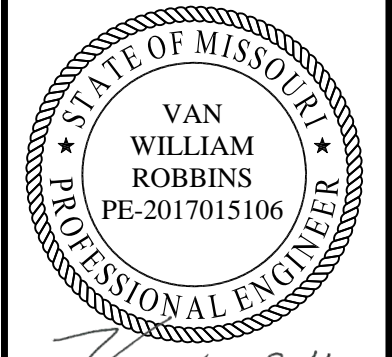


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Note:
See Civil Package 2: Early Grading for project reference points and project coordinate points.



Van W. Ralli
06-27-25

DATE PREPARED
06/25/2025

ROUTE I - 70	STATE MO
-----------------	-------------

DISTRICT	SHEET NO.
BR	B12-01


COUNTY
JACKSON

JOB NO.
J4I1486D

CONTRACT ID.
240807-C01

PROJECT NO.

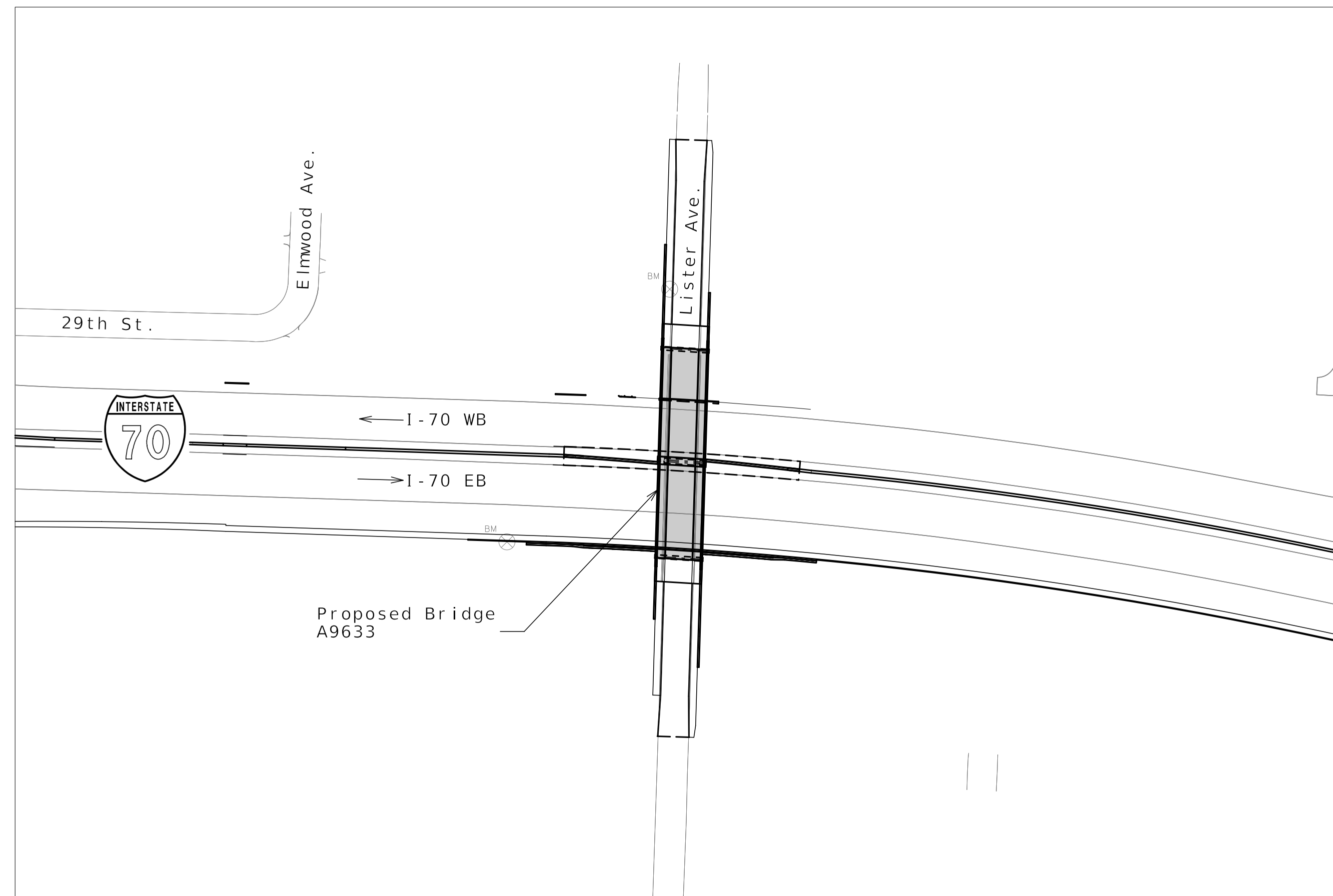
BRIDGE NO.
A9633

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

CLARKSON
RADMACHER
JOINT VENTURE



LOCATION SKETCH

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B12-03	General Notes
B12-04	Substructure Layout
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B12-07	Details of End Bent No. 1
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BRIDGE: LISTER OVER ROUTE I - 70

ROUTE 1-70 FROM ROUTE 1-670 TO ROUTE 40
ABOUT 3.4 MILES EAST OF ROUTE 1-670
TIE STATION 239+87.22 (C 1-70)

Detailed MAR 2025
Checked APR 2025

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

Sheet No. B12-01 of B12-35

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

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

Design Unit Stresses:		
Class B Concrete (End Bents below Const. Jt.)	f'c = 3,000	psi
Class B-1 Concrete (Intermediate 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 Prestressed Beams, and 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)	fy = 60,000	psi
Structural HP Steel Pile (ASTM A709 Grade 50)	fy = 50,000	psi
For prestressed beam stresses, see Sheets No. B12-16 thru B12-17.		

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

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

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

All reinforcing in the Type D Barrier, raised sidewalks, light blisters, slab, concrete diaphragms, End Bents No. 1 and 3 and Intermediate Bent No. 2 shall be epoxy coated. Reinforcing in the rock sockets and drilled shaft shall be uncoated.

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. B12-29.

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. B12-29.

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

End Bent No. 1 HP piles are anticipated to be driven to refusal on rock. Review all borings for depth of rock and restrict driving as appropriate to comply with hard rock driving criteria in accordance with Sec 702. When pile refusal on rock occurs, as approved by the engineer, the minimum nominal axial compressive resistance is verified and no additional pile driving verification method is required.

Prebore for piles at Bent No. 3 to elevation 830.
If optional pile spacers are used at End Bent No. 3, set at least 5 feet below bottom of MSE wall levelingpad.

At End Bent No. 3, verify 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 835. Backfill remaining length of prebore per Sec 702.

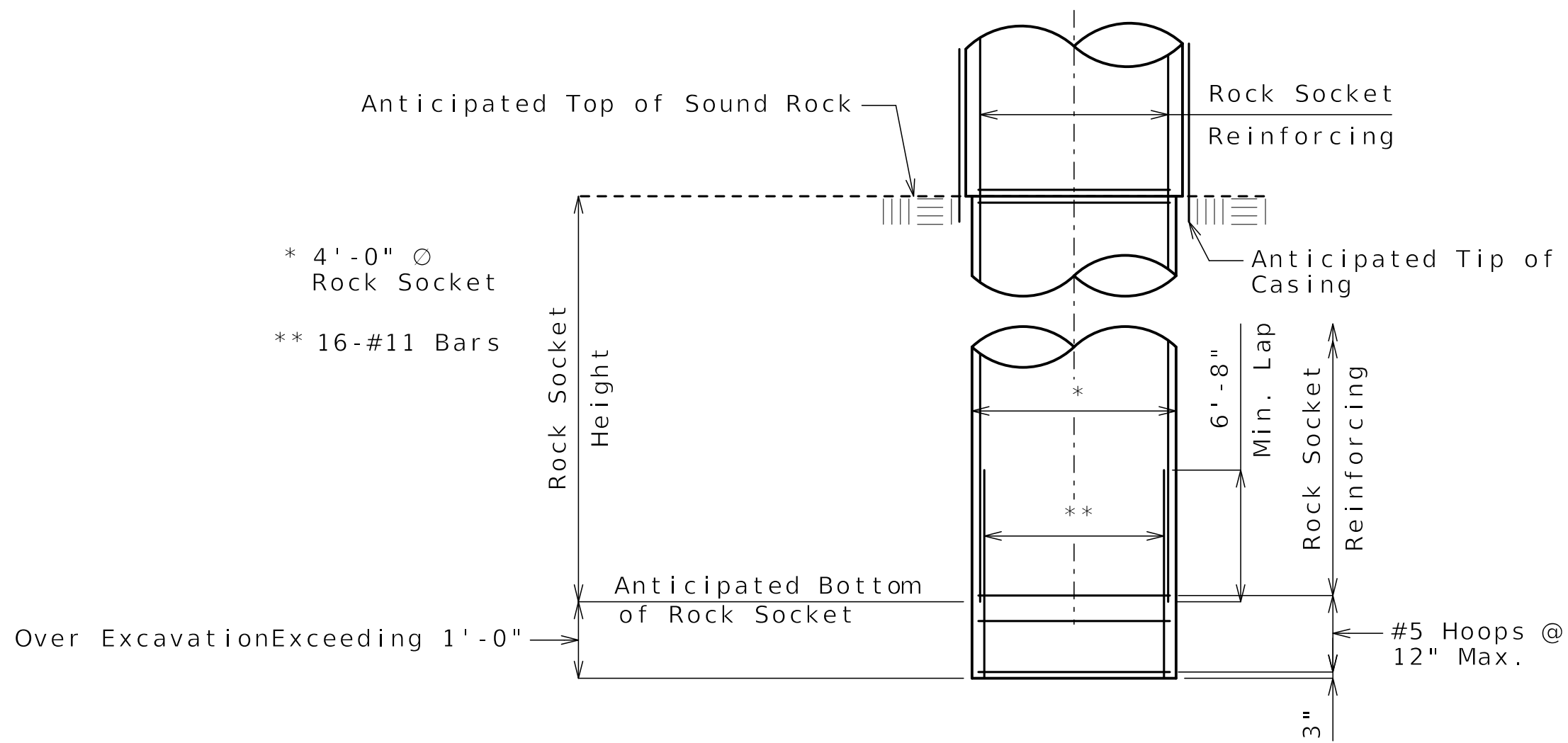
All piles shall be galvanized down to the minimum galvanized penetration (elevation).

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.

DF = FHWA-modified Gates Dynamic Pile Formula

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



ROCK SOCKET OVER EXCAVATION DETAIL

For Rock Socket Details
see Intermediate Bent Details

Foundation Data							
Type	Design Data		Bent Number				
			1	2	3		
Load Bearing Pile	Pile Type and Size		H12x74	---	H12x53		
	Number	ea	7	---	7		
	Approximate Length Per Each		ft	33	---	36	
	Pile Point Reinforcement		ea	All	---	---	
	Min. Galvanized Penetration (Elev.)		ft	Full Length	---	Full Length	
	Minimum Tip Penetration (Elev.)		ft	843	---	830	
	Criteria for Min. Tip Penetration			Min. Embed	---	Min. Embed	
	Pile Driving Verification Method			DF	---	N/A	
	Resistance Factor			0.40	---	0.50	
Rock Socket	Minimum Nominal Axial Compressive Resistance		kip	643	---	515	
	Number		ea	---	2	---	
	Layer 1	Foundation Material		---	Limestone	---	
		Elevation Range		ft	---	835-805	---
		Minimum Nominal Axial Compressive Resistance (Side Resistance)		ksf	---	32.7	---
		Minimum Nominal Axial Compressive Resistance (Tip Resistance)		ksf	---	400	---

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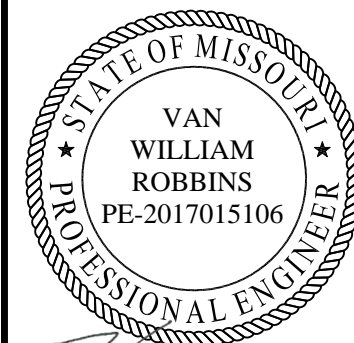
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Sheet No. B12-03 of B12-35

GENERAL NOTES



Van W. Ralli
06-27-25

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ROUTE	STATE
I - 70	MO

DISTRICT	SHEET NO
BR	B12-0

COUNTY
JACKSON

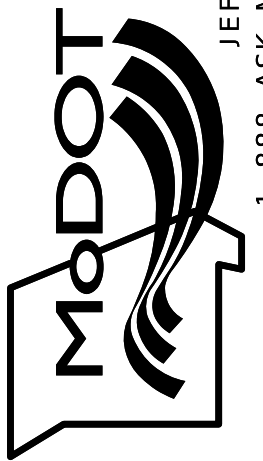
JOB NO.
J4I1486D

CONTRACT ID.
240807-C01

PROJECT NO.

BRIDGE NO.
A9633

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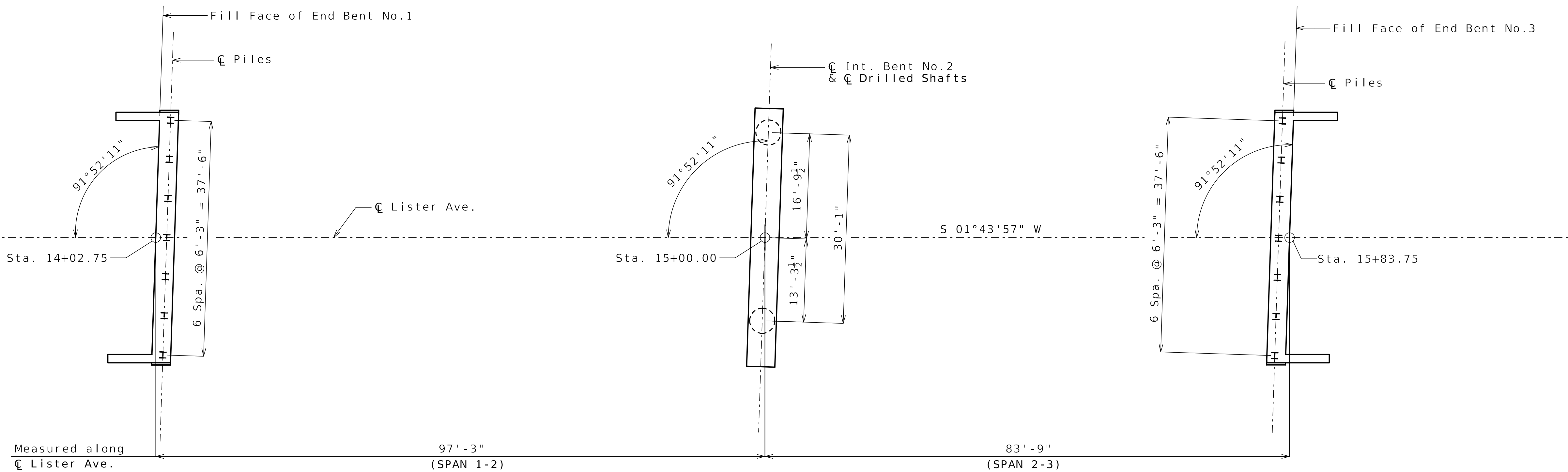
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715 KIRK DRIVE
KANSAS CITY, MO 64105-1310
CERTIFICATE OF AUTHORITY
NO. 001270





SUBSTRUCTURE LAYOUT

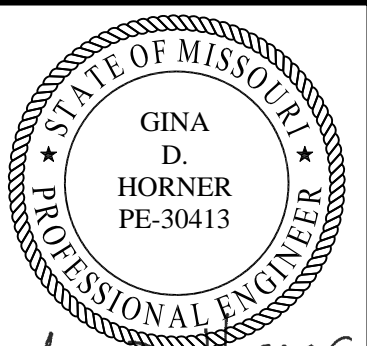
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SUBSTRUCTURE LAYOUT

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Sheet No. B12-04 of B12-35



Gina D. Horner
06/27/25

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06/25/2025

ROUTE
1 - 70

STATE
MO

DISTRICT
BR

SHEET NO.
B12-04

COUNTY
JACKSON

JOB NO.
J411486D

CONTRACT ID.
240807-C01

PROJECT NO.

BRIDGE NO.
A9633

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CLARKSON RADMACHER JOINT VENTURE

715 KIRK DRIVE
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06/27/25

DATE PREPARED
06/25/2025

ROUTE 1-70 STATE MO

DISTRICT BR SHEET NO. B12-05

COUNTY JACKSON

JOB NO. J411486D

CONTRACT ID. 240807-C01

PROJECT NO.

BRIDGE NO. A9633

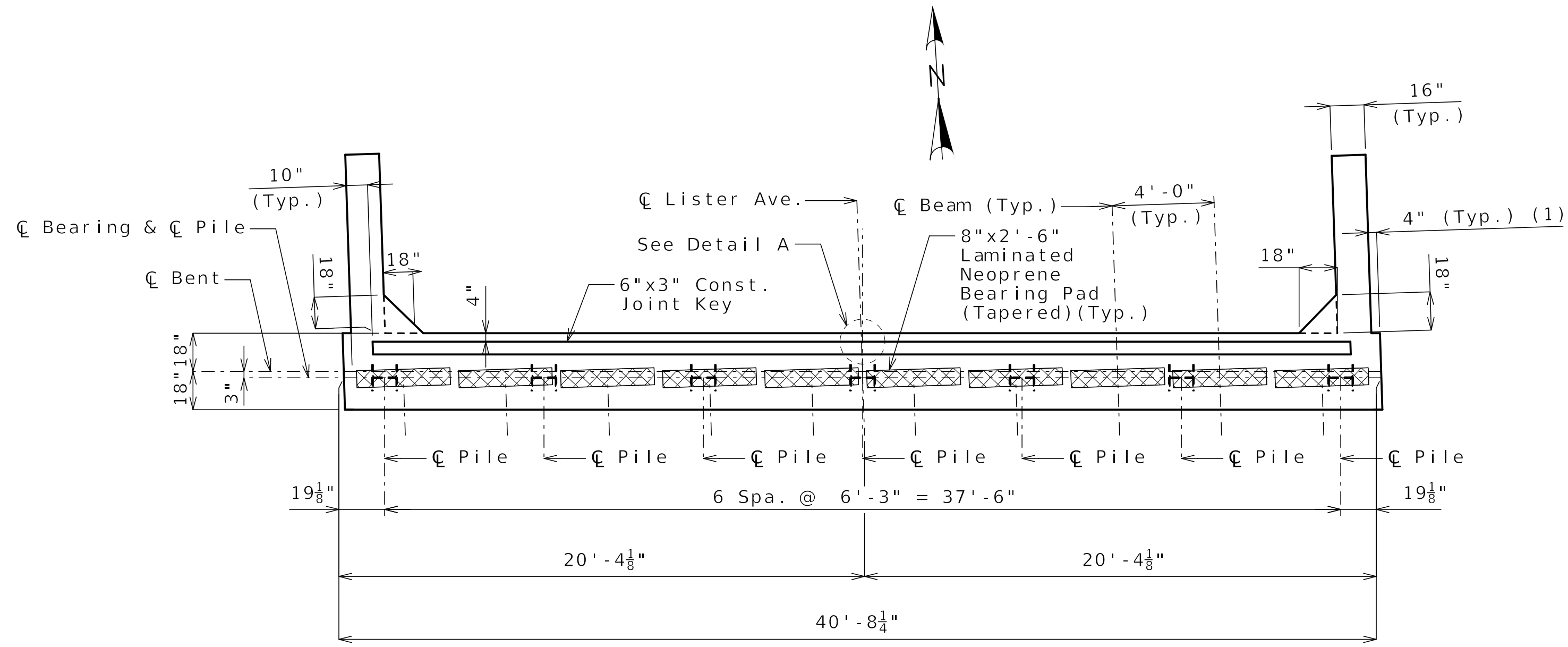
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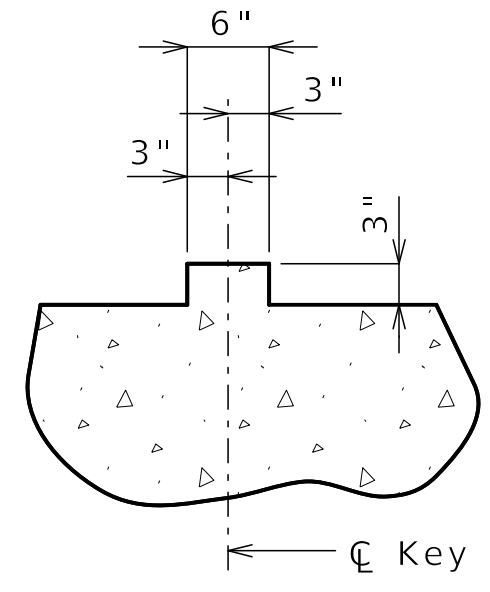
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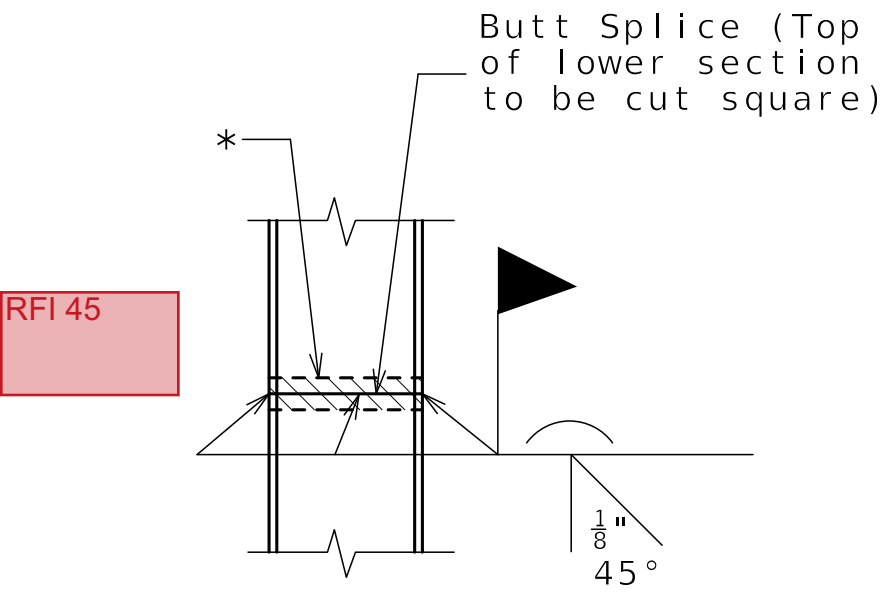


PLAN OF BEAM

(1) Slope normal to bridge fascia to drain

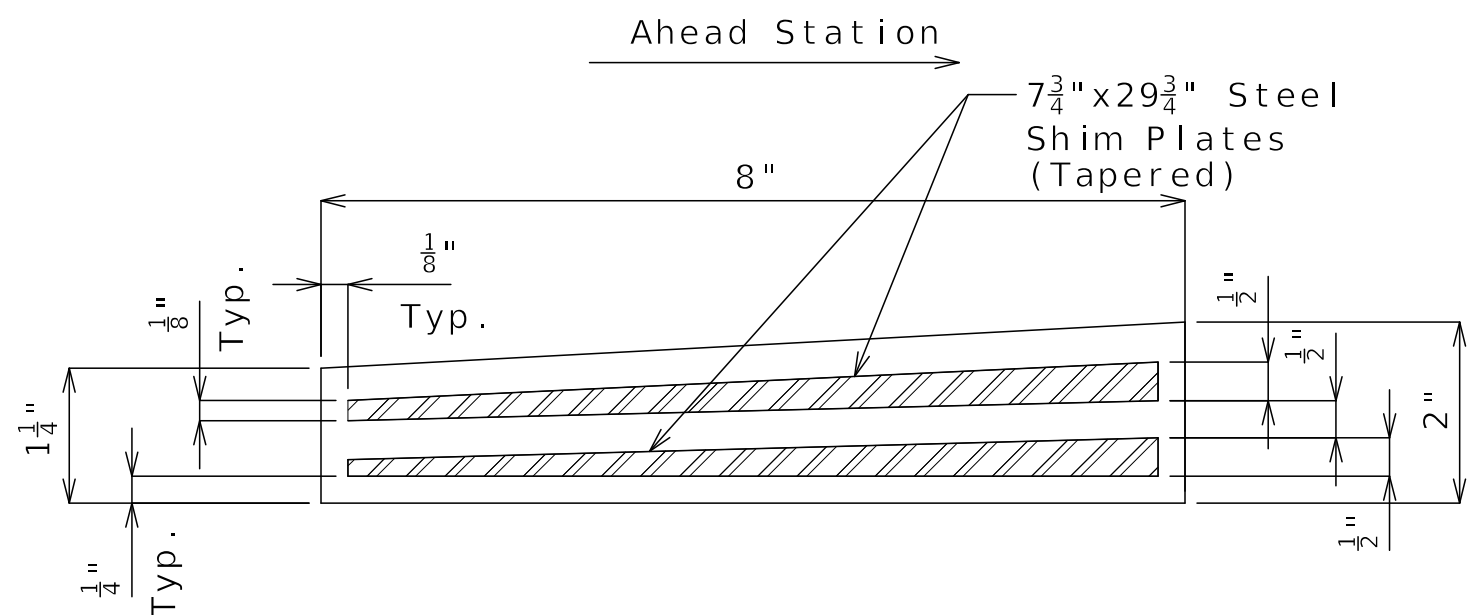


SECTION THRU KEY

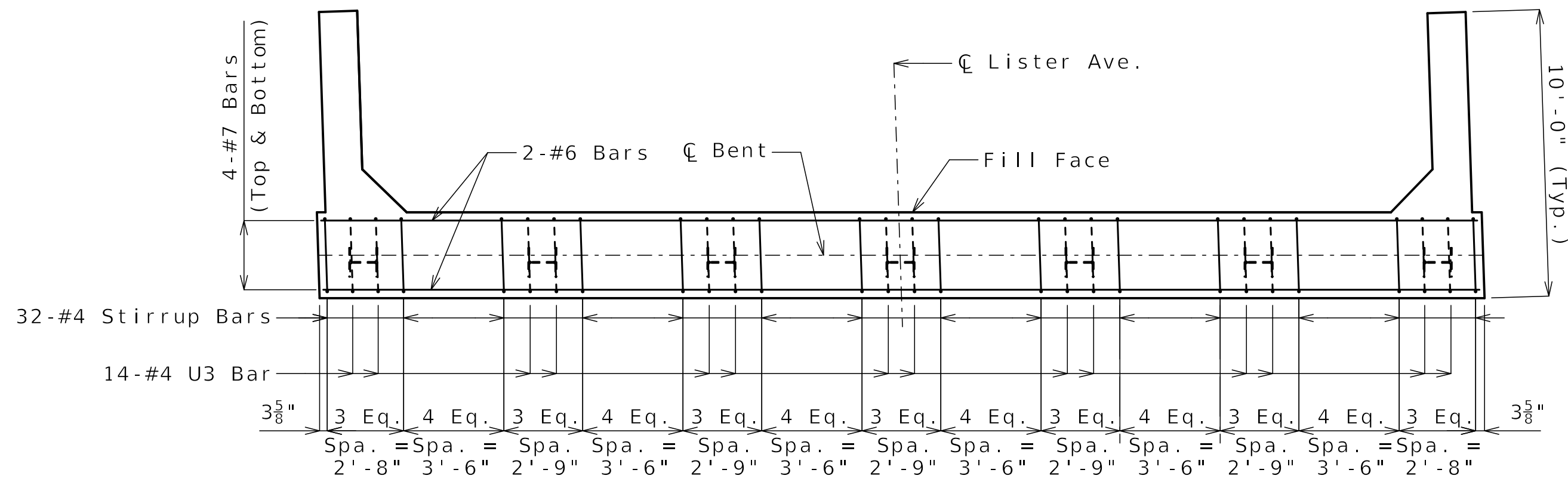


STEEL PILE SPLICE
(If required)

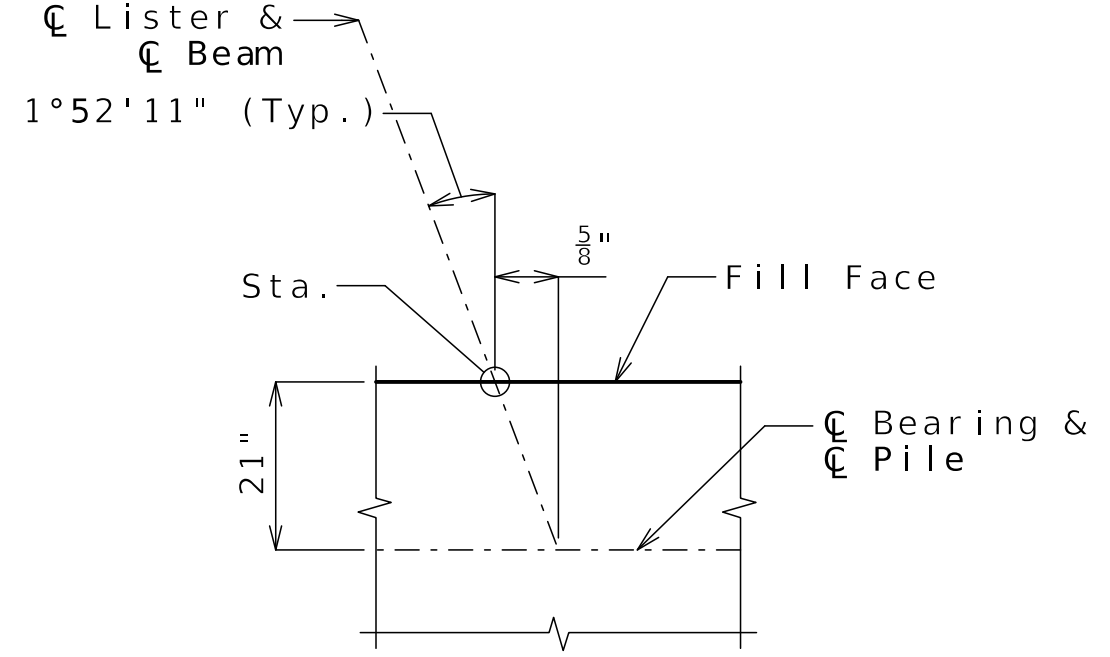
* Galvanizing material shall be omitted or removed one inch clear of weld locations in accordance with Sec 702.



LAMINATED NEOPRENE BEARING PAD (TAPERED)
(10 Required for End Bent 1)



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



DETAIL A
(Skew exaggerated for clarity)

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Date: 07/02/2025
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Notes:
Work this sheet with Sheets No. B12-06 and B12-07.
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 inches.
For details of bridge approach slab, see Sheet No. B12-31.

DETAILS OF END BENT NO. 1

DATE PREPARED
06/25/2025

ROUTE	STATE
I - 70	MO

DISTRICT	SHEET NO.
BR	B12-06

COUNTY
JACKSON

JOB NO.
1411486D

CONTRACT ID.
240807-C01

240007	C01
PROJECT NO.	

BRIDGE NO.
A9633[illegible]

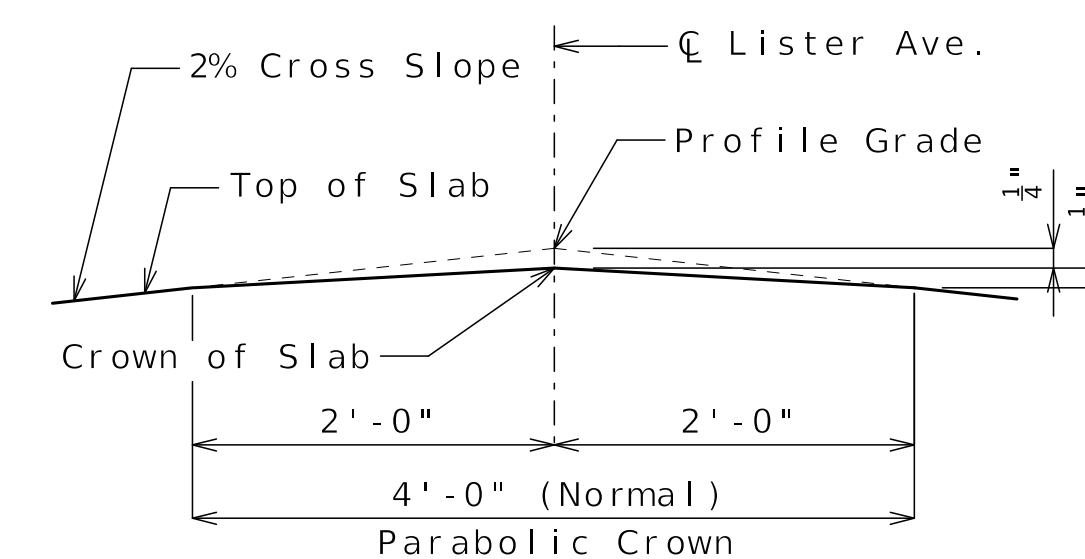
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
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MARKSON
ADMACHER
JOINT VENTURE

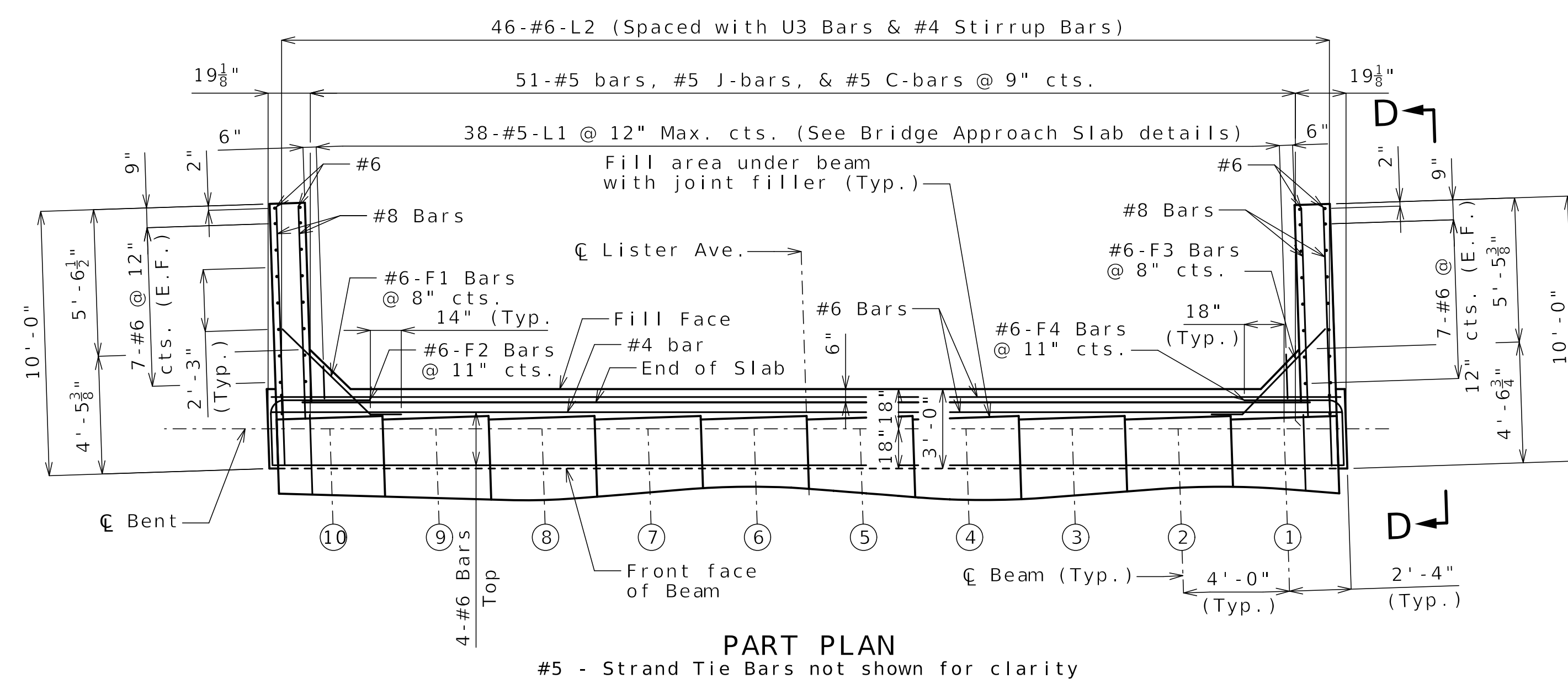
715 KIRK DRIVE
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REV.



DETAIL "A"



General Notes:
 Work this sheet with Sheets No. B12-05 and B12-07.
 For Sections A-A, B-B and C-C, and Elevation D-D, see
 Sheet No. B12-07.
 Strands at end of the girders shall be field bent or, if
 necessary, cut in field to maintain 11/2-inch minimum
 clearance to fill face of end bent.
 The #6-F bars shall be bent in the field to clear
 girders.

(X) Denotes beam number.

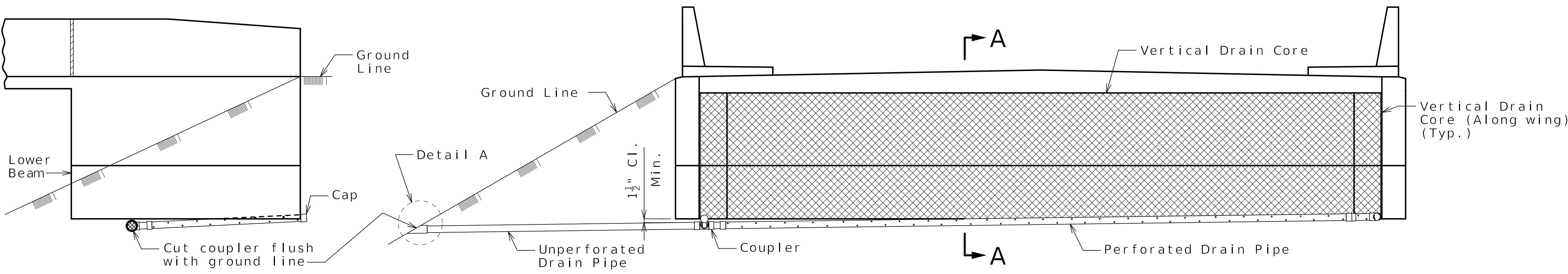
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Date: 07/02/2025
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DETAILS OF END BENT NO. 1

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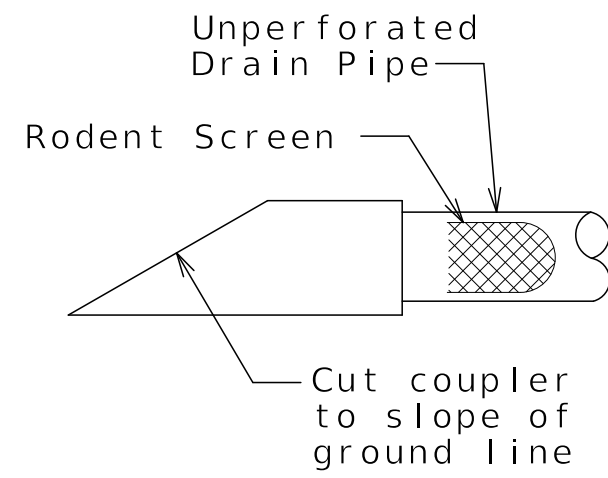
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6/23/2025

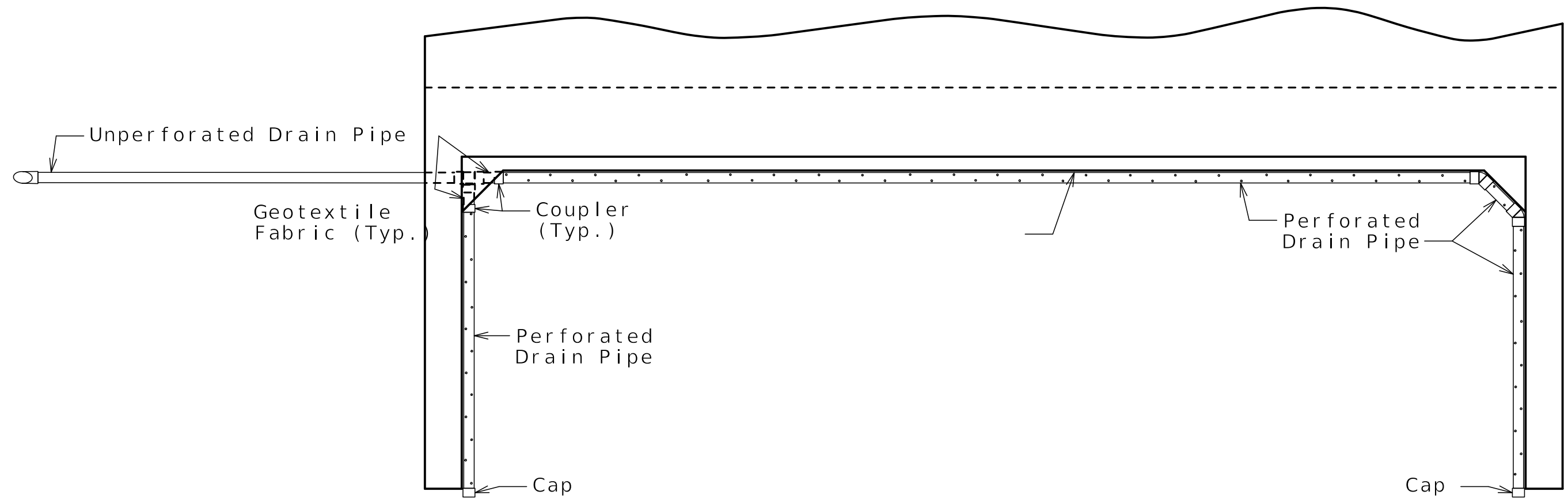


ELEVATION OF WING

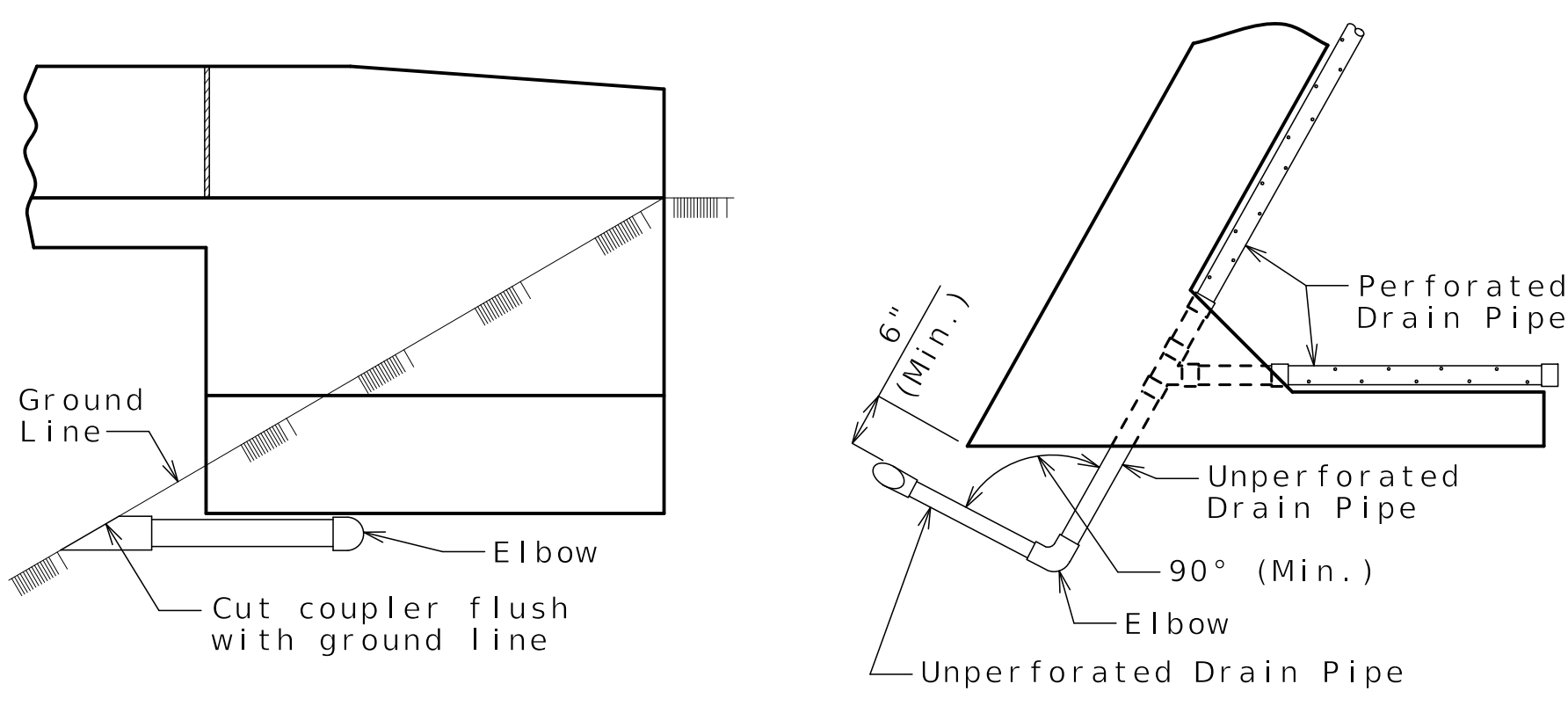
ELEVATION OF END BENT



DETAIL A



PLAN OF END BENT

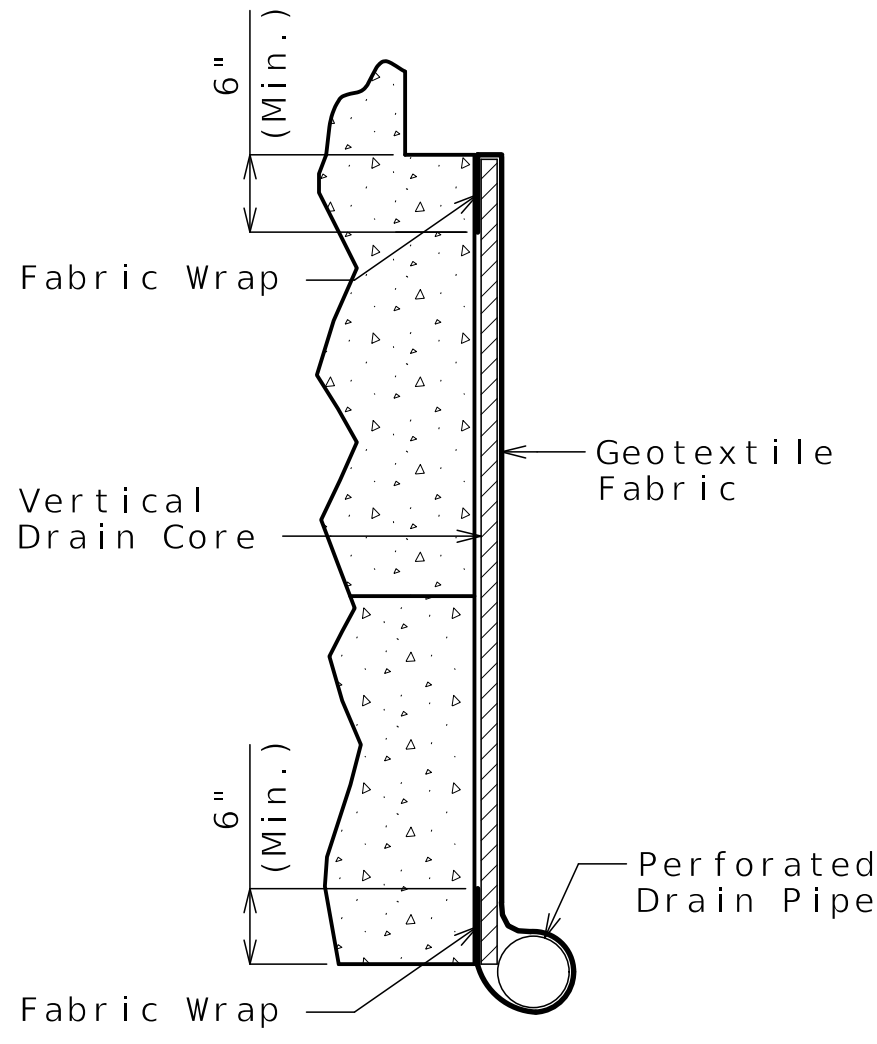


ELEVATION OF WING

PART PLAN

OPTIONAL TURNED DRAIN

(Use only when straight drain is not practical.)



PART SECTION A-A
(Section thru wing similar)

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

All drain pipe shall be sloped 1 to 2 percent.

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

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

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

If free draining granular fill material is used behind End Bent No. 3 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.

VERTICAL DRAIN AT END BENTS

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Sheet No. B12-08 of B12-35



Gina D. Horner
06/27/25

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06/25/2025

ROUTE 1-70
STATE MO
DISTRICT BR
SHEET NO. B12-08

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

BRIDGE NO. A9633

DATE	DESCRIPTION
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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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DATE PREPARED
06/25/2025

ROUTE	STATE
I - 70	MO

DISTRICT	SHEET NO.
BR	B12-10

COUNTY
JACKSON

JOB NO.
1411486D

CONTRACT ID.
240807-C01

PROJECT NO.

BRIDGE NO.
A9633

A9055						

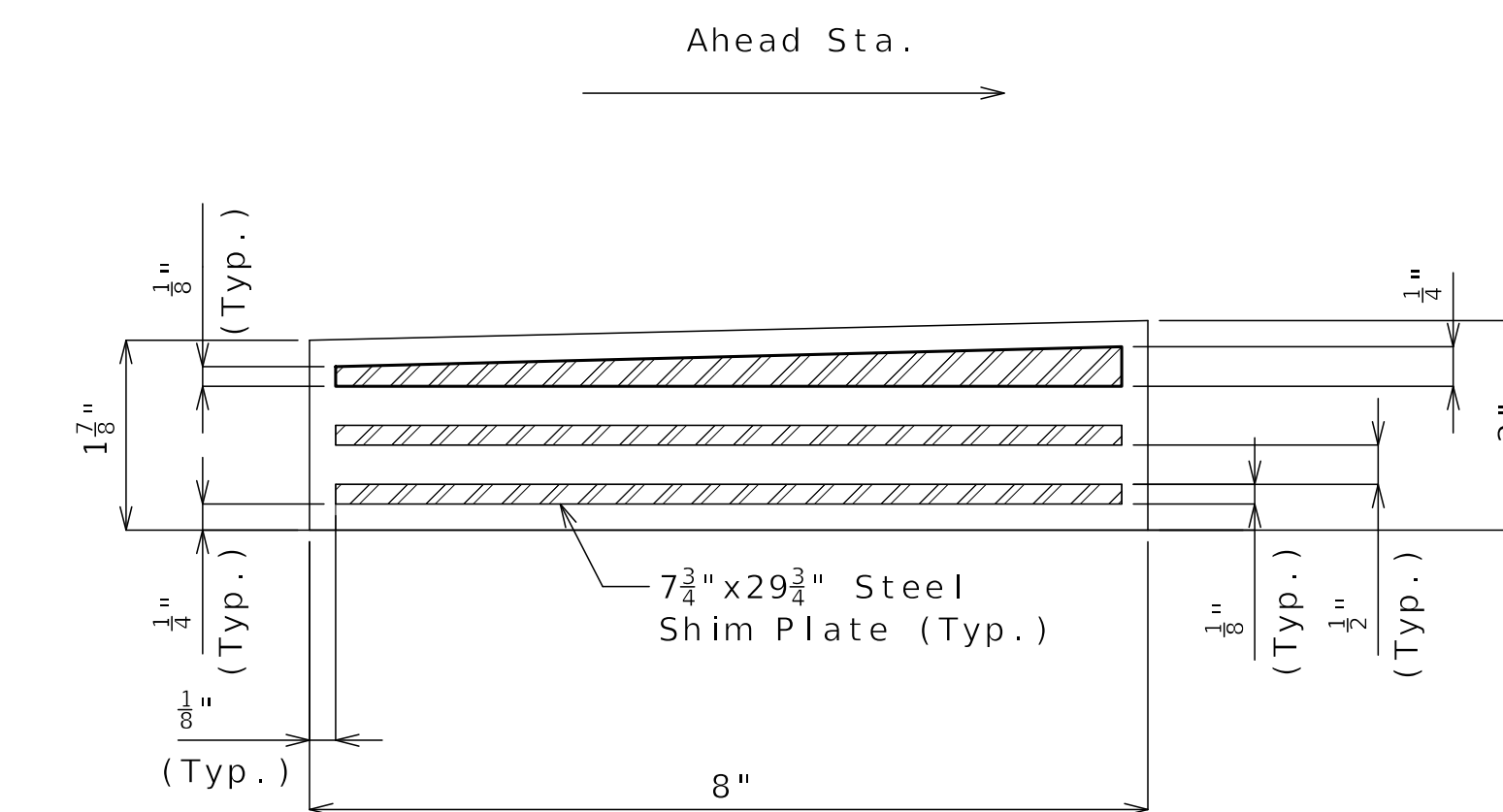
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CLARKSON
RADMACHER
JOINT VENTURE
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NO. 001270



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

DETAILS OF INTERMEDIATE BENT NO. 2

Sheet No. B12-10 of B12-35

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

6/23/2025



6/30/2025

DATE PREPARED
06/25/2025

ROUTE
1-70

STATE
MO

DISTRICT
BR

SHEET NO.
B12-11

COUNTY
JACKSON

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J411486D

CONTRACT ID.
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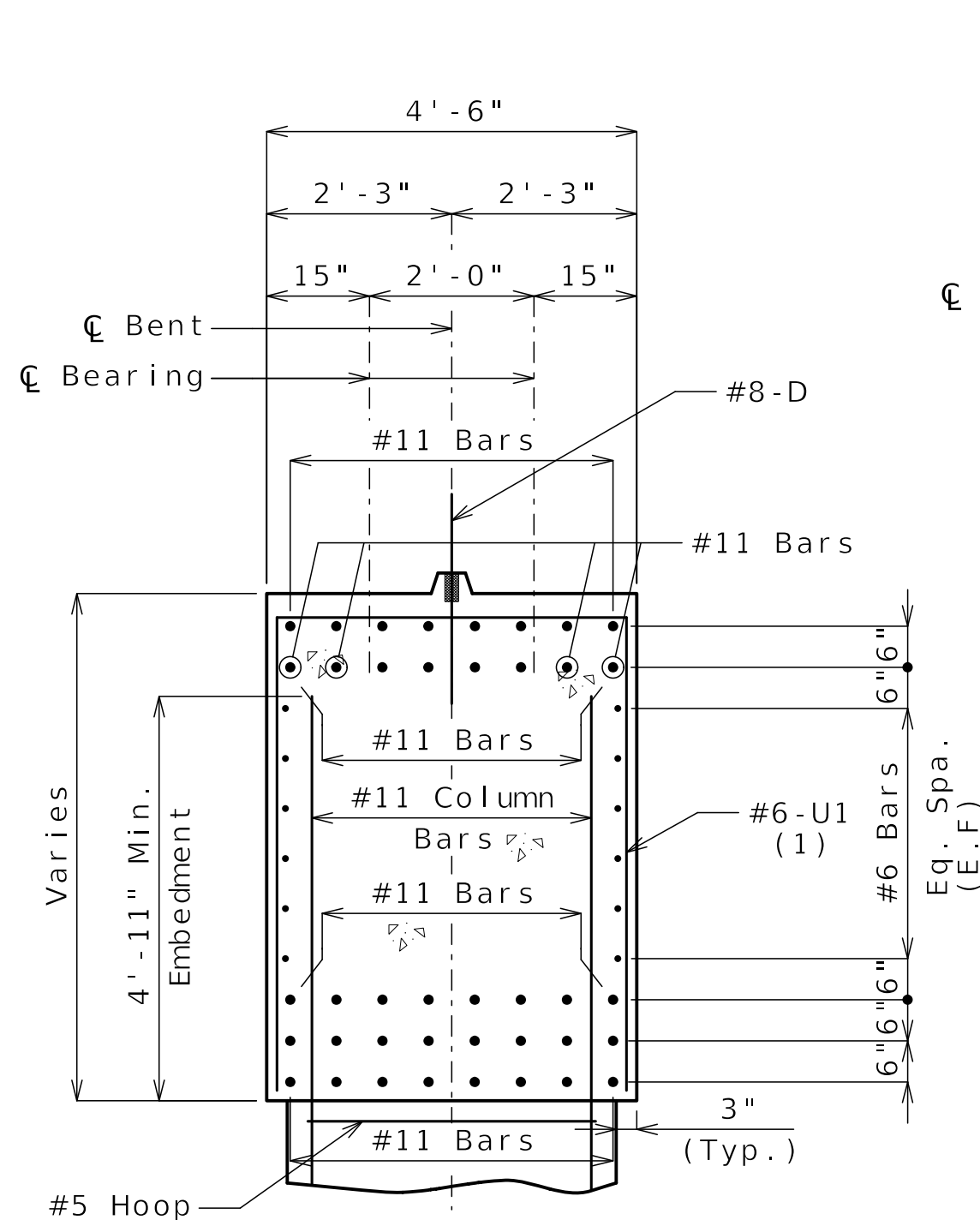
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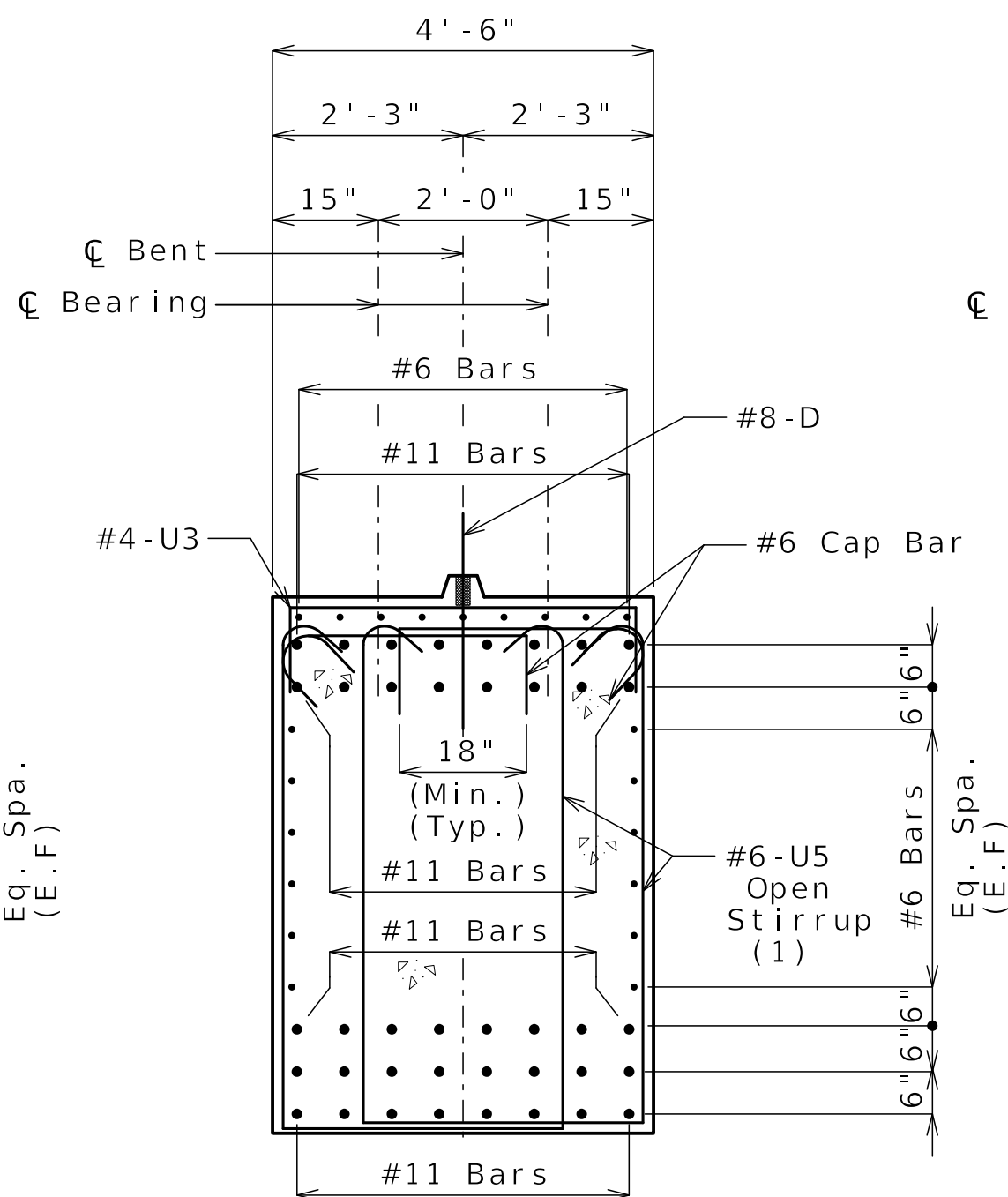
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NO. 001270

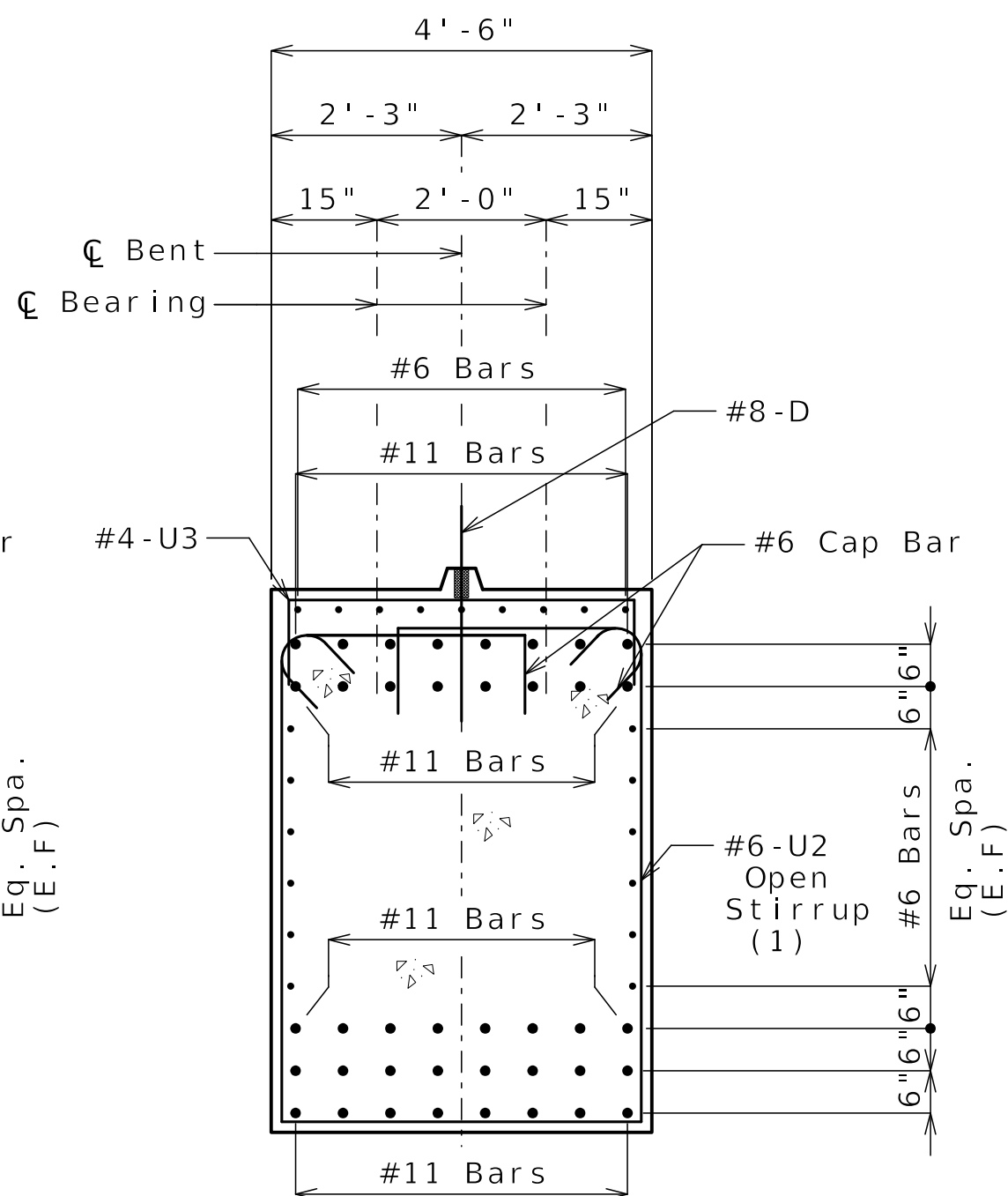
HNTB



SECTION A-A

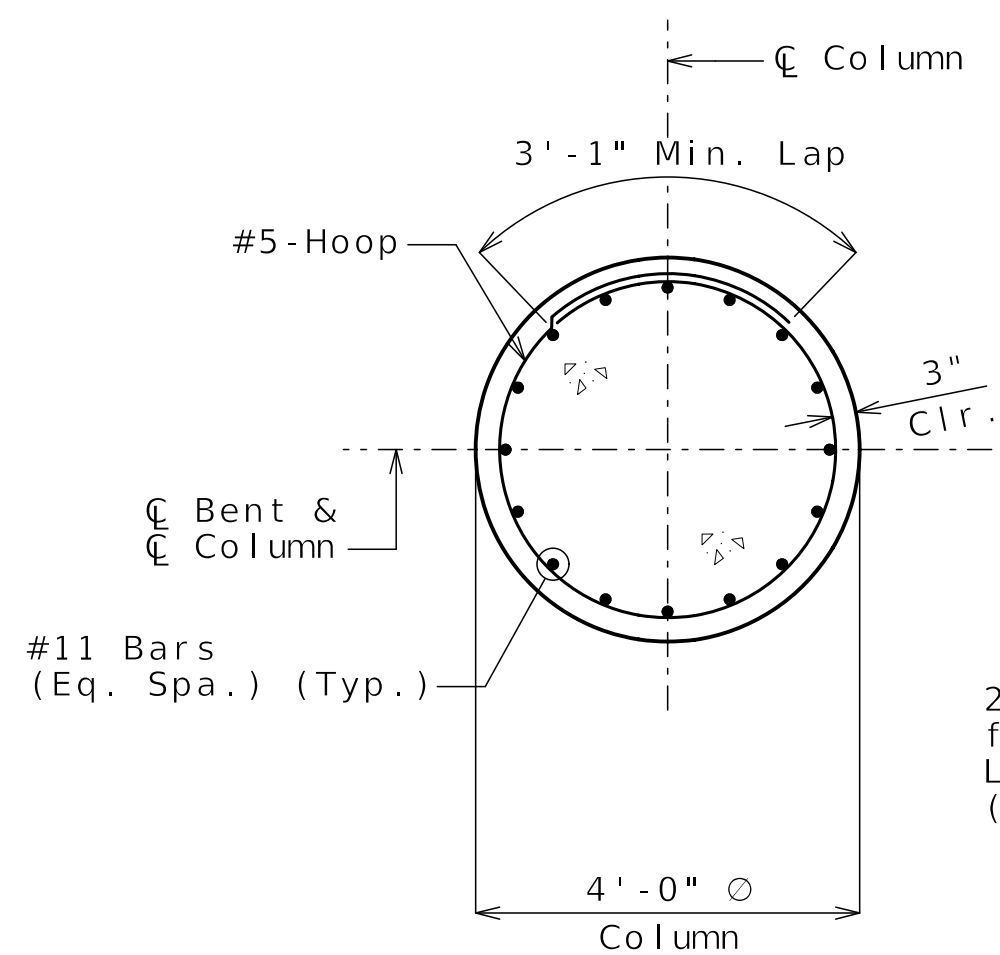


SECTION B-B

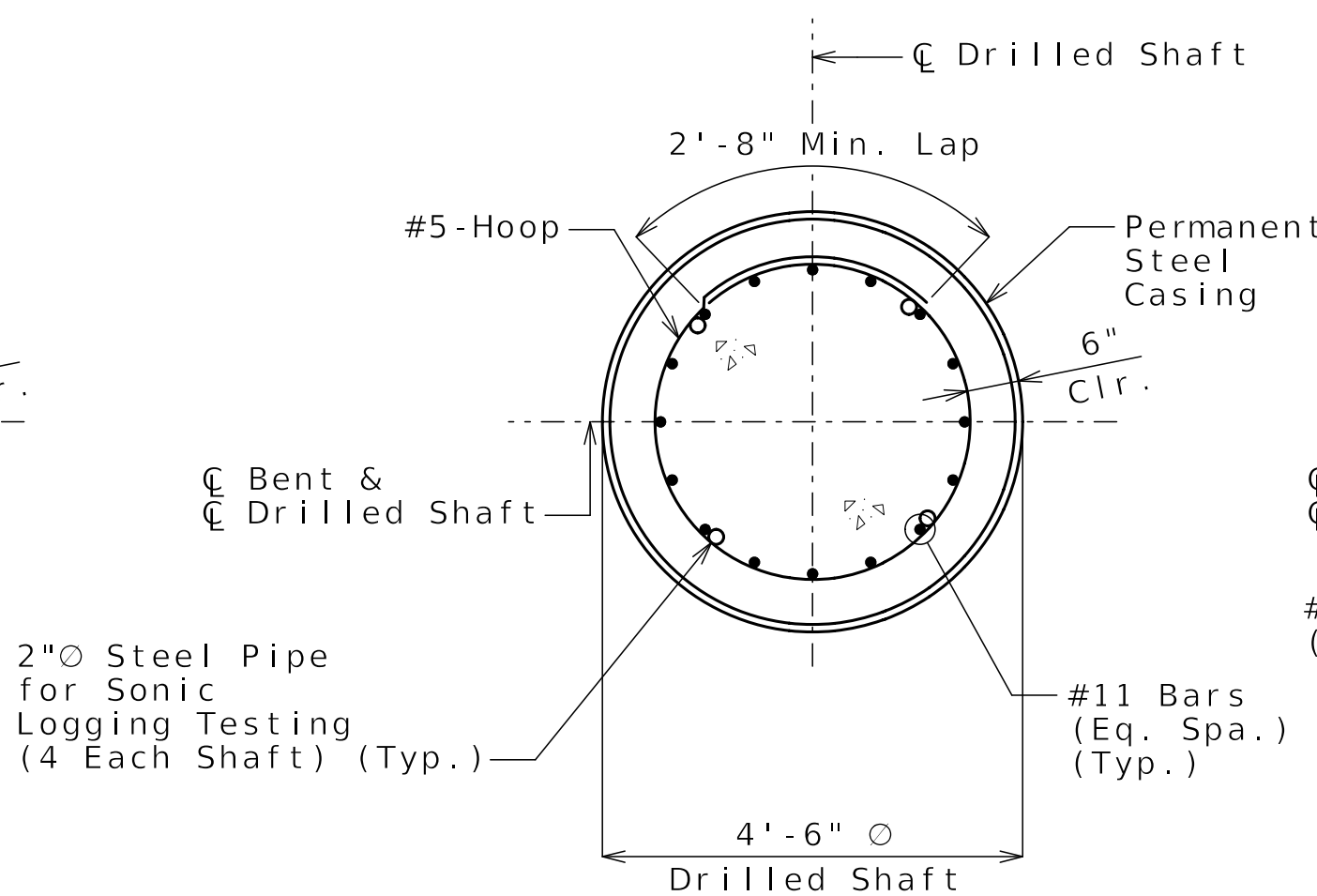


SECTION C-C

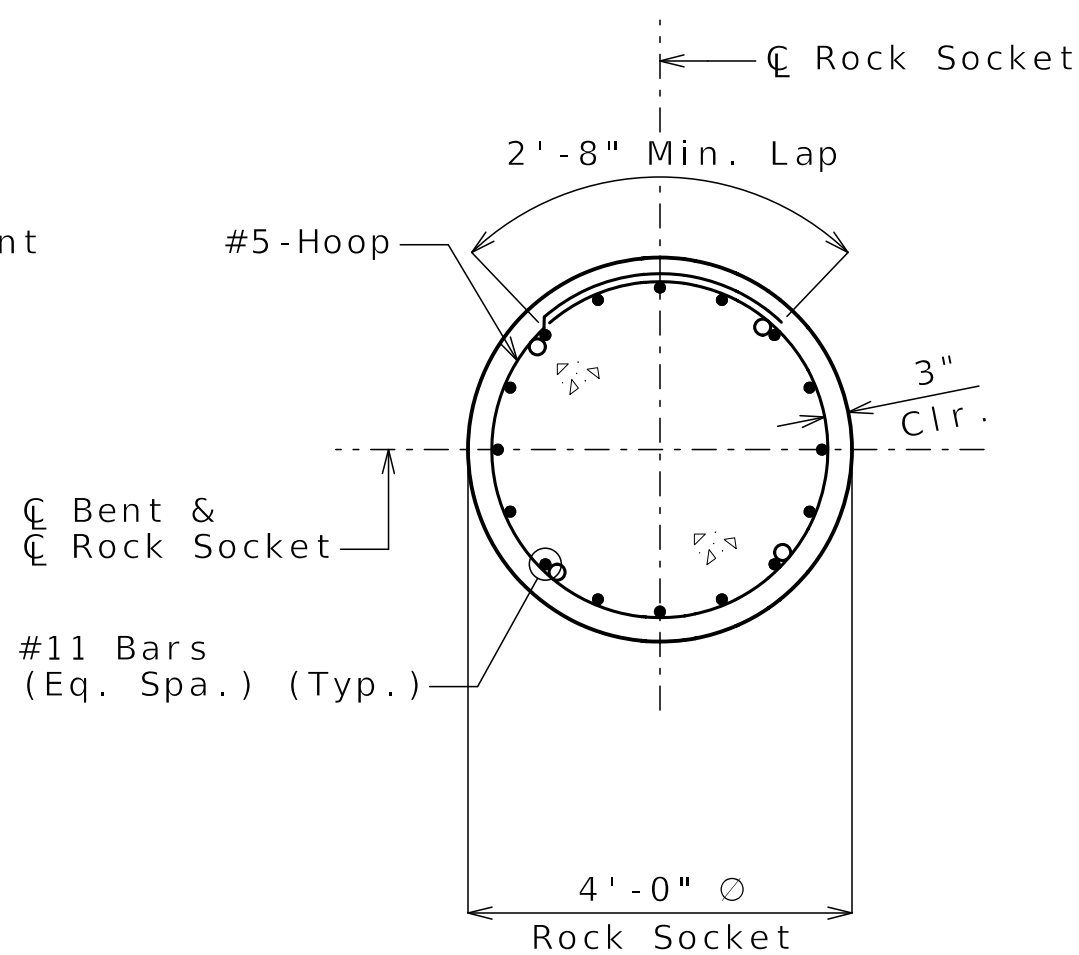
(1) U1,U2, & U5 vertical leg = 5'-9"



SECTION D-D



SECTION E-E



SECTION F-F

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Notes:
Work this sheet with Sheets No. B12-09 and B12-10.
Hoop splices shall be staggered around the
drilled shaft and rock socket at 90 degree intervals.

DETAILS OF INTERMEDIATE BENT NO. 2

DATE PREPARED
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ROUTE	STATE
I - 70	MO

DISTRICT	SHEET NO.
BR	B12-12

COUNTY
JACKSON

JOB NO.
1411486D

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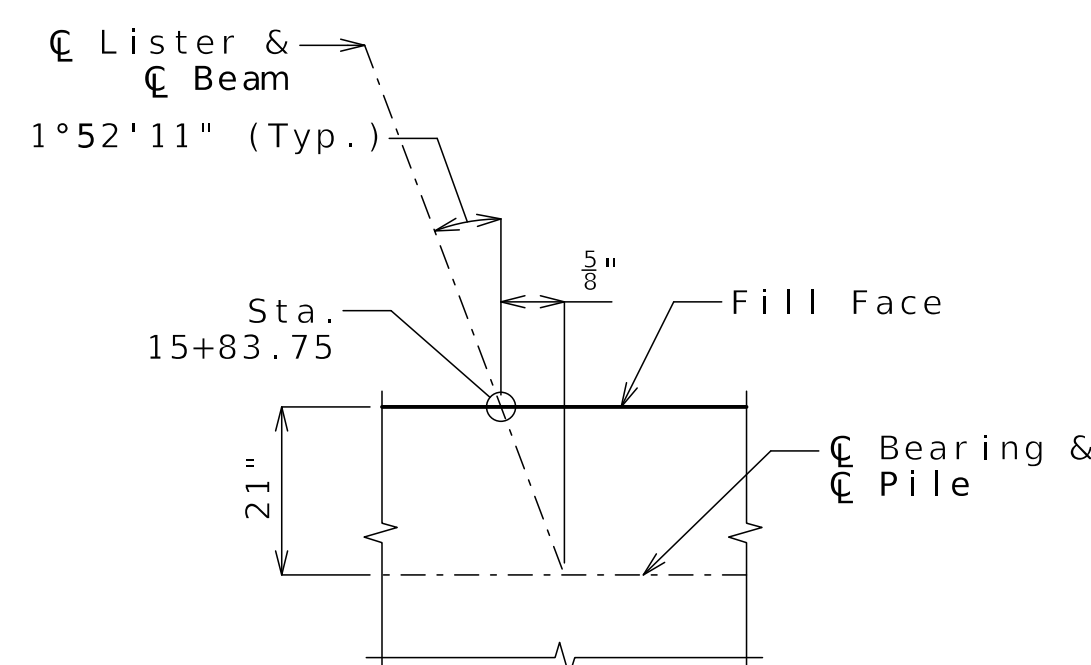


Diagram illustrating a Butt Splice (Top of lower section to be cut square). The diagram shows a cross-section of a structure with a 45-degree sloped section. A red box labeled "RFI 45" is shown on the left. A black triangle indicates the 45-degree angle. A dimension of $\frac{1}{8}"$ is shown for the thickness of the sloped section. A note indicates that the top of the lower section is to be cut square.

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

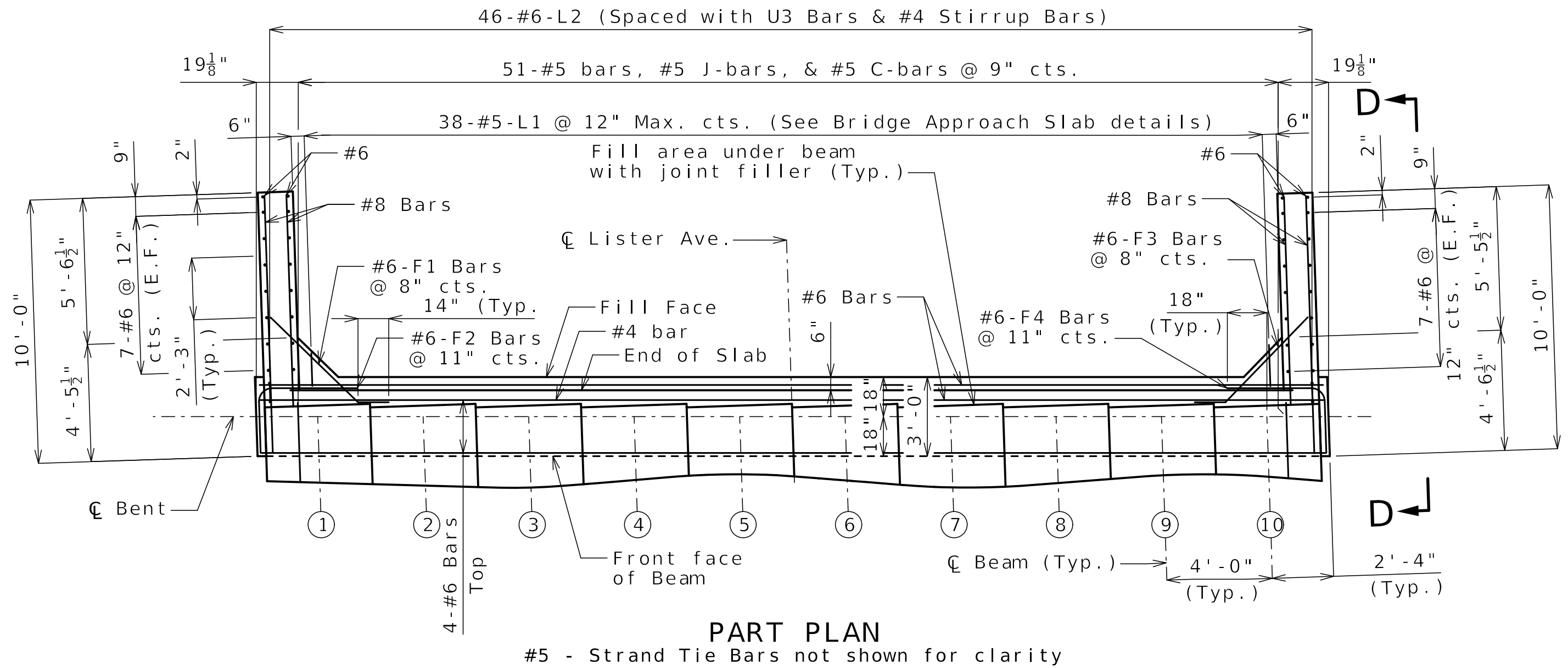
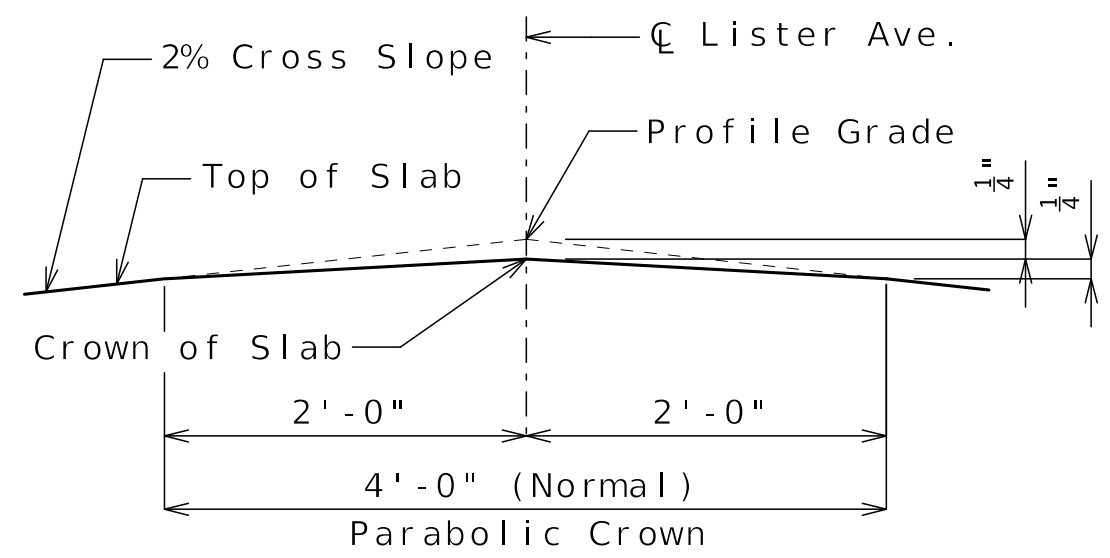
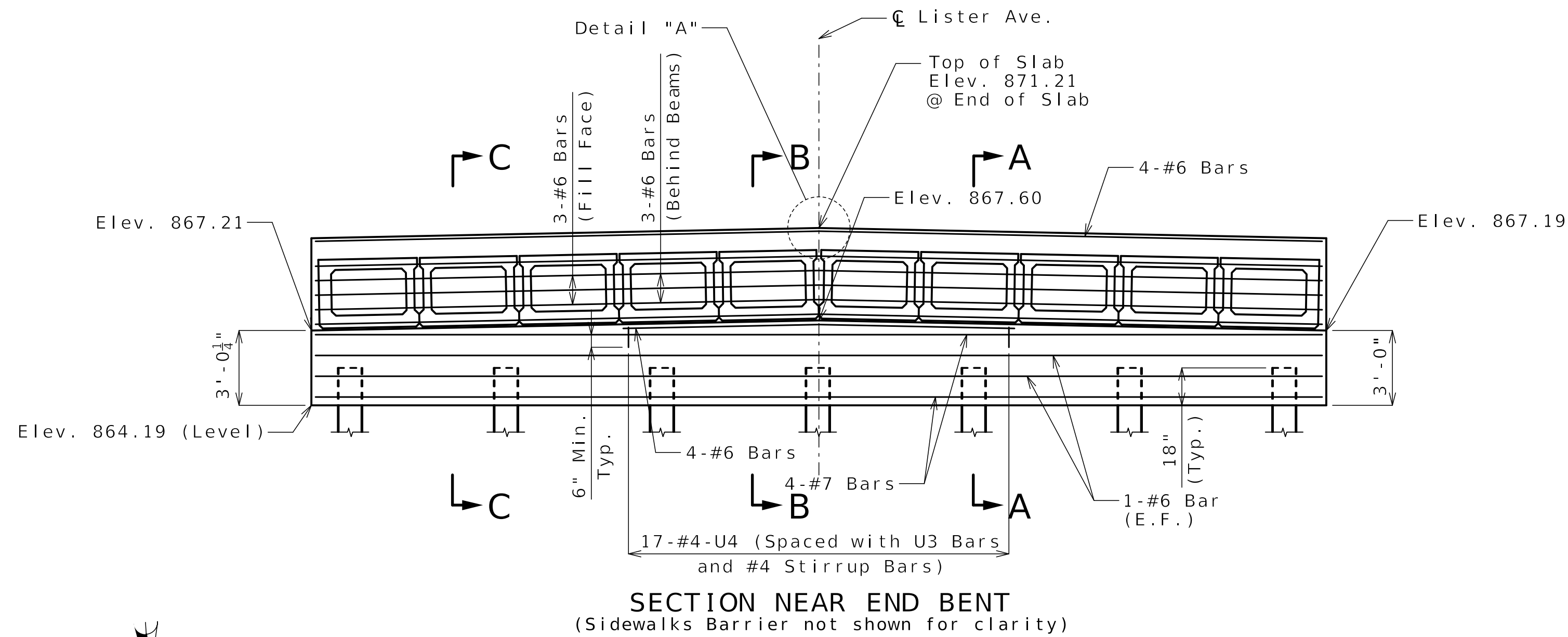


DETAILS OF END BENT NO. 3



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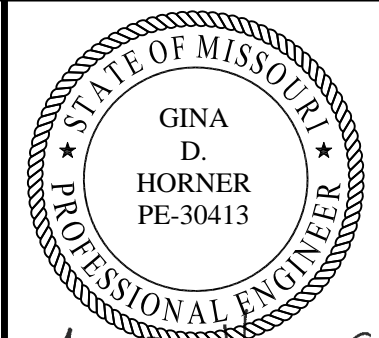
Sheet No. B12-12 of B12-35



General Notes:
Work this sheet with Sheets No. B12-12 and B12-14.
For Sections A-A, B-B and C-C, and Elevation D-D, see Sheet No. B12-14.
Strands at end of the girders shall be field bent or, if necessary, cut in field to maintain 11/2-inch minimum clearance to fill face of end bent.
The #6-F bars shall be bent in the field to clear beams.
(X) Denotes beam number.

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DETAILS OF END BENT NO. 3



Gina D. Horner
06/27/25

DATE PREPARED
06/25/2025

ROUTE 1-70
STATE MO
DISTRICT BR
SHEET NO. B12-13

COUNTY JACKSON

JOB NO. J411486D

CONTRACT ID. 240807-C01

PROJECT NO.

BRIDGE NO. A9633

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

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

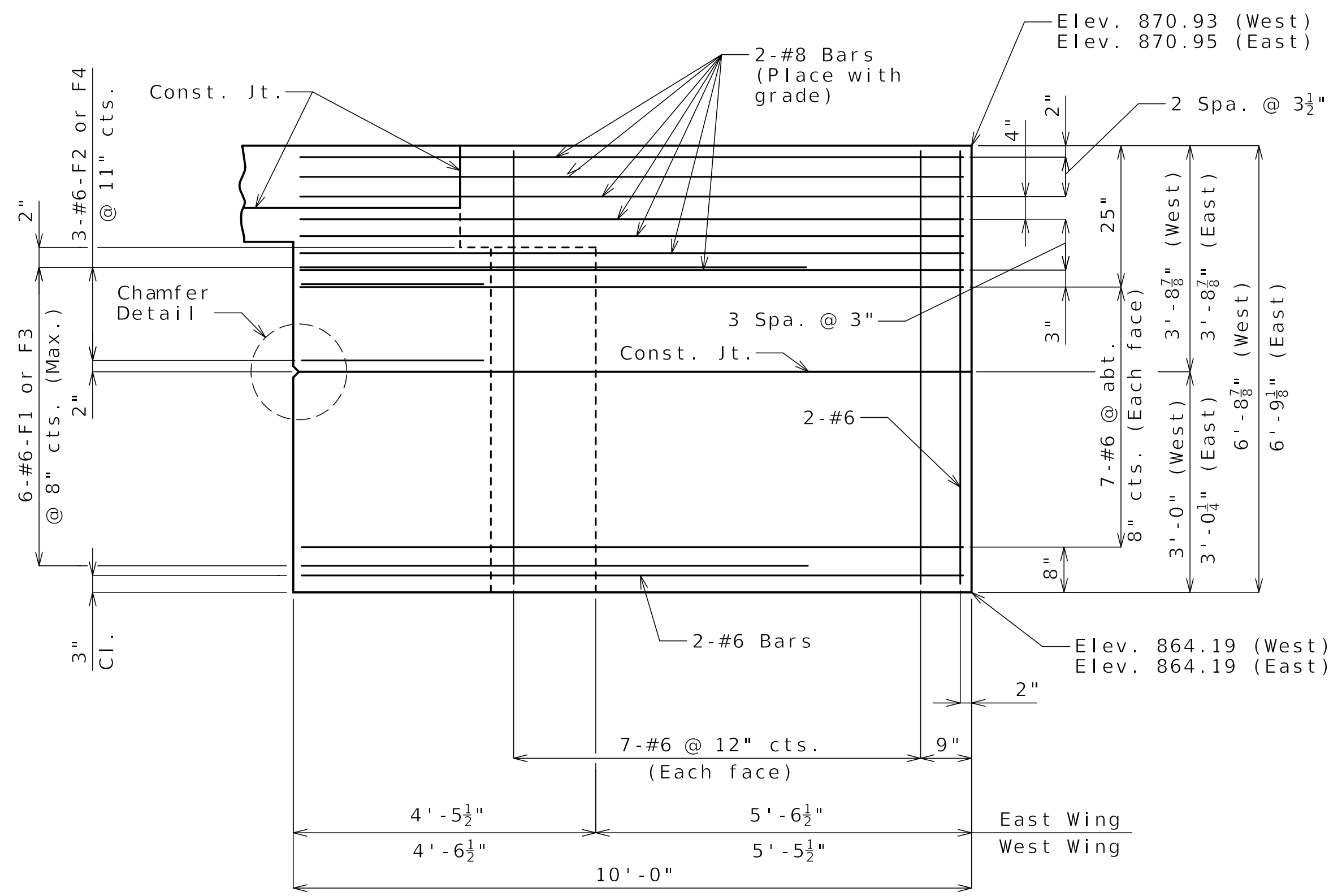
MoDOT

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

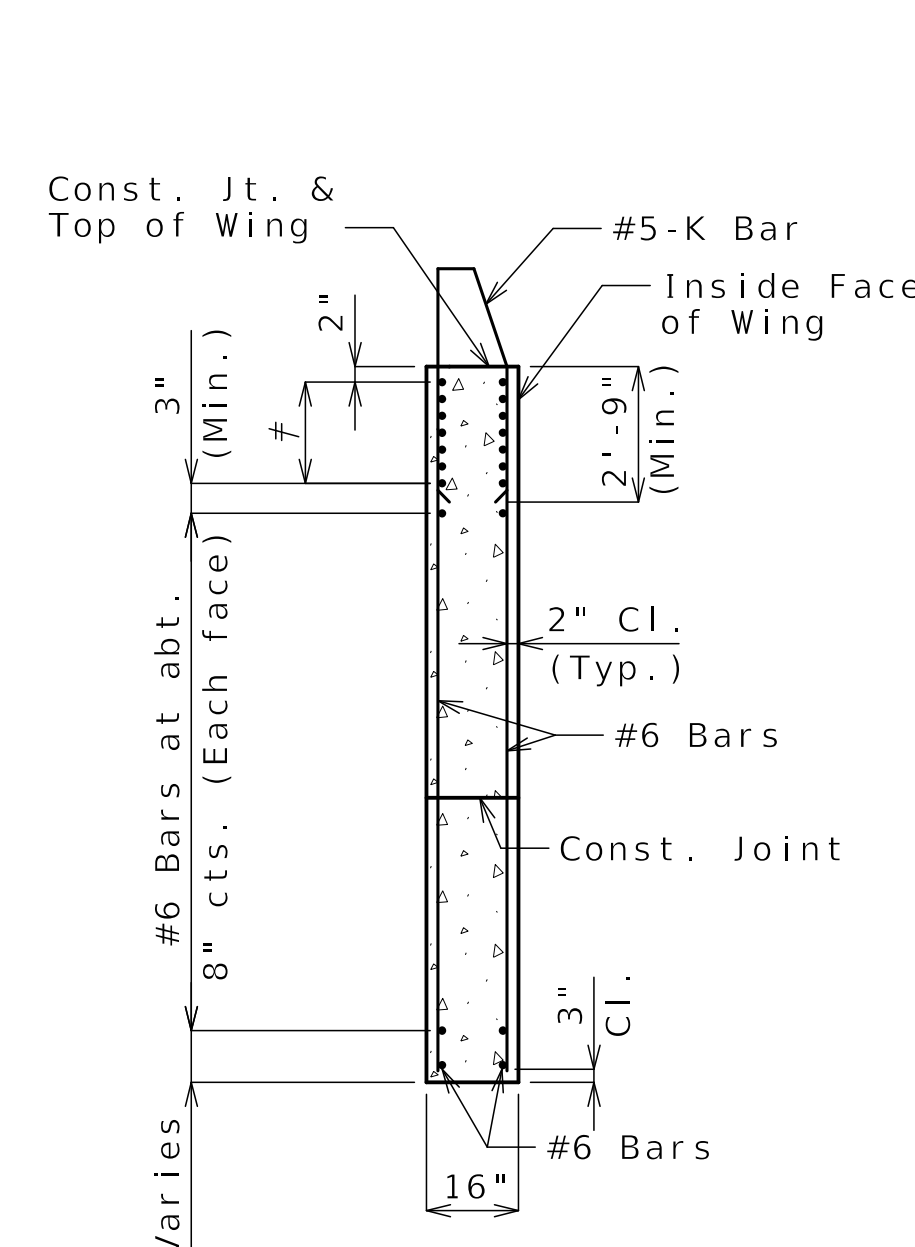
CLARKSON RADMACHER JOINT VENTURE

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

HNTB

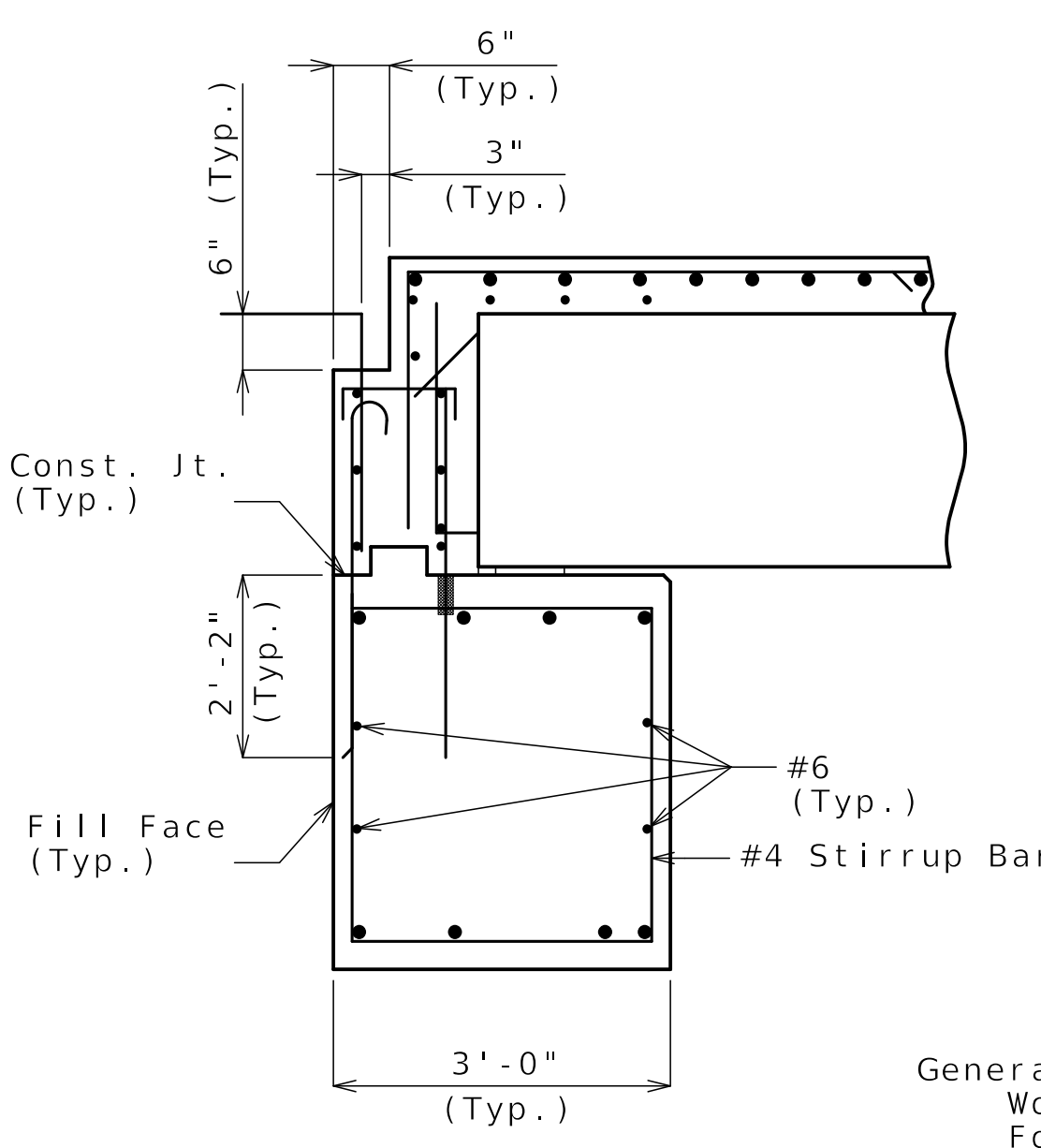
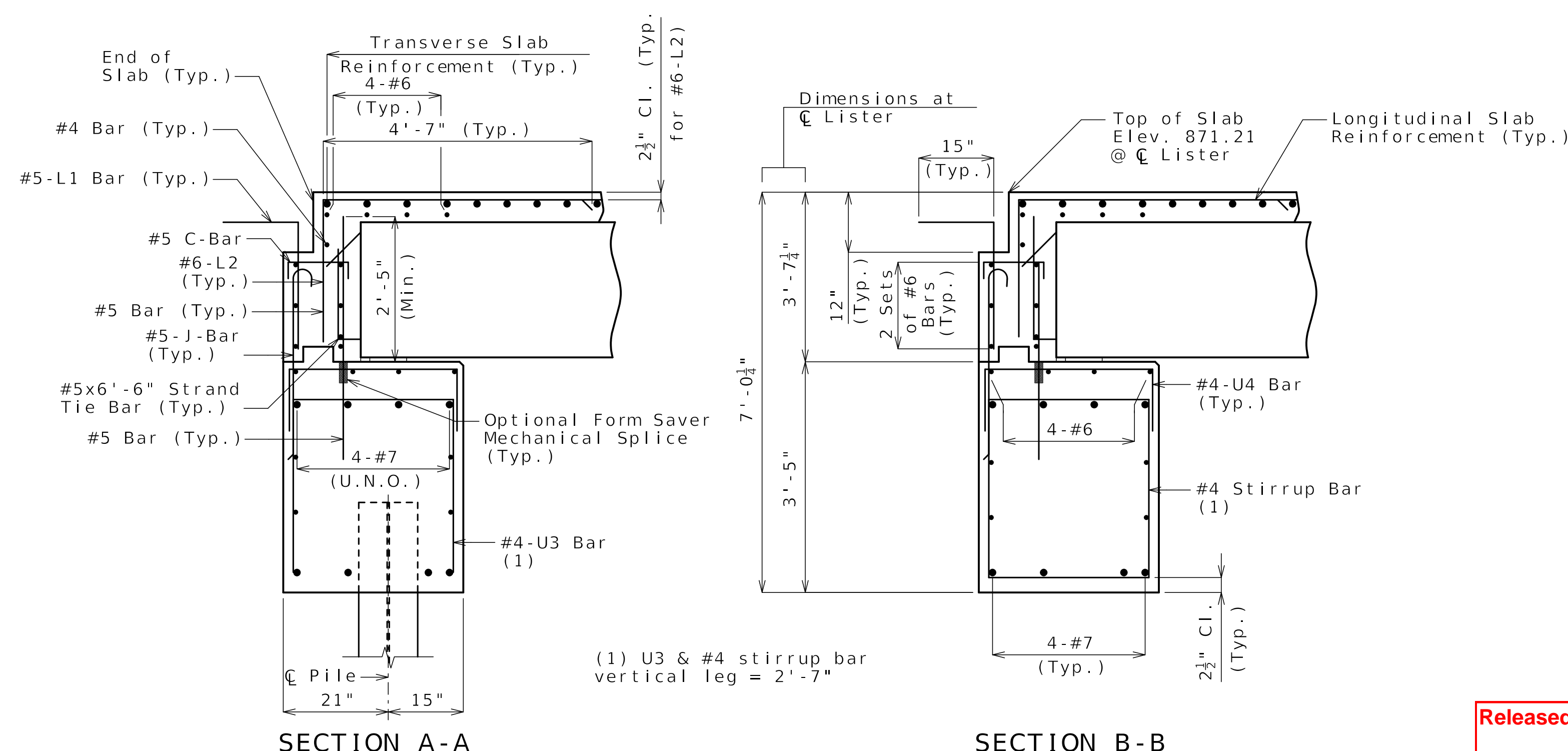
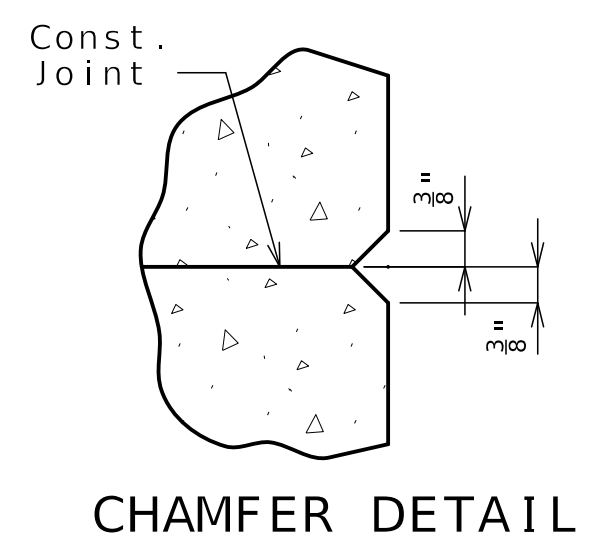


ELEVATION D-D
(West wingwall shown, East wingwall similar except opposite hand)



TYPICAL SECTION THRU WING

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



General Notes:
Work this sheet with Sheets No. B12-12 and B12-13.
For location of Sections A-A, B-B and C-C
and Elevation D-D, see Sheet No. B12-13.
For reinforcement of the Barrier, see
Sheet No. B12-26.

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Date: 07/02/2025
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DETAILS OF END BENT NO. 3

Detailed MAR 2025
Checked APR 2025

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

Sheet No. B12-14 of B12-35

GINA D. HORNER
PE-30413

06/27/25

DATE PREPARED
06/25/2025

ROUTE
1-70

DISTRICT
BR

COUNTY
JACKSON

JOB NO.
J411486D

CONTRACT ID.
240807-C01

PROJECT NO.

BRIDGE NO.
A9633

DESCRIPTION

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DATE
06/25/25

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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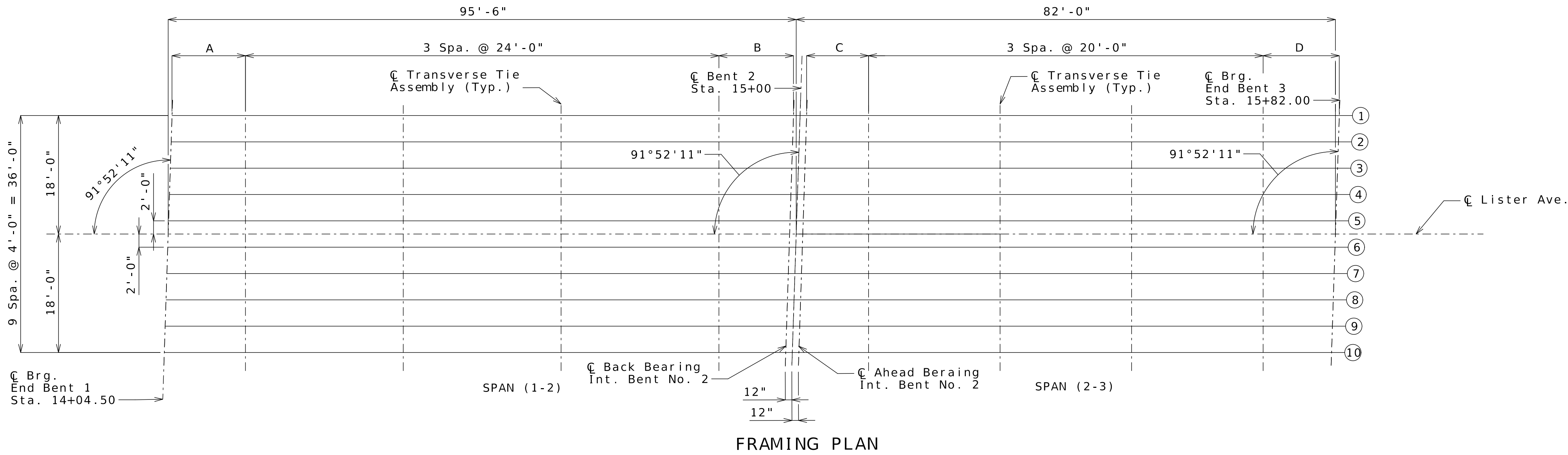
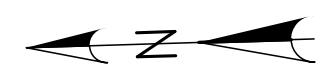
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

CLARKSON RADMACHER
JOINT VENTURE

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KANSAS CITY, MO 64105-1310
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REV.



FRAMING PLAN

Table of Dimensions

Beam Number	"A"	"B"	"C"	"D"
1	10' - 8"	11' - 10"	9' - 11"	11' - 1"
2	10' - 9 $\frac{1}{2}$ "	11' - 8 $\frac{1}{2}$ "	10' - 0 $\frac{1}{2}$ "	10' - 11 $\frac{1}{2}$ "
3	10' - 11 $\frac{1}{8}$ "	11' - 6 $\frac{7}{8}$ "	10' - 2 $\frac{1}{8}$ "	10' - 9 $\frac{7}{8}$ "
4	11' - 0 $\frac{5}{8}$ "	11' - 5 $\frac{3}{8}$ "	10' - 3 $\frac{3}{8}$ "	10' - 8 $\frac{3}{8}$ "
5	11' - 2 $\frac{1}{4}$ "	11' - 3 $\frac{3}{4}$ "	10' - 5 $\frac{3}{4}$ "	10' - 6 $\frac{3}{4}$ "
6	11' - 3 $\frac{3}{4}$ "	11' - 2 $\frac{1}{4}$ "	10' - 6 $\frac{3}{4}$ "	10' - 5 $\frac{1}{4}$ "
7	11' - 5 $\frac{3}{8}$ "	11' - 0 $\frac{3}{8}$ "	10' - 8 $\frac{3}{8}$ "	10' - 3 $\frac{5}{8}$ "
8	11' - 6 $\frac{7}{8}$ "	10' - 11 $\frac{1}{8}$ "	10' - 9 $\frac{7}{8}$ "	10' - 2 $\frac{7}{8}$ "
9	11' - 8 $\frac{1}{2}$ "	10' - 9 $\frac{1}{2}$ "	10' - 11 $\frac{1}{2}$ "	10' - 0 $\frac{1}{2}$ "
10	11' - 10"	10' - 8"	11' - 1"	9' - 11"

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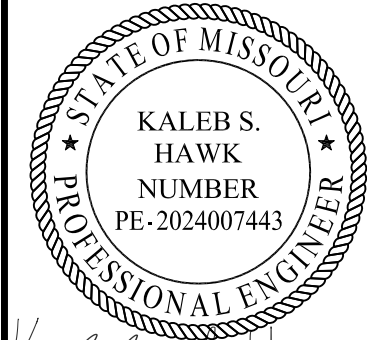
Notes:

Longitudinal dimensions are measured horizontally.

All bents are parallel.

(X) Denotes beam number.

FRAMING PLAN



Kaleb S. Hawk
 6-30-2025

DATE PREPARED

06/25/2025

ROUTE

1-70

STATE

MO

DISTRICT

BR

SHEET NO.

B12-15

COUNTY

JACKSON

JOB NO.

J411486D

CONTRACT ID.

240807-C01

PROJECT NO.

BRIDGE NO.

A9633

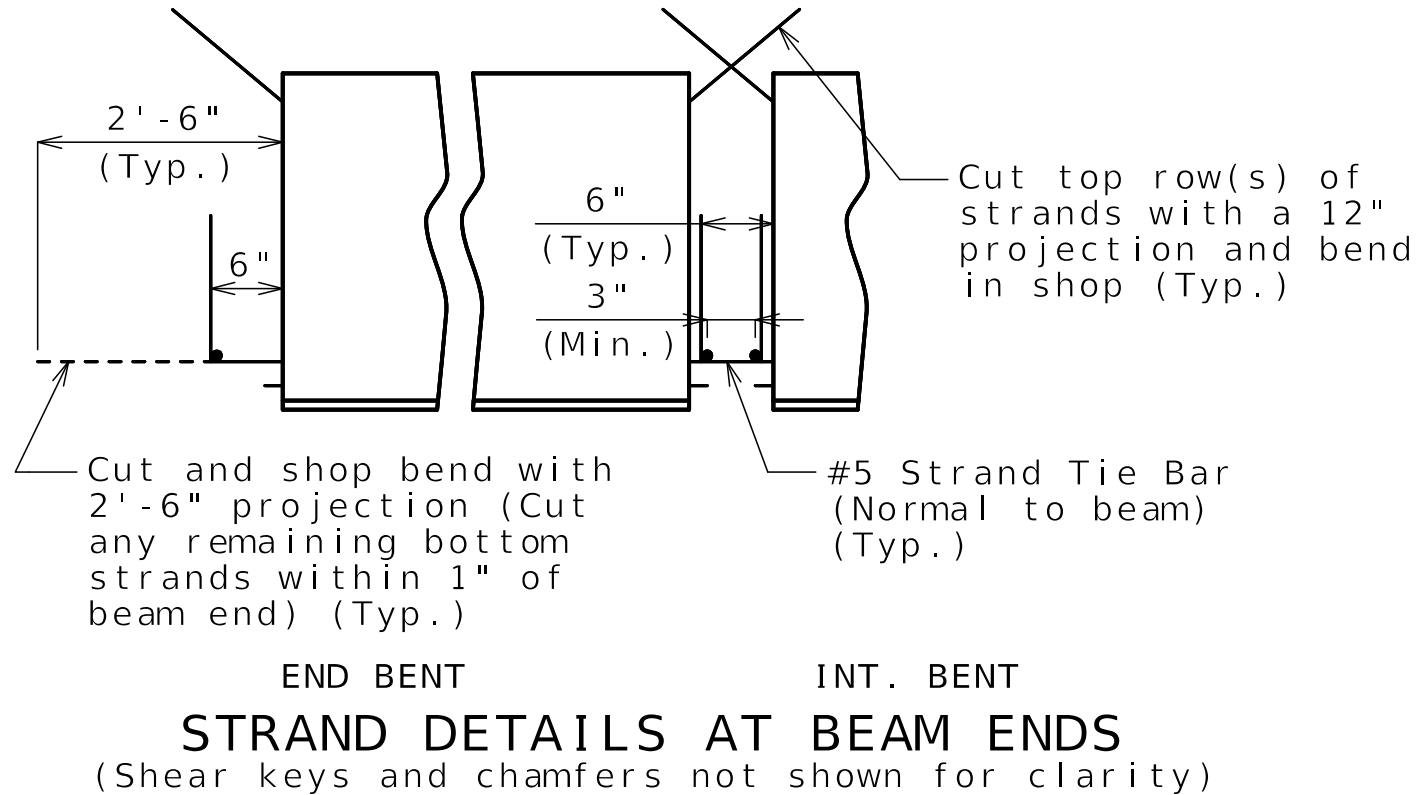
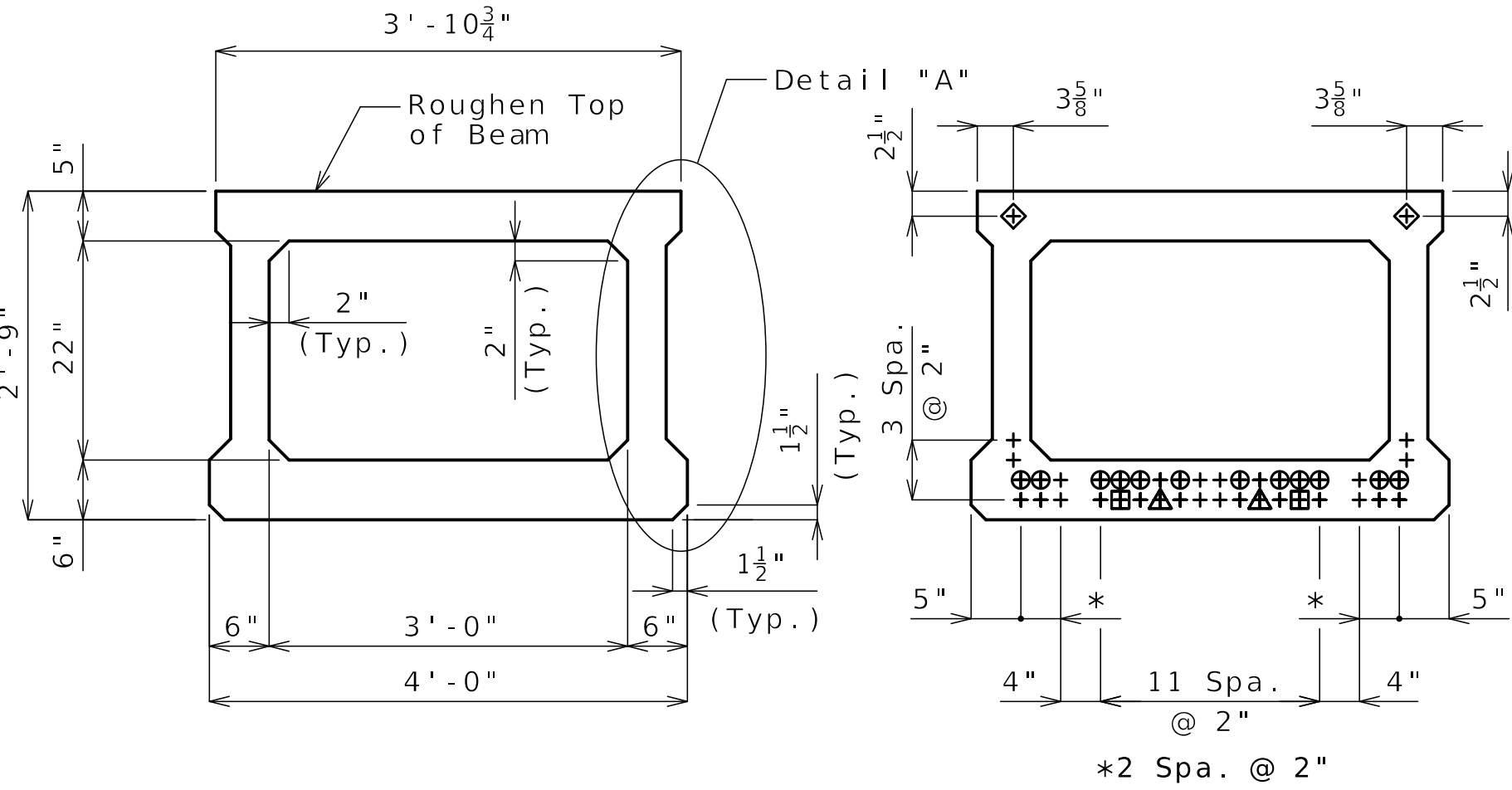
DATE	DESCRIPTION
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MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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



All strands are fully bonded unless otherwise noted.

- + Indicates prestressing strand.
- Indicates cut and shop bend with 2'-6" projection.
- Indicates debonded for 3'-0" from end of beam.
- △ Indicates debonded for 6'-0" from end of beam.
- ◇ Indicates debonded for 30'-0 at center of beams.

STRAND ARRANGEMENT

General Notes:

Concrete for prestressed beams shall be Class A-1 with $f'c = 10,000$ psi and $f'ci = 7,500$ psi.

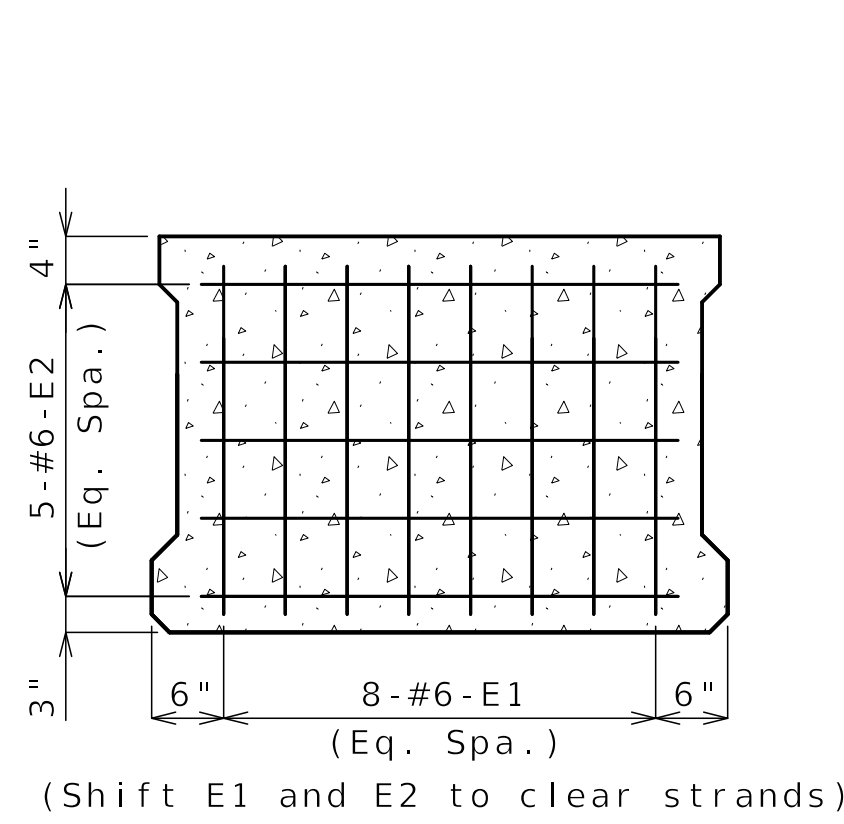
Use 42 strands, 0.6"Ø Grade 270, with an initial prestress force of 1846 kips.

Pretensioned members shall be in accordance with Sec 1029. Fabricator shall be responsible for location and design of lifting devices.

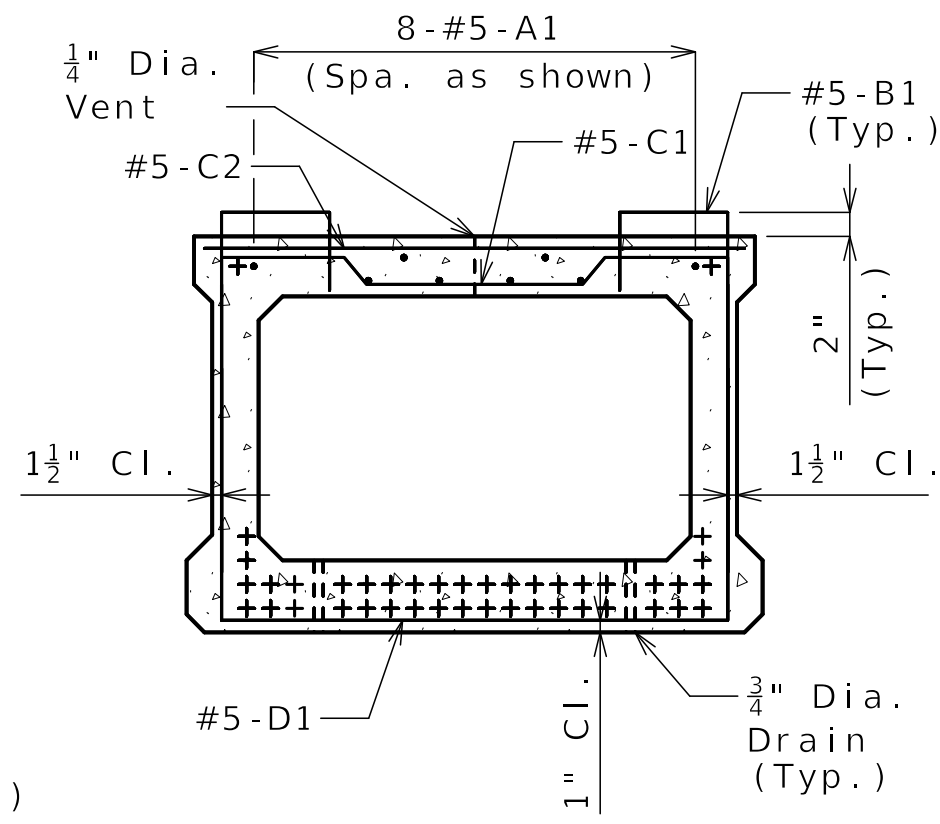
For Detail "A" & Additional Beam Details, see Sheets No. B12-18 and B12-19.

For Beam Camber Diagram, see Sheet No. B12-21.

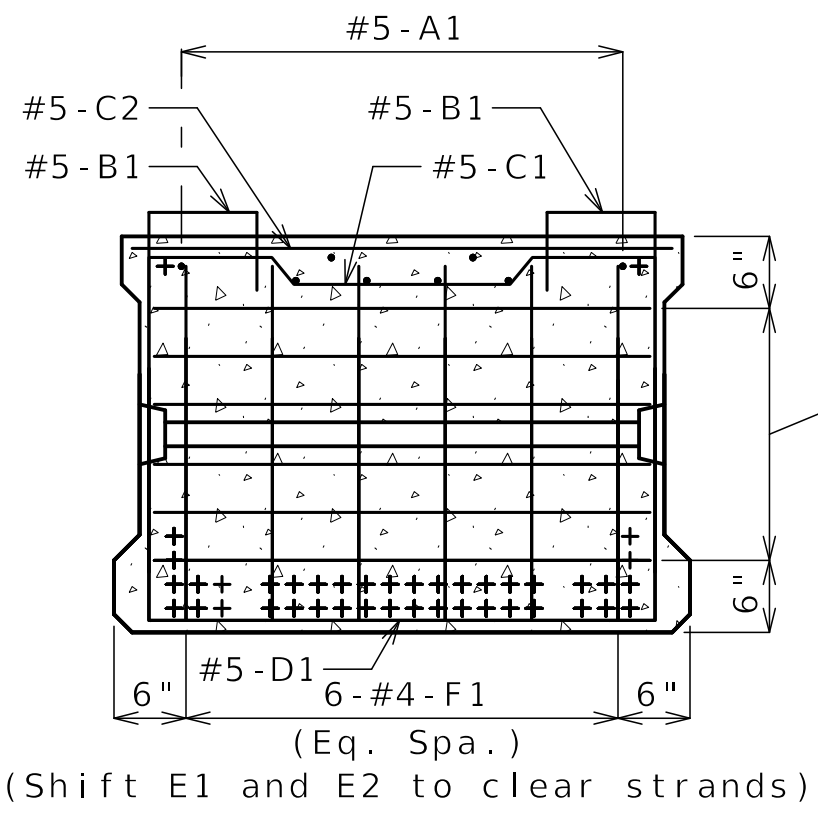
For dimensions A and B, see Sheet No. B12-15.



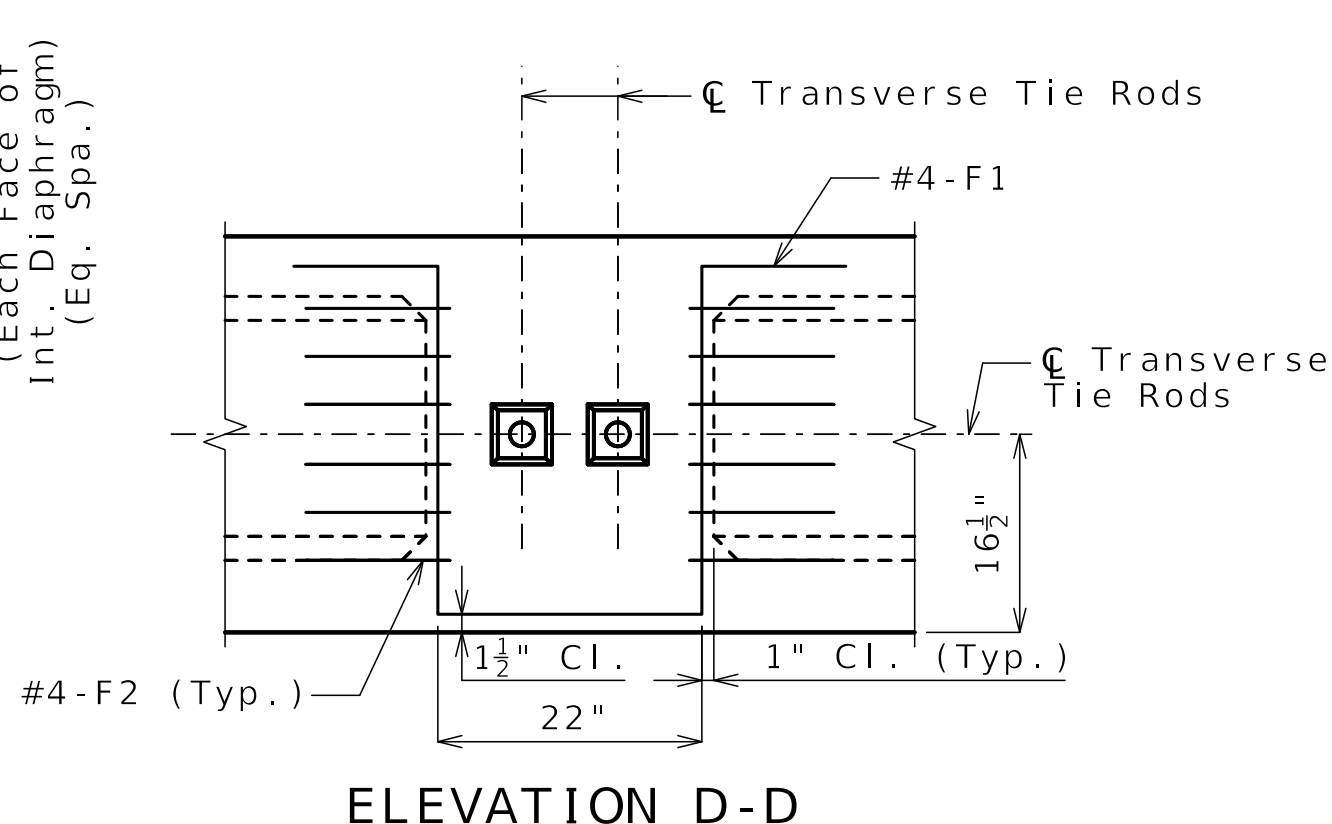
ELEVATION A-A



SECTION B-B

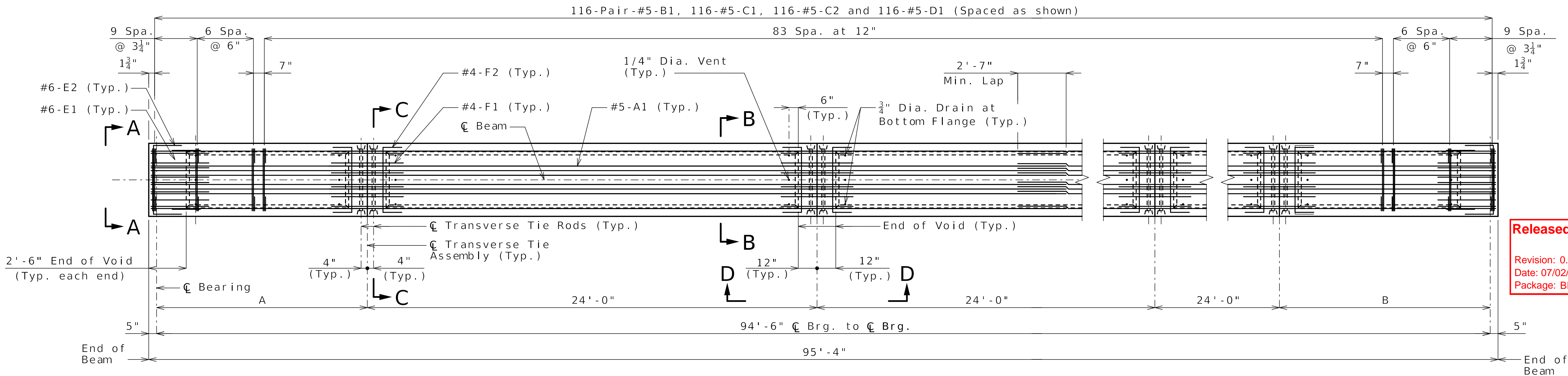


SECTION C-C



ELEVATION D-D

(A1, B1, C1, C2 and D1 bars, shear keys and chamfers not shown for clarity)



PLAN

BILL OF REINFORCING STEEL EACH BEAM

NO.	SIZE & MARK	ACTUAL LENGTH
16	5 A1	49'-0"
232	5 B1	3'-0"
116	5 C1	8'-1"
116	5 C2	3'-8"
116	5 D1	8'-0"
16	6 E1	8'-2"
10	6 E2	7'-0"
24	4 F1	8'-3"
48	4 F2	5'-3"

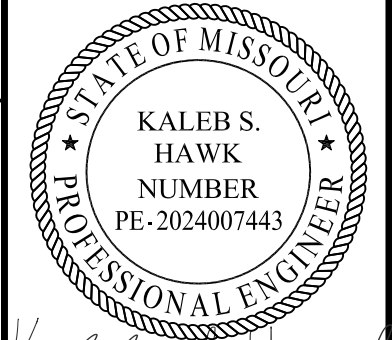
Hooks and bends shall be in accordance with the CRSI Manual of Standard Practice for Detailing Reinforced Concrete Structures, Stirrup and Tie Dimensions.

Actual lengths are measured along centerline of bar to the nearest inch.

Minimum clearance to reinforcement shall be to one inch, unless otherwise shown.

All reinforcement shall be Grade 60.

All B1 bars shall be epoxy coated.



Kaleb S. Hawk

DATE PREPARED

06/25/2025

ROUTE 1-70 STATE MO

DISTRICT BR SHEET NO. B12-16

COUNTY JACKSON

JOB NO. J411486D

CONTRACT ID. 240807-C01

PROJECT NO.

BRIDGE NO. A9633

DESCRIPTION

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MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

MoDOT

105 WEST CAPITOL

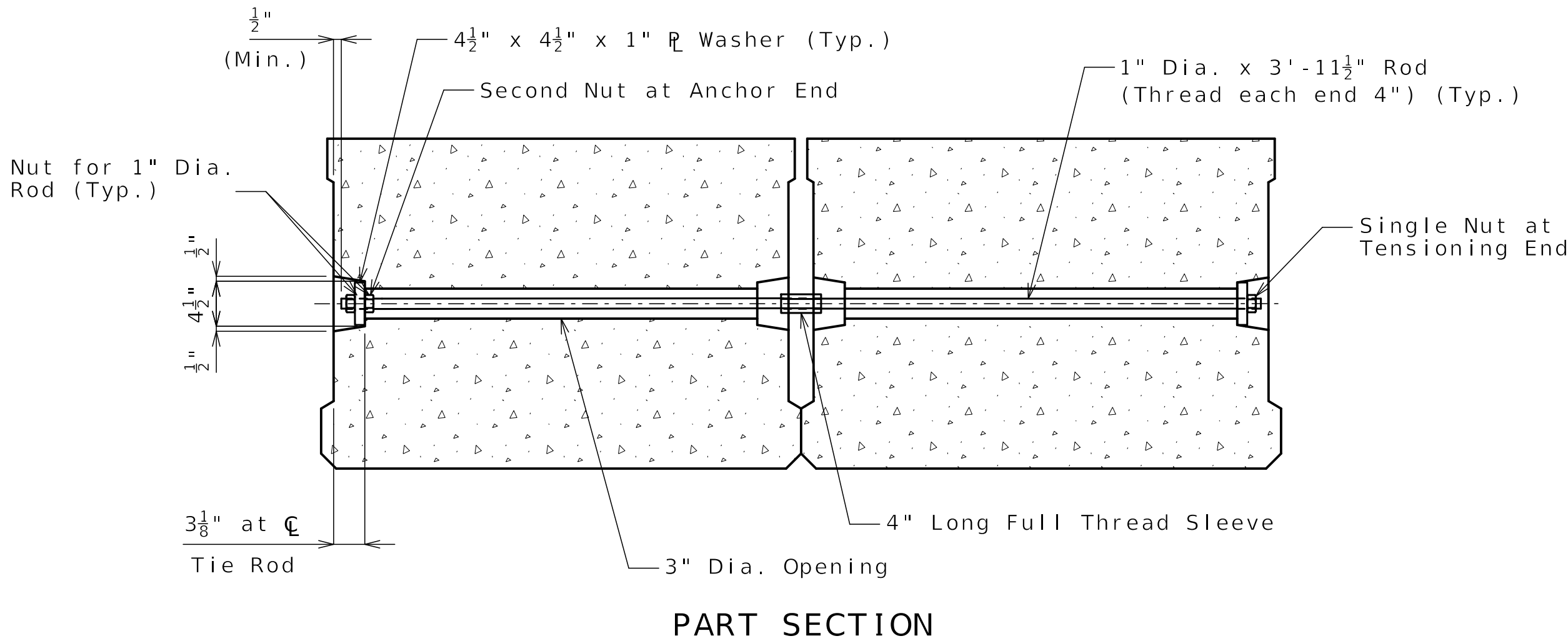
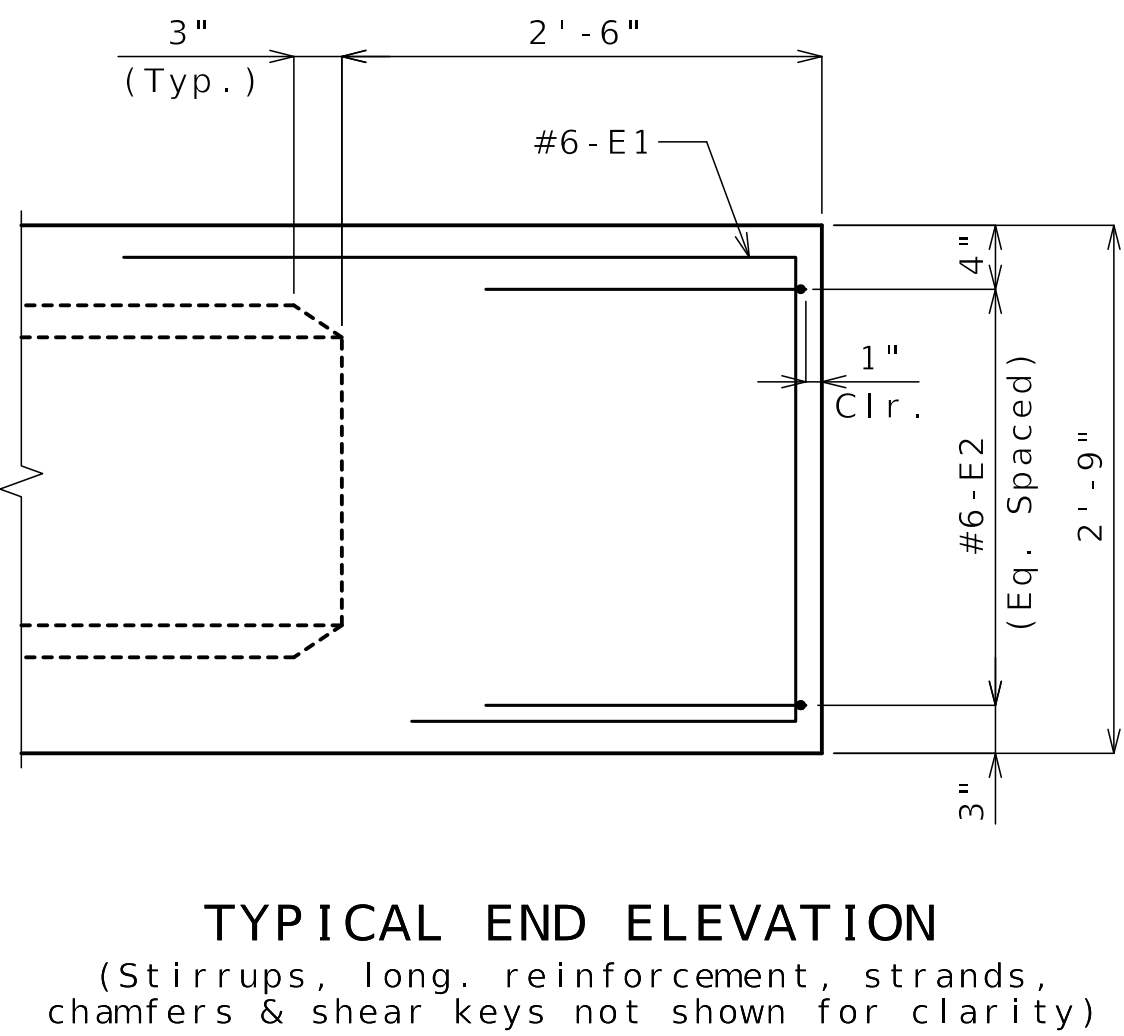
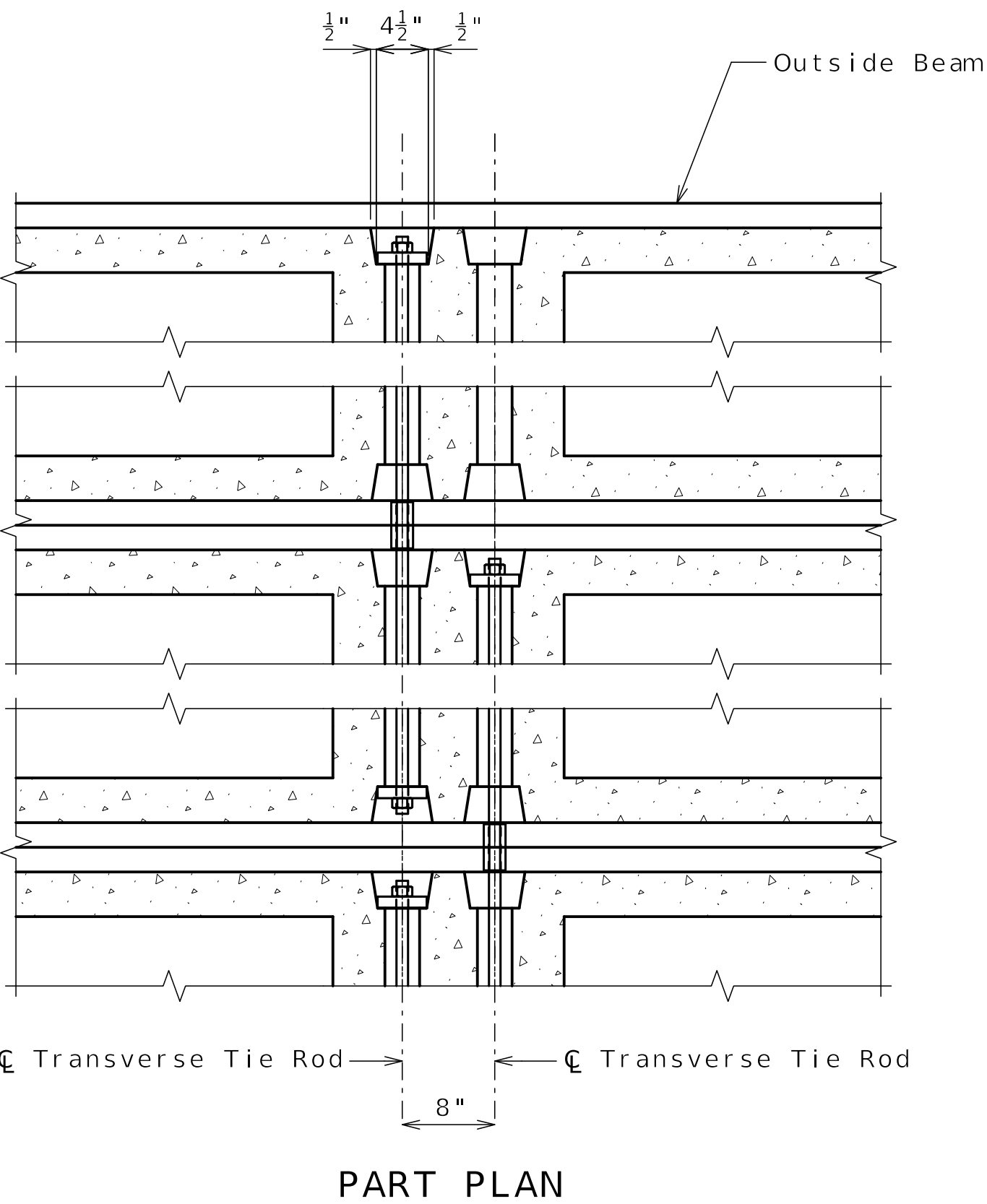
JEFFERSON CITY, MO 65102

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NO. 001270

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Notes:

The 1" Dia. rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets that receive transverse tie bar on outside shall be filled with grout after transverse tie assembly is in place.

Keyway surface shall be cleaned to remove form oil or other bond breaking material prior to shipment of the beams. Cleaning shall be done by sandblasting the keyway areas between top of the beam and the bottom edge of the key.

Use high strength tie rods that conform to ASTM F1554 Grade 105. Use heavy hexagon nuts that conform to ASTM A563. Hot-dip galvanize tie rods, plates, nuts and washers after fabrication. Tighten tie rods to a minimum tension of 30 kips using turn of the nut method.

Use mechanically galvanized load indication washers conforming to ASTM F959 when tensioning the tie rods on the first pair (5 & 6) of Beams to calibrate the turn of the nut method. The load indication washers shall be placed on the anchor end, not the tensioning end.

Tighten all tie rods (per box) to about one half of the specified tension before proceeding with the final tensioning.

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MISCELLANEOUS ADJACENT BOX BEAM DETAILS

Detailed MAR 2025
 Checked APR 2025

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

Sheet No. B12-19 of B12-35



Kaleb S. Hawk
 6-30-2025

DATE PREPARED
 06/25/2025

ROUTE 1-70
 STATE MO
 DISTRICT BR
 SHEET NO. B12-19

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

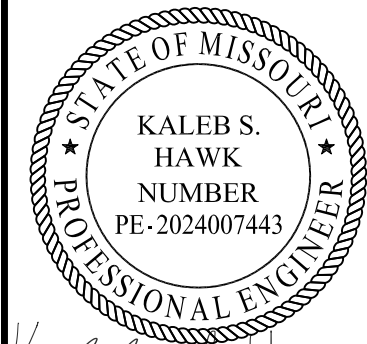
BRIDGE NO. A9633

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

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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



6-30-2025

DATE PREPARED

06/25/2025

ROUTE STATE

1-70 MO

DISTRICT SHEET NO.

BR B12-20

COUNTY

JACKSON

JOB NO.

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CONTRACT ID.

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PROJECT NO.

BRIDGE NO.

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DESCRIPTION

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DATE

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MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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105 WEST CAPITOL

JEFFERSON CITY, MO 65102

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CLARKSON RADMACHER JOINT VENTURE

715 KIRK DRIVE

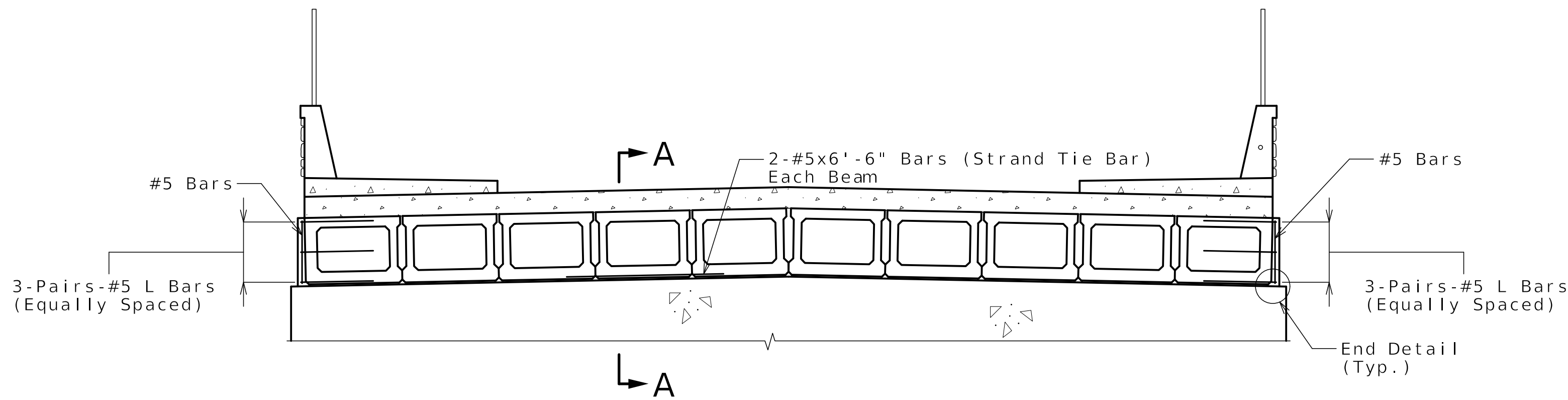
KANSAS CITY, MO 64105-1310

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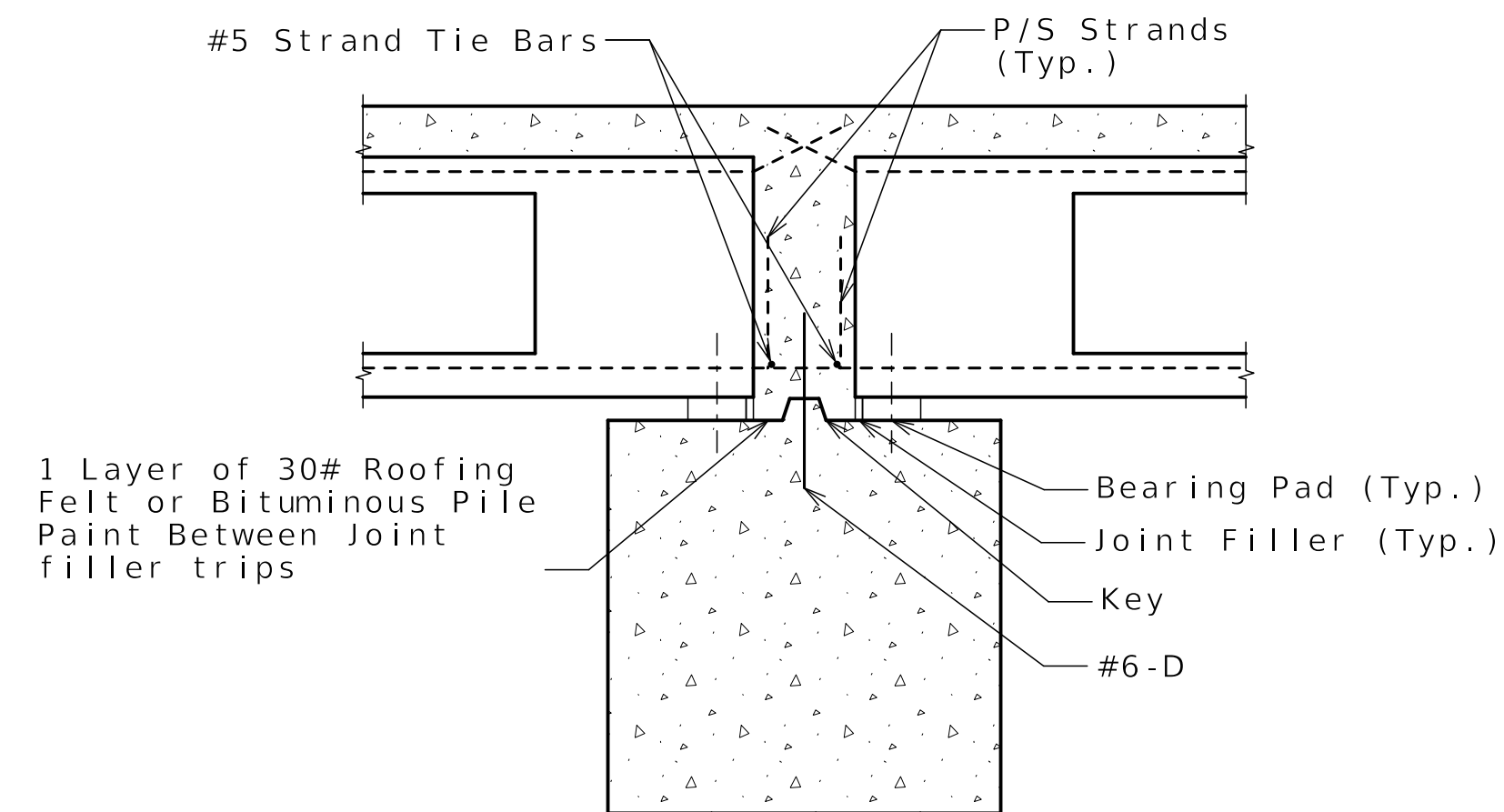
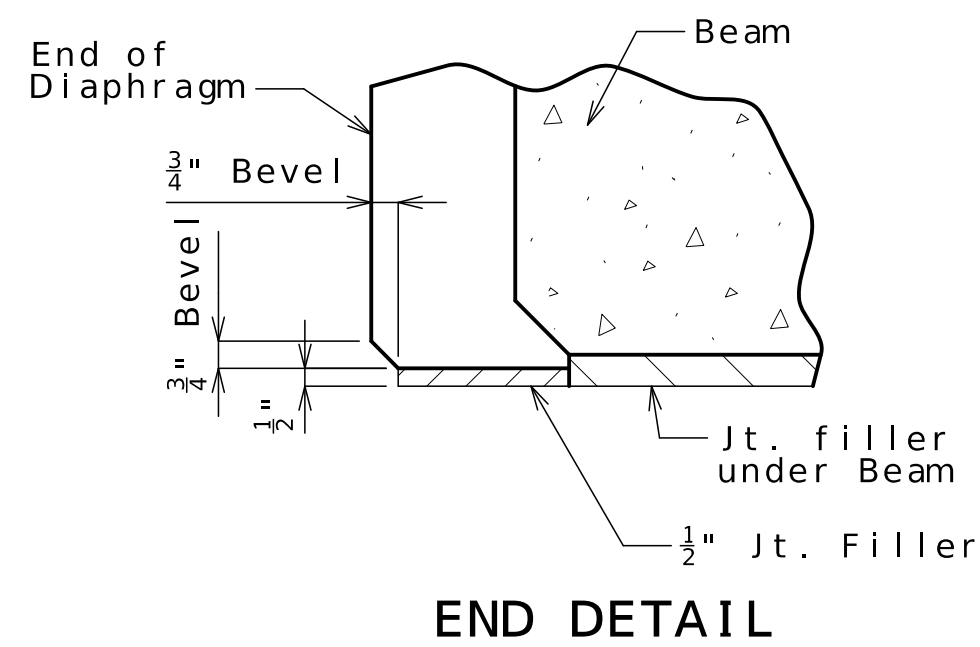
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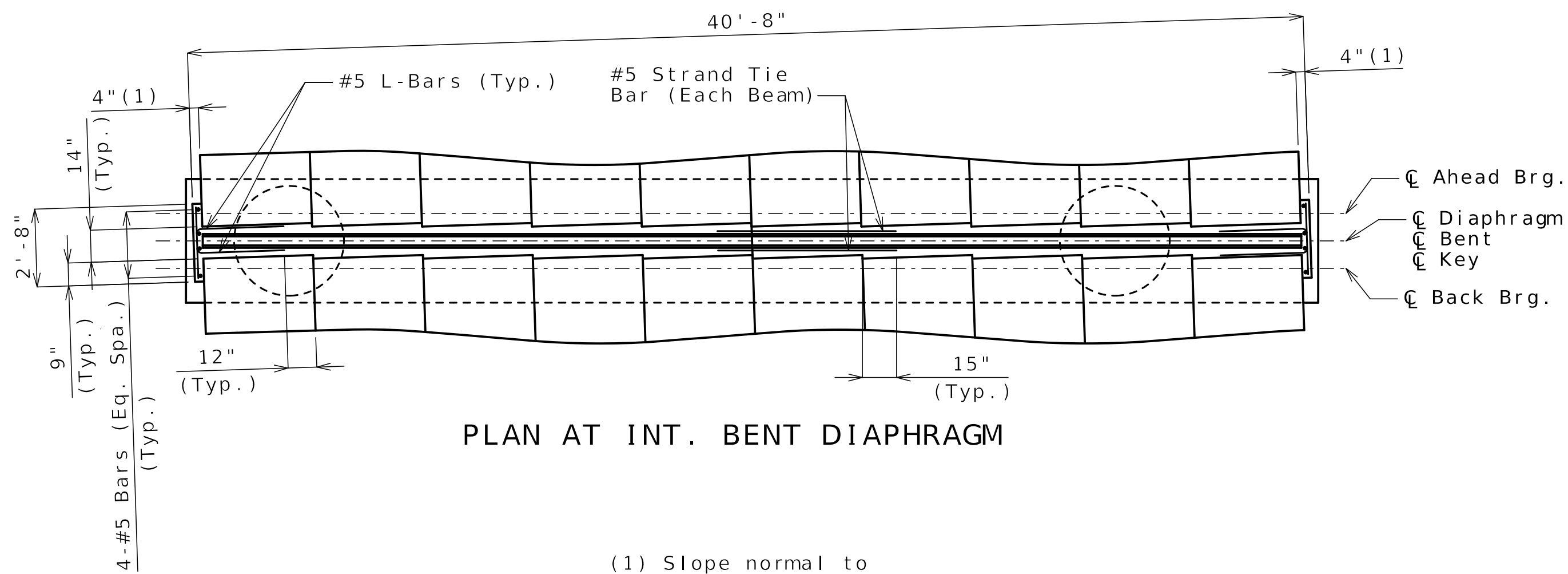
REV.



ELEVATION THRU INT. BENT DIAPHRAGM
(Reinforcement in Bent Cap & Columns not shown for clarity)



SECTION A-A



PLAN AT INT. BENT DIAPHRAGM

(1) Slope normal to
bridge fascia to drain.

Notes:
Diaphragms shall be built vertical.
For location of #5 Strand Tie Bars, see Sheets No. B12-16 and B12-17.
For Bearing Details, see Sheet No. B12-10.
For Cap beam, bearing location, dowel placement, shear key details,
roofing felt details, joint filler details see Sheets No. B12-09 thru B12-11.

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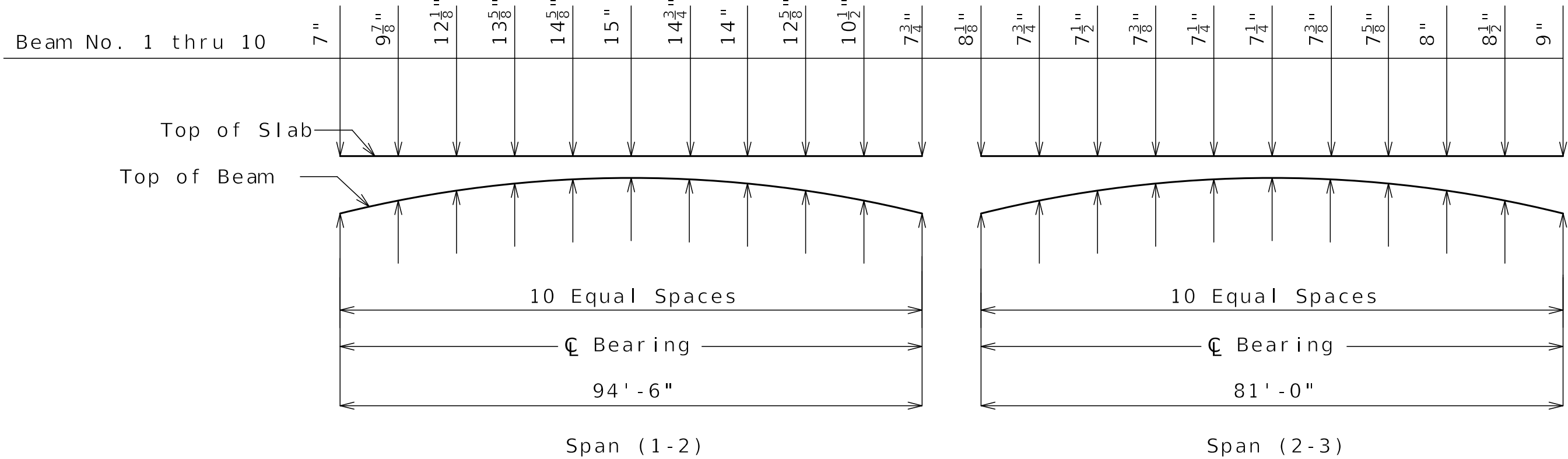
CONCRETE DIAPHRAGM AT INTERMEDIATE BENT NO. 2

Detailed MAR 2025
Checked APR 2025

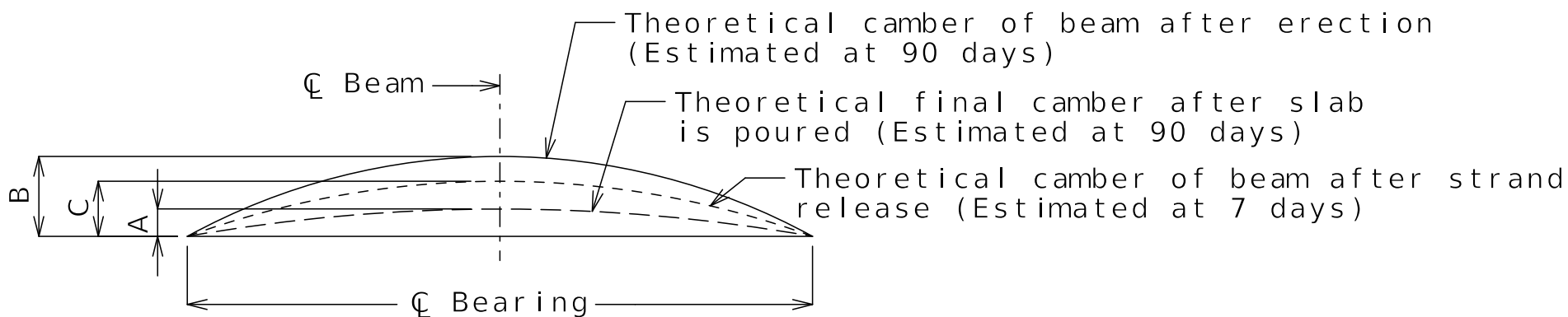
Note: This drawing is not to scale. Follow dimensions.

Sheet No. B12-20 of B12-35

6/23/2025



THEORETICAL CAST IN PLACE SLAB DIAGRAM
 (Assumed Erection @ 90 Day Maturity)



Beam	Span (1-2)			Span (2-3)		
	A	B	C	A	B	C
1 thru 10	2 ⁷ / ₈ "	5 ⁵ / ₈ "	3 ³ / ₄ "	1 ³ / ₈ "	2 ³ / ₈ "	1 ⁵ / ₈ "

BEAM CAMBER DIAGRAM

Conversion Factors for Beam Camber (Estimated at 90 days)

0.1 pt. = 0.314 x 0.5 pt.
 0.2 pt. = 0.593 x 0.5 pt.
 0.3 pt. = 0.813 x 0.5 pt.
 0.4 pt. = 0.952 x 0.5 pt.

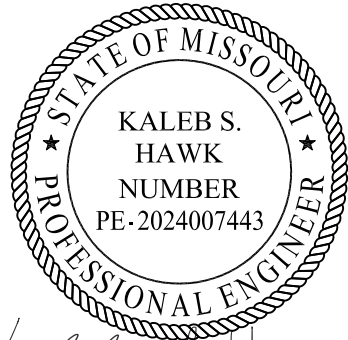
Note:
 If beam camber is different from that shown in the camber diagram, in order to maintain minimum slab thickness, adjustment of the slab haunches, or a raise in grade uniformly throughout the structure shall be necessary.

CAMBER DIAGRAM & THEORETICAL CAST IN PLACE SLAB DIAGRAM

Detailed MAR 2025
 Checked APR 2025

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

Sheet No. B12-21 of B12-35



Kaleb S. Hawk

6-30-2025

DATE PREPARED

06/25/2025

ROUTE 1-70 STATE MO

DISTRICT BR SHEET NO. B12-21

COUNTY

JACKSON

JOB NO.

J411486D

CONTRACT ID.

240807-C01

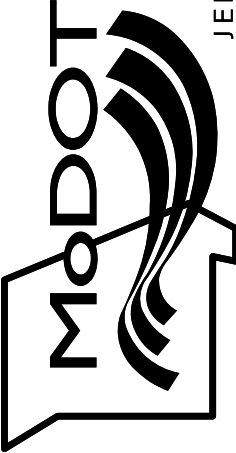
PROJECT NO.

BRIDGE NO.

A9633

DATE	DESCRIPTION
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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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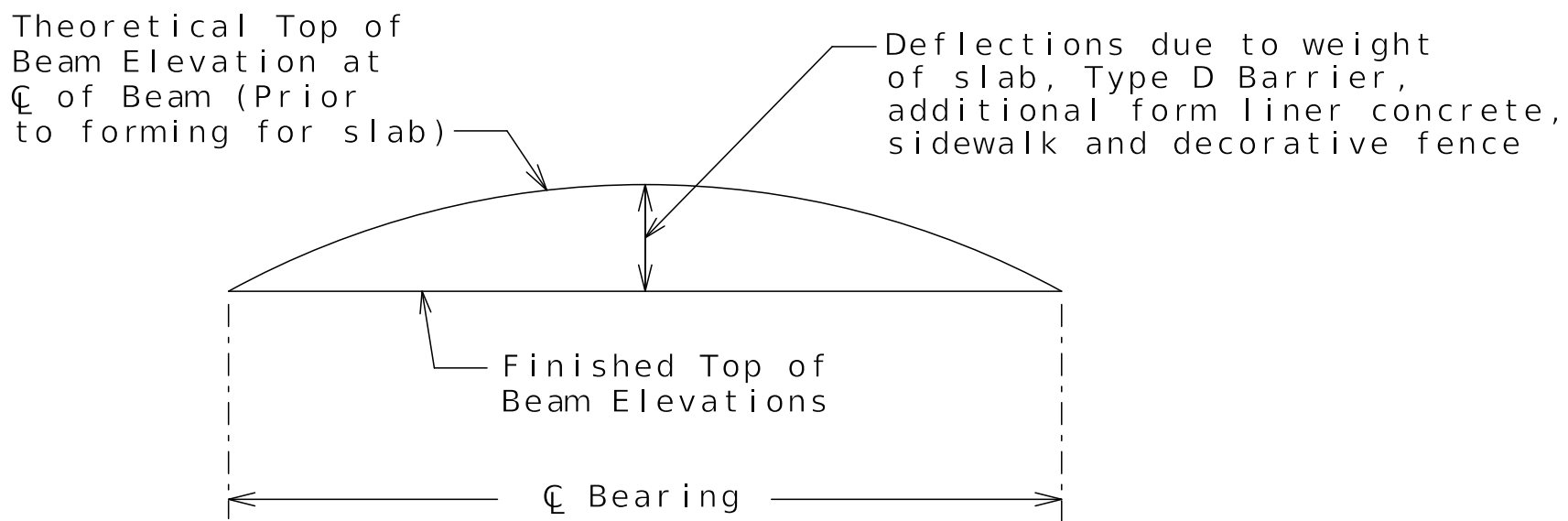


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 Date: 07/02/2025
 Package: BRD-12-Lister-Ave

Theoretical Top of Beam Elevations at Centerline of Beam (Prior to forming for slab)(Estimated at 90 days)**											
Beam Number	Span (1-2) (94'-6" @ Brg. - @ Brg.)										
	@ Brg.	.10	.20	.30	.40	.50	.60	.70	.80	.90	@ Brg.
1	864.16	864.78	865.39	865.98	866.52	867.02	867.48	867.90	868.28	868.63	868.96
2	864.22	864.85	865.46	866.05	866.59	867.10	867.56	867.97	868.35	868.71	869.04
3	864.29	864.92	865.53	866.12	866.67	867.17	867.63	868.05	868.43	868.78	869.12
4	864.36	864.99	865.61	866.19	866.74	867.24	867.71	868.13	868.51	868.86	869.20
5	864.43	865.06	865.68	866.26	866.81	867.32	867.78	868.20	868.58	868.94	869.28
6	864.42	865.05	865.67	866.25	866.80	867.31	867.77	868.20	868.58	868.93	869.27
7	864.33	864.96	865.58	866.16	866.72	867.22	867.69	868.11	868.50	868.85	869.19
8	864.24	864.87	865.49	866.08	866.63	867.14	867.60	868.03	868.41	868.77	869.11
9	864.14	864.78	865.40	865.99	866.54	867.05	867.52	867.94	868.33	868.69	869.03
10	864.05	864.69	865.31	865.90	866.45	866.96	867.43	867.86	868.24	868.60	868.95
Beam Number	Span (2-3) (81'-0" @ Brg. - @ Brg.)										
	@ Brg.	.10	.20	.30	.40	.50	.60	.70	.80	.90	@ Brg.
1	868.96	869.14	869.31	869.47	869.61	869.73	869.84	869.92	869.99	870.05	870.11
2	869.04	869.22	869.39	869.54	869.69	869.81	869.91	870.00	870.07	870.13	870.18
3	869.12	869.30	869.46	869.62	869.76	869.89	869.99	870.08	870.15	870.21	870.26
4	869.20	869.37	869.54	869.70	869.84	869.97	870.07	870.16	870.23	870.29	870.34
5	869.28	869.45	869.62	869.78	869.92	870.04	870.15	870.23	870.31	870.36	870.42
6	869.27	869.45	869.62	869.78	869.92	870.04	870.15	870.23	870.30	870.36	870.42
7	869.19	869.37	869.54	869.69	869.84	869.96	870.06	870.15	870.22	870.28	870.33
8	869.11	869.29	869.45	869.61	869.75	869.88	869.98	870.07	870.14	870.20	870.25
9	869.03	869.20	869.37	869.53	869.67	869.80	869.90	869.99	870.06	870.12	870.17
10	868.95	869.12	869.29	869.45	869.59	869.71	869.82	869.91	869.98	870.04	870.09

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



TYPICAL SLAB ELEVATIONS DIAGRAM

Released For Construction

Not to Scale

Revision: 0.0

Date: 07/02/2025

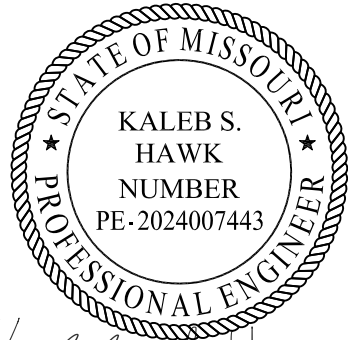
Package: BRD-12-Lister-Ave

THEORETICAL TOP OF BEAM ELEVATIONS

Detailed MAR 2025
 Checked APR 2025

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

Sheet No. B12-22 of B12-35



Kaleb S. Hawk

6-30-2025

DATE PREPARED

06/25/2025

ROUTE

1 - 70

STATE

MO

DISTRICT

BR

SHEET NO.

B12 - 22

COUNTY

JACKSON

JOB NO.

J411486D

CONTRACT ID.

240807-C01

PROJECT NO.

BRIDGE NO.

A9633

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

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

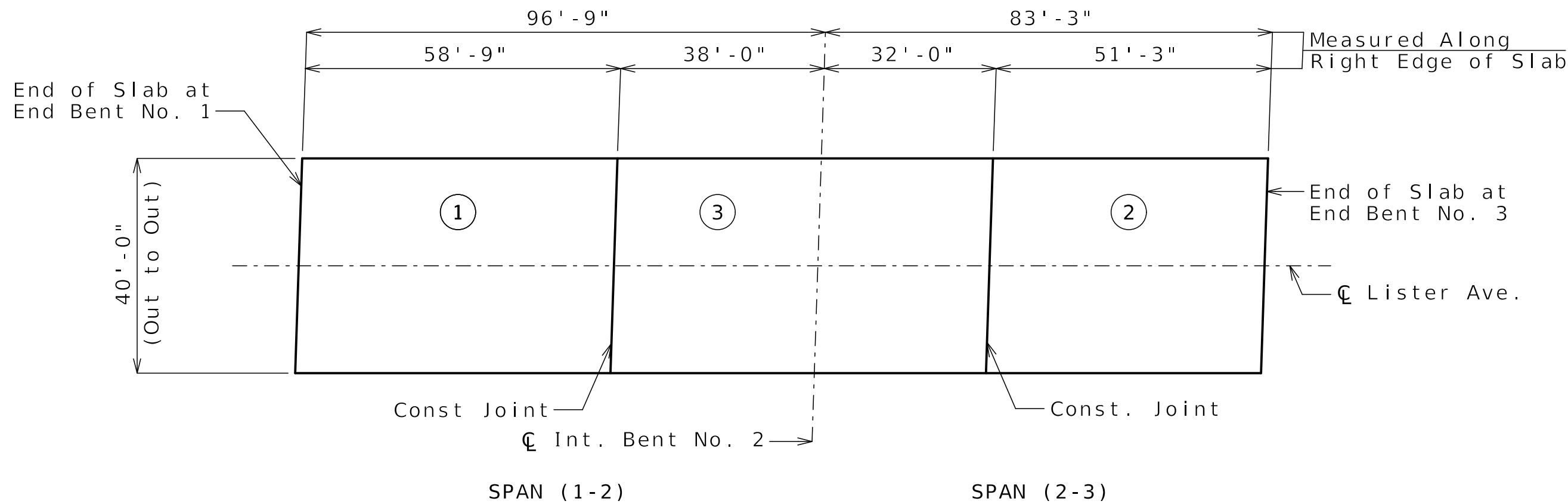
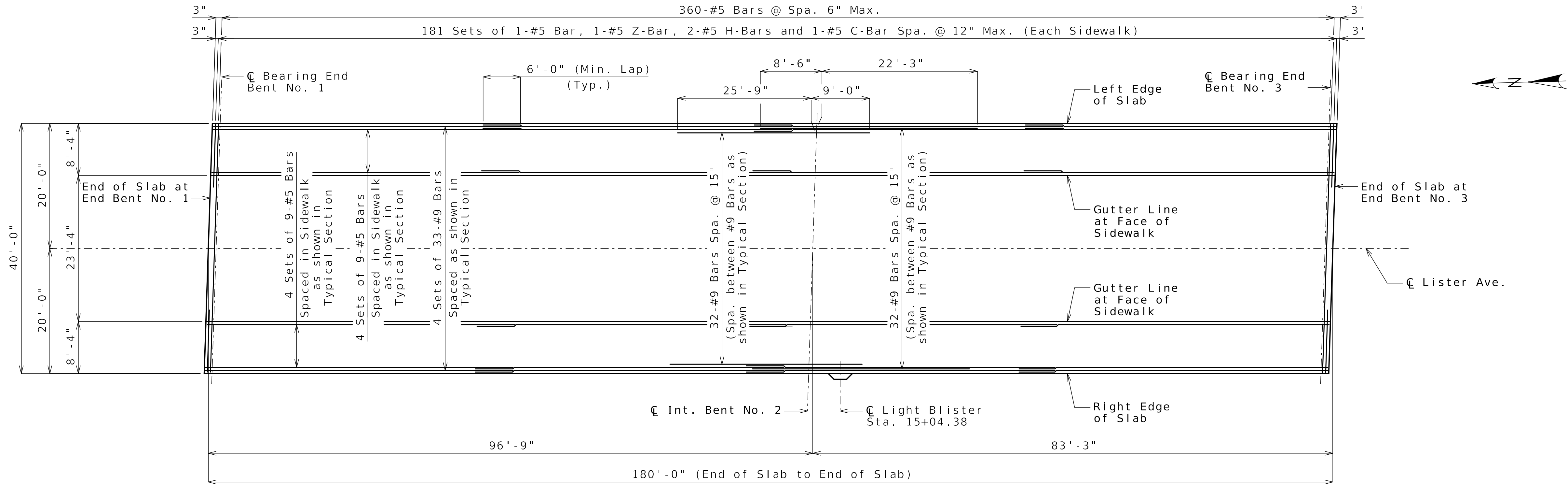
105 WEST CAPITOL
 JEFFERSON CITY, MO 65102
 1-888-ASK-MODOT (1-888-275-6636)

CLARKSON

RADMACHER

JOINT VENTURE

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



	Sequence of Pours			Min. Rate of Pour Cu. Yds./Hr.
	Direction			With Retarder
Basic Sequence	1	3	2	25
	End to 3	1 to 2	3 to End	
Alternate pours to the basic sequence are subject to the approval of the engineer in accordance with Sec 703.				
Alternate A Pours	1		3 + 2	27
	End to 3		1 to End	
Alternate B Pours	1 + 3 + 2			27
	End to End			

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

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

SLAB POURING SEQUENCE

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

Released For Construction
Not to Scale

Revision: 0.0
Date: 07/02/2025
Package: BRD-12-Lister-Ave

Notes:
For Typical Section, see Sheet No. B12-24.
For Details and Reinforcement of Type D Barrier, see Sheet No. B12-25.
For Theoretical Cast in Place Slab Diagram and Beam Camber Diagram, see Sheet No. B12-21.
For Theoretical Top of Beam Elevations at Centerline of Beam, see Sheet No. B12-22.
Longitudinal slab dimensions are measured horizontally.
For Light Blister Reinforcing and details, see Sheet No. B12-27.

SLAB PLAN SHOWING REINFORCEMENT



Benjamin Lichty
06-27-2025

DATE PREPARED
06/25/2025

ROUTE 1-70 STATE MO

DISTRICT BR SHEET NO. B12-23

COUNTY JACKSON

JOB NO. J411486D

CONTRACT ID. 240807-C01

PROJECT NO.

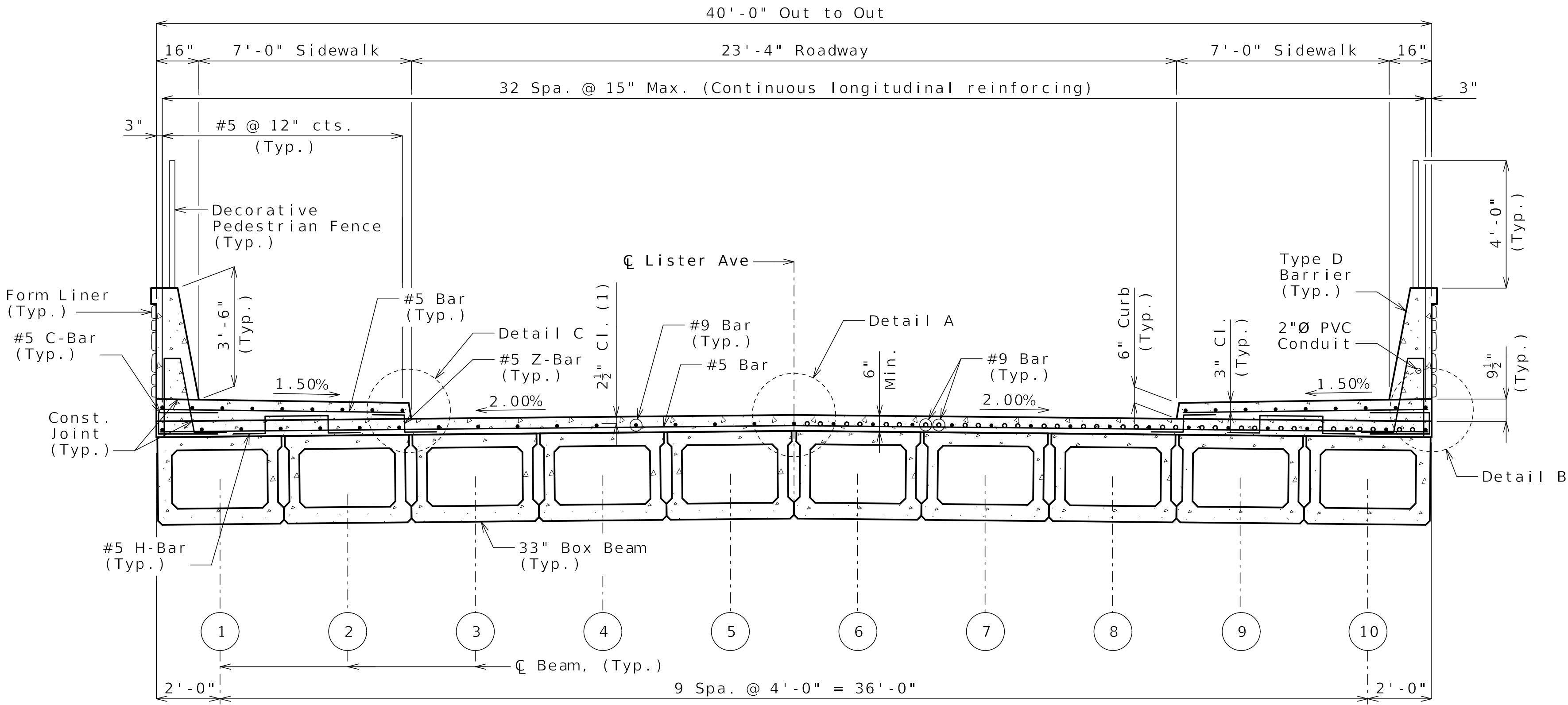
BRIDGE NO. A9633

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

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

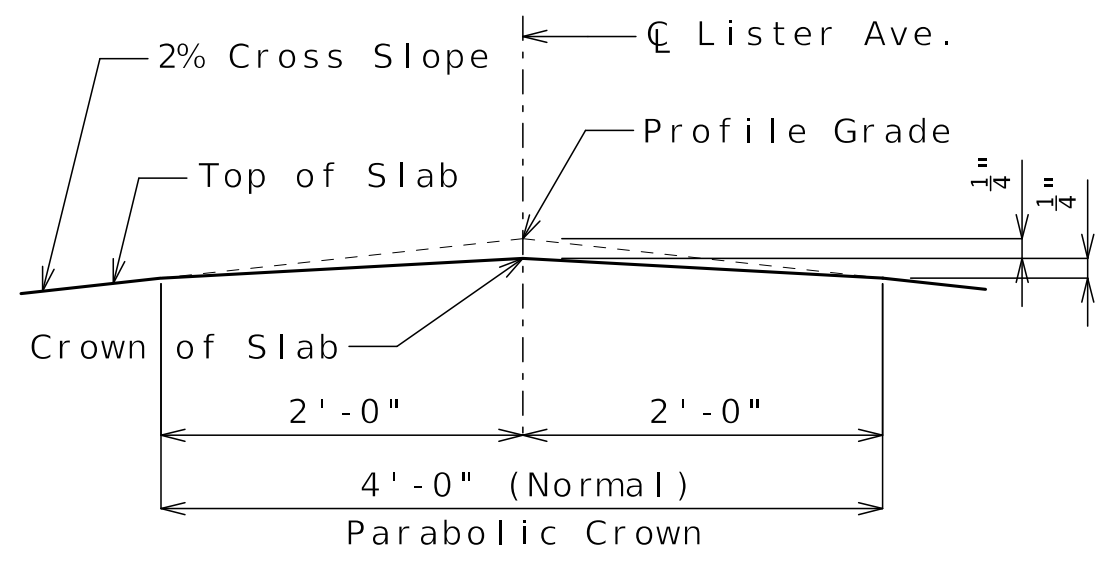
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

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

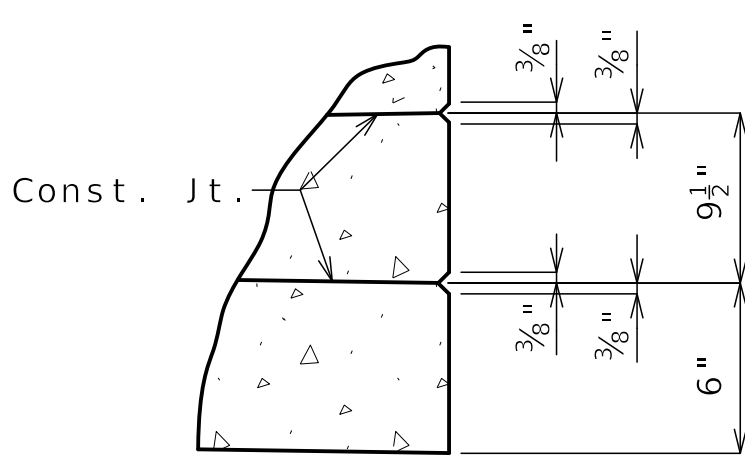


HALF SECTION NEAR MIDSPAN HALF SECTION NEAR INTERMEDIATE BENT

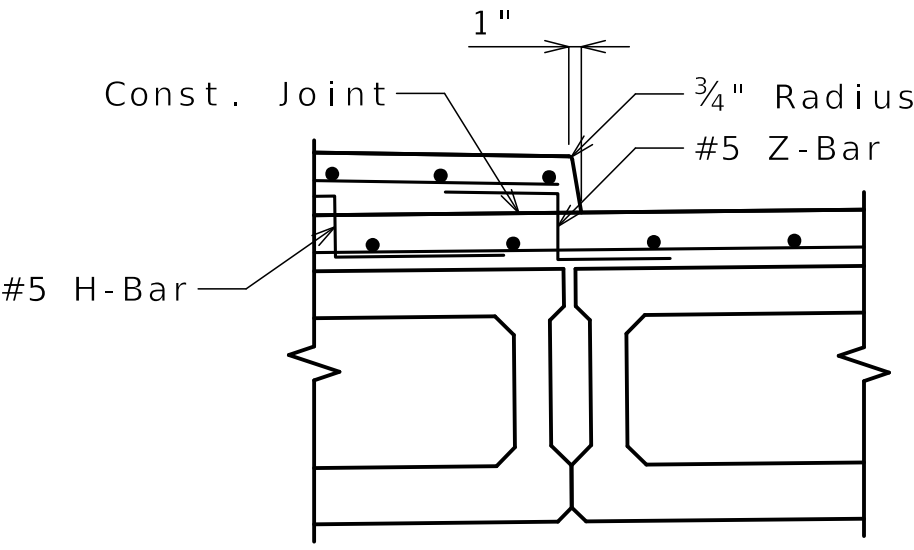
TYPICAL SECTION
(Looking Ahead Sta.)



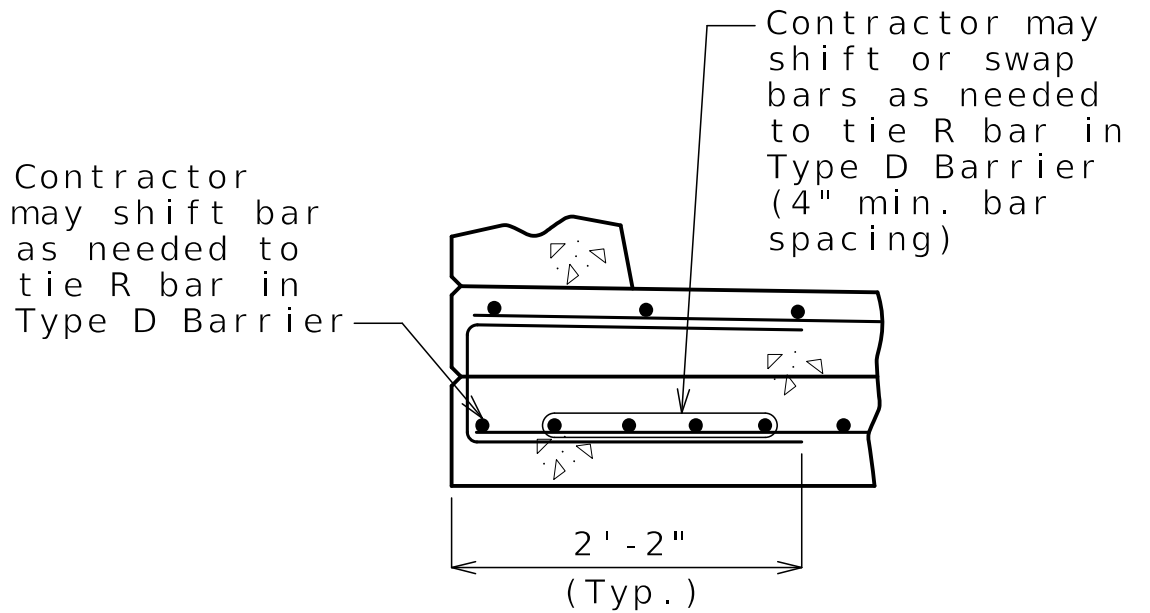
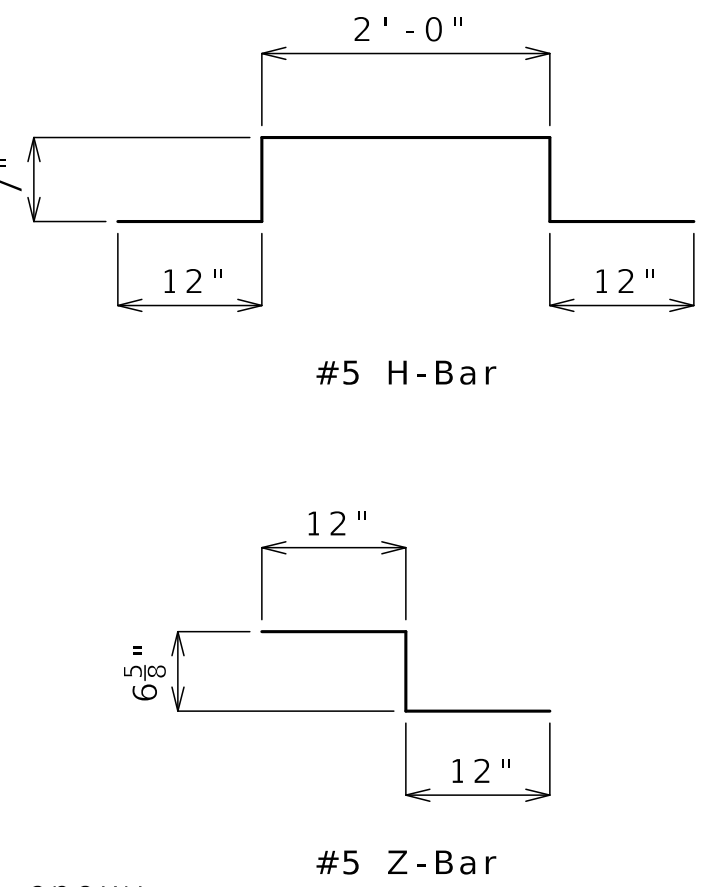
DETAIL A



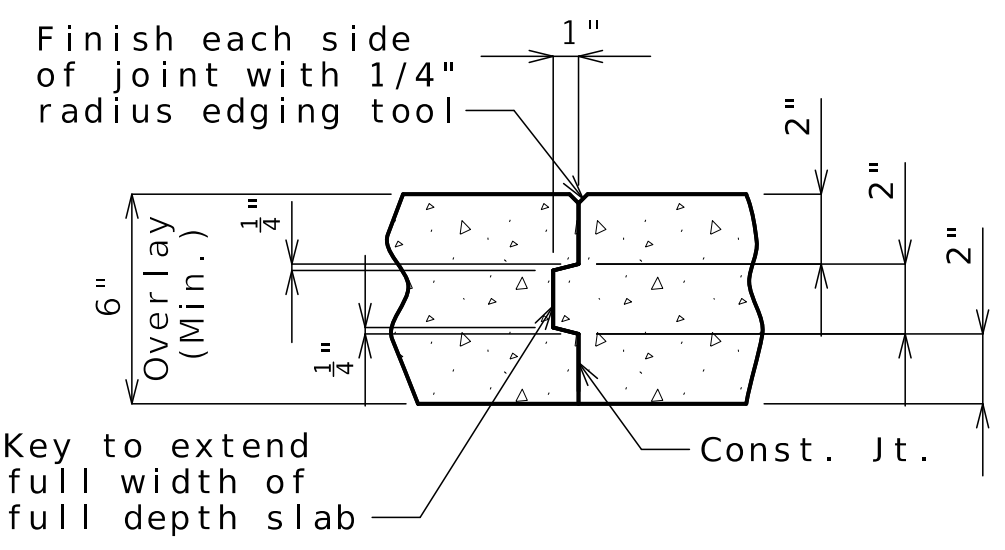
DETAIL B



DETAIL C



OPTIONAL SHIFTING
TOP BARS AT BARRIER



SLAB CONSTRUCTION JOINT

(1) Maintain top cover of 2 1/2". In Span (1-2) an additional top layer of epoxy coated #4 bars at 6" (or equivalent) shall be added in both the bridge longitudinal and transverse directions. Equivalent welded wire reinforcement in accordance with Sec 1036 may also be used.

Notes:
For Slab Plan showing Reinforcement, see Sheet No. B12-23.
For reinforcement of Type D Barrier not shown, see Sheet No. B12-25.
For Details of Conduit System on Structure, see Sheet No. B12-30.
For Decorative Pedestrian Fence Details, see Sheet No. B12-28.
For Form Liner and Aesthetic Stain Details not shown, see Sheet No. B12-29.
(X) Denotes Beam Number.

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Date: 07/02/2025
Package: BRD-12-Lister-Ave

SLAB DETAILS

STATE OF MISSOURI
BENJAMIN LICHTY
NUMBER PE-2023038803
06-27-2025

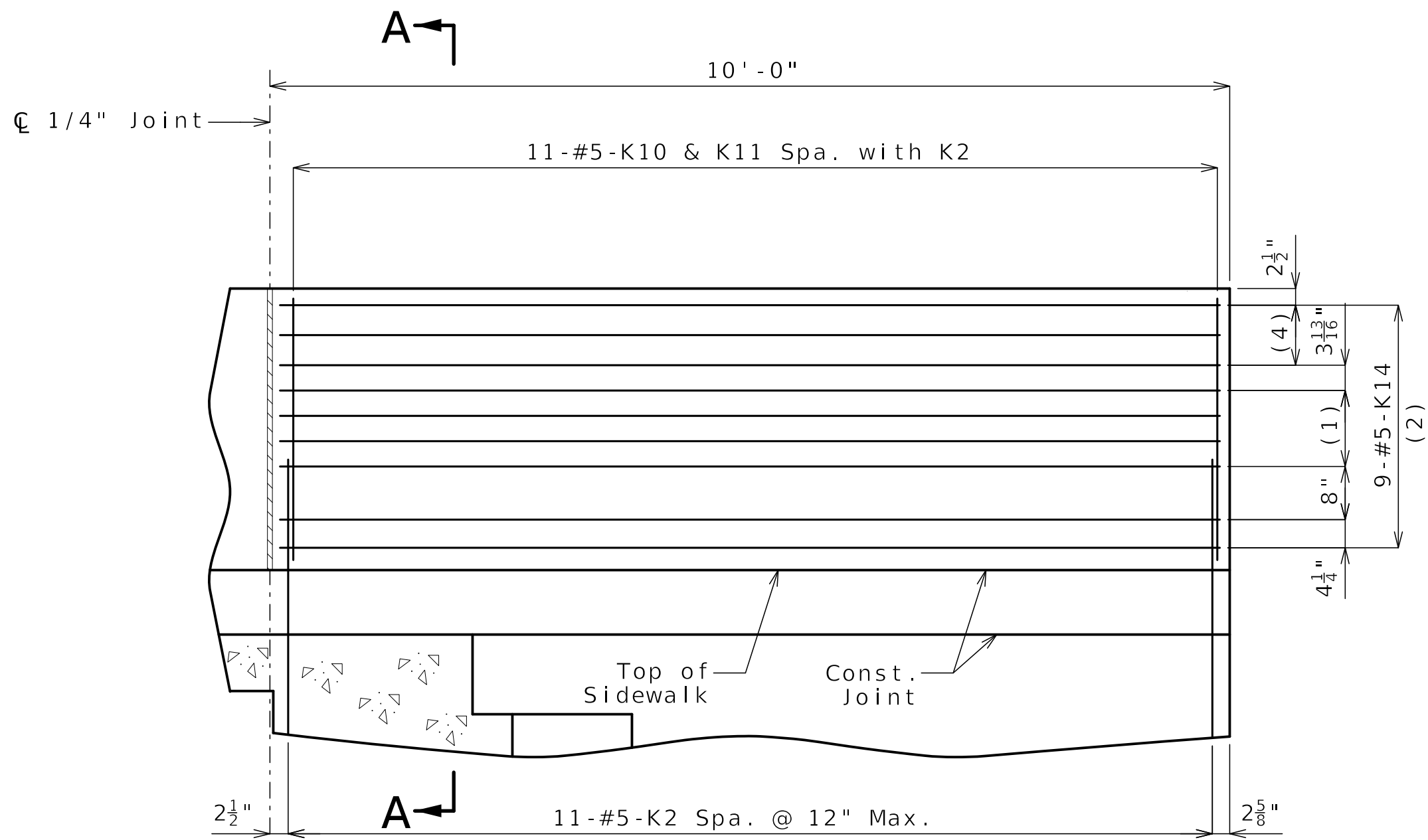
DATE PREPARED 06/25/2025
ROUTE 1-70 STATE MO
DISTRICT BR SHEET NO. B12-24
COUNTY JACKSON
JOB NO. J411486D
CONTRACT ID. 240807-C01
PROJECT NO.

BRIDGE NO. A9633

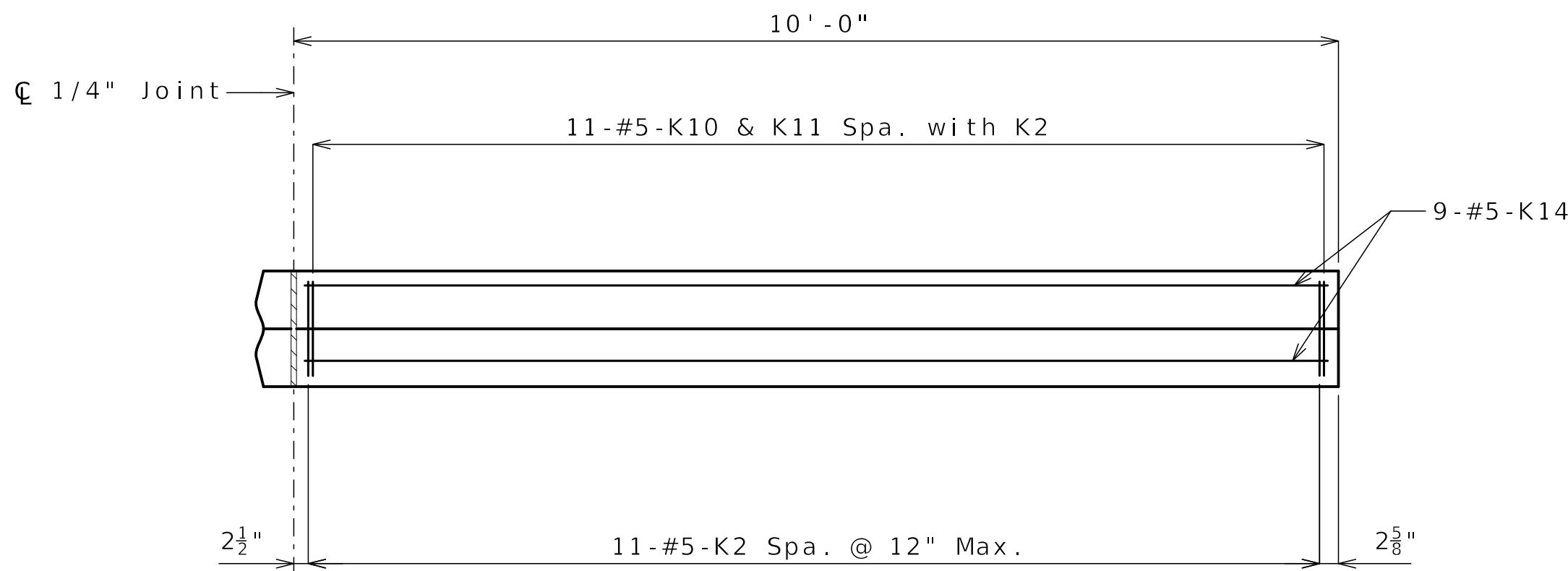
DESCRIPTION	DATE
REV 0 - RFC SUBMITTAL	06/25/25

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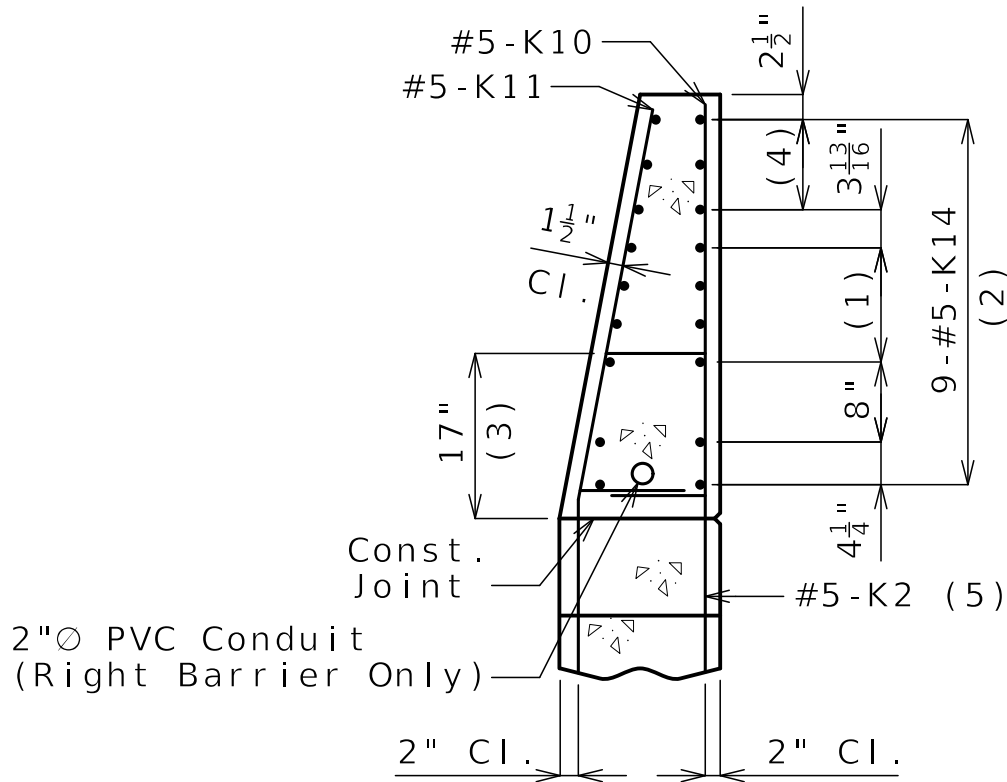
CLARKSON RADMACHER JOINT VENTURE
715 KIRK DRIVE
KANSAS CITY, MO 64105-1310
CERTIFICATE OF AUTHORITY NO. 001270
HNTB



PART ELEVATION

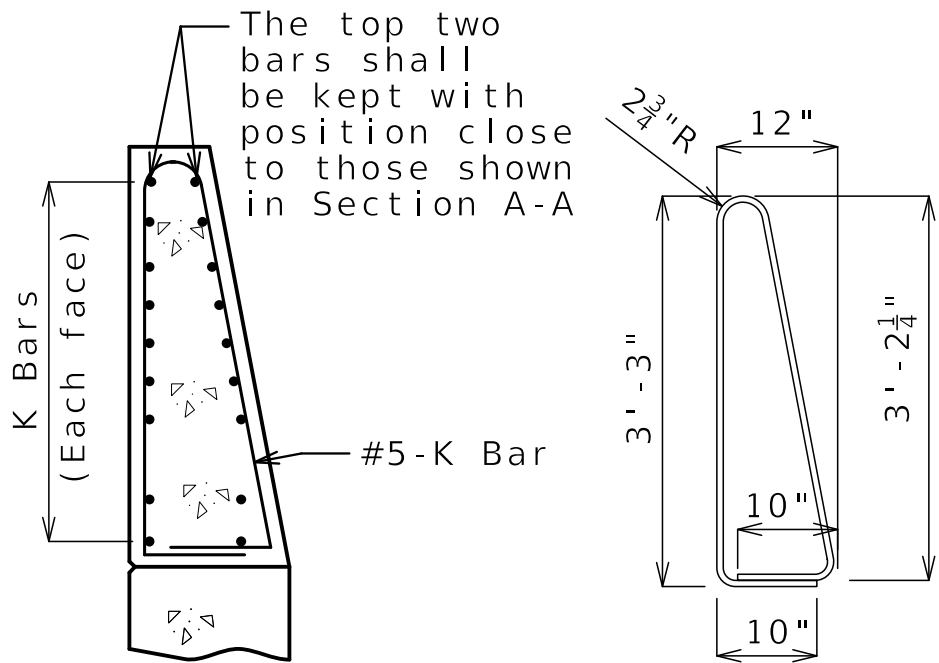


PART PLAN



SECTION A-A

- (1) 3 spaces @ 3 13/16"
- (2) Spaced as shown, each face
- (3) To top of bar
- (4) 2 spaces @ 4 1/2"
- (5) See Sheets No. B12-07 and B12-14 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

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

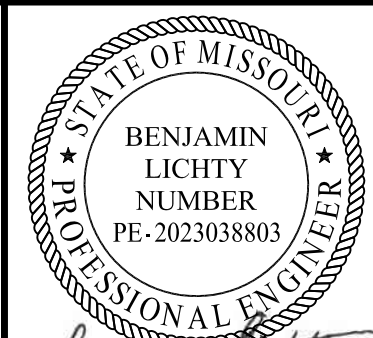
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Not to Scale

Revision: 0.0
Date: 07/02/2025
Package: BRD-12-Lister-Ave

Sheet No. B12-26 of B12-35

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

Detailed MAR 2025
Checked APR 2025



Benjamin Lichty

06-27-2025

DATE PREPARED
06/25/2025

ROUTE
1-70

STATE
MO

DISTRICT
BR

SHEET NO.
B12-26

COUNTY
JACKSON

JOB NO.
J411486D

CONTRACT ID.
240807-C01

PROJECT NO.

BRIDGE NO.
A9633

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

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

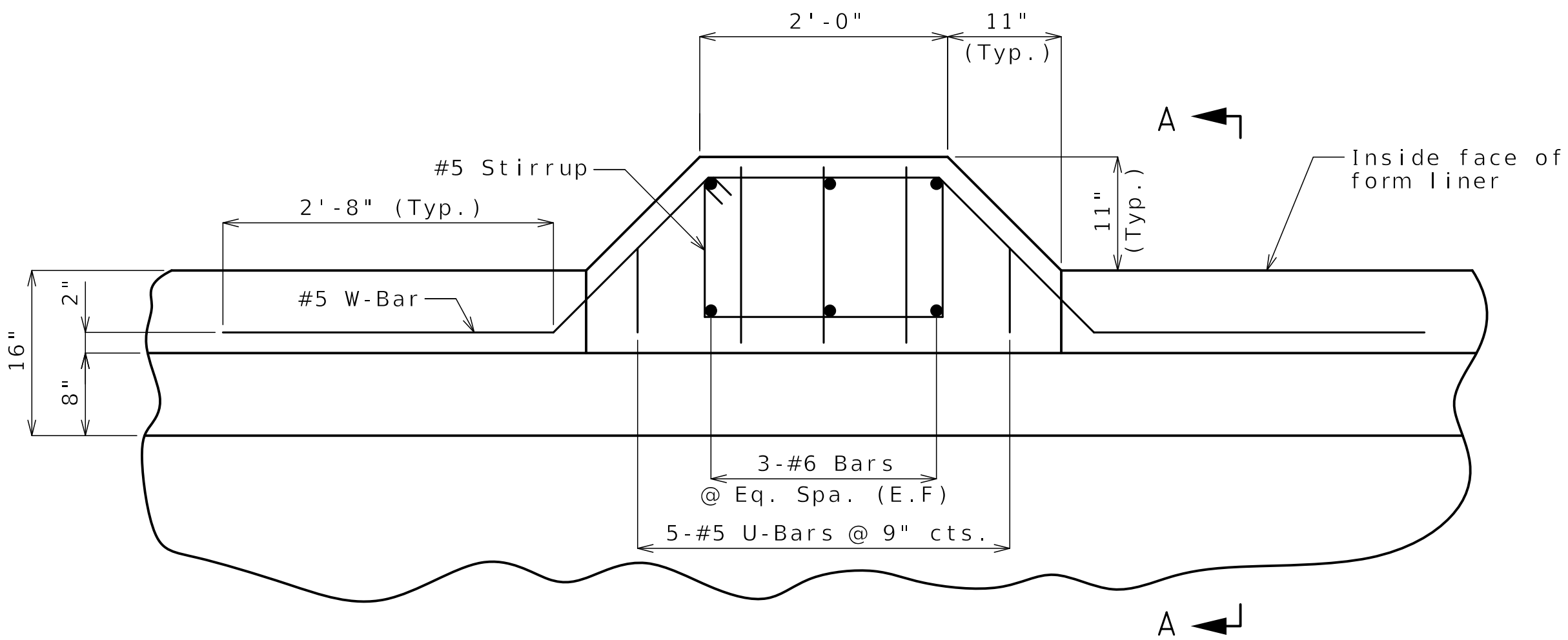
MoDOT

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

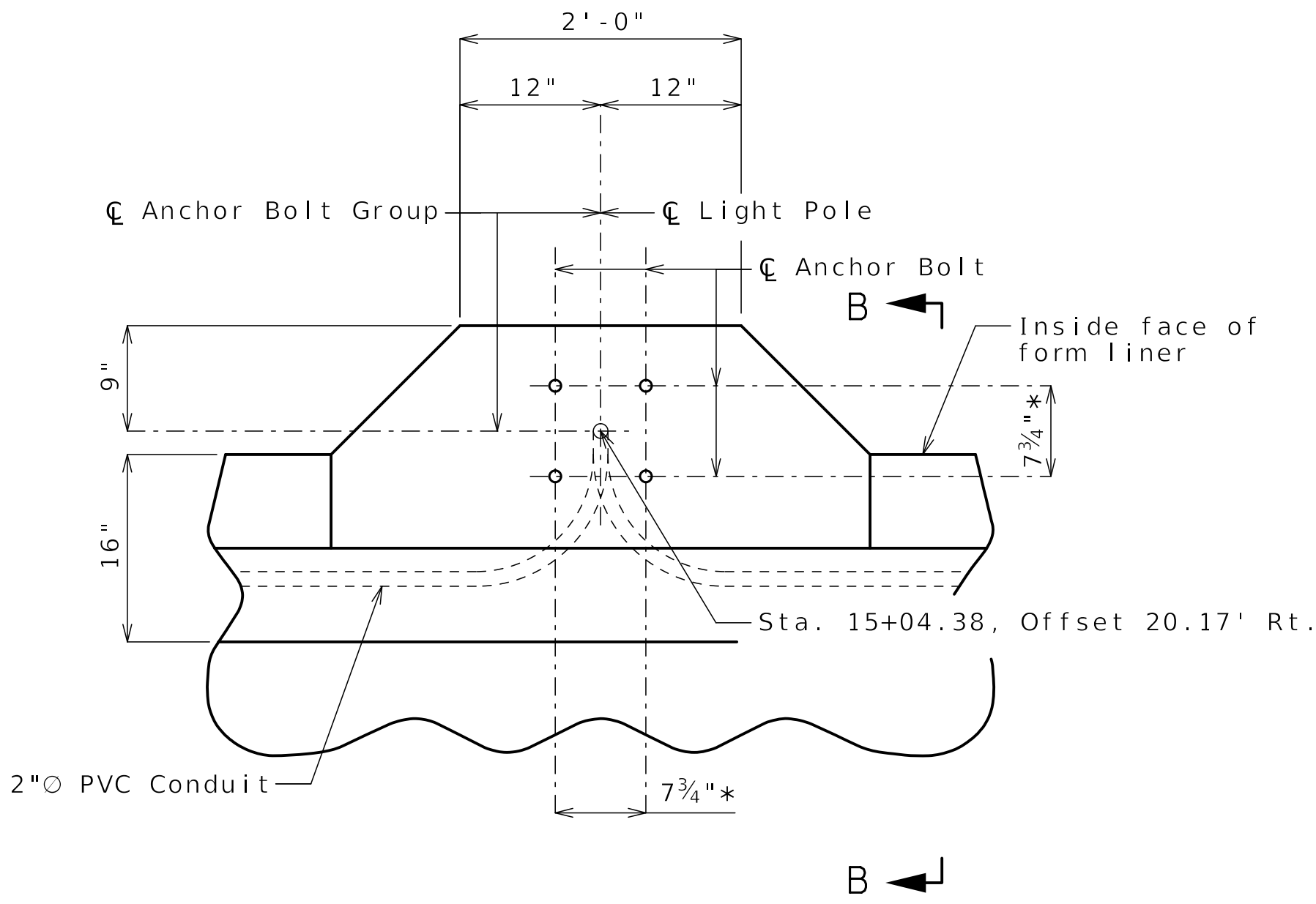
CLARKSON RADMACHER JOINT VENTURE

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

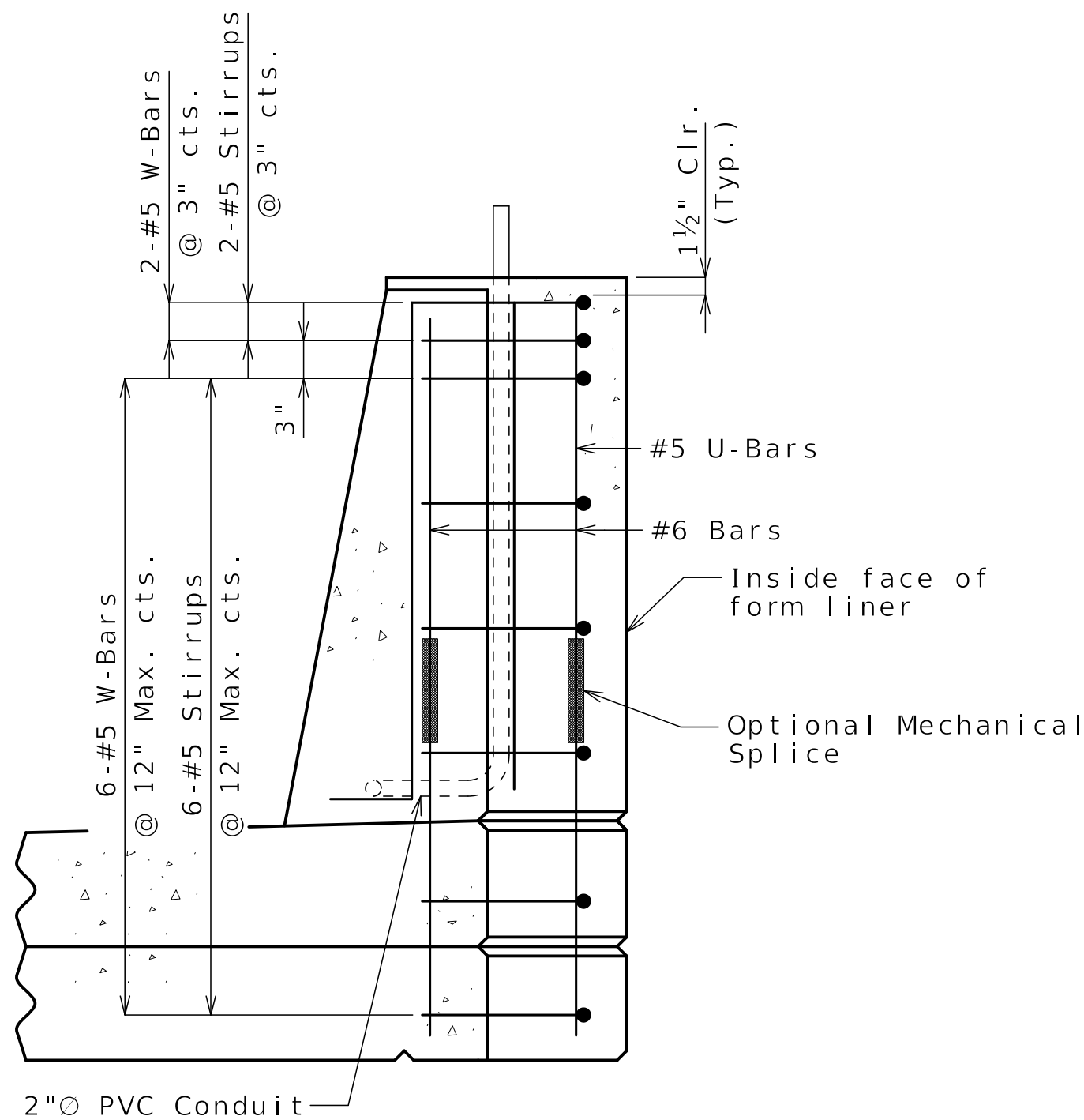
HNTB



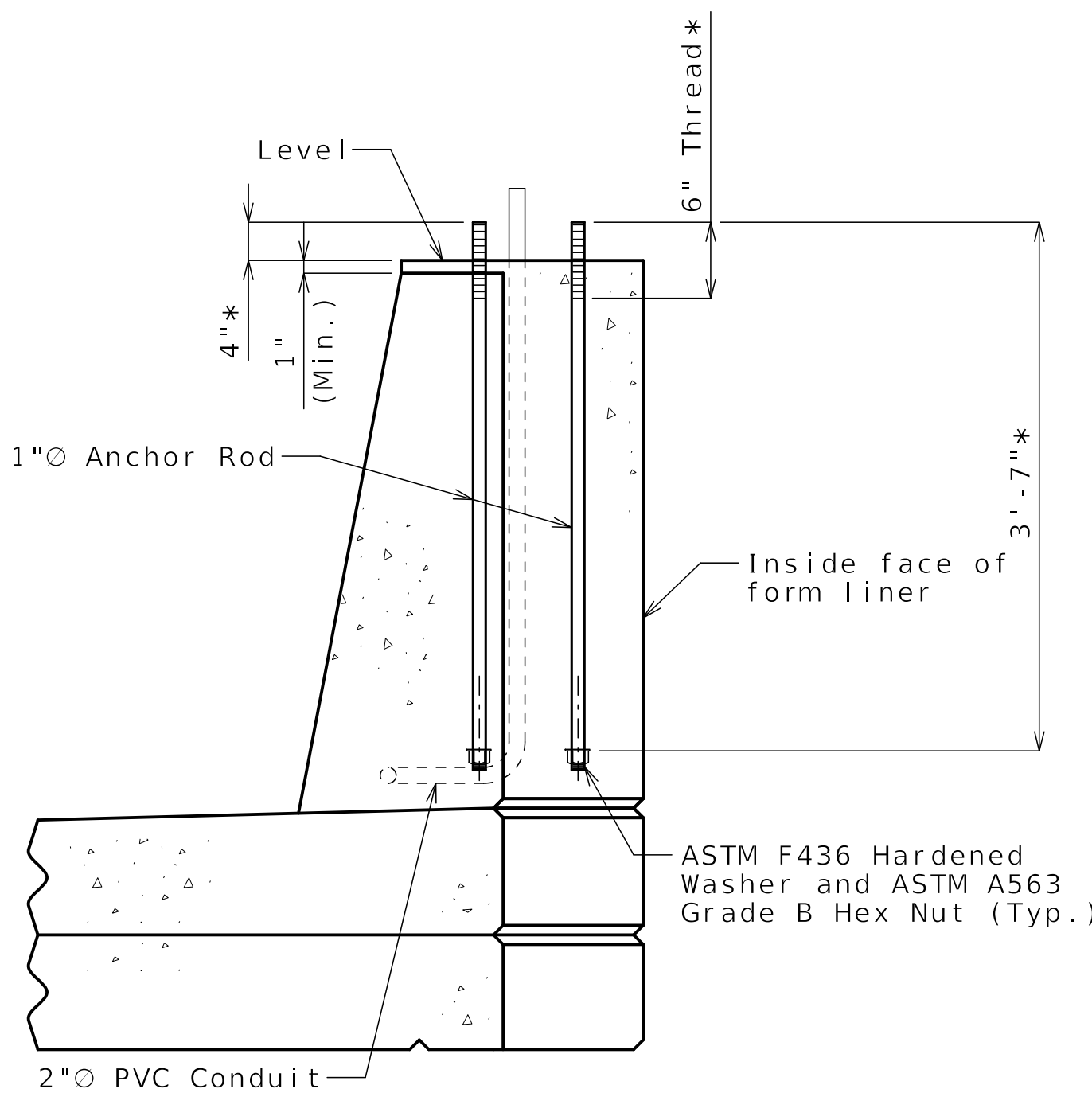
LIGHT POLE MOUNTING PLAN SHOWING REINFORCEMENT



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 Sheet No. B12-23.
For Form Liner and Aesthetic Stain Details not shown, see Sheet No. B12-29.

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Not to Scale
Revision: 0.0
Date: 07/02/2025
Package: BRD-12-Lister-Ave

LIGHT BLISTER DETAILS

STATE OF MISSOURI
BENJAMIN LCHTY
NUMBER PE-2023038803
06-27-2025

DATE PREPARED 06/25/2025	
ROUTE 1-70	STATE MO
DISTRICT BR	SHEET NO. B12-27
COUNTY JACKSON	
JOB NO. J411486D	
CONTRACT ID. 240807-C01	
PROJECT NO.	

BRIDGE NO. A9633

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

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 50 lb/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. B12-25.

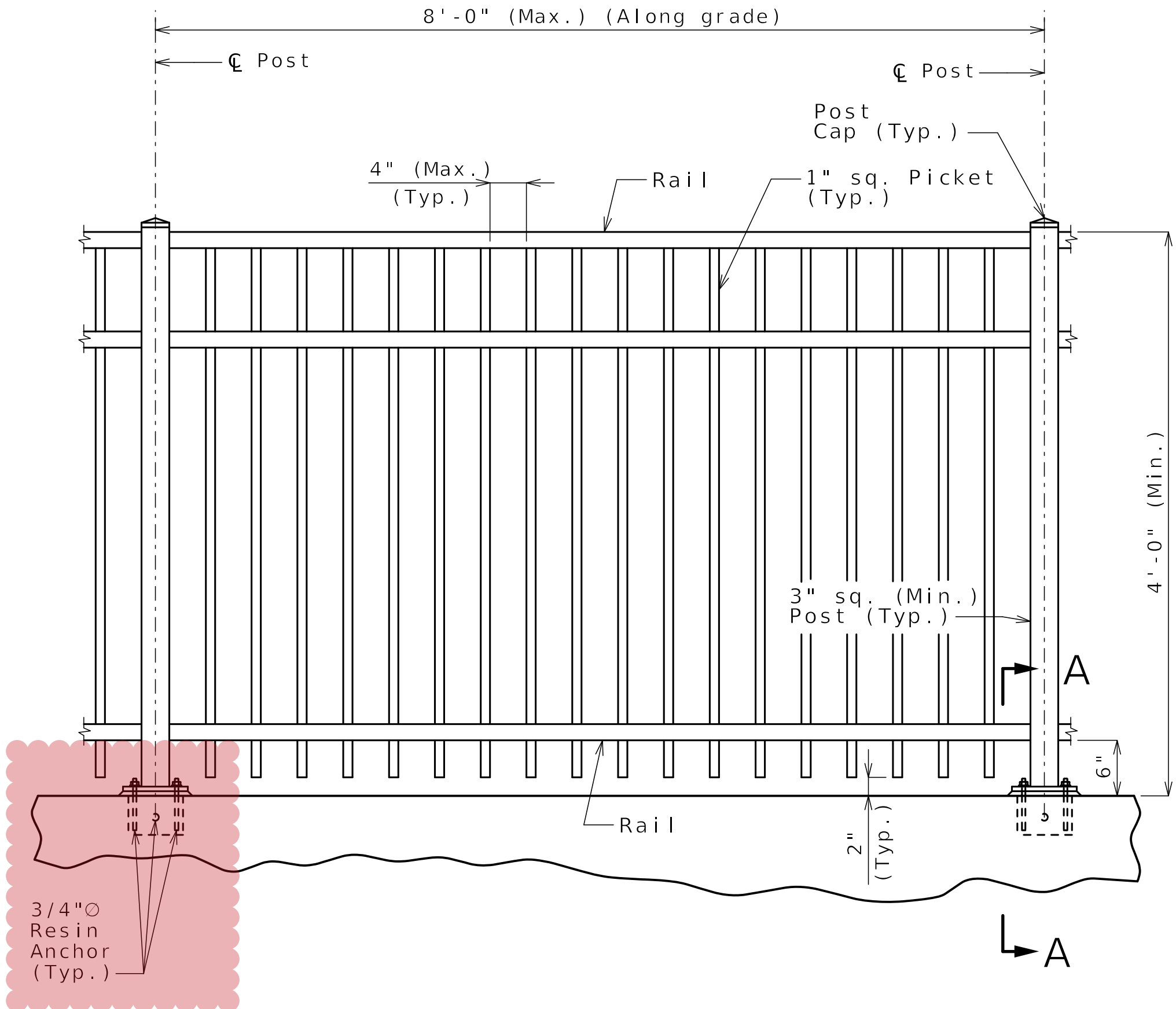
Longitudinal dimensions of fence are horizontal.

Resin Anchor Notes:

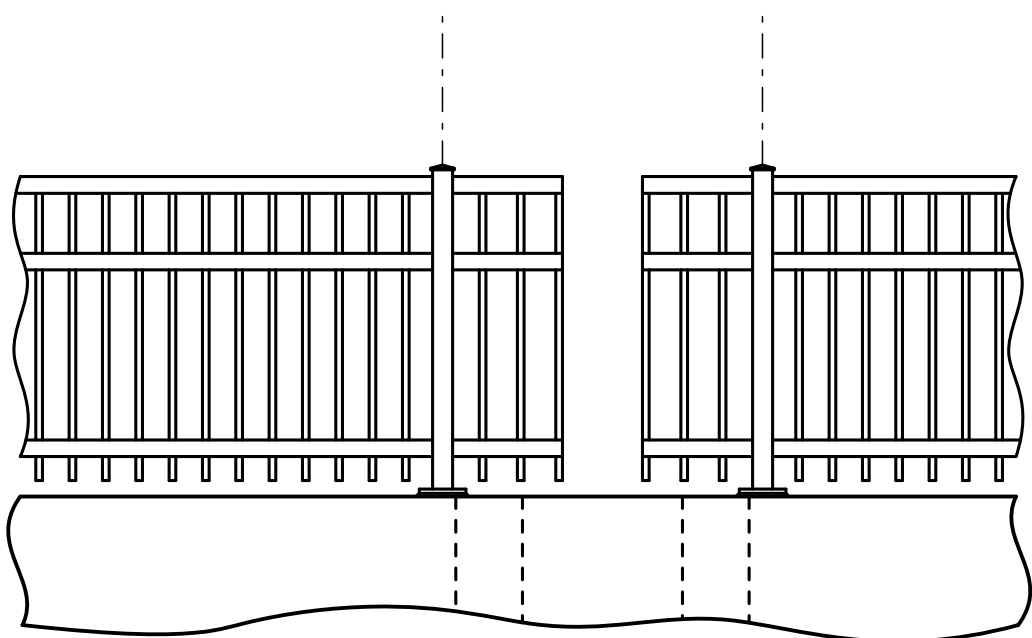
Resin anchors shall be ASTM F1554 Grade 36.

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

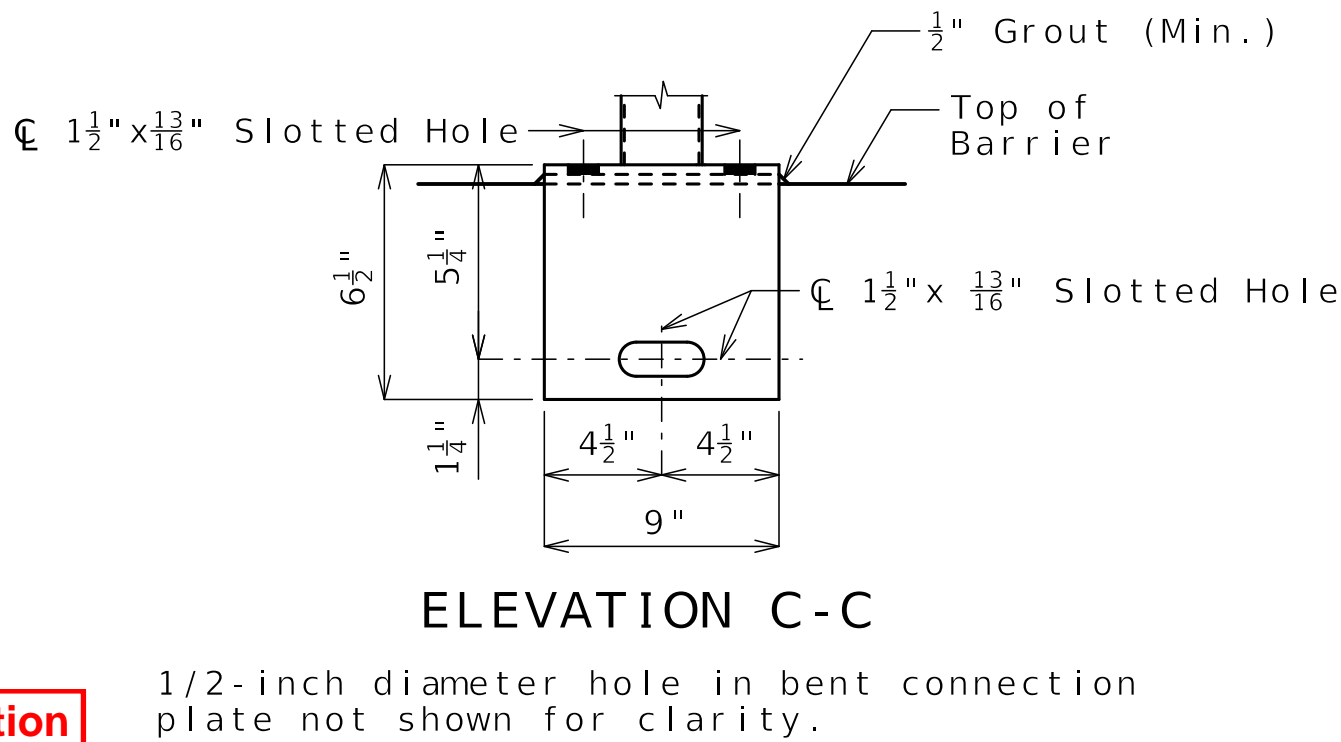
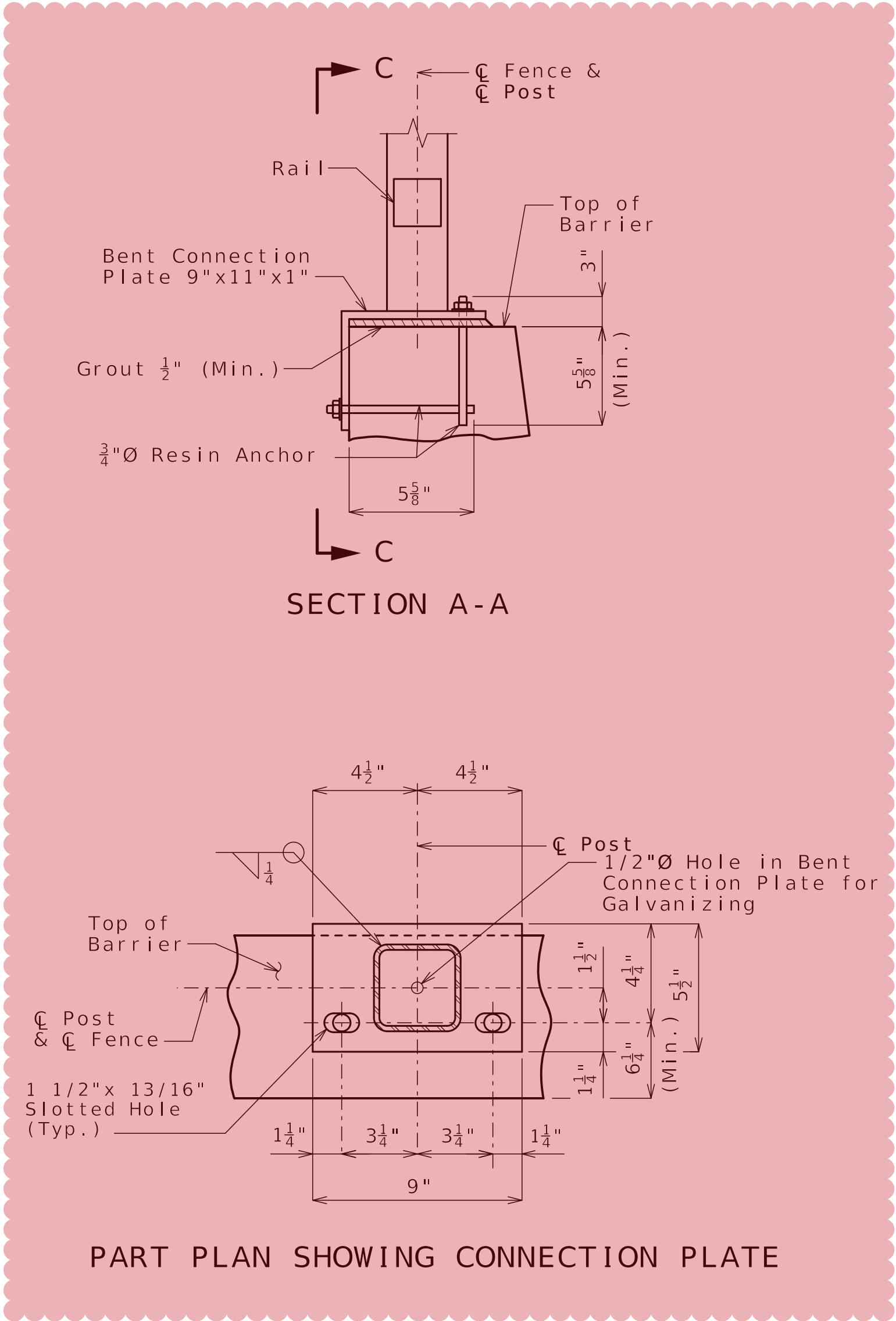
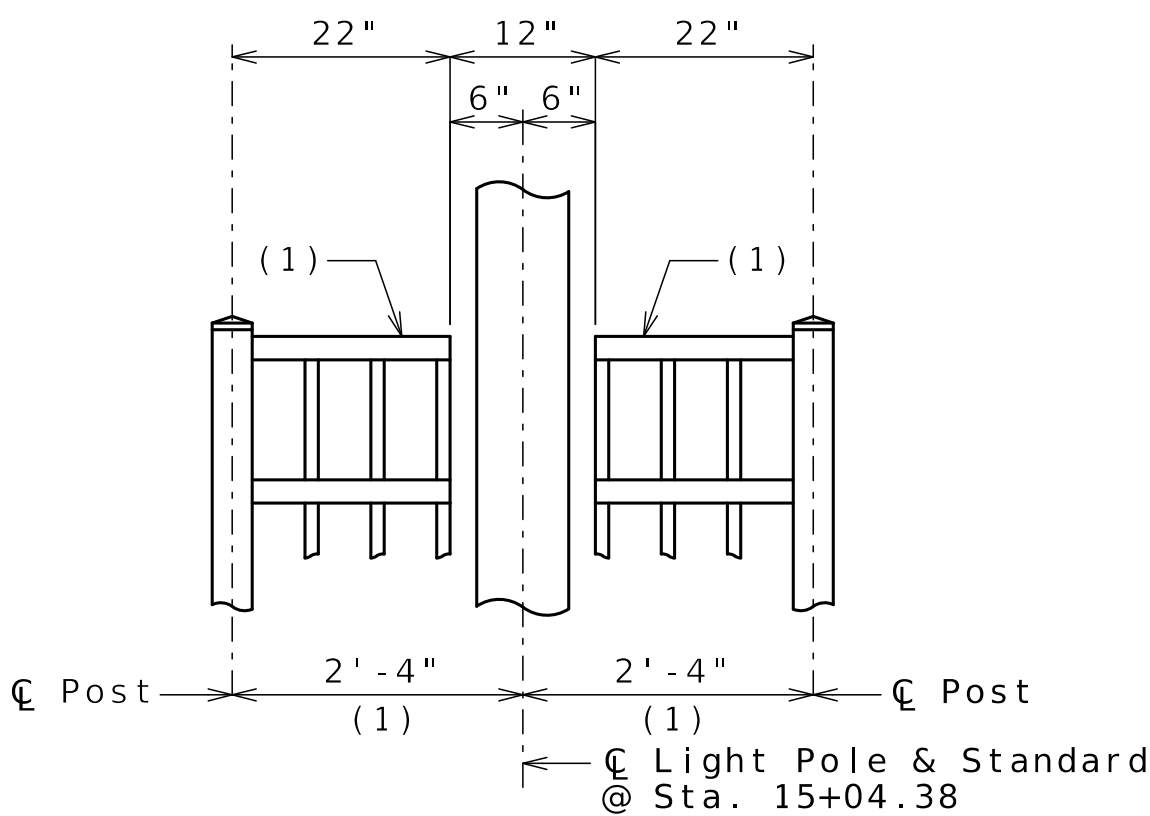
The minimum embedment depth in concrete with f'c = 4,000 psi for the resin anchor systems shall be that required to meet the minimum ultimate pullout strength in accordance with Sec 1039 but shall not be less than 5% inches.



RFI 39 FOR U-BOLT CONFLICT WITH BARRIER STEEL SOLUTION



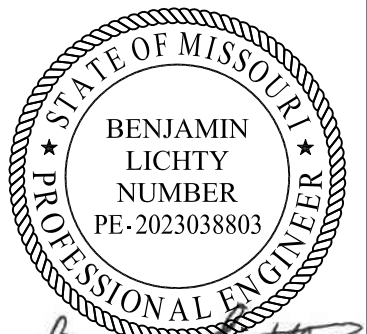
(1) Dimensions can be reduced and cantilevered fence section can be reduced or eliminated at Contractor's option so long as 4" max. gap is maintained between decorative pedestrian fence elements and light pole.



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

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Revision: 0.0
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Package: BRD-12-Lister-Ave

DECORATIVE PEDESTRIAN FENCE DETAILS



06-27-2025

DATE PREPARED
06/25/2025

ROUTE
1-70

STATE
MO

DISTRICT
BR

SHEET NO.
B12-28

COUNTY
JACKSON

JOB NO.
J411486D

CONTRACT ID.
240807-C01

PROJECT NO.

BRIDGE NO.
A9633

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)

CERTIFICATE OF AUTHORITY

NO. 001270

HNTB

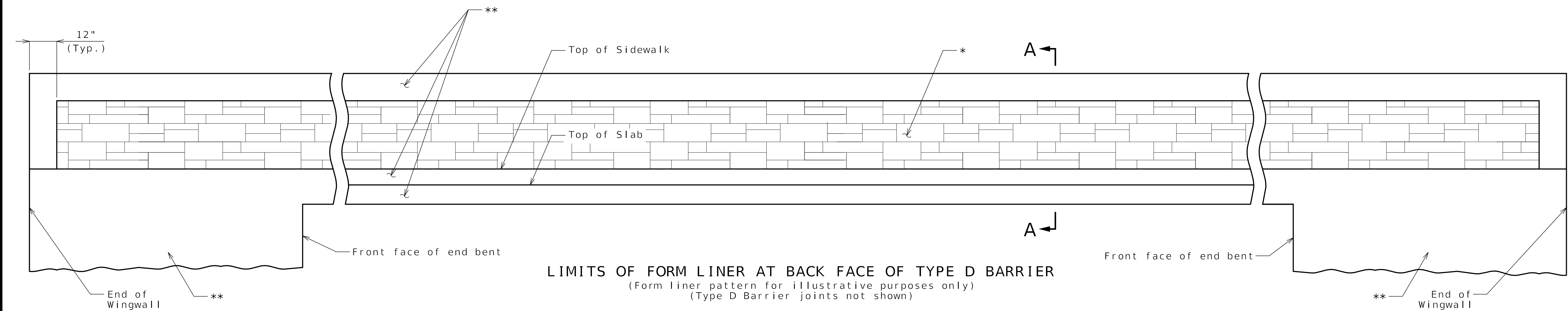
715 KIRK DRIVE

KANSAS CITY, MO 64105-1310

CLARKSON RADMACHER JOINT VENTURE

REV.

6/23/2025



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

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.

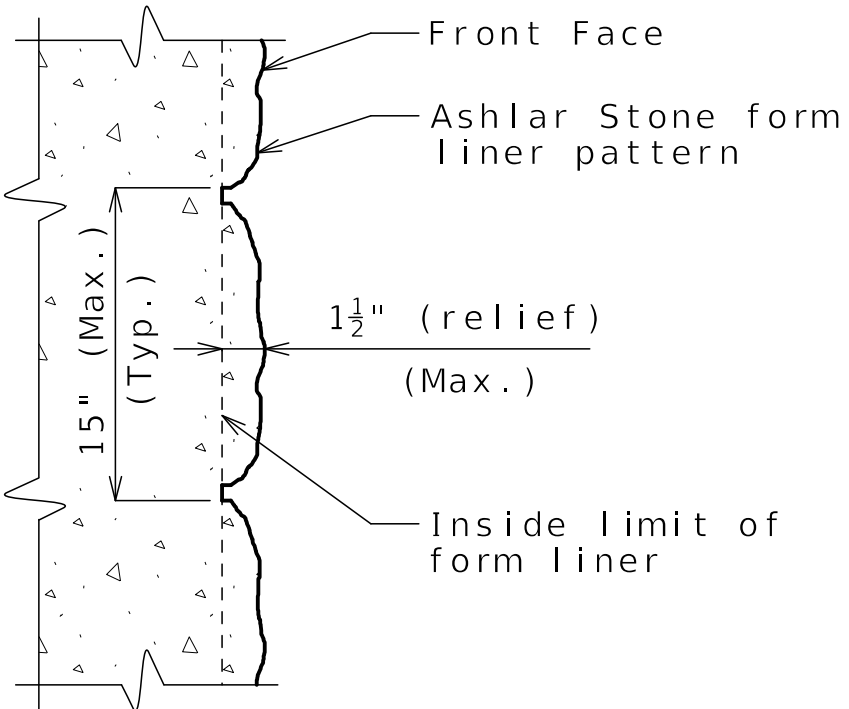
The following is a list of form liner manufacturers and types which may be used. Depth of relief for all form liner pattern's shall vary up to 1 1/2". The height of any single "stone" shall be 15" maximum.

- 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

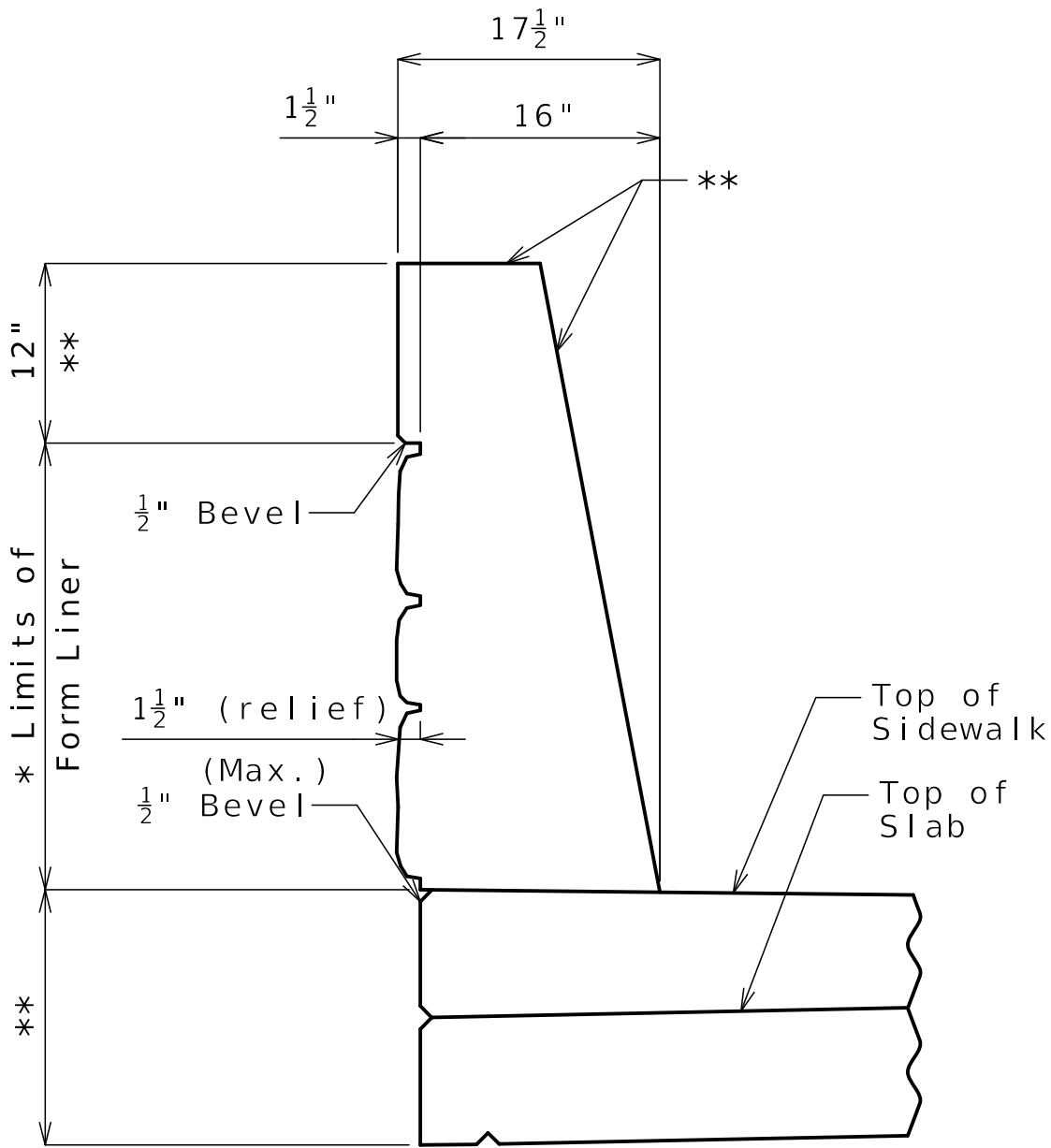
Aesthetic Concrete Stain Notes:

* 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

Detailed MAR 2025
 Checked APR 2025

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

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 Revision: 0.0
 Date: 07/02/2025
 Package: BRD-12-Lister-Ave

Sheet No. B12-29 of B12-35

FORM LINER AND AESTHETIC STAIN DETAILS



Benjamin Lichty
 06-27-2025

DATE PREPARED

06/25/2025

ROUTE 1-70 STATE MO

DISTRICT BR SHEET NO. B12-29

COUNTY JACKSON

JOB NO. J411486D

CONTRACT ID. 240807-C01

PROJECT NO.

BRIDGE NO. A9633

DESCRIPTION

REV 0 - REC 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

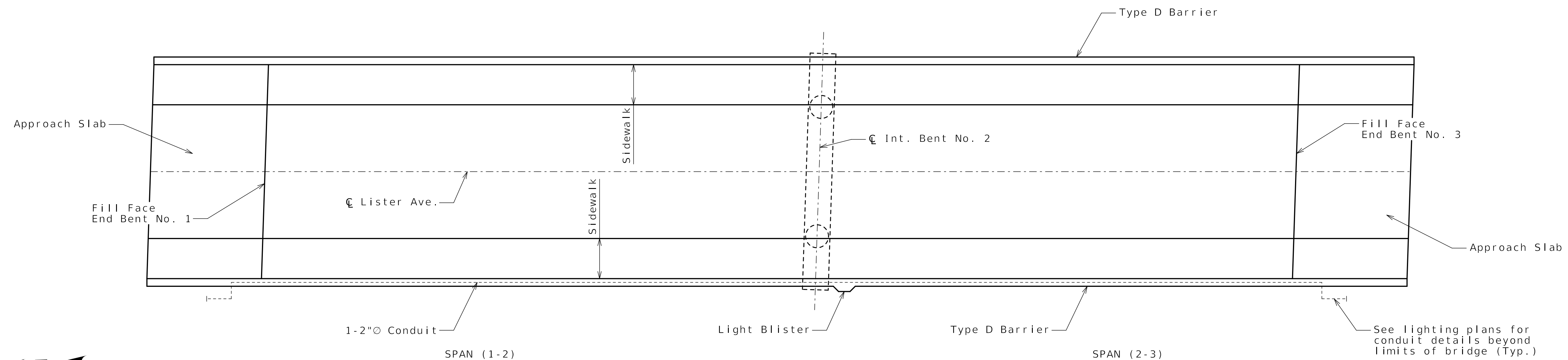
715 KIRK DRIVE KANSAS CITY, MO 64105-1310

CERTIFICATE OF AUTHORITY NO. 001270

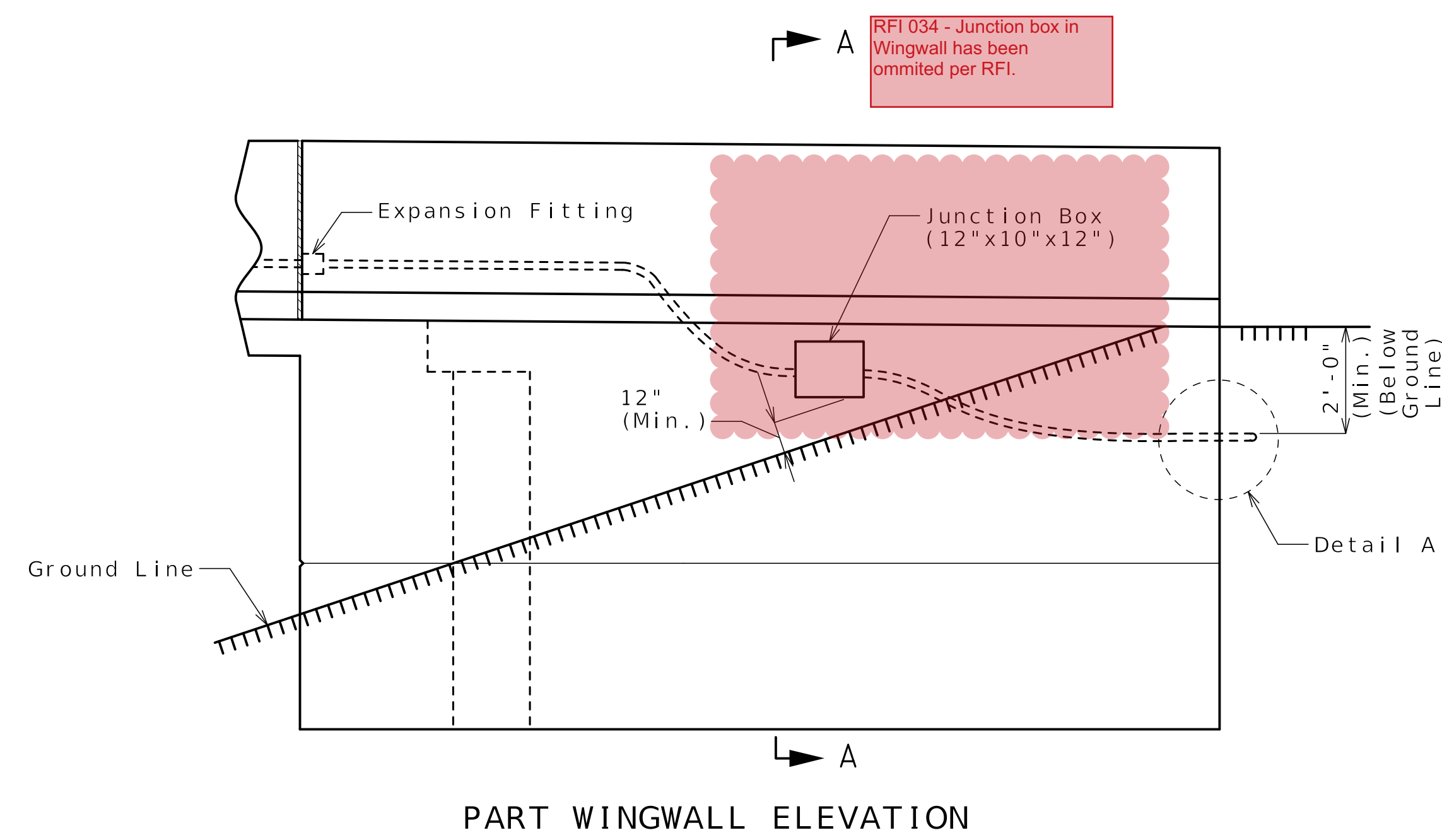
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REV.

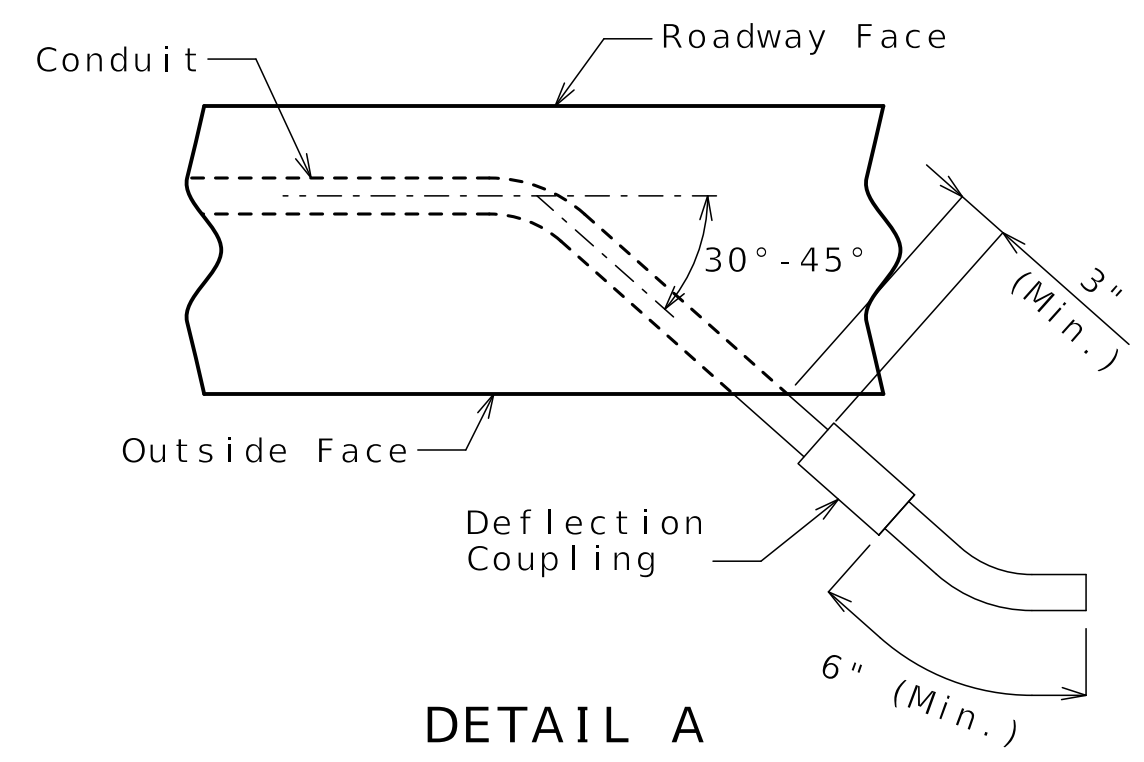
6/23/2025



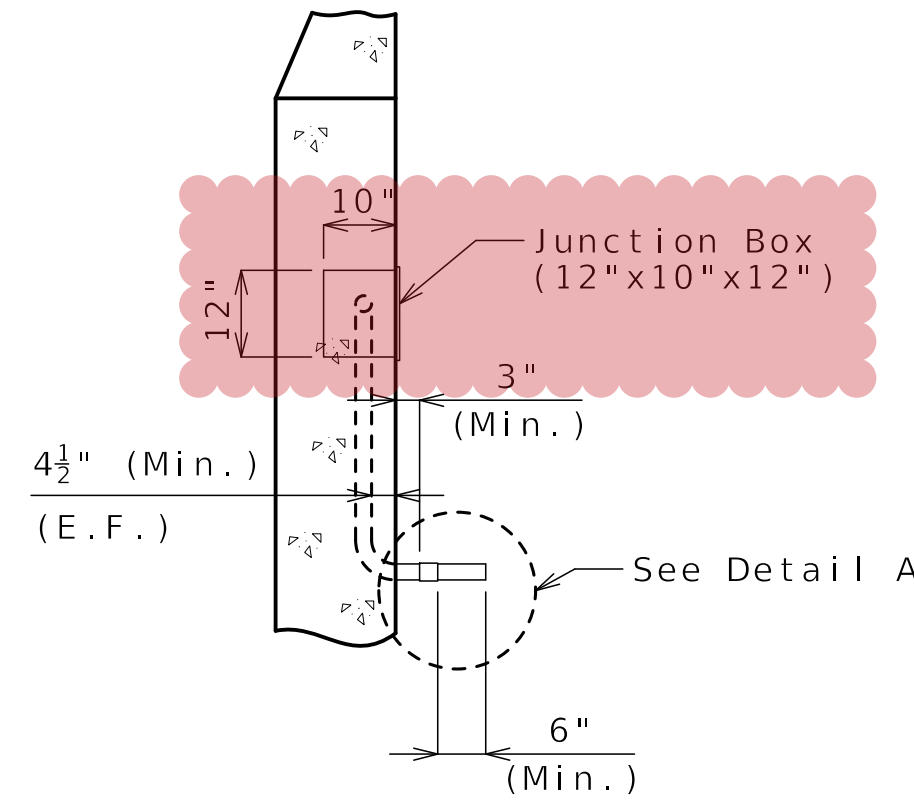
PLAN OF CONDUIT SYSTEM



PART WINGWALL ELEVATION



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 120°F and a maximum temperature of 110°F.
All end bent junction boxes shall be PVC molded in accordance with Sec. 1062 and designed for flush mounting. The conduit terminations shall be permanent or separable. The terminations and covers shall be of watertight construction and shall meet requirements for NEMA 4X enclosure.
Drainage shall be provided at low points or other critical locations of all conduits and all junction boxes in accordance with Sec 707. All conduits shall be sloped to drain where possible.
For additional form liner details not shown, see Sheet No. B12-29.

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Date: 07/02/2025
Package: BRD-12-Lister-Ave

DETAILS OF CONDUIT SYSTEM ON STRUCTURE

Detailed MAR 2025
Checked APR 2025

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

Sheet No. B12-30 of B12-35

STATE OF MISSOURI

BENJAMIN LICHTY

NUMBER PE-2023038803

PROFESSIONAL ENGINEER

06-27-2025

DATE PREPARED

06/25/2025

DATE PREPARED

ROUTE 1-70

STATE MO

DISTRICT BR

SHEET NO. B12-30

COUNTY JACKSON

JOB NO. J411486D

CONTRACT ID. 240807-C01

PROJECT NO.

BRIDGE NO. A9633

DESCRIPTION

REV 0 - RFC SUBMITTAL

DATE

06/25/25

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

MoDOT

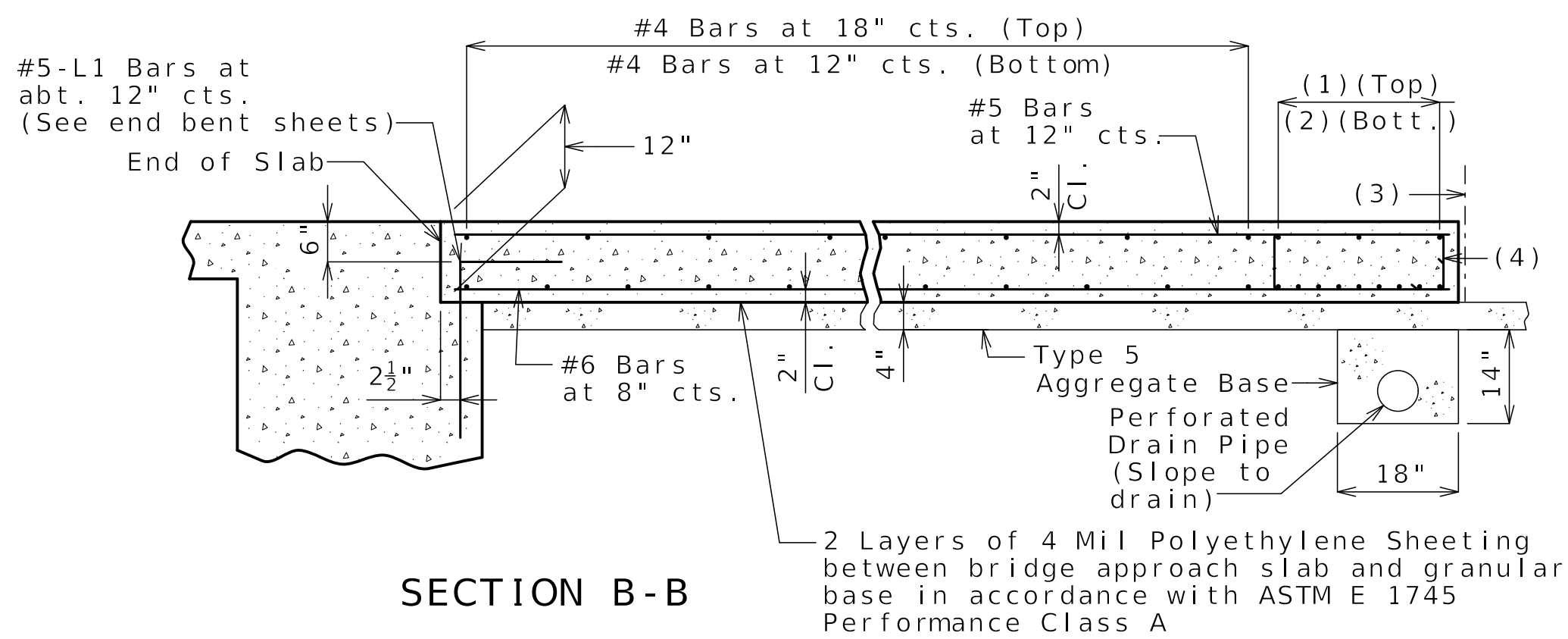
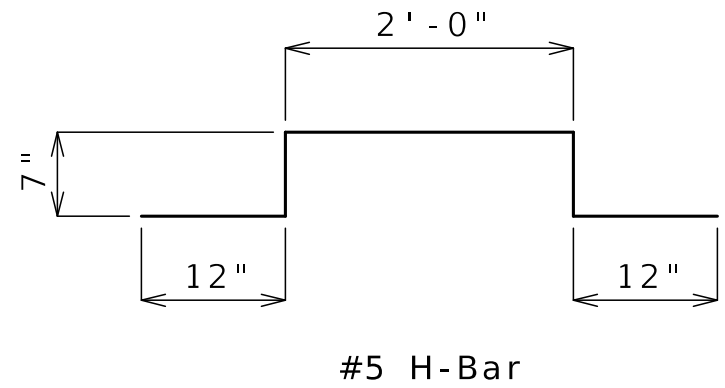
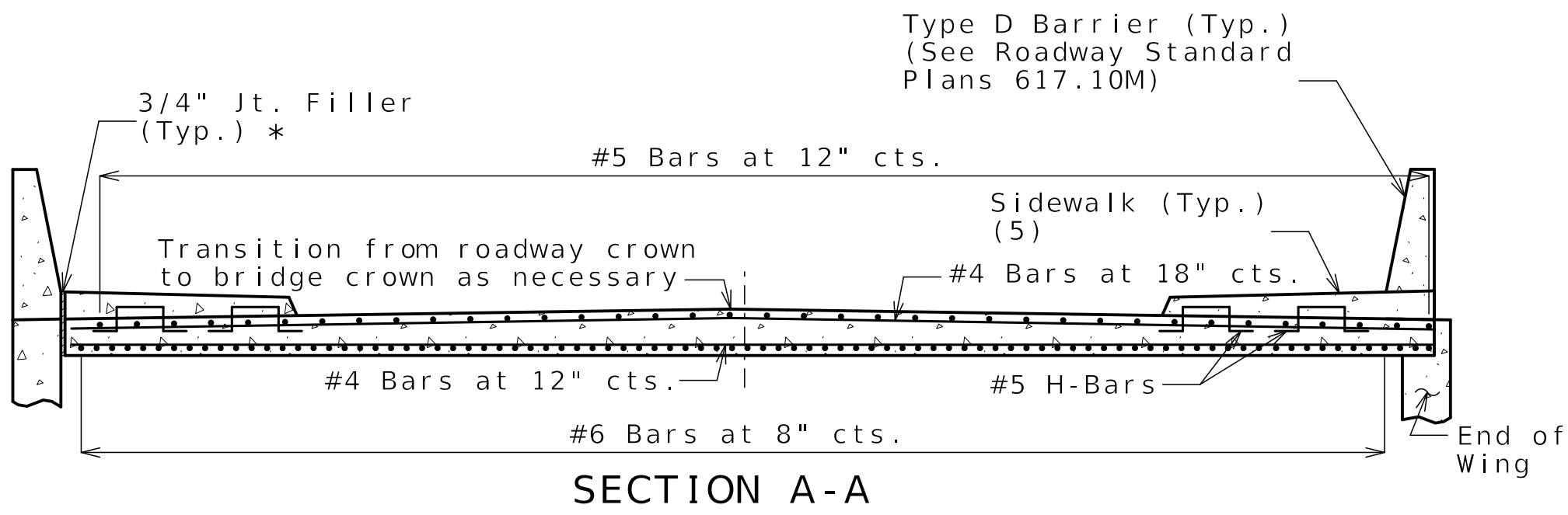
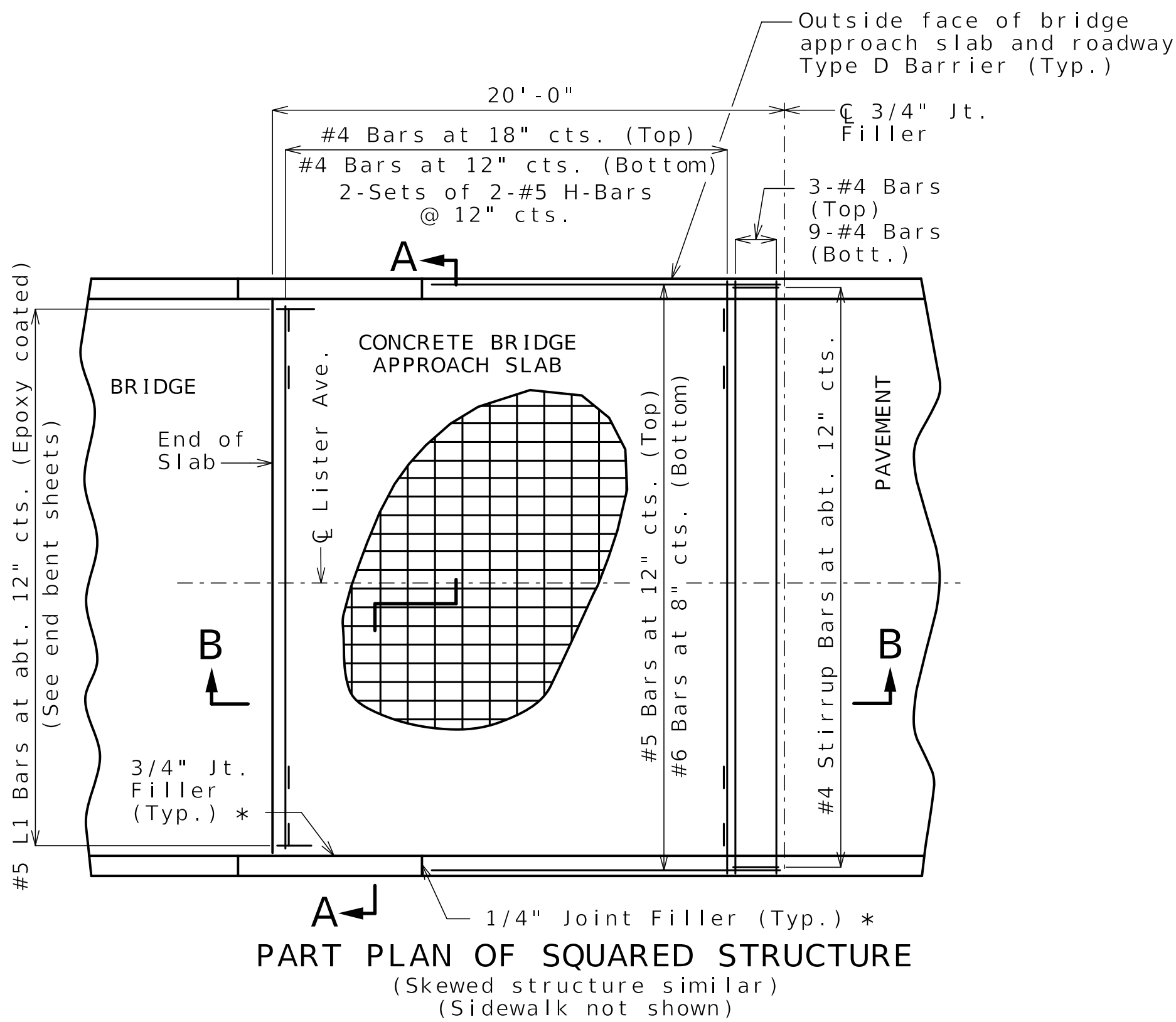
105 WEST CAPITOL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)

CLARKSON RADMACHER JOINT VENTURE

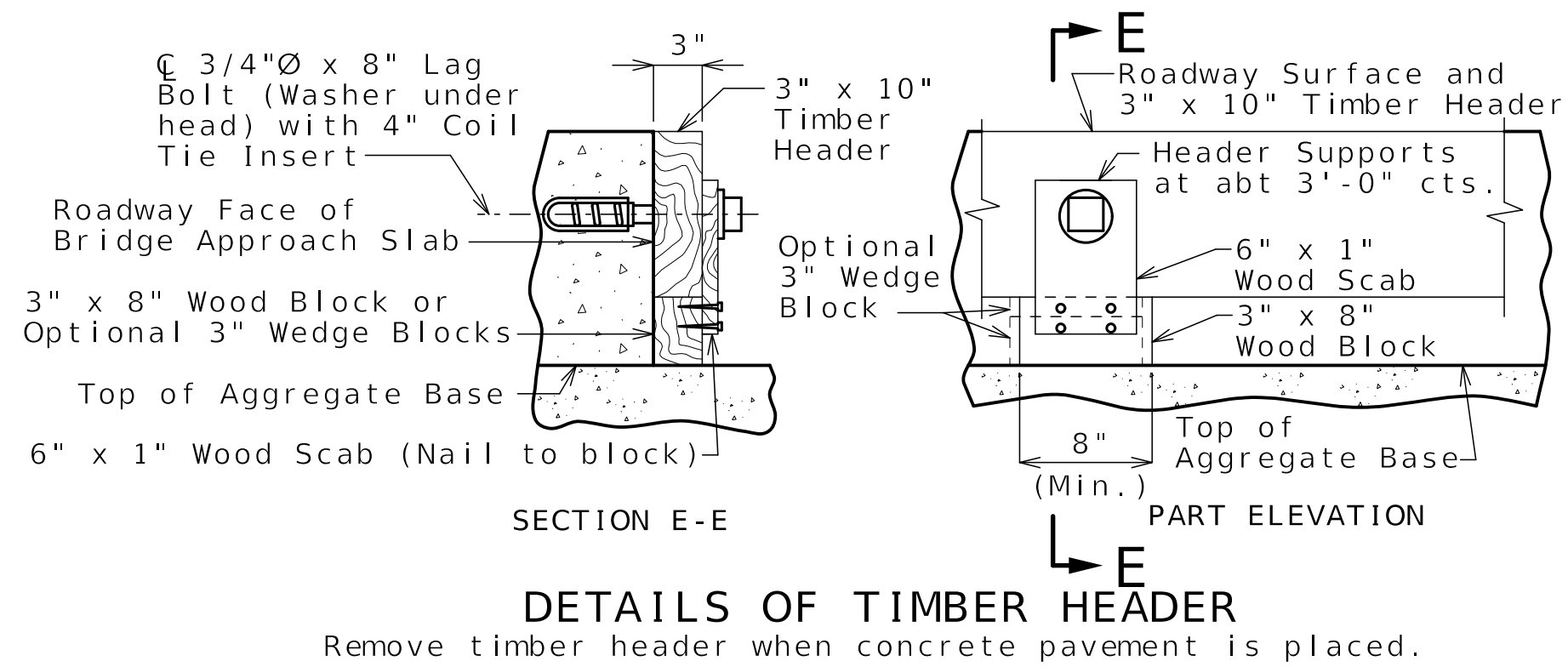
715 KIRK DRIVE KANSAS CITY, MO 64105-1310 CERTIFICATE OF AUTHORITY NO. 001270

HNTB

6/23/2025



- (1) 3-#4 Bars
- (2) 9-#4 Bars
- (3) 3/4" Jt. Filler
- (4) #4 Stirrup Bars at abt. 12" cts.; 2'-0"x 8" (Min.) out to out; Actual length = 5'-10" (Min.); 90° stirrup hook at bottom; Stirrup height (8") and actual length vary due to crown.
- (5) See Civil Package 5: Local Streets 2 for sidewalk details.



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.

Released For Construction
Not to Scale

Revision: 0.0
Date: 07/02/2025
Package: BRD-12-Lister-Ave

BRIDGE APPROACH SLAB (MINOR)

Detailed MAR 2025
Checked APR 2025

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

Sheet No. B12-31 of B12-35

BENJAMIN LICHTY
NUMBER
PE-2023038803
06-27-2025

DATE PREPARED 06/25/2025	
ROUTE 1-70	STATE MO
DISTRICT BR	SHEET NO. B12-31
COUNTY JACKSON	
JOB NO. J411486D	
CONTRACT ID. 240807-C01	
PROJECT NO.	
BRIDGE NO. A9633	

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)

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


DATE PREPARED
06/25/2025

DISTRICT	SHEET NO.
BR	B12-32

JOB NO.
J4I1486D

PROJECT NO.

--	--	--	--	--	--	--	--



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



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				

Note:
This sheet to be completed by Design Builder.

AS-BUILT PILE AND DRILLED SHAFT DATA



SOIL BORING NUMBER: Lst_B2_2

Page 1 of 2

PROJECT

Improve I 70 KC Design Build

NORTHING/EASTING

1058241.9 / 2780903.8

DRILLING FIRM

PPI

DRILLER

Eric P.

DATE STARTED

12/10/2024

LOGGED BY

Zachary Boyd

DATE COMPLETED

12/10/2024

SURFACE ELEVATION

845.0'

RIG TYPE

CME-550X

METHOD

Mud Rotary, NQ Core

TOOLING

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				Visual Classification and Remarks
										During Drilling (ft):	N/A	Atterberg Limits (LL-PL-P)	Moisture Content (%)	Dry Density (PCF)	UCS (tsf)	
5	4.5 ft		J-1	11	4-5-9 (14)	61		1.5								CONCRETE 0.8 844.2 FILL, dark gray, stiff, moist, FAT CLAY (CH), organics
	7.2 ft		C-1	36		100	67									7.2 837.8 Limestone, weathered, gray, hard, vuggy, fossilization
10	10.2 ft		C-2	60		100	88					0.1	165.5	1395		- highly weathered zone (4") at 10.8' - becomes dark gray at 12.7'
15	15.2 ft		C-3	60		100	95									15.2 829.8 Interbedded limestone and shale, weathered, fine grained, light to dark gray, hard
20	20.2 ft		C-4	60		100	60									22.7 822.3 Limestone, fine grained, light gray, moderately hard, vuggy, fractured, fossilization
25	25.2 ft		C-5	60		100	100									
30	30.2 ft		C-6	60		100	92					0.1	159.6	855		- 4" clay seam at 31.2'
35	35.2 ft		C-7	60		100	100									



SOIL BORING NUMBER: Lst_B2_2

Page 2 of 2

PROJECT

Improve I 70 KC Design Build

NORTHING/EASTING

1058241.9 / 2780903.8

DRILLING FIRM

PPI

DRILLER

Eric P.

DATE STARTED

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Zachary Boyd

DATE COMPLETED

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845.0'

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										During Drilling (ft):	N/A	Atterberg Limits (LL-PL-P)	Moisture Content (%)	Dry Density (PCF)	UCS (tsf)	
40			C-7	60		100										Limestone, fine grained, light gray, moderately hard, vuggy, fractured, fossilization 38.2 806.8 Shale, fresh, fine grained, very dark gray, hard 40.2 804.8 Bottom of Boring at 40.2'
45																Boring backfilled with cuttings and asphalt patch 12/10/2024
50																
55																
60																
65																
70																

Released For Construction
Not to Scale
Revision: 0.0
Date: 07/02/2025
Package: BRD-12-Lister-Ave

Notes:
For locations of borings, see Sheet No. B12-02 and Geotechnical Report.

BORING LOGS

Detailed MAR 2025
Checked APR 2025

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

Sheet No. B12-34 of B12-35



6/30/2025

DATE PREPARED
06/25/2025

ROUTE
1-70

STATE
MO

DISTRICT
BR

SHEET NO.
B12-34

COUNTY
JACKSON

JOB NO.
J411486D

CONTRACT ID.
240807-C01

PROJECT NO.

BRIDGE NO.
A9633

DESCRIPTION

REV 0 - RFC SUBMITTAL

DATE

06/25/25

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

HNTB

6/23/2025

