



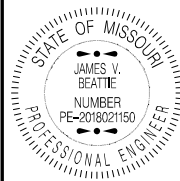




CONSTRUCTION SIGNING (VARIES)						
SIGN	SIZE IN.	AREA SQ.FT.	QTY EACH	TOTAL AREA SQ.FT.	SIGN NUM.	
WARNING SIGNS						DESCRIPTION
WO20-3	48X48	16	2	32	28	ROAD CLOSED AHEAD
WO20-3	48X48	16	2	32	27	ROAD CLOSED 500FT
REGULATORY SIGNS						
R11-2	48X30	10	2	20	31	ROAD CLOSED
R11-3a	60x30	12.5	1	12.5	30	ROAD CLOSED 1.4 MILES AHEAD
R11-3b	60x30	12.5	1	12.5	30	ROAD CLOSED 2 MILES AHEAD
616.10.05 CONSTRUCTION SIGNS TOTAL				109.00		

ADDITIONAL CONSTRUCTION ITEMS		
ITEM NO.	QTY.	DESCRIPTION
616-10.08	2	ADVANCED WARNING RAIL SYSTEM
616-10.30	10	TYPE III MOVEABLE BARRICADE
616-1098A	2	*CHANGEABLE MESSAGE SIGN WITHOUT COMMUNCATION INTERFACE. CONTRACTOR FURNISHED, CONTRACTOR RETAINED.*

MOBILIZATION
1 LUMP SUM



THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED  
12/3/2024

ROUTE STATE  
I 44 OR MO

DISTRICT SHEET NO.  
CD 3

COUNTY  
CRAWFORD

JOB NO.  
J553533

CONTRACT ID.

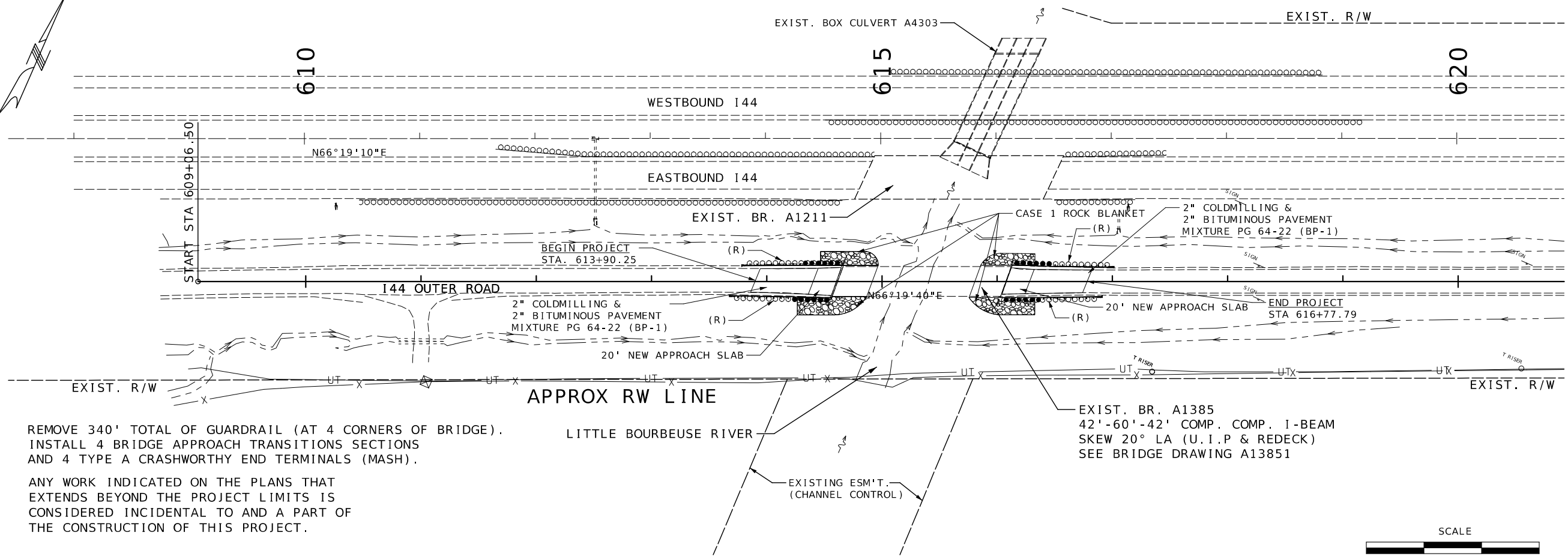
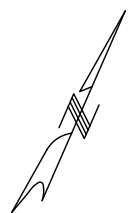
PROJECT NO.

BRIDGE NO.

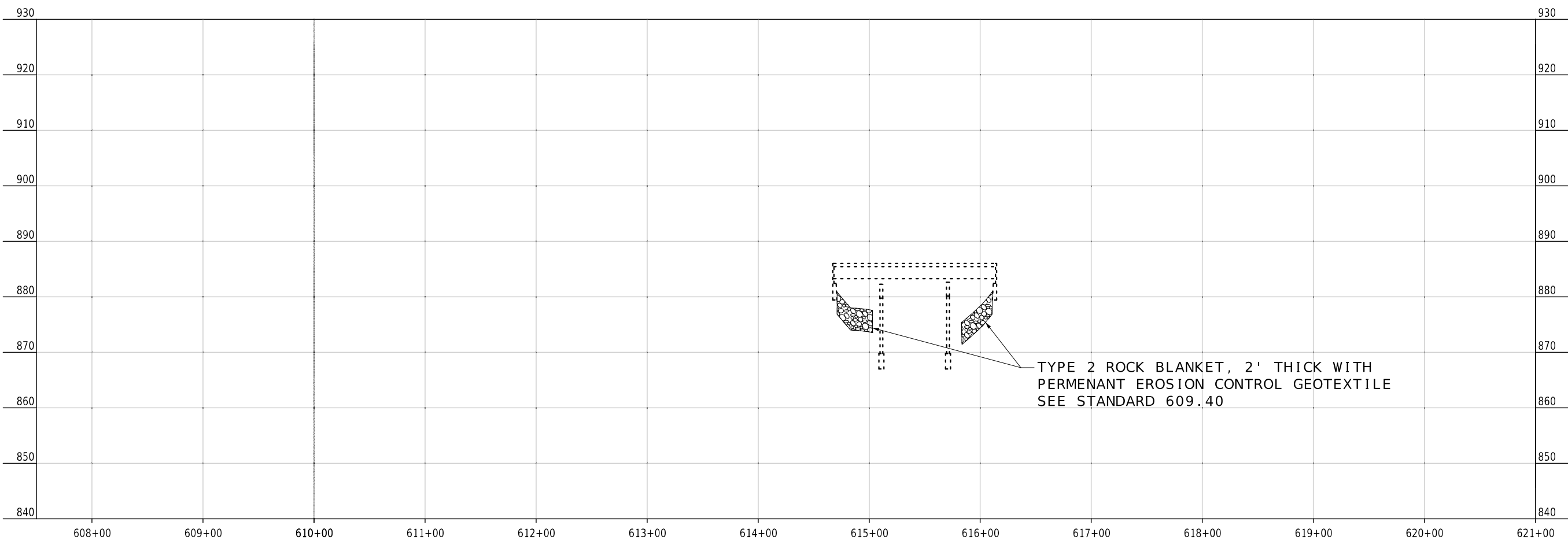
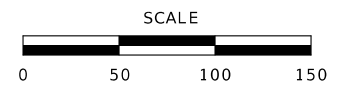
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION



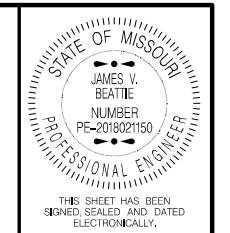
105 WEST CAPITOL  
JEFFERSON CITY, MO 65102  
1-888-ASK-MODOT (1-888-273-6636)



REMOVE 340' TOTAL OF GUARDRAIL (AT 4 CORNERS OF BRIDGE).  
 INSTALL 4 BRIDGE APPROACH TRANSITIONS SECTIONS  
 AND 4 TYPE A CRASHWORTHY END TERMINALS (MASH).  
 ANY WORK INDICATED ON THE PLANS THAT  
 EXTENDS BEYOND THE PROJECT LIMITS IS  
 CONSIDERED INCIDENTAL TO AND A PART OF  
 THE CONSTRUCTION OF THIS PROJECT.



TYPE 2 ROCK BLANKET, 2' THICK WITH  
 PERMANENT EROSION CONTROL GEOTEXTILE  
 SEE STANDARD 609.40

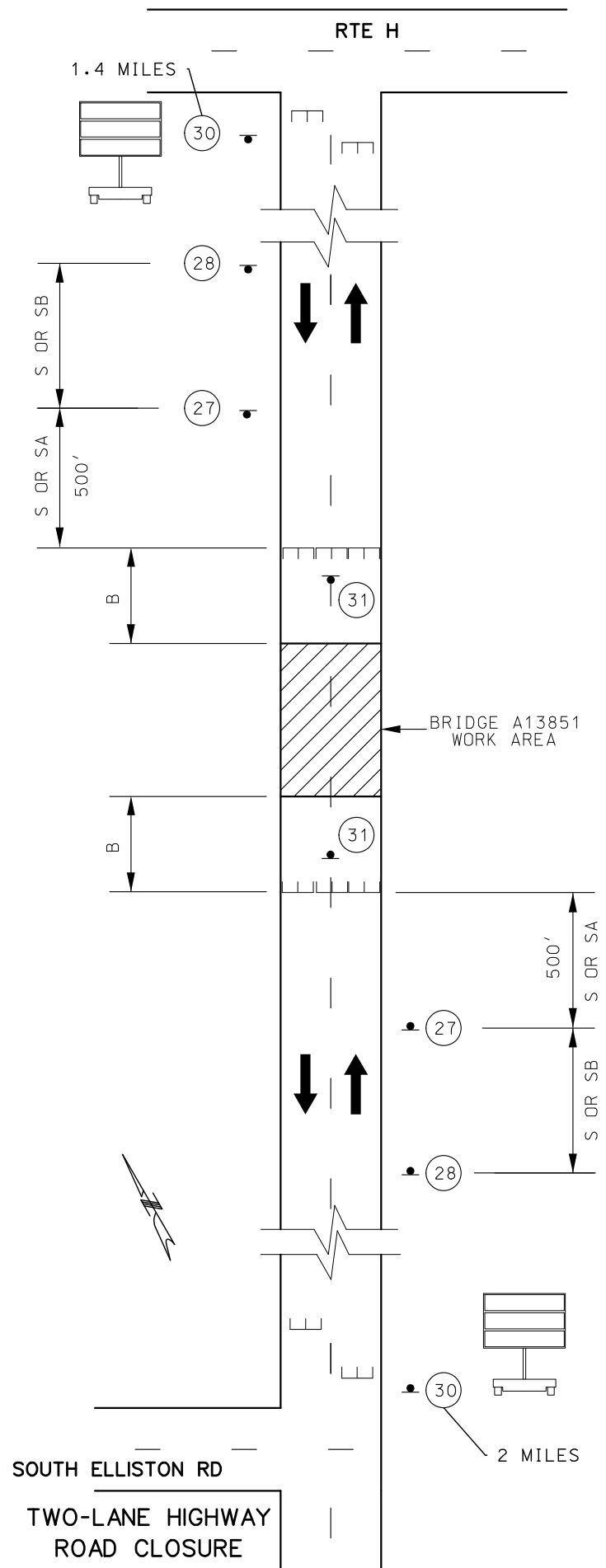


DATE PREPARED 12/3/2024	
ROUTE I 44 OR	STATE MO
DISTRICT CD	SHEET NO. 4
COUNTY CRAWFORD	
JOB NO. J5S3533	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

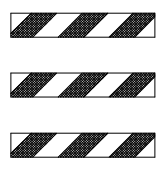
DATE	DESCRIPTION

MISSOURI HIGHWAYS AND TRANSPORTATION  
 COMMISSION

105 WEST CAPITOL  
 JEFFERSON CITY, MO 65102  
 1-888-ASK-MODOT (1-888-275-6636)



WO20-3  
(28)



AWRS



R11-3a  
(30)



R11-3b  
(30)



R11-2  
(31)

SPEED NORMAL POSTED (mph)	SIGN SPACING (ft.)		CHANNELIZER SPACING (ft.)		TAPER LENGTH		BUFFER LENGTH (ft.) (B)
	UNDIVIDED (S)	DIVIDED (S)	THROUGH TAPERS	BUFFER/ WORK AREA	SHOULDER (T1)	LANE (T2)	
≤ 35	200	200	-	-	-	-	250
40-45	350	500	-	-	-	-	360
50-55	500	1000	-	-	-	-	495
60-70	1000	SA - 1000 SB - 1500 SC - 2640	-	-	-	-	730

1. Shoulder taper length based on 10 ft. (standard shoulder width) offset. 2. Lane taper length based on 12 ft. (standard lane width) offset.

GENERAL NOTES:

ANY EXISTING SIGNS THAT CONFLICT WITH THE TRAFFIC CONTROL PLAN SHALL BE COMPLETELY COVERED OR REMOVED.

TEMPORARY TRAFFIC CONTROL SIGNS AND DEVICE LOCATIONS MAY BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

ANY RELOCATION OF SIGNS OR DEVICES FOR TRAFFIC CONTROL SHALL BE CONSIDERED INCIDENTAL, NO DIRECT PAY.

CONTRACTOR SHALL MAINTAIN ACCESS TO ENTRANCES AT ALL TIMES. CONTRACTOR SHALL COORDINATE ACCESS TO FIELD ENTRANCES WITH PROPERTY OWNERS.

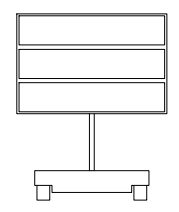
NOTES:

ALL TRAFFIC CONTROL SIGNS SHOWN ON THIS SHEET ARE CONSIDERED PERMANENT FOR THE DURATION OF THIS PROJECT.

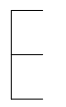
ONE BARRICADE SHALL BE REQUIRED TO COMPLETELY CLOSE EACH 8 FEET OF PAVEMENT. PAVED SHOULDERS SHALL BE INCLUDED IN THE AREA TO BE CLOSED.

ROAD CLOSED SIGN MAY BE PLACED 7-10 FEET BEHIND THE BARRICADES AND AT A SIGN HEIGHT APPROPRIATE TO THE TYPE OF ROADWAY.

THE ROAD CLOSED XX MILES AHEAD LOCAL TRAFFIC ONLY OR ROAD CLOSED THRU TRAFFIC SIGN SHOULD BE LOCATED AT THE FIRST STATE ROUTE OR, AT THE DISCRETION OF THE ENGINEER, AT ANY OTHER INTERSECTION IN ADVANCE OF THE CLOSURE. ADDITIONAL BARRICADES MAY BE USED AND OFFSET TO FACILITATE ACCESS FOR WORK VEHICLES, LOCAL TRAFFIC, ETC. NO DIRECT PAY.



- CHANGEABLE MESSAGE SIGN



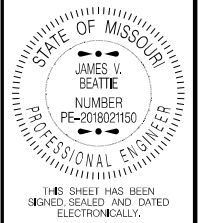
- TYPE III MOVEABLE BARRICADE



- SIGN

NOT TO SCALE

TRAFFIC CONTROL  
SHEET 1 OF 1



DATE PREPARED  
12/3/2024

ROUTE STATE  
I 44 OR MO

DISTRICT SHEET NO.  
CD 5

COUNTY  
CRAWFORD

JOB NO.  
J5S3533

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DATE	DESCRIPTION

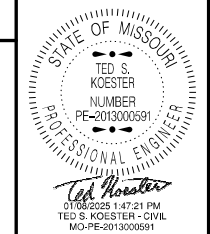
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL  
JEFFERSON CITY, MO 65102  
1-888-ASK-MODOT (1-888-275-6636)



U.I.P. & REDECK EXISTING (42'-60'-42') CONTINUOUS COMPOSITE WIDE FLANGE BEAM SPANS (SKEW: 20° L.A.)

SEC/SUR 10 TWP 39N RGE 4W



DATE PREPARED  
1/8/2025  
ROUTE I 44 OR MO  
DISTRICT BR SHEET NO. 1  
COUNTY CRAWFORD  
JOB NO. 1553533  
CONTRACT ID.  
PROJECT NO.  
BRIDGE NO. A13851

Int. Bent No. 2		Int. Bent No. 3	
Span 1	Span 2	Span 2	Span 3
18'-0"	16'-3"	16'-3"	18'-0"

Bar Size	Splice Length
4	2'-7"
5	3'-3"
6	3'-10"
7	4'-11"

\*\* Unless otherwise shown.

**General Notes:**

**Design Specifications:**

2002 AASHTO LFD (17th Ed.) Standard Specifications  
Seismic Performance Category A

**Design Loading:**

H15-44 (1961); HS20-44 (New Construction)  
15 lb/sf Future Wearing Surface  
Earth - 120 lb/cf, Equivalent Fluid Pressure 45 lb/cf  
Fatigue Stress - Case III

**Design Unit Stresses:**

Class B-1 Concrete (Barrier)  $f'c = 4,000$  psi  
Class B-2 Concrete (End Bents & Superstructure, except Barrier)  $f'c = 4,000$  psi  
Reinforcing Steel (ASTM A615 Grade 60)  $f_y = 60,000$  psi

**Structural Steel Protective Coatings:**

Protective Coating: System G in accordance with Sec 1081.

**Surface Preparation:** Surface preparation of the existing steel shall be in accordance with Sec 1081 for Overcoating of Structural Steel. The cost of surface preparation will be considered completely covered by the contract unit price per square foot for Surface Preparation for Overcoating Structural Steel (System G).

**Field Coat(s):** The color of the field overcoat shall be Gray (Federal Standard #26373) and shall be applied in accordance with Sec 1081.10.3.4. The cost of the intermediate field coat will be considered completely covered by the contract unit price per sq. foot for Intermediate Field Coat (System G). The cost of the finish field coat will be considered completely covered by the contract unit price per square foot for Finish Field Coat (System G).

**Joint Filler:**

All joint filler shall be in accordance with Sec 1057 for preformed sponge rubber expansion and partition joint filler, except as noted.

**Reinforcing Steel:**

Minimum clearance to reinforcing steel shall be 1 1/2", unless otherwise shown.

**Miscellaneous:**

Protective coating for concrete bents and piers (Epoxy) shall be applied as shown on the bridge plans and in accordance with Sec 711.

Bars bonded in existing concrete not removed shall be cleanly stripped and embedded into new concrete where possible. If length is available, existing bars shall extend into new concrete at least 40 diameters for plain bars and 30 diameters for deformed bars, unless otherwise noted.

Roadway surfacing adjacent to bridge ends shall match new bridge slab surface. (Roadway item)

Outline of existing work is indicated by light dashed lines. Heavy lines indicate new work.

The area exposed by the removal of concrete and not covered with new concrete shall be coated with an approved qualified special mortar in accordance with Sec 704.

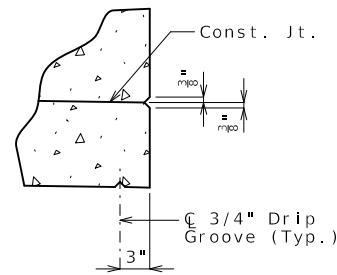
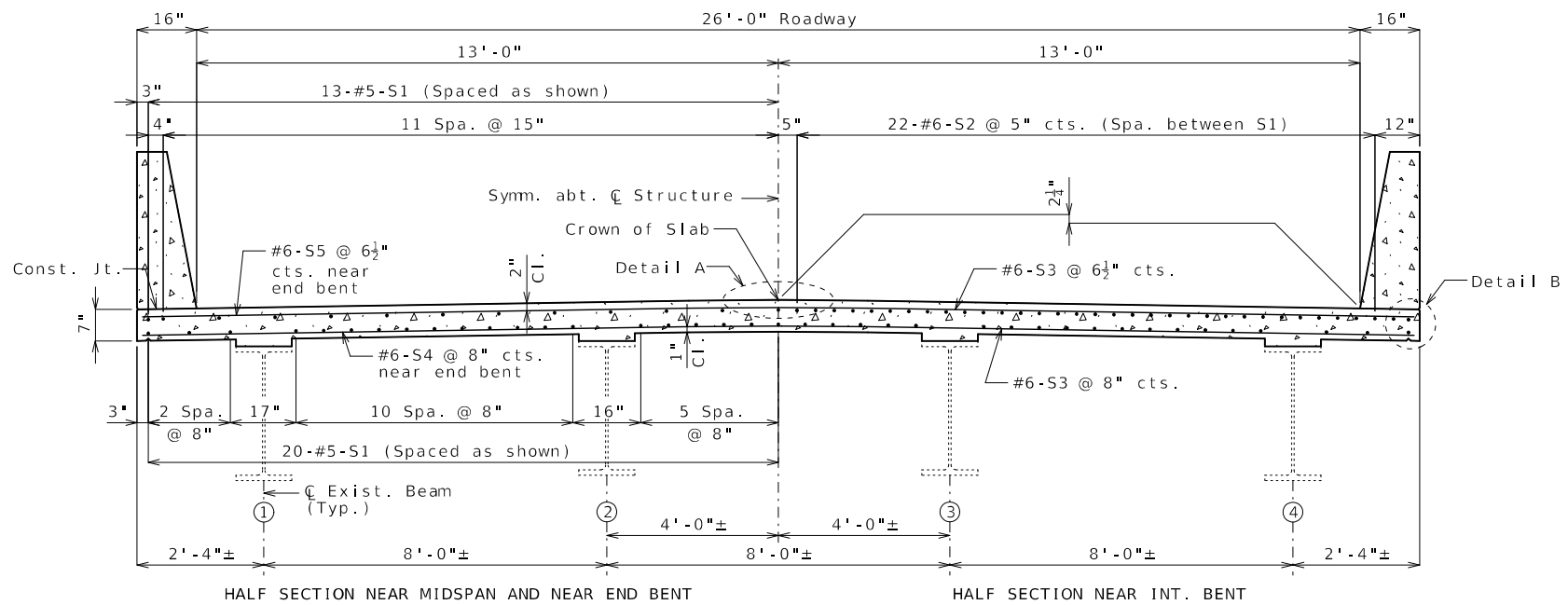
Rubblized concrete from the existing bridge deck that qualifies as clean fill may be placed on spill slopes at end bents above ordinary high water line (Roadway item).

For adjusted girder deflection due to the weight of the new deck and barriers, see Bridge Electronic Deliverables.

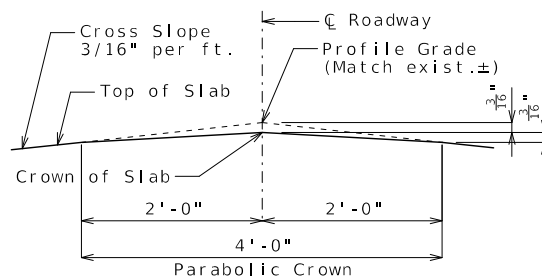
Longitudinal dimensions are based on the original design plans.

**Traffic Handling:**

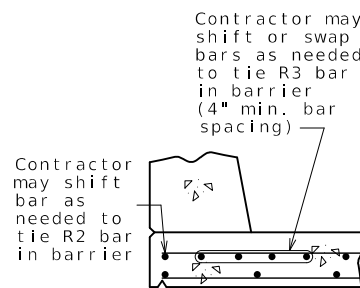
Structure to be closed during construction. Traffic to be maintained on other routes. See roadway plans for traffic control.



DETAIL B



DETAIL A



OPTIONAL SHIFTING TOP BARS AT BARRIER

Item	Quantity	Total
Removal of Miscellaneous ACM (Non-Friable)	sq. foot	13
Removal of Existing Bridge Deck	sq. foot	4242
Bridge Approach Slab (Minor)	sq. yard	118
Slab on Steel	sq. yard	470
Type D Barrier	linear foot	294
Protective Coating - Concrete Bents and Piers (Epoxy)	lump sum	1
Slab Drain	each	22
Surface Preparation for Overcoating Structural Steel (System G)	sq. foot	3600
Intermediate Field Coat (System G)	sq. foot	3600
Finish Field Coat (System G)	sq. foot	1000
Non-Destructive Testing	linear foot	52
Vertical Drain at End Bents	each	2

Cost of any required excavation for bridge will be considered completely covered by the contract unit price for other items.

Item	Quantity	Total
Class B-2 Concrete	cu. yard	103
Reinforcing Steel (Epoxy Coated)	pound	36,900

The table of Estimated Quantities for Slab on Steel represents the quantities used by the State in preparing the cost estimate for concrete slabs. The area of the concrete slab will be measured to the nearest square yard longitudinally from end of slab to end of slab and transversely from out to out of bridge slab (or with the horizontal dimensions as shown on the plan of slab). Payment for stay-in-place corrugated steel forms, conventional forms, all concrete and epoxy coated reinforcing steel will be considered completely covered by the contract unit price for the slab. Variations may be encountered in the estimated quantities but the variations cannot be used for an adjustment in the contract unit price.

Method of forming the slab shall be in accordance with Sec 703. All hardware for forming the slab to be left in place as a permanent part of the structure shall be coated in accordance with ASTM A123 or ASTM B633 with a thickness Class SC 4 and a finish Type 1, II or III.

Slab shall be cast-in-place with conventional forming or stay-in-place corrugated steel forms. Precast prestressed panels will not be permitted.

For Optional Stay-In-Place Form Details, see Sheet No. 2.

Bridge deck surface may be finished with a vibratory screed.

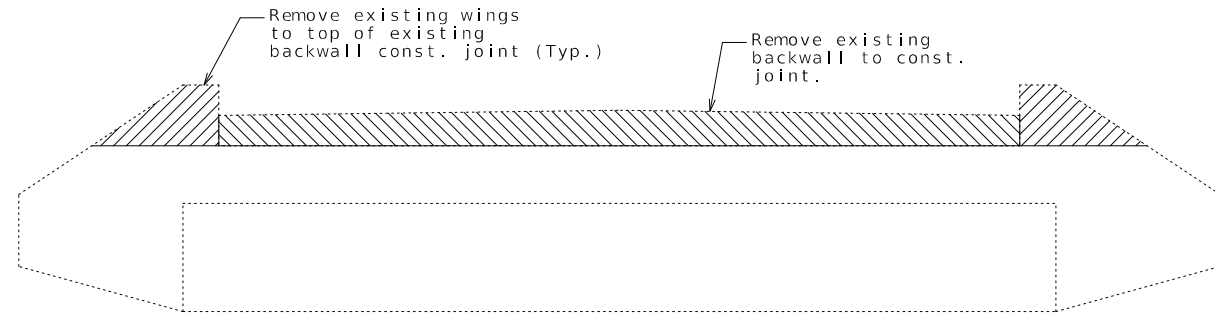
**REPAIRS TO BRIDGE: ROUTE I-44 OUTER ROAD OVER LITTLE BOURBEUSE RIVER**

ROUTE 44 OUTER ROAD FROM ROUTE H TO ROUTE 19  
ABOUT 1.5 MILES SOUTHWEST OF ROUTE H  
BEGINNING STATION 614+60.25± (MATCH EXISTING)

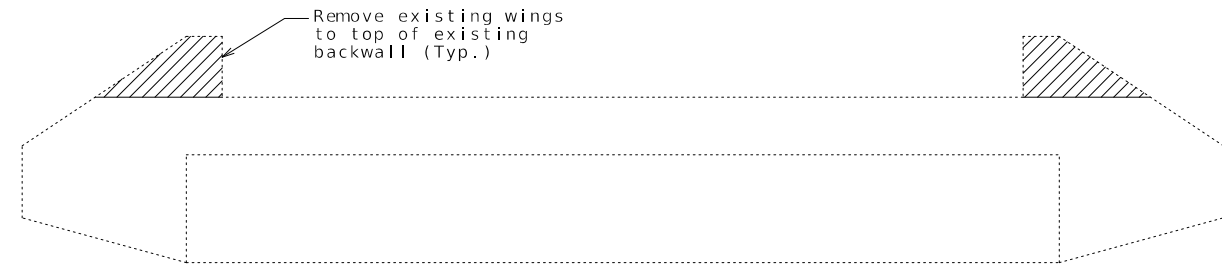
DESCRIPTION  
DATE  
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION







DETAILS OF CONCRETE REMOVAL AT END BENT NO. 1



DETAILS OF CONCRETE REMOVAL AT END BENT NO. 4

The cost of concrete removal as shown will be considered completely covered by the contract unit price for Removal of Existing Bridge Deck. Vertical wingwall reinforcement not embedded in new concrete shall be cut off one inch below concrete removal surface and the resulting holes shall be filled with a qualified special mortar.

**General Notes:**

**Stay-In-Place Forms:**

Corrugated steel forms, supports, closure elements and accessories shall be in accordance with grade requirement and coating designation G165 of ASTM A653. Complete shop drawings of the permanent steel deck forms shall be required in accordance with Sec 1080.

Corrugations of stay-in-place forms shall be filled with an expanded polystyrene material. The polystyrene material shall be placed in the forms with an adhesive in accordance with the manufacturer's recommendations.

Form sheets shall not rest directly on the top of beam flanges. Sheets shall be securely fastened to form supports with a minimum bearing length of one inch on each end. Form supports shall be placed in direct contact with the flange. Welding on or drilling holes in the beam flanges will not be permitted. All steel fabrication and construction shall be in accordance with Sec 1080 and 712. Certified field welders will not be required for welding of the form supports.

The design of stay-in-place corrugated steel forms is per manufacturer which shall be in accordance with Sec 703 for false work and forms. Maximum actual weight of corrugated steel forms allowed shall be 4 psf assumed for beam loading.

**Pouring and Finishing Slab:**

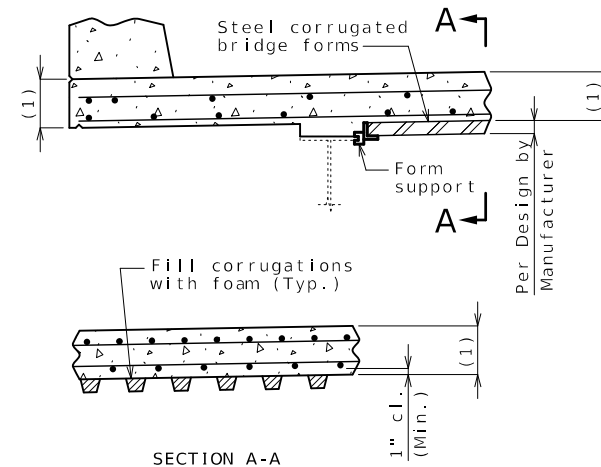
The contractor shall provide bracing necessary for lateral and torsional stability of the beams during construction of the concrete slab and remove the bracing after the slab has attained 75% design strength. Contractor shall not weld on or drill holes in the beams. The cost for furnishing, installing, and removing bracing will be considered completely covered by the contract unit price for Slab on Steel.

Slab shall be poured upgrade from end to end at a minimum rate of 25 cubic yards per hour.

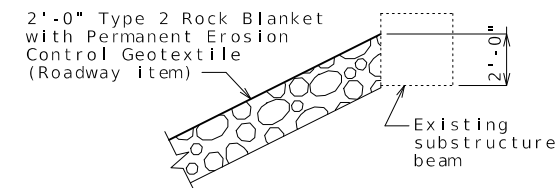
Alternate pour sequences may be submitted to the engineer for approval. Keyed construction joints shall be provided between pours.

**Haunching:**

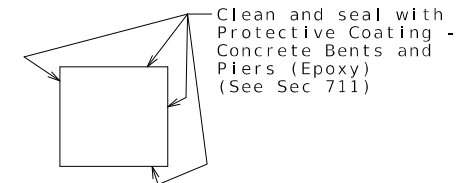
(1) Slab is to be considered a uniform thickness as shown on the plans. Haunching will vary. See front sheet for slab thickness.



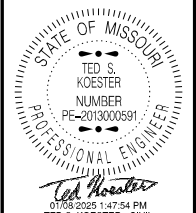
OPTIONAL STAY-IN-PLACE FORM DETAILS



ROCK BLANKET ON SPILL SLOPES



TYPICAL SECTION THRU INT. BENTS NO. 2 & 3 SHOWING PROTECTIVE COATING



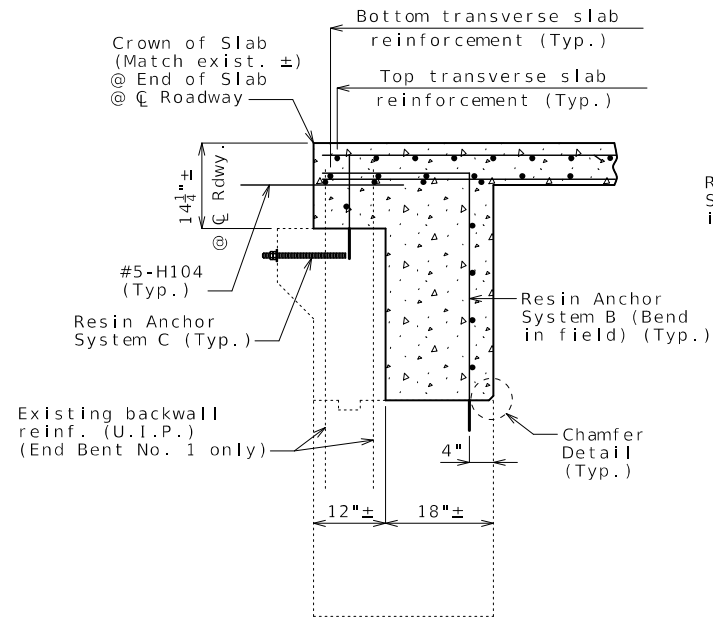
DATE PREPARED 1/8/2025	
ROUTE I 44 OR	STATE MO
DISTRICT BR	SHEET NO. 2
COUNTY CRAWFORD	
JOB NO. J5S3533	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO. A13851	

DESCRIPTION	DATE

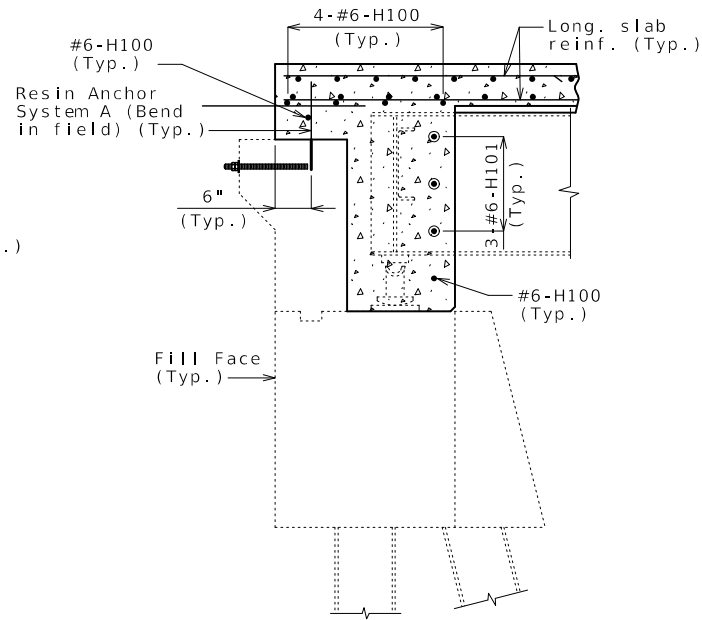
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL  
JEFFERSON CITY, MO 65102  
1-888-ASK-MODOT (1-888-275-6636)

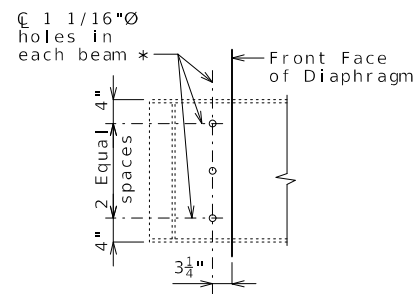




SECTION A-A  
(Normal)

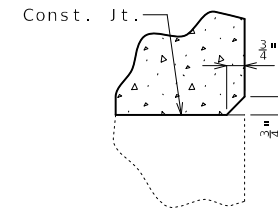


SECTION B-B  
(Normal)

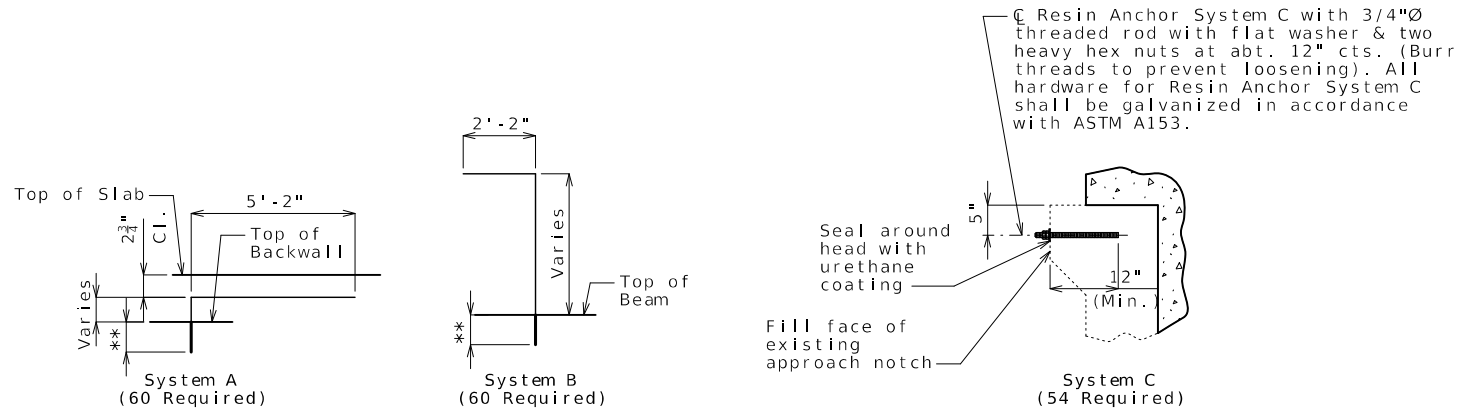


DETAIL OF WEB HOLES  
AT END BENTS

\* Cost of field drilling holes in existing wide flange beam webs will be considered completely covered by the contract unit price for Slab on Steel.



CHAMFER DETAIL



DETAILS OF RESIN ANCHOR SYSTEMS

\*\* Manufacturer's recommended embedment length (5" min.)

Notes:

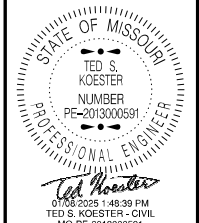
Work this sheet with Sheet No. 3.

The contractor shall use one of the qualified resin anchor systems in accordance with Sec 1039.

Cost of furnishing and installing the resin anchor systems, complete in place, will be considered completely covered by the contract unit price for Slab on Steel.

The minimum embedment depth in concrete with f'c = 4,000 psi for the resin anchor systems shall be that required to meet the minimum ultimate pullout strength in accordance with Sec 1039 but shall not be less than 5 inches.

An epoxy coated #5 Grade 60 reinforcing bar shall be substituted for the 5/8-inch diameter rod for Resin Anchor Systems A and B.



DATE PREPARED  
1/8/2025

ROUTE I 44 OR MO  
DISTRICT BR SHEET NO. 4

COUNTY  
CRAWFORD

JOB NO.  
J553533

CONTRACT ID.

PROJECT NO.

BRIDGE NO.  
A13851

DATE	DESCRIPTION

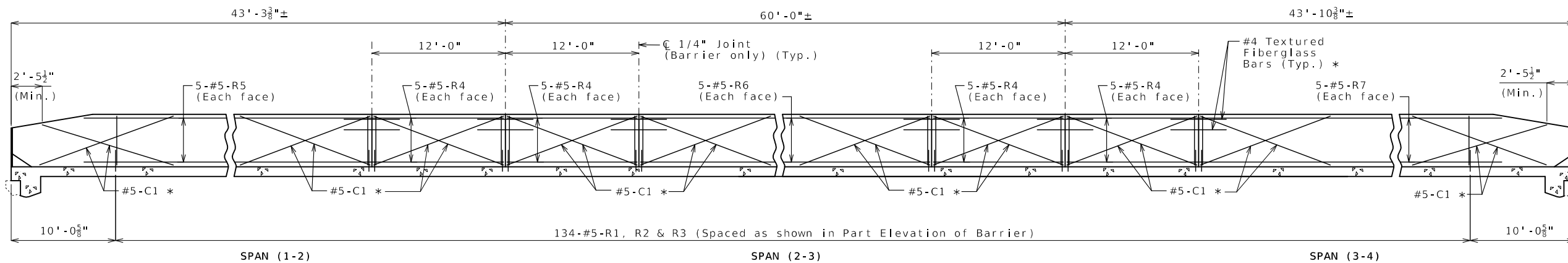
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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JEFFERSON CITY, MO 65102  
1-888-ASK-MODOT (1-888-275-6636)

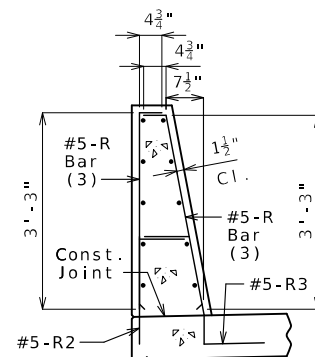
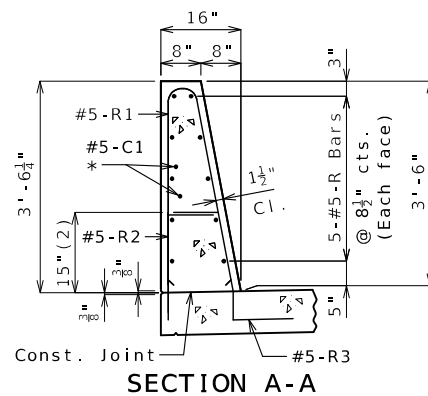
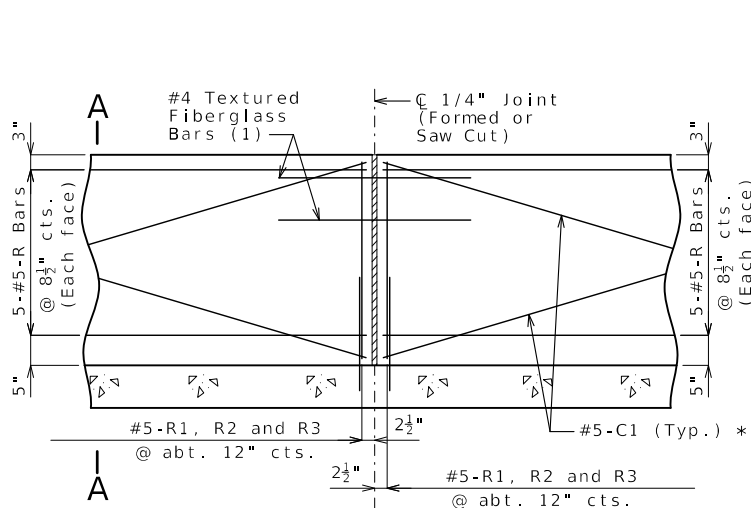
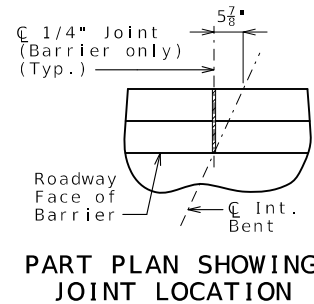
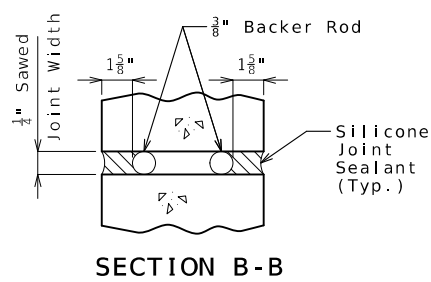
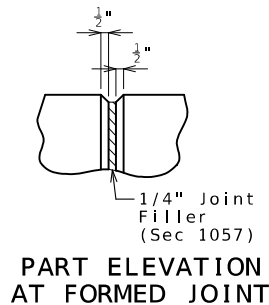
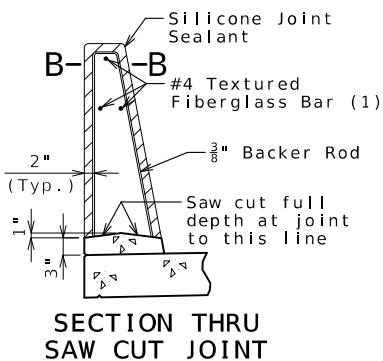
END BENTS NO. 1 & 4







**ELEVATION OF BARRIER**  
(Left barrier shown, right barrier similar)  
Longitudinal dimensions are horizontal.



(3) The R1 bar may be separated into two bars as shown, at the contractor's option, only when slip forming is not used. (All dimensions are out to out.)

Use a minimum lap of 3'-1" for #5 horizontal barrier bars.

The cross-sectional area above the slab is 3.52 square feet.

(2) To top of bar

**General Notes:**

\* Slip-formed option only.

Conventional forming or slip forming may be used. Saw cut joints may be used with conventional forming.

Top of barrier shall be built parallel to grade and barrier joints normal to grade.

All exposed edges of barrier shall have either a 1/2-inch radius or a 3/8-inch bevel, unless otherwise noted.

Payment for all concrete and reinforcement, complete in place, will be considered completely covered by the contract unit price for Type D Barrier per linear foot.

Concrete in barrier shall be Class B-1.

Measurement of barrier is to the nearest linear foot for each structure, measured along the outside top of slab from end of slab to end of slab.

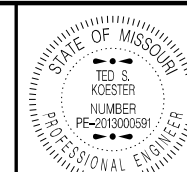
Concrete traffic barrier delineators shall be placed on top of the barrier as shown on Missouri Standard Plan 617.10 and in accordance with Sec 617. Delineators on bridges with two-lane, two-way traffic shall have retroreflective sheeting on both sides. Concrete traffic barrier delineators will be considered completely covered by the contract unit price for Type D Barrier.

Joint sealant and backer rods shall be in accordance with Sec 717 for silicone joint sealant for saw cut and formed joints.

For slip-formed option, both sides of barrier shall have a vertically broomed finish and the top shall have a transversely broomed finish.

**TYPE D BARRIER**

Sheet No. 7 of 11



DATE PREPARED  
1/8/2025

ROUTE I 44 OR MO  
DISTRICT BR SHEET NO. 7

COUNTY CRAWFORD

JOB NO. J553533

CONTRACT ID.

PROJECT NO.

BRIDGE NO. A13851

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL JEFFERSON CITY, MO 65102

1-888-ASK-MODOT (1-888-275-6636)











