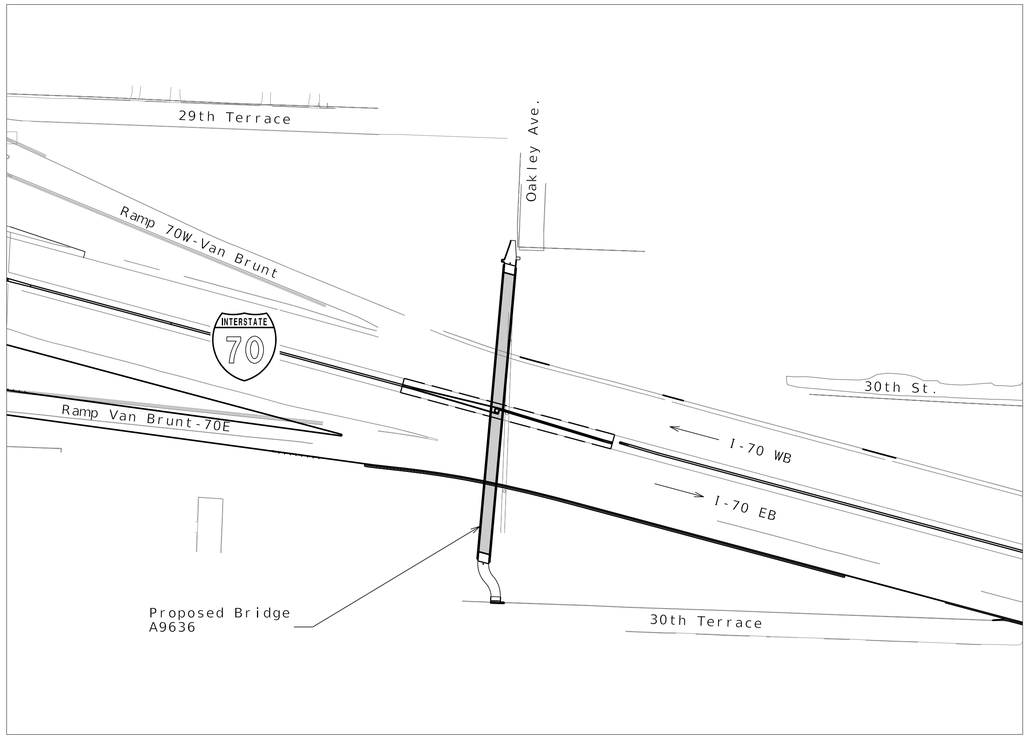
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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



LOCATION SKETCH

INDEX OF DRAWINGS

VAN WILLIAM ROBBINS
PE-2017015106
STATE OF MISSOURI
PROFESSIONAL ENGINEER
06-27-25

DATE PREPARED
06/25/2025

ROUTE	STATE
I-70	MO

DISTRICT	SHEET NO.
BR	B13-01

COUNTY
JACKSON

JOB NO.
J4I1486D

CONTRACT ID.
240807-C01

PROJECT NO.

BRIDGE NO.
A9636

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

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

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

Released For Construction
Not to Scale
Revision: 0.0
Date: 07/02/2025
Package: BRD-13-Oakley-Ave-Ped

BRIDGE: OAKLEY AVE. PEDESTRIAN BRIDGE OVER ROUTE I-70

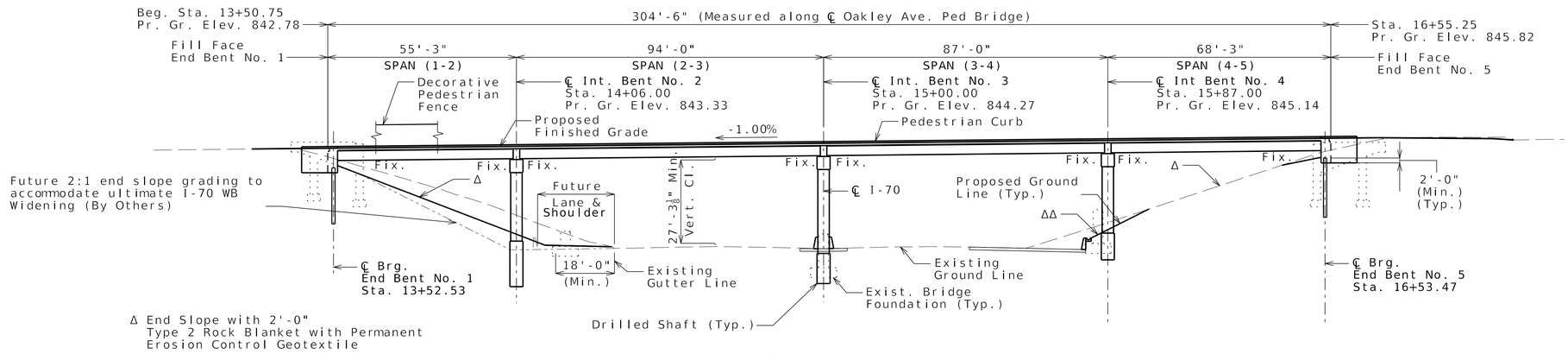
ROUTE I-70 FROM ROUTE I-670 TO ROUTE 40
ABOUT 4.0 MILES EAST OF ROUTE I-670
TIE STATION 269+65.00 (℄ I-70)

Detailed MAR 2025
Checked APR 2025

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

B_A9636_B13-01_J4I1486D.dgn 11:15:10 PM 6/23/2025

(55.3'-94.0'-87.0'-68.3') Prestressed Concrete NU Girder Spans



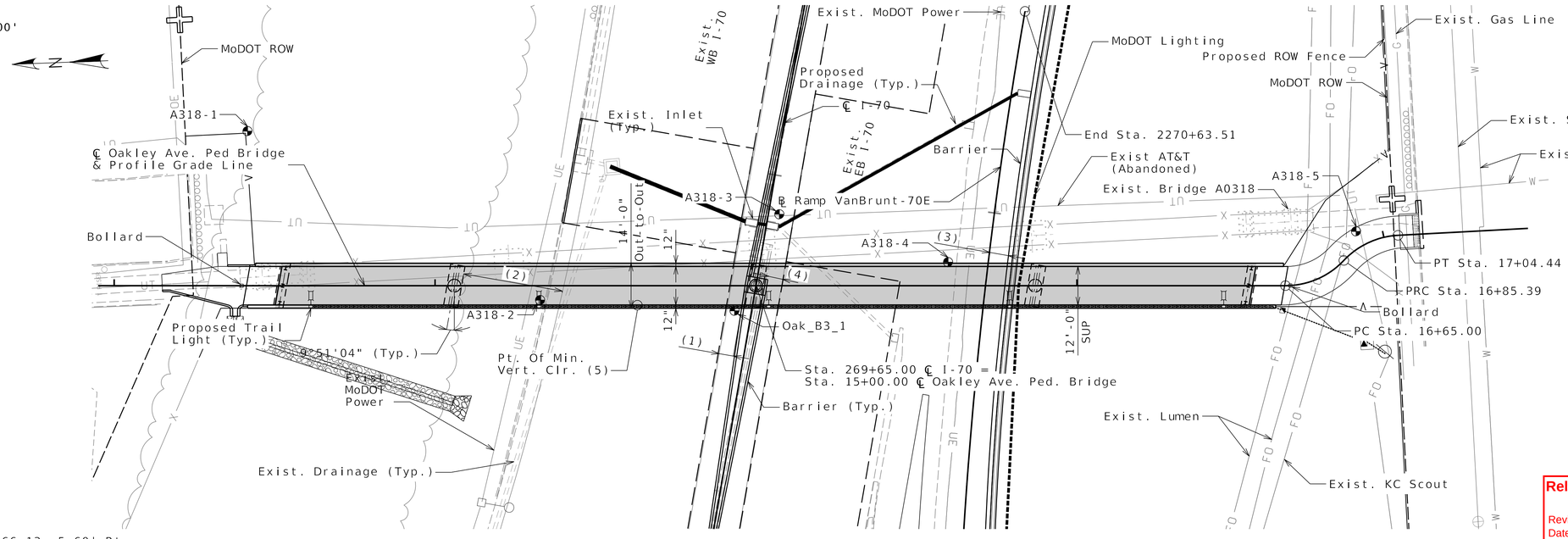
Δ End Slope with 2'-0"
Type 2 Rock Blanket with Permanent
Erosion Control Geotextile

ELEVATION

ΔΔ 2:1 Max Slope (Normal) Type 2 Rock Blanket
with Permanent Erosion Control Geotextile

CURVE DATA
CURVE RAMP VAN BRUNT-70E

PI = 2269+69.17
PC = 2268+74.57
PT = 2270+63.51
Δ = 7°13'1.0" (RT)
D = 3°49'11.0"
L = 188.94'
T = 94.59'
R = 1,500.00'



(5) Sta. 14+66.13, 5.60' Rt.
℄ Oakley Ave. Ped. Bridge

Minimum Horizontal Clearance to edge
of existing or proposed lane:
(1) 4'-3"
(2) 30'-8"
(3) 6'-0"
(4) 4'-6"

Indicates location of borings.

PLAN

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 Sheet No. B13-27 thru B13-29. Labrotory test results, rock core photographs and other information obtained at these borings are available in the corresponding Foundation Recommendations Memo prepared by HNTB. By the nature of the exploration process, the information gathered at these borings represents only a small fraction of the total volume of material at the Site. Interpolation between data samples may not be indicative of the nature and extent of the variations that actually exist between sampling location

Notes:
All Elevations are based on NAVD88 datum unless otherwise noted.
All Bents are parallel.
All dimensions are horizontal.
Existing Bridge A0318 to be removed in accordance with Sec. 216. Existing structures & foundations shown may not represent what is left in place after removal.
For elevations of drilled shafts, see Sheet B13-08.
See Civil Package 6: I-70 Mainline for I-70 typical section details.

Detailed MAR 2025
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Note: This drawing is not to scale. Follow dimensions.

GENERAL PLAN AND ELEVATION

Released For Construction
Not to Scale
Revision: 0.0
Date: 07/02/2025
Package: BRD-13-Oakley-Ave-Ped

VAN WILLIAM ROBBINS
PE-2017015106
STATE OF MISSOURI PROFESSIONAL ENGINEER
06-27-25

DATE PREPARED 06/25/2025
ROUTE I-70 | STATE MO
DISTRICT BR | SHEET NO. B13-02
COUNTY JACKSON
JOB NO. J4I1486D
CONTRACT ID. 240807-C01
PROJECT NO.
BRIDGE NO. A9636

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

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

HNTB

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. B13-12 thru B13-13.

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, 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.

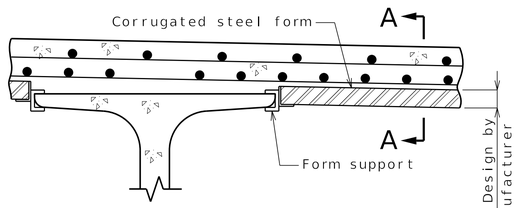
Concrete Protective Coatings:
Concrete and masonry protective coating shall be applied on bridge wingwall and end face of end bent to a minimum of 18" below finished ground line in accordance with Sec 711.

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.

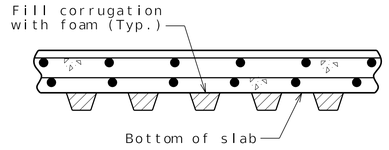
Abbreviations:
E.F. denotes Each Face
N.F. denotes Near Face
F.F. denotes Far face
U.N.O. denotes Unless Noted Otherwise

Foundation Data

Type	Design Data		Bent Number 1	2	3	4	5
Load Bearing Pile	Pile Type and Size		HP12x53	---	---	---	HP12x53
	Number	ea	3	---	---	---	3
	Approximate Length Per Each	ft	28	---	---	---	23
	Pile Point Reinforcement	ea	---	---	---	---	---
	Min. Galvanized Penetration (Elev.)	ft	Full Length	---	---	---	Full Length
	Minimum Tip Penetration (Elev.)	ft	810	---	---	---	818
	Criteria for Min. Tip Penetration		Min. Embed	---	---	---	Min. Embed
	Pile Driving Verification Method		N/A	---	---	---	N/A
	Resistance Factor		0.50	---	---	---	0.50
	Minimum Nominal Axial Compressive Resistance	kip	266	---	---	---	266
Drilled Shaft	Number	ea	---	1	1	1	---
	Layer 1 Foundation Material		---	Limestone	Limestone	Limestone	---
	Layer 1 Elevation Range	ft	---	810-791**	810-792	810-789**	---
	Layer 1 Minimum Nominal Axial Compressive Resistance (Side Resistance)	ksf	---	22.4	22.4	22.4	---
	Minimum Nominal Axial Compressive Resistance (Tip Resistance)	ksf	---	400	400	400	---



STAY-IN-PLACE
CORRUGATED STEEL FORM DETAIL



SECTION A-A

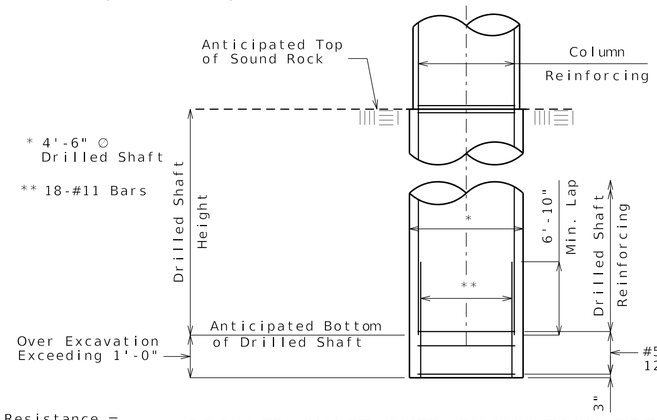
Stay-In-Place Corrugated Steel Form Notes:

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 Bents No. 1 and 5 to elevation 810 and 818, respectively.
Prebore for piles at End Bent No. 5 to elevation 899.
At End Bents No. 1 and 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 815 and 823, at End Bents No. 1 and 5 respectively. Backfill remaining length of prebore per Sec 702.
All piles shall be galvanized down to minimum galvanized penetration (elevation).
The contractor shall make every effort to achieve the minimum galvanized penetration (elevation) shown on the plans for all piles. Deviations in penetration less than 5 feet of the minimum will be considered acceptable provided the contractor makes the necessary corrections to ensure the minimum penetration is achieved on subsequent piles.

RFI 079

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.
** 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.

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Revision: 0.0
Date: 07/02/2025
Package: BRD-13-Oakley-Ave-Ped

GENERAL NOTES

Detailed MAR 2025
Checked APR 2025

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

VAN WILLIAM ROBBINS
PE-2017015106
STATE OF MISSOURI
PROFESSIONAL ENGINEER
06-27-25

DATE PREPARED 06/25/2025
ROUTE I-70 | STATE MO
DISTRICT BR | SHEET NO. B13-03
COUNTY JACKSON
JOB NO. J4I1486D
CONTRACT ID. 240807-C01
PROJECT NO.
BRIDGE NO. A9636

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

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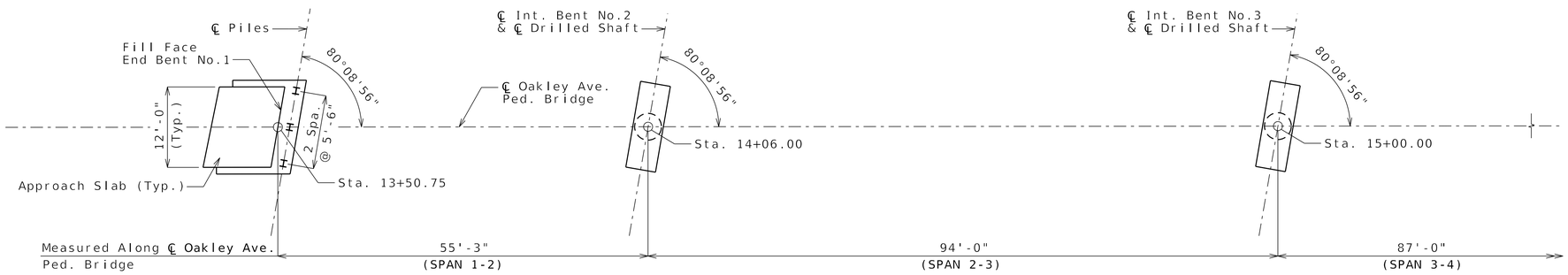
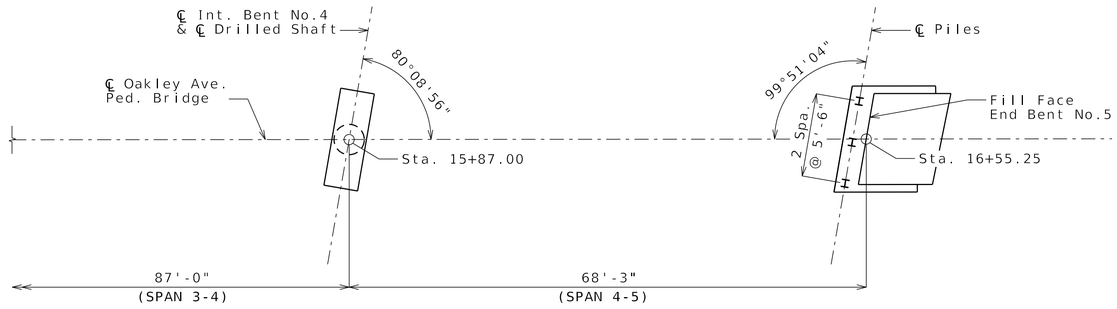
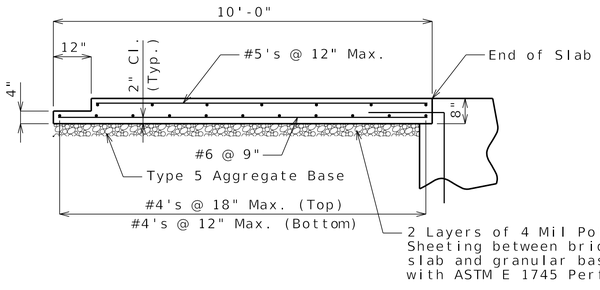
MoDOT
CLARKSON RADMACHER JOINT VENTURE
715 KIRK DRIVE
KANSAS CITY, MO 64105-1310
CERTIFICATE OF AUTHORITY NO. 001270
HNTB



PART SUBSTRUCTURE LAYOUT



PART SUBSTRUCTURE LAYOUT



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.

BRIDGE APPROACH SLAB DETAIL

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

Note:
All dimensions are hoizontal.

SUBSTRUCTURE LAYOUT

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Not to Scale
Revision: 0.0
Date: 07/02/2025
Package: BRD-13-Oakley-Ave-Ped

Detailed MAR 2025
Checked APR 2025

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

STATE OF MISSOURI
PROFESSIONAL ENGINEER
GINA D. HORNER PE-30413
Gina D. Horner
06/27/25

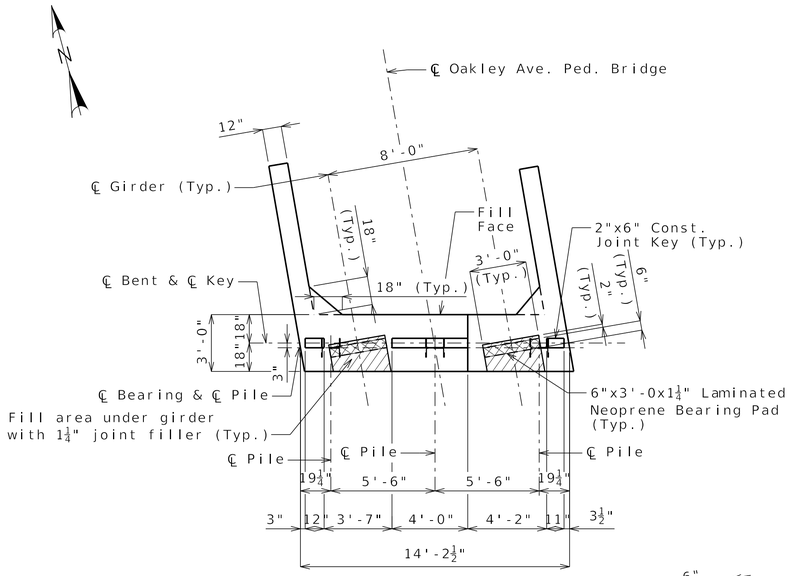
DATE PREPARED 06/25/2025

ROUTE	STATE
I-70	MO
DISTRICT	SHEET NO.
BR	B13-04

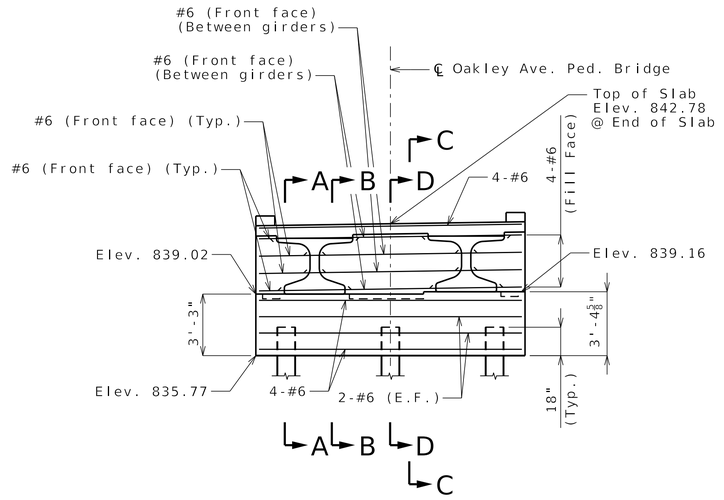
COUNTY: JACKSON
JOB NO.: J4I1486D
CONTRACT ID.: 240807-C01
PROJECT NO.:
BRIDGE NO.: A9636

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

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

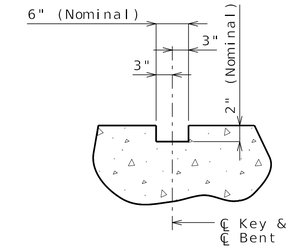


PLAN OF BEAM

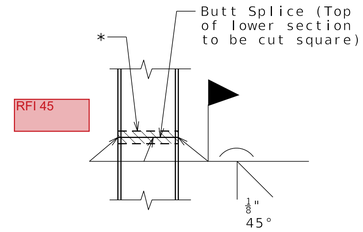


SECTION NEAR END BENT

(Looking Backstation)



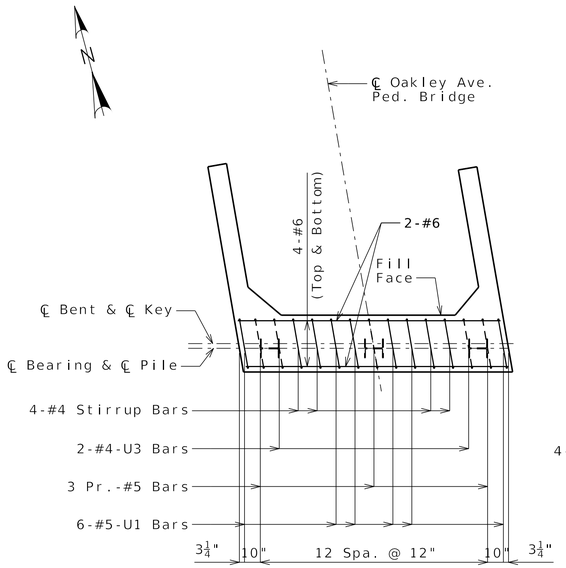
SECTION THRU KEY



STEEL PILE SPLICE

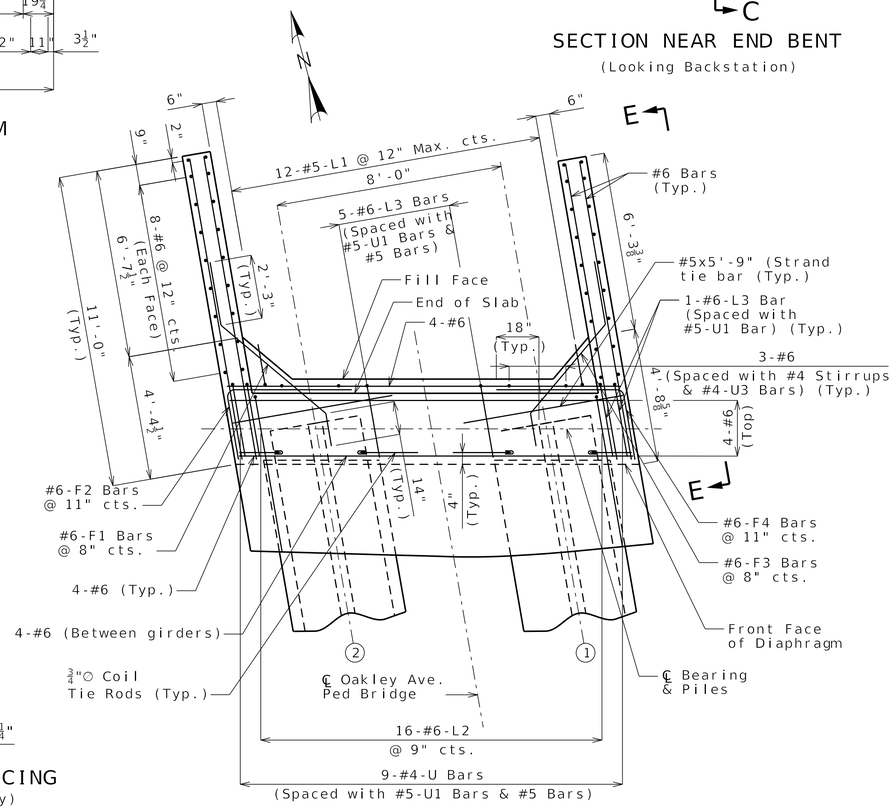
(If required)

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

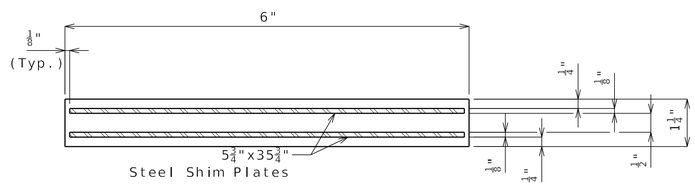


PLAN OF BEAM SHOWING REINFORCING

(Keys and Steps not shown for Clarity)



PART PLAN



TYPICAL SECTION THRU LAMINATED NEOPRENE BEARING PAD

2 Required at each End Bent

Notes:

Work this sheet with Sheet No. B13-06.

For Sections A-A, B-B, C-C, D-D and Elevation E-E, see Sheet B13-06.

All U bars and pairs of vertical bars shall be placed along skew.

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

For location of coil tie rods, see Sheet No. B13-12.

Strands at end of the girders shall be field bent or, if necessary, cut in field to maintain 1 1/2-inch minimum clearance to fill face of end bent.

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

For details of bridge approach slab, see Sheet No. B13-04.

Ⓧ Denotes girder number

DETAILS OF END BENT NO. 1

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Package: BRD-13-Oakley-Ave-Ped

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GINA D. HORNER PE-30413
PROFESSIONAL ENGINEER
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Gina D. Horner
06/27/25

DATE PREPARED 06/25/2025

ROUTE	STATE
I-70	MO

DISTRICT	SHEET NO.
BR	B13-05

COUNTY: JACKSON

JOB NO.: J4I1486D

CONTRACT ID.: 240807-C01

PROJECT NO.:

BRIDGE NO.: A9636

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

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
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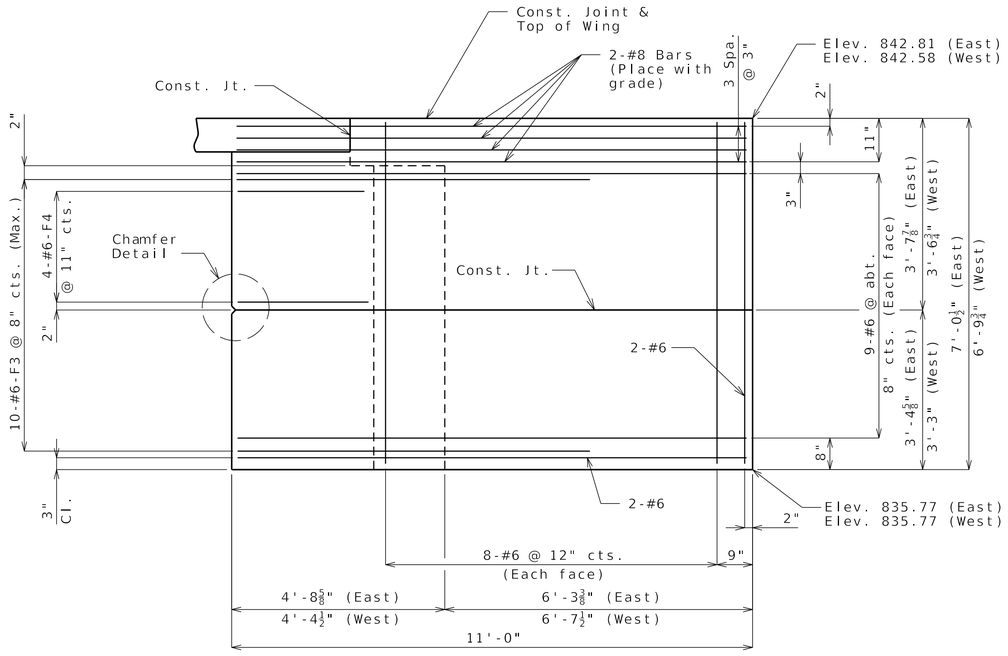
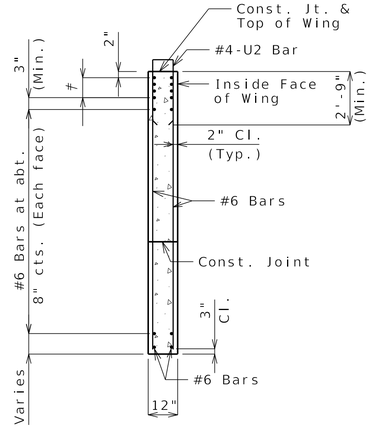
HNTB



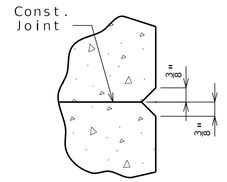
ELEVATION E-E

(East wingwall shown, West wingwall similar except opposite hand)

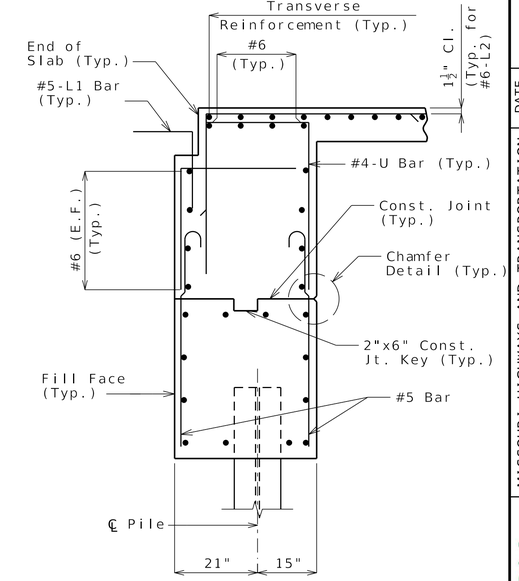


TYPICAL SECTION THRU WING

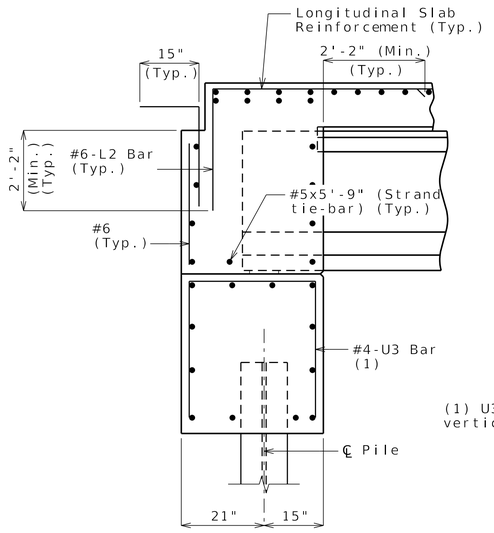
#8 Bars at 3" cts. (Each face)(Place with grade) See Elevation E-E for number of bars



CHAMFER DETAIL

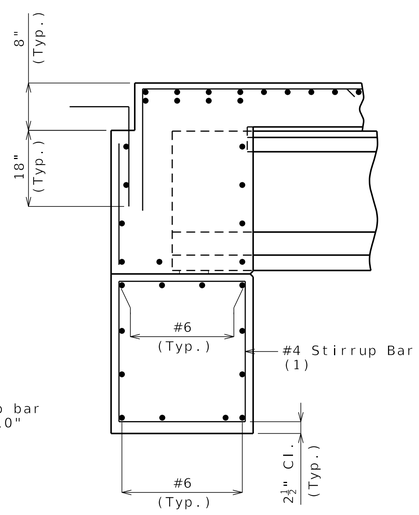


SECTION D-D

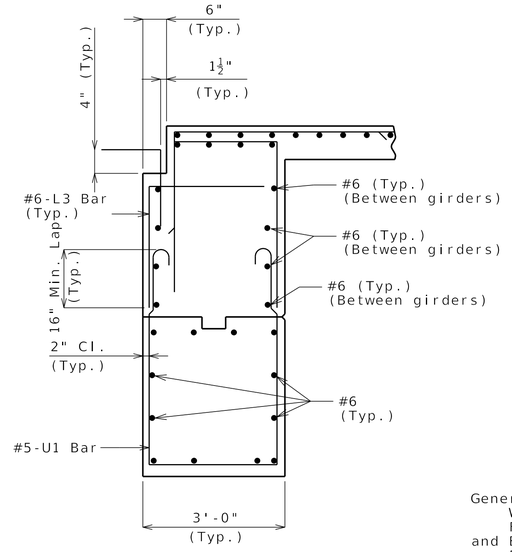


SECTION A-A

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



SECTION B-B



SECTION C-C

General Notes:
Work this sheet with Sheet No. B13-05.
For location of Sections A-A, B-B, C-C and D-D and Elevation E-E, see Sheet No. B13-05.
For reinforcement of the pedestrian curb, see Sheet No. B13-22.

Released For Construction
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Package: BRD-13-Oakley-Ave-Ped

DETAILS OF END BENT NO. 1

Detailed MAR 2025
Checked APR 2025

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

Sheet No. B13-06 of B13-29

B_A9636_B13-06_J4I1486D.dgn 11:16:41 PM 6/23/2025

STATE OF MISSOURI
GINA D. HORNER
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PROFESSIONAL ENGINEER
Gina D. Horner
06/27/25

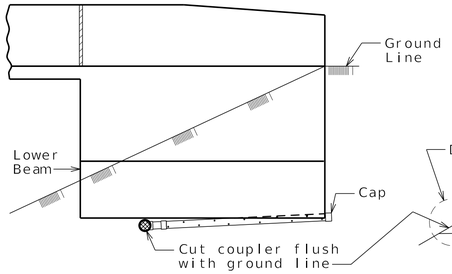
DATE PREPARED: 06/25/2025
ROUTE: I-70 | STATE: MO
DISTRICT: BR | SHEET NO.: B13-06
COUNTY: JACKSON
JOB NO.: J4I1486D
CONTRACT ID.: 240807-C01
PROJECT NO.:
BRIDGE NO.: A9636

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

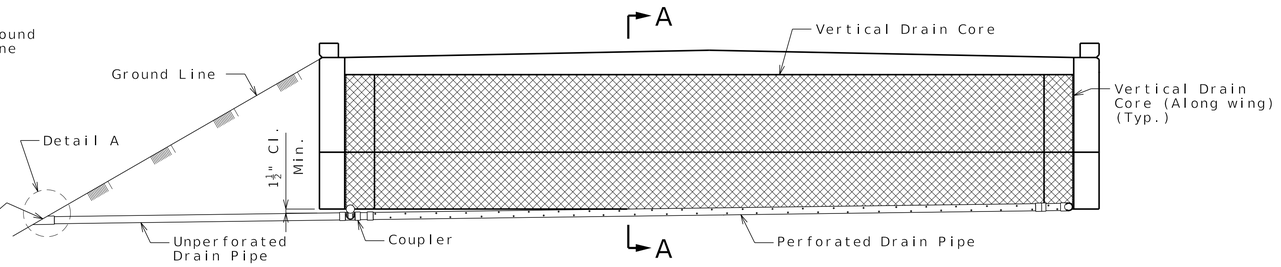
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

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

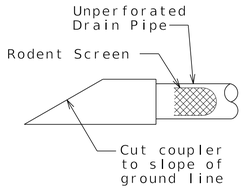
HNTB



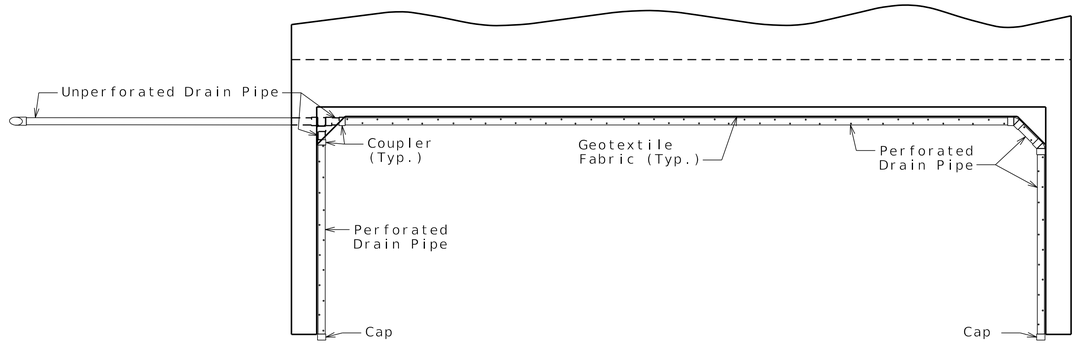
ELEVATION OF WING



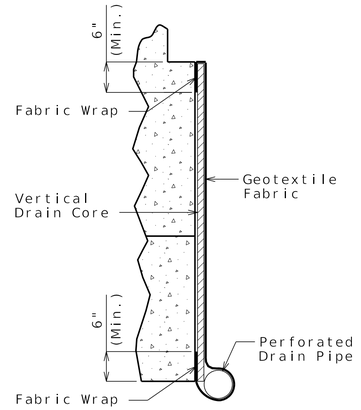
ELEVATION OF END BENT



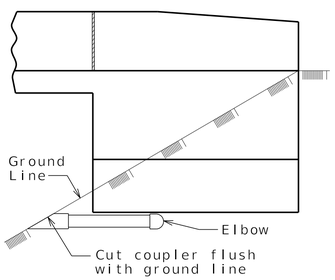
DETAIL A



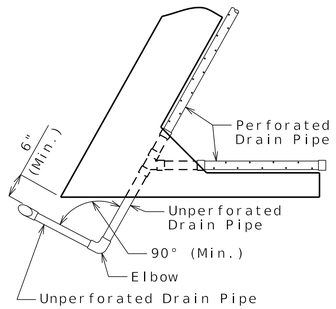
PLAN OF END BENT



PART SECTION A-A
(Section thru wing similar)



ELEVATION OF WING



PART PLAN

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

General Notes:

Squared end bent shown, skewed end bent similar.

All drain pipe shall be sloped 1 to 2 percent.

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

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

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

VERTICAL DRAIN AT END BENTS

Released For Construction
Not to Scale
Revision: 0.0
Date: 07/02/2025
Package: BRD-13-Oakley-Ave-Ped

Detailed MAR 2025
Checked APR 2025

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

GINA D. HORNER PE-30413
PROFESSIONAL ENGINEER — STATE OF MISSOURI
Gina D. Horner
06/27/25

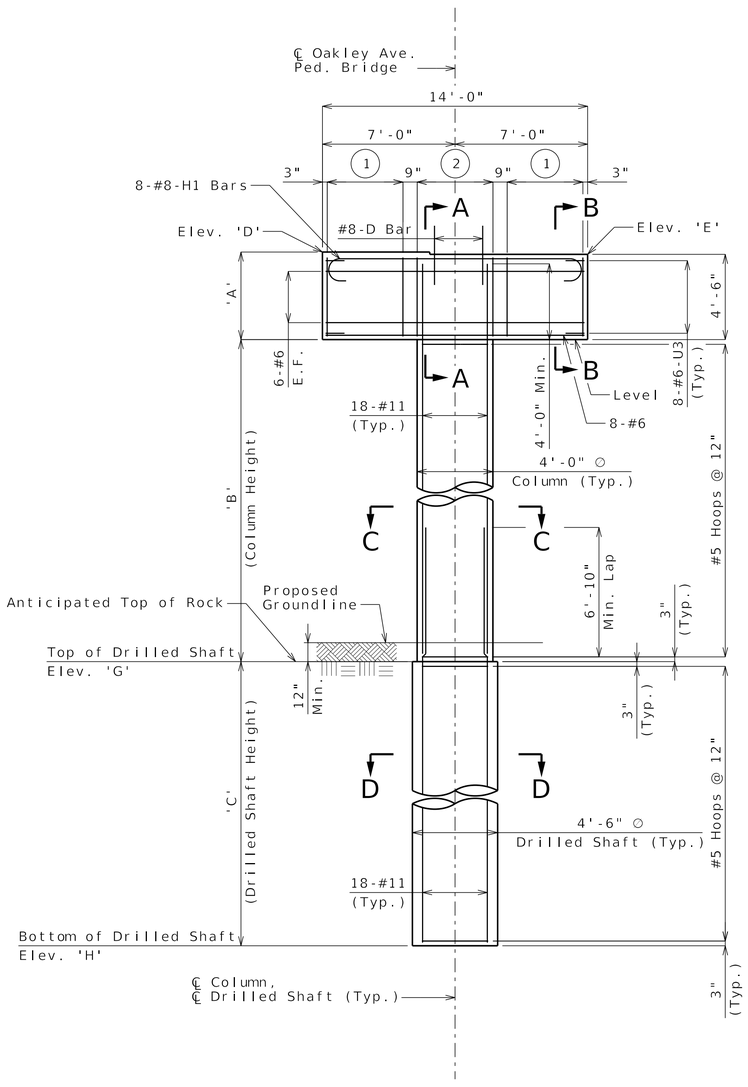
DATE PREPARED 06/25/2025
ROUTE I-70 | STATE MO
DISTRICT BR | SHEET NO. B13-07
COUNTY JACKSON
JOB NO. J4I1486D
CONTRACT ID. 240807-C01
PROJECT NO.
BRIDGE NO. A9636

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

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

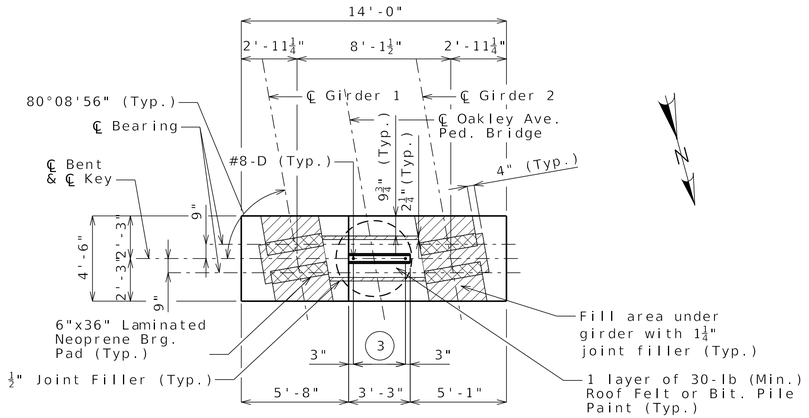
CLARKSON RADMACHER JOINT VENTURE
715 KIRK DRIVE
KANSAS CITY, MO 64105-1310
CERTIFICATE OF AUTHORITY NO. 001270

HNTB

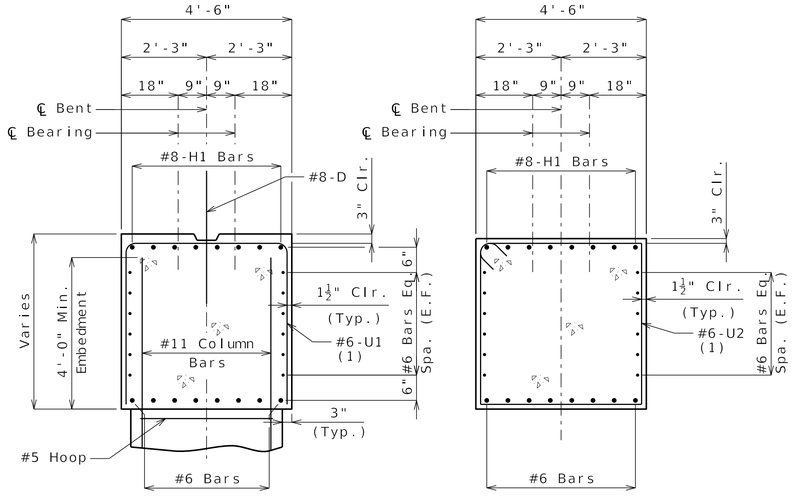


ELEVATION

(Beam key not shown for clarity)

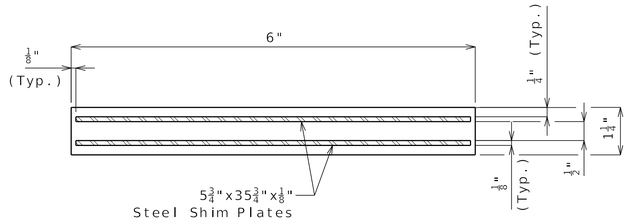


PLAN OF CAPBEAM



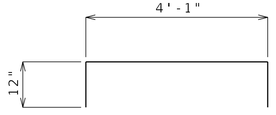
SECTION A-A (1) U1 and U2 vertical leg = 4'-1"

SECTION B-B



TYPICAL SECTION THRU LAMINATED NEOPRENE BEARING PAD

4 Required per Bent



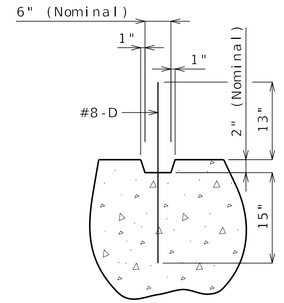
#6-U3 BAR

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

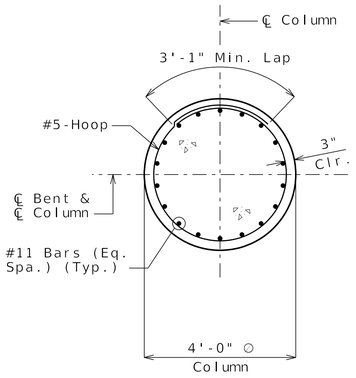
TABLE OF VARIABLES

Bent	'A'	'B'	'C'	'D'	'E'	'G'	'H'
2	4'-7⅜"	22'-10⅞"	16'-0"	839.54	839.40	*812.00	796.0
3	4'-7⅜"	25'-9⅝"	14'-0"	840.44	840.30	810.00	796.0
4	4'-7⅜"	26'-7¾"	14'-0"	841.28	841.15	*810.00	796.0

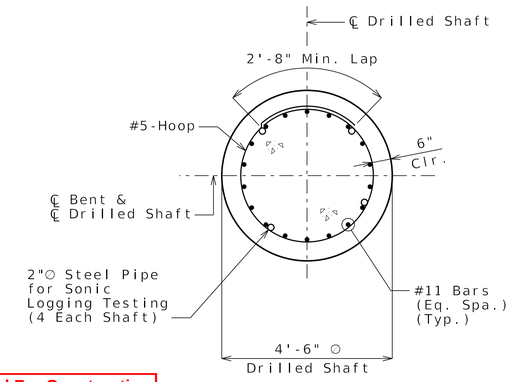
* At bents 2 and 4, remove soil and rock to this elevation for construction. Top of rock and top of shaft at these bents can be adjusted upward vertically no more than 2 feet. Maintain Tip Elevation 'H'.



SECTION THRU KEY



SECTION C-C



SECTION D-D

Released For Construction
Not to Scale
Revision: 0.0
Date: 07/02/2025
Package: BRD-13-Oakley-Ave-Ped

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. B13-04.
Hoop splices shall be staggered around the drilled shaft at 90 degree intervals.
For additional joint filler layout details, see Sheet No. B13-14.

DETAILS OF INTERMEDIATE BENTS

Detailed MAR 2025
Checked APR 2025

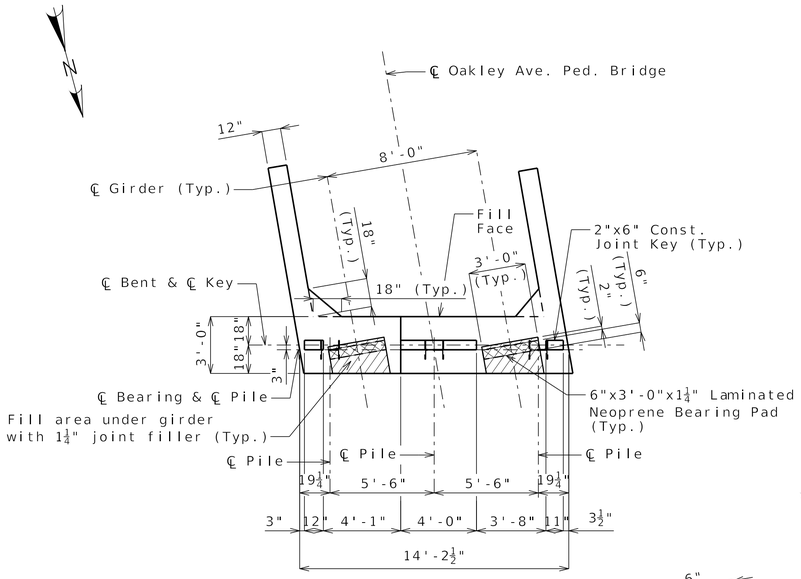
Note: This drawing is not to scale. Follow dimensions.

STATE OF MISSOURI
WILLIAM JOSEPH STURGEON
PE-2014017021
PROFESSIONAL ENGINEER
6/30/2025

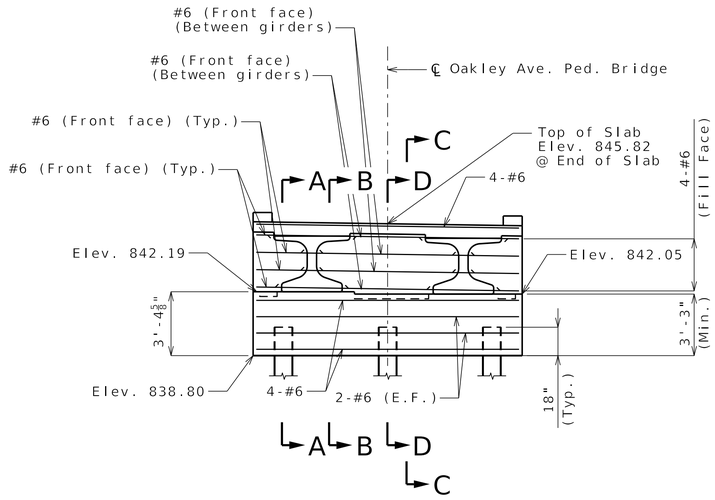
DATE PREPARED 06/25/2025
ROUTE I-70 | STATE MO
DISTRICT BR | SHEET NO. B13-08
COUNTY JACKSON
JOB NO. J4I1486D
CONTRACT ID. 240807-C01
PROJECT NO.
BRIDGE NO. A9636

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

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

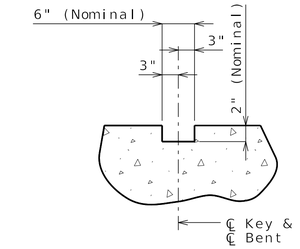


PLAN OF BEAM

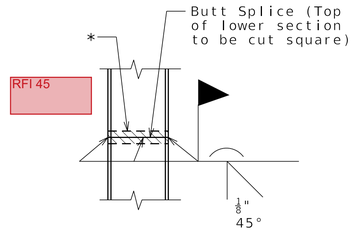


SECTION NEAR END BENT

(Looking Ahead Station)



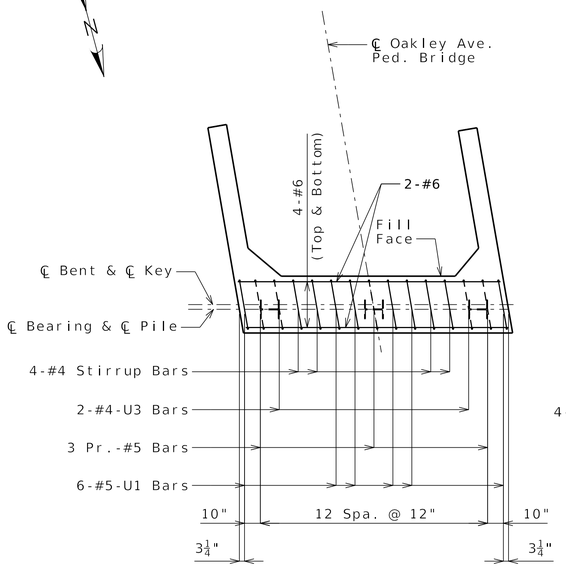
SECTION THRU KEY



STEEL PILE SPLICE

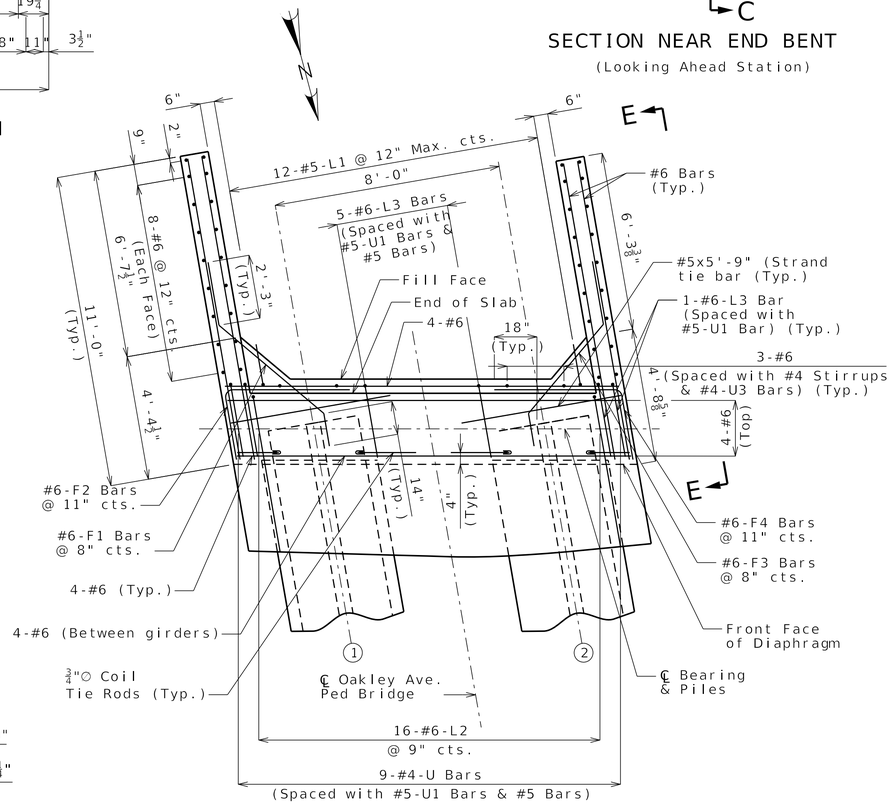
(If required)

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

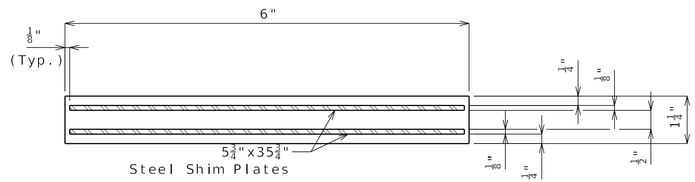


PLAN OF BEAM SHOWING REINFORCING

(Keys and Steps not shown for Clarity)



PART PLAN



TYPICAL SECTION THRU
LAMINATED NEOPRENE BEARING PAD

2 Required at each End Bent

Notes:

Work this sheet with Sheet No. B13-10.

For Sections A-A, B-B, C-C, D-D and Elevation E-E, see Sheet B13-10.

All U bars and pairs of vertical bars shall be placed along skew.

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

For location of coil tie rods, see Sheet No. B13-12.

Strands at end of the girders shall be field bent or, if necessary, cut in field to maintain 1 1/2-inch minimum clearance to fill face of end bent.

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

For details of bridge approach slab, see Sheet No. B13-04.

Ⓧ Denotes girder number

DETAILS OF END BENT NO. 5

Released For Construction
Not to Scale
Revision: 0.0
Date: 07/02/2025
Package: BRD-13-Oakley-Ave-Ped

Detailed MAR 2025
Checked APR 2025

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

STATE OF MISSOURI
GINA D. HORNER PE-30413
PROFESSIONAL ENGINEER
Gina D. Horner
06/27/25

DATE PREPARED 06/25/2025

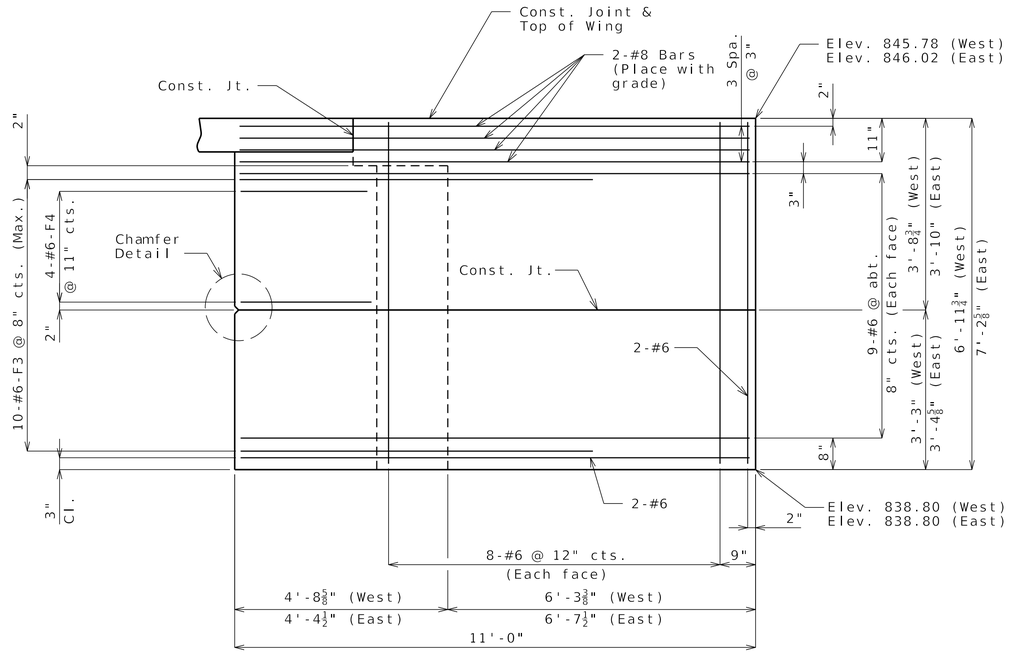
ROUTE	STATE
I-70	MO
DISTRICT	SHEET NO.
BR	B13-09

COUNTY: JACKSON
JOB NO.: J4I1486D
CONTRACT ID.: 240807-C01
PROJECT NO.:
BRIDGE NO.: A9636

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

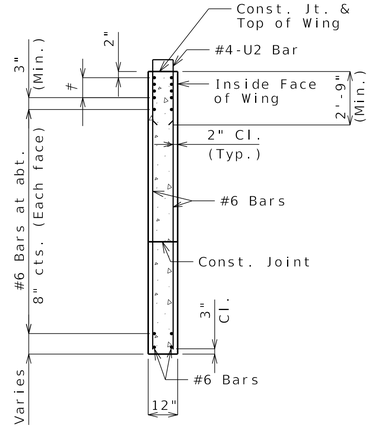
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

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



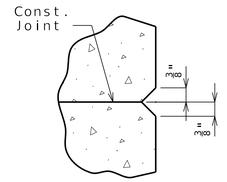
ELEVATION E-E

(West wingwall shown, East wingwall similar except opposite hand)

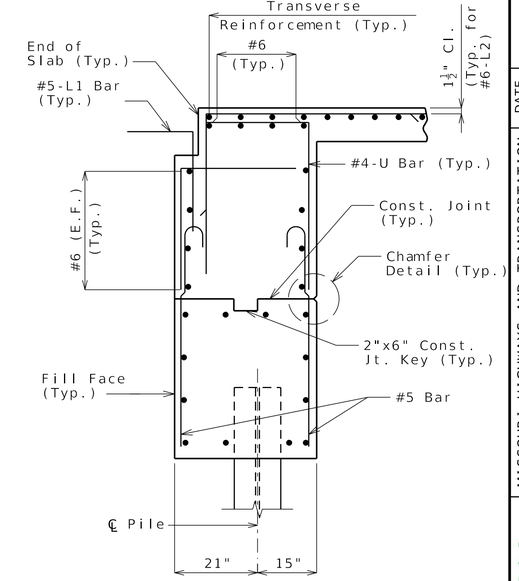


TYPICAL SECTION THRU WING

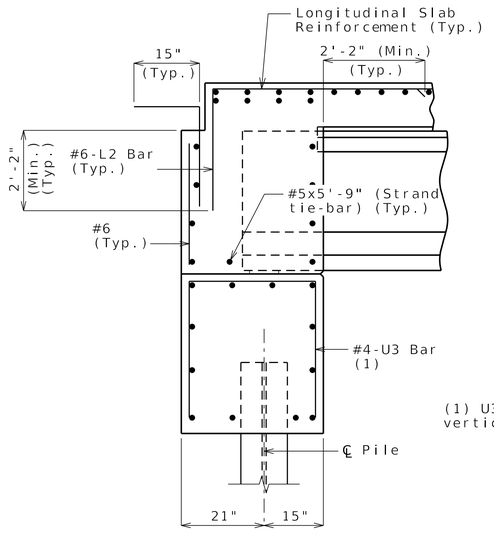
#8 Bars at 3" cts. (Each face)(Place with grade)
See Elevation E-E for number of bars



CHAMFER DETAIL

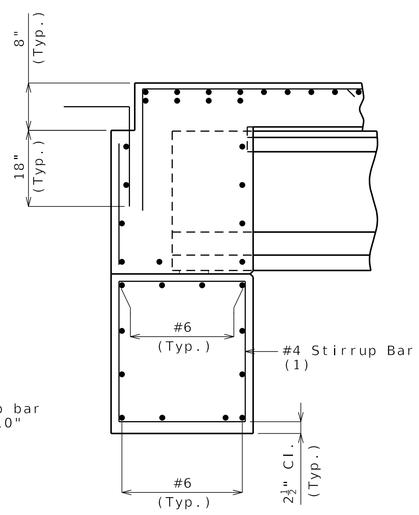


SECTION D-D

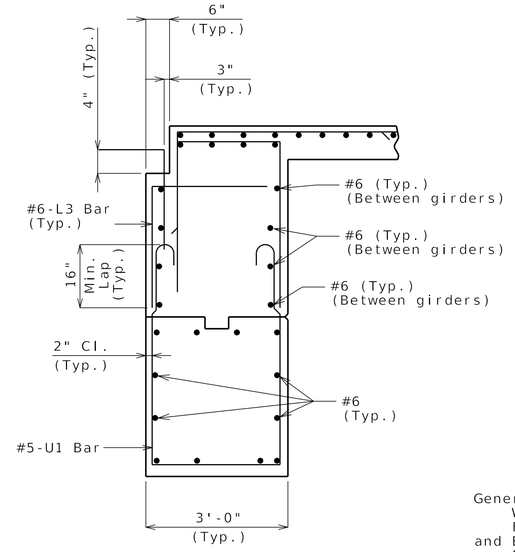


SECTION A-A

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



SECTION B-B



SECTION C-C

General Notes:
Work this sheet with Sheet No. B13-09.
For location of Sections A-A, B-B, C-C and D-D and Elevation E-E, see Sheet No. B13-09.
For reinforcement of the pedestrian curb, see Sheet No. B13-22.

Released For Construction
Not to Scale
Revision: 0.0
Date: 07/02/2025
Package: BRD-13-Oakley-Ave-Ped

DETAILS OF END BENT NO. 5

Detailed MAR 2025
Checked APR 2025

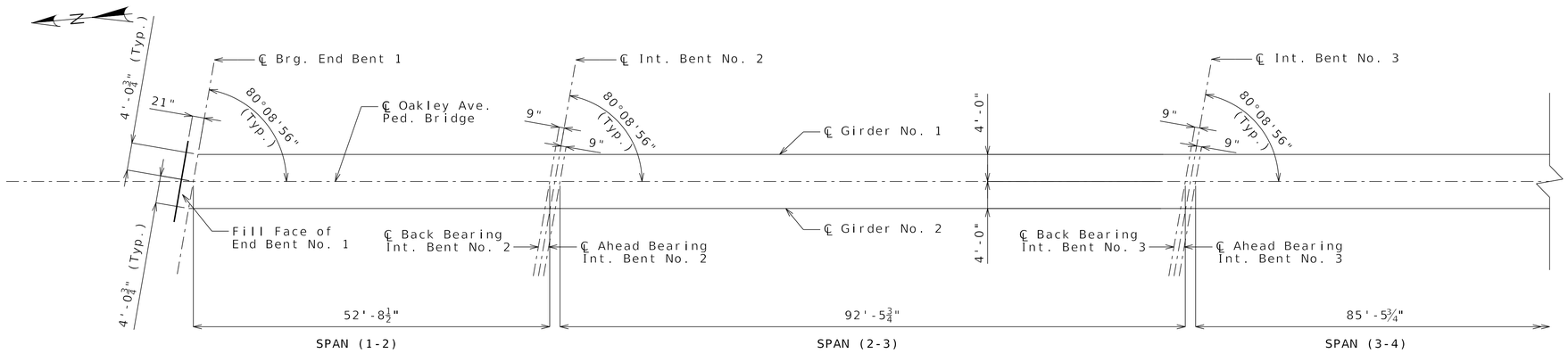
Note: This drawing is not to scale. Follow dimensions.

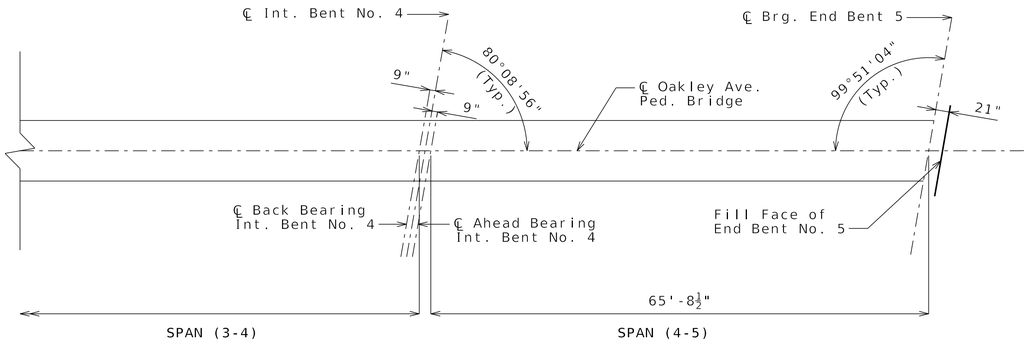
GINA D. HORNER PE-30413
PROFESSIONAL ENGINEER
STATE OF MISSOURI
Gina D. Horner
06/27/25

DATE PREPARED 06/25/2025
ROUTE I-70 | STATE MO
DISTRICT BR | SHEET NO. B13-10
COUNTY JACKSON
JOB NO. J4I1486D
CONTRACT ID. 240807-C01
PROJECT NO.
BRIDGE NO. A9636

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

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





FRAMING PLAN

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

FRAMING PLAN

Released For Construction
Not to Scale
Revision: 0.0
Date: 07/02/2025
Package: BRD-13-Oakley-Ave-Ped

Detailed MAR 2025
Checked APR 2025

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

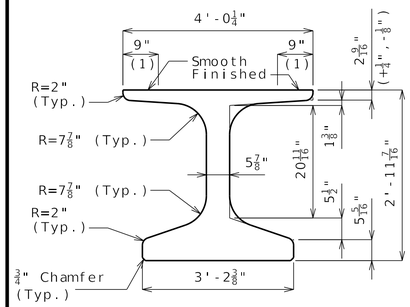
KALEB S. HAWK NUMBER PE-2024007443
STATE OF MISSOURI PROFESSIONAL ENGINEER
6-30-2025

DATE PREPARED 06/25/2025
ROUTE I-70 | STATE MO
DISTRICT BR | SHEET NO. B13-11
COUNTY JACKSON
JOB NO. J4I1486D
CONTRACT ID. 240807-C01
PROJECT NO.
BRIDGE NO. A9636

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

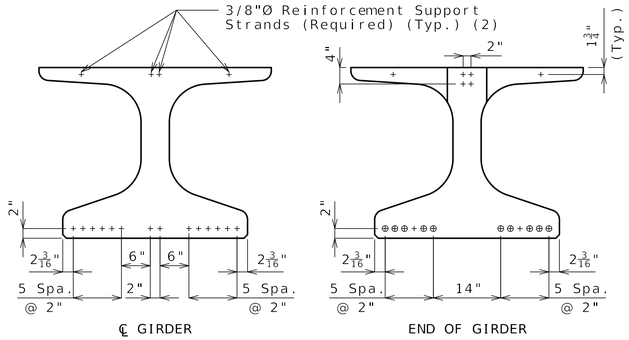
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)
CLARKSON RADMACHER JOINT VENTURE
715 KIRK DRIVE
KANSAS CITY, MO 64105-1310
CERTIFICATE OF AUTHORITY NO. 001270
HNTB

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

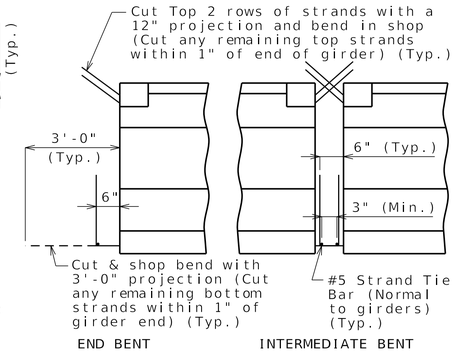


DIMENSIONS

(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.



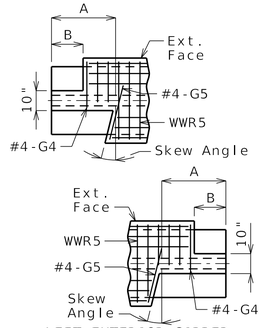
STRAND ARRANGEMENT



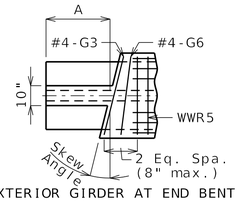
STRANDS AT GIRDER ENDS

+ Indicates prestressing strand.

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



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



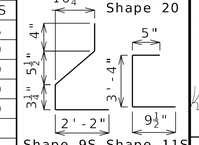
EXTERIOR GIRDER AT END BENT

TOP FLANGE BLOCKOUT

Bill of Reinforcing Steel - Each Girder

No.	Size/ Mark	Length	Shape
C	5 B1	4'-4"	11S
D	4 D1	4'-0"	9S
1	4 G3	3'-11"	20
1	4 G4	2'-3"	20
1	4 G5	2'-9"	20
1	4 G6	3'-10⅝"	20

Bending Diagrams



Welded Wire Reinforcement - Each Girder

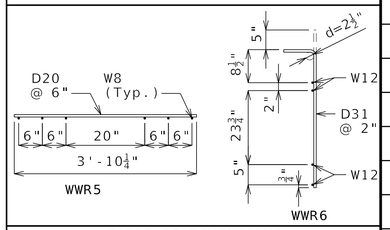


TABLE OF DIMENSIONS

Span No.	Girder No.	Bent No.	A	B	C	D
1-2	1 and 2	1	18⅜"	---	90	110
1-2	1 and 2	2	12½"	7⅜"		
4-5	1 and 2	4	12½"	7⅜"	106	126
4-5	1 and 2	5	18⅜"	---		

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.

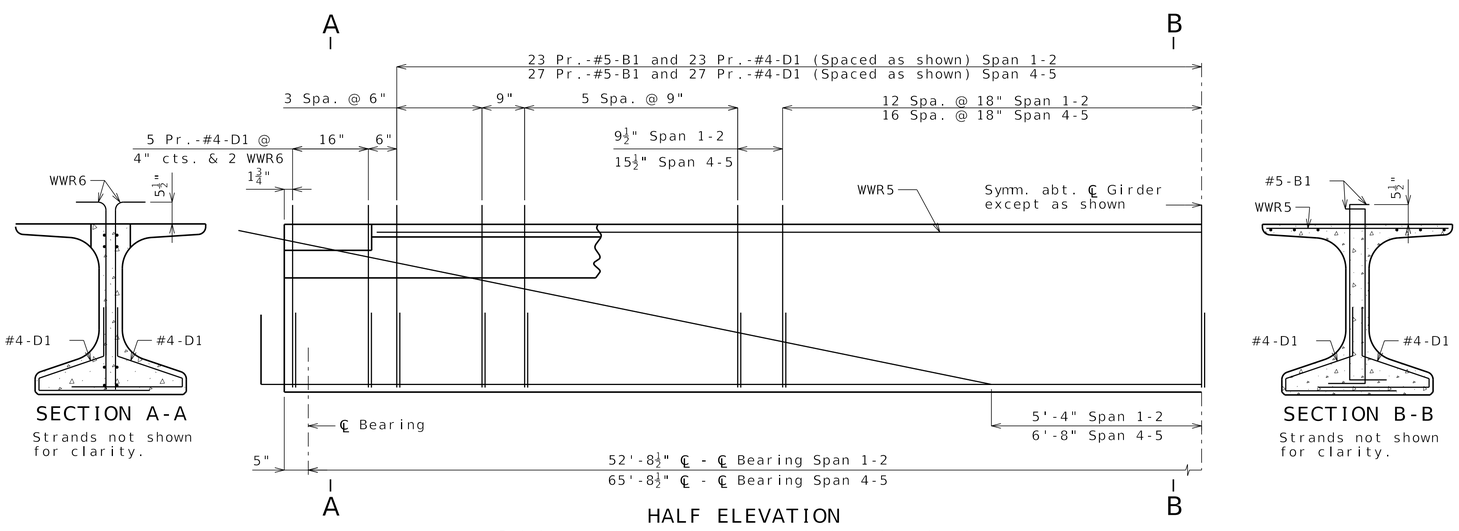
Actual bar lengths are measured along centerline of bar to the nearest inch.

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 ELEVATION

Reinforcement support strands not shown for clarity.

General Notes:

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

Use 14 strands, 0.6"Ø Grade 270, with an initial prestress force of 615 kips.

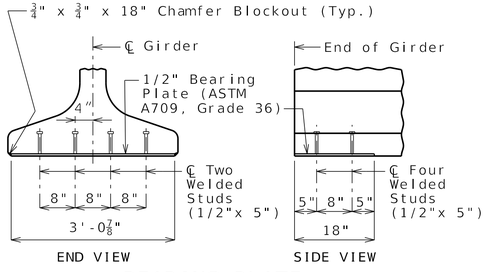
Pretensioned members shall be in accordance with Sec 1029.

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

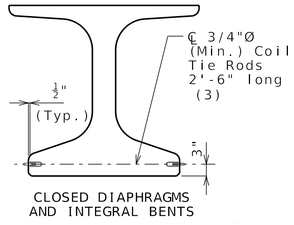
The contractor shall provide bracing necessary for lateral and torsional stability of the girders during construction of the concrete slab and remove the bracing after the slab has attained 75% design strength. Contractor shall not drill holes in the girders.

For Girder Camber Diagram, see Sheet No. B13-15.

For location of coil ties at concrete diaphragms and integral bents, see Sheets No. B13-05, B13-09 and B13-14.



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

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

Detailed MAR 2025
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Sheet No. B13-12 of B13-29

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

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

6-30-2025

DATE PREPARED 06/25/2025

ROUTE I-70 | STATE MO

DISTRICT BR | SHEET NO. B13-12

COUNTY JACKSON

JOB NO. J4I1486D

CONTRACT ID. 240807-C01

PROJECT NO.

BRIDGE NO. A9636

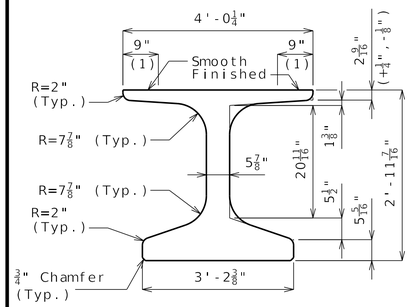
DATE	DESCRIPTION
06/25/25	REV 0 - RFC SUBMITTAL

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

CLARKSON RADMACHER JOINT VENTURE

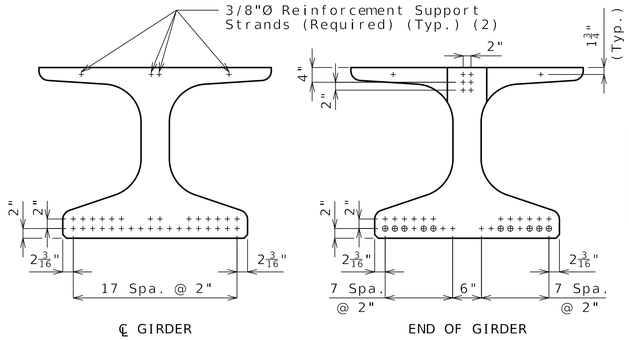
HNTB
715 KIRK DRIVE
KANSAS CITY, MO 64105-1310
CERTIFICATE OF AUTHORITY NO. 001270

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

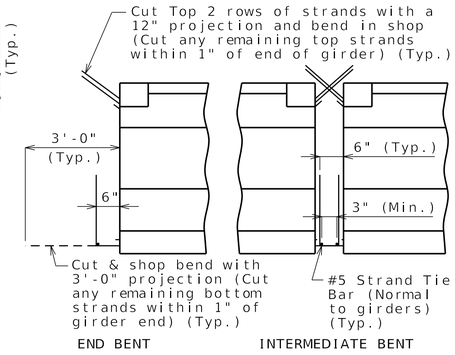


DIMENSIONS

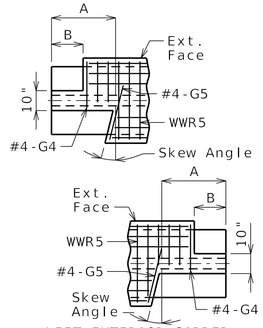
(2) Outer strands tensioned to 2.02 kips/strand and inner strands to 8 kips/strand. Placed symmetrical about ℄ Girder. May be moved laterally in pairs.



STRAND ARRANGEMENT



STRANDS AT GIRDER ENDS

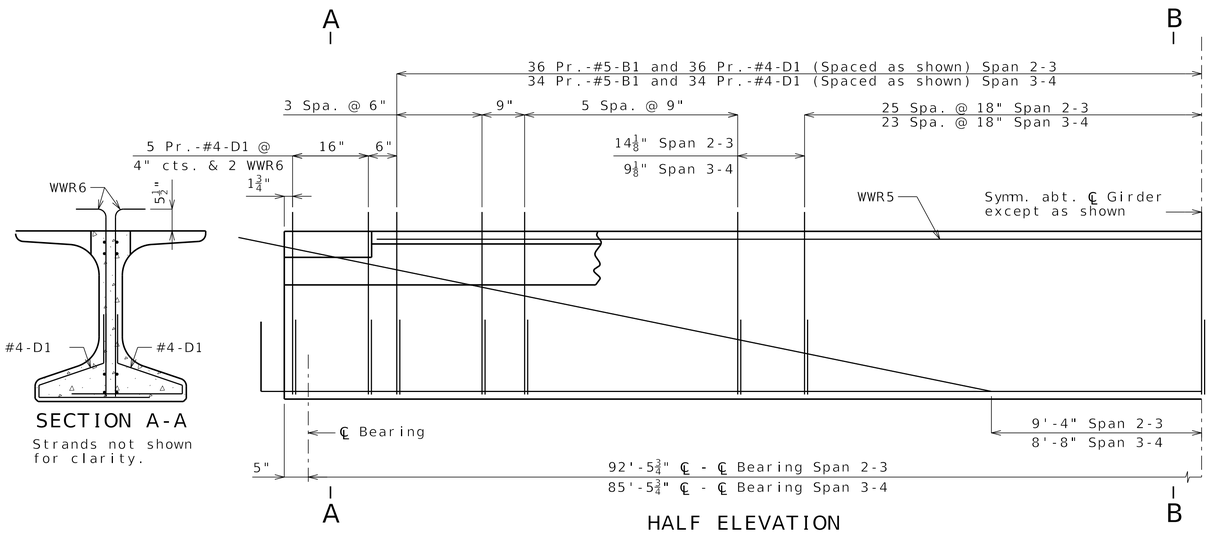


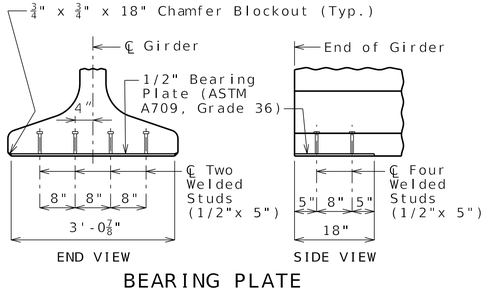
LEFT EXTERIOR GIRDER AT INTERMEDIATE BENT
Rotate 180° for right ext.

TOP FLANGE BLOCKOUT

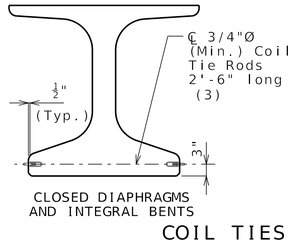
+ Indicates prestressing strand.

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





BEARING PLATE



COIL TIES

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

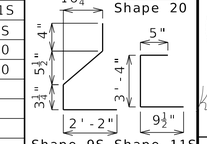
(3) 12" at exterior face of exterior girders at end bents

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

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'-9"	20

Bending Diagrams



Welded Wire Reinforcement - Each Girder

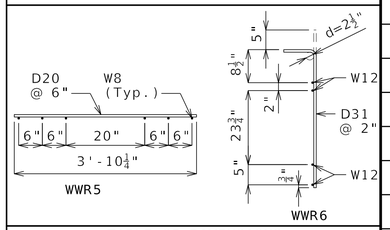


TABLE OF DIMENSIONS

Span No.	Girder No.	Bent No.	A	B	C	D
2-3	1 and 2	1	12¾"	7⅝"	142	162
2-3	1 and 2	2	12¾"	7⅝"		
3-4	1 and 2	4	12¾"	7⅝"	134	154
3-4	1 and 2	5	12¾"	7⅝"		

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 and G6 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.

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. B13-15.

For location of coil ties at concrete diaphragms and integral bents, see Sheet No. B13-14.

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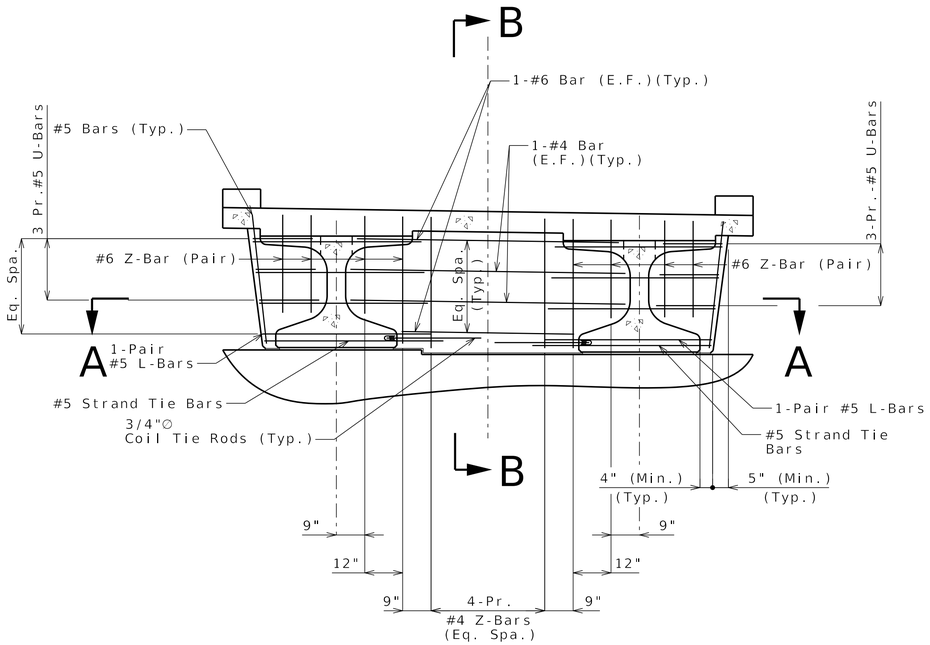
NU-GIRDERS - SPANS (2-3) & (3-4)

Sheet No. B13-13 of B13-29

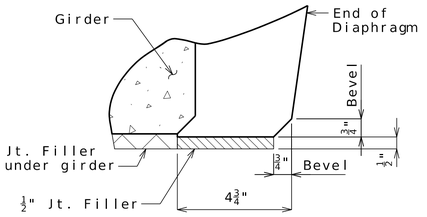
STATE OF MISSOURI
KALEB S. HAWK NUMBER PE-2024007443
PROFESSIONAL ENGINEER
6-30-2025
DATE PREPARED 06/25/2025
ROUTE I-70 | STATE MO
DISTRICT BR | SHEET NO. B13-13
COUNTY JACKSON
JOB NO. J4I1486D
CONTRACT ID. 240807-C01
PROJECT NO.
BRIDGE NO. A9636

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

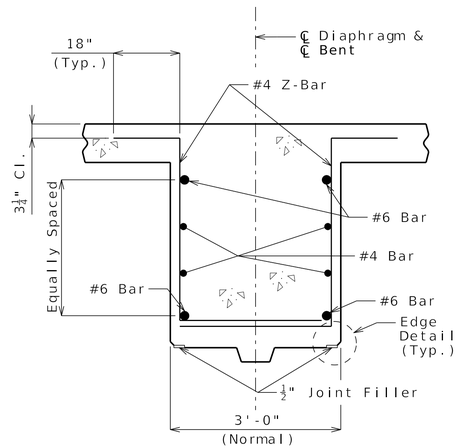
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)
CLARKSON RADMACHER JOINT VENTURE
715 KIRK DRIVE
KANSAS CITY, MO 64105-1310
CERTIFICATE OF AUTHORITY NO. 001270
HNTB



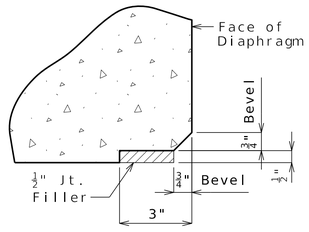
SECTION NEAR INTERMEDIATE BENT



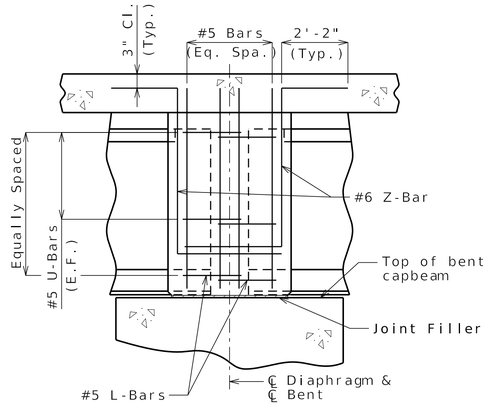
END DETAIL



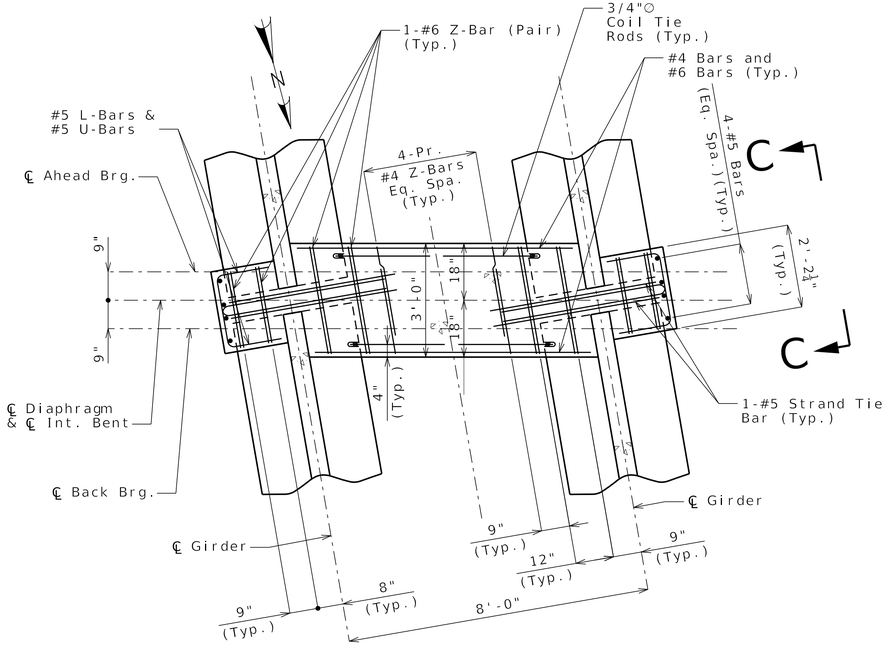
SECTION B-B



EDGE DETAIL



ELEVATION C-C



SECTION A-A

Notes:
Diaphragms shall be built vertical.
For location of #5 Strand Tie Bars, see Sheets No. B13-12 thru B13-13.
For location of coil ties, see Sheets No. B13-12 thru B13-13.
For Bearing Details, see Sheet No. B13-08.
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. B13-08.

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CONCRETE DIAPHRAGM AT INTERMEDIATE BENTS

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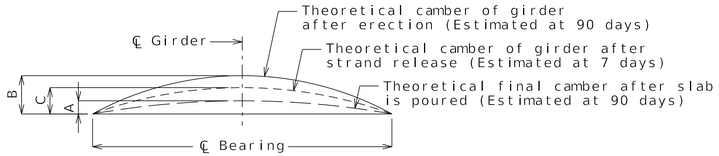
STATE OF MISSOURI
KALEB S. HAWK
NUMBER PE-2024007443
PROFESSIONAL ENGINEER
6-30-2025

DATE PREPARED 06/25/2025
ROUTE I-70 | STATE MO
DISTRICT BR | SHEET NO. B13-14
COUNTY JACKSON
JOB NO. J4I1486D
CONTRACT ID. 240807-C01
PROJECT NO.
BRIDGE NO. A9636

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

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

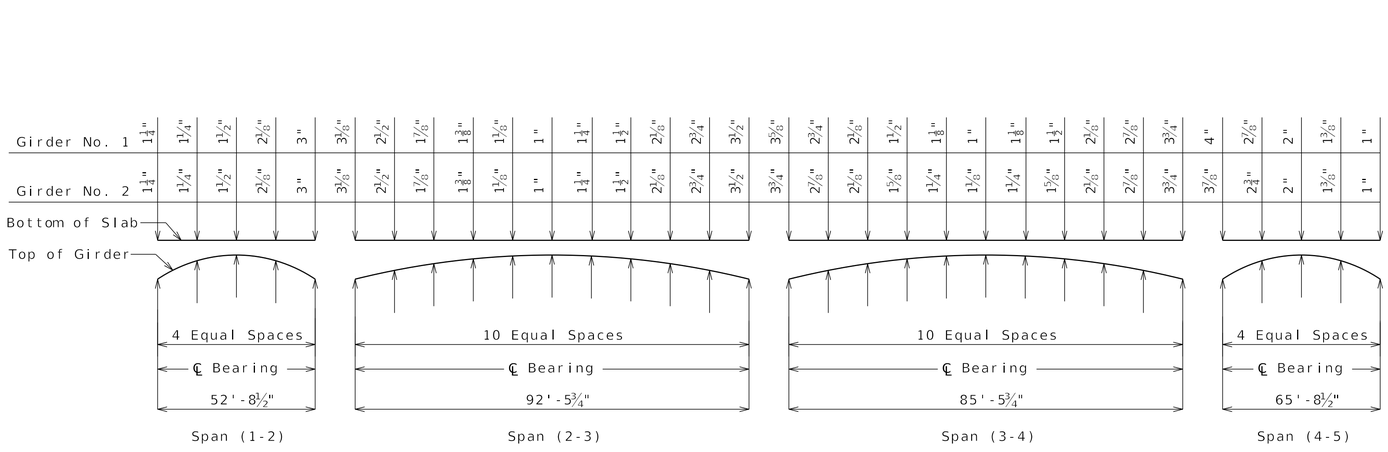


Girder	Span (1-2)			Span (2-3)			Span (3-4)			Span (4-5)		
	A	B	C	A	B	C	A	B	C	A	B	C
1	5/8"	7/8"	5/8"	2 3/8"	4 3/8"	3"	2 5/8"	4 1/8"	2 7/8"	1/2"	1"	3/4"
2	5/8"	7/8"	5/8"	2 3/8"	4 3/8"	3"	2 5/8"	4 1/8"	2 7/8"	1/2"	1"	3/4"

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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DIAGRAM & THEORETICAL SLAB HAUNCHING DIAGRAM

Detailed MAR 2025
Checked APR 2025

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

KALEB S. HAWK
NUMBER PE-2024007443
PROFESSIONAL ENGINEER
STATE OF MISSOURI
6-30-2025

DATE PREPARED 06/25/2025
ROUTE I-70 | STATE MO
DISTRICT BR | SHEET NO. B13-15
COUNTY JACKSON
JOB NO. J4I1486D
CONTRACT ID. 240807-C01
PROJECT NO.
BRIDGE NO. A9636

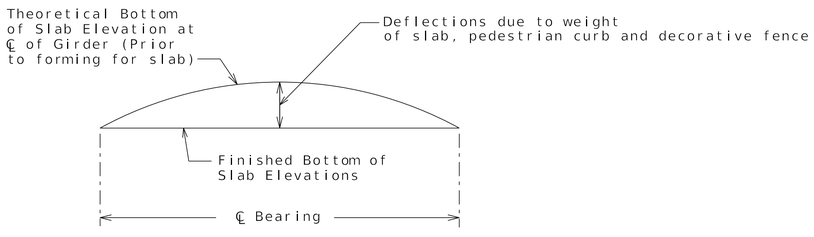
DESCRIPTION	DATE
REV 0 - RFC SUBMITTAL	06/25/25

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

Theoretical Bottom of Slab Elevations at Centerline of Girder (Prior to forming for slab)(Estimated at 90 days)**

Girder Number	Span (1-2) (52'-8½" ℄ Brg. - ℄ Brg.)										
	℄ Brg.	.25	.50	.75	℄ Brg.						
1	842.32	842.46	842.60	842.73	842.85						
2	842.18	842.33	842.47	842.59	842.71						
Girder Number	Span (2-3) (92'-5¾" ℄ Brg. - ℄ Brg.)										
	℄ Brg.	.10	.20	.30	.40	.50	.60	.70	.80	.90	℄ Brg.
1	842.86	843.01	843.15	843.28	843.40	843.50	843.58	843.65	843.71	843.75	843.79
2	842.73	842.88	843.02	843.15	843.27	843.37	843.45	843.52	843.57	843.62	843.65
Girder Number	Span (3-4) (85'-5¾" ℄ Brg. - ℄ Brg.)										
	℄ Brg.	.10	.20	.30	.40	.50	.60	.70	.80	.90	℄ Brg.
1	843.80	843.93	844.05	844.16	844.26	844.36	844.44	844.50	844.56	844.61	844.66
2	843.67	843.79	843.91	844.03	844.13	844.22	844.30	844.37	844.43	844.48	844.52
Girder Number	Span (4-5) (65'-8½" ℄ Brg. - ℄ Brg.)										
	℄ Brg.	.25	.50	.75	℄ Brg.						
1	844.67	844.87	845.05	845.20	845.33						
2	844.54	844.73	844.91	845.06	845.19						

**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

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Revision: 0.0
Date: 07/02/2025
Package: BRD-13-Oakley-Ave-Ped

Detailed MAR 2025
Checked APR 2025

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

Sheet No. B13-16 of B13-29

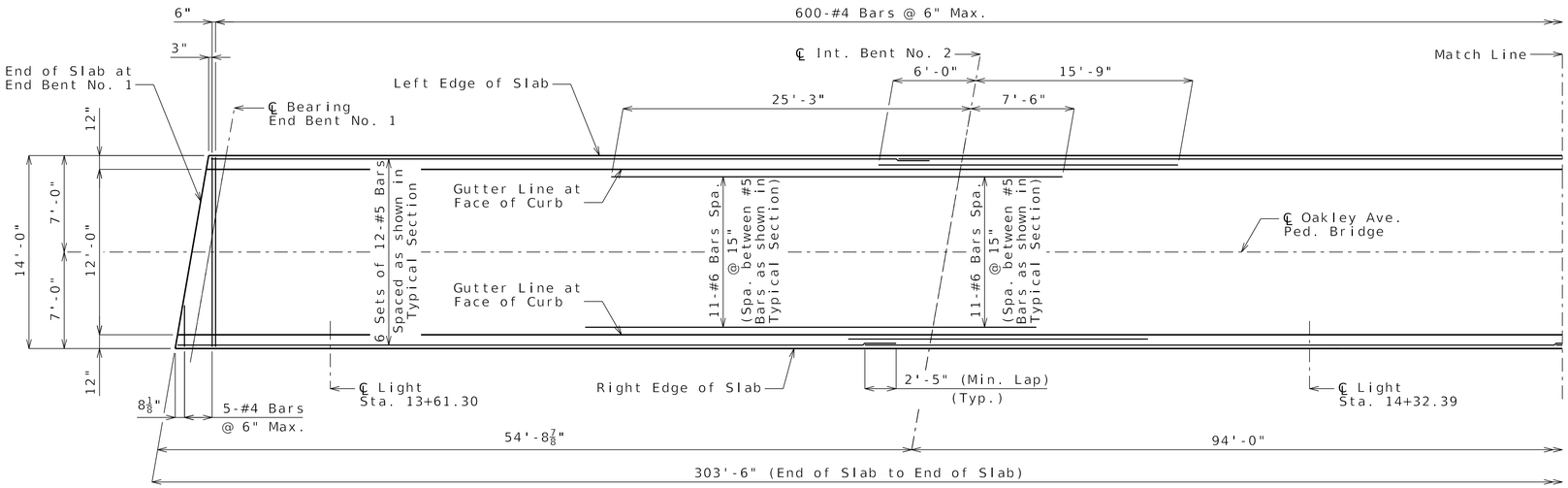
THEORETICAL BOTTOM OF SLAB ELEVATIONS

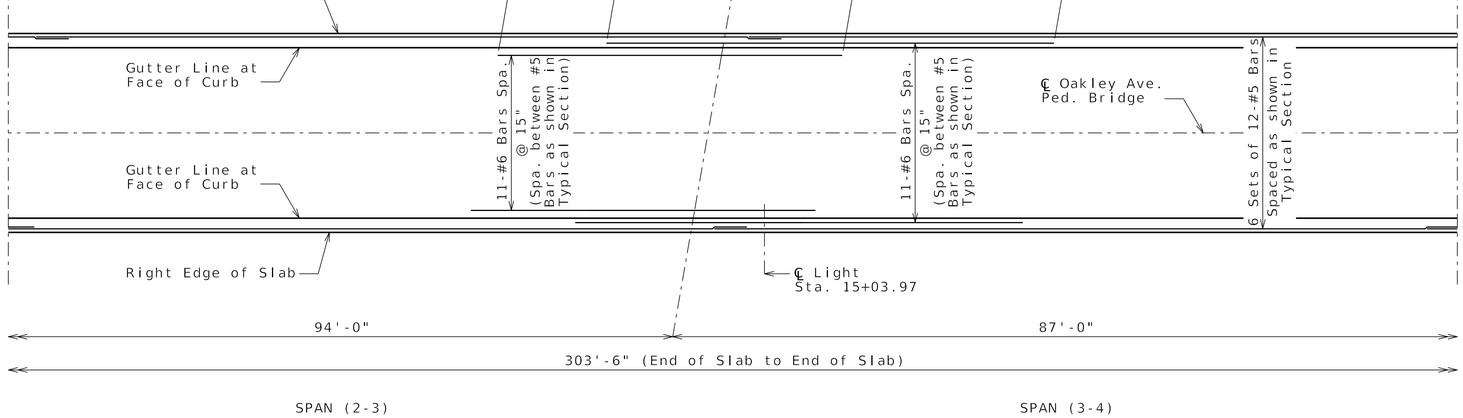
KALEB S. HAWK NUMBER PE-2024007443 PROFESSIONAL ENGINEER STATE OF MISSOURI
Kaleb S Hawk
6-30-2025
DATE PREPARED 06/25/2025
ROUTE I-70 | STATE MO
DISTRICT BR | SHEET NO. B13-16
COUNTY JACKSON
JOB NO. J4I1486D
CONTRACT ID. 240807-C01
PROJECT NO.
BRIDGE NO. A9636

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

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

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





TOP REINFORCEMENT

Notes:
Work this sheet with Sheets No. B13-17 thru B13-20.
For Typical Section and Slab Pouring Sequence, see Sheets No.B13-18 and B13-21.
For Pedestrian Curb Details, see Sheet No. B13-22.
For Camber Diagram and Theoretical Slab Haunching Diagram, see Sheet No. B13-15.
For Theoretical Bottom of Slab Elevations, see Sheet No. B13-16.
Longitudinal slab Dimensions are measured horizontally.
For Light Anchorage Details, see Sheet No. B13-23.

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Revision: 0.0
Date: 07/02/2025
Package: BRD-13-Oakley-Ave-Ped

SLAB PLAN SHOWING TOP REINFORCEMENT

Detailed MAR 2025
Checked APR 2025

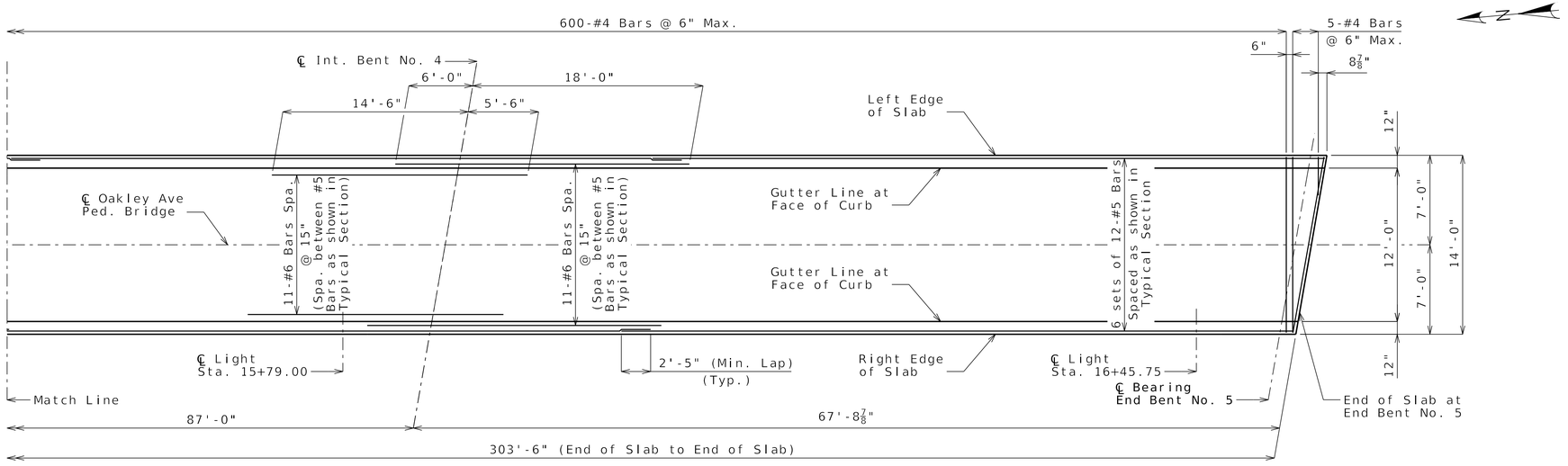
Note: This drawing is not to scale. Follow dimensions.

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

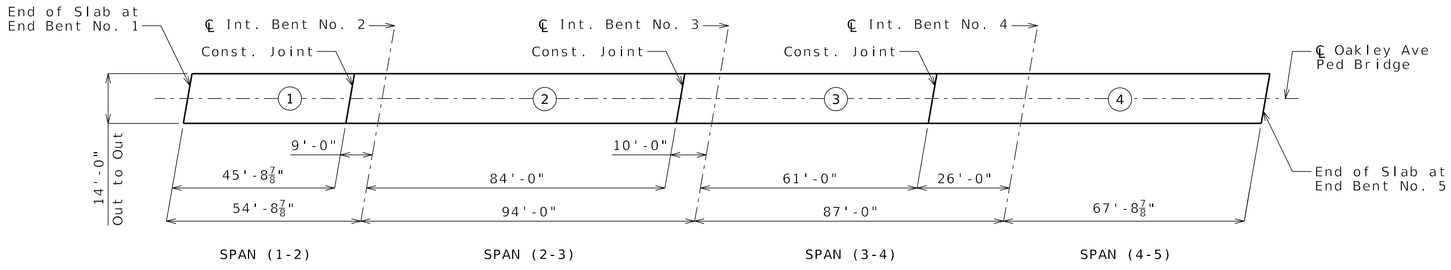
DATE PREPARED 06/25/2025
ROUTE I-70 | STATE MO
DISTRICT BR | SHEET NO. B13-17
COUNTY JACKSON
JOB NO. J4I1486D
CONTRACT ID. 240807-C01
PROJECT NO.
BRIDGE NO. A9636

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

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



TOP REINFORCEMENT



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

Notes:
Work this sheet with Sheets No. B13-17, B13-19, and B13-20.

SLAB PLAN SHOWING TOP REINFORCEMENT

Released For Construction
Not to Scale
Revision: 0.0
Date: 07/02/2025
Package: BRD-13-Oakley-Ave-Ped

Detailed MAR 2025
Checked APR 2025

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

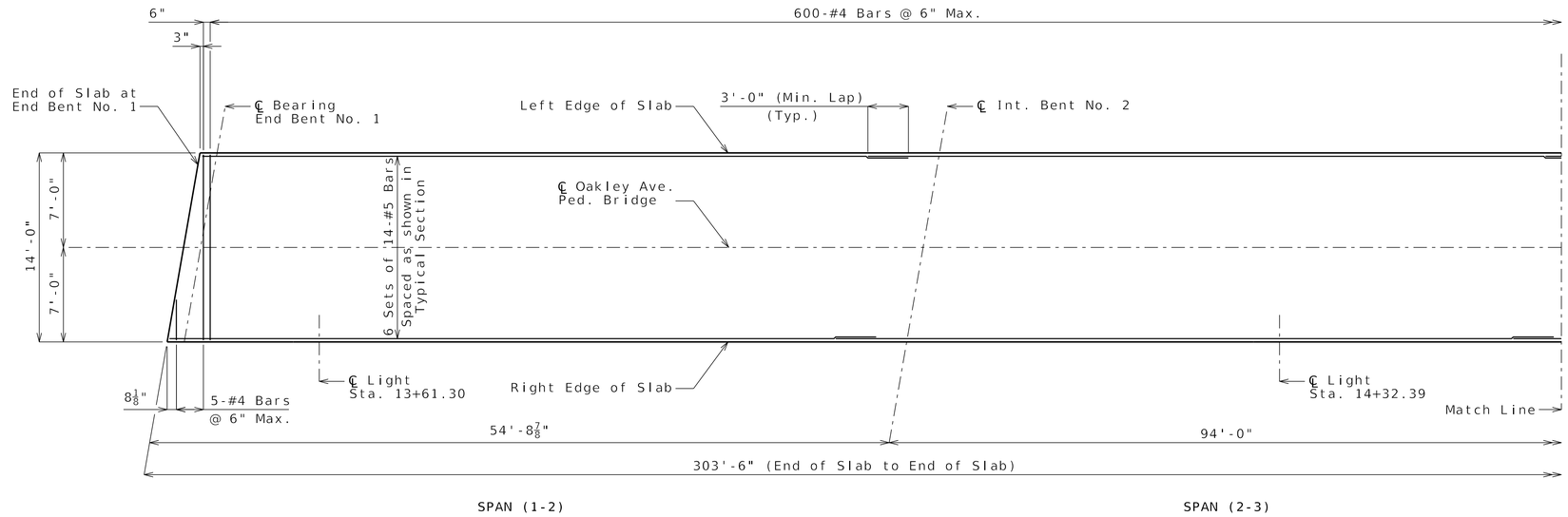
STATE OF MISSOURI
BENJAMIN LICHTY
NUMBER PE-2023038803
PROFESSIONAL ENGINEER
06-27-2025

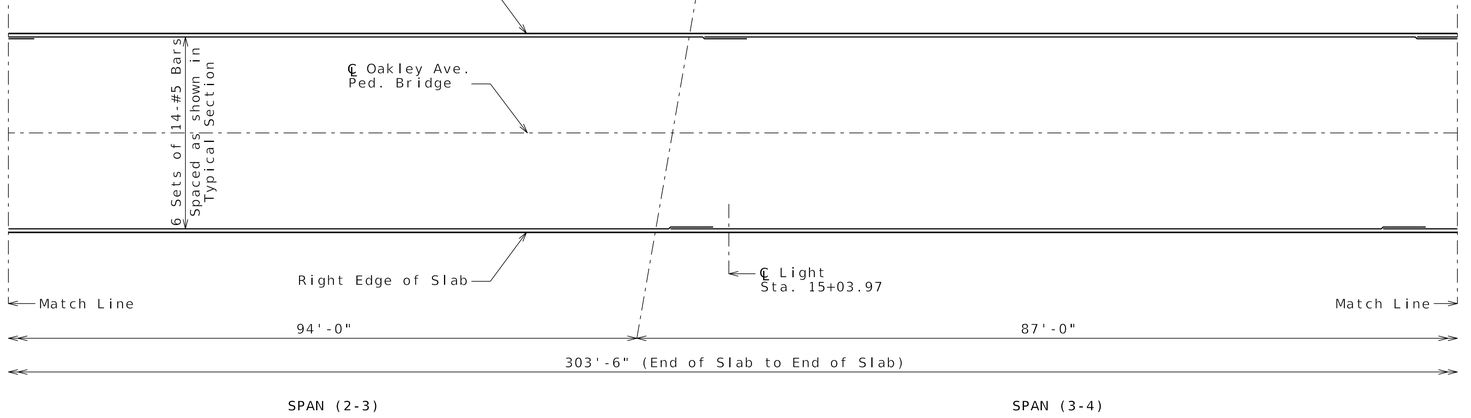
DATE PREPARED 06/25/2025
ROUTE I-70 | STATE MO
DISTRICT BR | SHEET NO. B13-18
COUNTY JACKSON
JOB NO. J4I1486D
CONTRACT ID. 240807-C01
PROJECT NO.
BRIDGE NO. A9636

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

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

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





BOTTOM REINFORCEMENT

Released For Construction
Not to Scale
Revision: 0.0
Date: 07/02/2025
Package: BRD-13-Oakley-Ave-Ped

Note:
Work this sheet with Sheets No. B13-17, B13-18 and B13-20.

SLAB PLAN SHOWING BOTTOM REINFORCEMENT

Detailed MAR 2025
Checked APR 2025

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

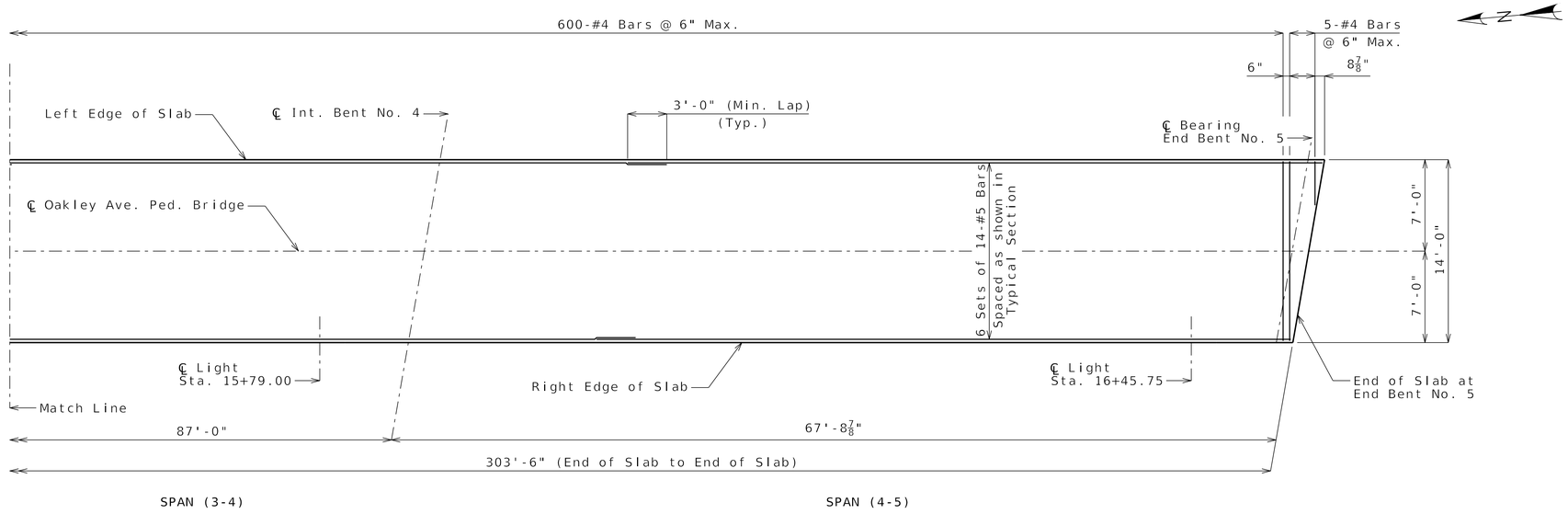
BENJAMIN LICHTY NUMBER PE-2023038803
PROFESSIONAL ENGINEER ★ STATE OF MISSOURI ★
06-27-2025

DATE PREPARED 06/25/2025
ROUTE I-70 | STATE MO
DISTRICT BR | SHEET NO. B13-19
COUNTY JACKSON
JOB NO. J4I1486D
CONTRACT ID. 240807-C01
PROJECT NO.
BRIDGE NO. A9636

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

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

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



BOTTOM REINFORCEMENT

Notes:
Work this sheet with Sheets No. B13-17 thru B13-19.

SLAB PLAN SHOWING BOTTOM REINFORCEMENT

Released For Construction
Not to Scale
Revision: 0.0
Date: 07/02/2025
Package: BRD-13-Oakley-Ave-Ped

Detailed MAR 2025
Checked APR 2025

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

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

DATE PREPARED 06/25/2025
ROUTE I-70 | STATE MO
DISTRICT BR | SHEET NO. B13-20
COUNTY JACKSON
JOB NO. J4I1486D
CONTRACT ID. 240807-C01
PROJECT NO.
BRIDGE NO. A9636

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

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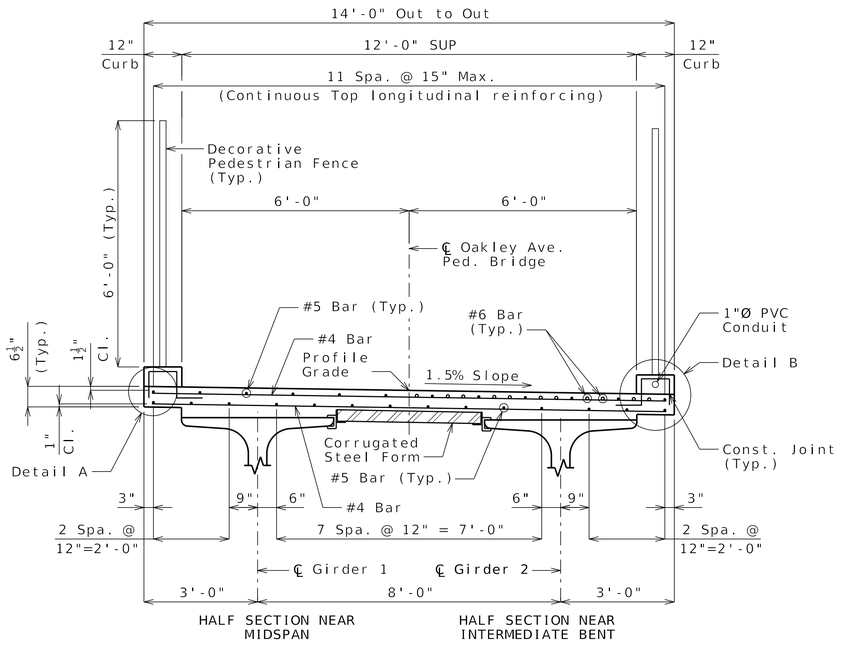
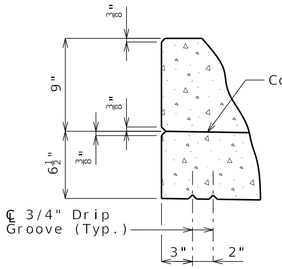
CLARKSON RADMACHER JOINT VENTURE
715 KIRK DRIVE
KANSAS CITY, MO 64105-1310
CERTIFICATE OF AUTHORITY NO. 001270
HNTB

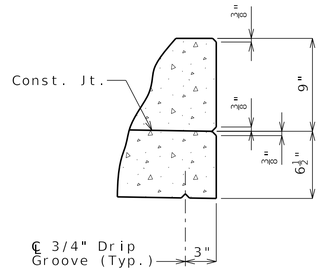


TYPICAL SECTION



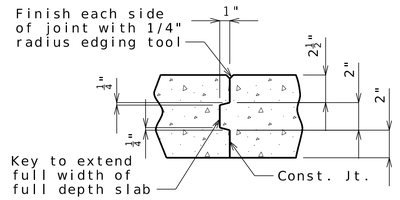
DETAIL A

(High side of slab)



DETAIL B

(Low side of slab)



SLAB CONSTRUCTION JOINT

Notes:
For Plan of Slab Showing Top and Bottom Reinforcement, see Sheets No. B13-17 and B13-20.
For reinforcement of Pedestrian Curb not shown, see Sheet No. B13-22.
For Details of Conduit System of Structure, see Sheet No. B13-25.
For Decorative Pedestrian Fence Details, see Sheet No. B13-24.

SLAB DETAILS

Released For Construction
Not to Scale
Revision: 0.0
Date: 07/02/2025
Package: BRD-13-Oakley-Ave-Ped

Detailed MAR 2025
Checked APR 2025

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

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

DATE PREPARED 06/25/2025

ROUTE	STATE
I-70	MO
DISTRICT	SHEET NO.
BR	B13-21

COUNTY JACKSON

JOB NO. J4I1486D

CONTRACT ID. 240807-C01

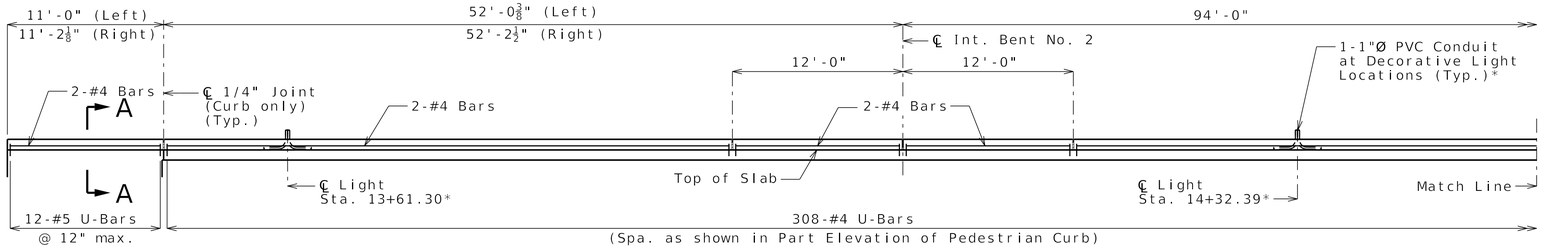
PROJECT NO.

BRIDGE NO. A9636

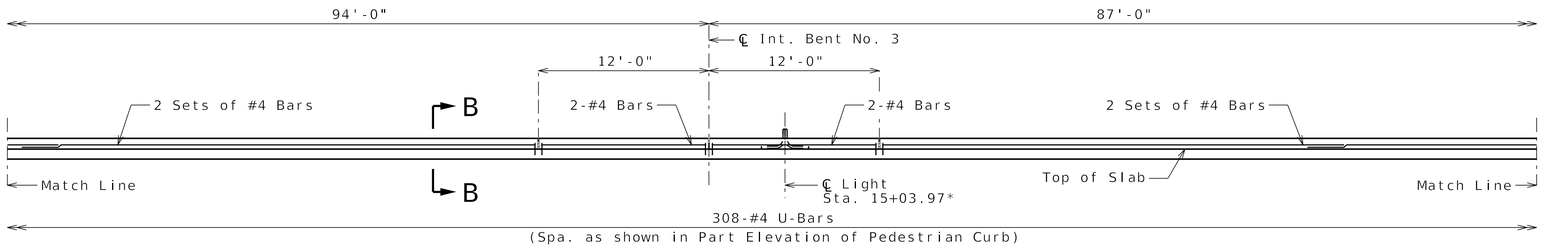
DATE	DESCRIPTION
06/25/25	REV 0 - RFC SUBMITTAL

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

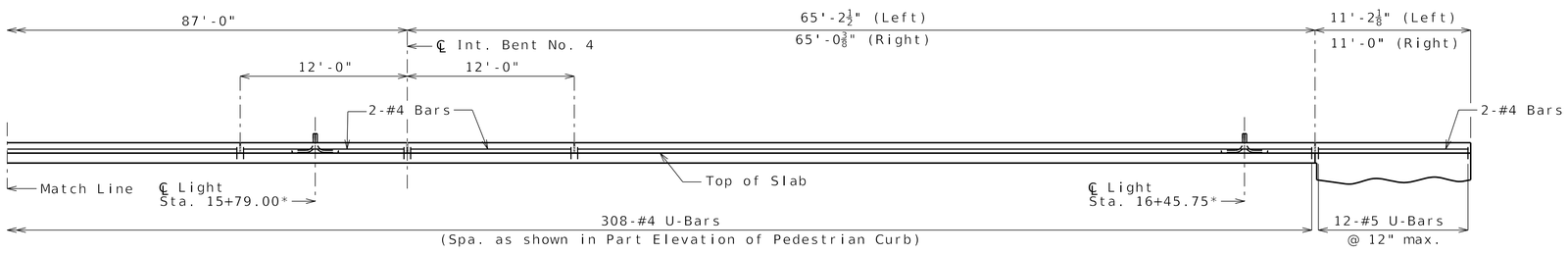
CLARKSON RADMACHER JOINT VENTURE
715 KIRK DRIVE
KANSAS CITY, MO 64105-1310
CERTIFICATE OF AUTHORITY NO. 001270
HNTB



SPAN (1-2) SPAN (2-3)



SPAN (2-3) SPAN (3-4)

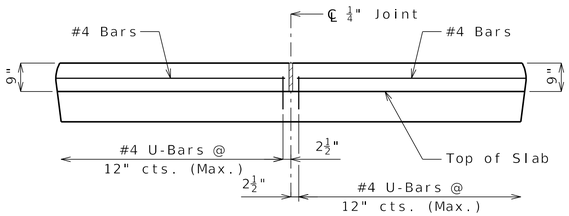


SPAN (3-4) SPAN (4-5)

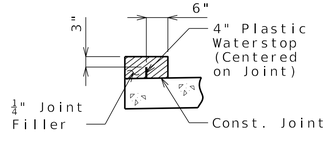
*All light and conduits are in right curb only.

ELEVATION OF PEDESTRIAN CURB

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

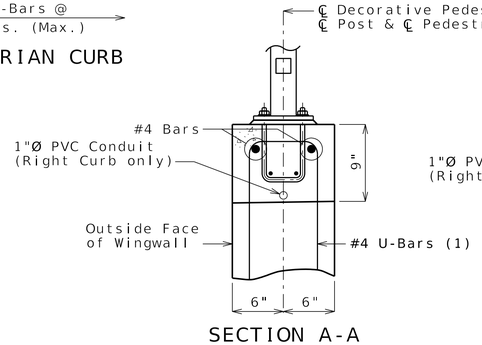


PART ELEVATION OF PEDESTRIAN CURB



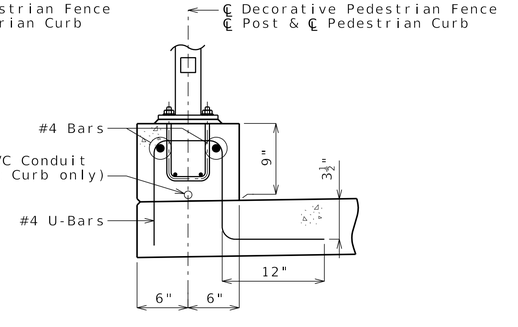
PLASTIC WATERSTOP DETAIL

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



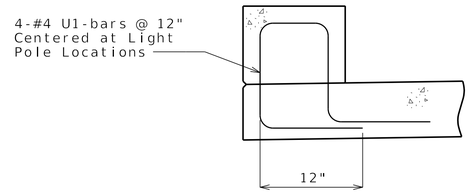
SECTION A-A

(1) See Sheets No. B13-06 and B13-10 for minimum embedment into wingwall.



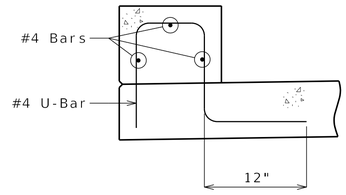
SECTION B-B

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



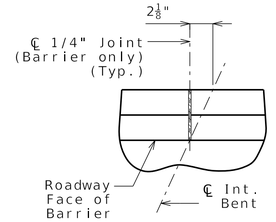
U1-BAR DETAIL AT LIGHT POLE

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

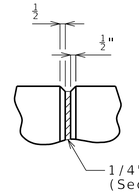


ALTERNATE CURB REINFORCING DETAIL

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



PART PLAN SHOWING JOINT LOCATION



PART ELEVATION AT CURB JOINT

Released For Construction
Not to Scale
Revision: 0.0
Date: 07/02/2025
Package: BRD-13-Oakley-Ave-Ped

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. B13-24.

For details of Decorative Lighting, see Lighting Plans.

PEDESTRIAN CURB DETAILS

Detailed MAR 2025
Checked APR 2025

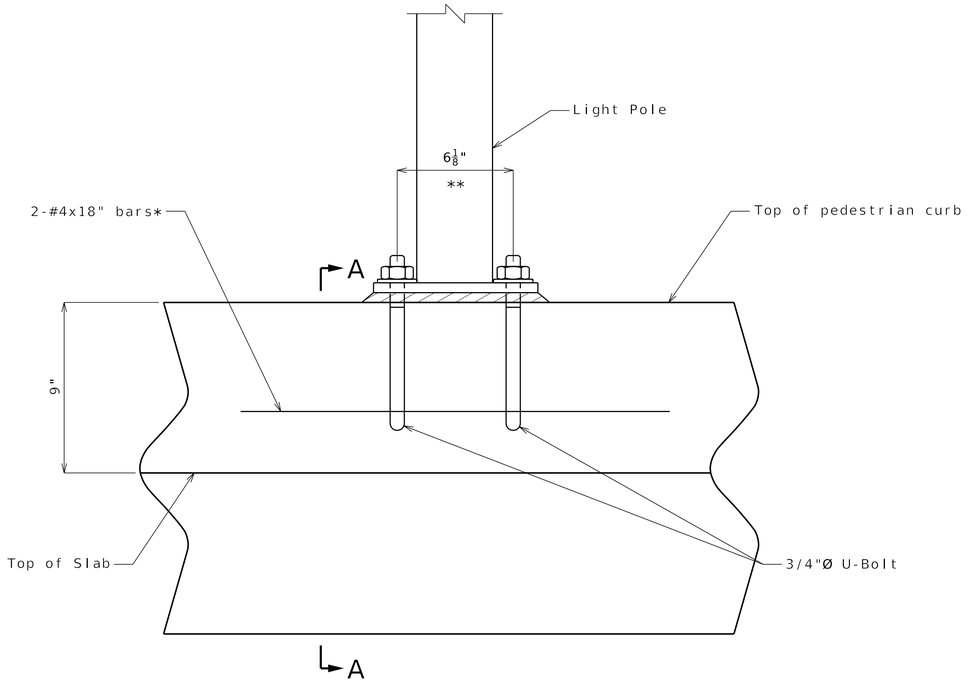
Note: This drawing is not to scale. Follow dimensions.

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

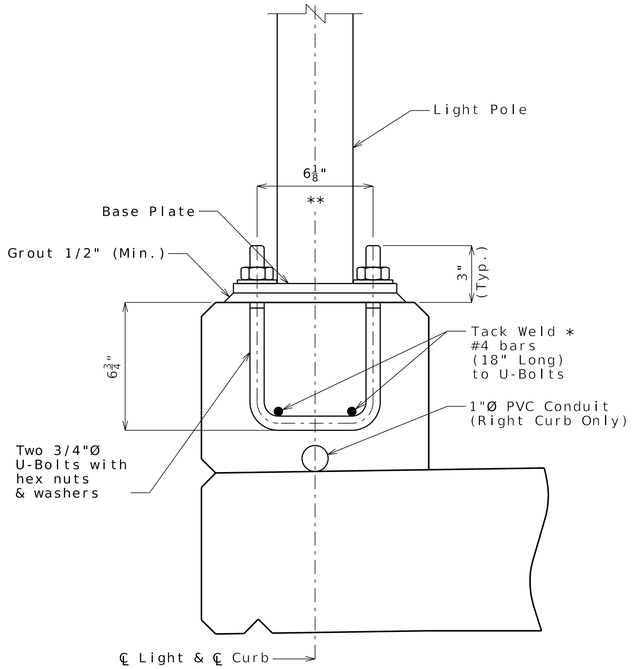
DATE PREPARED 06/25/2025
ROUTE I-70 | STATE MO
DISTRICT BR | SHEET NO. B13-22
COUNTY JACKSON
JOB NO. J4I1486D
CONTRACT ID. 240807-C01
PROJECT NO.
BRIDGE NO. A9636

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

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



LIGHT POLE PART ELEVATION



SECTION A-A

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 Sheets No. B13-17 and B13-18.
For details of pedestrian curb, see Sheet No. B13-22.
For details of decorative pedestrian fence at light locations, see Sheet No. B13-24.
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

Released For Construction
Not to Scale
Revision: 0.0
Date: 07/02/2025
Package: BRD-13-Oakley-Ave-Ped

Detailed MAR 2025
Checked APR 2025

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

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

DATE PREPARED 06/25/2025
ROUTE I-70 | STATE MO
DISTRICT BR | SHEET NO. B13-23
COUNTY JACKSON
JOB NO. J4I1486D
CONTRACT ID. 240807-C01
PROJECT NO.
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DATE	DESCRIPTION
06/25/25	REV 0 - RFC SUBMITTAL

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

Notes:

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

Fence shall have a gloss 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.), except that a uniform load of 50lb/ft and a concentrated load of 200 lb need not be applied simultaneously.

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

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

Decorative pedestrian fencing system shall be supplied by only one manufacturer. Decorative pedestrian fencing system shall include all components except 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.

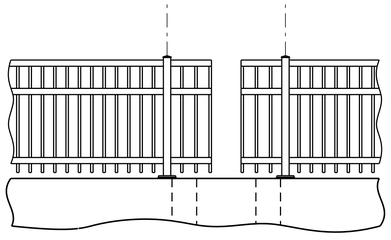
U-bolts shall be ASTM F1554 Grade 36.

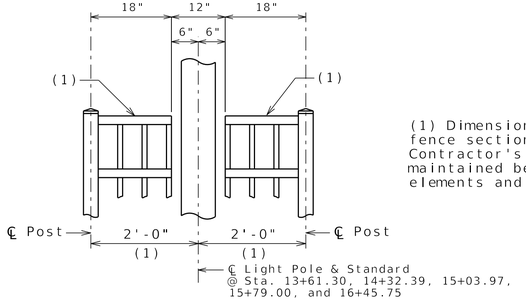
For details of pedestrian curb, see Sheet No. B13-22.

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.

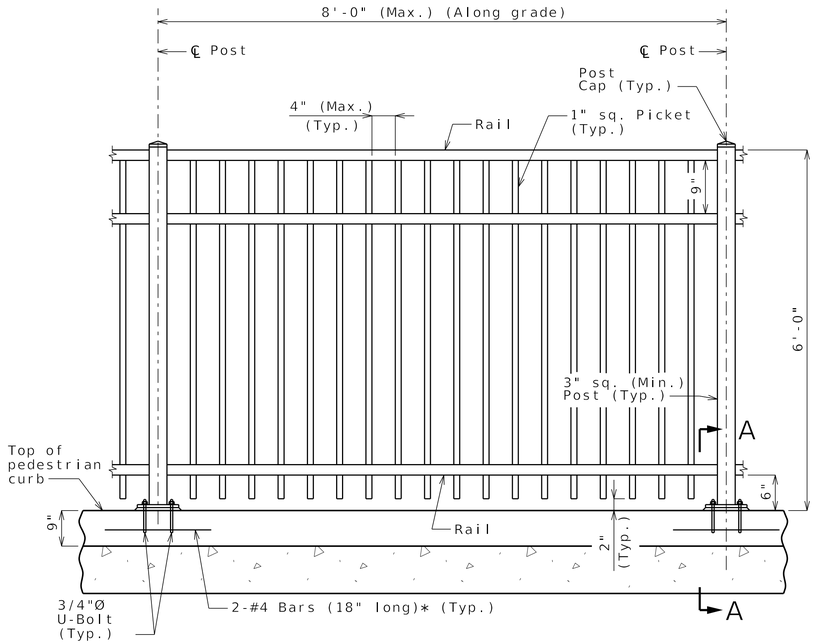
* Bars can be field cut to place around slab #4-U-bars. In this case, galvanization at cut locations shall be repaired per Sec 1081. Additional #4x18" galvanized bar shall be lapped with each cut bar.



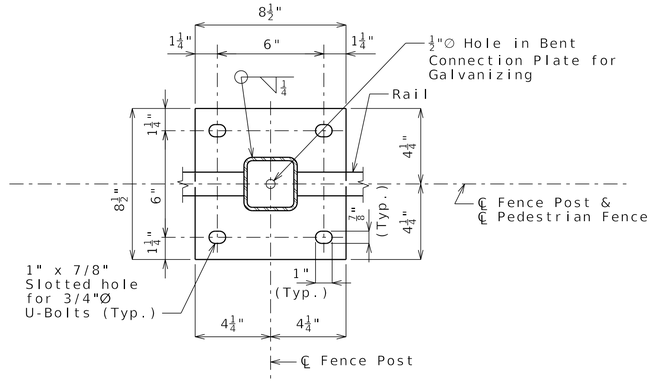


(1) Dimensions can be reduced and cantilevered fence section can be reduced or eliminated at Contractor's option so long as 4" max. gap is maintained between decorative pedestrian fence elements and light pole.

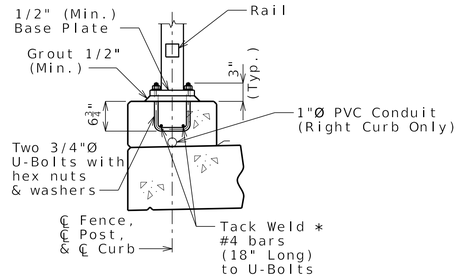
TYPICAL DETAIL OF FENCE AT LIGHT STANDARDS



TYPICAL PART ELEVATION



PART PLAN SHOWING BASE PLATE



SECTION A-A

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

Released For Construction
Not to Scale
Revision: 0.0
Date: 07/02/2025
Package: BRD-13-Oakley-Ave-Ped

DECORATIVE PEDESTRIAN FENCE DETAILS

Detailed MAR 2025
Checked APR 2025

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

DATE PREPARED 06/25/2025
ROUTE I-70
STATE MO
DISTRICT BR
SHEET NO. B13-24
COUNTY JACKSON
JOB NO. J4I1486D
CONTRACT ID. 240807-C01
PROJECT NO.
BRIDGE NO. A9636

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

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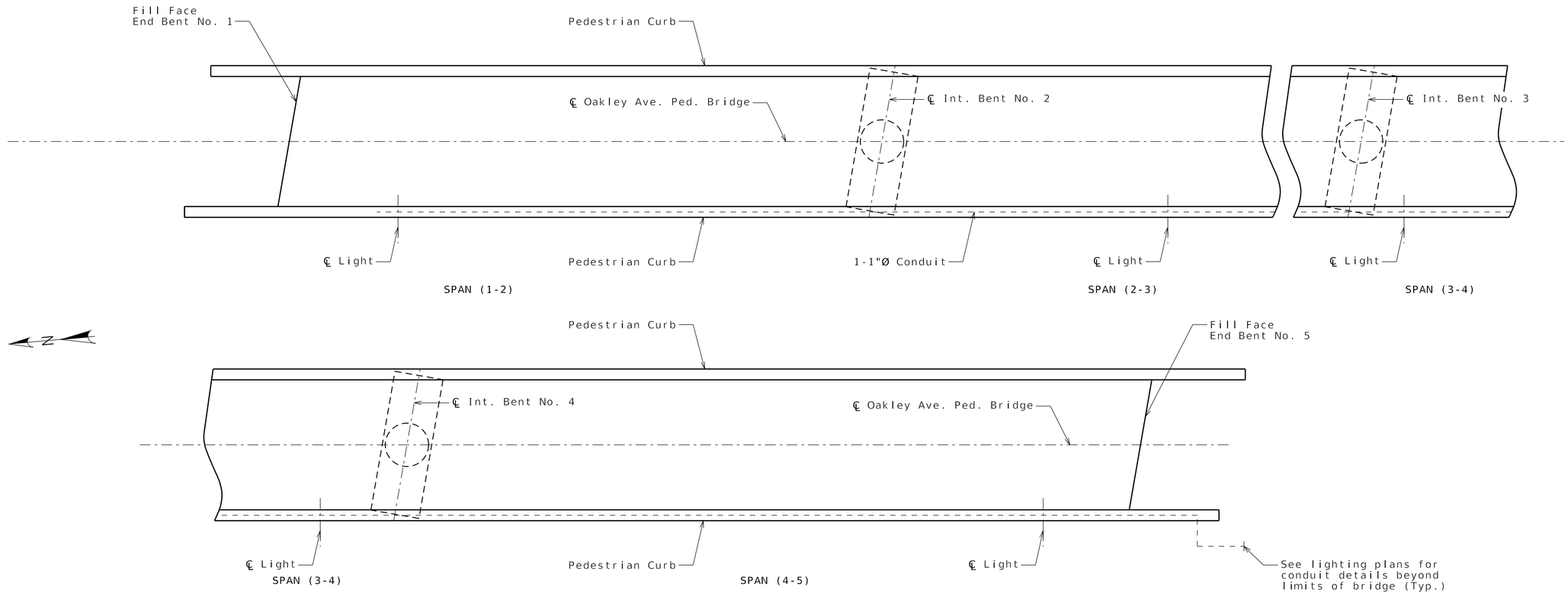
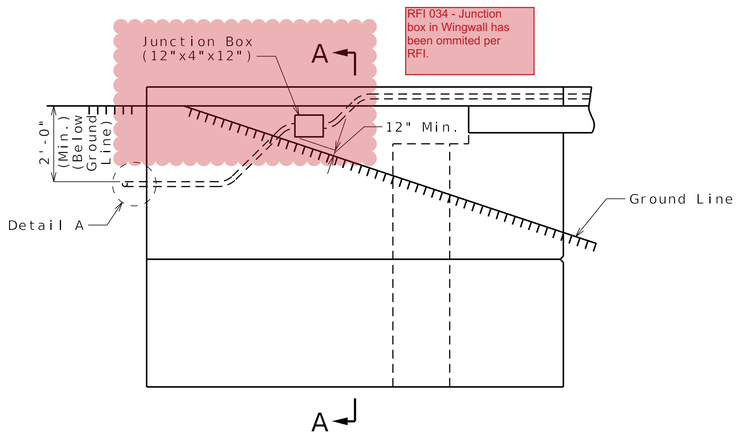
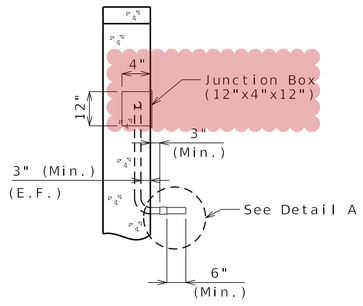
CLARKSON RADMACHER JOINT VENTURE
715 KIRK DRIVE
KANSAS CITY, MO 64105-1310
CERTIFICATE OF AUTHORITY NO. 001270
HNTB



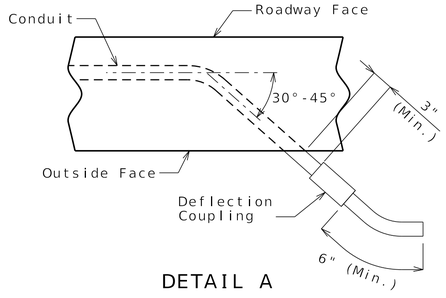
PLAN OF CONDUIT SYSTEM



PART WINGWALL ELEVATION



PART SECTION A-A



DETAIL A

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.

Released For Construction
Not to Scale
Revision: 0.0
Date: 07/02/2025
Package: BRD-13-Oakley-Ave-Ped

DETAILS OF CONDUIT SYSTEM ON STRUCTURE

Detailed MAR 2025
Checked APR 2025

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

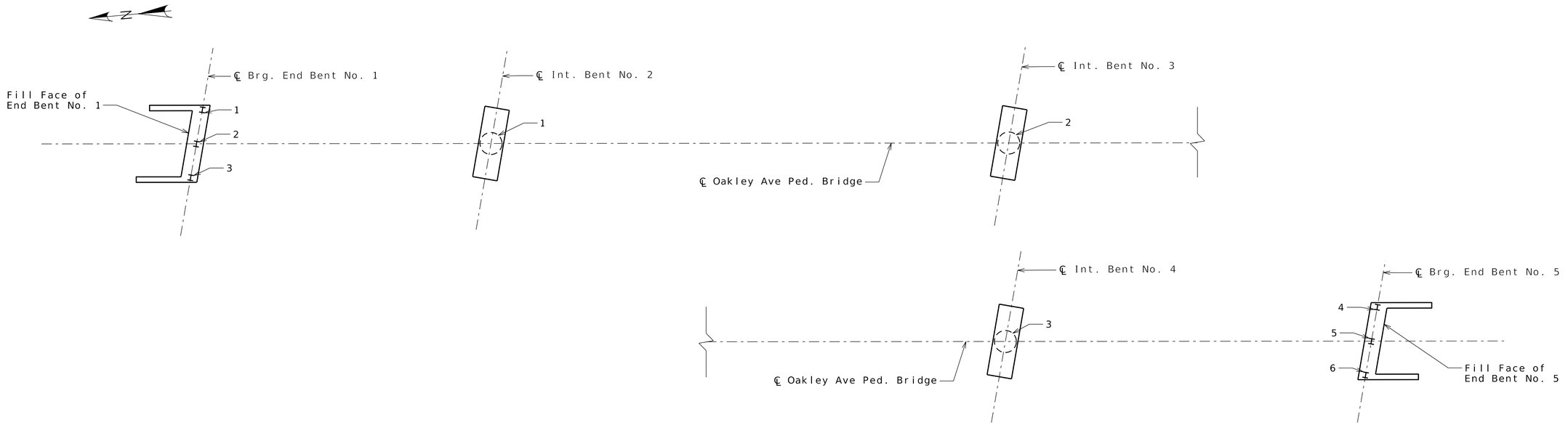
BENJAMIN LICHTY NUMBER PE-2023038803
PROFESSIONAL ENGINEER
STATE OF MISSOURI
06-27-2025

DATE PREPARED 06/25/2025
ROUTE I-70 | STATE MO
DISTRICT BR | SHEET NO. B13-25
COUNTY JACKSON
JOB NO. J4I1486D
CONTRACT ID. 240807-C01
PROJECT NO.
BRIDGE NO. A9636

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

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

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



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

As-Built Pile Data

Pile No.	Length in Place (ft)	Computed Nominal Axial Compressive Resistance (kips)	Remarks
			End Bent No. 1
1			
2			
3			
			End Bent No. 5
4			
5			
6			

Note:

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

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: 07/02/2025
Package: BRD-13-Oakley-Ave-Ped

AS-BUILT PILE AND DRILLED SHAFT DATA

Detailed MAR 2025
Checked APR 2025

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

GINA D. HORNER PE-30413
STATE OF MISSOURI PROFESSIONAL ENGINEER
Gina D. Horner
06/27/25

DATE PREPARED 06/25/2025
ROUTE I-70 | STATE MO
DISTRICT BR | SHEET NO. B13-26
COUNTY JACKSON
JOB NO. J4I1486D
CONTRACT ID. 240807-C01
PROJECT NO.
BRIDGE NO. A9636

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

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

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

Surface Elevation 840.8 | Completion Date: 11/17/21
Datum NAVD88 | Northing: 1057699.35 | Easting: 2783836.849

Elevation (feet)	Depth (feet)	DESCRIPTION OF MATERIAL	DRY UNIT WEIGHT (pcf) SPT BLOW COUNTS CORE RECOVERY/RQD	SAMPLES	SHEAR STRENGTH, tsf (Δ UU/2, ○ QU/2, □ PP/2) / STANDARD PENETRATION RESISTANCE (ASTM D 1586) (▲ N-VALUE (BLOWS PER FOOT)) / WATER CONTENT, % (PL, LL)
840		ROOT ZONE - 6 inches			
		0.5 - 17' CLAY - brown and red, very stiff to medium stiff, lean - (CL)			
			6-9-11	SS1	
835	5.0		N60=29		
			4-9-9	SS2	
830	10.0		N60=26		
			3-4-3	SS3	
825	15.0		N60=10		
		17 - 19' CLAY - tan, hard, lean, trace rock fragments, shaley - CL	N60>100	SS4	
		19 - 23' LIMESTONE - gray, medium hard, slightly weathered and weathered	30/5" 100% 100%	NQ1	
820	20.0				
		23 - 25.25' SHALE - gray-black, very soft, weathered	100% 45%	NQ2	
	25.0				
815		25.25 - 30.5' LIMESTONE - gray, medium hard, slightly weathered, with shale seams	99% 71%	NQ3	
		7-inch argillaceous limestone bed			
	30.0				
810		Sampler refusal at 18.9 feet. Auger refusal at 19 feet. Boring terminated at 30.5 feet.			
	35.0				

GROUNDWATER DATA

X FREE WATER NOT ENCOUNTERED DURING DRILLING

DRILLING DATA

__ AUGER 3 3/4" HOLLOW STEM
WASHBORING FROM __ FEET
DJT DRILLER JDN LOGGER
Diedrich D-50 DRILL RIG
HAMMER TYPE Auto
HAMMER EFFICIENCY 86 %

REMARKS:

Drawn by: JDN	Check by: MHM	App'vd by: SDG
Date: 11/18/21	Date: 4/25/23	Date: 5/2/23

GEOTECHNOLOGY
A Universal Engineering Sciences Company

Bridge A318
Oakley Ave Pedestrian Bridge over I-70

LOG OF BORING: A318-1

Project No. J039339.01

NOTE: STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARIES BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL. GRAPHIC LOG FOR ILLUSTRATION PURPOSES ONLY.

Surface Elevation 813.0 | Completion Date: 5/23/22
Datum NAVD88 | Northing: 1057614.3 | Easting: 2783776.61

Elevation (feet)	Depth (feet)	DESCRIPTION OF MATERIAL	DRY UNIT WEIGHT (pcf) SPT BLOW COUNTS CORE RECOVERY/RQD	SAMPLES	SHEAR STRENGTH, tsf (Δ UU/2, ○ QU/2, □ PP/2) / STANDARD PENETRATION RESISTANCE (ASTM D 1586) (▲ N-VALUE (BLOWS PER FOOT)) / WATER CONTENT, % (PL, LL)
		ROOT ZONE - 6 inches			
		0.5 - 1' CLAY - brown, fat - CH			
810		1 - 9' Weathered LIMESTONE (rough drilling)			90
	5.0	sampler refusal	24-40 -50/4"	SS1	
			N60>100		
805			N60>100 50/5"	SS2	
	10.0	9 - 16.5' LIMESTONE - gray, soft and medium hard, slightly weathered 6" vertical fracture Qu = 437 ksf; Unit Weight = 158 pcf	100% 73%	NQ1	
800			96% 92%	NQ2	
	15.0	1/2" shale parting Qu = 865 ksf; Unit Weight = 164 pcf			
795		16.5 - 16.9' SHALE - black, extremely soft, weathered 16.9 - 23.1' LIMESTONE - gray, medium hard, slightly weathered, argillaceous partings to argillaceous	100% 97%	NQ3	
	20.0	Qu = 619 ksf; Unit Weight = 158 pcf 2-inch shale band			
790		23.1 - 30' SHALE - black to gray, extremely soft, slightly weathered	100% 100%	NQ4	
	25.0	Qu = 8 ksf; Unit Weight = 141 pcf Qu = 16 ksf; Unit Weight = 139 pcf			
785			100% 75%	NQ5	
	30.0	30 - 33.3' LIMESTONE - gray, medium hard, weathered, argillaceous inclusions and partings			
780			100% 57%	NQ6	
	35.0	33.3 - 39' LIMESTONE - white, medium hard, slightly weathered, stylolites Qu = 573 ksf; Unit Weight = 163 pcf			
775			100% 67%	NQ7	
	40.0	Sampler refusal at 8.9 feet. Auger refusal at 9 feet. Boring terminated at 39 feet.			

GROUNDWATER DATA

X FREE WATER NOT ENCOUNTERED DURING DRILLING

DRILLING DATA

__ AUGER 3 3/4" HOLLOW STEM
WASHBORING FROM __ FEET
BCS DRILLER JDH LOGGER
CME 55HTX DRILL RIG
HAMMER TYPE Auto
HAMMER EFFICIENCY 77 %

REMARKS:

Drawn by: JDH	Check by: MHM	App'vd by: SDG
Date: 5/24/22	Date: 4/25/23	Date: 5/2/23

GEOTECHNOLOGY
A Universal Engineering Sciences Company

Bridge A318
Oakley Ave Pedestrian Bridge over I-70

LOG OF BORING: A318-2

Project No. J039339.01

NOTE: STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARIES BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL. GRAPHIC LOG FOR ILLUSTRATION PURPOSES ONLY.

STATE OF MISSOURI
WILLIAM JOSEPH STURGEON
PE-2014017021
PROFESSIONAL ENGINEER
6/30/2025

DATE PREPARED 06/25/2025
ROUTE I-70 | STATE MO
DISTRICT BR | SHEET NO. B13-27
COUNTY JACKSON
JOB NO. J4I1486D
CONTRACT ID. 240807-C01
PROJECT NO.
BRIDGE NO. A9636

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

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

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

HNTB

Released For Construction
Not to Scale
Revision: 0.0
Date: 07/02/2025
Package: BRD-13-Oakley-Ave-Ped

Notes:
For locations of borings, see Sheet No. B13-02 and Geotechnical Report.

BORING LOGS

Detailed MAR 2025
Checked APR 2025

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

Sheet No. B13-27 of B13-29

B_A9636_B13-33_J4I1486D.dgn 11:19:28 PM 6/23/2025

Surface Elevation 811.9 | Completion Date: 5/23/22
Datum NAVD88 | Northing: 1057537.026 | Easting: 2783798.404

Elevation (feet)	Depth (feet)	DESCRIPTION OF MATERIAL	DRY UNIT WEIGHT (pcf) / SPT BLOW COUNTS / CORE RECOVERY/RQD	SAMPLES
		CONCRETE - 11 inches		
810		GRANULAR BASE - 6 inches		
		1.4 - 8' CLAY - reddish-brown, medium stiff, fat - CH		
	5.0		1-2-6	SS1
805			N60=10	
		8 - 21' LIMESTONE - white, medium hard and moderately hard, slightly weathered, some chert, argillaceous partings	100% 77%	NQ1
	10.0	some chert		
800		Qu = 1,078 ksf; Unit Weight = 160 pcf		
		1/2" shale parting	97% 86%	NQ2
	15.0	Qu = 806 ksf; Unit Weight = 165 pcf		
795		4 inch gray shale bed		
		Qu = 774 ksf; Unit Weight = 161 pcf	100% 88%	NQ3
	20.0	3" gray shale bed		
790		21 - 27.4' SHALE - dark gray to black to gray, extremely soft, slightly weathered	100% 100%	NQ4
		trace gravel		
	25.0	Qu = 16 ksf; Unit Weight = 140 pcf		
785		slightly weathered to weathered		
		27.4 - 38' LIMESTONE - white, medium hard, slightly weathered	100% 87%	NQ5
	30.0	Qu = 985 ksf; Unit Weight = 164 pcf		
780			98% 82%	NQ6
		Qu = 762 ksf; Unit Weight = 161 pcf		
	35.0		100% 50%	NQ7
775		Auger refusal at 8 feet. Boring terminated at 38 feet.		
	40.0			

SHEAR STRENGTH, tsf — Δ - UU/2 ○ - QU/2 □ - PP/2 — 0.5 1.0 1.5 2.0 2.5
STANDARD PENETRATION RESISTANCE (ASTM D 1586) — ▲ N-VALUE (BLOWS PER FOOT)
WATER CONTENT, % — PL 10 20 30 40 50 LL

GROUNDWATER DATA

X FREE WATER NOT ENCOUNTERED DURING DRILLING

DRILLING DATA

___ AUGER 3 3/4" HOLLOW STEM
WASHBORING FROM ___ FEET
BCS DRILLER JDH LOGGER
CME 55HTX DRILL RIG
HAMMER TYPE Auto
HAMMER EFFICIENCY 77 %

REMARKS: A pavement core at an offset location consisted of 11 inches of concrete underlain by 6 inches of crushed rock.

NOTE: STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARIES BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL. GRAPHIC LOG FOR ILLUSTRATION PURPOSES ONLY.

Drawn by: JDH	Check by: MHM	App'vd by: SDG
Date: 5/24/22	Date: 4/25/23	Date: 5/2/23

GEOTECHNOLOGY
A Universal Engineering Sciences Company

Bridge A318
Oakley Ave Pedestrian Bridge over I-70

LOG OF BORING: A318-3

Project No. J039339.01

HNTB

SOIL BORING NUMBER: Oak_B3_1

Page 1 of 1

PROJECT Improve I 70 KC Design Build
DRILLING FIRM PPI **DRILLER** Ray
LOGGED BY Cameron Dupont
SURFACE ELEVATION 812'
METHOD Auger, Mud Rotary, NQ Core
NORTHING/EASTING 1057554.2 / 2783767.6
DATE STARTED 02/26/2025
DATE COMPLETED 02/26/2025
RIG TYPE CME-55
TOOLING 3-3/4" Tricone, 1-1/2" AWJ

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)
	1.5 ft									CONCRETE, with rebar 1.0 811				
										Brown-gray, firm, SANDY LEAN CLAY with GRAVEL 1.7 810.3		0.40	166.00	1566
5	5 ft		C-1	3 38	50/3" (50/3")	100	70			Limestone, highly to moderately weathered, gray, moderately hard				
			C-2	60		100	8			- interbedded shale, dark grey, fossiliferous from 3.2-3.7'		3.00	147.30	278
10	10 ft		C-3	60		100	100			- shale seam, highly weathered, dark gray, soft, from 6.8' to 7.6'				
										- becomes hard, fresh at 10'				
15	15 ft		C-4	60		100	90			- shale seam, highly weathered, dark gray, soft at 15.1' 15.6 796.4		1.30	153.20	410
										Limestone, fresh, gray, hard, thin shale seams throughout				
20	20 ft		C-5	60		100	47			21.5 790.5		8.80	137.40	89
										Shale, slightly weathered, dark gray, hard, laminated				
25	25 ft		C-6	60		100	48			- becomes soft, weathered at 24.5'				
										27.8 784.2		13.50	134.20	11
30										Limestone, weathered, gray-green, moderately hard 30.0 782				
35										Bottom of Boring at 30'				
										Boring backfilled with cuttings and patched with asphalt 2/26/25				

Lab

STATE OF MISSOURI — WILLIAM JOSEPH STURGEON PE-2014017021 — PROFESSIONAL ENGINEER
6/30/2025
DATE PREPARED 06/25/2025
ROUTE I-70 | STATE MO
DISTRICT BR | SHEET NO. B13-28
COUNTY JACKSON
JOB NO. J4I1486D
CONTRACT ID. 240807-C01
PROJECT NO.
BRIDGE NO. A9636

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

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

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

HNTB

Released For Construction
Not to Scale
Revision: 0.0
Date: 07/02/2025
Package: BRD-13-Oakley-Ave-Ped

Notes:
For locations of borings, see Sheet No. B13-02 and Geotechnical Report.

BORING LOGS

Detailed MAR 2025
Checked APR 2025

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

Surface Elevation 812.9 | Completion Date: 5/25/22
Datum NAVD88 | Northing: 1057481.61 | Easting: 2783775.86

Elevation (feet)	Depth (feet)	DESCRIPTION OF MATERIAL	DRY UNIT WEIGHT (pcf) / SPT BLOW COUNTS / CORE RECOVERY/RQD	SAMPLES
810	0.0	ROOT ZONE - 6 inches 0.5 - 3.5' FILL - fat clay, rock fragments, soft	N60>100	
	5.0	3.5 - 7.7' Weathered LIMESTONE sampler refusal	50/5"	SS1
			67% 0%	NQ1
805		7.7 - 23.5' LIMESTONE - gray, medium hard, slightly weathered, argillaceous partings and inclusions Qu = 927 ksf; Unit Weight = 155 pcf	87% 62%	NQ2
	10.0			
800		Qu = 896 ksf; Unit Weight = 165 pcf	100% 80%	NQ3
	15.0	2-inch gray shale band		
795		Qu = 781 ksf; Unit Weight = 156 pcf	100% 100%	NQ4
	20.0			
790		Qu = 716 ksf; Unit Weight = 158 pcf Qu = 770 ksf; Unit Weight = 157 pcf		
	25.0	23.5 - 28.5' SHALE - black to gray, very soft to soft, slightly weathered Qu = 138 ksf; Unit Weight = 145 pcf	100% 45%	NQ5
785		28.5 - 34.5' LIMESTONE - gray, medium hard, slightly weathered, argillaceous inclusions and partings	100% 90%	NQ6
	30.0			
780			100% 90%	NQ7
	35.0	Sampler refusal at 3.9 feet. Auger refusal at 4.5 feet. Boring terminated at 34.5 feet.		
775	40.0			

SHEAR STRENGTH, tsf: Δ - UU/2 ○ - QU/2 □ - PP/2 (0.5, 1.0, 1.5, 2.0, 2.5)
STANDARD PENETRATION RESISTANCE (ASTM D 1586) ▲ N-VALUE (BLOWS PER FOOT)
WATER CONTENT, % PL 10 20 30 40 50 LL

GROUNDWATER DATA

X FREE WATER NOT ENCOUNTERED DURING DRILLING

DRILLING DATA

___ AUGER 3 3/4" HOLLOW STEM
WASHBORING FROM ___ FEET
BCS DRILLER RFW LOGGER
CME 55HTX DRILL RIG
HAMMER TYPE Auto
HAMMER EFFICIENCY 77 %

REMARKS:

NOTE: STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARIES BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL. GRAPHIC LOG FOR ILLUSTRATION PURPOSES ONLY.

Drawn by: MHM	Check by: MHM	App'vd by: SDG
Date: 5/25/22	Date: 4/25/23	Date: 5/2/23

GEOTECHNOLOGY — A Universal Engineering Sciences Company

Bridge A318
Oakley Ave Pedestrian Bridge over I-70

LOG OF BORING: A318-4

Project No. J039339.01

Surface Elevation 845.9 | Completion Date: 11/17/21
Datum NAVD88 | Northing: 1057356.636 | Easting: 2783774.041

Elevation (feet)	Depth (feet)	DESCRIPTION OF MATERIAL	DRY UNIT WEIGHT (pcf) / SPT BLOW COUNTS / CORE RECOVERY/RQD	SAMPLES
845	0.0	ROOT ZONE - 6 inches 0.5 - 12' CLAY - brown, medium stiff, lean - (CL)	2-2-3	SS1
	5.0		N60=7	
840			2-4-3	SS2
	10.0		N60=10	
835		12 - 19.5' CLAY - tan mottled gray and yellow, stiff, lean - CL no sample recovered	3-3-5	SS3
	15.0		N60=11	
830			2-2-13	SS4
	20.0	19.5 - 23' SHALE - yellow-gray, extremely soft, weathered, clayey	N60=22	
825		23 - 25.3' LIMESTONE - gray, medium hard, slightly weathered	100% 100%	NQ1
	25.0	25.3 - 26.4' LIMESTONE - gray-tan, very soft, weathered		
820		26.4 - 35' LIMESTONE - gray and gray-black, medium hard, slightly weathered, with argillaceous intervals and partings 3-inch gray shale bed	93% 15%	NQ2
	30.0			
815			100% 73%	NQ3
	35.0	Auger refusal at 23 feet. Boring terminated at 35 feet.		
810	40.0			

SHEAR STRENGTH, tsf: Δ - UU/2 ○ - QU/2 □ - PP/2 (0.5, 1.0, 1.5, 2.0, 2.5)
STANDARD PENETRATION RESISTANCE (ASTM D 1586) ▲ N-VALUE (BLOWS PER FOOT)
WATER CONTENT, % PL 10 20 30 40 50 LL

GROUNDWATER DATA

X FREE WATER NOT ENCOUNTERED DURING DRILLING

DRILLING DATA

___ AUGER 3 3/4" HOLLOW STEM
WASHBORING FROM ___ FEET
DJT DRILLER JDN LOGGER
Diedrich D-50 DRILL RIG
HAMMER TYPE Auto
HAMMER EFFICIENCY 86 %

REMARKS:

NOTE: STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARIES BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL. GRAPHIC LOG FOR ILLUSTRATION PURPOSES ONLY.

Drawn by: JDN	Check by: MHM	App'vd by: SDG
Date: 11/18/21	Date: 4/25/23	Date: 5/2/23

GEOTECHNOLOGY — A Universal Engineering Sciences Company

Bridge A318
Oakley Ave Pedestrian Bridge over I-70

LOG OF BORING: A318-5

Project No. J039339.01

STATE OF MISSOURI — PROFESSIONAL ENGINEER
WILLIAM JOSEPH STURGEON PE-2014017021
6/30/2025
DATE PREPARED 06/25/2025

ROUTE	STATE
I-70	MO
DISTRICT	SHEET NO.
BR	B13-29

COUNTY JACKSON
JOB NO. J4I1486D
CONTRACT ID. 240807-C01
PROJECT NO.
BRIDGE NO. A9636

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

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

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

HNTB

Released For Construction
Not to Scale
Revision: 0.0
Date: 07/02/2025
Package: BRD-13-Oakley-Ave-Ped

Notes:
For locations of borings, see Sheet No. B13-02 and Geotechnical Report.

BORING LOGS

Detailed MAR 2025
Checked APR 2025

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

B_A9636_B13-35_J4I1486D.dgn 11:20:20 PM 6/23/2025