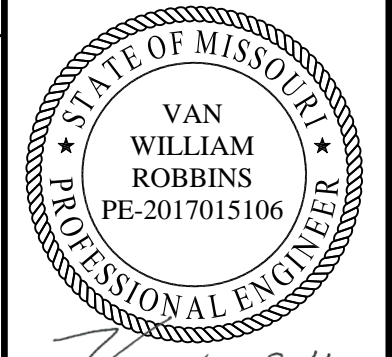


MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

I-70 WB OVER TRUMAN
SEC/SUR 3 TWP 49N RGE 33W

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



Van W. Robbins
08-08-25

DATE PREPARED
08/08/2025

ROUTE STATE
I-70 MO

DISTRICT SHEET NO.
BR B07-01

COUNTY
JACKSON

JOB NO.
J411486D

CONTRACT ID.
240807-C01

PROJECT NO.

BRIDGE NO.
A9624

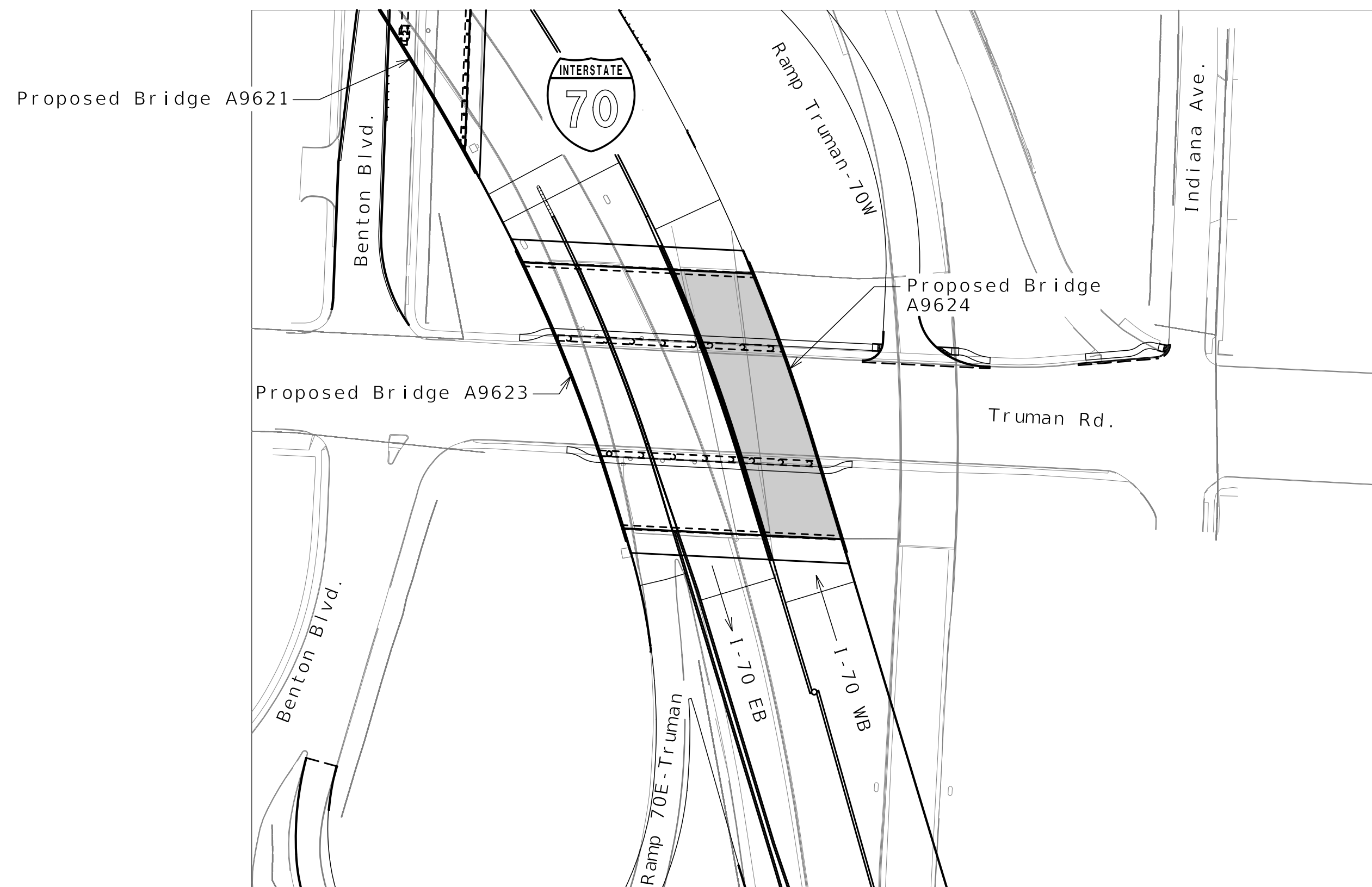
DATE	DESCRIPTION
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MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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



LOCATION SKETCH

INDEX OF DRAWINGS

- B07-01 Title Sheet and Index
- B07-02 General Plan and Elevation
- B07-03 General Notes
- B07-04 Substructure Layout
- B07-05 Details of End Bent No. 1
- B07-06 Details of End Bent No. 1
- B07-07 Details of End Bent No. 1
- B07-08 Vertical Drain at End Bents
- B07-09 Details of Intermediate Bent No. 2
- B07-10 Details of Intermediate Bent No. 2
- B07-11 Details of Intermediate Bent No. 3
- B07-12 Details of Intermediate Bent No. 3
- B07-13 Pipe Pile Point Details
- B07-14 Details of End Bent No. 4
- B07-15 Details of End Bent No. 4
- B07-16 Details of End Bent No. 4
- B07-17 As-Built Pile Data
- B07-18 Boring Logs
- B07-19 Boring Logs
- B07-20 Boring Logs
- B07-21 Boring Logs
- B07-22 Boring Logs
- B07-23 Boring Logs
- B07-24 Boring Logs
- B07-25 Boring Logs
- B07-26 Boring Logs
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- B07-28 Boring Logs
- B07-29 Boring Logs
- B07-30 Boring Logs
- B07-31 Boring Logs
- B07-32 Boring Logs
- B07-33 Boring Logs
- B07-34 Boring Logs
- B07-35 Boring Logs
- B07-36 Boring Logs
- B07-37 Boring Logs

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Date: 08/11/2025
Package: BRD-07-WB70-Truman-Sub

BRIDGE: ROUTE I-70 WB OVER TRUMAN ROAD

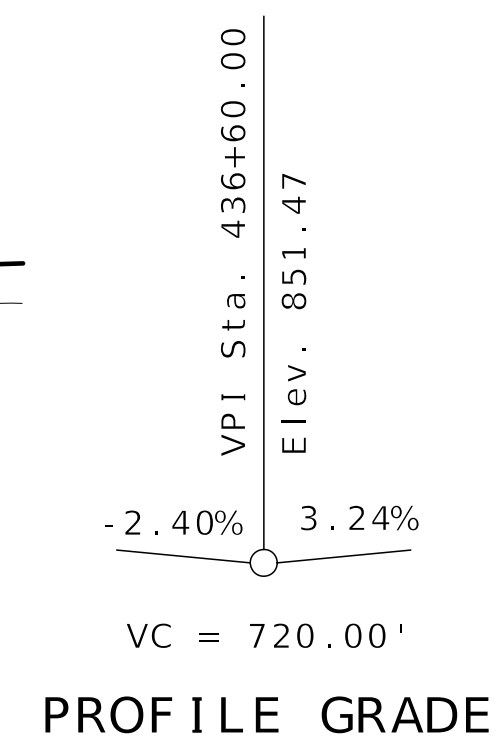
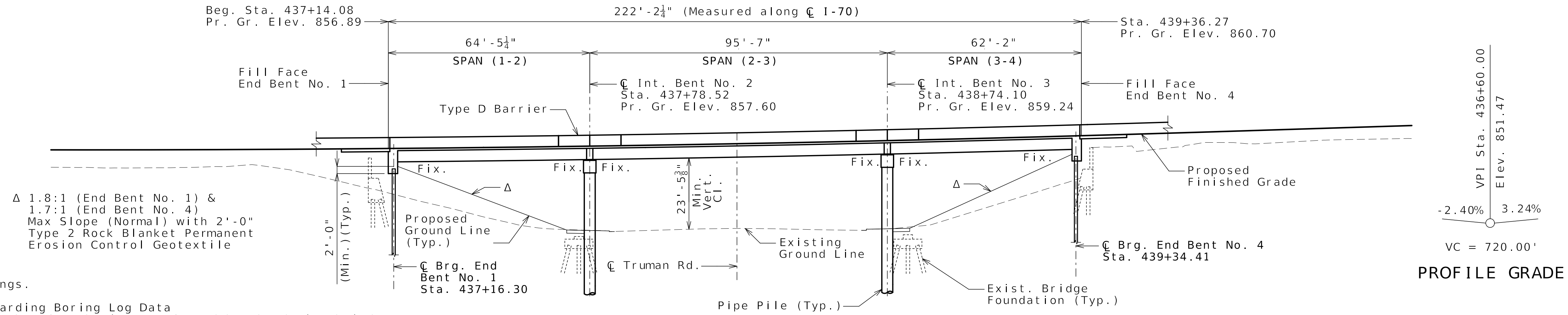
ROUTE 1-70 WB FROM ROUTE 40 TO ROUTE 1-670
ABOUT 2.9 MILES WEST OF ROUTE 40
BEGINNING STATION 437+14.08

Detailed MAR 2025
Checked APR 2025

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

Sheet No. B07-01 of B07-37

(64.4'-95.6'-62.2') Prestressed Concrete NU Girder Spans



ELEVATION

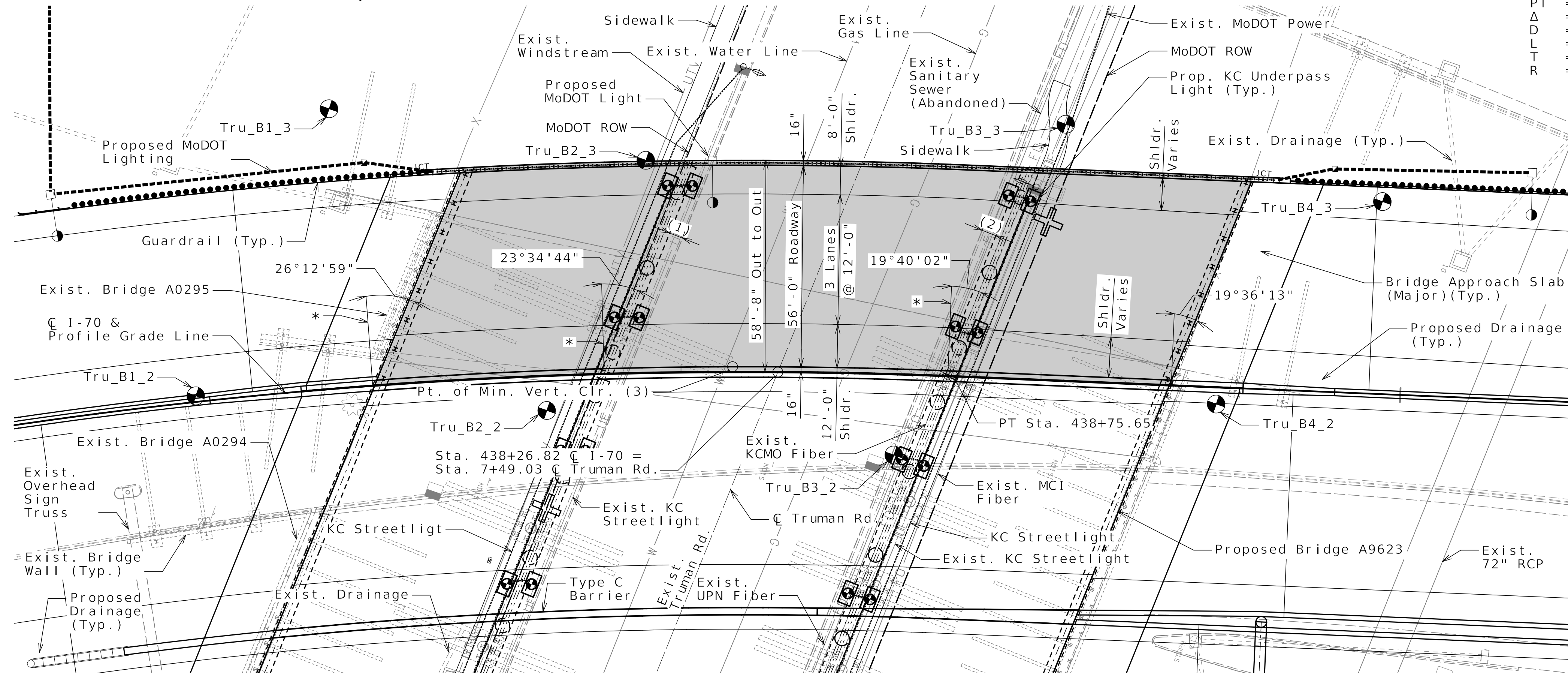
CURVE DATA

CURVE	I-70
PI	= 431+29.21
PC	= 420+97.79
PT	= 438+75.65
Δ	= 72°45'36.2" (RT)
D	= 4°5'33.2"
L	= 1,777.86'
T	= 1,031.42'
R	= 1,400.00'

Indicate 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. B07-18 thru B07-37. 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:
 (1) 3'-9 3/4"
 (2) 4'-1 1/4"

* Radial line to C I-70.

PLAN

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 Date: 08/11/2025
 Package: BRD-07-WB70-Truman-Sub

Notes:

All Elevations are based on NAVD88 datum unless otherwise noted. All dimensions are horizontal. All Bents are parallel. Existing Bridges A0294 and A0295 to be removed in accordance with Sec. 216. Existing structures & foundations shown may not represent what is left in place after removal. For pipe pile tip elevations, See Sheets No. B07-09 and B07-11. See Civil Package 6: I-70 Mainline for Truman Road typical section details. See Civil Package 6: I-70 Mainline for under bridge KC Streetlight attachment details.

GENERAL PLAN AND ELEVATION

Detailed MAR 2025
 Checked APR 2025

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

Sheet No. B07-02 of B07-37



Van W. Robbins
 08-08-25

DATE PREPARED	08/08/2025
ROUTE	I-70
STATE	MO
DISTRICT	BR
SHEET NO.	B07-02
COUNTY	JACKSON
JOB NO.	J411486D
CONTRACT ID.	240807-C01
PROJECT NO.	

BRIDGE NO. A9624

DATE	DESCRIPTION
08/08/25	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

General Notes:

For additional bridge details not shown, see A9624 (I-70 WB Over Truman) Superstructure Package.

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, $S_{p1}=0.15$
 Acceleration Coefficient (effective peak ground acceleration coefficient), $A_s = N/A$

Design Loading:

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

Design Unit Stresses:

Class B Concrete (End Bents below Const. Jt.)	f'c = 3,000 psi
Class B-1 Concrete (Intermediate Bents Capbeam and Pipe Pile Fill)	f'c = 4,000 psi
Class B-2 Concrete (End Bents above construction joint)	f'c = 4,000 psi
Reinforcing Steel (ASTM A615 Grade 60)	fy = 60,000 psi
Structural HP Steel Pile (ASTM A709 Grade 50)	fy = 50,000 psi
Welded or Seamless steel shell (pipe) for pile (ASTM A252 Grade 3)	fy = 45,000 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.

Reinforcing Steel:

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

All reinforcing in End Bents No. 1 and 4 and Intermediate Bents No. 2 & 3 shall be epoxy coated.

Concrete Protective Coatings:

Concrete and masonry protective coating shall be applied to end bent wingwall exposed areas in accordance with Sec 711.

Sacrificial graffiti protective coating shall be applied to end bent wingwall exposed areas in accordance with Sec 711.

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

Foundation Data

Type	Design Data	Bent Number			
		1	2	3	4
Load Bearing Pile	Pile Type and Size	HP 12x74	PP Varies(2)	PP Varies(2)	HP 12x74
	Number	ea 8	3	3	8
	Approximate Length Per Each (1)	ft 115	110	111	110
	Pile Point Reinforcement	ea ALL	ALL	ALL	ALL
	Min. Galvanized Penetration (Elev.)	ft 814	810	810	814
	Minimum Tip Penetration (Elev.)	ft ---	---	---	---
	Criteria for Min. Tip Penetration	---	---	---	---
	Pile Driving Verification Method	DT	DT	DT	DT
	Resistance Factor	0.65	0.65	0.65	0.65
	Minimum Nominal Axial Compressive Resistance	kip 315	1725	1725	301

(1) Pile length is maximum estimated for each bent and includes embedment into concrete at the end bents. Adjust as needed for bottom of concrete variations at each bent.

(2) Pipe pile size shall be 48"Ø x 7/8" or 48"Ø x 3/4" with transitions as shown on Sheets No. B07-09 and B07-11.

RFI 76 Use 1495 kips if ALL piles in a bent are verified via DT.

Load Bearing Piles:

Minimum Nominal Axial Compressive Resistance = Maximum Factored Loads/Resistance Factor
 All piles shall be galvanized down to the minimum galvanized penetration (elevation).
 Pile point reinforcement need not be galvanized.
 Shop drawings will not be required for pile point reinforcement.

The contractor shall make every effort to achieve the minimum galvanized penetration (elevation) shown on the plans for all piles. Deviations in penetration less than 5 feet of minimum will be considered acceptable provided the contractor makes the necessary corrections to ensure the minimum penetration is achieved on subsequent piles.
 DT=Dynamic Testing

Debris and rubble was observed during geotechnical boring operations down to elevation 811 at Intermediate Bents 2 & 3. Additionally, utilities to remain are present in the Truman Road area. Prebore is recommended for Intermediate Bents No. 2 and 3 pipe piles. During pile driving operations, sand shall be placed in annular space around the pile in the prebored hole. Level of sand should be maintained at or near ground line during pile driving.

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Not to Scale

Revision: 0.0
 Date: 08/11/2025
 Package: BRD-07-WB70-Truman-Sub

Detailed MAR 2025
 Checked APR 2025

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

Sheet No. B07-03 of B07-37

GENERAL NOTES



Van W. Robbins
 08-08-25

DATE PREPARED
 08/08/2025

ROUTE I-70	STATE MO
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DISTRICT BR	SHEET NO. B07-03
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COUNTY
 JACKSON

JOB NO.
 J411486D

CONTRACT ID.
 240807-C01

PROJECT NO.

BRIDGE NO.
 A9624

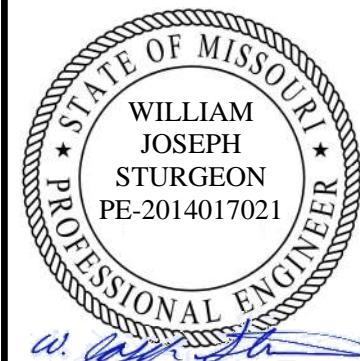
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MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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CLARKSON RADMACHER JOINT VENTURE

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



8/8/2025

DATE PREPARED
08/08/2025

ROUTE STATE
I-70 MO

DISTRICT SHEET NO.
BR B07-04

COUNTY
JACKSON

JOB NO.
J411486D

CONTRACT ID.
240807-C01

PROJECT NO.

BRIDGE NO.
A9624

DESCRIPTION

REV 0 - RFC SUBMITTAL

DATE

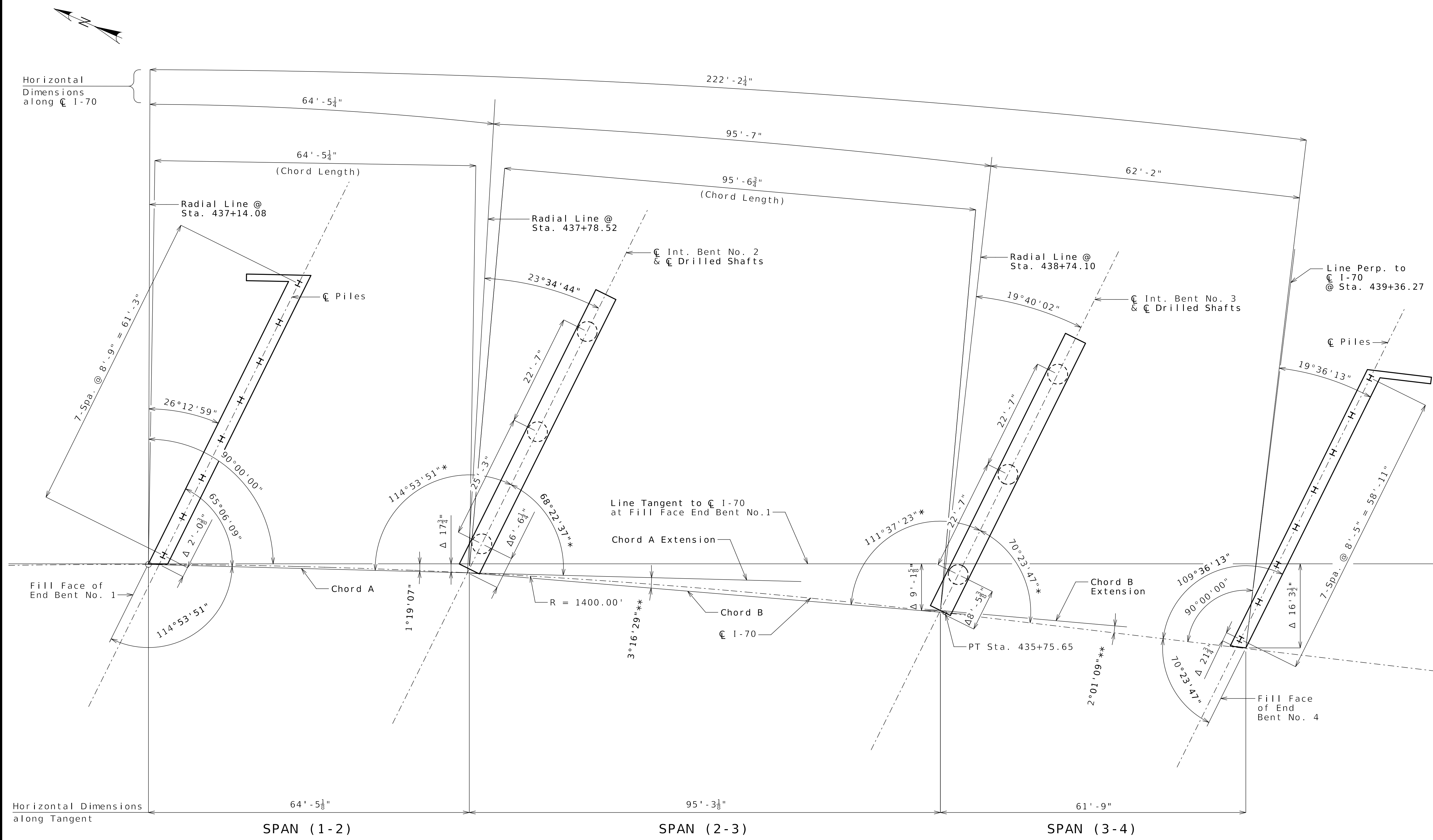
08/08/25

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105 WEST CAPITOL JEFFERSON CITY, MO 65102

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



SUBSTRUCTURE LAYOUT

Notes:
All stations are given along C I-70.
All dimensions are horizontal.
* Angle between C Bent and chord.
** Angle between extended chord and chord.
Δ Measured to C I-70.

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Revision: 0.0
Date: 08/11/2025
Package: BRD-07-WB70-Truman-Sub

SUBSTRUCTURE LAYOUT

Detailed MAR 2025
Checked APR 2025

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

Sheet No. B07-04 of B07-37



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





Gina D. Horner
08/08/25

DATE PREPARED
08/08/2025

ROUTE STATE
I-70 MO

DISTRICT SHEET NO.
BR B07-05

COUNTY
JACKSON

JOB NO.
J411486D

CONTRACT ID.
240807-C01

PROJECT NO.

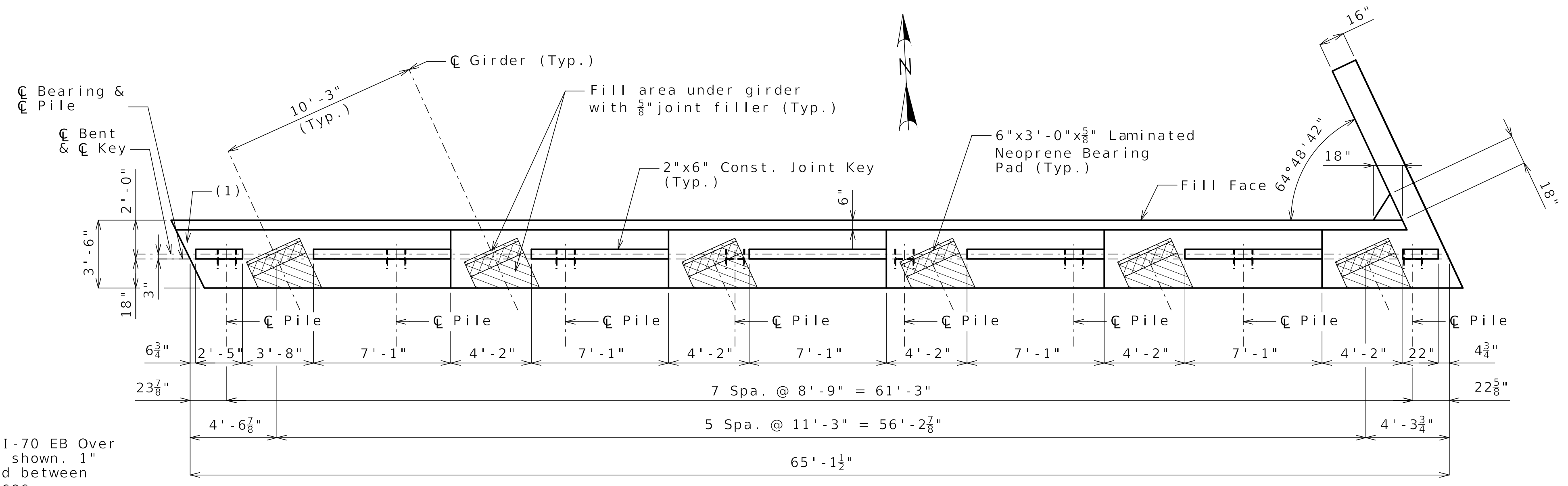
BRIDGE NO.
A9624

BRIDGE NO.
A9624

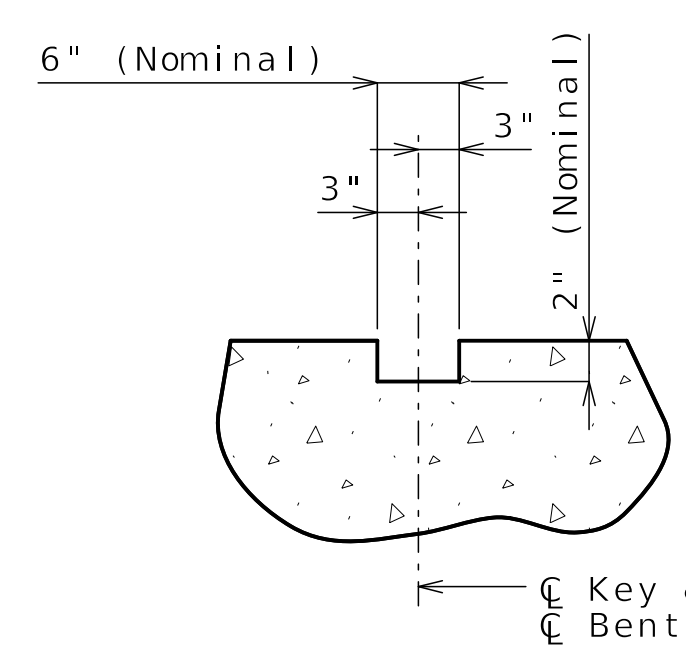
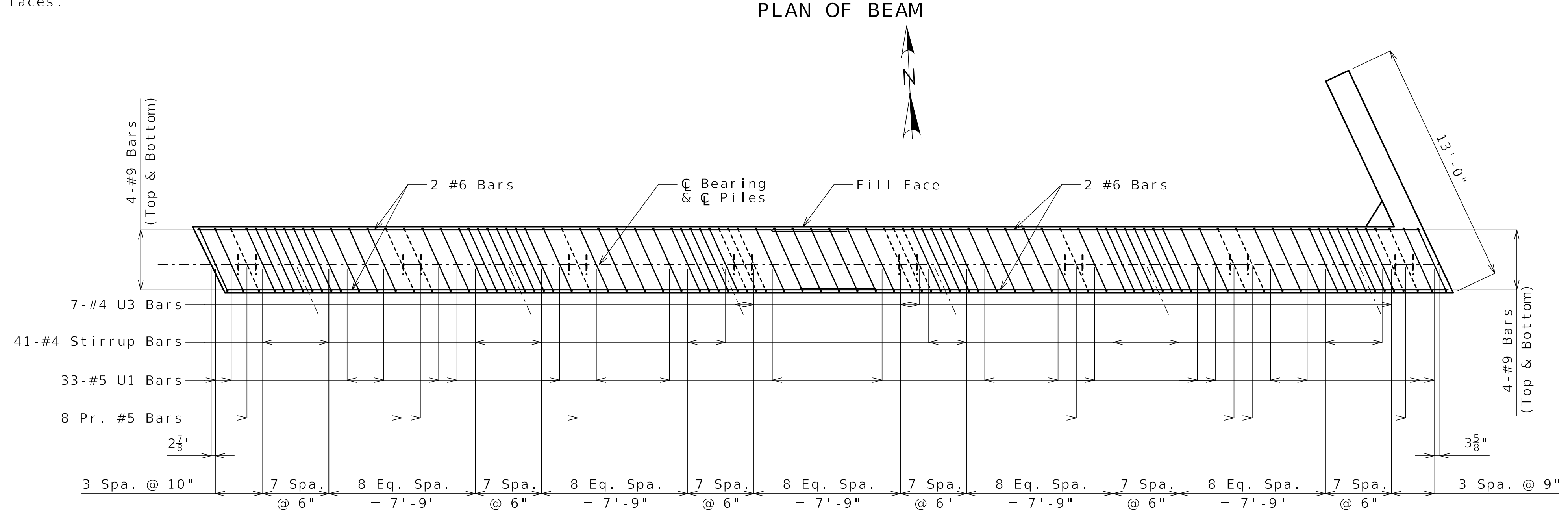
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JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

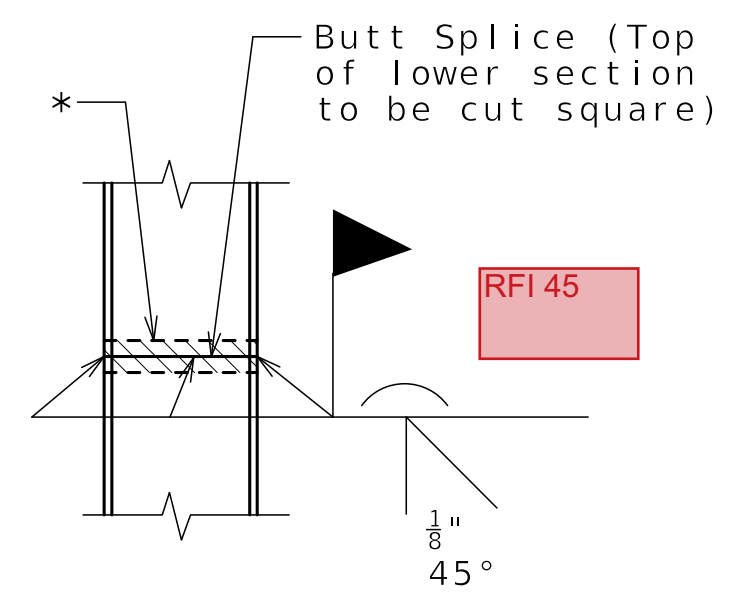
CLARKSON RADMACHER JOINT VENTURE
715 KIRK DRIVE
KANSAS CITY, MO 64105-1310
CERTIFICATE OF AUTHORITY
NO. 001270
HNTB



(1) Adjacent A9623 (I-70 EB Over Truman) End Bent not shown. 1" joint filler required between adjacent concrete faces.

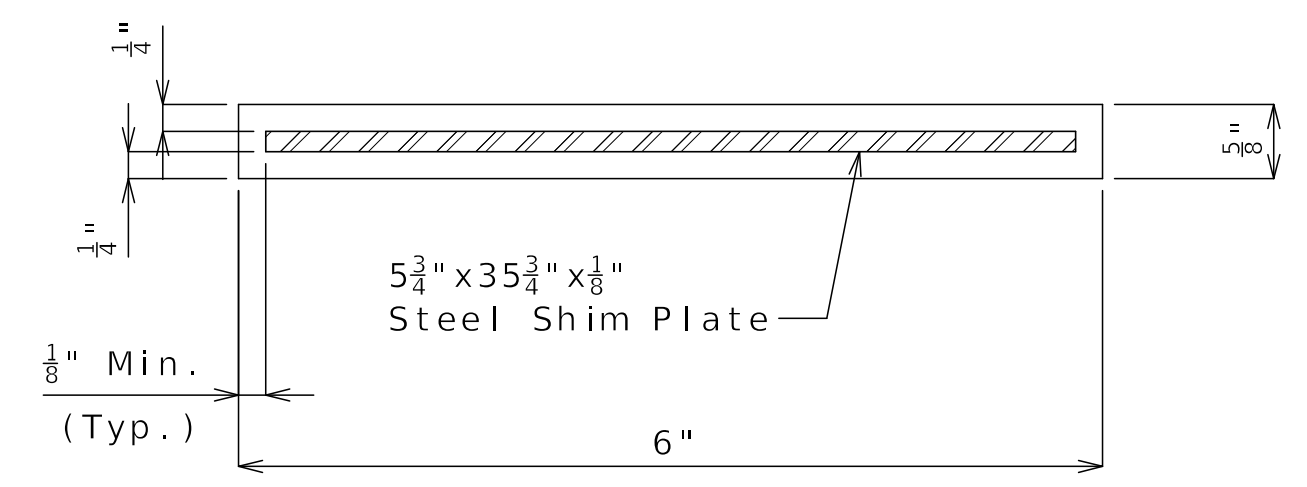


SECTION THRU KEY



STEEL PILE SPLICE (If required)

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

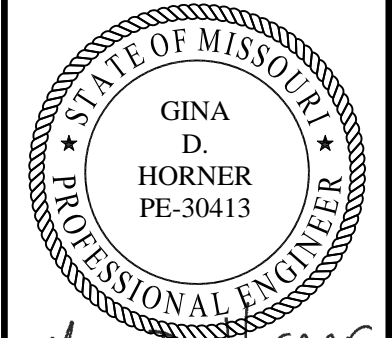


TYPICAL SECTION THRU LAMINATED NEOPRENE BEARING PAD
6 Required

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Date: 08/11/2025
Package: BRD-07-WB70-Truman-Sub

Notes:
Work this sheet with Sheets No. B07-06 and B07-07.
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 and for angle girders relative to Bent, see A9624 (I-70 WB Over Truman) Superstructure Package.

DETAILS OF END BENT NO. 1



Gina D. Horner
08/08/25

DATE PREPARED
08/08/2025

ROUTE STATE
I-70 MO
DISTRICT SHEET NO.
BR B07-06

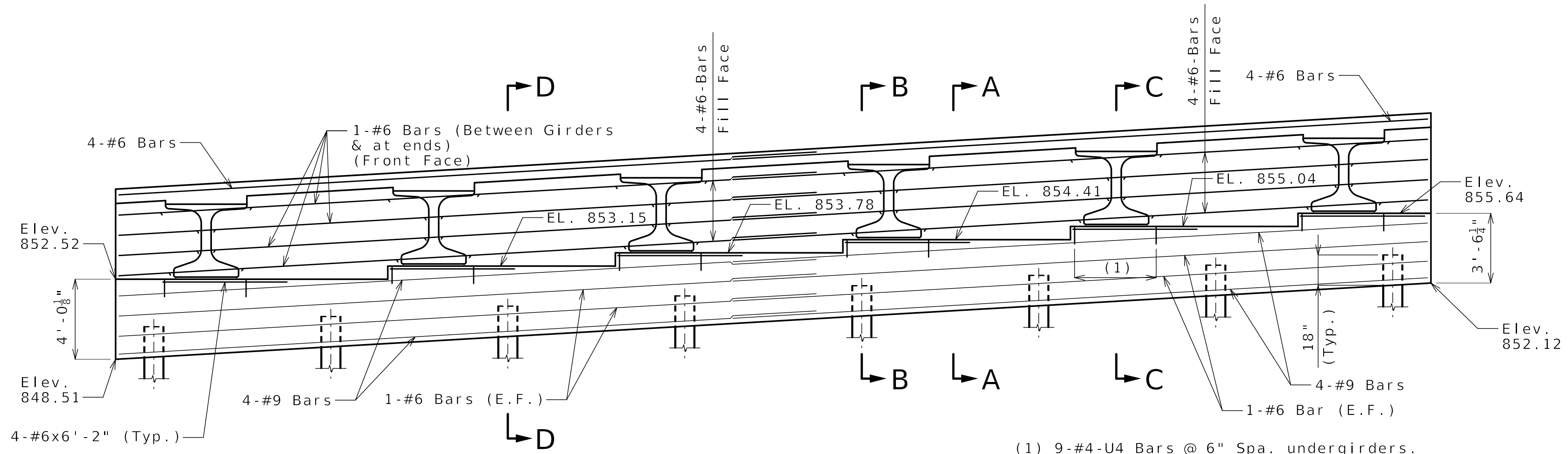
COUNTY
JACKSON
JOB NO.
J411486D
CONTRACT ID.
240807-C01
PROJECT NO.

BRIDGE NO.
A9624

DATE	DESCRIPTION
08/08/25	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)

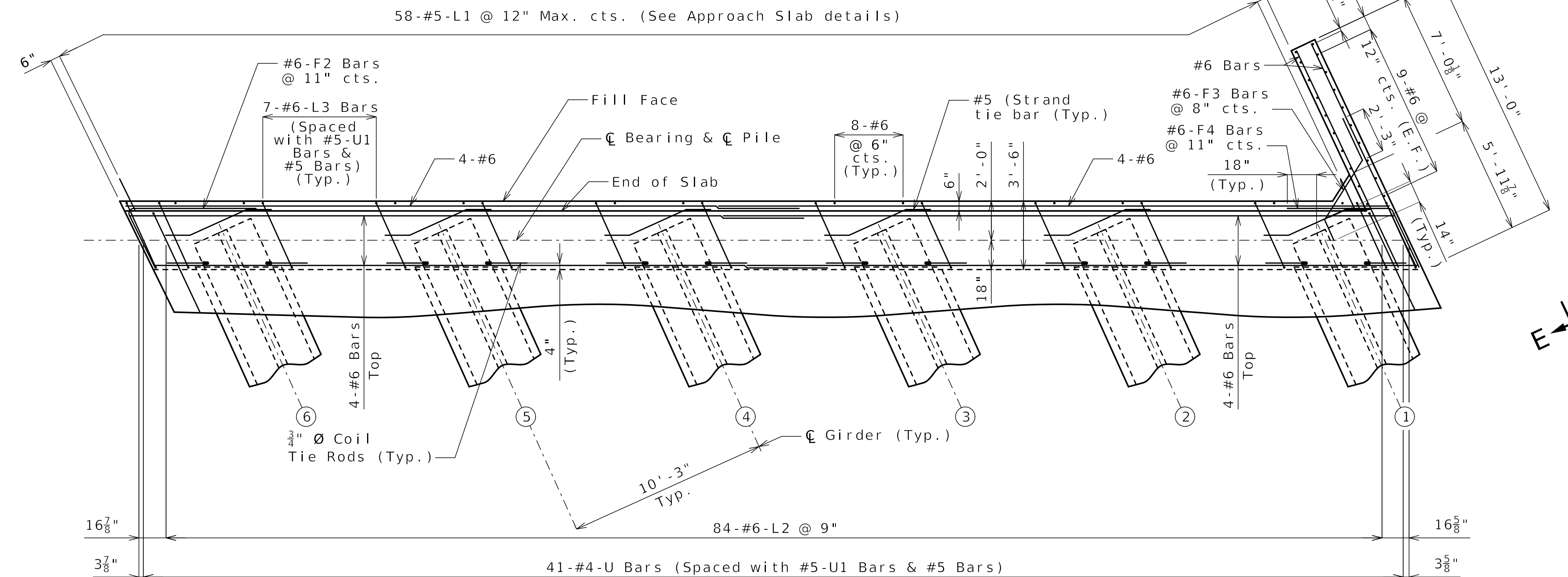
CLARKSON RADMACHER JOINT VENTURE
715 KIRK DRIVE
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CERTIFICATE OF AUTHORITY
NO. 001270
HNTB



SECTION NEAR END BENT

(1) 9-#4-U4 Bars @ 6" Spa. undergirders. 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 #9 bars = 6'-5" (Min.)



General Notes:
Work this sheet with Sheets No. B07-06 and B07-07.
For Sections A-A, B-B, C-C and D-D and Elevation E-E, see Sheet No. B07-07.
For location of coil tie rods, see A9624 (I-70 WB Over Truman) Superstructure Package.
Strands at end of girders shall be field bent or, if necessary, cut in field to maintain 1 1/2-inch minimum clearance to fill face of end bent.
The #6-F bars shall be bent in the field to clear girders.

(X) Denotes girder number
DETAILS OF END BENT NO. 1

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Revision: 0.0
Date: 08/11/2025
Package: BRD-07-WB70-Truman-Sub



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08/08/25

DATE PREPARED
08/08/2025

ROUTE STATE
I-70 MO
DISTRICT SHEET NO.
BR B07-07

COUNTY
JACKSON

JOB NO.
J411486D

CONTRACT ID.
240807-C01

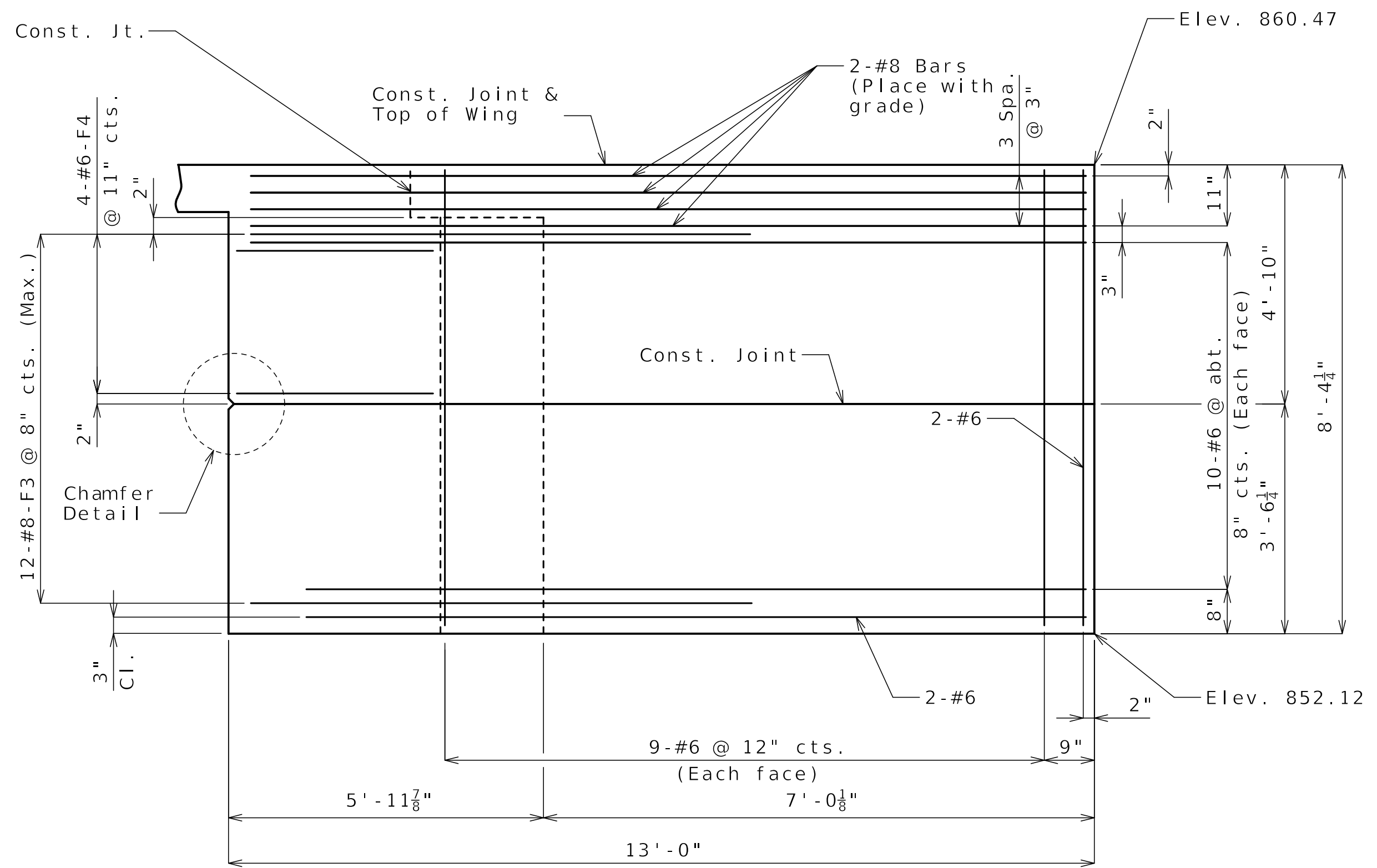
PROJECT NO.

BRIDGE NO.
A9624

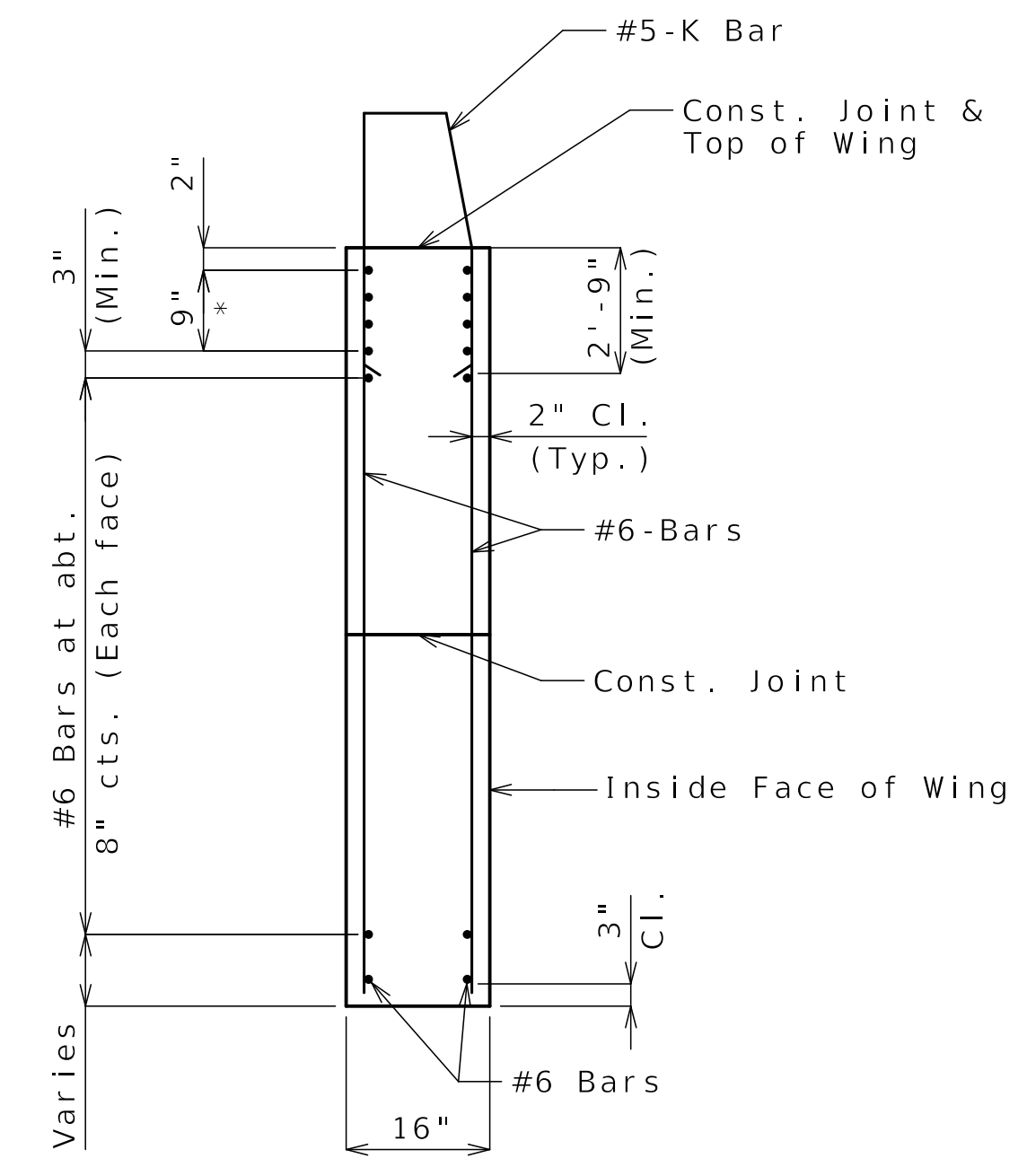
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105 WEST CAPITOL JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

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

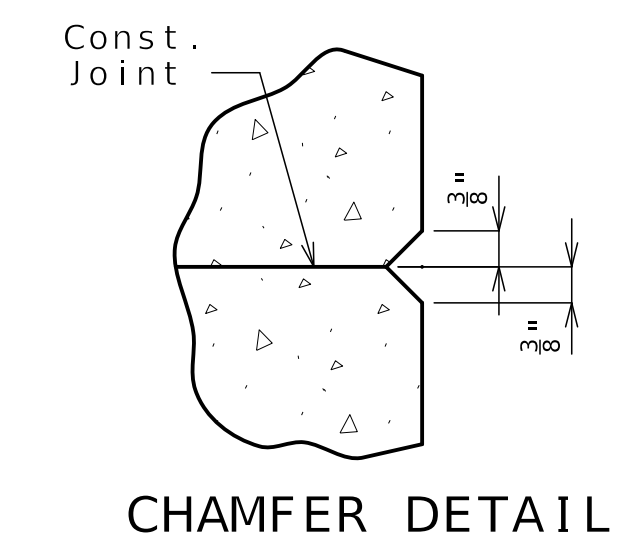


ELEVATION E-E

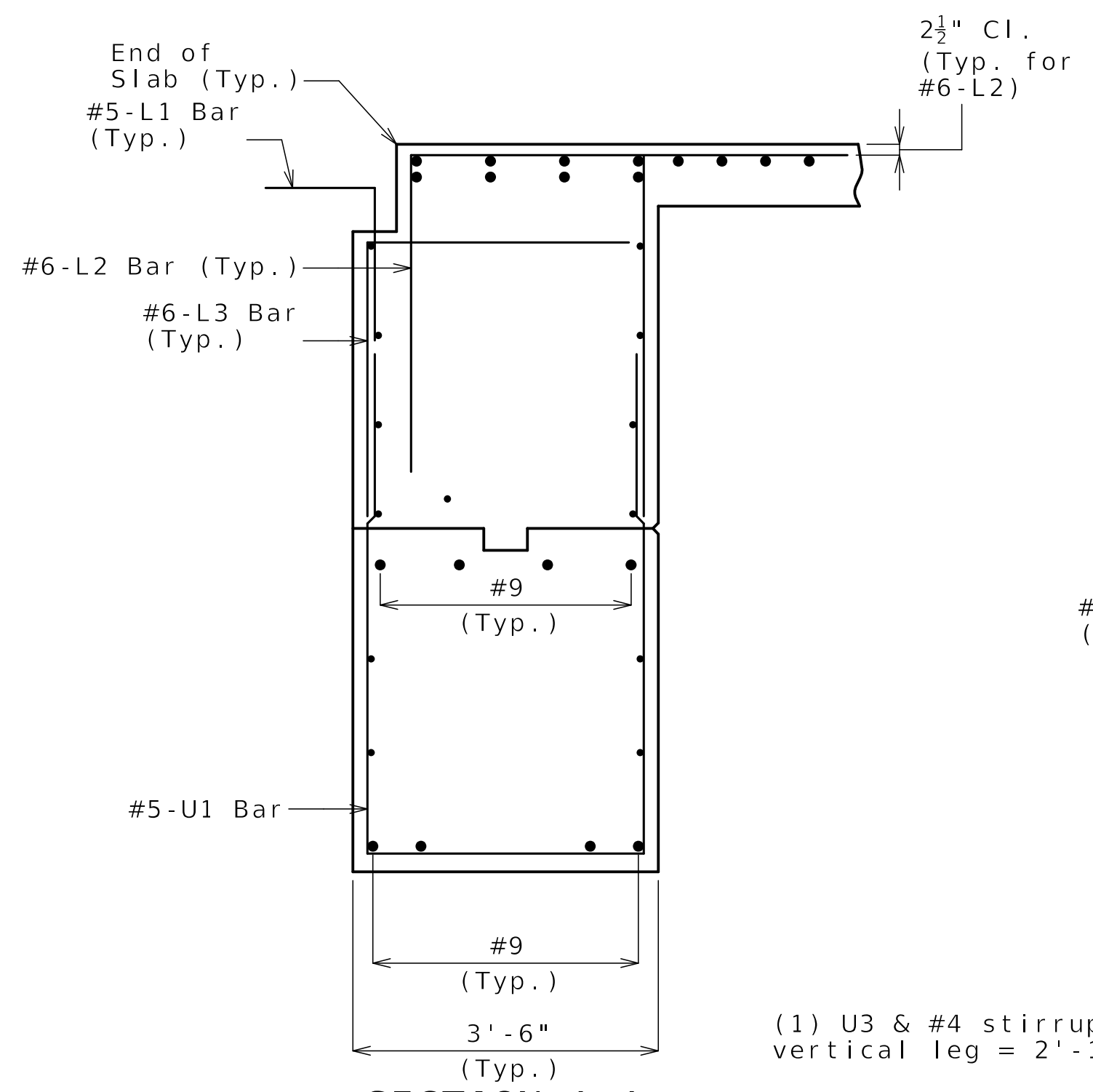


TYPICAL SECTION THRU WING

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

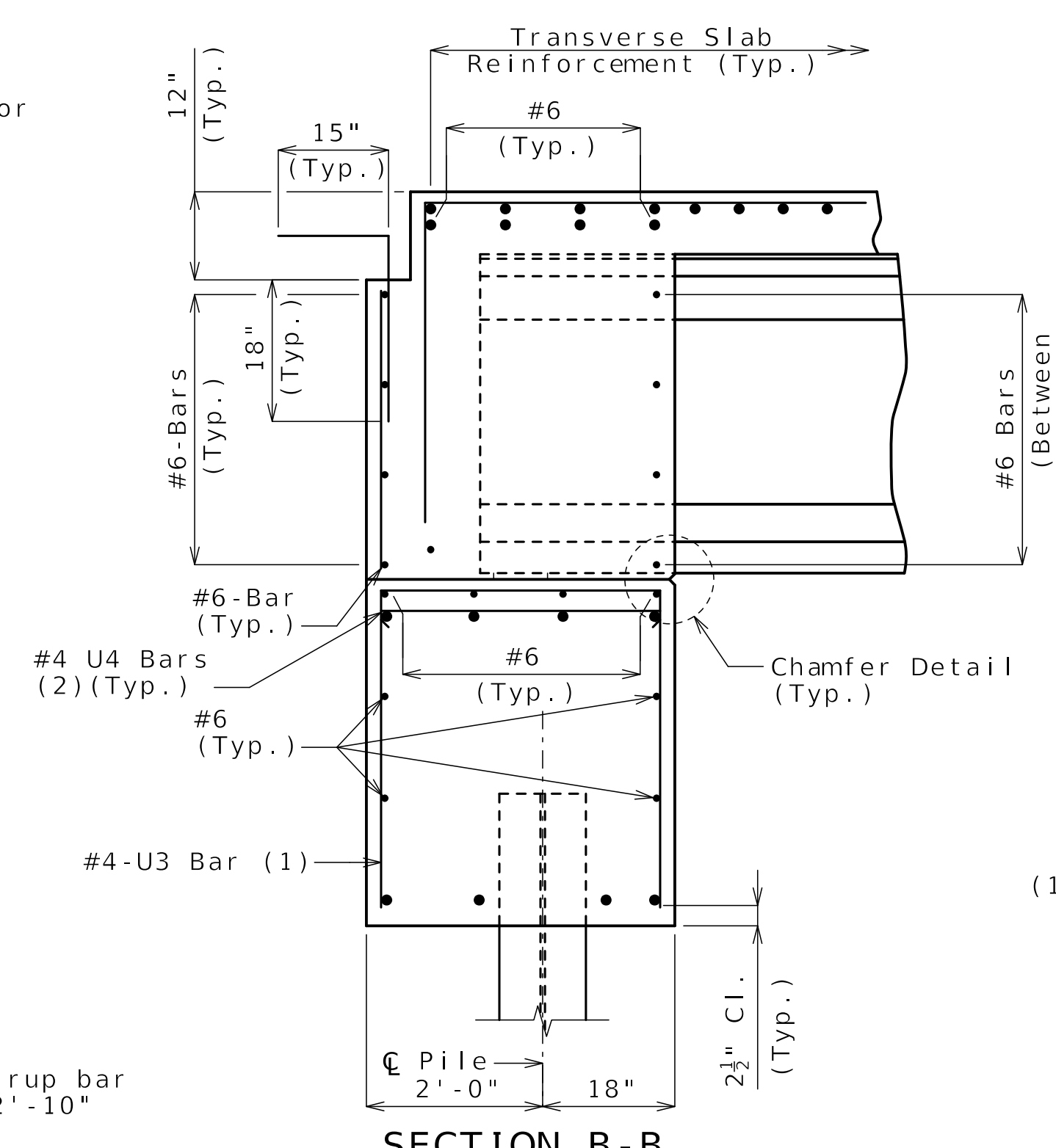


CHAMFER DETAIL

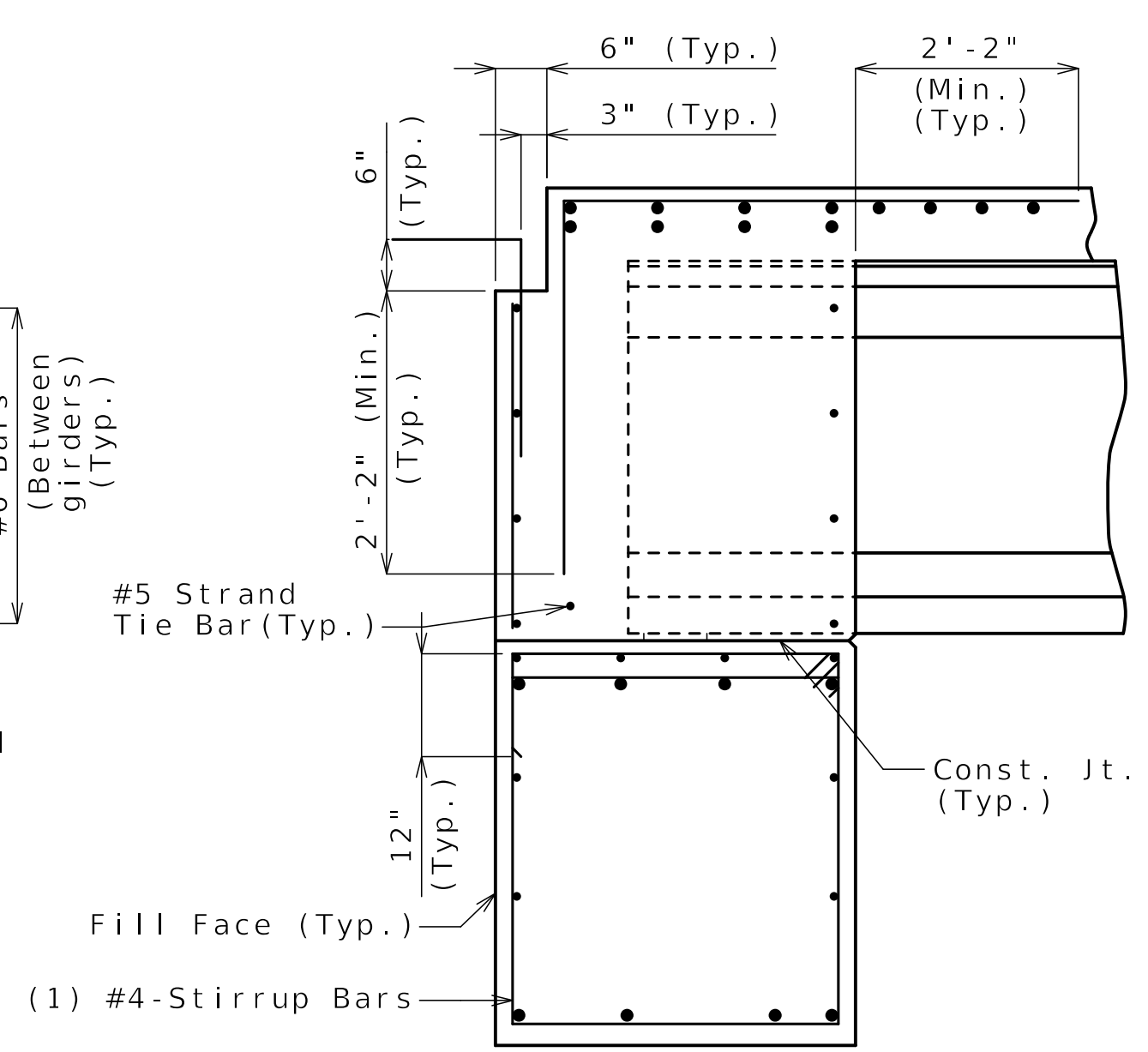


SECTION A-A

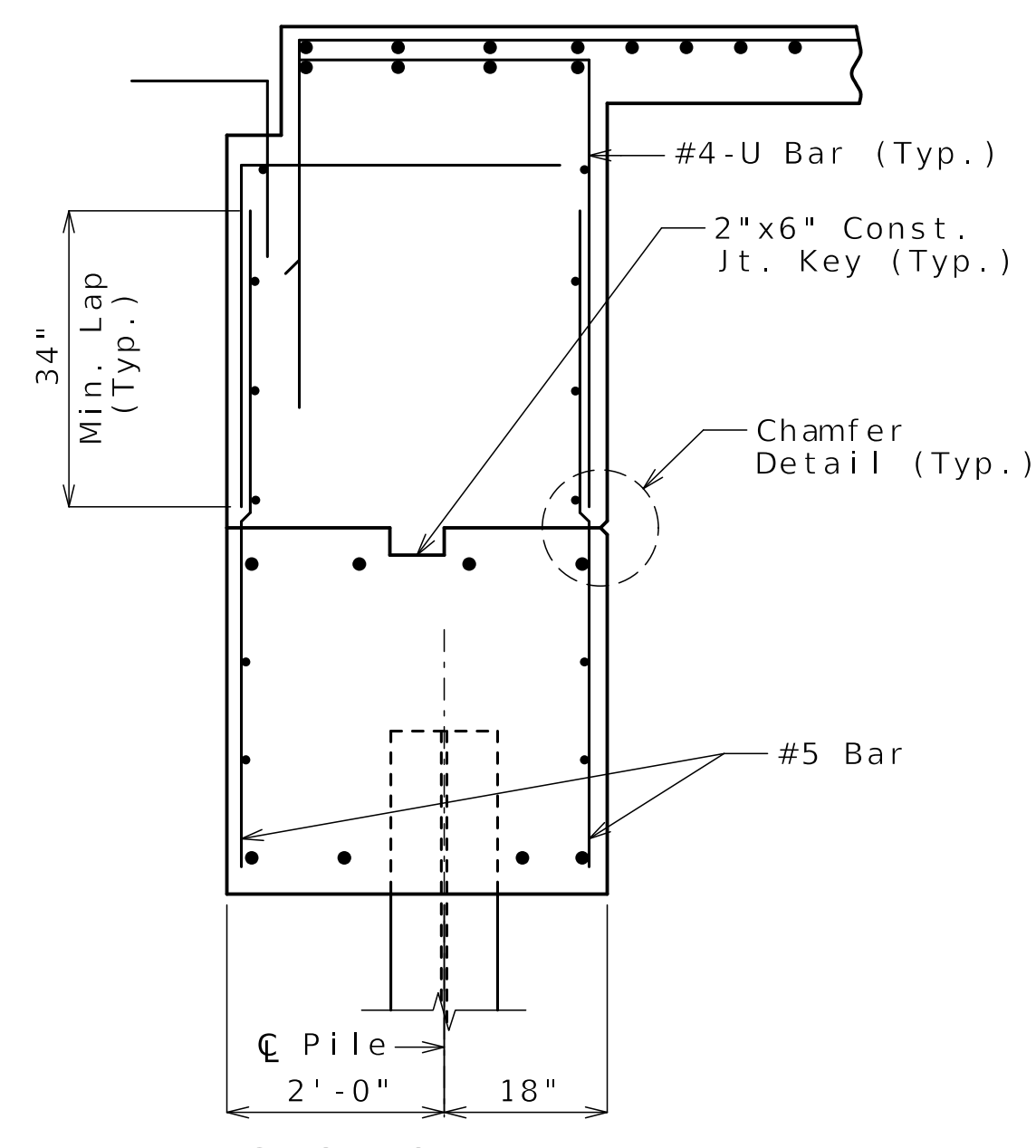
(1) U3 & #4 stirrup bar vertical leg = 2'-10"
(2) Bars shall be placed normal to C Bent and parallel to beam step.



SECTION B-B



SECTION C-C

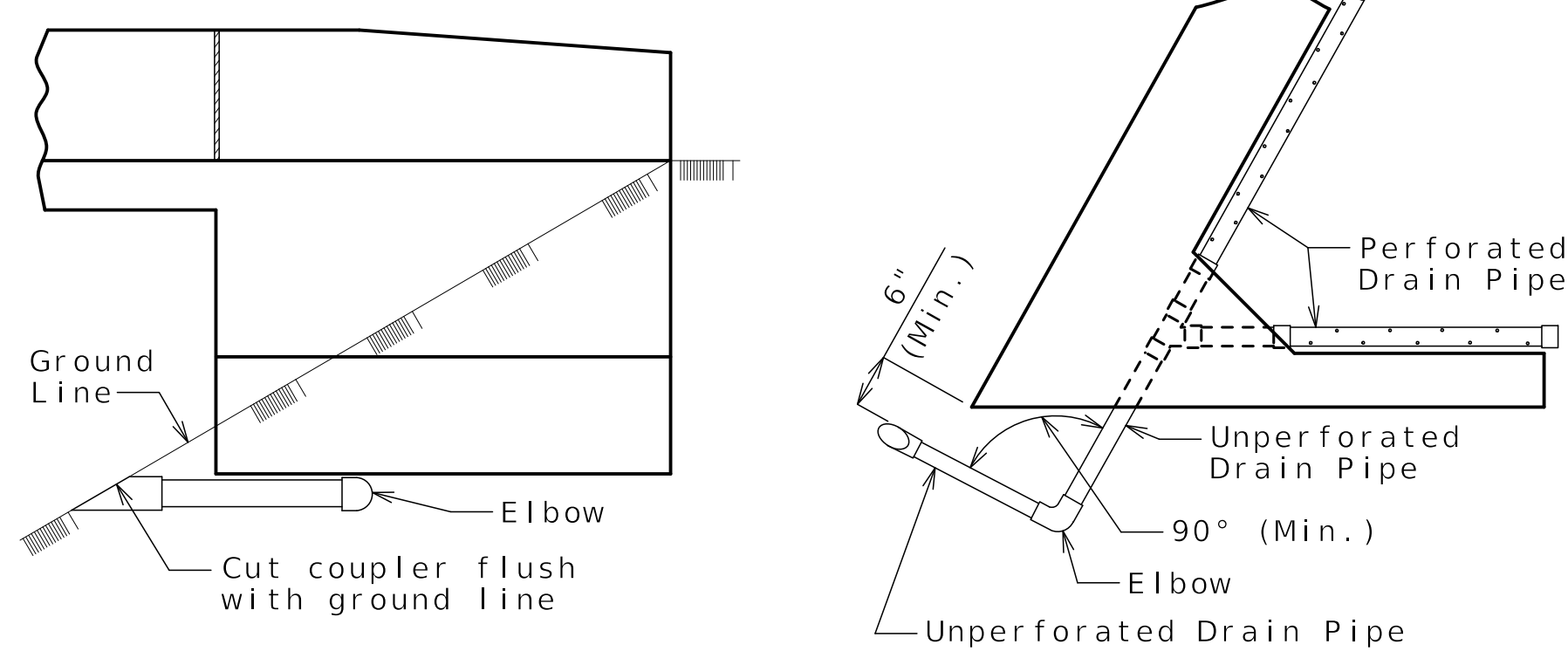
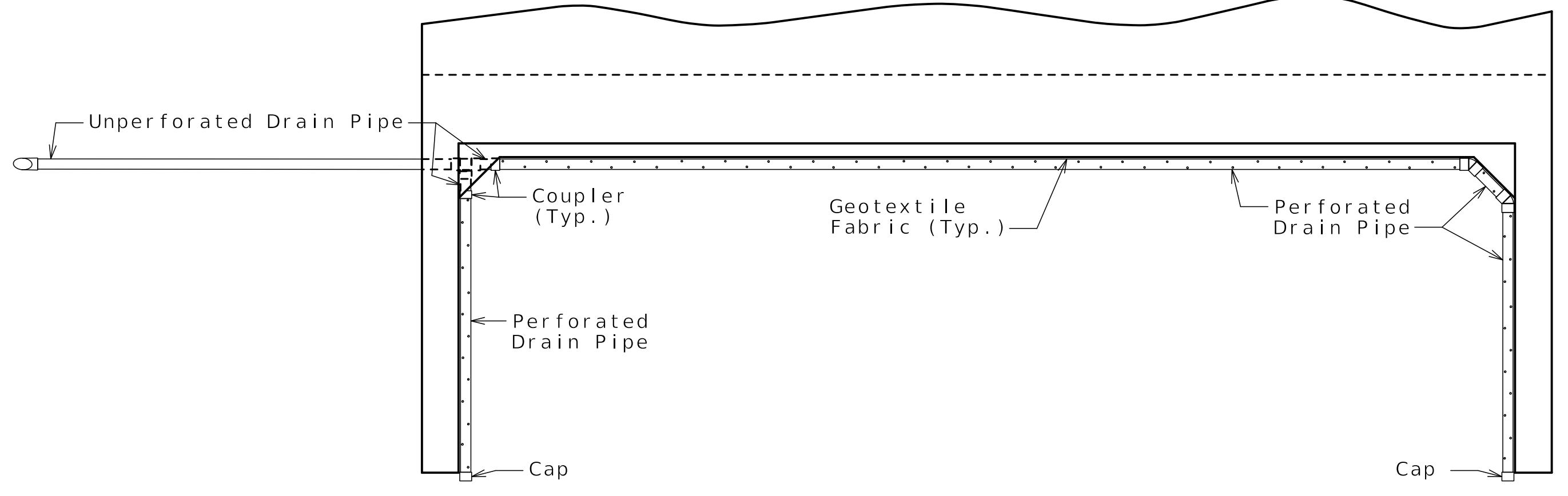
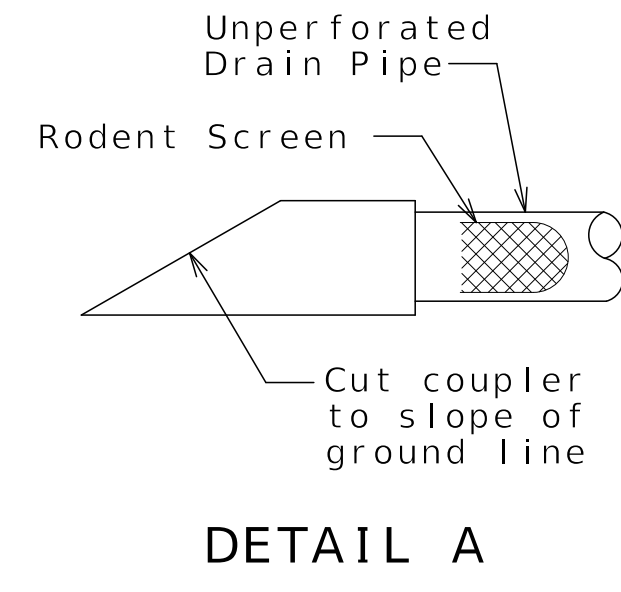
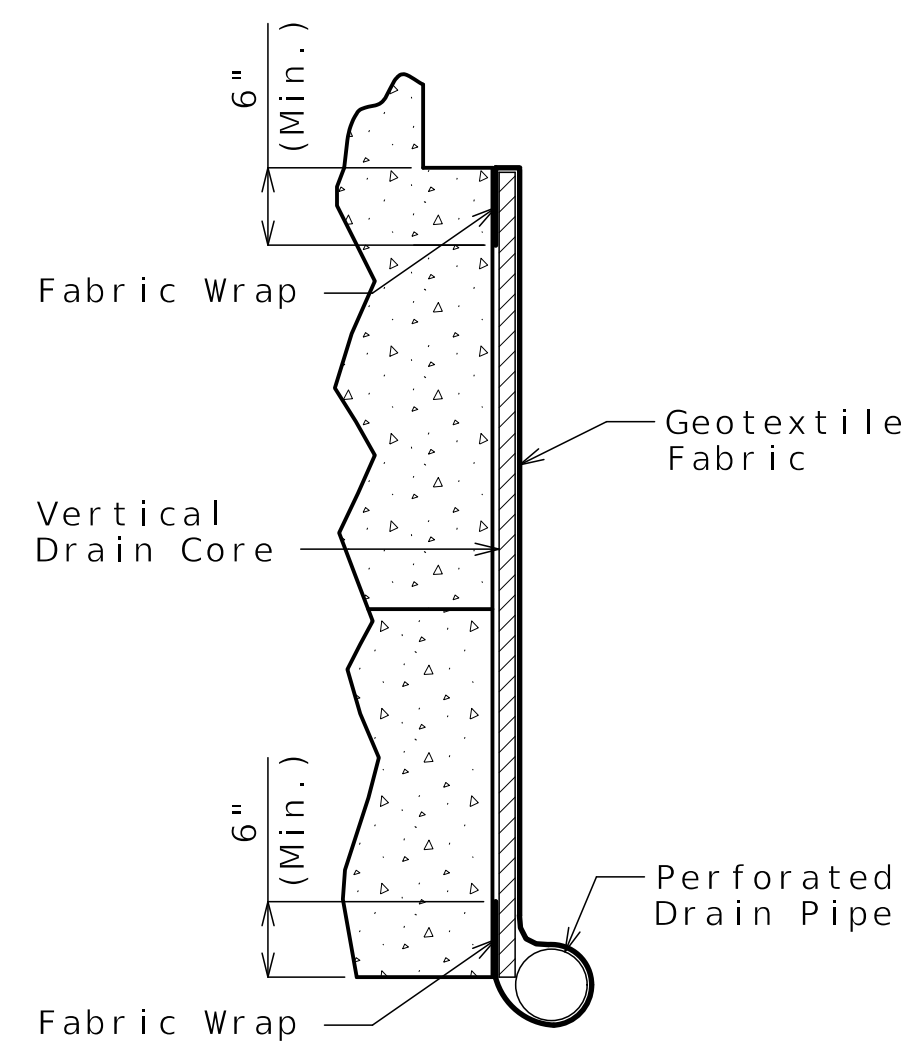
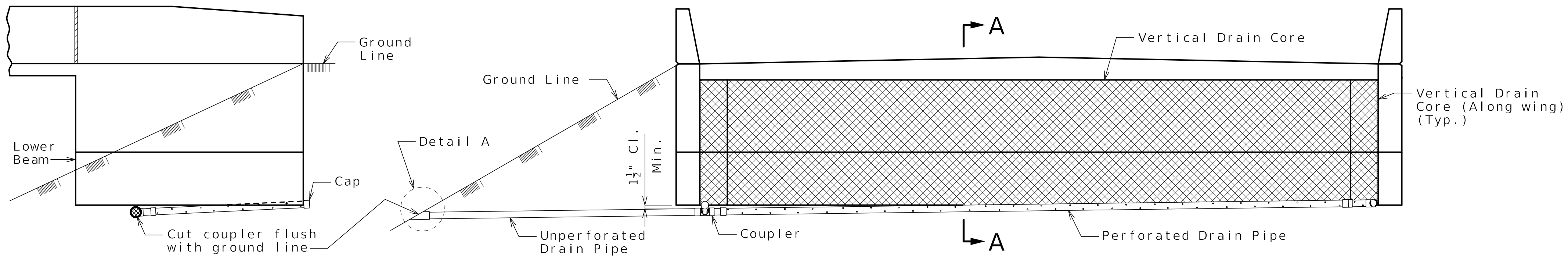


SECTION D-D

General Notes:
Work this sheet with Sheets No. B07-05 and B07-06.
For location of Sections A-A, B-B, C-C, D-D and Elevation E-E, see Sheet No. B07-06.
For reinforcement of the Type D Barrier, see A9624 (I-70 WB Over Truman) Superstructure Package.

DETAILS OF END BENT NO. 1

Released For Construction
Not to Scale
Revision: 0.0
Date: 08/11/2025
Package: BRD-07-WB70-Truman-Sub



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

General Notes:

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.

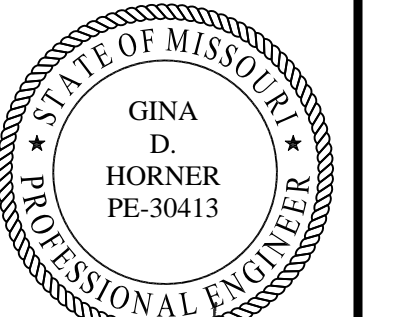
Square end bent shown, skewed end bent similar.

All drain pipe shall be sloped 1 to 2 percent.

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

Drain pipe shall be placed at fill face of end bent and inside face of wings. The pipe shall slope to lowest grade of ground line, also missing the lower beam of end bent by a minimum of 1 1/2 inches.

Perforated pipe shall be placed at fill face side and inside face of wings at the bottom of end bent and plain pipe shall be used where the vertical drain ends to the exit at ground line.



Gina D. Horner
08/08/25

DATE PREPARED 08/08/2025	
ROUTE I-70	STATE MO
DISTRICT BR	SHEET NO. B07-08
COUNTY JACKSON	
JOB NO. J411486D	
CONTRACT ID. 240807-C01	
PROJECT NO.	

BRIDGE NO.
A9624

DATE	DESCRIPTION
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MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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JEFFERSON CITY, MO 65102
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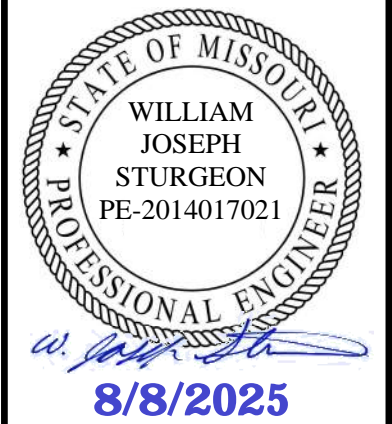
CLARKSON RADMACHER JOINT VENTURE

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



Released For Construction
Not to Scale
Revision: 0.0
Date: 08/11/2025
Package: BRD-07-WB70-Truman-Sub

VERTICAL DRAIN AT END BENTS



DATE PREPARED 08/08/2025	
ROUTE I-70	STATE MO
DISTRICT BR	SHEET NO. B07-09
COUNTY JACKSON	
JOB NO. J411486D	
CONTRACT ID. 240807-C01	
PROJECT NO.	

BRIDGE NO. A9624

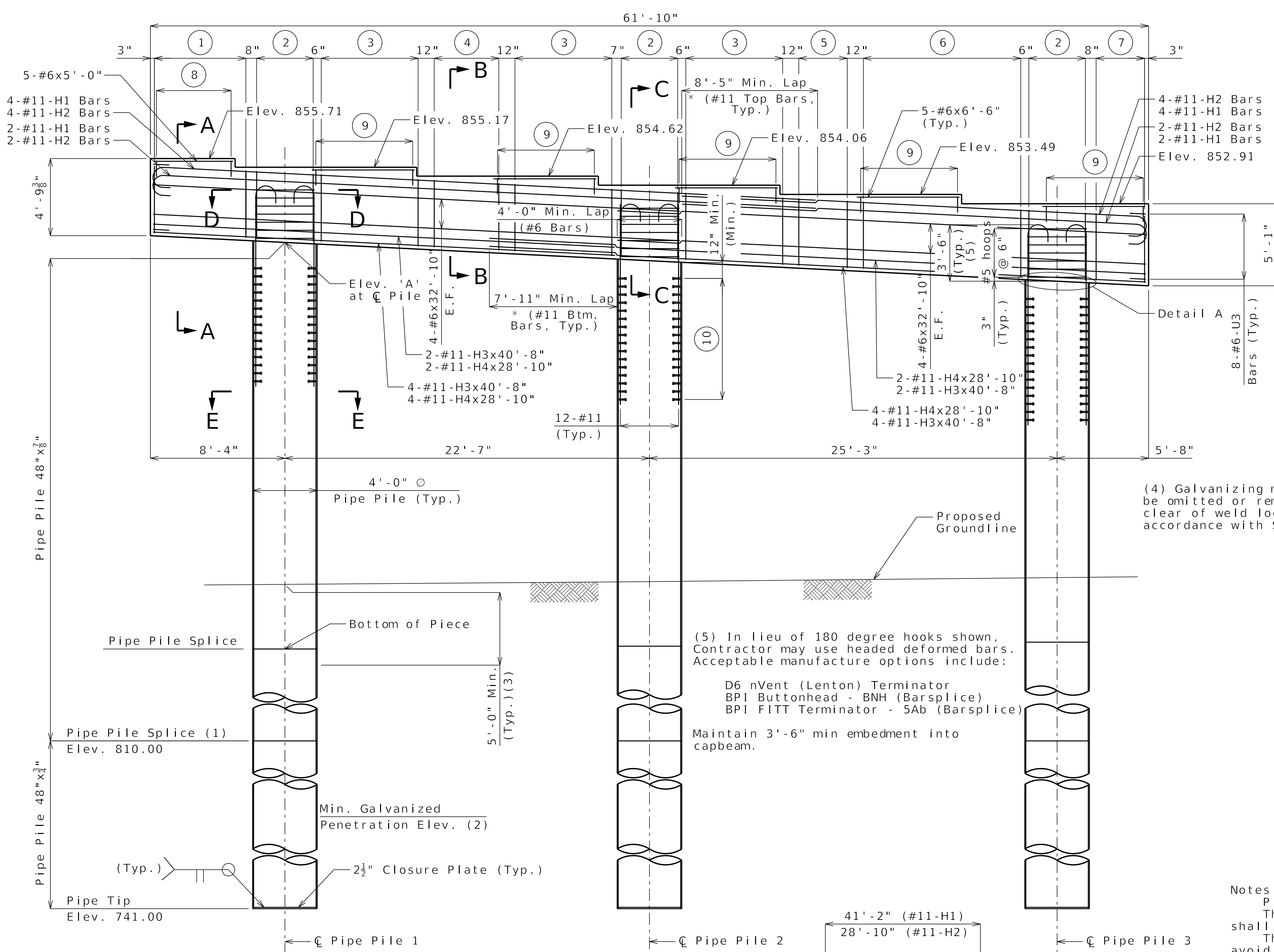
DESCRIPTION	DATE
REV 0 - RFC SUBMITTAL	08/08/25

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

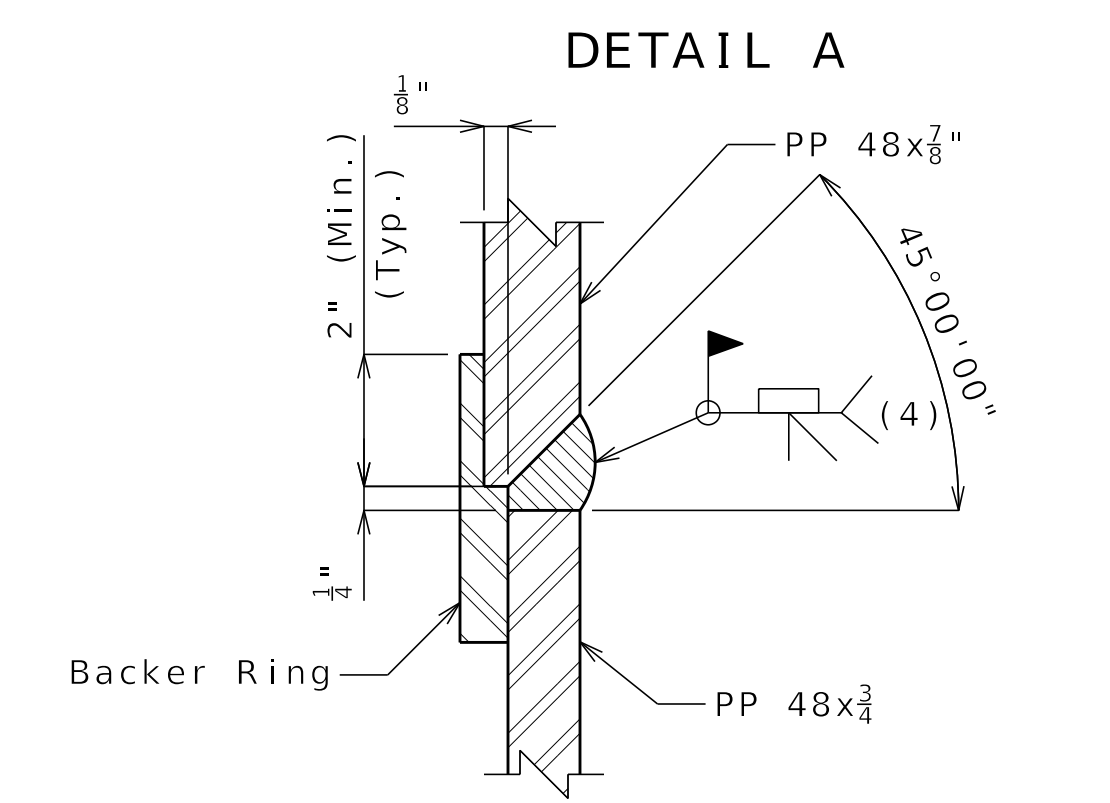
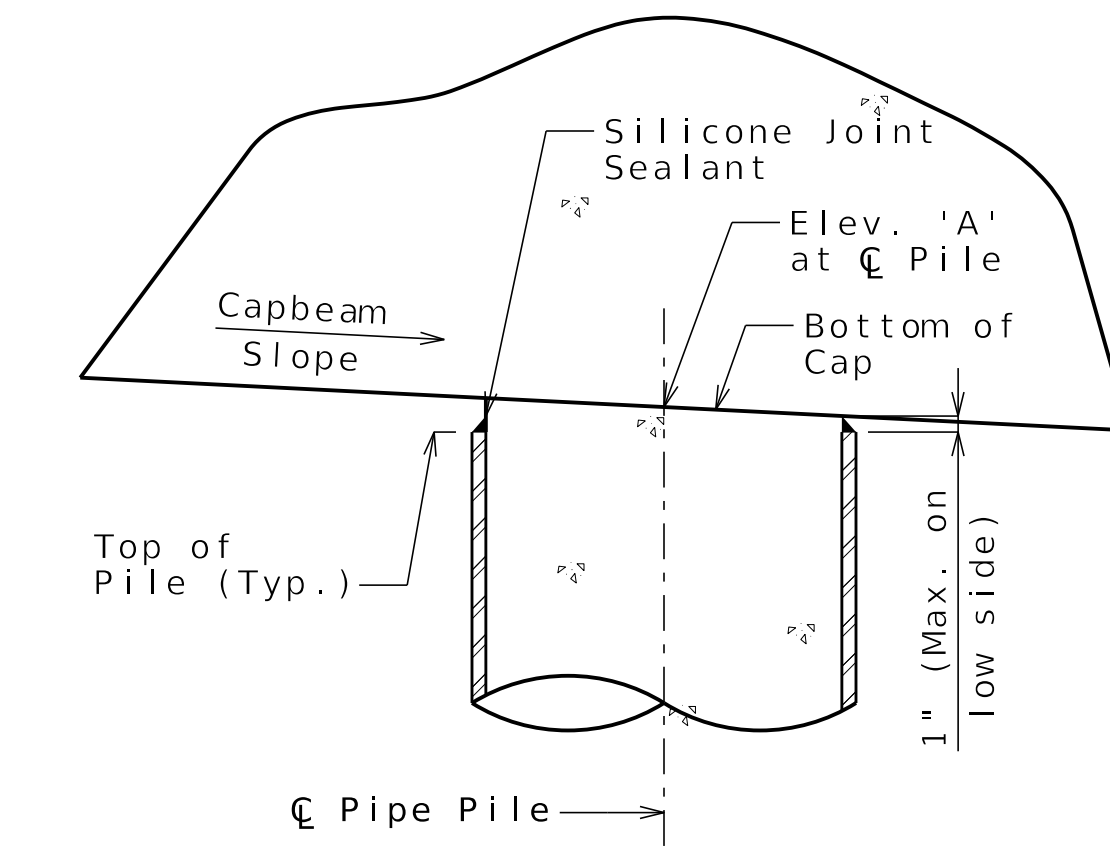
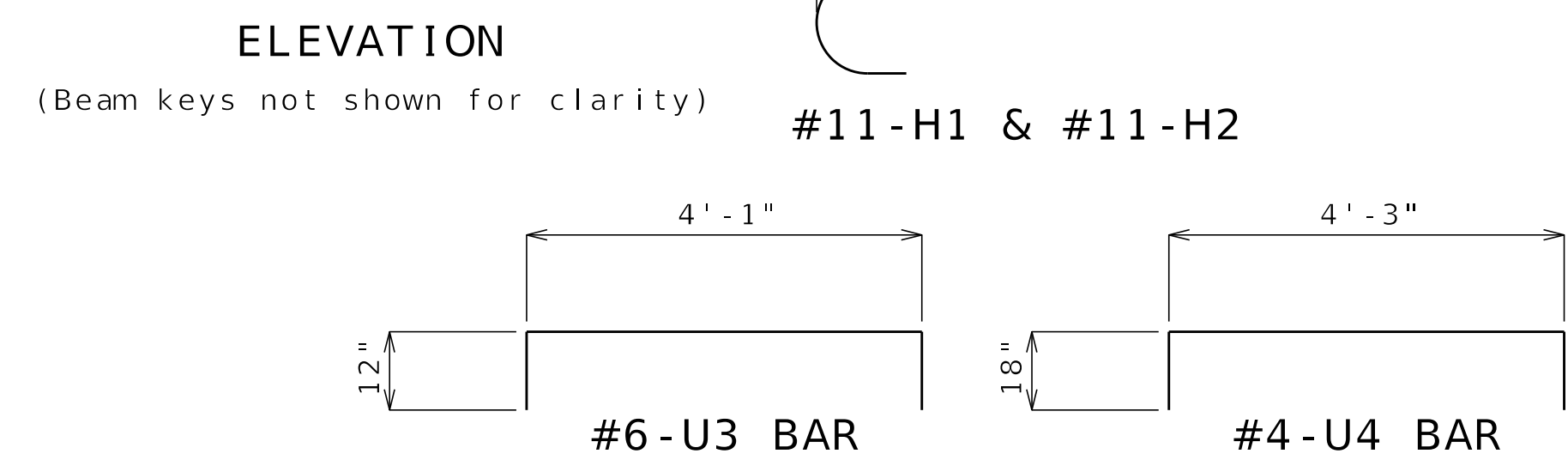
CLARKSON RADMACHER JOINT VENTURE

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



- (1) Elevation of pipe pile wall thickness transition is the maximum allowed. Depth below ground line of the transition can be increased (the elevation decreased) for constructability.
- (2) See Foundation Data Table on Sheet No. B07-03.
- (3) Concrete shall be placed within pipe pile from bottom of capbeam to 5'-0" minimum below ground line. Fill pipe pile with loose dry sand below this elevation.

Pile Number	'A'
1	850.52
2	849.38
3	848.11



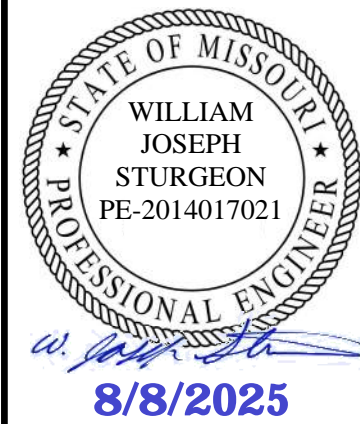
(4) Galvanizing material shall be omitted or removed one inch clear of weld locations in accordance with Sec 702

- ① 7 Sets of 1-#6-U2 & 2-#6 Tie Bars @ 12" Max cts. = 5'-8"
- ② 4 Sets of 1-#6-U1 & 2-#6 Hook Bars @ 14" cts.
- ③ 9 Sets of 1-#6-U2 & 2-#6 Tie Bars @ 9" cts.
- ④ 5-#6-U2 @ 12" cts.
- ⑤ 4-#6-U2 @ 12" cts.
- ⑥ 14 Sets of 1-#6-U2 & 2-#6 Tie Bars @ 9" cts.
- ⑦ 4 Sets of 1-#6-U2 & 2-#6 Tie Bars @ 12" cts.
- ⑧ 10-#4-U4 @ 6" Spa.
- ⑨ 13-#4-U4 @ 6" Spa.
- ⑩ 16 sets of 12-7/8" O x5" Welded Shear Connectors Spa. @ abt. 6" cts. = 7'-7"

Released For Construction
Not to Scale
Revision: 0.0
Date: 08/11/2025
Package: BRD-07-WB70-Truman-Sub

Notes:
 Pipe pile shall be closed end.
 The minimum wall thickness of any spot or local area of any type shall not be more than 12.5% under the specified nominal wall thickness. The contractor shall determine the pile wall thickness required to avoid damage from all driving activities, but wall thickness shall not be less than the minimum specified.
 Closure plate shall not project beyond the outside diameter of the pipe pile. Satisfactory weldments may be made by beveling tip end of pipe or by use of inside backing rings. In either case, proper gaps shall be used to obtain weld penetration full thickness of pipe.
 Splices for pipe pile shall be made watertight and to the full strength of the pipe above and below the splice to permit hard driving without damage. Pipe damaged during driving shall be replaced. Pipe sections used for splicing shall be at least 5 feet in length. At the contractor's option, the hooks of vertical bars embedded in the capbeam may be oriented inward or outward as needed to avoid conflict with cap beam reinforcement.
 * Alternate location of lap splices between adjacent bars about centerline of bent. Alternate lap splice location not shown.
 Work this sheet with Sheet No. B07-10.
 For location of pipe piles, see Sheet B07-04.
 Shear connectors shall be in accordance with Sec. 712, 1037, and 1080
 For pile point reinforcement details, see Sheet No. B07-13.

DETAILS OF INTERMEDIATE BENT NO. 2



DATE PREPARED 08/08/2025	
ROUTE I-70	STATE MO
DISTRICT BR	SHEET NO. B07-10
COUNTY JACKSON	
JOB NO. J411486D	
CONTRACT ID. 240807-C01	
PROJECT NO.	

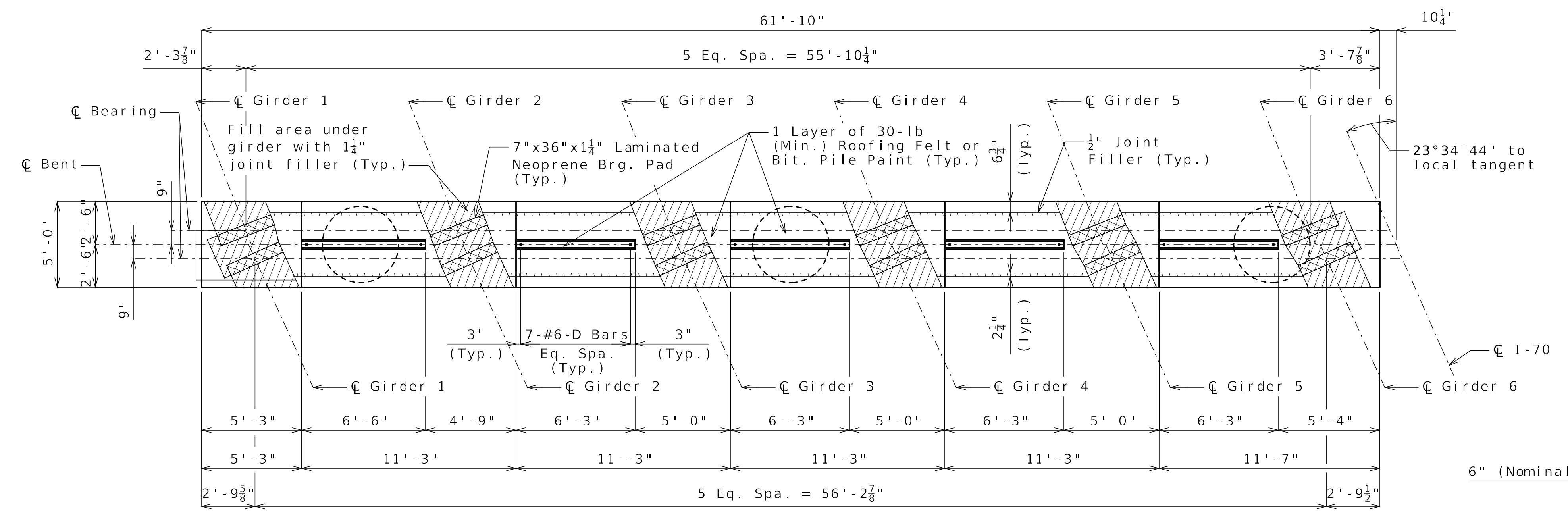
BRIDGE NO.
A9624

DATE	DESCRIPTION
08/08/25	REV 0 - RFC SUBMITTAL

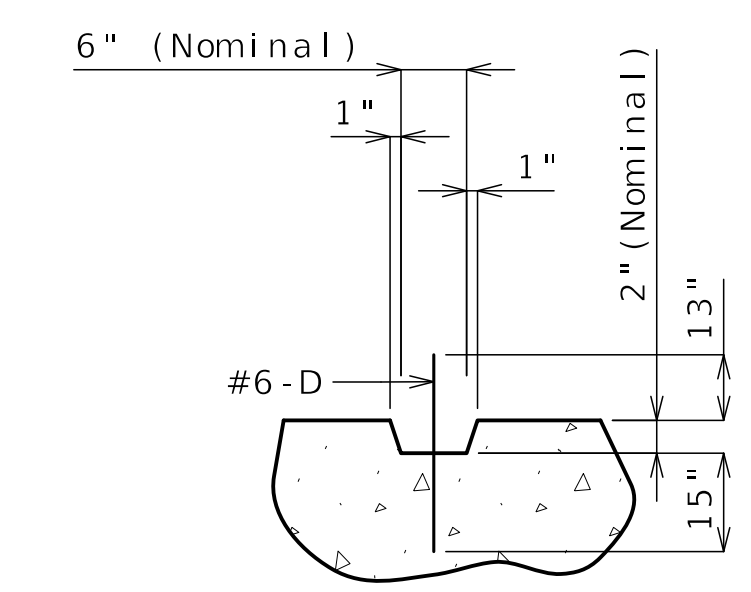
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

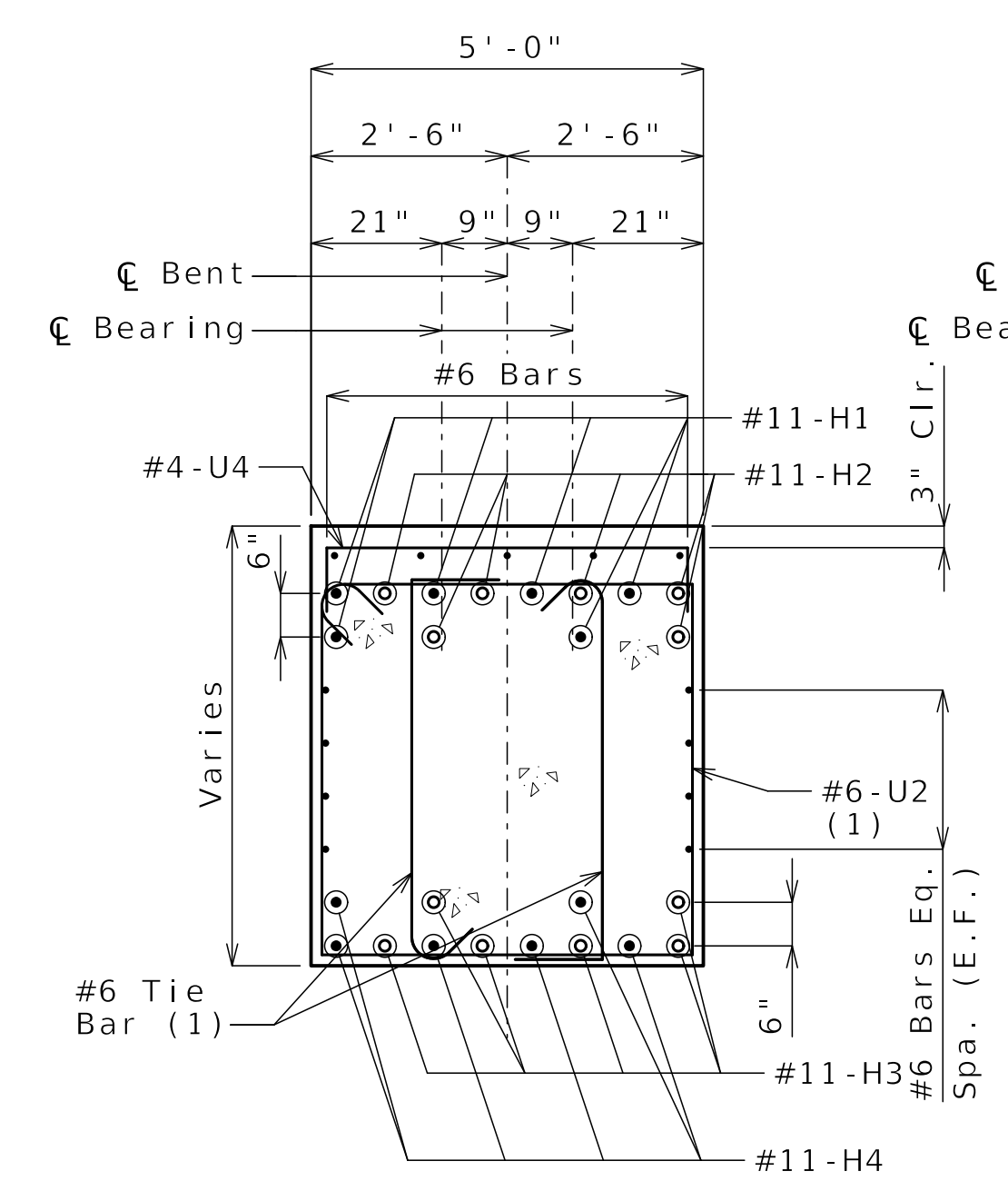
CLARKSON RADMACHER JOINT VENTURE
 715 KIRK DRIVE KANSAS CITY, MO 64105-1310
 CERTIFICATE OF AUTHORITY NO. 001270



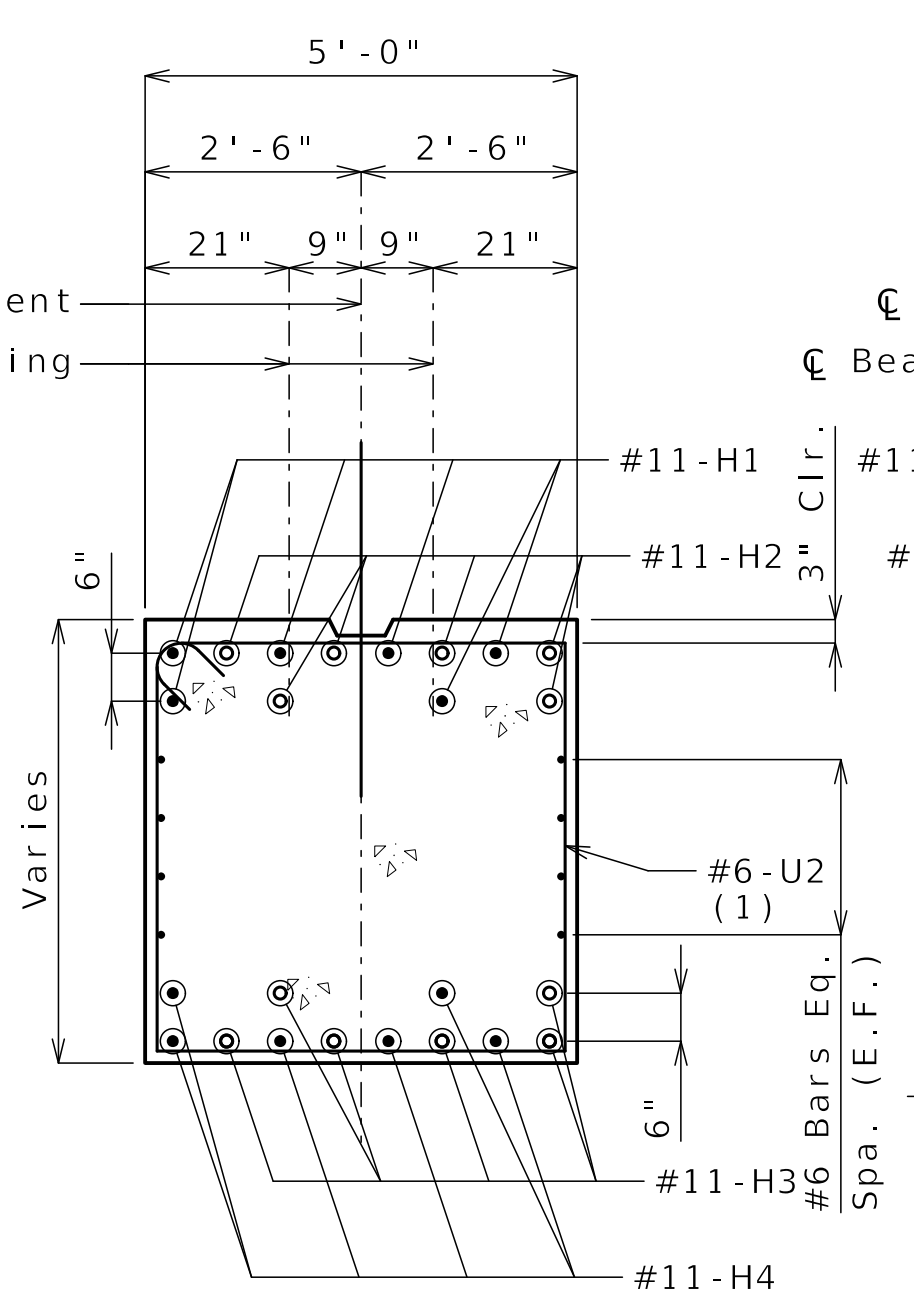
PLAN OF CAPBEAM



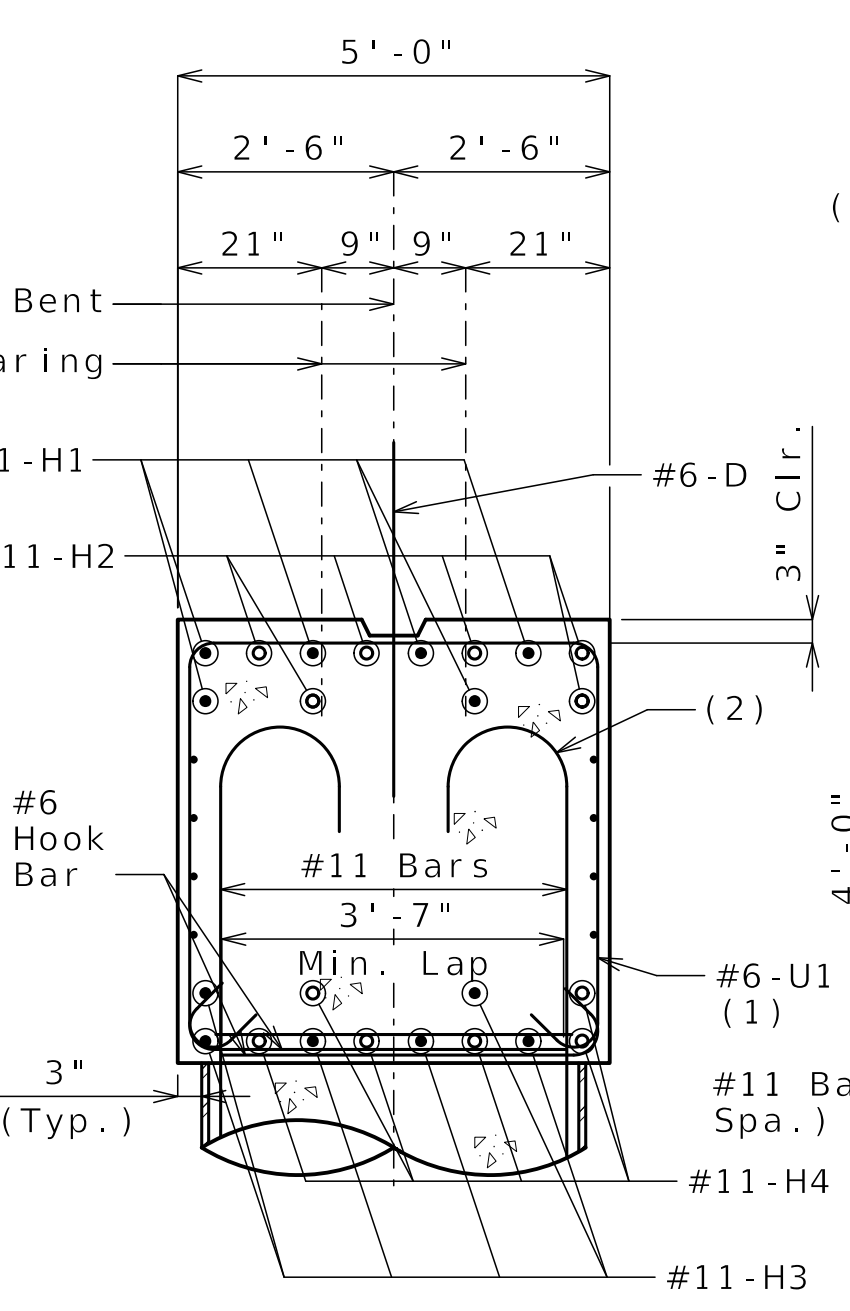
SECTION THRU KEY



SECTION A-A



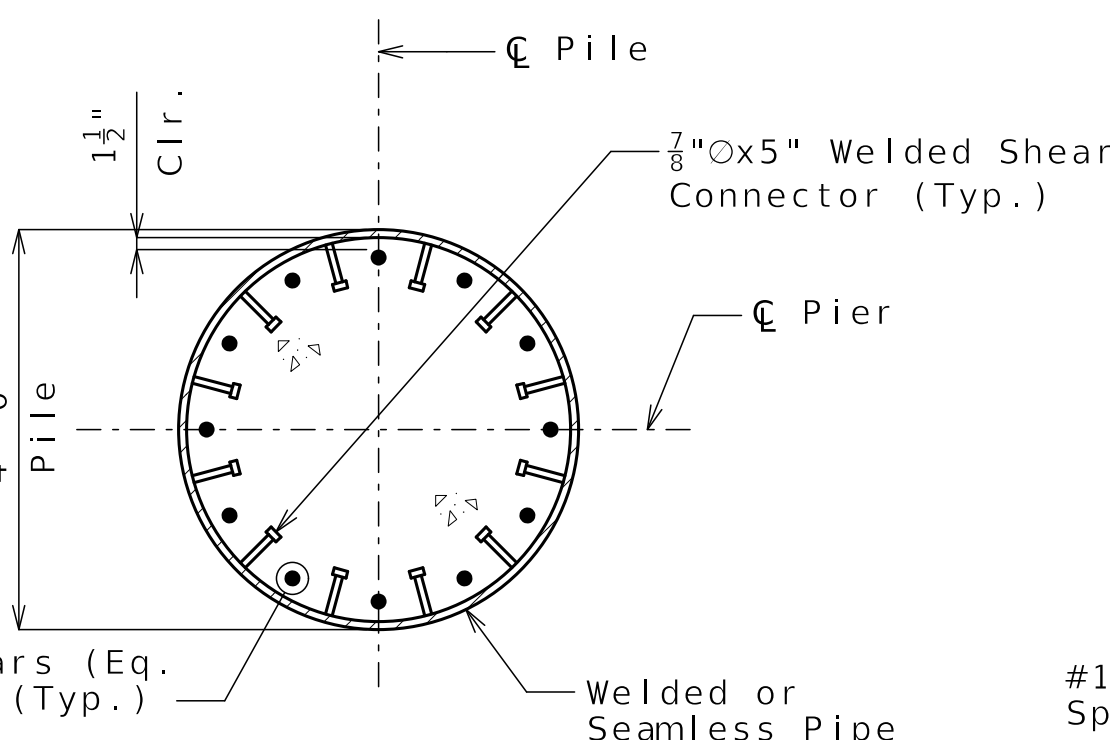
SECTION B-B



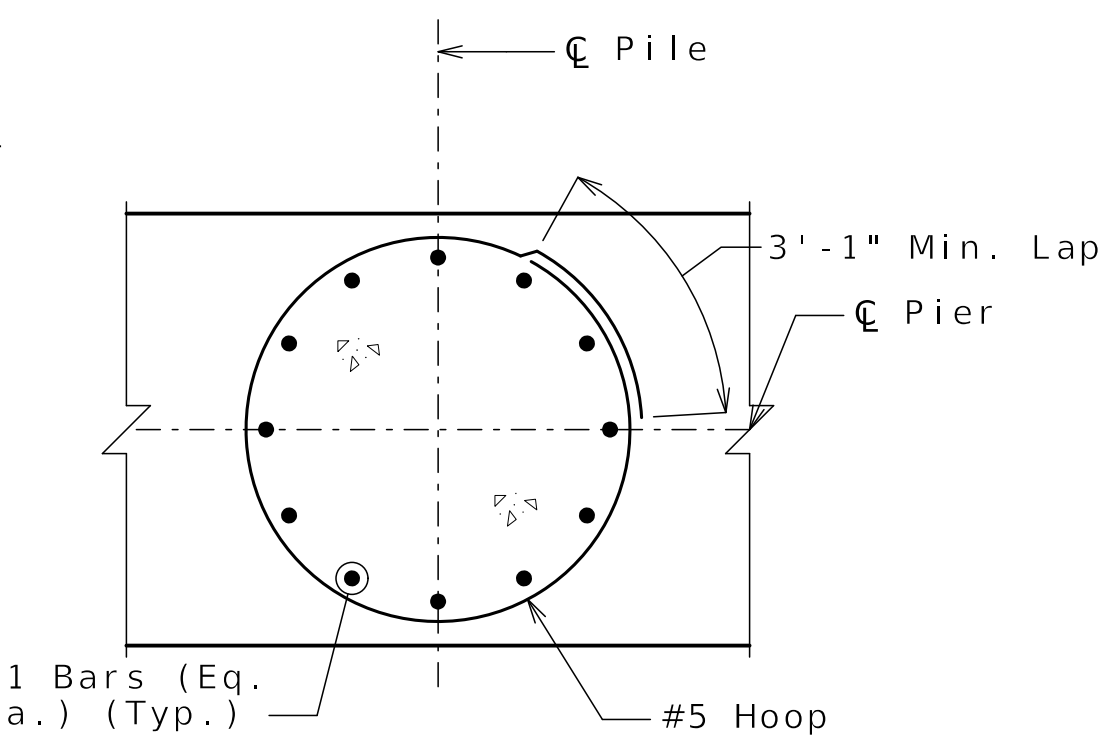
SECTION C-C

(#5 Hoops not shown for clarity)

(2) See note on Sheet No. B07-09 for alternative to 180 degree hooks.



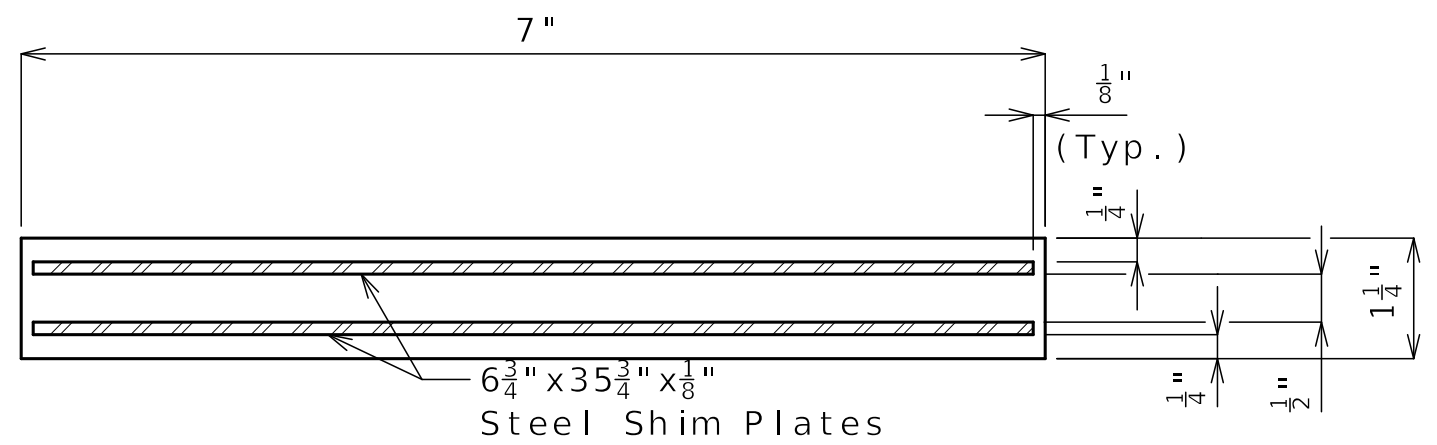
SECTION E-E



SECTION D-D

(Cap Reinforcing not shown for clarity)

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



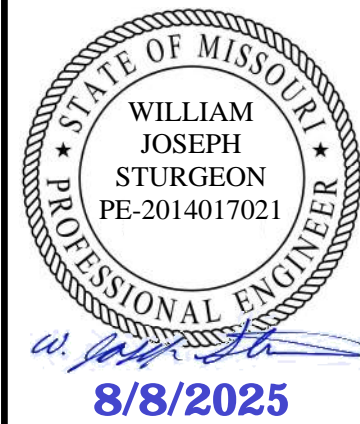
TYPICAL SECTION THRU LAMINATED NEOPRENE BEARING PAD

12 Required

Released For Construction
 Not to Scale
 Revision: 0.0
 Date: 08/11/2025
 Package: BRD-07-WB70-Truman-Sub

Notes:
 Work this sheet with Sheet No. B07-09.
 For angle of girders relative to C Bent , see A9624 (I-70 WB Over Truman) Superstructure Package.
 For additional joint filler layout details, see concrete diaphragm details sheet in A9624 (I-70 WB Over Truman) Superstructure Package.
 For steps 2 inches or more, use $2\frac{1}{2} \times \frac{1}{2}$ inch joint filler up vertical face.
 Hoop splices shall be staggered around the column at 90 degree intervals.

DETAILS OF INTERMEDIATE BENT NO. 2



DATE PREPARED 08/08/2025	
ROUTE I-70	STATE MO
DISTRICT BR	SHEET NO. B07-11
COUNTY JACKSON	
JOB NO. J411486D	
CONTRACT ID. 240807-C01	
PROJECT NO.	

BRIDGE NO. A9624

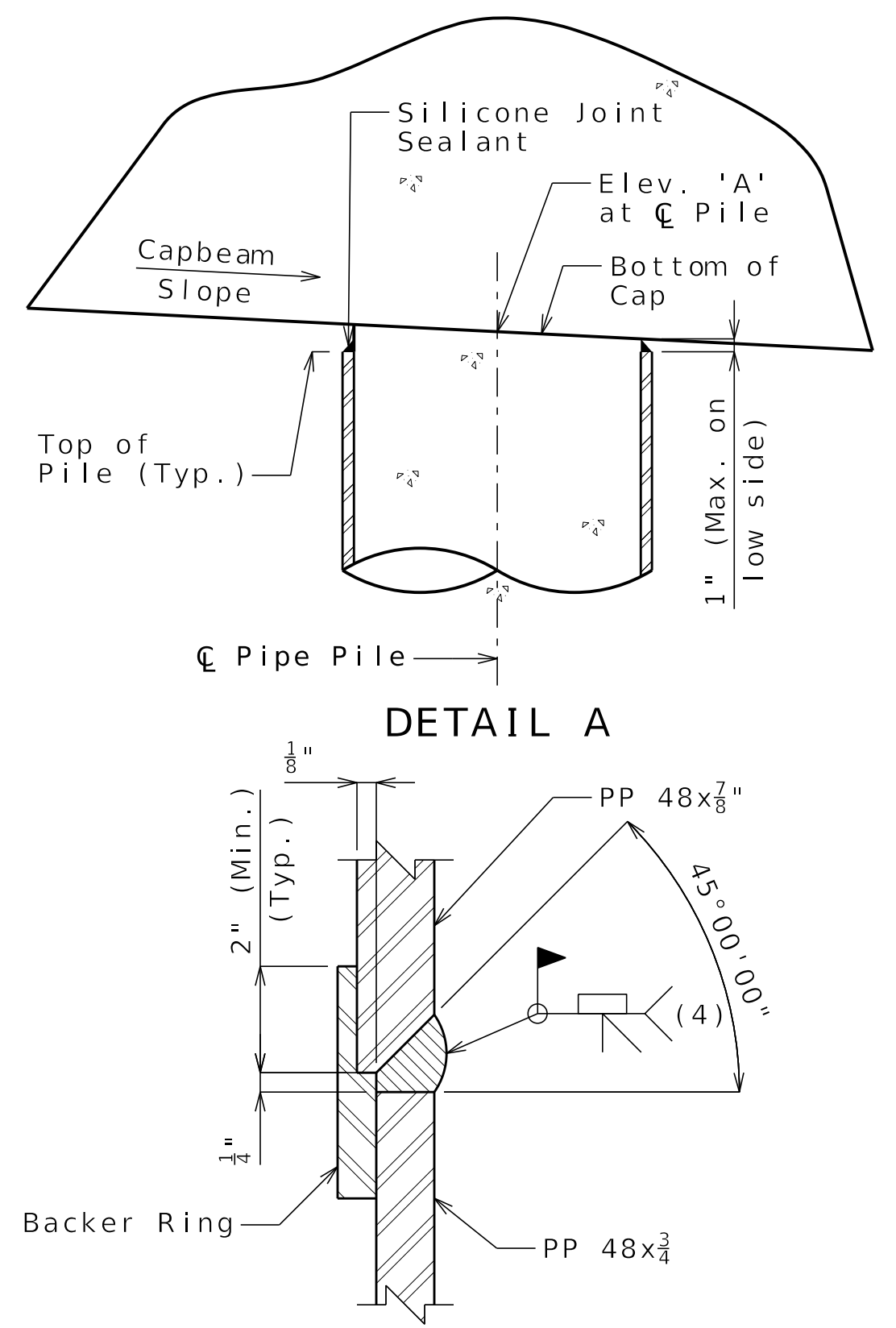
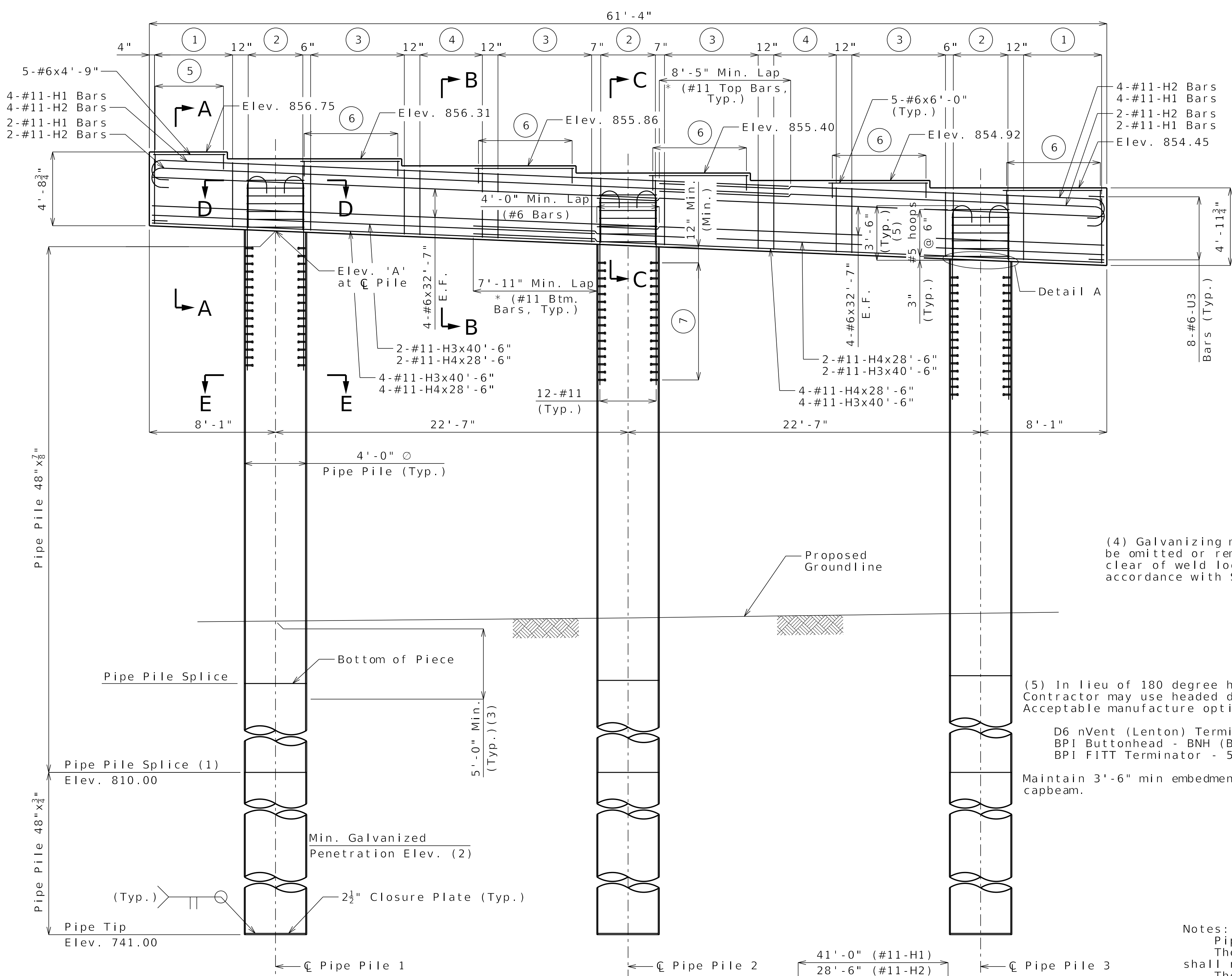
DATE	DESCRIPTION
08/08/25	REV 0 - RFC SUBMITTAL

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



PIPE PILE SPLICE DETAIL

- 1 6 Sets of 1-#6-U2 & 2-#6 Tie Bars @ 12" cts.
- 2 4 Sets of 1-#6-U1 & 2-#6 Hook Bars @ 14" cts.
- 3 9 Sets of 1-#6-U2 & 2-#6 Tie Bars @ 9" cts.
- 4 5-#6-U2 @ 12" cts.
- 5 10-#4-U4 @ 6" Spa.
- 6 12-#4-U4 @ 6" Spa.
- 7 16 sets of 12-7/8" \varnothing x5" Welded Shear Connectors Spa. @ abt. 6" cts. = 7'-7"

Released For Construction
Not to Scale

Revision: 0.0
Date: 08/11/2025
Package: BRD-07-WB70-Truman-Sub

(4) Galvanizing material shall be omitted or removed one inch clear of weld locations in accordance with Sec 702

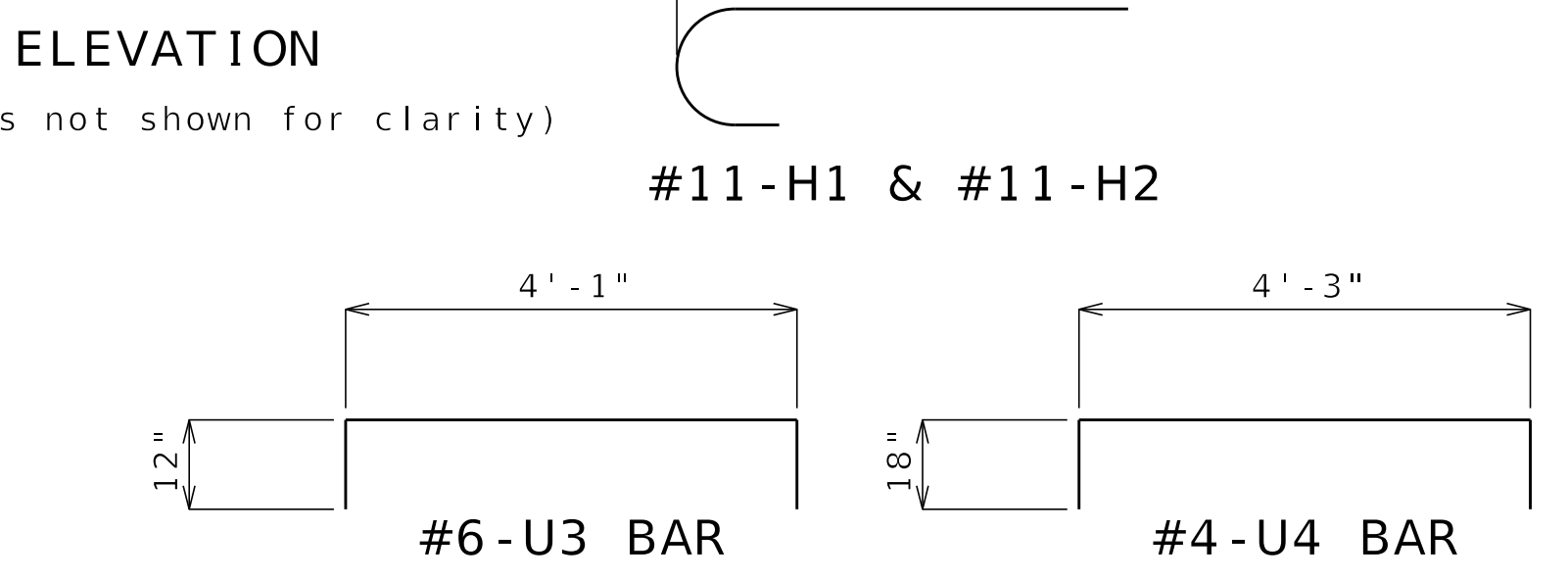
(5) In lieu of 180 degree hooks shown, Contractor may use headed deformed bars. Acceptable manufacture options include:
D6 nVent (Lenton) Terminator
BPI Buttonhead - BNH (Barsplice)
BPI FITT Terminator - 5Ab (Barsplice)
Maintain 3'-6" min embedment into capbeam.

Notes:
Pipe pile shall be closed end.
The minimum wall thickness of any spot or local area of any type shall not be more than 12.5% under the specified nominal wall thickness.
The contractor shall determine the pile wall thickness required to avoid damage from all driving activities, but wall thickness shall not be less than the minimum specified.
Closure plate shall not project beyond the outside diameter of the pipe pile. Satisfactory weldments may be made by beveling tip end of pipe or by use of inside backing rings. In either case, proper gaps shall be used to obtain weld penetration full thickness of pipe.
Splices for pipe pile shall be made watertight and to the full strength of the pipe above and below the splice to permit hard driving without damage. Pipe damaged during driving shall be replaced.
Pipe sections used for splicing shall be at least 5 feet in length.
At the contractor's option, the hooks of vertical bars embedded in the capbeam may be oriented inward or outward as needed to avoid conflict with cap beam reinforcement.
For location of pipe piles, see Sheet B07-04.
* Alternate location of lap splices between adjacent bars about centerline of bent. Alternate lap splice location not shown.
Work this sheet with Sheet No. B07-12.
Shear connectors shall be in accordance with Sec. 712, 1037, and 1080.
For pile point reinforcement details, see Sheet No. B07-13.

DETAILS OF INTERMEDIATE BENT NO. 3

- (1) Elevation of pipe pile wall thickness transition is the maximum allowed. Depth below ground line of the transition can be increased (the elevation decreased) for constructability.
- (2) See Foundation Data Table on Sheet No. B07-03.
- (3) Concrete shall be placed within pipe pile from bottom of capbeam to 5'-0" minimum below ground line. Fill pipe pile with loose dry sand below this elevation.

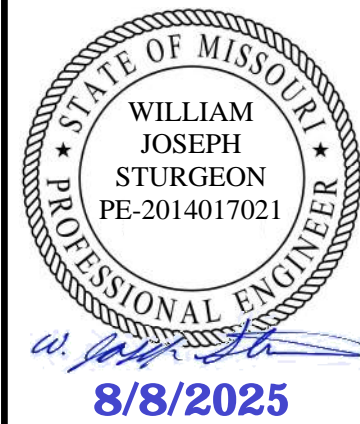
Pile Number	'A'
1	851.68
2	850.74
3	849.81



Detailed MAR 2025
Checked APR 2025

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

Sheet No. B07-11 of B07-37



DATE PREPARED 08/08/2025	
ROUTE I-70	STATE MO
DISTRICT BR	SHEET NO. B07-12
COUNTY JACKSON	
JOB NO. J411486D	
CONTRACT ID. 240807-C01	
PROJECT NO.	

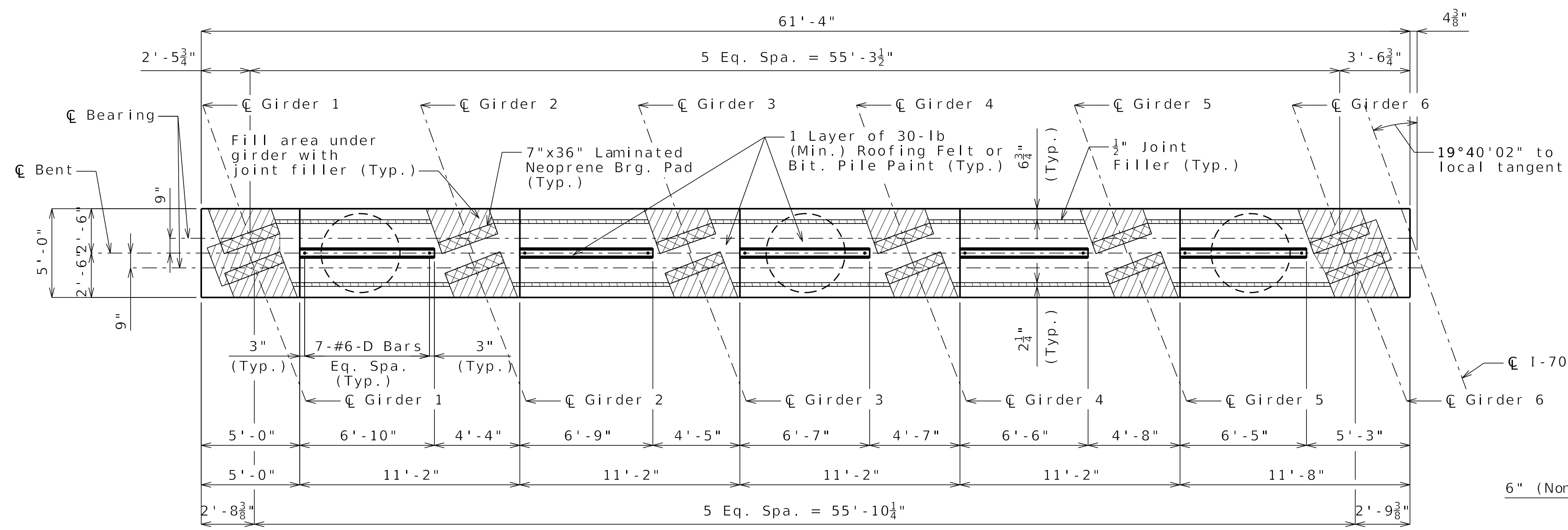
BRIDGE NO.
A9624

DATE	DESCRIPTION
08/08/25	REV 0 - RFC SUBMITTAL

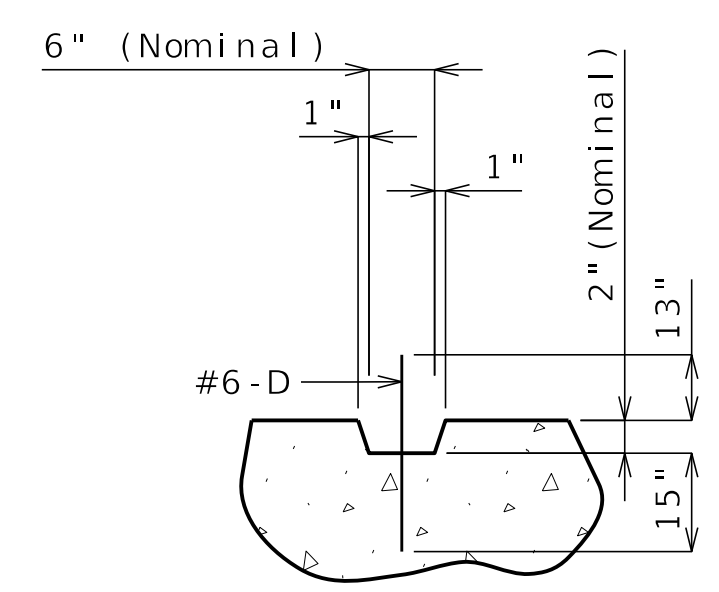
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

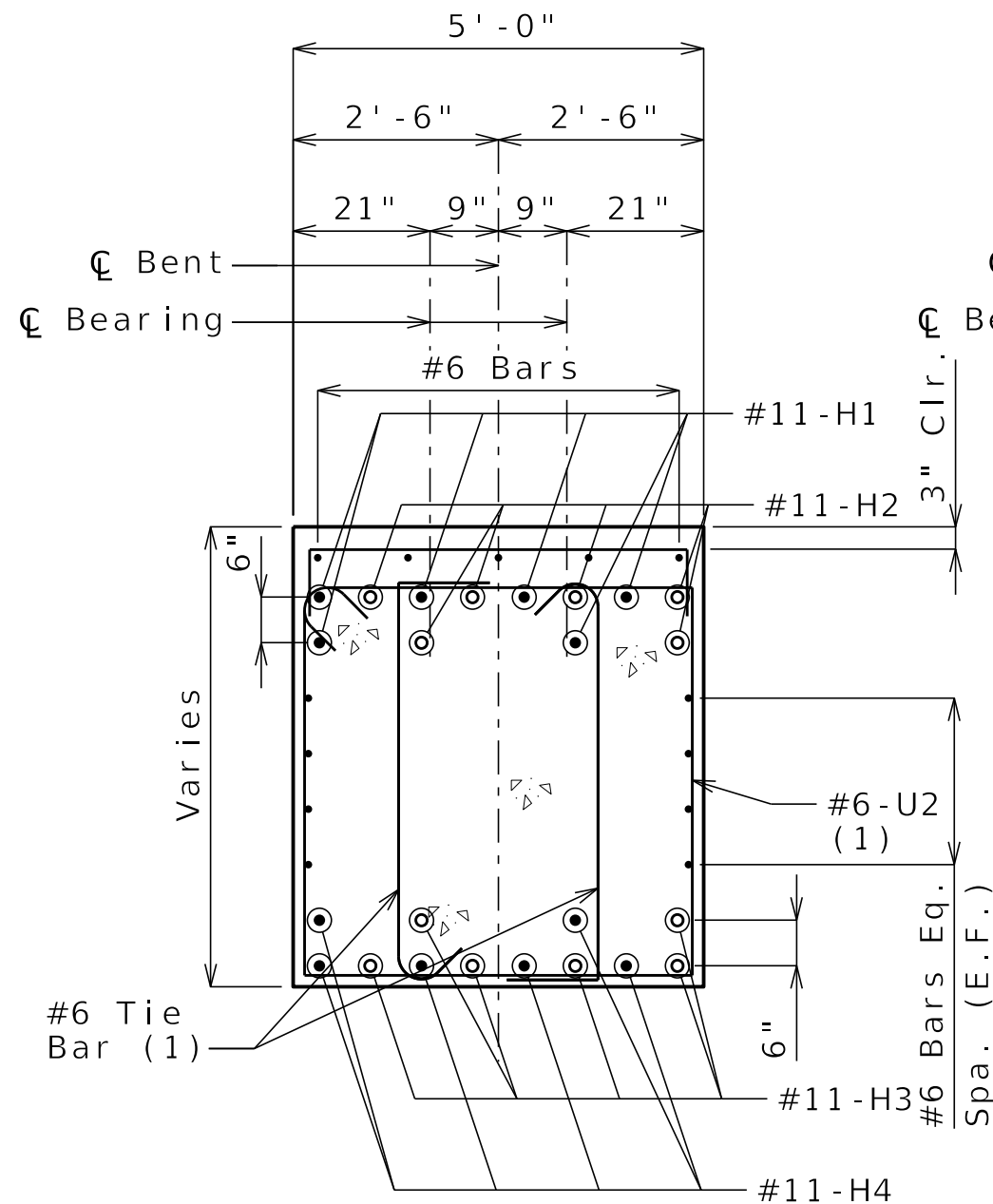
CLARKSON RADMACHER JOINT VENTURE
 715 KIRK DRIVE KANSAS CITY, MO 64105-1310
 CERTIFICATE OF AUTHORITY NO. 001270



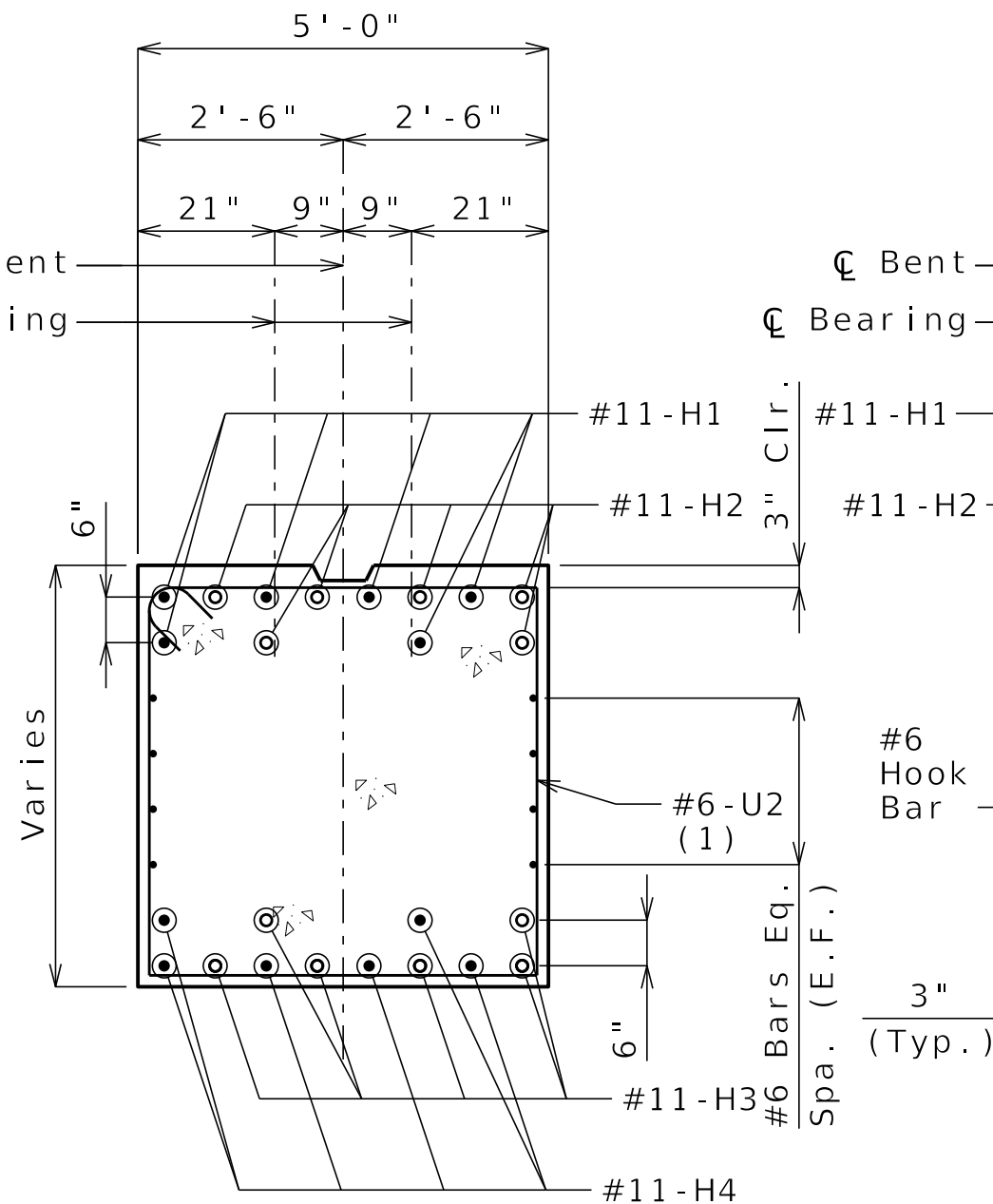
PLAN OF CAPBEAM



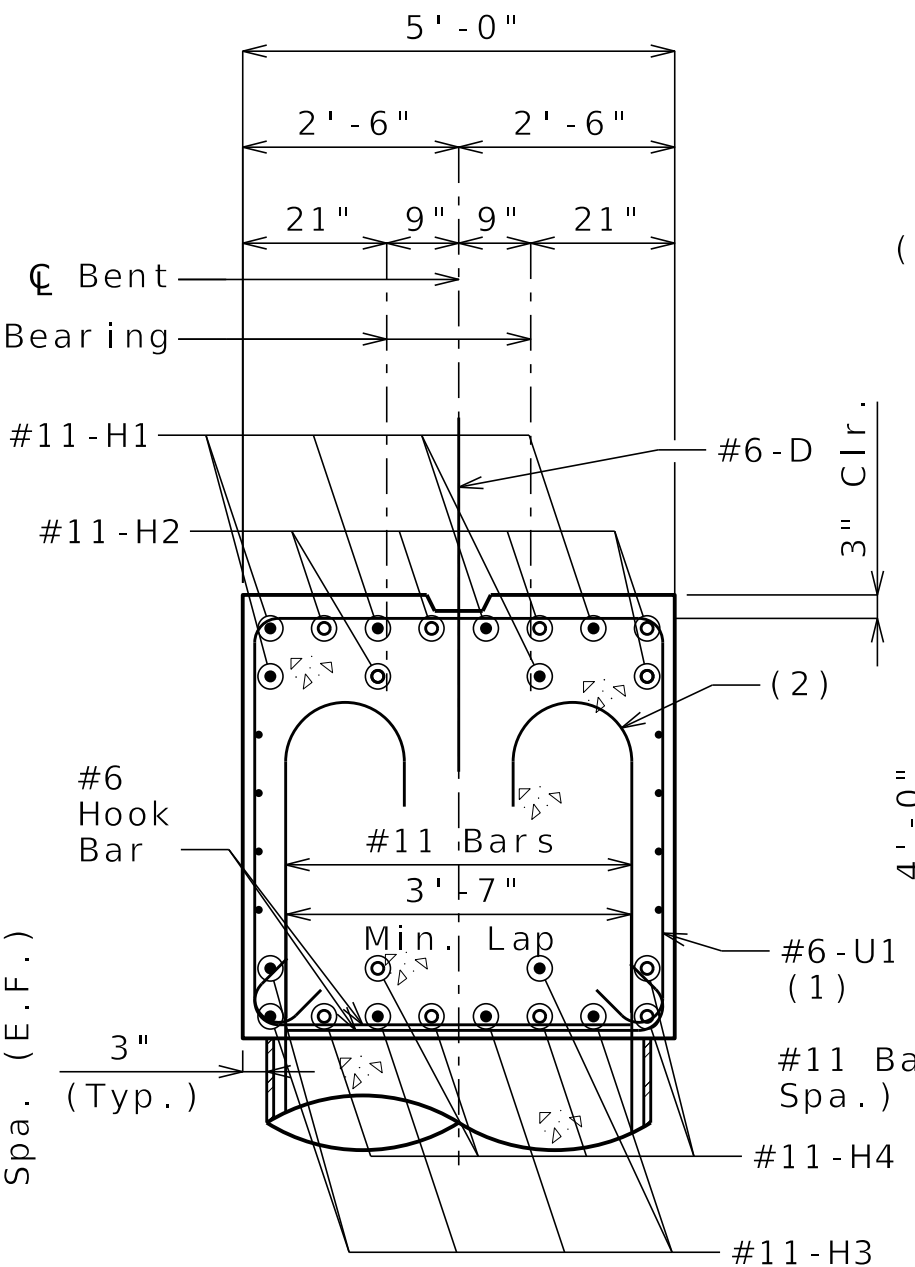
SECTION THRU KEY



SECTION A-A

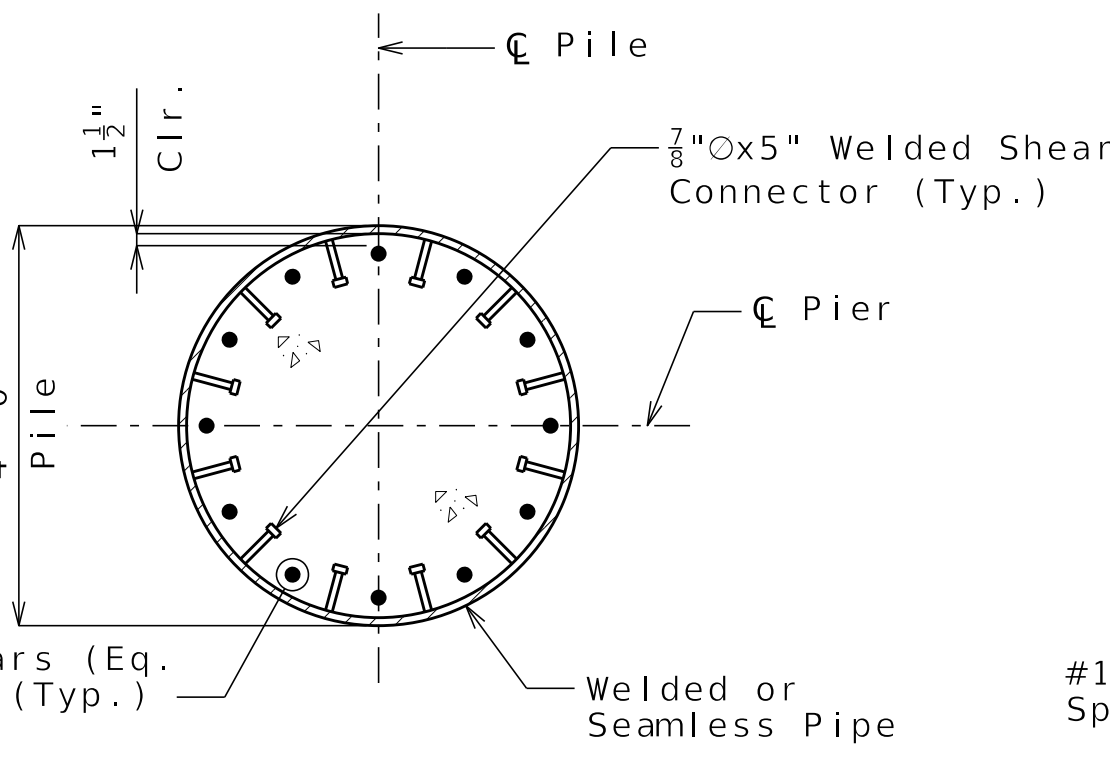


SECTION B-B

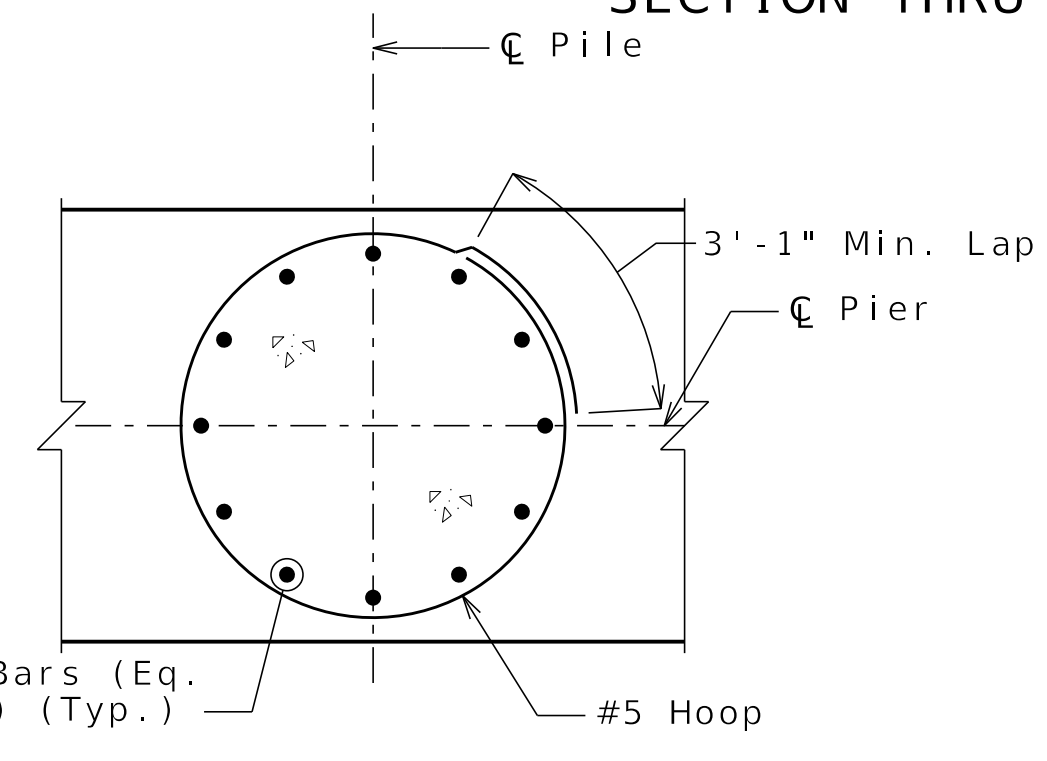


SECTION C-C
(#5 Hoops not shown for clarity)

(2) See note on Sheet No. B07-11 for alternative to 180 degree hooks.

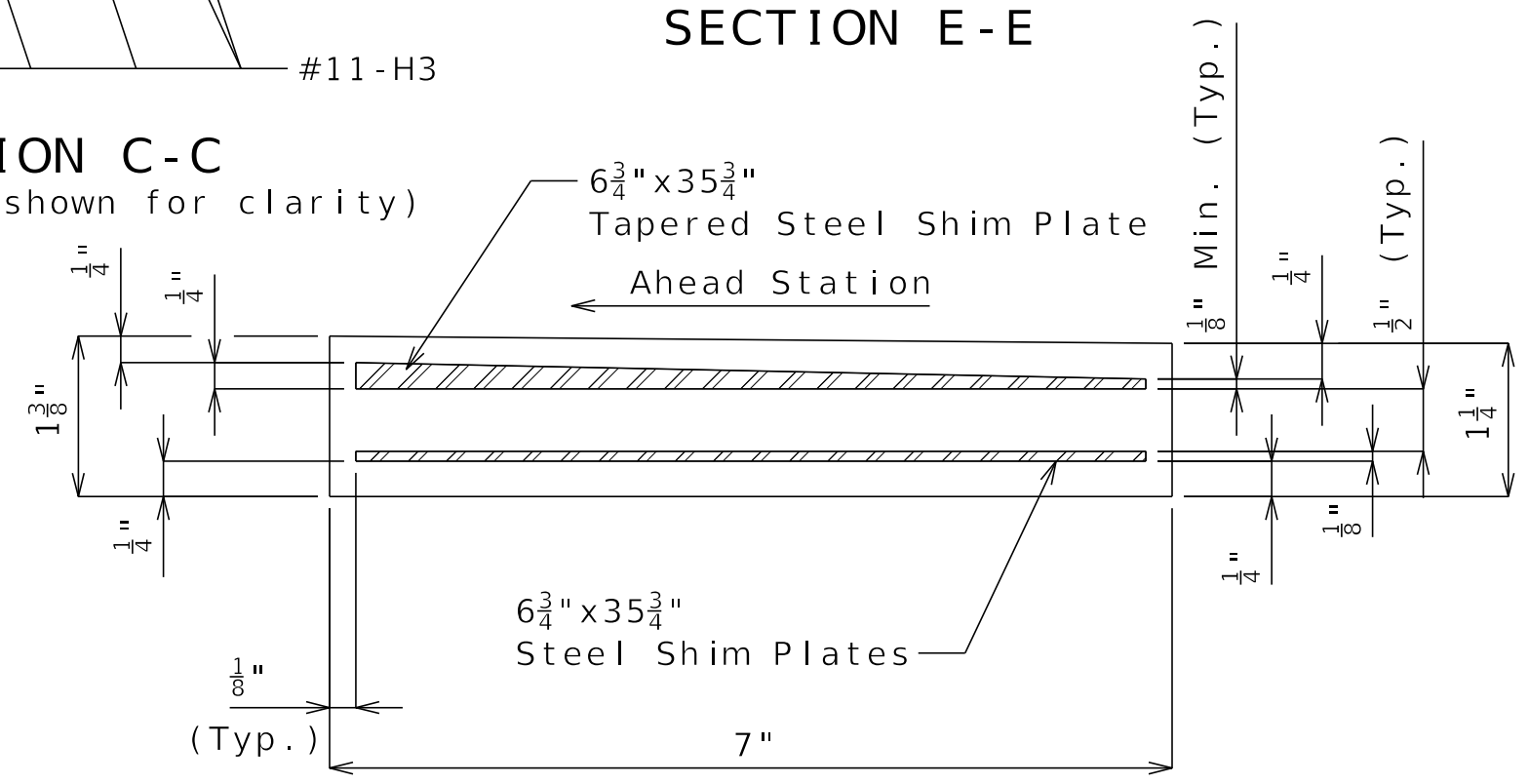


SECTION E-E



SECTION D-D
(Cap Reinforcing not shown for clarity)

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



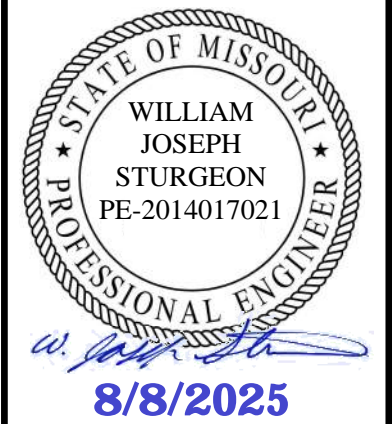
TYPICAL SECTION THRU LAMINATED NEOPRENE BEARING PAD (TAPERED)

12 Required per Bent

Released For Construction
 Not to Scale
 Revision: 0.0
 Date: 08/11/2025
 Package: BRD-07-WB70-Truman-Sub

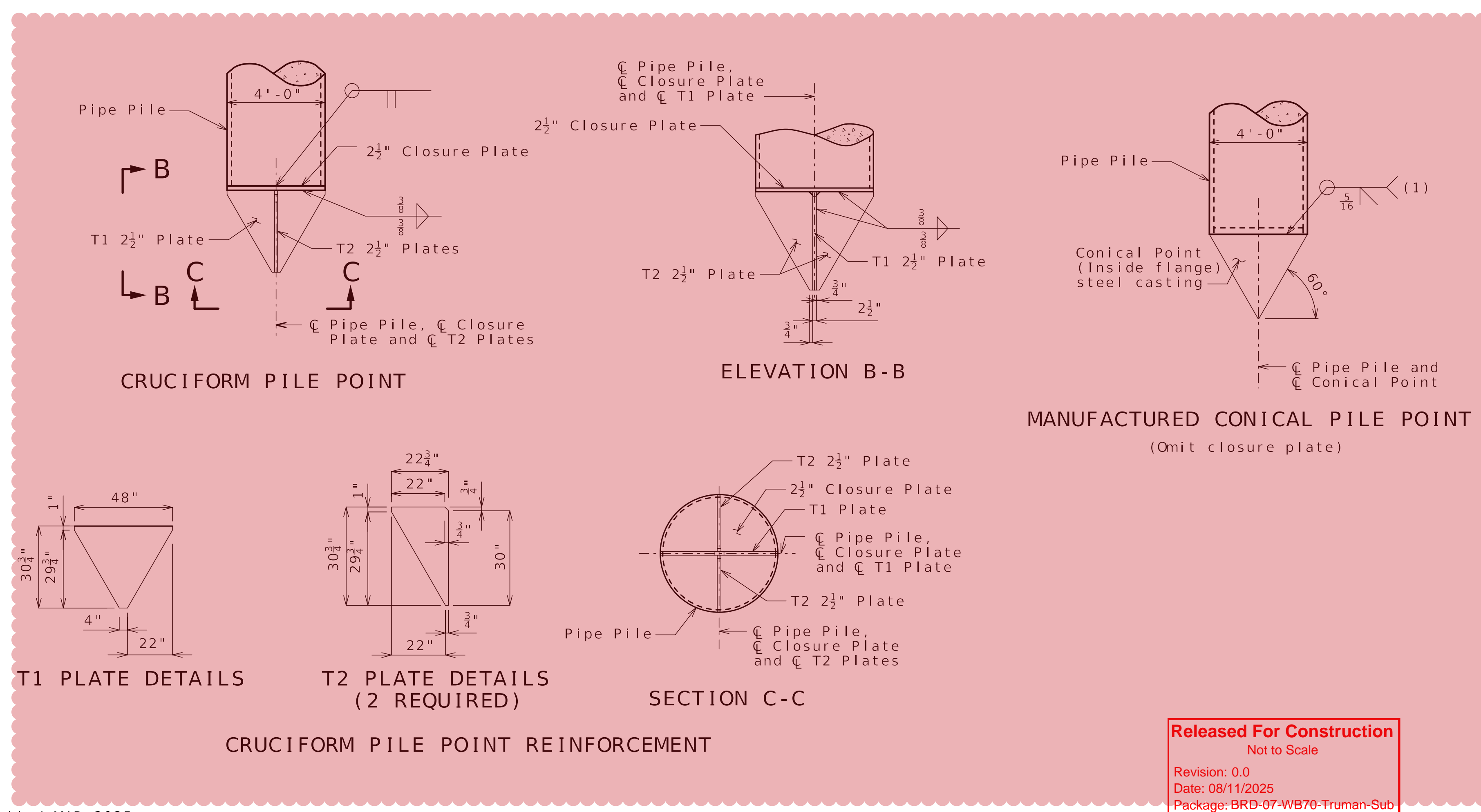
Notes:
 Work this sheet with Sheet No. B07-11.
 For angle of girders relative to \bar{C} Bent, see A9624 (I-70 WB Over Truman) Superstructure Package.
 For additional joint filler layout details, see concrete diaphragm details sheet in A9624 (I-70 WB Over Truman) Superstructure Package.
 For steps 2 inches or more, use 2 1/2 x 1/2 inch joint filler up vertical face.
 Hoop splices shall be staggered around the column at 90 degree intervals.

DETAILS OF INTERMEDIATE BENT NO. 3



DATE PREPARED 08/08/2025	
ROUTE I-70	STATE MO
DISTRICT BR	SHEET NO. B07-13
COUNTY JACKSON	
JOB NO. J411486D	
CONTRACT ID. 240807-C01	
PROJECT NO.	
BRIDGE NO. A9624	

SEE RFI-067. ALLOWS OPTION FOR OPEN ENDED PILE WITH CUTTING SHOE.



Notes:

Shop drawings are not required for pile point reinforcement.

Steel for Closure plate and cruciform pile point reinforcement shall be ASTM A709 Grade 50.

Steel casting for conical pile point reinforcement shall be ASTM A27 Grade 65-35.

Splices of pipe pile shall be made watertight and to the full strength of the pipe above and below the splice to permit hard driving without damage. Pipe sections used for splicing shall be at least 5 feet in length.

(1) If the conical pile point is not pre-beveled, place a 3/8" bevel at 40 degrees on the pipe.

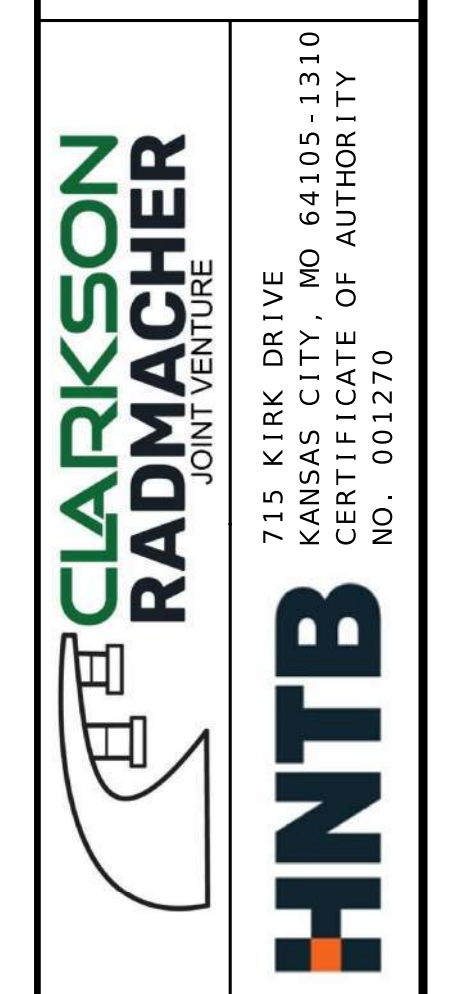
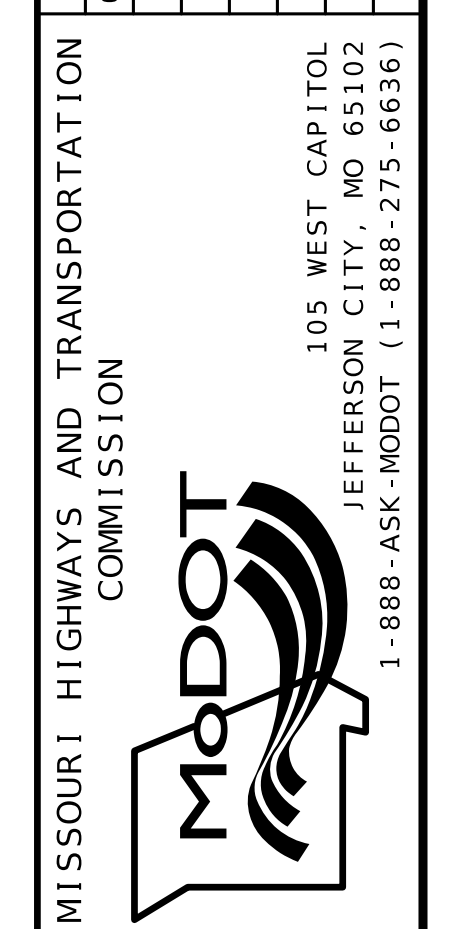
Released For Construction
Not to Scale
Revision: 0.0
Date: 08/11/2025
Package: BRD-07-WB70-Truman-Sub

PIPE PILE POINT DETAILS

Detailed MAR 2025
Checked APR 2025

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

Sheet No. B07-13 of B07-37





Gina D. Horner
08/08/25

DATE PREPARED
08/08/2025

ROUTE 1-70 STATE MO

DISTRICT BR SHEET NO. B07-14

COUNTY JACKSON

JOB NO. J411486D

CONTRACT ID. 240807-C01

PROJECT NO.

BRIDGE NO. A9624

DESCRIPTION

REV 0 - RFC SUBMITTAL

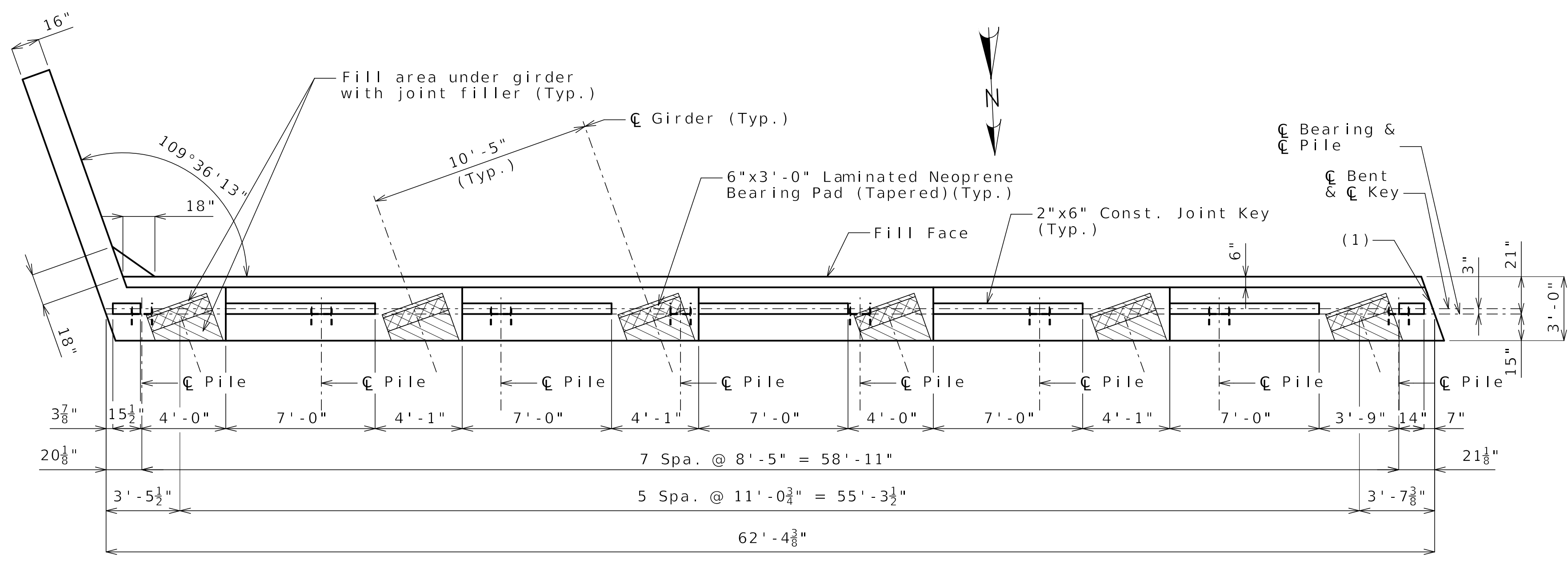
DATE 08/08/25

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

MoDOT

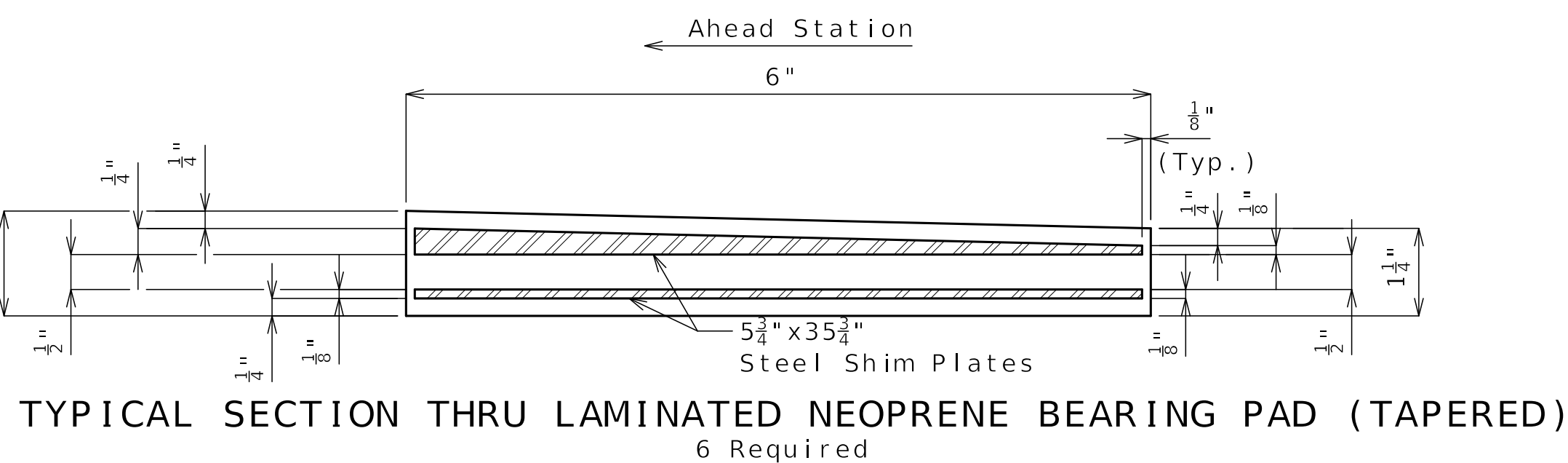
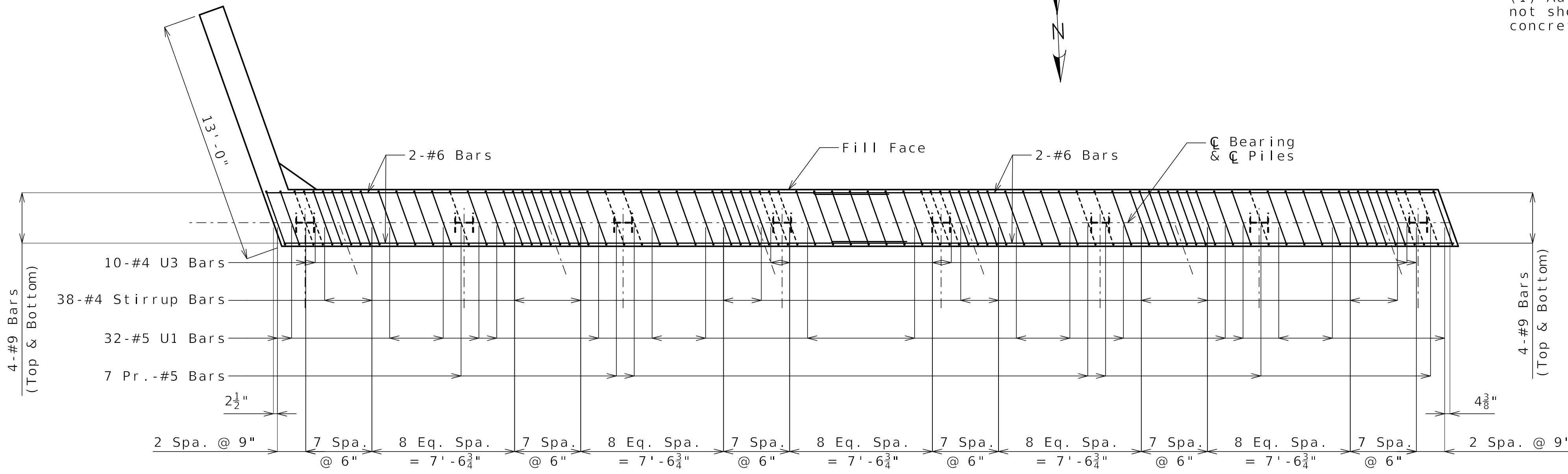
105 WEST CAPITOL JEFFERSON CITY, MO 65102

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

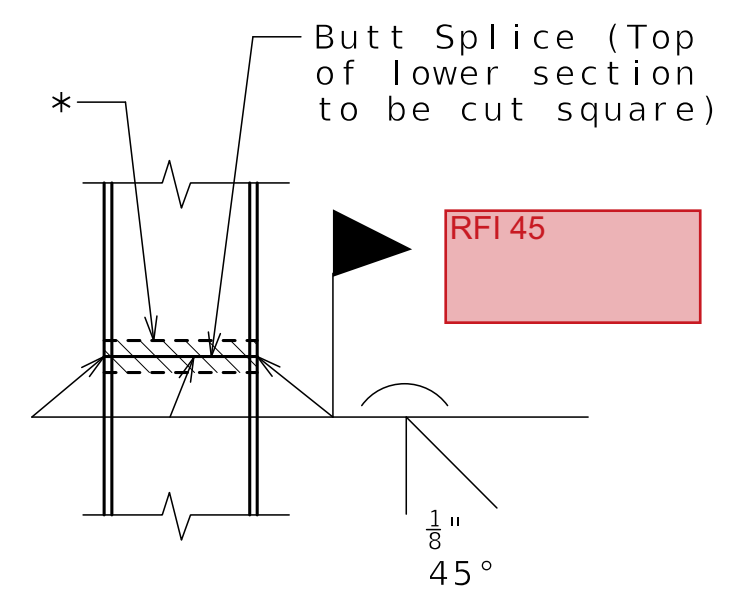


PLAN OF BEAM

(1) Adjacent A9623 (I-70 EB Over Truman) End Bent not shown. 1" joint filler required between adjacent concrete faces.



SECTION THRU KEY



STEEL PILE SPLICE
(If required)

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

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

Notes:
Work this sheet with Sheets No. B07-15 and B07-16.
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 and angle of girders relative to Bent, see A9624 (I-70 WB Over Truman) Superstructure Package.

Released For Construction
Not to Scale
Revision: 0.0
Date: 08/11/2025
Package: BRD-07-WB70-Truman-Sub

DETAILS OF END BENT NO. 4



Gina D. Horner
08/08/25

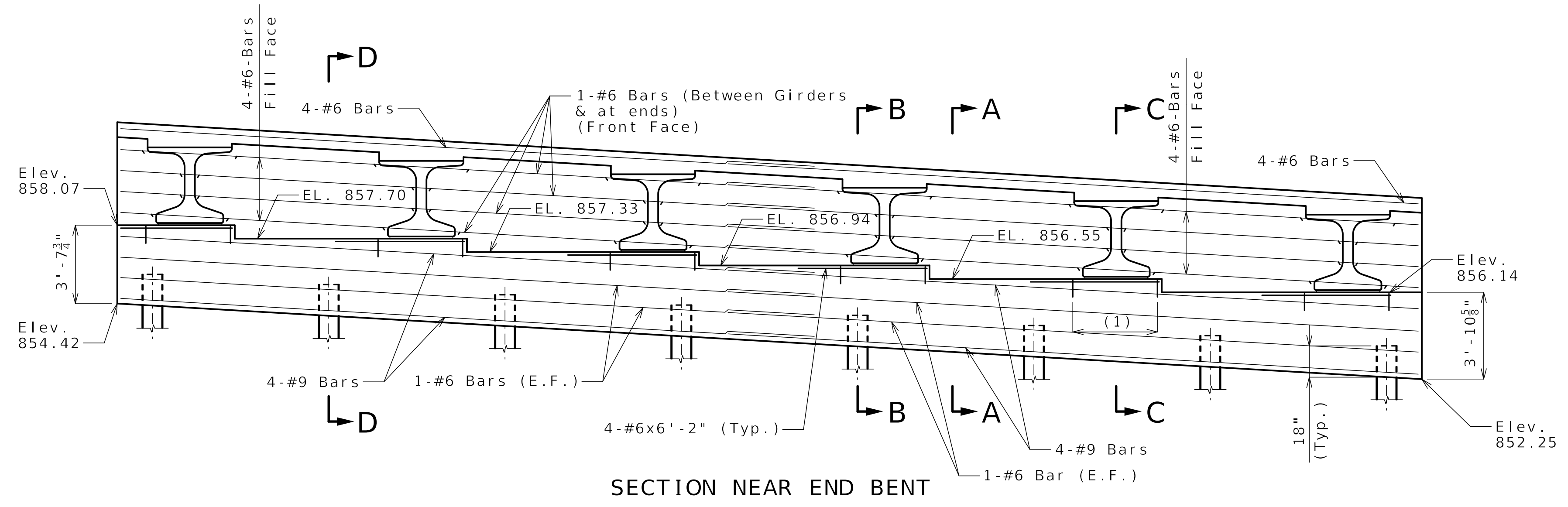
DATE PREPARED
08/08/2025
ROUTE STATE
I-70 MO
DISTRICT SHEET NO.
BR B07-15
COUNTY
JACKSON
JOB NO.
J411486D
CONTRACT ID.
240807-C01
PROJECT NO.

BRIDGE NO.
A9624

DATE	DESCRIPTION
08/08/25	REV 0 - RFC SUBMITTAL

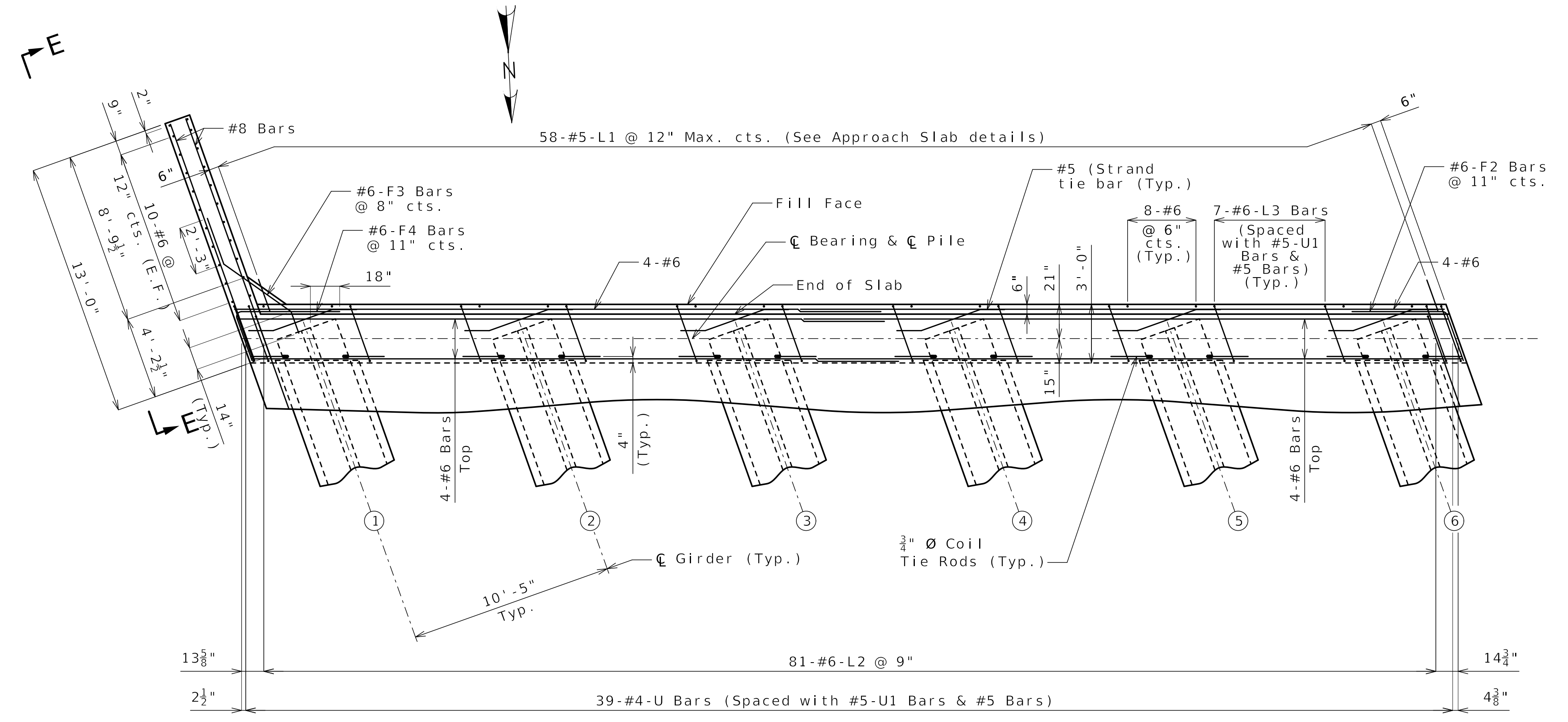
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
MoDOT
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

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

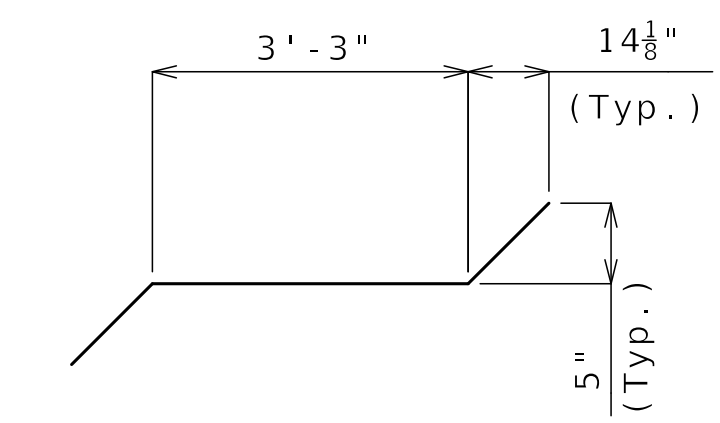


SECTION NEAR END BENT

Notes:
Lap Splice for #6 bars = 4'-3" (Min.)
Lap Splice for #9 bars = 6'-5" (Min.)
(1) 8-#4-U4 Bars @ 6" Spa. undergirders. Bars shall be placed normal to C Bent and parallel to beam step. (Typ.)



PART PLAN



#5 STRAND TIE BAR

General Notes:
Work this sheet with Sheets No. B07-14 and B07-16.
For Sections A-A, B-B, C-C and D-D and Elevation E-E, see Sheet No. B07-16.
For location of coil tie rods, see A9624 (I-70 WB Over Truman) Superstructure Package.
Strands at end of girders shall be field bent or, if necessary, cut in field to maintain 1 1/2-inch minimum clearance to fill face of end bent.
The #6-F bars shall be bent in the field to clear girders.

(X) Denotes girder number

DETAILS OF END BENT NO. 4

Released For Construction
Not to Scale
Revision: 0.0
Date: 08/11/2025
Package: BRD-07-WB70-Truman-Sub



Gina D. Horner
08/08/25

DATE PREPARED
08/08/2025

ROUTE 1-70 STATE MO
DISTRICT BR SHEET NO. B07-16

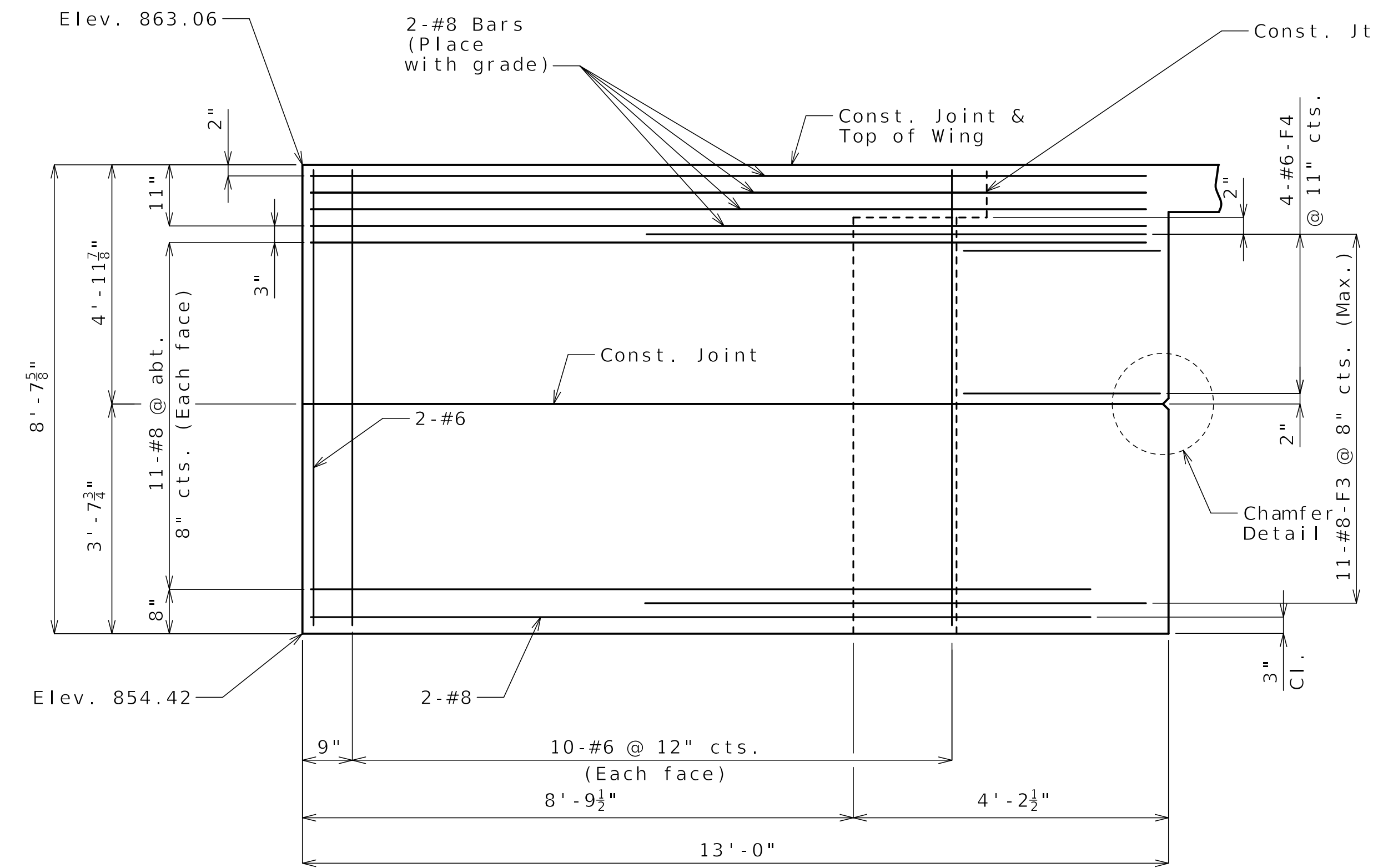
COUNTY JACKSON
JOB NO. J411486D
CONTRACT ID. 240807-C01
PROJECT NO.

BRIDGE NO. A9624

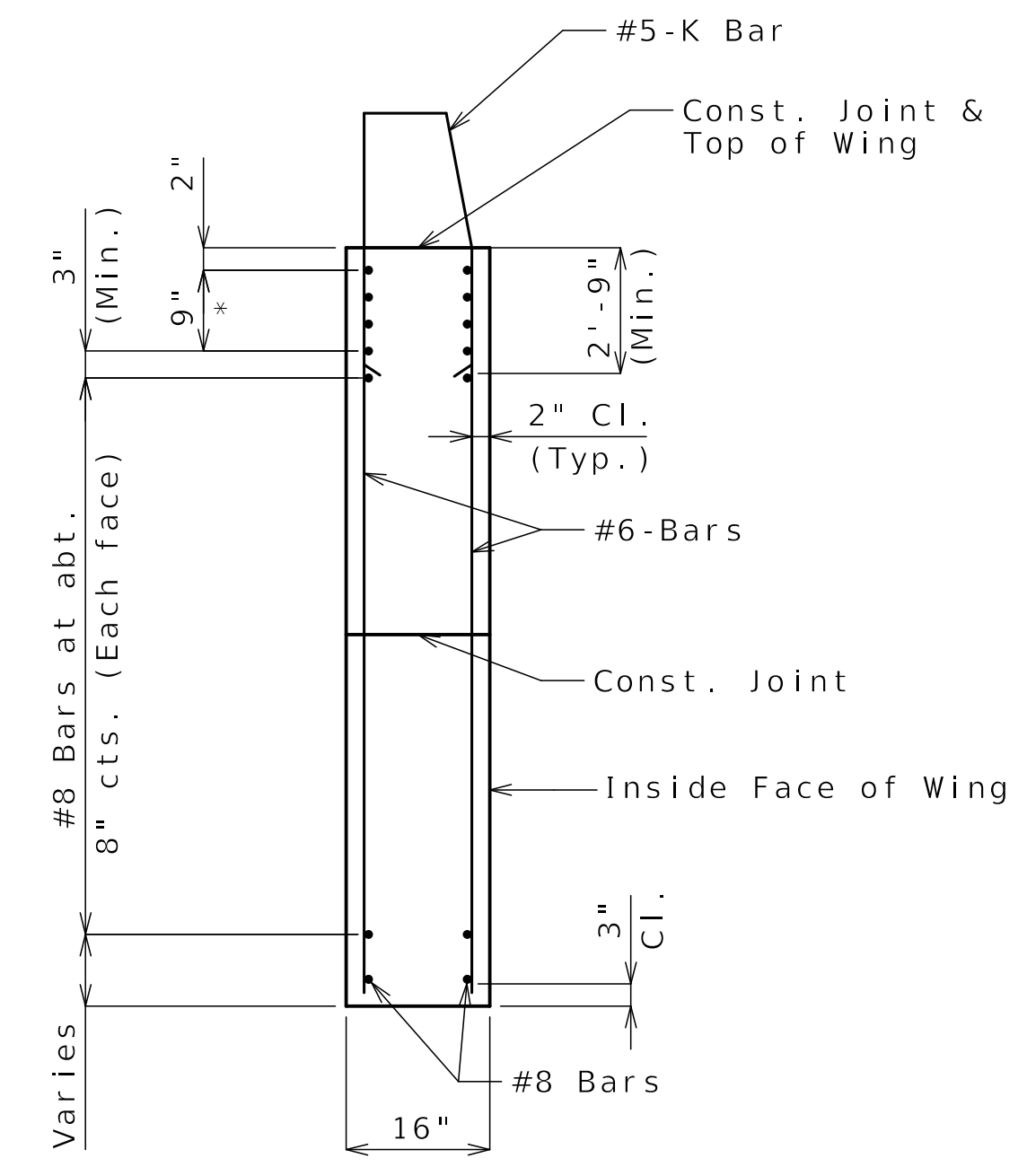
DATE	DESCRIPTION
08/08/25	REV 0 - RFC SUBMITTAL

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

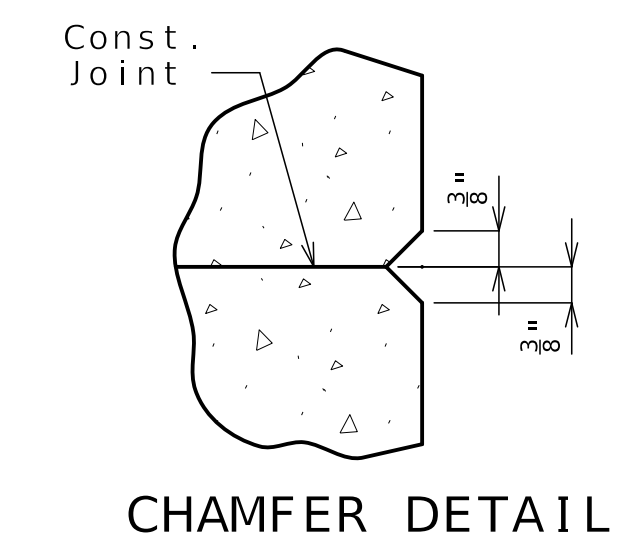


ELEVATION E-E

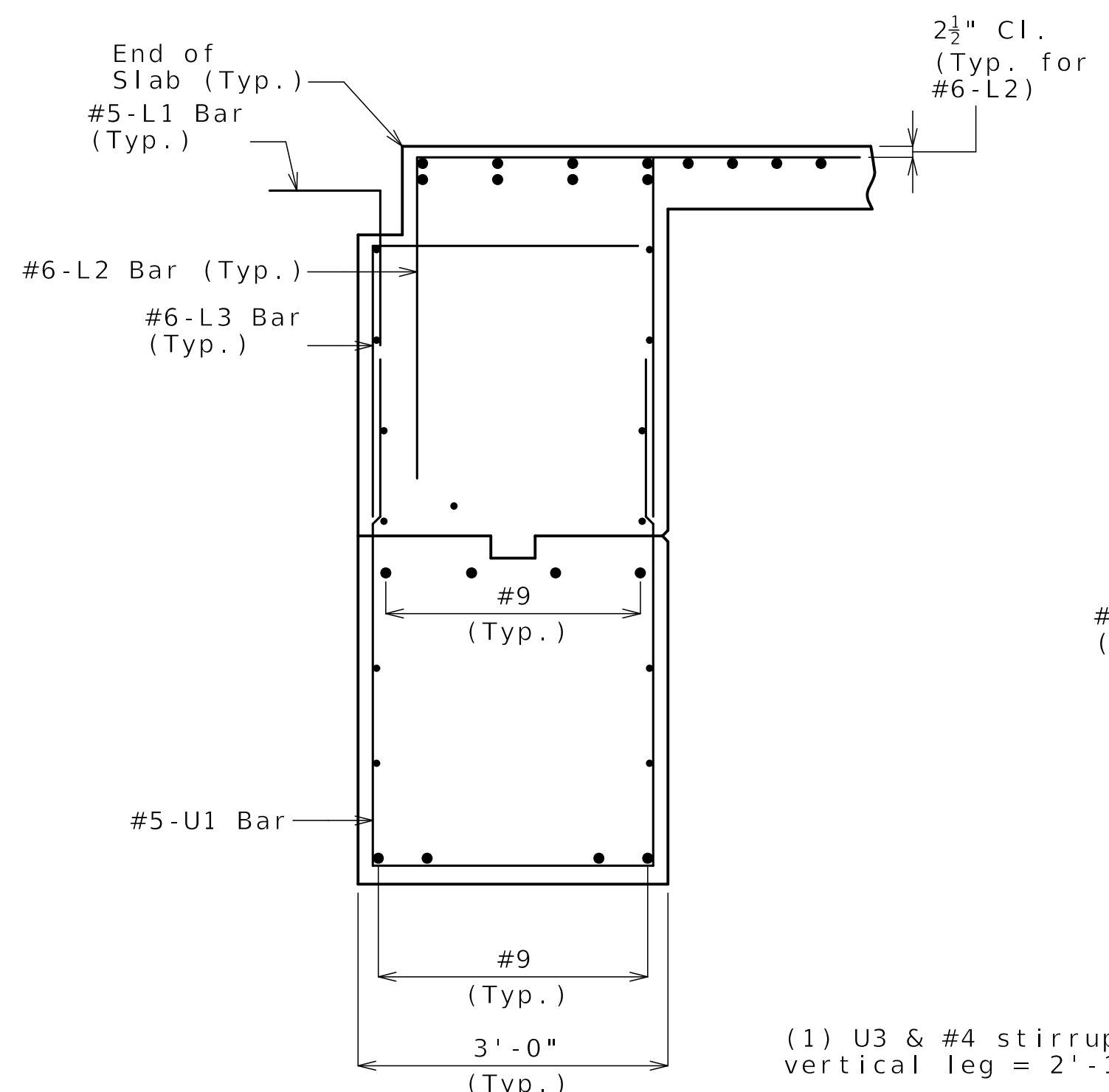


TYPICAL SECTION THRU WING

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

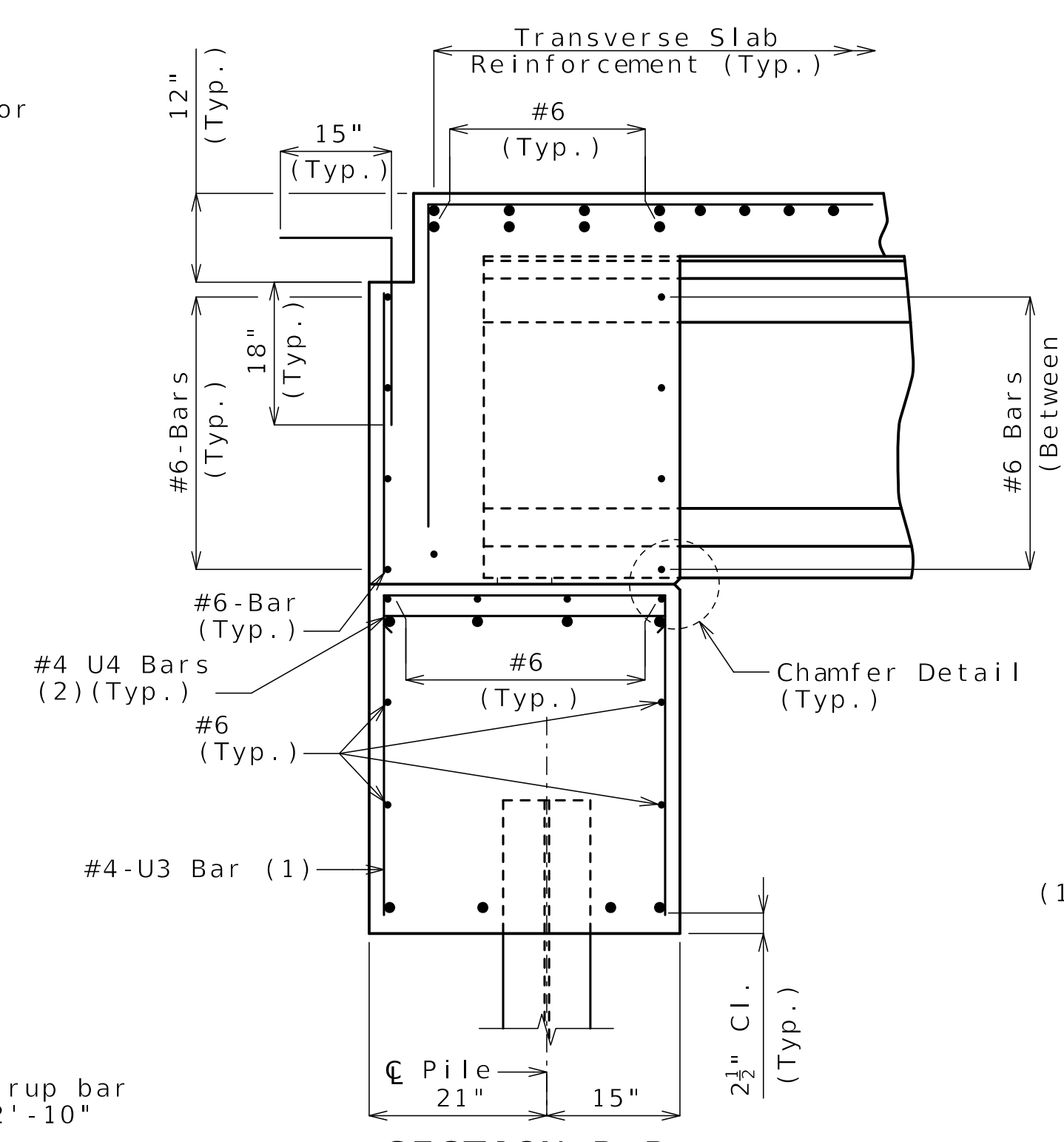


CHAMFER DETAIL

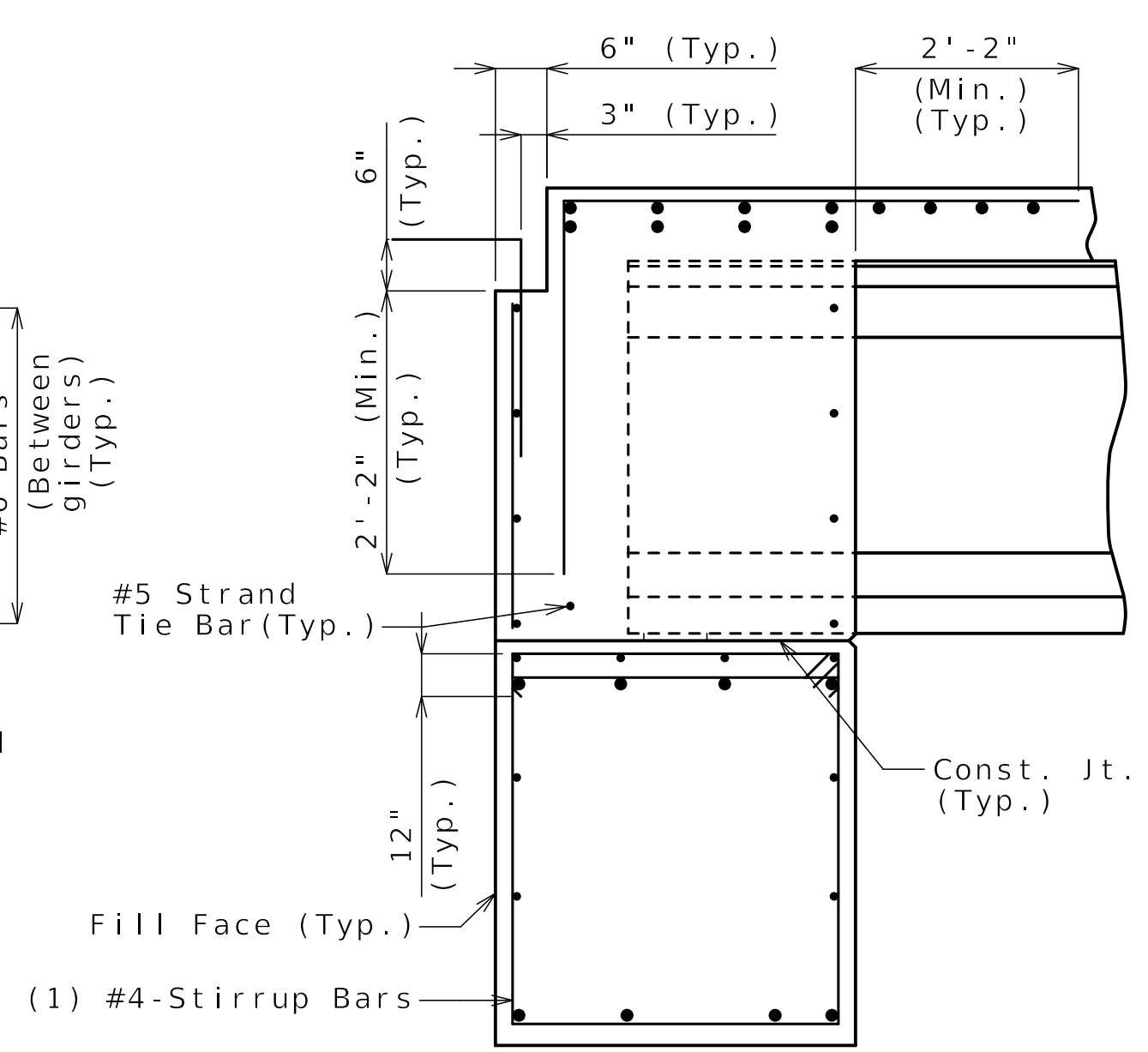


SECTION A-A

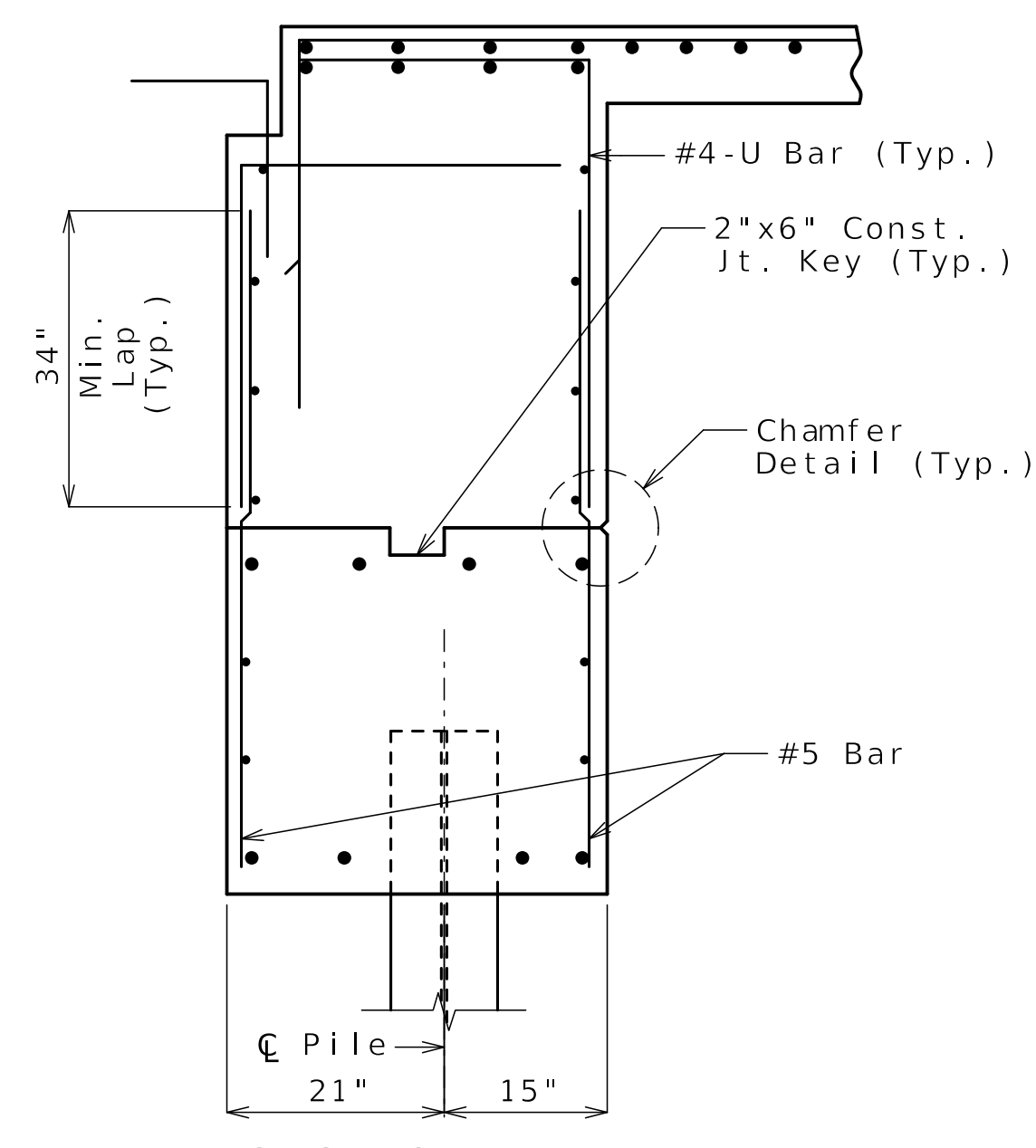
(1) U3 & #4 stirrup bar vertical leg = 2'-10"
(2) Bars shall be placed normal to C Bent and parallel to beam step.



SECTION B-B



SECTION C-C

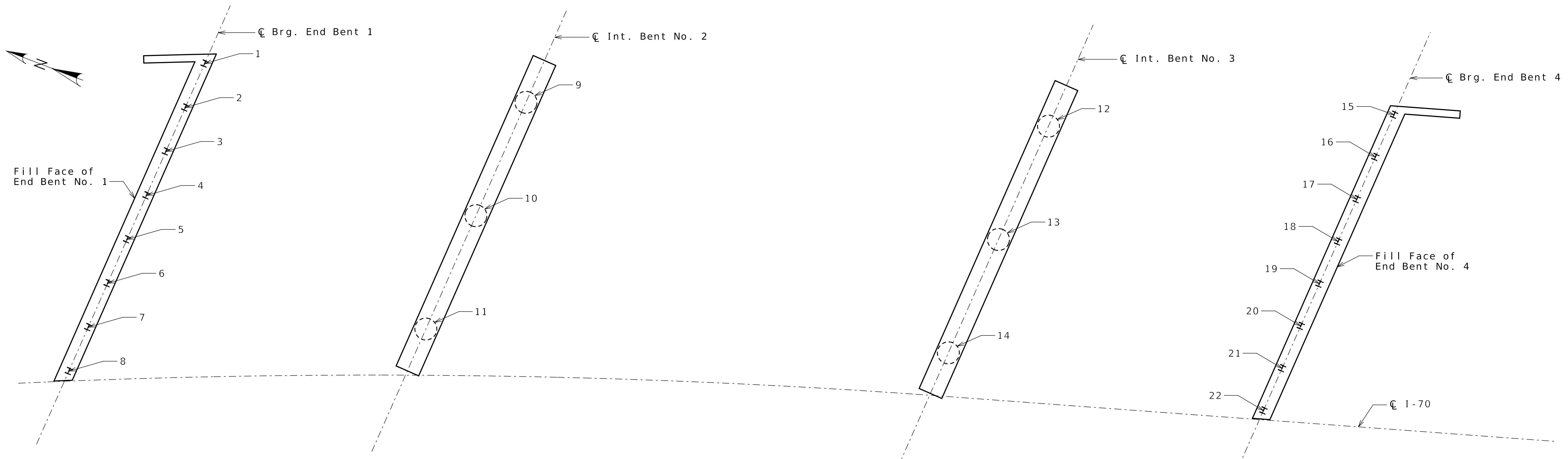


SECTION D-D

General Notes:
Work this sheet with Sheets No. B07-14 and B07-15.
For location of Sections A-A, B-B, C-C, D-D and Elevation E-E, see Sheet No. B07-15.
For reinforcement of the Type D Barrier, see A9624 (I-70 WB Over Truman) Superstructure Package.

DETAILS OF END BENT NO. 4

Released For Construction
Not to Scale
Revision: 0.0
Date: 08/11/2025
Package: BRD-07-WB70-Truman-Sub



PART PLAN SHOWING PILE NUMBERING FOR RECORDING AS-BUILT PILE DATA

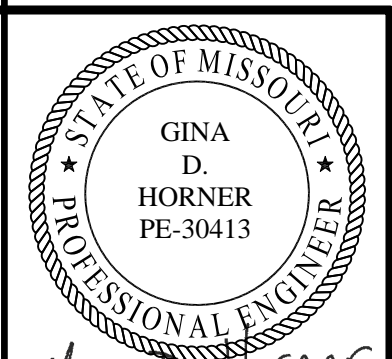
As-Built Pile Data					
Pile No.	Length in Place (ft)	PDA Nominal Axial Compressive Resistance (kips)	PDA End of Drive Blow Count (blows/in.)	Actual End of Drive Blow Count (blows/in.)	Remarks
					End Bent No. 1
1					
2					
3					
4					
5					
6					
7					
8					
					Intermediate Bent No. 2
9					
10					
11					
					Intermediate Bent No. 3
12					
13					
14					
					End Bent No. 4
15					
16					
17					
18					
19					
20					
21					
22					

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

Released For Construction
 Not to Scale
 Revision: 0.0
 Date: 08/11/2025
 Package: BRD-07-WB70-Truman-Sub

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

AS-BUILT PILE DATA



Gina D. Horner
 08/08/25
 DATE PREPARED

08/08/2025

ROUTE STATE
 I-70 MO
 DISTRICT SHEET NO.
 BR B07-17

COUNTY
 JACKSON

JOB NO.
 J411486D

CONTRACT ID.
 240807-C01

PROJECT NO.

BRIDGE NO.
 A9624

DATE	DESCRIPTION
08/08/25	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



SOIL BORING NUMBER: Tru_B1_2

Page 3 of 5

PROJECT Improve I 70 KC Design Build **NORTHING/EASTING** 1066306.2 / 2776516.1
DRILLING FIRM PPI **DRILLER** Eric P. **DATE STARTED** 11/15/2024
LOGGED BY Zachary Boyd **DATE COMPLETED** 11/20/2024
SURFACE ELEVATION 850.3' **RIG TYPE** CME-550
METHOD Auger/Mud Rotary/NQ Core **TOOLING** 4-1/2" Continuous Flight Auger, 3-3/4" Rotary Drill

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)
										Visual Classification and Remarks					
75										Gray to reddish brown, soft, moist, FAT CLAY (CH), with some organics					
78.5 ft		X	J-10	18	2-3-5 (8)	100		1.0							
85															
88.5 ft		X	J-11	18	x-3-5 (8)	100		1.5		88.5	761.8				
90										Dark gray, firm to stiff, moist, FAT CLAY (CH)					
95															
98.5 ft		X	J-12	15	2-8-13 (21)	83		3.0		99.0	751.3				
100										Brown to gray, very stiff to hard, moist, LEAN CLAY (CL), some sand					
										102.0	748.3				
										Brown to tan, very dense, moist, WELL-GRADED SAND (SW)					

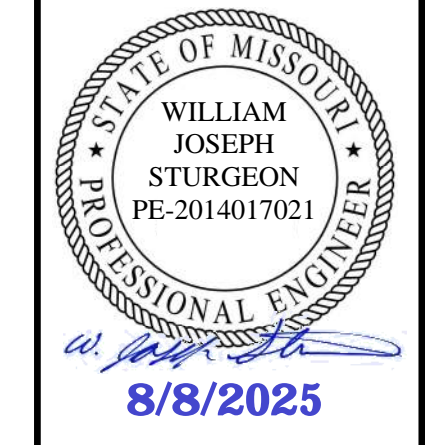


SOIL BORING NUMBER: Tru_B1_2

Page 4 of 5

PROJECT Improve I 70 KC Design Build **NORTHING/EASTING** 1066306.2 / 2776516.1
DRILLING FIRM PPI **DRILLER** Eric P. **DATE STARTED** 11/15/2024
LOGGED BY Zachary Boyd **DATE COMPLETED** 11/20/2024
SURFACE ELEVATION 850.3' **RIG TYPE** CME-550
METHOD Auger/Mud Rotary/NQ Core **TOOLING** 4-1/2" Continuous Flight Auger, 3-3/4" Rotary Drill

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)
										Visual Classification and Remarks					
110	08.5 ft	X	J-13	16	28-44-47 (91)	89									
115															
120	18.5 ft	X	J-14	18	24-37-36 (73)	100									
125															
130	28.5 ft	X	J-15	14	13-14-18 (32)	78									
135															
	38.5 ft	X	J-16	16	15-21-24 (45)	89									



DATE PREPARED 08/08/2025	
ROUTE 1-70	STATE MO
DISTRICT BR	SHEET NO. B07-19
COUNTY JACKSON	
JOB NO. J411486D	
CONTRACT ID. 240807-C01	
PROJECT NO.	
BRIDGE NO. A9624	

DATE	DESCRIPTION
08/08/25	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: 08/11/2025
Package: BRD-07-WB70-Truman-Sub

Notes:
For locations of borings, see Sheet No. B07-02 and Geotechnical Report.

BORING LOGS



SOIL BORING NUMBER: Tru_B1_2

Page 5 of 5

PROJECT Improve I 70 KC Design Build **NORTHING/EASTING** 1066306.2 / 2776516.1
DRILLING FIRM PPI **DRILLER** Eric P. **DATE STARTED** 11/15/2024
LOGGED BY Zachary Boyd **DATE COMPLETED** 11/20/2024
SURFACE ELEVATION 850.3' **RIG TYPE** CME-550
METHOD Auger/Mud Rotary/NQ Core **TOOLING** 4-1/2" Continuous Flight Auger, 3-3/4" Rotary Drill

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)
										Visual Classification and Remarks					
145										Brown to tan, very dense, moist, WELL-GRADED SAND (SW)					
150	48.5 ft	J-17		0	21-21-25 (46)	0				150.0	700.3				
										Bottom of Boring at 150'					
										Boring backfilled with bentonite chips and cuttings 11/20/2024					

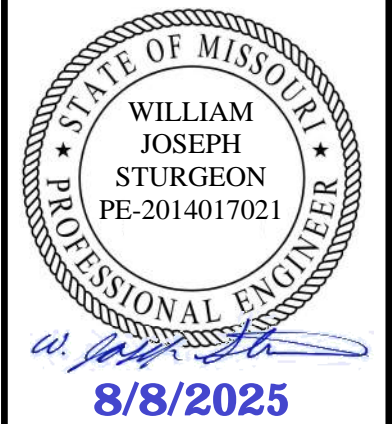


SOIL BORING NUMBER: Tru_B1_3

Page 1 of 5

PROJECT Improve I 70 KC Design Build **NORTHING/EASTING** 1066297.4 / 2776603.6
DRILLING FIRM PPI **DRILLER** Eric P. **DATE STARTED** 11/20/2024
LOGGED BY Zachary Boyd **DATE COMPLETED** 11/21/2024
SURFACE ELEVATION 848.8' **RIG TYPE** CME-550
METHOD Auger, Mud Rotary, NQ Core **TOOLING** 4-1/2" Continuous Flight Auger, 3-3/4" Rotary Drill

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)
										Visual Classification and Remarks					
5	3.5 ft	J-1		14	4-3-4 (7)	78		1.0							
10	8.5 ft	J-2		9	4-7-9 (16)	50		2.0		8.5	840.3				
										Dark brown to gray, stiff to very stiff, moist, LEAN CLAY (CL)					
15	13.5 ft	J-3		10	4-9-15 (24)	56		2.5							
										- becomes very stiff at 13.5'					
20	18.5 ft	U-1		24		100		1.5		40-19-21	21.3	105.5	3.26		
25	23.5 ft	J-4		18	1-2-3 (5)	100		0.5		23.5	825.3				
										Reddish brown, soft, moist, LEAN CLAY (CL), iron staining					
30	28.5 ft	U-2		20		83		0.5		45-18-27	22.1	105.2	2.5		
35	33.5 ft	J-5		17	2-4-5 (9)	94		1.0							
										- becomes gray to brown at 33.5'					



DATE PREPARED		08/08/2025	
ROUTE	STATE		
I-70	MO		
DISTRICT	SHEET NO.		
BR	B07-20		
COUNTY			
JACKSON			
JOB NO.			
J411486D			
CONTRACT ID.			
240807-C01			
PROJECT NO.			
BRIDGE NO.			
A9624			

DATE	DESCRIPTION
08/08/25 <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

Released For Construction
Not to Scale
Revision: 0.0
Date: 08/11/2025
Package: BRD-07-WB70-Truman-Sub

Notes:
For locations of borings, see Sheet No. B07-02 and Geotechnical Report.

BORING LOGS



SOIL BORING NUMBER: Tru_B2_3

Page 2 of 5

PROJECT Improve I 70 KC Design Build NORTHING/EASTING 1066209.5 / 2776619.0
 DRILLING FIRM PPI DRILLER Ray A. DATE STARTED 11/26/2024
 LOGGED BY Trent Shepherd DATE COMPLETED 11/27/2024
 SURFACE ELEVATION 829.4' RIG TYPE CME-55
 METHOD Auger, Mud Rotary, NQ Core TOOLING 4-1/4" Hollow Stem Auger, 3-3/4" Rotary Drill

Depth (ft)	Depth of Sample	Sample Type	Sample ID	Recovery Length (in)	Blow Counts (N-Value)	% Recovery	RQD (%)	Pocket Pen (tsf)	Graphic Log	Groundwater Data		Lab			
										During Drilling (ft):	After Drilling (ft):	Atterberg Limits (LL-PL-Pi)	Moisture Content (%)	Dry Density (PCF)	UCS (tsf)
33			U-3	24		100		<0.5		10	N/A	28-23-5	26.2	99.8	0.632
35															
37.8			J-5	18	4-3-4 (7)	100		3.0				37.8			791.6
40															
42.8			U-4	24		100		2.0				42.8			786.6
45															
47.8			J-6	18	3-4-4 (8)	100		1.75				47.8			781.6
50															
52.8			J-7	18	3-3-3 (6)	100		1.0							
55															
57.8			J-8	18	1-2-3 (5)	100		1.25							
60															
65															

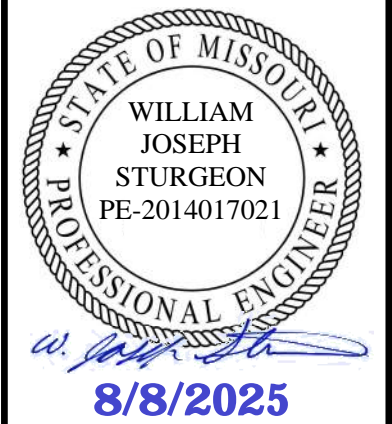


SOIL BORING NUMBER: Tru_B2_3

Page 3 of 5

PROJECT Improve I 70 KC Design Build NORTHING/EASTING 1066209.5 / 2776619.0
 DRILLING FIRM PPI DRILLER Ray A. DATE STARTED 11/26/2024
 LOGGED BY Trent Shepherd DATE COMPLETED 11/27/2024
 SURFACE ELEVATION 829.4' RIG TYPE CME-55
 METHOD Auger, Mud Rotary, NQ Core TOOLING 4-1/4" Hollow Stem Auger, 3-3/4" Rotary Drill

Depth (ft)	Depth of Sample	Sample Type	Sample ID	Recovery Length (in)	Blow Counts (N-Value)	% Recovery	RQD (%)	Pocket Pen (tsf)	Graphic Log	Groundwater Data		Lab			
										During Drilling (ft):	After Drilling (ft):	Atterberg Limits (LL-PL-Pi)	Moisture Content (%)	Dry Density (PCF)	UCS (tsf)
67.8										10	N/A				
70			J-9	18	3-3-4 (7)	100		1.25							
75															
77.8			J-10	18	5-5-6 (11)	100		2.0				77.8			751.6
80															
85															
87.8			J-11	12	18-24-27 (51)	67						87.8			741.6
90															
95															
97.8			J-12	15	29-35-33 (68)	63						97.8			731.6



DATE PREPARED	08/08/2025
ROUTE	1 - 70
STATE	MO
DISTRICT	BR
SHEET NO.	B07 - 26
COUNTY	JACKSON
JOB NO.	J411486D
CONTRACT ID.	240807-C01
PROJECT NO.	
BRIDGE NO.	A9624

DATE	DESCRIPTION
08/08/25 <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

Released For Construction
 Not to Scale
 Revision: 0.0
 Date: 08/11/2025
 Package: BRD-07-WB70-Truman-Sub

Notes:
 For locations of borings, see Sheet No. B07-02 and Geotechnical Report.

BORING LOGS

Detailed MAR 2025
 Checked APR 2025

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

Sheet No. B07-26 of B07-37



SOIL BORING NUMBER: Tru_B3_2

Page 1 of 5

PROJECT Improve I 70 KC Design Build **NORTHING/EASTING** 1066117.5 / 2776564.3
DRILLING FIRM PPI **DRILLER** Ray A. **DATE STARTED** 12/11/2024
LOGGED BY Trent Shepherd **DATE COMPLETED** 12/16/2024
SURFACE ELEVATION 830* **RIG TYPE** CME-55
METHOD Auger/Mud Rotary/NQ Core **TOOLING** 4-1/4" Hollow Stem Auger, 3-3/4" Rotary Drill

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)	
										Visual Classification and Remarks						
										FILL, dark brown, soft, dry, SILTY LEAN CLAY, grass at surface						
										2.5 827.5						
4 ft		J-1	4	3-4-4 (8)	22					FILL, red brick and concrete rubble						
5										- 12" thick concrete obstruction at 3'						
9 ft		U-1	0							- fill becomes red brick rubble at 9'						
10 ft		J-2	10	30-2-2 (4)	56											
13 ft		J-3	18	1-1-2 (3)	100			0.5		13.0	817					
15										FILL, dark brown, soft, moist, FAT CLAY, with trace organics and red brick		63-20-43	31.8			
18 ft		U-2	24			100		0.5		18.0	812					
20										Gray, soft, moist, LEAN CLAY (CL), with trace silt		33-19-14	22.7	103.20	1.81	
23 ft		J-4	15	1-1-2 (3)	83		<0.5									
25																
28 ft		U-3	24			100		0.75		28.0	802					
30										Gray, firm, moist, LEAN CLAY with SILT (CL-ML)		36-21-15	29.5	85.40	0.679	
										- split spoon attempted, no recovery due to brick rubble stuck in catcher at 33'						
										35.0	795					

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



SOIL BORING NUMBER: Tru_B3_2

Page 2 of 5

PROJECT Improve I 70 KC Design Build **NORTHING/EASTING** 1066117.5 / 2776564.3
DRILLING FIRM PPI **DRILLER** Ray A. **DATE STARTED** 12/11/2024
LOGGED BY Trent Shepherd **DATE COMPLETED** 12/16/2024
SURFACE ELEVATION 830* **RIG TYPE** CME-55
METHOD Auger/Mud Rotary/NQ Core **TOOLING** 4-1/4" Hollow Stem Auger, 3-3/4" Rotary Drill

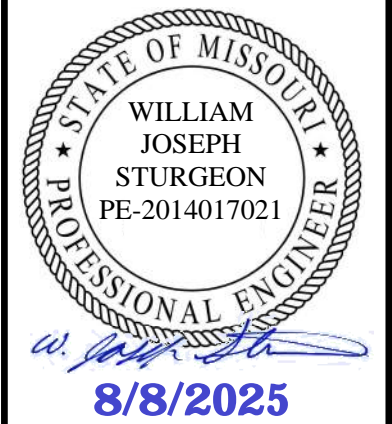
Depth (ft)	Depth of Sample	Sample Type	Sample ID	Recovery Length (in)	Blow Counts (N-Value)	% Recovery	RQD (%)	Pocket Pen (tsf)	Graphic Log	Groundwater Data		Lab				
										During Drilling (ft):	N/A	Atterberg Limits (LL-PL-Pi)	Moisture Content (%)	Dry Density (PCF)	UCS (tsf)	
										Visual Classification and Remarks						
35 ft		J-5	18	2-3-4 (7)	100			1.5		Brown, stiff to firm, moist, FAT CLAY (CH)						
38 ft		J-6	16	1-1-2 (3)	89		0.75			64-27-37	33.1					
40																
43 ft		J-7	18	3-4-5 (9)	100		1.5									
45																
48 ft		J-8	18	2-3-5 (8)	100					48.0	782					
50										Brown, stiff to firm, moist, LEAN CLAY with SILT (CL-ML)		39-16-23	25.1			
55																
58 ft		J-9	18	4-4-6 (10)	100		1.5									
60																
65																
68 ft		J-10	12	1-1-3 (4)	67		0.75					32-18-14	27.3			

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

Released For Construction
 Not to Scale
 Revision: 0.0
 Date: 08/11/2025
 Package: BRD-07-WB70-Truman-Sub

Notes:
 For locations of borings, see Sheet No. B07-02 and Geotechnical Report.

BORING LOGS



DATE PREPARED 08/08/2025	
ROUTE 1-70	STATE MO
DISTRICT BR	SHEET NO. B07-28
COUNTY JACKSON	
JOB NO. J411486D	
CONTRACT ID. 240807-C01	
PROJECT NO.	

BRIDGE NO.
A9624

DATE	DESCRIPTION
08/08/25	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





SOIL BORING NUMBER: Tru_B3_2

Page 5 of 5

PROJECT Improve I 70 KC Design Build **NORTHING/EASTING** 1066117.5 / 2776564.3
DRILLING FIRM PPI **DRILLER** Ray A. **DATE STARTED** 12/11/2024
LOGGED BY Trent Shepherd **DATE COMPLETED** 12/16/2024
SURFACE ELEVATION 830' * **RIG TYPE** CME-55
METHOD Auger/Mud Rotary/NQ Core **TOOLING** 4-1/4" Hollow Stem Auger, 3-3/4" Rotary Drill

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)
										Visual Classification and Remarks					
145										Gray, dense, moist, fine grained, SILTY SAND (SM), bagged separately					
148 ft		X	J-18	18	20-20-21 (41)	100				149.5	680.5				
150										Bottom of Boring at 149.5'					
										Boring backfilled with cuttings 12/16/2024					

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



SOIL BORING NUMBER: Tru_B3_3

Page 1 of 5

PROJECT Improve I 70 KC Design Build **NORTHING/EASTING** 1066102.5 / 2776666.8
DRILLING FIRM PPI **DRILLER** Ray A. **DATE STARTED** 12/10/2024
LOGGED BY Trent Shepherd **DATE COMPLETED** 12/11/2024
SURFACE ELEVATION 829.8' **RIG TYPE** CME-55
METHOD Auger/Mud Rotary/NQ Core **TOOLING** 4-1/4" Hollow Stem Auger, 3-3/4" Rotary Drill

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)
										Visual Classification and Remarks					
5	4 ft	X	J-1		4-5-6 (11)			2.0		46-23-23	25.0				
10	9 ft		U-1	18		75		0.5		9.0	820.8				
										Brown, soft, moist, LEAN CLAY with SILT (CL-ML)		41-19-22	26.8	96.2	1.42
15	13 ft	X	J-2	18	1-1-1 (2)	100		0.5		13.0	816.8				
										Brown, soft, moist, FAT CLAY (CH)					
20	18 ft		U-2	24		100		2.5		18.0	811.8				
										Brown to gray, very stiff, moist, LEAN CLAY with SILT (CL-ML)		40-22-18	28.0	95.5	1.72
25	23 ft	X	J-3	18	1-2-3 (5)	100		0.5		23.0	806.8				
										Blue-gray, soft, moist, FAT CLAY (CH)					
30	28 ft		U-3	24		100		0.5				52-19-33	38.2	87.8	0.954
33	33 ft	X	J-4	18	1-1-2 (3)	100		0.5							
										- becomes silty at 33'					

Released For Construction
 Not to Scale
 Revision: 0.0
 Date: 08/11/2025
 Package: BRD-07-WB70-Truman-Sub

Notes:
 For locations of borings, see Sheet No. B07-02 and Geotechnical Report.

BORING LOGS

Detailed MAR 2025
 Checked APR 2025

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

Sheet No. B07-30 of B07-37



DATE PREPARED 08/08/2025	
ROUTE I-70	STATE MO
DISTRICT BR	SHEET NO. B07-30
COUNTY JACKSON	
JOB NO. J411486D	
CONTRACT ID. 240807-C01	
PROJECT NO.	

BRIDGE NO.
A9624

DATE	DESCRIPTION
08/08/25 <td>REV 0 - RFC SUBMITTAL</td>	REV 0 - RFC SUBMITTAL

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

CLARKSON RADMACHER
 JOINT VENTURE

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





SOIL BORING NUMBER: Tru_B4_2

Page 5 of 5

PROJECT Improve I 70 KC Design Build NORTHING/EASTING 1066037.5 / 2776607.1
 DRILLING FIRM PPI DRILLER Eric P. DATE STARTED 11/26/2024
 LOGGED BY Zachary Boyd DATE COMPLETED 12/03/2024
 SURFACE ELEVATION 856.6' RIG TYPE CME-550
 METHOD Auger/Mud Rotary/NQ Core TOOLING 4-1/2" Continuous Flight Auger, 3-3/4" Rotary Drill

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)	
										Visual Classification and Remarks						
145										Brown to tan, very dense, moist, WELL-GRADED SAND with GRAVEL (SW), coarse gravel, fine sand						
150	48.5 ft	J-17	12	15-20-21 (41)	67					148.5	708.1					
										Brown to tan, dense, moist, fine to coarse grained, WELL-GRADED SAND (SW)						
										150.0	706.6					
										Bottom of Boring at 150'						
										Boring backfilled with cuttings 12/3/2024						

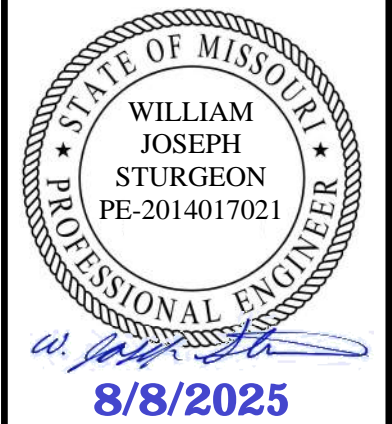


SOIL BORING NUMBER: Tru_B4_3

Page 1 of 5

PROJECT Improve I 70 KC Design Build NORTHING/EASTING 1066012.3 / 2776675.4
 DRILLING FIRM PPI DRILLER Eric P. DATE STARTED 11/25/2024
 LOGGED BY Zachary Boyd DATE COMPLETED 11/26/2024
 SURFACE ELEVATION 856.6' RIG TYPE CME-550
 METHOD Auger, Mud Rotary, NQ Core TOOLING 4-1/2" Continuous Flight Auger, 3-3/4" Rotary Drill

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)	
										Visual Classification and Remarks						
5	3.5 ft	J-1	5	5-8-8 (16)	28			>4.5		FILL, dark brown, very stiff, moist, LEAN CLAY, with organics						
10	8.5 ft	J-2	14	5-8-10 (18)	78			1.5			- becomes stiff at 8.5'		19.9			
15	13.5 ft	U-1	20			83		3.0			- becomes very stiff with gravel at 13.5'	41-21-20	20.0	109.1	2.81	
20	18.5 ft	J-3	15	4-6-9 (15)	83			3.0		19.5	837.1					
										FILL, dark gray to brown, stiff to very stiff, moist, lean clay, organics, iron staining						
25	23.5 ft	J-4	16	3-6-8 (14)	89			2.0				39-20-19	23.9			
30	28.5 ft	J-5	1	50/6" (6")	17			>4.5			- 6" gravel piece at 28.5'					
	33.5 ft	U-2	24			100		1.0		33.5	823.1					
										FILL, brown to gray, firm to stiff, moist, fat clay with gravel, organics		43-20-23	25.2	99.9	1.72	



DATE PREPARED	08/08/2025
ROUTE	1-70
STATE	MO
DISTRICT	BR
SHEET NO.	B07-35
COUNTY	JACKSON
JOB NO.	J411486D
CONTRACT ID.	240807-C01
PROJECT NO.	
BRIDGE NO.	A9624

DATE	DESCRIPTION
08/08/25	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: 08/11/2025
 Package: BRD-07-WB70-Truman-Sub

Notes:
 For locations of borings, see Sheet No. B07-02 and Geotechnical Report.

BORING LOGS

Detailed MAR 2025
 Checked APR 2025

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

Sheet No. B07-35 of B07-37



SOIL BORING NUMBER: Tru_B4_3

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PROJECT Improve I 70 KC Design Build **NORTHING/EASTING** 1066012.3 / 2776675.4
DRILLING FIRM PPI **DRILLER** Eric P. **DATE STARTED** 11/25/2024
LOGGED BY Zachary Boyd **DATE COMPLETED** 11/26/2024
SURFACE ELEVATION 856.6' **RIG TYPE** CME-550
METHOD Auger, Mud Rotary, NQ Core **TOOLING** 4-1/2" Continuous Flight Auger, 3-3/4" Rotary Drill

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)		
											Visual Classification and Remarks						
108.5			J-13	14	7-15-30 (45)	78					109.7					746.9	Tan to gray, firm to stiff, moist, LEAN CLAY (CL)
110																	Light gray to tan, dense, moist, fine grained, POORLY GRADED SAND with CLAY (SP)
118.5			J-14	6	22-30-22 (52)	33					118.5					738.1	Reddish brown to tan, dense to very dense, WELL-GRADED SAND with GRAVEL (SW), cobble gravel and coarse sand
128.5			J-15	12	21-21-26 (47)	67											Reddish brown to tan, dense to very dense, WELL-GRADED SAND with GRAVEL (SW), cobble gravel and coarse sand
138.5			J-16	10	21-23-29 (52)	56											Reddish brown to tan, dense to very dense, WELL-GRADED SAND with GRAVEL (SW), cobble gravel and coarse sand

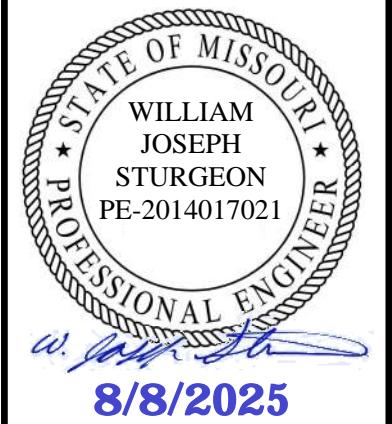


SOIL BORING NUMBER: Tru_B4_3

Page 5 of 5

PROJECT Improve I 70 KC Design Build **NORTHING/EASTING** 1066012.3 / 2776675.4
DRILLING FIRM PPI **DRILLER** Eric P. **DATE STARTED** 11/25/2024
LOGGED BY Zachary Boyd **DATE COMPLETED** 11/26/2024
SURFACE ELEVATION 856.6' **RIG TYPE** CME-550
METHOD Auger, Mud Rotary, NQ Core **TOOLING** 4-1/2" Continuous Flight Auger, 3-3/4" Rotary Drill

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)		
											Visual Classification and Remarks						
148.5			J-17	12	22-25-24 (49)	67					150.0					706.6	Reddish brown to tan, dense to very dense, WELL-GRADED SAND with GRAVEL (SW), cobble gravel and coarse sand
150											Bottom of Boring at 150'						
											Boring backfilled with cuttings 11/26/2024						



DATE PREPARED 08/08/2025	
ROUTE I-70	STATE MO
DISTRICT BR	SHEET NO. B07-37
COUNTY JACKSON	
JOB NO. J411486D	
CONTRACT ID. 240807-C01	
PROJECT NO.	
BRIDGE NO. A9624	

DATE	DESCRIPTION
08/08/25	REV 0 - RFC SUBMITTAL

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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Revision: 0.0
Date: 08/11/2025
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Notes:
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BORING LOGS