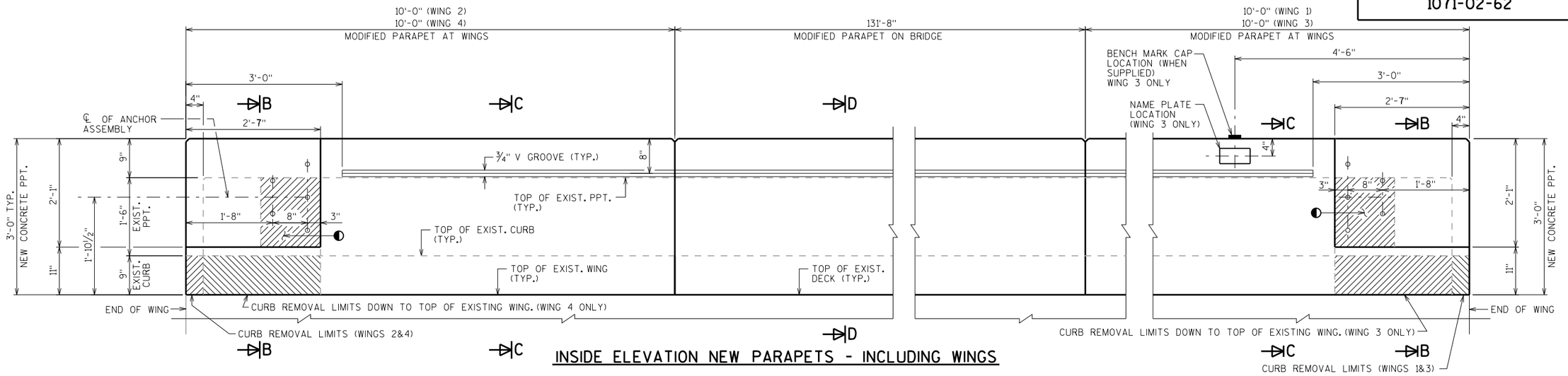
SCALE =

8

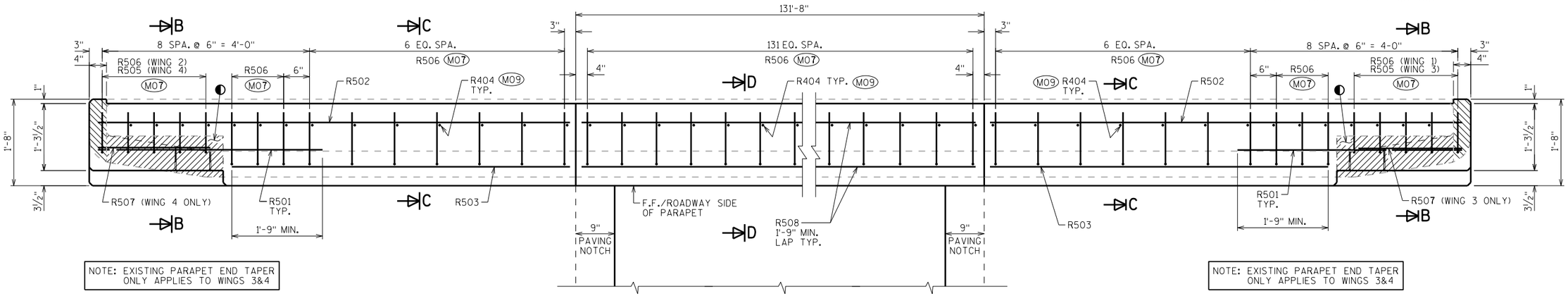
8

STATE PROJECT NUMBER

1071-02-62



INSIDE ELEVATION NEW PARAPETS - INCLUDING WINGS



PLAN VIEW

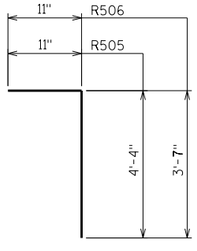
(M07) ADHESIVE ANCHORS NO. 5 BAR. EMBED 1'-6" IN CONCRETE.

(M09) ADHESIVE ANCHORS 1/2"=INCH. EMBED 5" IN CONCRETE.

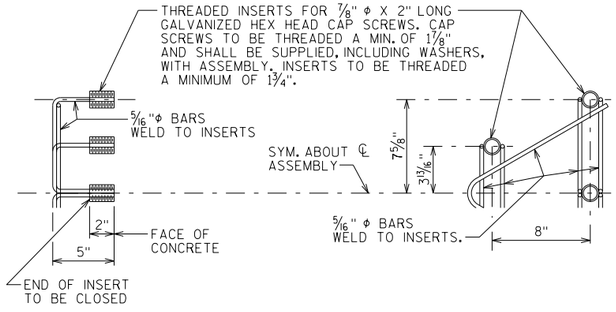
BILL OF BARS

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

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
R501	X	16	4'-4"			PPT. AT ALL WINGS - HORIZ.
R502	X	4	9'-8"			PPT. AT ALL WINGS - HORIZ. - B.F.
R503	X	16	7'-0"			PPT. AT ALL WINGS - HORIZ. - F.F.
(M09) R404	X	320	1'-0"			PPT. AT ALL WINGS & BRIDGE - CONCRETE MASONRY ANCHORS - VERT. - B.F.
(M07) R505	X	10	5'-2"	X		PPT. AT WINGS 3&4 - CONCRETE MASONRY ANCHORS - VERT. - F.F.
(M07) R506	X	314	4'-5"	X		PPT. AT ALL WINGS & BRIDGE - CONCRETE MASONRY ANCHORS - VERT. - F.F.
R507	X	2	2'-0"			PPT. AT WINGS 3&4 - HORIZ. - ENDS
R508	X	30	45'-0"			PPT. ON BRIDGE - HORIZ.



◐ REMOVE EXIST. PPT. CONC AS NEEDED TO FIT THRIE BEAM ANCHOR ASSEMBLY



DETAIL OF GALVANIZED ANCHOR ASSEMBLY

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

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

NOTE:
SEE SHEET 2 FOR SECTIONS B,C&D

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-41-89

DRAWN BY DDS | PLANS CK'D. ADS

PARAPET DETAILS

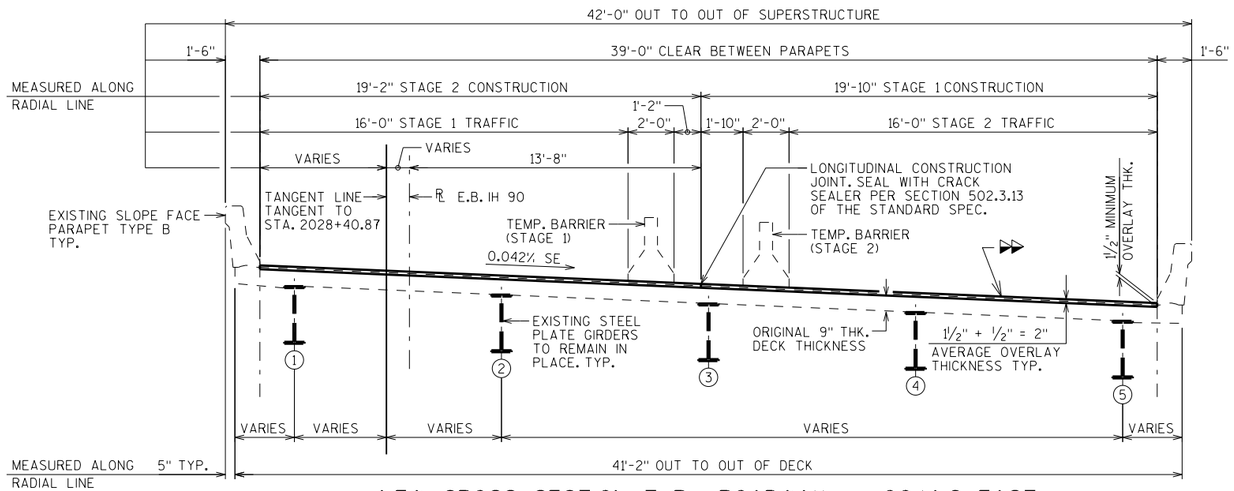
SHEET 3

126

SCALE = 1

STATE PROJECT NUMBER

1071-02-63



NEW CROSS SECTION THRU ROADWAY - LOOKING EAST

▶▶ REMOVE 1" MINIMUM OF EXISTING TOP OF DECK CONCRETE OR TO SOUND CONCRETE (WHICHEVER IS GREATER) UNDER BID ITEM "CLEANING DECK".

DESIGN DATA

LIVE LOAD:

INVENTORY RATING; HS-16
OPERATIONAL RATING; HS-27
MAXIMUM STANDARD PERMIT VEHICLE LOAD = 205 KIPS.

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

MATERIAL PROPERTIES:

CONCRETE MASONRY BRIDGES ——— f'c = 3,500 P.S.I.
CONCRETE MASONRY DECK OVERLAY ——— f'c = 4,000 P.S.I.
BAR STEEL REINFORCEMENT, GRADE 60 ——— fy = 60,000 P.S.I.

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

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

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

PROTECTIVE SURFACE TREATMENT TO BE APPLIED TO THE ENTIRE TOP OF DECK SURFACE AND THE FRONT FACE AND THE TOP OF THE NEW PARAPETS.

DIMENSIONS SHOWN ARE BASED ON THE EXISTING ORIGINAL STRUCTURE PLANS.

ANY EXCAVATION NECESSARY TO COMPLETE THE JOINT REPAIR AT THE ABUTMENTS IS TO BE CONSIDERED INCIDENTAL TO THE BID ITEM "CONCRETE MASONRY OVERLAY DECKS".

CONTACT THE BUREAU OF STRUCTURES BEFORE PLACEMENT OF OVERLAY IF THE AVERAGE THICKNESS OF THE NEW OVERLAY WILL EXCEED THE AVERAGE OVERLAY SHOWN ON THE PLANS BY MORE THAN ½".

A MINIMUM OF 1-INCH OF CONCRETE SHALL BE REMOVED FROM THE ENTIRE BRIDGE DECK UNDER BID ITEM "CLEANING DECKS".

PREPARATION DECKS TYPE 1, PREPARATION DECKS TYPE 2, CONCRETE SURFACE REPAIR AREAS AND FULL-DEPTH DECK REPAIR SHALL BE DETERMINED BY THE FIELD ENGINEER.

ALL REMOVAL LINES SHALL BE DEFINED BY A 1" DEEP SAW CUT.

APPLY BRIDGE SEAT PROTECTION, AS PER SECTION 502.3.12 OF THE STANDARD SPECIFICATIONS, TO THE TOP SURFACES OF BOTH ABUTMENTS BELOW EXPANSION DEVICES. POWER WASH AND ADEQUATELY DRY SURFACES BEFORE APPLICATION.

MULTIPLE PIER COLUMNS ON BOTH PIERS REQUIRE "CONCRETE SURFACE REPAIR". THE FIELD ENGINEER WILL DETERMINE THE EXACT AREAS TO BE REPAIRED.

PIER 1 COLUMN 3 IS TO BE FIBER WRAPPED (THE FULL EXPOSED LENGTH OF COLUMN) AFTER ALL THE OTHER PIER COLUMN REPAIRS HAVE BEEN COMPLETED. FIBER WRAP SHALL TO BE PAID FOR UNDER BID ITEM "FIBER WRAP COLUMN REINFORCING".

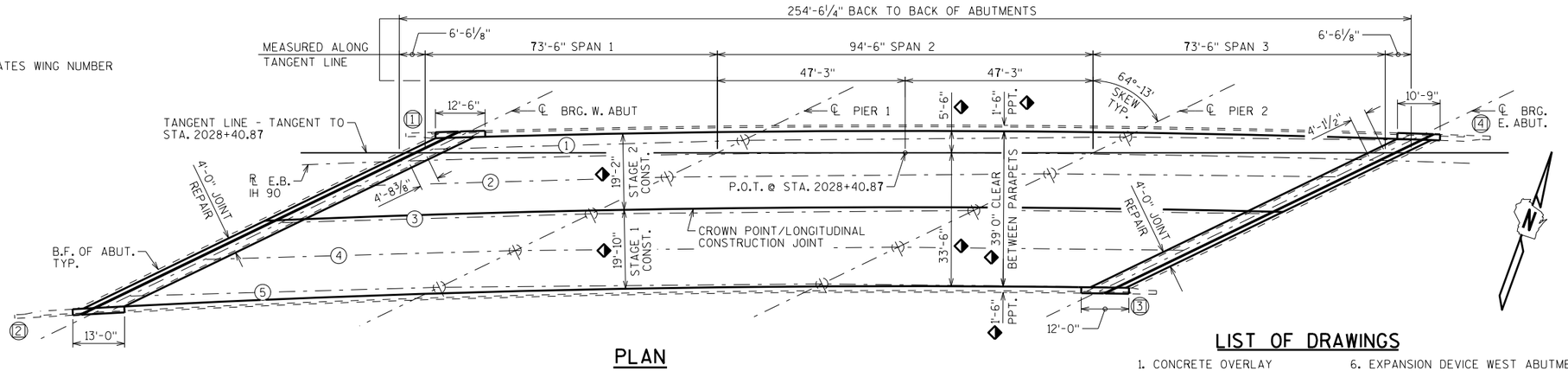
AREAS TO RECEIVE "STRUCTURE OVERCOATING CLEANING AND PRIMING" SHALL BE DETERMINED BY THE FIELD ENGINEER.

FINISH COATING MATERIAL SHALL BE GRAY, FEDERAL COLOR #26293.

CURVE DATA

℄ E.B. IH 90

P.I. = STA. 2032+39.25
Δ = 19°-43'-08"
D = 1°-30'-00"
T = 663.86'
L = 1314.59'
R = 3819.72'
S.E. = 0.042%
P.C. = STA. 2025+75.39
P.T. = STA. 2038+89.98



PLAN

◆ = MEASURED ALONG RADIAL LINES

LIST OF DRAWINGS

1. CONCRETE OVERLAY
2. QUANTITIES AND DETAILS
3. ABUTMENT DETAILS
4. PARAPET DETAILS (NEW)
5. PARAPET DETAILS (NEW)
6. EXPANSION DEVICE WEST ABUTMENT
7. EXPANSION DEVICE EAST ABUTMENT
8. COVER PLATE DETAILS
9. CRACK REPAIR LOCATIONS

STRUCTURE DESIGN CONTACTS:
AARON BONK (608) 261-0261
ANDREW SMITH (608) 266-0989

NO.	DATE	REVISION	BY

Plans Prepared By **WISDOT**
BUREAU OF STRUCTURES

ACCEPTED William C. Dreher 7/25/17
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE B-41-111

E.B. IH 90 OVER S.T.H. 16

COUNTY	TOWN ~~CITY/VILLAGE~~
MONROE	ADRIAN

DESIGN SPEC. REHABILITATION N/A

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
ADS	MSC	DDS	ADS

CONCRETE OVERLAY

SHEET 1 OF 9

127

I.D. 1071-02-33

DATE: JULY 2017

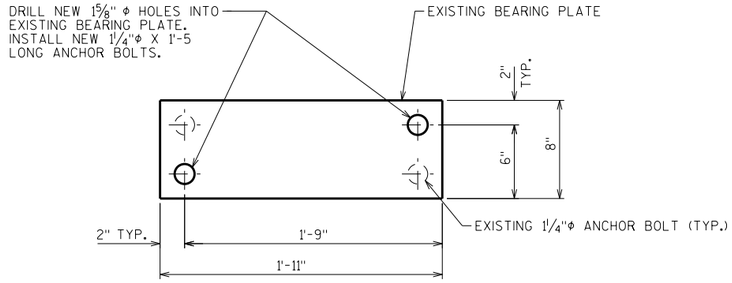
SCALE = 16.00

8

8

STATE PROJECT NUMBER

1071-02-63



REDRILL EXISTING BEARING PLATES

RE-ESTABLISH BEARING ANCHORAGE AT
GIRDER 5 - WEST ABUTMENT BEARING
GIRDERS 1,3,4&5 - EAST ABUTMENT BEARINGS.

NOTES:

ANCHOR BOLTS SHALL BE THREADED 3". PROVIDE ONE STANDARD WROUGHT WASHER AND ONE HEX NUT PER BOLT. PROJECT ANCHOR BOLTS, 3¾" ABOVE TOP OF CONCRETE.

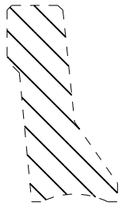
CHAMFER ANCHOR BOLTS PRIOR TO THREADING.

ANCHOR BOLTS, NUTS AND WASHERS SHALL CONFORM TO ASTM A709 GRADE 36, OR MATERIAL OF EQUIVALENT YIELD STRENGTH AND ELONGATION.

ANCHOR BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153, CLASS C.

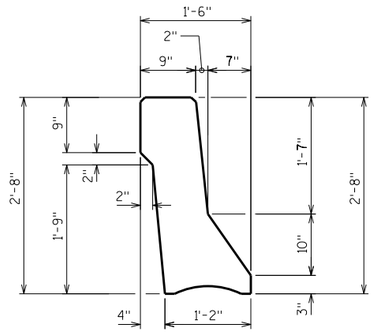
CUT OFF EXISTING ANCHOR BOLTS FLUSH WITH THE TOP OF EXISTING BEARING PLATE.

ALL WORK AND MATERIALS LISTED ABOVE SHALL BE PAID FOR UNDER THE BID ITEM "BEARING MAINTENANCE B-41-111".



EXISTING PARAPETS

SHOWING REMOVAL @ JOINT REPAIRS



NEW PARAPET @ JOINT REPAIRS

DIMENSIONS ARE FOR INFORMATION ONLY
MATCH EXISTING EDGES OF EXISTING PARAPETS

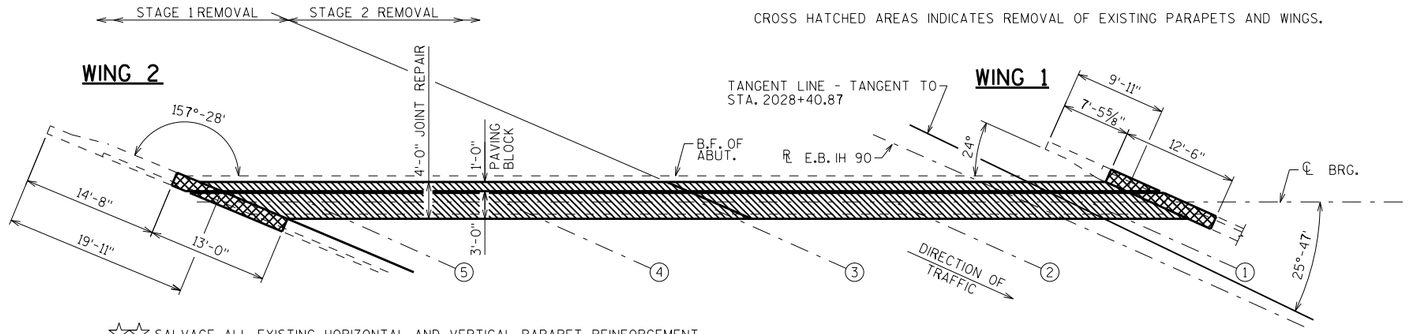
TOTAL ESTIMATED QUANTITIES

	BID ITEM #	DESCRIPTION	QTY.	UNIT
	502.3100	EXPANSION DEVICE B-41-111	1	LS
	502.3200	PROTECTIVE SURFACE TREATMENT	1130	SY
	502.4205	ADHESIVE ANCHORS NO. 5 BAR	182	EACH
	505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	6,320	LB
	509.0301	PREPARATION DECKS TYPE 1	121	SY
	509.0302	PREPARATION DECKS TYPE 2	65	SY
	509.0500	CLEANING DECKS	1,030	SY
	509.1000	JOINT REPAIR	90	SY
	509.1500	CONCRETE SURFACE REPAIR	28	SF
	509.2000	FULL-DEPTH DECK REPAIR	1	SY
◈	509.2500	CONCRETE MASONRY OVERLAY DECKS	99	CY
	517.1800	STRUCTURE REPAINTING RECYCLED ABRASIVE B-41-111	1	LS
	517.3000.S	STRUCTURE OVERCOATING CLEANING AND PRIMING B-41-111	1	LS
	517.4000.S	CONTAINMENT AND COLLECTION OF WASTE MATERIALS B-41-111	1	LS
	517.4500.S	NEGATIVE PRESSURE CONTAINMENT AND COLLECTION OF WASTE MATERIALS B-41-111	1	LS
	517.6001.S	PORTABLE DECONTAMINATION FACILITY	1	EACH
*	SPV.0060	CLEANING AND PAINTING BEARINGS	10	EACH
●	SPV.0060	BEARING MAINTENANCE B-41-111	7	EACH
	SPV.0090	WELDING STEEL CRACKS SPECIAL	3	LF
	SPV.0165	FIBER WRAP COLUMN REINFORCING	150	SF
		NON-BID ITEMS		
		BRIDGE SEAT PROTECTION	1	LS

NOTE:

HATCHED AREAS INDICATE JOINT REPAIR REMOVAL LOCATIONS.

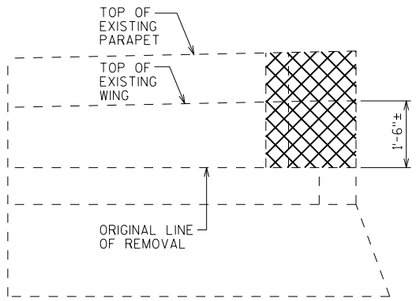
CROSS HATCHED AREAS INDICATES REMOVAL OF EXISTING PARAPETS AND WINGS.



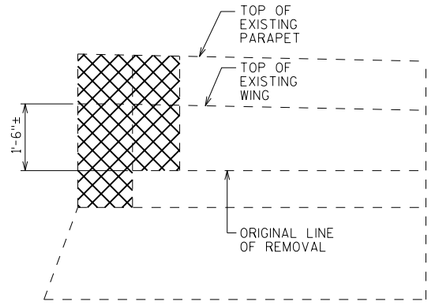
☆☆ SALVAGE ALL EXISTING HORIZONTAL AND VERTICAL PARAPET REINFORCEMENT AND ALL DECK LONGITUDINAL AND TRANSVERSE REINFORCEMENT AND EXTEND FULL LENGTH INTO NEW WORK, WHILE MAINTAINING 2" MIN. CLEAR.

WEST ABUTMENT ☆☆

SHOWING REMOVAL

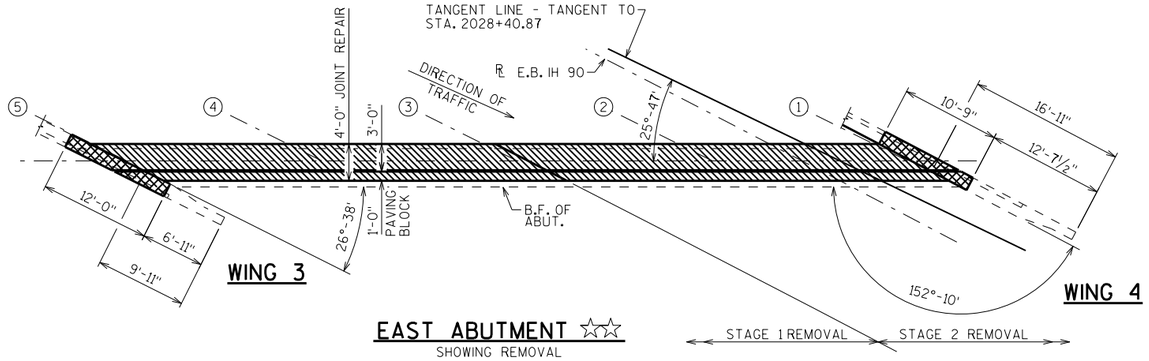


WINGS 2&4 - SHOWING REMOVAL



WINGS 1&3 - SHOWING REMOVAL

Ⓐ25 SALVAGE EXIST. REINF. & EXTEND FULL LENGTH INTO NEW WORK.



EAST ABUTMENT ☆☆

SHOWING REMOVAL

* AT ABUTMENT BEARINGS.

● ADDITIONAL BEARING WORK TO BE DONE:

1. WEST ABUTMENT - REWELDED KEEPER BAR TO BEARING AT BEARING #3.
2. WEST ABUTMENT - SHIM BEARING TO RE-ESTABLISH CONTACT BETWEEN BEARING/BRONZE PLATE AND SOLE PLATE AT BEARING #4.
3. WEST ABUTMENT - REMOVE CHANNEL RETROFIT AT BEARING #5.

◈ BID ITEM ALSO INCLUDES CONCRETE FOR: PREPARATION DECKS TYPE 1, PREPARATION DECKS TYPE 2, JOINT REPAIR AND FULL-DEPTH DECK REPAIR.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-41-111

DRAWN BY DDS | PLANS CK'D. ADS

QUANTITIES AND DETAILS

SHEET 2

128

SCALE = 2.00

8

8

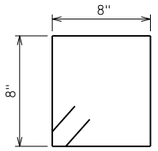
STATE PROJECT NUMBER

1071-02-63

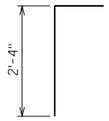
WEST ABUTMENT BILL OF BARS

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

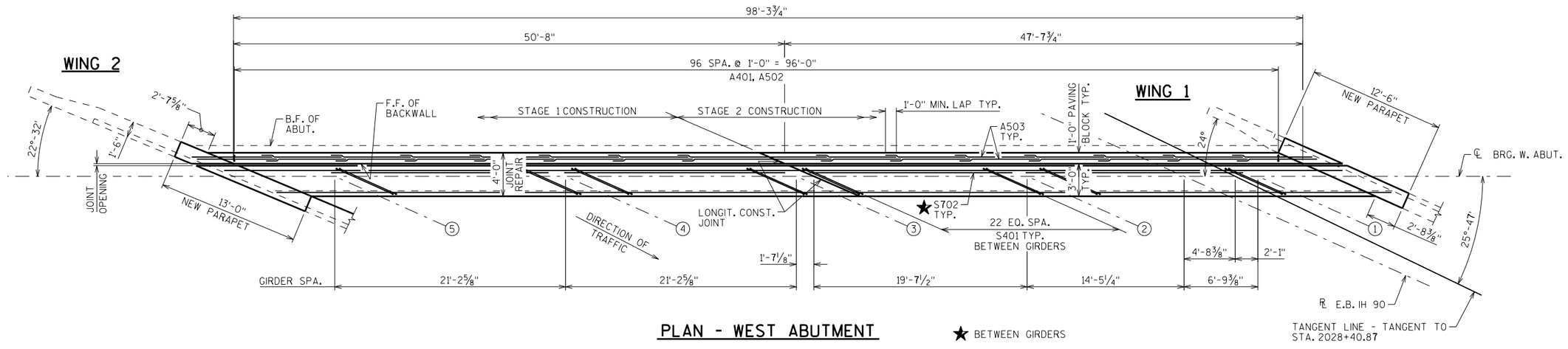
BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
A401	X	97	3'-2"	X		PAVING BLOCK - STIRRUPS
A502	X	97	3'-1"	X		PAVING BLOCK - CONCRETE MASONRY ANCHORS
A503	X	48	8'-0"			PAVING BLOCK - HORIZ.



A401, B401

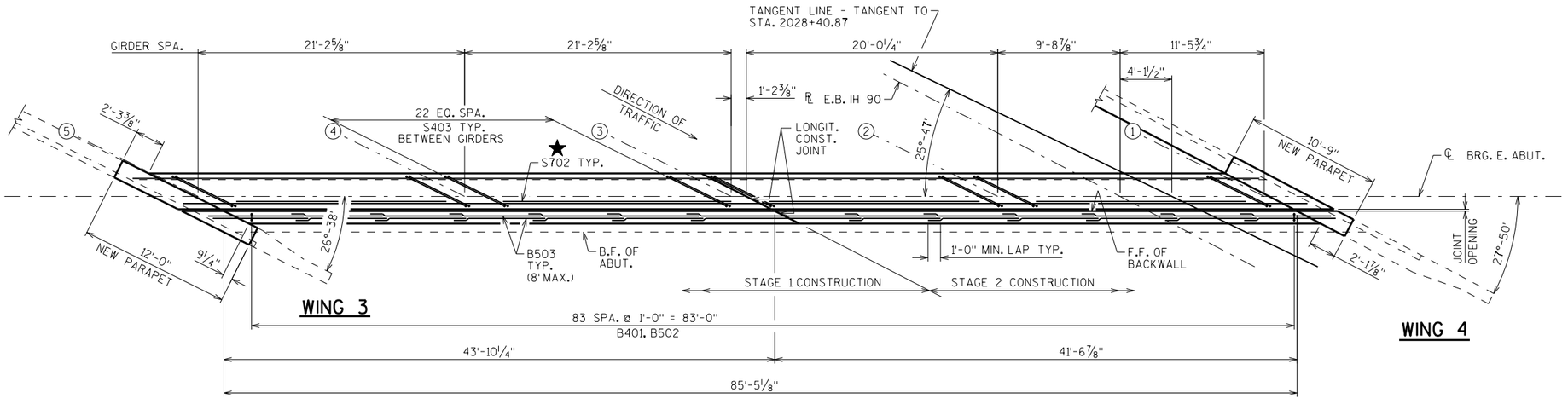


A502, B502



PLAN - WEST ABUTMENT

★ BETWEEN GIRDERS

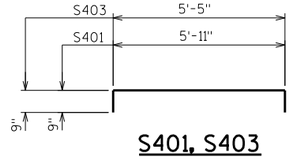


EAST ABUTMENT BILL OF BARS

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

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
B401	X	84	3'-2"	X		PAVING BLOCK - STIRRUPS
B502	X	84	3'-1"	X		PAVING BLOCK - CONCRETE MASONRY ANCHORS
B503	X	42	8'-0"			PAVING BLOCK - HORIZ.

PLAN - EAST ABUTMENT



S401, S403

BILL OF BARS

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

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
S401	X	184	7'-3"	X		JOINT REPAIR - W. ABUT. - STIRRUPS
S702	X	56	20'-0"			JOINT REPAIR - BETWEEN GIRDERS
S403	X	184	6'-9"	X		JOINT REPAIR - E. ABUT. - STIRRUPS
S404	X	16	20'-0"			EXPANSION DEVICE - HORIZ. - BTWN. GIRDERS

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-41-111

DRAWN BY DDS | PLANS CK'D. ADS

ABUTMENT DETAILS

SHEET 3

129

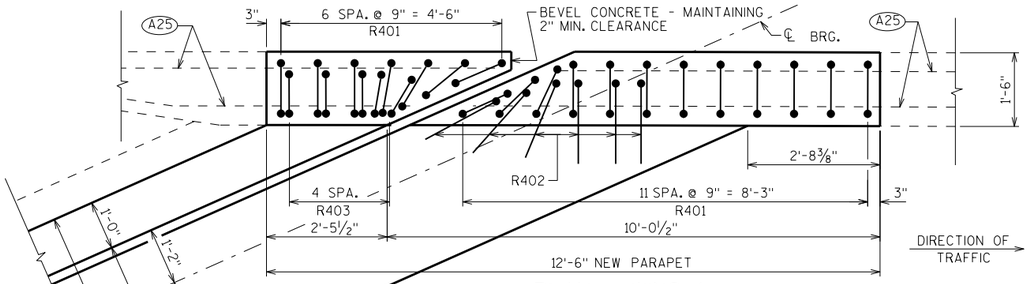
SCALE = 5.0

8

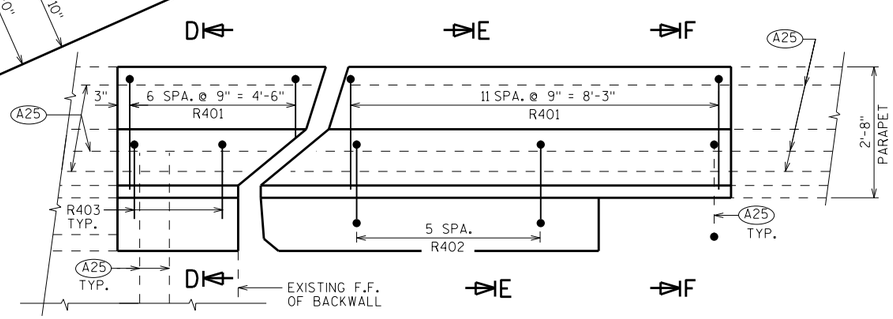
8

STATE PROJECT NUMBER
1071-02-63

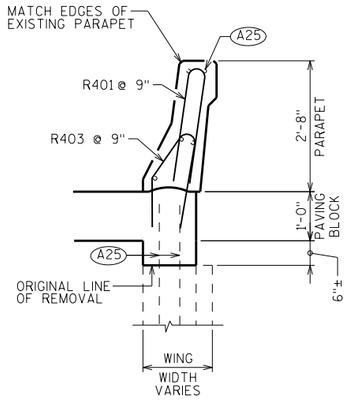
(A25) SALVAGE EXIST. REINF. & EXTEND FULL LENGTH INTO NEW WORK.



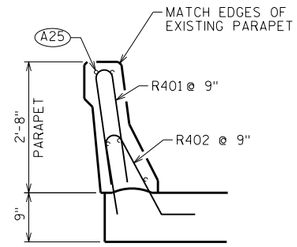
PLAN - WING 1



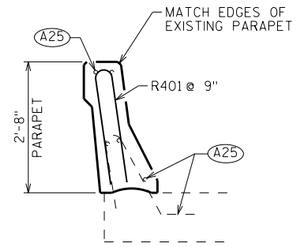
INSIDE ELEVATION (NEW PARAPET) - WING 1



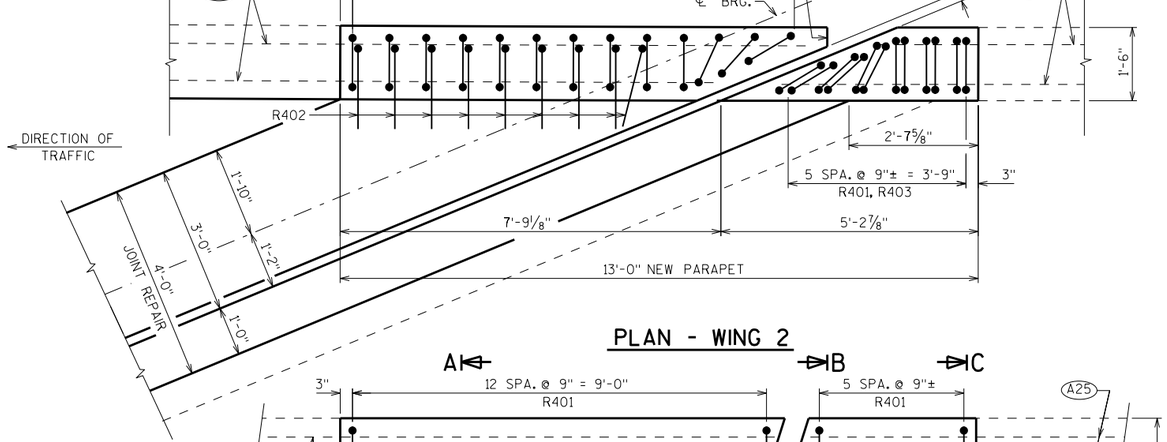
SECTION D-D



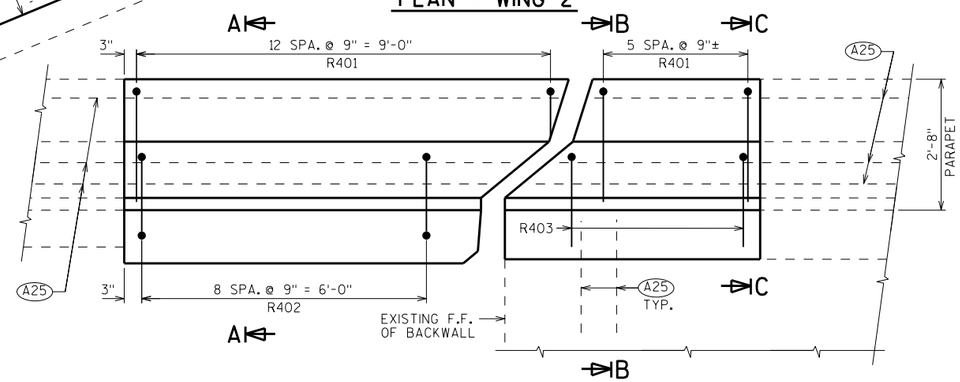
SECTION E-E



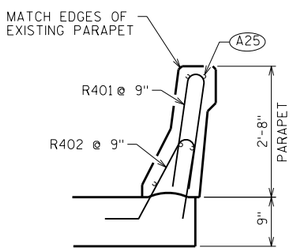
SECTION F-F



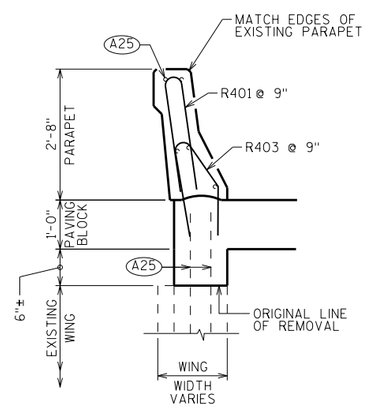
PLAN - WING 2



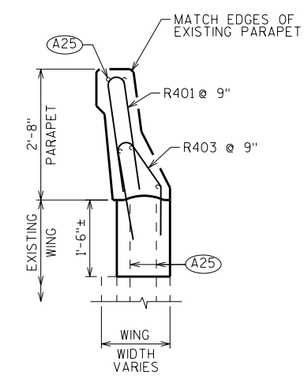
INSIDE ELEVATION (NEW PARAPET) - WING 2



SECTION A-A



SECTION B-B



SECTION C-C

NEW PARAPET CONCRETE IS TO BE INCLUDED UNDER BID ITEM "JOINT REPAIR".

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-41-111

DRAWN BY DDS | PLANS CK'D. ADS

PARAPET DETAILS (NEW)

SHEET 4

130

SCALE = 1.50

8

8

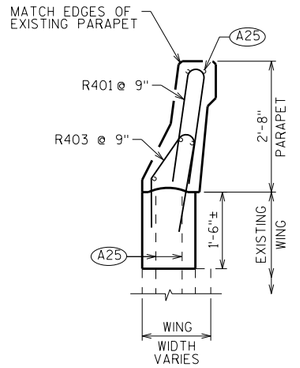
STATE PROJECT NUMBER

1071-02-63

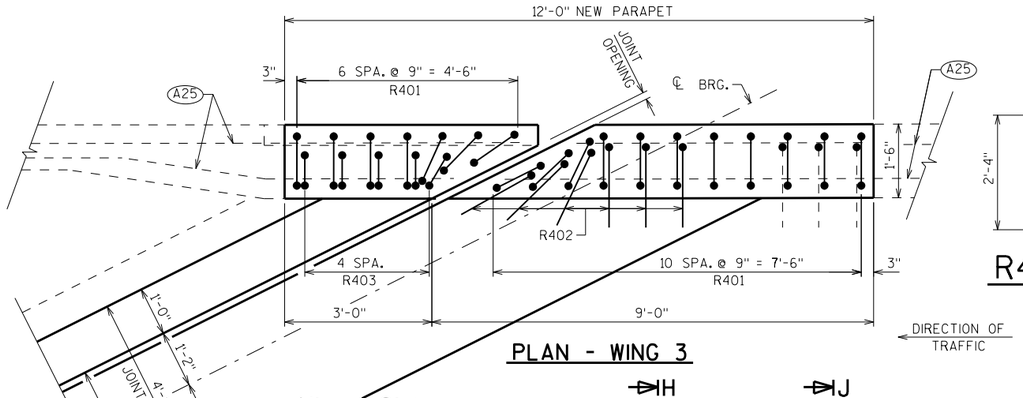
BILL OF BARS

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

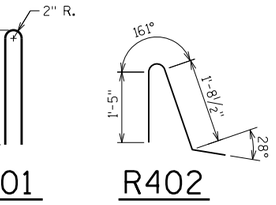
BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
R401	X	72	4'-10"	X		PARAPET - VERT.
R402	X	29	4'-3"	X		PARAPET - VERT.
R403	X	21	4'-7"	X		PARAPET - VERT.



SECTION N-N

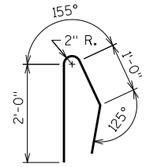


PLAN - WING 3

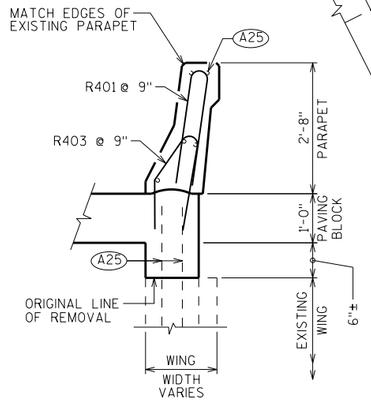


R401

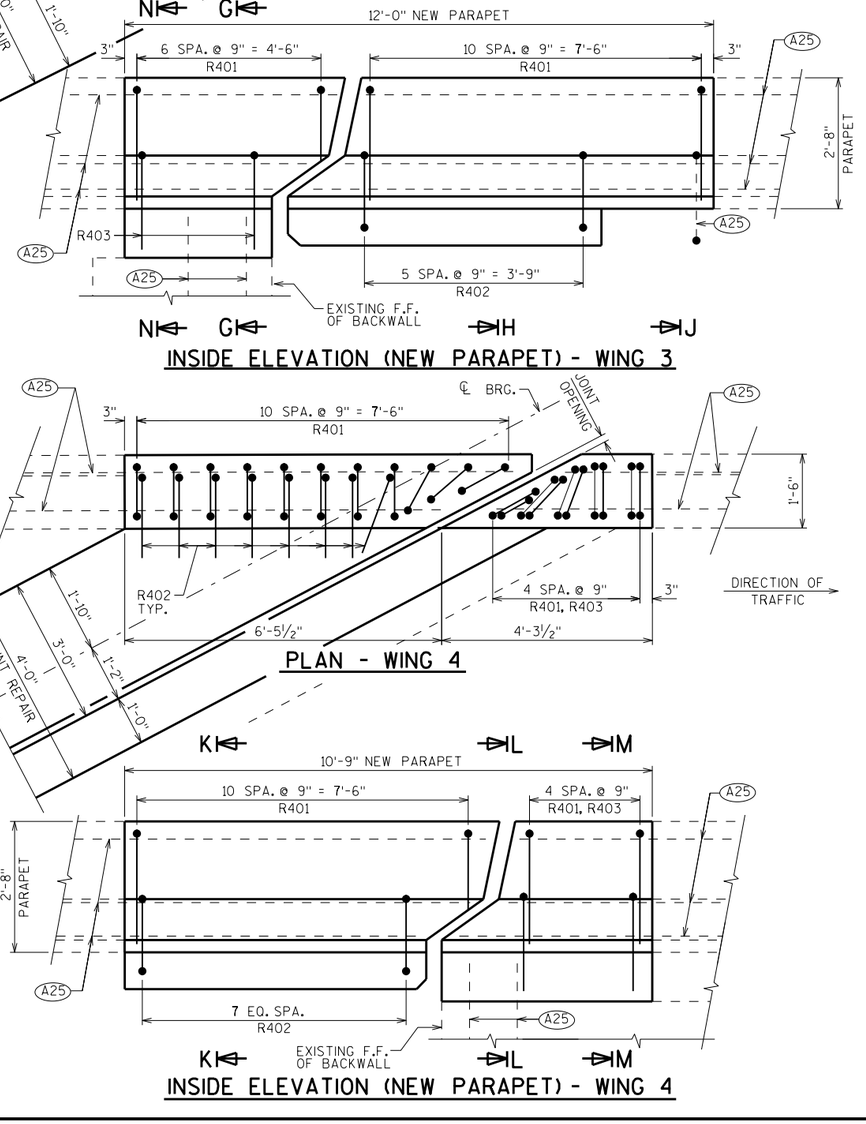
R402



R403

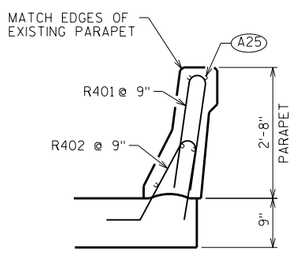


SECTION G-G



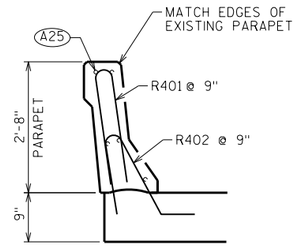
INSIDE ELEVATION (NEW PARAPET) - WING 3

PLAN - WING 4

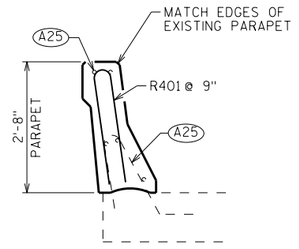


SECTION K-K

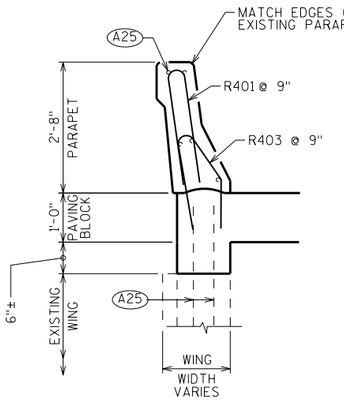
INSIDE ELEVATION (NEW PARAPET) - WING 4



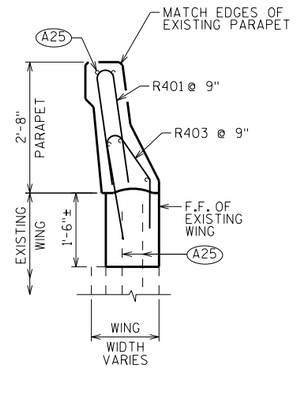
SECTION H-H



SECTION J-J



SECTION L-L



SECTION M-M

NEW PARAPET CONCRETE IS TO BE INCLUDED UNDER BID ITEM "JOINT REPAIR".

(A25) SALVAGE EXIST. REINF. & EXTEND FULL LENGTH INTO NEW WORK.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-41-111

DRAWN BY DDS | PLANS CK'D. ADS

PARAPET DETAILS (NEW)

SHEET 5

131

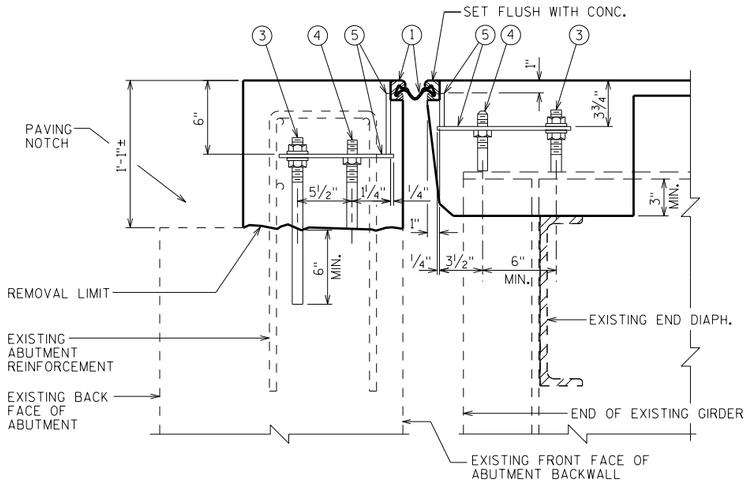
SCALE = 1.50

8

8

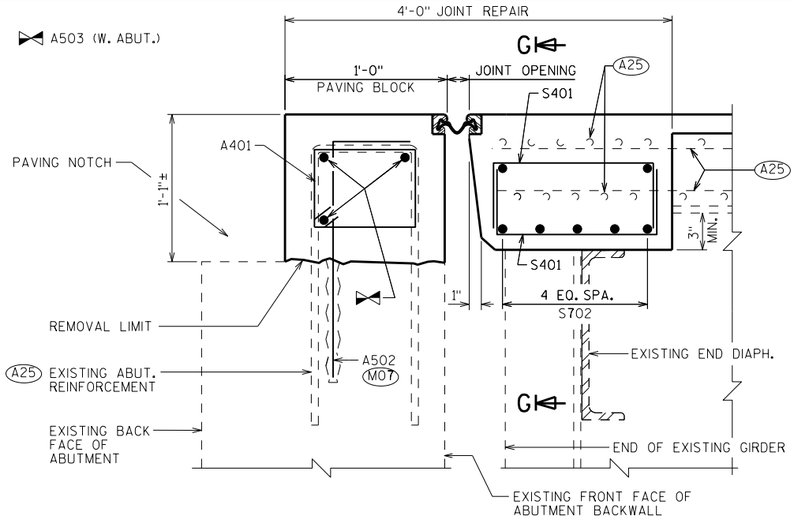
STATE PROJECT NUMBER

1071-02-63



SECTION THRU JOINT AT ABUTMENT

NORMAL TO ℄ SUBSTRUCTURE



SECTION THRU JOINT AT ABUTMENT

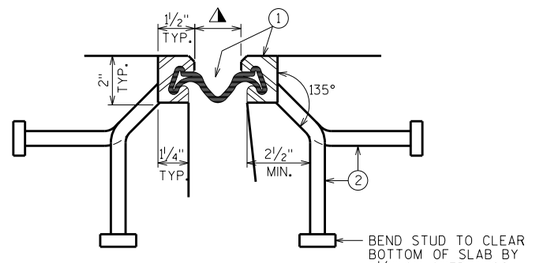
NORMAL TO ℄ SUBSTRUCTURE

LEGEND

1. NEOPRENE STRIP SEAL (5" - INCH) & STEEL EXTRUSIONS.
2. STUDS ⅝"Φ X 6⅜" LONG AT 6" ALTERNATE CENTERS. WELD TO EXTRUSIONS & BEND AS SHOWN AFTER WELDING.
2A. ½" THICK ANCHOR PLATE WITH ⅝"Φ ROD (OR ALTERNATE STRIP SEAL ANCHOR). WELD ROD TO ANCHOR PLATE. WELD ANCHOR PLATE TO NO. 1 AT 1'-6" CENTERS BETWEEN GIRDERS.
3. ¾" Φ THREADED ROD WITH 2 NUTS AND PLATE WASHERS. WELD THREADED ROD TO TOP FLANGE OR ATTACH BY BOLTING THRU FLANGE. ON ABUTMENT SIDE GROUT THREADED ROD INTO FIELD DRILLED HOLES IN ABUTMENT BACKWALL AS SHOWN.
4. ¾"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. FIELD OR SHOP WELD TO NO. 1. IF FIELD WELDED, COVER WELDED AREAS WITH EPOXY-COATING MATERIAL. PROVIDE 1½" Φ HOLE FOR NO. 3 & 1" Φ HOLE FOR NO. 4.
6. GALVANIZED PLATE ⅜" X LIMITS SHOWN WITH HOLES FOR NO. 7. BEND AS SHOWN.
7. ¾"Φ X 1½" STAINLESS STEEL SOCKET FLAT HEAD SCREWS WITH ANTI-SEIZE LUBRICANT. RECESS 1/16" BELOW PLATE SURFACE.
8. ¾"Φ X 4" GALVANIZED HEX HEAD BOLT. BEND 45°.
9. ¾"Φ X 2¼" GALVANIZED THREADED COUPLING.
10. 1" X 5" SLOTTED CSK. HOLE FOR NO. 7. SLOT PARALLEL TO DIRECTION OF MOVEMENT.

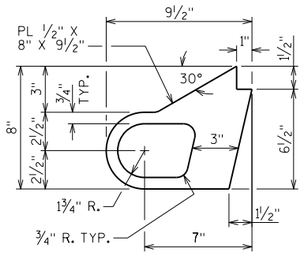
(A25) SALVAGE EXIST. REINF. & EXTEND FULL LENGTH INTO NEW WORK.

(M07) ADHESIVE ANCHORS NO. 5 BAR. EMBED 1'-6" IN CONCRETE.

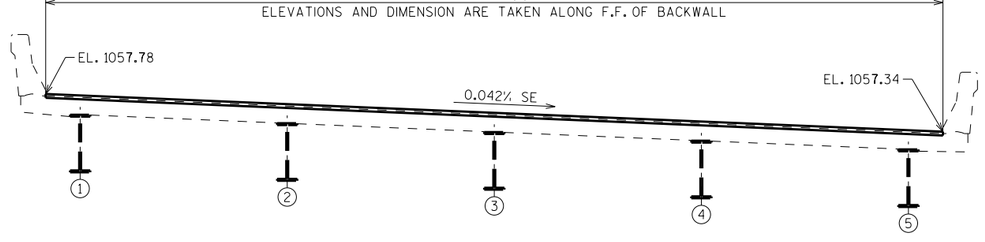


SECTION THRU JOINT

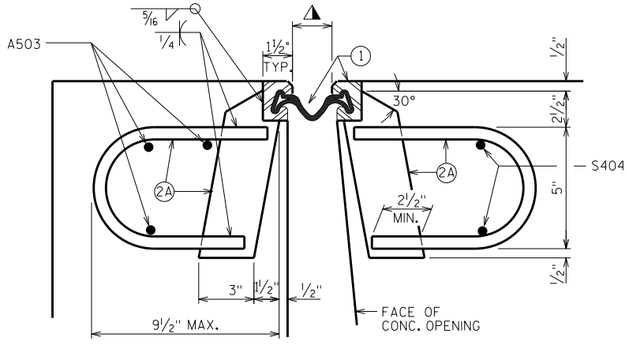
EXTERIOR GIRDER TO EDGE OF SLAB & AT PARAPETS



ALTERNATE STRIP SEAL ANCHOR

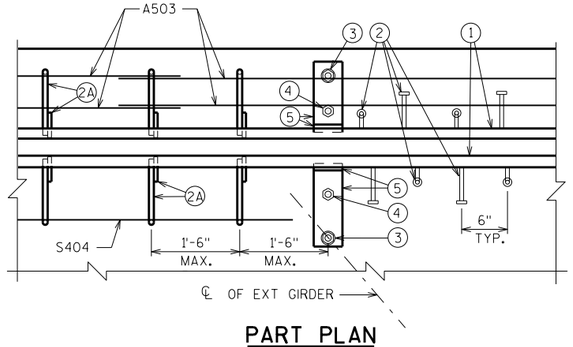


SECTION THRU ROADWAY - LOOKING EAST



SECTION THRU JOINT

ROADWAY TRAFFIC AREA BETWEEN EXTERIOR GIRDERS.



PART PLAN

⚠ TEMPERATURE TABLE

SHADED UNDERSIDE DECK TEMP. (°F)	JOINT OPENING
85°	1⅞"
75°	2"
65°	2⅛"
55°	2¼"
45°	2¼"
35°	2⅜"
25°	2⅜"
15°	2½"
5°	2⅝"

GENERAL NOTES

ONE FIELD SPLICE PERMITTED IN STEEL EXTRUSIONS. IF USED, DETAILS SHALL BE SUBMITTED FOR APPROVAL. NO SPLICING PERMITTED IN NEOPRENE STRIP SEAL.

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

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

SANDBLAST PLATES & EXTRUSIONS AFTER FABRICATION IN ACCORDANCE WITH SSPC SP. #6 "COMMERCIAL BLAST CLEANING". AFTER BLAST CLEANING THE PLATES & EXTRUSIONS SHALL BE HOT DIPPEDGALVANIZED. SLIP-RESISTANT SURFACE IS APPLIED TO SIDEWALK COVER PLATES BY THE MANUFACTURER AND THEN HOT DIPPED GALVANIZED TO THEIR RECOMMENDATIONS TO MAINTAIN THE INTEGRITY OF THIS SURFACE.

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

STRIP SEAL EXPANSION JOINT ASSEMBLY, INCLUDING ANCHOR STUDS & HARDWARE WILL BE PAID FOR AT THE LUMP SUM PRICE BID FOR "EXPANSION DEVICE B-41-111".

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-41-111

DRAWN BY DDS | PLANS CK'D. ADS

EXPANSION DEVICE WEST ABUTMENT

SHEET 6

132

JT400SS
7-10

SCALE =

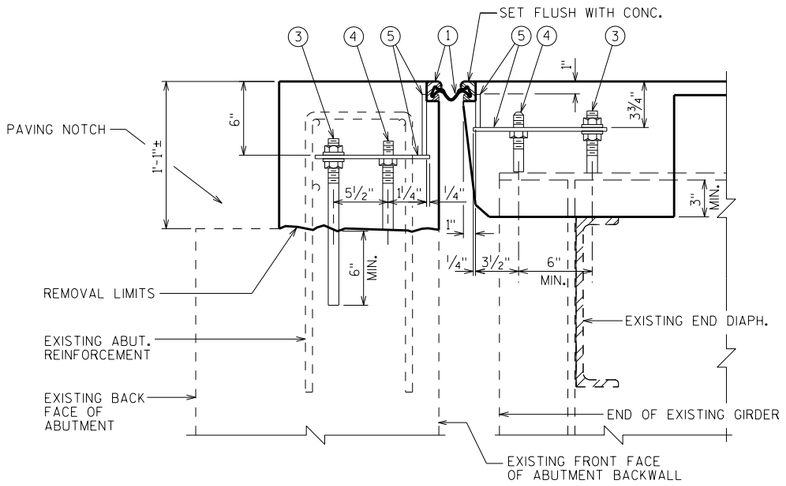
8

8

1 2 3 7 16 22 25 26

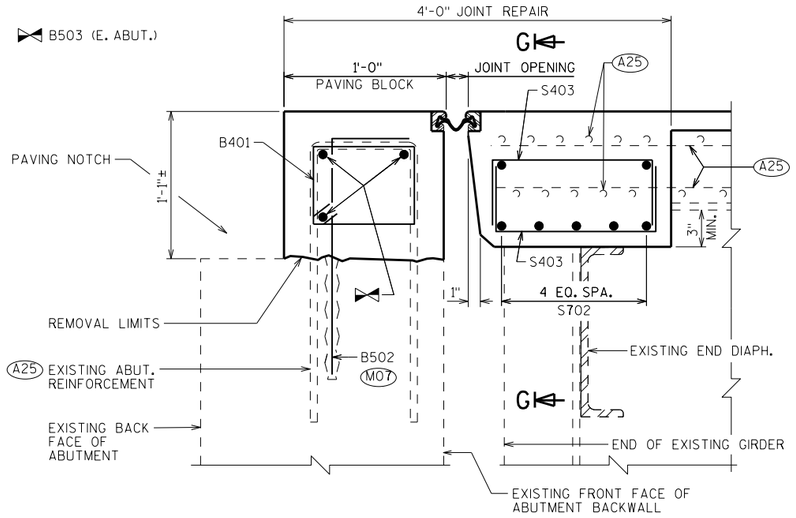
STATE PROJECT NUMBER

1071-02-63



SECTION THRU JOINT AT ABUTMENT

NORMAL TO ℄ SUBSTRUCTURE



SECTION THRU JOINT AT ABUTMENT

NORMAL TO ℄ SUBSTRUCTURE

A25 SALVAGE EXIST. REINF. & EXTEND FULL LENGTH INTO NEW WORK.

M07 ADHESIVE ANCHOR NO. 5 BAR. EMBED 1'-6" IN CONCRETE.

LEGEND

1. NEOPRENE STRIP SEAL (4" - INCH) & STEEL EXTRUSIONS.
2. STUDS ⅝"Φ X 6⅜" LONG AT 6" ALTERNATE CENTERS. WELD TO EXTRUSIONS & BEND AS SHOWN AFTER WELDING.
2A. ½" THICK ANCHOR PLATE WITH ⅝"Φ ROD (OR ALTERNATE STRIP SEAL ANCHOR). WELD ROD TO ANCHOR PLATE. WELD ANCHOR PLATE TO NO. 1 AT 1'-6" CENTERS BETWEEN GIRDERS.
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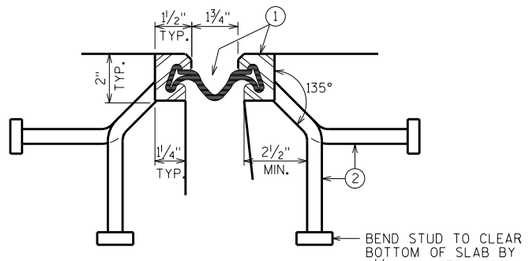
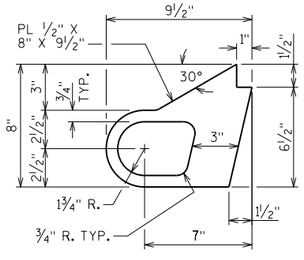
10. 1" X 5" SLOTTED CSK. HOLE FOR NO. 7. SLOT PARALLEL TO DIRECTION OF MOVEMENT.

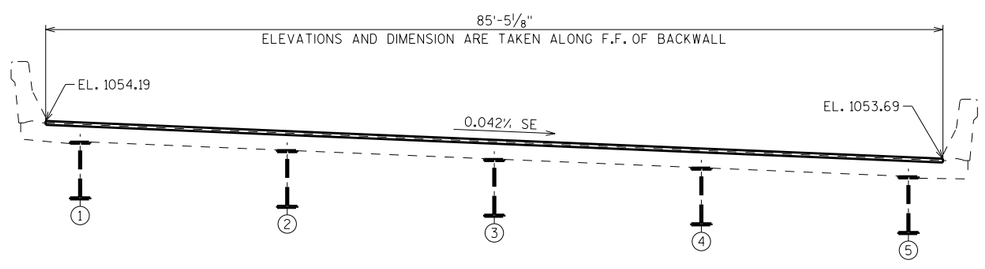


SECTION THRU JOINT

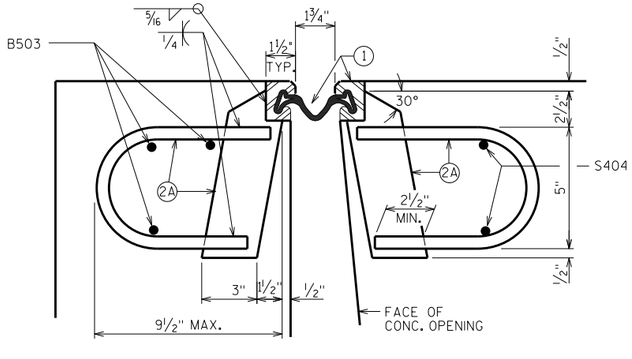
EXTERIOR GIRDER TO EDGE OF SLAB & AT PARAPETS



ALTERNATE STRIP SEAL ANCHOR

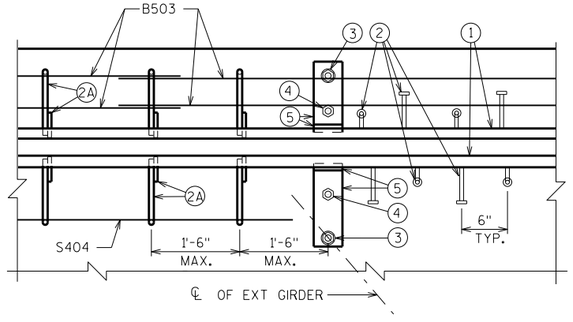


SECTION THRU ROADWAY - LOOKING EAST



SECTION THRU JOINT

ROADWAY TRAFFIC AREA BETWEEN EXTERIOR GIRDERS.



PART PLAN

GENERAL NOTES

ONE FIELD SPLICE PERMITTED IN STEEL EXTRUSIONS. IF USED, DETAILS SHALL BE SUBMITTED FOR APPROVAL. NO SPLICING PERMITTED IN NEOPRENE STRIP SEAL.

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STRIP SEAL EXPANSION JOINT ASSEMBLY, INCLUDING ANCHOR STUDS & HARDWARE WILL BE PAID FOR AT THE LUMP SUM PRICE BID FOR "EXPANSION DEVICE B-41-111".

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-41-111

DRAWN BY DDS | PLANS CK'D. ADS

EXPANSION DEVICE EAST ABUTMENT

SHEET 7

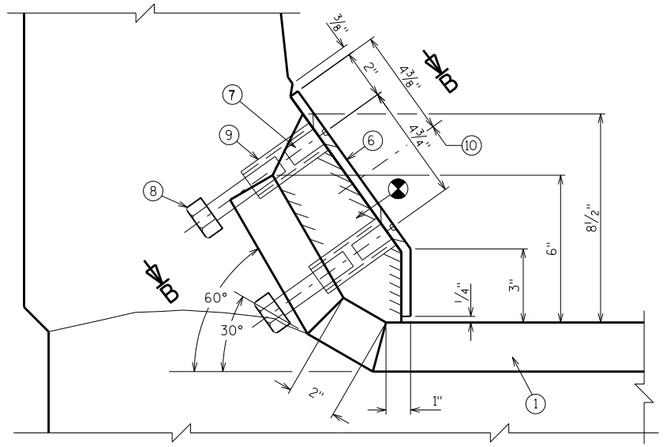
133

JT400SS
7-10

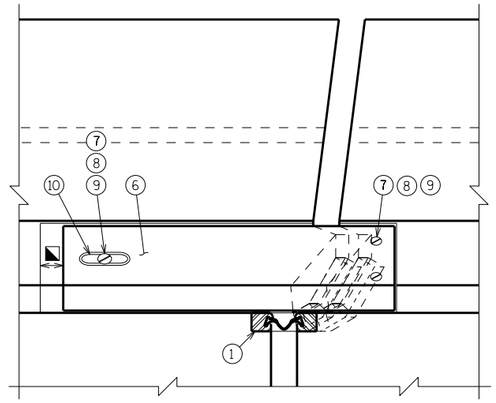
SCALE =

STATE PROJECT NUMBER

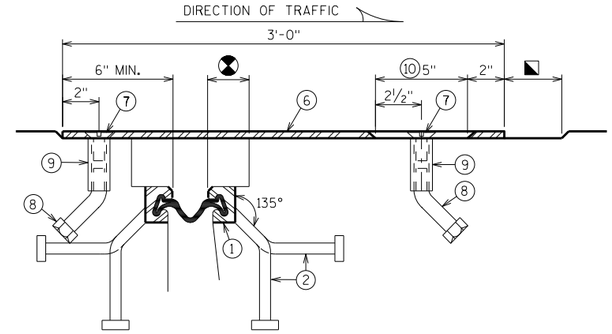
1071-02-63



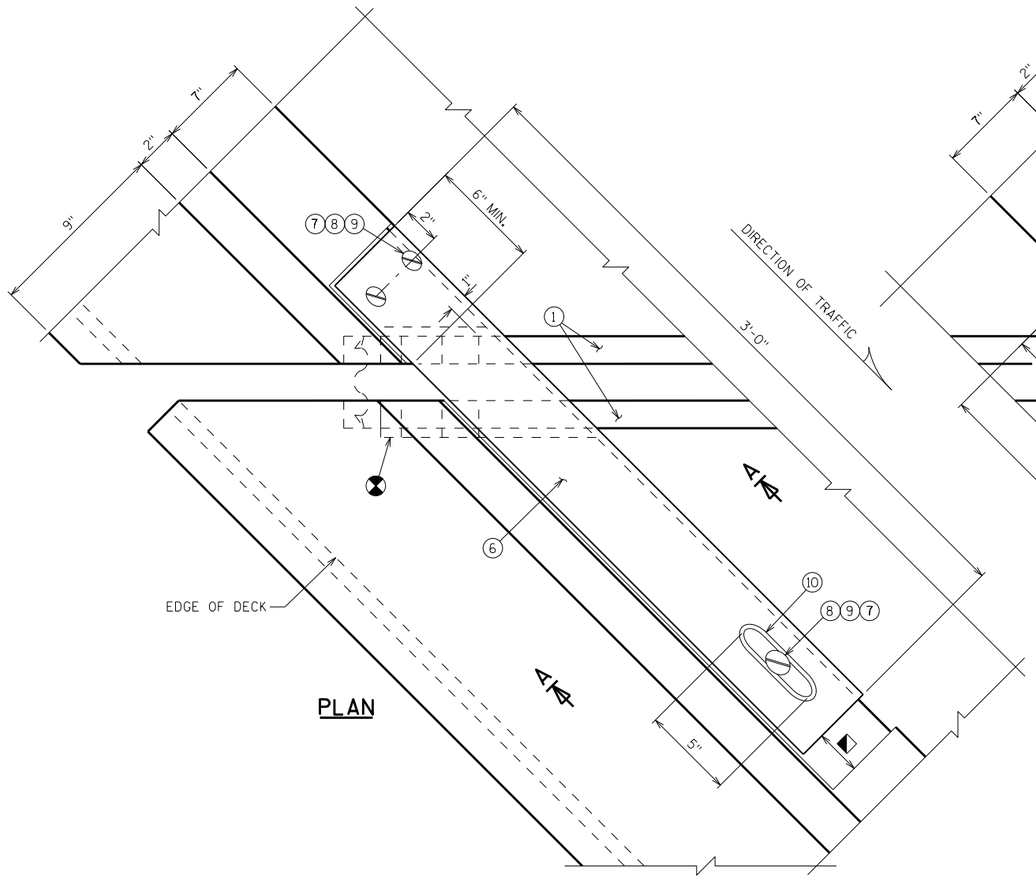
SECTION A-A



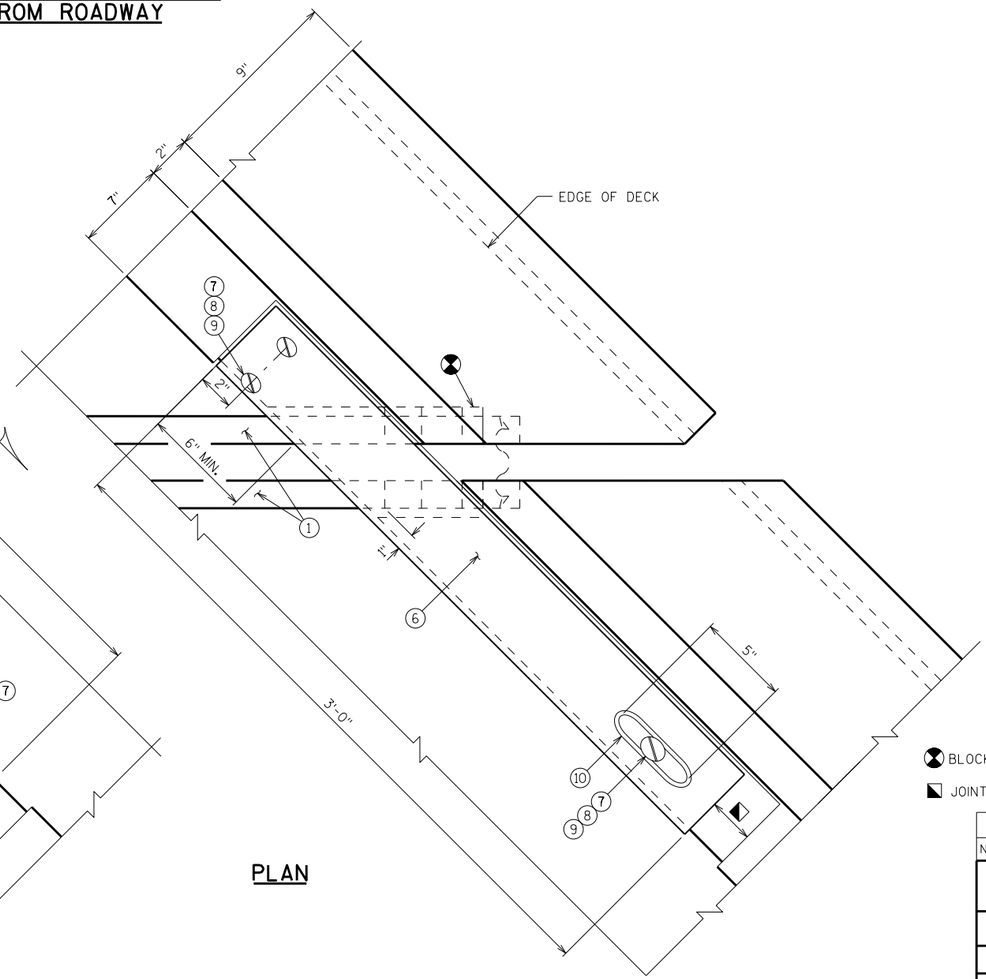
VIEW OF PARAPET PLATE FROM ROADWAY



SECTION B-B



PLAN



PLAN

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

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

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-41-111

DRAWN BY DDS | PLANS CK'D. ADS

COVER PLATE DETAILS

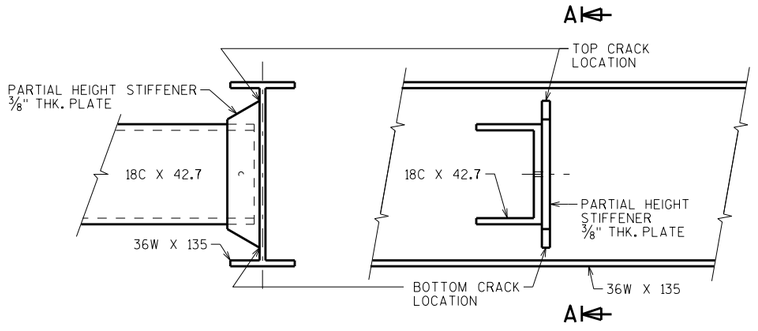
SHEET 8

134

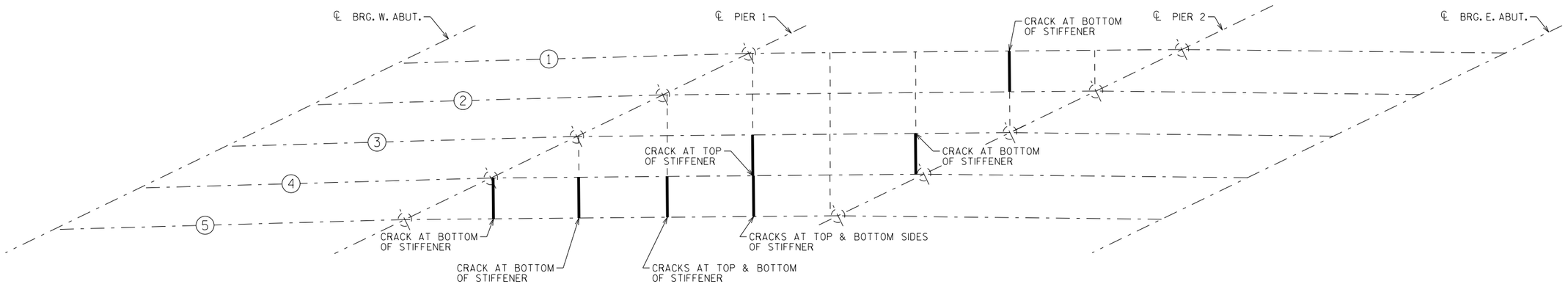
7-10

STATE PROJECT NUMBER

1071-02-63



SECTION A-A ELEVATION



FRAMING PLAN

SPAN 2 STEEL DIAPHRAGMS SHOWN

| = EXISTING STEEL DIAPHRAGMS THAT NEED CRACK REPAIR AT PARTIAL HEIGHT STIFFENERS

¦ = EXISTING STEEL DIAPHRAM - DOES NOT NEED REPAIRS

CRACK REPAIR WORK TO BE PAID FOR UNDER BID ITEM "WELDING STEEL CRACKS SPECIAL".

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-41-111

DRAWN BY DDS | PLANS CK'D. ADS

CRACK REPAIR LOCATIONS

SHEET 9

135

SCALE = 12.00

Wisconsin Department of Transportation

Dedicated people creating transportation solutions
through innovation and exceptional service.

http://www.dot.wisconsin.gov