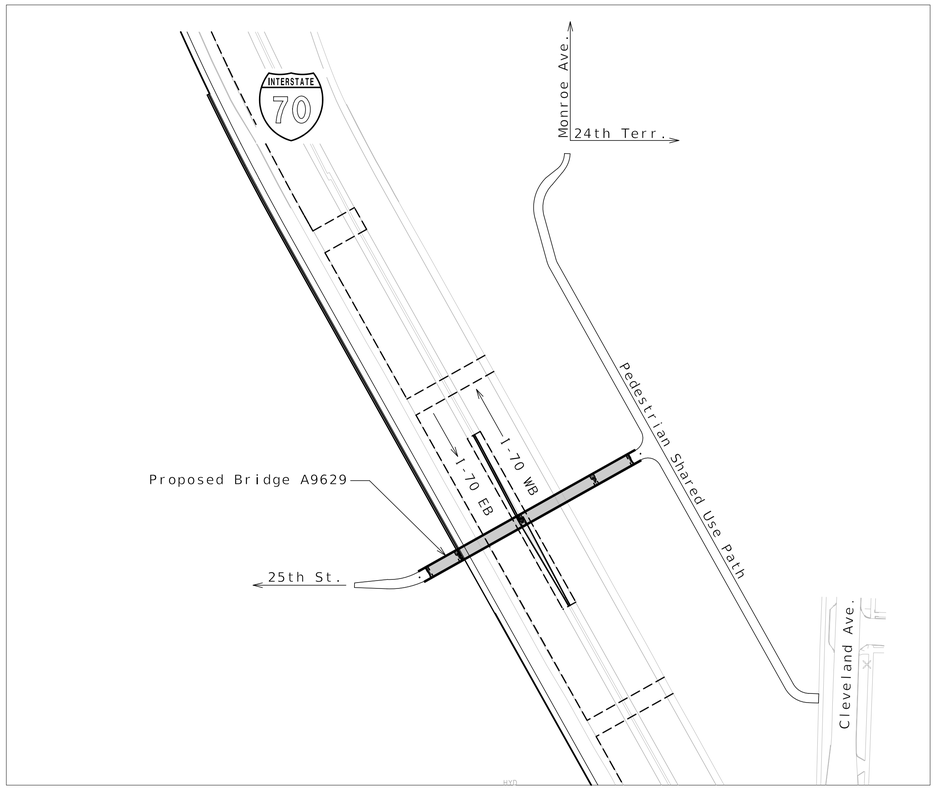
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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



LOCATION SKETCH

INDEX OF DRAWINGS

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B03-02 General Plan and Elevation
B03-03 General Notes
B03-04 Substructure Layout
B03-05 Details of End Bent No. 1
B03-06 Details of End Bent No. 1
B03-07 Vertical Drain at End Bents
B03-08 Details of Intermediate Bents
B03-09 Details of End Bent No. 5
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B03-11 Framing Plan
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VAN WILLIAM ROBBINS
PE-2017015106
STATE OF MISSOURI
PROFESSIONAL ENGINEER
Van W. Robbins
04-11-25

DATE PREPARED
04/11/2025

ROUTE	STATE
I-70	MO

DISTRICT	SHEET NO.
BR	B03-01

COUNTY
JACKSON

JOB NO.
J4I1486D

CONTRACT ID.
240807-C01

PROJECT NO.

BRIDGE NO.
A9629

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

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

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

HNTB

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Revision: 0.0
Date: 04/11/2025
Package: BRD-03-25th_ST_PED

BRIDGE: 25TH STREET PEDESTRIAN BRIDGE OVER ROUTE I-70

ROUTE I-70 FROM ROUTE I-670 TO ROUTE 40
ABOUT 2.4 MILES EAST OF ROUTE I-670
TIE STATION 190+65.00 (℄ I-70)

Detailed DEC 2024
Checked JAN 2025

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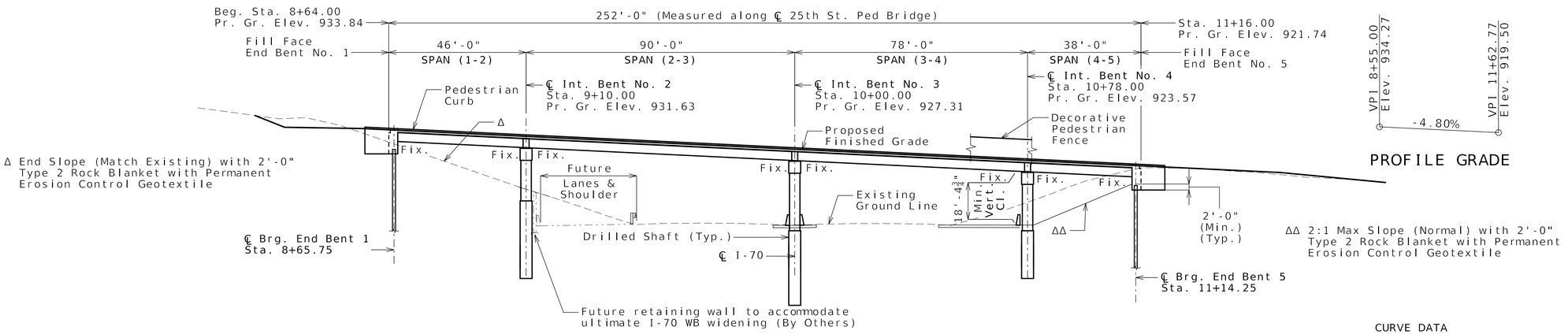
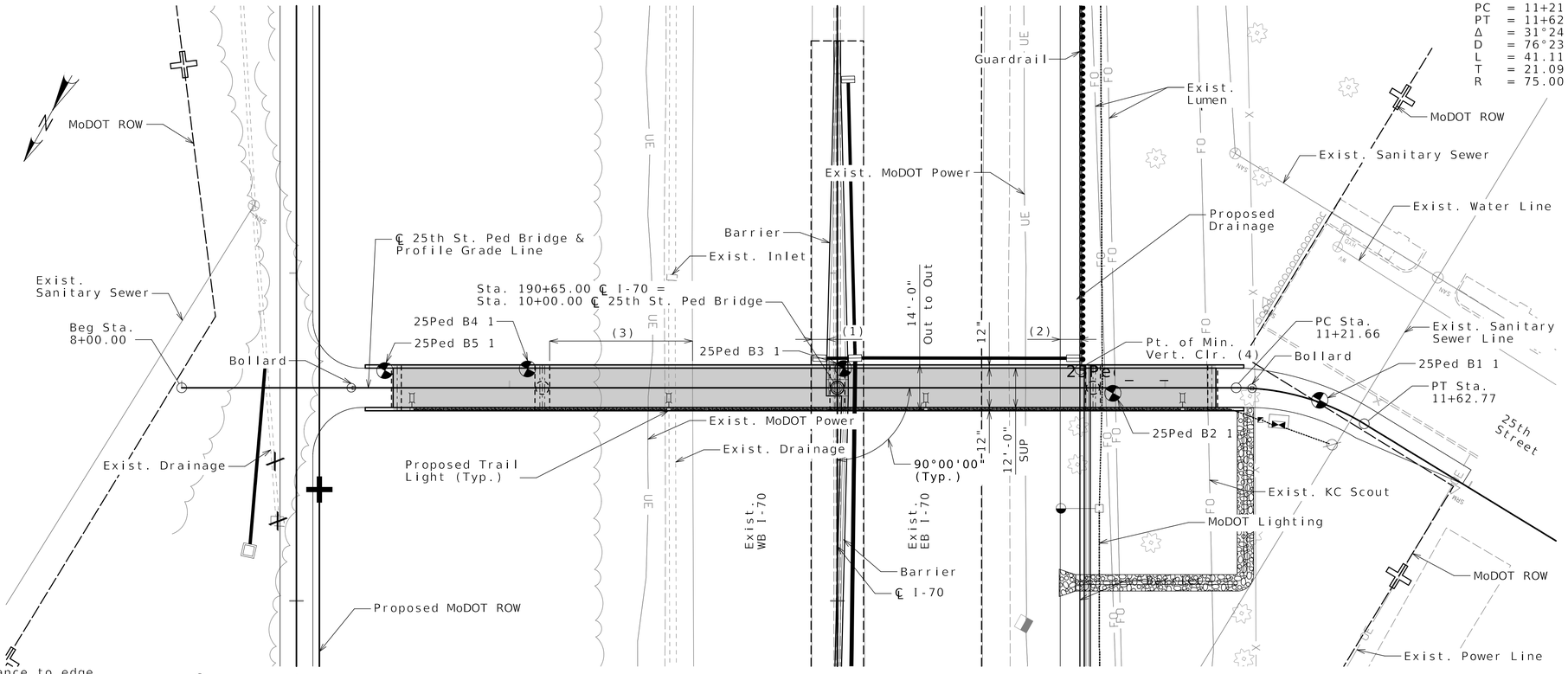
B_A9629_B03-01_J4I1486D.dgn 12:58:28 PM 4/10/2025

(46.0'-90.0'-78.0'-38.0') Prestressed Concrete NU Girder Spans



ELEVATION



PLAN

Minimum Horizontal Clearance to edge of existing lane or proposed lane:
(1) 4'-5"
(2) 6'-0"
(3) 44'-0"

(4) Sta. 10+74.00, 5.60' Lt.
℄ 25th St. Ped. Bridge

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● Indicates location of borings.

Notice and Disclaimer Regarding Boring Log Data
The locations of all subsurface borings performed by the design-build team for this structure are shown on the plan sheets for this structure. The logs for all locations indicated are provided on Sheets No. B03-25 thru B03-28. Labrotory test results, rock core photographs and other information obtained at these borings are available in the corresponding Foundation Reccommendations 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.

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

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CURVE DATA

CURVE 25TH ST PED BRIDGE
PI = 11+42.75
PC = 11+21.66
PT = 11+62.77
Δ = 31°24'33.1" (RT)
D = 76°23'39.7"
L = 41.11'
T = 21.09'
R = 75.00'

Notes:
All Elevations are based on NAVD88 datum unless otherwise noted.
All Bents are parallel to each other and normal to ℄ I-70.
All dimensions are horizontal.
For elevations of drilled shafts, see Sheet No. B03-08.
See Civil Package 4: Local Streets 1 for I-70 typical section details.

GENERAL PLAN AND ELEVATION

Sheet No. B03-02 of B03-28

STATE OF MISSOURI
VAN WILLIAM ROBBINS
PE-2017015106
PROFESSIONAL ENGINEER
04-11-25

DATE PREPARED: 04/11/2025
ROUTE: I-70
STATE: MO
DISTRICT: BR
SHEET NO.: B03-02
COUNTY: JACKSON
JOB NO.: J4I1486D
CONTRACT ID.: 240807-C01
PROJECT NO.:
BRIDGE NO.: A9629

DATE	DESCRIPTION
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MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
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CERTIFICATE OF AUTHORITY NO. 001270

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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
2009 AASHTO LRFD Guide Specifications for the Design of Pedestrian Bridges and 2015 Interim Revisions.

Design Loading:
Vehicular = H10 Truck minus lane load
Pedestrian = 90 lb/sf
Future Wearing Surface = 35 lb/sf
Earth - 120 lb/cf
Equivalent Fluid Pressure - 45 lb/cf (Min.)
Superstructure: Simply-Supported, non-composite for dead load.
Continuous composite for live load.

Design Unit Stresses:

Class B Concrete (End Bents below Const. Jt.)	f'c = 3,000 psi
Class B-1 Concrete (Intermediate Bents except Drilled Shafts)	f'c = 4,000 psi
Class B-2 Concrete (Drilled Shafts)	f'c = 4,000 psi
Class B-2 Concrete (Superstructure, except Prestressed Girders, and Pedestrian Curb)	f'c = 4,000 psi
Class B-1 Concrete (Pedestrian Curb)	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 girder stresses, see Sheets No. B03-12 thru B03-13.

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 pedestrian curb, light blisters, slab, concrete diaphragms, End Bents No. 1 and 5 and Intermediate Bents No. 2, 3 & 4 shall be epoxy coated. Reinforcing in the drilled shaft shall be uncoated.

Concrete Protective Coatings:
Concrete and masonry protective coating shall be applied on bridge wingwall and end face of end bent to a minimum of 18" below finished ground line in accordance with Sec 711.

Sacrificial graffiti protective coating shall be applied on bridge wingwall and end face of end bent to a minimum of 18" below finished ground line in accordance with Sec 711.

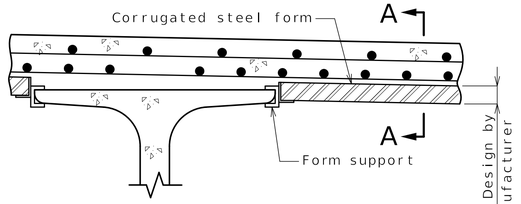
Abbreviations:
E.F. denotes Each Face
N.F. denotes Near Face
F.F. denotes Far face
U.N.O. denotes Unless Noted Otherwise

Foundation Data

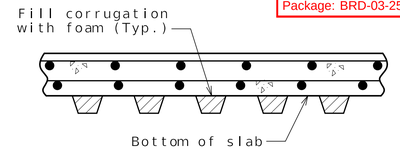
Type	Design Data		Bent Number 1	2	3	4	5
Load Bearing Pile	Pile Type and Size		HP 12x53	---	---	---	HP 12x53
	Number	ea	3	---	---	---	3
	Approximate Length Per Each	ft	18	---	---	---	18
	Pile Point Reinforcement	ea	All	---	---	---	---
	Min. Galvanized Penetration (Elev.)	ft	Full Length	---	---	---	Full Length
	Minimum Tip Penetration (Elev.)	ft	911	---	---	---	899
	Criteria for Min. Tip Penetration		Min. Embed.	---	---	---	Min. Embed.
	Pile Driving Verification Method		DT	---	---	---	N/A
	Resistance Factor		0.65	---	---	---	0.50
	Minimum Nominal Axial Compressive Resistance	kip	168	---	---	---	218
Drilled Shaft	Number	ea	---	1	1	1	---
	Layer 1 Foundation Material		---	Limestone	Shale	Limestone	---
	Layer 1 Elevation Range	ft	---	900-895.5**	899-882	900-899**	---
	Layer 1 Minimum Nominal Axial Compressive Resistance (Side Resistance)	ksf	---	19.6	4.5	19.6	---
	Layer 2 Foundation Material		---	Shale	Limestone	Shale	---
	Layer 2 Elevation Range	ft	---	895.5-879	882-870	899-882	---
	Layer 2 Minimum Nominal Axial Compressive Resistance (Side Resistance)	ksf	---	4.9	19.6	4.9	---
	Minimum Nominal Axial Compressive Resistance (Tip Resistance)	ksf	---	End bearing not required*	End bearing not required*	End bearing not required*	---

Detailed DEC 2024
Checked JAN 2025

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



STAY-IN-PLACE
CORRUGATED STEEL FORM DETAIL



SECTION A-A

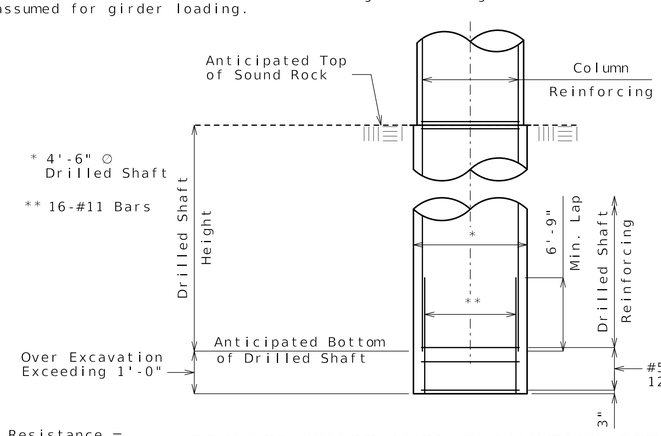
Stay-In-Place Corrugated Steel Form Notes:

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

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

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

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



DRILLED SHAFT OVER EXCAVATION DETAIL

For Drilled Shaft Details see Intermediate Bent Details

Load Bearing Piles:
Minimum Nominal Axial Compressive Resistance = Maximum Factored Loads/Resistance Factor
Prebore for piles at End Bent No. 1 to elevation 913.
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 End Bent No. 5 to elevation 899.
At End Bent No. 5 verify the bottom of the prebore is clean and contains no loose rubble. Set pile and seat with tap of backhoe bucket or equivalent method. Prebore shall be backfilled with Class B concrete to elevation 904. Backfill remaining length of prebore per Sec 702.
All piles shall be galvanized down to 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 the 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

Drilled Shafts:
Minimum Nominal Axial Compressive Resistance (Side Resistance + Tip Resistance) = Maximum Factored Loads/Resistance Factors
Uncased drilled shaft used for constructability. Layer 1 data shown in table is top most layer used for design and may not correspond to top of drilled shaft shown elsewhere in plans.
Sonic logging testing shall be performed on all drilled shafts.
Drilled shafts shall be constructed in accordance with project Drilled Shaft AAS.
* Drilled shaft length for drilled shafts is controlled by lateral design. End bearing not required.
** Top of elevation range corresponds to 18" below future WB I-70 lane construction by others and EB I-70 lane construction with this project at Bents No. 2 and 4, respectively.

GENERAL NOTES

Sheet No. B03-03 of B03-28

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Package: BRD-03-25th_ST_PED

STATE OF MISSOURI
VAN WILLIAM ROBBINS
PE-2017015106
PROFESSIONAL ENGINEER
04-11-25

DATE PREPARED 04/11/2025
ROUTE I-70 | STATE MO
DISTRICT BR | SHEET NO. B03-03
COUNTY JACKSON
JOB NO. J4I1486D
CONTRACT ID. 240807-C01
PROJECT NO.
BRIDGE NO. A9629

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

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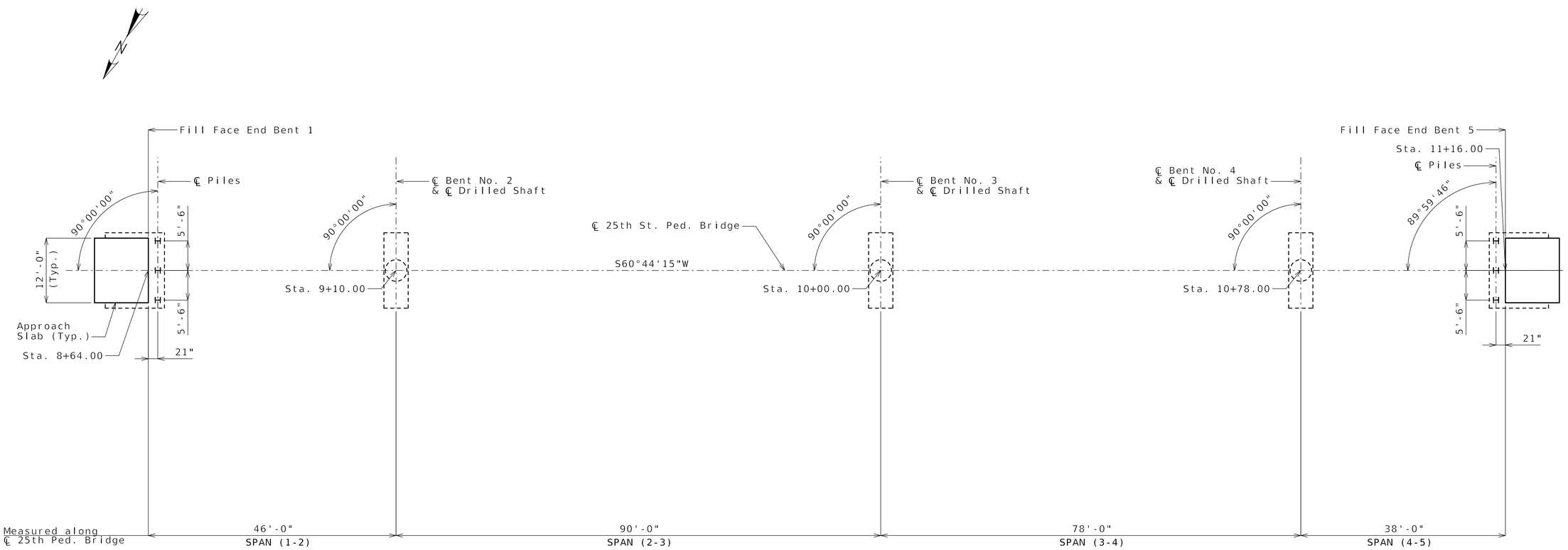
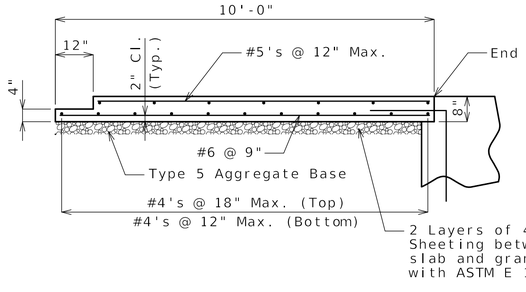
CLARKSON RADMACHER JOINT VENTURE
715 KIRK DRIVE
KANSAS CITY, MO 64105-1310
CERTIFICATE OF AUTHORITY NO. 001270
HNTB



SUBSTRUCTURE LAYOUT



BRIDGE APPROACH SLAB DETAIL

(1 required at End Bents No. 1 and 5)

Bridge Approach Slab Notes:

All concrete for 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.

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" for #4 bars.

Provide 3/4" joint filler between edge of approach slab and inside vertical face of bridge wingwall. Provide 2" joint filler at end of bridge approach slab adjacent to trail approach. All joint filler shall be in accordance with Sec 1057 for preformed fiber expansion joint filler except as noted.

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Package: BRD-03-25th_ST_PED

Note:
All dimensions are horizontal.

SUBSTRUCTURE LAYOUT

Detailed DEC 2024
Checked JAN 2025

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

WILLIAM JOSEPH STURGEON
PE-2014017021
STATE OF MISSOURI
PROFESSIONAL ENGINEER
4/11/2025

DATE PREPARED 04/11/2025
ROUTE I-70 | STATE MO
DISTRICT BR | SHEET NO. B03-04
COUNTY JACKSON
JOB NO. J4I1486D
CONTRACT ID. 240807-C01
PROJECT NO.
BRIDGE NO. A9629

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

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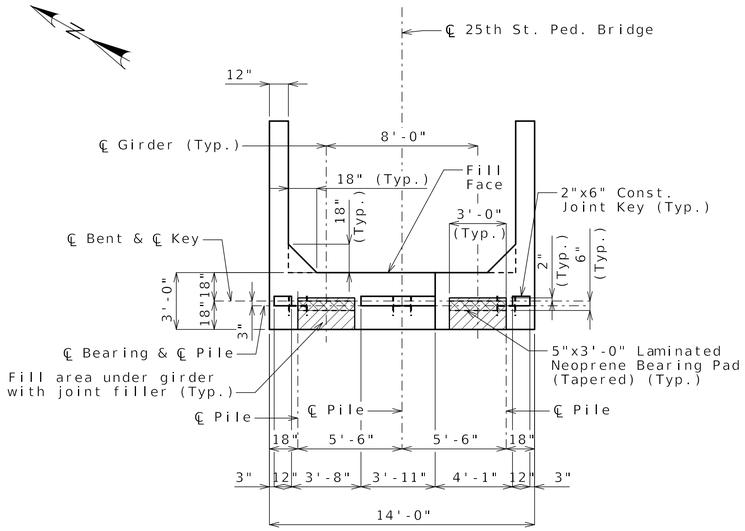
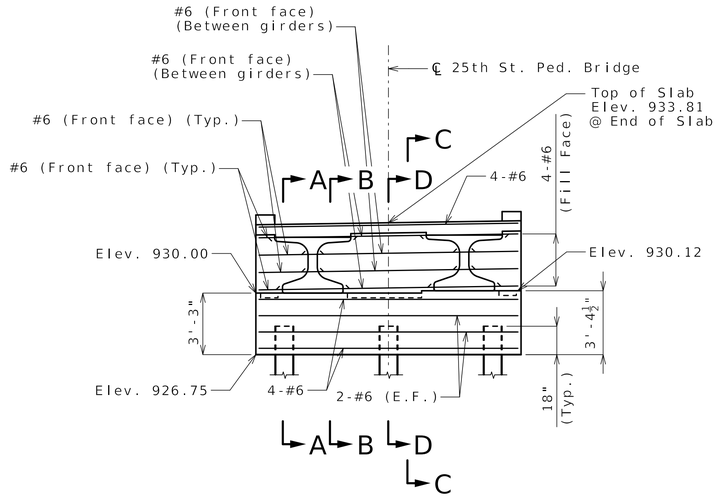
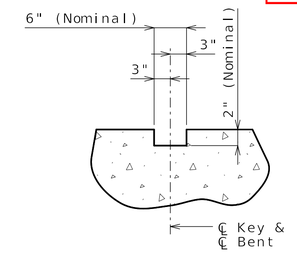


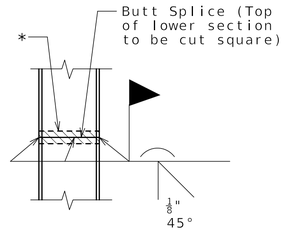
PLAN OF BEAM



SECTION NEAR END BENT
(Looking Backstation)

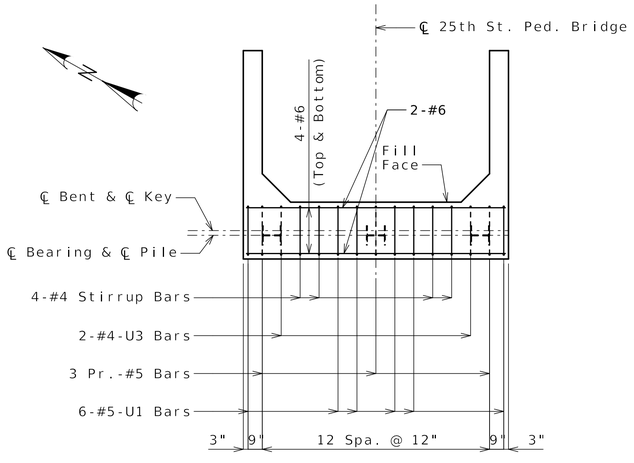


SECTION THRU KEY

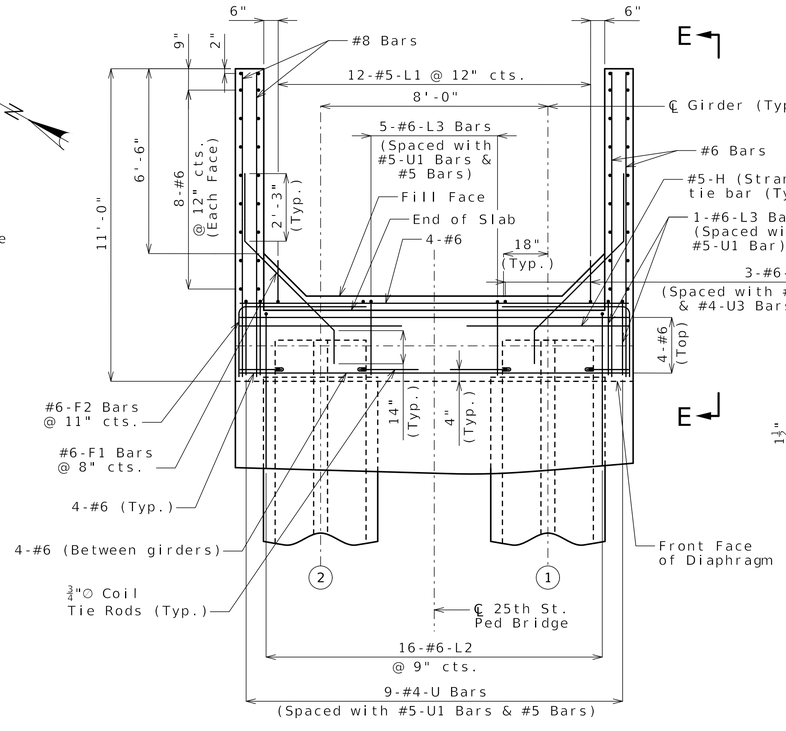


STEEL PILE SPLICE
(If required)

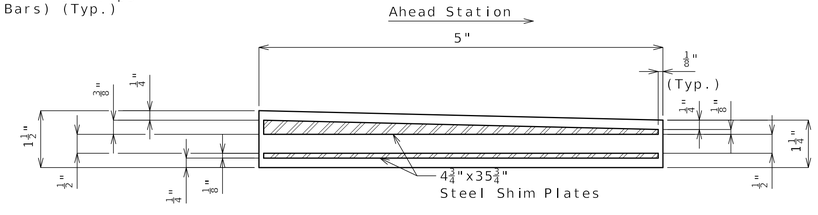
* Galvanizing material shall be omitted or removed one inch clear of weld locations in accordance with Sec 702.



PLAN OF BEAM SHOWING REINFORCING
(Keys and Steps not shown for Clarity)



PART PLAN
(Symmetrical about ℄ 25th St. Ped. Bridge)



TYPICAL SECTION THRU
LAMINATED NEOPRENE BEARING PAD (TAPERED)
2 Required at each End Bent

Notes:
Work this sheet with Sheet No.B03-06.
For Sections A-A, B-B, C-C, D-D and Elevation E-E, see Sheet B03-06.
Reinforcing steel shall be shifted to clear piles. U bars shall clear piles by at least 1½ inches.
All Concrete above the construction joint shall be Class B-2.
For location of coil tie rods, see Sheet No. B03-12.
Strands at end of the girders shall be field bent or, if necessary, cut in field to maintain 1½-inch minimum clearance to fill face of end bent.
The #6-F bars shall be bent in the field to clear girders.
For details of bridge approach slab, see Sheet No. B03-04.

(X) Denotes girder number

DETAILS OF END BENT NO. 1

GINA D. HORNER PE-30413
STATE OF MISSOURI PROFESSIONAL ENGINEER
Gina D. Horner 4/11/2025

DATE PREPARED 04/11/2025
ROUTE I-70 | STATE MO
DISTRICT BR | SHEET NO. B03-05
COUNTY JACKSON
JOB NO. J4I1486D
CONTRACT ID. 240807-C01
PROJECT NO.
BRIDGE NO. A9629

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

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
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Note: This drawing is not to scale. Follow dimensions.

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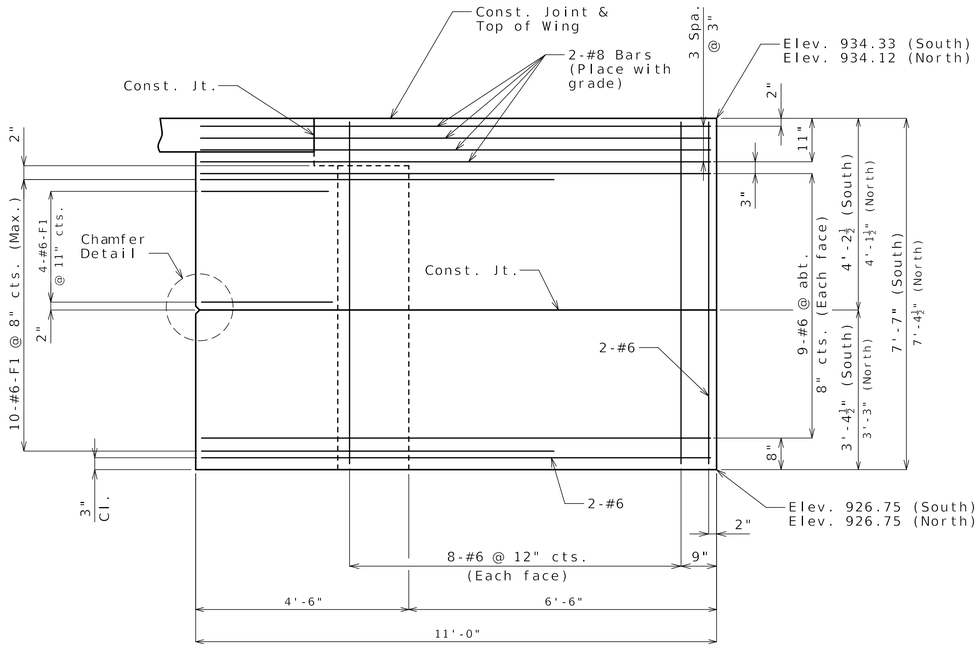
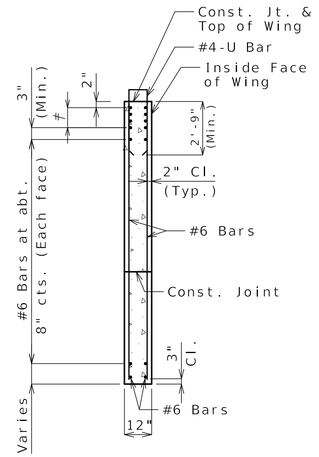
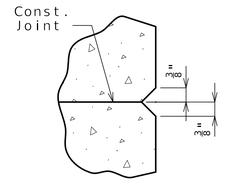


ELEVATION E-E
(South wingwall shown, North wingwall similar



TYPICAL SECTION THRU WING

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



CHAMFER DETAIL

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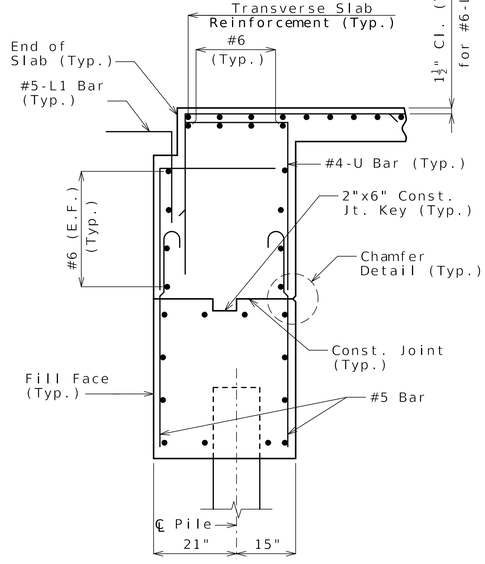
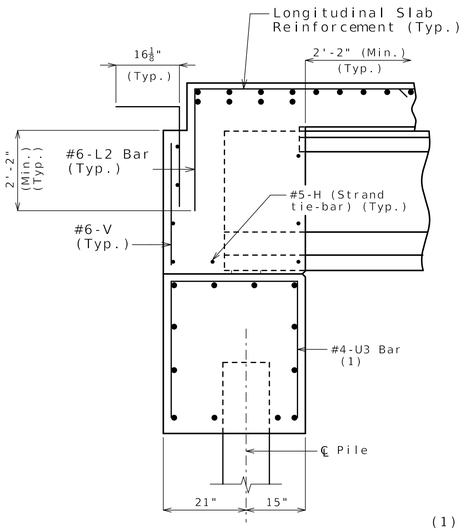
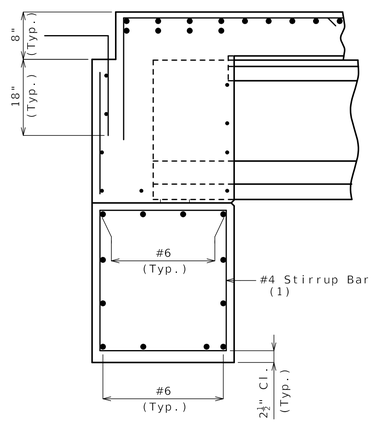


SECTION D-D

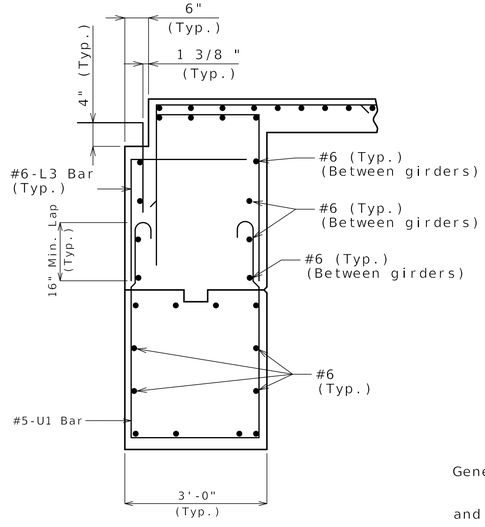


SECTION A-A



SECTION B-B

(1) U3 & #4 stirrup bar vertical leg = 2'-10"



SECTION C-C

General Notes:
Work this sheet with Sheet No. B03-05.
For location of Sections A-A, B-B, C-C and D-D and Elevation E-E, see Sheet No. B03-06.
For reinforcement of the pedestrian curb, see Sheet No. B03-20.

DETAILS OF END BENT NO. 1

Detailed DEC 2024
Checked JAN 2025

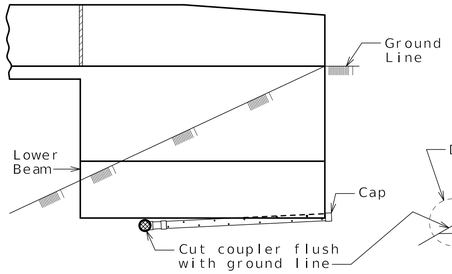
Note: This drawing is not to scale. Follow dimensions.

GINA D. HORNER PE-30413
STATE OF MISSOURI PROFESSIONAL ENGINEER
Gina D. Horner 4/11/2025

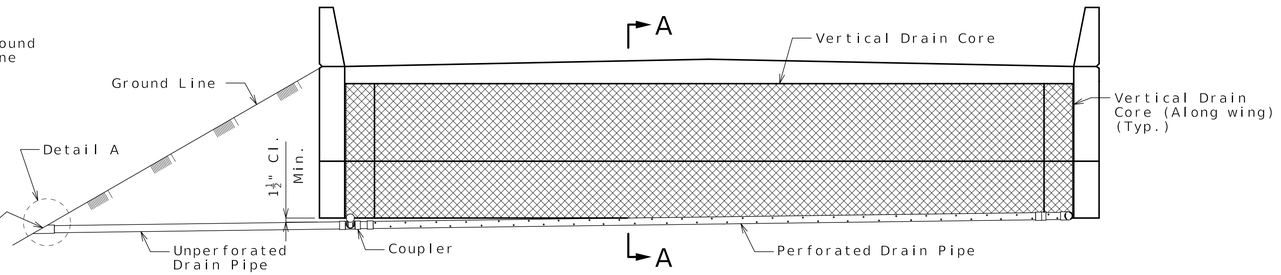
DATE PREPARED 04/11/2025
ROUTE I-70 | STATE MO
DISTRICT BR | SHEET NO. B03-06
COUNTY JACKSON
JOB NO. J4I1486D
CONTRACT ID. 240807-C01
PROJECT NO.
BRIDGE NO. A9629

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

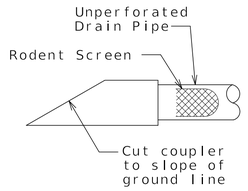
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)
CLARKSON RADMACHER JOINT VENTURE
715 KIRK DRIVE
KANSAS CITY, MO 64105-1310
CERTIFICATE OF AUTHORITY NO. 001270
HNTB



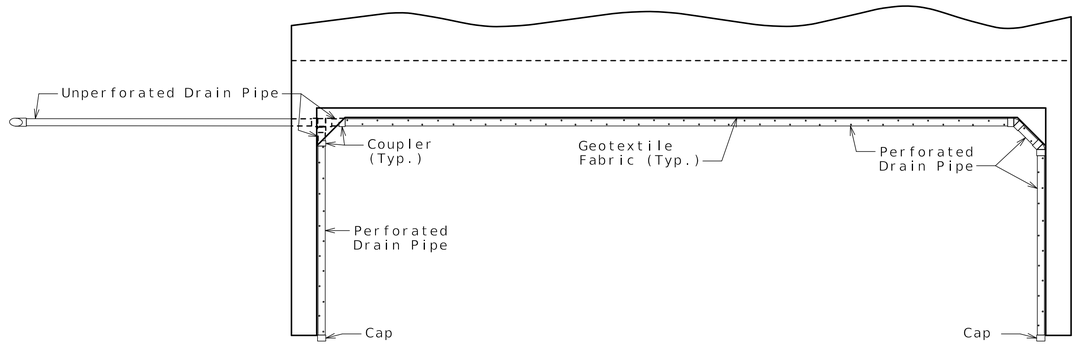
ELEVATION OF WING



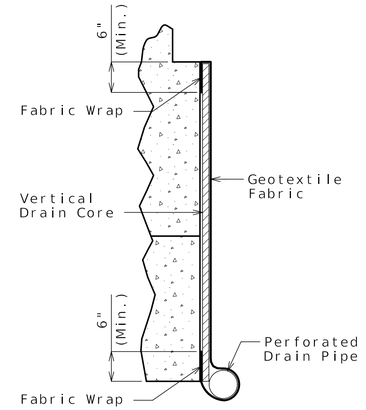
ELEVATION OF END BENT



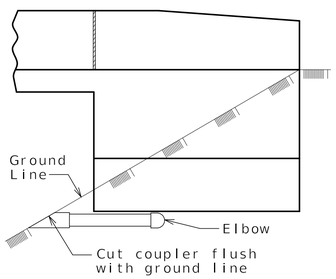
DETAIL A



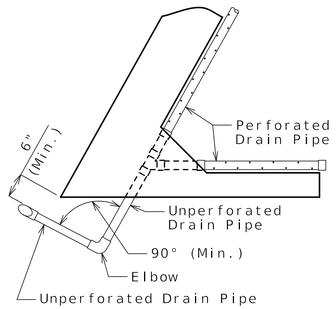
PLAN OF END BENT



PART SECTION A-A
(Section thru wing similar)



ELEVATION OF WING



PART PLAN

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

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Revision: 0.0
Date: 04/11/2025
Package: BRD-03-25th_ST_PED

General Notes:

All drain pipe shall be sloped 1 to 2 percent.

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

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

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

VERTICAL DRAIN AT END BENTS

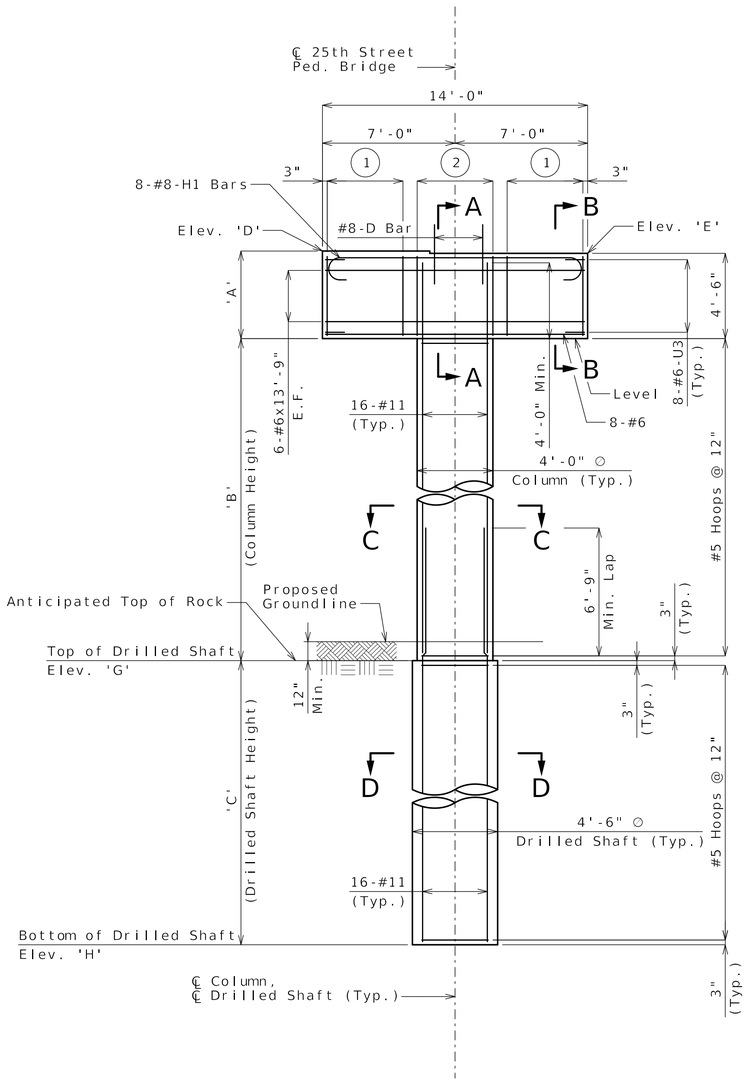
GINA D. HORNER PE-30413
STATE OF MISSOURI PROFESSIONAL ENGINEER
Gina D. Horner 4/11/2025

DATE PREPARED 04/11/2025
ROUTE I-70 | STATE MO
DISTRICT BR | SHEET NO. B03-07
COUNTY JACKSON
JOB NO. J4I1486D
CONTRACT ID. 240807-C01
PROJECT NO.
BRIDGE NO. A9629

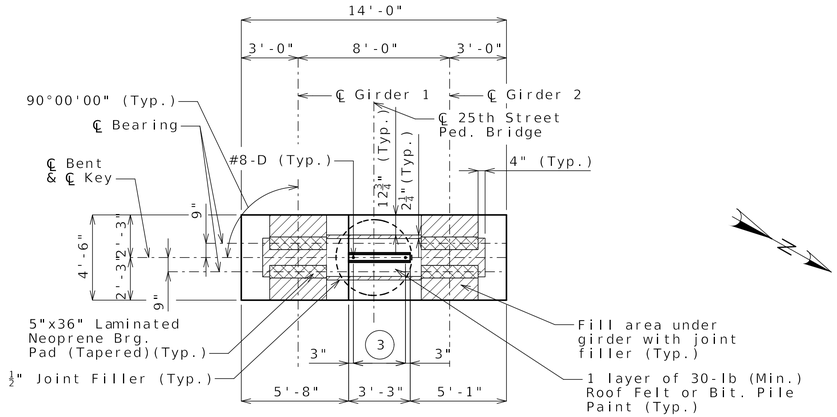
DATE	DESCRIPTION
04/11/25	REV 0 - RFC SUBMITTAL

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

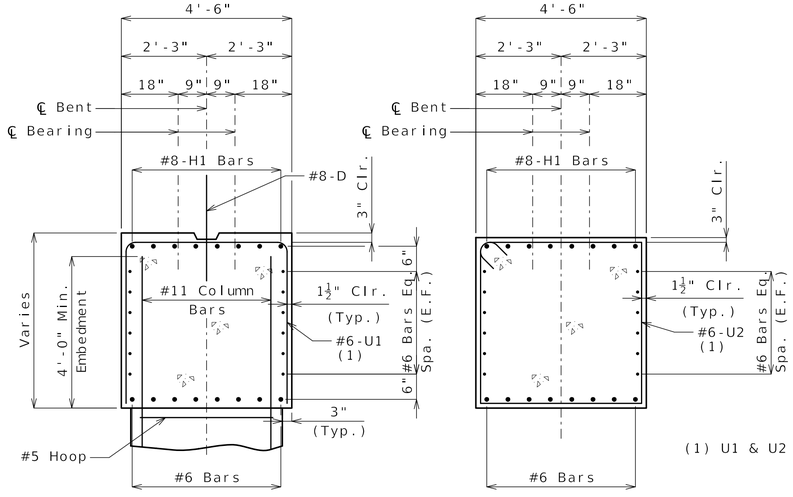
CLARKSON RADMACHER JOINT VENTURE
715 KIRK DRIVE
KANSAS CITY, MO 64105-1310
CERTIFICATE OF AUTHORITY NO. 001270
HNTB



ELEVATION



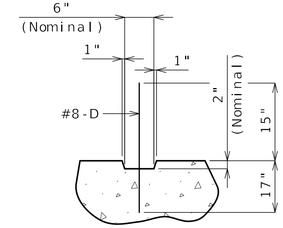
PLAN OF CAPBEAM



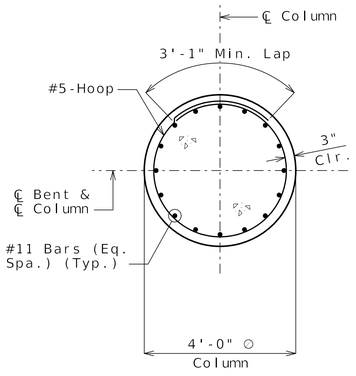
SECTION A-A

SECTION B-B

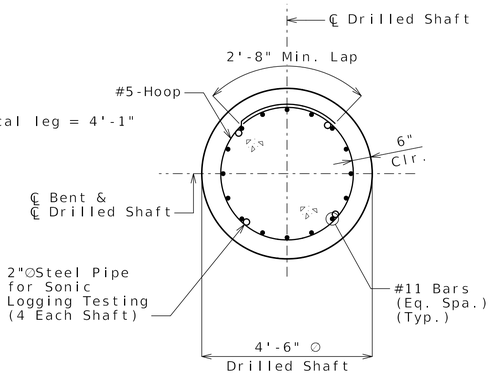
(1) U1 & U2 vertical leg = 4'-1"



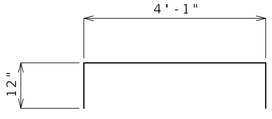
SECTION THRU KEY



SECTION C-C

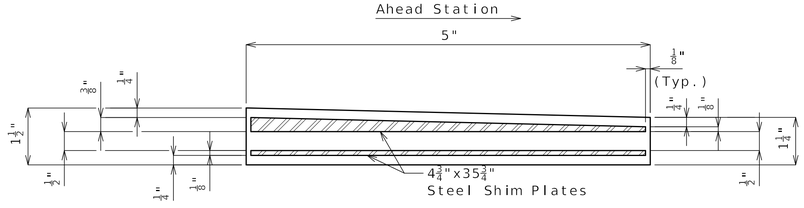


SECTION D-D



#6-U3 BAR

1. 5-#6-U2 @ 12" cts.
2. 5-#6-U1 @ 12" cts.
3. 5-#8-D @ Eq. Spa.



TYPICAL SECTION THRU LAMINATED NEOPRENE BEARING PAD (TAPERED)

4 Required per Bent

TABLE OF VARIABLES							
Bent	'A'	'B'	'C'	'D'	'E'	'G'	'H'
2	4'-7½"	13'-1⅞"	26'-0"	927.78	927.66	910.0	884.0
3	4'-7½"	18'-3¾"	25'-6"	923.42	923.31	900.5	875.0
4	4'-7½"	15'-1⅛"	16'-0"	919.72	919.59	900.0	884.0

Notes:
Prior to placing concrete for columns, position of vertical reinforcement shall be verified so as to provide clearance for capbeam reinforcement as applicable.
For location of drilled shafts, see Sheet No. B03-04.
Hoop splices shall be staggered around the drilled shaft at 90 degree intervals.

DETAILS OF INTERMEDIATE BENTS

Detailed DEC 2024
Checked JAN 2025

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

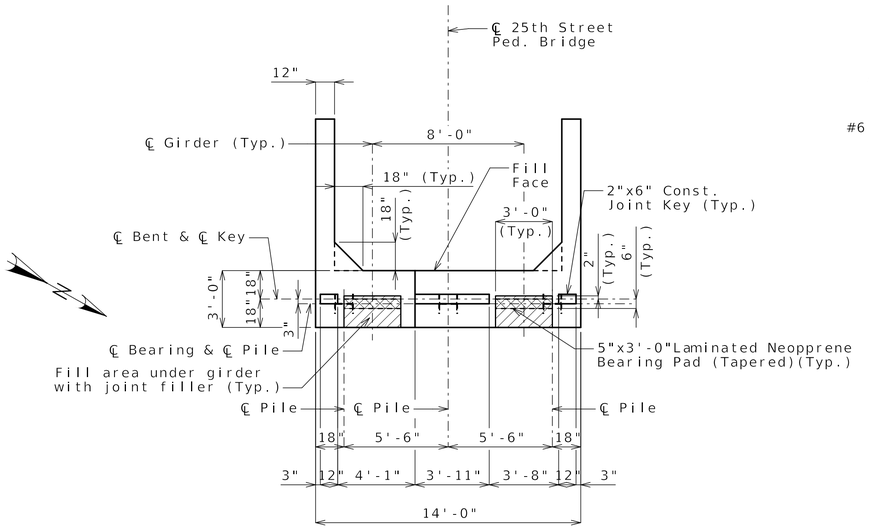
WILLIAM JOSEPH STURGEON
PE-2014017021
STATE OF MISSOURI
PROFESSIONAL ENGINEER
4/11/2025

DATE PREPARED 04/11/2025
ROUTE I-70 | STATE MO
DISTRICT BR | SHEET NO. B03-08
COUNTY JACKSON
JOB NO. J4I1486D
CONTRACT ID. 240807-C01
PROJECT NO.
BRIDGE NO. A9629

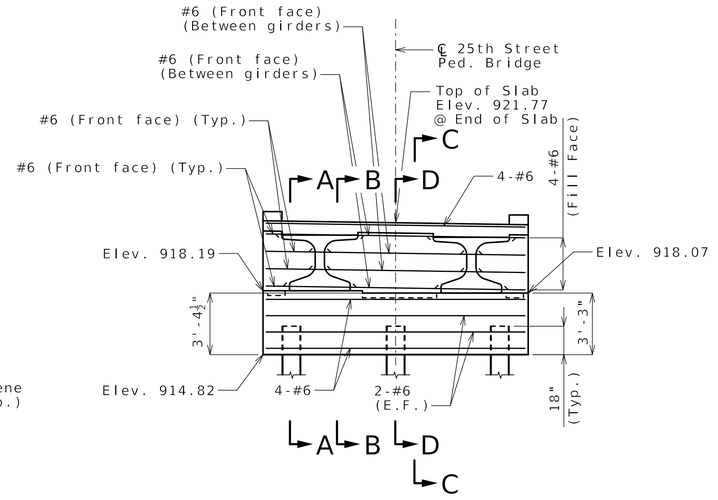
DATE	DESCRIPTION
04/11/25	REV 0 - RFC SUBMITTAL

Released For Construction
Not to Scale
Revision: 0.0
Date: 04/11/2025
Package: BRD-03-25th_ST_PED

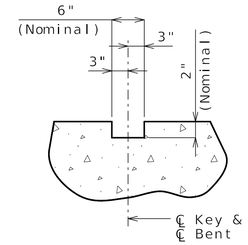
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)
CLARKSON RADMACHER JOINT VENTURE
715 KIRK DRIVE
KANSAS CITY, MO 64105-1310
CERTIFICATE OF AUTHORITY NO. 001270
HNTB



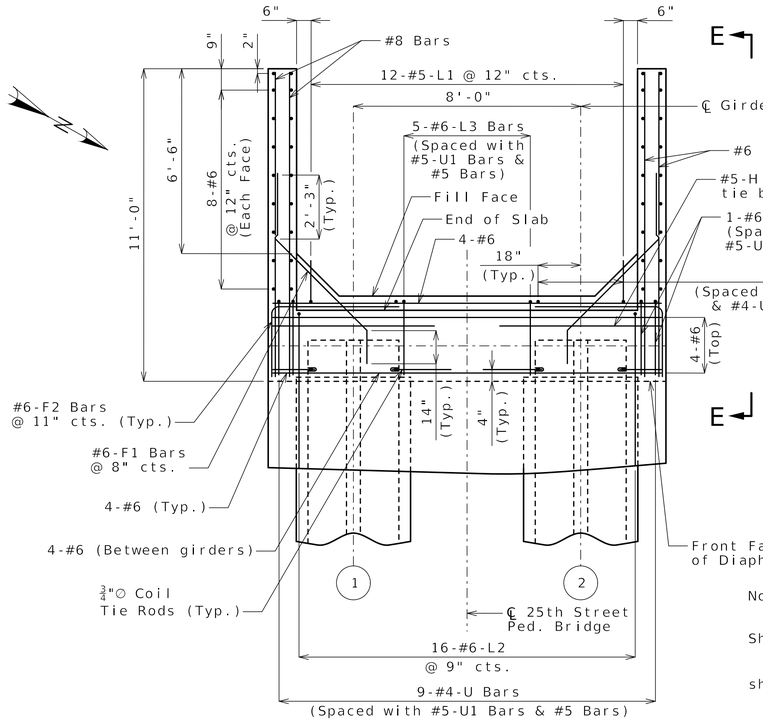
PLAN OF BEAM



SECTION NEAR END BENT

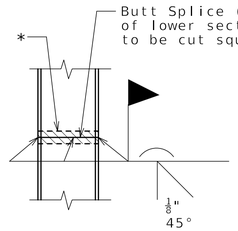


SECTION THRU KEY



PART PLAN

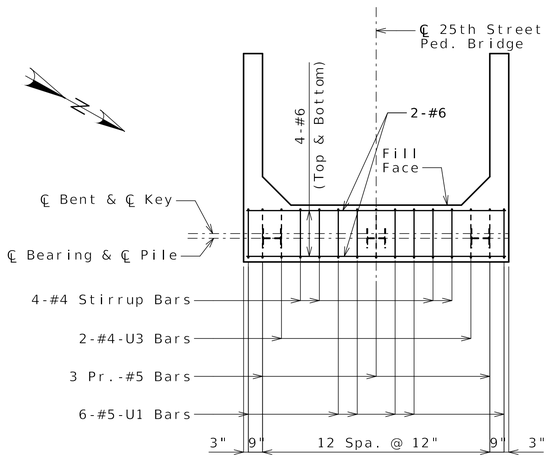
(Symmetrical about ℄ 25th St. Ped Bridge)



STEEL PILE SPLICE

(If required)

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



PLAN OF BEAM SHOWING REINFORCING

(Keys and Steps not shown for Clarity)

Notes:

Work this sheet with Sheet No.B03-10.

For Sections A-A, B-B, C-C, D-D and Elevation E-E, see Sheet B03-10.

All concrete above the construction joint shall be Class B-2.

Reinforcing steel shall be shifted to clear piles. U bars shall clear piles by at least 1½ inches.

For laminated neoprene bearing detail, see Sheet No. B03-05.

For Location of coil tie rods, see Sheet No. B03-12.

Strands at end of the girders shall be field bent or, if necessary, cut in field to maintain 1½-inch minimum clearance to fill face of end bent.

The #6-F bars shall be bent in the field to clear girders.

For details of bridge approach slab, see Sheet No. B03-04.

(X) Denotes girder number

Released For Construction
Not to Scale
Revision: 0.0
Date: 04/11/2025
Package: BRD-03-25th_ST_PED

DETAILS OF END BENT NO. 5

Detailed DEC 2024
Checked JAN 2025

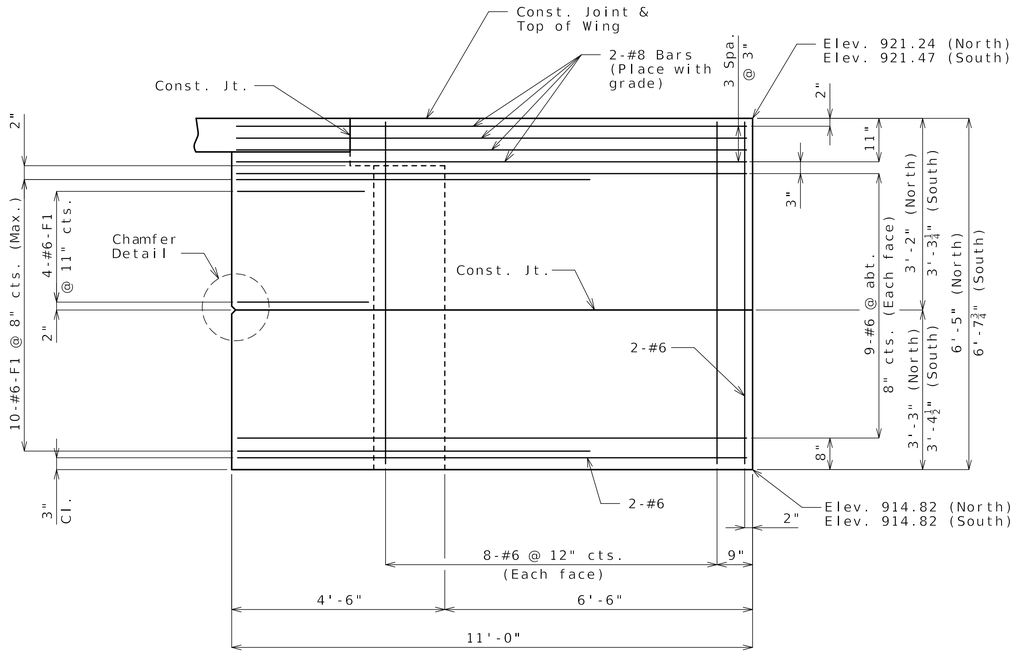
Note: This drawing is not to scale. Follow dimensions.

GINA D. HORNER PE-30413 PROFESSIONAL ENGINEER STATE OF MISSOURI
Gina D. Horner 4/11/2025

DATE PREPARED 04/11/2025
ROUTE I-70 | STATE MO
DISTRICT BR | SHEET NO. B03-09
COUNTY JACKSON
JOB NO. J4I1486D
CONTRACT ID. 240807-C01
PROJECT NO.
BRIDGE NO. A9629

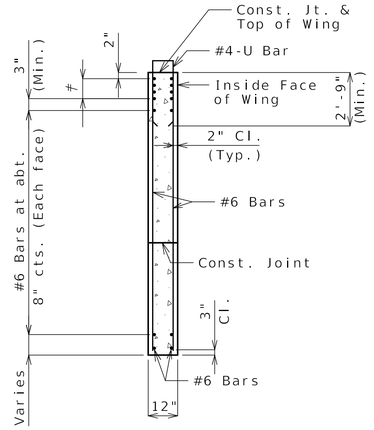
DATE	REV	DESCRIPTION
04/11/25	0	REV 0 - RFC SUBMITTAL

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)
MoDOT
CLARKSON RADMACHER JOINT VENTURE
715 KIRK DRIVE
KANSAS CITY, MO 64105-1310
CERTIFICATE OF AUTHORITY NO. 001270
HNTB



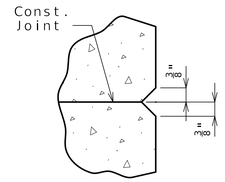
ELEVATION E-E

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



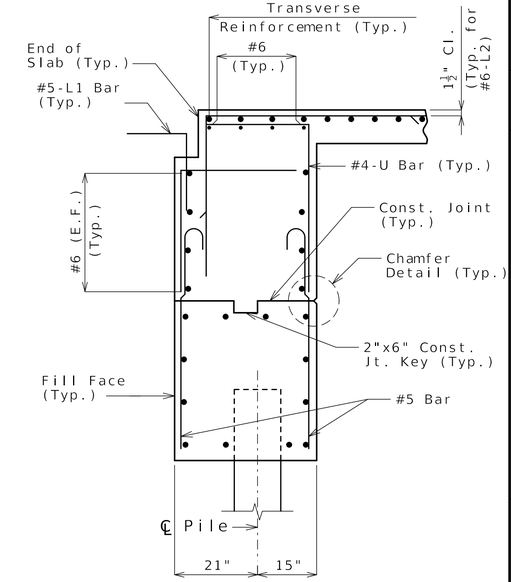
TYPICAL SECTION THRU WING

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

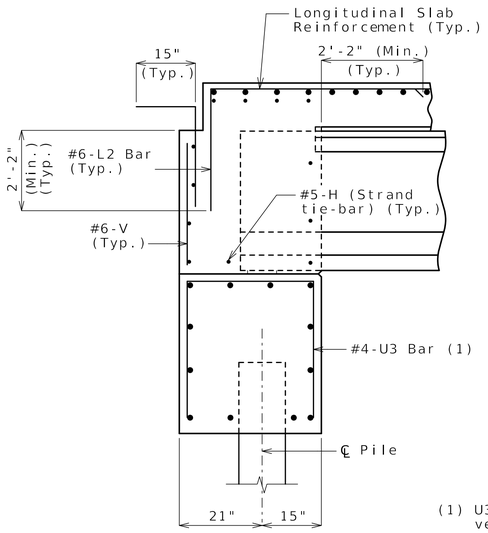


CHAMFER DETAIL

Released For Construction
Not to Scale
Revision: 0.0
Date: 04/11/2025
Package: BRD-03-25th_ST_PED

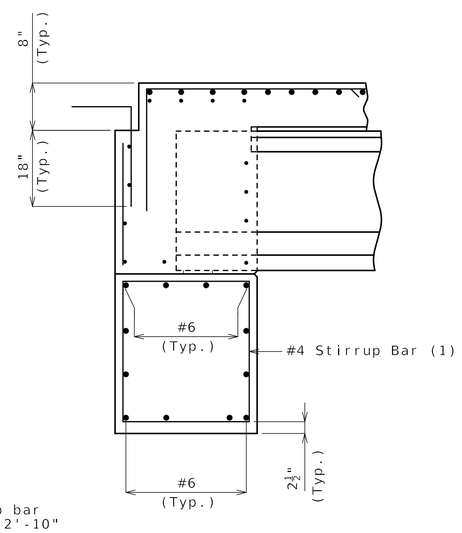


SECTION D-D

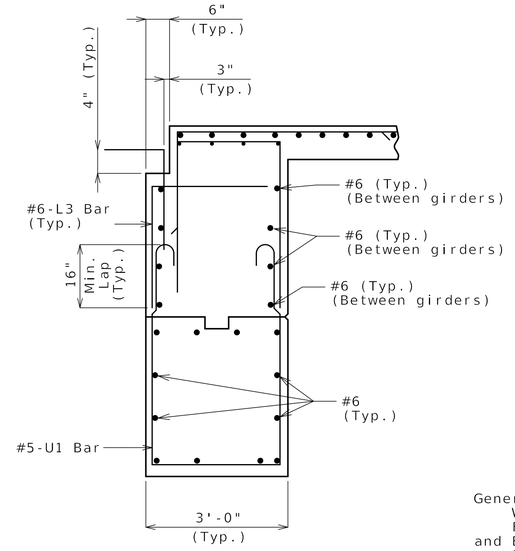


SECTION A-A

(1) U3 & #4 stirrup bar vertical leg = 2'-10"



SECTION B-B



SECTION C-C

General Notes:
Work this sheet with Sheet No. B03-09.
For location of Sections A-A, B-B, C-C and D-D and Elevation E-E, see Sheet No. B03-09.
For reinforcement of the pedestrian curb, see Sheet No. B03-20.

DETAILS OF END BENT NO. 5

GINA D. HORNER PE-30413 STATE OF MISSOURI PROFESSIONAL ENGINEER
Gina D. Horner 4/11/2025

DATE PREPARED 04/11/2025
ROUTE I-70 | STATE MO
DISTRICT BR | SHEET NO. B03-10
COUNTY JACKSON
JOB NO. J4I1486D
CONTRACT ID. 240807-C01
PROJECT NO.
BRIDGE NO. A9629

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

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

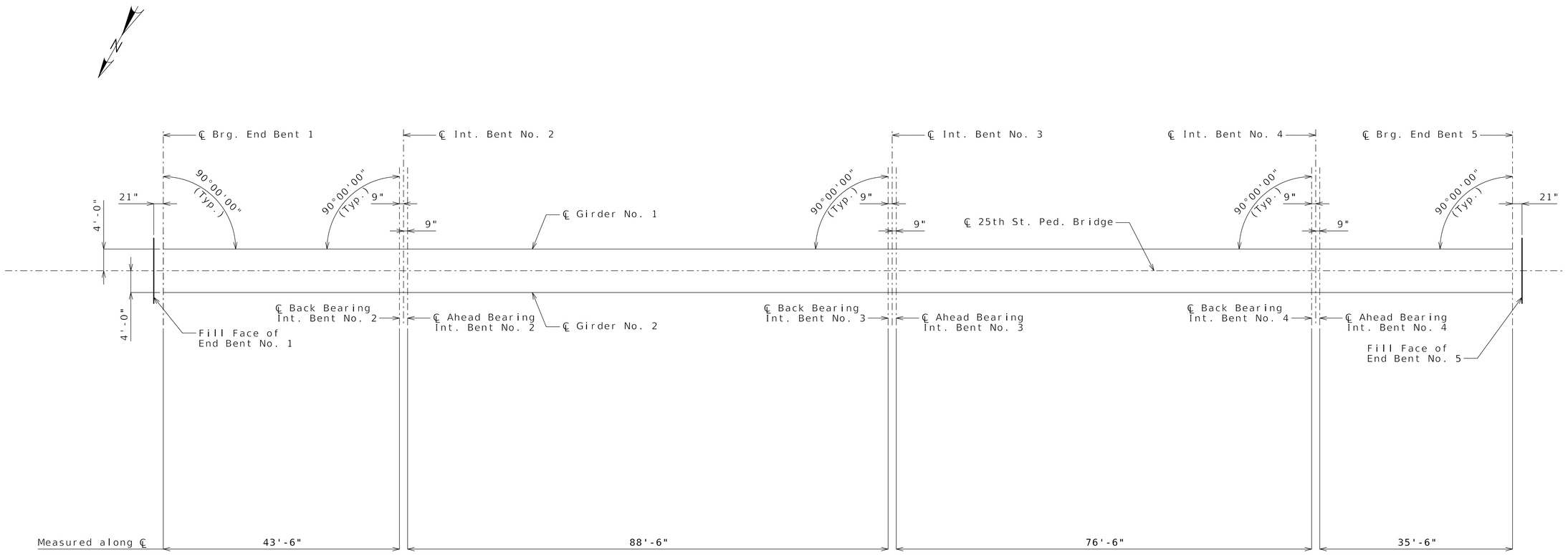
CLARKSON RADMACHER JOINT VENTURE
715 KIRK DRIVE
KANSAS CITY, MO 64105-1310
CERTIFICATE OF AUTHORITY NO. 001270

HNTB

Detailed DEC 2024
Checked JAN 2025

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

B_A9629_B03-11_J4I1486D.dgn 1:00:21 PM 4/10/2025



FRAMING PLAN

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

Released For Construction
Not to Scale
Revision: 0.0
Date: 04/11/2025
Package: BRD-03-25th_ST_PED

FRAMING PLAN

Detailed DEC 2024
Checked JAN 2025

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

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

DATE PREPARED 04/11/2025
ROUTE I-70
STATE MO
DISTRICT BR
SHEET NO. B03-11
COUNTY JACKSON
JOB NO. J4I1486D
CONTRACT ID. 240807-C01
PROJECT NO.
BRIDGE NO. A9629

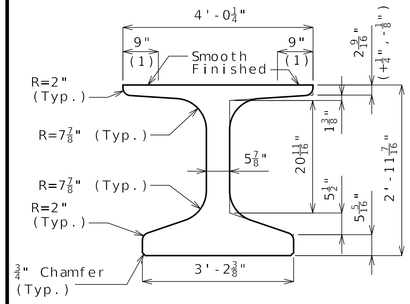
DATE	DESCRIPTION
04/11/25	REV 0 - RFC SUBMITTAL

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

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

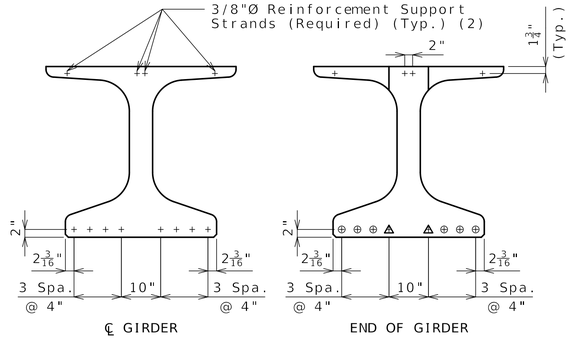
HNTB

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

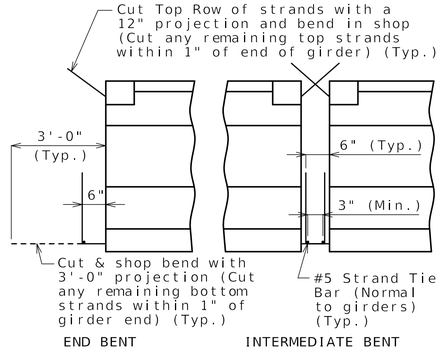


DIMENSIONS

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



STRAND ARRANGEMENT

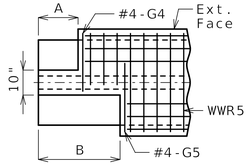


STRANDS AT GIRDER ENDS

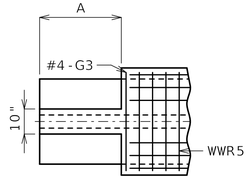
\+ Indicates prestressing strand.

△ Indicates strands debonded 3'-0" from each end of girder.

⊕ Indicates cut & shop bend with 3'-0" projection.

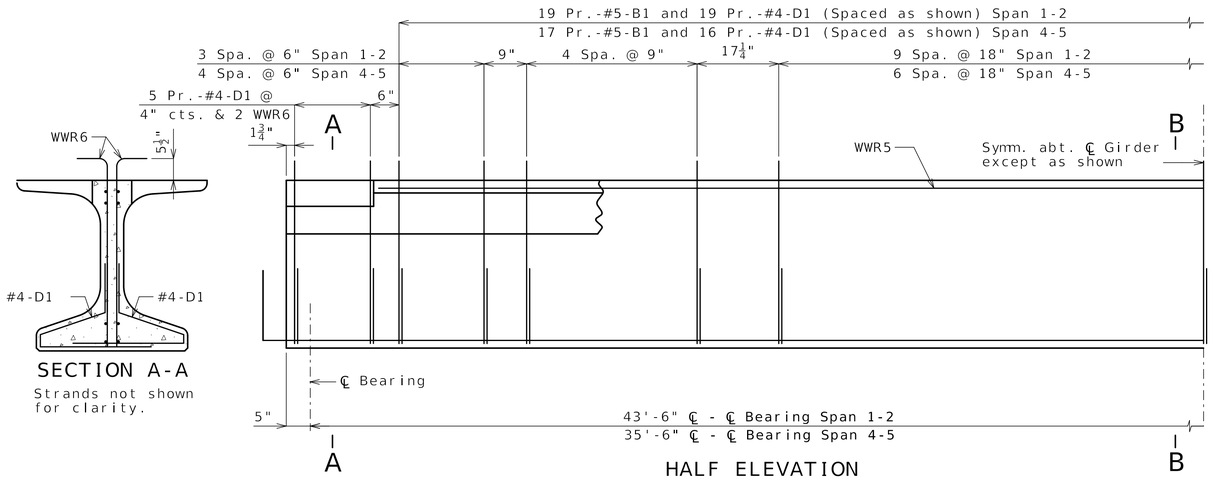


LEFT EXTERIOR GIRDER AT INTERMEDIATE BENT
Rotate 180° for right ext.



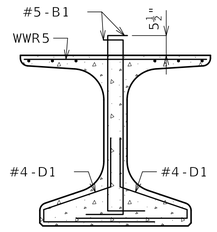
EXTERIOR GIRDER AT END BENT

TOP FLANGE BLOCKOUT



HALF ELEVATION

Reinforcement support strands not shown for clarity.

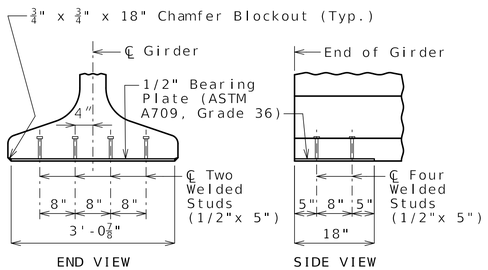


SECTION A-A

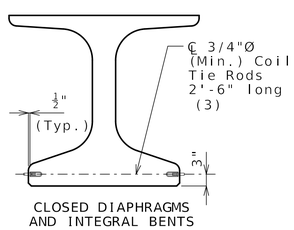
Strands not shown for clarity.

SECTION B-B

Strands not shown for clarity.



BEARING PLATE



COIL TIES

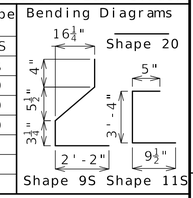
Exclude coil tie at exterior face of exterior girders except at integral end bents.

(3) 12" at exterior face of exterior girders at end bents

Bill of Reinforcing Steel - Each Girder

No.	Size/ Mark	Length	Shape
C	5 B1	4'-4"	11S
D	4 D1	4'-0"	9S
2	4 G3	3'-10¼"	20
2	4 G4	2'-3"	20
2	4 G5	2'-8"	20

Bending Diagrams



Welded Wire Reinforcement - Each Girder

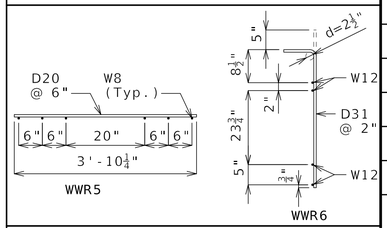


TABLE OF DIMENSIONS

Span No.	Girder No.	Bent No.	A	B	C	D
1-2	1 and 2	1	16½"	---	74	94
1-2	1 and 2	2	11"	9"		
4-5	1 and 2	4	7"	5½"	66	86
4-5	1 and 2	5	20"	---		

All dimensions are out to out.

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

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

Minimum clearance to reinforcing shall be one inch.

All bar reinforcement shall be Grade 60

The two D1 bars may be furnished as one bar at the fabricator's option.

All B1 bars shall be epoxy coated.

Half no. of G3, G4 and G5 not required for ext. girders of end spans.

General Notes:

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

Use 8 strands, 0.6"Ø Grade 270, with an initial prestress force of 352 kips.

Pretensioned members shall be in accordance with Sec 1029.

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

The contractor shall provide bracing necessary for lateral and torsional stability of the girders during construction of the concrete slab and remove the bracing after the slab has attained 75% design strength. Contractor shall not drill holes in the girders.

For Girder Camber Diagram, see Sheet No. B03-15.

For location of coil ties at concrete diaphragms and integral bents, see Sheets No. B03-05, B03-09 and B03-14.

Released For Construction
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Revision: 0.0
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Package: BRD-03-25th_ST_PED

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

DATE PREPARED 04/11/2025

ROUTE	STATE
I-70	MO
DISTRICT	SHEET NO.
BR	B03-12

COUNTY JACKSON

JOB NO. J4I1486D

CONTRACT ID. 240807-C01

PROJECT NO.

BRIDGE NO. A9629

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

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)
MoDOT
CLARKSON RADMACHER JOINT VENTURE
715 KIRK DRIVE
KANSAS CITY, MO 64105-1310
CERTIFICATE OF AUTHORITY NO. 001270
HNTB

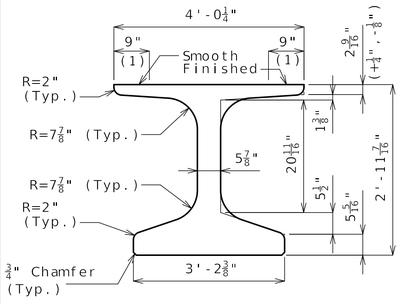
NU-GIRDERS - SPANS (1-2) & (4-5)

Detailed DEC 2024
Checked JAN 2025

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

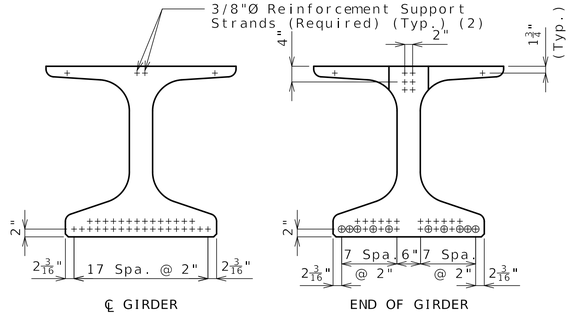
B_A9629_B03-13_J4I1486D.dgn 1:00:40 PM 4/10/2025

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



DIMENSIONS

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

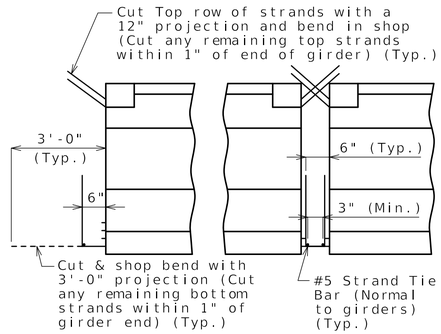


℄ GIRDER END OF GIRDER

STRAND ARRANGEMENT

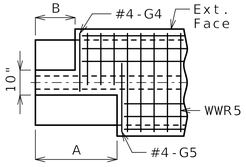
+ Indicates prestressing strand.

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

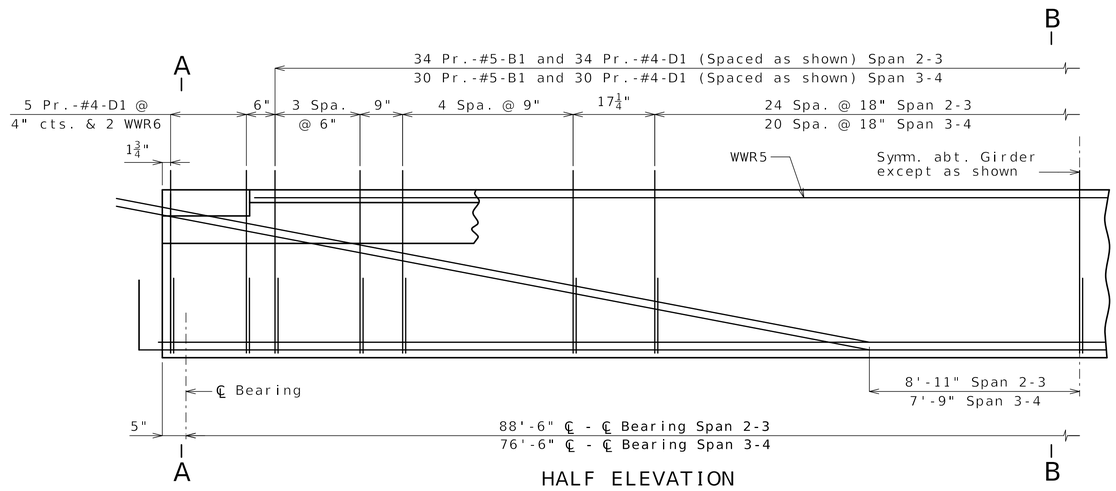


END BENT INTERMEDIATE BENT

STRANDS AT GIRDER ENDS

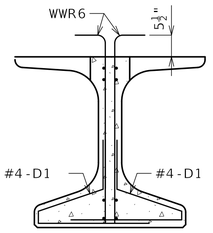


LEFT EXTERIOR GIRDER AT INTERMEDIATE BENT
Rotate 180° for right ext.



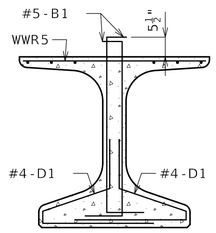
HALF ELEVATION

Reinforcement support strands not shown for clarity.



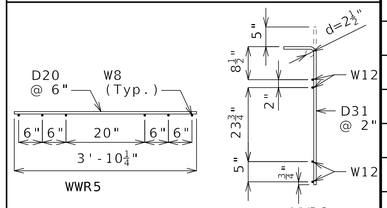
SECTION A-A

Strands not shown for clarity.



SECTION B-B

Strands not shown for clarity.



Welded Wire Reinforcement - Each Girder

Bill of Reinforcing Steel - Each Girder

No.	Size/ Mark	Length	Shape
C	5 B1	4'-4"	11S
D	4 D1	4'-0"	9S
2	4 G4	2'-3"	20
2	4 G5	2'-8"	20

Bending Diagrams

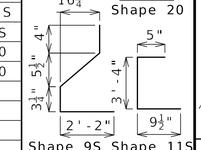


TABLE OF DIMENSIONS

Span No.	Girder No.	Bent No.	A	B	C	D
2-3	1 and 2	2	7½"	5½"	134	154
2-3	1 and 2	3	9"	11"		
3-4	1 and 2	3	7½"	5½"	118	138
3-4	1 and 2	4	9"	11"		

All dimensions are out to out.

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

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

Minimum clearance to reinforcing shall be one inch.

All bar reinforcement shall be Grade 60

The two D1 bars may be furnished as one bar at the fabricator's option.

All B1 bars shall be epoxy coated.

G3 not required for exterior girders of intermediate spans.

General Notes:

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

Use 32 strands, 0.6"Ø Grade 270, with an initial prestress force of 1406 kips

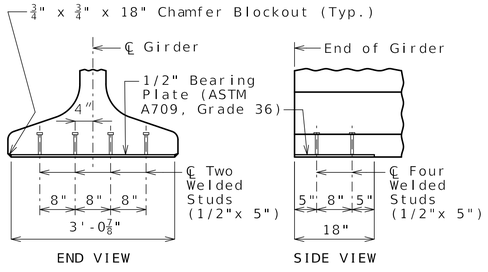
Pretensioned members shall be in accordance with Sec 1029.

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

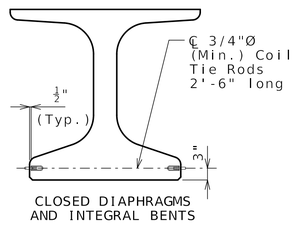
For Girder Camber Diagram, see Sheet No. B03-15.

For location of coil ties at concrete diaphragms and integral bents, see Sheet No. B03-14.

The contractor shall provide bracing necessary for lateral and torsional stability of the girders during construction of the concrete slab and remove the bracing after the slab has attained 75% design strength. Contractor shall not drill holes in the girders.



BEARING PLATE



COIL TIES

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

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

DATE PREPARED 04/11/2025

ROUTE I-70 | STATE MO

DISTRICT BR | SHEET NO. B03-13

COUNTY JACKSON

JOB NO. J4I1486D

CONTRACT ID. 240807-C01

PROJECT NO.

BRIDGE NO. A9629

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

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)
CLARKSON RADMACHER JOINT VENTURE
715 KIRK DRIVE
KANSAS CITY, MO 64105-1310
CERTIFICATE OF AUTHORITY NO. 001270
HNTB

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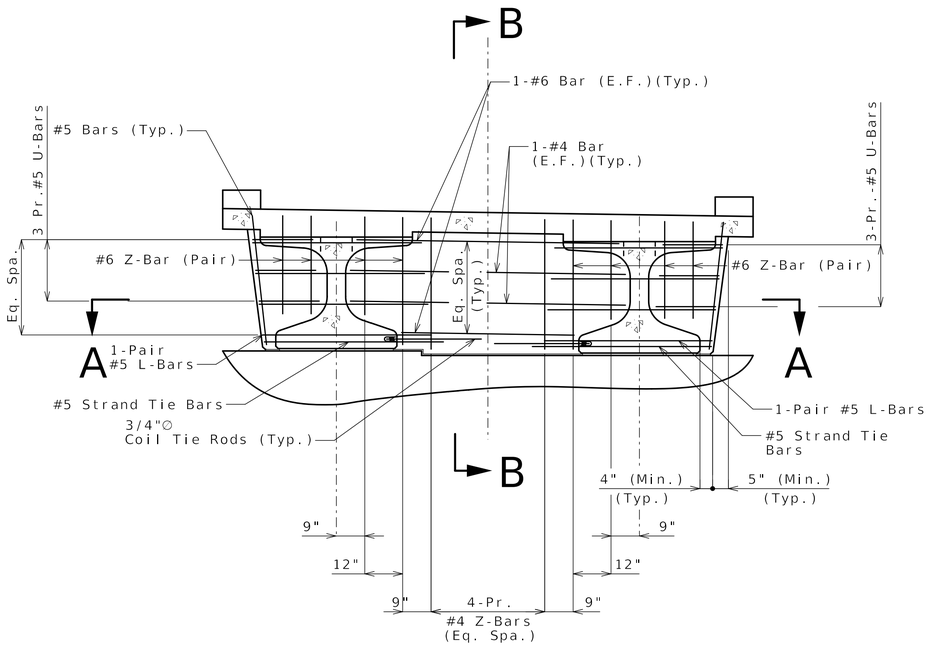
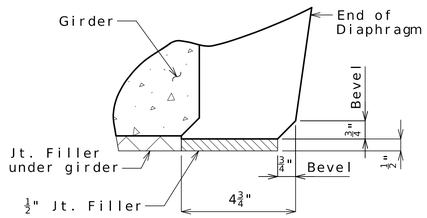
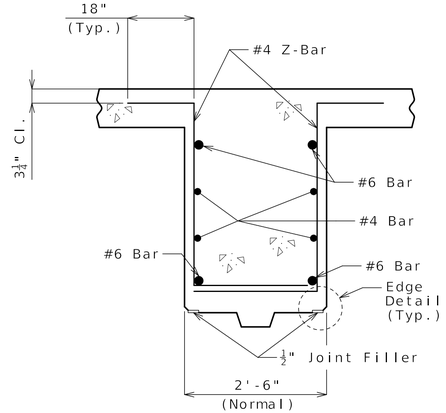
NU-GIRDERS - SPANS (2-3) & (3-4)



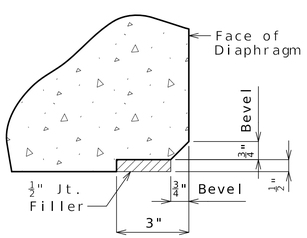
SECTION NEAR INTERMEDIATE BENT



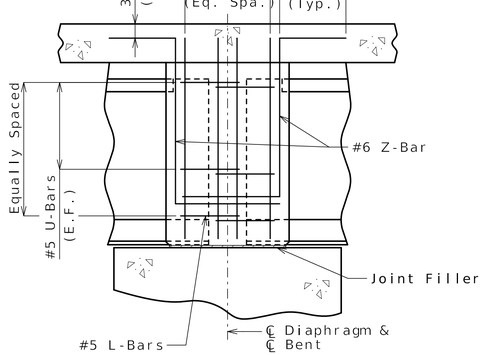
END DETAIL



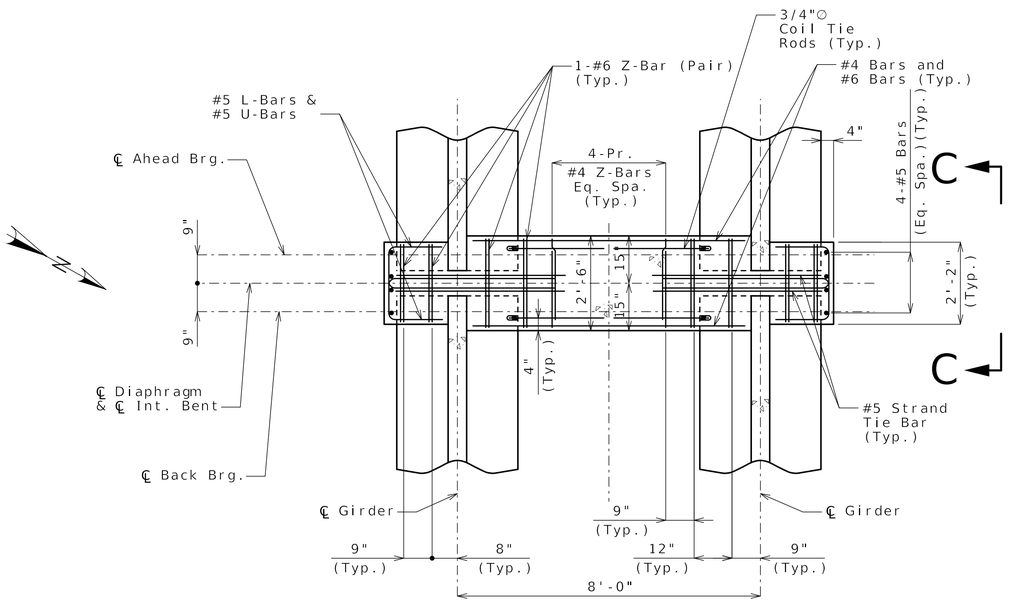
SECTION B-B



EDGE DETAIL



ELEVATION C-C



SECTION A-A

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Notes:
Diaphragms shall be built vertical.
For location of #5 Strand Tie Bars, see Sheets No. B03-12 thru B03-13.
For location of coil ties, see Sheets No. B03-12 thru B03-13.
For Bearing Details, see Sheet No. B03-08.
For Bent Details for cap beam step geometry, bearing location, dowel placement, shear key details, roofing felt details, joint filler details, and notes not shown here, see Sheet No. B03-08.

CONCRETE DIAPHRAGM AT INTERMEDIATE BENTS

Detailed DEC 2024
Checked JAN 2025

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

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

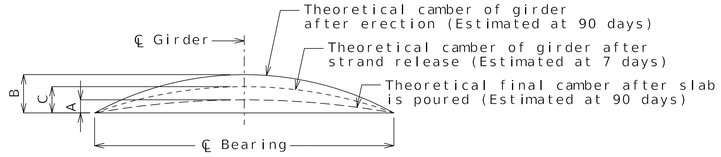
DATE PREPARED 04/11/2025
ROUTE I-70 | STATE MO
DISTRICT BR | SHEET NO. B03-14
COUNTY JACKSON
JOB NO. J4I1486D
CONTRACT ID. 240807-C01
PROJECT NO.
BRIDGE NO. A9629

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

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

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

HNTB

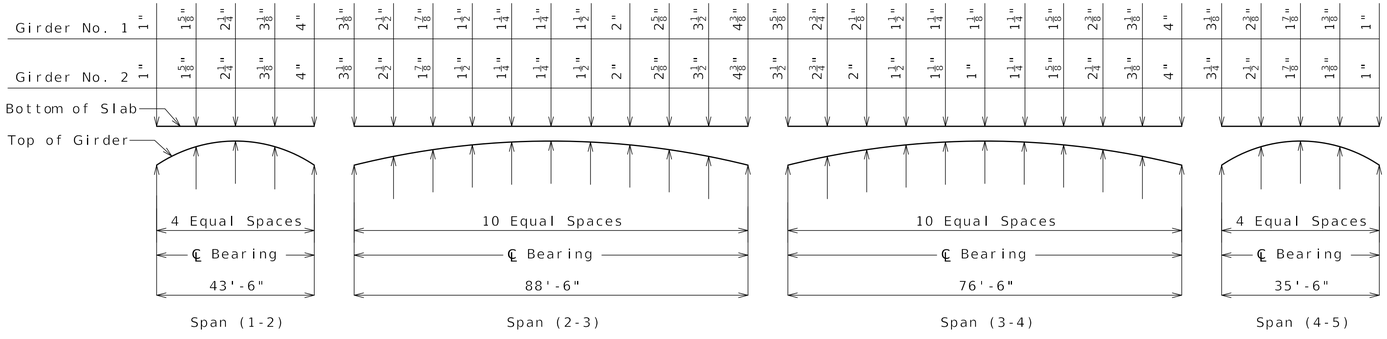


Girder	Span (1-2)			Span (2-3)			Span (3-4)			Span (4-5)		
	A	B	C	A	B	C	A	B	C	A	B	C
1	$\frac{1}{4}$"	$\frac{3}{8}$"	$\frac{1}{4}$"	$2\frac{1}{2}$"	$4\frac{1}{8}$"	$2\frac{7}{8}$"	$2\frac{3}{4}$"	$3\frac{5}{8}$"	$2\frac{1}{2}$"	$\frac{1}{4}$"	$\frac{1}{4}$"	$\frac{1}{8}$"
2	$\frac{1}{4}$"	$\frac{3}{8}$"	$\frac{1}{4}$"	$2\frac{1}{2}$"	$4\frac{1}{8}$"	$2\frac{7}{8}$"	$2\frac{3}{4}$"	$3\frac{5}{8}$"	$2\frac{1}{2}$"	$\frac{1}{4}$"	$\frac{1}{4}$"	$\frac{1}{8}$"

GIRDER CAMBER DIAGRAM

Conversion Factors for Girder Camber (Estimated at 90 days)

Span 2-3 & 3-4
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.
Span 1-2 & 4-5
0.25 pt. = 0.7125 x 0.5 pt.



THEORETICAL SLAB HAUNCHING DIAGRAM

Notes:
If girder 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.

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CAMBER DIAGRAM & THEORETICAL SLAB HAUNCHING DIAGRAM

Detailed DEC 2024
Checked JAN 2025

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

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

DATE PREPARED 04/11/2025
ROUTE I-70 | STATE MO
DISTRICT BR | SHEET NO. B03-15
COUNTY JACKSON
JOB NO. J4I1486D
CONTRACT ID. 240807-C01
PROJECT NO.
BRIDGE NO. A9629

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)

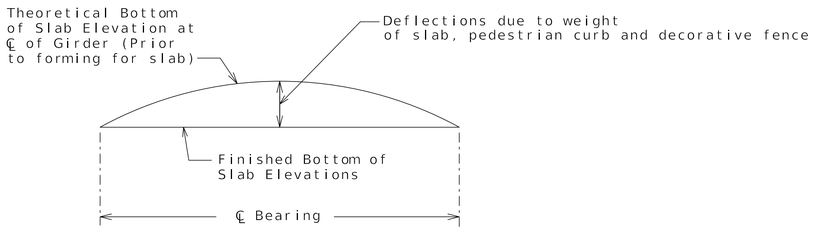
CLARKSON RADMACHER JOINT VENTURE
715 KIRK DRIVE
KANSAS CITY, MO 64105-1310
CERTIFICATE OF AUTHORITY NO. 001270

HNTB

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

Girder Number	Span (1-2) (43'-6" ℄ Brg. - ℄ Brg.)										
	℄ Brg.	.25	.50	.75	℄ Brg.						
1	933.27	932.76	932.24	931.71	931.18						
2	933.15	932.64	932.12	931.59	931.06						
Girder Number	Span (2-3) (88'-6" ℄ Brg. - ℄ Brg.)										
	℄ Brg.	.10	.20	.30	.40	.50	.60	.70	.80	.90	℄ Brg.
1	931.11	930.73	930.35	929.95	929.55	929.13	928.70	928.25	927.80	927.33	926.86
2	930.99	930.61	930.23	929.83	929.43	929.01	928.58	928.13	927.68	927.21	926.74
Girder Number	Span (3-4) (76'-6" ℄ Brg. - ℄ Brg.)										
	℄ Brg.	.10	.20	.30	.40	.50	.60	.70	.80	.90	℄ Brg.
1	926.79	926.45	926.10	925.75	925.40	925.03	924.66	924.29	923.90	923.51	923.12
2	926.67	926.33	925.98	925.63	925.28	924.91	924.54	924.17	923.78	923.39	923.00
Girder Number	Span (4-5) (35'-6" ℄ Brg. - ℄ Brg.)										
	℄ Brg.	.25	.50	.75	℄ Brg.						
1	923.05	922.62	922.20	921.77	921.34						
2	922.93	922.50	922.08	921.65	921.22						

**Elevations are based on a constant slab thickness of 6.5" and include allowance for theoretical dead load deflections due to weight of slab (including pedestrian curb and decorative pedestrian fence).



TYPICAL SLAB ELEVATIONS DIAGRAM

Detailed DEC 2024
Checked JAN 2025

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

THEORETICAL BOTTOM OF SLAB ELEVATIONS

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

DATE PREPARED: 04/11/2025
ROUTE: I-70 | STATE: MO
DISTRICT: BR | SHEET NO.: B03-16
COUNTY: JACKSON
JOB NO.: J4I1486D
CONTRACT ID.: 240807-C01
PROJECT NO.:
BRIDGE NO.: A9629

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

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

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

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Revision: 0.0
Date: 04/11/2025
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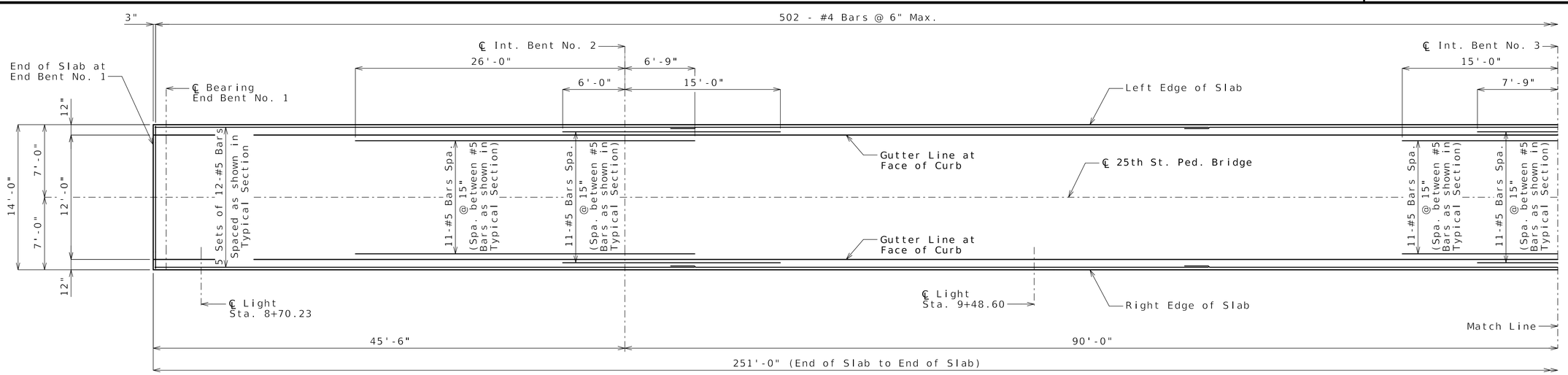

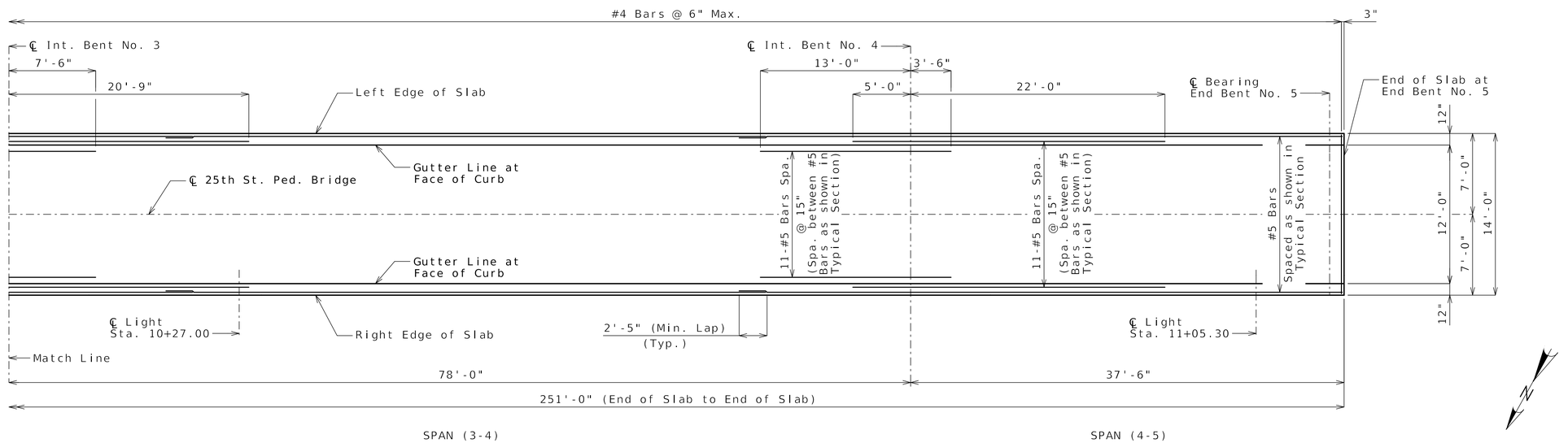

TOP REINFORCEMENT

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Revision: 0.0
Date: 04/11/2025
Package: BRD-03-25th_ST_PED

Notes:
Work this sheet with Sheet No. B03-18.
For Typical Section and Slab Pouring Sequence, see Sheet No. B03-19.
For Pedestrian Curb Details, see Sheet No. B03-20.
For Camber Diagram and Theoretical Slab Haunching Diagram, see Sheet No. B03-15.
For Theoretical Bottom of Slab Elevations, see Sheet No. B03-16.
Longitudinal slab dimensions are measured horizontally.
For Light Blister Reinforcing and Details, see Sheet No. B03-21.

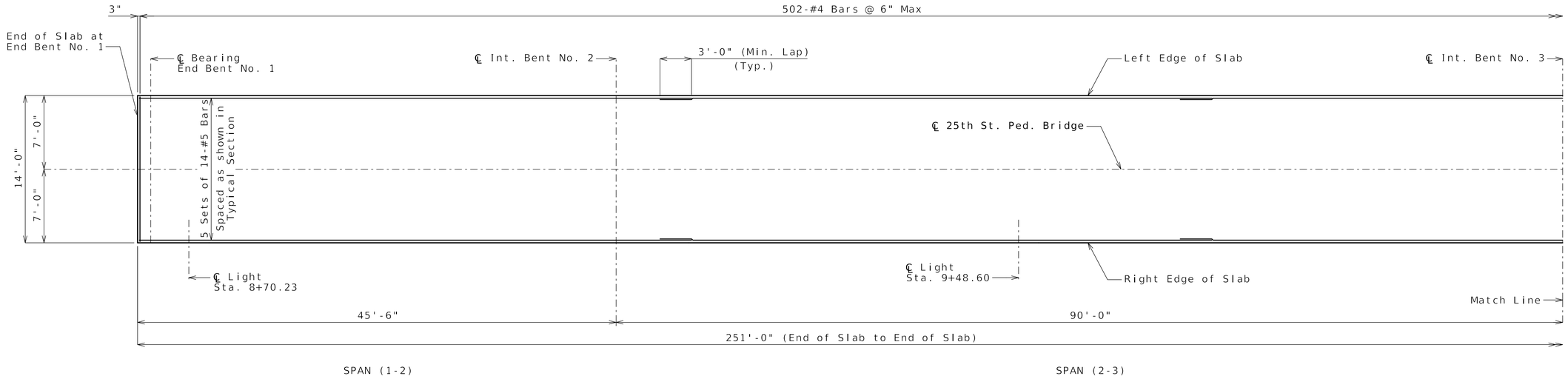
SLAB PLAN SHOWING TOP REINFORCEMENT

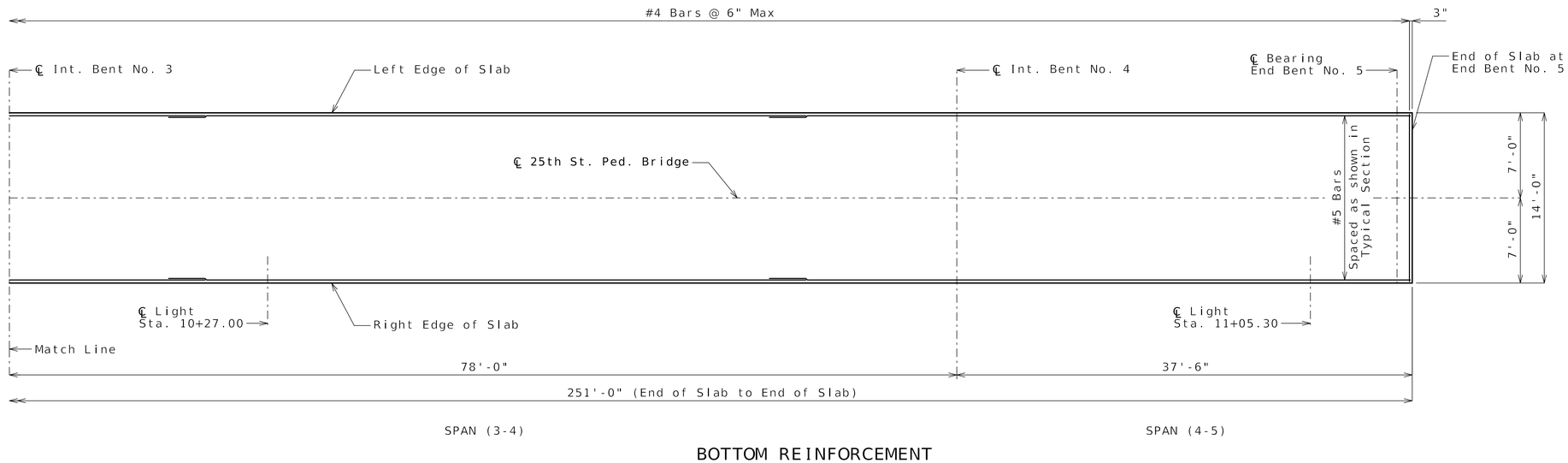
BENJAMIN LICHTY NUMBER PE-2023038803
STATE OF MISSOURI PROFESSIONAL ENGINEER
04-11-2025

DATE PREPARED 04/11/2025
ROUTE I-70 | STATE MO
DISTRICT BR | SHEET NO. B03-17
COUNTY JACKSON
JOB NO. J4I1486D
CONTRACT ID. 240807-C01
PROJECT NO.
BRIDGE NO. A9629

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

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)
CLARKSON RADMACHER JOINT VENTURE
715 KIRK DRIVE
KANSAS CITY, MO 64105-1310
CERTIFICATE OF AUTHORITY NO. 001270
HNTB





BOTTOM REINFORCEMENT

Notes:
Work this sheet with Sheet No. B03-17.

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Revision: 0.0
Date: 04/11/2025
Package: BRD-03-25th_ST_PED

SLAB PLAN SHOWING BOTTOM REINFORCEMENT

Detailed DEC 2024
Checked JAN 2025

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

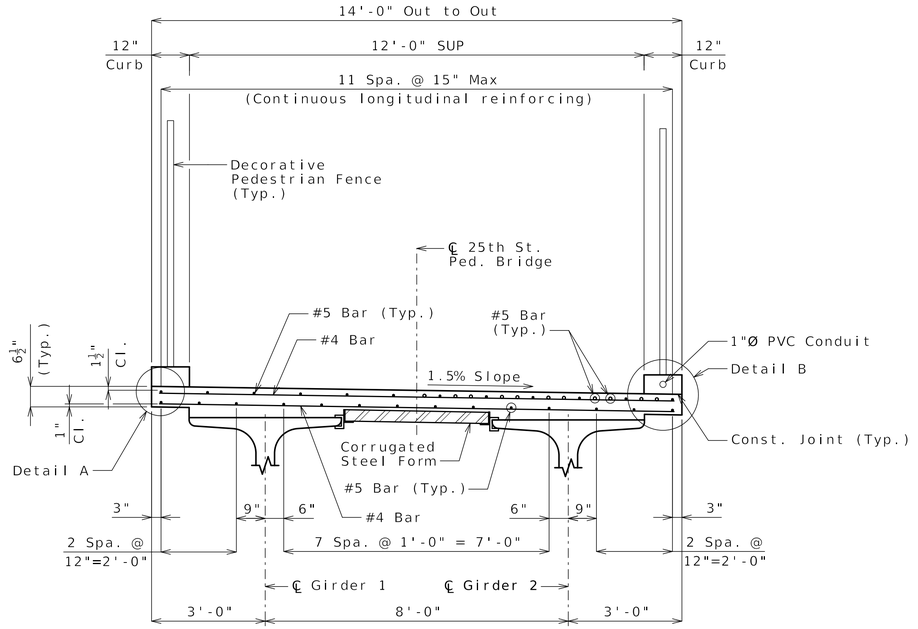
BENJAMIN LICHTY NUMBER PE-2023038803
STATE OF MISSOURI PROFESSIONAL ENGINEER
04-11-2025

DATE PREPARED 04/11/2025
ROUTE I-70 | STATE MO
DISTRICT BR | SHEET NO. B03-18
COUNTY JACKSON
JOB NO. J4I1486D
CONTRACT ID. 240807-C01
PROJECT NO.
BRIDGE NO. A9629

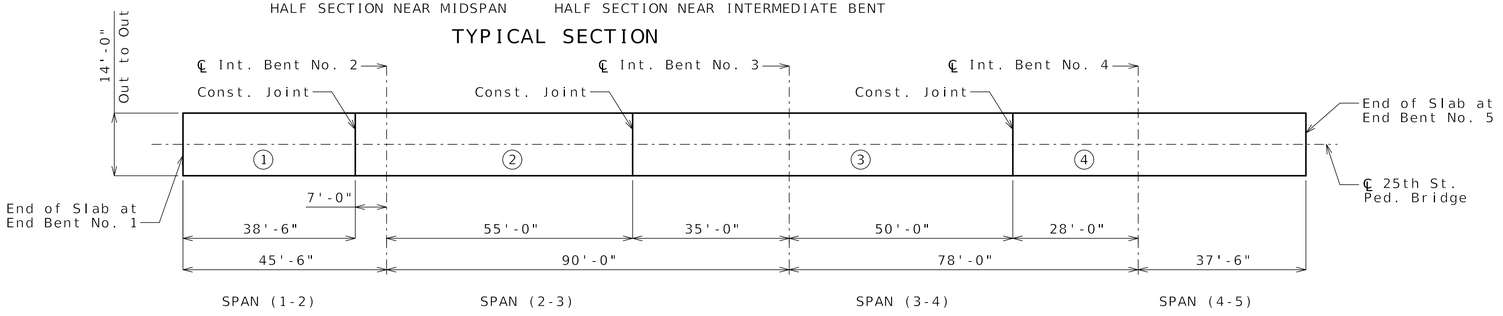
DESCRIPTION	DATE
REV 0 - RFC SUBMITTAL	04/11/25

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



TYPICAL SECTION

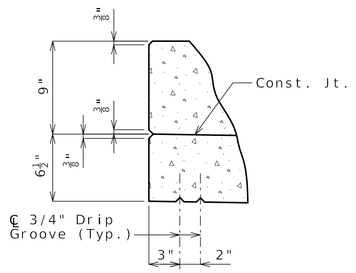


	Sequence of Pours				Min. Rate of Pour Cu. Yds./Hr.
	Direction				With Retarder
Basic Sequence	4	3	2	1	25
	End to 3	4 to 2	3 to 1	2 to End	
Alternate pours to the basic sequence are subject to the approval of the engineer in accordance with Sec 703.					
Alternate A Pours	4+3		2	1	25
	End to 2		3 to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

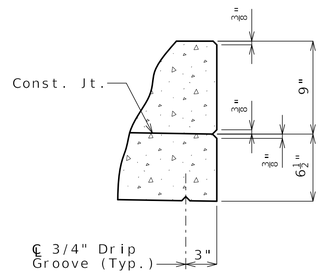
The contractor shall furnish an approved retarder to retard the set of the concrete to 2.5 hours, and shall pour and satisfactorily finish the slab pours at the rate given.

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.

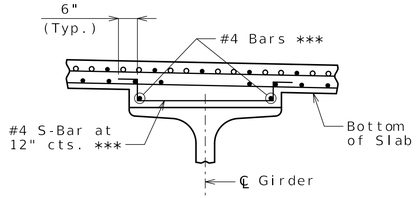
SLAB POURING SEQUENCE



DETAIL A
(High side of slab)

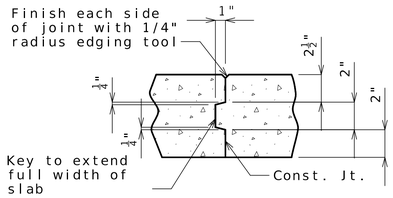


DETAIL B
(Low side of slab)



HAUNCH REINFORCING DETAIL
(Prestressed Girders)

*** Contractor shall provide #4 Bars and #4 S-Bars as necessary where the haunch exceeds 4 inches measured at centerline of girder. See Theoretical Slab Haunching Diagram on Sheet No. B03-15 for haunch thickness.



SLAB CONSTRUCTION JOINT

Notes:
For Plan of Slab Showing Top and Bottom Reinforcement, see Sheets No. B03-17 and B03-18.
For reinforcement of Pedestrian Curb not shown, see Sheet No. B03-20.
For Details of Conduit System of Structure, see Sheet No. B03-23.
For Decorative Pedestrian Fence Details, see Sheet No. B03-22.

SLAB DETAILS

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Date: 04/11/2025
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Detailed DEC 2024
Checked JAN 2025

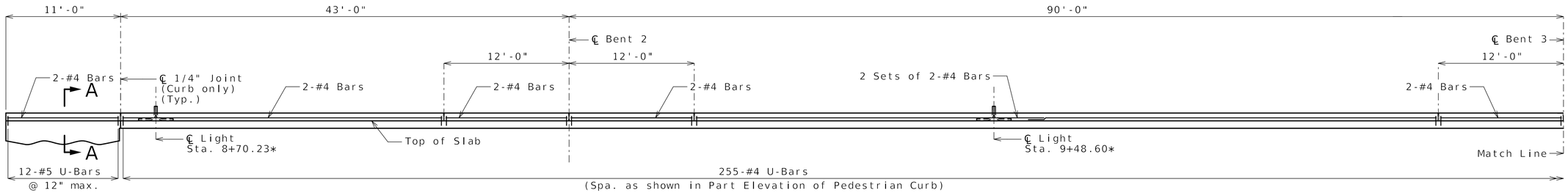
Note: This drawing is not to scale. Follow dimensions.

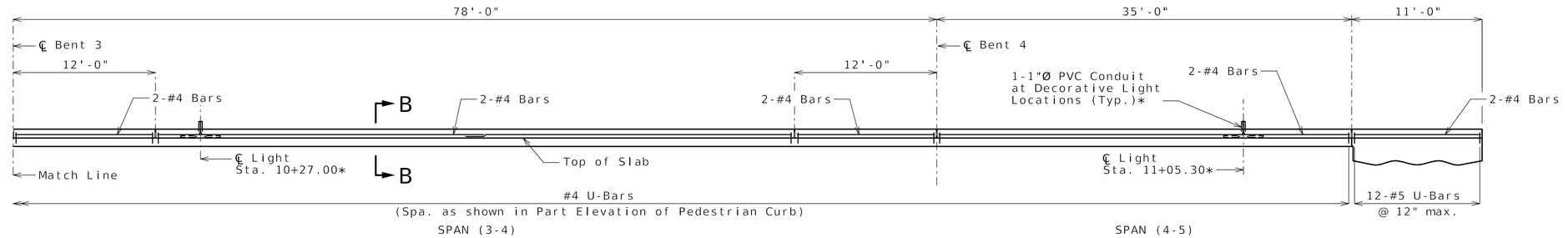
STATE OF MISSOURI
BENJAMIN LICHTY NUMBER PE-2023038803
PROFESSIONAL ENGINEER
04-11-2025

DATE PREPARED 04/11/2025
ROUTE I-70 | STATE MO
DISTRICT BR | SHEET NO. B03-19
COUNTY JACKSON
JOB NO. J4I1486D
CONTRACT ID. 240807-C01
PROJECT NO.
BRIDGE NO. A9629

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

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)
CLARKSON RADMACHER JOINT VENTURE
715 KIRK DRIVE
KANSAS CITY, MO 64105-1310
CERTIFICATE OF AUTHORITY NO. 001270
HNTB

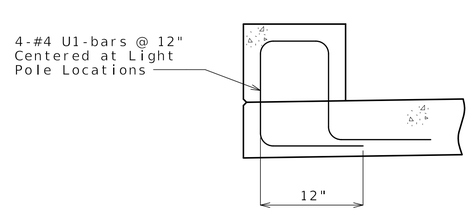




ELEVATION OF PEDESTRIAN CURB

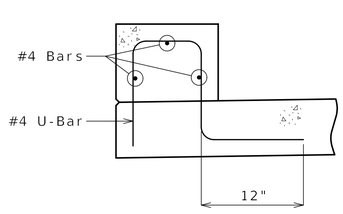
(Left curb shown, right curb similar)
Longitudinal dimensions are horizontal and measured along the outside of slab.

*Right pedestrian curb only.



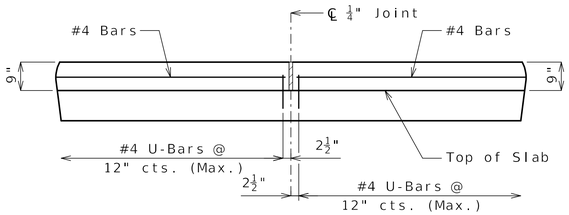
U1-BAR DETAIL AT LIGHT POLE

(At light locations, U1-Bars to be used in lieu of #4 U-bars shown in Section B-B)

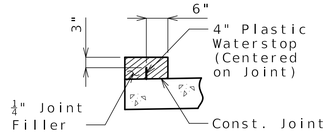


ALTERNATE CURB REINFORCING DETAIL

(Alt for Section B-B shown. alt for Section A-A similar)

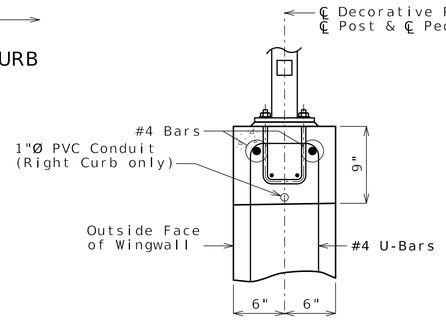


PART ELEVATION OF PEDESTRIAN CURB

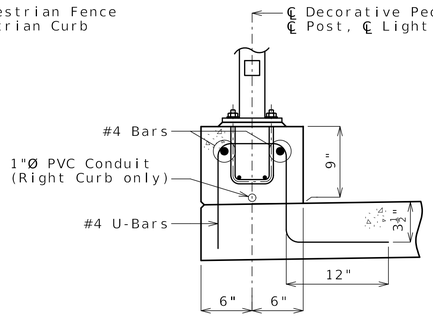


PLASTIC WATERSTOP DETAIL

Plastic waterstop shall be placed in all pedestrian curb filled joints, except structures with superelevation, use on lower joints only.

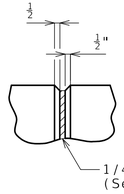


SECTION A-A



SECTION B-B

Use a minimum lap of 2'-7" for #4 horizontal curb bars.



PART ELEVATION AT CURB JOINT

Notes:

Conventional forming shall be used for all pedestrian curb.

Locating and pre-setting fence post u-bolts with tack welded #4 bars prior to slab pour is recommended.

Top of curb shall be built parallel to grade and curb joints (except at end bents) normal to grade.

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

Concrete in the pedestrian curb shall be Class B-1.

Center of posts shall clear curb joints or ends by at least 6 inches.

Slab reinforcement not shown for clarity.

For details of decorative pedestrian fence not shown, see Sheet No. B03-22.

For details of Decorative Lighting, see Lighting plans.

PEDESTRIAN CURB DETAILS

Detailed DEC 2024
Checked JAN 2025

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

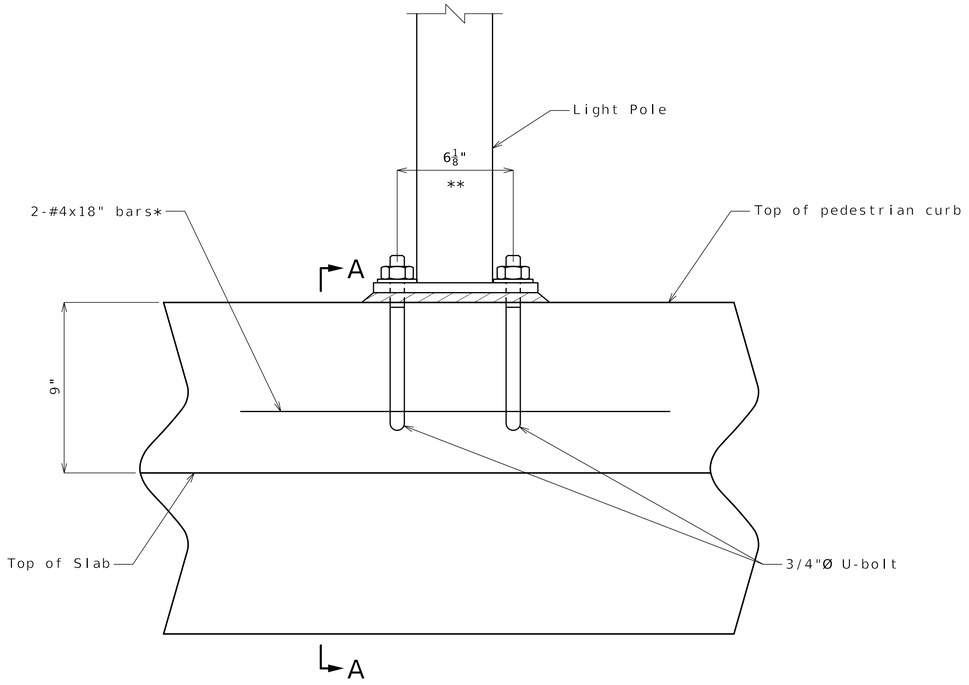
STATE OF MISSOURI
PROFESSIONAL ENGINEER
BENJAMIN LICHTY
NUMBER PE-2023038803
04-11-2025

DATE PREPARED 04/11/2025
ROUTE I-70 | STATE MO
DISTRICT BR | SHEET NO. B03-20
COUNTY JACKSON
JOB NO. J4I1486D
CONTRACT ID. 240807-C01
PROJECT NO.
BRIDGE NO. A9629

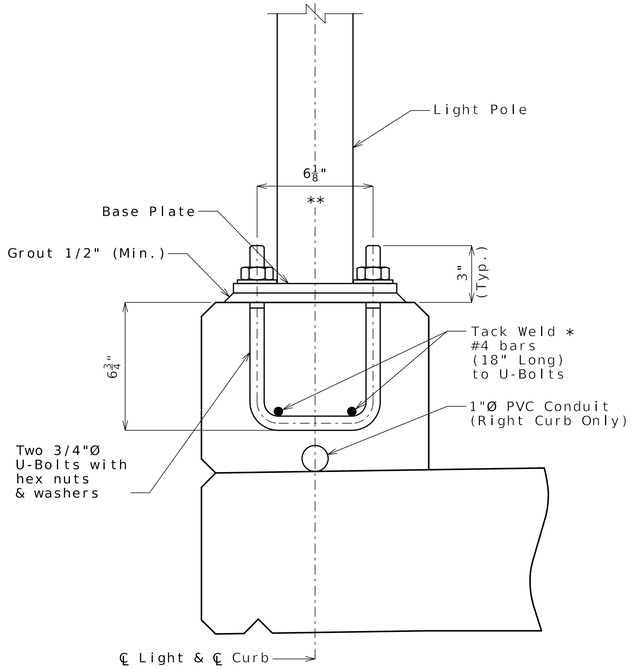
DESCRIPTION	DATE
REV 0 - RFC SUBMITTAL	04/11/25

Released For Construction
Not to Scale
Revision: 0.0
Date: 04/11/2025
Package: BRD-03-25th_ST_PED

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



LIGHT POLE PART ELEVATION



SECTION A-A

Released For Construction
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Revision: 0.0
Date: 04/11/2025
Package: BRD-03-25th_ST_PED

Notes:
- Base plate provided by light pole manufacturer.
- All base plates, U-bolts, hex nuts and washers shall be galvanized in accordance with ASTM A123 and Sec 1081.
- All light poles shall be vertical.
- Grout shall be placed under the post base plates in accordance with Sec 1066.
- U-bolts shall be ASTM F1554 Grade 36.
- For locations of lights, see Sheet No. B03-17.
- For details of pedestrian curb, see Sheet No. B03-20.
- For details of decorative pedestrian fence at light locations, see Sheet No. B03-22.
- Locating and pre-setting u-bolts with tack welded #4 bars prior to slab pour is recommended.
- *Bars can be field cut to place around slab #4-U-bars. In this case, galvanization at cut locations shall be repaired per Sec 1081. Additional #4x18" galvanized bar shall be lapped with each cut bar.
- **Dimensions based on assumed bolt circle of 8 5/8". Contractor shall confirm dimensions with light pole supplier.

LIGHT ANCHORAGE DETAILS

STATE OF MISSOURI
BENJAMIN LICHTY
NUMBER PE-2023038803
PROFESSIONAL ENGINEER
04-11-2025

DATE PREPARED: 04/11/2025
ROUTE: I-70 | STATE: MO
DISTRICT: BR | SHEET NO.: B03-21
COUNTY: JACKSON
JOB NO.: J4I1486D
CONTRACT ID.: 240807-C01
PROJECT NO.:
BRIDGE NO.: A9629

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

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

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

HNTB

Detailed DEC 2024
Checked JAN 2025

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

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 black finish (Federal Standard #17038). See special provisions.

Base plate shall be ASTM A709, Grade 50.

All base plates, U bolts, 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.

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 the anchor bolts and hardware, and #4 bars welded to the anchor bolts. 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.

Substitution for the U-bolt cages will not be permitted.

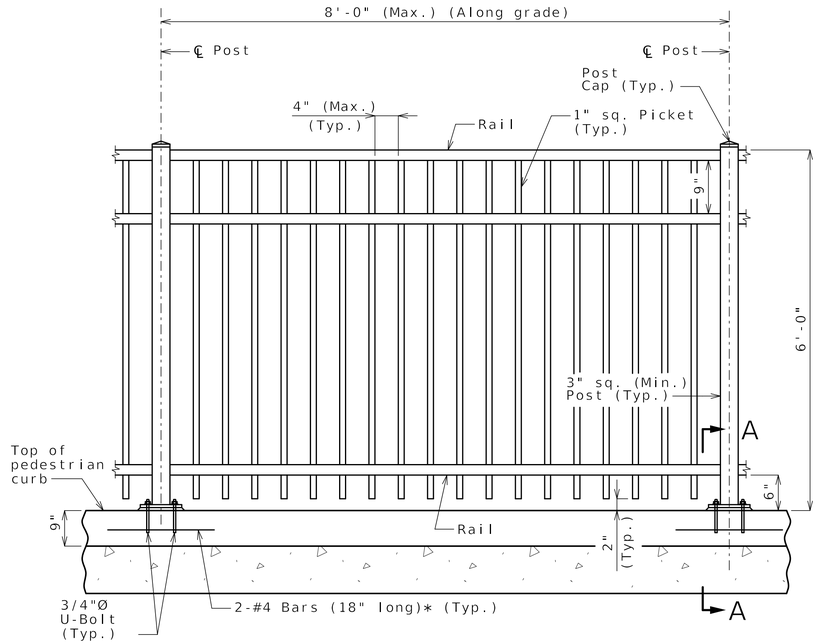
U-bolts shall be ASTM F1554 Grade 36.

For details of pedestrian curb, see Sheet No. B03-20.

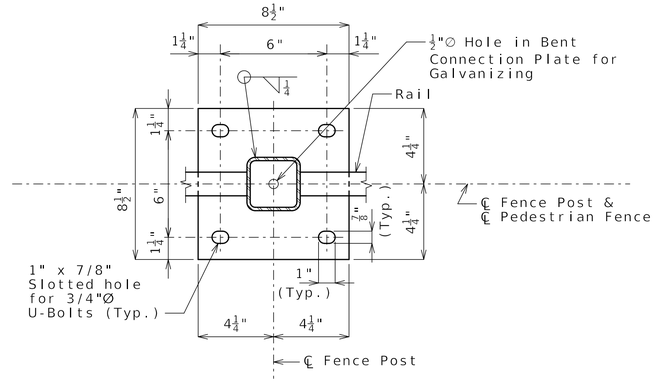
Longitudinal dimensions of fence are horizontal.

Locating and pre-setting fence post u-bolts with tack welded #4 bars prior to slab pour is recommended.

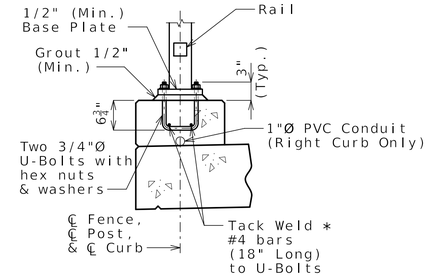
∗ Bars can be field cut to place around slab #4-U-bars. In this case, galvanization at cut locations shall be repaired per Sec 1081. Additional #4x18" galvanized bar shall be lapped with each cut bar.



TYPICAL PART ELEVATION

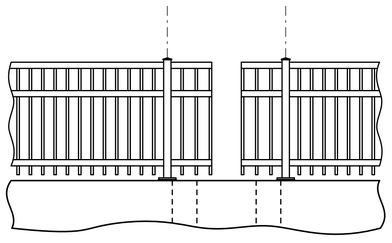


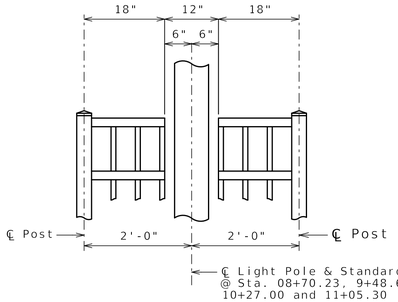
PART PLAN SHOWING BASE PLATE



SECTION A-A

½-inch diameter hole in base plate not shown for clarity.





TYPICAL DETAIL OF FENCE AT LIGHT STANDARDS

BENJAMIN LICHTY NUMBER PE-2023038803
PROFESSIONAL ENGINEER
STATE OF MISSOURI
04-11-2025

DATE PREPARED 04/11/2025
ROUTE I-70 | STATE MO
DISTRICT BR | SHEET NO. B03-22
COUNTY JACKSON
JOB NO. J4I1486D
CONTRACT ID. 240807-C01
PROJECT NO.
BRIDGE NO. A9629

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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
HNTB

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Package: BRD-03-25th_ST_PED

DECORATIVE PEDESTRIAN FENCE DETAILS

Detailed DEC 2024
Checked JAN 2025

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

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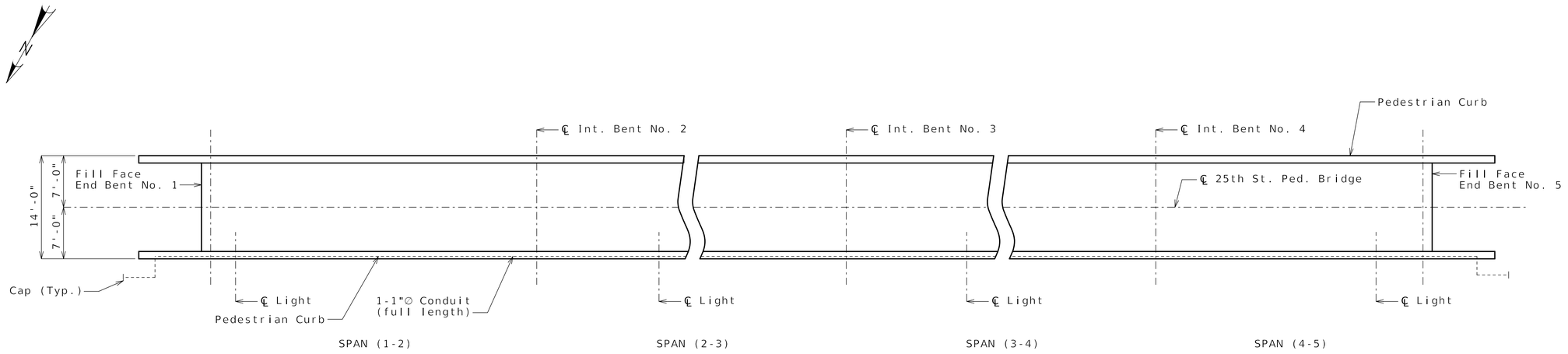
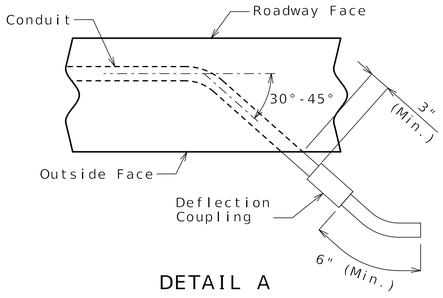
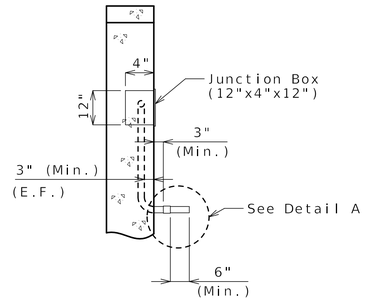


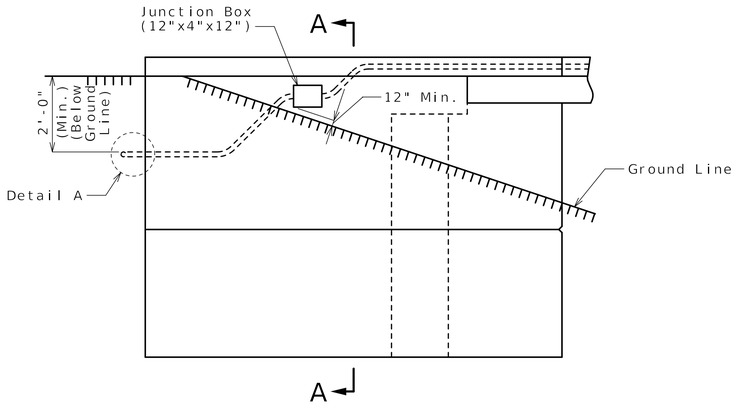
PLAN OF CONDUIT SYSTEM



DETAIL A



PART SECTION A-A



PART WINGWALL ELEVATION

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Not to Scale
Revision: 0.0
Date: 04/11/2025
Package: BRD-03-25th_ST_PED

Notes:

All conduit shall be rigid non-metallic schedule 40 heavy wall PVC (polyvinyl chloride plastic) with 3" minimum cover in concrete. Each section of conduit shall bear the Underwriters laboratories (UL) label.

Shift reinforcing steel in field where necessary to clear conduit and junction boxes.

Expansion fittings shall be placed as shown and set in accordance with the manufacturer's requirements and based on the air temperature at the time of setting given an estimated total movement of 1 inch at filled joints using a maximum temperature range of 120°F and a maximum temperature of 110°F.

All end bent junction boxes shall be PVC molded in accordance with Sec. 1062 and designed for flush mounting. The conduit terminations shall be permanent or separable. The terminations and covers shall be of watertight construction and shall meet requirements for NEMA 4X enclosure.

Drainage shall be provided at low points or other critical locations of all conduits and all junction boxes in accordance with Sec 707. All conduits shall be sloped to drain where possible.

DETAILS OF CONDUIT SYSTEM ON STRUCTURE

BENJAMIN LICHTY
NUMBER PE-2023038803
PROFESSIONAL ENGINEER
STATE OF MISSOURI
04-11-2025

DATE PREPARED 04/11/2025
ROUTE I-70 | STATE MO
DISTRICT BR | SHEET NO. B03-23
COUNTY JACKSON
JOB NO. J4I1486D
CONTRACT ID. 240807-C01
PROJECT NO.
BRIDGE NO. A9629

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

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CERTIFICATE OF AUTHORITY NO. 001270
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Detailed DEC 2024
Checked JAN 2025

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

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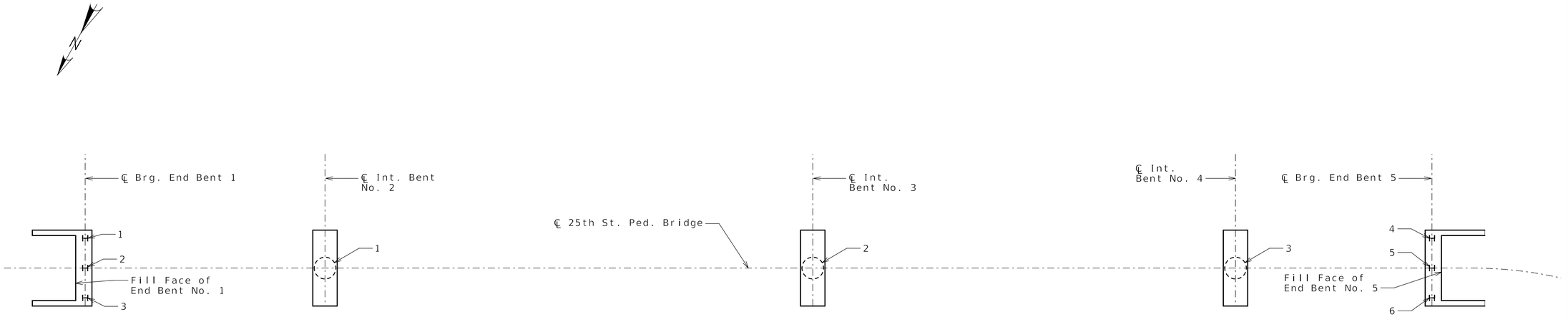

PART PLAN SHOWING PILE AND DRILLED SHAFT NUMBERING FOR RECORDING AS-BUILT PILE DATA AND AS-BUILT DRILLED SHAFT DATA

As-Built Pile Data

Pile No.	Length in Place (ft)	PDA Nom. Axial Compressive Resistance (kips)	PDA End of Drive Blow Count (blows/in.)	Actual End of Drive Blow Count (blows/in.)	Remarks
					End Bent No. 1
1					
2					
3					
					End Bent No. 5
4					
5					
6					

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.)

As-Built Drilled Shaft Data

Shaft No.	Top of Sound Rock (Elev.)	Tip of Casing (Elev.)	Bottom of Drilled Shaft (Elev.)	Remarks
				Intermediate Bent No. 2
1				
				Intermediate Bent No. 3
2				
				Intermediate Bent No. 4
3				

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

Released For Construction
Not to Scale
Revision: 0.0
Date: 04/11/2025
Package: BRD-03-25th_ST_PED

AS-BUILT PILE AND DRILLED SHAFT DATA

Detailed DEC 2024
Checked JAN 2025

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

STATE OF MISSOURI
GINA D. HORNER
PE-30413
PROFESSIONAL ENGINEER
Gina D. Horner
4/11/2025

DATE PREPARED 04/11/2025
ROUTE I-70 | STATE MO
DISTRICT BR | SHEET NO. B03-24
COUNTY JACKSON
JOB NO. J4I1486D
CONTRACT ID. 240807-C01
PROJECT NO.
BRIDGE NO. A9629

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

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

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

HNTB

SOIL BORING NUMBER: 25Ped_B1_1

Page 1 of 1

PROJECT Improve I 70 KC Design Build
DRILLING FIRM PPI **DRILLER** Josh Starkey
LOGGED BY Zachary Boyd
SURFACE ELEVATION 920.0'
METHOD Water Rotary
NORTHING/EASTING 1061040.6 / 2777556.6
DATE STARTED 12/16/2024
DATE COMPLETED 12/16/2024
RIG TYPE CME-55LC
TOOLING 4-1/2" Continuous Flight Auger

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

Depth (ft)	Depth of Sample	Sample Type	Sample ID	Recovery Length (in)	Blow Counts (N-Value)	% Recovery	RQD (%)	Pocket Pen (tsf)	Graphic Log	Visual Classification and Remarks	Lab: Atterberg Limits (LL-PL-PI)	Lab: Moisture Content (%)	Lab: Dry Density (PCF)	Lab: UCS (tsf)
										FILL, brown, very stiff, moist, LEAN CLAY, organics				
	3.5 ft		J-1	18	9-14-15 (29)	100		>4.5		3.8 916.2	49-18-31	14.9		
5										Tan to light gray, medium dense, fine to coarse grained, GRAVEL 5.3 914.7				
	8.5 ft		J-2	18	6-11-16 (27)	100		>4.5		FILL, light brown, very stiff, moist, SILTY LEAN CLAY, some organics	58-21-37	16.3		
10														
	13.6 ft		J-3	1	50/1"	100	75	>4.5		13.5 906.5				
15	15.6 ft		C-1	22		92				Limestone, weathered, fine grained, light gray, moderately hard				
			C-2	60		100	77					0.3	165.6	1173
20										20.6 - 6" clay seam at 20' 899.4				
										Bottom of Boring at 20.6'				
25										Boring backfilled with cuttings 12/16/2024				
30														
35														

HNTB

SOIL BORING NUMBER: 25Ped_B2_1

Page 1 of 2

PROJECT Improve I 70 KC Design Build
DRILLING FIRM PPI **DRILLER** Josh Starkey
LOGGED BY Zachary Boyd
SURFACE ELEVATION 912.2'
METHOD Watery Rotary
NORTHING/EASTING 1061069.6 / 2777612.7
DATE STARTED 12/16/2024
DATE COMPLETED 12/17/2024
RIG TYPE CME-55LC
TOOLING 4-1/2" Continuous Flight Auger

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

Depth (ft)	Depth of Sample	Sample Type	Sample ID	Recovery Length (in)	Blow Counts (N-Value)	% Recovery	RQD (%)	Pocket Pen (tsf)	Graphic Log	Visual Classification and Remarks	Lab: Atterberg Limits (LL-PL-PI)	Lab: Moisture Content (%)	Lab: Dry Density (PCF)	Lab: UCS (tsf)
	3.3 ft		J-1	12	5-8-50/2" (58)	86		>4.5		FILL, very stiff, brown, moist, SILTY LEAN CLAY, organics				
	4.5 ft		C-1	6		100	100			4.4 907.8	47-19-28	15.1		
5	5 ft		C-2	60		100	72			Limestone, weathered, gray, moderately hard, some fossilization		0.3	165.2	1634
10	10 ft		C-3	60		100	80			- 6" clay seam at 10.3'				
										13.5 898.7		0.2	169.9	1736
15	15 ft		C-4	60		100	35			Shale, highly weathered, dark gray, soft, vuggy				
										- becomes weathered at 17.4'		9.1	137.7	32
20	20 ft		C-5	60		100	35							
	25 ft		C-6	60		100	47					11.0	133.5	20
25														
30	30 ft		C-7	60		100	83			30.0 - becomes green-gray at 29' 882.2				
										Limestone, weathered, gray, vuggy				
35	35 ft		C-8	60		100	77			32.0 880.2		0.2	166.7	1051
										Limestone, slightly weathered to fresh, gray, hard, moist, slight green color 32-33'				
										- green shale seams from 35.2-36.2'				

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Revision: 0.0
Date: 04/11/2025
Package: BRD-03-25th_ST_PED

Notes:
For locations of borings, see Sheet No. B03-02 and Geotechnical Report.

BORING LOGS

Detailed DEC 2024
Checked JAN 2025

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

Sheet No. B03-25 of B03-28

STATE OF MISSOURI · PROFESSIONAL ENGINEER
WILLIAM JOSEPH STURGEON
PE-2014017021
4/11/2025

DATE PREPARED 04/11/2025
ROUTE I-70 | STATE MO
DISTRICT BR | SHEET NO. B03-25
COUNTY JACKSON
JOB NO. J4I1486D
CONTRACT ID. 240807-C01
PROJECT NO.
BRIDGE NO. A9629

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

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

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

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SOIL BORING NUMBER: 25Ped_B2_1

PROJECT Improve I 70 KC Design Build
DRILLING FIRM PPI **DRILLER** Josh Starkey
LOGGED BY Zachary Boyd
SURFACE ELEVATION 912.2'
METHOD Watery Rotary

NORTHING/EASTING 1061069.6 / 2777612.7
DATE STARTED 12/16/2024
DATE COMPLETED 12/17/2024
RIG TYPE CME-55LC
TOOLING 4-1/2" Continuous Flight Auger

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

Depth (ft)	Depth of Sample	Sample Type	Sample ID	Recovery Length (in)	Blow Counts (N-Value)	% Recovery	RQD (%)	Pocket Pen (tsf)	Graphic Log	Visual Classification and Remarks	Lab: Atterberg Limits (LL-PL-PI)	Lab: Moisture Content (%)	Lab: Dry Density (PCF)	Lab: UCS (tsf)
40			C-8	60		100				Limestone, slightly weathered to fresh, gray, hard, moist, slight green color 32-33'				
										40.0 872.2 Bottom of Boring at 40' Boring backfilled with cuttings 12/17/2024				
45														
50														
55														
60														
65														
70														

SOIL BORING NUMBER: 25Ped_B3_1

PROJECT Improve I 70 KC Design Build
DRILLING FIRM PPI **DRILLER** David Allen
LOGGED BY Pradip Adhikari
SURFACE ELEVATION 902.5'*
METHOD Water Rotary

NORTHING/EASTING 1061103.2 / 2777688.1
DATE STARTED 12/10/2024
DATE COMPLETED 12/10/2024
RIG TYPE CME-55
TOOLING 4-1/2" Continuous Flight Auger

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

Depth (ft)	Depth of Sample	Sample Type	Sample ID	Recovery Length (in)	Blow Counts (N-Value)	% Recovery	RQD (%)	Pocket Pen (tsf)	Graphic Log	Visual Classification and Remarks	Lab: Atterberg Limits (LL-PL-PI)	Lab: Moisture Content (%)	Lab: Dry Density (PCF)	Lab: UCS (tsf)
										0.4 ASPHALT 902.1				
										1.1 Base 901.4 FILL, FILL, gray and brown, moist, LEAN CLAY				
	3.5 ft		J-1	12	13-27-50/5" (77/11")	67		>4.5		3.5 899 Shale, medium bedded, weathered, gray, moderately hard				
5														
	8.5 ft		J-2	5.5	50/5.5"	100		>4.5						
10														
	13.5 ft		J-3 C-1		50/0" ()	100	60							
15														
	18.5 ft		C-2			100	86			18.5 884 Limey shale, thinly bedded, weathered, gray, moderately hard				
20										20.5 882 Limestone, medium bedded, slightly weathered, very fine grained, light gray, moderately hard				
	23.5 ft		C-3			100	88							
25														
	28.5 ft		C-4			100	91							
30														
	33.5 ft		C-5			100	51			32.5 870 Shale, medium bedded, weathered, gray, moderately hard				
												11.60	124.70	16
												0.50	168.30	543

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

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Not to Scale
Revision: 0.0
Date: 04/11/2025
Package: BRD-03-25th_ST_PED

Notes:
For locations of borings, see Sheet No. B03-02 and Geotechnical Report.

BORING LOGS

WILLIAM JOSEPH STURGEON PE-2014017021
STATE OF MISSOURI PROFESSIONAL ENGINEER
4/11/2025

DATE PREPARED 04/11/2025
ROUTE I-70 STATE MO
DISTRICT BR SHEET NO. B03-26
COUNTY JACKSON
JOB NO. J4I1486D
CONTRACT ID. 240807-C01
PROJECT NO.
BRIDGE NO. A9629

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

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

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

Detailed DEC 2024
Checked JAN 2025

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

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SOIL BORING NUMBER: 25Ped_B3_1

Page 2 of 2

PROJECT Improve I 70 KC Design Build
DRILLING FIRM PPI **DRILLER** David Allen
LOGGED BY Pradip Adhikari
SURFACE ELEVATION 902.5'*
METHOD Water Rotary

NORTHING/EASTING 1061103.2 / 2777688.1
DATE STARTED 12/10/2024
DATE COMPLETED 12/10/2024
RIG TYPE CME-55
TOOLING 4-1/2" Continuous Flight Auger

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

Depth (ft)	Depth of Sample	Sample Type	Sample ID	Recovery Length (in)	Blow Counts (N-Value)	% Recovery	RQD (%)	Pocket Pen (tsf)	Graphic Log	Visual Classification and Remarks	Lab: Atterberg Limits (LL-PL-PI)	Lab: Moisture Content (%)	Lab: Dry Density (PCF)	Lab: UCS (tsf)
40	37.5 ft 38.5 ft		C-5			100				Shale, medium bedded, weathered, gray,				
			C-6			100	96			38.5 moderately hard 864 Light gray				
45										43.5 859 Bottom of Boring at 43.5' Boring backfilled with cuttings and patched with asphalt 12/10/2024				
50														
55														
60														
65														
70														

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

SOIL BORING NUMBER: 25Ped_B4_1

Page 1 of 2

PROJECT Improve I 70 KC Design Build
DRILLING FIRM PPI **DRILLER** Josh Starkey
LOGGED BY Cameron Dupont
SURFACE ELEVATION 915.3'
METHOD Water Rotary

NORTHING/EASTING 1061150.4 / 2777772.1
DATE STARTED 12/18/2024
DATE COMPLETED 12/18/2024
RIG TYPE CME-55LC
TOOLING 4-1/2" Continuous Flight Auger

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

Depth (ft)	Depth of Sample	Sample Type	Sample ID	Recovery Length (in)	Blow Counts (N-Value)	% Recovery	RQD (%)	Pocket Pen (tsf)	Graphic Log	Visual Classification and Remarks	Lab: Atterberg Limits (LL-PL-PI)	Lab: Moisture Content (%)	Lab: Dry Density (PCF)	Lab: UCS (tsf)
5	3.5 ft		J-1	14	5-10-16 (26)	78		>4.5		FILL, dark brown, high plasticity, moist, FAT CLAY 2.5 912.8 Shale, highly weathered, dark gray, stiff to very stiff, moist	60-23-37	13.6		
10	5.3 ft		C-1	60		100	87			6.7 908.6 Limestone, slightly weathered to fresh, gray-blue, hard, thin shale seams throughout		0.4	166.9	1388
	10.3 ft		C-2	60		100	88			12.6 902.7 Shale, highly weathered, dark gray, soft to stiff, interbedded with limestone 14.0 901.3 Limestone, slightly weathered, dark gray, hard, calcareous		0.3	165.9	1045
15	15.3 ft		C-3	50		83	8							
20	20.3 ft		C-4	59		98	52			19.8 895.5 Shale, highly weathered, dark gray, stiff to very stiff, moist		8.8	138.8	36
25	25.3 ft		C-5	60		100	97			- interbedded with limestone from 26.1' to 26.8' - becomes green-gray, limey at 28.3'		9.1	141.5	34
30	30.3 ft		C-6	60		100	54			32.3 883 Limestone with interbedded shale, weathered, gray-green, very stiff to hard, moist		11.0	131.2	27
35	35.3 ft		C-7	60		100	90			34.7 880.6 Limestone, slightly weathered to fresh, gray, hard, moist		0.2	168.8	758
												0.2	169.0	898

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Not to Scale
Revision: 0.0
Date: 04/11/2025
Package: BRD-03-25th_ST_PED

Notes:
For locations of borings, see Sheet No. B03-02 and Geotechnical Report.

BORING LOGS

WILLIAM JOSEPH STURGEON
PE-2014017021
STATE OF MISSOURI · PROFESSIONAL ENGINEER
4/11/2025

DATE PREPARED 04/11/2025
ROUTE I-70 | STATE MO
DISTRICT BR | SHEET NO. B03-27
COUNTY JACKSON
JOB NO. J4I1486D
CONTRACT ID. 240807-C01
PROJECT NO.
BRIDGE NO. A9629

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

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

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

Detailed DEC 2024
Checked JAN 2025

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

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SOIL BORING NUMBER: 25Ped_B4_1

Page 2 of 2

PROJECT Improve I 70 KC Design Build
DRILLING FIRM PPI **DRILLER** Josh Starkey
LOGGED BY Cameron Dupont
SURFACE ELEVATION 915.3'
METHOD Water Rotary

NORTHING/EASTING 1061150.4 / 2777772.1
DATE STARTED 12/18/2024
DATE COMPLETED 12/18/2024
RIG TYPE CME-55LC
TOOLING 4-1/2" Continuous Flight Auger

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

Depth (ft)	Depth of Sample	Sample Type	Sample ID	Recovery Length (in)	Blow Counts (N-Value)	% Recovery	RQD (%)	Pocket Pen (tsf)	Graphic Log	Visual Classification and Remarks	Lab: Atterberg Limits (LL-PL-PI)	Lab: Moisture Content (%)	Lab: Dry Density (PCF)	Lab: UCS (tsf)
40			C-7	60		100				Limestone, slightly weathered to fresh, gray,				
										38.3 hard, moist 877				
										Shale, highly weathered, green-gray, stiff,				
										38.9 moist 876.4				
										40.3 Limestone, slightly weathered, gray, hard 875				
45										Bottom of Boring at 40.3'				
										Boring backfilled with cuttings 12/18/2024				
50														
55														
60														
65														
70														

SOIL BORING NUMBER: 25Ped_B5_1

Page 1 of 1

PROJECT Improve I 70 KC Design Build
DRILLING FIRM PPI **DRILLER** Josh Starkey
LOGGED BY Cameron Dupont
SURFACE ELEVATION 929.6'
METHOD Auger

NORTHING/EASTING 1061172.1 / 2777809.8
DATE STARTED 12/18/2024
DATE COMPLETED 12/18/2024
RIG TYPE CME-55LC
TOOLING 4-1/2" Continuous Flight Auger

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

Depth (ft)	Depth of Sample	Sample Type	Sample ID	Recovery Length (in)	Blow Counts (N-Value)	% Recovery	RQD (%)	Pocket Pen (tsf)	Graphic Log	Visual Classification and Remarks	Lab: Atterberg Limits (LL-PL-PI)	Lab: Moisture Content (%)	Lab: Dry Density (PCF)	Lab: UCS (tsf)
										FILL, dark brown, stiff, high plasticity, moist,				
										FAT CLAY				
										3.0 926.6				
5	4 ft		C-1	18		100	28			Limestone, highly weathered to weathered,				
	5.5 ft		C-2	60		100	63			tan-gray, hard, vuggy, orange sandstone		0.2	160.0	489
10	10.5 ft		C-3	60		100	78			seams throughout				
										- sandstone seams every 4 inches from 8-10'				
										- 3" shale seam, soft, moist at 11.6`		0.4	165.7	934
										13.3 916.4				
15	15.5 ft		C-4	60		100	78			Shale, highly weathered, dark gray, soft,				
										clayey, moist		13.3	126.0	17
20	20.5 ft		C-5	58		97	80			21.5 908.1				
										Limestone, slightly weathered to fresh, gray,		0.4	165.1	1214
25	25.5 ft		C-6	60		100	73			hard, calcareous				
										27.1 902.5				
										27.3 Shale seam (3"), soft, highly weathered 902.3				
										Limestone, slightly weathered, gray, hard,		0.6	166.1	423
30										moist				
										30.5 899.1				
35										Bottom of Boring at 30.5'				
										Boring backfilled with cuttings 12/18/2024				

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Not to Scale
Revision: 0.0
Date: 04/11/2025
Package: BRD-03-25th_ST_PED

Notes:
For locations of borings, see Sheet No. B03-02 and Geotechnical Report.

BORING LOGS

Detailed DEC 2024
Checked JAN 2025

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

Sheet No. B03-28 of B03-28

WILLIAM JOSEPH STURGEON
PE-2014017021
STATE OF MISSOURI
PROFESSIONAL ENGINEER
4/11/2025

DATE PREPARED 04/11/2025
ROUTE I-70 | STATE MO
DISTRICT BR | SHEET NO. B03-28
COUNTY JACKSON
JOB NO. J4I1486D
CONTRACT ID. 240807-C01
PROJECT NO.
BRIDGE NO. A9629

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

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

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

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