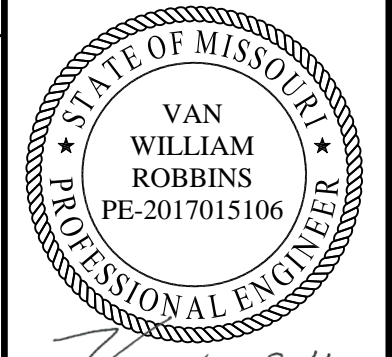


Note:
See Civil Package 2: Early Grading for project reference points and project coordinate points.



Van W. Robbins
04-11-25

DATE PREPARED
04/11/2025

ROUTE STATE
I-70 MO

DISTRICT SHEET NO.
BR B04-01

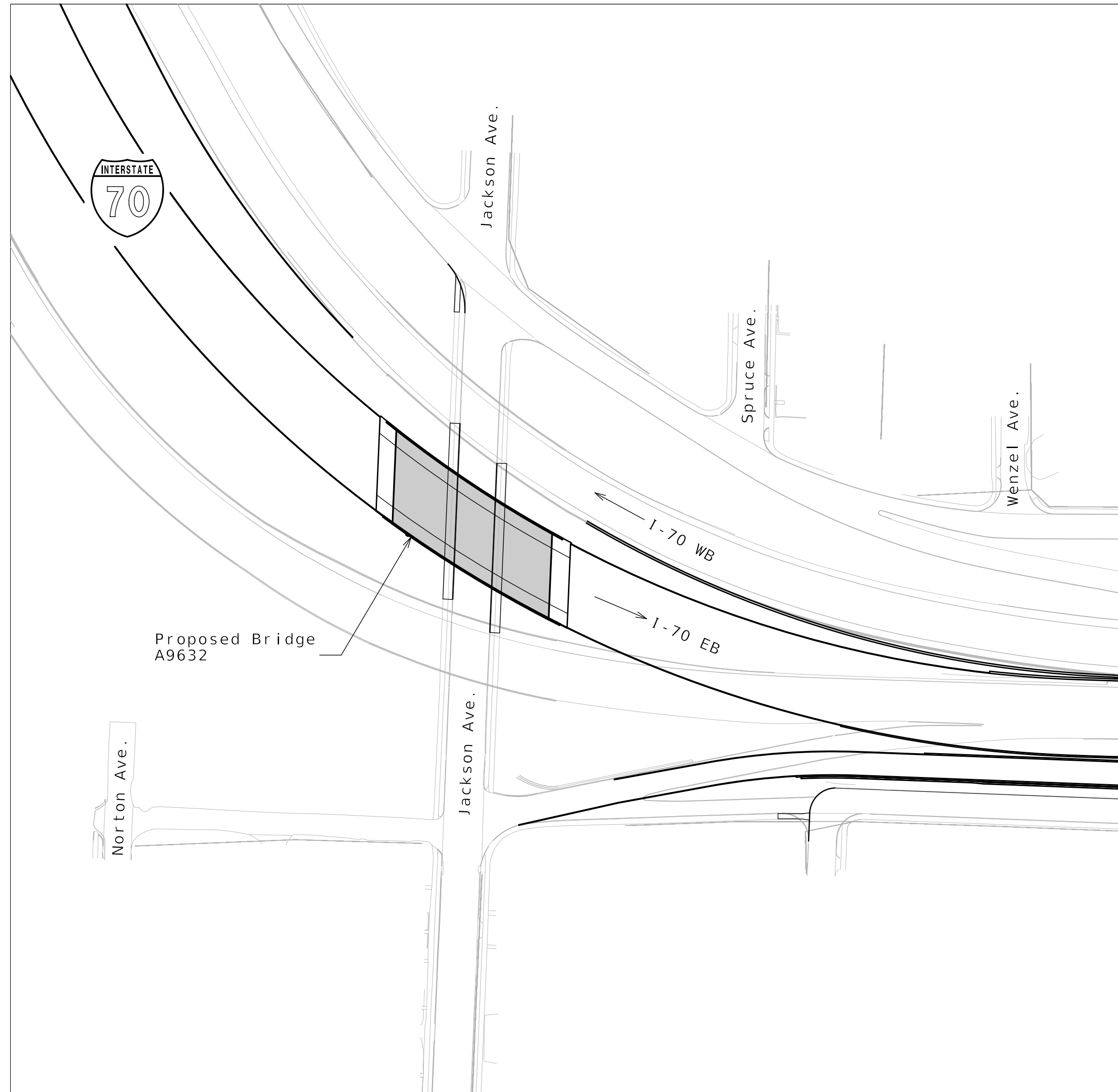
COUNTY
JACKSON

JOB NO.
J411486D

CONTRACT ID.
240807-C01

PROJECT NO.

BRIDGE NO.
A9632



LOCATION SKETCH

INDEX OF DRAWINGS

- B04-01 Title Sheet and Index
- B04-02 General Plan and Elevation
- B04-03 General Notes
- B04-04 Substructure Layout
- B04-05 Details of End Bent No. 1
- B04-06 Details of End Bent No. 1
- B04-07 Details of End Bent No. 1
- B04-08 Vertical Drain at End Bents
- B04-09 Details of intermediate Bent No. 2
- B04-10 Details of intermediate Bent No. 2
- B04-11 Details of intermediate Bent No. 3
- B04-12 Details of intermediate Bent No. 3
- B04-13 Details of End Bent No. 4
- B04-14 Details of End Bent No. 4
- B04-15 Details of End Bent No. 4
- B04-16 Framing Plan
- B04-17 NU-Girders-Span (1-2)
- B04-18 NU-Girders-Span (2-3)
- B04-19 NU-Girders-Span (3-4)
- B04-20 NU-Girder Details
- B04-21 Concrete Diaphragm at Intermediate Bents
- B04-22 Camber Diagram & Theoretical Slab Haunching Diagram
- B04-23 Theoretical Bottom of Slab Elevations
- B04-24 Slab Plan Showing Top Reinforcement
- B04-25 Slab Plan Showing Bottom Reinforcement
- B04-26 Slab Details
- B04-27 Slab Curve Ordinates
- B04-28 Type D Barrier
- B04-29 Type D Barrier at End Bents
- B04-30 Light Blister Details
- B04-31 Form Liner and Aesthetic Stain Details
- B04-32 Details of Conduit System on Structure
- B04-33 Bridge Approach Slab (Major)
- B04-34 As-Built Pile and Drilled Shaft Data
- B04-35 Boring Logs
- B04-36 Boring Logs
- B04-37 Boring Logs
- B04-38 Boring Logs
- B04-39 Boring Logs
- B04-40 Boring Logs
- B04-41 Boring Logs

DATE	DESCRIPTION
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MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

CLARKSON RADMACHER JOINT VENTURE

715 KIRK DRIVE
KANSAS CITY, MO 64105-1310
CERTIFICATE OF AUTHORITY
NO. 001270

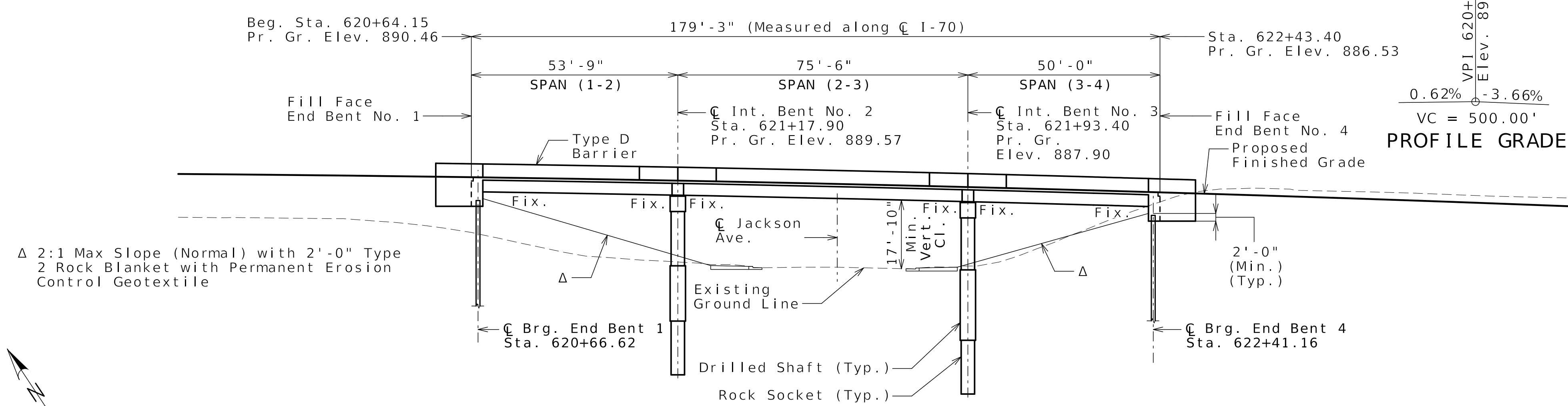
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Not to Scale

Revision: 0.0
Date: 04/11/2025
Package: BRD-04-EB-70-Jackson

BRIDGE: ROUTE I-70 EB OVER JACKSON AVE

ROUTE I-70 EB FROM ROUTE I-670 TO ROUTE 40
ABOUT 2.9 MILES EAST OF ROUTE I-670
BEGINNING STATION 620+64.15

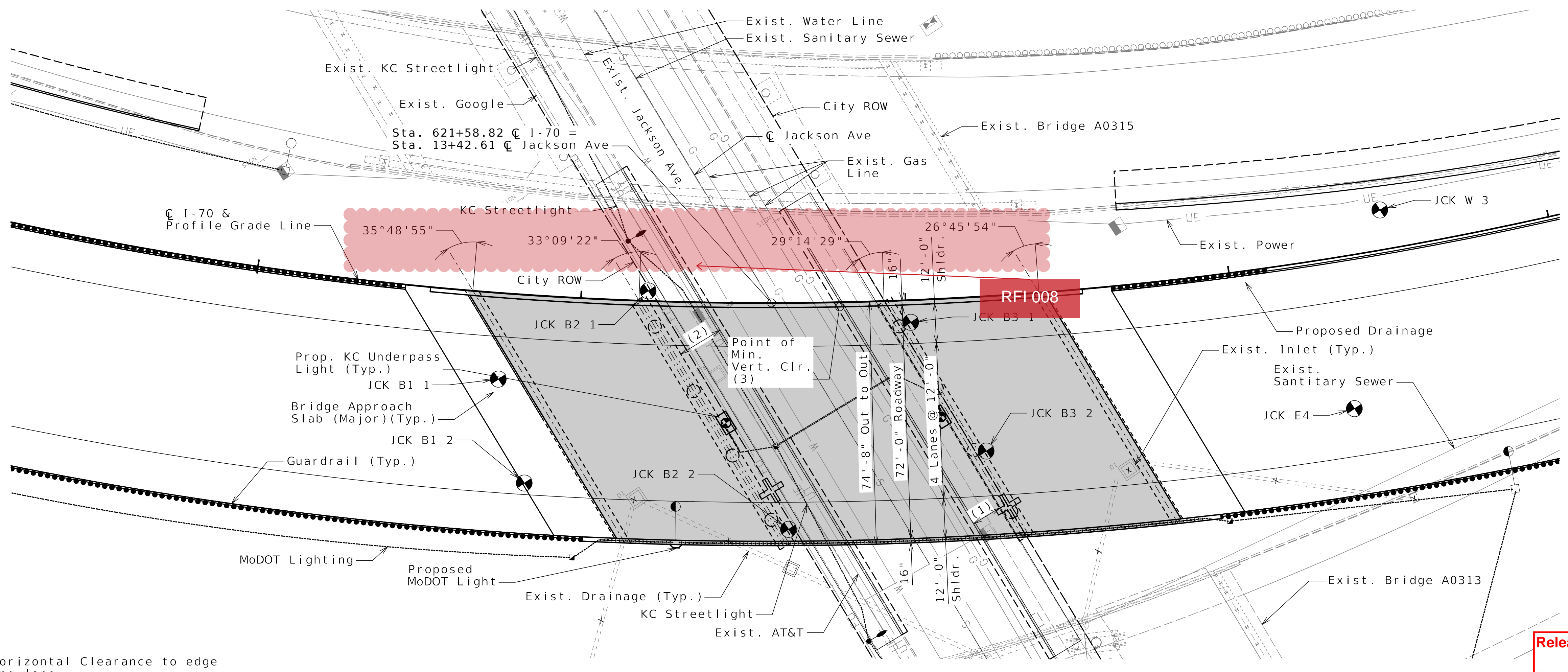
(53.8'-75.5'-50.0') Prestressed Concrete NU Girder Spans



CURVE DATA

CURVE	1-70
PI	= 622+31.53
PC	= 615+60.05
PT	= 627+66.80
Δ	= 62°34'18.1" (LT)
D	= 5°11'06.5"
L	= 1,206.75'
T	= 671.48'
R	= 1,105.00'

Δ 2:1 Max Slope (Normal) with 2'-0" Type 2 Rock Blanket with Permanent Erosion Control Geotextile



⊙ Indicates location of borings.

Minimum Horizontal Clearance to edge of existing lane:
 (1) 9'-5"
 (2) 14'-0"

(3) Sta. 621+80.52, 1.40' Rt. \bar{C} I-70

Notice and Disclaimer Regarding Boring Log Data
 The locations of all subsurface borings performed by the design-build team for this structure are shown on the plan sheets for this structure. The logs for all locations indicated are provided on Sheets No. B04-35 thru B04-41. Laboratory test results, rock core photographs and other information obtained at these borings are available in the corresponding Foundation Recommendations Memo prepared by HNTB. By the nature of the exploration process, the information gathered at these borings represents only a small fraction of the total volume of material at the Site. Interpolation between data samples may not be indicative of the nature and extent of the variations that actually exist between sampling locations.

Notes:
 All Elevations are based on NAVD88 datum unless otherwise noted.
 All dimensions are horizontal.
 All Bents are parallel.
 Existing Bridge A0313 to be removed in accordance with Sec 216.
 For Elevations of drilled shafts and rock sockets, see Sheets No. B04-09 and B04-11.
 See Civil Package 6: I-70 Mainline for Jackson Ave. typical section details.

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GENERAL PLAN AND ELEVATION



Van W. Robbins
04-11-25

DATE PREPARED: 04/11/2025

ROUTE	STATE
I-70	MO
DISTRICT	SHEET NO.
BR	B04-02
COUNTY	JACKSON
JOB NO.	J411486D
CONTRACT ID.	240807-C01
PROJECT NO.	

BRIDGE NO. A9632

DATE	DESCRIPTION
04/11/25	REV 0 - RFC SUBMITTAL

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

CLARKSON RADMACHER JOINT VENTURE

715 KIRK DRIVE KANSAS CITY, MO 64105-1310
 CERTIFICATE OF AUTHORITY NO. 001270

Design Specifications:
 2020 AASHTO LRFD Bridge Design Specifications (9th Ed.) and 2023 AASHTO Guide Specifications for LRFD Seismic Bridge Design (3rd Edition)
 Seismic Design Category = A (NonSeismic)
 Design earthquake response spectral acceleration coefficient at 1.0 second period, $S_{D1} \leq 0.15$
 Acceleration Coefficient (effective peak ground acceleration coefficient), $A_s = N/A$

Design Loading:
 Vehicular = HL-93
 Future Wearing Surface = 35 lb/sf
 Earth - 120 lb/cf
 Equivalent Fluid Pressure - 45 lb/cf
 Superstructure: Simply-Supported, non-composite for dead load, Continuous composite for live load.

Design Unit Stresses:
 Class B Concrete (End Bents below Const. Jt.) $f'c = 3,000$ psi
 Class B-1 Concrete (Intermediate Bents except Drilled Shafts and Rock Sockets) $f'c = 4,000$ psi
 Class B-2 Concrete (Drilled Shafts and Rock Sockets) $f'c = 4,000$ psi
 Class B-2 Concrete (Superstructure, except Prestressed Girders, and Barrier) $f'c = 4,000$ psi
 Class B-1 Concrete (Barrier) $f'c = 4,000$ psi
 Reinforcing Steel (ASTM A615 Grade 60) $f_y = 60,000$ psi
 Structural HP Steel Pile (ASTM A709 Grade 50) $f_y = 50,000$ psi
 For prestressed girder stresses, see Sheets No. B04-17 thru B04-19.

Neoprene Pads:
 Neoprene Bearing Pads shall be 60 durometer and shall be in accordance with Sec 716.

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.

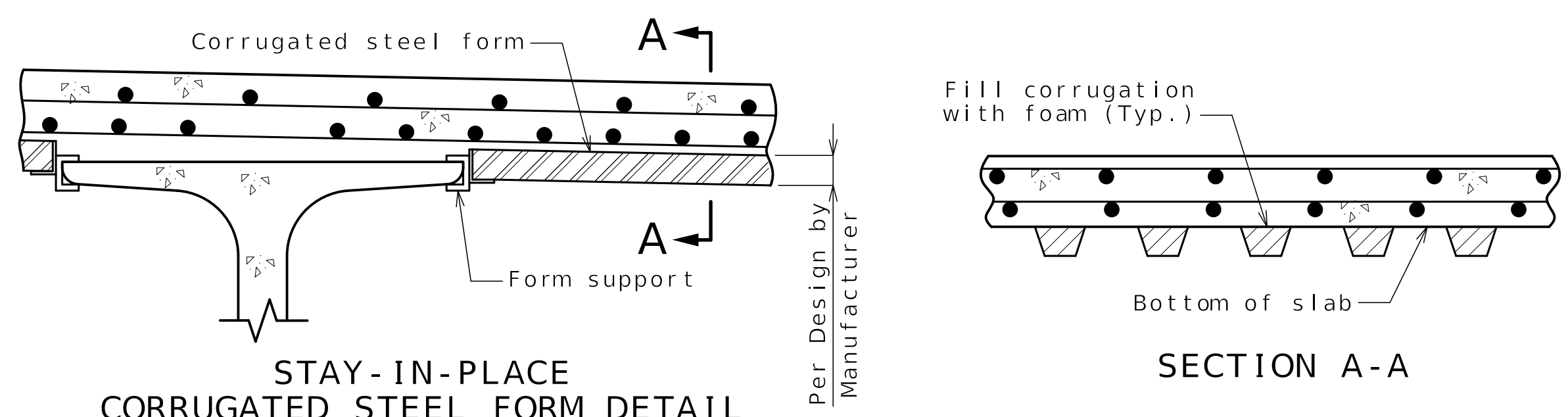
All reinforcing in the barriers, light blisters, slab, concrete diaphragms, End Bents No. 1 and 4 and Intermediate Bents No. 2 & 3 shall be epoxy coated. Reinforcing in the rock sockets and drilled shaft shall be uncoated.

Concrete Protective Coatings:
 Concrete and masonry protective coating shall be applied on all exposed concrete and stone areas as noted in the plans in accordance with Sec 711 See Sheet No. B04-31.

Sacrificial graffiti protective coating shall be applied on all exposed concrete and stone areas as noted in the plans in accordance with Sec 711 See Sheet No. B04-31.

Miscellaneous:
 Outline of old work is indicated by light dashed lines. Heavy lines indicate new work U.N.O.

Abbreviations:
 E.F. denotes Each Face
 N.F. denotes Near Face
 F.F. denotes Far face
 U.N.O. denotes Unless Noted Otherwise



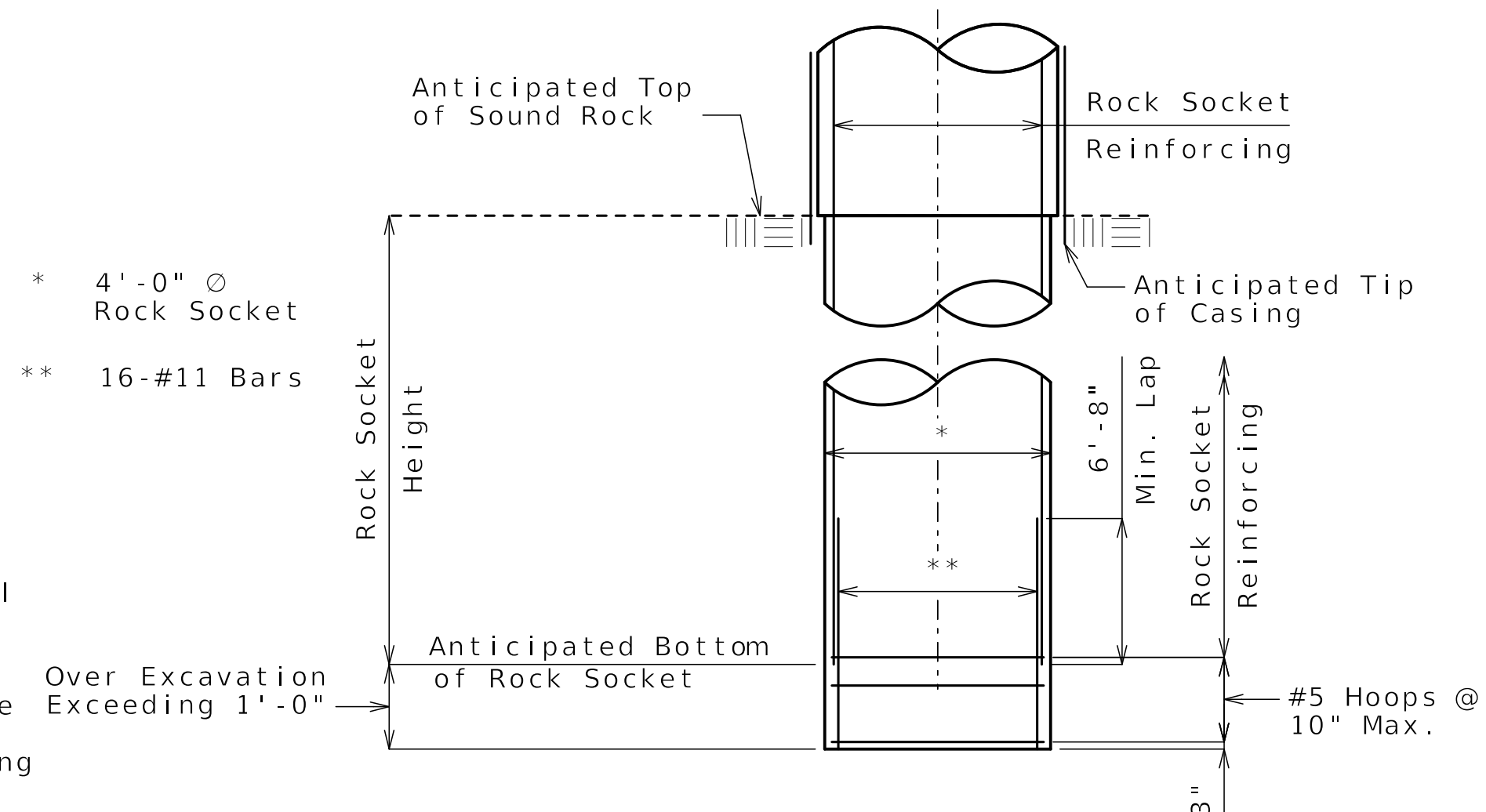
Stay-In-Place Corrugated Steel Form Notes:

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 girder 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 girder 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 girder loading.



ROCK SOCKET OVER EXCAVATION DETAIL

For Rock Socket Details see Intermediate Bent Details

Load Bearing Piles:
 Minimum Nominal Axial Compressive Resistance = Maximum Factored Loads/Resistance Factor
 HP piles are anticipated to be driven to refusal on rock. Review all borings for depth of rock and restrict driving as appropriate to comply with hard rock driving criteria in accordance with Sec 702. When pile refusal on rock occurs, as approved by the engineer, the minimum nominal axial compressive resistance is verified and no additional pile driving verification method is required.
 All piles shall be galvanized down to the minimum galvanized penetration (elevation).
 Pile point reinforcement need not be galvanized. Shop drawings will not be required for pile point reinforcement.
 The contractor shall make every effort to achieve the minimum galvanized penetration (elevation) shown on the plans for all piles. Deviations in penetration less than 5 feet of minimum will be considered acceptable provided the contractor makes the necessary corrections to ensure the minimum penetration is achieved on subsequent piles.
 DT = Dynamic Testing

Rock Socket (Drilled Shafts):
 Minimum Nominal Axial Compressive Resistance (Side Resistance + Tip Resistance) = Maximum Factored Loads/Resistance Factors
 Thickness of permanent steel casing shall be in accordance with Project AAS.
 Sonic logging testing shall be performed on all drilled shafts and rock sockets.
 Drilled shafts shall be constructed in accordance with project Drilled Shaft AAS.

Foundation Data					
Type	Design Data	Bent Number			
		1	2	3	4
Load Bearing Pile	Pile Type and Size	HP 12x53	---	---	HP 12x53
	Number	ea 10	---	---	ea 10
	Approximate Length Per Each	ft 32	---	---	ft 46
	Pile Point Reinforcement	ea All	---	---	ea All
	Min. Galvanized Penetration (Elev.)	ft Full Length	---	---	ft Full Length
	Minimum Tip Penetration (Elev.)	ft ---	---	---	ft ---
	Criteria for Min. Tip Penetration	---	---	---	---
	Pile Driving Verification Method	DT	---	---	DT
Resistance Factor	0.65	---	---	0.65	
Minimum Nominal Axial Compressive Resistance	kip 361	---	---	kip 361	
Rock Socket	Number	ea ---	4	4	ea ---
	Foundation Material	---	SHALE	SHALE	---
	Elevation Range	ft ---	848-832	844-833	ft ---
	Minimum Nominal Axial Compressive Resistance (Side Resistance)	ksf ---	2.0	2.0	ksf ---
Minimum Nominal Axial Compressive Resistance (Tip Resistance)	ksf ---	82.6	82.6	ksf ---	

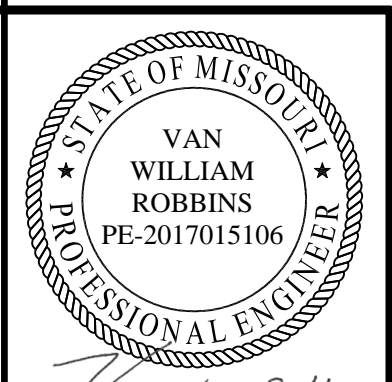
Detailed DEC 2024
 Checked JAN 2025

Note: This drawing is not to scale. Follow dimensions.

Sheet No. B04-03 of B04-41

Released For Construction
 Not to Scale
 Revision: 0.0
 Date: 04/11/2025
 Package: BRD-04-EB-70-Jackson

GENERAL NOTES



Van W. Robbins
 04-11-25

DATE PREPARED		04/11/2025	
ROUTE	STATE	DISTRICT	SHEET NO.
I-70	MO	BR	B04-03
COUNTY			
JACKSON			
JOB NO.			
J411486D			
CONTRACT ID.			
240807-C01			
PROJECT NO.			

BRIDGE NO.
 A9632

DATE	DESCRIPTION
04/11/25	REV 0 - REC SUBMITTAL

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

CLARKSON RADMACHER JOINT VENTURE

715 KIRK DRIVE KANSAS CITY, MO 64105-1310
 CERTIFICATE OF AUTHORITY NO. 001270



Gina D. Horner
4/11/2025

DATE PREPARED 04/11/2025	
ROUTE I-70	STATE MO
DISTRICT BR	SHEET NO. B04-05
COUNTY JACKSON	
JOB NO. J411486D	
CONTRACT ID. 240807-C01	
PROJECT NO.	

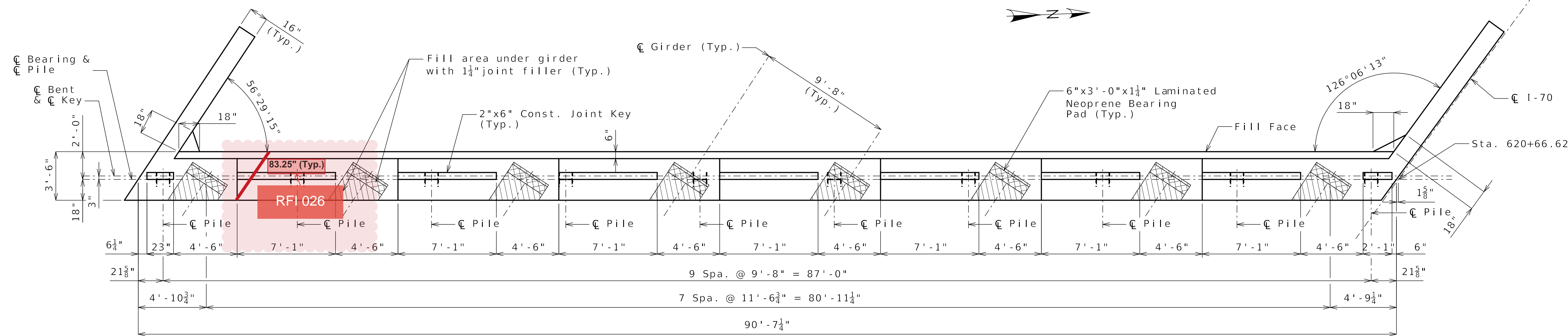
BRIDGE NO.
A9632

DATE	DESCRIPTION
04/11/25	REV 0 - RFC SUBMITTAL

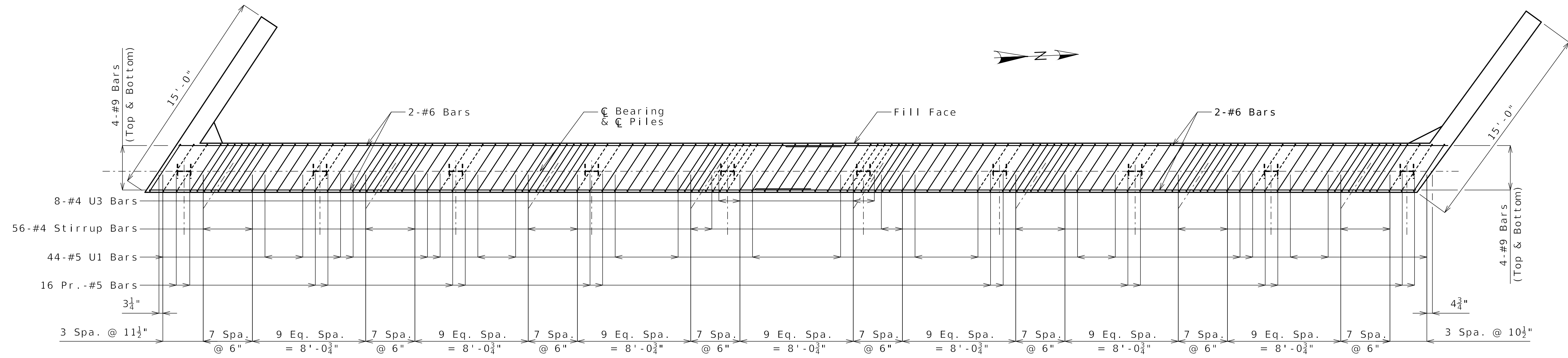
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

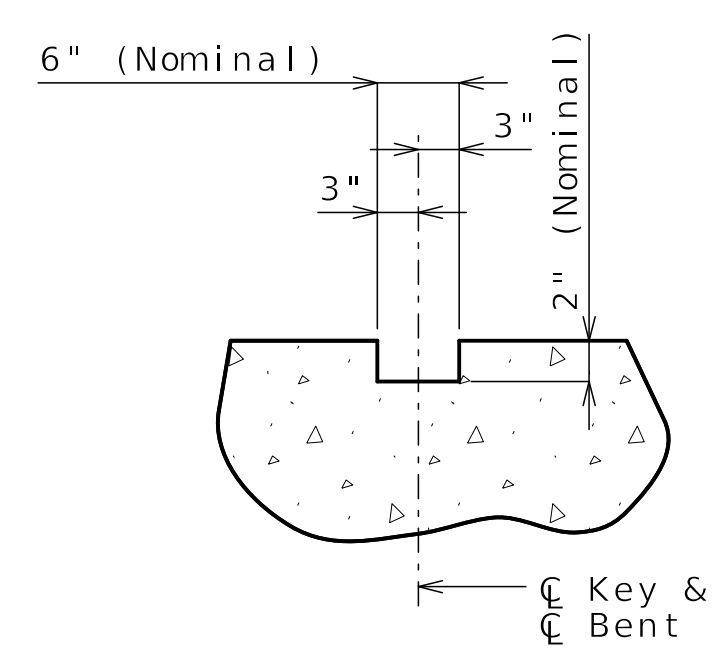
CLARKSON RADMACHER JOINT VENTURE
 715 KIRK DRIVE
 KANSAS CITY, MO 64105-1310
 CERTIFICATE OF AUTHORITY
 NO. 001270



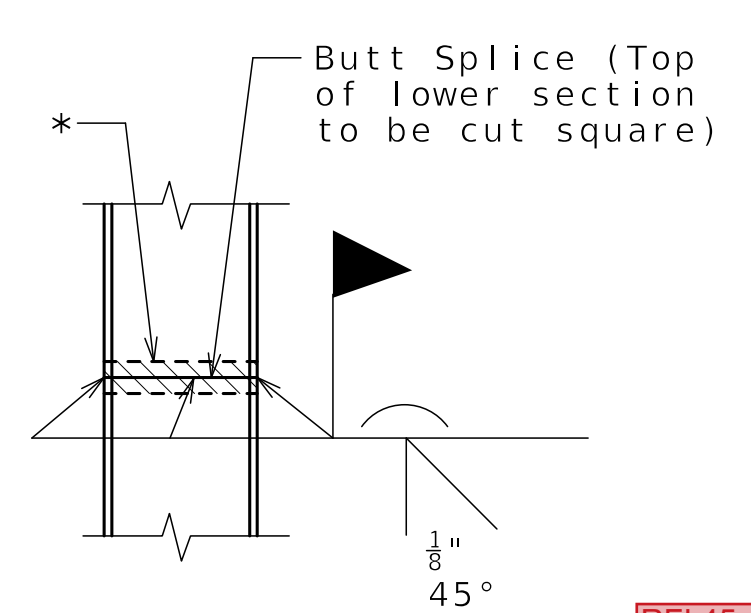
PLAN OF BEAM



PLAN OF BEAM SHOWING REINFORCING
(Key and steps not shown for clarity)

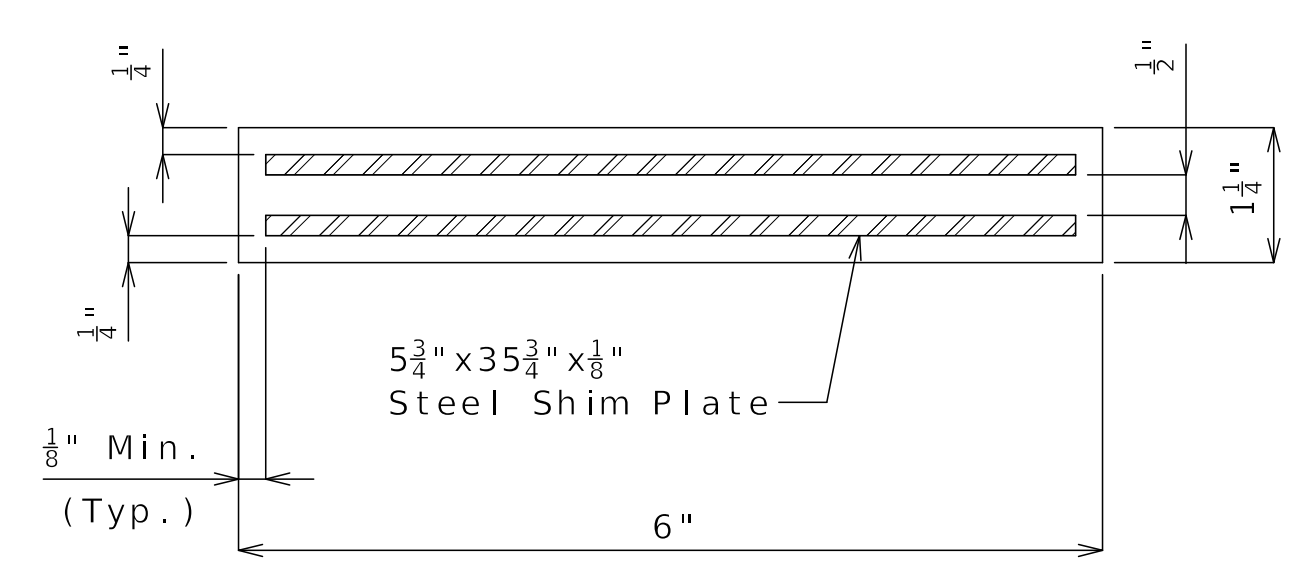


SECTION THRU KEY



STEEL PILE SPLICE
(If required)

* Galvanizing material shall be omitted or removed one inch clear of weld locations in accordance with Sec 702.



TYPICAL SECTION THRU LAMINATED NEOPRENE BEARING PAD
8 Required per Bent

Notes:
 Work this sheet with Sheets No. B04-06 and B04-07.
 All U bars and pairs of vertical bars shall be placed along skew. Reinforcing steel shall be shifted to clear piles. U-bars shall clear piles by at least 1 1/2".
 All concrete above the construction joint shall be Class B-2. For details of bridge approach slab, see Sheet No. B04-33. For location of coil tie rods, see Sheet No. B04-17.

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 Package: BRD-04-EB-70-Jackson

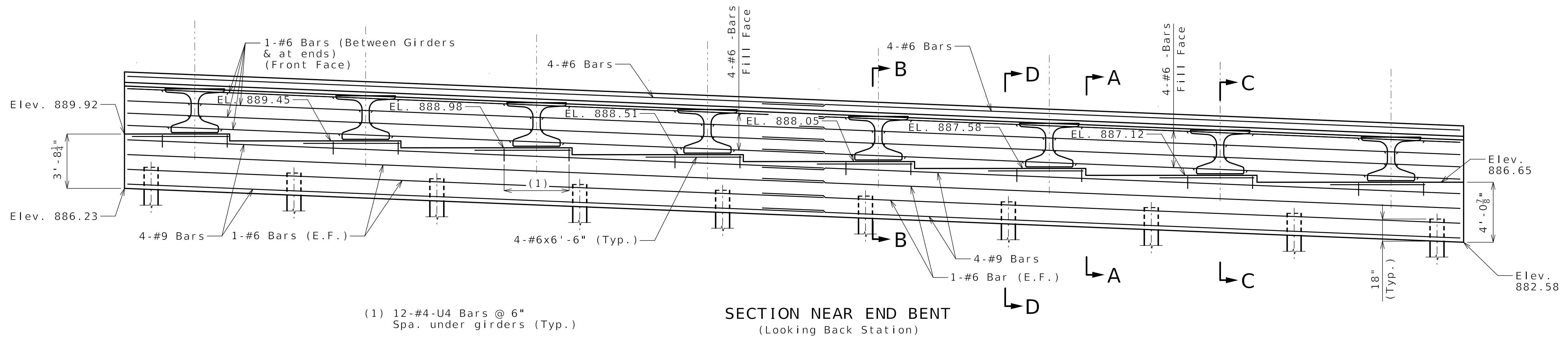
DETAILS OF END BENT NO. 1



Gina D. Horner
4/11/2025

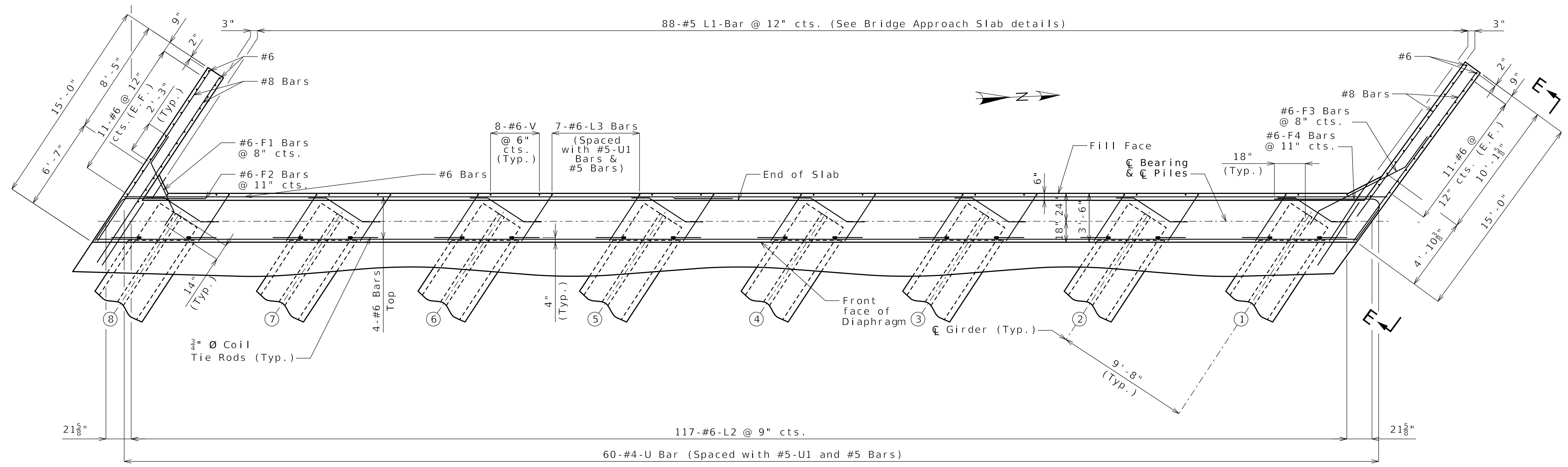
DATE PREPARED 04/11/2025	
ROUTE I-70	STATE MO
DISTRICT BR	SHEET NO. B04-06
COUNTY JACKSON	
JOB NO. J411486D	
CONTRACT ID. 240807-C01	
PROJECT NO.	

BRIDGE NO.
A9632



SECTION NEAR END BENT
(Looking Back Station)

Notes:
Lap Splice for #6 bars = 4'-3" (Min.)
Lap Splice for #9 bars = 6'-5" (Min.)



PART PLAN

General Notes:
Work this sheet with Sheets No. B04-05 and B04-07.
For Sections A-A, B-B, C-C and D-D and Elevation E-E, see Sheet No. B04-07.
Strands at end of the girders shall be field bent or, if necessary, cut in field to maintain 1 1/2-inch minimum clearance to fill face of end bent.
The #6-F bars shall be bent in the field to clear girders.
① Denotes girder number

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Date: 04/11/2025
Package: BRD-04-EB-70-Jackson

DETAILS OF END BENT NO. 1

Detailed DEC 2024
Checked JAN 2025

Note: This drawing is not to scale. Follow dimensions.

Sheet No. B04-06 of B04-41

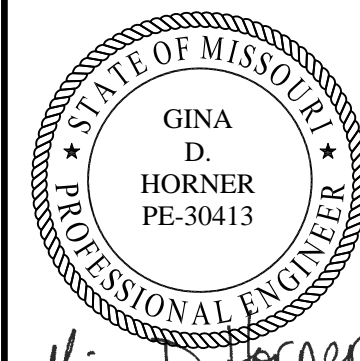
DATE	DESCRIPTION
04/11/25 <td>REV 0 - RFC SUBMITTAL</td>	REV 0 - RFC SUBMITTAL

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION



715 KIRK DRIVE
KANSAS CITY, MO 64105-1310
CERTIFICATE OF AUTHORITY
NO. 001270





Gina D. Horner
4/11/2025

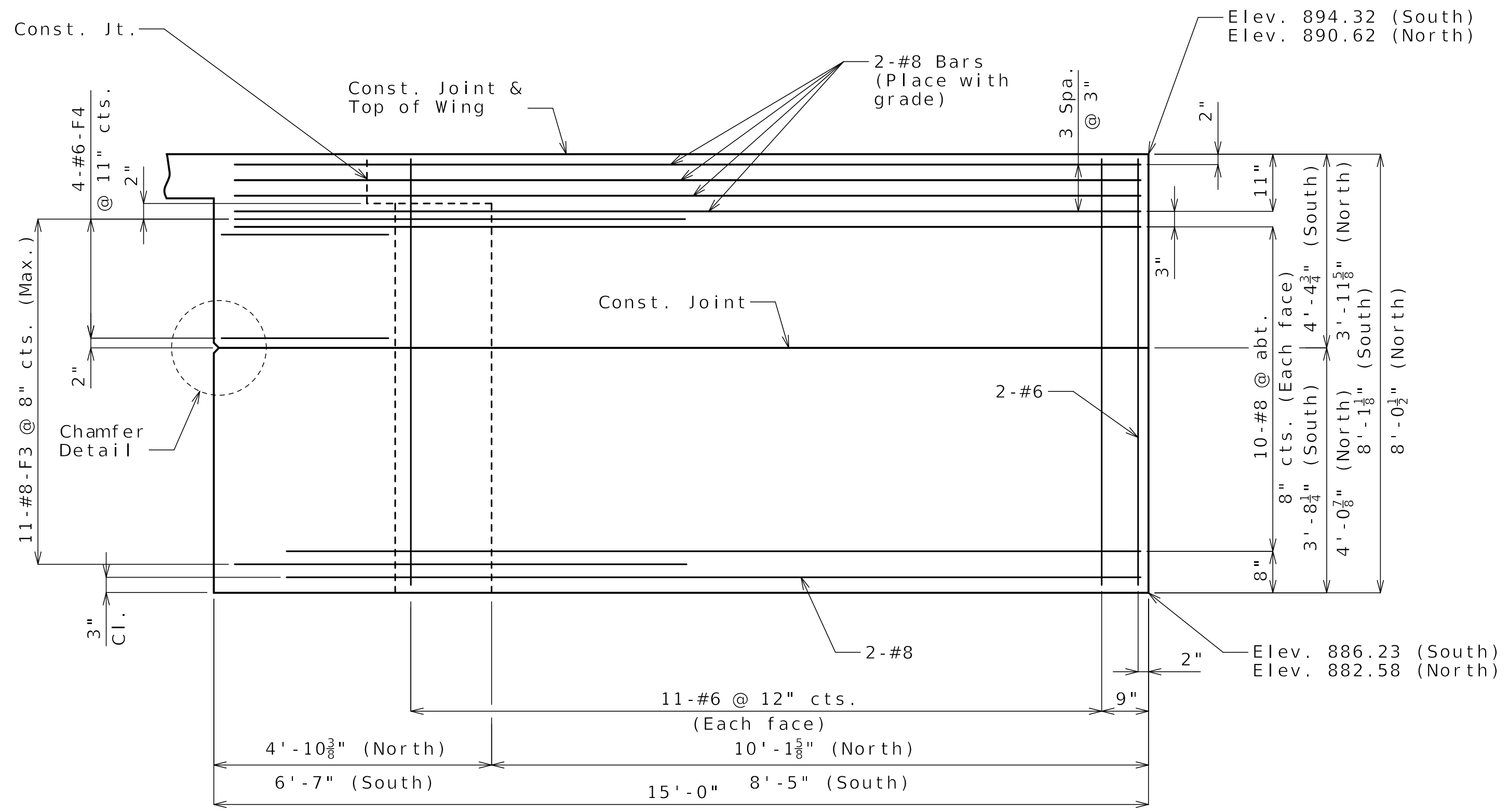
DATE PREPARED 04/11/2025	
ROUTE I-70	STATE MO
DISTRICT BR	SHEET NO. B04-07
COUNTY JACKSON	
JOB NO. J411486D	
CONTRACT ID. 240807-C01	
PROJECT NO.	

BRIDGE NO.
A9632

DATE	DESCRIPTION
04/11/25	REV 0 - RFC SUBMITTAL

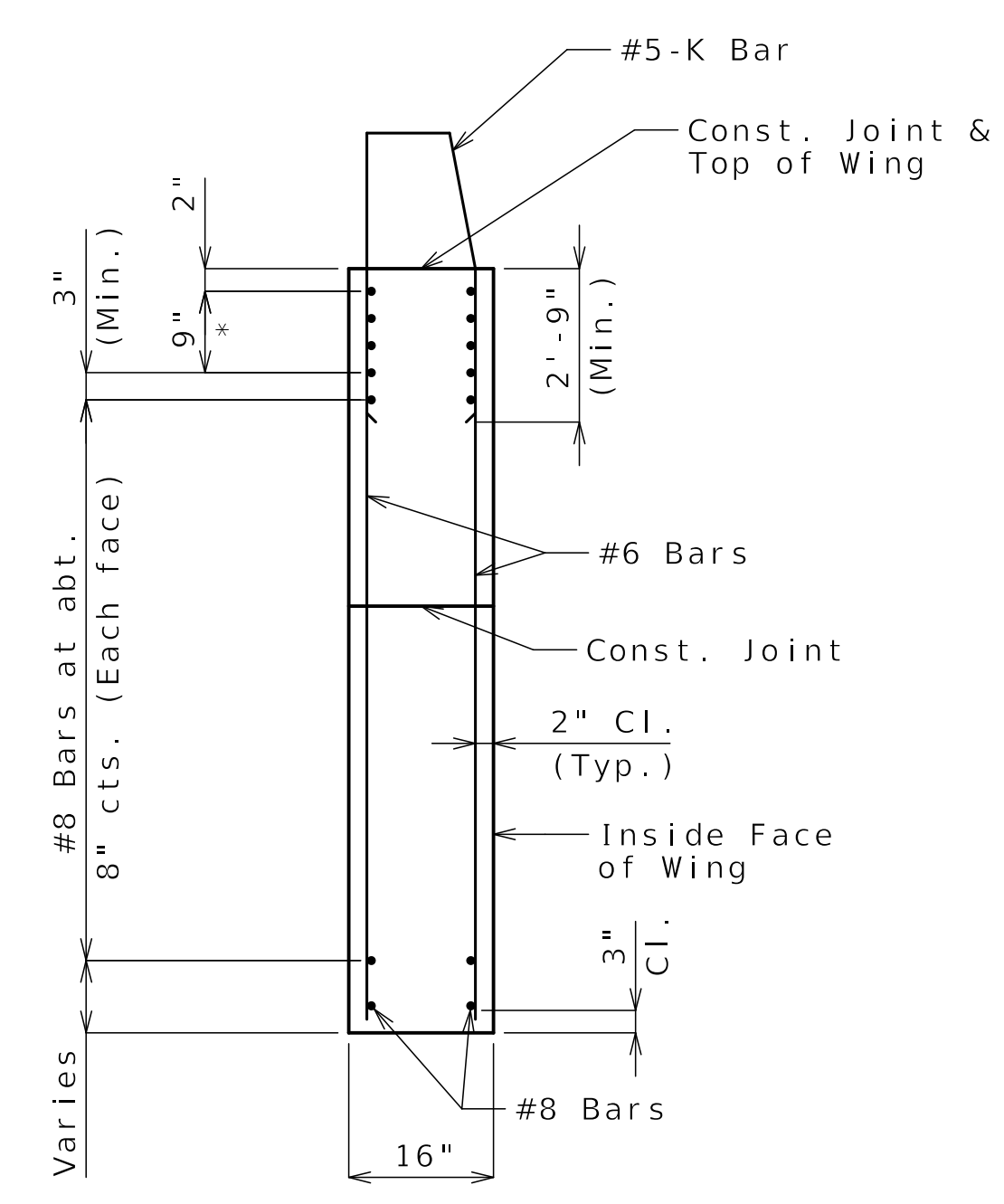
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
 105 WEST CAPITOL JEFFERSON CITY, MO 65102
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CLARKSON RADMACHER JOINT VENTURE
 715 KIRK DRIVE KANSAS CITY, MO 64105-1310
 CERTIFICATE OF AUTHORITY NO. 001270



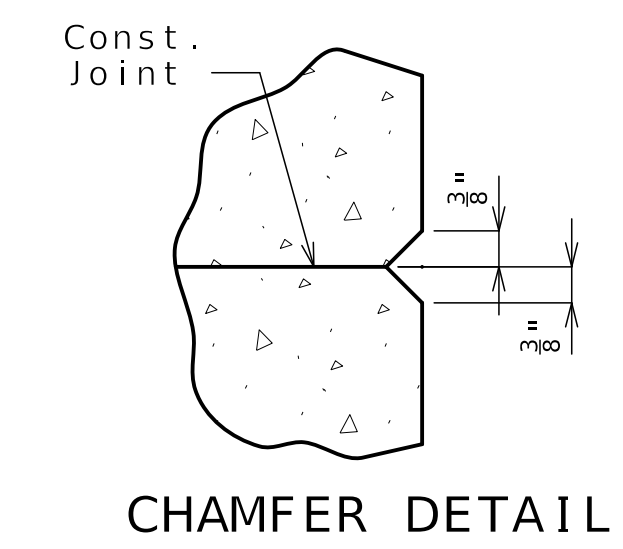
ELEVATION E-E

(North Wingwall shown, South wingwall similar except opposite hand)

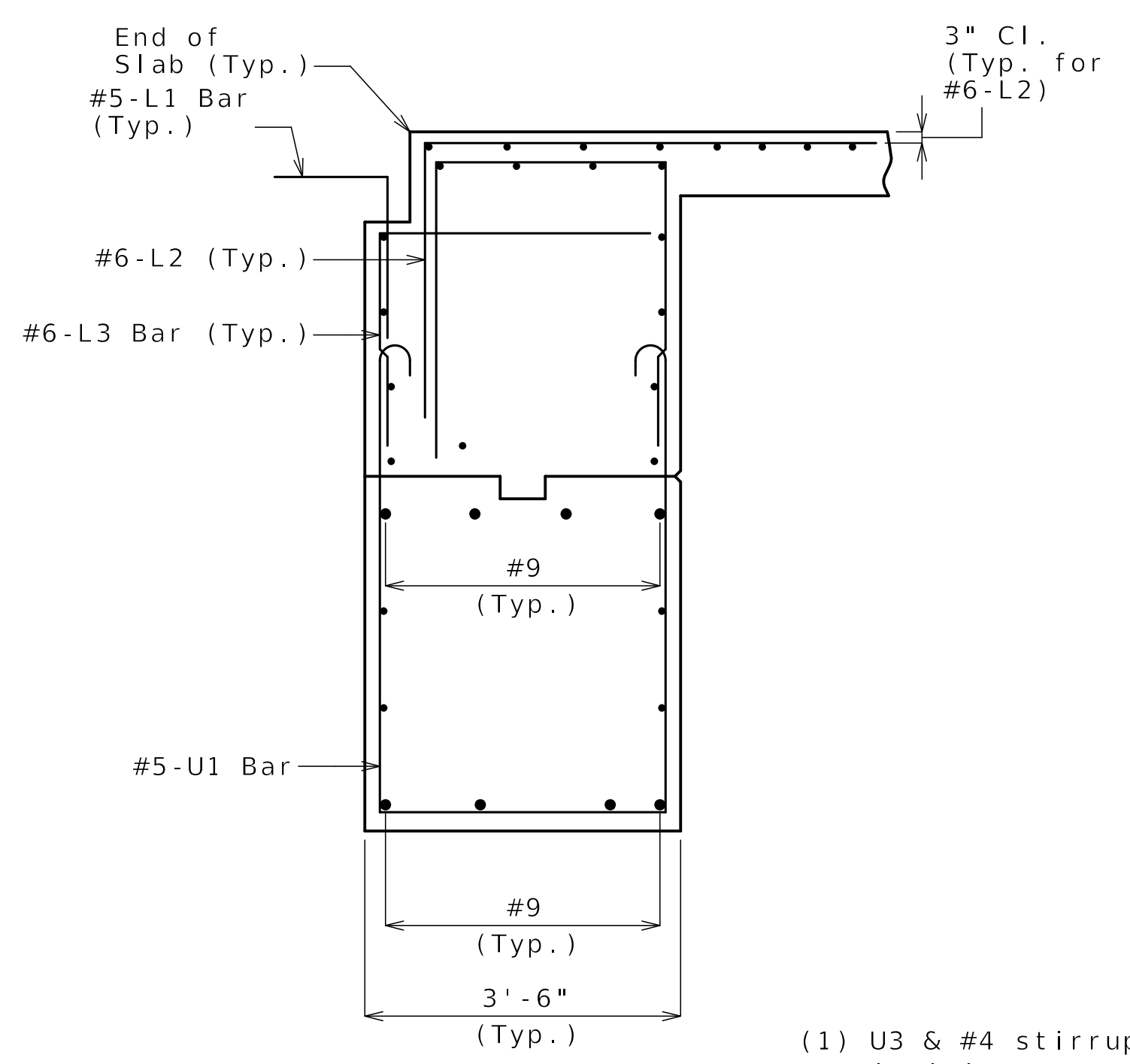


TYPICAL SECTION THRU WING

*#8 Bars at 3" cts. (Each face) (Place with grade) See Elevation E-E for number of bars

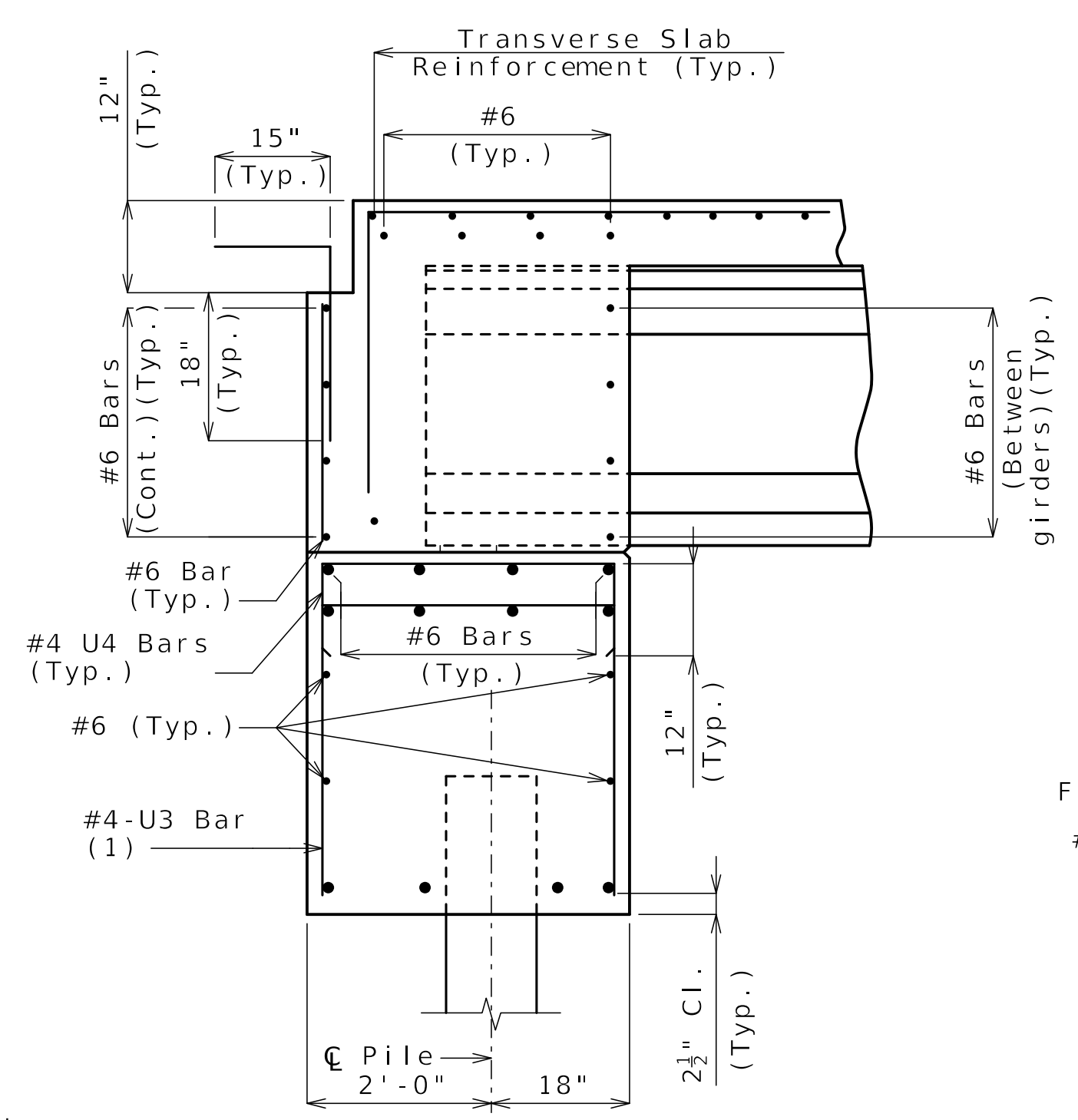


CHAMFER DETAIL

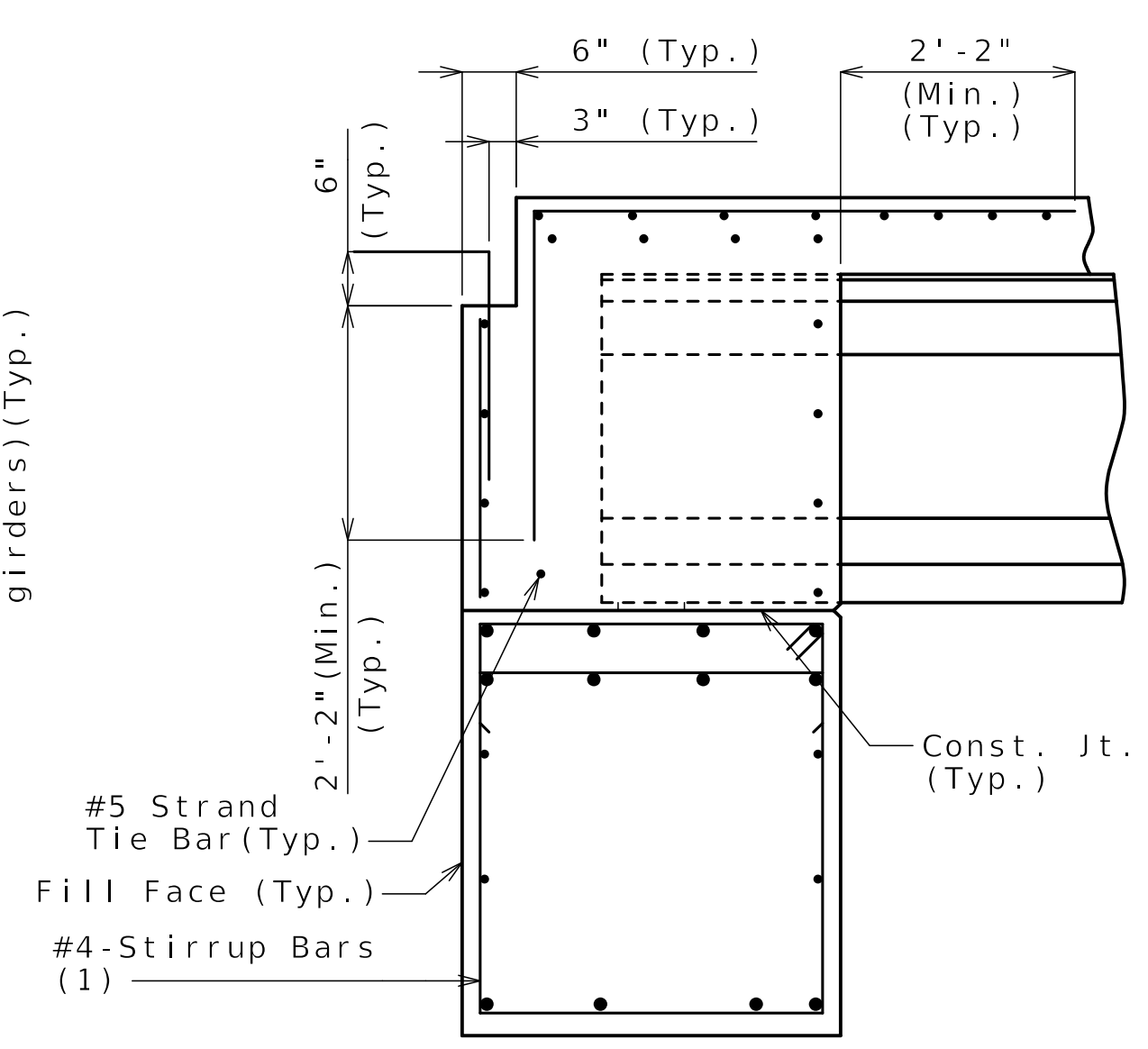


SECTION A-A

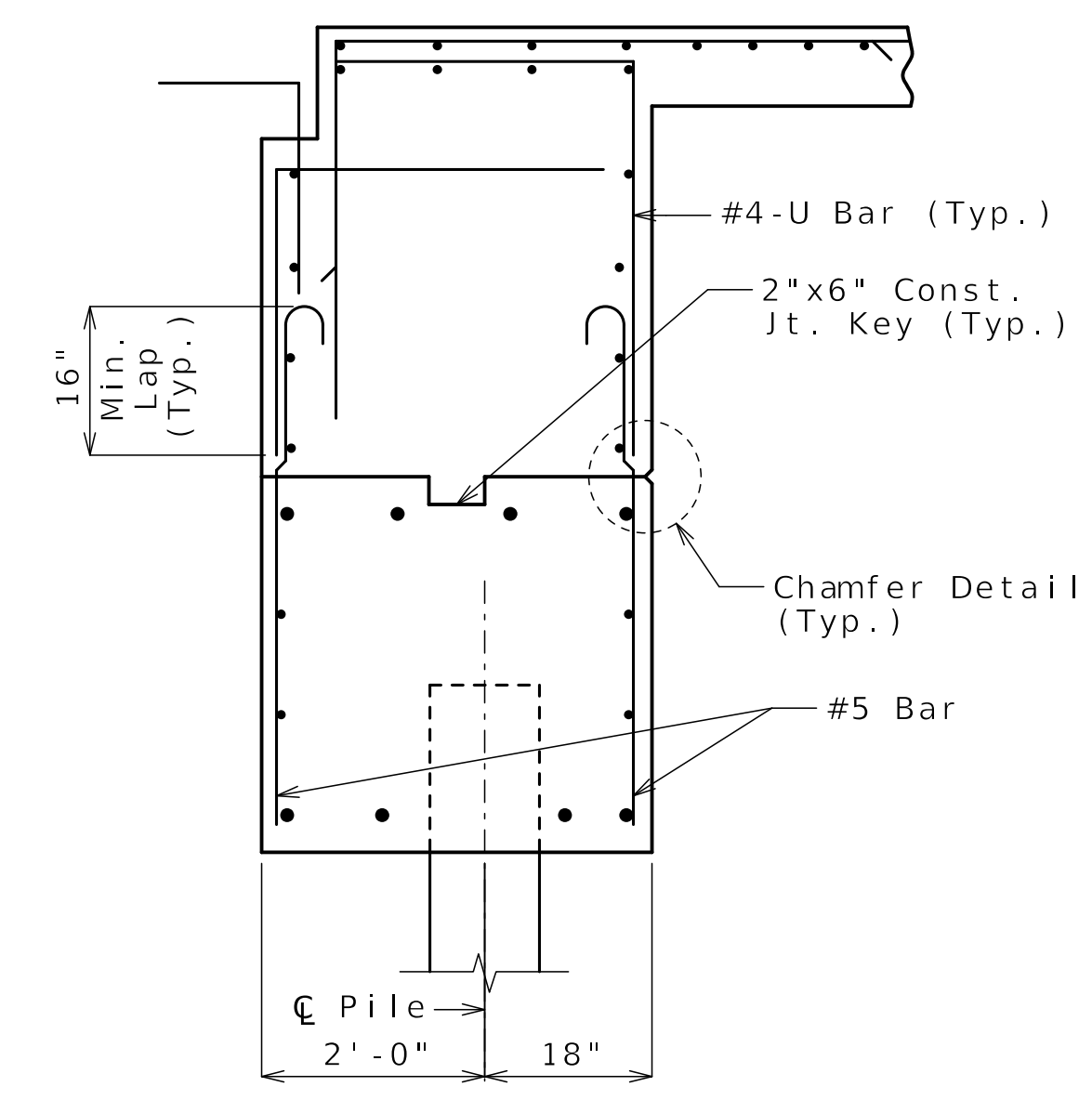
(1) U3 & #4 stirrup bar vertical leg = 3'-1 1/2"



SECTION B-B



SECTION C-C

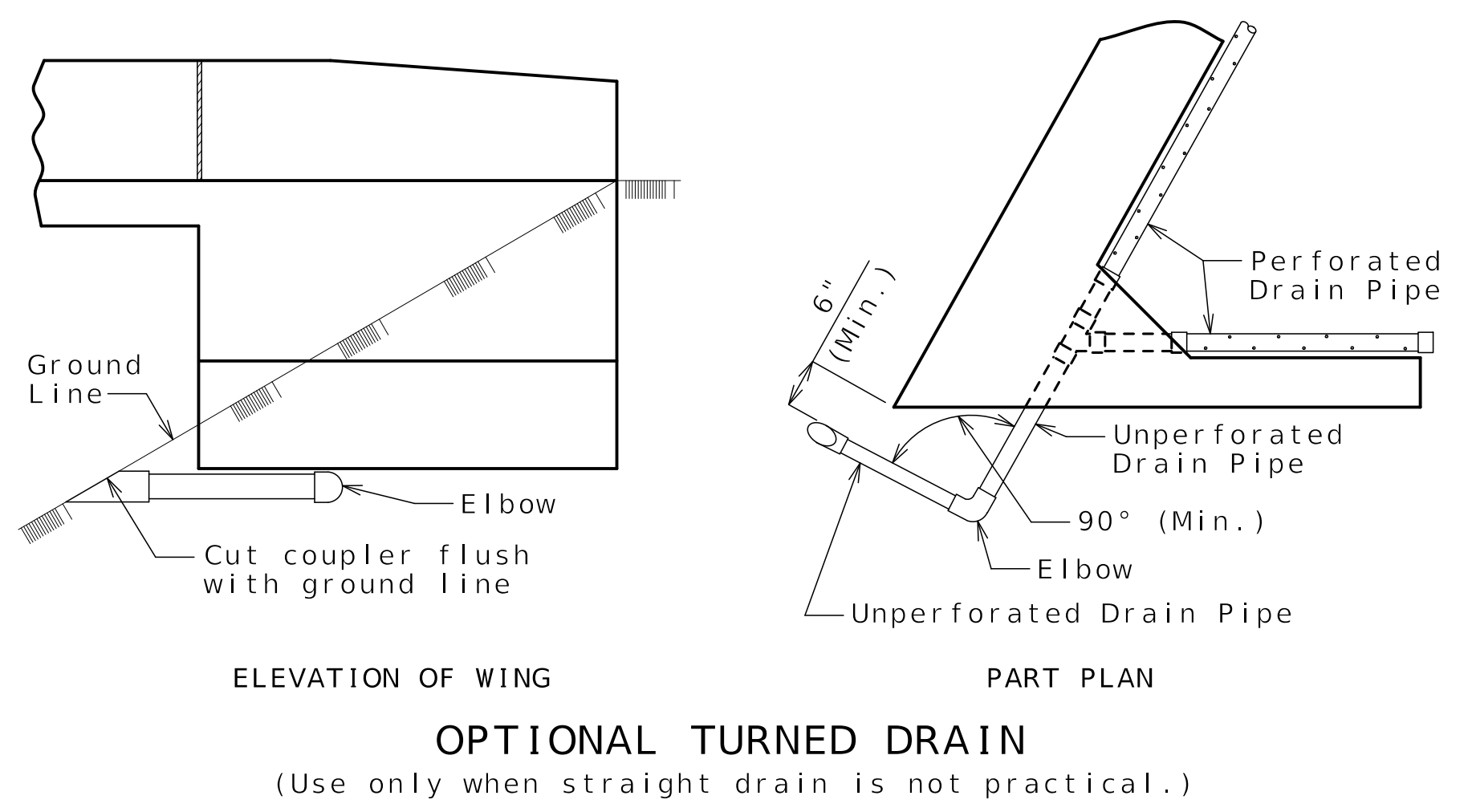
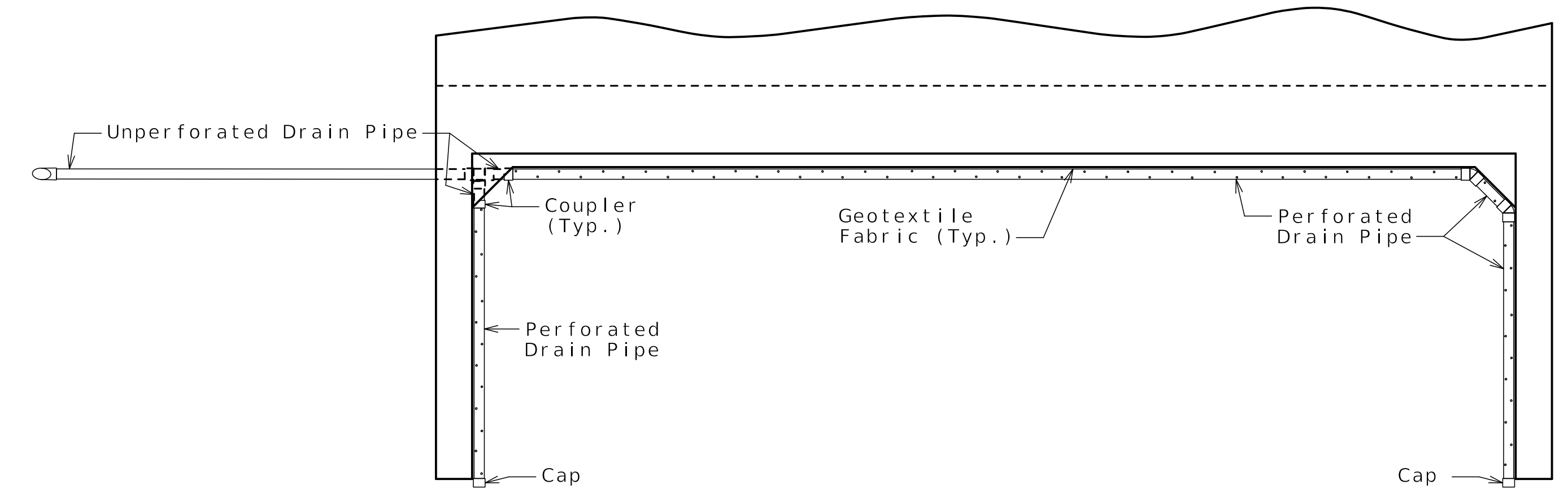
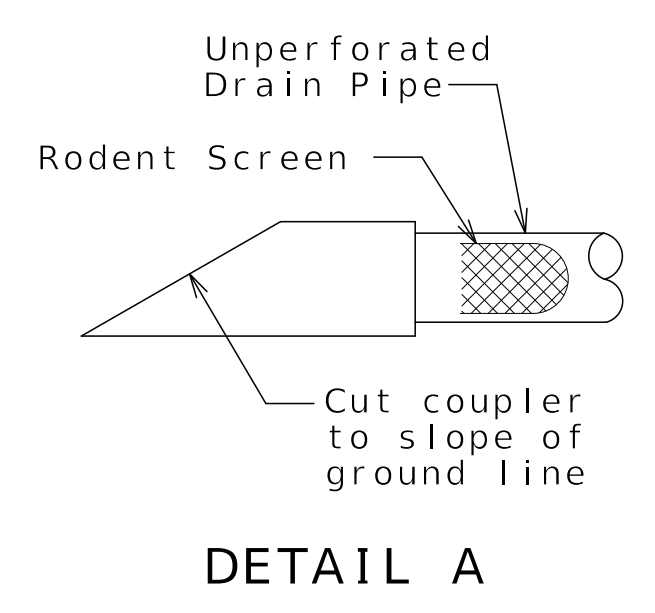
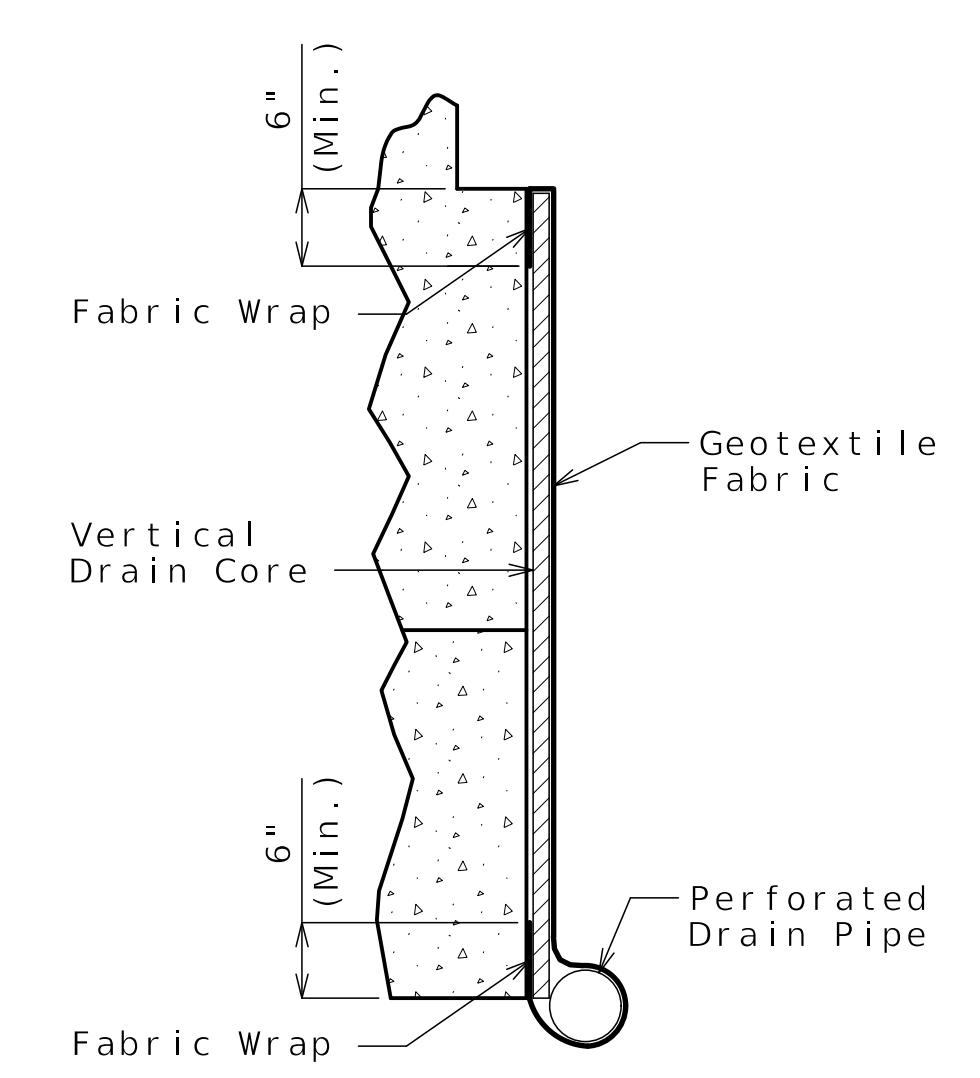
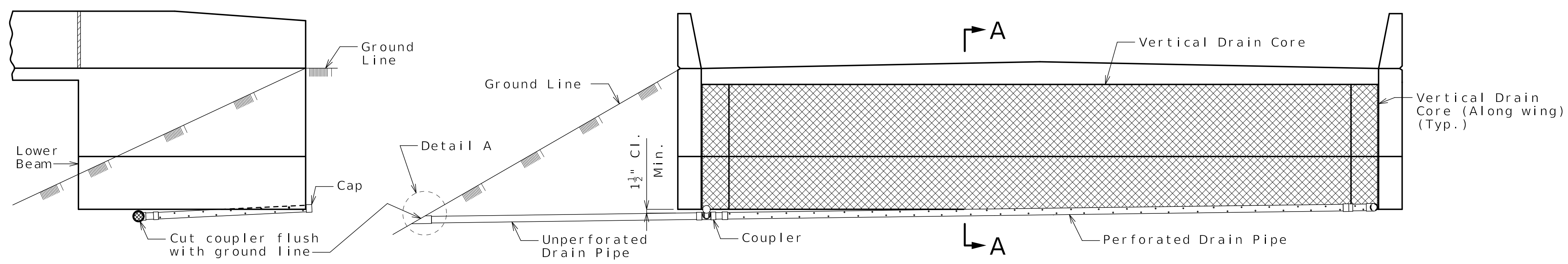


SECTION D-D

Released For Construction
 Not to Scale
 Revision: 0.0
 Date: 04/11/2025
 Package: BRD-04-EB-70-Jackson

General Notes:
 Work this sheet with Sheets No. B04-05 and B04-06.
 For location of Sections A-A, B-B, C-C, D-D and Elevation E-E, see Sheet No. B04-06.
 For reinforcement of the Type D Barrier, see Sheet No. B04-29.

DETAILS OF END BENT NO. 1

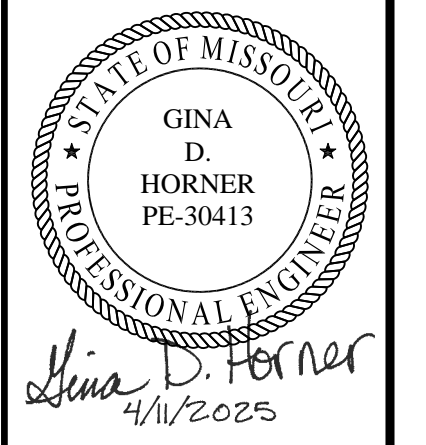


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Revision: 0.0
Date: 04/11/2025
Package: BRD-04-EB-70-Jackson

General Notes:

- Squared end bent shown, skewed end bent similar.
- All drain pipe shall be sloped 1 to 2 percent.
- Drain pipe may be either 6-inch diameter corrugated metallic-coated steel pipe underdrain, 4-inch diameter corrugated polyvinyl chloride (PVC) drain pipe, or 4-inch diameter corrugated polyethylene (PE) drain pipe.
- Drain pipe shall be placed at fill face of end bent and inside face of wings. The pipe shall slope to lowest grade of ground line, also missing the lower beam of end bent by a minimum of 1 1/2 inches.
- Perforated pipe shall be placed at fill face side and inside face of wings at the bottom of end bent and plain pipe shall be used where the vertical drain ends to the exit at ground line.

VERTICAL DRAIN AT END BENTS



DATE PREPARED 04/11/2025	
ROUTE I-70	STATE MO
DISTRICT BR	SHEET NO. B04-08
COUNTY JACKSON	
JOB NO. J411486D	
CONTRACT ID. 240807-C01	
PROJECT NO.	
BRIDGE NO. A9632	

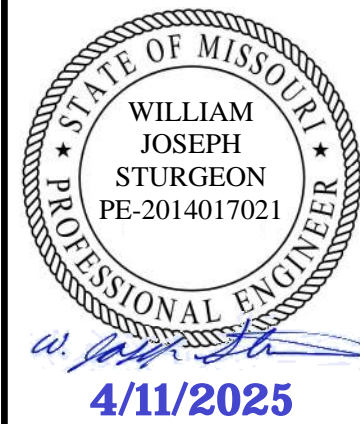
DATE	DESCRIPTION
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MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL
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1-888-ASK-MODOT (1-888-275-6636)

CLARKSON RADMACHER
JOINT VENTURE

715 KIRK DRIVE
KANSAS CITY, MO 64105-1310
CERTIFICATE OF AUTHORITY
NO. 001270



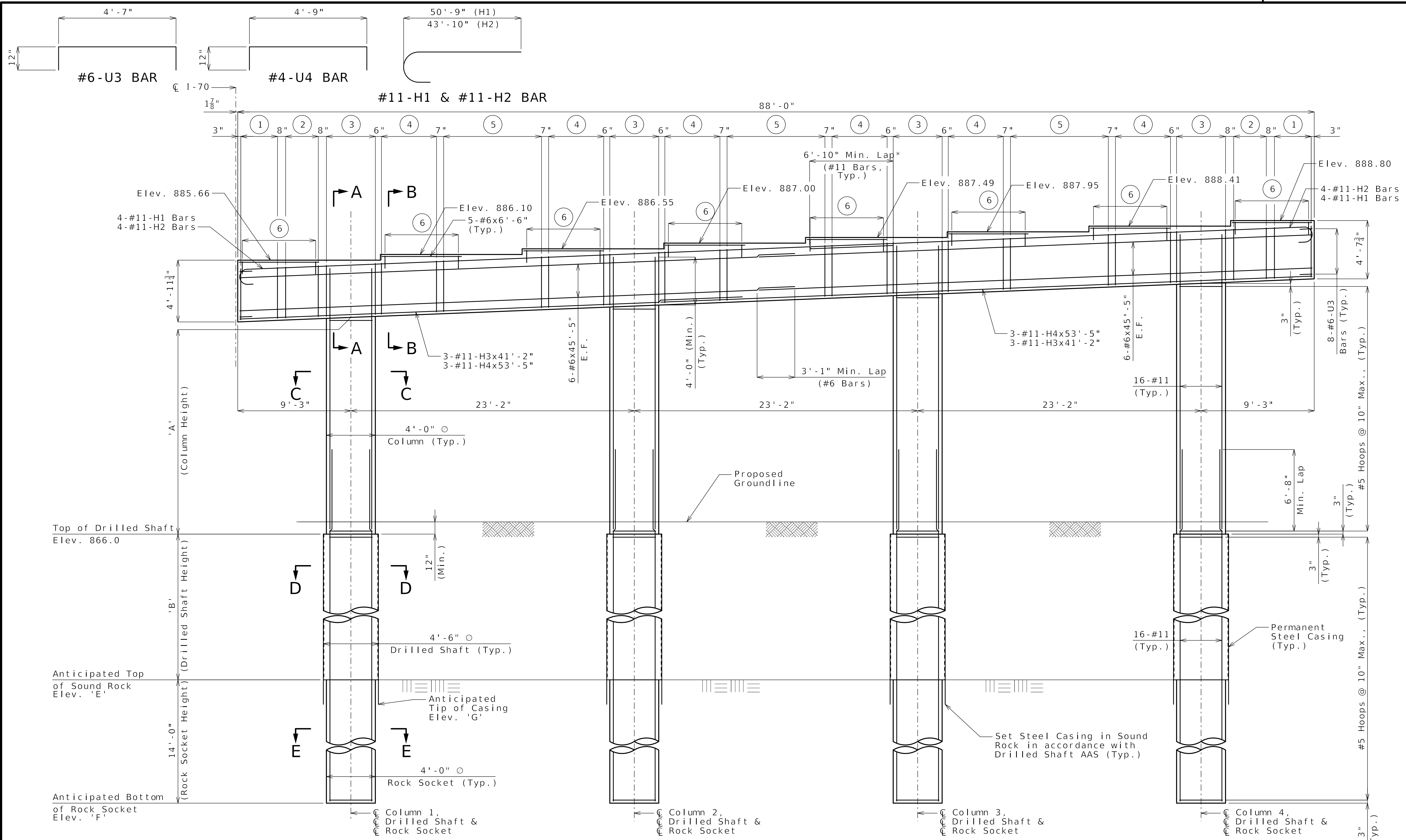
DATE PREPARED	04/11/2025
ROUTE	I-70
STATE	MO
DISTRICT	BR
SHEET NO.	B04-09
COUNTY	JACKSON
JOB NO.	J411486D
CONTRACT ID.	240807-C01
PROJECT NO.	

BRIDGE NO. A9632

DATE	DESCRIPTION
04/11/25	REV 0 - RFC SUBMITTAL

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
 105 WEST CAPITOL JEFFERSON CITY, MO 65102
 1-888-ASK-MODOT (1-888-275-6636)

CLARKSON RADMACHER JOINT VENTURE
 715 KIRK DRIVE KANSAS CITY, MO 64105-1310
 CERTIFICATE OF AUTHORITY NO. 001270
HNTB



- ① 4-#6-U2 @ 12" cts.
- ② 5-#6-U2 @ 8" cts.
- ③ 5-#6-U1 @ 12" cts.
- ④ 10-#6-U2 @ 6" cts.
- ⑤ 9-#6-U2 @ 12" cts.
- ⑥ 13-#4-U4 @ 6" Spa.

Column Number	"A"	"B"	"E"	"F"	"G"
1	15' - 0 1/2"	9' - 6"	856.5	842.5	854.5
2	15' - 11 1/2"	12' - 0"	854.0	840.0	852.0
3	16' - 10 1/2"	14' - 6"	851.5	837.5	849.5
4	17' - 9 1/2"	17' - 0"	849.0	835.0	847.0

ELEVATION

Released For Construction
Not to Scale

Revision: 0.0
 Date: 04/11/2025
 Package: BRD-04-EB-70-Jackson

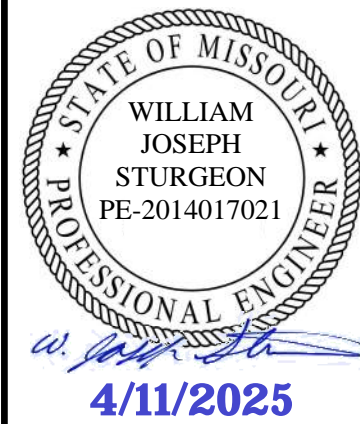
Notes:
 * Alternate location of lap splices between adjacent bars about centerline of bent. Alternate lap splice not shown.
 Prior to placing concrete for columns, position of vertical reinforcement shall be verified so as to provide clearance for capbeam reinforcement as applicable.
 Work this sheet with Sheet No. B04-10.
 Use 1/2" joint filler up vertical face of capbeam steps.
 For location of drilled shafts, see Sheet No. B04-04.
 For Sections A-A thru E-E, see Sheet No. B04-10.

DETAILS OF INTERMEDIATE BENT NO. 2

Detailed DEC 2024
 Checked JAN 2025

Note: This drawing is not to scale. Follow dimensions.

Sheet No. B04-09 of B04-41



DATE PREPARED 04/11/2025	
ROUTE I-70	STATE MO
DISTRICT BR	SHEET NO. B04-10
COUNTY JACKSON	
JOB NO. J411486D	
CONTRACT ID. 240807-C01	
PROJECT NO.	

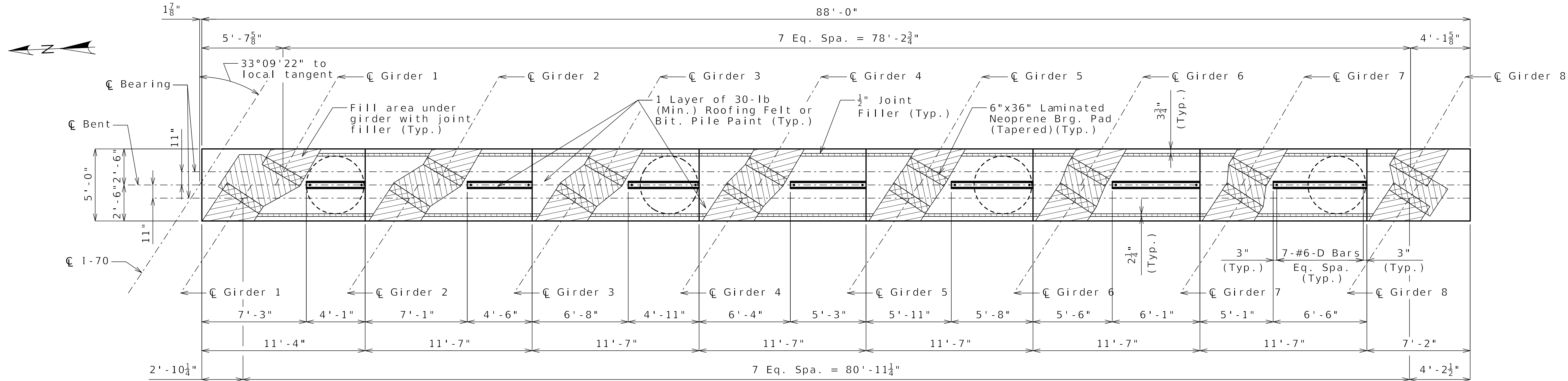
BRIDGE NO. A9632

DATE	DESCRIPTION
04/11/25	REV 0 - RFC SUBMITTAL

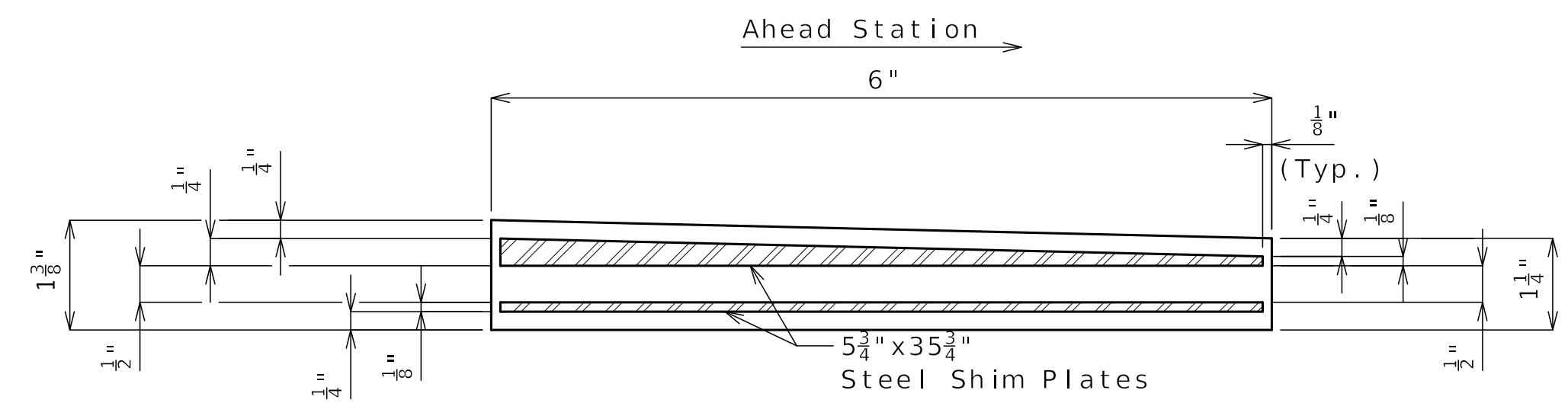
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
 105 WEST CAPITOL JEFFERSON CITY, MO 65102
 1-888-ASK-MODOT (1-888-275-6636)

CLARKSON RADMACHER JOINT VENTURE
 715 KIRK DRIVE KANSAS CITY, MO 64105-1310
 CERTIFICATE OF AUTHORITY NO. 001270

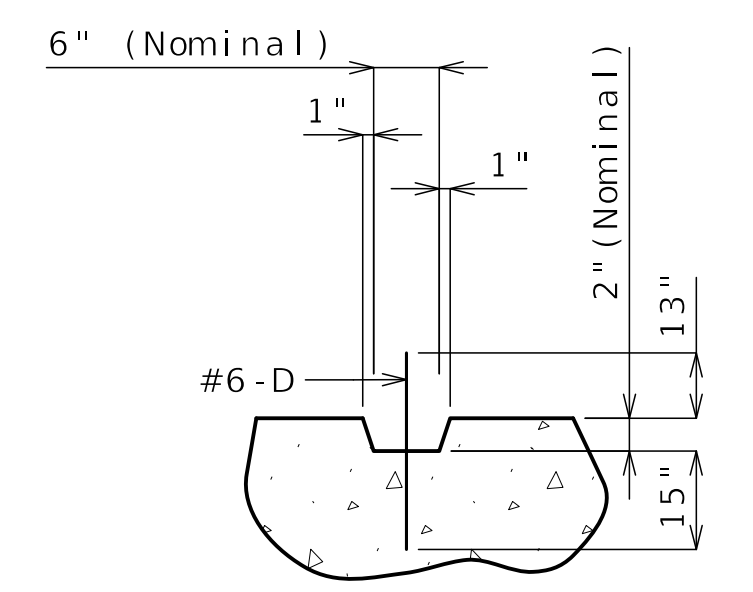
HNTB



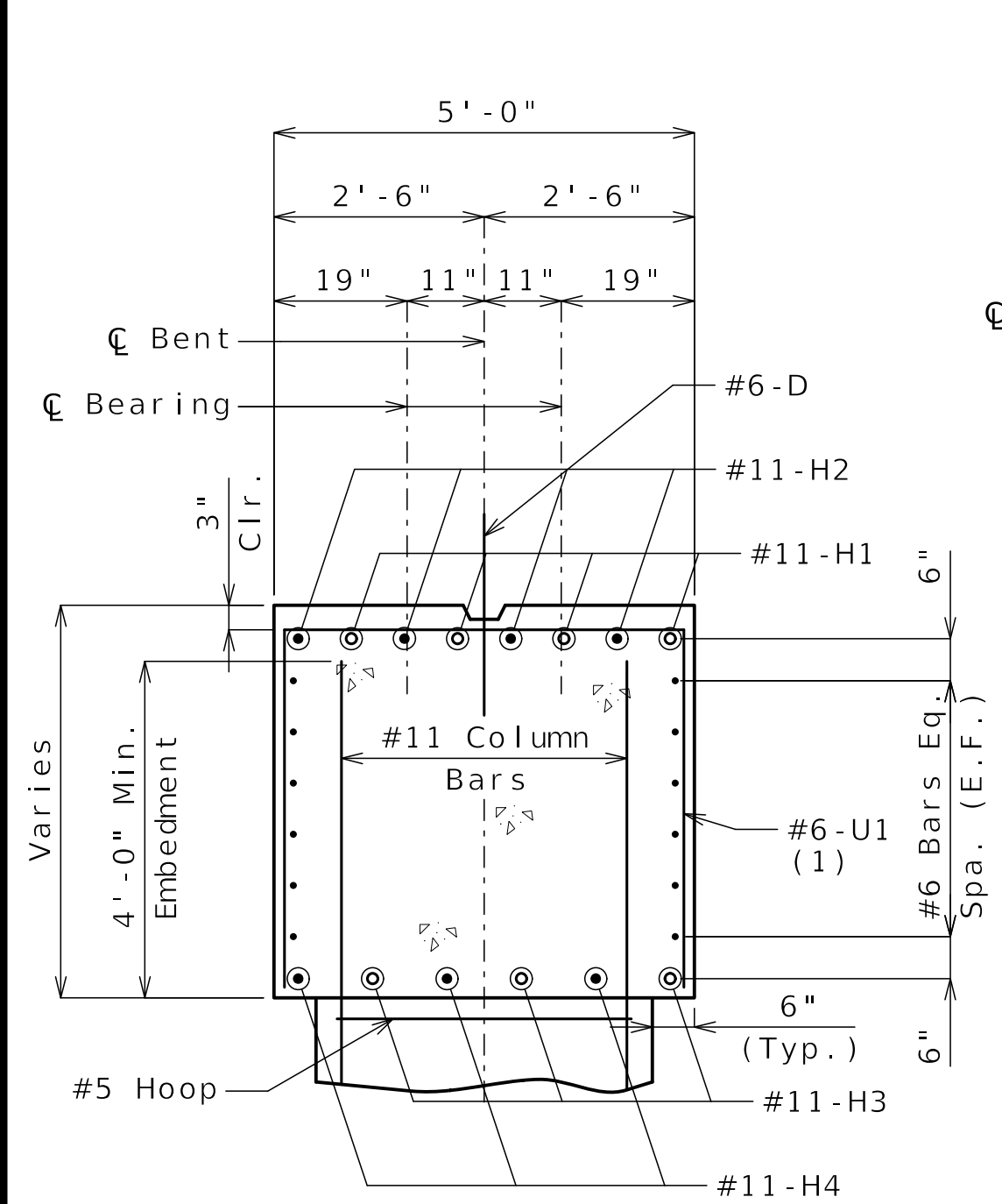
PLAN OF CAPBEAM



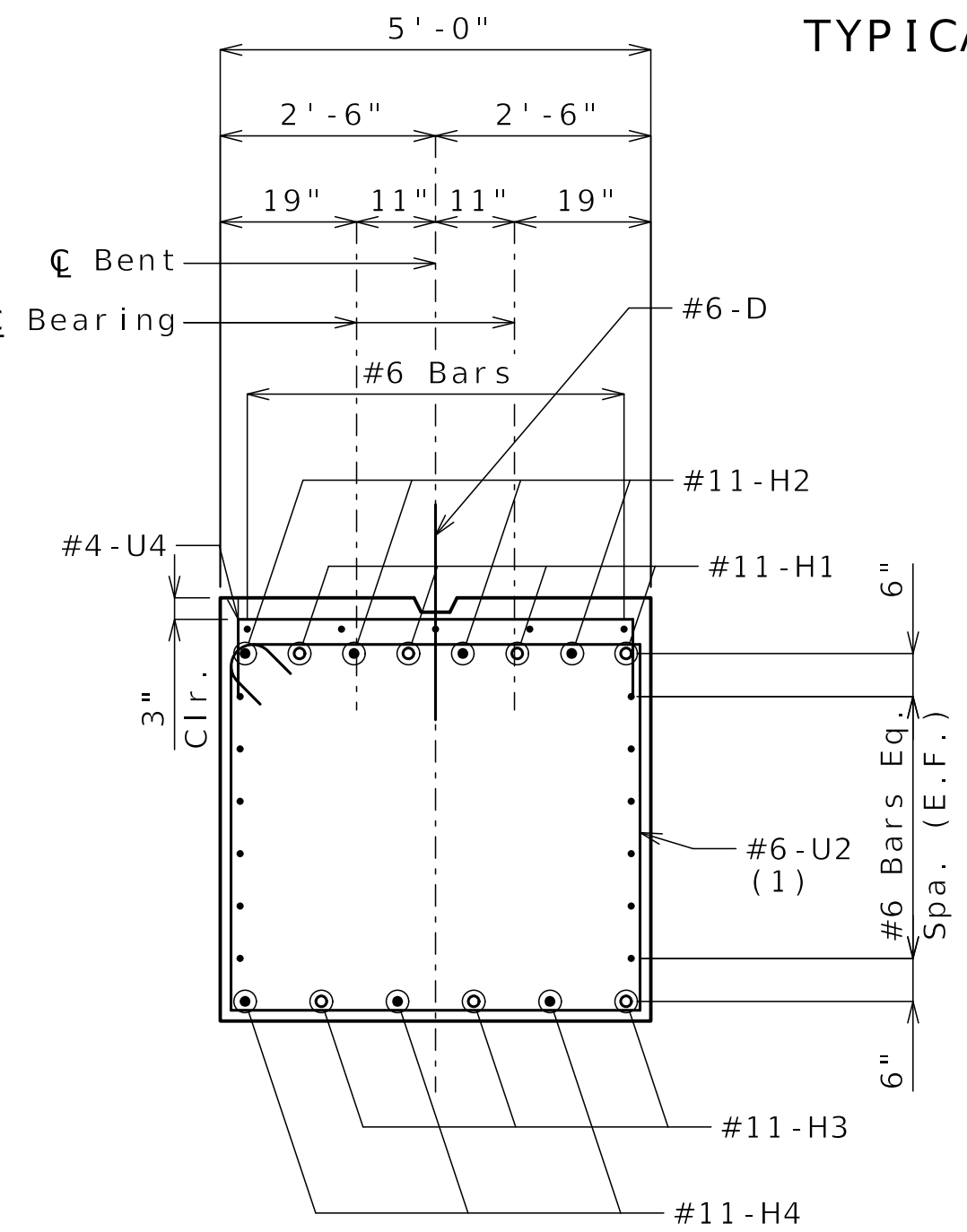
TYPICAL SECTION THRU LAMINATED NEOPRENE BEARING PAD (TAPERED)
16 Required



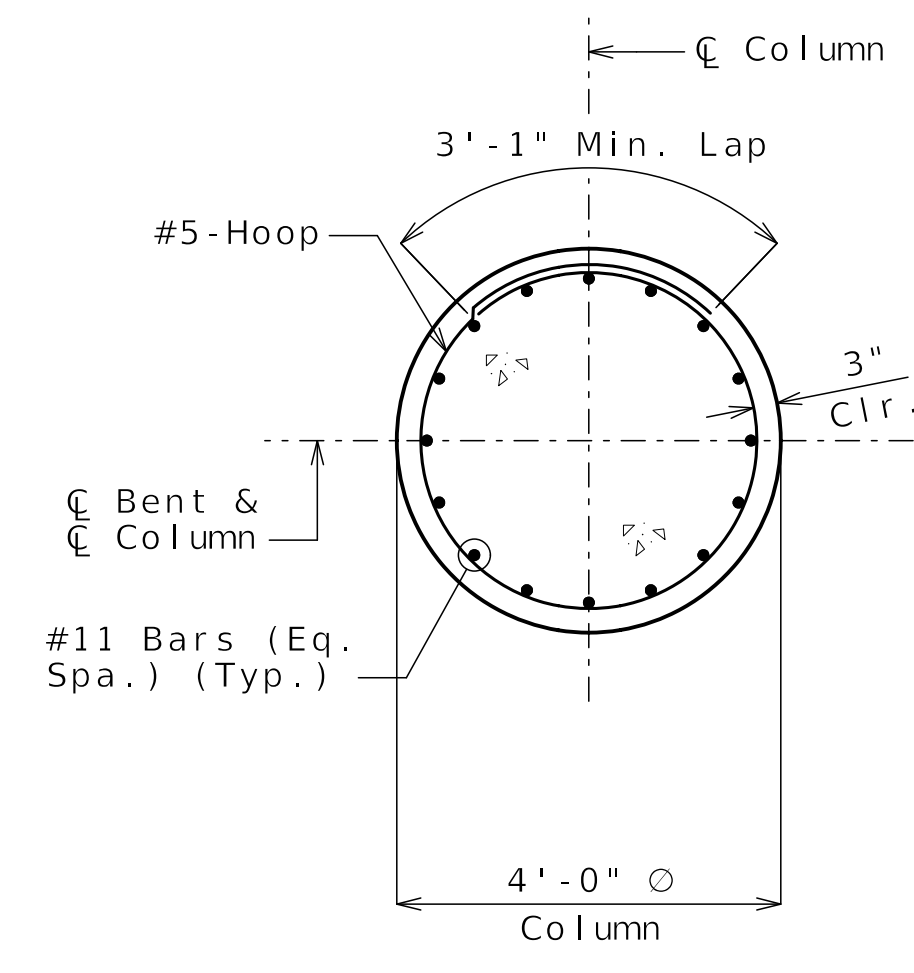
SECTION THRU KEY



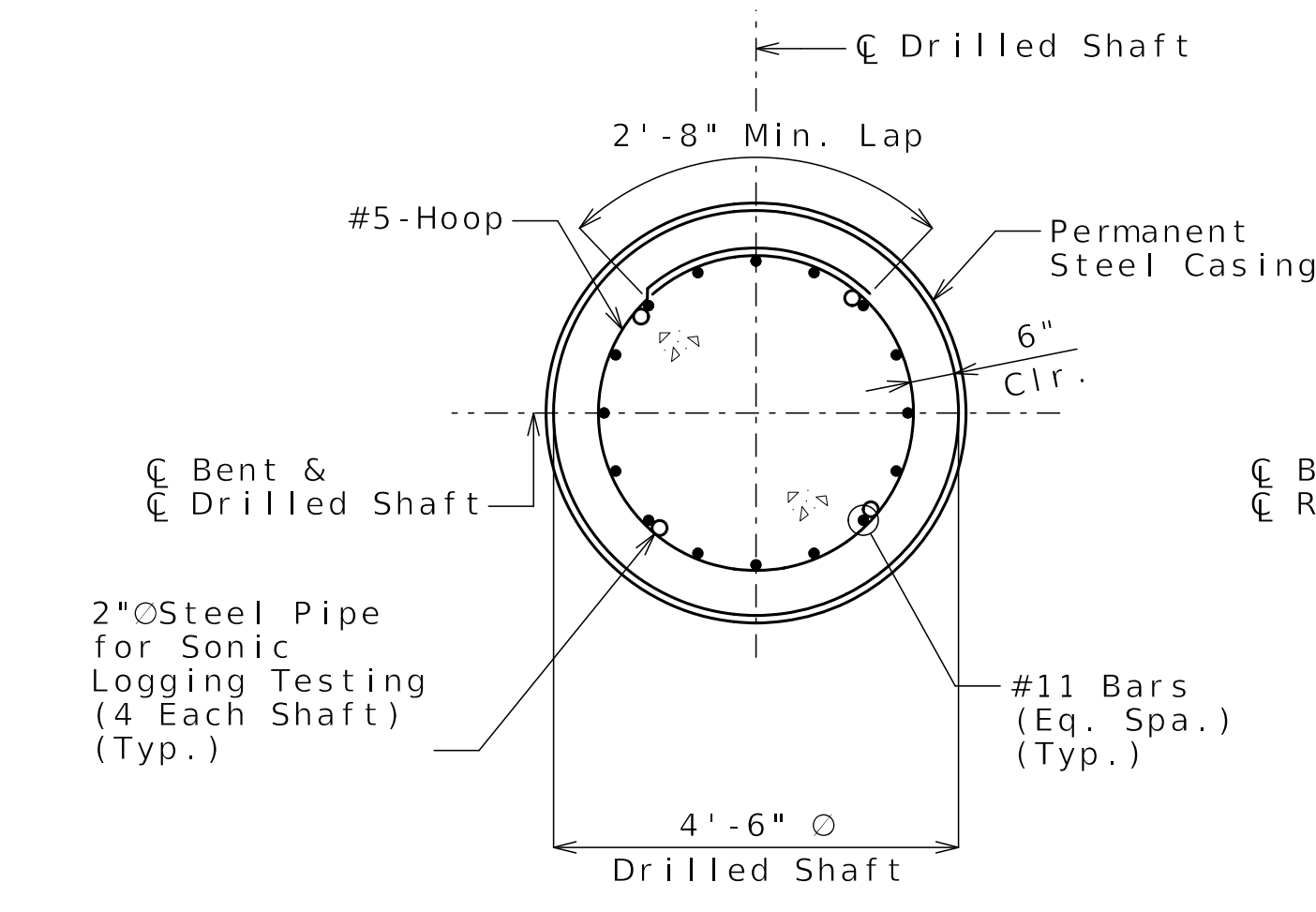
SECTION A-A



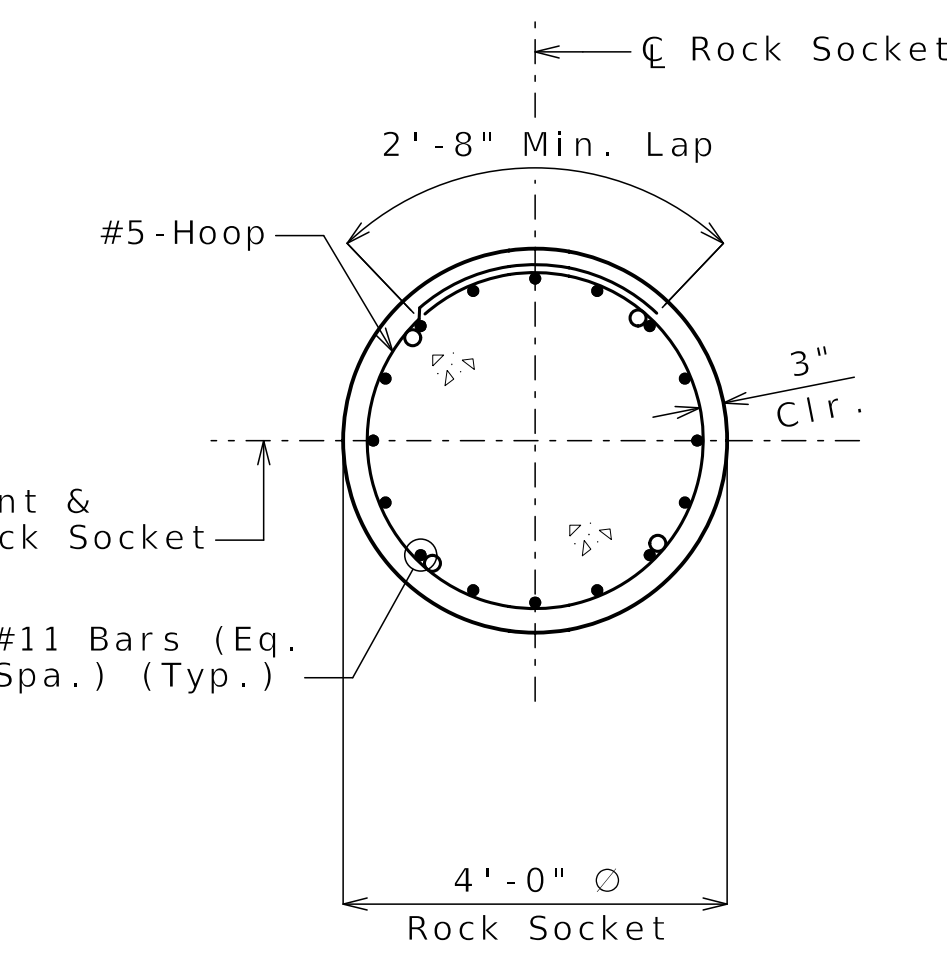
SECTION B-B



SECTION C-C



SECTION D-D



SECTION E-E

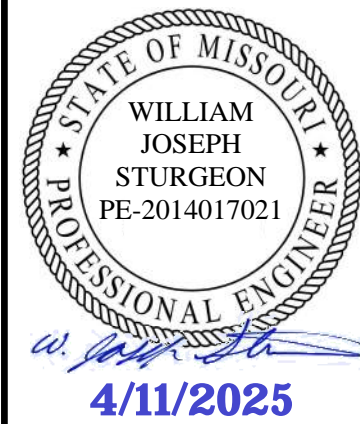
(1) U1 & U2 vertical leg = 4'-2"

Released For Construction
 Not to Scale
 Revision: 0.0
 Date: 04/11/2025
 Package: BRD-04-EB-70-Jackson

Notes:
 Work this sheet with Sheet No. B04-09.
 Hoop splices shall be staggered around the drilled shaft and rock socket at 90 degree intervals.

DETAILS OF INTERMEDIATE BENT NO. 2

Column Number	'A'
1	14'-4 1/2"
2	15'-3 3/8"
3	16'-2 1/8"
4	17'-1"



DATE PREPARED	04/11/2025
ROUTE	I-70
STATE	MO
DISTRICT	BR
SHEET NO.	B04-11
COUNTY	JACKSON
JOB NO.	J411486D
CONTRACT ID.	240807-C01
PROJECT NO.	

BRIDGE NO. A9632

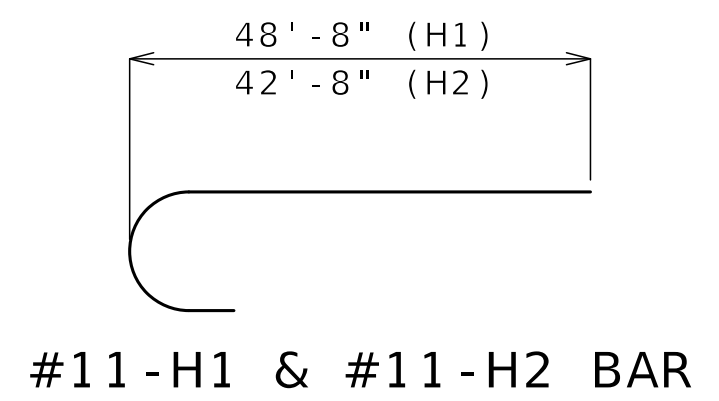
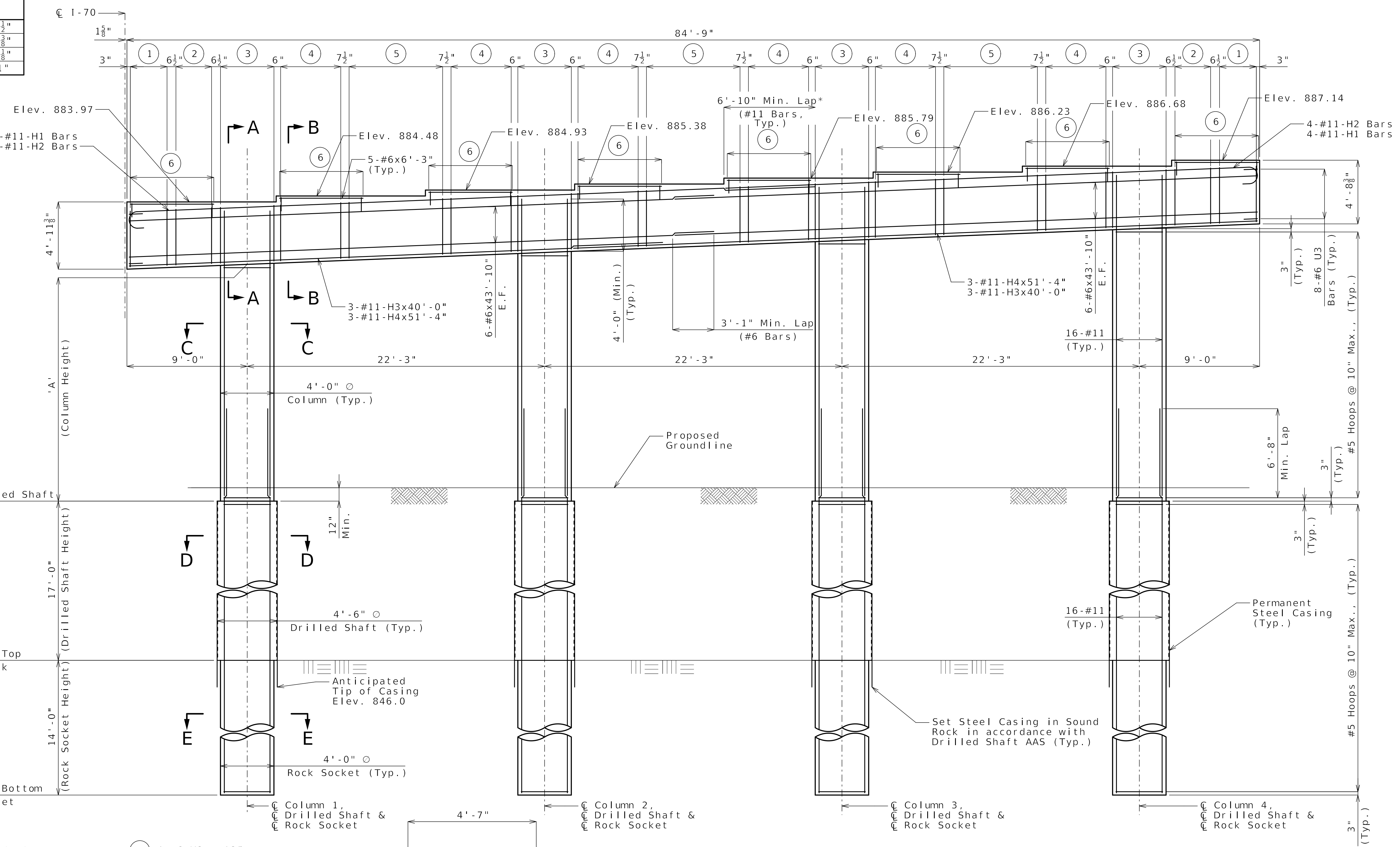
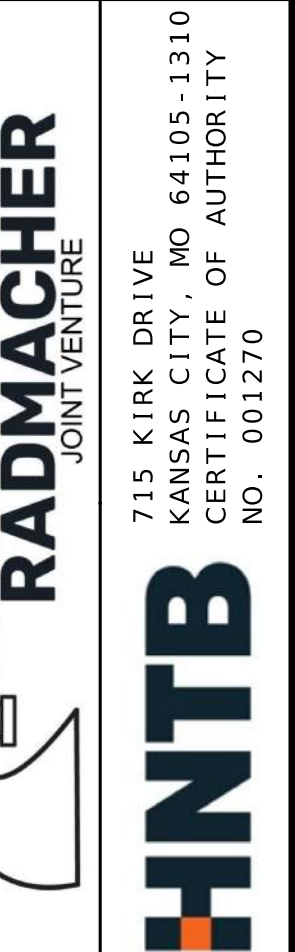
DESCRIPTION
REV 0 - RFC SUBMITTAL

DATE
04/11/25

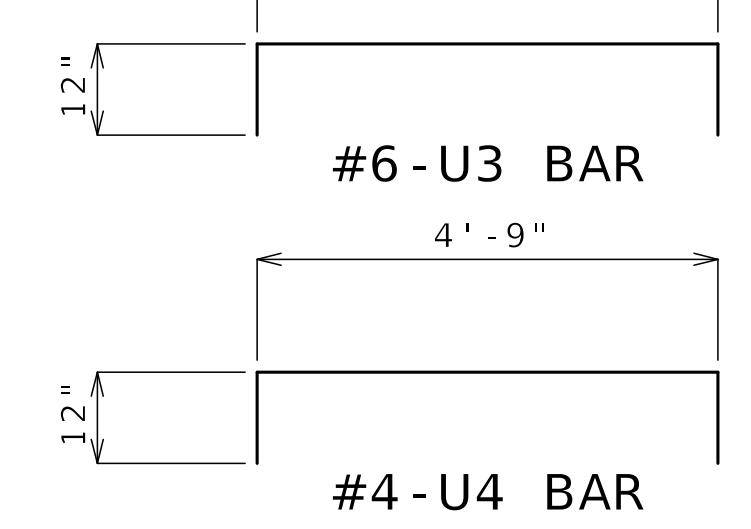
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION



CLARKSON RADMACHER JOINT VENTURE



- ① 4-#6-U2 @ 12" cts.
- ② 5-#6-U2 @ 8" cts.
- ③ 5-#6-U1 @ 12" cts.
- ④ 10-#6-U2 @ 6" cts.
- ⑤ 8-#6-U2 @ 12" cts.
- ⑥ 13-#4-U4 @ 6" Spa.



ELEVATION

Released For Construction
Not to Scale
Revision: 0.0
Date: 04/11/2025
Package: BRD-04-EB-70-Jackson

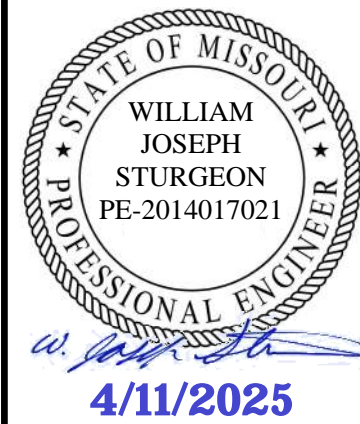
Notes:
 * Alternate location of lap splices between adjacent bars about centerline of bent. Alternate lap splice not shown.
 Prior to placing concrete for columns, position of vertical reinforcement shall be verified so as to provide clearance for capbeam reinforcement as applicable.
 Work this sheet with Sheet No. B04-12.
 Use 1/2" joint filler up vertical face of capbeam steps.
 For location of drilled shafts, see Sheet No. B04-04.
 For Sections A-A thru E-E, see Sheet No. B04-12.

DETAILS OF INTERMEDIATE BENT NO. 3

Detailed DEC 2024
Checked JAN 2025

Note: This drawing is not to scale. Follow dimensions.

Sheet No. B04-11 of B04-41



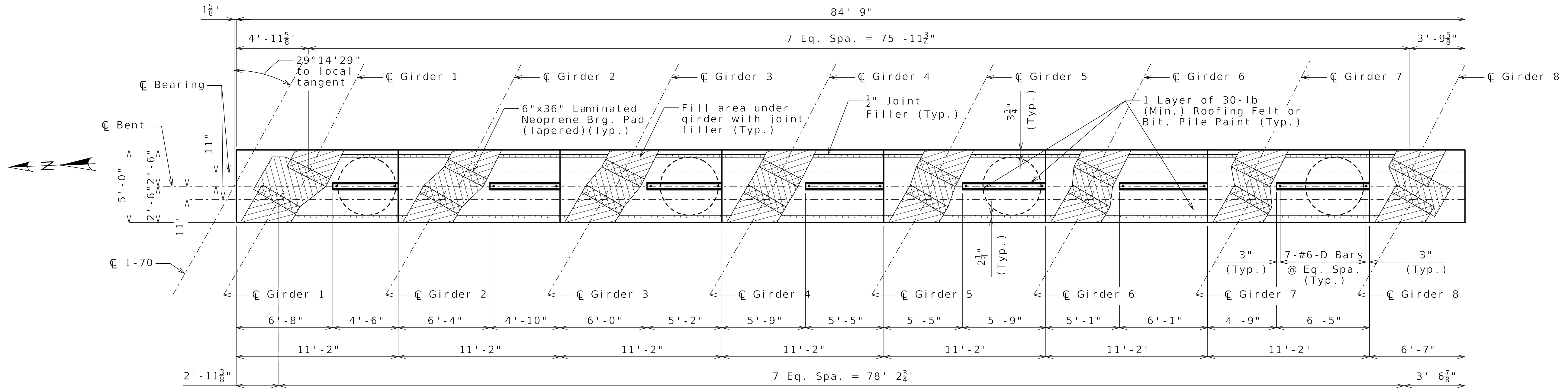
DATE PREPARED 04/11/2025	
ROUTE I-70	STATE MO
DISTRICT BR	SHEET NO. B04-12
COUNTY JACKSON	
JOB NO. J411486D	
CONTRACT ID. 240807-C01	
PROJECT NO.	

BRIDGE NO. A9632

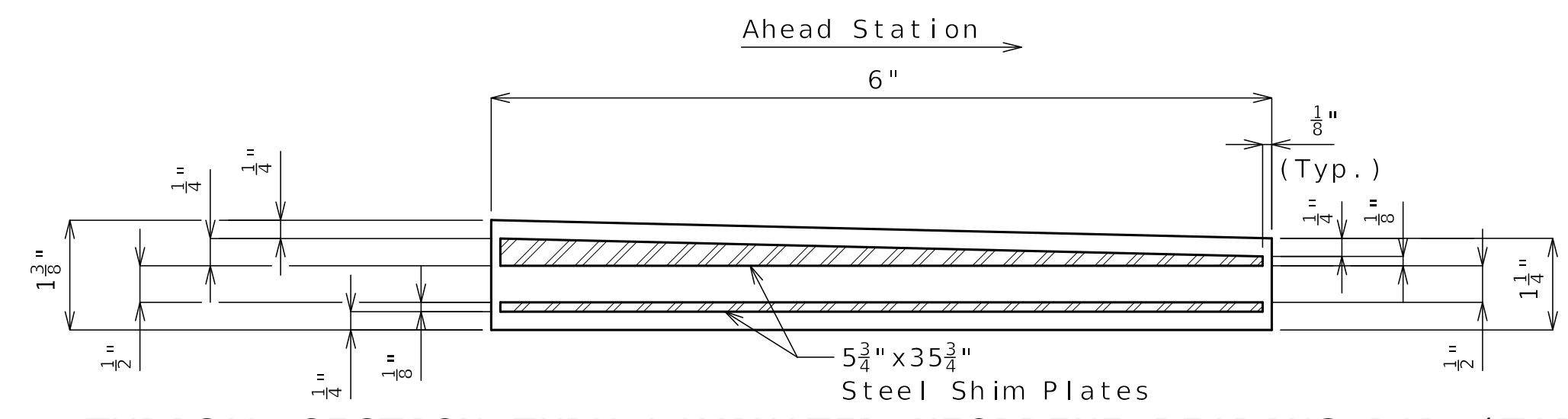
DATE	DESCRIPTION
04/11/25	REV 0 - RFC SUBMITTAL

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
 105 WEST CAPITOL JEFFERSON CITY, MO 65102
 1-888-ASK-MODOT (1-888-275-6636)

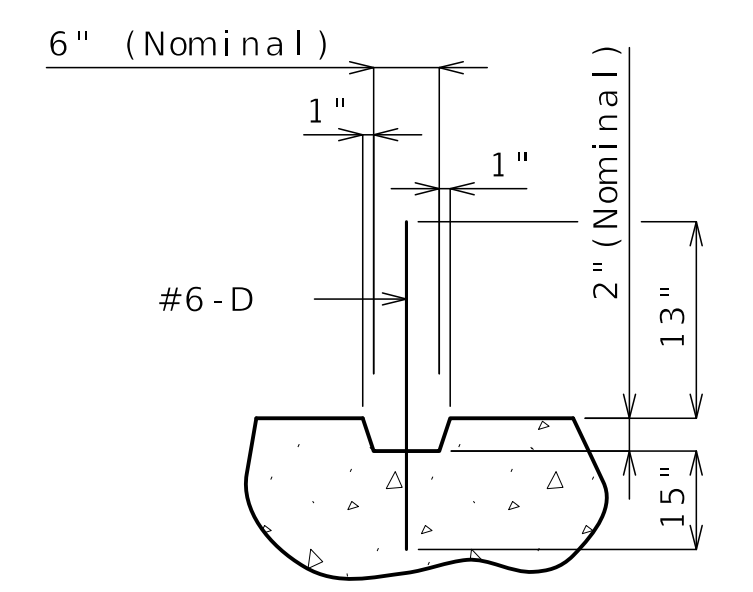
CLARKSON RADMACHER JOINT VENTURE
 715 KIRK DRIVE KANSAS CITY, MO 64105-1310
 CERTIFICATE OF AUTHORITY NO. 001270
HNTB



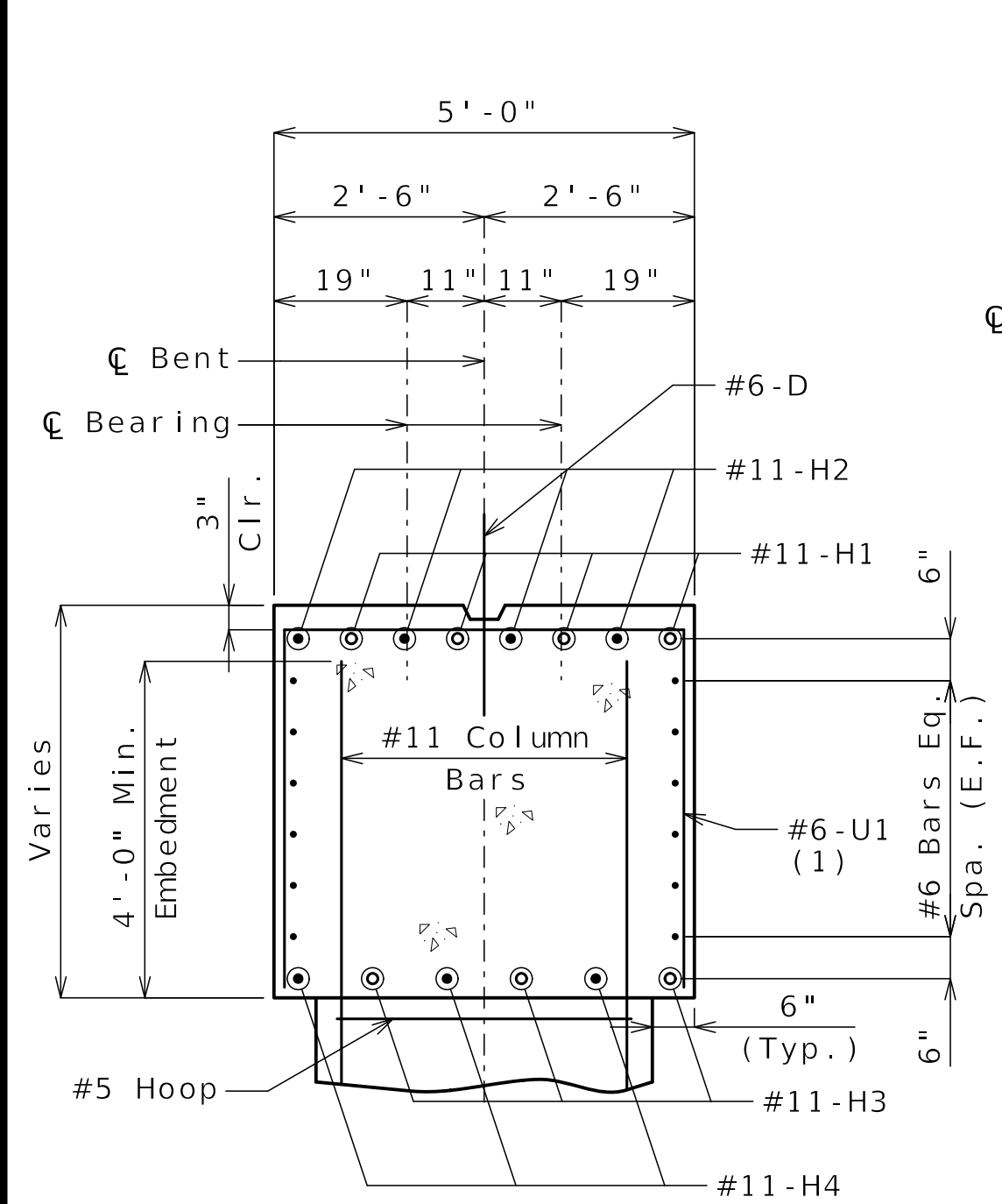
PLAN OF CAPBEAM



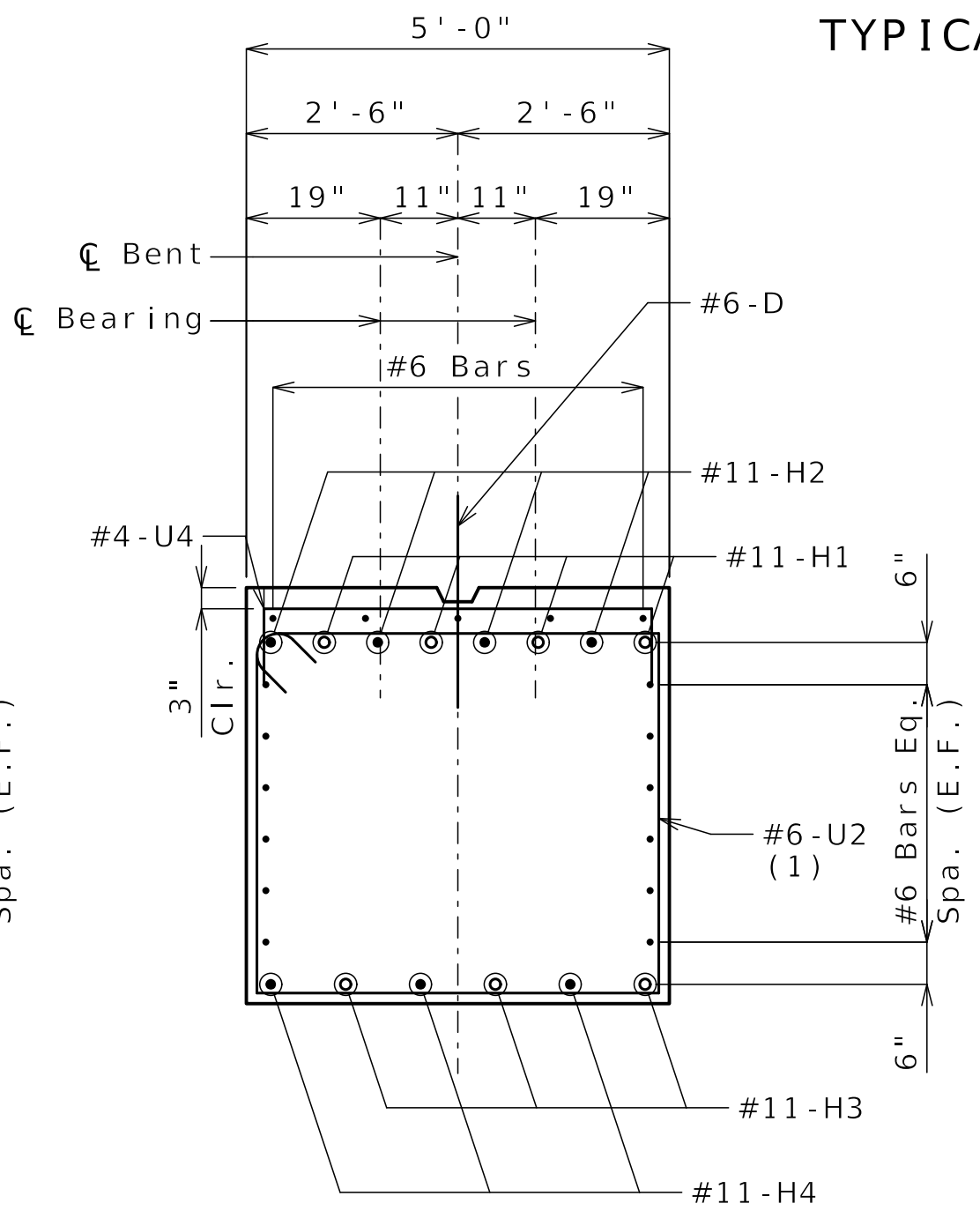
TYPICAL SECTION THRU LAMINATED NEOPRENE BEARING PAD (TAPERED)
16 Required



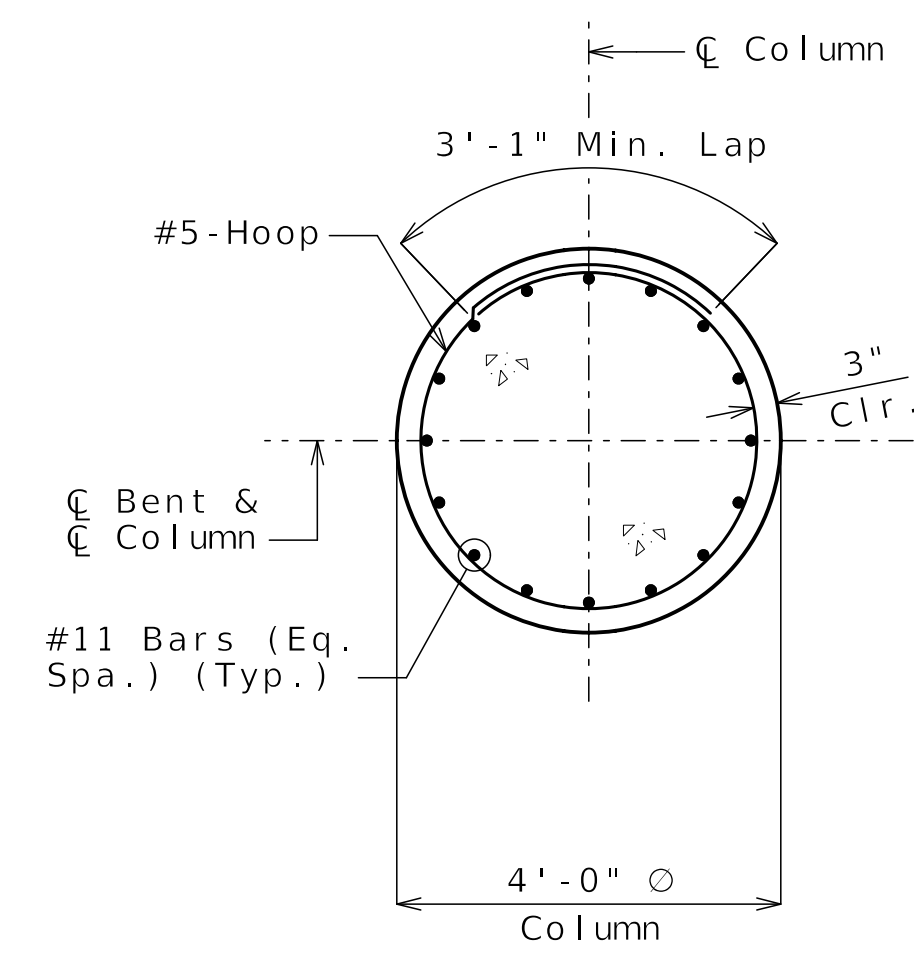
SECTION THRU KEY



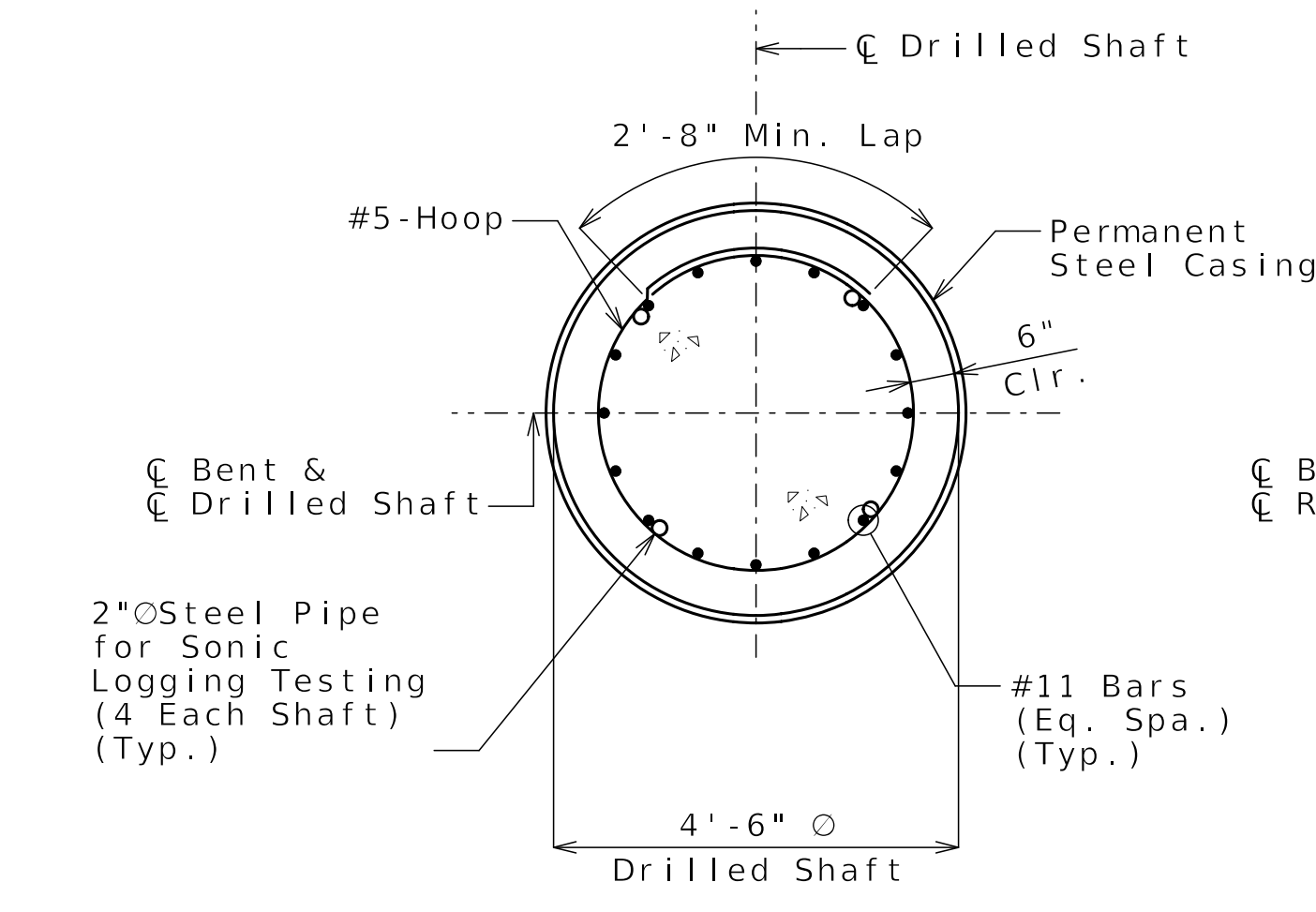
SECTION A-A



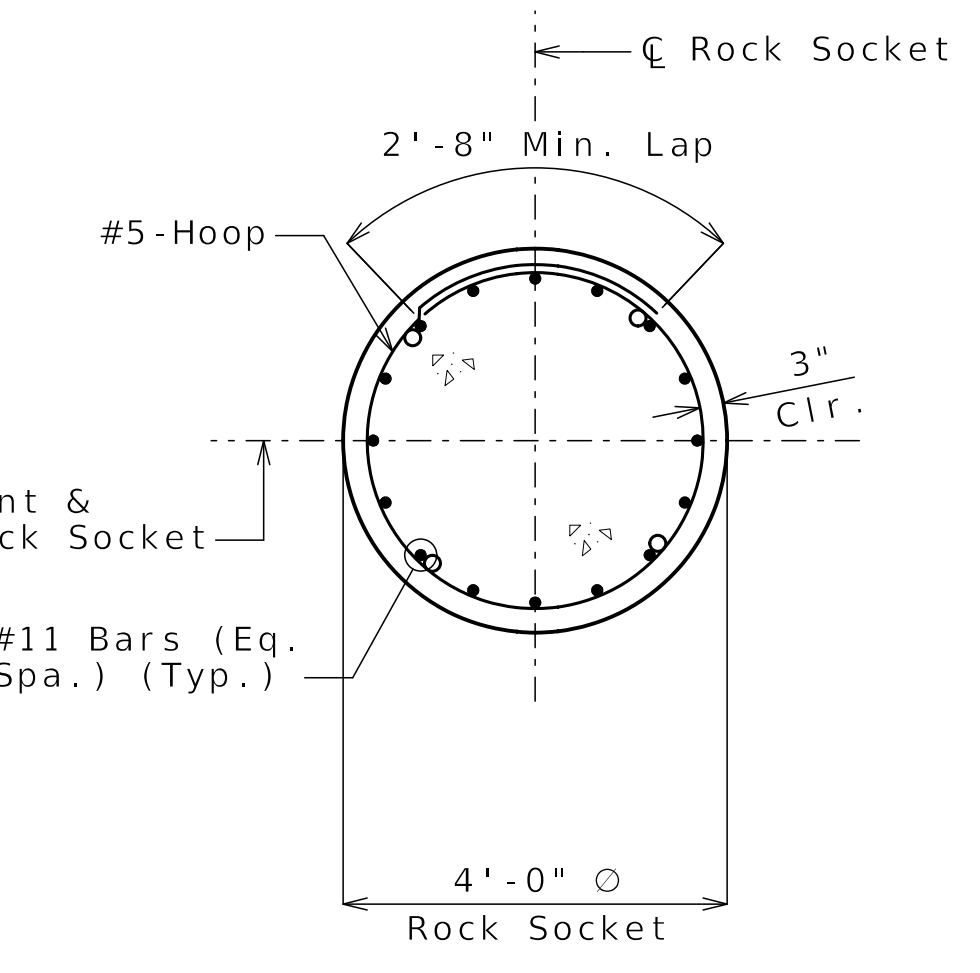
SECTION B-B



SECTION C-C



SECTION D-D



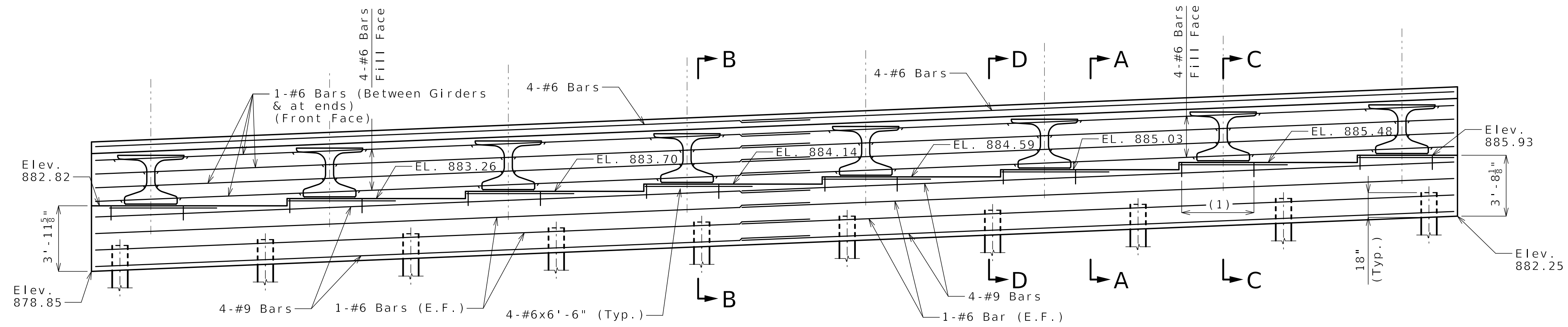
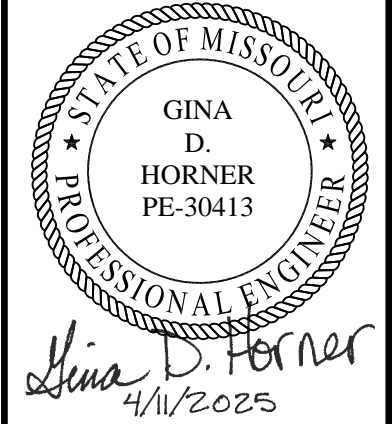
SECTION E-E

(1) U1 & U2 vertical leg = 4'-2"

Released For Construction
Not to Scale
Revision: 0.0
Date: 04/11/2025
Package: BRD-04-EB-70-Jackson

Notes:
Work this sheet with Sheet No. B04-11.
Hoop splices shall be staggered around the drilled shaft and rock socket at 90 degree intervals.

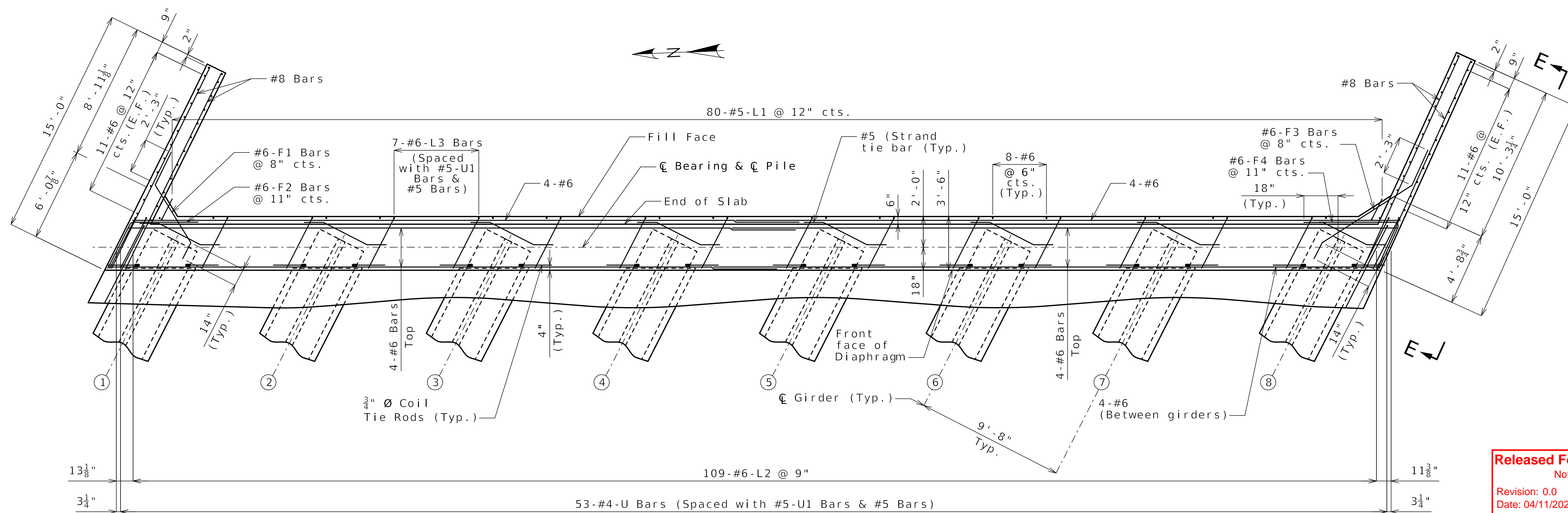
DETAILS OF INTERMEDIATE BENT NO. 3



SECTION NEAR END BENT

(1) 12-#4-U4 Bars @ 6" Spa. undergirders (Typ.)

Notes:
Lap Splice for #6 bars = 4'-3" (Min.)
Lap Splice for #9 bars = 6'-5" (Min.)



PART PLAN

Released For Construction
Not to Scale
Revision: 0.0
Date: 04/11/2025
Package: BRD-04-EB-70-Jackson

General Notes:
Work this sheet with Sheets No. B04-13 and B04-15.
For location of Sections A-A, B-B, C-C and D-D and Elevation E-E, see Sheet No. B04-15.
Strands at end of girders shall be field bent or, if necessary, cut in field to maintain 1 1/2-inch minimum clearance to fill face of end bent.
The #6-F bars shall be bent in the field to clear girders.

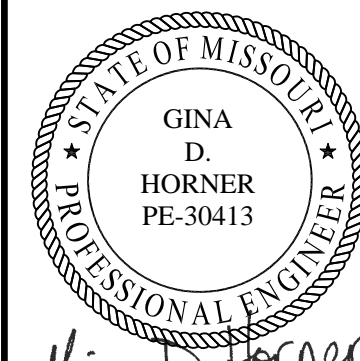
(X) Denotes girder number

DETAILS OF END BENT NO. 4

DATE	DESCRIPTION
04/11/25	REV 0 - RFC SUBMITTAL

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
MoDOT
105 WEST CAPITOL JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

CLARKSON RADMACHER JOINT VENTURE
715 KIRK DRIVE KANSAS CITY, MO 64105-1310
CERTIFICATE OF AUTHORITY NO. 001270
HNTB



Gina D. Horner
4/11/2025

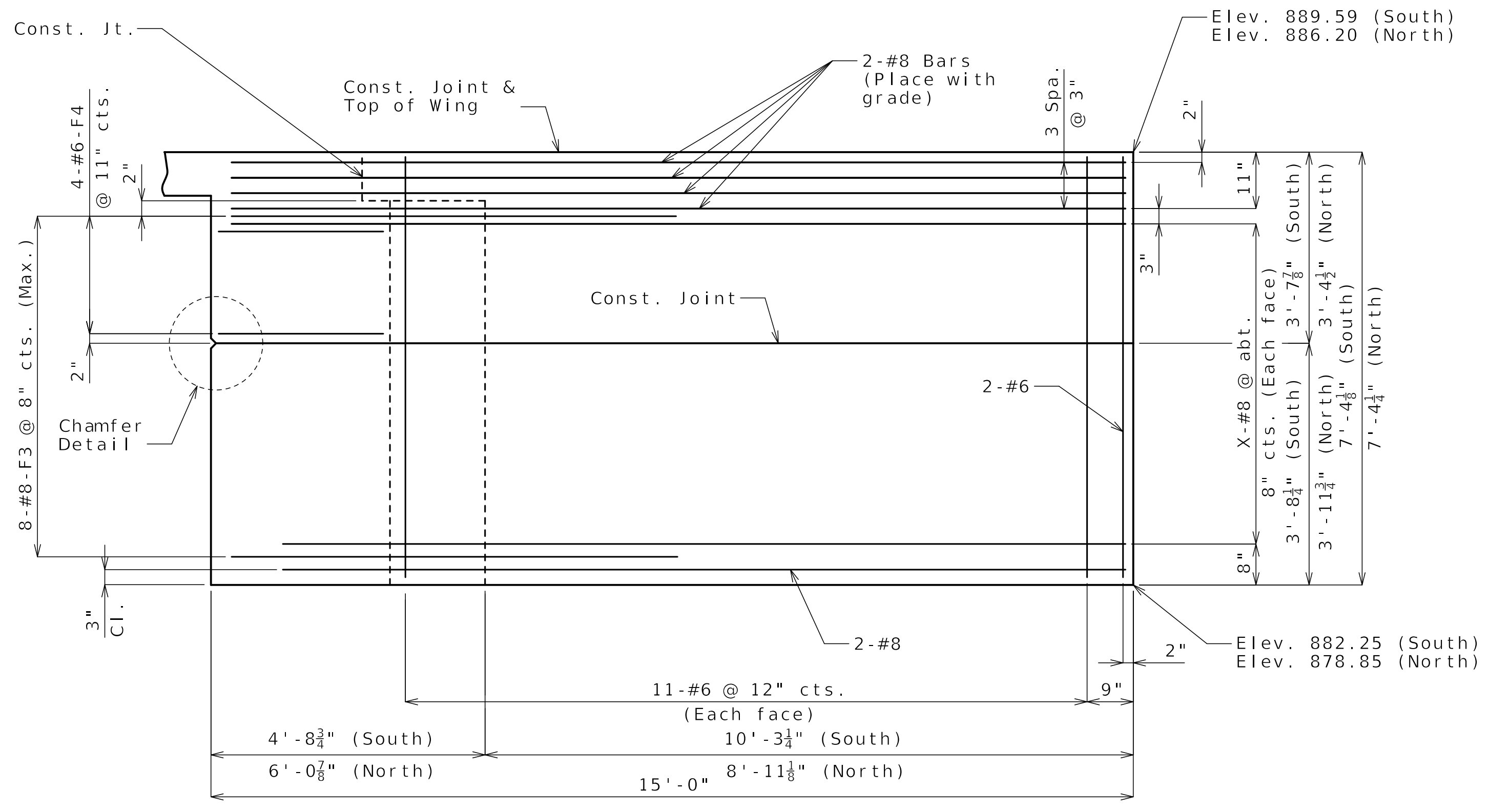
DATE PREPARED 04/11/2025	
ROUTE I-70	STATE MO
DISTRICT BR	SHEET NO. B04-15
COUNTY JACKSON	
JOB NO. J411486D	
CONTRACT ID. 240807-C01	
PROJECT NO.	

BRIDGE NO.
A9632

DATE	DESCRIPTION
04/11/25	REV 0 - RFC SUBMITTAL

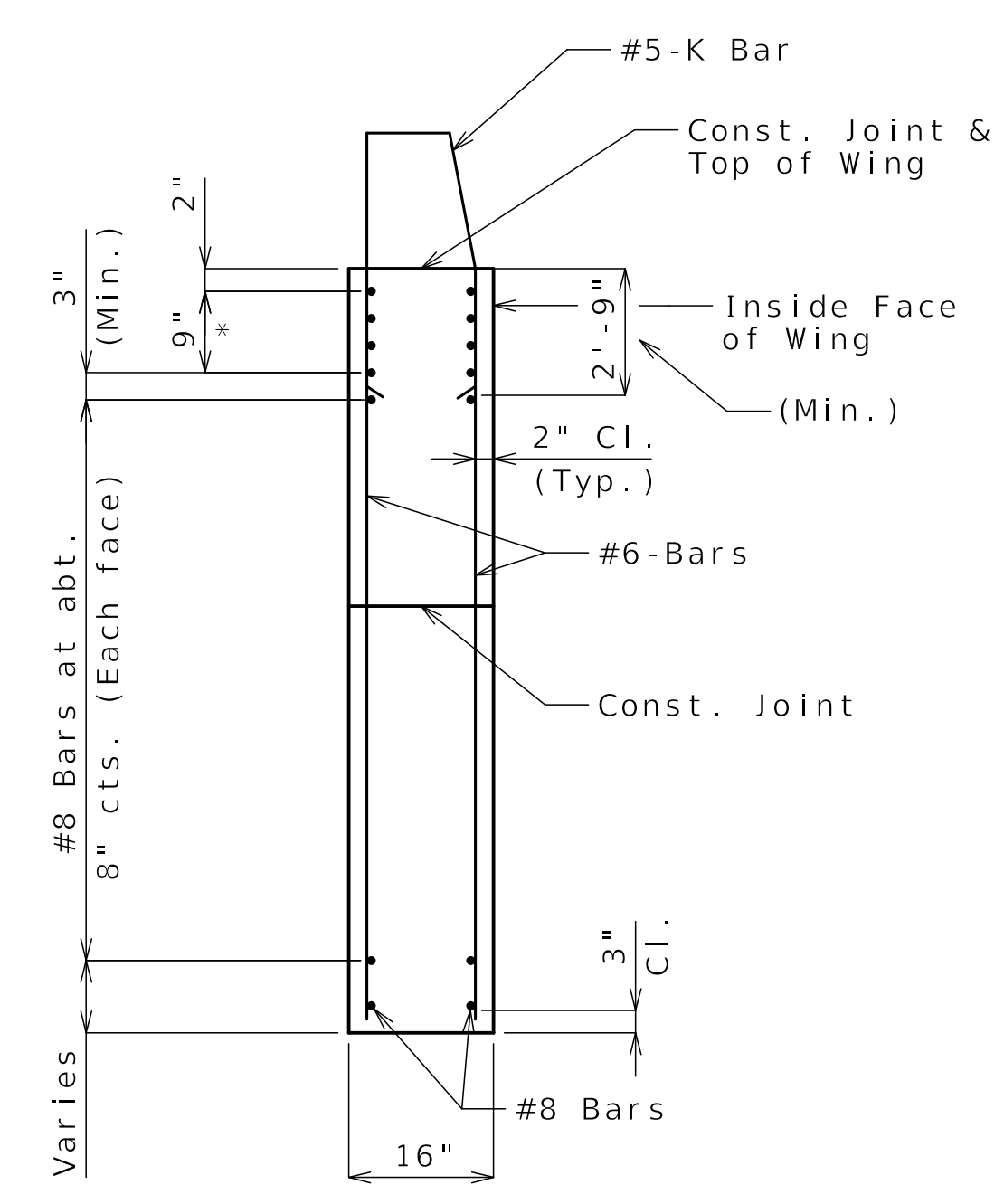
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
 105 WEST CAPITOL JEFFERSON CITY, MO 65102
 1-888-ASK-MODOT (1-888-275-6636)

CLARKSON RADMACHER JOINT VENTURE
 715 KIRK DRIVE KANSAS CITY, MO 64105-1310
 CERTIFICATE OF AUTHORITY NO. 001270



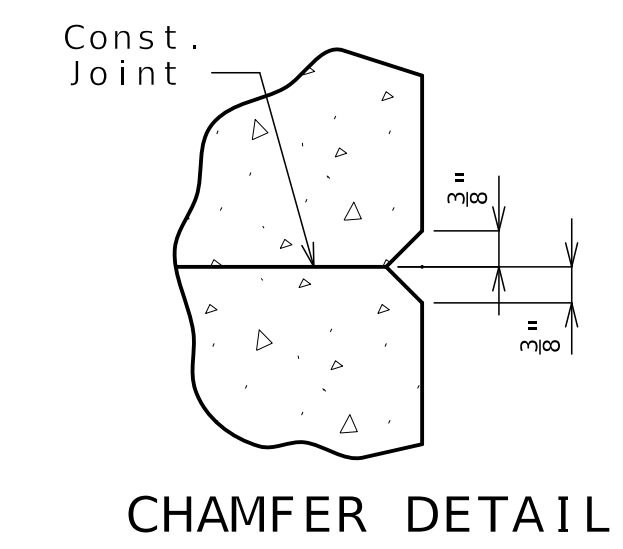
ELEVATION E-E

(South Wingwall shown, North wingwall similar except opposite hand)

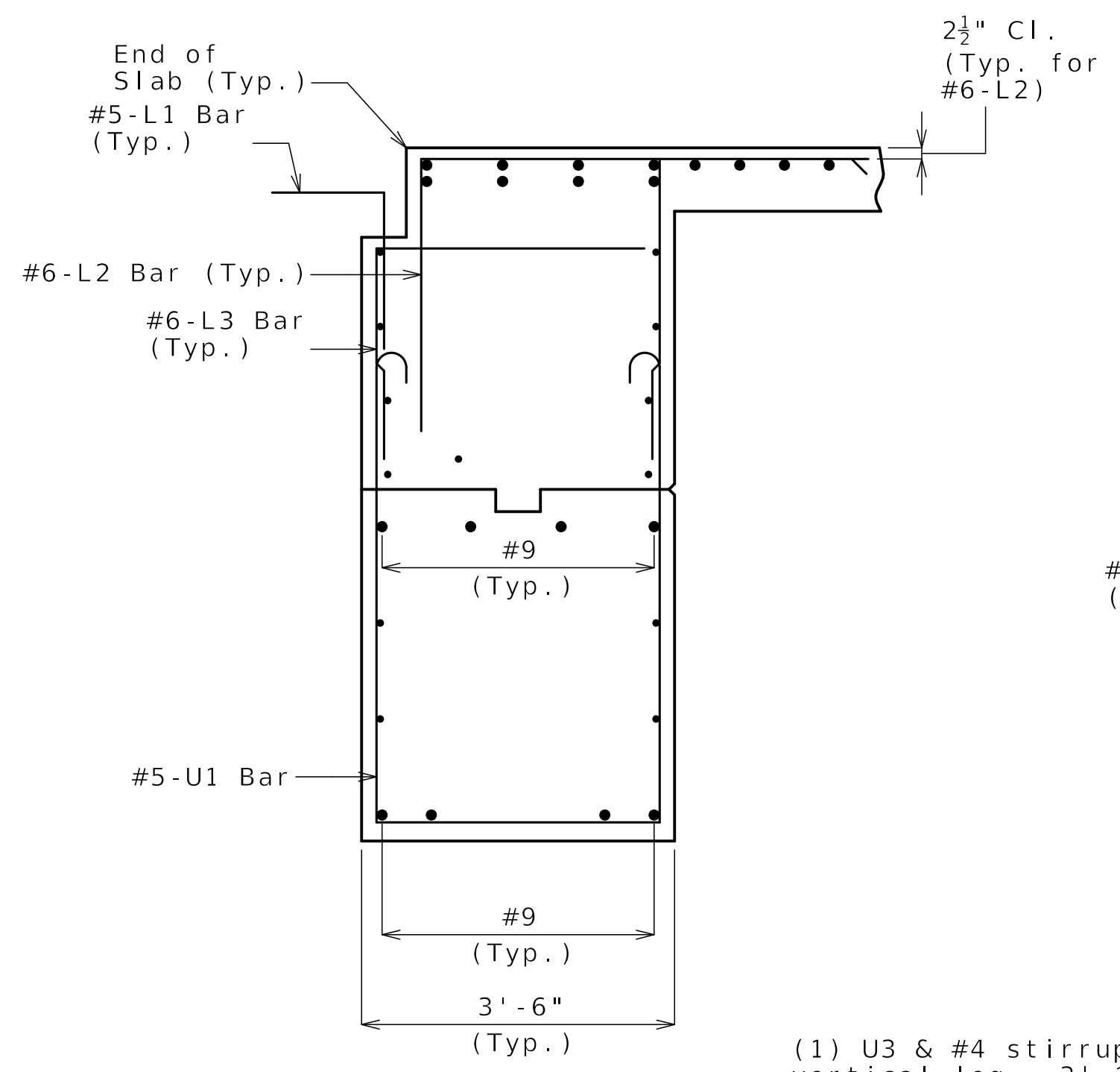


TYPICAL SECTION THRU WING

*#8 Bars at 3" cts. (Each face) (Place with grade) See Elevation E-E for number of bars

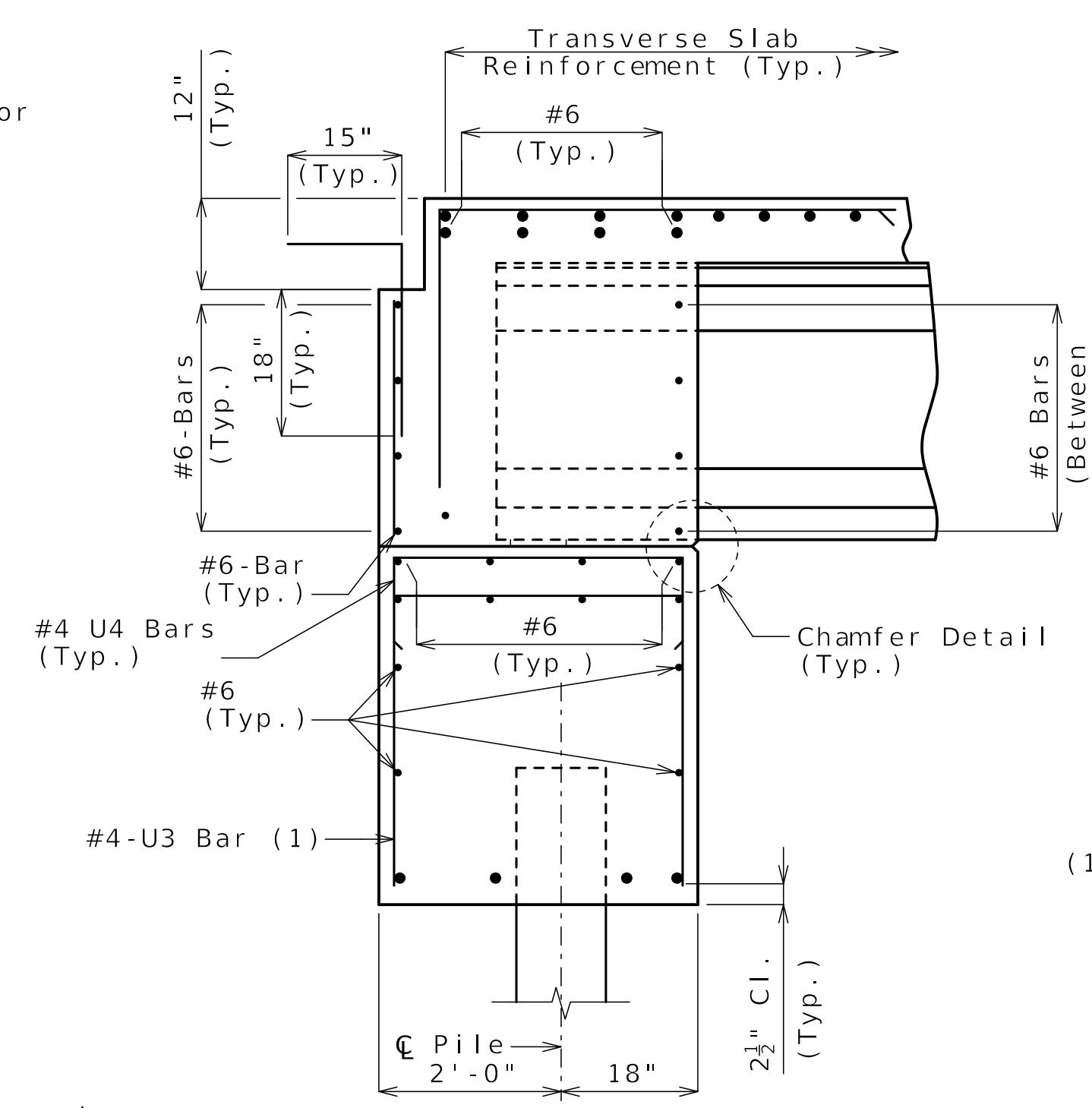


CHAMFER DETAIL

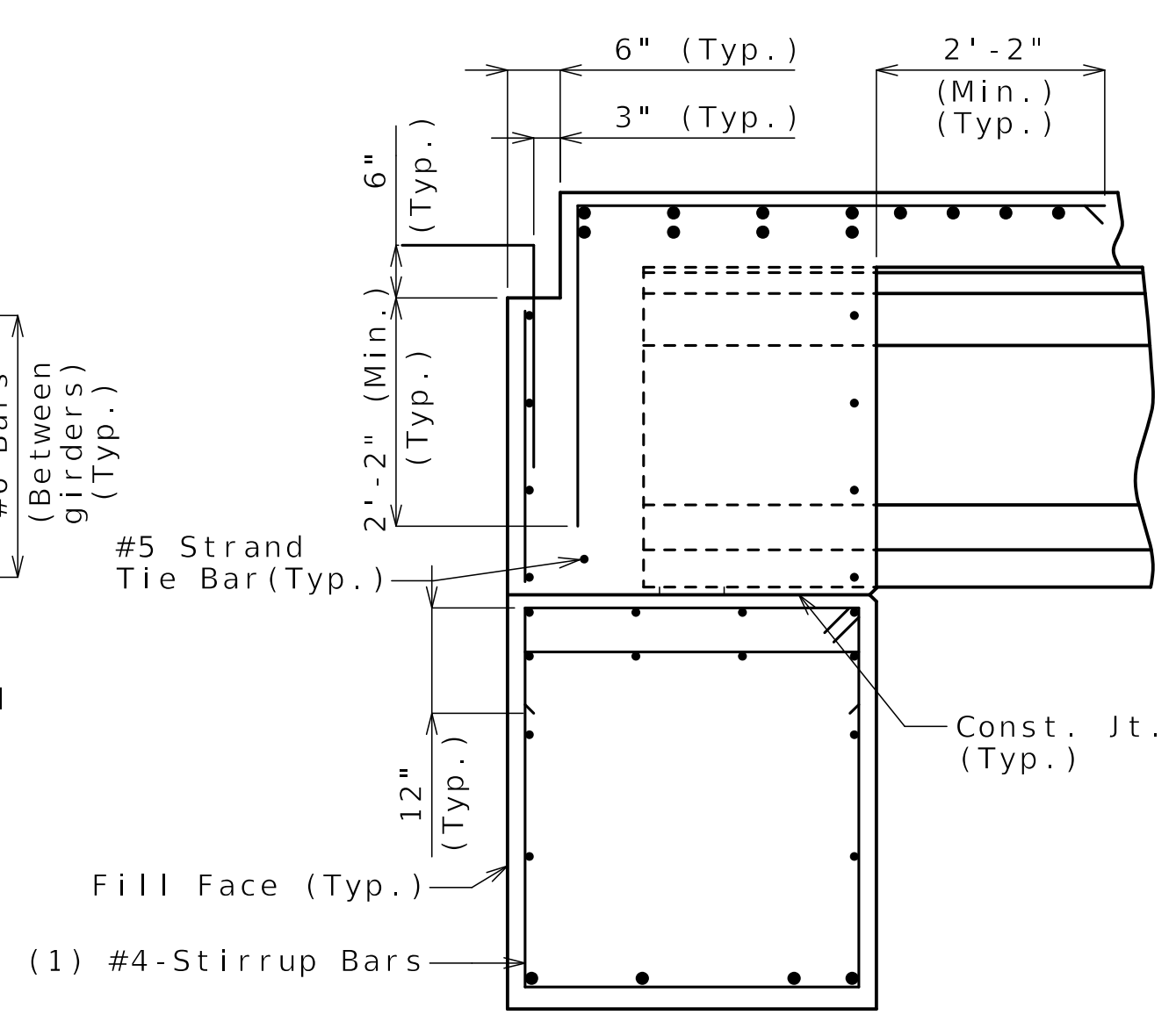


SECTION A-A

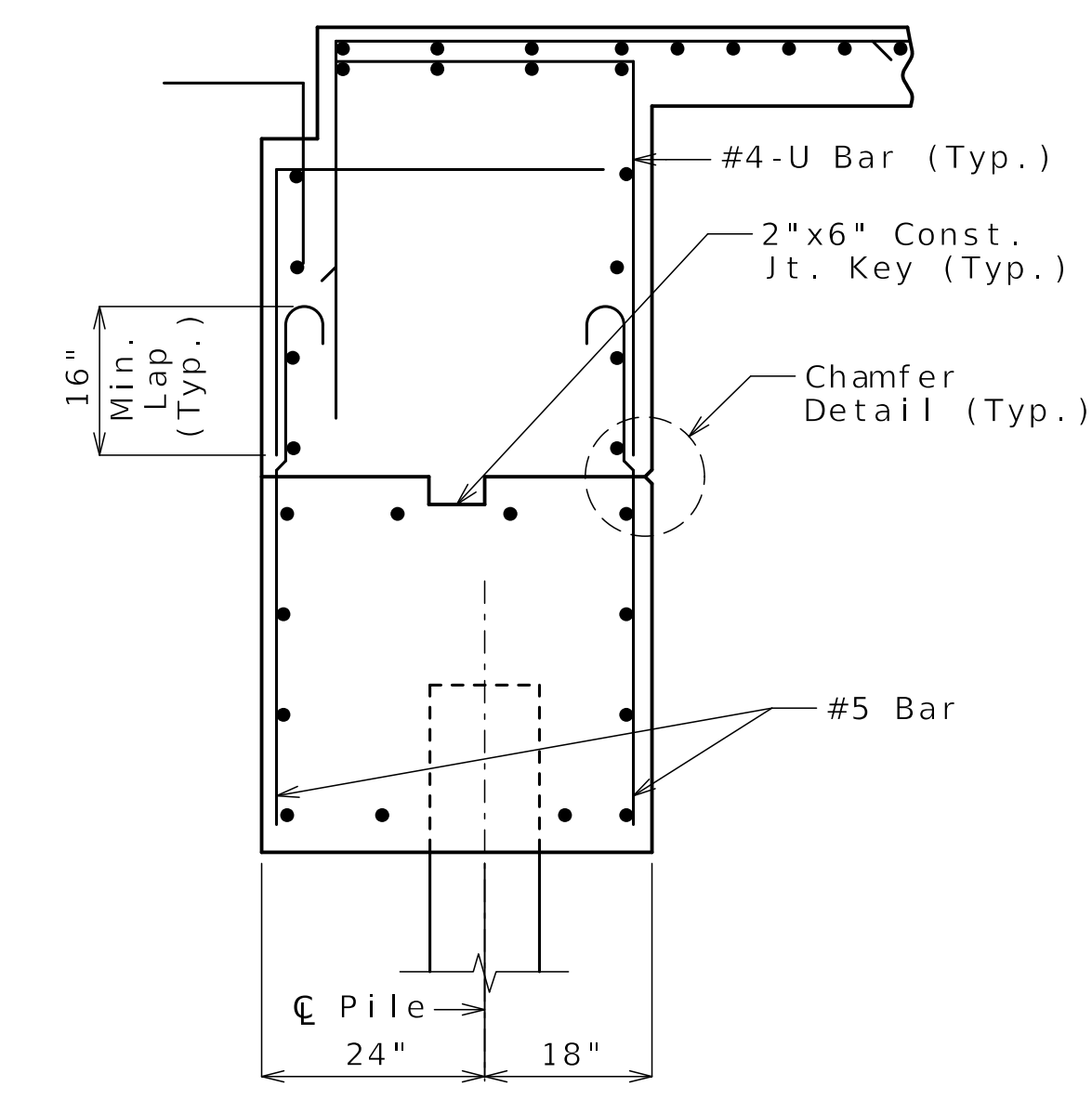
(1) U3 & #4 stirrup bar vertical leg = 3'-1"



SECTION B-B



SECTION C-C



SECTION D-D

Released For Construction
 Not to Scale
 Revision: 0.0
 Date: 04/11/2025
 Package: BRD-04-EB-70-Jackson

General Notes:
 Work this sheet with Sheets No. B04-13 and B04-14.
 For location of Sections A-A, B-B, C-C, D-D and Elevation E-E, see Sheet No. B04-14.
 For reinforcement of the Type D Barrier, see Sheet No. B04-29.

DETAILS OF END BENT NO. 4



Kaleb S. Hawk
9-11-25

DATE PREPARED
04/11/2025

ROUTE STATE
I-70 MO

DISTRICT SHEET NO.
BR B04-16

COUNTY
JACKSON

JOB NO.
J411486D

CONTRACT ID.
240807-C01

PROJECT NO.

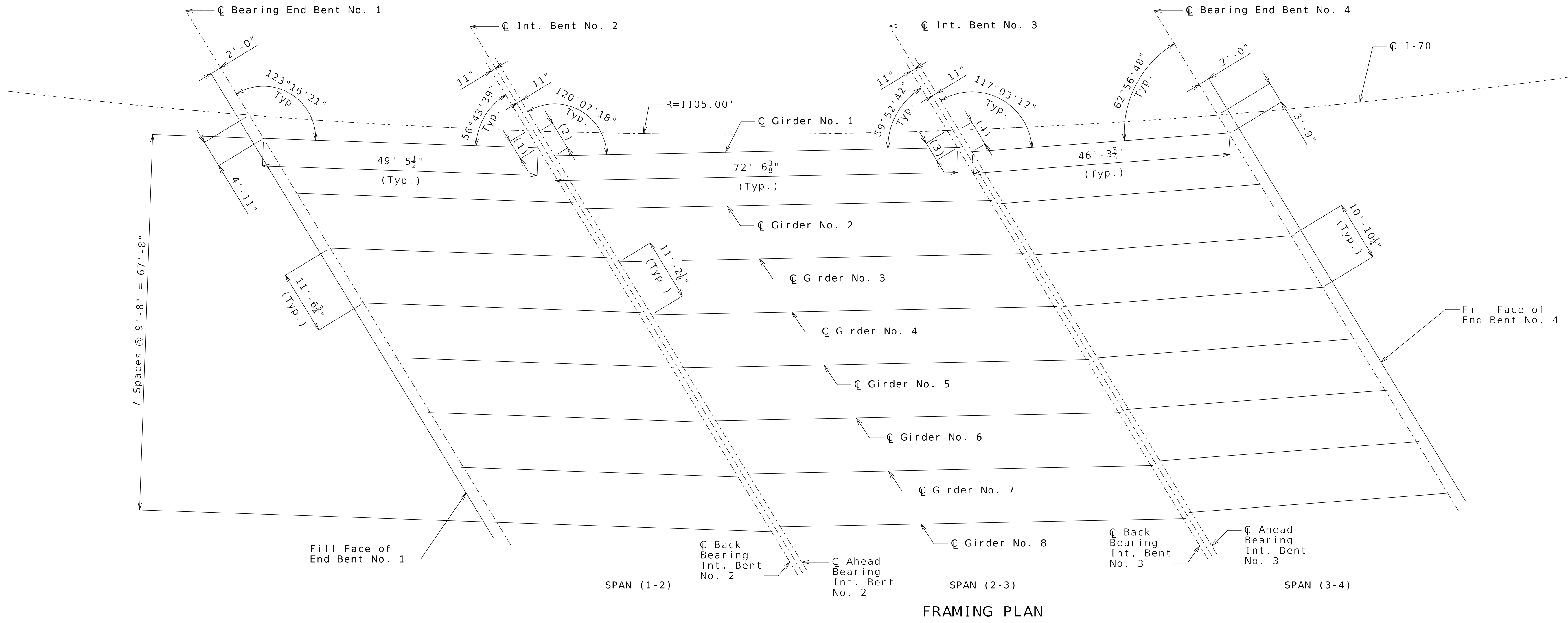
BRIDGE NO.
A9632

DATE	DESCRIPTION
04/11/25	REV 0 - RFC SUBMITTAL

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

CLARKSON RADMACHER JOINT VENTURE
 715 KIRK DRIVE KANSAS CITY, MO 64105-1310
 CERTIFICATE OF AUTHORITY NO. 001270



- (1) 3'-7 3/8"
- (2) 5'-2 1/4"
- (3) 3'-7 1/8"
- (4) 4'-7 1/8"

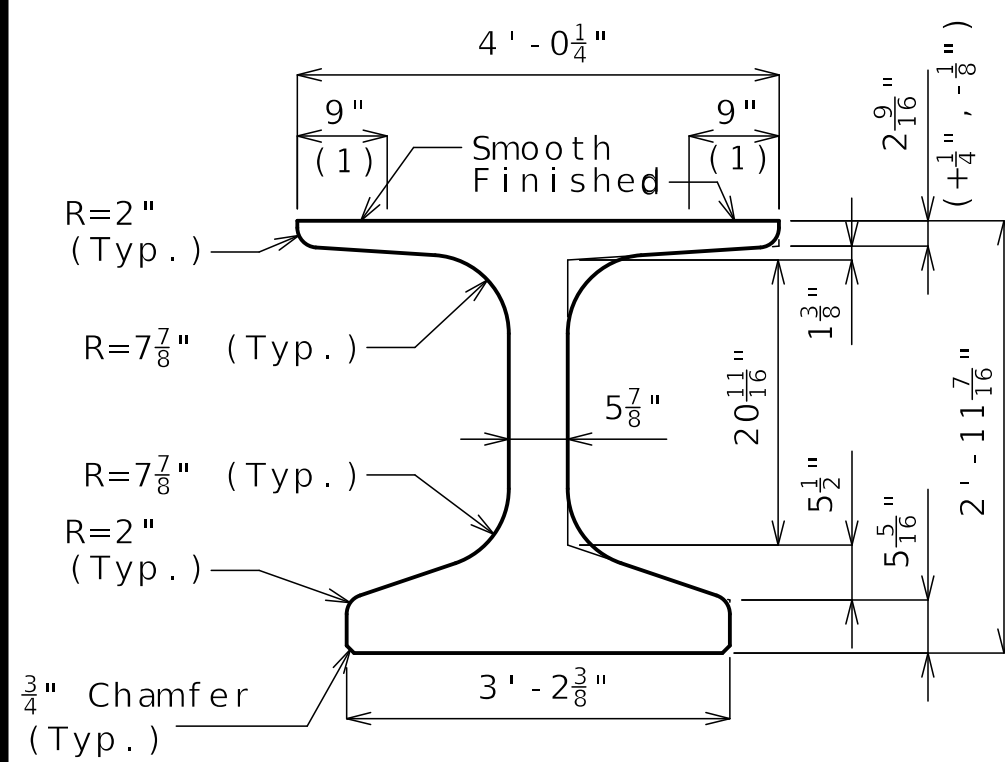
Notes:
 All dimensions are horizontal.
 Girders within a span are parallel.
 All bents are parallel.

Released For Construction
 Not to Scale
 Revision: 0.0
 Date: 04/11/2025
 Package: BRD-04-EB-70-Jackson

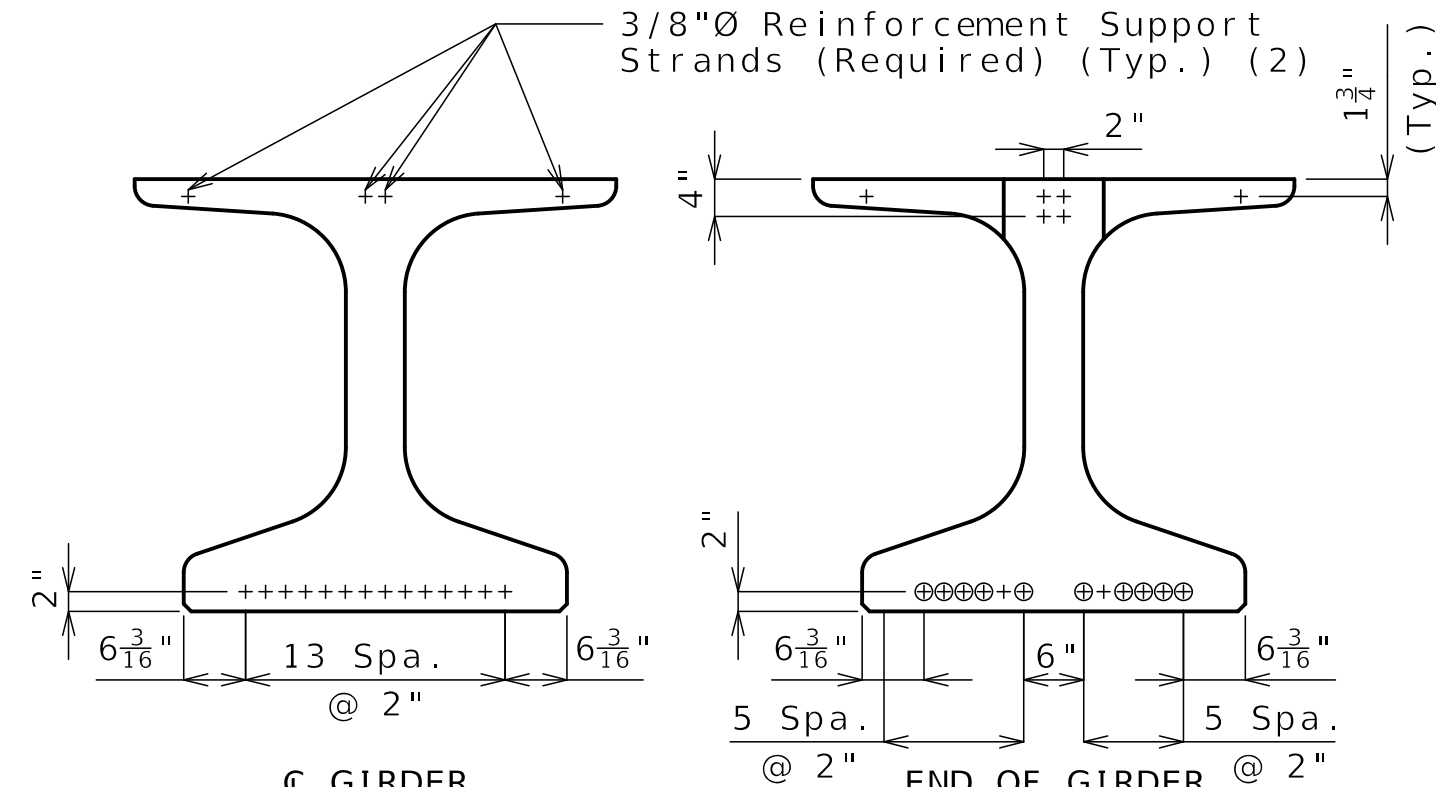
FRAMING PLAN

(1) Fabricator shall apply a bond breaker to this region.

(2) Outer strands tensioned to 2.02 kips/strand and inner strands to 8 kips/strand. Placed symmetrical about \bar{C} Girder. May be moved laterally in pairs.

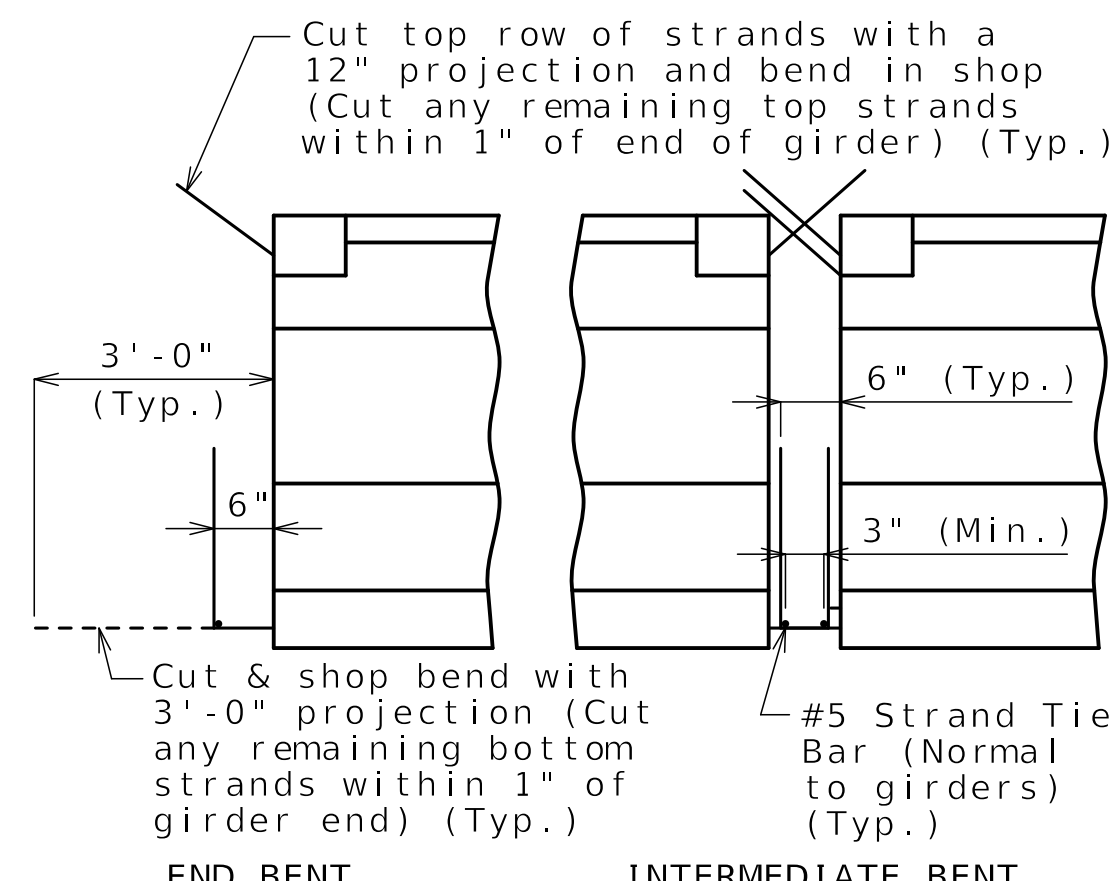


DIMENSIONS



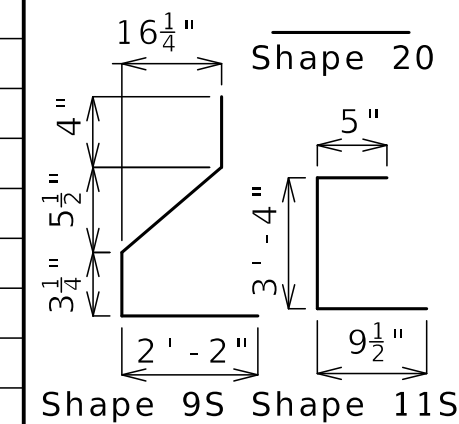
\bar{C} GIRDER STRAND ARRANGEMENT

+ Indicates prestressing strand. ○ Indicates cut & shop bend with 3'-0" projection.



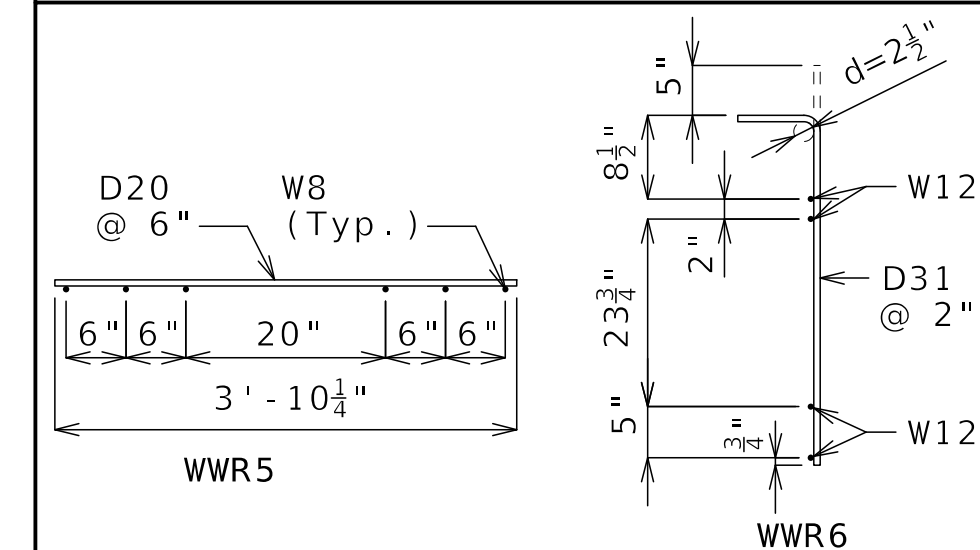
END BENT INTERMEDIATE BENT STRANDS AT GIRDER ENDS

Bill of Reinforcing Steel - Each Girder			
No.	Size/Mark	Length	Shape
58	5 B1	4'-4"	11S
80	6 B2	4'-3"	11S
158	4 D1	4'-0"	9S



STATE OF MISSOURI
KALEB S. HAWK
NUMBER PE-2024007443
PROFESSIONAL ENGINEER
Kaleb S. Hawk
9-11-25

Welded Wire Reinforcement - Each Girder

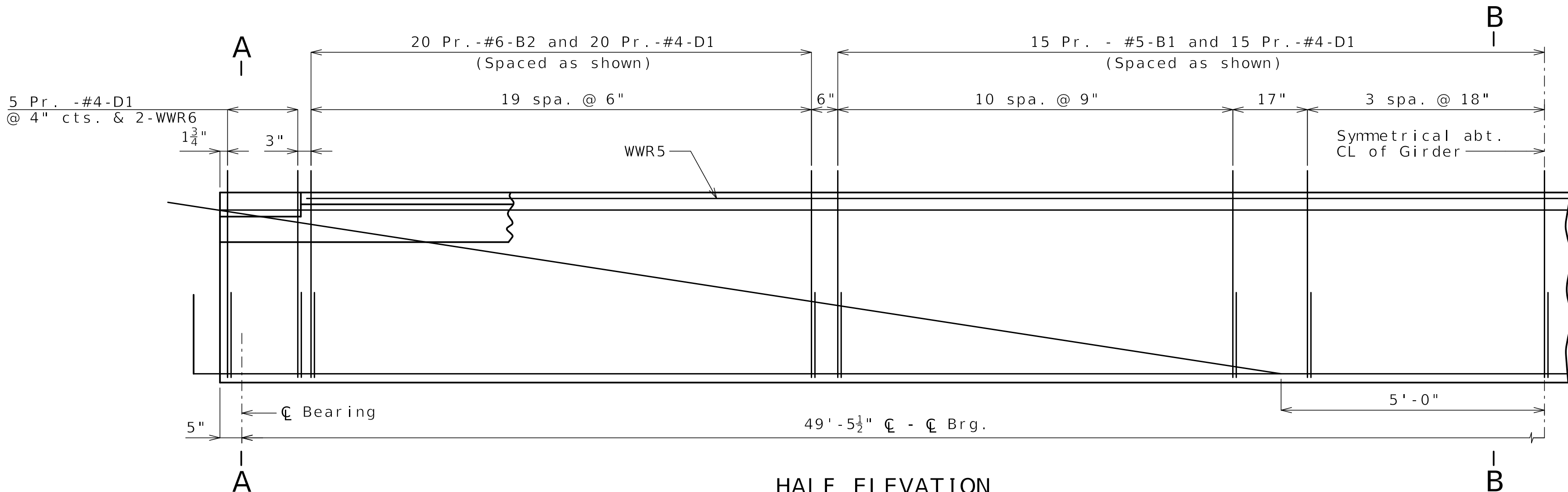


DATE PREPARED 04/11/2025

ROUTE	STATE
I-70	MO
DISTRICT	SHEET NO.
BR	B04-17
COUNTY	JACKSON
JOB NO.	J411486D
CONTRACT ID.	240807-C01
PROJECT NO.	
BRIDGE NO.	A9632

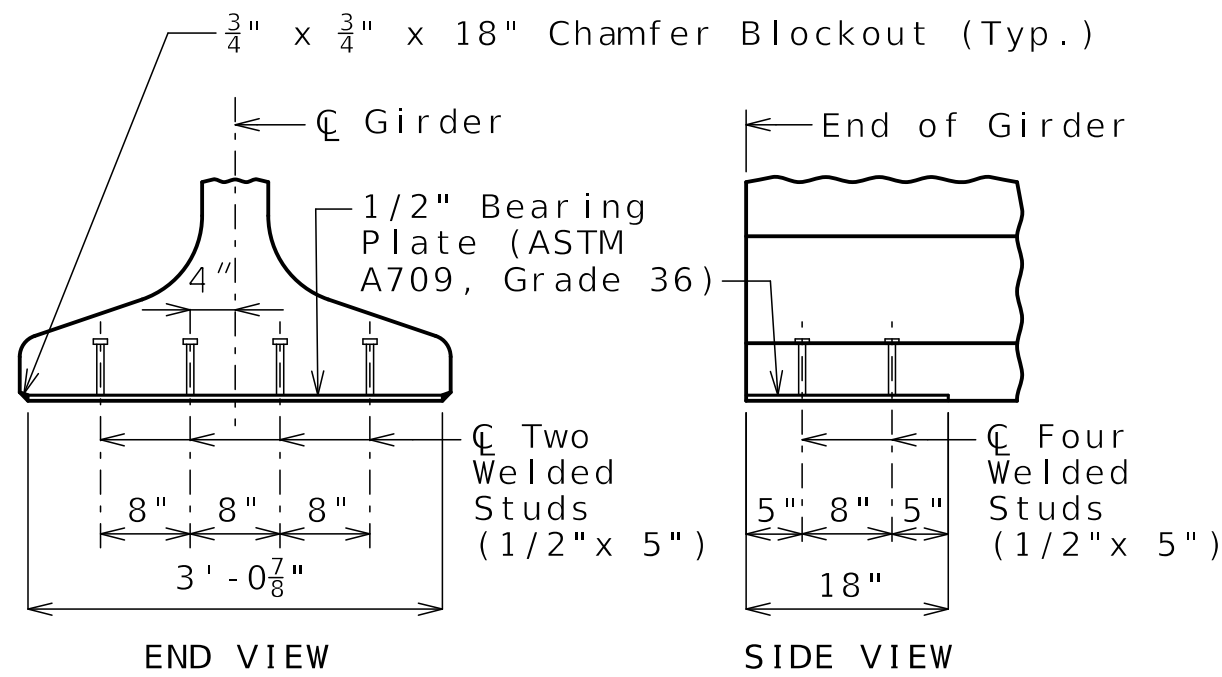
All dimensions are out to out.
Hooks and bends shall be in accordance with the CRSI Manual of Standard Practice for Detailing Reinforced Concrete Structures, Stirrup and Tie Dimensions.
Actual bar lengths are measured along centerline of bar to the nearest inch.
Minimum clearance to reinforcing shall be one inch.
All bar reinforcement shall be Grade 60
The two D1 bars may be furnished as one bar at the fabricator's option.
All B1 bars shall be epoxy coated.
G4 and G5 not required for interior girders. G3 and G6 not required for exterior girders of intermediate spans. Half no. of G3, G4, G5 and G6 not required for ext. girders of end spans.

General Notes:
Concrete for prestressed girders shall be Class A-1 with $f'c = 10000$ psi and $f'ci = 7500$ psi.
Use 14 strands, 0.6"Ø Grade 270, with an initial prestress force of 616 kips.
Pretensioned members shall be in accordance with Sec 1029.
Fabricator shall be responsible for location and design of lifting devices.
Exterior and interior girders are the same except: coil ties, top flange blockout, application of bond breaker.
For Girder Camber Diagram, see Sheet No. B04-22.
For location of coil ties at concrete diaphragms and integral bents, see Sheets No. B04-06 and B04-21.
For additional NU Girder Details, see Sheet B04-20.

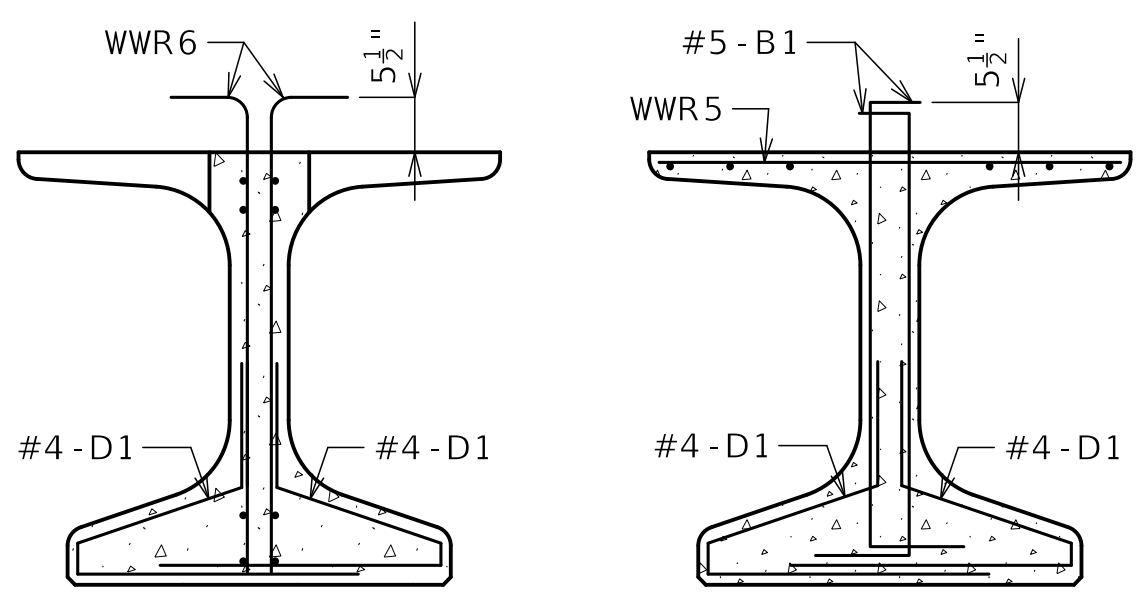


HALF ELEVATION

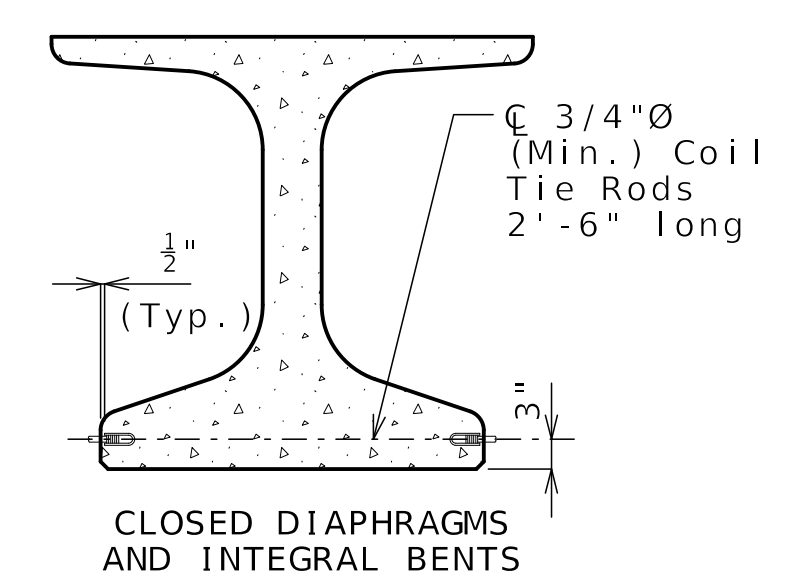
Reinforcement support strands not shown for clarity.



BEARING PLATE



SECTION A-A SECTION B-B
Strands not shown for clarity.



COIL TIES

Exclude coil tie at exterior face of exterior girders except at integral end bents.

Released For Construction
Not to Scale
Revision: 0.0
Date: 04/11/2025
Package: BRD-04-EB-70-Jackson

DESCRIPTION
REV 0 - RFC SUBMITTAL

DATE
04/11/25

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

MoDOT

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

CLARKSON RADMACHER JOINT VENTURE

715 KIRK DRIVE
KANSAS CITY, MO 64105-1310
CERTIFICATE OF AUTHORITY
NO. 001270

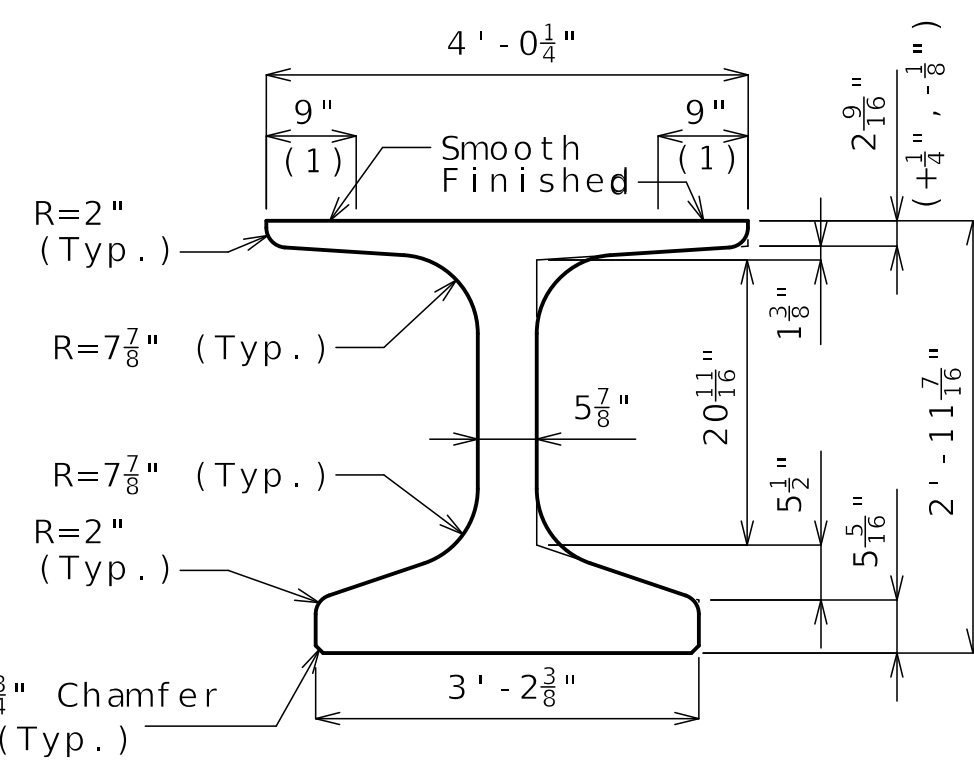
HNTB

(1) Fabricator shall apply a bond breaker to the region.

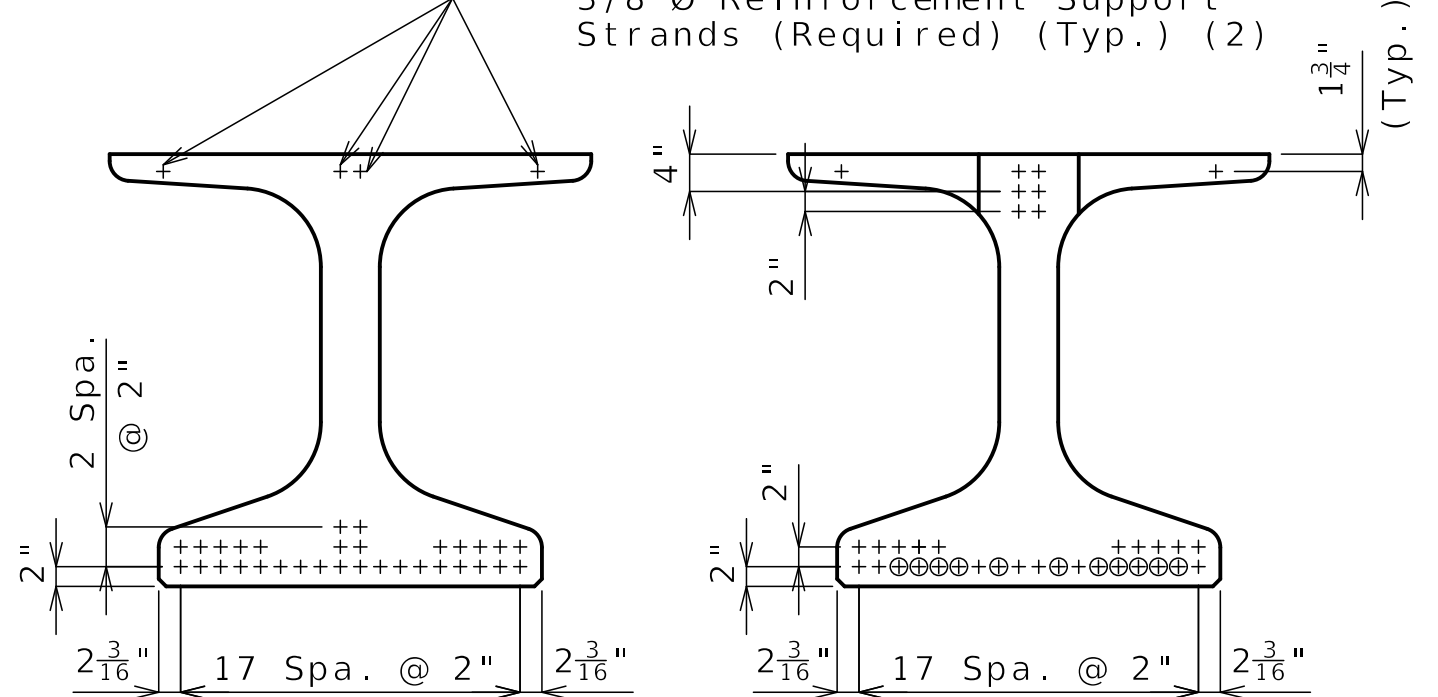
(2) Outer strands tensioned to 2.02 kips/strand and inner strands to 8 kips/strand. Placed symmetrical about \bar{C} Girder. May be moved laterally in pairs.

3/8"Ø Reinforcement Support Strands (Required) (Typ.) (2)

Cut top 2 rows of strands with a 12" projection and bend in shop (Cut any remaining top strands within 1" of end of girder) (Typ.)

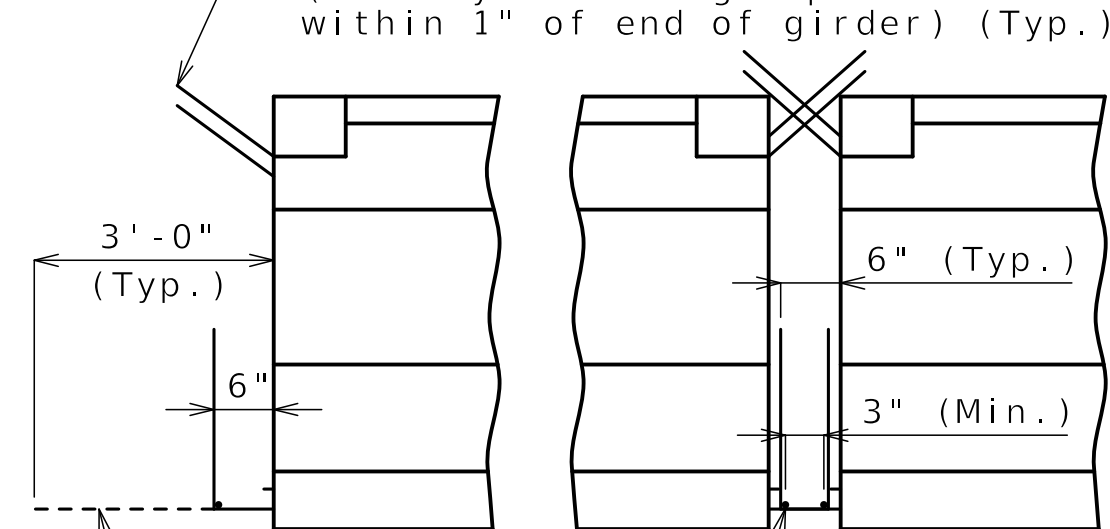


DIMENSIONS



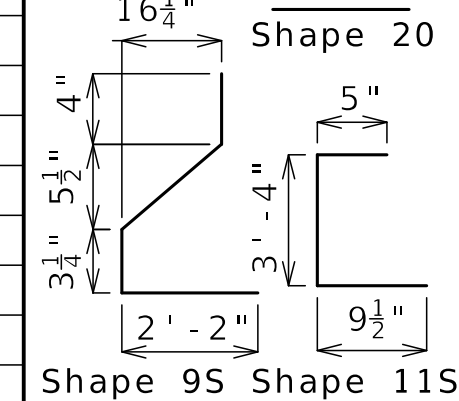
\bar{C} GIRDER STRAND ARRANGEMENT

+ Indicates prestressing strand. ○ Indicates cut & shop bend with 3'-0" projection.

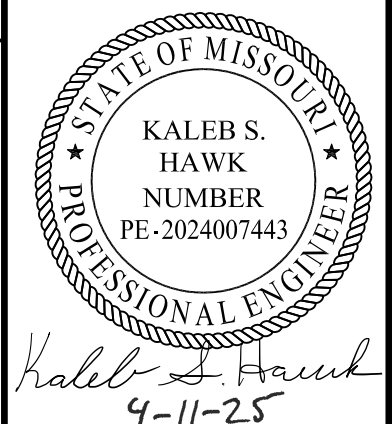
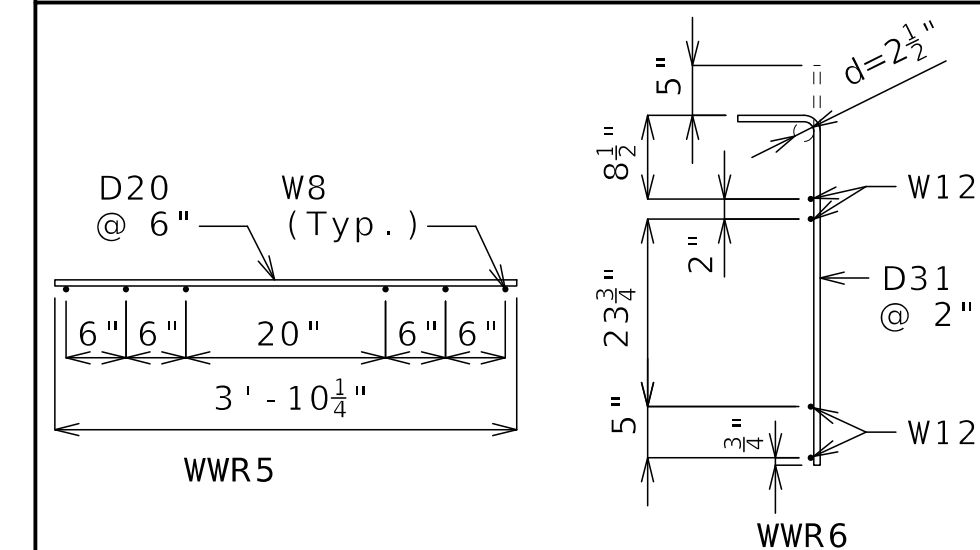


INTERMEDIATE BENT STRANDS AT GIRDER ENDS

Bill of Reinforcing Steel - Each Girder			
No.	Size/Mark	Length	Shape
112	5 B1	4'-4"	11S
80	6 B2	4'-3"	11S
208	4 D1	4'-0"	9S



Welded Wire Reinforcement - Each Girder



DATE PREPARED 04/11/2025	
ROUTE I-70	STATE MO
DISTRICT BR	SHEET NO. B04-18
COUNTY JACKSON	
JOB NO. J411486D	
CONTRACT ID. 240807-C01	
PROJECT NO.	
BRIDGE NO. A9632	

All dimensions are out to out.
Hooks and bends shall be in accordance with the CRSI Manual of Standard Practice for Detailing Reinforced Concrete Structures, Stirrup and Tie Dimensions.

Actual bar lengths are measured along centerline of bar to the nearest inch.
Minimum clearance to reinforcing shall be one inch.

All bar reinforcement shall be Grade 60
The two D1 bars may be furnished as one bar at the fabricator's option.

All B1 bars shall be epoxy coated.
G4 and G5 not required for interior girders. G3 and G6 not required for exterior girders of intermediate spans. Half no. of G3, G4, G5 and G6 not required for ext. girders of end spans.

General Notes:
Concrete for prestressed girders shall be Class A-1 with $f'c = 10000$ psi and $f'ci = 7500$ psi.
Use 32 strands, 0.6"Ø Grade 270, with an initial prestress force of 1407 kips.

Pretensioned members shall be in accordance with Sec 1029.

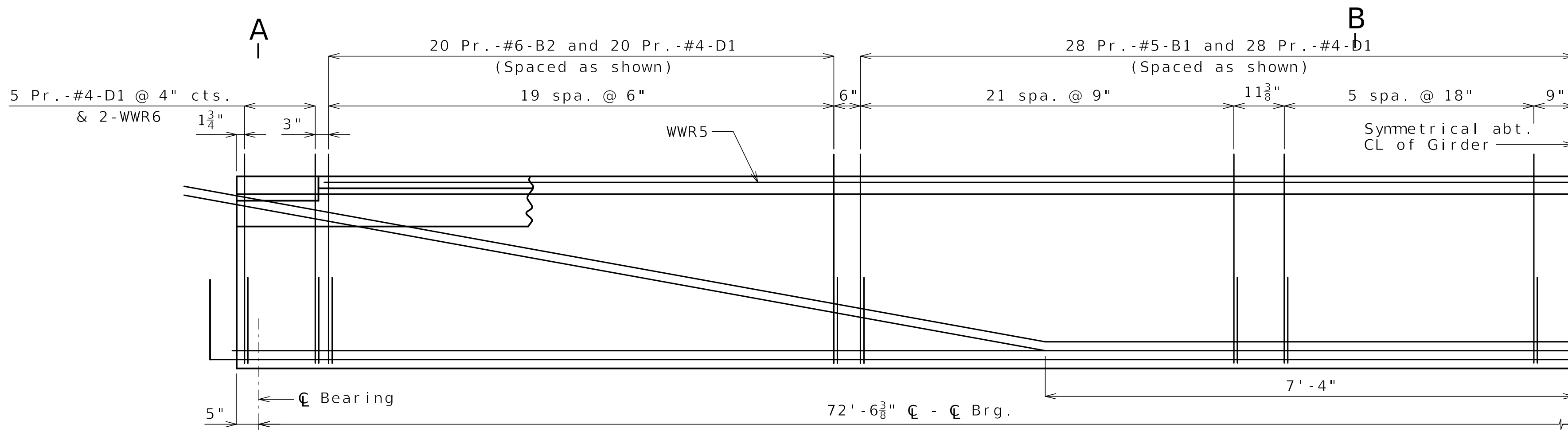
Fabricator shall be responsible for location and design of lifting devices.

Exterior and interior girders are the same except: coil ties, top flange blackout, application of bond breaker.

For Girder Camber Diagram, see Sheet No. B04-22.

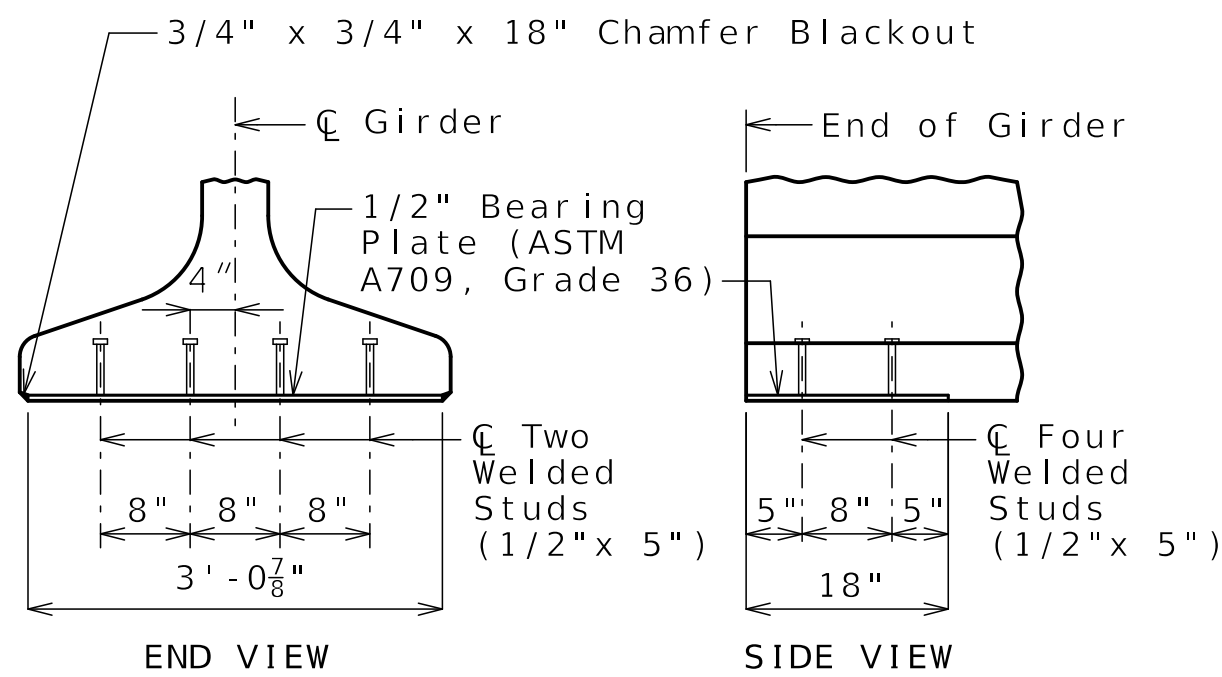
For location of coil ties at concrete diaphragms and integral bents, see Sheet No. B04-21.

For additional NU Girder Details, see Sheet No. B04-20.

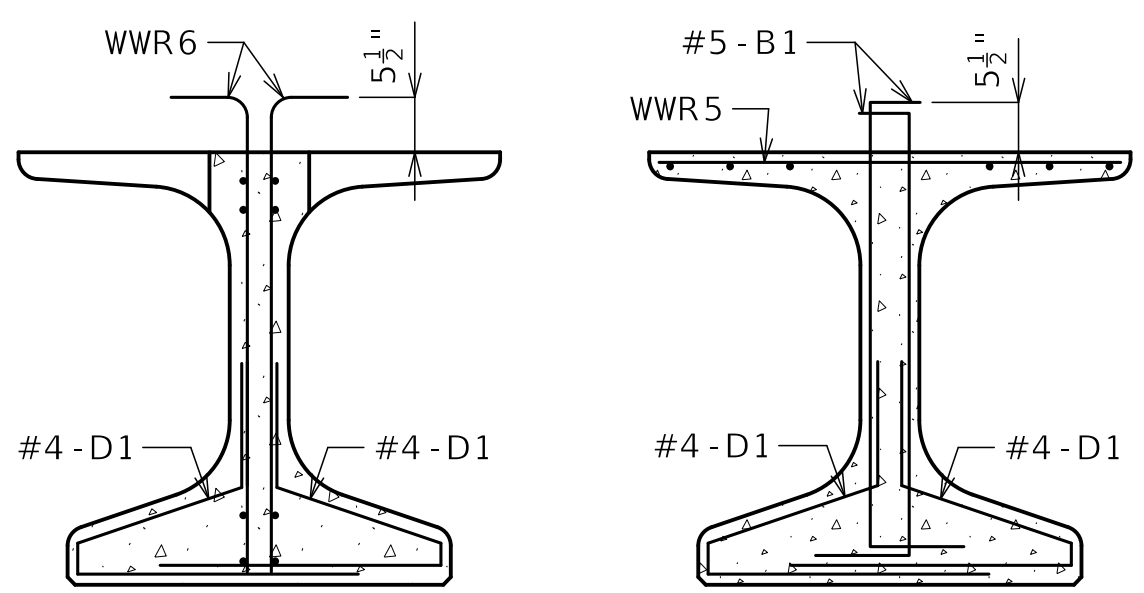


HALF ELEVATION

Reinforcement support strands not shown for clarity.



BEARING PLATE

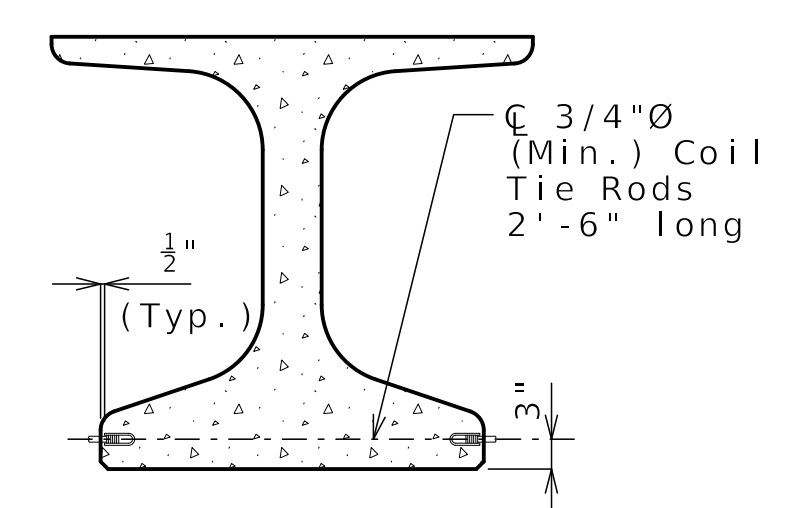


SECTION A-A

Strands not shown for clarity.

SECTION B-B

Strands not shown for clarity.



COIL TIES

Exclude coil tie at exterior face of exterior girders.

Released For Construction
Not to Scale
Revision: 0.0
Date: 04/11/2025
Package: BRD-04-EB-70-Jackson

DESCRIPTION
REV 0 - RFC SUBMITTAL

DATE
04/11/25

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

MoDOT

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

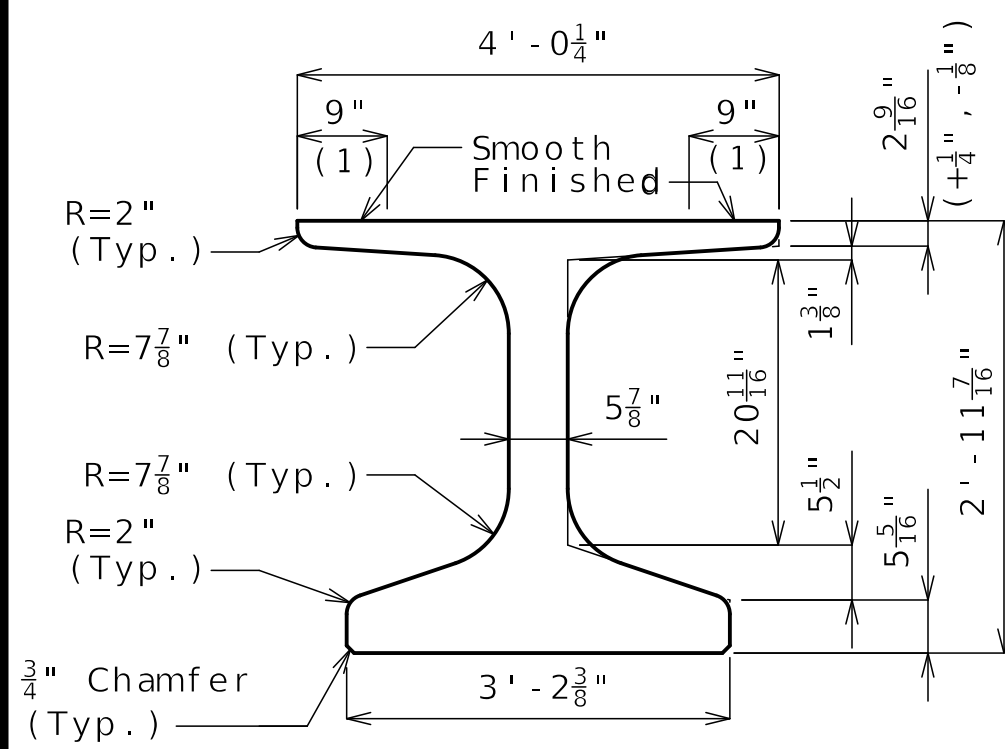
CLARKSON RADMACHER JOINT VENTURE

715 KIRK DRIVE
KANSAS CITY, MO 64105-1310
CERTIFICATE OF AUTHORITY
NO. 001270

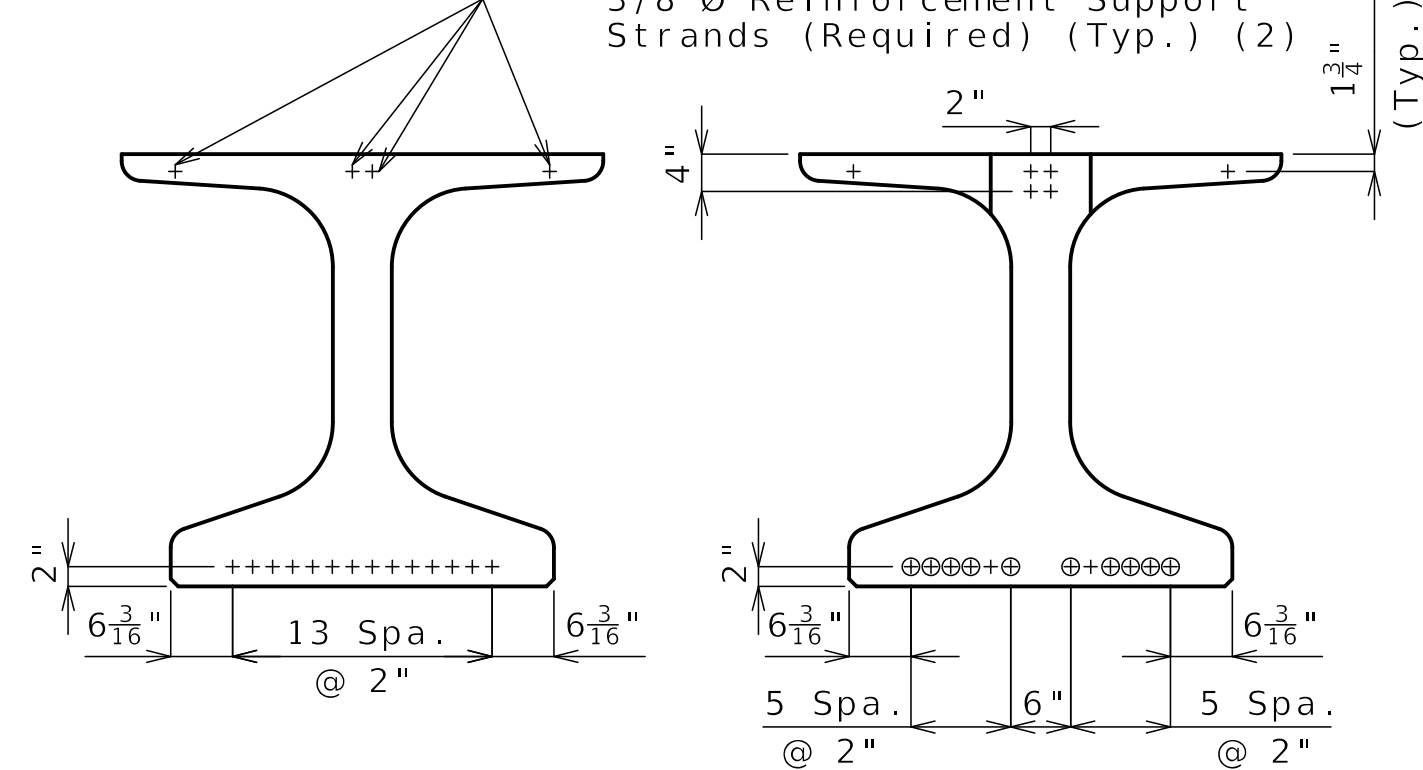
HNTB

(1) Fabricator shall apply a bond breaker to this region.

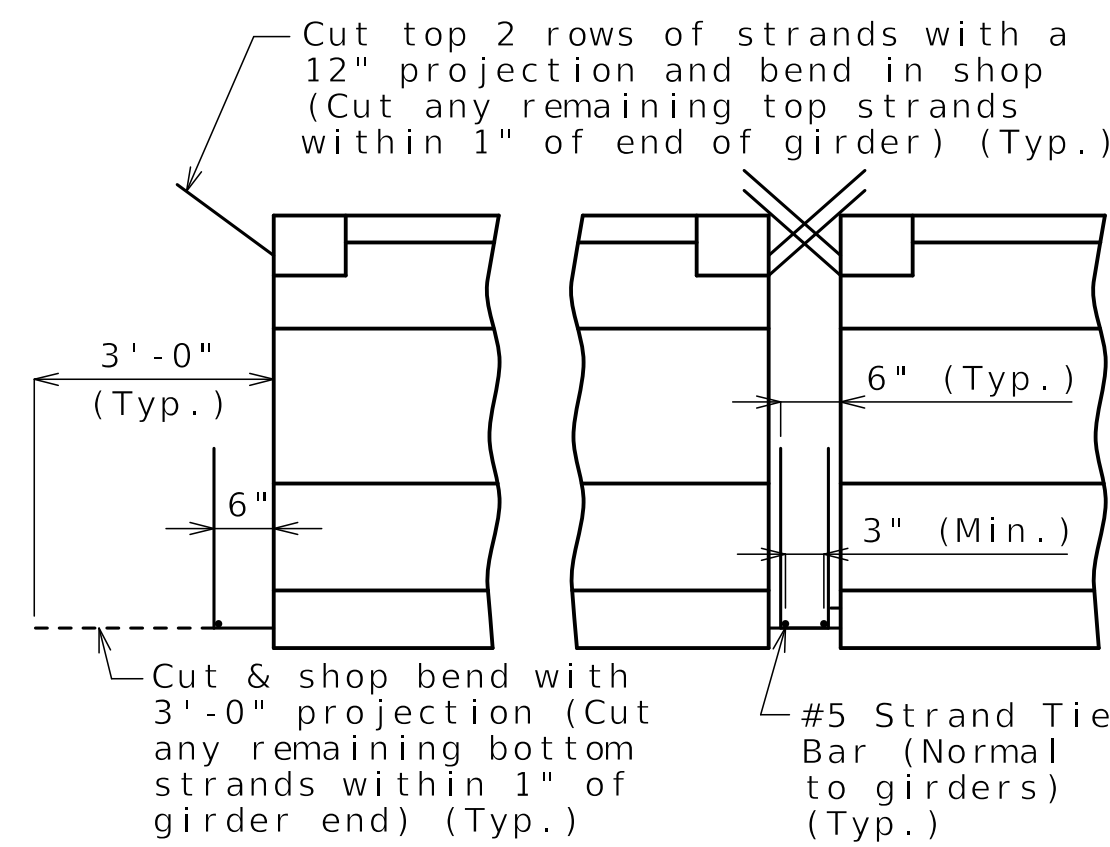
(2) Outer strands tensioned to 2.02 kips/strand and inner strands to 8 kips/strand. Placed symmetrical about \bar{C} Girder. May be moved laterally in pairs.



DIMENSIONS



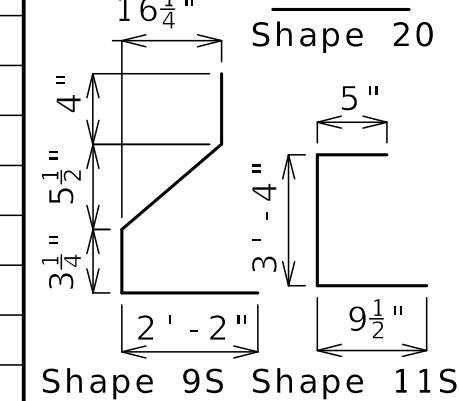
\bar{C} GIRDER STRAND ARRANGEMENT



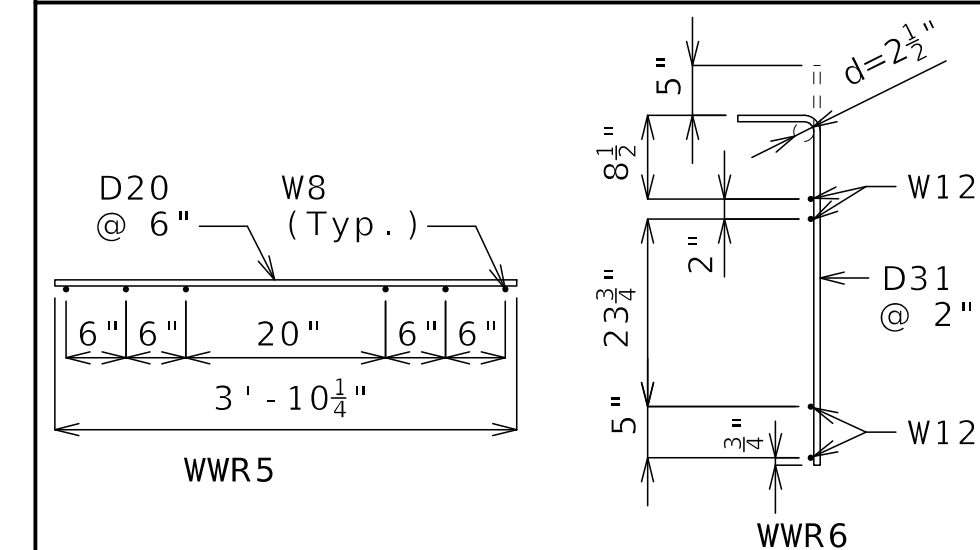
END BENT INTERMEDIATE BENT STRANDS AT GIRDER ENDS

+ Indicates prestressing strand. \circ Indicates cut & shop bend with 3'-0" projection.

Bill of Reinforcing Steel - Each Girder			
No.	Size/Mark	Length	Shape
40	5 B1	4'-4"	11S
80	6 B2	4'-3"	11S
140	4 D1	4'-0"	9S



Welded Wire Reinforcement - Each Girder



All dimensions are out to out. Hooks and bends shall be in accordance with the CRSI Manual of Standard Practice for Detailing Reinforced Concrete Structures, Stirrup and Tie Dimensions.

Actual bar lengths are measured along centerline of bar to the nearest inch. Minimum clearance to reinforcing shall be one inch.

All bar reinforcement shall be Grade 60. The two D1 bars may be furnished as one bar at the fabricator's option.

All B1 bars shall be epoxy coated. G4 and G5 not required for interior girders. G3 and G6 not required for exterior girders of intermediate spans. Half no. of G3, G4, G5 and G6 not required for ext. girders of end spans.

General Notes: Concrete for prestressed girders shall be Class A-1 with $f'c = 10000$ psi and $f'ci = 7500$ psi.

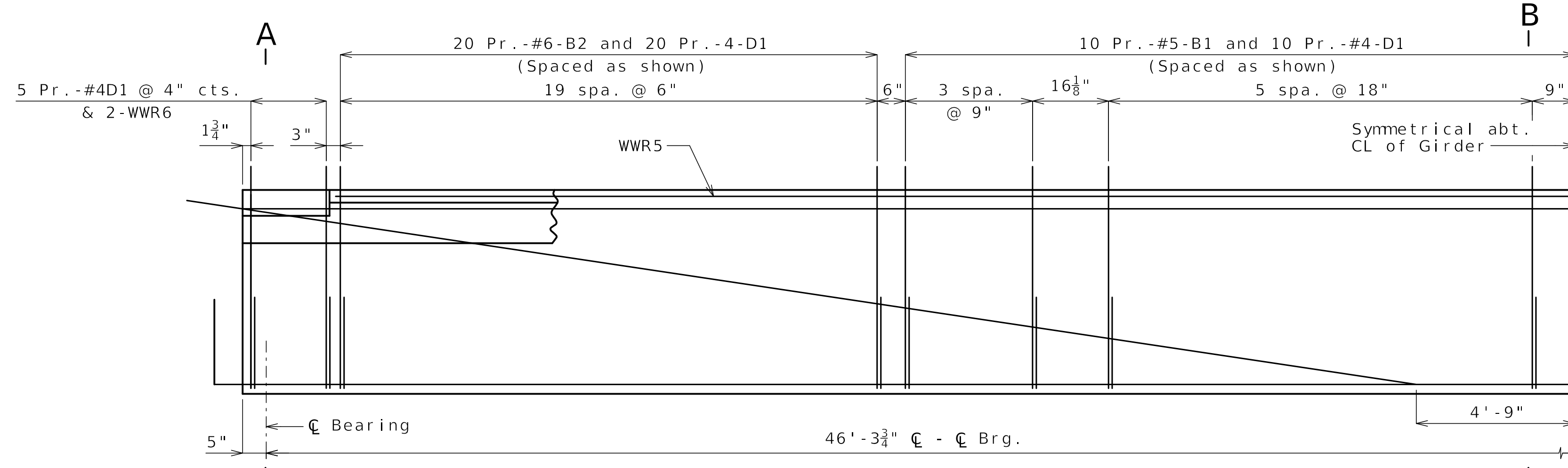
Use 14 strands, 0.6"Ø Grade 270, with an initial prestress force of 615 kips. Pretensioned members shall be in accordance with Sec 1029.

Fabricator shall be responsible for location and design of lifting devices. Exterior and interior girders are the same except: coil ties, top flange blackout, application of bond breaker.

For Girder Camber Diagram, see Sheet No. B04-22.

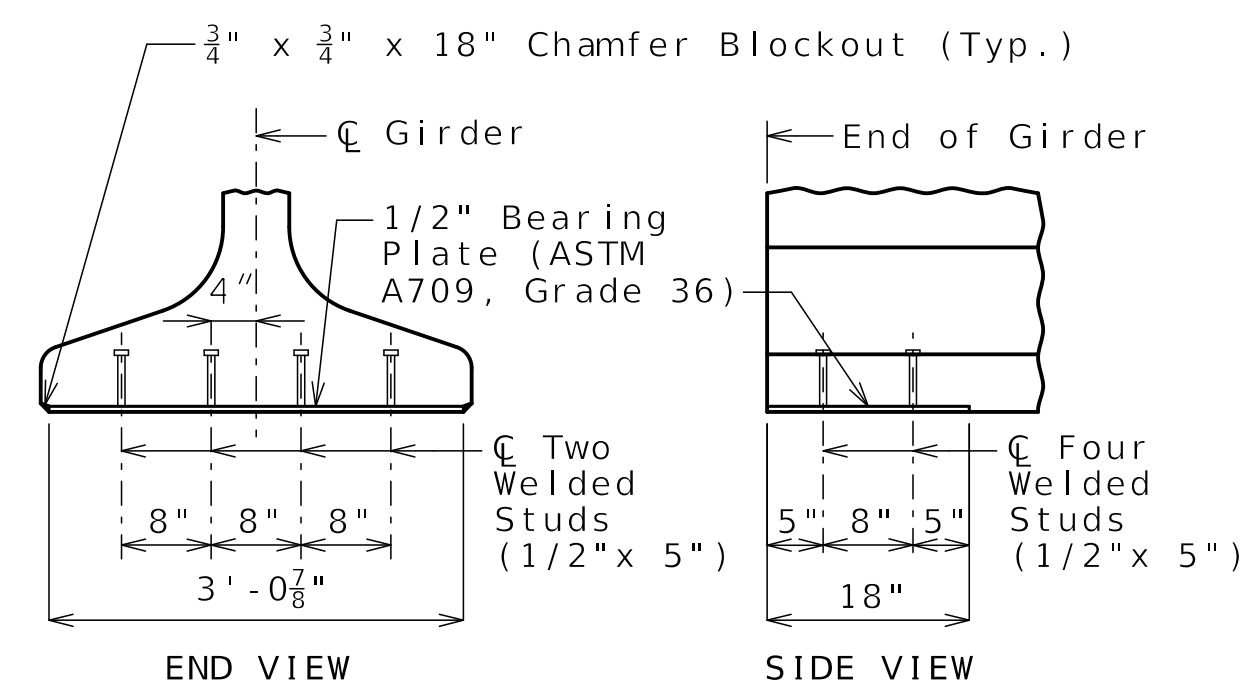
For location of coil ties at concrete diaphragms and integral bents, see Sheets No. B04-14 and B04-21.

For additional NU Girder Details, see Sheet No. B04-20.

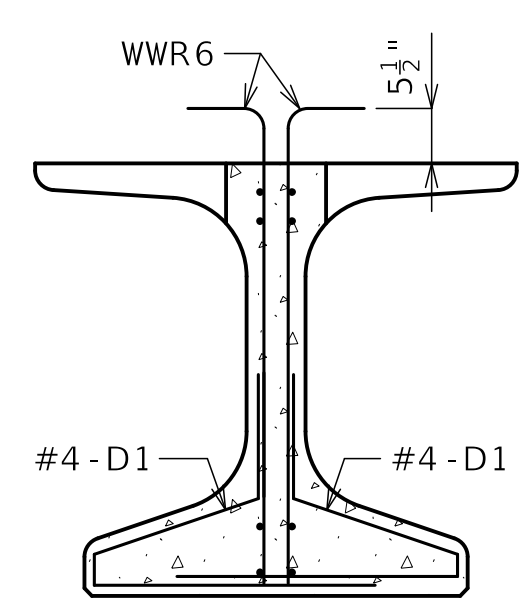


HALF ELEVATION

Reinforcement support strands not shown for clarity.

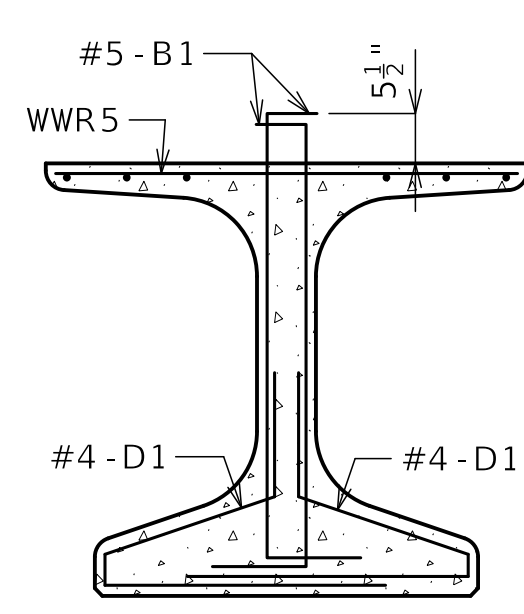


BEARING PLATE



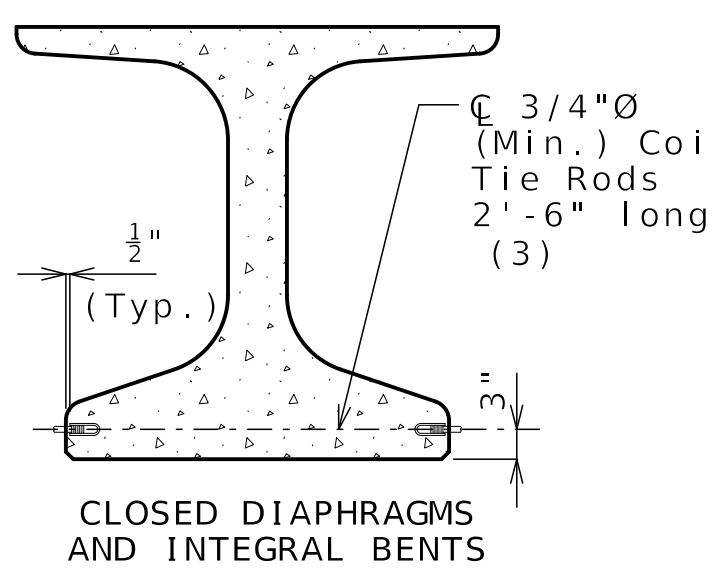
SECTION A-A

Strands not shown for clarity.



SECTION B-B

Strands not shown for clarity.



COIL TIES

Exclude coil tie at exterior face of exterior girders except at integral end bents.

(3) 18" at exterior face of exterior girders at end bents

Released For Construction
Not to Scale
Revision: 0.0
Date: 04/11/2025
Package: BRD-04-EB-70-Jackson

NU-GIRDERS - SPAN (3-4)

DATE PREPARED: 04/11/2025

ROUTE: I-70	STATE: MO
DISTRICT: BR	SHEET NO.: B04-19
COUNTY: JACKSON	JOB NO.: J411486D
CONTRACT ID.: 240807-C01	PROJECT NO.:
BRIDGE NO.: A9632	

DESCRIPTION: REV 0 - RFC SUBMITTAL

DATE	DESCRIPTION
04/11/25	

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

715 KIRK DRIVE KANSAS CITY, MO 64105-1310
CERTIFICATE OF AUTHORITY NO. 001270



Kaleb S. Hawk
9-11-25

DATE PREPARED
04/11/2025

ROUTE STATE
I-70 MO

DISTRICT SHEET NO.
BR B04-20

COUNTY
JACKSON

JOB NO.
J411486D

CONTRACT ID.
240807-C01

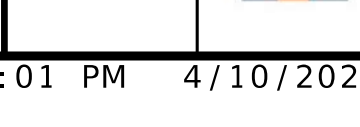
PROJECT NO.

BRIDGE NO.
A9632

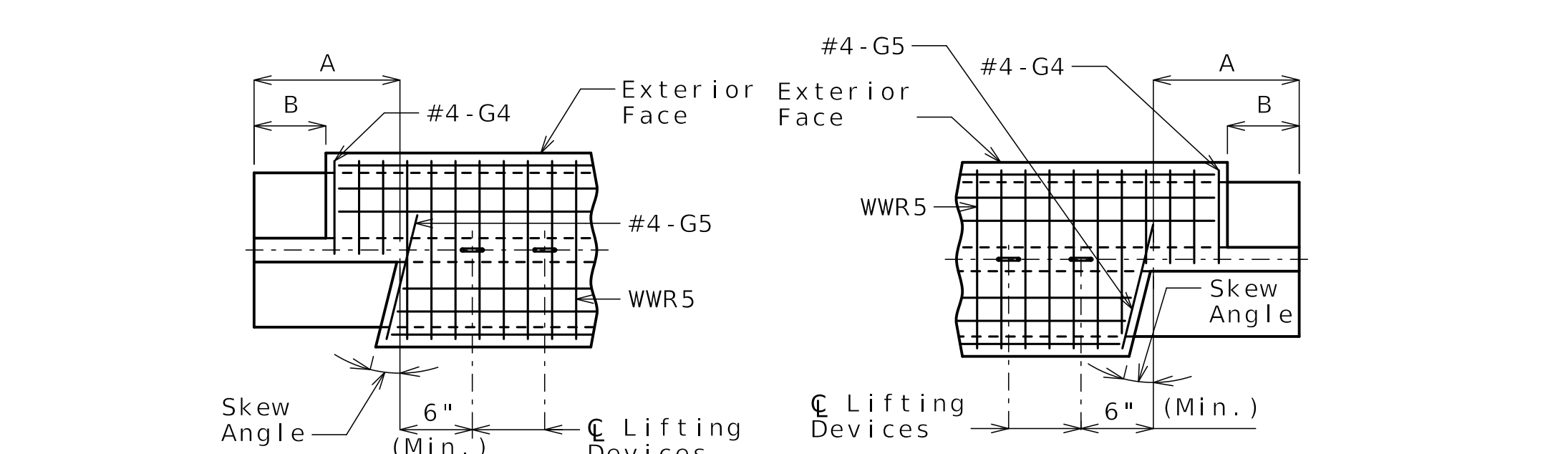
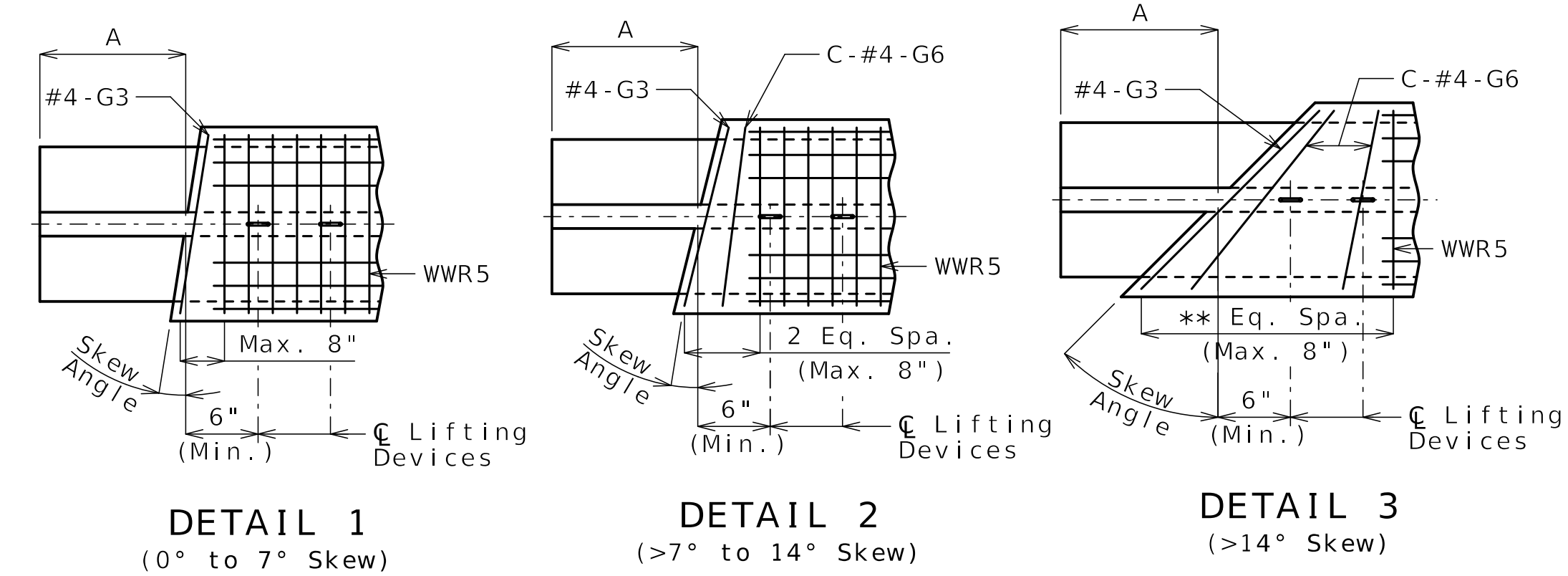
DATE	DESCRIPTION
04/11/25	REV 0 - RFC SUBMITTAL

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

CLARKSON RADMACHER JOINT VENTURE
715 KIRK DRIVE
KANSAS CITY, MO 64105-1310
CERTIFICATE OF AUTHORITY
NO. 001270



Note: 'C' = zero for Detail 1



DETAIL 4
(Left exterior girder shown, rotate 180° for right exterior girder)

TOP FLANGE BLOCKOUT DETAILS

(See Table of Variables for detail assignment to specific girders)
(Left advance skew shown, mirror for right advance skew)

TABLE OF VARIABLES									
Span No.	Girder No.	Bent No.	Detail	A	B	C	D	E	F
1-2	1	1	3	2'-0 ¹ / ₂ "	---	5	4'-8"	3'-3"	Varies
1-2	2	1	3	2'-0 ¹ / ₂ "	---	5	4'-8"	3'-3"	Varies
1-2	3	1	3	2'-0 ³ / ₈ "	---	5	4'-8"	3'-3"	Varies
1-2	4	1	3	2'-0 ³ / ₈ "	---	5	4'-8"	3'-3"	Varies
1-2	5	1	3	2'-0 ¹ / ₂ "	---	5	4'-8"	3'-3"	Varies
1-2	6	1	3	2'-0 ¹ / ₂ "	---	5	4'-8"	3'-3"	Varies
1-2	7	1	3	2'-0 ³ / ₈ "	---	5	4'-8"	3'-3"	Varies
1-2	8	1	3	2'-0 ³ / ₈ "	---	5	4'-8"	3'-3"	Varies
1-2	1	2	4	23 ¹ / ₄ "	8 ³ / ₈ "	---	4'-8"	3'-3"	---
1-2	2	2	3	23 ¹ / ₄ "	---	5	4'-8"	3'-3"	Varies
1-2	3	2	3	23 ¹ / ₄ "	---	5	4'-8"	3'-3"	Varies
1-2	4	2	3	23 ¹ / ₄ "	---	5	4'-8"	3'-3"	Varies
1-2	5	2	3	23 ¹ / ₄ "	---	5	4'-8"	3'-3"	Varies
1-2	6	2	3	23 ¹ / ₄ "	---	5	4'-8"	3'-3"	Varies
1-2	7	2	3	23 ¹ / ₄ "	---	5	4'-8"	3'-3"	Varies
1-2	8	2	4	23 ¹ / ₄ "	8 ¹ / ₂ "	---	4'-8"	3'-3"	---

TABLE OF VARIABLES									
Span No.	Girder No.	Bent No.	Detail	A	B	C	D	E	F
2-3	1	2	4	21 ³ / ₈ "	7 ¹ / ₈ "	---	4'-6"	3'-2"	---
2-3	2	2	3	21 ³ / ₈ "	---	4	4'-6"	3'-2"	Varies
2-3	3	2	3	21 ³ / ₈ "	---	4	4'-6"	3'-2"	Varies
2-3	4	2	3	21 ³ / ₈ "	---	4	4'-6"	3'-2"	Varies
2-3	5	2	3	21 ³ / ₈ "	---	4	4'-6"	3'-2"	Varies
2-3	6	2	3	21 ³ / ₈ "	---	4	4'-6"	3'-2"	Varies
2-3	7	2	3	21 ³ / ₈ "	---	4	4'-6"	3'-2"	Varies
2-3	8	2	4	21 ³ / ₈ "	7 ¹ / ₈ "	---	4'-6"	3'-2"	---
2-3	1	3	4	23"	8 ³ / ₄ "	---	4'-6"	3'-2"	---
2-3	2	3	3	23"	---	4	4'-6"	3'-2"	Varies
2-3	3	3	3	23"	---	4	4'-6"	3'-2"	Varies
2-3	4	3	3	23"	---	4	4'-6"	3'-2"	Varies
2-3	5	3	3	23"	---	4	4'-6"	3'-2"	Varies
2-3	6	3	3	23"	---	4	4'-6"	3'-2"	Varies
2-3	7	3	3	23"	---	4	4'-6"	3'-2"	Varies
2-3	8	3	4	23"	8 ³ / ₄ "	---	4'-6"	3'-2"	---
3-4	1	3	4	20 ¹ / ₂ "	6 ³ / ₄ "	---	4'-5"	3'-0"	---
3-4	2	3	3	20 ¹ / ₂ "	---	4	4'-5"	3'-0"	Varies
3-4	3	3	3	20 ³ / ₈ "	---	4	4'-5"	3'-0"	Varies
3-4	4	3	3	20 ³ / ₈ "	---	4	4'-5"	3'-0"	Varies
3-4	5	3	3	20 ¹ / ₂ "	---	4	4'-5"	3'-0"	Varies
3-4	6	3	3	20 ¹ / ₂ "	---	4	4'-5"	3'-0"	Varies
3-4	7	3	3	20 ¹ / ₂ "	---	4	4'-5"	3'-0"	Varies
3-4	8	3	4	20 ¹ / ₂ "	6 ⁵ / ₈ "	---	4'-5"	3'-0"	---
3-4	1	4	3	2'-0 ³ / ₄ "	---	4	4'-5"	3'-0"	Varies
3-4	2	4	3	2'-0 ⁶ / ₈ "	---	4	4'-5"	3'-0"	Varies
3-4	3	4	3	2'-0 ⁶ / ₈ "	---	4	4'-5"	3'-0"	Varies
3-4	4	4	3	2'-0 ⁷ / ₈ "	---	4	4'-5"	3'-0"	Varies
3-4	5	4	3	2'-0 ³ / ₄ "	---	4	4'-5"	3'-0"	Varies
3-4	6	4	3	2'-0 ³ / ₄ "	---	4	4'-5"	3'-0"	Varies
3-4	7	4	3	2'-0 ³ / ₄ "	---	4	4'-5"	3'-0"	Varies
3-4	8	4	3	2'-0 ⁷ / ₈ "	---	4	4'-5"	3'-0"	Varies

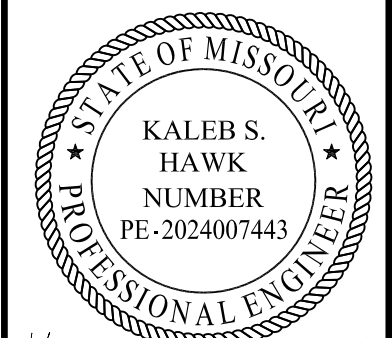
BILL OF REINFORCING STEEL - EACH GIRDER				
NO.	SIZE & MARK	ACTUAL LENGTH	SHAPE	BENDING DIAGRAMS
2	4 G3	D	20	SHAPE 20
2	4 G4	2'-1"	20	
2	4 G5	E	20	
*	4 G6	F	20	

* Total for each girder is the total value of the two "C" variables per span provided in the Table of Variables

Released For Construction
Not to Scale
Revision: 0.0
Date: 04/11/2025
Package: BRD-04-EB-70-Jackson

Notes:
For additional Girder notes, see Sheets No. B04-17 thru B04-19.

NU GIRDER DETAILS



Kaleb S. Hawk
9-11-25

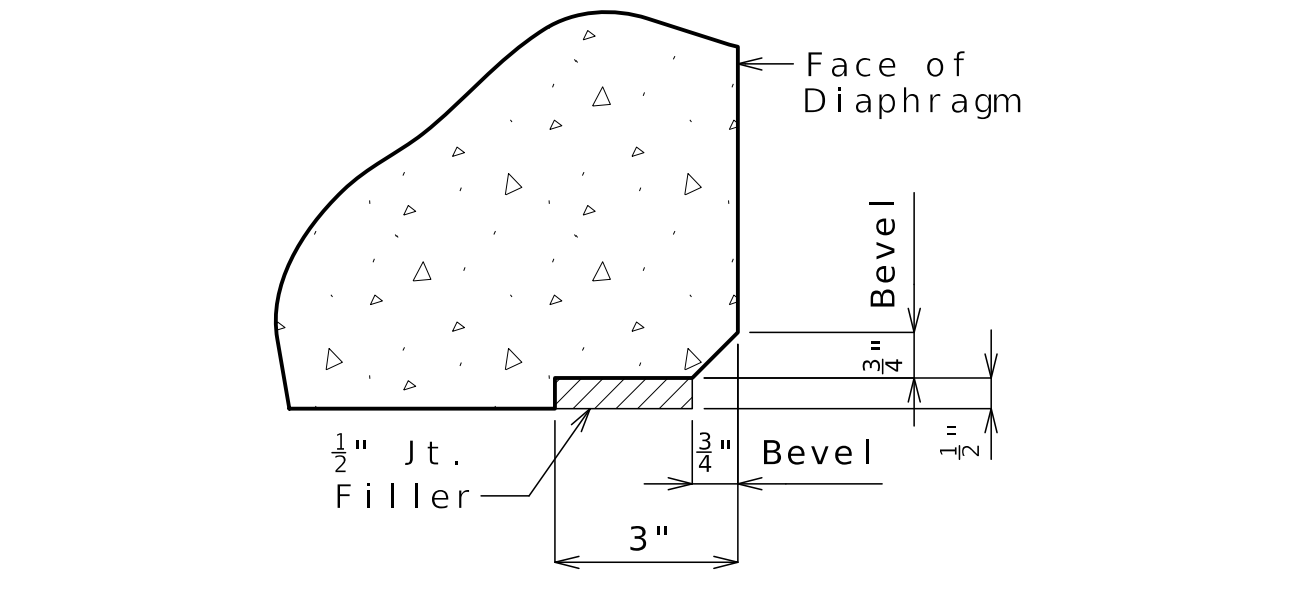
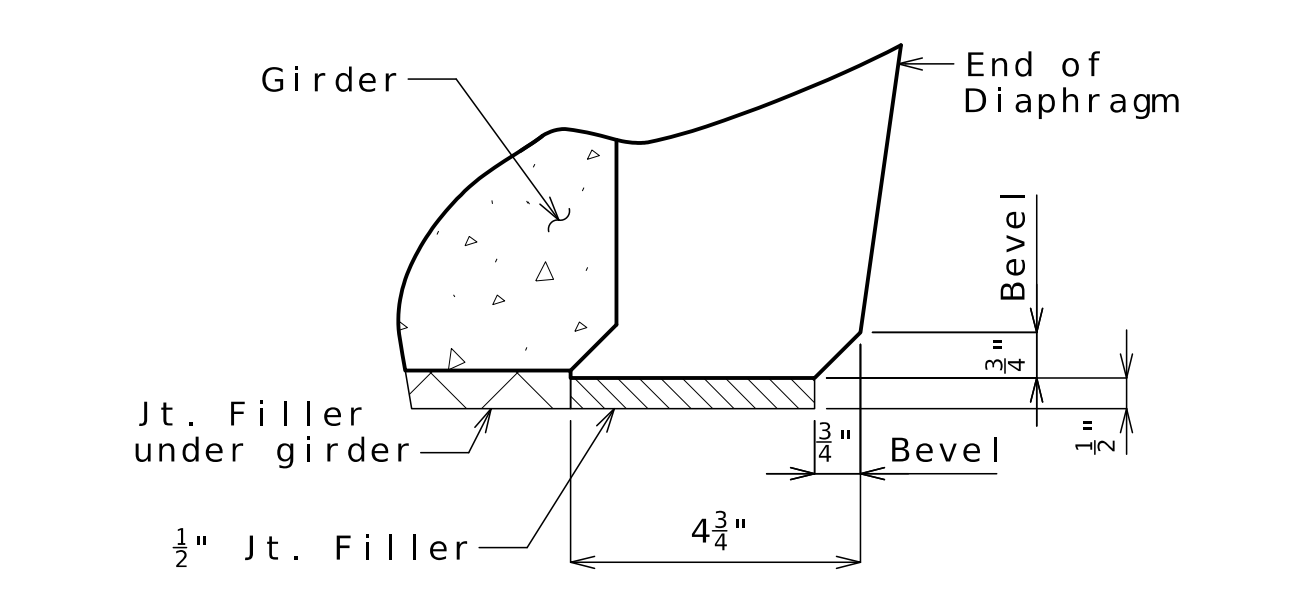
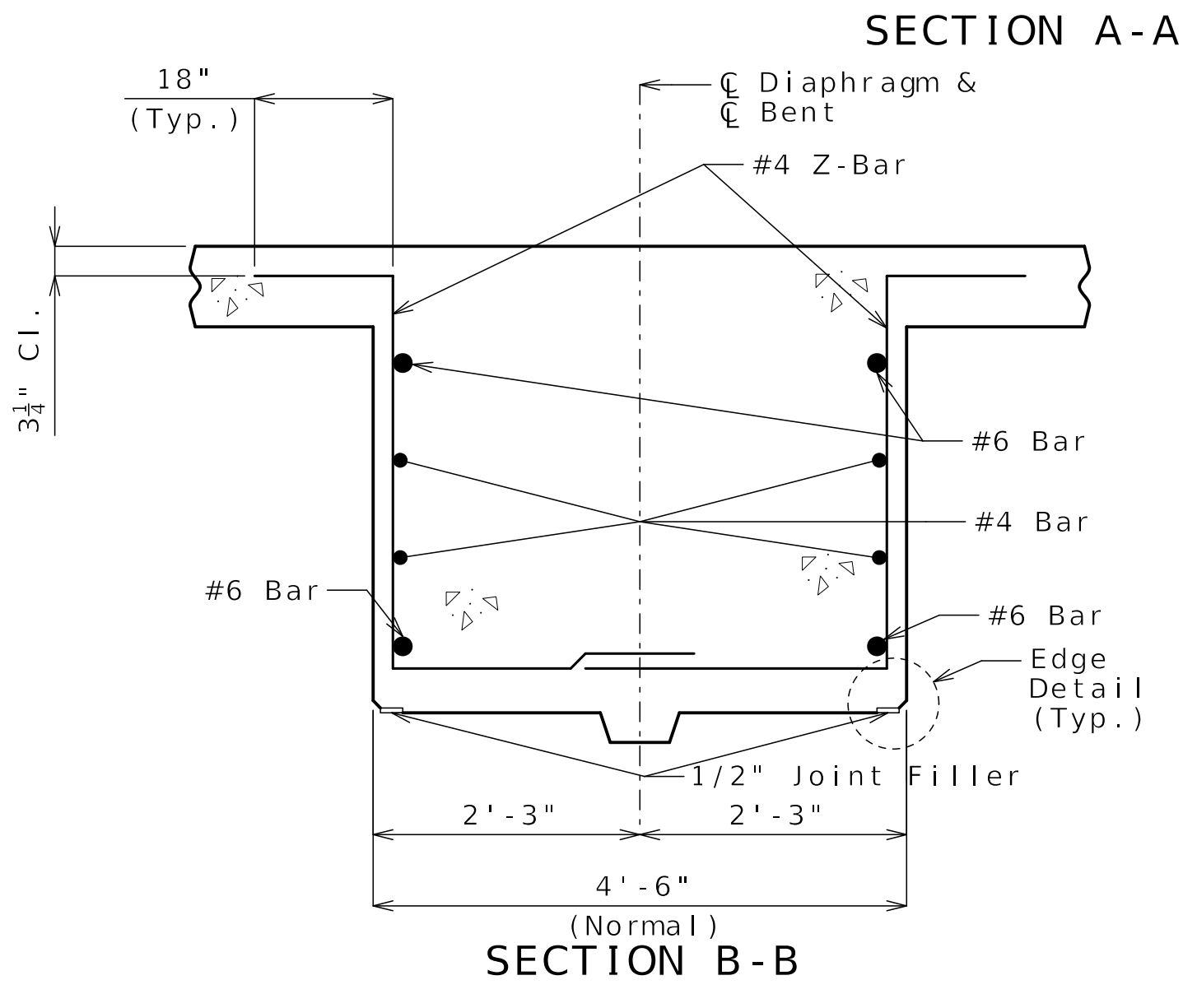
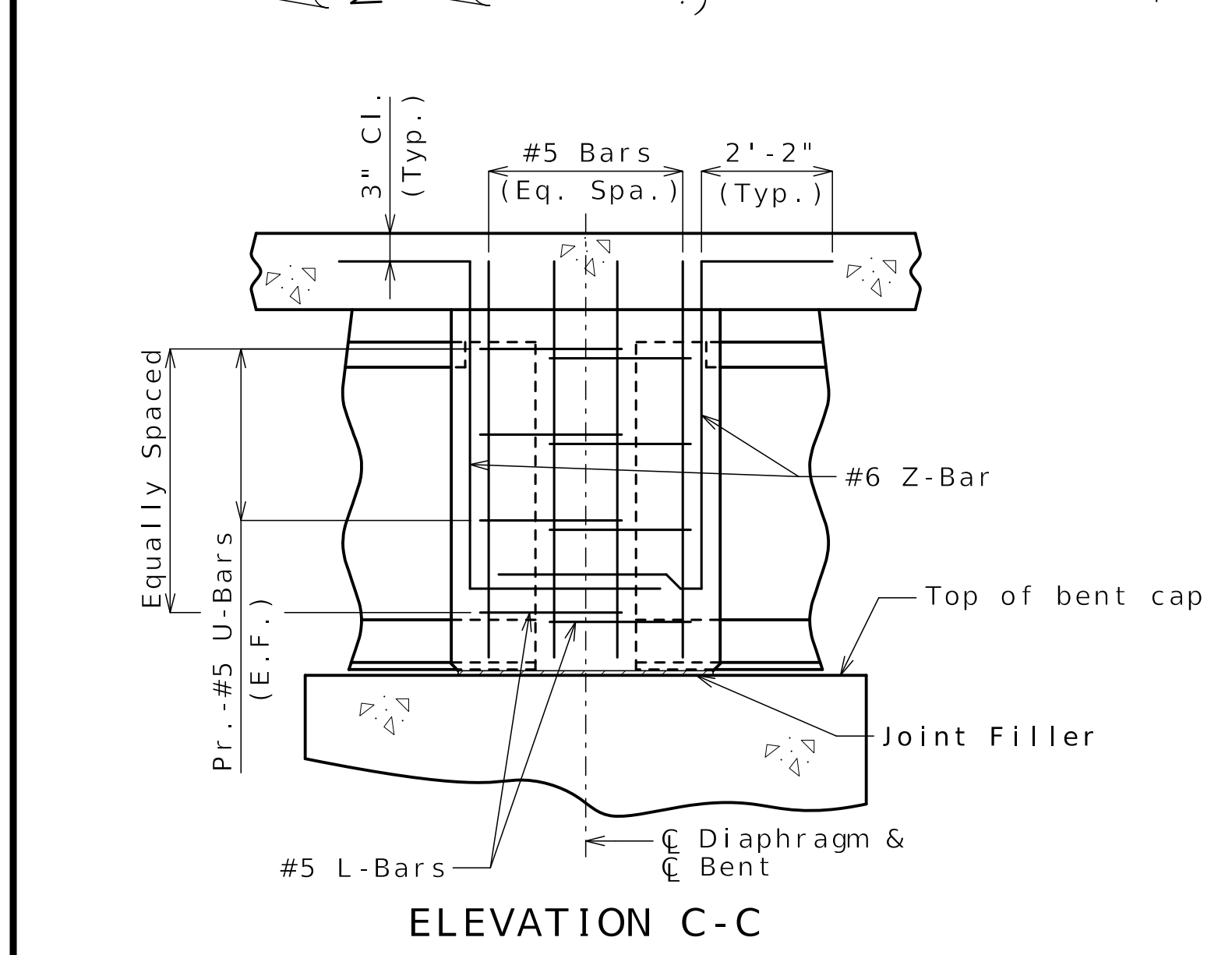
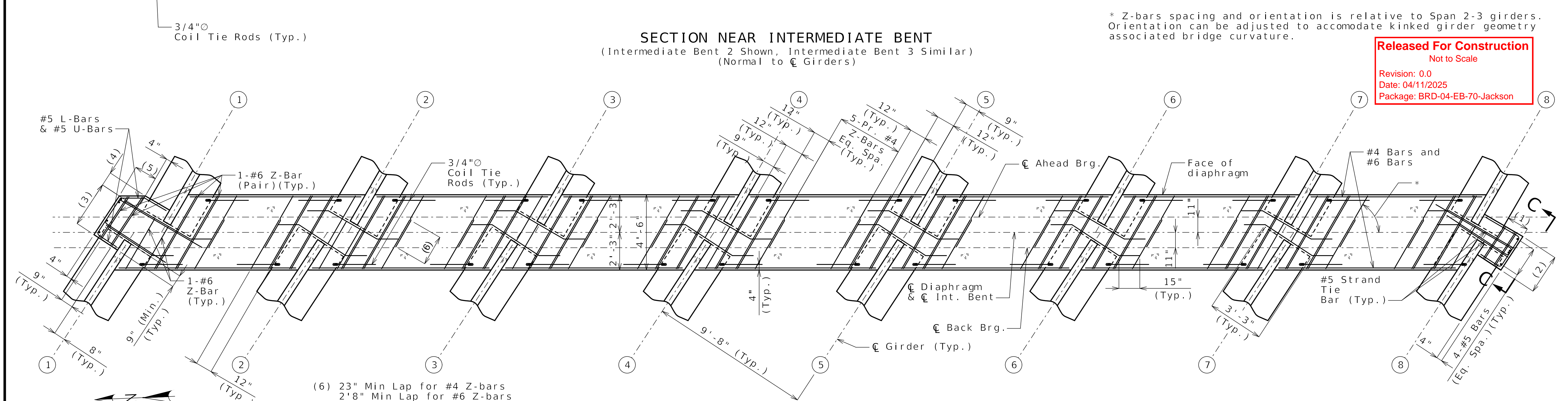
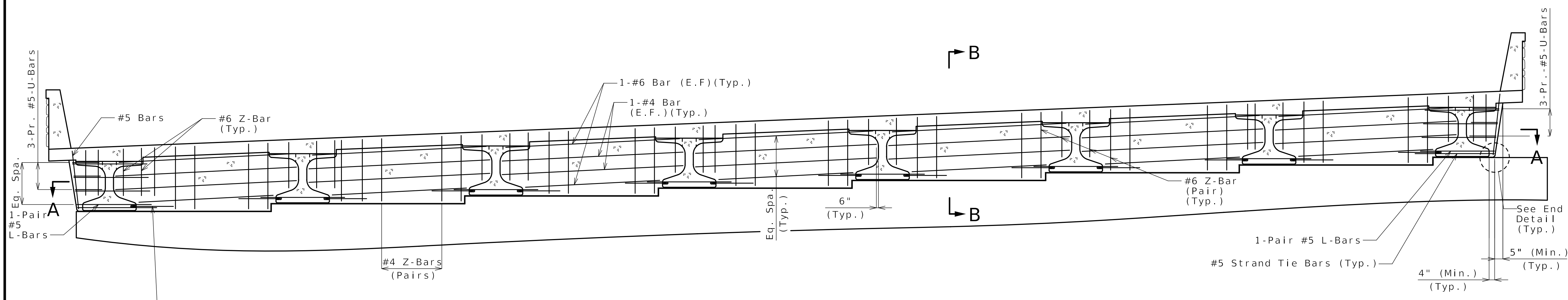
DATE PREPARED 04/11/2025	
ROUTE I-70	STATE MO
DISTRICT BR	SHEET NO. B04-21
COUNTY JACKSON	
JOB NO. J411486D	
CONTRACT ID. 240807-C01	
PROJECT NO.	

BRIDGE NO.
A9632

DATE	DESCRIPTION
04/11/25 <td>REV 0 - RFC SUBMITTAL</td>	REV 0 - RFC SUBMITTAL

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
MoDOT
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

CLARKSON RADMACHER JOINT VENTURE
715 KIRK DRIVE
KANSAS CITY, MO 64105-1310
CERTIFICATE OF AUTHORITY
NO. 001270
HNTB



- END DETAIL**
- (1) 15 5/8" (Int. Bent No. 2)
 - 17 3/8" (Int. Bent No. 3)
 - (2) 2'-4 3/4" (Int. Bent No. 2)
 - 2'-3 3/8" (Int. Bent No. 3)
 - (3) 2'-9 1/8" (Int. Bent No. 2)
 - 2'-8 1/4" (Int. Bent No. 3)
 - (4) 10 1/4" (Int. Bent No. 2)
 - 5 3/8" (Int. Bent No. 3)
 - (5) 16 1/8" (Int. Bent No. 2)
 - 10 1/8" (Int. Bent No. 3)
- Notes:**
 Diaphragms shall be built vertical.
 For location of #5 Strand Tie Bars, see Sheets No. B04-17 thru B04-19.
 For location of coil ties, see Sheets No. B04-17 thru B04-19.
 For Bearing Details, see Sheets No. B04-10 and B04-12.
 For Bent Details for cap beam step geometry, bearing location, dowel placement, shear key details, roofing felt details, joint filler details, and notes not shown here, see Sheets No. B04-09 thru B04-12.
- (X) Denotes Girder number

CONCRETE DIAPHRAGM AT INTERMEDIATE BENTS

Detailed DEC 2024
Checked JAN 2025

Note: This drawing is not to scale. Follow dimensions.

Sheet No. B04-21 of B04-41

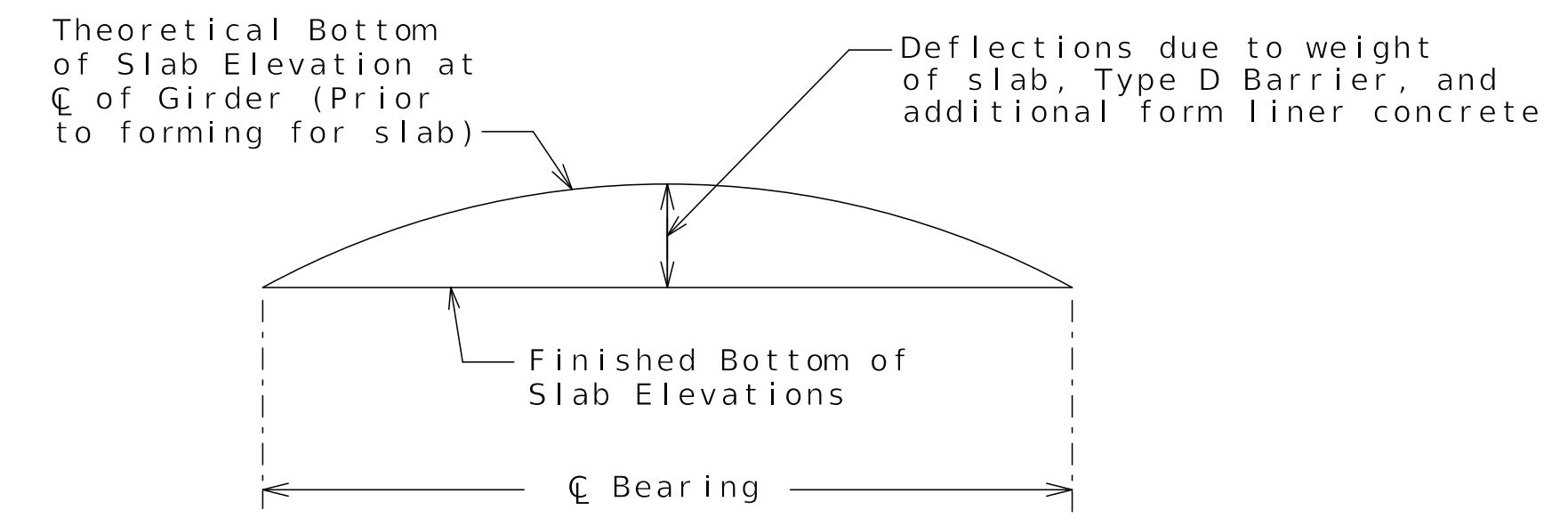
Theoretical Bottom of Slab Elevations at Centerline of Girder (Prior to forming for slab)**

Girder Number	Span (1-2) (49'-5 1/2" C Brg. - C Brg.)				
	C Brg.	.25	.50	.75	1.00
1	889.92	889.72	889.51	889.28	889.03
2	890.38	890.19	889.98	889.74	889.49
3	890.85	890.65	890.44	890.21	889.96
4	891.31	891.12	890.90	890.67	890.42
5	891.78	891.58	891.37	891.14	890.88
6	892.25	892.05	891.84	891.60	891.35
7	892.71	892.52	892.30	892.07	891.82
8	893.18	892.98	892.76	892.53	892.29

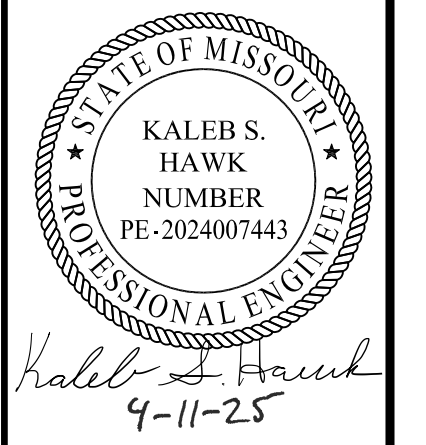
Girder Number	Span (2-3) (72'-6 3/8" C Brg. - C Brg.)				
	C Brg.	.25	.50	.75	1.00
1	889.05	888.72	888.34	887.88	887.37
2	889.50	889.19	888.81	888.35	887.81
3	889.95	889.64	889.26	888.79	888.26
4	890.39	890.08	889.71	889.24	888.72
5	890.84	890.53	890.16	889.70	889.17
6	891.30	890.99	890.61	890.15	889.62
7	891.75	891.44	891.06	890.60	890.08
8	892.20	891.87	891.49	891.04	890.54

Girder Number	Span (3-4) (46'-3 3/4" C Brg. - C Brg.)				
	C Brg.	.25	.50	.75	1.00
1	887.35	887.04	886.72	886.39	886.04
2	887.79	887.48	887.16	886.83	886.48
3	888.23	887.92	887.60	887.27	886.92
4	888.66	888.36	888.04	887.71	887.36
5	889.10	888.80	888.49	888.15	887.81
6	889.55	889.24	888.93	888.60	888.25
7	889.99	889.69	889.37	889.04	888.70
8	890.43	890.13	889.82	889.49	889.15

**Elevations are based on a constant slab thickness of 8 1/2" and include allowance for theoretical dead load deflections due to weight of slab (including Type D Barrier and additional form liner concrete).



TYPICAL SLAB ELEVATIONS DIAGRAM



DATE PREPARED	04/11/2025
ROUTE	1-70
STATE	MO
DISTRICT	BR
SHEET NO.	B04-23
COUNTY	JACKSON
JOB NO.	J411486D
CONTRACT ID.	240807-C01
PROJECT NO.	
BRIDGE NO.	A9632

DATE	DESCRIPTION
04/11/25	REV 0 - RFC SUBMITTAL

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

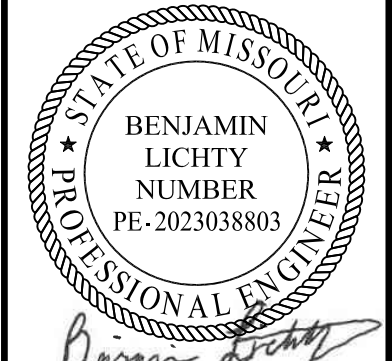
105 WEST CAPITOL JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

CLARKSON RADMACHER JOINT VENTURE

715 KIRK DRIVE
KANSAS CITY, MO 64105-1310
CERTIFICATE OF AUTHORITY
NO. 001270

Released For Construction
Not to Scale
Revision: 0.0
Date: 04/11/2025
Package: BRD-04-EB-70-Jackson

THEORETICAL BOTTOM OF SLAB ELEVATIONS



Benjamin Lichty
04-11-2025

DATE PREPARED 04/11/2025	
ROUTE I-70	STATE MO
DISTRICT BR	SHEET NO. B04-24
COUNTY JACKSON	
JOB NO. J411486D	
CONTRACT ID. 240807-C01	
PROJECT NO.	

BRIDGE NO.
A9632

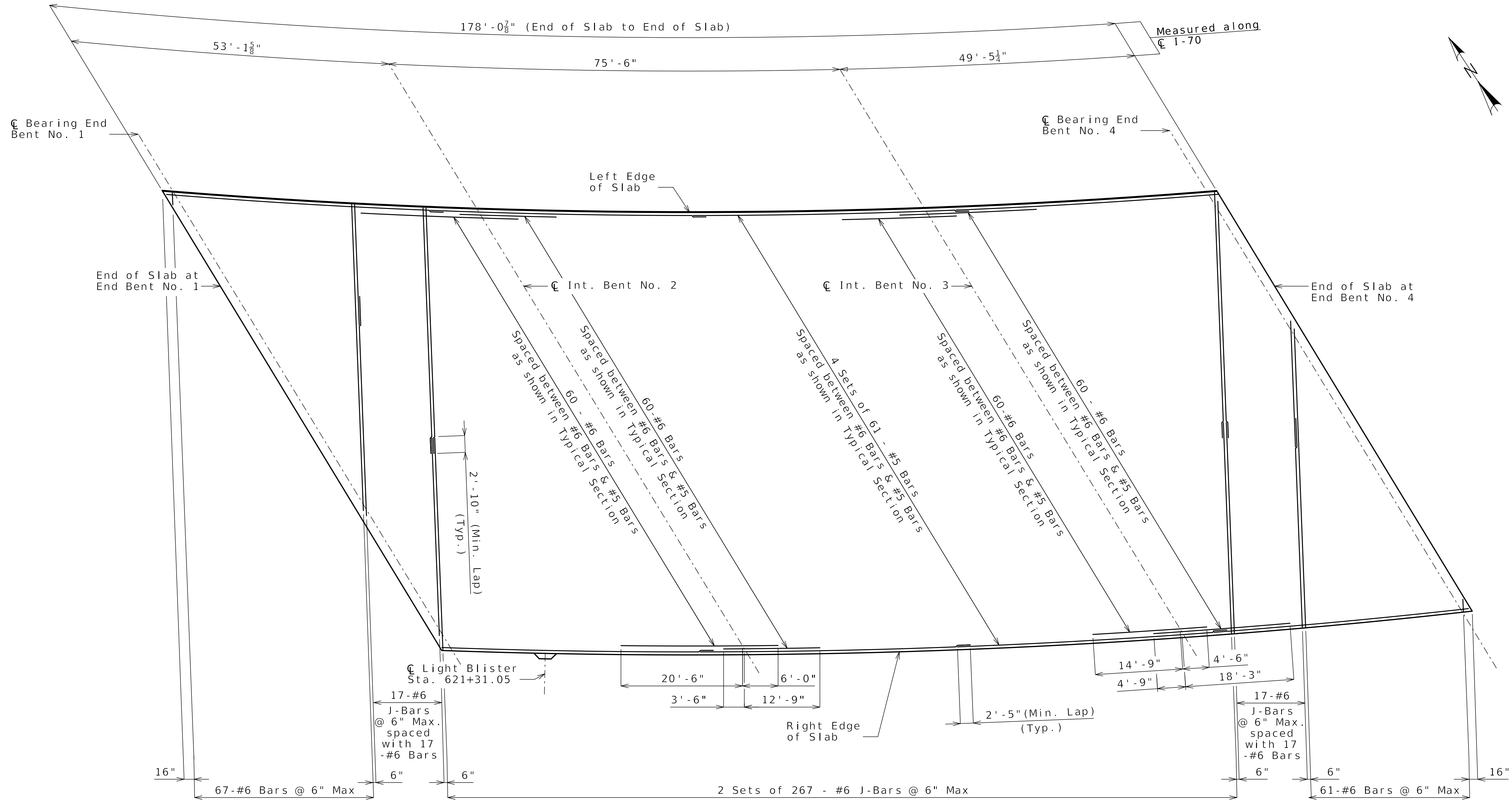
DATE	DESCRIPTION
04/11/25	REV 0 - RFC SUBMITTAL

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

CLARKSON RADMACHER JOINT VENTURE

715 KIRK DRIVE
KANSAS CITY, MO 64105-1310
CERTIFICATE OF AUTHORITY
NO. 001270



TOP REINFORCEMENT

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Not to Scale
Revision: 0.0
Date: 04/11/2025
Package: BRD-04-EB-70-Jackson

Notes:
Work this sheet with Sheet No. B04-25.
For Typical Section, see Sheet No. B04-26.
For Slab Pouring Sequence, see Sheet No. B04-25.
For Details and Reinforcement of Barrier, see Sheet No. B04-28.
For Theoretical Slab Haunching Diagram and Girder Camber Diagram, see Sheet No. B04-22.
For Theoretical Bottom of Slab Elevations, see Sheet No. B04-23.
Longitudinal slab dimensions are measured horizontally.
For Light Blister reinforcing and details, see Sheet No. B04-30.

SLAB PLAN SHOWING TOP REINFORCEMENT

Detailed DEC 2024
Checked JAN 2025

Note: This drawing is not to scale. Follow dimensions.

Sheet No. B04-24 of B04-41



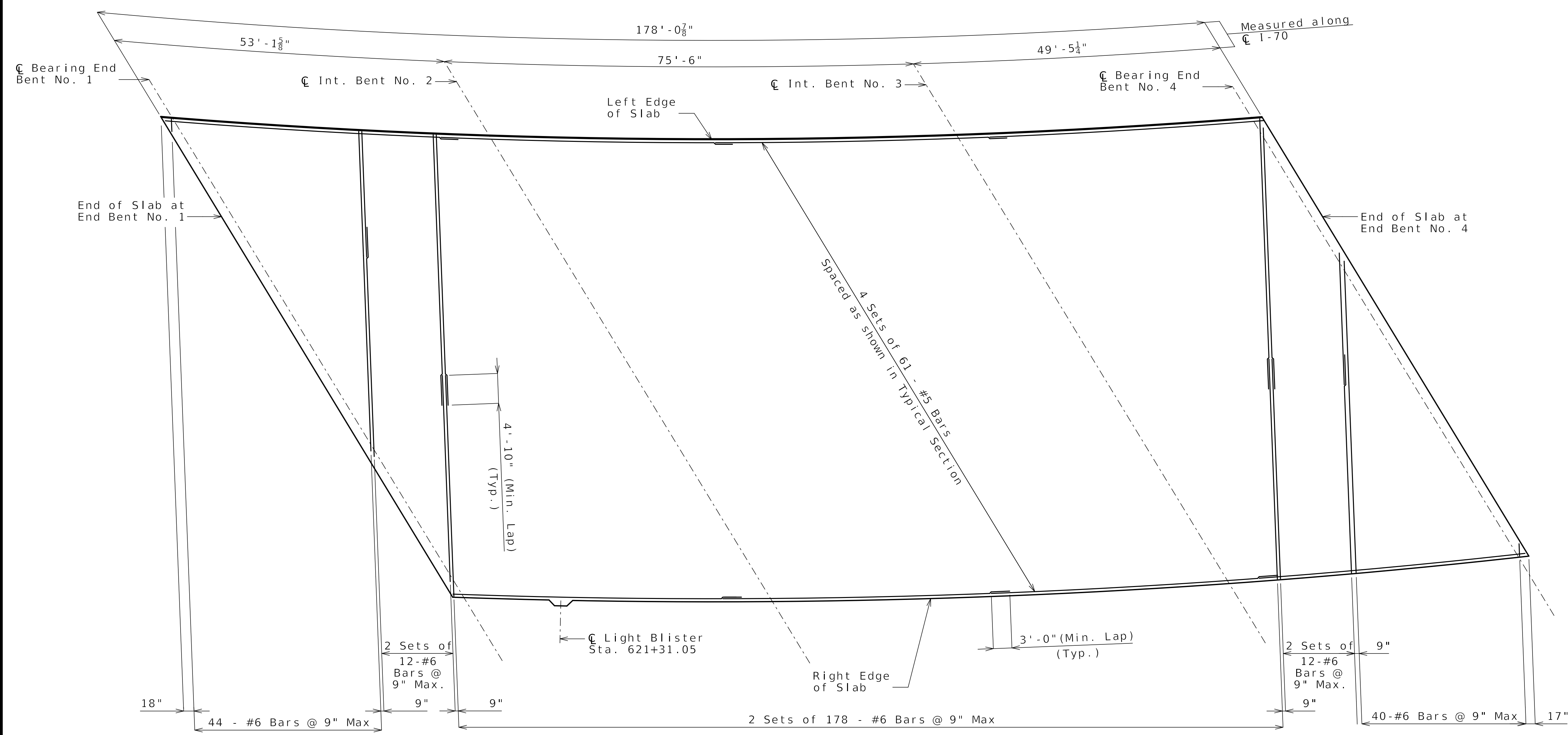
Benjamin Lichty
04-11-2025

DATE PREPARED 04/11/2025	
ROUTE I-70	STATE MO
DISTRICT BR	SHEET NO. B04-25
COUNTY JACKSON	
JOB NO. J411486D	
CONTRACT ID. 240807-C01	
PROJECT NO.	

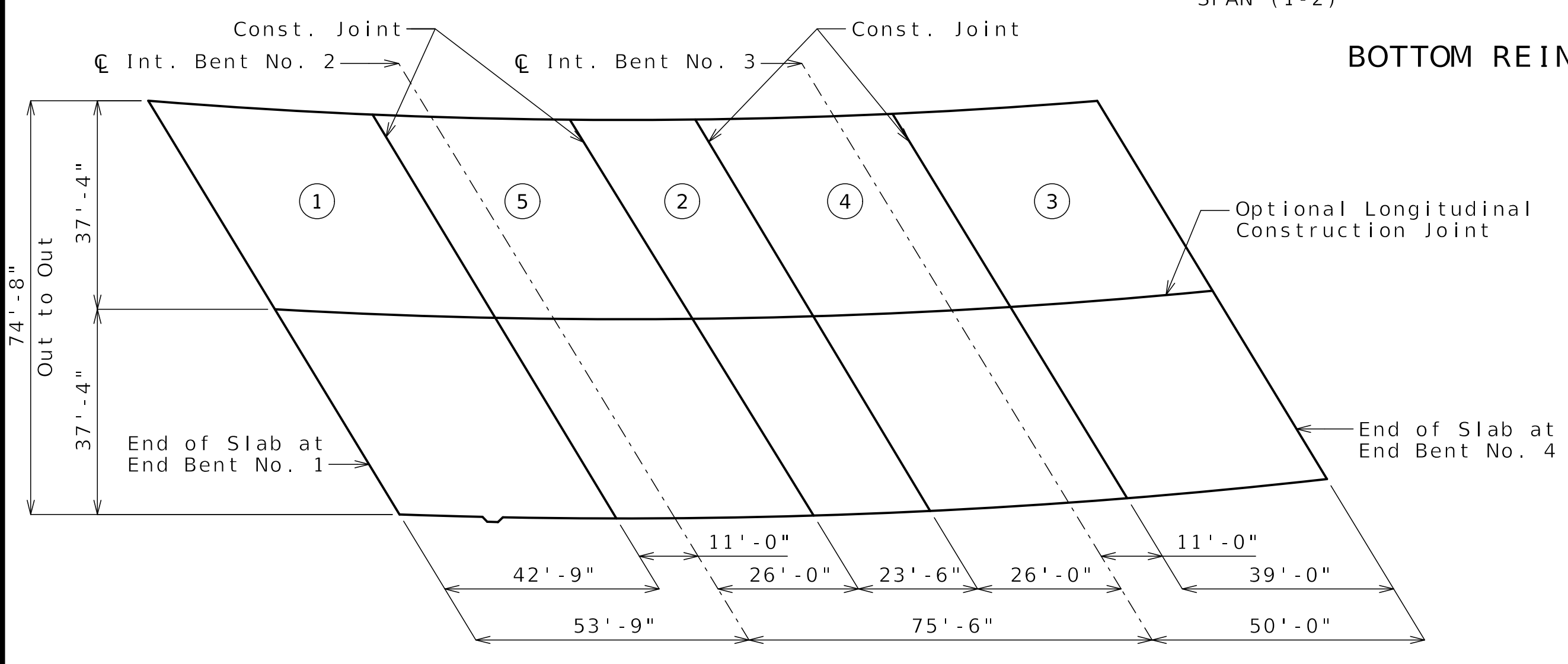
BRIDGE NO.
A9632

DATE	DESCRIPTION
04/11/25	REV 0 - RFC SUBMITTAL

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
MoDOT
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)



BOTTOM REINFORCEMENT



SLAB POURING SEQUENCE

	Sequence of Pours					Min. Rate of Pour Cu. Yds./Hr.
	Direction					
Basic Sequence	3	4	2	5	1	25*
	End to 4	3 to 2	4 to 5	2 to 1	5 to End	
Alternate pours to the basic sequence are subject to the approval of the engineer in accordance with Sec 703.						
Alternate A Pours	3	4 + 2	5 + 1		45	
	End to 4	3 to 5	2 to End			
Alternate B Pours	3 + 4 + 2		5 + 1			45
	End to 5		2 to End			
Alternate C Pours	3 + 4 + 2 + 5 + 1					45
	End to End					

The contractor shall furnish an approved retarder to retard the set of the concrete to 2.5 hours, and shall pour and satisfactorily finish the slab pours at the rate given.

The concrete diaphragm at the intermediate bent and integral end bents shall be poured a minimum of 30 minutes and a maximum of 2 hours before the slab is poured.

* A minimum finishing rate of 20 LF/HR shall be maintained, otherwise the optional longitudinal construction joint shall be required.

SLAB PLAN SHOWING BOTTOM REINFORCEMENT

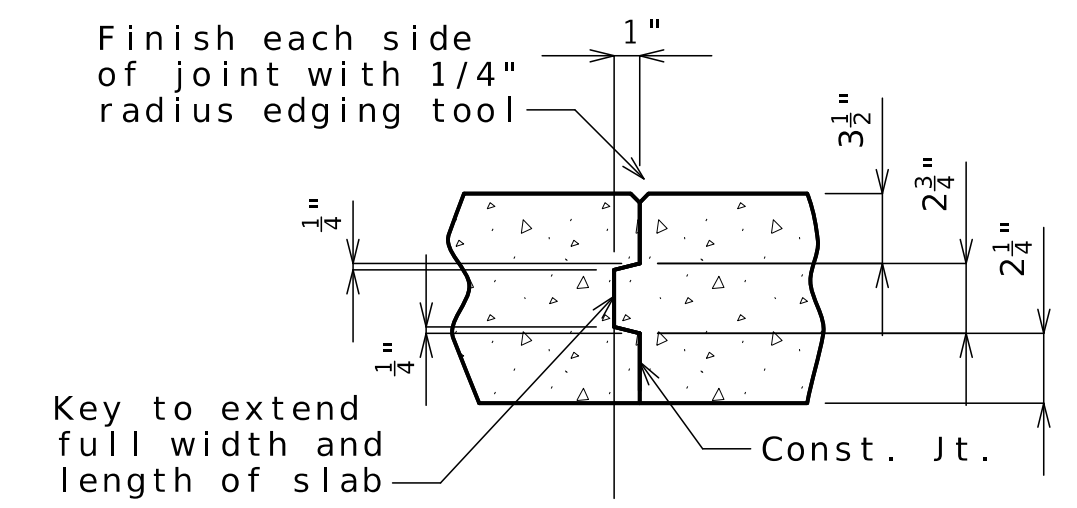
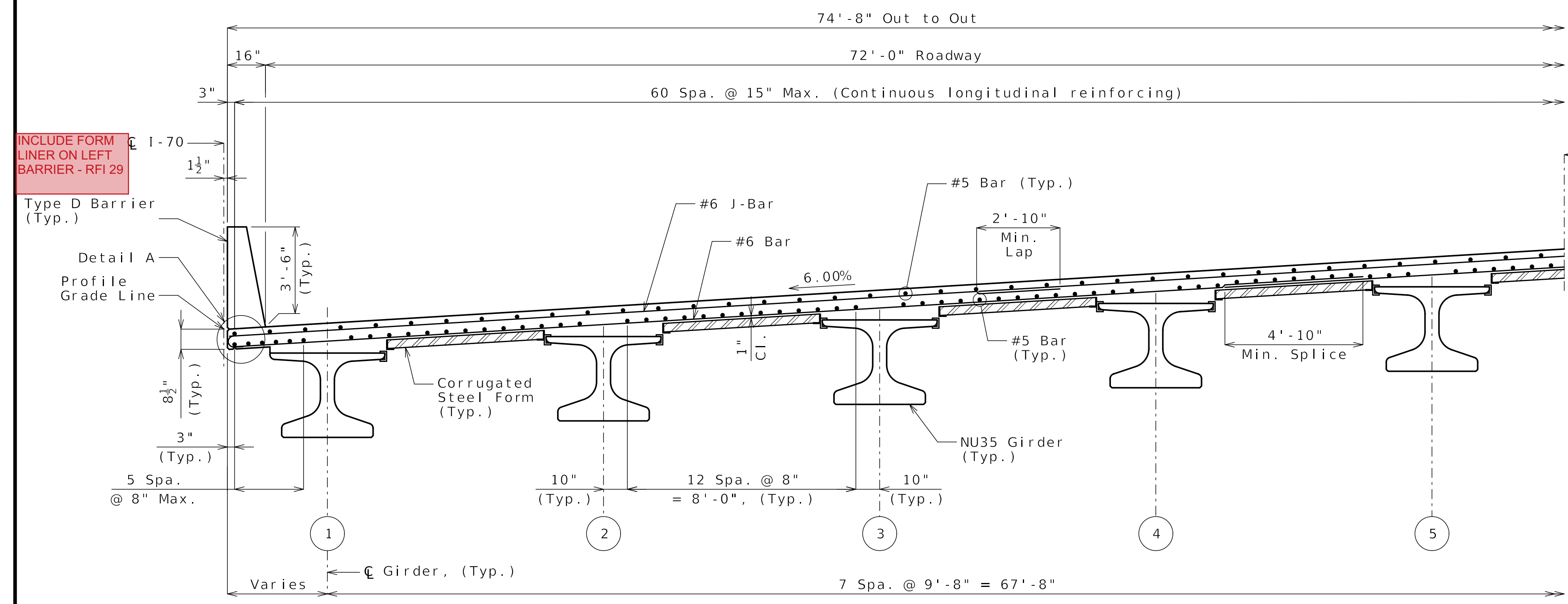
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Revision: 0.0
Date: 04/11/2025
Package: BRD-04-EB-70-Jackson

Detailed DEC 2024
Checked JAN 2025

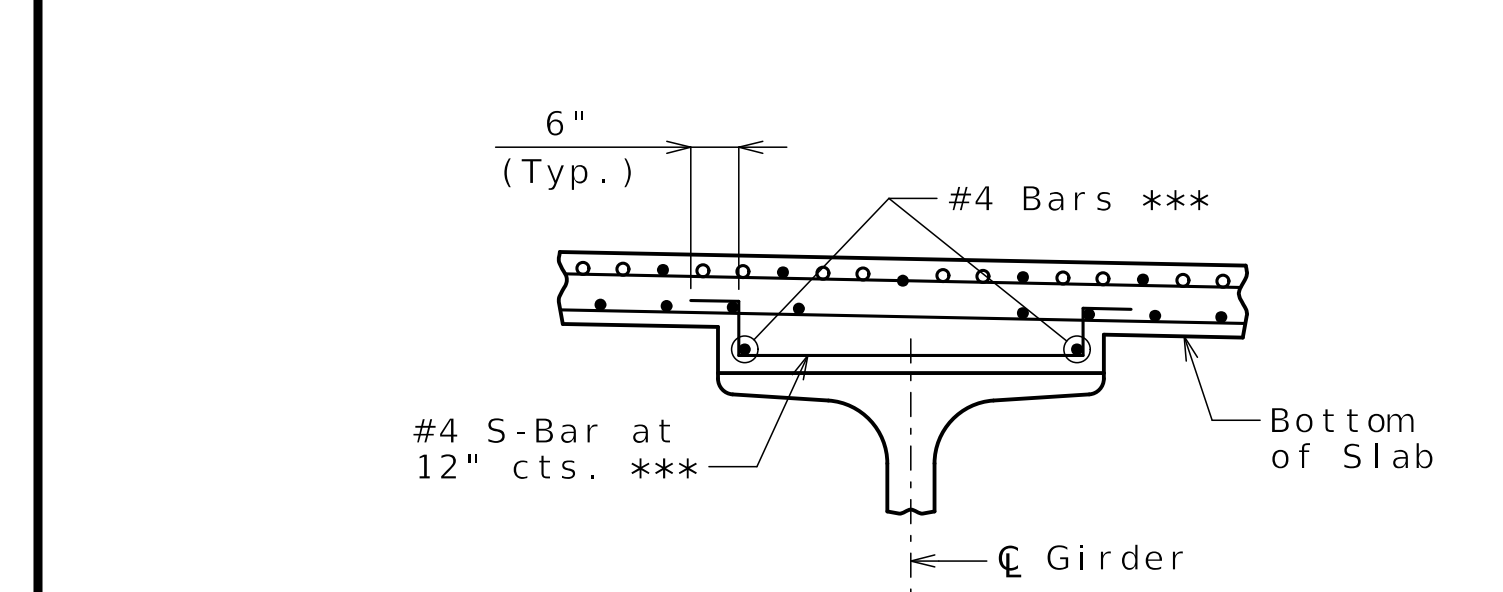
Note: This drawing is not to scale. Follow dimensions.

Sheet No. B04-25 of B04-41

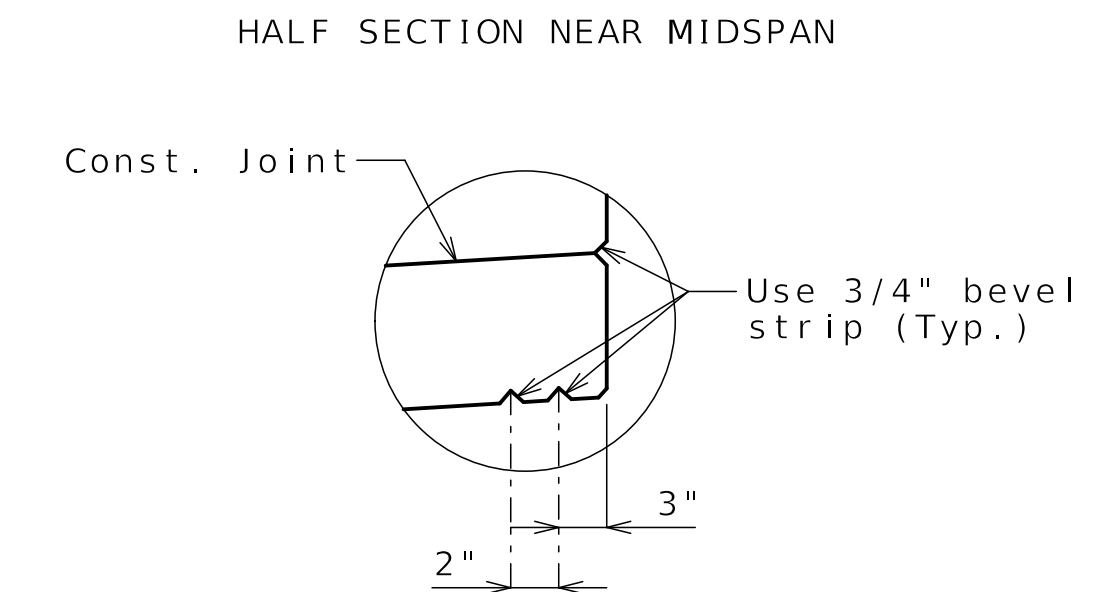
INCLUDE FORM LINER ON LEFT BARRIER - RFI 29



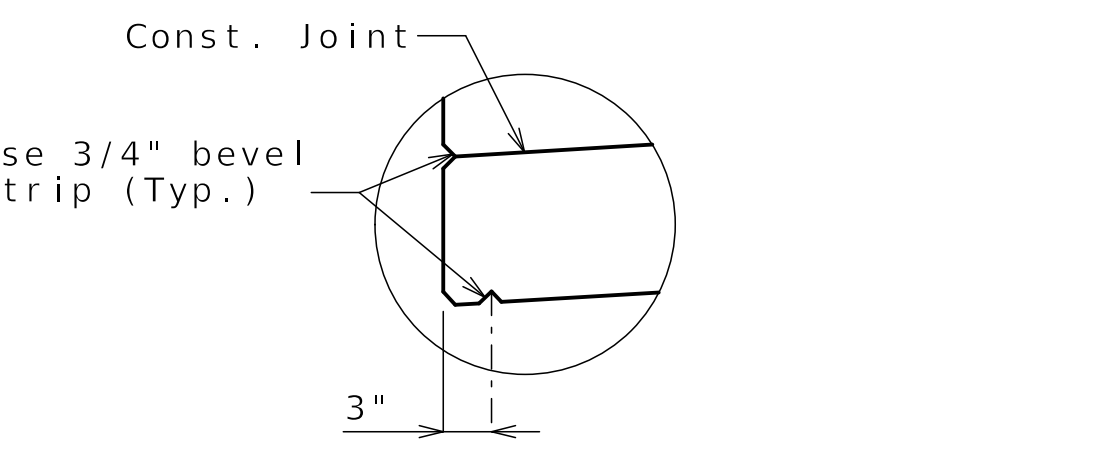
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 Revision: 0.0
 Date: 04/11/2025
 Package: BRD-04-EB-70-Jackson



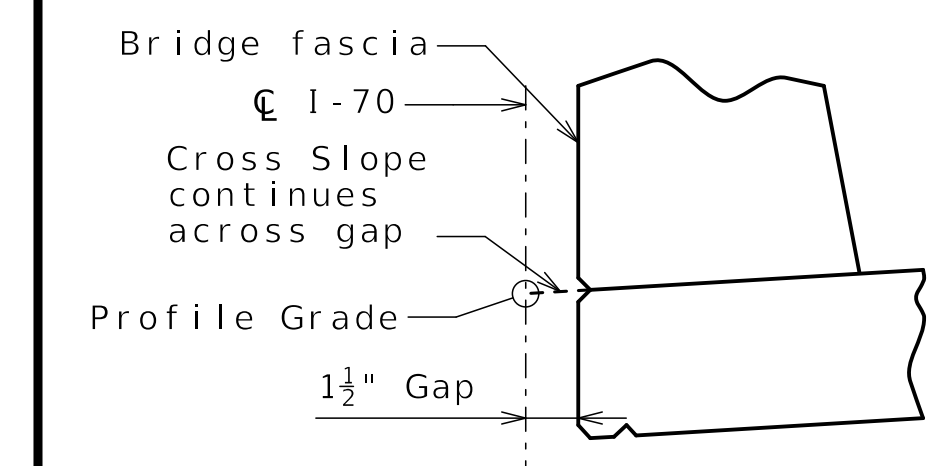
HAUNCH REINFORCING DETAIL
 (Prestressed Girders)
 *** Contractor shall provide #4 Bars and #4 S-Bars as necessary where the haunch exceeds 4 inches measured at centerline of girder. See Theoretical Slab Haunching Diagram on Sheet No. B04-22 for haunch thickness.



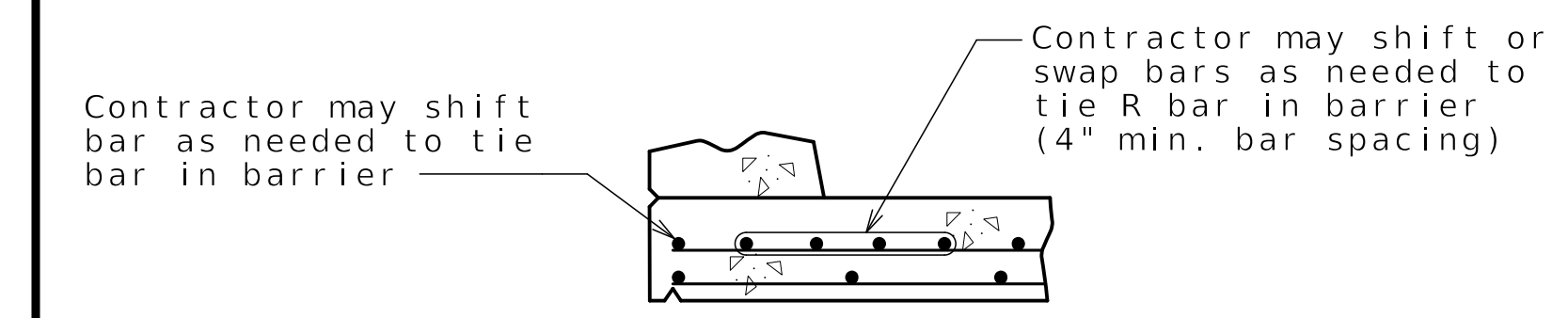
DETAIL B
 (High side of slab)



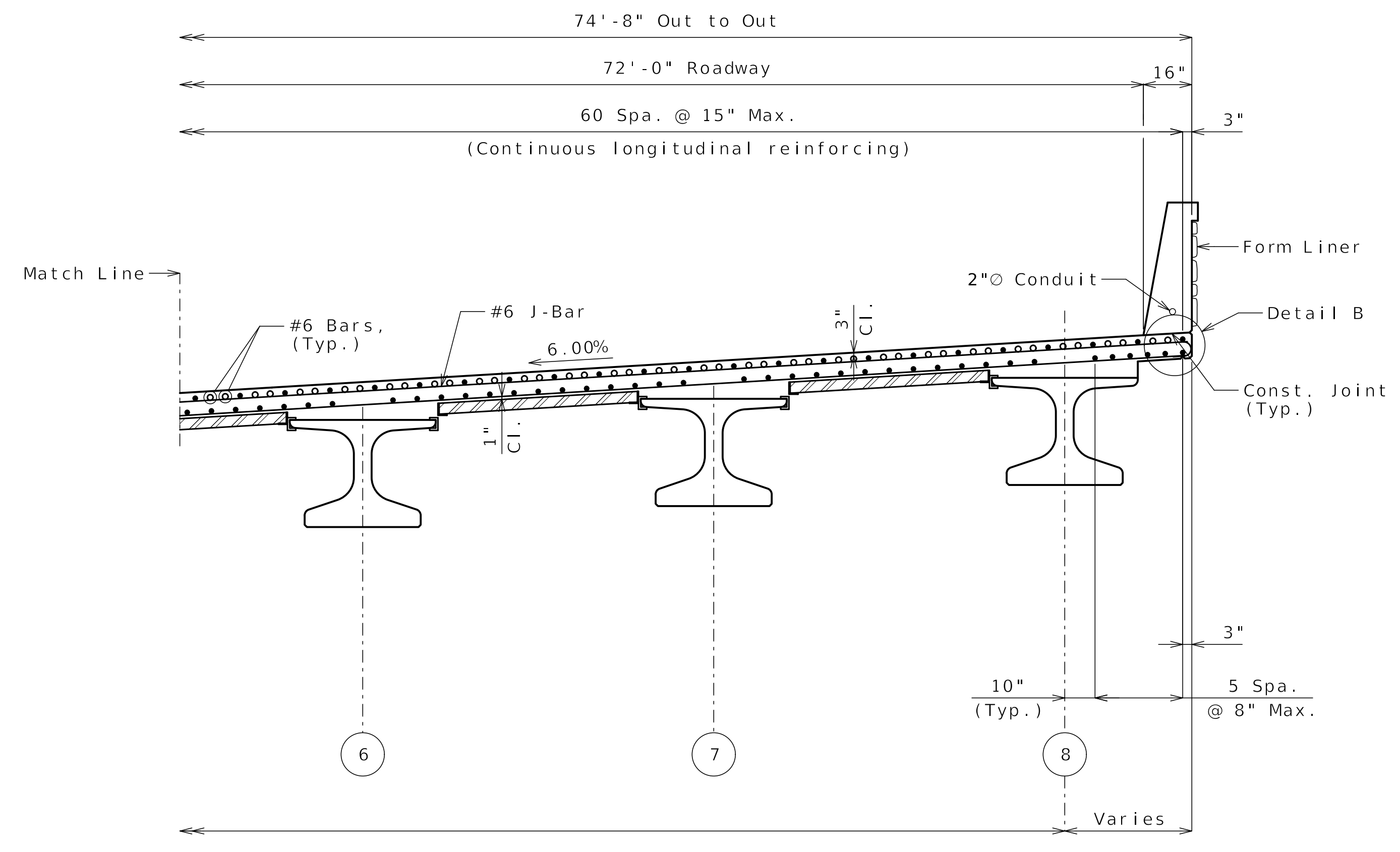
DETAIL A
 (Low side of slab)



PROFILE GRADE DETAIL



OPTIONAL SHIFTING TOP BARS AT BARRIER



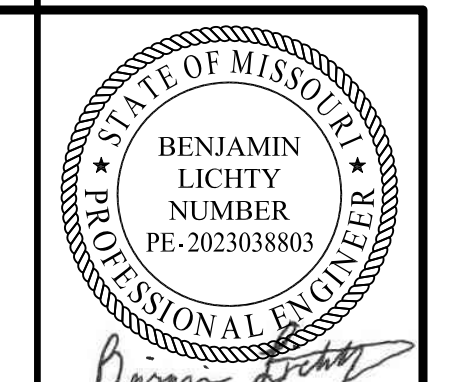
HALF SECTION NEAR INTERMEDIATE BENT

TYPICAL SECTION
 (Looking Ahead Sta.)

Notes:
 Cant #6 transverse hooked bars as needed to provide clearance.
 For Plan of Slab showing Top and Bottom Reinforcement, see Sheets No. B04-24 and B04-25.
 For reinforcement of Type D barrier not shown, see Sheet No. B04-28.
 For Details of Conduit System on Structure, see Sheet No. B04-32.
 For Form Liner and Aesthetic Stain Details not shown, see Sheet No. B04-31.

(X) Denotes girder number.

SLAB DETAILS



Benjamin Lichty
 04-11-2025

DATE PREPARED 04/11/2025	
ROUTE I-70	STATE MO
DISTRICT BR	SHEET NO. B04-26
COUNTY JACKSON	
JOB NO. J411486D	
CONTRACT ID. 240807-C01	
PROJECT NO.	

BRIDGE NO.
A9632

DATE	DESCRIPTION
04/11/25	REV 0 - RFC SUBMITTAL

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

CLARKSON RADMACHER
 JOINT VENTURE

715 KIRK DRIVE
 KANSAS CITY, MO 64105-1310
 CERTIFICATE OF AUTHORITY
 NO. 001270



Benjamin Lichty
04-11-2025

DATE PREPARED
04/11/2025

ROUTE STATE
1-70 MO

DISTRICT SHEET NO.
BR B04-27

COUNTY
JACKSON

JOB NO.
J411486D

CONTRACT ID.
240807-C01

PROJECT NO.

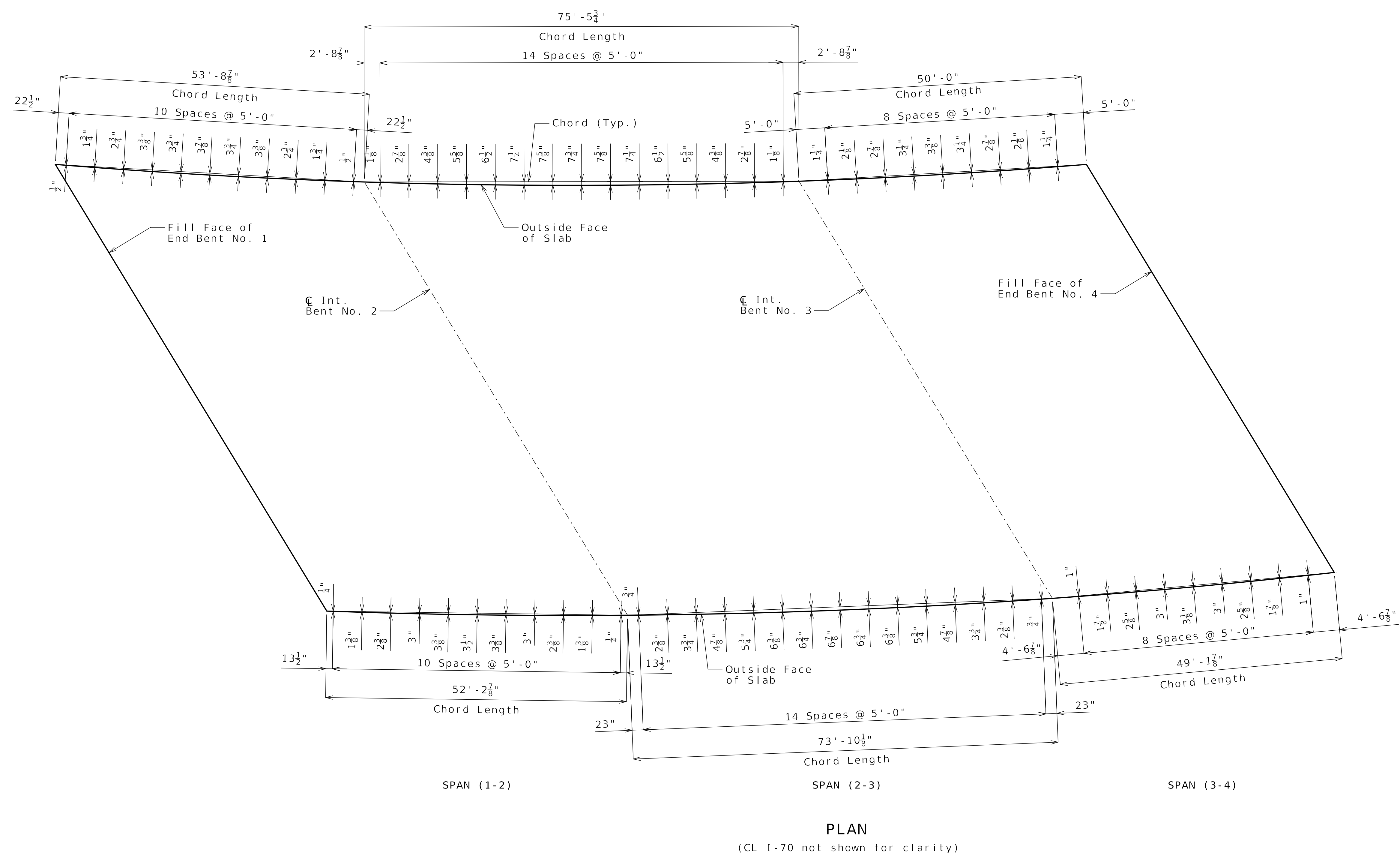
BRIDGE NO.
A9632

DATE	DESCRIPTION
04/11/25	REV 0 - RFC SUBMITTAL

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

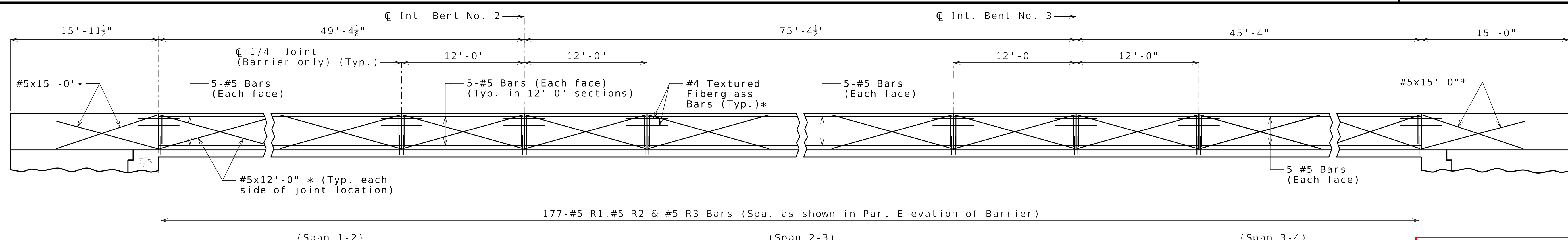
CLARKSON RADMACHER JOINT VENTURE
 715 KIRK DRIVE KANSAS CITY, MO 64105-1310
 CERTIFICATE OF AUTHORITY NO. 001270



Notes:
All dimensions are horizontal.
All bents are parallel.

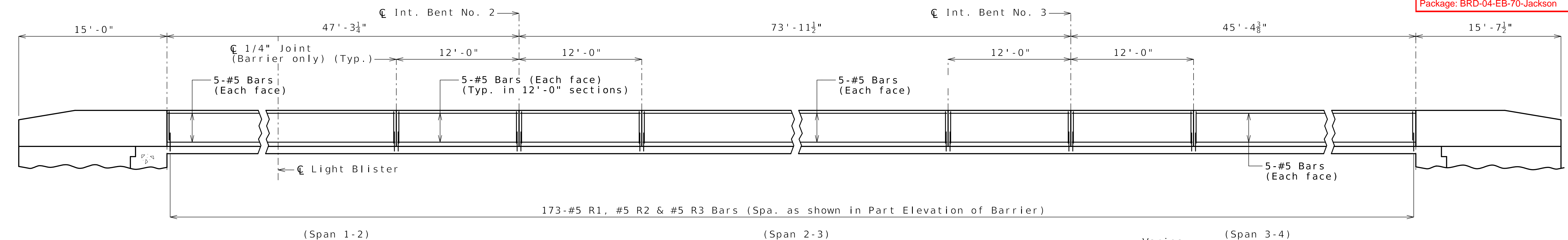
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Revision: 0.0
Date: 04/11/2025
Package: BRD-04-EB-70-Jackson

SLAB CURVE ORDINATES

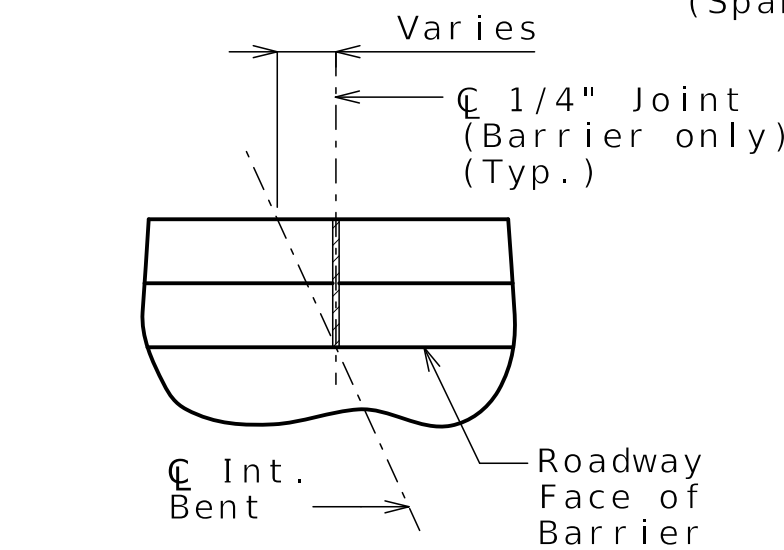
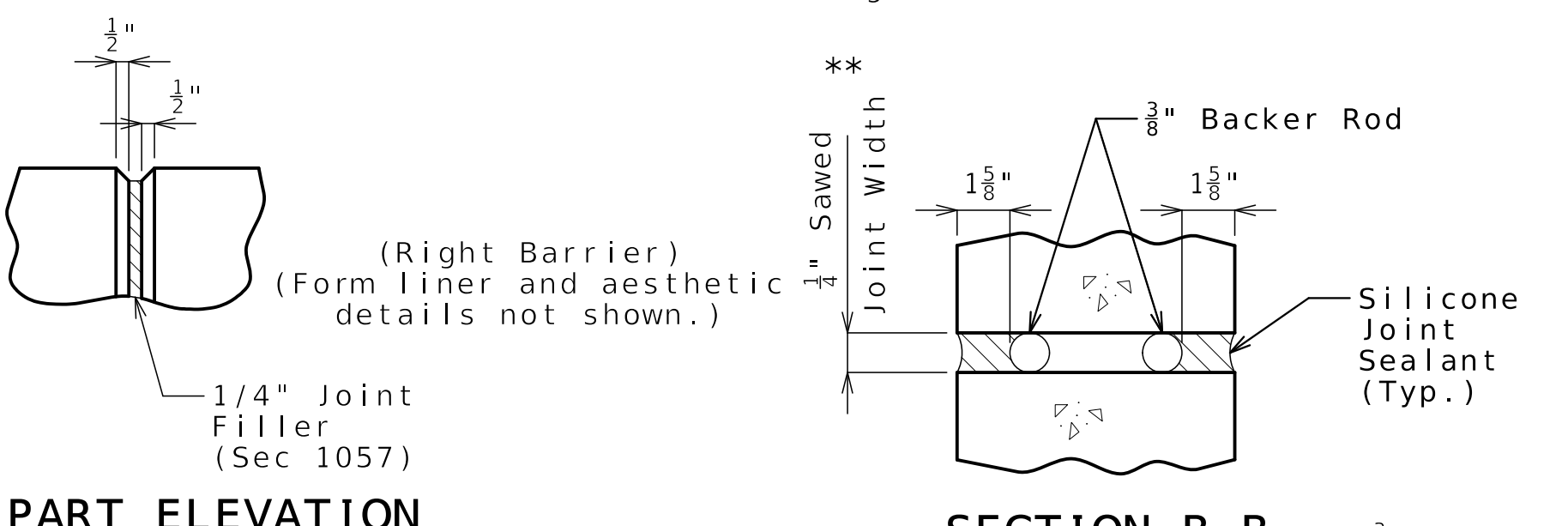
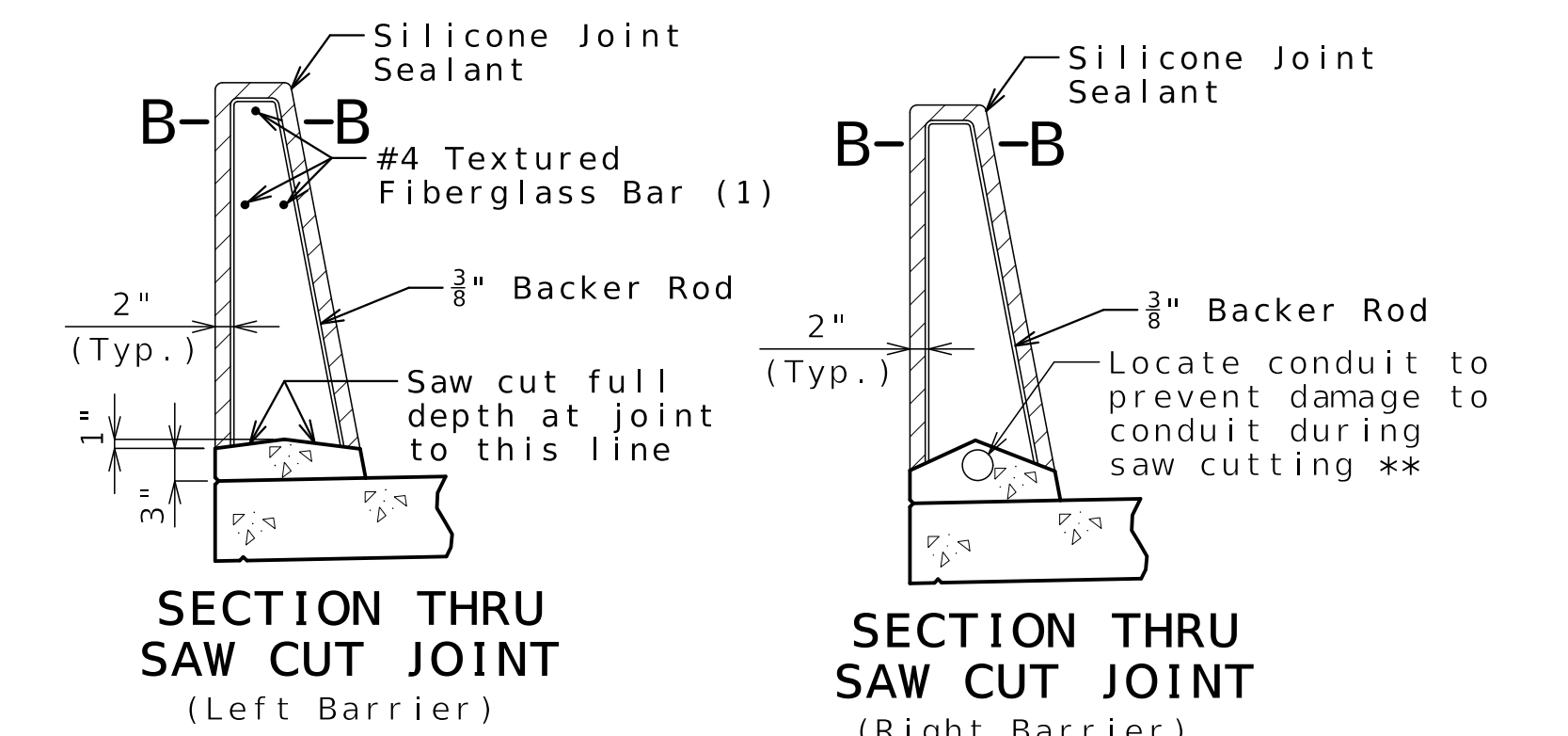


ELEVATION OF LEFT BARRIER
Longitudinal dimensions are horizontal and measured along the outside of slab.

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Date: 04/11/2025
Package: BRD-04-EB-70-Jackson

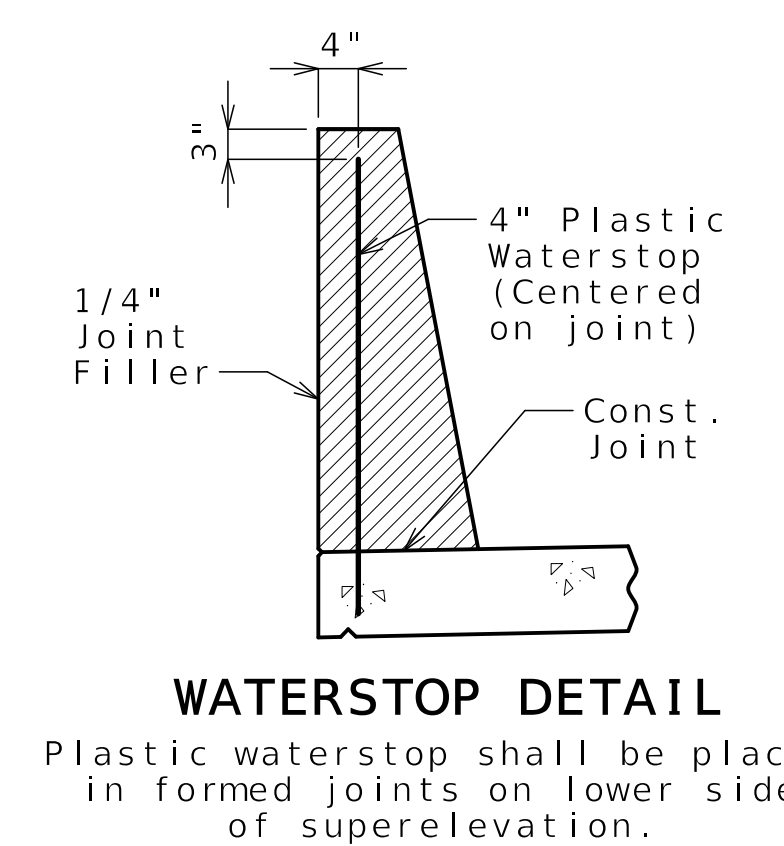
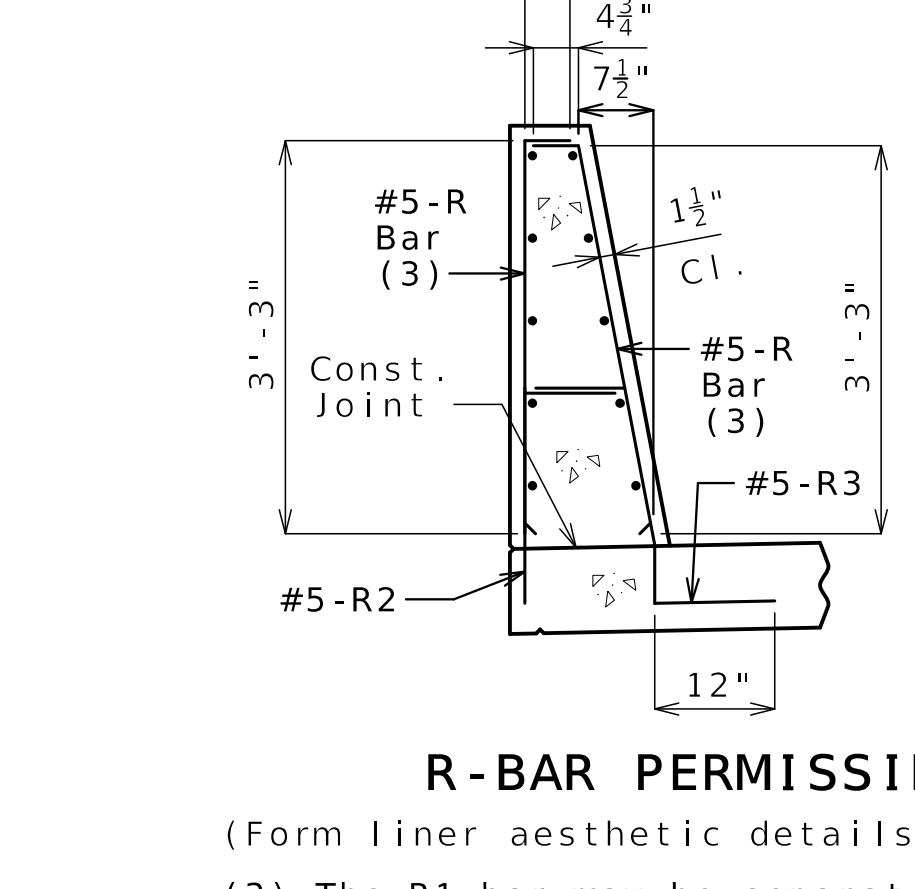
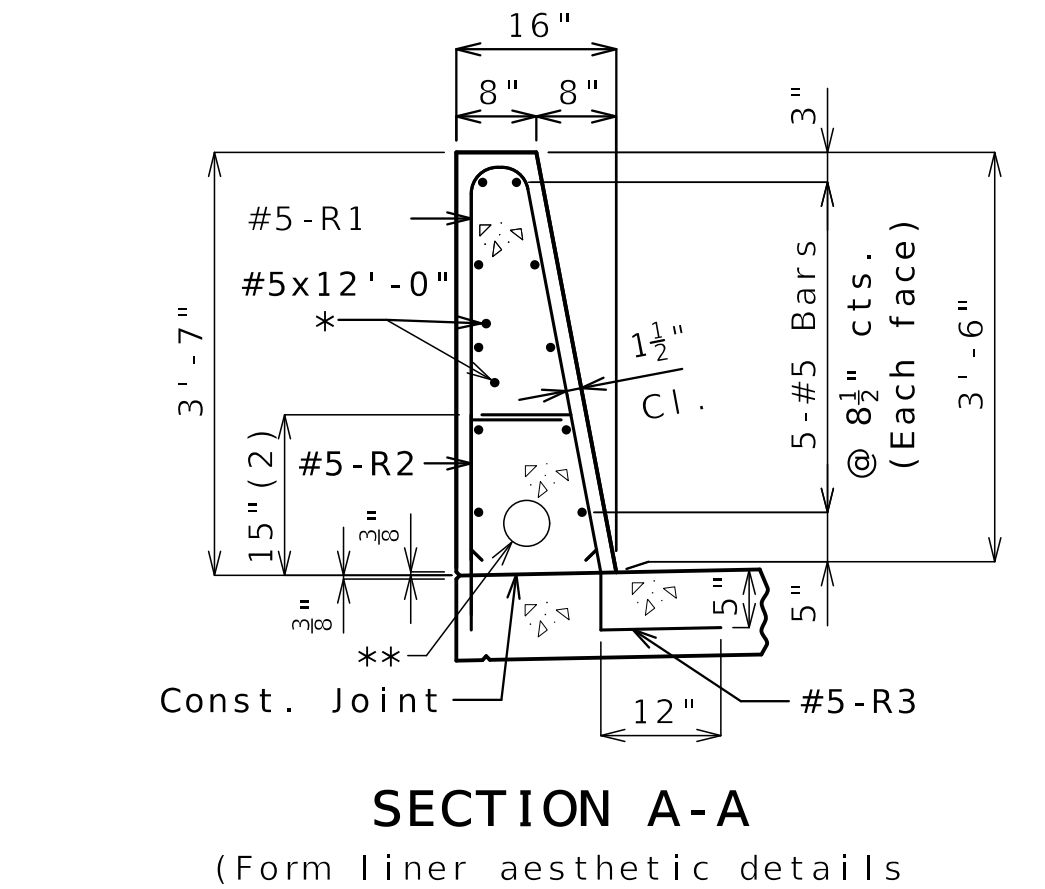
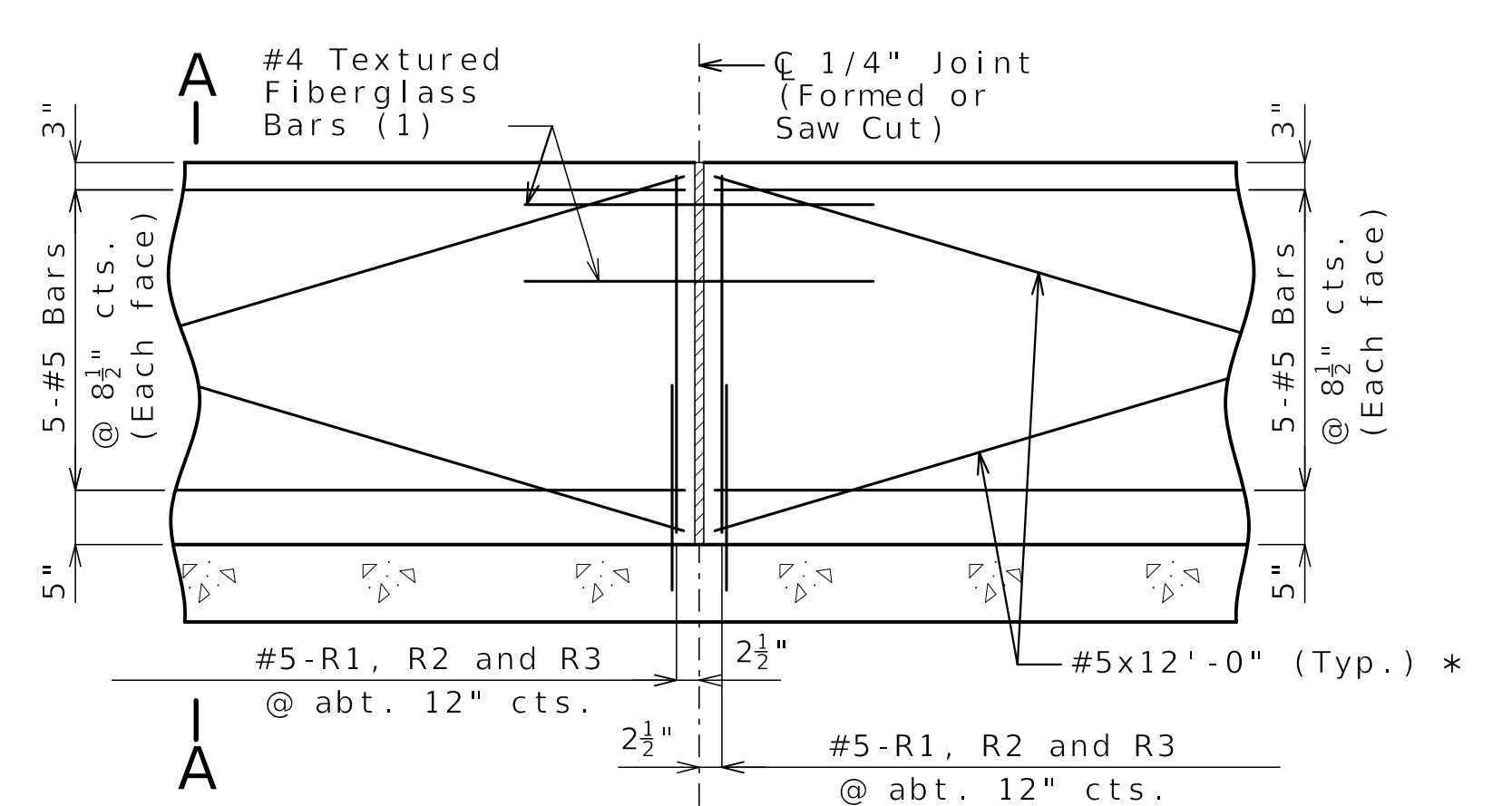


ELEVATION OF RIGHT BARRIER
Longitudinal dimensions are horizontal and measured along the outside of slab.



General Notes:

- * Left Barrier Slip-formed option only.
- ** 2" Ø PVC Conduit (Right barrier only) For Details of Conduit System on Structure, see Sheet No. B04-32.
- Conventional forming or slip forming may be used with left barrier. Conventional forming shall be used with right barrier. Saw cut joints may be used with conventional forming.
- Top of barrier shall be built parallel to grade and barrier joints (except at end bents) 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.
- Concrete in barrier shall be Class B-1.
- 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.
- 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.
- Plastic waterstop shall not be used with saw cut joints.
- For Form Liner and Aesthetic Stain details of right barrier not shown, see Sheet No. B04-31.
- For Light Blister details, see Sheet No. B04-30.



Benjamin Lichty
04-11-2025
DATE PREPARED
04/11/2025

ROUTE	STATE
I-70	MO
DISTRICT	SHEET NO.
BR	B04-28

COUNTY
JACKSON

JOB NO.
J411486D

CONTRACT ID.
240807-C01

PROJECT NO.

BRIDGE NO.
A9632

DATE	DESCRIPTION
04/11/25	REV 0 - RFC SUBMITTAL

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

CLARKSON RADMACHER JOINT VENTURE
715 KIRK DRIVE KANSAS CITY, MO 64105-1310
CERTIFICATE OF AUTHORITY NO. 001270



Benjamin Lichty
04-11-2025

DATE PREPARED
04/11/2025

ROUTE STATE
I-70 MO

DISTRICT SHEET NO.
BR B04-29

COUNTY
JACKSON

JOB NO.
J411486D

CONTRACT ID.
240807-C01

PROJECT NO.

BRIDGE NO.
A9632

DESCRIPTION

REV 0 - RFC SUBMITTAL

DATE

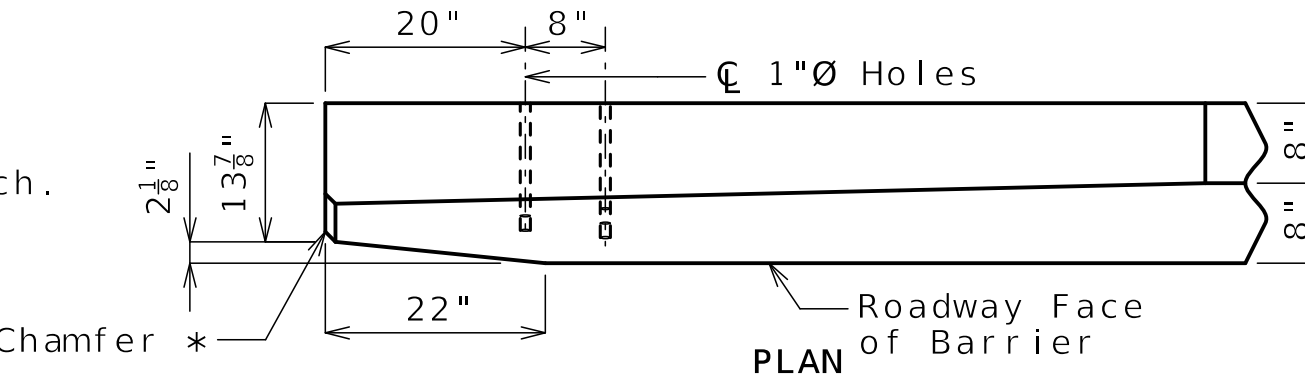
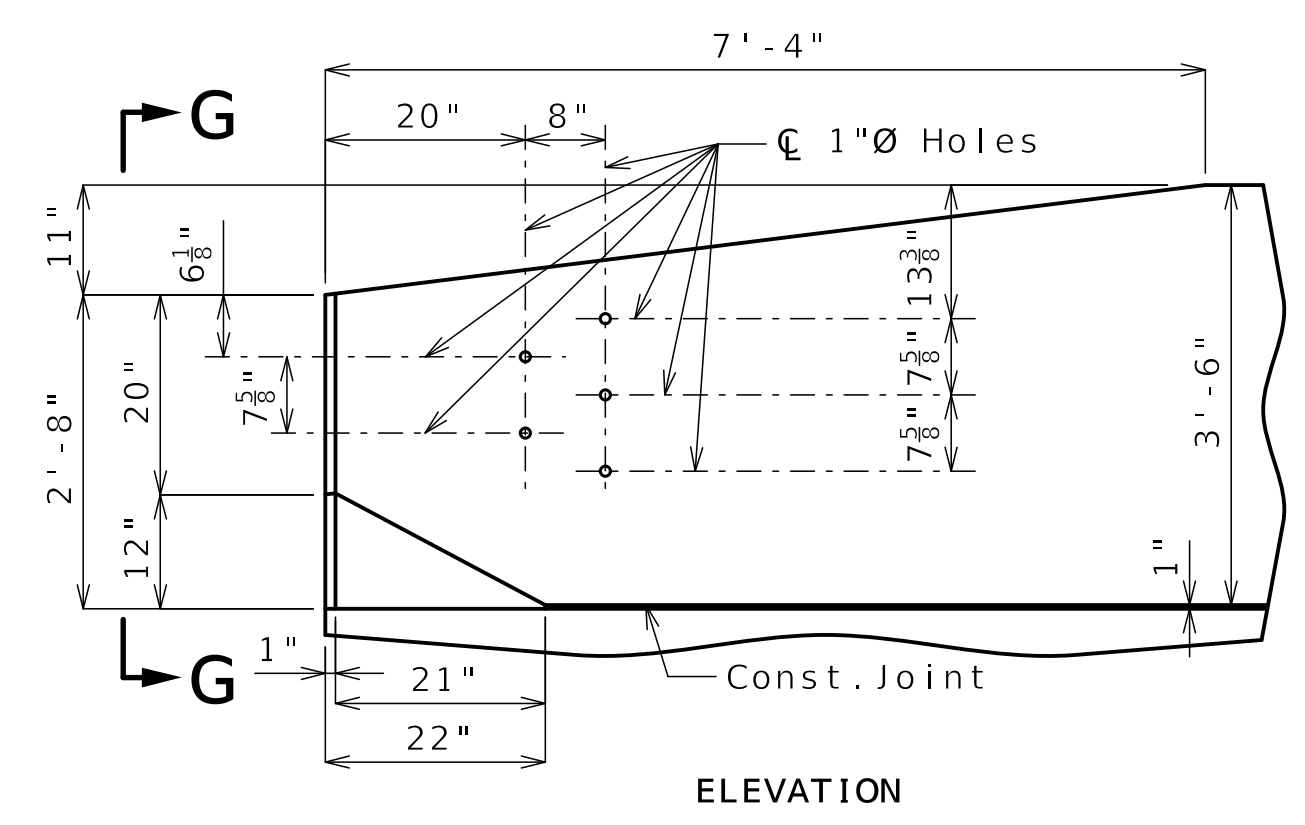
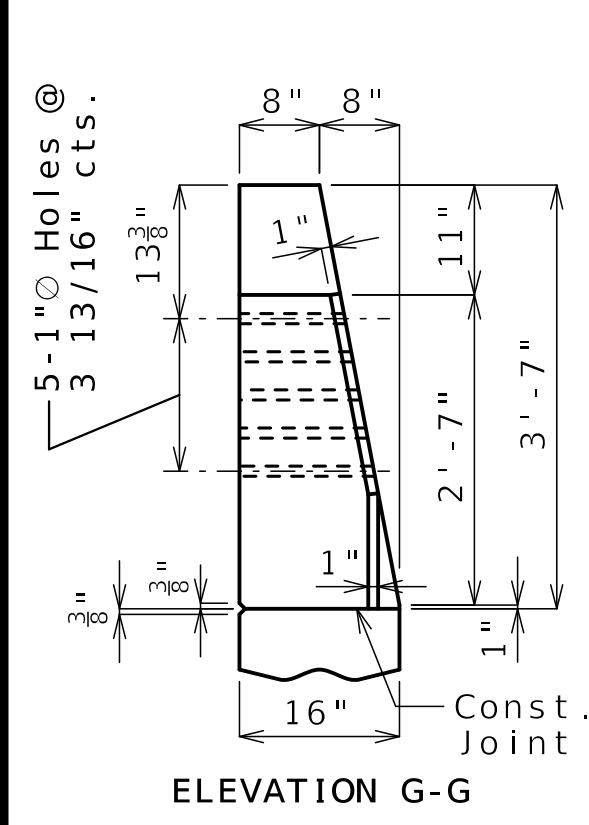
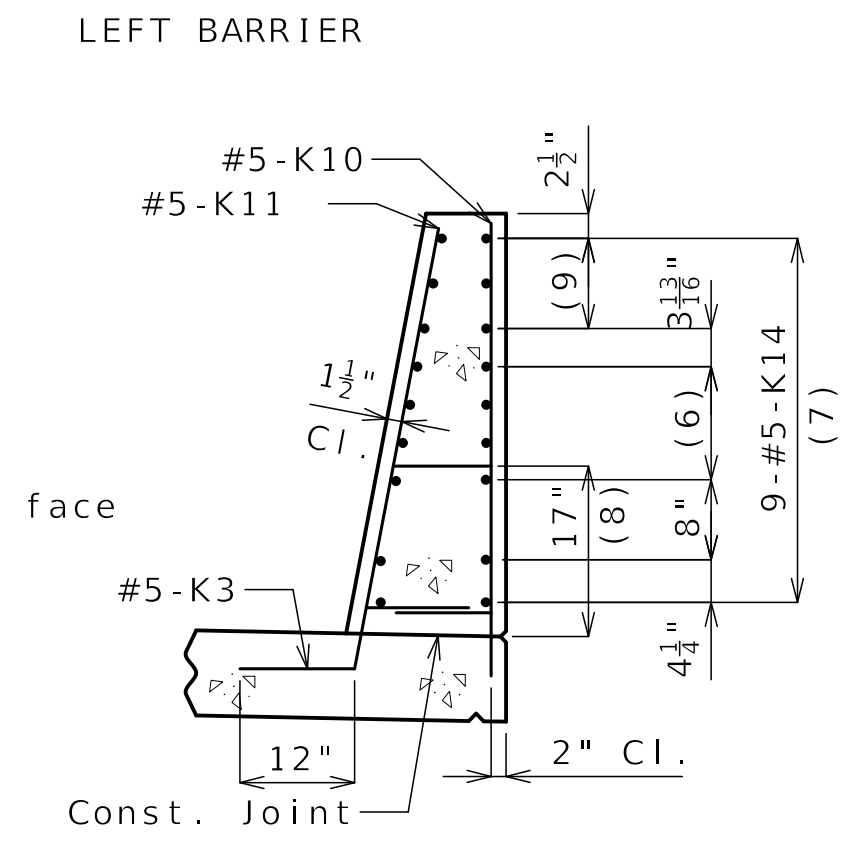
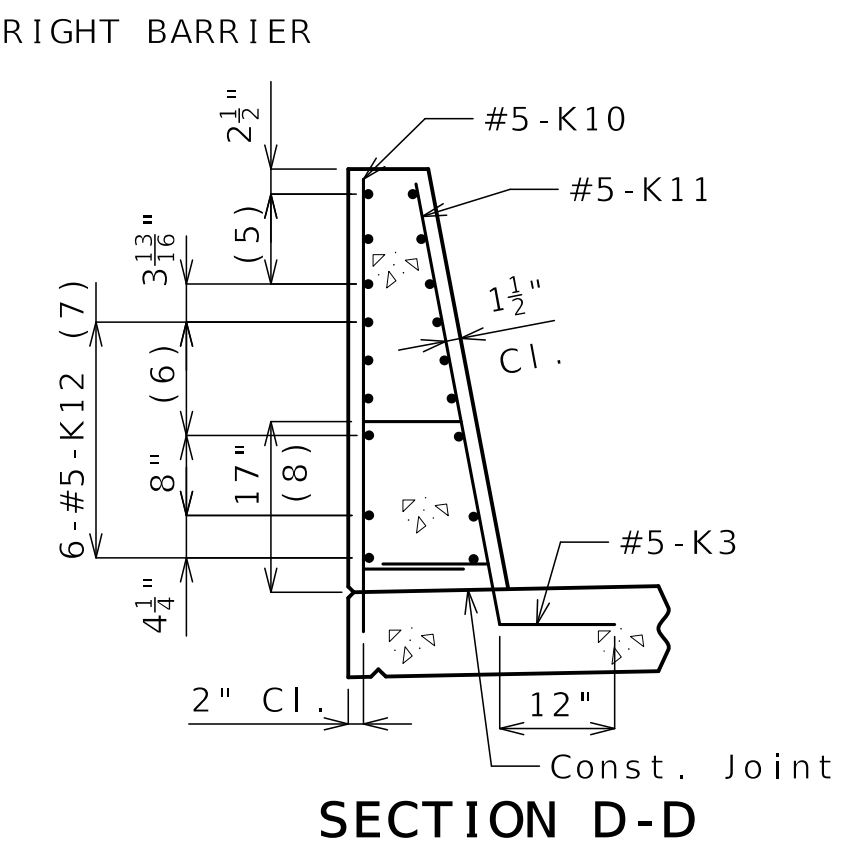
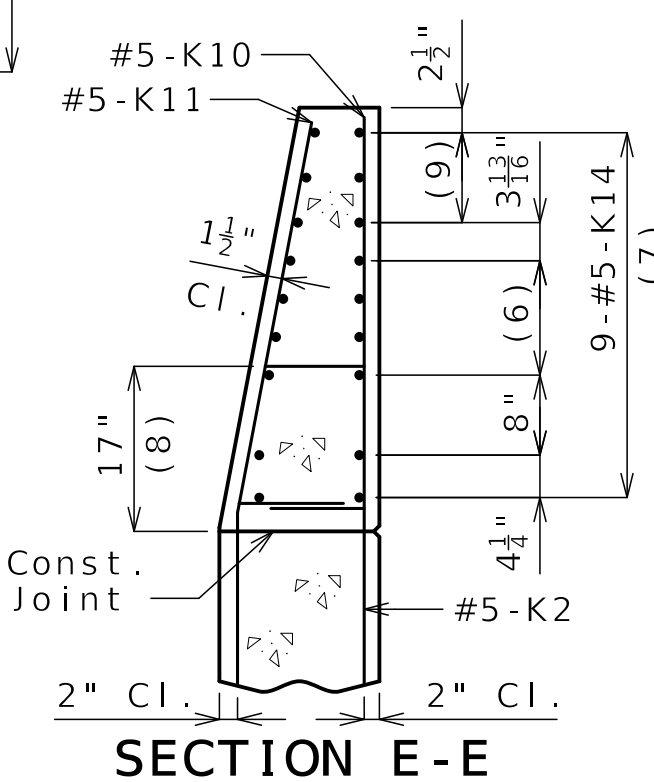
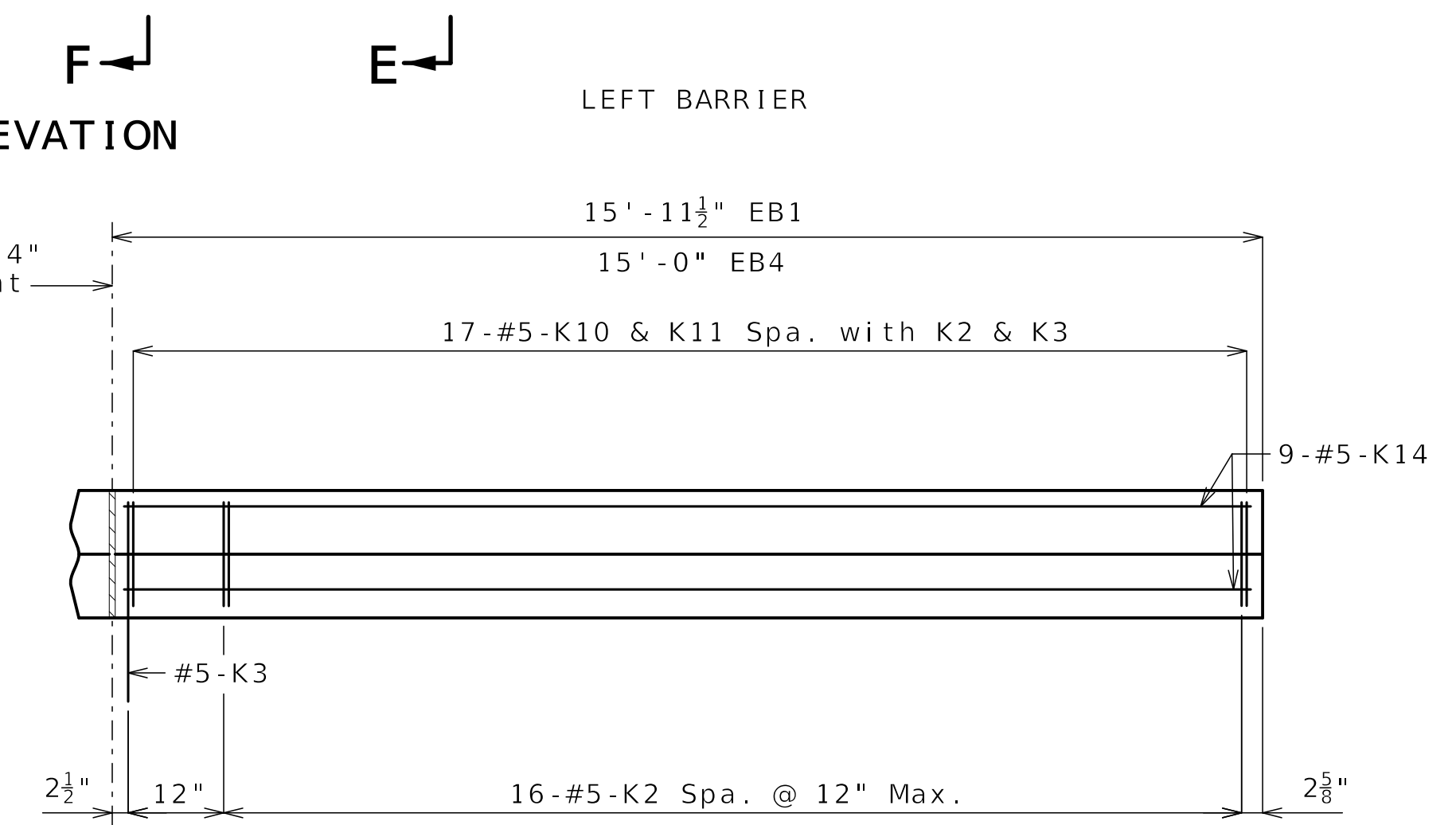
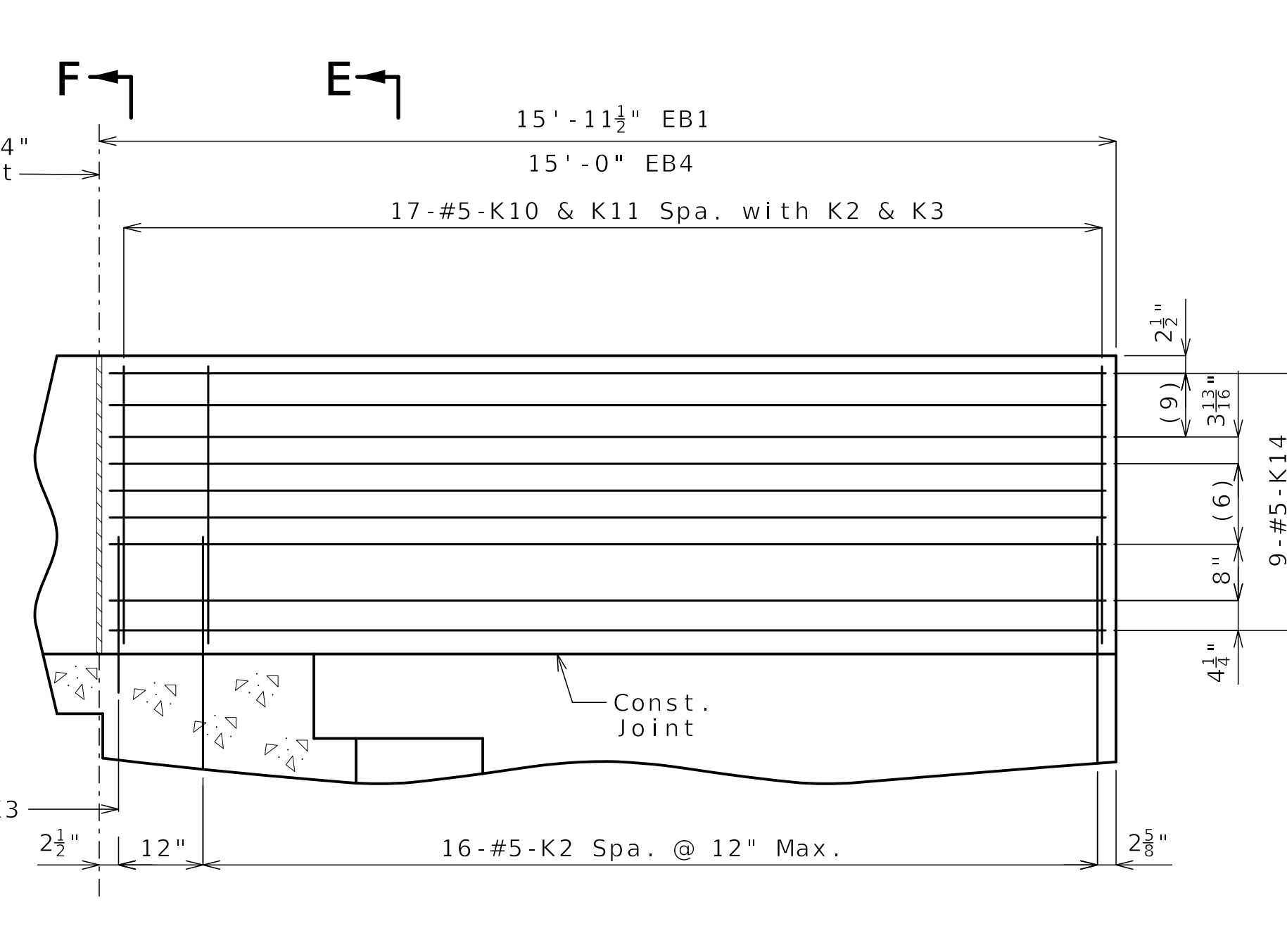
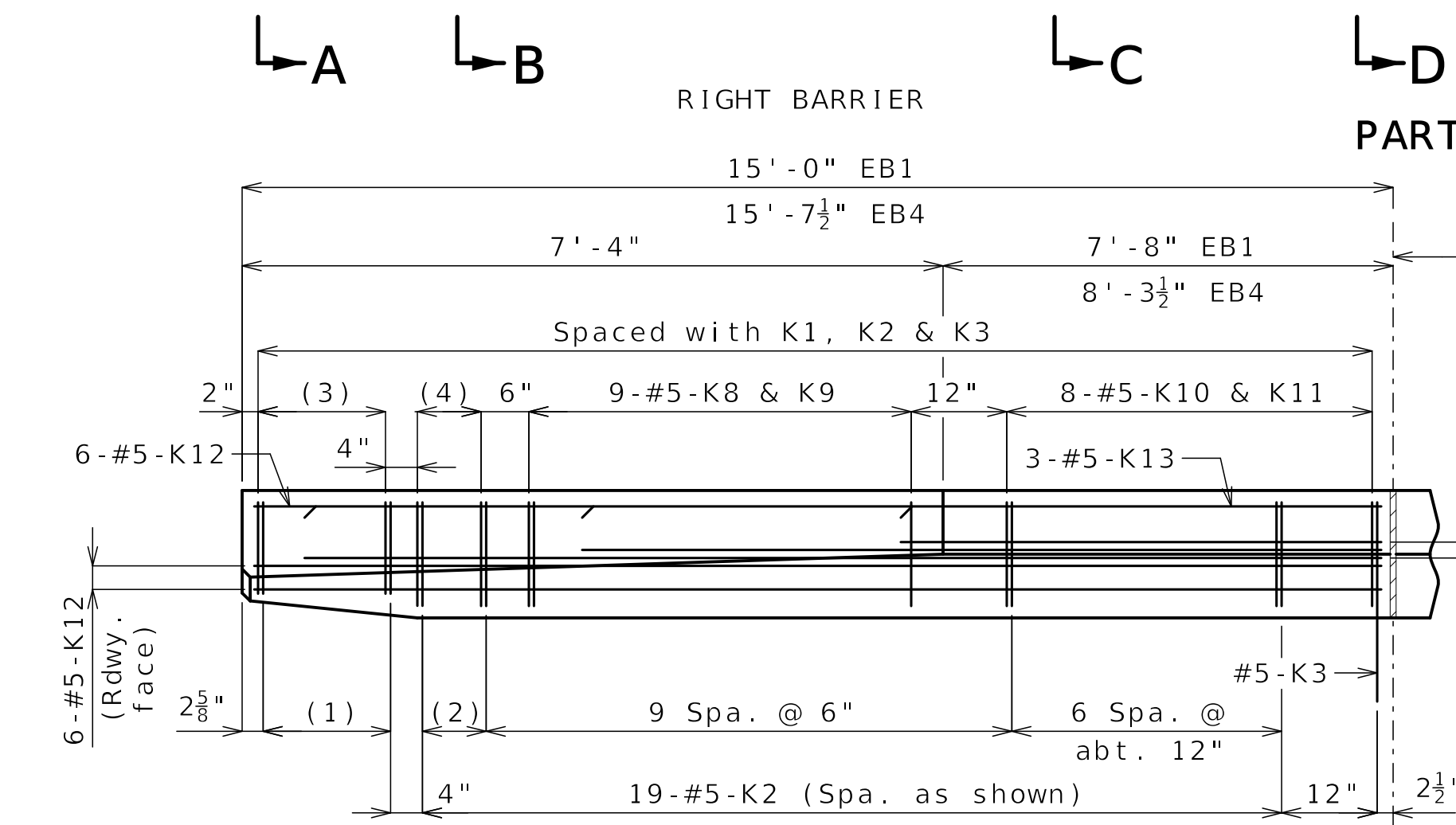
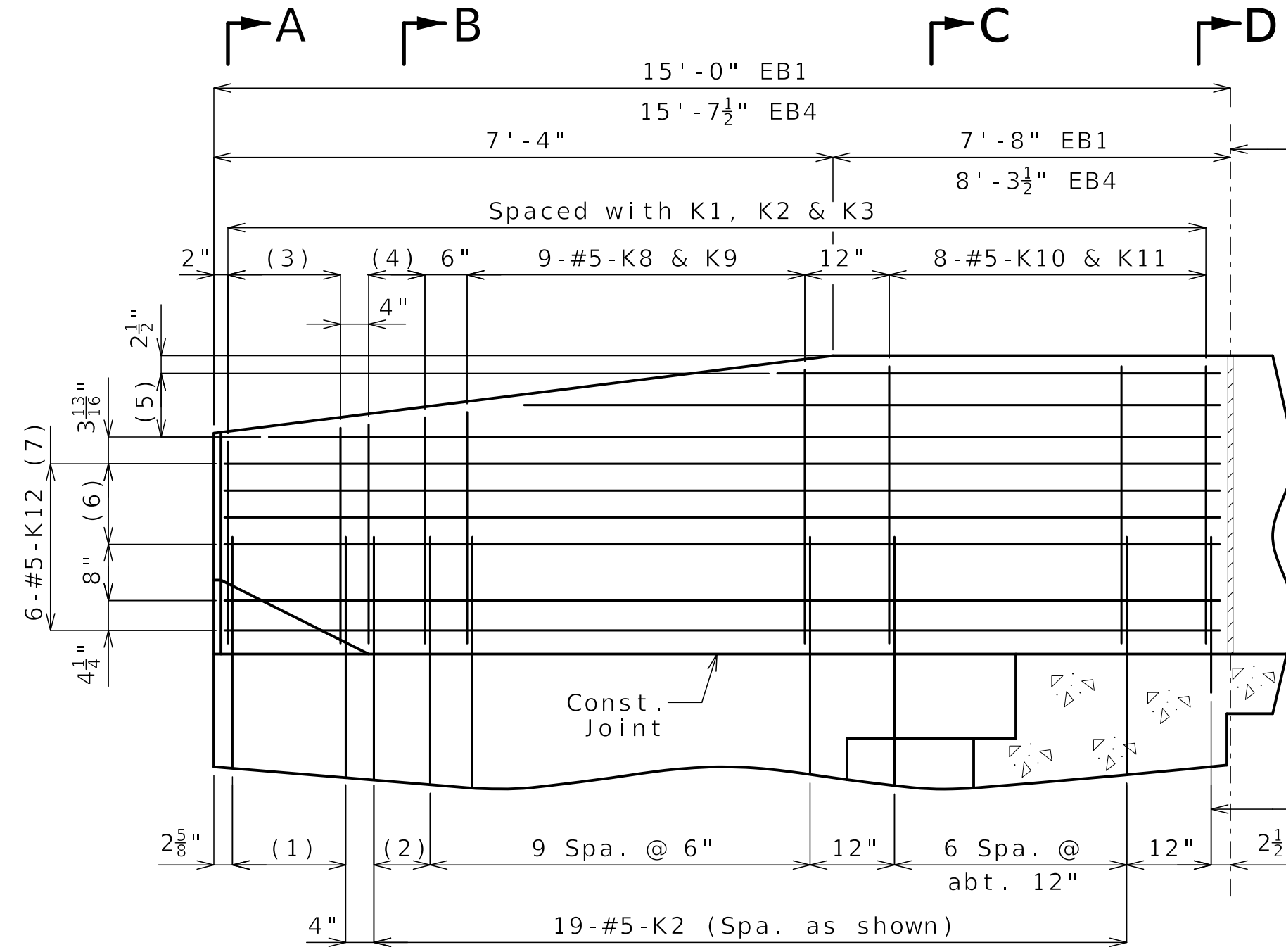
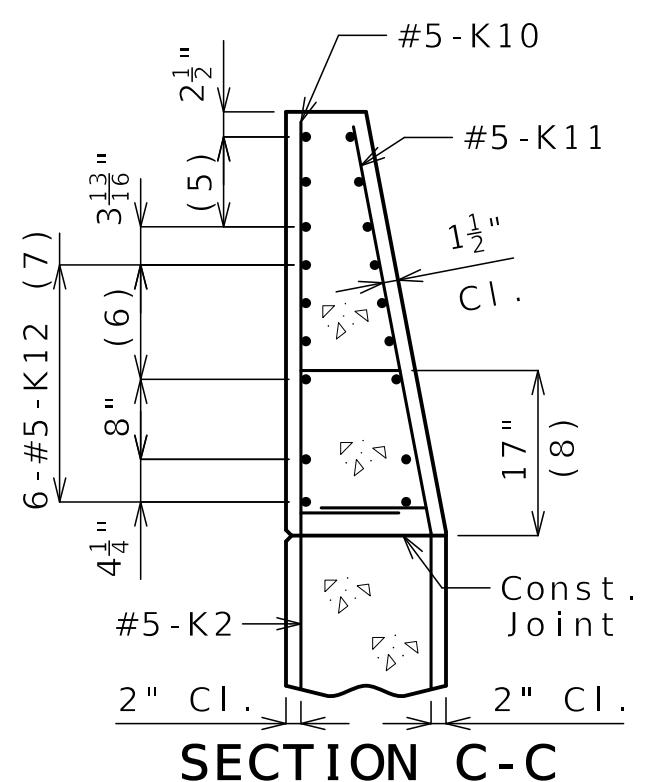
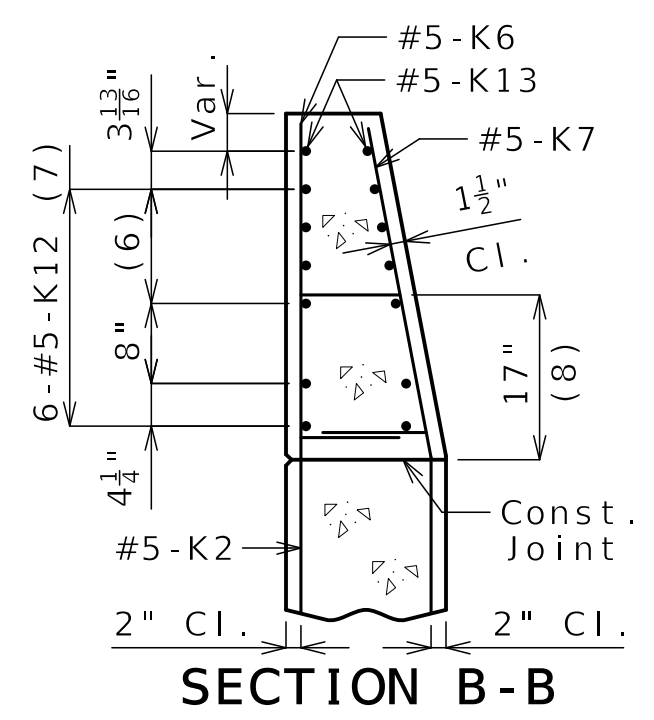
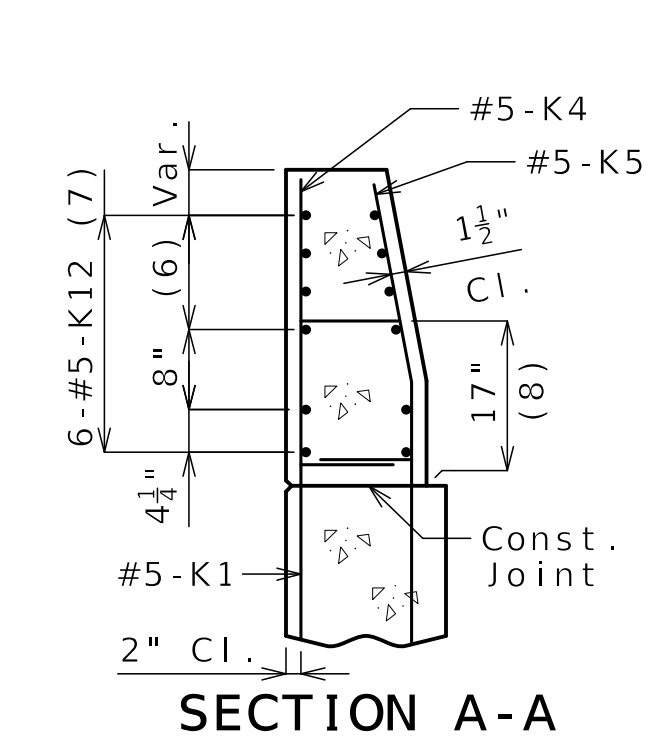
04/11/25

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

MoDOT

105 WEST CAPITOL JEFFERSON CITY, MO 65102

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

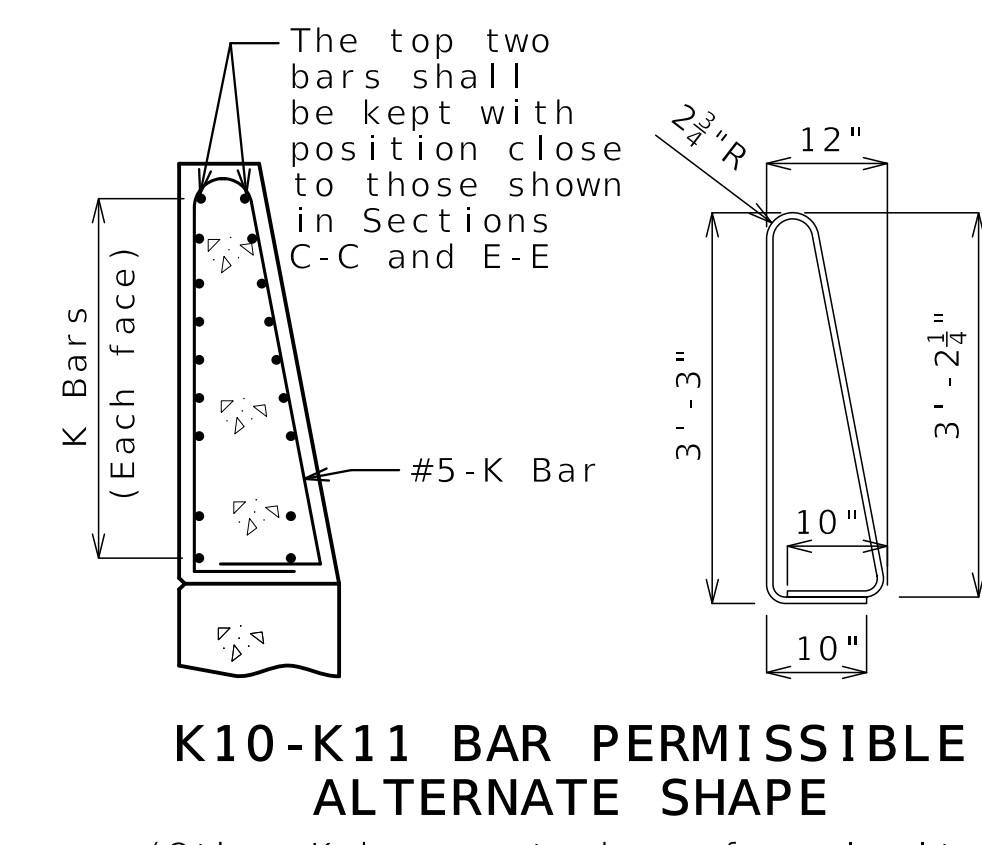


- General Notes:**
- 1) 5-#5-K1 @ 4" cts.
 - 2) 2 spaces @ 4"
 - 3) 5-#5-K4 & K5
 - 4) 3-#5-K6 & K7
 - 5) 3-#5-K13 or K15 @ 4 1/2" cts., each face
 - 6) 3 spaces @ 3 1/8"
 - 7) Spaced as shown, each face
 - 8) To top of bar
 - 9) 2 spaces @ 4 1/2"

General Notes:
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.

For Form Liner and Aesthetic Stain details of right barrier not shown, see Sheet No. B04-31.

Reinforcing Steel:
Minimum clearance to reinforcing steel shall be 1 1/2" except as shown for bars embedded into end bent.



The top two bars shall be kept with position close to those shown in Sections C-C and E-E

The K10-K11 bar combination may be furnished as one bar as shown, at the contractor's option.

All dimensions are out to out.

EB1 denotes End Bent No. 1
EB4 denotes End Bent No. 4

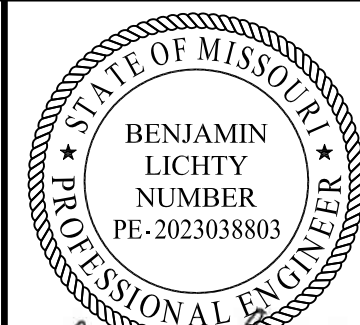
PVC conduit in right barrier not shown.

TYPE D BARRIER AT END BENTS

Detailed DEC 2024
Checked JAN 2025

Note: This drawing is not to scale. Follow dimensions.

Sheet No. B04-29 of B04-41



Benjamin Lichty
04-11-2025

DATE PREPARED
04/11/2025

ROUTE STATE
I-70 MO

DISTRICT SHEET NO.
BR B04-30

COUNTY
JACKSON

JOB NO.
J411486D

CONTRACT ID.
240807-C01

PROJECT NO.

BRIDGE NO.
A9632

DESCRIPTION
REV 0 - RFC SUBMITTAL

DATE
04/11/25

MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

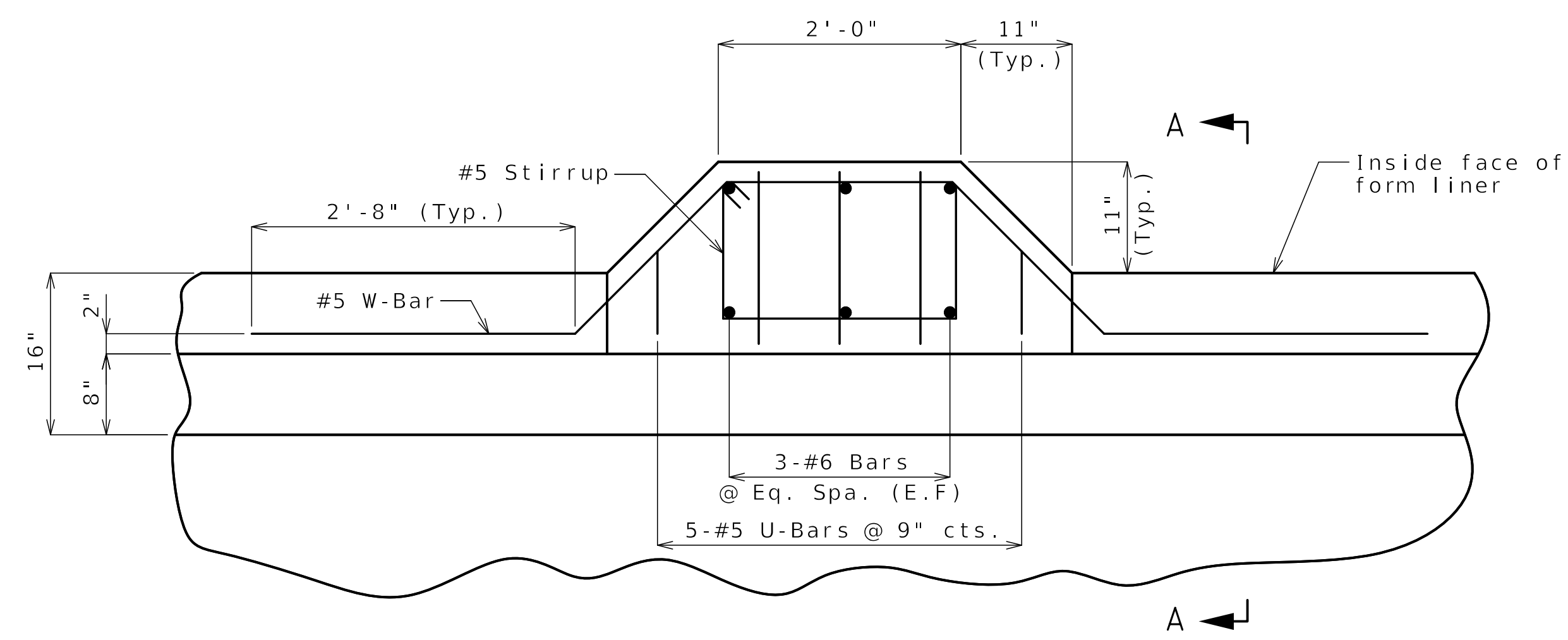
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

MoDOT

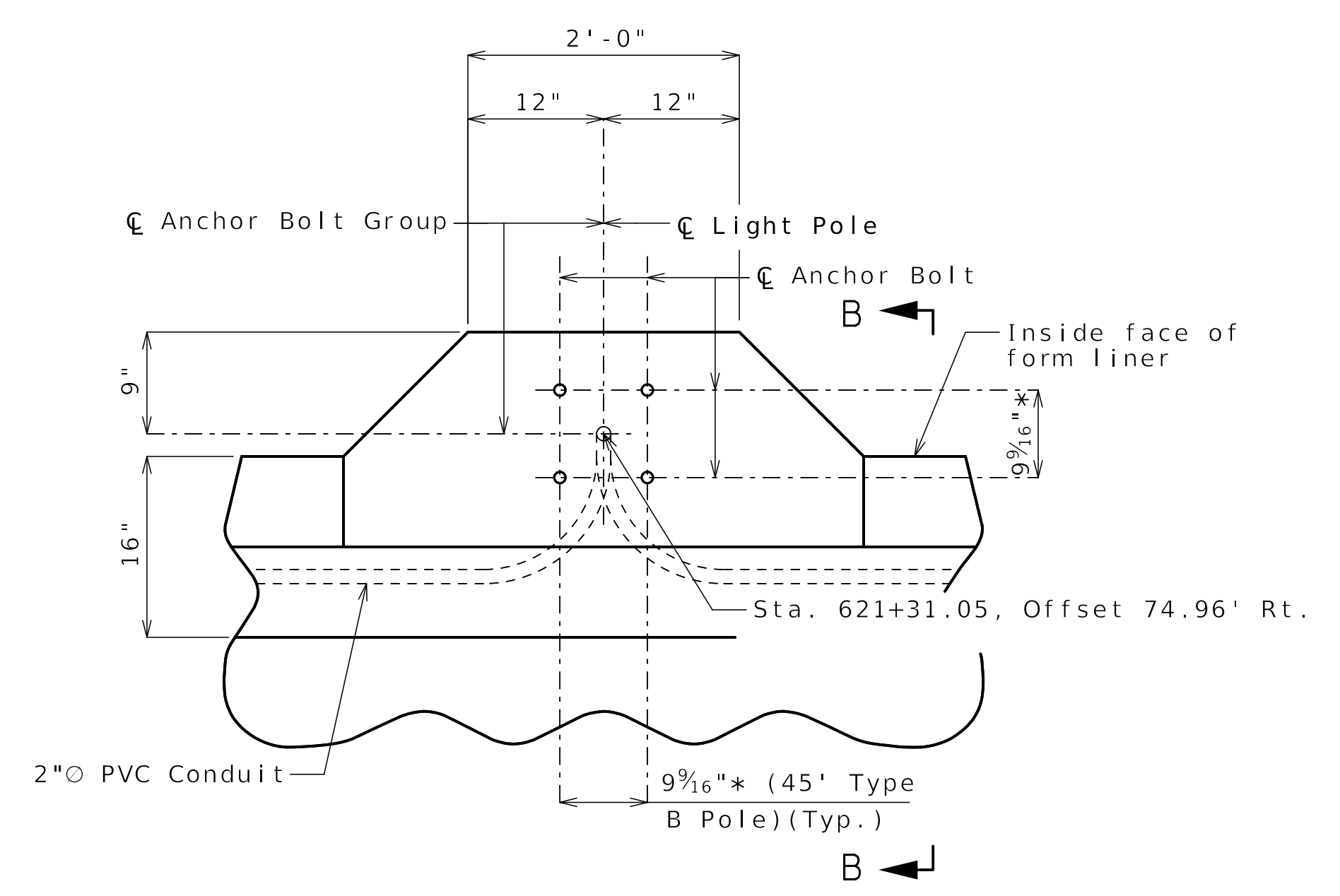
CLARKSON
RADMACHER
JOINT VENTURE

715 KIRK DRIVE
KANSAS CITY, MO 64105-1310
CERTIFICATE OF AUTHORITY
NO. 001270

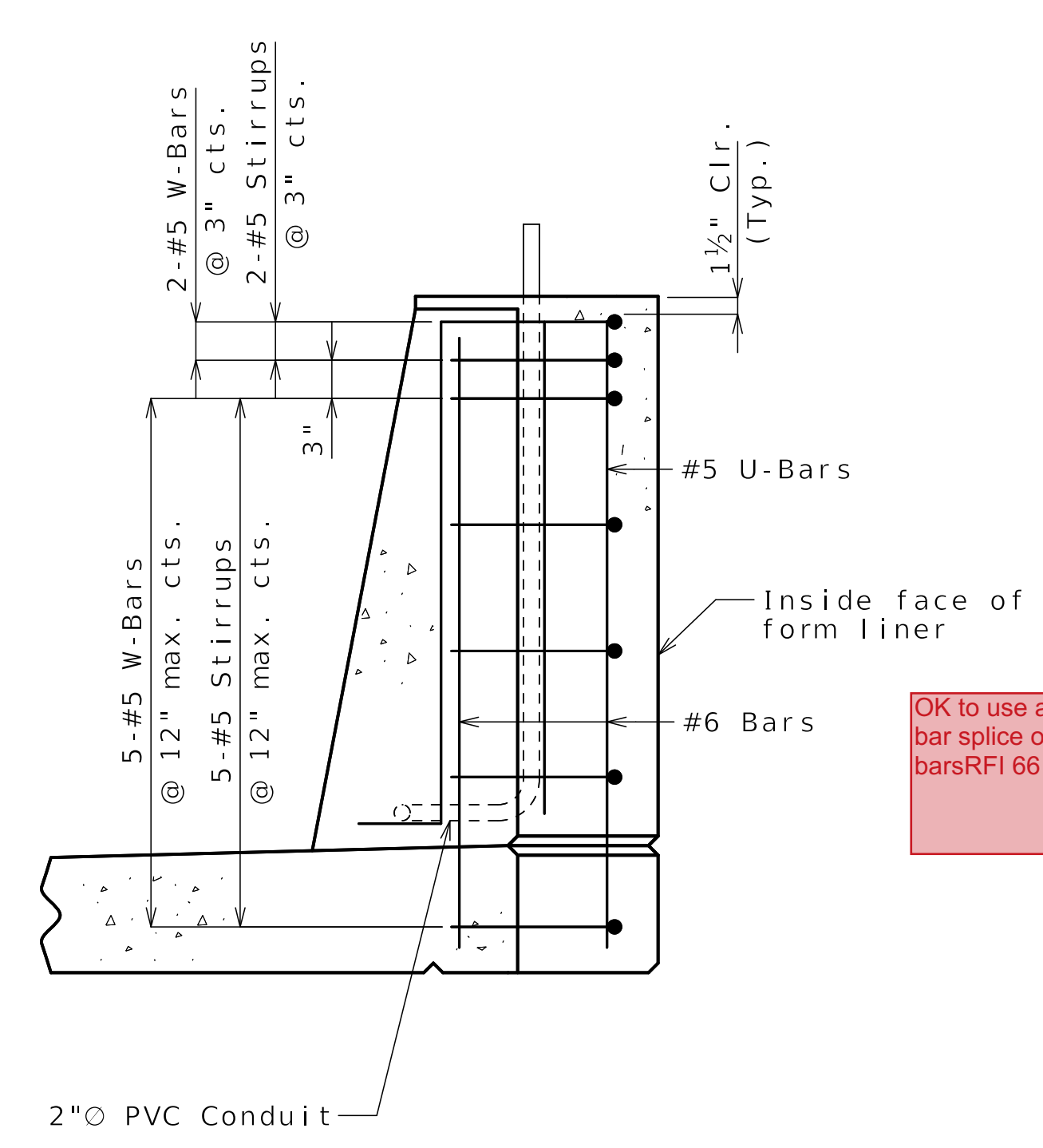
HNTB



LIGHT POLE MOUNTING PLAN SHOWING REINFORCEMENT

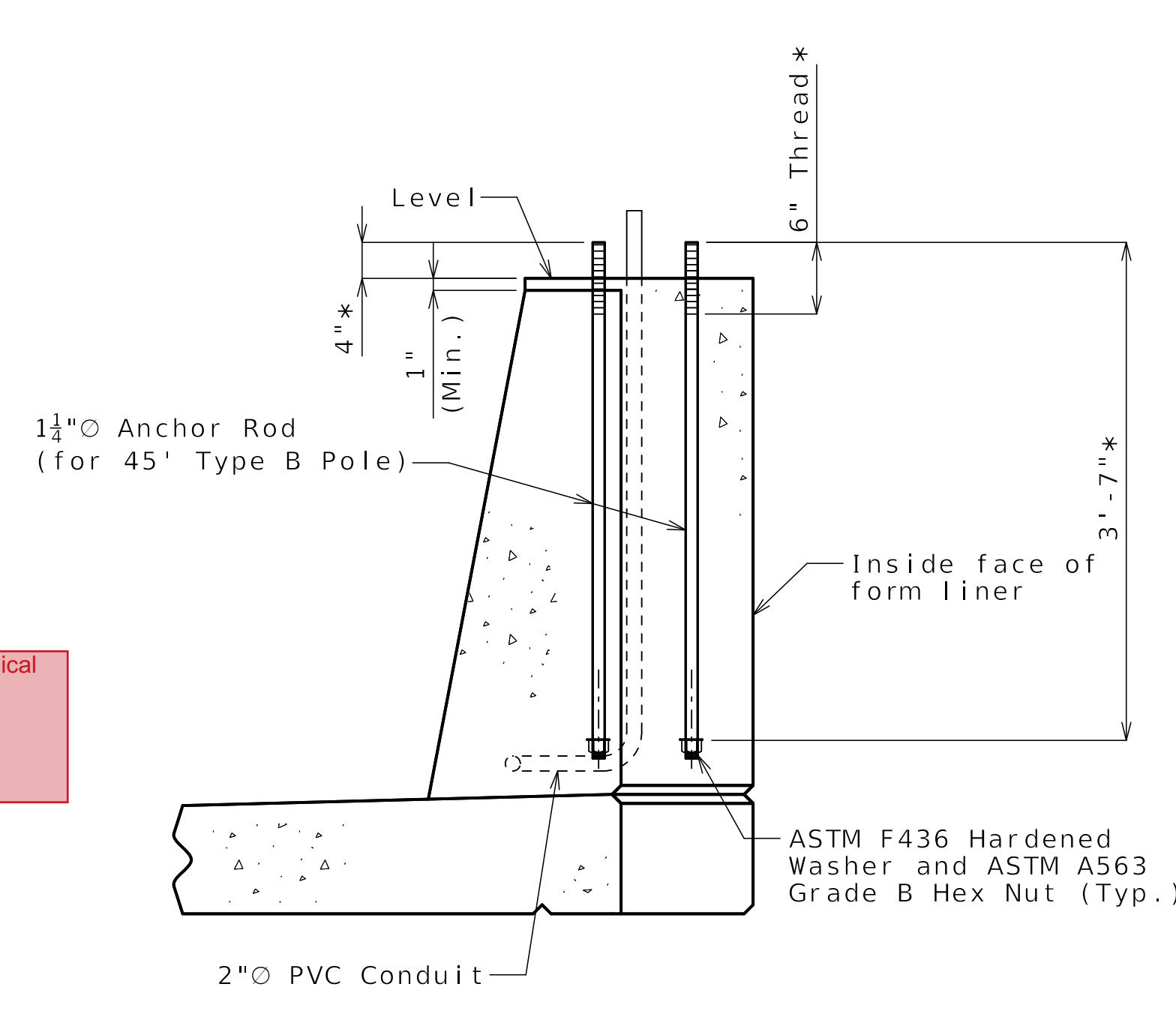


LIGHT POLE MOUNTING PLAN



SECTION A-A

OK to use a mechanical bar splice on vertical bars RFI 66

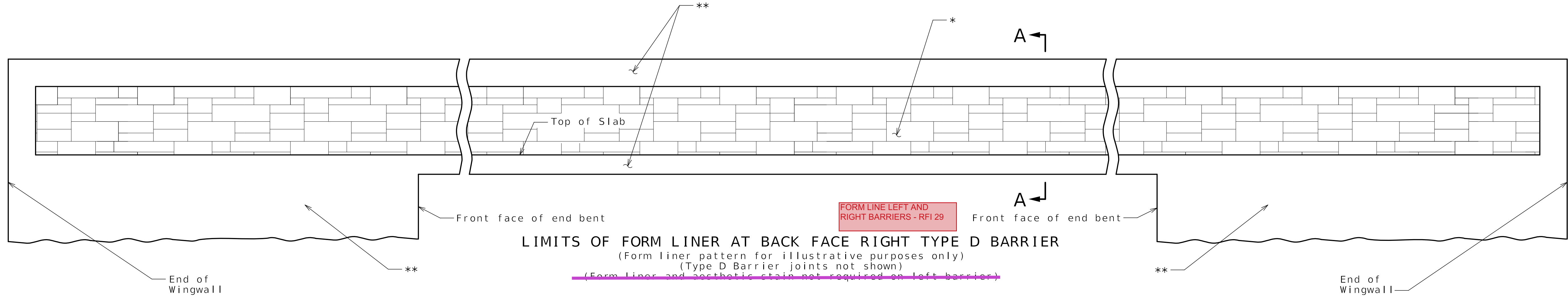


SECTION B-B

Released For Construction
Not to Scale
Revision: 0.0
Date: 04/11/2025
Package: BRD-04-EB-70-Jackson

Notes:
* Contractor shall confirm dimension with light pole manufacturer before setting anchor bolts.
Anchor bolts and nuts shall be ASTM F1554 Grade 55. Anchor bolts, nuts and washers shall be galvanized in accordance with AASHTO M 232 (ASTM A153), Class C or ASTM B695, Class 55.
Top of light standard supports shall be made horizontal; anchor rods shall be placed vertically.
Contractor has the option to splice vertical bars with mechanical bar splices. Mechanical bar splices shall be in accordance with Sec 710.
For locations of light blister, see Sheets No. B04-24 and B04-25.
For Form Liner and Aesthetic Stain Details not shown, see Sheet No. B04-31.

LIGHT BLISTER DETAILS



LIMITS OF FORM LINER AT BACK FACE RIGHT TYPE D BARRIER
 (Form liner pattern for illustrative purposes only)
 (Type D Barrier joints not shown)
 (Form liner and aesthetic stain not required on left barrier)

Form Liner and Aesthetic Concrete Stain for bridges are not a part of the base contract and are not yet contracted for this Project with MoDOT.

General Notes:

**Concrete and masonry protective coating and sacrificial graffiti protective coating shall be applied in accordance with Sec 711 to surfaces to receive form liner treatment and as noted in details on this sheet.

Protective coatings shall be compatible with Aesthetic Concrete Stain.

Concrete Form Liner Notes:

Form liner shall be constructed in accordance with Special Provisions.

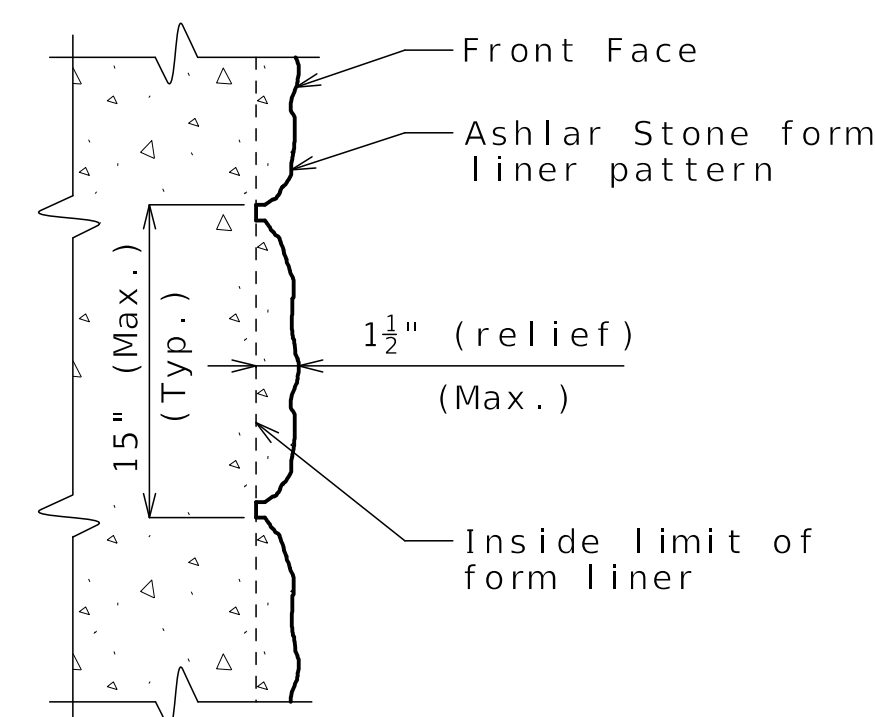
The following is a list of form liner manufacturers and types which may be used. Depth of relief for all form liner patterns shall vary up to 1 1/2". The height of any single "stone" shall be 15" maximum.

- Scott System, Inc.: Form liner pattern #167 "Ashlar Stone"
- Fitzgerald Formliners: Form liner pattern #16986 "Ashlar Stone"
- Greenstreak: Form liner pattern #330 "Ashlar Stone"
- Spec Formliners: Form liner pattern #1515 "Ashlar Stone"
- Customrock: Form liner pattern #12020 "Tollway Ashlar"
- An approved equal

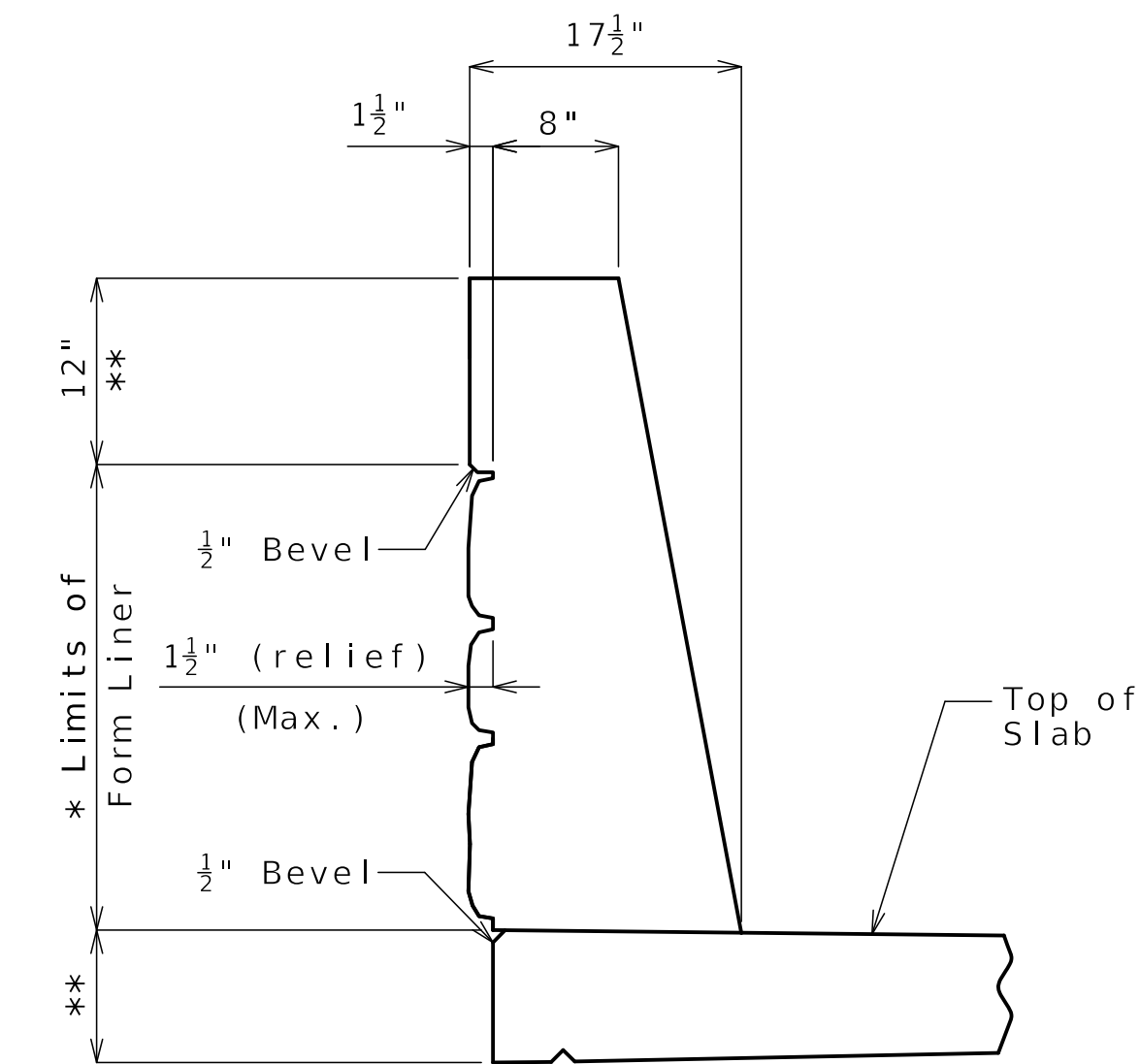
Aesthetic Concrete Stain Notes:

* Surface to receive Aesthetic Concrete Stain. The color shall be Federal Standard #37150.

Aesthetic Concrete Stain shall be applied in accordance with Sec 711 as shown in the plans.

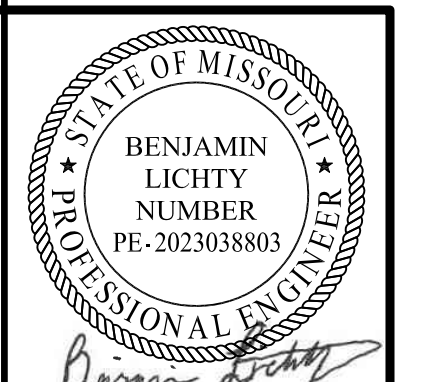


FORM LINER DETAIL



SECTION A-A

Released For Construction
 Not to Scale
 Revision: 0.0
 Date: 04/11/2025
 Package: BRD-04-EB-70-Jackson



Benjamin Lichty
 04-11-2025

DATE PREPARED
 04/11/2025

ROUTE 1-70	STATE MO
DISTRICT BR	SHEET NO. B04-31

COUNTY
JACKSON

JOB NO.
J411486D

CONTRACT ID.
240807-C01

PROJECT NO.

BRIDGE NO.
A9632

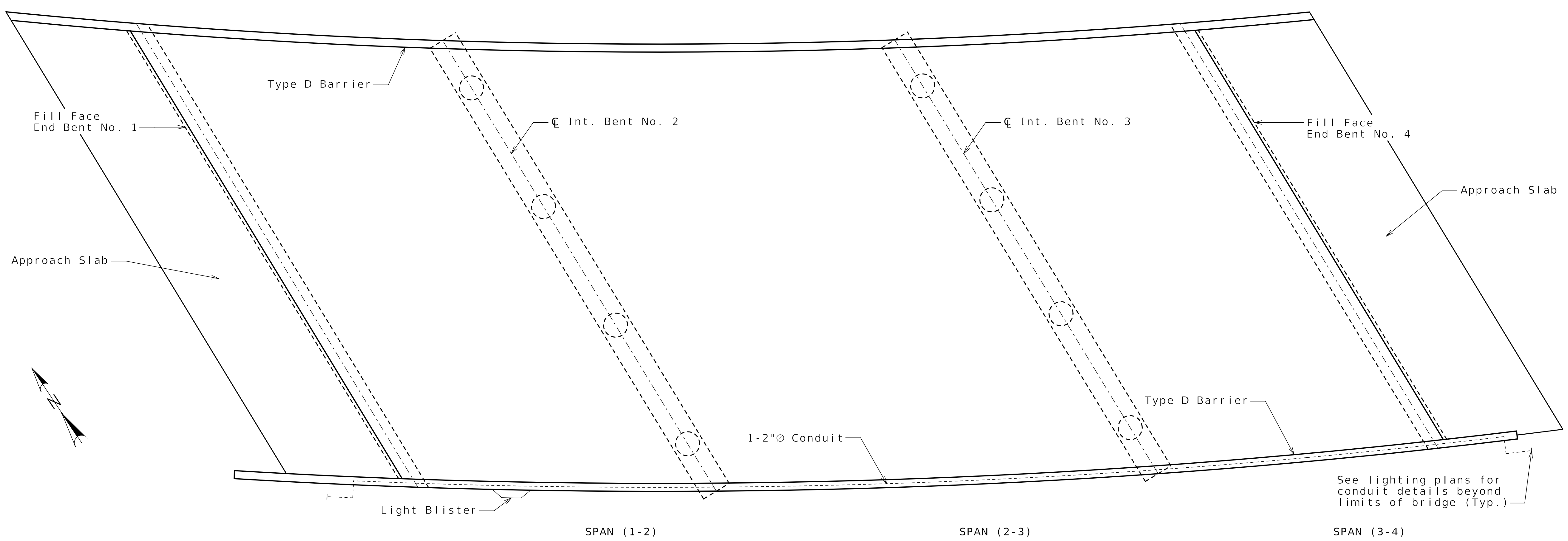
DATE	DESCRIPTION
04/11/25	REV 0 - RFC SUBMITTAL

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

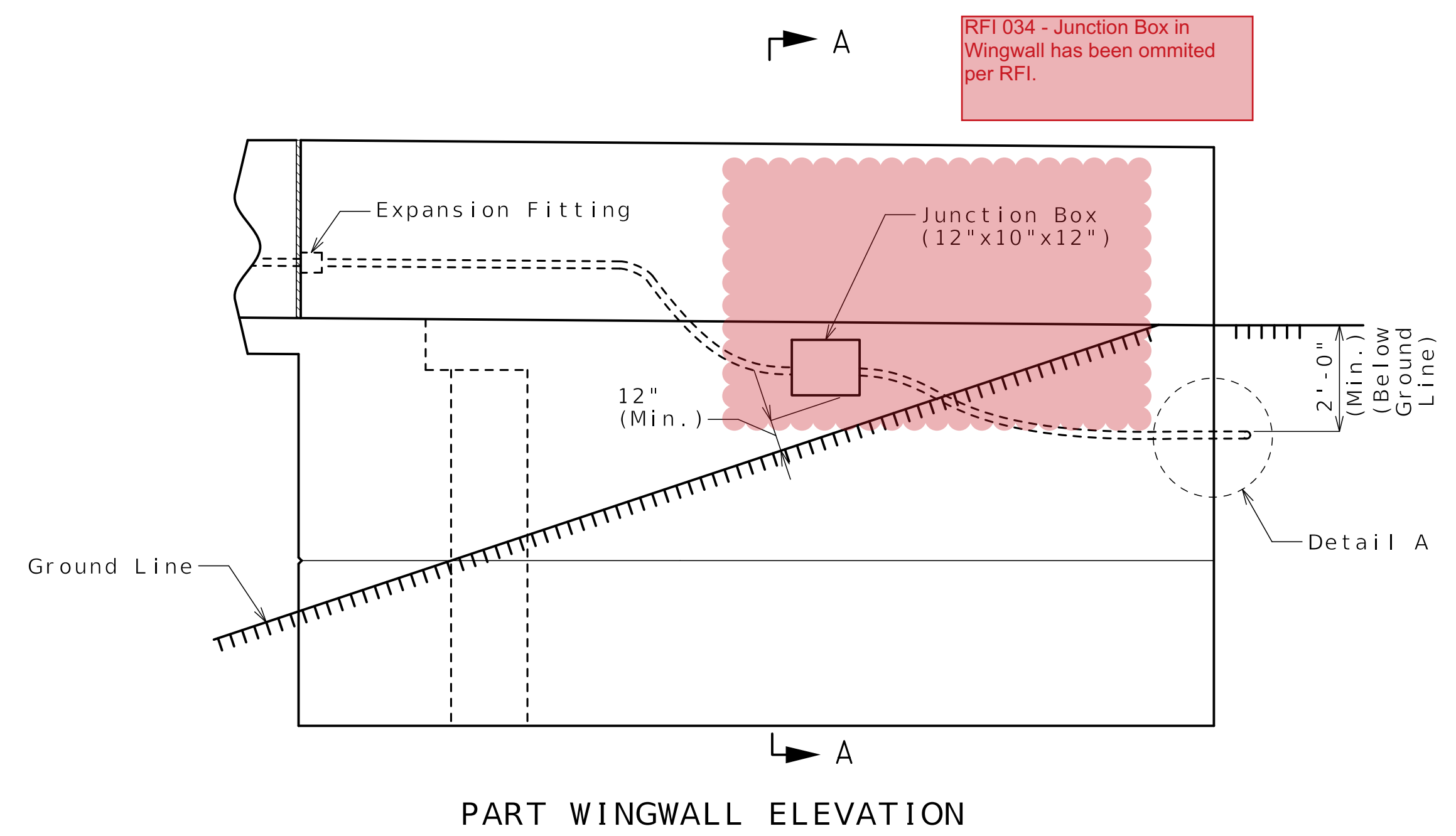
105 WEST CAPITOL
 JEFFERSON CITY, MO 65102
 1-888-ASK-MODOT (1-888-275-6636)

CLARKSON RADMACHER
 JOINT VENTURE

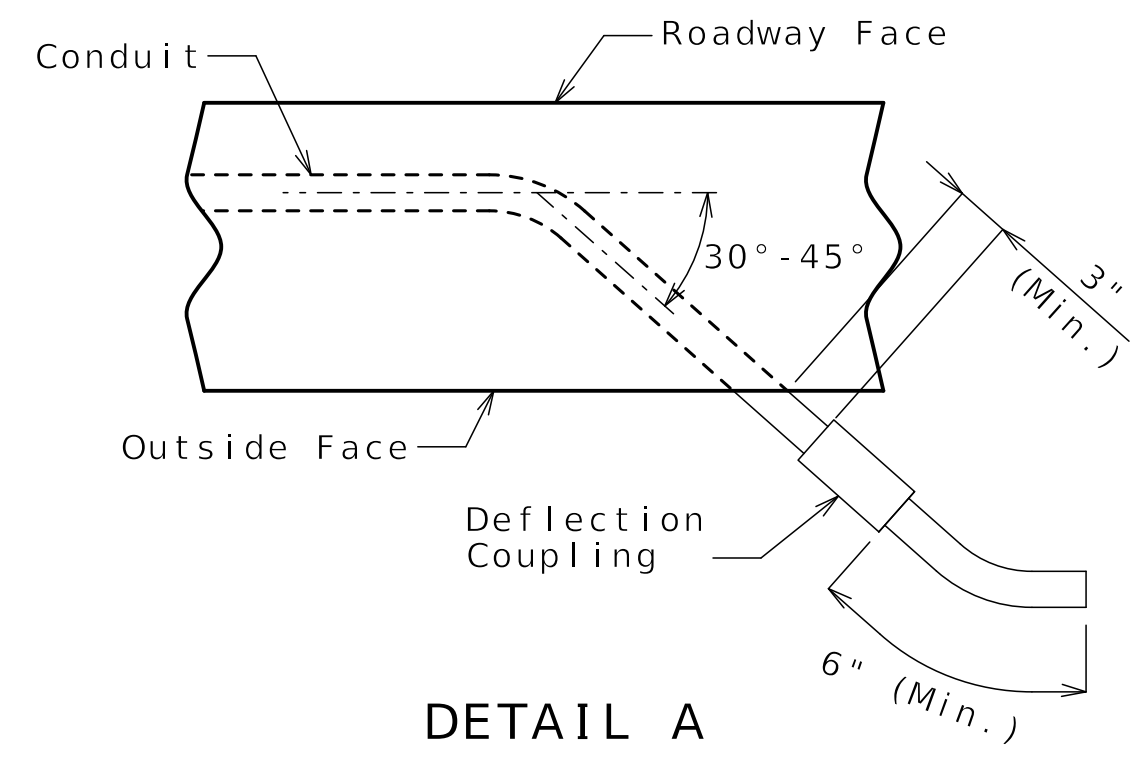
715 KIRK DRIVE
 KANSAS CITY, MO 64105-1310
 CERTIFICATE OF AUTHORITY
 NO. 001270



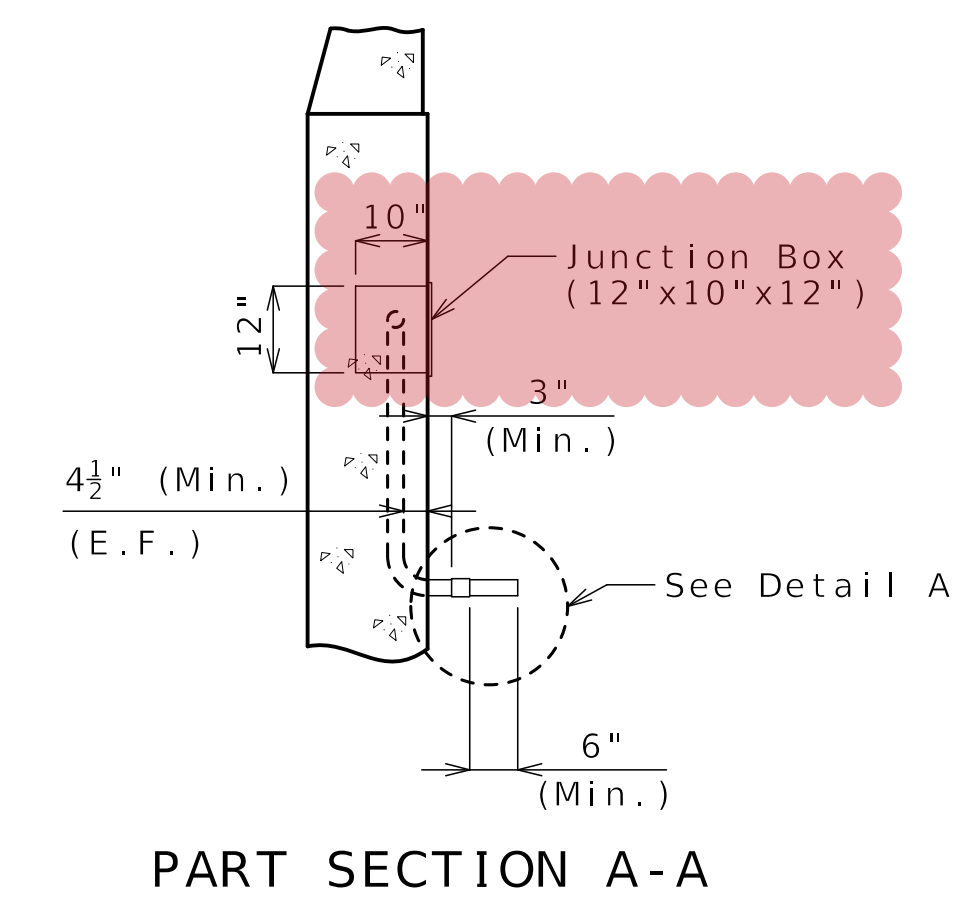
PLAN OF CONDUIT SYSTEM



PART WINGWALL ELEVATION



DETAIL A

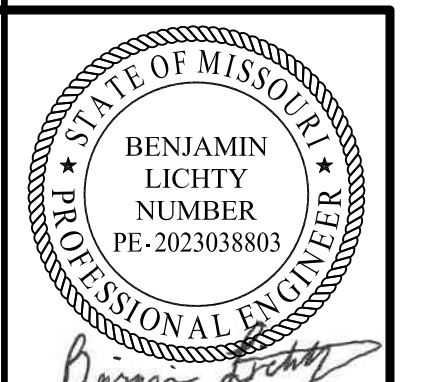


PART SECTION A-A

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 Date: 04/11/2025
 Package: BRD-04-EB-70-Jackson

Notes:
 All conduit shall be rigid non-metallic schedule 40 heavy wall PVC (polyvinyl chloride plastic) with 4½" minimum cover in concrete. Each section of conduit shall bear the Underwriters laboratories (UL) label.
 Shift reinforcing steel in field where necessary to clear conduit and junction boxes.
 Expansion fittings shall be placed as shown and set in accordance with the manufacturer's requirements and based on the air temperature at the time of setting given an estimated total movement of 1 inch at filled joints using a maximum temperature range of 120°F and a maximum temperature of 110°F.
 All end bent junction boxes shall be PVC molded in accordance with Sec. 1062 and designed for flush mounting. The conduit terminations shall be permanent or separable. The terminations and covers shall be of watertight construction and shall meet requirements for NEMA 4X enclosure.
 Drainage shall be provided at low points or other critical locations of all conduits and all junction boxes in accordance with Sec 707. All conduits shall be sloped to drain where possible.
 For additional form liner details not shown see Sheet No. B04-31.

DETAILS OF CONDUIT SYSTEM ON STRUCTURE



Benjamin Lichty
 04-11-2025

DATE PREPARED 04/11/2025	
ROUTE I-70	STATE MO
DISTRICT BR	SHEET NO. B04-32
COUNTY JACKSON	
JOB NO. J411486D	
CONTRACT ID. 240807-C01	
PROJECT NO.	

BRIDGE NO.
A9632

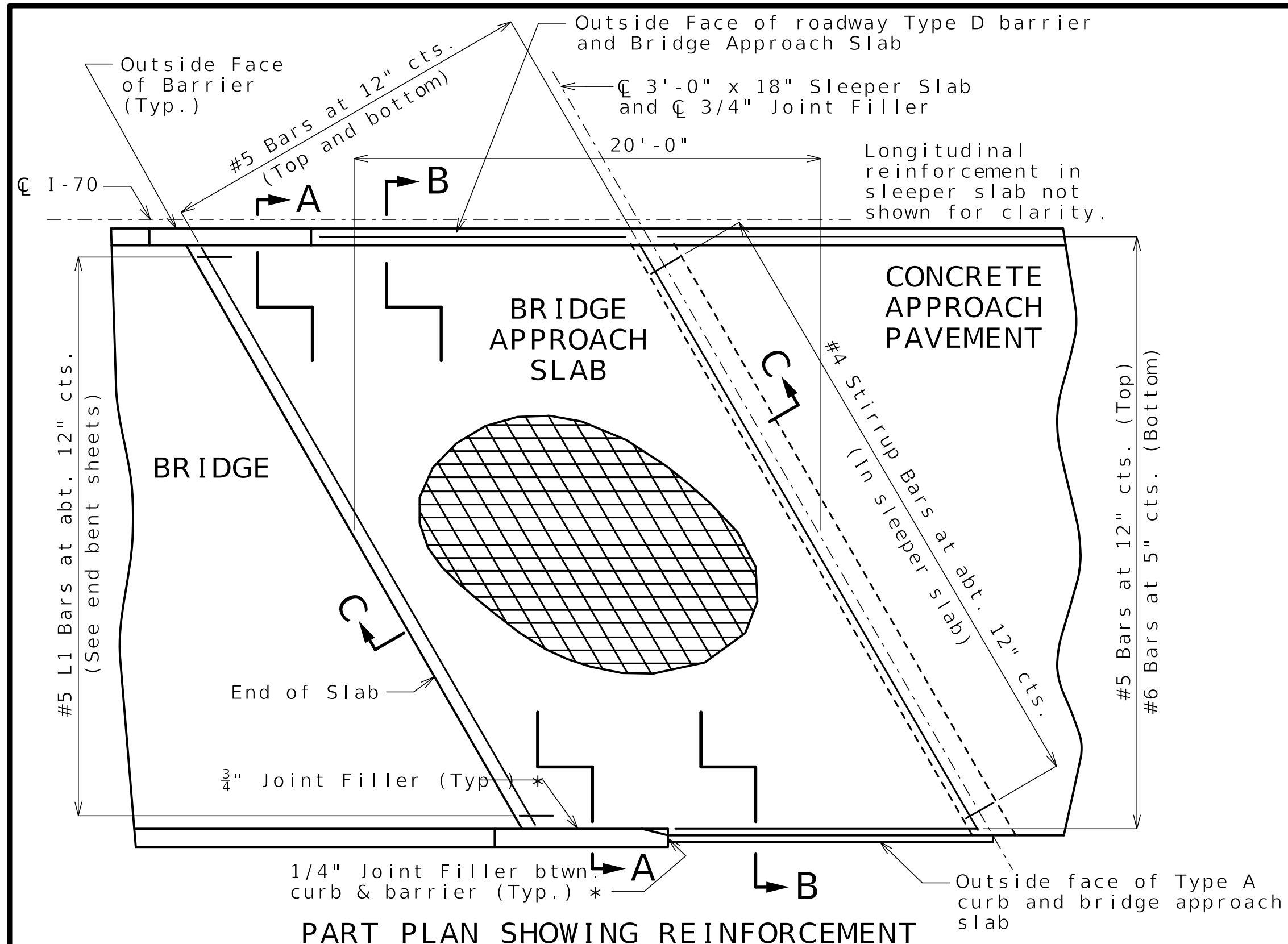
DATE	DESCRIPTION
04/11/25	REV 0 - RFC SUBMITTAL

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

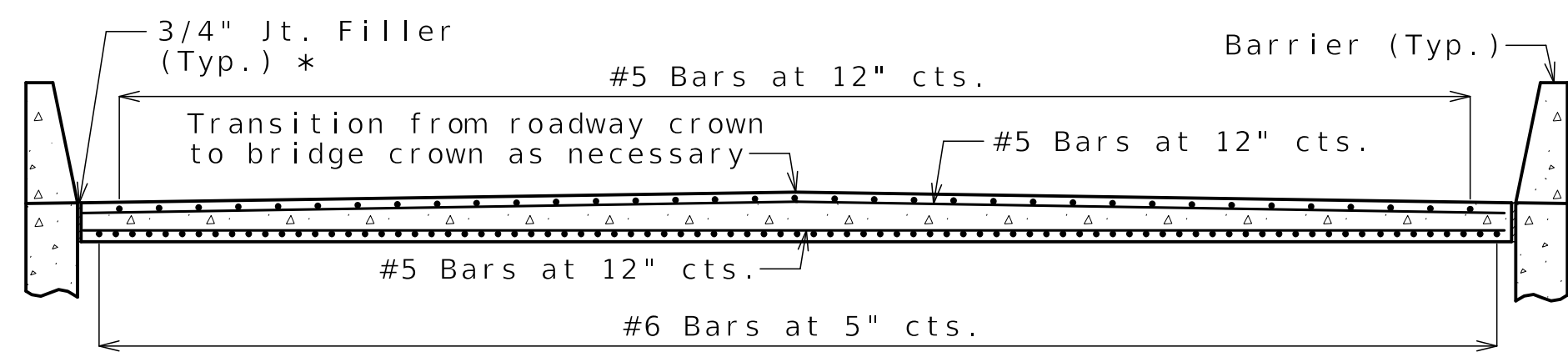
105 WEST CAPITOL JEFFERSON CITY, MO 65102
 1-888-ASK-MODOT (1-888-275-6636)

CLARKSON RADMACHER JOINT VENTURE

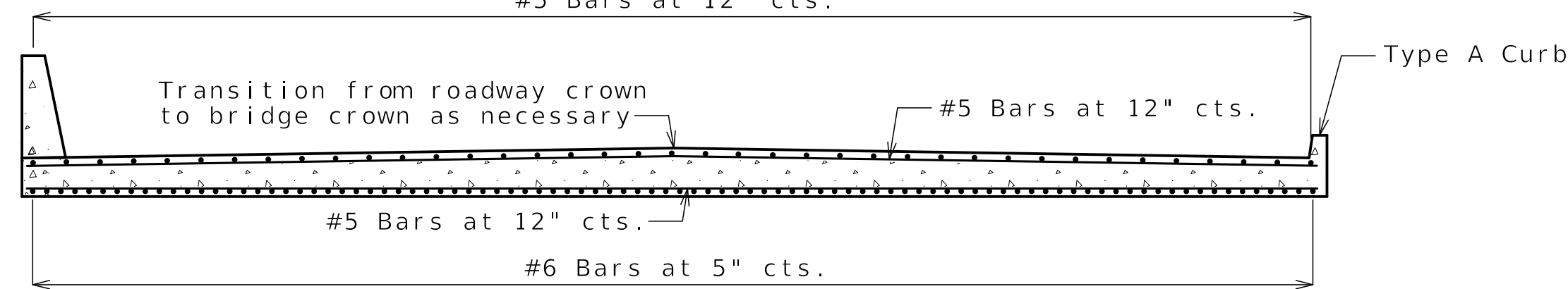
715 KIRK DRIVE KANSAS CITY, MO 64105-1310
 CERTIFICATE OF AUTHORITY NO. 001270



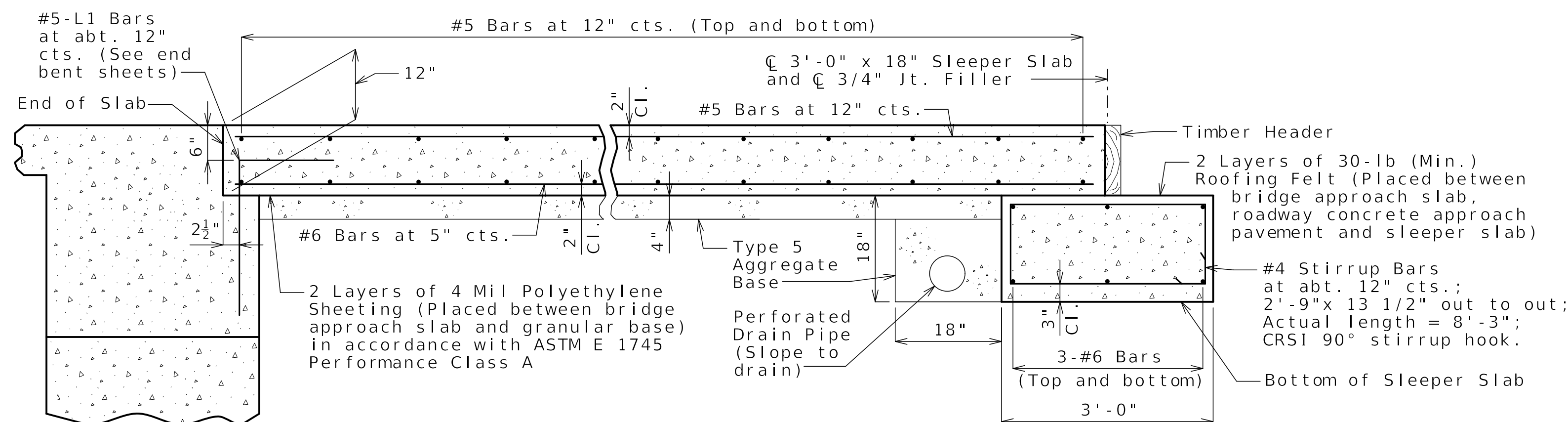
PART PLAN SHOWING REINFORCEMENT



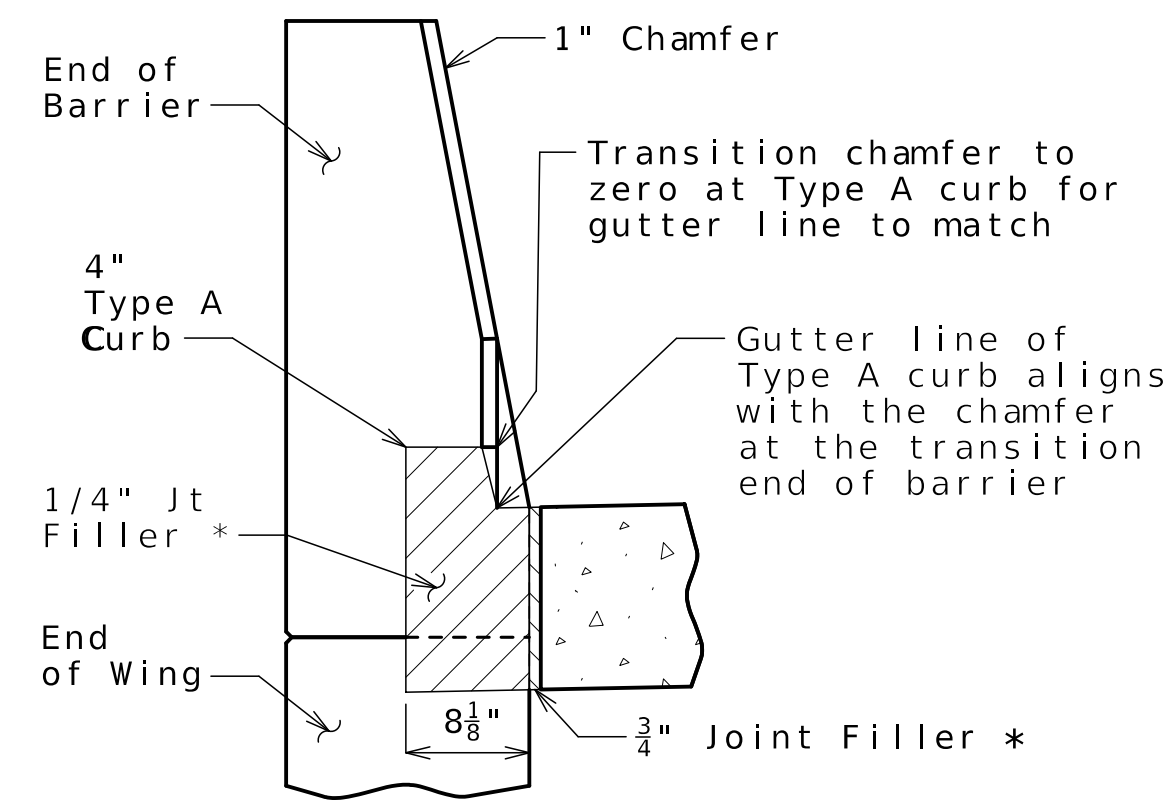
SECTION A-A



SECTION B-B



SECTION C-C



SECTION BETWEEN CURB AND BARRIER

General Notes:

All concrete for the bridge approach slab and sleeper slab shall be in accordance with Sec 503 ($f'c = 4,000$ psi).

The reinforcing steel in the bridge approach slab and the sleeper slab shall be epoxy coated Grade 60 with $f_y = 60,000$ psi.

Drain pipe may be either 6" diameter corrugated metallic-coated pipe underdrain, 4" diameter corrugated polyvinyl chloride (PVC) drain pipe, or 4" diameter corrugated polyethylene (PE) drain pipe.

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

The reinforcing steel in the bridge approach slab and the sleeper slab shall be continuous. The transverse reinforcing steel may be made continuous by providing a minimum lap splice of 29 inches for #5 bars and 44 inches for #6 bars, or by mechanical bar splice.

All joint filler shall be in accordance with Sec 1057 for preformed fiber expansion joint filler except as noted.

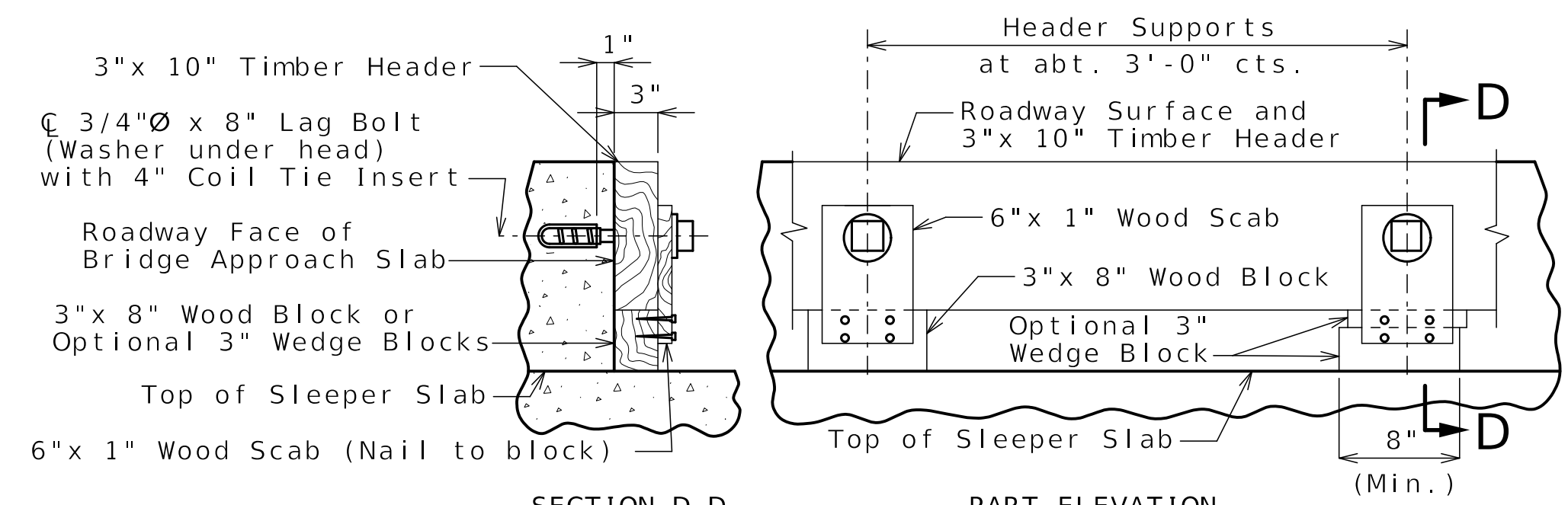
The contractor shall pour and satisfactorily finish the bridge slab before placing the bridge approach slab.

For concrete approach pavement details, see roadway plans.

See Missouri Standard Plan 609.00 for details of Type A curb.

* Seal joint between vertical face of approach slab and wing with sealant in accordance with Sec 717 for silicone joint sealant for saw cut and formed joints.

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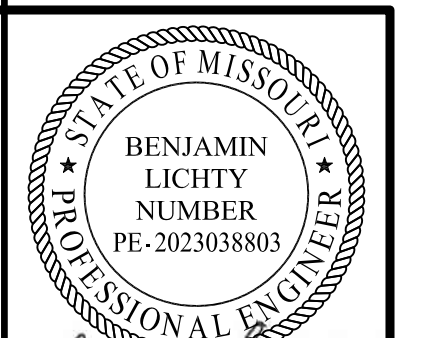


SECTION D-D PART ELEVATION

DETAILS OF TIMBER HEADER

Remove timber header when concrete pavement is placed.

BRIDGE APPROACH SLAB (MAJOR)



Benjamin Lichty
04-11-2025

DATE PREPARED
04/11/2025

ROUTE STATE
I-70 MO

DISTRICT SHEET NO.
BR B04-33

COUNTY
JACKSON

JOB NO.
J411486D

CONTRACT ID.
240807-C01

PROJECT NO.

BRIDGE NO.
A9632

DESCRIPTION	DATE
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MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
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105 WEST CAPITOL
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1-888-ASK-MODOT (1-888-275-6636)

CLARKSON RADMACHER JOINT VENTURE
715 KIRK DRIVE
KANSAS CITY, MO 64105-1310
CERTIFICATE OF AUTHORITY
NO. 001270
HNTB



Gina D. Horner
4/11/2025

DATE PREPARED 04/11/2025	
ROUTE I-70	STATE MO
DISTRICT BR	SHEET NO. B04-34
COUNTY JACKSON	
JOB NO. J411486D	
CONTRACT ID. 240807-C01	
PROJECT NO.	

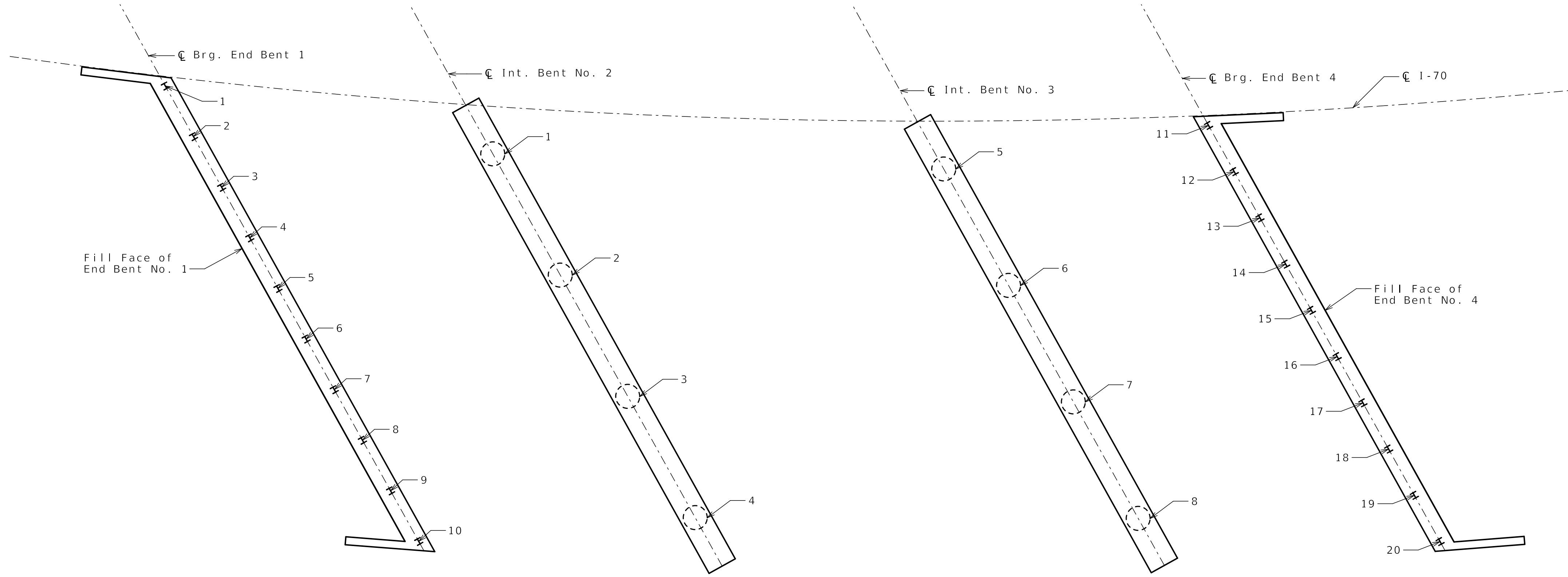
BRIDGE NO.
A9632

DATE	DESCRIPTION
04/11/25	REV 0 - RFC SUBMITTAL

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

 105 WEST CAPITOL JEFFERSON CITY, MO 65102
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CLARKSON RADMACHER JOINT VENTURE
 715 KIRK DRIVE KANSAS CITY, MO 64105-1310
 CERTIFICATE OF AUTHORITY NO. 001270



PART PLAN SHOWING PILE AND DRILLED SHAFT NUMBERING FOR RECORDING AS-BUILT PILE DATA AND AS-BUILT DRILLED SHAFT DATA

As-Built Pile Data				
Pile No.	Length in Place (ft)	PDA Nom. Axial Compressive Resistance (kips)	PDA End of Drive Blow Count (blows/in.)	Actual End of Drive Blow Count (blows/in.)
End Bent No. 1				
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
End Bent No. 4				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				

As-Built Drilled Shaft Data				
Shaft No.	Top of Sound Rock (Elev.)	Tip of Casing (Elev.)	Bottom of Rock Socket (Elev.)	Remarks
Intermediate Bent No. 2				
1				
2				
3				
4				
Intermediate Bent No. 3				
5				
6				
7				
8				

Note:
 Indicate in remarks column:
 A. Pile type and grade.
 B. Batter
 C. Driven to practical refusal
 D. PDA test pile
 E. Minimum tip elevation controlled
 (Use when actual blow count is less than PDA blow count due to minimum tip elevation requirement. A plus sign (+) shall be placed after the PDA nominal axial compressive resistance value indicating actual value is higher than PDA value.)

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 Date: 04/11/2025
 Package: BRD-04-EB-70-Jackson

Note:
 This sheet to be completed by design-builder.

AS-BUILT PILE AND DRILLED SHAFT DATA



SOIL BORING NUMBER: Jck_B2_2

Page 1 of 2

PROJECT Improve I 70 KC Design Build **NORTHING/EASTING** 1058401.1 / 2779214.0
DRILLING FIRM PPI **DRILLER** Eric P. **DATE STARTED** 10/31/2024
LOGGED BY Zachary Boyd **DATE COMPLETED** 11/01/2024
SURFACE ELEVATION 866.8' **RIG TYPE** CME-550
METHOD Auger **TOOLING** 4-1/2" Continuous Flight Auger

Depth (ft)	Depth of Sample	Sample Type	Sample ID	Recovery Length (in)	Blow Counts (N-Value)	% Recovery	RQD (%)	Pocket Pen (tsf)	Graphic Log	Groundwater Data		Lab			
										During Drilling (ft):	After Drilling (ft):	Atterberg Limits (LL-PL-Pi)	Moisture Content (%)	Dry Density (PCF)	UCS (tsf)
										17.0	N/A				
											N/A				
											N/A				
3.5			J-1	6	5-6-6 (12)	33		>4.5							
8.5			J-2	6	3-3-5 (8)	33						40-21-19	14.4		
13			U-1	24		100		<0.5		14.0	852.8	53-17-36	27.2		
18.5			J-3	17	6-26-50/5" (76/11")	100		>4.5		18.5	848.3				
23.5			J-4	8	39-50/2" (50/2")	100		>4.5							
28.5			J-5	5	50/5" (5")	100		>4.5							
33.5			J-6	8	45-50/2" (50/2")	100		>4.5							

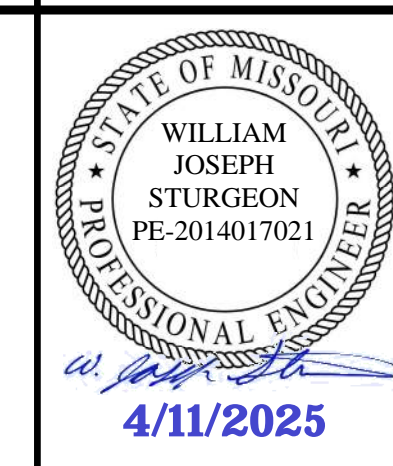


SOIL BORING NUMBER: Jck_B2_2

Page 2 of 2

PROJECT Improve I 70 KC Design Build **NORTHING/EASTING** 1058401.1 / 2779214.0
DRILLING FIRM PPI **DRILLER** Eric P. **DATE STARTED** 10/31/2024
LOGGED BY Zachary Boyd **DATE COMPLETED** 11/01/2024
SURFACE ELEVATION 866.8' **RIG TYPE** CME-550
METHOD Auger **TOOLING** 4-1/2" Continuous Flight Auger

Depth (ft)	Depth of Sample	Sample Type	Sample ID	Recovery Length (in)	Blow Counts (N-Value)	% Recovery	RQD (%)	Pocket Pen (tsf)	Graphic Log	Groundwater Data		Lab			
										During Drilling (ft):	After Drilling (ft):	Atterberg Limits (LL-PL-Pi)	Moisture Content (%)	Dry Density (PCF)	UCS (tsf)
										17.0	N/A				
											N/A				
											N/A				
35.2			C-1	7		100	0								
36.2			C-2	60		100	87								
37.7			C-3	60		100	45								
41.6			C-4	60		100	10								
45.6			C-5	60		100	70								
51.6			C-6	60		100	72								
58.5															
60.6															



DATE PREPARED		04/11/2025	
ROUTE	STATE	DISTRICT	SHEET NO.
I-70	MO	BR	B04-37
COUNTY			
JACKSON			
JOB NO.			
J411486D			
CONTRACT ID.			
240807-C01			
PROJECT NO.			
BRIDGE NO.			
A9632			

DATE	DESCRIPTION
04/11/25 <td>REV 0 - RFC SUBMITTAL</td>	REV 0 - RFC SUBMITTAL

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL JEFFERSON CITY, MO 65102
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CLARKSON RADMACHER JOINT VENTURE

715 KIRK DRIVE KANSAS CITY, MO 64105-1310
 CERTIFICATE OF AUTHORITY NO. 001270

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 Revision: 0.0
 Date: 04/11/2025
 Package: BRD-04-EB-70-Jackson

Notes:
 For locations of borings, see Sheet No. B04-02 and Geotechnical Report.

BORING LOGS



SOIL BORING NUMBER: Jck_B3_1
Page 1 of 2

PROJECT Improve I 70 KC Design Build **NORTHING/EASTING** 1058433.5 / 2779280.6
DRILLING FIRM PPI **DRILLER** Josh Starkey **DATE STARTED** 11/01/2024
LOGGED BY Cameron Dupont **DATE COMPLETED** 11/01/2024
SURFACE ELEVATION 867.3' **RIG TYPE** CME-55x
METHOD Water Rotary **TOOLING** 4-1/2" Continuous Flight Auger

Depth (ft)	Depth of Sample	Sample Type	Sample ID	Recovery Length (in)	Blow Counts (N-Value)	% Recovery	RQD (%)	Pocket Pen (tsf)	Graphic Log	Groundwater Data		Lab			
										During Drilling (ft):	N/A	Atterberg Limits (LL-PL-Pi)	Moisture Content (%)	Dry Density (PCF)	UCS (tsf)
0.2										TOPSOIL	867.1				
										Brown, stiff to hard, moist, FAT CLAY, slightly mottled					
3.5			J-1	7	6-7-8 (15)	39		>4.5							
8			U-1	23		96		2.5				56-18-38	19.1	104.8	4.87
13.5			J-2	18	3-5-5 (10)	100		1.0		- soft to medium, stiff, FAT CLAY, iron stained at 13.5'					
16.0										Limestone with clay, highly weathered, orangish brown	851.3				
17.4										Brown, stiff, moist, FAT CLAY	849.9				
18.8			J-3	18	8-21-44 (65)	100		3.5		Brownish gray, stiff, moist, CLAYEY SHALE, highly weathered to weathered	848.5		52-19-33	19.0	
23.5			J-4	5	50/5" (5")	100				Shale, thinly bedded, highly weathered, gray, moist	843.8				
28.5			J-5	4	50/4" (4")	100									
33.5			J-6	5	50/5" (5")	100									
34.1			C-1	12		100		54							
35.1			C-2	60		72				Shaley limestone, slightly weathered, gray to dark gray, calcareous	833.4				



SOIL BORING NUMBER: Jck_B3_1
Page 2 of 2

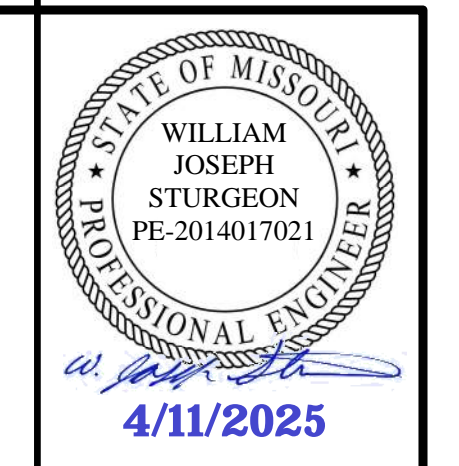
PROJECT Improve I 70 KC Design Build **NORTHING/EASTING** 1058433.5 / 2779280.6
DRILLING FIRM PPI **DRILLER** Josh Starkey **DATE STARTED** 11/01/2024
LOGGED BY Cameron Dupont **DATE COMPLETED** 11/01/2024
SURFACE ELEVATION 867.3' **RIG TYPE** CME-55x
METHOD Water Rotary **TOOLING** 4-1/2" Continuous Flight Auger

Depth (ft)	Depth of Sample	Sample Type	Sample ID	Recovery Length (in)	Blow Counts (N-Value)	% Recovery	RQD (%)	Pocket Pen (tsf)	Graphic Log	Groundwater Data		Lab			
										During Drilling (ft):	N/A	Atterberg Limits (LL-PL-Pi)	Moisture Content (%)	Dry Density (PCF)	UCS (tsf)
40	40.1		C-2	60		100				Shaley limestone, slightly weathered, gray to 38.5 dark gray, calcareous	828.8		1.7	159.1	890
45	45.1		C-3	58		97	29			Limestone with fossils, slightly weathered, gray, hard, calcareous, some shale lens's					
45										42.5 Shale, thinly bedded, highly weathered, dark gray, soft, moist	824.8				
50	50.1		C-4	56		93	39			- shale, slightly weathered to weathered at 47.5'			3.9	143.0	68
55	55.1		C-5	60		100	92			51.1 Limestone, slightly weathered, gray, hard	816.2				
55										- limestone, fresh to slightly weathered at 54'					
60	60.1		C-6	60		100	93			58.0 Shaley limestone, slightly weathered to weathered, dark gray, pitted	809.3		0.6	159.7	602
60.1										60.1 Bottom of Boring at 60.1' Boring backfilled with cuttings 11/1/2024	807.2				

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Revision: 0.0
Date: 04/11/2025
Package: BRD-04-EB-70-Jackson

Notes:
For locations of borings, see Sheet No. B04-02 and Geotechnical Report.

BORING LOGS



DATE PREPARED		04/11/2025	
ROUTE	STATE		
I-70	MO		
DISTRICT	SHEET NO.		
BR	B04-38		
COUNTY			
JACKSON			
JOB NO.			
J411486D			
CONTRACT ID.			
240807-C01			
PROJECT NO.			
BRIDGE NO.			
A9632			

DATE	DESCRIPTION
04/11/25 <td>REV 0 - RFC SUBMITTAL</td>	REV 0 - RFC SUBMITTAL

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

CLARKSON RADMACHER
JOINT VENTURE

715 KIRK DRIVE
KANSAS CITY, MO 64105-1310
CERTIFICATE OF AUTHORITY
NO. 001270



SOIL BORING NUMBER: Jck_B3_2

Page 1 of 1

PROJECT Improve I 70 KC Design Build **NORTHING/EASTING** 1058387.6 / 2779278.1
DRILLING FIRM PPI **DRILLER** Josh Starkey **DATE STARTED** 10/29/2024
LOGGED BY Cameron Dupont **DATE COMPLETED** 10/29/2024
SURFACE ELEVATION 866.3' **RIG TYPE** CME-55LC
METHOD Auger **TOOLING** 4-1/2" Continuous Flight Auger

Depth (ft)	Depth of Sample	Sample Type	Sample ID	Recovery Length (in)	Blow Counts (N-Value)	% Recovery	RQD (%)	Pocket Pen (tsf)	Graphic Log	Groundwater Data		Lab			
										During Drilling (ft):	N/A	Atterberg Limits (LL-PL-Pi)	Moisture Content (%)	Dry Density (PCF)	UCS (tsf)
1.0	1.1 ft	J-1	9	8-10-9 (19)	50	3.5			2.0	865.3	Brown, dry, TOPSOIL, trace gravel				
3.2	3.2 ft	J-2	13	4-3-2 (5)	72	4.0					Dark brown, hard, moist, FAT CLAY				
8.0	8.0 ft	U-1	24			3.5					- becomes wet, soft to stiff at 10'				
13.0	13.0 ft	J-3	18	2-2-3 (5)	100	0.5									
18.0	18.0 ft	J-4	18	7-15-21 (36)	100	3.5				18.0	848.3	Clayey-shale, highly weathered, grayish brown, mottled, stiff to hard			
20.0	20.0 ft	C-1	60			100	47			20.0	846.3	Shale, highly to moderately weathered, gray to dark gray, soft to moderately hard, moist			
25.0	25.0 ft	C-2	60			100	75								
30.0	30.0 ft									30.0	836.3	Bottom of Boring at 30' Boring backfilled with cuttings 10/29/2024			



SOIL BORING NUMBER: Jck_E4

Page 1 of 2

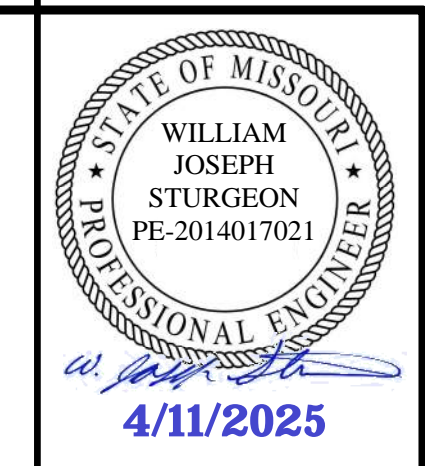
PROJECT Improve I 70 KC Design Build **NORTHING/EASTING** 1058335.9 / 2779379.9
DRILLING FIRM PPI **DRILLER** Josh Starkey **DATE STARTED** 10/30/2024
LOGGED BY Cameron Dupont **DATE COMPLETED** 10/30/2024
SURFACE ELEVATION 873.1' **RIG TYPE** CME-55
METHOD Mud Rotary **TOOLING** 4-1/2" Continuous Flight Auger

Depth (ft)	Depth of Sample	Sample Type	Sample ID	Recovery Length (in)	Blow Counts (N-Value)	% Recovery	RQD (%)	Pocket Pen (tsf)	Graphic Log	Groundwater Data		Lab			
										During Drilling (ft):	N/A	Atterberg Limits (LL-PL-Pi)	Moisture Content (%)	Dry Density (PCF)	UCS (tsf)
0.8	0.8 ft									0.8	872.3	TOPSOIL			
1.1	1.1 ft									1.1	872	FILL, GRAVEL, rough drilling			
3.5	3.5 ft	J-1	14	4-4-6 (10)	78	4.0						FILL, brown, stiff to medium stiff, dry, CLAY, mottling, some gravel, trace organics			
8.0	8.0 ft	U-1	12			50									
10.0	10.0 ft									10.0	863.1	44-18-26	20.2		
13.5	13.5 ft	J-2	15	3-4-5 (9)	83	2.0						Dark brown to black, soft to medium stiff, moist, FAT CLAY, with some gravel			
18.5	18.5 ft	J-3	18	3-3-5 (8)	100	1.5						40-17-23	23.8		
23.5	23.5 ft	J-4	18	2-3-4 (7)	100	1.0				23.5	849.6	Gray-brown, soft, FAT CLAY, mottled with iron stains			
28.5	28.5 ft	J-5	9	40-50/3" (50/3")	100					28.5	844.3	Shale, thinly bedded, highly weathered, dark gray to gray, soft			
29.3	29.3 ft	C-1	12			100	58					- oil observed in wash boring water at surface from 30.3' to 35.3'			
30.3	30.3 ft	C-2	60			100	38					- slightly weathered to highly weathered at 30.5'			
35.3	35.3 ft	C-3	48			100	40								

Released For Construction
 Not to Scale
 Revision: 0.0
 Date: 04/11/2025
 Package: BRD-04-EB-70-Jackson

Notes:
 For locations of borings, see Sheet No. B04-02 and Geotechnical Report.

BORING LOGS



DATE PREPARED 04/11/2025	
ROUTE I-70	STATE MO
DISTRICT BR	SHEET NO. B04-39
COUNTY JACKSON	
JOB NO. J411486D	
CONTRACT ID. 240807-C01	
PROJECT NO.	
BRIDGE NO. A9632	

DATE	DESCRIPTION
04/11/25 <td>REV 0 - RFC SUBMITTAL</td>	REV 0 - RFC SUBMITTAL

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

CLARKSON RADMACHER
 JOINT VENTURE

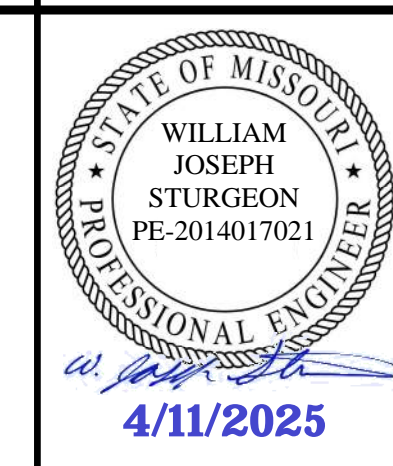
715 KIRK DRIVE
 KANSAS CITY, MO 64105-1310
 CERTIFICATE OF AUTHORITY
 NO. 001270



SOIL BORING NUMBER: Jck_W_3
Page 2 of 2

PROJECT Improve I 70 KC Design Build **NORTHING/EASTING** 1058382.6 / 2779420.2
DRILLING FIRM PPI **DRILLER** Josh Starkey **DATE STARTED** 10/31/2024
LOGGED BY Cameron Dupont **DATE COMPLETED** 10/31/2024
SURFACE ELEVATION 885.1' **RIG TYPE** CME-55x
METHOD Water Rotary **TOOLING** 4-1/2" Continuous Flight Auger

Depth (ft)	Depth of Sample	Sample Type	Sample ID	Recovery Length (in)	Blow Counts (N-Value)	% Recovery	RQD (%)	Pocket Pen (tsf)	Graphic Log	Groundwater Data		Lab				
										During Drilling (ft):	N/A	After Drilling (ft):	N/A	After __ Hours (ft):	N/A	Atterberg Limits (LL-PL-Pi)
										Visual Classification and Remarks						
38.5										Brown, soft, moist, FAT CLAY						
40.0		J-7	18	2-10-30 (40)	100					Dark gray-brown, stiff to hard, fine grained, CLAYEY SHALE, weathered to highly weathered						
										Bottom of Boring at 40' Boring backfilled with cuttings 10/31/2024						



DATE PREPARED 04/11/2025	
ROUTE I-70	STATE MO
DISTRICT BR	SHEET NO. B04-41
COUNTY JACKSON	
JOB NO. J411486D	
CONTRACT ID. 240807-C01	
PROJECT NO.	
BRIDGE NO. A9632	

DATE	DESCRIPTION
04/11/25	REV 0 - RFC SUBMITTAL

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL
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Notes:
For locations of borings, see Sheet No. B04-02 and Geotechnical Report.

BORING LOGS