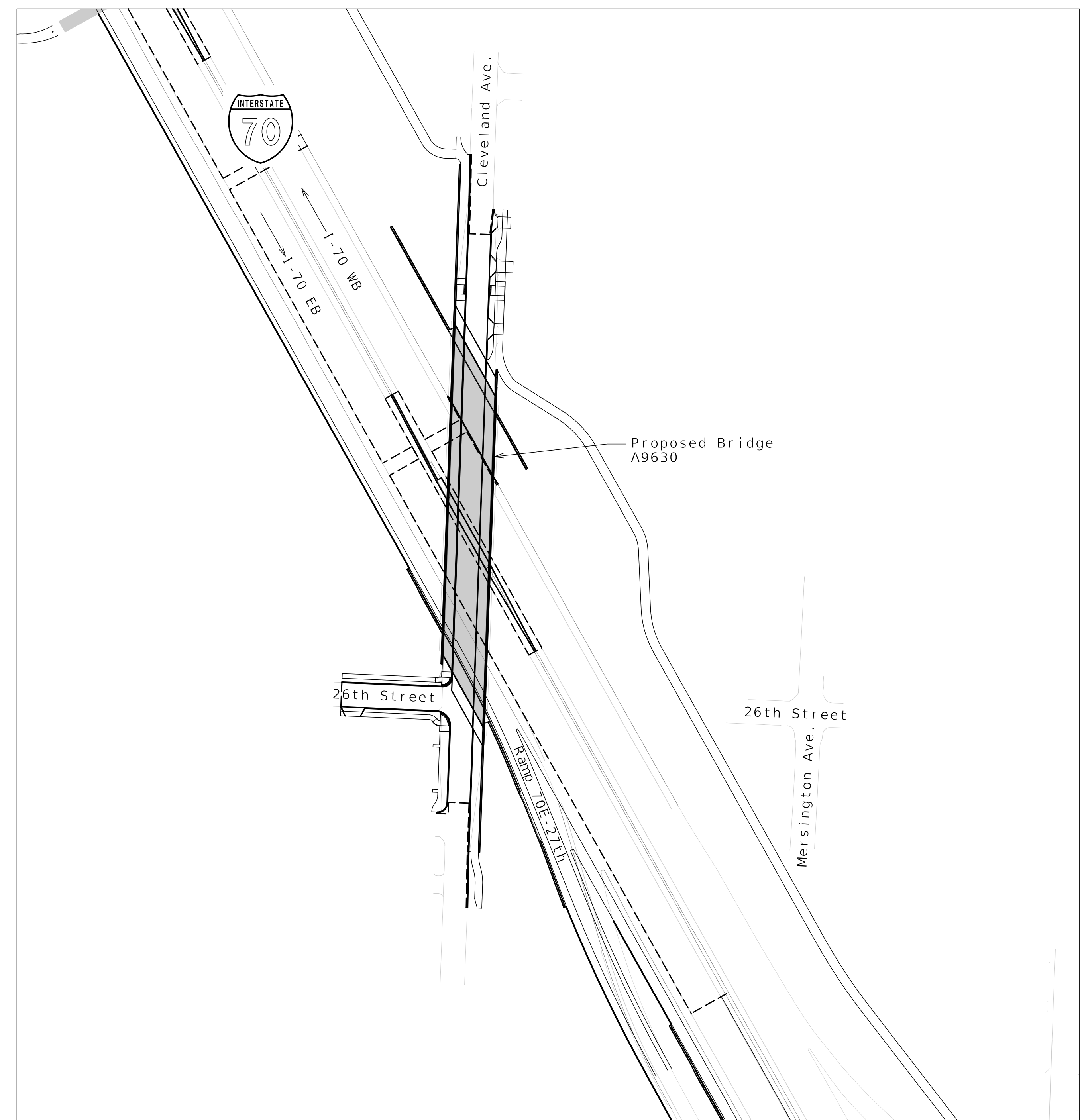


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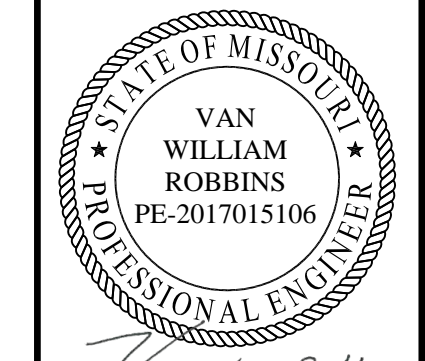


LOCATION SKETCH

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

INDEX OF DRAWINGS

- B10-01 Title Sheet and Index
- B10-02 General Plan and Elevation
- B10-03 General Notes
- B10-04 Substructure Layout
- B10-05 Details of End Bent No.1
- B10-06 Details of End Bent No.1
- B10-07 Details of End Bent No.1
- B10-08 Vertical Drain at End Bents
- B10-09 Details of Intermediate Bent No. 2
- B10-10 Details of Intermediate Bent No. 2
- B10-11 Details of End Bent No. 3
- B10-12 Details of End Bent No. 3
- B10-13 Details of End Bent No. 3
- B10-14 Laminated Neoprene Bearing Pad Assembly
- B10-15 Framing Plan
- B10-16 Girder Elevation
- B10-17 Field Splice Details
- B10-18 Cross Frame Details
- B10-19 Integral Diaphragm Details
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- B10-22 Theoretical Bottom of Slab Elevations
- B10-23 Slab Plan Showing Top Reinforcement
- B10-24 Slab Plan Showing Top Reinforcement
- B10-25 Slab Plan Showing Bottom Reinforcement
- B10-26 Slab Plan Showing Bottom Reinforcement
- B10-27 Slab Details
- B10-28 Type D Barrier
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- B10-30 Light Blister Details
- B10-31 Decorative Pedestrian Fence
- B10-32 Form Liner and Aesthetic Stain Details
- B10-33 Details of Conduit System on Structure
- B10-34 Bridge Approach Slab (Minor)
- B10-35 As-Built Pile and Drilled Shaft Data
- B10-36 Boring Logs
- B10-37 Boring Logs
- B10-38 Boring Logs
- B10-39 Boring Logs



Van W. Robbins
07-02-25

DATE PREPARED
06/25/2025

ROUTE STATE
I-70 MO

DISTRICT SHEET NO.
BR B10-01

COUNTY
JACKSON

JOB NO.
J411486D

CONTRACT ID.
240807-C01

PROJECT NO.

BRIDGE NO.
A9630

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

Released For Construction
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Revision: 0.0
Date: 07/07/2025
Package: BRD-10-Cleveland Ave.

BRIDGE: CLEVELAND AVE. OVER ROUTE I-70

ROUTE I-70 FROM ROUTE I-670 TO ROUTE 40
ABOUT 2.6 MILES EAST OF ROUTE I-670
TIE STATION 197+50.93 (€ I-70)

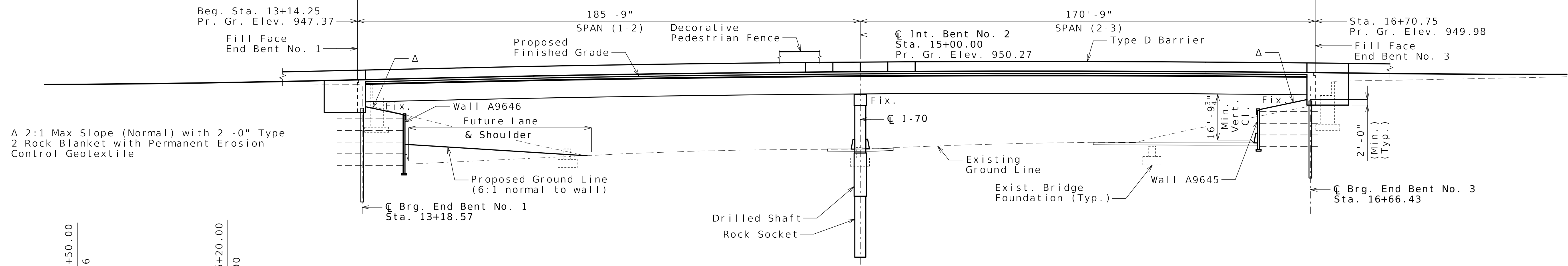
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Sheet No. B10-01 of B10-39

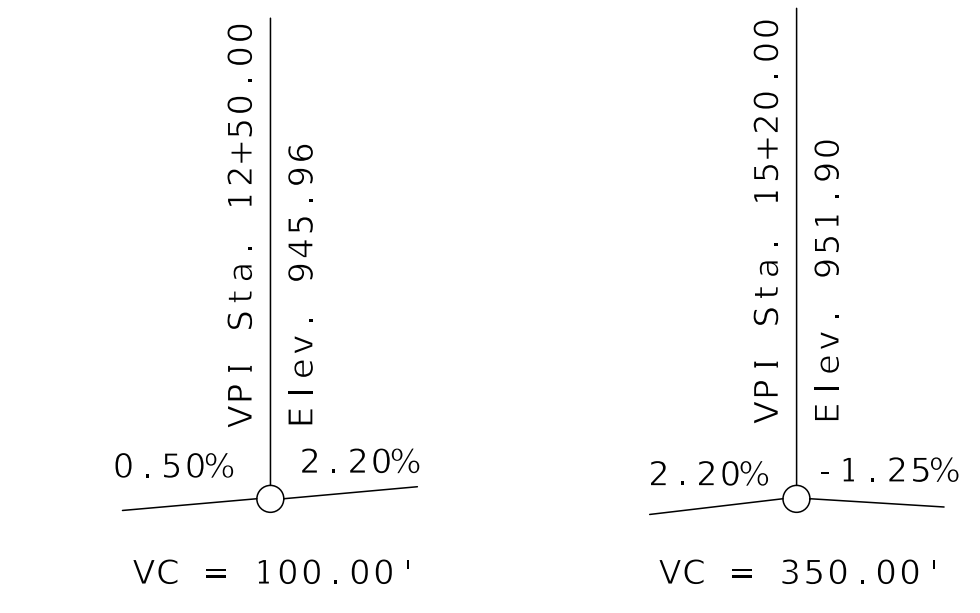
(185.8' - 170.8') Continuous Plate Girder Spans

356'-6" (Measured along C Cleveland Ave.)



ELEVATION

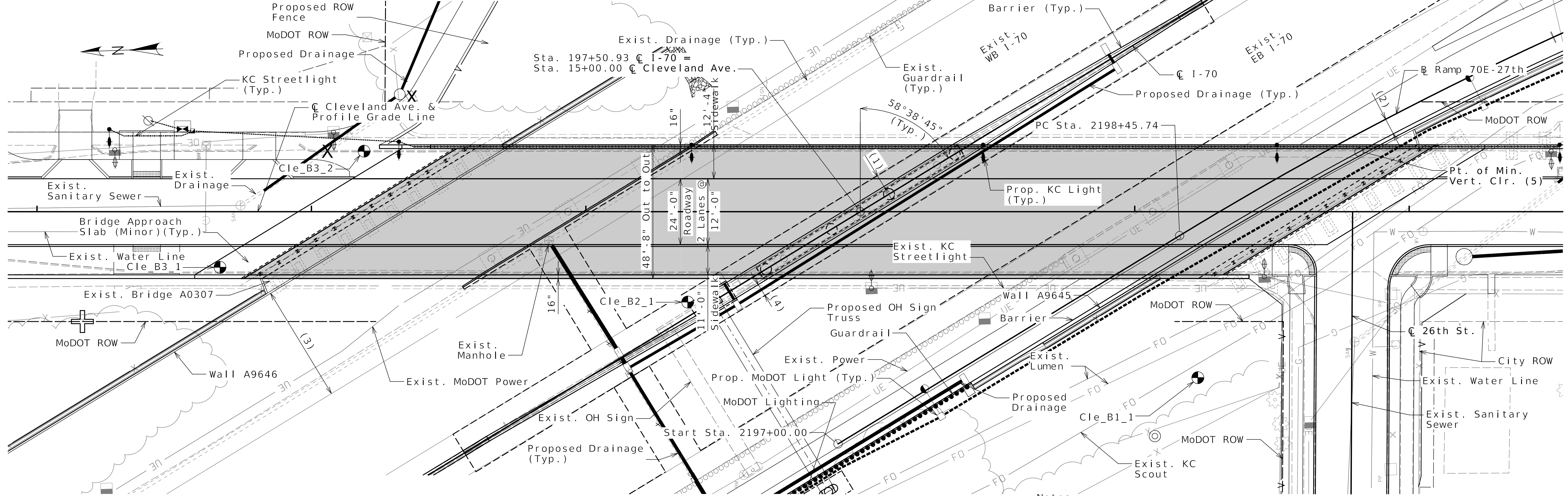
Δ 2:1 Max Slope (Normal) with 2'-0" Type 2 Rock Blanket with Permanent Erosion Control Geotextile



PROFILE GRADE PROFILE GRADE

CURVE DATA

CURVE RAMP	70E-27th
PI	= 2199+28.57
PC	= 2198+45.74
PT	= 2200+11.17
Δ	= 7° 17' 28.6" (RT)
D	= 4° 24' 26.5"
L	= 165.43'
T	= 82.83'
R	= 1,300.00'



PLAN

⊕ Indicates location of borings.

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. B10-36 thru B10-39. 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.

- Minimum Horizontal Clearance to edge of existing lane or proposed lane:
- (1) 4'-4"
 - (2) 6'-0"
 - (3) 42'-6"
 - (4) 4'-4"
 - (5) Sta. 16+81.74, Lt. C Cleveland Ave.

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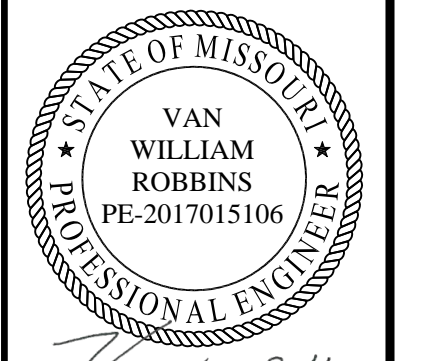
Note: This drawing is not to scale. Follow dimensions.

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Sheet No. B10-02 of B10-39

Notes:
 All Elevations are based on NAVD88 datum unless otherwise noted.
 All dimensions are horizontal.
 All Bents are parallel.
 Existing Bridge A0307 to be removed in accordance with Sec. 216. Existing structures & foundations shown may not represent what is left in place after removal.
 For elevations of drilled shafts and rock sockets, see Sheet B10-09.
 See Civil Package 6: I-70 Mainline for I-70 typical section details.
 See Civil Package 6: I-70 Mainline for proposed I-70 drainage details.
 Existing I-70 drainage systems to remain in service during construction of Bridge A9630.

GENERAL PLAN AND ELEVATION



Van W. Robbins
 07-02-25

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 06/25/2025

ROUTE	STATE
I-70	MO
DISTRICT	SHEET NO.
BR	B10-02

COUNTY
 JACKSON

JOB NO.
 J411486D

CONTRACT ID.
 240807-C01

PROJECT NO.

BRIDGE NO.
 A9630

DATE	DESCRIPTION
06/25/25 <td>REV 0 - RFC SUBMITTAL</td>	REV 0 - RFC SUBMITTAL

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL
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CLARKSON RADMACHER JOINT VENTURE

715 KIRK DRIVE
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 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 (Min.)

Design Unit Stresses:
 Class B Concrete (End Bents below Const. Jt.) $f'c = 3,000$ psi
 Class B-1 Concrete (Intermediate Bent 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 Type D Barrier) $f'c = 4,000$ psi
 Class B-1 Concrete (Type D Barrier) $f'c = 4,000$ psi
 Reinforcing Steel (ASTM A615 Grade 60) $f_y = 60,000$ psi
 Structural Steel (ASTM A709 Grade 50) $f_y = 50,000$ psi
 Structural HP Steel Pile (ASTM A709 Grade 50) $f_y = 50,000$ psi

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.

Structural Steel Protective Coatings:
 Protective Coating: System G in accordance with Sec 1081.

Field Coats: The color of the field coats shall be Brown (Federal Standard #30045).

At the option of the contractor, the intermediate and finish field coats may be applied in the shop. The contractor shall exercise extreme care during all phases of loading, hauling, handling, erection and pouring of the slab to minimize damage and shall be fully responsible for all repairs and cleaning of the coating systems as required by the engineer.

Miscellaneous:
 High strength bolts, nuts, and washers will be sampled for quality assurance as specified in Sec 106.

Fabrication and erection of structural steel shall be in accordance with Sec 712 and approved project Additional Applicable Standards.

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

All reinforcing in the Type D barrier, raised sidewalks, light blisters, slab, End Bents No. 1 and 3 and Intermediate Bents No. 2 shall be epoxy coated. Reinforcing in the drilled shafts and rock sockets 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. B10-32.

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. B10-32.

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

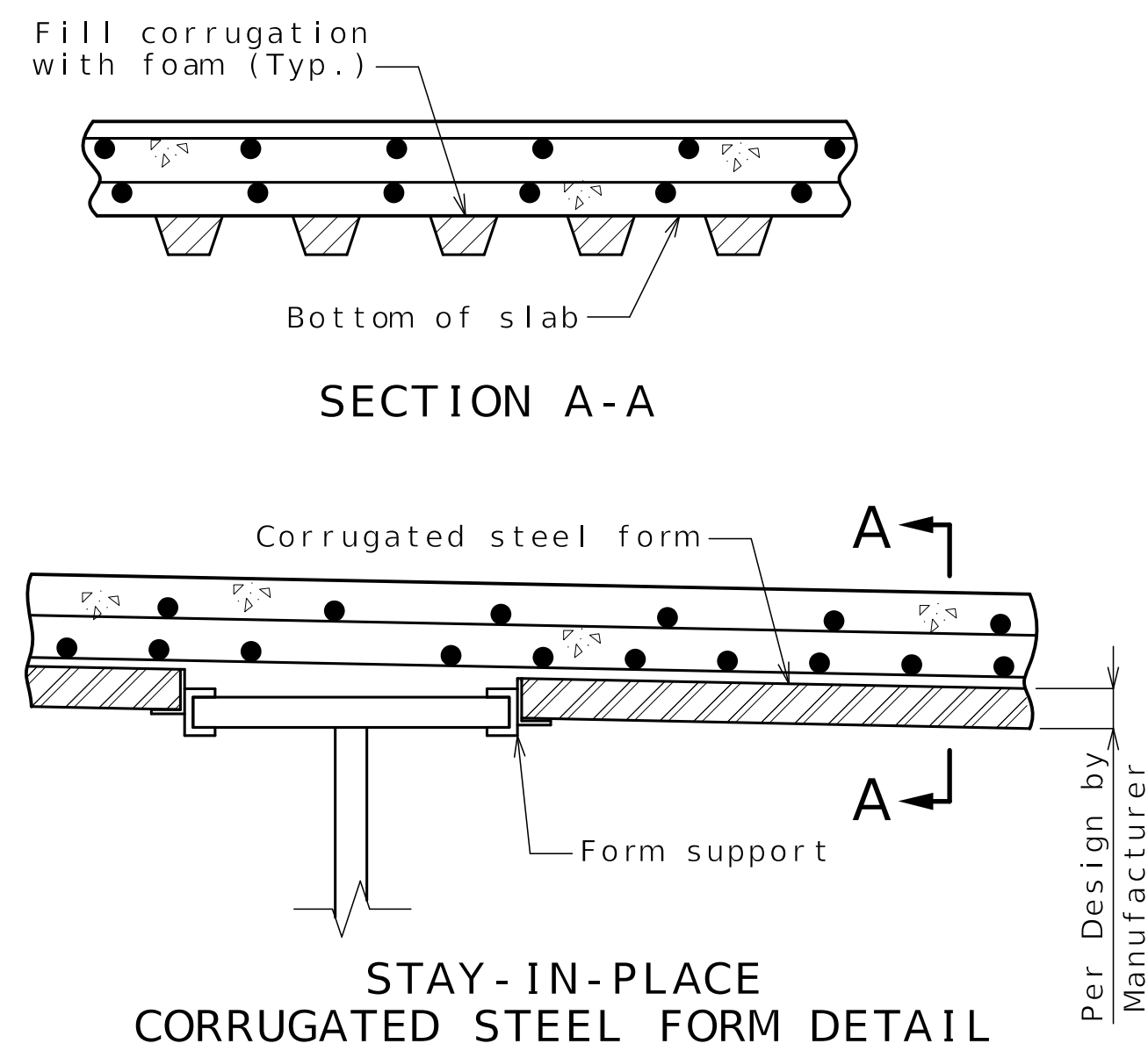
Abbreviations:
 E.F. denotes Each Face
 N.F. denotes Near Face
 F.F. denotes Far face
 U.N.O. denotes Unless Noted Otherwise

Load Bearing Piles:
 Minimum Nominal Axial Compressive Resistance = Maximum Factored Loads/Resistance Factor
 Prebore for piles at End Bents No. 1 and 3 to elevation 901 and 912, respectively.
 If optional pile spacers are used, set at least 5 feet below bottom of MSE wall leveling pad.
 At End Bents No. 1 and 3 verify the bottom of the prebore is clean and contains no loose rubble. Set pile and seat with tap of backhoe bucket or equivalent method. Prebore shall be backfilled with Class B concrete to elevation 906 and 917 at End Bents No. 1 and 3, respectively. Backfill remaining length of prebore per Sec 702.

All piles shall be galvanized down to minimum galvanized penetration (elevation).
 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 the minimum will be considered acceptable provided the contractor makes the necessary corrections to ensure the minimum penetration is achieved on subsequent piles.

Rock Sockets (Drilled Shafts):
 Minimum Nominal Axial Compressive Resistance (Side Resistance + Tip Resistance) = Maximum Factored Loads/Resistance Factors
 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.
 Thickness of permanent steel casing shall be in accordance with Project AAS.

Foundation Data						
Type	Design Data	Bent Number				
		1	2	3		
Load Bearing Pile	Pile Type and Size	HP12x53	---	HP12x53		
	Number	12	---	12		
	Approximate Length Per Each	37	---	28		
	Pile Point Reinforcement	ea	---	---		
	Min. Galvanized Penetration (Elev.)	ft	Full Length	Full Length		
	Minimum Tip Penetration (Elev.)	ft	901	---	912	
	Criteria for Min. Tip Penetration		Min. Embed	---	Min. Embed	
	Pile Driving Verification Method		N/A	---	N/A	
	Resistance Factor		0.50	---	0.50	
	Minimum Nominal Axial Compressive Resistance	kip	435	---	435	
Drilled Shaft	Number	---	4	---		
	Layer 1	Foundation Material	---	Limestone	---	
		Elevation Range	ft	---	916-913	---
	Layer 2	Minimum Nominal Axial Compressive Resistance (Side Resistance)	ksf	---	28.0	---
		Foundation Material	---	Shale	---	
	Layer 2	Elevation Range	ft	---	913-906	---
		Minimum Nominal Axial Compressive Resistance (Side Resistance)	ksf	---	6.8	---
	Layer 3	Foundation Material	---	Limestone	---	
		Elevation Range	ft	---	906-897	---
	Layer 3	Minimum Nominal Axial Compressive Resistance (Tip Resistance)	ksf	---	28.0	---
		Minimum Nominal Axial Compressive Resistance (Tip Resistance)	ksf	---	400	---



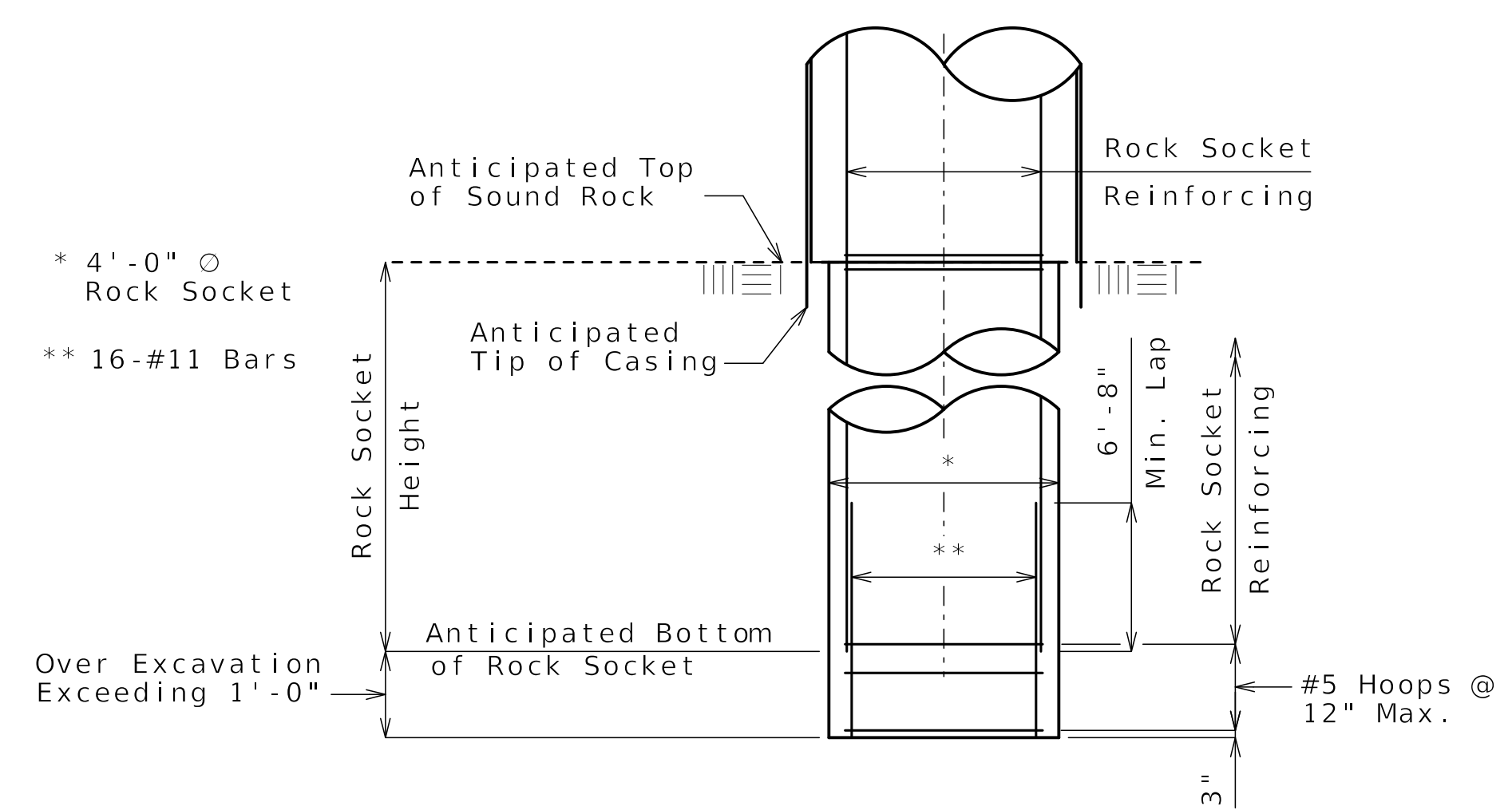
Stay-In-Place Corrugated Steel Form Notes:

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.

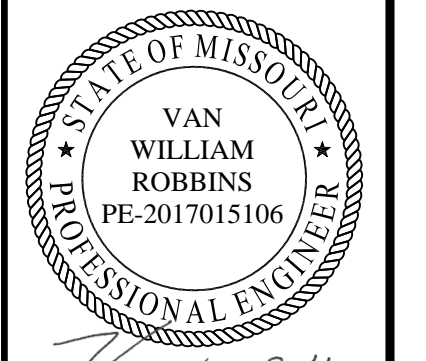
The design of stay-in-place corrugated steel forms is per manufacturer which shall be in accordance with Sec 703 for false work and forms. Maximum actual weight of corrugated steel forms allowed shall be 4 psf assumed for girder loading.



ROCK SOCKET OVER EXCAVATION DETAIL
 For Rock Socket Details see Intermediate Bent Details

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GENERAL NOTES



Van W. Robbins
 07-02-25

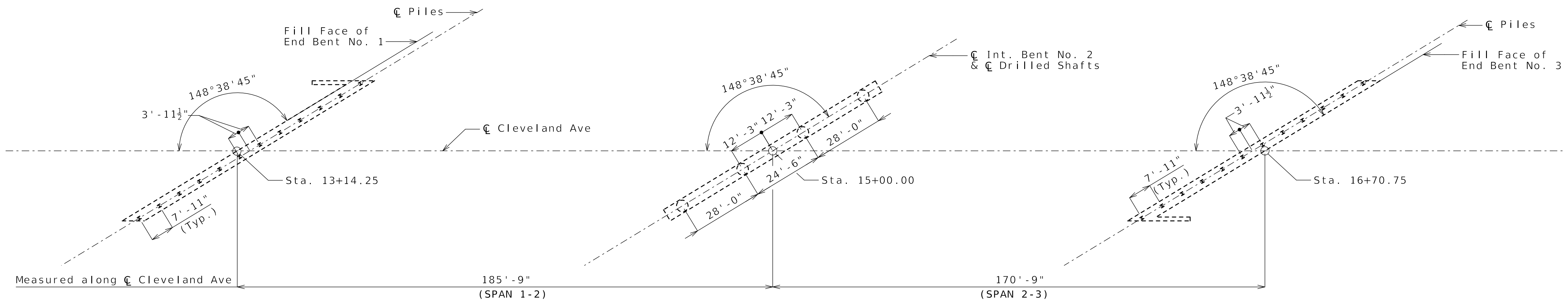
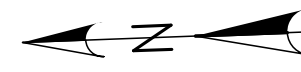
DATE PREPARED
 06/25/2025
 ROUTE 1-70 STATE MO
 DISTRICT BR SHEET NO. B10-03
 COUNTY JACKSON
 JOB NO. J411486D
 CONTRACT ID. 240807-C01
 PROJECT NO.

BRIDGE NO. A9630

DATE	DESCRIPTION
06/25/25	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



SUBSTRUCTURE LAYOUT

Note:
All dimensions are horizontal.

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SUBSTRUCTURE LAYOUT

Detailed MAR 2025
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Sheet No. B10-04 of B10-39



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07/02/25

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06/25/2025

ROUTE STATE
I-70 MO

DISTRICT SHEET NO.
BR B10-04

COUNTY
JACKSON

JOB NO.
J411486D

CONTRACT ID.
240807-C01

PROJECT NO.

BRIDGE NO.
A9630

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CLARKSON RADMACHER
JOINT VENTURE

715 KIRK DRIVE
KANSAS CITY, MO 64105-1310
CERTIFICATE OF AUTHORITY
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07/02/25

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06/25/2025

ROUTE STATE
I-70 MO

DISTRICT SHEET NO.
BR B10-05

COUNTY
JACKSON

JOB NO.
J411486D

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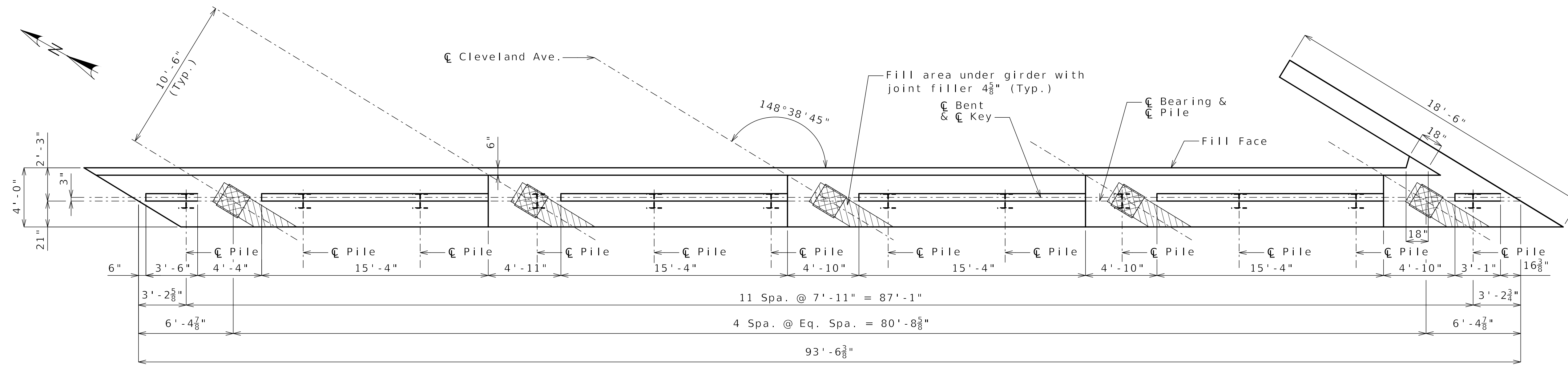
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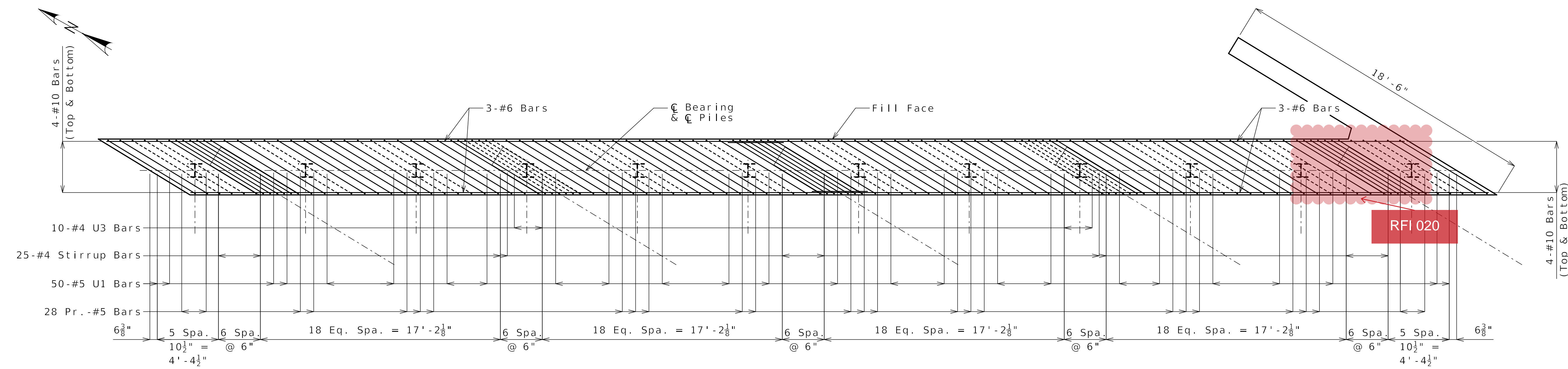
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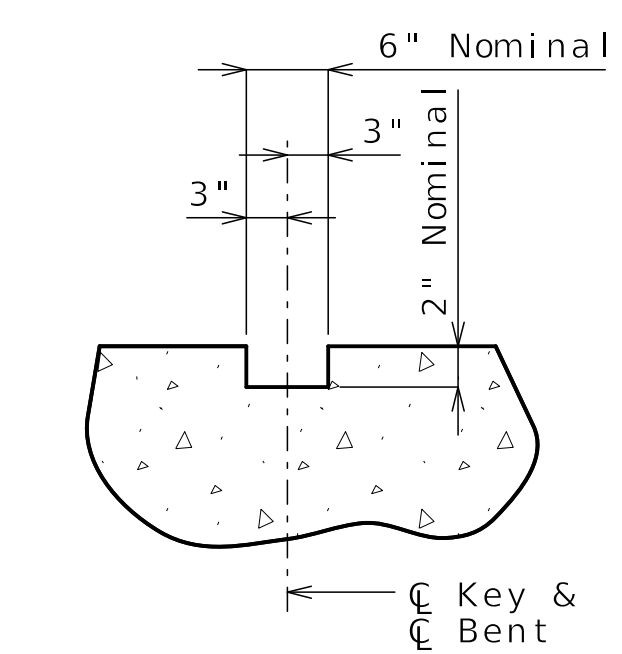
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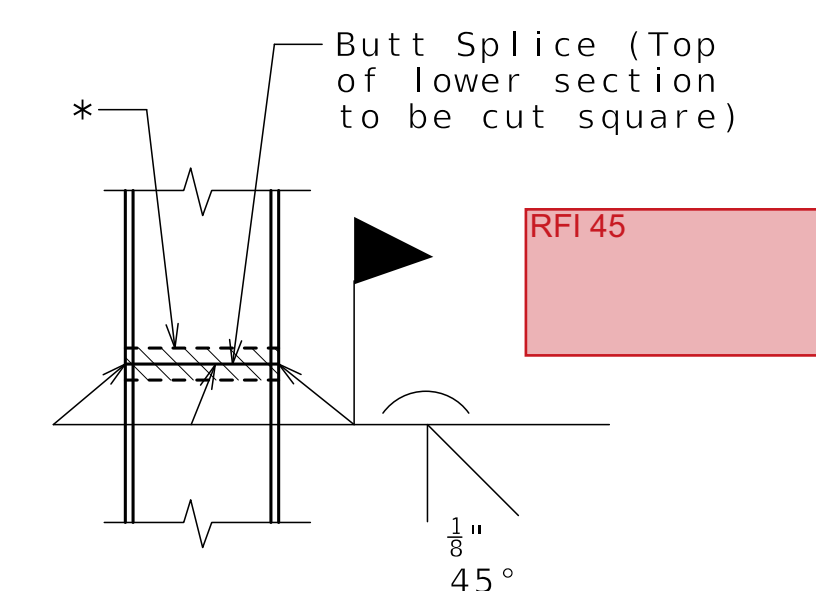
PLAN OF BEAM



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.

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

Notes:
Work this sheet with Sheets No. B10-06 and B10-07.
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".
For details of bridge approach slab, see Sheet No. B10-34.

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DETAILS OF END BENT NO. 1

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Sheet No. B10-05 of B10-39



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ROUTE STATE
I-70 MO
DISTRICT SHEET NO.
BR B10-06

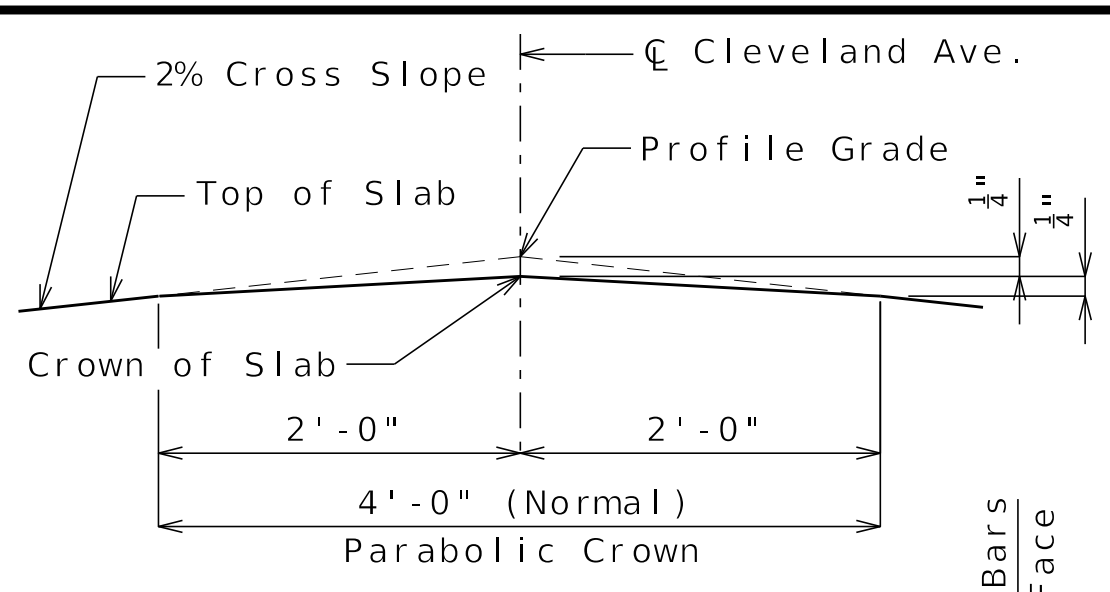
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JACKSON
JOB NO.
J411486D
CONTRACT ID.
240807-C01
PROJECT NO.

BRIDGE NO.
A9630

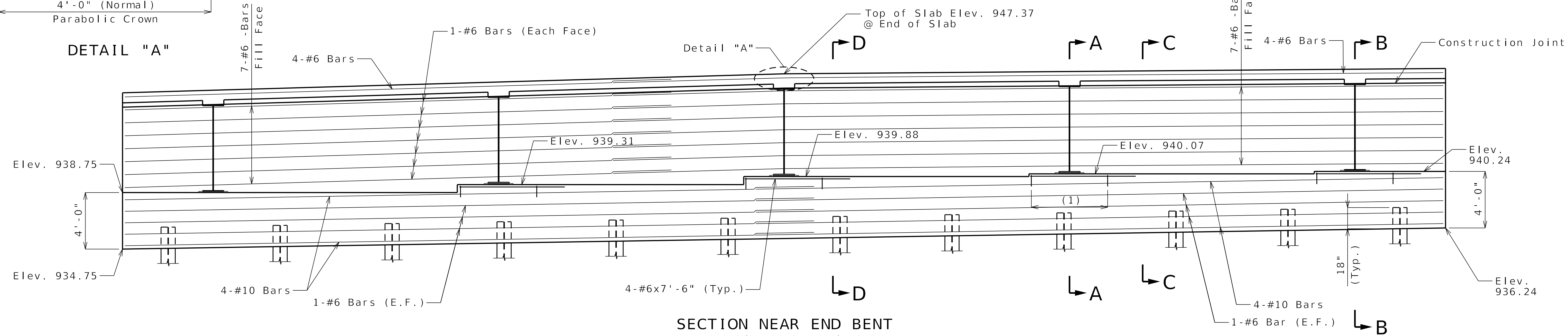
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JEFFERSON CITY, MO 65102
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715 KIRK DRIVE
KANSAS CITY, MO 64105-1310
CERTIFICATE OF AUTHORITY
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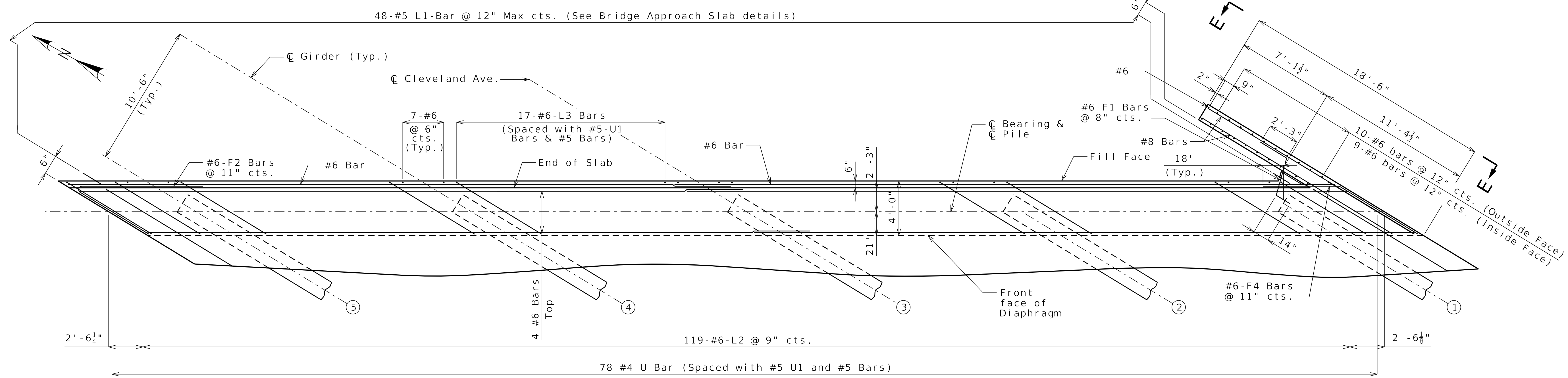
DETAIL "A"



SECTION NEAR END BENT
(Looking Back Station)

(1) 11-#4-U4 Bars @ 6" Spa. under girders. Bars shall be placed normal to C Bent and parallel to beam step. (Typ.)

Notes:
Lap Splice for #6 bars = 4'-3" (Min.)
Lap Splice for #10 bars = 7'-2" (Min.)



PLAN

General Notes:
Work this sheet with Sheets No. B10-05 and B10-07.
For Sections A-A, B-B, C-C and D-D and Elevation E-E, see Sheet No. B10-07.
The #6-F bars shall be bent in the field to clear girders.
(X) Denotes girder number

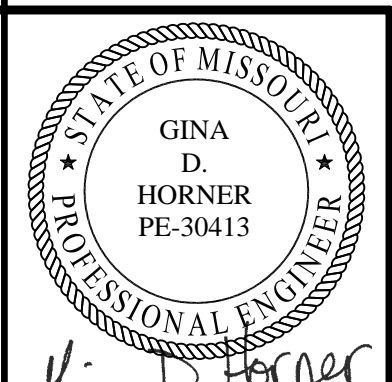
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DETAILS OF END BENT NO. 1

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Sheet No. B10-06 of B10-39



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07/02/25
DATE PREPARED

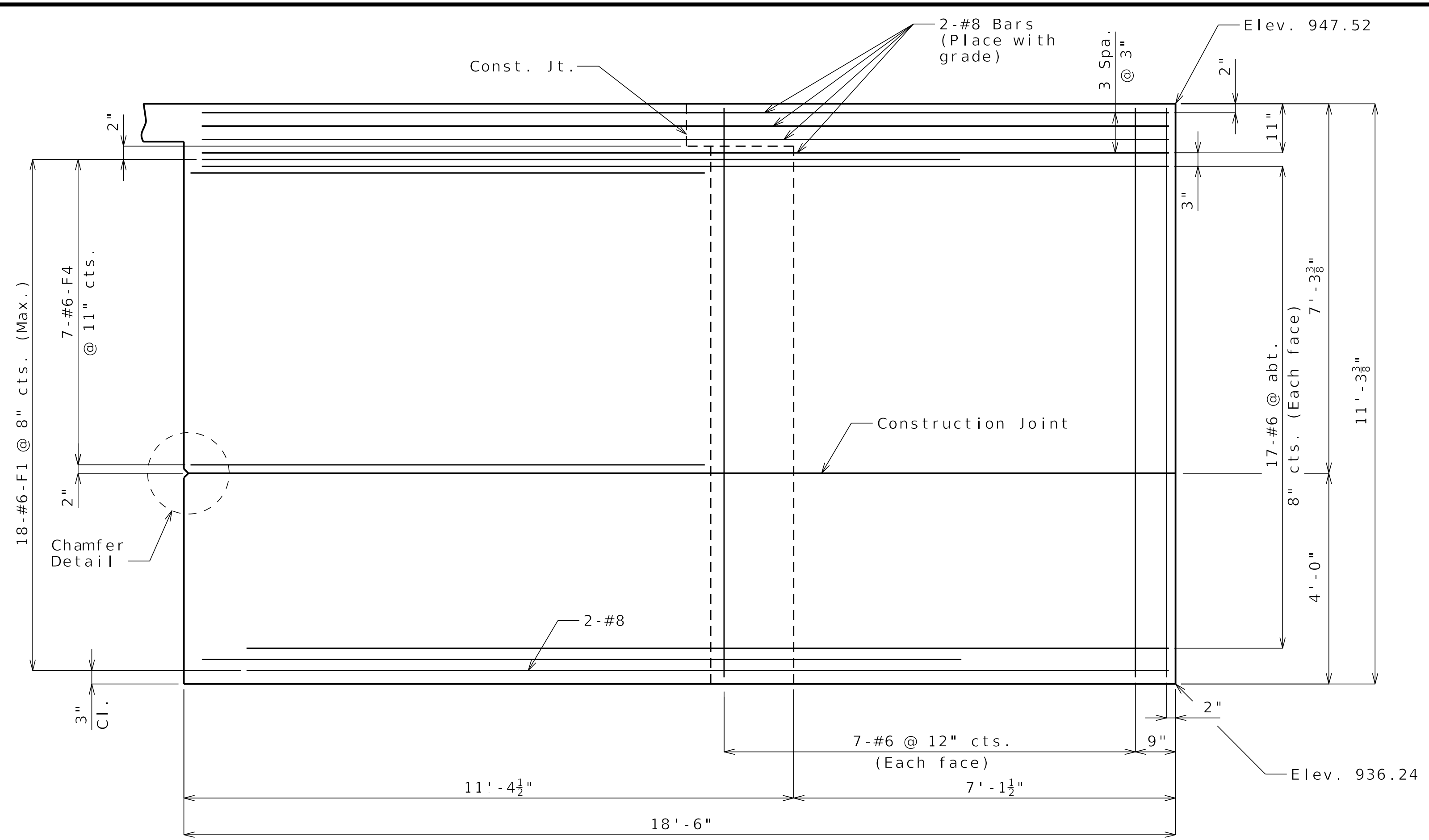
06/25/2025	
ROUTE 1-70	STATE MO
DISTRICT BR	SHEET NO. B10-07
COUNTY JACKSON	
JOB NO. J411486D	
CONTRACT ID. 240807-C01	
PROJECT NO.	

BRIDGE NO.
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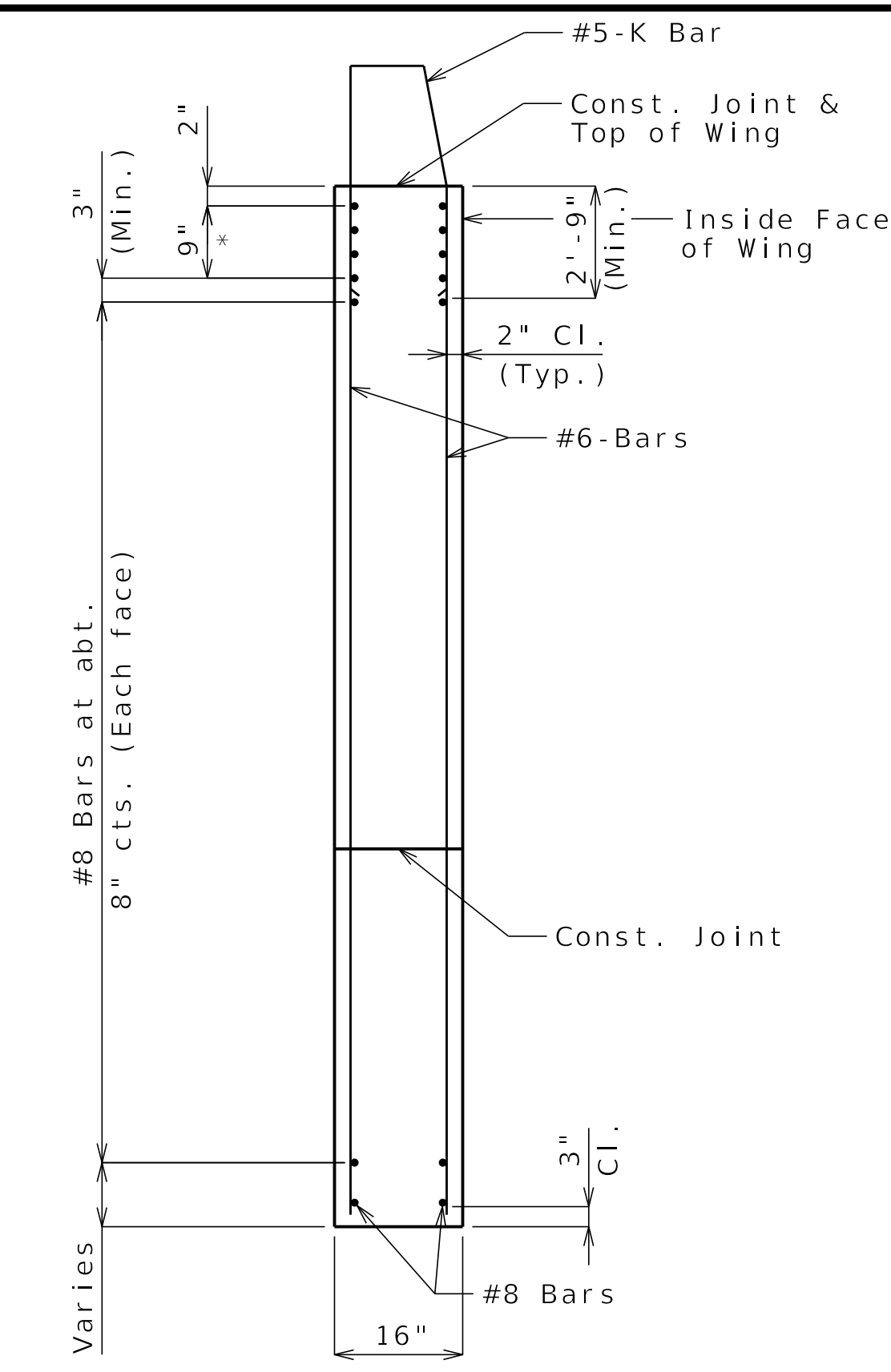
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715 KIRK DRIVE KANSAS CITY, MO 64105-1310
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HNTB

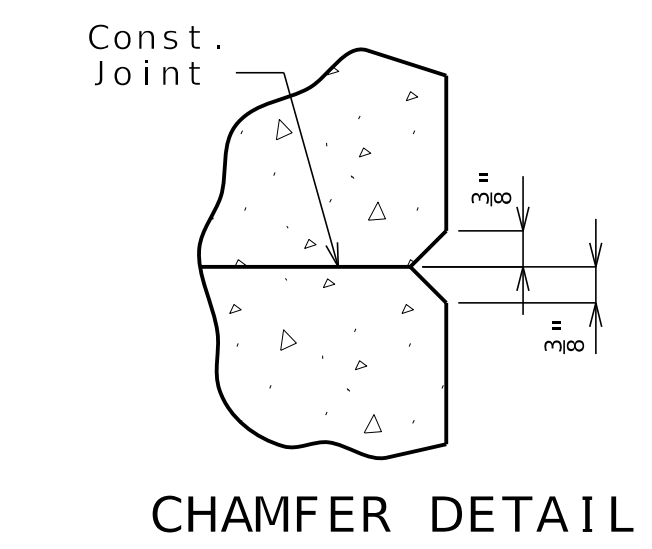


ELEVATION E-E

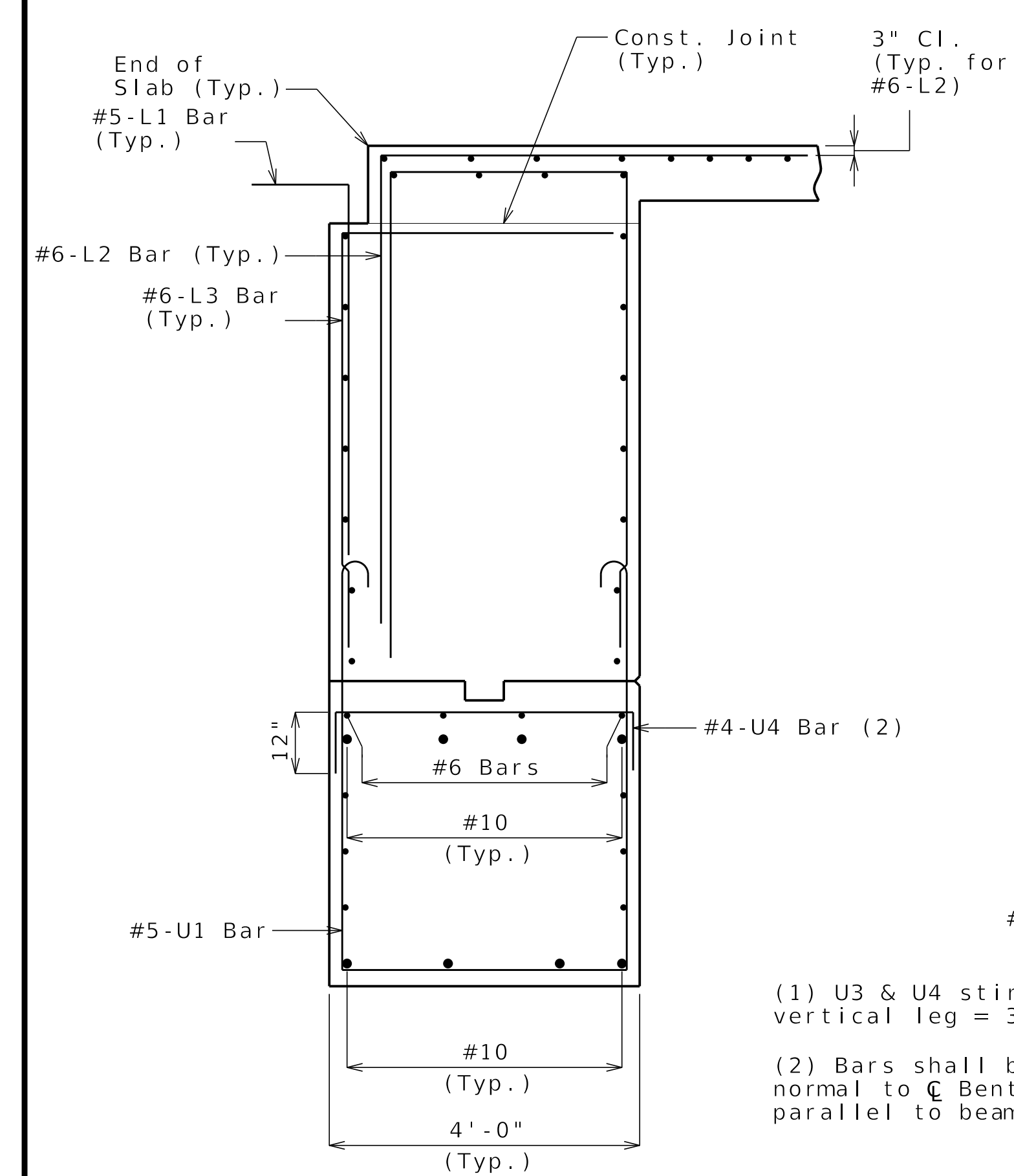


TYPICAL SECTION THRU WING

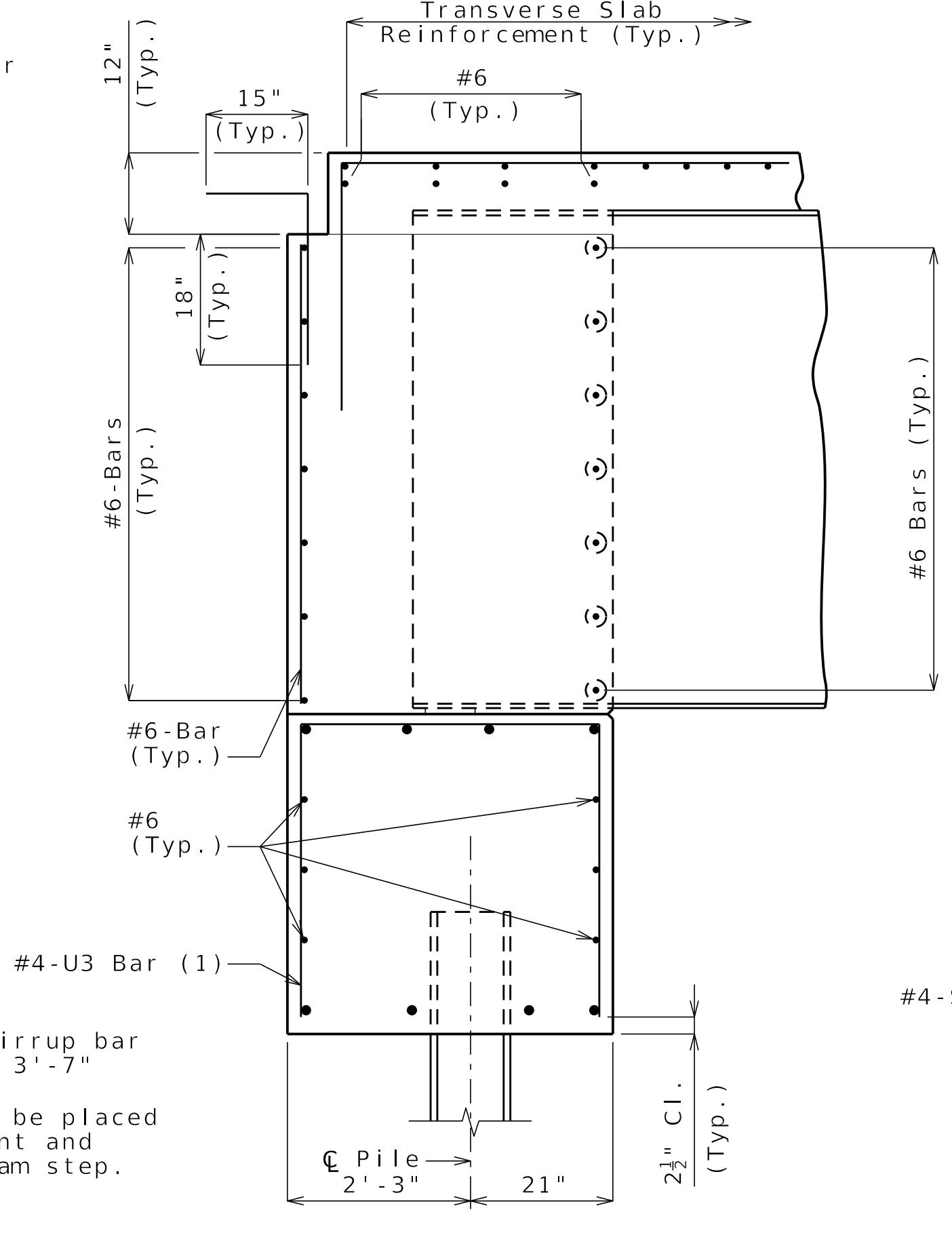
*#8 Bars at 3" cts. (Each face) (Place with grade) See Elevation E-E for number of bars



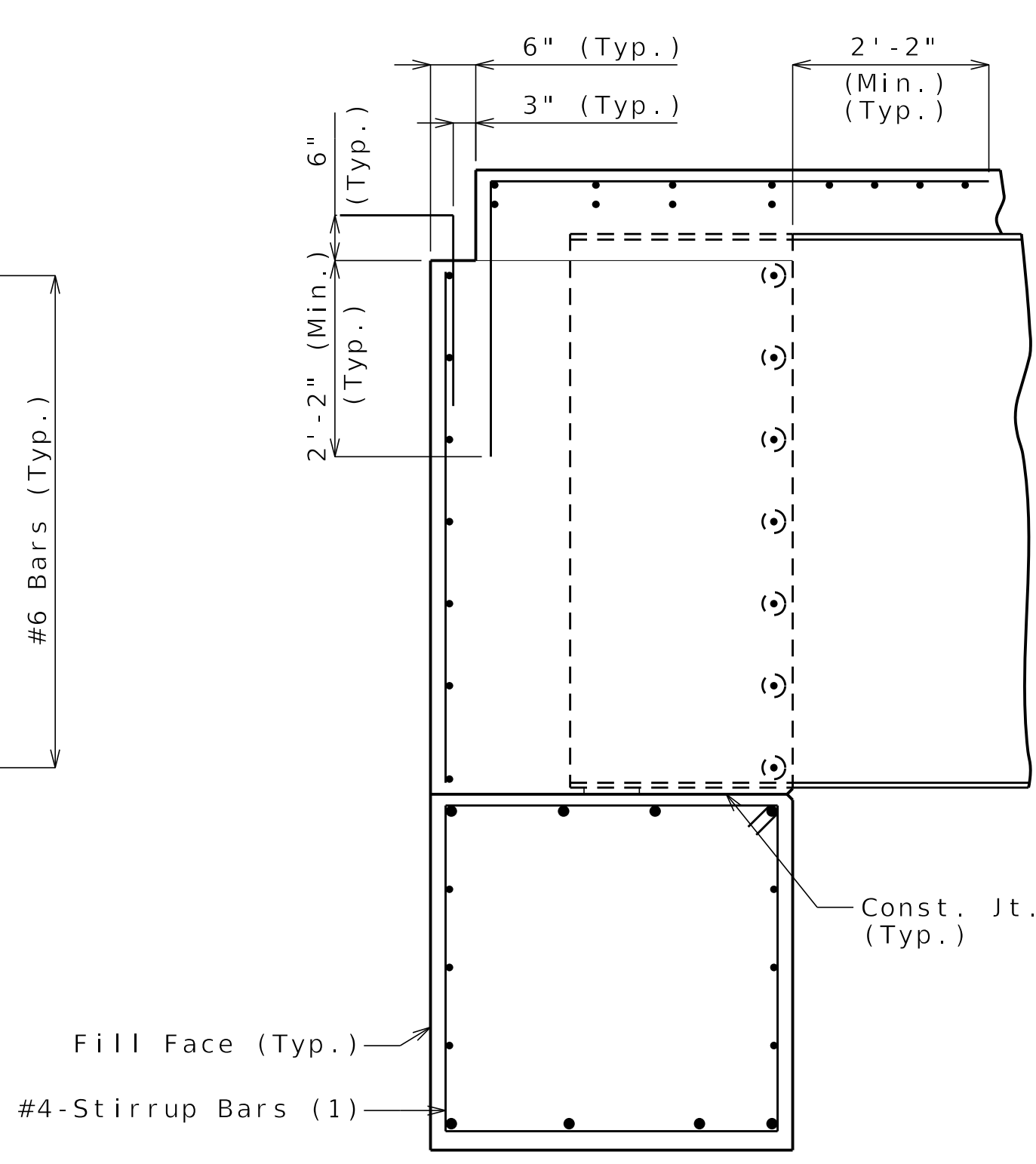
CHAMFER DETAIL



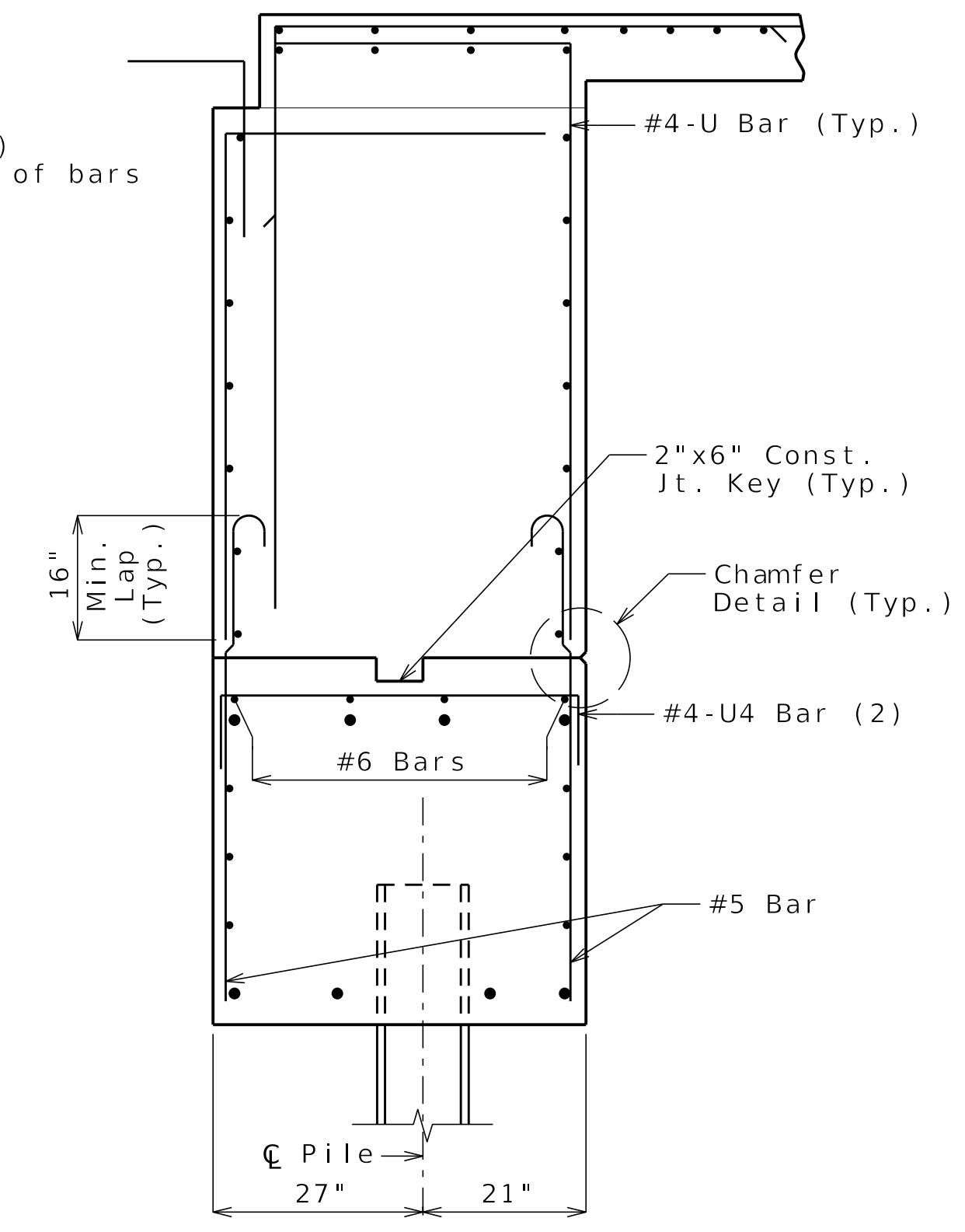
SECTION A-A



SECTION B-B



SECTION C-C



SECTION D-D

- (1) U3 & U4 stirrup bar vertical leg = 3'-7"
- (2) Bars shall be placed normal to \bar{C} Bent and parallel to beam step.

General Notes:
Work this sheet with Sheets No. B10-05 and B10-06.
For location of Sections A-A, B-B, C-C, D-D and Elevation E-E, see Sheet No. B10-06.
For reinforcement of the Type D Barrier, see Sheet No. B10-29.

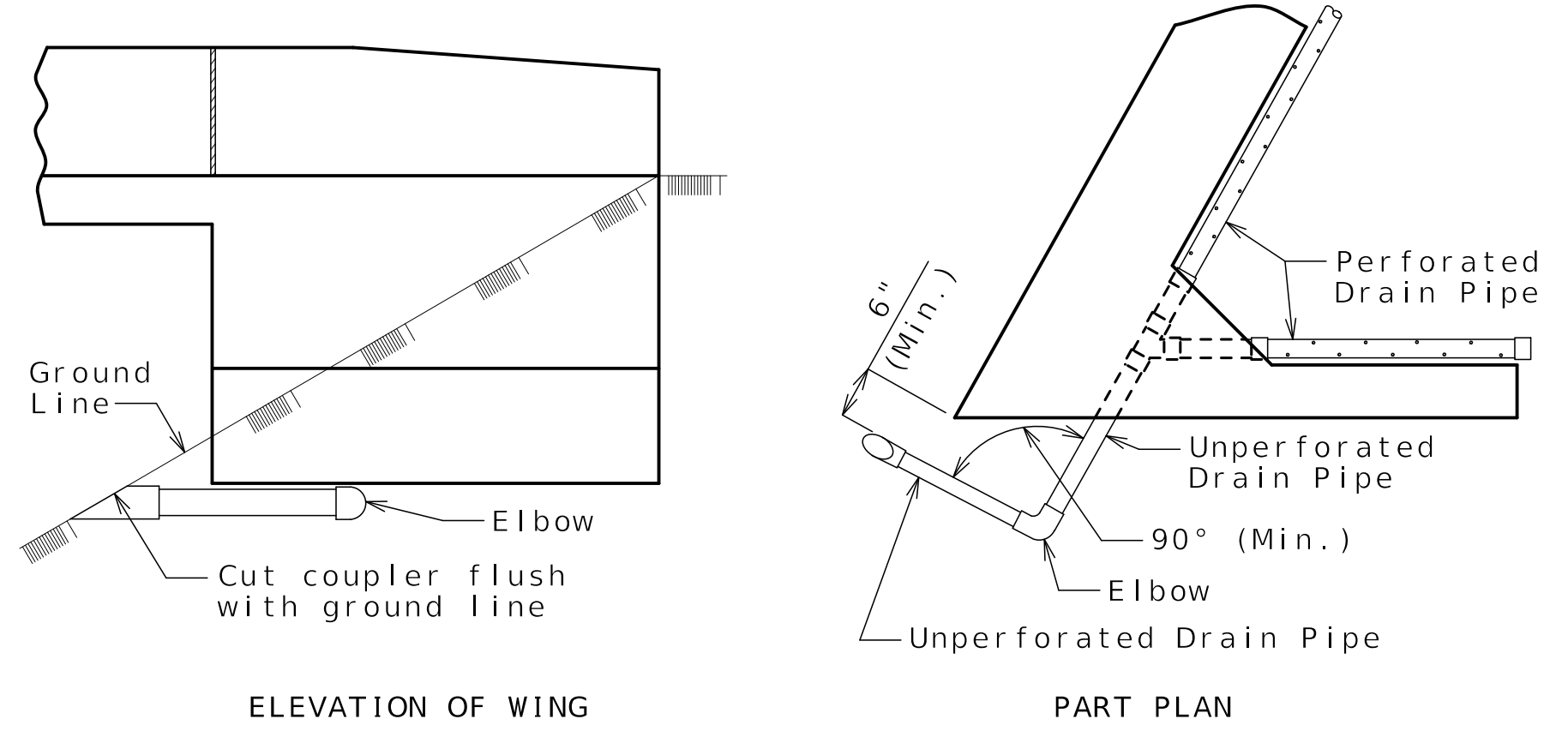
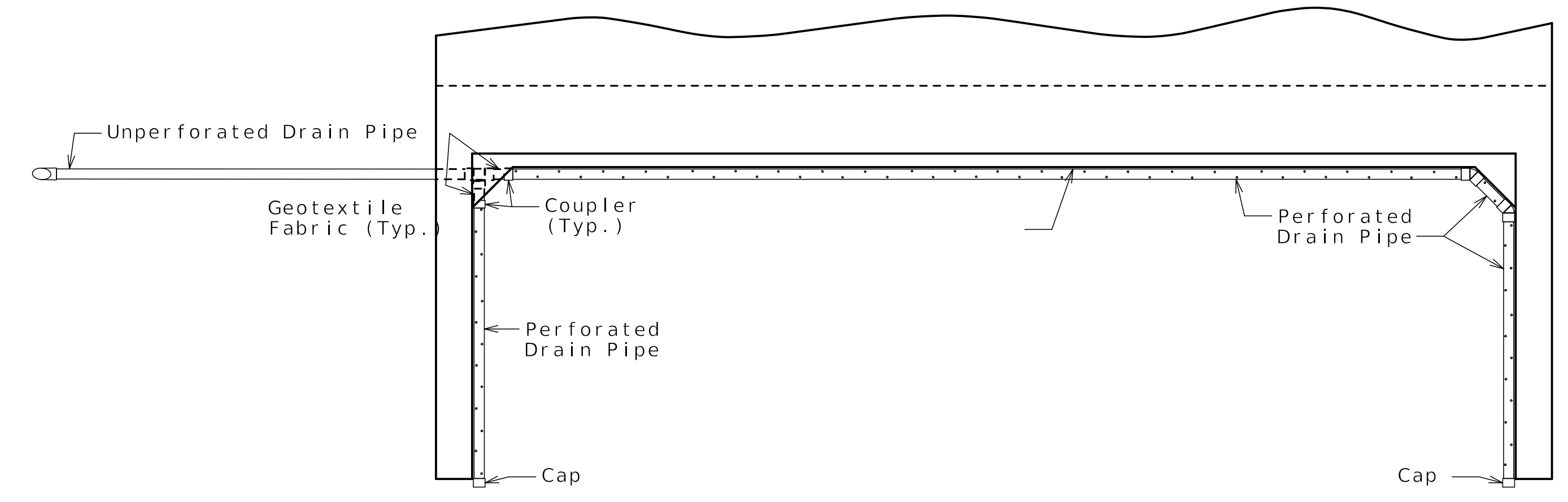
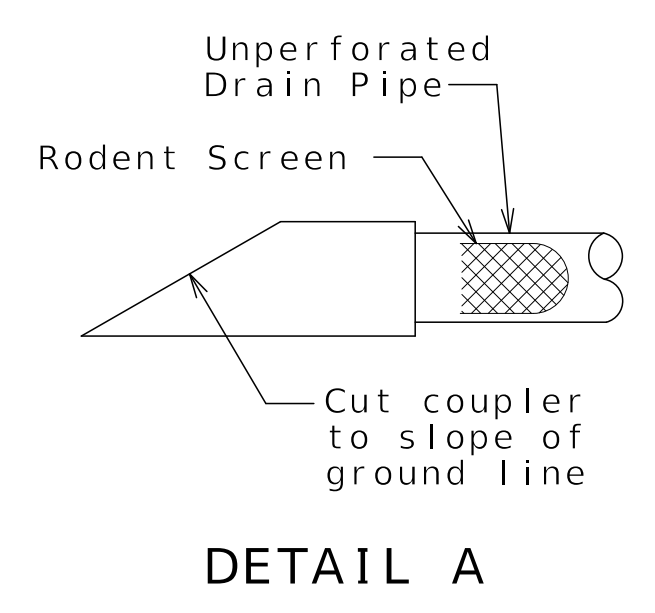
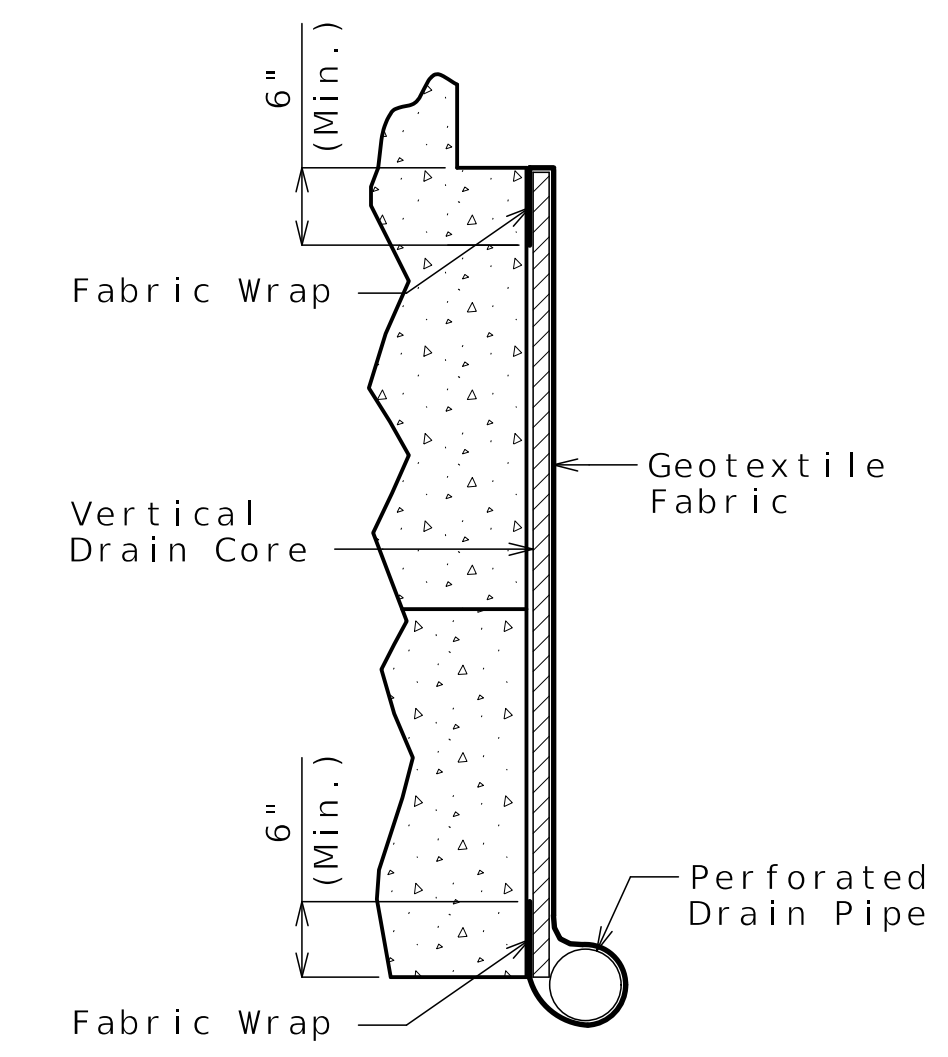
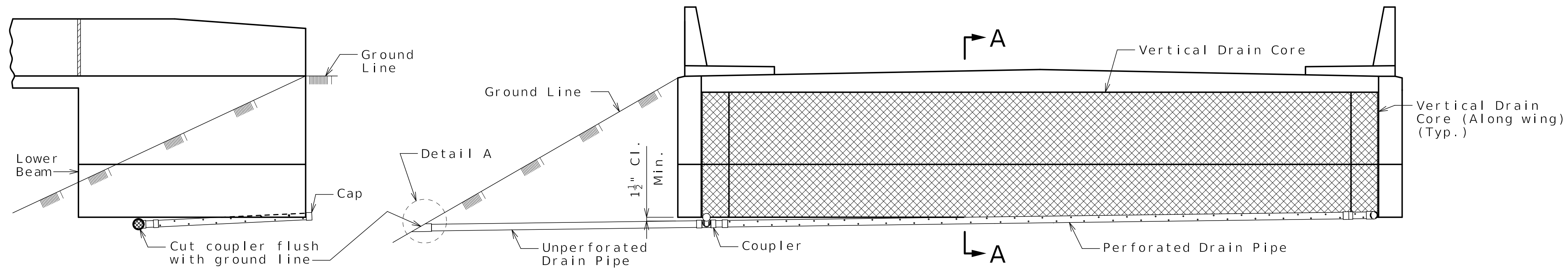
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Not to Scale
Revision: 0.0
Date: 07/07/2025
Package: BRD-10-Cleveland Ave.

DETAILS OF END BENT NO. 1

Detailed MAR 2025
Checked APR 2025

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

Sheet No. B10-07 of B10-39



OPTIONAL TURNED DRAIN
(Use only when straight drain is not practical.)

General Notes:
Squared end bent shown, skewed end bent similar.

Details shown are illustrative and not necessarily representative of one or both end bents on this bridge. Construction phasing and bridge geometry will require utilizing a combination of the details shown to construct a vertical drain system that maintains positive flow out and away from the end bents.

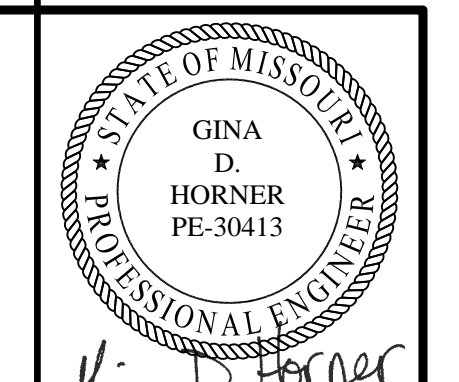
All drain pipe shall be sloped 1 to 2 percent.

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.

If free draining granular fill material is used behind end bent and wingwalls, and if water can freely gravity drain to lower select granular backfill for structural system of MSE wall, then drain pipes are not required and internal drainage system of MSE wall can be used to collect water from Vertical Strip Drain.



Gina D. Horner
07/02/25

DATE PREPARED 06/25/2025	
ROUTE I-70	STATE MO
DISTRICT BR	SHEET NO. B10-08
COUNTY JACKSON	
JOB NO. J411486D	
CONTRACT ID. 240807-C01	
PROJECT NO.	

BRIDGE NO.
A9630

DATE	DESCRIPTION
06/25/25	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
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Date: 07/07/2025
Package: BRD-10-Cleveland Ave.

VERTICAL DRAIN AT END BENTS



7/2/2025

DATE PREPARED
06/25/2025

ROUTE 1-70 STATE MO

DISTRICT BR SHEET NO. B10-09

COUNTY JACKSON

JOB NO. J411486D

CONTRACT ID. 240807-C01

PROJECT NO.

BRIDGE NO. A9630

DESCRIPTION

REV 0 - RFC SUBMITTAL

DATE 06/25/25

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL JEFFERSON CITY, MO 65102

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MoDOT

CLARKSON RADMACHER JOINT VENTURE

715 KIRK DRIVE KANSAS CITY, MO 64105-1310

CERTIFICATE OF AUTHORITY NO. 001270

HNTB

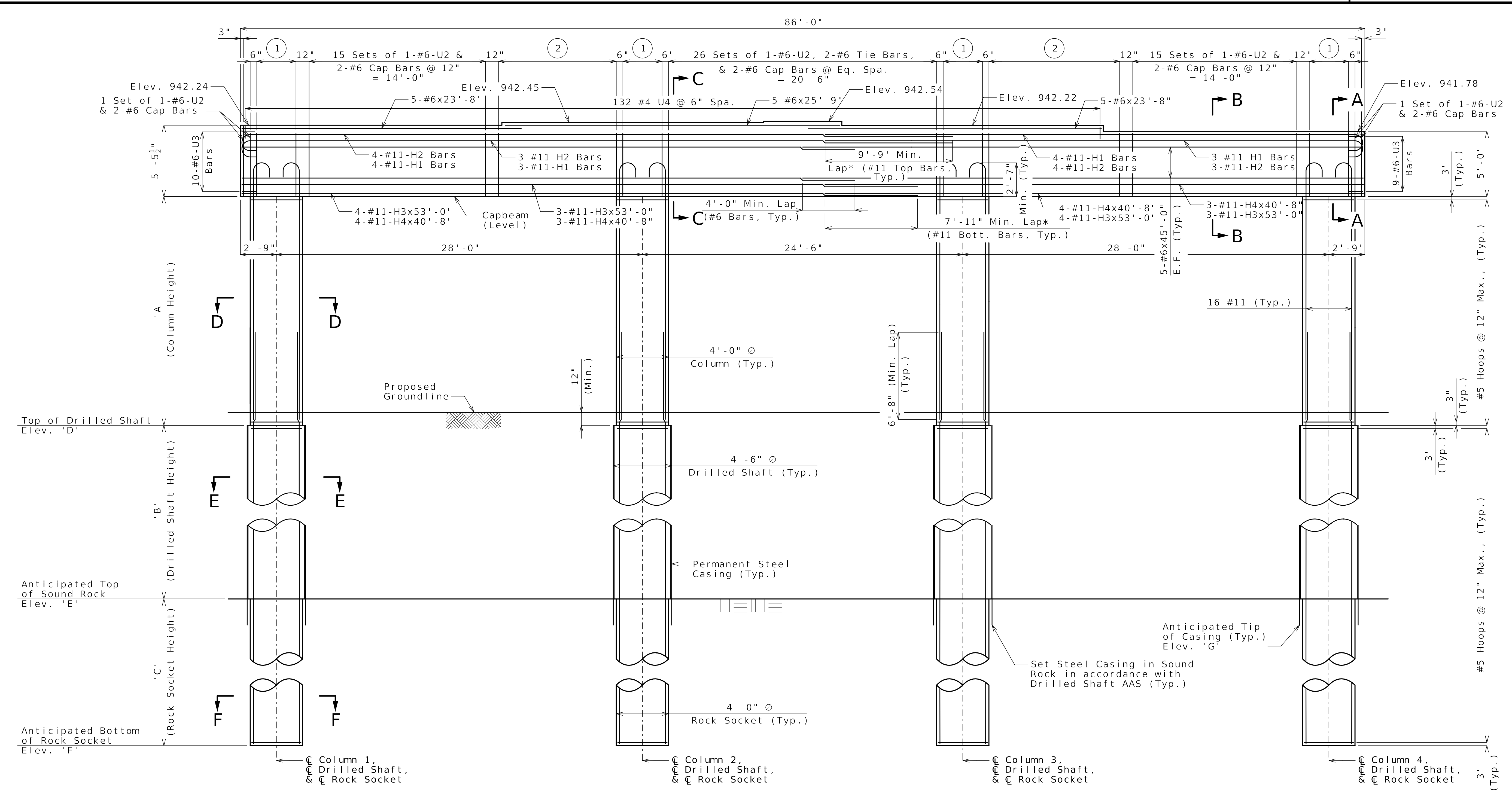
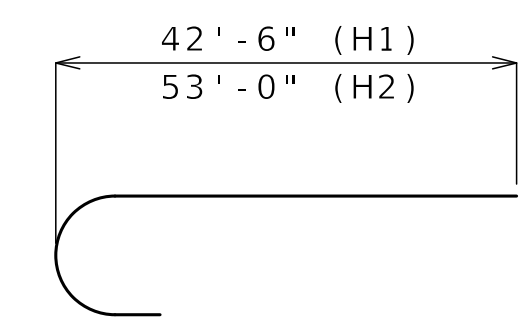


Table of Variables

Column Number	"A"	"B"	"C"	"D"	"E"	"F"	"G"
1	14'-9"	6'-0"	14'-0"	922.0	916.0	902.0	914.0
2	15'-9"	5'-0"	14'-0"	921.0	916.0	902.0	914.0
3	16'-3"	4'-6"	14'-0"	920.5	916.0	902.0	914.0
4	17'-3"	3'-6"	14'-0"	919.5	916.0	902.0	914.0



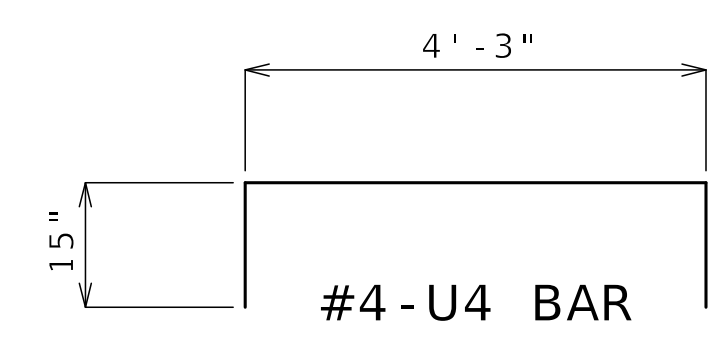
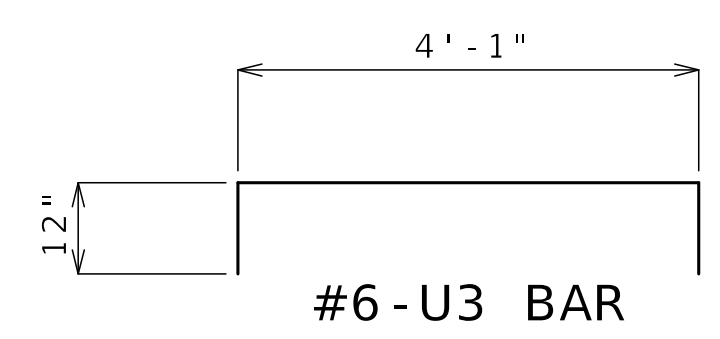
- ① 4-#6-U1 @ Eq. Spa. = 3'-0"
- ② 18 Sets of 1-#6-U2, 2-#6 Tie Bars, & 2-#6 Cap Bars @ 6" = 8'-6"

#11-H1 & #11-H2 BAR

Detailed MAR 2025
Checked APR 2025

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

ELEVATION

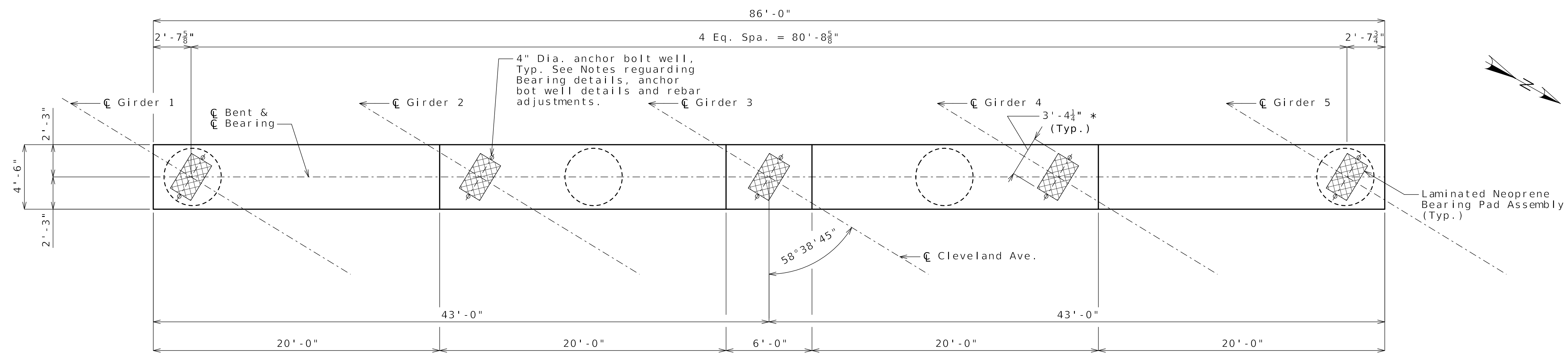


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Revision: 0.0
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Package: BRD-10-Cleveland Ave.

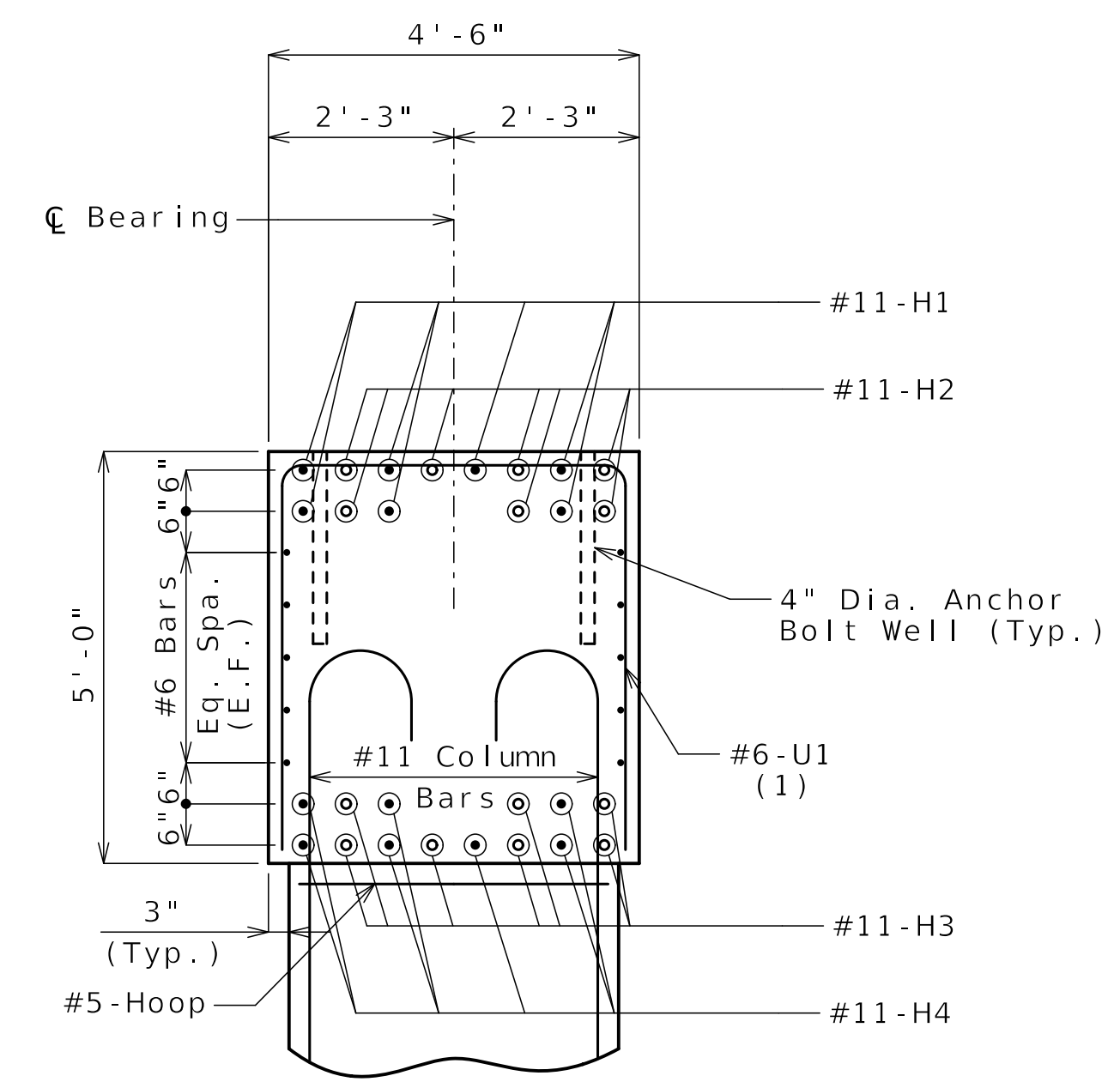
Notes:
* Alternate location of lap splices between adjacent bars about C of bent. Alternate lap splice location not shown.
Prior to placing concrete for columns, position of vertical reinforcement shall be verified so as to provide clearance for capbeam reinforcement as applicable.
At the contractor's option, the hooks of vertical bars embedded in the beam cap may be oriented inward or outward as needed to avoid conflict with capbeam reinforcement.
Work this sheet with Sheet No. B10-10.
For location of drilled shafts, see Sheet No. B10-04.
For Sections A-A thru F-F, see Sheet No. B10-10.

DETAILS OF INTERMEDIATE BENT NO. 2

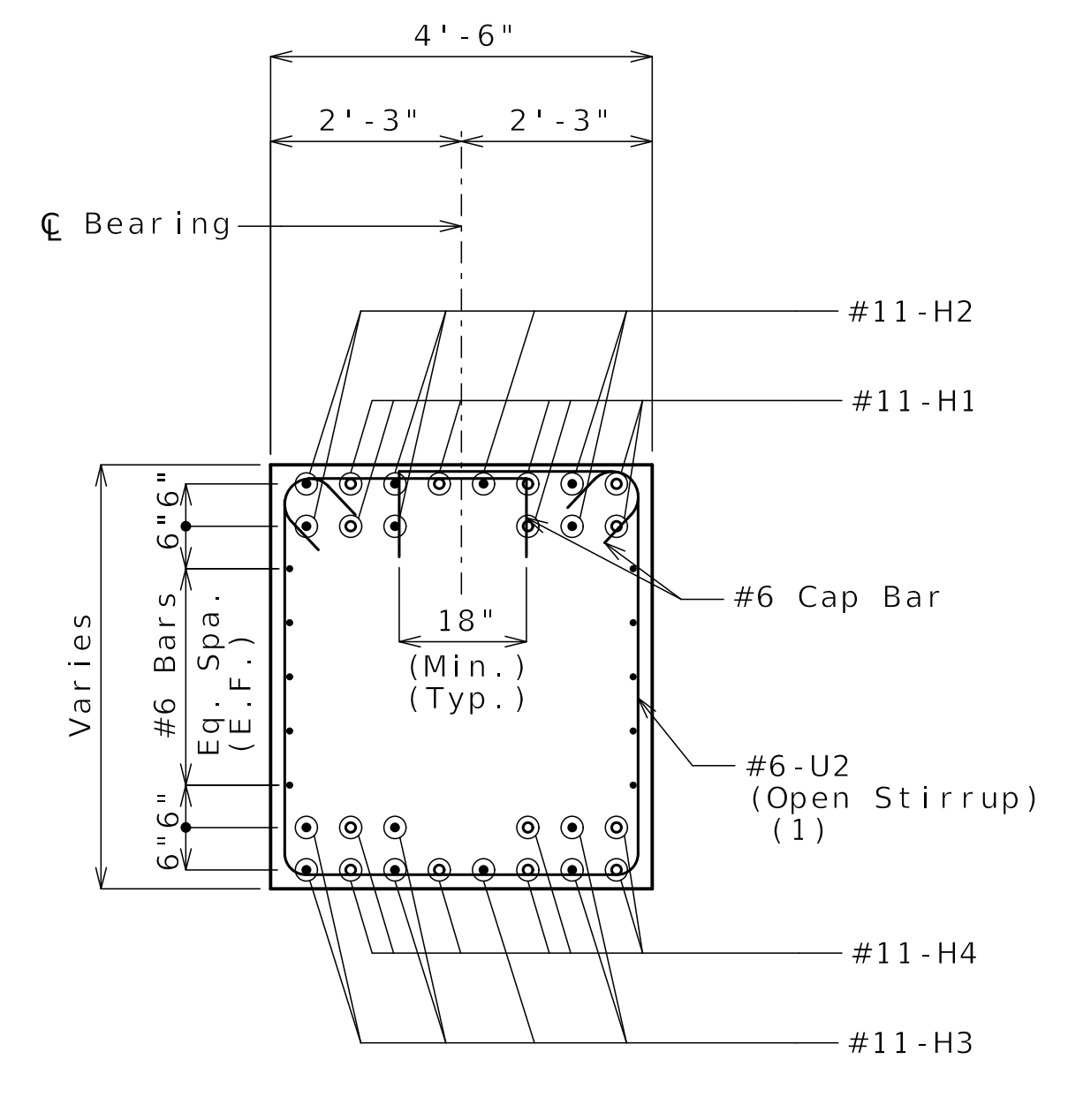
Sheet No. B10-09 of B10-39



PLAN OF CAPBEAM

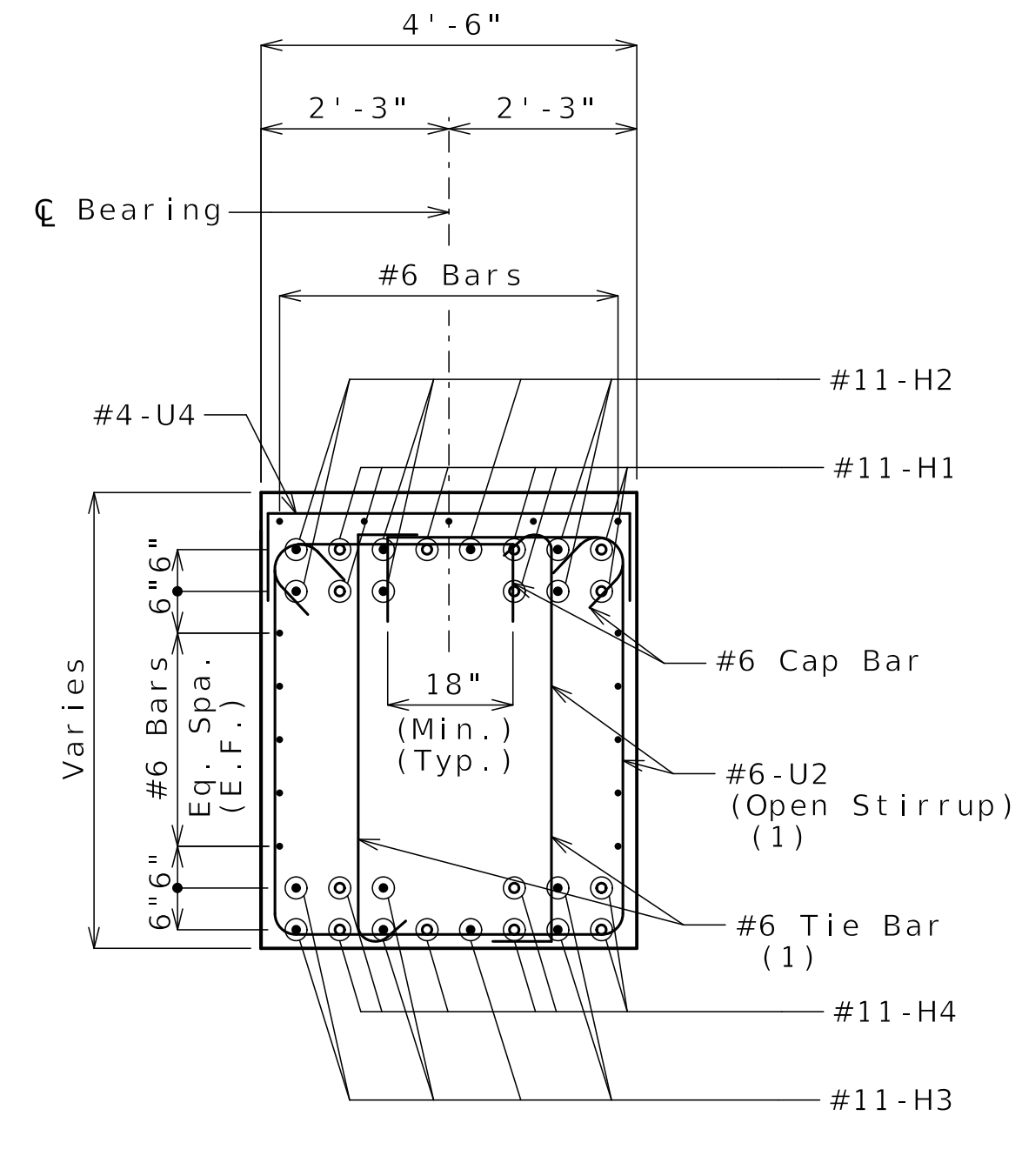


SECTION A-A

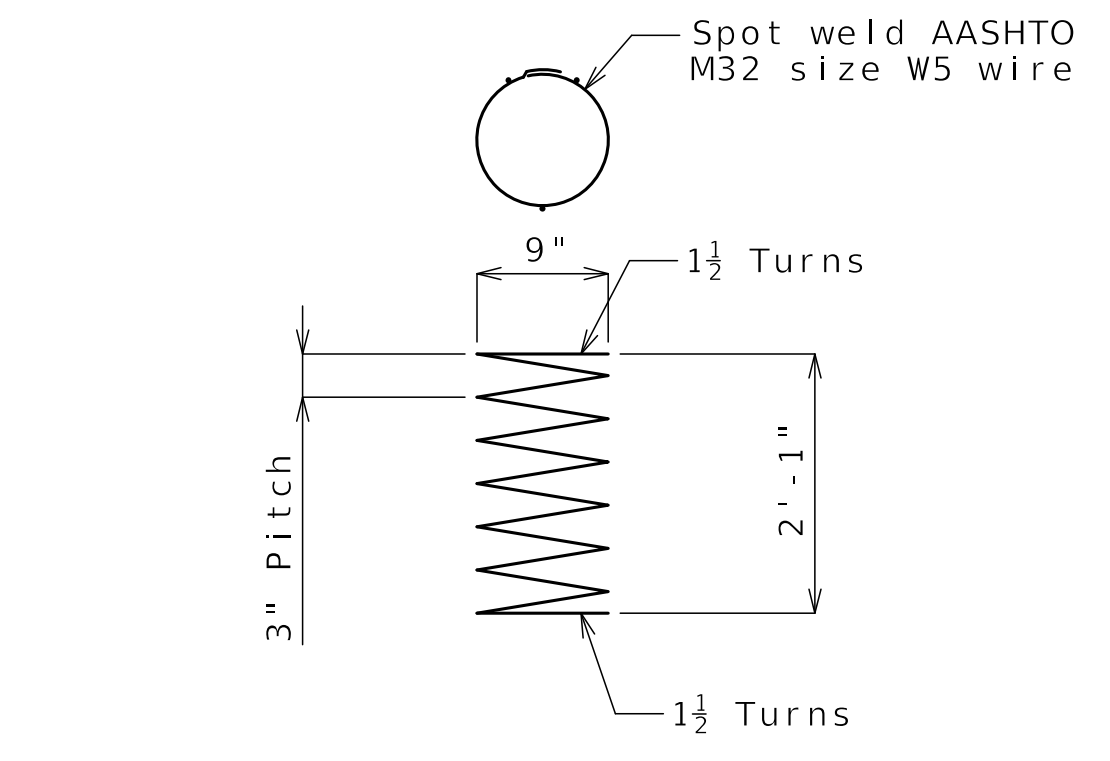


SECTION B-B

(1) U1, U2 and #6 Tie Bar vertical Leg = 4'-9"

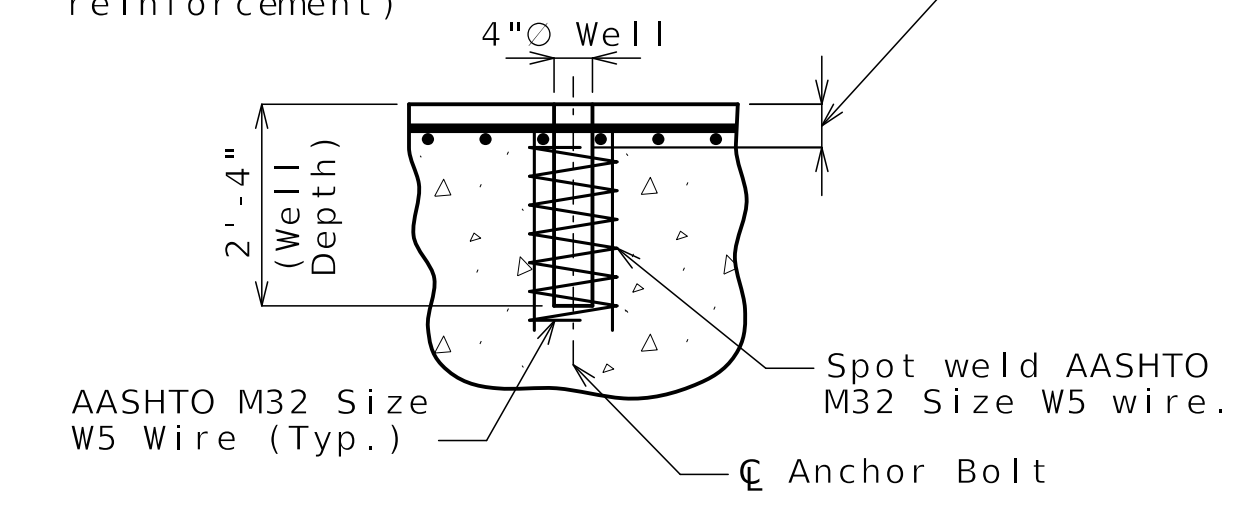


SECTION C-C

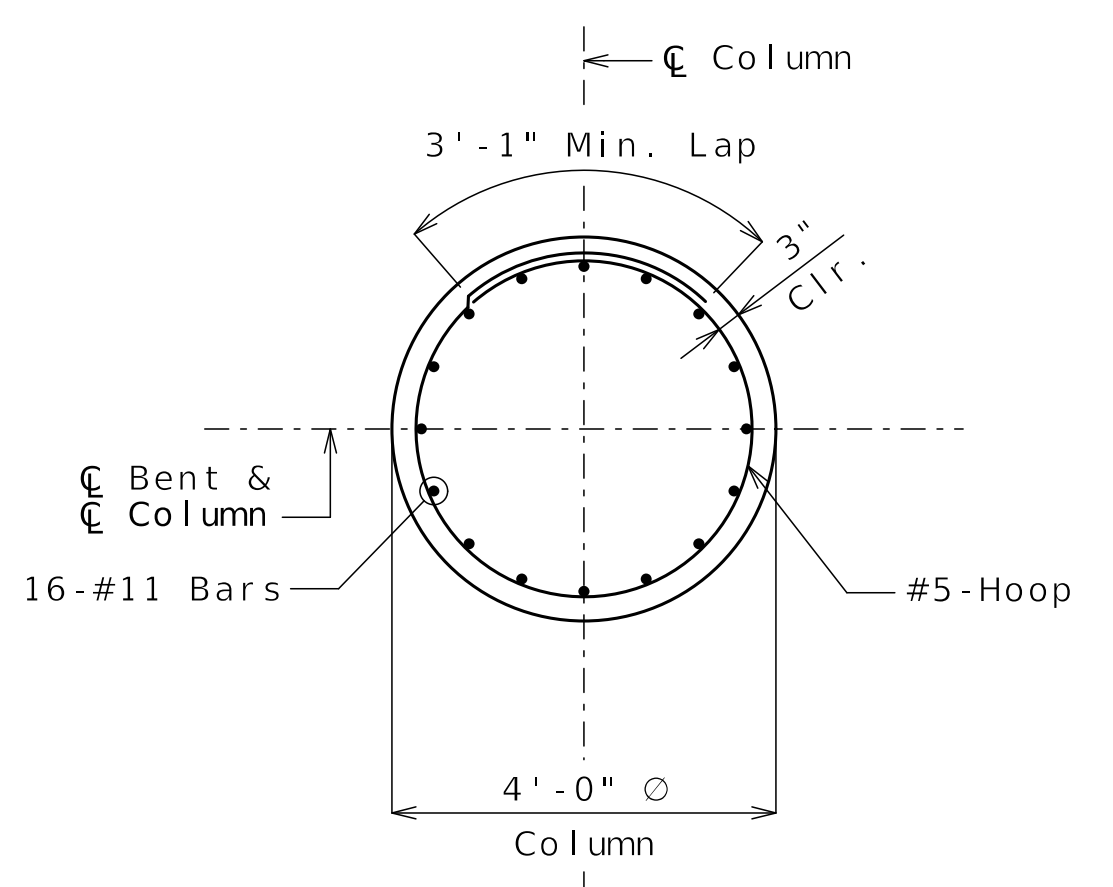


DETAIL OF SIZE W5 WIRE

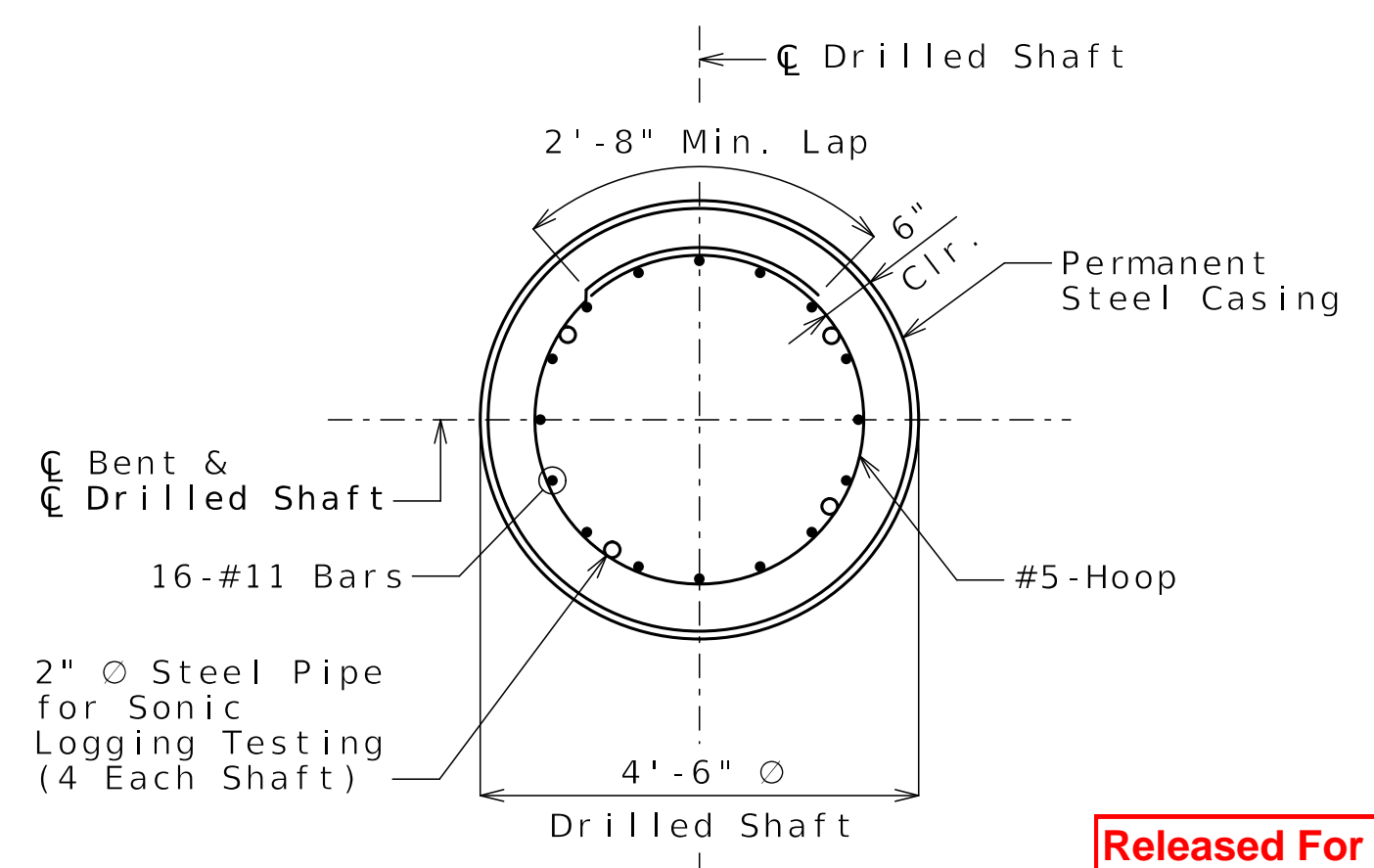
Clear top layer of top reinforcement. Second layer of top reinforcement can be shifted as necessary to clear spiral. (Tie top of spiral to longitudinal reinforcement)



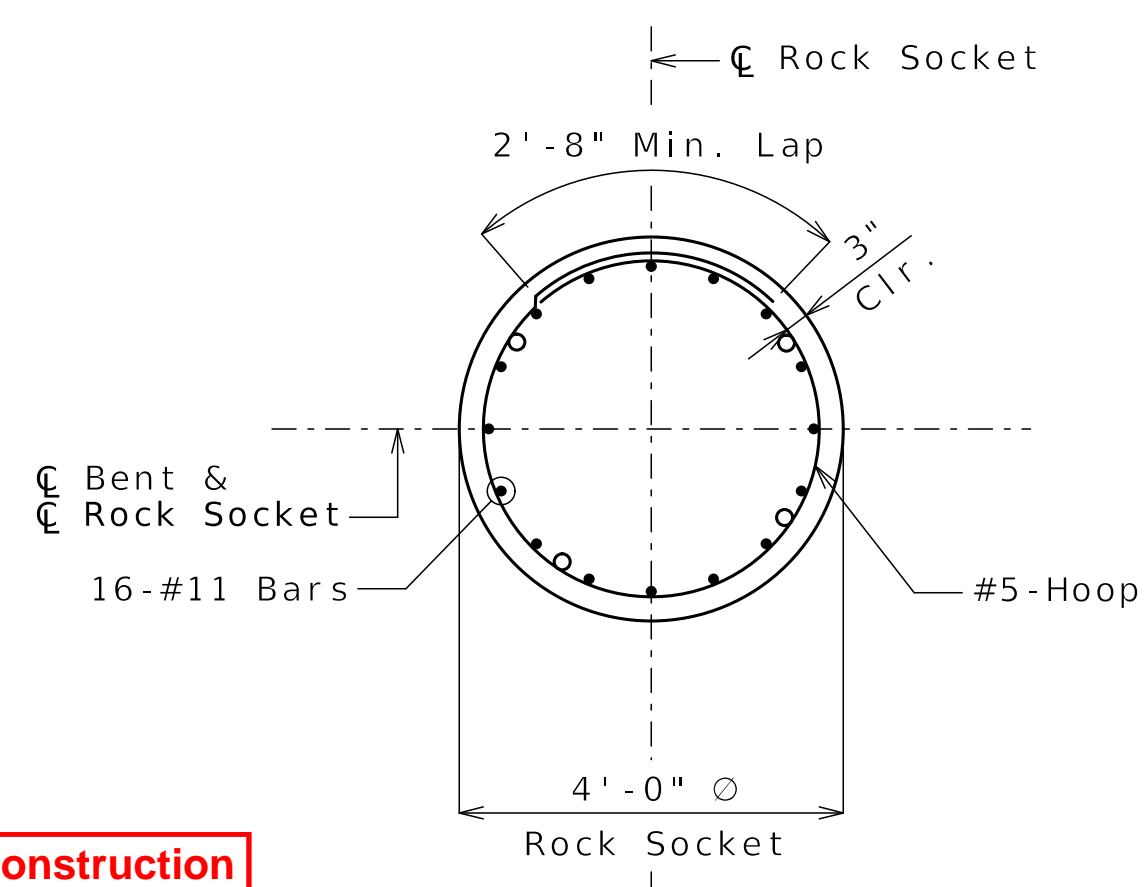
DETAIL OF ANCHOR BOLT WELL



SECTION D-D



SECTION E-E



SECTION F-F

Notes:
 Work this sheet with Sheet No. B10-09.
 Hoop splices shall be staggered around the drilled shaft and rock socket at 90 degree intervals.
 For Details of Laminated Neoprene Bearing Pad Assembly, see Sheet No. B10-14.
 Anchor bolt wells shall not be formed with galvanized corrugated steel pipe.
 * Bearing Pads and Anchor bolts are placed perpendicular to Girder.
 Reinforcing steel shall be shifted to clear anchor bolt wells by at least 1/2 inch.

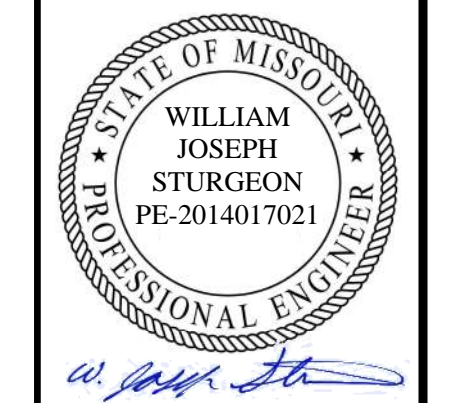
DETAILS OF INTERMEDIATE BENT NO. 2

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 Date: 07/07/2025
 Package: BRD-10-Cleveland Ave.

Detailed MAR 2025
 Checked APR 2025

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

Sheet No. B10-10 of B10-39



7/2/2025

DATE PREPARED
06/25/2025

ROUTE 1-70 STATE MO
 DISTRICT BR SHEET NO. B10-10

COUNTY JACKSON
 JOB NO. J411486D
 CONTRACT ID. 240807-C01
 PROJECT NO.

BRIDGE NO. A9630

DATE	DESCRIPTION
06/25/25 <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



Gina D. Horner
07/02/25

DATE PREPARED
06/25/2025

ROUTE STATE
I-70 MO

DISTRICT SHEET NO.
BR B10-11

COUNTY
JACKSON

JOB NO.
J411486D

CONTRACT ID.
240807-C01

PROJECT NO.

BRIDGE NO.
A9630

DESCRIPTION
REV 0 - RFC SUBMITTAL

DATE
06/25/25

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

MoDOT

105 WEST CAPITOL JEFFERSON CITY, MO 65102

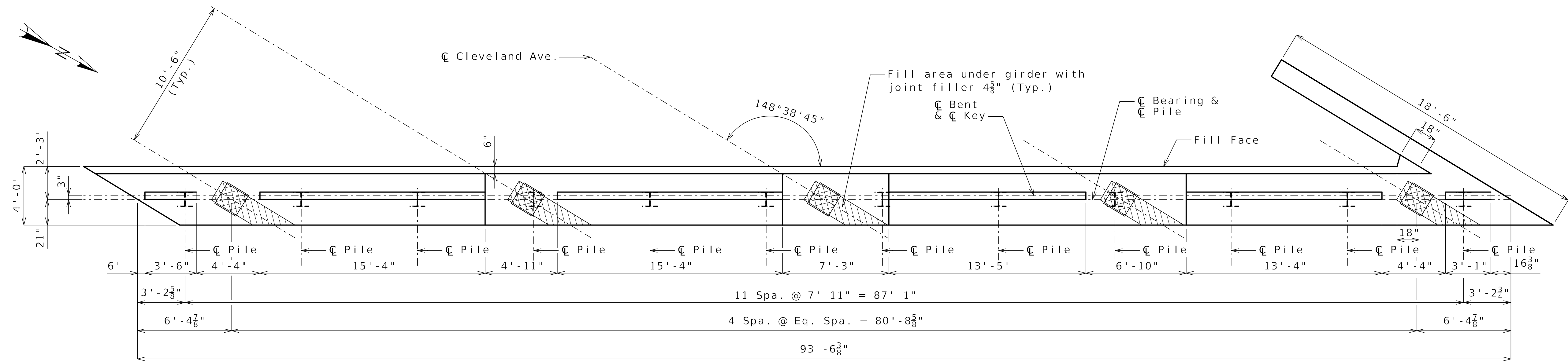
1-888-ASK-MODOT (1-888-275-6636)

CLARKSON RADMACHER JOINT VENTURE

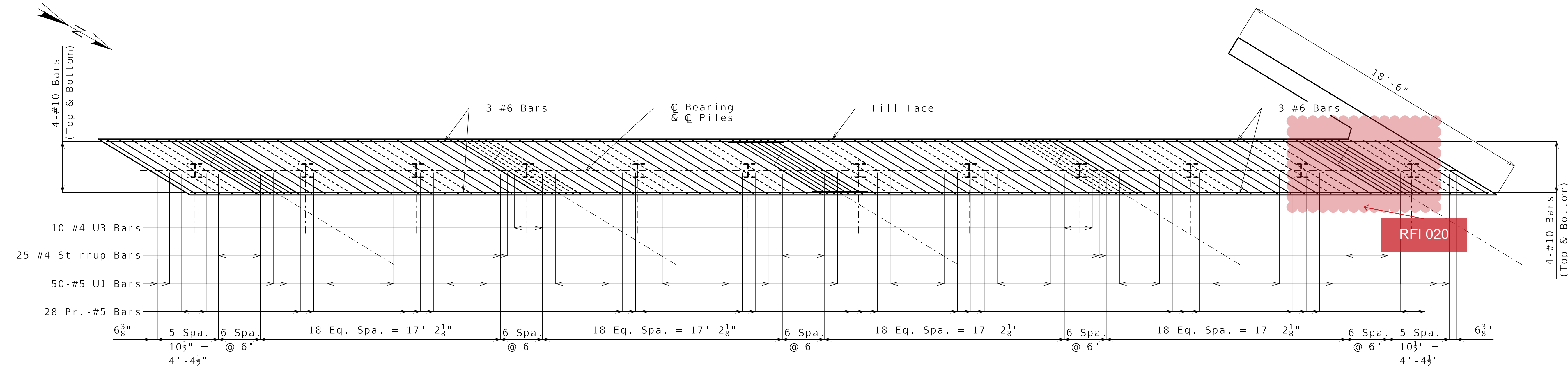
715 KIRK DRIVE KANSAS CITY, MO 64105-1310

CERTIFICATE OF AUTHORITY NO. 001270

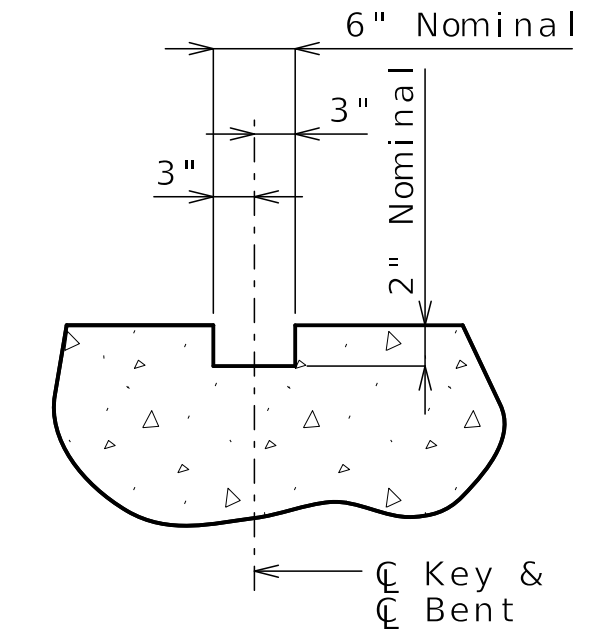
HNTB



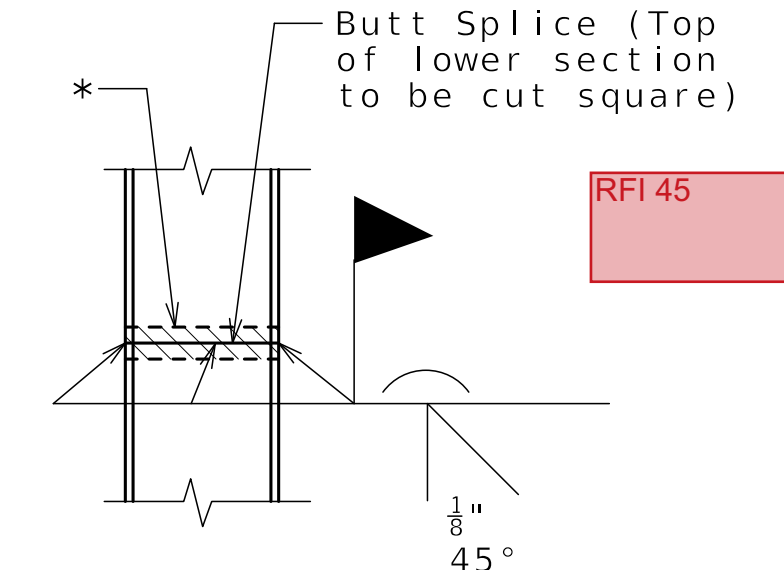
PLAN OF BEAM



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.

Notes:
Work this sheet with Sheets No. B10-12 and B10-13.
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".
For details of bridge approach slab, see Sheet No. B10-34.

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Revision: 0.0
Date: 07/07/2025
Package: BRD-10-Cleveland Ave.

DETAILS OF END BENT NO. 3



Gina D. Horner
07/02/25

DATE PREPARED	06/25/2025
ROUTE	1-70
STATE	MO
DISTRICT	BR
SHEET NO.	B10-12
COUNTY	JACKSON
JOB NO.	J411486D
CONTRACT ID.	240807-C01
PROJECT NO.	

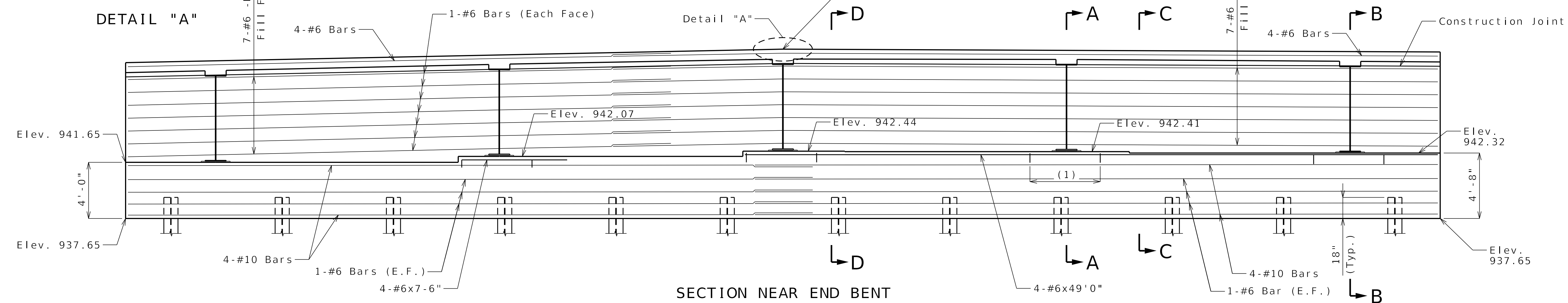
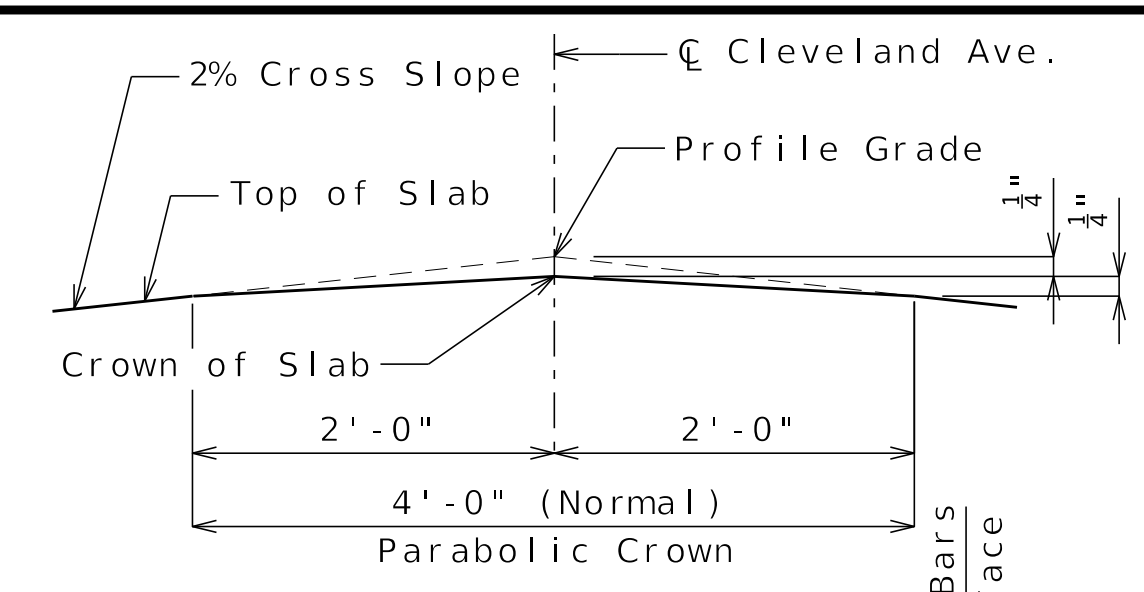
BRIDGE NO.
A9630

DATE	DESCRIPTION
06/25/25	REV 0 - RFC SUBMITTAL

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

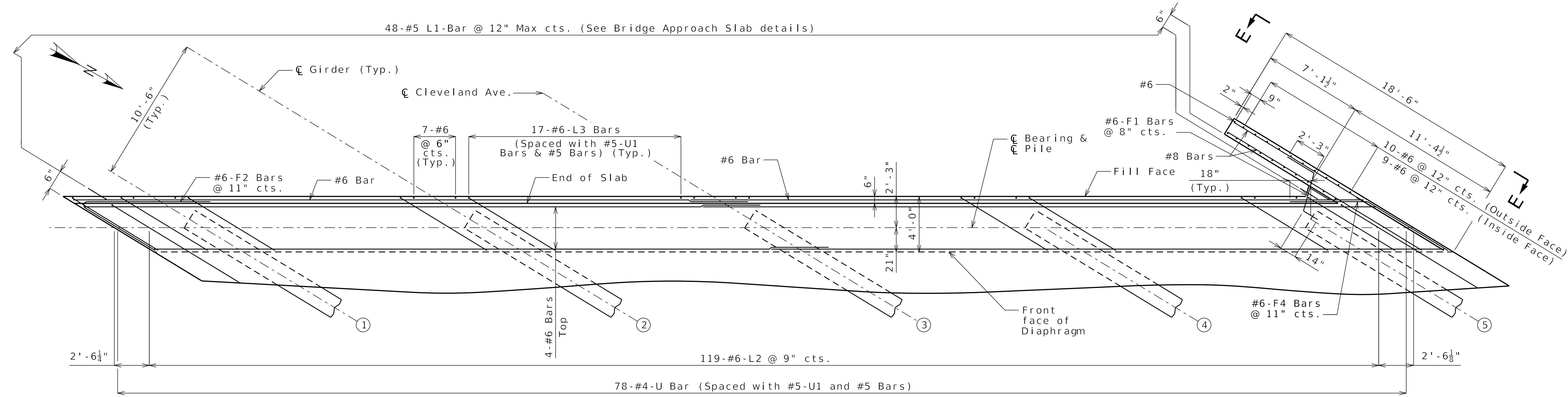
 105 WEST CAPITOL
 JEFFERSON CITY, MO 65102
 1-888-ASK-MODOT (1-888-275-6636)

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



(1) 11-#4-U4 Bars @ 6" Sp. under girders. Bars shall be placed normal to \bar{C} Bent and parallel to beam step. (Typ.)

Notes:
 Lap Splice for #6 bars = 4'-3" (Min.)
 Lap Splice for #10 bars = 7'-2" (Min.)

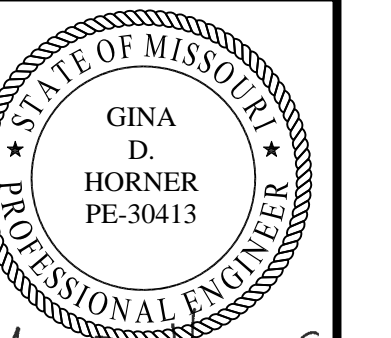


PLAN

General Notes:
 Work this sheet with Sheets No. B10-11 and B10-13.
 For Sections A-A, B-B, C-C and D-D and Elevation E-E, see Sheet No. B10-13.
 The #6-F bars shall be bent in the field to clear girders.
 (X) Denotes girder number

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 Package: BRD-10-Cleveland Ave.

DETAILS OF END BENT NO. 3



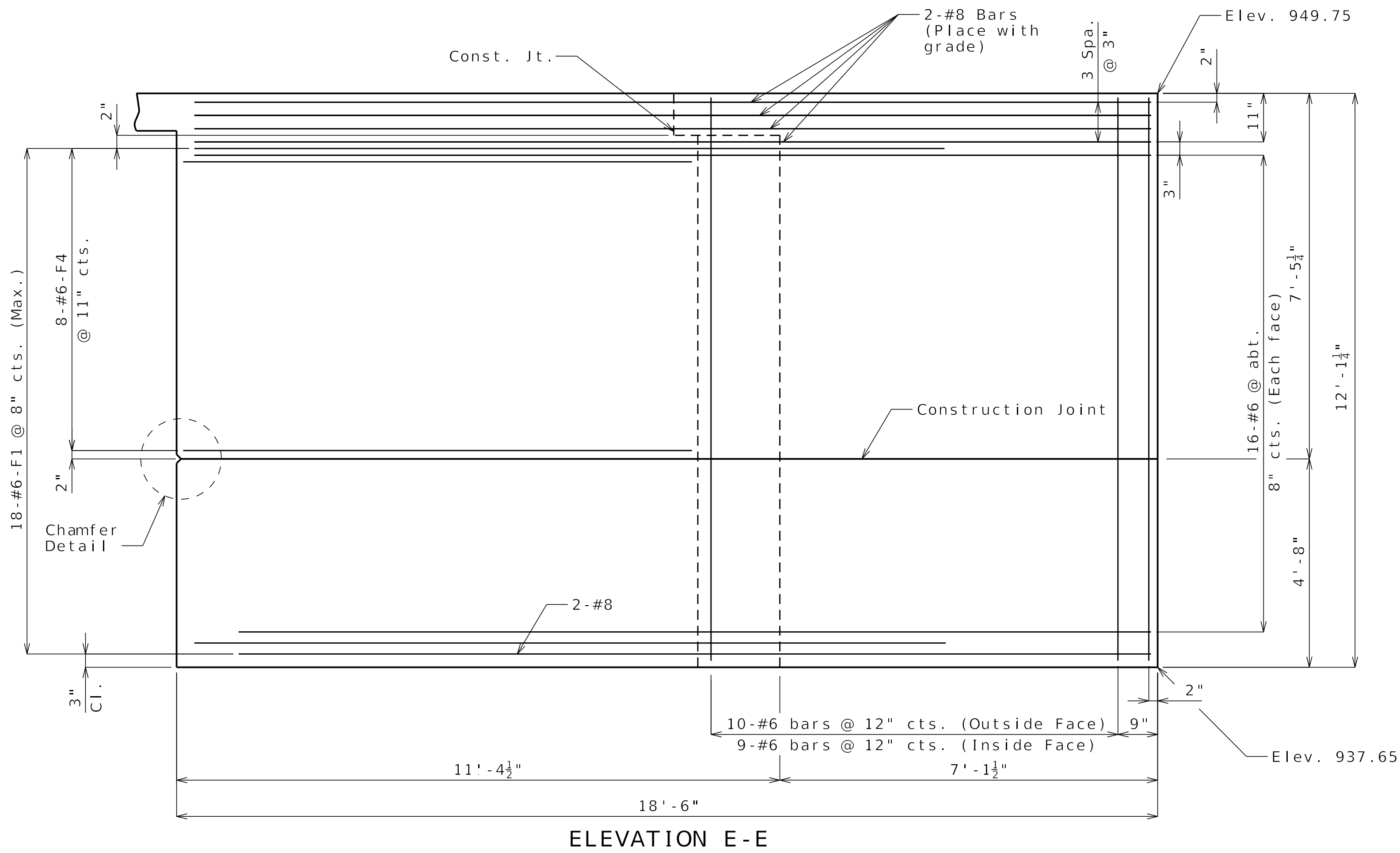
Gina D. Horner
 07/02/25
 DATE PREPARED
 06/25/2025
 ROUTE 1-70 STATE MO
 DISTRICT BR SHEET NO. B10-13
 COUNTY JACKSON
 JOB NO. J411486D
 CONTRACT ID. 240807-C01
 PROJECT NO.

BRIDGE NO. A9630

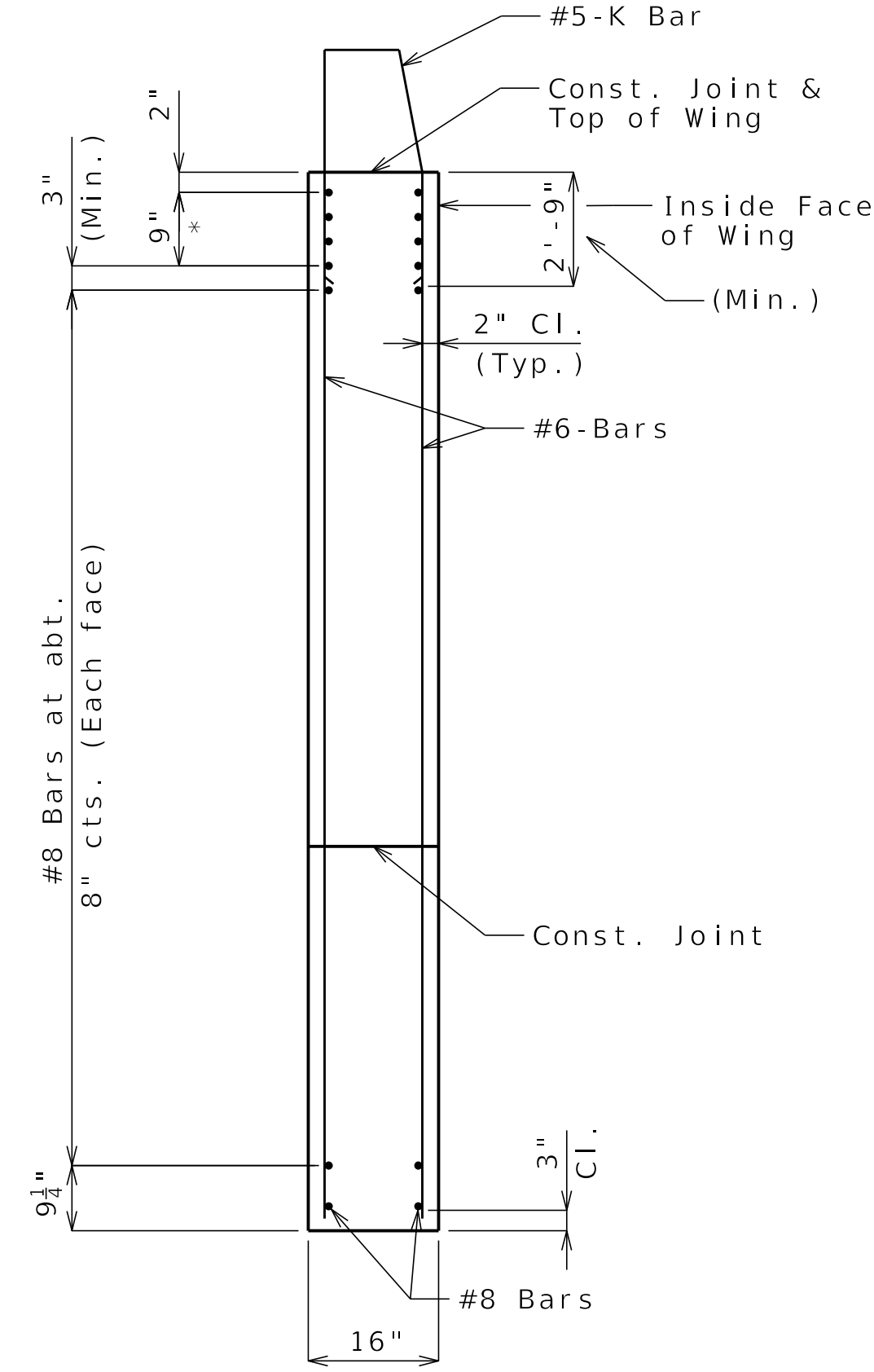
DATE	DESCRIPTION
06/25/25	REV 0 - RFC SUBMITTAL

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

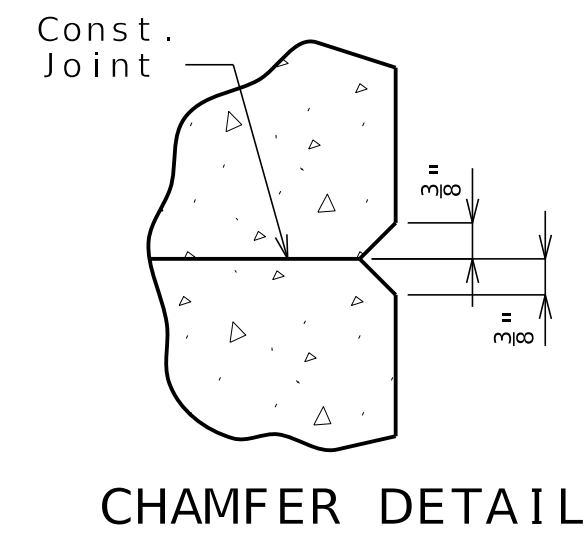


ELEVATION E-E

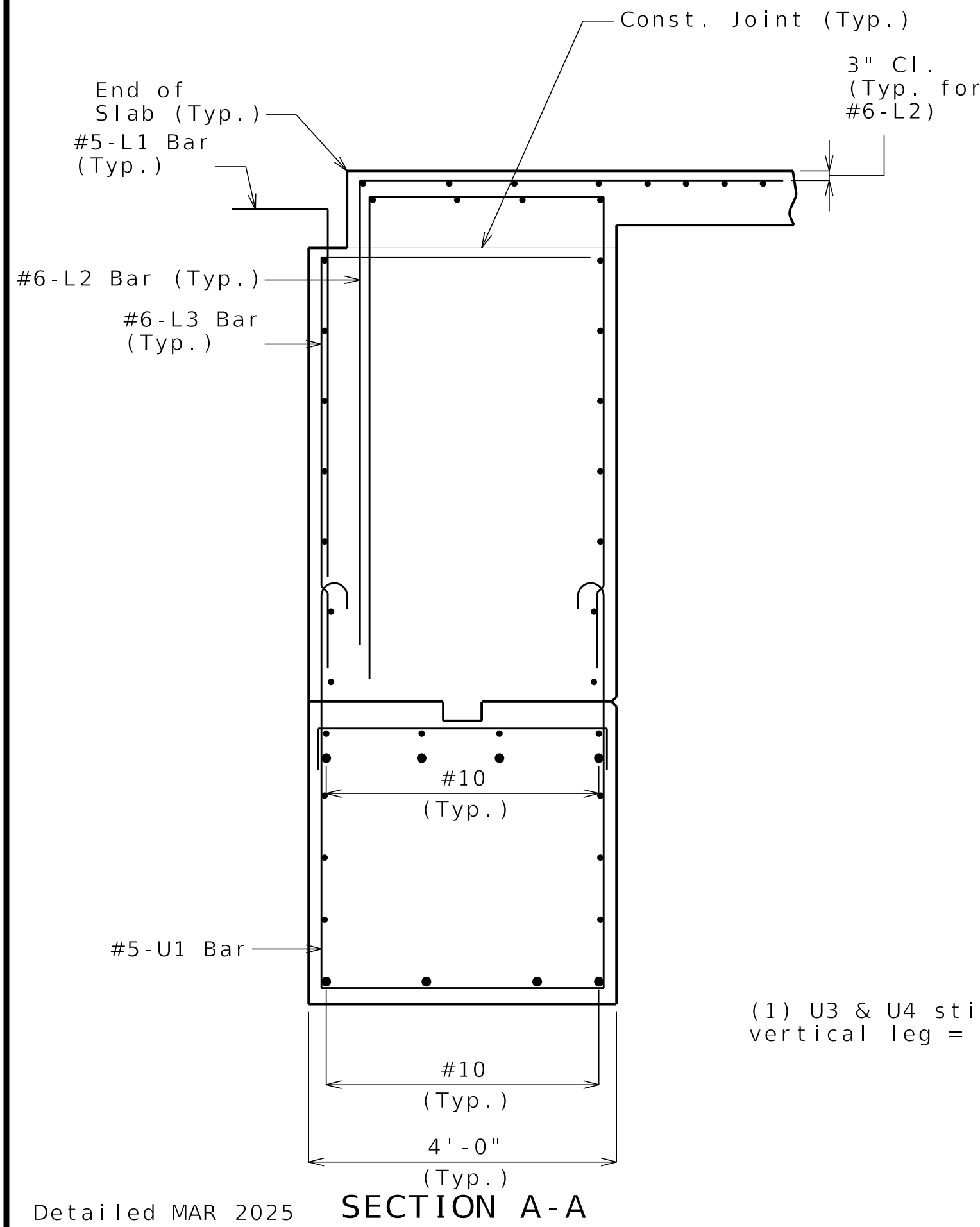


TYPICAL SECTION THRU WING

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

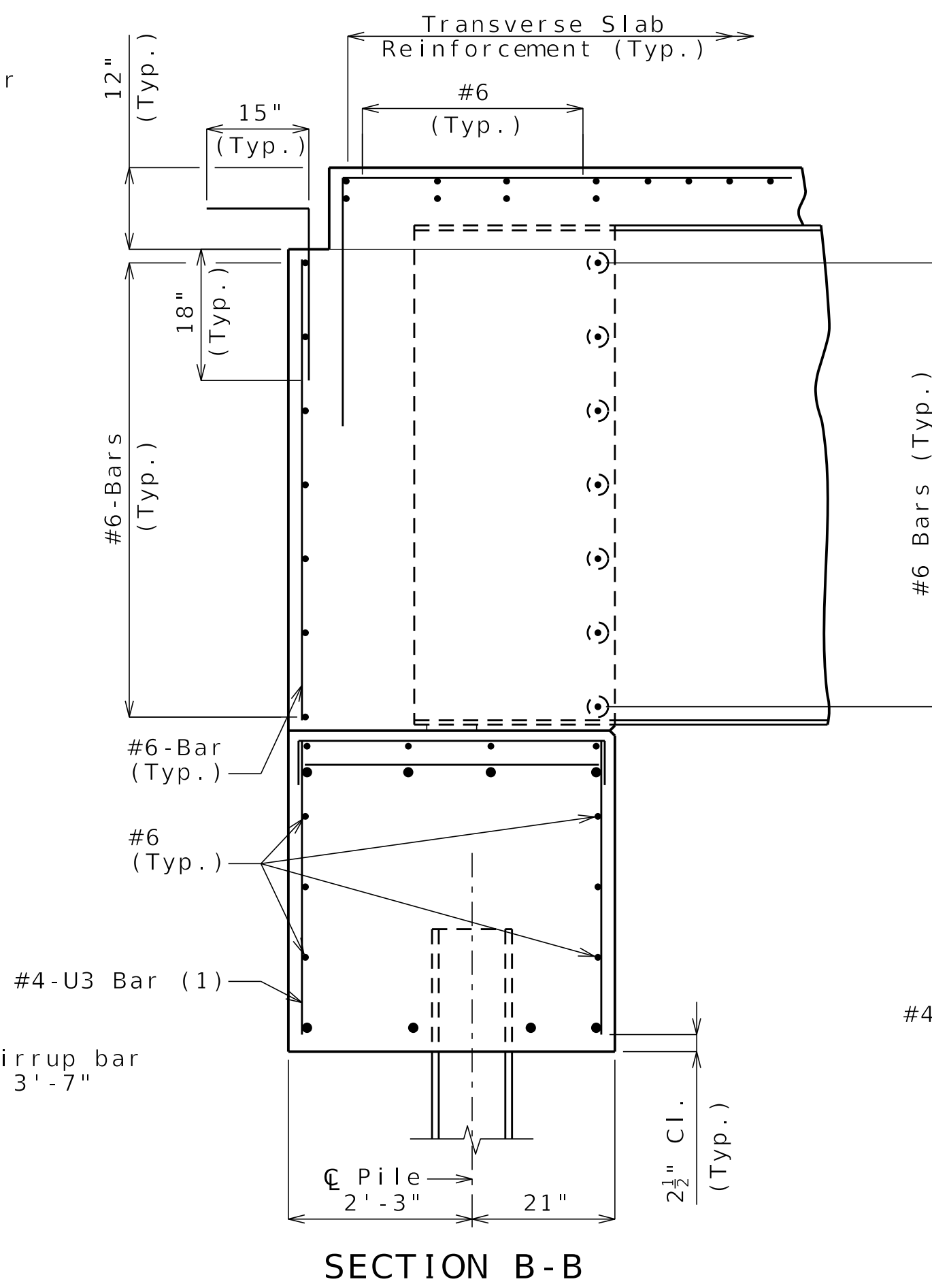


CHAMFER DETAIL



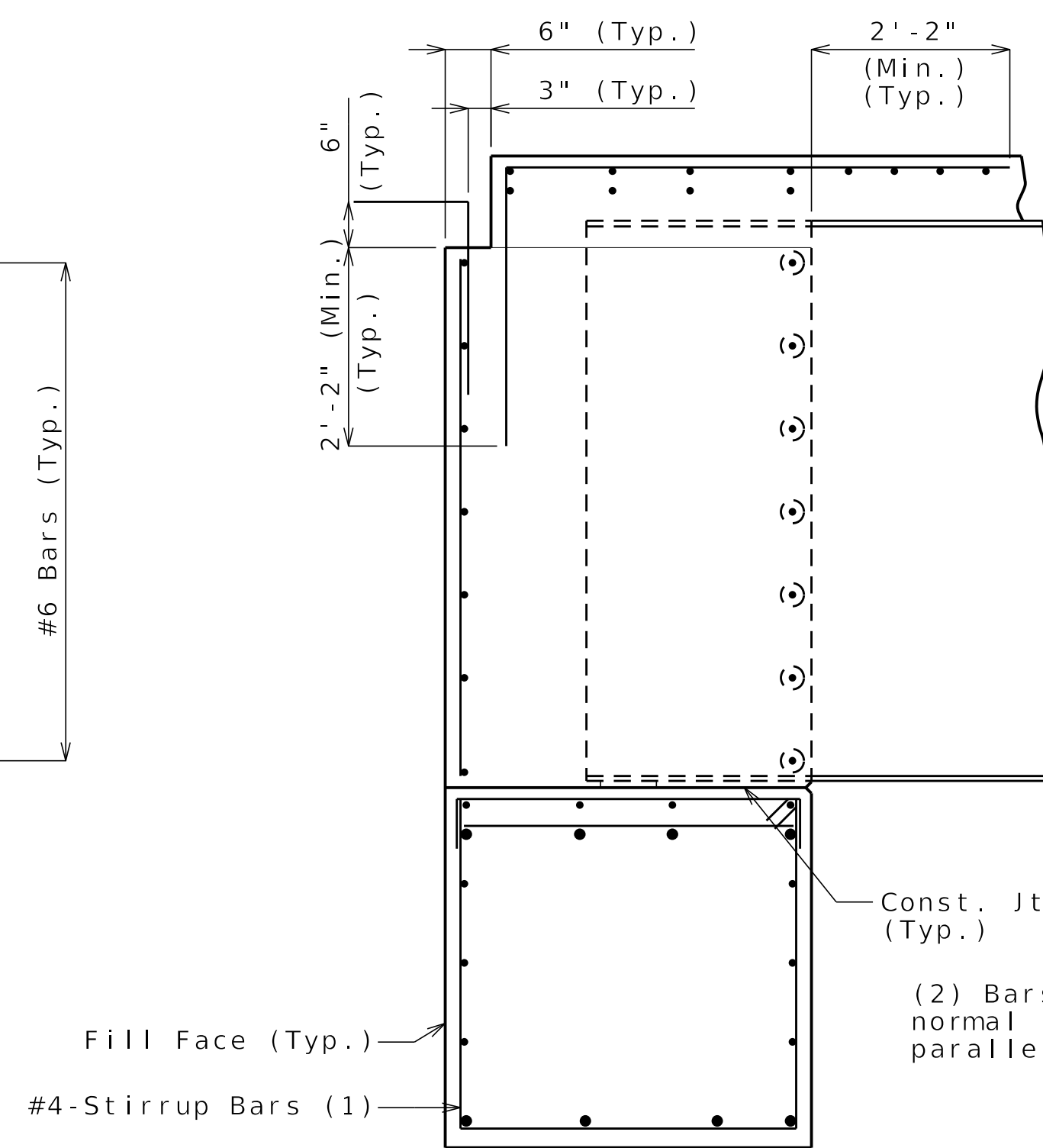
SECTION A-A

(1) U3 & U4 stirrup bar vertical leg = 3'-7"



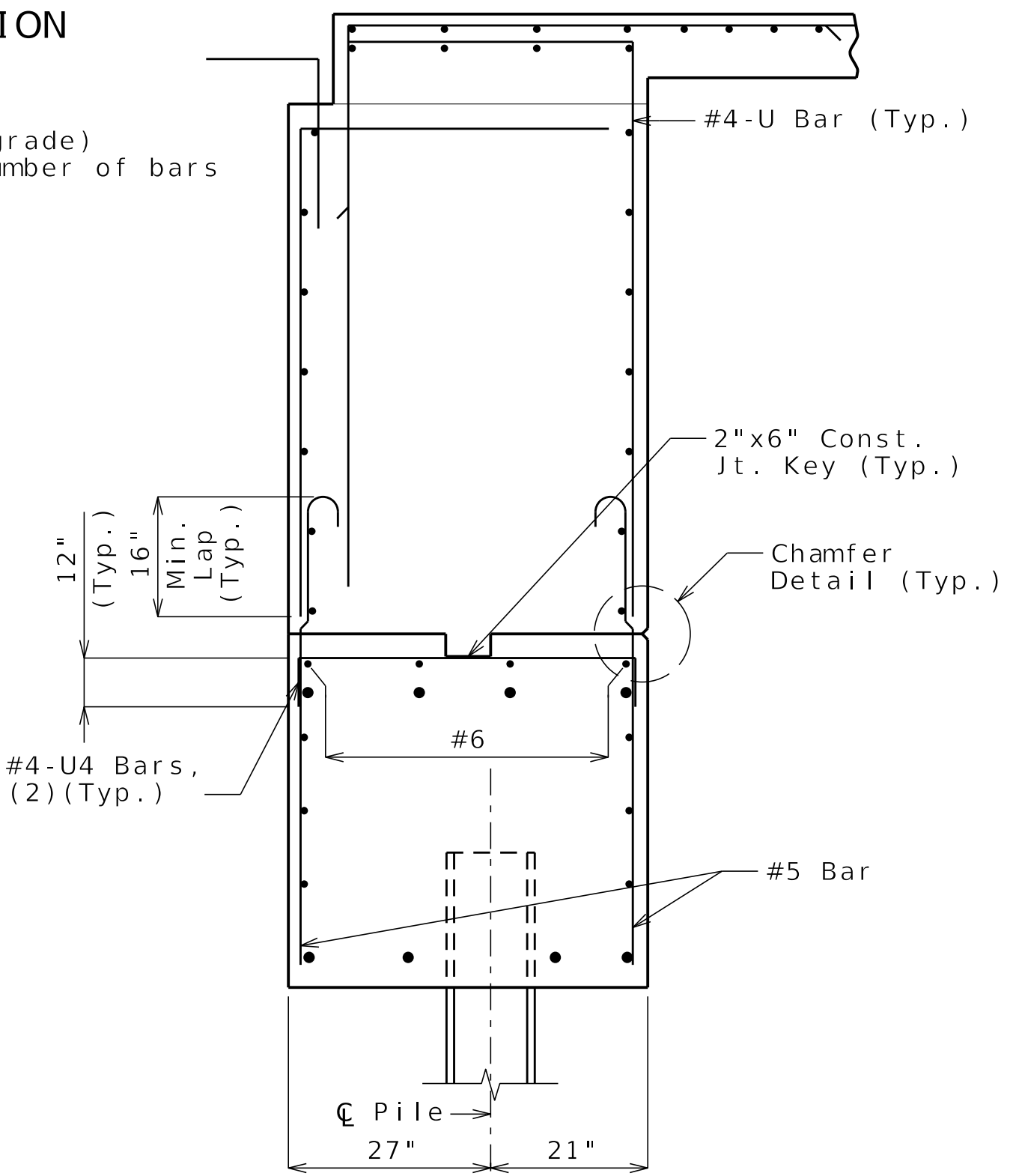
SECTION B-B

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



SECTION C-C

(2) Bars shall be placed normal to C Bent and parallel to beam step.



SECTION D-D

General Notes:
 Work this sheet with Sheets No. B10-11 and B10-12.
 For location of Sections A-A, B-B, C-C, D-D and Elevation E-E, see Sheet No. B10-12.
 For reinforcement of the Type D Barrier, see Sheet No. B10-29.

DETAILS OF END BENT NO. 3

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 Date: 07/07/2025
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07/02/25

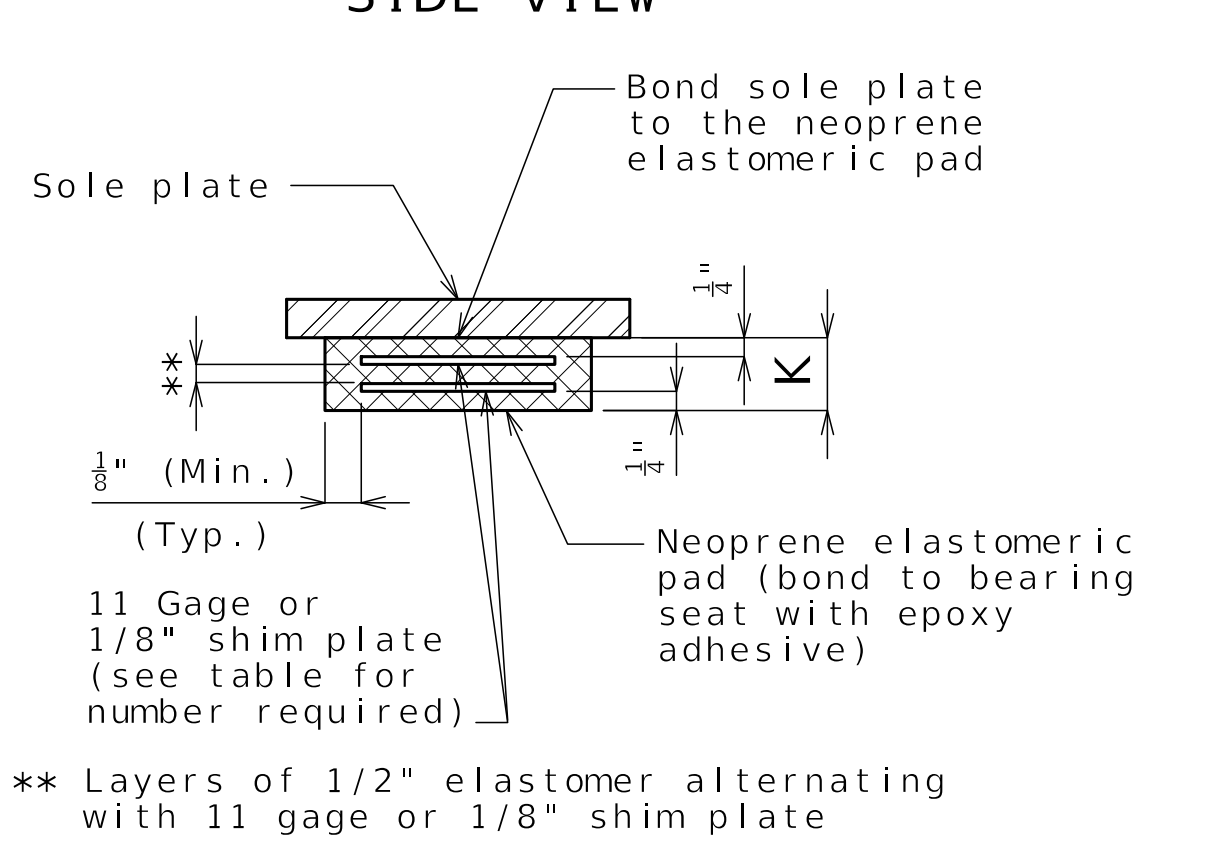
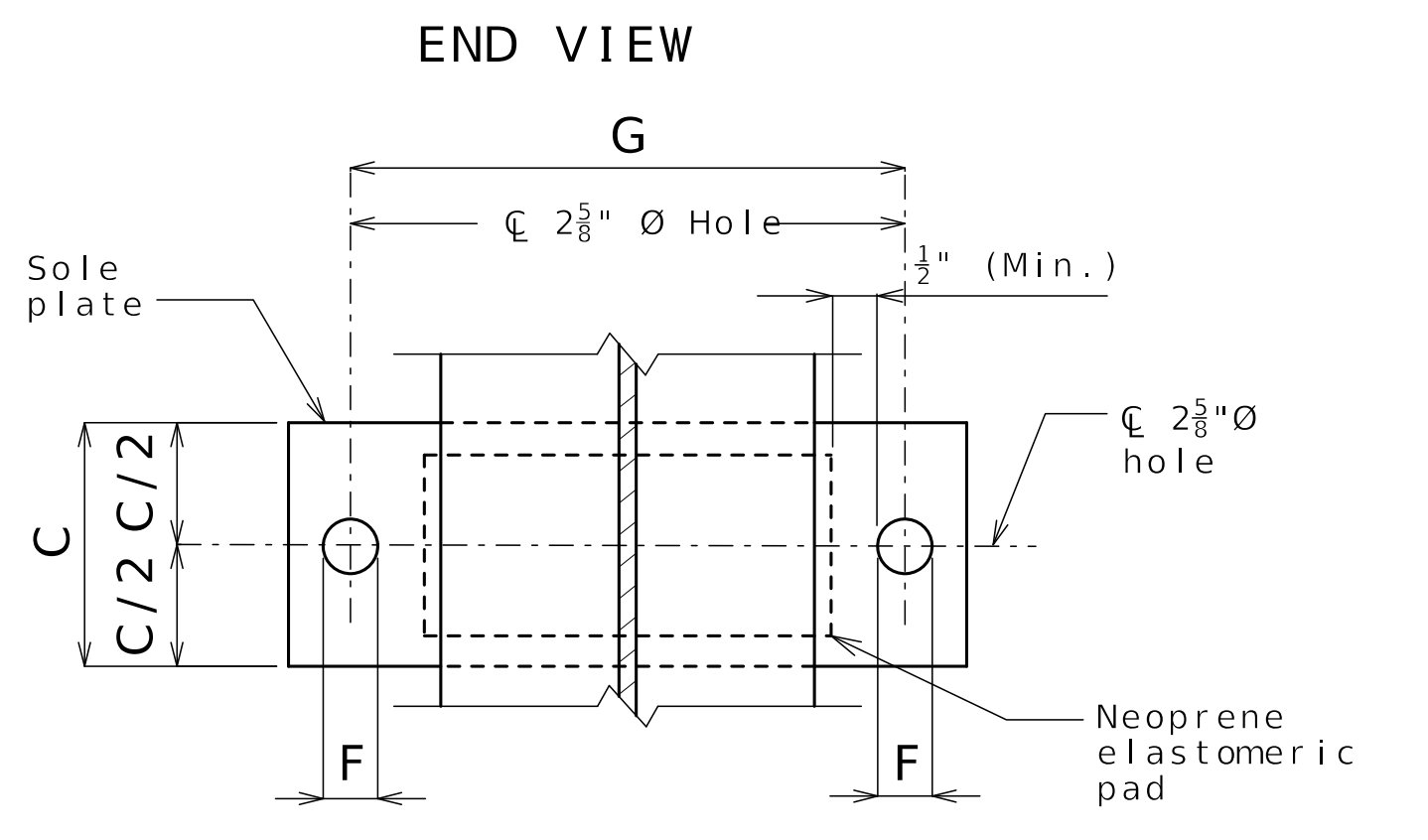
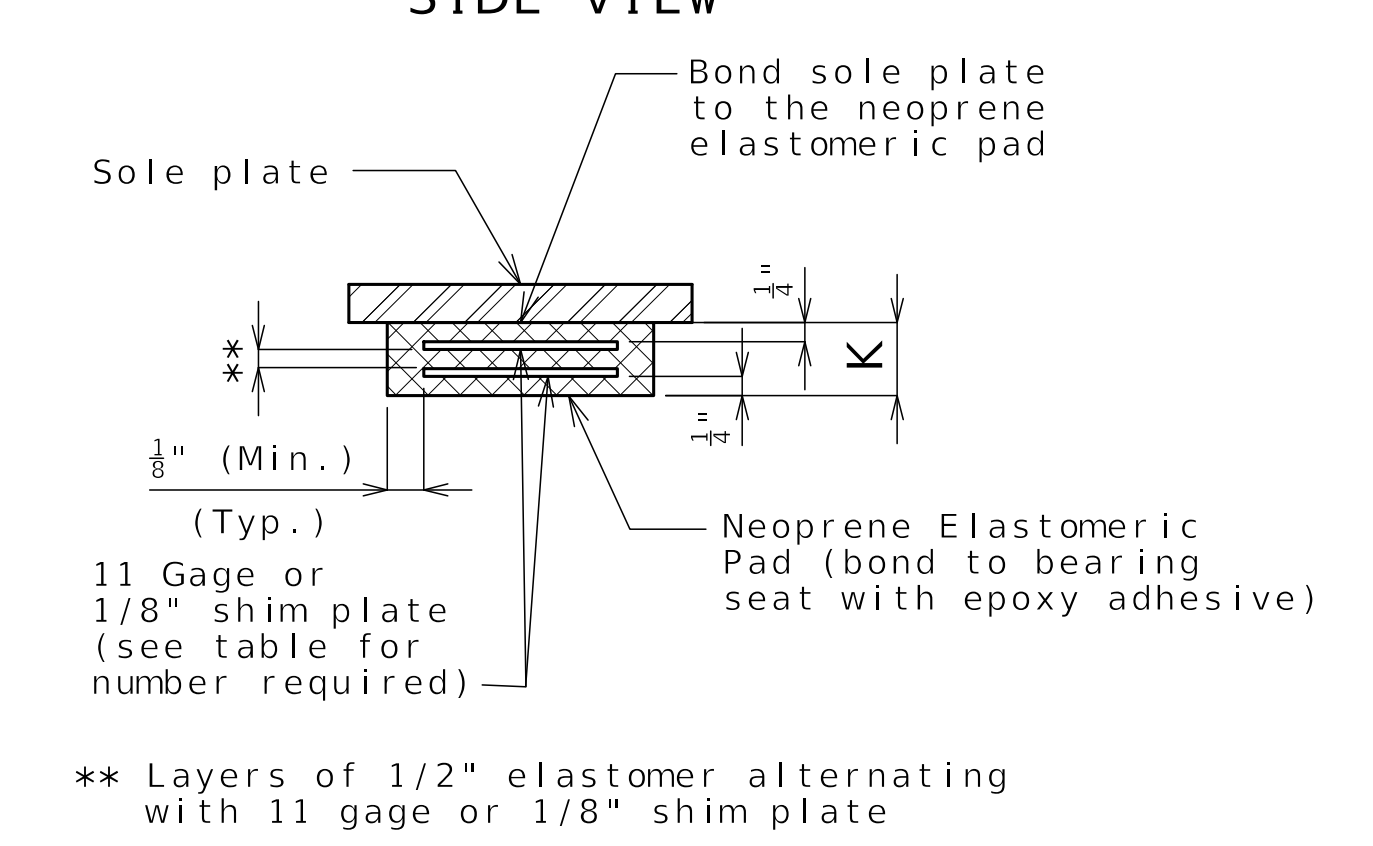
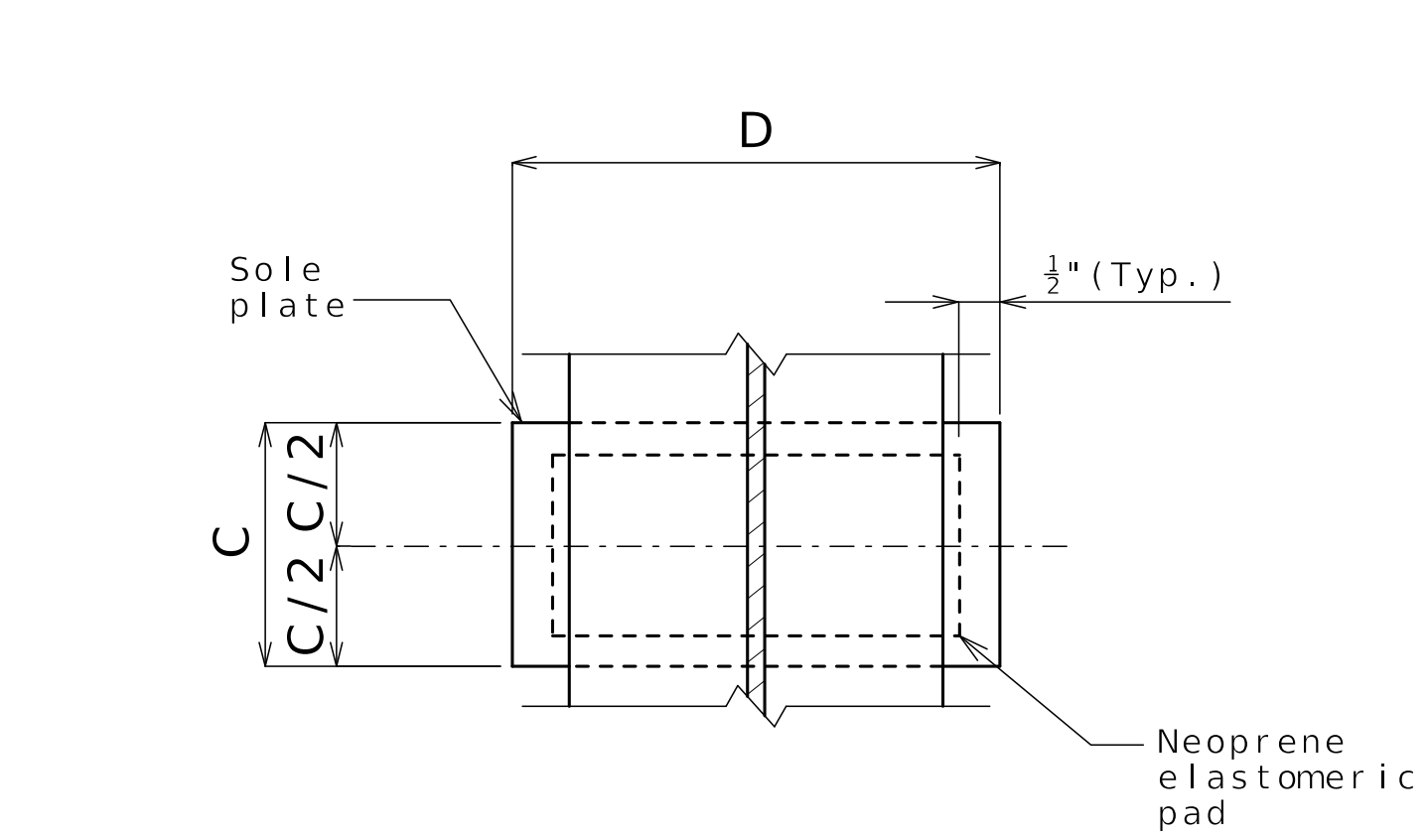
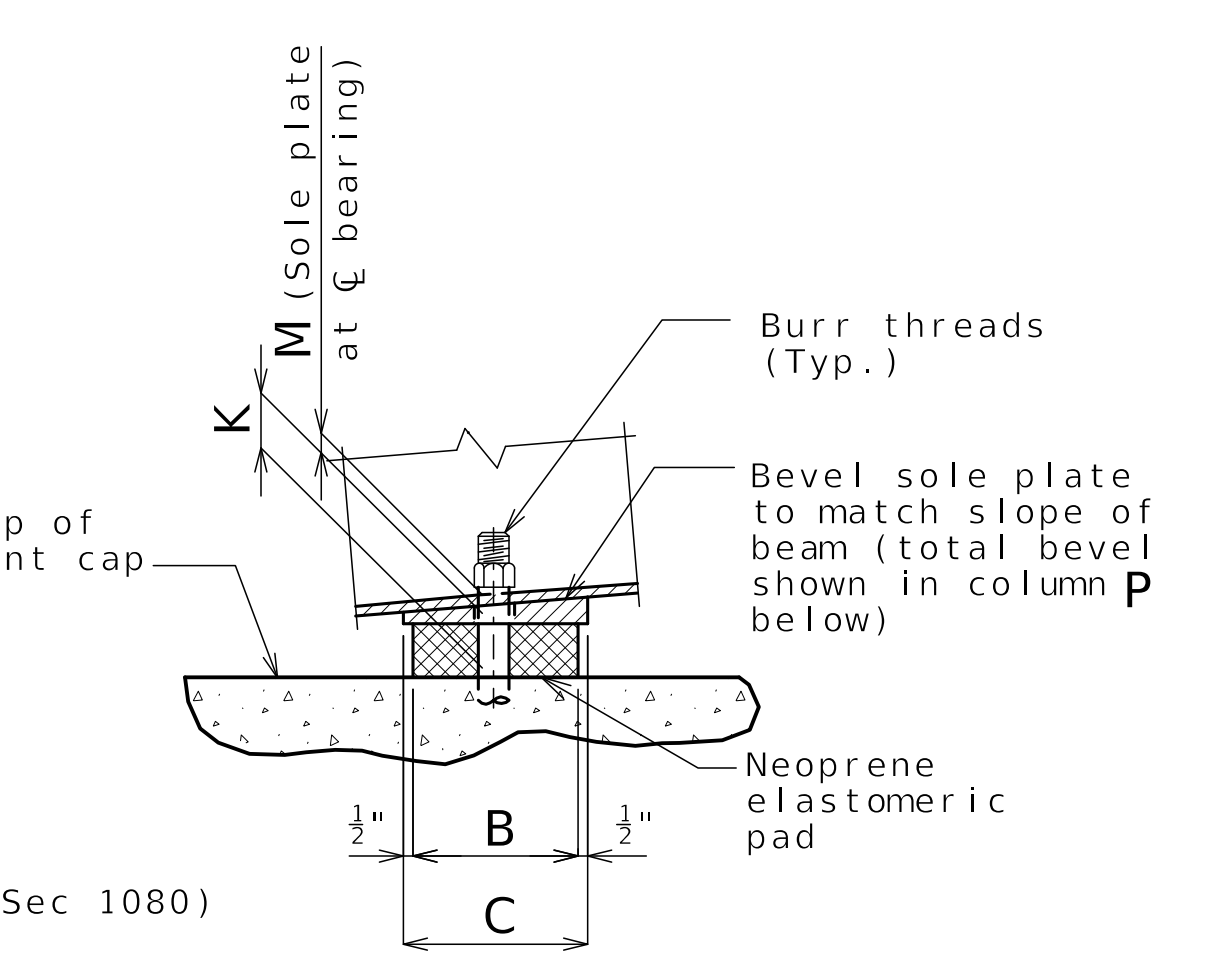
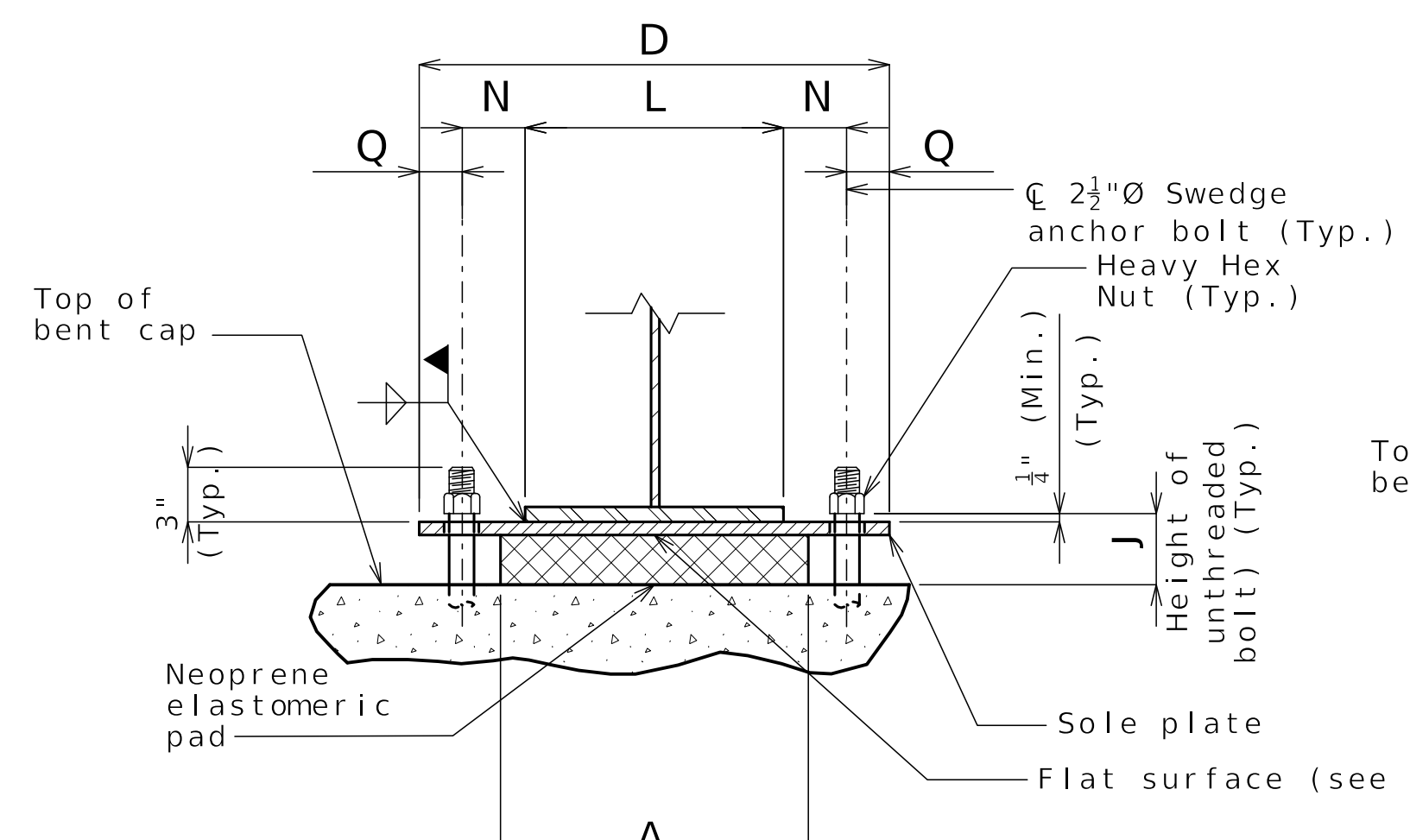
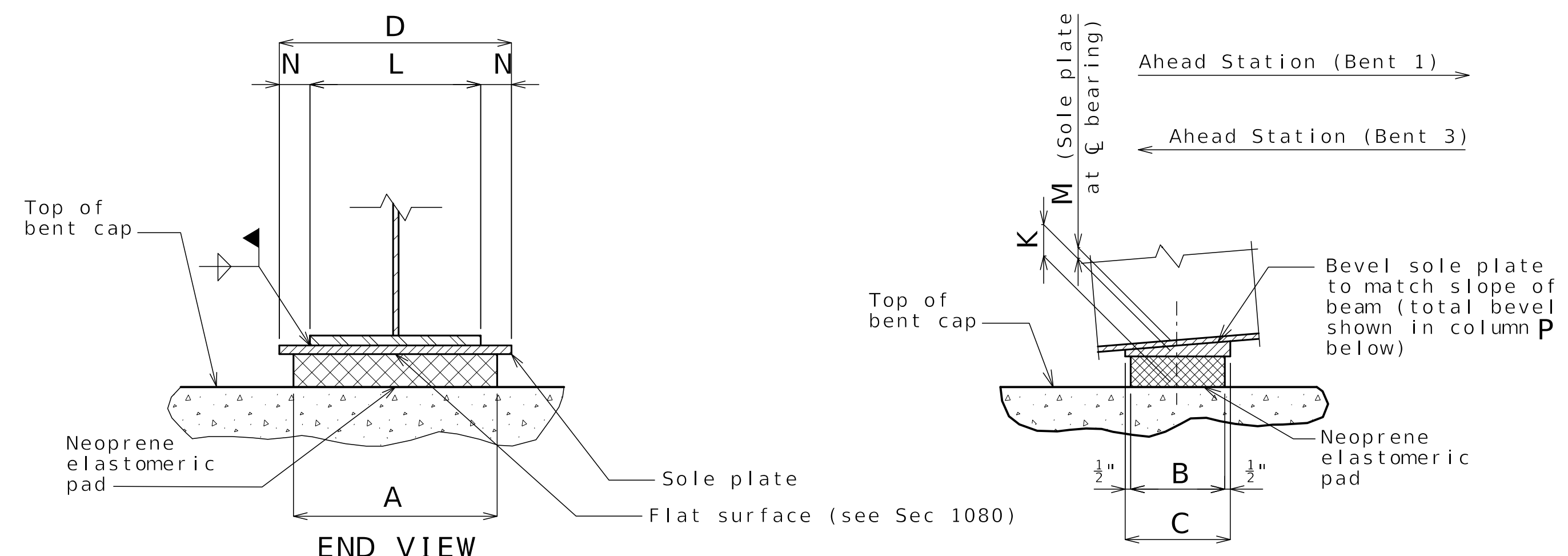
DATE PREPARED
06/25/2025
ROUTE 1-70 STATE MO
DISTRICT BR SHEET NO. B10-14
COUNTY JACKSON
JOB NO. J411486D
CONTRACT ID. 240807-C01
PROJECT NO.

BRIDGE NO. A9630

DATE	DESCRIPTION
06/25/25 <td>REV 0 - RFC SUBMITTAL</td>	REV 0 - RFC SUBMITTAL

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
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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



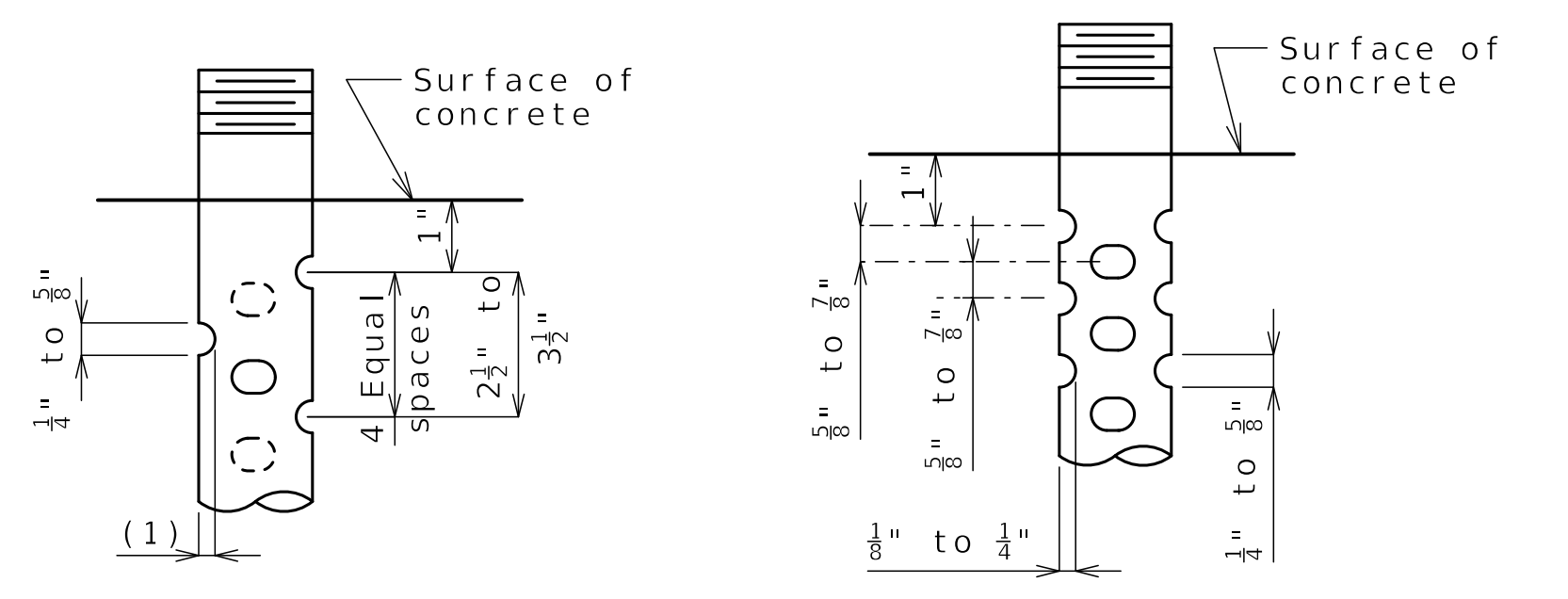
BENTS 1 & 3 FIXED BEARINGS											
BENT NO.	A	B	C	D	K	L	M	N	P	NUMBER OF SHIM PLATES *	NUMBER REQUIRED
1	20"	20"	21"	21"	3 3/8"	18"	1 1/2"	1 1/2"	1 1/2"	5	5
3	20"	18"	19"	21"	3 3/8"	18"	1 1/2"	1 1/2"	1 1/8"	5	5
TOTAL BEARINGS											10

* The required shim plate shall be placed between layers of elastomer and molded together to form an integral unit.

BENT 2 FIXED BEARINGS															
BENT NO.	A	B	C	D	F	G	J	K	L	M	N	P	Q	NUMBER OF SHIM PLATES *	NUMBER REQUIRED
2, G1 & G5	36"	18"	19"	47 3/4"	2 5/8"	40 1/4"	6 3/8"	4 3/8"	32"	1 1/2"	4 1/8"	1 1/8"	3 3/4"	7	2
2, G2 - G4	36"	18"	19"	47 3/4"	2 5/8"	40 1/4"	6 3/8"	4 3/8"	30"	1 1/2"	5 1/8"	1 1/8"	3 3/4"	7	3
TOTAL BEARINGS															5

* The required shim plate shall be placed between layers of elastomer and molded together to form an integral unit.

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Revision: 0.0
Date: 07/07/2025
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DETAIL OF 3/4" Ø THRU 2 1/2" Ø ANCHOR BOLTS
OPTIONAL DETAIL OF 1 3/8" Ø THRU 2 1/2" Ø ANCHOR BOLTS

SWEDGE ANCHOR BOLT DETAILS
(1) 3/8" to 1/2" for 1 3/8" Ø thru 2 1/2" Ø anchor bolts

LAMINATED NEOPRENE BEARING PAD ASSEMBLY

GENERAL NOTES:

- Anchor bolts shall be 2 1/2" Ø ASTM F1554 Grade 105 swaged bolts and shall extend 2'-1" into the concrete with ASTM A563 Grade DH Heavy Hex nuts. Actual manufacturer's certified mill test reports (chemical and mechanical) shall be provided. Swedging shall be 1" less than extension into the concrete.
- Anchor bolts and heavy hex nuts shall be galvanized in accordance with Sec. 1081.
- Neoprene Elastomeric Pads shall be 60 Durometer.
- Structural steel for sole plate shall be ASTM A709 Grade 50 and shall be coated with a minimum of two coats of inorganic zinc primer to provide a total dry film thickness of 4 mils minimum, 6 mils maximum.
- Laminated Neoprene Bearing Pad Assembly shall be in accordance with Sec 716.



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06-27-2025

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DISTRICT BR	SHEET NO. B10-15
COUNTY JACKSON	
JOB NO. J411486D	
CONTRACT ID. 240807-C01	
PROJECT NO.	

BRIDGE NO.
A9630

DESCRIPTION	DATE
REV 0 - RFC SUBMITTAL	06/25/25

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

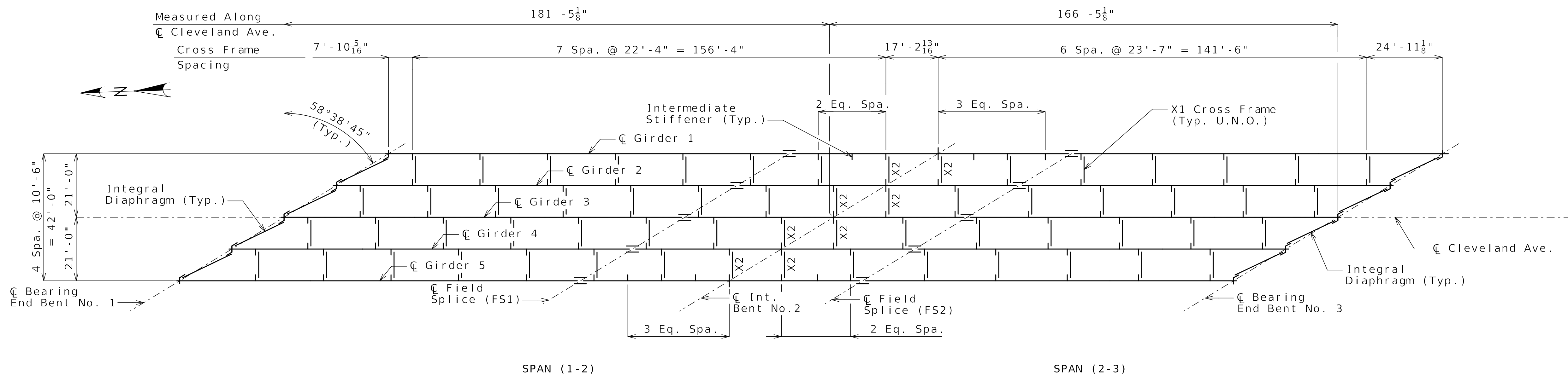
MoDOT

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



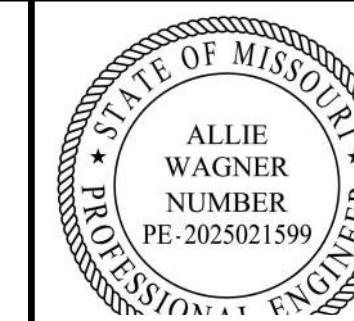
FRAMING PLAN

Notes:
 Longitudinal dimensions are horizontal and measured along $\text{\textcircled{C}}$ Girder, U.N.O. Cross Frame spacing is reported at $\text{\textcircled{C}}$ Connection PL or $\text{\textcircled{C}}$ Bearing Stiffener.
 Girders are parallel to $\text{\textcircled{C}}$ Cleveland Ave.
 Cross Frames are normal to $\text{\textcircled{C}}$ Cleveland Ave.
 For Girder Elevations, see Sheet No. B10-16.
 U.N.O. denotes unless noted otherwise.

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FRAMING PLAN



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06-27-2025

DATE PREPARED
06/25/2025

ROUTE STATE
I-70 MO

DISTRICT SHEET NO.
BR B10-16

COUNTY
JACKSON

JOB NO.
J411486D

CONTRACT ID.
240807-C01

PROJECT NO.

BRIDGE NO.
A9630

DESCRIPTION
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DATE
06/25/25

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105 WEST CAPITOL JEFFERSON CITY, MO 65102

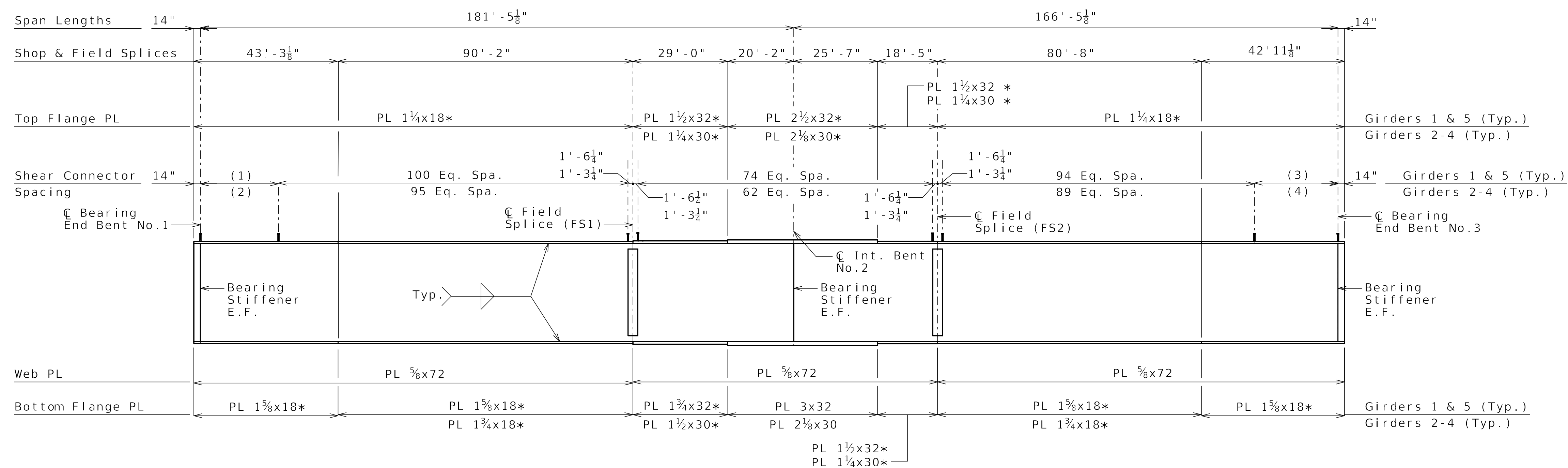
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CLARKSON RADMACHER JOINT VENTURE

715 KIRK DRIVE KANSAS CITY, MO 64105-1310

CERTIFICATE OF AUTHORITY NO. 001270

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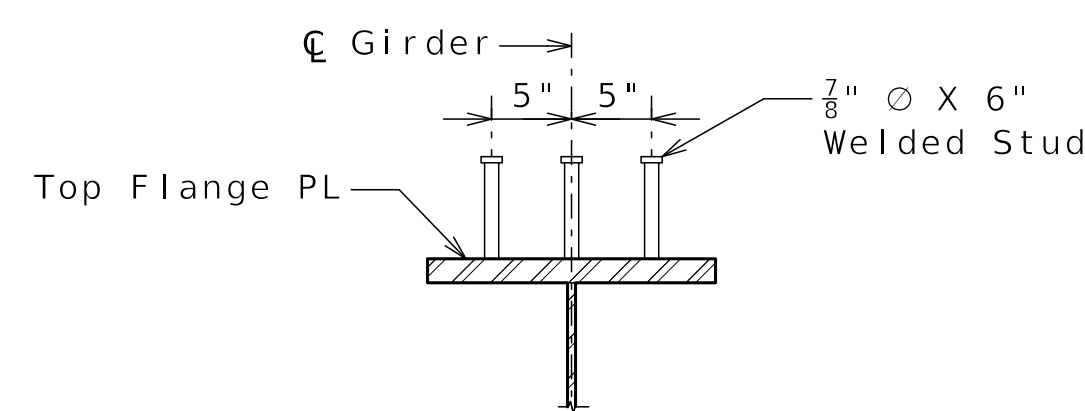


SPAN (1-2)

SPAN (2-3)

PART ELEVATION (GIRDERS 1-5)

- (1) 35 Spa. @ 9 1/2"
- (2) 10 Spa. @ 11 1/2"
- (3) 35 Spa. @ 8 3/4"
- (4) 10 Spa. @ 10"



SECTION AT SHEAR CONNECTORS

Shear connectors shall be in accordance with Sec. 712, 1037, and 1080

Notes:

- Longitudinal dimensions are horizontal and measured along \bar{C} Girder from \bar{C} bearing to \bar{C} bearing.
- For Framing Plan, see Sheet No. B10-15.
- Plate girders shall be fabricated in accordance with the Camber Diagram shown on Sheet No. B10-21.
- * Indicates flange plate subject to notch toughness requirements. All web plates shall be subject to notch toughness requirements.
- The flange and web splice plates shall be subject to notch toughness requirements when notch toughness is required for flanges on both sides of the splice.
- Fabricated structural steel shall be ASTM A709 Grade 50, except as noted.
- Bolt shall be 3/8-inch diameter ASTM F3125 Grade A325
- Type 1 bolts in 1 3/16-inch diameter holes.
- Intermediate stiffeners, cross frame connection plates and flange splice plates not shown for clarity.
- Intermediate stiffeners shall be located as shown in the plan of structural steel.
- For Misc. Steel Details including holes in girder webs at end bents, see Sheet No. B10-20.
- E.F. denotes each face.
- Cross Frames, Diaphragms, and their connections shall be fabricated to the steel dead load fit condition.

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GIRDER ELEVATION



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BR B10-17

COUNTY
JACKSON

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J411486D

CONTRACT ID.
240807-C01

PROJECT NO.

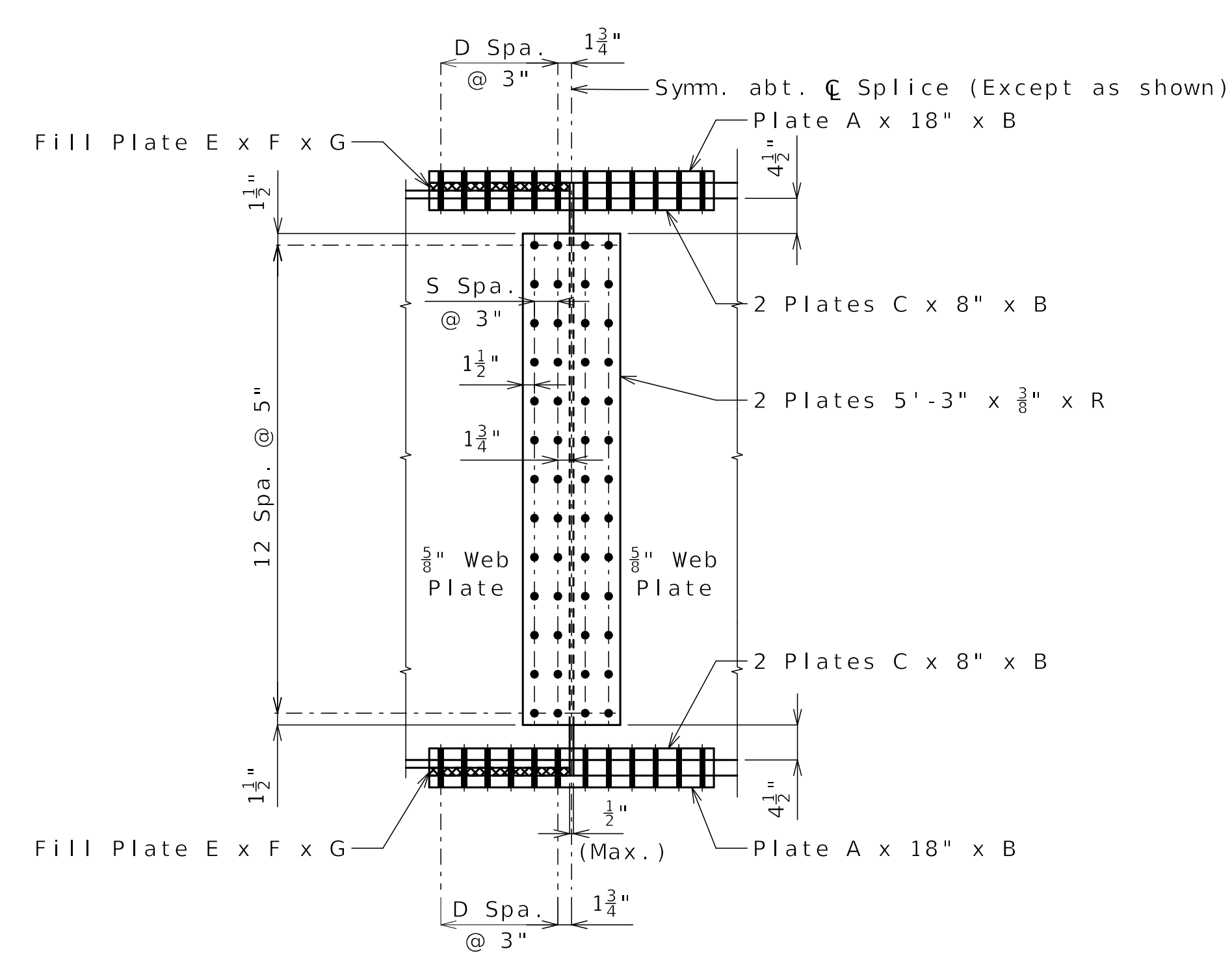
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CLARKSON RADMACHER JOINT VENTURE
 715 KIRK DRIVE KANSAS CITY, MO 64105-1310
 CERTIFICATE OF AUTHORITY NO. 001270

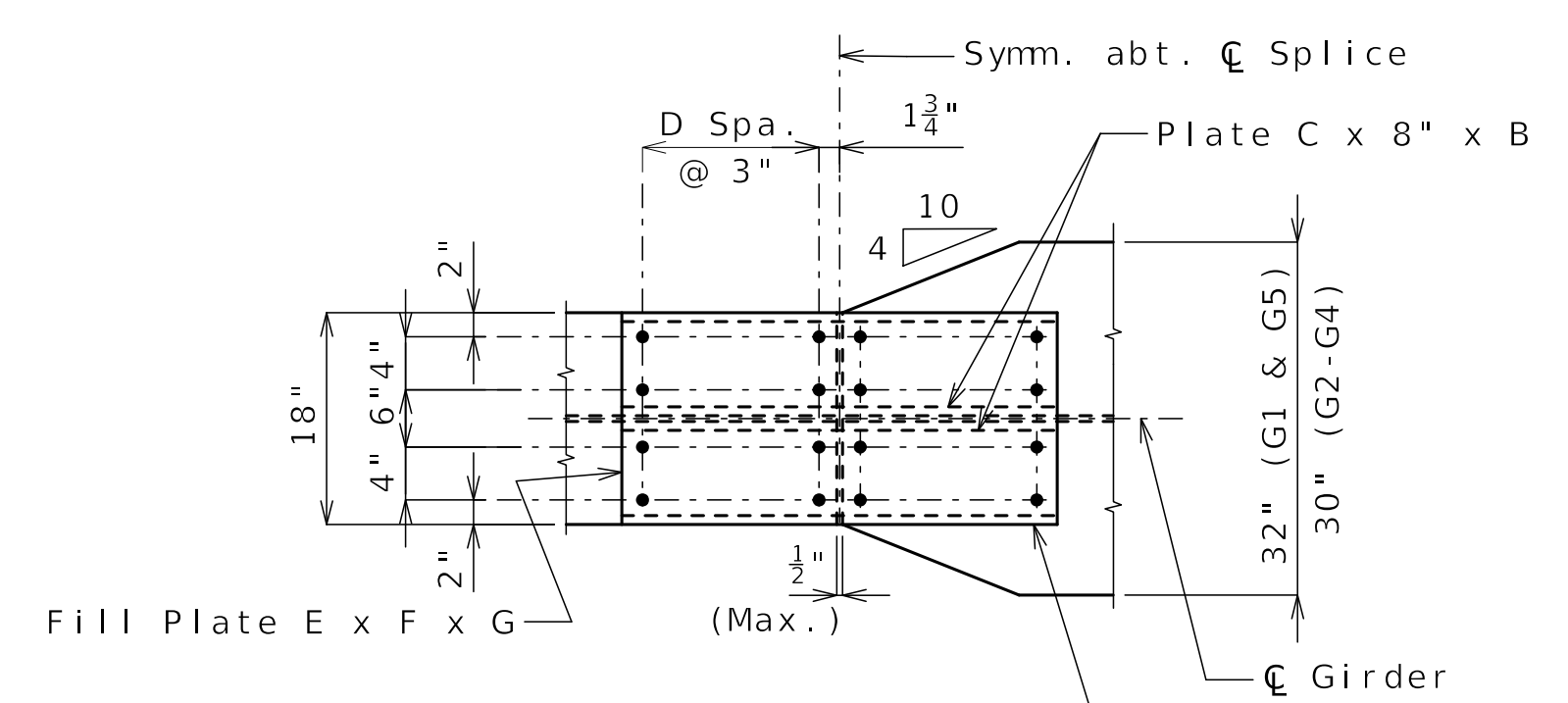


DETAIL OF BOLTED FIELD SPLICE

Bolts shall be 7/8-inch diameter ASTM F3125 Grade A325 Type 1 in 15/16-inch diameter holes.

Contact surfaces shall be in accordance with Sec 1081 for surface preparation

LOCATION	GIRDER	R	S
FS1	1, 5	12 1/2"	1
FS1	2-4	12 1/2"	1
FS2	1, 5	18 1/2"	2
FS2	2-4	12 1/2"	1

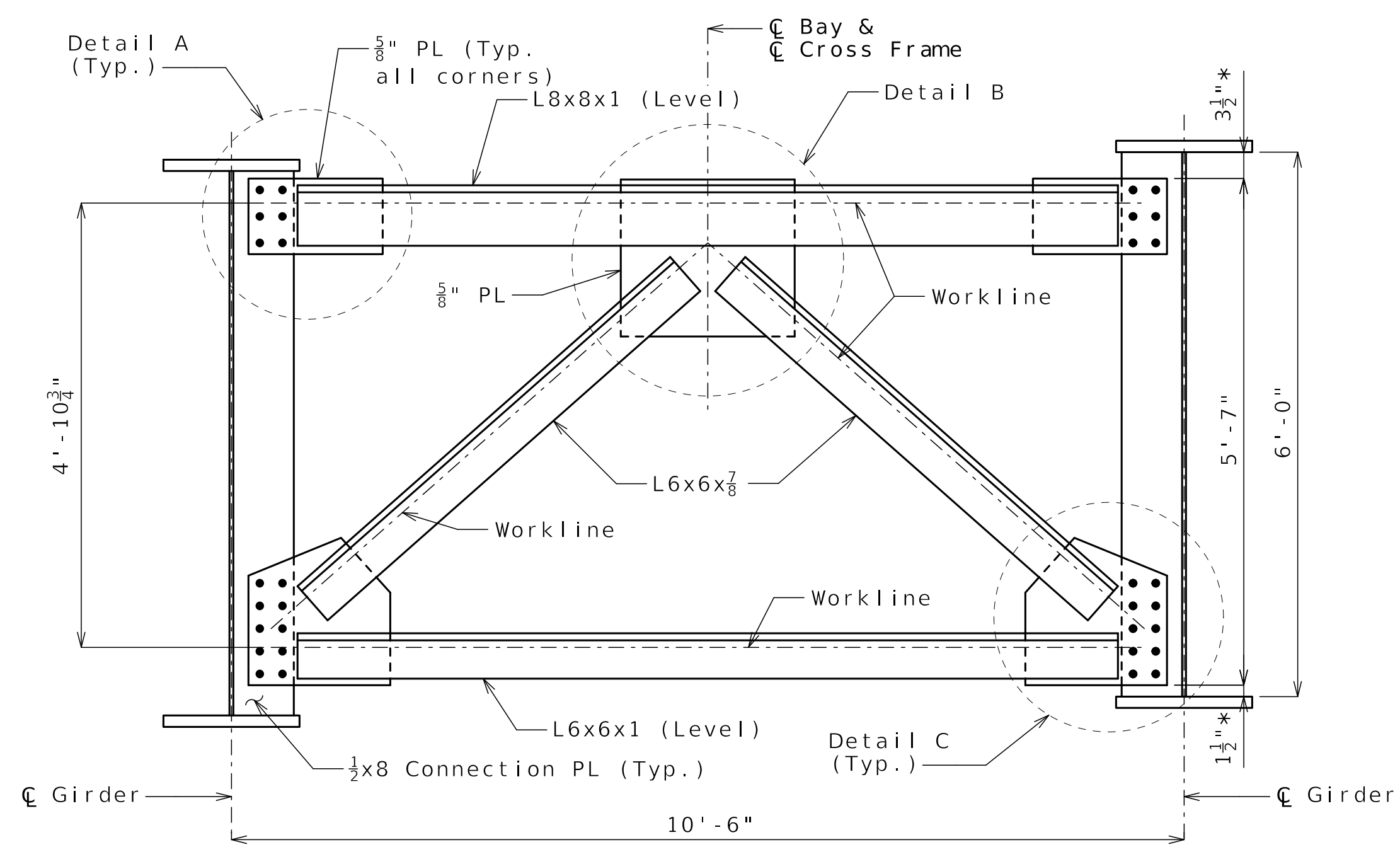


PLAN OF TOP AND BOTTOM FLANGE

TABLE OF DIMENSIONS - FIELD SPLICE									
	LOCATION	GIRDER	A	B	C	D	E	F	G
Top Flange Splice	FS1	1, 5	1 1/4"	2' - 6 1/2"	1 1/4"	4	18"	1' - 3"	
	FS1	2-4	1 1/4"	2' - 0 1/2"	7/8"	3	-	-	
Bottom Flange Splice	FS2	1, 5	1 1/4"	2' - 6 1/2"	1 1/4"	4	18"	1' - 3"	
	FS2	2-4	1"	2' - 0 1/2"	7/8"	3	-	-	
Top Flange Splice	FS1	1, 5	7/8"	3' - 0 1/2"	1 1/8"	5	18"	1' - 6"	
	FS1	2-4	1"	3' - 0 1/2"	1 1/8"	5	18"	1' - 6"	
Bottom Flange Splice	FS2	1, 5	7/8"	3' - 0 1/2"	1 1/8"	5	18"	1' - 6"	
	FS2	2-4	1"	3' - 6 1/2"	1 1/8"	6	18"	1' - 6"	

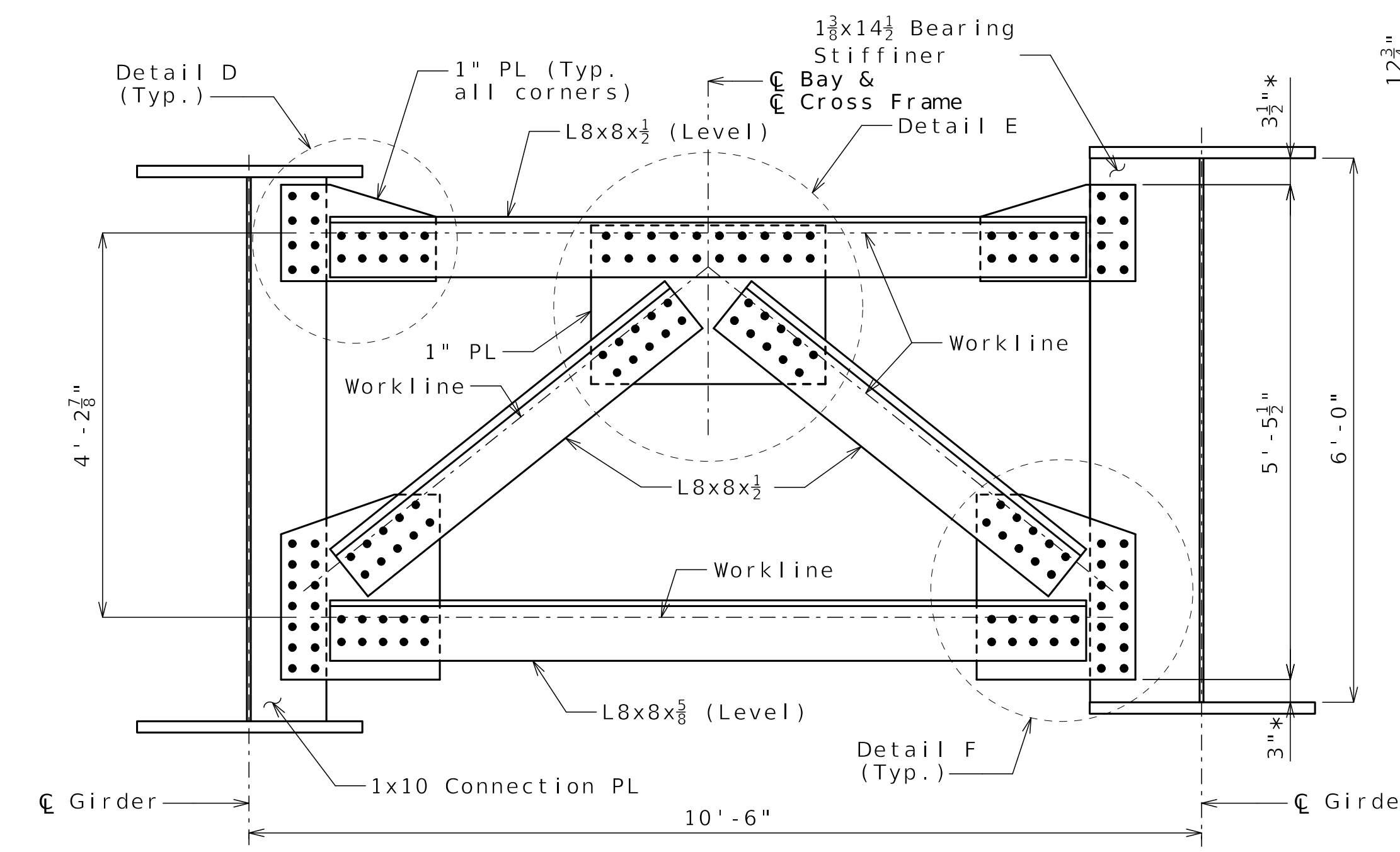
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FIELD SPLICE DETAILS

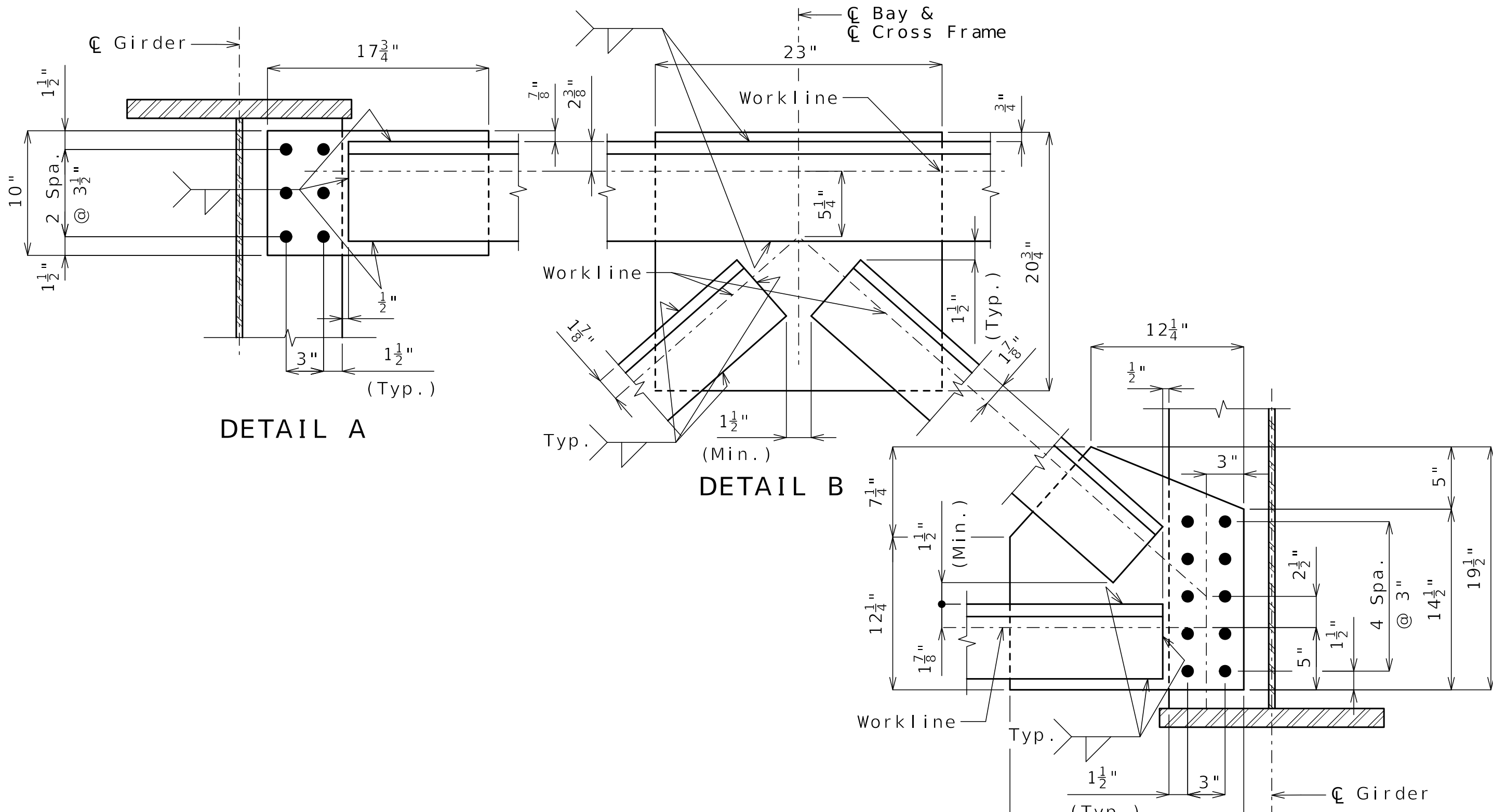


* at high girder

TYPICAL PART SECTION SHOWING INTERMEDIATE CROSS FRAME X1

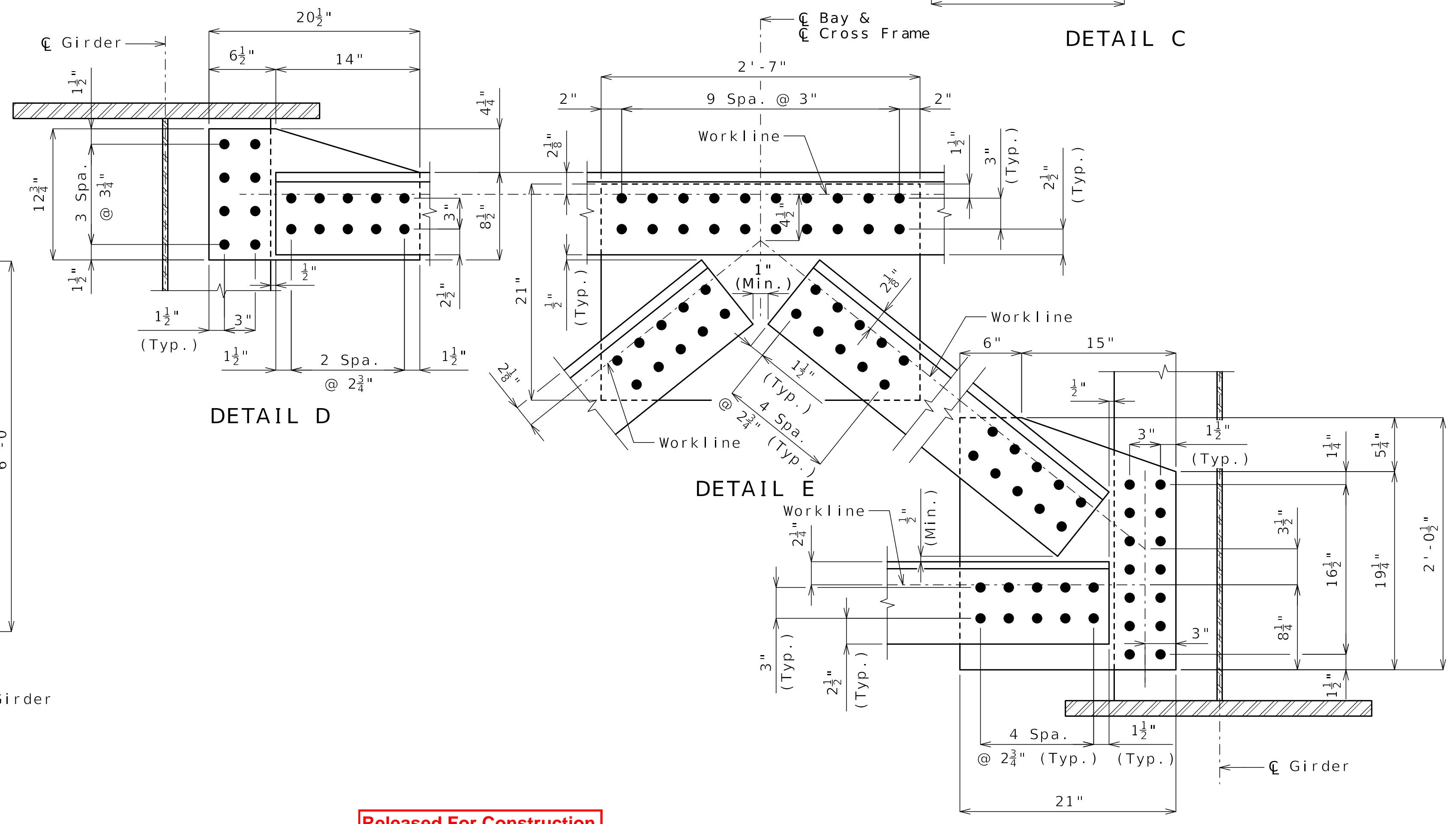


TYPICAL PART SECTION SHOWING SUPPORT CROSS FRAME X2



DETAIL A

DETAIL B



DETAIL C

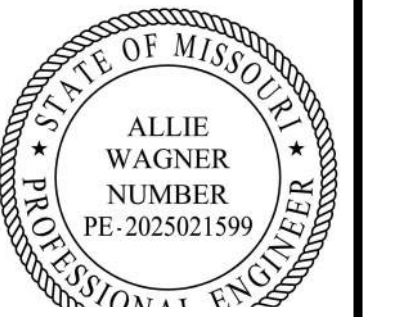
DETAIL D

DETAIL E

DETAIL F

CROSS FRAME DETAILS

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CONTRACT ID. 240807-C01	
PROJECT NO.	

BRIDGE NO. A9630

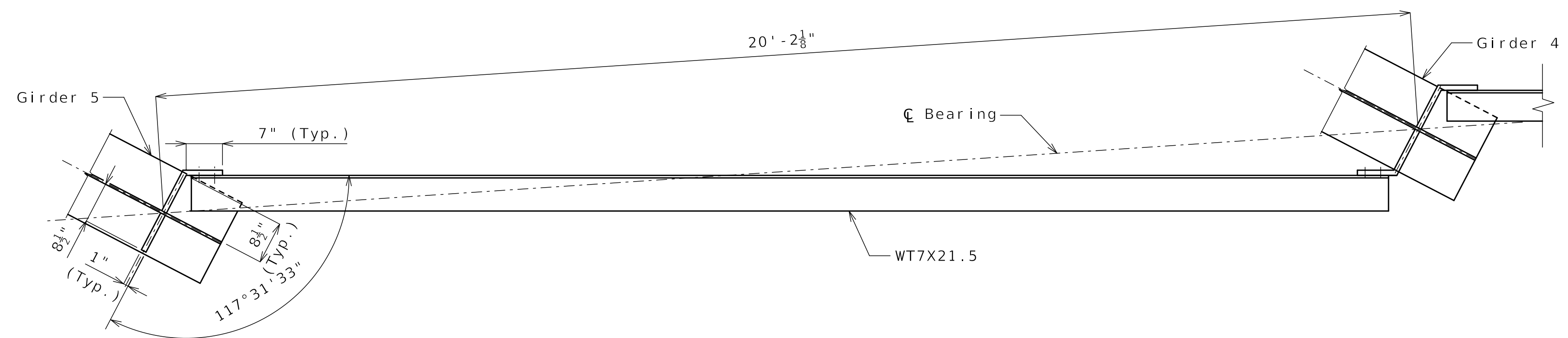
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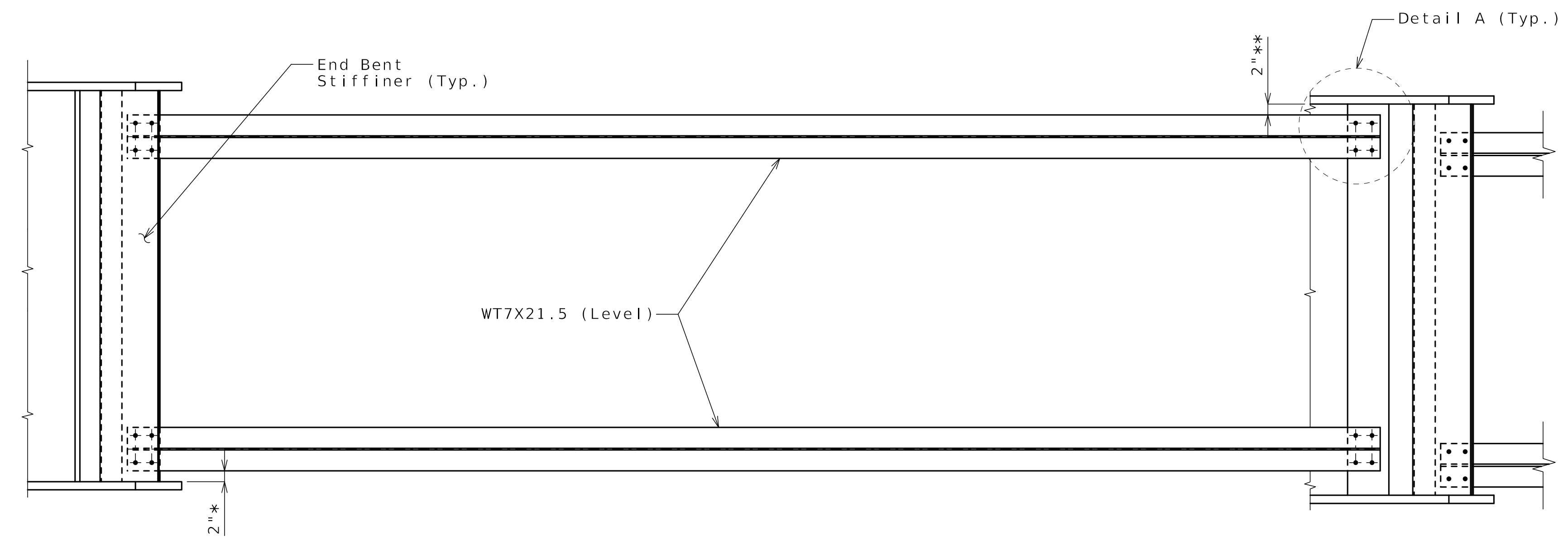
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CLARKSON RADMACHER JOINT VENTURE

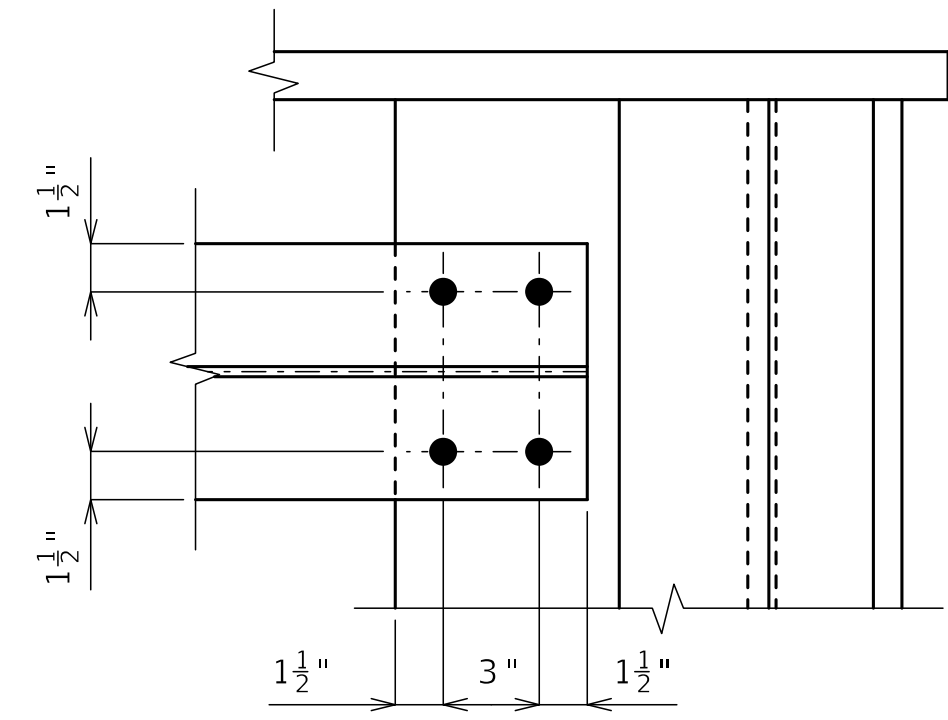
715 KIRK DRIVE
KANSAS CITY, MO 64105-1310
CERTIFICATE OF AUTHORITY
NO. 001270



TYPICAL PART PLAN SHOWING INTEGRAL DIAPHRAGM
(Show at End Bent No. 1. End Bent No. 3 Similar)



TYPICAL PART SECTION SHOWING INTEGRAL DIAPHRAGM
(Show at End Bent No. 1. End Bent No. 3 Similar)



DETAIL A

* at high girder
** at low girder

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INTEGRAL DIAPHRAGM DETAILS



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ROUTE I-70	STATE MO
DISTRICT BR	SHEET NO. B10-19
COUNTY JACKSON	
JOB NO. J411486D	
CONTRACT ID. 240807-C01	
PROJECT NO.	

BRIDGE NO.
A9630

DATE	DESCRIPTION
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MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

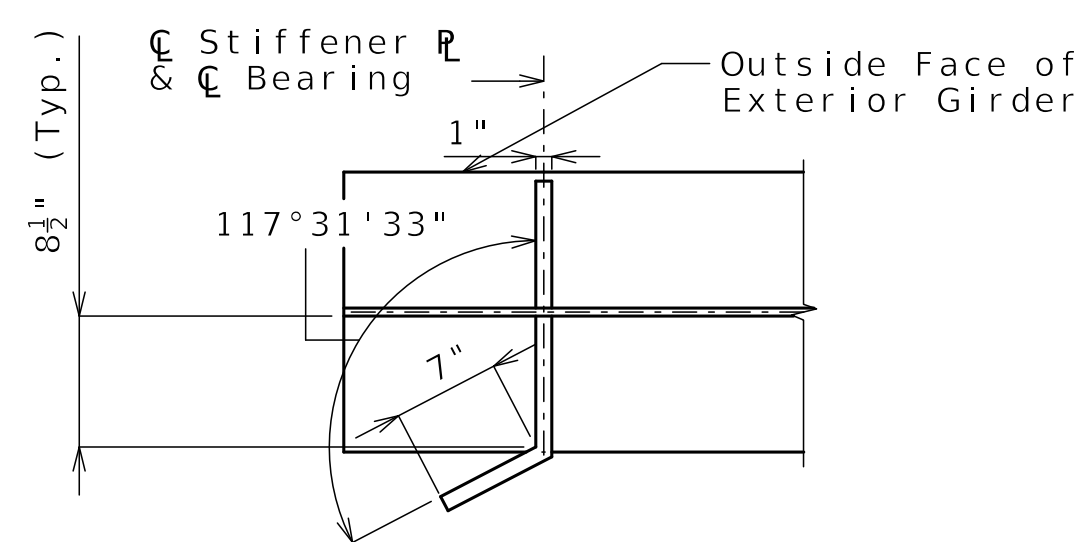
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CLARKSON RADMACHER
JOINT VENTURE

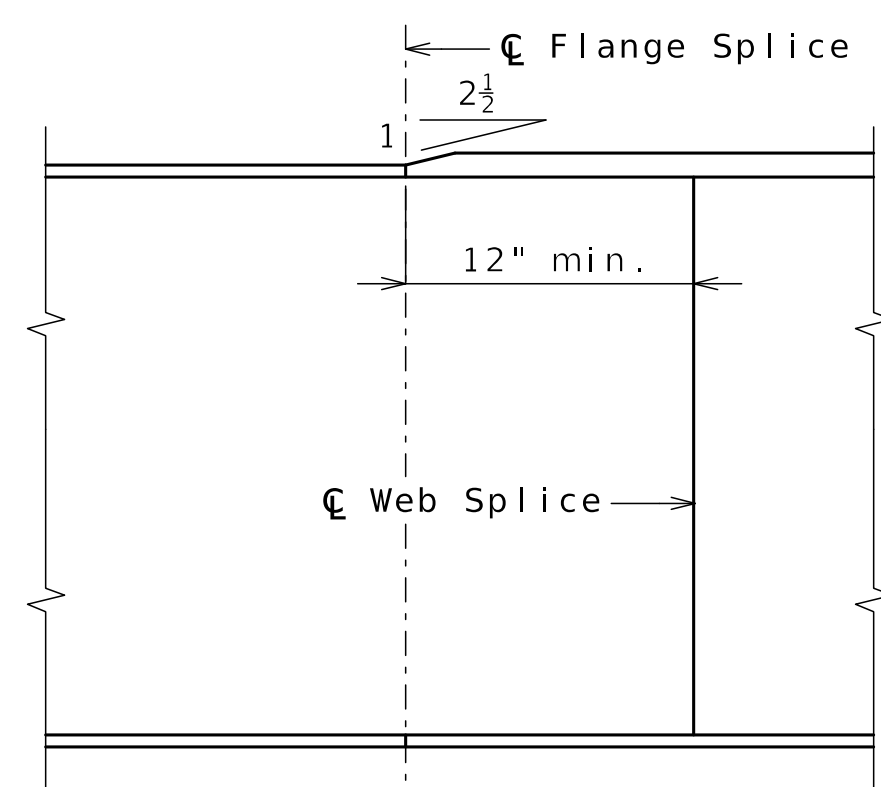
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KANSAS CITY, MO 64105-1310
CERTIFICATE OF AUTHORITY
NO. 001270

PART LONGITUDINAL ELEVATION - TILT

	End Bent No. 1	Int. Bent No. 2	End Bent No. 3
Girder 1	1 5/16"	1/4"	1 5/16"
Girder 2	1 3/8"	0"	1 3/8"
Girder 3	1 3/8"	1/4"	1 1/16"
Girder 4	1 3/8"	0"	1 3/8"
Girder 5	1 7/16"	1/4"	1 7/16"



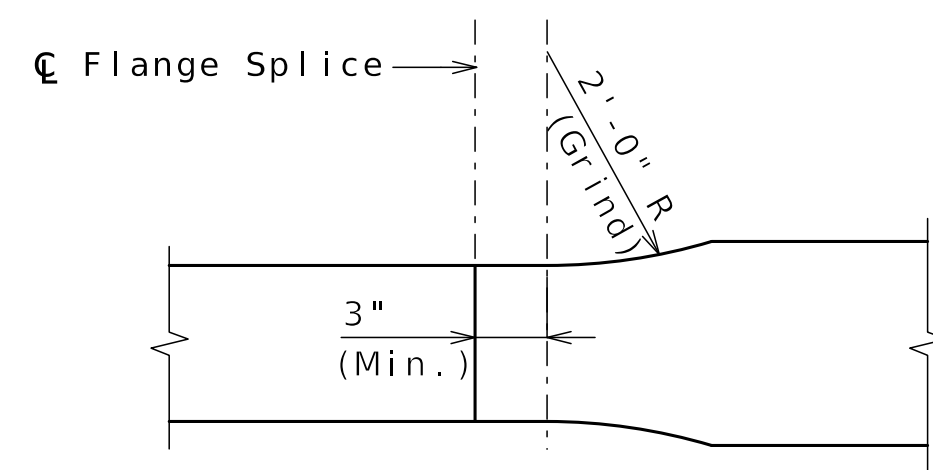
PLAN AT END BENT STIFFENERS



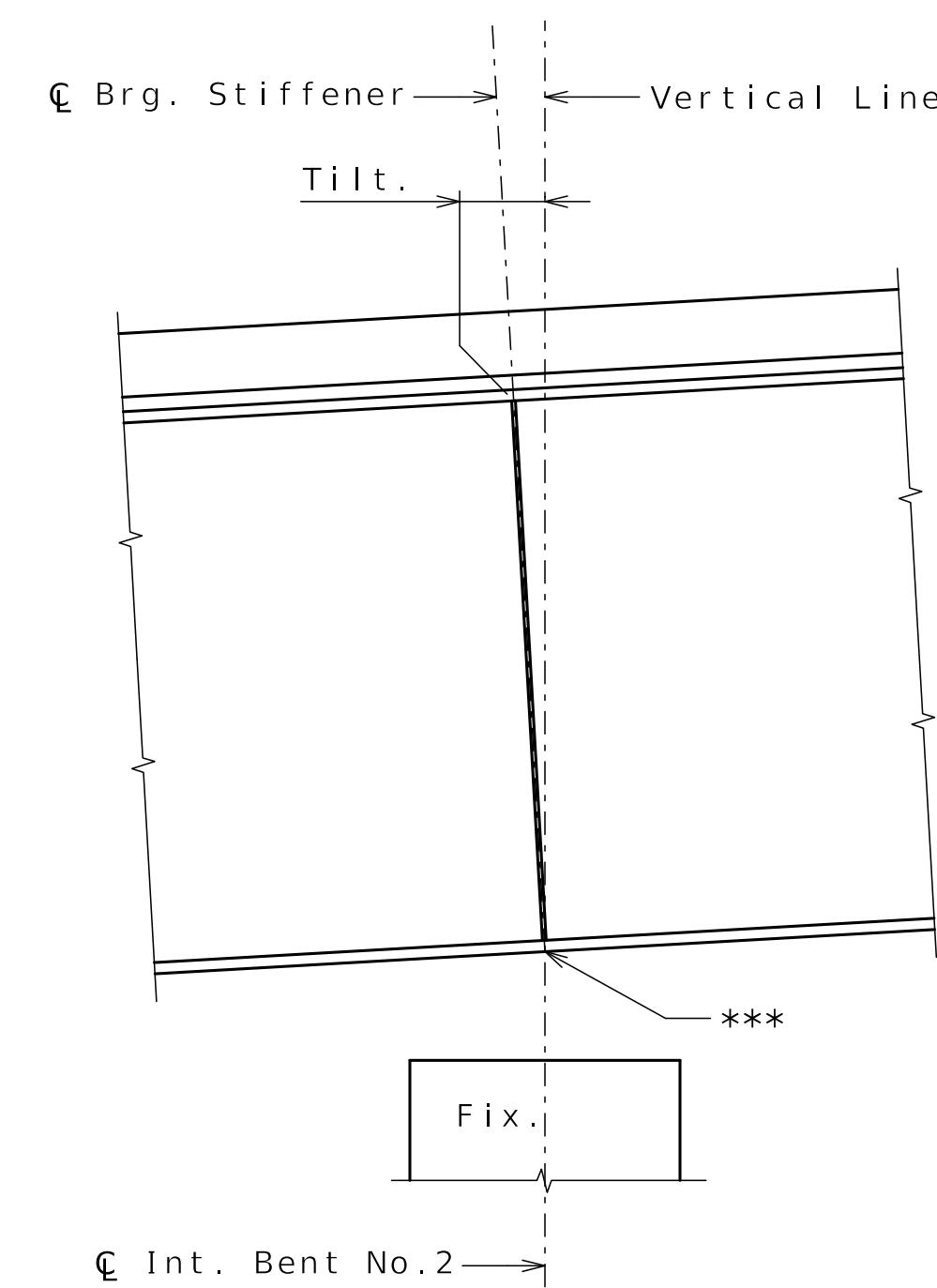
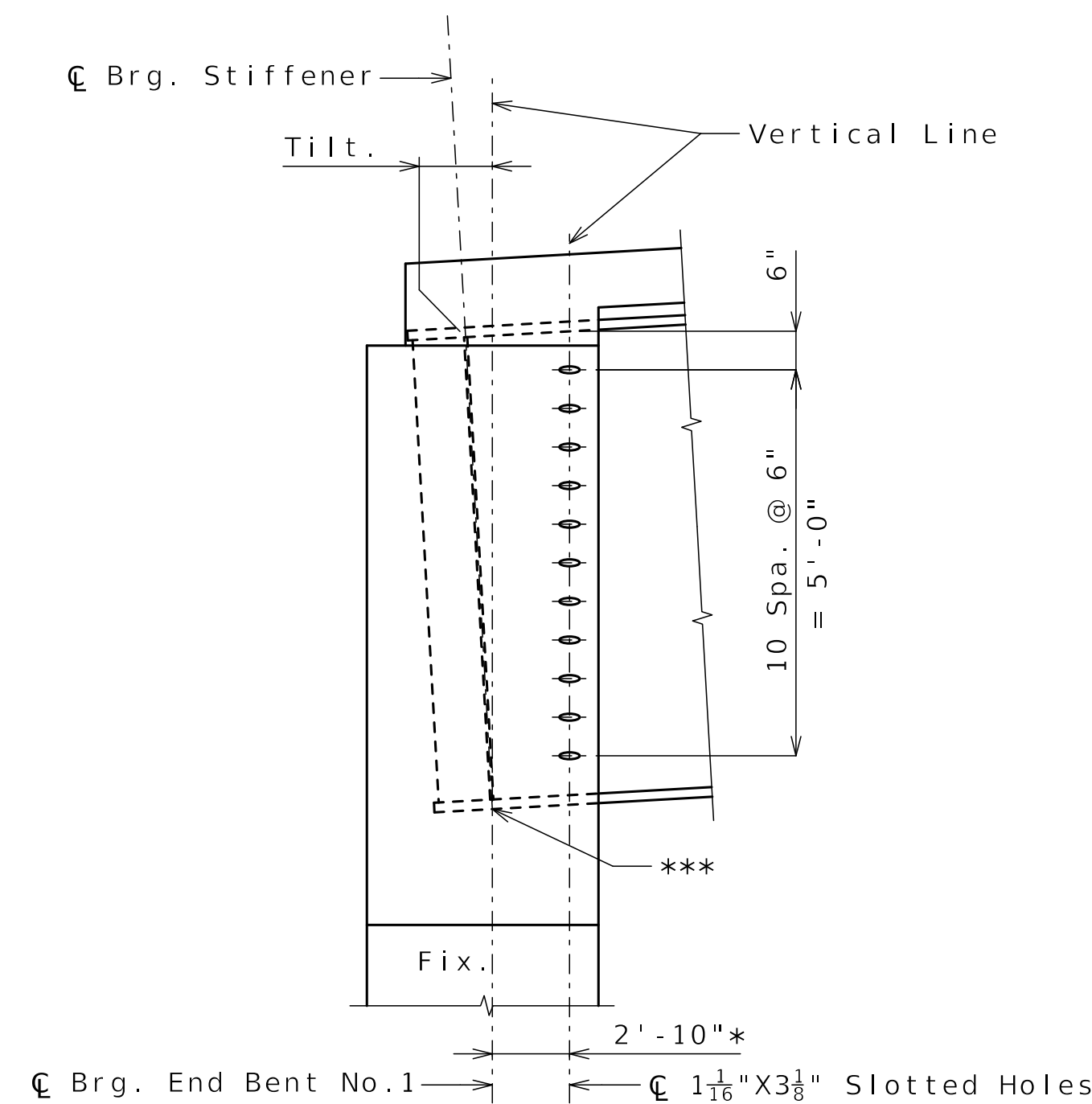
ELEVATION

WELDED SHOP WEB AND FLANGE SPLICE

Note:
Welded shop web and flange splices may be permitted when detailed on the shop drawings and approved by the engineer.

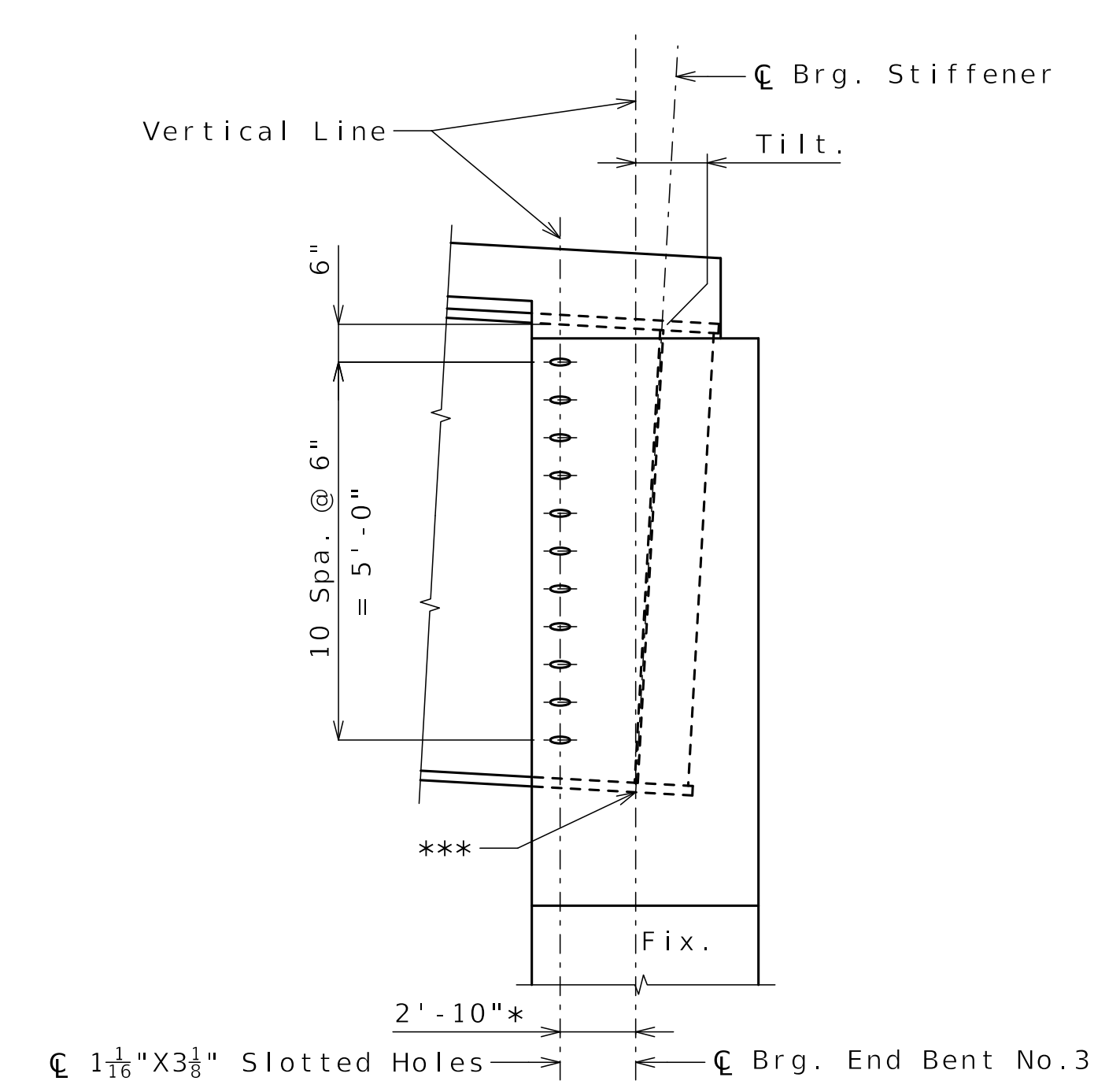


PLAN

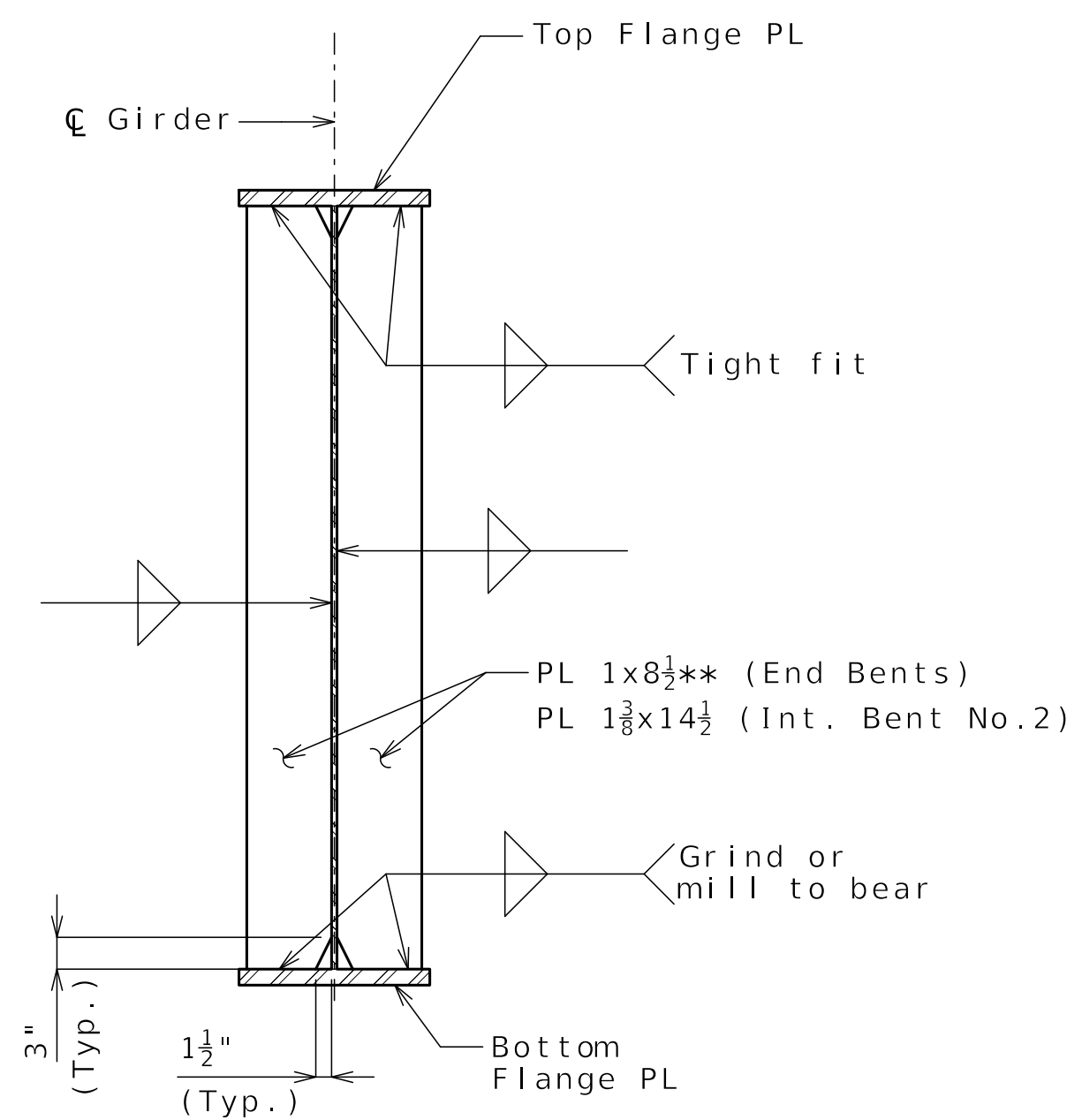


PART LONGITUDINAL SECTION

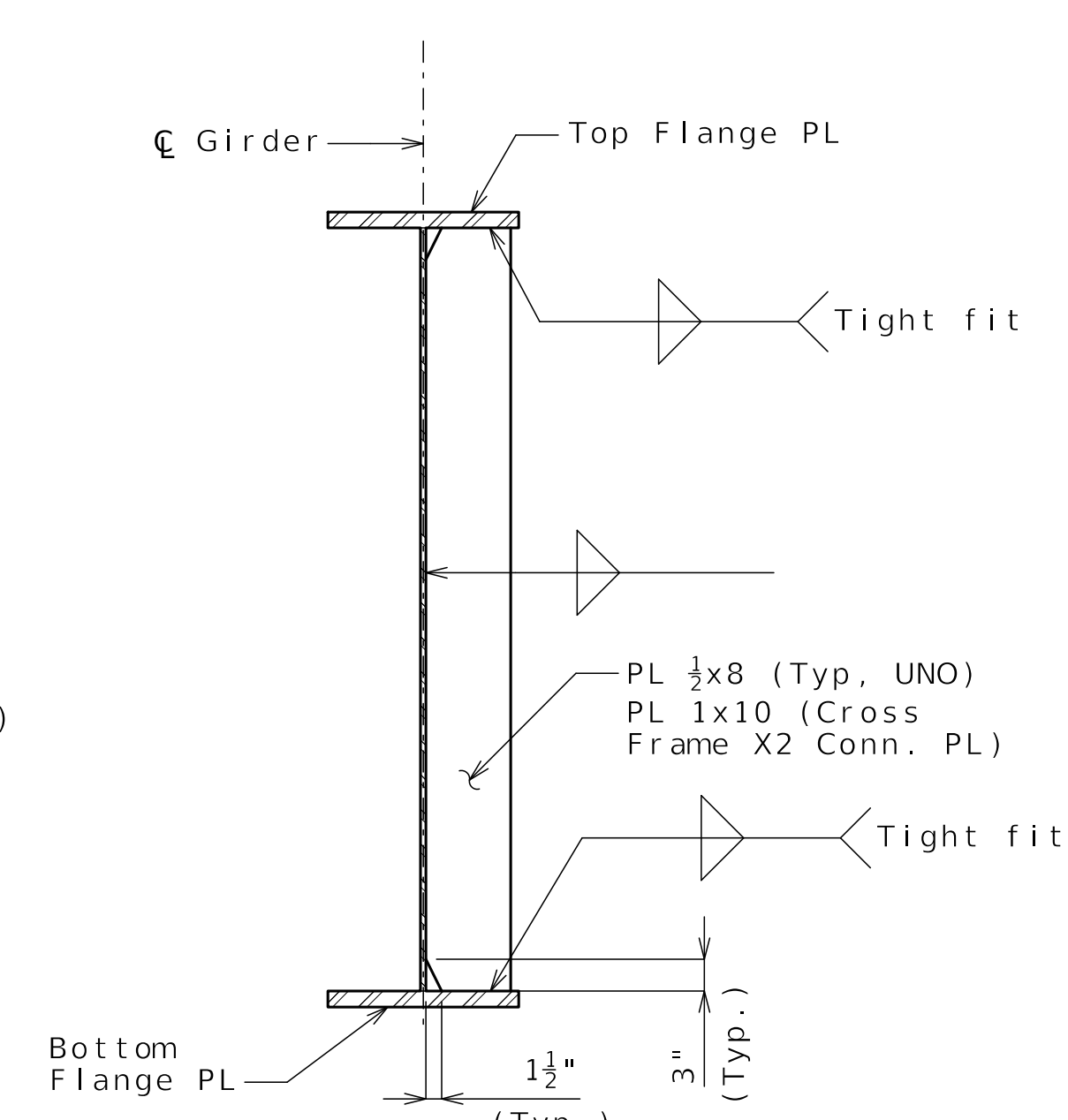
Notes:
* Measured horizontal along C Girder
*** Point of Rotation assumed at bottom of bottom flange.
Girder tilt dimensions are horizontal dimension at the bottom of the top flange



ELEVATION



BEARING STIFFENER



INTERMEDIATE STIFFENER AND CONNECTION PLATE

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WELDING DETAILS

MISC. STEEL DETAILS



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06/25/2025

ROUTE
1-70

STATE
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DISTRICT
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SHEET NO.
B10-20

COUNTY
JACKSON

JOB NO.
J411486D

CONTRACT ID.
240807-C01

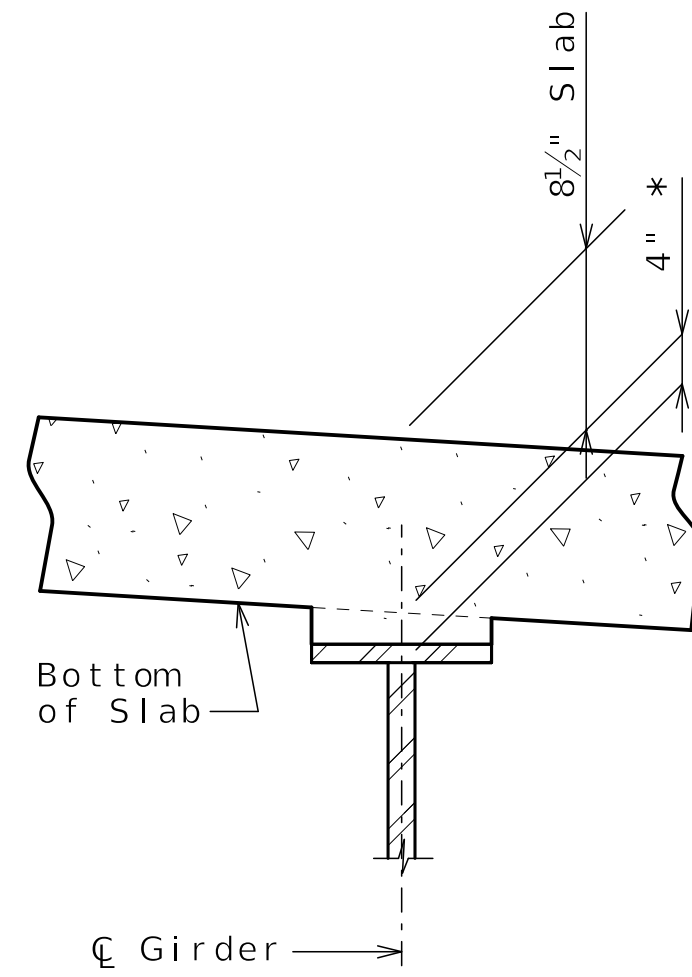
PROJECT NO.

BRIDGE NO.
A9630

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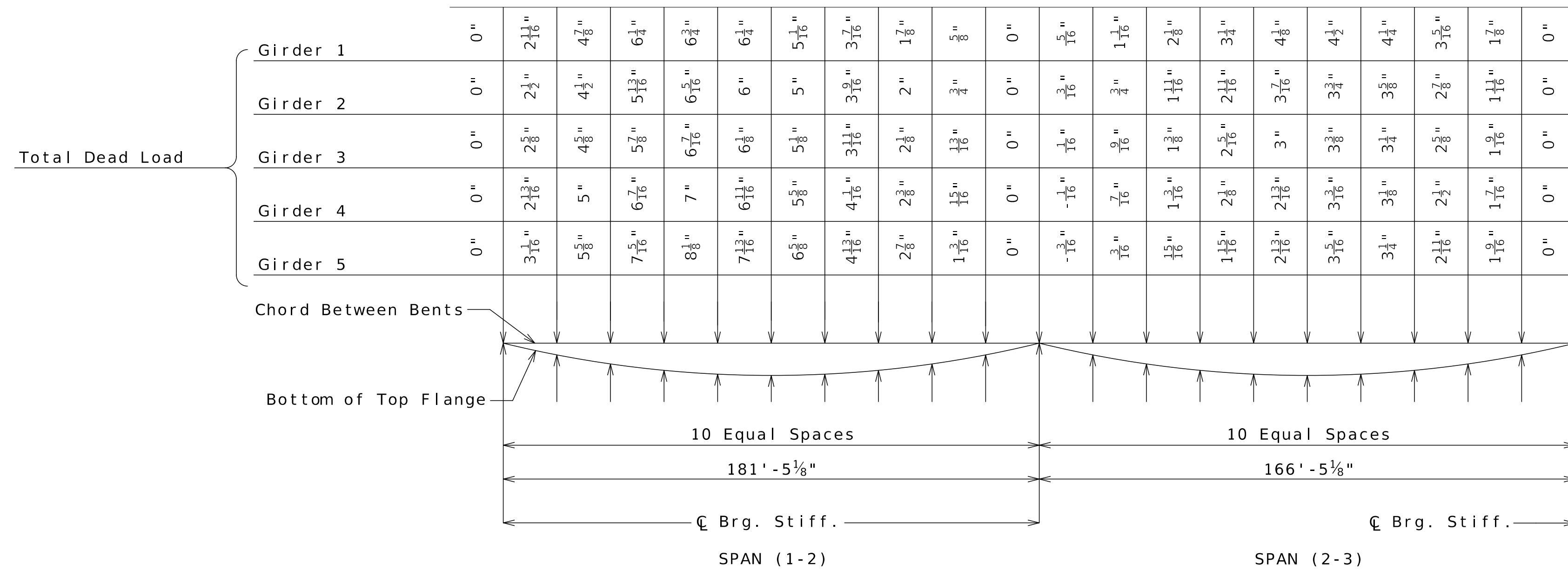
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715 KIRK DRIVE KANSAS CITY, MO 64105-1310
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THEORETICAL SLAB HAUNCH

* Dimension (bottom of slab to top of web) may vary if girder camber after erection differs from plan camber by more than the Dead Load Deflection due to steel self-weight.

Girder	0"	5"	1 1/8"	1 1/2"	1 3/8"	1 3/4"	1 1/2"	1 1/8"	1"	3/8"	1/4"	0"	-1/16"	0"	1/16"	0"	1/16"	3/8"	1/2"	1/16"	3/8"	1/2"	0"
Girder 1	0"	0"	0"	0"	0"	0"	0"	0"	0"	0"	0"	0"	0"	0"	0"	0"	0"	0"	0"	0"	0"	0"	0"
Girder 2	0"	0"	0"	0"	0"	0"	0"	0"	0"	0"	0"	0"	0"	0"	0"	0"	0"	0"	0"	0"	0"	0"	0"
Girder 3	0"	0"	0"	0"	0"	0"	0"	0"	0"	0"	0"	0"	0"	0"	0"	0"	0"	0"	0"	0"	0"	0"	0"
Girder 4	0"	0"	0"	0"	0"	0"	0"	0"	0"	0"	0"	0"	0"	0"	0"	0"	0"	0"	0"	0"	0"	0"	0"
Girder 5	0"	0"	0"	0"	0"	0"	0"	0"	0"	0"	0"	0"	0"	0"	0"	0"	0"	0"	0"	0"	0"	0"	0"



DEAD LOAD DEFLECTION

Total dead load deflection includes weight of structural steel, stay-in-place corrugated metal forms, concrete slab, raised sidewalks, decorative pedestrian fences, and barrier. Negative values indicate upward deflection.

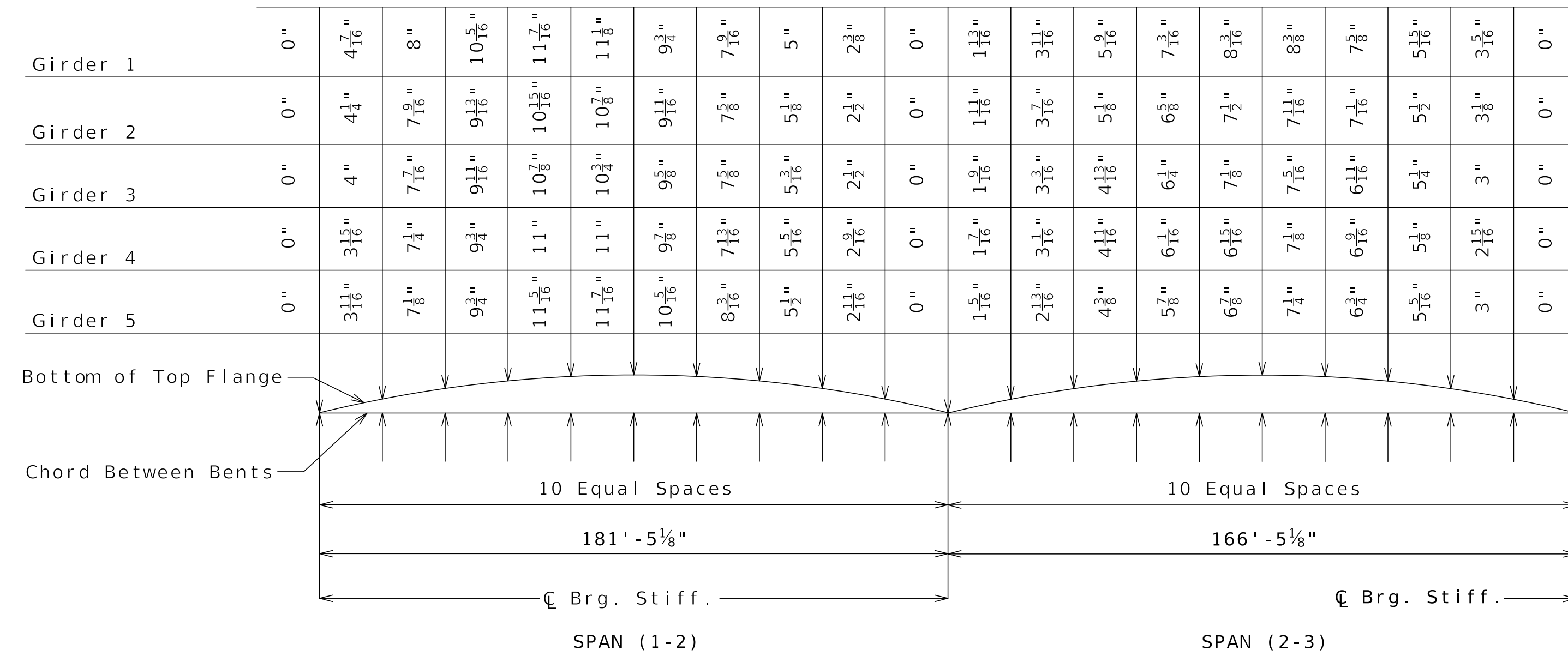
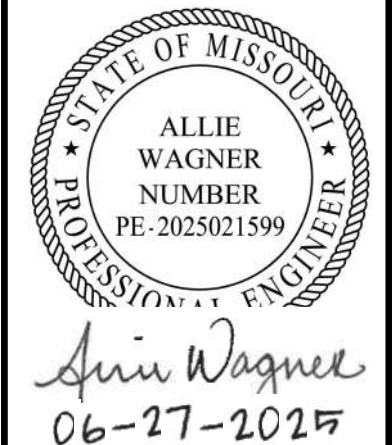


PLATE GIRDER CAMBER DIAGRAM

Camber includes allowance for vertical curve and dead load deflection due to concrete slab, stay-in-place corrugated metal forms, barrier, raised sidewalks, decorative pedestrian fences, and structural steel.

DEAD LOAD DEFLECTIONS AND CAMBER DIAGRAM

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Date: 07/07/2025
Package: BRD-10-Cleveland Ave.



DATE PREPARED	06/25/2025
ROUTE	1-70
STATE	MO
DISTRICT	BR
SHEET NO.	B10-21
COUNTY	JACKSON
JOB NO.	J411486D
CONTRACT ID.	240807-C01
PROJECT NO.	
BRIDGE NO.	A9630

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CLARKSON RADMACHER JOINT VENTURE

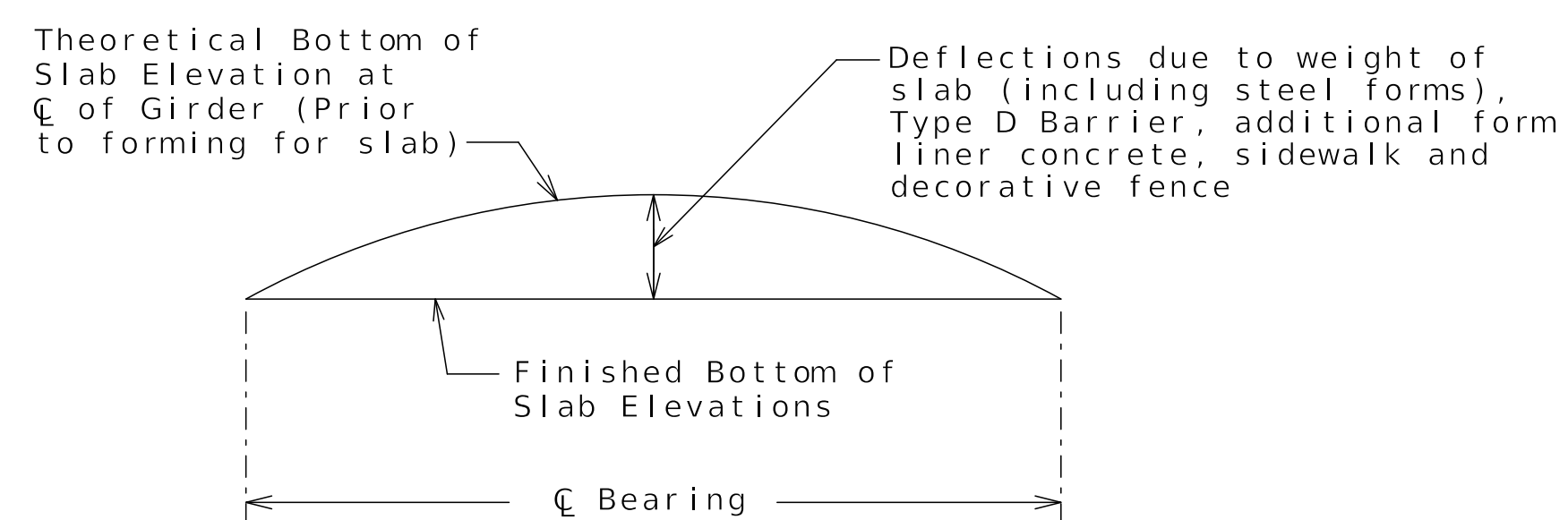
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Theoretical Bottom of Slab Elevations at Centerline of Girder
(Prior to forming for slab)**

Girder Number	Span (1-2) (181'-5 1/8" C Brg. - C Brg.)										
	C Brg.	.10	.20	.30	.40	.50	.60	.70	.80	.90	C Brg.
1	947.09	947.64	948.12	948.52	948.82	949.03	949.15	949.22	949.26	949.28	949.32
2	946.93	947.48	947.98	948.40	948.74	948.98	949.16	949.27	949.34	949.39	949.45
3	946.76	947.33	947.85	948.30	948.66	948.94	949.15	949.29	949.39	949.48	949.56
4	946.17	946.75	947.29	947.78	948.18	948.49	948.72	948.88	949.00	949.11	949.22
5	945.60	946.18	946.75	947.26	947.71	948.05	948.30	948.47	948.61	948.73	948.85

Girder Number	Span (2-3) (166'-5 1/8" C Brg. - C Brg.)										
	C Brg.	.10	.20	.30	.40	.50	.60	.70	.80	.90	C Brg.
1	949.32	949.38	949.45	949.51	949.54	949.53	949.46	949.33	949.11	948.84	948.51
2	949.45	949.54	949.61	949.70	949.75	949.76	949.72	949.62	949.44	949.22	948.93
3	949.56	949.67	949.77	949.87	949.94	949.98	949.97	949.89	949.76	949.57	949.32
4	949.22	949.34	949.48	949.60	949.71	949.77	949.79	949.74	949.64	949.47	949.26
5	948.85	949.00	949.15	949.31	949.45	949.55	949.60	949.59	949.51	949.37	949.17

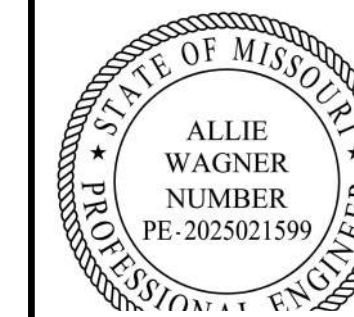
**Elevations are based on cast-in-place slab thickness of 8 1/2" and include allowance for theoretical dead load deflections due to weight of slab (including steel forms), Type D Barrier, additional form liner concrete, sidewalk and decorative pedestrian fence.



TYPICAL SLAB ELEVATIONS DIAGRAM

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THEORETICAL BOTTOM OF SLAB ELEVATIONS



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ROUTE 1-70 STATE MO

DISTRICT BR SHEET NO. B10-22

COUNTY JACKSON

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PROJECT NO.

BRIDGE NO. A9630

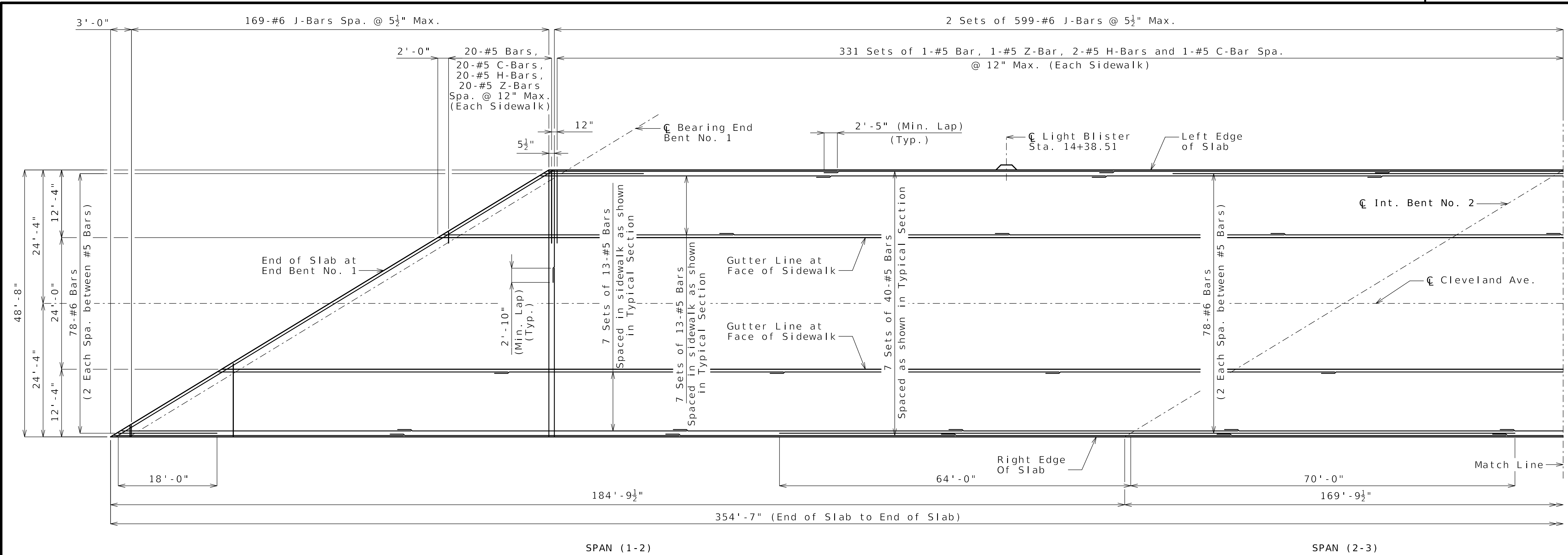
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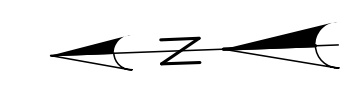
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
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CLARKSON RADMACHER
JOINT VENTURE

715 KIRK DRIVE
KANSAS CITY, MO 64105-1310
CERTIFICATE OF AUTHORITY
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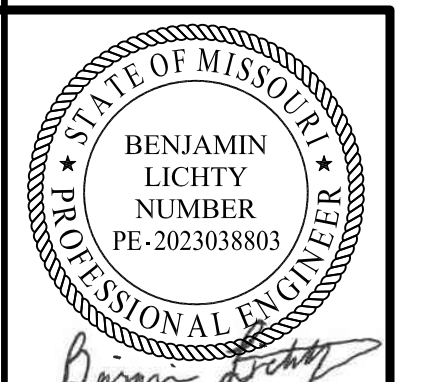
TOP REINFORCEMENT



Notes:
 Work this sheet with Sheets No. B10-24 thru B10-26.
 For Typical Section, see Sheet No. B10-27.
 For Slab Pouring Sequence, see Sheet No. B10-25.
 For details and reinforcement of Type D Barrier, see Sheet No. B10-28.
 For Dead Load Deflections and Camber Diagram, see Sheet No. B10-21.
 For Theoretical Bottom of Slab Elevations, see Sheet No. B10-22.
 Longitudinal slab dimensions are measured horizontally.
 For Light Blister Reinforcing and Details, see Sheet No. B10-30.

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 Revision: 0.0
 Date: 07/07/2025
 Package: BRD-10-Cleveland Ave.

SLAB PLAN SHOWING TOP REINFORCEMENT



Benjamin Lichty
 07-02-2025

DATE PREPARED 06/25/2025	
ROUTE 1-70	STATE MO
DISTRICT BR	SHEET NO. B10-23
COUNTY JACKSON	
JOB NO. J411486D	
CONTRACT ID. 240807-C01	
PROJECT NO.	
BRIDGE NO. A9630	

DATE	DESCRIPTION
06/25/25	REV 0 - RFC SUBMITTAL

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

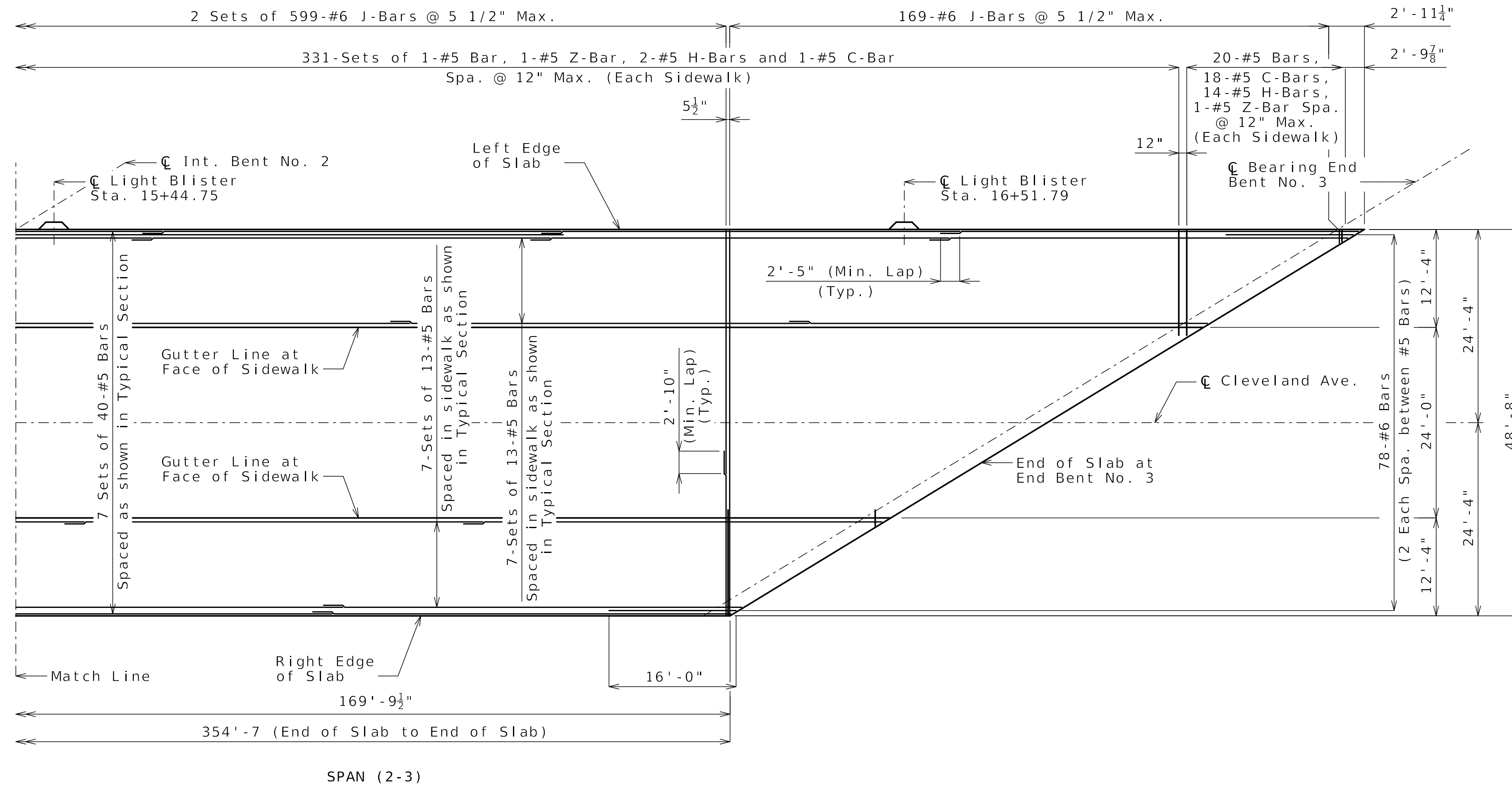
CLARKSON RADMACHER JOINT VENTURE

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

Detailed MAR 2025
 Checked APR 2025

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

Sheet No. B10-23 of B10-39

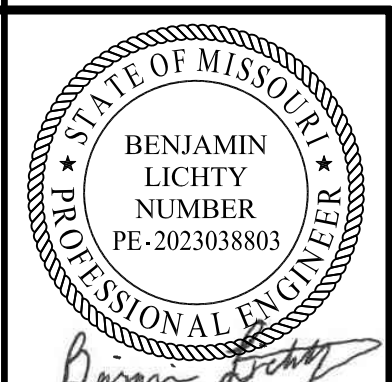


TOP REINFORCEMENT

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 Not to Scale
 Revision: 0.0
 Date: 07/07/2025
 Package: BRD-10-Cleveland Ave.

Note: Work this sheet with Sheets No. B10-23, B10-25 and B10-26.

SLAB PLAN SHOWING TOP REINFORCEMENT



Benjamin Lichty
 07-02-2025

DATE PREPARED 06/25/2025	
ROUTE 1-70	STATE MO
DISTRICT BR	SHEET NO. B10-24
COUNTY JACKSON	
JOB NO. J411486D	
CONTRACT ID. 240807-C01	
PROJECT NO.	

BRIDGE NO.
A9630

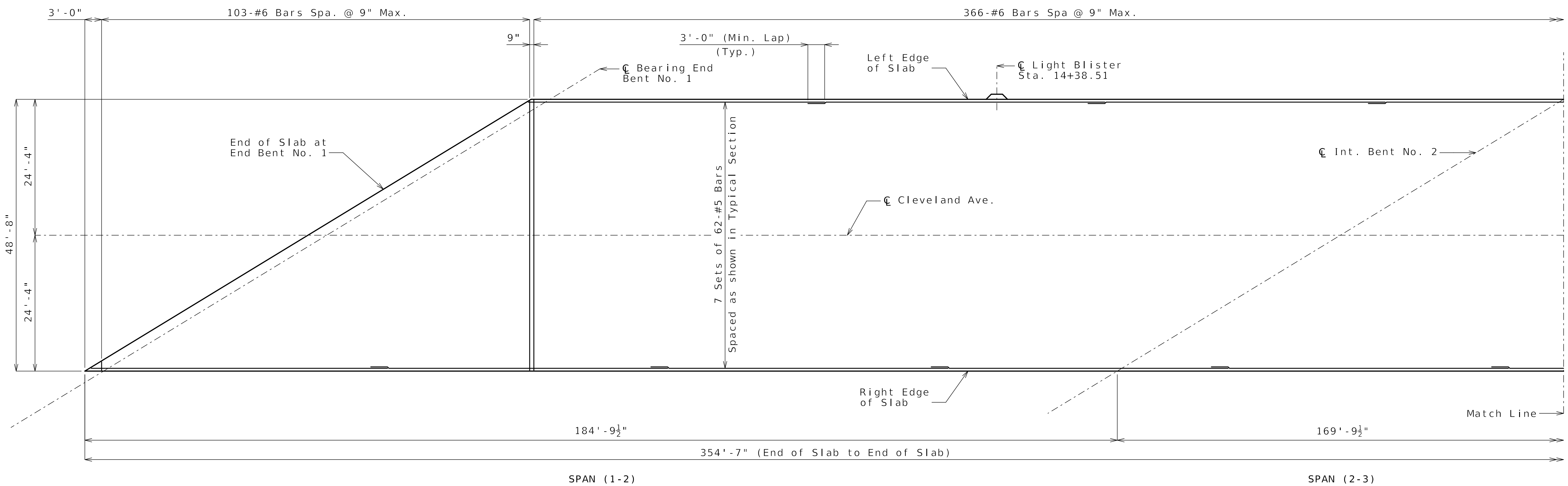
DATE	DESCRIPTION
06/25/25	REV 0 - RFC SUBMITTAL

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

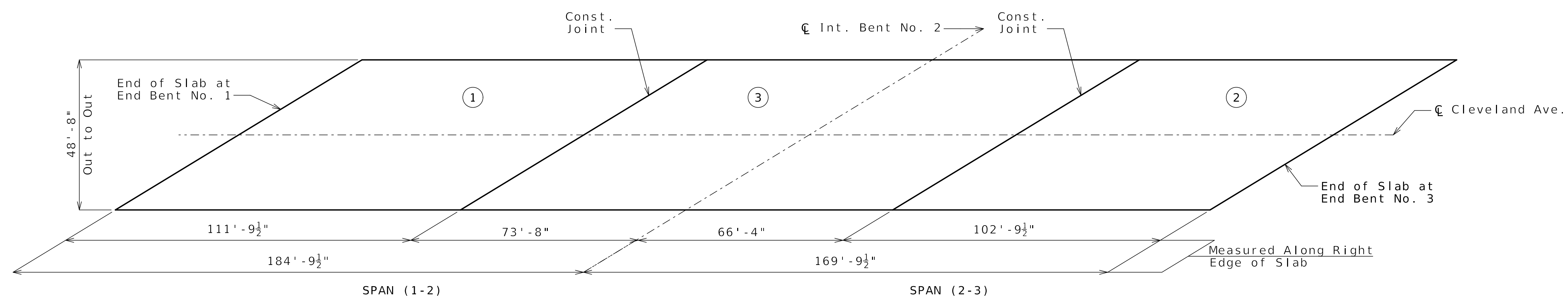
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CLARKSON RADMACHER
 JOINT VENTURE

715 KIRK DRIVE
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 CERTIFICATE OF AUTHORITY
 NO. 001270



BOTTOM REINFORCEMENT



	Sequence of Pours		
	Direction		
Segment	1	3	2
Pour Rate*	40	35	50

*Min. Rate of Pour Cu. Yds./Hr. (With Retarder)
 The contractor shall pour and satisfactorily finish the slab pours at the rate given. Retarder, shall be an approved type and retard the set of concrete to 3.0 hours.

SLAB POURING SEQUENCE

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

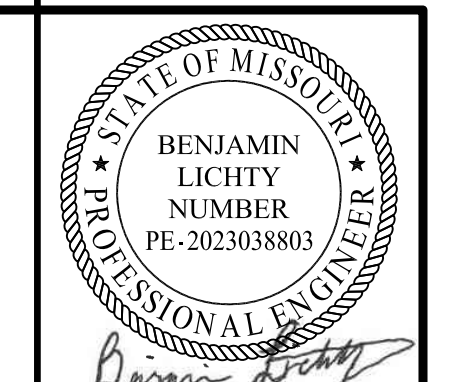
Released For Construction
 Not to Scale
 Revision: 0.0
 Date: 07/07/2025
 Package: BRD-10-Cleveland Ave.

Notes:
 Work this sheet with Sheets No. B10-23, B10-24 and B10-26.

SLAB PLAN SHOWING BOTTOM REINFORCEMENT

Detailed MAR 2025
 Checked APR 2025

Sheet No. B10-25 of B10-39



Benjamin Lichty
 07-02-2025

DATE PREPARED		06/25/2025	
ROUTE	STATE	DISTRICT	SHEET NO.
1-70	MO	BR	B10-25
COUNTY			
JACKSON			
JOB NO.			
J411486D			
CONTRACT ID.			
240807-C01			
PROJECT NO.			
BRIDGE NO.			
A9630			

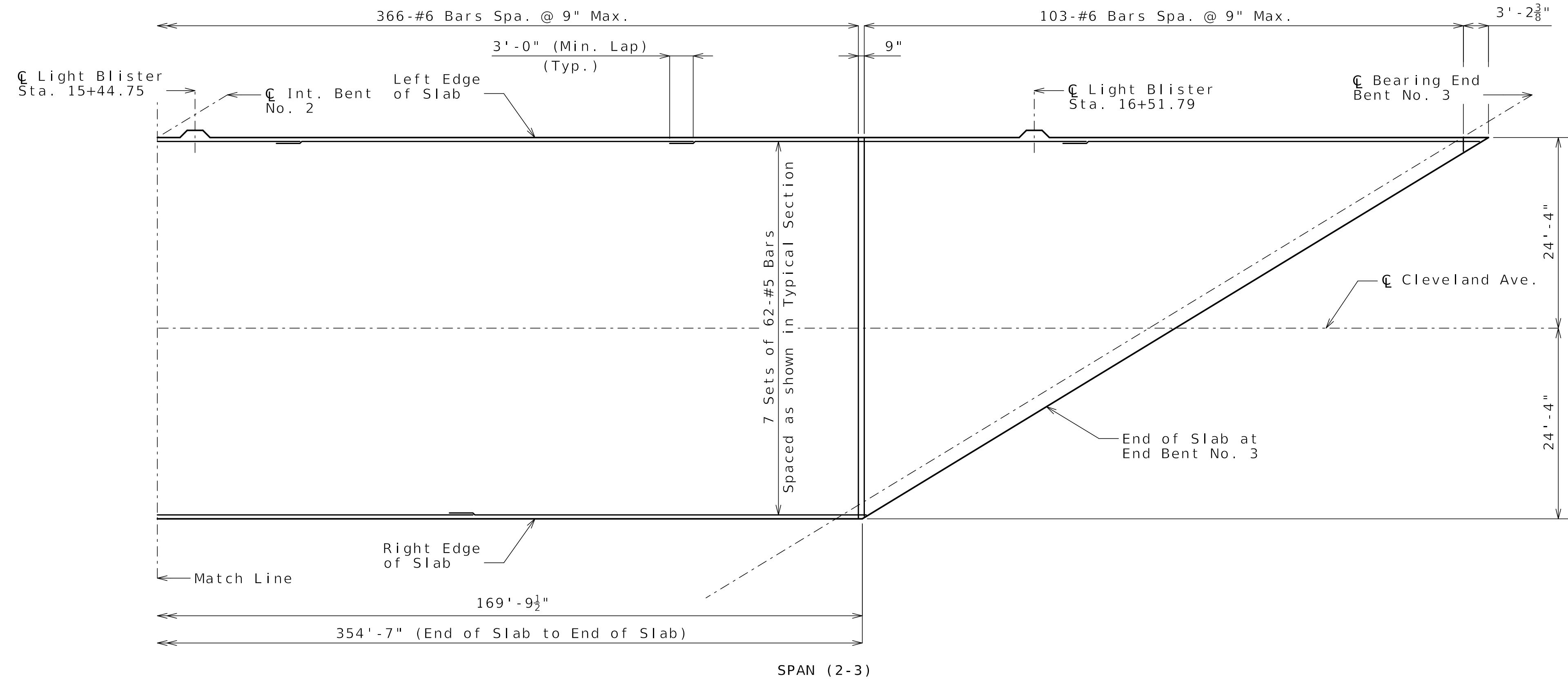
DATE	DESCRIPTION
06/25/25	REV 0 - RFC SUBMITTAL

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

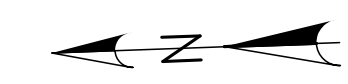
105 WEST CAPITOL
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CLARKSON RADMACHER JOINT VENTURE

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



BOTTOM REINFORCEMENT



Released For Construction
 Not to Scale
 Revision: 0.0
 Date: 07/07/2025
 Package: BRD-10-Cleveland Ave.

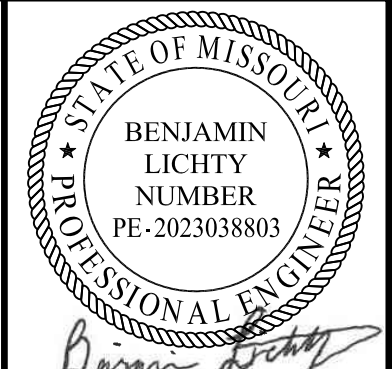
Notes:
 Work this sheet with Sheets No. B10-23 thru B10-25.

SLAB PLAN SHOWING BOTTOM REINFORCEMENT

Detailed MAR 2025
 Checked APR 2025

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

Sheet No. B10-26 of B10-39



Benjamin Lichty
 07-02-2025

DATE PREPARED 06/25/2025	
ROUTE 1-70	STATE MO
DISTRICT BR	SHEET NO. B10-26
COUNTY JACKSON	
JOB NO. J411486D	
CONTRACT ID. 240807-C01	
PROJECT NO.	
BRIDGE NO. A9630	

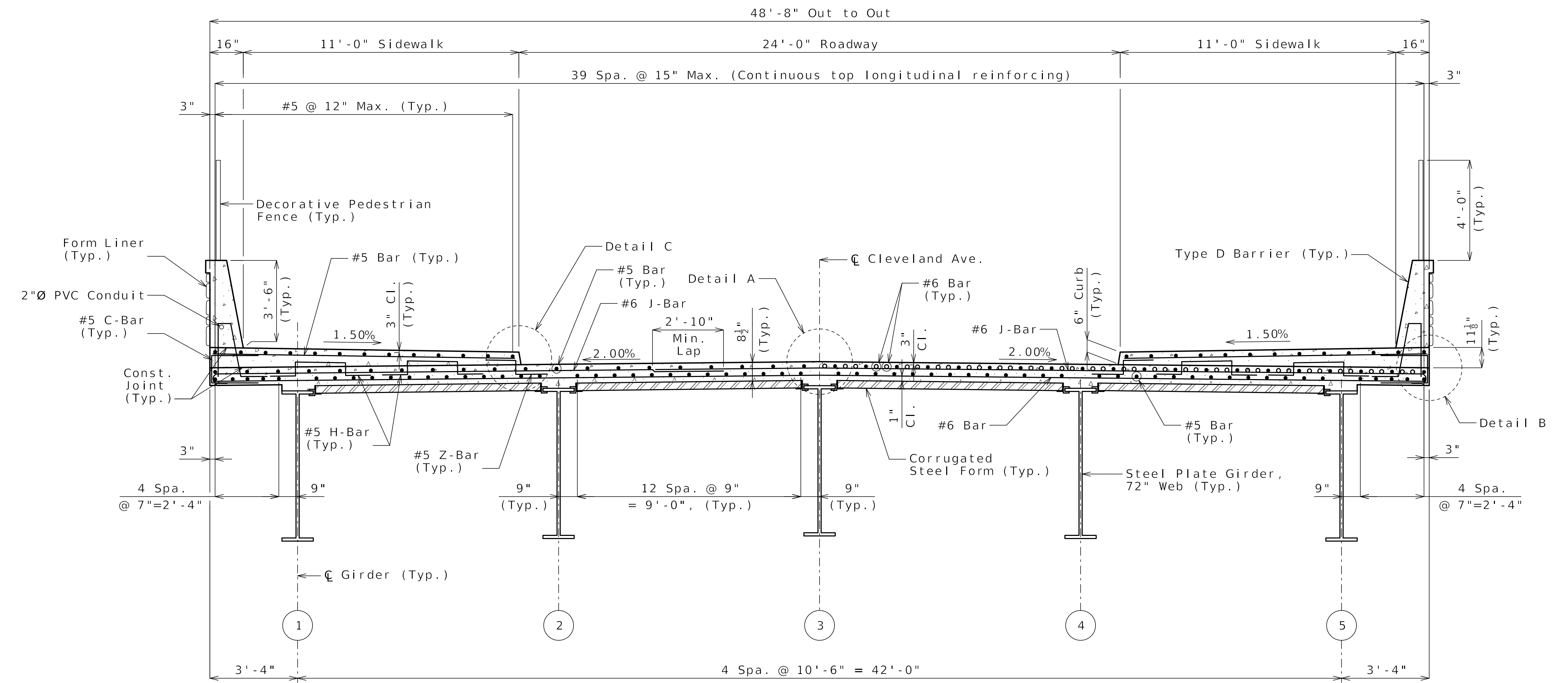
DATE	DESCRIPTION
06/25/25	REV 0 - RFC SUBMITTAL

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

CLARKSON RADMACHER
 JOINT VENTURE

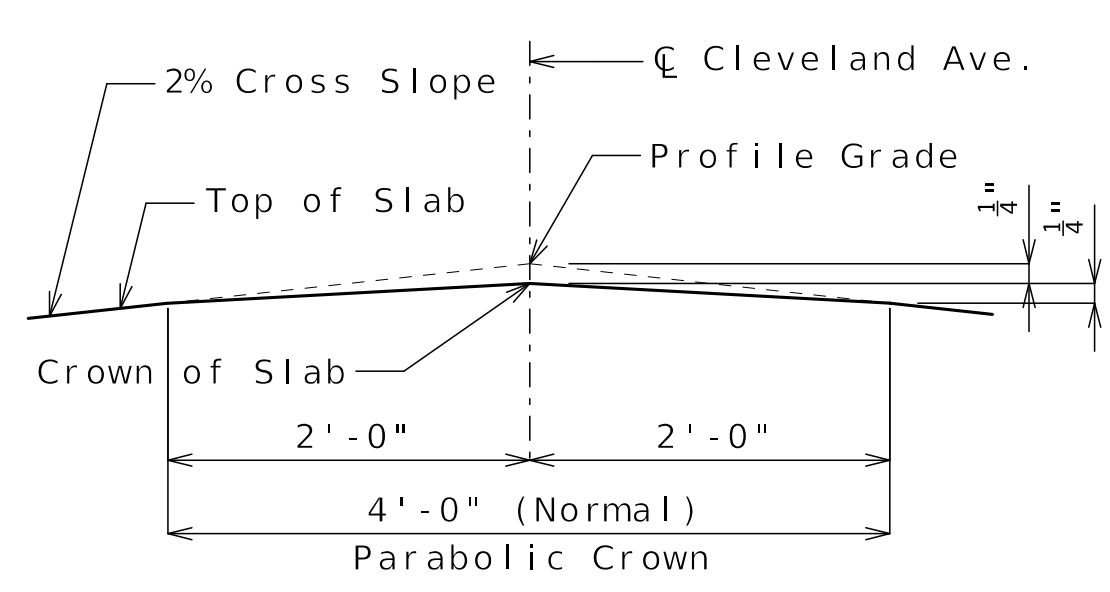
715 KIRK DRIVE
 KANSAS CITY, MO 64105-1310
 CERTIFICATE OF AUTHORITY
 NO. 001270



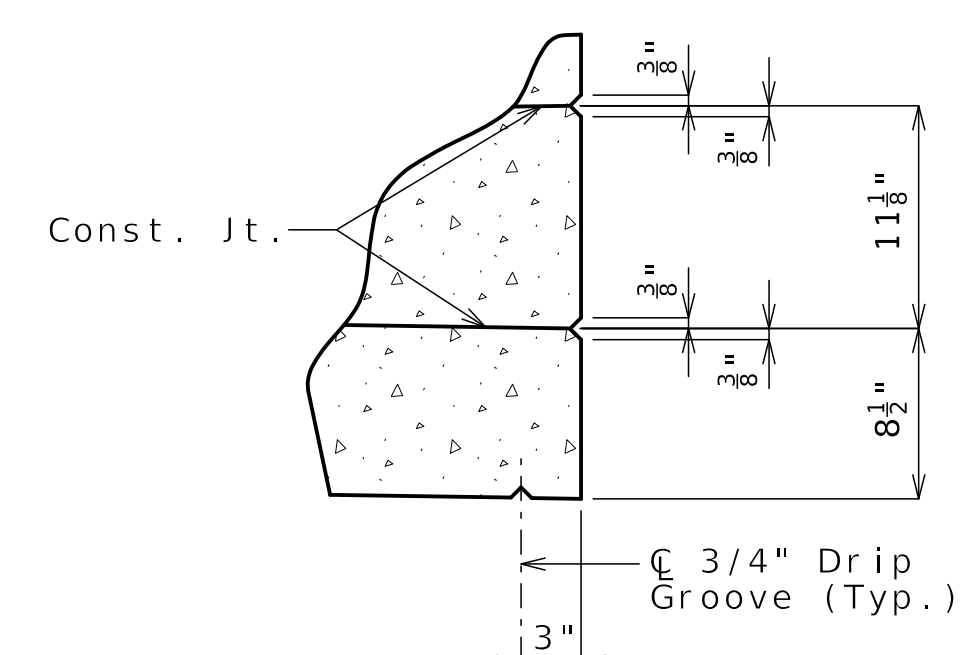
HALF SECTION NEAR MIDSPAN

HALF SECTION NEAR INTERMEDIATE BENT

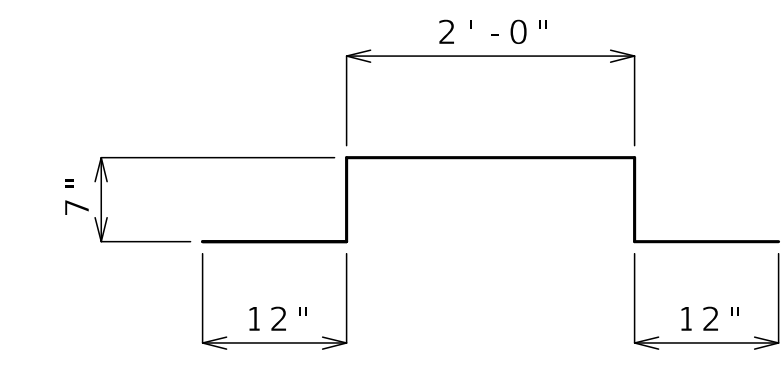
TYPICAL SECTION
(Looking Ahead Sta.)



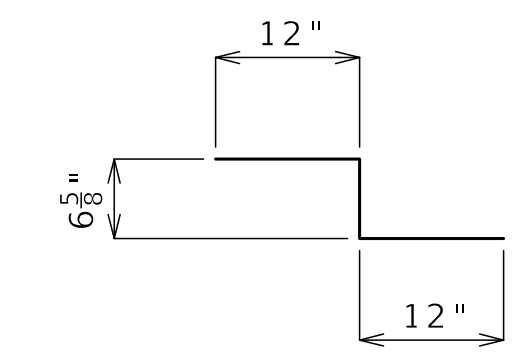
DETAIL A



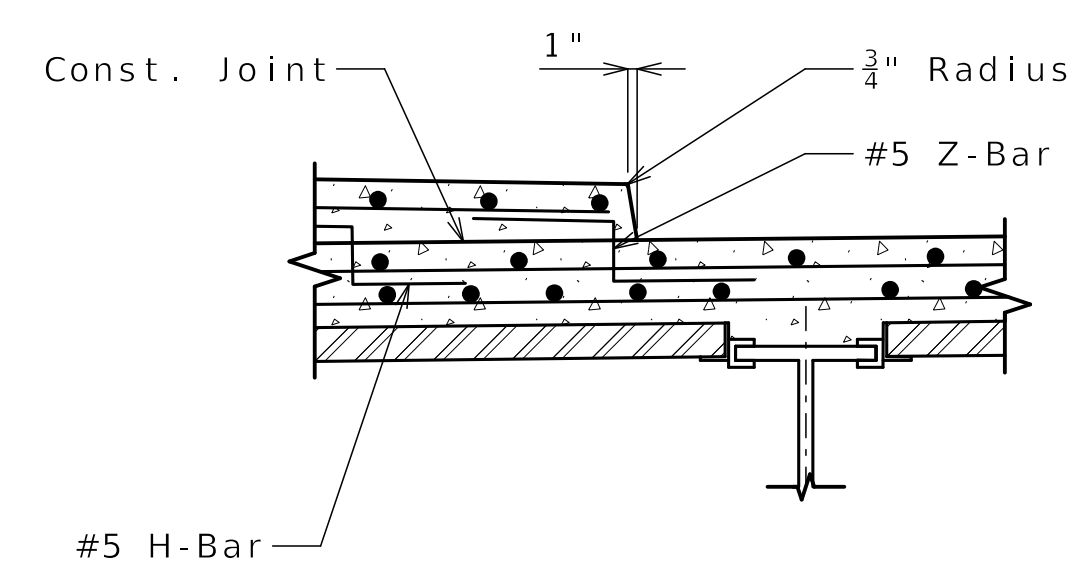
DETAIL B



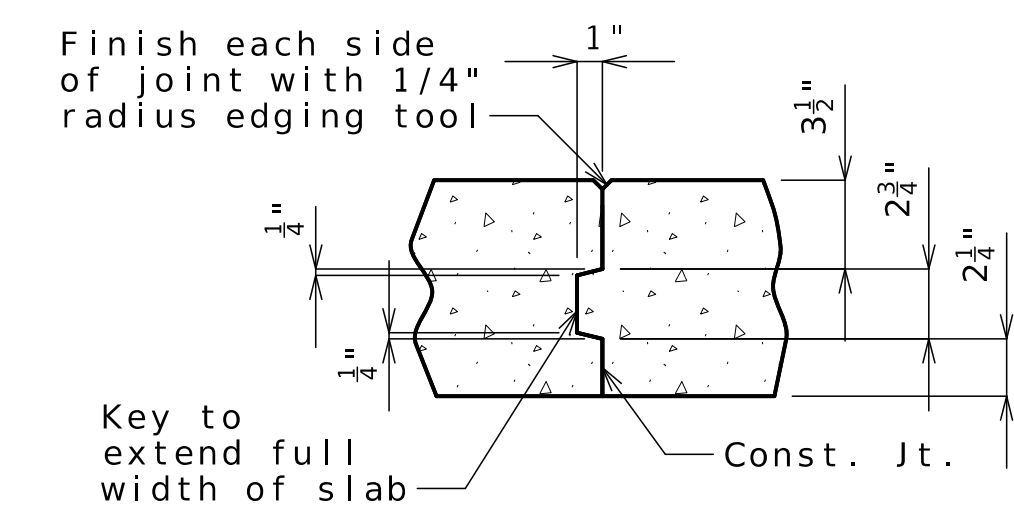
#5 H-Bar



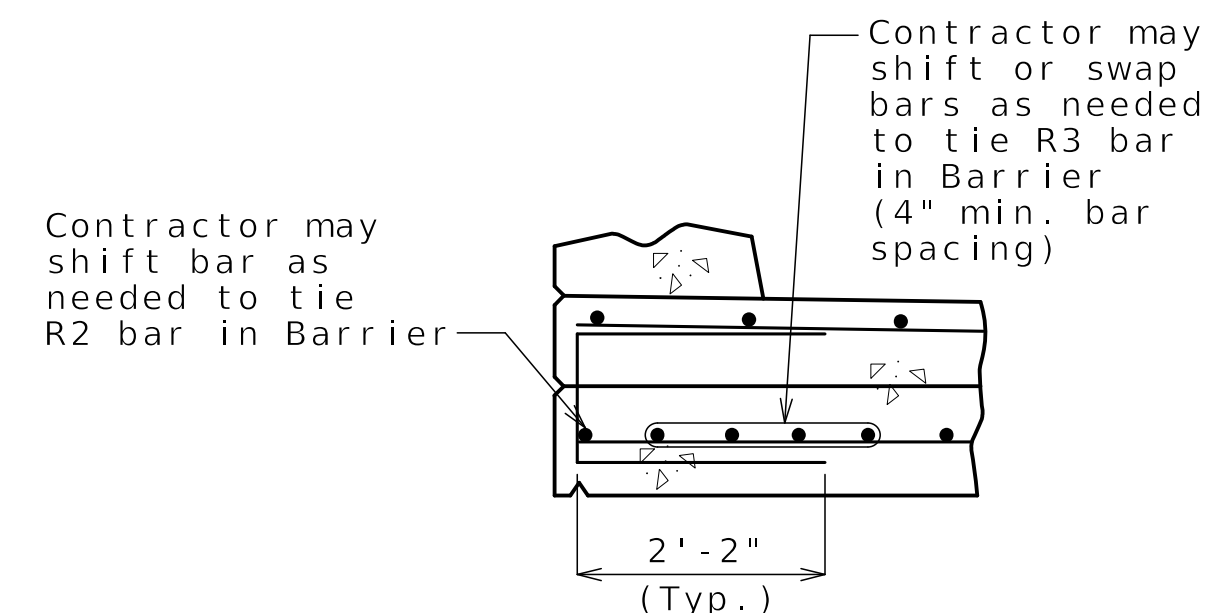
#5 Z-Bar



DETAIL C



SLAB CONSTRUCTION JOINT



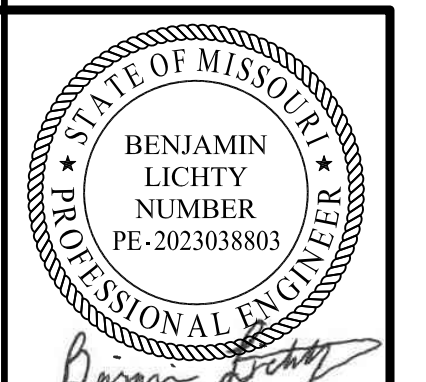
OPTIONAL SHIFTING TOP BARS AT BARRIER

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Not to Scale
Revision: 0.0
Date: 07/07/2025
Package: BRD-10-Cleveland Ave.

Notes:
Cant #6 transverse hooked bars as needed to provide clearance.
For Slab Plan showing Top and Bottom Reinforcement, see Sheets No. B10-23 thru B10-26.
For reinforcement of Type D Barrier not shown, see Sheet No. B10-28.
For Details of Conduit System on Structure, see Sheet No. B10-33.
For Decorative Pedestrian Fence Details, see Sheet No. B10-31.
For Form Liner and Aesthetic Stain Details not shown, see Sheet No. B10-32.

(X) Denotes girder number.

SLAB DETAILS



DATE PREPARED
07-02-2025

DATE PREPARED
06/25/2025

ROUTE STATE
1-70 MO
DISTRICT SHEET NO.
BR B10-27

COUNTY
JACKSON

JOB NO.
J411486D

CONTRACT ID.
240807-C01

PROJECT NO.
BRIDGE NO.
A9630

DATE	DESCRIPTION
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MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
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CLARKSON RADMACHER JOINT VENTURE
715 KIRK DRIVE
KANSAS CITY, MO 64105-1310
CERTIFICATE OF AUTHORITY
NO. 001270
HNTB



Benjamin Lichty
07-02-2025

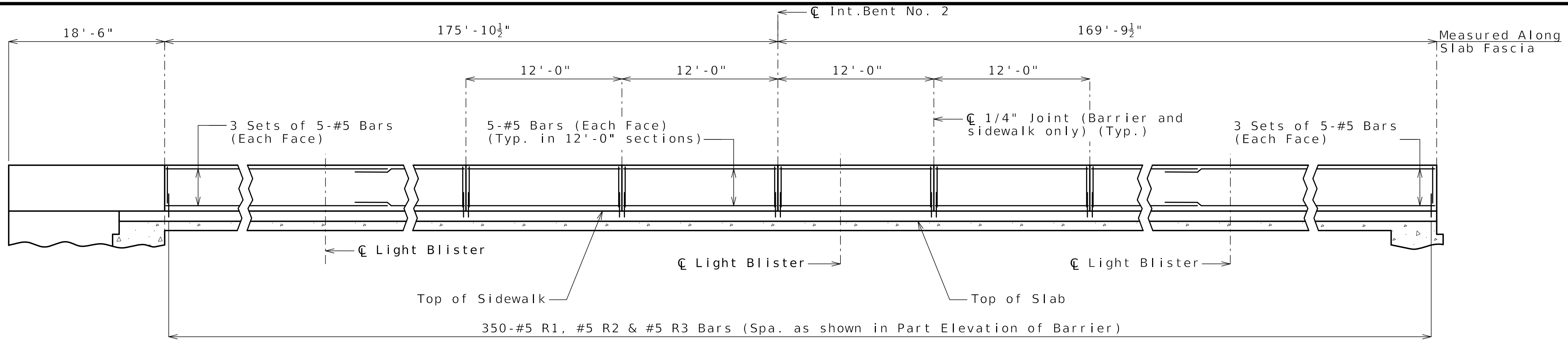
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ROUTE I-70	STATE MO
DISTRICT BR	SHEET NO. B10-28
COUNTY JACKSON	
JOB NO. J411486D	
CONTRACT ID. 240807-C01	
PROJECT NO.	

BRIDGE NO.
A9630

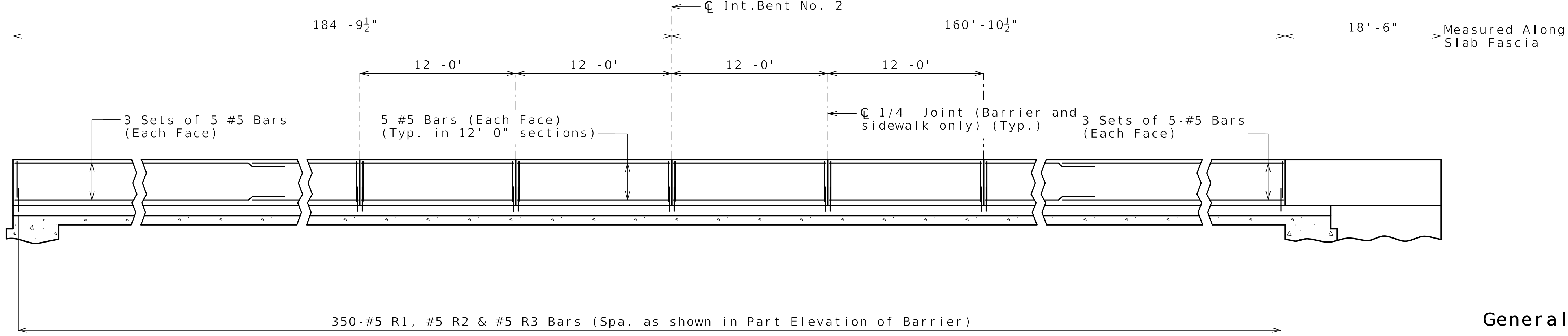
DATE	DESCRIPTION
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MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
MoDOT
105 WEST CAPITOL JEFFERSON CITY, MO 65102
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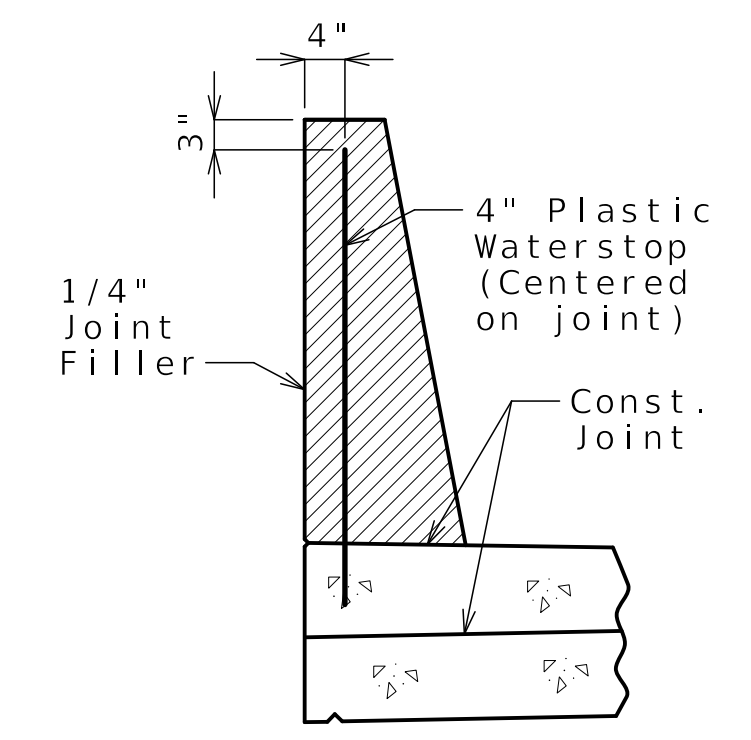
CLARKSON RADMACHER JOINT VENTURE
715 KIRK DRIVE KANSAS CITY, MO 64105-1310
CERTIFICATE OF AUTHORITY NO. 001270
HNTB



ELEVATION OF LEFT BARRIER
Longitudinal dimensions are horizontal.



ELEVATION OF RIGHT BARRIER
Longitudinal dimensions are horizontal.



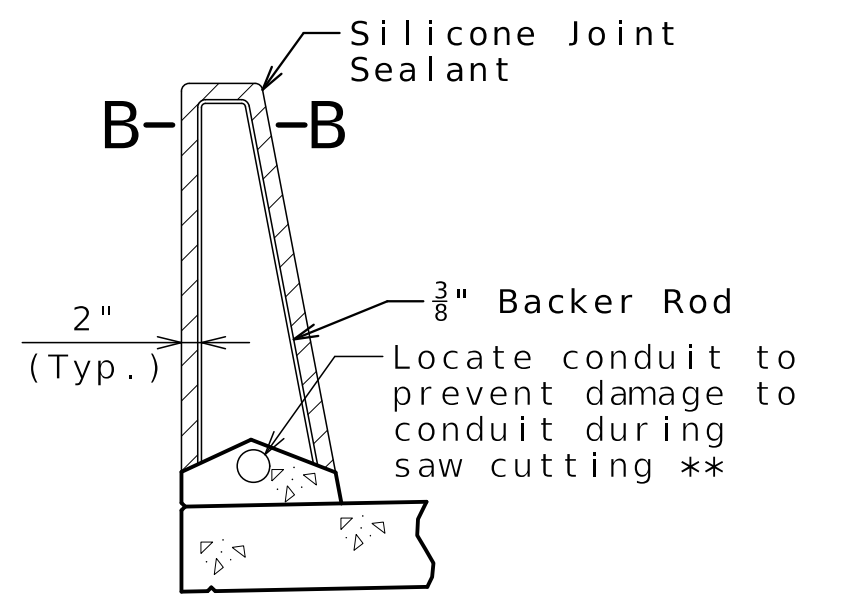
WATERSTOP DETAIL
Plastic waterstop shall be placed in all formed joints.

General Notes:

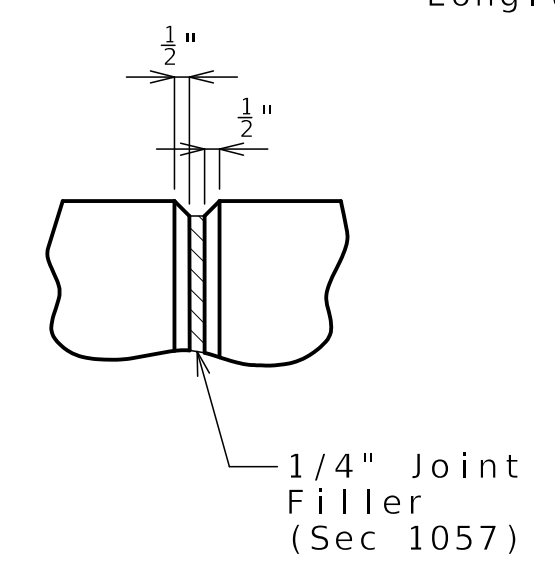
- ** 2" Ø PVC Conduit (Left barrier only) For Details of Conduit System on Structure, see Sheet No. B10-33.
- Conventional forming shall be used. Saw cut joints may be used with conventional forming.
- Top of barrier shall be built parallel to grade and barrier joints (except at end bents) normal to 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.
- Plastic waterstop shall not be used with saw cut joints.
- For Form Liner and Aesthetic Stain details of barrier not shown, see Sheet No. B10-32.
- For Decorative Pedestrian Fence Details, see Sheet No. B10-31.
- Reinforcing steel shall be shifted in the field to clear resin anchors for decorative fence.
- For Light Blister details, see Sheet No. B10-30.

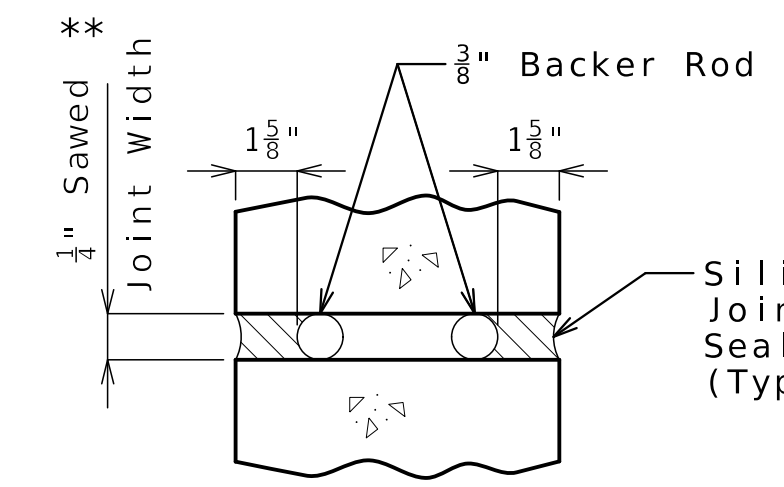
TYPE D BARRIER



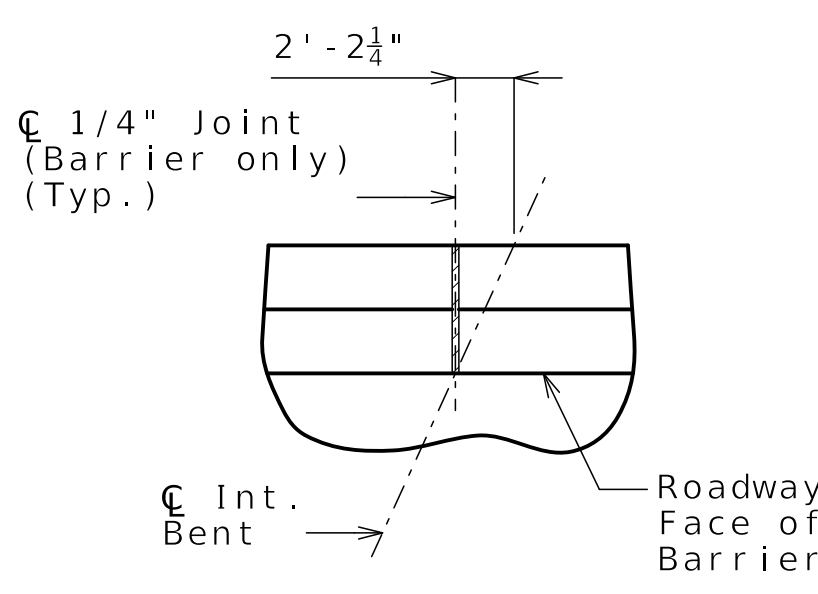
SECTION THRU SAW CUT JOINT



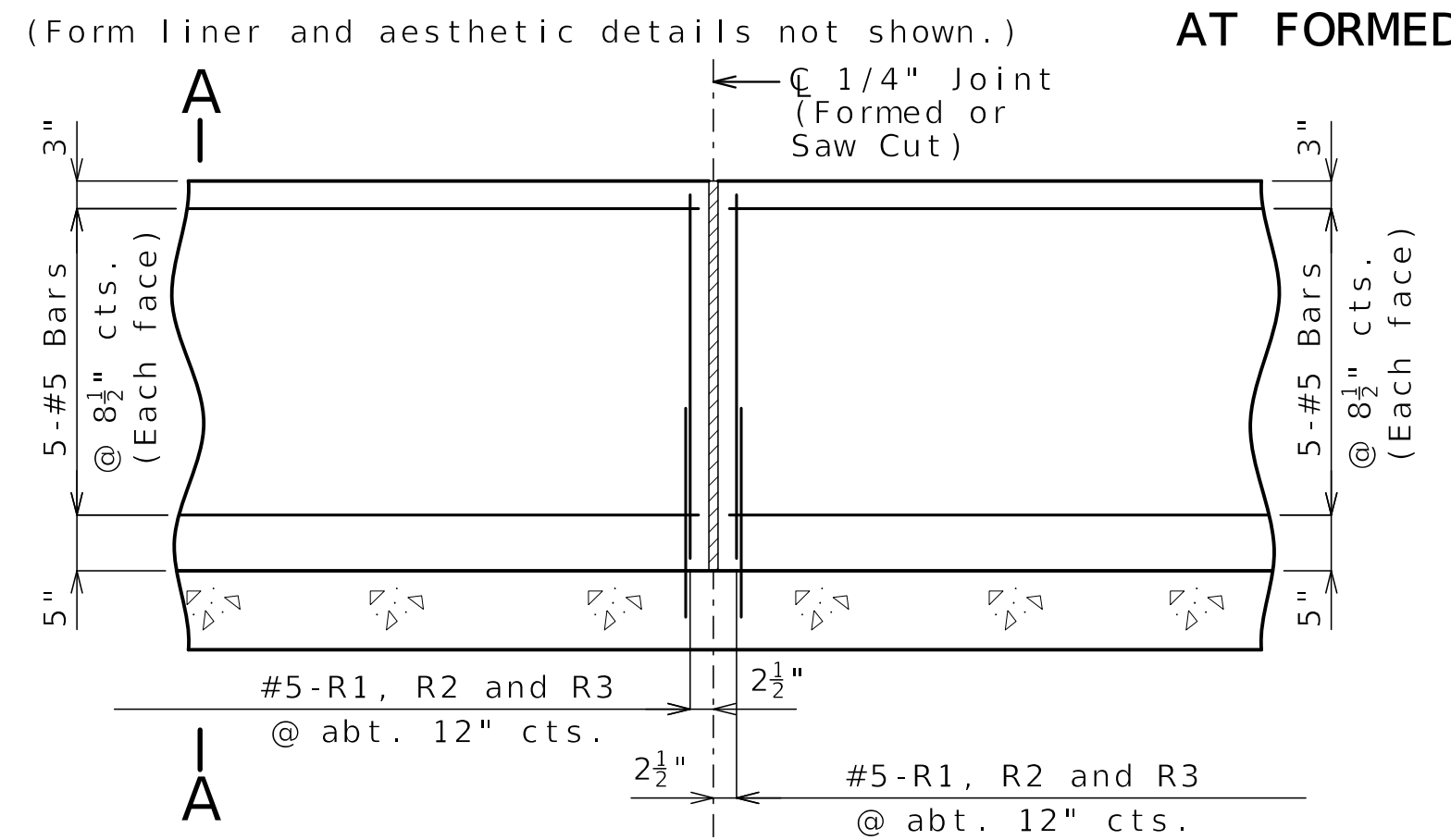
PART ELEVATION AT FORMED JOINT



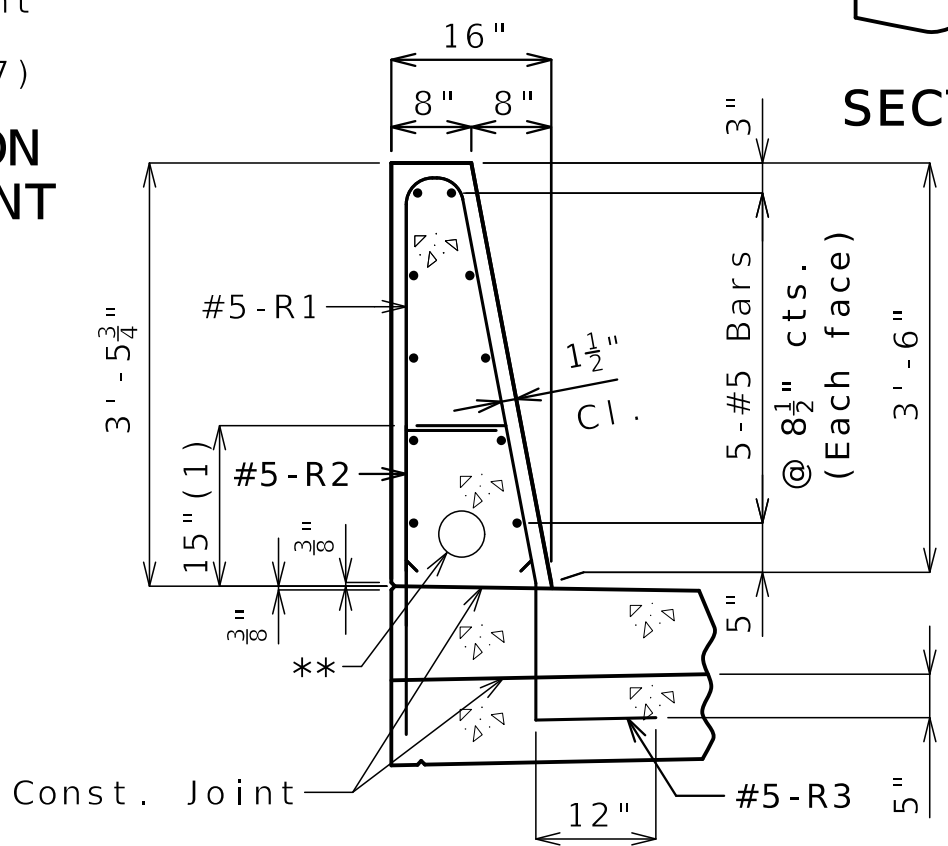
SECTION B-B



PART PLAN SHOWING JOINT LOCATION

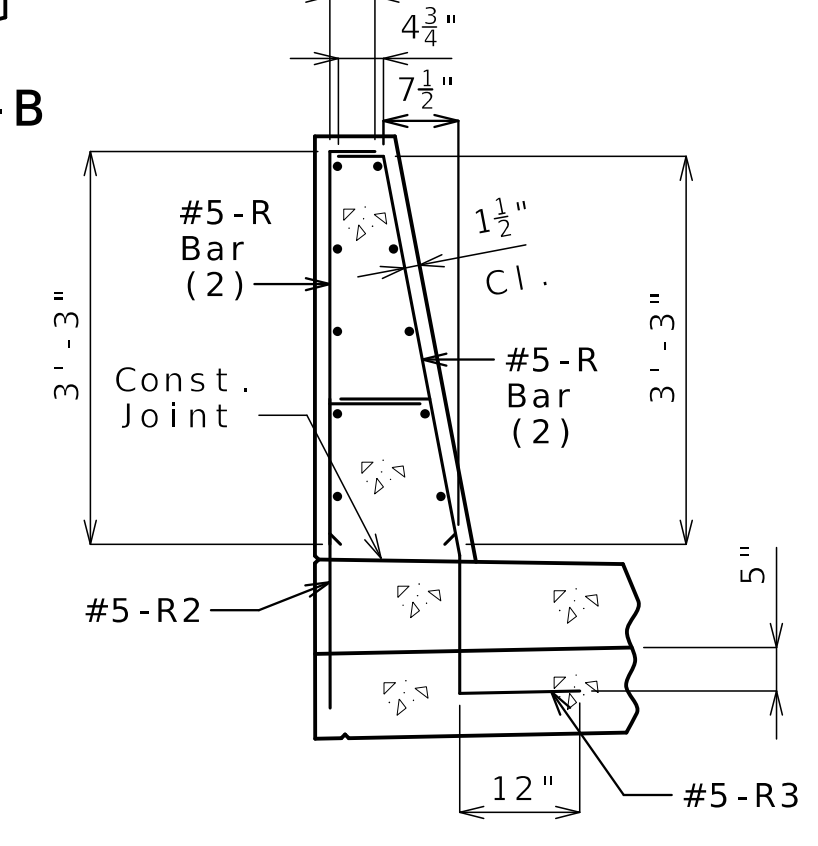


PART ELEVATION OF BARRIER



SECTION A-A

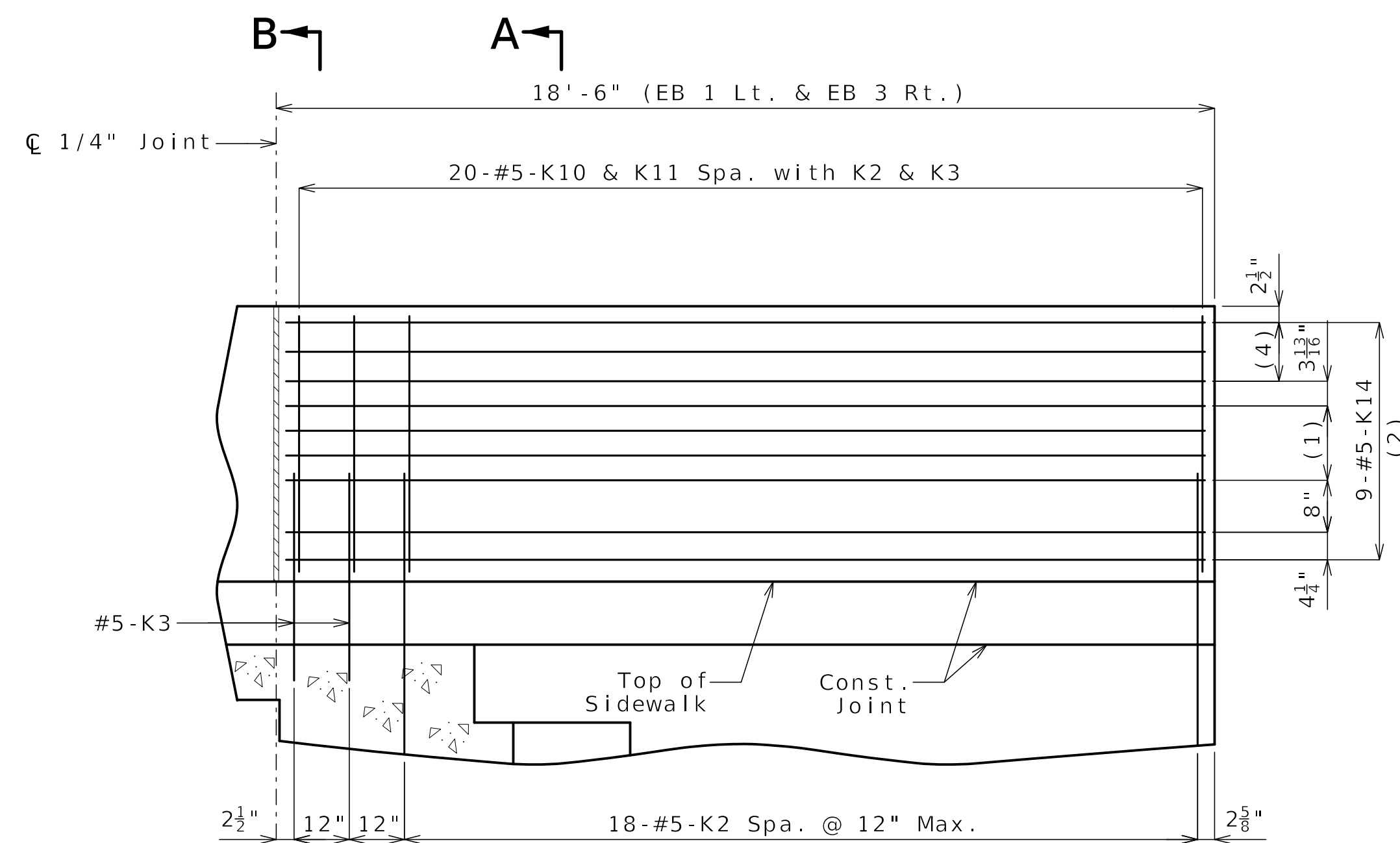
(Form liner aesthetic details not shown.)
Use a minimum lap of 3'-1" for #5 horizontal barrier bars.
(1) To top of bar



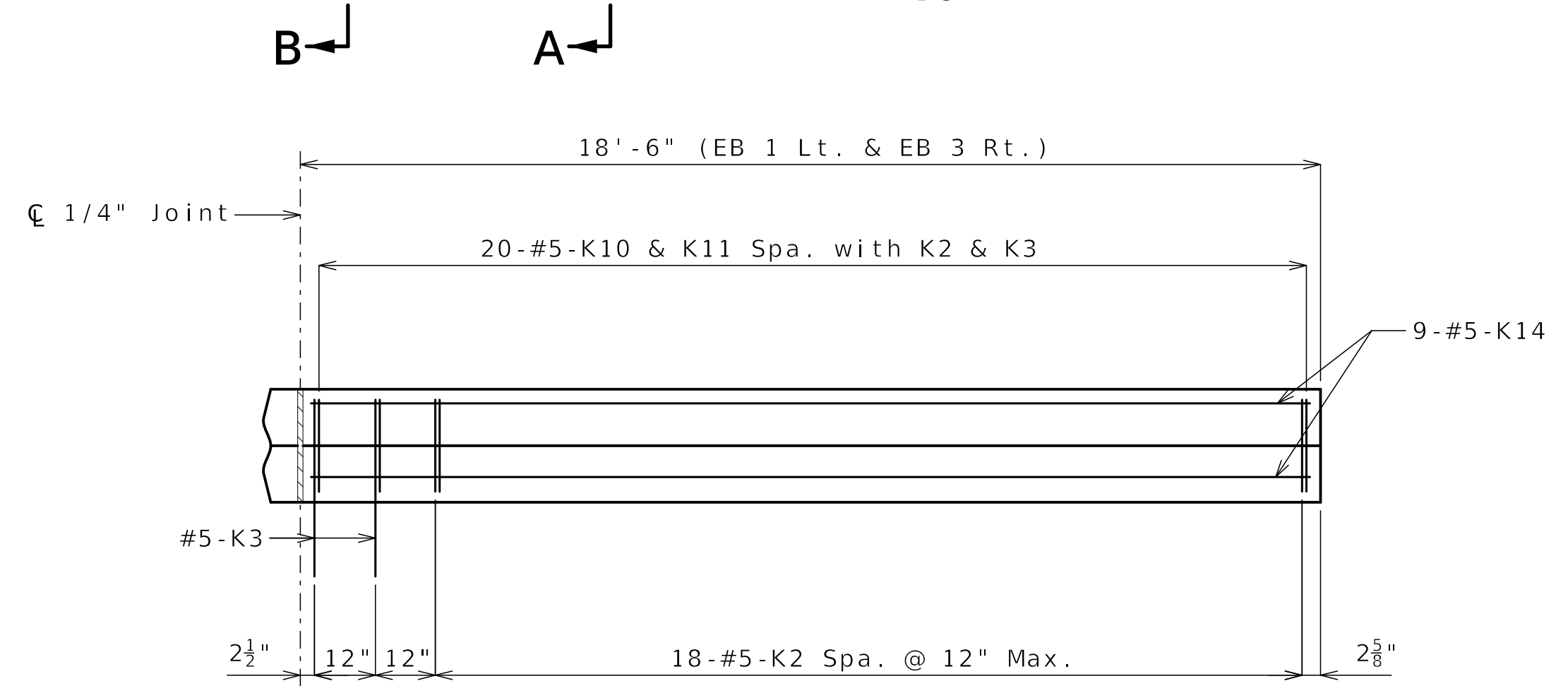
R-BAR PERMISSIBLE ALTERNATE SHAPE

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

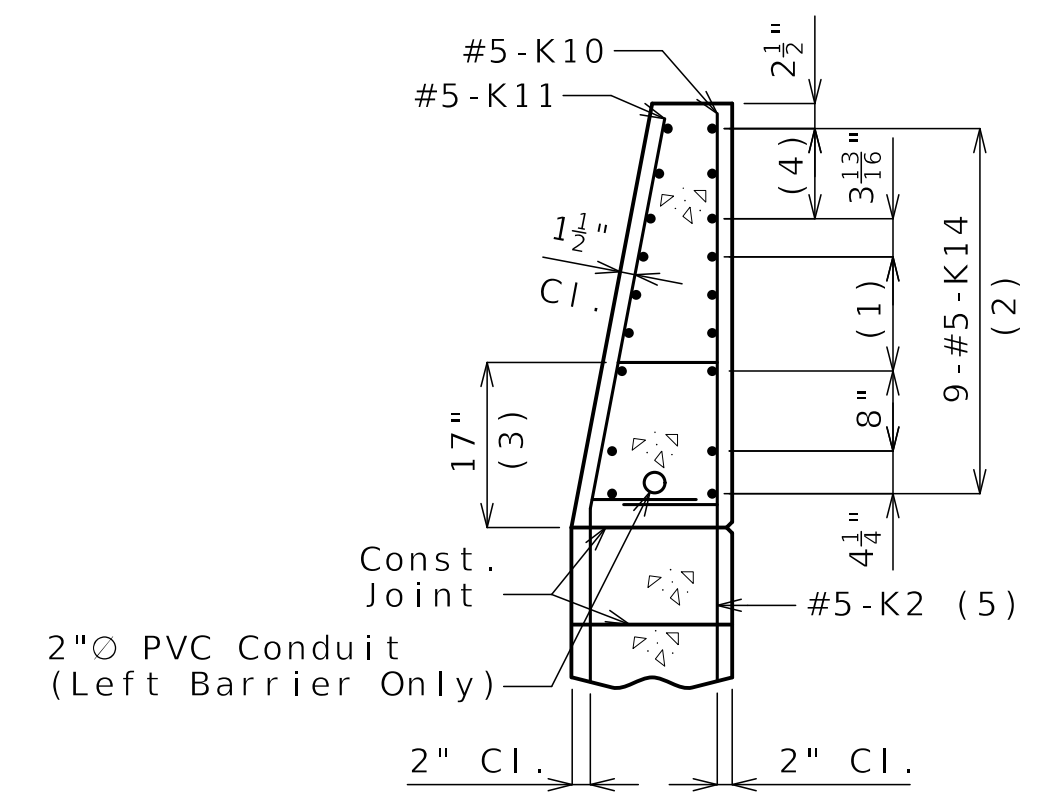
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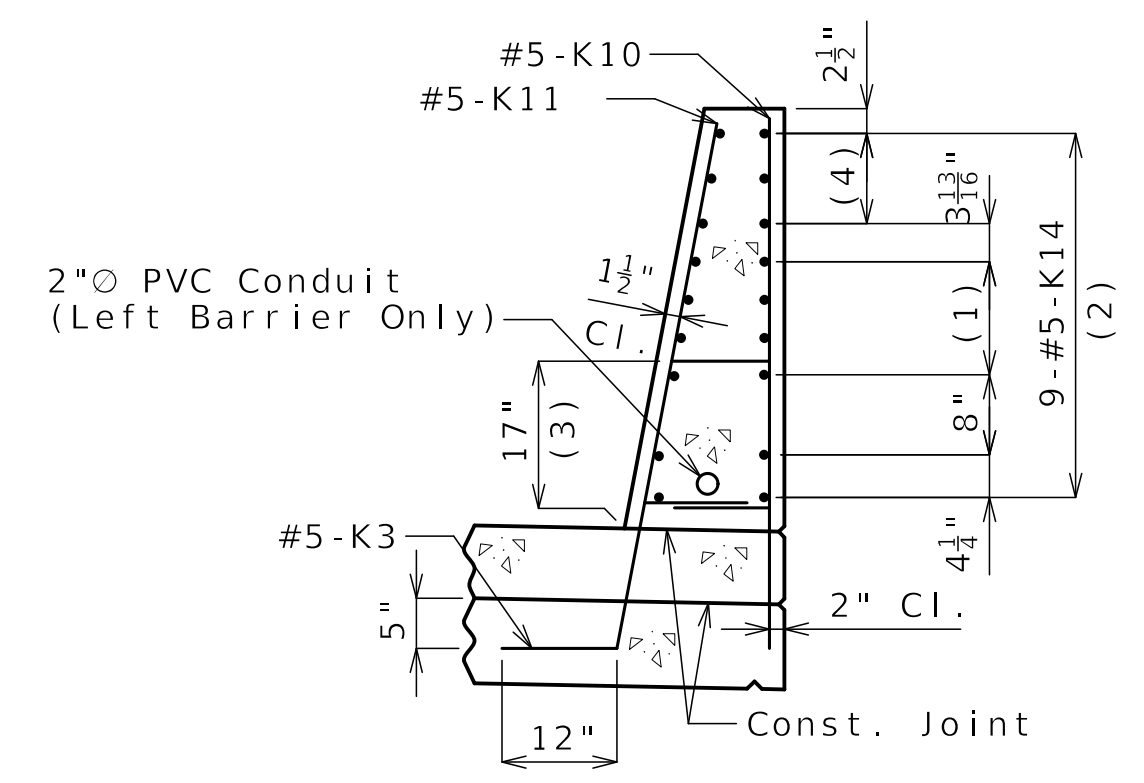
PART ELEVATION



PART PLAN

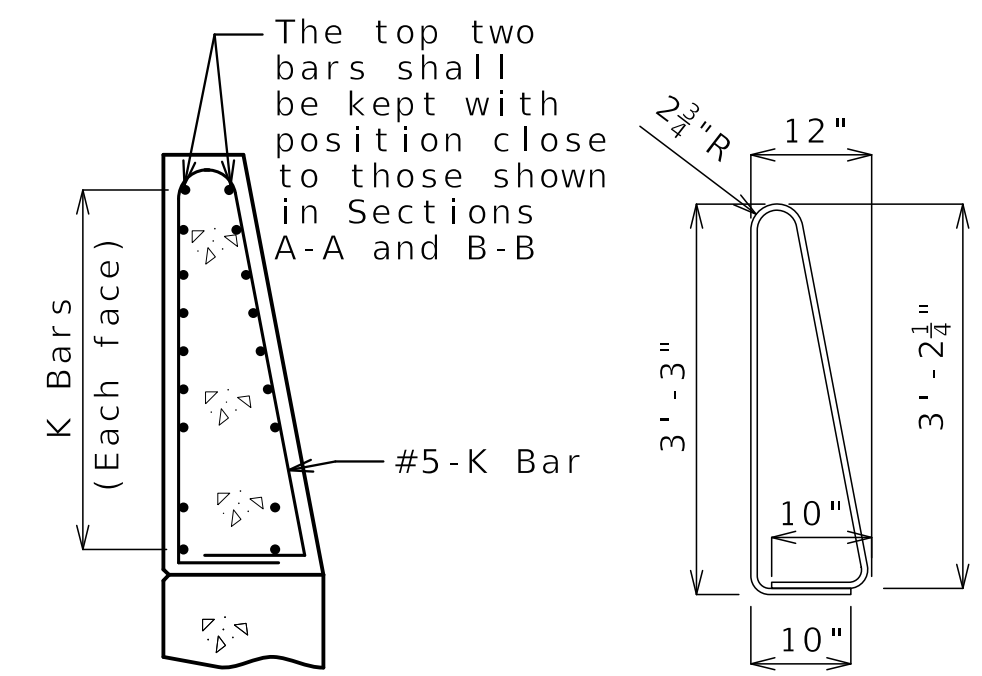


SECTION A-A



SECTION B-B

- (1) 3 spaces @ 3 1/8"
- (2) Spaced as shown, each face
- (3) To top of bar
- (4) 2 spaces @ 4 1/2"
- (5) See Sheets No. B10-07 and B10-13 for minimum embedment into wingwall.



K10-K11 BAR PERMISSIBLE ALTERNATE SHAPE

(Other K bars not shown for clarity)
 The K10-K11 bar combination may be furnished as one bar as shown, at the contractor's option.
 All dimensions are out to out.
 PVC conduit in right barrier not shown.

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.

All dimensions are out to out.

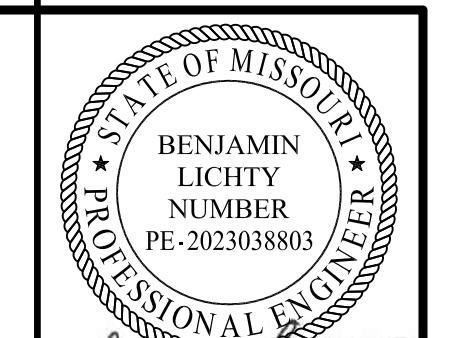
EB 1 denotes End Bent No. 1
 EB 3 denotes End Bent No. 3

For Form Liner and Aesthetic Stain Details not shown, see Sheet No. B10-32.

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

TYPE D BARRIER AT END BENTS

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Benjamin Lichty
 07-02-2025

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ROUTE 1-70	STATE MO
DISTRICT BR	SHEET NO. B10-29
COUNTY JACKSON	
JOB NO. J411486D	
CONTRACT ID. 240807-C01	
PROJECT NO.	
BRIDGE NO. A9630	

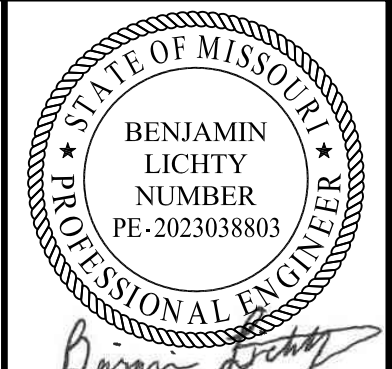
DATE	DESCRIPTION
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MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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CLARKSON RADMACHER
 JOINT VENTURE

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



Benjamin Lichty
07-02-2025

DATE PREPARED 06/25/2025	
ROUTE I-70	STATE MO
DISTRICT BR	SHEET NO. B10-30
COUNTY JACKSON	
JOB NO. J411486D	
CONTRACT ID. 240807-C01	
PROJECT NO.	

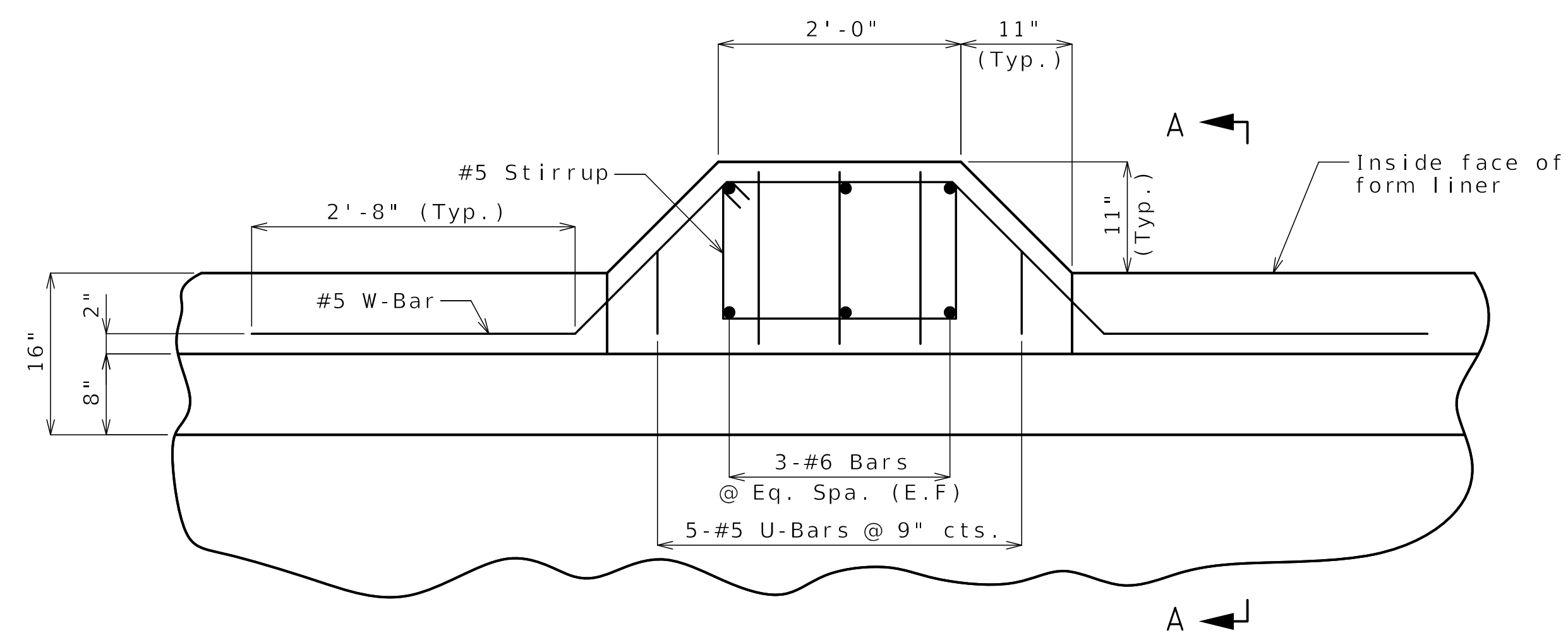
BRIDGE NO. A9630

DATE	DESCRIPTION
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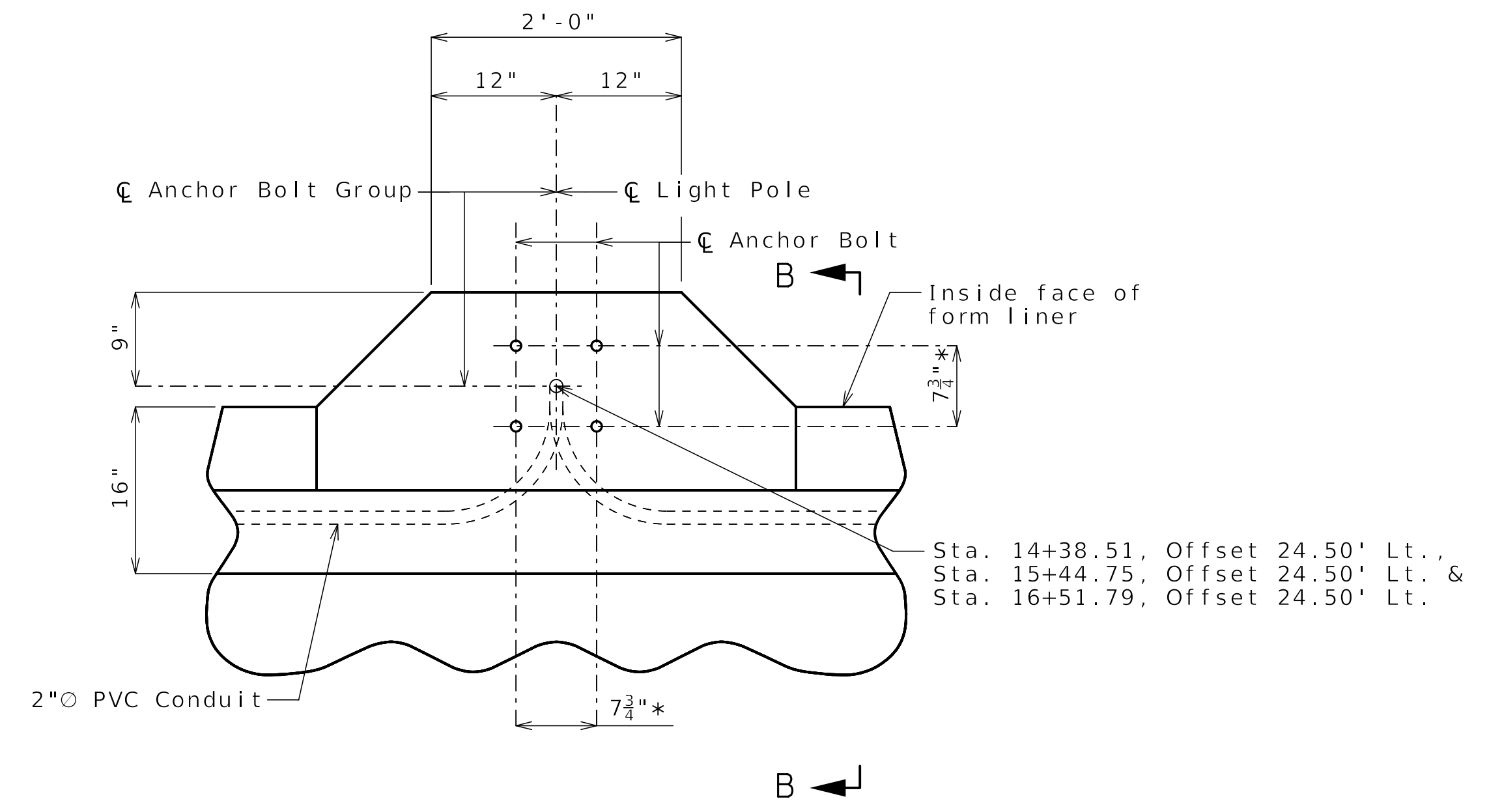
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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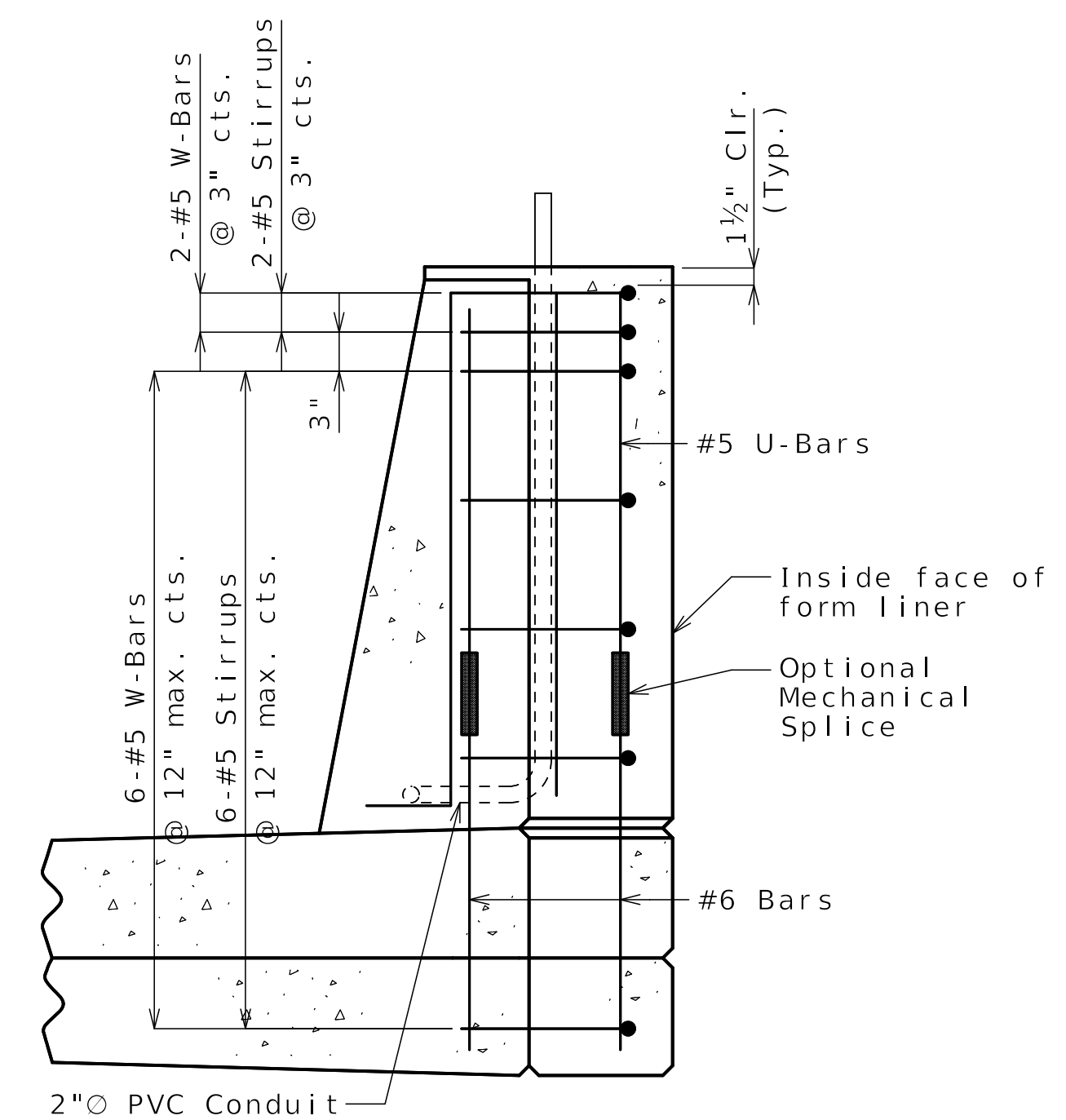
CLARKSON RADMACHER JOINT VENTURE
 715 KIRK DRIVE KANSAS CITY, MO 64105-1310
 CERTIFICATE OF AUTHORITY NO. 001270



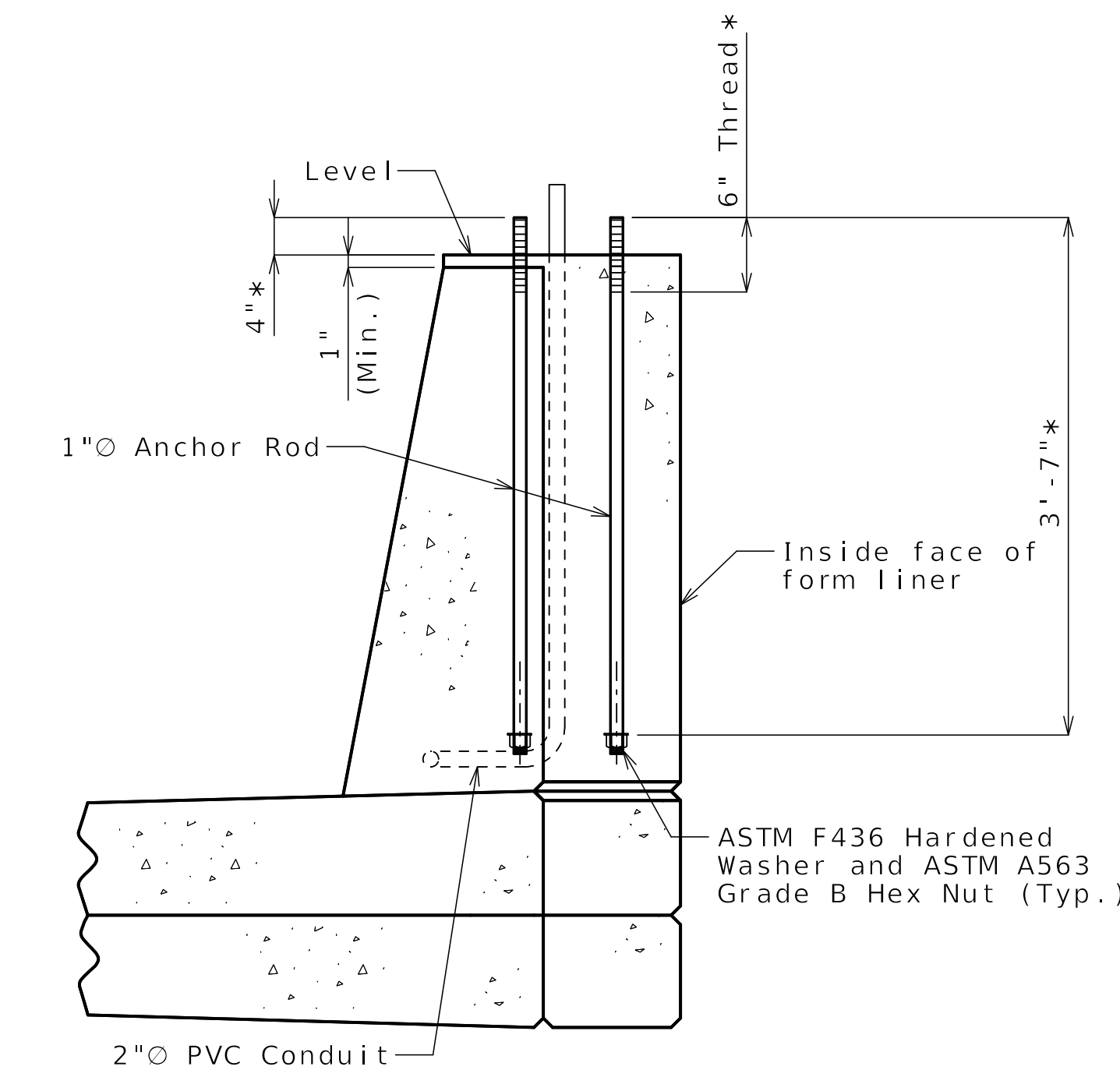
LIGHT POLE MOUNTING PLAN SHOWING REINFORCEMENT



LIGHT POLE MOUNTING PLAN



SECTION A-A



SECTION B-B

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. B10-23 and B10-24.
 For Form Liner and Aesthetic Stain Details not shown, see Sheet No. B10-32.

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 Not to Scale
 Revision: 0.0
 Date: 07/07/2025
 Package: BRD-10-Cleveland Ave.

LIGHT BLISTER DETAILS

Detailed MAR 2025
 Checked APR 2025

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

Sheet No. B10-30 of B10-39

Notes:

These details are a general representation of a Decorative Pedestrian Fence. The actual fence components and component positions may be different than what is shown.

Fence shall have a gloss back finish (Federal Standard #17038). See special provisions.

Base plate shall be ASTM A709, Grade 50.

All base plates, resin anchors, hex nuts and washers shall be galvanized in accordance with ASTM A123 and Sec 1081.

All fence posts shall be vertical.

Grout shall be placed under the post base plates in accordance with Sec 1066.

Decorative pedestrian fencing shall be in accordance with 2020-AASHTO LRFD Bridge Design Specifications (9th Ed), except that a uniform load of 50lb/ft and a concentrated load of 200 lb need not be applied simultaneously.

Shop drawings and structural calculations will not be required for the decorative pedestrian fences on the Bridge Pre-qualified Products List.

All materials used in fabrication and construction of the decorative pedestrian fencing shall be in accordance with the manufacturer's specifications, except as modified in the contract documents.

Decorative pedestrian fencing system shall be supplied by only one manufacturer. Decorative pedestrian fencing system shall include all components except resin anchors and hardware. The assembly of the pickets to the rails and the rails to the posts shall be the same as the style mentioned for the manufacturer.

See Bridge Pre-qualified Products List (BPPL) for a list of approved manufacturers.

For details of Type D Barrier, see Sheet No. B10-28.

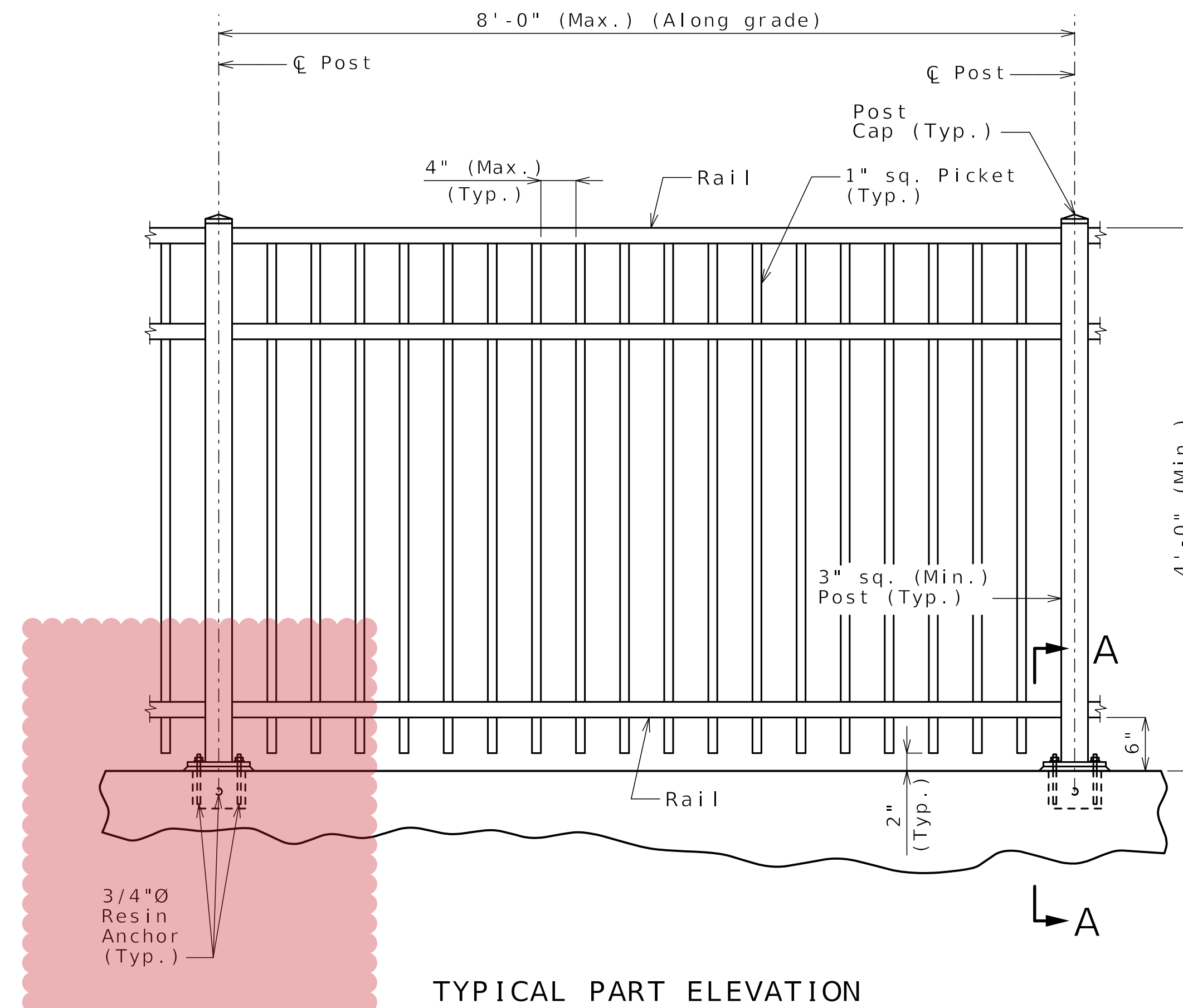
Longitudinal dimensions of fence are horizontal.

Resin Anchor Notes:

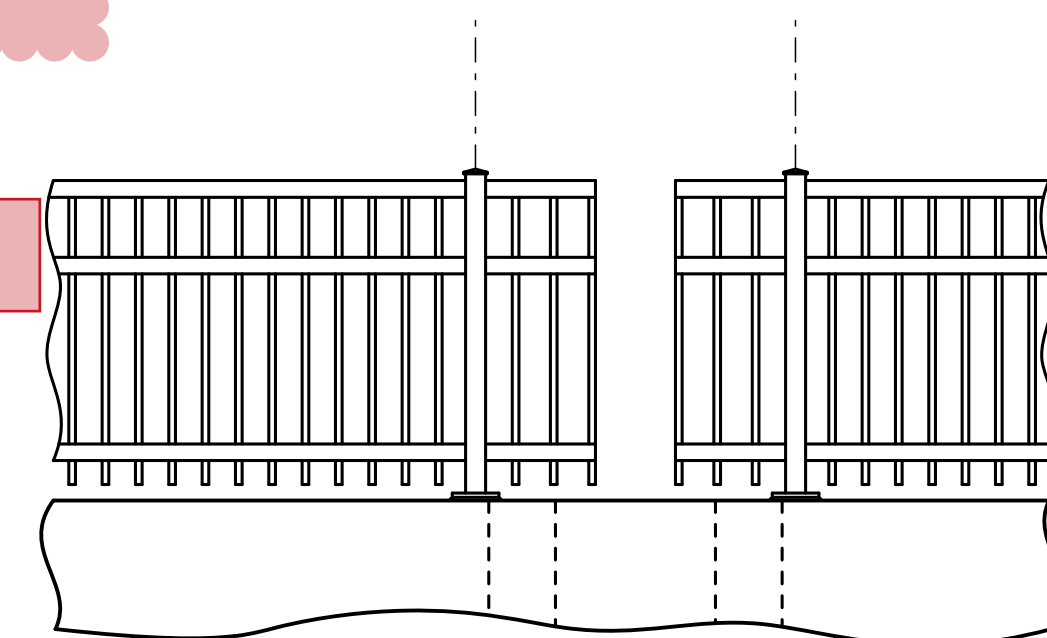
Resin anchors shall be ASTM F1554 Grade 36.

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

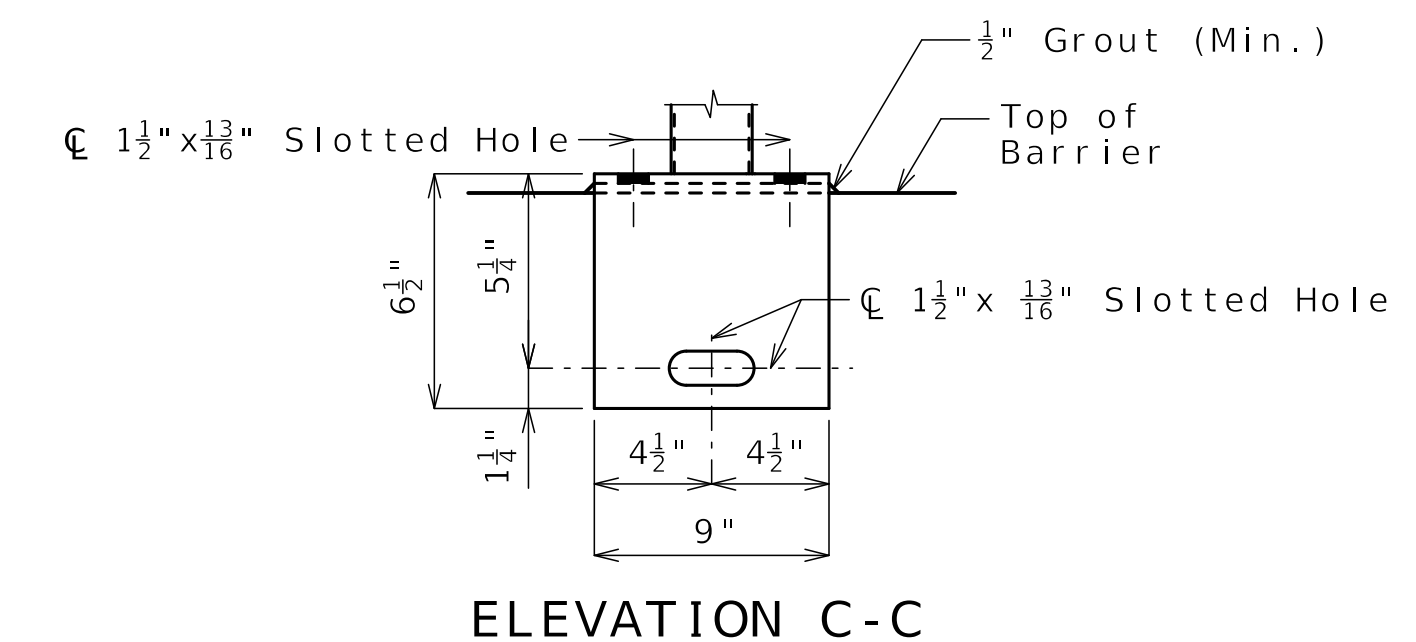
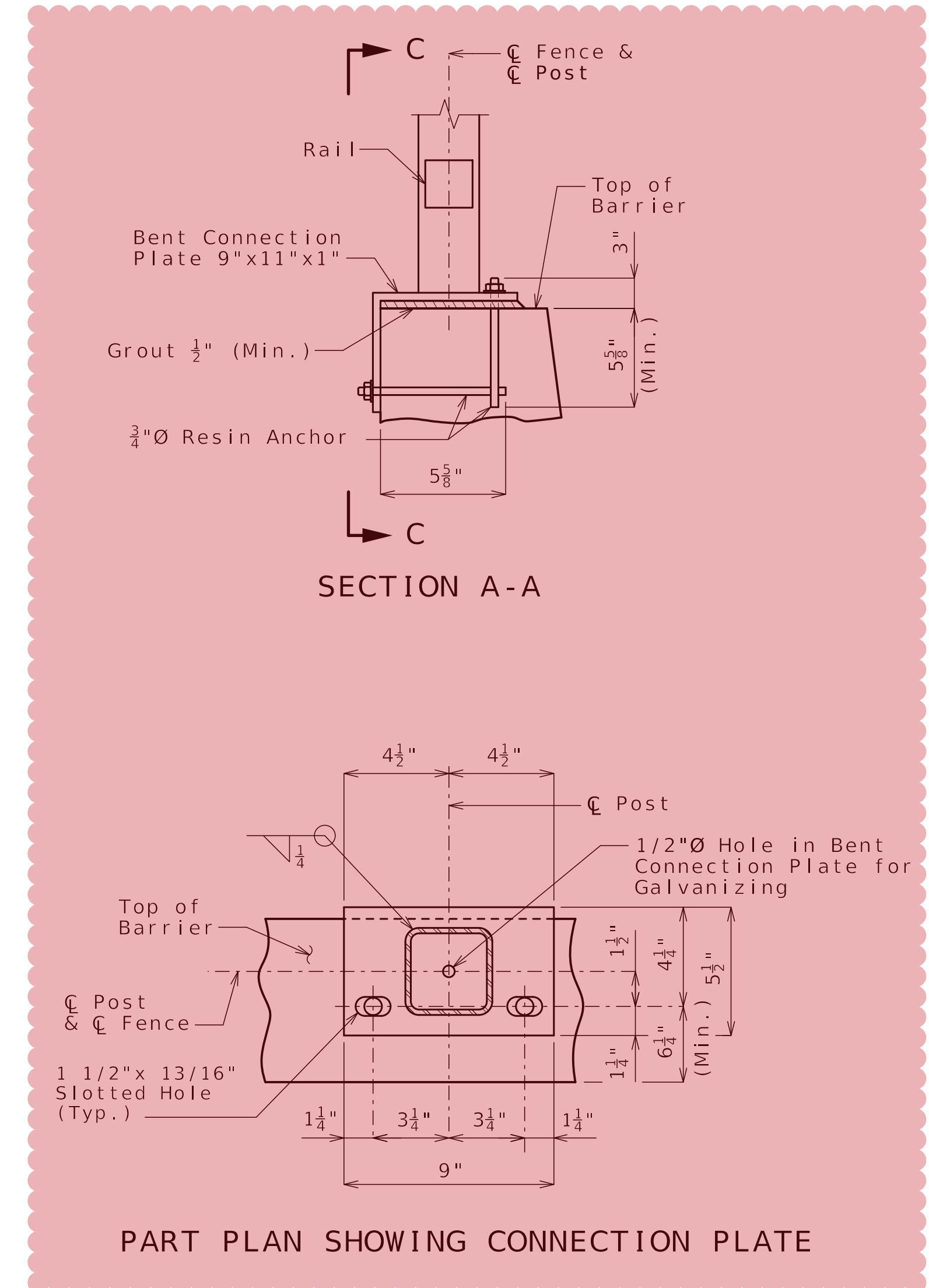
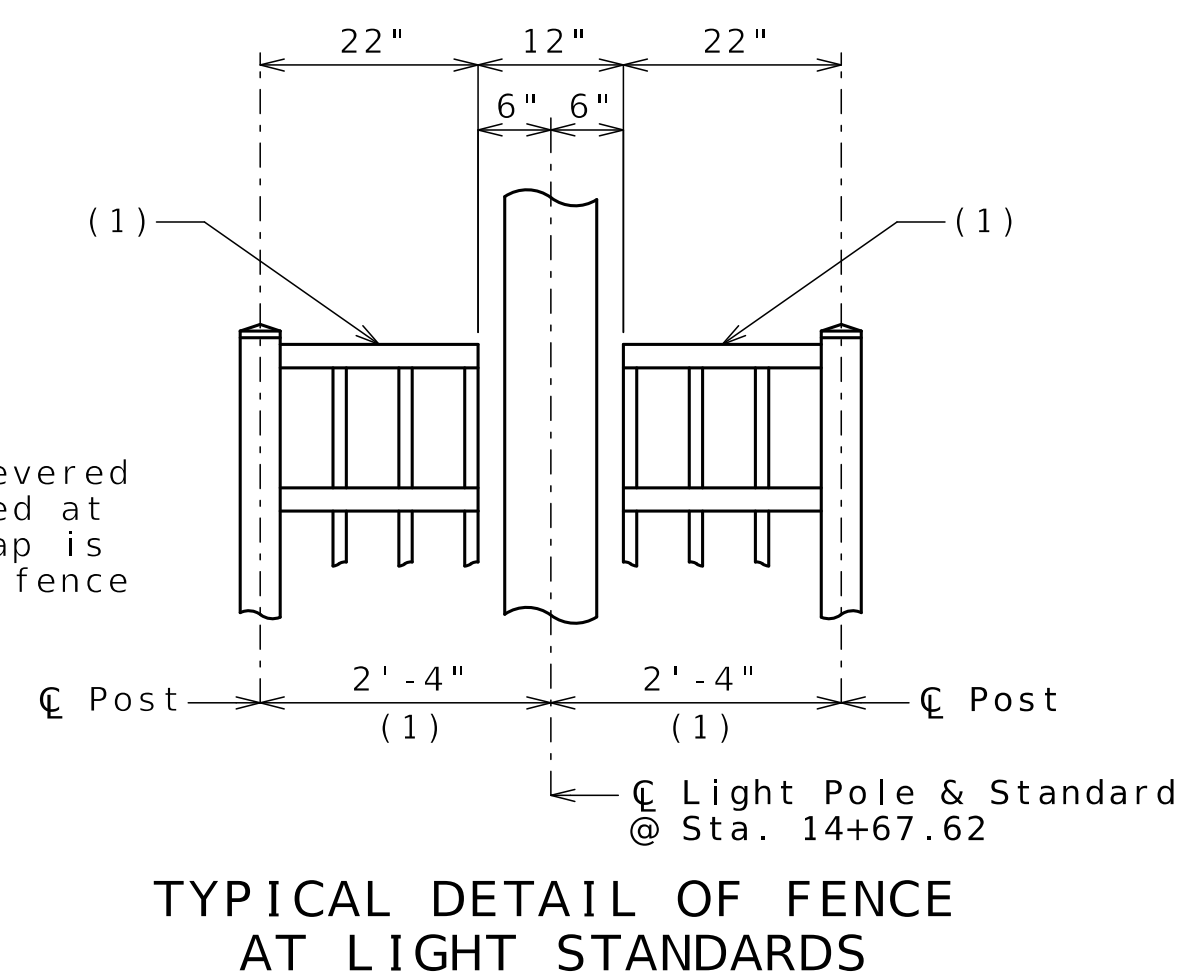
The minimum embedment depth in concrete with $f'c = 4,000$ psi for the resin anchor systems shall be that required to meet the minimum ultimate pullout strength in accordance with Sec 1039 but shall not be less than $5\frac{3}{8}$ inches.



RFI 39 FOR U-BOLT BARRIER STEEL CONFLICT SOLUTION

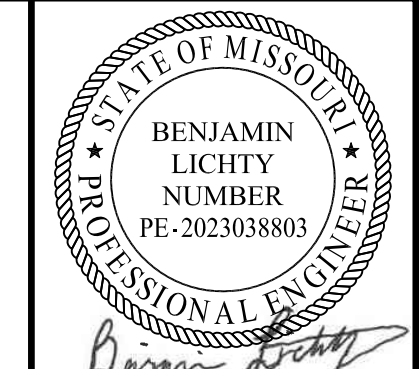


(1) Dimensions can be reduced and cantilevered fence section can be reduced or eliminated at Contractor's option so long as 4" max. gap is maintained between decorative pedestrian fence elements and light pole.



1/2-inch diameter hole in bent connection plate not shown for clarity.

Released For Construction
Not to Scale
Revision: 0.0
Date: 07/07/2025
Package: BRD-10-Cleveland Ave.



07-02-2025

DATE PREPARED 06/25/2025	
ROUTE I-70	STATE MO
DISTRICT BR	SHEET NO. B10-31
COUNTY JACKSON	
JOB NO. J411486D	
CONTRACT ID. 240807-C01	
PROJECT NO.	

BRIDGE NO. A9630

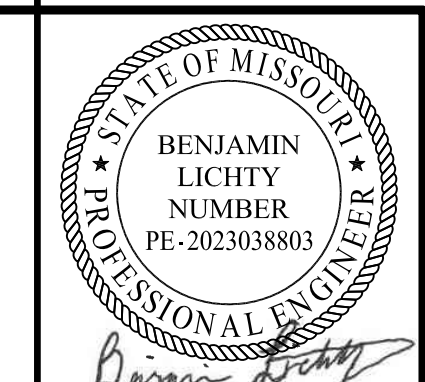
DATE	DESCRIPTION
06/25/25	REV 0 - RFC SUBMITTAL

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



07-02-2025

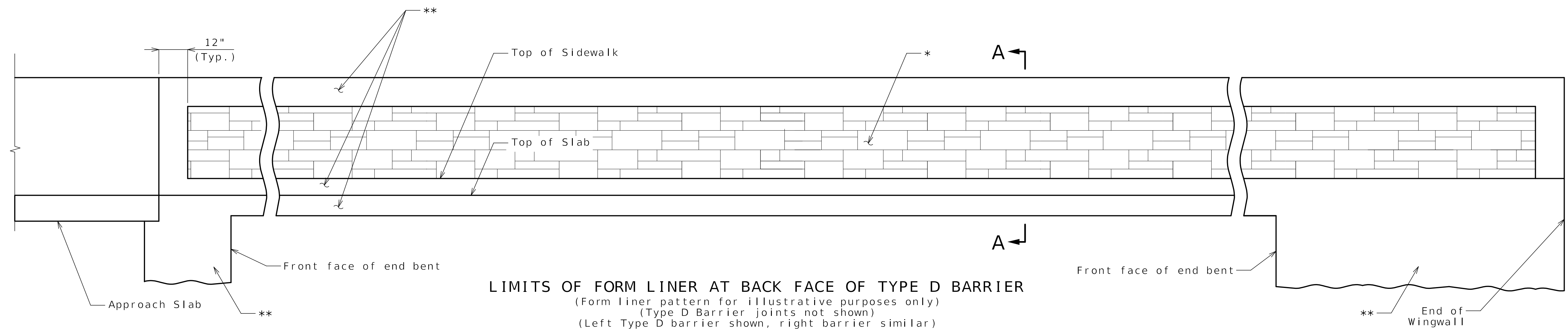
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ROUTE I-70	STATE MO
DISTRICT BR	SHEET NO. B10-32
COUNTY JACKSON	
JOB NO. J411486D	
CONTRACT ID. 240807-C01	
PROJECT NO.	

BRIDGE NO. A9630

DATE	DESCRIPTION
06/25/25	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



LIMITS OF FORM LINER AT BACK FACE OF TYPE D BARRIER
 (Form liner pattern for illustrative purposes only)
 (Type D Barrier joints not shown)
 (Left Type D barrier shown, right barrier similar)

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.

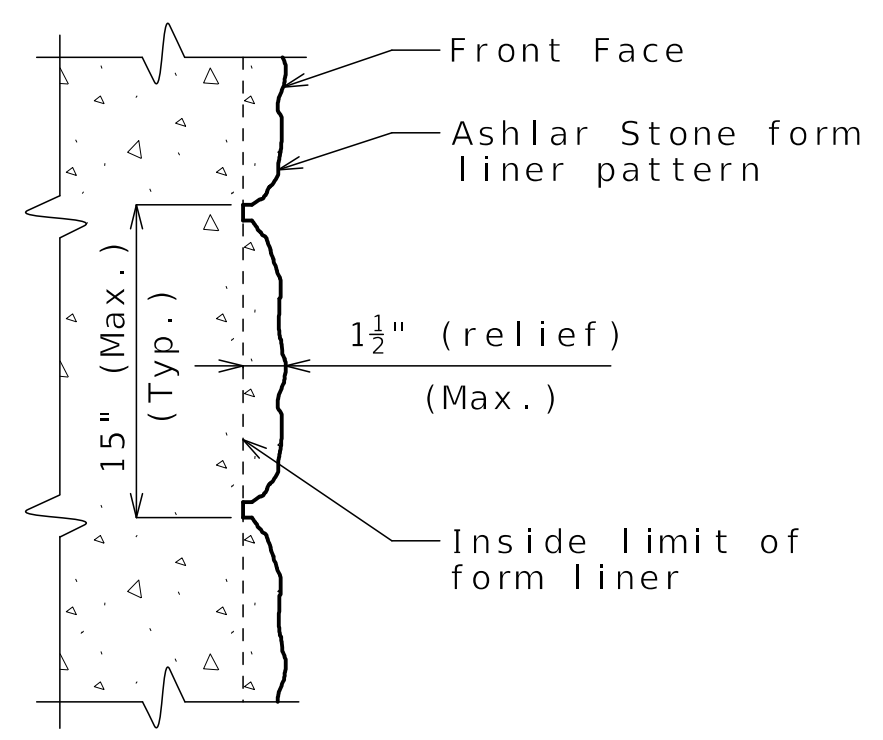
The following is a list of form liner manufacturers and types which may be used. Depth of relief for all form liner patterns shall vary up to 1 1/2". The height of any single "stone" shall be 15" maximum.

- 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

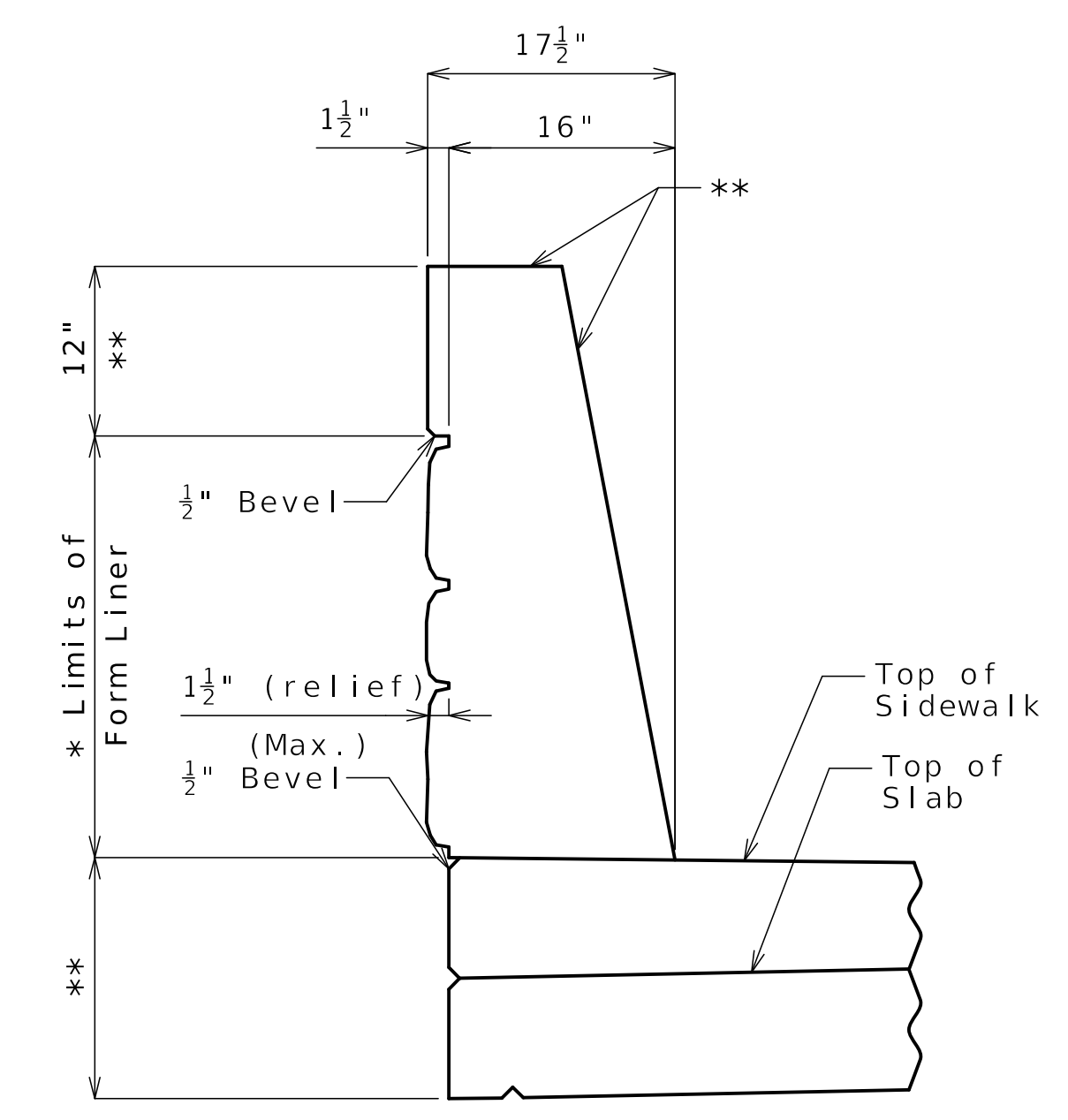
Aesthetic Concrete Stain Notes:

* 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: 07/07/2025
 Package: BRD-10-Cleveland Ave.



Benjamin Lichty
07-02-2025

DATE PREPARED 06/25/2025	
ROUTE I-70	STATE MO
DISTRICT BR	SHEET NO. B10-33
COUNTY JACKSON	
JOB NO. J411486D	
CONTRACT ID. 240807-C01	
PROJECT NO.	

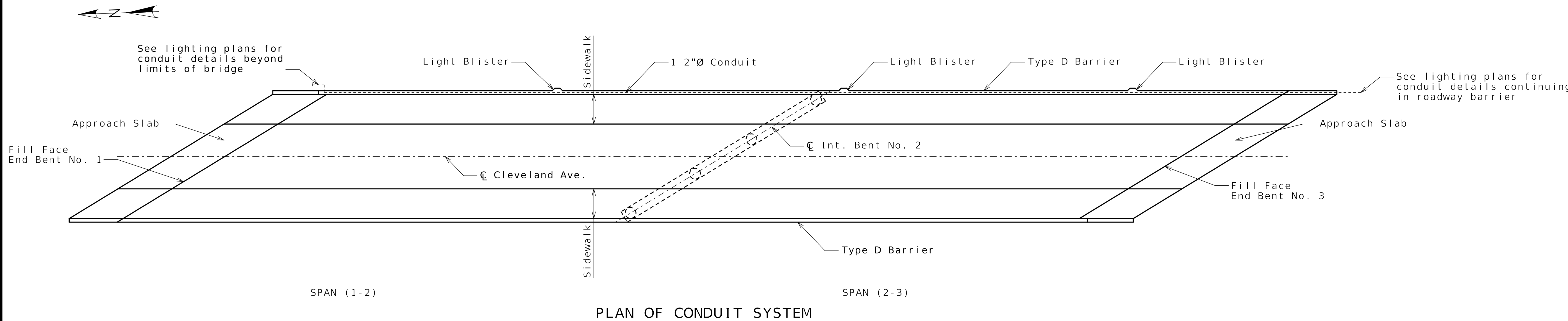
BRIDGE NO.
A9630

DATE	DESCRIPTION
06/25/25	REV 0 - RFC SUBMITTAL

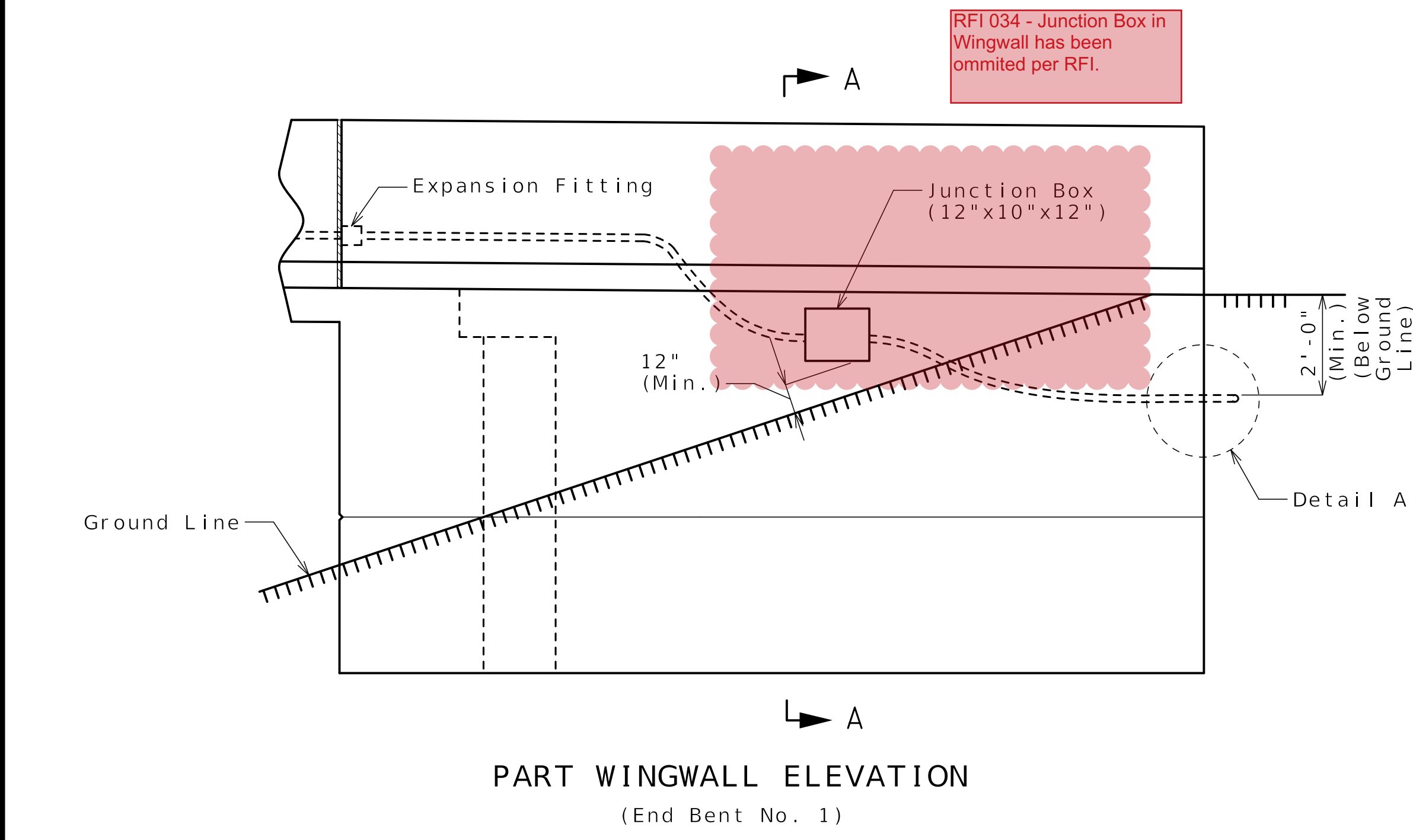
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

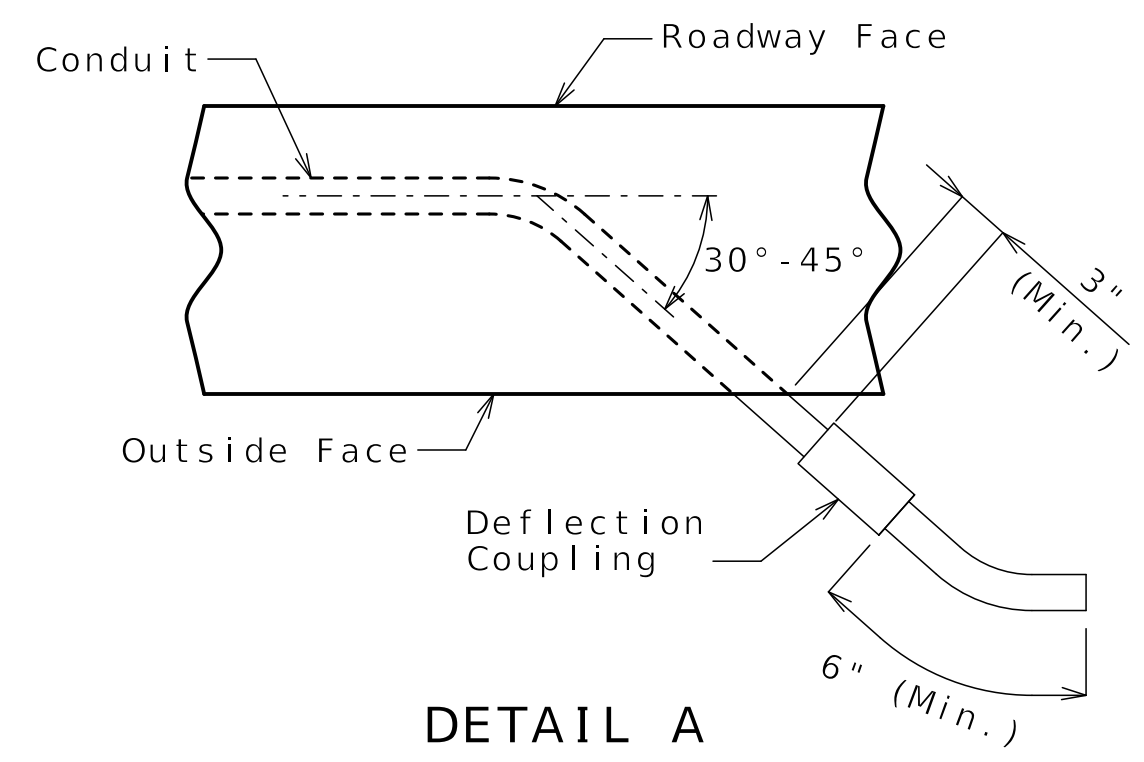
CLARKSON RADMACHER JOINT VENTURE
 715 KIRK DRIVE KANSAS CITY, MO 64105-1310
 CERTIFICATE OF AUTHORITY NO. 001270



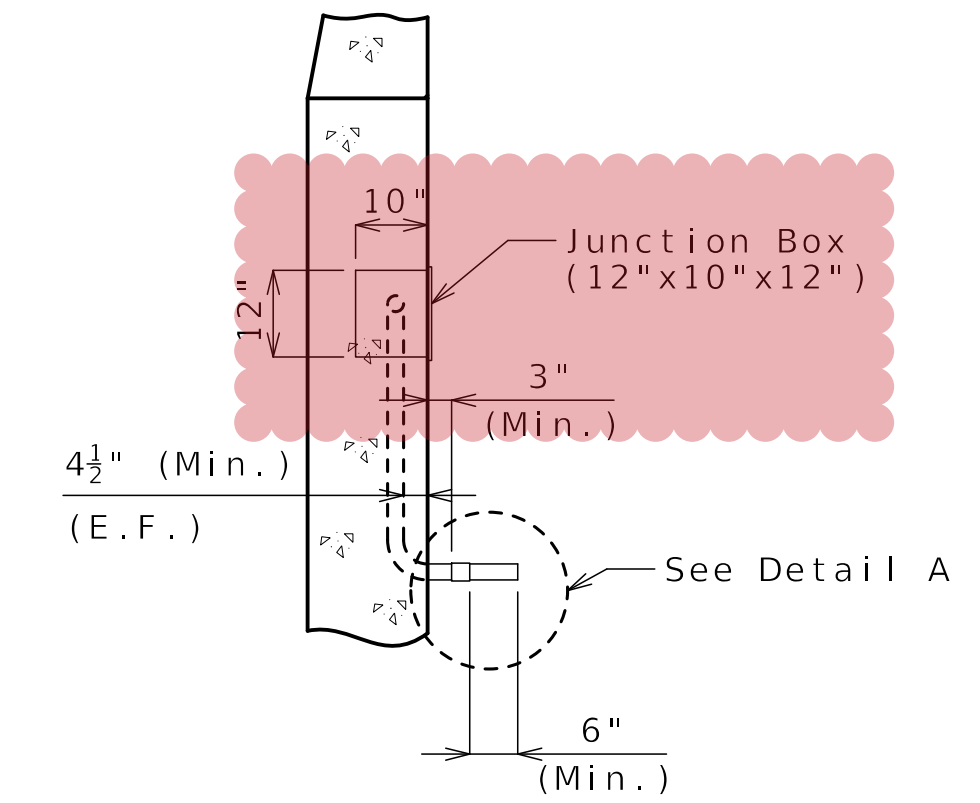
PLAN OF CONDUIT SYSTEM



PART WINGWALL ELEVATION
(End Bent No. 1)



DETAIL A



PART SECTION A-A

Notes:
 All conduit shall be rigid non-metallic schedule 40 heavy wall PVC (polyvinyl chloride plastic) with 3 1/2" minimum cover in barrier and 4 1/2" minimum cover in wingwall. 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 150°F and a maximum temperature of 120°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. B10-32.

DETAILS OF CONDUIT SYSTEM ON STRUCTURE

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 Not to Scale
 Revision: 0.0
 Date: 07/07/2025
 Package: BRD-10-Cleveland Ave.

Detailed MAR 2025
 Checked APR 2025

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

Sheet No. B10-33 of B10-39



Benjamin Lichty
07-02-2025

DATE PREPARED 06/25/2025	
ROUTE I-70	STATE MO
DISTRICT BR	SHEET NO. B10-34
COUNTY JACKSON	
JOB NO. J411486D	
CONTRACT ID. 240807-C01	
PROJECT NO.	

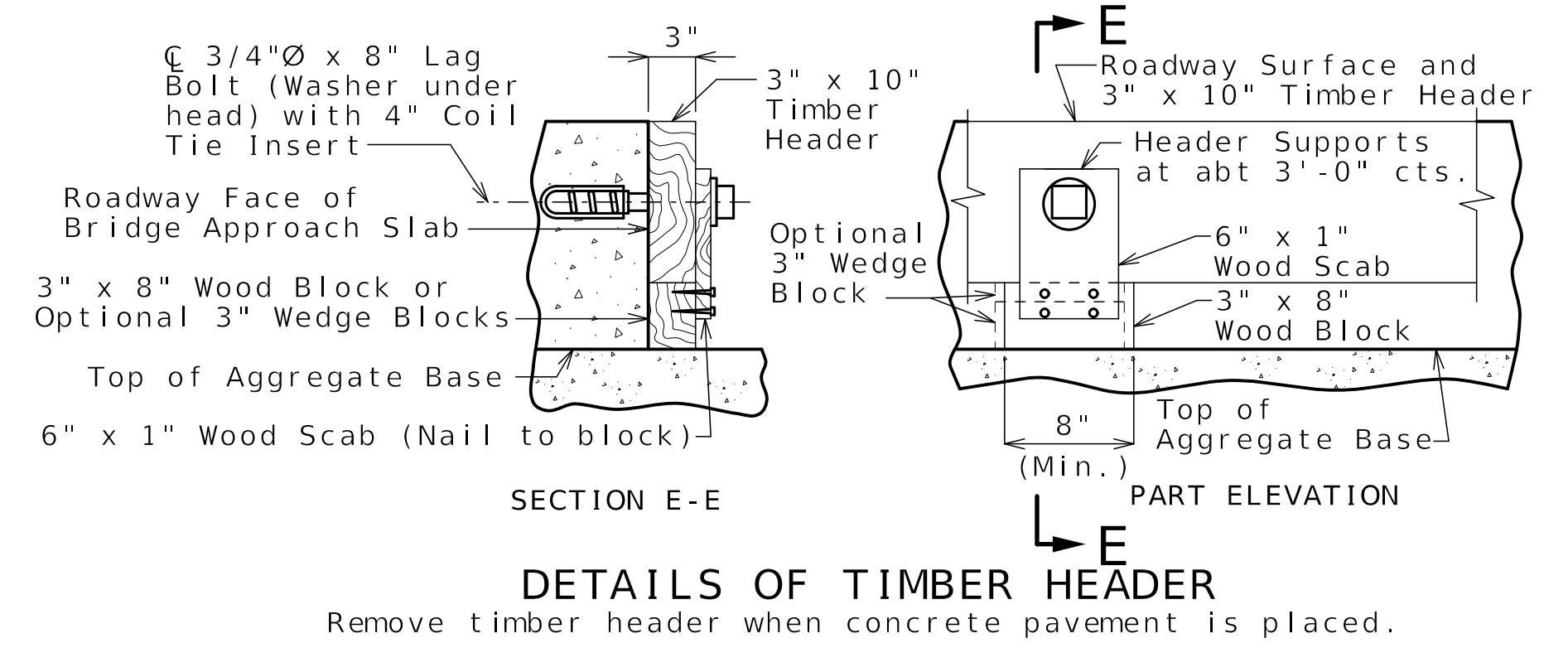
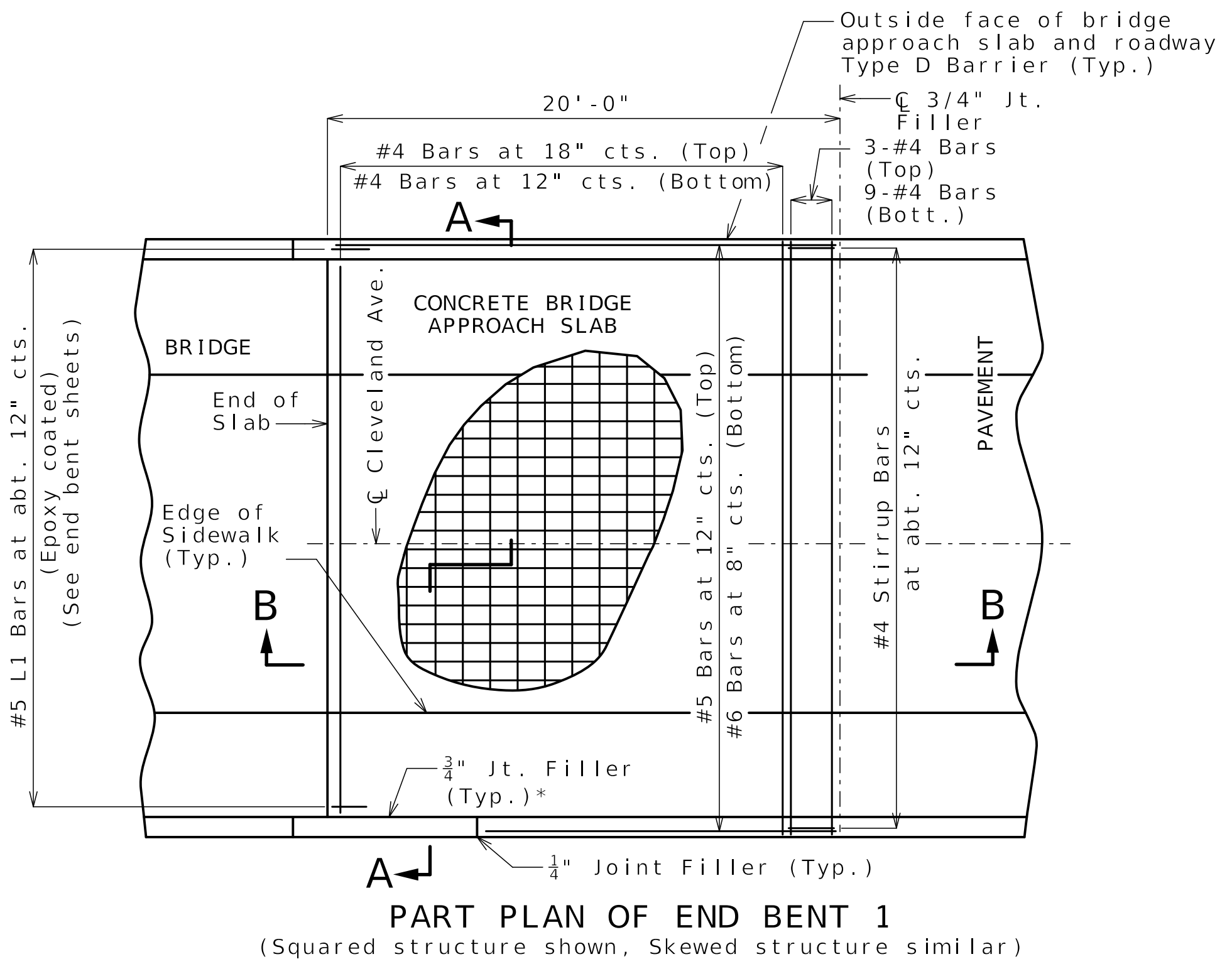
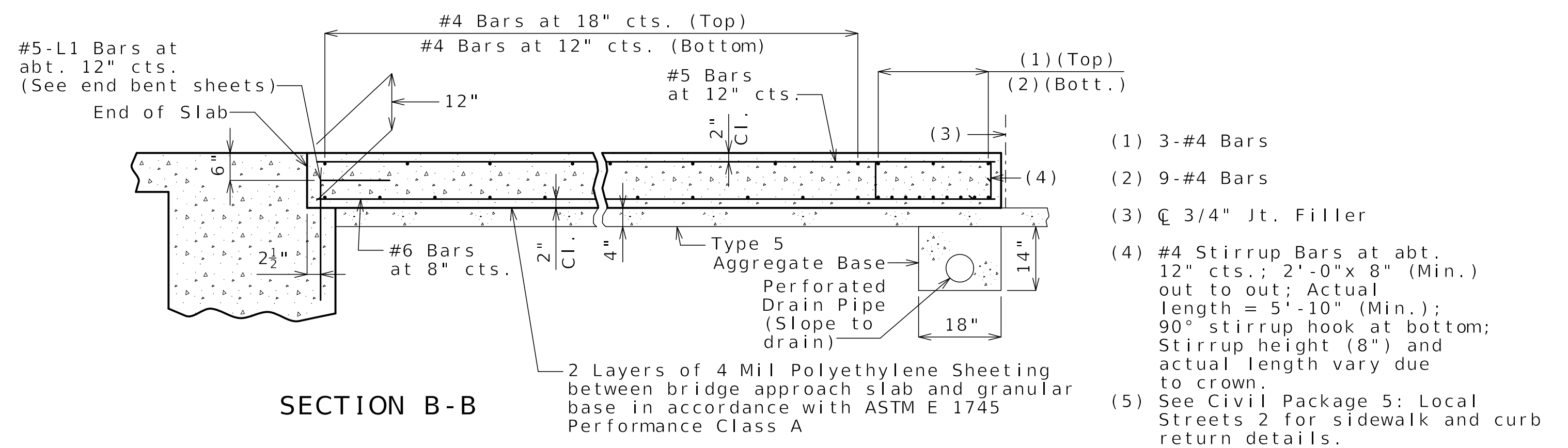
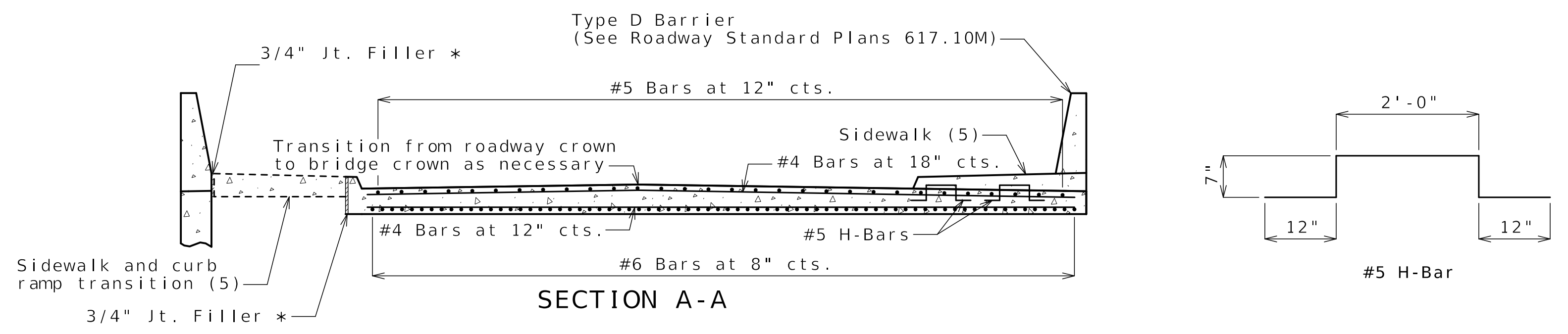
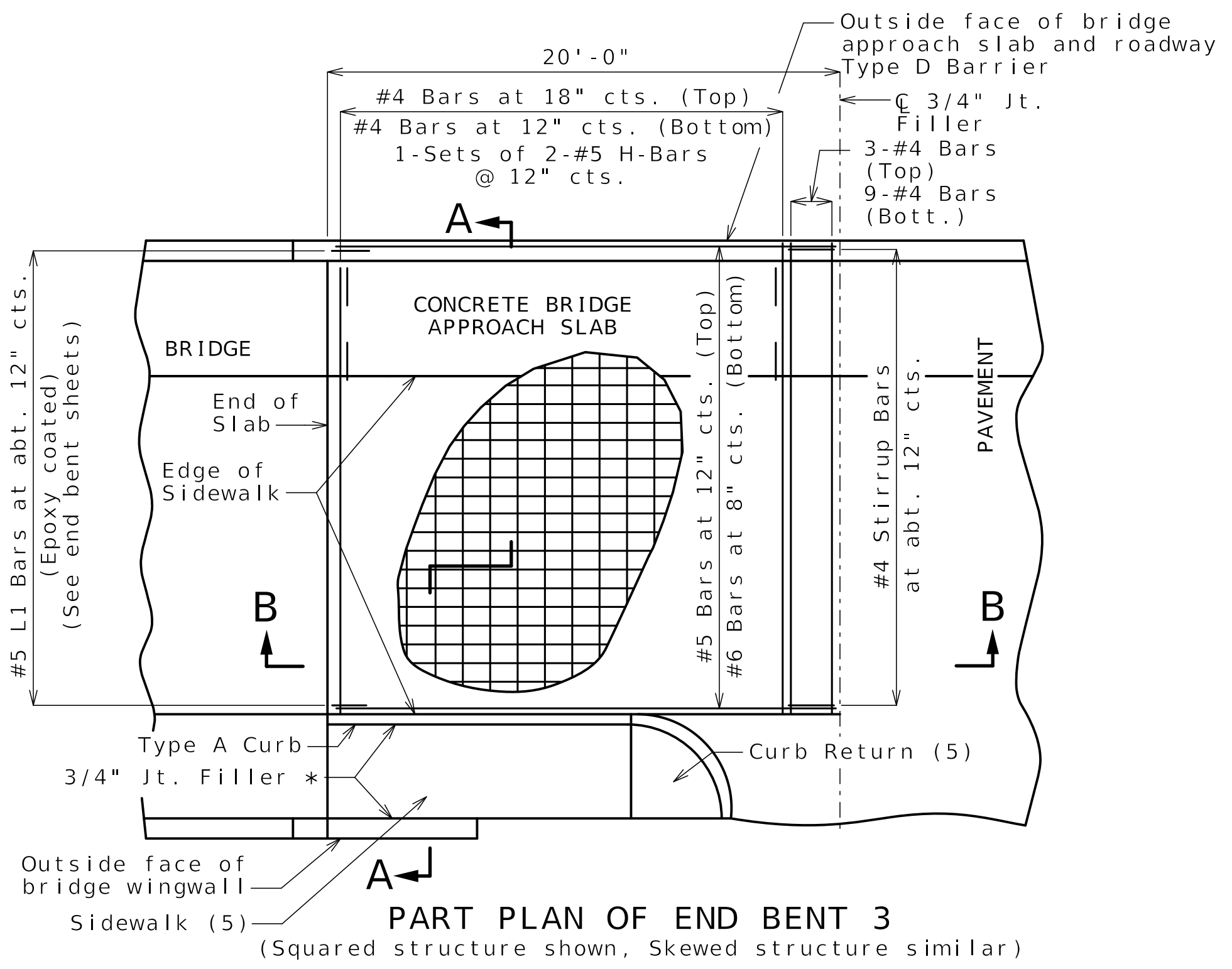
BRIDGE NO.
A9630

DATE	DESCRIPTION
06/25/25 <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



Notes:

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

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

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

The reinforcing steel in the bridge approach slab shall be continuous. The transverse reinforcing steel may be made continuous by providing a minimum lap splice of 23 inches for #4 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.

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.

* 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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Date: 07/07/2025
Package: BRD-10-Cleveland Ave.

BRIDGE APPROACH SLAB (MINOR)

Detailed MAR 2025
Checked APR 2025

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

Sheet No. B10-34 of B10-39



Gina D. Horner
07/02/25

DATE PREPARED
06/25/2025

ROUTE STATE
I-70 MO
DISTRICT SHEET NO.
BR B10-35

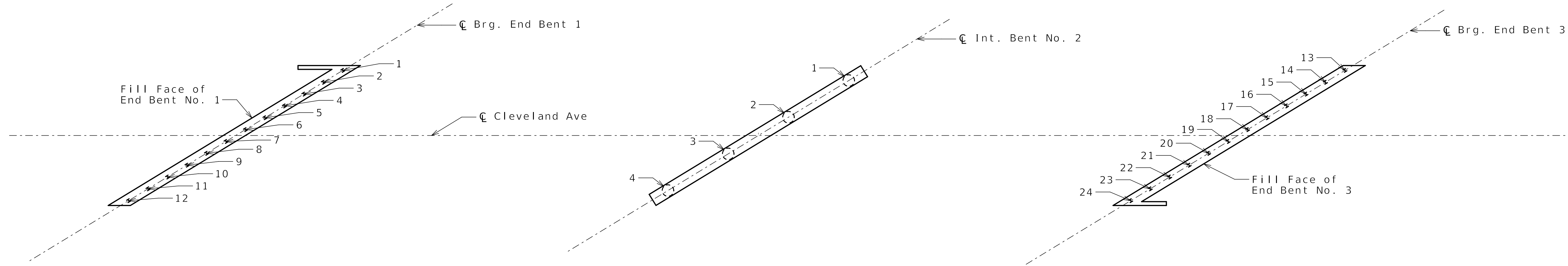
COUNTY
JACKSON

JOB NO.
J411486D

CONTRACT ID.
240807-C01

PROJECT NO.

BRIDGE NO.
A9630



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)	Computed Nominal Axial Compressive Resistance (kips)	Remarks
			End Bent No. 1
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
			End Bent No. 3
13			
14			
15			
16			
17			
18			
19			
20			
21			
22			
23			
24			

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				

Note:
Indicate in remarks column:
A. Pile type and grade.
B. Batter
C. Driven to practical refusal

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

Released For Construction
Not to Scale
Revision: 0.0
Date: 07/07/2025
Package: BRD-10-Cleveland Ave.

AS-BUILT PILE AND DRILLED SHAFT DATA

Detailed MAR 2025
Checked APR 2025

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

Sheet No. B10-35 of B10-39

DATE	DESCRIPTION
06/25/25 <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



SOIL BORING NUMBER: Cle_B2_1

PROJECT Improve I 70 KC Design Build NORTHING/EASTING 1060566.6 / 2777991.2
 DRILLING FIRM PPI DRILLER David Allen DATE STARTED 12/12/2024
 LOGGED BY Pradip Adhikari DATE COMPLETED 12/12/2024
 SURFACE ELEVATION 920* RIG TYPE CME-55
 METHOD Auger, NQ Core 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	Visual Classification and Remarks	Lab																
											Atterberg Limits (LL-PL-Pi)	Moisture Content (%)	Dry Density (PCF)	UCS (tsf)													
3.5	4	J-1		1	50/1"	100	16			ASPHALT 0.5													919.5				
										Subgrade base 0.6														919.4			
5	4	C-1		50/1"	50/1"	70	16			FILL, gray, firm, moist, LEAN CLAY (CL), shaley, few gravels 4.0														916			
										Limestone, thinly bedded, weathered, light gray, moderately hard, multiple fractures																	
										- core loss from 4' to 5'																	
										- core loss from 6.1' to 6.5'																912	
										Shale, thickly bedded, slightly weathered, gray, moderately hard																	
																										16.2	
										15.0																124.5	
										Limestone, medium to thick bedded, slightly weathered, light gray, hard																6	
										- fractured at 17.5'																0.2	
										- 6" shale seam at 21'																165.1	
										23.0																106.4	
										Shale, medium bedded, slightly weathered, gray, moderately hard																	
																										5.8	
																										139.3	
																											74

* Survey not possible due to boring location. Coordinates estimated from visual inspection. Elevation estimated from contour map.



SOIL BORING NUMBER: Cle_B2_1

PROJECT Improve I 70 KC Design Build NORTHING/EASTING 1060566.6 / 2777991.2
 DRILLING FIRM PPI DRILLER David Allen DATE STARTED 12/12/2024
 LOGGED BY Pradip Adhikari DATE COMPLETED 12/12/2024
 SURFACE ELEVATION 920* RIG TYPE CME-55
 METHOD Auger, NQ Core TOOLING 4-1/2" Continuous Flight Auger

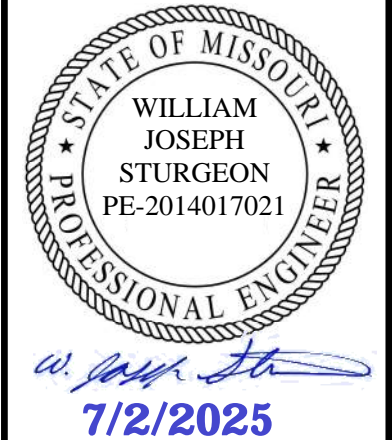
Depth (ft)	Depth of Sample	Sample Type	Sample ID	Recovery Length (in)	Blow Counts (N-Value)	% Recovery	RQD (%)	Pocket Pen (tsf)	Graphic Log	Visual Classification and Remarks	Lab																															
											Atterberg Limits (LL-PL-Pi)	Moisture Content (%)	Dry Density (PCF)	UCS (tsf)																												
38			C-7			100				Shale, medium bedded, slightly weathered, gray, moderately hard																																
40			C-8			100	28																																			
43										- limey shale at 42'																																
45			C-9			100	73			Limestone, thickly bedded, weathered, very fine grained, light gray, moderately hard																																
										48.0																																
										Bottom of Boring at 48'																																
										Backfilled with cuttings and patched with asphalt 12/11/2024																																

* Survey not possible due to boring location. Coordinates estimated from visual inspection. Elevation estimated from contour map.

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Revision: 0.0
Date: 07/07/2025
Package: BRD-10-Cleveland Ave.

Notes:
For locations of borings, see Sheet No. B10-02 and Geotechnical Report.

BORING LOGS



DATE PREPARED
06/25/2025
ROUTE
1 - 70
STATE
MO
DISTRICT
BR
SHEET NO.
B10 - 37
COUNTY
JACKSON
JOB NO.
J411486D
CONTRACT ID.
240807 - C01
PROJECT NO.
BRIDGE NO.
A9630

DATE	DESCRIPTION
06/25/25	REV 0 - RFC SUBMITTAL

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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





SOIL BORING NUMBER: Cle_B3_1

Page 1 of 1

PROJECT Improve I 70 KC Design Build NORTHING/EASTING 1060739.4 / 2778011.8

DRILLING FIRM PPI DRILLER Josh Starkey DATE STARTED 01/22/2025

LOGGED BY Cameron Dupont DATE COMPLETED 01/22/2025

SURFACE ELEVATION 945.2' RIG TYPE CME-55LC

METHOD Auger, NQ Core 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)			
0.4									ASPHALT									
1.5	3.1 ft	J-1	18	3-2-3 (5)	100		1.0		CONCRETE			39-20-19	27.9					
									FILL, brownish gray, firm, moist, LEAN CLAY (CL), some organics, with gravel									
									- becomes firm to stiff at 8'									
11.0	8.1 ft	J-2	18	3-3-5 (8)	100		1.5		Brown, firm to stiff, moist, LEAN CLAY (CL), gray mottling									
16.8	13.1 ft	J-3	18	3-3-4 (7)	100		1.5		Tan-gray, moist, highly weathered, chert with clay									
19.8	18.1 ft	J-4	5	50/5" (50/5")	100				Limestone, highly weathered to weathered, tan-gray, hard, cherty, vuggy, moist									
19.8	18.1 ft	C-1	60		100		81		Limestone, highly weathered to weathered, tan-gray, hard, cherty, vuggy, moist									
29.5	24.83 ft	C-2	59		98		68		Shale, weathered, gray, soft, moist									
29.8									Bottom of Boring at 29.83'									
									Boring backfilled with cuttings and patched with asphalt 1/22/2025									



SOIL BORING NUMBER: Cle_B3_2

Page 1 of 2

PROJECT Improve I 70 KC Design Build NORTHING/EASTING 1060679.6 / 2778052.0

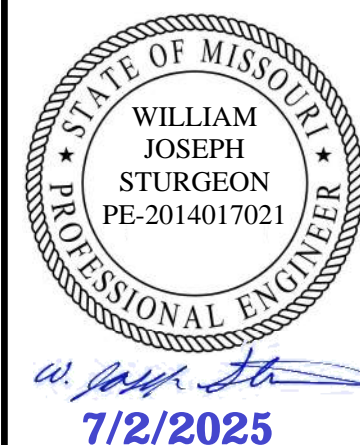
DRILLING FIRM PPI DRILLER Ray A. DATE STARTED 01/22/2025

LOGGED BY Trent Shepherd/Cameron Dupont DATE COMPLETED 01/29/2025

SURFACE ELEVATION 945.6' RIG TYPE CME-55

METHOD Auger, NQ Core 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)			
0.5									CONCRETE									
1.5	3 ft	J-1	13	2-3-2 (5)	72		1.5		FILL, brown, firm to stiff, wet, LEAN CLAY (CL), trace organics			44-20-24	30.3					
									- becomes firm to stiff at 8'									
13.0	8 ft	J-2	18	2-3-3 (6)	100		1.5		Reddish brown, soft to firm, wet, LEAN CLAY (CL)			45-18-27	24.7	99.8	0.806			
17.2	13 ft	U-1	23		96		0.75		Limestone, highly weathered, light gray, moderately hard									
19.8	17.2 ft	J-3	24	50/0" (50/0")	71	12			- vuggy, loss of water circulation at 18'									
19.8	17.2 ft	C-1	24		100	87			- becomes weathered to slightly weathered at 21'									
25.0	20 ft	C-2	60		100	87			Limestone, fresh, light gray, moderately hard									
27.0	25 ft	C-3	26		100	100			Limestone, slightly weathered, gray, moderately hard to hard, vuggy, Sandstone seams throughout									
29.5	27 ft	C-4	36		100	36			Shale, moderately weathered, dark gray, soft									
31.0	30 ft	C-5	60		100	95			Limestone, slightly weathered, gray, hard, fossiliferous									
31.1									Shale, thin bedded, moderately weathered, dark gray, soft to moderately hard									
33.3	35 ft	C-6	60		100	55												



DATE PREPARED	06/25/2025
ROUTE	1-70
STATE	MO
DISTRICT	BR
SHEET NO.	B10-38
COUNTY	JACKSON
JOB NO.	J4I1486D
CONTRACT ID.	240807-C01
PROJECT NO.	
BRIDGE NO.	A9630

DATE	DESCRIPTION
06/25/25	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: 07/07/2025
Package: BRD-10-Cleveland Ave.

Notes:
For locations of borings, see Sheet No. B10-02 and Geotechnical Report.

BORING LOGS



SOIL BORING NUMBER: Cle_B3_2

Page 2 of 2

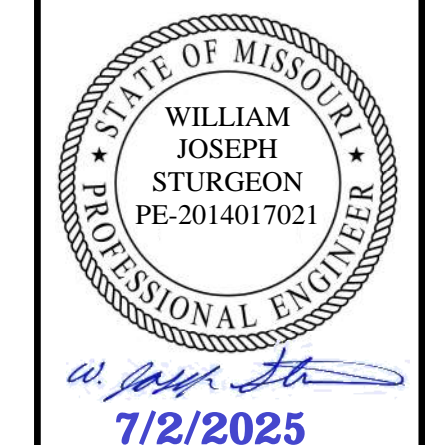
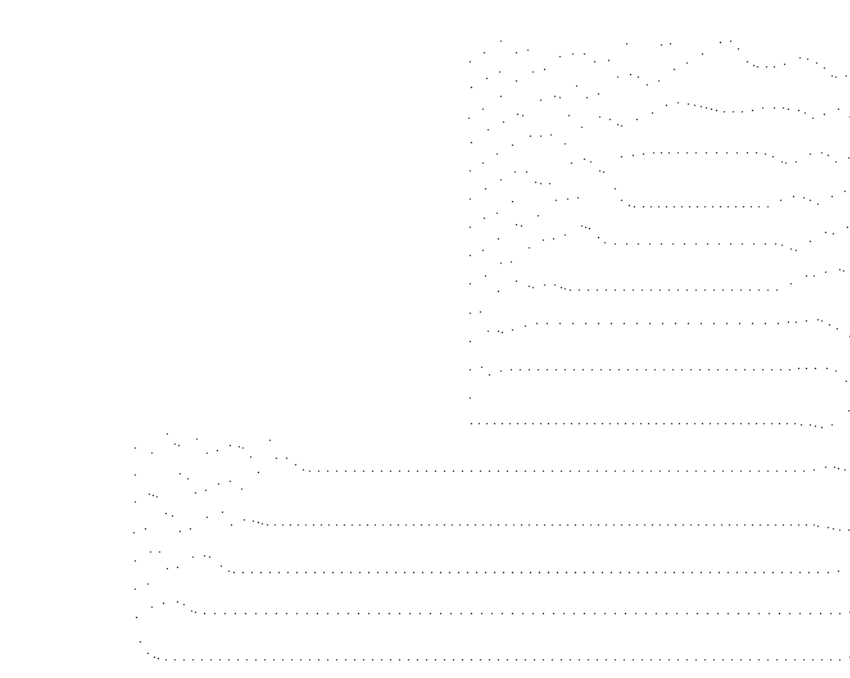
PROJECT Improve I 70 KC Design Build NORTHING/EASTING 1060679.6 / 2778052.0
 DRILLING FIRM PPI DRILLER Ray A. DATE STARTED 01/22/2025
 LOGGED BY Trent Shepherd/Cameron Dupont DATE COMPLETED 01/29/2025
 SURFACE ELEVATION 945.6' RIG TYPE CME-55
 METHOD Auger, NQ Core TOOLING 4-1/2" Continuous Flight Auger

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 ft		C-6	60		100													
			C-7	60		100	87												
45	45 ft		C-8	60		100	79												
50																			
55																			
60																			
65																			
70																			

Groundwater Data	
During Drilling (ft):	N/A
After Drilling (ft):	N/A
After __ Hours (ft):	N/A

Visual Classification and Remarks

Shale, thinly bedded, moderately weathered, dark gray, soft to moderately hard
 40.7 904.9
 Limestone, fresh, gray, hard, fossiliferous, thin shale seams throughout
 45.2 896.4
 49.2 896.4
 Shale, slightly weathered, dark gray, moderately hard
 50.0 895.6
 Boring Terminated at 50.0 ft, backfilled with cuttings (01/29/2025)



DATE PREPARED		06/25/2025	
ROUTE	STATE	DISTRICT	SHEET NO.
I - 70	MO	BR	B10 - 39
COUNTY			
JACKSON			
JOB NO.			
J411486D			
CONTRACT ID.			
240807-C01			
PROJECT NO.			
BRIDGE NO.			
A9630			

DATE	DESCRIPTION
06/25/25	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: 07/07/2025
 Package: BRD-10-Cleveland Ave.

Notes:
 For locations of borings, see Sheet No. B10-02 and Geotechnical Report.

BORING LOGS

Detailed MAR 2025
 Checked APR 2025

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

Sheet No. B10-39 of B10-39