

# STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

## PLAN OF PROPOSED IMPROVEMENT

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
1023-01-74		

ORDER OF SHEETS

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

TOTAL SHEETS = 224

# BLACK RIVER FALLS - TOMAH

B-27-39 & 43 EB / B-27-40 & 44 WB

IH 94

JACKSON COUNTY

STATE PROJECT NUMBER  
**1023-01-74**



22

DESIGN DESIGNATION

A.A.D.T.	=	27,500
A.A.D.T.	=	32,800
D.H.V.	=	3,880
D.D.	=	58 / 42
T.	=	31.6%
DESIGN SPEED	=	70 MPH
ESALS	=	

CONVENTIONAL SYMBOLS

PLAN

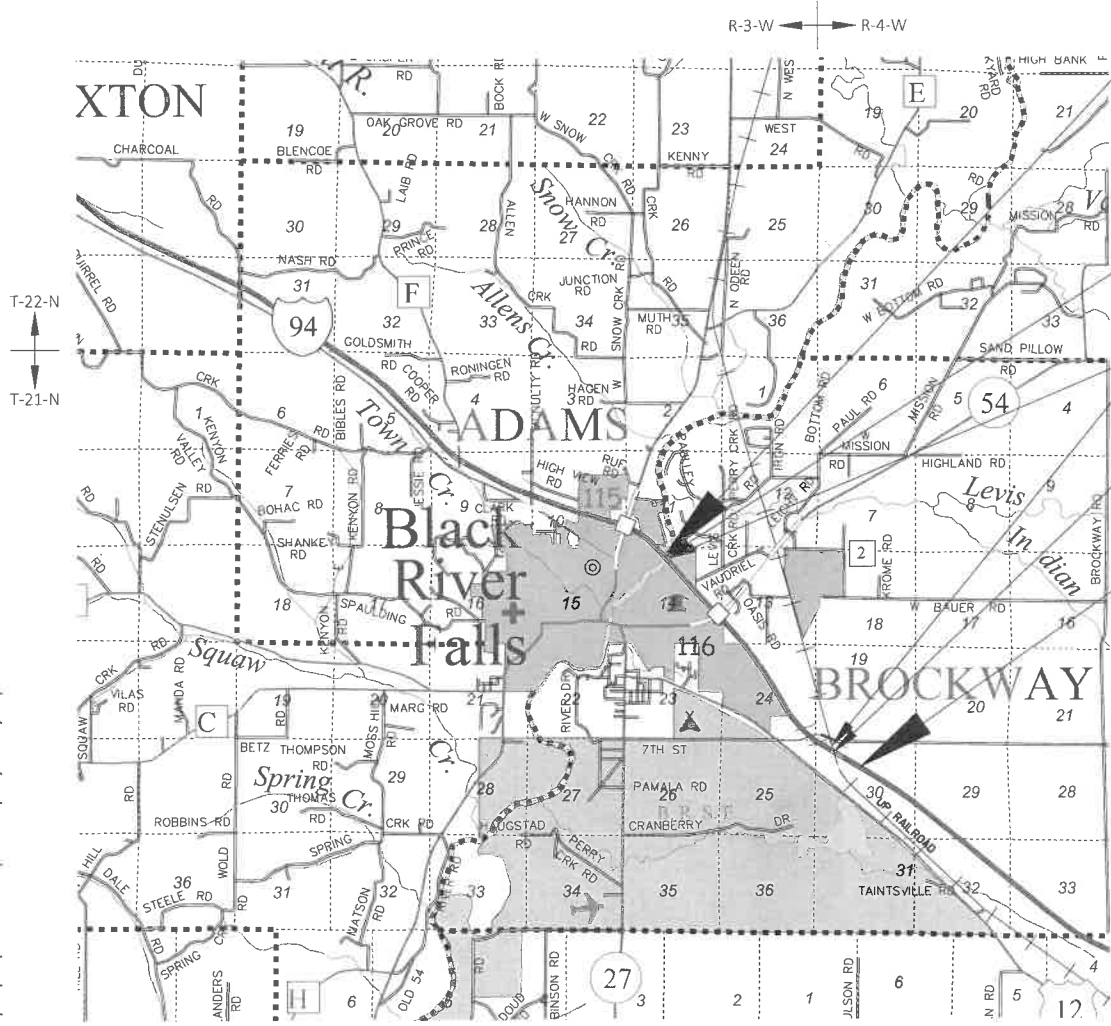
CORPORATE LIMITS	
PROPERTY LINE	
LOT LINE	
LIMITED HIGHWAY EASEMENT	
EXISTING RIGHT OF WAY	
PROPOSED OR NEW R/W LINE	
SLOPE INTERCEPT	
REFERENCE LINE	
EXISTING CULVERT	
PROPOSED CULVERT (Box or Pipe)	
COMBUSTIBLE FLUIDS	
MARSH AREA	
WOODED OR SHRUB AREA	

PROFILE

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

UTILITIES

ELECTRIC	
FIBER OPTIC	
GAS	
SANITARY SEWER	
STORM SEWER	
TELEPHONE	
WATER	
UTILITY PEDESTAL	
POWER POLE	
TELEPHONE POLE	



**BEGIN PROJECT**  
STA 1495+25  
Y = 101,141.398  
X = 90,980.613

STRUCTURE B-27-39 & 40

NET EXCEPTION TO CL LENGTH  
STA 1506+75 - STA 1638+39

STRUCTURE B-27-43 & 44

**END PROJECT**  
STA 1650+10



TOTAL NET LENGTH OF CENTERLINE = 0.440 MI

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COORDINATE REFERENCE SYSTEM (WISCRS), JACKSON COUNTY NAD83 (2011), IN U.S. SURVEY FEET. POSITIONS SHOWN ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES ARE THE SAME AS GROUND DISTANCES. ELEVATIONS ARE REFERENCED TO NAVD 88 (2012). GPS DERIVED ELEVATIONS ARE BASED ON GEOID 18-WI.

ORIGINAL PLANS PREPARED BY

**CORRE**  
ENGINEERING

MADISON | OCONOMOWOC | EAU CLAIRE | GREEN BAY | WITTENBERG

DATE: \_\_\_\_\_  
(Professional Engineer Signature)

WISCONSIN PROFESSIONAL ENGINEER

KEVIN L. MEYER  
E-38309-006  
ELK MOUND  
WI

*[Signature]*  
10/26/20

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

PREPARED BY	Surveyor	WISDOT / CORRE INC.
Designer		CORRE, INC.
Project Manager		JESSE LARSON
Regional Examiner		TOU YANG
Regional Supervisor		NICOLE PASSUELLO

APPROVED FOR THE DEPARTMENT

DATE: 10/26/20 *Jesse Larson*  
(Signature)

E

**GENERAL NOTES**

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

WisDOT BRIDGE BENCHMARK MONUMENT TO BE FURNISHED BY THE STATE AND PLACED BY THE CONTRACTOR AS DIRECTED BY THE ENGINEER.

RIGHT OF WAY LINES SHOWN ON THE CROSS SECTIONS ARE APPROXIMATE.

ALL RADII ARE MEASURED TO EDGE OF PAVEMENT UNLESS OTHERWISE SHOWN OR NOTED ON THE PLAN.

PRIOR TO THE PLACEMENT OF MGS GUARDRAIL, THE SHOULDERS SHALL BE IN PLACE, SHAPED AND COMPACTED UNLESS SHOWN OTHERWISE.

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

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

CONTRACTOR WILL BE RESPONSIBLE FOR RESHAPING AND SEEDING ANY PREVIOUSLY GRASSED AREAS WHICH ARE DISTURBED BY HIS OPERATION OUTSIDE OF THE NORMAL CONSTRUCTION LIMITS.

THE QUANTITY OF THE ITEMS FOR EROSION PROTECTION INCLUDES AN UNDISTRIBUTED AMOUNT FOR PROTECTION, CONTROL AND ABATEMENT OF WATER POLLUTION RESULTING FROM SOIL EROSION. THE DISTRIBUTION AND LOCATION OF THESE MATERIALS ARE TO BE DETERMINED BY THE ENGINEER.

DISTURBED AREAS WITHIN THE RIGHT OF WAY ARE TO BE TOPSOILED, FERTILIZED, SEEDED, AND MULCHED AS DIRECTED BY THE ENGINEER.

TOPSOIL AND MULCH HAS BEEN COMPUTED BY DIRECT MEASUREMENTS ON THE CROSS SECTIONS PLUS 5 FT BEYOND THE TOE OF SLOPE. SEEDING AND FERTILIZER HAS BEEN COMPUTED BY DIRECT MEASUREMENTS ON THE CROSS SECTIONS PLUS 10 FT.

**UTILITY CONTACTS**

COMMUNICATIONS LINE

AT&T LEGACY  
VANESSA ROSS  
555 E. COOK STREET  
SPRINGFIELD, IL 62703  
PHONE: (217) 814-2314  
EMAIL: VF2021@ATT.COM

ELECTRICITY

JACKSON ELECTRIC COOP  
ERIC STEIEN  
N6868 CO HWY F  
P.O. BOX 546  
BLACK RIVER FALLS, WI 54615-0546  
PHONE: (715) 284-5385  
EMAIL: ESTEIEN@JACKELEC.COM

GAS / PETROLEUM

WE ENERGIES  
TRAVIS KAHL  
1921 8TH STREET SOUTH  
WISCONSIN RAPIDS, WI 54494  
PHONE: (715) 498-6180  
EMAIL: TRAVIS.KAHL@WE-ENERGIES.COM

ELECTRICITY-TRANSMISSION

XCEL ENERGY  
MITCHELL DIENGER  
414 NICOLLET MALL 5TH FLOOR  
MINNEAPOLIS, MN 55401  
PHONE: (608) 386-2233  
EMAIL: MITCHELL.A.DIENGER@XCELENERGY.COM

**SYSTEM SPECIFIC INFORMATION**

	POST SPACING	DEFLECTION (WORKING WIDTH) FOR 16'	POST SPACING	DEFLECTION (WORKING WIDTH) FOR 10'	CURVE RADIUS	REQUIRED CURVE POST SPACING	END TERMINAL LENGTH	TAPER RATE
SAFENCE TL-3 4 CABLE	15'	8'	10'	6.5'	> 984'	15'	39.4'	75:1

**RUNOFF COEFFICIENT TABLE**

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

TOTAL PROJECT AREA = 32 ACRES  
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 6 ACRES



Dial **811** or (800)242-8511

www.DiggersHotline.com

**ORDER OF SECTION 2 SHEETS**

- GENERAL NOTES / WRITTEN MATERIAL
- TYPICAL SECTIONS
- CONSTRUCTION DETAILS
- PLAN DETAILS
- EROSION CONTROL AND DRAINAGE
- TRAFFIC CONTROL AND CONSTRUCTION STAGING

DNR LIAISON

DNR WEST CENTRAL REGION HEADQUARTERS  
LEAH NICOL  
1300 WEST CLAIREMONT AVENUE  
EAU CLAIRE, WI 54701  
PHONE: (715) 934-9014  
EMAIL: LEAH.NICOL@WISCONSIN.GOV

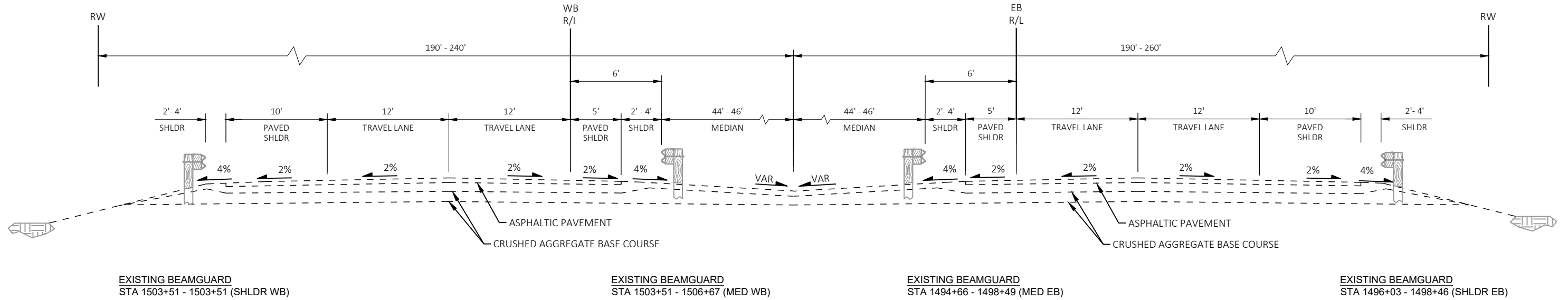
WisDOT CONTACT

NORTHWEST REGION  
JESSE LARSON  
EAU CLAIRE OFFICE  
718 W. CLAIREMONT AVE.  
EAU CLAIRE, WI 54701  
PHONE: (715) 491-1470  
EMAIL: JESSE.LARSON@DOT.WI.GOV

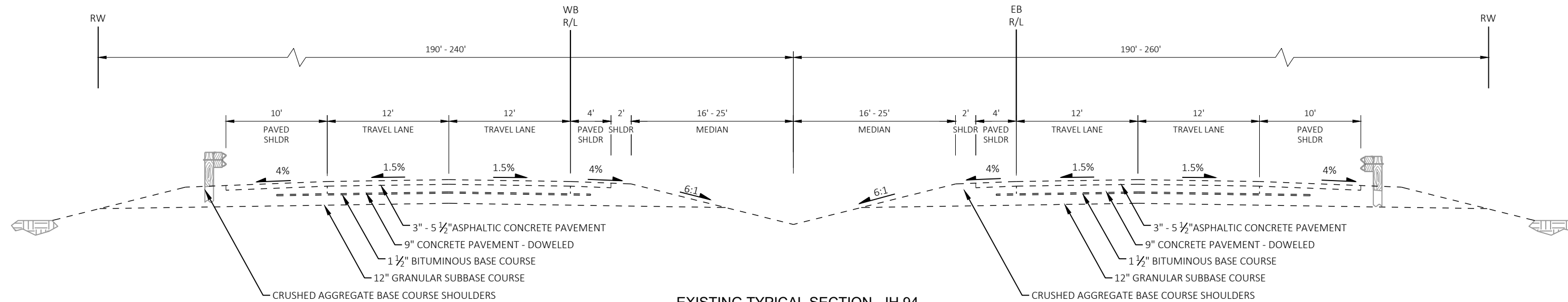
CONSULTANT CONTACT

CORRE, INC.  
1802 WARDEN STREET  
EAU CLAIRE, WI 54703  
PHONE: (608) 828-1011  
EMAIL: KMEYER@CORREINC.COM

NOTE:  
TYPICAL SECTION DOES NOT CHANGE WITH PROJECT



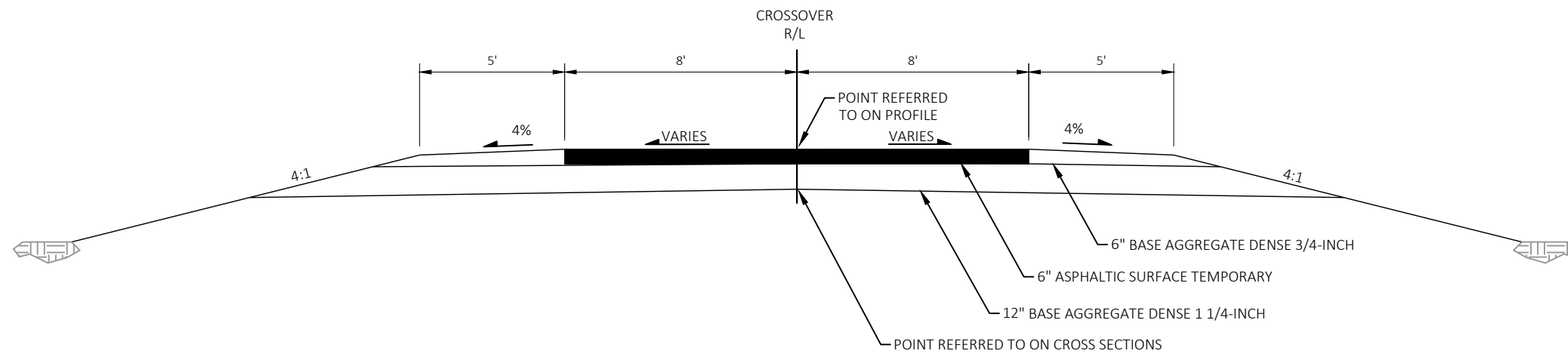
**EXISTING TYPICAL SECTION - IH 94**  
STA 1481+73 - 1504+30



**EXISTING TYPICAL SECTION - IH 94**  
STA 1580+60 - 1591+60  
STA 1640+80 - 1645+41

**EXISTING BEAMGUARD**  
STA 1638+45 - 1641+41 (SHLDR WB)  
STA 1643+46 - 1648+53 (SHLDR WB)

**EXISTING BEAMGUARD**  
STA 1637+65 - 1642+72 (SHLDR EB)  
STA 1644+80 - 1649+97 (SHLDR EB)

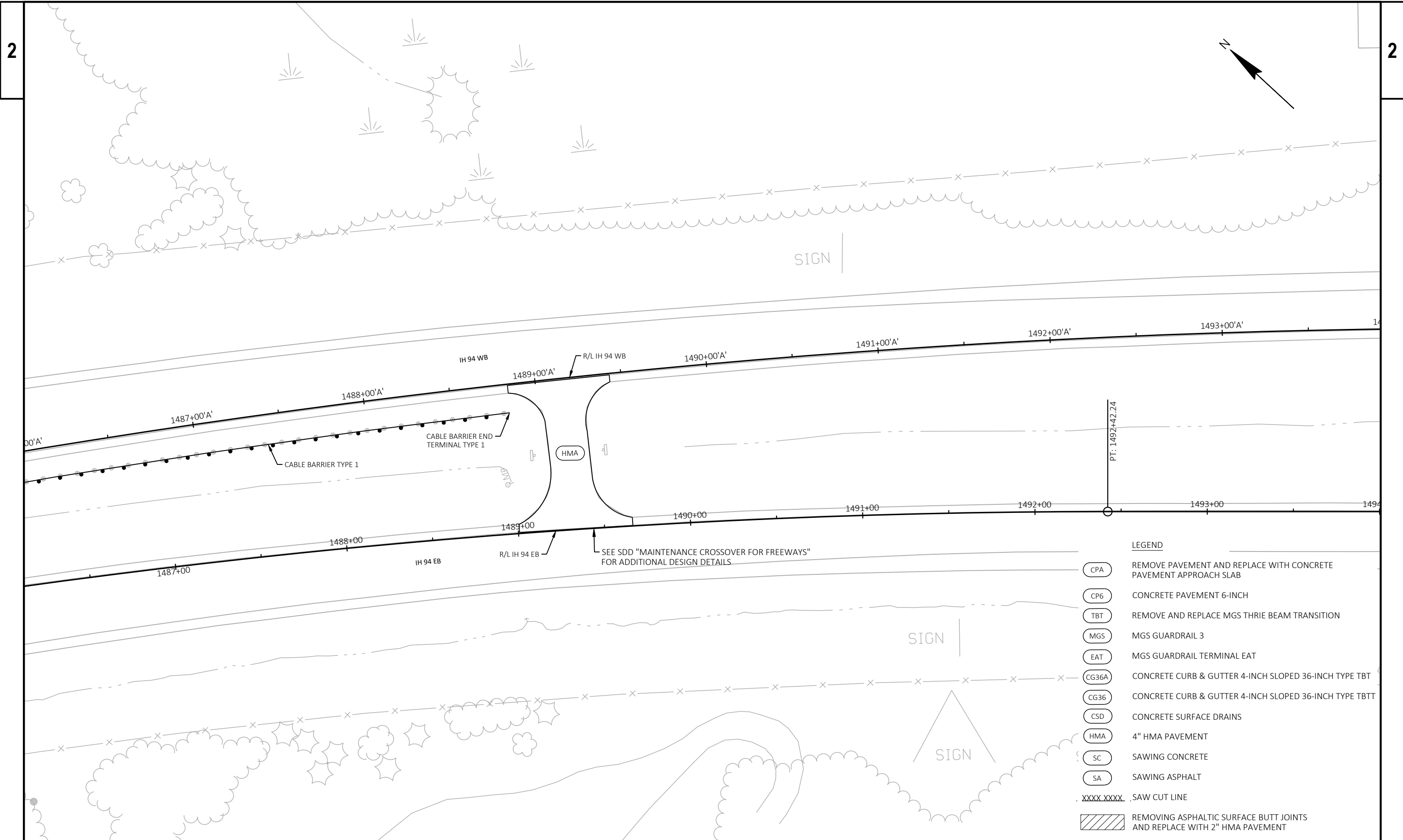


**PROPOSED TYPICAL SECTION - TEMPORARY CROSSOVER**

STA 1481+74 WB - 1496+90 WB  
 STA 1485+80 EB - 1496+36 EB  
 STA 1580+60 WB - 1591+22 WB  
 STA 1581+26 EB - 1591+19 EB



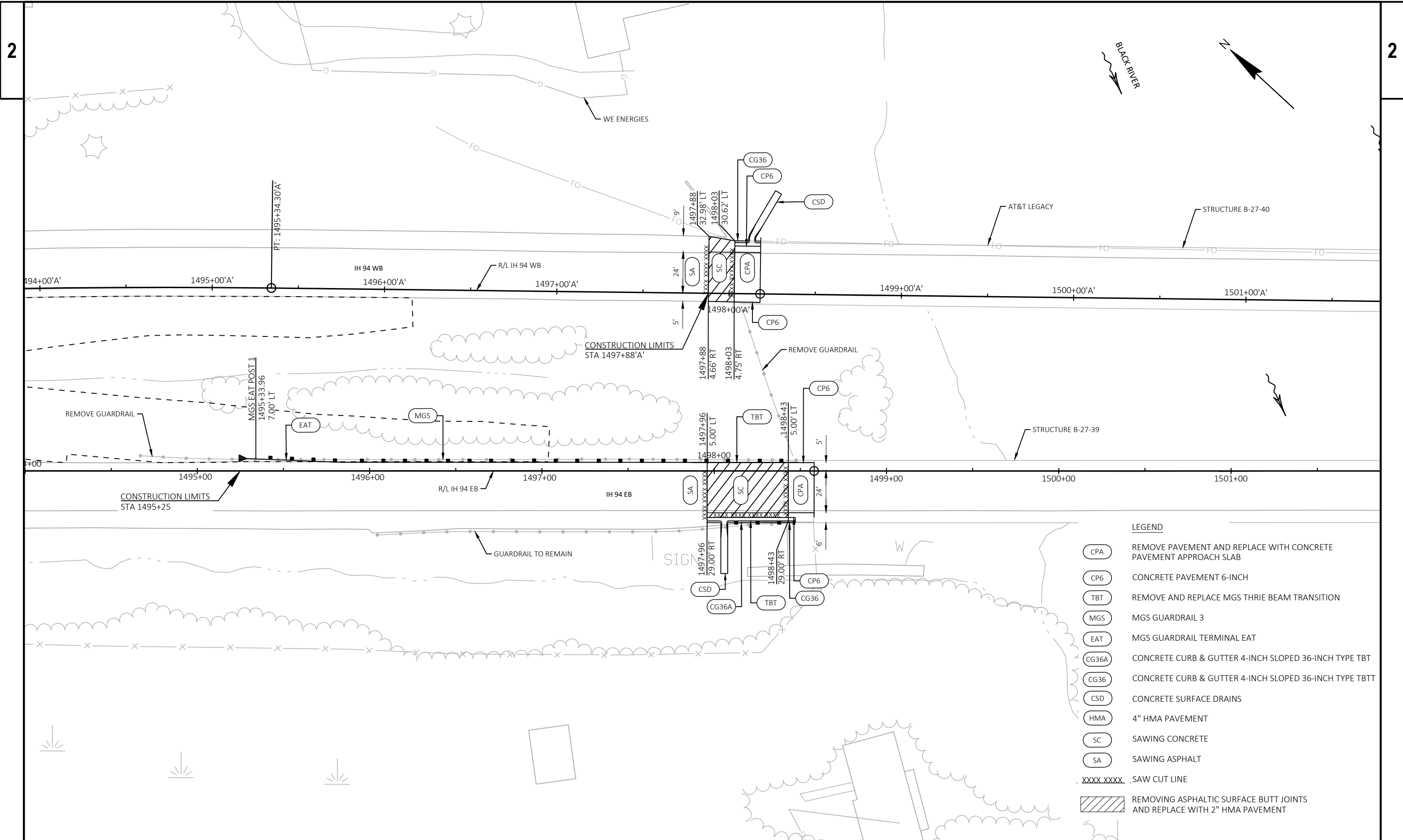




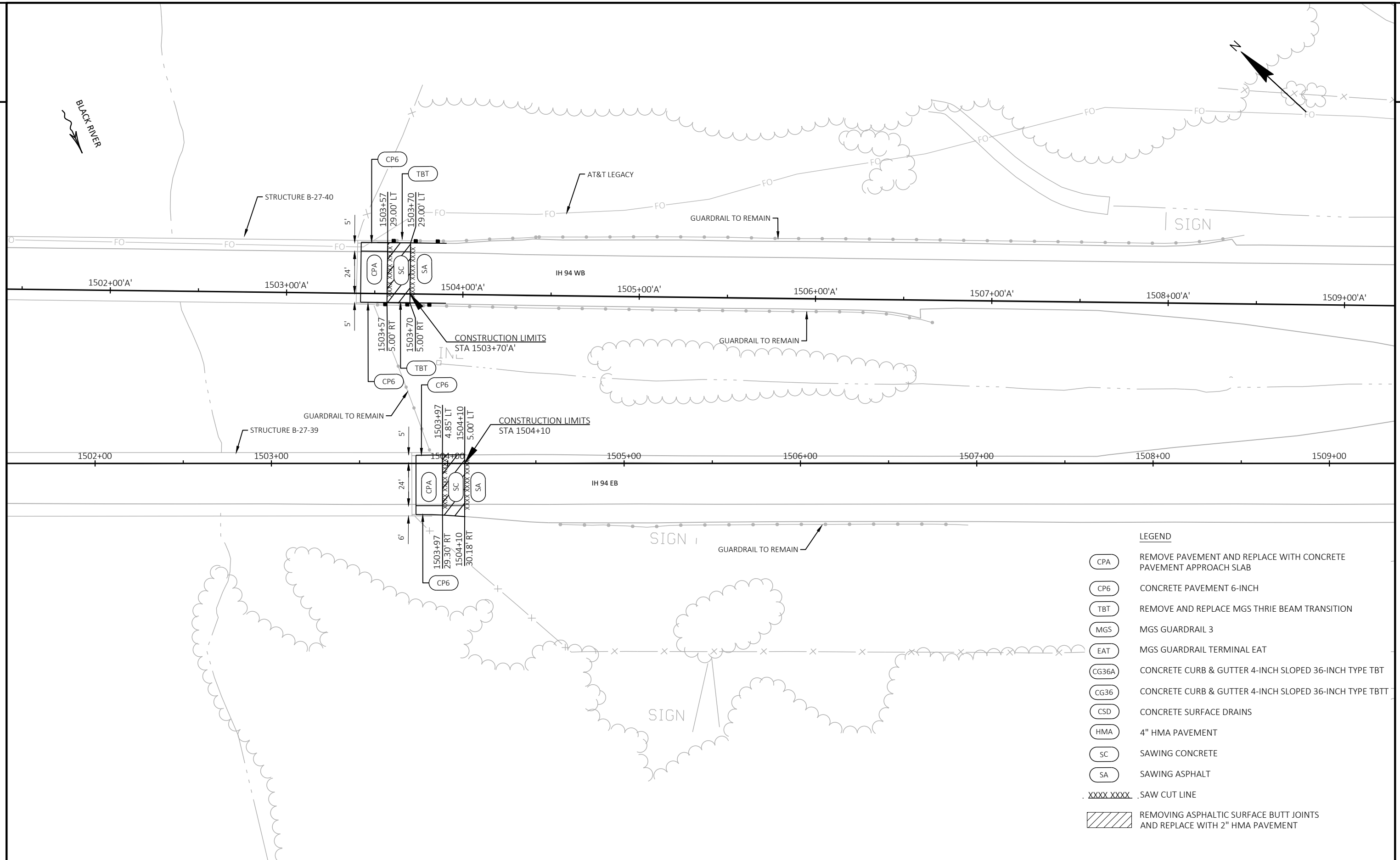
**LEGEND**

CPA	REMOVE PAVEMENT AND REPLACE WITH CONCRETE PAVEMENT APPROACH SLAB
CP6	CONCRETE PAVEMENT 6-INCH
TBT	REMOVE AND REPLACE MGS THRIE BEAM TRANSITION
MGS	MGS GUARDRAIL 3
EAT	MGS GUARDRAIL TERMINAL EAT
CG36A	CONCRETE CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE TBT
CG36	CONCRETE CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE TBT
CSD	CONCRETE SURFACE DRAINS
HMA	4" HMA PAVEMENT
SC	SAWING CONCRETE
SA	SAWING ASPHALT
. XXXX XXXX .	SAW CUT LINE
[Hatched Box]	REMOVING ASPHALTIC SURFACE BUTT JOINTS AND REPLACE WITH 2" HMA PAVEMENT

PROJECT NO: 1023-01-74      HWY: IH 94      COUNTY: JACKSON      PAVING DETAILS - BLACK RIVER BRIDGES APPROACHES      SHEET **E**

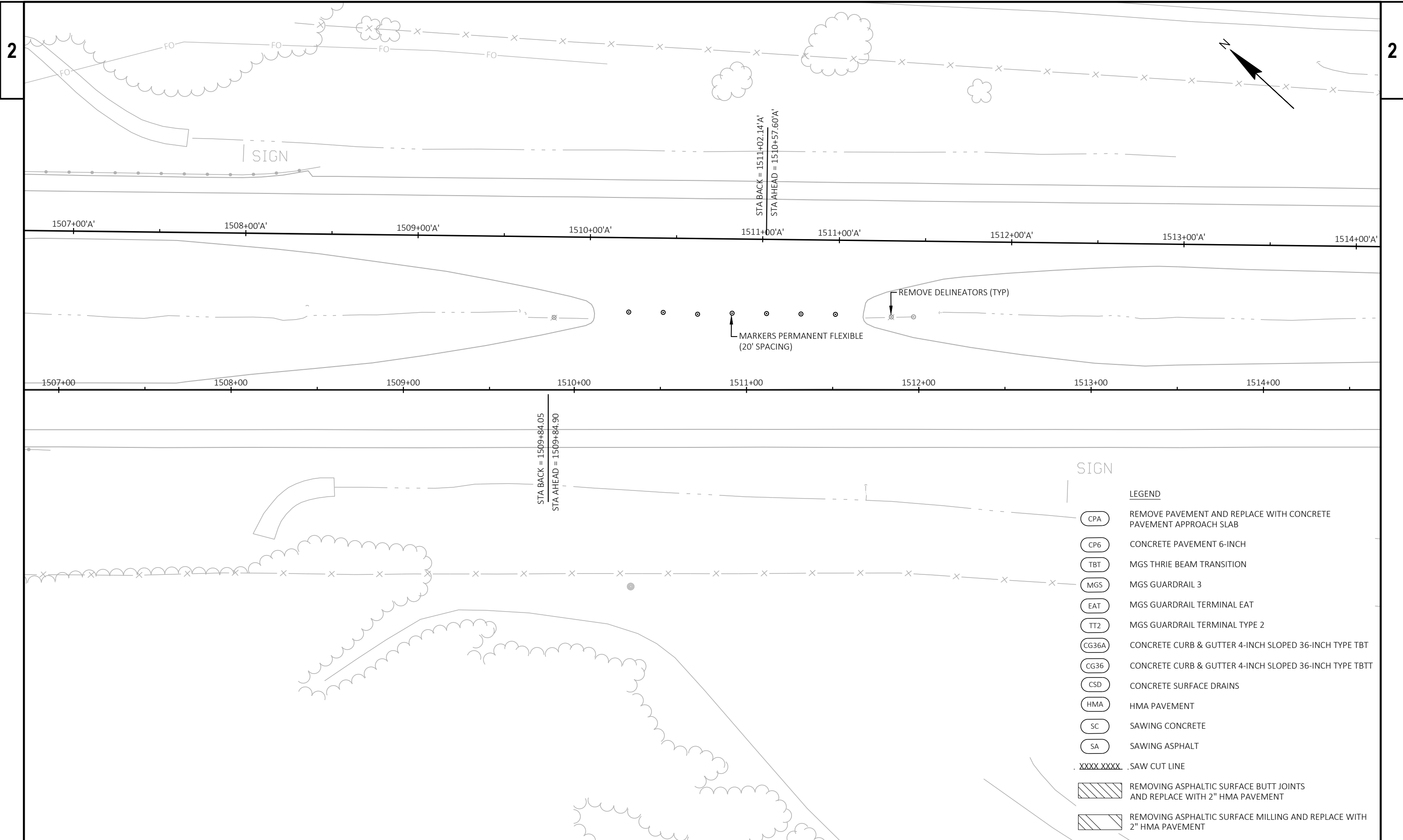


- LEGEND**
- CPA REMOVE PAVEMENT AND REPLACE WITH CONCRETE PAVEMENT APPROACH SLAB
  - CP6 CONCRETE PAVEMENT 6-INCH
  - TBT REMOVE AND REPLACE MGS THRIE BEAM TRANSITION
  - MGS MGS GUARDRAIL 3
  - EAT MGS GUARDRAIL TERMINAL EAT
  - CG36A CONCRETE CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE TBT
  - CG36 CONCRETE CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE TBTT
  - CSD CONCRETE SURFACE DRAINS
  - HMA 4" HMA PAVEMENT
  - SC SAWING CONCRETE
  - SA SAWING ASPHALT
  - .XXXX XXXX. SAW CUT LINE
  - [Hatched Box] REMOVING ASPHALTIC SURFACE BUTT JOINTS AND REPLACE WITH 2" HMA PAVEMENT



**LEGEND**

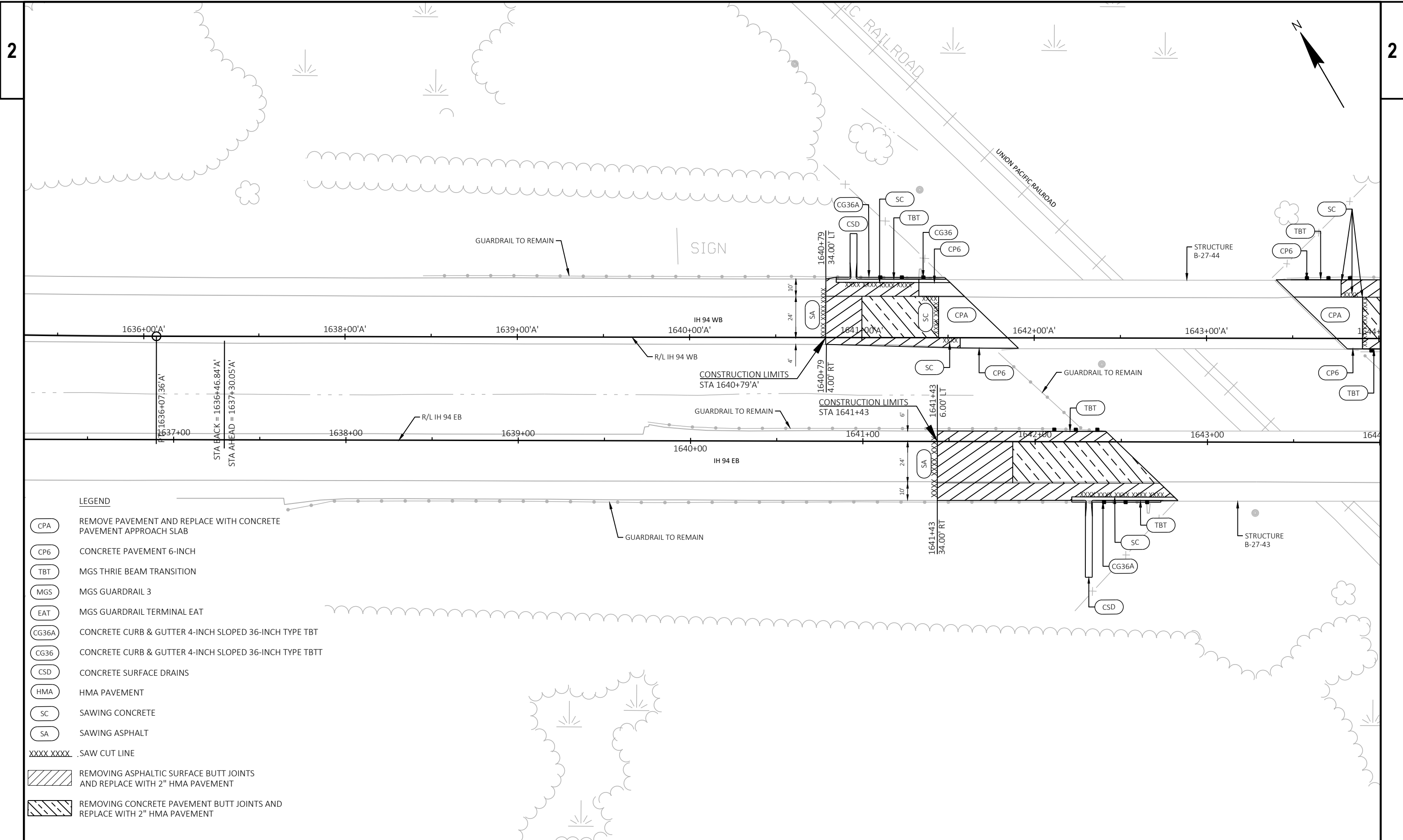
	REMOVE PAVEMENT AND REPLACE WITH CONCRETE PAVEMENT APPROACH SLAB
	CONCRETE PAVEMENT 6-INCH
	REMOVE AND REPLACE MGS THRIE BEAM TRANSITION
	MGS GUARDRAIL 3
	MGS GUARDRAIL TERMINAL EAT
	CONCRETE CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE TBT
	CONCRETE CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE TBTT
	CONCRETE SURFACE DRAINS
	4" HMA PAVEMENT
	SAWING CONCRETE
	SAWING ASPHALT
	SAW CUT LINE
	REMOVING ASPHALTIC SURFACE BUTT JOINTS AND REPLACE WITH 2" HMA PAVEMENT



PROJECT NO: 1023-01-74      HWY: IH 94      COUNTY: JACKSON      PAVING DETAILS - BLACK RIVER CROSSOVER EAST      SHEET      E

FILE NAME : C:\OD\CORRE, INC\PROJECTS - WI-NW REGION\1023-01-04\_JACKSON CO\_I94\500\_CADD\501\_C3D\_2018\10230104\SHEETS\PLAN\021201-PD.DWG      PLOT DATE : 2/14/2023 8:09 AM      PLOT BY : BOBBY JONES      PLOT NAME :      PLOT SCALE : 1:50      WISDOT/CADD SHEET 42

LEGEND	
(CPA)	REMOVE PAVEMENT AND REPLACE WITH CONCRETE PAVEMENT APPROACH SLAB
(CP6)	CONCRETE PAVEMENT 6-INCH
(TBT)	MGS THRIE BEAM TRANSITION
(MGS)	MGS GUARDRAIL 3
(EAT)	MGS GUARDRAIL TERMINAL EAT
(TT2)	MGS GUARDRAIL TERMINAL TYPE 2
(CG36A)	CONCRETE CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE TBT
(CG36)	CONCRETE CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE TBTT
(CSD)	CONCRETE SURFACE DRAINS
(HMA)	HMA PAVEMENT
(SC)	SAWING CONCRETE
(SA)	SAWING ASPHALT
.XXXX XXXX.	SAW CUT LINE
	REMOVING ASPHALTIC SURFACE BUTT JOINTS AND REPLACE WITH 2" HMA PAVEMENT
	REMOVING ASPHALTIC SURFACE MILLING AND REPLACE WITH 2" HMA PAVEMENT

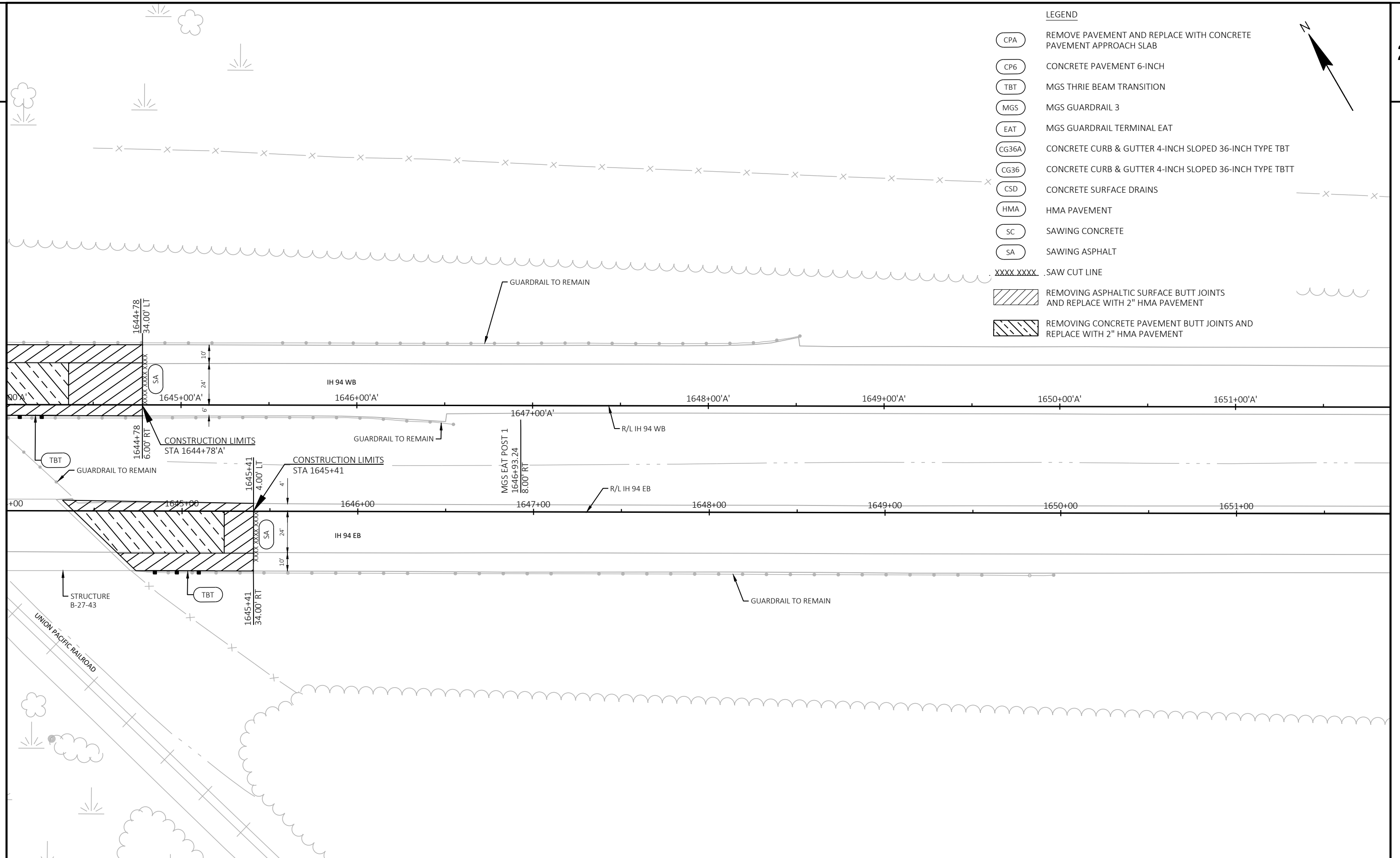
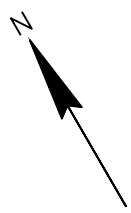


**LEGEND**

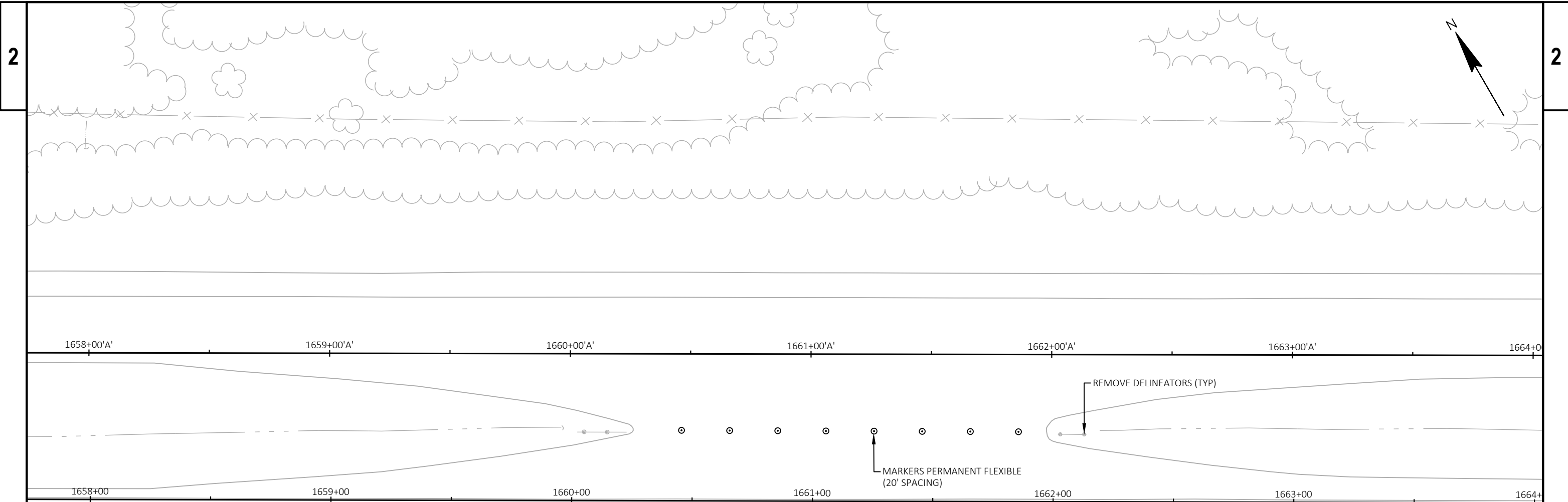
- CPA REMOVE PAVEMENT AND REPLACE WITH CONCRETE PAVEMENT APPROACH SLAB
- CP6 CONCRETE PAVEMENT 6-INCH
- TBT MGS THRIE BEAM TRANSITION
- MGS MGS GUARDRAIL 3
- EAT MGS GUARDRAIL TERMINAL EAT
- CG36A CONCRETE CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE TBT
- CG36 CONCRETE CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE TBTT
- CSD CONCRETE SURFACE DRAINS
- HMA HMA PAVEMENT
- SC SAWING CONCRETE
- SA SAWING ASPHALT
- XXXX XXXX . SAW CUT LINE
- REMOVING ASPHALTIC SURFACE BUTT JOINTS AND REPLACE WITH 2" HMA PAVEMENT
- REMOVING CONCRETE PAVEMENT BUTT JOINTS AND REPLACE WITH 2" HMA PAVEMENT

LEGEND

- CPA REMOVE PAVEMENT AND REPLACE WITH CONCRETE PAVEMENT APPROACH SLAB
- CP6 CONCRETE PAVEMENT 6-INCH
- TBT MGS THRIE BEAM TRANSITION
- MGS MGS GUARDRAIL 3
- EAT MGS GUARDRAIL TERMINAL EAT
- CG36A CONCRETE CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE TBT
- CG36 CONCRETE CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE TBTT
- CSD CONCRETE SURFACE DRAINS
- HMA HMA PAVEMENT
- SC SAWING CONCRETE
- SA SAWING ASPHALT
- XXXX XXXX SAW CUT LINE
- REMOVING ASPHALTIC SURFACE BUTT JOINTS AND REPLACE WITH 2" HMA PAVEMENT
- REMOVING CONCRETE PAVEMENT BUTT JOINTS AND REPLACE WITH 2" HMA PAVEMENT



PROJECT NO: 1023-01-74	HWY: IH 94	COUNTY: JACKSON	PAVING DETAILS - RAILROAD BRIDGES APPROACHES	SHEET	<b>E</b>
------------------------	------------	-----------------	--	-------	----------



**LEGEND**

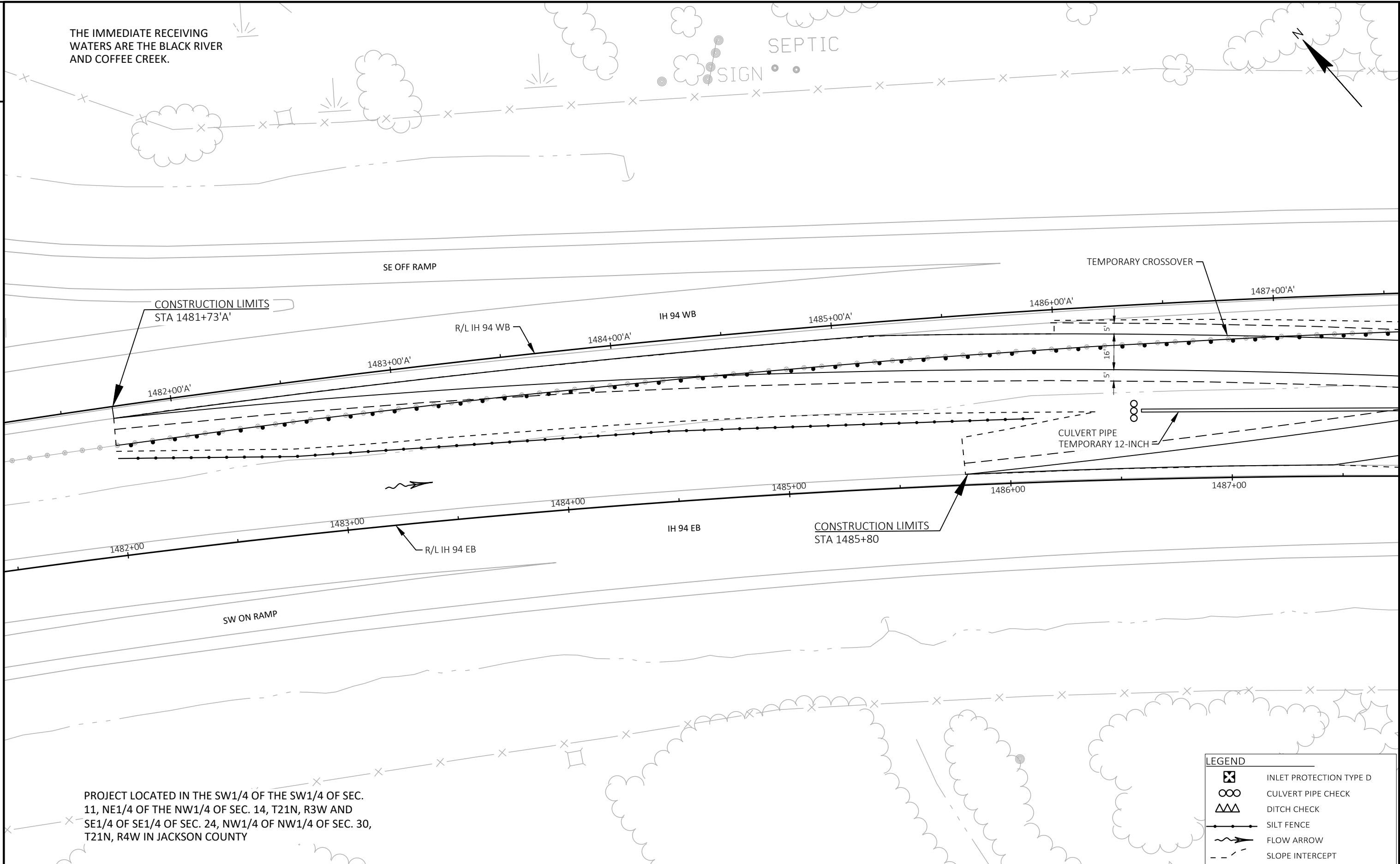
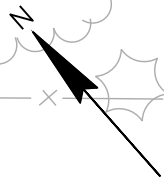
- CPA REMOVE PAVEMENT AND REPLACE WITH CONCRETE PAVEMENT APPROACH SLAB
- CP6 CONCRETE PAVEMENT 6-INCH
- TBT MGS THRIE BEAM TRANSITION
- MGS MGS GUARDRAIL 3
- EAT MGS GUARDRAIL TERMINAL EAT
- TT2 MGS GUARDRAIL TERMINAL TYPE 2
- CG36A CONCRETE CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE TBT
- CG36 CONCRETE CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE TBT
- CSD CONCRETE SURFACE DRAINS
- HMA HMA PAVEMENT
- SC SAWING CONCRETE
- SA SAWING ASPHALT
- .XXXX XXXX .SAW CUT LINE
- REMOVING ASPHALTIC SURFACE BUTT JOINTS AND REPLACE WITH 2" HMA PAVEMENT
- REMOVING ASPHALTIC SURFACE MILLING AND REPLACE WITH 2" HMA PAVEMENT



THE IMMEDIATE RECEIVING WATERS ARE THE BLACK RIVER AND COFFEE CREEK.

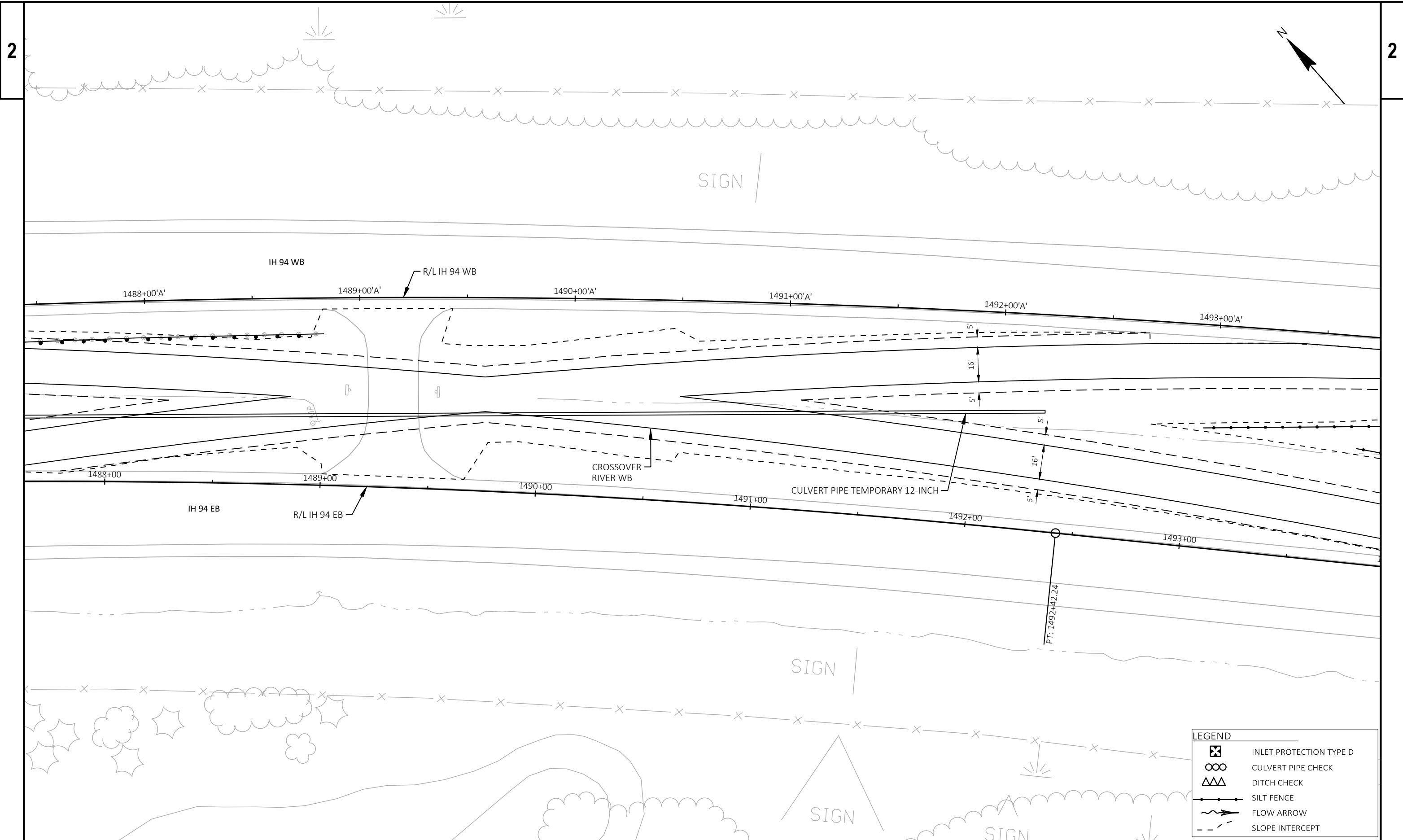
SEPTIC

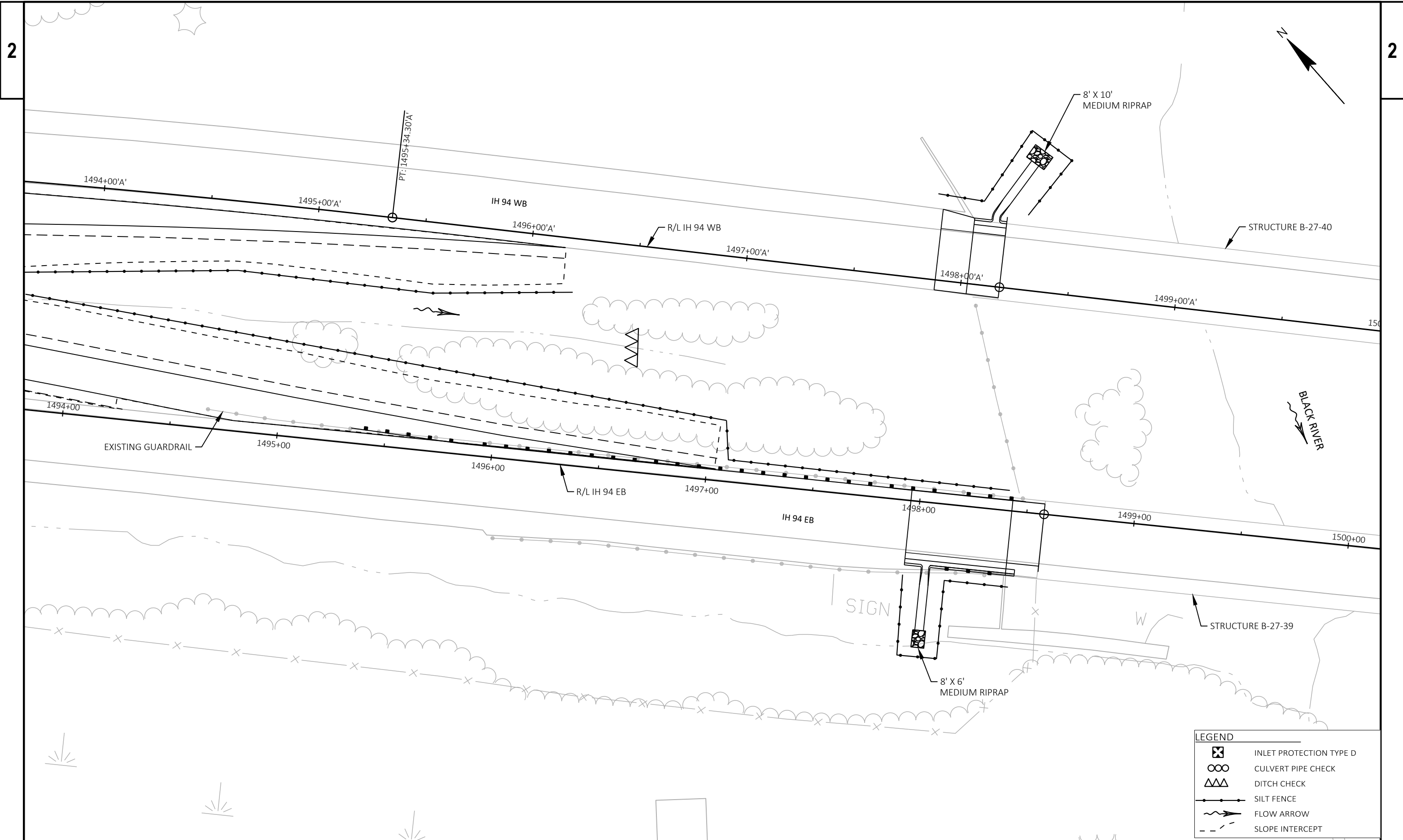
SIGN



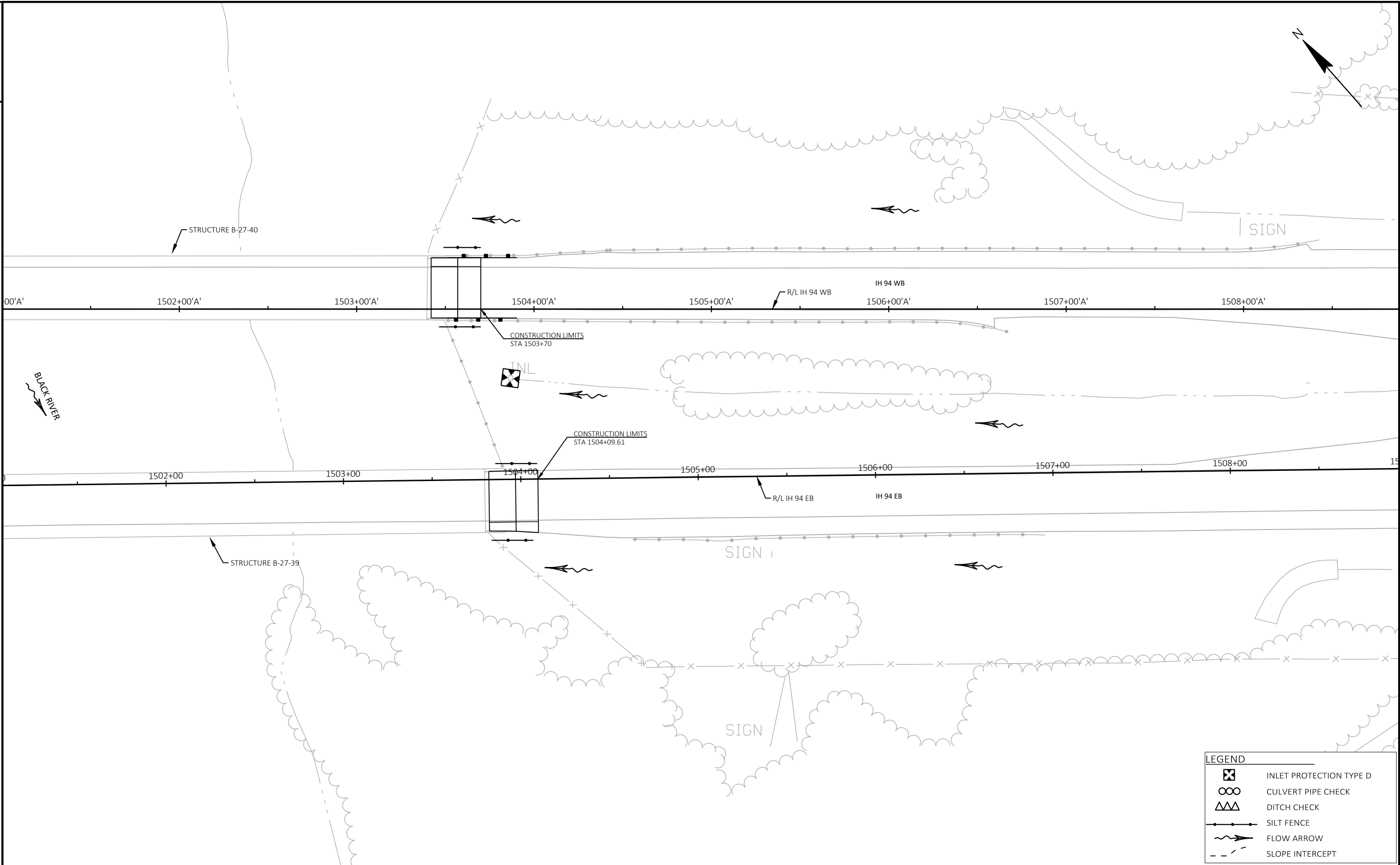
PROJECT LOCATED IN THE SW1/4 OF THE SW1/4 OF SEC. 11, NE1/4 OF THE NW1/4 OF SEC. 14, T21N, R3W AND SE1/4 OF SE1/4 OF SEC. 24, NW1/4 OF NW1/4 OF SEC. 30, T21N, R4W IN JACKSON COUNTY

LEGEND	
	INLET PROTECTION TYPE D
	CULVERT PIPE CHECK
	DITCH CHECK
	SILT FENCE
	FLOW ARROW
	SLOPE INTERCEPT

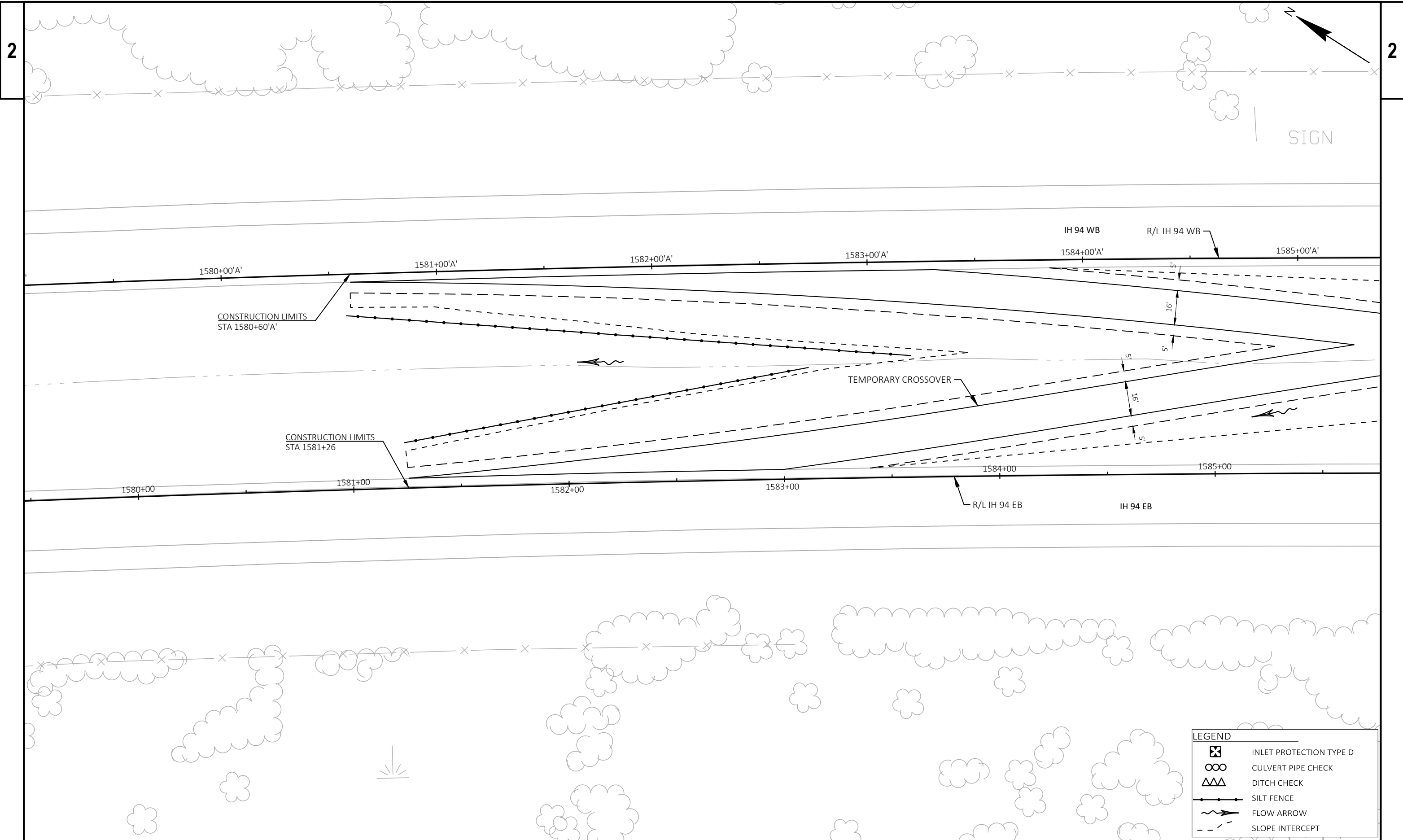




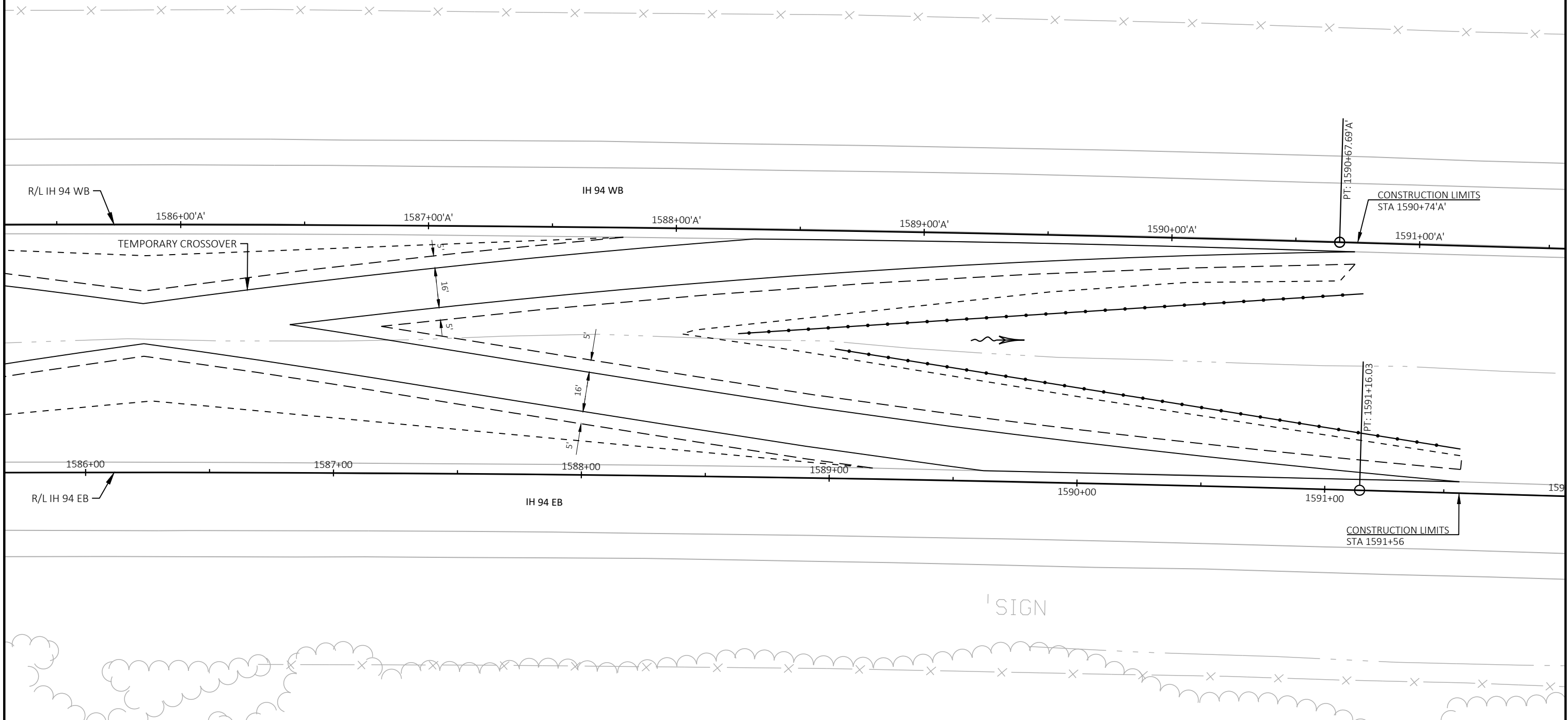
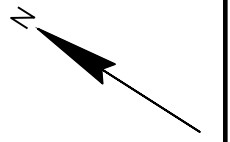
LEGEND	
	INLET PROTECTION TYPE D
	CULVERT PIPE CHECK
	DITCH CHECK
	SILT FENCE
	FLOW ARROW
	SLOPE INTERCEPT



LEGEND	
	INLET PROTECTION TYPE D
	CULVERT PIPE CHECK
	DITCH CHECK
	SILT FENCE
	FLOW ARROW
	SLOPE INTERCEPT

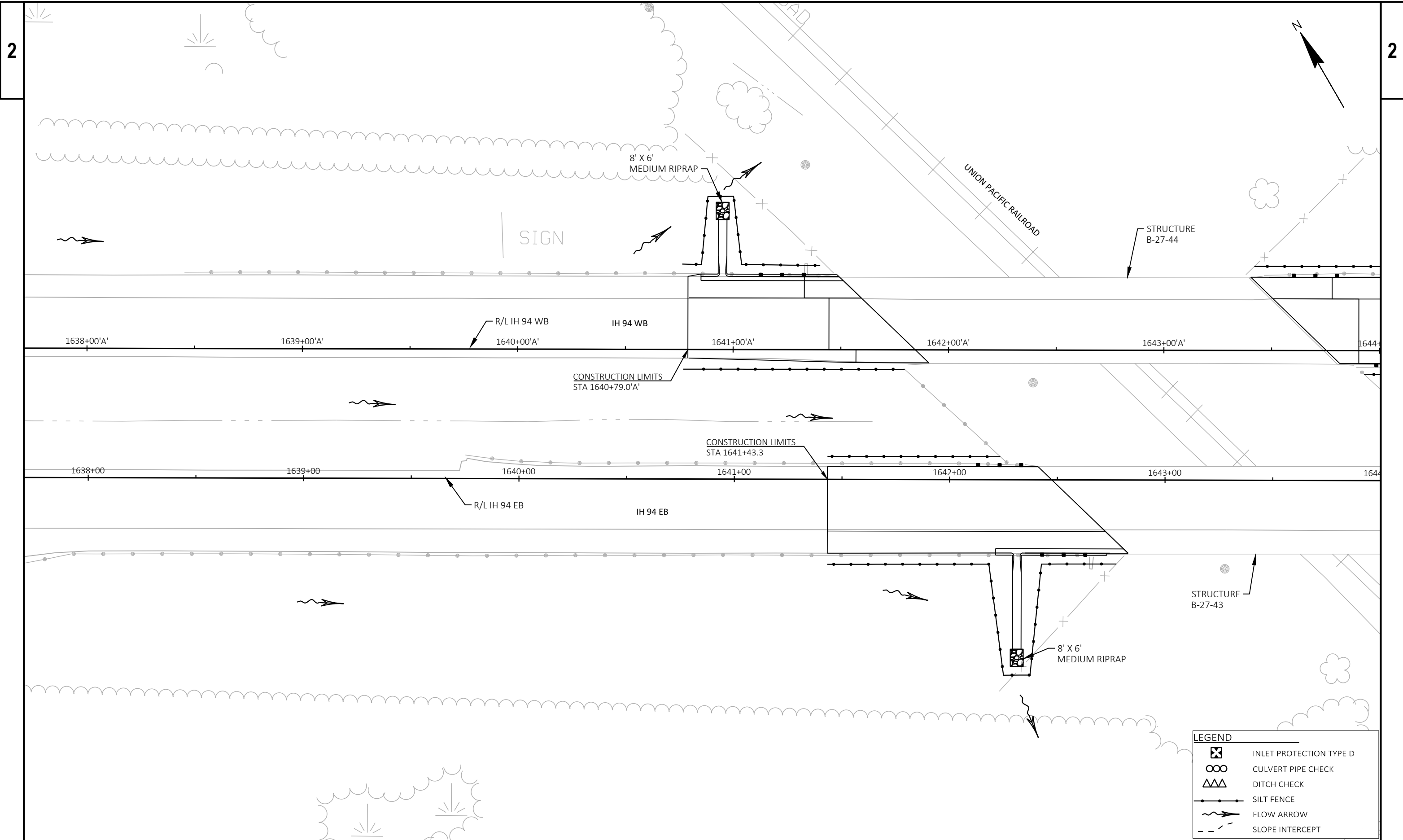


LEGEND	
	INLET PROTECTION TYPE D
	CULVERT PIPE CHECK
	DITCH CHECK
	SILT FENCE
	FLOW ARROW
	SLOPE INTERCEPT



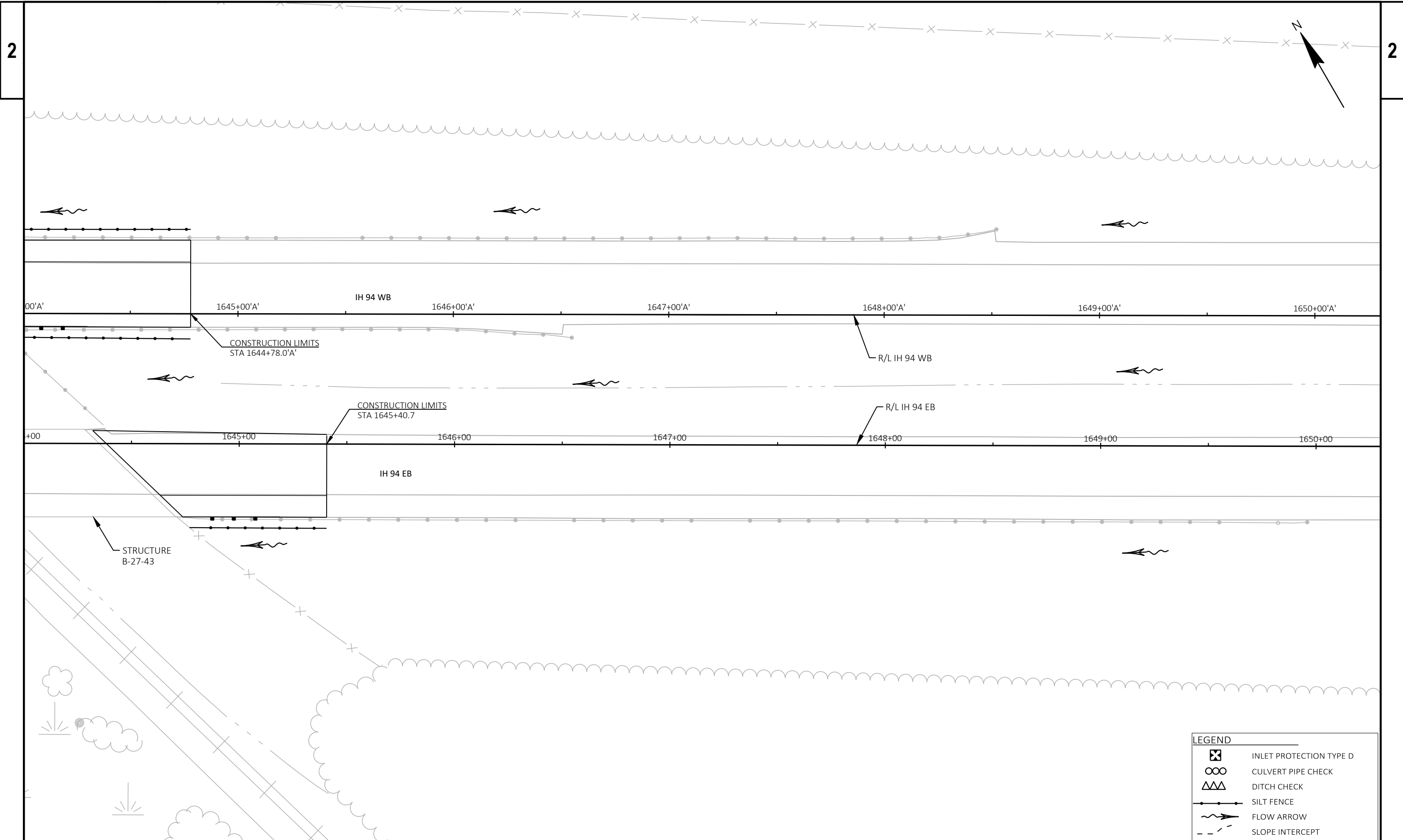
SIGN

LEGEND	
	INLET PROTECTION TYPE D
	CULVERT PIPE CHECK
	DITCH CHECK
	SILT FENCE
	FLOW ARROW
	SLOPE INTERCEPT



LEGEND	
	INLET PROTECTION TYPE D
	CULVERT PIPE CHECK
	DITCH CHECK
	SILT FENCE
	FLOW ARROW
	SLOPE INTERCEPT

PROJECT NO: 1023-01-74	HWY: IH 94	COUNTY: JACKSON	EROSION CONTROL	SHEET	<b>E</b>
------------------------	------------	-----------------	-----------------	-------	----------



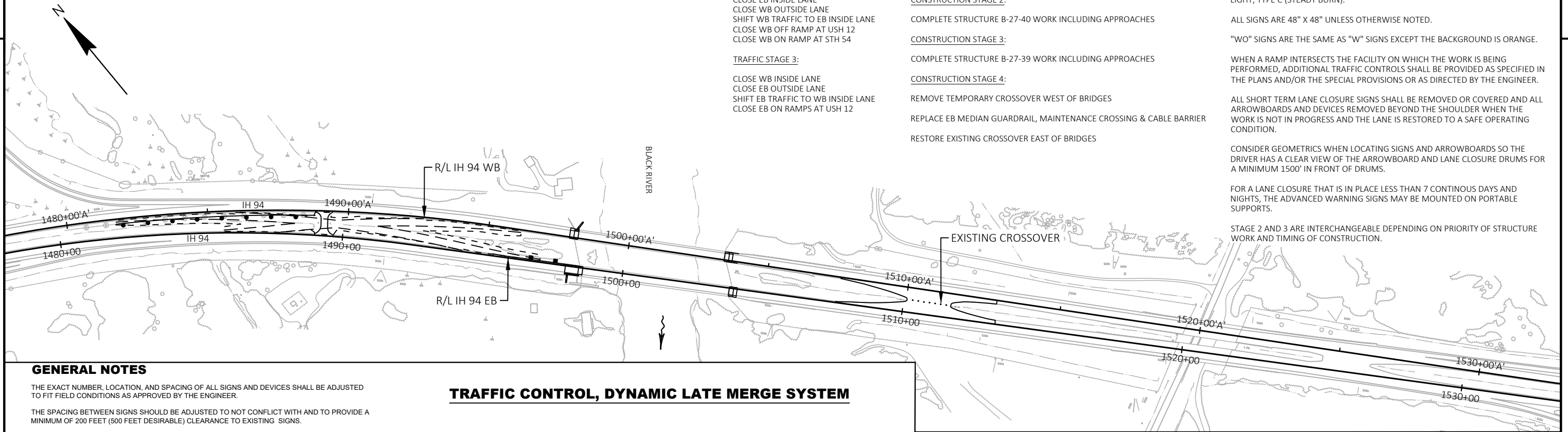
2

2

LEGEND	
	INLET PROTECTION TYPE D
	CULVERT PIPE CHECK
	DITCH CHECK
	SILT FENCE
	FLOW ARROW
	SLOPE INTERCEPT

PROJECT NO: 1023-01-74      HWY: IH 94      COUNTY: JACKSON      EROSION CONTROL      SHEET      E





- TRAFFIC STAGE 1 & 4:**  
CLOSE BOTH EB AND WB INSIDE LANES
- TRAFFIC STAGE 2:**  
CLOSE EB INSIDE LANE  
CLOSE WB OUTSIDE LANE  
SHIFT WB TRAFFIC TO EB INSIDE LANE  
CLOSE WB OFF RAMP AT USH 12  
CLOSE WB ON RAMP AT STH 54
- TRAFFIC STAGE 3:**  
CLOSE WB INSIDE LANE  
CLOSE EB OUTSIDE LANE  
SHIFT EB TRAFFIC TO WB INSIDE LANE  
CLOSE EB ON RAMP AT USH 12

- CONSTRUCTION STAGE 1:**  
CONSTRUCT TEMPORARY CROSSOVER WEST OF BRIDGES  
REHAB EXISTING CROSSOVER EAST OF BRIDGES
- CONSTRUCTION STAGE 2:**  
COMPLETE STRUCTURE B-27-40 WORK INCLUDING APPROACHES
- CONSTRUCTION STAGE 3:**  
COMPLETE STRUCTURE B-27-39 WORK INCLUDING APPROACHES
- CONSTRUCTION STAGE 4:**  
REMOVE TEMPORARY CROSSOVER WEST OF BRIDGES  
REPLACE EB MEDIAN GUARDRAIL, MAINTENANCE CROSSING & CABLE BARRIER  
RESTORE EXISTING CROSSOVER EAST OF BRIDGES

**TRAFFIC CONTROL NOTES**

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

FOR NIGHTTIME OPERATION ALL DRUMS IN TAPERS SHALL HAVE A WARNING LIGHT, TYPE C (STEADY BURN).

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

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

WHEN A 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 DIRECTED BY THE ENGINEER.

ALL SHORT TERM LANE CLOSURE SIGNS SHALL BE REMOVED OR COVERED AND ALL ARROWBOARDS AND DEVICES REMOVED BEYOND THE SHOULDER WHEN THE WORK IS NOT IN PROGRESS AND THE LANE IS RESTORED TO A SAFE OPERATING CONDITION.

CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROWBOARDS SO THE DRIVER HAS A CLEAR VIEW OF THE ARROWBOARD AND LANE CLOSURE DRUMS FOR A MINIMUM 1500' 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.

STAGE 2 AND 3 ARE INTERCHANGEABLE DEPENDING ON PRIORITY OF STRUCTURE WORK AND TIMING OF CONSTRUCTION.

**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 DESIRABLE) CLEARANCE TO EXISTING SIGNS.

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

"WO" SIGNS ARE THE SAME AS "W" SIGNS 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.

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 AND PLACE TEMPORARY PAVEMENT MARKING LINE IF LANE CLOSURE IS TO BE IN PLACE 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

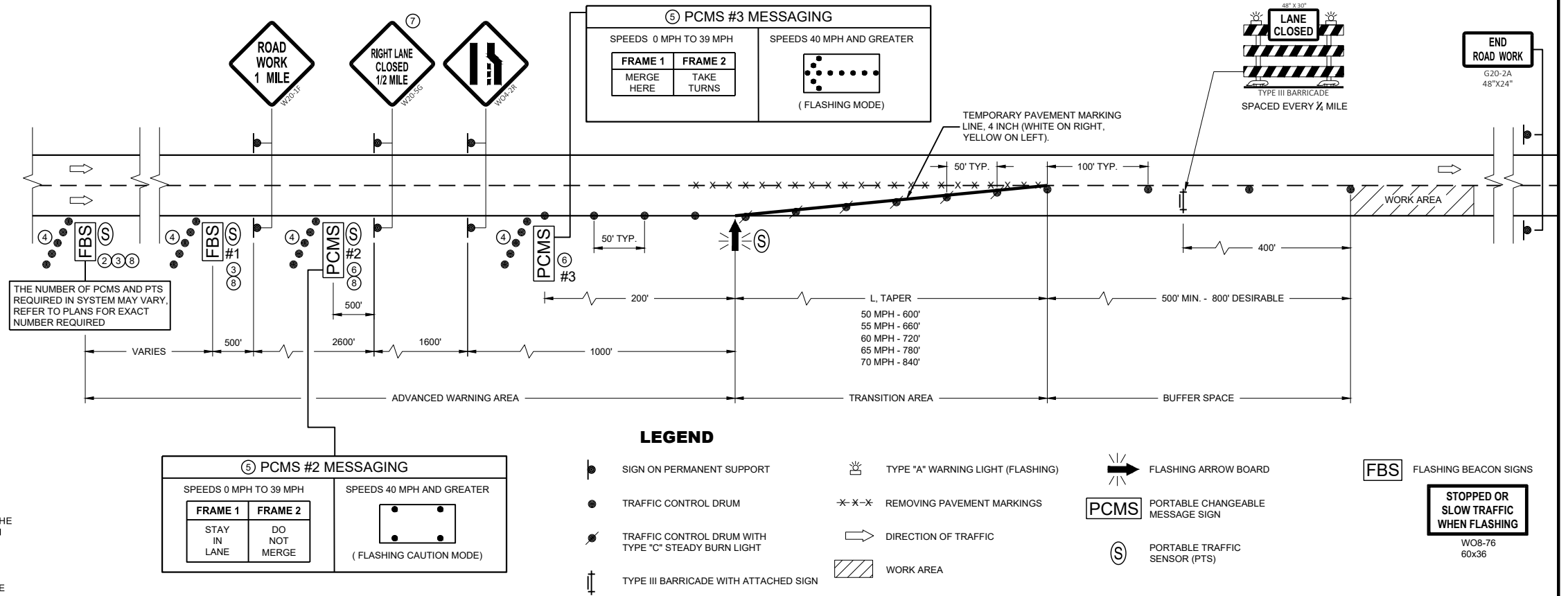
IF THE HORIZONTAL ALIGNMENT IS SUCH THAT A CURVE MAY REQUIRE ADDITIONAL DELINEATION, THE DEVICE SPACING MAY BE DECREASED TO 50 FEET.

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

CONSIDER ROADWAY GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARD SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS.

PORTABLE TRAFFIC SENSOR (PTS) MAY BE MOUNTED ON PCMS, FBS, ARROW BOARD OR OTHER TRAILER DEVICES.

**TRAFFIC CONTROL, DYNAMIC LATE MERGE SYSTEM**



- IF THERE ARE MORE THAN TWO LANES, CHANGE FRAME 2 OF THE PCMS TO STATE "USE ALL LANES".
- PLACE FLASHING BEACON SIGNS EVERY ONE MILE BETWEEN PCMS #1 AND FBS #1. THE NUMBER OF FBS MAY BE MORE THAN SHOWN ON THIS DETAIL.
- FOR THREE LANE CONFIGURATION, PLACE FBS ON BOTH SIDES OF ROADWAY. CHANGE PCMS #1 FRAME 2 MESSAGE TO "USE ALL LANES".
- 5 DRUMS SPACED @ 10' INTERVALS AS NEEDED.
- PCMS SHALL FOLLOW ARROW BOARD STANDARDS WHEN DISPLAYING FLASHING FOUR CORNER CAUTION MODE OR FLASHING ARROW MERGE MODE.
- TO MINIMIZE OBSTRUCTION OF THE ARROW BOARD BY THE PCMS, OFFSET THE PCMS AS NEEDED FROM THE EDGE LINE
- IF THERE IS AN APPROVED TEMPORARY SPEED DECLARATION, ADD WO-3-5 SIGNS 400 FEET AFTER THE W20-5G SIGNS AND ADD R2-1 SIGNS (48"x60") 700 FEET AFTER THE W03-5 SIGNS. A SPEED LIMIT SIGN SHALL BE LOCATED 1500 FEET BEYOND THE END OF THE ACCELERATION LANE OF EACH ENTRANCE RAMP. PLACE A SPEED LIMIT SIGN A MINIMUM OF EVERY 3 MILES. INCLUDE A "RESUME SPEED LIMIT" SIGN 200 FEET MINIMUM (800 FEET DESIRABLE) BEYOND THE G30-3A "END ROAD WORK" SIGN.
- IF THERE ARE MORE THAN TWO LANES OR IF SPECIFIED IN THE PLANS, PLACE PCMS AND FBS ON THE SAME SIDE OF THE ROADWAY.

CONSTRUCTION STAGE 1:

CONSTRUCT TEMPORARY CROSSOVER WEST OF BRIDGES  
REHAB EXISTING CROSSOVER EAST OF BRIDGES

TRAFFIC STAGE 1:

CLOSE BOTH EB AND WB INSIDE LANES

TRAFFIC CONTROL NOTES

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

FOR NIGHTTIME OPERATION ALL DRUMS IN TAPERS SHALL HAVE A WARNING LIGHT, TYPE C (STEADY BURN).

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

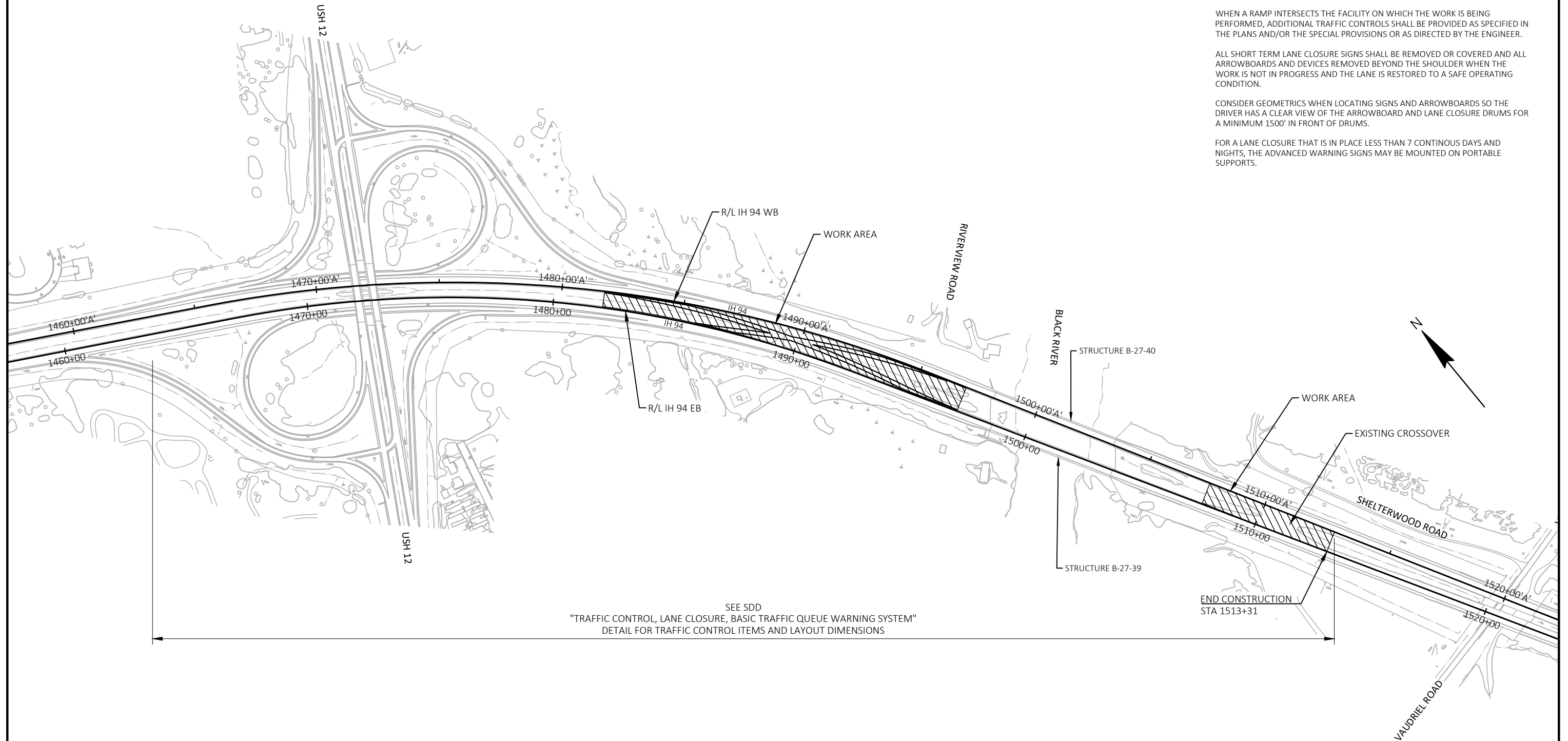
"WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

WHEN A 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 DIRECTED BY THE ENGINEER.

ALL SHORT TERM LANE CLOSURE SIGNS SHALL BE REMOVED OR COVERED AND ALL ARROWBOARDS AND DEVICES REMOVED BEYOND THE SHOULDER WHEN THE WORK IS NOT IN PROGRESS AND THE LANE IS RESTORED TO A SAFE OPERATING CONDITION.

CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROWBOARDS SO THE DRIVER HAS A CLEAR VIEW OF THE ARROWBOARD AND LANE CLOSURE DRUMS FOR A MINIMUM 1500' 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.



TRAFFIC STAGE 2:

CLOSE EB INSIDE LANE  
CLOSE WB OUTSIDE LANE  
SHIFT WB TRAFFIC TO EB INSIDE LANE

CONSTRUCTION STAGE 2:

COMPLETE STRUCTURE B-27-40 WORK  
INCLUDING APPROACHES

TRAFFIC CONTROL NOTES

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

FOR NIGHTTIME OPERATION ALL DRUMS IN TAPERS SHALL HAVE A WARNING LIGHT, TYPE C (STEADY BURN).

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

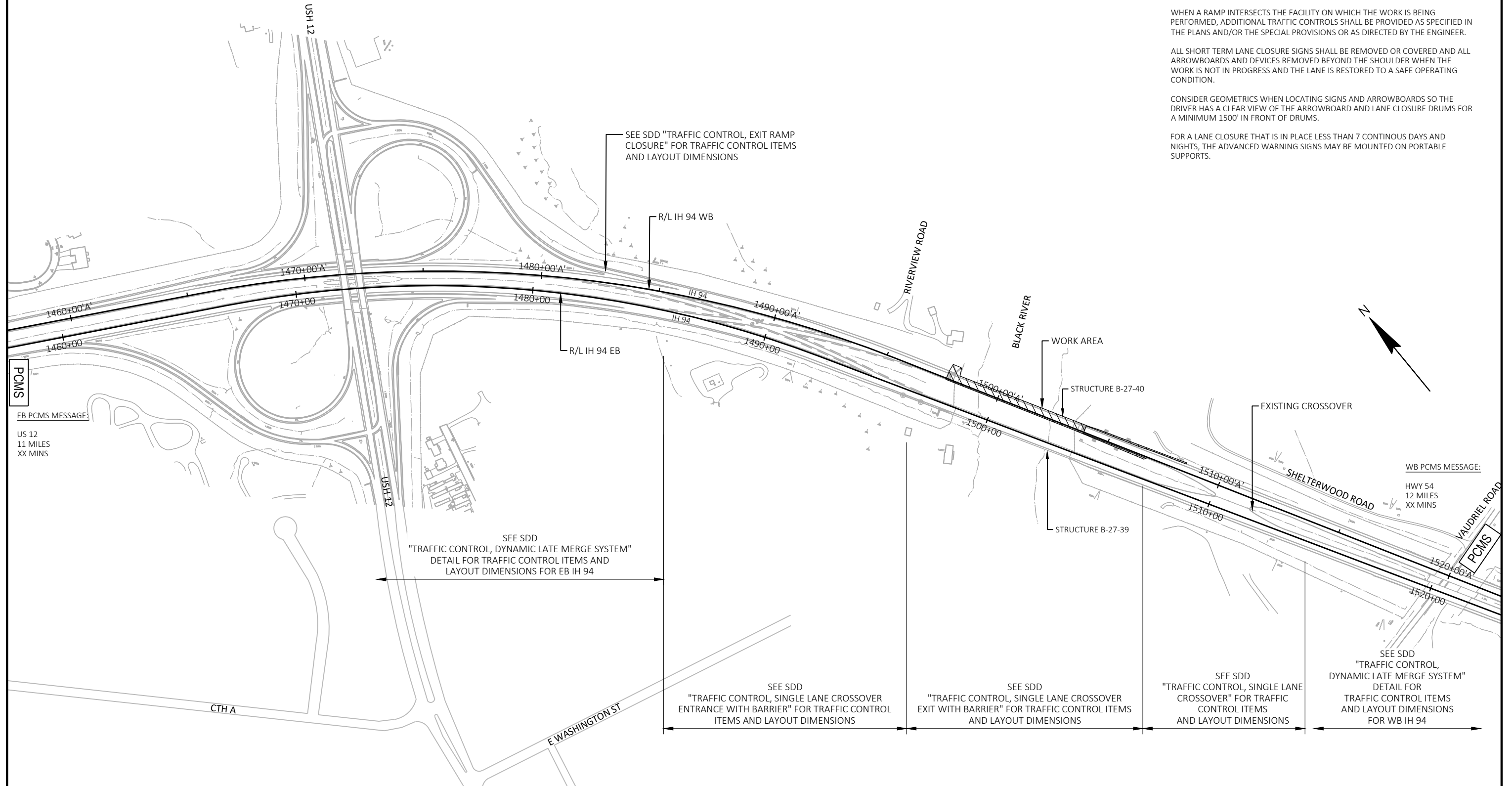
"WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

WHEN A 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 DIRECTED BY THE ENGINEER.

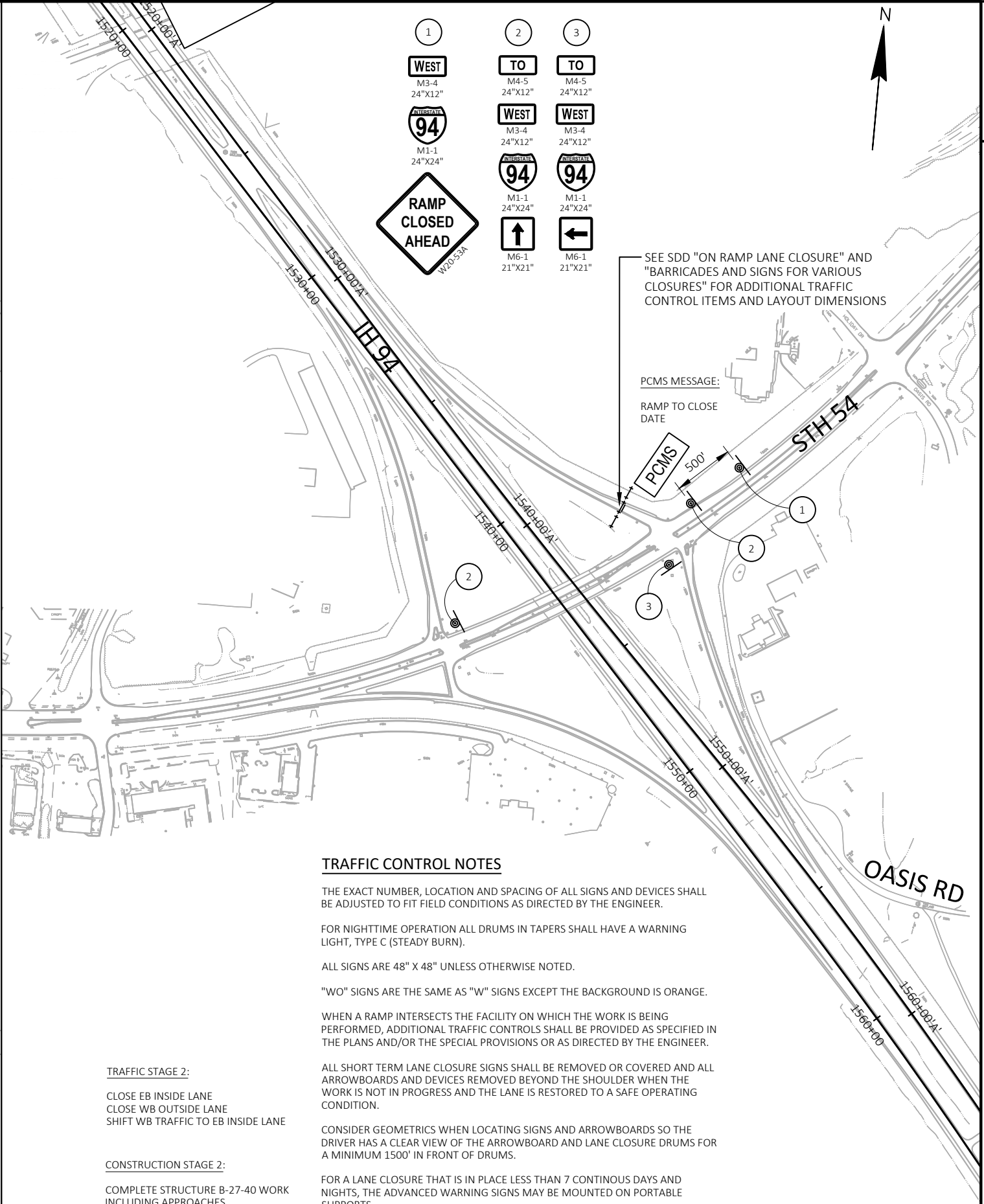
ALL SHORT TERM LANE CLOSURE SIGNS SHALL BE REMOVED OR COVERED AND ALL ARROWBOARDS AND DEVICES REMOVED BEYOND THE SHOULDER WHEN THE WORK IS NOT IN PROGRESS AND THE LANE IS RESTORED TO A SAFE OPERATING CONDITION.

CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROWBOARDS SO THE DRIVER HAS A CLEAR VIEW OF THE ARROWBOARD AND LANE CLOSURE DRUMS FOR A MINIMUM 1500' 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.



- 4 TO M4-5 24"x12"
- 5 TO M4-5 24"x12"
- 6 TO M4-5 24"x12"
- WEST M3-4 24"x12"
- WEST M3-4 24"x12"
- WEST M3-4 24"x12"
- 94 M1-1 24"x24"
- 94 M1-1 24"x24"
- 94 M1-1 24"x24"
- M5-1R 21"x21"
- M6-1 21"x21"
- M6-1 21"x21"



**TRAFFIC CONTROL NOTES**

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

FOR NIGHTTIME OPERATION ALL DRUMS IN TAPERS SHALL HAVE A WARNING LIGHT, TYPE C (STEADY BURN).

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

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

WHEN A 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 DIRECTED BY THE ENGINEER.

ALL SHORT TERM LANE CLOSURE SIGNS SHALL BE REMOVED OR COVERED AND ALL ARROWBOARDS AND DEVICES REMOVED BEYOND THE SHOULDER WHEN THE WORK IS NOT IN PROGRESS AND THE LANE IS RESTORED TO A SAFE OPERATING CONDITION.

CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROWBOARDS SO THE DRIVER HAS A CLEAR VIEW OF THE ARROWBOARD AND LANE CLOSURE DRUMS FOR A MINIMUM 1500' IN FRONT OF DRUMS.

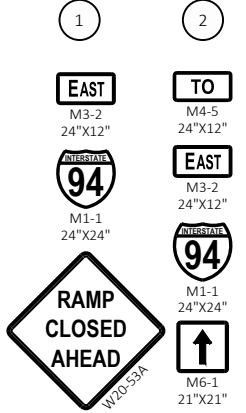
FOR A LANE CLOSURE THAT IS IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, THE ADVANCED WARNING SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS.

**TRAFFIC STAGE 2:**  
 CLOSE EB INSIDE LANE  
 CLOSE WB OUTSIDE LANE  
 SHIFT WB TRAFFIC TO EB INSIDE LANE

**CONSTRUCTION STAGE 2:**  
 COMPLETE STRUCTURE B-27-40 WORK INCLUDING APPROACHES

SEE SDD "ON RAMP LANE CLOSURE" AND "BARRICADES AND SIGNS FOR VARIOUS CLOSURES" FOR ADDITIONAL TRAFFIC CONTROL ITEMS AND LAYOUT DIMENSIONS

PCMS MESSAGE:  
 RAMP TO CLOSE DATE



TRAFFIC STAGE 3:

CLOSE WB INSIDE LANE  
CLOSE EB OUTSIDE LANE  
SHIFT EB TRAFFIC TO WB INSIDE LANE  
CLOSE EB ON RAMP

CONSTRUCTION STAGE 3:

COMPLETE STRUCTURE B-27-39 WORK INCLUDING APPROACHES

TRAFFIC CONTROL NOTES

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

FOR NIGHTTIME OPERATION ALL DRUMS IN TAPERS SHALL HAVE A WARNING LIGHT, TYPE C (STEADY BURN).

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

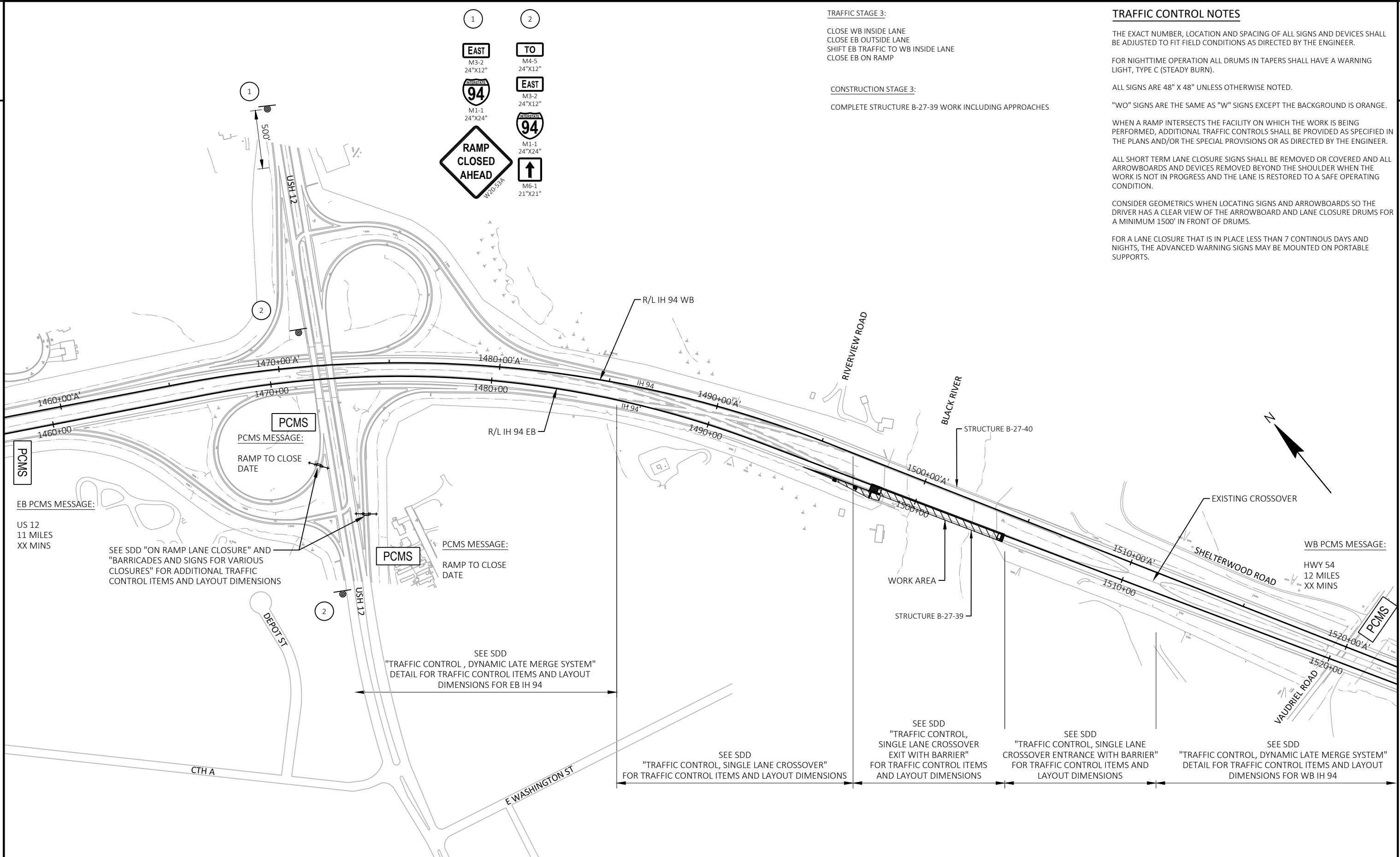
"WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

WHEN A 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 DIRECTED BY THE ENGINEER.

ALL SHORT TERM LANE CLOSURE SIGNS SHALL BE REMOVED OR COVERED AND ALL ARROWBOARDS AND DEVICES REMOVED BEYOND THE SHOULDER WHEN THE WORK IS NOT IN PROGRESS AND THE LANE IS RESTORED TO A SAFE OPERATING CONDITION.

CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROWBOARDS SO THE DRIVER HAS A CLEAR VIEW OF THE ARROWBOARD AND LANE CLOSURE DRUMS FOR A MINIMUM 1500' 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.



PROJECT NO: 1023-01-74	HWY: IH 94	COUNTY: JACKSON	TRAFFIC CONTROL STAGE 3 - IH 94 BLACK RIVER CROSSING	SHEET	E
------------------------	------------	-----------------	--	-------	---

**TRAFFIC CONTROL NOTES**

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

FOR NIGHTTIME OPERATION ALL DRUMS IN TAPERS SHALL HAVE A WARNING LIGHT, TYPE C (STEADY BURN).

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

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

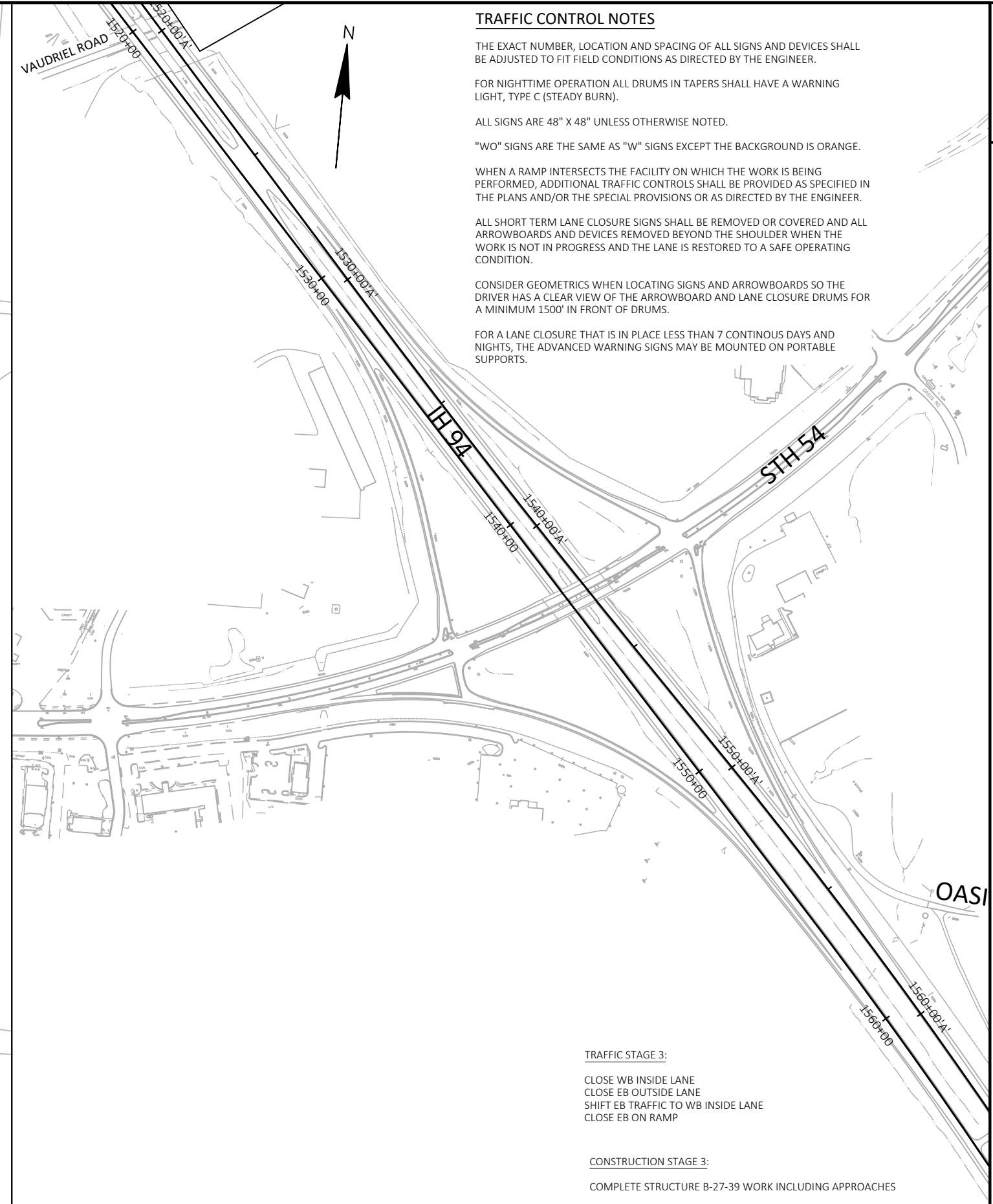
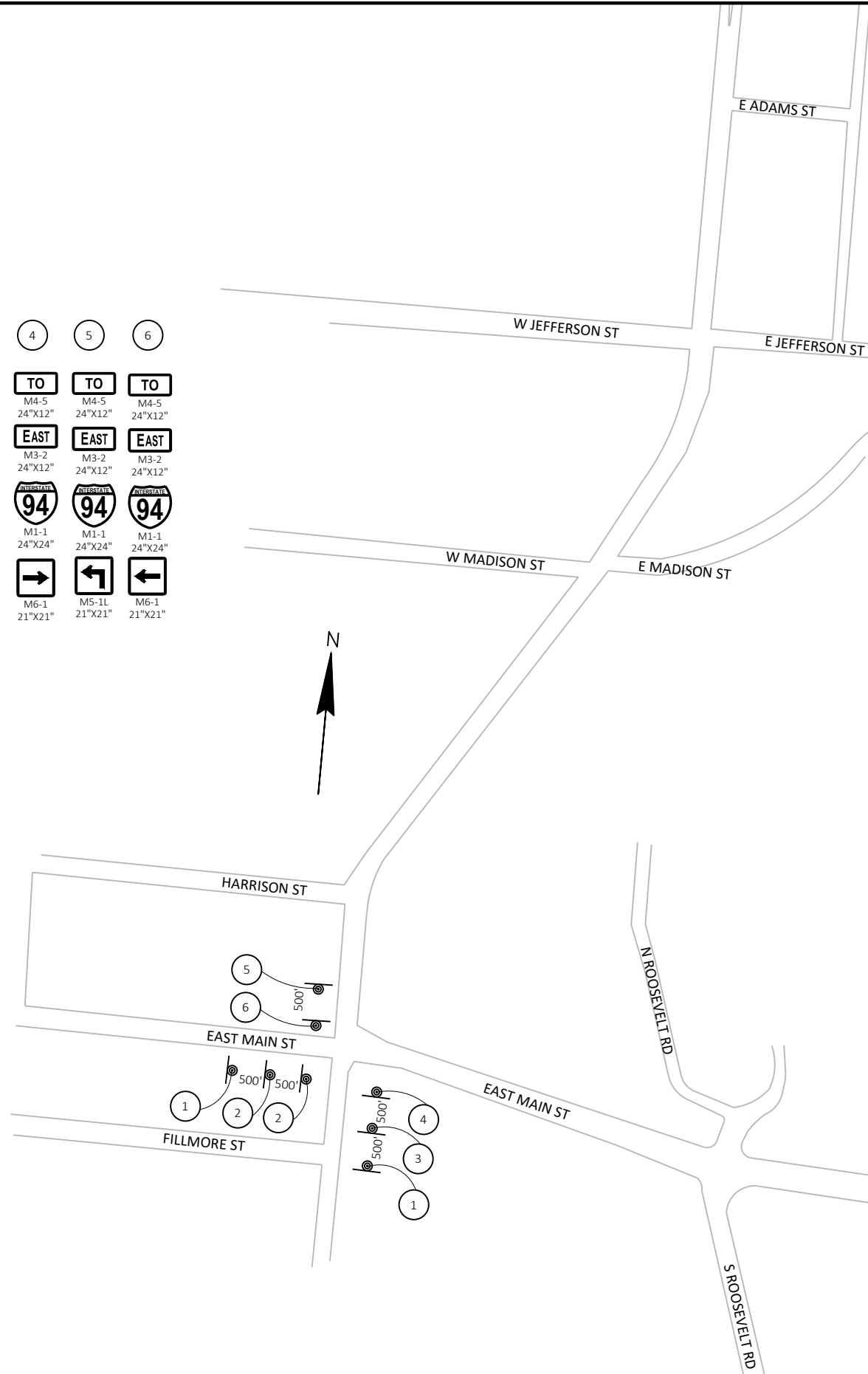
WHEN A RAMP INTERSECTS THE FACILITY ON WHICH THE WORK IS BEING PERFORMED, ADDITIONAL TRAFFIC CONTROLS SHALL BE PROVIDED AS SPECIFIED IN THE PLANS AND/OR THE SPECIAL PROVISIONS OR AS DIRECTED BY THE ENGINEER.

ALL SHORT TERM LANE CLOSURE SIGNS SHALL BE REMOVED OR COVERED AND ALL ARROWBOARDS AND DEVICES REMOVED BEYOND THE SHOULDER WHEN THE WORK IS NOT IN PROGRESS AND THE LANE IS RESTORED TO A SAFE OPERATING CONDITION.

CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROWBOARDS SO THE DRIVER HAS A CLEAR VIEW OF THE ARROWBOARD AND LANE CLOSURE DRUMS FOR A MINIMUM 1500' 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.

1	2	3	4	5	6
<b>EAST</b> M3-2 24"x12"	<b>TO</b> M4-5 24"x12"	<b>TO</b> M4-5 24"x12"	<b>TO</b> M4-5 24"x12"	<b>TO</b> M4-5 24"x12"	<b>TO</b> M4-5 24"x12"
<b>94</b> M1-1 24"x24"	<b>EAST</b> M3-2 24"x12"	<b>EAST</b> M3-2 24"x12"	<b>EAST</b> M3-2 24"x12"	<b>EAST</b> M3-2 24"x12"	<b>EAST</b> M3-2 24"x12"
<b>RAMP CLOSED AHEAD</b> W20-53A	<b>94</b> M1-1 24"x24"	<b>94</b> M1-1 24"x24"	<b>94</b> M1-1 24"x24"	<b>94</b> M1-1 24"x24"	<b>94</b> M1-1 24"x24"
<b>↑</b> M6-1 21"x21"	<b>↗</b> M5-1R 21"x21"	<b>→</b> M6-1 21"x21"	<b>↖</b> M5-1L 21"x21"	<b>←</b> M6-1 21"x21"	



**TRAFFIC STAGE 3:**

- CLOSE WB INSIDE LANE
- CLOSE EB OUTSIDE LANE
- SHIFT EB TRAFFIC TO WB INSIDE LANE
- CLOSE EB ON RAMP

**CONSTRUCTION STAGE 3:**

COMPLETE STRUCTURE B-27-39 WORK INCLUDING APPROACHES

TRAFFIC STAGE 1 & 4:

CLOSE BOTH EB AND WB INSIDE LANES

CONSTRUCTION STAGE 4:

REMOVE TEMPORARY CROSSOVER WEST OF BRIDGES

REPLACE EB MEDIAN GUARDRAIL

REINSTALL MAINTENANCE CROSSOVER WEST OF BRIDGES

RESTORE CROSSOVER EAST OF BRIDGES

TRAFFIC CONTROL NOTES

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

FOR NIGHTTIME OPERATION ALL DRUMS IN TAPERS SHALL HAVE A WARNING LIGHT, TYPE C (STEADY BURN).

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

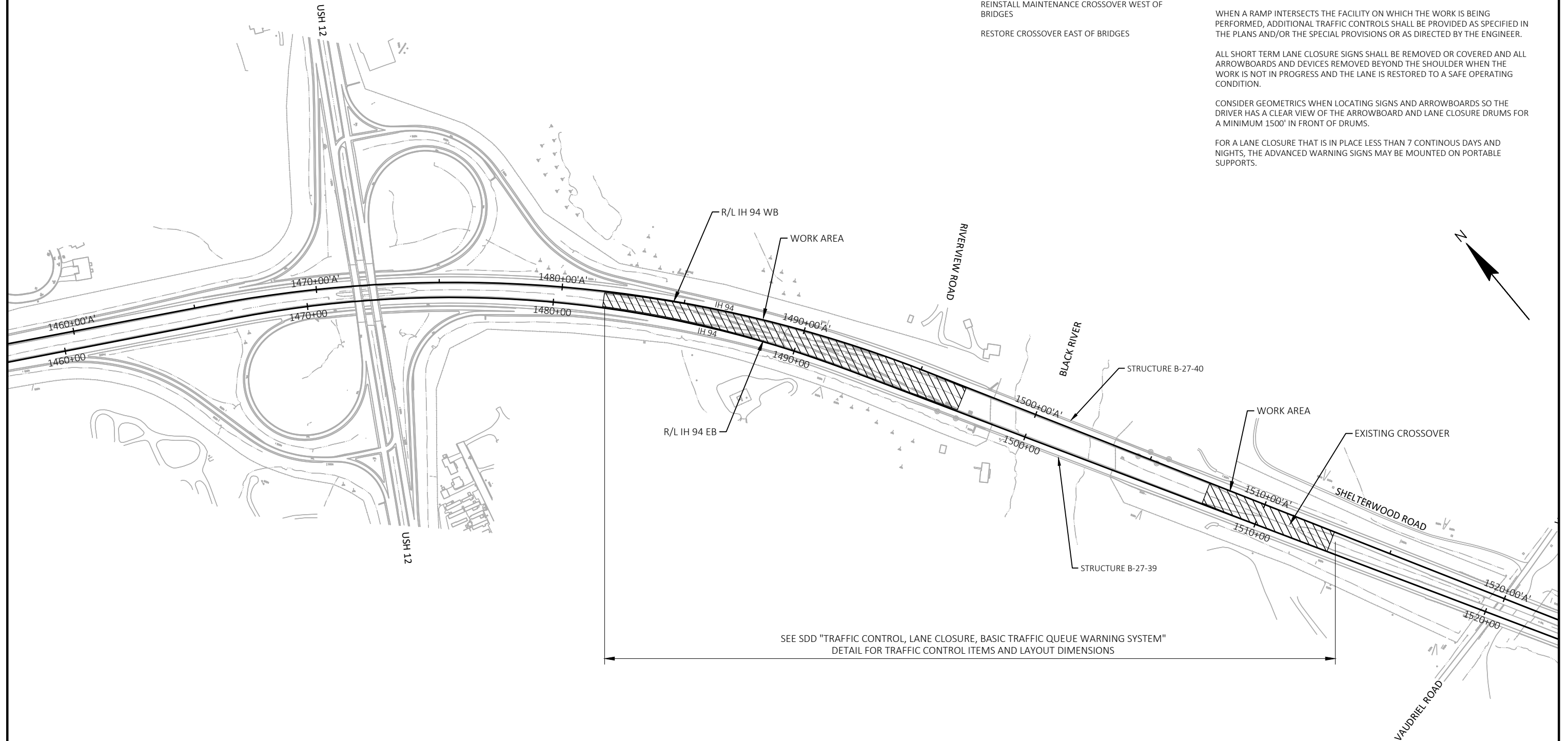
"WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

WHEN A 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 DIRECTED BY THE ENGINEER.

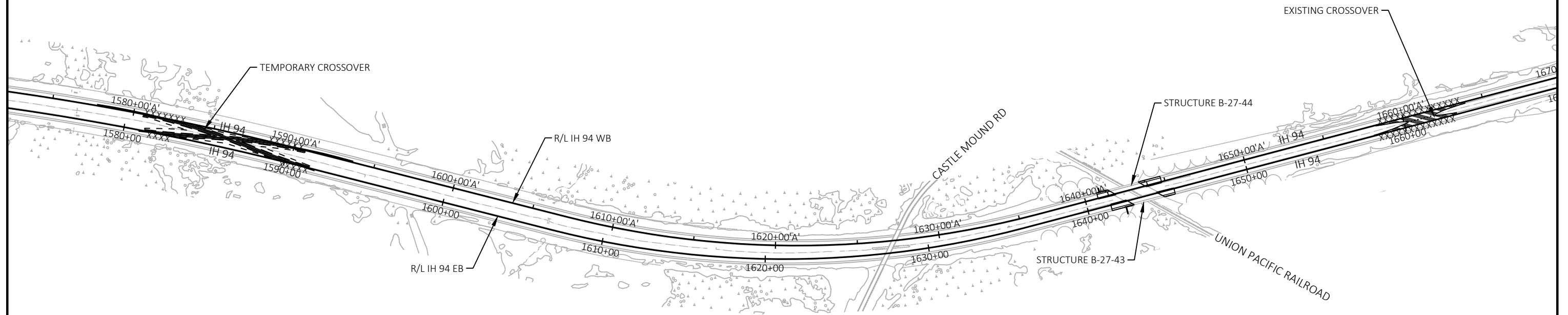
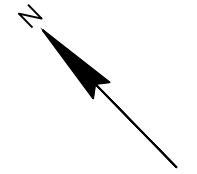
ALL SHORT TERM LANE CLOSURE SIGNS SHALL BE REMOVED OR COVERED AND ALL ARROWBOARDS AND DEVICES REMOVED BEYOND THE SHOULDER WHEN THE WORK IS NOT IN PROGRESS AND THE LANE IS RESTORED TO A SAFE OPERATING CONDITION.

CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROWBOARDS SO THE DRIVER HAS A CLEAR VIEW OF THE ARROWBOARD AND LANE CLOSURE DRUMS FOR A MINIMUM 1500' 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.



SEE SDD "TRAFFIC CONTROL, LANE CLOSURE, BASIC TRAFFIC QUEUE WARNING SYSTEM" DETAIL FOR TRAFFIC CONTROL ITEMS AND LAYOUT DIMENSIONS



**TRAFFIC STAGE 1 & 4:**

CLOSE BOTH EB AND WB INSIDE LANES

**TRAFFIC STAGE 2:**

CLOSE EB INSIDE LANE  
CLOSE WB OUTSIDE LANE  
SHIFT WB TRAFFIC TO EB INSIDE LANE

**TRAFFIC STAGE 3:**

CLOSE WB INSIDE LANE  
CLOSE EB OUTSIDE LANE  
SHIFT EB TRAFFIC TO WB INSIDE LANE

**CONSTRUCTION STAGE 1:**

CONSTRUCT TEMPORARY CROSSOVER WEST OF BRIDGES

REHAB EXISTING CROSSOVER EAST OF BRIDGES

**CONSTRUCTION STAGE 2:**

COMPLETE STRUCTURE B-27-44 WORK INCLUDING APPROACHES

**CONSTRUCTION STAGE 3:**

COMPLETE STRUCTURE B-27-43 WORK INCLUDING APPROACHES

**CONSTRUCTION STAGE 4:**

REMOVE TEMPORARY CROSSOVER WEST OF BRIDGES  
RESTORE EXISTING CROSSOVER EAST OF BRIDGES

**TRAFFIC CONTROL NOTES**

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

FOR NIGHTTIME OPERATION ALL DRUMS IN TAPERS SHALL HAVE A WARNING LIGHT, TYPE C (STEADY BURN).

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

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

WHEN A 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 DIRECTED BY THE ENGINEER.

ALL SHORT TERM LANE CLOSURE SIGNS SHALL BE REMOVED OR COVERED AND ALL ARROWBOARDS AND DEVICES REMOVED BEYOND THE SHOULDER WHEN THE WORK IS NOT IN PROGRESS AND THE LANE IS RESTORED TO A SAFE OPERATING CONDITION.

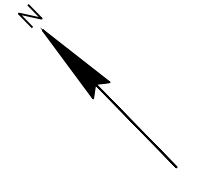
CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROWBOARDS SO THE DRIVER HAS A CLEAR VIEW OF THE ARROWBOARD AND LANE CLOSURE DRUMS FOR A MINIMUM 1500' IN FRONT OF DRUMS.

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.

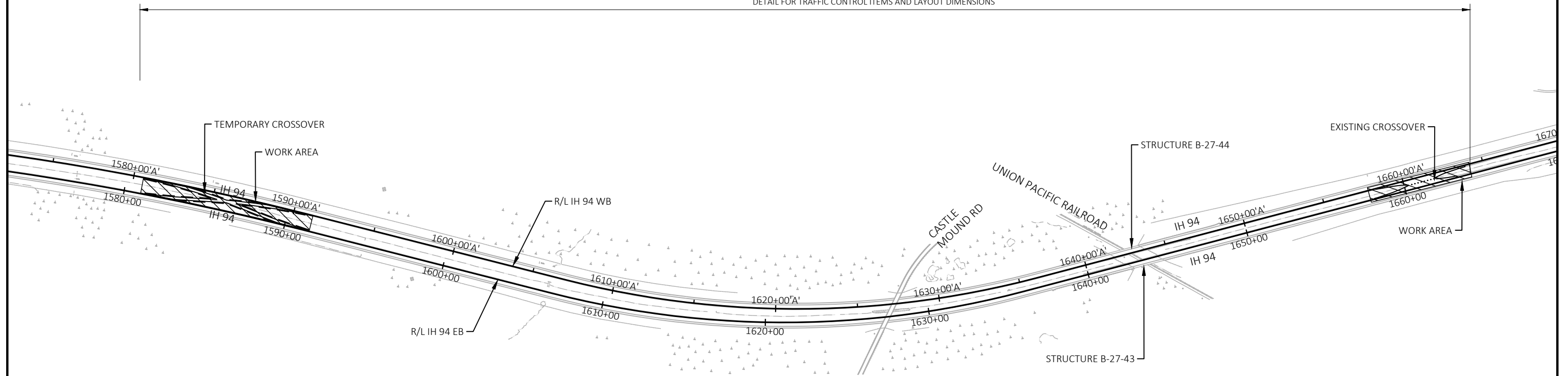
IF BOTH THE RIVER AND RAILROAD ARE WORKED ON CONCURRENTLY, MAINTAIN A SINGLE LANE CLOSURE IN BOTH DIRECTIONS FOR THE ENTIRE LENGTH OF PROJECT.

STAGE 2 AND 3 ARE INTERCHANGEABLE DEPENDING ON PRIORITY OF STRUCTURE WORK AND TIMING OF CONSTRUCTION.





SEE SDD  
"TRAFFIC CONTROL, LANE CLOSURE, BASIC TRAFFIC QUEUE WARNING SYSTEM"  
DETAIL FOR TRAFFIC CONTROL ITEMS AND LAYOUT DIMENSIONS



TRAFFIC STAGE 1:

CLOSE BOTH EB AND WB INSIDE LANES

CONSTRUCTION STAGE 1:

CONSTRUCT TEMPORARY CROSSOVER WEST OF BRIDGES

REHAB EXISTING CROSSOVER EAST OF BRIDGES

TRAFFIC CONTROL NOTES

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

FOR NIGHTTIME OPERATION ALL DRUMS IN TAPERS SHALL HAVE A WARNING LIGHT, TYPE C (STEADY BURN).

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

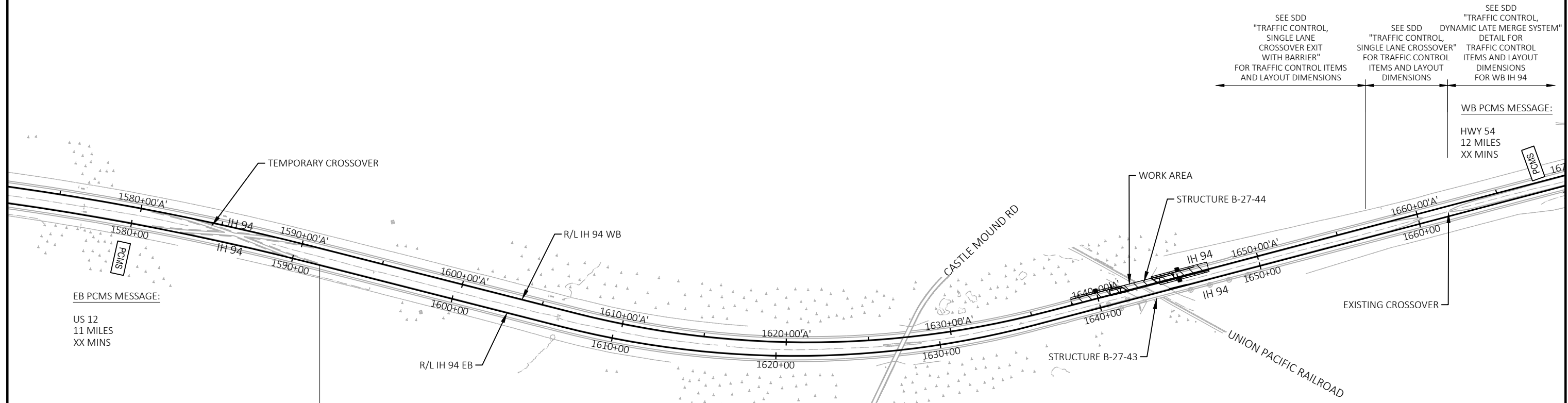
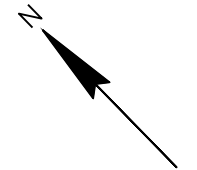
"WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

WHEN A 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 DIRECTED BY THE ENGINEER.

ALL SHORT TERM LANE CLOSURE SIGNS SHALL BE REMOVED OR COVERED AND ALL ARROWBOARDS AND DEVICES REMOVED BEYOND THE SHOULDER WHEN THE WORK IS NOT IN PROGRESS AND THE LANE IS RESTORED TO A SAFE OPERATING CONDITION.

CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROWBOARDS SO THE DRIVER HAS A CLEAR VIEW OF THE ARROWBOARD AND LANE CLOSURE DRUMS FOR A MINIMUM 1500' 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.



EB PCMS MESSAGE:  
US 12  
11 MILES  
XX MINS

WB PCMS MESSAGE:  
HWY 54  
12 MILES  
XX MINS

SEE SDD  
"TRAFFIC CONTROL,  
DYNAMIC LATE MERGE SYSTEM"  
DETAIL FOR TRAFFIC CONTROL ITEMS  
AND LAYOUT DIMENSIONS FOR EB IH 94

SEE SDD  
"TRAFFIC CONTROL, SINGLE LANE  
CROSSOVER ENTRANCE WITH BARRIER"  
FOR TRAFFIC CONTROL ITEMS  
AND LAYOUT DIMENSIONS

SEE SDD  
"TRAFFIC CONTROL,  
SINGLE LANE  
CROSSOVER EXIT  
WITH BARRIER"  
FOR TRAFFIC CONTROL ITEMS  
AND LAYOUT DIMENSIONS

SEE SDD  
"TRAFFIC CONTROL,  
SINGLE LANE CROSSOVER"  
FOR TRAFFIC CONTROL  
ITEMS AND LAYOUT  
DIMENSIONS

SEE SDD  
"TRAFFIC CONTROL,  
DYNAMIC LATE MERGE SYSTEM"  
DETAIL FOR  
TRAFFIC CONTROL  
ITEMS AND LAYOUT  
DIMENSIONS  
FOR WB IH 94

**TRAFFIC CONTROL NOTES**

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

FOR NIGHTTIME OPERATION ALL DRUMS IN TAPERS SHALL HAVE A WARNING LIGHT, TYPE C (STEADY BURN).

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

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

WHEN A 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 DIRECTED BY THE ENGINEER.

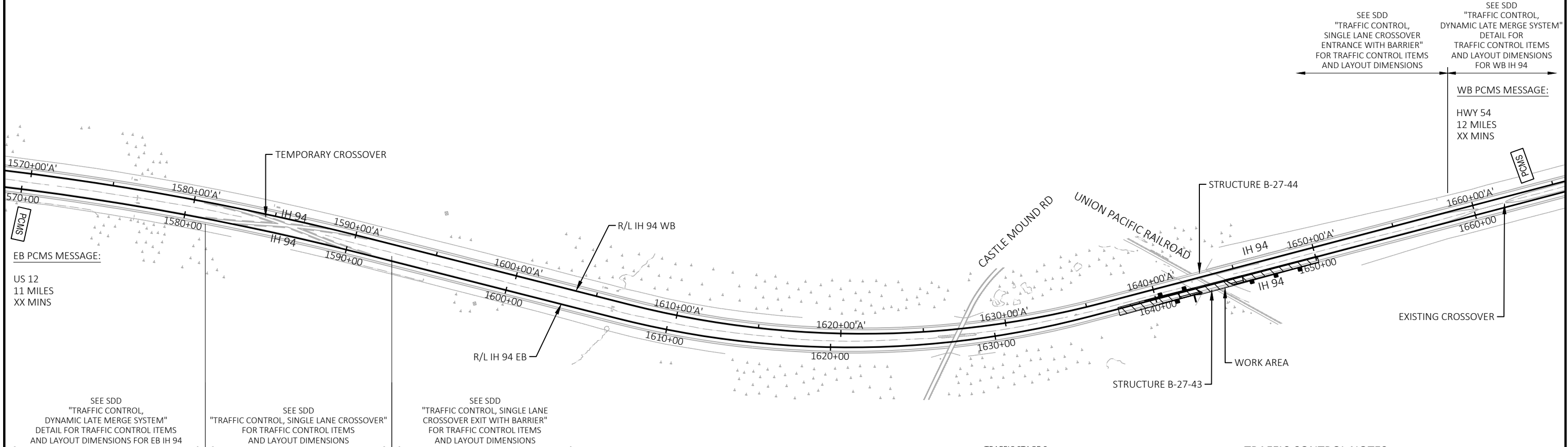
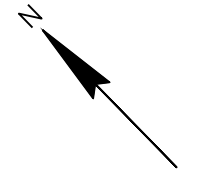
ALL SHORT TERM LANE CLOSURE SIGNS SHALL BE REMOVED OR COVERED AND ALL ARROWBOARDS AND DEVICES REMOVED BEYOND THE SHOULDER WHEN THE WORK IS NOT IN PROGRESS AND THE LANE IS RESTORED TO A SAFE OPERATING CONDITION.

CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROWBOARDS SO THE DRIVER HAS A CLEAR VIEW OF THE ARROWBOARD AND LANE CLOSURE DRUMS FOR A MINIMUM 1500' 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.

**TRAFFIC STAGE 2:**  
CLOSE EB INSIDE LANE  
CLOSE WB OUTSIDE LANE  
SHIFT WB TRAFFIC TO EB INSIDE LANE

**CONSTRUCTION STAGE 2:**  
COMPLETE STRUCTURE B-27-44 WORK INCLUDING APPROACHES



SEE SDD  
"TRAFFIC CONTROL,  
SINGLE LANE CROSSOVER  
ENTRANCE WITH BARRIER"  
FOR TRAFFIC CONTROL ITEMS  
AND LAYOUT DIMENSIONS

SEE SDD  
"TRAFFIC CONTROL,  
DYNAMIC LATE MERGE SYSTEM"  
DETAIL FOR  
TRAFFIC CONTROL ITEMS  
AND LAYOUT DIMENSIONS  
FOR WB IH 94

WB PCMS MESSAGE:  
HWY 54  
12 MILES  
XX MINS

EB PCMS MESSAGE:  
US 12  
11 MILES  
XX MINS

SEE SDD  
"TRAFFIC CONTROL,  
DYNAMIC LATE MERGE SYSTEM"  
DETAIL FOR TRAFFIC CONTROL ITEMS  
AND LAYOUT DIMENSIONS FOR EB IH 94

SEE SDD  
"TRAFFIC CONTROL, SINGLE LANE CROSSOVER"  
FOR TRAFFIC CONTROL ITEMS  
AND LAYOUT DIMENSIONS

SEE SDD  
"TRAFFIC CONTROL, SINGLE LANE  
CROSSOVER EXIT WITH BARRIER"  
FOR TRAFFIC CONTROL ITEMS  
AND LAYOUT DIMENSIONS

**TRAFFIC STAGE 3:**  
CLOSE WB INSIDE LANE  
CLOSE EB OUTSIDE LANE  
SHIFT EB TRAFFIC TO WB INSIDE LANE

**CONSTRUCTION STAGE 3:**  
COMPLETE STRUCTURE B-27-43 WORK INCLUDING APPROACHES

**TRAFFIC CONTROL NOTES**

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

FOR NIGHTTIME OPERATION ALL DRUMS IN TAPERS SHALL HAVE A WARNING LIGHT, TYPE C (STEADY BURN).

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

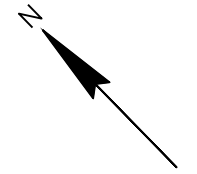
"WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

WHEN A 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 DIRECTED BY THE ENGINEER.

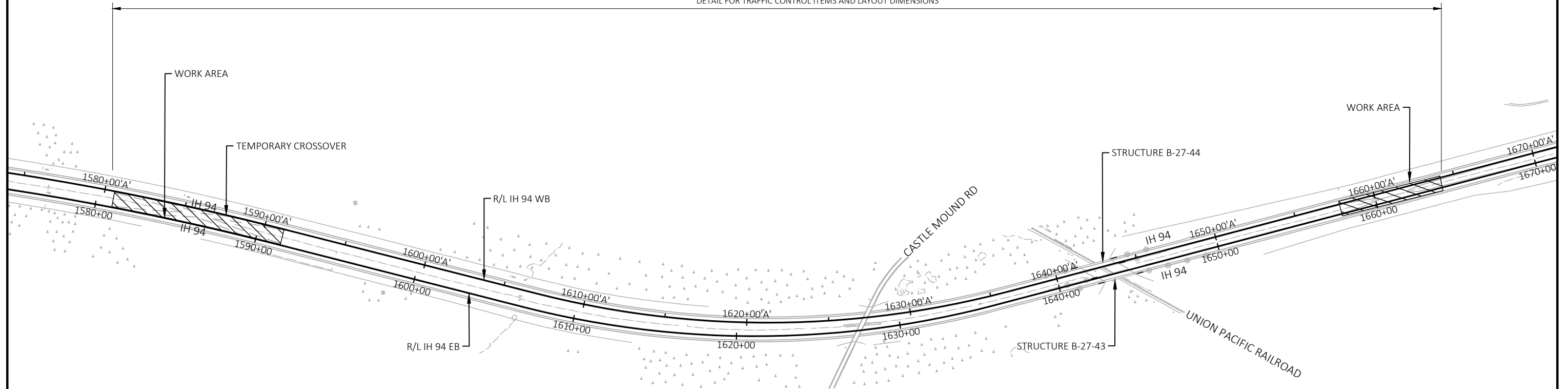
ALL SHORT TERM LANE CLOSURE SIGNS SHALL BE REMOVED OR COVERED AND ALL ARROWBOARDS AND DEVICES REMOVED BEYOND THE SHOULDER WHEN THE WORK IS NOT IN PROGRESS AND THE LANE IS RESTORED TO A SAFE OPERATING CONDITION.

CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROWBOARDS SO THE DRIVER HAS A CLEAR VIEW OF THE ARROWBOARD AND LANE CLOSURE DRUMS FOR A MINIMUM 1500' 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.



SEE SDD "TRAFFIC CONTROL, LANE CLOSURE, BASIC TRAFFIC QUEUE WARNING SYSTEM"  
DETAIL FOR TRAFFIC CONTROL ITEMS AND LAYOUT DIMENSIONS



**TRAFFIC STAGE 4:**  
CLOSE BOTH EB AND WB INSIDE LANES

**CONSTRUCTION STAGE 4:**  
REMOVE TEMPORARY CROSSOVER WEST OF BRIDGES  
RESTORE EXISTING CROSSOVER EAST OF BRIDGE

**TRAFFIC CONTROL NOTES**

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

FOR NIGHTTIME OPERATION ALL DRUMS IN TAPERS SHALL HAVE A WARNING LIGHT, TYPE C (STEADY BURN).

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

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

WHEN A 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 DIRECTED BY THE ENGINEER.

ALL SHORT TERM LANE CLOSURE SIGNS SHALL BE REMOVED OR COVERED AND ALL ARROWBOARDS AND DEVICES REMOVED BEYOND THE SHOULDER WHEN THE WORK IS NOT IN PROGRESS AND THE LANE IS RESTORED TO A SAFE OPERATING CONDITION.

CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROWBOARDS SO THE DRIVER HAS A CLEAR VIEW OF THE ARROWBOARD AND LANE CLOSURE DRUMS FOR A MINIMUM 1500' 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.

## Estimate Of Quantities

1023-01-74

Line	Item	Item Description	Unit	Total	Qty
0002	201.0105	Clearing	STA	2.000	2.000
0004	201.0205	Grubbing	STA	2.000	2.000
0006	203.0211.S	Abatement of Asbestos Containing Material (structure) 01. B-27-39	EACH	1.000	1.000
0008	203.0211.S	Abatement of Asbestos Containing Material (structure) 02. B-27-40	EACH	1.000	1.000
0010	203.0211.S	Abatement of Asbestos Containing Material (structure) 03. B-27-43	EACH	1.000	1.000
0012	203.0211.S	Abatement of Asbestos Containing Material (structure) 04. B-27-44	EACH	1.000	1.000
0014	203.0220	Removing Structure (structure) 01. B-27-39	EACH	1.000	1.000
0016	203.0220	Removing Structure (structure) 02. B-27-40	EACH	1.000	1.000
0018	203.0220	Removing Structure (structure) 03. B-27-43	EACH	1.000	1.000
0020	203.0220	Removing Structure (structure) 04. B-27-44	EACH	1.000	1.000
0022	203.0330	Debris Containment (structure) 03. B-27-43	EACH	1.000	1.000
0024	203.0330	Debris Containment (structure) 04. B-27-44	EACH	1.000	1.000
0026	204.0100	Removing Concrete Pavement	SY	480.000	480.000
0028	204.0105	Removing Concrete Pavement Butt Joints	SY	990.000	990.000
0030	204.0115	Removing Asphaltic Surface Butt Joints	SY	1,780.000	1,780.000
0032	204.0165	Removing Guardrail	LF	750.000	750.000
0034	204.0180	Removing Delineators and Markers	EACH	14.000	14.000
0036	204.0275	Closing Culvert Pipes	EACH	1.000	1.000
0038	204.9060.S	Removing (item description) 01. Cable Barrier Terminal	EACH	1.000	1.000
0040	204.9090.S	Removing (item description) 01. Cable Barrier	LF	710.000	710.000
0042	205.0100	Excavation Common	CY	8,980.000	8,980.000
0044	206.1001	Excavation for Structures Bridges (structure) 01. B-27-39	EACH	1.000	1.000
0046	206.1001	Excavation for Structures Bridges (structure) 02. B-27-40	EACH	1.000	1.000
0048	206.1001	Excavation for Structures Bridges (structure) 03. B-27-43	EACH	1.000	1.000
0050	206.1001	Excavation for Structures Bridges (structure) 04. B-27-44	EACH	1.000	1.000
0052	208.1100	Select Borrow	CY	6,130.000	6,130.000
0054	210.1500	Backfill Structure Type A	TON	510.000	510.000
0056	213.0100	Finishing Roadway (project) 01. 1023-01-74	EACH	1.000	1.000
0058	305.0110	Base Aggregate Dense 3/4-Inch	TON	1,280.000	1,280.000
0060	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	7,820.000	7,820.000
0062	415.0060	Concrete Pavement 6-Inch	SY	147.000	147.000
0064	415.0410	Concrete Pavement Approach Slab	SY	307.000	307.000
0066	416.1010	Concrete Surface Drains	CY	6.800	6.800
0068	455.0605	Tack Coat	GAL	234.000	234.000
0070	460.2000	Incentive Density HMA Pavement	DOL	700.000	700.000
0072	460.7425	HMA Pavement 5 HT 58-28 H	TON	1,044.000	1,044.000
0074	465.0125	Asphaltic Surface Temporary	TON	2,262.000	2,262.000
0076	502.0100	Concrete Masonry Bridges	CY	452.000	452.000
0078	502.3101	Expansion Device	LF	366.000	366.000
0080	502.3200	Protective Surface Treatment	SY	5,639.000	5,639.000
0082	502.3210	Pigmented Surface Sealer	SY	479.000	479.000
0084	502.4205	Adhesive Anchors No. 5 Bar	EACH	1,726.000	1,726.000
0086	502.4206	Adhesive Anchors No. 6 Bar	EACH	192.000	192.000
0088	505.0400	Bar Steel Reinforcement HS Structures	LB	6,520.000	6,520.000
0090	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	91,820.000	91,820.000
0092	506.2610	Bearing Pads Elastomeric Laminated	EACH	10.000	10.000
0094	506.7050.S	Removing Bearings (structure) 01. B-27-43	EACH	5.000	5.000
0096	506.7050.S	Removing Bearings (structure) 02. B-27-44	EACH	5.000	5.000
0098	509.0301	Preparation Decks Type 1	SY	621.000	621.000

Estimate Of Quantities

1023-01-74

Line	Item	Item Description	Unit	Total	Qty
0100	509.0302	Preparation Decks Type 2	SY	249.000	249.000
0102	509.0500	Cleaning Decks	SY	3,904.000	3,904.000
0104	509.0505.S	Cleaning Decks to Reapply Concrete Masonry Overlay	SY	781.000	781.000
0106	509.1000	Joint Repair	SY	109.000	109.000
0108	509.1500	Concrete Surface Repair	SF	225.000	225.000
0110	509.2000	Full-Depth Deck Repair	SY	11.000	11.000
0112	509.2500	Concrete Masonry Overlay Decks	CY	375.000	375.000
0114	509.9005.S	Removing Concrete Masonry Deck Overlay (structure) 01. B-27-43	SY	781.000	781.000
0116	509.9020.S	Epoxy Crack Sealing	LF	95.000	95.000
0118	509.9050.S	Cleaning Parapets	LF	155.000	155.000
0120	514.0900	Adjusting Floor Drains	EACH	8.000	8.000
0122	516.0500	Rubberized Membrane Waterproofing	SY	78.000	78.000
0124	517.0901.S	Preparation and Coating of Top Flanges (structure) 01. B-27-44	EACH	1.000	1.000
0126	517.1801.S	Structure Repainting Recycled Abrasive (structure) 01. B-27-39	EACH	1.000	1.000
0128	517.1801.S	Structure Repainting Recycled Abrasive (structure) 02. B-27-40	EACH	1.000	1.000
0130	517.1801.S	Structure Repainting Recycled Abrasive (structure) 03. B-27-44	EACH	1.000	1.000
0132	517.4501.S	Negative Pressure Containment and Collection of Waste Materials (structure) 01. B-27-39	EACH	1.000	1.000
0134	517.4501.S	Negative Pressure Containment and Collection of Waste Materials (structure) 02. B-27-40	EACH	1.000	1.000
0136	517.4501.S	Negative Pressure Containment and Collection of Waste Materials (structure) 03. B-27-44	EACH	1.000	1.000
0138	517.6001.S	Portable Decontamination Facility	EACH	3.000	3.000
0140	520.2012	Culvert Pipe Temporary 12-Inch	LF	578.000	578.000
0142	520.8700	Cleaning Culvert Pipes	EACH	1.000	1.000
0144	524.0618	Apron Endwalls for Culvert Pipe Salvaged 18-Inch	EACH	1.000	1.000
0146	601.0588	Concrete Curb & Gutter 4-Inch Sloped 36-Inch Type TBT	LF	146.000	146.000
0148	601.0590	Concrete Curb & Gutter 4-Inch Sloped 36-Inch Type TBTT	LF	46.000	46.000
0150	603.8000	Concrete Barrier Temporary Precast Delivered	LF	4,000.000	4,000.000
0152	603.8125	Concrete Barrier Temporary Precast Installed	LF	4,000.000	4,000.000
0154	606.0200	Riprap Medium	CY	18.000	18.000
0156	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	600.000	600.000
0158	613.1100.S	Cable Barrier Type 1	LF	708.000	708.000
0160	613.1200.S	Cable Barrier End Terminal Type 1	EACH	2.000	2.000
0162	614.0010	Barrier System Grading Shaping Finishing	EACH	1.000	1.000
0164	614.0150	Anchor Assemblies for Steel Plate Beam Guard	EACH	16.000	16.000
0166	614.0905	Crash Cushions Temporary	EACH	10.000	10.000
0168	614.2300	MGS Guardrail 3	LF	225.000	225.000
0170	614.2500	MGS Thrie Beam Transition	LF	394.000	394.000
0172	614.2610	MGS Guardrail Terminal EAT	EACH	1.000	1.000
0174	616.0800.S	Fence Track Clearance	LF	525.000	525.000
0176	618.0100	Maintenance And Repair of Haul Roads (project) 01. 1023-01-74	EACH	1.000	1.000
0178	619.1000	Mobilization	EACH	1.000	1.000
0180	624.0100	Water	MGAL	183.000	183.000
0182	625.0100	Topsoil	SY	27,420.000	27,420.000
0184	627.0200	Mulching	SY	27,420.000	27,420.000
0186	628.1504	Silt Fence	LF	6,550.000	6,550.000
0188	628.1520	Silt Fence Maintenance	LF	6,550.000	6,550.000
0190	628.1905	Mobilizations Erosion Control	EACH	8.000	8.000
0192	628.1910	Mobilizations Emergency Erosion Control	EACH	8.000	8.000

Estimate Of Quantities

1023-01-74

Line	Item	Item Description	Unit	Total	Qty
0194	628.2004	Erosion Mat Class I Type B	SY	2,743.000	2,743.000
0196	628.7020	Inlet Protection Type D	EACH	2.000	2.000
0198	628.7504	Temporary Ditch Checks	LF	75.000	75.000
0200	628.7555	Culvert Pipe Checks	EACH	2.000	2.000
0202	629.0205	Fertilizer Type A	CWT	18.000	18.000
0204	630.0130	Seeding Mixture No. 30	LB	495.000	495.000
0206	630.0200	Seeding Temporary	LB	495.000	495.000
0208	630.0500	Seed Water	MGAL	618.000	618.000
0210	633.1100	Delineators Temporary	EACH	340.000	340.000
0212	633.5350	Markers Permanent Flexible	EACH	17.000	17.000
0214	642.5201	Field Office Type C	EACH	1.000	1.000
0216	643.0300	Traffic Control Drums	DAY	56,540.000	56,540.000
0218	643.0420	Traffic Control Barricades Type III	DAY	6,288.000	6,288.000
0220	643.0500	Traffic Control Flexible Tubular Marker Posts	EACH	359.000	359.000
0222	643.0600	Traffic Control Flexible Tubular Marker Bases	EACH	359.000	359.000
0224	643.0705	Traffic Control Warning Lights Type A	DAY	5,788.000	5,788.000
0226	643.0715	Traffic Control Warning Lights Type C	DAY	18,975.000	18,975.000
0228	643.0800	Traffic Control Arrow Boards	DAY	2,100.000	2,100.000
0230	643.0900	Traffic Control Signs	DAY	20,300.000	20,300.000
0232	643.0910	Traffic Control Covering Signs Type I	EACH	3.000	3.000
0234	643.0920	Traffic Control Covering Signs Type II	EACH	5.000	5.000
0236	643.1050	Traffic Control Signs PCMS	DAY	752.000	752.000
0238	643.1100.S	Dynamic Late Merge System	DAY	580.000	580.000
0240	643.1205.S	Basic Traffic Queue Warning System	DAY	100.000	100.000
0242	643.3120	Temporary Marking Line Epoxy 4-Inch	LF	26,140.000	26,140.000
0244	643.3150	Temporary Marking Line Removable Tape 4-Inch	LF	19,045.000	19,045.000
0246	643.3760	Temporary Marking Raised Pavement Marker Type I	EACH	8.000	8.000
0248	643.5000	Traffic Control	EACH	1.000	1.000
0250	645.0111	Geotextile Type DF Schedule A	SY	276.000	276.000
0252	645.0120	Geotextile Type HR	SY	62.000	62.000
0254	646.1040	Marking Line Grooved Wet Ref Epoxy 4-Inch	LF	44,820.000	44,820.000
0256	646.1555	Marking Line Grooved Contrast Permanent Tape 4-Inch	LF	7,487.000	7,487.000
0258	646.9000	Marking Removal Line 4-Inch	LF	28,800.000	28,800.000
0260	650.4500	Construction Staking Subgrade	LF	4,670.000	4,670.000
0262	650.5000	Construction Staking Base	LF	4,670.000	4,670.000
0264	650.5500	Construction Staking Curb Gutter and Curb & Gutter	LF	192.000	192.000
0266	650.7000	Construction Staking Concrete Pavement	LF	90.000	90.000
0268	650.9911	Construction Staking Supplemental Control (project) 01. 1023-01-74	EACH	1.000	1.000
0270	650.9920	Construction Staking Slope Stakes	LF	4,670.000	4,670.000
0272	690.0150	Sawing Asphalt	LF	3,230.000	3,230.000
0274	690.0250	Sawing Concrete	LF	387.000	387.000
0276	715.0502	Incentive Strength Concrete Structures	DOL	4,975.000	4,975.000
0278	715.0720	Incentive Compressive Strength Concrete Pavement	DOL	500.000	500.000
0280	801.0117	Railroad Flagging Reimbursement	DOL	5,800.000	5,800.000
0282	ASP.1T0A	On-the-Job Training Apprentice at \$5.00/HR	HRS	2,000.000	2,000.000
0284	ASP.1T0G	On-the-Job Training Graduate at \$5.00/HR	HRS	1,600.000	1,600.000
0286	SPV.0060	Special 01. Cleaning and Painting Bearings	EACH	15.000	15.000
0288	SPV.0090	Special 01. Preparation and Coating of Bottom Flanges B-27-44	LF	355.000	355.000
0290	SPV.0180	Special 01. Abutment Seat Cleaning and Sealing	SY	100.000	100.000

Estimate Of Quantities

---

				1023-01-74	
0292	SPV.0180	Special 02. Pigmented Surface Sealer Reseal	SY	840.000	840.000



REMOVALS

CATEGORY	STAGE	STATION	TO	STATION	LOCATION	201.0105 CLEARING STA	201.0205 GRUBBING STA	204.0100 REMOVING PAVEMENT SY	204.0105 REMOVING PAVEMENT BUTT JOINTS SY	204.0115 REMOVING ASPHALTIC SURFACE BUTT JOINTS SY	204.0120 REMOVING ASPHALTIC SURFACE MILLING SY	204.0165 REMOVING GUARDRAIL LF	204.0180 REMOVING DELINEATORS AND MARKERS EACH	204.0275 CLOSING CULVERT PIPES EACH	204.9060.S REMOVING CABLE BARRIER TERMINAL EACH	204.9090.S REMOVING CABLE BARRIER LF
0010	1	1481+46	-	1497+04	RIVER CROSSOVERS	2	2	-	-	-	-	390	-	-	1	710
		1580+60	-	1664+00	RR CROSSOVERS	-	-	-	-	-	-	-	14	-	-	-
					SUBTOTAL	2	2	-	-	-	-	390	14	-	1	710
	2	1497+68	-	1503+90	B-27-40	-	-	120	-	120	-	80	-	-	-	-
		1640+79	-	1644+79	B-27-44	-	-	240	380	680	-	120	-	-	-	-
					SUBTOTAL	-	-	360	380	800	-	200	-	-	-	-
	3	1498+08	-	1504+30	B-27-39	-	-	120	-	180	-	40	-	1	-	-
		1641+42	-	1645+40	B-27-43	-	-	-	610	800	-	120	-	-	-	-
					SUBTOTAL	-	-	120	610	980	-	160	-	1	-	-
					TOTAL 0010	2	2	480	990	1,780	-	750	14	1	1	710

DIVISION	FROM/TO STATION	LOCATION	205.0100 COMMON EXCAVATION (1)		SALVAGED/UNUSABLE PAVEMENT MATERIAL (4)	AVAILABLE MATERIAL (5)	UNEXPANDED FILL	EXPANDED FILL (13)	MASS ORDINATE +/- (14)	WASTE	208.1100 SELECT BORROW
			CUT (2)	EBS EXCAVATION (3)				FACTOR 1.25			
STAGE 1											
	1483+62 to 1496+90	RVR XOVER	570	0	570	0	2,200	2,750	-2,750	0	2,750
	1580+60 to 1591+22	RR XOVER	310	0	310	0	2,700	3,375	-3,375	0	3,380
STAGE 1 SUBTOTAL			880	0							6,130
STAGE 4											
	1483+62 to 1496+90	RVR XOVER	3,900	0	0	3,900	0	0	3,900	3,900	0
	1580+60 to 1591+22	RR XOVER	4,200	0	0	4,200	0	0	4,200	4,200	0
STAGE 4 SUBTOTAL			8,100	0	0	8,100	0	0	8,100		0
GRAND TOTAL			8,980	0	880	8,100	4,900	6,125	1,975	8,100	6,130
TOTAL COMMON EXC			8,980								

NOTES:

- (1) COMMON EXCAVATION IS THE SUM OF THE CUT AND EBS EXCAVATION COLUMNS. ITEM NUMBER 205.0100
- (2) SALVAGED/UNUSABLE PAVEMENT MATERIAL IS INCLUDED IN CUT.
- (4) SALVAGED/UNUSABLE PAVEMENT MATERIAL
- (5) AVAILABLE MATERIAL = CUT - SALVAGED/UNUSABLE PAVEMENT MATERIAL
- (13) EXPANDED FILL FACTOR = 1.25
- (14) THE MASS ORDINATE + OR - QTY CALCULATED FOR THE DIVISION. PLUS QUANTITY INDICATES AN EXCESS OF MATERIAL WITHIN THE DIVISION. MINUS INDICATES A SHORTAGE OF MATERIAL WITHIN THE DIVISION.
- (15) FACTORS USED TO COMPUTE ANTICIPATED WASTE AND THE COMPUTED WASTE VOLUME IDENTIFIED ARE FOR GENERAL INFORMATION ONLY.

BASE AGGREGATE

CATEGORY	STAGE	STATION	TO	STATION	LOCATION	305.0110	305.0120	624.0100
						BASE AGGREGATE DENSE 3/4-INCH TON	BASE AGGREGATE DENSE 1 1/4-INCH TON	WATER MGAL
0010	1	1481+46	-	1497+04	RIVER CROSSOVER	710	4,420	103
		1580+60	-	1591+22	RR CROSSOVER	570	3,400	80
TOTAL 0010						1,280	7,820	183

CONCRETE PAVEMENT

CATEGORY	STATION	TO	STATION	LOCATION	415.0060	415.0410
					CONCRETE PAVEMENT 6-INCH SY	CONCRETE PAVEMENT APPROACH SLAB SY
0010	1498+08	-	1504+30	B-27-39	31	80
	1497+68	-	1503+90	B-27-40	31	80
	1640+79	-	1644+79	B-27-44	85	147
TOTAL 0010					147	307

DRAINAGE

CATEGORY	STATION	TO	STATION	LOCATION	416.1010	520.2012	520.8700	524.0618	601.0588	601.0590
					CONCRETE SURFACE DRAINS CY	CULVERT PIPE TEMPORARY 12-INCH LF	CLEANING CULVERT PIPES EACH	ENDWALLS FOR CULVERT PIPE SALVAGED 18-INCH EACH	CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE TBT LF	CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE TBTT LF
0010	1497+68	-	1503+90	B-27-40	1.7	578	-	-	-	15
	1498+08	-	1504+30	B-27-39	1.5	-	-	-	36	15
	1640+79	-	1644+79	B-27-44	1.3	-	-	-	48	16
	1641+42	-	1645+40	B-27-43	2.3	-	-	-	62	-
	1481+46	-	1497+04	RIVER CROSSOVER	-	-	1	1	-	-
TOTAL 0010					6.8	578	1	1	146	46

ASPHALT

CATEGORY	STAGE	STATION	TO	STATION	LOCATION	455.0605	460.7425	465.0125
						TACK COAT GAL	HMA PAVEMENT 5 HT 58-28 H TON	ASPHALTIC SURFACE TEMPORARY TON
0010	1	1481+46	-	1497+04	RIVER CROSSOVER	90	-	1,280
		1580+60	-	1591+22	RR CROSSOVER	69	-	982
		1507+61	-	1513+30	EXISTING RIVER CROSSOVER	28	398	-
		1658+10	-	1663+25	EXISTING RR CROSSOVER	31	432	-
SUBTOTAL						218	830	2,262
	2	1497+68	-	1503+90	B-27-40	1	14	-
		1640+79	-	1644+79	B-27-44	6	82	-
SUBTOTAL						7	96	-
	3	1498+08	-	1504+30	B-27-39	2	22	-
		1641+42	-	1645+40	B-27-43	7	96	-
SUBTOTAL						9	118	-
TOTAL 0010						234	1,044	2,262

EROSION CONTROL

CATEGORY	STATION	TO	STATION	LOCATION	606.0200	628.1504	628.1520	628.1905	628.1910	628.7020	628.7504	628.7555	645.0120
					RIPRAP MEDIUM CY	SILT FENCE LF	SILT FENCE MAINTENANCE LF	MOBILIZATIONS EROSION CONTROL EACH	MOBILIZATIONS EMERGENCY EROSION CONTROL EACH	INLET PROTECTION TYPE D EACH	TEMPORARY DITCH CHECKS LF	CULVERT PIPE CHECKS EACH	GEOTEXTILE TYPE HR SY
0010	1497+68	-	1503+90	B-27-40	3	550	550	1	1	1	-	-	16
	1498+08	-	1504+30	B-27-39	5	300	300	1	1	-	-	-	11
	1640+79	-	1644+79	B-27-44	3	970	970	1	1	-	-	-	11
	1641+42	-	1645+40	B-27-43	3	1,100	1,100	1	1	-	-	-	11
	1481+46	-	1497+04	RIVER CROSSOVER	-	1,350	1,350	1	1	-	30	1	-
	1580+60	-	1591+22	RR CROSSOVER	-	970	970	1	1	-	30	-	-
UNDISTRIBUTED (25%)					4	1,310	1,310	2	2	1	15	1	13
TOTAL 0010					18	6,550	6,550	8	8	2	75	2	62

3

3

BARRIER

						613.1100.S	613.1200.S	614.2300	614.2500	614.2610	633.5350
						CABLE BARRIER	CABLE BARRIER	MGS	MGS	MGS	MARKERS
						TYPE 1	END TERMINAL	GUARDRAIL 3	BEAM	GUARDRAIL	PERMANENT
CATEGORY	STAGE	STATION	TO	STATION	LOCATION	LF	EACH	LF	LF	EACH	EACH
0010	1	1481+46	-	1497+04	RIVER CROSSOVER	-	1	-	-	-	-
					SUBTOTAL	-	1	-	-	-	-
	2	1497+68	-	1503+90	B-27-40	-	-	-	78.8	-	-
		1640+79	-	1644+79	B-27-44	-	-	-	118.2	-	-
					SUBTOTAL	-	-	-	197	-	-
	3	1498+08	-	1504+30	B-27-39	-	-	225	78.8	1	-
		1641+42	-	1645+40	B-27-43	-	-	-	118.2	-	-
					SUBTOTAL	-	-	225	197	1	-
	4	1481+73	-	1489+43	MAINTENANCE CROSSOVER	708	1	-	-	-	17
					SUBTOTAL	708	1	-	-	-	17
					TOTAL 0010	708	2	225	394	1	17

GUARDRAIL GRADING

						614.0010				
						BARRIER SYSTEM GRADING SHAPING *EXCAVATION *SEEDING				
						FINISHING COMMON *TOPSOIL *FERTILIZER MIXTURE				
CATEGORY	STAGE	ROADWAY	STATION	STATION	LOCATION	EACH	CY	SY	CWT	LB
0010	3	IH 94 EB	1498+08	- 1504+30	B-27-39	1	30	180	1	3
					TOTAL	1				

\*FOR INFORMATION ONLY

LAWN RESTORATION

						625.0100	627.0200	628.2004	629.0205	630.0130	630.0200	630.0500
						TOPSOIL	MULCHING	EROSION MAT	FERTILIZER TYPE	SEEDING	SEEDING	SEED WATER
						SY	SY	CLASS I TYPE B	A	MIXTURE NO. 30	TEMPORARY	MGAL
CATEGORY	STAGE	STATION	TO	STATION	LOCATION	SY	SY	SY	CWT	LB	LB	MGAL
0010	1	1481+46	-	1497+04	RIVER CROSSOVER	3,400	3,400	340	2	62	62	77
		1580+60	-	1591+22	RR CROSSOVER	3,060	3,060	306	2	55	55	69
					SUBTOTAL	6,460	6,460	646	4	117	117	146
	4	1481+46	-	1497+04	RIVER CROSSOVER	8,210	8,210	821	5	148	148	185
		1580+60	-	1591+22	RR CROSSOVER	7,260	7,260	726	5	131	131	163
					SUBTOTAL	15,470	15,470	1,547	10	279	279	348
					UNDISTRIBUTED (25%)	5,490	5,490	549	4	99	99	124
					TOTAL 0010	27,420	27,420	2,742	18	495	495	618

STAGE I TRAFFIC CONTROL

CATEGORY	STATION TO STATION	LOCATION	633.1100 DELINEATORS TEMPORARY EACH	* 643.0300 TRAFFIC CONTROL DRUMS DAY	* 643.0420 TRAFFIC CONTROL BARRICADES TYPE III DAY	* 643.0500 TRAFFIC CONTROL FLEXIBLE TUBULAR MARKER POSTS EACH	* 643.0600 TRAFFIC CONTROL FLEXIBLE TUBULAR MARKER BASES EACH	* 643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A DAY	* 643.0715 TRAFFIC CONTROL WARNING LIGHTS TYPE C DAY	* 643.0800 TRAFFIC CONTROL ARROW BOARDS DAY	* 643.0900 TRAFFIC CONTROL SIGNS DAY	* 646.9000 MARKING REMOVAL LINE 4-INCH LF	* 643.3150 TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH LF	REMARKS
0010	1481+46 - 1497+04	RIVER CROSSOVER	8	2,400	160	36	36	320	1,360	160	800	1,780	1,680	40 CALENDAR DAYS
	1580+60 - 1591+22	RR CROSSOVER	8	2,400	160	24	24	320	1,360	160	800	1,780	1,680	40 CALENDAR DAYS
		UNDISTRIBUTED (25%)	4	1,200	80	15	15	160	680	80	400	890	840	
		TOTAL 0010	20	6,000	400	75	75	800	3,400	400	2,000	4,450	4,200	

\*ADDITIONAL QTY SHOWN ELSEWHERE

STAGE II TRAFFIC CONTROL

CATEGORY	STATION TO STATION	LOCATION	603.8000 CONCRETE BARRIER TEMPORARY PRECAST DELIVERED LF	* 603.8125 CONCRETE BARRIER TEMPORARY PRECAST INSTALLED LF	* 614.0905 CRASH CUSHIONS TEMPORARY EACH	* 633.1100 DELINEATORS TEMPORARY EACH	* 643.0300 TRAFFIC CONTROL DRUMS DAY	* 643.0420 TRAFFIC CONTROL BARRICADES TYPE III DAY	* 643.0500 TRAFFIC CONTROL FLEXIBLE TUBULAR MARKER POSTS EACH	* 643.0600 TRAFFIC CONTROL FLEXIBLE TUBULAR MARKER BASES EACH	* 643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A DAY	* 643.0715 TRAFFIC CONTROL WARNING LIGHTS TYPE C DAY	* 643.0800 TRAFFIC CONTROL ARROW BOARDS DAY	* 643.0900 TRAFFIC CONTROL SIGNS DAY	** 643.0910 TRAFFIC CONTROL COVERING SIGNS TYPE I EACH	* 643.1050 TRAFFIC CONTROL PCMS DAY	* 646.9000 MARKING REMOVAL LINE 4-INCH LF	* 643.3120 TEMPORARY MARKING LINE EPOXY 4-INCH LF	* 643.3150 TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH LF	* 643.3760 TEMPORARY MARKING RAISED PAVEMENT MARKER TYPE I EACH	REMARKS
0010	1497+68 - 1503+90	B-27-40	800	800	2	64	6,480	720	53	53	630	1,670	180	2,160	2	97	4,380	7,160	2,730	2	45 CALENDAR DAYS
	1640+79 - 1644+79	B-27-44	800	800	2	64	10,800	1,020	53	53	850	3,150	340	3,060	-	170	3,780	4,000	4,280	2	85 CALENDAR DAYS
		UNDISTRIBUTED (25%)	400	400	1	32	4,320	435	27	27	370	1,210	130	1,310	1	67	2,040	2,790	1,760	1	
		TOTAL 0010	2,000	2,000	5	160	21,600	2,175	133	133	1,850	6,030	650	6,530	3	334	10,200	13,950	8,770	5	

\*ADDITIONAL QTY SHOWN ELSEWHERE

\*\*ONE CYCLE ONLY

STAGE III TRAFFIC CONTROL

CATEGORY	STATION TO STATION	LOCATION	603.8000 CONCRETE BARRIER TEMPORARY PRECAST DELIVERED LF	* 603.8125 CONCRETE BARRIER TEMPORARY PRECAST INSTALLED LF	* 614.0905 CRASH CUSHIONS TEMPORARY EACH	* 633.1100 DELINEATORS TEMPORARY EACH	* 643.0300 TRAFFIC CONTROL DRUMS DAY	* 643.0420 TRAFFIC CONTROL BARRICADES TYPE III DAY	* 643.0500 TRAFFIC CONTROL FLEXIBLE TUBULAR MARKER POSTS EACH	* 643.0600 TRAFFIC CONTROL FLEXIBLE TUBULAR MARKER BASES EACH	* 643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A DAY	* 643.0715 TRAFFIC CONTROL WARNING LIGHTS TYPE C DAY	* 643.0800 TRAFFIC CONTROL ARROW BOARDS DAY	* 643.0900 TRAFFIC CONTROL SIGNS DAY	** 643.0920 TRAFFIC CONTROL COVERING SIGNS TYPE II EACH	* 643.1050 TRAFFIC CONTROL PCMS DAY	* 646.9000 MARKING REMOVAL LINE 4-INCH LF	* 643.3120 TEMPORARY MARKING LINE EPOXY 4-INCH LF	* 643.3150 TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH LF	* 643.3760 TEMPORARY MARKING RAISED PAVEMENT MARKER TYPE I EACH	REMARKS
0010	1498+08 - 1504+30	B-27-39	800	800	2	64	10,700	1,870	53	53	1,360	3,150	340	5,780	4	184	3,380	4,130	800	2	85 CALENDAR DAYS
	1641+42 - 1645+40	B-27-43	800	800	2	64	9,450	900	53	53	750	2,780	300	2,630	-	150	4,380	5,620	700	-	75 CALENDAR DAYS
		UNDISTRIBUTED (25%)	400	400	1	32	5,040	693	27	27	528	1,490	160	2,110	1	84	1,940	2,440	375	1	
		TOTAL 0010	2,000	2,000	5	160	25,190	3,463	133	133	2,638	7,420	800	10,520	5	418	9,700	12,190	1,875	3	

\*ADDITIONAL QTY SHOWN ELSEWHERE

\*\*ONE CYCLE ONLY

STAGE IV TRAFFIC CONTROL

CATEGORY	STATION TO STATION	LOCATION	643.0300 TRAFFIC CONTROL DRUMS DAY	* 643.0420 TRAFFIC CONTROL BARRICADES TYPE III DAY	* 643.0500 TRAFFIC CONTROL FLEXIBLE TUBULAR MARKER POSTS EACH	* 643.0600 TRAFFIC CONTROL FLEXIBLE TUBULAR MARKER BASES EACH	* 643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A DAY	* 643.0715 TRAFFIC CONTROL WARNING LIGHTS TYPE C DAY	* 643.0800 TRAFFIC CONTROL ARROW BOARDS DAY	* 643.0900 TRAFFIC CONTROL SIGNS DAY	* 646.9000 MARKING REMOVAL LINE 4- INCH LF	* 643.3150 TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH LF	REMARKS
0010	1481+46 - 1497+04	RIVER CROSSOVER	1,500	100	-	-	200	850	100	500	1,780	1,680	25 CALENDAR DAYS
	1580+60 - 1591+22	RR CROSSOVER	1,500	100	14	14	200	850	100	500	1,780	1,680	25 CALENDAR DAYS
		UNDISTRIBUTED (25%)	750	50	4	4	100	425	50	250	890	840	
		TOTAL 0010	3,750	250	18	18	500	2,125	250	1,250	4,450	4,200	

\*ADDITIONAL QTY SHOWN ELSEWHERE

QUEUE WARNING SYSTEM

LOCATION	STAGE	DISTANCE (MILES)	643.1100.S DYNAMIC LATE MERGE (DAYS)	643.1205.S BASIC TRAFFIC (DAYS)
EB CROSSOVERS - SUMMER/FALL	1	4	-	80
WB CROSSOVERS - SUMMER/FALL	1	7	-	80
WB RR BRIDGE - SPRING	2	7	170	-
WB RIVER BRIDGE - FALL	2	7	90	-
EB RR BRIDGE - SPRING	3	4	150	-
EB RIVER BRIDGE - FALL	3	4	170	-
EB CROSSOVERS - SPRING/FALL	4	4	-	50
WB CROSSOVERS - SPRING/FALL	4	7	-	50
TOTAL 0010			580	100

PAVEMENT MARKING

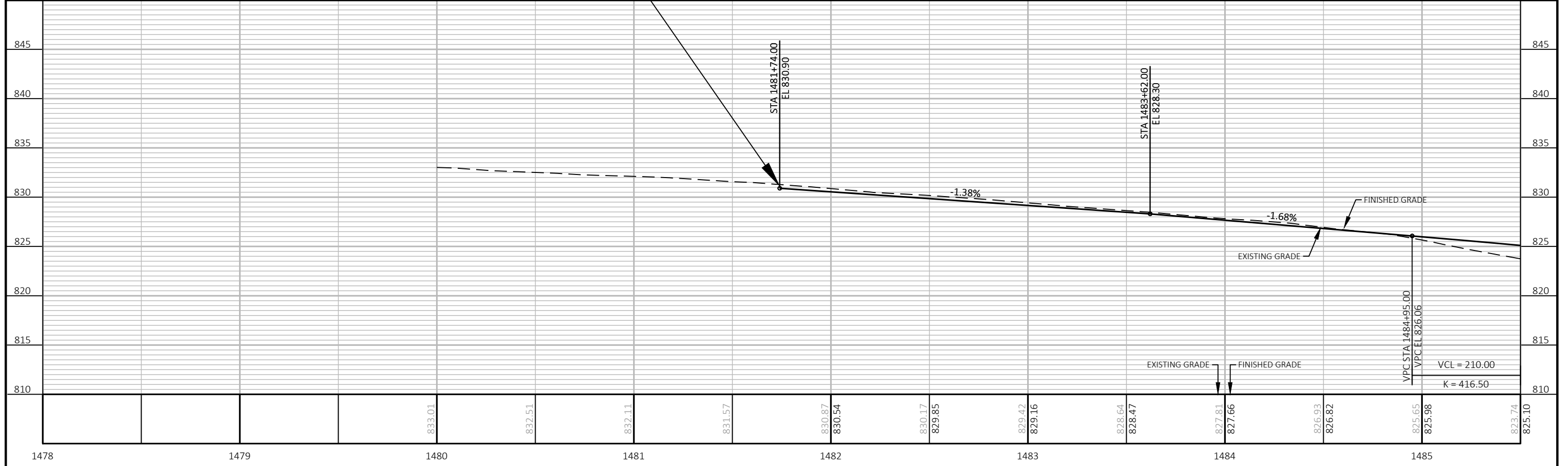
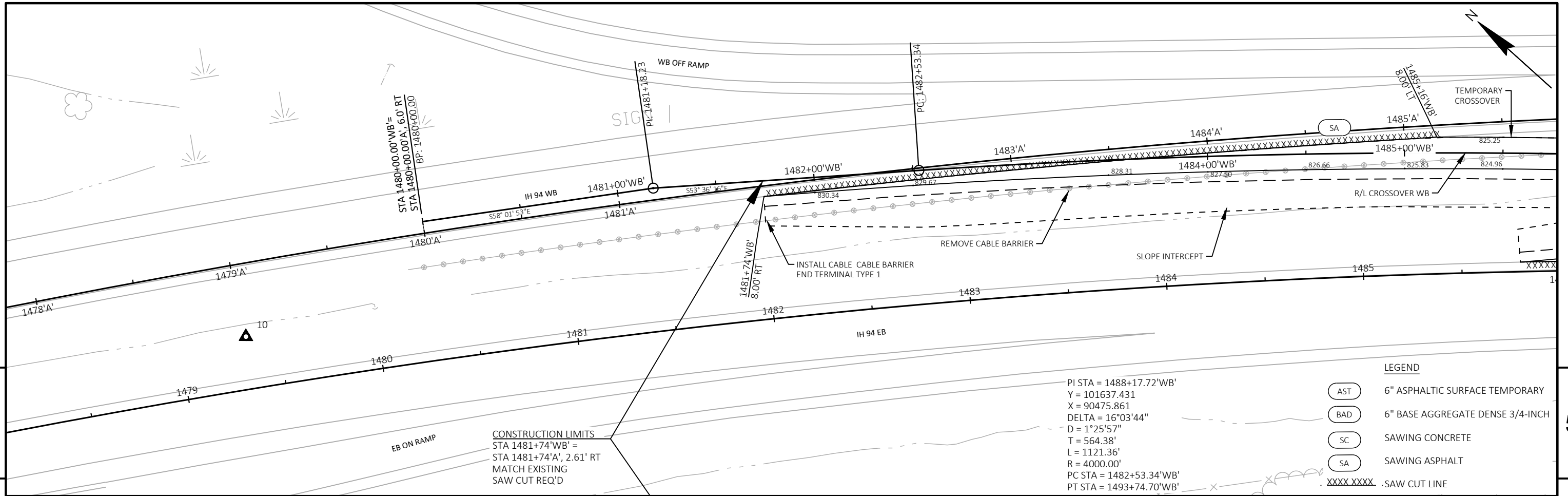
CATEGORY	ROADWAY	STATION	TO	STATION	LOCATION	646.1040 MARKING LINE GROOVED WET REFLECTIVE EPOXY 4-INCH		646.1555 MARKING LINE GROOVED CONTRAST PERM TAPE 4-INCH
						WHITE EDGELINE LF	YELLOW EDGELINE LF	WHITE LANE LINE LF
0010	IH 94 WB	1481+73	-	1512+95	RIVER CROSSING	3,130	3,130	1,050
		1580+60	-	1663+89	RR CROSSING	8,330	8,330	2,780
SUBTOTAL						11,460	11,460	3,830
	IH 94 EB	1485+82	-	1513+31	RIVER CROSSING	2,750	2,750	917
		1581+26	-	1663+24	RR CROSSING	8,200	8,200	2,740
SUBTOTAL						10,950	10,950	3,657
TOTALS						44,820		7,487

CONSTRUCTION STAKING

CATEGORY	STATION	TO	STATION	LOCATION	650.4500	650.5000	650.5500	650.7000	650.9911 CONSTRUCTION STAKING	650.9920
					CONSTRUCTION STAKING SUBGRADE LF	CONSTRUCTION STAKING BASE LF	CONSTRUCTION STAKING CURB AND GUTTER LF	CONSTRUCTION STAKING CONCRETE PAVEMENT LF	SUPPLEMENTAL CONTROL (PROJECT) (01. 1023-01-74) EACH	CONSTRUCTION STAKING SLOPE STAKES LF
0010	1497+68	-	1503+90	B-27-40	-	-	15	30	1	-
	1498+08	-	1504+30	B-27-39	-	-	51	30	-	-
	1640+79	-	1644+79	B-27-44	-	-	64	30	-	-
	1641+42	-	1645+40	B-27-43	-	-	62	-	-	-
	1481+46	-	1497+04	RIVER CROSSOVER	2,580	2,580	-	-	-	2,580
	1580+60	-	1591+22	RR CROSSOVER	2,090	2,090	-	-	-	2,090
TOTAL 0010					4,670	4,670	192	90	1	4,670

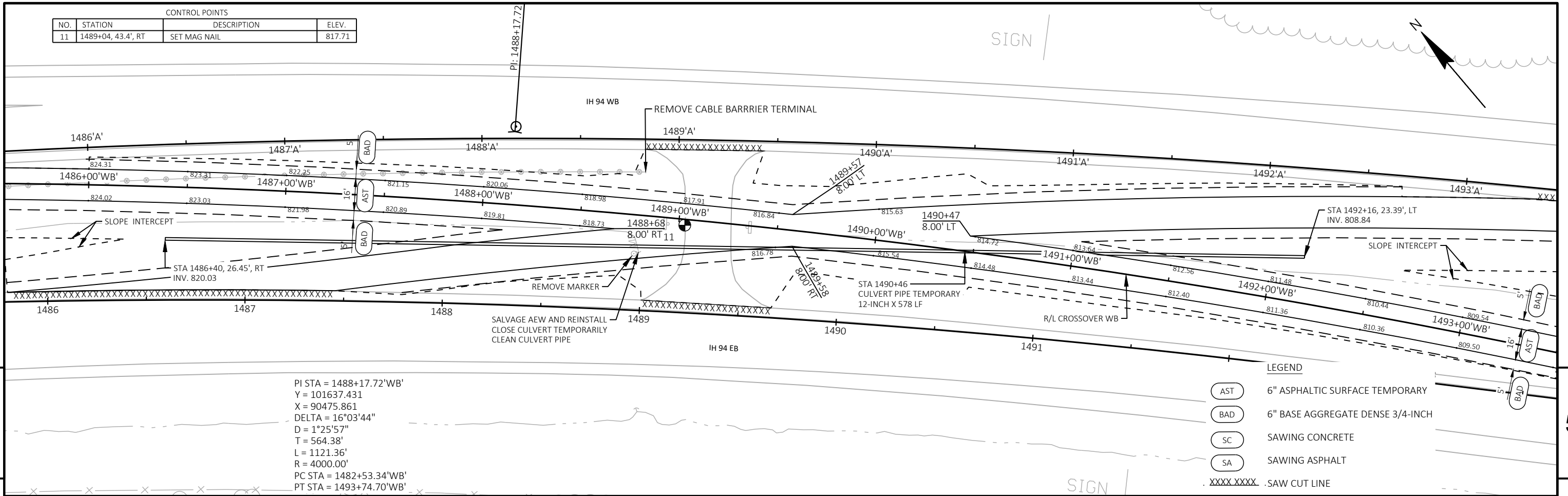
SAWING

CATEGORY	STATION	TO	STATION	LOCATION	690.0150	690.0250
					SAWING ASPHALT LF	SAWING CONCRETE LF
0010	1497+68	-	1503+90	B-27-40	640	64
	1498+08	-	1504+30	B-27-39	380	94
	1640+79	-	1644+79	B-27-44	90	160
	1641+42	-	1645+40	B-27-43	90	69
	1481+46	-	1497+04	RIVER CROSSOVER	1,150	-
	1580+60	-	1591+22	RR CROSSOVER	880	-
TOTAL 0010					3,230	387



PROJECT NO: 1023-01-04	HWY: IH 94	COUNTY: JACKSON	PLAN AND PROFILE: IH 94 RIVER CROSSOVER WB	SHEET	<b>E</b>
------------------------	------------	-----------------	--	-------	----------

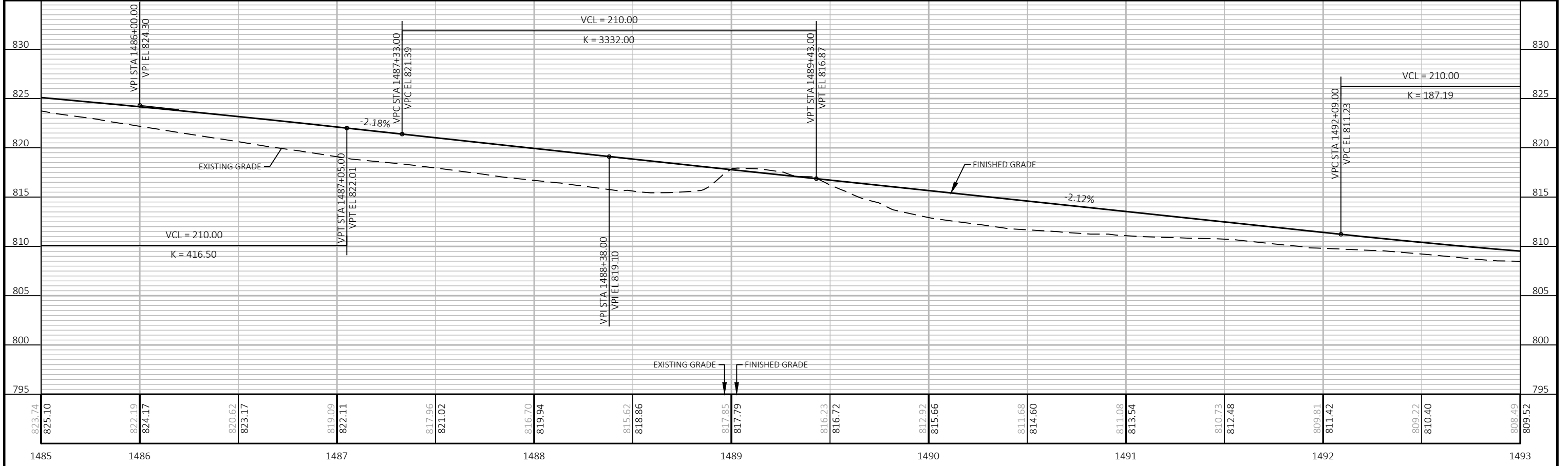
NO.	STATION	DESCRIPTION	ELEV.
11	1489+04, 43.4', RT	SET MAG NAIL	817.71



PI STA = 1488+17.72' WB'  
 Y = 101637.431  
 X = 90475.861  
 DELTA = 16°03'44"  
 D = 1°25'57"  
 T = 564.38'  
 L = 1121.36'  
 R = 4000.00'  
 PC STA = 1482+53.34' WB'  
 PT STA = 1493+74.70' WB'

LEGEND

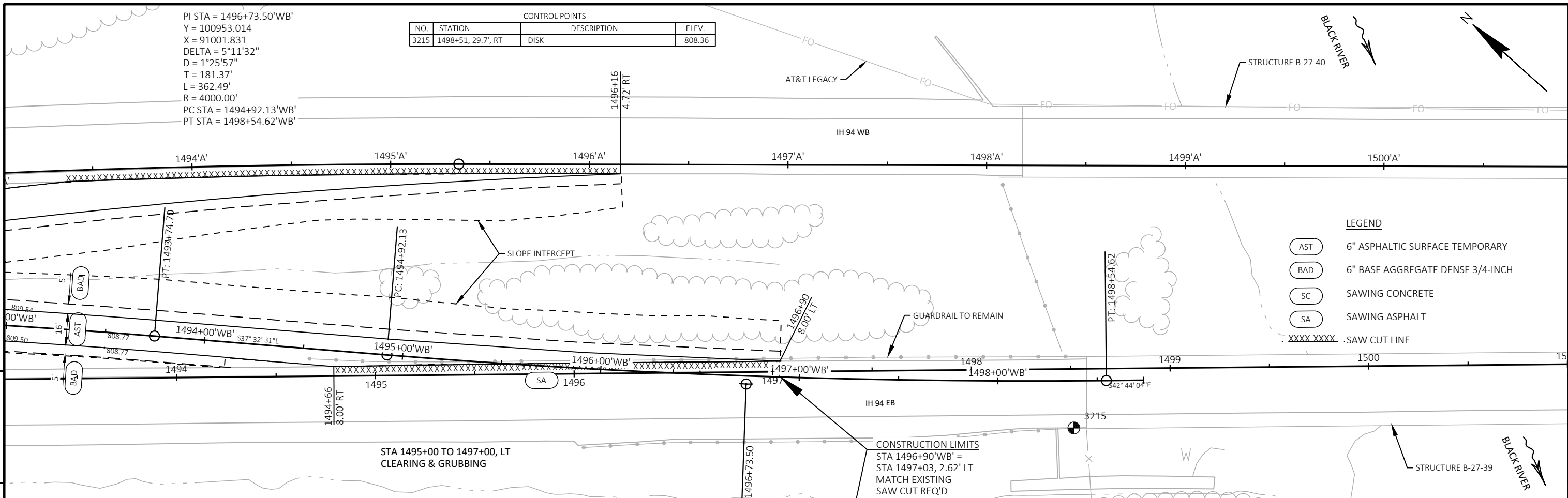
(AST)	6" ASPHALTIC SURFACE TEMPORARY
(BAD)	6" BASE AGGREGATE DENSE 3/4-INCH
(SC)	SAWING CONCRETE
(SA)	SAWING ASPHALT
XXXX XXXX	SAW CUT LINE



PROJECT NO: 1023-01-74	HWY: IH 94	COUNTY: JACKSON	PLAN AND PROFILE: IH 94 RIVER CROSSOVER WB	SHEET	<b>E</b>
------------------------	------------	-----------------	--	-------	----------

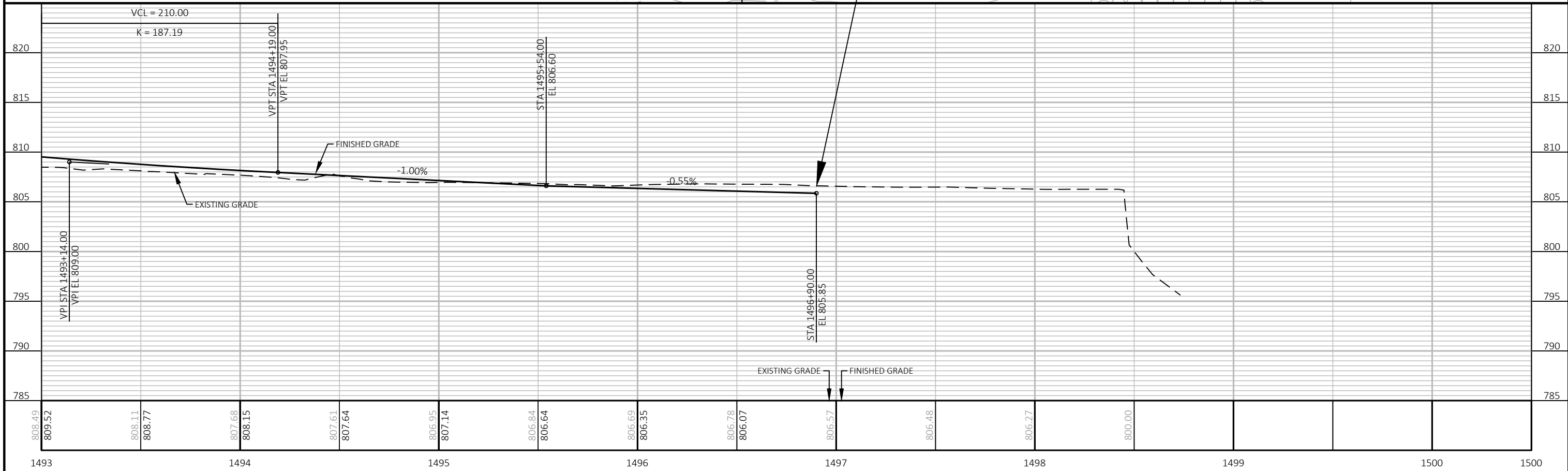
PI STA = 1496+73.50'WB'  
 Y = 100953.014  
 X = 91001.831  
 DELTA = 5°11'32"  
 D = 1°25'57"  
 T = 181.37'  
 L = 362.49'  
 R = 4000.00'  
 PC STA = 1494+92.13'WB'  
 PT STA = 1498+54.62'WB'

CONTROL POINTS			
NO.	STATION	DESCRIPTION	ELEV.
3215	1498+51, 29.7', RT	DISK	808.36



STA 1495+00 TO 1497+00, LT  
 CLEARING & GRUBBING

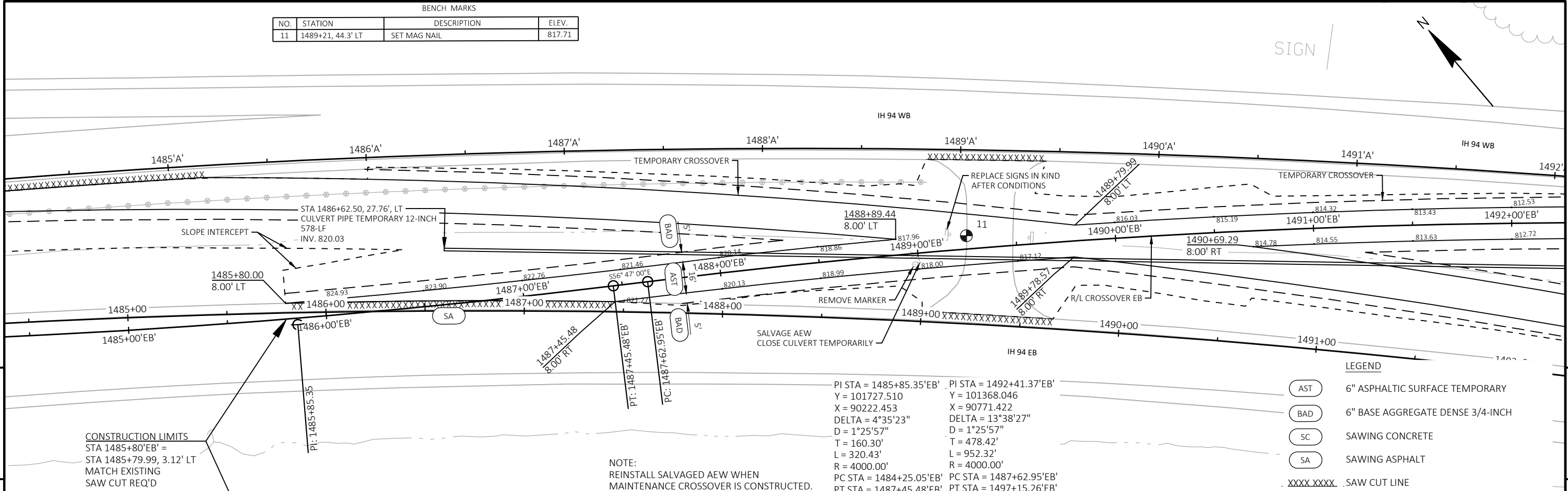
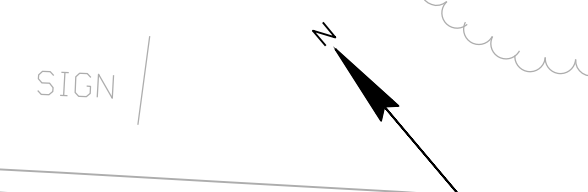
CONSTRUCTION LIMITS  
 STA 1496+90'WB' =  
 STA 1497+03, 2.62' LT  
 MATCH EXISTING  
 SAW CUT REQ'D



PROJECT NO: 1023-01-74	HWY: IH 94	COUNTY: JACKSON	PLAN AND PROFILE : IH 94 RIVER CROSSOVER WB	SHEET	<b>E</b>
------------------------	------------	-----------------	---	-------	----------



BENCH MARKS			
NO.	STATION	DESCRIPTION	ELEV.
11	1489+21, 44.3' LT	SET MAG NAIL	817.71



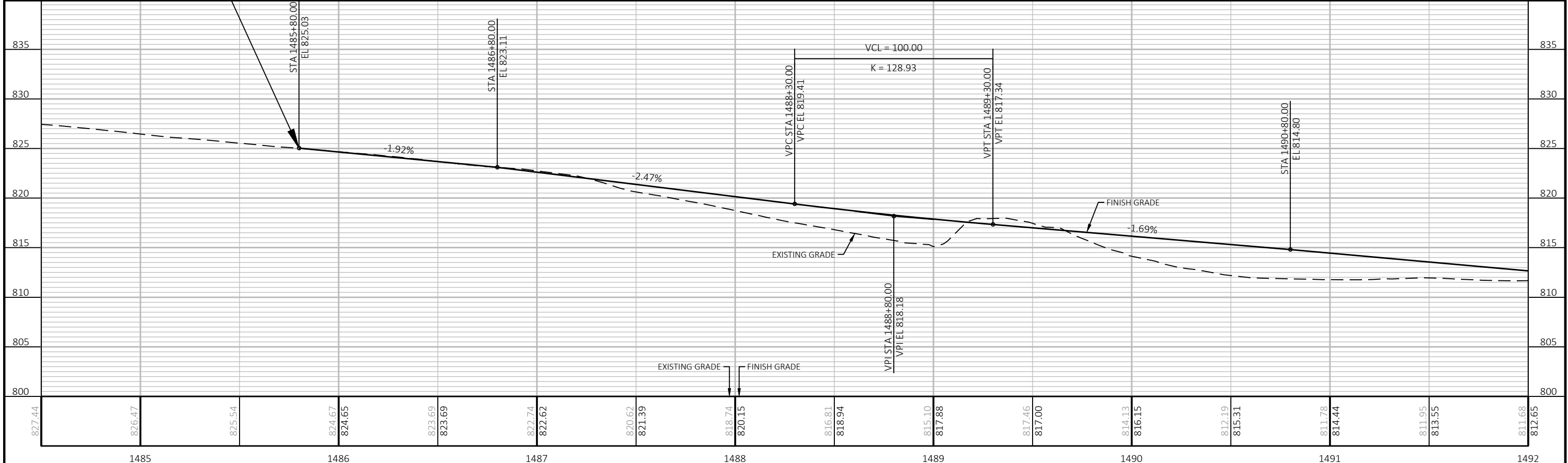
**CONSTRUCTION LIMITS**  
 STA 1485+80' EB' =  
 STA 1485+79.99, 3.12' LT  
 MATCH EXISTING  
 SAW CUT REQ'D

**NOTE:**  
 REINSTALL SALVAGED AEW WHEN  
 MAINTENANCE CROSSOVER IS CONSTRUCTED.

PI STA = 1485+85.35' EB'	PI STA = 1492+41.37' EB'
Y = 101727.510	Y = 101368.046
X = 90222.453	X = 90771.422
DELTA = 4°35'23"	DELTA = 13°38'27"
D = 1°25'57"	D = 1°25'57"
T = 160.30'	T = 478.42'
L = 320.43'	L = 952.32'
R = 4000.00'	R = 4000.00'
PC STA = 1484+25.05' EB'	PC STA = 1487+62.95' EB'
PT STA = 1487+45.48' EB'	PT STA = 1497+15.26' EB'

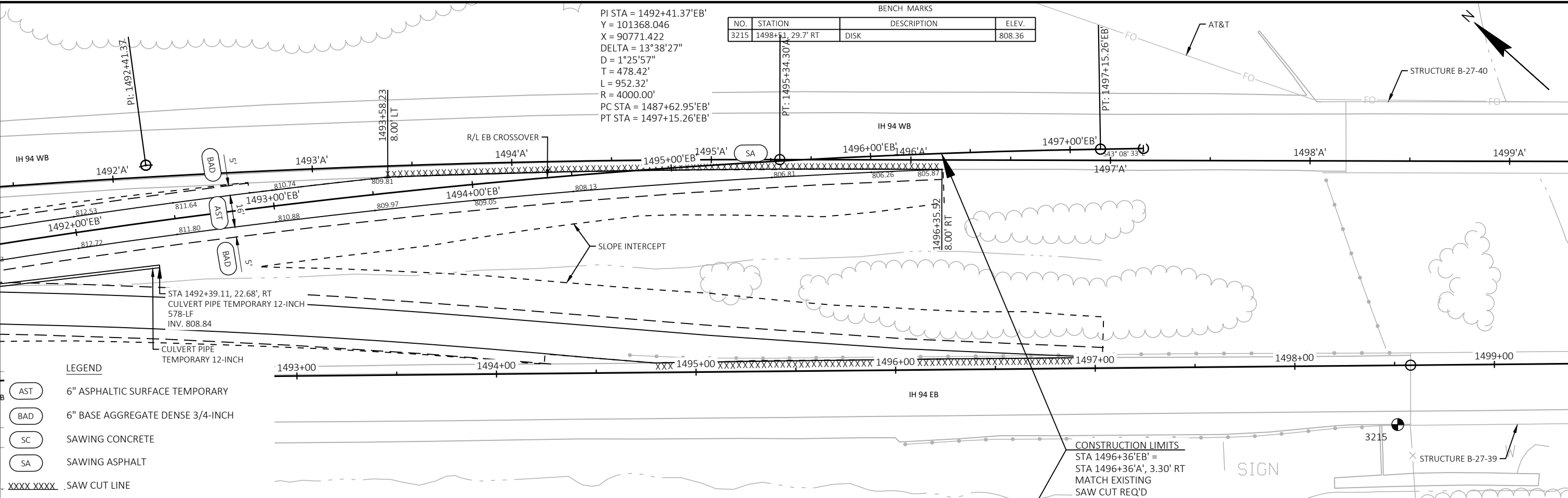
**LEGEND**

	6" ASPHALTIC SURFACE TEMPORARY
	6" BASE AGGREGATE DENSE 3/4-INCH
	SAWING CONCRETE
	SAWING ASPHALT
	SAW CUT LINE

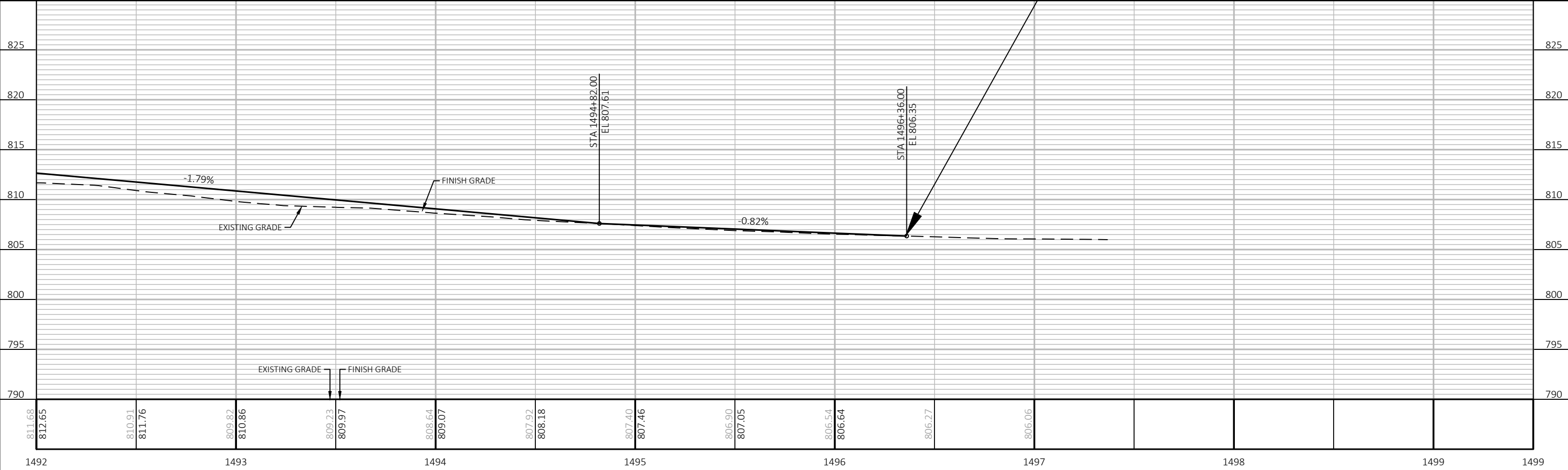


PI STA = 1492+41.37' EB'  
 Y = 101368.046  
 X = 90771.422  
 DELTA = 13°38'27"  
 D = 1°25'57"  
 T = 478.42'  
 L = 952.32'  
 R = 4000.00'  
 PC STA = 1487+62.95' EB'  
 PT STA = 1497+15.26' EB'

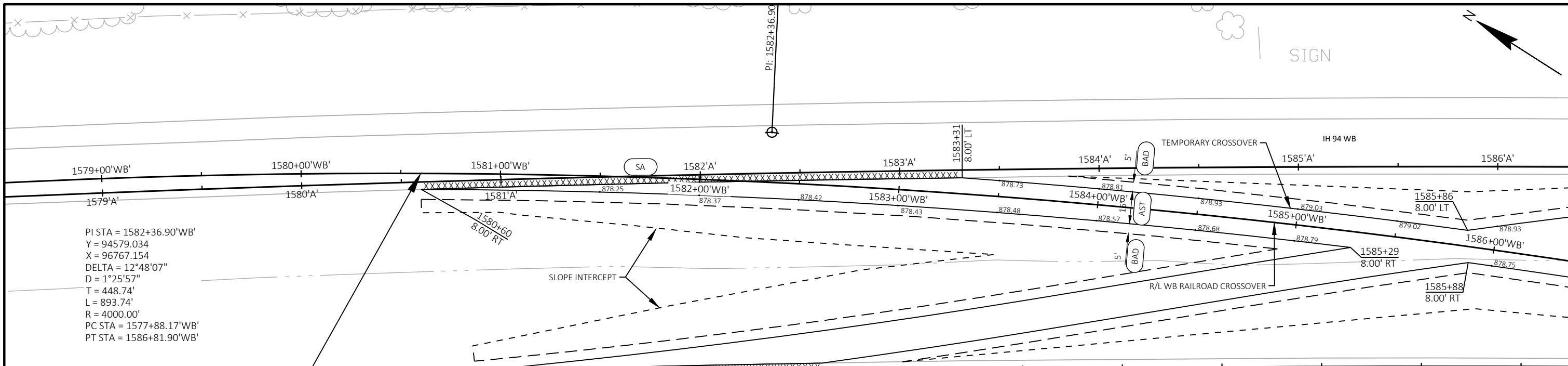
BENCH MARKS			
NO.	STATION	DESCRIPTION	ELEV.
3215	1498+51.29.7' RT	DISK	808.36



- LEGEND**
- AST 6" ASPHALTIC SURFACE TEMPORARY
  - BAD 6" BASE AGGREGATE DENSE 3/4-INCH
  - SC SAWING CONCRETE
  - SA SAWING ASPHALT
  - XXXX XXXX SAW CUT LINE



PROJECT NO: 1023-01-74      HWY: IH 94      COUNTY: JACKSON      PLAN AND PROFILE: IH 94 RIVER CROSSOVER EB      SHEET: **E**

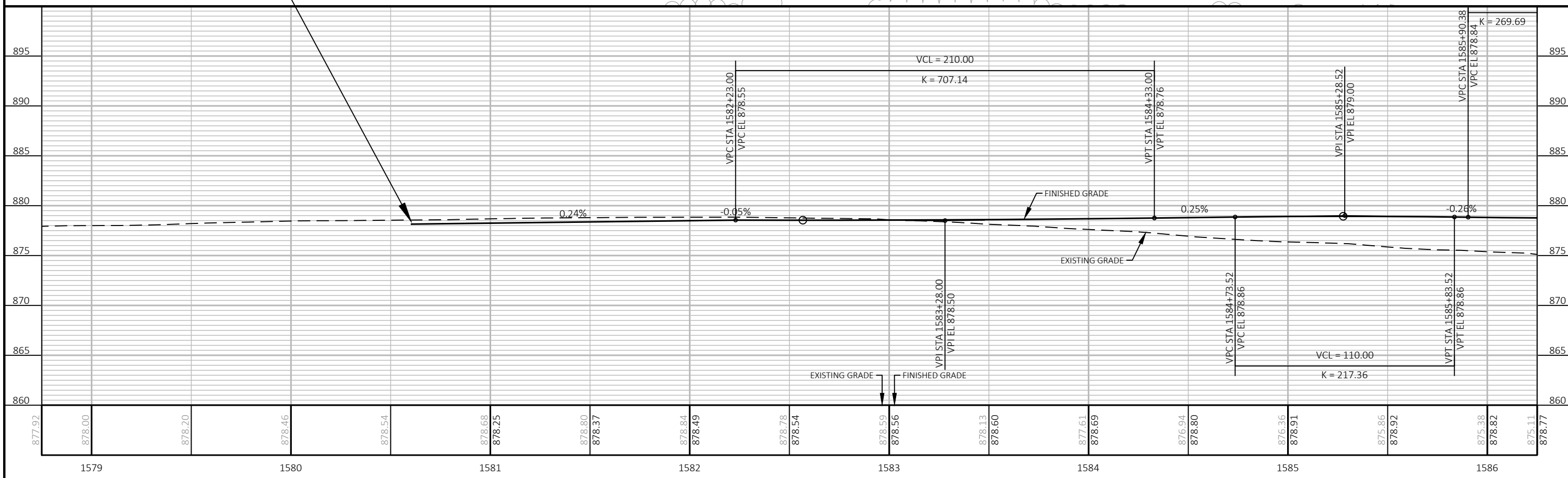


P I STA = 1582+36.90'WB'  
 Y = 94579.034  
 X = 96767.154  
 DELTA = 12°48'07"  
 D = 1°25'57"  
 T = 448.74'  
 L = 893.74'  
 R = 4000.00'  
 PC STA = 1577+88.17'WB'  
 PT STA = 1586+81.90'WB'

**CONSTRUCTION LIMITS**  
 STA 1580+60'WB' =  
 STA 1580+60'A', 4.28' RT  
 MATCH EXISTING  
 SAW CUT REQ'D

**LEGEND**

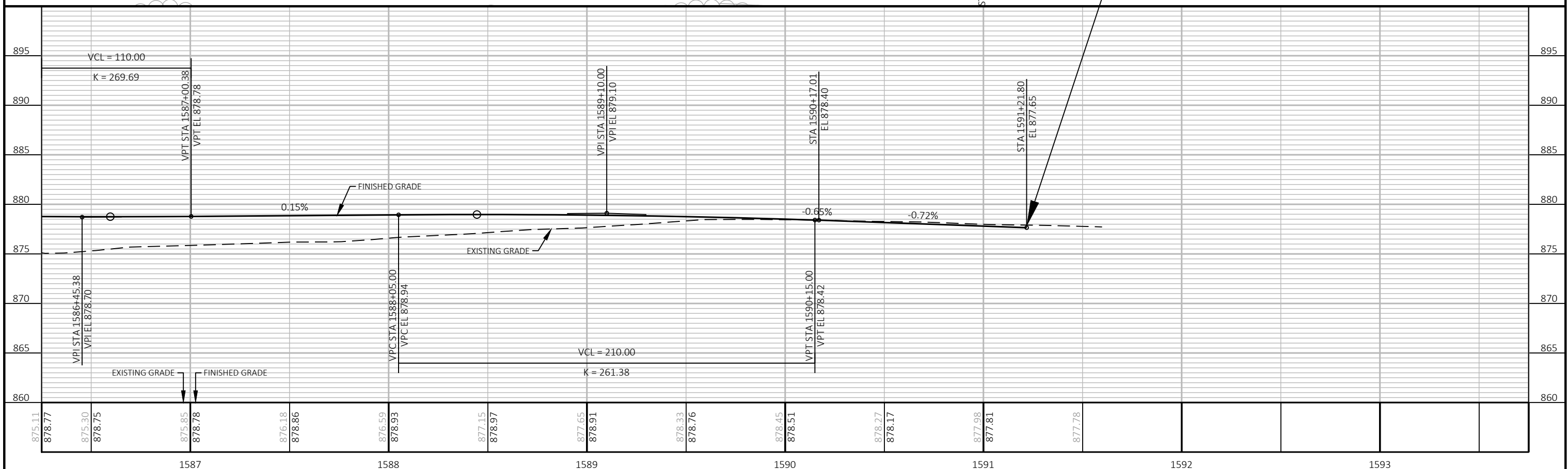
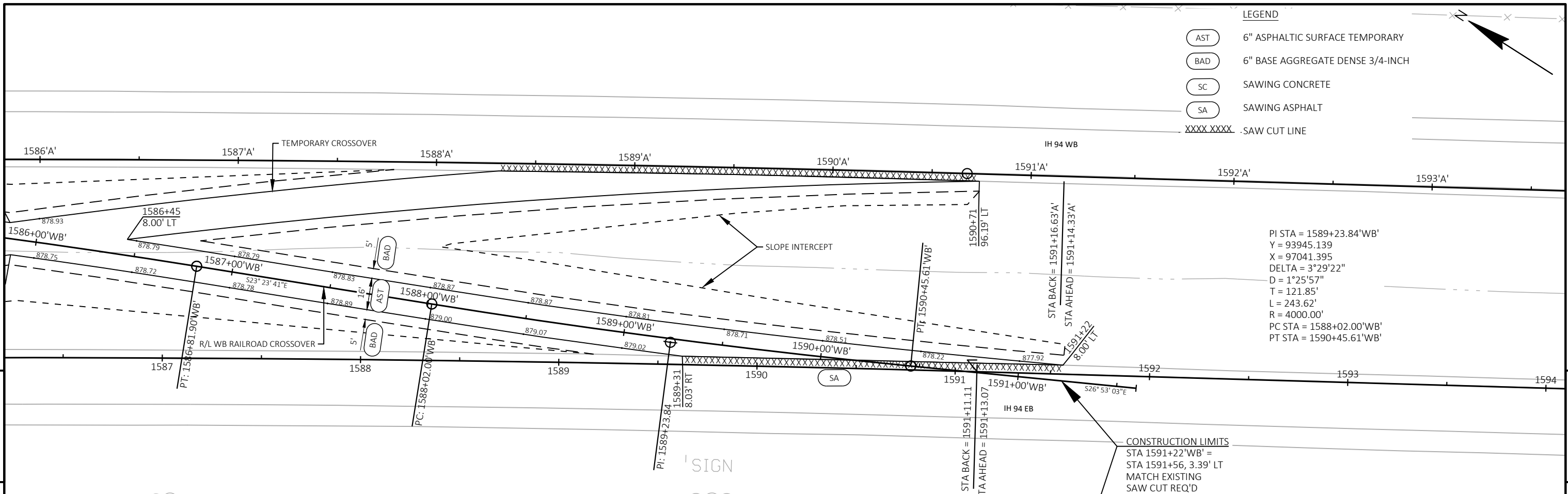
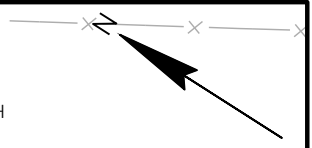
AST	6" ASPHALTIC SURFACE TEMPORARY
BAD	6" BASE AGGREGATE DENSE 3/4-INCH
SC	SAWING CONCRETE
SA	SAWING ASPHALT
XXXX XXXX	SAW CUT LINE



PROJECT NO: 1023-01-74	HWY: IH 94	COUNTY: JACKSON	PLAN AND PROFILE: IH 94 RR CROSSOVER WB	SHEET	<b>E</b>
------------------------	------------	-----------------	---	-------	----------

LEGEND

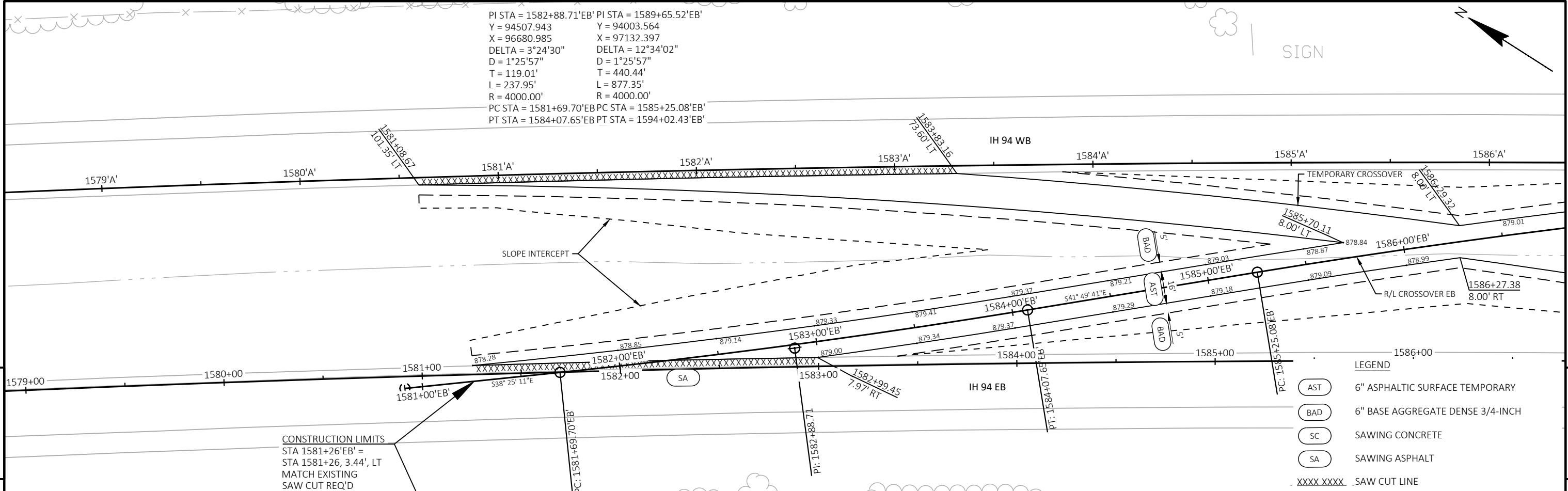
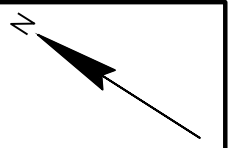
- (AST) 6" ASPHALTIC SURFACE TEMPORARY
- (BAD) 6" BASE AGGREGATE DENSE 3/4-INCH
- (SC) SAWING CONCRETE
- (SA) SAWING ASPHALT
- XXXX XXXX .SAW CUT LINE



PROJECT NO: 1023-01-74	HWY: IH 94	COUNTY: JACKSON	PLAN AND PROFILE: IH 94 RR CROSSOVER WB	SHEET	<b>E</b>
------------------------	------------	-----------------	---	-------	----------

PI STA = 1582+88.71' EB' PI STA = 1589+65.52' EB'  
 Y = 94507.943 Y = 94003.564  
 X = 96680.985 X = 97132.397  
 DELTA = 3°24'30" DELTA = 12°34'02"  
 D = 1°25'57" D = 1°25'57"  
 T = 119.01' T = 440.44'  
 L = 237.95' L = 877.35'  
 R = 4000.00' R = 4000.00'  
 PC STA = 1581+69.70' EB' PC STA = 1585+25.08' EB'  
 PT STA = 1584+07.65' EB' PT STA = 1594+02.43' EB'

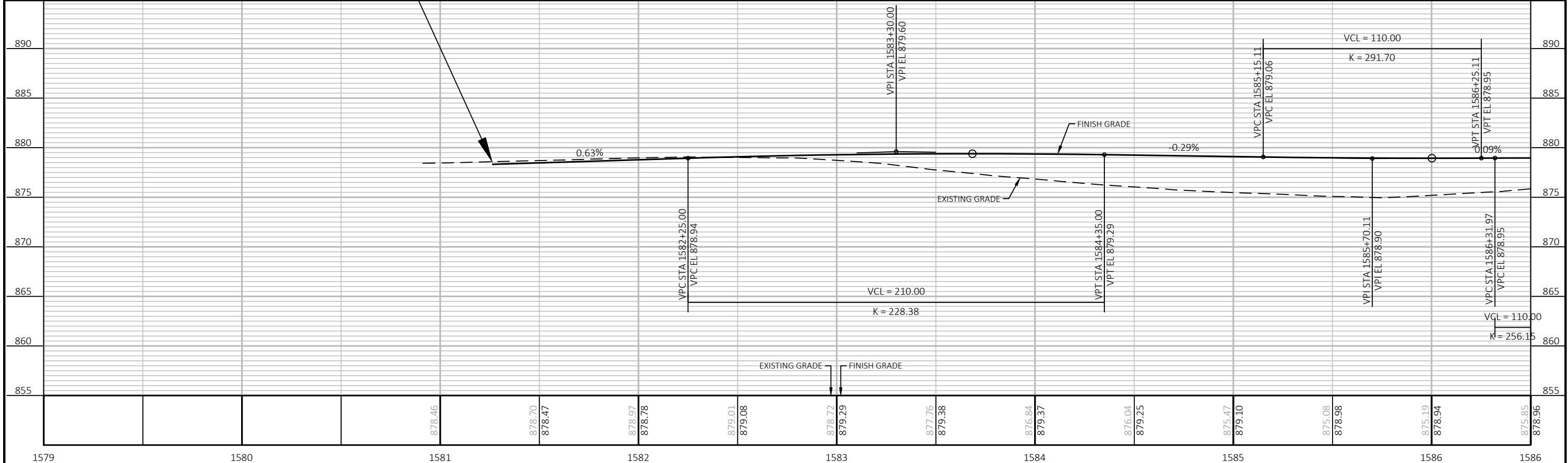
SIGN



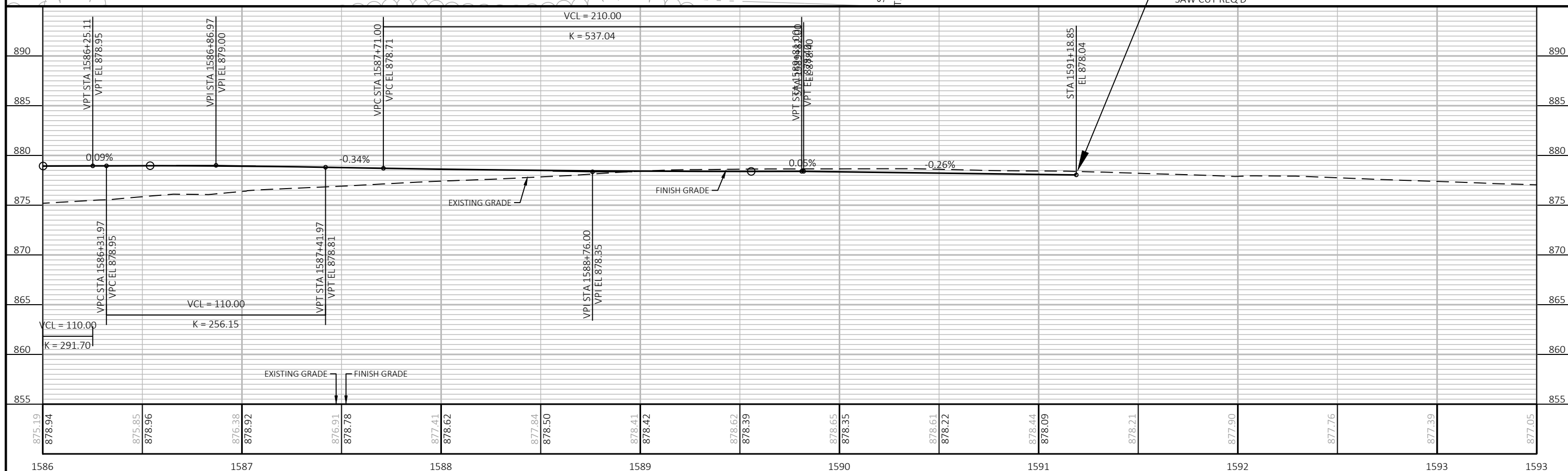
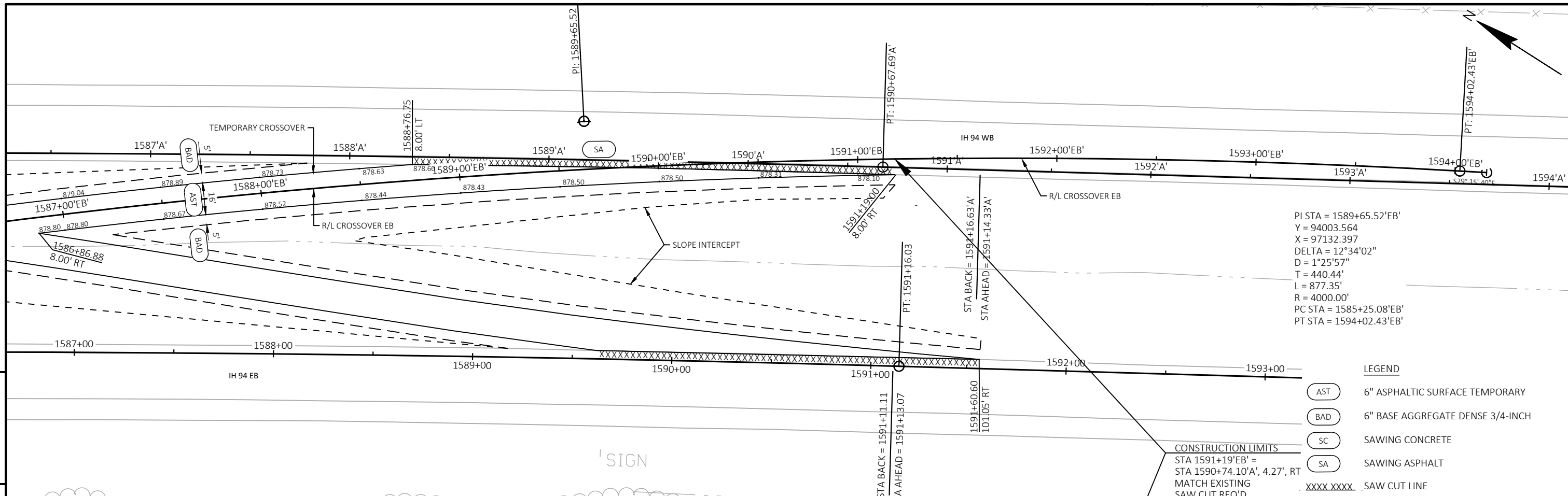
5

5

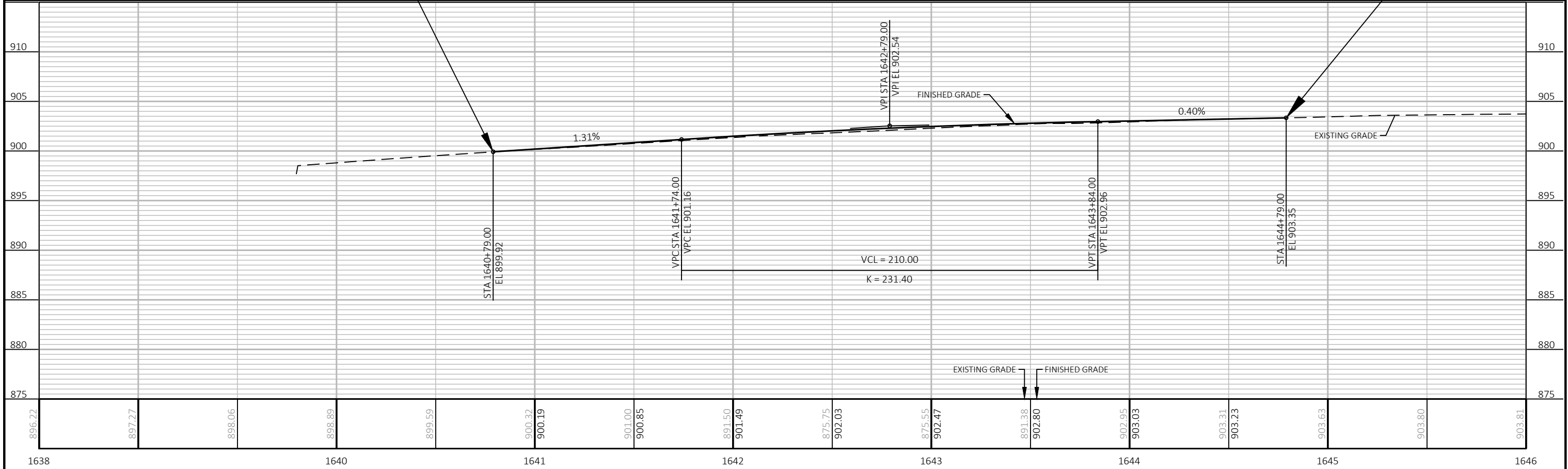
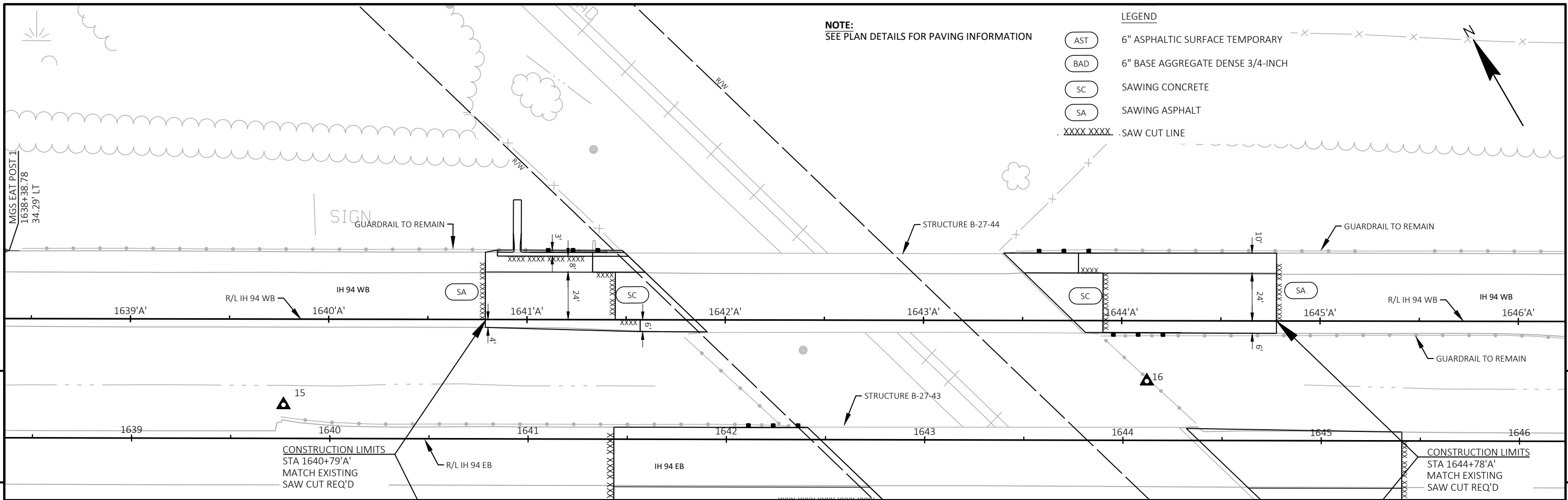
- LEGEND
- AST 6" ASPHALTIC SURFACE TEMPORARY
  - BAD 6" BASE AGGREGATE DENSE 3/4-INCH
  - SC SAWING CONCRETE
  - SA SAWING ASPHALT
  - XXXX XXXX SAW CUT LINE



PROJECT NO: 1023-01-74      HWY: IH 94      COUNTY: JACKSON      PLAN AND PROFILE: IH 94 RR CROSSOVER EB      SHEET      E



PROJECT NO: 1023-01-74	HWY: IH 94	COUNTY: JACKSON	PLAN AND PROFILE: IH 94 RR CROSSOVER EB	SHEET	<b>E</b>
------------------------	------------	-----------------	---	-------	----------



PROJECT NO: 1023-01-74      HWY: IH 94      COUNTY: JACKSON      PLAN AND PROFILE: IH 94 RR APPROACH WB      SHEET: **E**

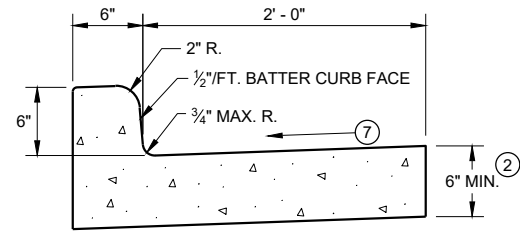
## Standard Detail Drawing List

08D01-22A	CONCRETE CURB & GUTTER
08D02-07A	CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES
08D02-07B	CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES
08D02-07C	CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E10-02	INLET PROTECTION TYPE A, B, C AND D
08E15-01	CULVERT PIPE CHECK
11A01-06	MAINTENANCE CROSSOVER FOR FREEWAYS
12A03-10	NAME PLATE (STRUCTURES)
13B02-09A	CONCRETE PAVEMENT APPROACH SLAB
13B02-09B	STRUCTURAL APPROACH SLAB AND CONCRETE PAVEMENT APPROACH SLAB
14B07-16A	CONCRETE BARRIER TEMPORARY PRECAST, 12' -6"
14B07-16B	CONCRETE BARRIER TEMPORARY PRECAST, 12' -6"
14B07-16C	CONCRETE BARRIER TEMPORARY PRECAST, 12' -6"
14B07-16D	CONCRETE BARRIER TEMPORARY PRECAST, 12' -6"
14B07-16E	CONCRETE BARRIER TEMPORARY PRECAST, 12' -6"
14B07-16F	CONCRETE BARRIER TEMPORARY PRECAST, 12' -6"
14B07-16G	CONCRETE BARRIER TEMPORARY PRECAST, 12' -6"
14B07-16H	CONCRETE BARRIER TEMPORARY PRECAST, 12' -6"
14B07-16I	CONCRETE BARRIER TEMPORARY PRECAST, 12' -6"
14B07-16J	CONCRETE BARRIER TEMPORARY PRECAST, 12' -6"
14B07-16K	CONCRETE BARRIER TEMPORARY PRECAST, 12' -6"
14B07-16L	CONCRETE BARRIER TEMPORARY PRECAST, 12' -6"
14B07-16M	CONCRETE BARRIER TEMPORARY PRECAST, 12' -6"
14B07-16N	CONCRETE BARRIER TEMPORARY PRECAST, 12' -6"
14B08-02A	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-02B	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-02C	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-02D	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-02E	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B42-07A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07D	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B44-04A	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-04B	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-04C	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B45-05A	MIDWEST GUARDRAIL SYSTEM THREE BEAM TRANSITION (MGS)
14B45-05B	MIDWEST GUARDRAIL SYSTEM THREE BEAM TRANSITION (MGS)
14B45-05C	MIDWEST GUARDRAIL SYSTEM THREE BEAM TRANSITION (MGS)
14B45-05D	MIDWEST GUARDRAIL SYSTEM THREE BEAM TRANSITION (MGS)
14B45-05E	MIDWEST GUARDRAIL SYSTEM THREE BEAM TRANSITION (MGS)
14B45-05F	MIDWEST GUARDRAIL SYSTEM THREE BEAM TRANSITION (MGS)
14B45-05G	MIDWEST GUARDRAIL SYSTEM THREE BEAM TRANSITION (MGS)
14B45-05H	MIDWEST GUARDRAIL SYSTEM THREE BEAM TRANSITION (MGS)
14B45-05I	MIDWEST GUARDRAIL SYSTEM THREE BEAM TRANSITION (MGS)
14B45-05J	MIDWEST GUARDRAIL SYSTEM THREE BEAM TRANSITION (MGS)
14B45-05K	MIDWEST GUARDRAIL SYSTEM THREE BEAM TRANSITION (MGS)
14B45-05L	MIDWEST GUARDRAIL SYSTEM THREE BEAM TRANSITION (MGS)
14B52-03A	CABLE BARRIER TYPE 1 LAYOUT
14B52-03B	CABLE BARRIER TYPE 1 LAYOUT
14B52-03C	CABLE BARRIER TYPE 1 LAYOUT
15A03-02A	FLEXIBLE MARKER POST FOR CULVERT END
15A03-02B	FLEXIBLE MARKER POST FOR CULVERT END
15A04-07A	FLEXIBLE DELINEATOR POST
15A04-07B	BARRIER WALL DELINEATOR WITH REFLECTIVE SHEETING
15A04-07C	DELINEATOR BRACKET WITH REFLECTIVE SHEETING
15A04-07D	CHANNELIZING DEVICES, PERMANENT FLEXIBLE TUBULAR MARKER POST
15A04-07E	DELINEATOR POST WITH REFLECTIVE SHEETING
15C02-08A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-08B	BARRICADES AND SIGNS FOR VARIOUS CLOSURES
15C02-08C	DETOUR SIGNING FOR MAINLINE CLOSURES
15C02-08D	ON RAMP LANE CLOSURE
15C02-08E	OFF RAMP LANE CLOSURE
15C02-08F	ADVANCED WIDTH RESTRICTION SIGNING
15C08-22A	LONGITUDINAL MARKING (MAINLINE)

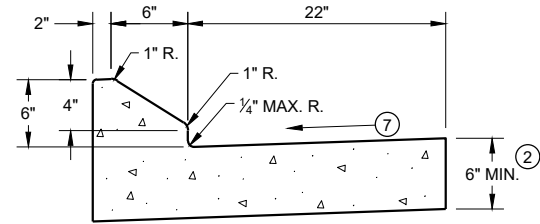


## Standard Detail Drawing List

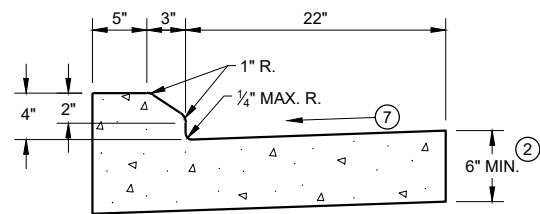
15C08-22B	TEMPORARY LONGITUDINAL PAVEMENT MARKING
15C11-10A	CHANNELIZING DEVICES FLEXIBLE TUBULAR MARKER POST
15C11-10B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS
15C19-07C	MOVING PAVEMENT MARKING OPERATION MULTI-LANE DIVIDED ROADWAY
15C31-04A	PAVEMENT MARKING EXIT RAMP AND PARALLEL EXIT RAMP
15C31-04C	PAVEMENT MARKING ENTRANCE RAMP AND PARALLEL ENTRANCE RAMP
15D05-05	TRAFFIC CONTROL, SINGLE LANE CROSSOVER ENTRANCE WITH BARRIER
15D10-05	TRAFFIC CONTROL, SINGLE LANE CROSSOVER EXIT WITH BARRIER
15D11-08	TRAFFIC CONTROL, SINGLE LANE CROSSOVER
15D12-10A	TRAFFIC CONTROL, LANE CLOSURE
15D12-10B	TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION
15D12-10C	DYNAMIC LATE MERGE SYSTEM
15D12-10D	TRAFFIC CONTROL, LANE CLOSURE, BASIC TRAFFIC QUEUE WARNING SYSTEM
15D12-10E	TRAFFIC CONTROL, LANE CLOSURE, TRAFFIC QUEUE WARNING SYSTEM
15D16-05	TRAFFIC CONTROL, EXIT RAMP CLOSURE



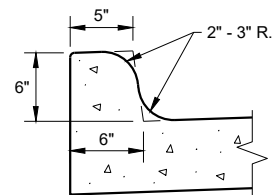
TYPES A<sup>1</sup> & D



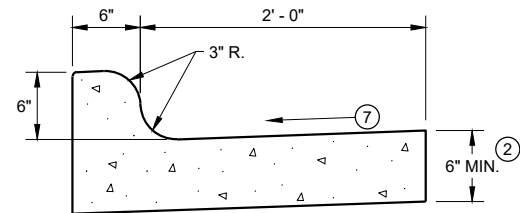
6" SLOPED CURB TYPES G<sup>1</sup> & J



4" SLOPED CURB TYPES G<sup>1</sup> & J

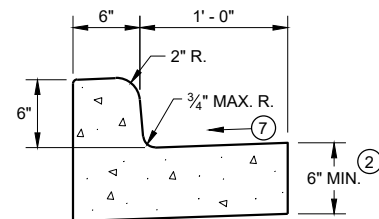


TYPES K<sup>1</sup> & L  
(OPTIONAL CURB SHAPE)



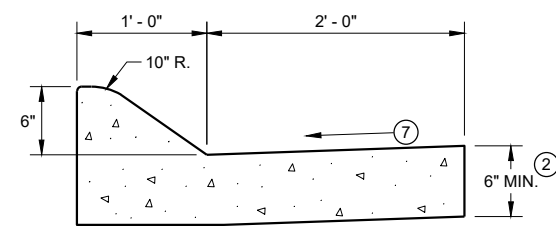
TYPES K<sup>1</sup> & L

CONCRETE CURB AND GUTTER 30"

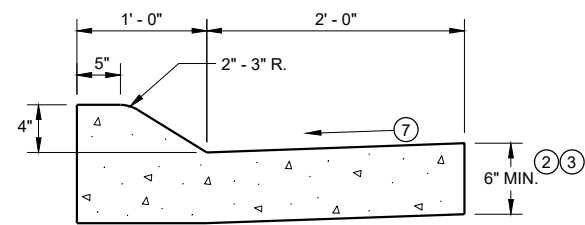


TYPES A<sup>1</sup> & D

CONCRETE CURB AND GUTTER 18"

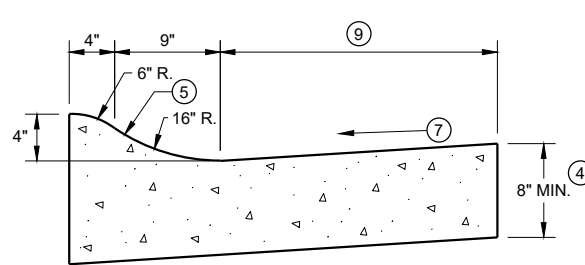


6" SLOPED CURB TYPES A<sup>1</sup> & D



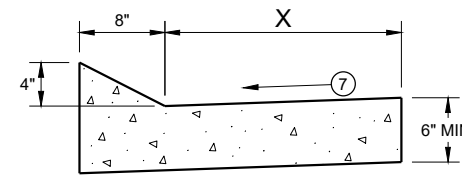
4" SLOPED CURB TYPES A<sup>1</sup> & D

CONCRETE CURB AND GUTTER 36"



4" SLOPED CURB TYPES R<sup>1</sup> & T

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

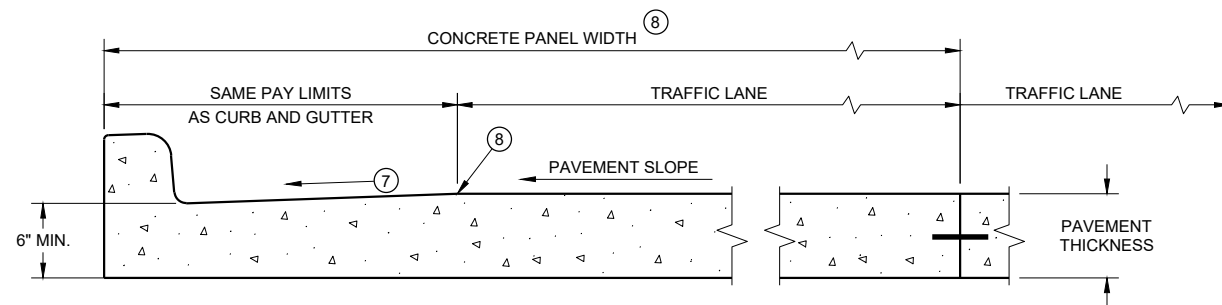


TYPES TBT & TBTT<sup>1</sup>

CONCRETE CURB AND GUTTER

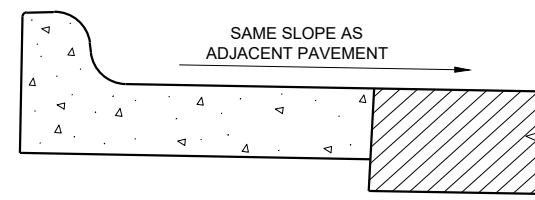
PAVEMENT THICKNESS AND MAXIMUM CONCRETE PANEL WIDTH TABLE

PAVEMENT THICKNESS	MAXIMUM PANEL WIDTH
LESS THAN 10"	12'
10" & ABOVE	15'



PARTIAL SECTION OF PAVEMENT \*  
WITH INTEGRAL CURB AND GUTTER

\* BIKE LANE IS NOT SHOWN



REVERSE SLOPE GUTTER<sup>6</sup>  
(TYPICAL FOR ALL CURB & GUTTER TYPES)

GENERAL NOTES

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

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

INTEGRAL CURB AND GUTTER SHALL CONFORM TO THE DETAILS SHOWN FOR CONCRETE CURB AND GUTTER INCLUDING THE TRANSVERSE GUTTER SLOPE.

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

- ① TIE BARS ARE REQUIRED FOR CURB AND GUTTERS TYPES A, G, K, R, AND TBTT.
- ② THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.
- ③ USE 8" MINIMUM GUTTER THICKNESS WHEN USED WITH AN ADJACENT CONCRETE TRUCK APRON PLACED BEHIND BACK OF CURB.
- ④ THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 8" MINIMUM GUTTER THICKNESS IS MAINTAINED.
- ⑤ UNLESS OTHERWISE NOTED, FOR STAKING PURPOSES THE FACE OF CURB IS 6" FROM THE BACK OF CURB.
- ⑥ WHEN REVERSE SLOPE GUTTER IS REQUIRED, THE LOCATION(S) WILL BE SHOWN ELSEWHERE IN THE PLAN.
- ⑦ USE 4% GUTTER CROSS SLOPE UNLESS OTHERWISE NOTED IN THE PLANS.
- ⑧ INCLUDE LONGITUDINAL JOINT AND TIE BARS ALONG LANE EDGE WHEN CONCRETE PANEL WIDTH EXCEEDS THE MAXIMUM WIDTH PER TABLE BELOW. LONGITUDINAL JOINT(S) ARE NOT ALLOWED WITHIN TRAFFIC LANES AND BIKE LANES. LONGITUDINAL JOINT MAY BE SAWED.
- ⑨ CONCRETE CURB AND GUTTER 4-INCH SLOPED 30-INCH TYPE "R" AND "T" = 17 INCHES  
CONCRETE CURB AND GUTTER 4-INCH SLOPED 36-INCH TYPE "R" AND "T" = 23 INCHES

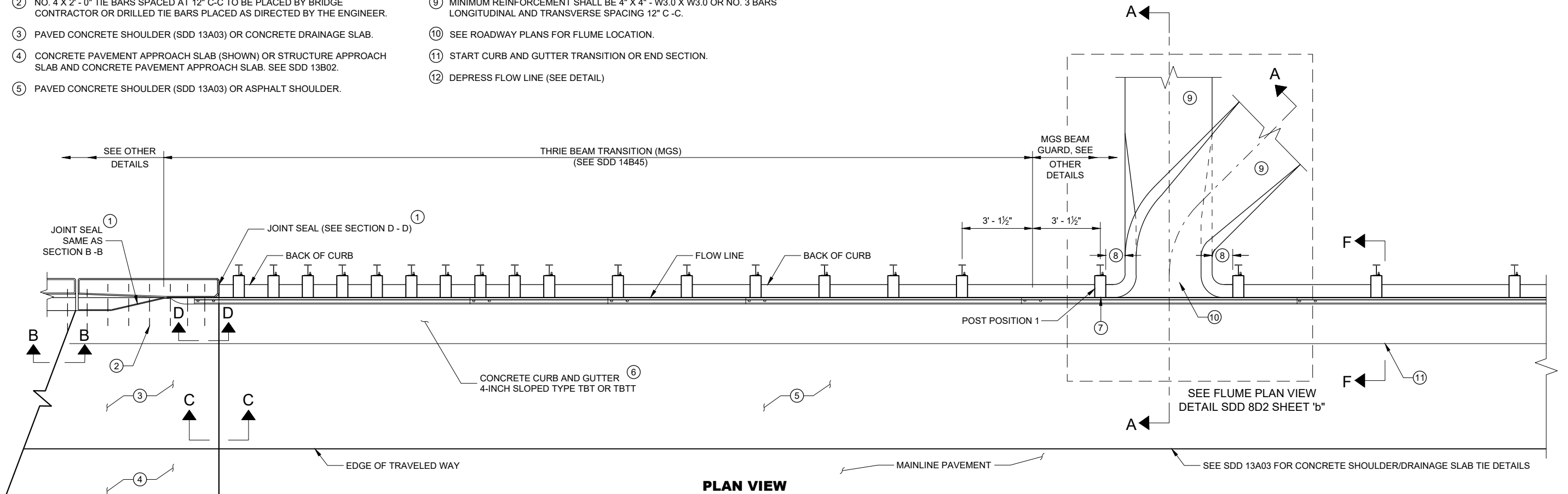
**GENERAL NOTES**

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

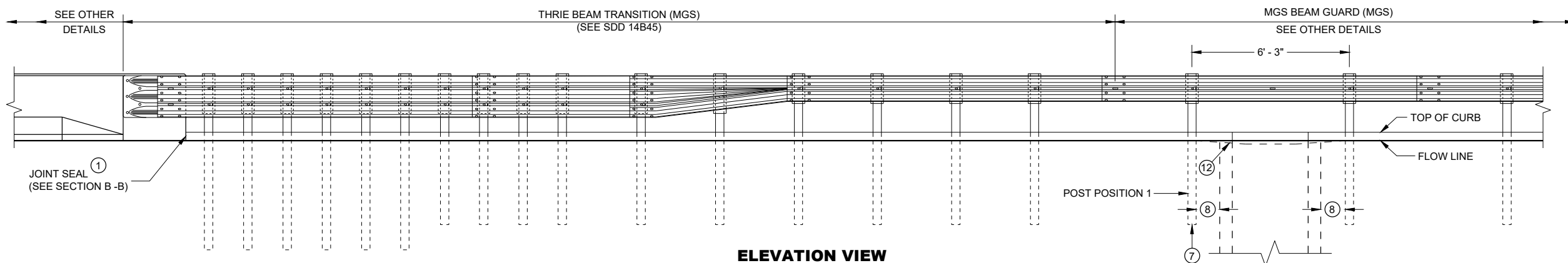
ALL STEEL REINFORCEMENT SHALL BE EMBEDDED 2 INCHES CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

- ① USE A JOINT SEALANT CONFORMING TO STANDARD SPECIFICATION 415.2.6.
- ② NO. 4 X 2' - 0" TIE BARS SPACED AT 12" C-C TO BE PLACED BY BRIDGE CONTRACTOR OR DRILLED TIE BARS PLACED AS DIRECTED BY THE ENGINEER.
- ③ PAVED CONCRETE SHOULDER (SDD 13A03) OR CONCRETE DRAINAGE SLAB.
- ④ CONCRETE PAVEMENT APPROACH SLAB (SHOWN) OR STRUCTURE APPROACH SLAB AND CONCRETE PAVEMENT APPROACH SLAB. SEE SDD 13B02.
- ⑤ PAVED CONCRETE SHOULDER (SDD 13A03) OR ASPHALT SHOULDER.

- ⑥ CONCRETE CURB AND GUTTER 4-INCH SLOPED 36-INCH TYPE TBT OR TBTT. USE TYPE TBTT CURB WITH NO. 4 X 2' - 0" TIE BARS SPACED AT 3' - 0" C-C ONLY WHEN ADJACENT TO CONCRETE PAVEMENTS.
- ⑦ PLACE FLUME BEFORE MSG THRIE BEAM TRANSITION POST 1 (SEE SDD 14B45)
- ⑧ CENTER FLUME BETWEEN POSTS. 6-INCH MINIMUM SEPARATION FROM OUTSIDE EDGE OF FLUME TO POSTS.
- ⑨ MINIMUM REINFORCEMENT SHALL BE 4" X 4" - W3.0 X W3.0 OR NO. 3 BARS LONGITUDINAL AND TRANSVERSE SPACING 12" C-C.
- ⑩ SEE ROADWAY PLANS FOR FLUME LOCATION.
- ⑪ START CURB AND GUTTER TRANSITION OR END SECTION.
- ⑫ DEPRESS FLOW LINE (SEE DETAIL)



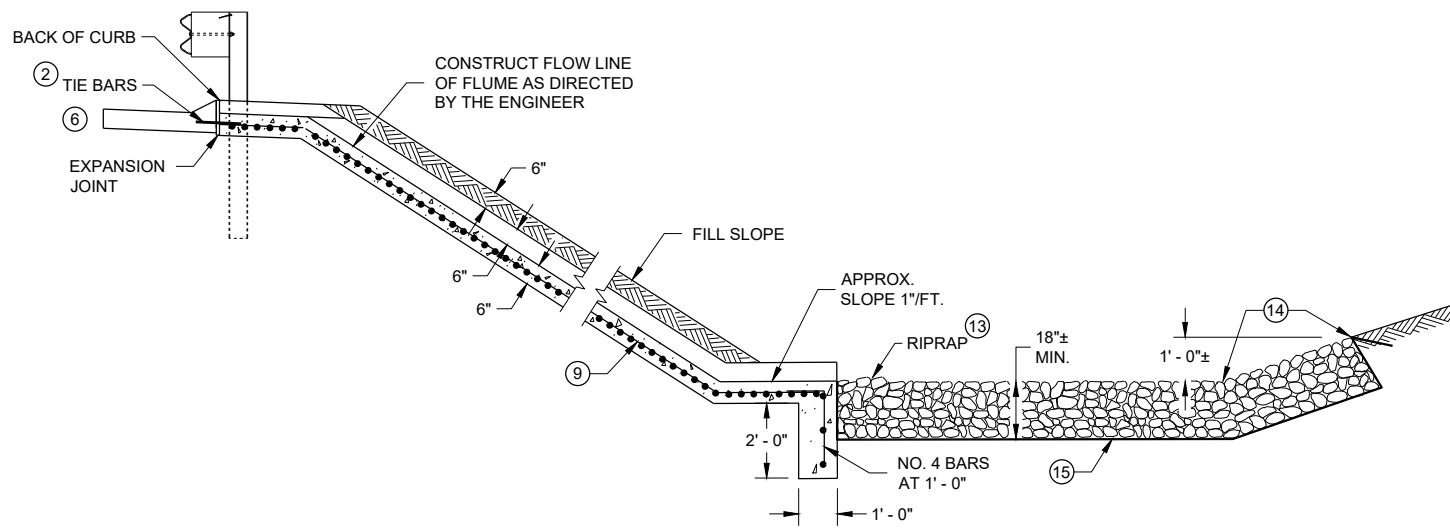
**PLAN VIEW**



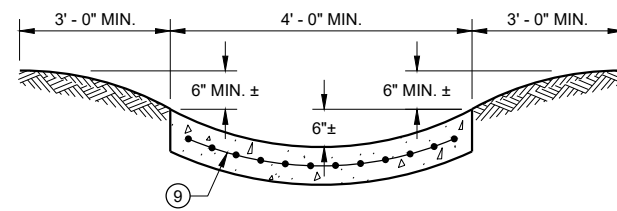
**ELEVATION VIEW**

**CONCRETE SURFACE  
DRAINS FLUME TYPE  
AT STRUCTURES**

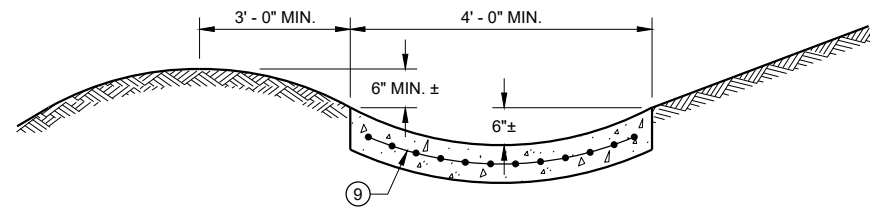
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



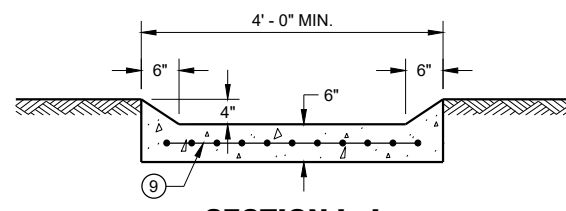
**SECTION A - A**



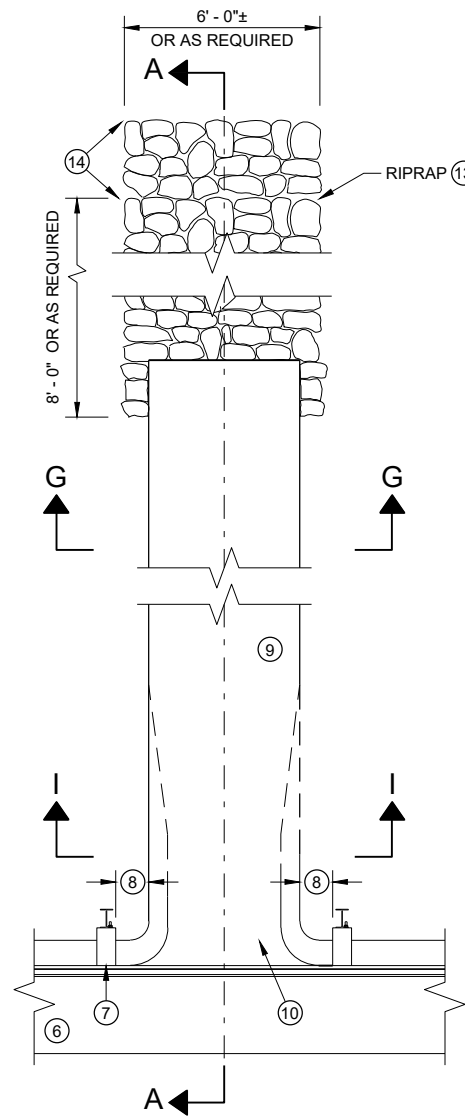
**SECTION G - G**



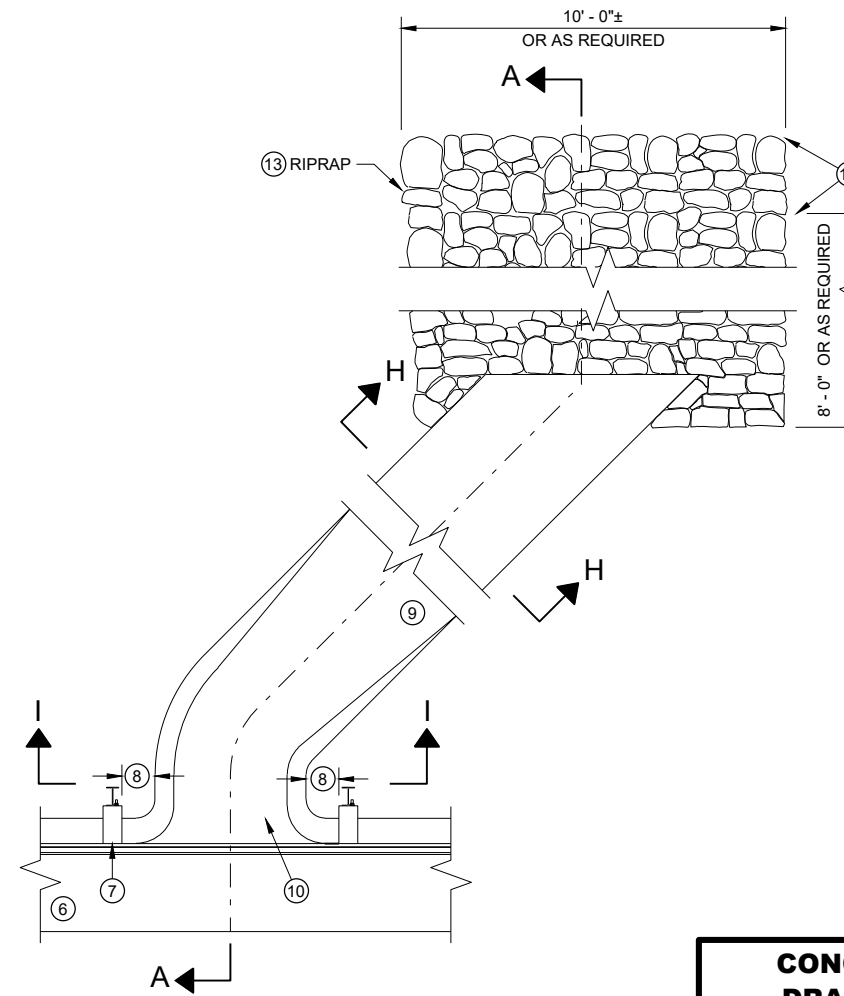
**SECTION H - H**



**SECTION I - I**



**PLAN VIEW PERPENDICULAR FLUME**



**PLAN VIEW SKEWED FLUME**

**GENERAL NOTES**

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

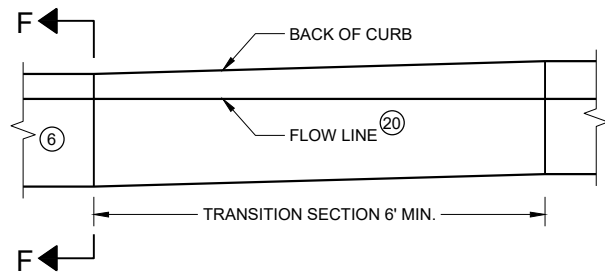
ALL STEEL REINFORCEMENT SHALL BE EMBEDDED 2 INCHES CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

- ① USE A JOINT SEALANT CONFORMING TO STANDARD SPECIFICATION 415.2.6.
- ② NO. 4 X 2'-0" TIE BARS SPACED AT 12" C-C TO BE PLACED BY BRIDGE CONTRACTOR OR DRILLED TIE BARS PLACED AS DIRECTED BY THE ENGINEER.
- ③ PAVED CONCRETE SHOULDER (SDD 13A03) OR CONCRETE DRAINAGE SLAB.
- ④ CONCRETE PAVEMENT APPROACH SLAB (SHOWN) OR STRUCTURE APPROACH SLAB AND CONCRETE PAVEMENT APPROACH SLAB. SEE SDD 13B02 AND STRUCTURE PLANS.
- ⑤ PAVED CONCRETE SHOULDER (SDD 13A03) OR ASPHALT SHOULDER.
- ⑥ CONCRETE CURB AND GUTTER 4-INCH SLOPED 36-INCH TYPE TBT OR TBTT. USE TYPE TBTT CURB WITH NO. 4 X 2'-0" TIE BARS SPACED AT 3'-0" C-C ONLY WHEN ADJACENT TO CONCRETE PAVEMENTS.

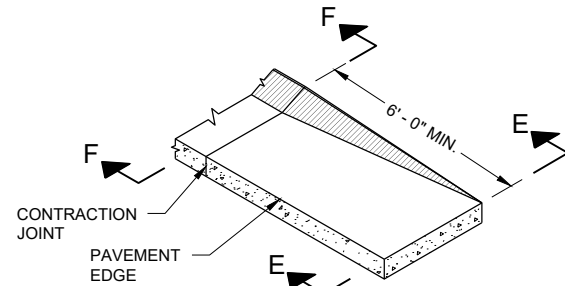
- ⑦ PLACE FLUME BEFORE MSG THRIE BEAM TRANSITION POST 1 (SEE SDD 14B45)
- ⑧ CENTER FLUME BETWEEN POSTS. 6-INCH MINIMUM SEPARATION FROM OUTSIDE EDGE OF FLUME TO POSTS.
- ⑨ MINIMUM REINFORCEMENT SHALL BE 4" X 4" - W3.0 X W3.0 OR NO. 3 BARS LONGITUDINAL AND TRANSVERSE SPACING 12" C -C.
- ⑩ SEE ROADWAY PLANS FOR FLUME LOCATION.
- ⑪ START CURB AND GUTTER TRANSITION OR END SECTION.
- ⑫ DEPRESS FLOW LINE (SEE DETAIL)
- ⑬ MEDIUM RIPRAP UNLESS OTHERWISE SPECIFIED.
- ⑭ LIMITS OF ADDITIONAL RIPRAP WHEN SPECIAL DITCH AS REQUIRED.
- ⑮ GEOTEXTILE FABRIC TYPE HR.

**CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES**

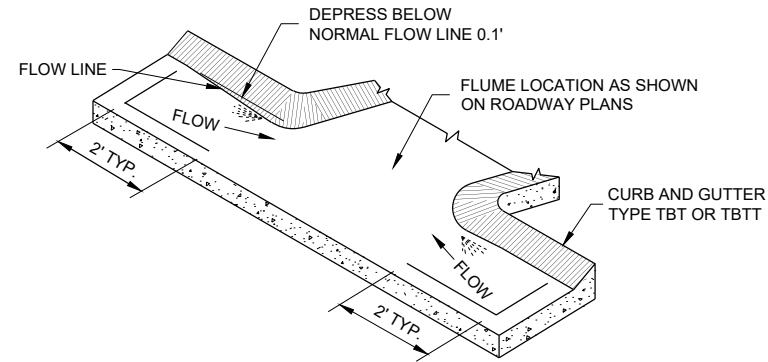
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



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



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



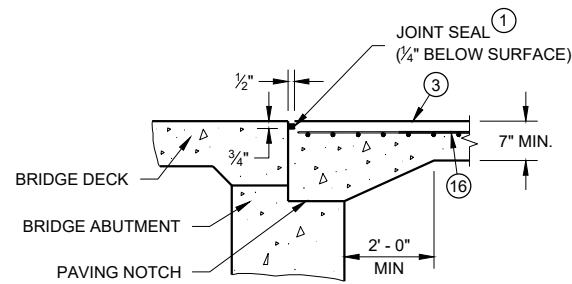
**CURB AND GUTTER FLOW LINE DEPRESSION  
AT FLUMES CONCRETE CURB AND GUTTER  
4-INCH SLOPED 36 INCH TYPE TBT OR TBTT**

**GENERAL NOTES**

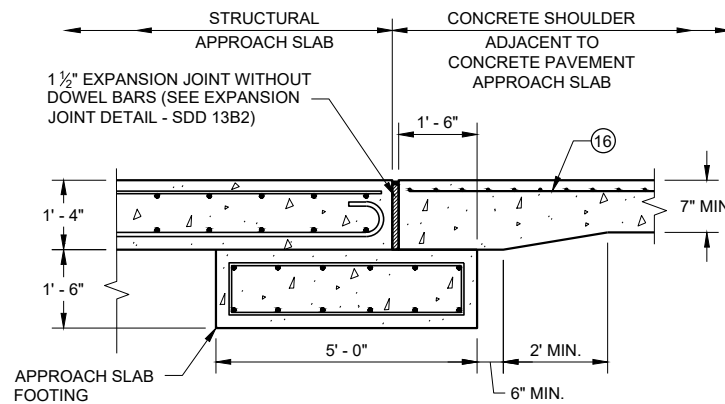
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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

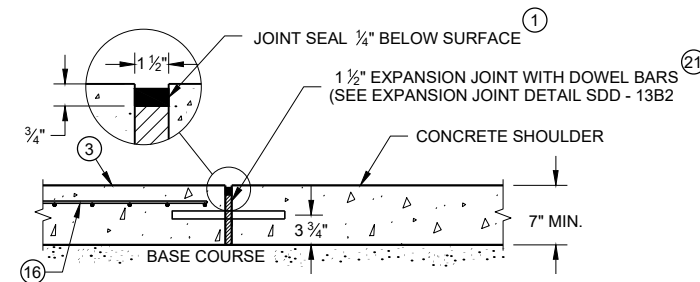
- ① USE A JOINT SEALANT CONFORMING TO STANDARD SPECIFICATION 415.2.6.
- ② NO. 4 X 2' - 0" TIE BARS SPACED AT 12" C-C TO BE PLACED BY BRIDGE CONTRACTOR OR DRILLED TIE BARS PLACED AS DIRECTED BY THE ENGINEER.
- ③ PAVED CONCRETE SHOULDER (SDD 13A03) OR CONCRETE DRAINAGE SLAB.
- ④ CONCRETE PAVEMENT APPROACH SLAB (SHOWN) OR STRUCTURE APPROACH SLAB AND CONCRETE PAVEMENT APPROACH SLAB. SEE SDD 13B02 AND STRUCTURE PLANS.
- ⑤ PAVED CONCRETE SHOULDER (SDD 13A03) OR ASPHALT SHOULDER.
- ⑥ CONCRETE CURB AND GUTTER 4-INCH SLOPED 36-INCH TYPE TBT OR TBTT. USE TYPE TBTT CURB WITH NO. 4 X 2' - 0" TIE BARS SPACED AT 3' - 0" C-C ONLY WHEN ADJACENT TO CONCRETE PAVEMENTS.
- ⑦ PLACE FLUME BEFORE MSG THRIE BEAM TRANSITION POST 1 (SEE SDD 14B45)
- ⑧ CENTER FLUME BETWEEN POSTS. 6-INCH MINIMUM SEPARATION FROM OUTSIDE EDGE OF FLUME TO POSTS.
- ⑨ MINIMUM REINFORCEMENT SHALL BE 4" X 4" - W3.0 X W3.0 OR NO. 3 BARS LONGITUDINAL AND TRANSVERSE SPACING 12" C-C.
- ⑩ SEE ROADWAY PLANS FOR FLUME LOCATION.
- ⑪ START CURB AND GUTTER TRANSITION OR END SECTION.
- ⑫ DEPRESS FLOW LINE (SEE DETAIL)
- ⑬ MEDIUM RIPRAP UNLESS OTHERWISE SPECIFIED.
- ⑭ LIMITS OF ADDITIONAL RIPRAP WHEN SPECIAL DITCH IS REQUIRED.
- ⑮ GEOTEXTILE FABRIC TYPE HR.
- ⑯ MINIMUM REINFORCEMENT SHALL BE 6" X 6" - W4.0 X W4.0 OR NO. 3 BARS LONGITUDINAL AND TRANSVERSE SPACING 12" C-C.
- ⑰ MSG THRIE BEAM TRANSITION POST 1. SEE SDD 14B45 FOR ADDITIONAL CONSTRUCTION DETAILS AND ACCEPTABLE MATERIALS.
- ⑱ MAINTAIN WIDTH, THICKNESS AND CROSS SLOPE OF ADJACENT TYPE TBT OR TBTT CURB. SEE NOTE 6 FOR TIE BAR SPACING.
- ⑲ ALIGN FACE OF POST BLOCK WITH FLOW LINE.
- ⑳ MAINTAIN FLOW LINE AT EDGE OF PAVEMENT/FACE OF BEAM GUARD AS APPLICABLE.
- ㉑ DO NOT CONSTRUCT AN EXPANSION JOINT OR INSTALL DOWEL BARS WHEN ABUTTING HMA PAVEMENTS.



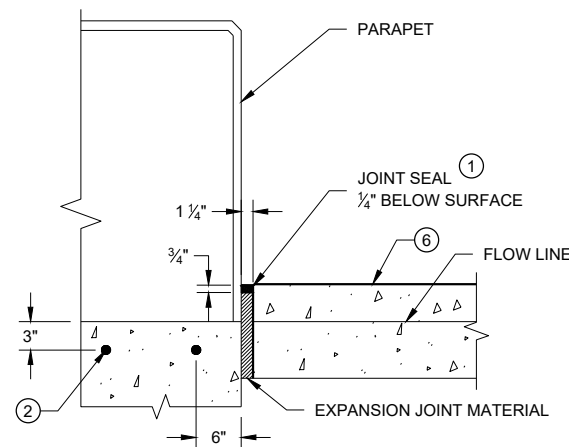
**SECTION B-B**



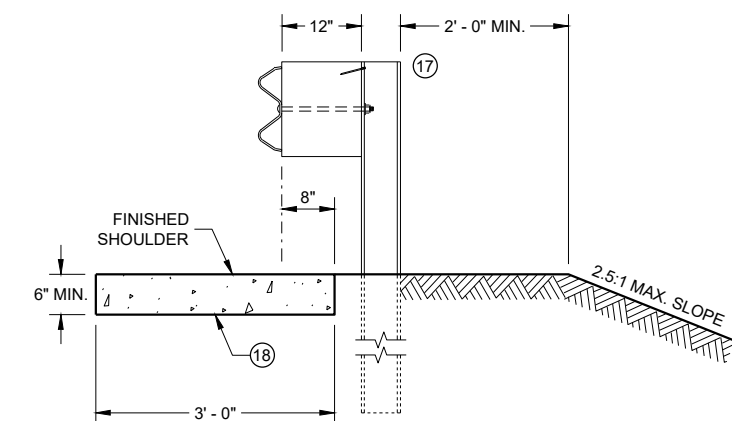
**SECTION C - C  
JOINT DETAIL FOR BRIDGE WITH STRUCTURAL  
APPROACH SLAB AND CONCRETE APPROACH SLAB**



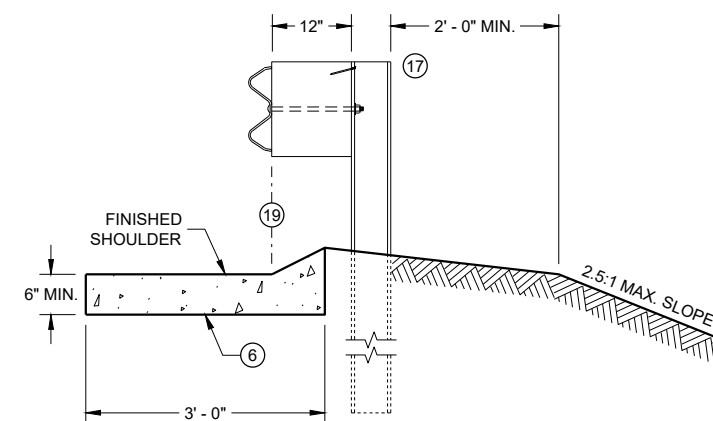
**SECTION C - C  
JOINT DETAIL FOR BRIDGE APPROACH  
WITH CONCRETE SHOULDERS**



**SECTION D - D**



**SECTION E - E**



**SECTION F - F**

6

6

SDD08D02 - 07C

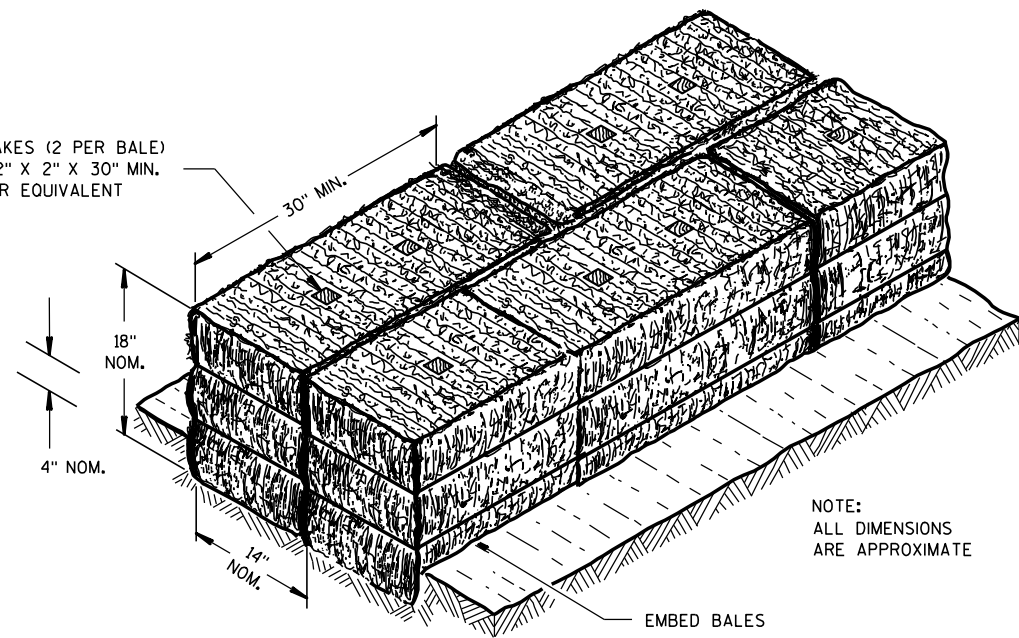
SDD08D02 - 07C

**CONCRETE SURFACE  
DRAINS FLUME TYPE  
AT STRUCTURES**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
February 2020 /S/ Rodney Taylor  
DATE ROADWAY STANDARDS DEVELOPMENT  
ENGINEER  
FHWA

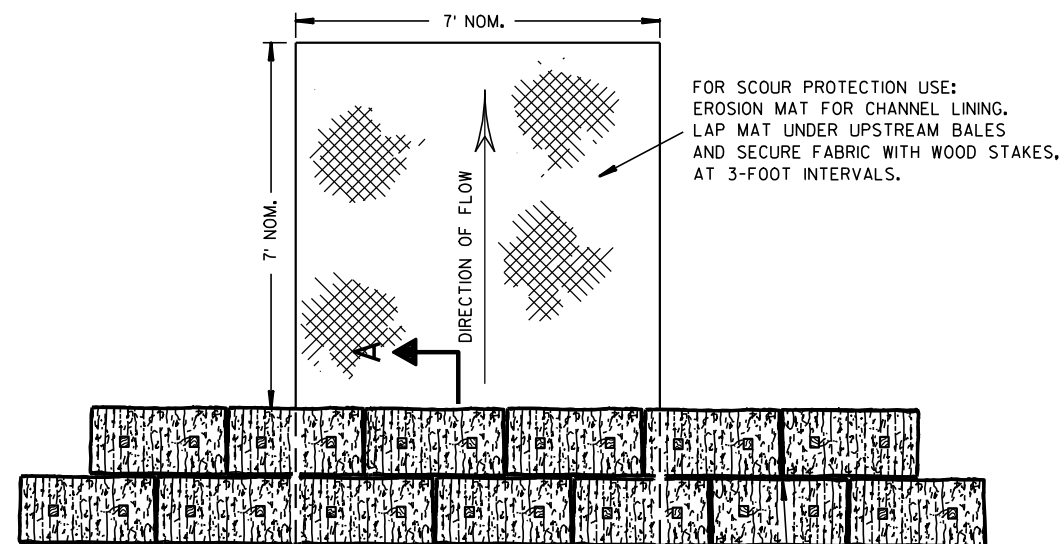
WOOD STAKES (2 PER BALE)  
NOMINAL 2" X 2" X 30" MIN.  
LENGTH OR EQUIVALENT



NOTE:  
ALL DIMENSIONS  
ARE APPROXIMATE

EMBED BALES

SECTION A-A

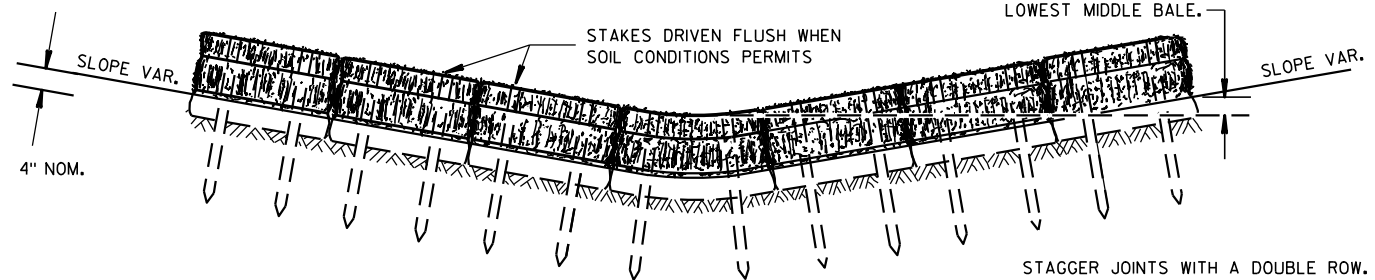


FOR SCOUR PROTECTION USE:  
EROSION MAT FOR CHANNEL LINING.  
LAP MAT UNDER UPSTREAM BALES  
AND SECURE FABRIC WITH WOOD STAKES,  
AT 3-FOOT INTERVALS.

STAGGER JOINTS BETWEEN ADJACENT  
ROWS OF BALES.

PLAN VIEW

BOTTOM ELEVATION OF END BALE SHALL  
BE EQUAL TO OR GREATER THAN TOP OF  
LOWEST MIDDLE BALE.



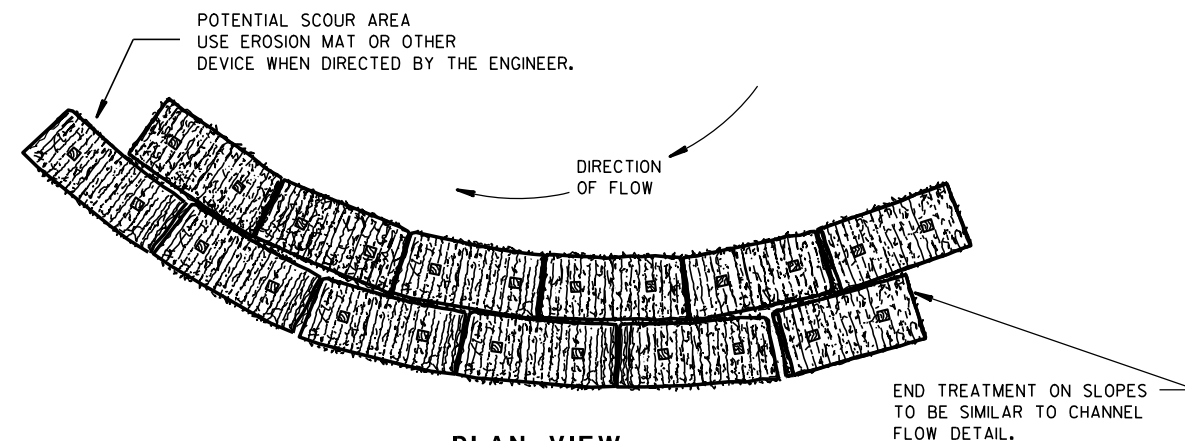
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES ①

GENERAL NOTES

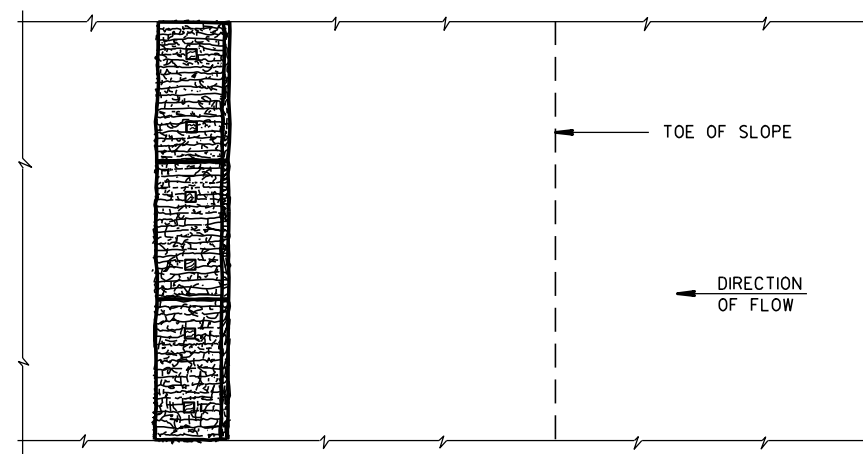
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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

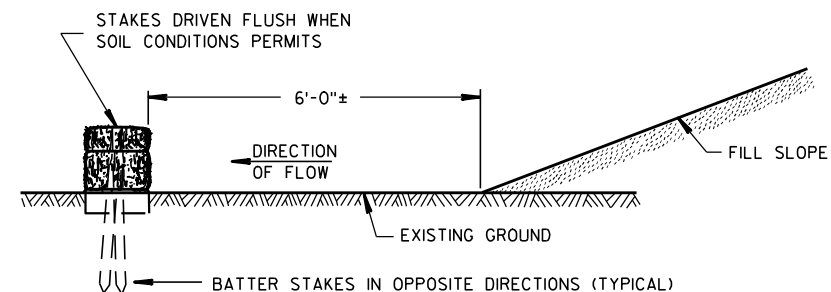


PLAN VIEW

WHEN ALTERING THE DIRECTION OF FLOW



PLAN VIEW



FRONT ELEVATION

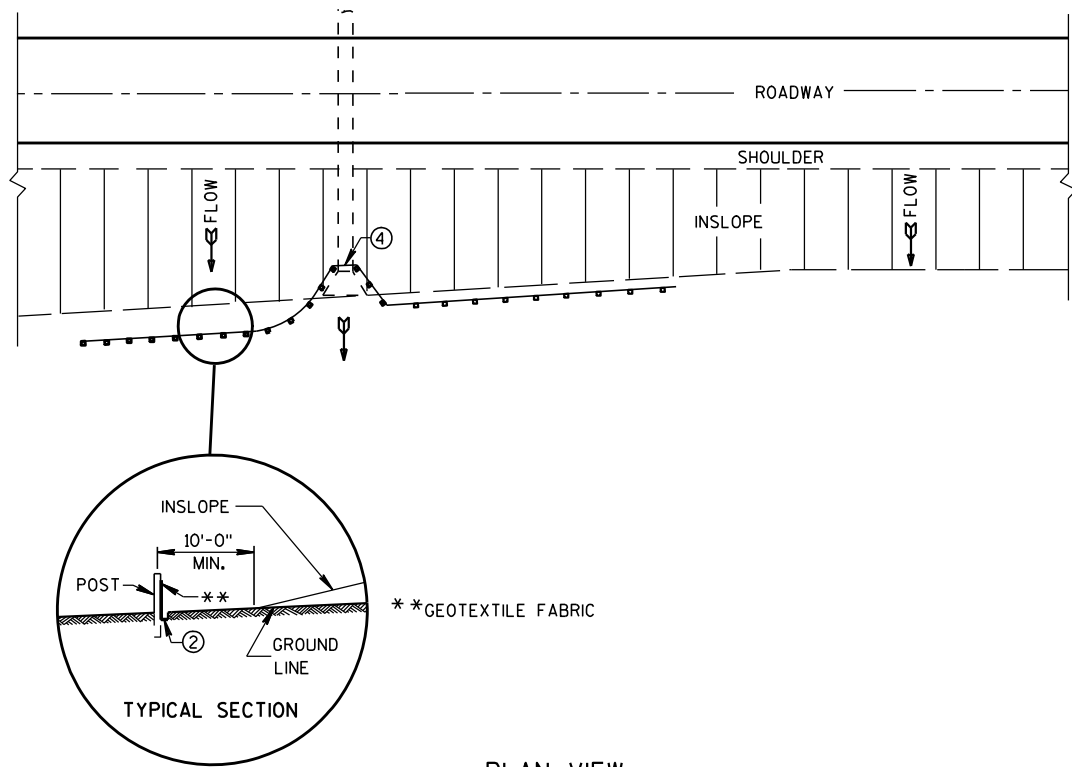
WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE

EROSION BALES FOR SHEET FLOW

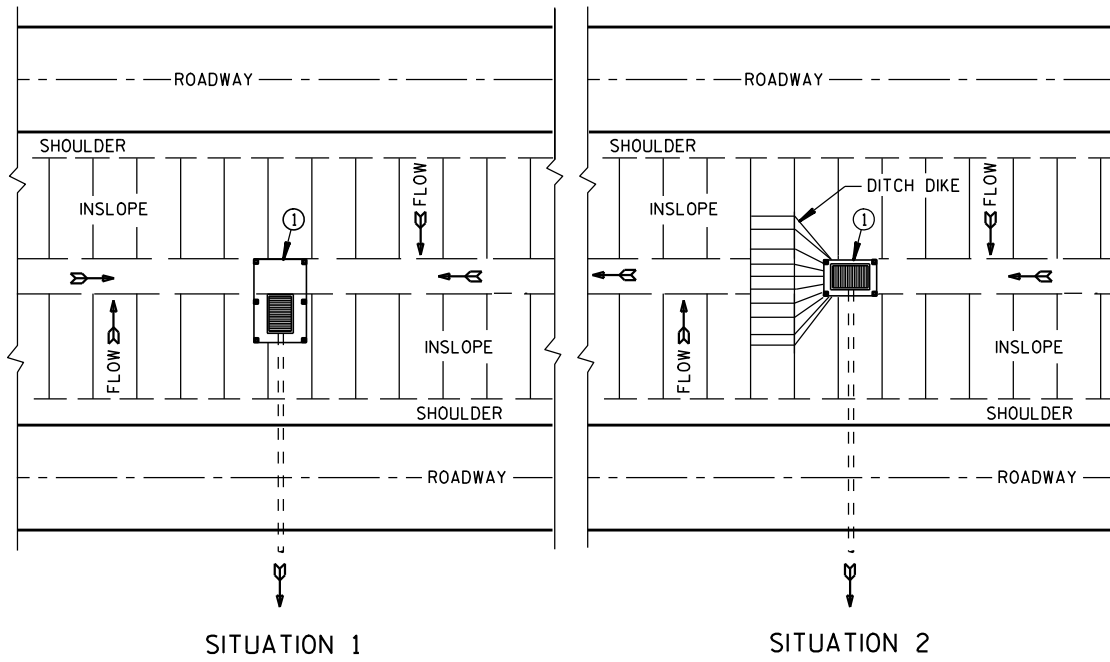
TYPICAL INSTALLATIONS OF  
EROSION BALES / TEMPORARY  
DITCH CHECKS

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

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



PLAN VIEW  
TYPICAL APPLICATION OF SILT FENCE

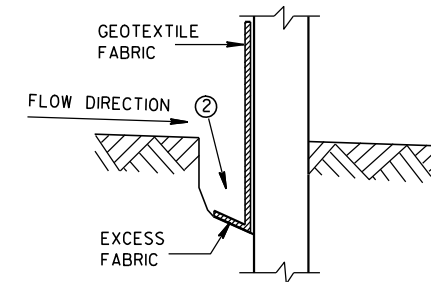


SITUATION 1 SITUATION 2  
PLAN VIEW  
SILT FENCE AT MEDIAN SURFACE DRAINS

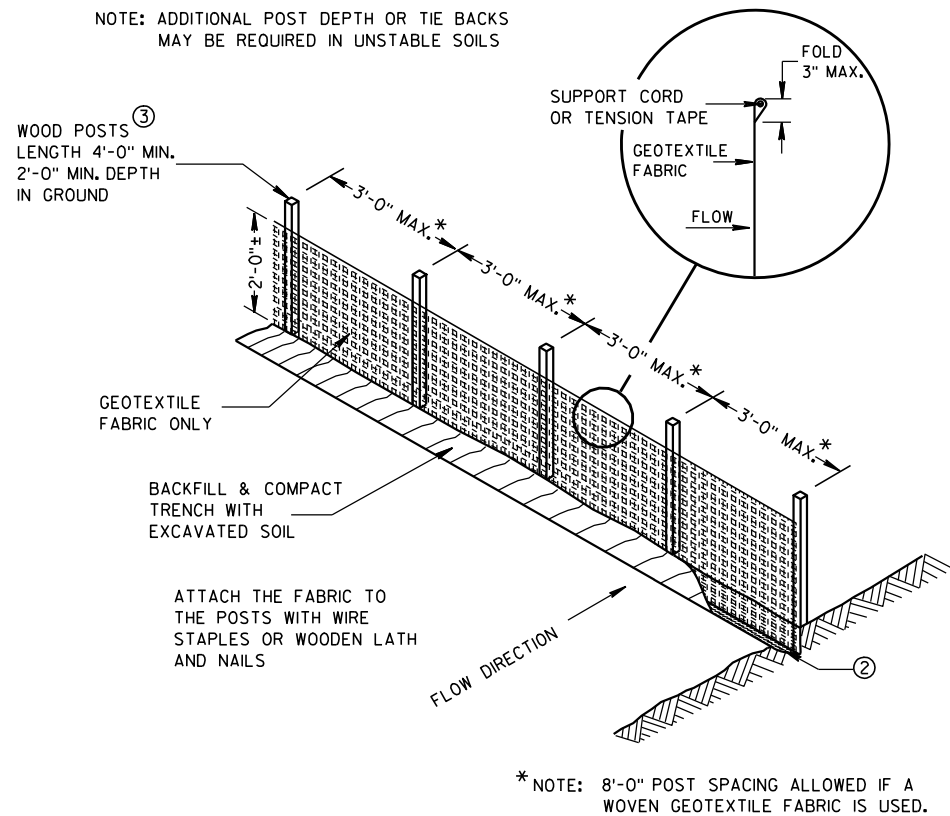
**GENERAL NOTES**

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

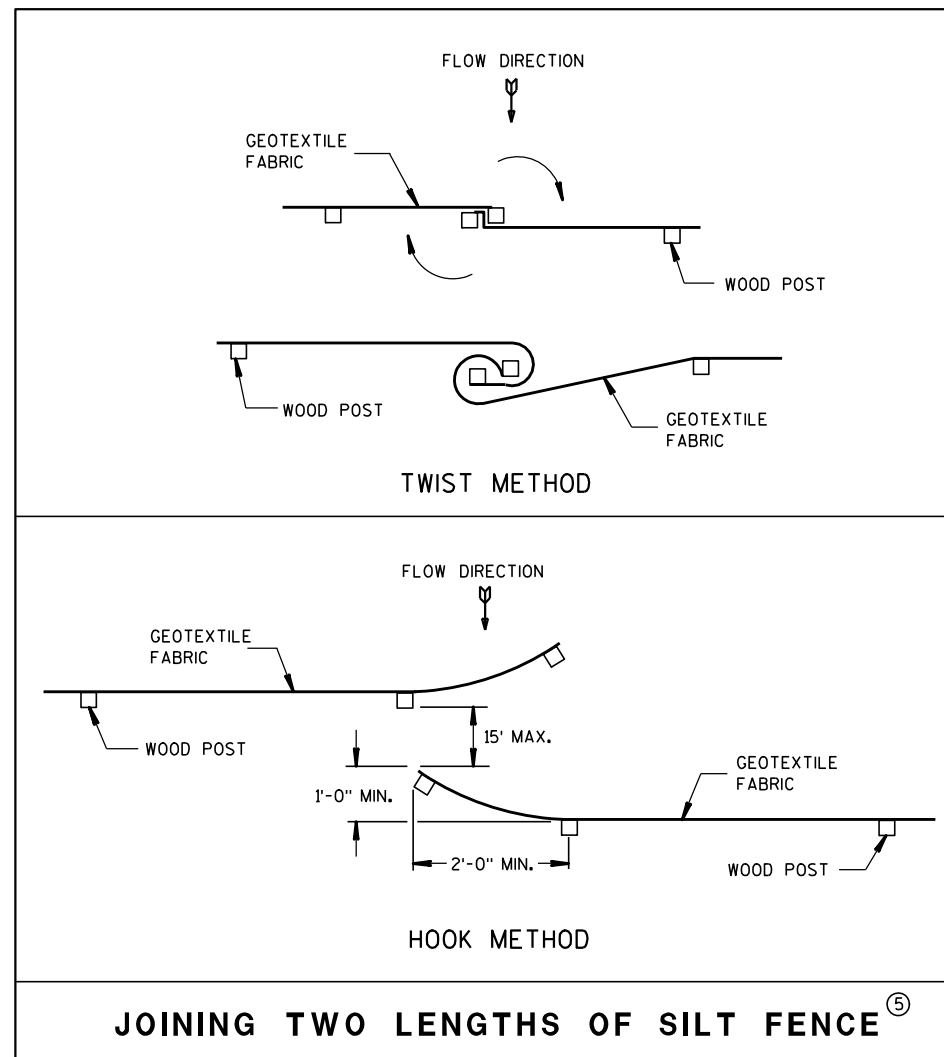
- ① HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
- ② FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
- ③ WOOD POSTS SHALL BE A MINIMUM SIZE OF 1 1/8" X 1 1/8" OF OAK OR HICKORY.
- ④ SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.
- ⑤ CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.



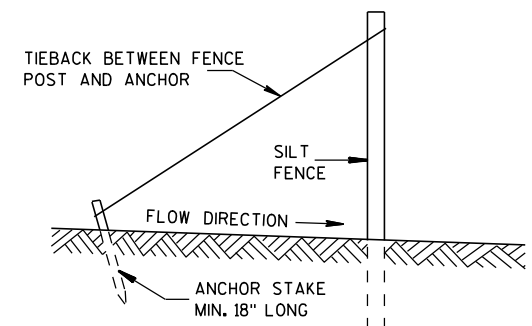
TRENCH DETAIL



SILT FENCE



JOINING TWO LENGTHS OF SILT FENCE ⑤

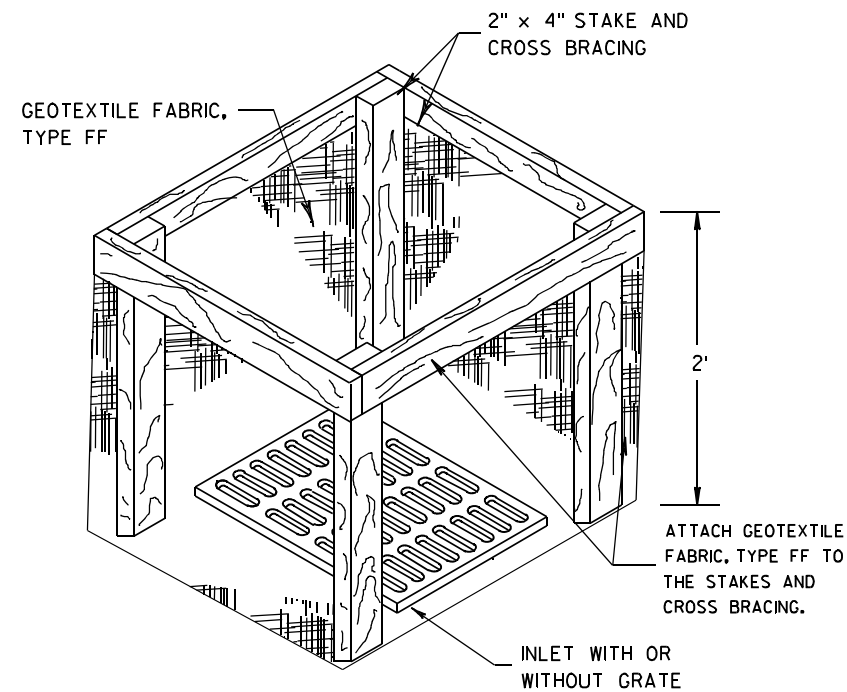
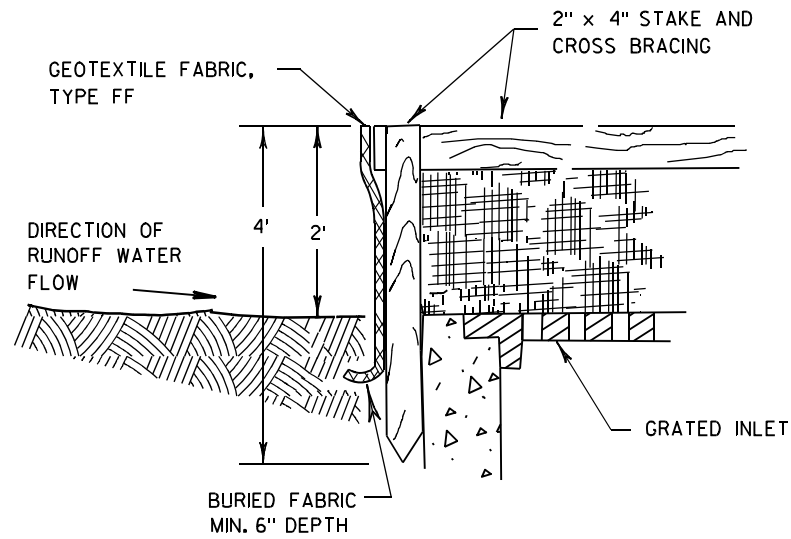


SILT FENCE TIE BACK  
(WHEN REQUIRED BY THE ENGINEER)

**SILT FENCE**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

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



**INLET PROTECTION, TYPE A**

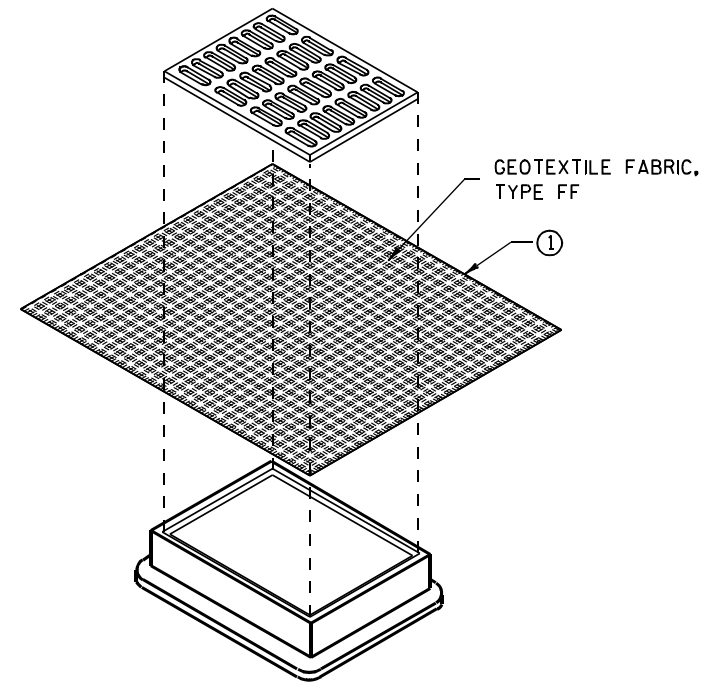
**GENERAL NOTES**

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

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

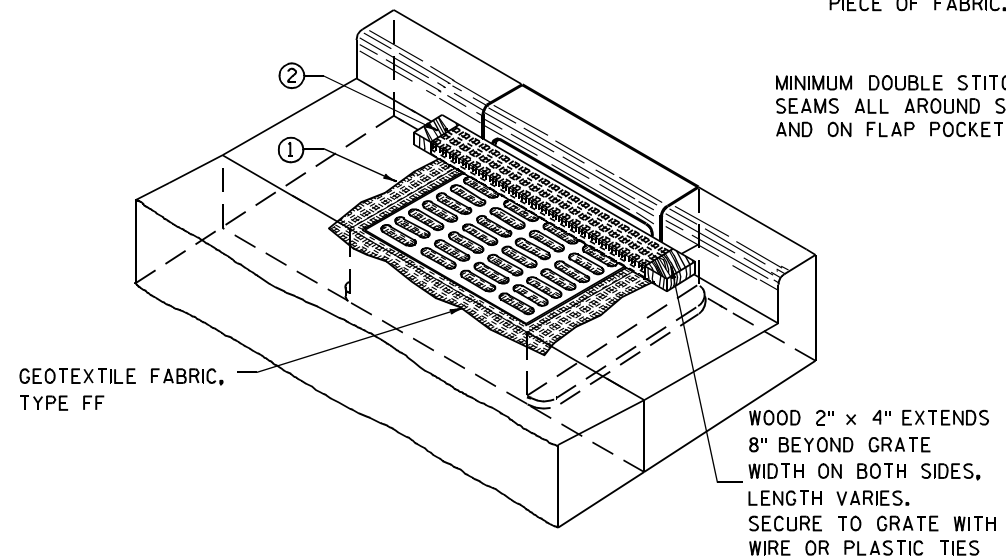
WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.

- ① FINISHED SIZE, INCLUDING FLAP POCKETS WHERE REQUIRED, SHALL EXTEND A MINIMUM OF 10" AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.
- ② FOR INLET PROTECTION, TYPE C (WITH CURB BOX), AN ADDITIONAL 18" OF FABRIC IS WRAPPED AROUND THE WOOD AND SECURED WITH STAPLES. THE WOOD SHALL NOT BLOCK THE ENTIRE HEIGHT OF THE CURB BOX OPENING.
- ③ FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2X4.



**INLET PROTECTION, TYPE B  
(WITHOUT CURB BOX)**

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



**INLET PROTECTION, TYPE C (WITH CURB BOX)**

**INSTALLATION NOTES**

**TYPE B & C**

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

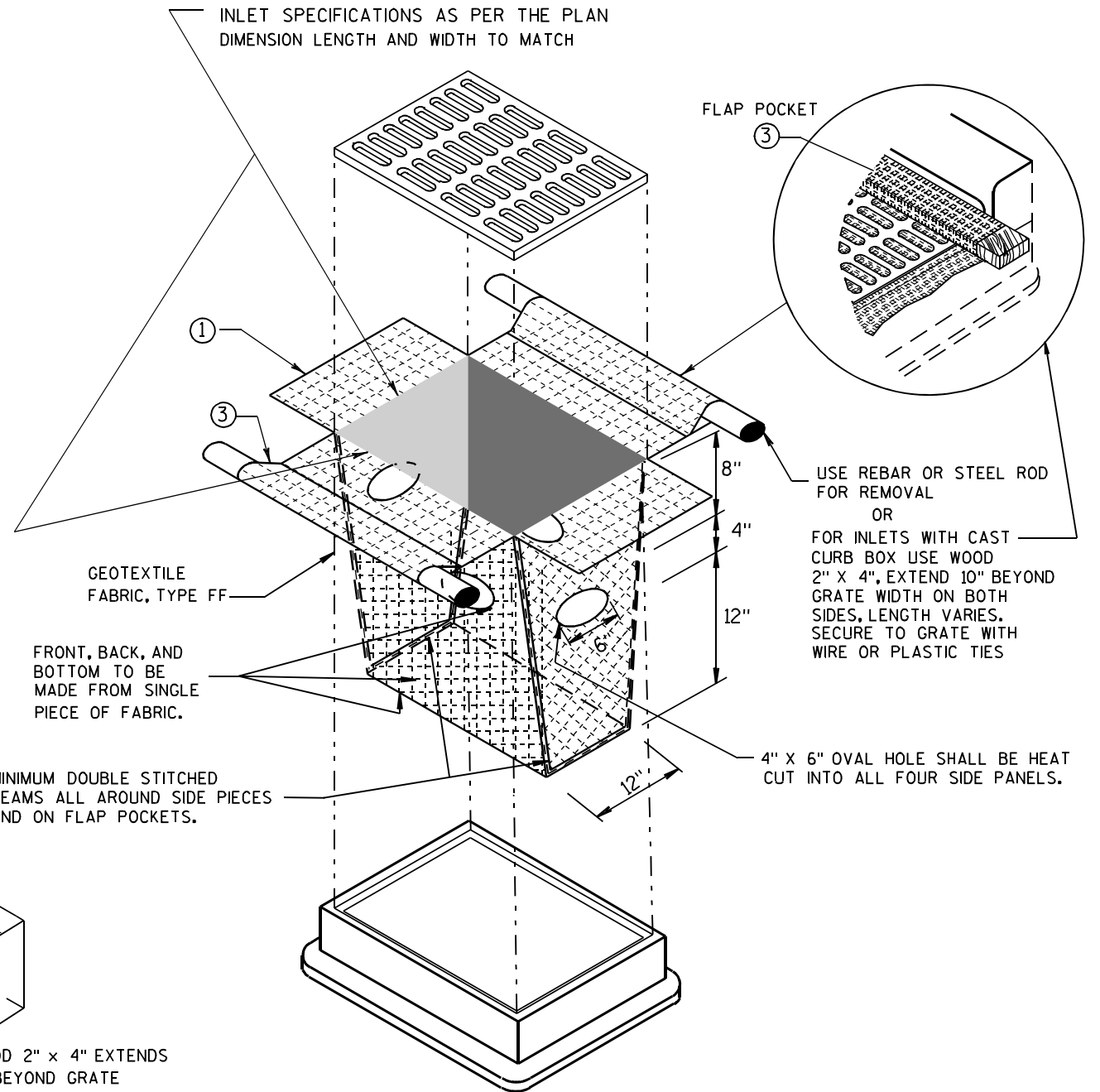
THE CONTRACTOR SHALL DEMONSTRATE A METHOD OF MAINTENANCE, USING A SEWN FLAP, HAND HOLDS OR OTHER METHOD TO PREVENT ACCUMULATED SEDIMENT FROM ENTERING THE INLET.

**TYPE D**

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

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

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

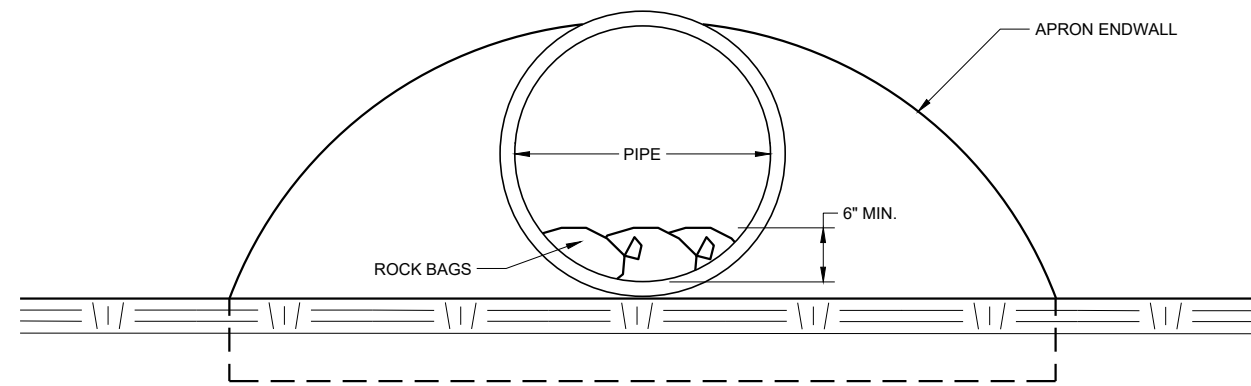


**INLET PROTECTION, TYPE D**

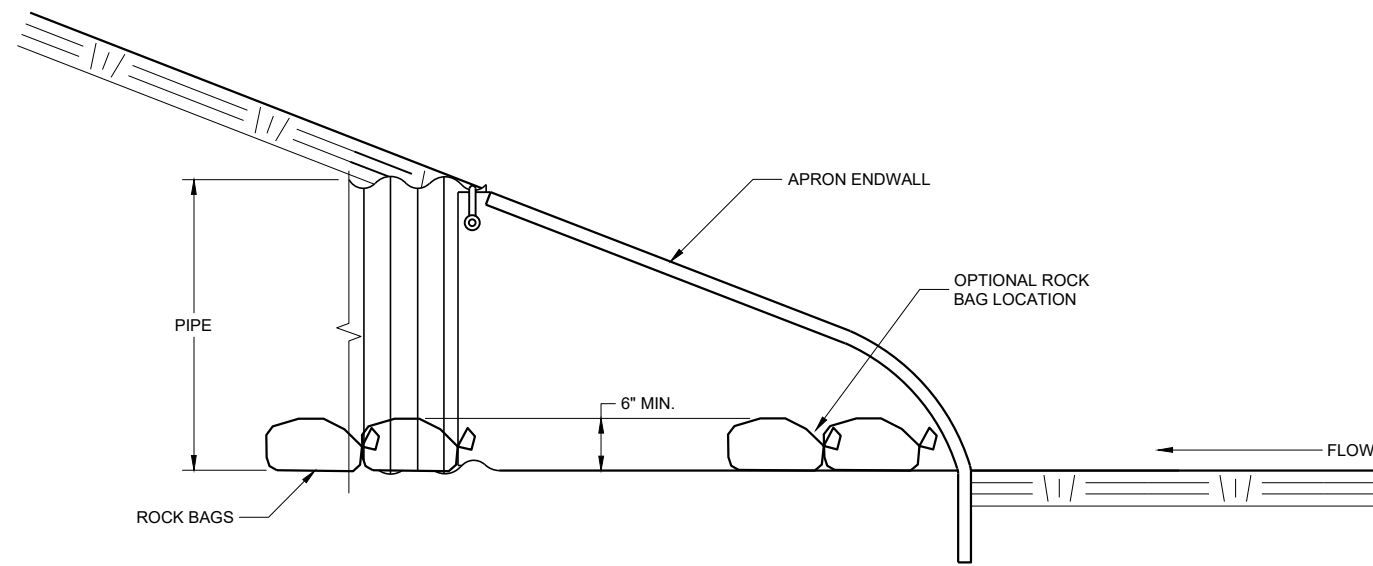
(CAN BE INSTALLED IN ANY INLET TYPE WITH OR WITHOUT A CURB BOX AS PER NOTE ②)

<b>INLET PROTECTION TYPE A, B, C, AND D</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 10/16/02 DATE	/s/ Beth Conestra CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA	





**END VIEW**



**SIDE VIEW**

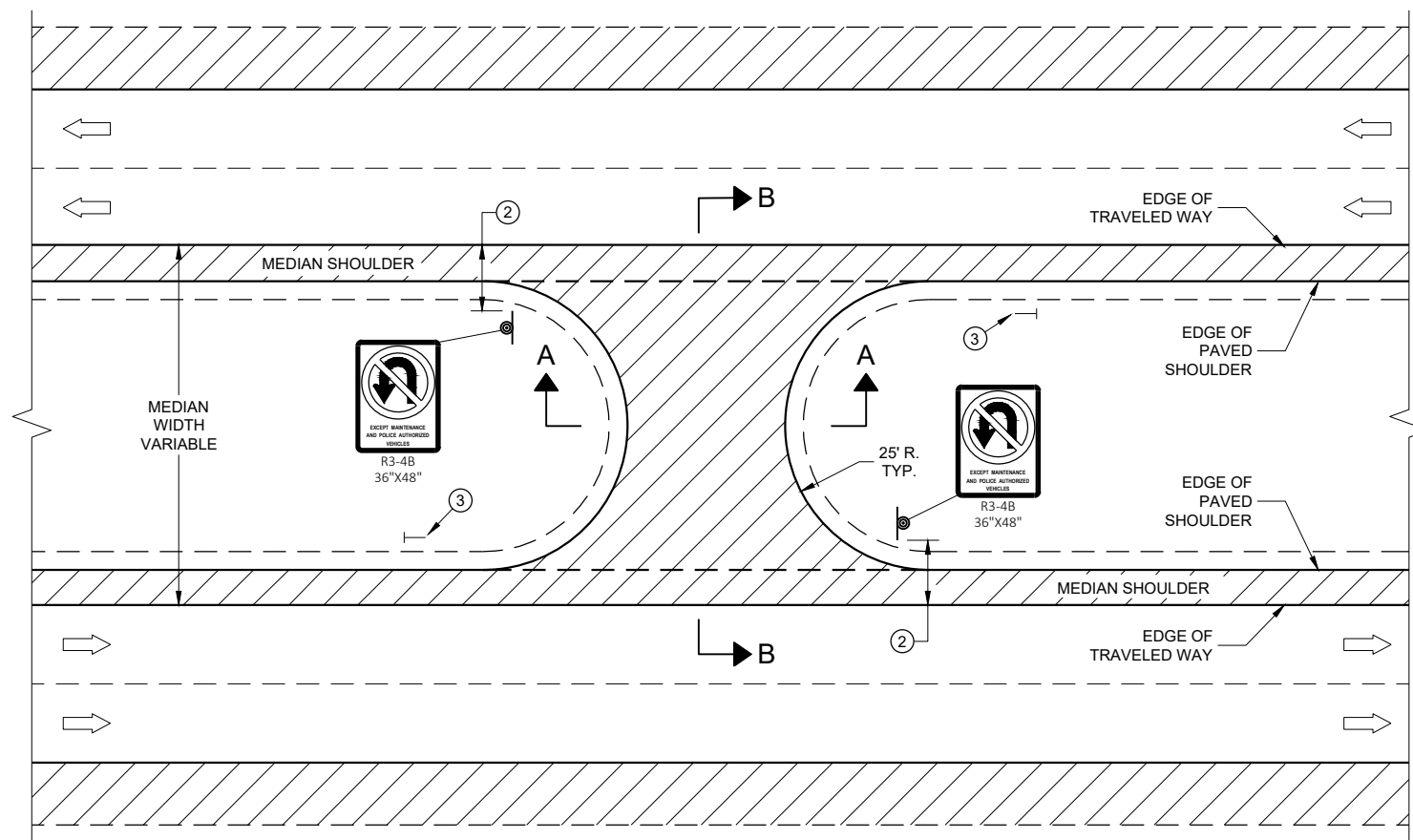
**CULVERT PIPE CHECK**  
(INSTALL ON INLET END ONLY)

**CULVERT PIPE CHECK**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
May 2019 /S/ Daniel Schave  
DATE EROSION CONTROL ENGINEER

FHWA



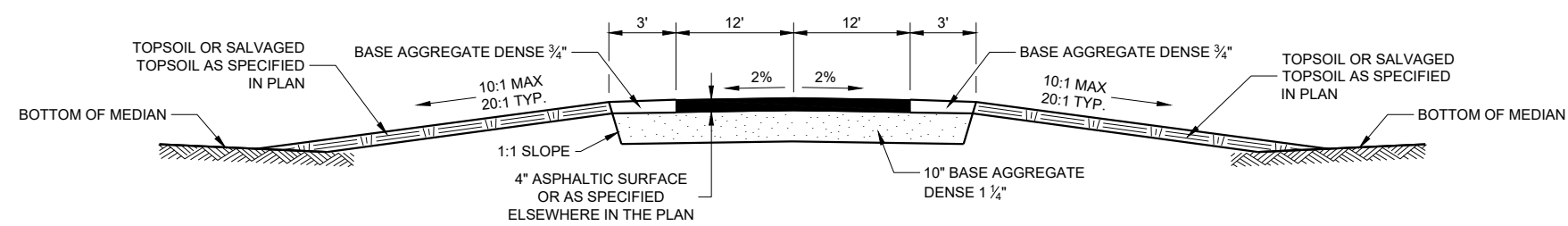
PLAN VIEW

**GENERAL NOTES**

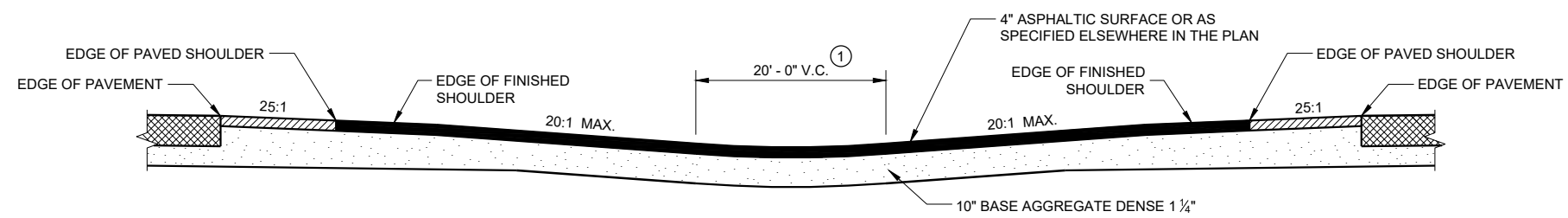
- ① ADJUST VERTICAL CURVE LOCATION LATERALLY TO MAINTAIN 20:1 MAX.
- ② SIGNING DETAILS AND SPECIFICATIONS ARE PROVIDED ELSEWHERE IN THE CONTRACT.
- ③ INSTALL DELINEATOR. SEE STANDARD DETAIL DRAWING 15A4.

**LEGEND**

- SIGN ON PERMANENT SUPPORT
- DELINEATOR
- DIRECTION OF TRAFFIC



SECTION A-A

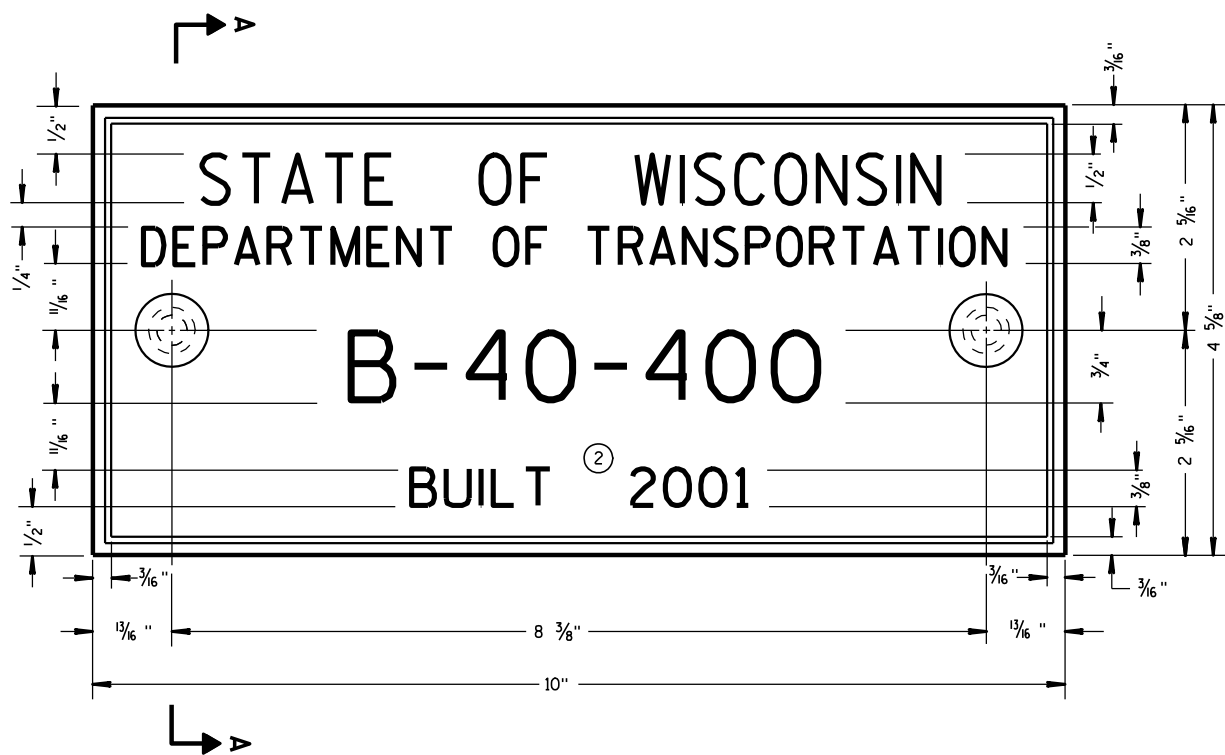


SECTION B-B

**MAINTENANCE CROSSOVER  
FOR FREEWAYS**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
November 2019 /S/ Rodney Taylor  
DATE ROADWAY STANDARDS DEVELOPMENT  
ENGINEER



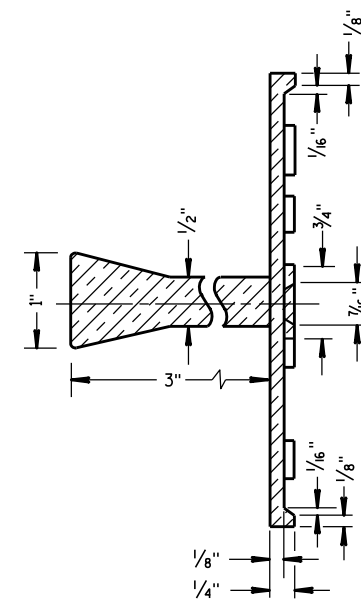
**TYPICAL NAME PLATE**  
(BRIDGES, CULVERTS, AND RETAINING WALLS)

**GENERAL NOTES**

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

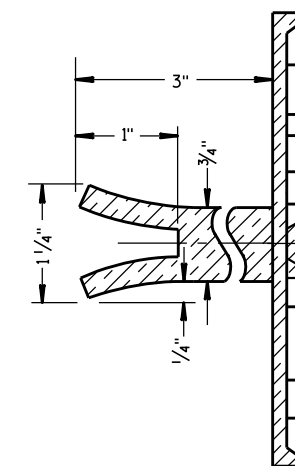
THE BRIDGE NUMBER AND YEAR BUILT SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND YEAR BUILT.

- ① EPOXY RESIN SHALL BE FROM AN APPROVED MANUFACTURER AND USED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
- ② REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.

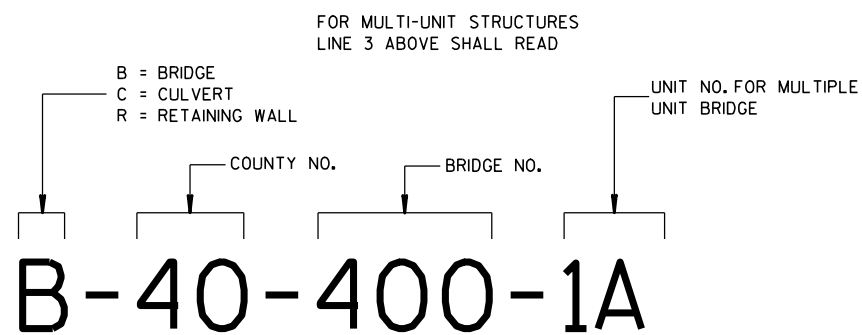


**SECTION A-A**

SPREAD OPEN SO THE TOP OF LUG IS 1 1/4" WIDE

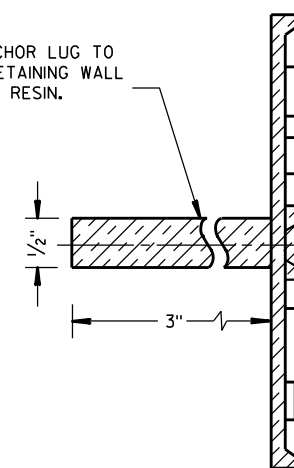


**ALTERNATE LUG**



**NUMBERING DESIGNATION  
MULTI-UNIT STRUCTURES**

- ① ADHERE ANCHOR LUG TO PRECAST RETAINING WALL WITH EPOXY RESIN.

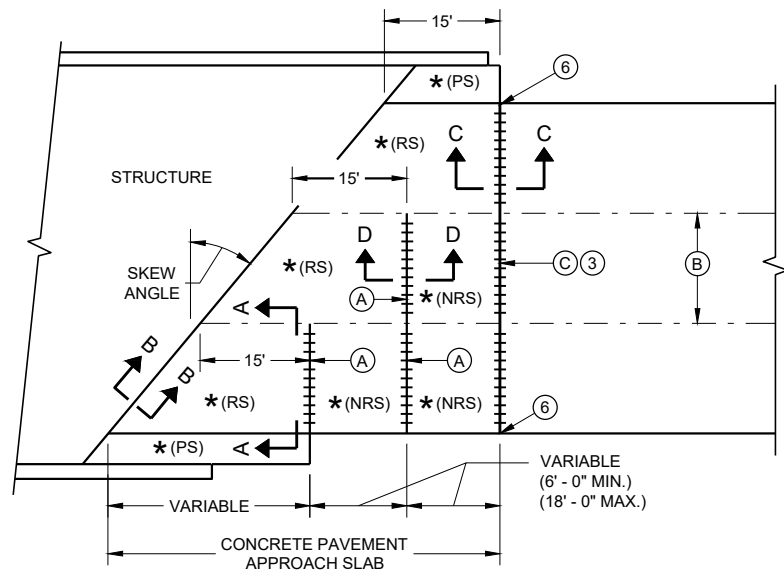


**ALTERNATE LUG**  
(FOR ATTACHMENT TO PRECAST STRUCTURES)

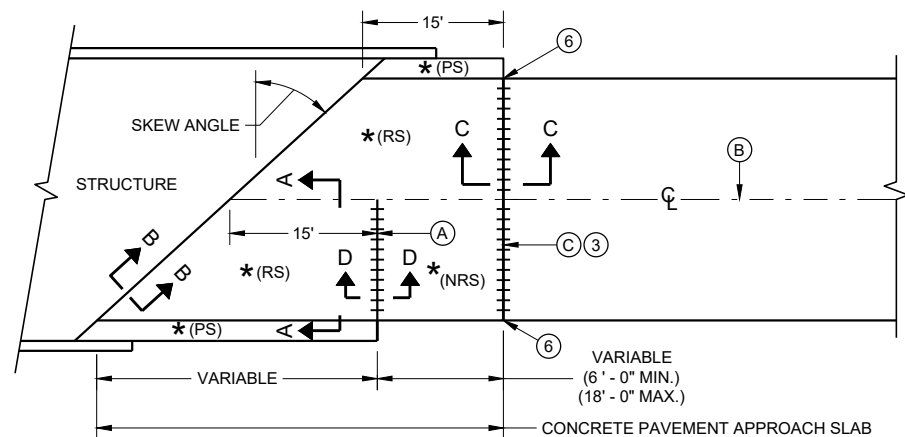
**NAME PLATE  
(STRUCTURES)**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

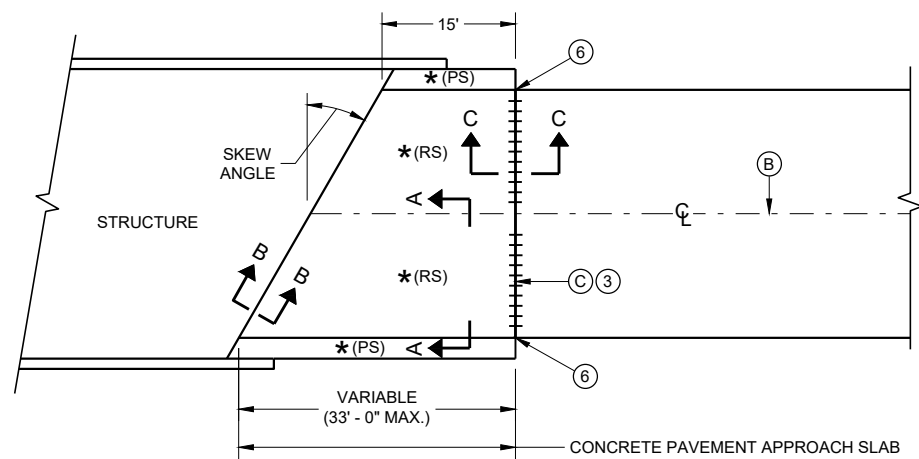
APPROVED  
DATE 3/26/10 /S/ Scot Becker  
CHIEF STRUCTURAL DEVELOPMENT ENGINEER  
FHWA



**SKewed APPROACH  
(PAVEMENT MORE THAN TWO LANES)**

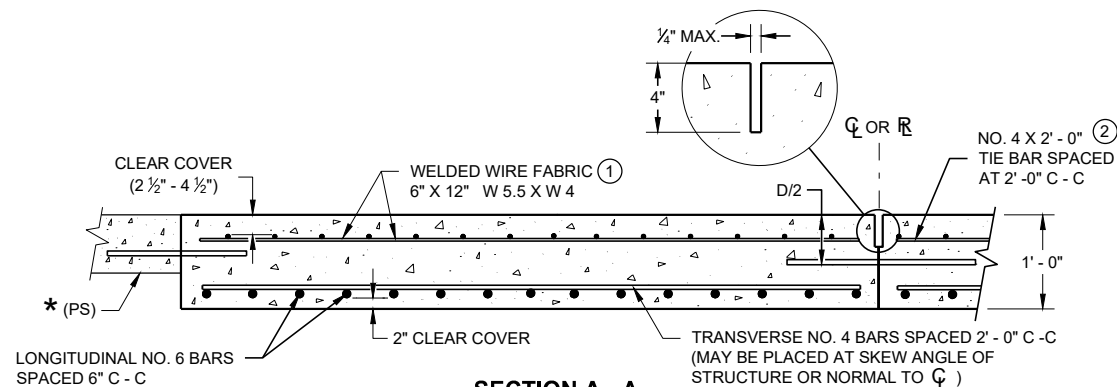


**SKews > 20°  
(PAVEMENT WIDTH ≤ 30')**

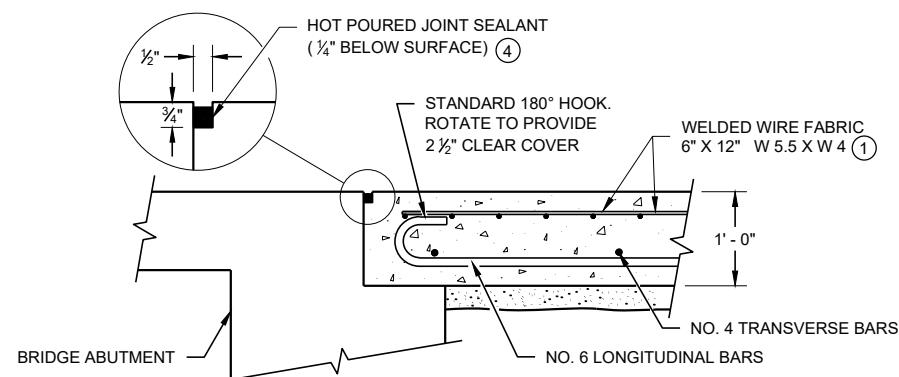


**SKews ≤ 20°  
(PAVEMENT WIDTH ≤ 30')**  
**APPROACH SLAB AND ADJACENT PAVEMENT**

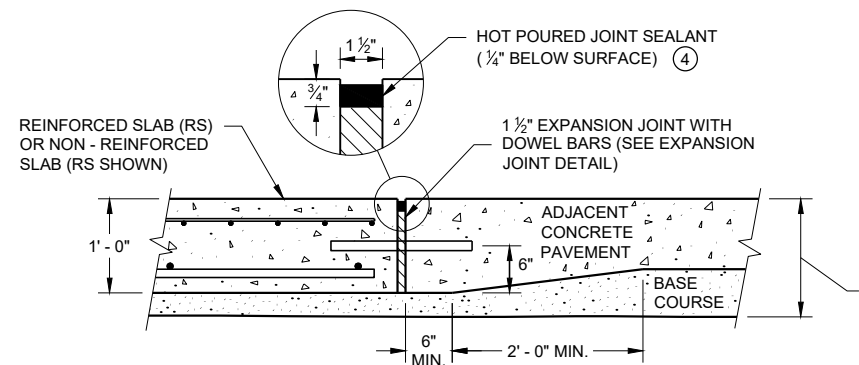
- \* (RS) = REINFORCED CONCRETE SLAB
- \* (PS) = PAVED CONCRETE SHOULDER OR CONCRETE DRAINAGE SLAB
- \* (NRS) = NON - REINFORCED CONCRETE SLAB
- \*\*\* STANDARD DOWEL BAR DIAMETER (SEE SDD 13C11 AND SDD 13C13)



**SECTION A - A  
REINFORCEMENT POSITIONING DETAIL**



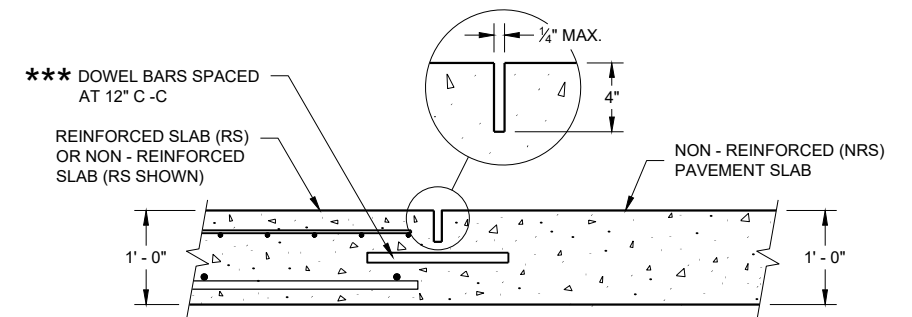
**SECTION B - B  
BEND DETAIL  
BOTTOM REINFORCEMENT**



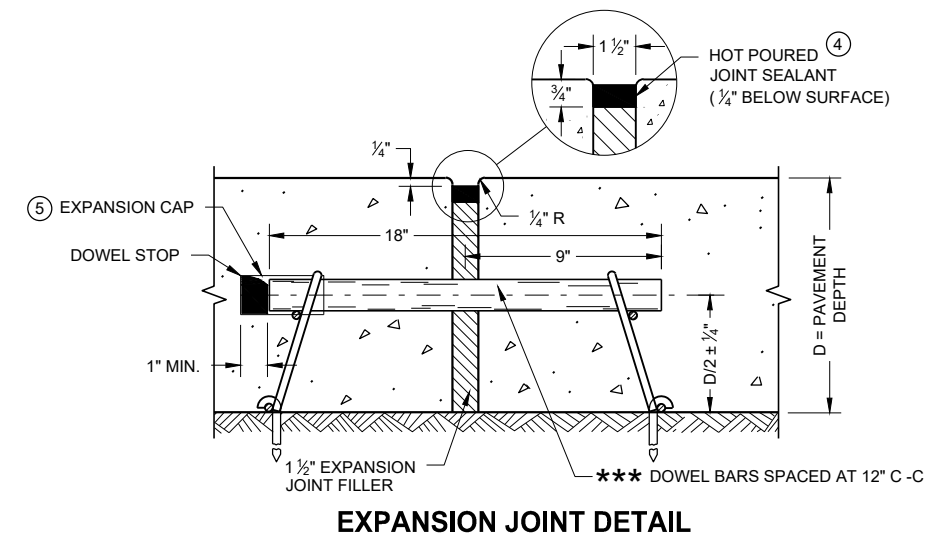
**SECTION C - C  
TRANSITION DETAIL  
APPROACH SLAB TO ADJACENT PAVEMENT**

**GENERAL NOTES**

- THE CONTRACTOR MAY SPLICE NO. 6 BARS IN THE APPROACH SLAB FOR SKEWED STRUCTURES ONLY. STAGGER SPLICES WITH A MAXIMUM OF ONE SPLICE PER BAR. THE LENGTH OF LAP IS 20 INCHES.
- TACK WELD DOWEL BARS TO THE BASKETS ON ALTERNATE ENDS.
- ① THE CONTRACTOR MAY USE NO. 4 BARS SPACED AT 2' - 0" C - C IN BOTH THE LONGITUDINAL AND TRANSVERSE DIRECTIONS FOR TOP REINFORCEMENT AS AN ALTERNATIVE TO THE WELDED WIRE FABRIC.
  - ② THE CONTRACTOR MAY OMIT THE BARS BETWEEN REINFORCED SLABS WHERE SLAB REINFORCEMENT BARS EXTEND ACROSS THE CENTERLINE OR REFERENCE LINE.
  - ③ DO NOT CONSTRUCT AN EXPANSION JOINT OR INSTALL DOWEL BARS WHEN ABUTTING AN HMA PAVEMENT.
  - ④ USE A JOINT SEALANT CONFORMING TO STANDARD SPECIFICATION 415.2.6.
  - ⑤ PLACE EXPANSION CAP ON THE END OF THE DOWEL THAT IS NOT TACK WELDED TO THE BASKET. DO NOT FORCE DOWEL BAR PAST THE DOWEL STOP.
  - ⑥ EXTEND EXPANSION JOINT THROUGH ANY ADJACENT TIED CONCRETE.
  - (A) STANDARD CONTRACTION JOINT NORMAL TO  $\bar{C}$  OR  $\bar{R}$ .
  - (B) STANDARD LONGITUDINAL JOINT WITH TIE BARS.
  - (C) 1 1/2" EXPANSION JOINT WITH DOWEL BARS NORMAL TO  $\bar{C}$  OR  $\bar{R}$ .



**SECTION D - D  
CONTRACTION JOINT**



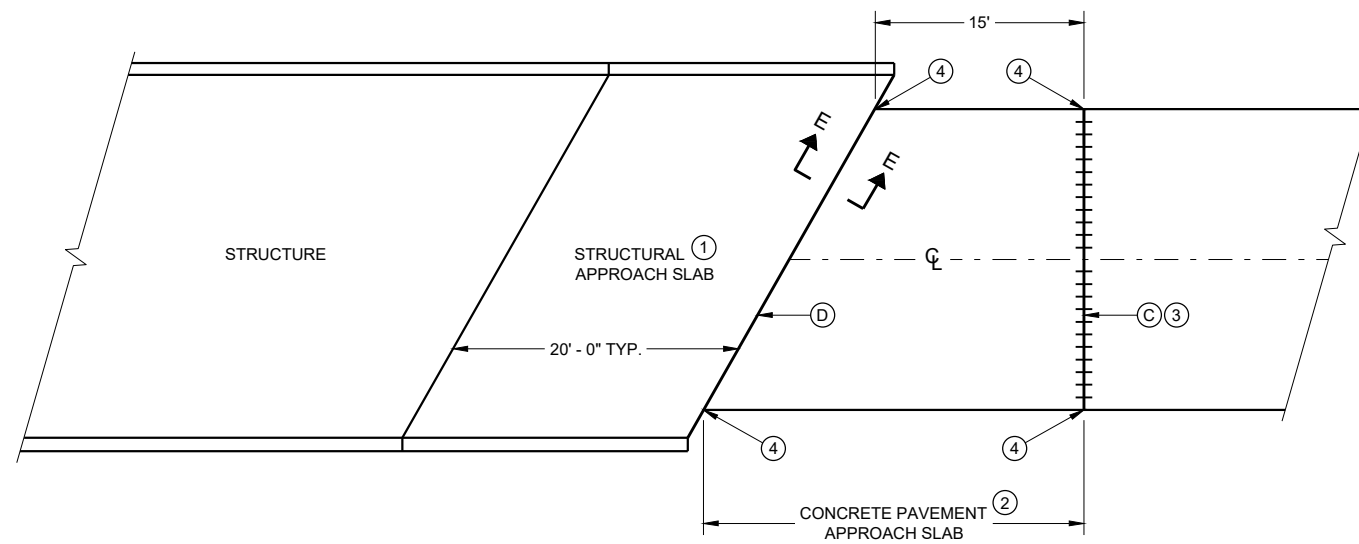
**EXPANSION JOINT DETAIL**

**CONCRETE PAVEMENT  
APPROACH SLAB**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
November 2018 /S/ Peter Kemp, P.E.  
DATE DATE PAVEMENT SUPERVISOR

FHWA

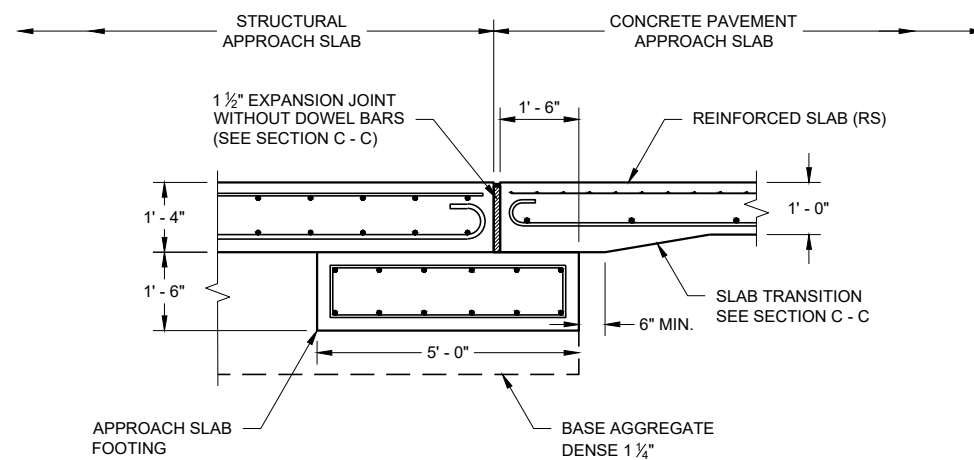


**GENERAL NOTES**

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

- ① SEE BRIDGE PLAN.
- ② CONFORM TO SDD 13B02 SHEET A FOR CONCRETE PAVEMENT APPROACH SLAB DETAILS
- ③ DO NOT CONSTRUCT AN EXPANSION JOINT OR INSTALL DOWEL BARS WHEN ABUTTING AN HMA PAVEMENT.
- ④ EXTEND EXPANSION JOINT THROUGH ANY ADJACENT TIED CONCRETE.
- Ⓒ 1½" EXPANSION JOINT WITH DOWEL BARS NORMAL TO  $\text{CL}$  OR  $\text{RL}$ .
- Ⓓ 1½" EXPANSION JOINT (NO DOWELS)

**BRIDGE APPROACHES**

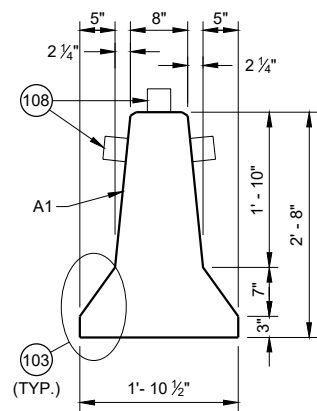


**SECTION E - E  
FOOTING DETAIL  
STRUCTURAL APPROACH SLAB TO CONCRETE BRIDGE APPROACH**

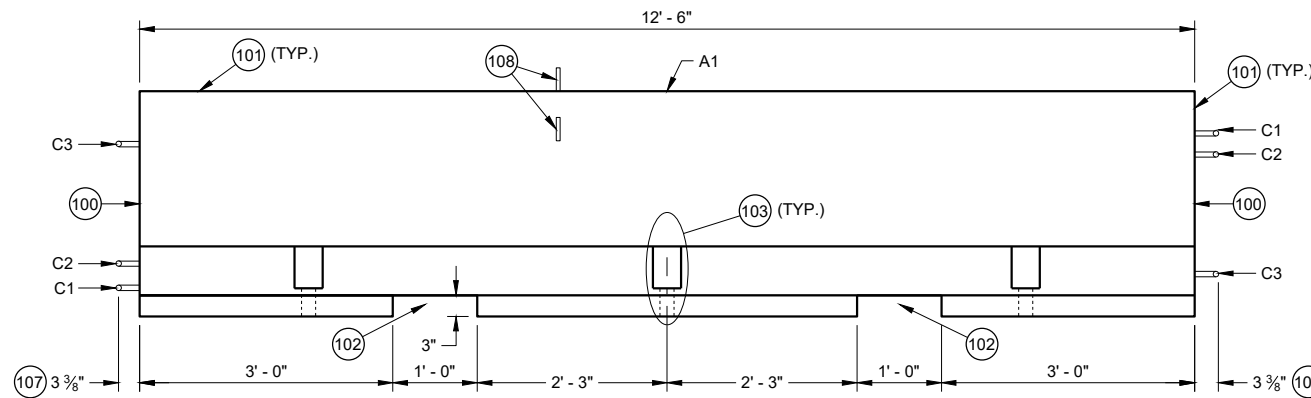
**STRUCTURAL APPROACH SLAB  
AND CONCRETE PAVEMENT  
APPROACH SLAB**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
November 2018 /S/ Peter Kemp P.E.  
DATE PAVEMENT SUPERVISOR  
FHWA



**CROSS SECTION**



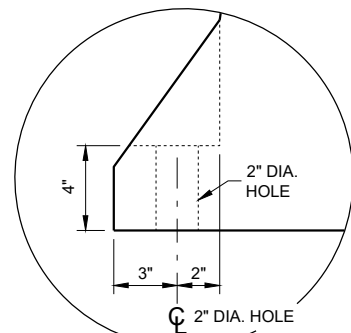
**PROFILE VIEW**

**GENERAL NOTES**

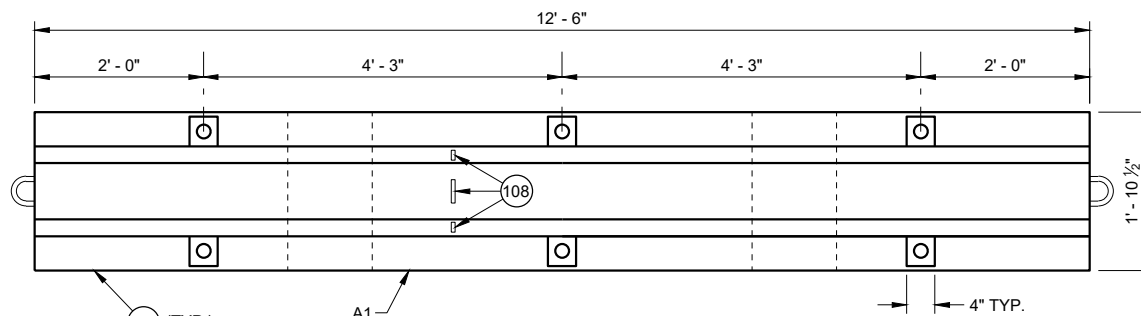
PLACE BARRIER ON PAVED SURFACE. BEFORE PLACEMENT OF TEMPORARY BARRIER, REMOVE ALL LOOSE MATERIAL FROM PAVED SURFACE.

LOOP BARS C1, C2 AND C3 ARE NOT FOR PLACEMENT OR MOVEMENT OF BARRIER.

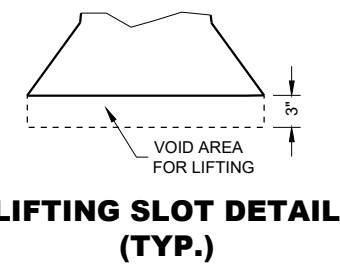
- 100 PERMANENTLY FORM INTO ONE END OF BARRIER THE FOLLOWING INFORMATION:  
A. TYPE OF BARRIER: WI-CBTP  
B. MANUFACTURER  
C. DATE OF MANUFACTURE (MONTH AND YEAR)
- 101 1" OPTIONAL CHAMFER
- 102 SEE LIFTING SLOT DETAIL
- 103 SEE ANCHOR BLOCK DETAIL
- 104 1 3/4" MIN. CLEAR COVER
- 105 2" MIN. CLEAR COVER
- 106 1" MIN. CLEAR COVER
- 107 ± 1/8" MEASURED FROM FACE OF CONCRETE BARRIER TO OUTSIDE OF LOOP BAR (TYP.)
- 108 USE DELINEATORS CONFORMING TO SECTION 633 OF THE STANDARD SPECIFICATIONS. CONTRACTOR MY USE ALTERNATE SHAPES AND HOUSING. INSTALL DELINEATORS ACCORDING TO MANUFACTURERS INSTRUCTION. INSTALL YELLOW REFLECTORS WHEN BARRIER IS LOCATED LEFT OF TRAFFIC AND WHITE WHEN BARRIER IS LOCATED RIGHT OF TRAFFIC. SPACE DELINEATORS A MAXIMUM OF 25 FEET APART, PROVIDE TO MOUNTED DELINEATORS IN ADDITION TO SIDE MOUNTED DELINEATORS ON BARRIER INSTALLATIONS LOCATED ON A CURVED ALIGNMENT LONGER THAT 200 FEET AND ON BARRIERS USED TO SEPARATE OPPOSING TRAFFIC.



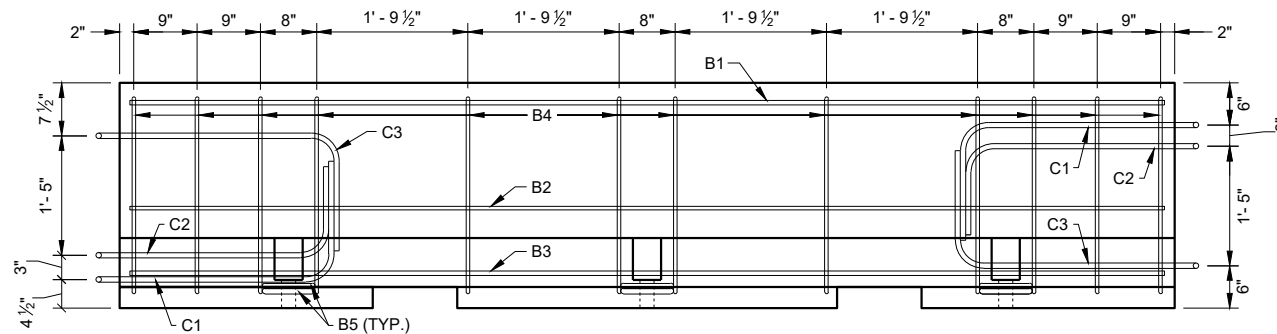
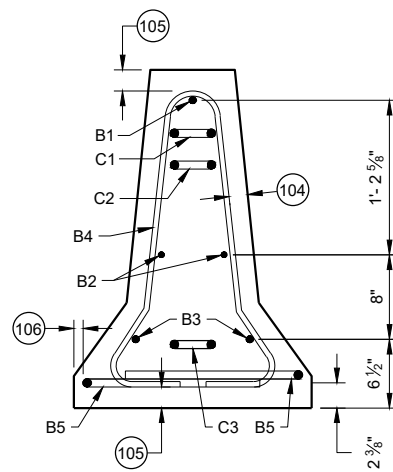
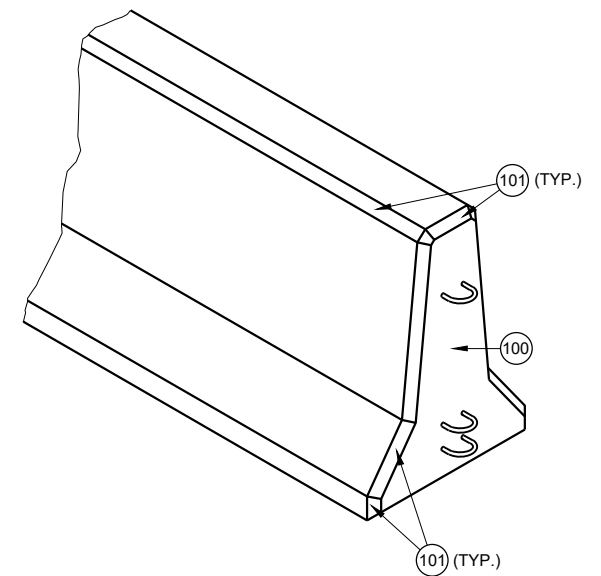
**ANCHOR BLOCK DETAIL**



**PLAN VIEW  
TEMPORARY BARRIER**



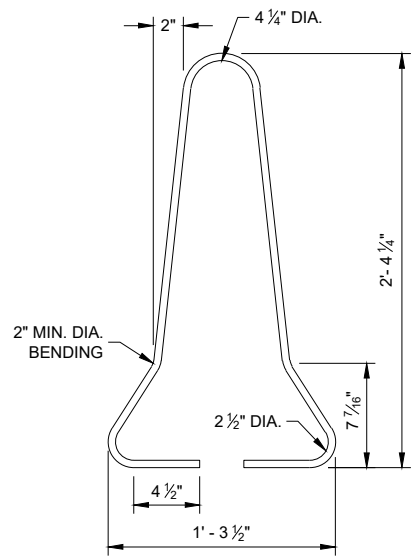
**LIFTING SLOT DETAIL  
(TYP.)**



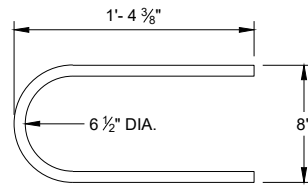
**PROFILE VIEW  
TEMPORARY BARRIER REINFORCEMENT**

**CONCRETE BARRIER  
TEMPORARY PRECAST,  
12' - 6"**

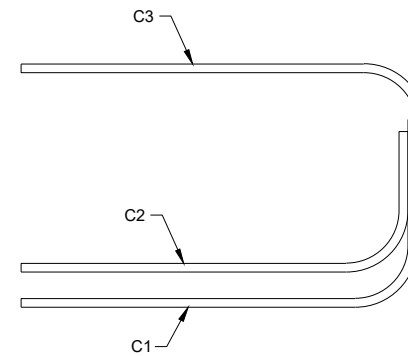
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



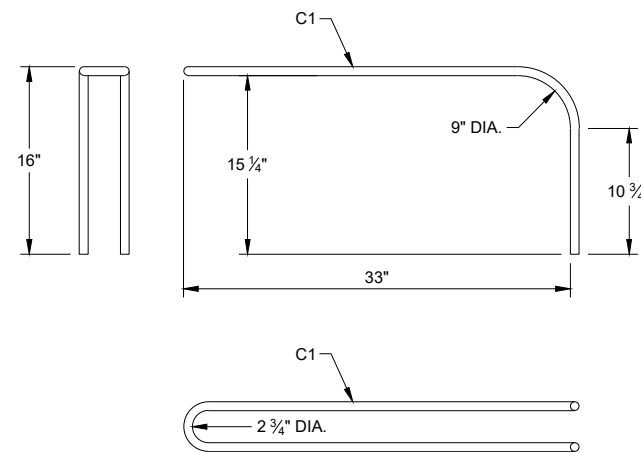
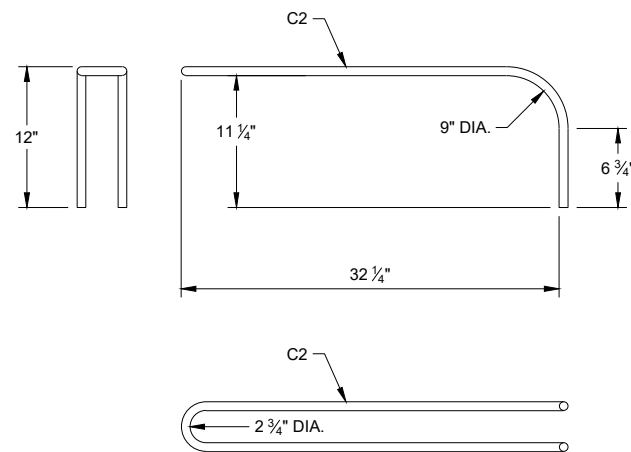
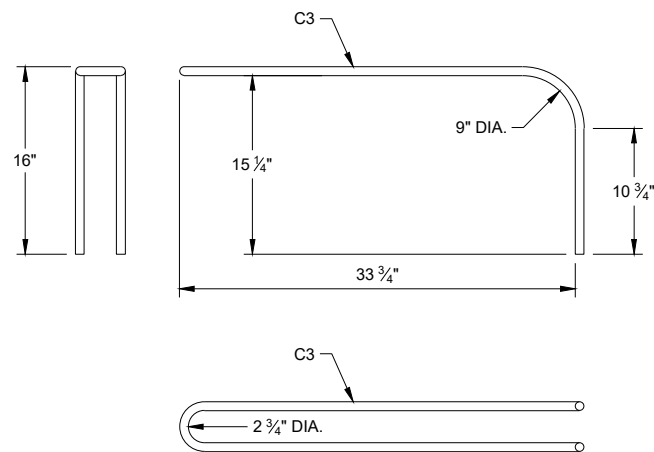
**B4 BAR DETAIL**



**B5 BAR DETAIL**



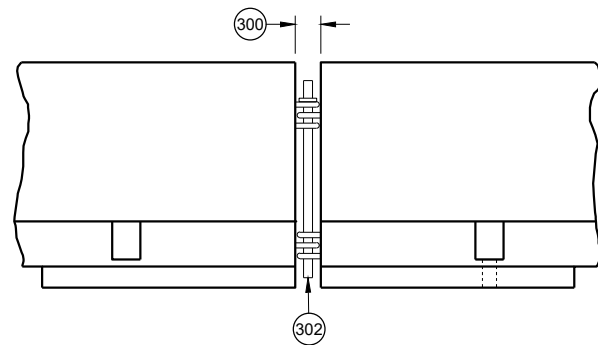
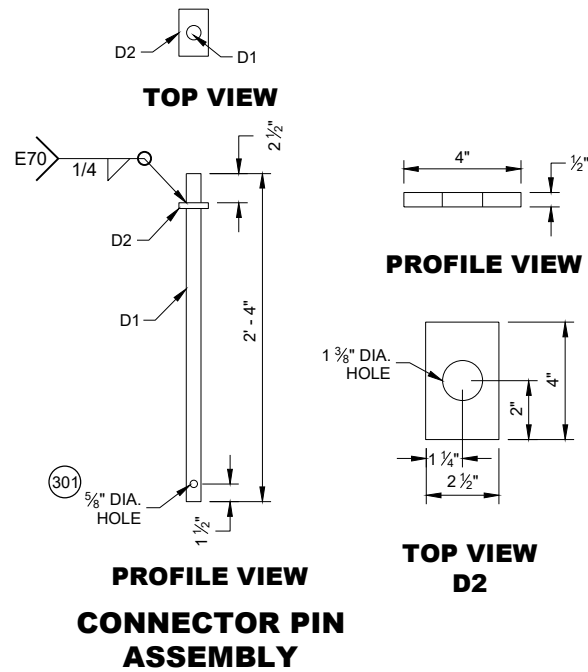
**PROFILE VIEW  
LOOP BAR ASSEMBLY**



**C BAR DETAILS**

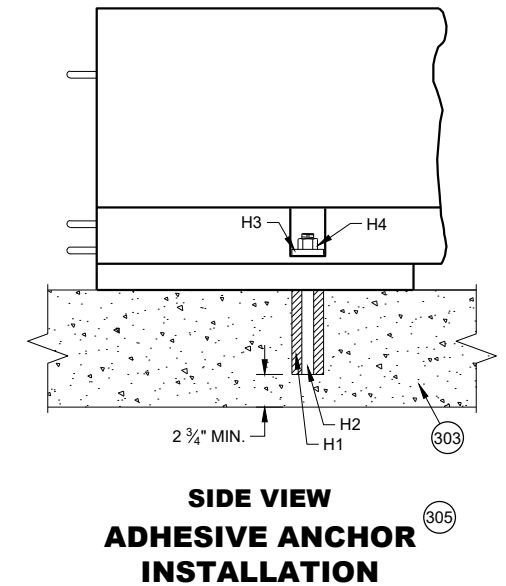
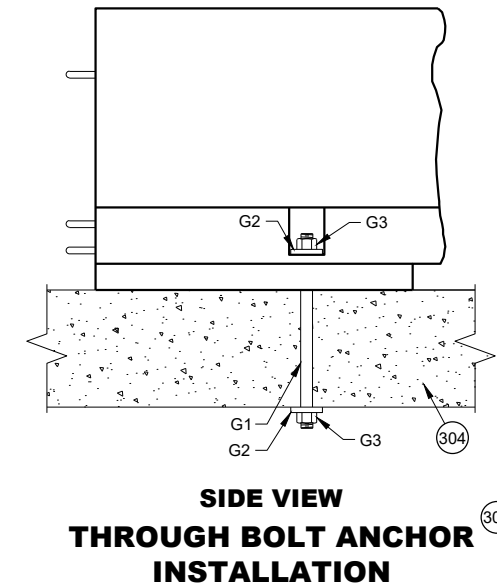
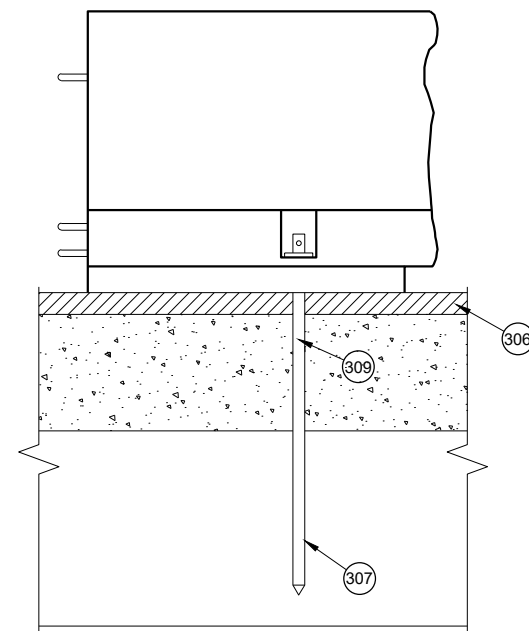
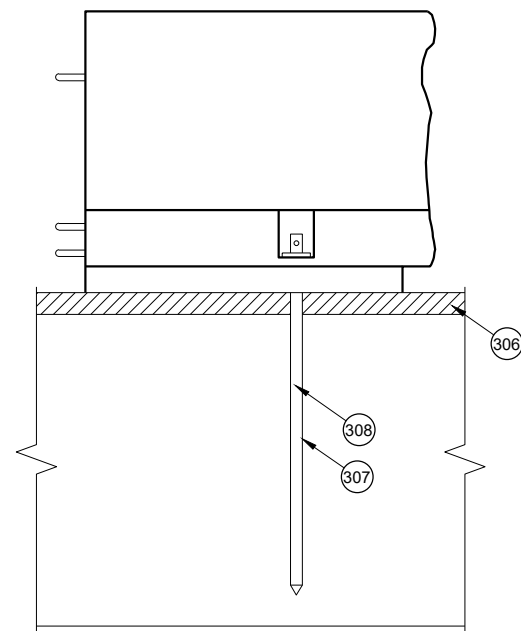
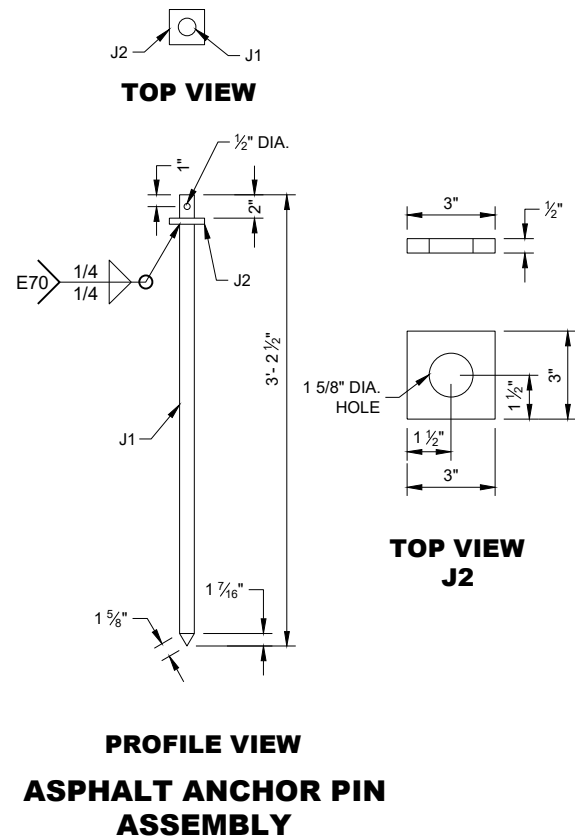
**CONCRETE BARRIER  
TEMPORARY PRECAST,  
12' - 6"**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



**GENERAL NOTES**

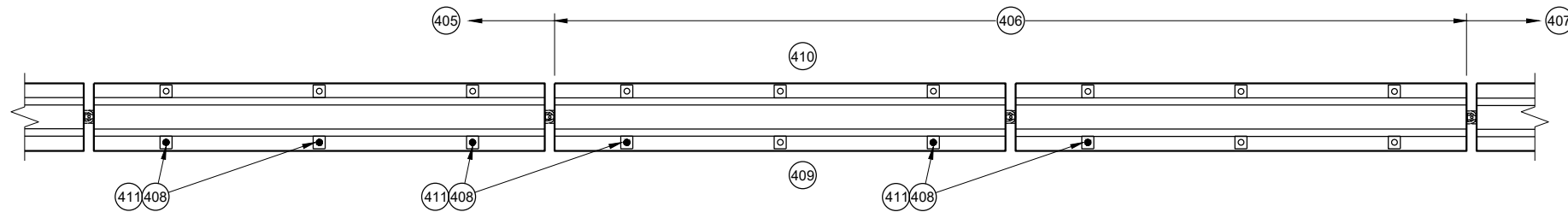
- (300) SET WITH 3 5/8" WOOD BLOCK.
- (301) HOLE IS OPTIONAL.
- (302) CONNECTOR PIN ASSEMBLY.
- (303) CONCRETE PAVEMENT, APPROACH SLAB, OR DECK.
- (304) CONCRETE DECK.
- (305) DO NOT USE ON CONCRETE BRIDGE DECK WITH ASPHALT OVERLAY OR CONCRETE PAVEMENT WITH ASPHALT OVERLAY.
- (306) MINIMUM OF 2" OF ASPHALT.
- (307) ASPHALT ANCHOR PIN ASSEMBLY
- (308) IF DRILLING A PILOT HOLE, THE MAX. DIA. OF THE HOLE IS 3/4"
- (309) WHEN THERE IS ASPHALT OVERLAYING CONCRETE PAVEMENT, A 1 5/8" DIA. PILOT HOLE CAN BE DRILLED INTO THE OVERLAY AND CONCRETE. IF NEEDED DRILL A 3/4" PILOT HOLE IN BASE COURSE.



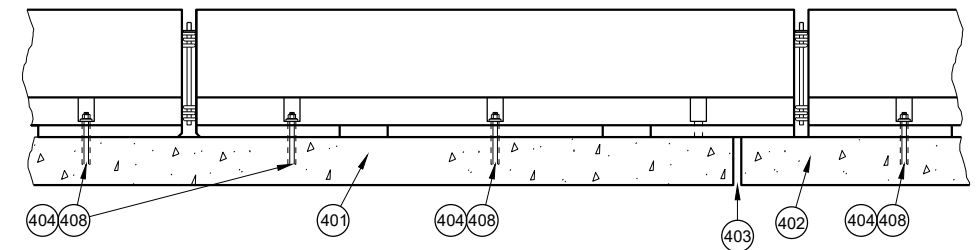
**CONCRETE BARRIER  
TEMPORARY PRECAST,  
12' - 6"**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

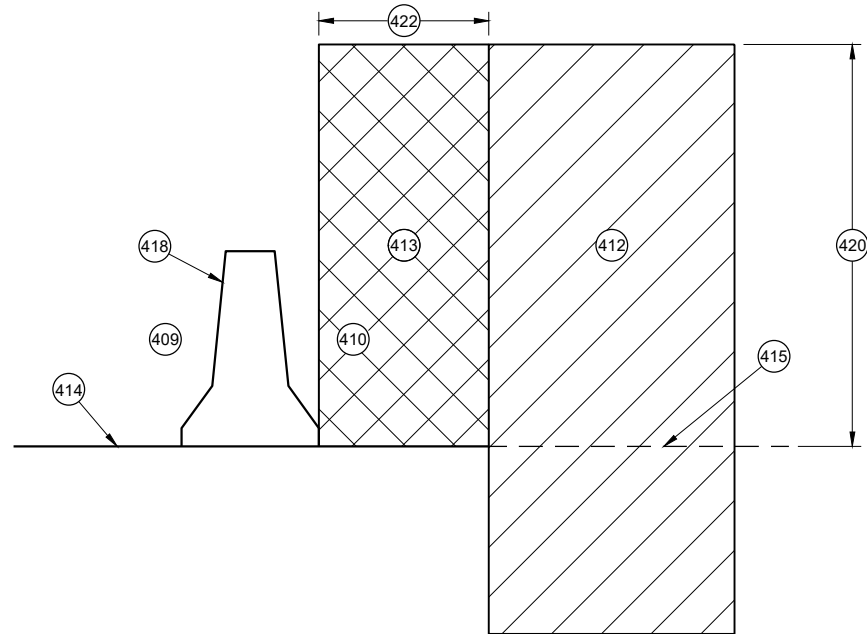




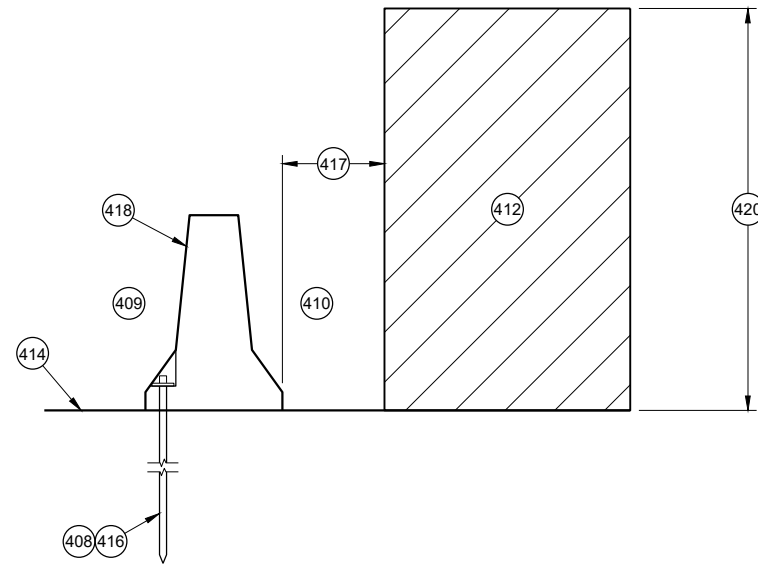
**PLAN VIEW**  
**TRANSITION FROM FREE STANDING TO ANCHORED BARRIER**



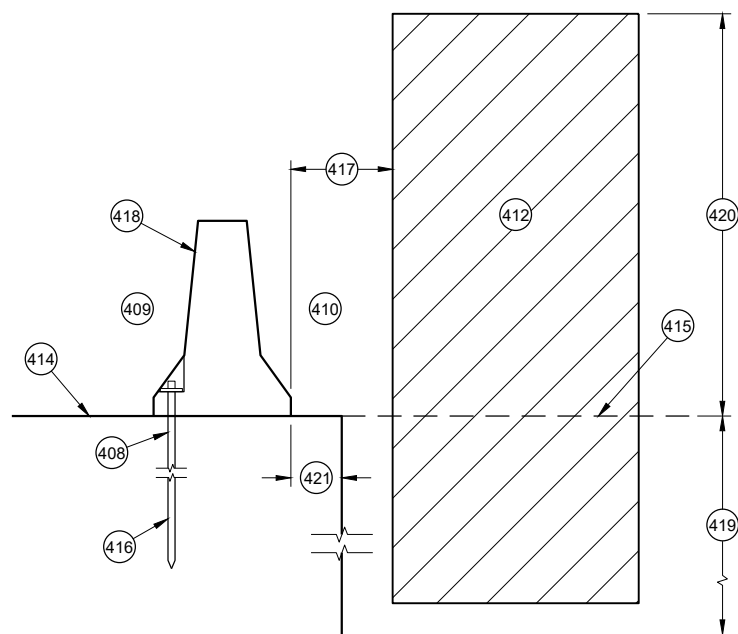
**PROFILE VIEW**  
**ANCHORED BARRIER NEAR EXPANSION JOINT**



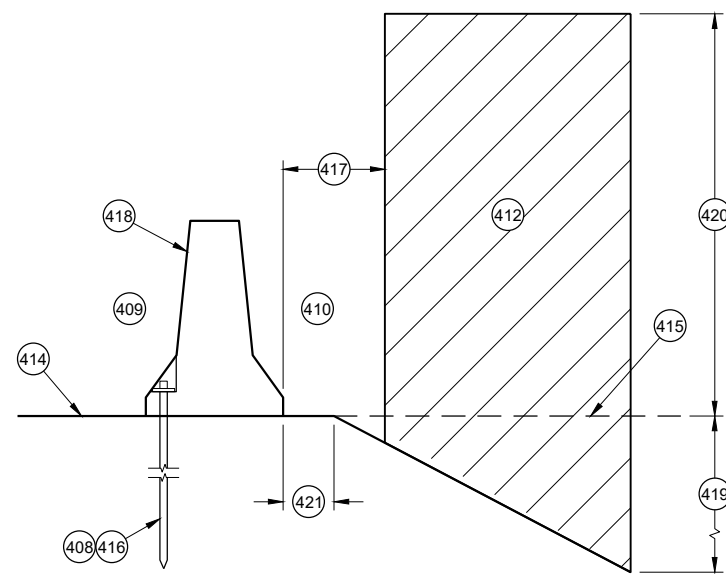
**CROSS SECTION**  
**FREE STANDING BARRIER**



**CROSS SECTION**  
**ANCHORED BARRIER FOR OBJECTS ABOVE THE GRADE LINE AND NEAR THE BARRIER**



**CROSS SECTION**  
**ANCHORED BARRIER NEAR VERTICAL DROP OFF**



**CROSS SECTION**  
**ANCHORED BARRIER NEAR A SLOPE**

**GENERAL NOTES**

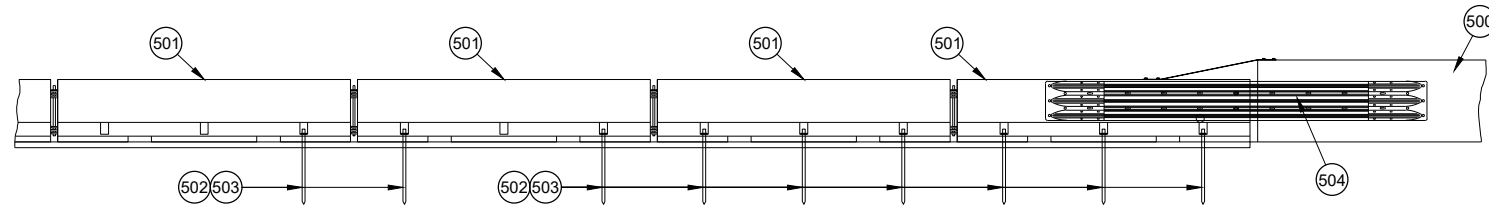
- 400 NO SINGLE CONCRETE BARRIER SECTION SHALL BE ANCHORED TO BOTH THE BRIDGE DECK AND THE APPROACH SLAB. ALL ANCHOR BOLT LOCATIONS SHALL BE ANCHORED TO THE DECK IN ACCORDANCE WITH THE DETAIL. NO MORE THAN ONE ANCHOR BOLT SHALL BE ELIMINATED FROM A BARRIER SECTION WHEN SPANNING AN EXPANSION JOINT.
- 401 CONCRETE DECK
- 402 CONCRETE DECK OR APPROACH SLAB.
- 403 EXPANSION JOINT
- 404 ADHESIVE ANCHOR SHOWN. SEE ANCHOR DETAILS.
- 405 ANCHORED TEMPORARY BARRIER
- 406 TRANSITION FROM ANCHORED TEMPORARY BARRIER TO FREE STANDING
- 407 FREE STANDING BARRIER
- 408 REMOVE ALL ANCHORS WHEN NO LONGER NEEDED. FILL CONCRETE PAVEMENTS, DECKS AND APPROACH SLABS WITH NON-SHRINK COMMERCIAL GROUT FROM THE APPROVED PRODUCT LIST. FILL ASPHALT PAVEMENTS WITH ASTM D6690 TYPE II RUBBERIZED CRACK FILLER.
- 409 TRAFFIC SIDE
- 410 NON-TRAFFIC SIDE
- 411 ANCHOR LOCATION. SEE ANCHORING DETAILS.
- 412 WORK AREA
- 413 AREA FREE OF OBJECTS AND WORKERS
- 414 GRADE LINE
- 415 EXTENDED GRADE LINE
- 416 ANCHORED TEMPORARY BARRIER. SEE BOLT THROUGH DECK, REMOVABLE ADHESIVE ANCHOR, OR AN ASPHALT ANCHOR ROD DETAILS FOR MORE INFORMATION. ASPHALT ANCHOR ROD SHOWN.
- 417 WHEN OBJECTS EXTEND ABOVE THE GRADE. A MINIMUM OF 1 FOOT IS REQUIRED FROM BACK OF BARRIER TO OBJECT.
- 418 OBJECTS ARE NOT TO BE PLACED ON, MOUNTED TO, OR ALLOWED TO LEAN AGAINST THE BARRIER WITHOUT WRITTEN PERMISSION OF THE PROJECT ENGINEER.
- 419 DEPTHS OF 3 FEET OR MORE.
- 420 Y = 6.5'
- 421 OFFSET FROM BACK OF BARRIER EDGE:  
 CONCRETE PAVEMENT 0.5'  
 ASPHALT 0.5'
- 422 POSTED SPEED (MPH):  
 45 OR GREATER 4.0'  
 40 OR LOWER 2.0'

**CONCRETE BARRIER**  
**TEMPORARY PRECAST,**  
**12' - 6"**

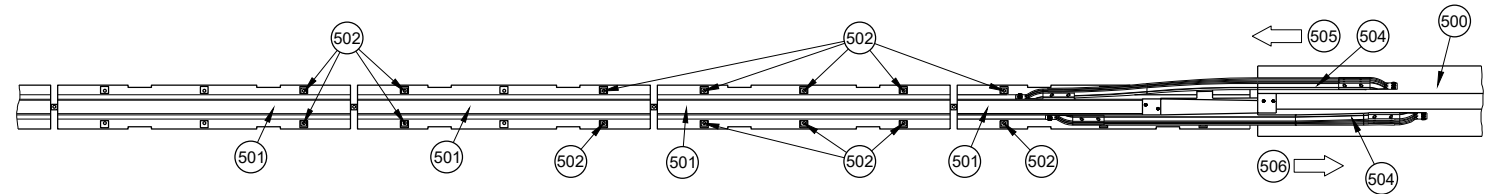
STATE OF WISCONSIN  
 DEPARTMENT OF TRANSPORTATION

**GENERAL NOTES**

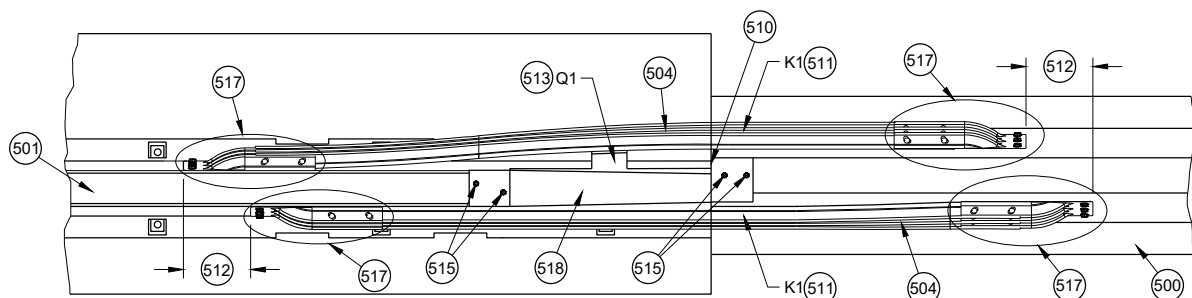
- (500) EXISTING RIGID BARRIERS (VARIES)
- (501) TEMPORARY BARRIER
- (502) SEE OTHER DETAIL ON HOW TO ANCHOR TEMPORARY BARRIER (BARRIER ASPHALT ANCHOR SHOWN).
- (503) ANCHORS ARE REQUIRED ON BOTH SIDE OF THE TEMPORARY BARRIER.
- (504) NESTED RAILS ARE REQUIRED ON BOTH SIDES OF THE TEMPORARY BARRIER FOR ALL INSTALLATIONS.
- (505) TRAFFIC TRAVELS FROM PERMANENT BARRIER TO TEMPORARY BARRIER.
- (506) TRAFFIC TRAVELS FROM TEMPORARY BARRIER TO PERMANENT BARRIER.
- (507) VERTICAL BARRIER
- (508) SAFETY SHAPE BARRIER
- (509) SINGLE SLOPE BARRIER
- (510) CAP END PLATE PLACED FLUSH WITH UPSTREAM END OF RIGID BARRIER.
- (511) BENT THRIE BEAM TO FIT.
- (512) THRIE BEAM PIECES ARE OFFSET 15 1/4" TO PREVENT INTERFERENCE FROM THE ANCHORS ON OPPOSING SIDES.
- (513) TWO (2) P1, P2 AND P3 ARE REQUIRED
- (514) FIVE (5) N1, N2 AND N3 ARE REQUIRED
- (515) TWO (2) R1, R2 AND R3 ARE REQUIRED
- (516) CUT WOOD BLOCK TO FIT.
- (517) SEE THRIE BEAM RAIL TERMINAL CONNECTOR DETAIL ASSEMBLY.
- (518) CAP ASSEMBLY
- (519) 4" MAX. GAP BETWEEN TEMPORARY BARRIER AND RIGID BARRIER.
- (520) ALL TWELVE SPLICE HOLES REQUIRE M1 AND M2



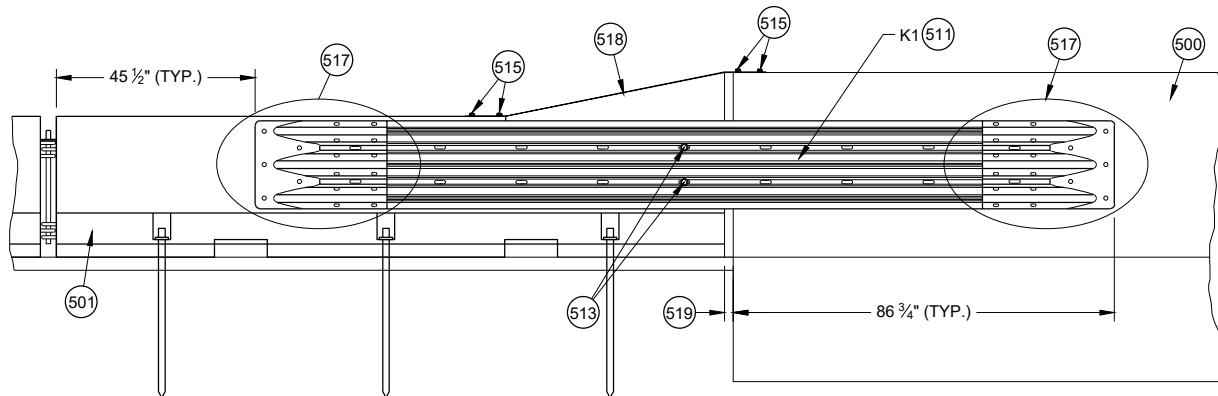
**PROFILE VIEW**



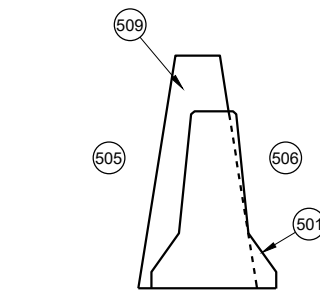
**PLAN VIEW  
TRANSITION TO RIGID BARRIER**



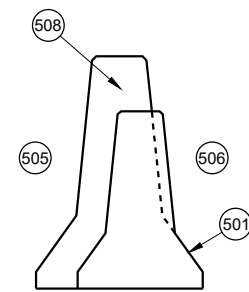
**PLAN DETAIL VIEW  
TRANSITION TO RIGID BARRIER**



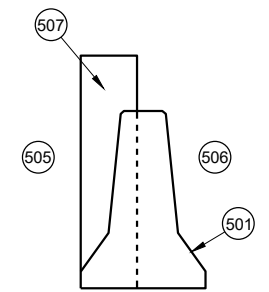
**FRONT DETAIL VIEW  
TRANSITION TO RIGID BARRIER**



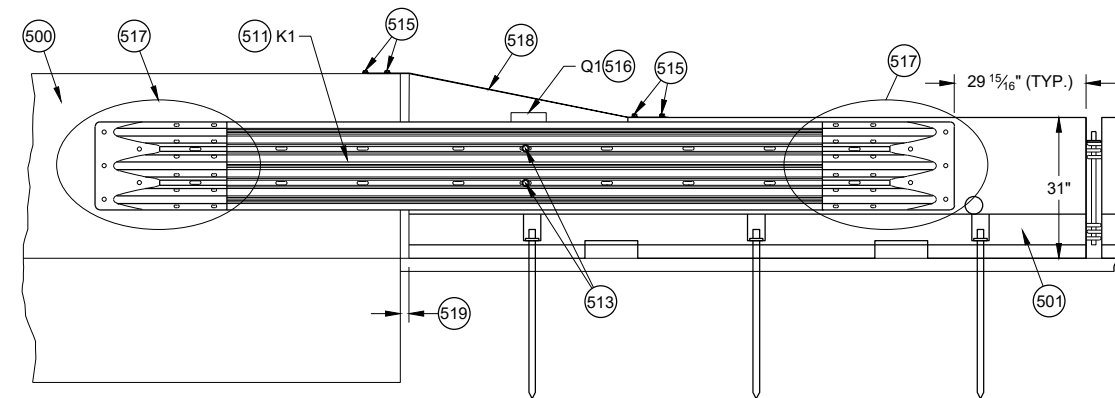
**CROSS SECTION  
TEMPORARY BARRIER  
PLACEMENT SINGLE SLOPE**



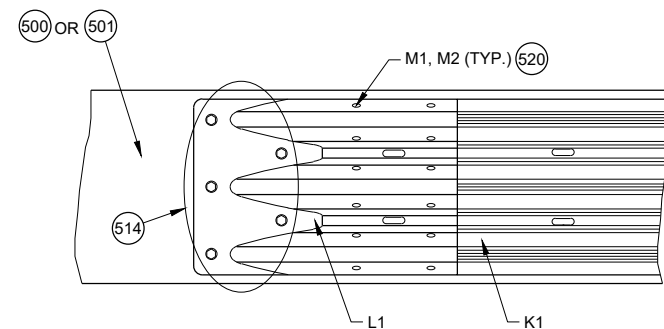
**CROSS SECTION  
TEMPORARY BARRIER  
PLACEMENT SAFETY SHAPE**



**CROSS SECTION  
TEMPORARY BARRIER  
PLACEMENT VERTICAL**



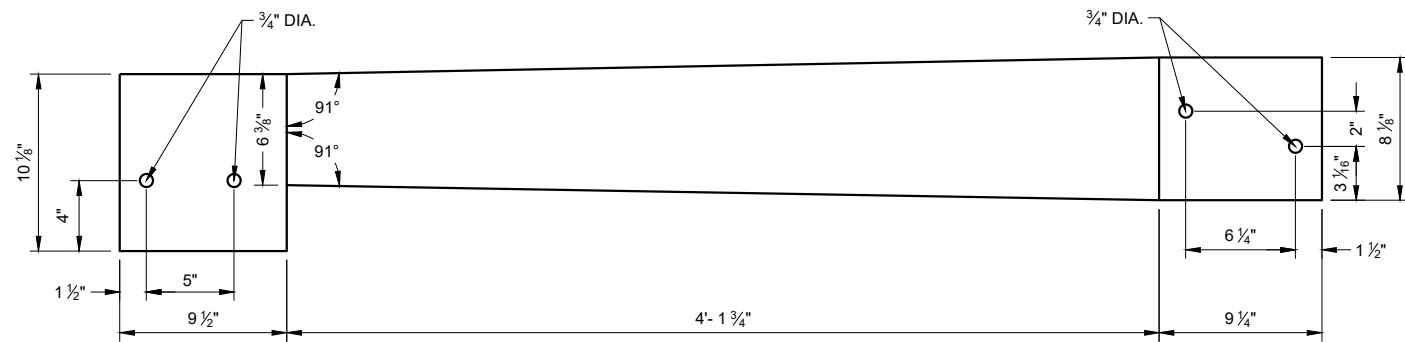
**BACK DETAIL VIEW  
TRANSITION TO RIGID BARRIER**



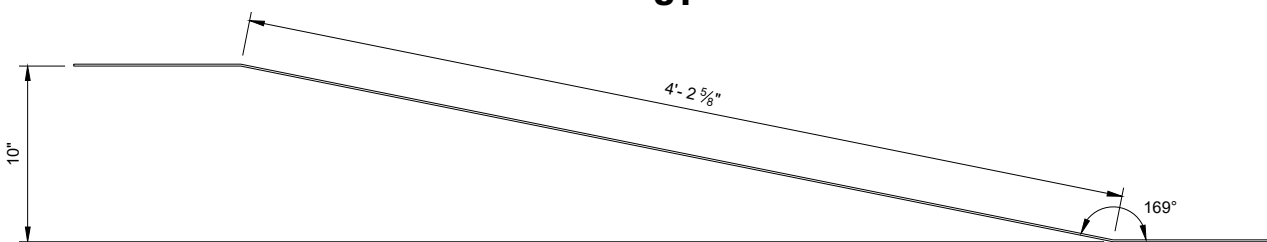
**(517) DETAIL PLAN VIEW  
THRIE BEAM RAIL TERMINAL CONNECTOR ASSEMBLY**

**CONCRETE BARRIER  
TEMPORARY PRECAST,  
12' - 6"**

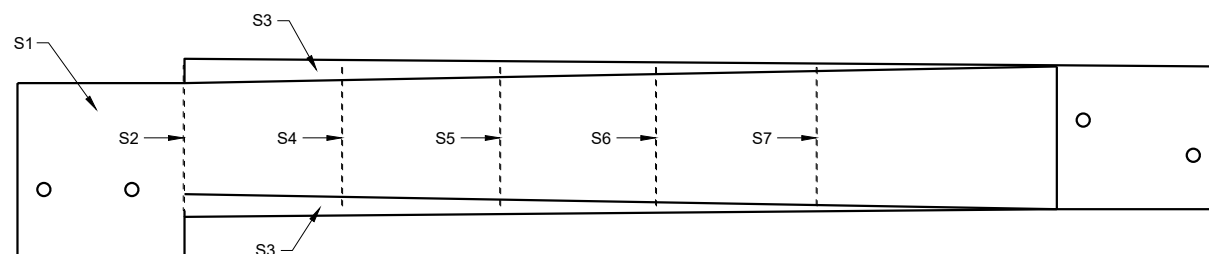
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



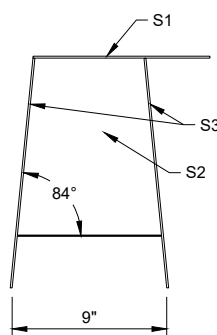
**TOP VIEW  
S1**



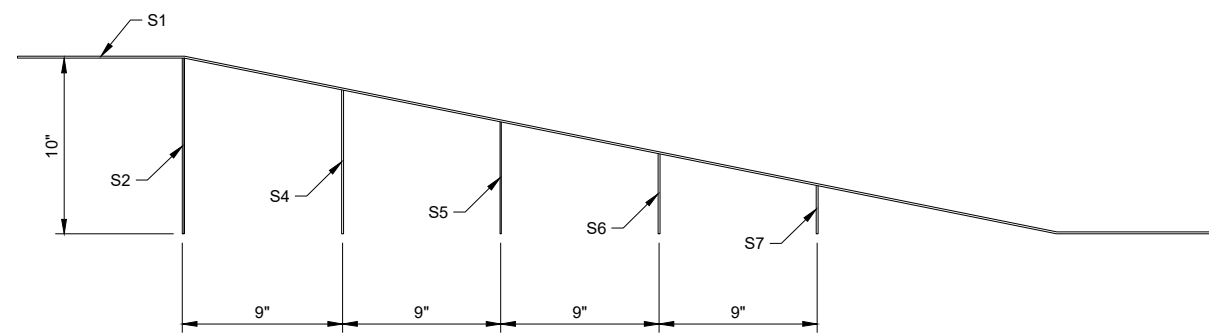
**ELEVATION VIEW  
S1**



**PLAN VIEW**

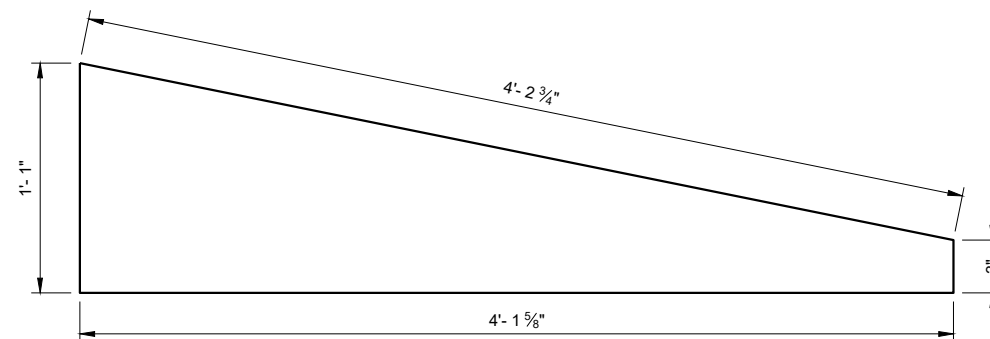


**BACK VIEW**

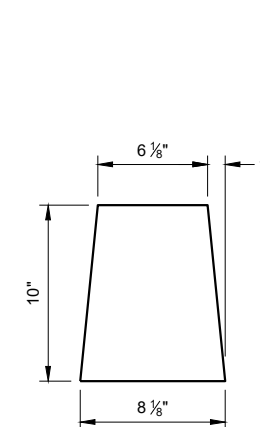


**SIDE VIEW (600)**

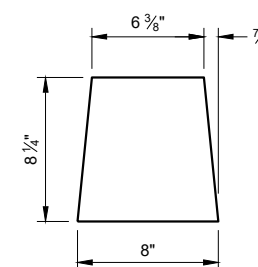
**42" TOP CAP ASSEMBLY**



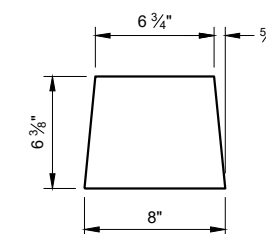
**SIDE VIEW  
S3**



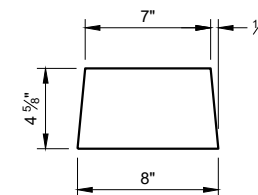
**S2**



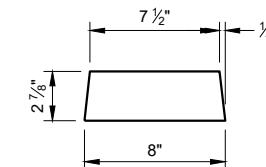
**S4**



**S5**



**S6**



**S7**

**GENERAL NOTES**

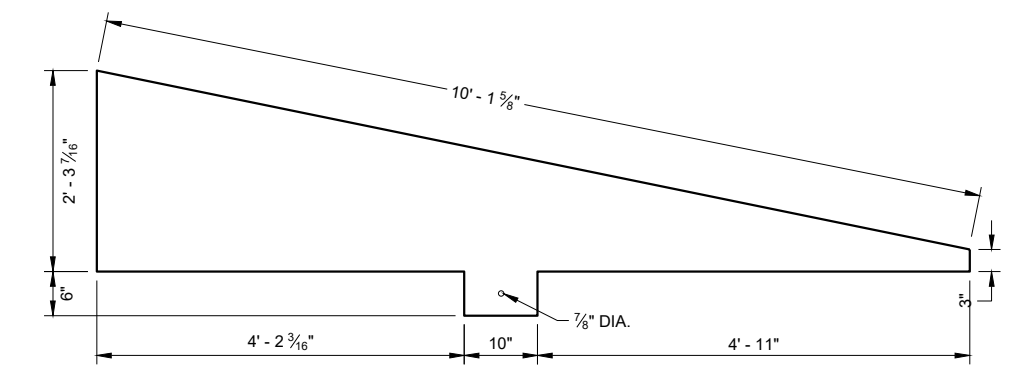
STITCH WELD GUSSET PLATES AND END PLATES ON THREE SIDES

STITCH WELD TWO SIDE PLATES TO TOP PLATE, END PLATE AND GUSSETS.

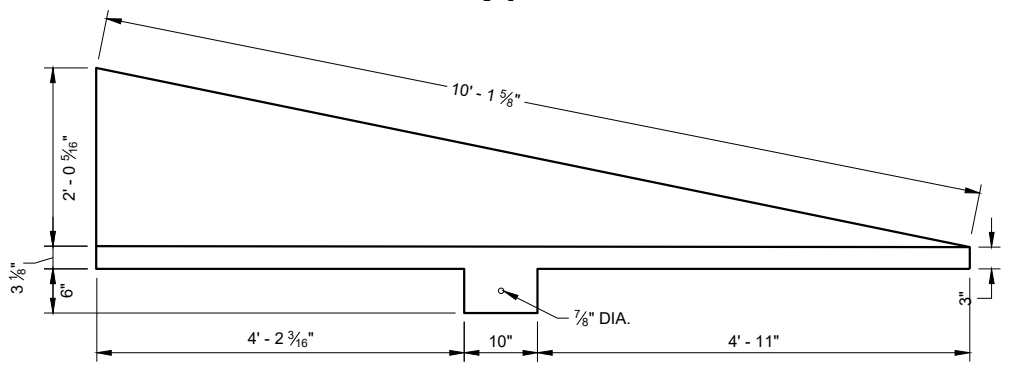
(600) SIDE PLATES (S3) NOT SHOWN FOR CLARITY.

**CONCRETE BARRIER  
TEMPORARY PRECAST,  
12' - 6"**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



**SIDE VIEW  
T4**



**SIDE VIEW  
T3**

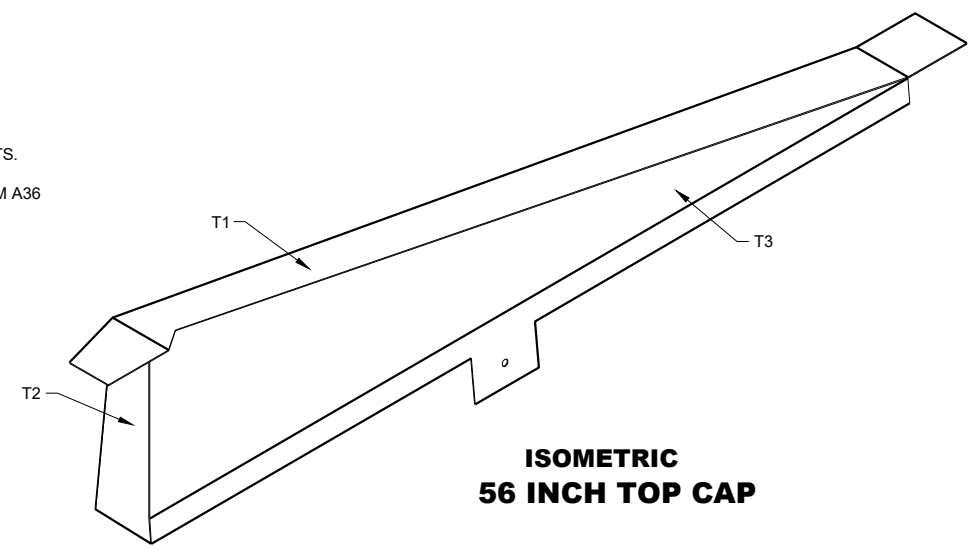
**END  
VIEW**

**END  
VIEW**

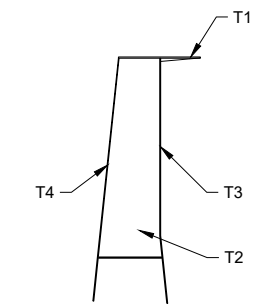
**END  
VIEW**

**GENERAL NOTES**

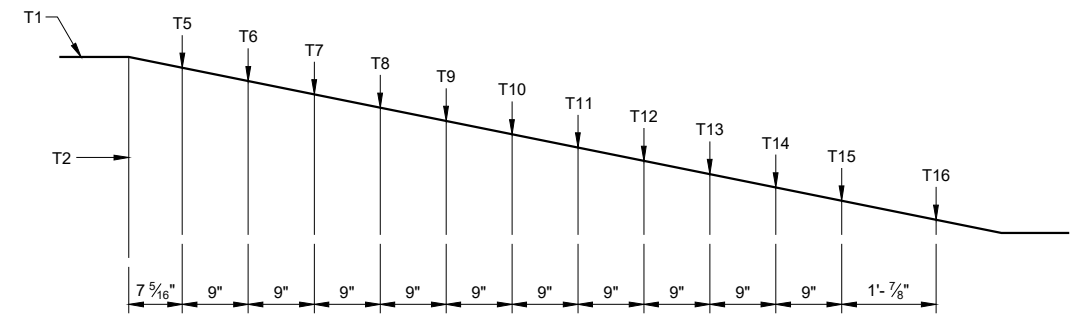
- STITCH WELD GUSSET PLATES AND END PLATES ON THRIE SIDES
- STITCH WELD TWO SIDE PLATES TO TOP PLATE, END PLATE AND GUSSETS.
- SIDE PLATES, TOP PLATE, END PLATE AND GUSSETS ARE 12 GAUGE ASTM A36 GALVANIZED STEEL.
- (700) SIDE PLATES (T3 AND T4) NOT SHOWN FOR CLARITY.



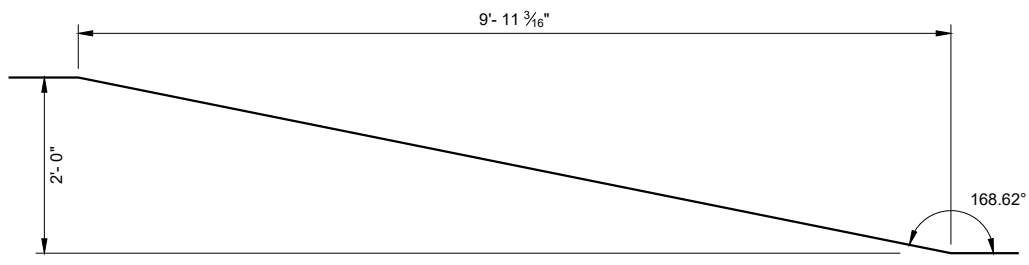
**ISOMETRIC  
56 INCH TOP CAP**



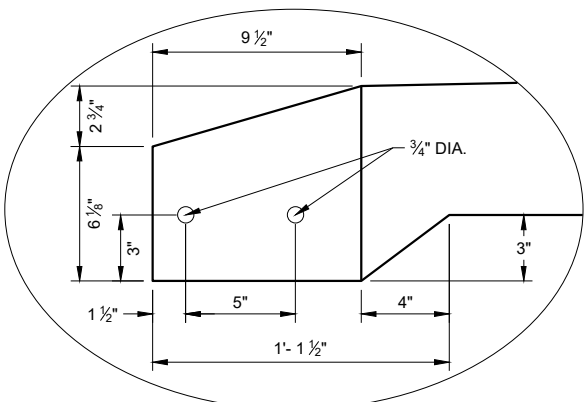
**END VIEW  
56 INCH TOP CAP**



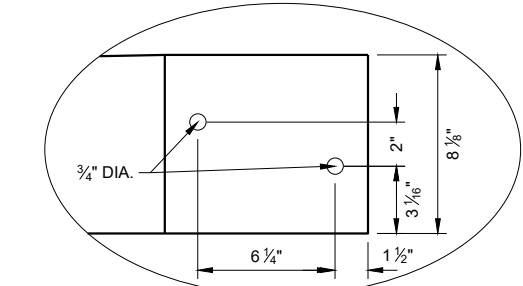
**SIDE VIEW  
56 INCH TOP CAP (700)**



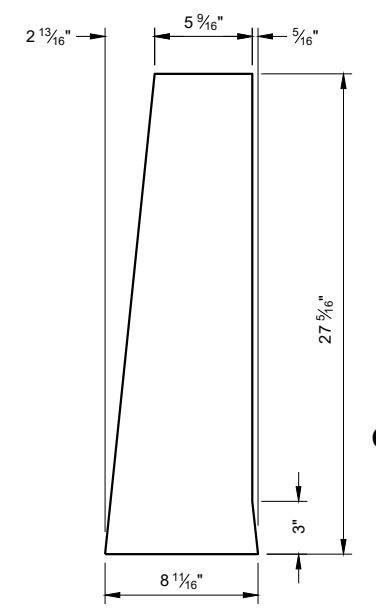
**SIDE VIEW  
TOP PLATE T1**



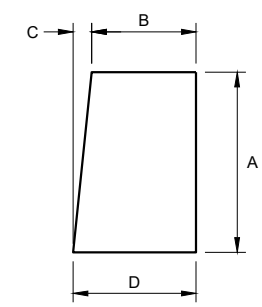
**DETAIL "A"**



**DETAIL "B"**

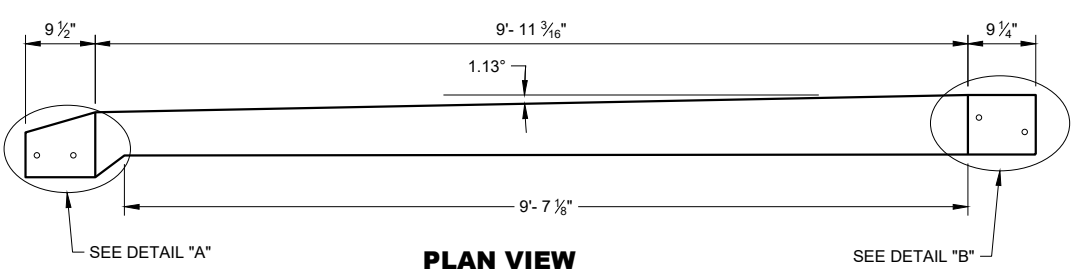


**END PLATE T2**



**GUSSET PLATES  
T5 - T16**

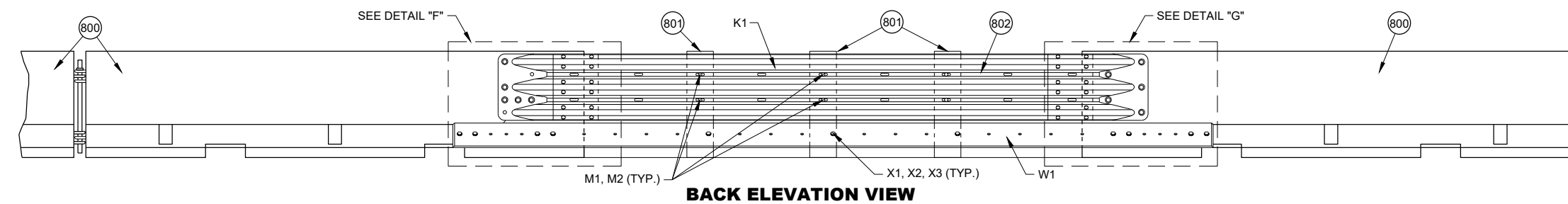
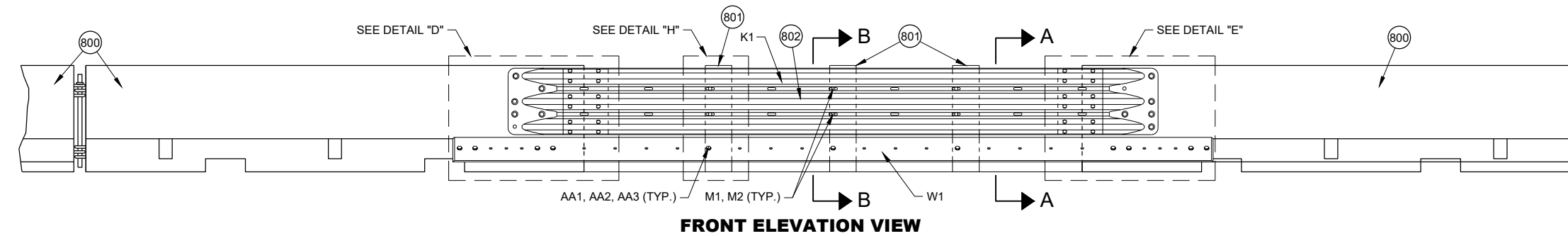
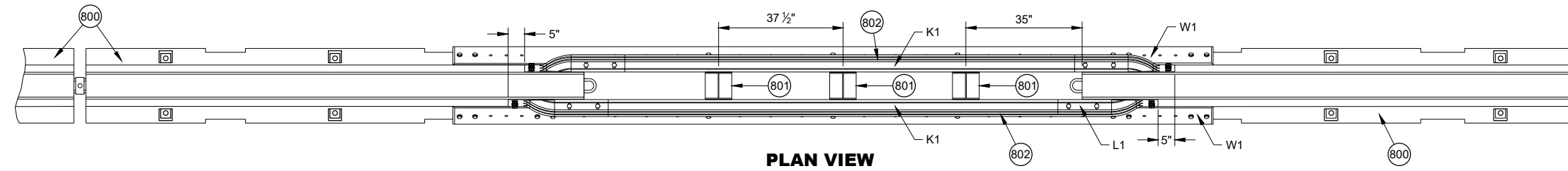
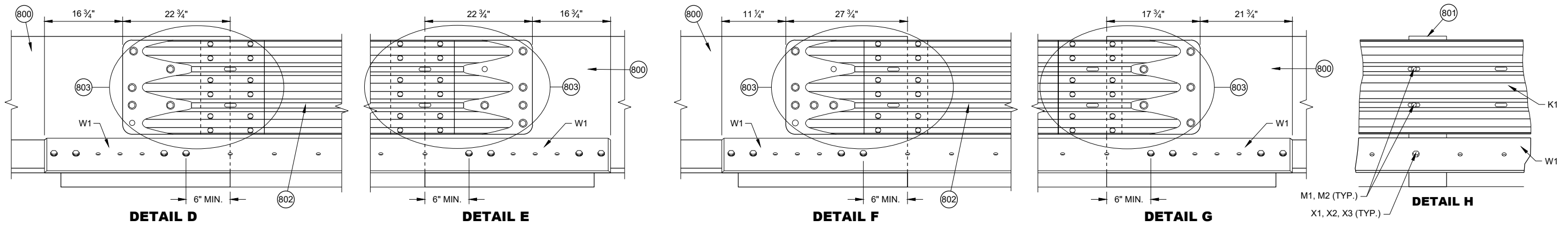
GUSSET DIMENSIONS				
GUSSET NO.	A	B	C	D
T5	22 13/16"	5 1/16"	2 5/16"	8 1/16"
T6	21"	5 7/8"	2 3/16"	8 1/16"
T7	19 3/16"	6 1/8"	1 13/16"	8 1/16"
T8	17 3/8"	6 1/4"	1 13/16"	8 1/16"
T9	15 9/16"	6 7/16"	1 1/16"	8 1/16"
T10	13 3/4"	6 5/8"	1 7/16"	8 1/16"
T11	11 15/16"	6 13/16"	1 1/4"	8 1/16"
T12	10 1/8"	7"	1 1/16"	8 1/16"
T13	8 5/16"	7 3/16"	7/8"	8 1/16"
T14	6 1/2"	7 3/8"	1 1/16"	8 1/16"
T15	4 1/16"	7 1/16"	1/2"	8"
T16	2 7/8"	7 3/4"	1/4"	8"



**PLAN VIEW  
TOP PLATE T1**

**CONCRETE BARRIER  
TEMPORARY PRECAST,  
12' - 6"**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



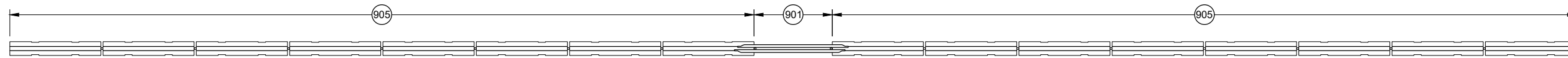
**PORTABLE CONCRETE BARRIER GAP THRIE BEAM COVER**

**GENERAL NOTES**

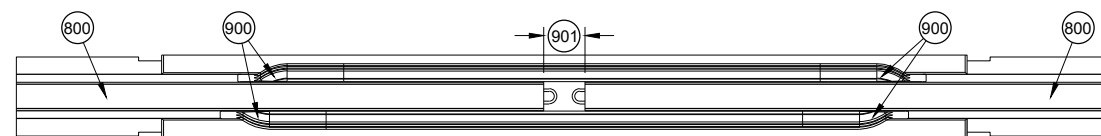
- 800 FREE STANDING TEMPORARY BARRIER
- 801 GAP STIFFENER ASSEMBLY
- 802 THRIE BEAMS ARE NESTED ON BOTH SIDES OF THE TEMPORARY BARRIER.
- 803 SEE THRIE BEAM RAIL TERMINAL CONNECTOR DETAIL

**CONCRETE BARRIER  
TEMPORARY PRECAST,  
12' - 6"**

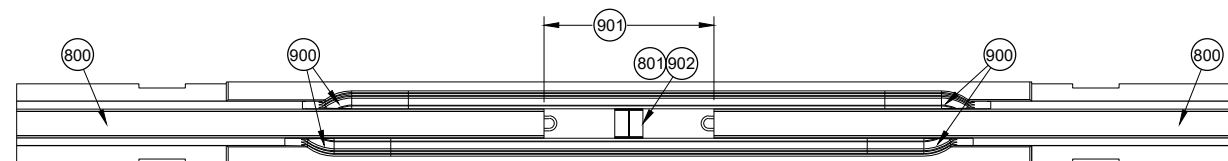
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



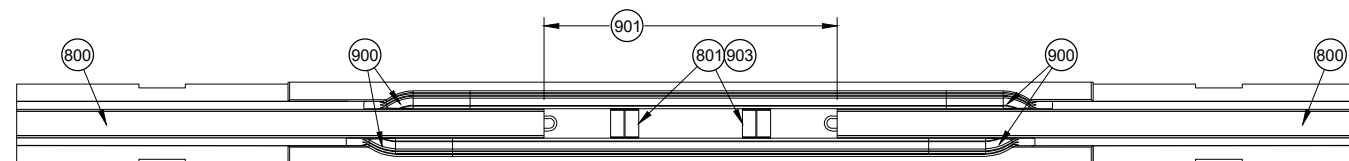
**PLAN VIEW  
GAP WITHIN SPACING**



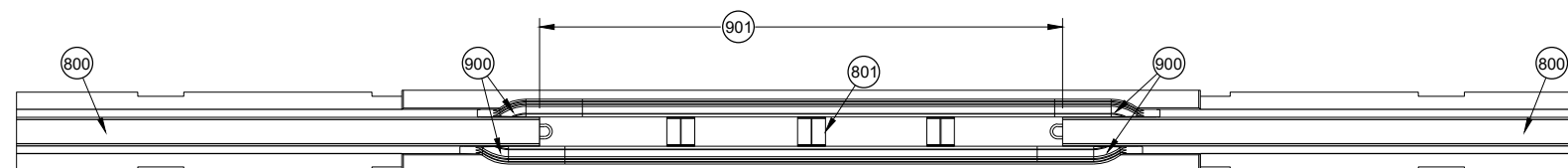
**PLAN VIEW  
TEMPORARY BARRIER GAP OVER 4" TO 1' MAX. 904**



**PLAN VIEW  
TEMPORARY BARRIER GAP OVER 1' TO 4' MAX. 904**



**PLAN VIEW  
TEMPORARY BARRIER GAP OVER 4' TO 7' MAX. 904**



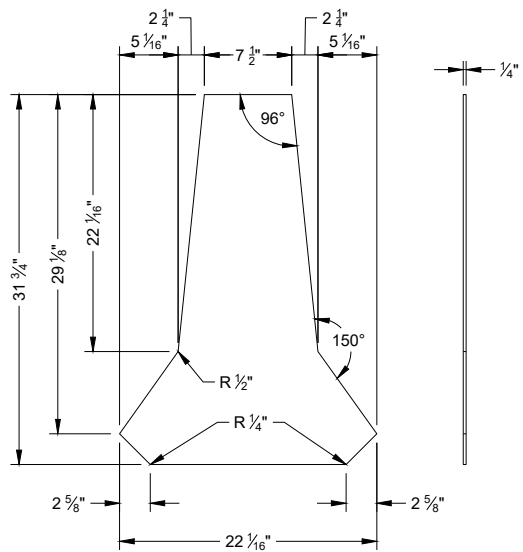
**PLAN VIEW  
TEMPORARY BARRIER GAP OVER 7' TO 12.5' MAX. 904**

**GENERAL NOTES**

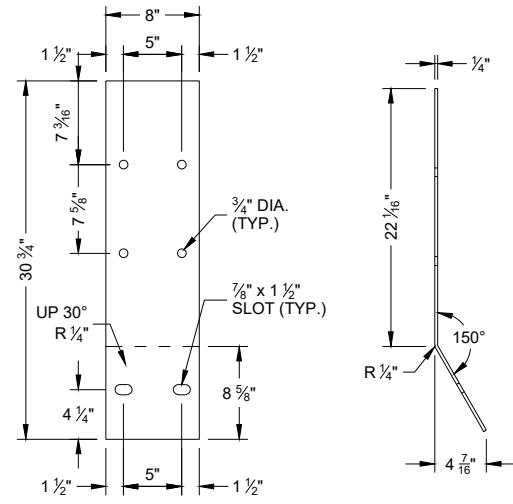
- 900 SEE OTHER DETAILS FOR TEMPORARY GAP HARDWARE (TYP.)
- 901 TEMPORARY BARRIER GAP
- 902 GAP STIFFENER ASSEMBLY CENTERED IN THE GAP.
- 903 GAP STIFFENER ASSEMBLY IS OFFSET 18 3/4" FROM CENTER
- 904 MINIMUM NUMBER OF GAP STIFFENERS SHOWN FOR THE GAP RANGE SHOWN.
- 905 MINIMUM OF 8 CONTINUOUS FREE STANDING TEMPORARY BARRIERS

**CONCRETE BARRIER  
TEMPORARY PRECAST,  
12' - 6"**

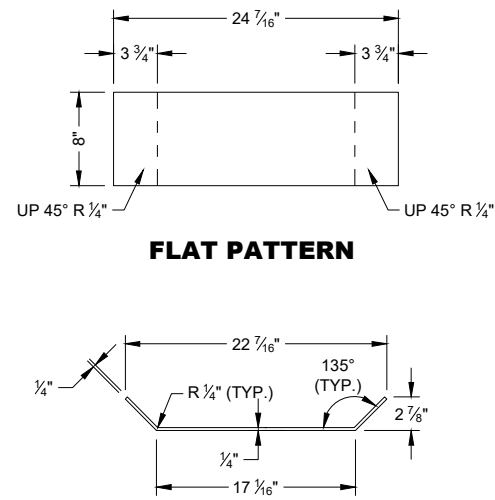
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



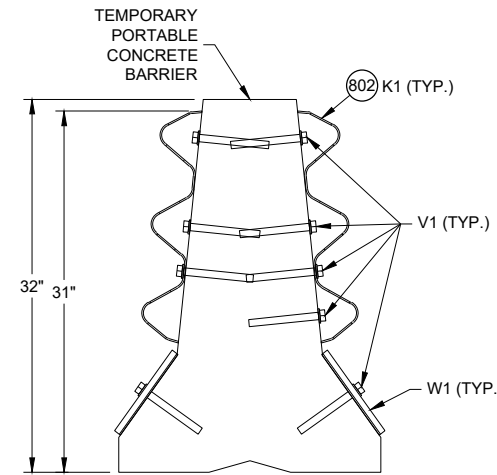
**PROFILE VIEW** **SIDE VIEW**  
**STIFFENER ASSEMBLY**  
**CENTER PANEL U1**



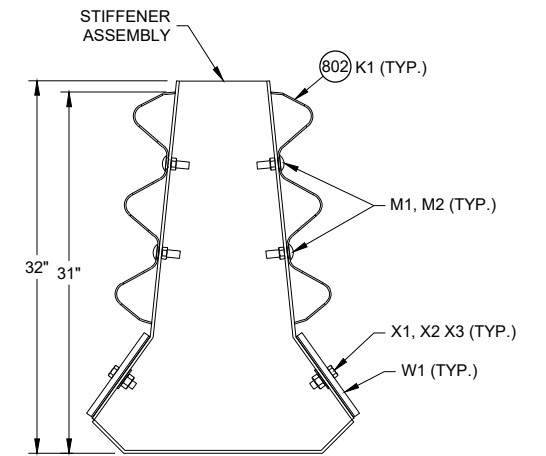
**FLAT PATTERN** **SIDE VIEW**  
**STIFFENER ASSEMBLY**  
**SIDE PANEL U2**



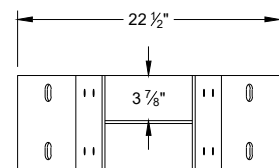
**PROFILE VIEW**  
**STIFFENER ASSEMBLY**  
**BOTTOM PANEL U3**



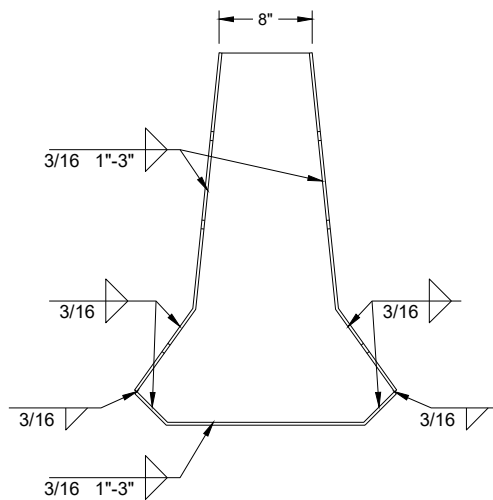
**SECTION A - A**



**SECTION B - B**

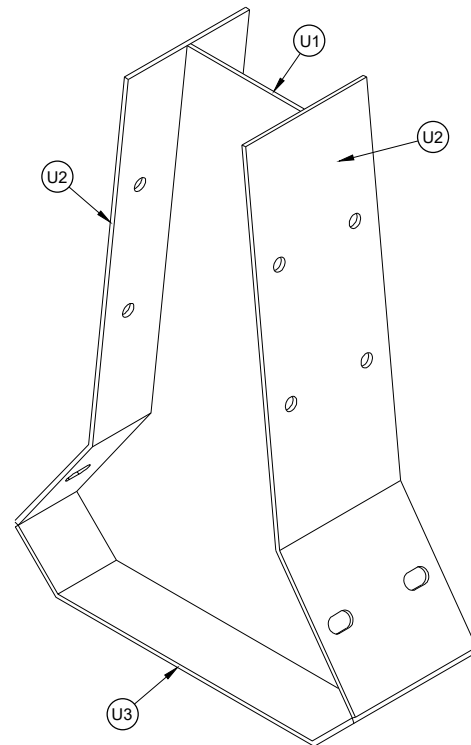


**PLAN VIEW**

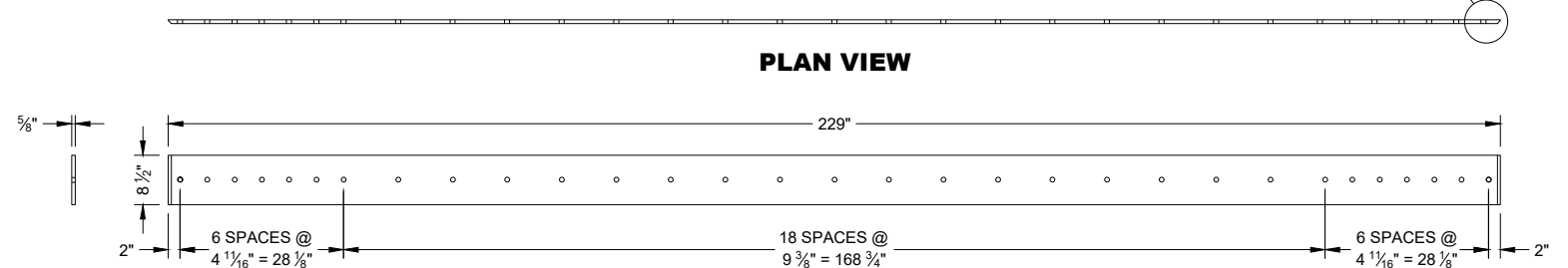


**PROFILE VIEW** **SIDE VIEW**

**GAP STIFFENER ASSEMBLY**

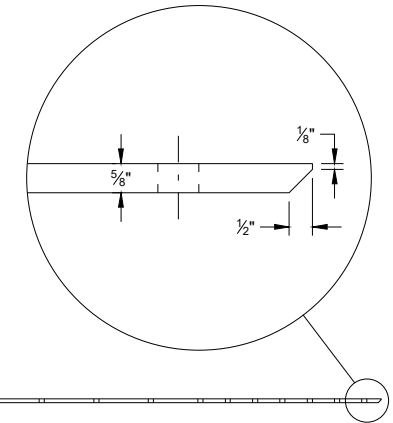


**ISOMETRIC**



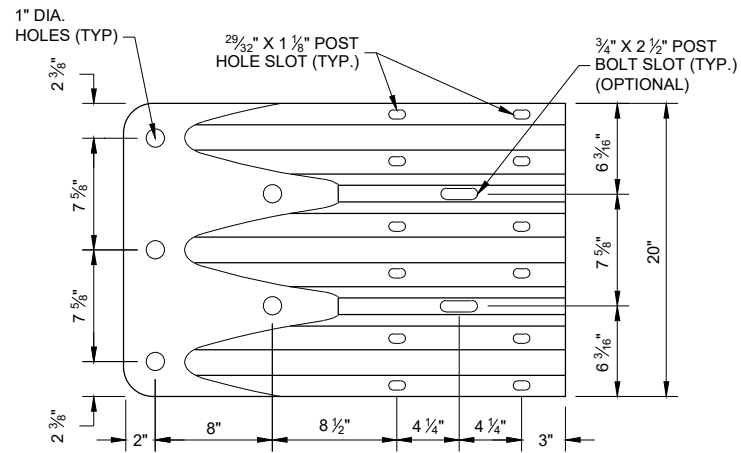
**SIDE VIEW**

**PLAN VIEW**  
**ELEVATION VIEW**  
**W1 TOE PLATE**



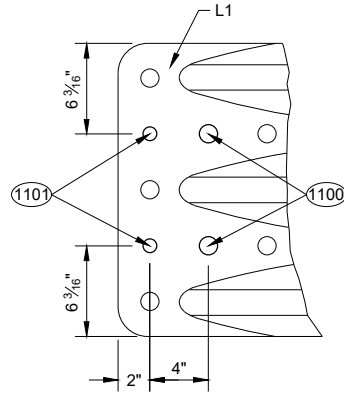
**CONCRETE BARRIER**  
**TEMPORARY PRECAST,**  
**12' - 6"**

STATE OF WISCONSIN  
 DEPARTMENT OF TRANSPORTATION



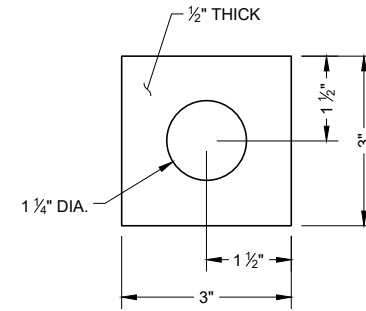
**ELEVATION VIEW**

**THRIE BEAM  
TERMINAL CONNECTOR**



**ELEVATION VIEW**

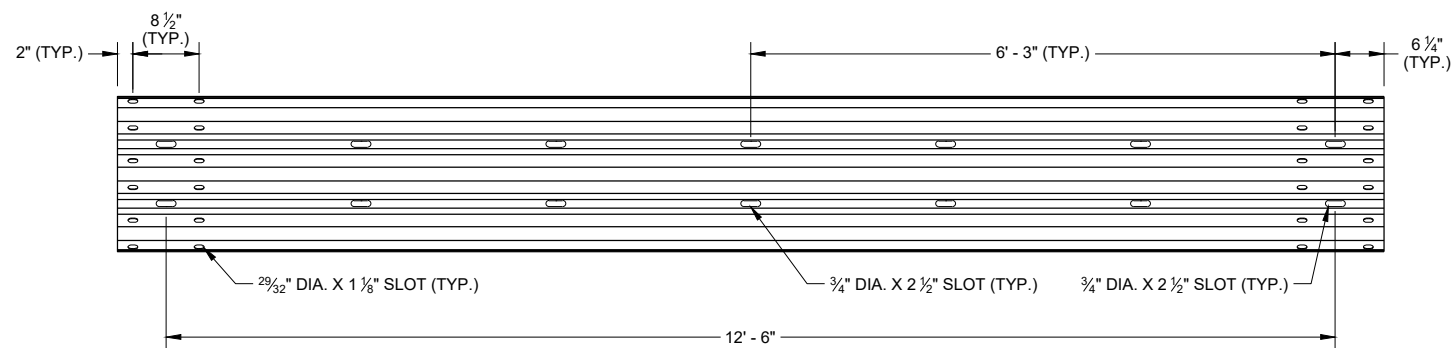
**ADDITIONAL THRIE BEAM  
TERMINAL CONNECTOR HOLE DETAIL**



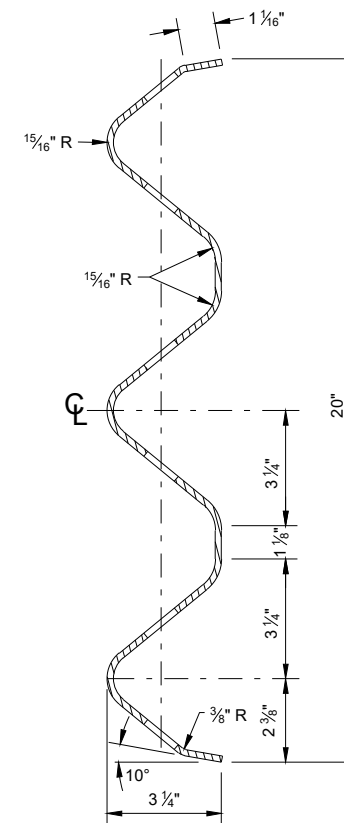
**PLATE WASHER DETAIL  
G2, H3**

**GENERAL NOTES**

- (1100) 1" DIA. HOLE
- (1101) 3/4" DIA. HOLE
- (1102) PROVIDE HOLES IN THRIE BEAM TERMINAL CONNECTOR TO LIMIT STEEL REINFORCEMENT OR LOOP BAR CONFLICT. CONTRACTOR MAY FIELD DRILL ADDITIONAL HOLE OR PROVIDE THRIE BEAM TERMINAL CONNECTOR WITH ADDITIONAL HOLES FROM SUPPLIER.



**SLOTTED THRIE BEAM RAIL K1**

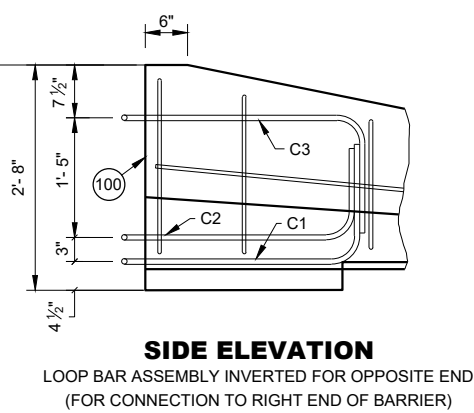
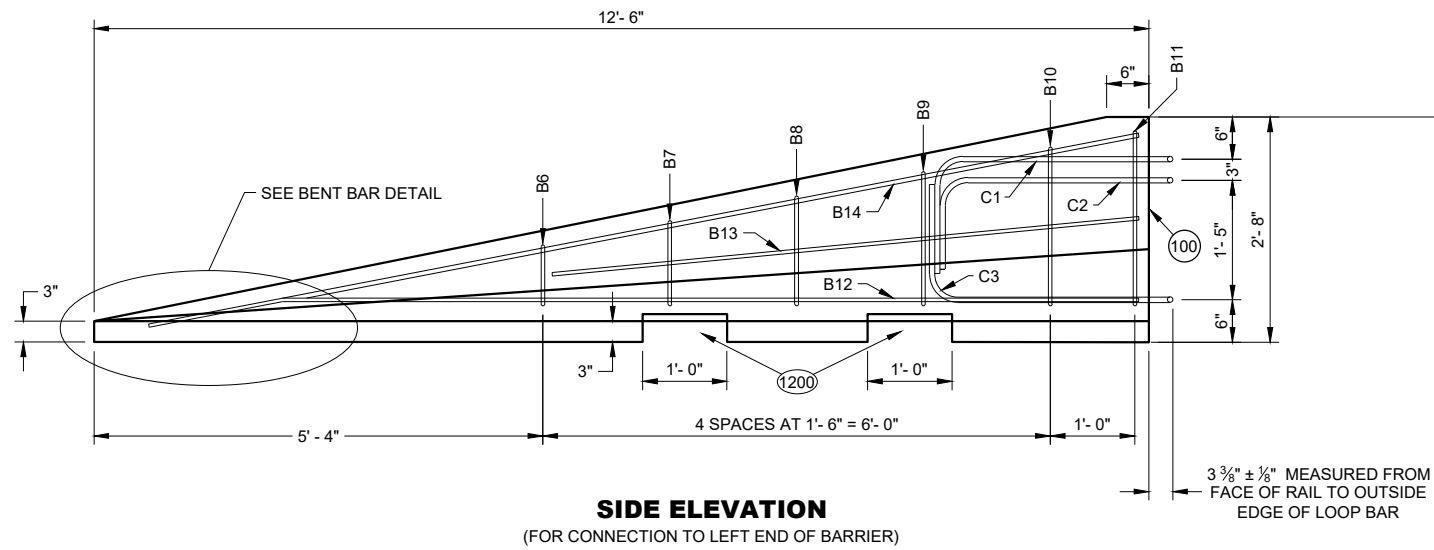


**SECTION THROUGH  
BEAM K1**

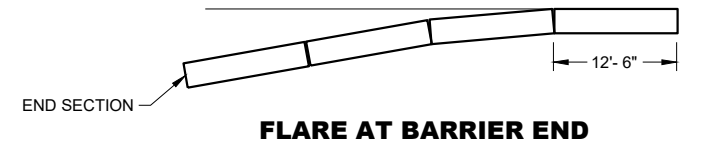
**CONCRETE BARRIER  
TEMPORARY PRECAST,  
12' - 6"**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

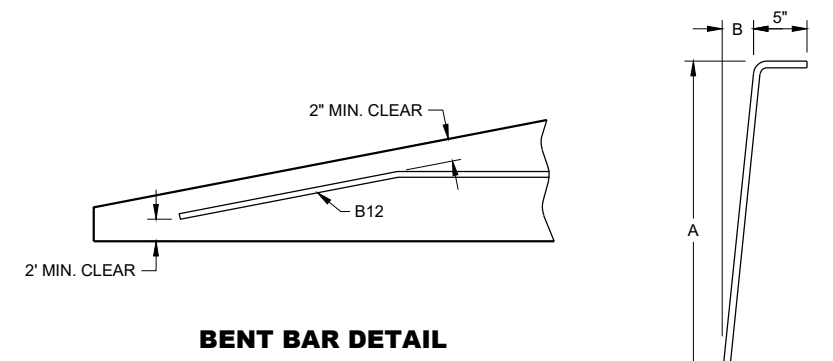
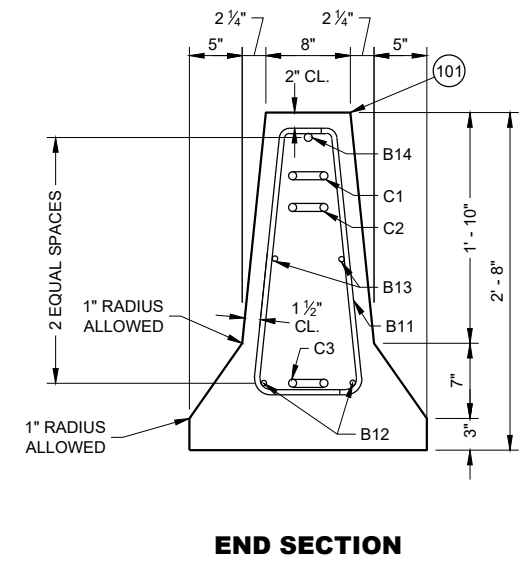
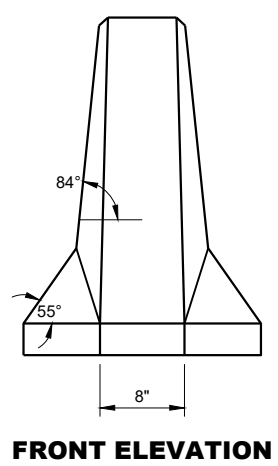
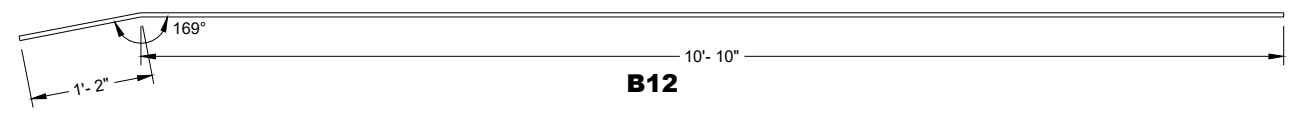
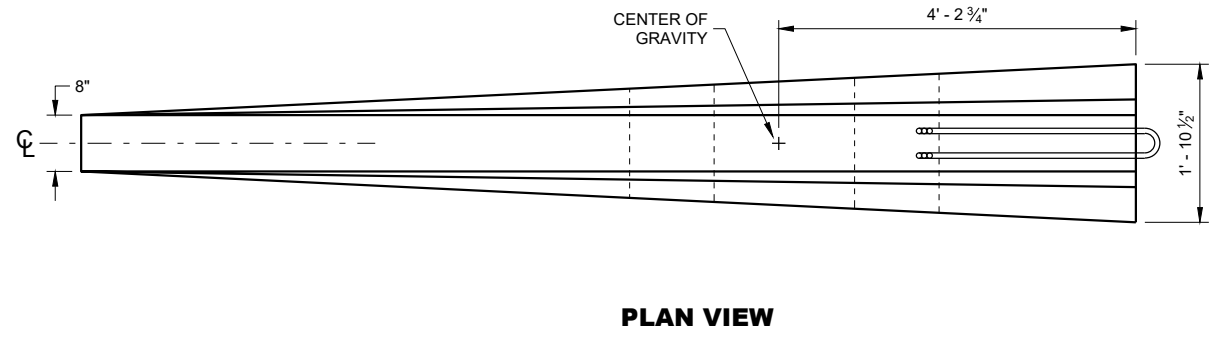




**GENERAL NOTES**  
 (1200) SEE LIFTING SLOT DETAIL. LOCATION OF LIFTING SLOTS DETERMINED BY CONTRACTOR.



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



BAR	A	B
B6	10"	1"
B7	1'- 1"	1 1/4"
B8	1'- 5"	1 5/8"
B9	1'- 8"	1 7/8"
B10	2'- 0 1/2"	2 3/8"
B11	2'- 3"	2 3/4"

**B BARS**  
 2 OF EACH SIZE REQUIRED FOR STIRRUP ASSEMBLY

**DETAILS OF BARRIER TAPER SECTION**

**CONCRETE BARRIER  
 TEMPORARY PRECAST,  
 12' - 6"**

STATE OF WISCONSIN  
 DEPARTMENT OF TRANSPORTATION

**BILL OF MATERIALS - CONCRETE BARRIER PRECAST**

PART	DESCRIPTION	MATERIALS SPECIFICATIONS	NOTES
A1	PRECAST TEMPORARY BARRIER - CONCRETE	MIN. = f <sub>c</sub> 5000 PSI	
B1	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#5 REBAR, LENGTH 12'-2"
B2	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#4 REBAR, LENGTH 12'-2"
B3	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#5 REBAR, LENGTH 12'-2"
B4	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#4 REBAR, LENGTH 6'-0"
B5	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#6 REBAR, LENGTH 2'-11"
B6	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#4 REBAR, LENGTH 1'-11"
B7	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#4 REBAR, LENGTH 2'-2"
B8	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#4 REBAR, LENGTH 2'-6"
B9	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#4 REBAR, LENGTH 2'-9"
B10	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#4 REBAR, LENGTH 3'-2"
B11	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#4 REBAR, LENGTH 3'-4"
B12	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#4 REBAR, LENGTH 12'-0"
B13	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#4 REBAR, LENGTH 7'-9"
B14	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#5 REBAR, LENGTH 11'-9"
C1	LOOP BAR	ASTM A709 GRADE 70 SMOOTH BAR OR ASTM A706 GRADE 60 REBAR UNCOATED	¾" DIA.
C2	LOOP BAR	ASTM A709 GRADE 70 SMOOTH BAR OR ASTM A706 GRADE 60 REBAR UNCOATED	¾" DIA.
C3	LOOP BAR	ASTM A709 GRADE 70 SMOOTH BAR OR ASTM A706 GRADE 60 REBAR UNCOATED	¾" DIA.
D1	CONNECTION PIN - ROD	ASTM A36 MIN. STRENGTH 36 KSI / ASTM A529 MAX. STRENGTH 50 KSI / ASTM A572 MAX STRENGTH 50 KSI / ASTM A709 MAX STRENGTH 50 KSI / ASTM A992 MAX STRENGTH 50 KSI	1 ½" DIA.
D2	CONNECTION PIN - TOP PLATE	ASTM A36 MIN. STRENGTH 36 KSI / ASTM A529 MAX. STRENGTH 50 KSI / ASTM A572 MAX STRENGTH 50 KSI / ASTM A709 MAX STRENGTH 50 KSI / ASTM A992 MAX STRENGTH 50 KSI	
G1	BOLT THROUGH ANCHOR - THREADED ROD	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 TYPE 2 A307 GRADE A OR SAE J429 GRADE 2 UNC	1 ½" DIA.
G2	BOLT THROUGH ANCHOR - WASHER, SQUARE	ASTM A36 MIN. STRENGTH 36 KSI / ASTM A529 MAX. STRENGTH 50 KSI / ASTM A572 MAX STRENGTH 50 KSI / ASTM A709 MAX STRENGTH 50 KSI / ASTM A992 MAX STRENGTH 50 KSI	
G3	BOLT THROUGH ANCHOR - NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291 / ASTM A 563 HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5	
H1	ADHESIVE ANCHOR - ADHESIVE	ICC-ES-AC308 5 ¼" EMBEDMENT WITH A MIN. BOND STRENGTH OF 1,650 PSI. SEE 603.2 AND 603.3.1.2 OF THE WISCONSIN STANDARD SPECIFICATIONS FOR MORE INFORMATION ON ADHESIVE ANCHORS.	
H2	ADHESIVE ANCHOR - THREADED ROD	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 TYPE 2 A307 GRADE A / SAE J429 GRADE 2 UNC	1 ½" DIA.
H3	ADHESIVE ANCHOR - WASHER, SQUARE	ASTM A36 MIN. STRENGTH 36 KSI / ASTM A529 MAX. STRENGTH 50 KSI / ASTM A572 MAX STRENGTH 50 KSI / ASTM A709 MAX STRENGTH 50 KSI / ASTM A992 MAX STRENGTH 50 KSI	
H4	ADHESIVE ANCHOR - NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291 / ASTM A 563 HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5	
J1	ASPHALT ANCHOR PIN - ROD	ASTM A36 MIN. STRENGTH 36 KSI / ASTM A529 MAX. STRENGTH 50 KSI / ASTM A572 MAX STRENGTH 50 KSI / ASTM A709 MAX STRENGTH 50 KSI / ASTM A992 MAX STRENGTH 50 KSI	1 ½" DIA.
J2	ASPHALT ANCHOR PIN - STOP PLATE	ASTM A36 MIN. STRENGTH 36 KSI / ASTM A529 MAX. STRENGTH 50 KSI / ASTM A572 MAX STRENGTH 50 KSI / ASTM A709 MAX STRENGTH 50 KSI / ASTM A992 MAX STRENGTH 50 KSI	
K1	THRIE BEAM RAIL	AASHTO M180 CLASS A TYPE 2 APPROVED PRODUCER	12 GAUGE
L1	THRIE BEAM RAIL - TERMINAL	AASHTO M180 CLASS A TYPE 2 APPROVED PRODUCER	12 GAUGE

PART	DESCRIPTION	MATERIALS SPECIFICATIONS	NOTES
M1	SPLICE BOLT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 TYPE 2 UNC AASHTO M180 HEAD ASTM A307 GRADE B OR SAE J429 GRADE 2 OR ASTM F1554 GRADE 36	¾" DIA.
M2	SPLICE BOLT - NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291 / ASTM A 563 AASHTO M180 RECESSED HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5	
N1	THRIE BEAM RAIL TERMINAL - MECHANICAL ANCHOR	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291 / ASTM A 563 AASHTO M180 RECESSED HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5	¾" DIA. LENGTH 6"
N2	THRIE BEAM RAIL TERMINAL - WASHER	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 TYPE 2 F436 TYPE 1	
N3	THRIE BEAM RAIL TERMINAL MECHANICAL OR ADHESIVE ANCHOR	MINIMUM MECHANICAL OR ADHESIVE ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 17.9 KIPS AND ULTIMATE SHEAR LOAD 21.96 KIPS. SEE 603.2 AND 603.3.1.2 OF THE WISCONSIN STANDARD SPECIFICATIONS FOR MORE INFORMATION ON ADHESIVE ANCHORS.	
P1	THRIE BEAM RAIL CONNECTION 1-BOLT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291 / ASTM A 563 AASHTO M180 RECESSED HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5	¾" DIA.
P2	THRIE BEAM RAIL CONNECTION 1-WASHER	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 TYPE 2 F436 TYPE 1	
P3	THRIE BEAM RAIL CONNETION 1- MECHANICAL OR ADHESIVE ANCHOR	MINIMUM MECHANICAL OR ADHESIVE ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 9.48 KIPS AND ULTIMATE SHEAR LOAD 10.48 KIPS. SEE 603.2 AND 603.3.1.2 OF THE WISCONSIN STANDARD SPECIFICATIONS FOR MORE INFORMATION ON ADHESIVE ANCHORS.	
Q1	BLOCK WOOD	SEE STANDARD SPEC. 614	
R1	CAP - BOLT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291 / ASTM A 563 AASHTO M180 RECESSED HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5	¾" DIA.
R2	CAP - BOLT - WASHER	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 TYPE 2 F436 TYPE 1	
R3	CAP - BOLT - MECHANICAL ANCHOR	MINIMUM MECHANICAL OR ADHESIVE ANCHOR STRENGTH REQUIREMENTS ULTIMATE TENSILE LOAD 12.14 KIPS AND ULTIMATE SHEAR LOAD 17.5 KIPS. SEE 603.2 AND 603.3.1.2 OF THE WISCONSIN STANDARD SPECIFICATIONS FOR MORE INFORMATION ON ADHESIVE ANCHORS.	12 GAUGE
S1	CAP 42-INCH TOP PLATE	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
S2	CAP 42-INCH END PLATE	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
S3	CAP 42-INCH SIDE PLATE	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
S4	CAP 42-INCH GUSSET 1	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
S5	CAP 42-INCH GUSSET 2	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
S6	CAP 42-INCH GUSSET 3	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
S7	CAP 42-INCH GUSSET 4	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE

6

SDD 14B07-16m

6

SDD 14B07-16m

**CONCRETE BARRIER  
TEMPORARY PRECAST,  
12' - 6"**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

**BILL OF MATERIALS - CONCRETE BARRIER PRECAST**

PART	DESCRIPTION	MATERIALS SPECIFICATIONS	NOTES
T1	CAP 56-INCH TOP PLATE	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
T2	CAP 56-INCH END PLATE	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
T3	CAP 56-INCH SIDE PLATE 1	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
T4	CAP 56-INCH SIDE PLATE 2	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
T5	CAP 56-INCH GUSSET 1	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
T6	CAP 56-INCH GUSSET 2	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
T7	CAP 56-INCH GUSSET 3	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
T8	CAP 42-INCH GUSSET 4	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
T9	CAP 42-INCH GUSSET 5	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
T10	CAP 42-INCH GUSSET 6	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
T11	CAP 42-INCH GUSSET 7	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
T12	CAP 42-INCH GUSSET 8	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
T13	CAP 42-INCH GUSSET 9	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
T14	CAP 42-INCH GUSSET 10	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
T15	CAP 42-INCH GUSSET 11	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
T16	CAP 42-INCH GUSSET 12	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	12 GAUGE
U1	GAP STIFFENER	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	
U2	GAP STIFFENER - CONNECTOR PLATE 1	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	
U3	GAP STIFFENER - CONNECTOR PLATE 2	AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	

PART	DESCRIPTION	MATERIALS SPECIFICATIONS	NOTES
V1	THRIE BEAM RAIL TERMINAL MECHANICAL OR ADHESIVE ANCHOR	MINIMUM MECHANICAL OR ADHESIVE ANCHOR STRENGTH REQUIREMENTS ULTIMATE TENSILE LOAD 24.0 KIPS AND ULTIMATE SHEAR LOAD 21.5 KIPS. SEE 603.2 AND 603.3.1.2 OF THE WISCONSIN STANDARD SPECIFICATIONS FOR MORE INFORMATION ON ADHESIVE ANCHORS.	¾" DIA.
V2	GAP STIFFENER - BOLT - NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C O R MECHANICAL GALVANIZE TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291/ASTM A 563 HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5	
W1	TOE PLATE	AASHTO M111/ASTM A123 ASTM A36 MIN STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI	
X1	TOE PLATE - CONNECTION BOLT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 TYPE 2 UNC HEAVY HEX HEAD OR AASTHO M180 HEAD, ASTM F3125 GRADE A325 TYPE 1 HEAVY HEX HEAD OR SAE J429 GRADE 5 HEAVY HEX HEAD / ASTM A449 TYPE 1 HEAVY HEX HEAD. BOLTS MAY BE FULLY THREADED. PROVIDE ENOUGH THREADING FOR PROPER TIGHTENING OF BOLT.	¾" DIA.
X2	TOE PLATE - CONNECTION BOLT - WASHER	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 TYPE 2 F436 TYPE 1 (HARDEN WASHER ONLY)	
X3	TOE PLATE - CONNECTION BOLT - NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291 / ASTM A 563 HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5	

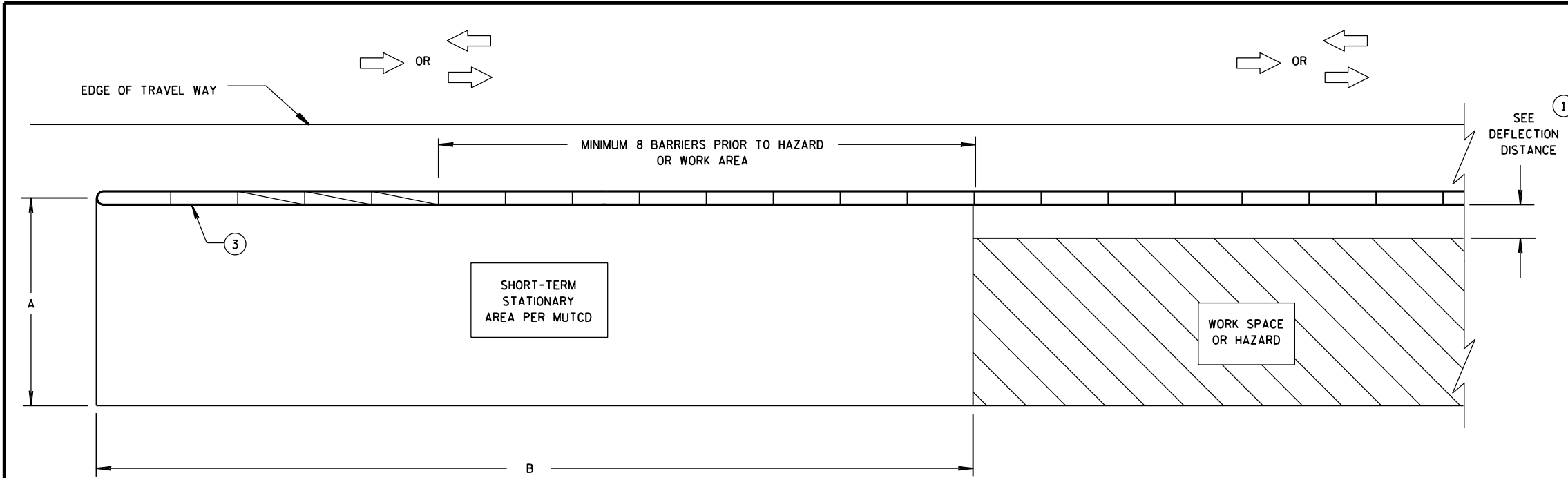
6

6

SDD 14B07-16n

SDD 14B07-16n

<b>CONCRETE BARRIER TEMPORARY PRECAST, 12' - 6"</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED February 2023 DATE	/S/ Rodney Taylor ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA	



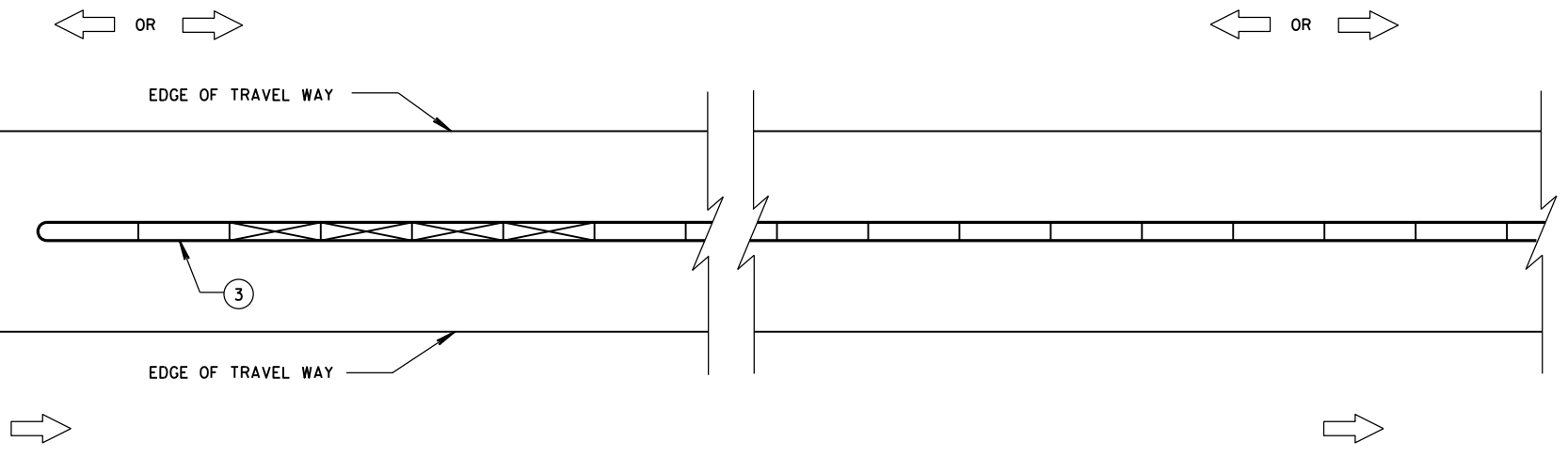
**DIMENSION A TABLE** <sup>②</sup>

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

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

**DIMENSION B TABLE** <sup>②</sup>

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



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

**LEGEND**

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

**GENERAL NOTES**

SEE STANDARD DETAIL DRAWING 14B7 FOR MORE INFORMATION.

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

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

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

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

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

- ① FOR DEFLECTION INFORMATION SEE STANDARD DETAIL DRAWING 14B7.
- ② VALUES PROVIDED MAY NOT FIT ALL POSSIBLE SITUATIONS OR SITE CONDITIONS. SEE OTHER SECTIONS OF THE CONTRACT OR PROJECT ENGINEER FOR MORE DETAILS.
- ③ ANCHOR TEMPORARY BARRIER ACCORDING TO CRASH CUSHION OR SAND BARREL MANUFACTURER'S RECOMMENDATIONS. IF MANUFACTURER'S RECOMMENDATIONS ARE NOT PROVIDED, ANCHOR 3 PINS ON TRAFFIC SIDE.

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

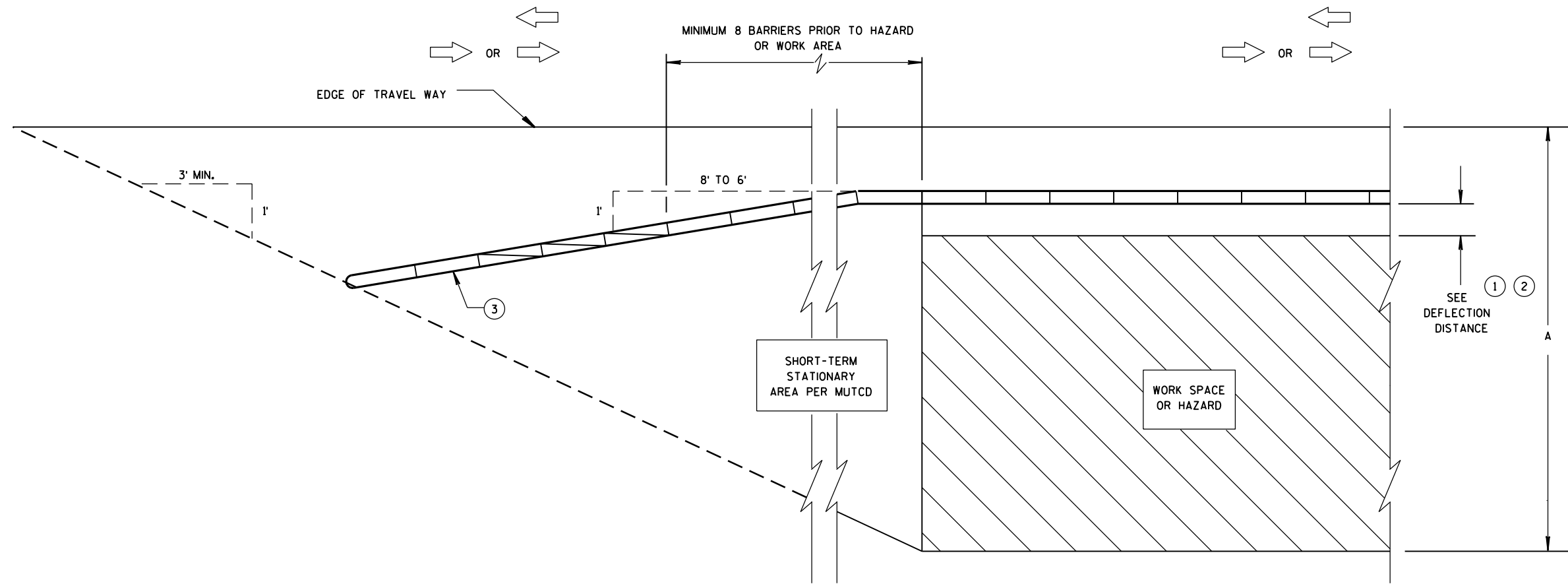
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

6

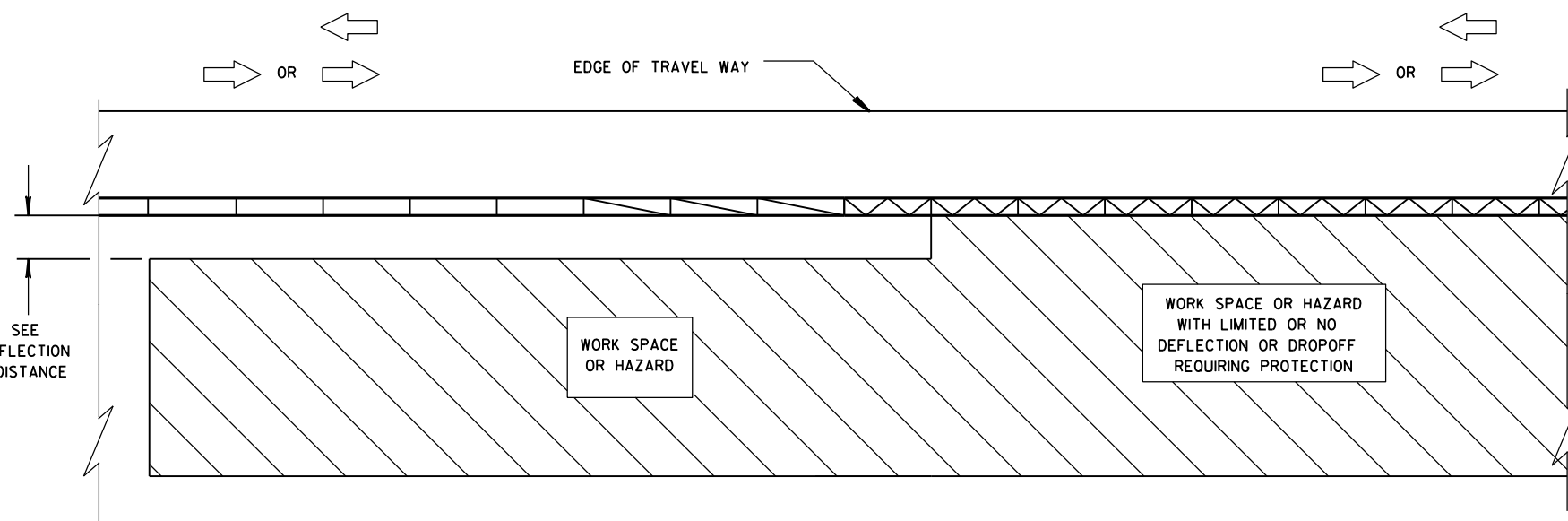
6

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

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



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



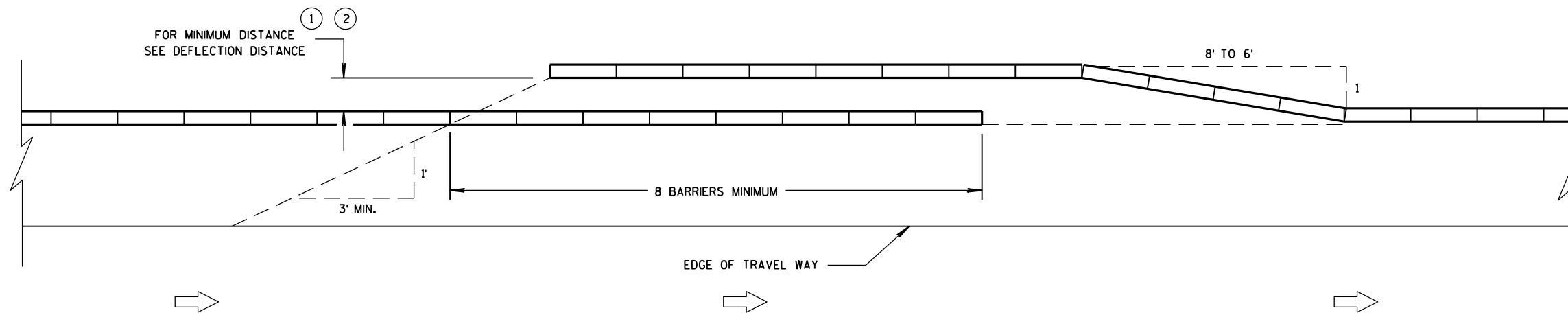
**TRANSITION FROM FREE STANDING TEMPORARY BARRIER  
TO ANCHORED BARRIER**

**LEGEND**

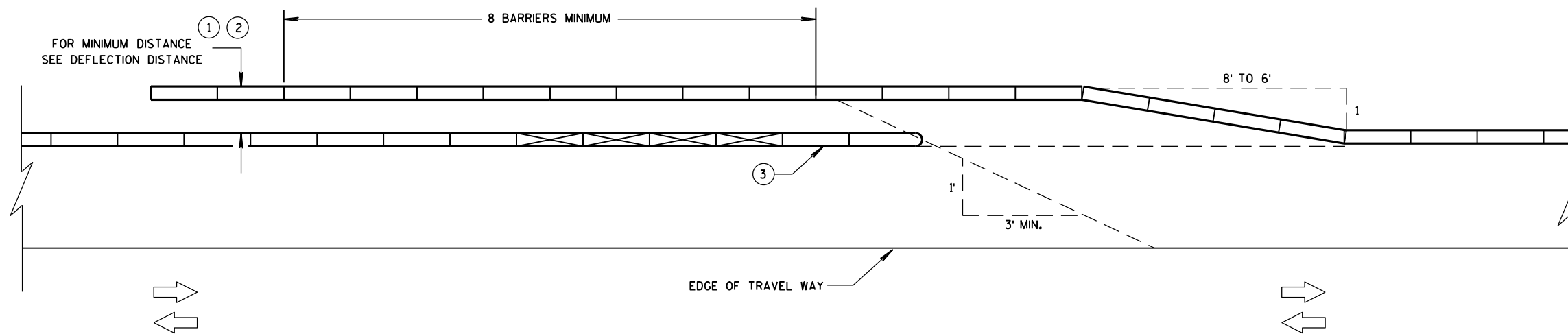
- DIRECTION OF TRAVEL
- CRASH CUSHION OR SAND BARREL ARRAY
- SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS
- SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS
- 3 PINS PLACED ON TRAFFIC SIDE OF BARRIER
- PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET
- FREE STANDING TEMPORARY BARRIER

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

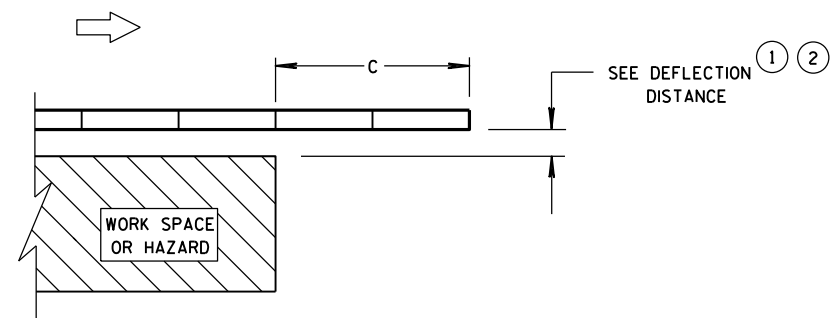
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



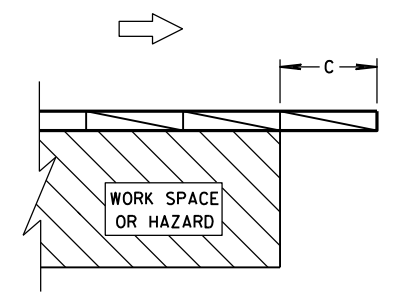
**TEMPORARY BARRIER OVERLAP - ONE-WAY TRAFFIC**



**TEMPORARY BARRIER OVERLAP - TWO-WAY TRAFFIC**



**ENDING TEMPORARY BARRIER  
DOWNSTREAM - UNANCHORED**



**ENDING TEMPORARY BARRIER  
DOWNSTREAM - ANCHORED**

**LEGEND**

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

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

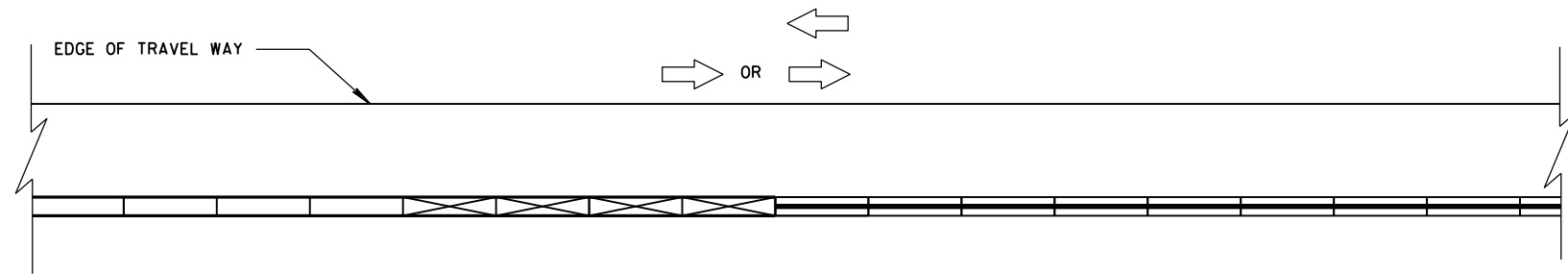
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

6

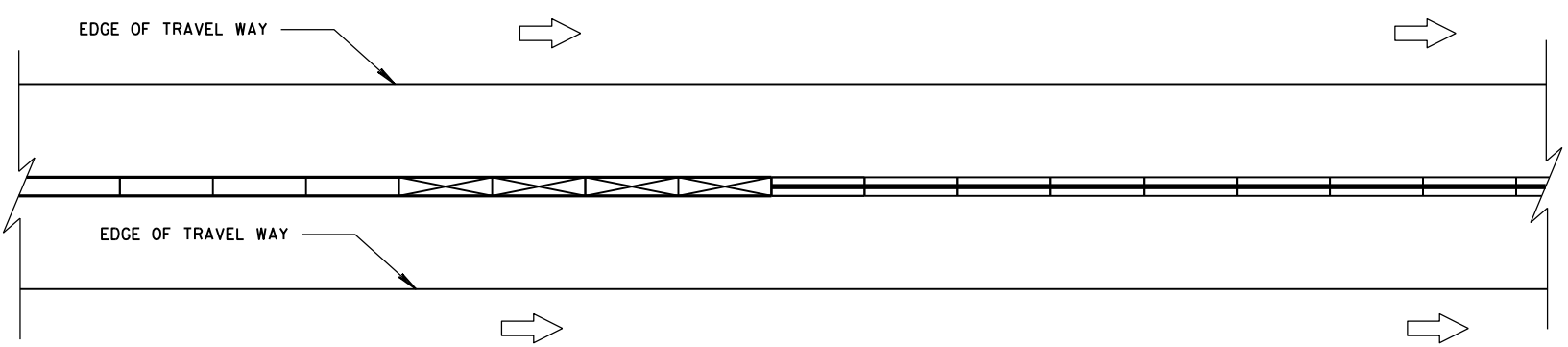
6

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

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



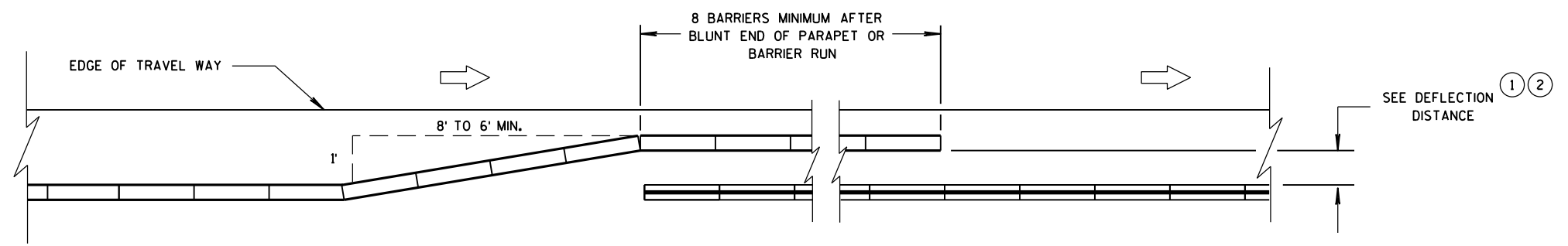
**CONNECTING TEMPORARY BARRIER TO PERMANENT CONCRETE BARRIER-TRAFFIC ON ONE SIDE**



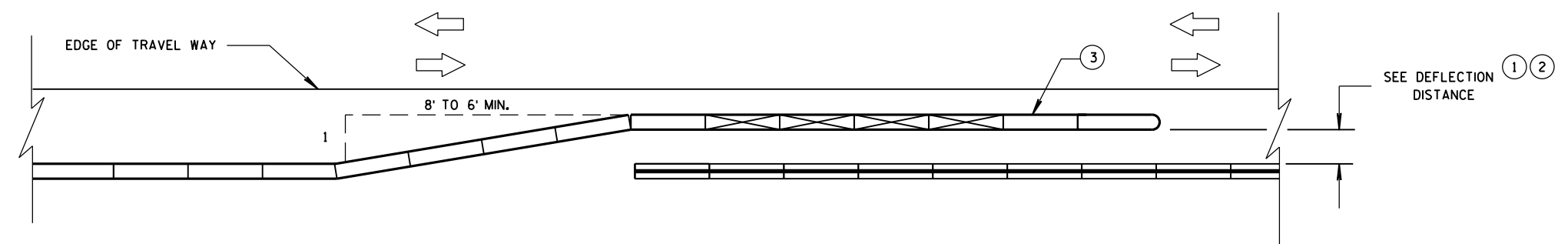
**CONNECTING TEMPORARY BARRIER TO PERMANENT CONCRETE BARRIER-TRAFFIC ON BOTH SIDES**

**LEGEND**

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



**OVERLAPPING TEMPORARY BARRIER AND PERMANENT BARRIER - ONE WAY TRAFFIC**



**OVERLAPPING TEMPORARY BARRIER AND PERMANENT BARRIER - TWO WAY TRAFFIC**

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

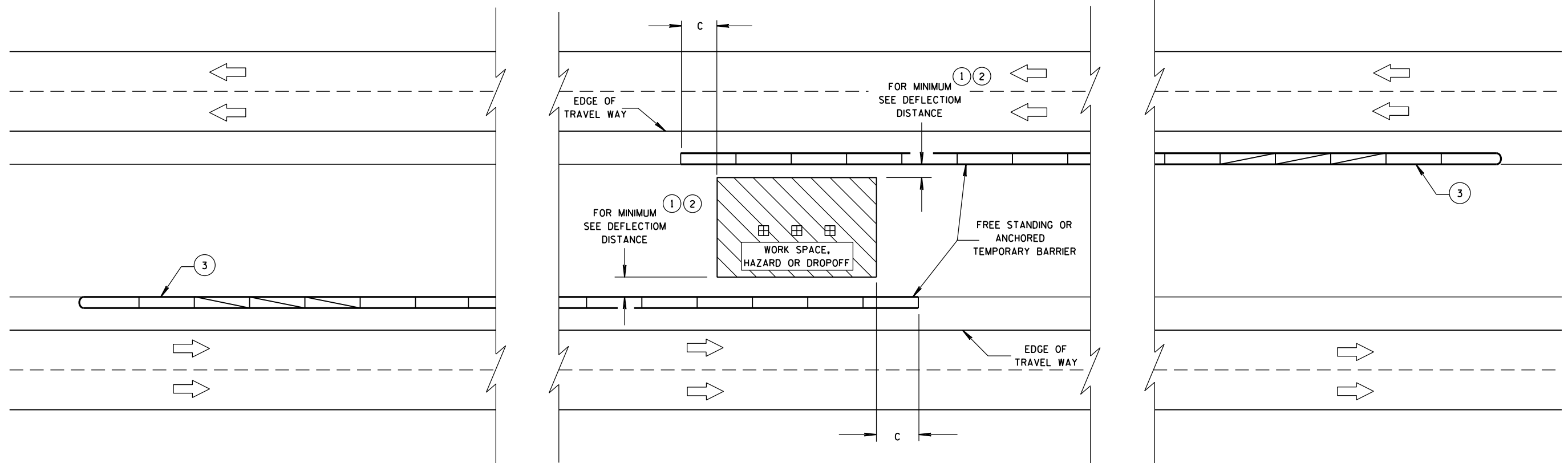
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

**LEGEND**

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

**DIMENSION C TABLE** <sup>2</sup>

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



6

6

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

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

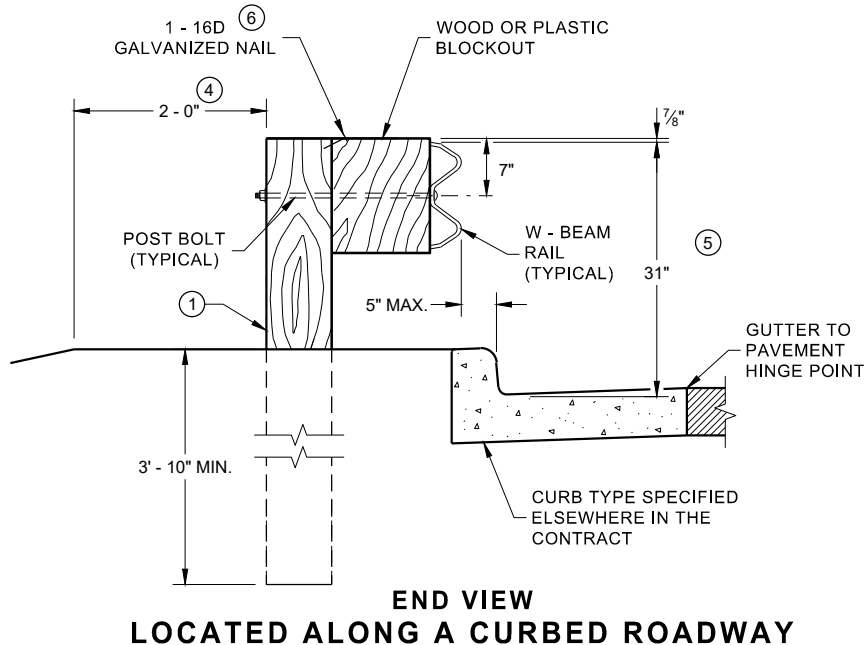
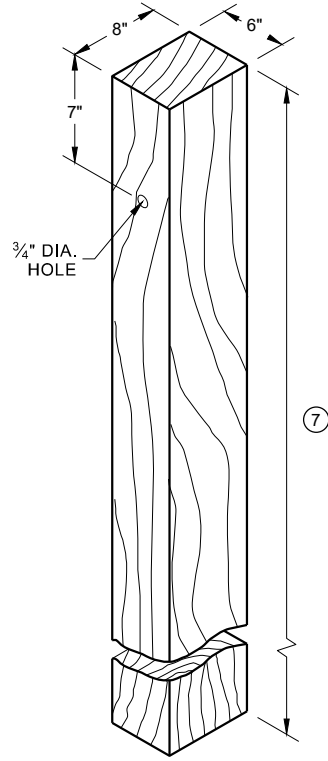
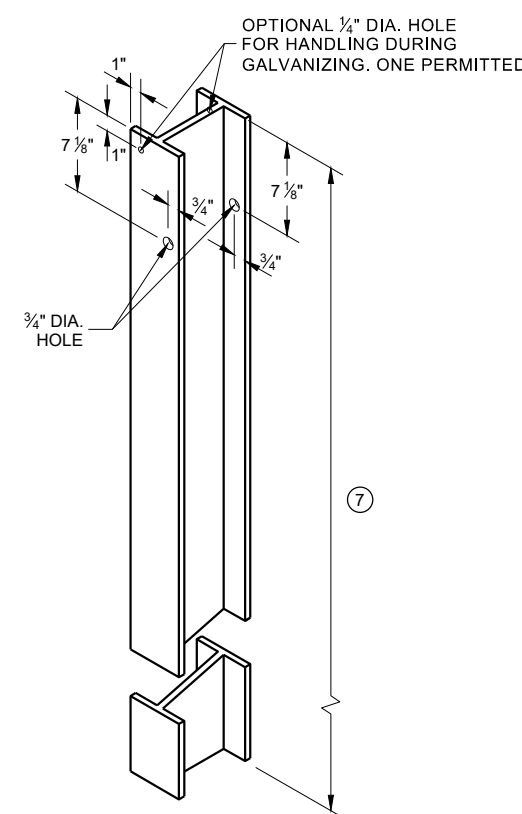
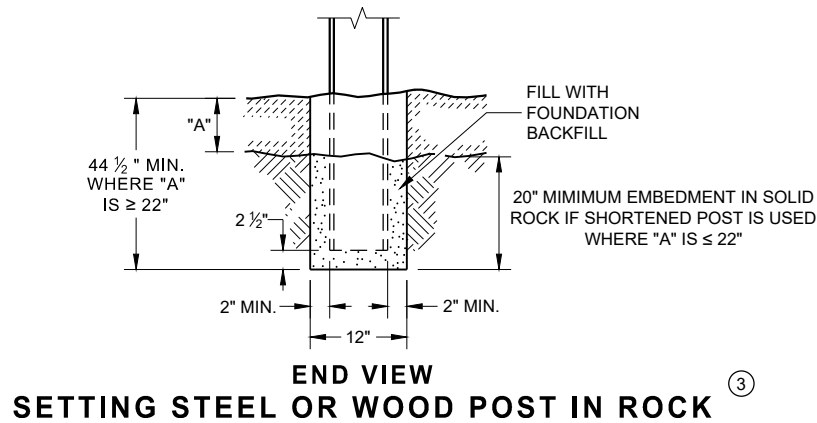
**CRASH CUSHION/SAND BARREL  
ARRAY AND OTHER TEMPORARY  
BARRIER LAYOUT DETAILS**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

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

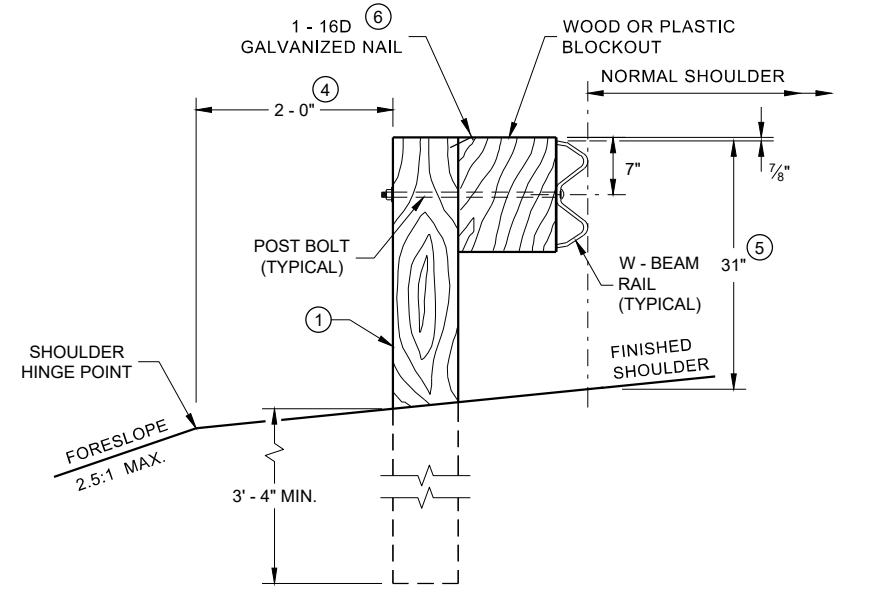


- ① WOOD OR STEEL POSTS (w6X9 OR w6X8.5) MAY BE USED. DO NOT INTERMIX WOOD AND STEEL POSTS. INSTALL STEEL POSTS WITH HOLES ON APPROACHING TRAFFIC SIDE.
- ② USE WOOD OR APPROVED PLASTIC BLOCKOUTS. WOOD BLOCKOUTS MAY BE CONSTRUCTED OUT OF TWO OR MORE WOOD BLOCKOUTS. SEE ALTERNATE WOOD BLOCKOUT DETAIL. DIMENSIONS OF APPROVED PLASTIC BLOCKOUTS MAY VARY.
- ③ IF ROCK IS ENCOUNTERED DURING EXCAVATION, PROVIDE A HOLE 12 INCHES IN DIAMETER EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2 1/2" INCHES OF GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE. CUT THE POSTS THE TO LENGTH AND INSTALL. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT. BACKFILL IS TO BE FREE OF LARGE ROCKS.
- ④ WHEN THE DISTANCE FROM BACK OF POST TO SHOULDER HINGE POINT IS LESS THAN 2 FEET INSTALL LONGER POST AT HALF POST SPACING (K).
- ⑤ FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS ±1". FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27 3/4" TO 32".
- ⑥ WHEN USING STEEL POST AND WOOD BLOCKOUTS INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.
- ⑦ TOTAL POST LENGTH FOR TYPE K IS 7' - 0". TOTAL POST LENGTH FOR OTHER MGS TYPES IS 6' - 0".

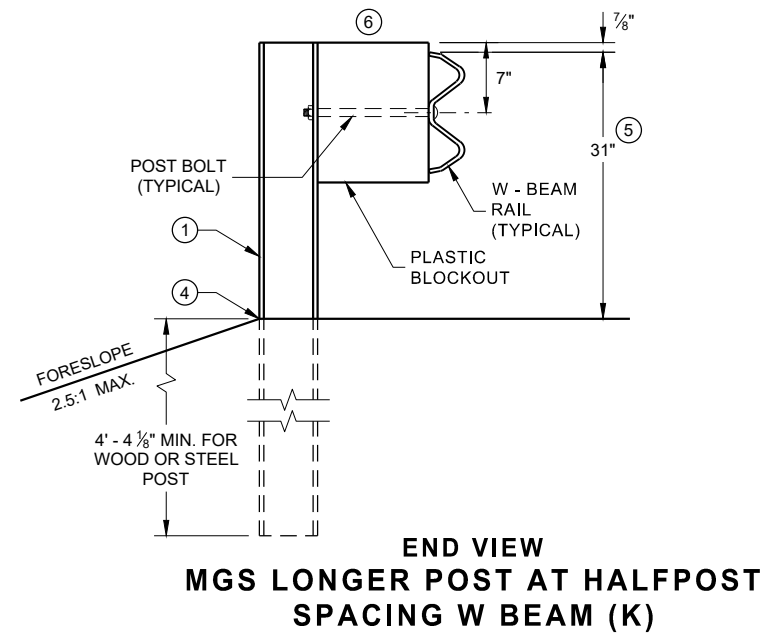


STEEL POST & HOLE PUNCHING DETAIL (W 6 X 9)

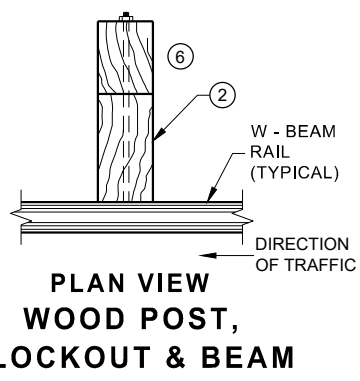
WOOD POST (6" X 8") NOMINAL



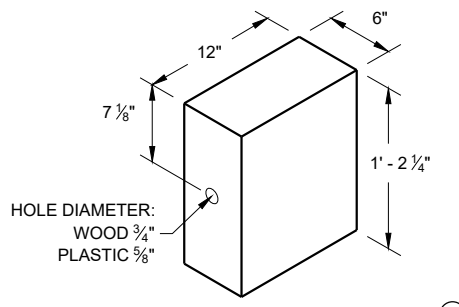
END VIEW LOCATED ALONG A ROADWAY SHOULDER STANDARD INSTALLATION



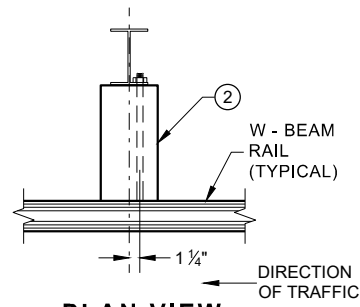
END VIEW MGS LONGER POST AT HALFPOST SPACING W BEAM (K)



PLAN VIEW WOOD POST, BLOCKOUT & BEAM



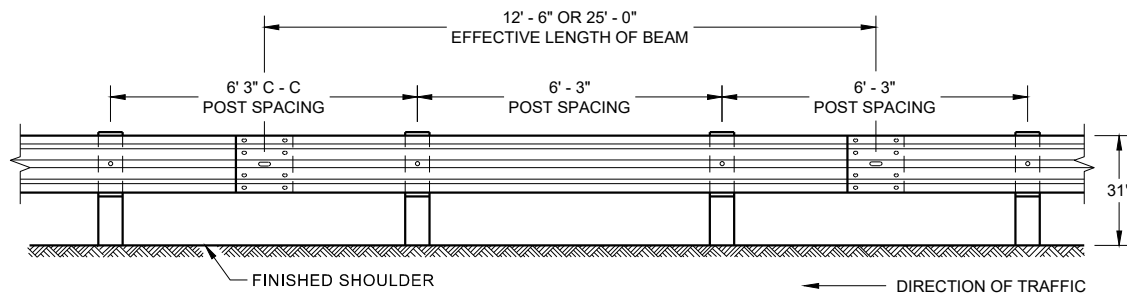
WOOD OR PLASTIC BLOCKOUT



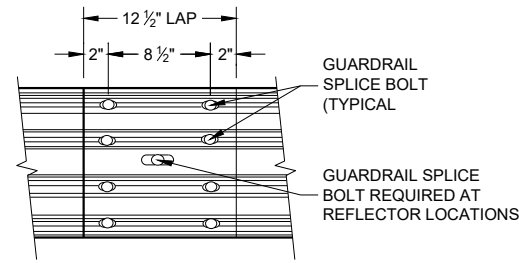
PLAN VIEW STEEL POST, PLASTIC BLOCKOUT & BEAM

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION



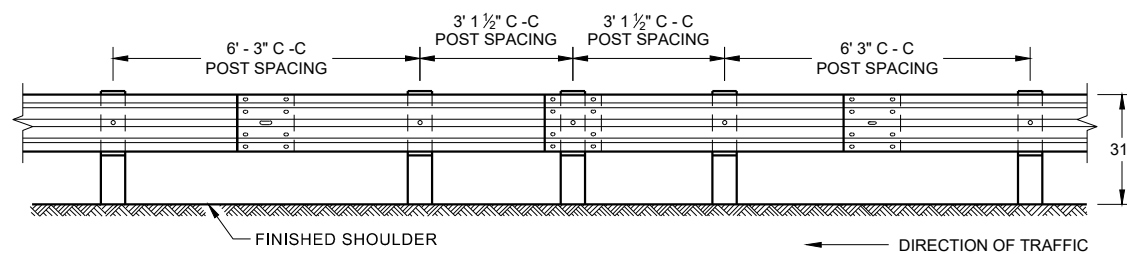
**FRONT VIEW  
POST SPACING STANDARD INSTALLATION**



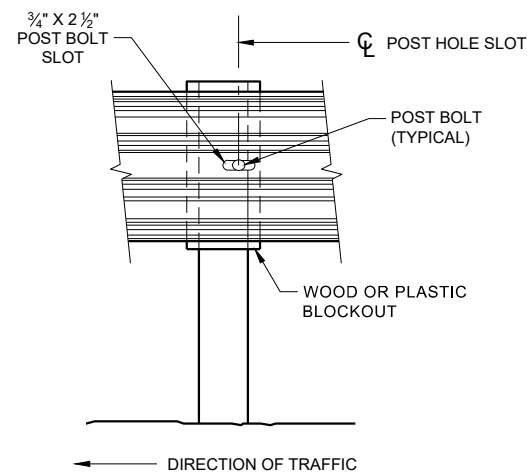
**FRONT VIEW  
MID-SPAN BEAM SPLICE**

**GENERAL NOTES**

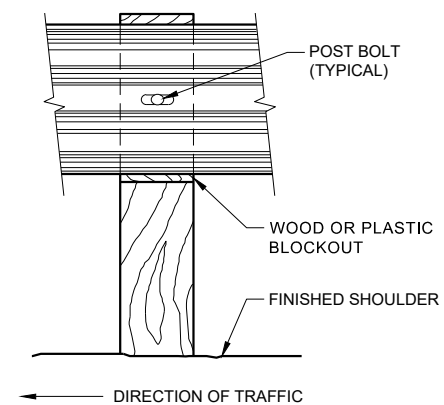
- ⑧ DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.
  - ⑨ 25 FEET OF HALF POST SPACING IS REQUIRED ON APPROACH AND DEPARTURE ENDS OF QUARTER POST SPACING.
- POST BOLTS ARE A 3/8" DIAMETER ASTM A307 GUARDRAIL BOLT. A POST BOLT REQUIRES 3/4" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT AND 3/8" DIAMETER F844 FLAT WASHER. POST BOLTS MAY BE LONGER IF MULTIPLE BLOCKOUTS ARE BEING USED.
- GUARD RAIL SPLICE BOLTS ARE A 3/8" DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES 3/8" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.



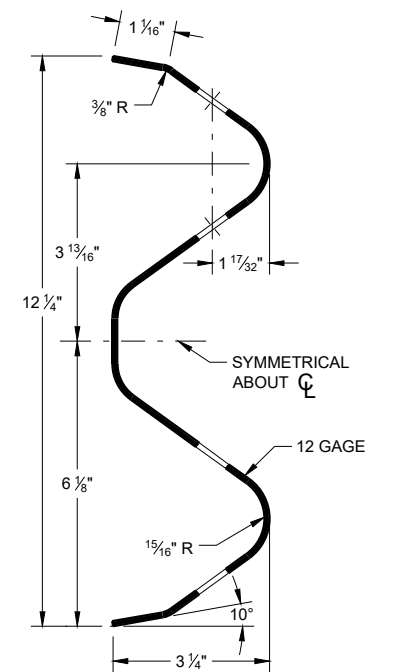
**FRONT VIEW  
HALF POST SPACING (HS) AND  
HALF POST SPACING WITH LONGER POSTS (K)**



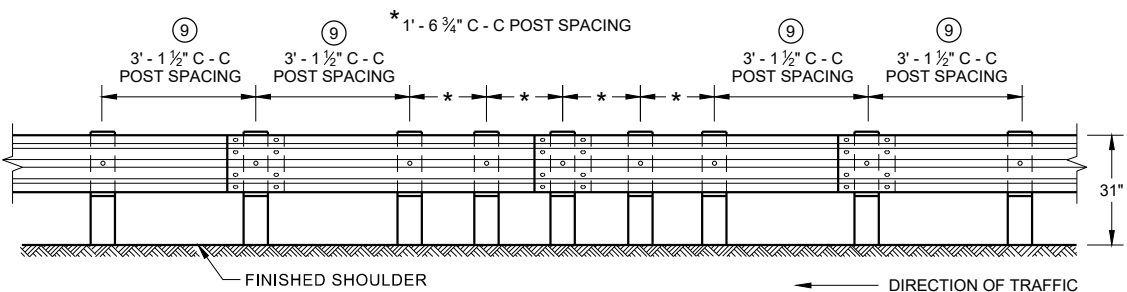
**FRONT VIEW AT STEEL POST**



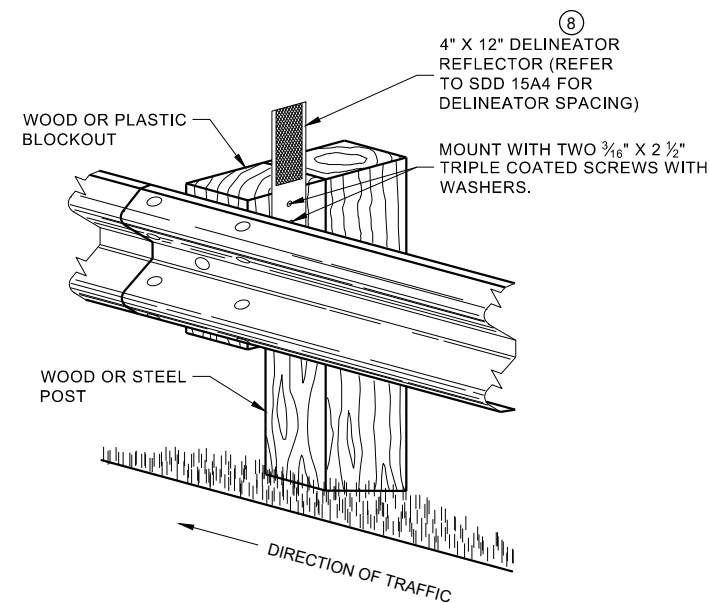
**FRONT VIEW AT WOOD POST**



**SECTION THRU W-BEAM RAIL**



**FRONT VIEW  
QUARTER POST SPACING (QS)**



**ONE SIDED REFLECTOR DETAIL  
AND TYPICAL INSTALLATION**

6

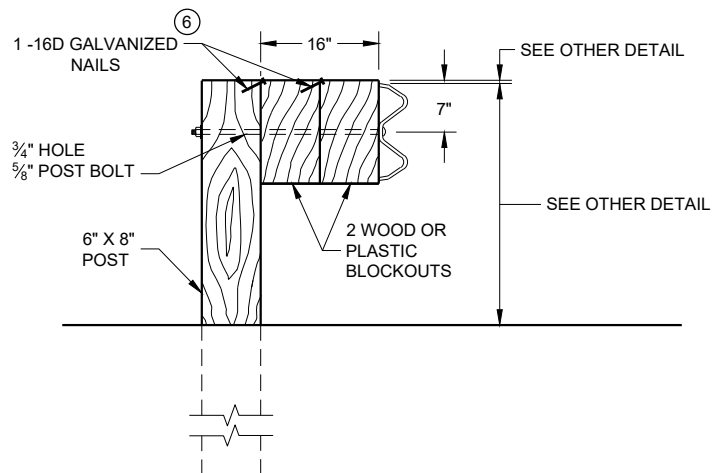
6

SDD 14B42 - 07b

SDD 14B42 - 07b

**MIDWEST GUARDRAIL SYSTEM  
(MGS) GUARDRAIL**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

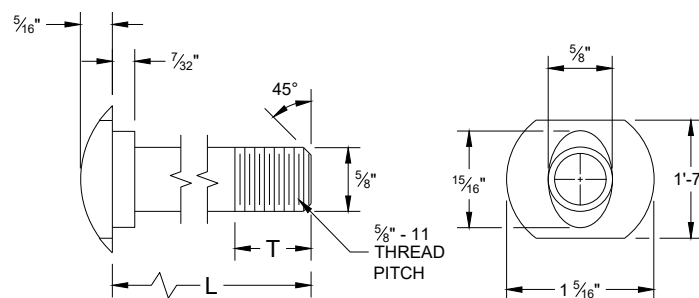


**DETAIL FOR 16" BLOCKOUT DEPTH**

IT IS ACCEPTABLE TO USE BLOCKOUTS UP TO 16" DEEP TO INCREASE THE POST OFFSET TO AVOID UNDERGROUND OBSTACLES. THERE IS NO LIMIT TO THE NUMBER OF POSTS THAT CAN HAVE ADDITIONAL BLOCKOUTS UP TO 16" DEEP.

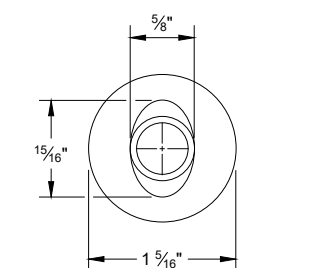
**NOTE:**

1. ALL FILLETS SHALL HAVE A MINIMUM RADIUS OF 3/16".
2. IF THE BOLT EXTENDS MORE THAN 1/4" FROM THE NUT THE BOLT SHOULD BE TRIMMED BACK.

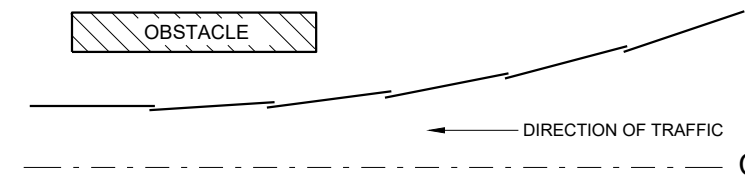


**POST BOLT TABLE**

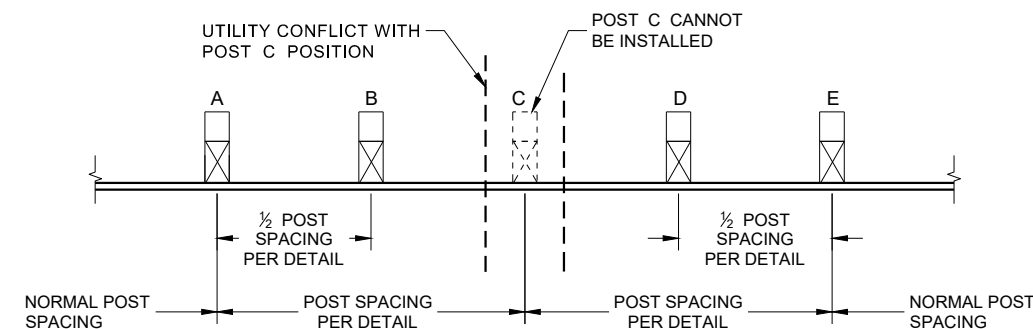
L	T (MIN.)
1 1/4"	1 1/8"
2"	1 3/4"
10"	4"
14"	4 1/16"
18"	4"
21"	4 1/16"
25"	4"



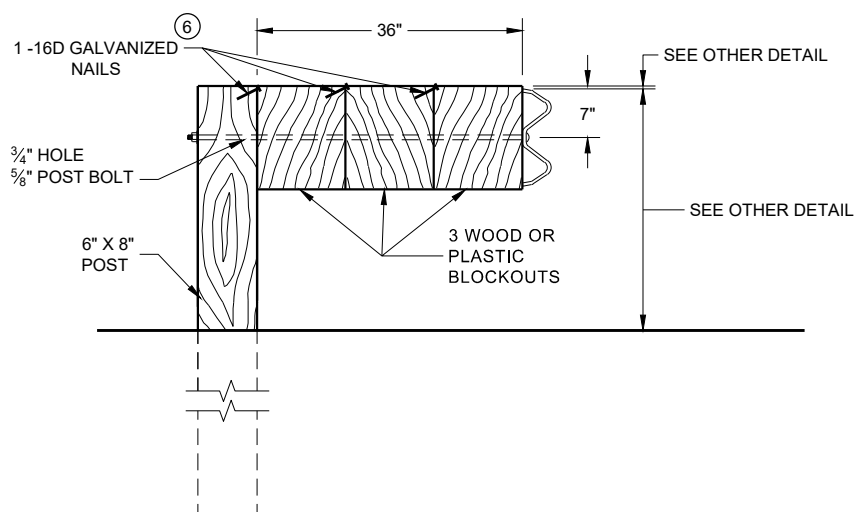
**ALTERNATE BOLT HEAD**



**PLAN VIEW  
BEAM LAPPING DETAIL**

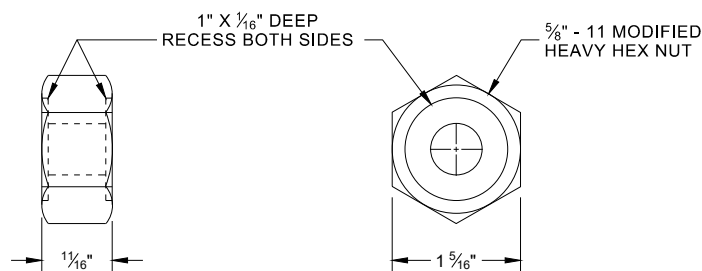


**POST DRIVING FOR CONTINUOUS  
UNDERGROUND OBSTRUCTION**

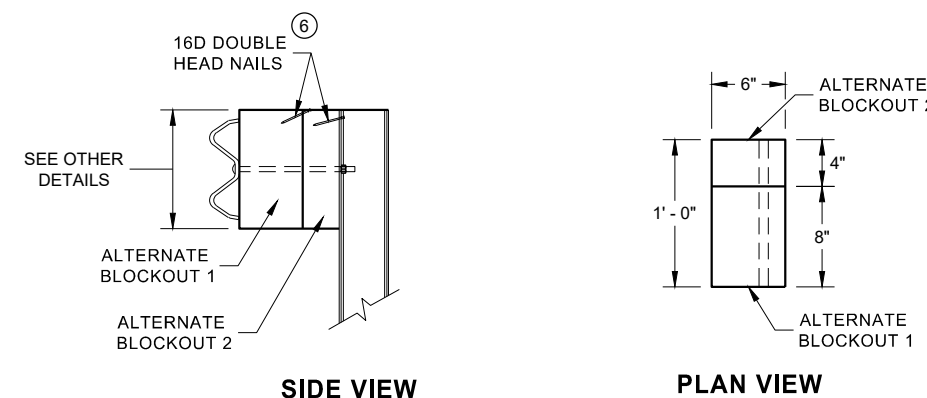


**DETAIL FOR 36" BLOCKOUT DEPTH**

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.



**POST BOLT, SPLICE BOLT  
AND RECESS NUT**

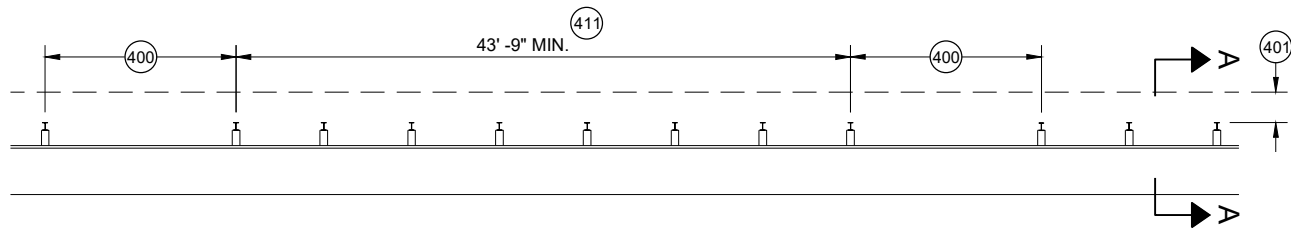


**ALTERNATE WOOD  
BLOCKOUT DETAIL**

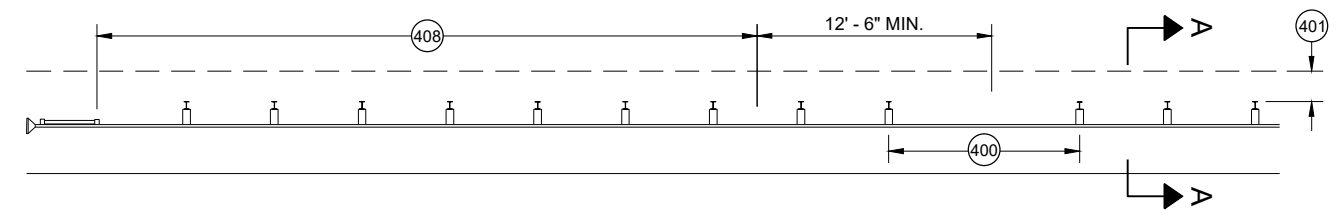
6 WHEN USING STEEL POST AND WOOD BLOCKOUTS, INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

**MIDWEST GUARDRAIL SYSTEM  
(MGS) GUARDRAIL**

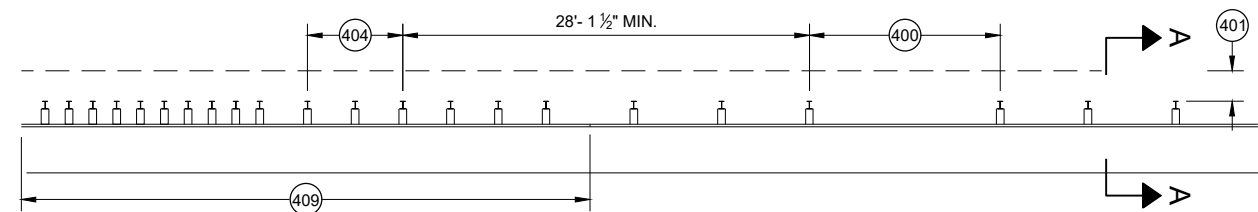
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



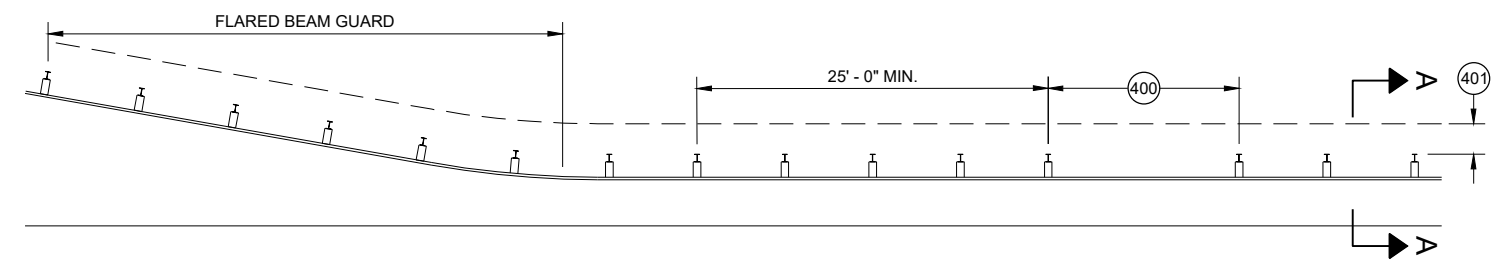
**MISSING POST IN MGS GUARDRAIL**



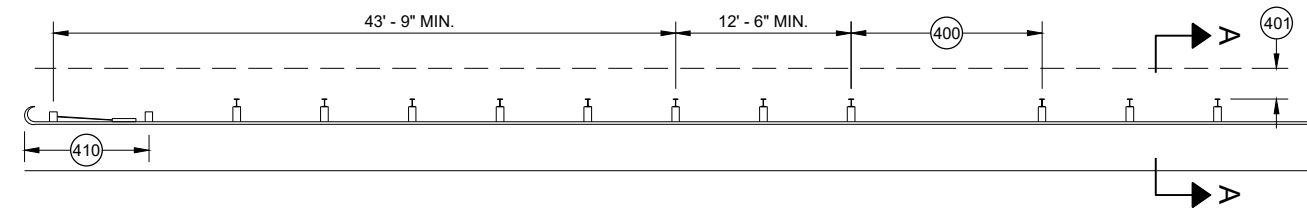
**MISSING POST IN MGS GUARDRAIL NEAR EAT**



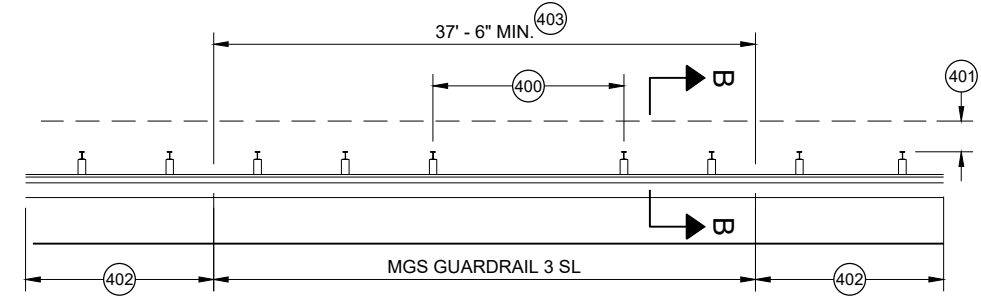
**MISSING POST IN MGS GUARDRAIL NEAR AN APPROACH TRANSITION**



**MISSING POST IN MGS GUARDRAIL NEAR FLARED BEAM GUARD**

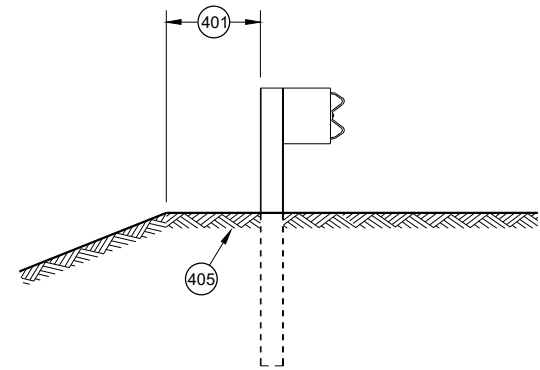


**MISSING POST IN MGS GUARDRAIL NEAR A TYPE 2 END TERMINAL**

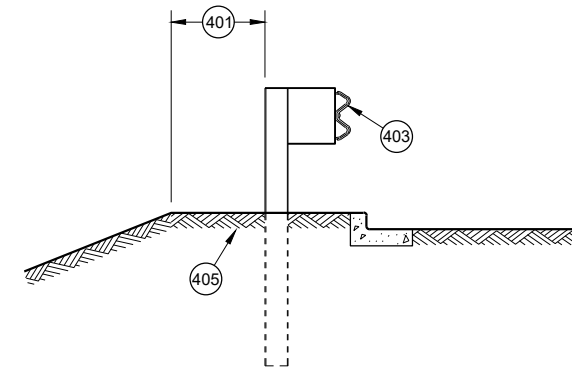


**MISSING POST IN SHORT SPAN MGS GUARDRAIL NEAR CURB (SL)**

- (400) MAX SPAN 12' - 6"
- (401) 2' MIN.
- (402) MGS GUARDRAIL 3
- (403) NESTING BEAM GUARD
- (404) ASYMMETRIC TRANSITION
- (405) SOIL WELL DRAINED AND COMPACTED
- (406) SEE OTHER DRAWINGS IN THIS SDD
- (407) SEE OTHER DRAWINGS FOR MIN. SPACING BETWEEN SPANS
- (408) SEE SDD 14B44
- (409) SEE SDD 14B45
- (410) SEE SDD 14B47
- (411) MINIMUM DISTANCE BETWEEN MISSING POST SPANS.



**SECTION A - A**



**SECTION B - B**

<b>MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED May 2021 DATE	/S/ Rodney Taylor ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR
<small>FHWA</small>	

**GENERAL NOTES**

- (A) THE SLOPE IN THE AREA BOUNDED BY THE GRADELINE, THE HINGE POINT LINE AND THE CLEAR ZONE LIMITS (CZL) SHALL BE 4:1 OR FLATTER.
  - (B) AFTER FINAL ASSEMBLY, RECHECK CABLE TO BE SURE IT IS TAUT AND HAS NOT RELAXED
  - (C) DIFFERENT MANUFACTURERS REQUIRE DIFFERENT PERFORATED W - BEAM RAIL END PANELS. SEE MANUFACTURER'S INFORMATION.
  - (D) ATTACH ALUMINUM SHEET TO E.A.T. HEAD USING 4 STAINLESS STEEL SELF - TAPPING SCREWS. ONE SCREW PER CORNER.
  - (E) HARDWARE MAY VARY BETWEEN MANUFACTURER. SEE MANUFACTURER'S DRAWING FOR INFORMATION.
- DIMENSIONS MAY VARY, MANUFACTURER'S INFORMATION.

SEE SDD 14B42 FOR MORE INFORMATION.

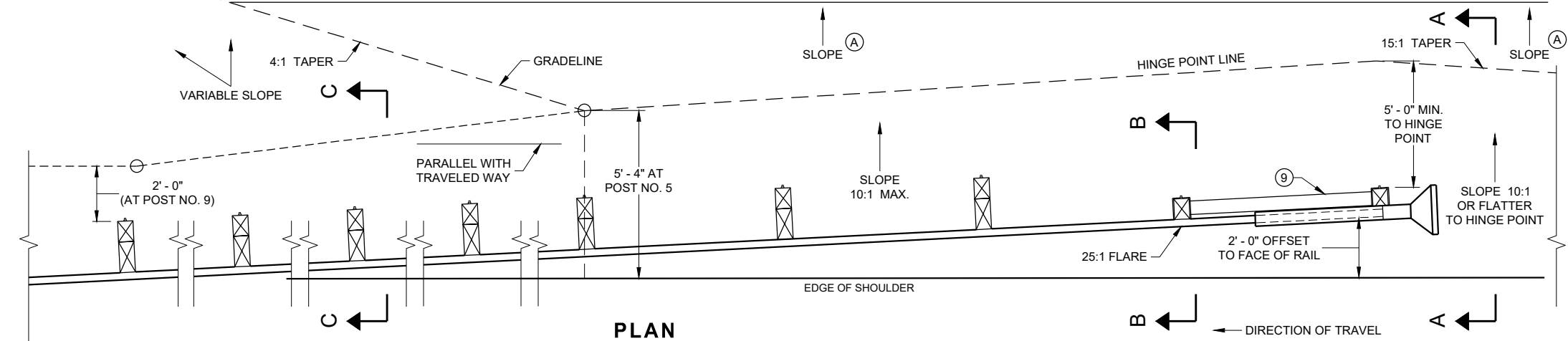
\* DO NOT ATTACH BLOCKOUTS TO POST 1 AND 2.

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

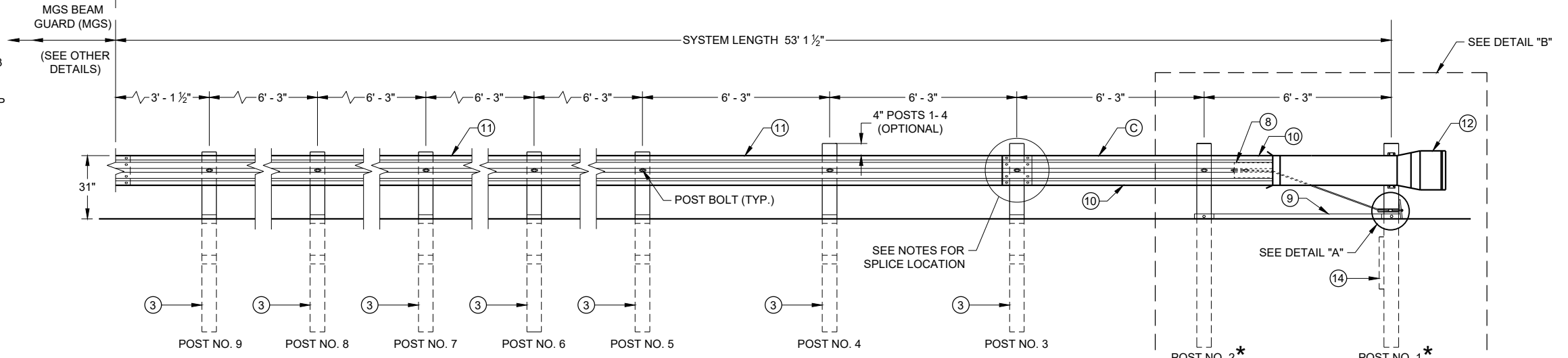
SEE MANUFACTURER'S DRAWING FOR SPLICE LOCATION, HARDWARE DIMENSIONS AND INSTALLATION INSTRUCTIONS.

THE CENTER OF THE UPPER 3 1/2" DIAMETER HOLE ON POST NUMBER 3 THROUGH POST 9 IS TO BE FLUSH WITH THE GROUND LINE UP TO A MAXIMUM OF 2" ABOVE GROUND LINE. WOOD BLOCKS ON POSTS NUMBERED 3 THROUGH 9 MAY BE ADJUSTED UP TO 3" ABOVE THE TOP OF POST.

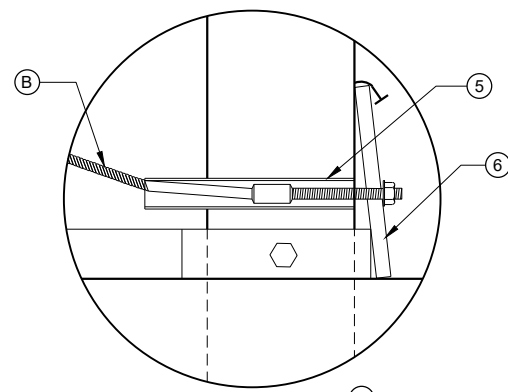
CLEAR ZONE LIMITS, EITHER AS SHOWN ELSEWHERE IN THE PLANS OR, IF NOT SHOWN ELSEWHERE IN THE PLANS, 15 FEET BEYOND THE HINGE POINT LINE



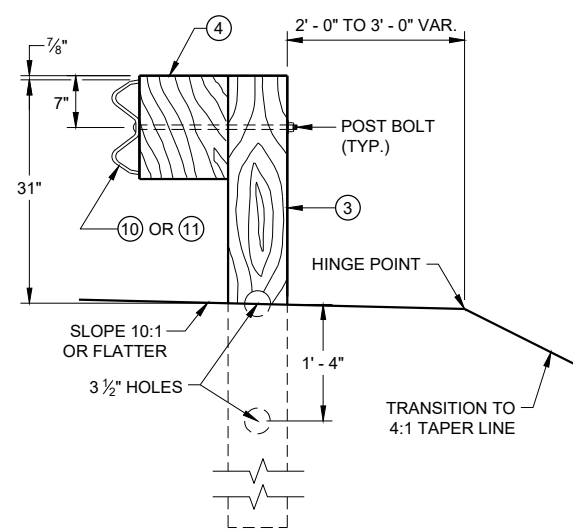
**PLAN**



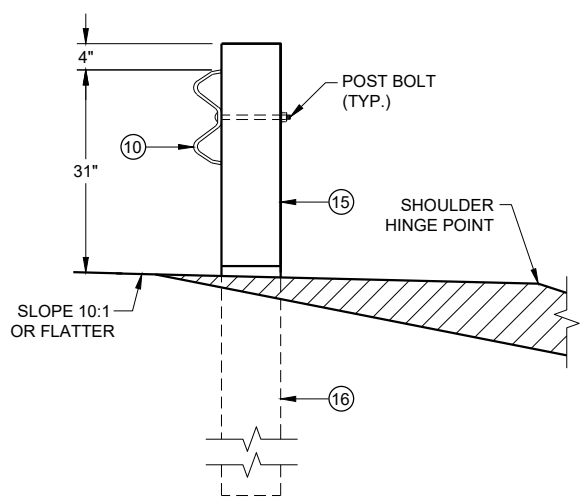
**ELEVATION**



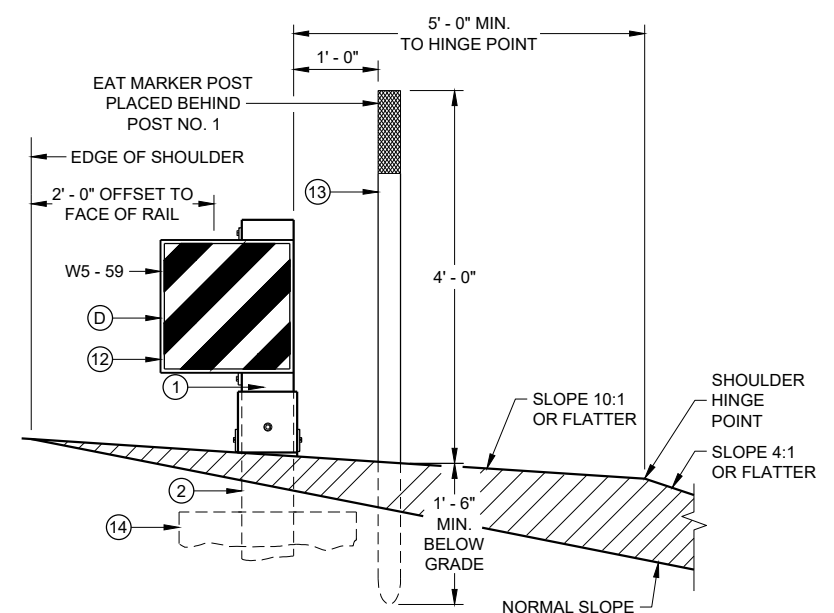
**DETAIL "A"**



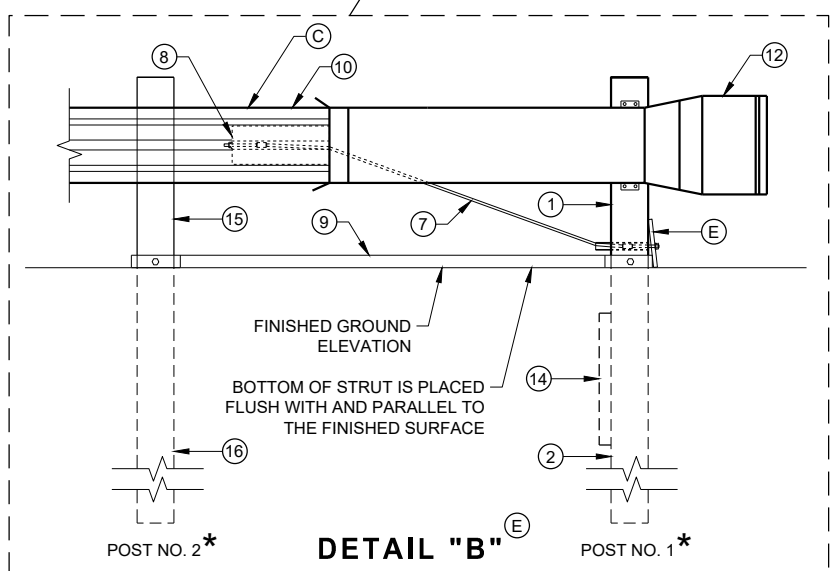
**SECTION C - C  
TYPICAL AT POST NOS. 3 - 9**



**SECTION B - B  
TYPICAL AT POST NO. 2\***



**SECTION A - A  
TYPICAL AT POST NO. 1\***



**DETAIL "B"**

**MIDWEST GUARDRAIL SYSTEM  
ENERGY ABSORBING TERMINAL  
(MGS)**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

6

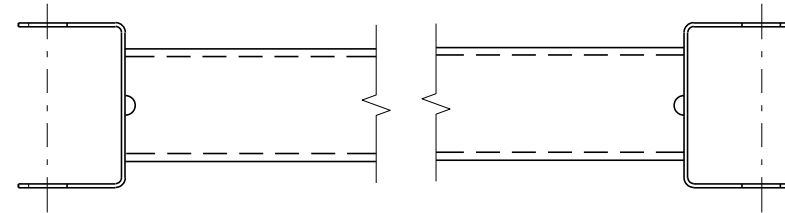
6

SDD 14B44 - 04a

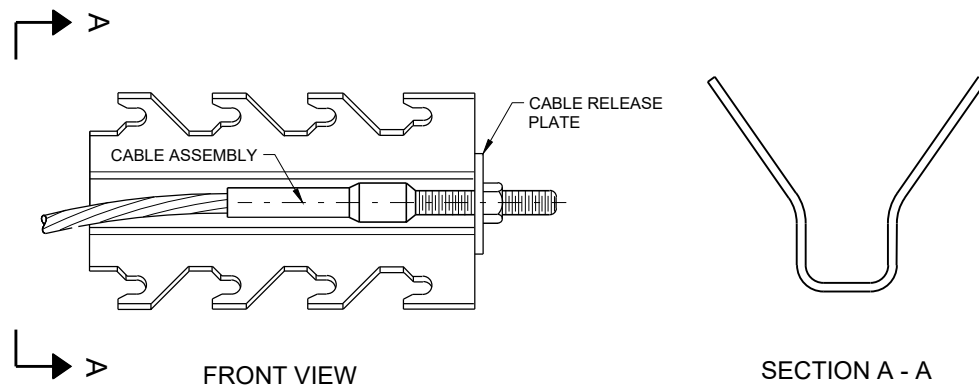
SDD 14B44 - 04a

**BILL OF MATERIALS**

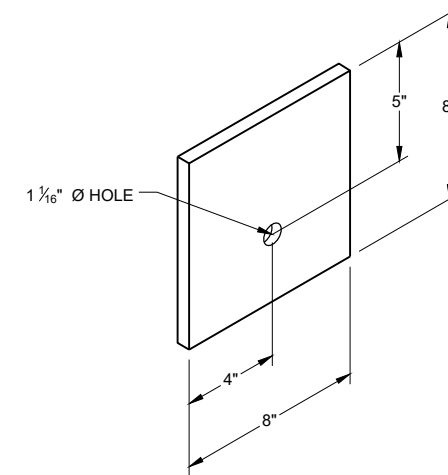
PART NO.	DESCRIPTION MATERIALS PROVIDED BY MGS EAT MANUFACTURER. SEE MANUFACTURER'S DETAILS FOR MORE INFORMATION.
①	UPPER POST NO. 1 6" X 6" TUBE
②	LOWER POST NO. 1
③	WOOD CRT
④	WOOD BLOCKOUT
⑤	PIPE SLEEVE
⑥	BEARING PLATE
⑦	BCT CABLE ASSEMBLY
⑧	ANCHOR CABLE BOX
⑨	GROUND STRUT
⑩	PERFORATED W-BEAM RAIL END PANEL, 12'-6" LONG.
⑪	STANDARD W-BEAM RAIL. MULTIPLE SECTIONS REQUIRED. SECTIONS VARY IN LENGTH.
⑫	IMPACT HEAD
⑬	EAT MARKER POST - YELLOW (SEE APPROVED PRODUCTS LIST)
⑭	SOIL PLATE
⑮	UPPER POST NO. 2
⑯	LOWER POST NO. 2



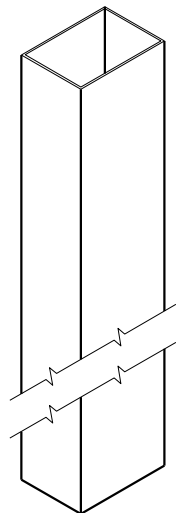
**GENERIC GROUND STRUT** ⑨ ⑤



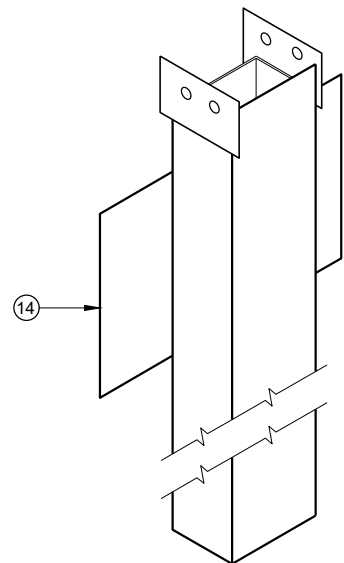
**GENERIC ANCHOR CABLE BOX** ⑨ ⑤



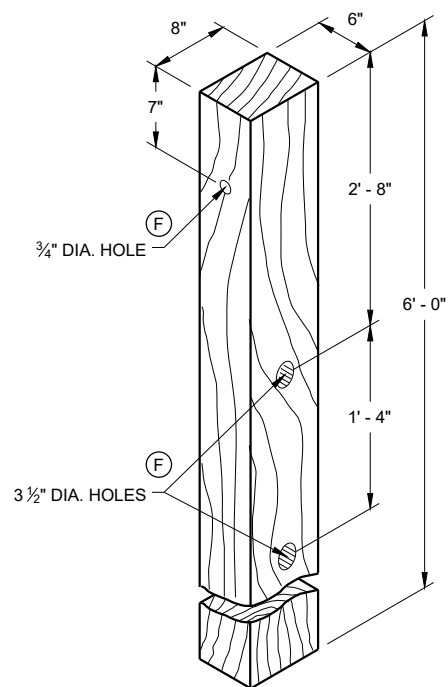
**BEARING PLATE** ⑥ ⑤



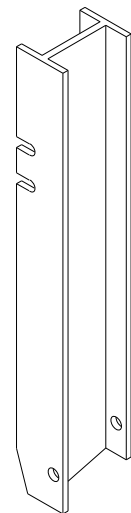
UPPER POST NO. 1 <sup>(1)</sup> (E)



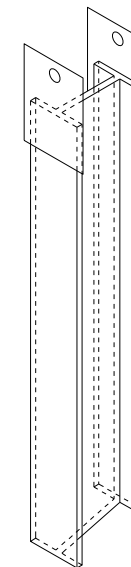
LOWER POST NO. 1 <sup>(2)</sup> (E)



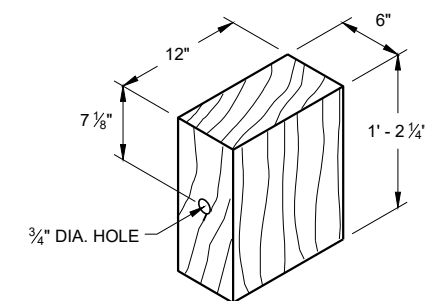
WOOD CRT POST <sup>(3)</sup> (E)  
POSTS NUMBER 3-9



UPPER POST NO. 2 <sup>(15)</sup> (E)

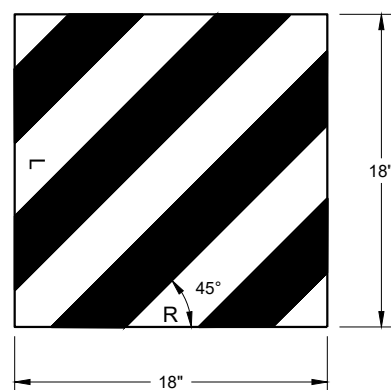


LOWER POST NO. 2 <sup>(16)</sup> (E)



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

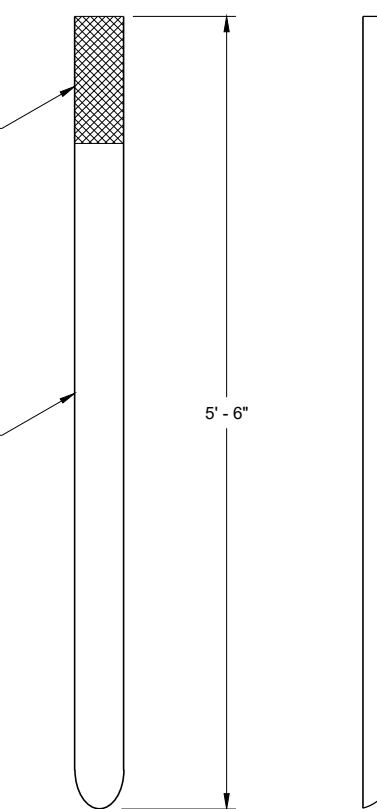
6



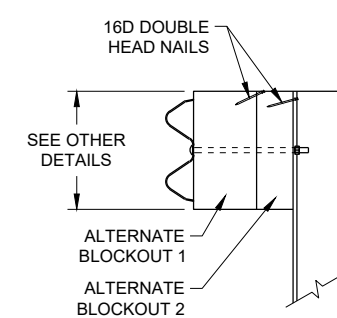
REFLECTIVE SHEETING DETAIL <sup>(E)</sup>

TYPE H  
YELLOW REFLECTIVE  
SHEETING 3" X 9".  
SEE STANDARD  
SPECIFICATION 637.

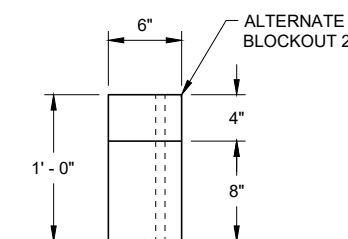
E.A.T. MARKER  
POST (YELLOW)



FRONT VIEW SIDE VIEW  
E.A.T. MARKER POST <sup>(13)</sup>



SIDE VIEW



TOP VIEW

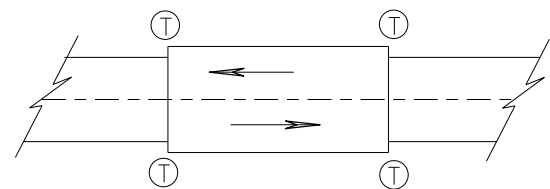
ALTERNATE WOOD  
BLOCKOUT DETAIL

6

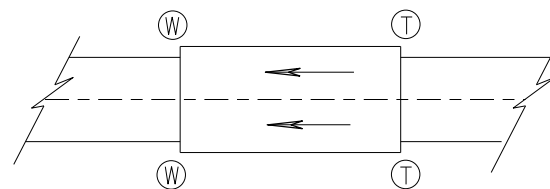
**MIDWEST GUARDRAIL SYSTEM  
ENERGY ABSORBING TERMINAL  
(MGS)**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

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



**TWO WAY TRAFFIC**



**ONE WAY TRAFFIC**

(T) THRIE BEAM CONNECTION

(W) W-BEAM CONNECTION WHEN REQUIRED

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

**GENERAL NOTES**

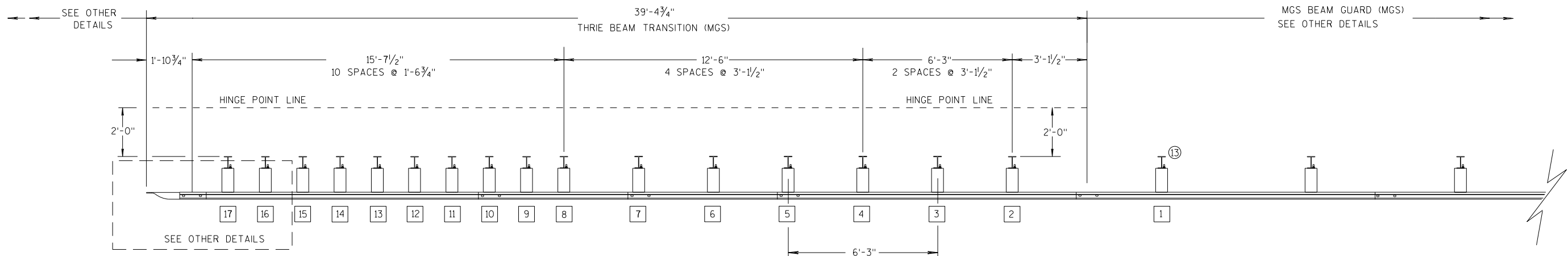
IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2 1/2", AND 12" DIAMETER AROUND POST. SEE 14B42 FOR MORE DETAILS.

TRANSITION USES STEEL POSTS ONLY.

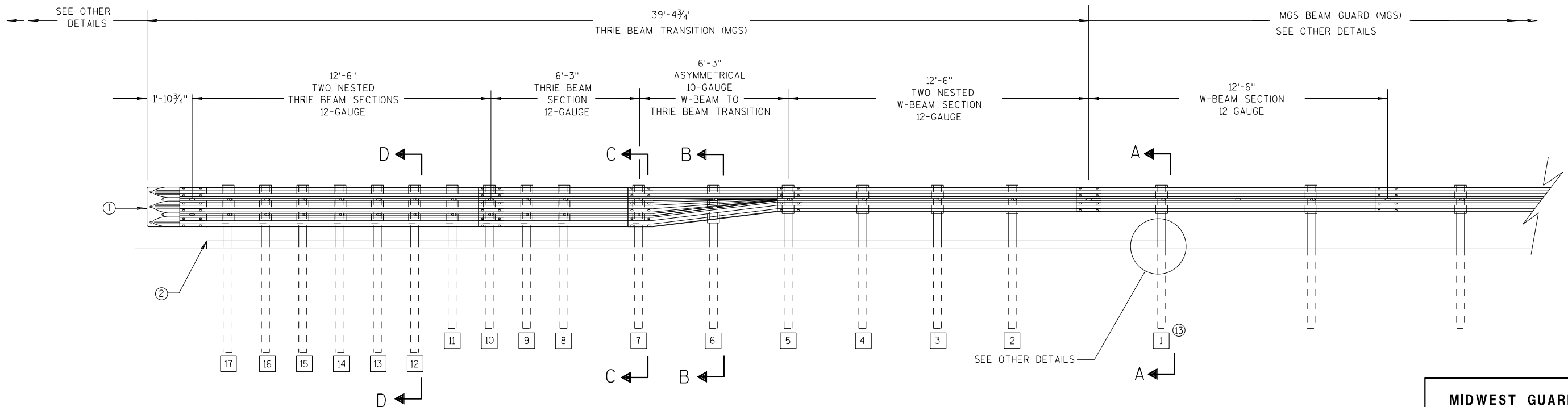
SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

POST 2 THROUGH 17 USES STEEL POST ONLY

- ① BRIDGE RAILING TYPE "W" DOES NOT REQUIRE A TERMINAL CONNECTOR.
- ② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.
- ⑬ STEEL OR WOOD POST IS ACCEPTABLE AT POST 1. SEE SDD14B42



**PLAN VIEW**



**ELEVATION VIEW**

**MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION**

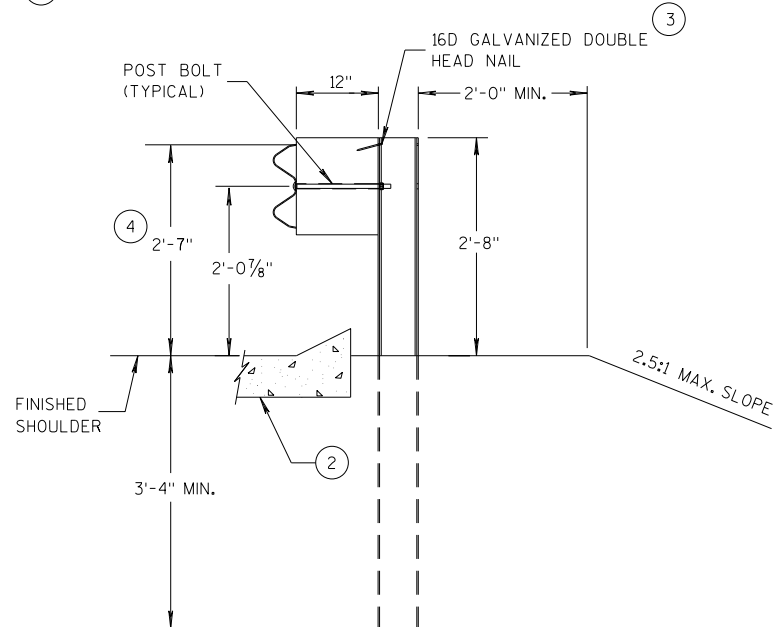
**MIDWEST GUARDRAIL SYSTEM  
THRIE BEAM TRANSITION (MGS)**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

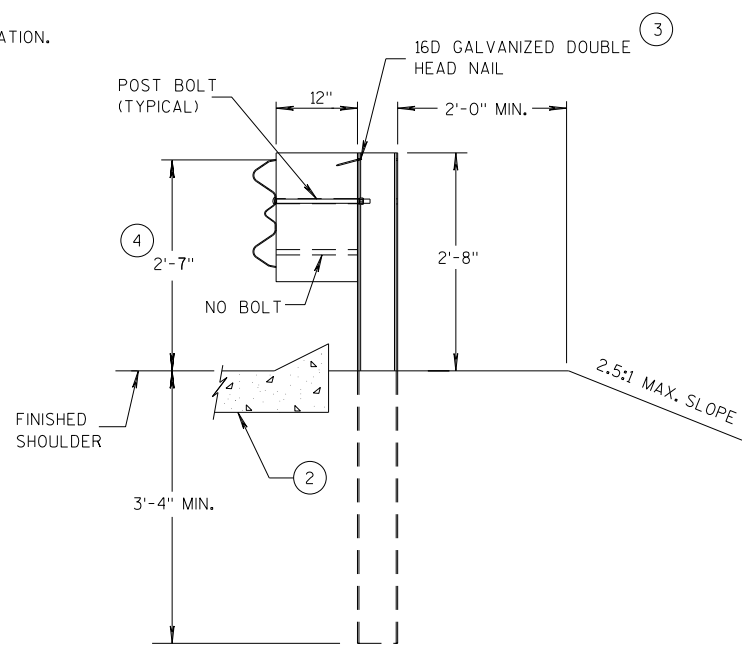


**GENERAL NOTES**

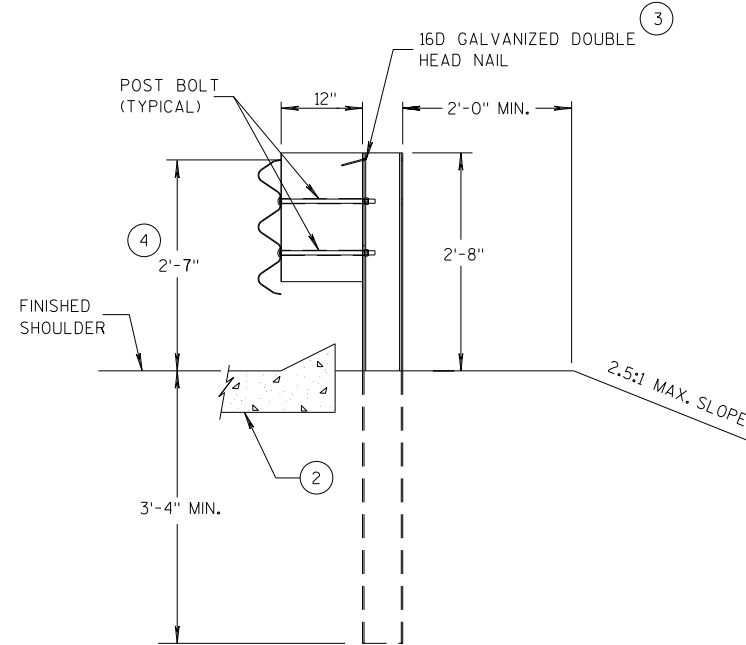
- ② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.
- ③ WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 10D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.
- ④ TOLERANCE FOR TOP OF W-BEAM RAIL IS ± 1".
- ⑬ STEEL OR WOOD POST IS ACCEPTABLE AT POST 1. SEE SDD 14B42



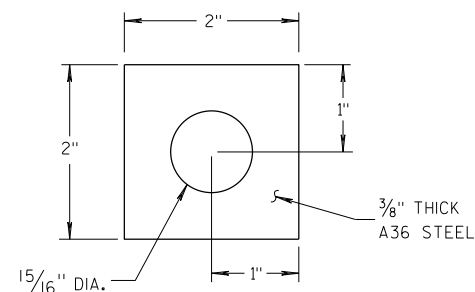
**SECTION A-A  
POSTS 1-5**



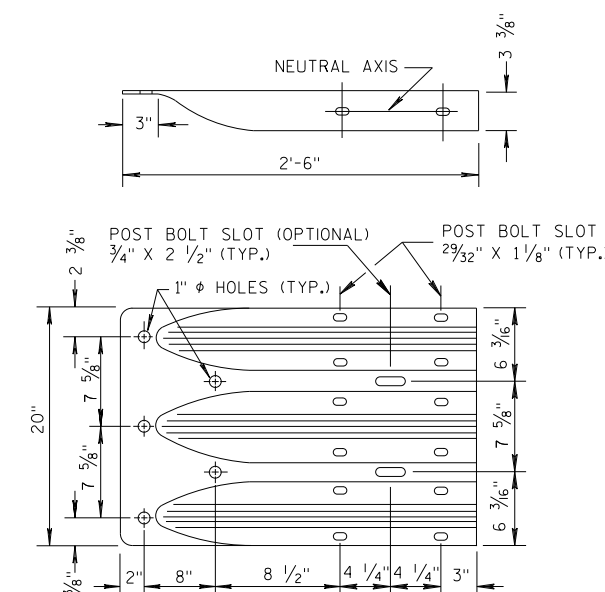
**SECTION B-B  
POST 6**



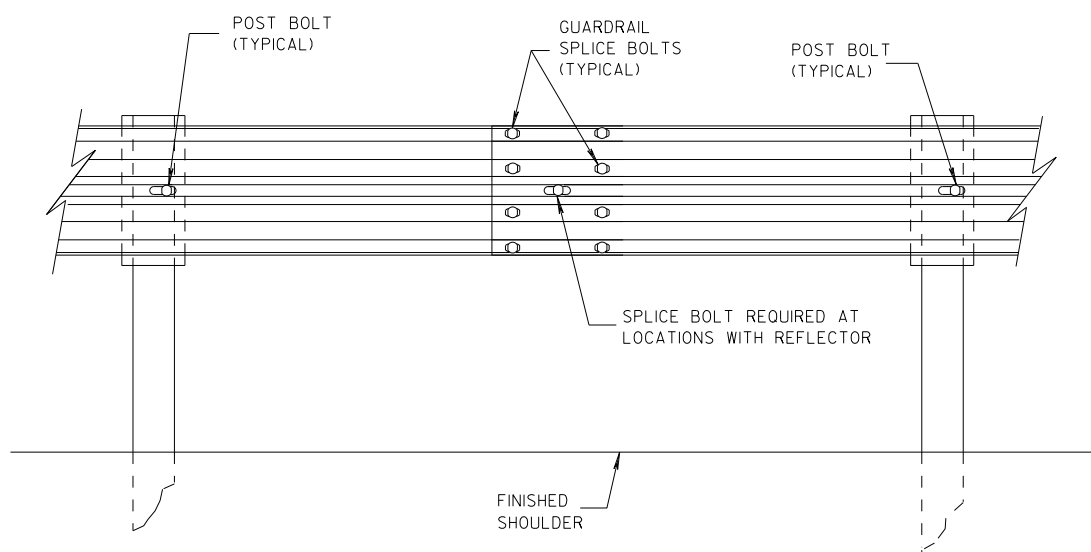
**SECTION C-C  
POSTS 7-11**



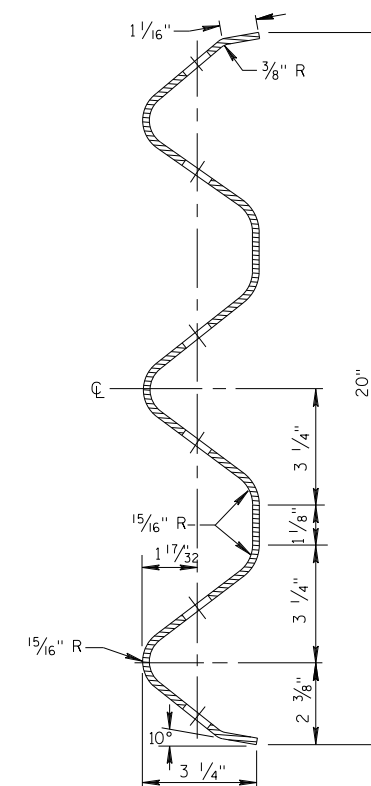
**PLATE WASHER DETAIL**



**THRIE BEAM  
TERMINAL CONNECTOR**



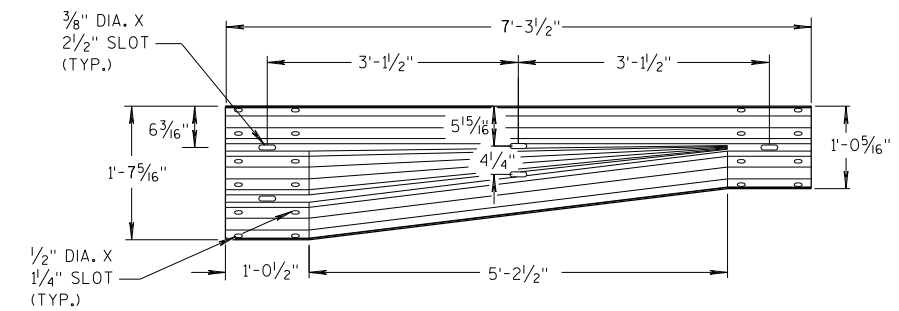
**SPLICE DETAIL**



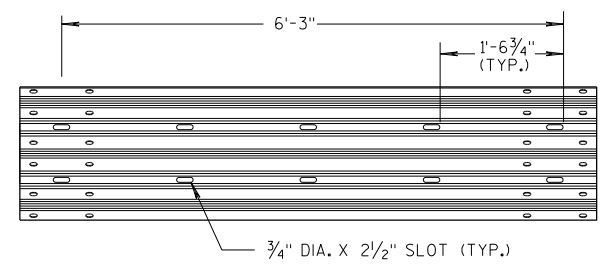
**SECTION THRU THRIE  
BEAM RAIL ELEMENT**

**MIDWEST GUARDRAIL SYSTEM  
THRIE BEAM TRANSITION (MGS)**

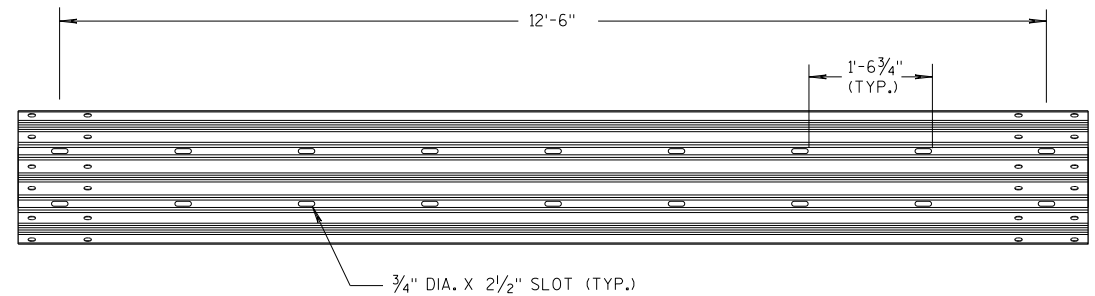
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



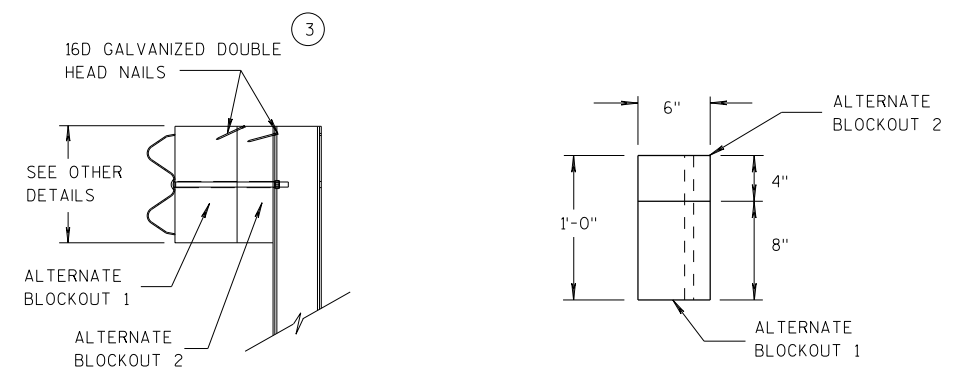
**W-BEAM TO THRIE BEAM TRANSITION SECTION**



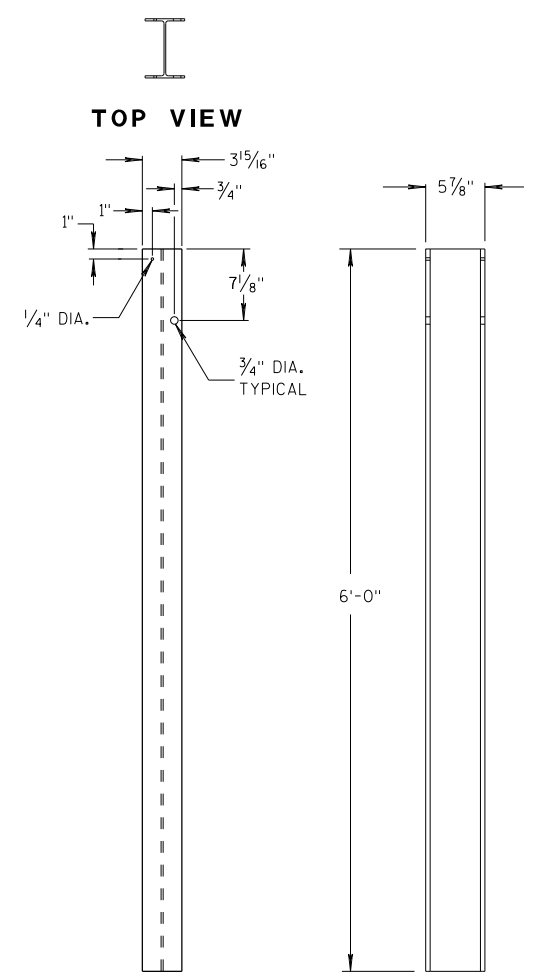
**6'-3\"/>**



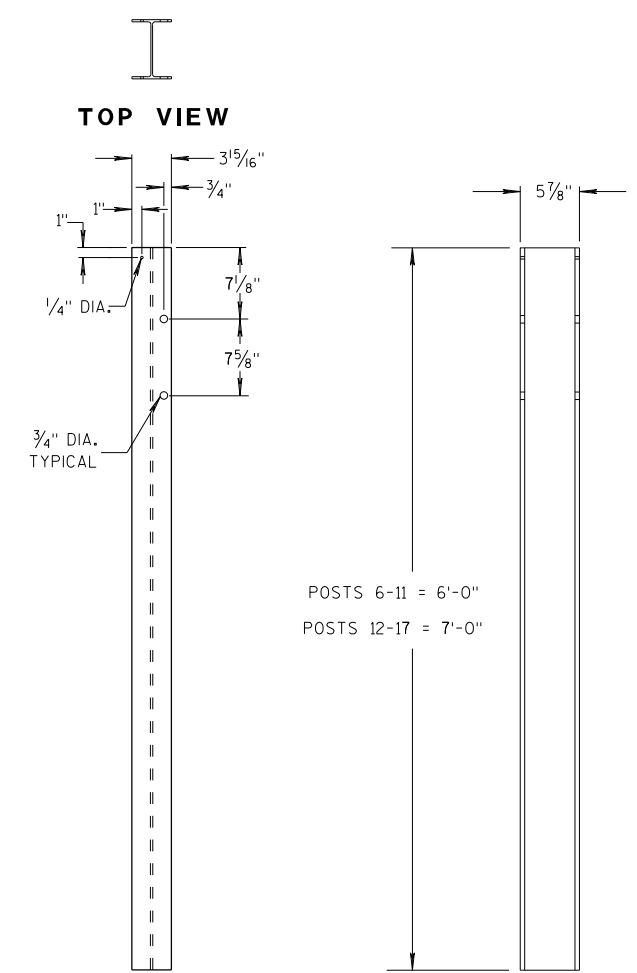
**12'-6\"/>**



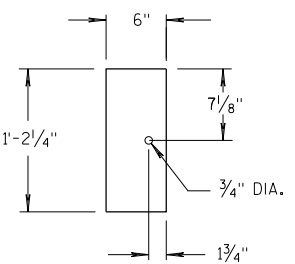
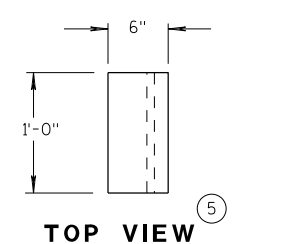
**ALTERNATE WOOD BLOCKOUT DETAIL**



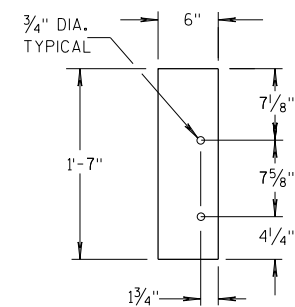
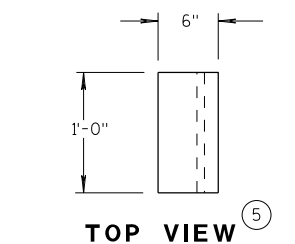
**STEEL POSTS 1-5**



**STEEL POSTS 6-17**



**BLOCKOUT POSTS 1-5**



**BLOCKOUT POSTS 6-17**

**GENERAL NOTES**

- STEEL POSTS ARE W6X9 OR W6X8.5.
- BOLT HOLES FOR POST ARE ON FRONT AND OF SIDE OF POST.
- (3) WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.
- (5) WOOD BLOCKS MAY BE CONSTRUCTED OUT OF 2 WOOD BLOCKS. SEE ALTERNATE WOOD BLOCK DETAIL.
- (13) STEEL OR WOOD POST IS ACCEPTABLE AT POST 1. SEE SDD 14B42.

**MIDWEST GUARDRAIL SYSTEM  
THRIE BEAM TRANSITION (MGS)**

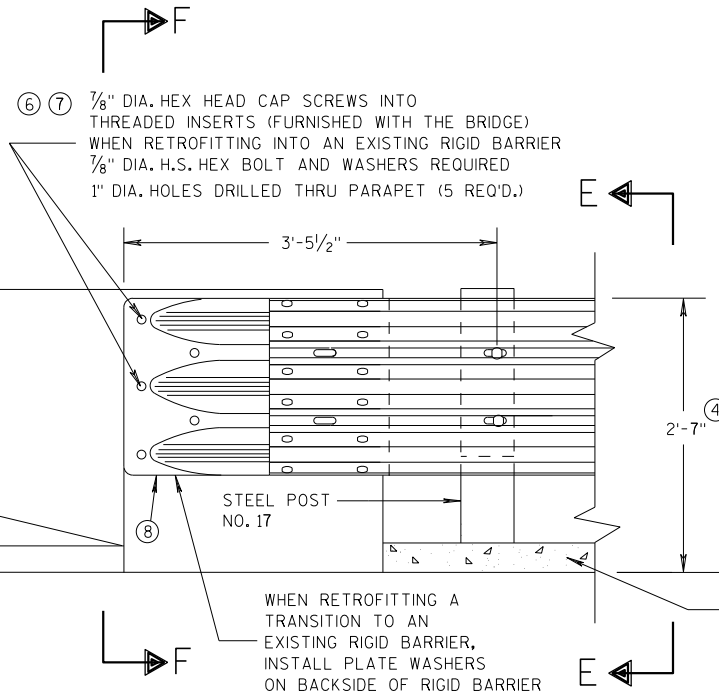
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

6

6

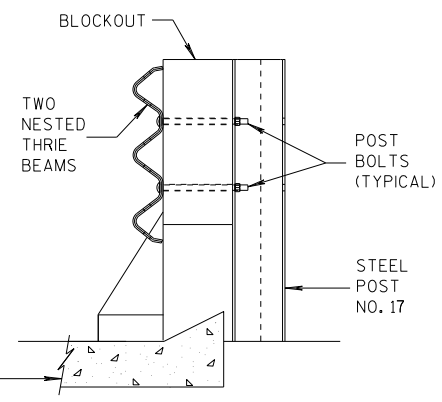
S.D.D. 14 B 45-5c

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



FRONT VIEW

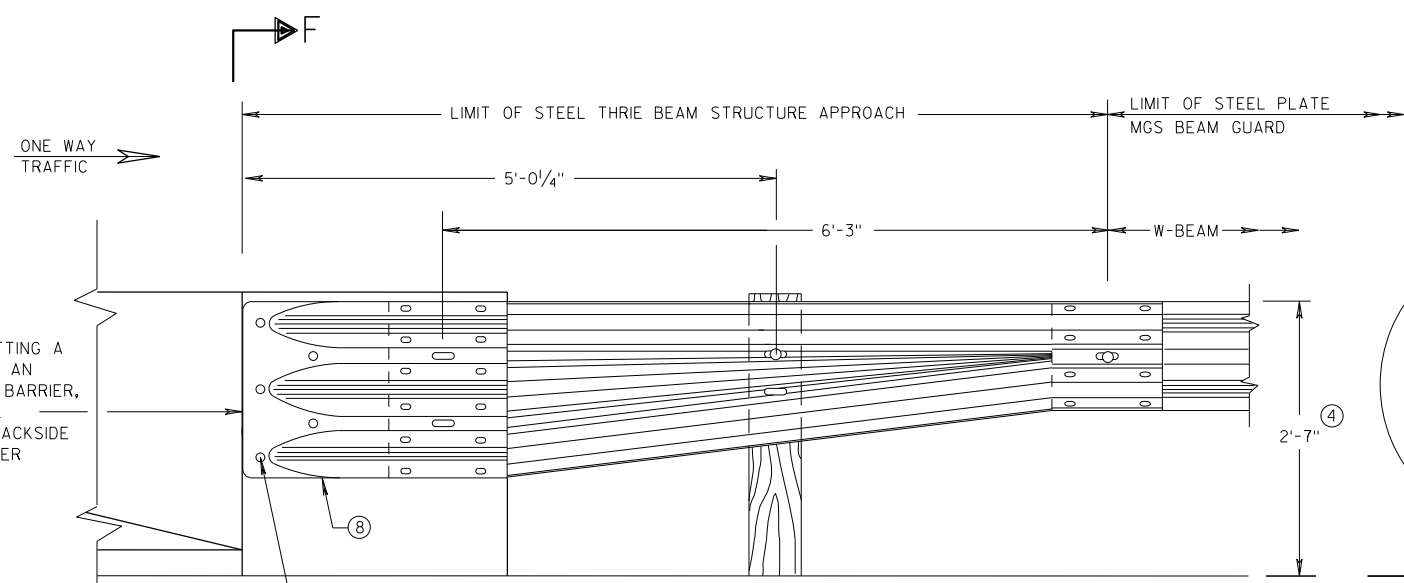
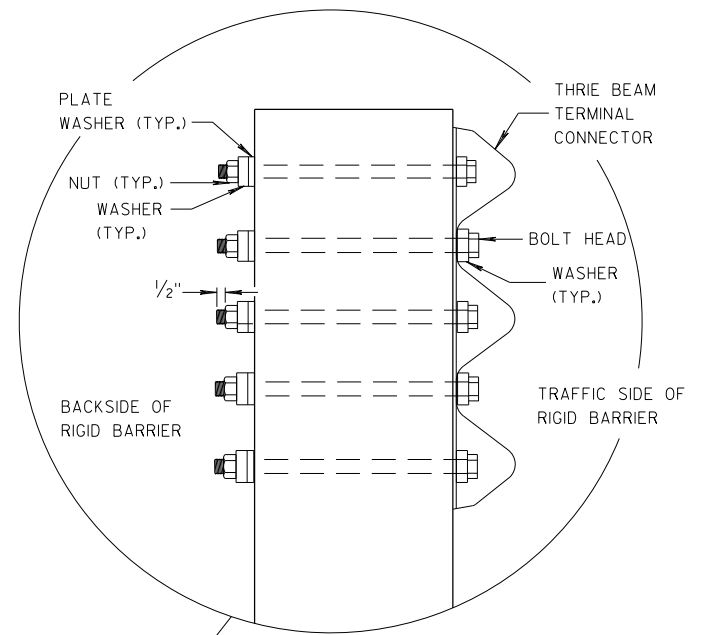
**THRIE BEAM CONNECTION TO BRIDGE PARAPET WITH SQUARE ENDS**



SECTION E-E

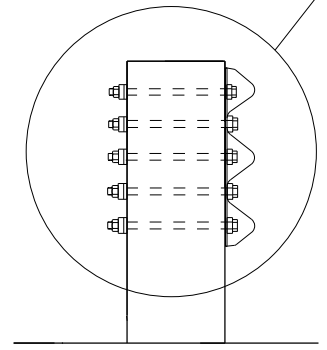
**GENERAL NOTES**

- THESE ARE TYPICAL CONNECTION DETAILS. ADJUST THE POSITION 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  $\pm 1"$ .
  - (6) DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.
  - (7) BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/32" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.
  - (8) THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 1/2".

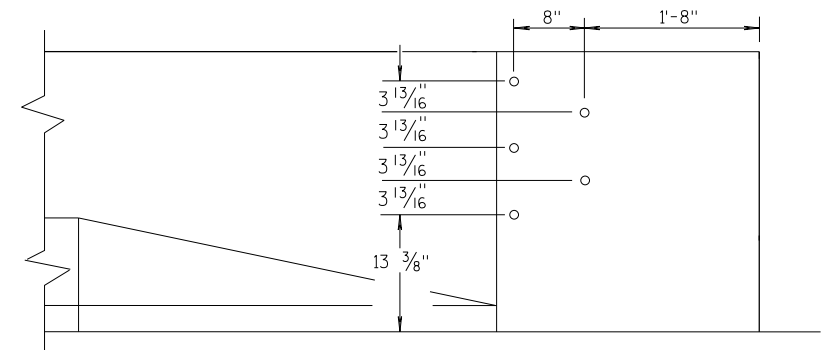


FRONT VIEW

**W BEAM TRANSITION AND CONNECTION TO BRIDGE PARAPETS WITH SQUARE ENDS  
(USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)**



SECTION F-F



DRILL HOLE LOCATION

<b>MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 07/2018 DATE	/S/ Rodney Taylor ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR
FHWA	

6

6

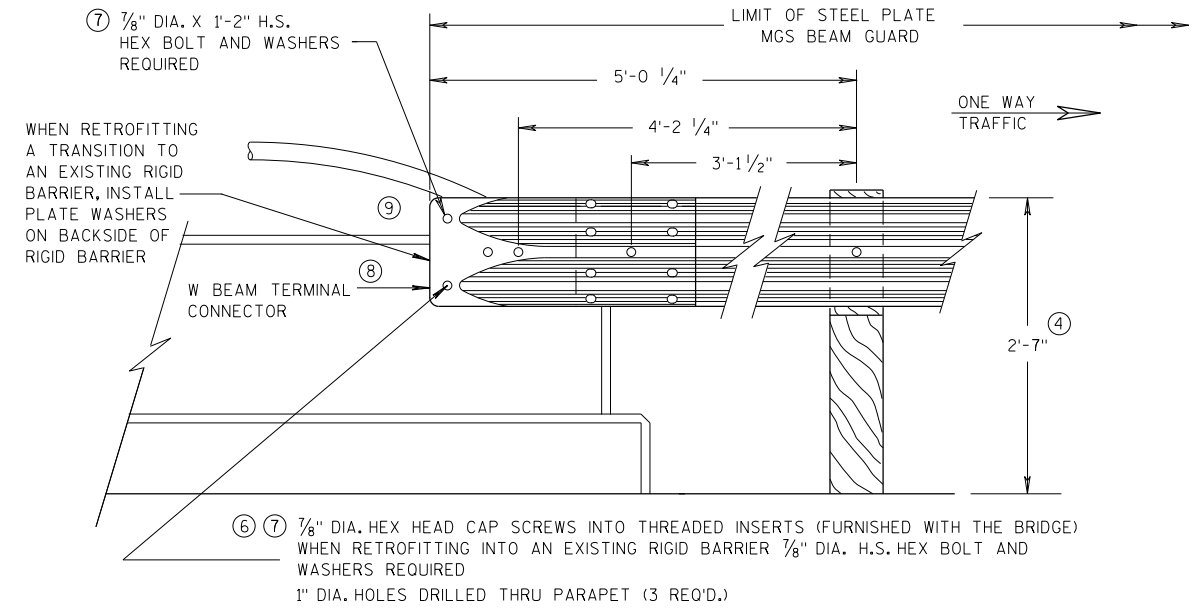
S.D.D. 14 B 45-5d

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

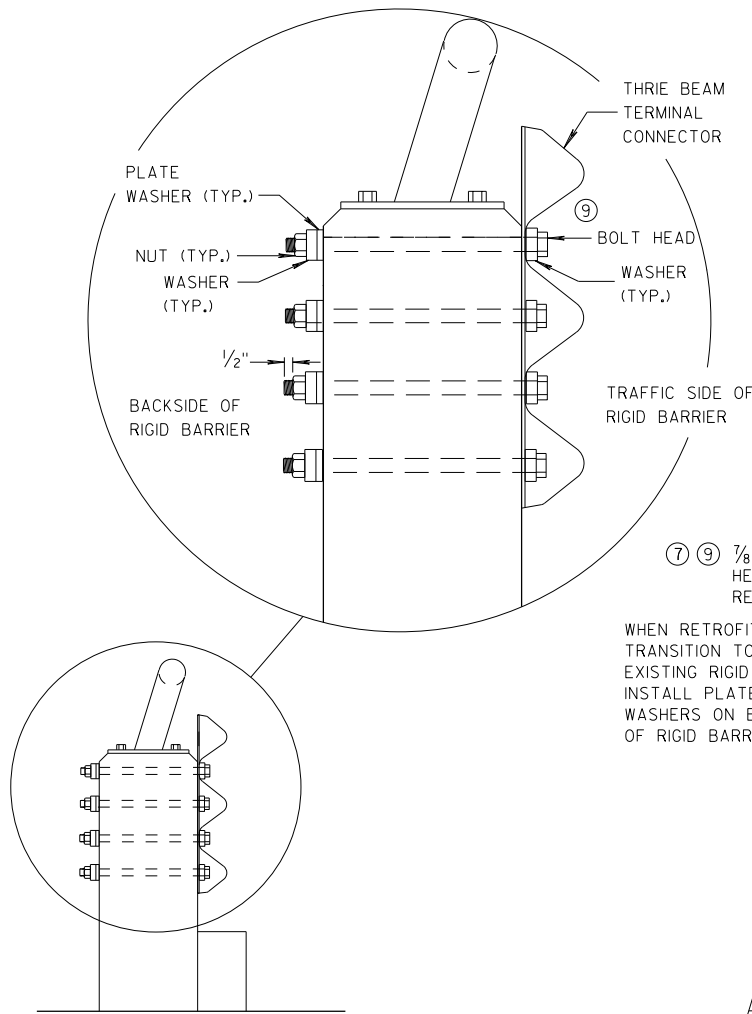
# GENERAL NOTES

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

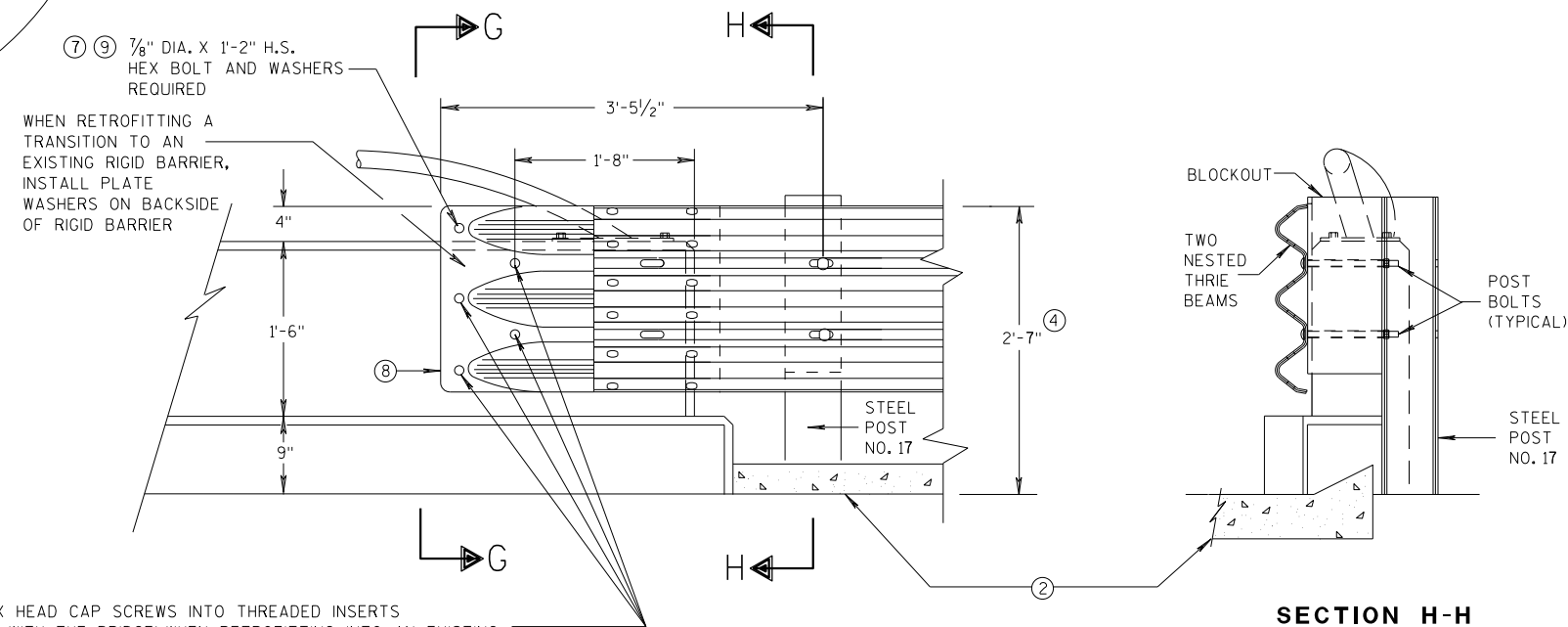
- ② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.
- ④ TOLERANCE FOR TOP OF BEAM IS  $\pm 1"$ .
- ⑥ DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.
- ⑦ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/32" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.
- ⑧ THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 1/2".
- 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.



**FRONT VIEW**  
**W BEAM CONNECTION TO VERTICAL FACE PARAPET**  
 (USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)



**SECTION G-G**



**FRONT VIEW**

**THRIE BEAM CONNECTION TO VERTICAL FACED PARAPETS**

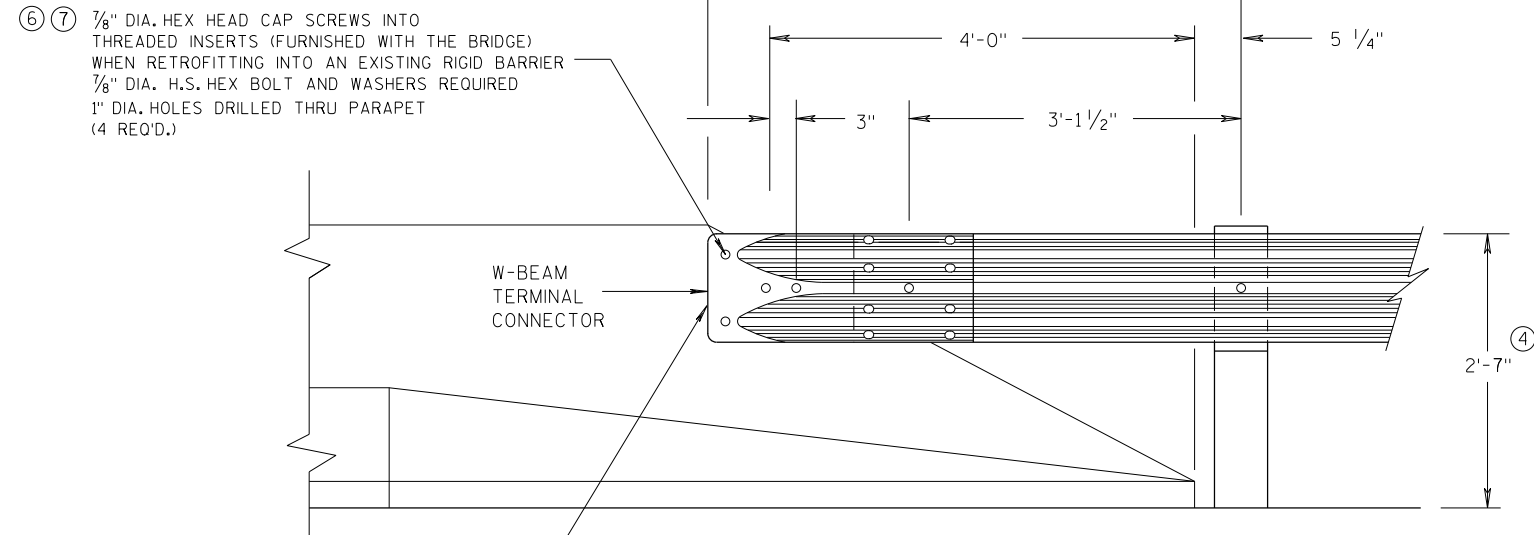
**SECTION H-H**

**MIDWEST GUARDRAIL SYSTEM**  
**THRIE BEAM TRANSITION (MGS)**

STATE OF WISCONSIN  
 DEPARTMENT OF TRANSPORTATION

APPROVED  
 07/2018 /S/ Rodney Taylor  
 DATE ROADWAY STANDARDS DEVELOPMENT  
 FHWA UNIT SUPERVISOR

ONE WAY  
TRAFFIC



WHEN RETROFITTING A TRANSITION TO AN EXISTING RIGID BARRIER, INSTALL PLATE WASHERS ON BACKSIDE OF RIGID BARRIER.

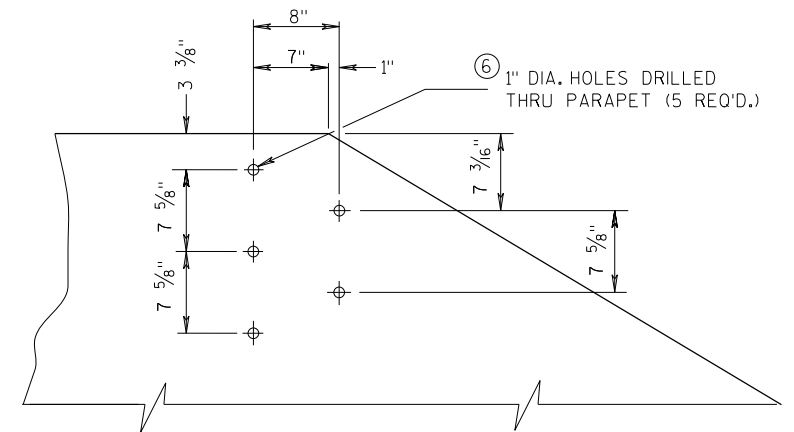
FRONT VIEW

**W BEAM CONNECTION TO PARAPETS WITH SLOPED ENDS**

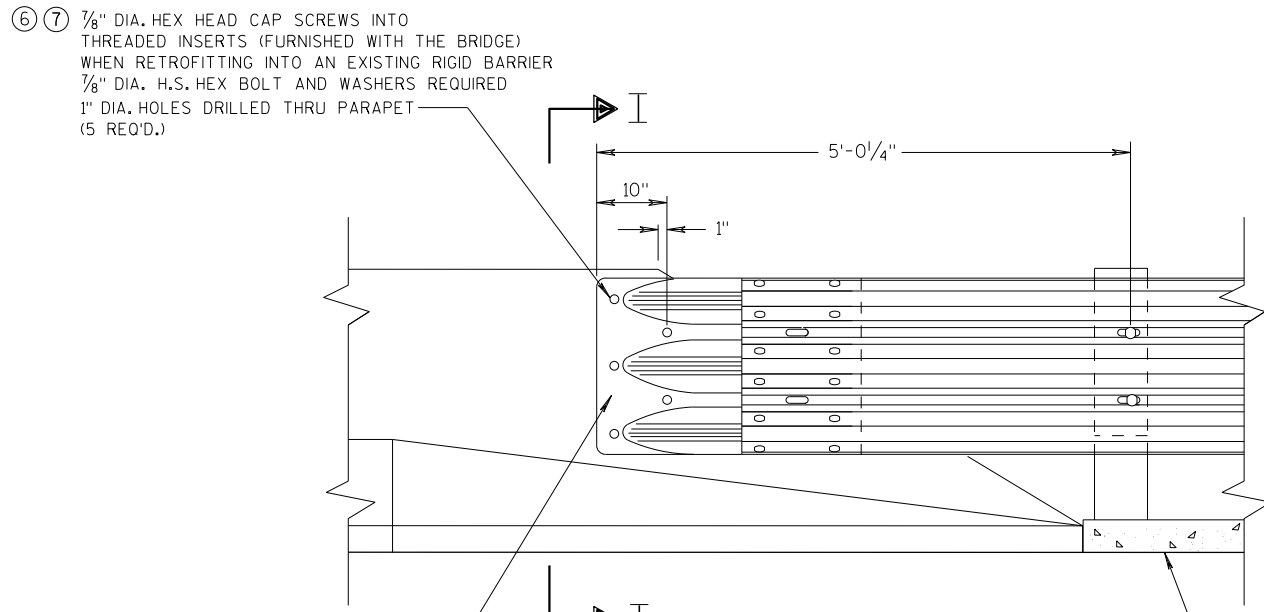
(USE ONLY AT TRAFFIC EXIT END OF ONE WAY BRIDGE)

**GENERAL NOTES**

- ② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.
- ④ TOLERANCE FOR TOP OF BEAM IS  $\pm 1"$ .
- ⑥ DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.
- ⑦ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/32" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.



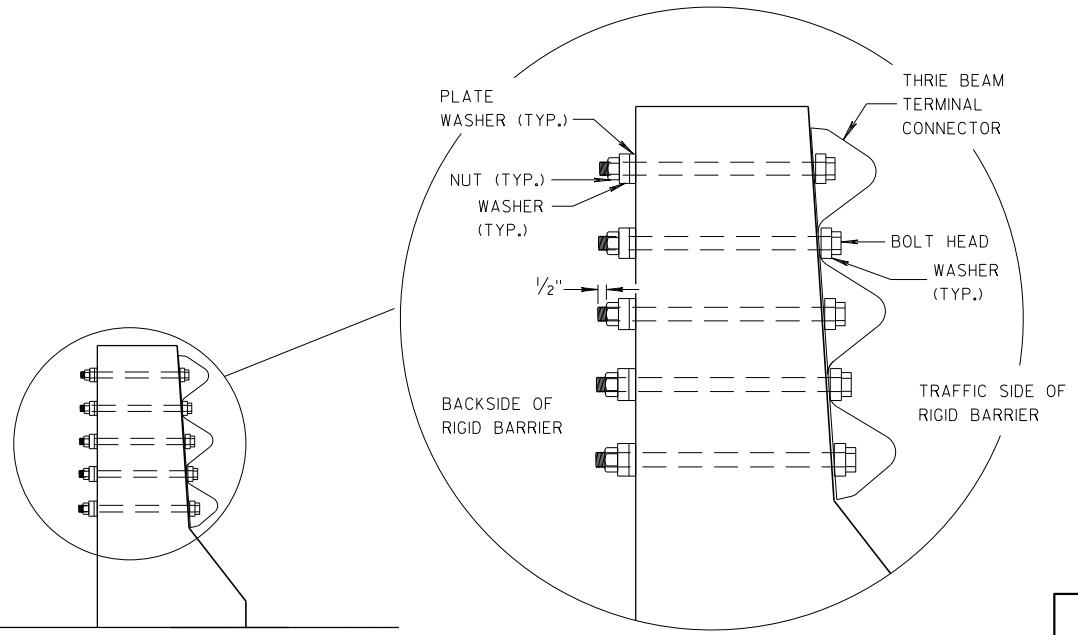
DRILL HOLE LOCATION AND PATTERN FOR THRIE BEAM CONNECTION



WHEN RETROFITTING A TRANSITION TO AN EXISTING RIGID BARRIER, INSTALL PLATE WASHERS ON BACKSIDE OF RIGID BARRIER.

FRONT VIEW

**THRIE BEAM CONNECTION TO BRIDGE PARAPETS WITH SLOPED ENDS**

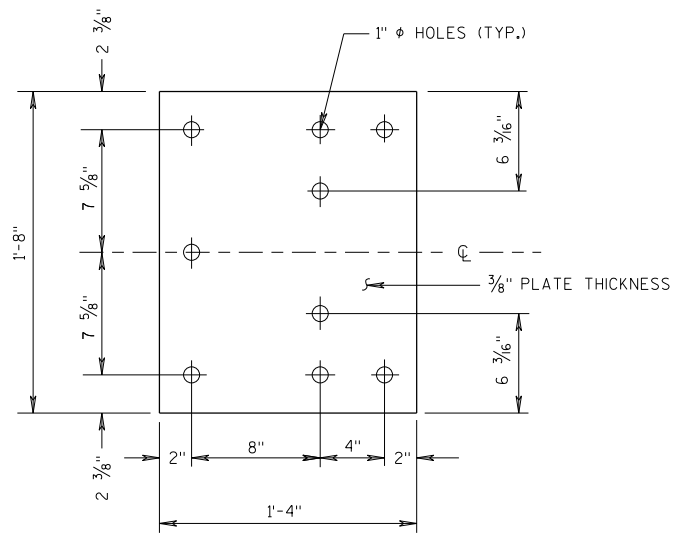


SECTION I-I

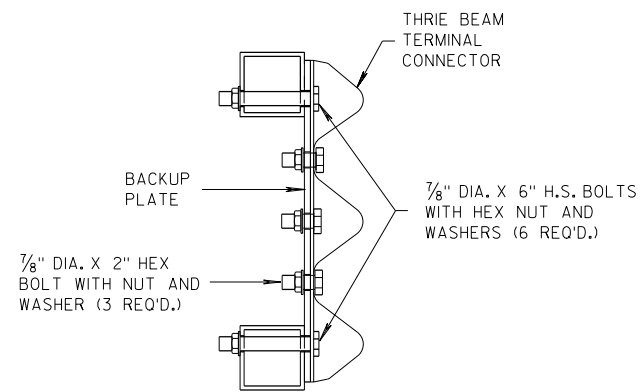
**MIDWEST GUARDRAIL SYSTEM  
THRIE BEAM TRANSITION (MGS)**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

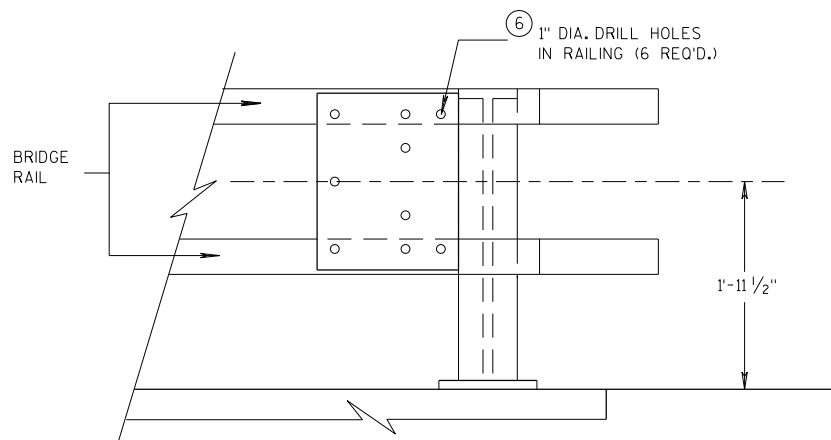
APPROVED  
DATE 07/2018 /S/ Rodney Taylor  
ROADWAY STANDARDS DEVELOPMENT  
UNIT SUPERVISOR  
FHWA



**BACK-UP PLATE DETAIL**



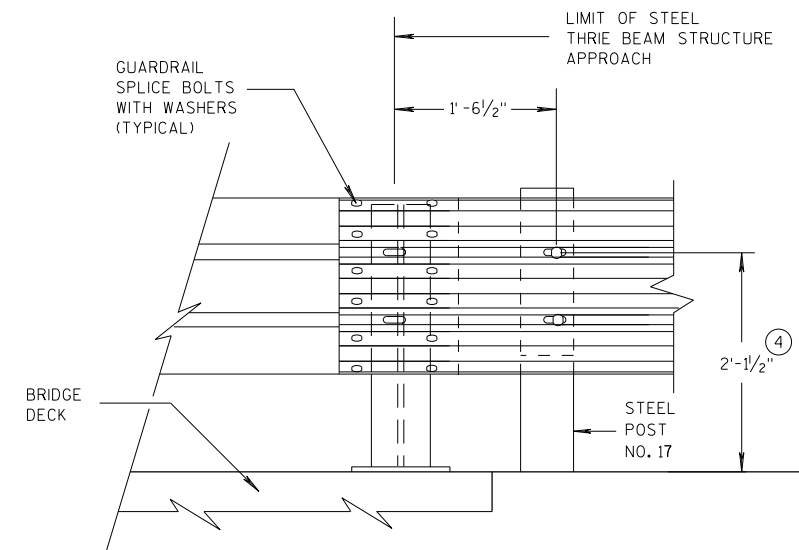
**SECTION J-J**



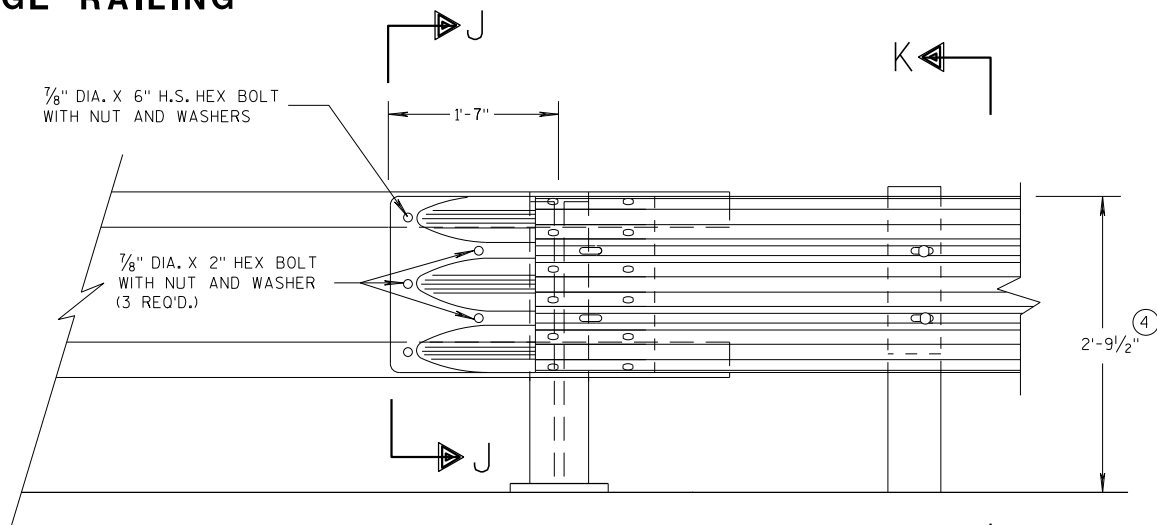
**BACK-UP PLATE MOUNTING ONTO BRIDGE RAILING**

**GENERAL NOTES**

- ④ TOLERANCE FOR TOP OF BEAM IS  $\pm 1'$ .
- ⑥ DRILLING HOLES THROUGH THE PAPER, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

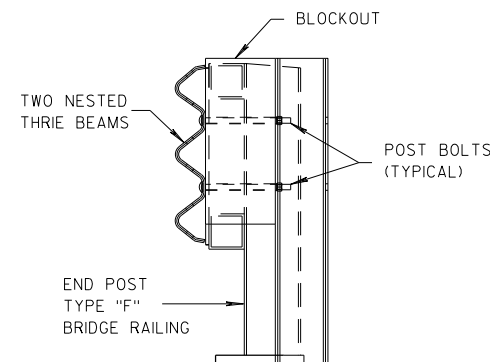


**FRONT VIEW  
THRIE BEAM CONNECTION TO  
STEEL RAILING TYPE "W"**



**FRONT VIEW**

**THRIE BEAM CONNECTION TO  
TUBULAR RAILING TYPE "F"**



**SECTION K-K**

<b>MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 07/2018 DATE	/S/ Rodney Taylor ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR
FHWA	

6

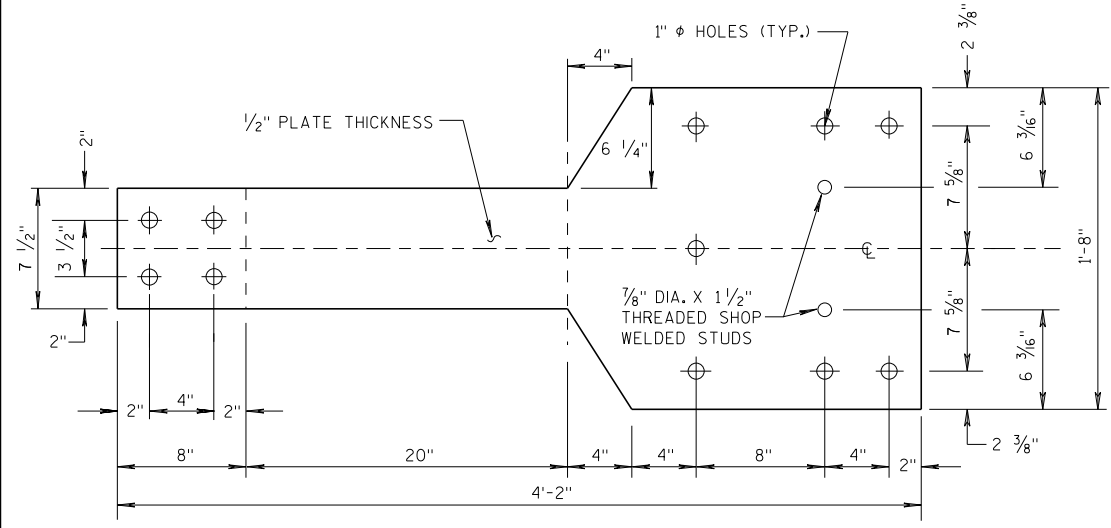
6

S.D.D. 14 B 45-59

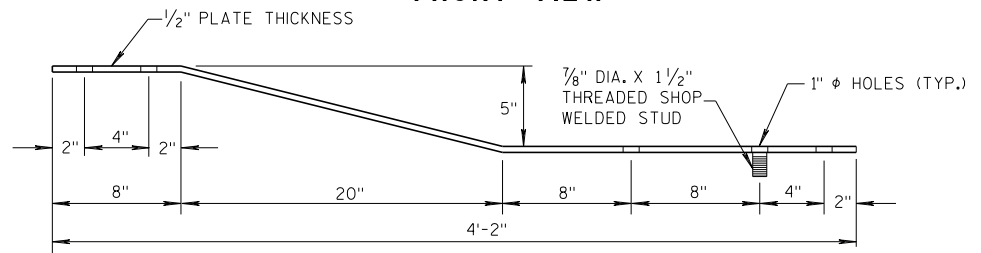
S.D.D. 14 B 45-59

**GENERAL NOTES**

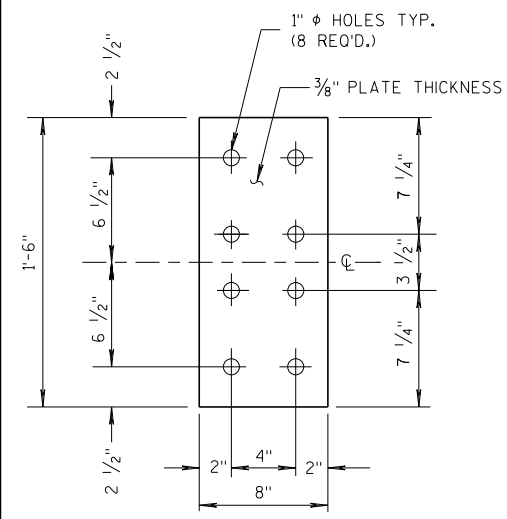
(4) TOLERANCE FOR TOP OF W-BEAM RAIL IS ± 1".



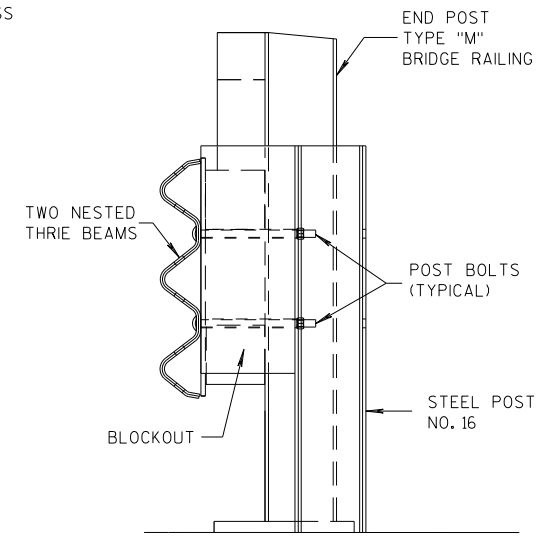
**FRONT VIEW**



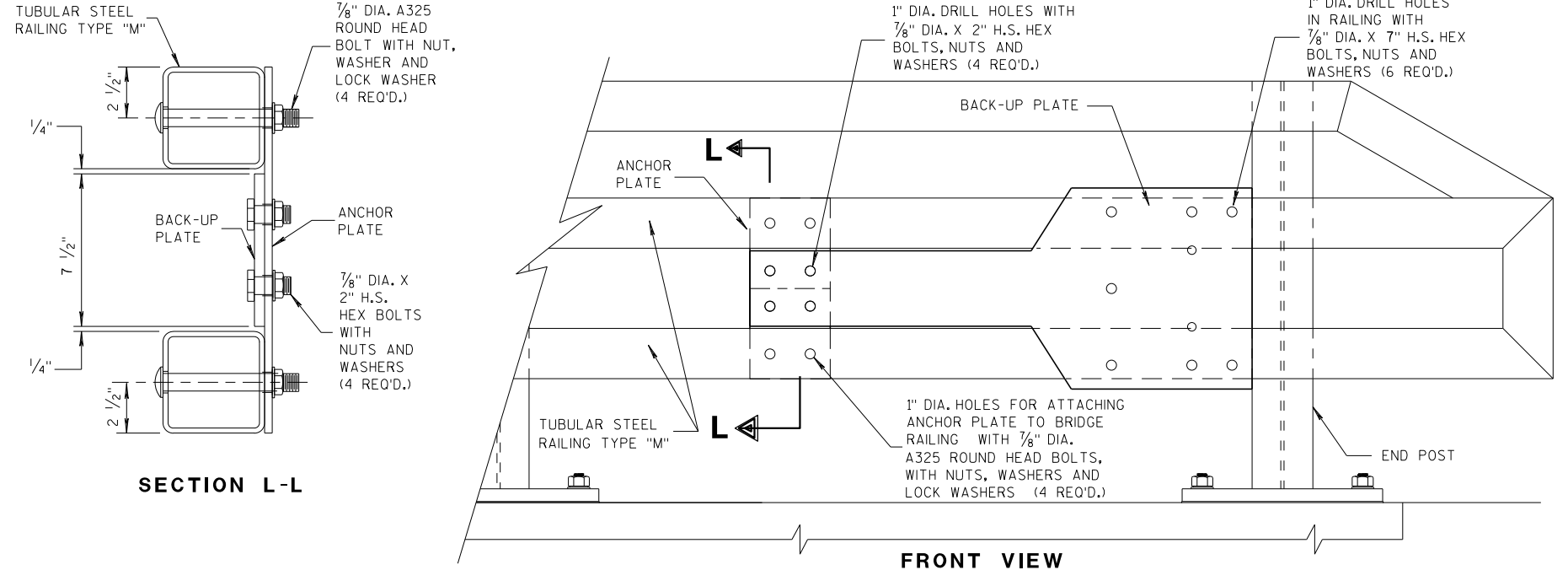
**PLAN VIEW  
BACK-UP PLATE DETAIL, TYPE "M"**



**FRONT VIEW  
ANCHOR PLATE DETAIL, TYPE "M"**



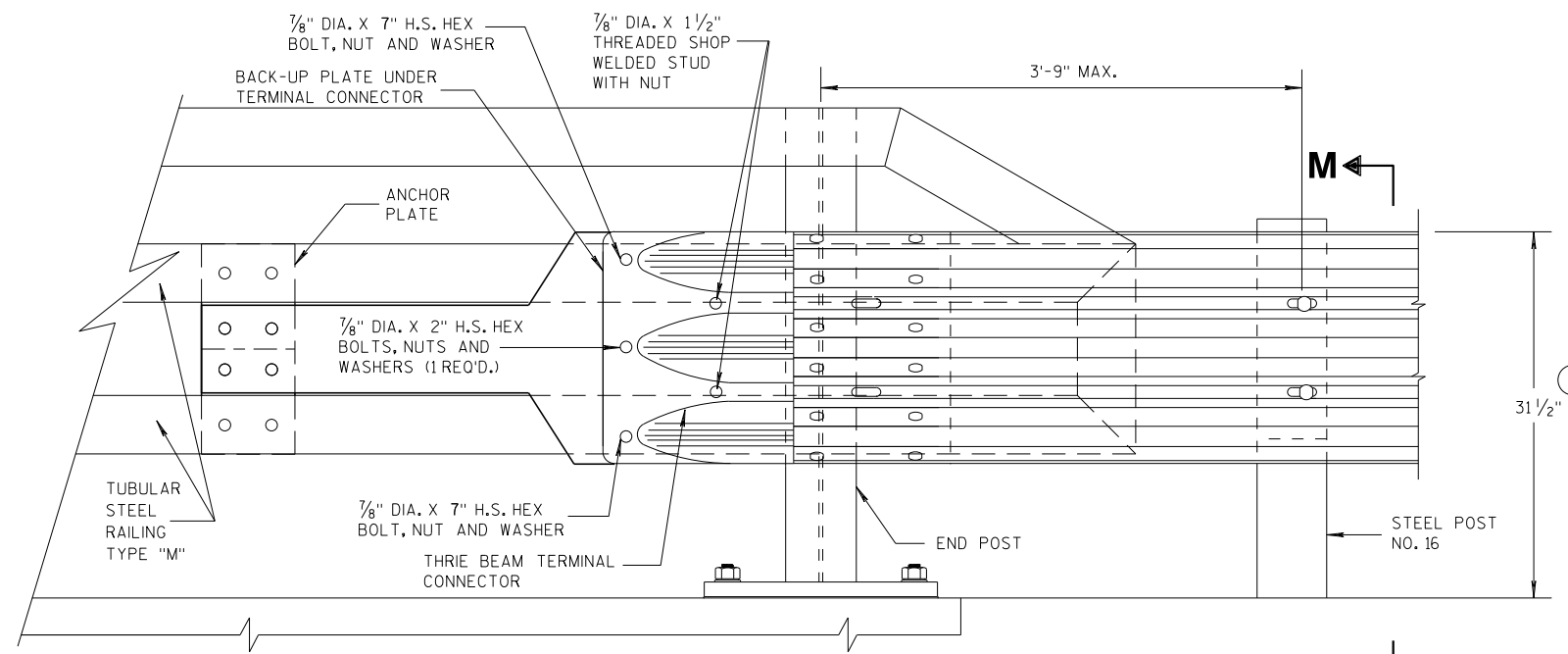
**SECTION M-M**



**SECTION L-L**

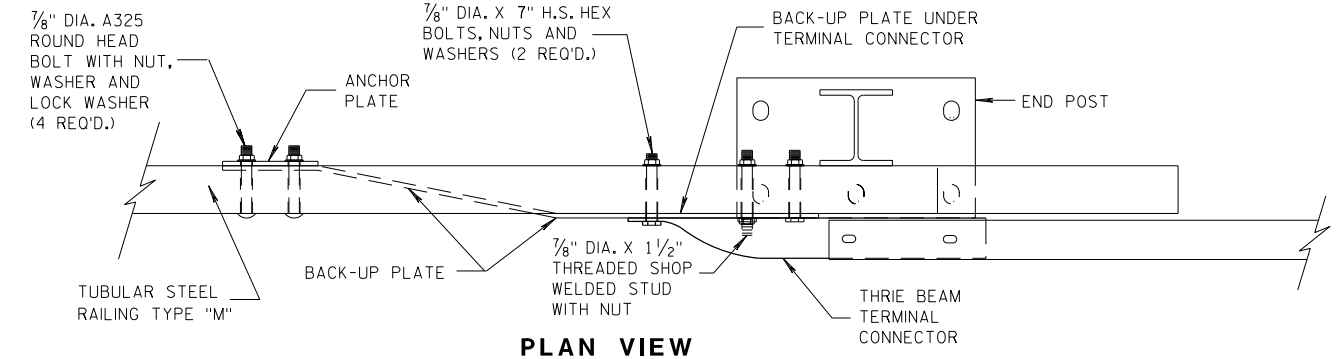
**FRONT VIEW**

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



**FRONT VIEW**

**M**



**PLAN VIEW**

**THRIE BEAM CONNECTION TO TUBULAR RAILING, TYPE "M"**

**MIDWEST GUARDRAIL SYSTEM  
THRIE BEAM TRANSITION (MGS)**

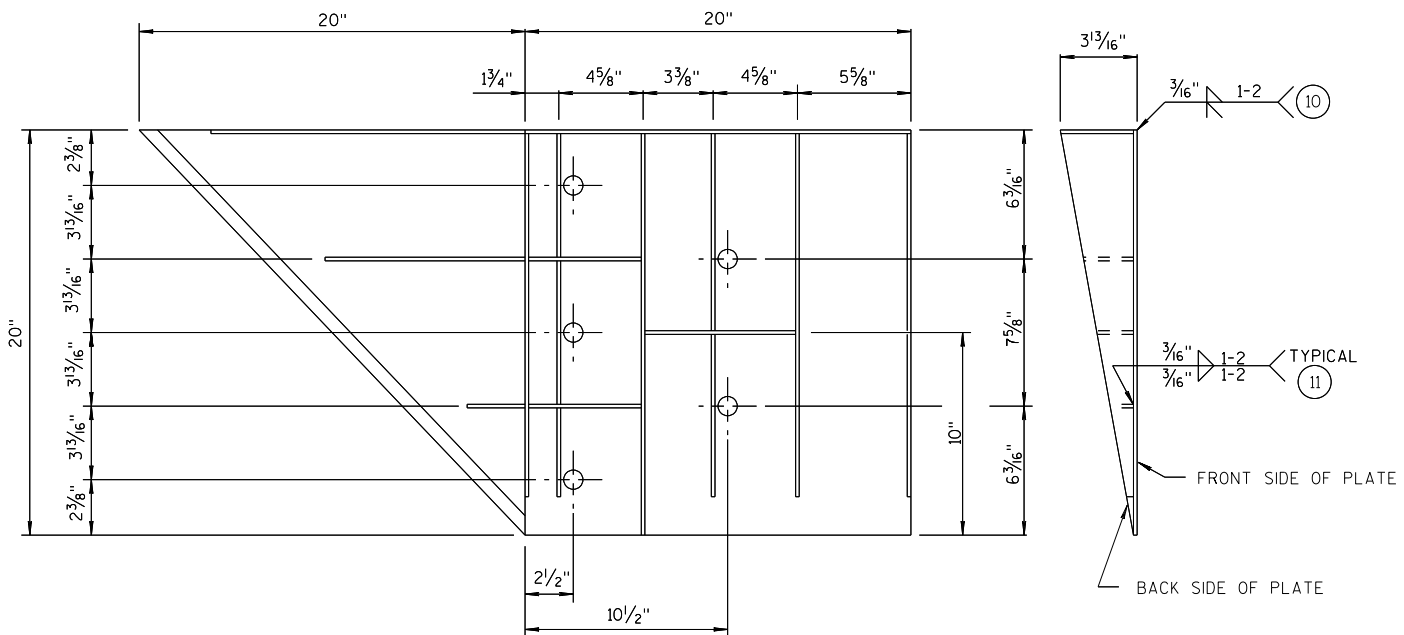
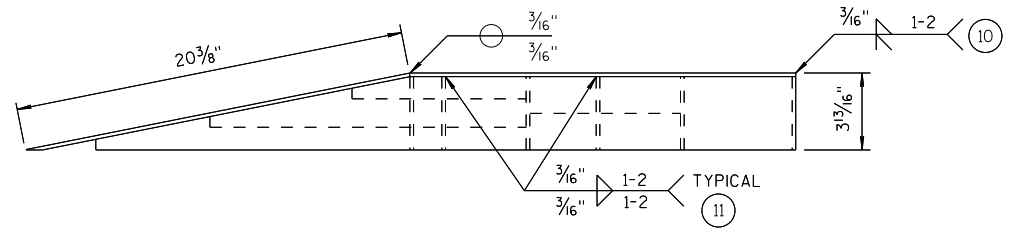
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
DATE 07/2018 /S/ Rodney Taylor  
ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR  
FHWA

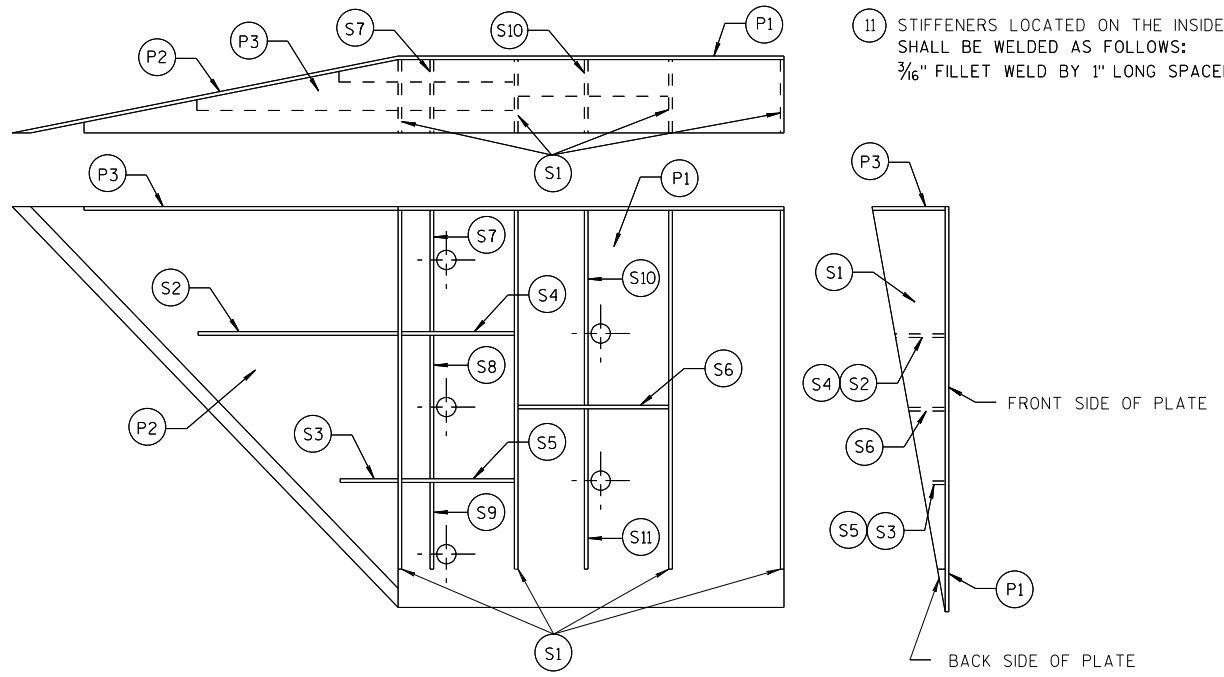
**GENERAL NOTES**

- COVER PLATE PANELS ARE 3/16" THICK.
- ALL STIFFENERS ARE 1/4" THICK.
- CONNECTOR PLATE SHALL BE FABRICATED FROM ASTM GRADE A36 STEEL AND GALVANIZED.
- FOR GALVANIZED REQUIREMENTS, SEE SECTION 614 OF THE STANDARD SPECIFICATIONS.
- ALL HOLE DIAMETERS SHALL BE 1".
- FOR OPPOSITE SIDE INSTALLATION MIRROR DRAWINGS.

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



**WELDING INSTRUCTION**  
(VIEWED FROM BACK SIDE OF PLATE)



**PLATE AND STIFFENER IDENTIFICATION**  
(VIEWED FROM BACK SIDE OF PLATE)

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

**SINGLE SLOPE CONNECTION PLATE**

**MIDWEST GUARDRAIL SYSTEM  
THREE BEAM TRANSITION (MGS)**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

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

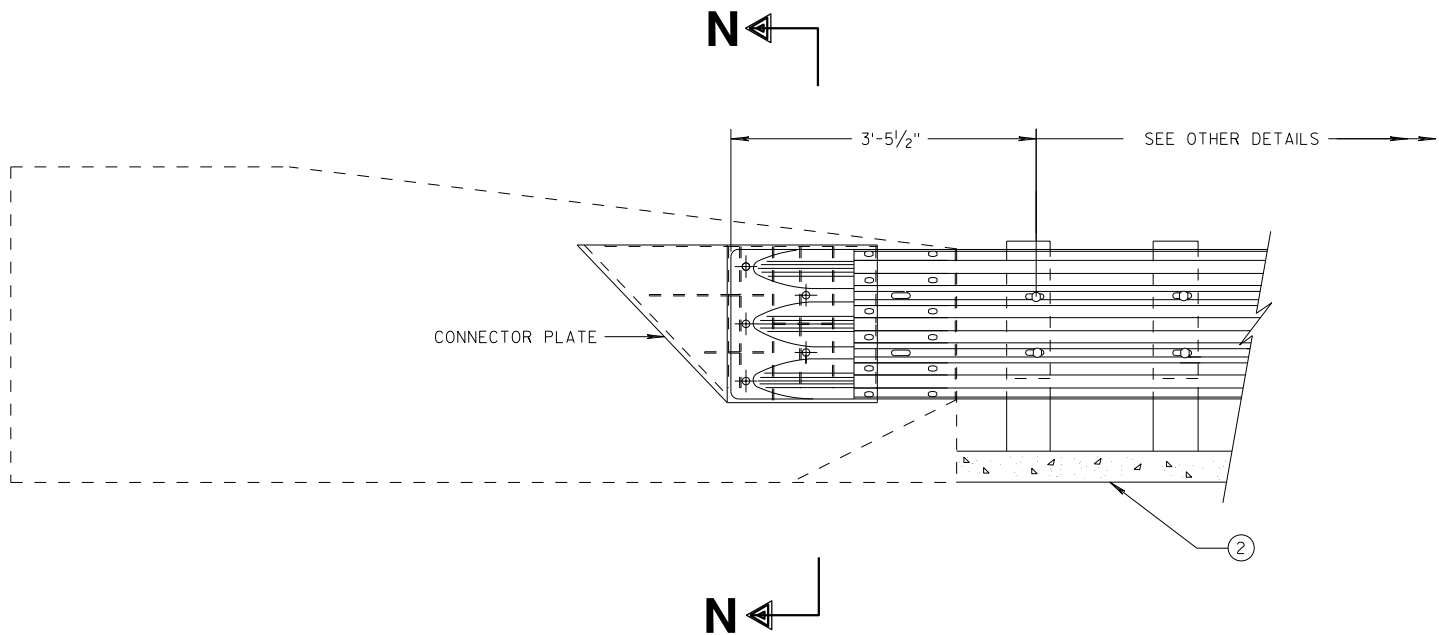


**GENERAL NOTES**

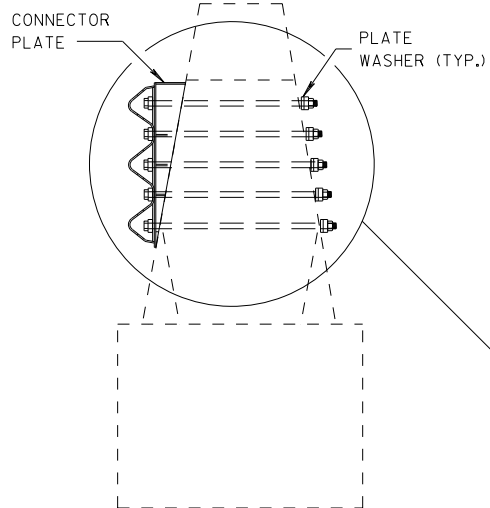
CONNECTOR PLATE, DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

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

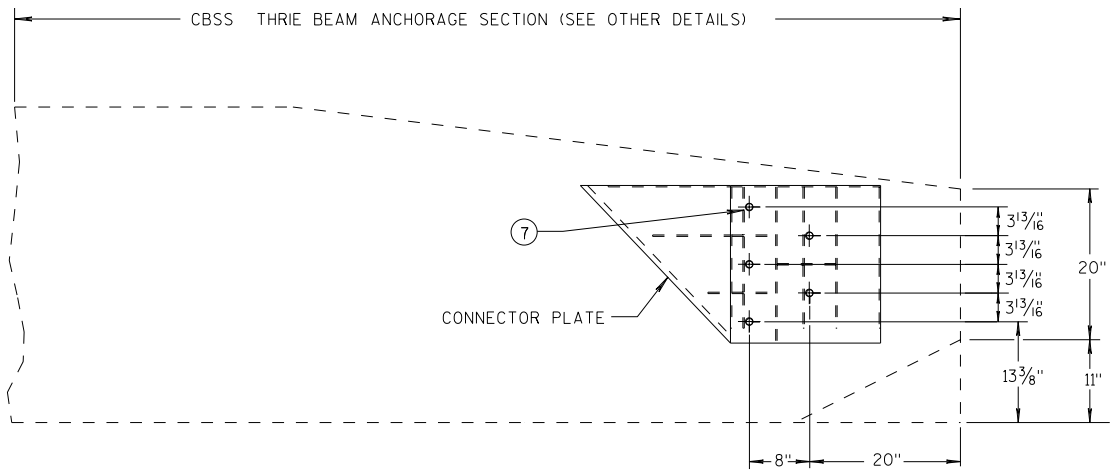
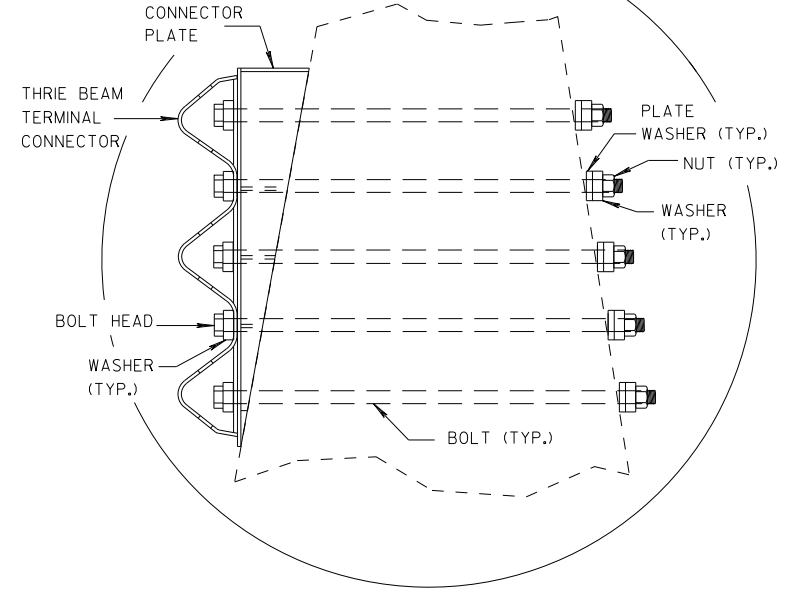
⑦ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTION PLATE.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



**THRIE BEAM CONNECTION TO SINGLE SLOPE BARRIER**



**SECTION N-N**

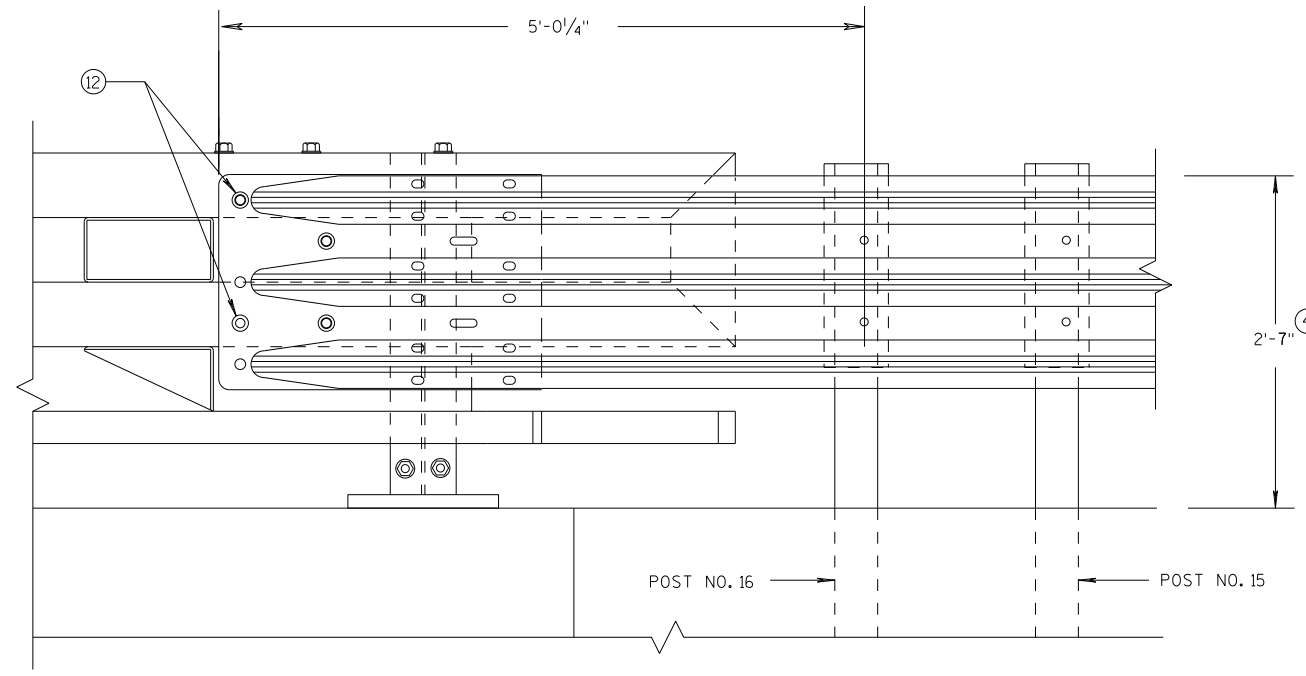


**SINGLE SLOPE CONNECTION PLATE PLACEMENT**

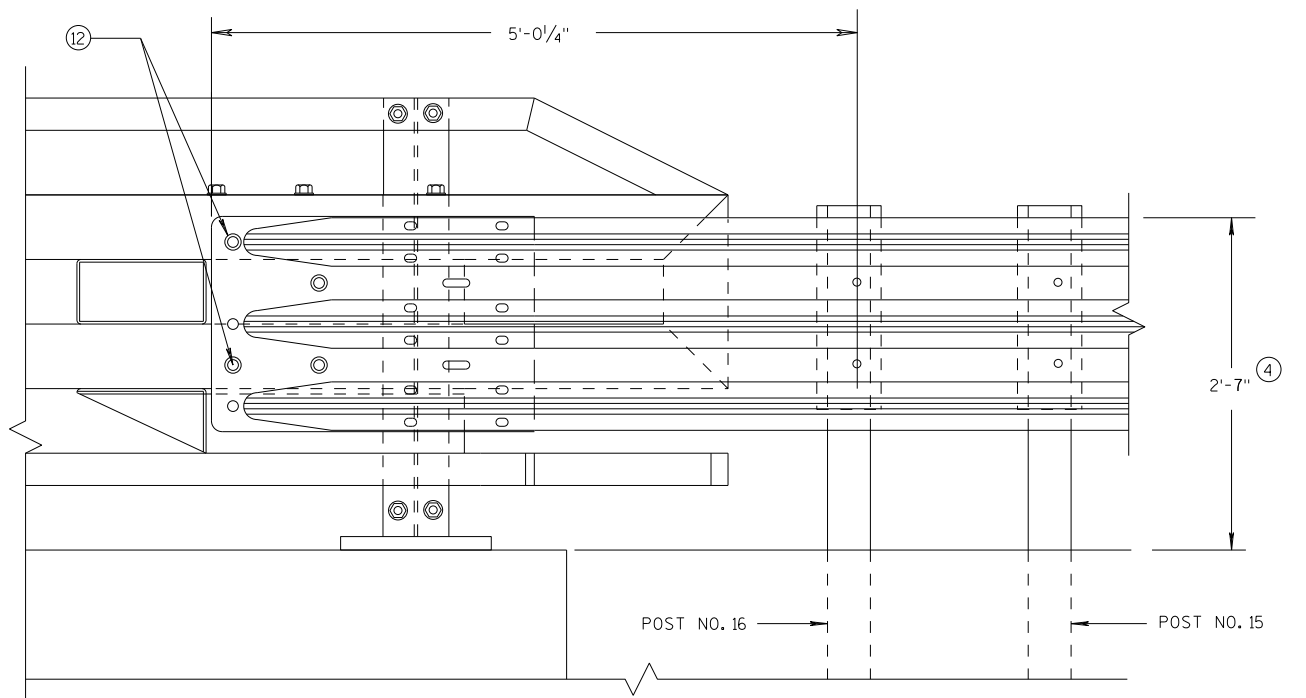
**MIDWEST GUARDRAIL SYSTEM  
THRIE BEAM TRANSITION (MGS)**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

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



**ELEVATION OF DETAIL AT NY3 END POST**  
**THRIE BEAM RAIL ATTACHMENT**



**ELEVATION OF DETAIL AT NY4 END POST**  
**THRIE BEAM RAIL ATTACHMENT**

**GENERAL NOTES**

- (4) TOLERANCE FOR TOP OF BEAM IS ± 1".
- (12) BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. ON BACKSIDE OF PARAPET ONE ROUND WASHER, AND NUT REQUIRED. BOLT THREAD IS TO EXTEND 1/2-INCH BEYOND NUT.

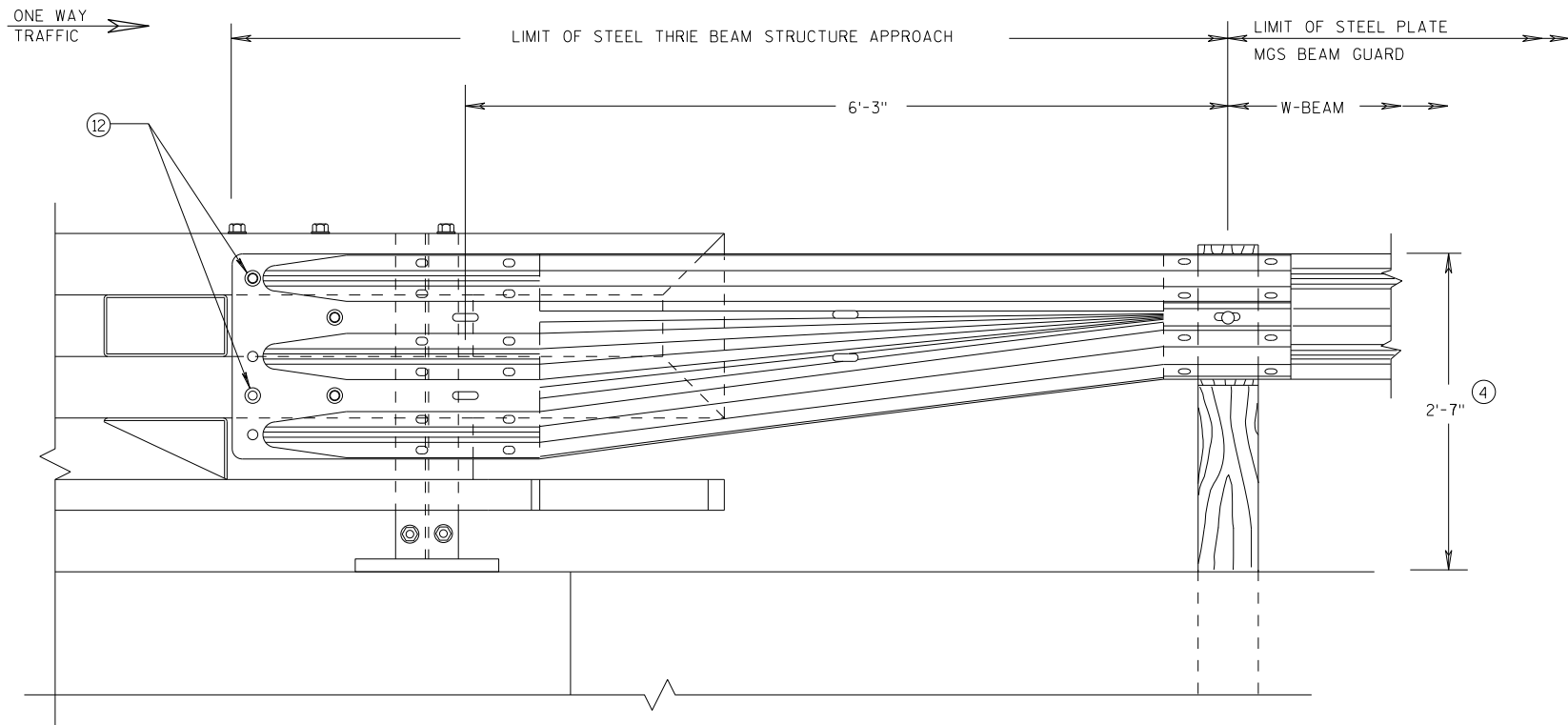
6

6

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

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

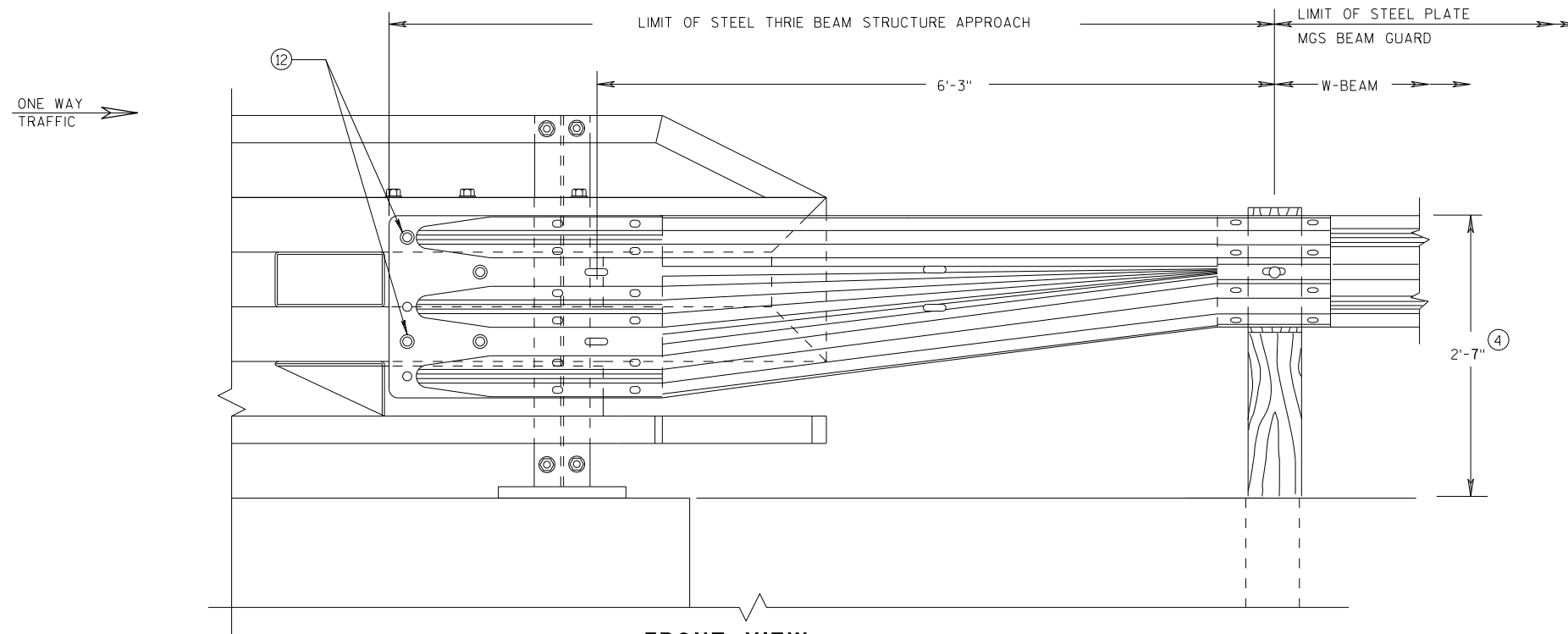
<b>MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED DATE	/S/ Rodney Taylor ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR
FHWA	



**GENERAL NOTES**

- ④ TOLERANCE FOR TOP OF BEAM IS  $\pm 1"$ .
- ⑫ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. ON BACKSIDE OF PARAPET ONE ROUND WASHER, AND NUT REQUIRED. BOLT THREAD IS TO EXTEND  $\frac{1}{2}$ -INCH BEYOND NUT.

**FRONT VIEW**  
**W BEAM TRANSITION AND**  
**CONNECTION TO BRIDGE RAILING TYPE "NY3"**  
 (USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)

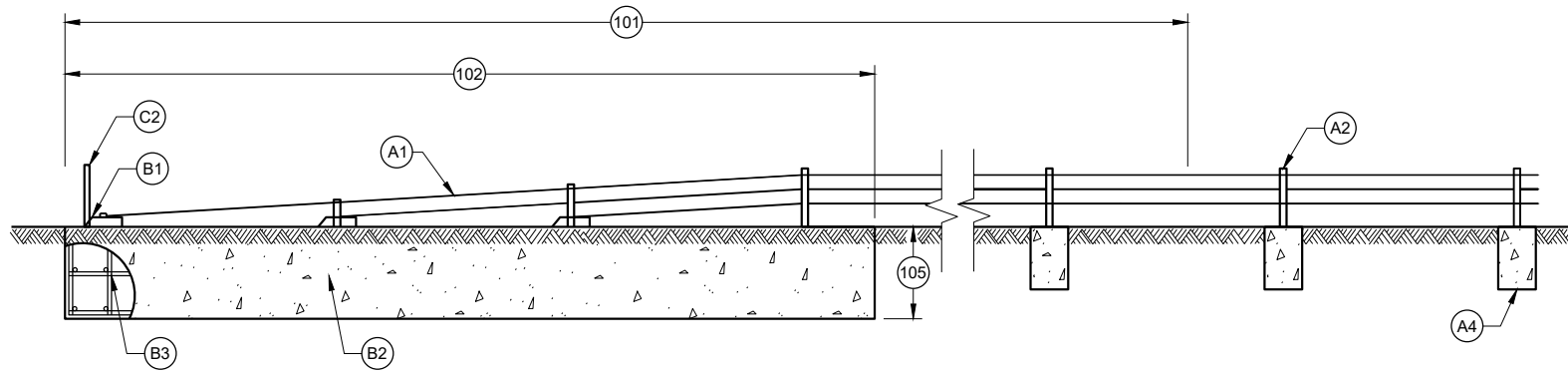


**FRONT VIEW**  
**W BEAM TRANSITION AND**  
**CONNECTION TO BRIDGE RAILING TYPE "NY4"**  
 (USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)

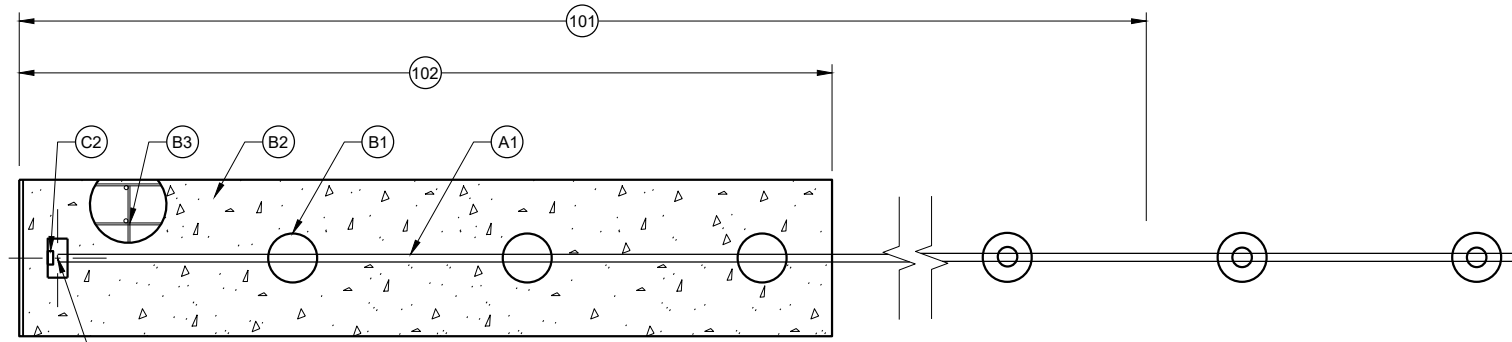
**MIDWEST GUARDRAIL SYSTEM**  
**THRIE BEAM TRANSITION (MGS)**

STATE OF WISCONSIN  
 DEPARTMENT OF TRANSPORTATION

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



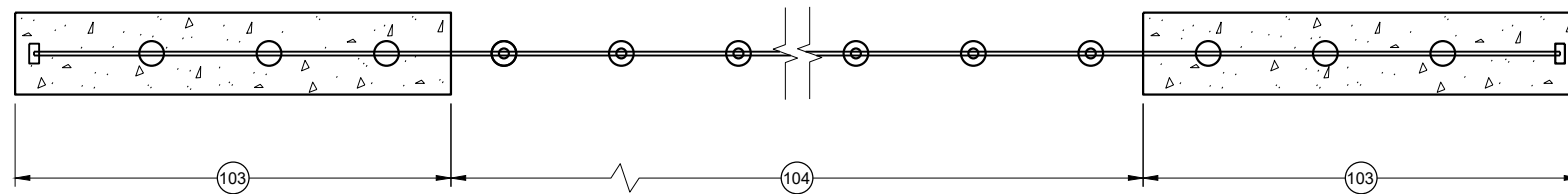
**PROFILE VIEW**



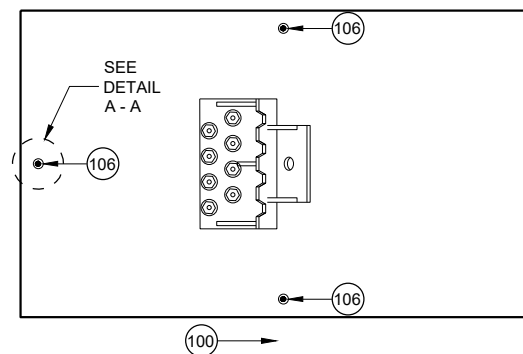
LOCATION OF STATION OFFSET FOR  
CABLE BARRIER END TERMINAL

**PLAN VIEW**

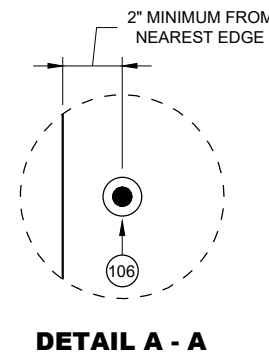
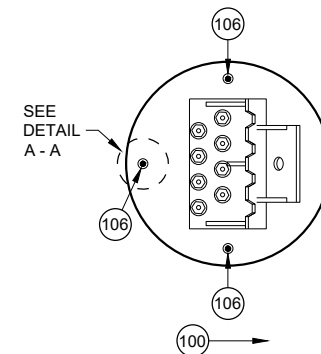
**TRANSITION FROM CABLE BARRIER  
TERMINAL TO CABLE BARRIER LINE POSTS**



**TYPICAL PLAN VIEW**



**ANCHOR MONITOR POINTS FOR  
CABLE BARRIER END TERMINAL ANCHORS**

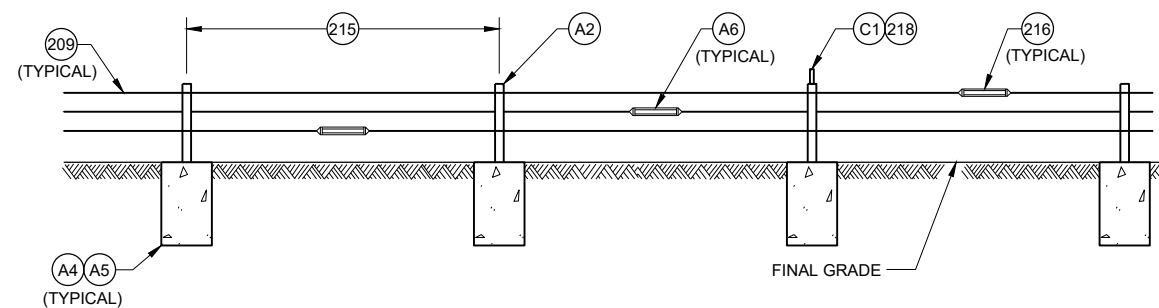


**DETAIL A - A**

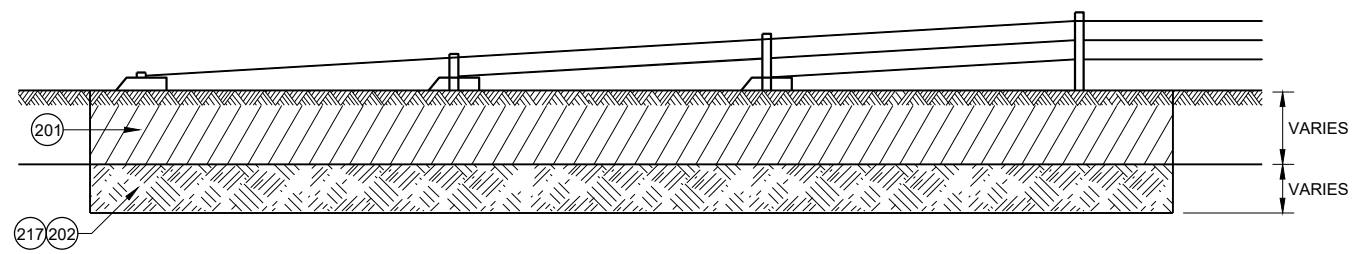
**GENERAL NOTES**

- DRAWINGS ARE GENERAL IN NATURE. SEE MANUFACTURER'S INFORMATION FOR MORE DETAIL.
  - PROVIDE 2 INCH CLEAR COVER FROM OUTER EDGE OF CONCRETE FOOTINGS TO REINFORCEMENT.
  - INSTALL LINE POSTS PLUMB. LINE POSTS ARE TO BE EASILY REMOVED BY HAND AND HOLD CABLES AT THE PROPER ELEVATION.
  - PROVIDE CABLE BARRIER SYSTEM FROM APPROVED PRODUCT LIST.
  - PROVIDE A SYSTEM TO HAVE THE WORKING WIDTH INDICATED IN PLAN.
  - PROVIDE DOCUMENTATION HOW POST SPACING, RADIUS OF CURVE AND ANCHOR SPACING INFLUENCES WORKING WIDTH TO CONSTRUCTION STAFF.
  - CONSTRUCT SHAFTS VERTICALLY. VERTICAL TOLERANCE OF SHAFT IS 1/8" PER FOOT OF DEPTH. SHAFTS ARE TO MINIMIZE DISTURBANCE TO ADJACENT SOILS.
  - SECURE STEEL REINFORCEMENT AND STEEL SLEEVE PRIOR TO PLACEMENT OF CONCRETE. MAINTAIN CLEAR DISTANCE BETWEEN SOIL AND REINFORCEMENT CAGE.
  - PLACE CONCRETE IN ONE CONTINUOUS POUR FOR EACH FOOTING. USE VIBRATION TO CONSOLIDATE CONCRETE.
  - PROVIDE CASING AS NECESSARY TO PREVENT INTRUSION OF UNCONSOLIDATED MATERIALS OR WATER. USE CASINGS WHEN THERE IS 3 OR MORE INCHES OF WATER IN EXCAVATION.
  - PROVIDE WISCONSIN PROFESSIONAL ENGINEER SIGNED AND APPROVED FOOTING DESIGN USING A CASING AND CONSTRUCTION SEQUENCE. PROJECT ENGINEER WILL REVIEW AND APPROVED CASING DESIGN AND CONSTRUCTION SEQUENCE. CASING IS TO HAVE INTIMATE CONTACT WITH SHAFT SIDEWALL. CASING IT TO WITHSTAND INSERTION STRESS, REMOVAL STRESS, CONCRETE PRESSURE AND SOIL PRESSURE. REMOVE CASING DURING CONCRETE PLACEMENT OR IMMEDIATELY AFTER CONCRETE PLACEMENT. NO TEMPORARY CASING MAY REMAIN IN-PLACE.
  - PROVIDE WISCONSIN PROFESSIONAL ENGINEER SIGNED AND APPROVED FOOTING DESIGN AND CONSTRUCTION SEQUENCE WHEN OVER EXCAVATION IS REQUIRED NEAR A FOOTING. PROJECT ENGINEER WILL REVIEW AND APPROVED DESIGN AND CONSTRUCTION SEQUENCE.
  - FINISH TOP OF FOOTINGS TO THE DIMENSIONS INDICATED IN PLAN. REMOVE EXCESS CONCRETE.
  - DESIGN POST FOOTINGS SO THAT LINE POST FOOTING MOVE LESS THAN 1 INCH WHEN LINE POST IS IMPACTED BY A NCHRP 350 TL-3 SMALL CAR.
  - USE MARINE GRADE ANTI-SEIZE LUBRICANT FOR THREADING FITTINGS THAT IS ACCEPTABLE FOR USE ON GALVANIZED STEEL.
- 100 DIRECTION THAT THE CABLE PULLS THE END ANCHOR FOOTING
  - 101 LOCATION OF LENGTH OF NEED POINT FOR CABLE BARRIER END TERMINAL VARIES. (SEE MANUFACTURER'S INFORMATION)
  - 102 PAY LIMIT FOR CABLE BARRIER END TERMINAL. LENGTH OF CABLE BARRIER END TERMINAL VARIES. (SEE MANUFACTURER'S INFORMATION)
  - 103 CABLE BARRIER END TERMINAL
  - 104 CABLE BARRIER AND LINE POSTS
  - 105 IN SOIL MINIMUM DEPTH OF CABLE BARRIER END TERMINAL FOOTING IS 60 INCHES. DEEPER FOOTINGS PER MANUFACTURER'S RECOMMENDATION ARE ACCEPTABLE.
  - 106 ANCHOR MONITOR POINTS ARE GALVANIZED SURVEY NAIL, OR MASONRY NAIL, PLACED INTO CONCRETE FOOTING BEFORE HARDENING. IF THERE ARE MULTIPLE ANCHOR POINTS WITHIN A PAY LIMIT FOR A CABLE BARRIER END TERMINAL, EACH ANCHOR POINT NEEDS THREE ANCHOR MONITOR POINTS.

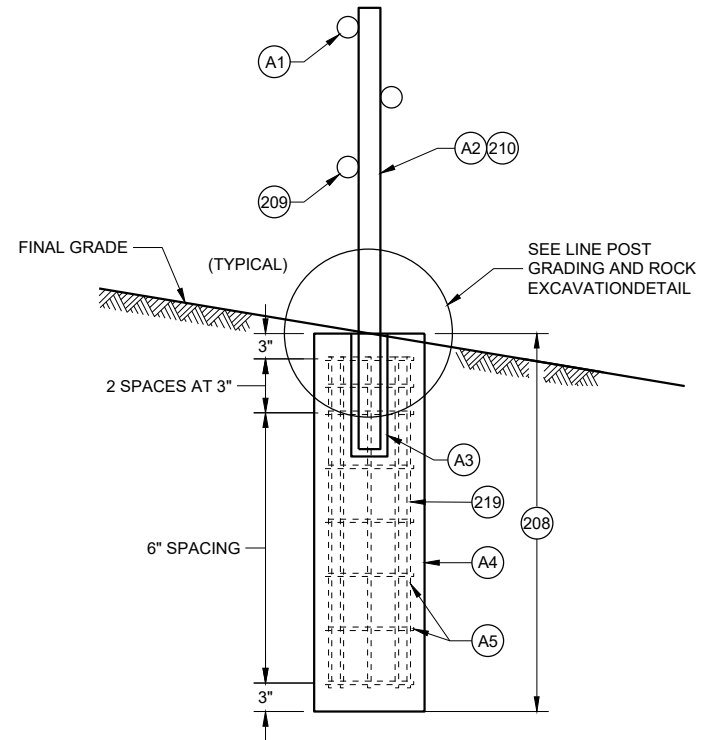
<b>CABLE BARRIER TYPE 1 LAYOUT</b>
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION



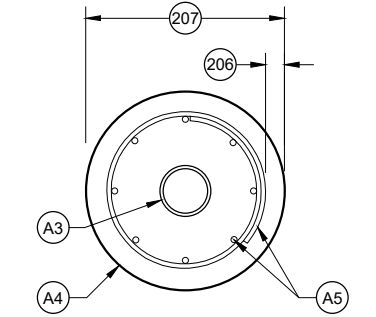
**PROFILE VIEW  
LINE POST INSTALLATION**



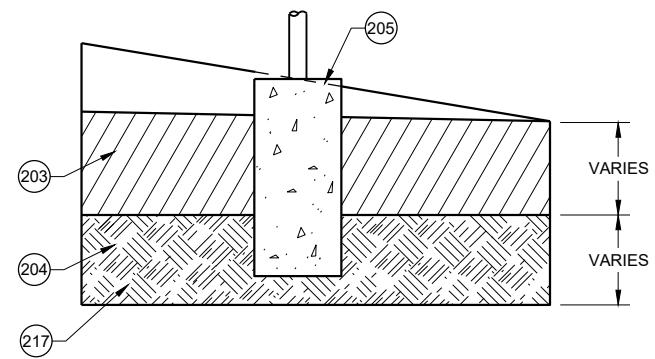
**CABLE BARRIER END TERMINAL  
ROCK EXCAVATION DETAIL**



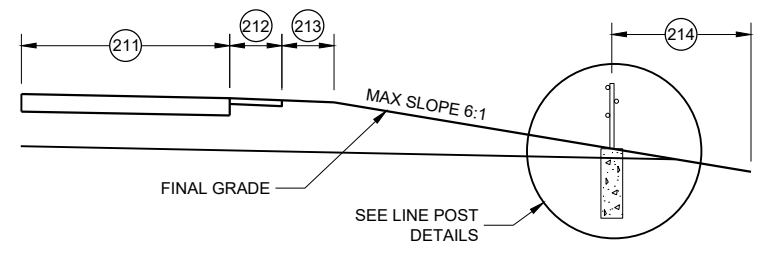
**CROSS SECTION**



**PROFILE VIEW  
(LINE POSTS AND CABLES NOT SHOWN)**



**LINE POST GRADING  
AND ROCK EXCAVATION DETAIL**



**CABLE BARRIER OFFSET FROM DITCH LINE**

**GENERAL NOTES**

- 201 SOIL TO BE EXCAVATED FOR CABLE BARRIER END TERMINAL (VARIES)
- 202 ROCK TO BE EXCAVATED FOR CABLE BARRIER END TERMINAL (VARIES)
- 203 SOIL TO BE EXCAVATED FOR LINE POST (VARIES)
- 204 ROCK TO BE EXCAVATED FOR LINE POST (VARIES)
- 205 EXCAVATE AND GRADE LINE FOR LINE POST FOOTINGS. INSTALL LINE POST FOOTING TO MINIMIZE 4 INCH TALL OBJECT ON 5 FOOT CHORD.
- 206 2 INCHES OF CLEAR COVER FROM EDGE OF CONCRETE TO REINFORCEMENT.
- 207 DIAMETER OF LINE POST FOOTING VARIES. SEE MANUFACTURERS' INFORMATION.
- 208 MINIMUM DEPTH OF LINE POST FOOTING IS 4' - 0" IN SOIL. DEEPER FOOTINGS PER MANUFACTURER'S RECOMMENDATION ARE ACCEPTABLE.
- 209 NUMBER AND LOCATION OF CABLES VARY. SEE MANUFACTURERS' INFORMATION.
- 210 LINE POST DIMENSIONS AND CONNECTION HARDWARE VARY. SEE MANUFACTURERS' INFORMATION.
- 211 LANE OF ROADWAY (VARIES). SEE PLAN FOR MORE INFORMATION.
- 212 PAVED SHOULDER (VARIES). SEE PLAN FOR MORE INFORMATION.
- 213 GRAVEL SHOULDER (VARIES). SEE PLAN FOR MORE INFORMATION.
- 214 CABLE BARRIER OFFSET FROM CENTERLINE OF MEDIAN DITCH (8 FOOT MINIMUM). SEE PLAN FOR MORE INFORMATION.
- 215 MAXIMUM POST SPACING IS 15 FEET.
- 216 STAGGER TURNBUCKLES (TYPICAL).
- 217 SEE MANUFACTURER'S DESIGN WHEN ROCK IS ENCOUNTERED.
- 218 LINE POST DELINEATOR SPACING IS 100 FEET.
- 219 MINIMUM LINE POST FOOTING REINFORCEMENT SHOWN. MANUFACTURER IS TO INDICATE REINFORCEMENT IS ADEQUATE FOR THEIR SYSTEM. IF REINFORCEMENT IS NOT ADEQUATE, PROVIDE FOOTING DESIGN WITH A ADEQUATE REINFORCEMENT.

<b>CABLE BARRIER TYPE 1 LAYOUT</b>
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

**BILL OF MATERIALS**

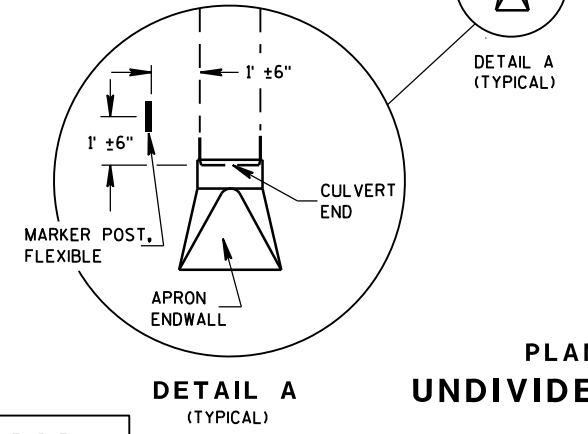
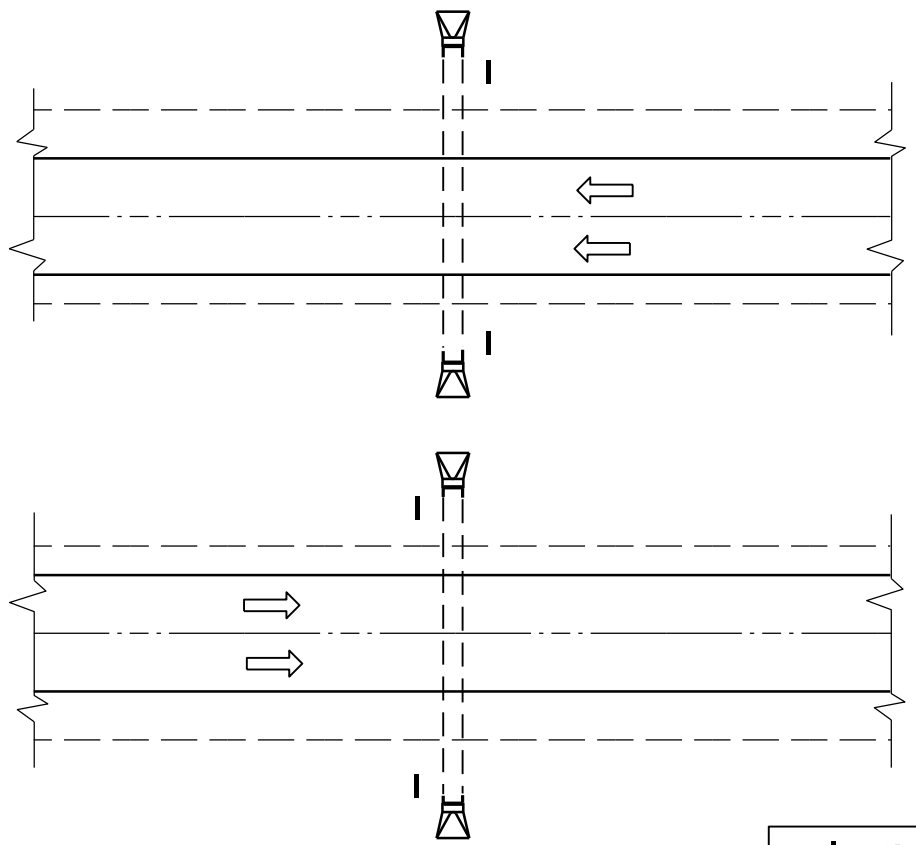
PART NUMBER	QTY.	DESCRIPTION	MATERIALS SPECIFICATIONS
(A1)	3 OR 4	¾" 3x7 PRESTRECHED GALVANIZED STEEL WIRE ROPE	AASHTO M30 TYPE 1 CLASS A OR ASTM A741 TYPE 1 CLASS A WITH MINIMUM BREAKING STRENGTH = 39 KIPS (173.5 KN)
(A2)	1 PER LINE POST	GALVANIZED REMOVABLE STEEL LINE POST	SEE MANUFACTURER'S INFORMATION ON DIMENSIONS AND MATERIAL REQUIREMENTS. ASTM A123 (GALVANIZATION).
(A3)	1 PER LINE POST	GALVANIZED STEEL SLEEVE	SEE MANUFACTURER'S INFORMATION ON DIMENSIONS AND MATERIAL REQUIREMENTS. ASTM A123 (GALVANIZATION).
(A4)	VARIES	CONCRETE FOR LINE POST FOOTING	A, A-FA.A-T, OR A-IP OF STANDARD SPECIFICATION 501.2 OR AS MANUFACTURER SPECIFIES. STANDARD SPECIFICATION 716 QMP FOR CLASS II ANCILLARY CONCRETE SEE MANUFACTURER'S INFORMATION ON DIMENSIONS.
(A5)	MINIMUM REINFORCEMENT: 8 HORIZONTAL LOOP BARS 8 VERTICAL BARS	EPOXY COATED STEEL REINFORCEMENT	STANDARD SPECIFICATION 505. ALL BARS ARE NO. 4 BARS
(A6)	VARIES	TURNBUCKLES AND OTHER CABLE CONNECTING HARDWARE	SEE MANUFACTURER'S INFORMATION ON DIMENSIONS. MINIMUM BREAKING STRENGTH OF TURNBUCKLES AND CONNECTION HARDWARE IS EQUAL TO CABLE. TURNBUCKLES AND OTHER CABLE CONNECTION HARDWARE IS FIELD SWAGED PER MANUFACTURER'S RECOMMENDATION AND DETAILS. PROVIDE DOCUMENTATION THAT THE FITTINGS ARE STRONGER THAN THE CABLE BARRIER. DOCUMENTATION IS TO INCLUDE: MANUFACTURER NAME, TESTING RESULTS, AND DATE OF TESTING.
(B1)	VARIES	CABLE CONNECTION TO CABLE BARRIER END TERMINAL	SEE MANUFACTURER'S INFORMATION ON DIMENSIONS AND MATERIAL REQUIREMENTS.
(B2)	VARIES	CONCRETE FOR CABLE BARRIER END TERMINAL	A, A-FA.A-T, OR A-IP OF STANDARD SPECIFICATION 501.2. STANDARD SPECIFICATION 716 QMP FOR CLASS II ANCILLARY CONCRETE
(B3)	VARIES	EPOXY COATED STEEL REINFORCEMENT	STANDARD SPECIFICATION 505.
(C1)	VARIES	LINE POST DELINEATOR	REFLECTIVE SHEETING TYPE SH. SEE APPROVED PRODUCT LIST YELLOW.
(C2)	VARIES	CABLE BARRIER END TERMINAL DELINEATOR	REFLECTIVE SHEETING TYPE SH. SEE APPROVED PRODUCT LIST OBJECT MARKER TYPE 3 PATTERN

**CABLE BARRIER  
TYPE 1 LAYOUT**STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED

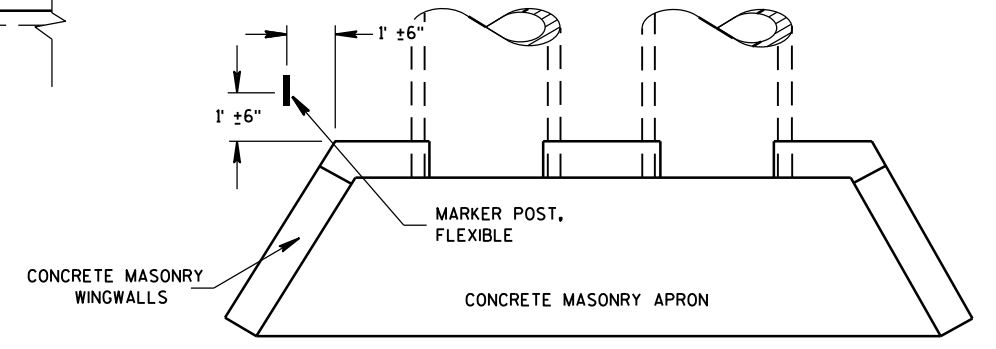
May 2022  
DATE/S/ Rodney Taylor  
ROADWAY STANDARDS DEVELOPMENT  
ENGINEER

FHWA



**GENERAL NOTES**

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

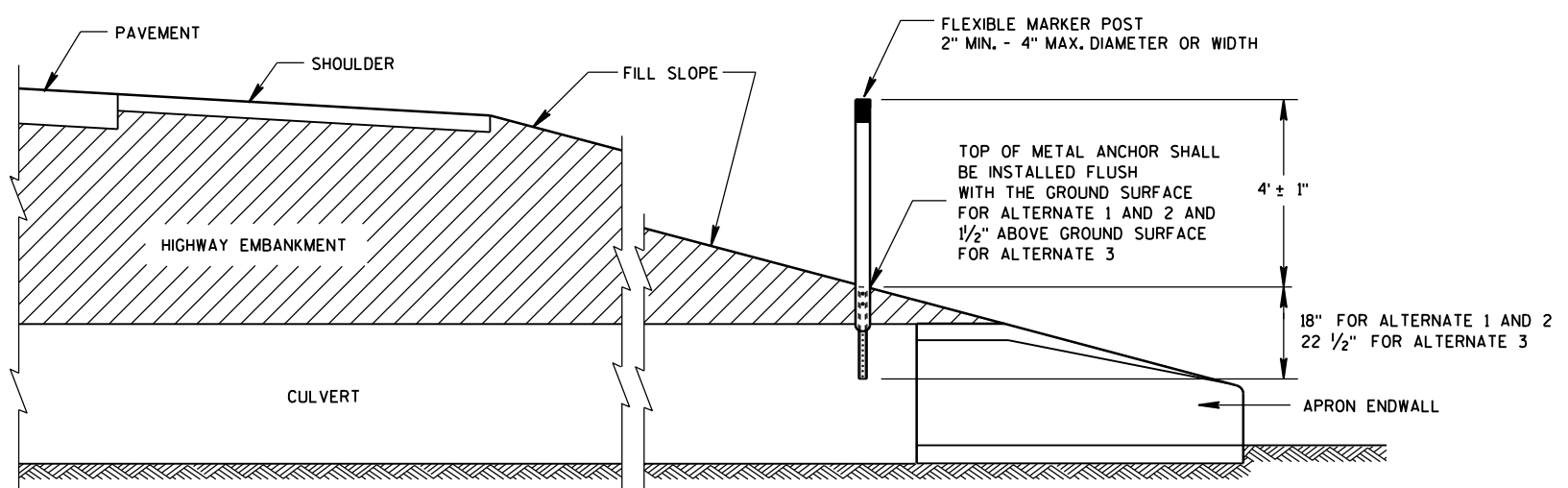


PLAN VIEW  
CONCRETE MASONRY ENDWALLS FOR  
CULVERT PIPE AND PIPE ARCH

MARKER POST, FLEXIBLE

DIRECTION OF TRAFFIC FLOW

**FLEXIBLE MARKER POST LOCATION**



CROSS SECTION  
FLEXIBLE MARKER POST

FLEXIBLE MARKER POST  
FOR CULVERT END

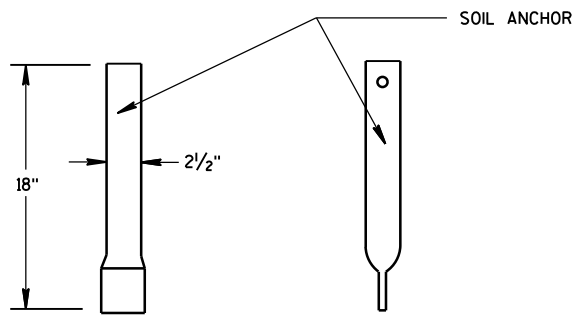
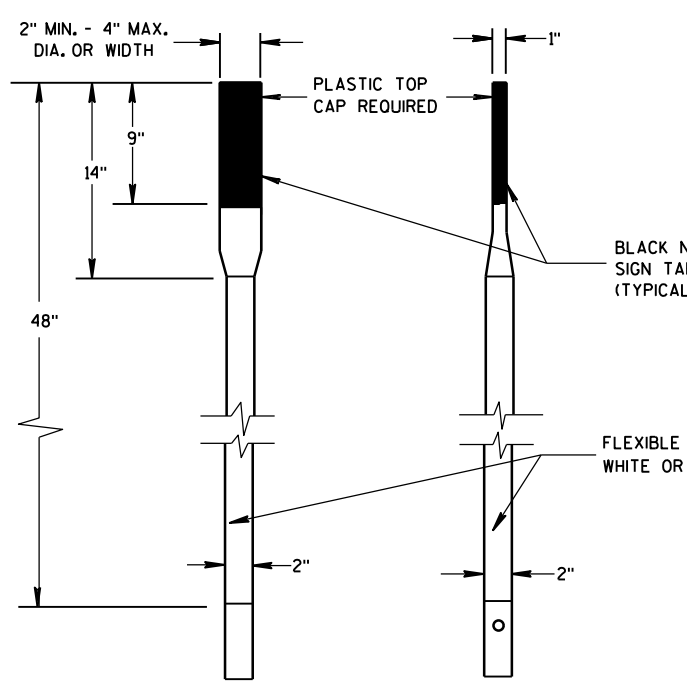
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

6

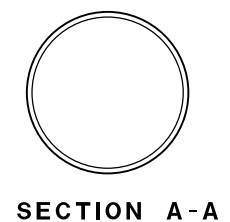
6

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

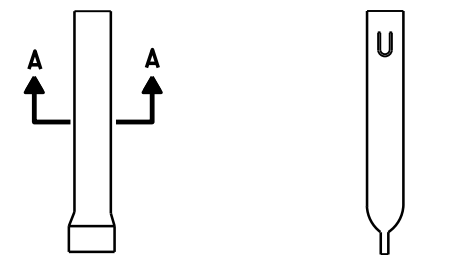
S.D.D. 15 A 3-2a



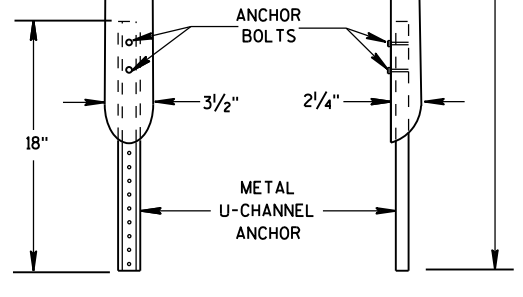
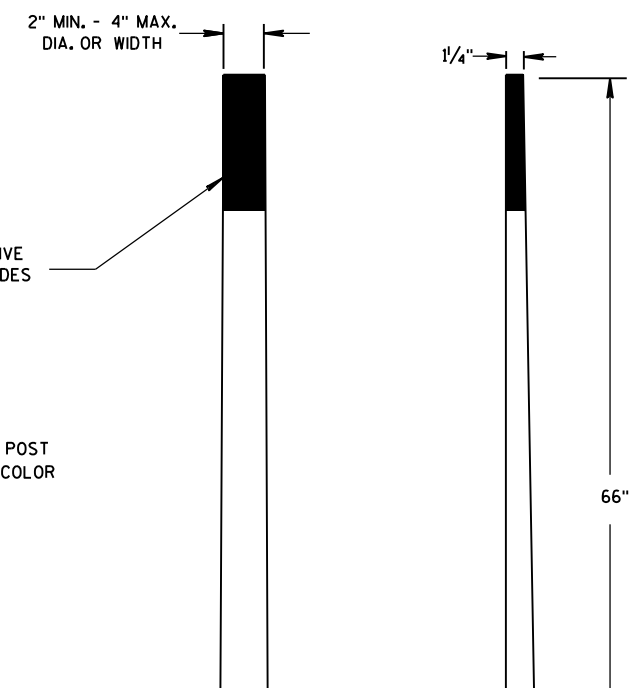
FRONT VIEW SIDE VIEW  
ALTERNATE 1



SECTION A-A

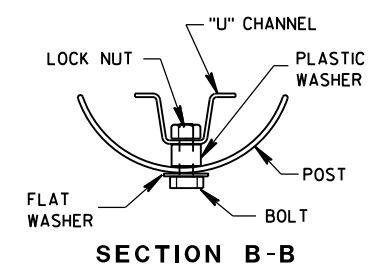


FRONT VIEW SIDE VIEW  
ALTERNATE 1

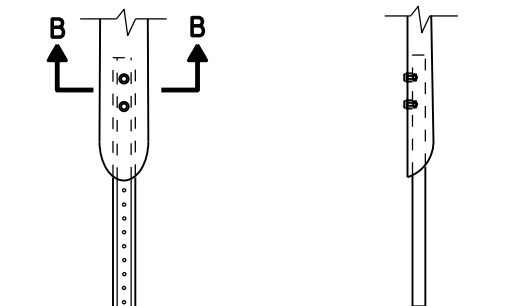


FRONT VIEW SIDE VIEW  
ALTERNATE 2

**FLEXIBLE MARKER POSTS**

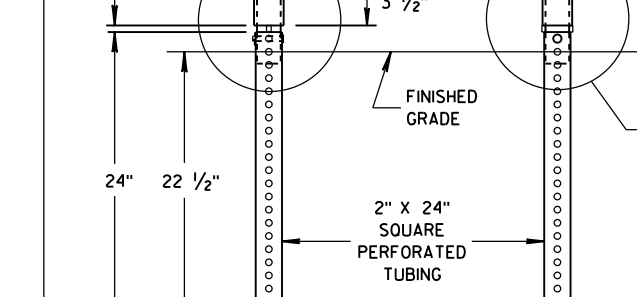
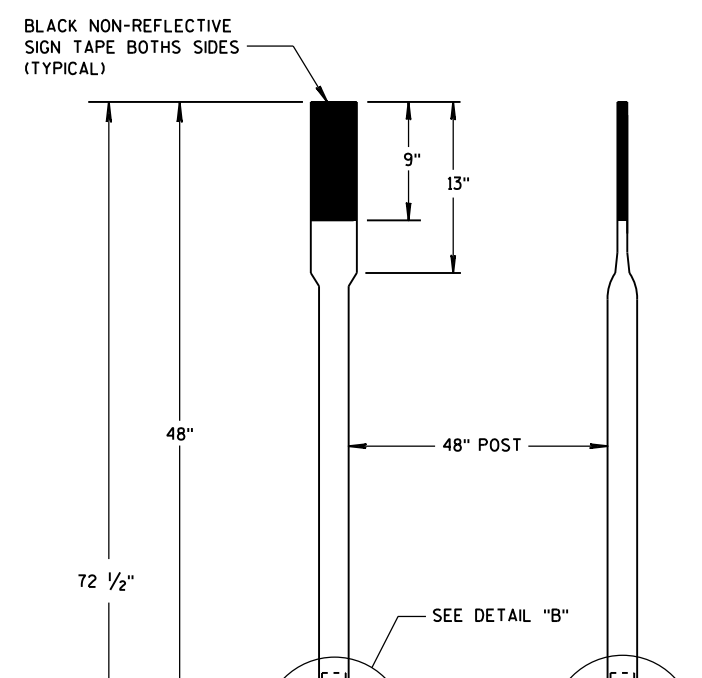


SECTION B-B

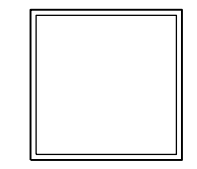


FRONT VIEW SIDE VIEW  
ALTERNATE 2

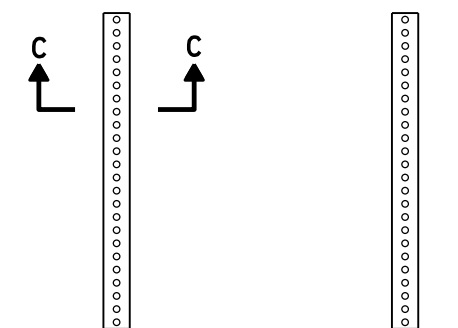
**FLEXIBLE MARKER POST ANCHORS**



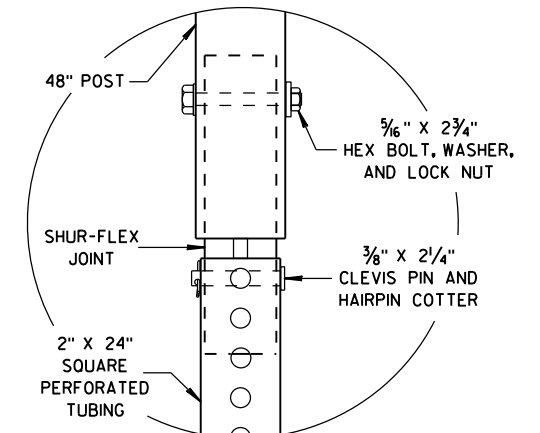
FRONT VIEW SIDE VIEW  
ALTERNATE 3



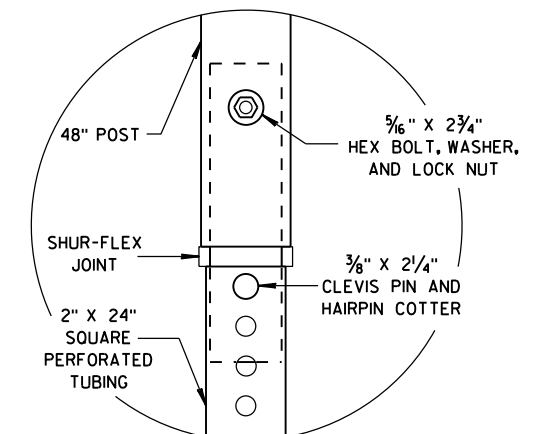
SECTION C-C



FRONT VIEW SIDE VIEW  
ALTERNATE 3



DETAIL B



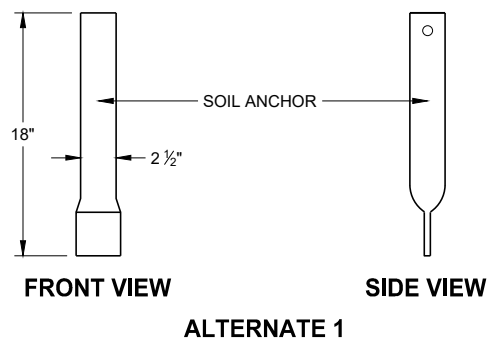
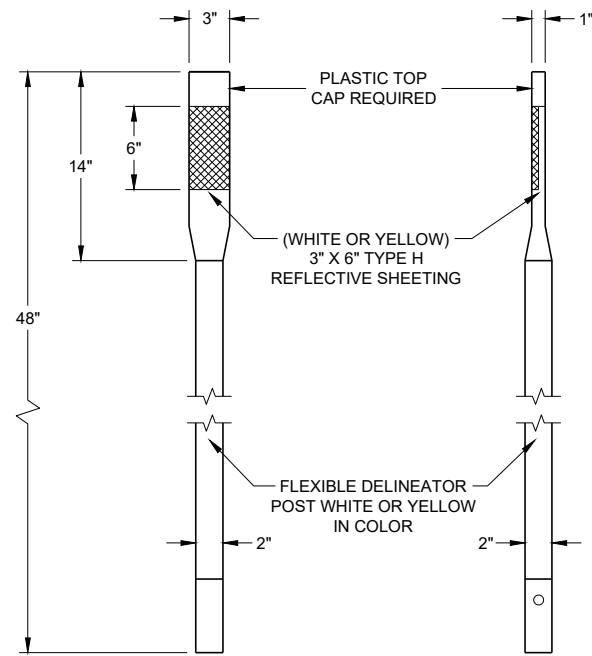
DETAIL C

**FLEXIBLE MARKER POST FOR CULVERT END**

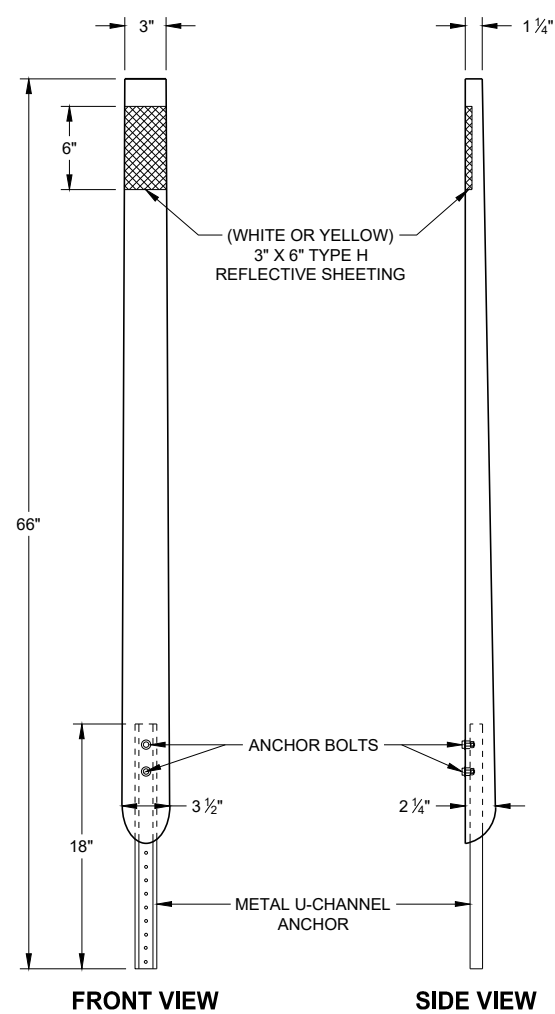
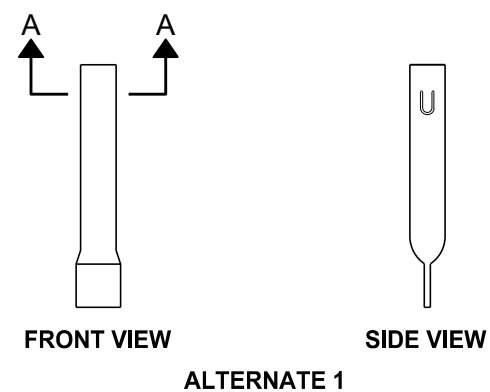
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

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

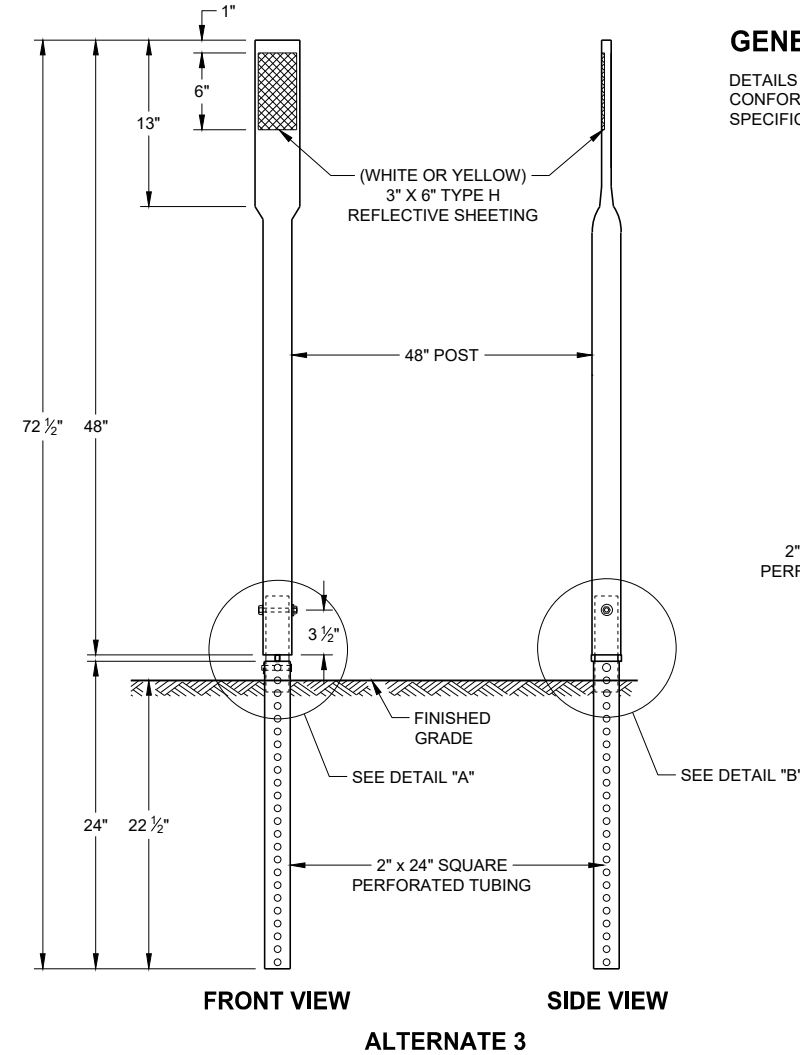
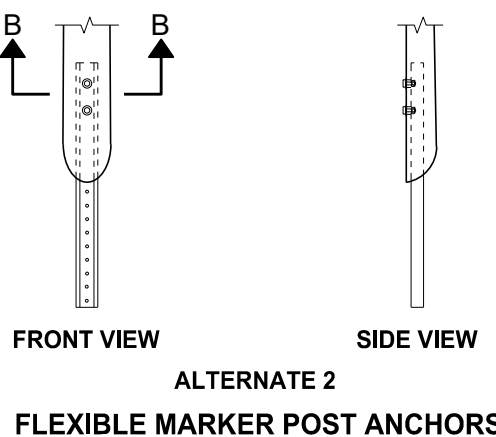
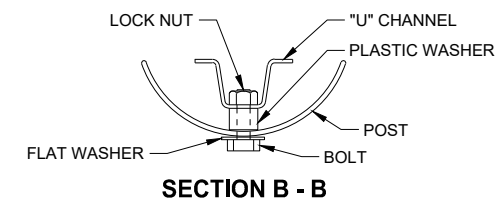




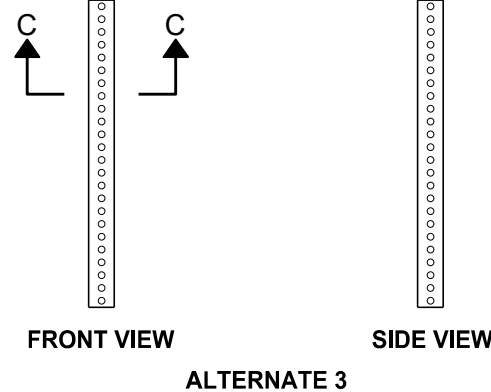
SECTION A - A



FLEXIBLE DELINEATOR POSTS

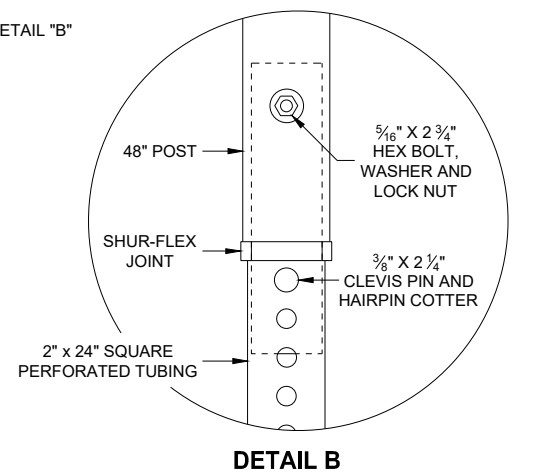
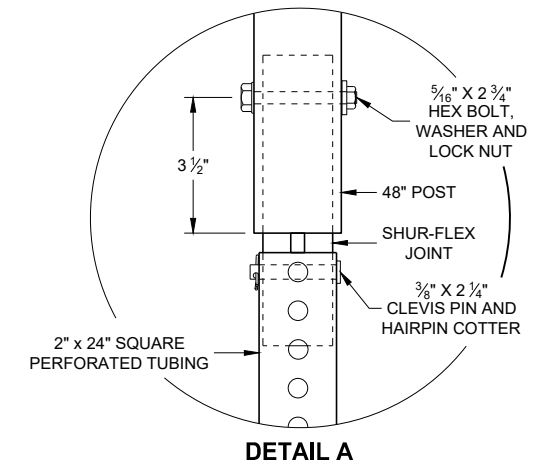


SECTION C - C



**GENERAL NOTES**

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



**REFLECTOR SPACING TABLE**

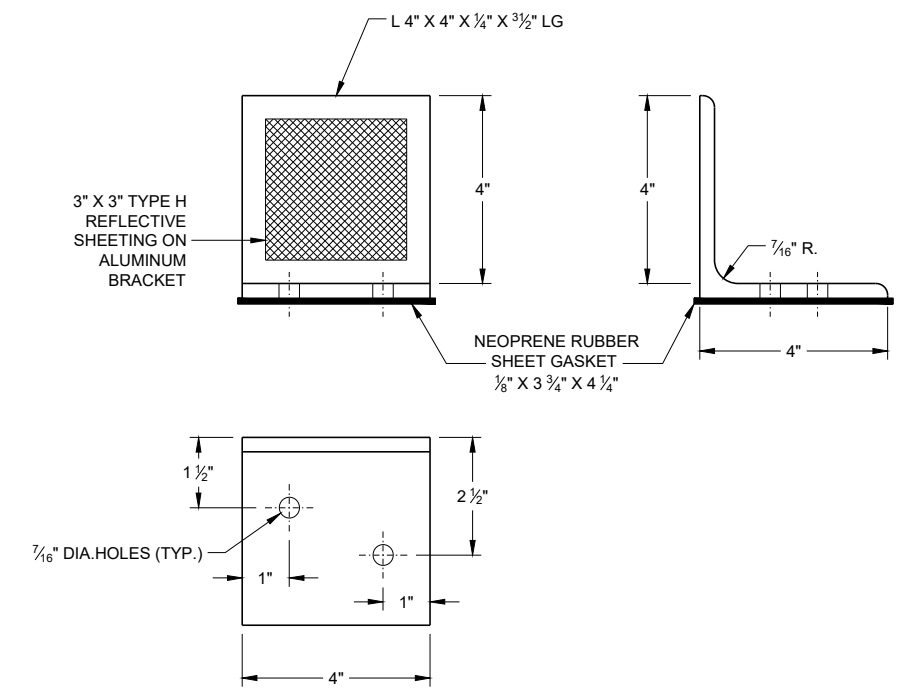
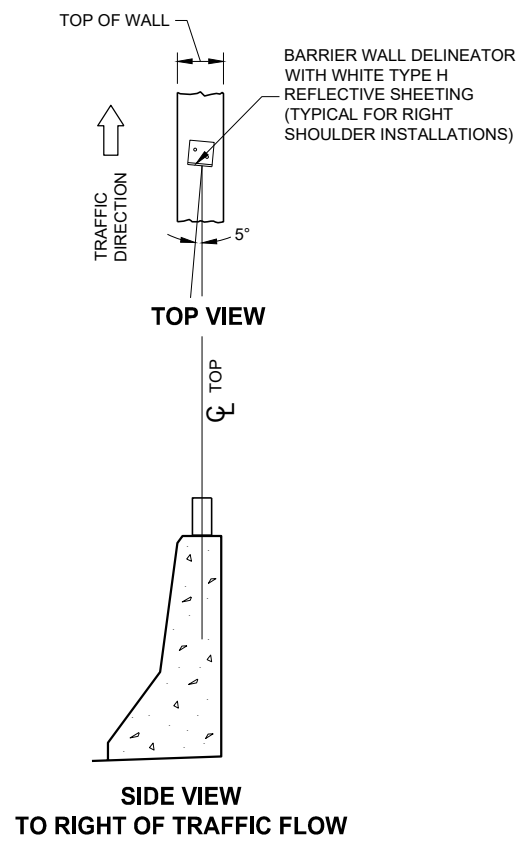
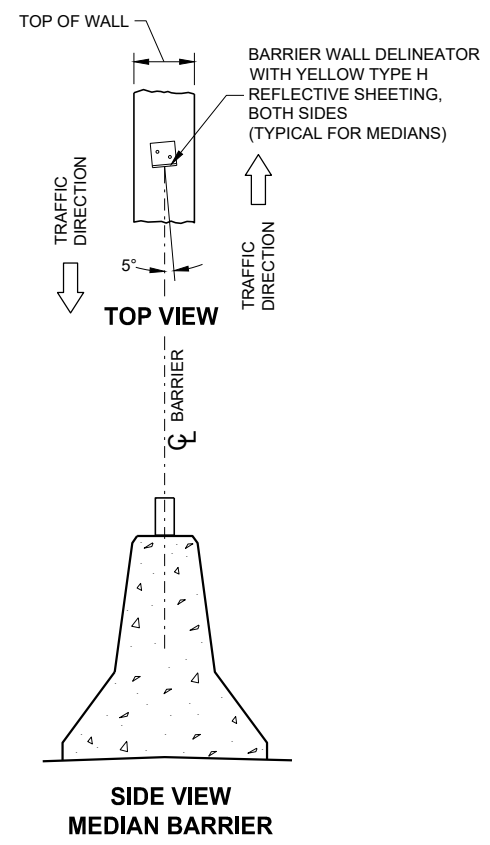
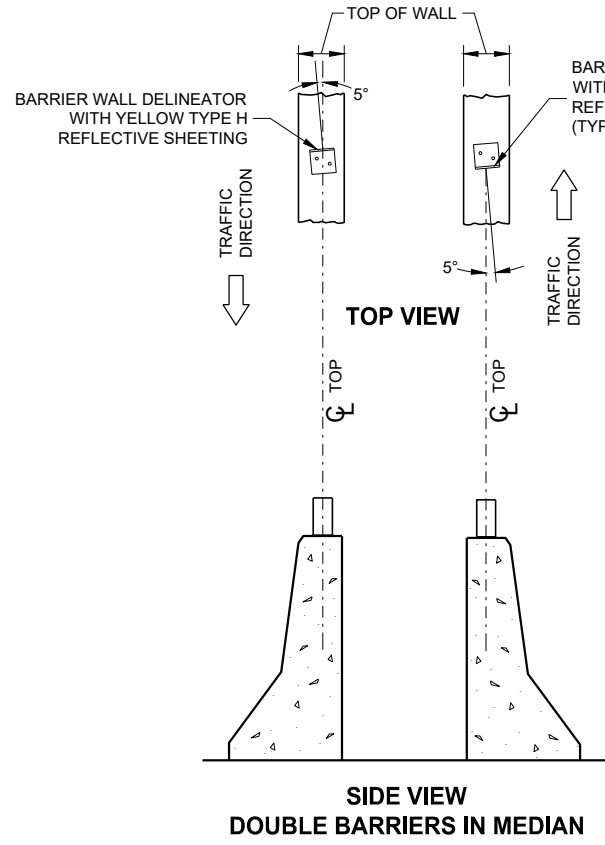
REFLECTOR SPACING	LOCATION
* 100' C-C	RAMPS
400' C-C	MAINLINE

\* START AT BEGINNING OF RAMP TAPER AND END AT END OF RAMP TAPER

**FLEXIBLE DELINEATOR POST**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
November 2021 /S/ Matthew Rauch  
DATE STATE SIGNING AND MARKING ENGINEER  
FHWA

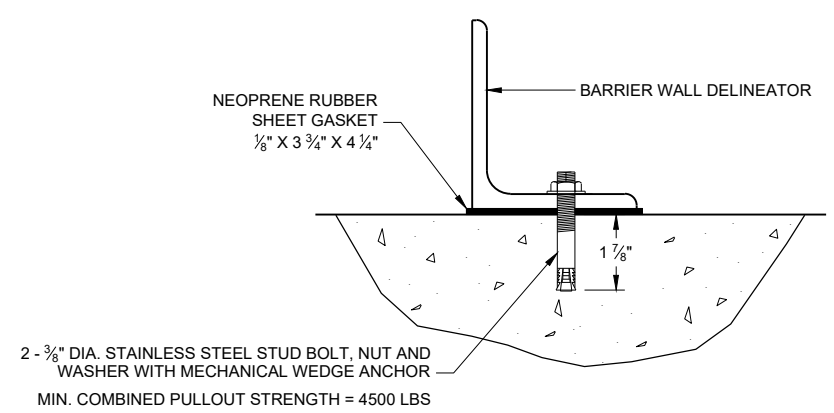


**LOCATION AND AIMING DETAILS FOR BARRIER WALL DELINEATOR MOUNTED ON CONCRETE BARRIERS**

**BARRIER WALL DELINEATOR**

**REFLECTOR SPACING TABLE**

REFLECTOR SPACING	MINIMUM NUMBER OF REFLECTORS
100' C-C	3

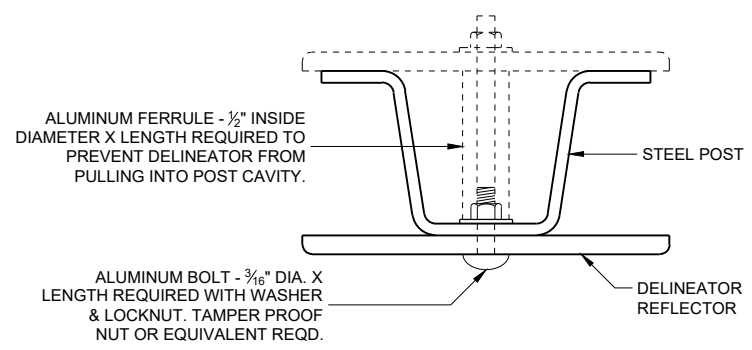


**BARRIER WALL DELINEATOR MOUNTING DETAIL**

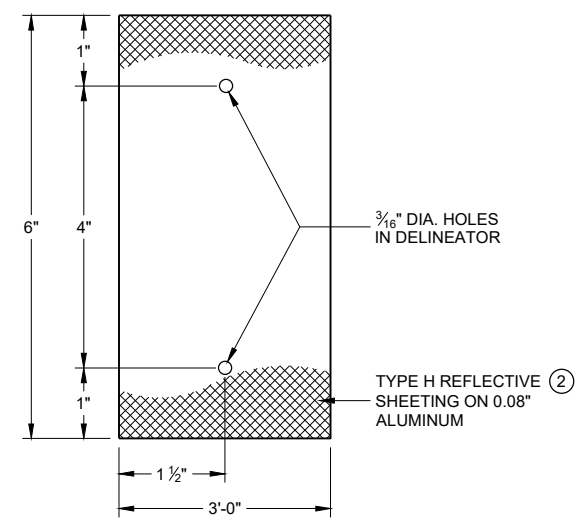
**BARRIER WALL DELINEATOR WITH REFLECTIVE SHEETING**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

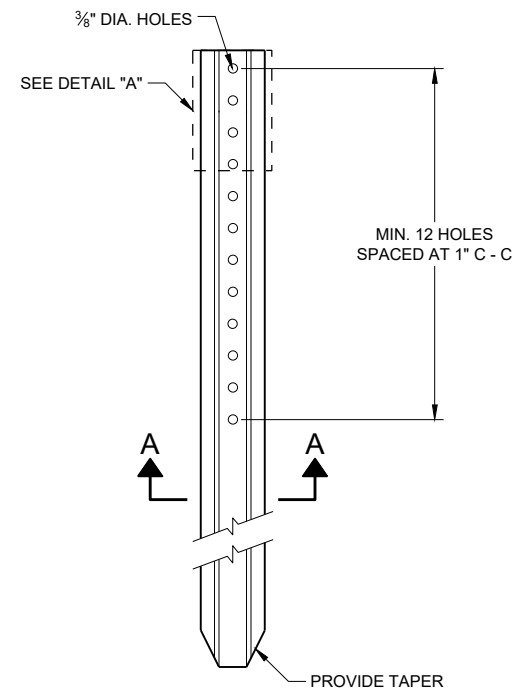
APPROVED  
November 2021 /S/ Matthew Rauch  
DATE STATE SIGNING AND MARKING ENGINEER



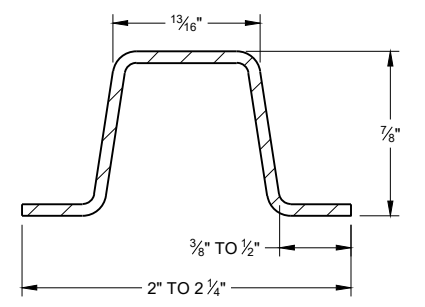
**MOUNTING DETAIL FOR DELINEATOR REFLECTOR**



**DETAIL "A" 3" X 6" DELINEATOR REFLECTOR**



**DELINEATOR POST**



**SECTION A - A**  
WEIGHT 1.12 LBS PER FT. \ 0.1 LB.

**REFLECTOR SPACING TABLE**

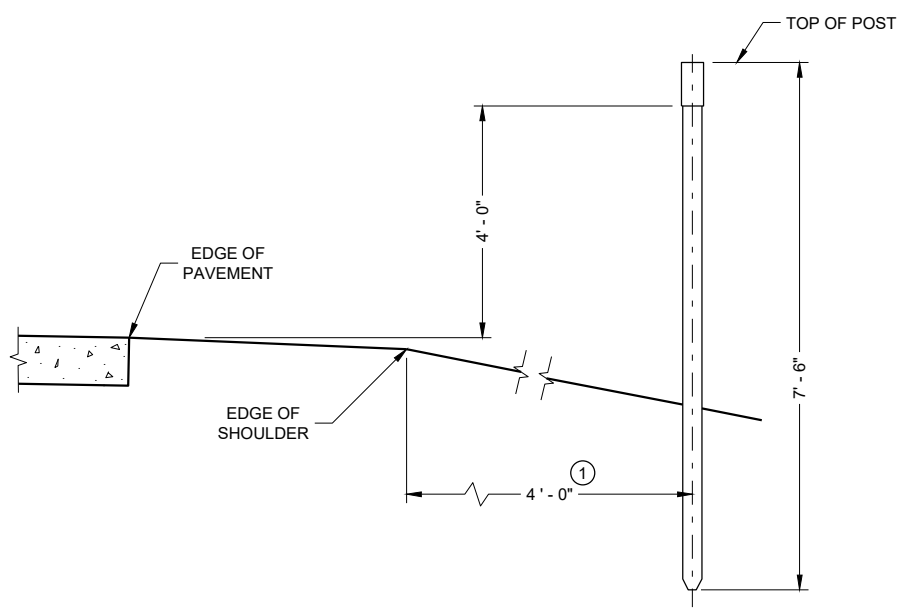
REFLECTOR SPACING	LOCATION
* 100' C-C	RAMPS
400' C-C	MAINLINE

\* START AT BEGINNING OF RAMP TAPER AND END AT END OF RAMP TAPER

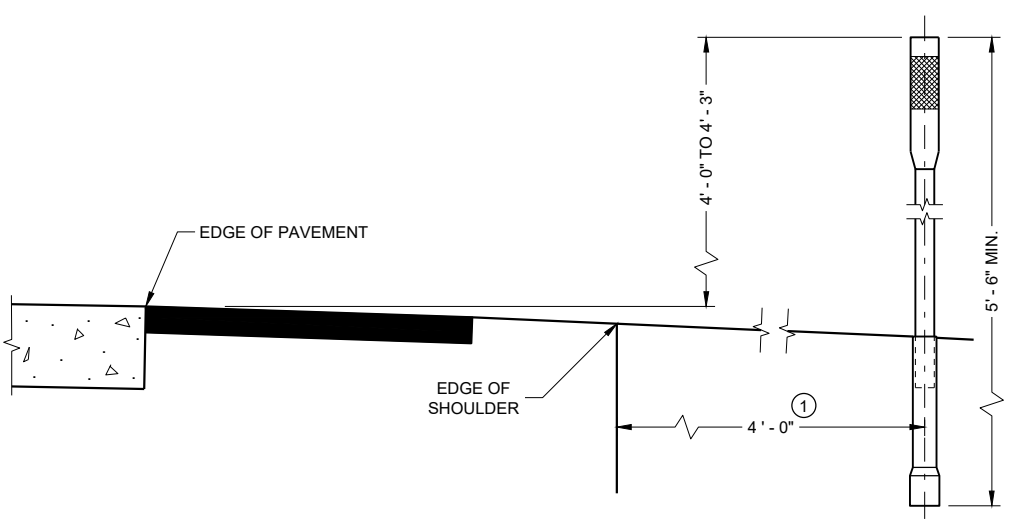
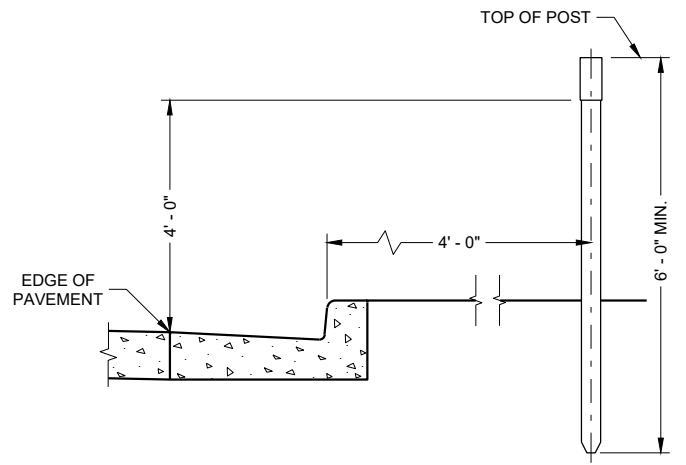
**GENERAL NOTES**

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

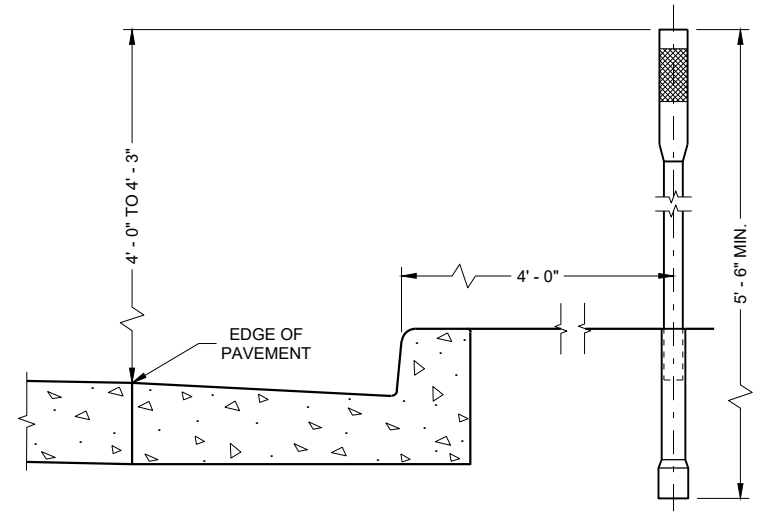
- ① DELINEATORS SHALL BE PLACED AT A CONSTANT DISTANCE FROM THE EDGE OF THE SHOULDER FOR THE LENGTH OF THE INSTALLATION.
- ② FURNISH TYPE H SHEETING FROM THE APPROVED PRODUCTS LIST.



**TYPICAL INSTALLATIONS OF DELINEATOR POSTS**



**TYPICAL INSTALLATIONS OF FLEXIBLE DELINEATOR POSTS**

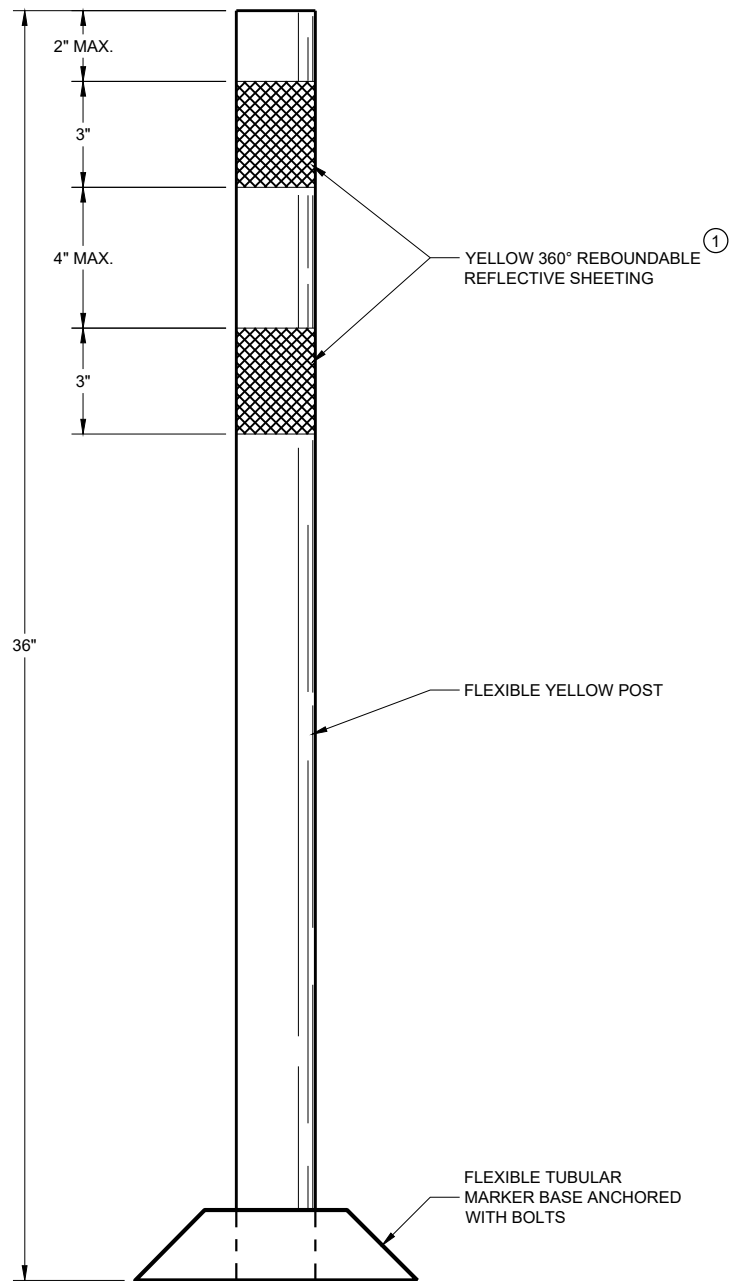


**DELINEATOR POST WITH REFLECTIVE SHEETING**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
November 2021 /S/ Matthew Rauch  
DATE STATE SIGNING AND MARKING ENGINEER

FHWA



PERMANENT FLEXIBLE TUBULAR MARKER POST

**GENERAL NOTES**

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

SURFACE MOUNTED BASES SHALL BE FURNISHED IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS TO BE COMPATIBLE WITH FLEXIBLE TUBULAR MARKER POSTS TO A SIZE AND SHAPE THAT WILL PROVIDE A STABLE POST FOUNDATION WHEN SECURED TO THE PAVEMENT.

THE ASPHALTIC ADHESIVE OR BUTYL PAD FURNISHED SHALL BE IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS, UNLESS DIRECTED BY THE ENGINEER TO USE BOLTS.

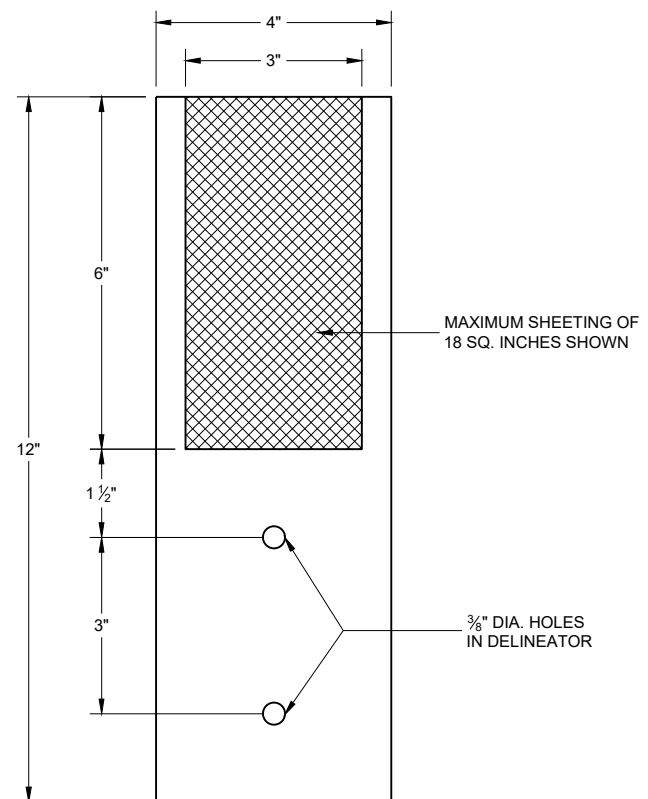
① REFLECTIVE SHEETING SHALL FOLLOW THE REQUIREMENTS IN THE APPROVED PRODUCTS LISTING FOR SIGN SHEETING.

**CHANNELIZING DEVICES  
PERMANENT FLEXIBLE  
TUBULAR MARKER POST**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

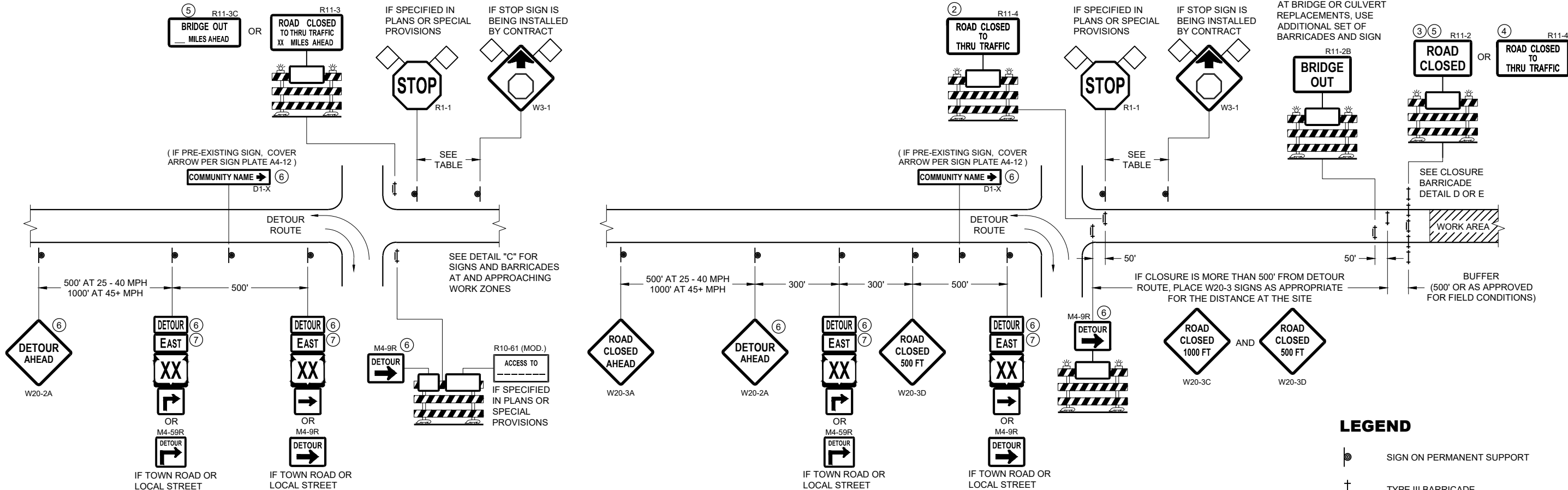
APPROVED  
November 2021 /S/ Matthew Rauch  
DATE STATE SIGNING AND MARKING  
ENGINEER

FHWA



**4" x 12" DELINEATOR  
WITH REFLECTIVE SHEETING**

<b>DELINEATOR WITH REFLECTIVE SHEETING</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED November 2021 DATE	/s/ Matthew Rauch STATE SIGNING AND MARKING ENGINEER
<small>FHWA</small>	



**DETAIL A  
MAINLINE CLOSURE WITH POSTED DETOUR**

WORK ZONE GREATER THAN OR EQUAL TO 1/2 MILE FROM  
DETOUR ROUTE ( 1000 FEET IF URBAN )

**DETAIL B  
MAINLINE CLOSURE WITH POSTED DETOUR**

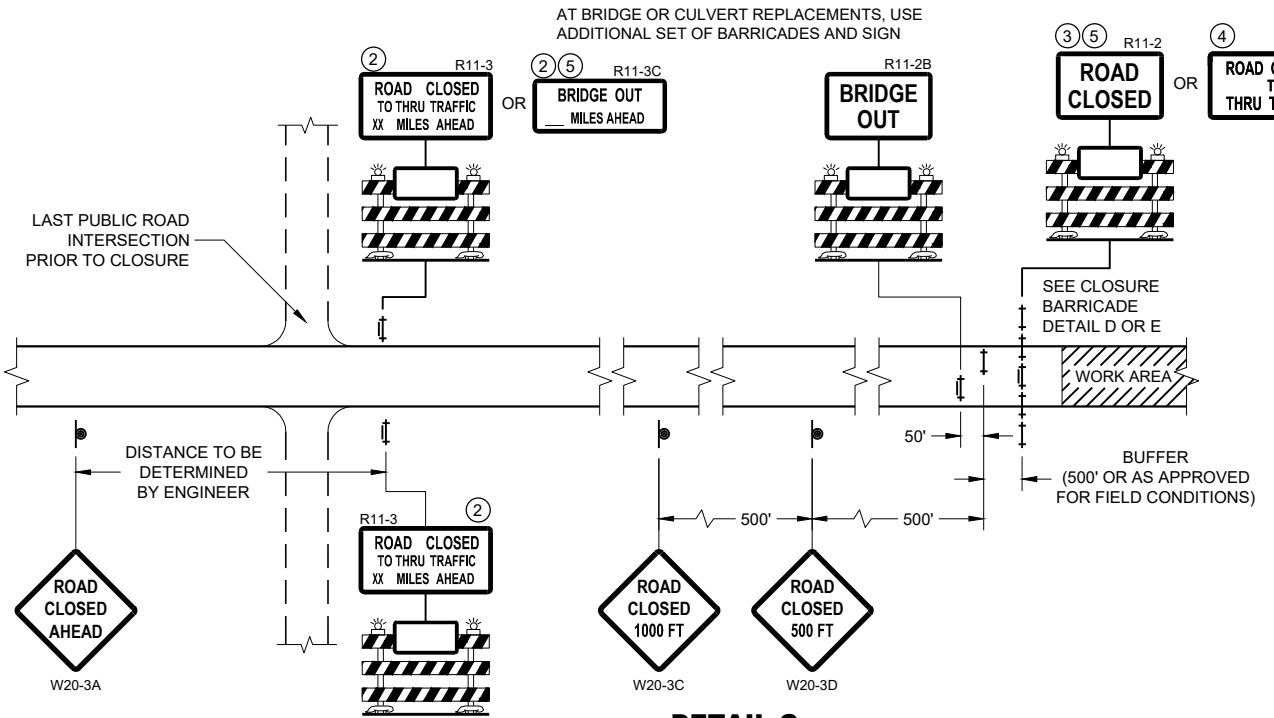
WORK ZONE LESS THAN 1/2 MILE FROM  
DETOUR ROUTE ( 1000 FEET IF URBAN )

**LEGEND**

- SIGN ON PERMANENT SUPPORT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TYPE "A" WARNING LIGHT (FLASHING)
- WORK AREA
- FLAGS, 16" X 16" MIN. (ORANGE)
- M4 - 8
- M3 - X
- M1 - 4 OR M1 - 6 OR M1 - 5A
- M05 - 1 OR M06 - 1

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

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

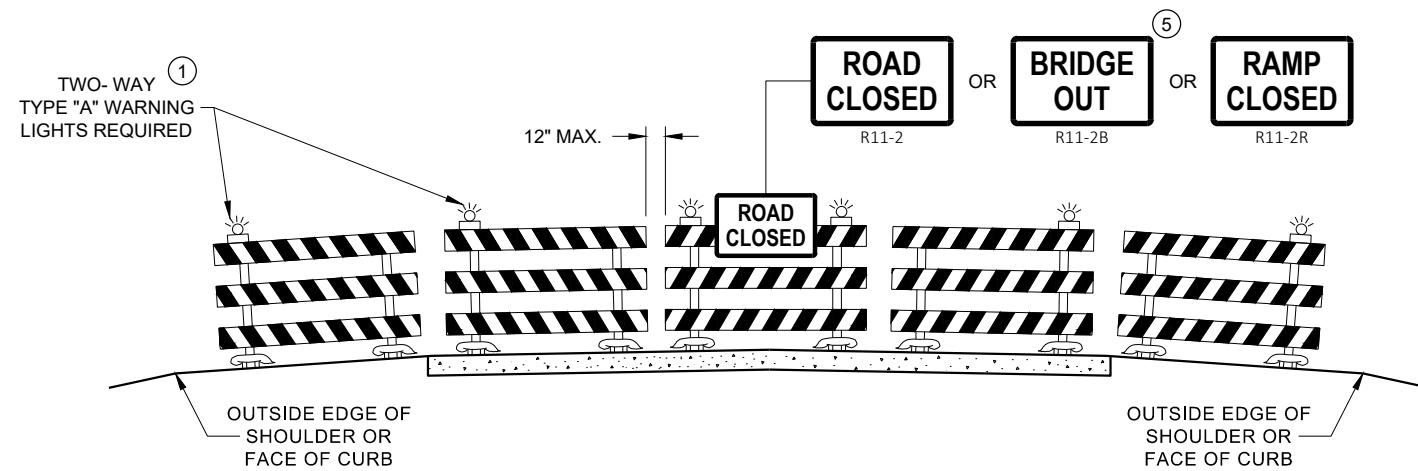


**DETAIL C  
MAINLINE CLOSURE, NO POSTED DETOUR**

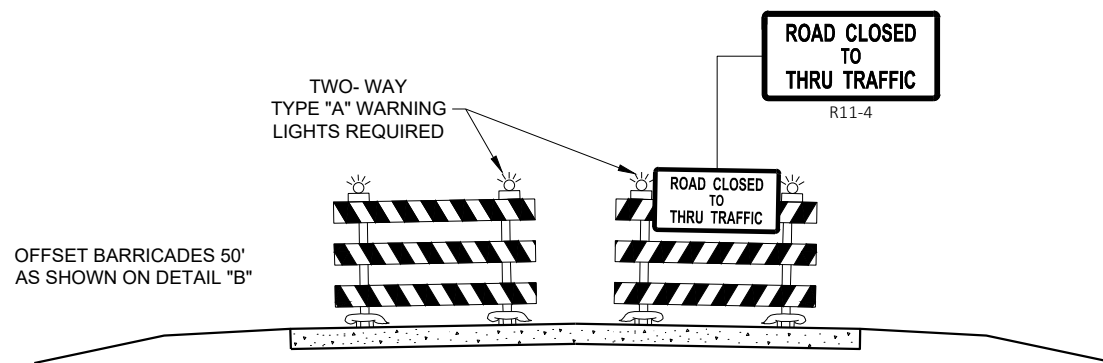
**BARRICADES AND SIGNS  
FOR MAINLINE CLOSURES**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

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



**DETAIL D  
ROAD CLOSURE BARRICADE DETAIL  
APPROACH VIEW**



**DETAIL E  
LANE CLOSURE BARRICADE DETAIL  
APPROACH VIEW**

SEE SDD 15C2 - SHEET "a" FOR LEGEND

**GENERAL NOTES**

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

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

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

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

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

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

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

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

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

ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:

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

- ① TWO WARNING LIGHTS SHALL BE PROVIDED ON THE CENTER BARRICADE AND A MINIMUM OF ONE WARNING LIGHT SHALL BE PROVIDED ON EACH OF THE OTHER BARRICADES WITHIN THE ROADWAY LIMITS. SPACING OF THE WARNING LIGHTS SHALL BE UNIFORM TO THE EDGE OF ROADWAY AS SHOWN (APPROX. 8 FOOT LIGHT SPACING).
- ② THESE SIGNS AND BARRICADES ARE NOT REQUIRED IF ROAD CLOSURE BEGINS AT AN INTERSECTION.
- ③ FOR ROAD CLOSURE WITHOUT LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL "D".
- ④ FOR ROAD CLOSURE WITH LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL "E".
- ⑤ FOR BRIDGE OR CULVERT REPLACEMENTS, SUBSTITUTE "BRIDGE OUT" INSTEAD OF "ROAD CLOSED" ON R11 - 2 AND R11 - 3 SIGNS.
- ⑥ INSTALL DETOUR AND COMMUNITY GUIDE SIGNS AND ARROWS ONLY IF SPECIFIED IN THE CONTRACT. IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. MODIFY EXISTING SIGNS WHERE POSSIBLE. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. IF DETOUR SIGNS ARE BEING INSTALLED BY OTHERS, PLACE THE CONTRACTED TRAFFIC CONTROL SIGNS TO ALLOW FOR PLACEMENT OF ALL WARNING, DETOUR AND GUIDE SIGNS AS SHOWN.
- ⑦ "EAST" CARDINAL DIRECTION MARKERS AND RIGHT TURN ARROWS ARE SHOWN. USE OTHER CARDINAL DIRECTIONS AND ARROWS AS APPROPRIATE.

**BARRICADES AND SIGNS  
FOR  
VARIOUS CLOSURES**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

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

**LEGEND**

- SIGN ON PERMANENT SUPPORT
- WORK AREA
- M4 - 8
- M3 - X
- M1 - 4
- M1 - 6
- M1 - 5A
- M05 - 1
- M06 - 1
- M06 - 1

**GENERAL NOTES**

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

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

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

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

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

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

SIGN SIZES SHALL BE AS FOLLOWS:

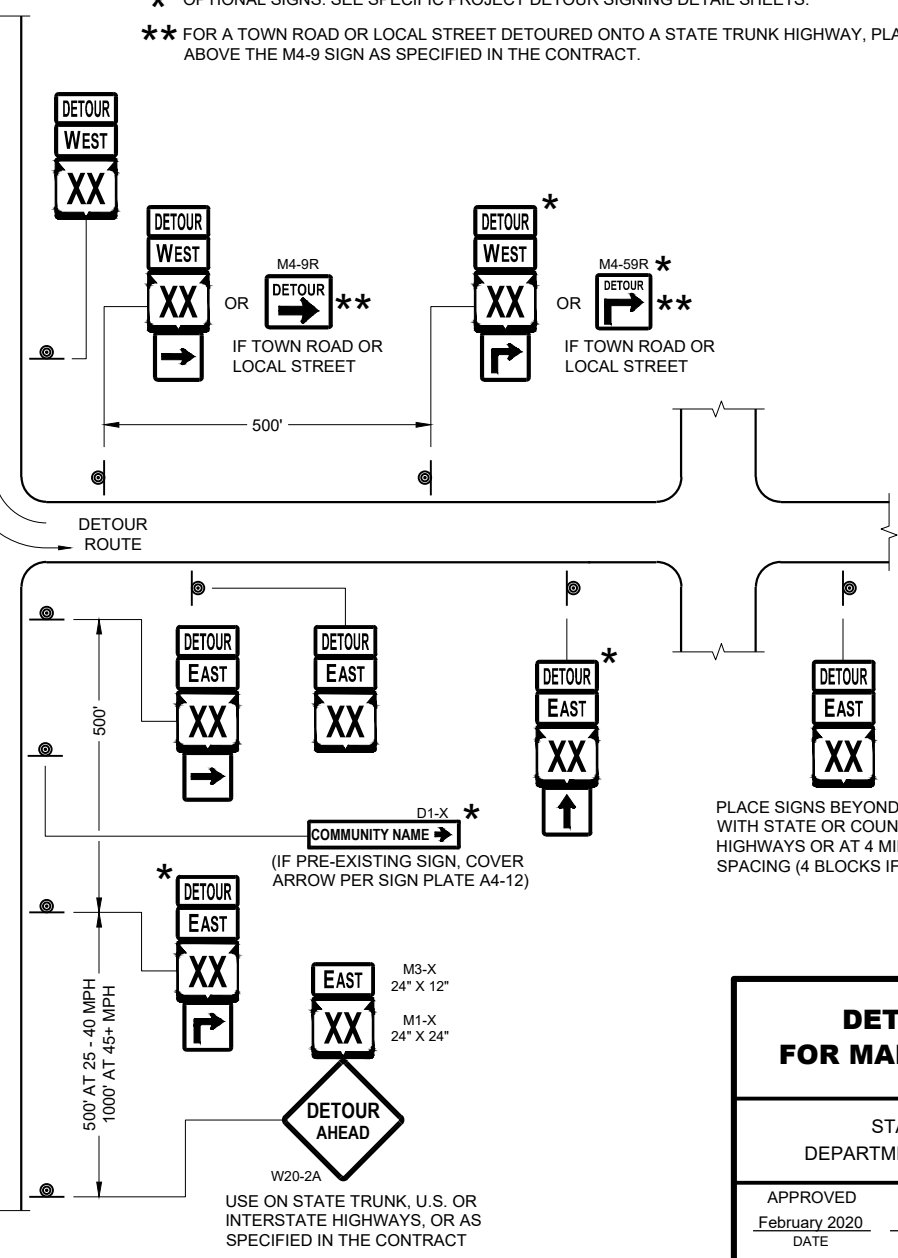
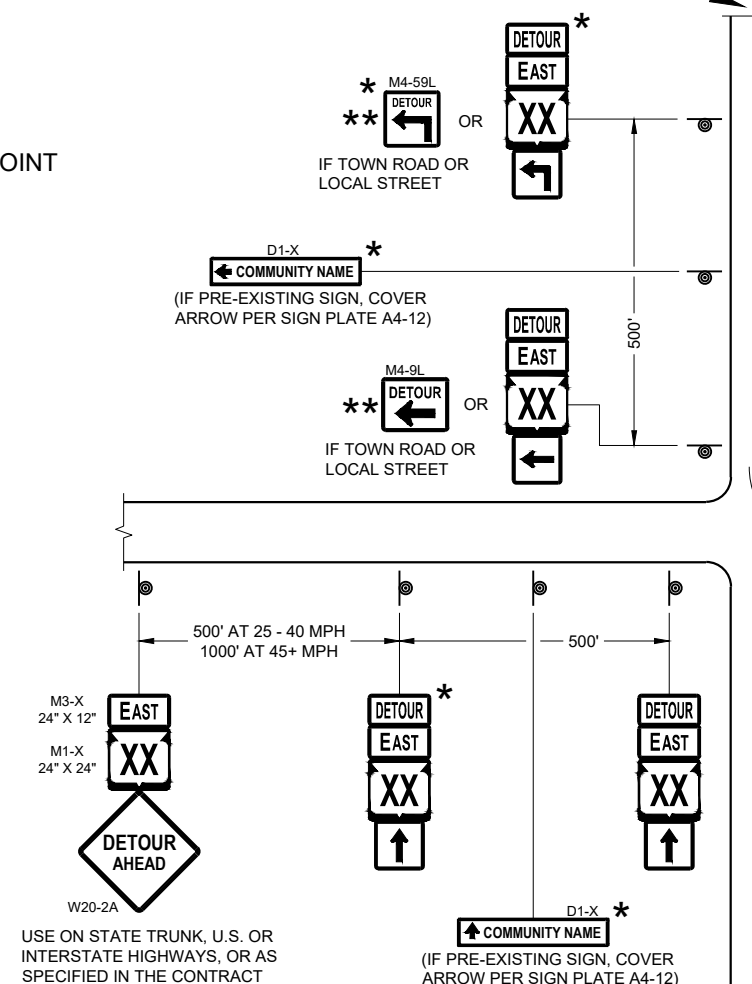
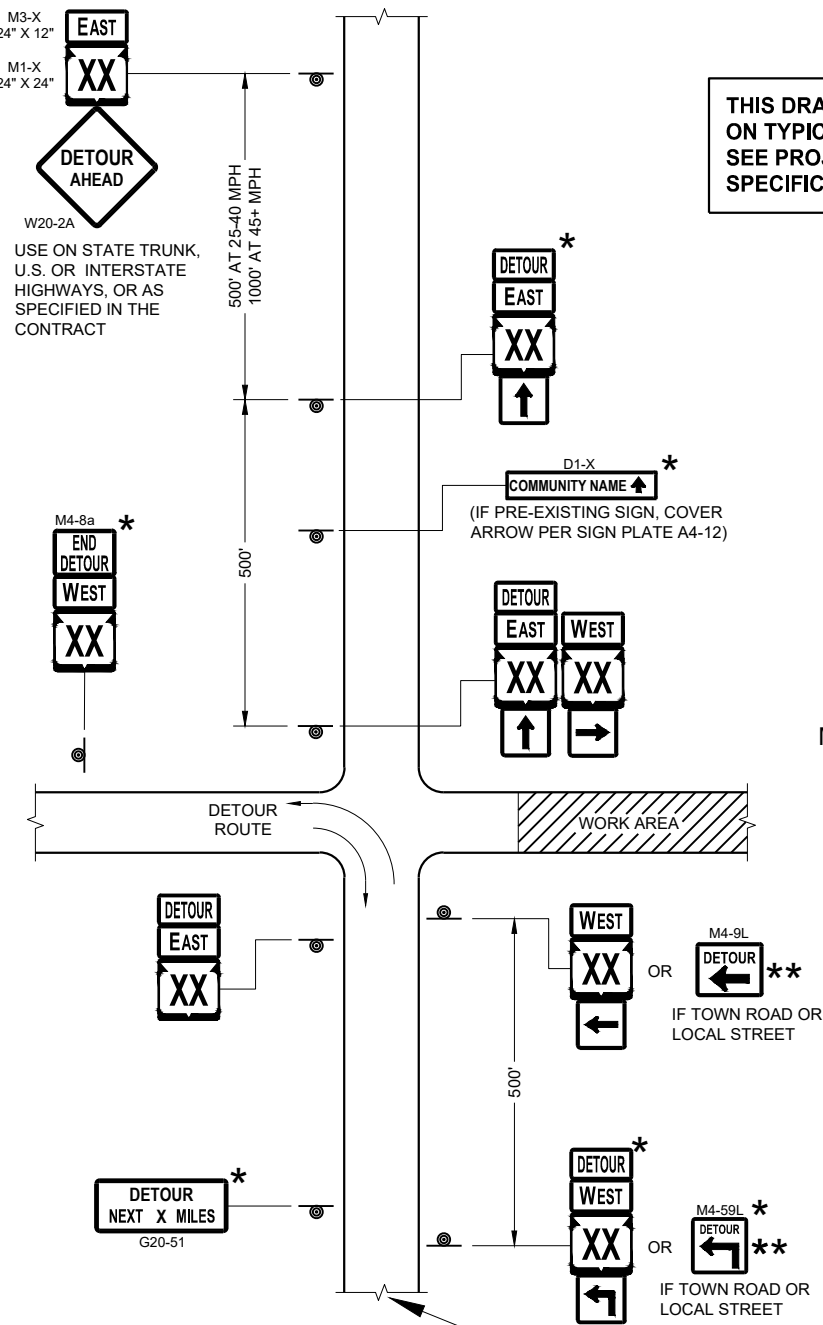
- M3-X SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M4-8 SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M1-4, M1-5A AND M1-6 SHALL BE 24" X 24" (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS)
- M05-1 AND M06-1 SHALL BE 21" X 21" (30" X 30" IF NEEDED TO MATCH EXISTING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

- \* OPTIONAL SIGNS. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS.
- \*\* FOR A TOWN ROAD OR LOCAL STREET DETOURED ONTO A STATE TRUNK HIGHWAY, PLACE A ROAD NAME PLAQUE ABOVE THE M4-9 SIGN AS SPECIFIED IN THE CONTRACT.

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

MATCH POINT

**DETAIL F  
DETOUR SIGNING**



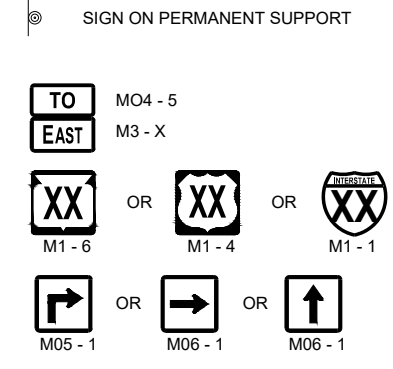
SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS AND DETAIL A OR B ON SDD SHEET 15C02 - SHEET "a"

<b>DETOUR SIGNING FOR MAINLINE CLOSURES</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED February 2020 DATE	/S/ Andrew Heidtke WORK ZONE ENGINEER
FHWA	



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

**LEGEND**



**GENERAL NOTES**

- THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.
- IF THERE ARE ANY ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE TO ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. SEE SPECIFIC PROJECT TO SIGNING DETAIL SHEETS. MODIFY EXISTING SIGNS WHERE POSSIBLE.
- THE SPACING BETWEEN TRAFFIC CONTROL AND TO SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.
- ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.
- SIGNS THAT SHALL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.
- "MO" SIGNS ARE THE SAME AS "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.
- SIGN SIZES SHALL BE AS FOLLOW:  
 M3 - X SHALL BE 24" X 12". (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS).  
 MO4 - 5 SHALL BE 24" X 12". (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS).  
 M1 - 1, M1 - 4, AND M1 - 6 SHALL BE 24" X 24" (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS).  
 MO5 - 1, MO5 - 2, AND MO6 - 1, SHALL BE 21" X 21". (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS).  
 W20 - 53A SHALL BE 48" X 48"
- \* PLACE "RAMP CLOSED BEGINNING" SIGN 7 CALENDAR DAYS PRIOR TO CLOSURE OR AS DIRECTED BY THE ENGINEER. SEE WISCONSIN STANDARD SIGN PLATES FOR LAYOUT.

6

6

SDD 15C02 - 08d

SDD 15C02 - 08d

**EXIT RAMP CLOSURE**

<b>ON RAMP LANE CLOSURE</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED February 2020 DATE	/S/ Andrew Heidtke WORK ZONE ENGINEER
<small>FHWA</small>	

THIS DRAWING PROVIDES GENERAL GUIDANCE ON TYPICAL "TO" MO-4 SIGN LAYOUT AND SPACING. SEE PROJECT TO SIGNING SHEETS FOR SPECIFIC DETAILS FOR EACH PROJECT.

**LEGEND**

- ⊙ SIGN ON PERMANENT SUPPORT
- PCMS PORTABLE CHANGEABLE MESSAGE SIGN
- TO MO4 - 5
- M1 - 4 OR M1 - 6 OR COUNTY M1 - 5A
- M05 - 1 OR M05 - 2 OR M06 - 1 OR M06 - 2 OR M06 - 4

**GENERAL NOTES**

- SEE SDD 15D16 "TRAFFIC CONTROL, EXIT RAMP CLOSURE" DETAIL FOR TRAFFIC CONTROL AT EXIT RAMP CLOSURE.
- THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.
- IF THERE ARE ANY ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE "TO" MO-4 ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. SEE SPECIFIC PROJECT TO SIGNING DETAIL SHEETS. MODIFY EXISTING SIGNS WHERE POSSIBLE.
- THE SPACING BETWEEN TRAFFIC CONTROL AND "TO" MO-4 SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.
- ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.
- SIGNS THAT SHALL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.
- "MO" SIGNS ARE THE SAME AS "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.
- SIGN SIZES SHALL BE AS FOLLOW:  
 MO4 - 5 SHALL BE 24" X 12". (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS).  
 M1 - 4, M1 - 5A, AND M1 - 6 SHALL BE 24" X 24" (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS).  
 MO5 - 1, MO5 - 2, AND MO6 - 1, SHALL BE 21" X 21". (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS).
- ① ONLY ADD IF THERE ARE NO EXISTING ROUTE MARKERS FOR THE INTERSECTING ROADWAY.

SEE SDD 15D16 FOR RAMP CLOSURE

**EXIT RAMP CLOSURE**

6

6

SDD 15C02 - 08e

SDD 15C02 - 08e

PCMS

PCMS MESSAGING

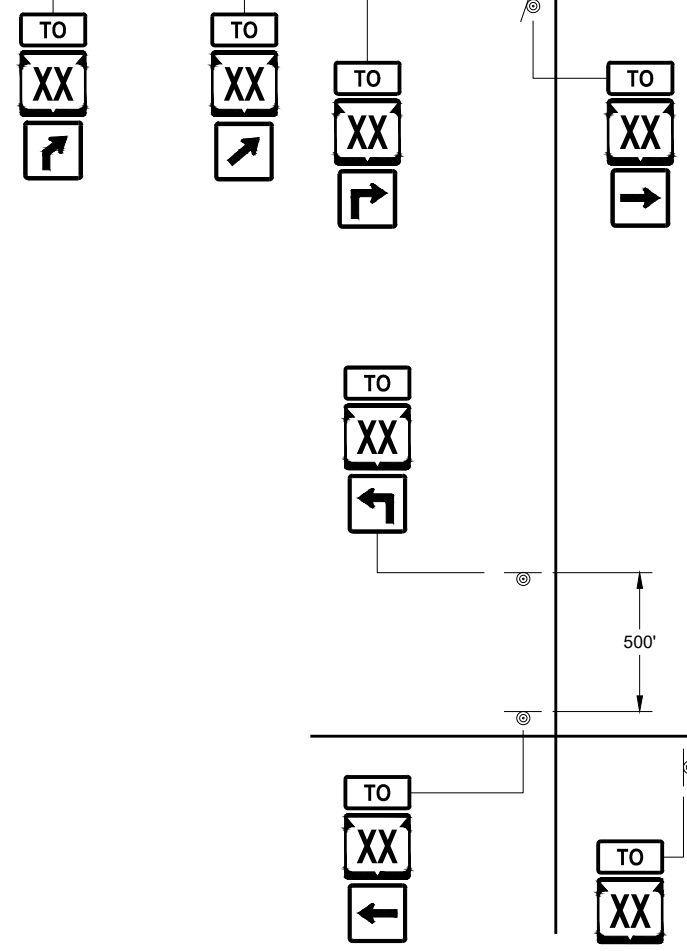
FRAME 1	FRAME 2
EXIT XX CLOSED	USE EXIT XX

OR

FIXED MESSAGE SIGN

HWY XX  
RAMP CLOSED  
USE EXIT XX

G20 - 56

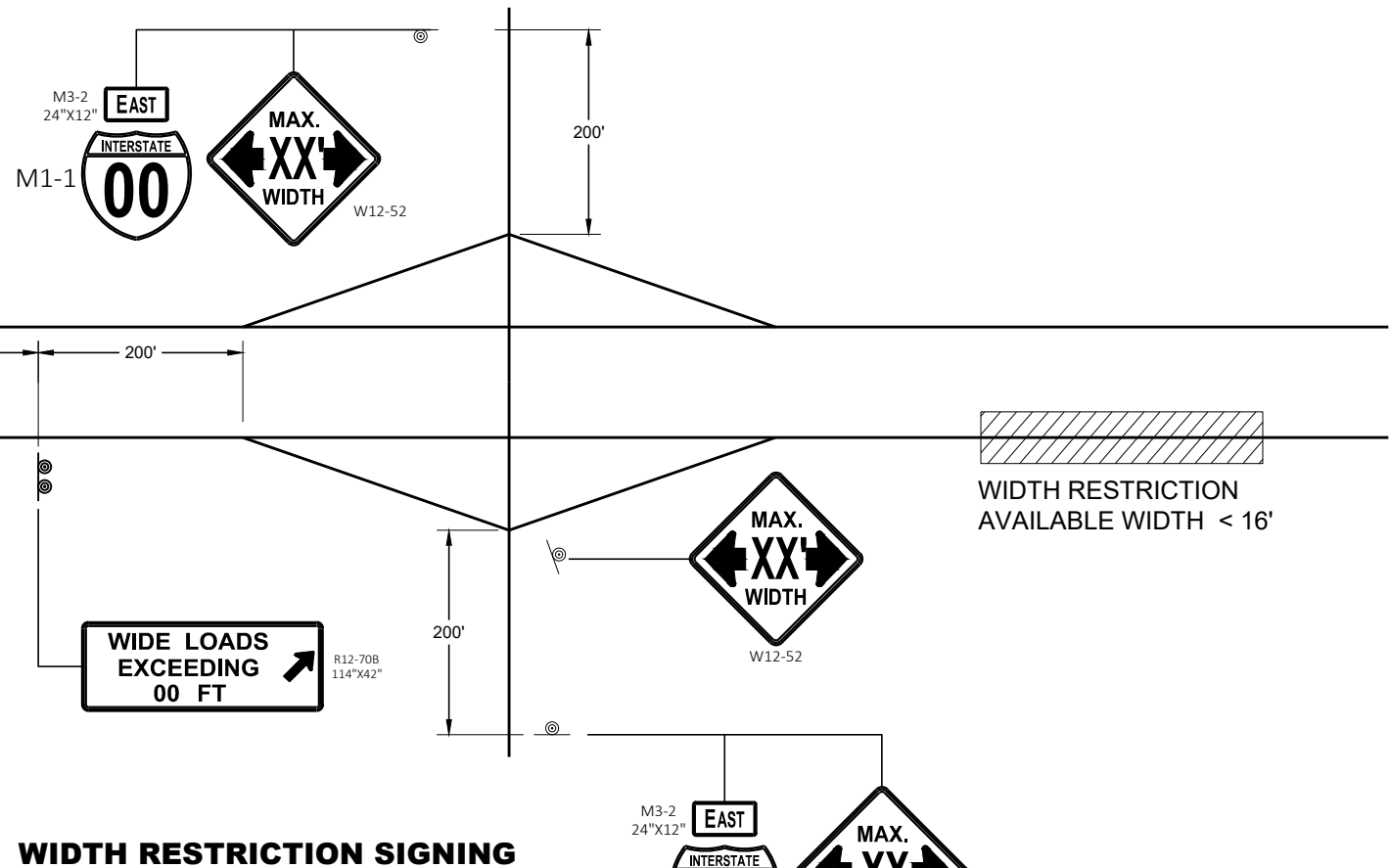


**OFF RAMP  
LANE CLOSURE**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

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

FHWA



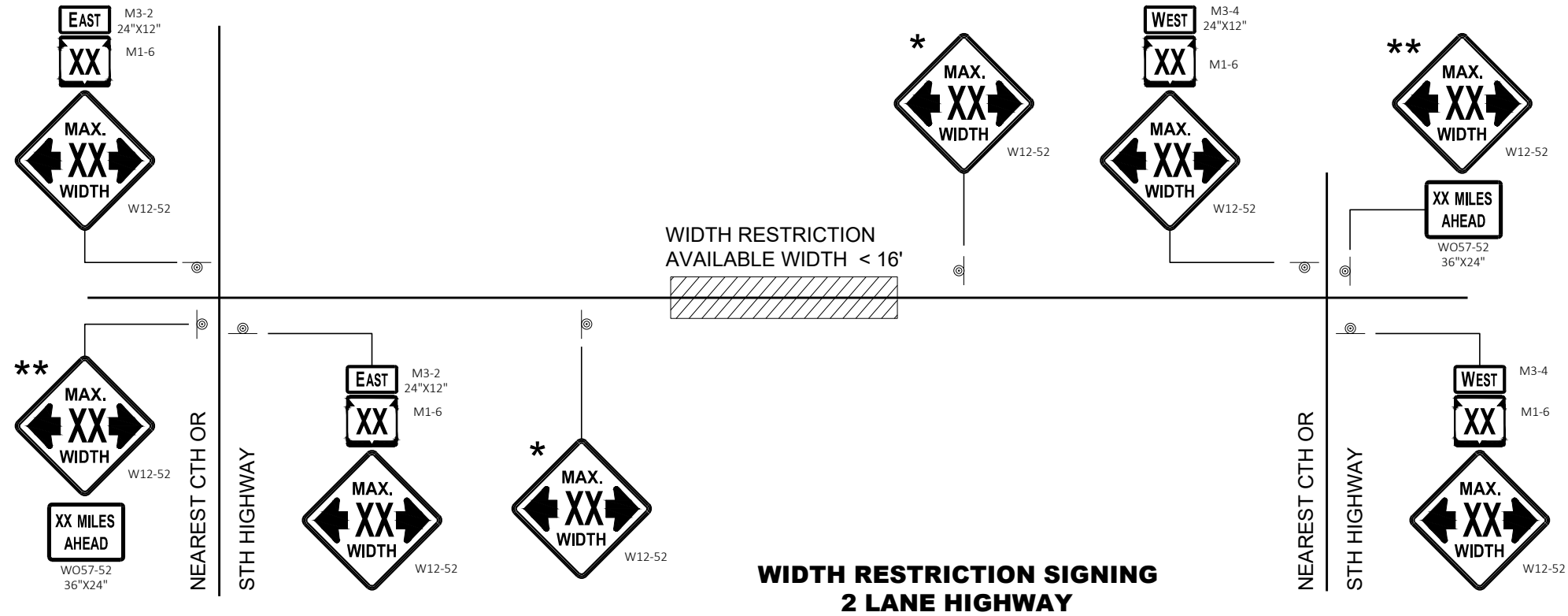
**WIDTH RESTRICTION SIGNING**

**LEGEND**

⊙ SIGN ON PERMANENT SUPPORT

**GENERAL NOTES**

- THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS 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 DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.
- ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.
- ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.
- "WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS ORANGE.
- WIDTH ON SIGN TO BE APPROXIMATELY ONE FOOT LESS THAN AVAILABLE WIDTH.
- \* PLACE 500 FEET AFTER THE W20 - 1A AND 500 FEET BEFORE ADDITIONAL SIGNS FOR ROADWAYS WITH A PRE - CONSTRUCTION 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.
- \*\* SIGN SHALL BE VISIBLE FROM ROADWAY.
- \*\*\* ADDITIONAL SIGNS NEEDED IF THERE IS AN ON RAMP BETWEEN SIGNS.



**WIDTH RESTRICTION SIGNING 2 LANE HIGHWAY**

**ADVANCED WIDTH RESTRICTION SIGNING**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

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




FHWA

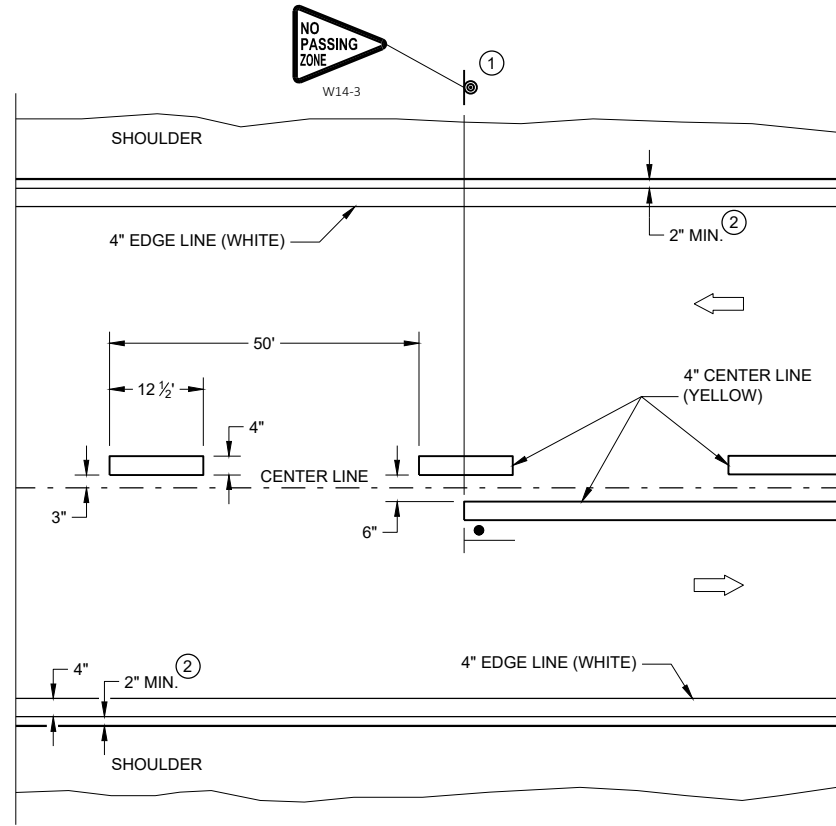
**GENERAL NOTES**

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

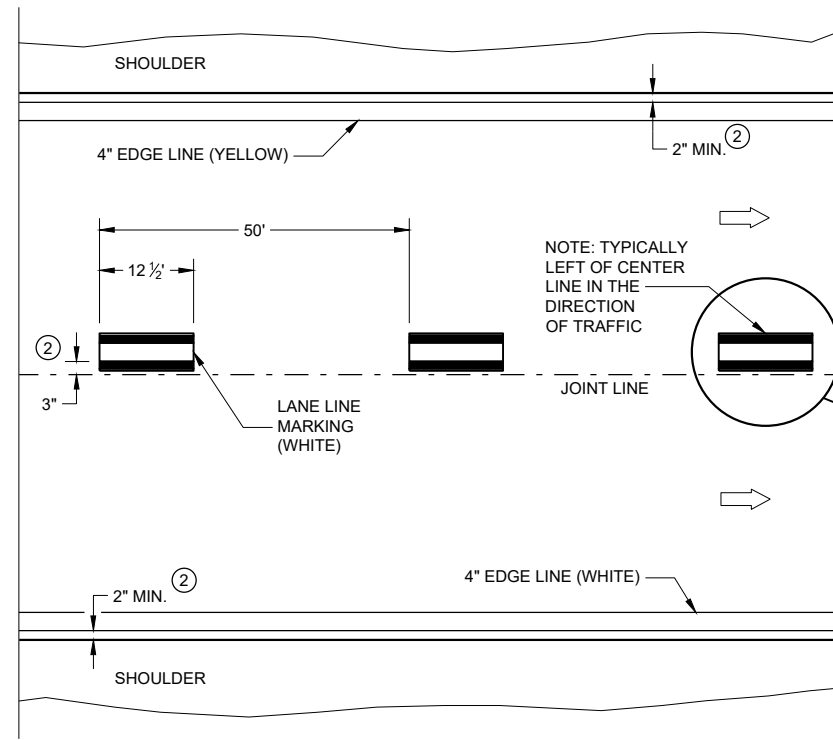
- ① LOCATE THE NO PASSING ZONE W14-3 SIGN WITHIN 50 FEET OF THE "T" MARKING
- ② MEASURE FROM EDGE OF MARKING TO JOINT LINE. THIS DOES NOT INCLUDE SPACE NEEDED FOR GROOVING OPERATIONS.

**LEGEND**

-  "T" MARKING
-  SIGN ON PERMANENT SUPPORT
-  DIRECTION OF TRAFFIC

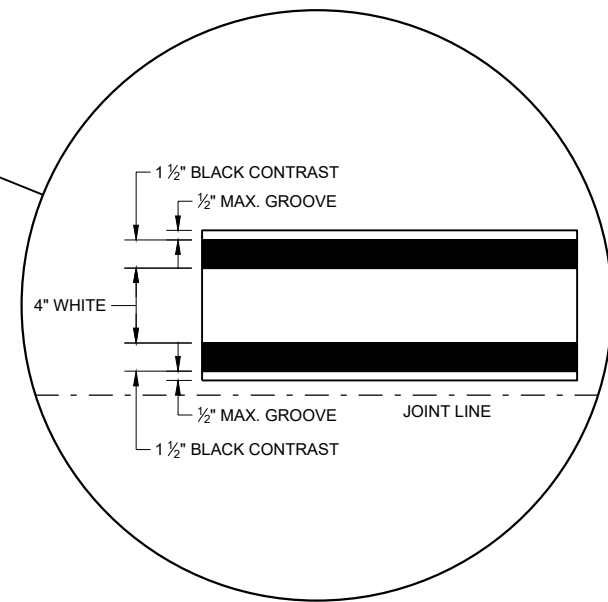


**TWO WAY TRAFFIC**



**ONE WAY TRAFFIC**

**PERMANENT PAVEMENT MARKING**



6

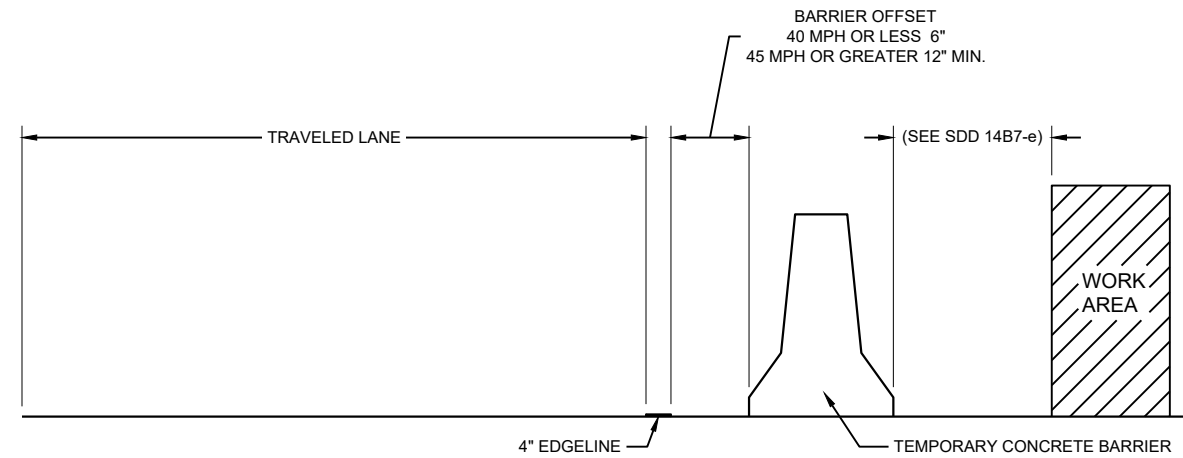
6

**PERMANENT LONGITUDINAL PAVEMENT MARKINGS**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
DATE: May 2022 /S/ Jeannie Silver  
STATEWIDE SIGNING AND MARKING ENGINEER

FHWA



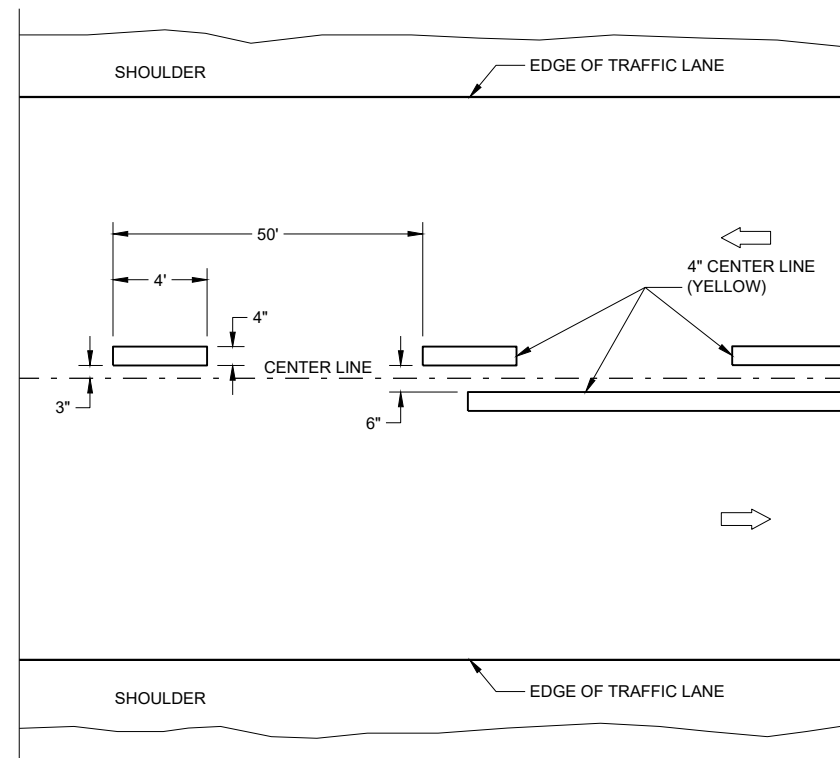
**TEMPORARY BARRIER OFFSET FROM EDGELINE**

**GENERAL NOTES**

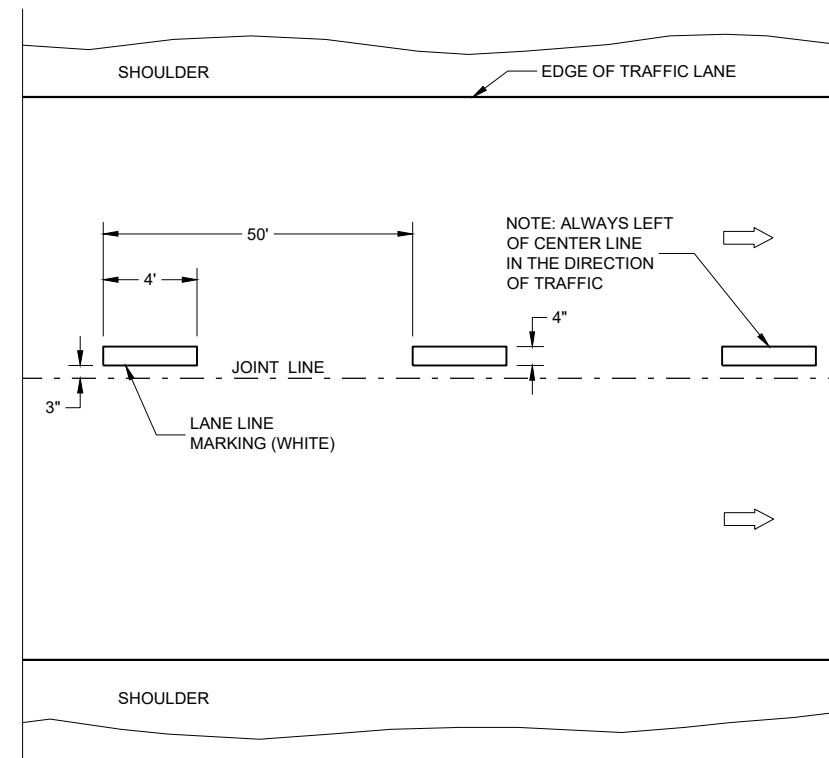
DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS.

**LEGEND**

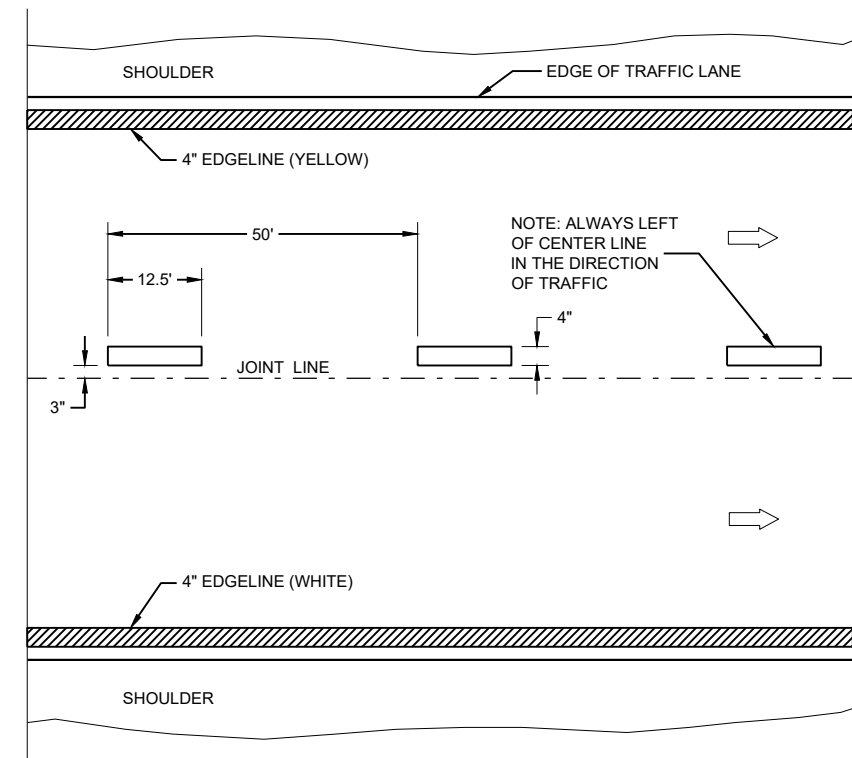
➔ DIRECTION OF TRAFFIC



**TWO WAY TRAFFIC**



**ONE WAY TRAFFIC**



**FREEWAYS AND EXPRESSWAYS**

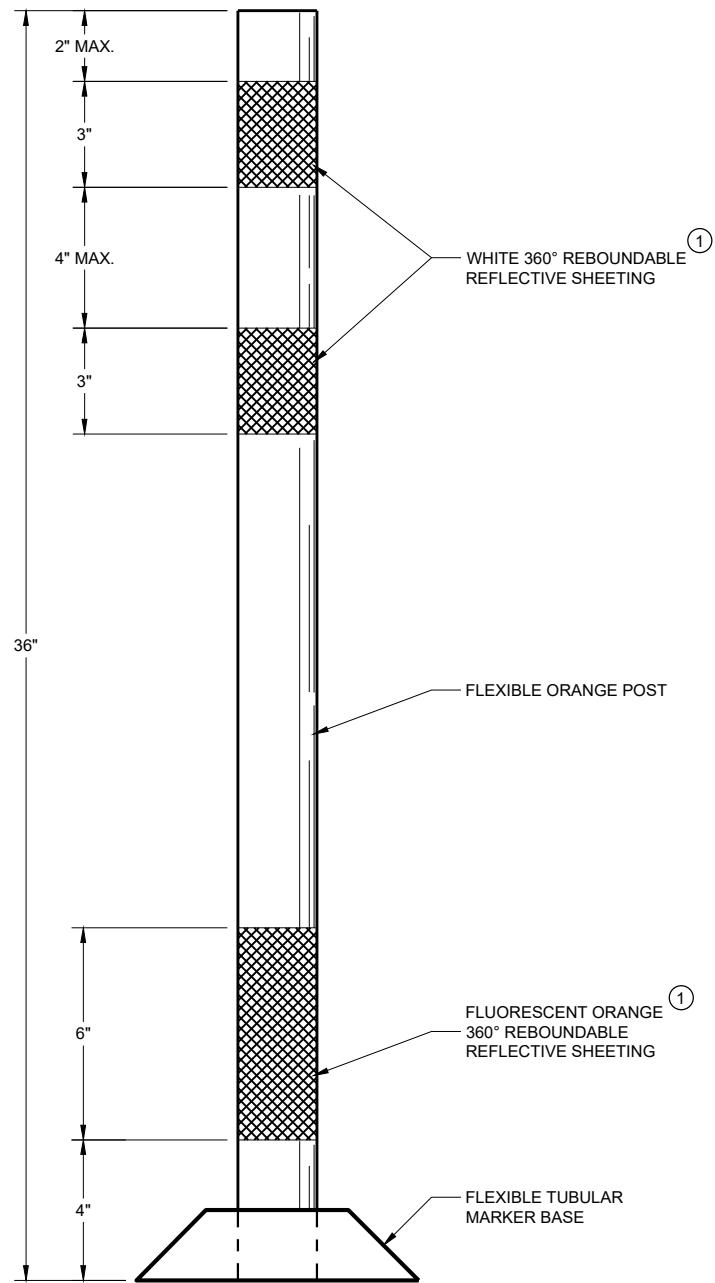
**TEMPORARY PAVEMENT MARKING**

**TEMPORARY LONGITUDINAL PAVEMENT MARKING**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
May 2022 DATE /S/ Jeannie Silver  
STATEWIDE SIGNING AND MARKING ENGINEER

FHWA



FLEXIBLE TUBULAR MARKER POST WORK ZONE

**GENERAL NOTES**

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

SURFACE MOUNTED BASES SHALL BE FURNISHED IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS TO BE COMPATIBLE WITH FLEXIBLE TUBULAR MARKER POSTS TO A SIZE AND SHAPE THAT WILL PROVIDE A STABLE POST FOUNDATION WHEN SECURED TO THE PAVEMENT.

THE ASPHALTIC ADHESIVE OR BUTYL PAD FURNISHED SHALL BE IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS, UNLESS DIRECTED BY THE ENGINEER TO USE BOLTS.

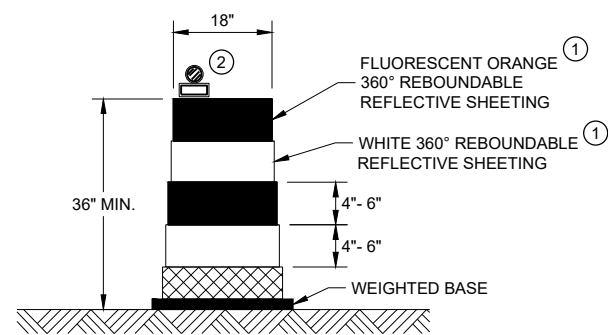
① REFLECTIVE SHEETING SHALL FOLLOW THE REQUIREMENTS IN THE APPROVED PRODUCTS LISTING FOR SIGN SHEETING.

**CHANNELIZING DEVICES  
FLEXIBLE TUBULAR  
MARKER POST**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

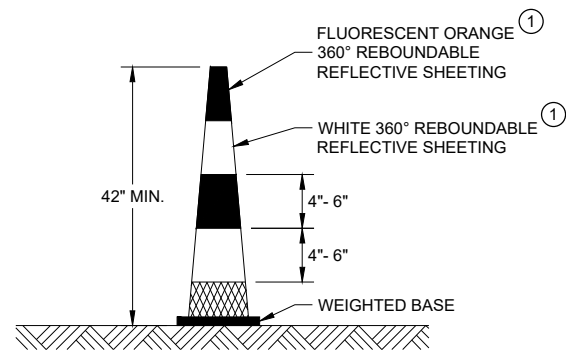
APPROVED  
November 2022 /S/ Andrew Heidtke  
DATE WORK ZONE ENGINEER

FHWA



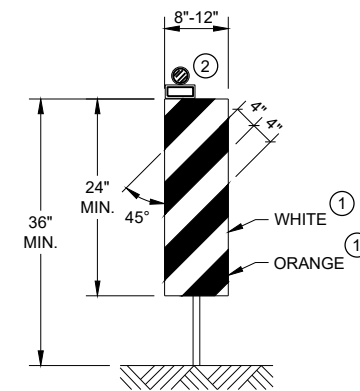
**DRUM**

BALLAST WIDTHS  
RANGE FROM 24"-36"



**42" CONE**

DO NOT USE IN TAPERS  
½ SPACING OF DRUMS  
BALLAST WIDTHS  
RANGE FROM 14"-20"

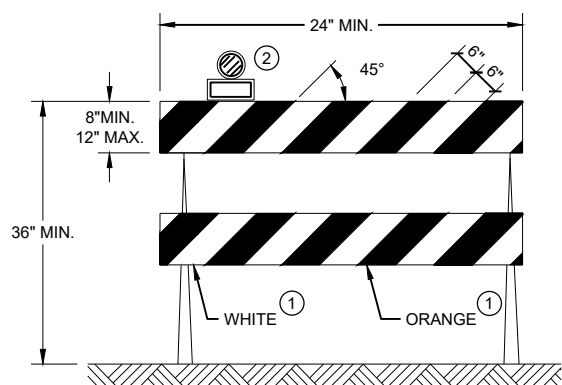


**VERTICAL PANEL**

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

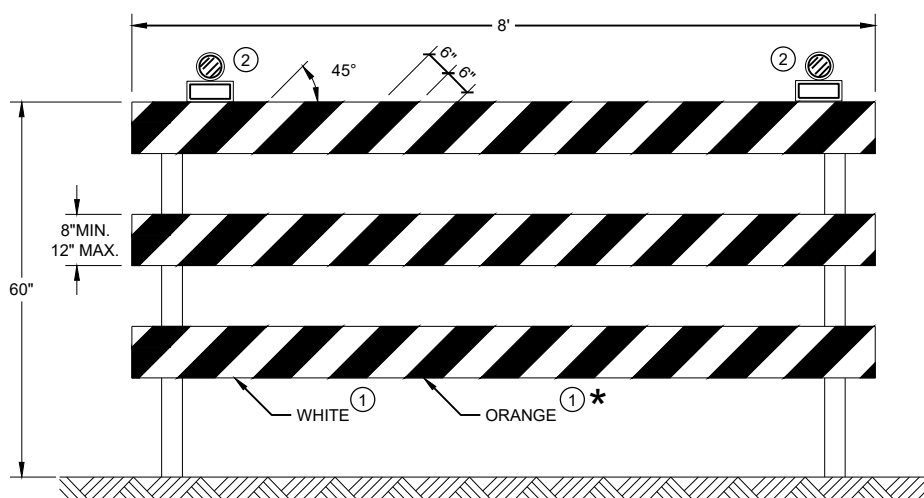
**GENERAL NOTES**

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



**TYPE II BARRICADE**

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



**TYPE III BARRICADE**

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

\* IF USED FOR A PERMANENT APPLICATION USE RED SHEETING.






**CHANNELIZING DEVICES  
DRUMS, CONES, BARRICADES  
AND VERTICAL PANELS**

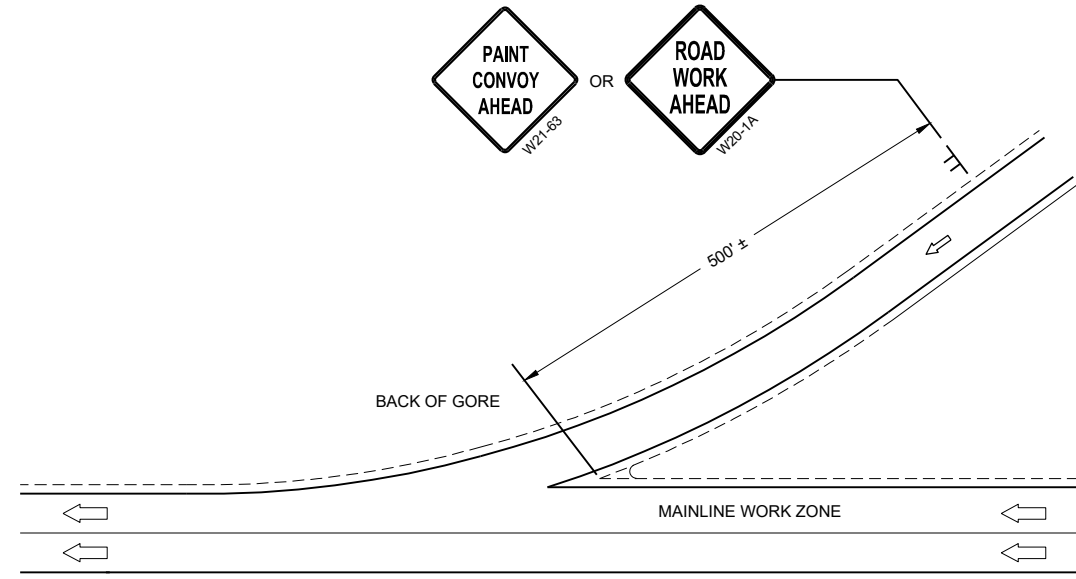
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
November 2022 /S/ Andrew Heidtke  
DATE WORK ZONE ENGINEER

FHWA

**LEGEND**

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



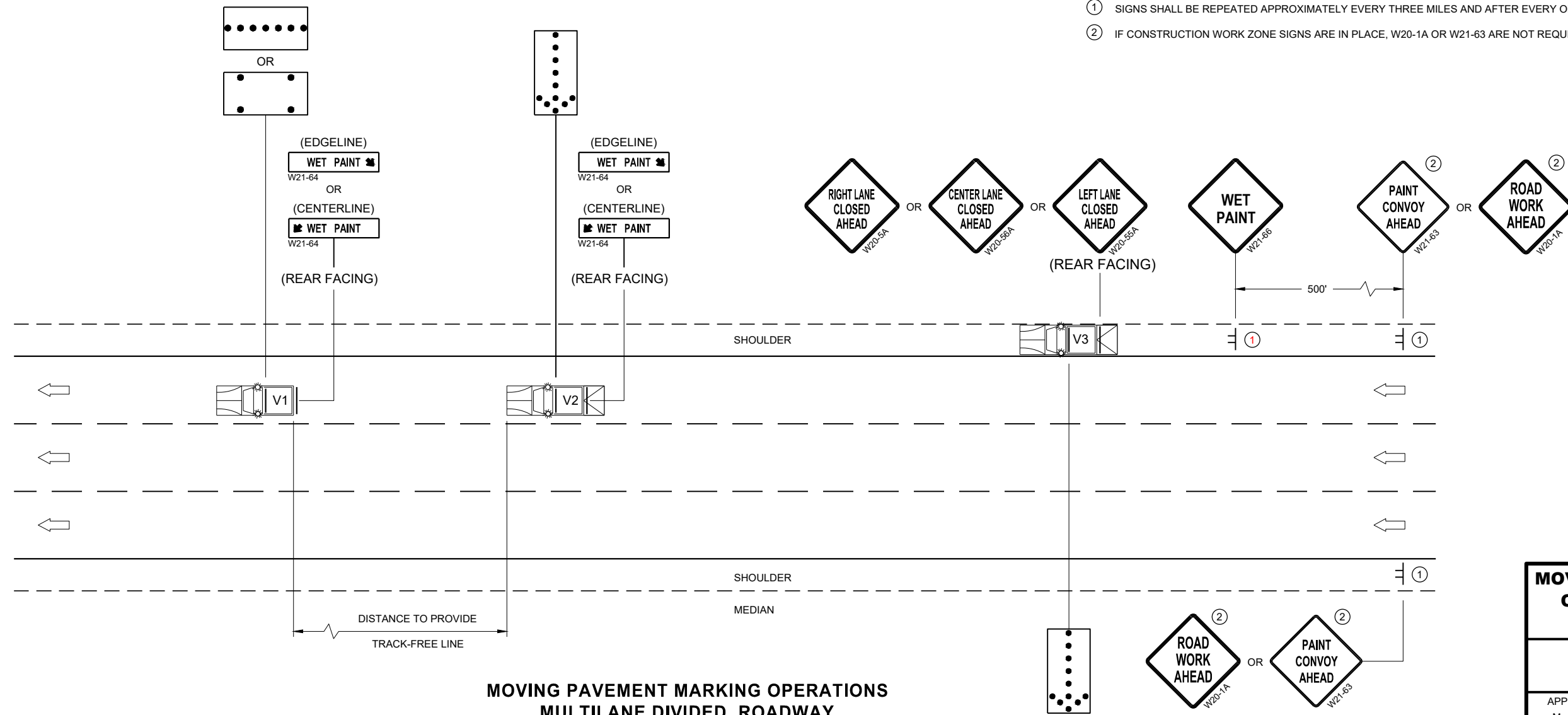
**GENERAL NOTES**

- ALL VEHICLES SHALL BE EQUIPPED WITH TWO 360 DEGREE HIGH INTENSITY YELLOW FLASHING LIGHTS OR STROBE LIGHTS AND OPERATED WITH HEADLIGHTS TURNED ON.
- ALL VEHICLES SHALL BE EQUIPPED WITH REAR FACING TYPE B OR C FLASHING ARROW PANEL. SIGNS PLACED ON VEHICLES MUST NOT OBSCURE THE ARROW PANEL.
- ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE SPECIFIED.
- DISTANCE BETWEEN VEHICLES MAY VARY ACCORDING TO TERRAIN, SIGHT DISTANCE, PAINT DRYING TIME, AND OTHER FACTORS. WHENEVER ADEQUATE STOPPING SIGHT DISTANCE EXISTS TO THE REAR, SHADOW VEHICLES SHOULD MAINTAIN THE MINIMUM DISTANCE FROM THE WORK VEHICLE AND PROCEED AT THE SAME SPEED AS THE WORK VEHICLE. SHADOW VEHICLES SHOULD SLOW DOWN IN ADVANCE OF VERTICAL AND HORIZONTAL CURVES THAT RESTRICT SIGHT DISTANCE.
- WHEN WORK ACTIVITY BLOCKS THE LEFT LANE, REVERSE TRAFFIC CONTROL.
- WHEN A RAMP INTERSECTS THE FACILITY ON WHICH THE WORK IS BEING PERFORMED, PROVIDE ADDITIONAL TRAFFIC CONTROLS AS SPECIFIED IN THE CONTRACT OR AS APPROVED BY THE ENGINEER.
- USE AN ATTENUATOR ON THE REAR MOST VEHICLE THAT BLOCKS ALL OR PART OF THE TRAFFIC LANE.
- IF THE SHOULDER IS TOO NARROW TO ACCOMMODATE THE LAST TRAILING VEHICLE, THE VEHICLE SHOULD STRADDLE THE EDGE LINE.
- WHEN NO WORK ACTIVITY IS TAKING PLACE, REMOVE OR LAY STATIONARY SIGNS AND SUPPORTS FLAT ON THE GRADE WITH UPRIGHTS ORIENTED PARALLEL TO AND DOWNSTREAM FROM TRAFFIC
- CONES SHOULD BE USED BETWEEN THE MARKING AND SHADOW VEHICLE AT 100 FOOT SPACING. CONES MAY BE OMITTED ON PAINTED LINE IF APPROVED BY THE ENGINEER. CONSIDER PAVEMENT MARKING DRY OR CURE TIMES AND TRAFFIC VOLUME.
- CONES SHALL BE A MINIMUM HEIGHT OF 28" FOR WET PAVEMENT MARKINGS

- ① SIGNS SHALL BE REPEATED APPROXIMATELY EVERY THREE MILES AND AFTER EVERY ON RAMP.
- ② IF CONSTRUCTION WORK ZONE SIGNS ARE IN PLACE, W20-1A OR W21-63 ARE NOT REQUIRED.

6

6



**MOVING PAVEMENT MARKING OPERATIONS  
MULTILANE DIVIDED ROADWAY**

**MOVING PAVEMENT MARKING  
OPERATION MULTI-LANE  
DIVIDED ROADWAY**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
May 2022 /S/ Andrew Heidtke  
DATE WORK ZONE ENGINEER

FHWA

SDD 15C19 - 07C



SDD 15C19 - 07C

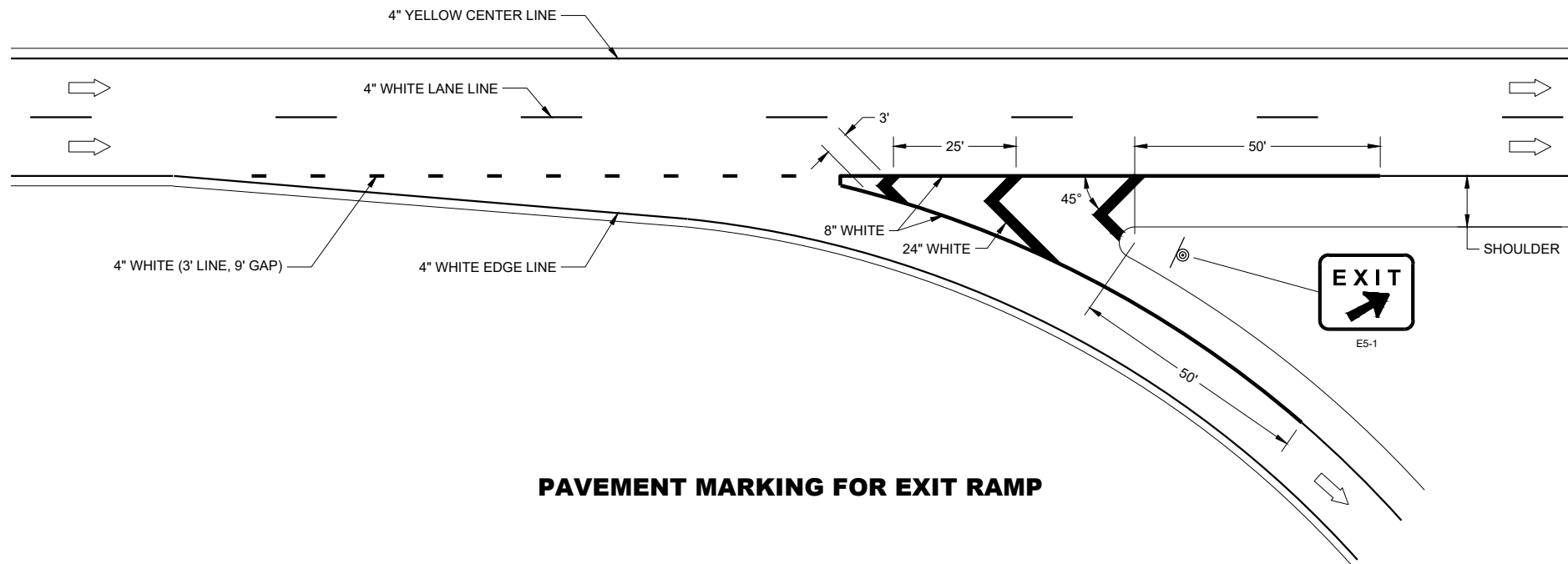


**GENERAL NOTES**

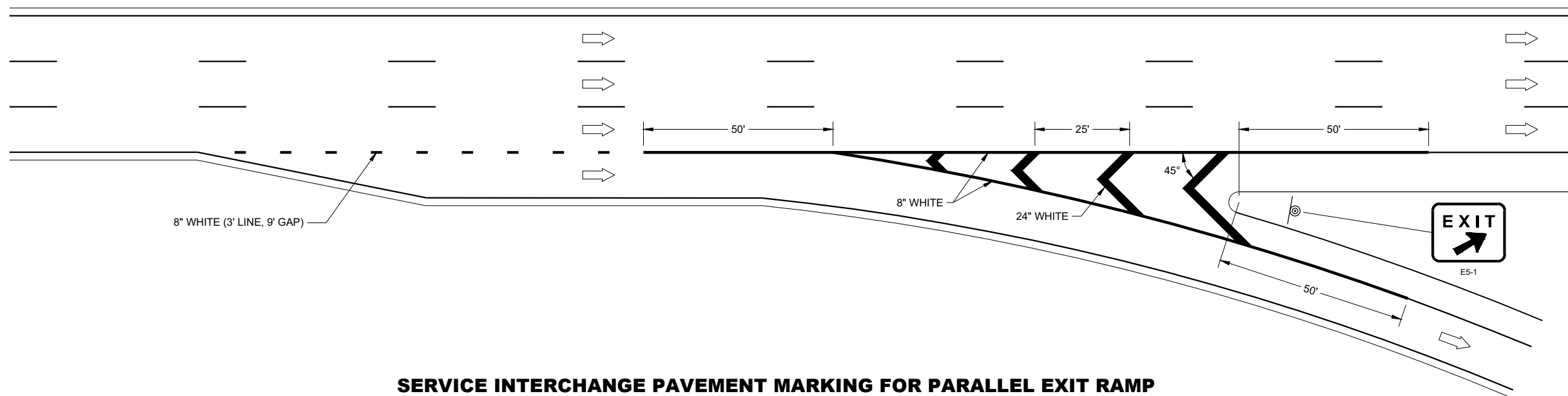
PLACE GROOVE 3 INCHES LEFT OF JOINT.

**LEGEND**

-  SIGN ON PERMANENT SUPPORT
-  DIRECTION OF TRAVEL



**PAVEMENT MARKING FOR EXIT RAMP**



**SERVICE INTERCHANGE PAVEMENT MARKING FOR PARALLEL EXIT RAMP**

**PAVEMENT MARKING,  
EXIT RAMP AND  
PARALLEL EXIT RAMP**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

6

6

SDD 15C31 - 04a

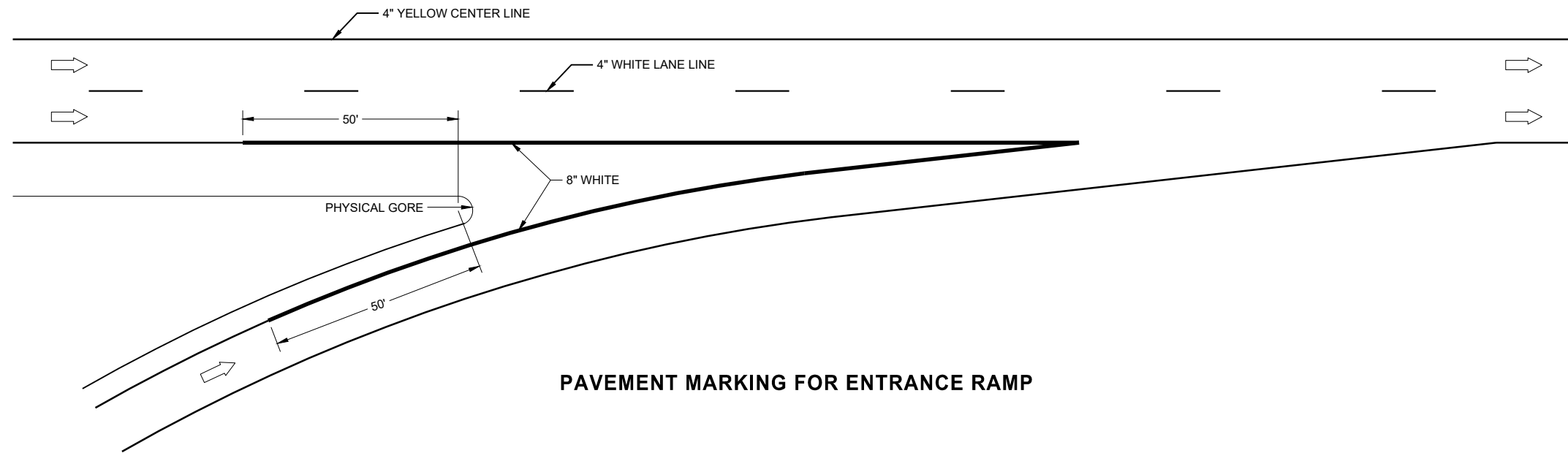
SDD 15C31 - 04a

**GENERAL NOTES**

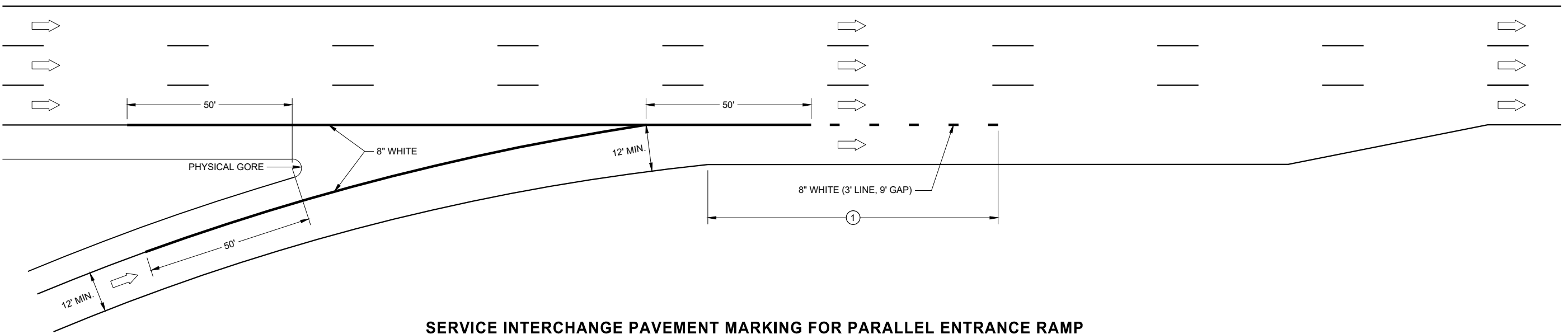
- PLACE GROOVE 3 INCHES LEFT OF JOINT.
- ① ½ LENGTH OF FULL WIDTH ACCELERATION LANE.

**LEGEND**

➡ DIRECTION OF TRAVEL



**PAVEMENT MARKING FOR ENTRANCE RAMP**



**SERVICE INTERCHANGE PAVEMENT MARKING FOR PARALLEL ENTRANCE RAMP**

**PAVEMENT MARKING,  
ENTRANCE RAMP AND  
PARALLEL ENTRANCE RAMP**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

**LEGEND**

-  SIGN ON PERMANENT SUPPORT
-  TRAFFIC CONTROL DRUM
-  DELINEATOR, FLEXIBLE/TUBULAR MARKER
-  TEMPORARY DELINEATOR (STEEL POST W/SINGLE DELINEATOR)
-  PORTABLE CRASH CUSHION
-  CONCRETE BARRIER TEMPORARY PRECAST
-  REMOVE PAVEMENT MARKINGS
-  DIRECTION OF TRAFFIC

**GENERAL NOTES**

ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED.

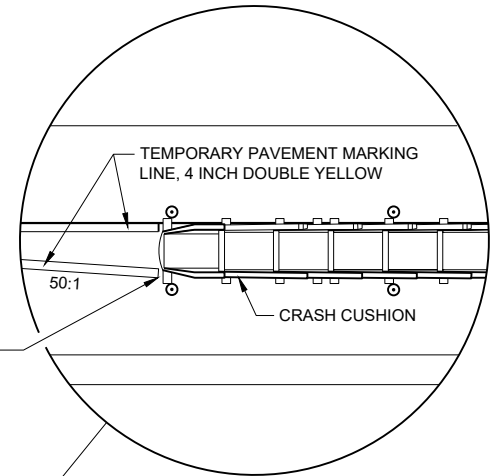
"WO" SIGN IS THE SAME AS "W" SIGN EXCEPT THE BACKGROUND IS ORANGE.

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

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

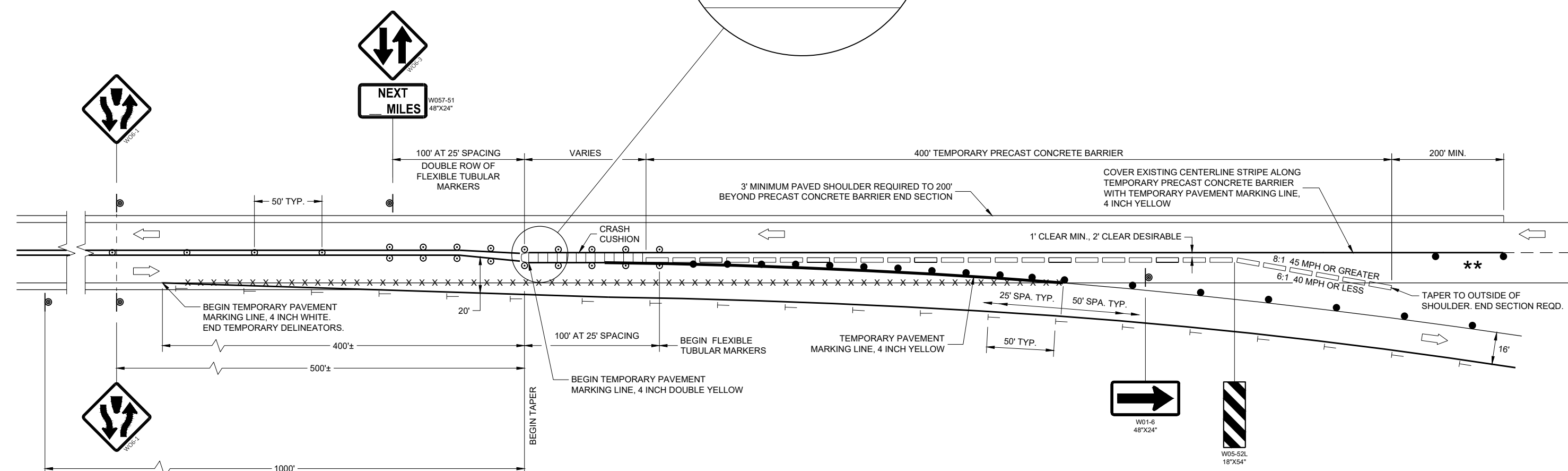
THE SPACING BETWEEN SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET (500' DESIRABLE) DISTANCE TO EXISTING SIGNS.

\*\* SEE SDD 15D12 FOR LANE CLOSURE DETAILS.



6

6



SDD 15D05 - 05









SDD 15D05 - 05

**TRAFFIC CONTROL,  
SINGLE LANE CROSSOVER  
ENTRANCE WITH BARRIER**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
February 2022 /S/ Andrew Heidtke  
DATE WORK ZONE ENGINEER  
FHWA

**LEGEND**

-  SIGN ON PERMANENT SUPPORT
-  TRAFFIC CONTROL DRUM
-  DELINEATOR FLEXIBLE / TUBULAR MARKER
-  TEMPORARY DELINEATOR (STEEL POST DELINEATOR) COLOR OF DELINEATOR SHALL MATCH THE RESPECTIVE EDGE LINE MARKING
-  PORTABLE CRASH CUSHION
-  CONCRETE BARRIER TEMPORARY PRECAST
-  DIRECTION OF TRAFFIC
-  REMOVE PAVEMENT MARKINGS

**GENERAL NOTES**

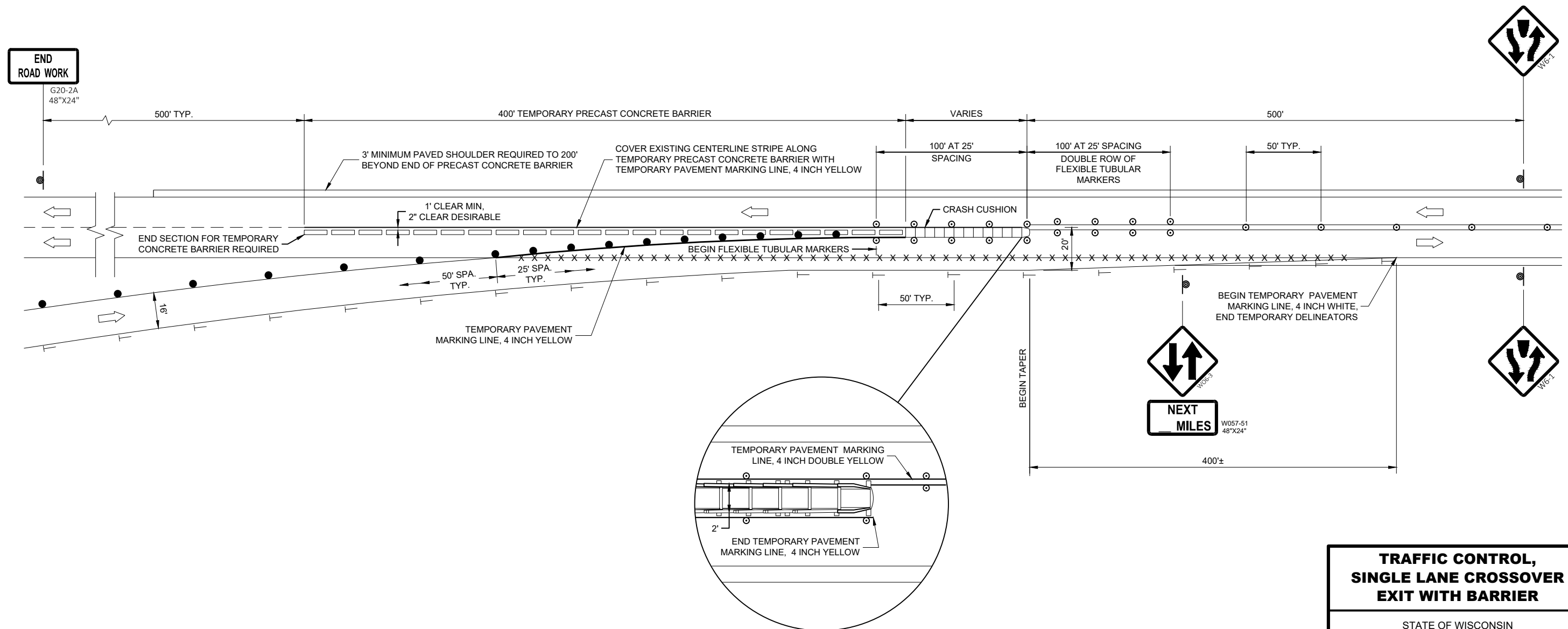
ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

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

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

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' DESIRABLE) DISTANCE TO EXISTING SIGNS.



SDD 15D10 - 05

SDD 15D10 - 05













**TRAFFIC CONTROL,  
SINGLE LANE CROSSOVER  
EXIT WITH BARRIER**

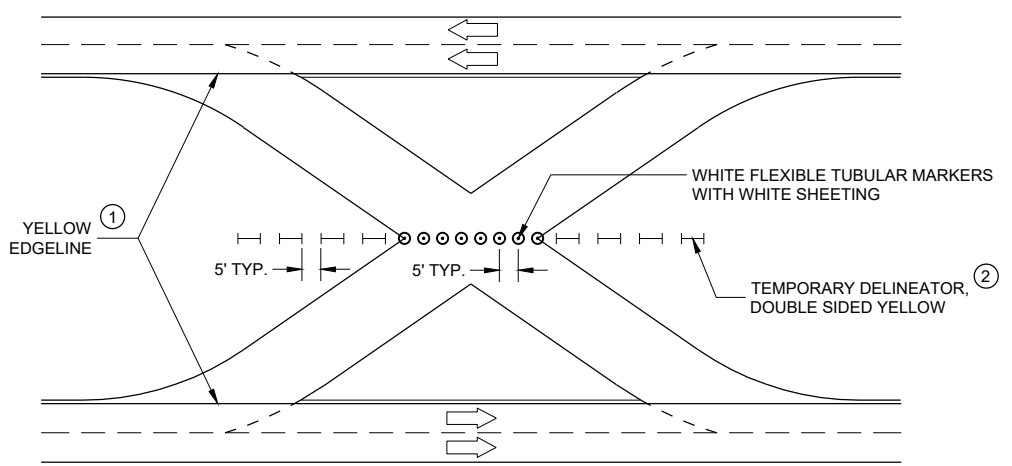
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
February 2022 /S/ Andrew Heidtke  
DATE WORK ZONE ENGINEER

FHWA

**LEGEND**

-  SIGN ON PERMANENT SUPPORT
-  TRAFFIC CONTROL DRUM
-  TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
-  DELINEATOR FLEXIBLE / TUBULAR MARKER
-  TEMPORARY DELINEATOR (STEEL POST WITH SINGLE DELINEATOR)  
COLOR OF DELINEATOR SHALL MATCH THE COLOR OF THE RESPECTIVE  
EDGE LINE MARKING
-  TEMPORARY DELINEATOR (DOUBLE SIDED)
-  TYPE "A" WARNING LIGHT (FLASHING)
-  TYPE III BARRICADE
-  TYPE III BARRICADE WITH ATTACHED SIGN
-  DIRECTION OF TRAFFIC
-  REMOVE PAVEMENT MARKINGS
-  WORK AREA

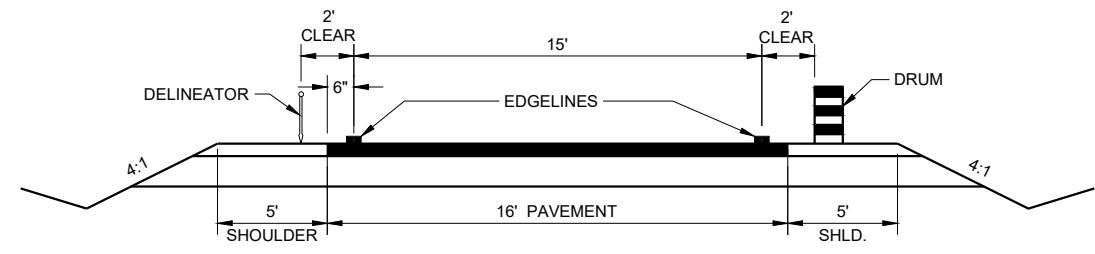
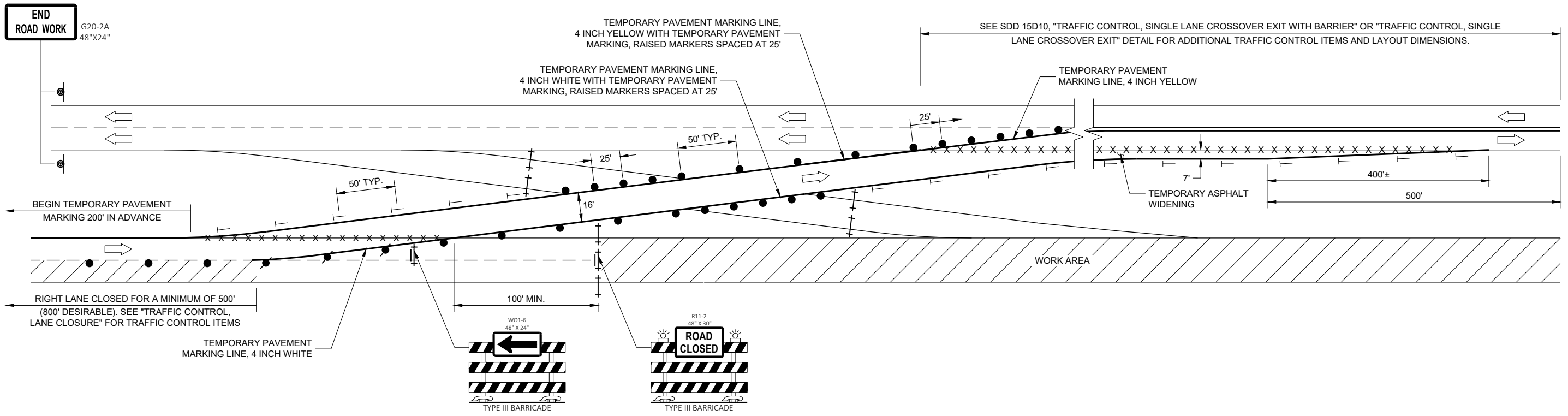


**TRAFFIC CONTROL FOR CROSSOVER THAT IS NOT IN USE**

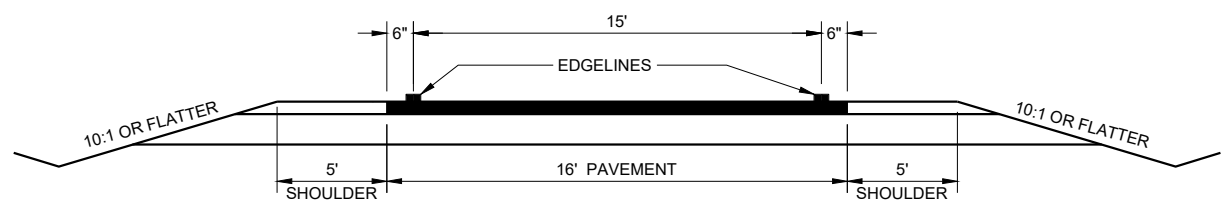
**GENERAL NOTES**

- ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED.
- "WO" SIGN IS THE SAME AS "W" SIGN EXCEPT THE BACKGROUND IS ORANGE.
- ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH THE TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER. NO WARNING LIGHTS SHALL BE WORKING ON COVERED OR "DOWNED" SIGNS.
- 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 PROPOSED SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET (500' DESIRABLE) DISTANCE TO EXISTING SIGNS.
- REVERSE DEVICES WHEN OTHER LEG OF CROSSOVER IS IN USE.

- ① FOR PERMANENT CROSSOVER, PAVEMENT MARKING SHOULD CONFORM TO SECTION 646 OF THE STANDARD SPECIFICATIONS.
- ② FOR PERMANENT CROSSOVER, INSTALL PERMANENT DELINEATORS ACCORDING TO SECTION 633 OF THE STANDARD SPECIFICATIONS.



**TYPICAL TEMPORARY CROSSOVER ROADWAY DIMENSIONS**  
(SEE PLAN FOR ROADWAY DESIGN ELEMENTS)



**TYPICAL CROSSOVER TO REMAIN IN PLACE ROADWAY DIMENSIONS**  
(SEE PLAN FOR ROADWAY DESIGN ELEMENTS)

<b>TRAFFIC CONTROL, SINGLE LANE CROSSOVER</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED February 2022 DATE	/S/ Andrew Heidtke WORK ZONE ENGINEER
FHWA	

SDD 15D11 - 08

SDD 15D11 - 08

## 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 DESIRABLE) CLEARANCE TO EXISTING SIGNS.

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

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

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

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

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 AND PLACE TEMPORARY PAVEMENT MARKING LINE IF LANE CLOSURE IS TO BE IN PLACE 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.












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

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 ONE HALF 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.

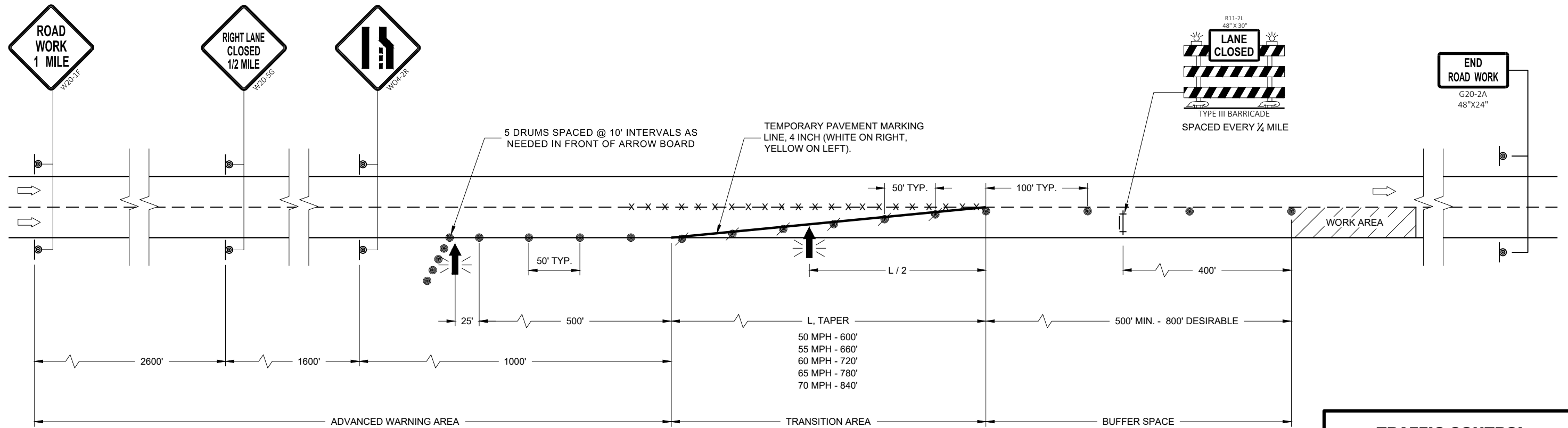
CONSIDER ROADWAY GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARD SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS.

## LEGEND

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

6

SDD 15D12 - 10a



6

SDD 15D12 - 10a

<b>TRAFFIC CONTROL LANE CLOSURE</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED February 2022 DATE	/S/ Andrew Heidtke WORK ZONE ENGINEER
FHWA	

### 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 DESIRABLE) CLEARANCE TO EXISTING SIGNS.

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

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

"WO" SIGNS ARE THE SAME AS "W" SIGNS 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.

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 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 AND PLACE TEMPORARY PAVEMENT MARKING LINE IF LANE CLOSURE IS TO BE IN PLACE 4 OR MORE CONTINUOUS DAYS AND NIGHTS.










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

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

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 ONE HALF 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.

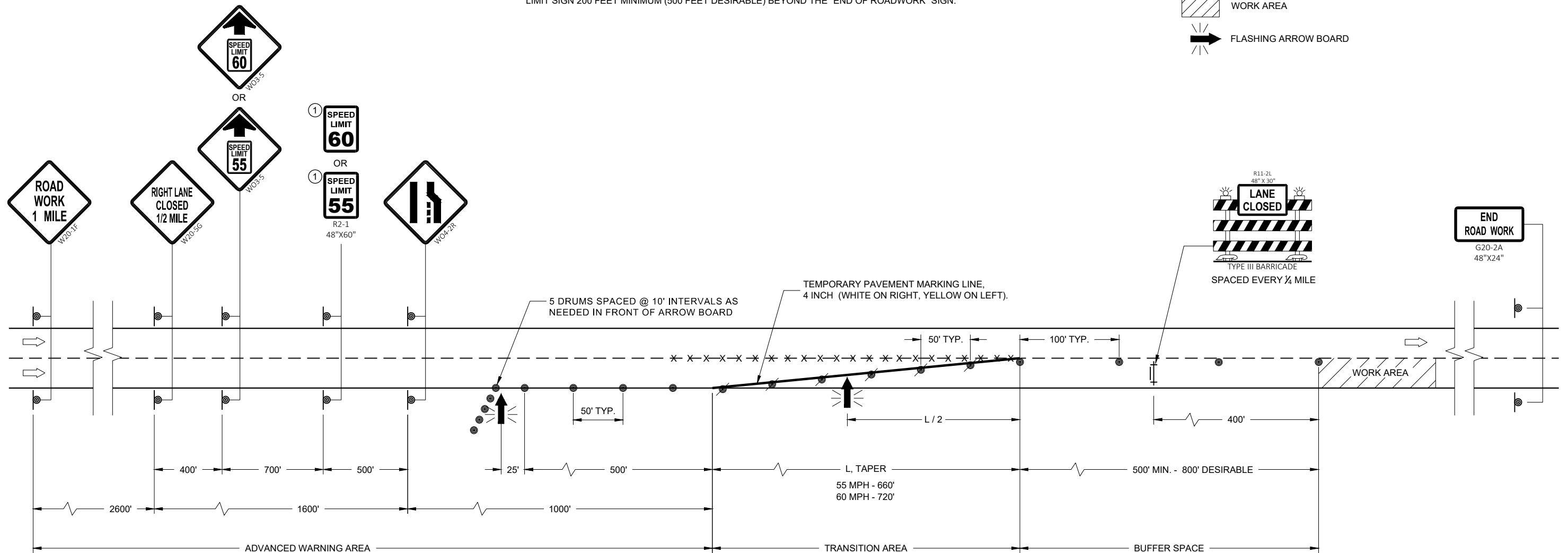
① A SPEED LIMIT SIGN SHALL BE LOCATED 1500 FEET BEYOND THE END OF THE ACCELERATION LANE OF EACH ENTRANCE RAMP. PLACE A SPEED LIMIT SIGN A MINIMUM OF EVERY 3 MILES. INCLUDE A RESUME SPEED LIMIT SIGN 200 FEET MINIMUM (500 FEET DESIRABLE) BEYOND THE "END OF ROADWORK" SIGN.

### LEGEND

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

6

SDD 15D12 - 10b



6

SDD 15D12 - 10b

<b>TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED February 2022 DATE	/S/ Andrew Heidtke WORK ZONE ENGINEER
FHWA	

**LEGEND**

- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TYPE III BARRICADE WITH ATTACHED SIGN
- TYPE "A" WARNING LIGHT (FLASHING)
- REMOVING PAVEMENT MARKINGS
- DIRECTION OF TRAFFIC
- WORK AREA
- FLASHING ARROW BOARD
- PCMS PORTABLE CHANGEABLE MESSAGE SIGN
- PORTABLE TRAFFIC SENSOR (PTS)
- FLASHING BEACON SIGNS

**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 DESIRABLE) CLEARANCE TO EXISTING SIGNS.

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

"WO" SIGNS ARE THE SAME AS "W" SIGNS 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.

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 AND PLACE TEMPORARY PAVEMENT MARKING LINE IF LANE CLOSURE IS TO BE IN PLACE 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.

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

- CONSIDER ROADWAY GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARD SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS.
- PORTABLE TRAFFIC SENSOR (PTS) MAY BE MOUNTED ON PCMS, FBS, ARROW BOARD OR OTHER TRAILER DEVICES.
- ① IF THERE ARE MORE THAN TWO LANES, CHANGE FRAME 2 OF THE PCMS TO STATE "USE ALL LANES".
  - ② PLACE FLASHING BEACON SIGNS EVERY ONE MILE BETWEEN PCMS #1 AND FBS #1. THE NUMBER OF FBS MAY BE MORE THAN SHOWN ON THIS DETAIL.
  - ③ FOR THREE LANE CONFIGURATION, PLACE FBS ON BOTH SIDES OF ROADWAY. CHANGE PCMS #1 FRAME 2 MESSAGE TO "USE ALL LANES".
  - ④ 5 DRUMS SPACED @ 10' INTERVALS AS NEEDED.
  - ⑤ PCMS SHALL FOLLOW ARROW BOARD STANDARDS WHEN DISPLAYING FLASHING FOUR CORNER CAUTION MODE OR FLASHING ARROW MERGE MODE.
  - ⑥ TO MINIMIZE OBSTRUCTION OF THE ARROW BOARD BY THE PCMS, OFFSET THE PCMS AS NEEDED FROM THE EDGE LINE
  - ⑦ IF THERE IS AN APPROVED TEMPORARY SPEED DECLARATION, ADD WO-3-5 SIGNS 400 FEET AFTER THE W20-5G SIGNS AND ADD R2-1 SIGNS (48"x60") 700 FEET AFTER THE WO3-5 SIGNS. A SPEED LIMIT SIGN SHALL BE LOCATED 1500 FEET BEYOND THE END OF THE ACCELERATION LANE OF EACH ENTRANCE RAMP. PLACE A SPEED LIMIT SIGN A MINIMUM OF EVERY 3 MILES. INCLUDE A "RESUME SPEED LIMIT" SIGN 200 FEET MINIMUM (800 FEET DESIRABLE) BEYOND THE G30-3A "END ROAD WORK" SIGN.
  - ⑧ IF THERE ARE MORE THAN TWO LANES OR IF SPECIFIED IN THE PLANS, PLACE PCMS AND FBS ON THE SAME SIDE OF THE ROADWAY.

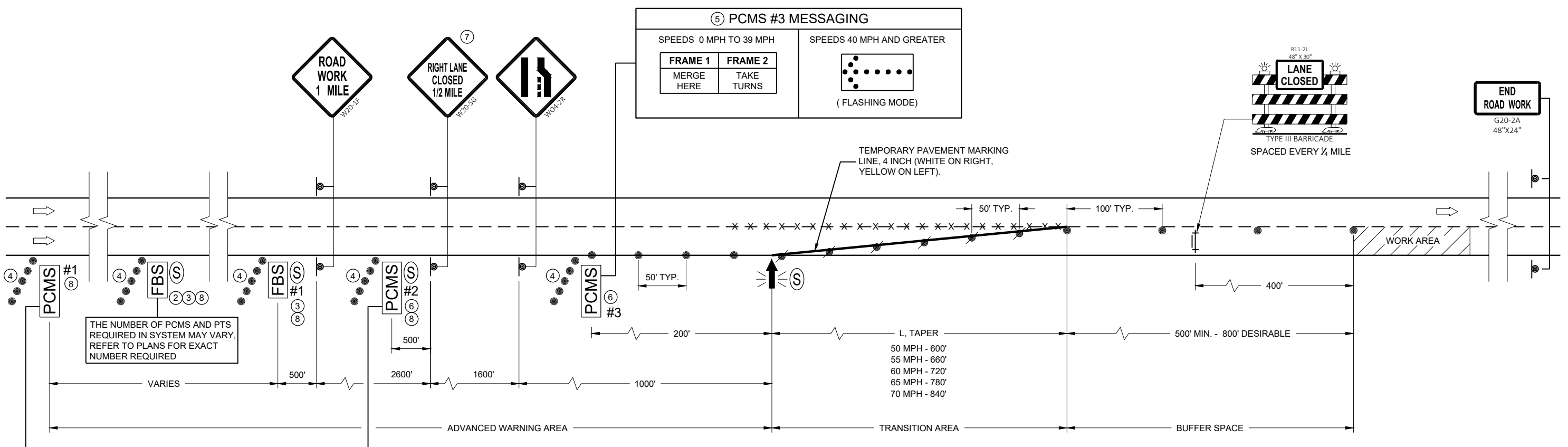
**STOPPED OR SLOW TRAFFIC WHEN FLASHING**  
 W08-76  
 60x36

⑤ PCMS #3 MESSAGING

SPEEDS 0 MPH TO 39 MPH		SPEEDS 40 MPH AND GREATER
FRAME 1 MERGE HERE	FRAME 2 TAKE TURNS	(FLASHING MODE)

R11-2L  
 48" X 30"  
**LANE CLOSED**  
 TYPE III BARRICADE  
 SPACED EVERY 1/4 MILE

**END ROAD WORK**  
 G20-2A  
 48"x24"



③ ⑤ ① PCMS #1 MESSAGING

SPEEDS 0 MPH TO 39 MPH		SPEEDS 40 MPH AND GREATER
FRAME 1 STOPPED TRAFFIC AHEAD	FRAME 2 USE BOTH LANES	(FLASHING CAUTION MODE)

⑤ PCMS #2 MESSAGING

SPEEDS 0 MPH TO 39 MPH		SPEEDS 40 MPH AND GREATER
FRAME 1 STAY IN LANE	FRAME 2 DO NOT MERGE	(FLASHING CAUTION MODE)

**TRAFFIC CONTROL, DYNAMIC LANE MERGE SYSTEM**

STATE OF WISCONSIN  
 DEPARTMENT OF TRANSPORTATION

APPROVED  
 February 2022 /S/ Erin Schwark  
 DATE WORK ZONE ENGINEER












FHWA

SDD 15D12 - 10c

SDD 15D12 - 10c



**LEGEND**

-  SIGN ON PERMANENT SUPPORT
-  TRAFFIC CONTROL DRUM
-  TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
-  TYPE III BARRICADE WITH ATTACHED SIGN
-  TYPE "A" WARNING LIGHT (FLASHING)
-  REMOVING PAVEMENT MARKINGS
-  DIRECTION OF TRAFFIC
-  WORK AREA
-  FLASHING ARROW BOARD
-  PORTABLE TRAFFIC SENSOR (PTS)
-  FLASHING BEACON SIGN

**GENERAL NOTES**

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS, INCLUDING FBS 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.

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

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

"WO" SIGNS ARE THE SAME AS "W" SIGNS 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. NO WARNING LIGHTS SHALL BE WORKING ON "COVERED" OR "DOWNED" SIGNS.

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 AND PLACE TEMPORARY PAVEMENT MARKING LINE IF LANE CLOSURE IS TO BE IN PLACE 4 OR MORE CONTINUOUS DAYS

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

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

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 ONE HALF 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.

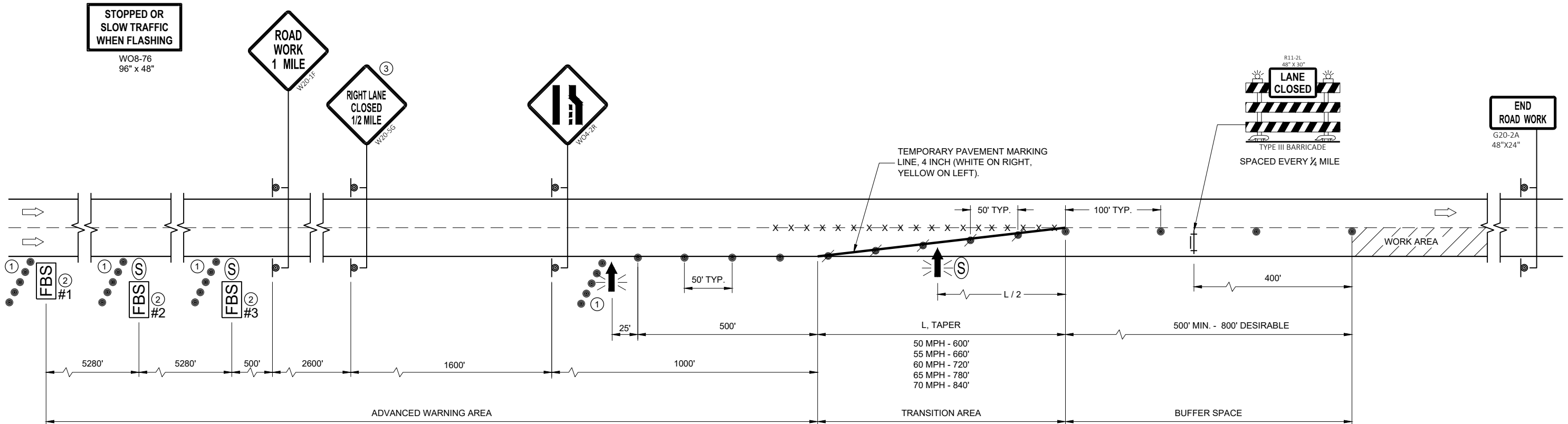
CONSIDER ROADWAY GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARD SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS.

PORTABLE TRAFFIC SENSOR (PTS) MAY BE MOUNTED ON THE FBS, ARROW BOARD OR OTHER TRAILER DEVICES.

- ① 5 DRUMS SPACED AT 10 FOOT INTERVALS AS NEEDED.
- ② IF THERE ARE MORE THAN TWO LANES OR IF SPECIFIED IN THE PLANS, PLACE FBS ON BOTH SIDES OF THE ROADWAY.
- ③ IF THERE IS AN APPROVED TEMPORARY SPEED DECLARATION, ADD WO-3-5 SIGNS 400 FEET AFTER THE W20-5G SIGNS AND ADD R2-1 SIGNS (48"x60") 700 FEET AFTER THE WO3-5 SIGNS. A SPEED LIMIT SIGN SHALL BE LOCATED 1500 FEET BEYOND THE END OF THE ACCELERATION LANE OF EACH ENTRANCE RAMP. PLACE A SPEED LIMIT SIGN A MINIMUM OF EVERY 3 MILES. INCLUDE A "RESUME SPEED LIMIT" SIGN 200 FEET MINIMUM (800 FEET DESIRABLE) BEYOND THE G30-3A "END ROAD WORK" SIGN.

6

6



SDD 15D12 - 10d

SDD 15D12 - 10d

<b>TRAFFIC CONTROL, LANE CLOSURE, BASIC TRAFFIC QUEUE WARNING SYSTEM</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED February 2022 DATE	/s/ Erin Schwark WORK ZONE ENGINEER
FHWA	

**LEGEND**

- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TYPE III BARRICADE WITH ATTACHED SIGN
- TYPE "A" WARNING LIGHT (FLASHING)
- REMOVING PAVEMENT MARKINGS
- DIRECTION OF TRAFFIC
- WORK AREA
- FLASHING ARROW BOARD
- PORTABLE CHANGEABLE MESSAGE SIGN
- PORTABLE TRAFFIC SENSOR (PTS)

**GENERAL NOTES**

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS, INCLUDING FBS 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.

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

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

"WO" SIGNS ARE THE SAME AS "W" SIGNS 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. NO WARNING LIGHTS SHALL BE WORKING ON "COVERED" OR "DOWNED" SIGNS.

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 AND PLACE TEMPORARY PAVEMENT MARKING LINE IF LANE CLOSURE IS TO BE IN PLACE 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

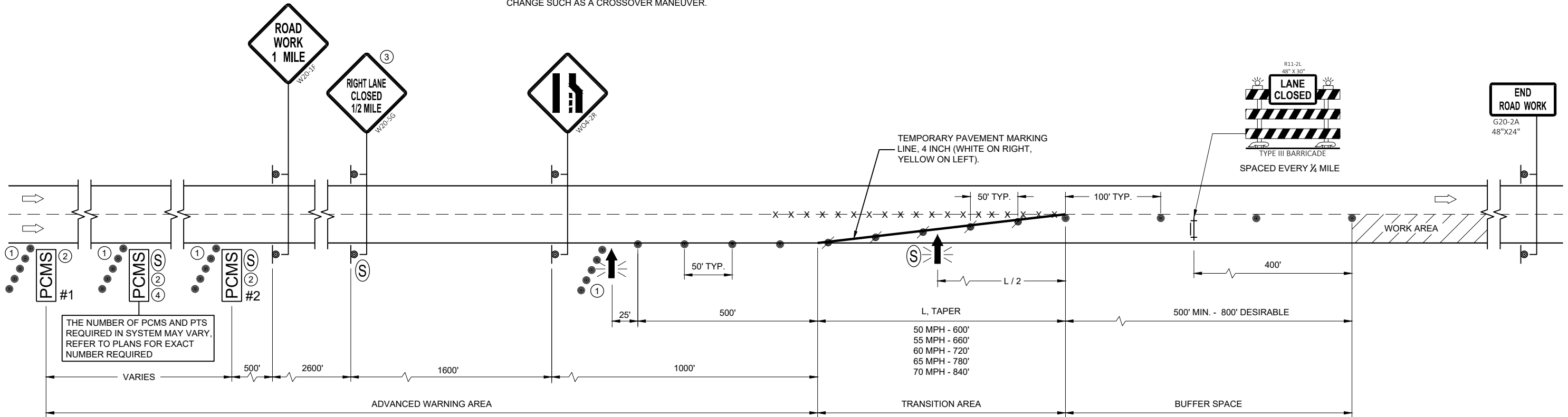
WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

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

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 ONE HALF 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.

- CONSIDER ROADWAY GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARD SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS.
- PORTABLE TRAFFIC SENSOR (PTS) MAY BE MOUNTED ON PCMS, ARROW BOARD OR OTHER TRAILER DEVICES.
- ① 5 DRUMS SPACED AT 10 FOOT INTERVALS AS NEEDED.
  - ② IF THERE ARE MORE THAN TWO LANES OR IF SPECIFIED IN THE PLANS, PLACE PCMS ON BOTH SIDES OF THE ROADWAY.
  - ③ IF THERE IS AN APPROVED TEMPORARY SPEED DECLARATION, ADD WO-3-5 SIGNS 400 FEET AFTER THE W20-5G SIGNS AND ADD R2-1 SIGNS (48"x60") 700 FEET AFTER THE WO3-5 SIGNS. A SPEED LIMIT SIGN SHALL BE LOCATED 1500 FEET BEYOND THE END OF THE ACCELERATION LANE OF EACH ENTRANCE RAMP. PLACE A SPEED LIMIT SIGN A MINIMUM OF EVERY 3 MILES. INCLUDE A "RESUME SPEED LIMIT" SIGN 200 FEET MINIMUM (800 FEET DESIRABLE) BEYOND THE G30-3A "END ROAD WORK" SIGN.
  - ④ PLACE PCMS EVERY ONE MILE BETWEEN PCMS #1 AND PCMS #2, OR AS THE ENGINEER DIRECTS. THE NUMBER OF PCMS MAY BE MORE THAN SHOWN ON THIS DETAIL.
  - ⑤ PCMS SHALL FOLLOW ARROW BOARD STANDARDS WHEN DISPLAYING FLASHING FOUR CORNER CAUTION MODE OR FLASHING ARROW MERGE MODE.

6



6

SDD 15D12 - 10e

SDD 15D12 - 10e

⑤ PCMS MESSAGING					
SPEEDS 0 MPH TO 19 MPH		SPEEDS 20 MPH TO 39 MPH		SPEEDS 40 MPH AND GREATER	
FRAME 1	FRAME 2	FRAME 1	FRAME 2	 ( FLASHING CAUTION MODE)	
STOPPED TRAFFIC AHEAD	EXPECT DELAYS	SLOW TRAFFIC AHEAD	PREPARE TO STOP		







**TRAFFIC CONTROL, LANE CLOSURE, TRAFFIC QUEUE WARNING SYSTEM**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
February 2022 /S/ Erin Schwark  
DATE WORK ZONE ENGINEER

FHWA

**LEGEND**

-  TYPE III BARRICADE
-  TYPE III BARRICADE WITH ATTACHED SIGN
-  TRAFFIC CONTROL DRUM
-  SIGN ON PERMANENT SUPPORT
-  TYPE "A" WARNING LIGHT (FLASHING)
-  DIRECTION OF TRAFFIC

**GENERAL NOTES**

THIS RAMP CLOSURE DETAIL IS TYPICAL FOR CLOSING A RIGHT SIDE EXIT RAMP. FOR A LEFT SIDE EXIT RAMP, REVERSE THE TRAFFIC CONTROL.

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

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

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

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

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.

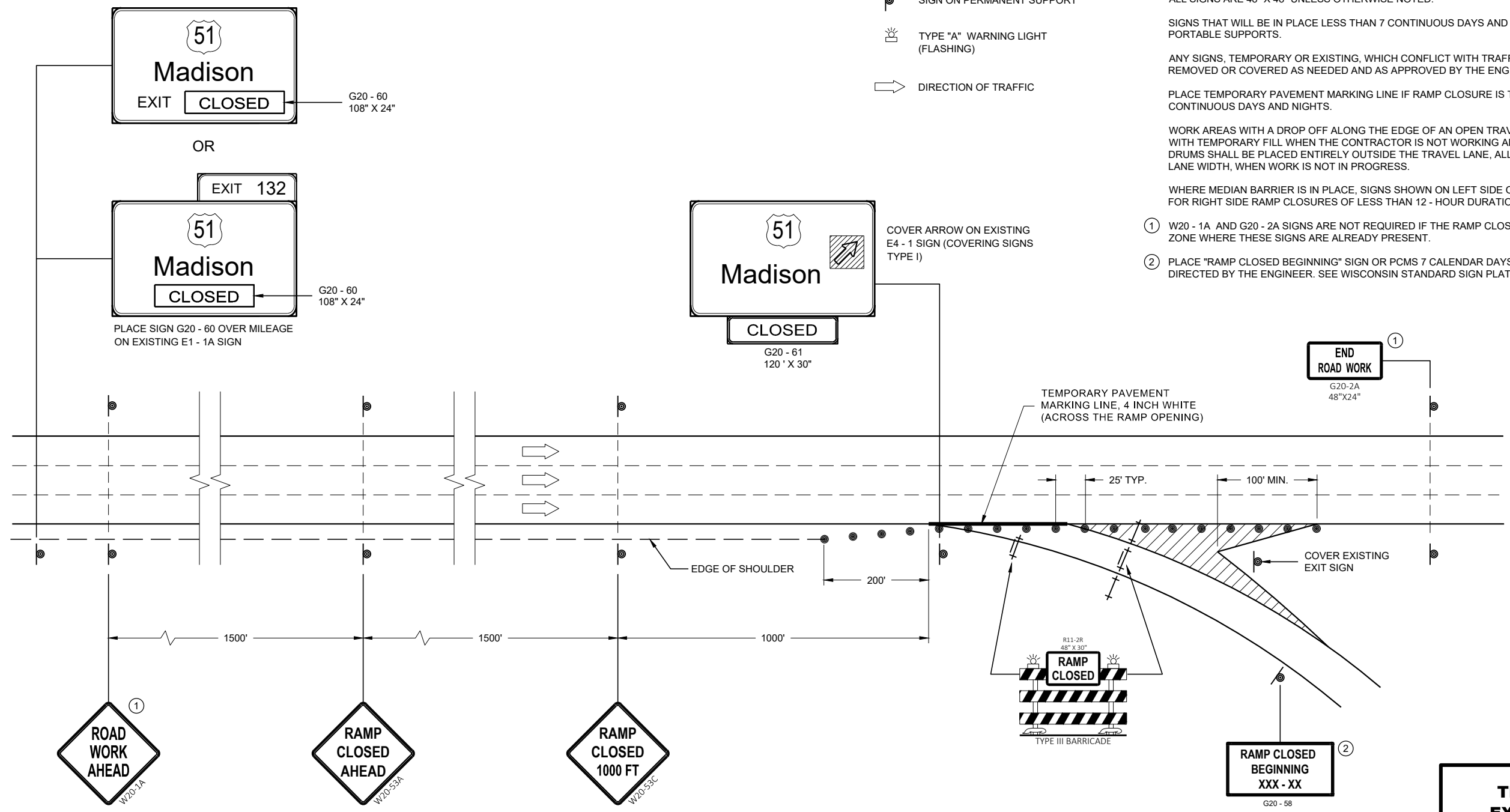
PLACE TEMPORARY PAVEMENT MARKING LINE IF RAMP CLOSURE IS TO BE IN PLACE 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

WORK AREAS WITH A DROP OFF ALONG THE EDGE OF AN OPEN TRAVEL LANE SHALL BE LEVELED WITH TEMPORARY FILL WHEN THE CONTRACTOR IS NOT WORKING ADJACENT TO THE TRAVEL LANE. DRUMS SHALL BE PLACED ENTIRELY OUTSIDE THE TRAVEL LANE, ALLOWING THE FULL UNOBSTRUCTED LANE WIDTH, WHEN WORK IS NOT IN PROGRESS.

WHERE MEDIAN BARRIER IS IN PLACE, SIGNS SHOWN ON LEFT SIDE OF ROADWAY MAY BE OMITTED FOR RIGHT SIDE RAMP CLOSURES OF LESS THAN 12 - HOUR DURATION.

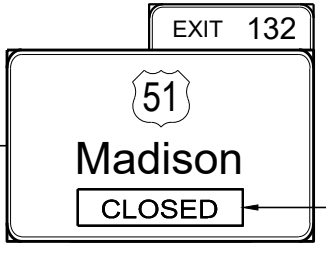
① W20 - 1A AND G20 - 2A SIGNS ARE NOT REQUIRED IF THE RAMP CLOSURE IS WITHIN A LARGER WORK ZONE WHERE THESE SIGNS ARE ALREADY PRESENT.

② PLACE "RAMP CLOSED BEGINNING" SIGN OR PCMS 7 CALENDAR DAYS PRIOR TO CLOSURE OR AS DIRECTED BY THE ENGINEER. SEE WISCONSIN STANDARD SIGN PLATES FOR SIGN LAYOUT.

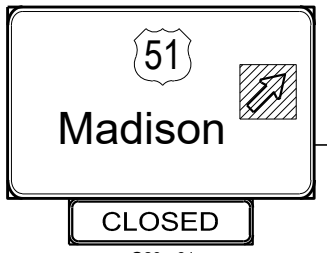


G20 - 60  
108" X 24"

OR

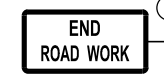


G20 - 60  
108" X 24"



G20 - 61  
120' X 30"

COVER ARROW ON EXISTING E4 - 1 SIGN (COVERING SIGNS TYPE I)



G20-2A  
48" X 24"



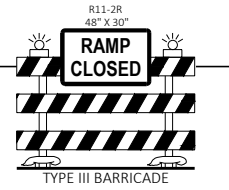
W20-1A



W20-53A



W20-53C



R11-2R  
48" X 30"



G20 - 58

OR  
PCMS MESSAGING

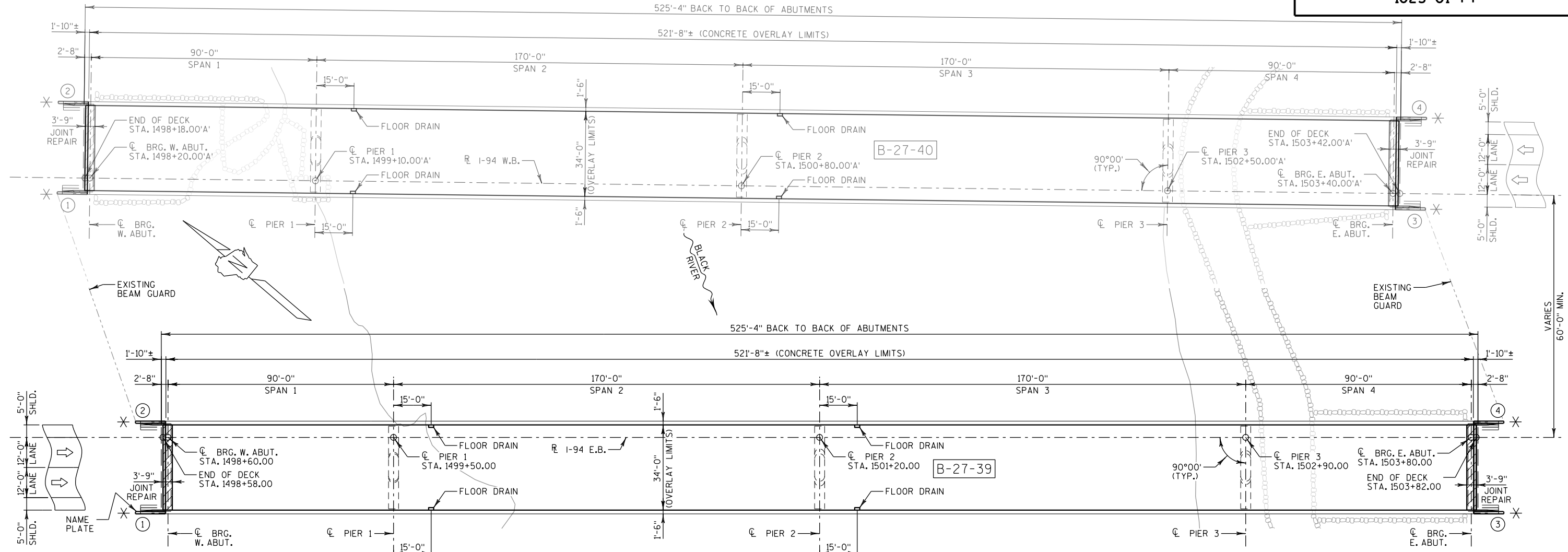
FRAME 1	FRAME 2
RAMP TO CLOSE	XXXDAY XX XX XX

**TRAFFIC CONTROL,  
EXIT RAMP CLOSURE**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

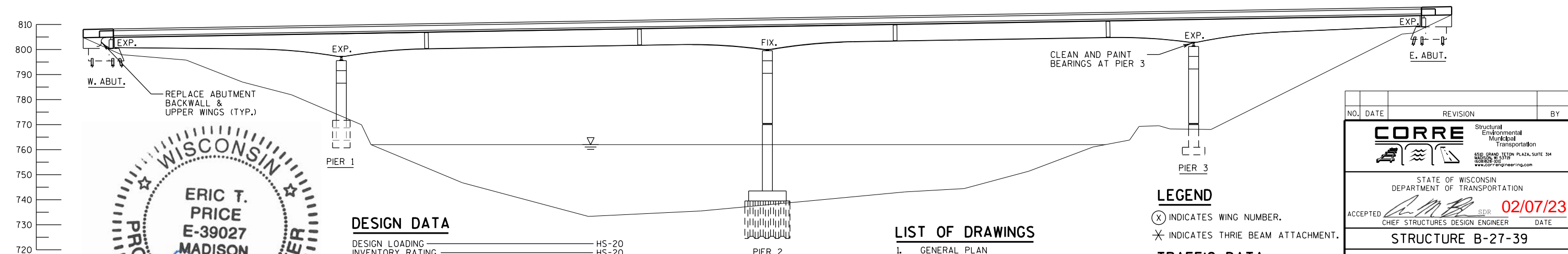
APPROVED  
February 2022 DATE /S/ Andrew Heidtke  
ROADWAY STANDARDS DEVELOPMENT ENGINEER

FHWA



PLAN

(CONCRETE OVERLAY: FOUR-SPAN, CONTINUOUS STEEL DECK GIRDER)



ELEVATION

(NORMAL TO BLACK RIVER)

DESIGN DATA

- DESIGN LOADING \_\_\_\_\_ HS-20
- INVENTORY RATING \_\_\_\_\_ HS-20
- OPERATING RATING \_\_\_\_\_ HS-34
- WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV) \_\_\_\_\_ 220 KIPS

MATERIAL PROPERTIES

- CONCRETE MASONRY \_\_\_\_\_
- OVERLAY DECKS & SUPERSTRUCTURE — f'c = 4,000 PSI
- SUBSTRUCTURE \_\_\_\_\_ f'c = 3,500 PSI
- HIGH STRENGTH BAR STEEL \_\_\_\_\_
- REINFORCEMENT GRADE 60 \_\_\_\_\_ fy = 60,000 PSI

LIST OF DRAWINGS

1. GENERAL PLAN
2. CROSS SECTION & QUANTITIES
3. MISCELLANEOUS DETAILS
4. ABUTMENT REMOVALS
5. WEST ABUTMENT
6. EAST ABUTMENT
7. STRIP SEAL EXPANSION JOINT DETAILS-1
8. STRIP SEAL EXPANSION JOINT DETAILS-2
9. SUPERSTRUCTURE DETAILS
10. SLOPED FACE PARAPET 'B'

LEGEND

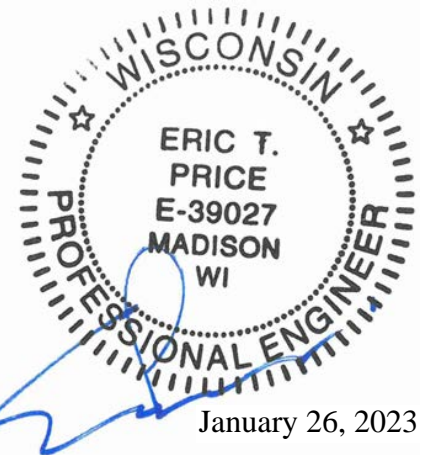
- (X) INDICATES WING NUMBER.
- \* INDICATES THREE BEAM ATTACHMENT.

TRAFFIC DATA:

AADT (2041) = 17,100  
DESIGN SPEED = 70 MPH

BUREAU OF STRUCTURES CONTACT:  
AARON BONK (608) 261-0261

CONSULTANT CONTACT:  
ERIC PRICE (608) 826-6146



January 26, 2023

NO.	DATE	REVISION	BY

**CORRE** Structural Environmental Municipal Transportation  
650 GRAND TITON PLAZA, SUITE 304  
BLACK RIVER FALLS, WI 53005  
www.correengineering.com

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

ACCEPTED *[Signature]* SDR **02/07/23**  
CHIEF STRUCTURES DESIGN ENGINEER DATE

**STRUCTURE B-27-39**

I-94 EB OVER BLACK RIVER

COUNTY JACKSON TOWN/CITY/VILLAGE BLACK RIVER FALLS

DESIGN SPEC. REHABILITATION N/A

DESIGNED BY ETP DESIGN CK'D. BH DRAWN BY TKB PLANS CK'D. ETP

**GENERAL PLAN**

SHEET 1 OF 10

**TOTAL ESTIMATED QUANTITIES**

BID ITEM NUMBER	BID ITEM	UNIT	WEST ABUT.	PIER 1	PIER 2	PIER 3	EAST ABUT.	SUPER.	TOTALS
203.0220	REMOVING STRUCTURE B-27-39	EACH	--	--	--	--	--	--	1
203.0211.S	ABATEMENT OF ASBESTOS CONTAINING MATERIAL B-27-39	EACH	--	--	--	--	--	--	1
206.1001	EXCAVATION FOR STRUCTURES BRIDGES B-27-39	EACH	--	--	--	--	--	--	1
210.1500	BACKFILL STRUCTURE TYPE A	TON	95	--	--	--	95	--	190
502.0100	CONCRETE MASONRY BRIDGES	CY	23.3	--	--	--	23.8	--	48
502.3101	EXPANSION DEVICE	LF	34	--	--	--	34	--	68
502.3200	PROTECTIVE SURFACE TREATMENT	SY	--	--	--	--	--	1,980	1,980
502.3210	PIGMENTED SURFACE SEALER	SY	--	--	--	--	--	11	11
502.4205	ADHESIVE ANCHORS NO. 5 BAR	EACH	70	--	--	--	70	--	140
502.4206	ADHESIVE ANCHORS NO. 6 BAR	EACH	48	--	--	--	48	--	96
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	--	--	--	--	--	2,410	2,410
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	2,830	--	--	--	2,850	150	5,830
509.0301	PREPARATION DECKS TYPE 1	SY	--	--	--	--	--	250	250
509.0302	PREPARATION DECKS TYPE 2	SY	--	--	--	--	--	100	100
509.0500	CLEANING DECKS	SY	--	--	--	--	--	1,952	1,952
509.1000	JOINT REPAIR	SY	--	--	--	--	--	29	29
509.1500	CONCRETE SURFACE REPAIR	SF	40	--	--	--	20	60	120
509.2000	FULL-DEPTH DECK REPAIR	SY	--	--	--	--	--	5	5
509.2500	CONCRETE MASONRY OVERLAY DECKS	CY	--	--	--	--	--	135	135
509.9020.S	EPOXY CRACK SEALING	LF	10	--	--	--	15	--	25
509.9050.S	CLEANING PARAPETS	LF	--	--	--	--	--	25	25
514.0900	ADJUSTING FLOOR DRAINS	EACH	--	--	--	--	--	4	4
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	15	--	--	--	15	--	30
517.1801.S	STRUCTURE REPAINTING RECYCLED ABRASIVE B-27-39	EACH	--	--	--	--	--	--	1
517.4501.S	NEGATIVE PRESSURE CONTAINMENT AND COLLECTION OF WASTE MATERIALS B-27-39	EACH	--	--	--	--	--	--	1
517.6001.S	PORTABLE DECONTAMINATION FACILITY	EACH	--	--	--	--	--	--	1
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	110	--	--	--	110	--	220
614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	EACH	2	--	--	--	2	--	4
645.0111	GEOTEXTILE FABRIC TYPE DF SCHEDULE A	SY	52	--	--	--	52	--	104
SPV.0180	ABUTMENT SEAT CLEANING AND SEALING	SY	9	--	--	--	9	--	18
SPV.0180	PIGMENTED SURFACE SEALER RESEAL	SY	--	--	--	--	--	440	440

ALL ITEMS ARE CATEGORY 0020

**ABBREVIATIONS:**

ABUT.	-	ABUTMENT
BTWN.	-	BETWEEN
B.F.	-	BACK FACE
BOT.	-	BOTTOM
BRG.	-	BEARING
CL.	-	CLEAR
CONST.	-	CONSTRUCTION
DIA.	-	DIAMETER
E.F.	-	EACH FACE
EXIST.	-	EXISTING
F.F.	-	FRONT FACE
HORIZ.	-	HORIZONTAL
JT.	-	JOINT
LONG.	-	LONGITUDINAL
PPT.	-	PARAPET
PROJ.	-	PROJECTION
SPA.	-	SPACED
STD.	-	STANDARD
SYMM.	-	SYMMETRICAL
T&B	-	TOP AND BOTTOM
TRANS.	-	TRANSVERSE
TYP.	-	TYPICAL
VERT.	-	VERTICAL
U.N.O.	-	UNLESS NOTED OTHERWISE

PROFILE GRADE LINE SHALL BE DETERMINED IN THE FIELD BASED ON A MINIMUM CONCRETE OVERLAY THICKNESS OF 1/2" PLACED ABOVE THE DECK SURFACE AFTER SURFACE PREPARATION. AVERAGE CONCRETE THICKNESS IS 2". IF EXPECTED AVERAGE CONCRETE OVERLAY THICKNESS IS EXCEEDED BY MORE THAN 1/2", CONTACT THE STRUCTURE DESIGN SECTION.

CLEAN AND PAINT GIRDER ENDS AT EACH ABUTMENT FOR A LENGTH OF 5'-0" AT EACH GIRDER. PAINT BOTTOM FLANGE OF EXTERIOR GIRDERS FULL LENGTH. CLEAN AND PAINT EXISTING BEARINGS AT PIER 3. COLOR TO BE BLUE (AMS STANDARD COLOR NO. 25240).

SEAL OVERLAY CONSTRUCTION JOINTS ACCORDING TO SECTION 502.3.13.1 OF THE STANDARD SPECIFICATIONS. COST INCIDENTAL TO BID ITEM "CONCRETE MASONRY OVERLAY DECKS".

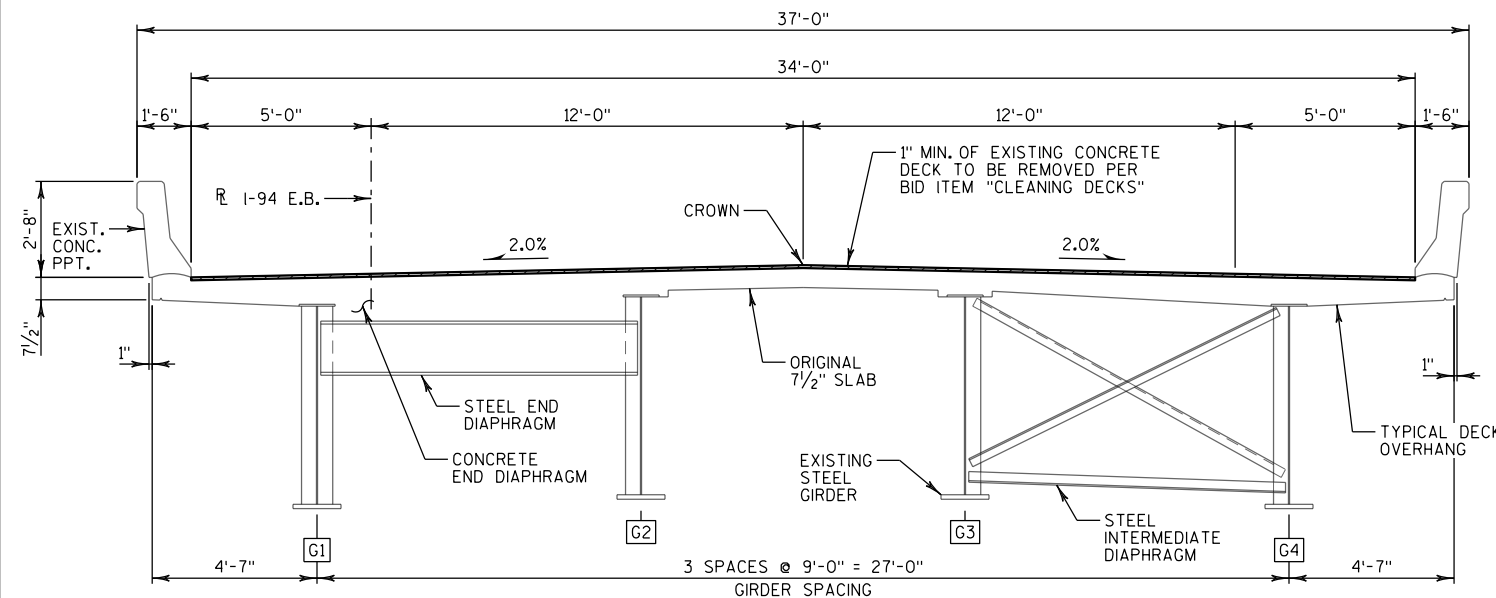
EXISTING FLOOR DRAINS TO REMAIN IN PLACE. REMOVE TOP OF DECK IN DRAIN AREA AS DIRECTED BY THE FIELD ENGINEER TO ALLOW PLACING AND SLOPING OF 1/2" CONCRETE OVERLAY. TWO PVC DECK DRAINS ARE LOCATED IN THE SOUTHWEST CORNER OF THE DECK. CONTRACTOR TO REMOVE THESE AS PART OF THE CONSTRUCTION. INCIDENTAL TO "FULL DEPTH DECK REPAIR".

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 1967.

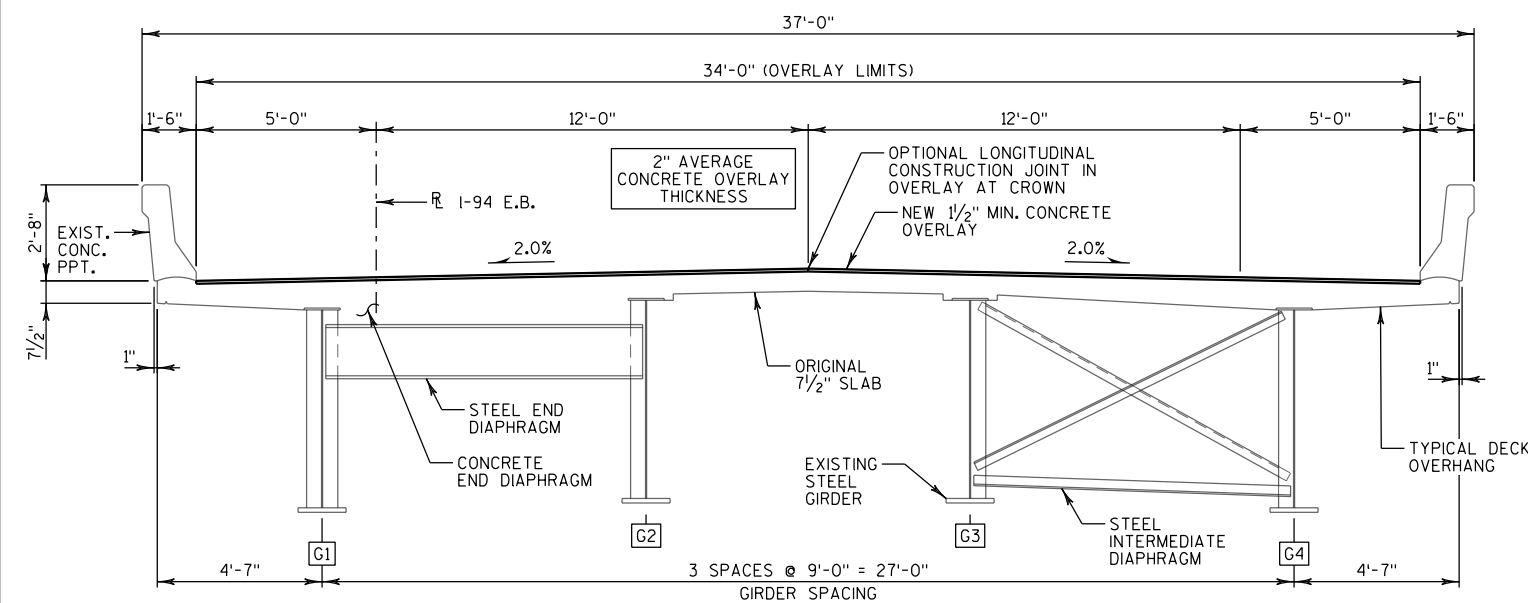
EPOXY CRACK SEALING REQUIRED AT EAST AND WEST ABUTMENT BODIES. LIMITS TO BE DETERMINED IN THE FIELD BY THE ENGINEER.

**LEGEND**

[GX] - DENOTES GIRDER NUMBER



**EXISTING CROSS SECTION THRU ROADWAY**  
(LOOKING EAST)



**PROPOSED CROSS SECTION THRU ROADWAY**  
(LOOKING EAST)

**GENERAL NOTES**

THE PROPOSED WORK INCLUDES PLACEMENT OF A CONCRETE OVERLAY, JOINT REPLACEMENT, BACKWALL & WINGWALL REPLACEMENT, CONCRETE SURFACE REPAIRS, CRACK SEALING, AND MISCELLANEOUS PAINTING.

THE EXISTING STRUCTURE, B-27-39, TO BE REHABILITATED, IS A FOUR-SPAN CONTINUOUS STEEL DECK GIRDER BRIDGE, 525'-4" LONG WITH A 34'-0" CLEAR WIDTH BETWEEN PARAPETS.

DRAWINGS SHALL NOT BE SCALED.

DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS.

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

THE FIRST DIGIT OF A THREE DIGIT AND THE FIRST TWO DIGITS OF A FOUR DIGIT BAR MARK SIGNIFY THE BAR SIZE.

CLEAN, STRAIGHTEN, AND EXTEND EXISTING BAR STEEL REINFORCEMENT 24 BAR DIAMETERS INTO NEW CONSTRUCTION WHERE APPLICABLE.

ALL CONCRETE REMOVAL NOT COVERED WITH A CONCRETE OVERLAY SHALL BE DEFINED BY A 1/2" DEEP SAW CUT.

THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES BRIDGES B-27-39" SHALL BE THE EXISTING GROUNDLINE.

"PREPARATION DECKS TYPE 1", "PREPARATION DECKS TYPE 2", "FULL-DEPTH DECK REPAIR", AND "CONCRETE SURFACE REPAIR" QUANTITIES ARE APPROXIMATE. CONTRACTOR SHALL COORDINATE THE FIELD IDENTIFICATION AND DETERMINATION OF ALL REPAIR LOCATIONS WITH THE ENGINEER. DECK PREPARATION AND FULL-DEPTH DECK REPAIRS SHALL BE FILLED WITH "CONCRETE MASONRY OVERLAY DECKS".

EXPANSION JOINT ASSEMBLY, INCLUDING ANCHOR STUDS AND HARDWARE, SHALL BE PAID AT THE UNIT PRICE BID FOR "EXPANSION DEVICE".

MATERIALS, EQUIPMENT, ETC. SHALL NOT BE STOCKPILED/STORED ON THE BRIDGE DECK WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

PROTECTIVE SURFACE TREATMENT SHALL BE APPLIED TO THE ENTIRE SURFACE OF THE NEW CONCRETE OVERLAY.

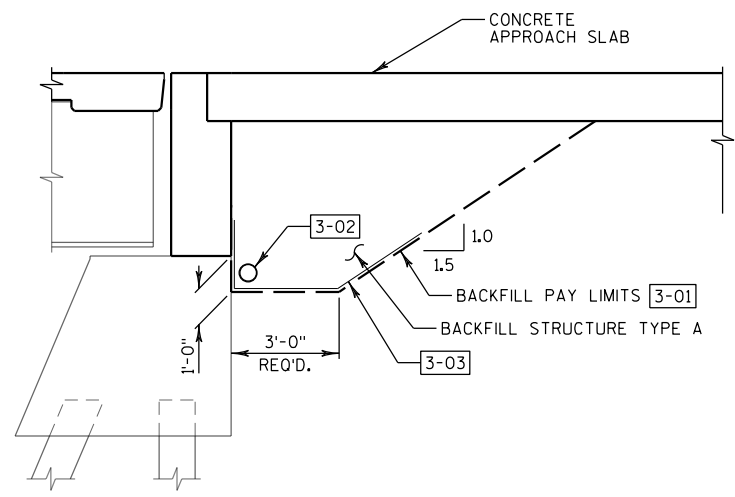
PIGMENTED SURFACE SEALER SHALL BE APPLIED TO THE TOP AND INTERIOR FACE OF THE PARAPETS AT NEW, RECONSTRUCTED, AND REPAIRED LOCATIONS. "PIGMENTED SURFACE SEALER RESEAL" SHALL BE APPLIED TO EXISTING PARAPET CONCRETE. PERFORM "CLEANING PARAPETS" ONLY AT LOCATIONS SPECIFIED BY THE ENGINEER.

JOINT REPAIR AREAS SHALL BE FILLED WITH "CONCRETE MASONRY OVERLAY DECKS".

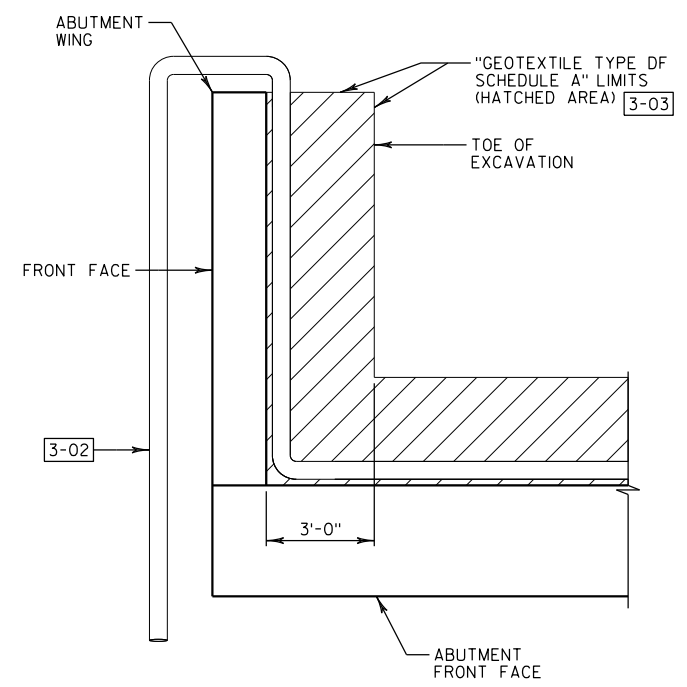
A MINIMUM OF 1-INCH OF CONCRETE SHALL BE REMOVED FROM THE ENTIRE BRIDGE DECK UNDER THE BID ITEM "CLEANING DECKS".

THE AVERAGE OVERLAY THICKNESS IS THE MINIMUM OVERLAY THICKNESS PLUS 1/2" TO ACCOUNT FOR VARIATIONS IN THE DECK.

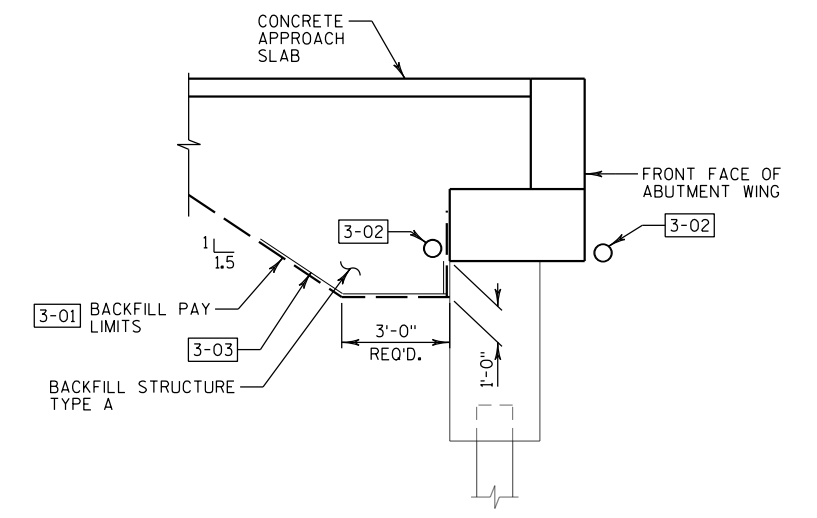
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
<b>STRUCTURE B-27-39</b>			
DRAWN BY		PLANS CK'D. ETP	
TKB		ETP	
<b>CROSS SECTION &amp; QUANTITIES</b>			SHEET 2 OF 10



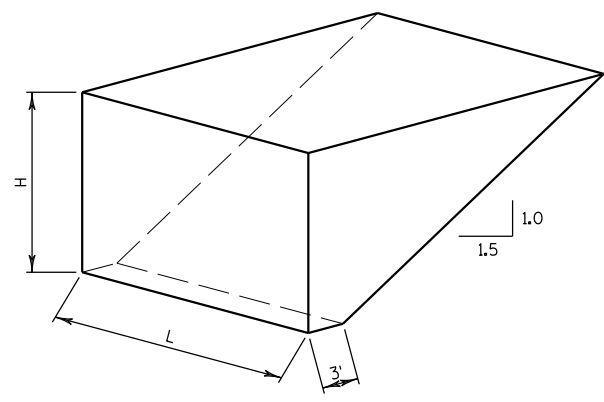
**STRUCTURE BACKFILL LIMITS**



**ABUTMENT PLAN WITH WING**

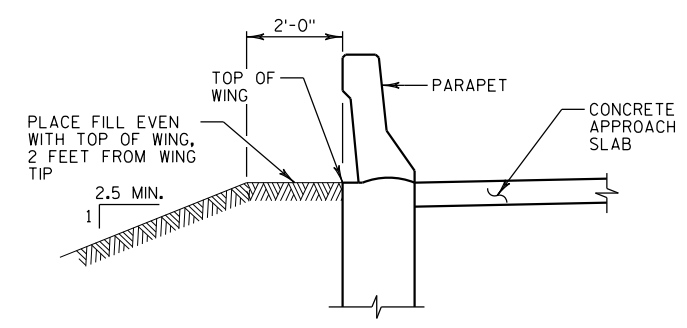


**TYPICAL SECTION THRU WING**

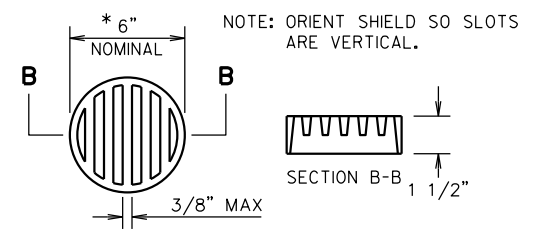


**ABUTMENT BACKFILL PAY LIMIT DIAGRAM**

- L = OUT TO OUT OF ABUTMENT, INCLUDING WINGS (FT)
- H = AVERAGE ABUTMENT FILL HEIGHT (FT)
- EF = EXPANSION FACTOR (1.20 FOR CY BID ITEMS AND 1.00 FOR TON BID ITEMS)
- $V_{CF} = (L)(3.0')(H) + (L)(0.5)(1.5H)(H)$
- $V_{CY} = V_{CF} (EF) / 27$
- $V_{TON} = V_{CY} (2.0)$



**TYPICAL FILL SECTION AT WING TIPS**



**RODENT SHIELD DETAIL**

NOTE: ORIENT SHIELD SO SLOTS ARE VERTICAL.

\* DIMENSION IS APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING.

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

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

**NOTE**

THE BACKFILL QUANTITIES ARE BASED ON THE PAY LIMITS SHOWN ON THE PLANS AND MAY NOT REFLECT ACTUAL PLACED QUANTITIES. "BACKFILL STRUCTURE TYPE A" REQUIRED DIRECTLY BEHIND ABUTMENTS AND ABUTMENT WINGS FOR 3 FEET. BACKFILL PLACED BEYOND PAY LIMITS OR EXCEEDING PLAN QUANTITIES SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES.

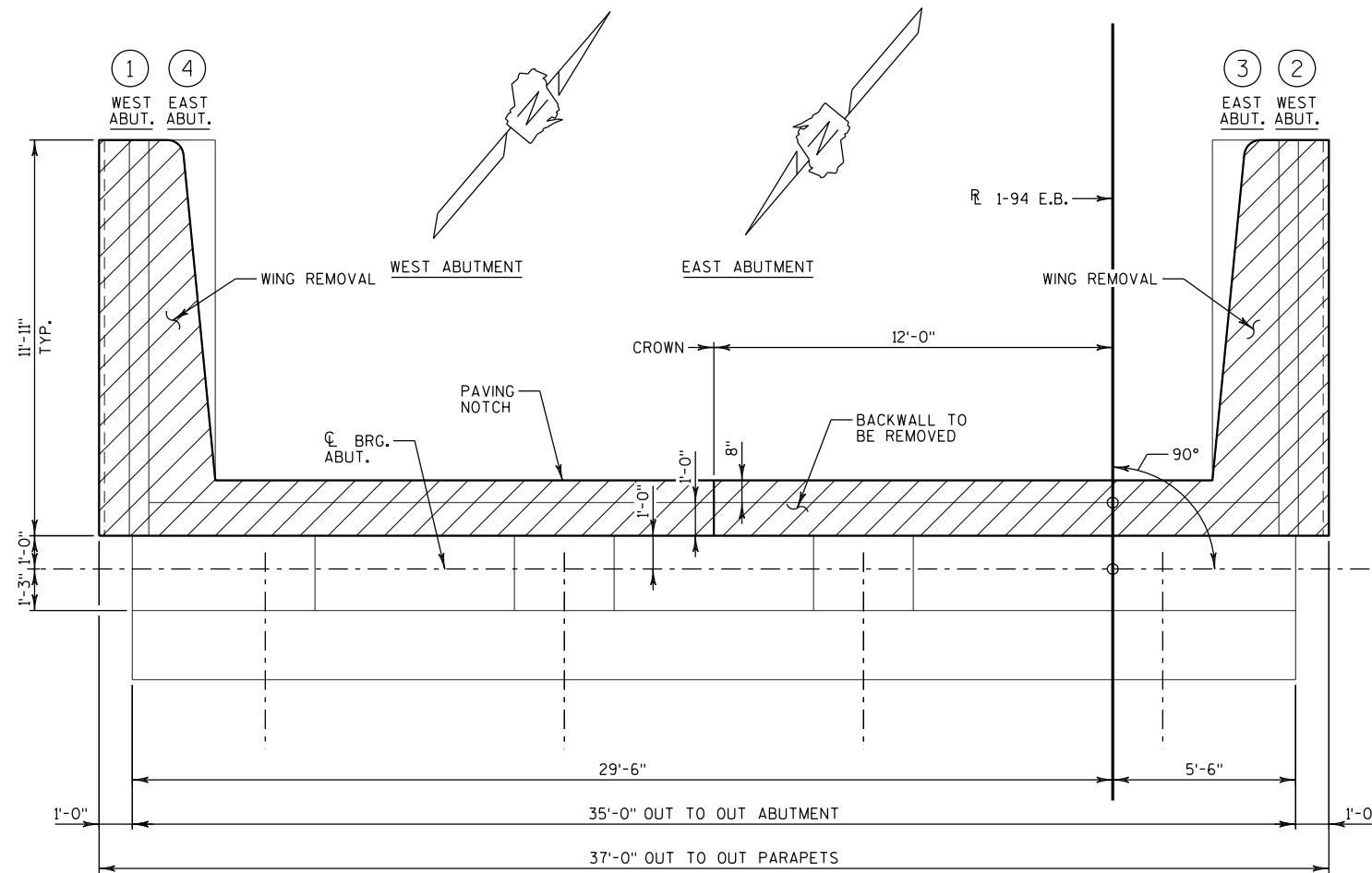
**LEGEND**

- 3-01 BACKFILL PAY LIMITS, BACKFILL BEYOND BACKFILL PAY LIMITS SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES. LIMITS OF EXCAVATION SHALL BE DETERMINED BY THE CONTRACTOR.
- 3-02 PIPE UNDERDRAIN WRAPPED (6-INCH), SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN.
- 3-03 EXCAVATION BELOW THE ABUTMENT AND ABUTMENT BEDDING MATERIALS REQUIRES ENGINEER APPROVAL. "GEOTEXTILE TYPE OF SCHEDULE A" SHALL BE SET AT THE BOTTOM OF EXCAVATION AND EXTEND 2'-0" ABOVE BOTTOM OF EXCAVATION LIMITS.

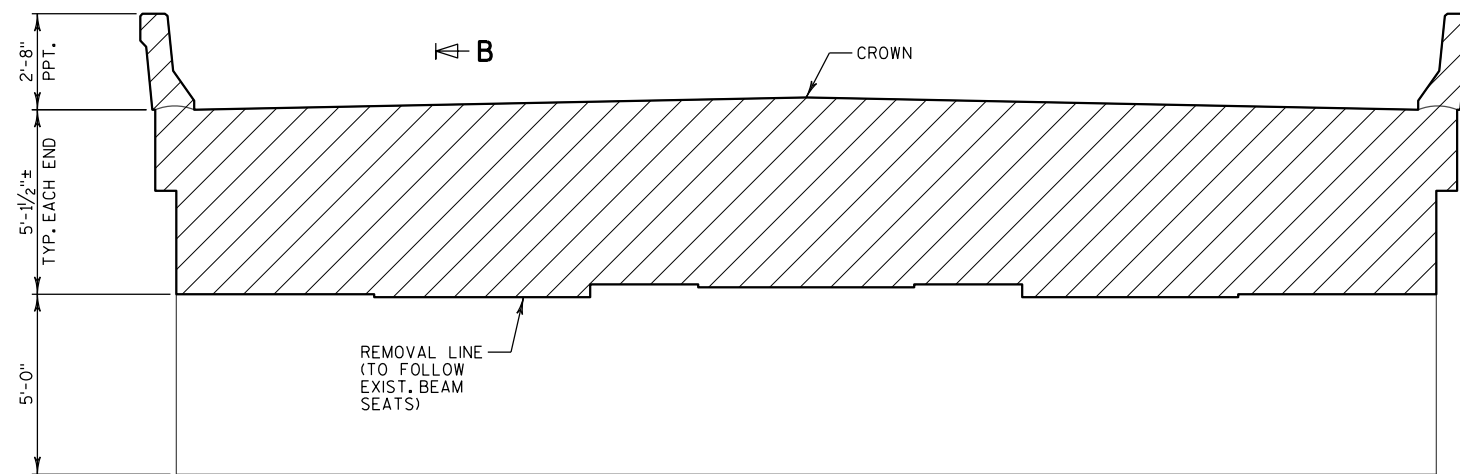
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
<b>STRUCTURE B-27-39</b>			
DRAWN BY TKB		PLANS CK'D. ETP	
<b>MISCELLANEOUS DETAILS</b>			SHEET 3 OF 10

**LEGEND**

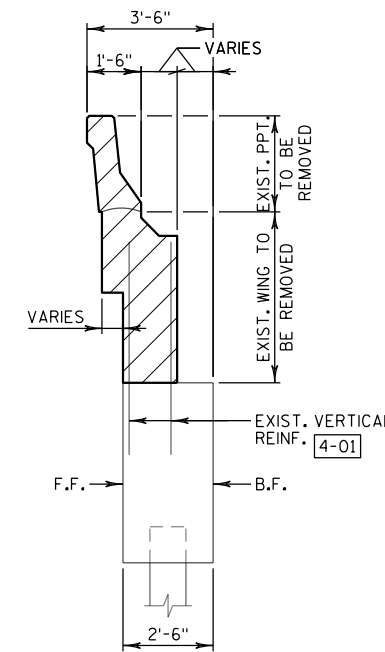
- (X) INDICATES WING NUMBER.
- [Hatched Box] DENOTES REMOVAL AREA.
- [4-01] CLEAN, STRAIGHTEN & INCORPORATE INTO NEW WORK. DO NOT CUT UNLESS CLEARANCE REQUIREMENTS ARE VIOLATED.



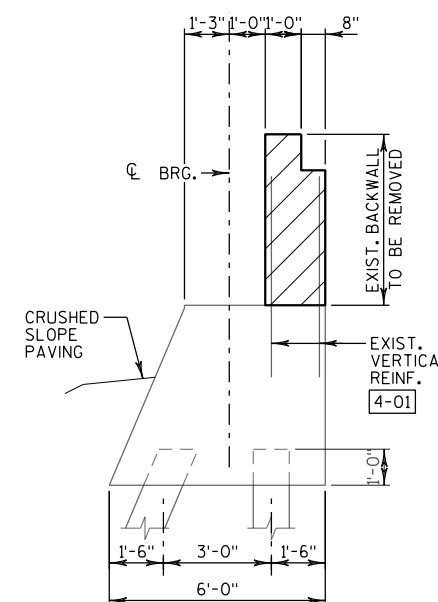
**PLAN**  
(WEST ABUT. SHOWN)  
(EAST ABUT. MIRRORED HORIZONTALLY)



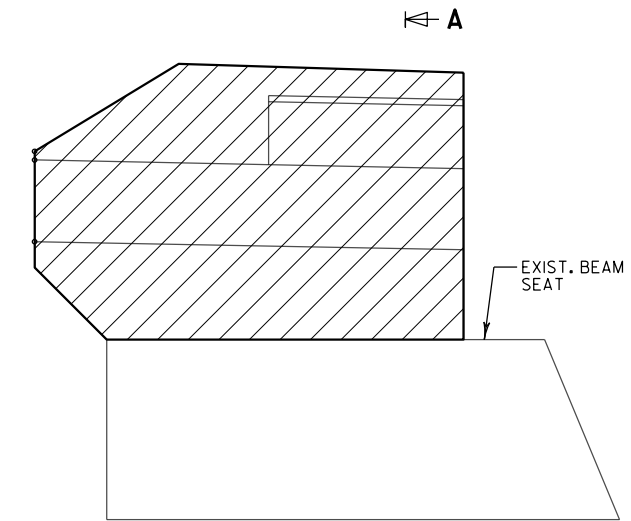
**ELEVATION**  
(WEST ABUTMENT SHOWN)  
(EAST ABUTMENT SIMILAR)



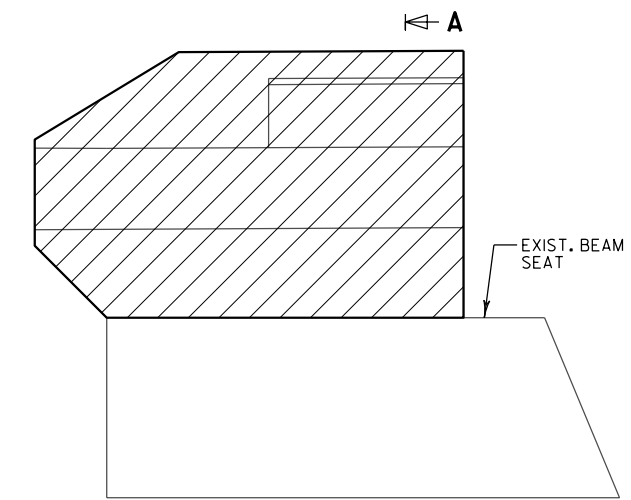
**SECTION A-A**



**SECTION B-B**



**WING 4 ELEVATION**  
(WING 3 SIMILAR)

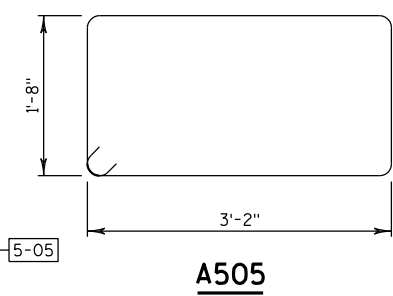
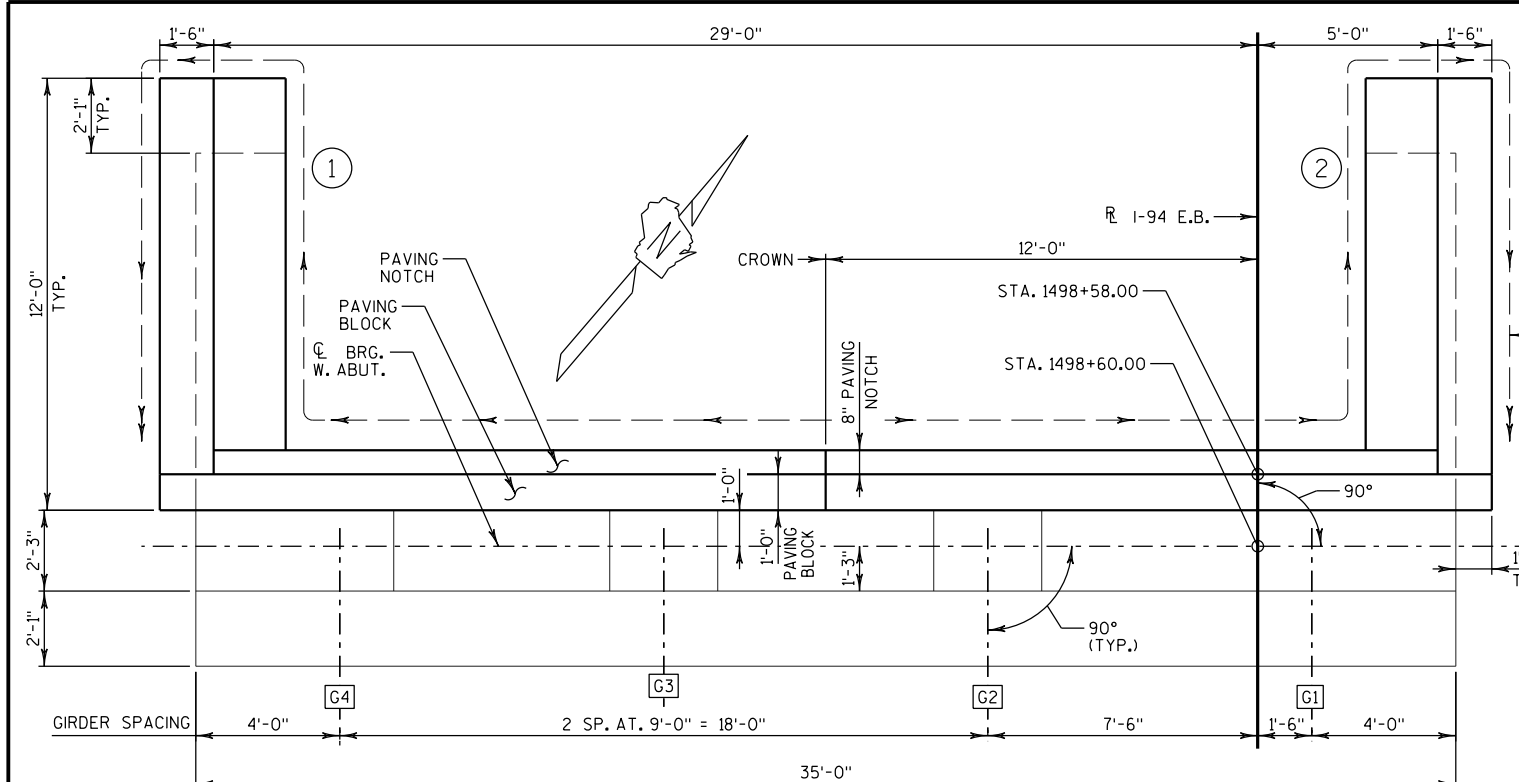
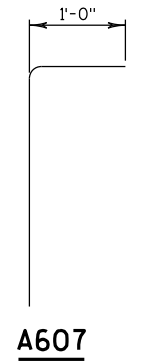


**WING 1 ELEVATION**  
(WING 2 SIMILAR)

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
<b>STRUCTURE B-27-39</b>			
DRAWN BY TKB		PLANS CK'D. ETP	
<b>ABUTMENT REMOVALS</b>			SHEET 4 OF 10

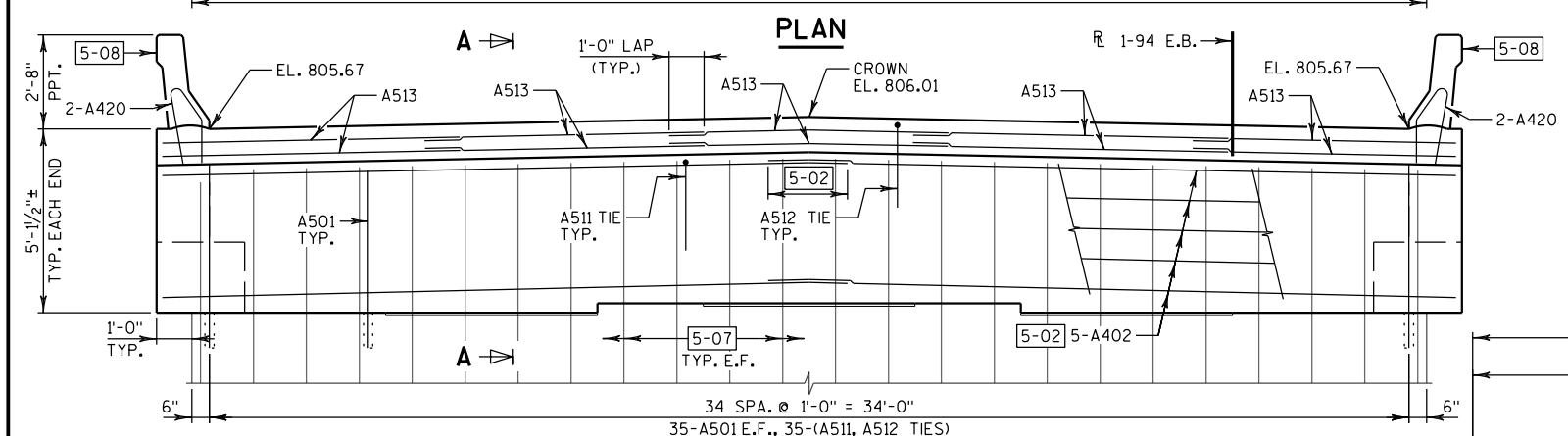
**BILL OF BARS - WEST ABUTMENT**

BAR MARK	COAT	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
A501	X	70	5'-0"			BACKWALL/WINGS-E.F. VERT.
A402	X	20	19'-6"			BACKWALL-E.F. HORIZ.
A403	X	28	11'-8"			WINGS-E.F. HORIZ.
A604	X	4	11'-8"			WINGS-TOP HORIZ.
A505	X	30	10'-4"	X		WINGS - STIRRUPS VERT.
A506	X	30	10'-3"	X		WINGS VERT.
A607	X	24	3'-8"	X		WINGS VERT.
A608	X	24	5'-11"			WINGS VERT.
A511	X	35	6'-3"	X		BACKWALL-TOP TIE VERT.
A512	X	35	4'-5"	X		PAVING BLOCK VERT.
A513	X	15	8'-2"			PAVING BLOCK HORIZ.
A420	X	4	4'-7"	X		PARAPET TIE VERT.
						TOTAL WEIGHT = 2,440 LBS

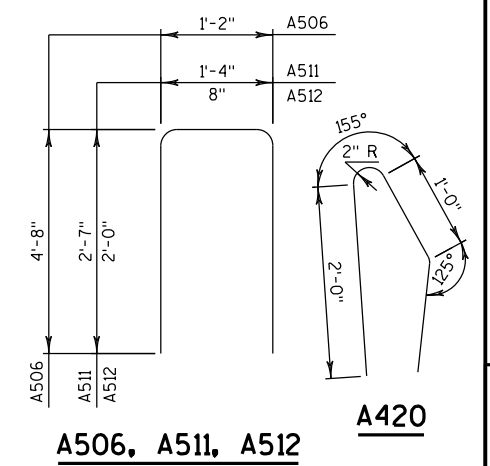
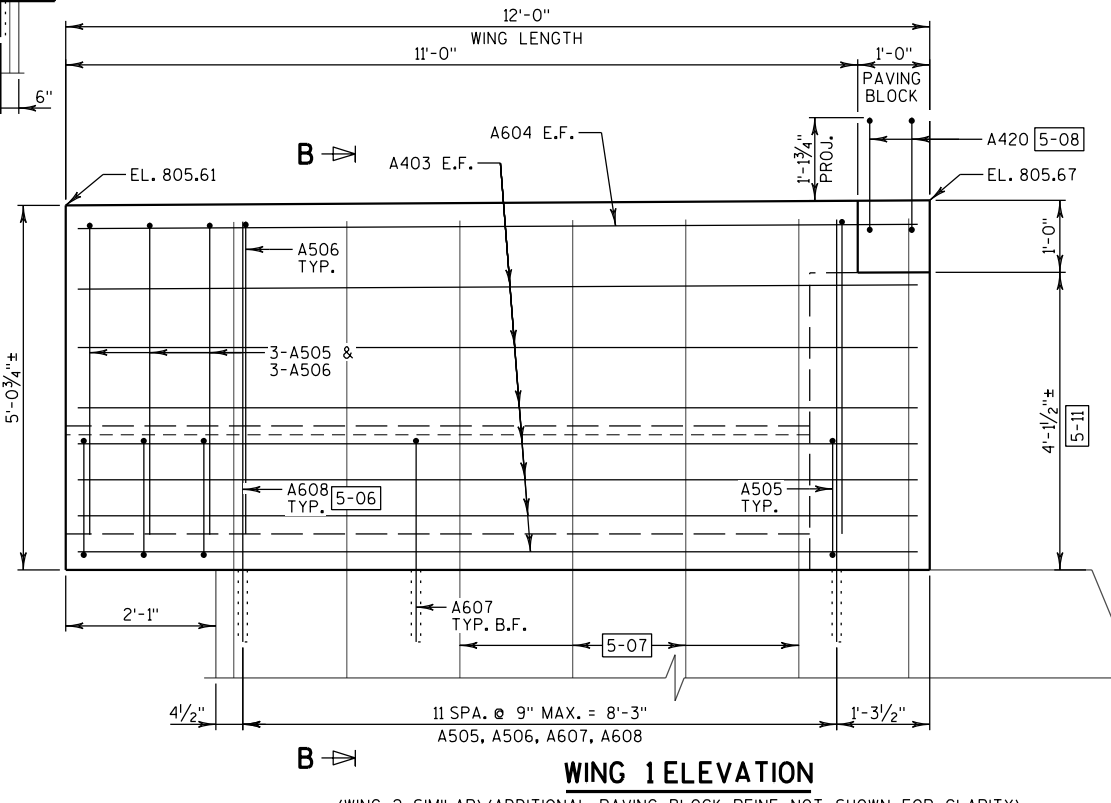
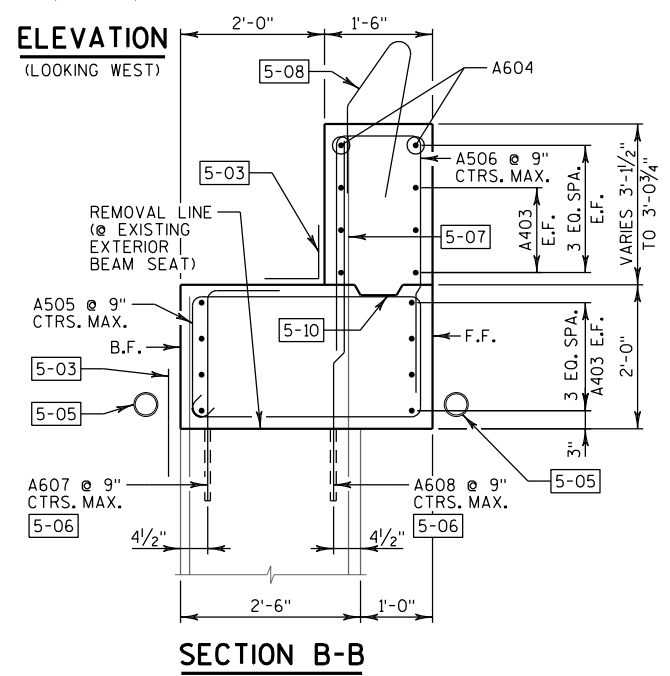
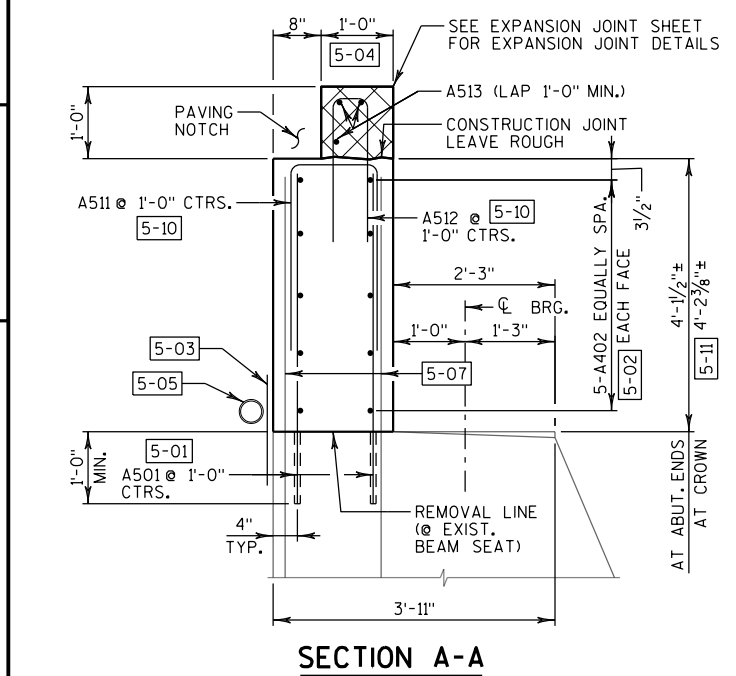


**LEGEND**

- GX INDICATES GIRDER NUMBER.
- X INDICATES WING NUMBER.
- XXXX INDICATES CONCRETE AREA TO BE POURED AFTER SUPERSTRUCTURE CONCRETE IS IN PLACE.
- 5-01 A501 INSTALLED WITH ADHESIVE ANCHORS NO. 5 BAR, EMBED 1'-0" MIN. INTO EXISTING CONCRETE. VARY EMBEDMENT DEPTH TO MAINTAIN 2" CLEAR COVER AS NEEDED. ADJUST SPACING TO AVOID EXISTING VERTICAL REINFORCEMENT.
- 5-02 LAP BARS 2'-4" MIN. 5 BARS, 1 LAP REQUIRED PER ROW.
- 5-03 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACK FACE.
- 5-04 SLOPE TOP OF PAVING BLOCK TO FOLLOW GRADE.
- 5-05 PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN.
- 5-06 A607 AND A608 INSTALLED WITH ADHESIVE ANCHORS NO. 6 BAR. EMBED 1'-0" MIN. INTO EXISTING CONCRETE. VARY EMBEDMENT DEPTH TO MAINTAIN 2" CLEAR COVER AS NEEDED. ADJUST SPACING TO AVOID EXISTING VERTICAL REINFORCEMENT.
- 5-07 PRESERVE & INCORPORATE EXISTING VERT. REINFORCEMENT.
- 5-08 SEE SUPERSTRUCTURE DETAILS FOR PARAPET REINFORCEMENT.
- 5-09 OPTIONAL CONSTRUCTION JOINT FORMED BY BEVELED 2"x6" KEYWAY WITH MEMBRANE ON BACK FACE.
- 5-10 PULL UP TO 2" CLEAR.
- 5-11 DIMENSIONS ARE APPROXIMATE. UTILIZE ELEVATIONS SHOWN TO ESTABLISH TOP OF BACKWALL AND WINGS.



**ELEVATION (LOOKING WEST)**



A506, A511, A512

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
<b>STRUCTURE B-27-39</b>			
DRAWN BY TKB		PLANS CK'D. ETP	
<b>WEST ABUTMENT</b>			SHEET 5 OF 10



**BILL OF BARS - EAST ABUTMENT**

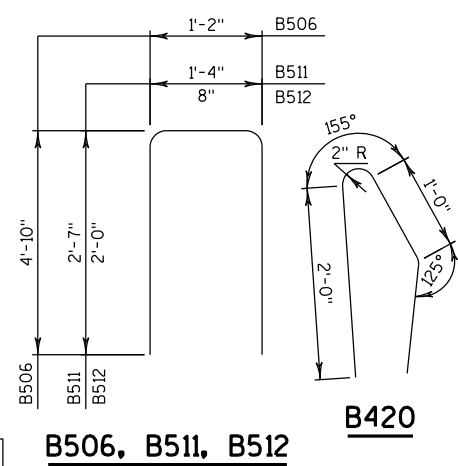
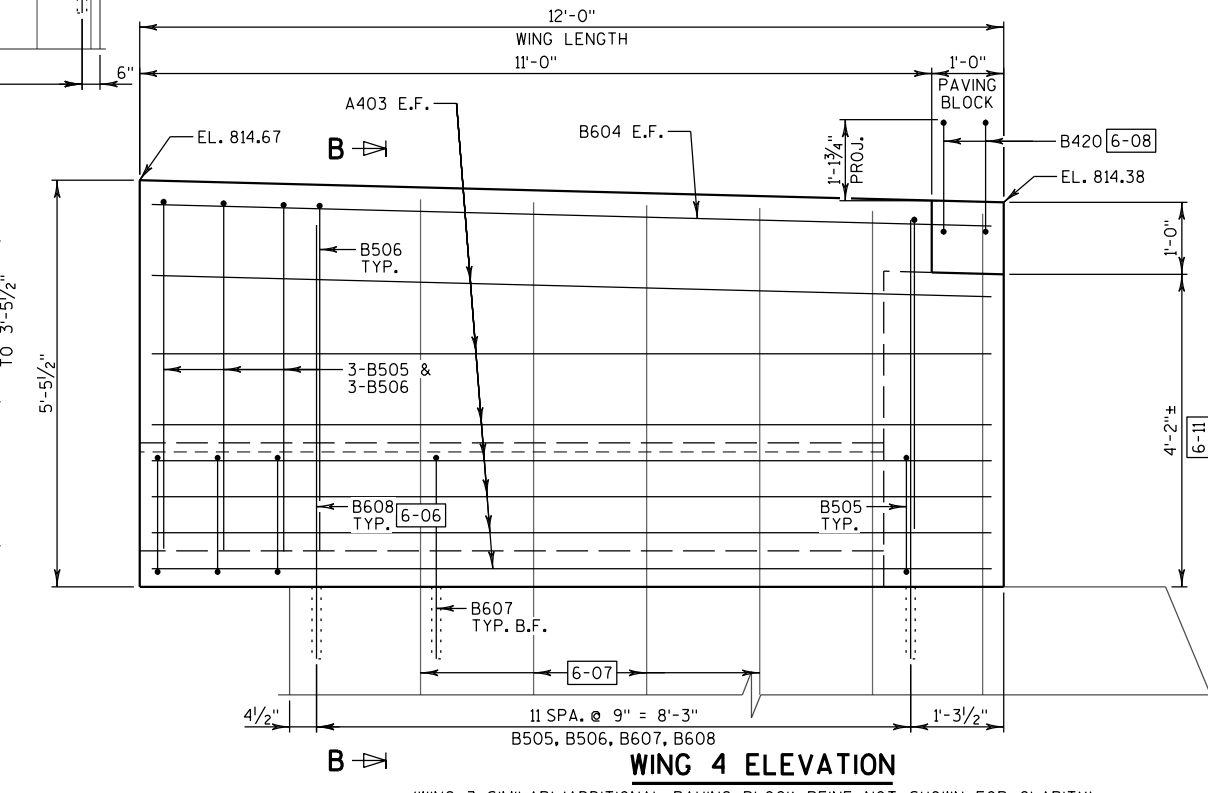
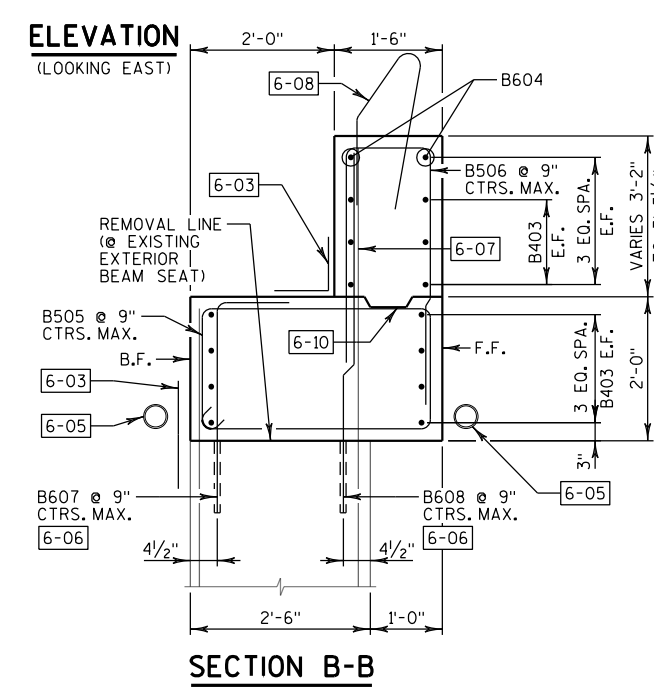
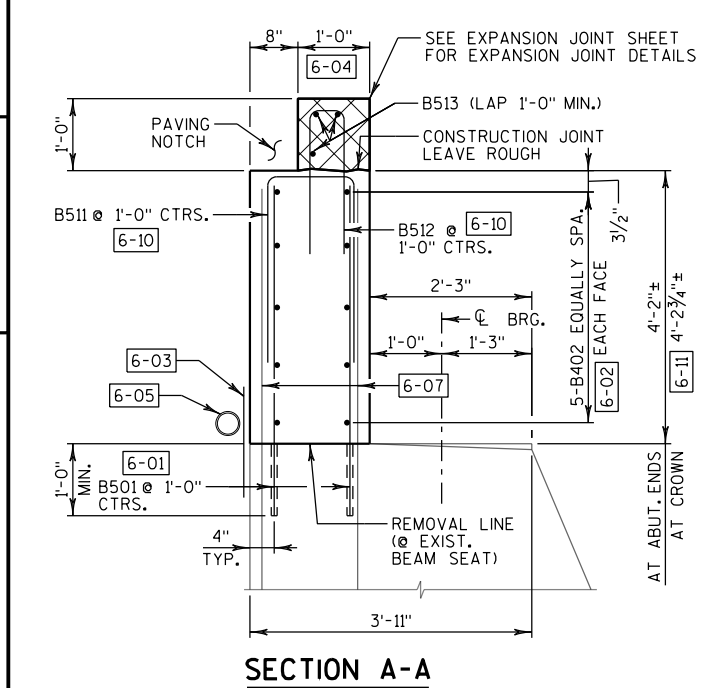
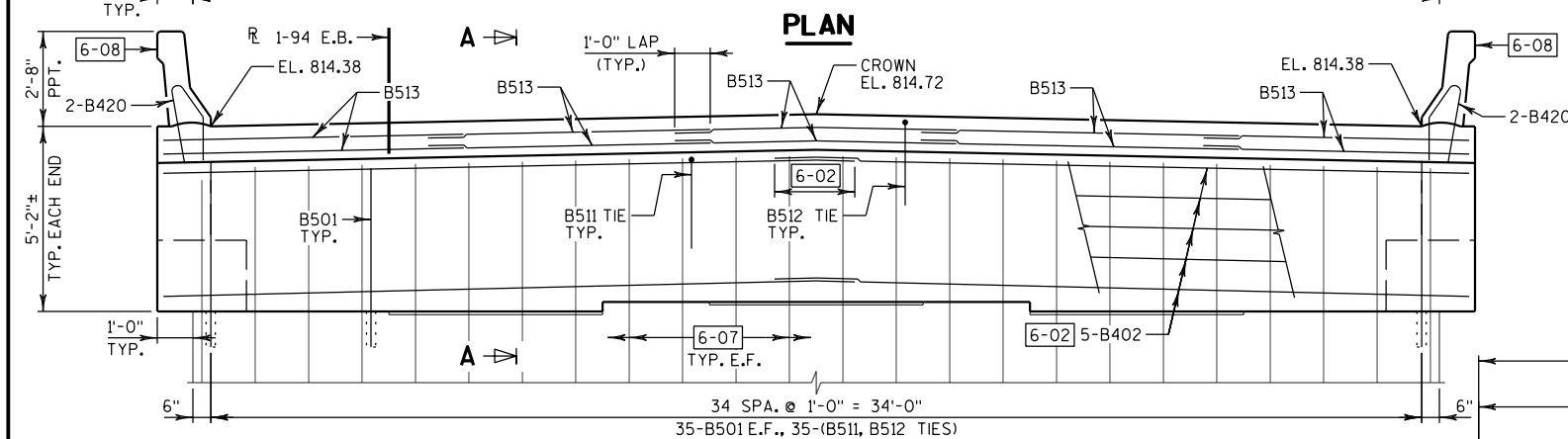
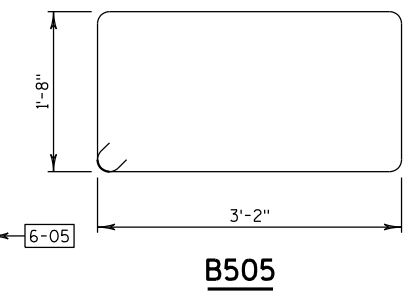
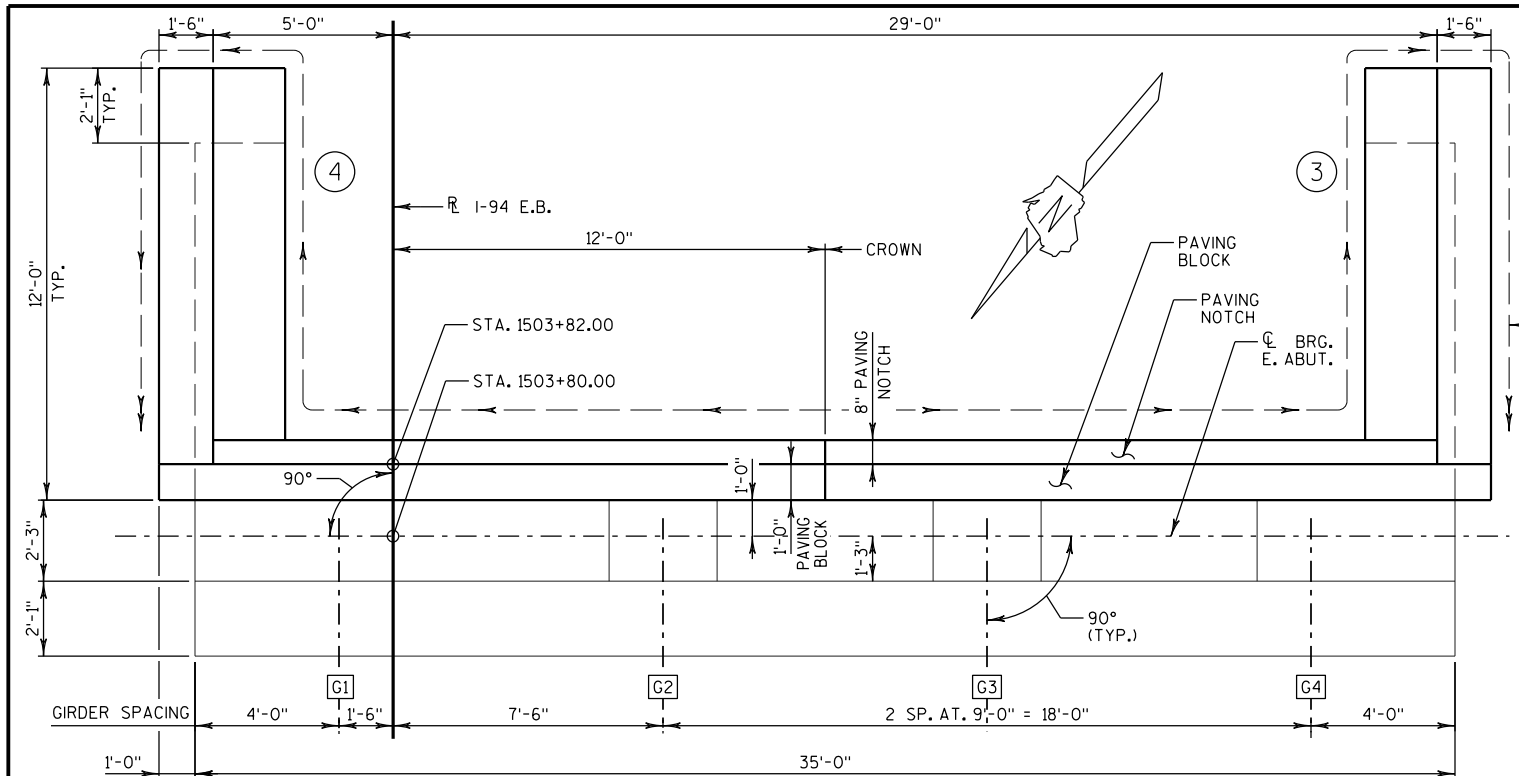
BAR MARK	COAT	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
B501	X	70	5'-0"			BACKWALL/WINGS-E.F. VERT.
B402	X	20	19'-6"			BACKWALL-E.F. HORIZ.
B403	X	28	11'-8"			WINGS-E.F. HORIZ.
B604	X	4	11'-8"			WINGS-TOP HORIZ.
B505	X	30	10'-4"	X		WINGS - STIRRUPS VERT.
B506	X	30	10'-7"	X		WINGS VERT.
B607	X	24	3'-8"	X		WINGS VERT.
B608	X	24	6'-3"			WINGS VERT.
B511	X	35	6'-3"	X		BACKWALL-TOP TIE VERT.
B512	X	35	4'-5"	X		PAVING BLOCK VERT.
B513	X	15	8'-2"			PAVING BLOCK HORIZ.
B420	X	4	4'-7"	X		PARAPET TIE VERT.
TOTAL WEIGHT = 2,460 LBS						

THE FIRST DIGIT OF THE BAR MARK SIGNIFIES THE BAR SIZE.

**LEGEND**

- GX INDICATES GIRDER NUMBER.
- X INDICATES WING NUMBER.
- INDICATES CONCRETE AREA TO BE POURED AFTER SUPERSTRUCTURE CONCRETE IS IN PLACE.
- 6-01 B501 INSTALLED WITH ADHESIVE ANCHORS NO. 5 BAR, EMBED 1'-0" MIN. INTO EXISTING CONCRETE. VARY EMBEDMENT DEPTH TO MAINTAIN 2" CLEAR COVER AS NEEDED. ADJUST SPACING TO AVOID EXISTING VERTICAL REINFORCEMENT.
- 6-02 LAP BARS 2'-4" MIN. 5 BARS, 1 LAP REQUIRED PER ROW.
- 6-03 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACK FACE.
- 6-04 SLOPE TOP OF PAVING BLOCK TO FOLLOW GRADE.
- 6-05 PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN.
- 6-06 B607 AND B608 INSTALLED WITH ADHESIVE ANCHORS NO. 6 BAR, EMBED 1'-0" MIN. INTO EXISTING CONCRETE. VARY EMBEDMENT DEPTH TO MAINTAIN 2" CLEAR COVER AS NEEDED. ADJUST SPACING TO AVOID EXISTING VERTICAL REINFORCEMENT.
- 6-07 PRESERVE & INCORPORATE EXISTING VERT. REINFORCEMENT.
- 6-08 SEE SUPERSTRUCTURE DETAILS FOR PARAPET REINFORCEMENT.

- 6-09 OPTIONAL CONSTRUCTION JOINT FORMED BY BEVELED 2"x6" KEYWAY WITH MEMBRANE ON BACK FACE.
- 6-10 PULL UP TO 2" CLEAR.
- 6-11 DIMENSIONS ARE APPROXIMATE. UTILIZE ELEVATIONS SHOWN TO ESTABLISH TOP OF BACKWALL AND WINGS.

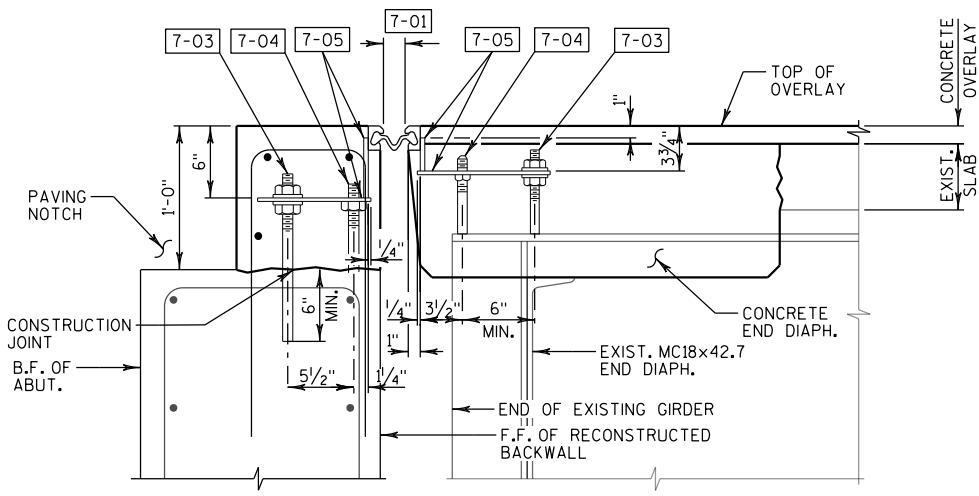


NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
<b>STRUCTURE B-27-39</b>			
DRAWN BY TKB		PLANS CK'D. ETP	
<b>EAST ABUTMENT</b>			SHEET 6 OF 10

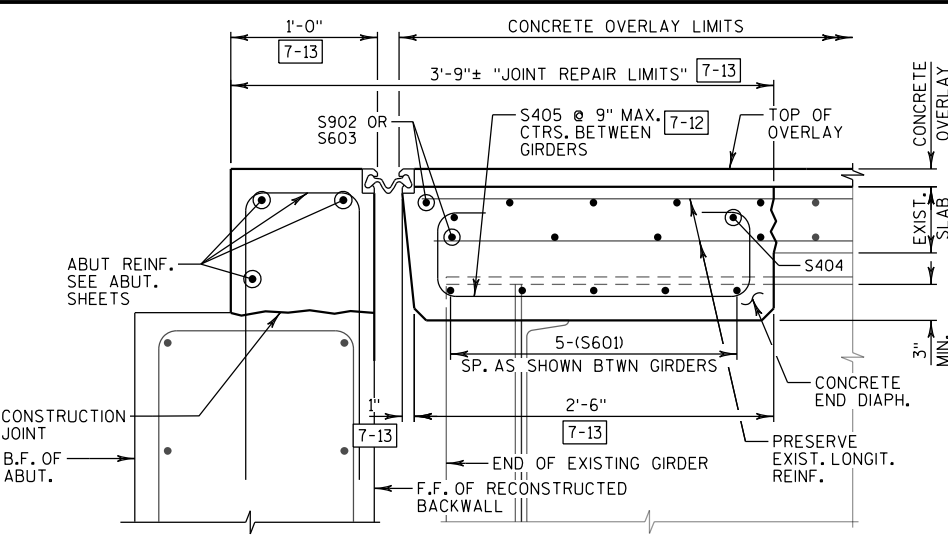
**NOTE**  
SEE SHEET 8 FOR  
ADDITIONAL CALLOUT  
LOCATIONS AND  
GENERAL NOTES.

**LEGEND**

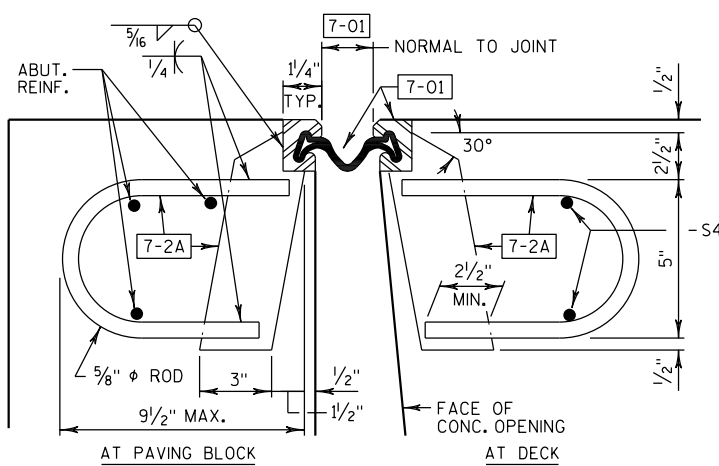
- 7-01 NEOPRENE STRIP SEAL (4-INCH) & STEEL EXTRUSIONS. JOINT OPENING GIVEN NORMAL TO JOINT.
- 7-02 STUDS  $\frac{5}{8}$ "  $\phi$  x  $6\frac{3}{8}$ " LONG AT 6" ALTERNATE CENTERS. WELD TO EXTRUSIONS & BEND AS SHOWN AFTER WELDING.
- 7-2A  $\frac{1}{2}$ " THICK ANCHOR PLATE WITH  $\frac{5}{8}$ "  $\phi$  ROD (OR ALTERNATE STRIP SEAL ANCHOR). WELD ROD TO ANCHOR PLATE, WELD ANCHOR PL. TO [7-01] AT 1'-6" CTRS. BETWEEN GIRDERS.
- 7-03  $\frac{3}{4}$ "  $\phi$  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.
- 7-04  $\frac{3}{4}$ "  $\phi$  THREADED ROD WITH NUT. TACK WELD NUT TO [7-05].
- 7-05 FABRICATE SUPPORT FROM 3" x  $\frac{1}{2}$ " BAR AS SHOWN OR EQUIVALENT. ONE PER GIRDER PER SIDE. SHOP OR FIELD WELD TO [7-01]. IF FIELD WELDED, COVER WELDED AREAS WITH EPOXY-COATING MATERIAL. PROVIDE  $1\frac{1}{2}$ "  $\phi$  HOLE FOR [7-03] & 1"  $\phi$  HOLE FOR [7-04].
- 7-06 GALVANIZED PLATE  $\frac{3}{8}$ " x 1'-10 $\frac{1}{2}$ " x 2'-2" LONG WITH HOLES FOR [7-07]
- 7-07  $\frac{3}{4}$ "  $\phi$  x  $1\frac{1}{2}$ " STAINLESS STEEL SOCKET FLAT HEAD SCREWS WITH ANTI-SEIZE LUBRICANT. PLACE IN COUNTERSUNK HOLE. RECESS  $\frac{1}{16}$ " BELOW PLATE SURFACE.
- 7-08  $\frac{3}{4}$ "  $\phi$  x 4" GALVANIZED HEX HEAD BOLT. BEND 45°.
- 7-09  $\frac{3}{4}$ "  $\phi$  x 2 $\frac{1}{4}$ " GALVANIZED THREADED COUPLING.
- 7-10 1" x 5" SLOTTED COUNTERSUNK HOLE FOR [7-07]. PLACE SLOT PARALLEL TO DIRECTION OF MOVEMENT.
- 7-11 NOT USED.
- 7-12 BARS PLACED PARALLEL TO GIRDERS. SPACING PERPENDICULAR TO  $\phi$  GIRDERS.
- 7-13 DIMENSION IS TAKEN NORMAL TO  $\phi$  ABUTMENT.
- 7-14 NOT USED.
- 7-15 BLOCK OUT CONCRETE 2" EACH SIDE OF JOINT OPENING.
- 7-16 JOINT OPENING DIMENSION ALONG SKEW PLUS  $\frac{1}{2}$ ".



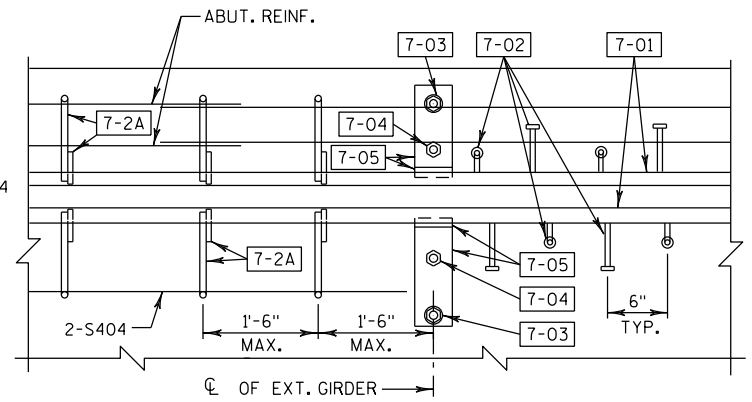
**SECTION THRU JOINT AT ABUTMENT**  
NORMAL TO  $\phi$  SUBSTRUCTURE



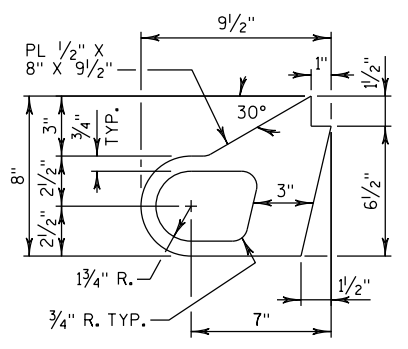
**SECTION THRU JOINT AT ABUTMENT**  
NORMAL TO  $\phi$  SUBSTRUCTURE  
DIAPHRAGM TO EXTEND TO GIRDER WEB  
(SEE PART TRANSVERSE SECTION AT DIAPHRAGM END FOR TYPICAL EXTENTS)



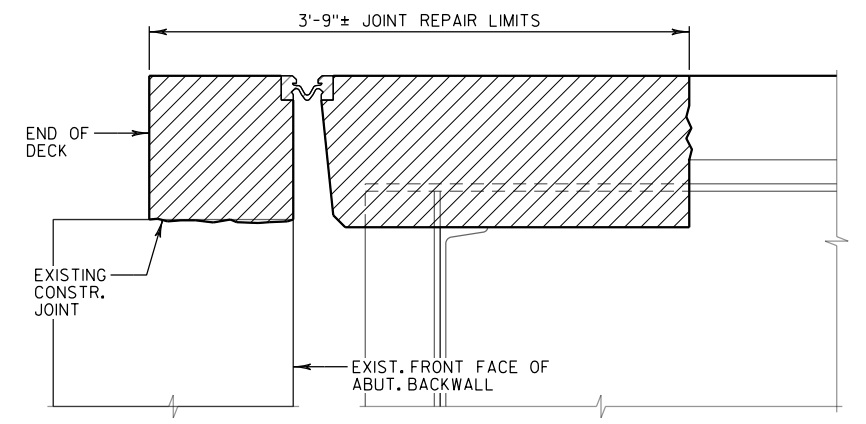
**SECTION THRU JOINT**  
ROADWAY TRAFFIC AREA BETWEEN EXTERIOR GIRDERS.



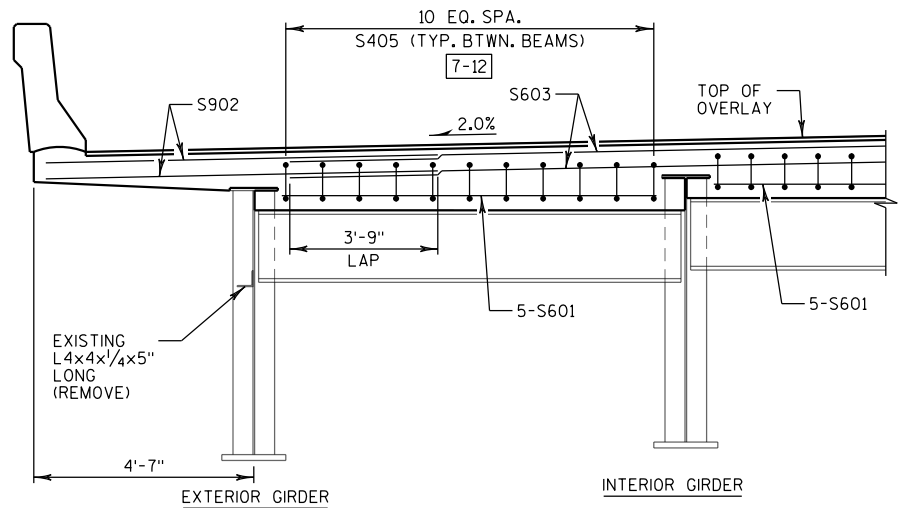
**PART PLAN**



**ALTERNATE STRIP SEAL ANCHOR**



**JOINT REPAIR-REMOVAL**  
NORMAL TO  $\phi$  SUBSTRUCTURE

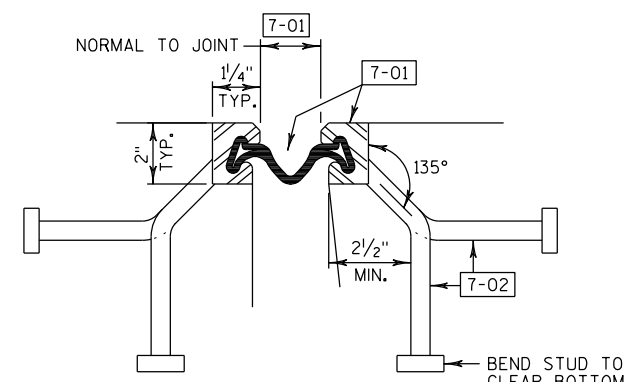


**PART TRANSVERSE SECTION AT DIAPHRAGM**

**TEMPERATURE TABLE**

TEMP	OPENING
85	1 $\frac{3}{8}$ "
75	1 $\frac{5}{8}$ "
65	1 $\frac{7}{8}$ "
55	2"
45	2 $\frac{1}{4}$ "
35	2 $\frac{1}{2}$ "
25	2 $\frac{5}{8}$ "
15	2 $\frac{7}{8}$ "
5	3 $\frac{1}{8}$ "

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



**SECTION THRU JOINT**  
EXTERIOR GIRDER TO EDGE OF DECK AND AT PARAPETS

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
<b>STRUCTURE B-27-39</b>			
DRAWN BY TKB		PLANS CK'D. ETP	
<b>STRIP SEAL EXPANSION JOINT DETAILS-1</b>			SHEET 7 OF 10

8

8

**LEGEND**

[X-XX] SEE SHEET 7 FOR CALLOUTS.

**GENERAL NOTES**

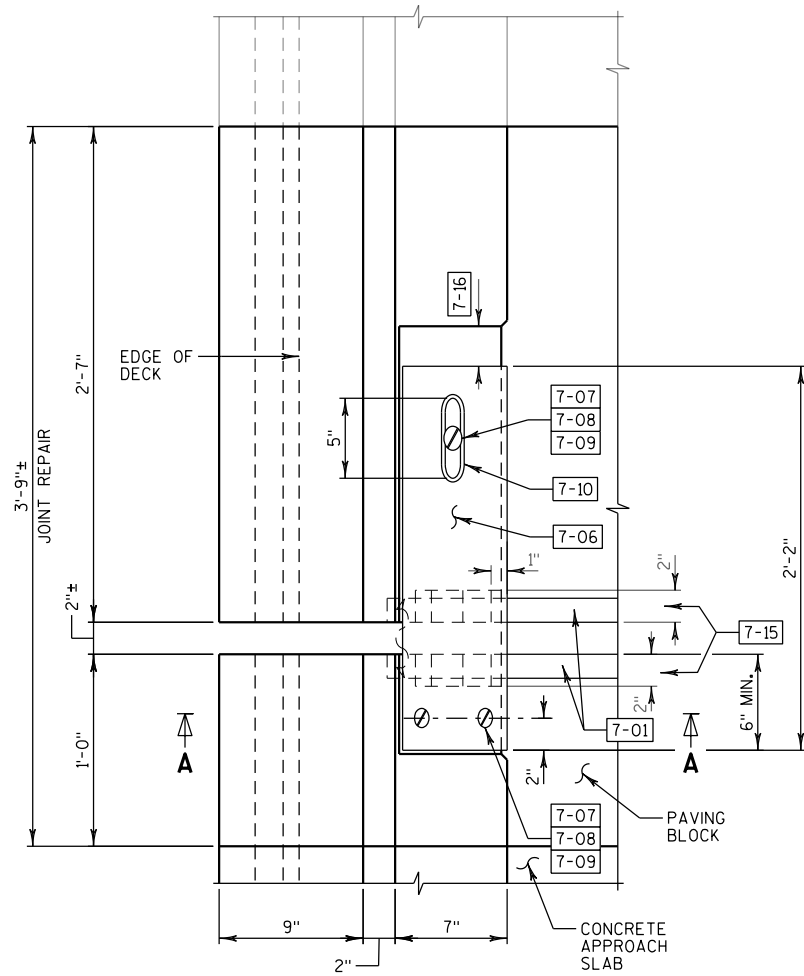
ONE FIELD SPLICE PERMITTED IN STEEL EXTRUSIONS, UNLESS MORE ARE REQUIRED FOR STAGED CONSTRUCTION, HANDLING OR GALVANIZING REQUIRMENTS. IF USED, DETAILS SHALL BE SUBMITTED FOR APPROVAL. NO SPLICING PERMITTED IN NEOPRENE STRIP SEAL.

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.

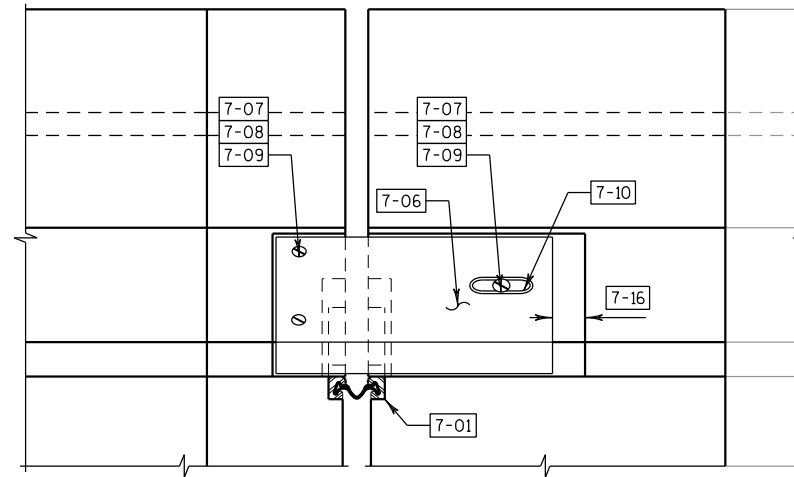
SANDBLAST PLATES, SUPPORTS, & EXTRUSIONS AFTER FABRICATION IN ACCORDANCE WITH SSPC SP. #6 "COMMERCIAL BLAST CLEANING". AFTER BLAST CLEANING, THE PLATES, SUPPORTS & EXTRUSIONS SHALL BE HOT DIPPED GALVANIZED.

ANCHOR SYSTEM [7-08] & [7-09] SHALL CONFORM TO ASTM A307 & SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C & D.

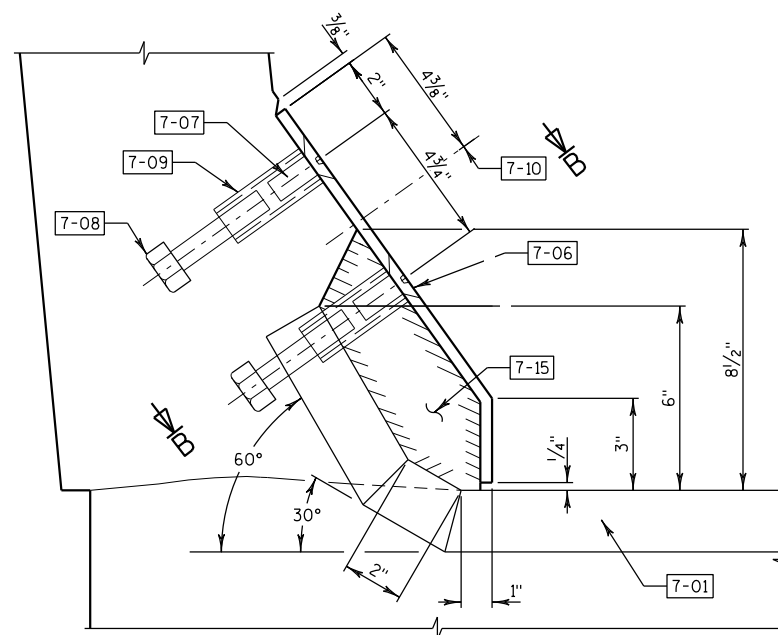
ALL MATERIAL IN THE EXPANSION JOINT ASSEMBLY, INCLUDING ANCHOR STUDS & HARDWARE SHALL BE PAID AT THE UNIT PRICE BID FOR "EXPANSION DEVICE", L.F.



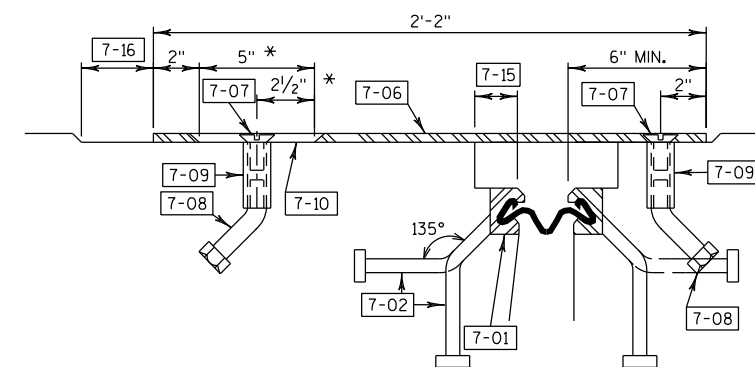
**PLAN**  
(NORTHWEST CORNER SHOWN  
OTHER CORNERS SIMILAR)



**VIEW OF PARAPET PLATE  
FROM ROADWAY**



**SECTION A-A**



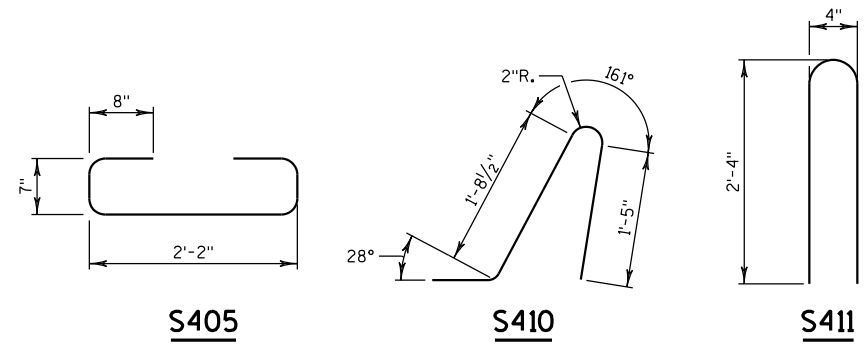
**SECTION B-B**

\* DIMENSION ALONG DIRECTION OF MOVEMENT

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-27-39			
DRAWN BY TKB		PLANS CK'D. ETP	
STRIP SEAL EXPANSION JOINT DETAILS-2			SHEET 8 OF 10

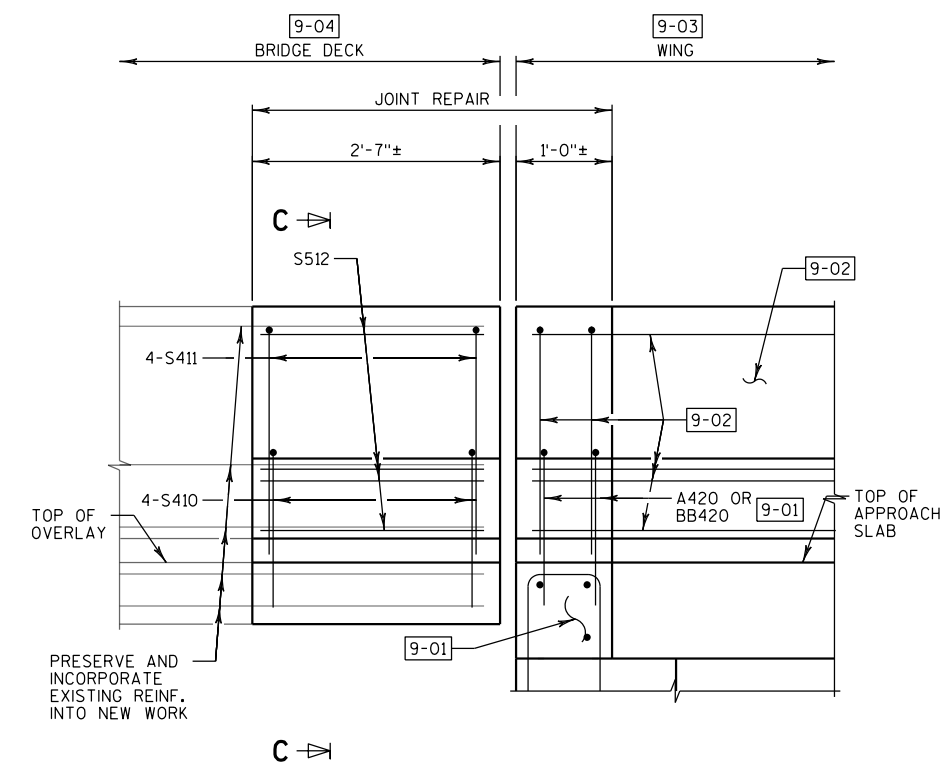
**BILL OF BARS - SUPERSTRUCTURE**

BAR MARK	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
NON-COATED BARS					TOTAL WEIGHT = 2,410 LBS
S601	30	8'-7"			DIAPHRAGMS HORIZ.
S902	36	8'-2"			SLAB-OVERHANG HORIZ.
S603	18	25'-8"			SLAB HORIZ.
S404	24	8'-7"			DIAPHRAGMS HORIZ.
S405	66	4'-4"	X		DIAPHRAGMS VERT.
COATED BARS					TOTAL WEIGHT = 150 LBS
S410	16	4'-3"	X		SLAB-PARAPET VERT.
S411	16	4'-10"	X		SLAB-PARAPET VERT.
S512	20	2'-3"			SLAB-PARAPET HORIZ.

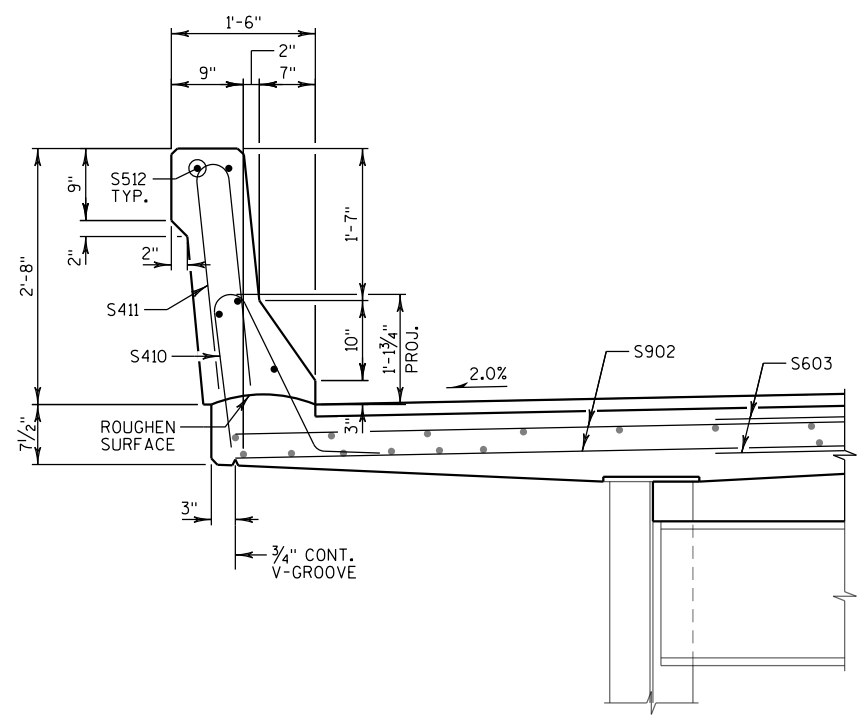


**LEGEND**

- 9-01 SEE ABUTMENT SHEETS.
- 9-02 SEE SHEET 10.
- 9-03 CONCRETE IS COVERED UNDER "CONCRETE MASONRY BRIDGES" BID ITEM.
- 9-04 CONCRETE IS COVERED UNDER "CONCRETE MASONRY OVERLAY DECKS" BID ITEM.



**OUTSIDE ELEVATION OF JOINT REPAIR**

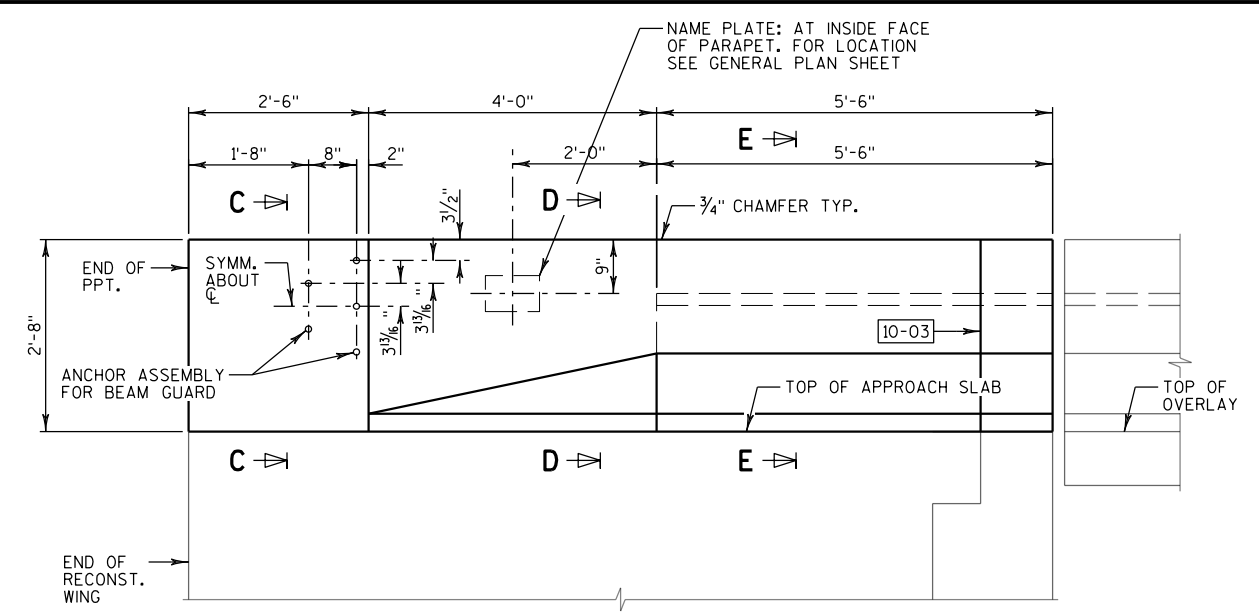


**SECTION C-C**

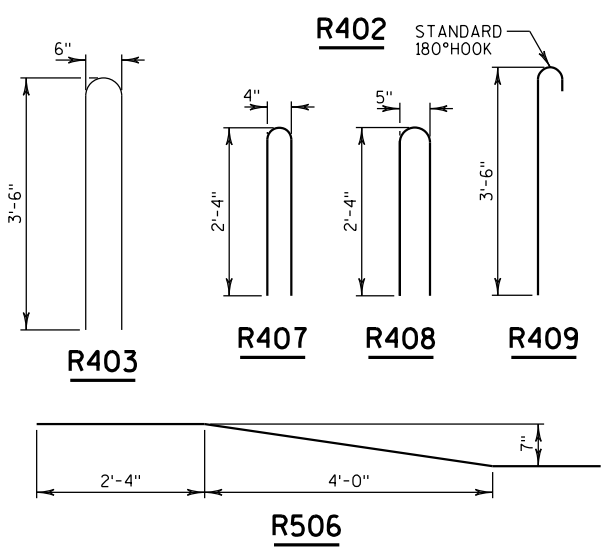
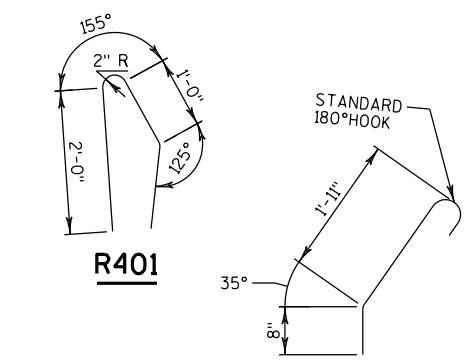
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-27-39			
DRAWN BY TKB		PLANS CK'D. ETP	
SUPERSTRUCTURE DETAILS			SHEET 9 OF 10

**BILL OF BARS - PARAPET**

BAR MARK	COAT	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
R401	X	24	4'-7"	X		PARAPET TRANS.
R402	X	32	3'-1"	X		PARAPET TRANS.
R403	X	20	7'-6"	X		PARAPET TRANS.
R504	X	16	11'-8"			PARAPET LONGIT.
						LONGIT.
R506	X	4	11'-8"	X		PARAPET-F.F. LONGIT.
R407	X	32	4'-10"	X		PARAPET VERT. TRANS.
R408	X	32	4'-11"	X		PARAPET VERT. TRANS.
R409	X	32	4'-0"	X		PARAPET VERT. TRANS.
						TOTAL WEIGHT = 780 LBS

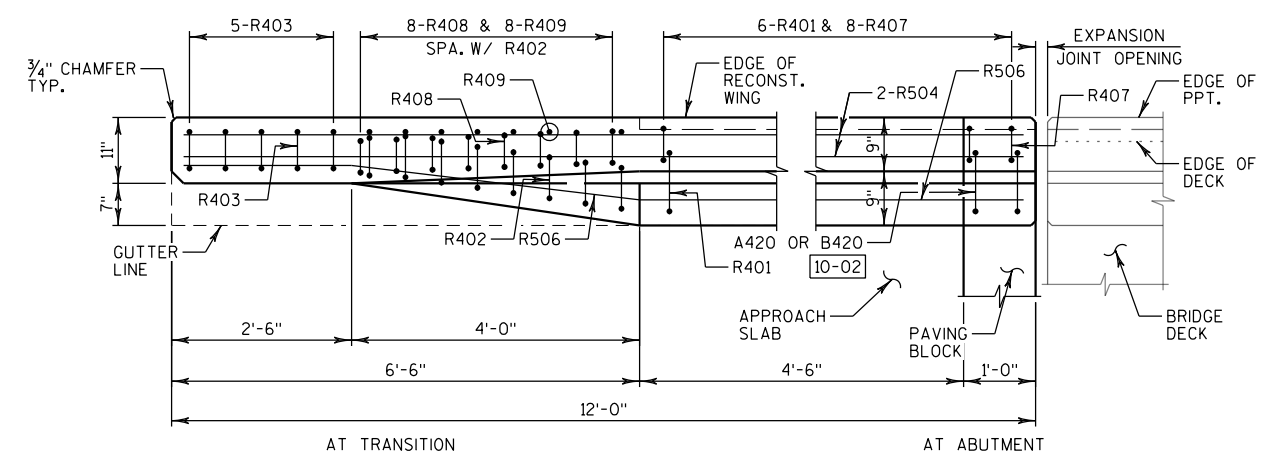


**PARAPET ELEVATION**

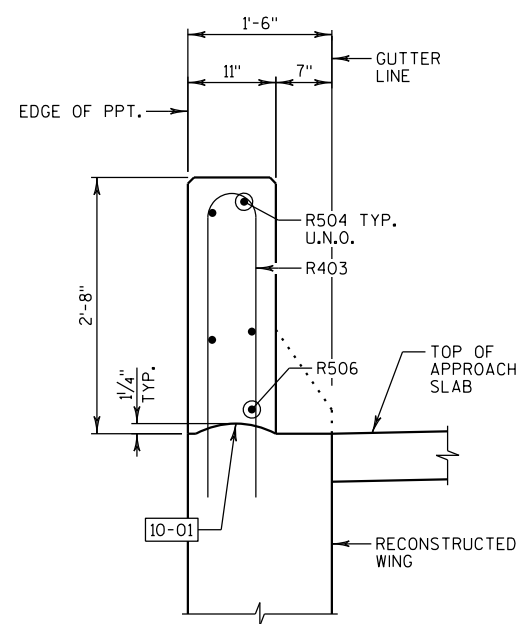


**LEGEND:**

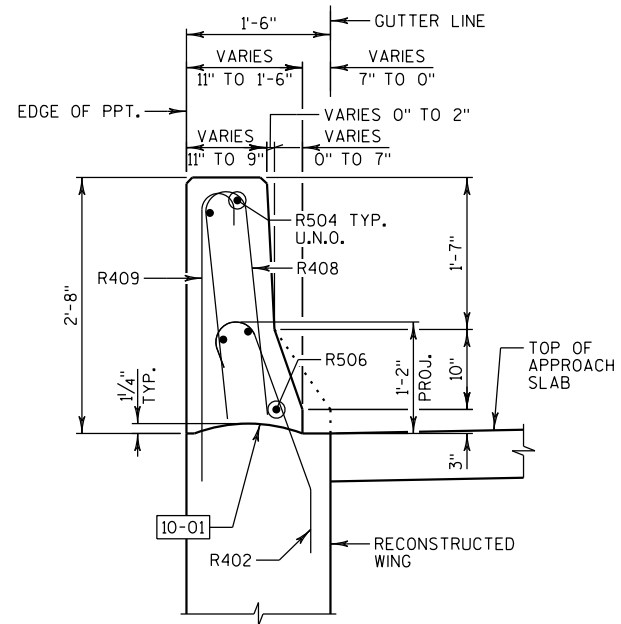
- 10-01 CONST. JOINT-STRIKE OFF AS SHOWN AND LEAVE ROUGH.
- 10-02 SEE ABUTMENT SHEETS FOR REINFORCEMENT.
- 10-03 CONSTRUCTION JOINT.



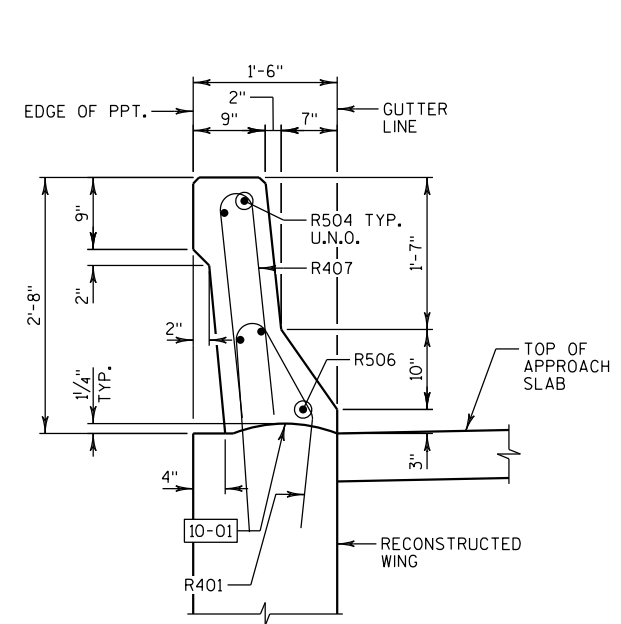
**PARAPET PLAN**



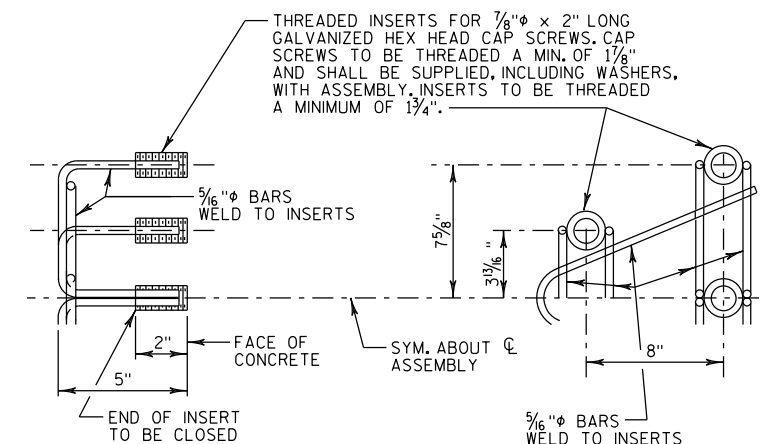
**SECTION C-C**



**SECTION D-D**



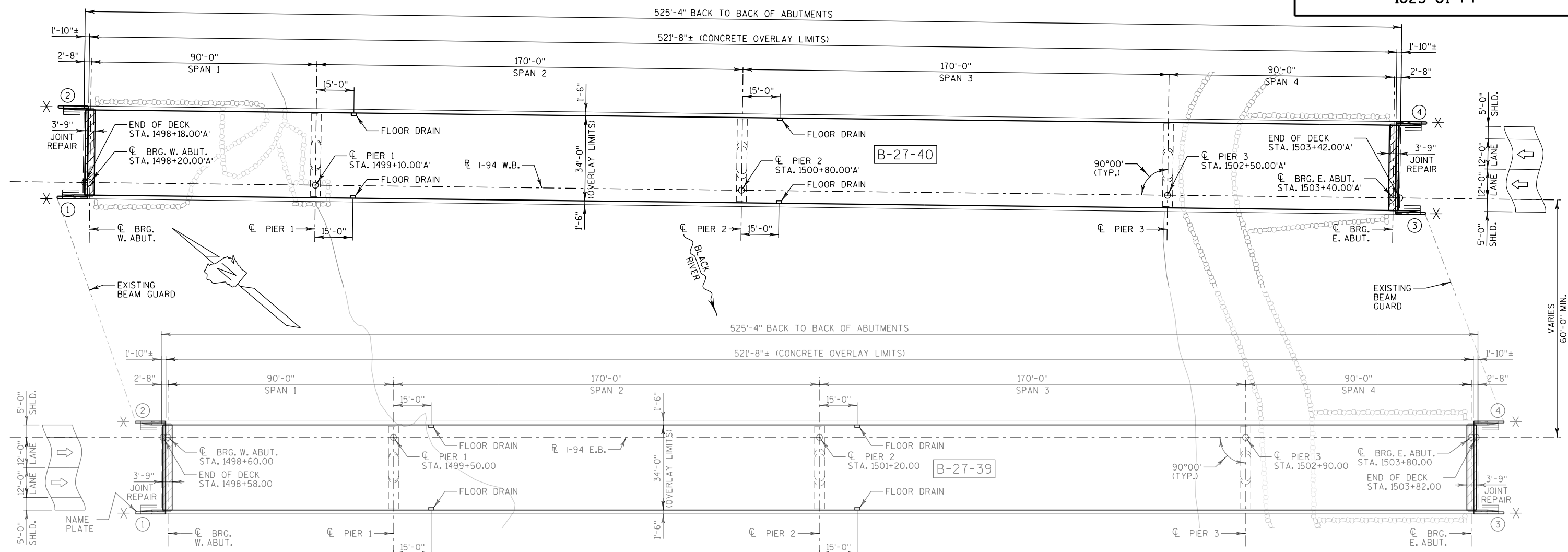
**SECTION E-E**



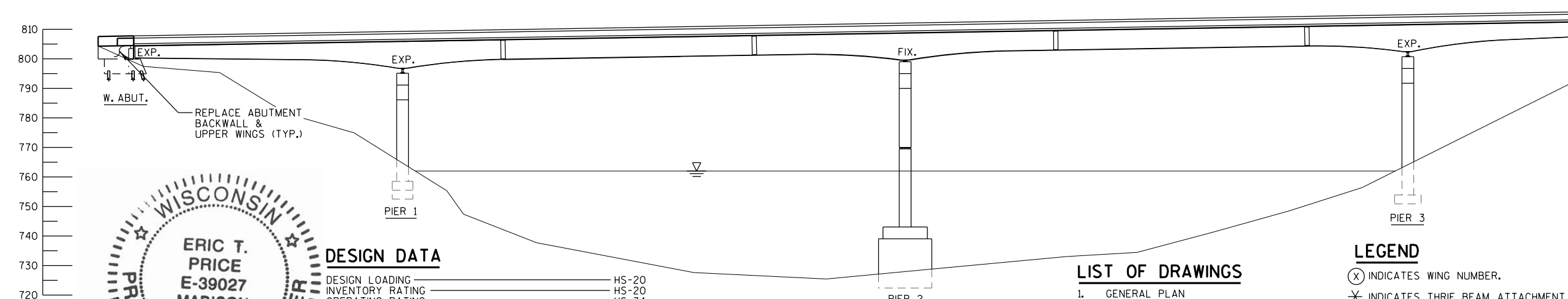
**DETAIL OF ANCHOR ASSEMBLY**

NOTE: HEX HEAD CAP SCREWS & WASHERS TO BE GALVANIZED IN ACCORDANCE WITH AASHTO M232, CLASS C.  
ASSEMBLY SHALL BE BID ITEM "ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD".

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-27-39			
DRAWN BY TKB		PLANS CK'D. ETP	
SLOPED FACE PARAPET 'B'			SHEET 10 OF 10



**PLAN**  
(CONCRETE OVERLAY: FOUR-SPAN, CONTINUOUS STEEL DECK GIRDER)



**ELEVATION**  
(NORMAL TO BLACK RIVER)

**TRAFFIC DATA:**  
AADT (2041) = 15,700  
DESIGN SPEED = 70 MPH

**DESIGN DATA**  
 DESIGN LOADING ————— HS-20  
 INVENTORY RATING ————— HS-20  
 OPERATING RATING ————— HS-34  
 WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV) — 220 KIPS

**MATERIAL PROPERTIES**  
 CONCRETE MASONRY ————— f'c = 4,000 P.S.I.  
 OVERLAY DECKS & SUPERSTRUCTURE ————— f'c = 3,500 P.S.I.  
 SUBSTRUCTURE ————— f'c = 3,500 P.S.I.  
 HIGH STRENGTH BAR STEEL ————— f\_y = 60,000 P.S.I.  
 REINFORCEMENT GRADE 60 ————— f\_y = 60,000 P.S.I.

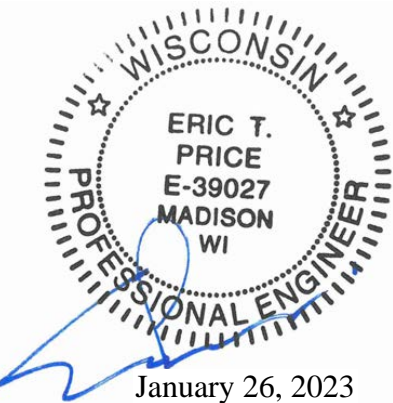
- LIST OF DRAWINGS**
1. GENERAL PLAN
  2. CROSS SECTION & QUANTITIES
  3. MISCELLANEOUS DETAILS
  4. ABUTMENT REMOVALS
  5. WEST ABUTMENT
  6. EAST ABUTMENT
  7. STRIP SEAL EXPANSION JOINT DETAILS-1
  8. STRIP SEAL EXPANSION JOINT DETAILS-2
  9. SUPERSTRUCTURE DETAILS
  10. SLOPED FACE PARAPET 'B'

**LEGEND**  
 (X) INDICATES WING NUMBER.  
 \* INDICATES THRIE BEAM ATTACHMENT.

**BUREAU OF STRUCTURES CONTACT:**  
 AARON BONK (608) 261-0261

**CONSULTANT CONTACT:**  
 ERIC PRICE (608) 826-6146

NO.	DATE	REVISION	BY
<b>CORRE</b> Structural Environmental Municipal Transportation 650 GRAND TITON PLAZA, SUITE 304 MADISON, WI 53706 608.826.6146 www.correengineering.com			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
ACCEPTED		SDR	DATE
			02/07/23
<b>STRUCTURE B-27-40</b>			
I-94 WB OVER BLACK RIVER			
COUNTY	JACKSON	TOWN/VILLAGE	BROCKWAY
DESIGN SPEC. REHABILITATION N/A			
DESIGNED BY	ETP	DRAWN BY	TKB
CHK'D.	BH	PLANS CK'D.	ETP
<b>GENERAL PLAN</b>			SHEET 1 OF 10



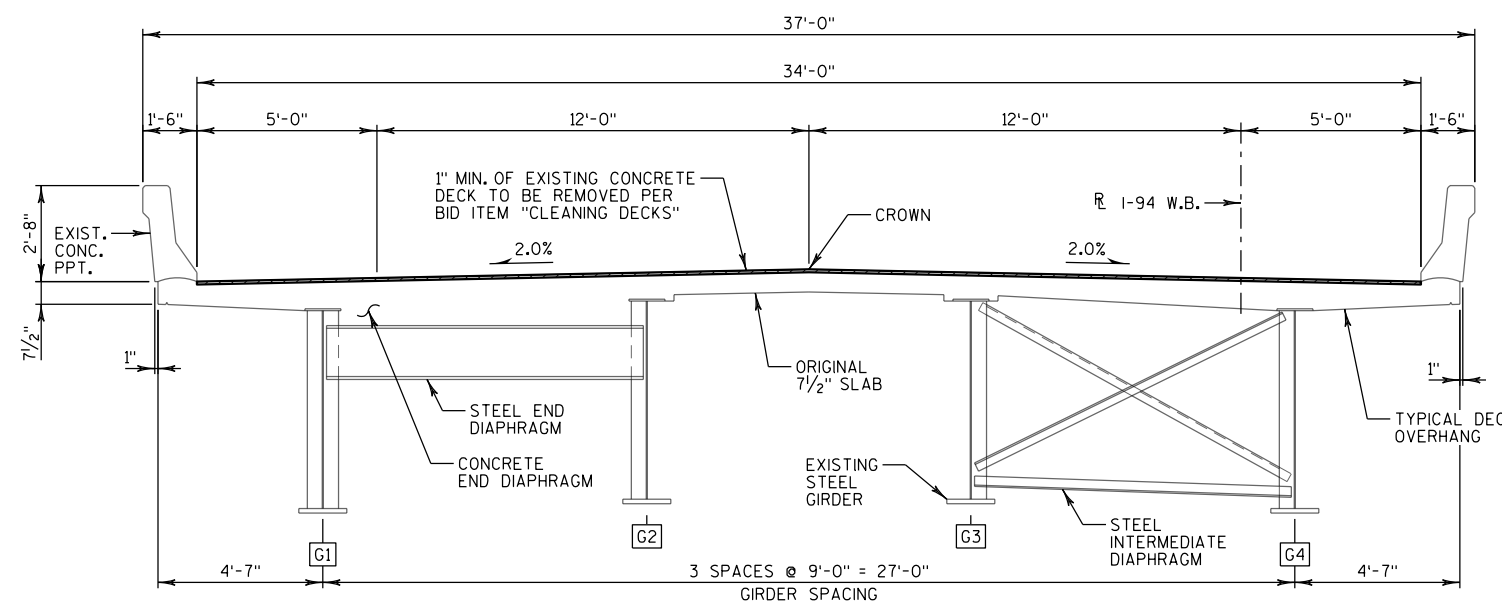
**TOTAL ESTIMATED QUANTITIES**

BID ITEM NUMBER	BID ITEM	UNIT	WEST ABUT.	PIER 1	PIER 2	PIER 3	EAST ABUT.	SUPER.	TOTALS
203.0220	REMOVING STRUCTURE B-27-40	EACH	--	--	--	--	--	--	1
203.0211.S	ABATEMENT OF ASBESTOS CONTAINING MATERIAL B-27-40	EACH	--	--	--	--	--	--	1
206.1001	EXCAVATION FOR STRUCTURES BRIDGES B-27-40	EACH	--	--	--	--	--	--	1
210.1500	BACKFILL STRUCTURE TYPE A	TON	95	--	--	--	95	--	190
502.0100	CONCRETE MASONRY BRIDGES	CY	23.3	--	--	--	23.6	--	47
502.3101	EXPANSION DEVICE	LF	34	--	--	--	34	--	68
502.3200	PROTECTIVE SURFACE TREATMENT	SY	--	--	--	--	--	1,980	1,980
502.3210	PIGMENTED SURFACE SEALER	SY	--	--	--	--	--	54	54
502.4205	ADHESIVE ANCHORS NO. 5 BAR	EACH	70	--	--	--	70	--	140
502.4206	ADHESIVE ANCHORS NO. 6 BAR	EACH	48	--	--	--	48	--	96
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	--	--	--	--	--	2,410	2,410
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	2,830	--	--	--	2,850	150	5,830
509.0301	PREPARATION DECKS TYPE 1	SY	--	--	--	--	--	300	300
509.0302	PREPARATION DECKS TYPE 2	SY	--	--	--	--	--	120	120
509.0500	CLEANING DECKS	SY	--	--	--	--	--	1,952	1,952
509.1000	JOINT REPAIR	SY	--	--	--	--	--	29	29
509.1500	CONCRETE SURFACE REPAIR	SF	30	--	--	--	--	20	50
509.2000	FULL-DEPTH DECK REPAIR	SY	--	--	--	--	--	5	5
509.2500	CONCRETE MASONRY OVERLAY DECKS	CY	--	--	--	--	--	139	139
509.9020.S	EPOXY CRACK SEALING	LF	5	--	--	--	15	--	20
509.9050.S	CLEANING PARAPETS	LF	--	--	--	--	--	130	130
514.0900	ADJUSTING FLOOR DRAINS	EACH	--	--	--	--	--	4	4
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	15	--	--	--	15	--	30
517.1801.S	STRUCTURE REPAINTING RECYCLED ABRASIVE B-27-40	EACH	--	--	--	--	--	--	1
517.4501.S	NEGATIVE PRESSURE CONTAINMENT AND COLLECTION OF WASTE MATERIALS B-27-40	EACH	--	--	--	--	--	--	1
517.6001.S	PORTABLE DECONTAMINATION FACILITY	EACH	--	--	--	--	--	--	1
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	110	--	--	--	110	--	220
614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	EACH	2	--	--	--	2	--	4
645.0111	GEOTEXTILE FABRIC TYPE DF SCHEDULE A	SY	52	--	--	--	52	--	104
SPV.0180	ABUTMENT SEAT CLEANING AND SEALING	SY	9	--	--	--	9	--	18
SPV.0180	PIGMENTED SURFACE SEALER RESEAL	SY	--	--	--	--	--	400	400

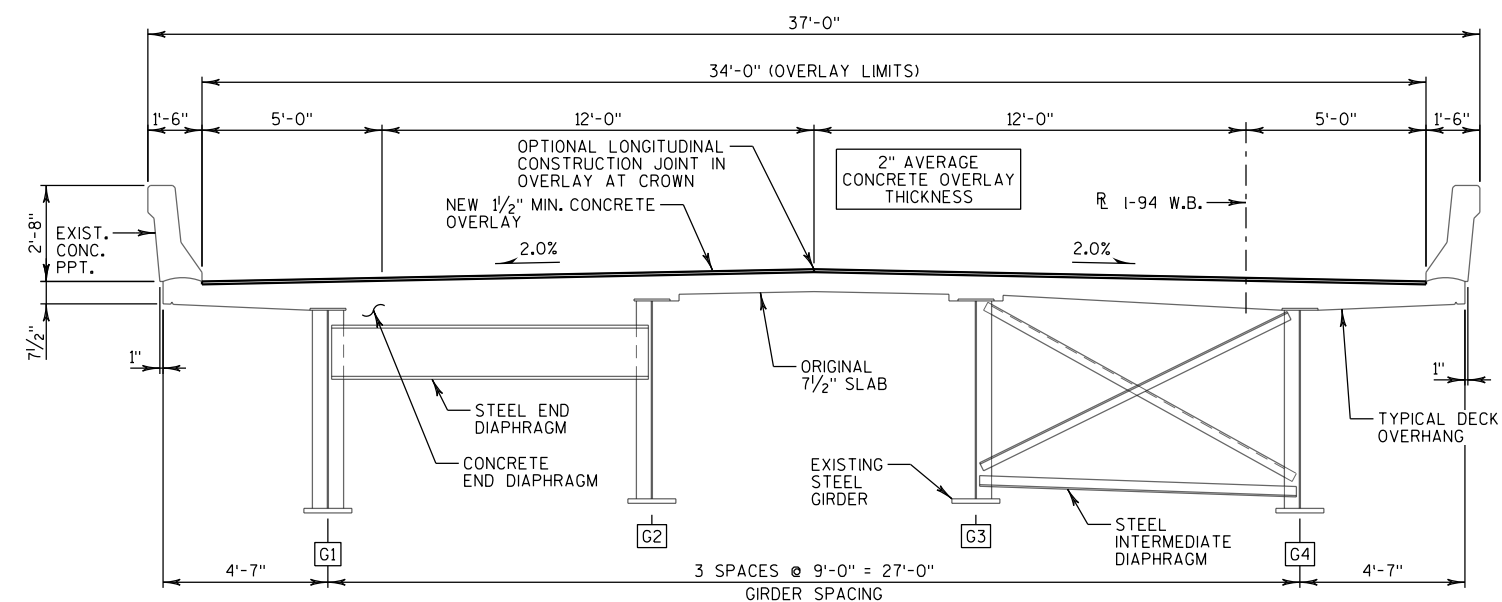
ALL ITEMS ARE CATEGORY 0030

**ABBREVIATIONS:**

ABUT.	-	ABUTMENT
BTWN.	-	BETWEEN
B.F.	-	BACK FACE
BOT.	-	BOTTOM
BRG.	-	BEARING
CL.	-	CLEAR
CONST.	-	CONSTRUCTION
DIA.	-	DIAMETER
E.F.	-	EACH FACE
EXIST.	-	EXISTING
F.F.	-	FRONT FACE
HORIZ.	-	HORIZONTAL
JT.	-	JOINT
LONG.	-	LONGITUDINAL
PPT.	-	PARAPET
PROJ.	-	PROJECTION
SPA.	-	SPACED
STD.	-	STANDARD
SYMM.	-	SYMMETRICAL
T&B	-	TOP AND BOTTOM
TRANS.	-	TRANSVERSE
TYP.	-	TYPICAL
VERT.	-	VERTICAL
U.N.O.	-	UNLESS NOTED OTHERWISE



**EXISTING CROSS SECTION THRU ROADWAY**  
(LOOKING EAST)



**PROPOSED CROSS SECTION THRU ROADWAY**  
(LOOKING EAST)

8

**GENERAL NOTES**

THE PROPOSED WORK INCLUDES PLACEMENT OF A CONCRETE OVERLAY, JOINT REPLACEMENT, BACKWALL & WINGWALL REPLACEMENT, AND CONCRETE SURFACE REPAIRS, CRACK SEALING, AND MISCELLANEOUS PAINTING.

THE EXISTING STRUCTURE, B-27-40, TO BE REHABILITATED, IS A FOUR-SPAN CONTINUOUS STEEL DECK GIRDER BRIDGE, 525'-4" LONG WITH A 34'-0" CLEAR WIDTH BETWEEN PARAPETS.

DRAWINGS SHALL NOT BE SCALED.

DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS.

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

THE FIRST DIGIT OF A THREE DIGIT AND THE FIRST TWO DIGITS OF A FOUR DIGIT BAR MARK SIGNIFY THE BAR SIZE.

CLEAN, STRAIGHTEN, AND EXTEND EXISTING BAR STEEL REINFORCEMENT 24 BAR DIAMETERS INTO NEW CONSTRUCTION WHERE APPLICABLE.

ALL CONCRETE REMOVAL NOT COVERED WITH A CONCRETE OVERLAY SHALL BE DEFINED BY A 1/2" DEEP SAW CUT.

THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES BRIDGES B-27-40" SHALL BE THE EXISTING GROUNDLINE.

"PREPARATION DECKS TYPE 1", "PREPARATION DECKS TYPE 2", "FULL-DEPTH DECK REPAIR", AND "CONCRETE SURFACE REPAIR" QUANTITIES ARE APPROXIMATE. CONTRACTOR SHALL COORDINATE THE FIELD IDENTIFICATION AND DETERMINATION OF ALL REPAIR LOCATIONS WITH THE ENGINEER. DECK PREPARATION AND FULL-DEPTH DECK REPAIRS SHALL BE FILLED WITH "CONCRETE MASONRY OVERLAY DECKS".

EXPANSION JOINT ASSEMBLY, INCLUDING ANCHOR STUDS AND HARDWARE, SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "EXPANSION DEVICE".

MATERIALS, EQUIPMENT, ETC. SHALL NOT BE STOCKPILED/STORED ON THE BRIDGE DECK WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

PROTECTIVE SURFACE TREATMENT SHALL BE APPLIED TO THE ENTIRE SURFACE OF THE NEW CONCRETE OVERLAY AND STRUCTURAL APPROACH SLAB.

PIGMENTED SURFACE SEALER SHALL BE APPLIED TO THE TOP AND INTERIOR FACE OF THE PARAPETS AT NEW, RECONSTRUCTED, AND REPAIRED LOCATIONS. "PIGMENTED SURFACE SEALER RESEAL" SHALL BE APPLIED TO EXISTING PARAPET CONCRETE. PERFORM "CLEANING PARAPETS" ONLY AT LOCATIONS SPECIFIED BY THE ENGINEER.

JOINT REPAIR AREAS SHALL BE FILLED WITH "CONCRETE MASONRY OVERLAY DECKS".

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

THE AVERAGE OVERLAY THICKNESS IS THE MINIMUM OVERLAY THICKNESS PLUS 1/2" TO ACCOUNT FOR VARIATIONS IN THE DECK.

PROFILE GRADE LINE SHALL BE DETERMINED IN THE FIELD BASED ON A MINIMUM CONCRETE OVERLAY THICKNESS OF 1/2" PLACED ABOVE THE DECK SURFACE AFTER SURFACE PREPARATION. AVERAGE CONCRETE THICKNESS IS 2". IF EXPECTED AVERAGE CONCRETE OVERLAY THICKNESS IS EXCEEDED BY MORE THAN 1/2", CONTACT THE STRUCTURE DESIGN SECTION.

CLEAN AND PAINT GIRDER ENDS AT EACH ABUTMENT FOR A LENGTH OF 5'-0" AT EACH GIRDER. PAINT BOTTOM FLANGE OF EXTERIOR GIRDERS FULL LENGTH. COLOR TO BE BLUE (AMS STANDARD COLOR NO. 25240).

SEAL OVERLAY CONSTRUCTION JOINTS ACCORDING TO SECTION 502.3.13.1 OF THE STANDARD SPECIFICATIONS. COST INCIDENTAL TO BID ITEM "CONCRETE MASONRY OVERLAY DECKS".

EXISTING FLOOR DRAINS TO REMAIN IN PLACE. REMOVE TOP OF DECK IN DRAIN AREA AS DIRECTED BY THE FIELD ENGINEER TO ALLOW PLACING AND SLOPING OF 1/2" CONCRETE OVERLAY. THREE PVC DECK DRAINS ARE LOCATED IN THE NORTHEAST CORNER OF THE DECK. CONTRACTOR TO REMOVE THESE AS PART OF THE CONSTRUCTION. INCIDENTAL TO "FULL DEPTH DECK REPAIR".

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 1967.

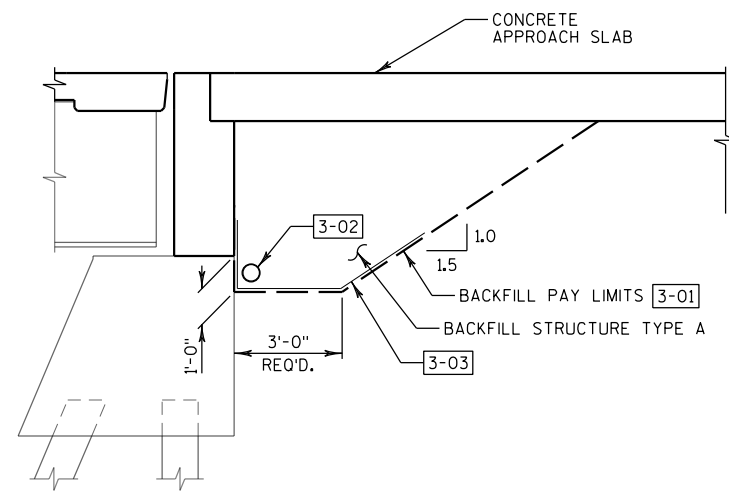
EPOXY CRACK SEALING REQUIRED AT EAST AND WEST ABUTMENT BODIES. LIMITS TO BE DETERMINED IN THE FIELD BY THE ENGINEER.

**LEGEND**

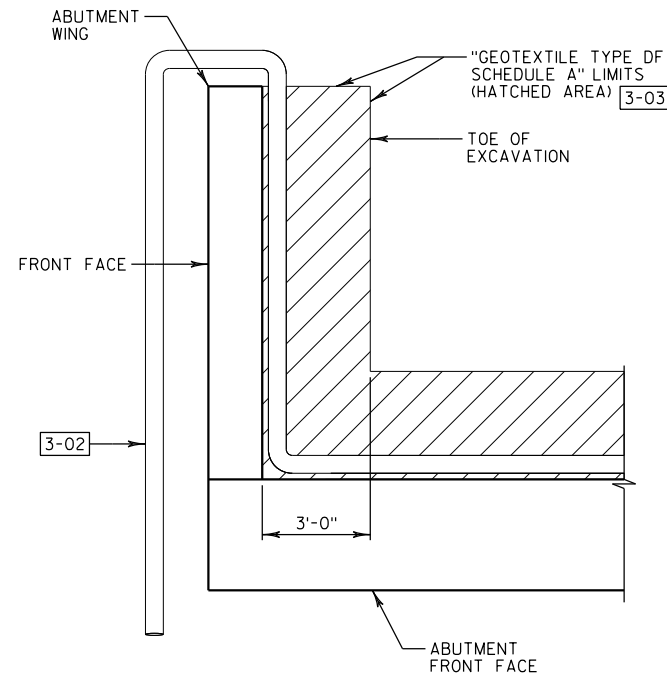
[GX] - DENOTES GIRDER NUMBER

8

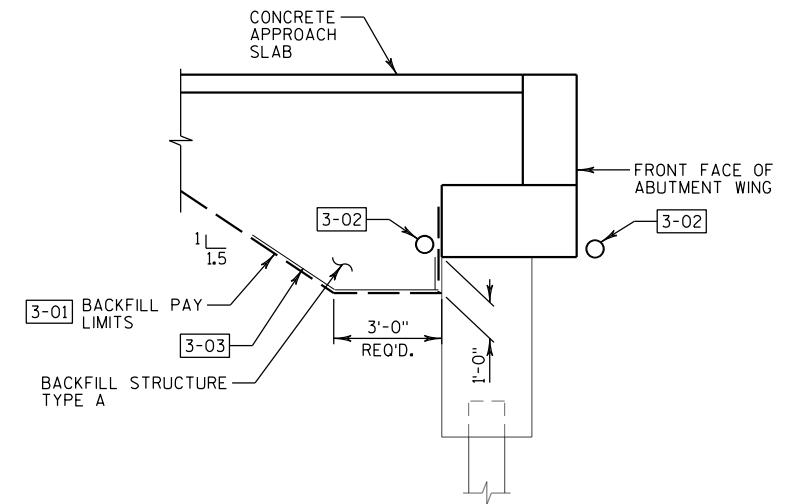
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
<b>STRUCTURE B-27-40</b>			
DRAWN BY TKB		PLANS CK'D. ETP	
<b>CROSS SECTION &amp; QUANTITIES</b>			SHEET 2 OF 10



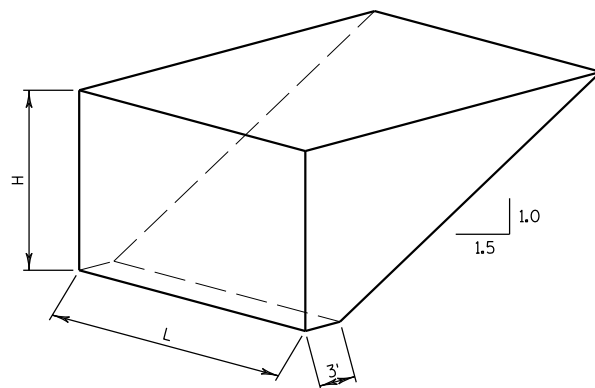
**STRUCTURE BACKFILL LIMITS**



**ABUTMENT PLAN WITH WING**

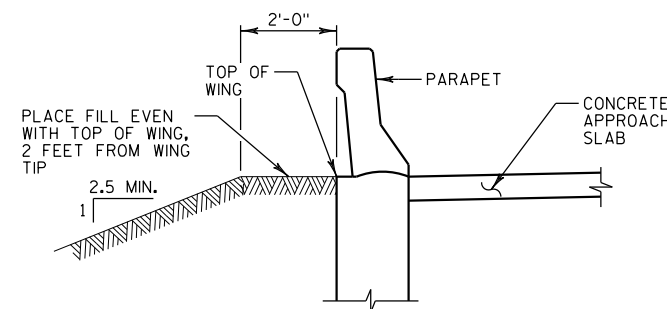


**TYPICAL SECTION THRU WING**

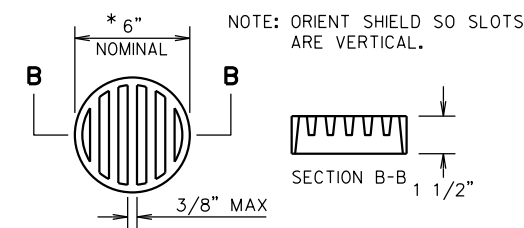


**ABUTMENT BACKFILL PAY LIMIT DIAGRAM**

- L = OUT TO OUT OF ABUTMENT, INCLUDING WINGS (FT)
- H = AVERAGE ABUTMENT FILL HEIGHT (FT)
- EF = EXPANSION FACTOR (1.20 FOR CY BID ITEMS AND 1.00 FOR TON BID ITEMS)
- $V_{CF} = (L)(3.0')(H) + (L)(0.5')(1.5H)(H)$
- $V_{CY} = V_{CF} (EF) / 27$
- $V_{TON} = V_{CY} (2.0)$



**TYPICAL FILL SECTION AT WING TIPS**



**RODENT SHIELD DETAIL**

\* DIMENSION IS APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING.

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

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

**NOTE**

THE BACKFILL QUANTITIES ARE BASED ON THE PAY LIMITS SHOWN ON THE PLANS AND MAY NOT REFLECT ACTUAL PLACED QUANTITIES. "BACKFILL STRUCTURE TYPE A" REQUIRED DIRECTLY BEHIND ABUTMENTS AND ABUTMENT WINGS FOR 3 FEET. BACKFILL PLACED BEYOND PAY LIMITS OR EXCEEDING PLAN QUANTITIES SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES.

**LEGEND**

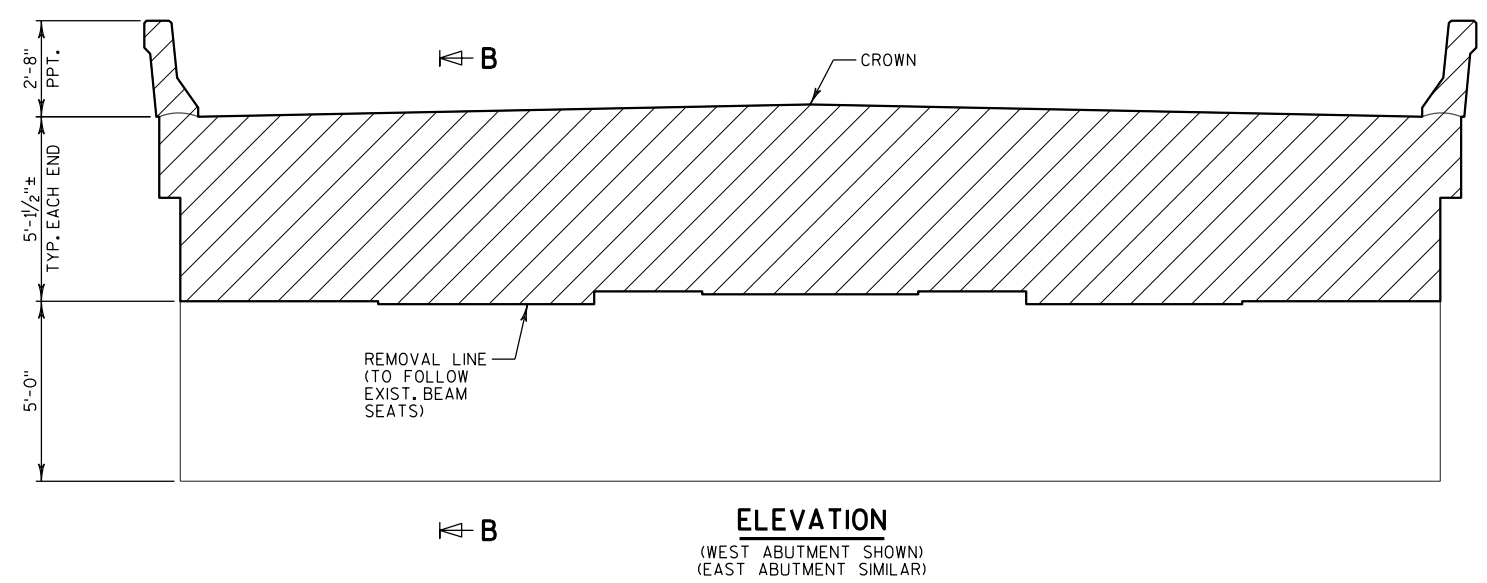
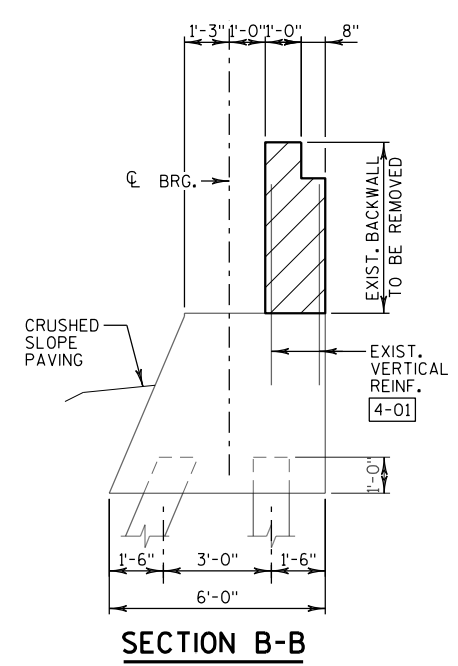
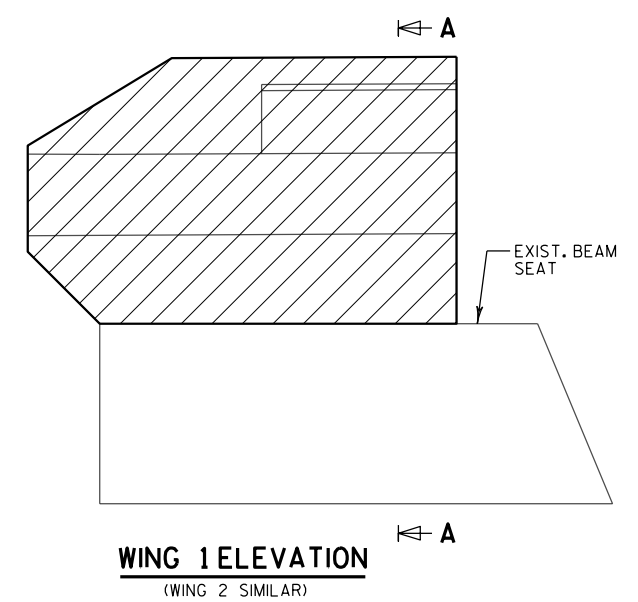
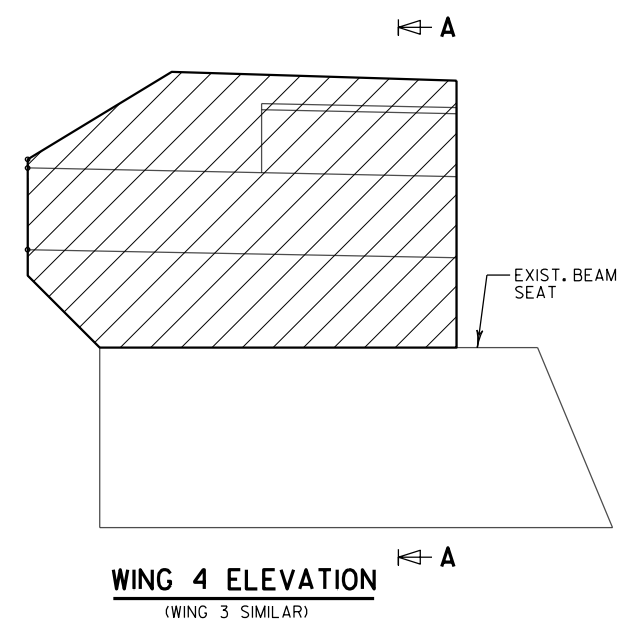
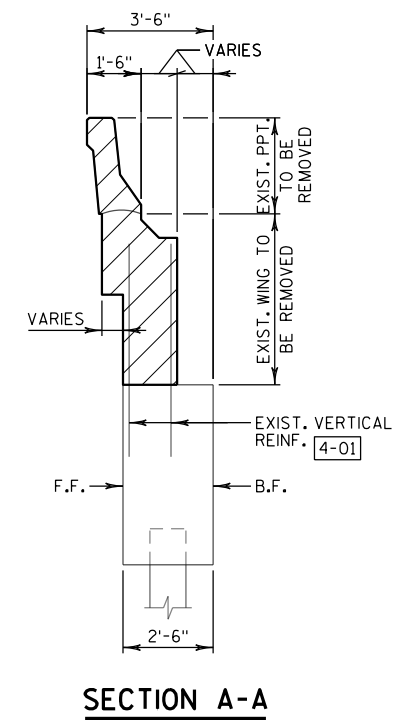
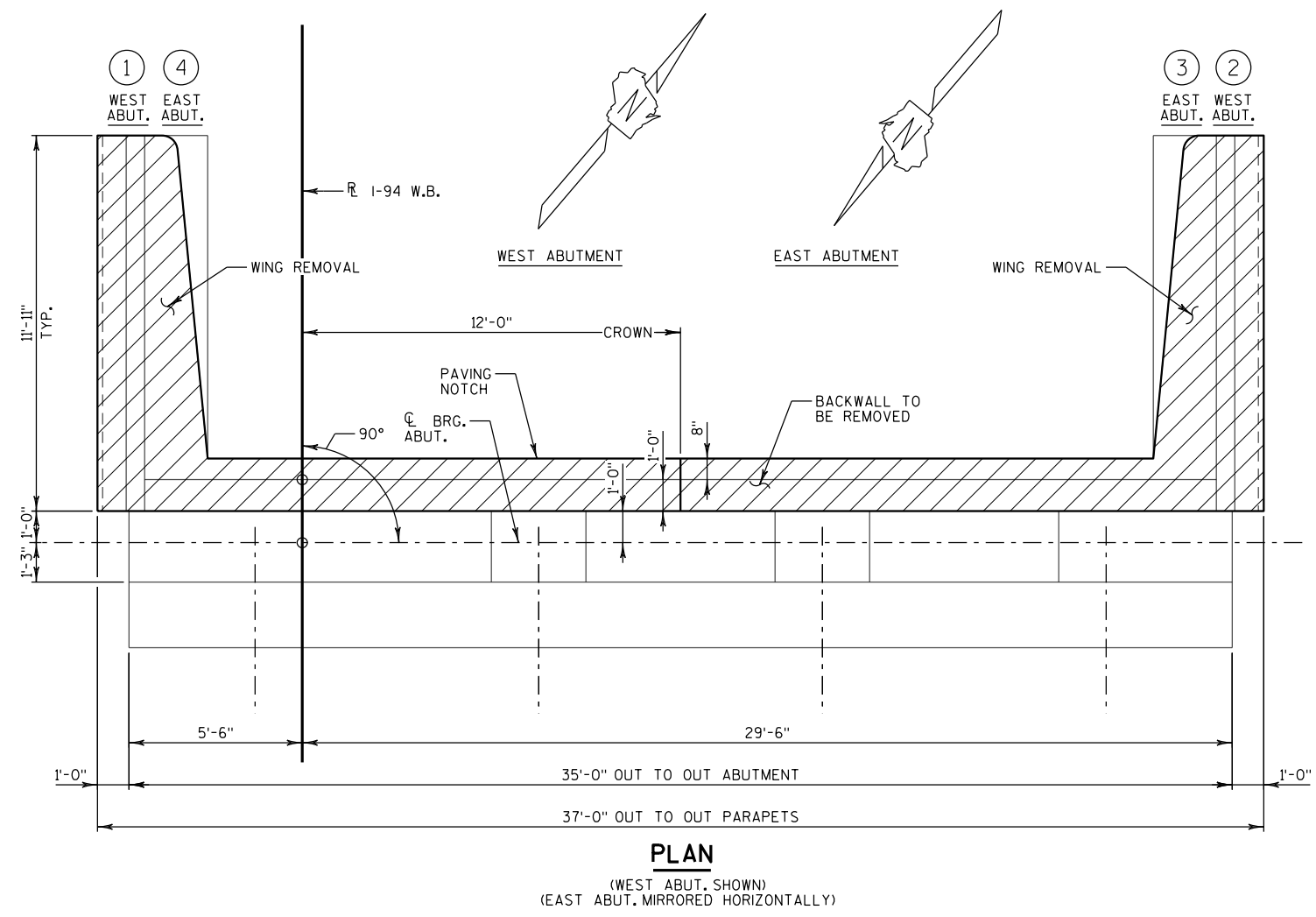
- 3-01 BACKFILL PAY LIMITS, BACKFILL BEYOND BACKFILL PAY LIMITS SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES. LIMITS OF EXCAVATION SHALL BE DETERMINED BY THE CONTRACTOR.
- 3-02 PIPE UNDERDRAIN WRAPPED (6-INCH), SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN.
- 3-03 EXCAVATION BELOW THE ABUTMENT AND ABUTMENT BEDDING MATERIALS REQUIRES ENGINEER APPROVAL. "GEOTEXTILE TYPE DF SCHEDULE A" SHALL BE SET AT THE BOTTOM OF EXCAVATION AND EXTEND 2'-0" ABOVE BOTTOM OF EXCAVATION LIMITS.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
<b>STRUCTURE B-27-40</b>			
DRAWN BY TKB		PLANS CK'D. ETP	
<b>MISCELLANEOUS DETAILS</b>			SHEET 3 OF 10



**LEGEND**

- (X) INDICATES WING NUMBER.
- [Hatched Box] DENOTES REMOVAL AREA.
- [4-01] CLEAN, STRAIGHTEN & INCORPORATE INTO NEW WORK. DO NOT CUT UNLESS CLEARANCE REQUIREMENTS ARE VIOLATED.



NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
<b>STRUCTURE B-27-40</b>			
DRAWN BY TKB		PLANS CK'D. ETP	
<b>ABUTMENT REMOVALS</b>			SHEET 4 OF 10

**BILL OF BARS - WEST ABUTMENT**

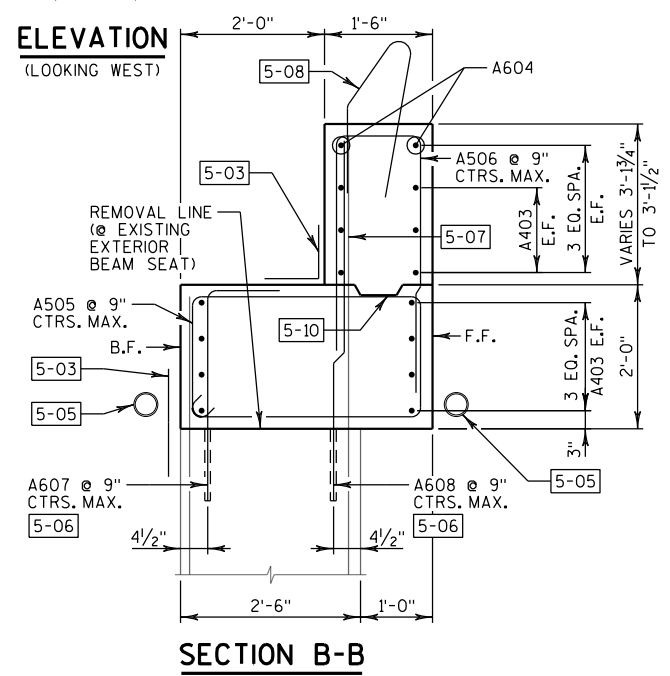
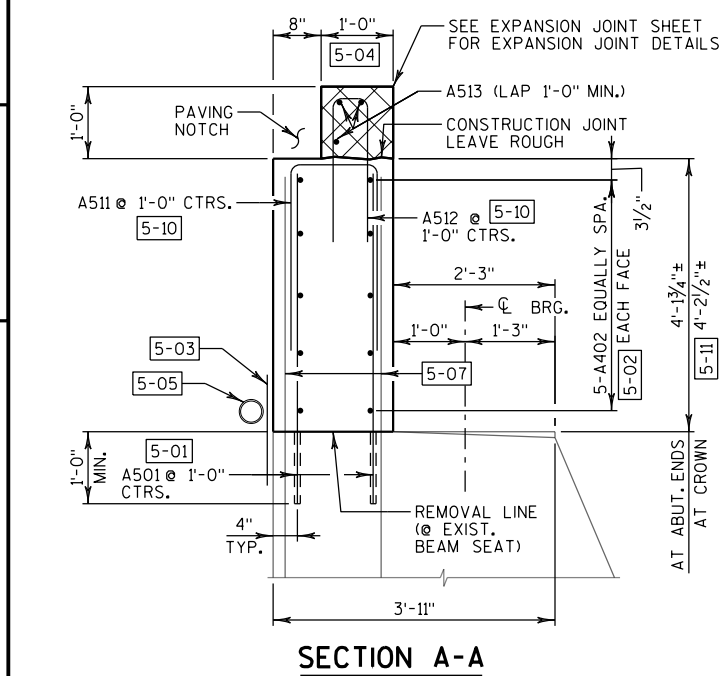
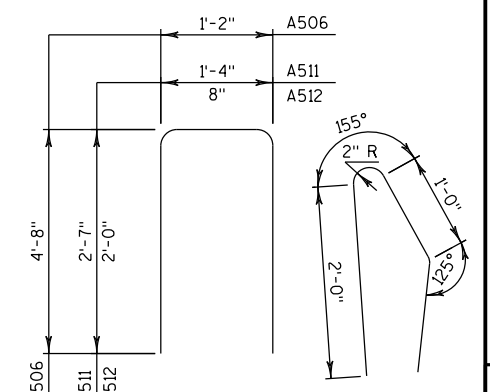
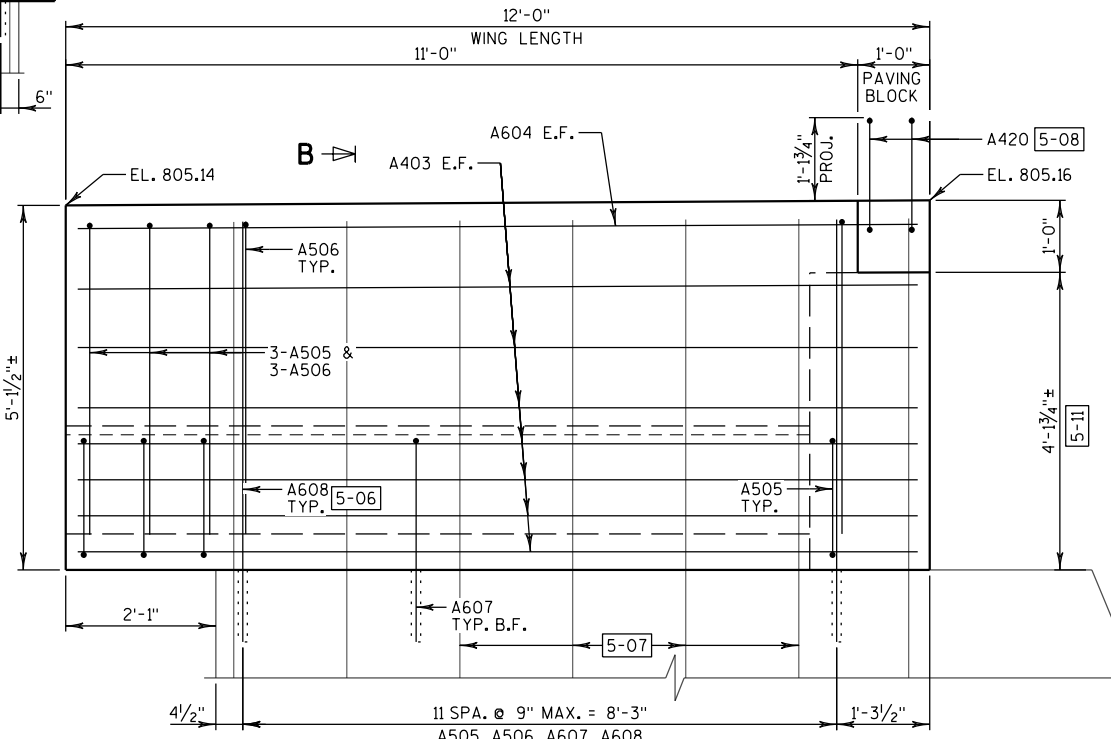
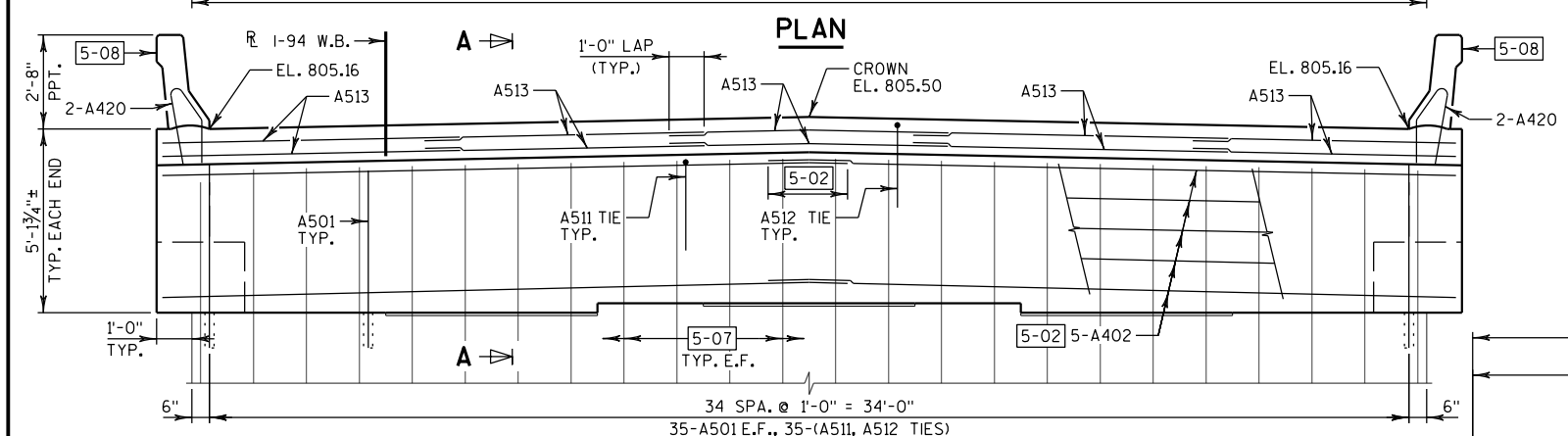
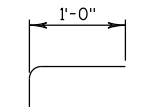
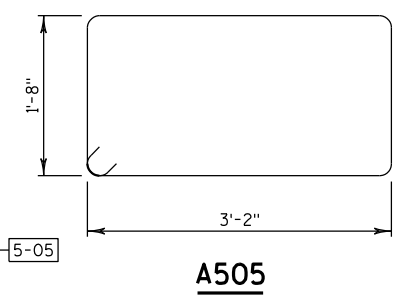
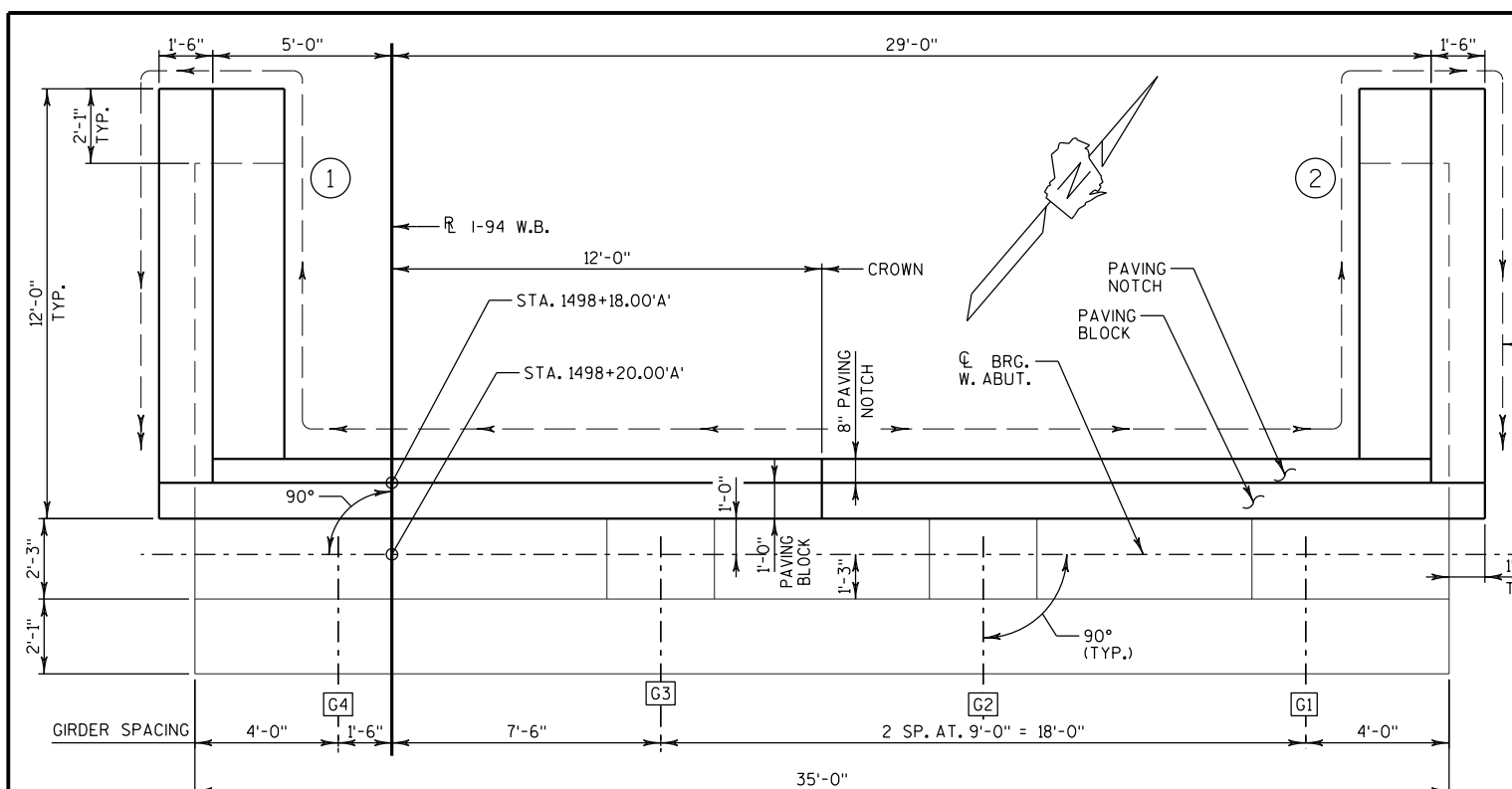
BAR MARK	COAT	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
A501	X	70	5'-0"			BACKWALL/WINGS-E.F. VERT.
A402	X	20	19'-6"			BACKWALL-E.F. HORIZ.
A403	X	28	11'-8"			WINGS-E.F. HORIZ.
A604	X	4	11'-8"			WINGS-TOP HORIZ.
A505	X	30	10'-4"	X		WINGS - STIRRUPS VERT.
A506	X	30	10'-3"	X		WINGS VERT.
A607	X	24	3'-8"	X		WINGS VERT.
A608	X	24	5'-11"			WINGS VERT.
A511	X	35	6'-3"	X		BACKWALL-TOP TIE VERT.
A512	X	35	4'-5"	X		PAVING BLOCK VERT.
A513	X	15	8'-2"			PAVING BLOCK HORIZ.
A420	X	4	4'-7"	X		PARAPET TIE VERT.

TOTAL WEIGHT = 2,440 LBS

THE FIRST DIGIT OF THE BAR MARK SIGNIFIES THE BAR SIZE.

**LEGEND**

- GX INDICATES GIRDER NUMBER.
- X INDICATES WING NUMBER.
- XXXX INDICATES CONCRETE AREA TO BE POURED AFTER SUPERSTRUCTURE CONCRETE IS IN PLACE.
- 5-01 A501 INSTALLED WITH ADHESIVE ANCHORS NO. 5 BAR. EMBED 1'-0" MIN. INTO EXISTING CONCRETE. VARY EMBEDMENT DEPTH TO MAINTAIN 2" CLEAR COVER AS NEEDED. ADJUST SPACING TO AVOID EXISTING VERTICAL REINFORCEMENT. BACKWALL WAS REPLACED IN 2000. A501 BARS MAY BE OMITTED AT EXISTING EPOXY ANCHORED NO. 5 BARS IN THE BACKWALL ONLY THAT CONFLICT WITH THE PROPOSED A501 BARS AS APPROVED BY THE ENGINEER.
- 5-02 LAP BARS 2'-4" MIN. 5 BARS, 1 LAP REQUIRED PER ROW.
- 5-03 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACK FACE.
- 5-04 SLOPE TOP OF PAVING BLOCK TO FOLLOW GRADE.
- 5-05 PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN.
- 5-06 A607 AND A608 INSTALLED WITH ADHESIVE ANCHORS NO. 6 BAR. EMBED 1'-0" MIN. INTO EXISTING CONCRETE. VARY EMBEDMENT DEPTH TO MAINTAIN 2" CLEAR COVER AS NEEDED. ADJUST SPACING TO AVOID EXISTING VERTICAL REINFORCEMENT.
- 5-07 PRESERVE & INCORPORATE EXISTING VERT. REINFORCEMENT.
- 5-08 SEE SUPERSTRUCTURE DETAILS FOR PARAPET REINFORCEMENT.
- 5-09 OPTIONAL CONSTRUCTION JOINT FORMED BY BEVELED 2"x6" KEYWAY WITH MEMBRANE ON BACK FACE.
- 5-10 PULL UP TO 2" CLEAR.
- 5-11 DIMENSIONS ARE APPROXIMATE. UTILIZE ELEVATIONS SHOWN TO ESTABLISH TOP OF BACKWALL AND WINGS.



NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
<b>STRUCTURE B-27-40</b>			
DRAWN BY TKB		PLANS CK'D. ETP	
<b>WEST ABUTMENT</b>			SHEET 5 OF 10

BILL OF BARS - EAST ABUTMENT

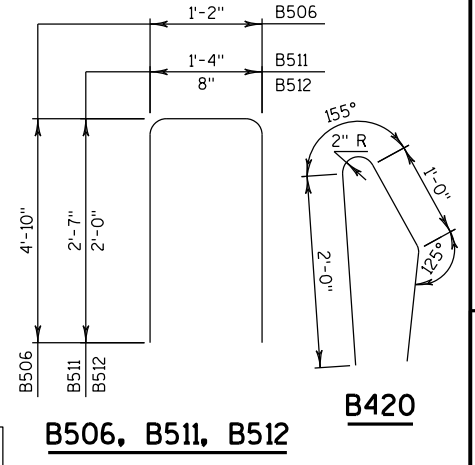
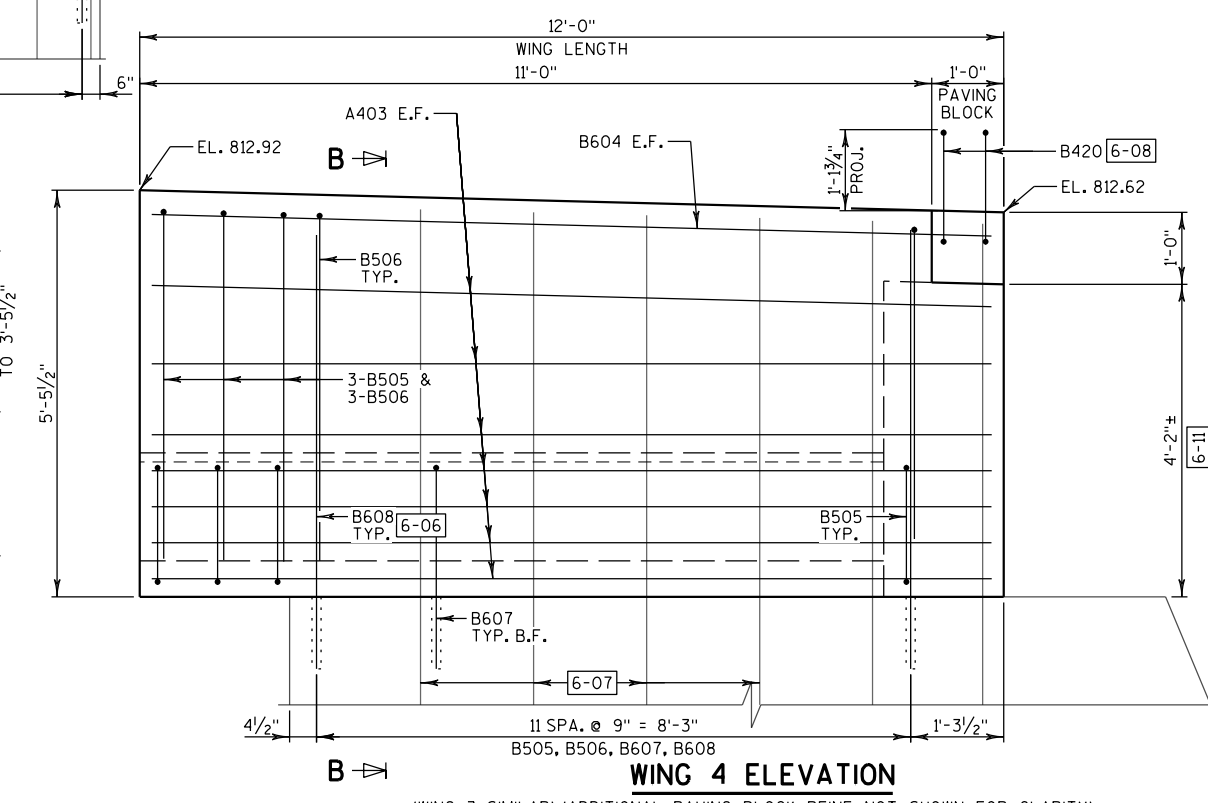
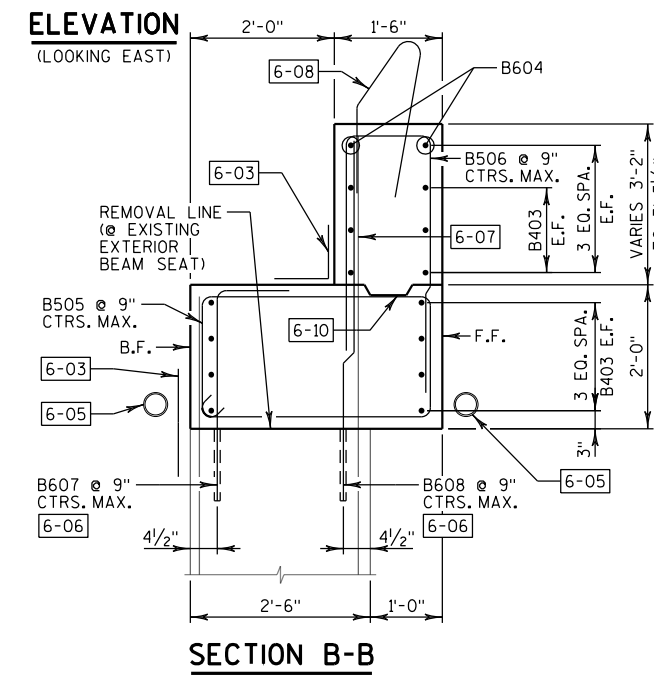
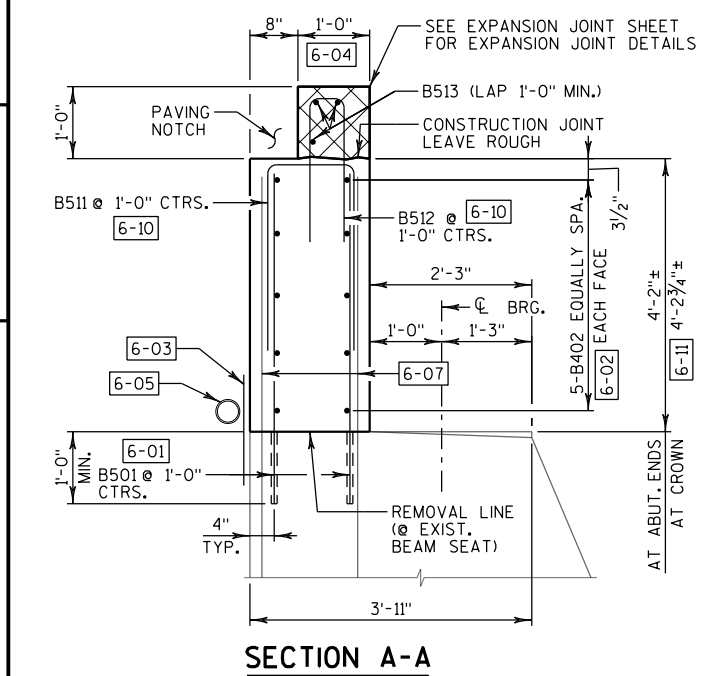
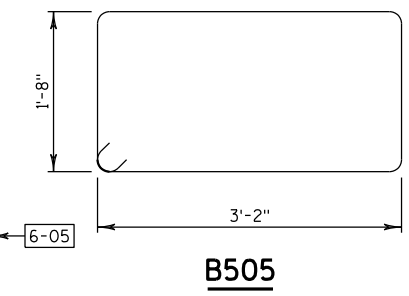
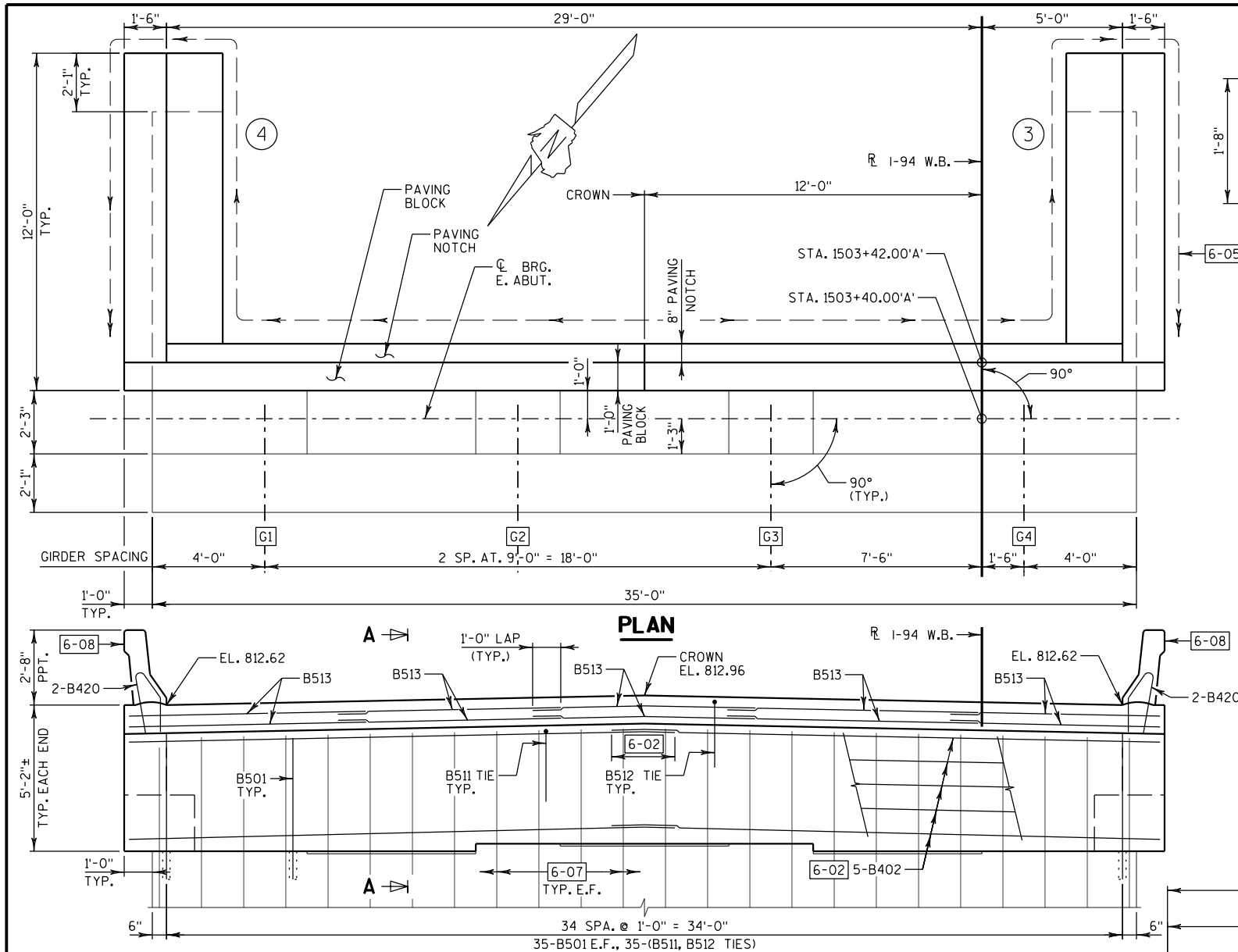
BAR MARK	COAT	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
B501	X	70	5'-0"			BACKWALL/WINGS-E.F. VERT.
B402	X	20	19'-6"			BACKWALL-E.F. HORIZ.
B403	X	28	11'-8"			WINGS-E.F. HORIZ.
B604	X	4	11'-8"			WINGS-TOP HORIZ.
B505	X	30	10'-4"	X		WINGS - STIRRUPS VERT.
B506	X	30	10'-7"	X		WINGS VERT.
B607	X	24	3'-8"	X		WINGS VERT.
B608	X	24	6'-3"			WINGS VERT.
B511	X	35	6'-3"	X		BACKWALL-TOP TIE VERT.
B512	X	35	4'-5"	X		PAVING BLOCK VERT.
B513	X	15	8'-2"			PAVING BLOCK HORIZ.
B420	X	4	4'-7"	X		PARAPET TIE VERT.
TOTAL WEIGHT = 2,460 LBS						

THE FIRST DIGIT OF THE BAR MARK SIGNIFIES THE BAR SIZE.

LEGEND

- GX INDICATES GIRDER NUMBER.
- X INDICATES WING NUMBER.
- INDICATES CONCRETE AREA TO BE POURED AFTER SUPERSTRUCTURE CONCRETE IS IN PLACE.
- 6-01 B501 INSTALLED WITH ADHESIVE ANCHORS NO. 5 BAR, EMBED 1'-0" MIN. INTO EXISTING CONCRETE. VARY EMBEDMENT DEPTH TO MAINTAIN 2" CLEAR COVER AS NEEDED. ADJUST SPACING TO AVOID EXISTING VERTICAL REINFORCEMENT.
- 6-02 LAP BARS 2'-4" MIN. 5 BARS, 1 LAP REQUIRED PER ROW.
- 6-03 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACK FACE.
- 6-04 SLOPE TOP OF PAVING BLOCK TO FOLLOW GRADE.
- 6-05 PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN.
- 6-06 B607 AND B608 INSTALLED WITH ADHESIVE ANCHORS NO. 6 BAR, EMBED 1'-0" MIN. INTO EXISTING CONCRETE. VARY EMBEDMENT DEPTH TO MAINTAIN 2" CLEAR COVER AS NEEDED. ADJUST SPACING TO AVOID EXISTING VERTICAL REINFORCEMENT.
- 6-07 PRESERVE & INCORPORATE EXISTING VERT. REINFORCEMENT.

- 6-08 SEE SUPERSTRUCTURE DETAILS FOR PARAPET REINFORCEMENT.
- 6-09 OPTIONAL CONSTRUCTION JOINT FORMED BY BEVELED 2"x6" KEYWAY WITH MEMBRANE ON BACK FACE.
- 6-10 PULL UP TO 2" CLEAR.
- 6-11 DIMENSIONS ARE APPROXIMATE. UTILIZE ELEVATIONS SHOWN TO ESTABLISH TOP OF BACKWALL AND WINGS.

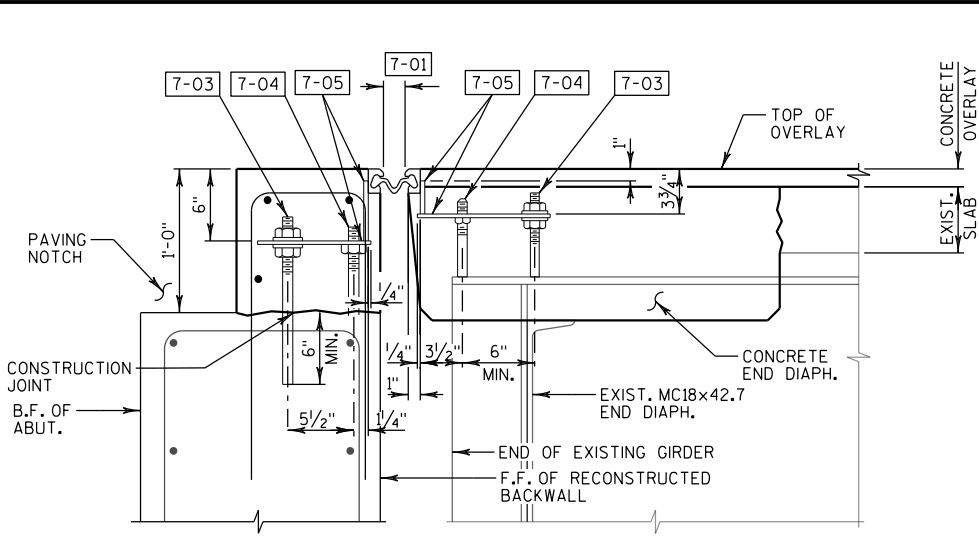


NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
<b>STRUCTURE B-27-40</b>			
DRAWN BY TKB		PLANS CK'D. ETP	
<b>EAST ABUTMENT</b>			SHEET 6 OF 10

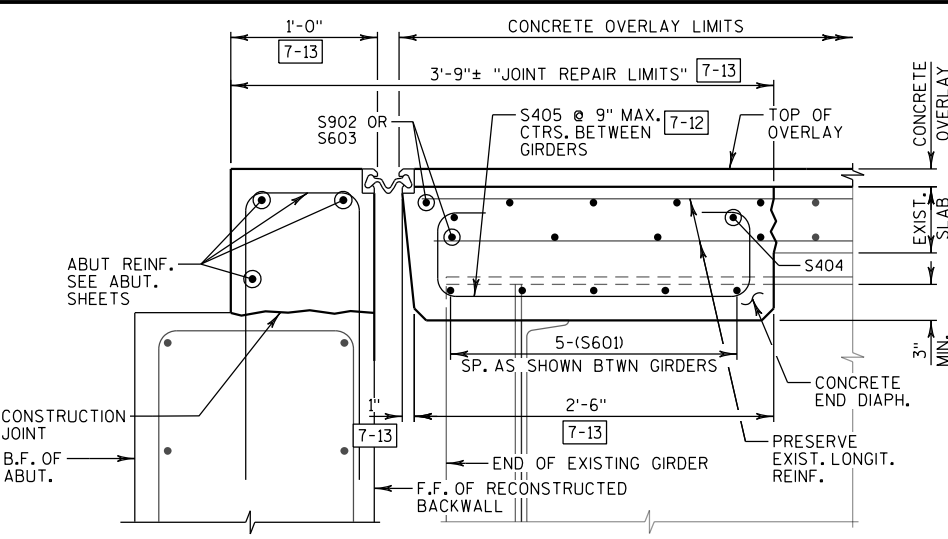
**NOTE**  
SEE SHEET 8 FOR  
ADDITIONAL CALLOUT  
LOCATIONS AND  
GENERAL NOTES.

**LEGEND**

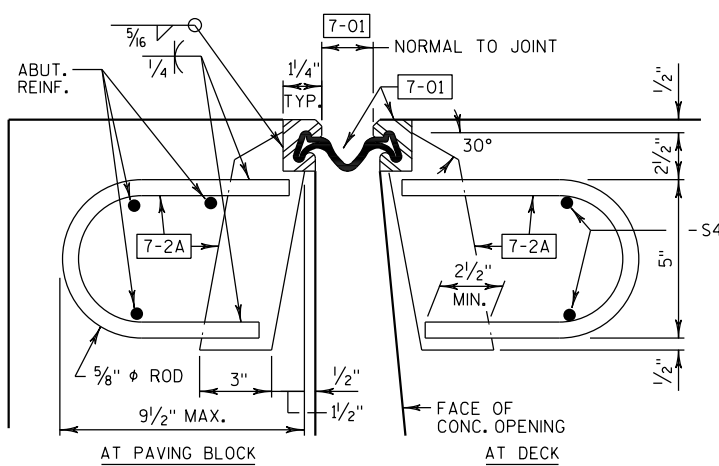
- 7-01 NEOPRENE STRIP SEAL (4-INCH) & STEEL EXTRUSIONS. JOINT OPENING GIVEN NORMAL TO JOINT.
- 7-02 STUDS  $\frac{5}{8}$ "  $\phi$  x  $6\frac{3}{8}$ " LONG AT 6" ALTERNATE CENTERS. WELD TO EXTRUSIONS & BEND AS SHOWN AFTER WELDING.
- 7-2A  $\frac{1}{2}$ " THICK ANCHOR PLATE WITH  $\frac{5}{8}$ "  $\phi$  ROD (OR ALTERNATE STRIP SEAL ANCHOR). WELD ROD TO ANCHOR PLATE, WELD ANCHOR PL. TO [7-01] AT 1'-6" CTRS. BETWEEN GIRDERS.
- 7-03  $\frac{3}{4}$ "  $\phi$  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.
- 7-04  $\frac{3}{4}$ "  $\phi$  THREADED ROD WITH NUT. TACK WELD NUT TO [7-05].
- 7-05 FABRICATE SUPPORT FROM 3" x  $\frac{1}{2}$ " BAR AS SHOWN OR EQUIVALENT. ONE PER GIRDER PER SIDE. SHOP OR FIELD WELD TO [7-01]. IF FIELD WELDED, COVER WELDED AREAS WITH EPOXY-COATING MATERIAL. PROVIDE  $1\frac{1}{2}$ "  $\phi$  HOLE FOR [7-03] & 1"  $\phi$  HOLE FOR [7-04].
- 7-06 GALVANIZED PLATE  $\frac{3}{8}$ " x 1'-10 $\frac{1}{2}$ " x 2'-2" LONG WITH HOLES FOR [7-07]
- 7-07  $\frac{3}{4}$ "  $\phi$  x  $1\frac{1}{2}$ " STAINLESS STEEL SOCKET FLAT HEAD SCREWS WITH ANTI-SEIZE LUBRICANT. PLACE IN COUNTERSUNK HOLE. RECESS  $\frac{1}{16}$ " BELOW PLATE SURFACE.
- 7-08  $\frac{3}{4}$ "  $\phi$  x 4" GALVANIZED HEX HEAD BOLT. BEND 45°.
- 7-09  $\frac{3}{4}$ "  $\phi$  x 2 $\frac{1}{4}$ " GALVANIZED THREADED COUPLING.
- 7-10 1" x 5" SLOTTED COUNTERSUNK HOLE FOR [7-07]. PLACE SLOT PARALLEL TO DIRECTION OF MOVEMENT.
- 7-11 NOT USED.
- 7-12 BARS PLACED PARALLEL TO GIRDERS. SPACING PERPENDICULAR TO  $\phi$  GIRDERS.
- 7-13 DIMENSION IS TAKEN NORMAL TO  $\phi$  ABUTMENT.
- 7-14 NOT USED.
- 7-15 BLOCK OUT CONCRETE 2" EACH SIDE OF JOINT OPENING.
- 7-16 JOINT OPENING DIMENSION ALONG SKEW PLUS  $\frac{1}{2}$ ".



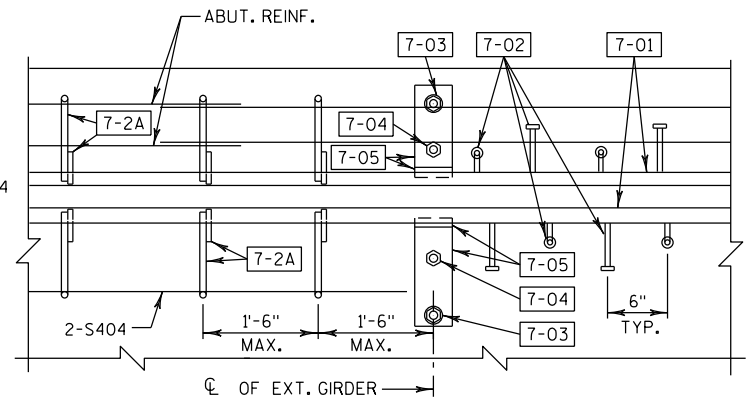
**SECTION THRU JOINT AT ABUTMENT**  
NORMAL TO  $\phi$  SUBSTRUCTURE



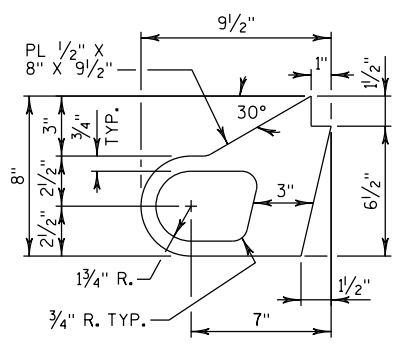
**SECTION THRU JOINT AT ABUTMENT**  
NORMAL TO  $\phi$  SUBSTRUCTURE  
DIAPHRAGM TO EXTEND TO GIRDER WEB  
(SEE PART TRANSVERSE SECTION AT DIAPHRAGM  
END FOR TYPICAL EXTENTS)



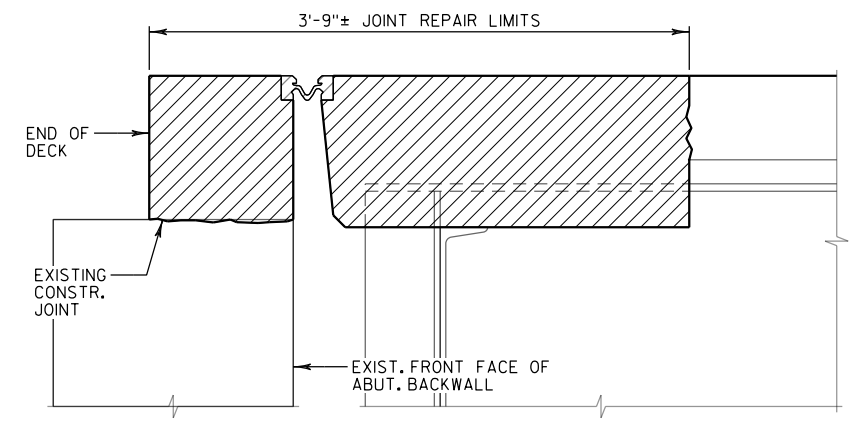
**SECTION THRU JOINT**  
ROADWAY TRAFFIC AREA BETWEEN EXTERIOR GIRDERS.



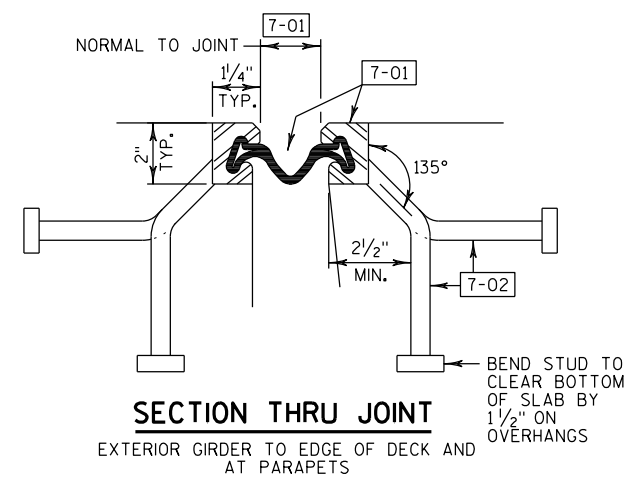
**PART PLAN**



**ALTERNATE STRIP SEAL ANCHOR**



**JOINT REPAIR-REMOVAL**  
NORMAL TO  $\phi$  SUBSTRUCTURE

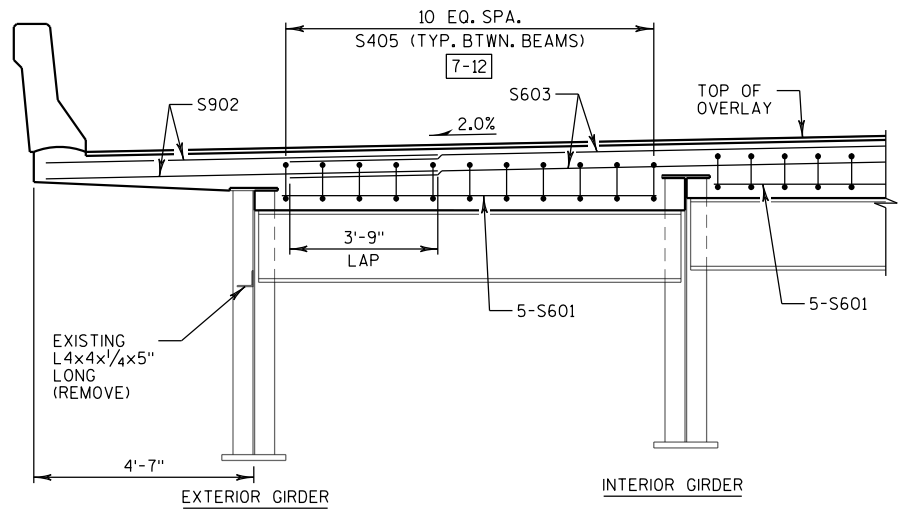


**SECTION THRU JOINT**  
EXTERIOR GIRDER TO EDGE OF DECK AND  
AT PARAPETS

**TEMPERATURE TABLE**

TEMP	OPENING
85	1 3/8"
75	1 5/8"
65	1 7/8"
55	2"
45	2 1/4"
35	2 1/2"
25	2 5/8"
15	2 7/8"
5	3 1/8"

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



**PART TRANSVERSE SECTION AT DIAPHRAGM**

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-27-40			
DRAWN BY TKB		PLANS CK'D. ETP	
STRIP SEAL EXPANSION JOINT DETAILS-1			SHEET 7 OF 10

**LEGEND**

[X-XX] SEE SHEET 7 FOR CALLOUTS.

**GENERAL NOTES**

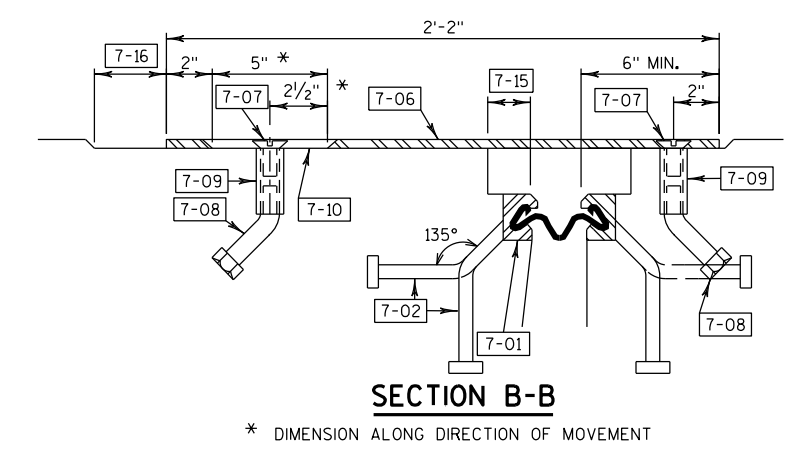
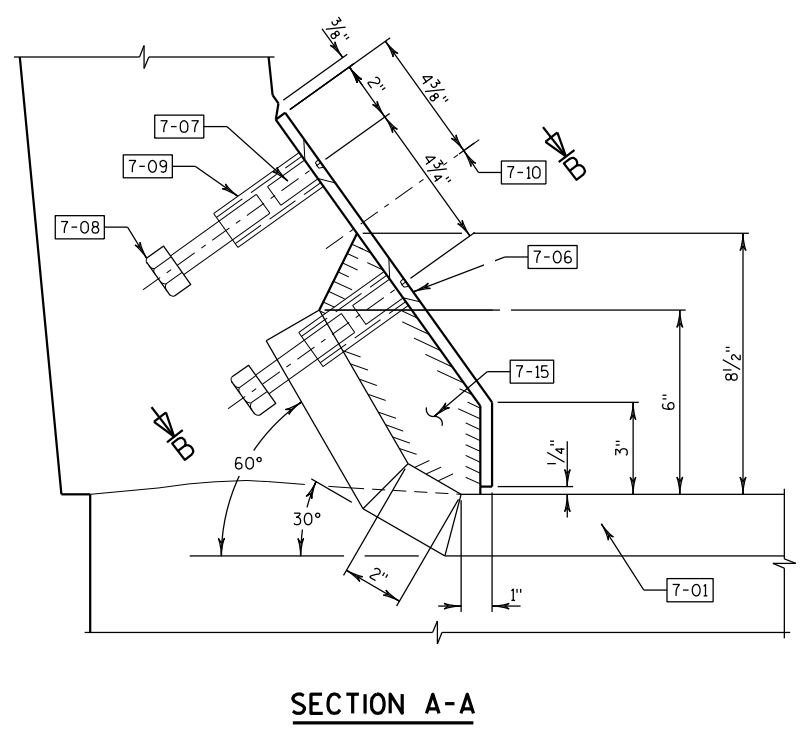
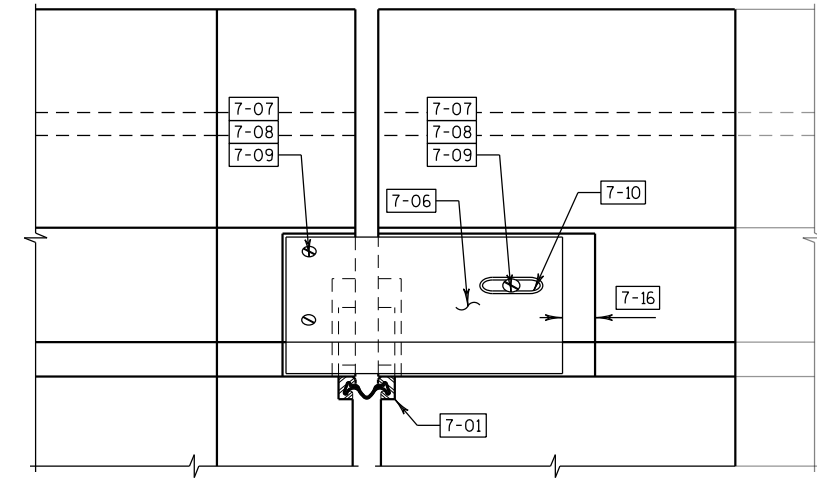
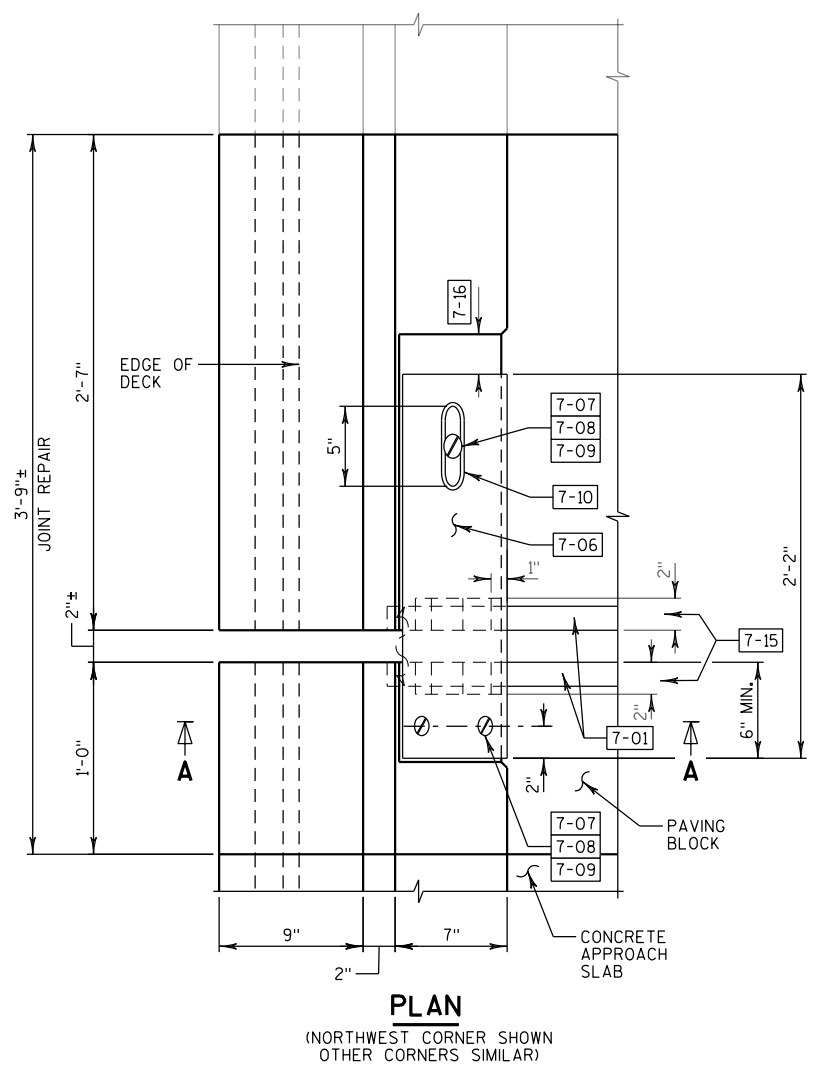
ONE FIELD SPLICE PERMITTED IN STEEL EXTRUSIONS, UNLESS MORE ARE REQUIRED FOR STAGED CONSTRUCTION, HANDLING OR GALVANIZING REQUIREMENTS. IF USED, DETAILS SHALL BE SUBMITTED FOR APPROVAL. NO SPLICING PERMITTED IN NEOPRENE STRIP SEAL.

AFTER FABRICATION, BUT BEFORE SHIPMENT, STRAIGHTEN STEEL EXTRUSIONS SUCH THAT THEY SHALL BE FREE FROM WARP, TWIST & 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, SUPPORTS, & EXTRUSIONS AFTER FABRICATION IN ACCORDANCE WITH SSPC SP. #6 "COMMERCIAL BLAST CLEANING". AFTER BLAST CLEANING, THE PLATES, SUPPORTS & EXTRUSIONS SHALL BE HOT DIPPED GALVANIZED.

ANCHOR SYSTEM [7-08] & [7-09] SHALL CONFORM TO ASTM A307 & SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C & D.

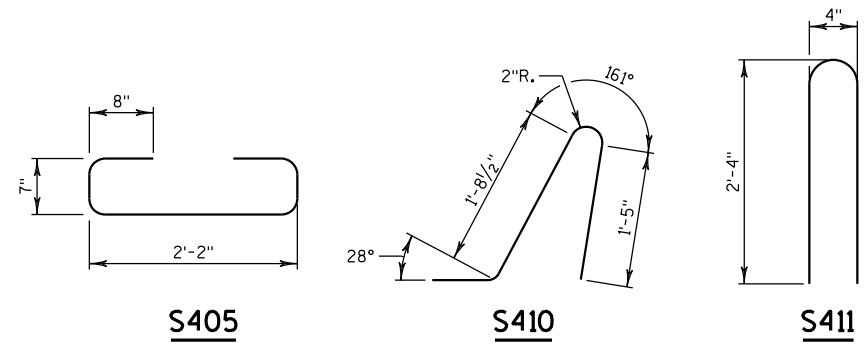
ALL MATERIAL IN THE EXPANSION JOINT ASSEMBLY, INCLUDING ANCHOR STUDS & HARDWARE SHALL BE PAID AT THE UNIT PRICE BID FOR "EXPANSION DEVICE", L.F.



NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
<b>STRUCTURE B-27-40</b>			
DRAWN BY TKB		PLANS CK'D. ETP	
<b>STRIP SEAL EXPANSION JOINT DETAILS-2</b>			SHEET 8 OF 10

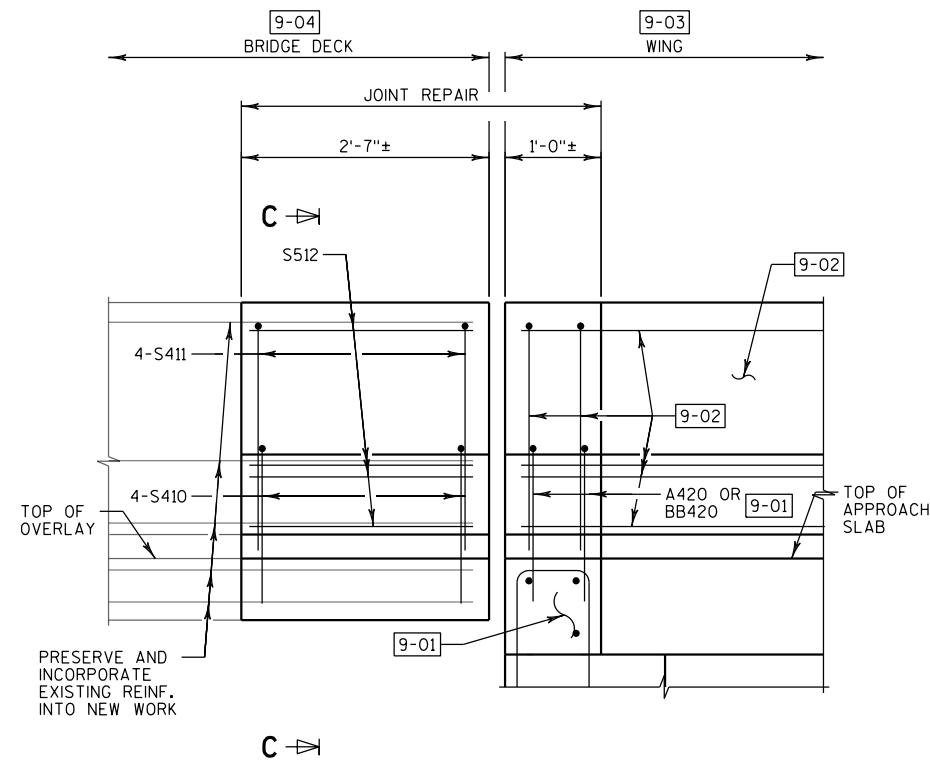
**BILL OF BARS - SUPERSTRUCTURE**

BAR MARK	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
NON-COATED BARS					TOTAL WEIGHT = 2,410 LBS
S601	30	8'-7"			DIAPHRAGMS HORIZ.
S902	36	8'-2"			SLAB-OVERHANG HORIZ.
S603	18	25'-8"			SLAB HORIZ.
S404	24	8'-7"			DIAPHRAGMS HORIZ.
S405	66	4'-4"	X		DIAPHRAGMS VERT.
COATED BARS					TOTAL WEIGHT = 150 LBS
S410	16	4'-3"	X		SLAB-PARAPET VERT.
S411	16	4'-10"	X		SLAB-PARAPET VERT.
S512	20	2'-3"			SLAB-PARAPET HORIZ.

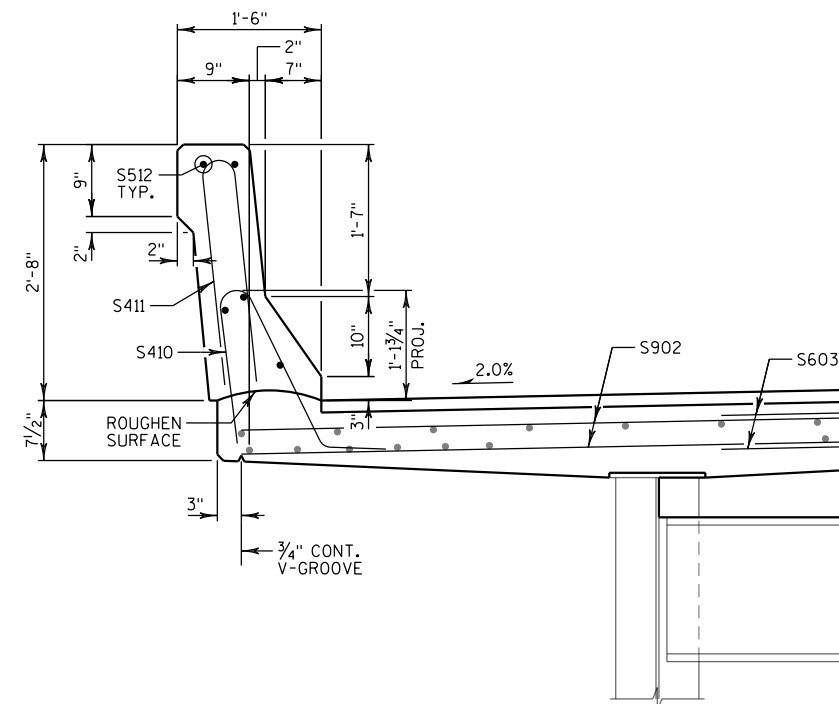


**LEGEND**

- 9-01 SEE ABUTMENT SHEETS.
- 9-02 SEE SHEET 10.
- 9-03 CONCRETE COVERED UNDER "CONCRETE MASONRY BRIDGES" BID ITEM.
- 9-04 CONCRETE COVERED UNDER "CONCRTE MASONRY OVERLAY DECKS" BID ITEM.



**OUTSIDE ELEVATION OF JOINT REPAIR**

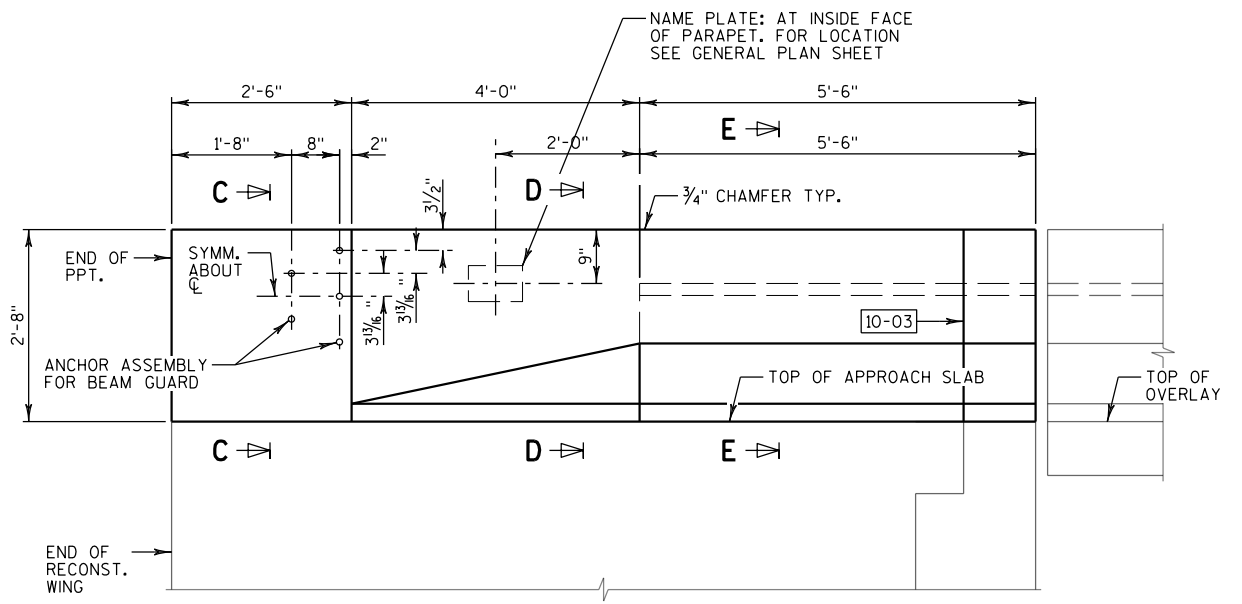


**SECTION C-C**

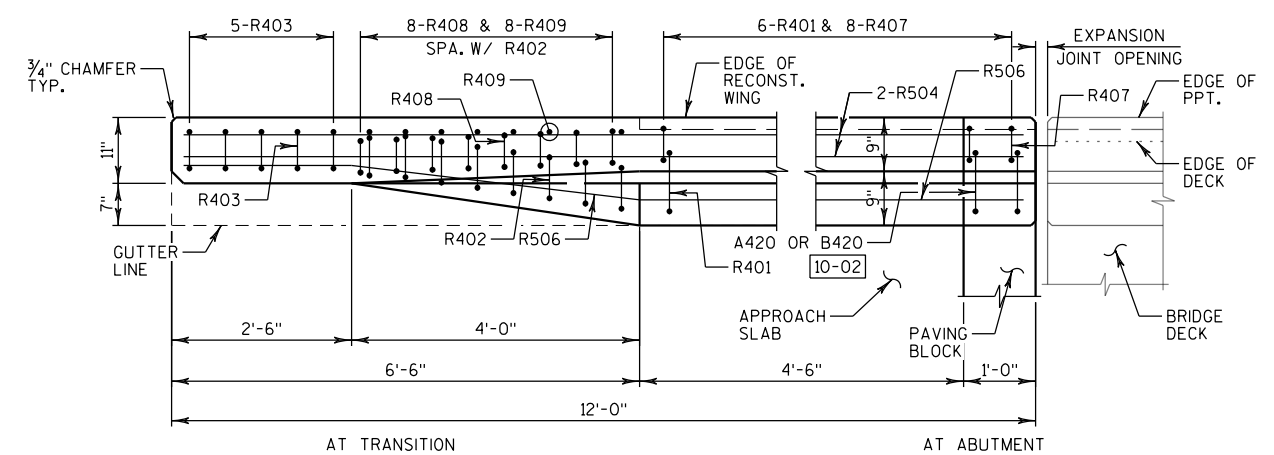
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-27-40			
DRAWN BY TKB		PLANS CK'D. ETP	
SUPERSTRUCTURE DETAILS			SHEET 9 OF 10

**BILL OF BARS - PARAPET**

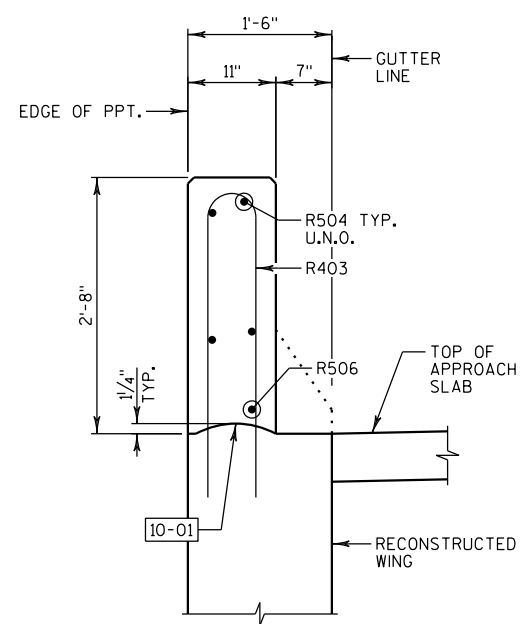
BAR MARK	COAT	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
R401	X	24	4'-7"	X		PARAPET TRANS.
R402	X	32	3'-1"	X		PARAPET TRANS.
R403	X	20	7'-6"	X		PARAPET TRANS.
R504	X	16	11'-8"			PARAPET LONGIT.
						LONGIT.
R506	X	4	11'-8"	X		PARAPET-F.F. LONGIT.
R407	X	32	4'-10"	X		PARAPET VERT. TRANS.
R408	X	32	4'-11"	X		PARAPET VERT. TRANS.
R409	X	32	4'-0"	X		PARAPET VERT. TRANS.
						TOTAL WEIGHT = 780 LBS



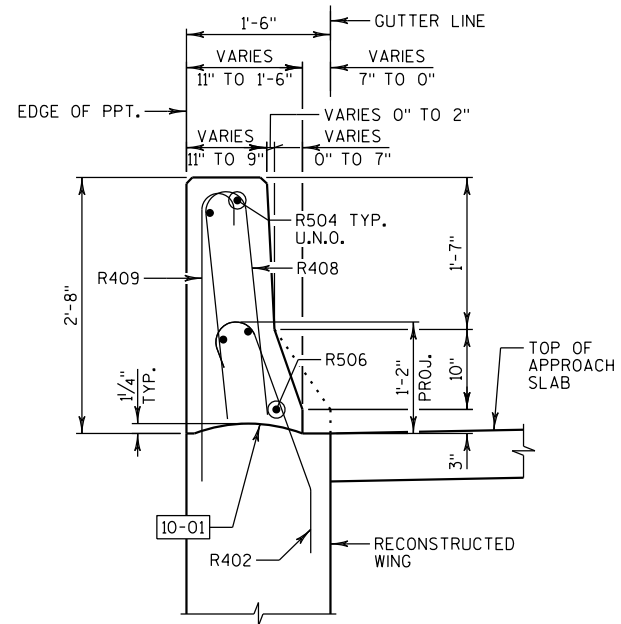
**PARAPET ELEVATION**



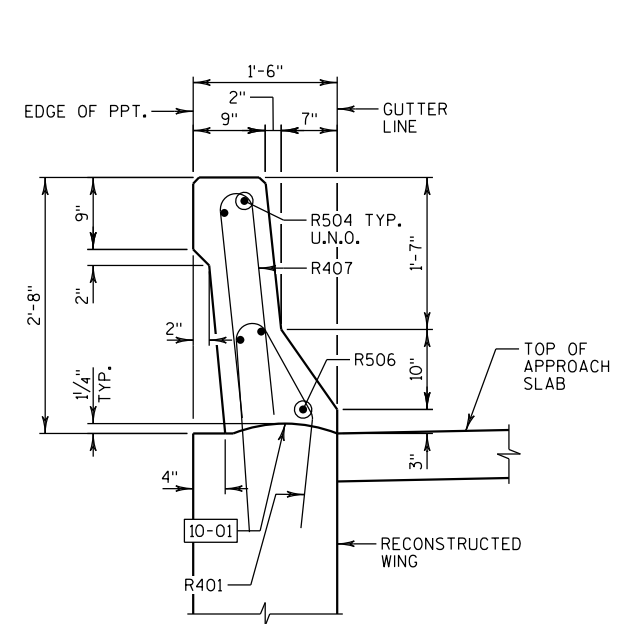
**PARAPET PLAN**



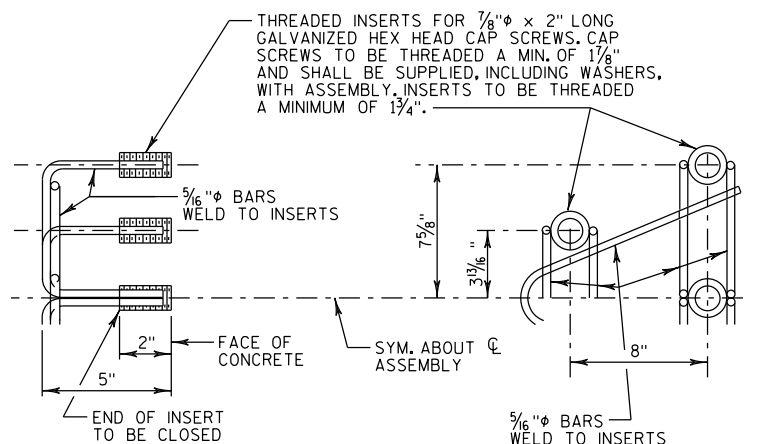
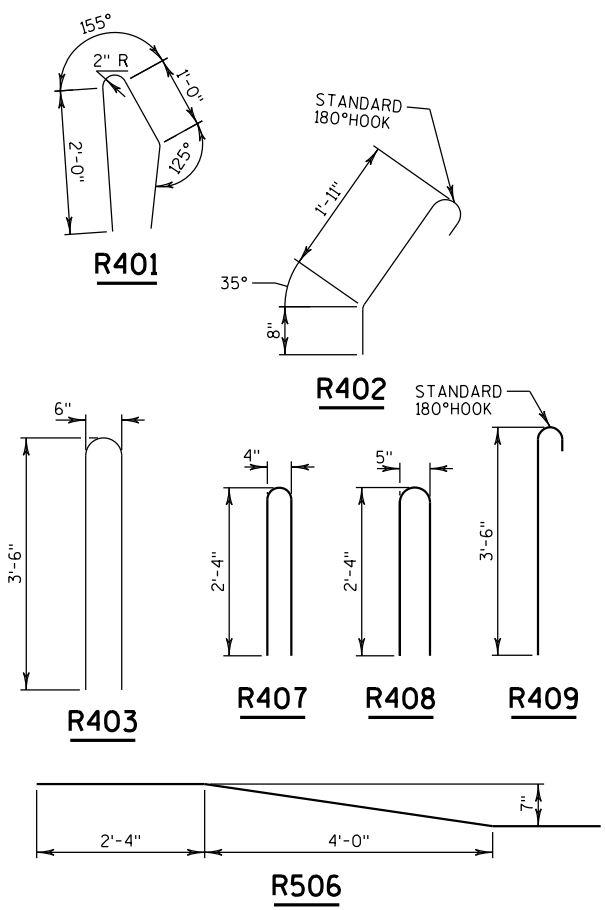
**SECTION C-C**



**SECTION D-D**



**SECTION E-E**



**DETAIL OF ANCHOR ASSEMBLY**

NOTE: HEX HEAD CAP SCREWS & WASHERS TO BE GALVANIZED IN ACCORDANCE WITH AASHTO M232, CLASS C.  
ASSEMBLY SHALL BE BID ITEM "ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD".

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
<b>STRUCTURE B-27-40</b>			
DRAWN BY TKB		PLANS CK'D. ETP	
<b>SLOPED FACE PARAPET 'B'</b>			SHEET 10 OF 10

**TRAFFIC DATA:**

AADT (2041) = 15,600  
 DESIGN SPEED = 70 MPH

**DESIGN DATA**

LIVE LOAD \_\_\_\_\_  
 DESIGN LOADING \_\_\_\_\_ HS-20  
 INVENTORY RATING \_\_\_\_\_ HS-22  
 OPERATING RATING \_\_\_\_\_ HS-37  
 WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV) \_\_\_\_\_ 225 KIPS

**MATERIAL PROPERTIES**

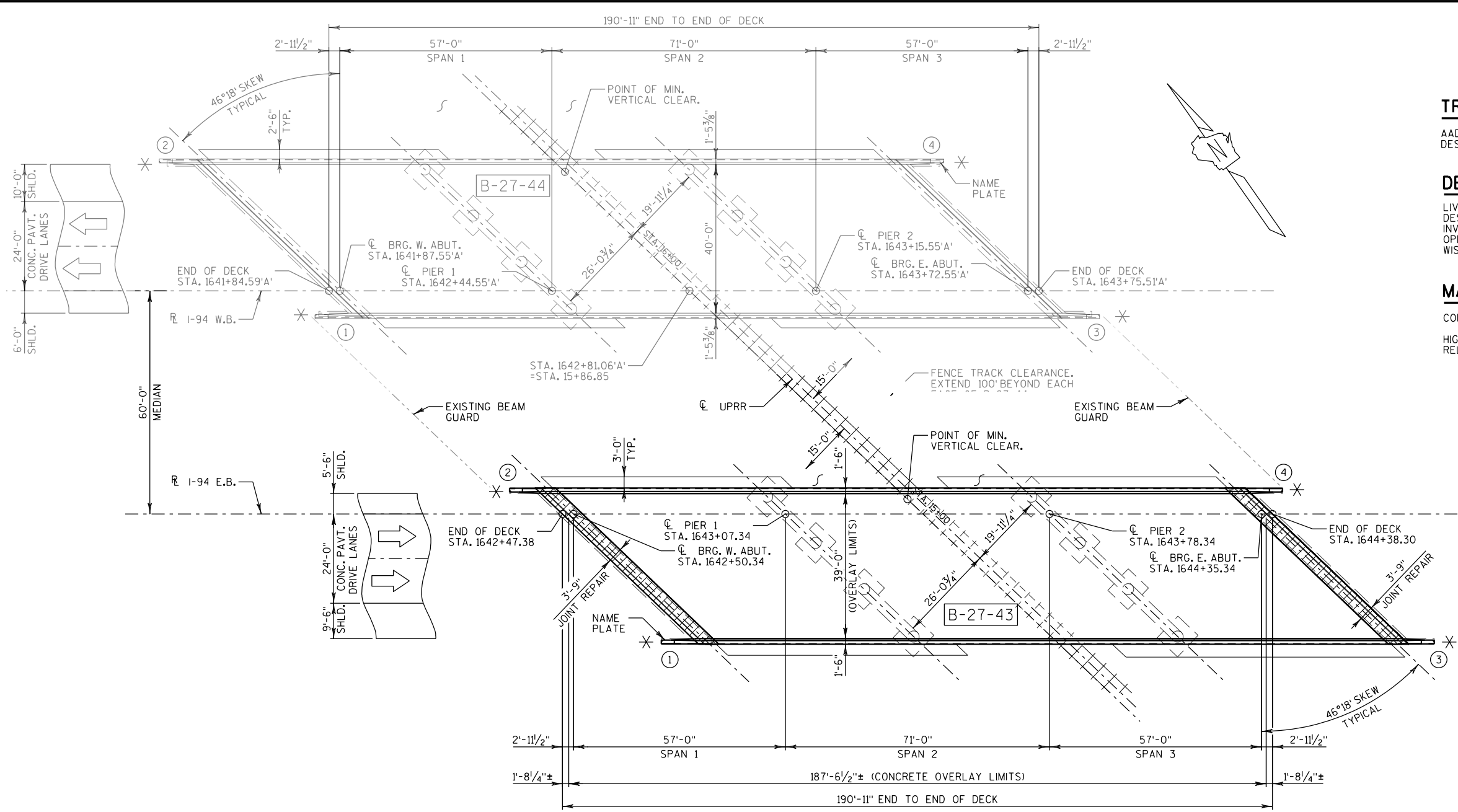
CONCRETE MASONRY, OVERLAY DECKS \_\_\_\_\_ f'c = 4,000 PSI  
 ALL OTHER \_\_\_\_\_ f'c = 3,500 PSI  
 HIGH STRENGTH BAR STEEL \_\_\_\_\_  
 REINFORCEMENT GRADE 60 \_\_\_\_\_ fy = 60,000 PSI

**LEGEND**

\* MGS THRIE BEAM ATTACHMENT  
 (X) INDICATES WING NUMBER

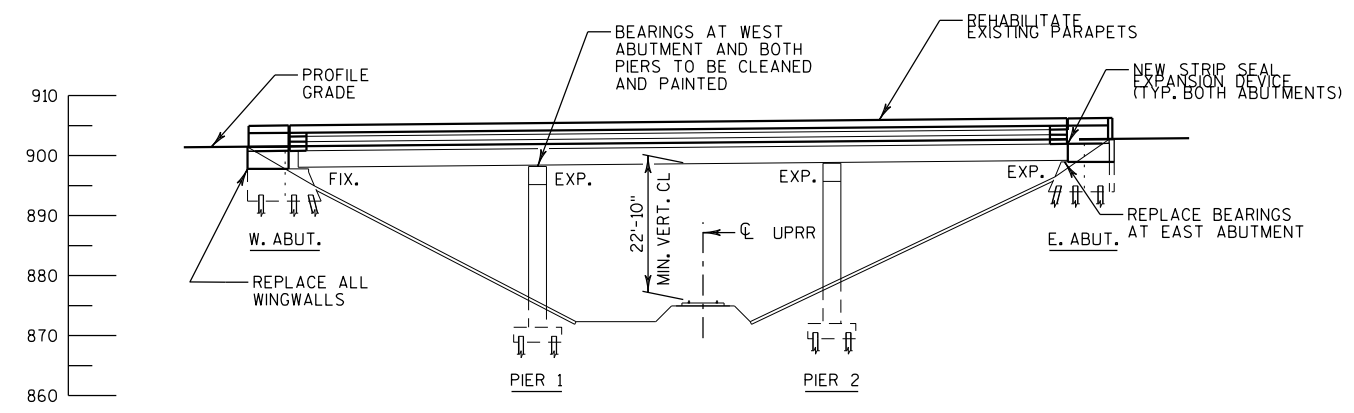
**LIST OF DRAWINGS**

1. GENERAL PLAN
2. CROSS SECTION & QUANTITIES
3. MISCELLANEOUS DETAILS
4. WEST ABUTMENT-1
5. WEST ABUTMENT-2
6. WEST ABUTMENT-3
7. EAST ABUTMENT-1
8. EAST ABUTMENT-2
9. EAST ABUTMENT-3
10. EXPANSION BEARING DETAILS
11. STRIP SEAL EXPANSION JOINT DETAILS-1
12. STRIP SEAL EXPANSION JOINT DETAILS-2
13. SUPERSTRUCTURE DETAILS
14. SINGLE SLOPE PARAPET 42SS



**PLAN**

(CONCRETE OVERLAY - THREE SPAN CONTINUOUS STEEL DECK GIRDER BRIDGE)

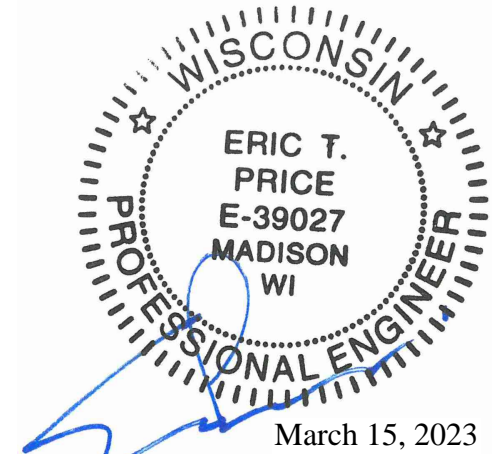


**ELEVATION**

(NORMAL TO UPRR AT DOWNSTATION EDGE OF BRIDGE)

BUREAU OF STRUCTURES CONTACT:  
 AARON BONK (608) 261-0261  
 CONSULTANT CONTACT:  
 ERIC PRICE (608) 826-6146

8



8

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
ACCEPTED		SDR	03/15/23
CHIEF STRUCTURES DESIGN ENGINEER		DATE	
<b>STRUCTURE B-27-43</b> I-94 EB OVER UPRR			
COUNTY	JACKSON	TOWN/CITY/VILLAGE	BLACK RIVER FALLS
DESIGN SPEC. REHABILITATION N/A			
DESIGNED BY	ETP	DESIGN CK'D.	BH
DRAWN BY	TKB	PLANS CK'D.	ETP
<b>GENERAL PLAN</b>			SHEET 1 OF 14



**GENERAL NOTES**

THE PROPOSED WORK INCLUDES PLACEMENT OF A CONCRETE OVERLAY, JOINT REPLACEMENT, PARAPET MODIFICATIONS, ABUTMENT REPAIRS, REPLACING BEARINGS AT THE EAST ABUTMENT, AND CLEANING & PAINTING ALL OTHER BEARINGS.

DRAWINGS SHALL NOT BE SCALED.

DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS.

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

THE FIRST DIGIT OF A THREE DIGIT AND THE FIRST TWO DIGITS OF A FOUR DIGIT BAR MARK SIGNIFY THE BAR SIZE.

CLEAN, STRAIGHTEN, AND EXTEND EXISTING BAR STEEL REINFORCEMENT 24 BAR DIAMETERS INTO NEW CONSTRUCTION WHERE APPLICABLE.

ALL CONCRETE REMOVAL NOT COVERED WITH A CONCRETE OVERLAY SHALL BE DEFINED BY A 1/2" DEEP SAW CUT.

"PREPARATION DECKS TYPE 1", "PREPARATION DECKS TYPE 2", "FULL-DEPTH DECK REPAIR", AND "CONCRETE SURFACE REPAIR" QUANTITIES ARE APPROXIMATE. CONTRACTOR SHALL COORDINATE THE FIELD IDENTIFICATION AND DETERMINATION OF ALL REPAIR LOCATIONS WITH THE ENGINEER. DECK PREPARATION AND FULL-DEPTH DECK REPAIRS SHALL BE FILLED WITH "CONCRETE MASONRY OVERLAY DECKS".

EXPANSION JOINT ASSEMBLY, INCLUDING ANCHOR STUDS AND HARDWARE SHALL BE PAID AT THE UNIT PRICE BID FOR "EXPANSION DEVICE".

MATERIALS, EQUIPMENT, ETC. SHALL NOT BE STOCKPILED/STORED ON THE BRIDGE DECK WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

PROTECTIVE SURFACE TREATMENT SHALL BE APPLIED TO THE ENTIRE SURFACE OF THE NEW CONCRETE OVERLAY AND TOPS OF THE NEW PAVING BLOCKS.

JOINT REPAIR AREAS SHALL BE FILLED WITH "CONCRETE MASONRY OVERLAY DECKS".

REMOVE THE EXISTING CONCRETE OVERLAY UNDER THE BID ITEM "REMOVING CONCRETE MASONRY DECK OVERLAY B-27-43".

THE AVERAGE OVERLAY THICKNESS IS THE MINIMUM OVERLAY THICKNESS PLUS 1/2" TO ACCOUNT FOR VARIATIONS IN THE DECK.

PROFILE GRADE LINE SHALL BE DETERMINED IN THE FIELD BASED ON A MINIMUM CONCRETE OVERLAY THICKNESS OF 1/2" PLACED ABOVE THE DECK SURFACE AFTER SURFACE PREPARATION. AVERAGE CONCRETE THICKNESS IS 3 3/8". IF EXPECTED AVERAGE CONCRETE OVERLAY THICKNESS IS EXCEEDED BY MORE THAN 1/2", CONTACT THE STRUCTURE DESIGN SECTION.

SEAL OVERLAY CONSTRUCTION JOINTS ACCORDING TO SECTION 502.3.13.1 OF THE STANDARD SPECIFICATIONS. COST INCIDENTAL TO BID ITEM "CONCRETE MASONRY OVERLAY DECKS".

PIGMENTED SURFACE SEALER TO BE APPLIED TO THE FRONT FACE AND TOP OF THE PARAPETS, INCLUDING PARAPETS ON THE WINGS.

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

THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES BRIDGES B-27-43" SHALL BE THE EXISTING GROUND LINE.

**LEGEND**

▨ - DENOTES REMOVAL LIMITS

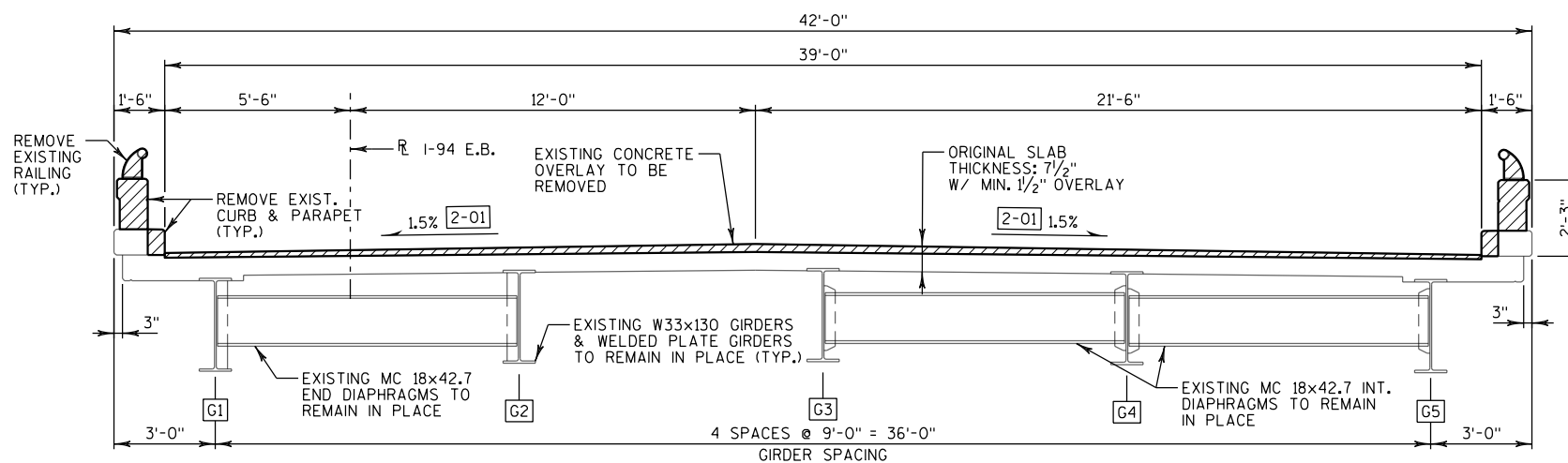
[GX] - DENOTES GIRDER NUMBER

[2-01] ORIGINAL DECK SLOPE IS 1.0%. EXISTING OVERLAY SLOPE IS 1.5%.

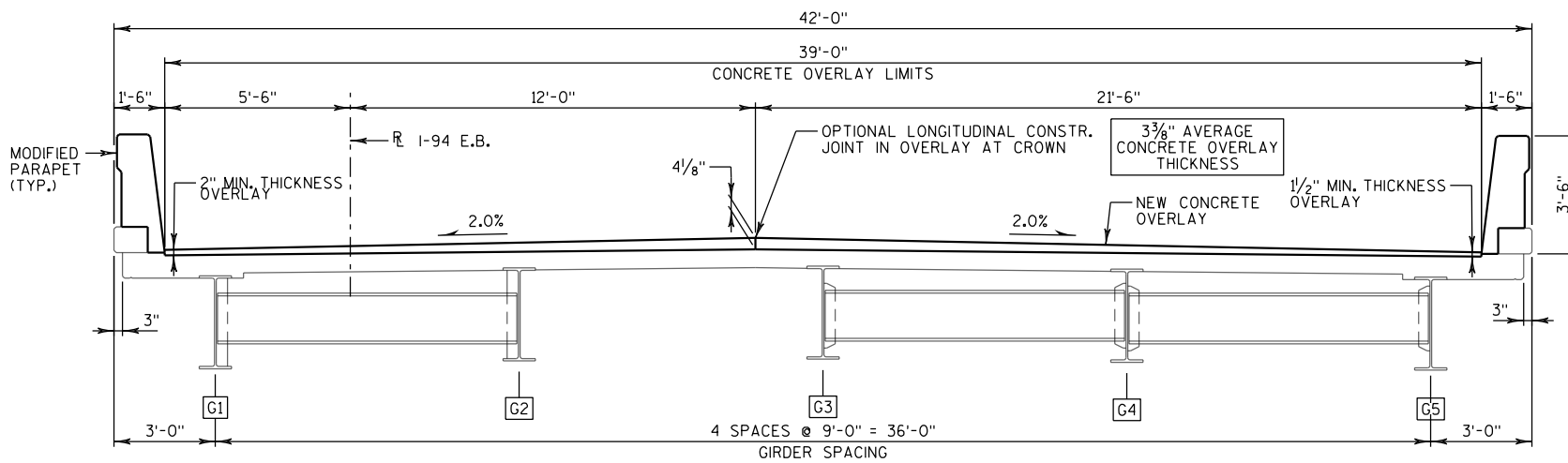
[2-02] DEBRIS CONTAINMENT TO BE USED ONLY FOR FULL-DEPTH DECK REPAIRS OVER THE RAILROAD. USE AT OTHER LOCATIONS WILL NOT BE ALLOWED OR PAID FOR.

**ABBREVIATIONS:**

- ABUT. - ABUTMENT
- B.F. - BACK FACE
- BOT - BOTTOM
- BRG. - BEARING
- CL. - CLEAR
- CONST. - CONSTRUCTION
- DIA. - DIAMETER
- E.F. - EACH FACE
- F.F. - FRONT FACE
- HORIZ. - HORIZONTAL
- JT. - JOINT
- LONG. - LONGITUDINAL
- PPT. - PARAPET
- SPA. - SPACED
- STD. - STANDARD
- T&B - TOP AND BOTTOM
- TRANS. - TRANSVERSE
- TYP. - TYPICAL
- VERT. - VERTICAL
- U.N.O. - UNLESS NOTED OTHERWISE



**EXISTING CROSS SECTION THRU ROADWAY**  
(LOOKING EAST)



**PROPOSED CROSS SECTION THRU ROADWAY**  
(LOOKING EAST)

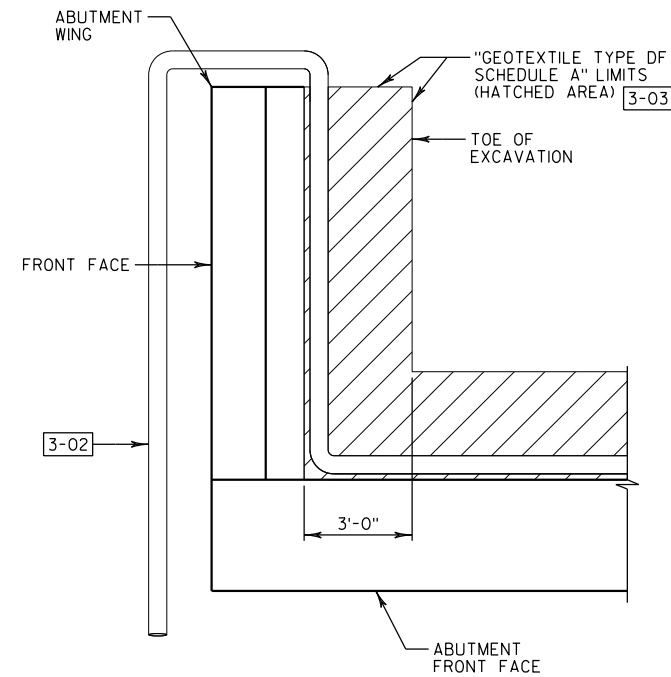
**TOTAL ESTIMATED QUANTITIES**

BID ITEM NUMBER	BID ITEM	UNIT	WEST ABUT.	PIER 1	PIER 2	EAST ABUT.	SUPER.	TOTALS
203.0220	REMOVING STRUCTURE B-27-43	EACH	--	--	--	--	--	1
203.0211.S	ABATEMENT OF ASBESTOS CONTAINING MATERIAL B-27-43	EACH	--	--	--	--	--	1
203.0330	DEBRIS CONTAINMENT B-27-43 [2-02]	EACH	--	--	--	--	--	1
206.1001	EXCAVATION FOR STRUCTURES BRIDGES B-27-43	EACH	--	--	--	--	--	1
210.1500	BACKFILL STRUCTURE TYPE A	TON	30	--	--	--	30	60
502.0100	CONCRETE MASONRY BRIDGES	CY	6.8	--	--	7.0	43.3	58
502.3101	EXPANSION DEVICE	LF	57	--	--	--	57	114
502.3200	PROTECTIVE SURFACE TREATMENT	SY	--	--	--	--	830	830
502.3210	PIGMENTED SURFACE SEALER	SY	10	--	--	10	185	205
502.4205	ADHESIVE ANCHORS NO. 5 BAR	EACH	100	--	--	100	1,072	1,272
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	--	--	--	--	1,700	1,700
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	1,815	--	--	1,825	8,570	12,210
506.7050.S	REMOVING BEARINGS B-27-43	EACH	--	--	--	5	--	5
506.2610	BEARING PADS ELASTOMERIC LAMINATED	EACH	--	--	--	5	--	5
509.0301	PREPARATION DECKS TYPE 1	SY	--	--	--	--	71	71
509.0302	PREPARATION DECKS TYPE 2	SY	--	--	--	--	29	29

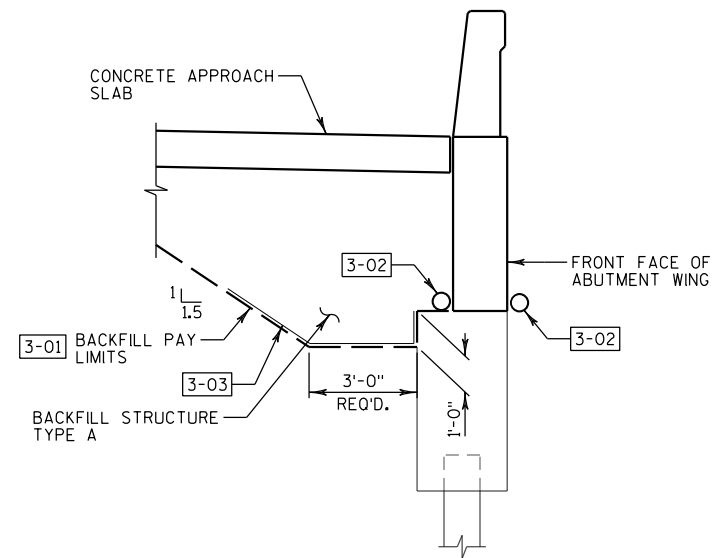
BID ITEM NUMBER	BID ITEM	UNIT	WEST ABUT.	PIER 1	PIER 2	EAST ABUT.	SUPER.	TOTALS
509.0505.S	CLEANING DECKS TO REAPPLY CONCRETE MASONRY OVERLAY	SY	--	--	--	--	781	781
509.1000	JOINT REPAIR	SY	--	--	--	--	51	51
509.1500	CONCRETE SURFACE REPAIR	SF	15	--	--	15	15	45
509.2000	FULL-DEPTH DECK REPAIR	SY	--	--	--	--	1	1
509.2500	CONCRETE MASONRY OVERLAY DECKS	CY	--	--	--	--	101	101
509.9005.S	REMOVING CONCRETE MASONRY DECK OVERLAY B-27-43	SY	--	--	--	--	781	781
509.9020.S	EPOXY CRACK SEALING	LF	10	--	--	10	--	20
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	5	--	--	5	--	10
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	40	--	--	40	--	80
614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	EACH	2	--	--	2	--	4
645.0111	GEOTEXTILE TYPE DF SCHEDULE A	SY	19	--	--	19	--	38
SPV.0060	CLEANING AND PAINTING BEARINGS	EACH	5	5	5	--	--	15
SPV.0180	ABUTMENT SEAT CLEANING AND SEALING	SY	16	--	--	16	--	32
NON-BID ITEMS								
	NAME PLATE	EACH	--	--	--	--	--	1

ALL ITEMS ARE CATEGORY 0040

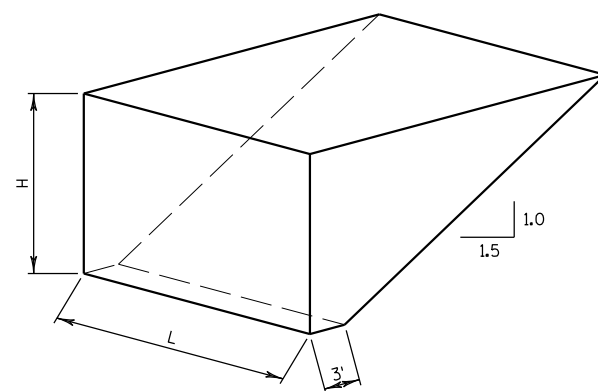
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
<b>STRUCTURE B-27-43</b>			
DRAWN BY TKB		PLANS CK'D. ETP	
<b>CROSS SECTION &amp; QUANTITIES</b>			SHEET 2 OF 14



**ABUTMENT PLAN WITH WING**

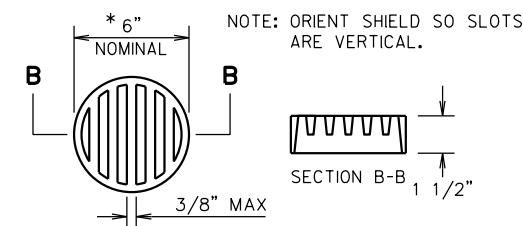


**TYPICAL SECTION THRU WING**



**WING BACKFILL PAY LIMIT DIAGRAM**

- L = WING LENGTH (FT)
- H = AVERAGE WING FILL HEIGHT (FT)
- EF = EXPANSION FACTOR (1.20 FOR CY BID ITEMS AND 1.00 FOR TON BID ITEMS)
- $V_{cf} = (L)(3.0')(H) + (L)(0.5)(1.5H)(H)$
- $V_{cy} = V_{cf} (EF)/27$
- $V_{TON} = V_{cy} (2.0)$



\* DIMENSION IS APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING.

**RODENT SHIELD DETAIL**

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

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

**RAILROAD NOTES**

- ALL WORK WITHIN 25 FEET OF TRACK, OVER TRACK, OR WITH POTENTIAL TO FOUL TRACK REQUIRES UPRR FLAGMAN TO BE ON SITE.
- ALL EQUIPMENT, MATERIALS, AND PERSONNEL SHALL REMAIN OUTSIDE THE MINIMUM CONSTRUCTION CLEARANCE ENVELOPE, EXCEPT WHEN WITHIN PRE-DETERMINED TRACK CURFEWS.
- ALL PERSONNEL MUST CLEAR THE AREA WITHIN 25 FEET OF THE TRACK CENTERLINE AND SECURE ALL EQUIPMENT WITHIN 50 FEET DURING THE APPROACH AND PASSAGE OF A TRAIN.
- EQUIPMENT SHALL NOT BE SUPPORTED BY THE TRACK BALLAST, SUB-BALLAST, TIES, OR RAILS AT ANY TIME.
- STORAGE AND STAGING AREAS ARE NOT PERMITTED WITHIN UPRR RIGHT OF WAY, EXCEPT WITHIN PRE-APPROVED ZONES SUCH AS EASEMENTS.
- TEMPORARY TRACK CROSSINGS MUST BE APPROVED BY UPRR'S LOCAL OPERATING UNIT AND UPRR MANAGER OF PUBLIC PROJECTS PRIOR TO START OF CONSTRUCTION.
- TRACK CROSSINGS AND USE OF UPRR ACCESS ROADS/HAUL ROADS MUST BE COORDINATED WITH UPRR'S LOCAL MANAGER OF TRACK MAINTENANCE (AND YARD MASTER, IF WITHIN YARD LIMITS).
- TEMPORARY DRAINAGE STRUCTURES AND/OR BMP'S SHALL NOT DIRECT STORM WATER TOWARDS UPRR TRACKS OR ACCESS ROADS.
- UNATTENDED EXCAVATIONS WITHIN UPRR RIGHT OF WAY SHALL BE PROPERLY SECURED BY FENCING AND/OR COVERING(S) PER OSHA REQUIREMENTS.
- FOR ANY CONSTRUCTION THAT INCLUDES HEAVY EQUIPMENT OR EXCAVATION, ALL UTILITIES WITHIN UPRR RIGHT OF WAY MUST BE IDENTIFIED AND MARKED PRIOR TO START OF CONSTRUCTION. UPRR CALL BEFORE YOU DIG: UP.com/CBUD

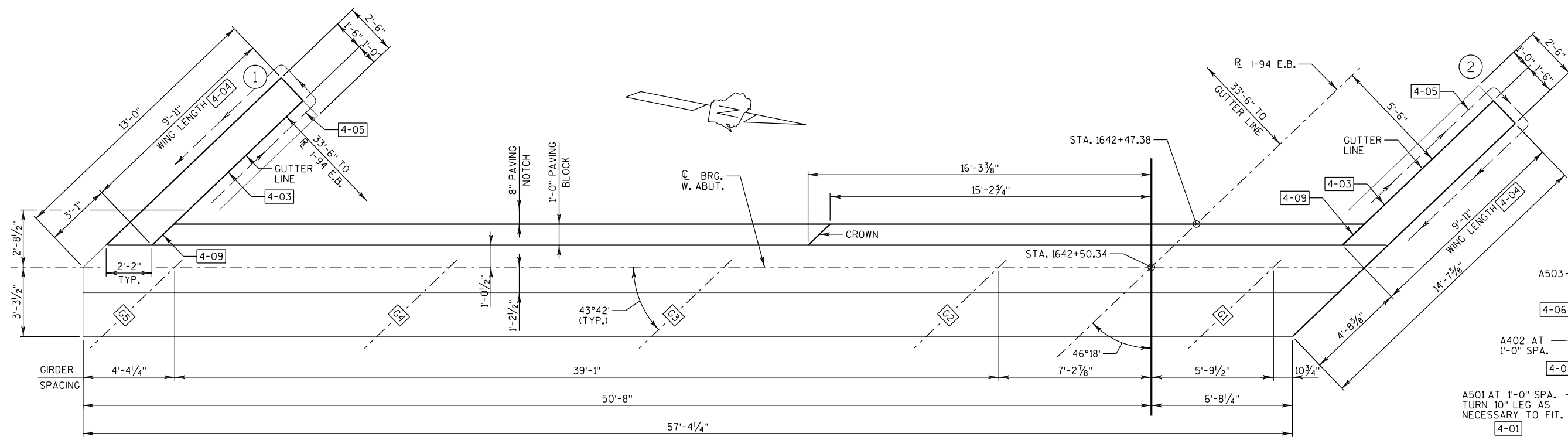
**NOTE**

THE BACKFILL QUANTITIES ARE BASED ON THE PAY LIMITS SHOWN ON THE PLANS AND MAY NOT REFLECT ACTUAL PLACED QUANTITIES. "BACKFILL STRUCTURE TYPE A" REQUIRED DIRECTLY BEHIND ABUTMENTS AND ABUTMENT WINGS FOR 3 FEET. BACKFILL PLACED BEYOND PAY LIMITS OR EXCEEDING PLAN QUANTITIES SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES.

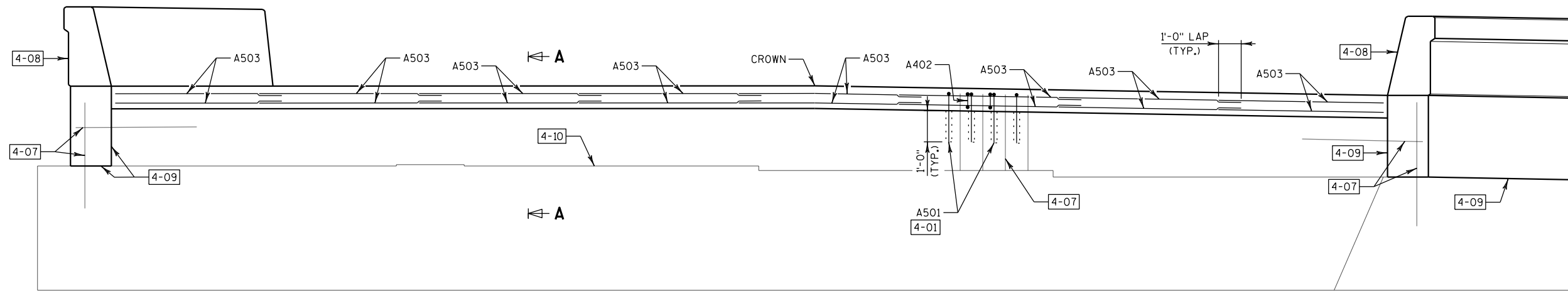
**LEGEND**

- 3-01 BACKFILL PAY LIMITS, BACKFILL BEYOND BACKFILL PAY LIMITS SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES. LIMITS OF EXCAVATION SHALL BE DETERMINED BY THE CONTRACTOR.
- 3-02 PIPE UNDERDRAIN WRAPPED (6-INCH), SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN.
- 3-03 EXCAVATION BELOW THE ABUTMENT AND ABUTMENT BEDDING MATERIALS REQUIRES ENGINEER APPROVAL. "GEOTEXTILE TYPE DF SCHEDULE A" SHALL BE SET AT THE BOTTOM OF EXCAVATION AND EXTEND 2'-0" ABOVE BOTTOM OF EXCAVATION LIMITS.

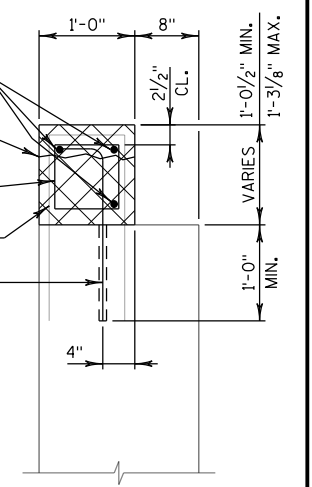
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
<b>STRUCTURE B-27-43</b>			
DRAWN BY TKB		PLANS CK'D. ETP	
<b>MISCELLANEOUS DETAILS</b>			SHEET 3 OF 14



PLAN



ELEVATION  
(LOOKING WEST)



SECTION A-A

LEGEND

- GX INDICATES GIRDER NUMBER.
- X INDICATES WING NUMBER.
- 4-01 A501 BARS INSTALLED WITH ADHESIVE ANCHORS NO. 5 BAR, EMBED 1'-0" MIN. INTO EXISTING CONCRETE. VARY EMBEDMENT DEPTH TO MAINTAIN 2 1/2" CLEAR COVER.
- 4-02 A510 BARS INSTALLED WITH ADHESIVE ANCHORS NO. 5 BAR, EMBED 1'-0" MIN. INTO EXISTING CONCRETE.
- 4-03 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACK FACE.
- 4-04 DIMENSIONS TAKEN ALONG GUTTER LINE.
- 4-05 PIPE UNDERDRAIN WRAPPED (6-INCH), SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN.
- 4-06 OPTIONAL CONSTRUCTION JOINT 1" MIN. BELOW EXISTING REINFORCEMENT.
- 4-07 PRESERVE & INCORPORATE EXISTING REINFORCEMENT.
- 4-08 SEE SUPERSTRUCTURE DETAILS FOR PARAPET REINFORCEMENT.
- 4-09 REMOVAL LINE FOR WING REMOVAL AND RECONSTRUCT. SEE SHEET 6 FOR "WING REMOVALS" DETAIL.
- 4-10 CLEAN AND SEAL ABUTMENT SEAT (FULL LENGTH OF ABUTMENT).
- 4-11 CUT EXISTING VERTICAL REINFORCEMENT FLUSH WITH CONCRETE AND GRIND SMOOTH.
- 4-12 DIMENSIONS ARE APPROXIMATE. NEW WING HEIGHT EQUALS EXISTING PLUS 0.5 INCHES. CONFIRM DIMENSIONS PRIOR TO WING REMOVAL.
- INDICATES CONCRETE AREA TO BE POURED AFTER SUPERSTRUCTURE CONCRETE IS IN PLACE.

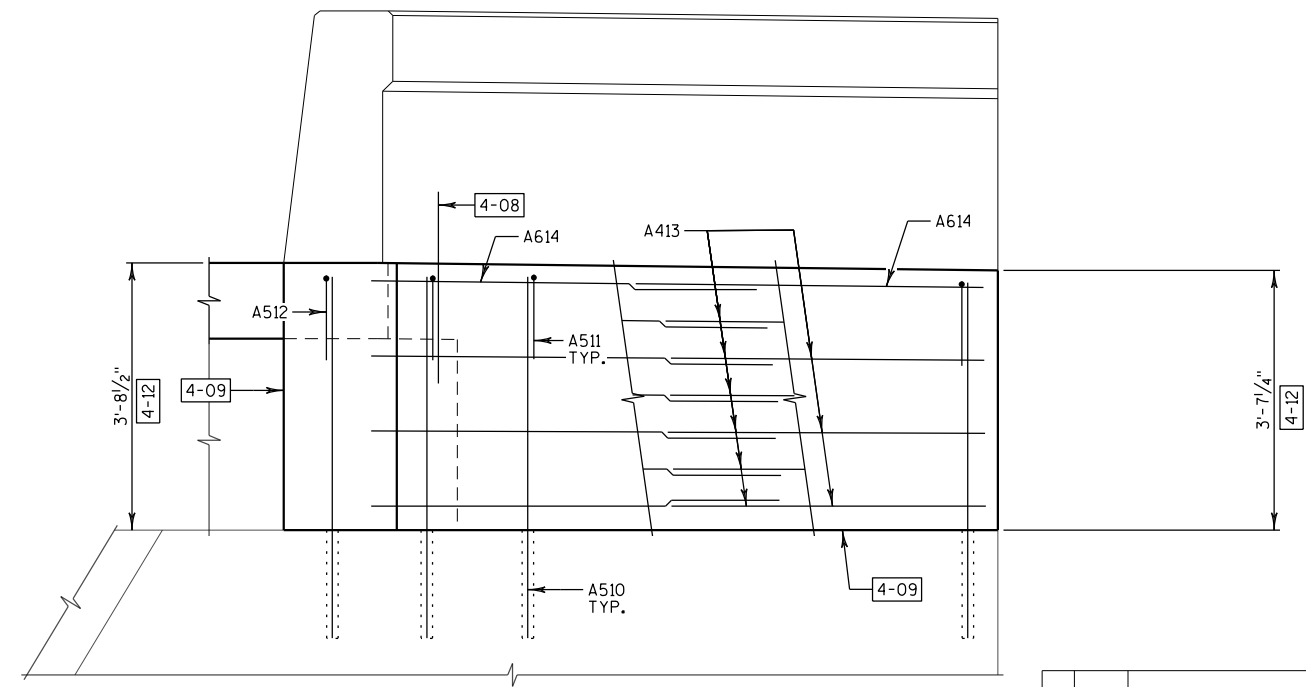
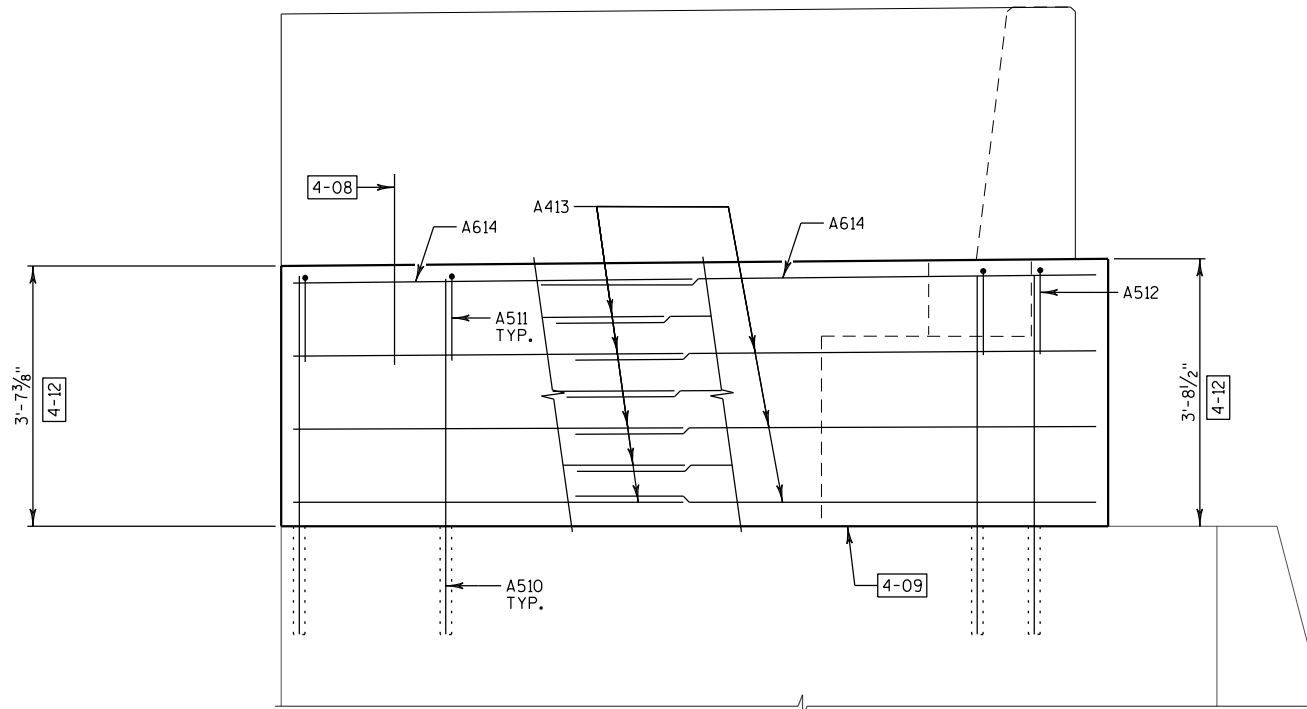
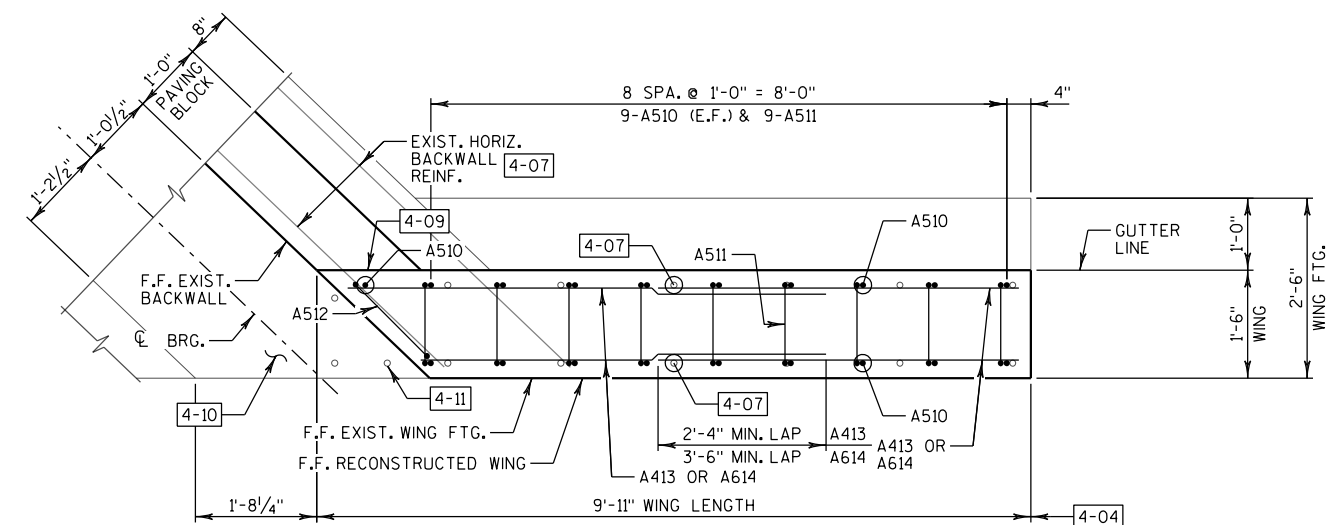
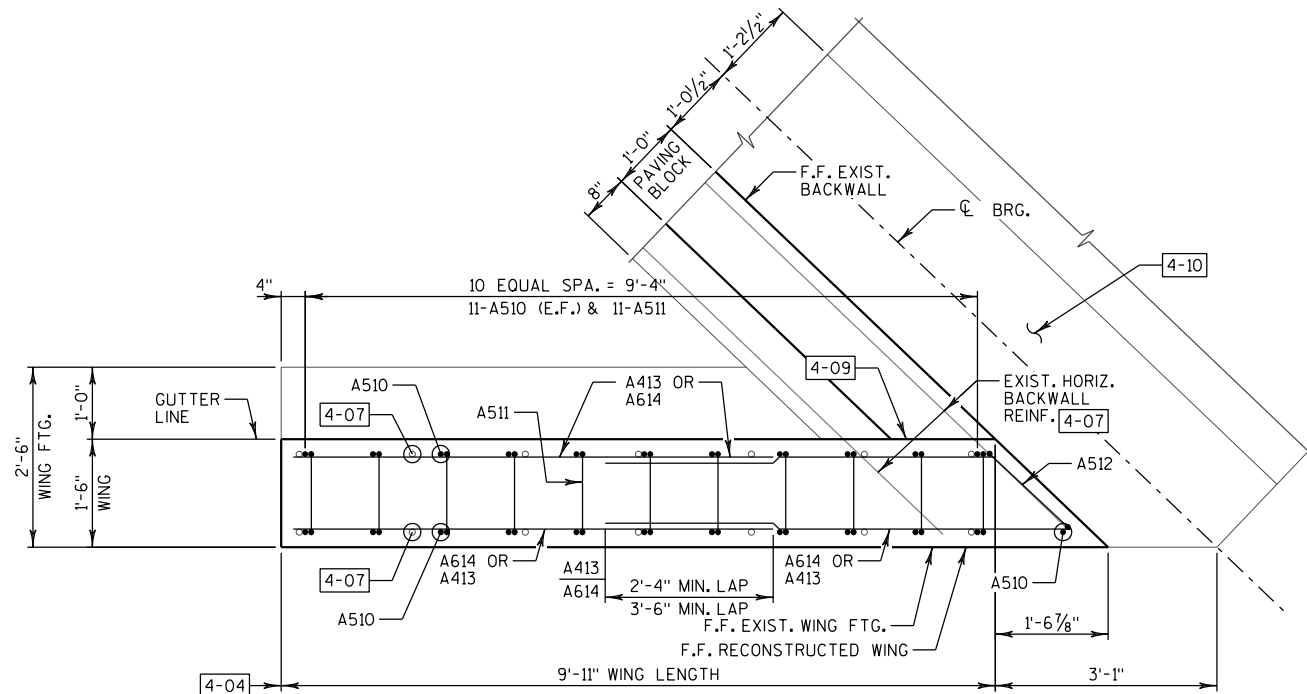
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
<b>STRUCTURE B-27-43</b>			
DRAWN BY TKB		PLANS CK'D. ETP	
<b>WEST ABUTMENT-1</b>			SHEET 4 OF 14

8

8

**LEGEND**

[4-XX] SEE SHEET 4 FOR CALLOUTS.  
SEE SHEET 6 FOR TYPICAL SECTION THRU WINGS.



NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-27-43			
DRAWN BY TKB		PLANS CK'D. ETP	
WEST ABUTMENT-2			SHEET 5 OF 14

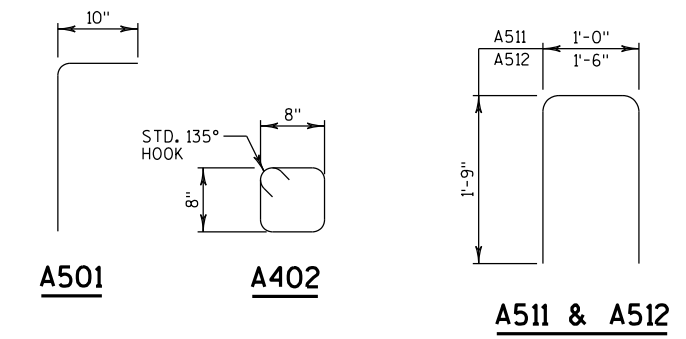
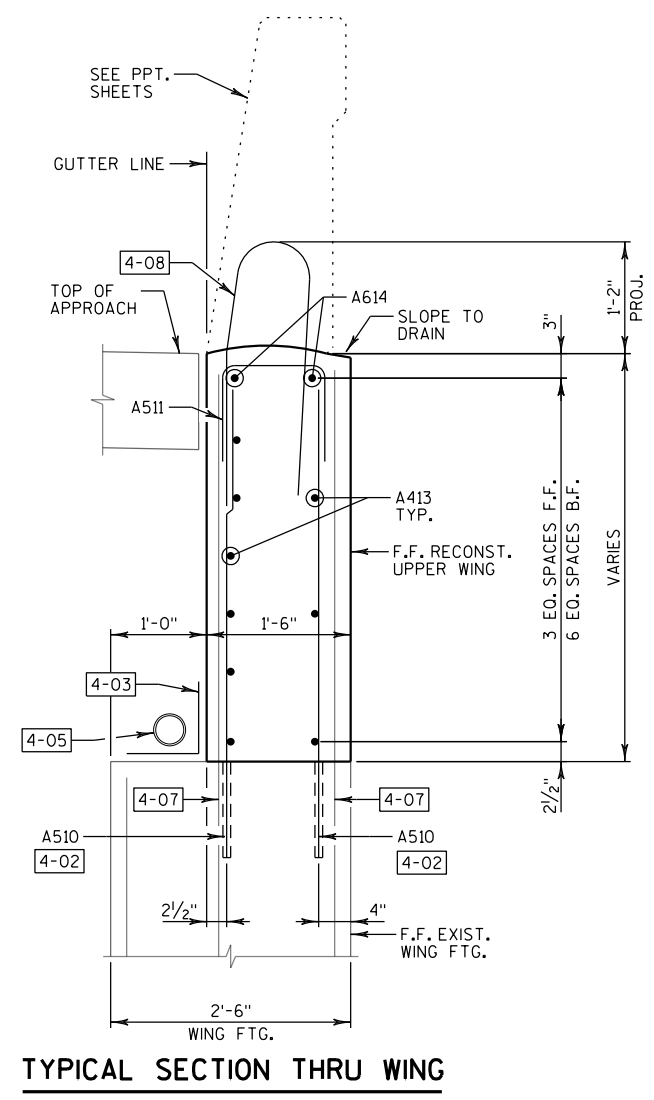
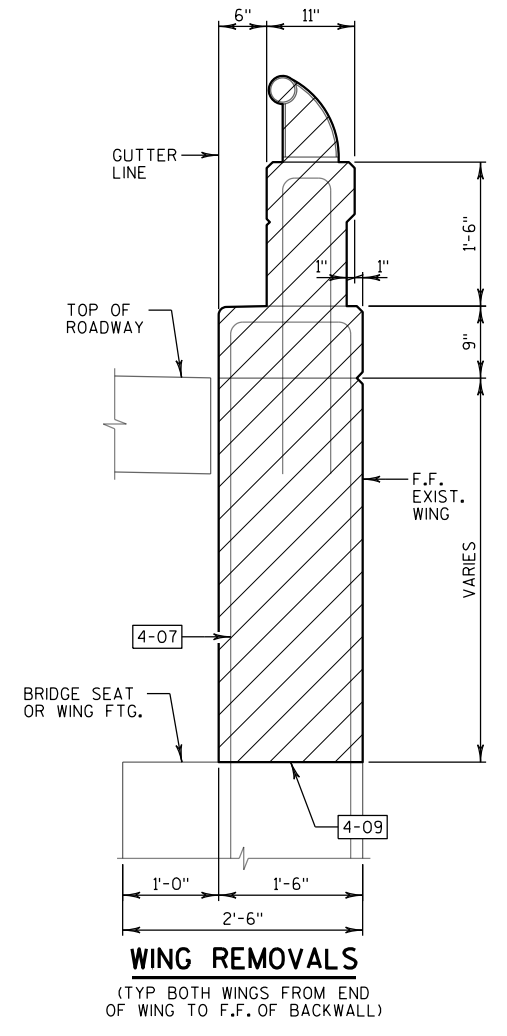
**LEGEND**

- 4-XX SEE SHEET 4 FOR CALLOUTS.
- INDICATES REMOVAL AREA.

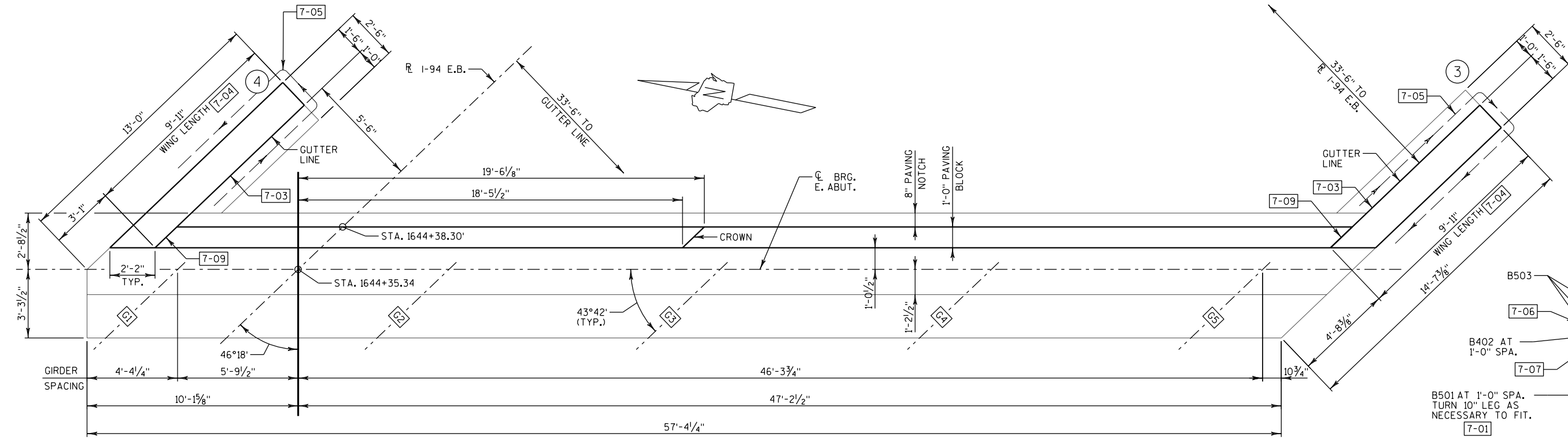
**BILL OF BARS - WEST ABUTMENT**

BAR MARK	COAT	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
A501	X	58	2'-10"	X		PAVING BLOCK VERT.
A402	X	58	3'-2"	X		PAVING BLOCK VERT.
A503	X	24	7'-11"			PAVING BLOCK HORIZ.
A510	X	42	4'-5"			WINGS - B.F. & F.F. VERT.
A511	X	20	4'-3"	X		WINGS - TOP TRANS.
A512	X	2	4'-9"	X		WINGS - TOP TRANS.
A413	X	36	6'-8"			WINGS - B.F. & F.F. HORIZ.
A614	X	8	7'-3"			WINGS - TOP HORIZ.
TOTAL WEIGHT = 1,050 LBS						

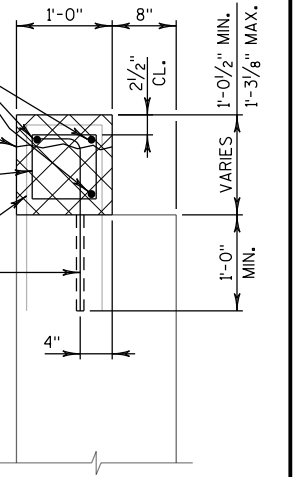
THE FIRST DIGIT OF THE BAR MARK SIGNIFIES THE BAR SIZE.



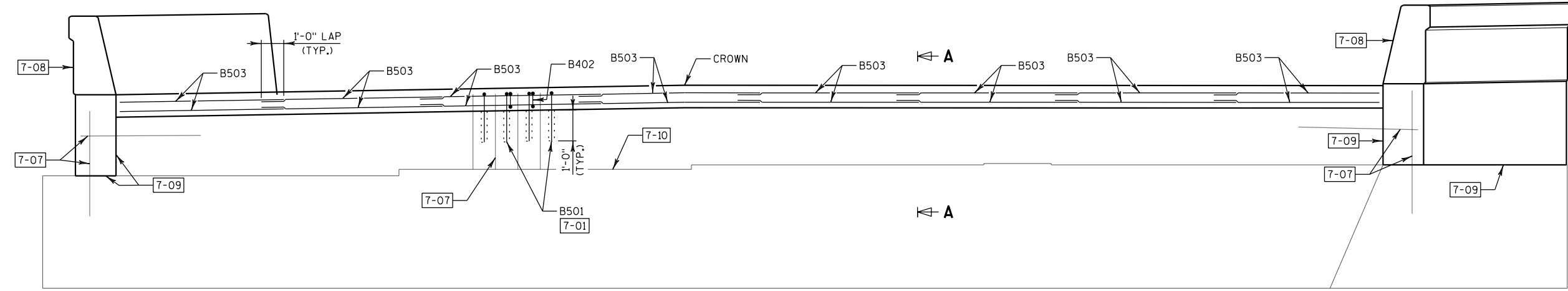
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
<b>STRUCTURE B-27-43</b>			
DRAWN BY TKB		PLANS CK'D. ETP	
<b>WEST ABUTMENT-3</b>			SHEET 6 OF 14



PLAN



SECTION A-A



ELEVATION  
(LOOKING EAST)

LEGEND

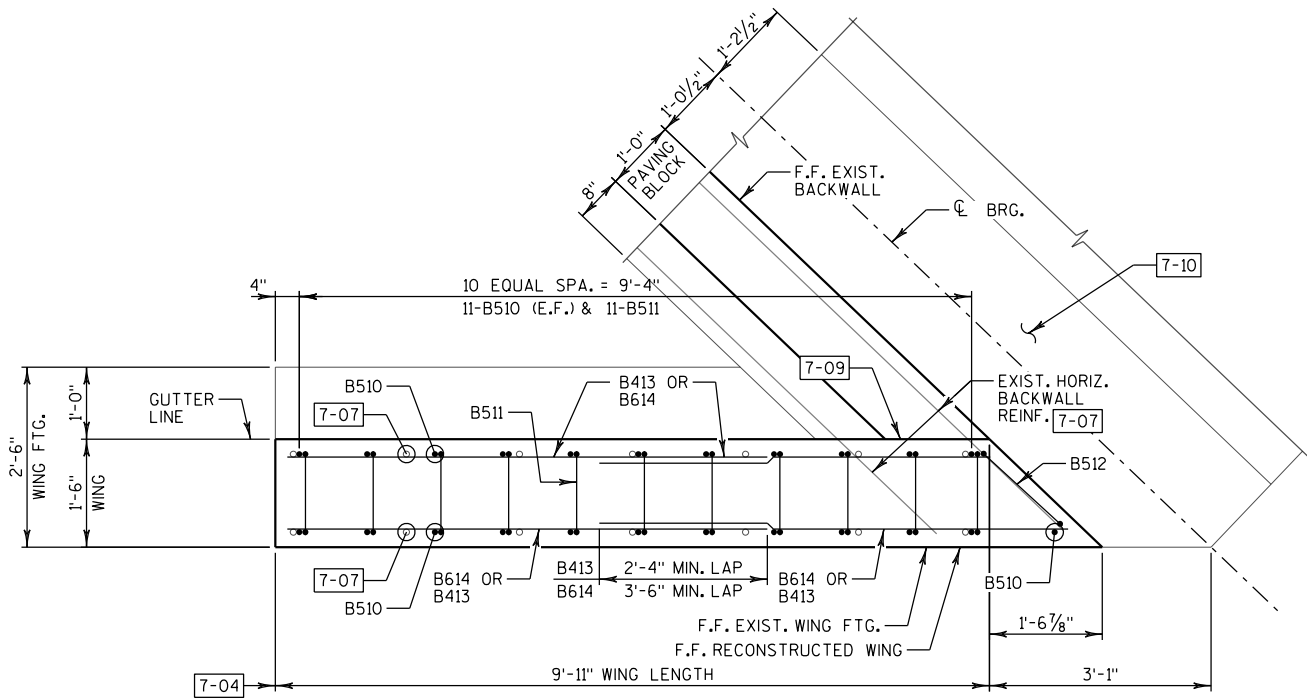
- GX INDICATES GIRDER NUMBER.
- X INDICATES WING NUMBER.
- 7-01 B501 BARS INSTALLED WITH ADHESIVE ANCHORS NO. 5 BAR, EMBED 1'-0" MIN. INTO EXISTING CONCRETE. VARY EMBEDMENT DEPTH TO MAINTAIN 2 1/2" CLEAR COVER.
- 7-02 B510 BARS INSTALLED WITH ADHESIVE ANCHORS NO. 5 BAR, EMBED 1'-0" MIN. INTO EXISTING CONCRETE.
- 7-03 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACK FACE.
- 7-04 DIMENSIONS TAKEN ALONG GUTTER LINE.
- 7-05 PIPE UNDERDRAIN WRAPPED (6-INCH), SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN.
- 7-06 OPTIONAL CONSTRUCTION JOINT 1" MIN. BELOW EXISTING REINFORCEMENT.
- 7-07 PRESERVE & INCORPORATE EXISTING REINFORCEMENT.
- 7-08 SEE SUPERSTRUCTURE DETAILS FOR PARAPET REINFORCEMENT.
- 7-09 REMOVAL LINE FOR WING REMOVAL AND RECONSTRUCT. SEE SHEET 9 FOR "WING REMOVALS" DETAIL.
- 7-10 CLEAN AND SEAL ABUTMENT SEAT (FULL LENGTH OF ABUTMENT).
- 7-11 CUT EXISTING VERTICAL REINFORCEMENT FLUSH WITH CONCRETE AND GRIND SMOOTH.
- 7-12 DIMENSIONS ARE APPROXIMATE. NEW WING HEIGHT EQUALS EXISTING PLUS 0.5 INCHES. CONFIRM DIMENSIONS PRIOR TO WING REMOVAL.

  INDICATES CONCRETE AREA TO BE POURED AFTER SUPERSTRUCTURE CONCRETE IS IN PLACE.

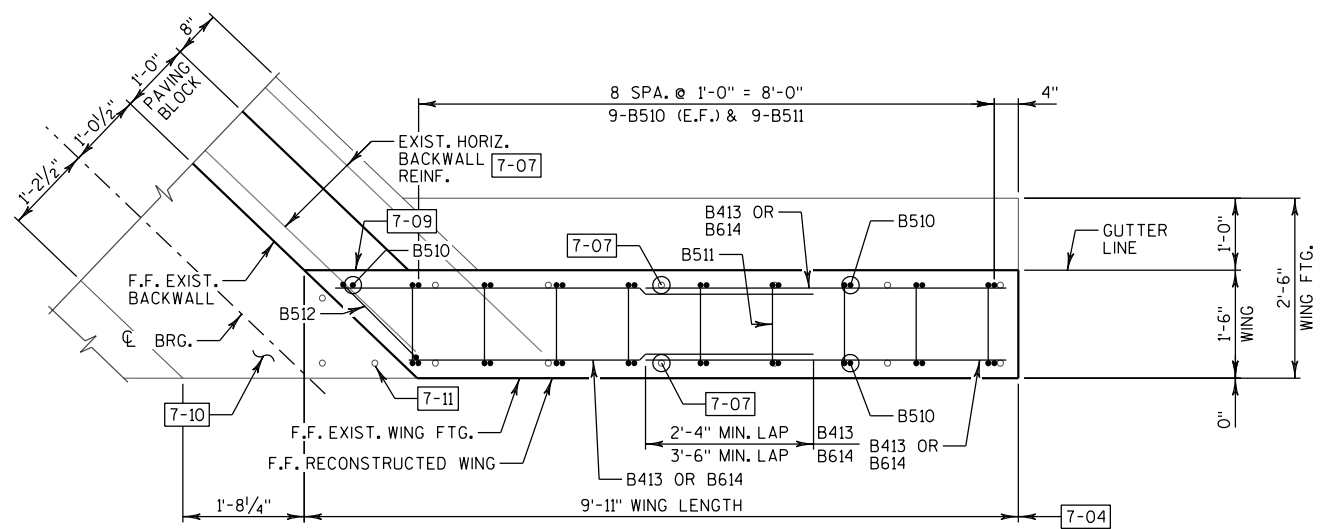
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
<b>STRUCTURE B-27-43</b>			
DRAWN BY TKB		PLANS CK'D. ETP	
<b>EAST ABUTMENT-1</b>			SHEET 7 OF 14

**LEGEND**

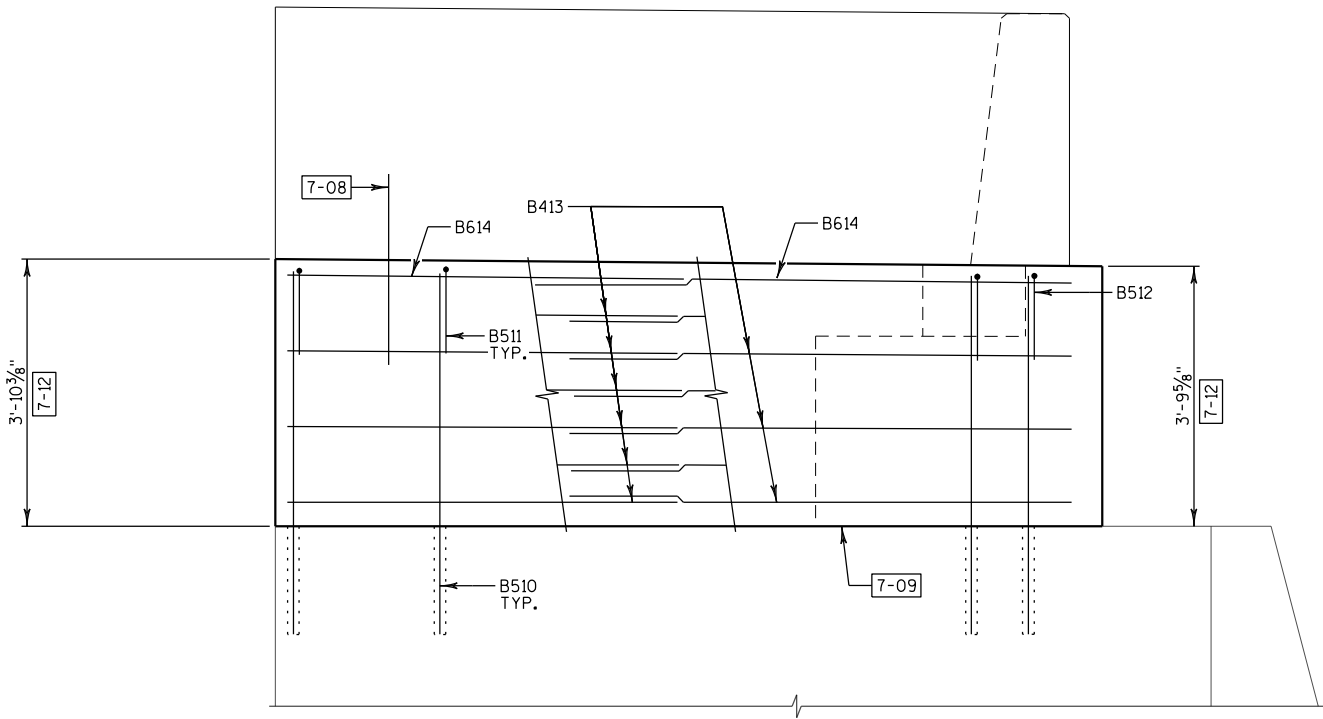
[7-XX] SEE SHEET 7 FOR CALLOUTS.  
SEE SHEET 9 FOR TYPICAL SECTION THRU WINGS.



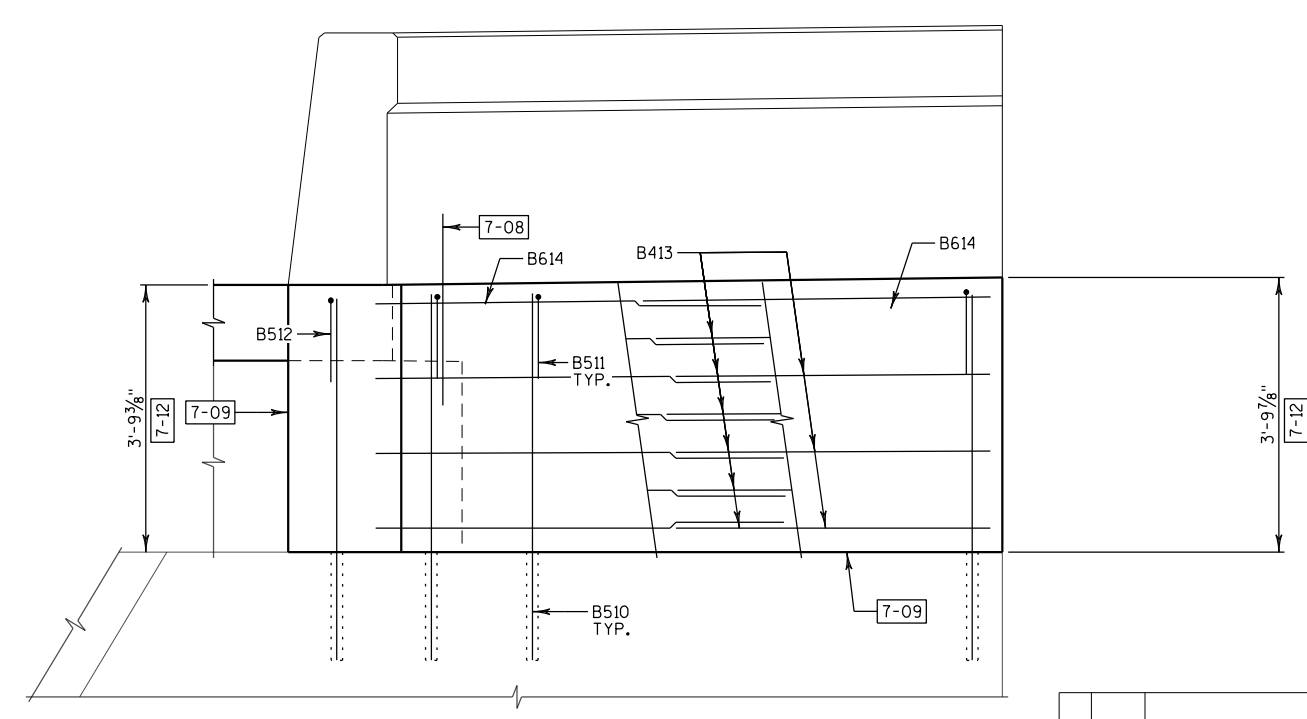
**WING 4 PLAN**  
(PARAPET NOT SHOWN FOR CLARITY)



**WING 3 PLAN**  
(PARAPET NOT SHOWN FOR CLARITY)



**WING 4 ELEVATION**



**WING 3 ELEVATION**

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
<b>STRUCTURE B-27-43</b>			
DRAWN BY TKB		PLANS CK'D. ETP	
<b>EAST ABUTMENT-2</b>			SHEET 8 OF 14

8

8

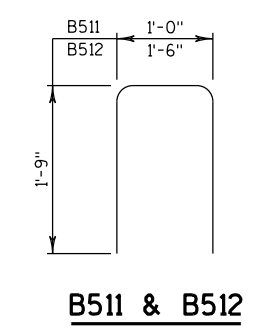
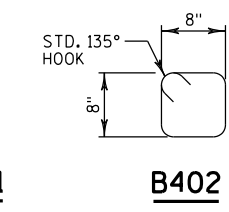
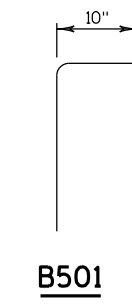
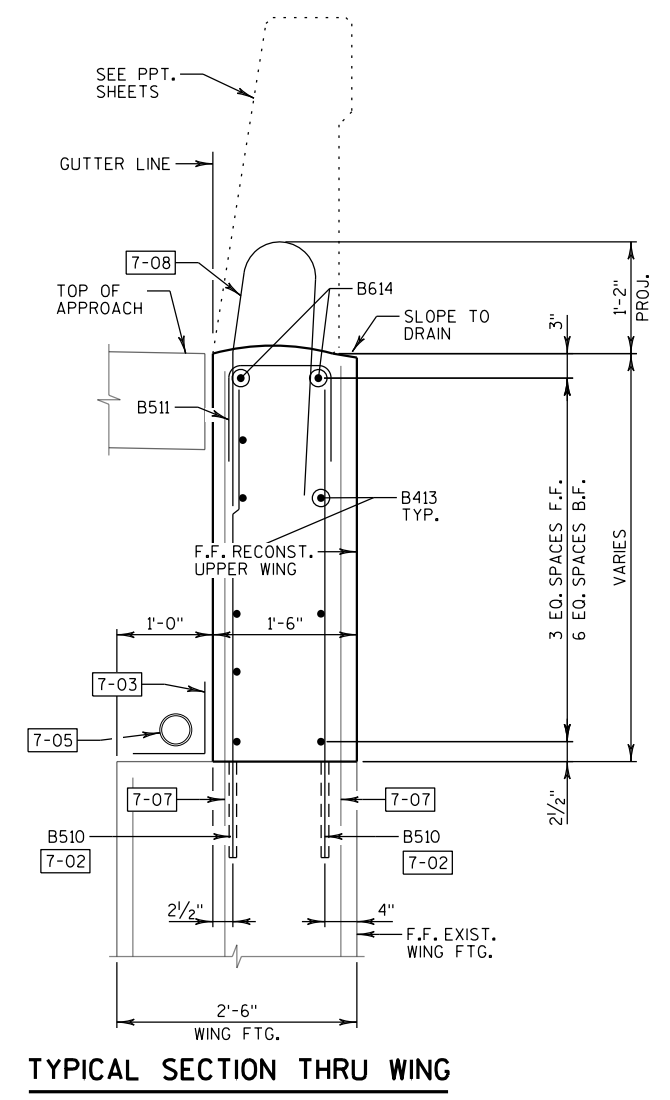
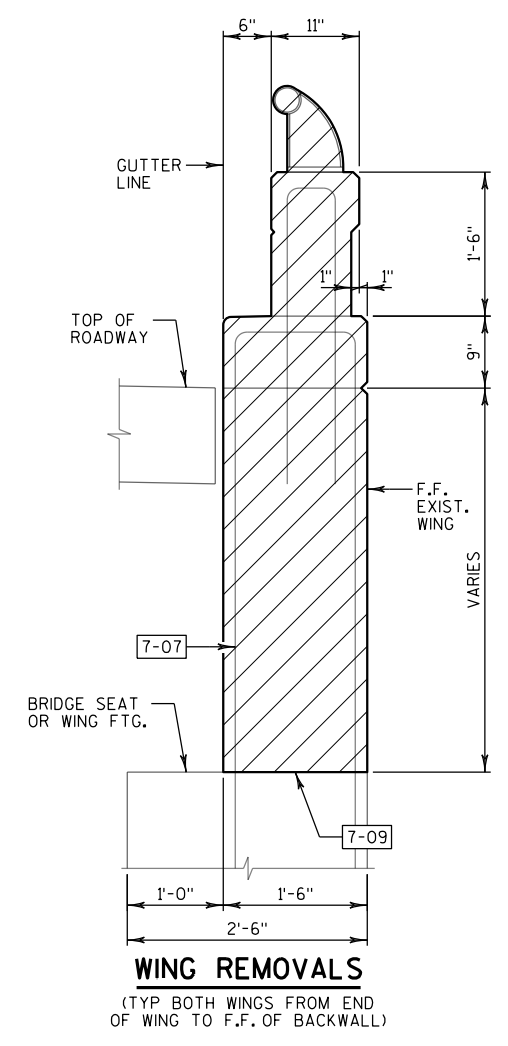
**LEGEND**

- 7-XX SEE SHEET 7 FOR CALLOUTS.
- INDICATES REMOVAL AREA.

**BILL OF BARS - EAST ABUTMENT**

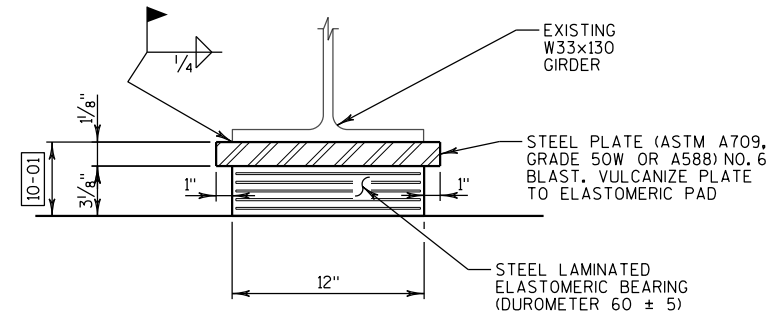
BAR MARK	COAT	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
B501	X	58	2'-10"	X		PAVING BLOCK VERT.
B402	X	58	3'-2"	X		PAVING BLOCK VERT.
B503	X	24	7'-11"			PAVING BLOCK HORIZ.
B510	X	42	4'-8"			WINGS - B.F. & F.F. VERT.
B511	X	20	4'-3"	X		WINGS - TOP TRANS.
B512	X	2	4'-9"	X		WINGS - TOP TRANS.
B413	X	36	6'-8"			WINGS - B.F. & F.F. HORIZ.
B614	X	8	7'-3"			WINGS - TOP HORIZ.
TOTAL WEIGHT = 1,060 LBS						

THE FIRST DIGIT OF THE BAR MARK SIGNIFIES THE BAR SIZE.

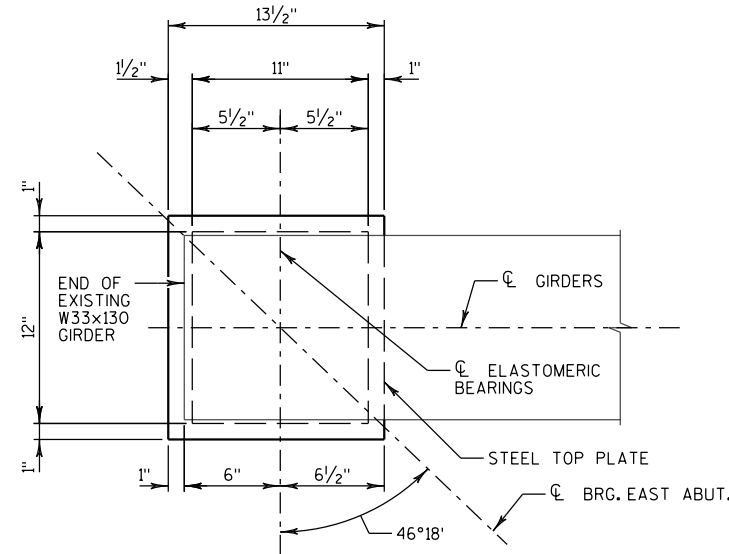


NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
<b>STRUCTURE B-27-43</b>			
DRAWN BY TKB		PLANS CK'D. ETP	
<b>EAST ABUTMENT-3</b>			SHEET 9 OF 14

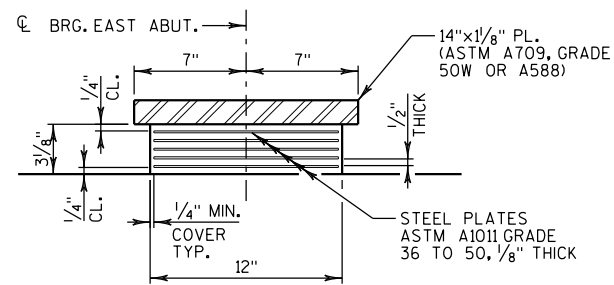




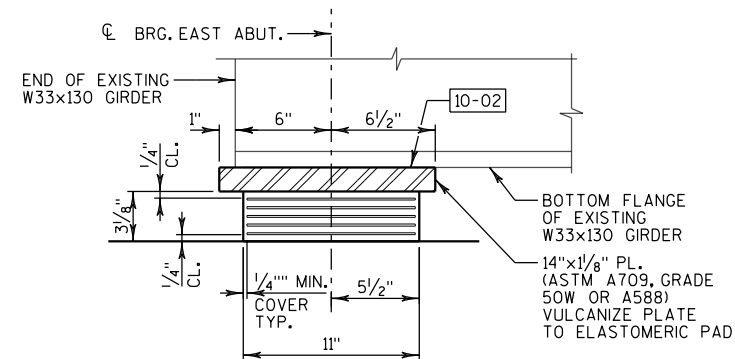
**FRONT ELEVATION**



**PLAN VIEW**



**SECTION THRU ELASTOMERIC BEARING**  
(FRONT ELEVATION)



**SECTION THRU ELASTOMERIC BEARING**  
(SIDE ELEVATION)

**BEARING NOTES:**

REMOVAL OF THE EXISTING BEARINGS SHALL BE PAID AT THE UNIT BID PRICE FOR "REMOVING BEARINGS B-27-43".

ALL MATERIAL USED FOR BEARINGS SHALL BE PAID AT THE UNIT BID PRICE FOR "BEARING PADS ELASTOMERIC LAMINATED".

BEARINGS SHALL NOT BE PLACED AT A TEMPERATURE GREATER THAN 85°F.

ALL STRUCTURAL STEEL PLATES SHALL BE FLAT ROLLED WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT, AND VERTICAL.

ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUTS.

ALL BEARINGS ARE SYMMETRICAL ABOUT CENTERLINES.

WELDING PROCEDURES SHALL BE ESTABLISHED BY THE CONTRACTOR TO RESTRICT THE MAXIMUM TEMPERATURE REACHED BY SURFACES IN CONTACT WITH ELASTOMER TO 200°F (93°C). TEMPERATURES SHALL BE CONTROLLED BY TEMPERATURE INDICATING WAX PENCILS OR OTHER SUITABLE MEANS APPROVED BY THE ENGINEER.

**LEGEND**

10-01 REMOVE EXISTING EXPANSION BEARINGS AND EXISTING ANCHOR BOLTS FLUSH WITH CONCRETE BEARING SURFACE AND GRIND SMOOTH.

10-02 GRIND EXIST. WELD THAT ATTACHED EXIST. TOP PLATE TO EXIST. BOT. FLANGE. GRIND AFFECTED AREAS SMOOTH.

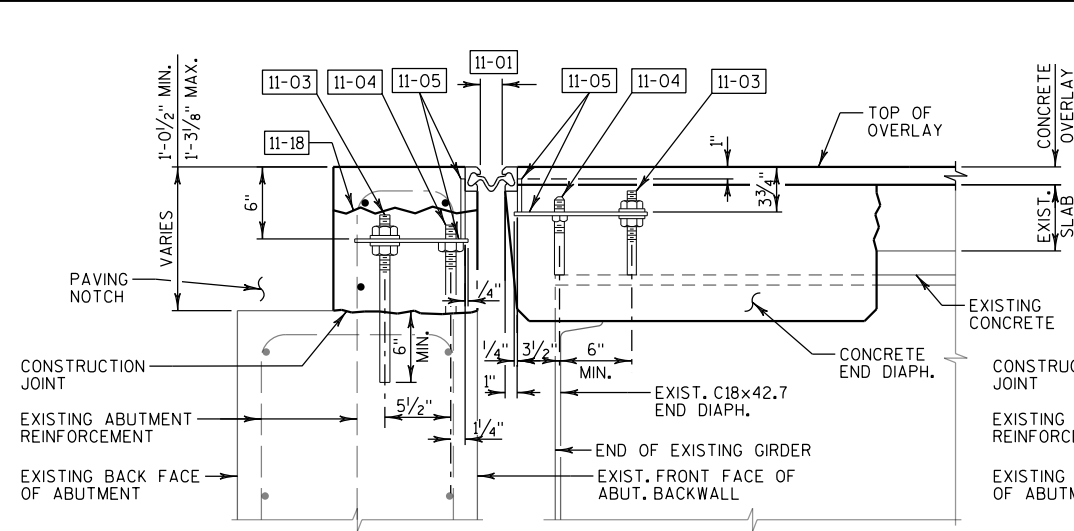
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
<b>STRUCTURE B-27-43</b>			
DRAWN BY TKB		PLANS CK'D. ETP	
<b>EXPANSION BEARING DETAILS</b>			SHEET 10 OF 14

**NOTE**

SEE SHEET 12 FOR ADDITIONAL CALLOUT LOCATIONS AND GENERAL NOTES.

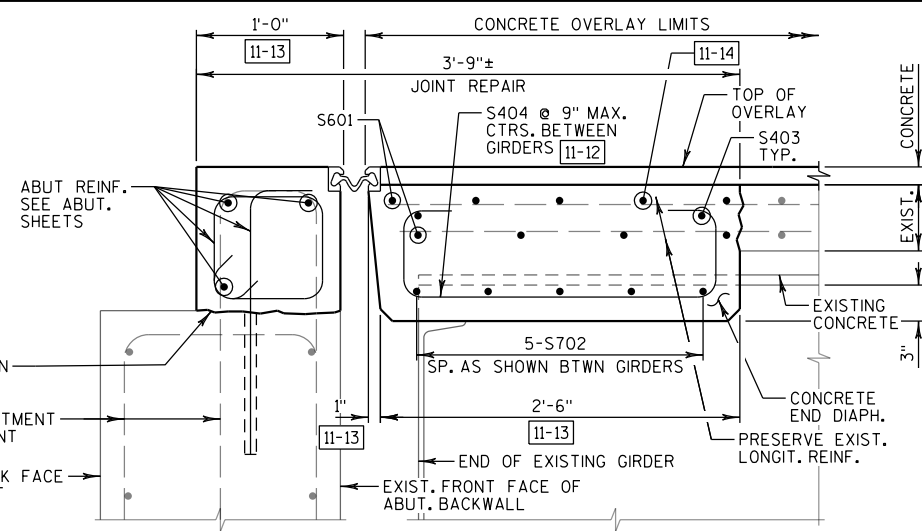
**LEGEND**

- 11-01 NEOPRENE STRIP SEAL (4-INCH) & STEEL EXTRUSIONS. SET JOINT OPENING AT 1 3/4" (NORMAL TO JOINT).
- 11-02 STUDS 5/8" φ × 6 3/8" LONG AT 6" ALTERNATE CENTERS. WELD TO EXTRUSIONS & BEND AS SHOWN AFTER WELDING.
- 11-2A 1/2" THICK ANCHOR PLATE WITH 5/8" φ ROD (OR ALTERNATE STRIP SEAL ANCHOR). WELD ROD TO ANCHOR PLATE, WELD ANCHOR PL. TO 11-01 AT 1'-6" CTRS. BETWEEN GIRDERS.
- 11-03 3/4" 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.
- 11-04 3/4" φ THREADED ROD WITH NUT. TACK WELD NUT TO 11-05.
- 11-05 FABRICATE SUPPORT FROM 3" × 1/2" BAR AS SHOWN OR EQUIVALENT. ONE PER GIRDER PER SIDE. SHOP OR FIELD WELD TO 11-01. IF FIELD WELDED, COVER WELDED AREAS WITH EPOXY-COATING MATERIAL. PROVIDE 1 1/2" φ HOLE FOR 11-03 & 1" φ HOLE FOR 11-04.
- 11-06 GALVANIZED PLATE 3/8"×10"×3'-0" LONG WITH HOLES FOR 11-07.
- 11-07 3/4" φ × 1 1/2" STAINLESS STEEL SOCKET FLAT HEAD SCREWS WITH ANTI-SEIZE LUBRICANT. PLACE IN COUNTERSUNK HOLE. RECESS 1/16" BELOW PLATE SURFACE.
- 11-08 3/4" φ × 4" GALVANIZED HEX HEAD BOLT. BEND 45°.
- 11-09 3/4" φ × 2 1/4" GALVANIZED THREADED COUPLING.
- 11-10 NOT USED.
- 11-11 1" × 5" SLOTTED COUNTERSUNK HOLE FOR 11-07. PLACE SLOT PARALLEL TO DIRECTION OF MOVEMENT.
- 11-12 BARS PLACED PARALLEL TO GIRDERS. SPACING PERPENDICULAR TO CL GIRDERS.
- 11-13 DIMENSION IS TAKEN NORMAL TO CL ABUTMENT.
- 11-14 EXISTING TRANSVERSE REINFORCEMENT POSITIONED NORMAL TO GIRDERS. INCORPORATE 1'-6" MINIMUM INTO NEW CONSTRUCTION.
- 11-15 BLOCK OUT CONCRETE 2" EACH SIDE OF JOINT OPENING.
- 11-16 JOINT OPENING DIMENSION ALONG SKEW PLUS 1/2".
- 11-17 NOT USED.
- 11-18 OPTIONAL CONSTRUCTION JOINT 1" MIN. BELOW EXISTING REINFORCEMENT.



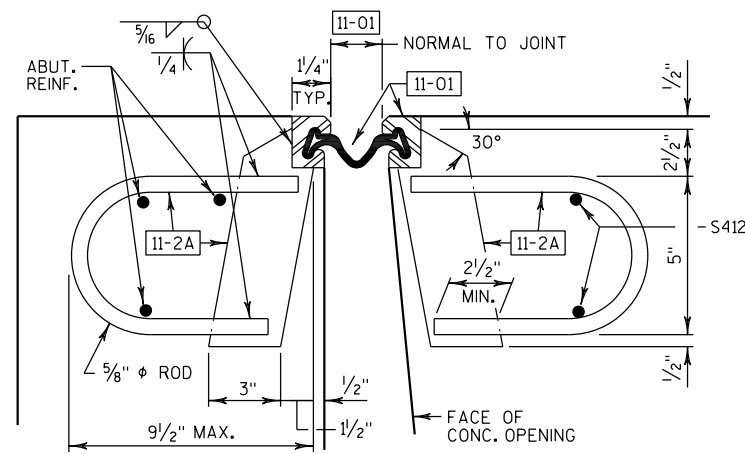
**SECTION THRU JOINT AT ABUTMENT**

NORMAL TO CL SUBSTRUCTURE



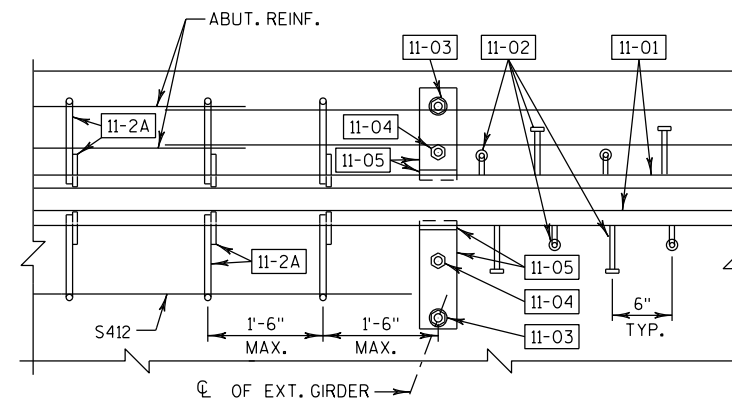
**SECTION THRU JOINT AT ABUTMENT**

NORMAL TO CL SUBSTRUCTURE  
DIAPHRAGM TO EXTEND TO GIRDER WEB  
(SEE PART TRANSVERSE SECTION AT DIAPHRAGM  
END FOR TYPICAL EXTENTS)

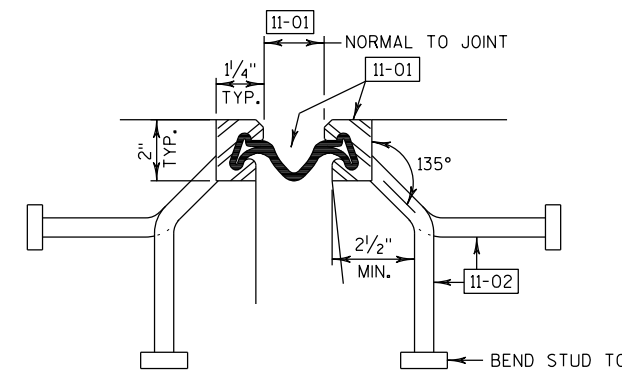


**SECTION THRU JOINT**

ROADWAY TRAFFIC AREA BETWEEN EXTERIOR GIRDERS.

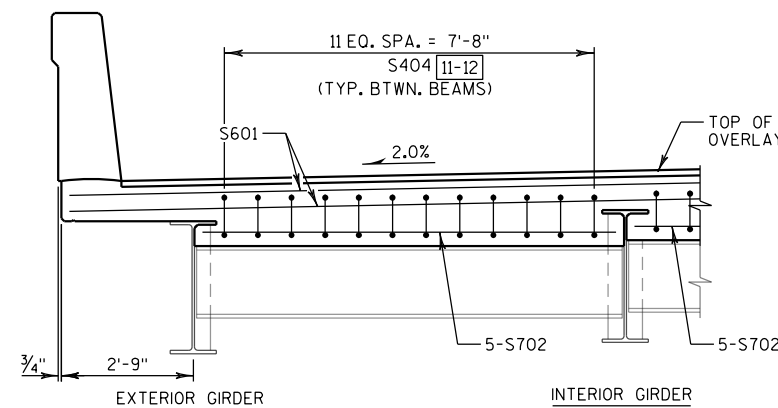


**PART PLAN**



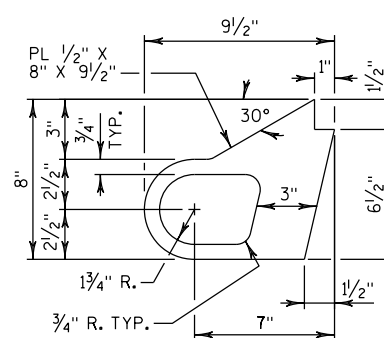
**SECTION THRU JOINT**

EXTERIOR GIRDER TO EDGE OF DECK AND  
AT PARAPETS, MEDIANS AND SIDEWALKS

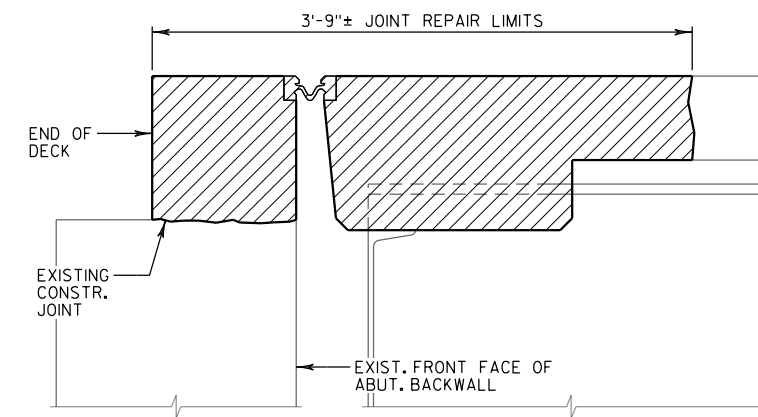


**PART TRANSVERSE SECTION AT DIAPHRAGM**

(DECK REINFORCEMENT NOT SHOWN FOR CLARITY)



**ALTERNATE STRIP SEAL ANCHOR**



**JOINT REPAIR-REMOVAL**

NORMAL TO CL SUBSTRUCTURE

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
<b>STRUCTURE B-27-43</b>			
DRAWN BY TKB		PLANS CK'D. ETP	
<b>STRIP SEAL EXPANSION JOINT DETAILS-1</b>			SHEET 11 OF 14

**LEGEND**

11-XX SEE SHEET 11 FOR CALLOUTS.

**GENERAL NOTES**

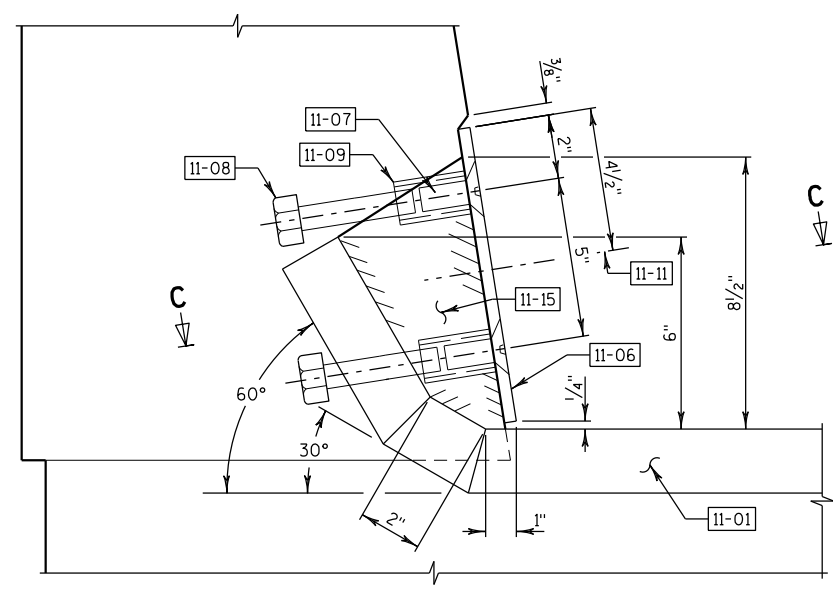
ONE FIELD SPLICE PERMITTED IN STEEL EXTRUSIONS. IF USED, ANCHOR PLATES SHALL BE PROVIDED 3" FROM EACH SIDE OF THE FIELD SPLICE. DETAILS SHALL BE SUBMITTED FOR APPROVAL. NO SPLICING PERMITTED IN NEOPRENE STRIP SEAL.

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.

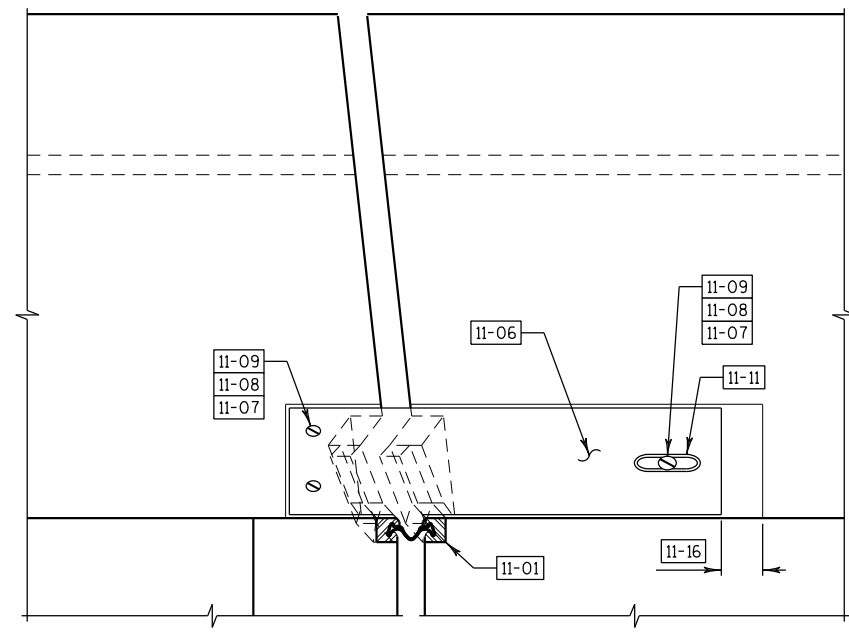
SANDBLAST PLATES, SUPPORTS, & EXTRUSIONS AFTER FABRICATION IN ACCORDANCE WITH SSPC SP. #6 "COMMERCIAL BLAST CLEANING". AFTER BLAST CLEANING, THE PLATES, SUPPORTS & EXTRUSIONS SHALL BE HOT DIPPED GALVANIZED.

ANCHOR SYSTEM 11-08 & 11-09 SHALL CONFORM TO ASTM A307 & SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C & D.

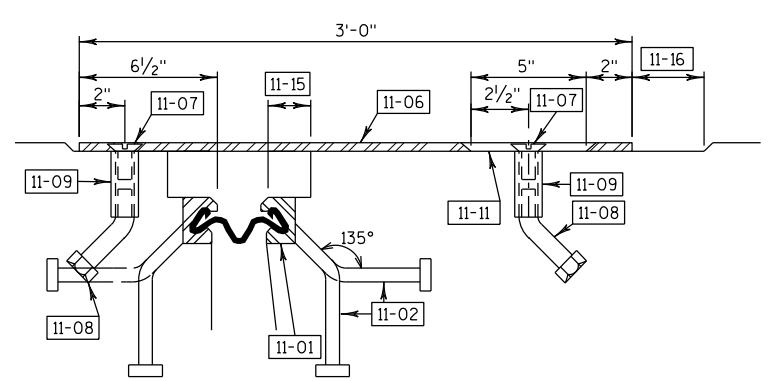
ALL MATERIAL IN THE EXPANSION JOINT ASSEMBLY, INCLUDING ANCHOR STUDS & HARDWARE SHALL BE PAID AT THE UNIT PRICE BID FOR "EXPANSION DEVICE".



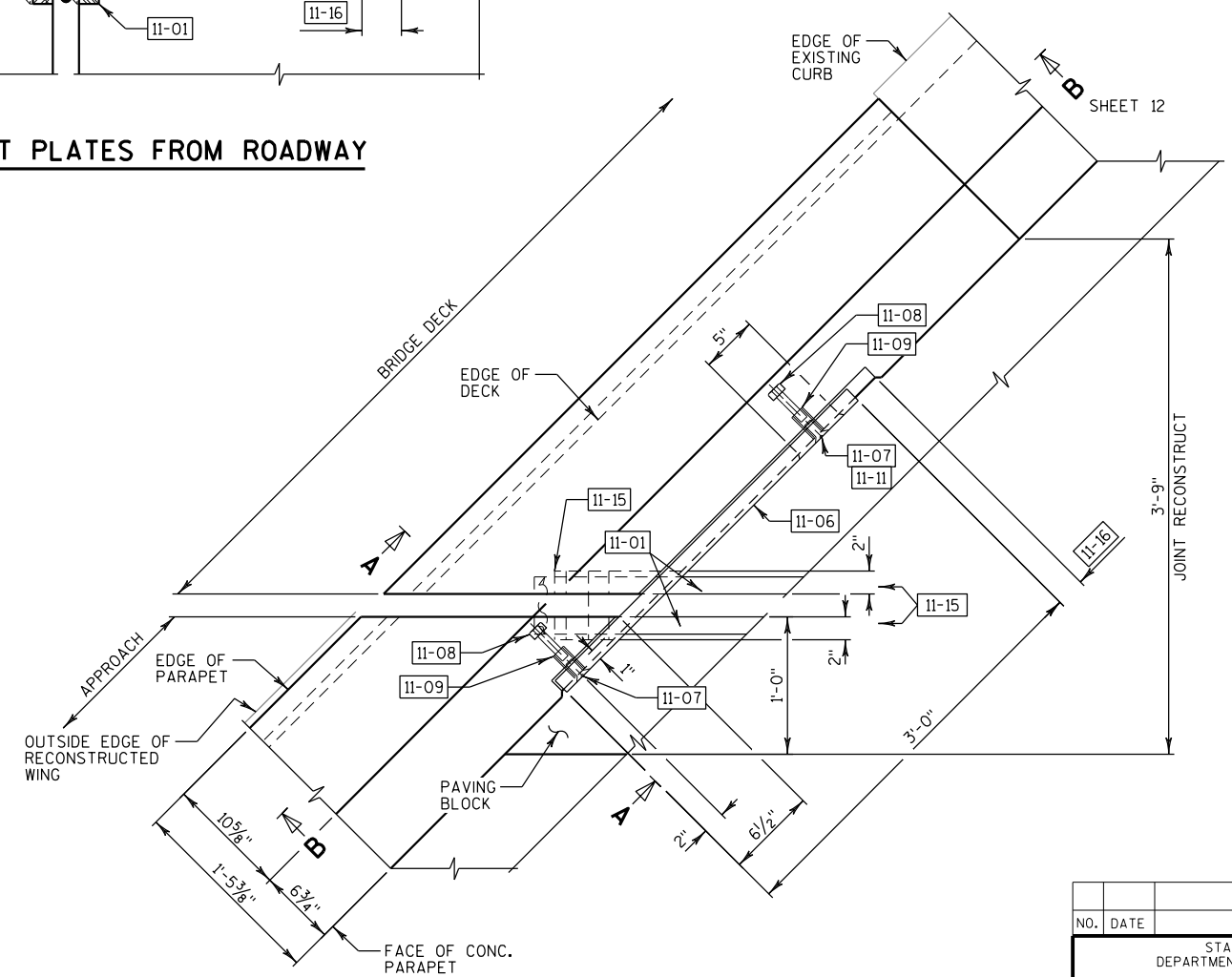
**SECTION A-A**



**VIEW OF PARAPET PLATES FROM ROADWAY**



**SECTION C-C**



**PLAN AT PARAPET**  
(LEFT HAND SHOWN, RIGHT HAND SIMILAR)

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
<b>STRUCTURE B-27-43</b>			
DRAWN BY TKB		PLANS CK'D. ETP	
<b>STRIP SEAL EXPANSION JOINT DETAILS-2</b>			SHEET 12 OF 14

8

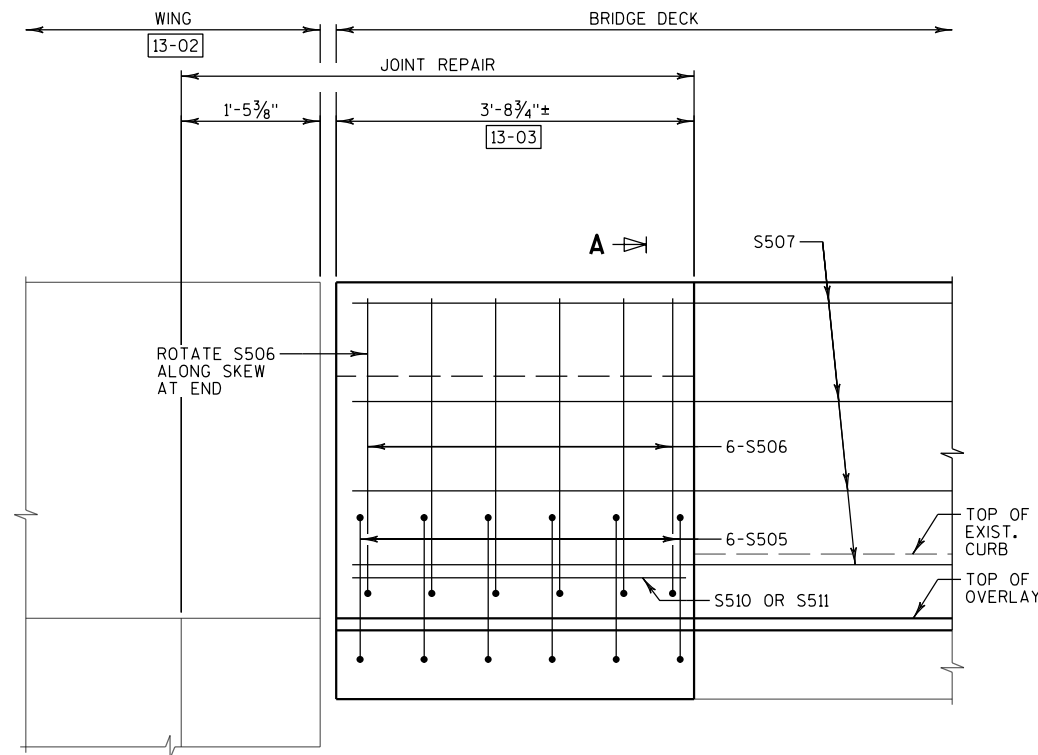
8

**BILL OF BARS - SUPERSTRUCTURE**

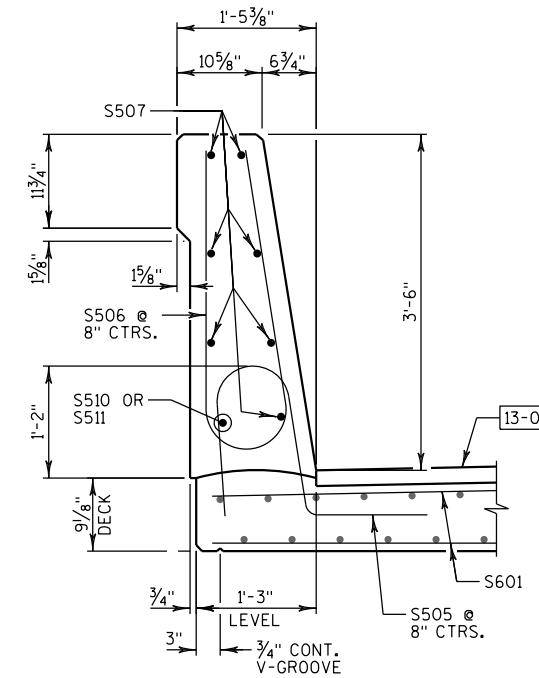
BAR MARK	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
<b>NON-COATED BARS</b>					<b>TOTAL WEIGHT = 1,700 LBS</b>
13-01	S601	36	31'-4"		DECK TRANS.
<b>COATED BARS</b>					<b>TOTAL WEIGHT = 8,570 LBS</b>
	S702	40	12'-3"		DIAPHRAGM TRANS.
	S403	16	12'-3"		DIAPHRAGM TRANS.
	S404	96	5'-1"	X	DIAPHRAGM VERT.
	S505	24	4'-5"	X	PARAPETS VERT.
	S506	24	6'-8"	X	PARAPETS VERT.
13-07	S507	56	48'-2"		PARAPETS LONGIT.
	S508	536	3'-1"		PARAPETS VERT.
	S509	536	3'-10"	X	PARAPETS VERT.
	S510	2	4'-8"		PARAPETS AT WINGS 2 & 3 HORIZ.
	S511	2	1'-11"		PARAPETS AT WINGS 1 & 4 HORIZ.
	S412	16	12'-7"		DIAPHRAGMS TRANS.

**LEGEND**

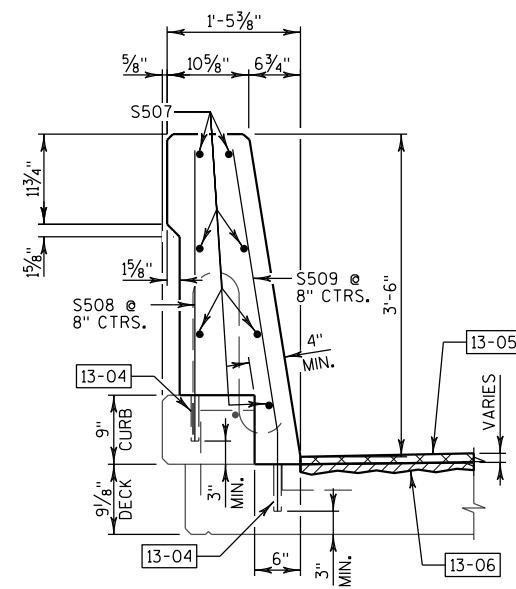
- 13-01 ACCOUNTS FOR 2'-11" LAP.
- 13-02 SEE SHEET 14 FOR ADDITIONAL PARAPET REINFORCEMENT.
- 13-03 APPROXIMATE DIMENSION TAKEN ALONG GUTTER LINE.
- 13-04 ADHESIVE ANCHORS NO. 5 BAR, EMBED 6" INTO EXISTING CONCRETE. ADJUST SPACING TO AVOID EXISTING VERTICAL REINFORCEMENT.
- 13-05 TOP OF CONCRETE OVERLAY.
- 13-06 PREPARATION DECKS TYPE 1 AND TYPE 2 WHERE REQUIRED.
- 13-07 LAP 1'-9" MINIMUM.
- INDICATES REMOVAL AREA.



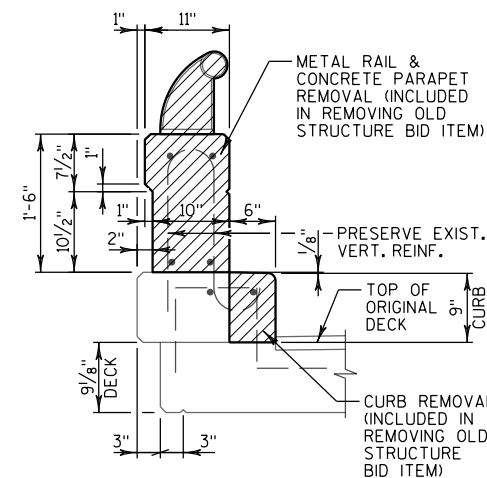
**SECTION B-B**



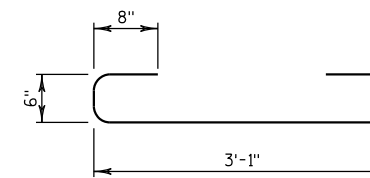
**SECTION A-A**



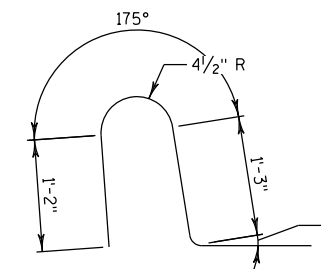
**RECONSTRUCTED SECTION THRU PARAPET & CURB ON BRIDGE**



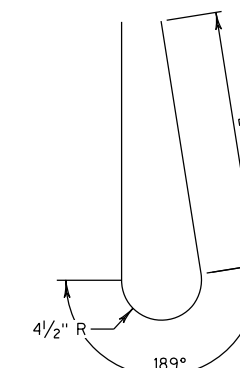
**EXISTING SECTION THRU PARAPET & CURB ON BRIDGE**



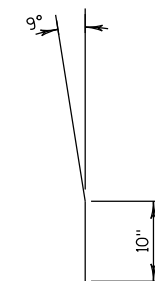
**S404**



**S505**

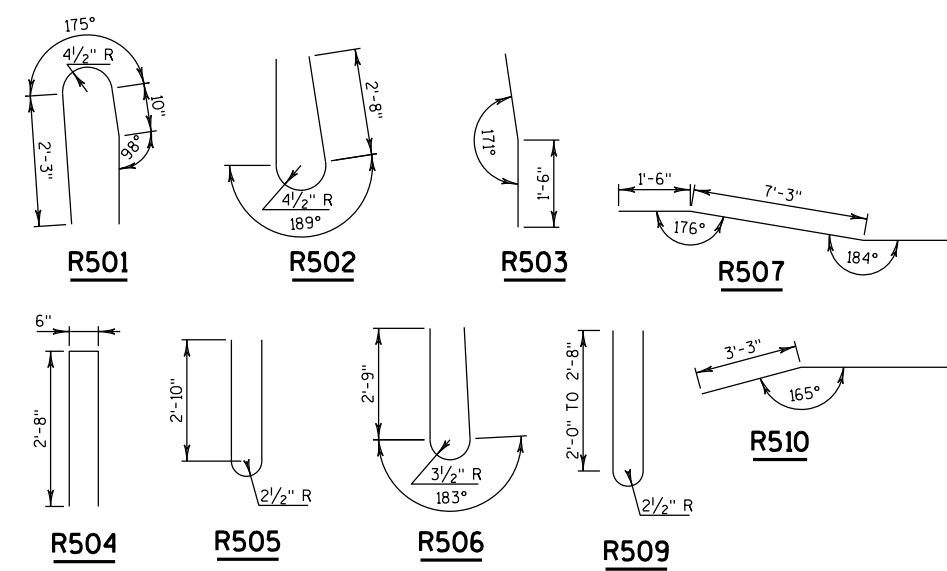
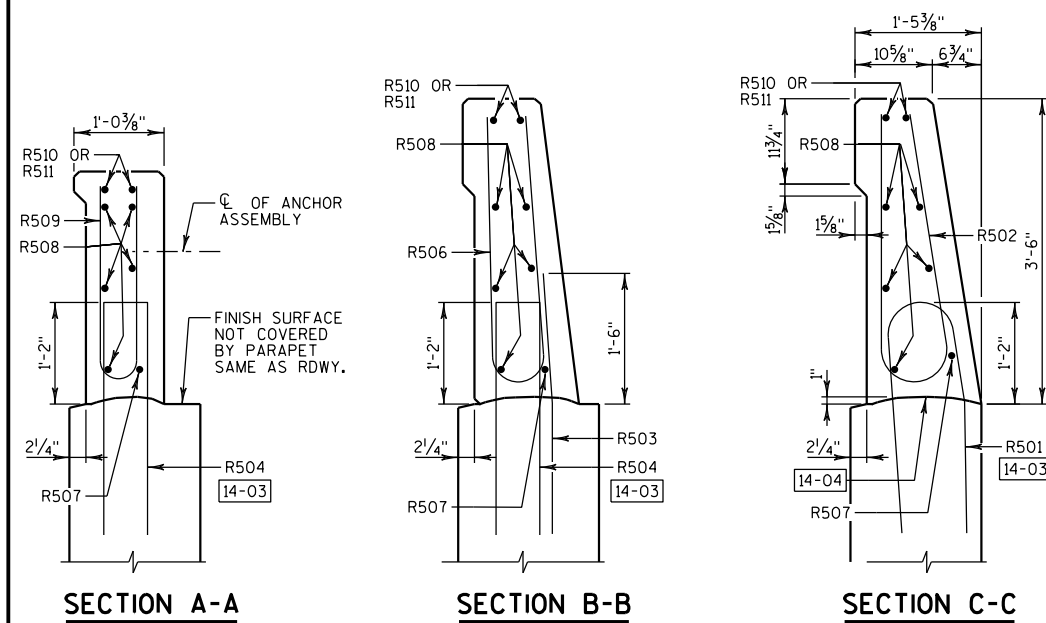


**S506**



**S509**

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-27-43			
DRAWN BY TKB		PLANS CK'D. ETP	
<b>SUPERSTRUCTURE DETAILS</b>			SHEET 13 OF 14



**BILL OF BARS**

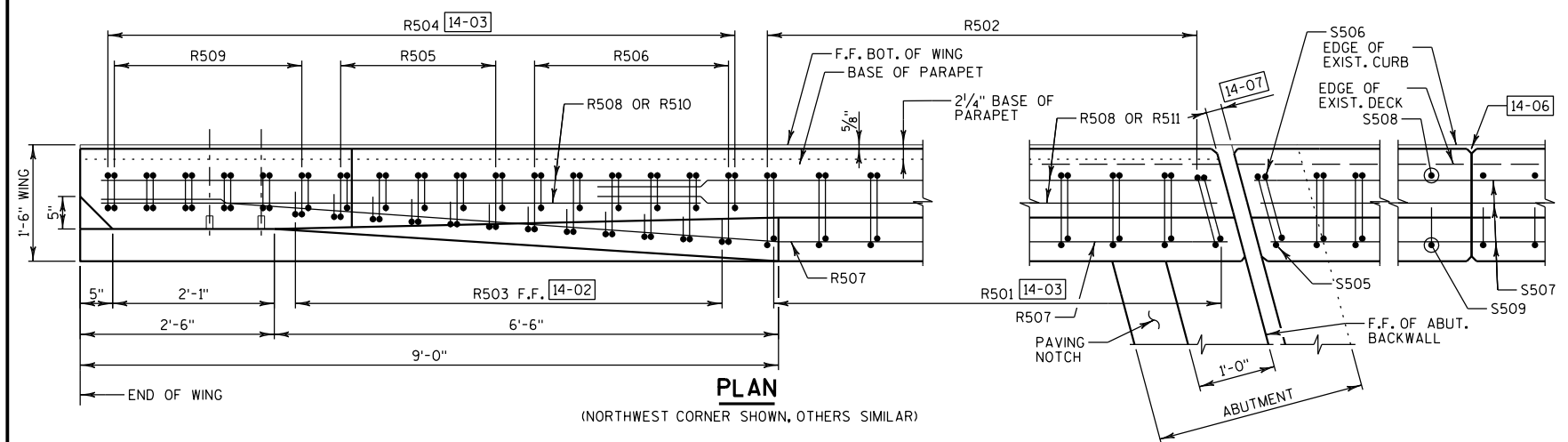
BAR MARK	COAT	NO. REQ'D		LENGTH	BENT	BAR SERIES	LOCATION
		W. ABUT.	E. ABUT.				
R501	X	6	6	5'-10"	X		PARAPET VERT.
R502	X	6	6	6'-8"	X		PARAPET VERT.
R503	X	22	22	3'-0"	X		PARAPET VERT.
R504	X	34	34	5'-7"	X		PARAPET VERT.
R505	X	10	10	6'-5"	X		PARAPET VERT.
R506	X	12	12	6'-6"	X		PARAPET VERT.
R507	X	2	2	9'-4"	X		PARAPET HORIZ.
R508	X	20	20	6'-3"			PARAPET HORIZ.
14-05 R509	X	12	12	5'-5"	X	X	PARAPET VERT.
R510	X	4	4	6'-3"	X		PARAPET HORIZ.
R511	X	4	4	6'-3"			PARAPET HORIZ.
							TOTAL WEIGHT = 1,530 LBS

THE FIRST DIGIT OF THE BAR MARK SIGNIFIES THE BAR SIZE.

**BAR SERIES TABLE**

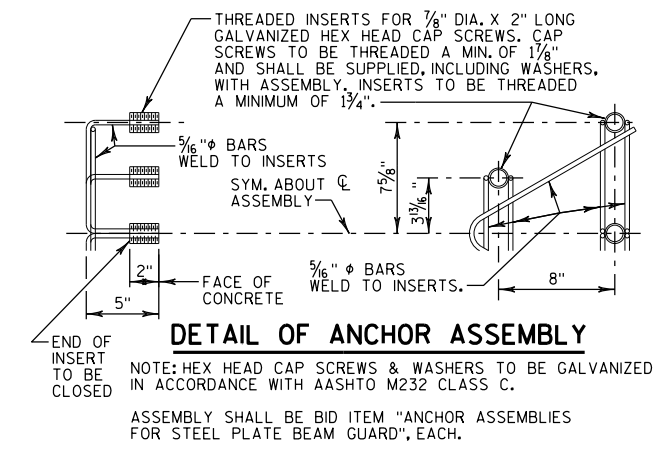
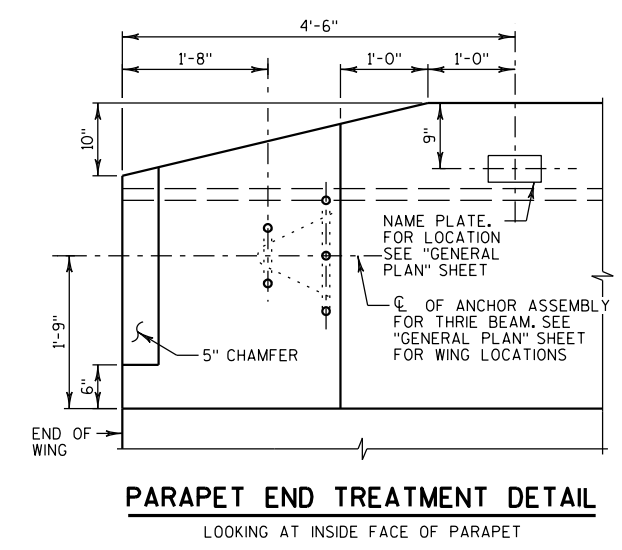
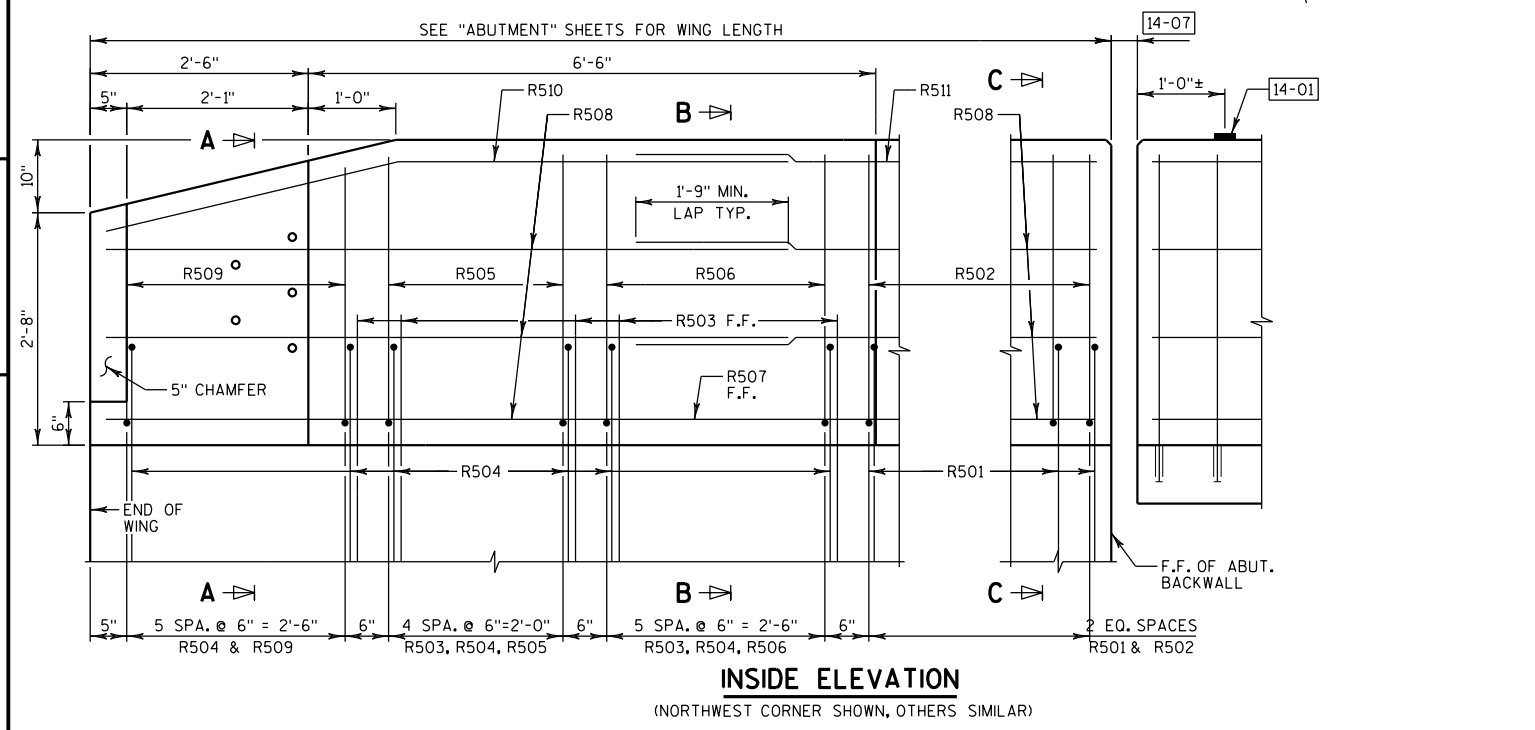
BAR MARK	NO. REQ'D	LENGTH
R509	4 SERIES OF 6	4'-9" TO 6'-1"

BUNDLE & TAG EACH SERIES SEPARATELY.



**LEGEND**

- 14-01 BENCH MARK CAP (WHEN SUPPLIED).
- 14-02 R503 BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. USE CARE TO PLACE R503 BARS CORRECTLY ALONG TRANSITION OF PARAPET.
- 14-03 R501 AND R504 BARS TO BE TIED TO WING STEEL BEFORE WING IS POURED.
- 14-04 CONSTRUCTION JOINT. STRIKE OFF AS SHOWN.
- 14-05 LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.
- 14-06 OPTIONAL CONSTRUCTION JOINTS IN THE PARAPETS MAY BE USED. RUN BAR REINF. THRU THE JOINT. LAP LONGIT. BARS A MIN. OF 1'-9". MIN. JOINT SPACING OF 80'-0". DEFINE CONST. JOINT WITH A 3/4" - 'V' GROOVE.
- 14-07 EXPANSION OPENING.



NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-27-43			
DRAWN BY TKB		PLANS CK'D. BH	
SINGLE SLOPE PARAPET 42SS			SHEET 14 OF 14

TRAFFIC DATA:

AADT (2041) = 15,900  
DESIGN SPEED = 70 MPH

DESIGN DATA

LIVE LOAD \_\_\_\_\_  
DESIGN LOADING \_\_\_\_\_ HS-20  
INVENTORY RATING \_\_\_\_\_ HS-23  
OPERATING RATING \_\_\_\_\_ HS-39  
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV) \_\_\_\_\_ 230 KIPS

MATERIAL PROPERTIES

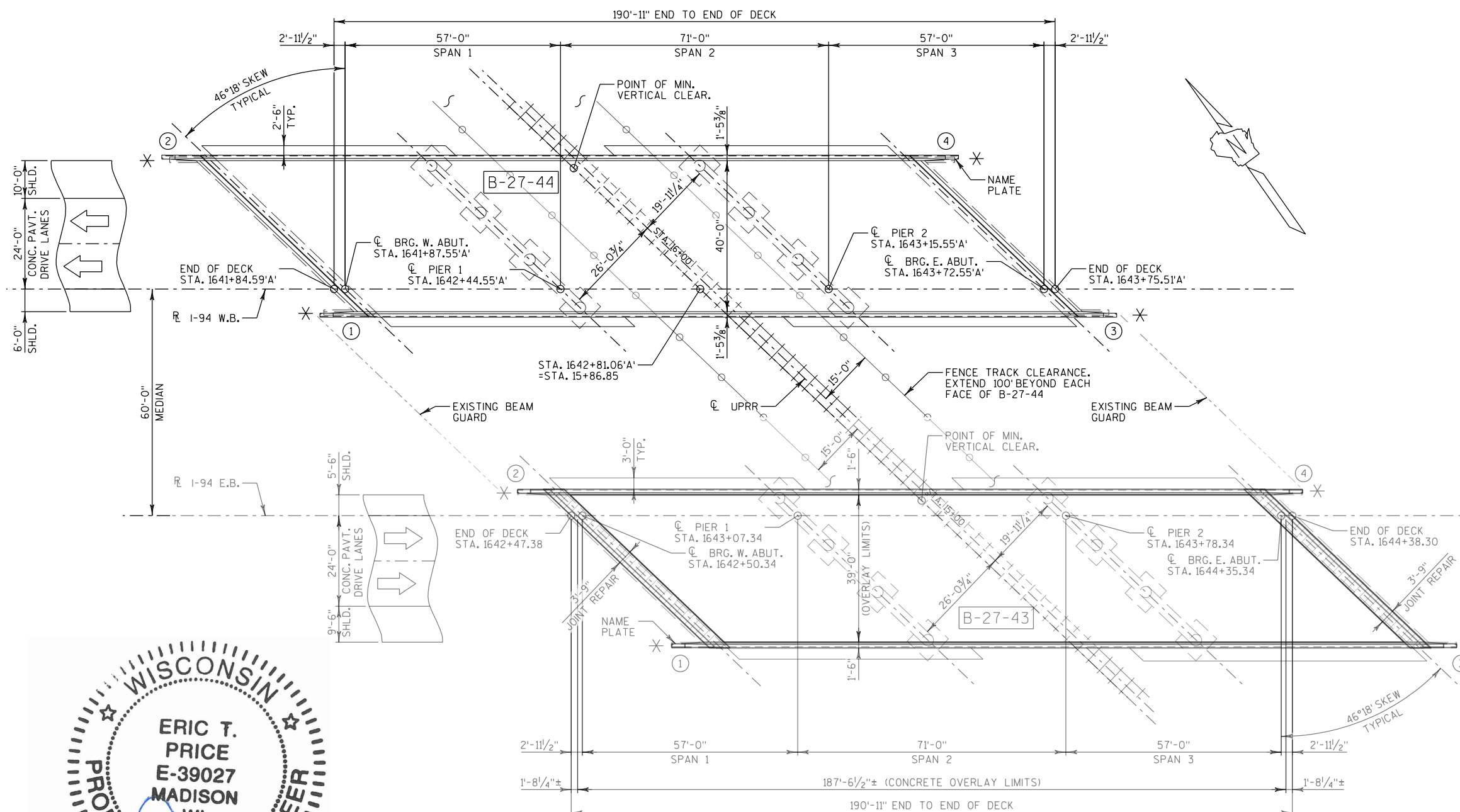
CONCRETE MASONRY, SUPERSTRUCTURE  $f'_c = 4,000$  PSI  
ALL OTHER \_\_\_\_\_  $f'_c = 3,500$  PSI  
HIGH STRENGTH BAR STEEL  
REINFORCEMENT GRADE 60  $f_y = 60,000$  PSI

LEGEND

\* MGS THRIE BEAM ATTACHMENT  
⊗ INDICATES WING NUMBER

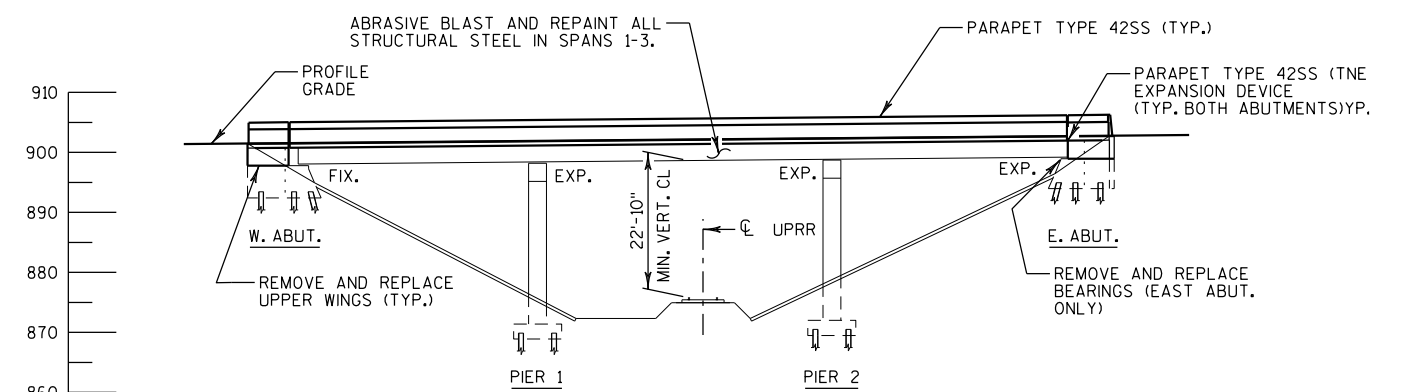
LIST OF DRAWINGS

1. GENERAL PLAN & QUANTITIES
2. CROSS SECTION & QUANTITIES
3. MISCELLANEOUS DETAILS
4. WEST ABUTMENT-1
5. WEST ABUTMENT-2
6. WEST ABUTMENT-3
7. EAST ABUTMENT-1
8. EAST ABUTMENT-2
9. EAST ABUTMENT-3
10. EXPANSION BEARING DETAILS
11. SUPERSTRUCTURE 1
12. SUPERSTRUCTURE 2
13. SUPERSTRUCTURE DETAILS
14. STRIP SEAL EXPANSION JOINT DETAILS-1
15. STRIP SEAL EXPANSION JOINT DETAILS-2
16. SINGLE SLOPE PARAPET 42SS



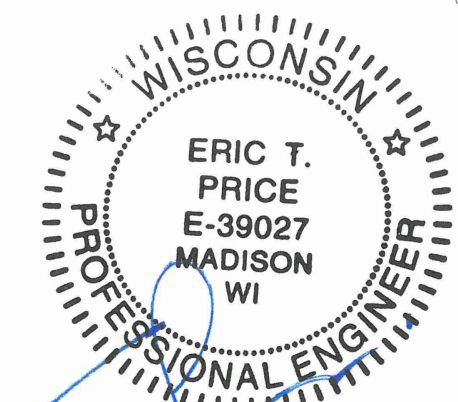
PLAN

(DECK REPLACEMENT-THREE SPAN CONTINUOUS DECK GIRDER BRIDGE)



ELEVATION

(NORMAL TO UPRR AT DOWNSTATION EDGE OF BRIDGE)



March 15, 2023

BUREAU OF STRUCTURES CONTACT:  
AARON BONK (608) 261-0261  
CONSULTANT CONTACT:  
ERIC PRICE (608) 826-6146

NO.	DATE	REVISION	BY
 STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION ACCEPTED: <i>[Signature]</i> SDR 03/15/23 CHIEF STRUCTURES DESIGN ENGINEER DATE <b>STRUCTURE B-27-44</b> I-94 WB OVER UPRR COUNTY: JACKSON TOWN/VILLAGE: BROCKWAY DESIGN SPEC. REHABILITATION N/A DESIGNED BY: ETP CK'D. BH DRAWN BY: TKB CK'D. ETP <b>GENERAL PLAN</b> SHEET 1 OF 16			

**GENERAL NOTES**

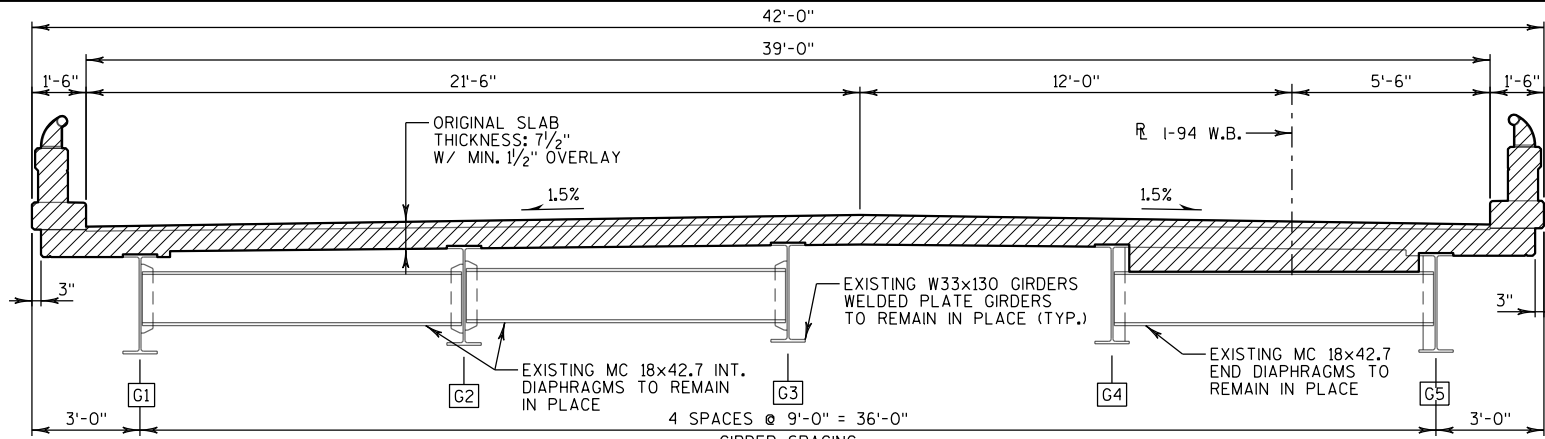
- DRAWINGS SHALL NOT BE SCALED.
- DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS.
- THE EXISTING STRUCTURE, B-27-44, IS A 3-SPAN STEEL DECK GIRDER STRUCTURE WITH A WIDTH OF 42'-0" AND END-OF-DECK TO END-OF-DECK LENGTH OF 190'-11". THE DECK AND PARAPETS ARE TO BE REMOVED. BEARINGS AT WEST ABUTMENT AND PIERS ARE TO BE CLEANED AND PAINTED. GIRDERS ARE TO BE PAINTED (COMPLETELY). WING WALLS TO BE REPLACED (AS SHOWN ON PLANS). BEARINGS AT EAST ABUTMENT TO BE REPLACED.
- THE FIRST OR FIRST TWO DIGITS OF A BAR MARK SIGNIFIES THE BAR SIZE.
- BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR UNLESS OTHERWISE SHOWN OR NOTED.
- UTILIZE EXISTING BAR STEEL REINFORCEMENT WHERE SHOWN AND EXTEND 24 BAR DIAMETERS INTO NEW WORK, UNLESS SPECIFIED OTHERWISE.
- THE TOP LAYER OF BAR STEEL REINFORCEMENT IN THE DECK SHALL BE PLACED WITH 2 1/2" OF CLEAR COVER.
- ALL CONCRETE REMOVAL SHALL BE DEFINED WITH A 1" DEEP SAW CUT.
- BEVEL EXPOSED EDGES 3/4" UNLESS OTHERWISE NOTED.
- PROTECTIVE SURFACE TREATMENT TO BE APPLIED TO THE ENTIRE TOP OF DECK AND PAVING BLOCK SURFACE. PIGMENTED SURFACE SEALER TO BE APPLIED TO THE TOP AND ROADWAY FACE OF THE PARAPET INCLUDING PARAPETS ON ABUTMENT WINGS.
- VARIATIONS TO THE NEW GRADE LINE OVER 1/4" MUST BE SUBMITTED BY THE FIELD ENGINEER TO THE STRUCTURES DESIGN SECTION FOR REVIEW.
- THE SUPERSTRUCTURE CONCRETE QUANTITY INCLUDES VOLUME FOR THE AVERAGE ESTIMATED HAUNCH HEIGHT AND OVERHANG TRIANGULAR AREA.
- THE COLOR OF THE FINISH TOP COAT ON THE STEEL GIRDERS AND BEARINGS SHALL BE LIGHT GRAY (AMS STANDARD COLOR NO. 26293).
- AT THE BACKFACE OF ABUTMENT ALL VOLUME NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH STRUCTURE BACKFILL.
- 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 OF 1968.
- PERFORM "CONCRETE SURFACE REPAIR" AND "EPOXY CRACK SEALING" AS DIRECTED BY THE FIELD ENGINEER. QUANTITIES SHOWN ON THE PLANS ARE APPROXIMATE.
- EXPANSION JOINT ASSEMBLY, INCLUDING ANCHOR STUDS AND HARDWARE SHALL BE PAID FOR BY THE LINEAR FOOT PRICE BID AS "EXPANSION DEVICE".
- PAYMENT FOR CLEANING AND PAINTING ALL STEEL ELEMENTS INCLUDING GIRDERS, BRACING ELEMENTS AND EXISTING BEARINGS SHALL BE INCLUDED IN THE BID ITEM "STRUCTURE REPAINTING RECYCLED ABRASIVE B-27-44".

**ABBREVIATIONS:**

- ABUT. - ABUTMENT
- B.F. - BACK FACE
- BOT - BOTTOM
- BRG. - BEARING
- CL. - CLEAR
- CONST. - CONSTRUCTION
- DIA. - DIAMETER
- E.F. - EACH FACE
- F.F. - FRONT FACE
- HORIZ. - HORIZONTAL
- JT. - JOINT
- LONG. - LONGITUDINAL
- PPT. - PARAPET
- SPA. - SPACED
- STD. - STANDARD
- T&B - TOP AND BOTTOM
- TRANS. - TRANSVERSE
- TYP. - TYPICAL
- VERT. - VERTICAL
- U.N.O. - UNLESS NOTED OTHERWISE

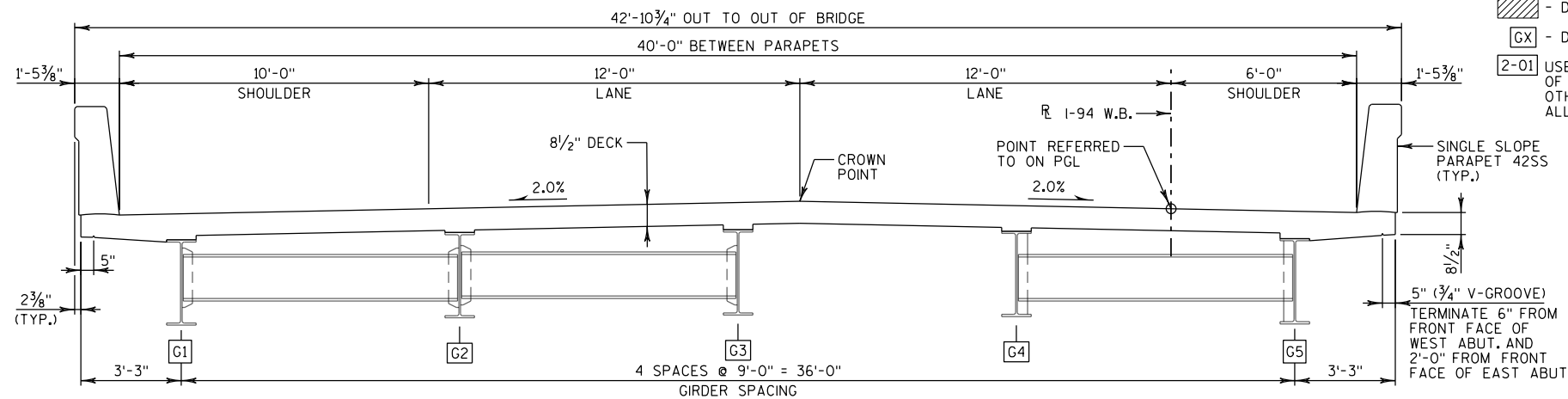
**LEGEND**

- DENOTES REMOVAL LIMITS
- DENOTES GIRDER NUMBER
- USED ONLY OVER RAILROAD. USE OF "DEBRIS CONTAINMENT" AT OTHER LOCATIONS WILL NOT BE ALLOWED OR PAID FOR.



**EXISTING CROSS SECTION THRU ROADWAY**

(LOOKING EAST)



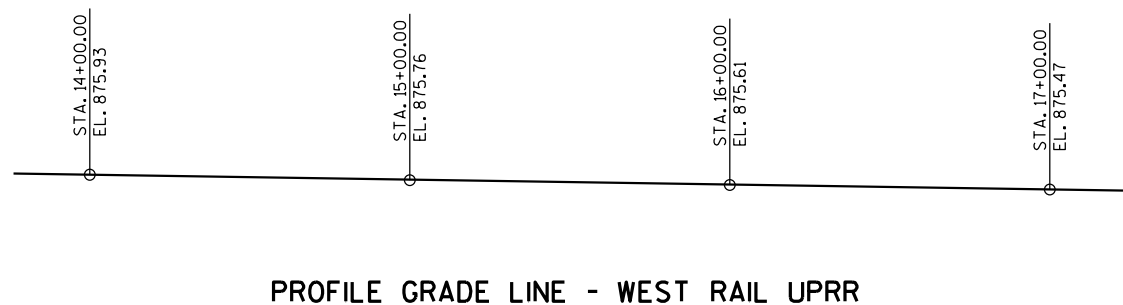
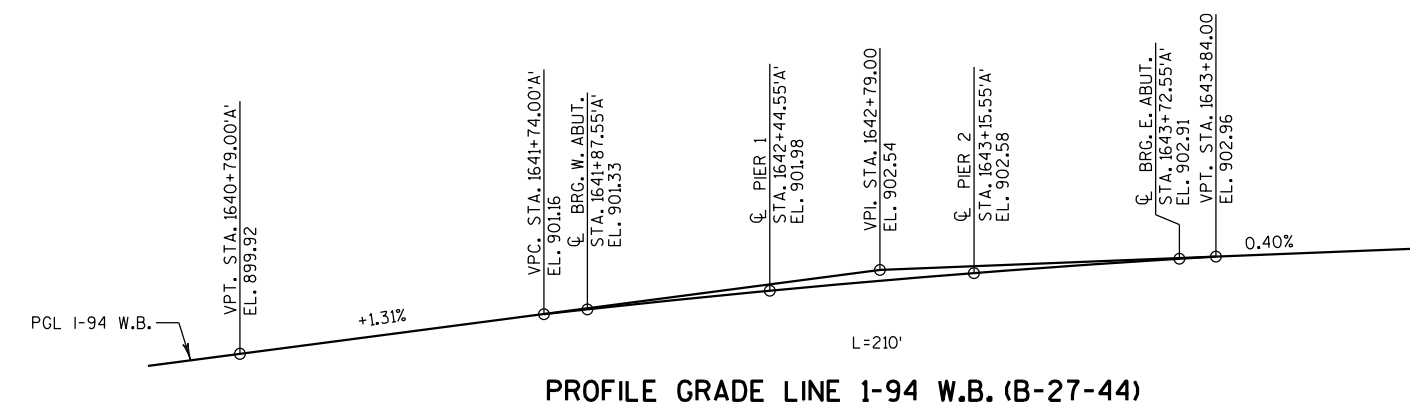
**PROPOSED CROSS SECTION THRU ROADWAY**

(LOOKING EAST)

**TOTAL ESTIMATED QUANTITIES**

BID ITEM NUMBER	BID ITEM	UNIT	WEST ABUT.	PIER 1	PIER 2	EAST ABUT.	SUPER.	TOTALS
203.0220	REMOVING STRUCTURE B-27-44	EACH	--	--	--	--	--	1
203.0211.S	ABATEMENT OF ASBESTOS CONTAINING MATERIAL B-27-44	EACH	--	--	--	--	--	1
203.0330	DEBRIS CONTAINMENT B-27-44	EACH	--	--	--	--	--	1
206.1001	EXCAVATION FOR STRUCTURES B-27-44	EACH	--	--	--	--	--	1
210.1500	BACKFILL STRUCTURE TYPE A	TON	35	--	--	35	--	70
502.0100	CONCRETE MASONRY BRIDGES	CY	12.4	--	--	13.4	272.5	299
502.3101	EXPANSION DEVICE	LF	58	--	--	58	--	116
502.3200	PROTECTIVE SURFACE TREATMENT	SY	--	--	--	--	849	849
502.3210	PIGMENTED SURFACE SEALER	SY	12	--	--	12	185	209
502.4205	ADHESIVE ANCHORS NO. 5 BAR	EACH	87	--	--	87	--	174
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	2,245	--	--	2,215	63,490	67,950
506.2610	BEARING PADS ELASTOMERIC LAMINATED	EACH	--	--	--	5	--	5
506.7050.S	REMOVING BEARINGS B-27-44	EACH	--	--	--	5	--	5
509.1500	CONCRETE SURFACE REPAIR	SF	10	--	--	--	--	10
509.9020.S	EPOXY CRACK SEALING	LF	15	--	--	15	--	30
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	4	--	--	4	--	8
517.0901.S	PREPARATION AND COATING OF TOP FLANGES B-27-44	EACH	--	--	--	--	--	1
517.1801.S	STRUCTURE REPAINTING RECYCLED ABRASIVE B-27-44	EACH	--	--	--	--	--	1
517.4501.S	NEGATIVE PRESSURE CONTAINMENT AND COLLECTION OF WASTE MATERIALS B-27-44	EACH	--	--	--	--	--	1
517.6001.S	PORTABLE DECONTAMINATION FACILITY	EACH	--	--	--	--	--	1
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	40	--	--	40	--	80
614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	EACH	2	--	--	2	--	4
616.0800.S	FENCE TRACK CLEARANCE	LF	--	--	--	--	--	525
645.0111	GEOTEXTILE TYPE DF SCHEDULE A	SY	15	--	--	15	--	30
SPV.0090	PREPARATION AND COATING OF BOTTOM FLANGES B-27-44	LF	--	--	--	--	355	355
SPV.0180	ABUTMENT SEAT CLEANING AND SEALING	SY	16	--	--	16	--	32

ALL ITEMS ARE CATEGORY 0050



NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
<b>STRUCTURE B-27-44</b>			
DRAWN BY TKB		PLANS CK'D. ETP	
<b>CROSS SECTION &amp; QUANTITIES</b>			SHEET 2 OF 16

**RAILROAD NOTES**

ALL WORK WITHIN 25 FEET OF TRACK, OVER TRACK, OR WITH POTENTIAL TO FOUL TRACK REQUIRES UPRR FLAGMAN TO BE ON SITE.

ALL EQUIPMENT, MATERIALS, AND PERSONNEL SHALL REMAIN OUTSIDE THE MINIMUM CONSTRUCTION CLEARANCE ENVELOPE, EXCEPT WHEN WITHIN PRE-DETERMINED TRACK CURFEWS.

ALL PERSONNEL MUST CLEAR THE AREA WITHIN 25 FEET OF THE TRACK CENTERLINE AND SECURE ALL EQUIPMENT WITHIN 50 FEET DURING THE APPROACH AND PASSAGE OF A TRAIN.

EQUIPMENT SHALL NOT BE SUPPORTED BY THE TRACK BALLAST, SUB-BALLAST, TIES, OR RAILS AT ANY TIME.

STORAGE AND STAGING AREAS ARE NOT PERMITTED WITHIN UPRR RIGHT OF WAY, EXCEPT WITHIN PRE-APPROVED ZONES SUCH AS EASEMENTS.

TEMPORARY TRACK CROSSINGS MUST BE APPROVED BY UPRR'S LOCAL OPERATING UNIT AND UPRR MANAGER OF PUBLIC PROJECTS PRIOR TO START OF CONSTRUCTION.

TRACK CROSSINGS AND USE OF UPRR ACCESS ROADS/HAUL ROADS MUST BE COORDINATED WITH UPRR'S LOCAL MANAGER OF TRACK MAINTENANCE (AND YARD MASTER, IF WITHIN YARD LIMITS).

TEMPORARY DRAINAGE STRUCTURES AND/OR BMP'S SHALL NOT DIRECT STORM WATER TOWARDS UPRR TRACKS OR ACCESS ROADS.

UNATTENDED EXCAVATIONS WITHIN UPRR RIGHT OF WAY SHALL BE PROPERLY SECURED BY FENCING AND/OR COVERINGS PER OSHA REQUIREMENTS.

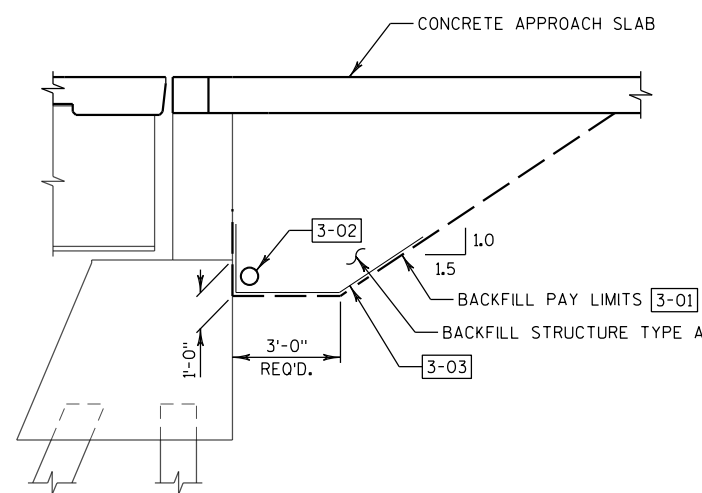
FOR ANY CONSTRUCTION THAT INCLUDES HEAVY EQUIPMENT OR EXCAVATION, ALL UTILITIES WITHIN UPRR RIGHT OF WAY MUST BE IDENTIFIED AND MARKED PRIOR TO START OF CONSTRUCTION. UPRR CALL BEFORE YOU DIG: UP.com/CBUD

**NOTE**

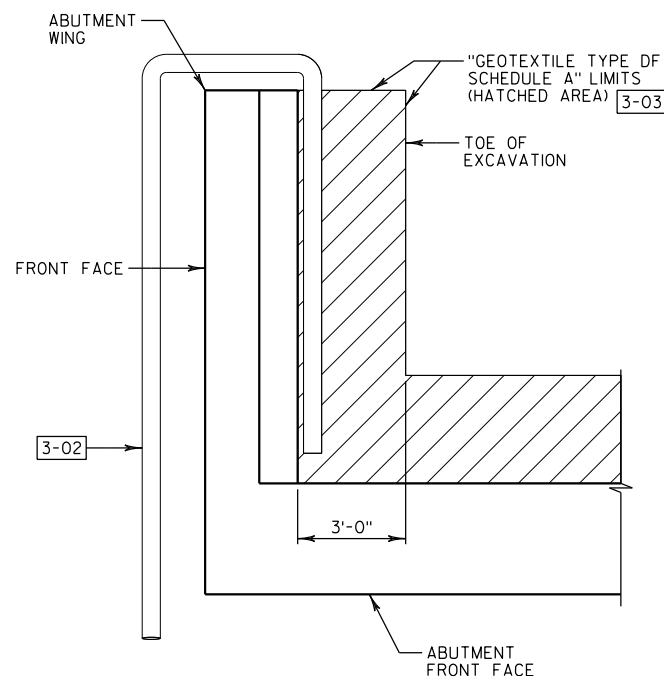
THE BACKFILL QUANTITIES ARE BASED ON THE PAY LIMITS SHOWN ON THE PLANS AND MAY NOT REFLECT ACTUAL PLACED QUANTITIES. "BACKFILL STRUCTURE TYPE A" REQUIRED DIRECTLY BEHIND ABUTMENTS AND ABUTMENT WINGS FOR 3 FEET. BACKFILL PLACED BEYOND PAY LIMITS OR EXCEEDING PLAN QUANTITIES SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES.

**LEGEND**

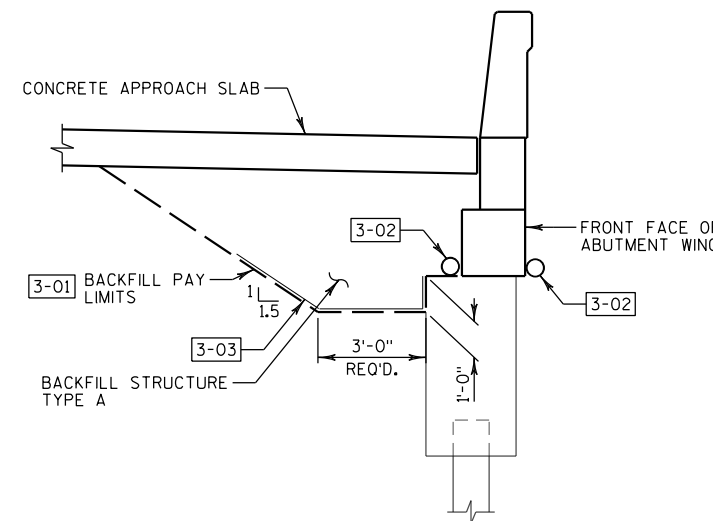
- 3-01 BACKFILL PAY LIMITS. BACKFILL BEYOND BACKFILL PAY LIMITS SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES. LIMITS OF EXCAVATION SHALL BE DETERMINED BY THE CONTRACTOR.
- 3-02 PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN.
- 3-03 EXCAVATION BELOW THE ABUTMENT AND ABUTMENT BEDDING MATERIALS REQUIRES ENGINEER APPROVAL. "GEOTEXTILE TYPE OF SCHEDULE A" SHALL BE SET AT THE BOTTOM OF EXCAVATION AND EXTEND 2'-0" ABOVE BOTTOM OF EXCAVATION LIMITS.



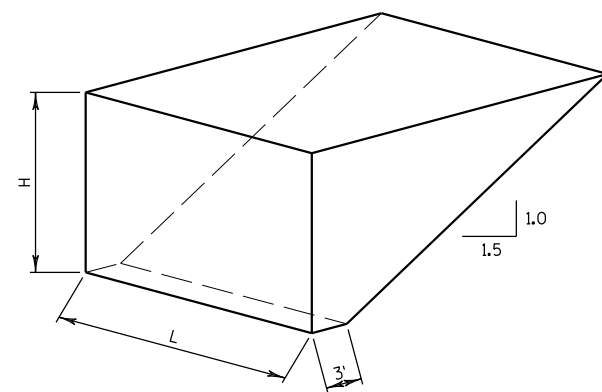
**STRUCTURE BACKFILL LIMITS**



**ABUTMENT PLAN WITH WING**

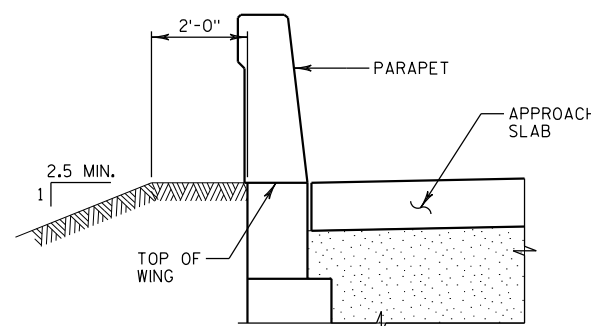


**TYPICAL SECTION THRU WING**

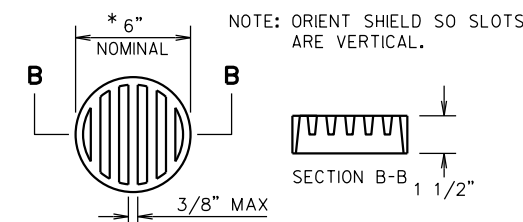


**ABUTMENT BACKFILL PAY LIMIT DIAGRAM**

- L = OUT TO OUT OF ABUTMENT, INCLUDING WINGS (FT)
- H = AVERAGE ABUTMENT FILL HEIGHT (FT)
- EF = EXPANSION FACTOR (1.20 FOR CY BID ITEMS AND 1.00 FOR TON BID ITEMS)
- $V_{CF} = (L)(3.0')(H) + (L)(0.5')(1.5H)(H)$
- $V_{CY} = V_{CF} (EF) / 27$
- $V_{TON} = V_{CY} (2.0)$



**TYPICAL FILL SECTION AT WING TIPS**



\* DIMENSION IS APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING.

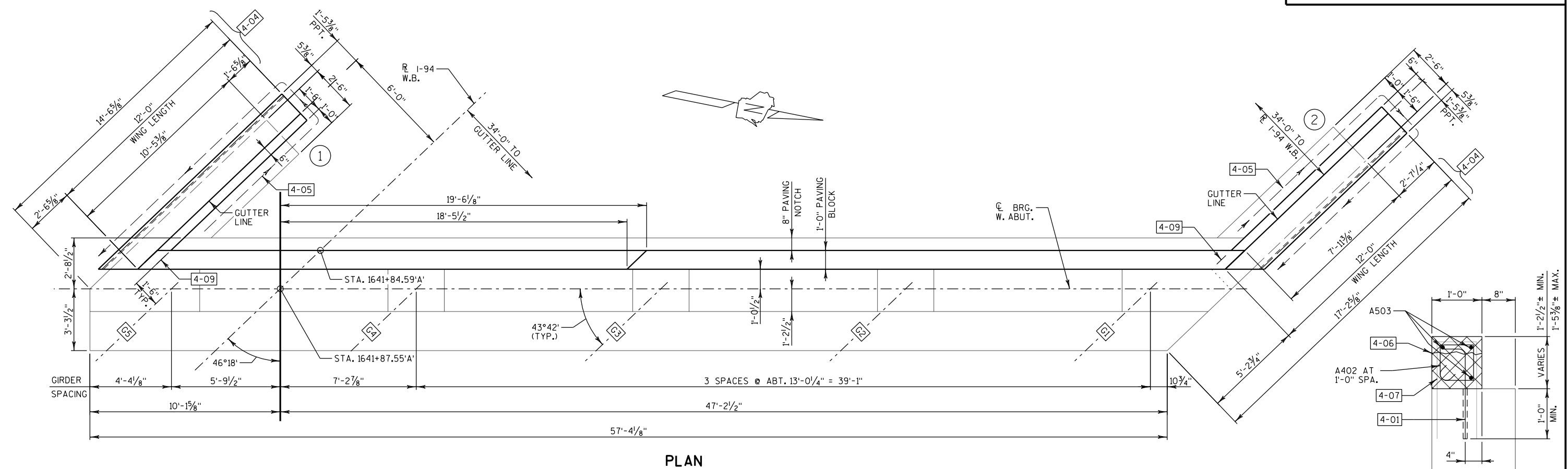
**RODENT SHIELD DETAIL**

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

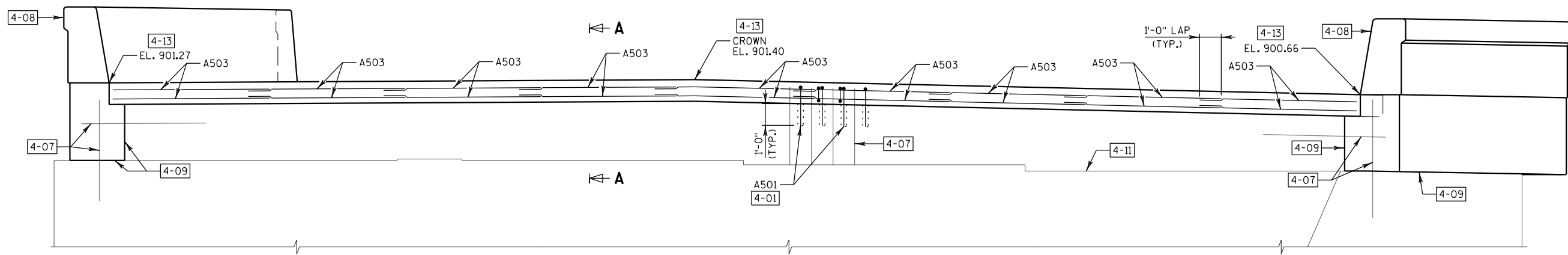
THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SHIELD TO THE OUTFALL PIPE. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X 1-INCH STAINLESS STEEL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

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
<b>STRUCTURE B-27-44</b>			
DRAWN BY TKB		PLANS CK'D. ETP	
<b>MISCELLANEOUS DETAILS</b>			SHEET 3 OF 16





PLAN



ELEVATION  
(LOOKING WEST)

SECTION A-A

LEGEND

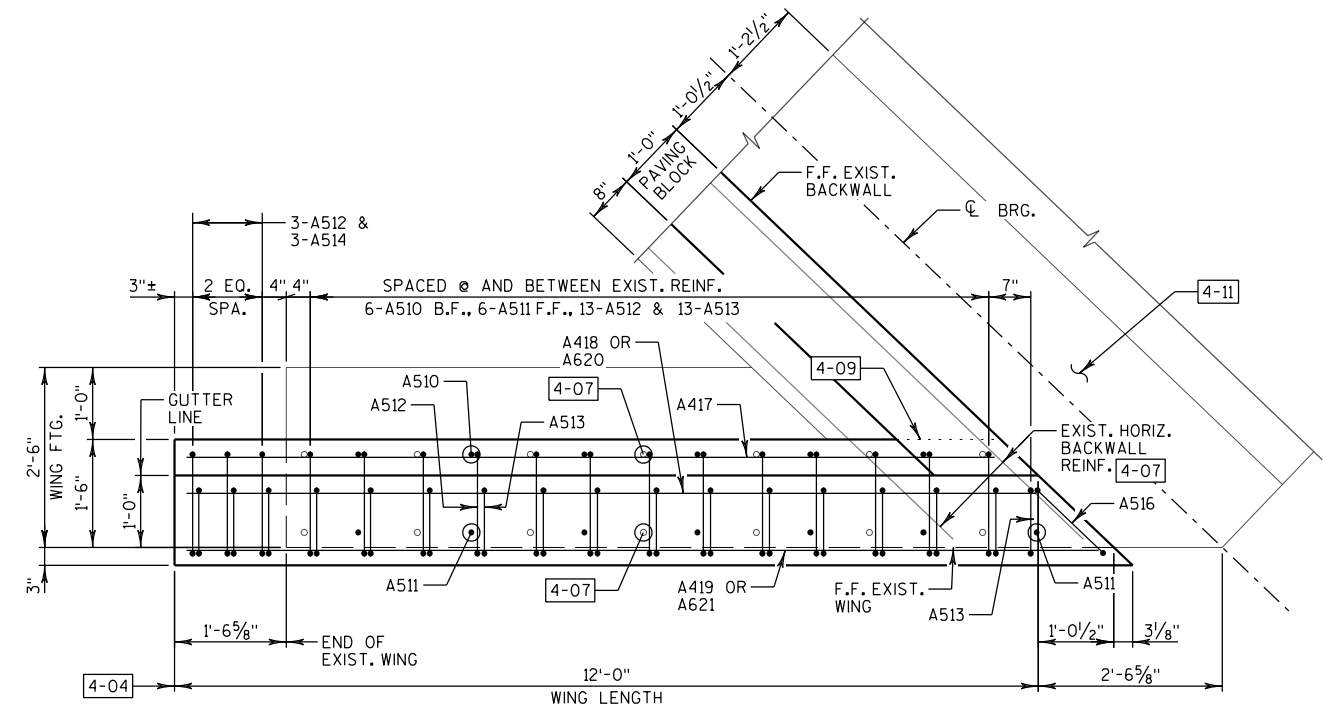
- GX INDICATES GIRDER NUMBER.
- X INDICATES WING NUMBER.
- ⊗ INDICATES CONCRETE AREA TO BE POURED AFTER SUPERSTRUCTURE CONCRETE IS IN PLACE.
- 4-01 A501 BARS INSTALLED WITH ADHESIVE ANCHORS NO. 5 BAR. EMBED 1'-0" MIN. INTO EXISTING CONCRETE. VARY EMBEDMENT DEPTH TO MAINTAIN 2 1/2" CLEAR COVER IN PAVING BLOCK. ADJUST SPACING TO AVOID EXISTING VERTICAL REINFORCEMENT. TURN 10" LEG AS NECESSARY TO FIT.
- 4-02 A510 OR A511 BARS INSTALLED WITH ADHESIVE ANCHORS NO. 5 BAR. EMBED 1'-0" MIN. INTO EXISTING CONCRETE. VARY EMBEDMENT DEPTH TO MAINTAIN 2" CLEAR COVER AS NEEDED IN WING. ADJUST SPACING TO AVOID EXISTING VERTICAL REINFORCEMENT.
- 4-03 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACK FACE.
- 4-04 DIMENSIONS TAKEN ALONG GUTTER LINE.

- 4-05 PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN.
- 4-06 OPTIONAL CONSTRUCTION JOINT 1" MIN. BELOW EXISTING REINFORCEMENT.
- 4-07 PRESERVE & INCORPORATE EXISTING REINFORCEMENT.
- 4-08 SEE SUPERSTRUCTURE DETAILS FOR PARAPET REINFORCEMENT.
- 4-09 REMOVAL LINE FOR WING REMOVAL AND RECONSTRUCT. SEE SHEET 6 FOR "WING REMOVALS" DETAIL.
- 4-10 PULL UP TO 2" CLEAR.
- 4-11 CLEAN AND SEAL ABUTMENT SEAT (FULL LENGTH OF ABUTMENT).
- 4-12 CONSTRUCTION JOINT FORMED BY BEVELED 2"x6" KEYWAY WITH MEMBRANE ON BACK FACE.
- 4-13 ELEVATION GIVEN AT F.F. OF BACKWALL.

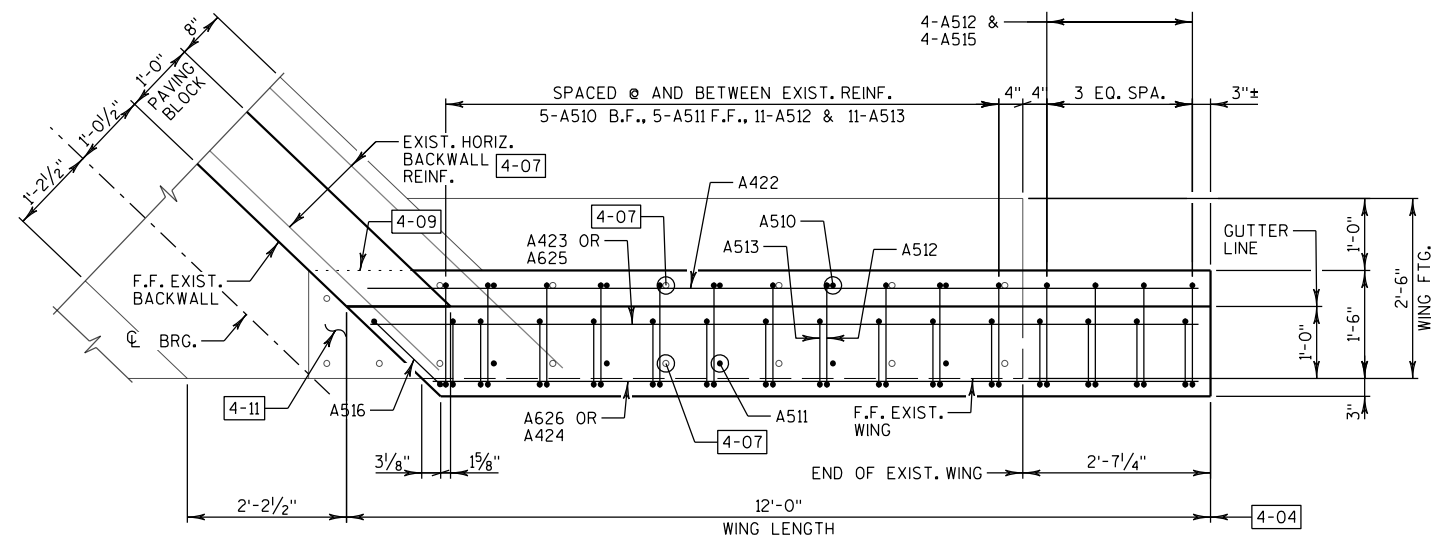
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
<b>STRUCTURE B-27-44</b>			
DRAWN BY TKB		PLANS CK'D. ETP	
<b>WEST ABUTMENT-1</b>			SHEET 4 OF 16

**LEGEND**

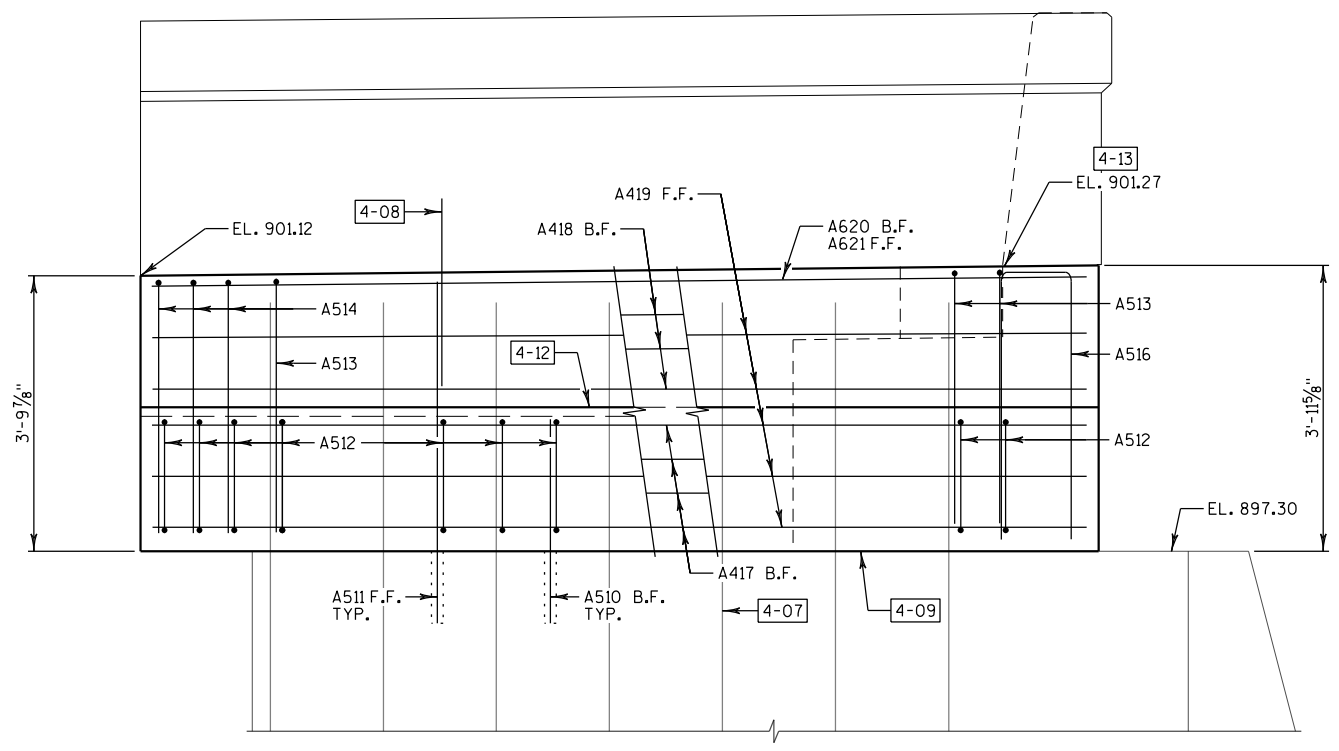
4-XX SEE SHEET 4 FOR CALLOUTS.  
SEE SHEET 6 FOR SECTIONS THRU WINGS.



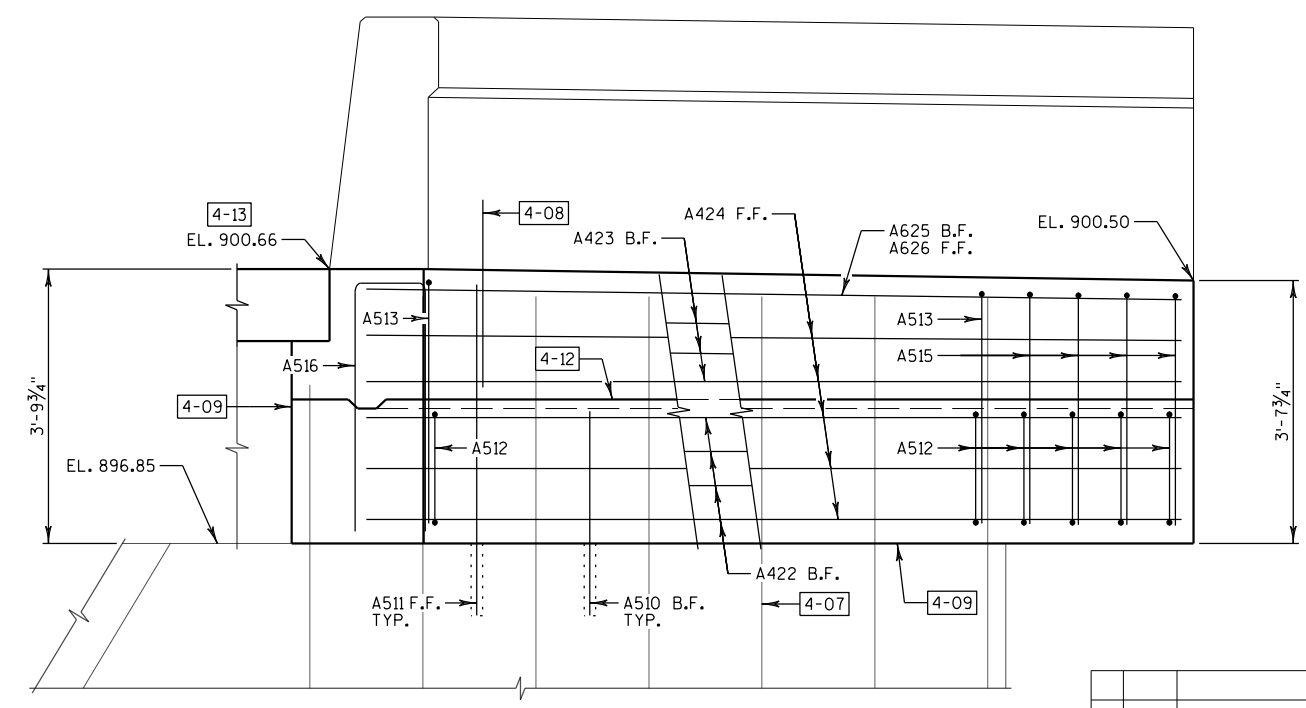
**WING 1 PLAN**  
(PARAPET NOT SHOWN FOR CLARITY)



**WING 2 PLAN**  
(PARAPET NOT SHOWN FOR CLARITY)



**WING 1 ELEVATION**



**WING 2 ELEVATION**

8

8

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
<b>STRUCTURE B-27-44</b>			
DRAWN BY TKB		PLANS CK'D. ETP	
<b>WEST ABUTMENT-2</b>			SHEET 5 OF 16

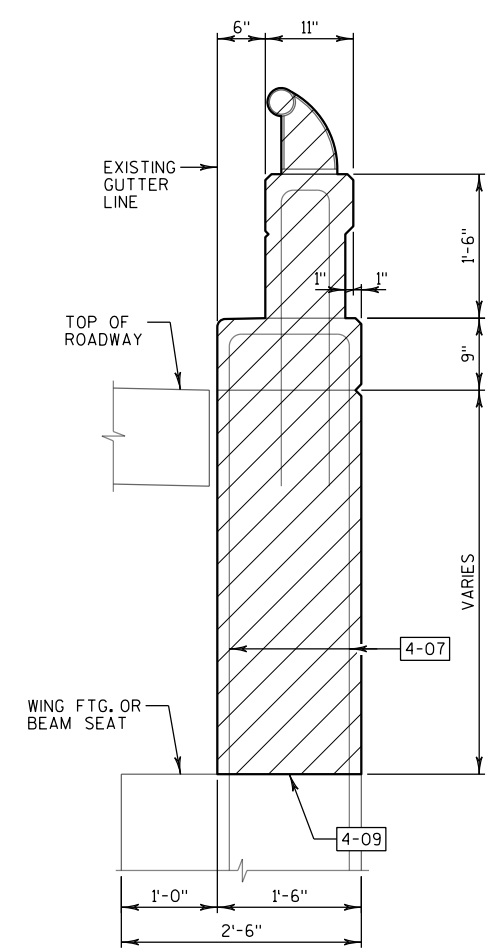
**BILL OF BARS - WEST ABUTMENT**

BAR MARK	COAT	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
A501	X	64	3'-0"	X		PAVING BLOCK VERT.
A402	X	64	3'-6"	X		PAVING BLOCK VERT.
A503	X	27	8'-0"			PAVING BLOCK HORIZ.
A510	X	11	2'-10"			WING DOWELS - B.F. VERT.
A511	X	12	4'-9"			WING DOWELS - F.F. VERT.
A512	X	31	6'-8"	X		WINGS - STIRRUPS VERT.
A513	X	24	7'-2"	X		WINGS 1 & 2 VERT.
A514	X	3	7'-0"	X		WING 1 VERT.
A515	X	4	6'-6"	X		WING 2 VERT.
A516	X	2	7'-7"	X		WINGS 1 & 2 VERT.
A417	X	4	11'-3"			WING 1 - B.F. HORIZ.
A418	X	3	11'-9"			WING 1 - B.F. HORIZ.
A419	X	5	12'-7"			WING 1 - F.F. HORIZ.
A620	X	1	11'-6"			WING 1 - B.F., TOP HORIZ.
A621	X	1	12'-7"			WING 1 - F.F., TOP HORIZ.
A422	X	4	11'-11"			WING 2 - B.F. HORIZ.
A423	X	3	11'-5"			WING 2 - B.F. HORIZ.
A424	X	5	10'-5"			WING 2 - F.F. HORIZ.
A625	X	1	11'-5"			WING 2 - B.F., TOP HORIZ.
A626	X	1	10'-5"			WING 2 - F.F., TOP HORIZ.
TOTAL WEIGHT = 1,390 LBS						

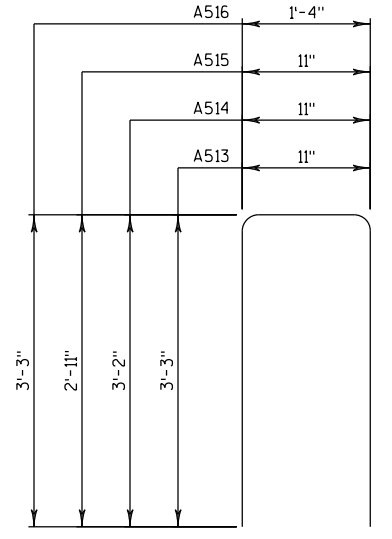
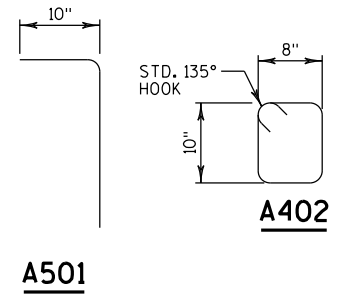
THE FIRST DIGIT OF THE BAR MARK SIGNIFIES THE BAR SIZE.

**LEGEND**

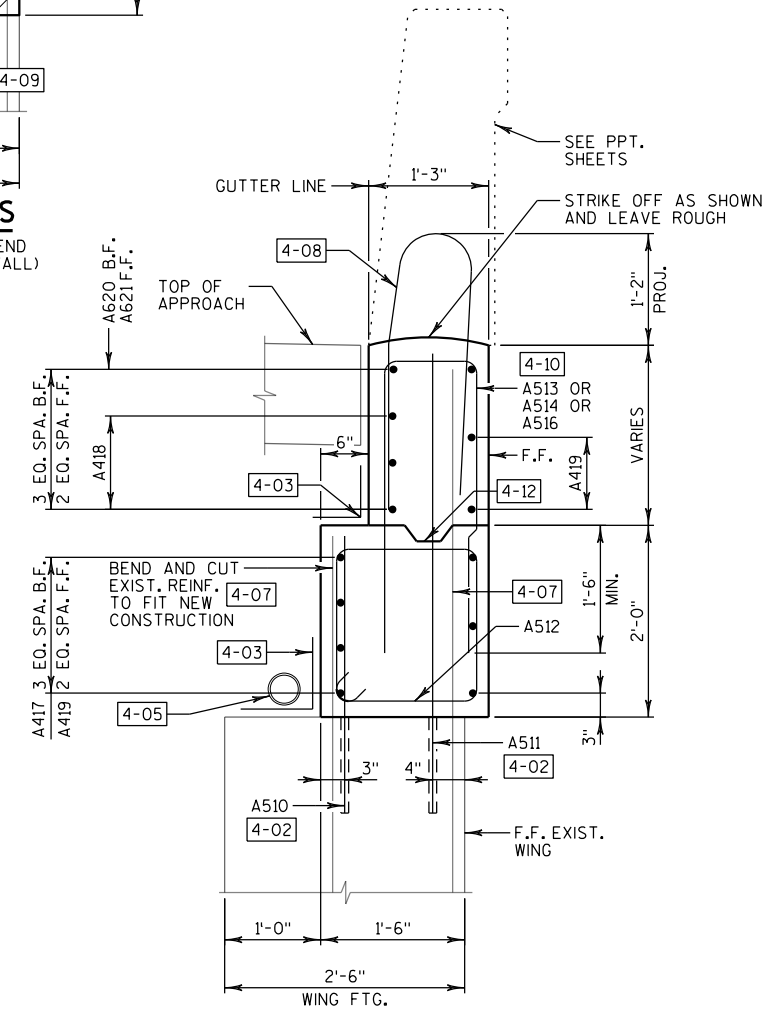
- 4-XX SEE SHEET 4 FOR CALLOUTS.
- [Hatched Box] INDICATES REMOVAL AREA.



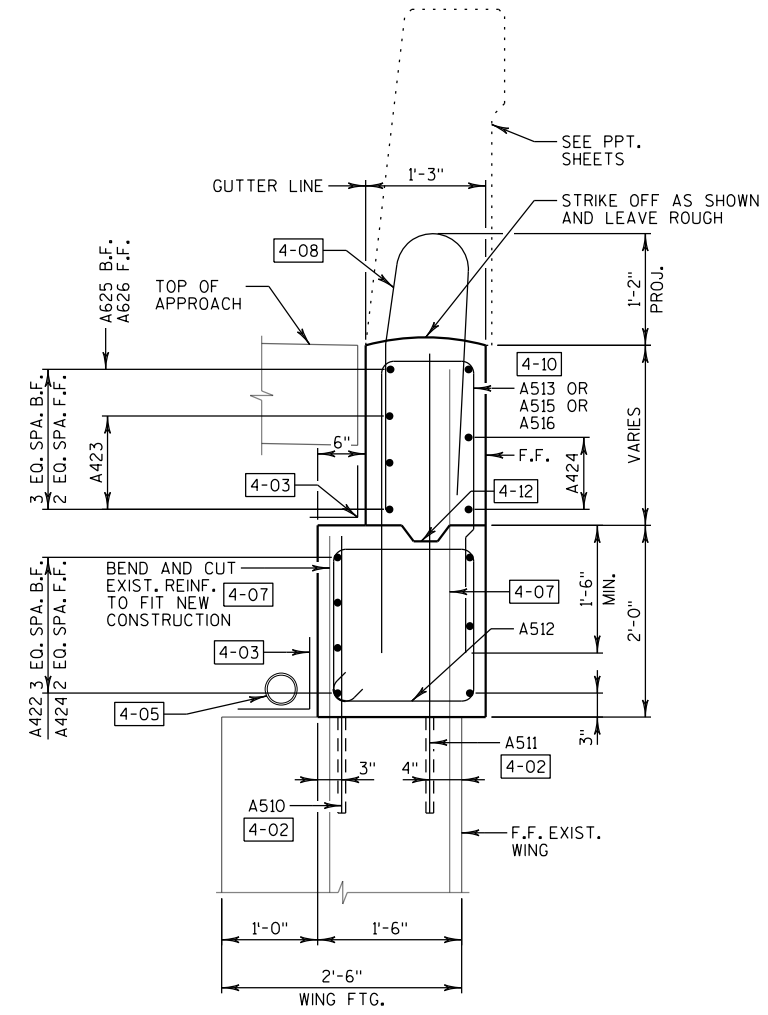
**WING REMOVALS**  
(TYP BOTH WINGS FROM END OF WING TO F.F. OF BACKWALL)



**A513, A514, A515 & A516**

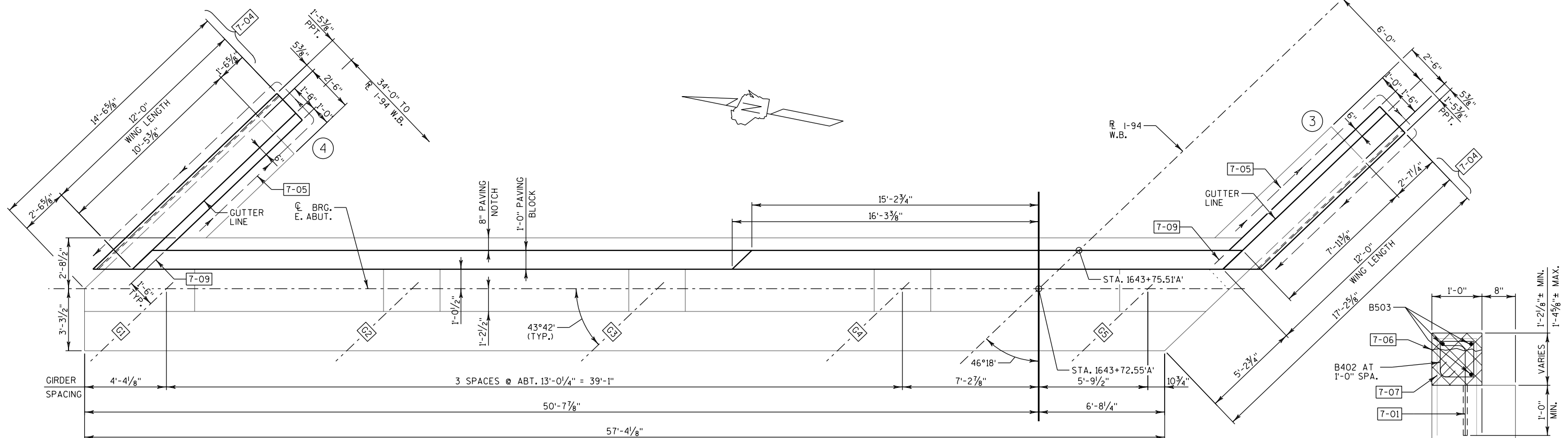


**SECTION THRU WING 1**

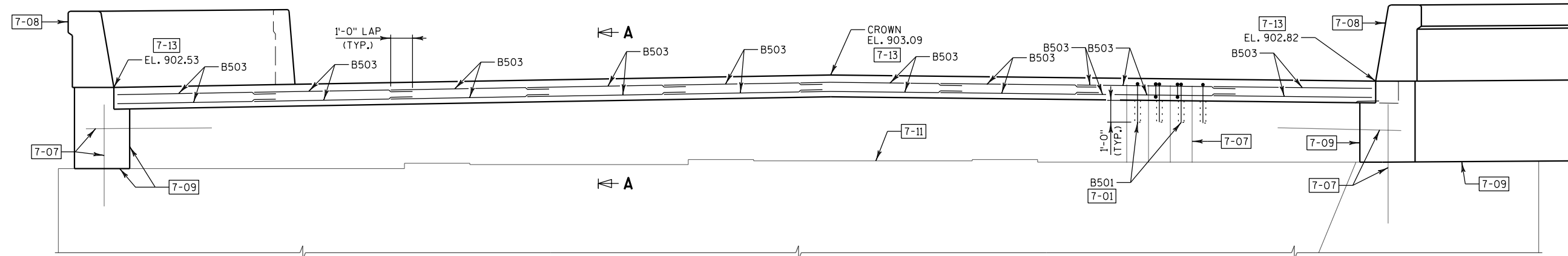


**SECTION THRU WING 2**

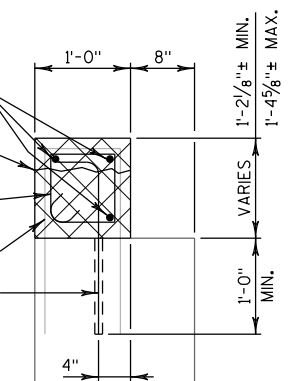
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
<b>STRUCTURE B-27-44</b>			
DRAWN BY TKB		PLANS CK'D. ETP	
<b>WEST ABUTMENT-3</b>			SHEET 6 OF 16



**PLAN**



**ELEVATION**  
(LOOKING EAST)



**SECTION A-A**

**LEGEND**

- GX INDICATES GIRDER NUMBER.
- X INDICATES WING NUMBER.
- [Cross-hatched box] INDICATES CONCRETE AREA TO BE POURED AFTER SUPERSTRUCTURE CONCRETE IS IN PLACE.
- 7-01 B501 BARS INSTALLED WITH ADHESIVE ANCHORS NO. 5 BAR. EMBED 1'-0" MIN. INTO EXISTING CONCRETE. VARY EMBEDMENT DEPTH TO MAINTAIN 2 1/2" CLEAR COVER IN PAVING BLOCK. ADJUST SPACING TO AVOID EXISTING VERTICAL REINFORCEMENT. TURN 10° LEG AS NECESSARY TO FIT.
- 7-02 B510 OR B511 BARS INSTALLED WITH ADHESIVE ANCHORS NO. 5 BAR. EMBED 1'-0" MIN. INTO EXISTING CONCRETE. VARY EMBEDMENT DEPTH TO MAINTAIN 2" CLEAR COVER AS NEEDED IN WING. ADJUST SPACING TO AVOID EXISTING VERTICAL REINFORCEMENT.
- 7-03 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACK FACE.
- 7-04 DIMENSIONS TAKEN ALONG GUTTER LINE.

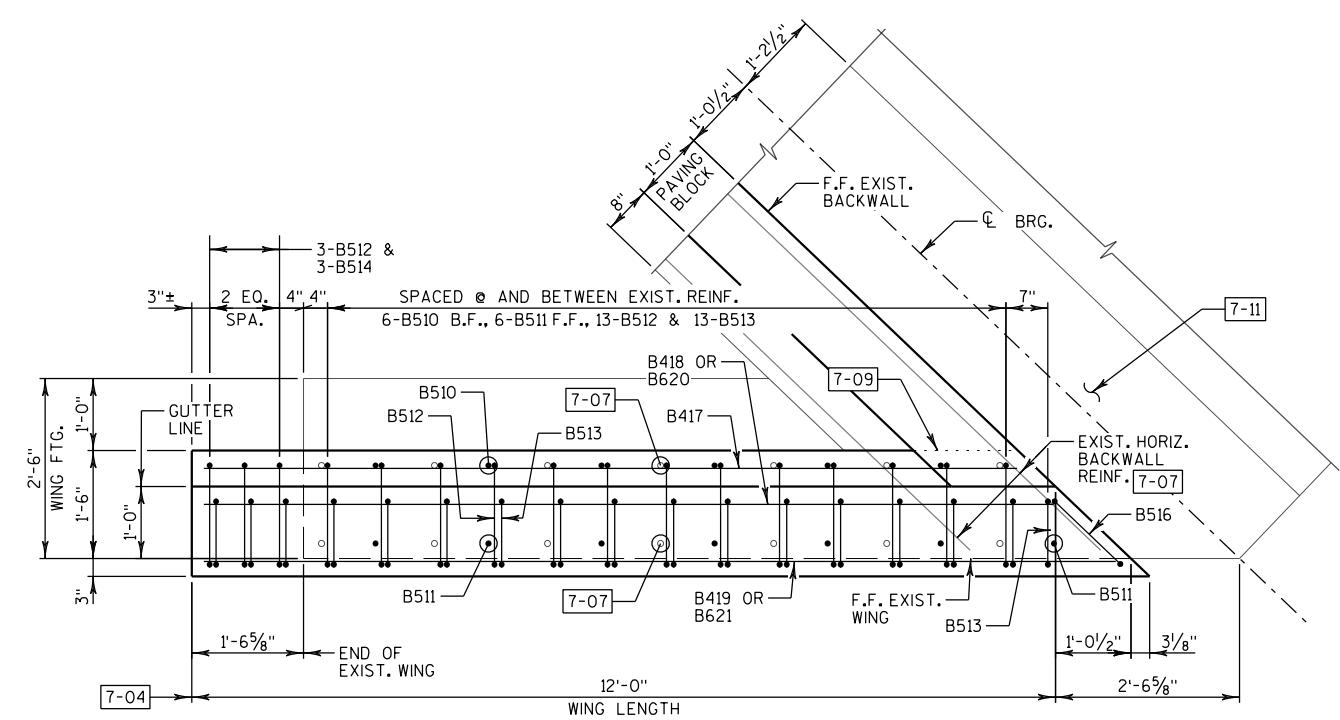
- 7-05 PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN.
- 7-06 OPTIONAL CONSTRUCTION JOINT 1" MIN. BELOW EXISTING REINFORCEMENT.
- 7-07 PRESERVE & INCORPORATE EXISTING REINFORCEMENT.
- 7-08 SEE SUPERSTRUCTURE DETAILS FOR PARAPET REINFORCEMENT.
- 7-09 REMOVAL LINE FOR WING REMOVAL AND RECONSTRUCT. SEE SHEET 9 FOR "WING REMOVALS" DETAIL.
- 7-10 PULL UP TO 2" CLEAR.

- 7-11 CLEAN AND SEAL ABUTMENT SEAT (FULL LENGTH OF ABUTMENT).
- 7-12 CONSTRUCTION JOINT FORMED BY BEVELED 2"x6" KEYWAY WITH MEMBRANE ON BACK FACE.
- 7-13 ELEVATION GIVEN AT F.F. OF BACKWALL.

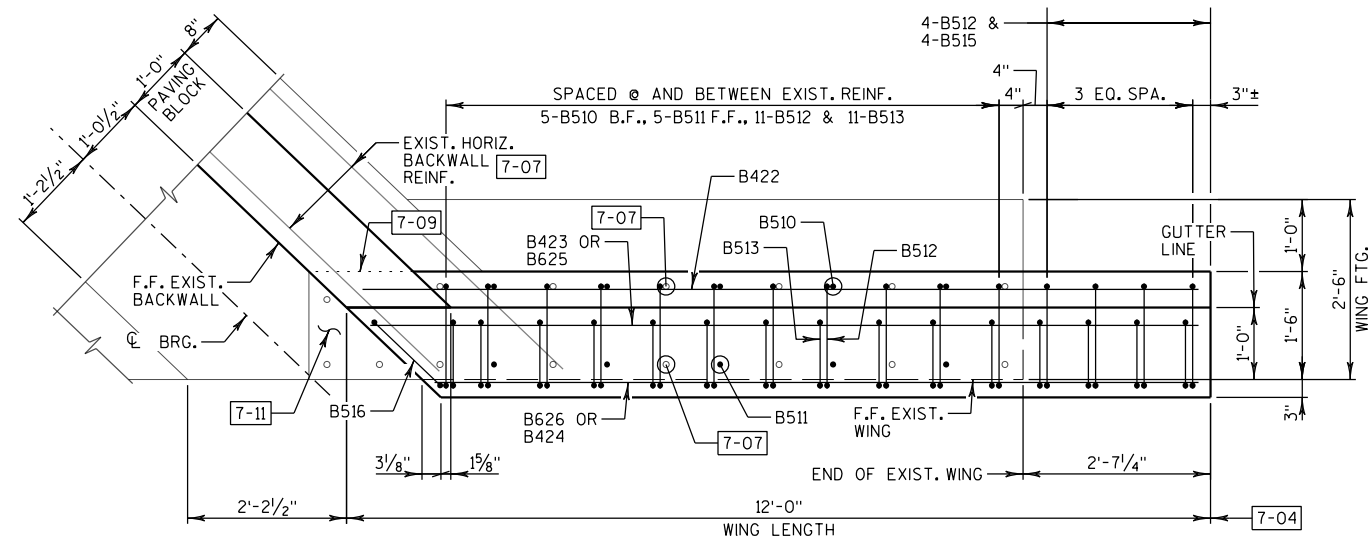
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
<b>STRUCTURE B-27-44</b>			
DRAWN BY TKB		PLANS CK'D. ETP	
<b>EAST ABUTMENT-1</b>			SHEET 7 OF 16

**LEGEND**

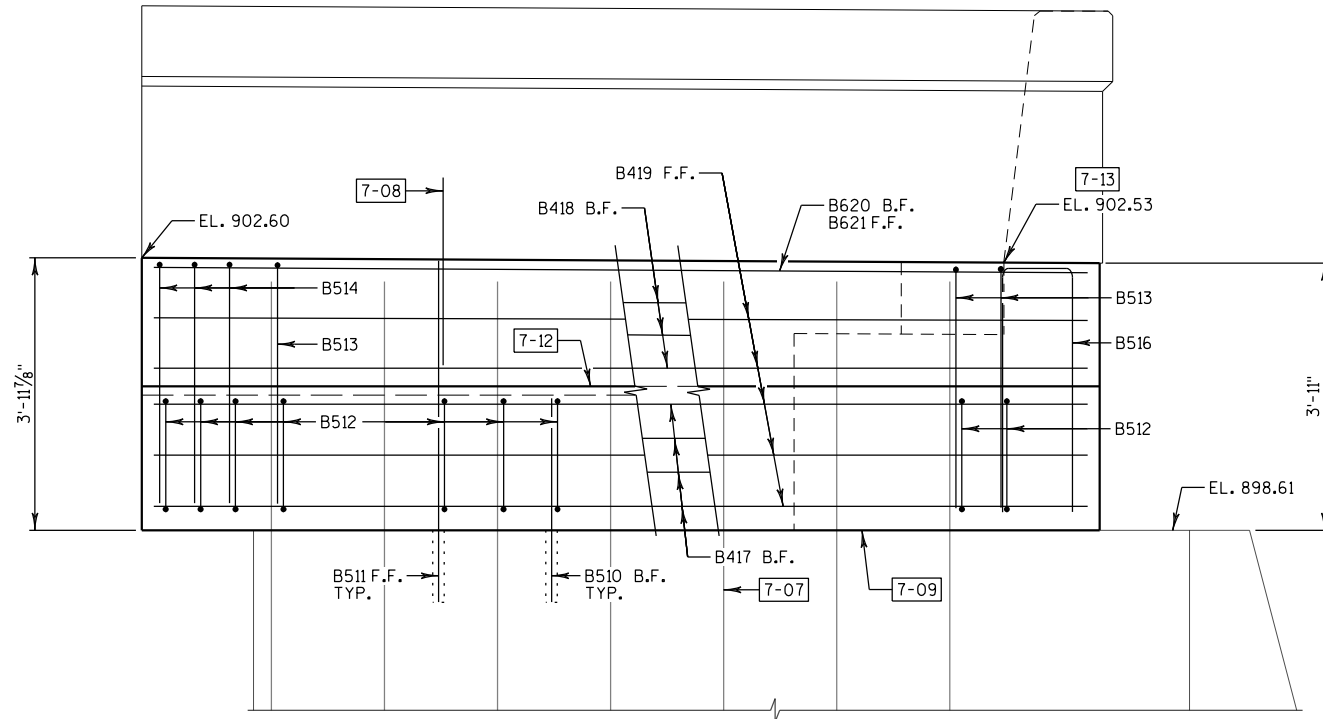
7-XX SEE SHEET 7 FOR CALLOUTS.  
SEE SHEET 9 FOR SECTIONS THRU WINGS.



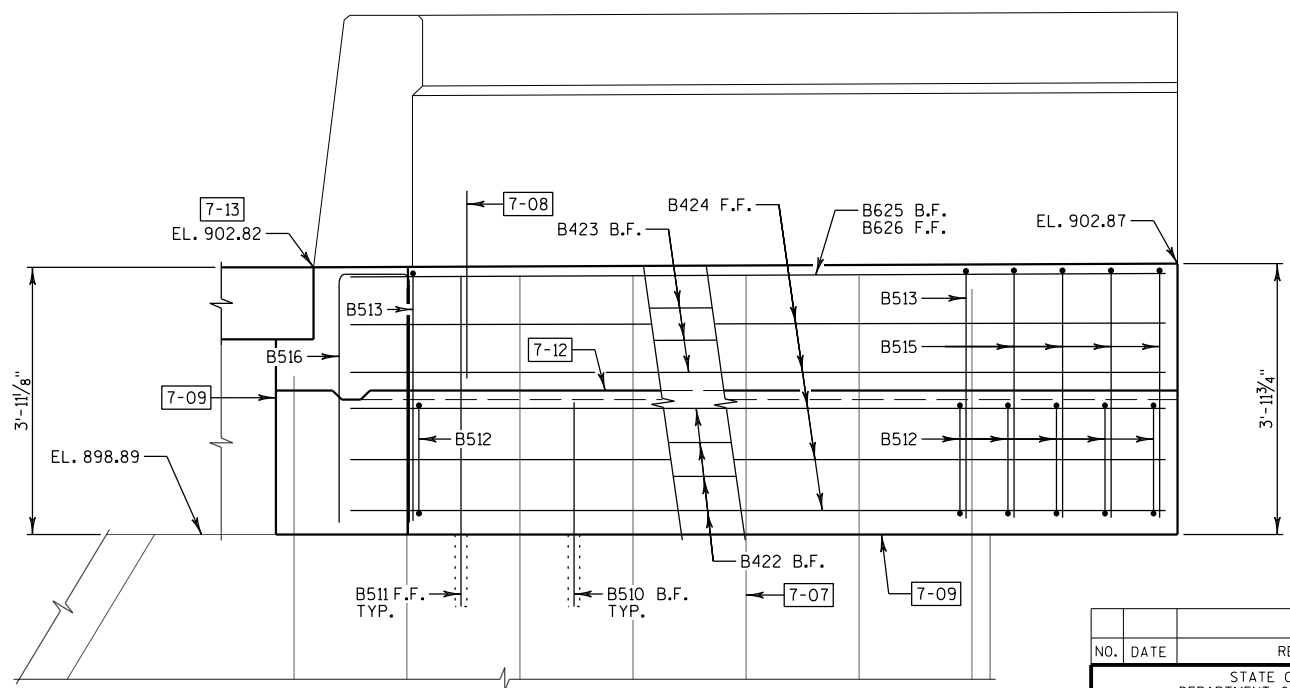
**WING 4 PLAN**  
(PARAPET NOT SHOWN FOR CLARITY)



**WING 3 PLAN**  
(PARAPET NOT SHOWN FOR CLARITY)



**WING 4 ELEVATION**



**WING 3 ELEVATION**

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
<b>STRUCTURE B-27-44</b>			
DRAWN BY TKB		PLANS CK'D. ETP	
<b>EAST ABUTMENT-2</b>			SHEET 8 OF 16

**BILL OF BARS - EAST ABUTMENT**

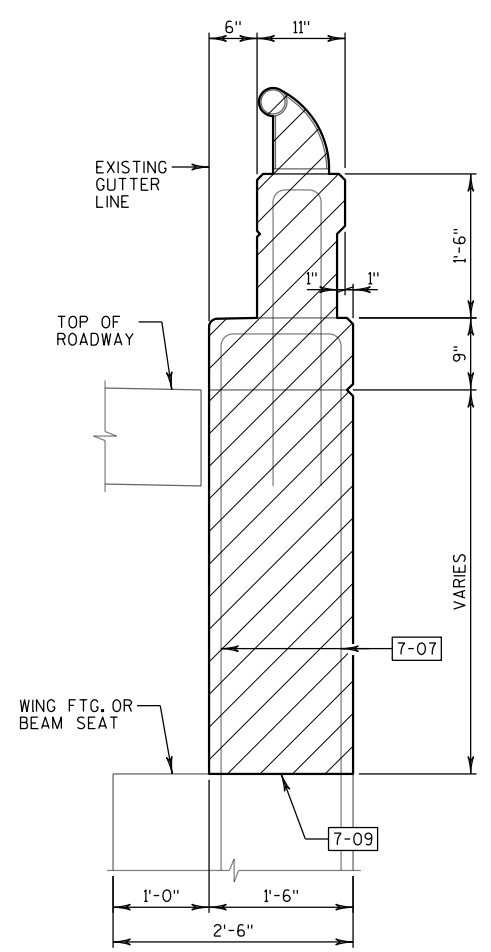
BAR MARK	COAT	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
B501	X	64	3'-0"	X		PAVING BLOCK VERT.
B402	X	64	3'-6"	X		PAVING BLOCK VERT.
B503	X	27	8'-0"			PAVING BLOCK HORIZ.
B510	X	11	2'-10"			WING DOWELS - B.F. VERT.
B511	X	12	4'-9"			WING DOWELS - F.F. VERT.
B512	X	31	6'-8"	X		WINGS - STIRRUPS VERT.
B513	X	24	7'-0"	X		WINGS 4 & 3 VERT.
B514	X	3	6'-10"	X		WING 4 VERT.
B515	X	4	6'-8"	X		WING 3 VERT.
B516	X	2	7'-7"	X		WINGS 4 & 3 VERT.
B417	X	4	11'-3"			WING 4 - B.F. HORIZ.
B418	X	3	11'-9"			WING 4 - B.F. HORIZ.
B419	X	5	12'-7"			WING 4 - F.F. HORIZ.
B620	X	1	11'-6"			WING 4 - B.F., TOP HORIZ.
B621	X	1	12'-7"			WING 4 - F.F., TOP HORIZ.
B422	X	4	11'-11"			WING 3 - B.F. HORIZ.
B423	X	3	11'-5"			WING 3 - B.F. HORIZ.
B424	X	5	10'-5"			WING 3 - F.F. HORIZ.
B625	X	1	11'-5"			WING 3 - B.F., TOP HORIZ.
B626	X	1	10'-5"			WING 3 - F.F., TOP HORIZ.

TOTAL WEIGHT = 1,360 LBS

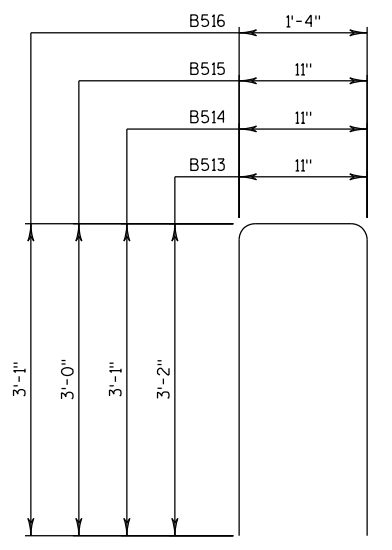
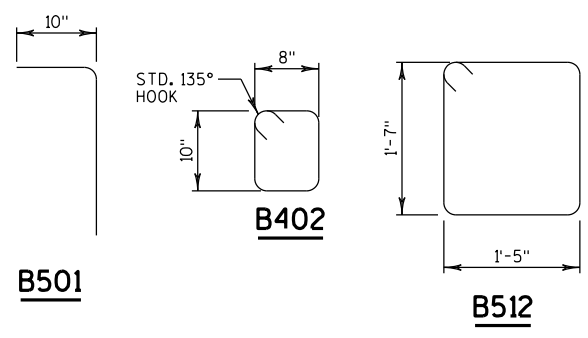
THE FIRST DIGIT OF THE BAR MARK SIGNIFIES THE BAR SIZE.

**LEGEND**

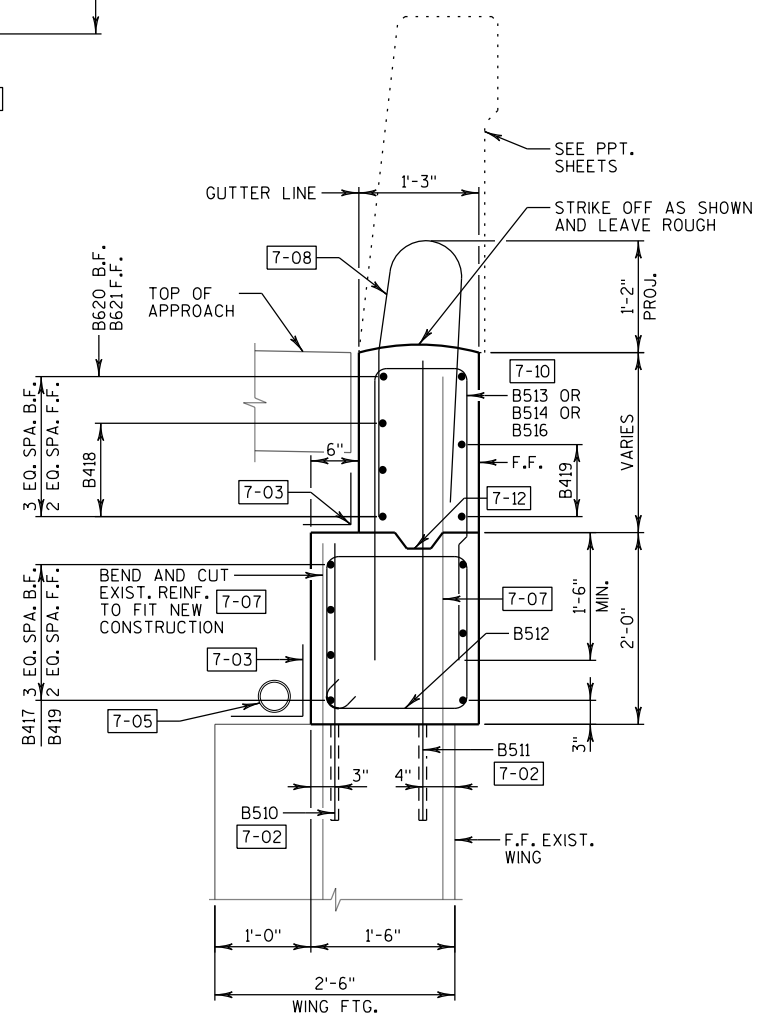
- 7-XX SEE SHEET 7 FOR CALLOUTS.
- [Hatched Box] INDICATES REMOVAL AREA.



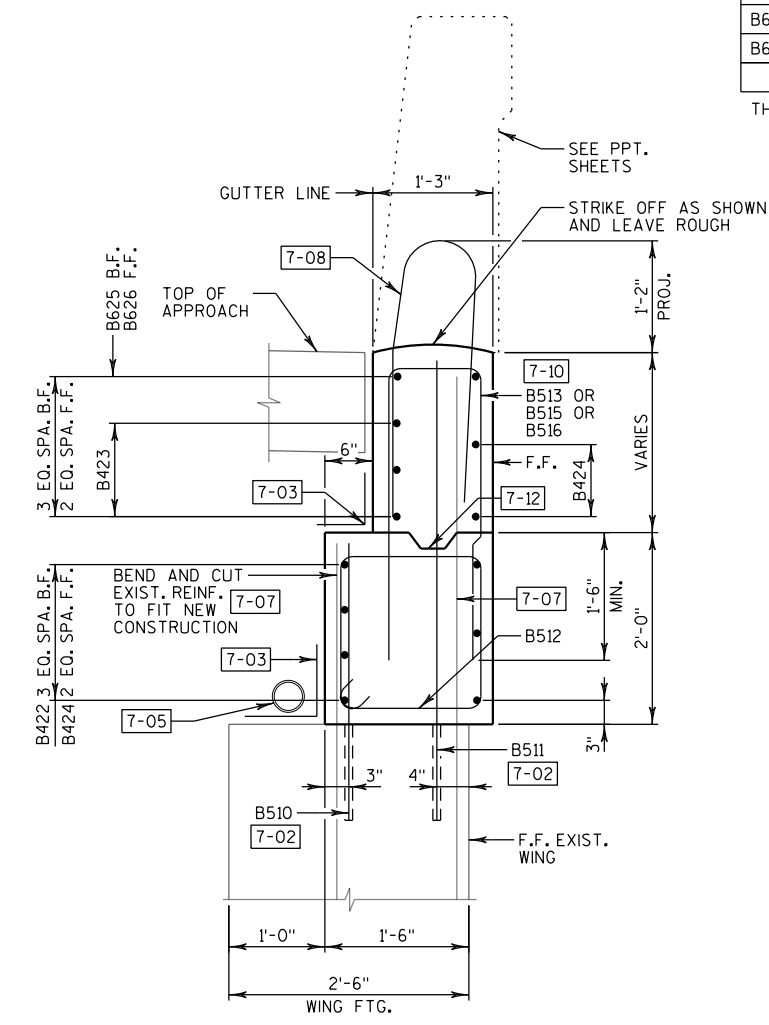
**WING REMOVALS**  
(TYP BOTH WINGS FROM END OF WING TO F.F. OF BACKWALL)



**B513, B514, B515 & B516**



**SECTION THRU WING 4**



**SECTION THRU WING 3**

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
<b>STRUCTURE B-27-44</b>			
DRAWN BY TKB		PLANS CK'D. ETP	
<b>EAST ABUTMENT-3</b>			SHEET 9 OF 16

**BEARING NOTES:**

REMOVAL OF THE EXISTING BEARINGS SHALL BE PAID AT THE UNIT BID PRICE FOR "REMOVING BEARINGS B-27-44".

ALL MATERIAL USED FOR BEARINGS SHALL BE PAID AT THE UNIT BID PRICE FOR "BEARING PADS ELASTOMERIC LAMINATED".

BEARINGS SHALL NOT BE PLACED AT A TEMPERATURE GREATER THAN 85°F.

ALL STRUCTURAL STEEL PLATES SHALL BE FLAT ROLLED WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT, AND VERTICAL.

ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUTS.

ALL BEARINGS ARE SYMMETRICAL ABOUT CENTERLINES.

WELDING PROCEDURES SHALL BE ESTABLISHED BY THE CONTRACTOR TO RESTRICT THE MAXIMUM TEMPERATURE REACHED BY SURFACES IN CONTACT WITH ELASTOMER TO 200°F (93°C). TEMPERATURES SHALL BE CONTROLLED BY TEMPERATURE INDICATING WAX PENCILS OR OTHER SUITABLE MEANS APPROVED BY THE ENGINEER.

**LEGEND**

10-01 REMOVE EXISTING EXPANSION BEARINGS AND EXISTING ANCHOR BOLTS FLUSH WITH CONCRETE BEARING SURFACE AND GRIND SMOOTH.

10-02 GRIND EXIST. WELD THAT ATTACHED EXIST. TOP PLATE TO EXIST. BOT. FLANGE. GRIND AFFECTED AREAS SMOOTH.

**GIRDER REACTIONS AT BEARINGS (KIPS)**

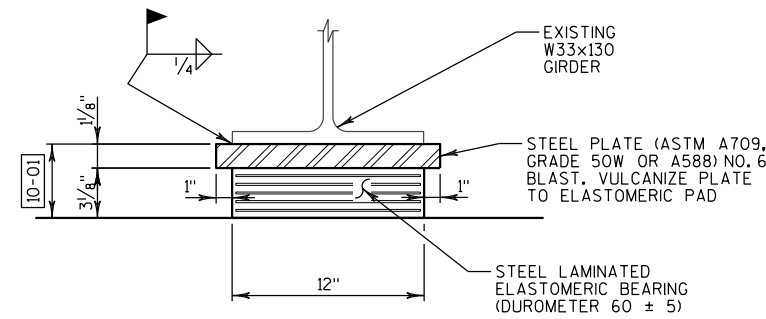
LOCATION		CL BRG. ABUTMENTS	CL BRG. PIERS
INTERIOR GIRDER	DL	28.7	50.3
	LL	102.4	155.6
EXTERIOR GIRDER	DL	30.0	52.6
	LL	92.6	140.8

THE THEORETICAL SERVICE LOADS (UNFACTORED) SHOWN IN THE TABLE ABOVE ARE BASED ON THE BRIDGE IN ITS FINAL CONFIGURATION. ADDITIONAL LOAD RESULTING FROM STAGING AND/OR CONTRACTOR OPERATIONS, SUCH AS UNEVEN JACKING OF ADJACENT GIRDERS OR ADJACENT SUBSTRUCTURES UNITS, IS NOT INCLUDED.

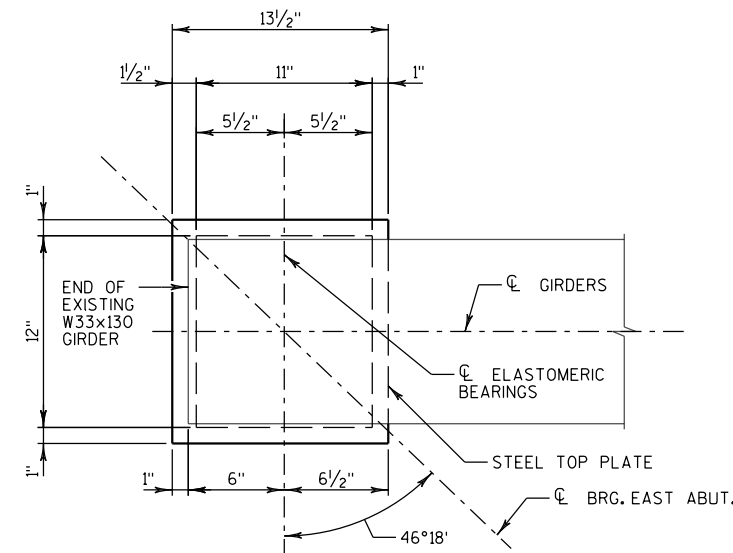
THE LL REACTIONS ARE BASED ON HL-93 AND INCLUDE IMPACT.

EXTERIOR GIRDER DEAD LOAD REACTIONS WERE INCREASED 10% TO ACCOUNT FOR VARIABILITY IN COMPOSITE DL DISTRIBUTION METHODS.

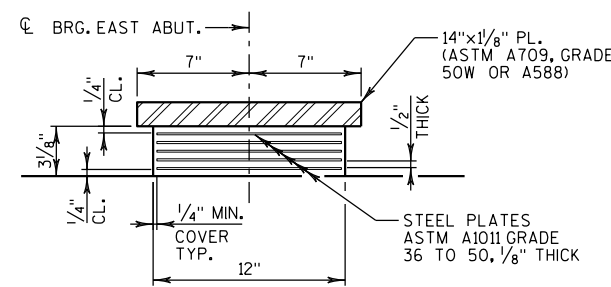
IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE ADEQUACY OF THE GIRDER AT THE JACKING LOCATION.



**FRONT ELEVATION**

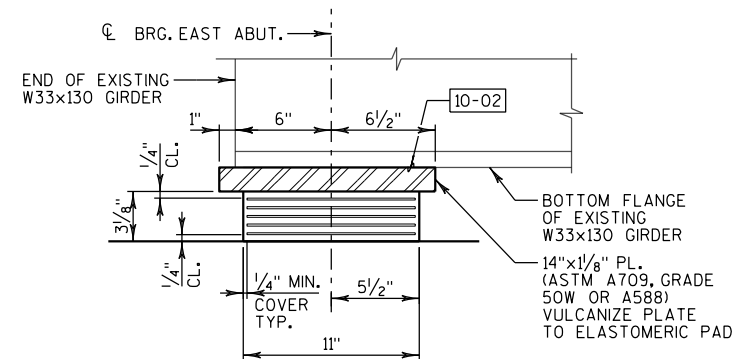


**PLAN VIEW**



**SECTION THRU ELASTOMERIC BEARING**

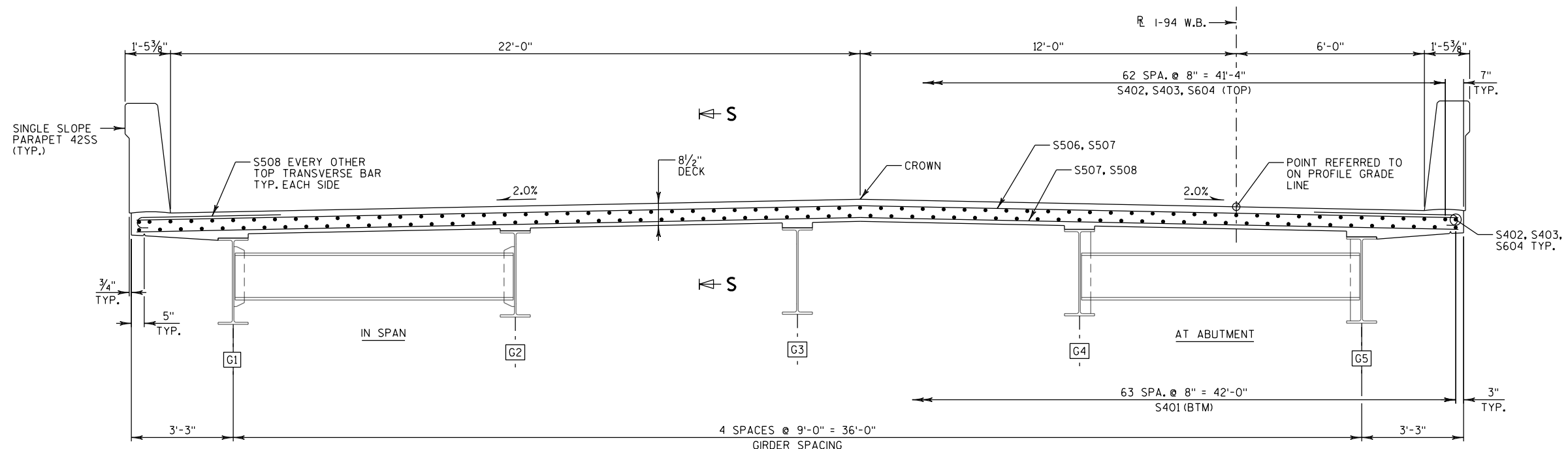
(FRONT ELEVATION)



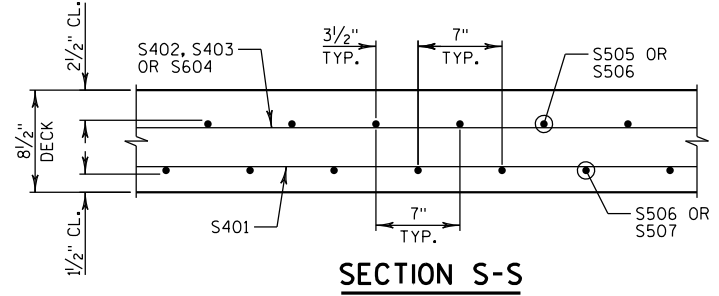
**SECTION THRU ELASTOMERIC BEARING**

(SIDE ELEVATION)

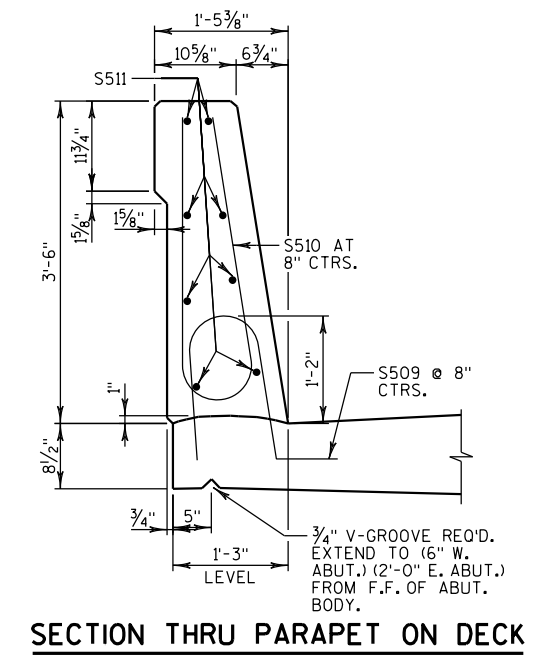
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
<b>STRUCTURE B-27-44</b>			
DRAWN BY TKB		PLANS CK'D. ETP	
<b>EXPANSION BEARING DETAILS</b>			SHEET 10 OF 16



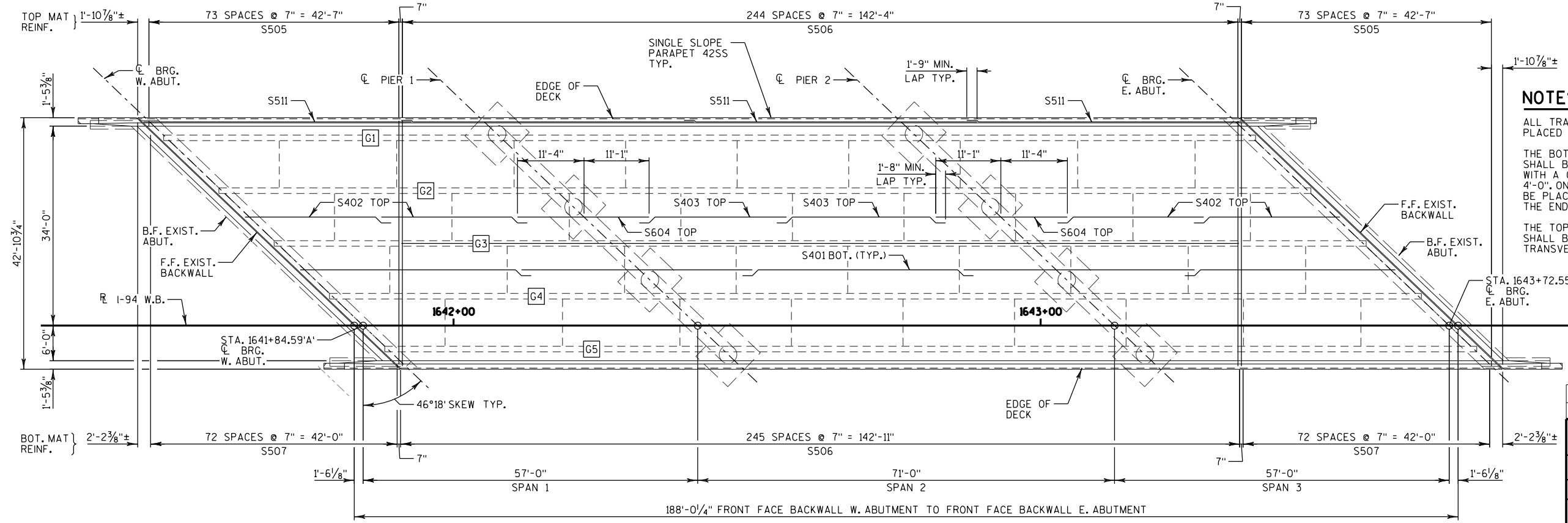
**TYPICAL CROSS SECTION THRU DECK**  
(LOOKING EAST)



**SECTION S-S**



**SECTION THRU PARAPET ON DECK**



**DECK PLAN**

- NOTES:**
- ALL TRANSVERSE STEEL REINFORCEMENT SHALL BE PLACED PERPENDICULAR TO THE REFERENCE LINE.
  - THE BOTTOM TRANSVERSE BAR STEEL REINFORCEMENT SHALL BE SUPPORTED BY CONTINUOUS BAR CHAIRS WITH A CENTER TO CENTER SPACING NOT TO EXCEED 4'-0". ONE LINE OF CONTINUOUS BAR CHAIRS SHALL BE PLACED NEAR EACH EDGE OF SLAB TO SUPPORT THE ENDS OF THE BOTTOM TRANSVERSE BAR STEEL.
  - THE TOP LONGITUDINAL BAR STEEL REINFORCEMENT SHALL BE SUPPORTED BY CONTINUOUS BAR CHAIRS IN TRANSVERSE DIRECTION ON 4'-0" CENTERS.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
<b>STRUCTURE B-27-44</b>			
DRAWN BY TKB		PLANS CK'D. ETP	
<b>SUPERSTRUCTURE 1</b>			SHEET 11 OF 16



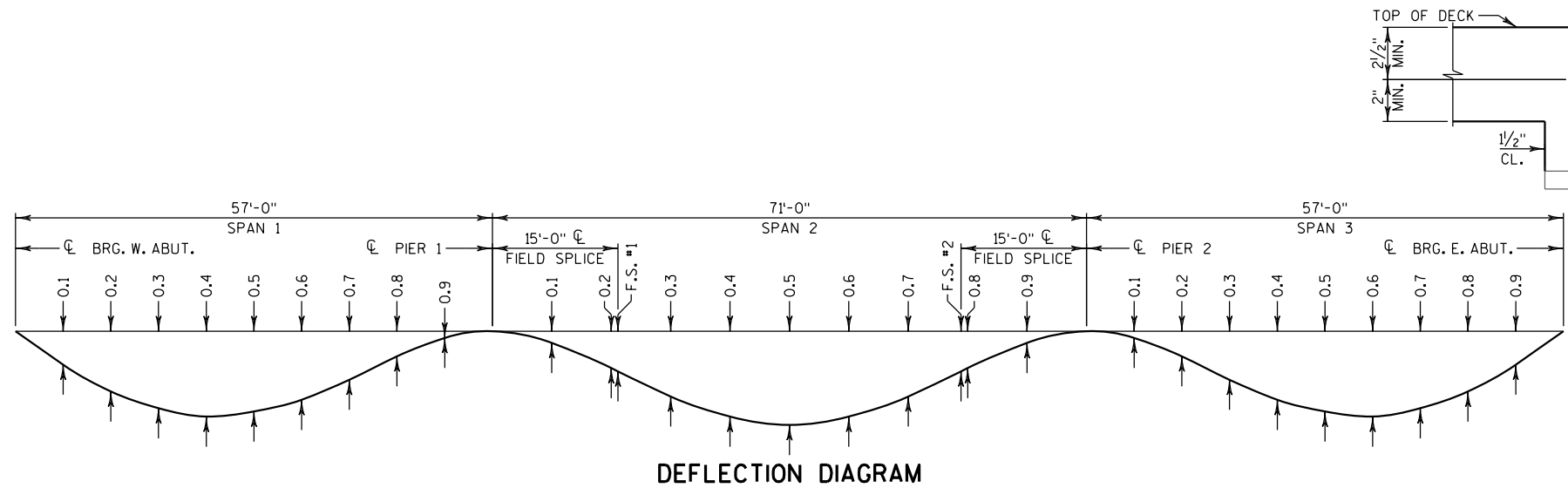
TOP OF DECK ELEVATIONS

LOCATION	C/L BRG. W. ABUT.	SPAN 1									C/L BRG. PIER 1	SPAN 2									C/L BRG. PIER 2	SPAN 3									C/L BRG. E. ABUT.		
		0.1 PT	0.2 PT	0.3 PT	0.4 PT	0.5 PT	0.6 PT	0.7 PT	0.8 PT	0.9 PT		0.1 PT	0.2 PT	F.S. #1	0.3 PT	0.4 PT	0.5 PT	0.6 PT	0.7 PT	F.S. #2		0.8 PT	0.9 PT	0.1 PT	0.2 PT	0.3 PT	0.4 PT	0.5 PT	0.6 PT	0.7 PT		0.8 PT	0.9 PT
LT EDGE OF DECK	900.66	900.73	900.81	900.88	900.96	901.03	901.10	901.17	901.24	901.31	901.38	901.46	901.54	901.61	901.69	901.76	901.83	901.90	901.96	901.97	902.03	902.09	902.14	902.19	902.23	902.28	902.32	902.36	902.40	902.44	902.48	902.51	
C/L GIRDER 1	900.74	900.82	900.89	900.97	901.04	901.11	901.18	901.25	901.32	901.39	901.46	901.54	901.61	901.62	901.69	901.76	901.83	901.90	901.97	902.04	902.10	902.16	902.21	902.26	902.30	902.34	902.38	902.43	902.46	902.50	902.54	902.57	
C/L GIRDER 2	901.05	901.12	901.19	901.27	901.34	901.41	901.48	901.55	901.61	901.68	901.74	901.82	901.90	901.90	901.97	902.04	902.11	902.18	902.24	902.30	902.36	902.42	902.46	902.51	902.55	902.59	902.63	902.67	902.71	902.74	902.77	902.81	
C/L GIRDER 3	901.35	901.42	901.49	901.56	901.63	901.70	901.77	901.84	901.90	901.96	902.02	902.10	902.17	902.17	902.24	902.31	902.38	902.44	902.50	902.56	902.56	902.62	902.67	902.72	902.76	902.80	902.84	902.87	902.91	902.94	902.98	903.01	903.04
CROWN	901.41	901.49	901.56	901.63	901.70	901.77	901.83	901.90	901.96	902.03	902.09	902.16	902.23	902.23	902.30	902.37	902.44	902.50	902.56	902.61	902.62	902.67	902.73	902.77	902.81	902.85	902.89	902.93	902.96	902.99	903.03	903.06	903.09
C/L GIRDER 4	901.37	901.44	901.51	901.58	901.65	901.71	901.78	901.84	901.90	901.96	902.02	902.10	902.16	902.17	902.23	902.30	902.36	902.42	902.48	902.53	902.54	902.59	902.64	902.68	902.72	902.76	902.80	902.83	902.86	902.90	902.93	902.96	902.98
PGL	901.33	901.40	901.47	901.54	901.61	901.67	901.74	901.80	901.86	901.92	901.98	902.05	902.11	902.11	902.18	902.24	902.25	902.36	902.42	902.47	902.48	902.53	902.58	902.62	902.66	902.69	902.73	902.76	902.79	902.82	902.85	902.88	902.91
C/L GIRDER 5	901.31	901.38	901.44	901.51	901.58	901.64	901.70	901.76	901.82	901.88	901.94	902.01	902.07	902.07	902.14	902.20	902.26	902.32	902.37	902.42	902.43	902.48	902.53	902.57	902.60	902.64	902.67	902.70	902.74	902.77	902.79	902.82	902.85
RT EDGE OF DECK	901.31	901.38	901.44	901.51	901.57	901.64	901.70	901.76	901.82	901.88	901.93	902.00	902.06	902.07	902.13	902.19	902.25	902.31	902.36	902.41	902.41	902.46	902.51	902.55	902.58	902.62	902.65	902.68	902.71	902.74	902.77	902.80	902.82

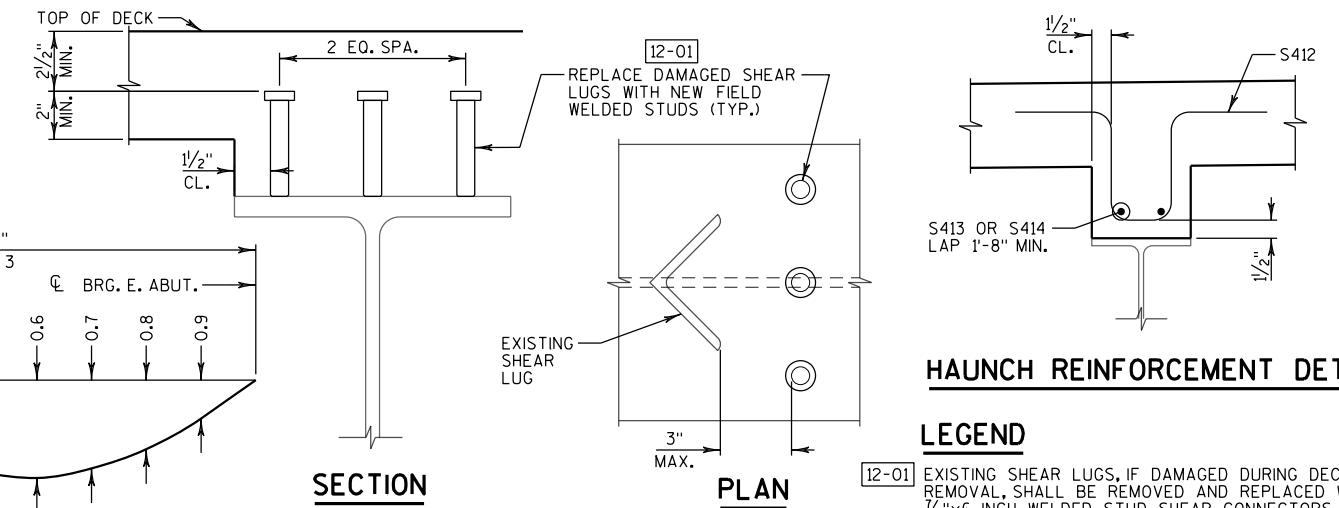
CONCRETE DEFLECTIONS

LOCATION	C/L BRG. W. ABUT.	SPAN 1									C/L BRG. PIER 1	SPAN 2									C/L BRG. PIER 2	SPAN 3									C/L BRG. E. ABUT.		
		0.1 PT	0.2 PT	0.3 PT	0.4 PT	0.5 PT	0.6 PT	0.7 PT	0.8 PT	0.9 PT		0.1 PT	0.2 PT	F.S. #1	0.3 PT	0.4 PT	0.5 PT	0.6 PT	0.7 PT	F.S. #2		0.8 PT	0.9 PT	0.1 PT	0.2 PT	0.3 PT	0.4 PT	0.5 PT	0.6 PT	0.7 PT		0.8 PT	0.9 PT
ALL GIRDERS	0.0	0.2	0.4	0.5	0.5	0.5	0.4	0.3	0.2	0.0	0.0	0.1	0.2	0.2	0.4	0.5	0.6	0.5	0.4	0.2	0.2	0.1	0.0	0.0	0.2	0.3	0.4	0.5	0.5	0.5	0.4	0.2	0.0

DEFLECTIONS ARE IN INCHES.



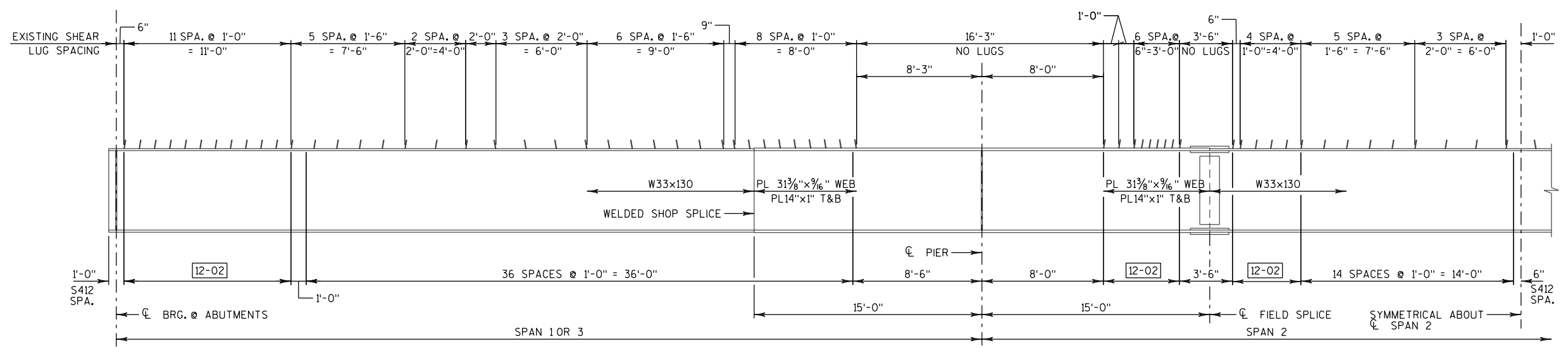
(SEE TABLE FOR DEAD LOAD DEFLECTIONS AT TENTH POINTS)



HAUNCH REINFORCEMENT DETAIL

LEGEND

- 12-01 EXISTING SHEAR LUGS, IF DAMAGED DURING DECK REMOVAL, SHALL BE REMOVED AND REPLACED WITH 7/8"x6-INCH WELDED STUD SHEAR CONNECTORS. REMOVAL AND REPLACEMENT OF DAMAGED SHEAR LUGS INCIDENTAL TO "REMOVING STRUCTURE B-27-44".
- 12-02 S412 SPACING TO MATCH EXISTING SHEAR LUG SPACING.



EXISTING HALF GIRDER ELEVATION  
SHOWING EXISTING SHEAR CONNECTOR SPACING

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-27-44			
DRAWN BY TKB		PLANS CK'D. ETP	
SUPERSTRUCTURE 2			SHEET 12 OF 16

**BAR SERIES TABLE**

BAR MARK	NO. REQ'D	LENGTH
S505	2 SERIES OF 74	1'-2" TO 41'-10"
S507	2 SERIES OF 73	1'-5" TO 41'-7"

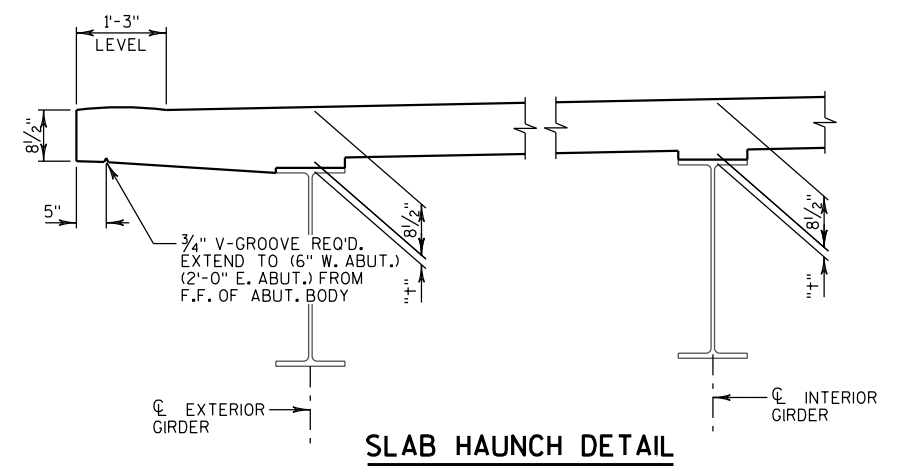
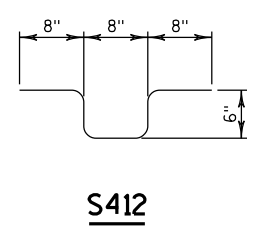
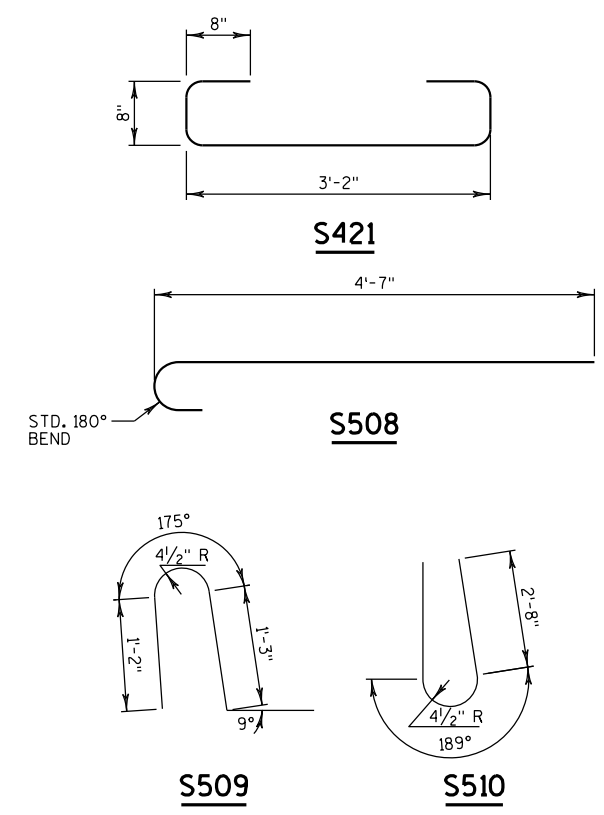
BUNDLE & TAG EACH SERIES SEPARATELY.

**BILL OF BARS - SUPERSTRUCTURE**

BAR MARK	COAT	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
S401	X	320	38'-10"			DECK - BTM LONGIT.
S402	X	260	25'-2"			DECK - TOP LONGIT.
S403	X	130	26'-11"			DECK - TOP LONGIT.
S604	X	130	22'-5"			DECK - TOP, OVER PIERS LONGIT.
S505	X	148	21'-6"		X	DECK - TOP TRANS.
S506	X	491	42'-2"			DECK - TOP & BTM TRANS.
S507	X	146	21'-6"		X	DECK - BTM TRANS.
S508	X	394	5'-2"	X		DECK - TOP TRANS.
S509	X	564	4'-5"	X		DECK - PARAPETS VERT.
S510	X	564	6'-8"	X		DECK - PARAPETS VERT.
S511	X	64	48'-2"			DECK - PARAPETS LONGIT.
S412	X	780	2'-8"	X		DECK - HAT BARS VERT.
S413	X	40	25'-0"			DECK - HAT BARS - SPANS 1 & 3 LONGIT.
S414	X	20	28'-6"			DECK - HAT BARS - SPAN 2 LONGIT.
S720	X	40	12'-3"			DIAPHRAGMS TRANS.
S421	X	96	5'-6"	X		DIAPHRAGMS VERT.
S422	X	16	12'-3"			DIAPHRAGMS TRANS.
S423	X	16	12'-7"			DIAPHRAGMS TRANS.

TOTAL WEIGHT = 63,490 LBS

THE FIRST DIGIT OF THE BAR MARK SIGNIFIES THE BAR SIZE.



**SLAB HAUNCH DETAIL**

'T' = HAUNCH HEIGHT AT CENTERLINE OF GIRDER.  
 TO DETERMINE 'T': AFTER ALL STRUCTURAL STEEL HAS BEEN ERECTED, ELEVATIONS OF THE TOP FLANGES SHALL BE TAKEN AT CENTERLINE OF BEARINGS AND AT 0.1 POINTS.  
 TOP OF DECK ELEVATIONS AT FINAL GRADE  
 - TOP OF EXISTING STEEL GIRDER  
 + CONCRETE ONLY DEFLECTION; DOWNWARD DEFLECTION IS ADDED, UPWARD DEFLECTION IS SUBTRACTED.  
 - SLAB THICKNESS (8 1/2")  
 = 'T' VALUE FOR SETTING HAUNCH

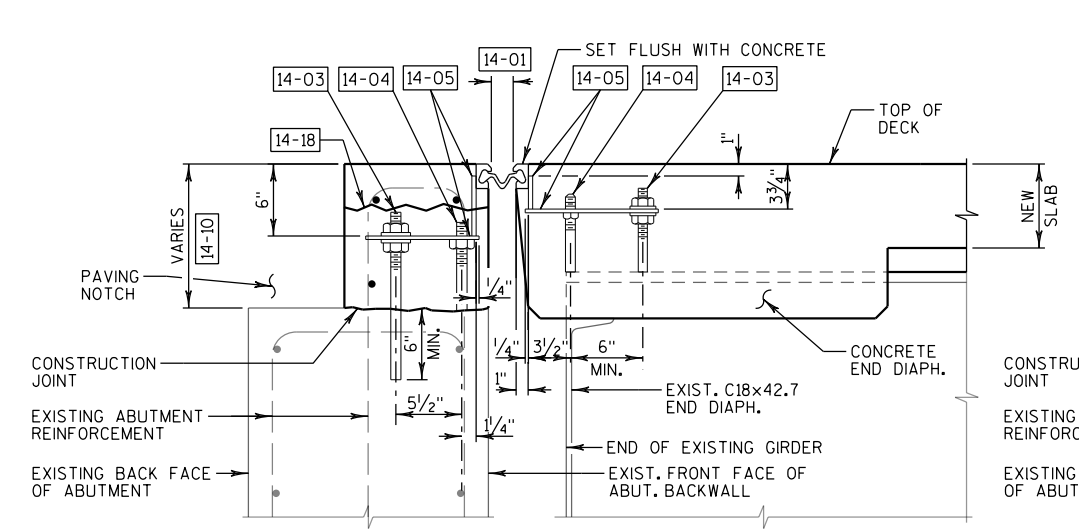
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
<b>STRUCTURE B-27-44</b>			
DRAWN BY TKB		PLANS CK'D. ETP	
<b>SUPERSTRUCTURE DETAILS</b>			SHEET 13 OF 16

**NOTE**

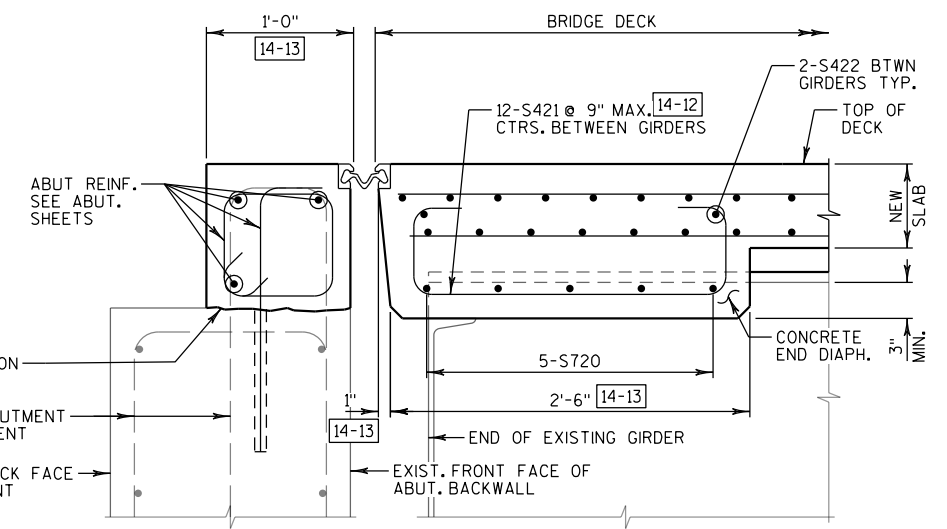
SEE SHEET 15 FOR ADDITIONAL CALLOUT LOCATIONS AND GENERAL NOTES.

**LEGEND**

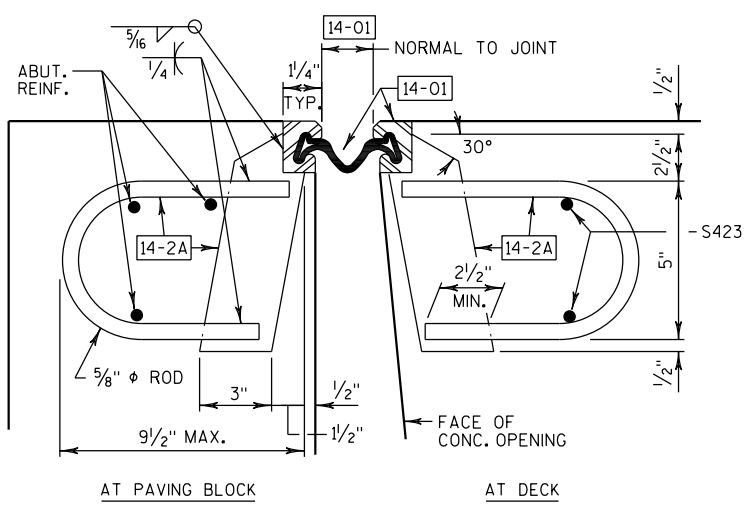
- 14-01 NEOPRENE STRIP SEAL (4-INCH) & STEEL EXTRUSIONS. SET JOINT OPENING AT 1 3/4" (NORMAL TO JOINT).
- 14-02 STUDS 5/8" φ × 6 3/8" LONG AT 6" ALTERNATE CENTERS. WELD TO EXTRUSIONS & BEND AS SHOWN AFTER WELDING.
- 14-2A 1/2" THICK ANCHOR PLATE WITH 5/8" φ ROD (OR ALTERNATE STRIP SEAL ANCHOR). WELD ROD TO ANCHOR PLATE, WELD ANCHOR PL. TO 14-01 AT 1'-6" CTRS. BETWEEN GIRDERS.
- 14-03 3/4" 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.
- 14-04 3/4" φ THREADED ROD WITH NUT. TACK WELD NUT TO 14-05.
- 14-05 FABRICATE SUPPORT FROM 3" × 1/2" BAR AS SHOWN OR EQUIVALENT. ONE PER GIRDER PER SIDE. SHOP OR FIELD WELD TO 14-01. IF FIELD WELDED, COVER WELDED AREAS WITH EPOXY-COATING MATERIAL. PROVIDE 1 1/2" φ HOLE FOR 14-03 & 1" φ HOLE FOR 14-04.
- 14-06 GALVANIZED PLATE 3/8"×10"×3'-0" LONG WITH HOLES FOR 14-07.
- 14-07 3/4" φ × 1 1/2" STAINLESS STEEL SOCKET FLAT HEAD SCREWS WITH ANTI-SEIZE LUBRICANT. PLACE IN COUNTERSUNK HOLE. RECESS 1/16" BELOW PLATE SURFACE.
- 14-08 3/4" φ × 4" GALVANIZED HEX HEAD BOLT. BEND 45°.
- 14-09 3/4" φ × 2 1/4" GALVANIZED THREADED COUPLING.
- 14-10 SEE SHEETS 4 OR 7.
- 14-11 1" × 5" SLOTTED COUNTERSUNK HOLE FOR 14-07. PLACE SLOT PARALLEL TO DIRECTION OF MOVEMENT.
- 14-12 BARS PLACED PARALLEL TO GIRDERS. SPACING PERPENDICULAR TO CL GIRDERS.
- 14-13 DIMENSION IS TAKEN NORMAL TO CL ABUTMENT.
- 14-14 NOT USED.
- 14-15 BLOCK OUT CONCRETE 2" EACH SIDE OF JOINT OPENING.
- 14-16 JOINT OPENING DIMENSION ALONG SKEW PLUS 1/2".
- 14-17 NOT USED.
- 14-18 OPTIONAL CONSTRUCTION JOINT 1" MIN. BELOW EXISTING REINFORCEMENT.



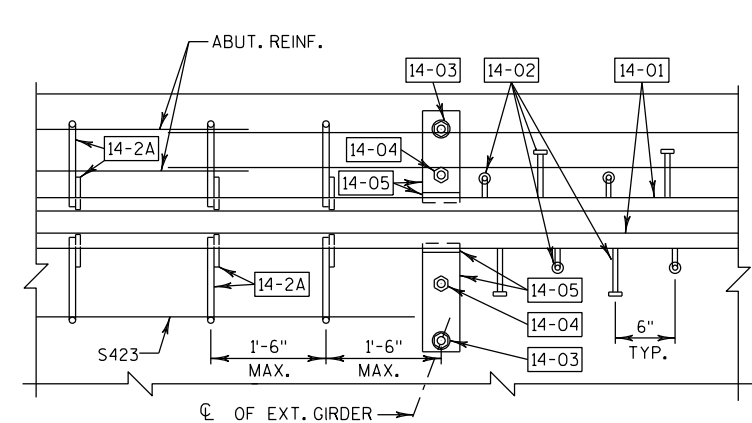
**SECTION THRU JOINT AT ABUTMENT**  
NORMAL TO CL SUBSTRUCTURE



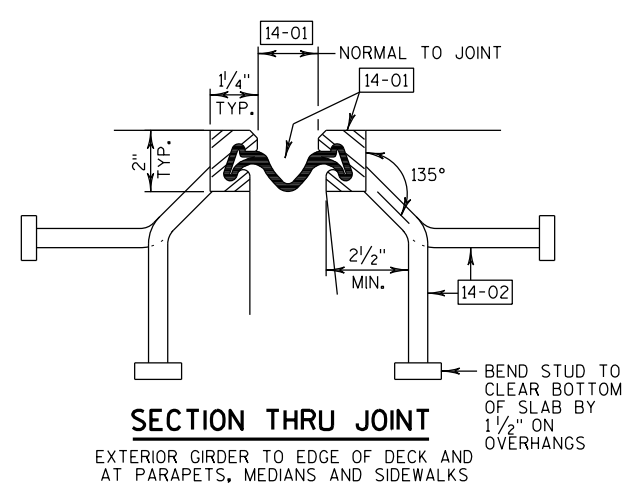
**SECTION THRU JOINT AT ABUTMENT**  
NORMAL TO CL SUBSTRUCTURE  
DIAPHRAGM TO EXTEND TO GIRDER WEB  
(SEE SUPERSTRUCTURE SHEETS FOR ADDITIONAL DECK REINFORCEMENT)



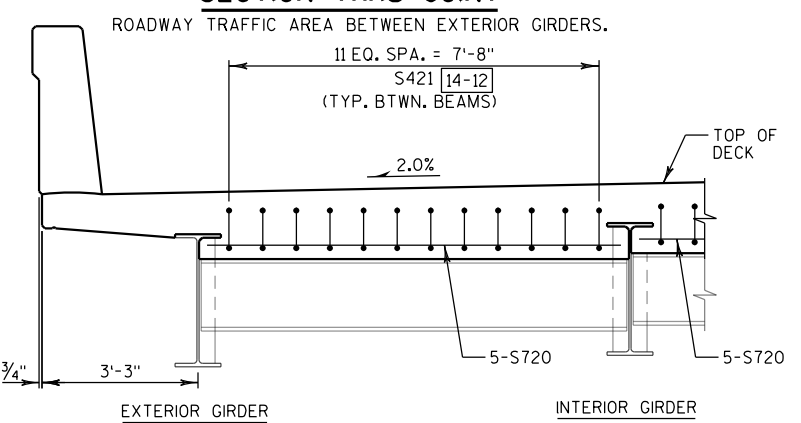
**SECTION THRU JOINT**



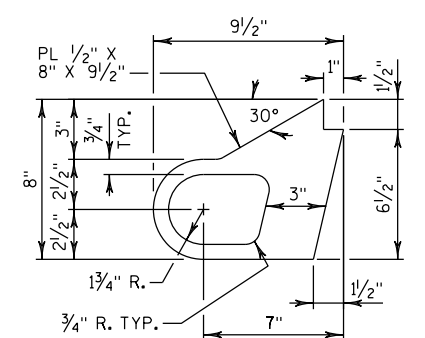
**PART PLAN**



**SECTION THRU JOINT**



**PART TRANSVERSE SECTION AT DIAPHRAGM**  
(DECK REINFORCEMENT NOT SHOWN FOR CLARITY)



**ALTERNATE STRIP SEAL ANCHOR**

8

8

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
<b>STRUCTURE B-27-44</b>			
DRAWN BY TKB		PLANS CK'D. ETP	
<b>STRIP SEAL EXPANSION JOINT DETAILS-1</b>			SHEET 14 OF 16

**LEGEND**

[X-XX] SEE SHEET 14 FOR CALLOUTS.

**GENERAL NOTES**

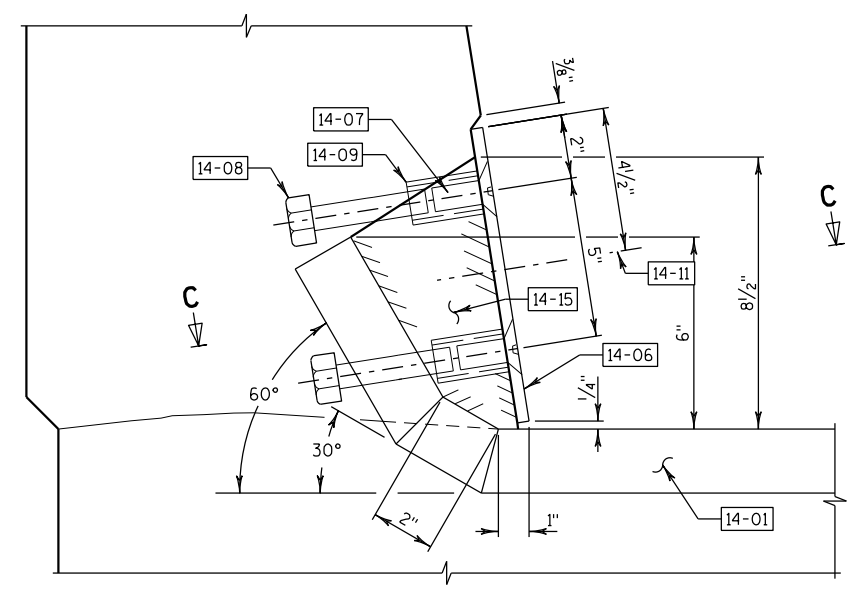
ONE FIELD SPLICE PERMITTED IN STEEL EXTRUSIONS. IF USED, ANCHOR PLATES SHALL BE PROVIDED 3" FROM EACH SIDE OF THE FIELD SPLICE. DETAILS SHALL BE SUBMITTED FOR APPROVAL. NO SPLICING PERMITTED IN NEOPRENE STRIP SEAL.

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.

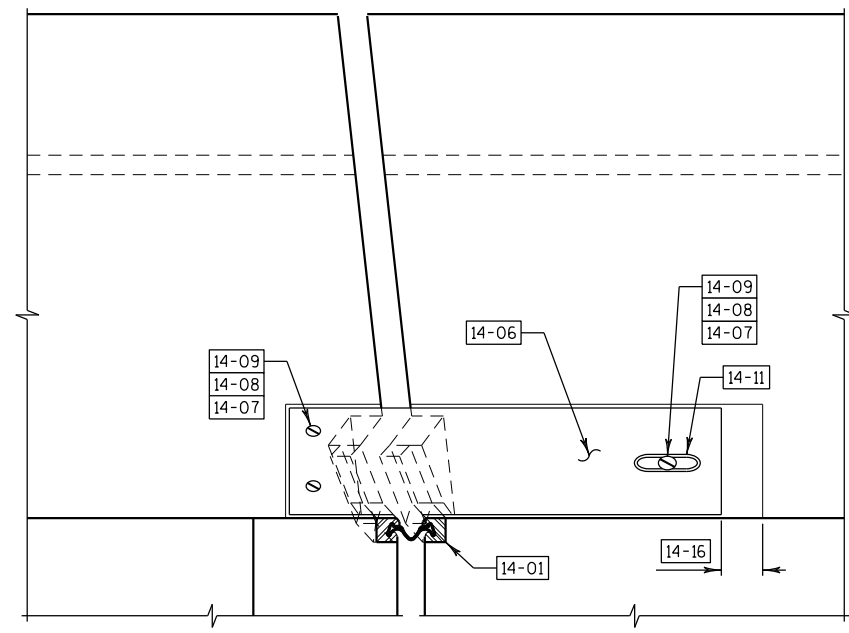
SANDBLAST PLATES, SUPPORTS, & EXTRUSIONS AFTER FABRICATION IN ACCORDANCE WITH SSPC SP. #6 "COMMERCIAL BLAST CLEANING". AFTER BLAST CLEANING, THE PLATES, SUPPORTS & EXTRUSIONS SHALL BE HOT DIPPED GALVANIZED.

ANCHOR SYSTEM [14-08] & [14-09] SHALL CONFORM TO ASTM A307 & SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C & D.

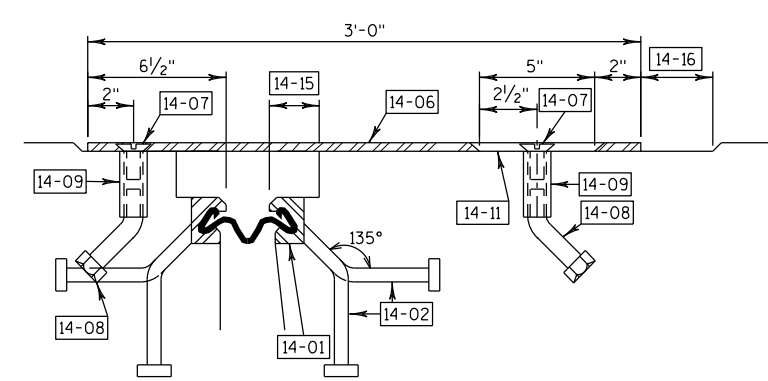
ALL MATERIAL IN THE EXPANSION JOINT ASSEMBLY, INCLUDING ANCHOR STUDS & HARDWARE SHALL BE PAID AT THE UNIT PRICE BID FOR "EXPANSION DEVICE", L.F.



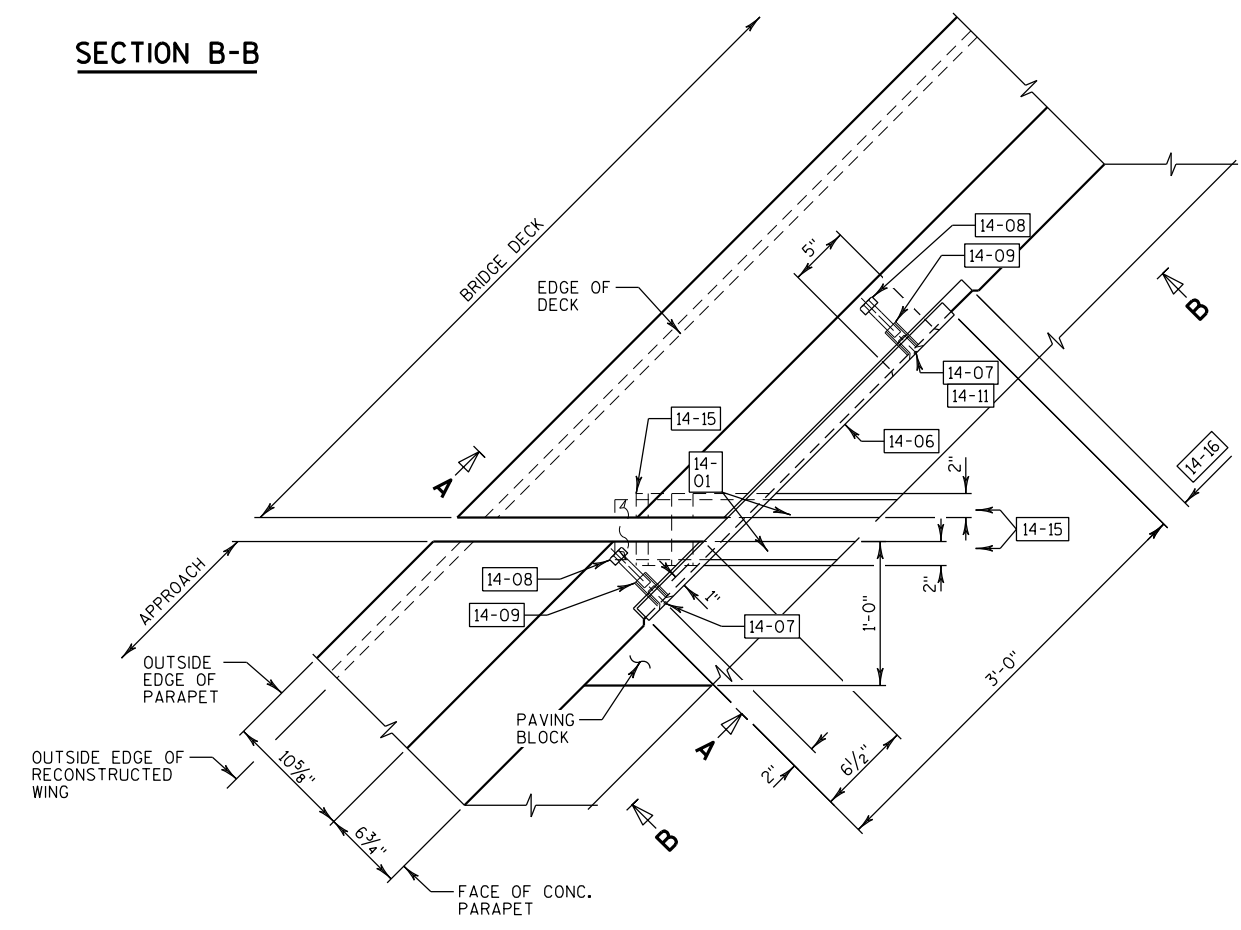
**SECTION A-A**



**SECTION B-B**



**SECTION C-C**



**PLAN AT PARAPET**  
(LEFT HAND SHOWN, RIGHT HAND SIMILAR)

8

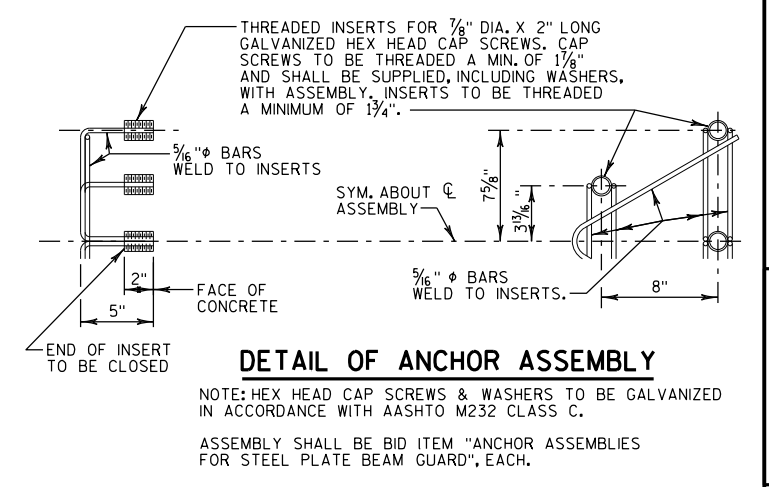
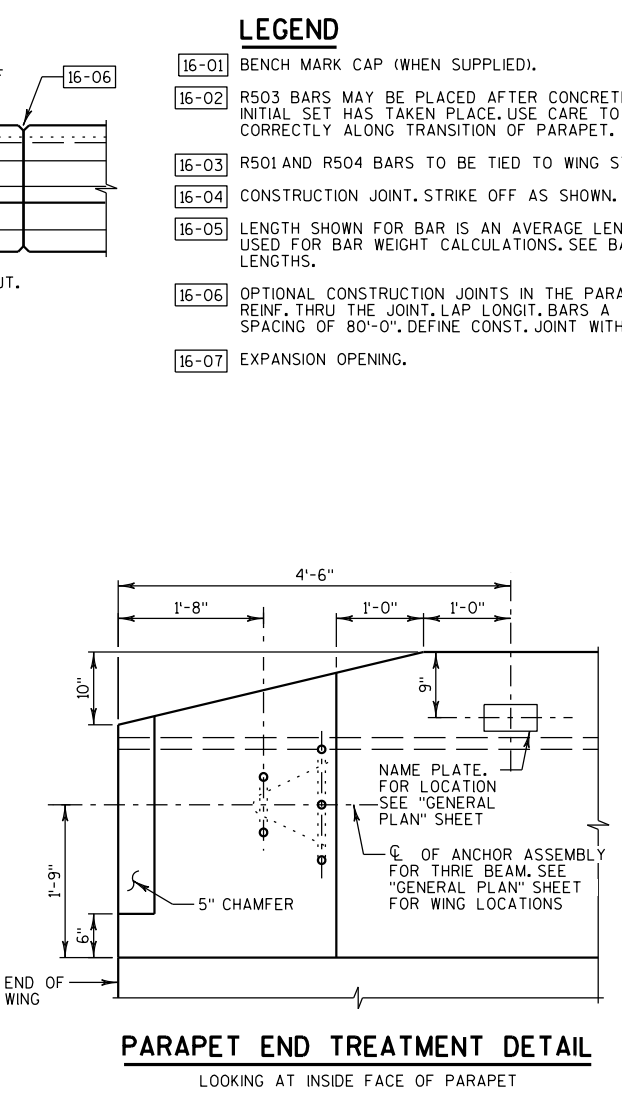
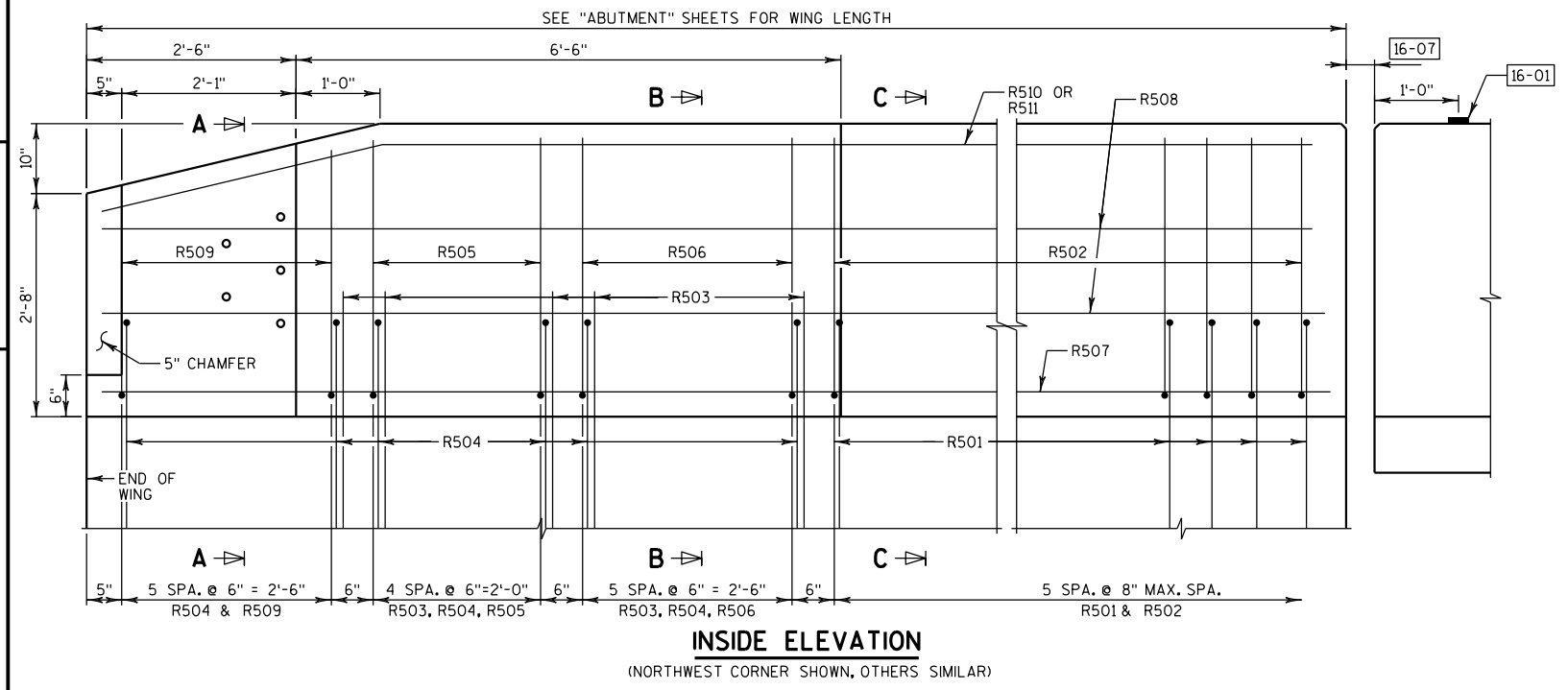
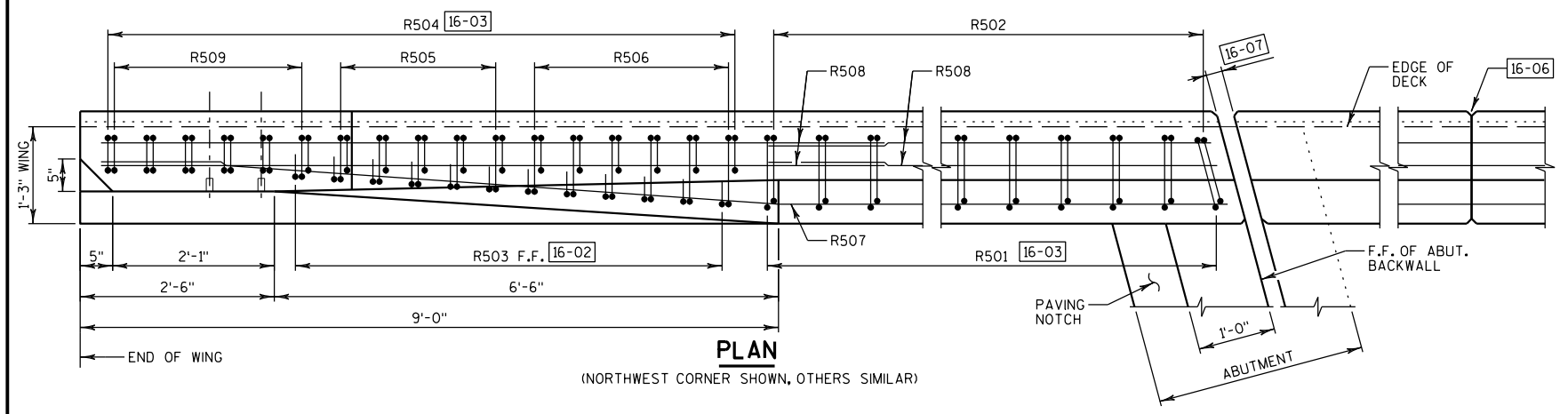
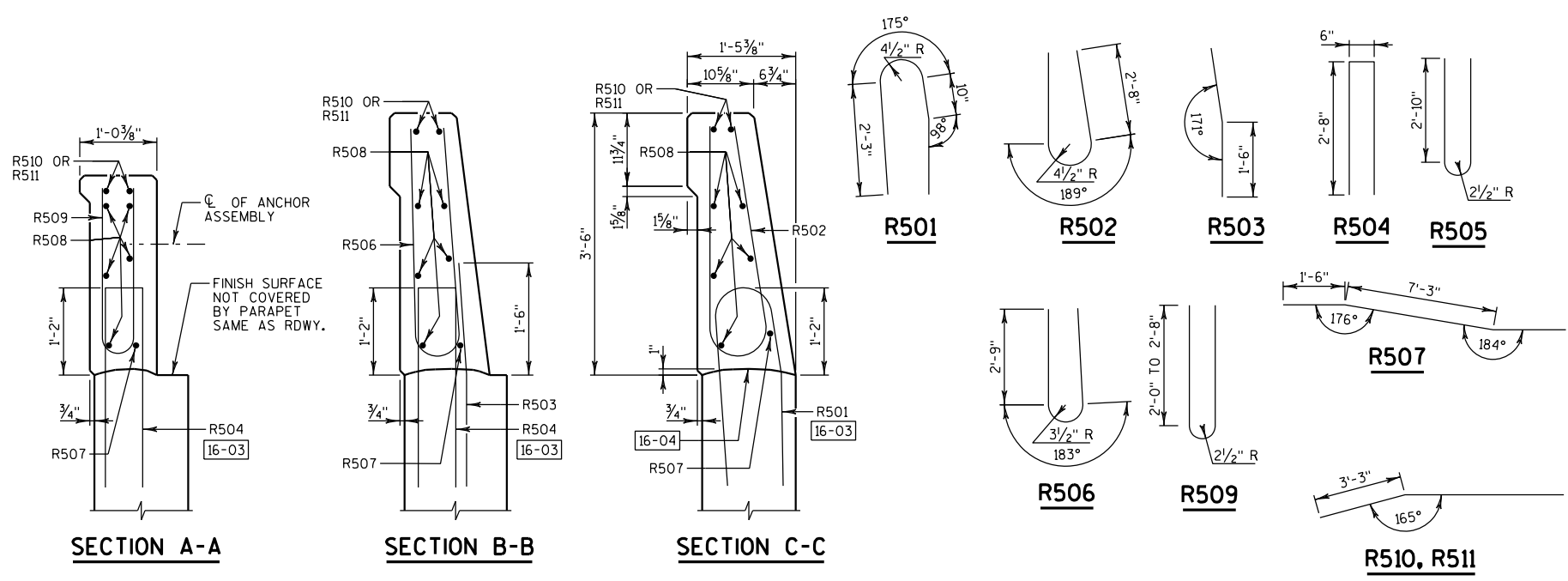
8

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
<b>STRUCTURE B-27-44</b>			
DRAWN BY TKB		PLANS CK'D. ETP	
<b>STRIP SEAL EXPANSION JOINT DETAILS-2</b>			SHEET 15 OF 16

**BILL OF BARS**

BAR MARK	COAT	NO. REQ'D		LENGTH	BENT	BAR SERIES	LOCATION	
		W. ABUT.	E. ABUT.					
R501	X	12	12	5'-10"	X		PARAPET	VERT.
R502	X	12	12	6'-8"	X		PARAPET	VERT.
R503	X	22	22	3'-0"	X		PARAPET	VERT.
R504	X	34	34	5'-7"	X		PARAPET	VERT.
R505	X	10	10	6'-5"	X		PARAPET	VERT.
R506	X	12	12	6'-6"	X		PARAPET	VERT.
R507	X	2	2	9'-7"	X		PARAPET	HORIZ.
R508	X	20	20	7'-1"			PARAPET	HORIZ.
R509	X	12	12	5'-5"	X	X	PARAPET	VERT.
R510	X	2	2	10'-3"	X		PARAPET - WINGS 1 & 4	HORIZ.
R511	X	2	2	12'-3"	X		PARAPET - WINGS 2 & 3	HORIZ.
							TOTAL WEIGHT = 1,710 LBS	

THE FIRST DIGIT OF THE BAR MARK SIGNIFIES THE BAR SIZE.



**LEGEND**

- 16-01 BENCH MARK CAP (WHEN SUPPLIED).
- 16-02 R503 BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. USE CARE TO PLACE R503 BARS CORRECTLY ALONG TRANSITION OF PARAPET.
- 16-03 R501 AND R504 BARS TO BE TIED TO WING STEEL BEFORE WING IS POURED.
- 16-04 CONSTRUCTION JOINT. STRIKE OFF AS SHOWN.
- 16-05 LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.
- 16-06 OPTIONAL CONSTRUCTION JOINTS IN THE PARAPETS MAY BE USED. RUN BAR REINF. THRU THE JOINT. LAP LONGIT. BARS A MIN. OF 1'-9". MIN. JOINT SPACING OF 80'-0". DEFINE CONST. JOINT WITH A 3/4" - 'V' GROOVE.
- 16-07 EXPANSION OPENING.

**BAR SERIES TABLE**

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

BUNDLE & TAG EACH SERIES SEPARATELY.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-27-44			
DRAWN BY TKB		PLANS CK'D. BH	
SINGLE SLOPE PARAPET 42SS			SHEET 16 OF 16

## EARTHWORK COSSOVER RIVER STAGE 1

STATION	DISTANCE	AREA (SF)		INCREMENTAL VOL (CY) (UNADJUSTED)			MASS ORDINATE
		CUT	FILL	CUT	FILL	EXPANDED FILL	
						1.25	
NOTE 1	NOTE 3	NOTE 14					
1483+62		7	13	0	0	0	0
1484+00	38	6	12	9	18	22	-13
1485+00	100	5	25	22	69	108	-77
1486+00	100	11	49	30	138	280	-219
1487+00	100	10	79	39	237	577	-477
1488+00	100	7	72	32	278	924	-793
1489+00	100	75	0	152	133	1091	-807
1490+00	100	0	58	138	107	1225	-803
1491+00	100	1	81	2	258	1547	-1124
1492+00	100	3	83	8	304	1927	-1496
1493+00	100	8	62	20	269	2263	-1811
1494+00	100	14	30	41	170	2476	-1984
1495+00	100	7	22	39	95	2595	-2063
1496+00	100	3	14	19	66	2677	-2127
1496+90	90	5	9	14	39	2726	-2161
				564	2181		

## EARTHWORK COSSOVER RAILROAD STAGE 1

STATION	DISTANCE	AREA (SF)		INCREMENTAL VOL (CY) (UNADJUSTED)			MASS ORDINATE
		CUT	FILL	CUT	FILL	EXPANDED FILL	
						1.25	
NOTE 1	NOTE 3	NOTE 14					
1580+60		0.0	0.0	0	0	0	0
1581+00	40	9.1	0.3	7	0	0	6
1582+00	100	7.7	18.3	31	34	43	-5
1583+00	100	9.6	86.3	32	194	285	-215
1584+00	100	9.9	142.2	36	423	814	-708
1585+00	100	2.5	108.7	23	465	1395	-1266
1586+00	100	0.0	96.8	5	381	1871	-1737
1587+00	100	2.0	97.6	4	360	2320	-2183
1588+00	100	14.1	109.6	30	384	2800	-2633
1589+00	100	13.5	36.5	51	271	3138	-2920
1590+00	100	9.5	9.5	43	85	3245	-2984
1591+00	100	10.0	0.0	36	18	3267	-2970
1591+22	22	1.8	0.0	5	0	3267	-2965
				302	2613		

**NOTES:**

- (1) COMMON EXCAVATION IS THE SUM OF THE CUT AND EBS EXCAVATION COLUMNS. ITEM NUMBER 205.0100
- (2) SALVAGED/UNUSABLE PAVEMENT MATERIAL IS INCLUDED IN CUT.
- (4) SALVAGED/UNUSABLE PAVEMENT MATERIAL
- (5) AVAILABLE MATERIAL = CUT - SALVAGED/UNUSABLE PAVEMENT MATERIAL
- (13) EXPANDED FILL FACTOR = 1.25
- (14) THE MASS ORDINATE + OR - QTY CALCULATED FOR THE DIVISION. PLUS QUANTITY INDICATES AN EXCESS OF MATERIAL WITHIN THE DIVISION. MINUS INDICATES A SHORTAGE OF MATERIAL WITHIN THE DIVISION.
- (15) FACTORS USED TO COMPUTE ANTICIPATED WASTE AND THE COMPUTED WASTE VOLUME IDENTIFIED ARE FOR GENERAL INFORMATION ONLY.

### EARTHWORK COSSEVER RIVER STAGE 4

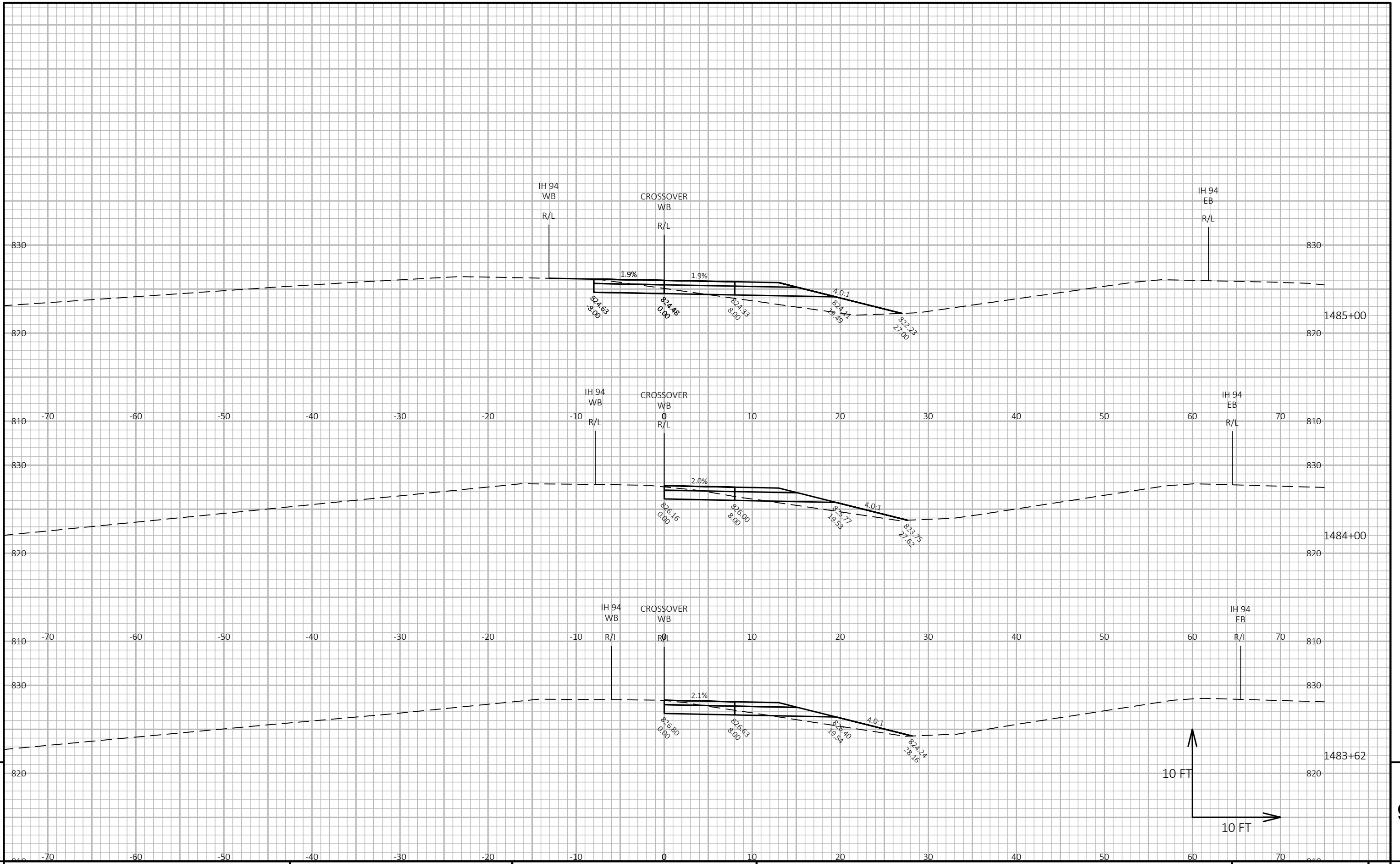
STATION	DISTANCE	AREA (SF)		INCREMENTAL VOL (CY) (UNADJUSTED)			MASS ORDINATE
		CUT	FILL	CUT	FILL	EXPANDED FILL	
						1.25	
NOTE 1	NOTE 3	NOTE 14					
1483+62		27	0	0	0	0	0
1484+00	38	29	0	40	0	0	40
1485+00	100	36	0	120	0	0	159
1486+00	100	75	0	206	0	0	365
1487+00	100	136	0	392	0	0	757
1488+00	100	114	0	463	0	0	1220
1489+00	100	13	0	235	0	0	1455
1490+00	100	92	0	195	0	0	1651
1491+00	100	139	0	428	0	0	2079
1492+00	100	155	0	544	0	0	2622
1493+00	100	111	0	492	0	0	3114
1494+00	100	74	0	341	0	0	3455
1495+00	100	37	0	204	0	0	3660
1496+00	100	22	0	109	0	0	3769
1496+90	90	21	0	72	0	0	3841
				3841	0		

### EARTHWORK COSSEVER RAILROAD STAGE 4

STATION	DISTANCE	AREA (SF)		INCREMENTAL VOL (CY) (UNADJUSTED)			MASS ORDINATE
		CUT	FILL	CUT	FILL	EXPANDED FILL	
						1.25	
NOTE 1	NOTE 3	NOTE 14					
1580+60		0.0	0.0	0	0	0	0
1581+00	40	0.0	0.0	0	0	0	0
1582+00	100	19.1	0.1	35	0	0	35
1583+00	100	97.5	0.0	216	0	1	251
1584+00	100	226.5	0.0	600	0	1	851
1585+00	100	193.1	0.0	777	0	1	1628
1586+00	100	143.0	0.0	622	0	1	2250
1587+00	100	152.4	0.0	547	0	1	2797
1588+00	100	168.5	0.0	594	0	1	3392
1589+00	100	91.8	0.0	482	0	1	3874
1590+00	100	35.2	0.0	235	0	1	4109
1591+00	100	4.1	0.0	73	0	1	4182
1591+22	22	0.2	0.0	2	0	1	4183
				4184	0		

**NOTES:**

- (1) COMMON EXCAVATION IS THE SUM OF THE CUT AND EBS EXCAVATION COLUMNS. ITEM NUMBER 205.0100
- (2) SALVAGED/UNUSABLE PAVEMENT MATERIAL IS INCLUDED IN CUT.
- (4) SALVAGED/UNUSABLE PAVEMENT MATERIAL
- (5) AVAILABLE MATERIAL = CUT - SALVAGED/UNUSABLE PAVEMENT MATERIAL
- (13) EXPANDED FILL FACTOR = 1.25
- (14) THE MASS ORDINATE + OR - QTY CALCULATED FOR THE DIVISION. PLUS QUANTITY INDICATES AN EXCESS OF MATERIAL WITHIN THE DIVISION. MINUS INDICATES A SHORTAGE OF MATERIAL WITHIN THE DIVISION.
- (15) FACTORS USED TO COMPUTE ANTICIPATED WASTE AND THE COMPUTED WASTE VOLUME IDENTIFIED ARE FOR GENERAL INFORMATION ONLY.



9

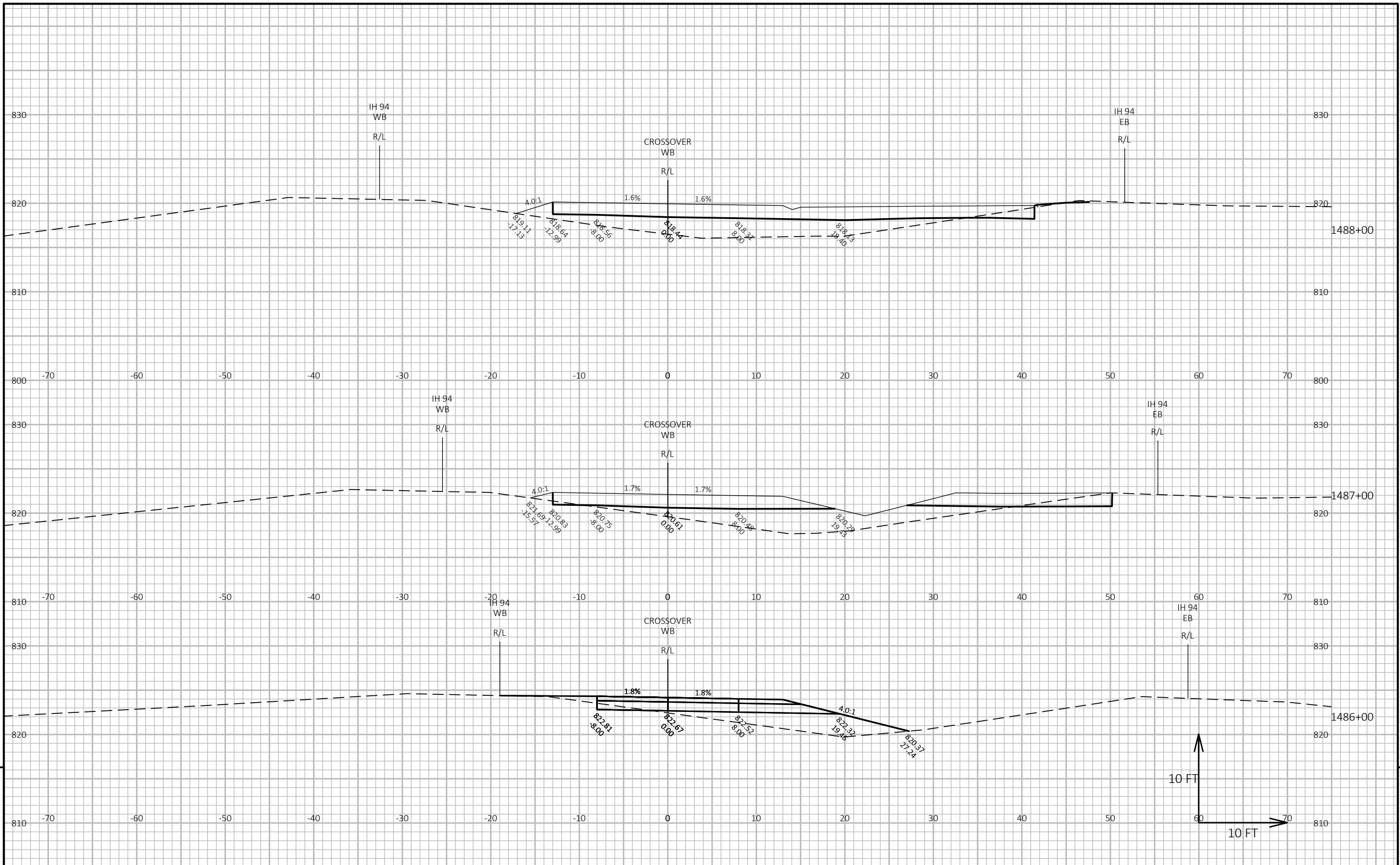
9

PROJECT NO: 1023-01-74      HWY: IH 94      COUNTY: JACKSON      CROSS SECTIONS: STAGE 1 - CROSSOVER WB - RIVER      SHEET      E

FILE NAME : C:\OD\CORRE, INC\PROJECTS - WI-NW REGION\1023-01-04\_JACKSON CO\_I94\500\_CADD\501\_C3D\_2018\10230104\SHEETS\PLAN\090201-XS.DWG      PLOT DATE : 1/27/2023 9:35 AM      PLOT BY : BOBBY JONES      PLOT NAME :      PLOT SCALE : 1 IN:10 FTHORZ. / 1 IN:10 FTVERT.      WISDOT/CADD SHEET 49

LAYOUT NAME - 090201-WB-XS





PROJECT NO: 1023-01-74

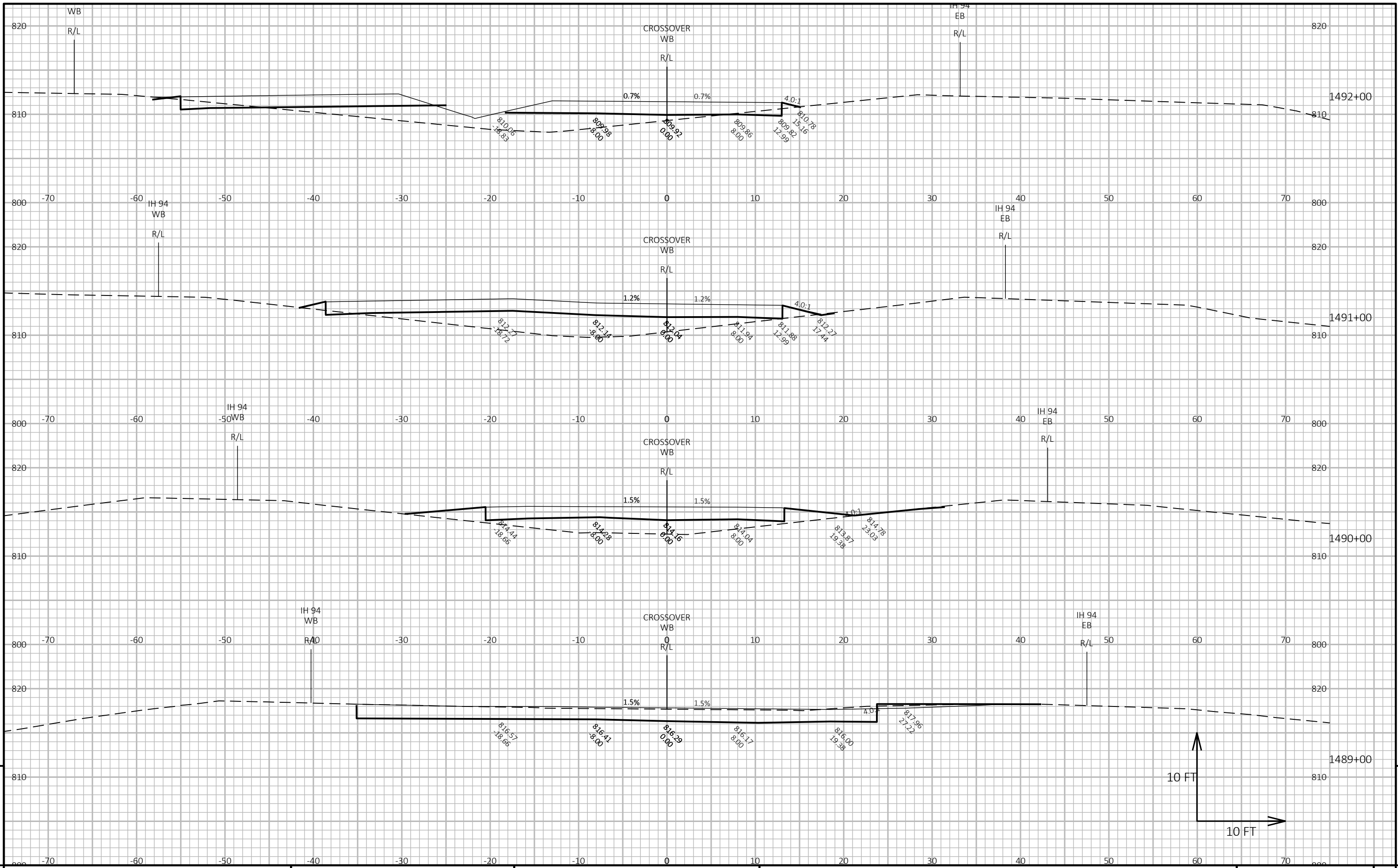
HWY: IH 94

COUNTY: JACKSON

CROSS SECTIONS: STAGE 1 - CROSSOVER WB - RIVER

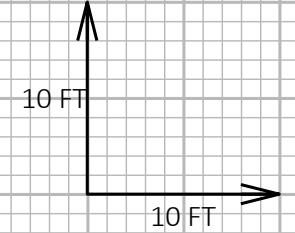
SHEET

E



9

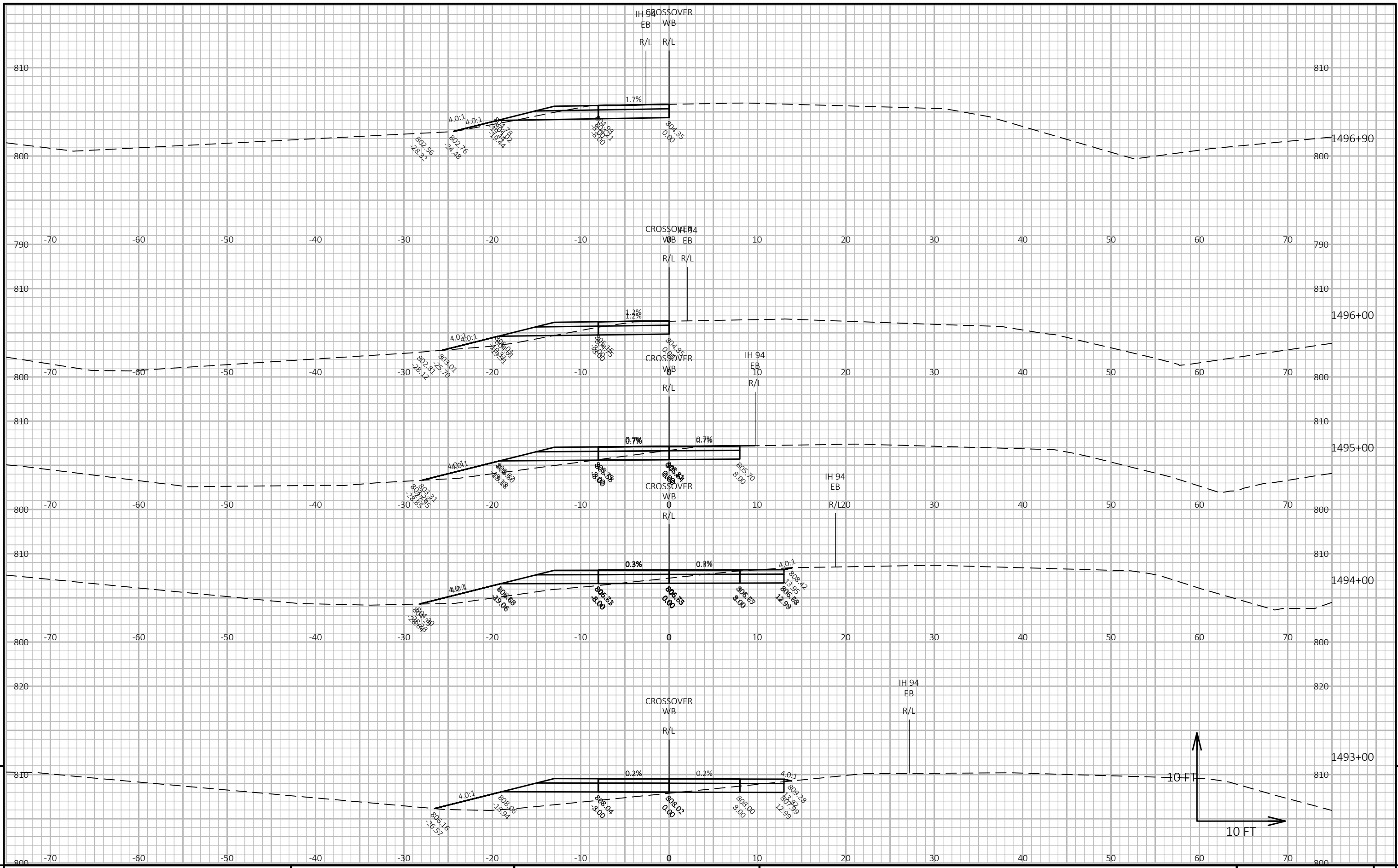
9



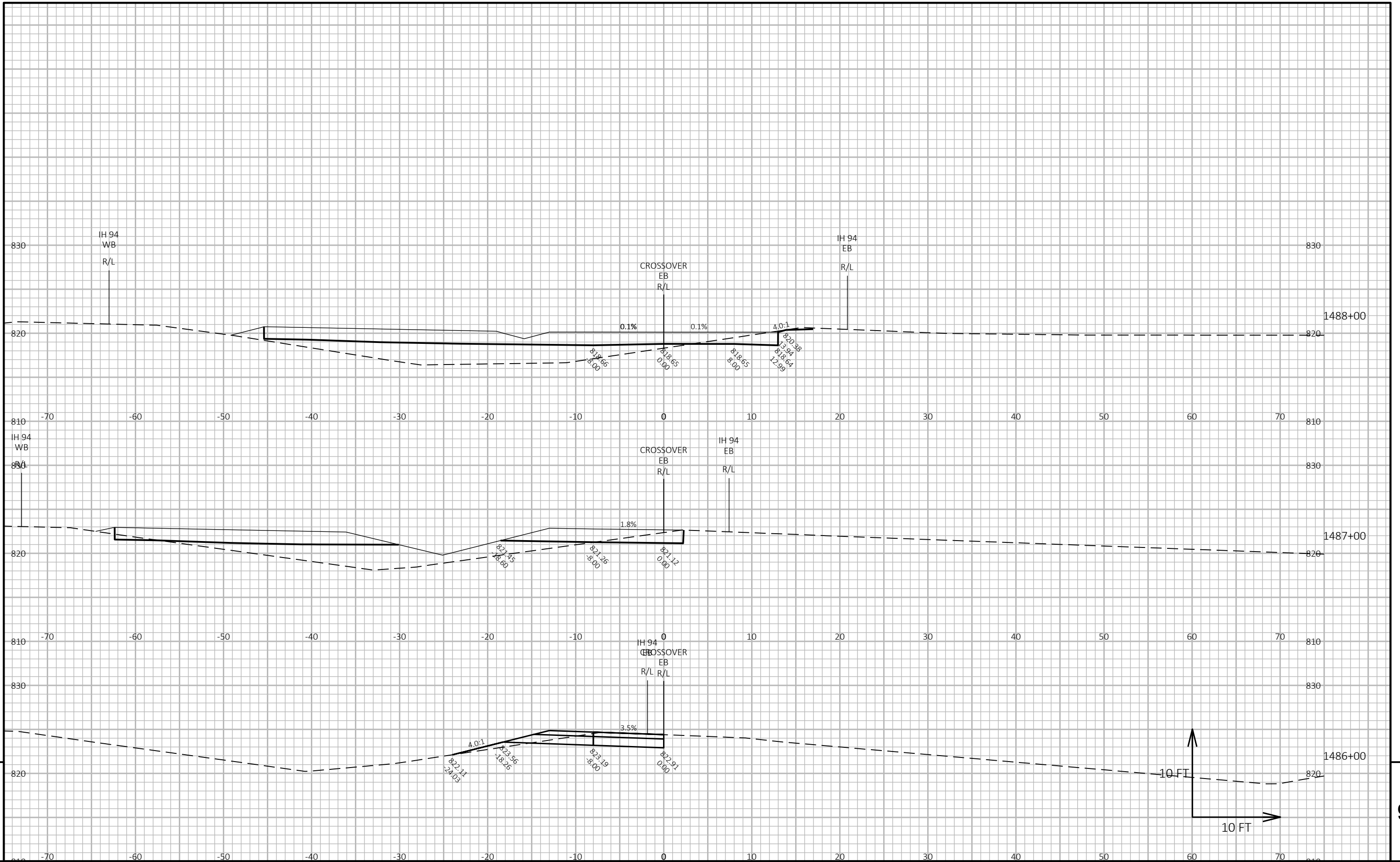
PROJECT NO: 1023-01-74	HWY: IH 94	COUNTY: JACKSON	CROSS SECTIONS: STAGE 1 - CROSSOVER WB - RIVER	SHEET	E
------------------------	------------	-----------------	--	-------	---

FILE NAME : C:\OD\CORRE, INC\PROJECTS - WI-NW REGION\1023-01-04\_JACKSON CO\_I94\500\_CADD\501\_C3D\_2018\10230104\SHEETS\PLAN\090201-XS.DWG PLOT DATE : 1/27/2023 9:35 AM PLOT BY : BOBBY JONES PLOT NAME : PLOT SCALE : 1 IN:10 FTHORZ. / 1 IN:10 FTVERT. WISDOT/CADD SHEET 49

LAYOUT NAME - 090203-WB-XS



PROJECT NO: 1023-01-74      HWY: IH 94      COUNTY: JACKSON      CROSS SECTIONS: STAGE 1 - CROSSOVER WB - RIVER      SHEET      E



PROJECT NO: 1023-01-74

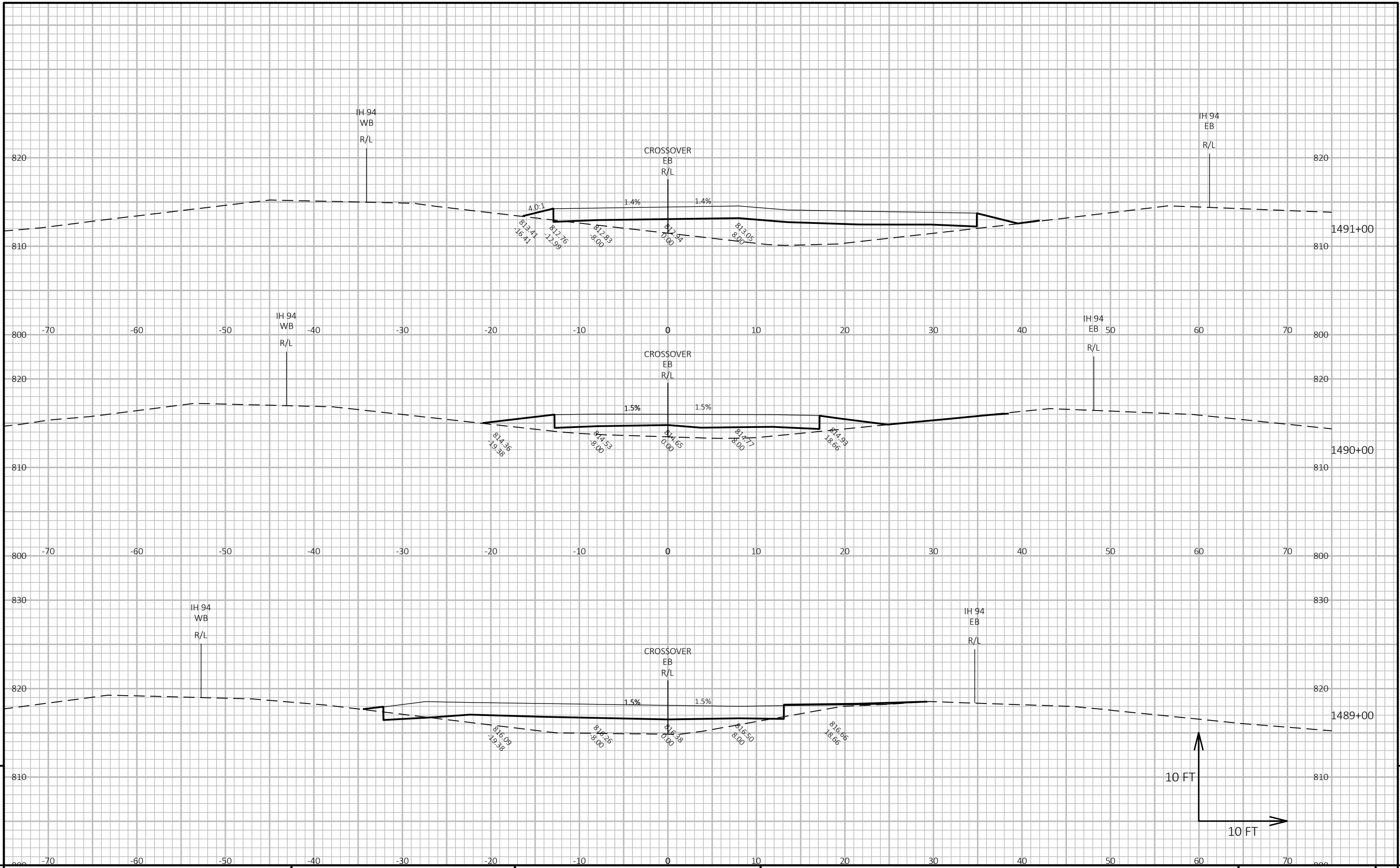
HWY: IH 94

COUNTY: JACKSON

CROSS SECTIONS: STAGE 1 - CROSSOVER EB - RIVER

SHEET

E



PROJECT NO: 1023-01-74

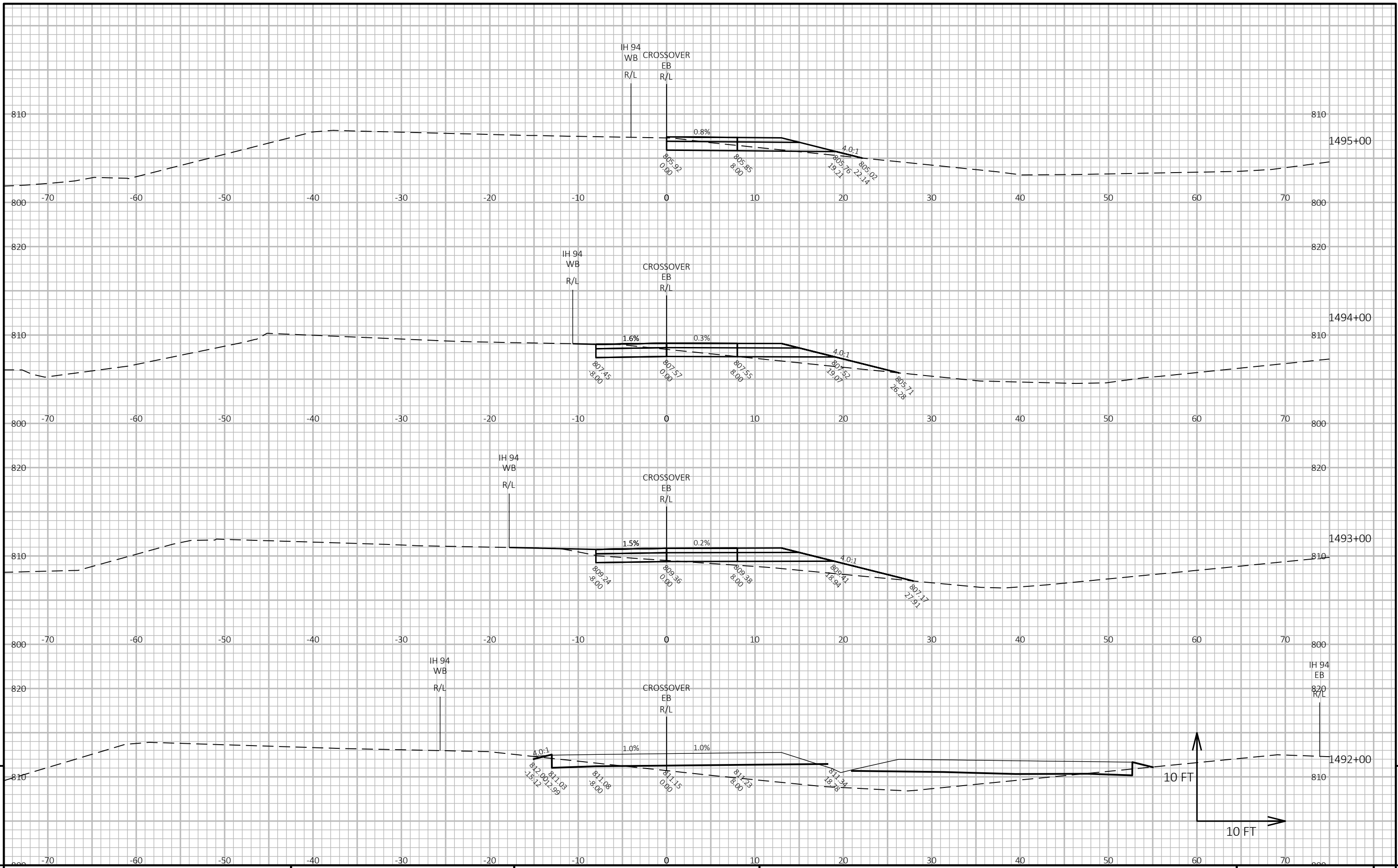
HWY: IH 94

COUNTY: JACKSON

CROSS SECTIONS: STAGE 1 -CROSSOVER EB - RIVER

SHEET

E



PROJECT NO: 1023-01-74

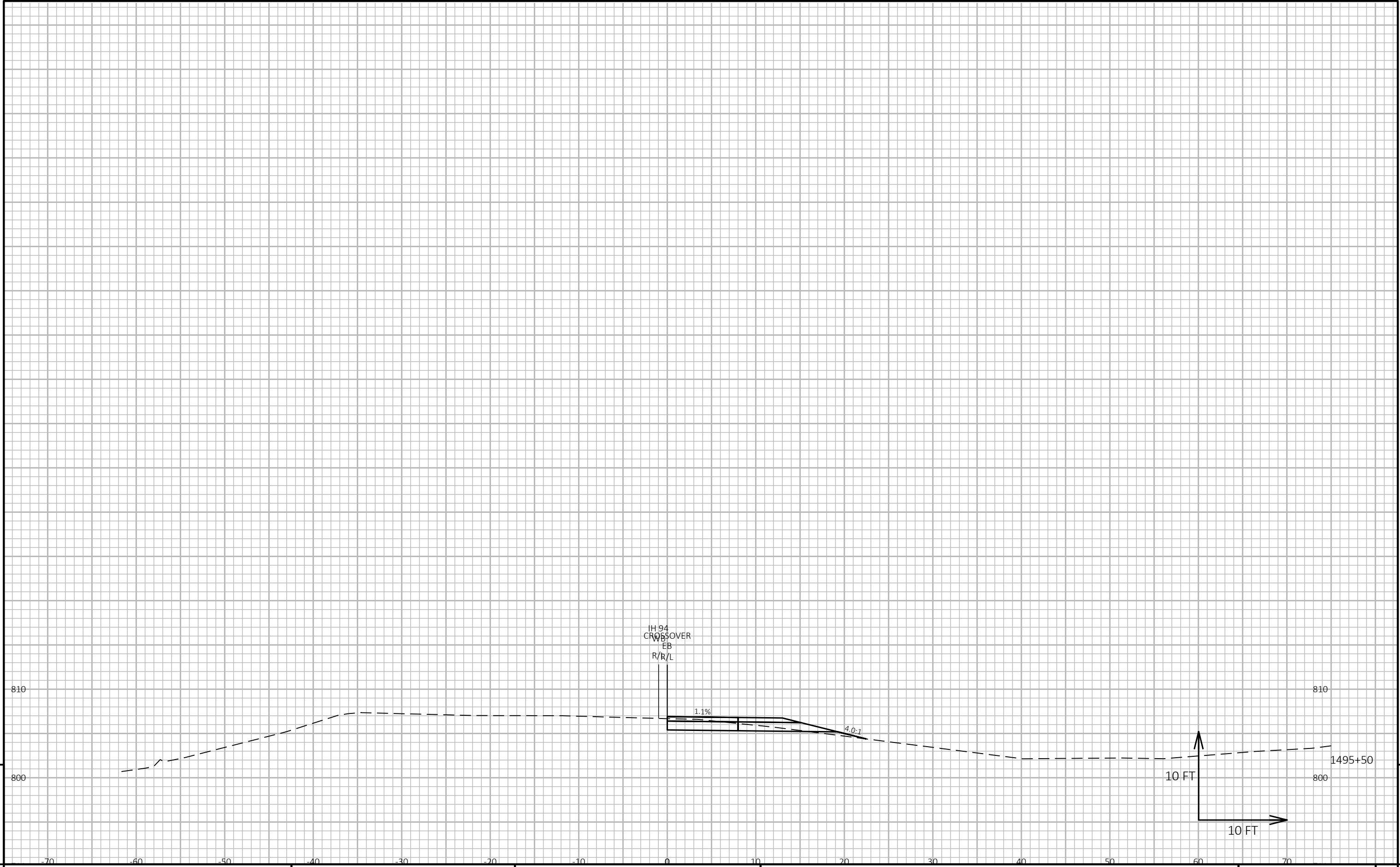
HWY: IH 94

COUNTY: JACKSON

CROSS SECTIONS: STAGE 1 - CROSSOVER EB - RIVER

SHEET

E



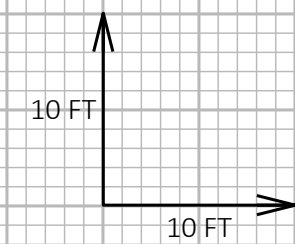
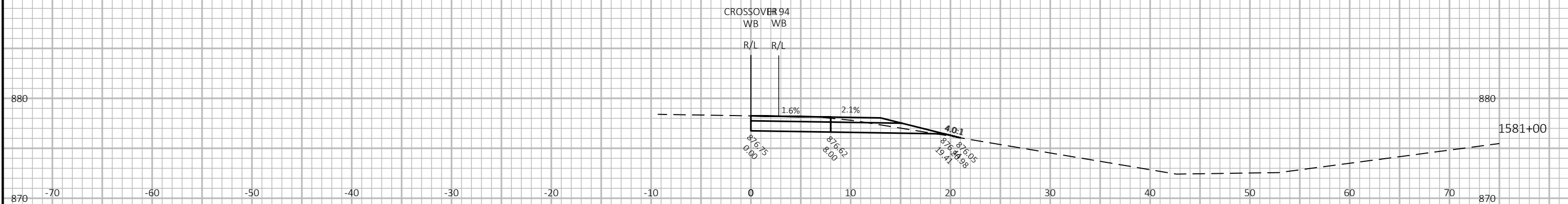
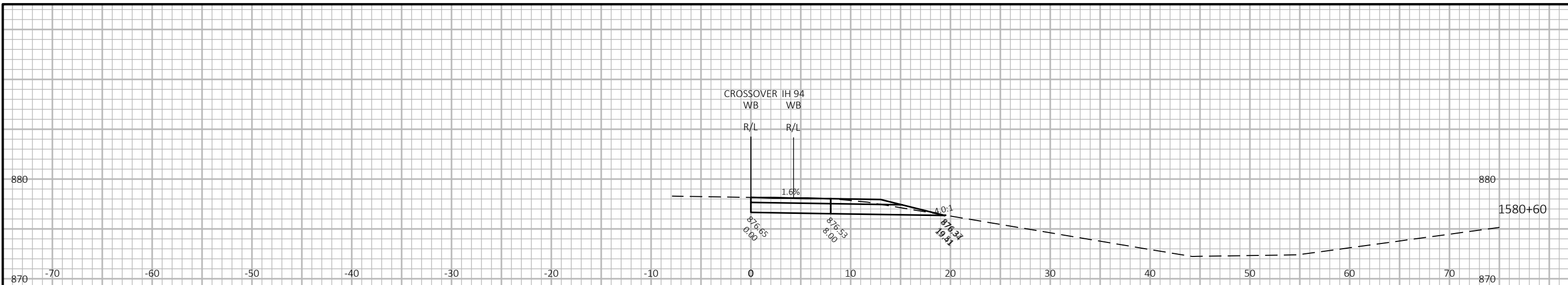
9

9

PROJECT NO: 1023-01-74	HWY: IH 94	COUNTY: JACKSON	CROSS SECTIONS: STAGE 1 - CROSSOVER EB - RIVER	SHEET	E
------------------------	------------	-----------------	--	-------	---

FILE NAME : C:\OD\CORRE, INC\PROJECTS - WI-NW REGION\1023-01-04\_JACKSON CO\_I94\500\_CADD\501\_C3D\_2018\10230104\SHEETSPLAN\090202-XS.DWG PLOT DATE : 1/27/2023 9:36 AM PLOT BY : BOBBY JONES PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT. WISDOT/CADD SHEET 49

LAYOUT NAME - 090204-EB-XS

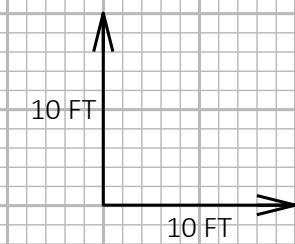
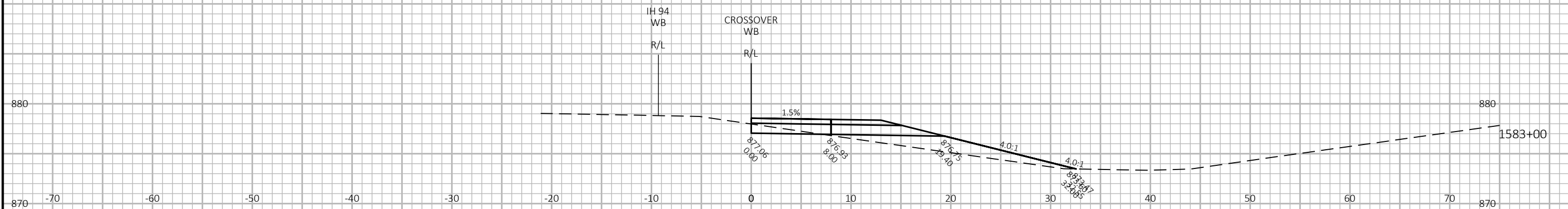
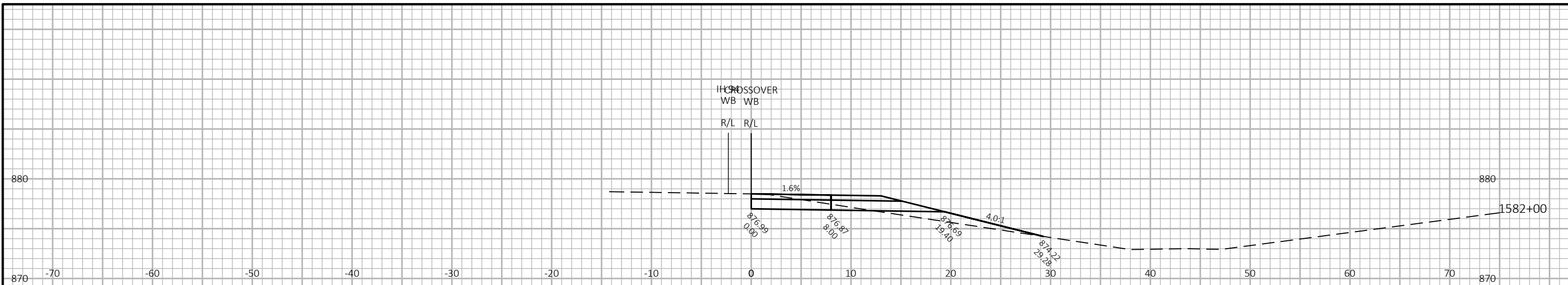


9

9

PROJECT NO: 1023-01-74	HWY: IH 94	COUNTY: JACKSON	CROSS SECTIONS: STAGE 1-CROSSOVER WB - RAILROAD	SHEET	E
------------------------	------------	-----------------	---	-------	---

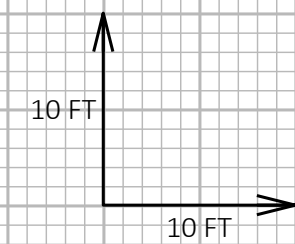
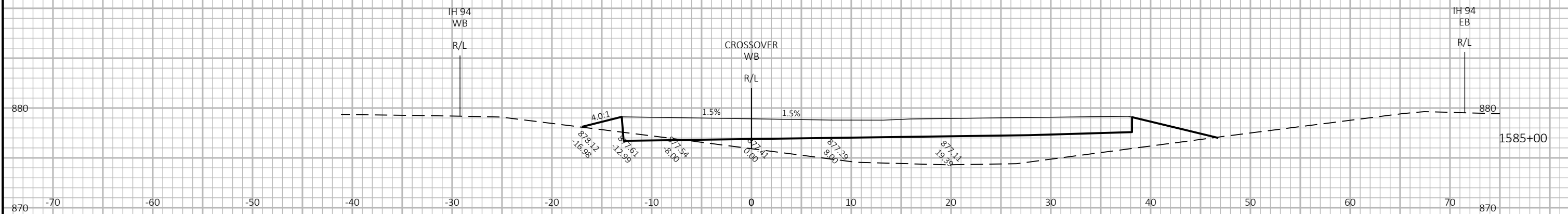
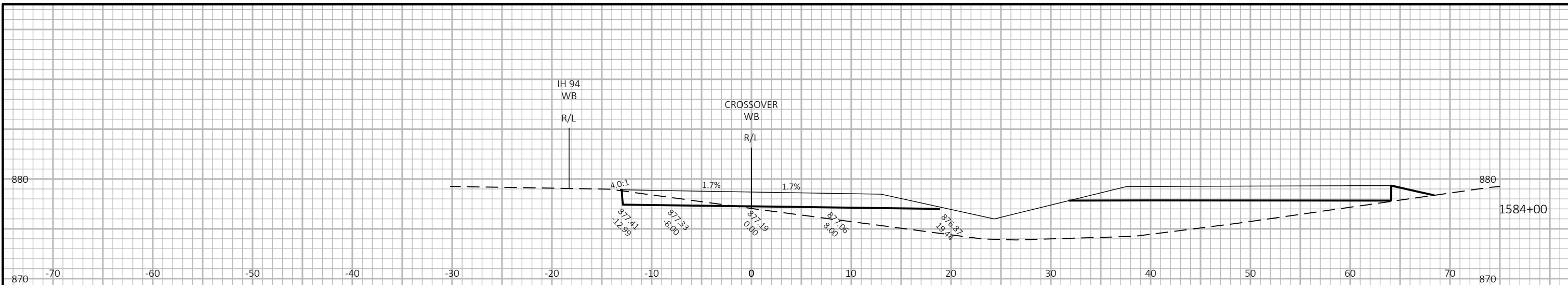




9

9

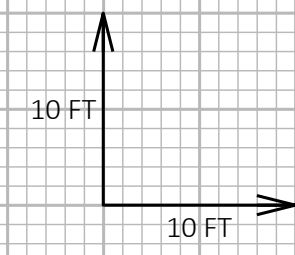
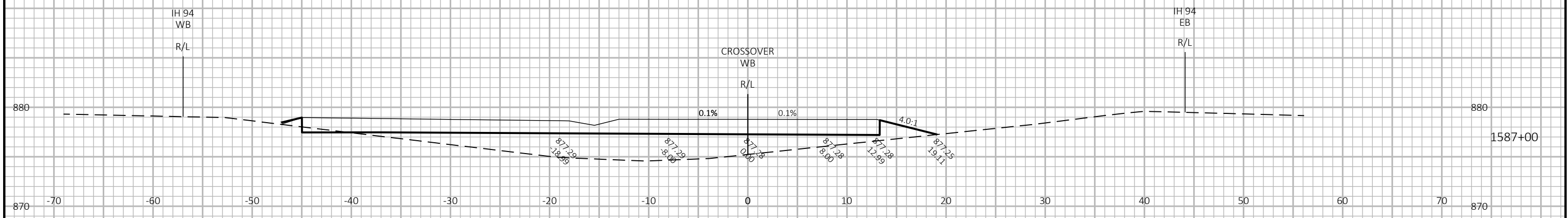
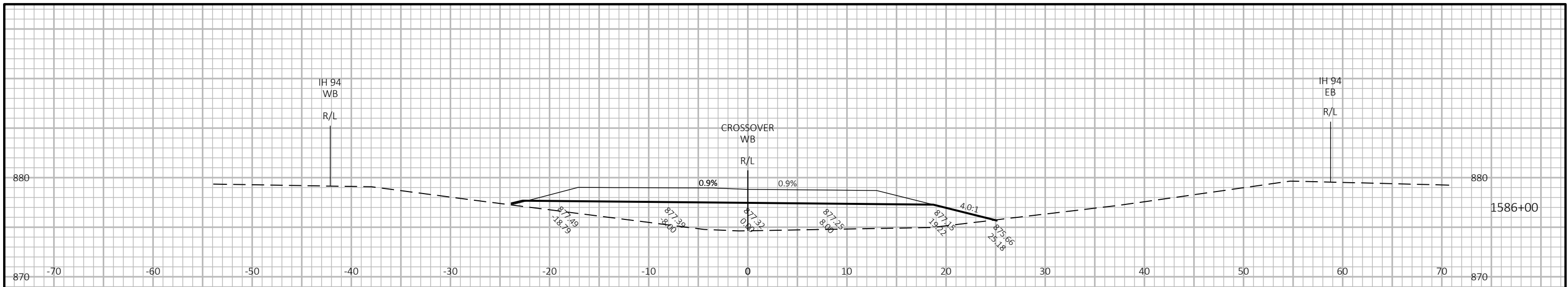
PROJECT NO: 1023-01-74	HWY: IH 94	COUNTY: JACKSON	CROSS SECTIONS: STAGE 1-CROSSOVER WB - RAILROAD	SHEET	E
------------------------	------------	-----------------	---	-------	---



9

9

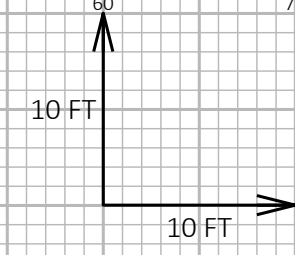
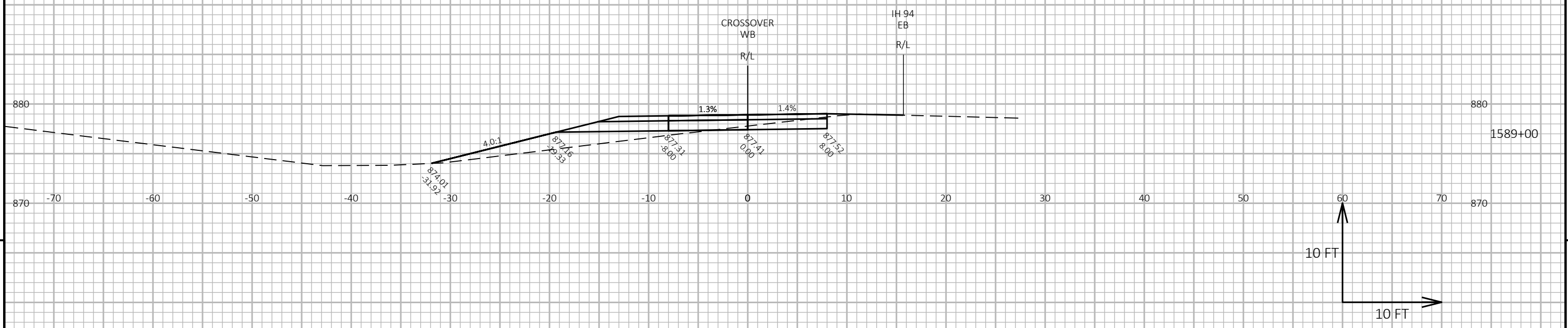
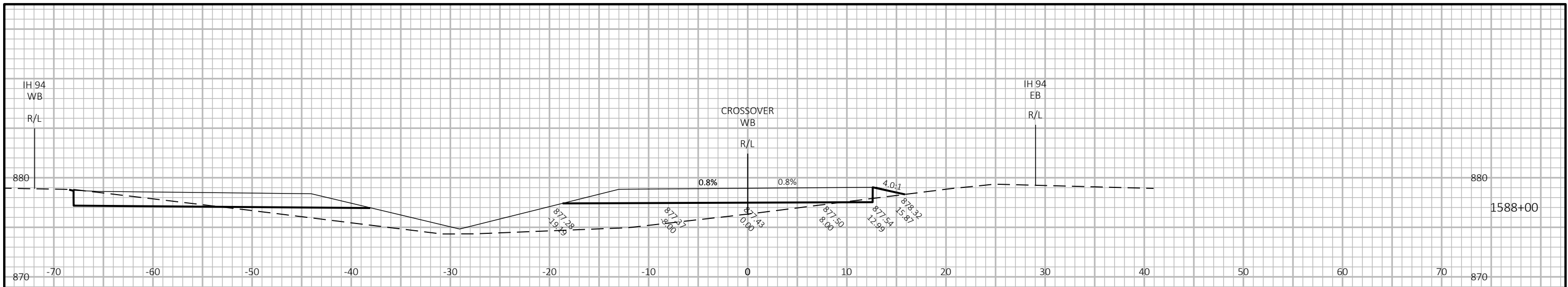
PROJECT NO: 1023-01-74	HWY: IH 94	COUNTY: JACKSON	CROSS SECTIONS: STAGE 1-CROSSOVER WB - RAILROAD	SHEET	E
------------------------	------------	-----------------	---	-------	---



9

9

PROJECT NO: 1023-01-74	HWY: IH 94	COUNTY: JACKSON	CROSS SECTIONS: STAGE 1-CROSSOVER WB - RAILROAD	SHEET	E
------------------------	------------	-----------------	---	-------	---



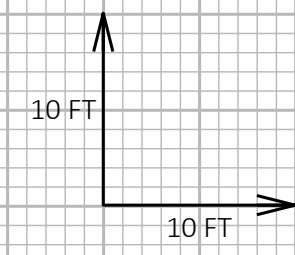
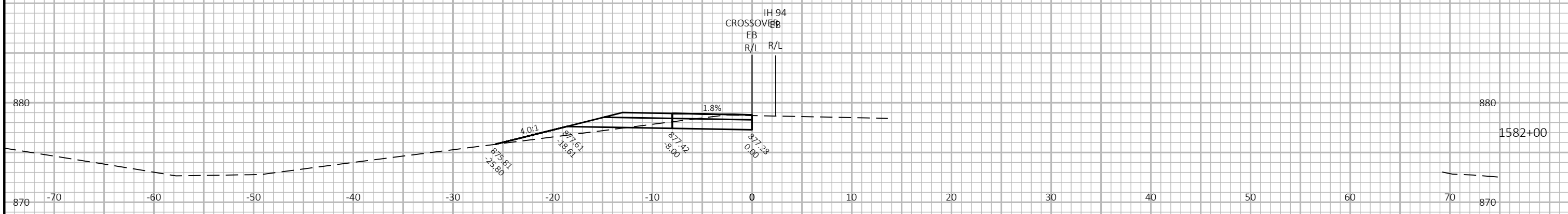
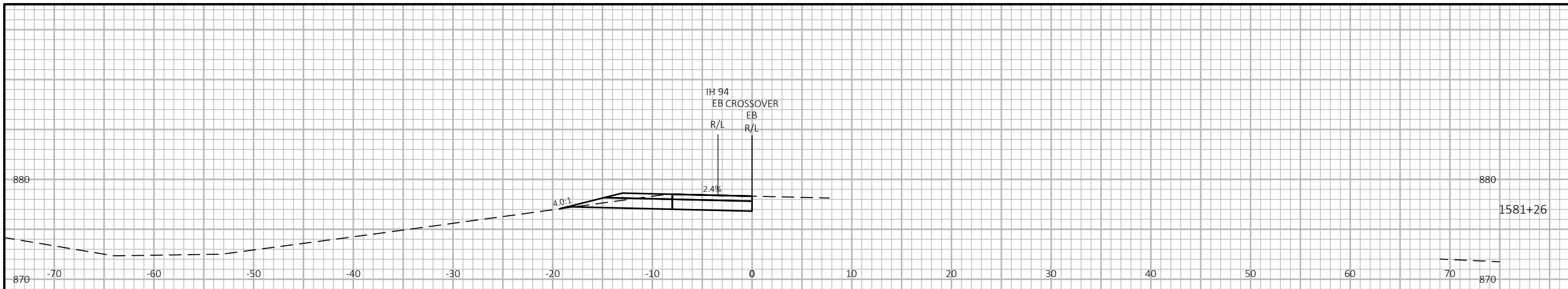
9

9

PROJECT NO: 1023-01-74      HWY: IH 94      COUNTY: JACKSON      CROSS SECTIONS: STAGE 1 -CROSSOVER WB - RAILROAD      SHEET      E

FILE NAME : C:\OD\CORRE, INC\PROJECTS - WI-NW REGION\1023-01-04\_JACKSON CO\_I94\500\_CADD\501\_C3D\_2018\10230104\SHEETS\PLAN\090203-XS.DWG      PLOT DATE : 1/27/2023 9:36 AM      PLOT BY : BOBBY JONES      PLOT NAME :      PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.      WISDOT/CADD SHEET 49

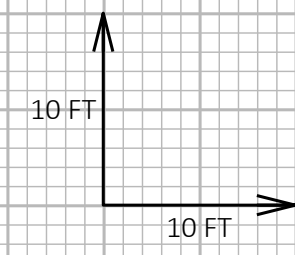
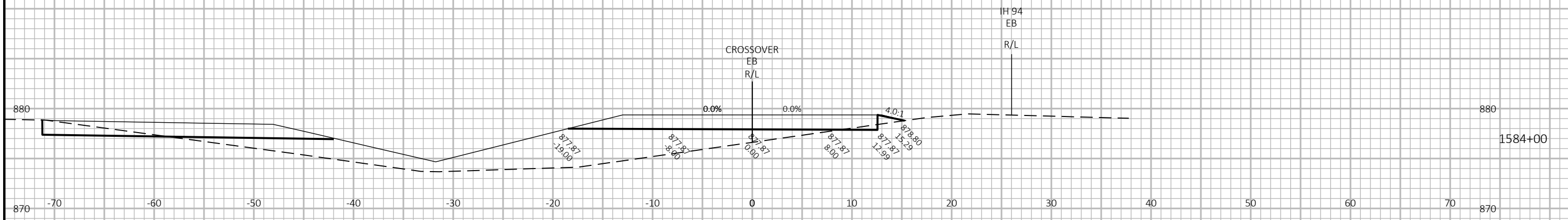
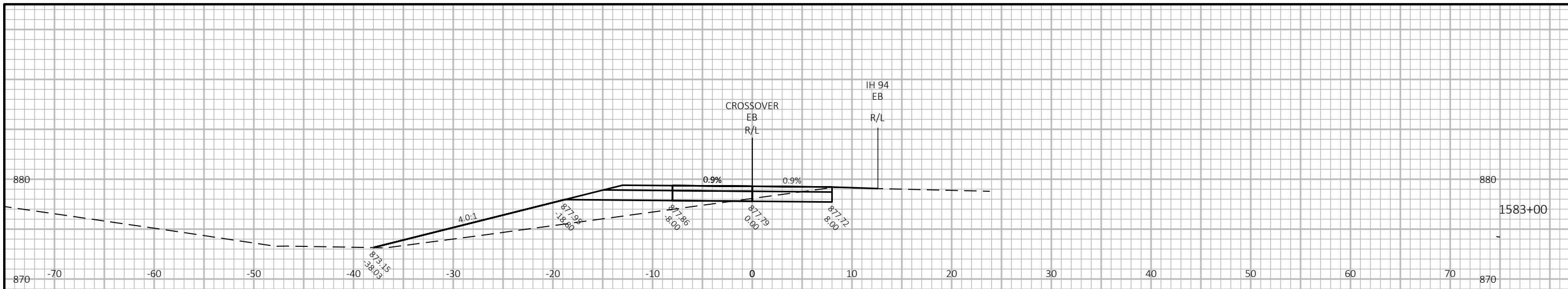
LAYOUT NAME - 090205-WB-XS



9

9

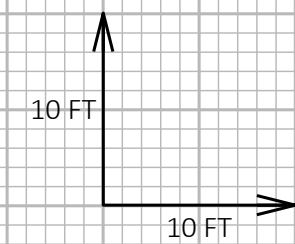
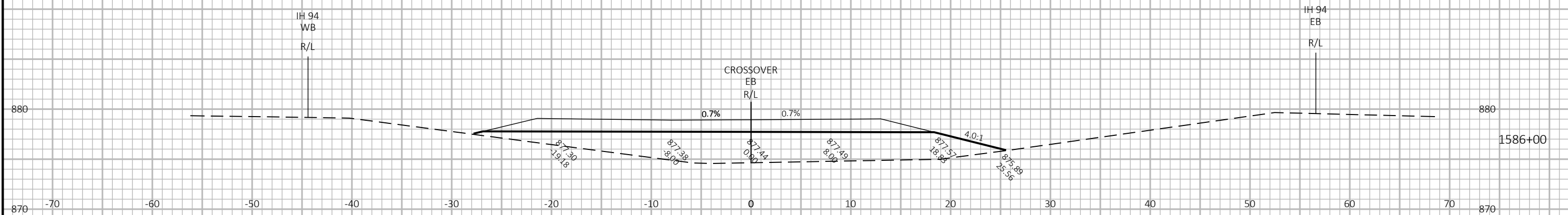
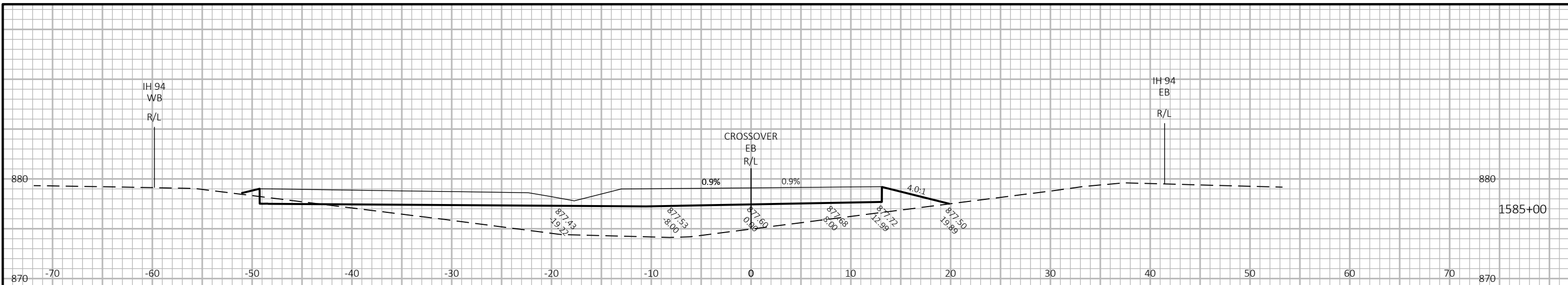
PROJECT NO: 1023-01-74	HWY: IH 94	COUNTY: JACKSON	CROSS SECTIONS: STAGE 1-CROSSOVER EB - RAILROAD	SHEET	E
------------------------	------------	-----------------	---	-------	---



9

9

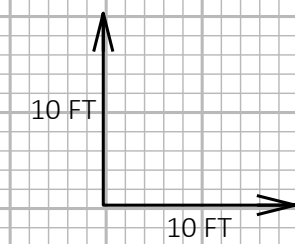
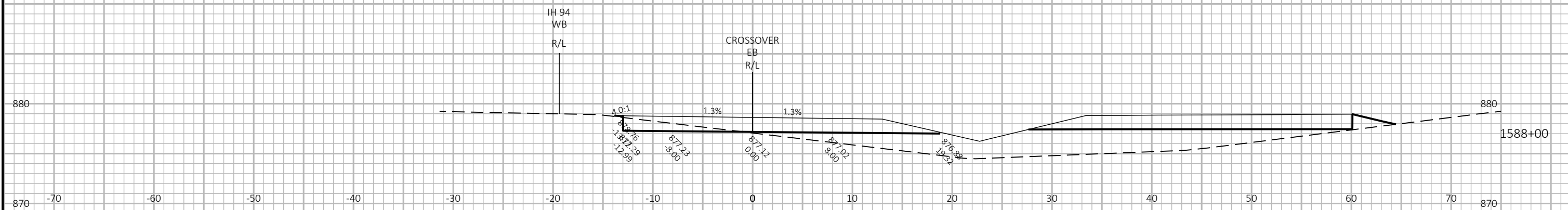
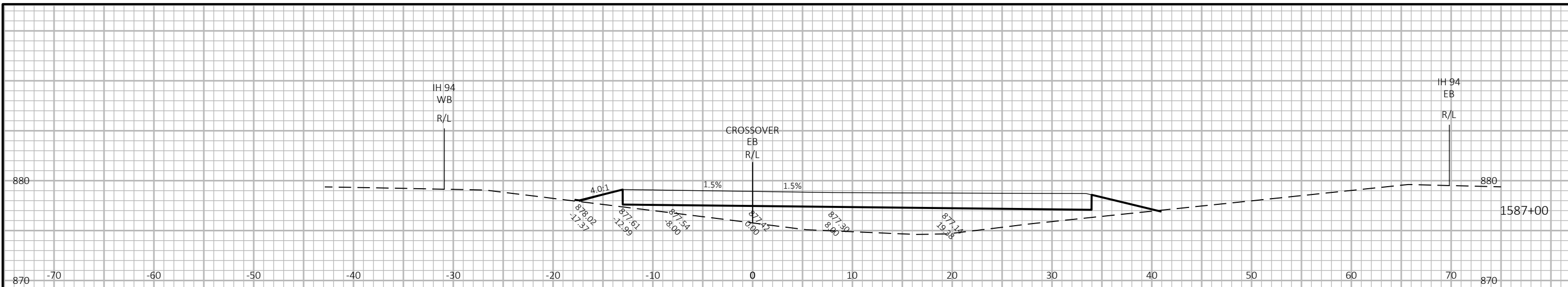
PROJECT NO: 1023-01-74	HWY: IH 94	COUNTY: JACKSON	CROSS SECTIONS: STAGE 1 -CROSSOVER EB - RAILROAD	SHEET	E
------------------------	------------	-----------------	--	-------	---



9

9

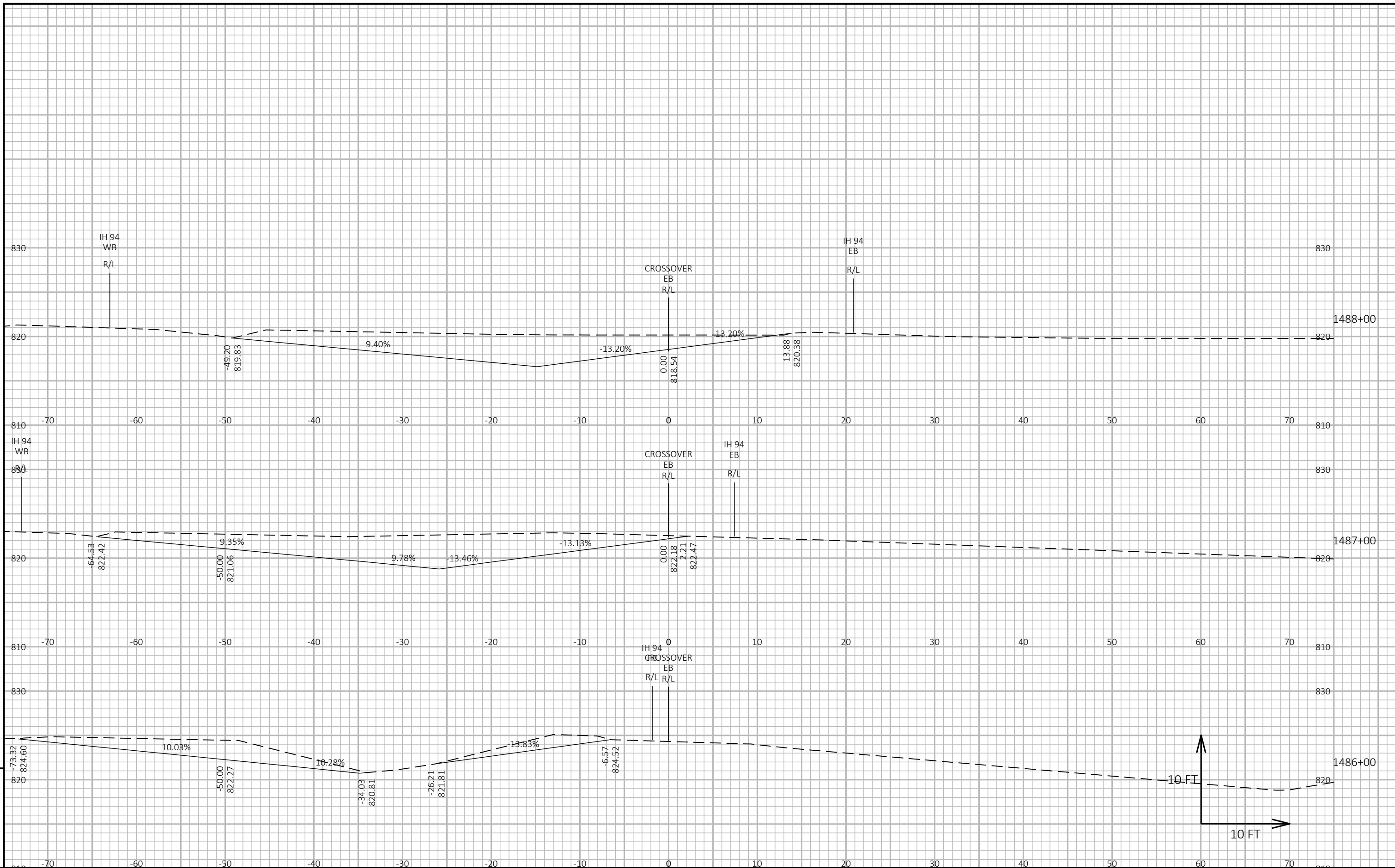
PROJECT NO: 1023-01-74	HWY: IH 94	COUNTY: JACKSON	CROSS SECTIONS: STAGE 1-CROSSOVER EB - RAILROAD	SHEET	E
------------------------	------------	-----------------	---	-------	---



9

9





PROJECT NO: 1023-01-74

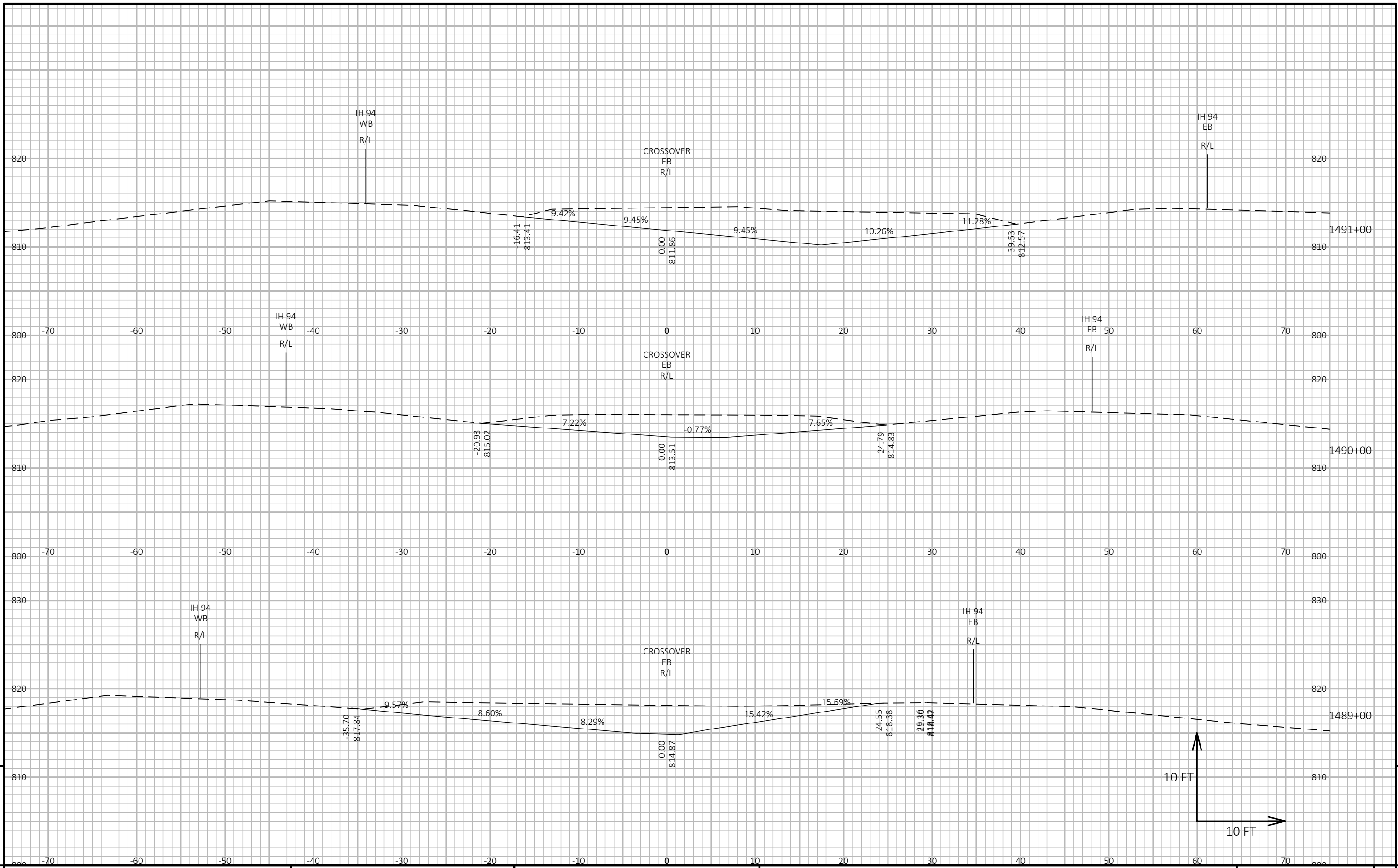
HWY: IH 94

COUNTY: JACKSON

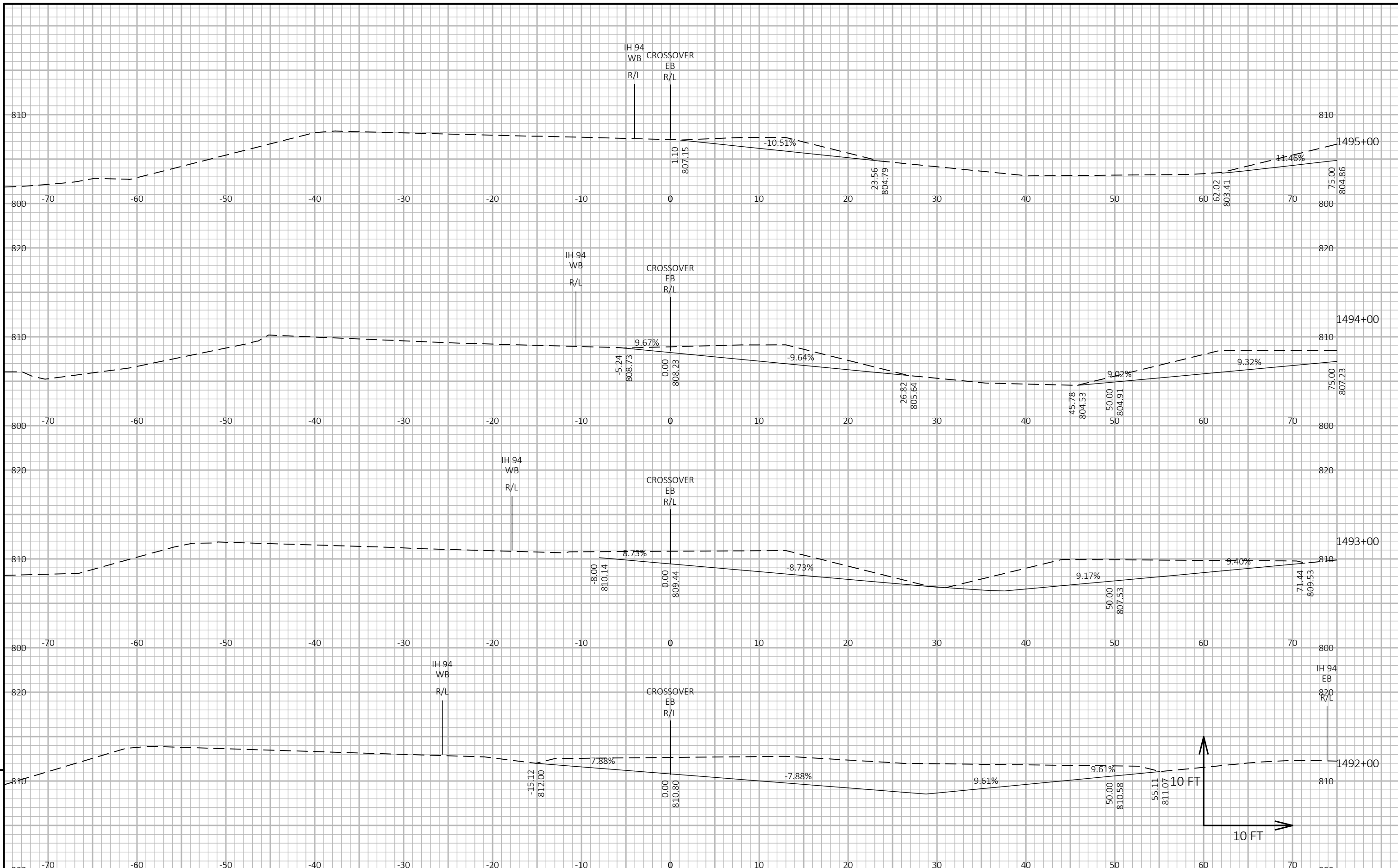
CROSS SECTIONS: STAGE 4 - CROSSOVER EB - RIVER

SHEET

E



PROJECT NO: 1023-01-74      HWY: IH 94      COUNTY: JACKSON      CROSS SECTIONS: STAGE 4 - CROSSOVER EB - RIVER      SHEET      E



PROJECT NO: 1023-01-74

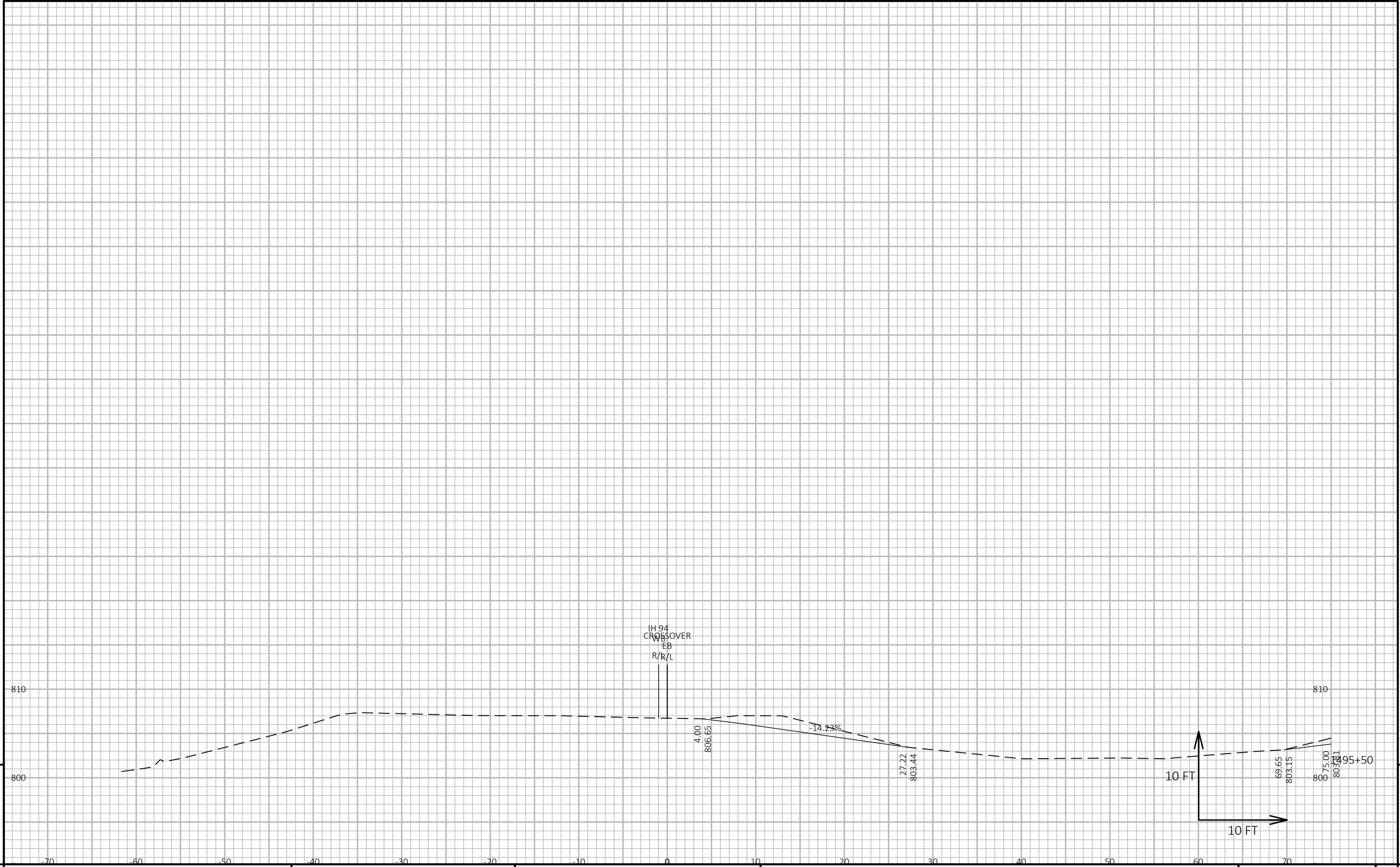
HWY: IH 94

COUNTY: JACKSON

CROSS SECTIONS: STAGE 4 - CROSSOVER EB - RIVER

SHEET

E



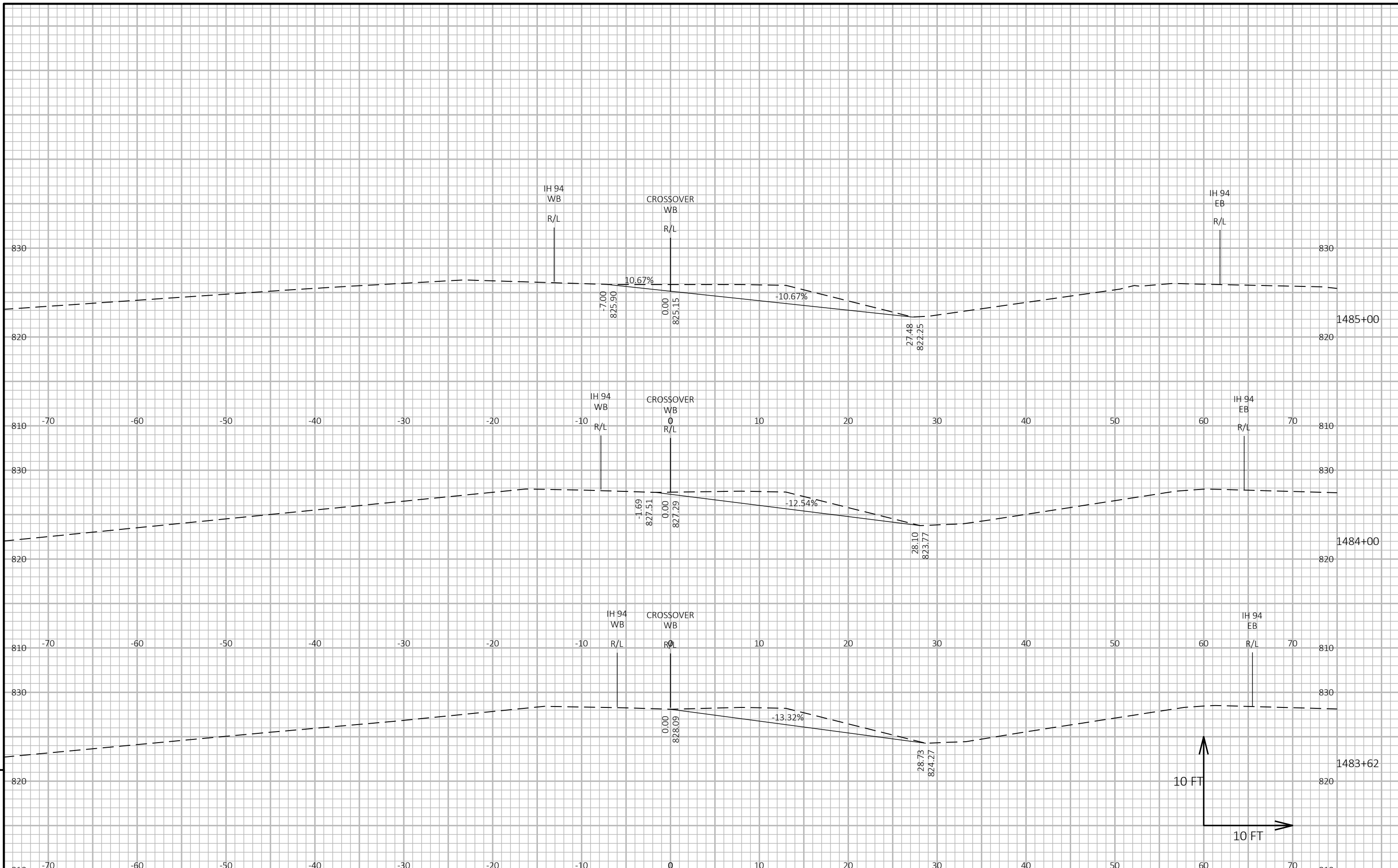
9

9

PROJECT NO: 1023-01-74	HWY: IH 94	COUNTY: JACKSON	CROSS SECTIONS: STAGE 4 -CROSSOVER EB - RIVER	SHEET	E
------------------------	------------	-----------------	---	-------	---

FILE NAME : C:\OD\CORRE, INC\PROJECTS - WI-NW REGION\1023-01-04\_JACKSON CO\_I94\500\_CADD\501\_C3D\_2018\10230104\SHEETSPLAN\090208-XS.DWG PLOT DATE : 1/27/2023 9:37 AM PLOT BY : BOBBY JONES PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT. WISDOT/CADD SHEET 49

LAYOUT NAME - 090204-EB S4 RVR-XS



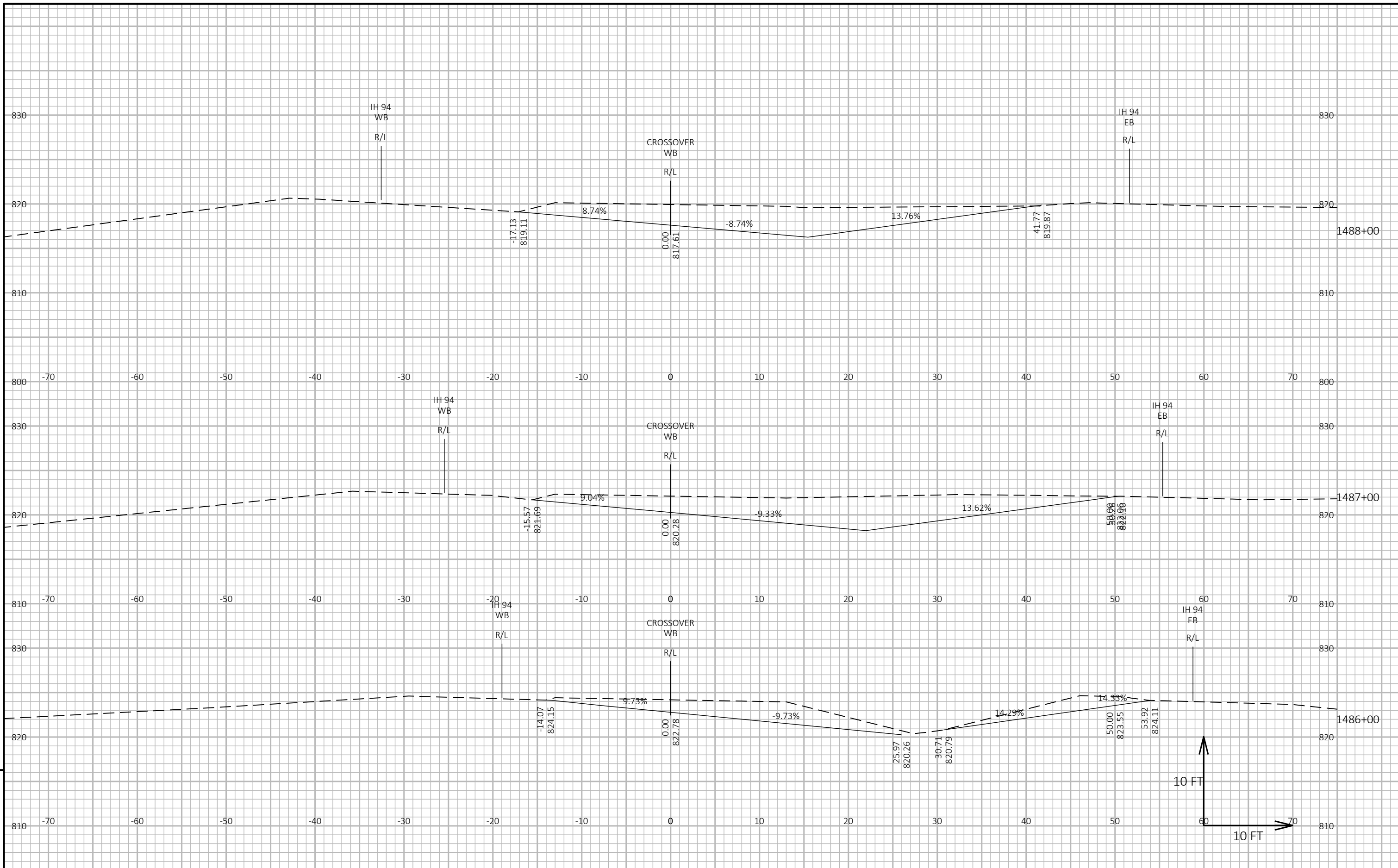
9

9

PROJECT NO: 1023-01-74      HWY: IH 94      COUNTY: JACKSON      CROSS SECTIONS: STAGE 4 -CROSSOVER WB - RIVER      SHEET      E

FILE NAME : C:\OD\CORRE, INC\PROJECTS - WI-NW REGION\1023-01-04\_JACKSON CO\_I94\500\_CADD\501\_C3D\_2018\10230104\SHEETS\PLAN\090207-XS.DWG      PLOT DATE : 1/27/2023 9:37 AM      PLOT BY : BOBBY JONES      PLOT NAME :      PLOT SCALE : 1 IN:10 FTHORZ. / 1 IN:10 FTVERT.      WISDOT/CADD SHEET 49

LAYOUT NAME - 090201-WB S4 RVR-XS



PROJECT NO: 1023-01-74

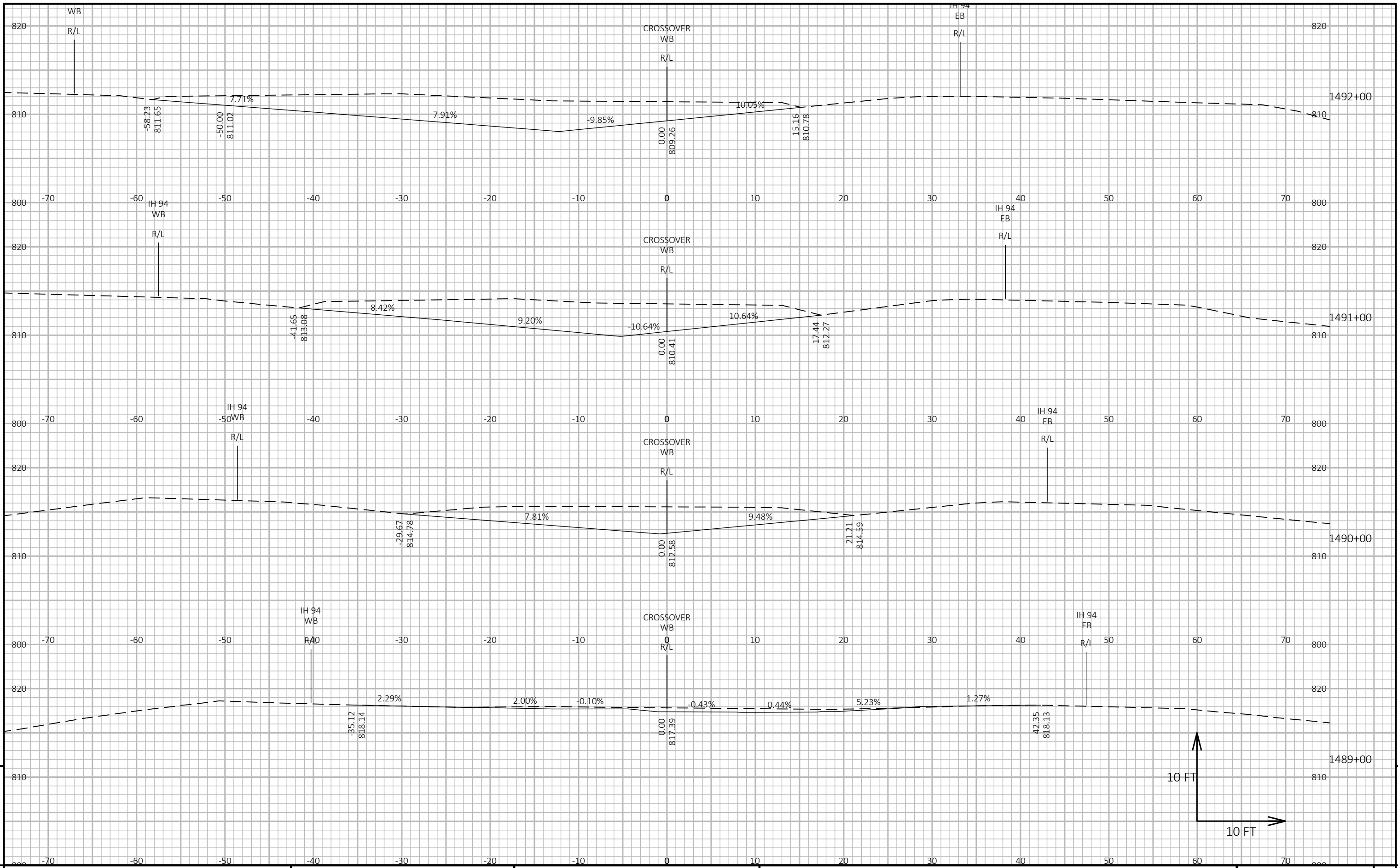
HWY: IH 94

COUNTY: JACKSON

CROSS SECTIONS: STAGE 4 - CROSSOVER WB - RIVER

SHEET

E



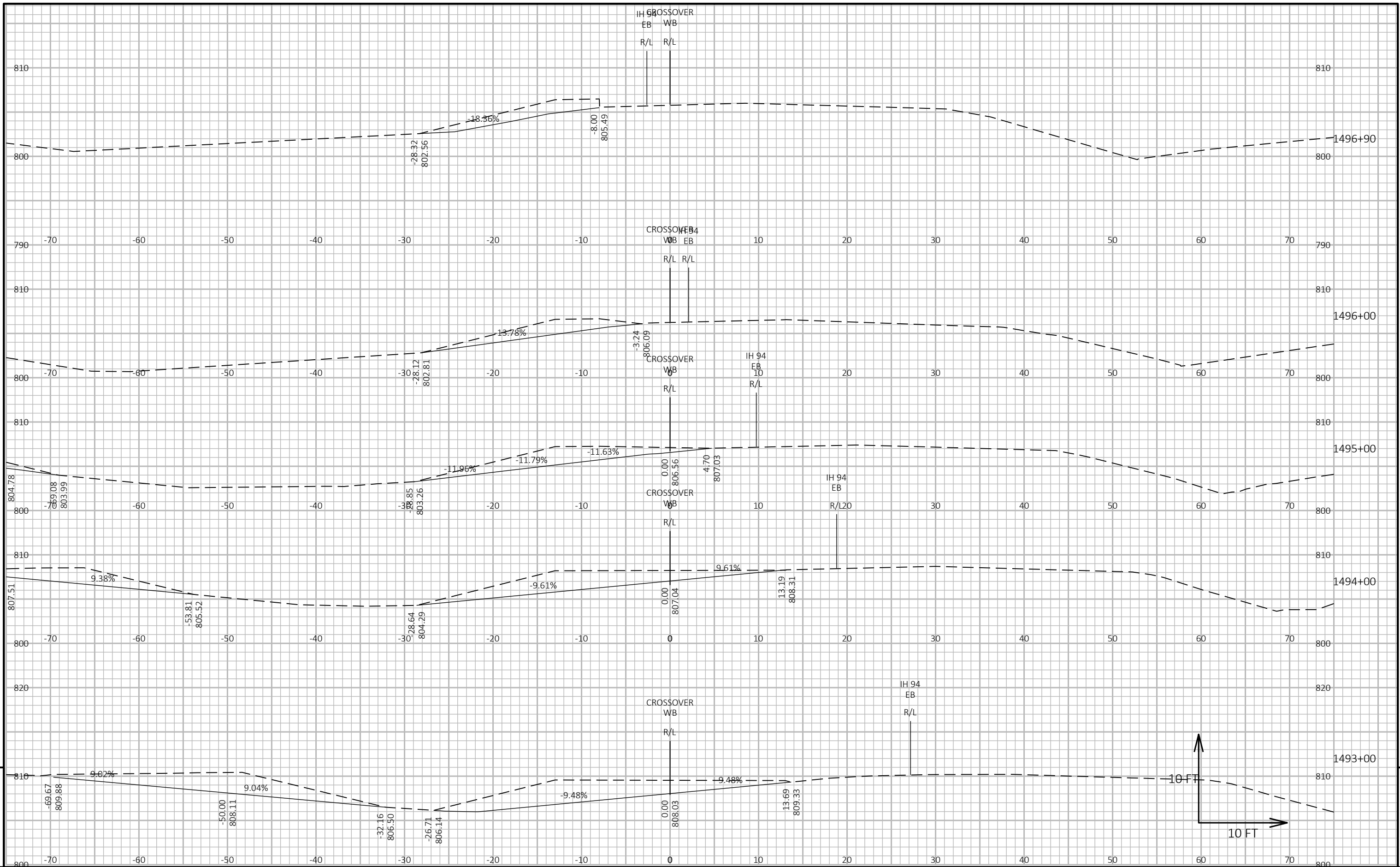
9

9

PROJECT NO: 1023-01-74      HWY: IH 94      COUNTY: JACKSON      CROSS SECTIONS: STAGE 4 -CROSSOVER WB - RIVER      SHEET      E

FILE NAME : C:\OD\CORRE, INC\PROJECTS - WI-NW REGION\1023-01-04\_JACKSON CO\_I94\500\_CADD\501\_C3D\_2018\10230104\SHEETS\PLAN\090207-XS.DWG      PLOT DATE : 1/27/2023 9:37 AM      PLOT BY : BOBBY JONES      PLOT NAME :      PLOT SCALE : 1 IN:10 FTHORZ. / 1 IN:10 FTVERT.      WISDOT/CADD SHEET 49

LAYOUT NAME - 090203-WB S4 RVR-XS



PROJECT NO: 1023-01-74

HWY: IH 94

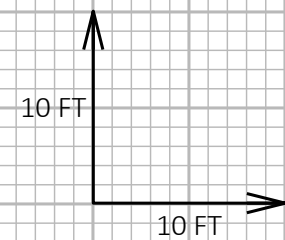
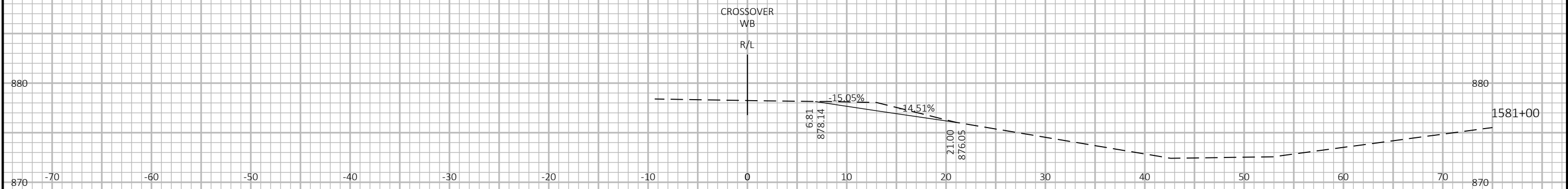
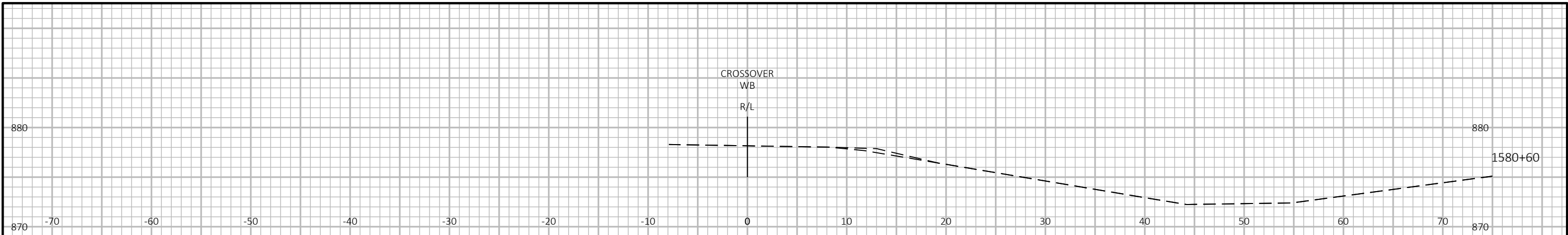
COUNTY: JACKSON

CROSS SECTIONS: STAGE 4 -CROSSOVER WB - RIVER

SHEET

E

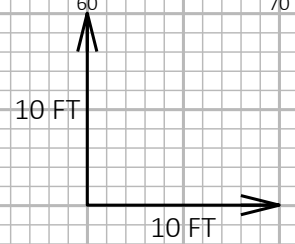
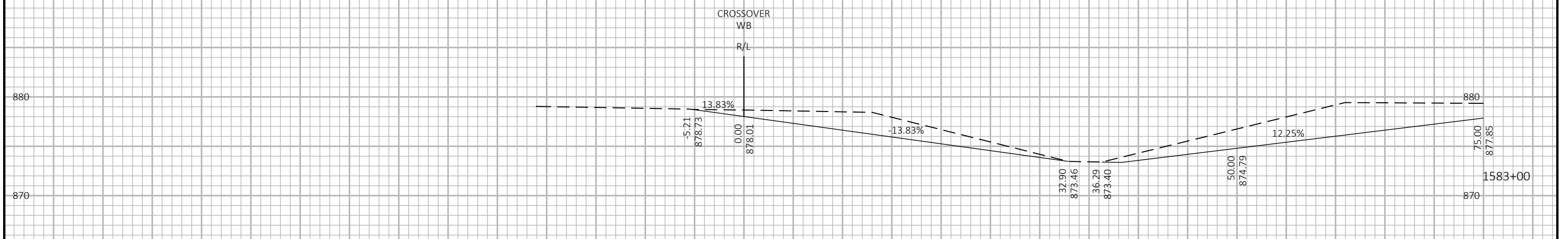
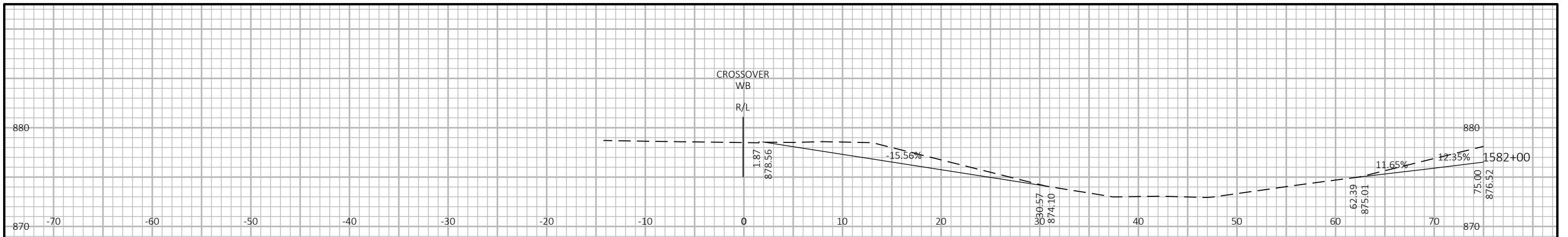




9

9

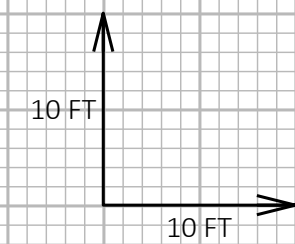
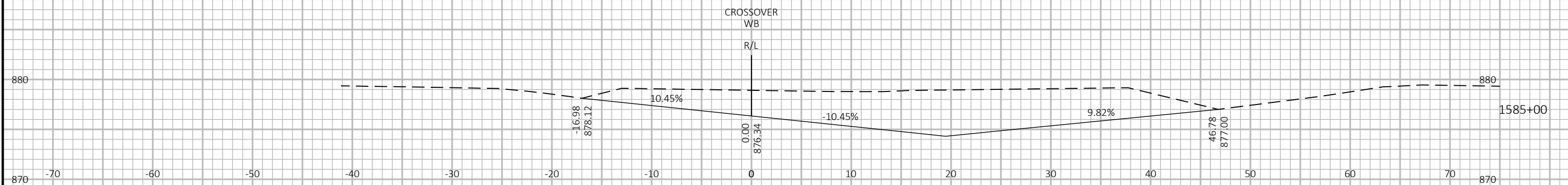
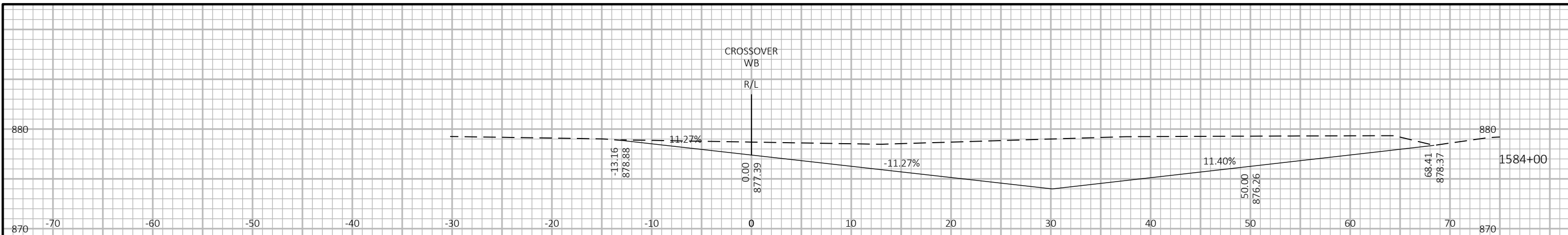
PROJECT NO: 1023-01-74	HWY: IH 94	COUNTY: JACKSON	CROSS SECTIONS: STAGE 4 -CROSSOVER WB - RAILROAD	SHEET	E
------------------------	------------	-----------------	--	-------	---



9

9

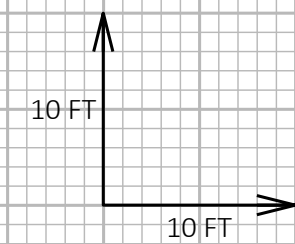
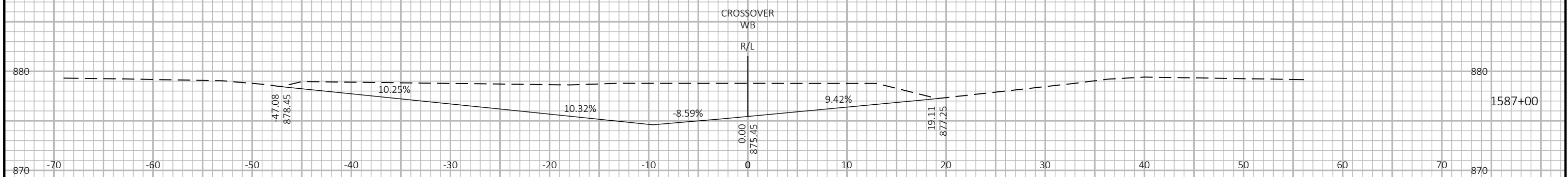
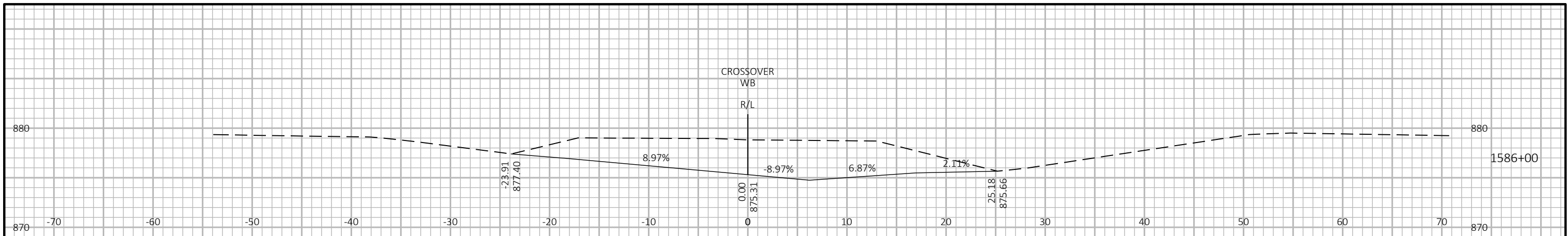
PROJECT NO: 1023-01-74	HWY: IH 94	COUNTY: JACKSON	CROSS SECTIONS: STAGE 4 -CROSSOVER WB - RAILROAD	SHEET	E
------------------------	------------	-----------------	--	-------	---



9

9

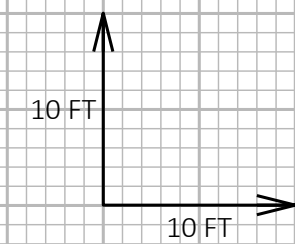
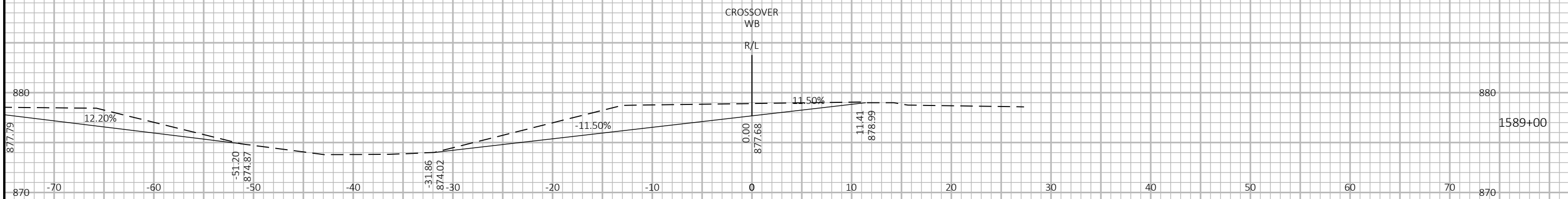
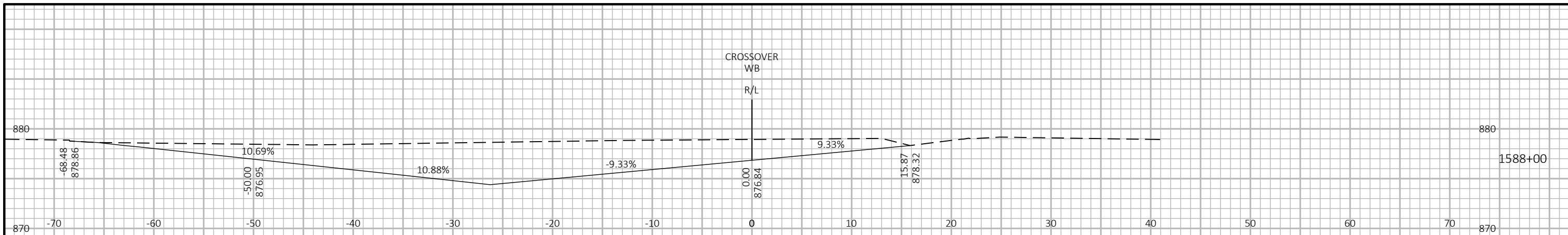
PROJECT NO: 1023-01-74    HWY: IH 94    COUNTY: JACKSON    CROSS SECTIONS: STAGE 4 -CROSSOVER WB - RAILROAD    SHEET    E



9

9

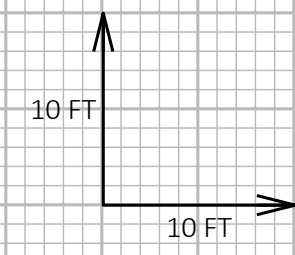
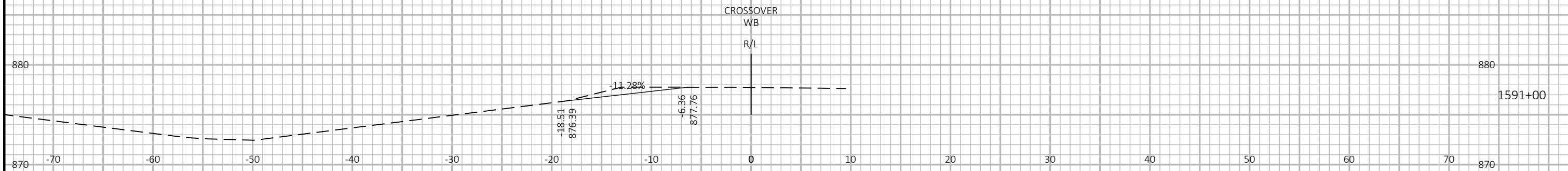
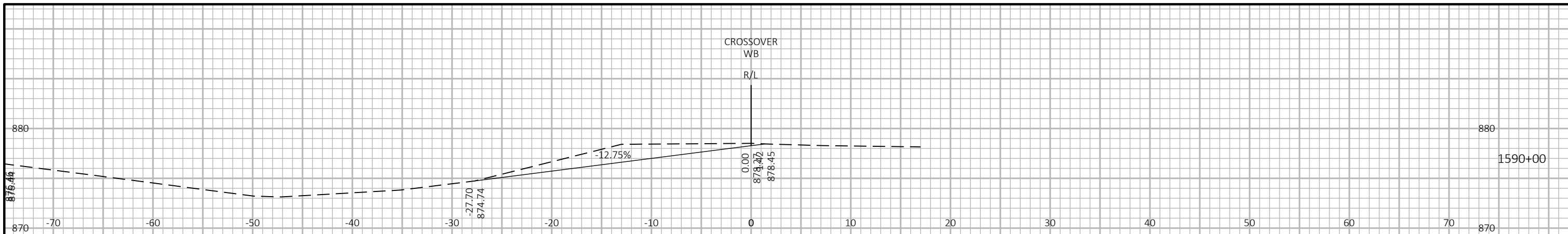
PROJECT NO: 1023-01-74	HWY: IH 94	COUNTY: JACKSON	CROSS SECTIONS: STAGE 4 -CROSSOVER WB - RAILROAD	SHEET	E
------------------------	------------	-----------------	--	-------	---



9

9

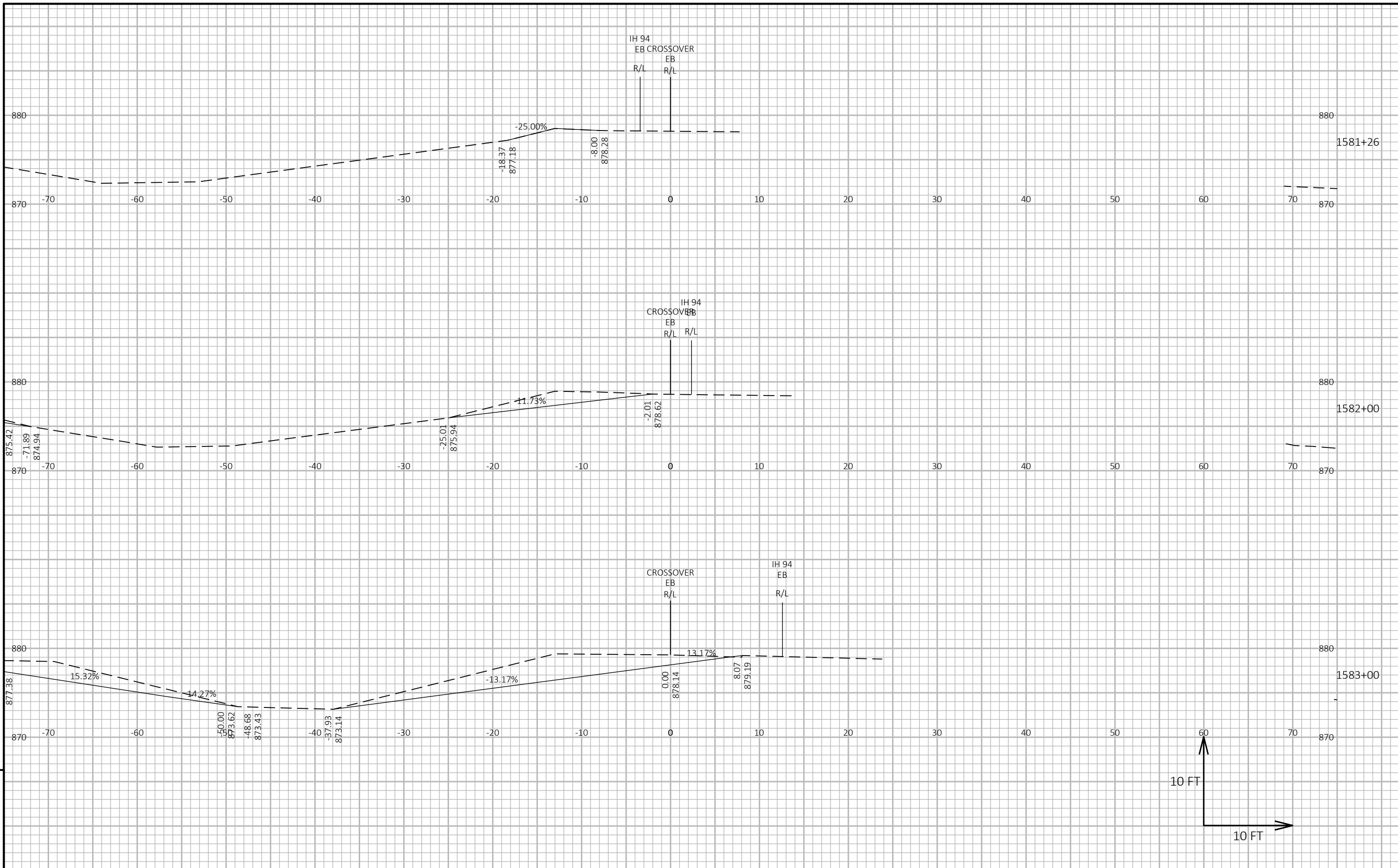
PROJECT NO: 1023-01-74	HWY: IH 94	COUNTY: JACKSON	CROSS SECTIONS: STAGE 4 -CROSSOVER WB - RAILROAD	SHEET	E
------------------------	------------	-----------------	--	-------	---



9

9

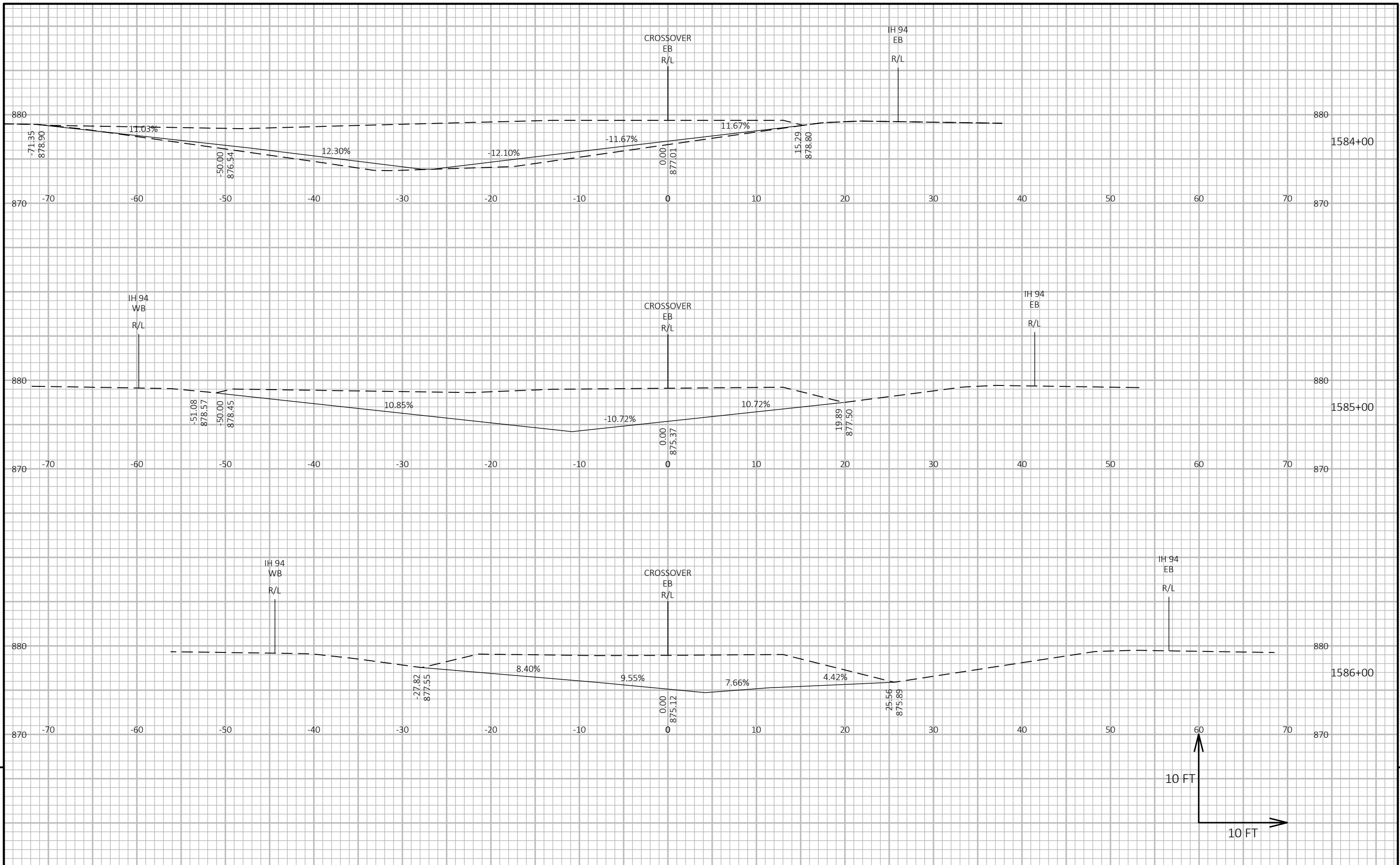
PROJECT NO: 1023-01-74	HWY: IH 94	COUNTY: JACKSON	CROSS SECTIONS: STAGE 4 -CROSSOVER WB - RAILROAD	SHEET	E
------------------------	------------	-----------------	--	-------	---



9

9

PROJECT NO: 1023-01-74	HWY: IH 94	COUNTY: JACKSON	CROSS SECTIONS: STAGE 4 -CROSSOVER EB - RAILROAD	SHEET	E
------------------------	------------	-----------------	--	-------	---

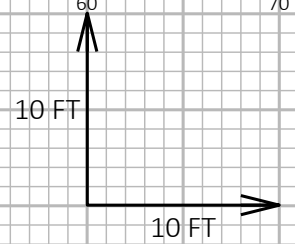
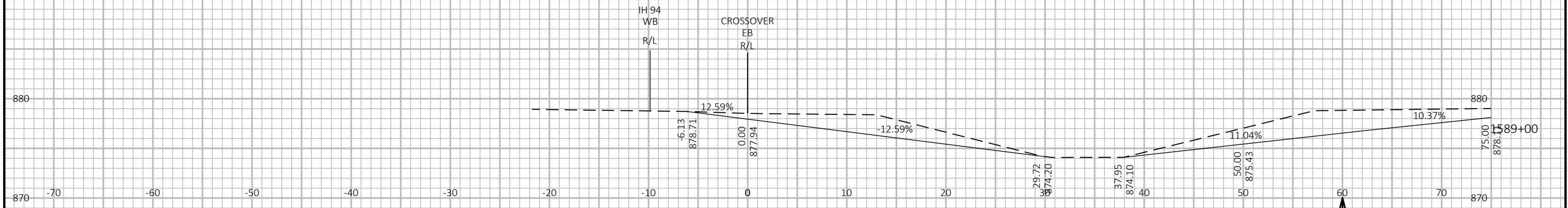
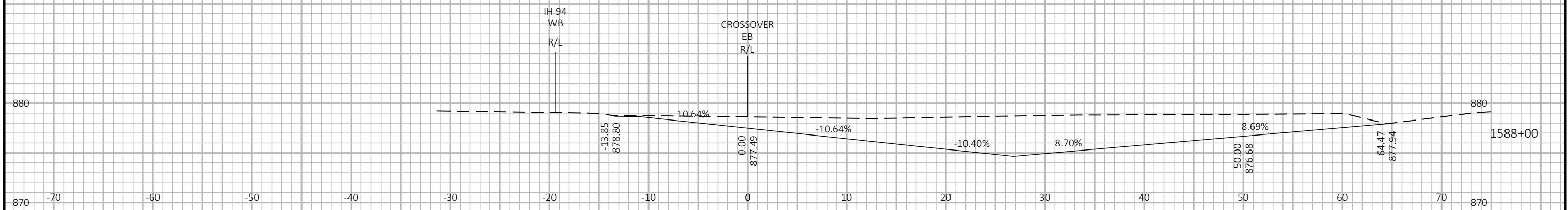
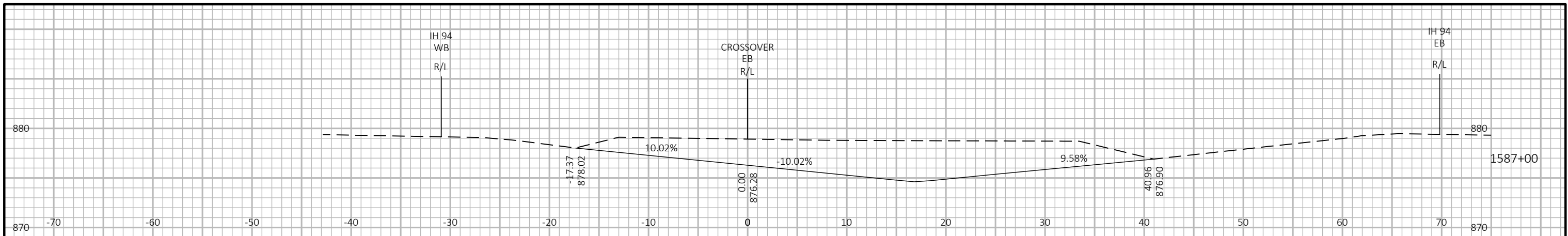


9

9

PROJECT NO: 1023-01-74	HWY: IH 94	COUNTY: JACKSON	CROSS SECTIONS: STAGE 4 -CROSSOVER EB - RAILROAD	SHEET	E
------------------------	------------	-----------------	--	-------	---

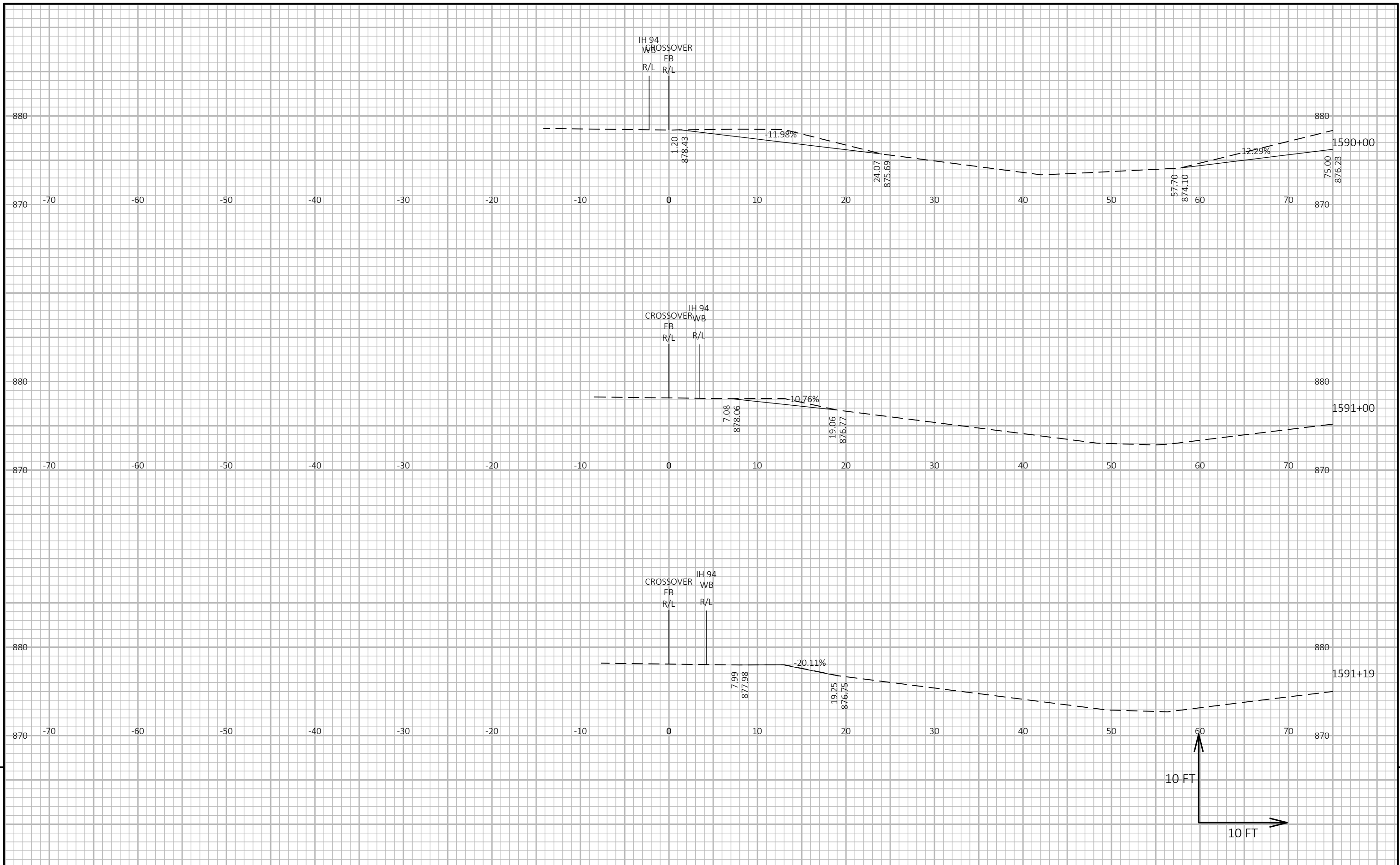




9

9

PROJECT NO: 1023-01-74	HWY: IH 94	COUNTY: JACKSON	CROSS SECTIONS: STAGE 4 -CROSSOVER EB - RAILROAD	SHEET	E
------------------------	------------	-----------------	--	-------	---



9

9

PROJECT NO: 1023-01-74	HWY: IH 94	COUNTY: JACKSON	CROSS SECTIONS: STAGE 4 -CROSSOVER EB - RAILROAD	SHEET	E
------------------------	------------	-----------------	--	-------	---

Notes



## ***Wisconsin Department of Transportation***

Dedicated people creating transportation solutions through innovation and exceptional service.

<http://www.dot.wisconsin.gov>