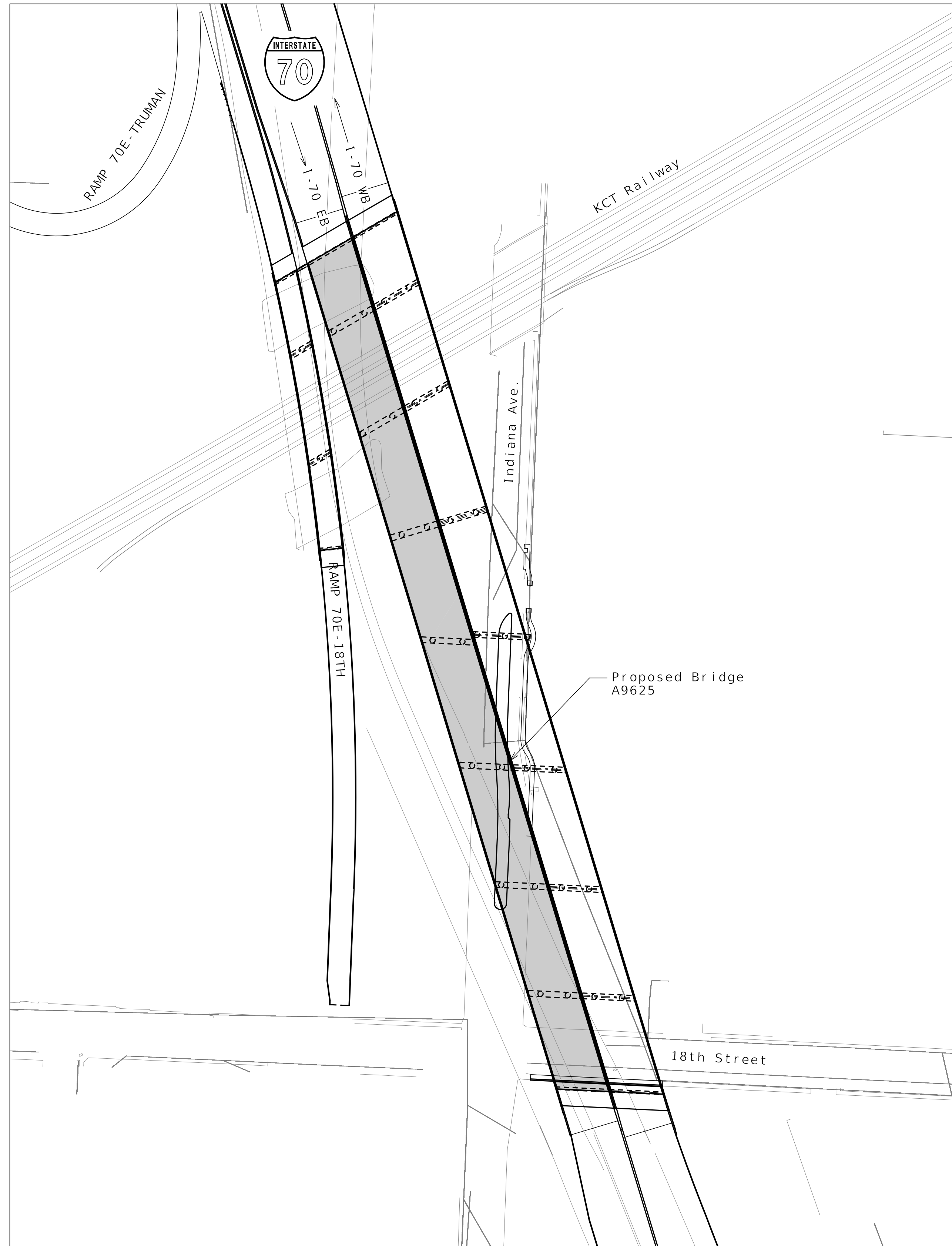


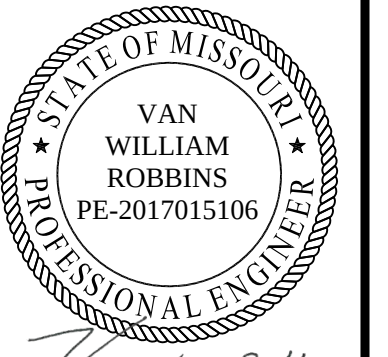
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION



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

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B08-57	Boring Logs



Van W. Ralli
06-03-25

DATE PREPARED
06/02/2025

ROUTE I - 70	STATE MO
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DISTRICT	SHEET NO.
BR	B08-01

COUNTY
JACKSON

JOB NO.
J4I1486D

CONTRACT ID.
240807-C01

PROJECT NO.

BRIDGE NO.
A9625

DATE	DESCRIPTION
06/02/25	REV 0 - RFC SUBMITTAL

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

MoDOT

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

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

Detailed FEB 2025
Checked MAR 2025

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

Sheet No. B08-01 of B08-57

BRIDGE: ROUTE I-70 EB OVER
KCT RR, INDIANA AVE., 18TH ST.

ROUTE I-70 EB FROM ROUTE I-670 TO ROUTE 40
ABOUT 1.7 MILES EAST OF ROUTE I-670
BEGINNING STATION 443+40.89

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Revision: 0.0
Date: 06/09/2025
Package: BRD-08-EBKCTRR-Substructure

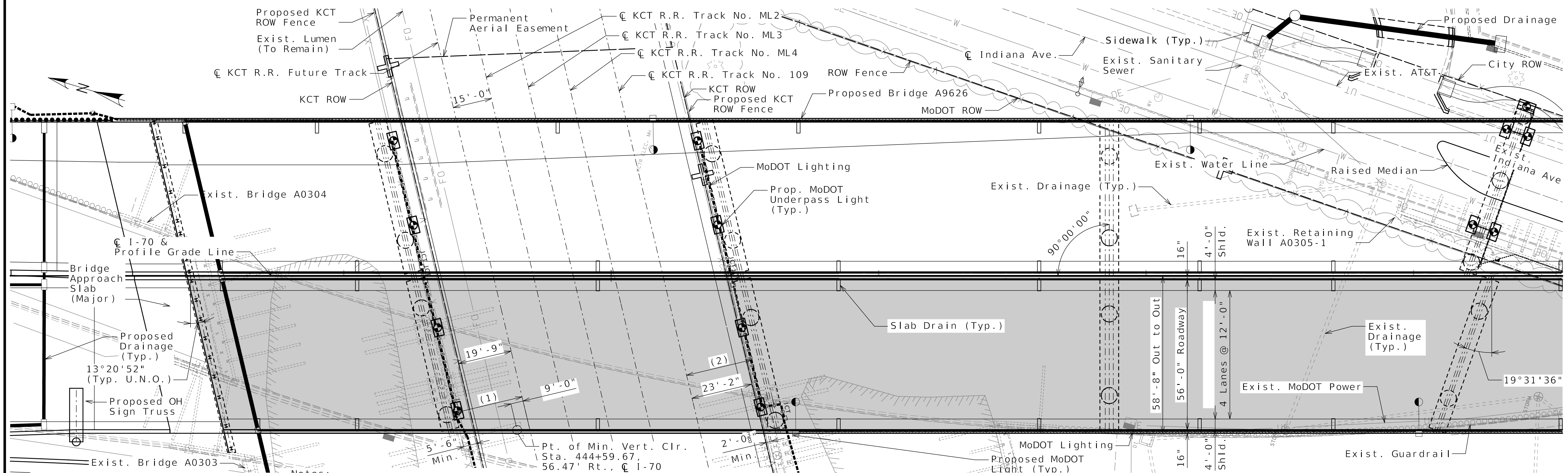
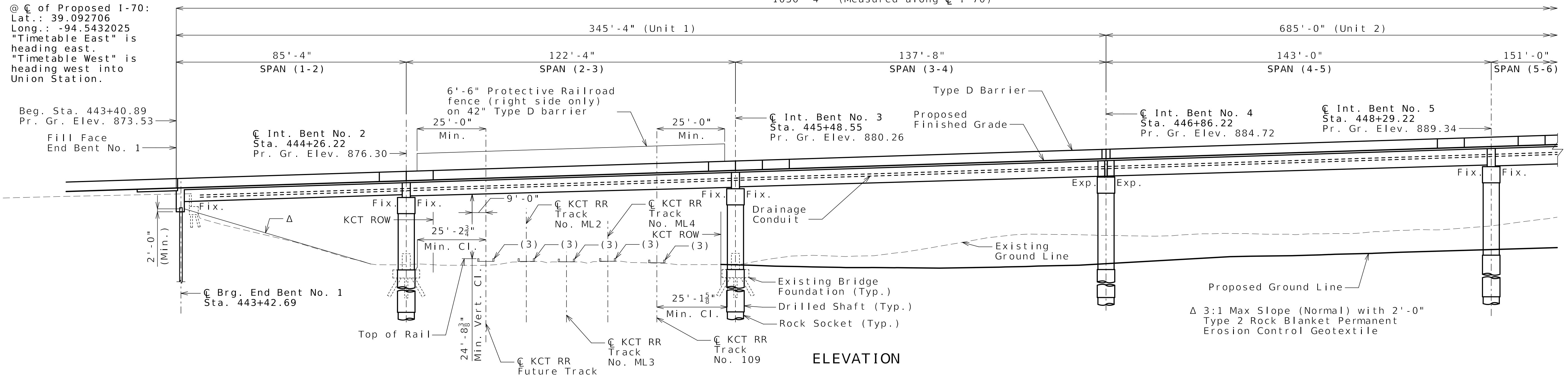
KCT Railroad M.P. 4.360
Div: Kansas
Line Segment: 1001
Sub. Div.: KCT Railroad
(DOT Crossing 979178F)

(3) Max Top of Rail within bridge limits:

KCT RR Future Track = 846.55
KCT RR Track No. ML2 = 846.55
KCT RR Track No. ML3 = 846.46
KCT RR Track No. ML4 = 846.48
KCT RR Track No. 109 = 845.76

(85.3'-122.3'-137.7') Prestressed Concrete NU Girder Spans (Unit 1)
(143.0'-151.0'-144.0'-131.0'-116.0') Prestressed Concrete NU Girder Spans (Unit 2)

1030' - 4" (Measured along $\mathbb{C}$ I-70)



Minimum Horizontal Clearance
to $\mathbb{C}$ tracks:

- (1) $25' - 2\frac{3}{4}"$
- (2) $25' - 1\frac{5}{8}"$

Notes:

- All Elevations are based on NAVD88 datum unless otherwise noted.
- All dimensions are horizontal.
- All dimensions in elevation view relative to KCT RR are measured normal to C tracks.
- Bents 1 thru 3 are parallel.
- Bent 4 is normal to C 1-70.
- Existing Bridges A0303, A0304 and A0305 and existing retaining walls to be removed in accordance with Sec. 216. Existing structures & foundations shown may not represent what is left in place after removal.
- For elevations of drilled shafts and rock sockets, see Sheets No. B08-12 thru B08-30.
- For boring locations, see Sheet No. B08-06.
- See Civil Package 3: USPS Facility for Indiana Ave. typical section details.
- See Civil Package 6: 1-70 Mainline for 18th St. typical section and underpass lighting details.

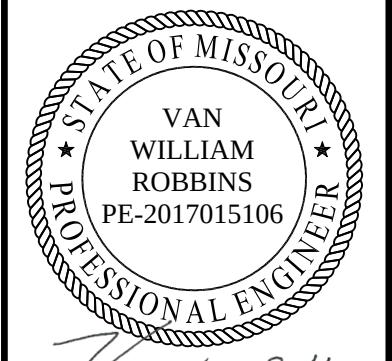
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Sheet No. B08-02 of B08-57

Detailed FEB 2025
Checked MAR 2025

Released For Construction
Not to Scale

Revision: 0.0
Date: 06/09/2025
Package: BRD-08-EBKCTRR-Substructure



Var W. Rolli
06-03-25

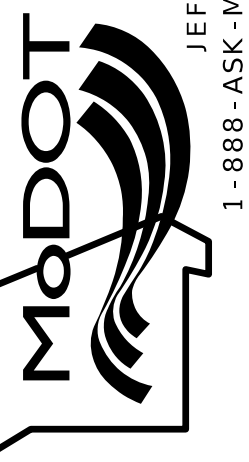
DATE PREPARED
06/02/2025

ROUTE I - 70	STATE MO
DISTRICT BR	SHEET NO. B08-02

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

BRIDGE NO.
A9625

DATE	DESCRIPTION
06/02/25	REV 0 - RFC SUBMITTAL

MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

ARKSON
ADMACHER
JOINT VENTURE

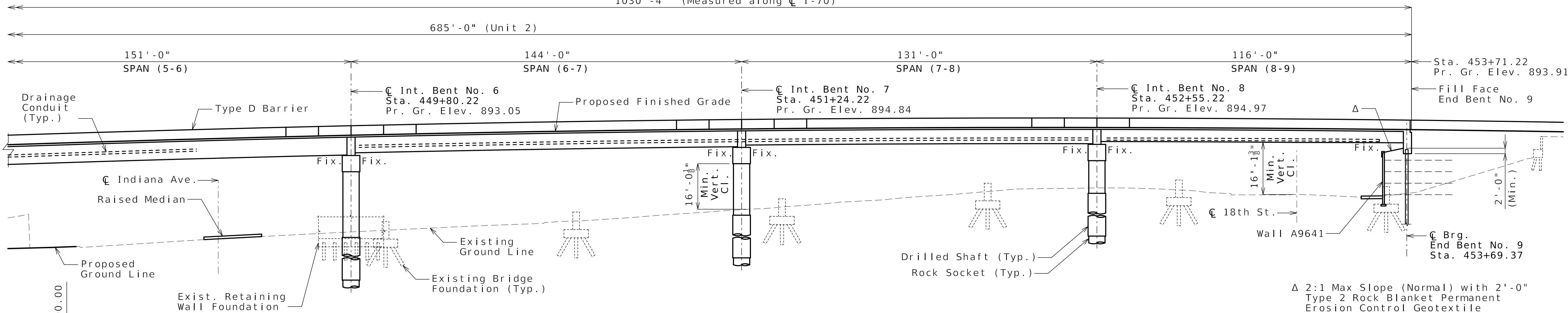
715 KIRK DRIVE
KANSAS CITY, MO 64105-1310
CERTIFICATE OF AUTHORITY
NO. 001270



GENERAL PLAN AND ELEVATION

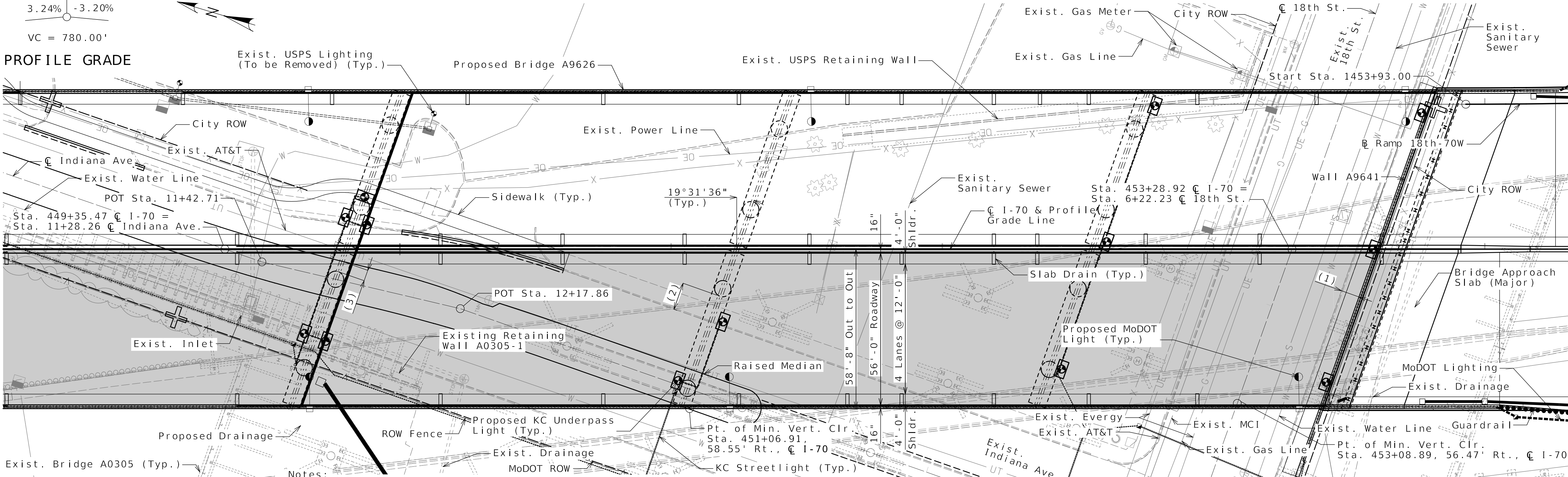
(85.3'-122.3'-137.7') Prestressed Concrete NU Girder Spans (Unit 1)
(143.0'-151.0'-144.0'-131.0'-116.0') Prestressed Concrete NU Girder Spans (Unit 2)

1030'-4" (Measured along C I-70)



ELEVATION

PROFILE GRADE



PLAN

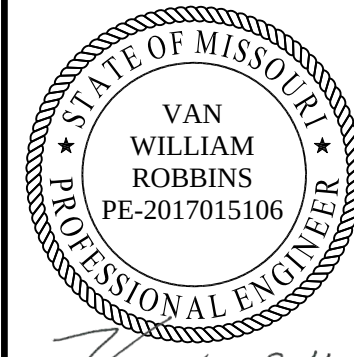
Notes:
All Elevations are based on NAVD88 datum unless otherwise noted.
All dimensions are horizontal.
Bents 5 thru 9 are parallel.
Existing Bridges A0303, A0304 and A0305 and existing retaining wall to be removed in accordance with Sec. 216. Existing structures & foundations shown may not represent what is left in place after removal.
For elevations of drilled shafts and rock sockets, see Sheets No. B08-12 thru B08-30.
For boring locations, see Sheet B08-06.
See Civil Package 3: USPS Facility for Indiana Ave. typical section details.
See Civil Package 6: I-70 Mainline for 18th St. typical section and underpass lighting details.
Note: This drawing is not to scale. Follow dimensions.

Detailed FEB 2025
Checked MAR 2025

Sheet No. B08-03 of B08-57

GENERAL PLAN AND ELEVATION

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Revision: 0.0
Date: 06/09/2025
Package: BRD-08-EBKCTRR-Substructure



Van W. Robbins
06-03-25

DATE PREPARED
06/02/2025

ROUTE
I-70

DISTRICT
BR

COUNTY
JACKSON

JOB NO.
J411486D

CONTRACT ID.
240807-C01

PROJECT NO.

BRIDGE NO.
A9625

DATE	DESCRIPTION
06/02/25	REV 0 - RFC SUBMITTAL

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
MoDOT
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

General Note:
For additional bridge details not shown, see A9625
(I-70 EB Over KCT, Indiana, & 18th) Superstructure Package.

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

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

Neoprene Pads:
Neoprene Bearing Pads shall be 60 durometer and shall
be in accordance with Sec 716 except as noted in the plans.
See Sheet No. B08-36 for Bent No. 4 Type N PTFE Bearing.

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

Reinforcing Steel:
Minimum clearance to reinforcing steel shall be 1-1/2",
unless otherwise shown.
All reinforcing in End Bents No. 1 and 9 and
Intermediate Bents No. 4 & 6 thru 8 shall be epoxy coated.
Reinforcing in the rock sockets and drilled shaft shall be
uncoated. Reinforcing steel in locations not noted shall
be uncoated.

Design Unit Stresses:
Class B Concrete (End Bents below Const. Jt.)
Class B-1 Concrete (Intermediate Bents except Drilled
Shafts and Rock Sockets)
Class B-2 Concrete (Drilled Shafts and Rock Sockets)
Class B-2 Concrete (End Bents above construction joint)
Reinforcing Steel (ASTM A615 Grade 60) (Everywhere U.N.O.)
Reinforcing Steel (ASTM A615 Grade 75) (Vertical Column,
Drilled Shaft, and Rock Socket bars)
Structural HP Steel Pile (ASTM A709 Grade 50)

Concrete Protective Coatings:
Protective coating for concrete bents and piers (Epoxy)
shall be applied as shown on the bridge plans and in
accordance with Sec 711. See Sheet No. B08-20.

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

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

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

Structural steel for the girder chairs shall be coated
with not less than 2 mils of inorganic zinc primer. Scratched
or damaged surfaces are to be touched up in the field before
concrete is poured. In lieu of coating, the girder chairs
may be galvanized in accordance with ASTM A123.

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

f'c = 3,000 psi
f'c = 4,000 psi

f'c = 4,000 psi
f'c = 4,000 psi
fy = 60,000 psi
fy = 75,000 psi

fy = 50,000 psi

Foundation Data										
Type	Design Data	Bent Number								
Load Bearing Pile	Pile Type and Size	HP 12x53	---	---	---	---	---	---	---	HP 12x74
	Number	ea 9	---	---	---	---	---	---	---	10
	Approximate Length Per Each	ft 112	---	---	---	---	---	---	---	46
	Pile Point Reinforcement	ea All	---	---	---	---	---	---	---	All
	Min. Galvanized Penetration (Elev.)	ft 830	---	---	---	---	---	---	---	Full Length
	Minimum Tip Penetration (Elev.)	ft ---	---	---	---	---	---	---	---	857
	Criteria for Min. Tip Penetration	---	---	---	---	---	---	---	---	Min. Embed
	Pile Driving Verification Method	DF	---	---	---	---	---	---	---	DF
	Resistance Factor	0.40	---	---	---	---	---	---	---	0.40
	Minimum Nominal Axial Compressive Resistance	kip 548	---	---	---	---	---	---	---	670
Rock Socket	Number	ea ---	2	2	2	2	2	2	2	---
	Layer 1	Foundation Material	---	LIMESTONE	LIMESTONE	LIMESTONE	LIMESTONE	SHALE	LIMESTONE	---
		Elevation Range	ft ---	757-741	760-741	774-770	780-769	801-789	808-802	833-830
		Minimum Nominal Axial Compressive Resistance (Side Resistance)	ksf ---	32.7	32.7	32.7	32.7	32.7	26.6	32.7
	Layer 2	Foundation Material	---	SHALE	SHALE	SHALE	SHALE	SHALE	LIMESTONE	---
		Elevation Range	ft ---	741-737	741-737	770-762	769-761	789-786	802-792	830-802
		Minimum Nominal Axial Compressive Resistance (Side Resistance)	ksf ---	16.2	30	28.9	28.9	28.9	32.7	3.1
	Layer 3	Foundation Material	---	---	---	LIMESTONE	LIMESTONE	LIMESTONE	SHALE	LIMESTONE
		Elevation Range	ft ---	---	---	762-747	762-747	786-773	792-789	802-797
		Minimum Nominal Axial Compressive Resistance (Side Resistance)	ksf ---	---	---	32.7	32.7	32.7	28.9	32.7
	Layer 4	Foundation Material	---	---	---	---	---	---	LIMESTONE	---
		Elevation Range	ft ---	---	---	---	---	---	789-772	---
		Minimum Nominal Axial Compressive Resistance (Side Resistance)	ksf ---	---	---	---	---	---	32.7	---
		Minimum Nominal Axial Compressive Resistance (Tip Resistance)	ksf ---	400	400	400	400	400	368	400

Load Bearing Piles:
Minimum Nominal Axial Compressive Resistance =
Maximum Factored Loads/Resistance Factor
HP piles are anticipated to be driven to refusal
on rock. Review all borings for depth of rock and
restrict driving as appropriate to comply with hard
rock driving criteria in accordance with Sec 702.
When pile refusal on rock occurs, as approved by
the engineer, the minimum nominal axial compressive
resistance is verified and no additional pile driving
verification method is required. If refusal on rock
is not found to be in line with information presented
in boring logs and geotechnical report, dynamic testing
(DT) shall be utilized to confirm pile capacity for 413
kips which corresponds with a 0.65 resistance factor.
All piles shall be galvanized down to the minimum
galvanized penetration (elevation).
Pile point reinforcement need not be galvanized.
Shop drawings will not be required for pile point
reinforcement.
If optional pipe pile spacers are used, set at
least 5 ft below the bottom of MSE Wall leveling pad.
The contractor shall make every effort to achieve
the minimum galvanized penetration (elevation) shown
on the plans for all piles. Deviations in penetration
less than 5 feet of minimum will be considered
acceptable provided the contractor makes the necessary
corrections to ensure the minimum penetration is
achieved on subsequent piles.
DF = FHWA-modified Gates Dynamic Pile Formula

Rock Socket (Drilled Shafts):
Minimum Nominal Axial Compressive Resistance
(Side Resistance + Tip Resistance) = Maximum Factored
Loads/Resistance Factors.
Thickness of permanent steel casing shall be 1/2"
minimum in accordance with Project AAS. Thicker casing
may be required for installation and construction
purposes.
Sonic logging testing shall be performed on all
drilled shafts and rock sockets.
Drilled shafts shall be constructed in accordance
with project Drilled Shaft AAS.

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Revision: 0.0
Date: 06/09/2025
Package: BRD-08-EBKCTRR-Substructure

GENERAL NOTES

STATE OF MISSOURI
VAN WILLIAM ROBBINS
PE-2017015106
06-03-25
DATE PREPARED
06/02/2025
ROUTE 1 - 70
STATE MO
DISTRICT BR
SHEET NO. B08-04
COUNTY JACKSON
JOB NO. J411486D
CONTRACT ID. 240807-C01
PROJECT NO.
BRIDGE NO. A9625

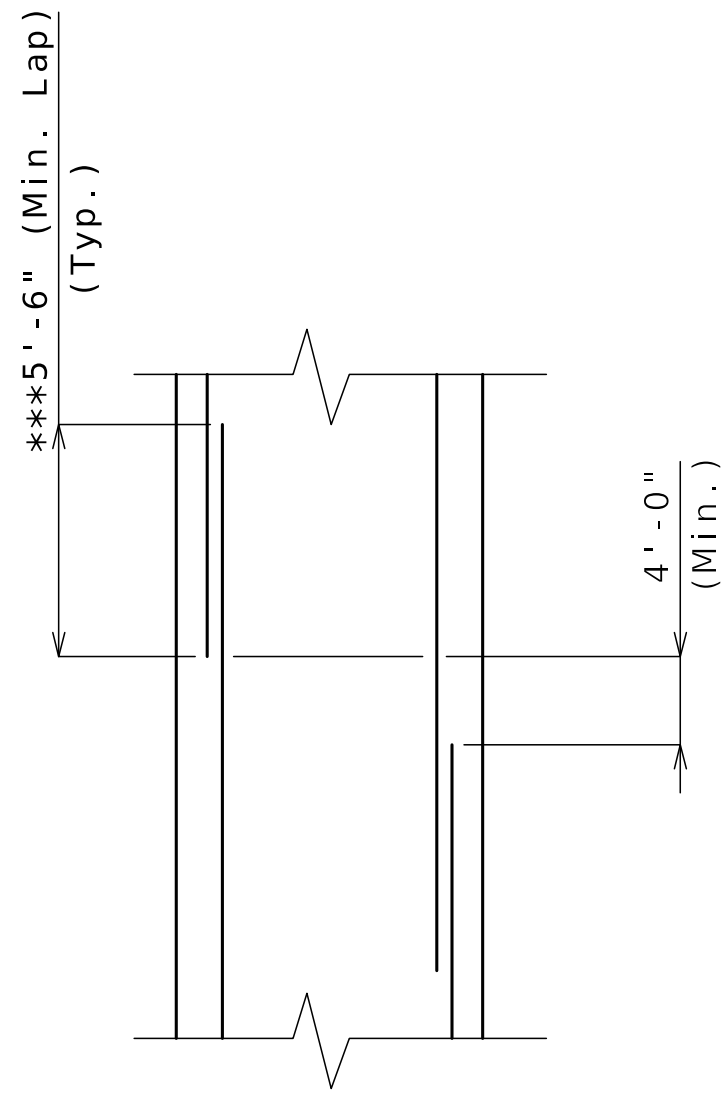
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06/02/25					

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

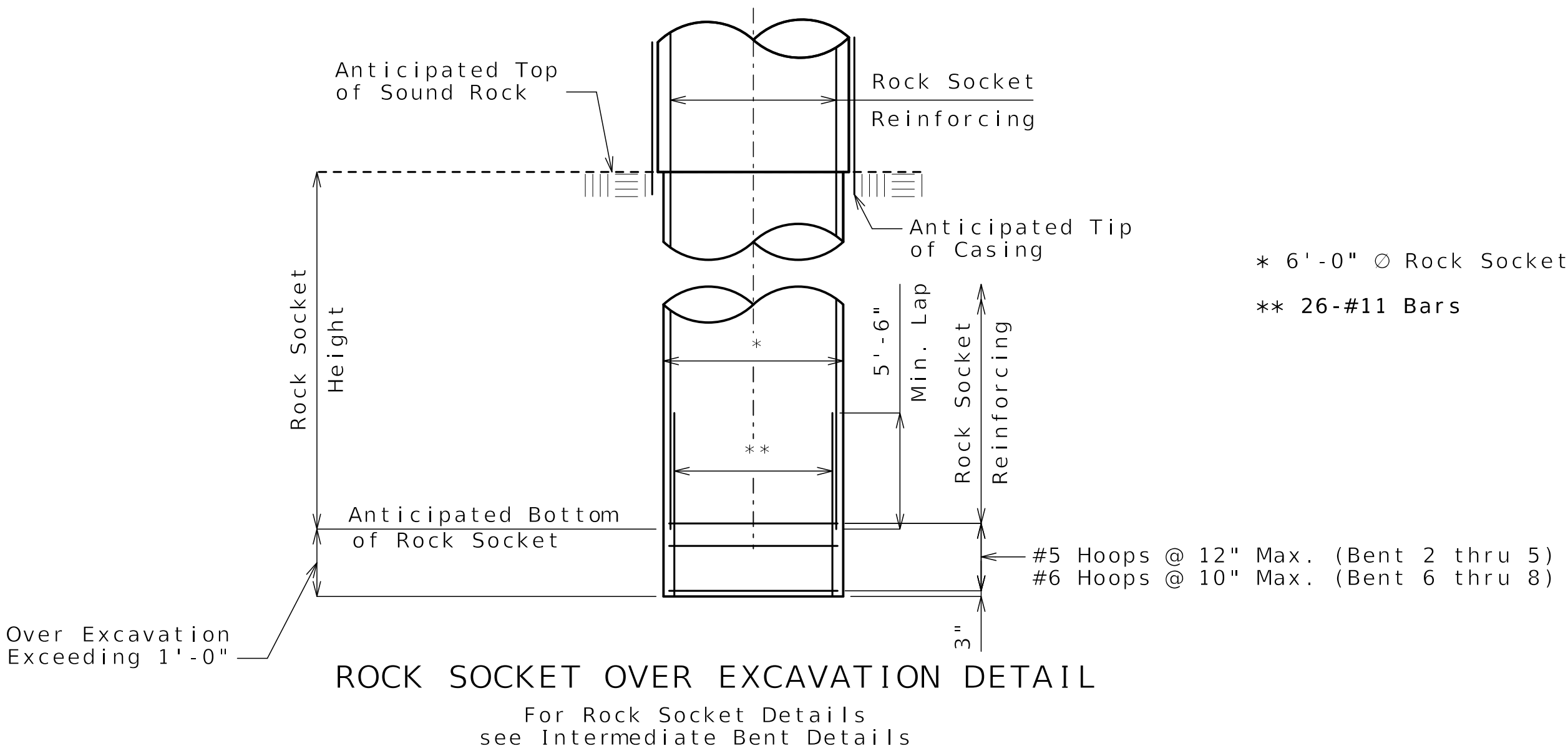


OPTIONAL DRILLED SHAFT SPLICE DETAIL

*** Splice shall be staggered between adjacent bars. Vertical distance between adjacent bar splices shall be maintained as shown. Mechanical bar splice may be used in lieu of lap splice. Maintain stagger and vertical spacing between adjacent bar splices. Mechanical bar splices shall be in accordance with Sec 706. To maintain position of vertical #11 bars, shift minimum number of hoop bars vertically beyond end of mechanical bar splice and bundle with adjacent hoop bars if necessary.

CONSTRUCTION NOTES:

- Any shoring system that impact the Railroad operations and/or support railroad embankment shall be designed and constructed per the Railroad temporary Shoring requirements.
- Drilled shafts shall be temporarily or permanently cased if excavation falls within the Zone A requirements for temporary shoring.
- All demolition within the Railroad right-of-way and/or demolition that may impact the Railroad Tracks or operations shall comply within the Railroad demolition requirements.
- Erection over the Railroad right-of-way shall be designed to cause no interruption to all Railroad operations.
- The elevation of the existing top-of-rail profile shall be verified before beginning construction. All discrepancies shall be brought to the attention of the Railroad prior to construction.
- The proposed grade separation project shall not change the quality and/or characteristics of the flow in the Railroad ditches and/or drainage structures.
- The contractor must submit a proposed method of erosion and sediment control and have the method approved by the Railroad prior to beginning any grading on the project site.
- For Railroad coordination please refer to the Railroad's Coordination Requirements as part of the Specifications or Special Provisions of the project.
- Temporary Construction Clearances, including falsework clearances, shall comply with Figure 1.
- All permanent clearances shall be verified before project closeout.



ROCK SOCKET OVER EXCAVATION DETAIL

No construction activities or other obstructions may be placed within these limits

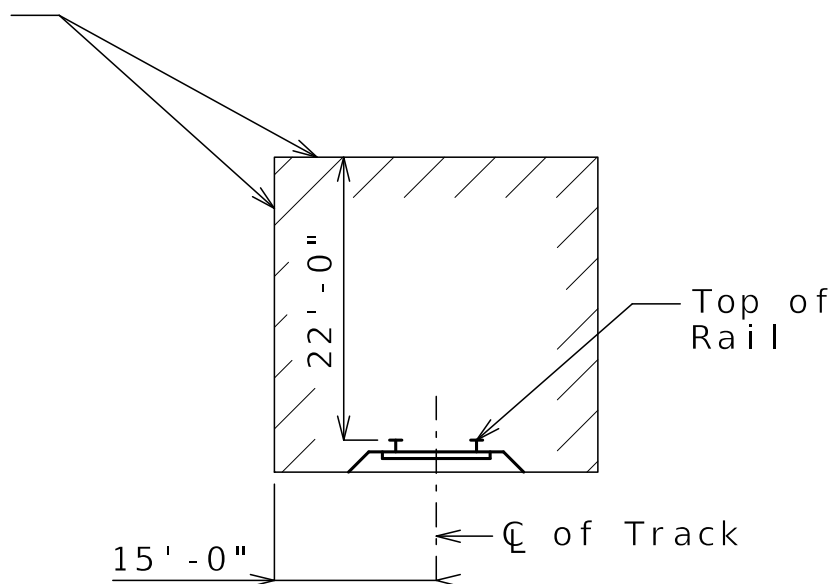
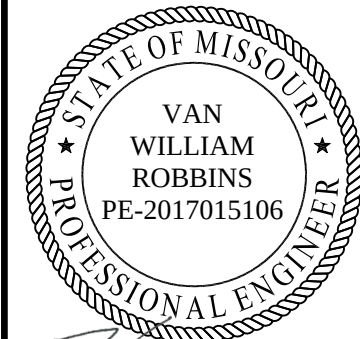


FIGURE 1 - MINIMUM CONSTRUCTION CLEARANCES
(Normal to railroad)

Note:
A flagman is required when any work is performed within 25 feet of track centerline or crane boom has potential to foul track. If the Railroad provides flagging or other services, the Contractor shall not be relieved of any responsibilities or liabilities as set forth in any document authorizing the work. No work is allowed within 50 feet of track centerline when a train passes the work site, and all personnel must clear the area within 25 feet of track centerline and secure all equipment when trains are present.

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Not to Scale
Revision: 0.0
Date: 06/09/2025
Package: BRD-08-EBKCTRR-Substructure

GENERAL NOTES



Van W. Robbins
06-03-25

DATE PREPARED
06/02/2025

ROUTE
1-70

STATE
MO

DISTRICT
BR

SHEET NO.
B08-05

COUNTY
JACKSON

JOB NO.
J411486D

CONTRACT ID.
240807-C01

PROJECT NO.

BRIDGE NO.
A9625

DESCRIPTION	DATE
REV 0 - RFC SUBMITTAL	06/02/25

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

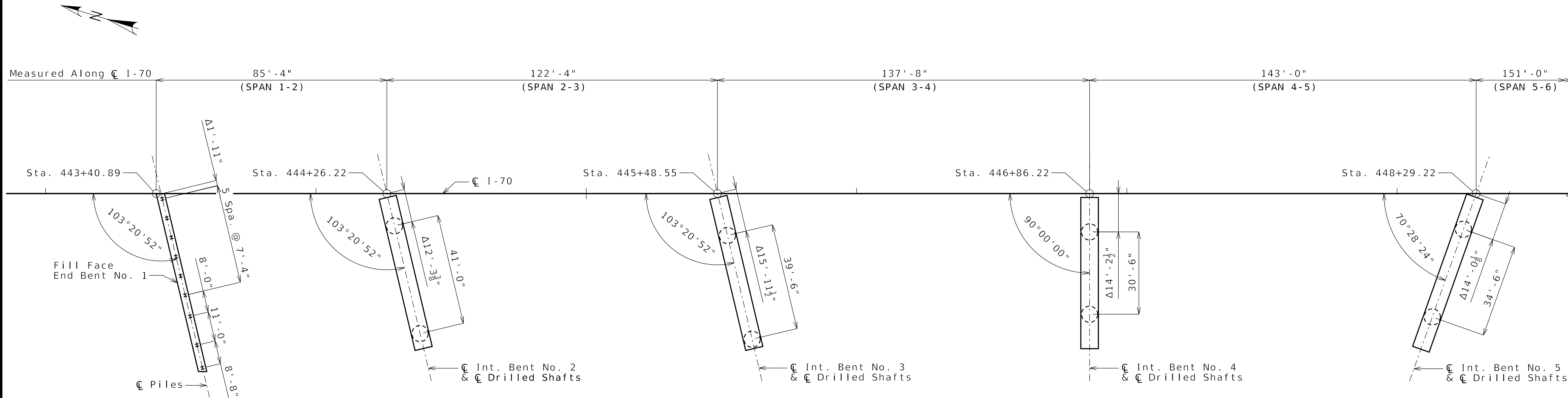
MoDOT

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

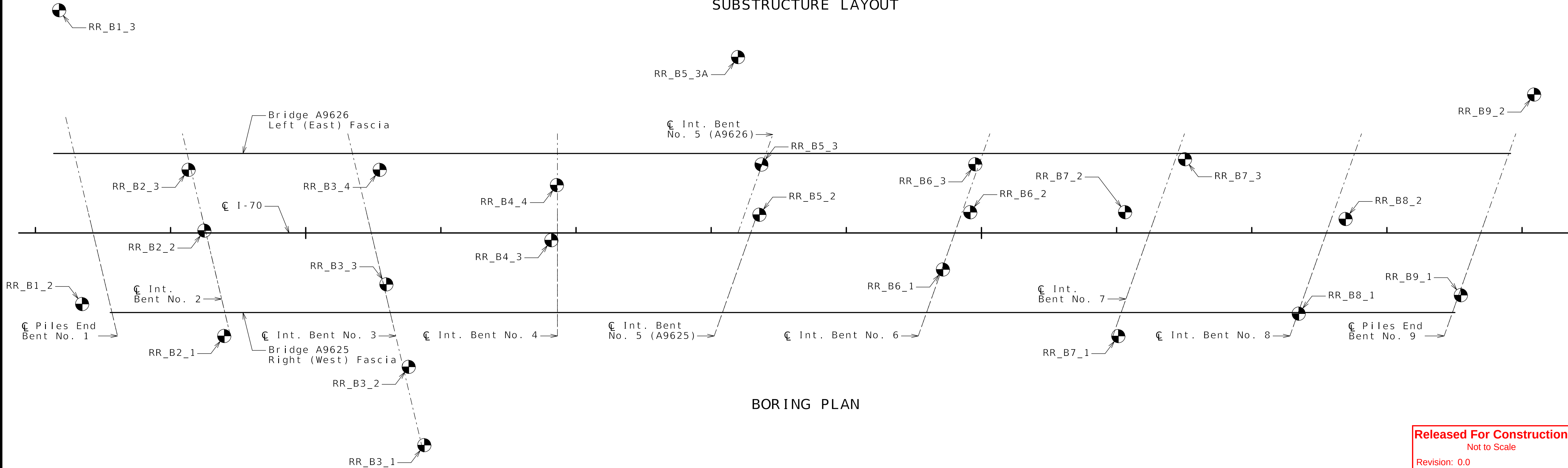
CLARKSON RADMACHER JOINT VENTURE

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

HNTB



SUBSTRUCTURE LAYOUT



BORING PLAN

Indicates location of borings.

Notice and Disclaimer Regarding Boring Log Data
The locations of all subsurface borings performed by the design-build team for this structure are shown on the plan sheets for this structure. The logs for all locations indicated are provided on Sheets No. B08-39 thru B08-57. Laboratory test results, rock core photographs and other information obtained at these borings are available in the corresponding Foundation Recommendations Memo prepared by HNTB. By the nature of the exploration process, the information gathered at these borings represents only a small fraction of the total volume of material at the Site. Interpolation between data samples may not be indicative of the nature and extent of the variations that actually exist between sampling locations.

Detailed FEB 2025
Checked MAR 2025

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

Sheet No. B08-06 of B08-57

Note:
All dimensions are horizontal.
All stations given along CL I-70.
Δ Measured to CL I-70.
For End Bent No. 1 pile batter see Sheet No. B08-08.
For Boring Logs shown in plan view but not included with this bridge plan set, see Geotechnical Report and I-70 WB over KCT, Indiana & 18th Bridge (A9626) plans.

SUBSTRUCTURE LAYOUT



Gina D. Horner

06/03/25

DATE PREPARED

06/02/2025

ROUTE STATE

I-70 MO

DISTRICT SHEET NO.

BR B08-06

COUNTY

JACKSON

JOB NO.

J411486D

CONTRACT ID.

240807-C01

PROJECT NO.

BRIDGE NO.

A9625

DESCRIPTION

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DATE

06/02/25

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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105 WEST CAPITOL

JEFFERSON CITY, MO 65102

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CLARKSON RADMACHER JOINT VENTURE

715 KIRK DRIVE

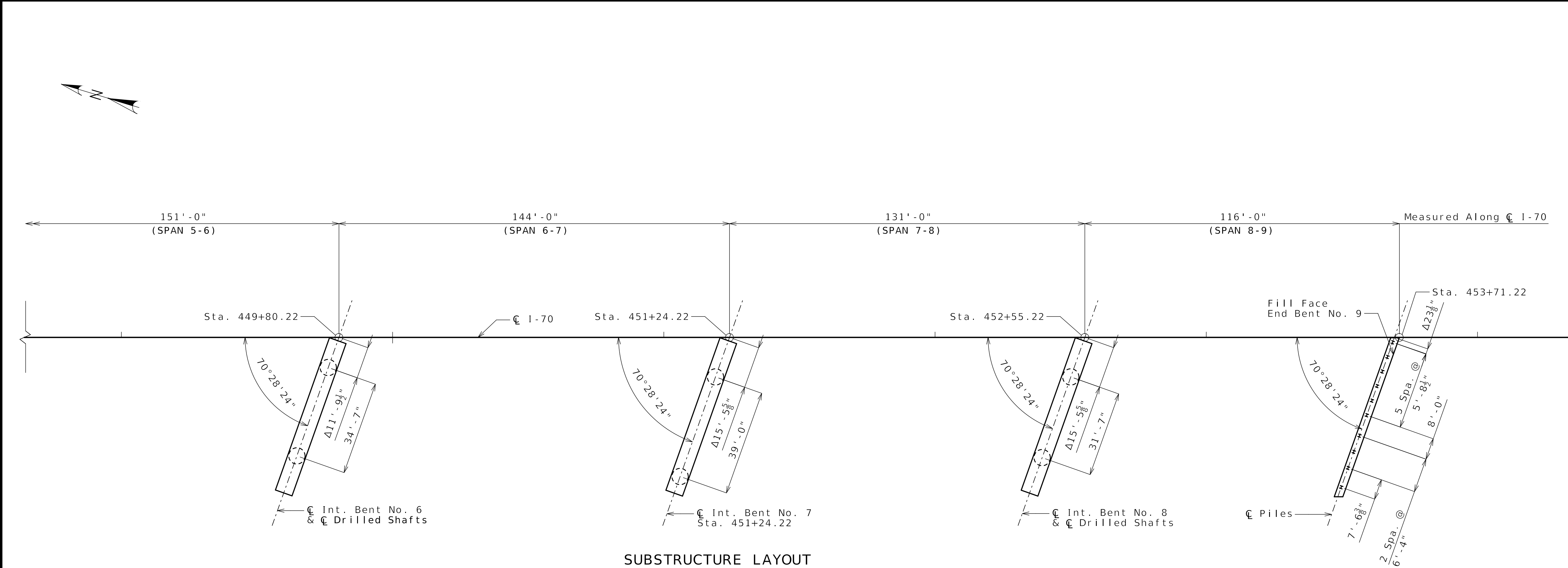
KANSAS CITY, MO 64105-1310

CERTIFICATE OF AUTHORITY

NO. 001270

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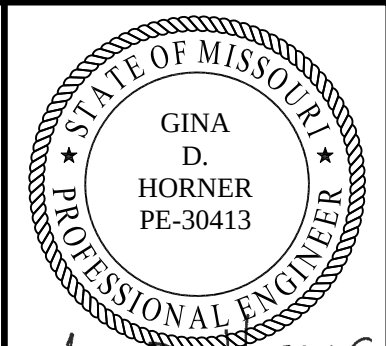
Note: This drawing is not to scale. Follow dimensions.

Sheet No. B08-07 of B08-57

Note:
All dimensions are horizontal.
All stations given along CL I-70.
 Δ Measured to CL I-70.

SUBSTRUCTURE LAYOUT

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Date: 06/09/2025
Package: BRD-08-EBKCTRR-Substructure



Gina D. Horner
06/03/25

DATE PREPARED
06/02/2025

ROUTE 1-70	STATE MO
DISTRICT BR	SHEET NO. B08-07

COUNTY
JACKSON

JOB NO.
J411486D

CONTRACT ID.
240807-C01

PROJECT NO.

BRIDGE NO.
A9625

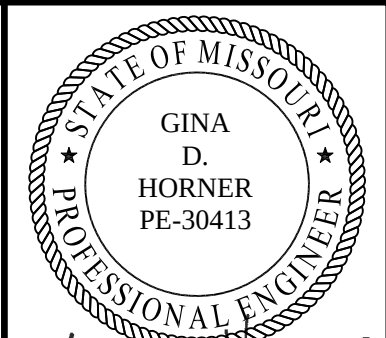
DATE	DESCRIPTION	
	REV	0 - RFC SUBMITTAL
06/02/25		

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



Gina D. Horner
06/03/25

DATE PREPARED
06/02/2025

ROUTE 1-70 STATE MO

DISTRICT BR SHEET NO. B08-09

COUNTY JACKSON

JOB NO. J411486D

CONTRACT ID. 240807-C01

PROJECT NO.

BRIDGE NO. A9625

DESCRIPTION

REV 0 - RFC SUBMITTAL

DATE 06/02/25

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

MoDOT

105 WEST CAPITOL JEFFERSON CITY, MO 65102

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

CLARKSON RADMACHER JOINT VENTURE

715 KIRK DRIVE KANSAS CITY, MO 64105-1310

CERTIFICATE OF AUTHORITY NO. 001270

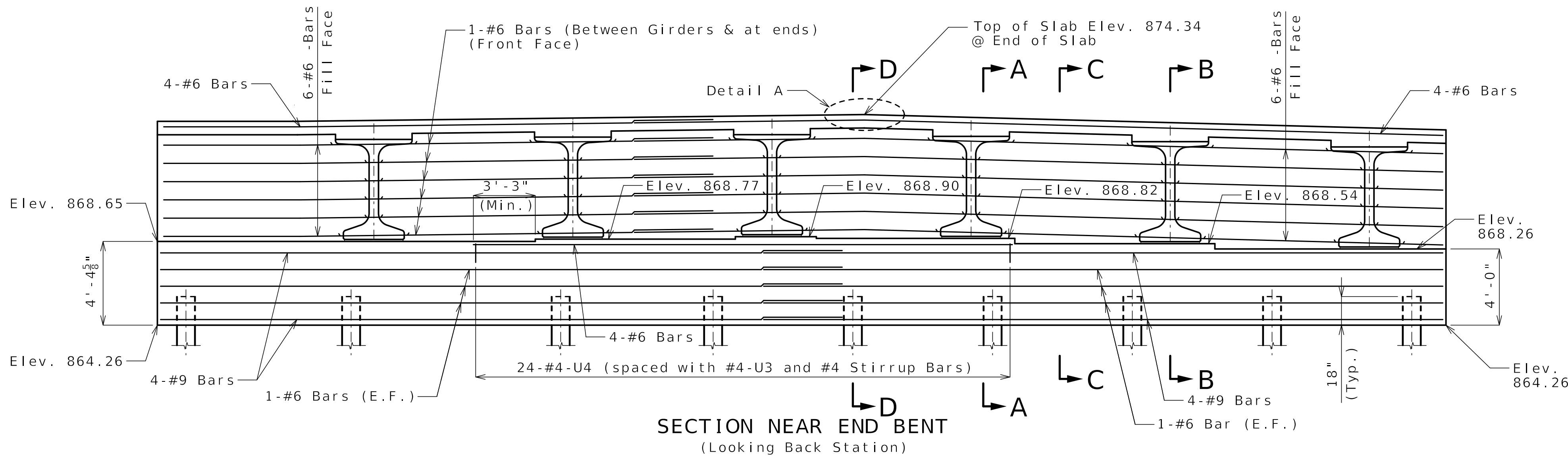
HNTB

Released For Construction
Not to Scale

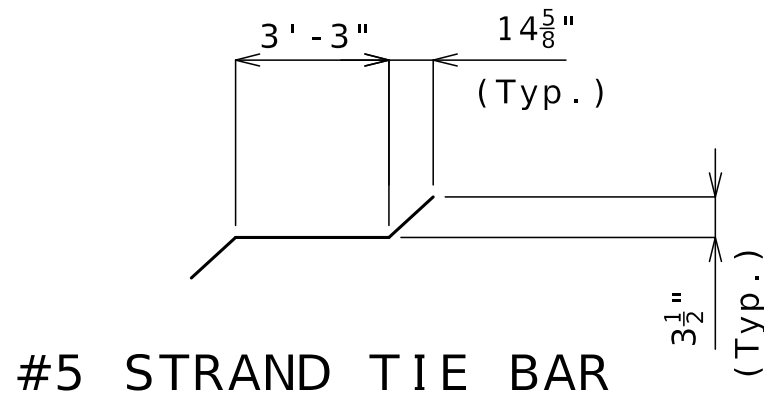
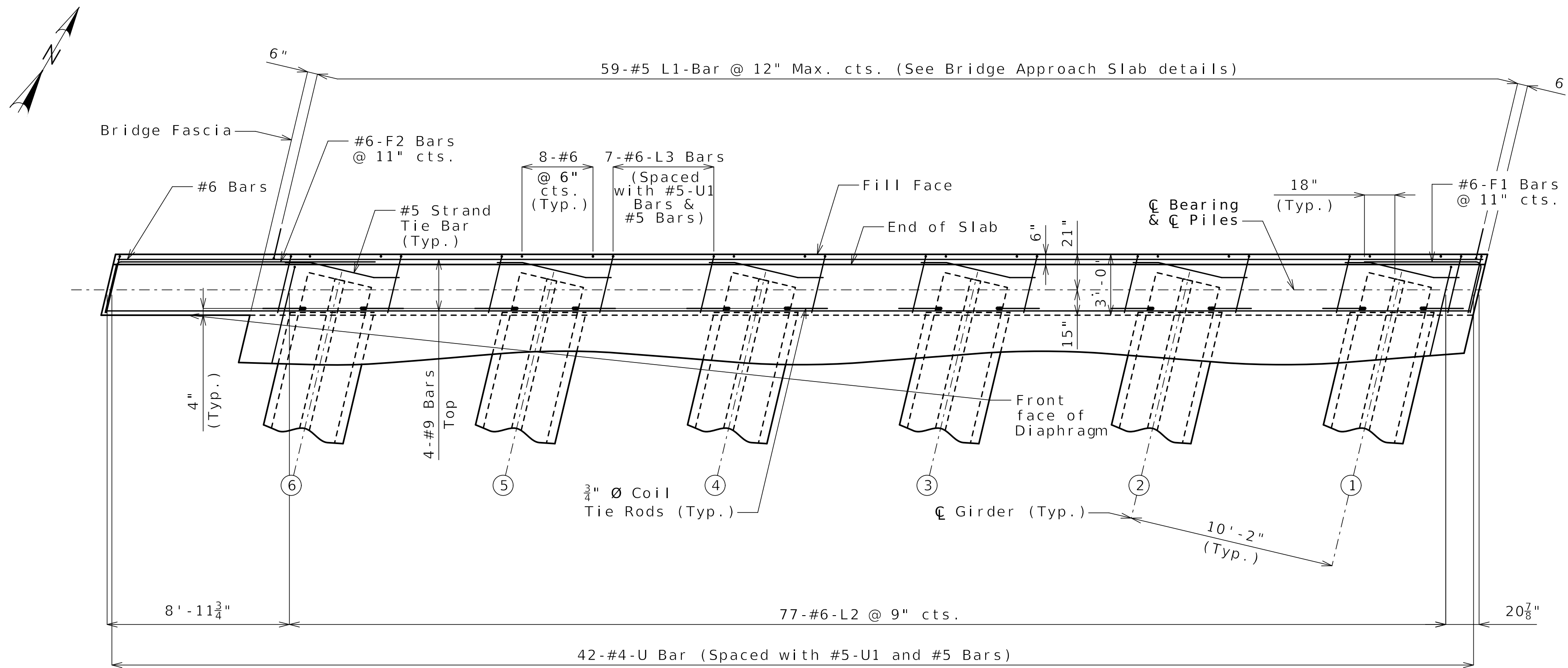
Revision: 0.0
Date: 06/09/2025
Package: BRD-08-EBKCTRR-Substructure

General Notes:
Work this sheet with Sheets No. B08-08 and B08-10.
For Sections A-A, B-B, C-C and D-D, see Sheet No. B08-10.
For location of coil tie rods, see A9625 (I-70 EB Over KCT, Indiana, & 18th) Superstructure Package.
Strands at end of the girders shall be field bent or, if necessary, cut in field to maintain 1½-inch minimum clearance to fill face of end bent.
The #6-F bars shall be bent in the field to clear girders.

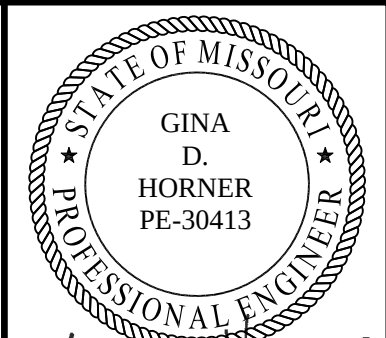
(X) Denotes girder number



Notes:
Lap Splice for #6 bars = 4'-3" (Min.)
Lap Splice for #9 bars = 6'-5" (Min.)



DETAILS OF END BENT NO. 1



Gina D. Horner
06/03/25

DATE PREPARED
06/02/2025

ROUTE
1-70

STATE
MO

DISTRICT
BR

SHEET NO.
B08-10

COUNTY
JACKSON

JOB NO.
J411486D

CONTRACT ID.
240807-C01

PROJECT NO.

BRIDGE NO.
A9625

DATE	DESCRIPTION
06/02/25	REV 0 - RFC SUBMITTAL

MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

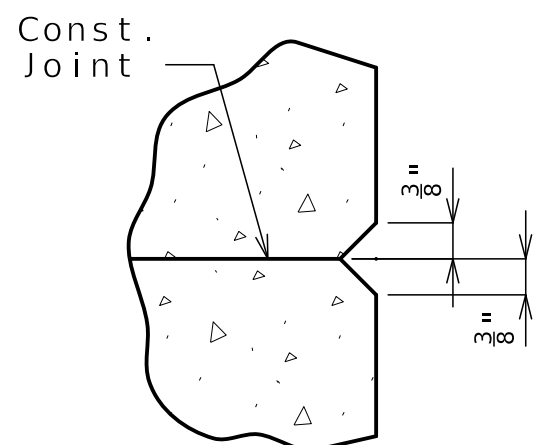
CLARKSON
RADMACHER
JOINT VENTURE

HNTB

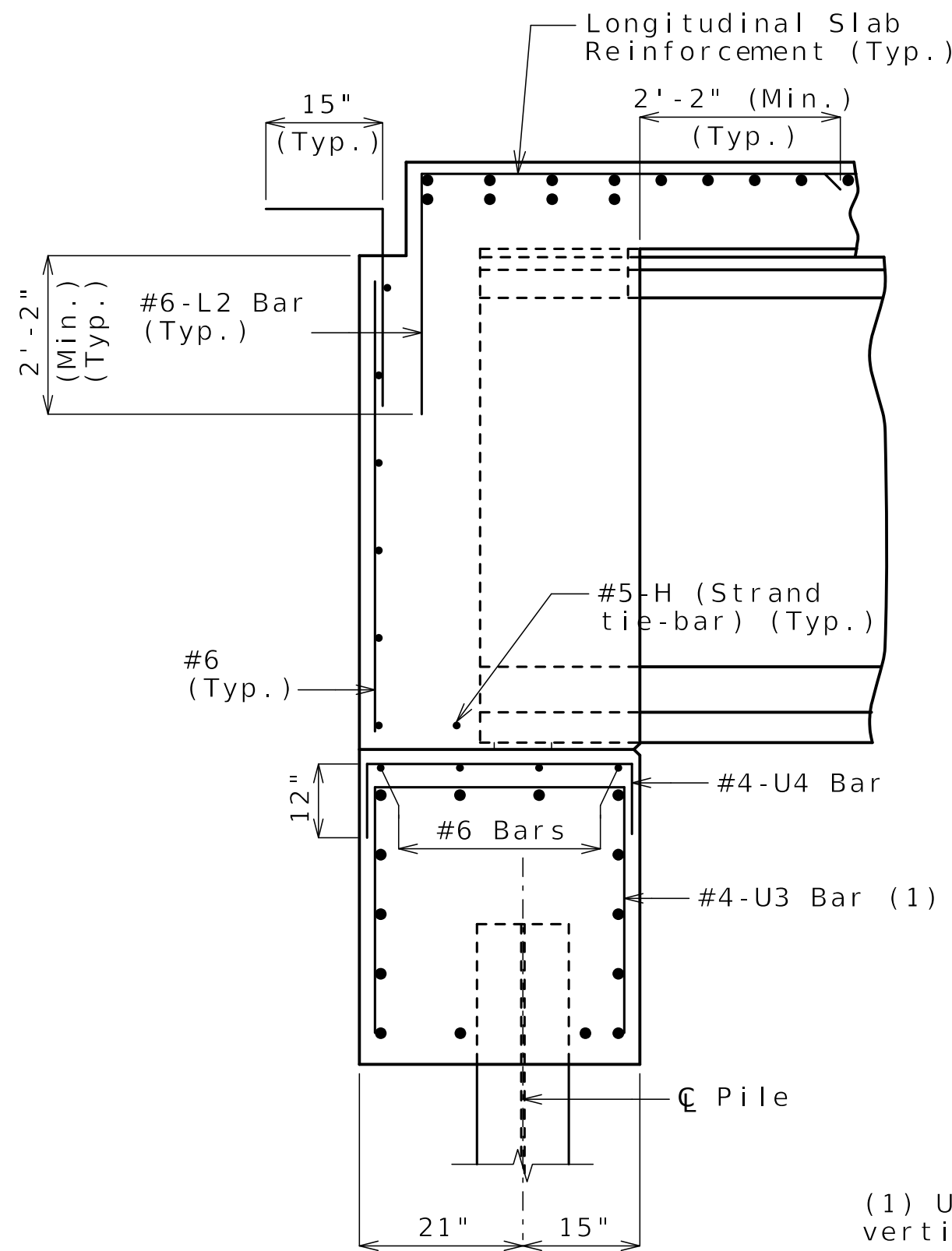
715 KIRK DRIVE
KANSAS CITY, MO 64105-1310
CERTIFICATE OF AUTHORITY
NO. 001270

MoDOT

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

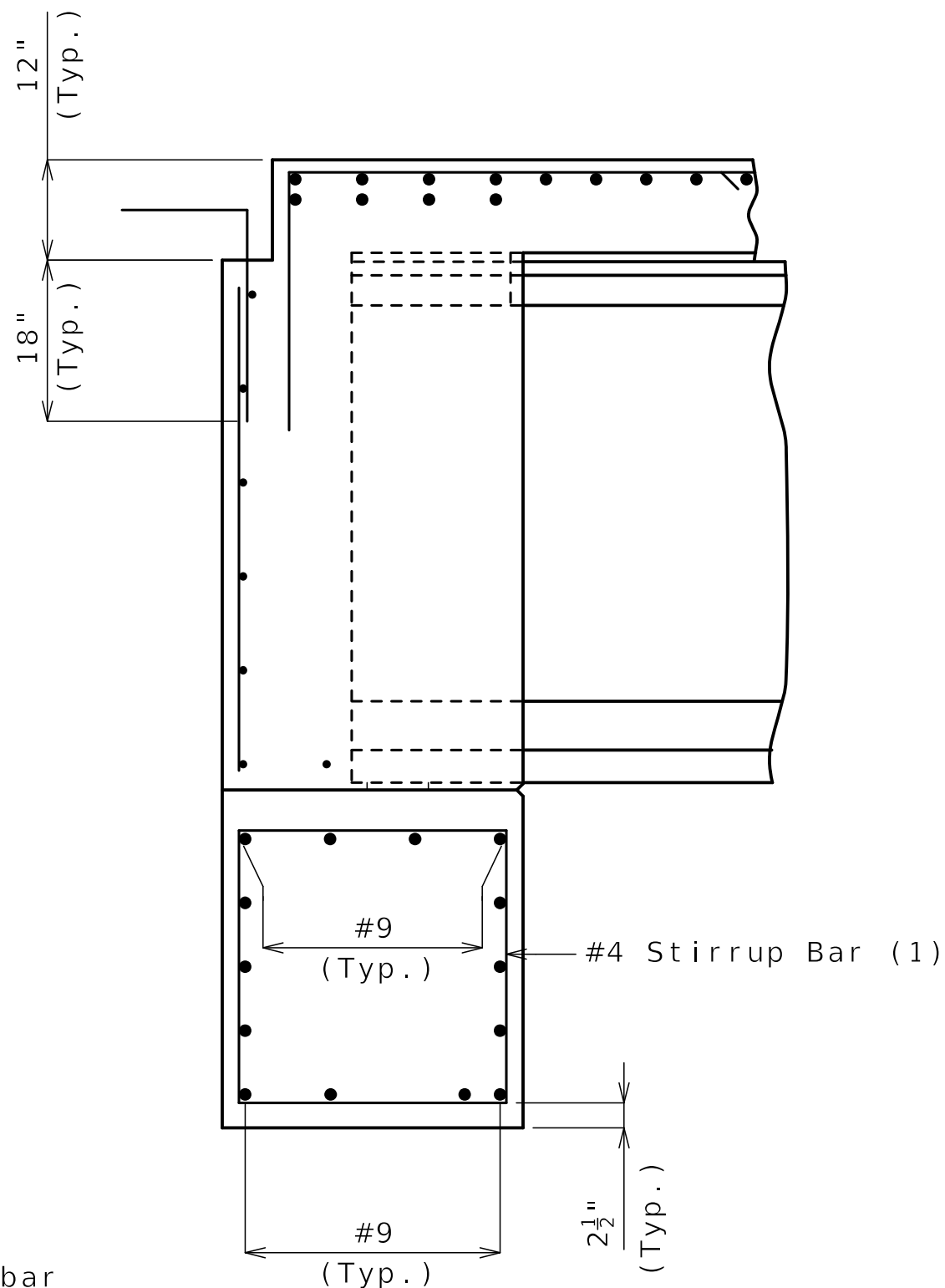


CHAMFER DETAIL

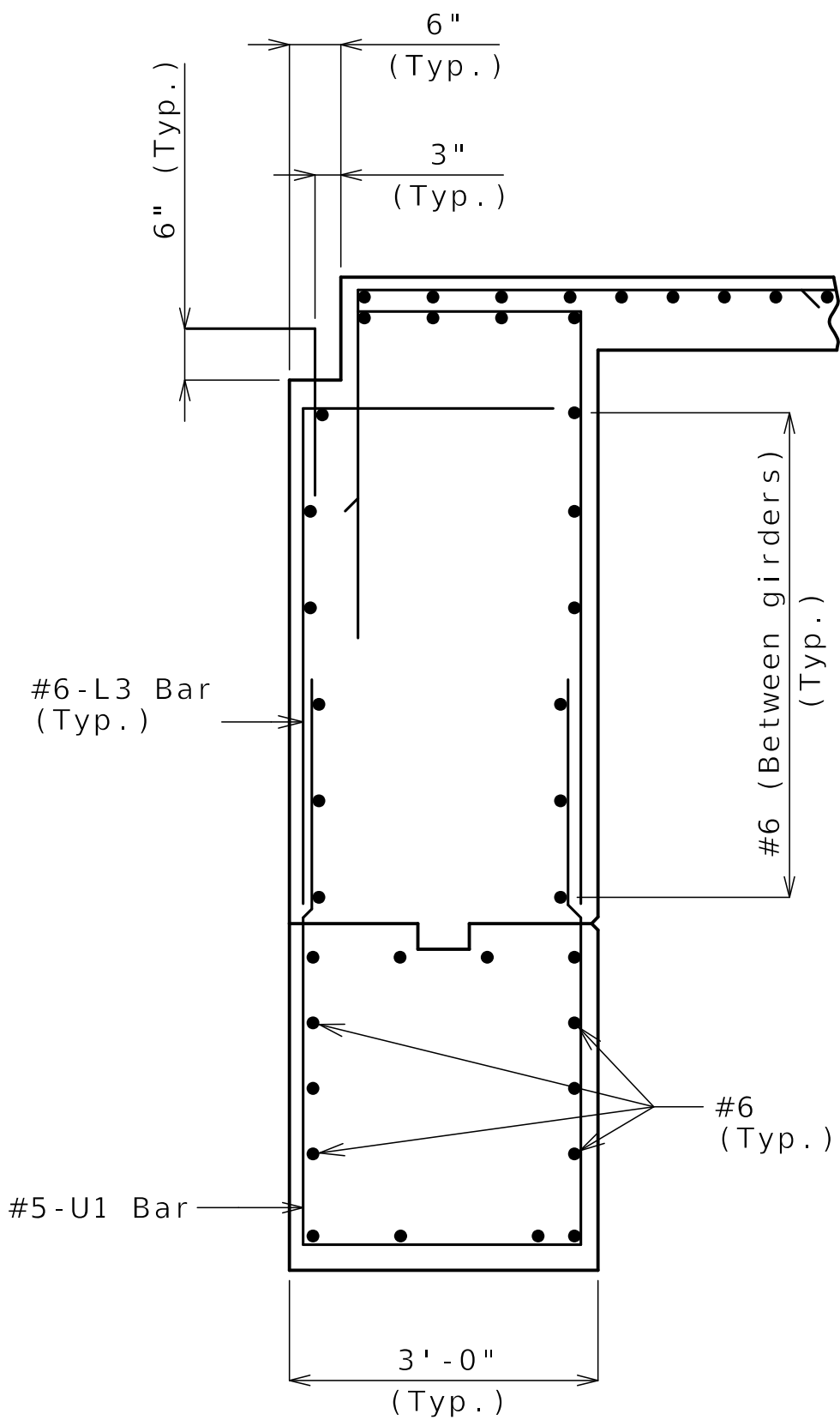


SECTION A-A

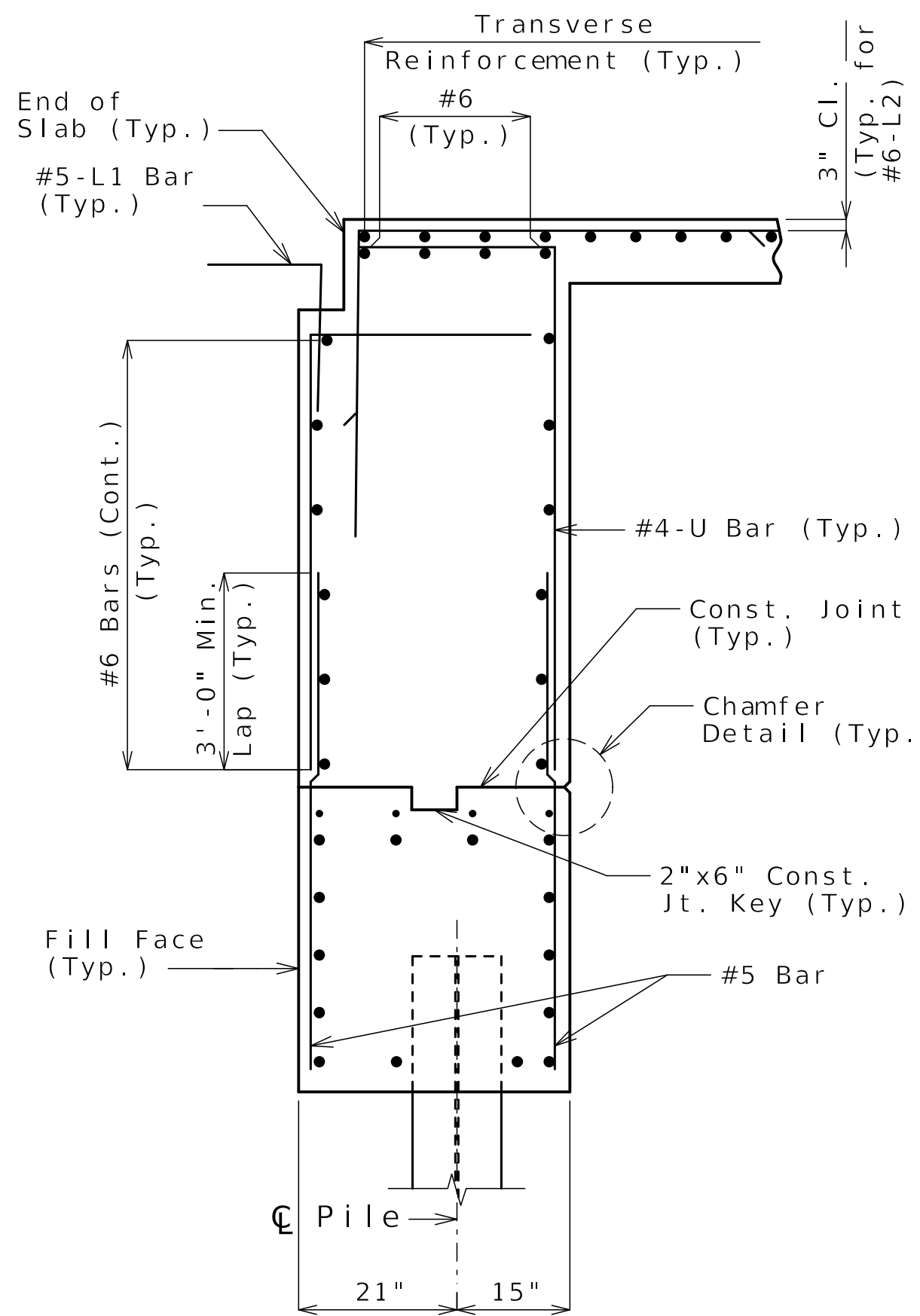
(1) U3 & #4 Stirrup bar
vertical leg = 3'-8"



SECTION B-B



SECTION C-C

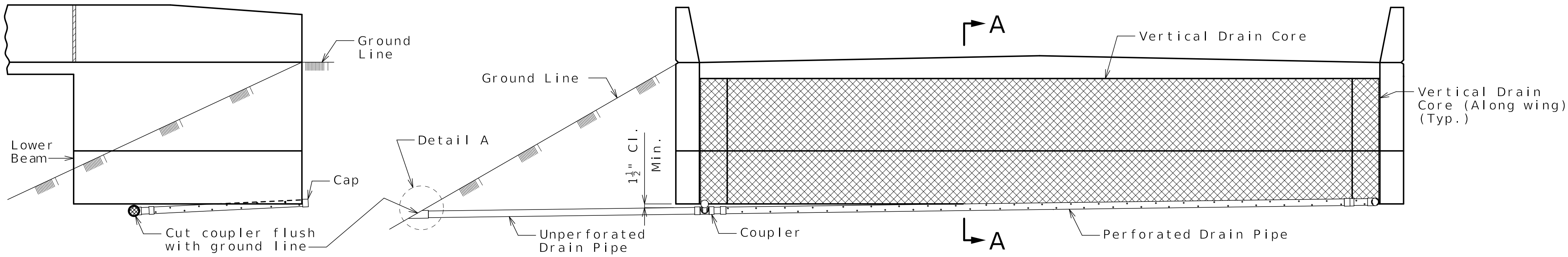


SECTION D-D

General Notes:
Work this sheet with Sheets No. B08-08 and B08-09.
For location of Sections A-A, B-B, C-C and D-D,
see Sheet No. B08-09.
For reinforcement of the Type D Barrier, see
A9625 (I-70 EB Over KCT, Indiana, & 18th)
Superstructure Package.

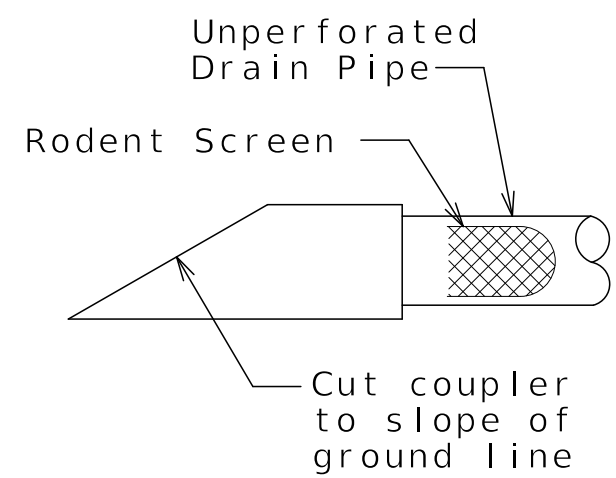
DETAILS OF END BENT NO. 1

Released For Construction
Not to Scale
Revision: 0.0
Date: 06/09/2025
Package: BRD-08-EBKCTRR-Substructure

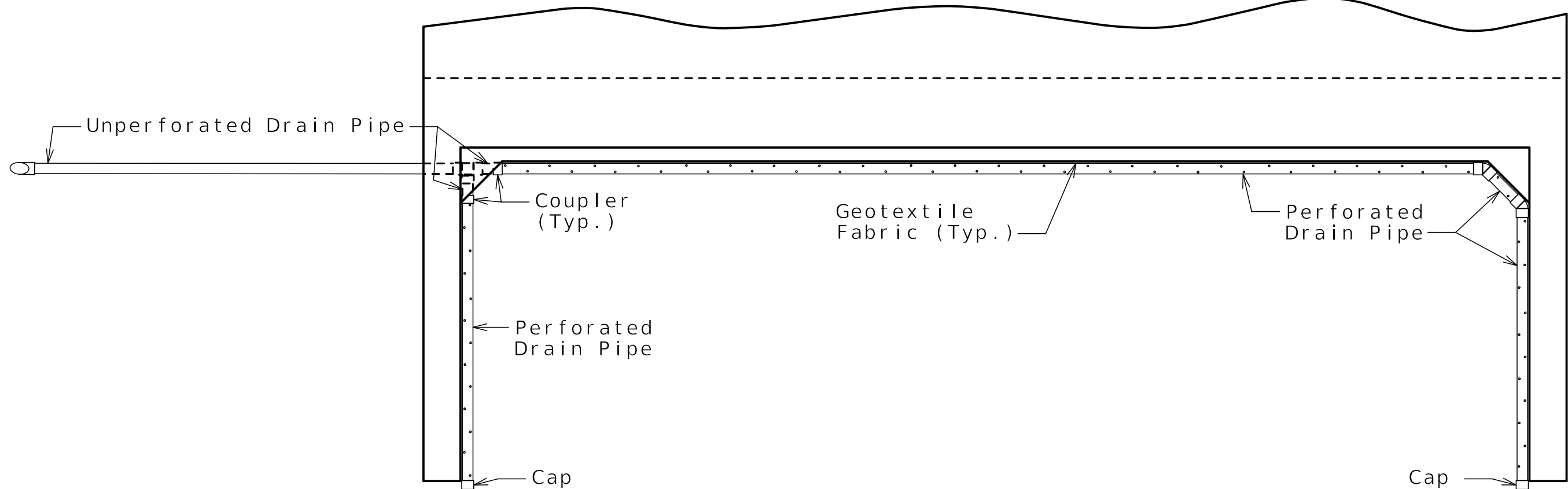


ELEVATION OF WING

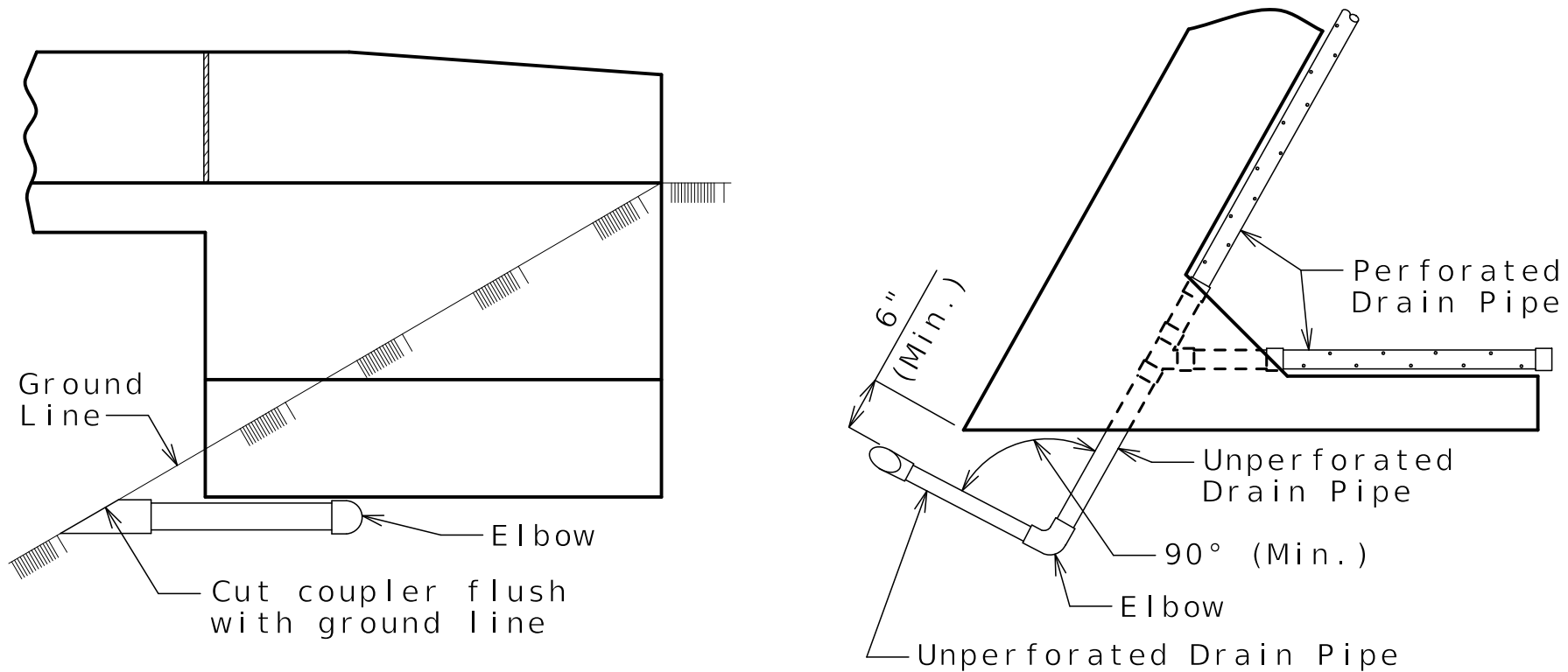
ELEVATION OF END BENT



DETAIL A



PLAN OF END BENT

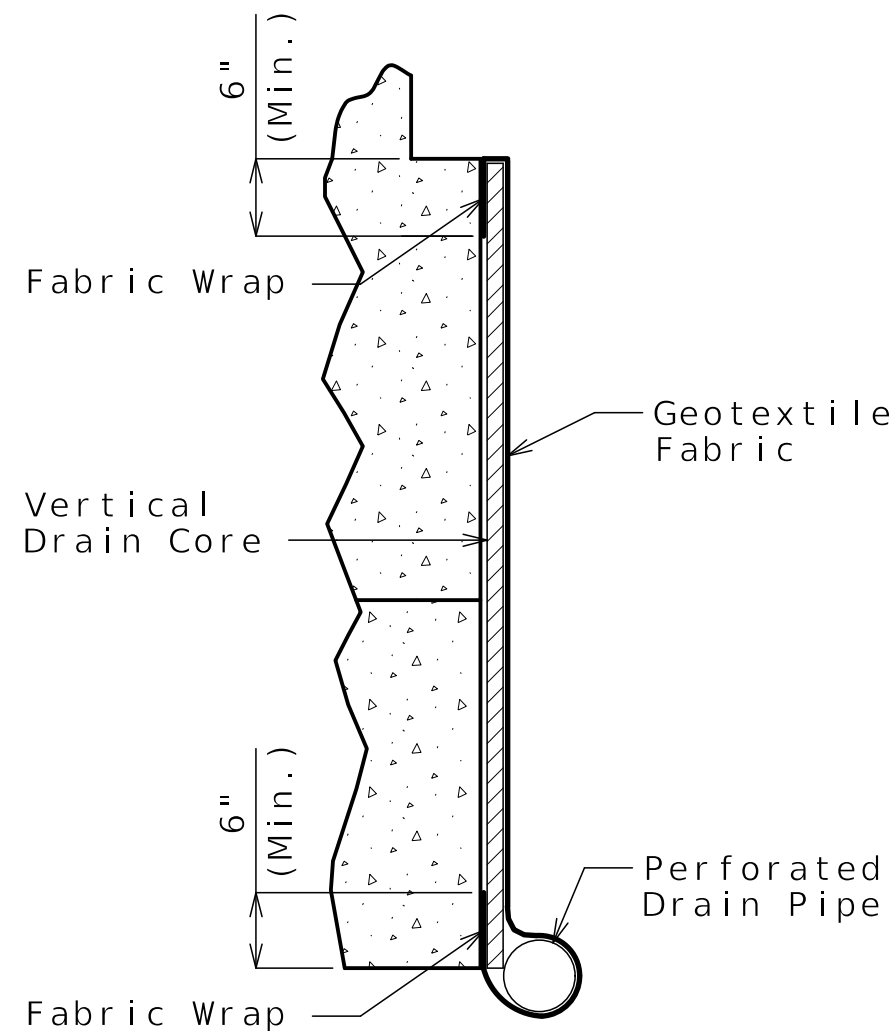


ELEVATION OF WING

PART PLAN

OPTIONAL TURNED DRAIN

(Use only when straight drain is not practical.)



PART SECTION A-A
(Section thru wing similar)

General Notes:

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

Square end bent shown, skewed end bent similar.

All drain pipe shall be sloped 1 to 2 percent.

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

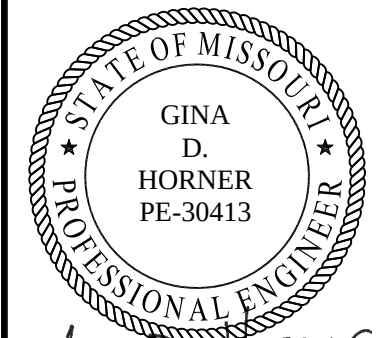
Drain pipe shall be placed at fill face of end bent and inside face of wings. The pipe shall slope to lowest grade of ground line, also missing the lower beam of end bent by a minimum of 1 1/2 inches.

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

At End Bent No. 9, if free draining granular fill material is used behind end bent and wingwalls, and if water can freely gravity drain to lower select granular backfill for structural system of MSE wall, then drain pipes are not required an internal drainage system of MSE wall can be used to collect water from Vertical Strip Drain.

Released For Construction
Not to Scale
Revision: 0.0
Date: 06/09/2025
Package: BRD-08-EBKCTRR-Substructure

VERTICAL DRAIN AT END BENTS



Gina D. Horner

06/03/25

DATE PREPARED

06/02/2025

ROUTE STATE

I-70 MO

DISTRICT SHEET NO.

BR B08-11

COUNTY

JACKSON

JOB NO.

J4I1486D

CONTRACT ID.

240807-C01

PROJECT NO.

BRIDGE NO.

A9625

DESCRIPTION

REV 0 - RFC SUBMITTAL

DATE

06/02/25

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL

JEFFERSON CITY, MO 65102

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

MoDOT

CLARKSON RADMACHER JOINT VENTURE

715 KIRK DRIVE

KANSAS CITY, MO 64105-1310

CERTIFICATE OF AUTHORITY

NO. 001270

HNTB



6/3/2025

DATE PREPARED
06/02/2025

ROUTE
1-70

STATE
MO

DISTRICT
BR

SHEET NO.
B08-12

COUNTY
JACKSON

JOB NO.
J411486D

CONTRACT ID.
240807-C01

PROJECT NO.

BRIDGE NO.
A9625

DATE	DESCRIPTION
06/02/25	REV 0 - RFC SUBMITTAL

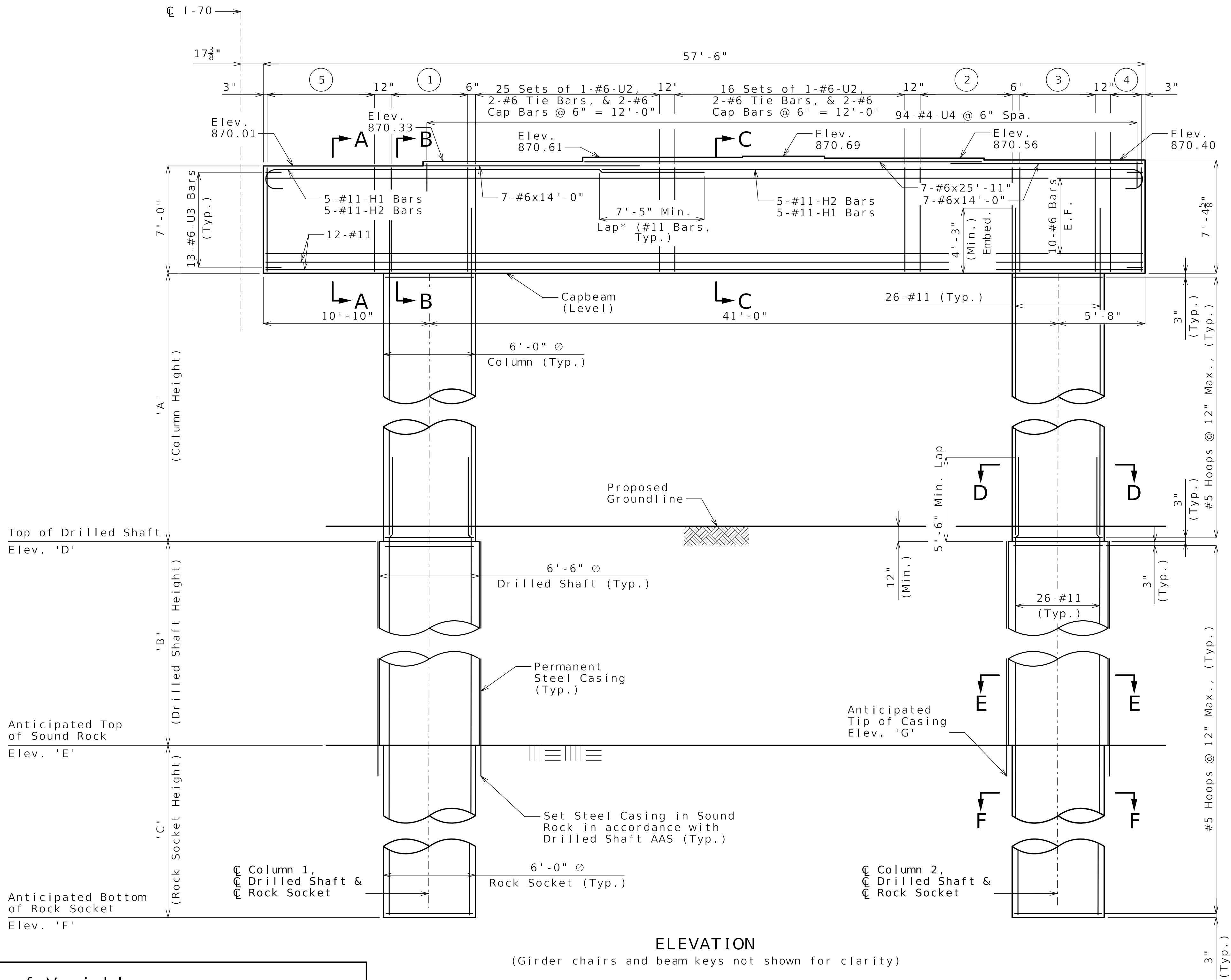
MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

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

CLARKSON
RADMACHER
JOINT VENTURE

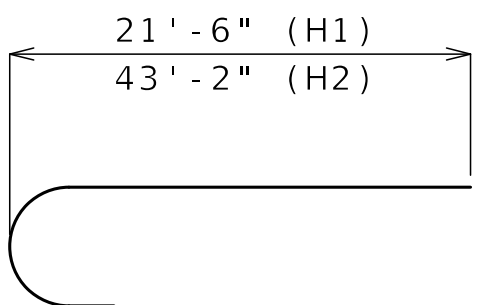
715 KIRK DRIVE
KANSAS CITY, MO 64105-1310
CERTIFICATE OF AUTHORITY
NO. 001270

HNTB



ELEVATION
(Girder chairs and beam keys not shown for clarity)

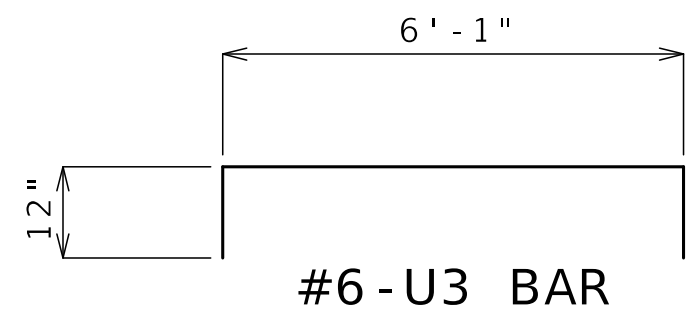
Table of Variables							
Column Number	"A"	"B"	"C"	"D"	"E"	"F"	"G"
1	20'-0 $\frac{1}{8}$ "	86'-0"	14'-0"	843.0	757.0	743.0	755.0
2	19'-0 $\frac{1}{8}$ "	87'-0"	14'-0"	844.0	757.0	743.0	755.0



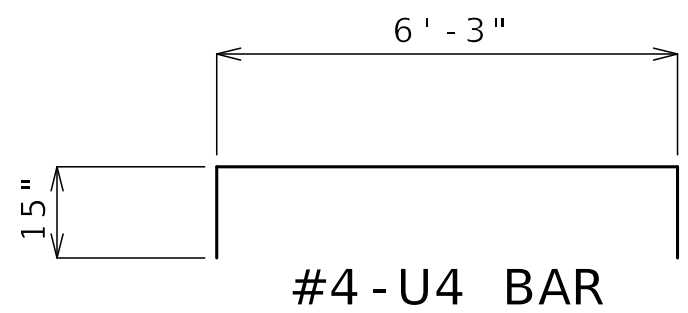
#11-H1 & #11-H2 BAR

- 5-#6-U1 @ Eq. Spa.= 5'-1"
- 13 Sets of 1-#6-U2, 2-#6 Tie bars, & 2-#6 Cap Bars @ 6" Spa. = 6'-0"
- 5-#6-U1 @ Eq. Spa.= 4'-11"
- 3 Sets of 1-#6-U2, 2-#6 Tie Bars, & 2-#6 Cap Bars @ 12" Spa. = 2'-0"
- 8 Sets of 1-#6-U2, 2-#6 Tie Bars, & 2-#6 Cap Bars @ 12" Spa. = 7'-0"

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



#6-U3 BAR



#4-U4 BAR

Notes:
* Alternate location of lap splices between adjacent bars about centerline of bent. Alternate lap splice location not shown.
Prior to placing concrete for columns, position of vertical reinforcement shall be verified so as to provide clearance for capbeam reinforcement as applicable.
Work this sheet with Sheets No. B08-13 and B08-14.
For location of drilled shafts, see Sheet No. B08-06.
For Sections A-A thru F-F, see Sheet No. B08-14.
For Optional Drilled Shaft Splice Detail and Rock Socket Over Excavation Detail, see Sheet No. B08-05.

DETAILS OF INTERMEDIATE BENT NO. 2

Detailed FEB 2025
Checked MAR 2025

Sheet No. B08-12 of B08-57



6/3/2025

DATE PREPARED

06/02/2025

ROUTE	STATE
-------	-------

I - 70	MO
--------	----

DISTRICT	SHEET NO.
DD	DDC

BR	B08 -
----	-------

COUNTY
LACKSON

JACKSON

JOB NO.
1411486D

CONTRACT ID:

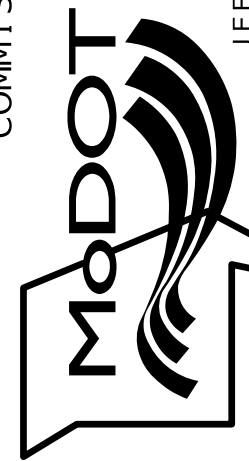
240807-C01

PROJECT NO.

BRIDGE NO.

A9625

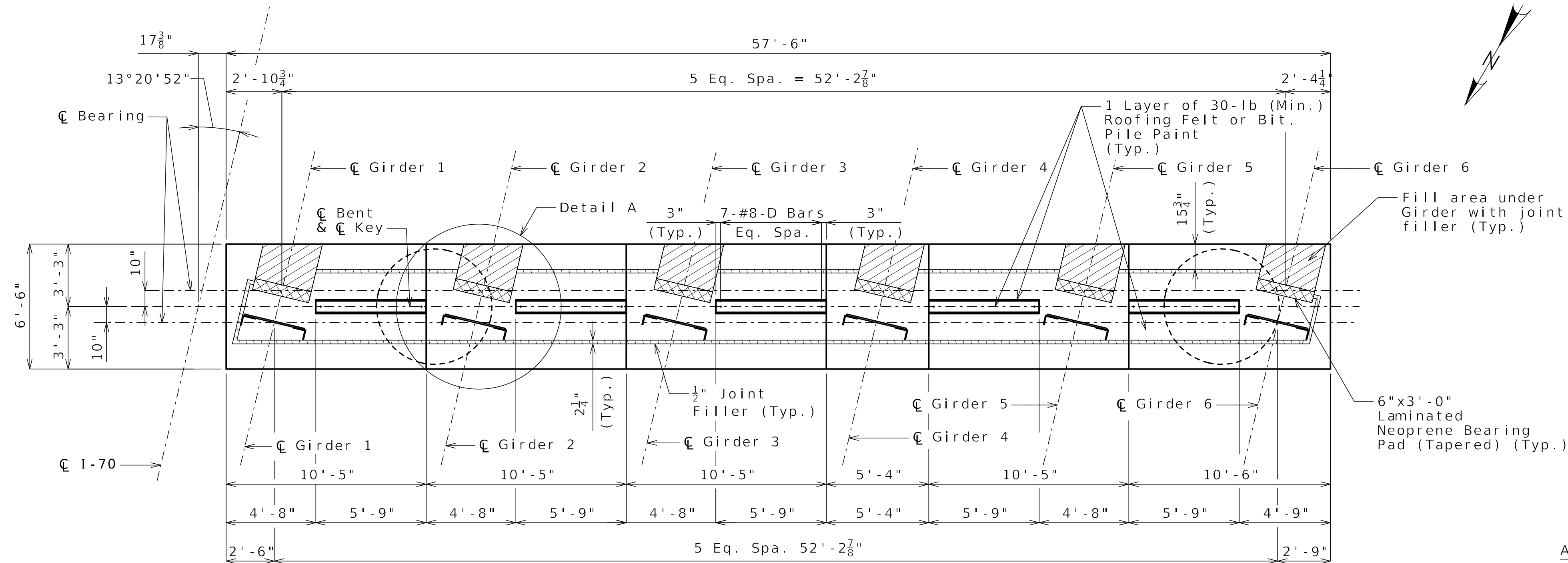
DATE	DESCRIPTION
06/02/25	REV 0 - RFC SUBMITTAL

MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

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

CLARKSON

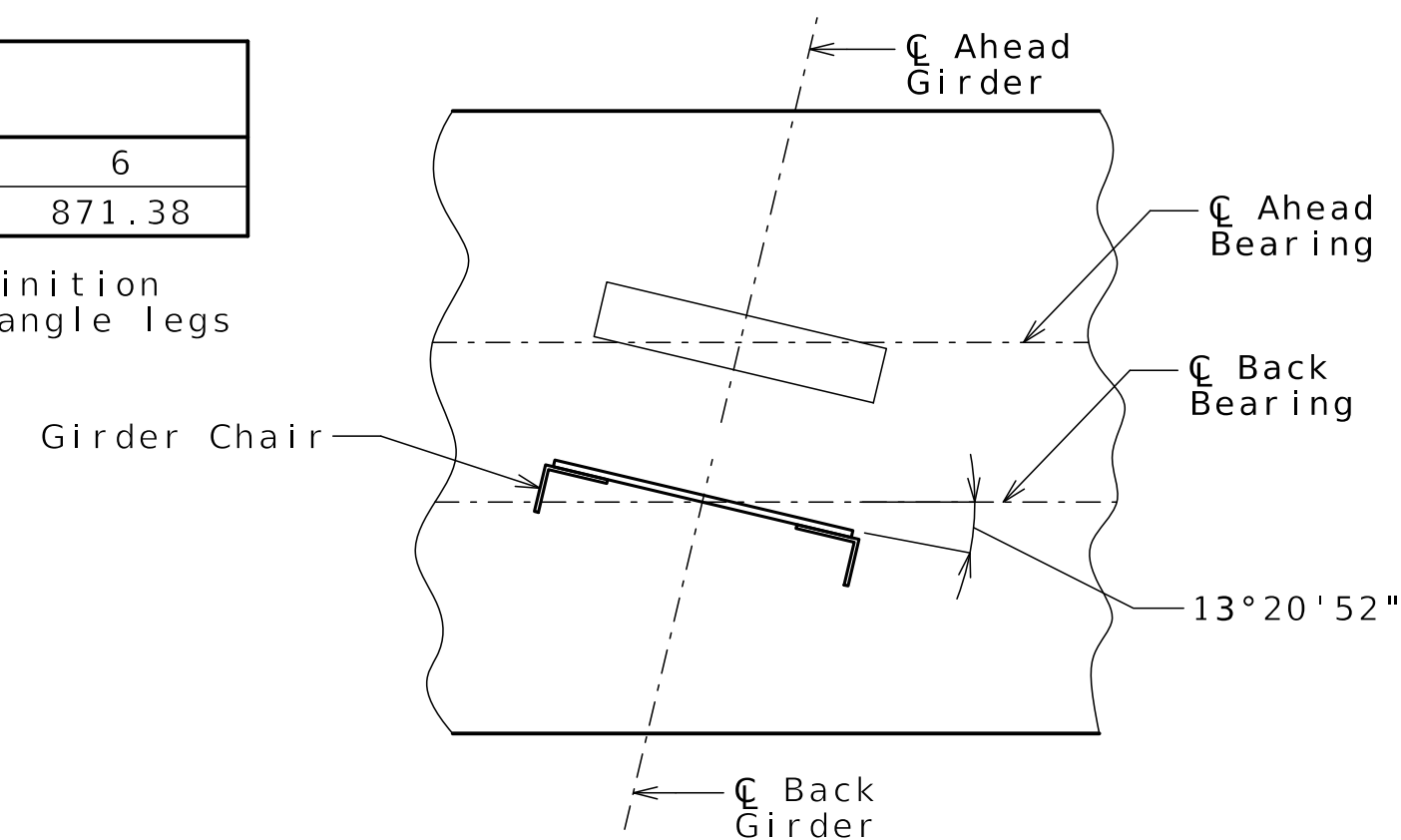
KANSAS CITY, MO 64105-1310
CERTIFICATE OF AUTHORITY
NO. 001270



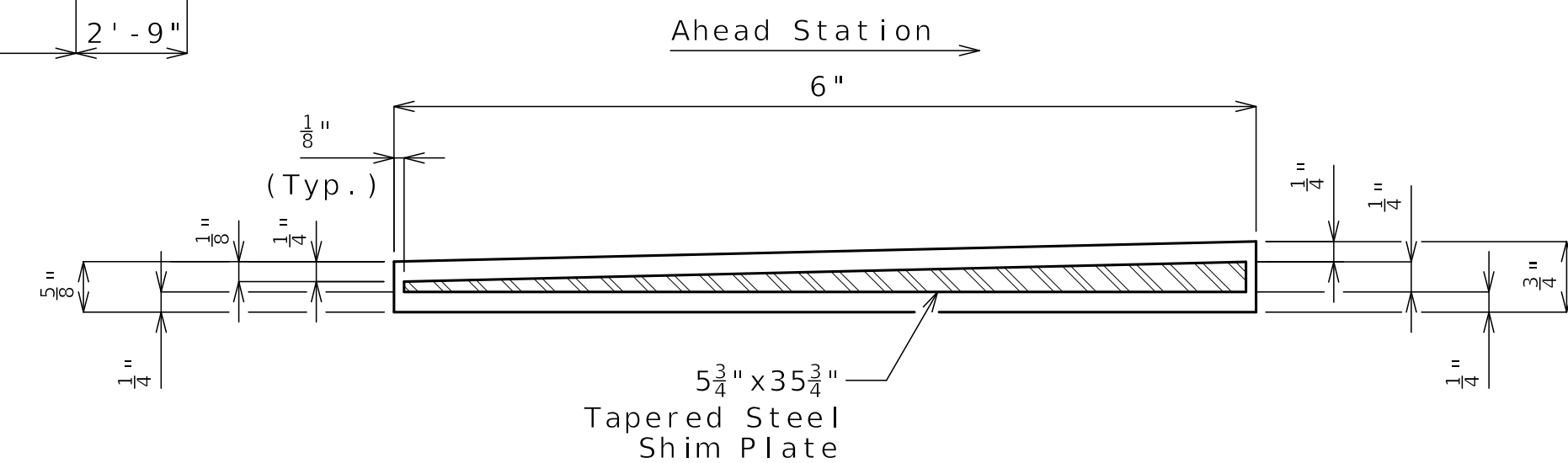
PLAN OF CAPBEAM

Table of Variables						
Girder	1	2	3	4	5	6
Elev. *	870.99	871.28	871.56	871.64	871.51	871.38

*See Girder Chair Elevation on Sheet No. B08-22 for elevation definition and additional girder chair details. Use orientation of vertical angle legs and 1" plate shown in Detail A on this sheet.



DETAIL A



TYPICAL SECTION THRU LAMINATED NEOPRENE BEARING PAD (TAPERED)

6 Required per Bent

Released For Construction
Not to Scale

Revision: 0.0

Date: 06/09/2025

Package: BRD-08-EBKCTRR-Substructure

Notes:

Work this sheet with Sheets No. B08-12 and B08-14.

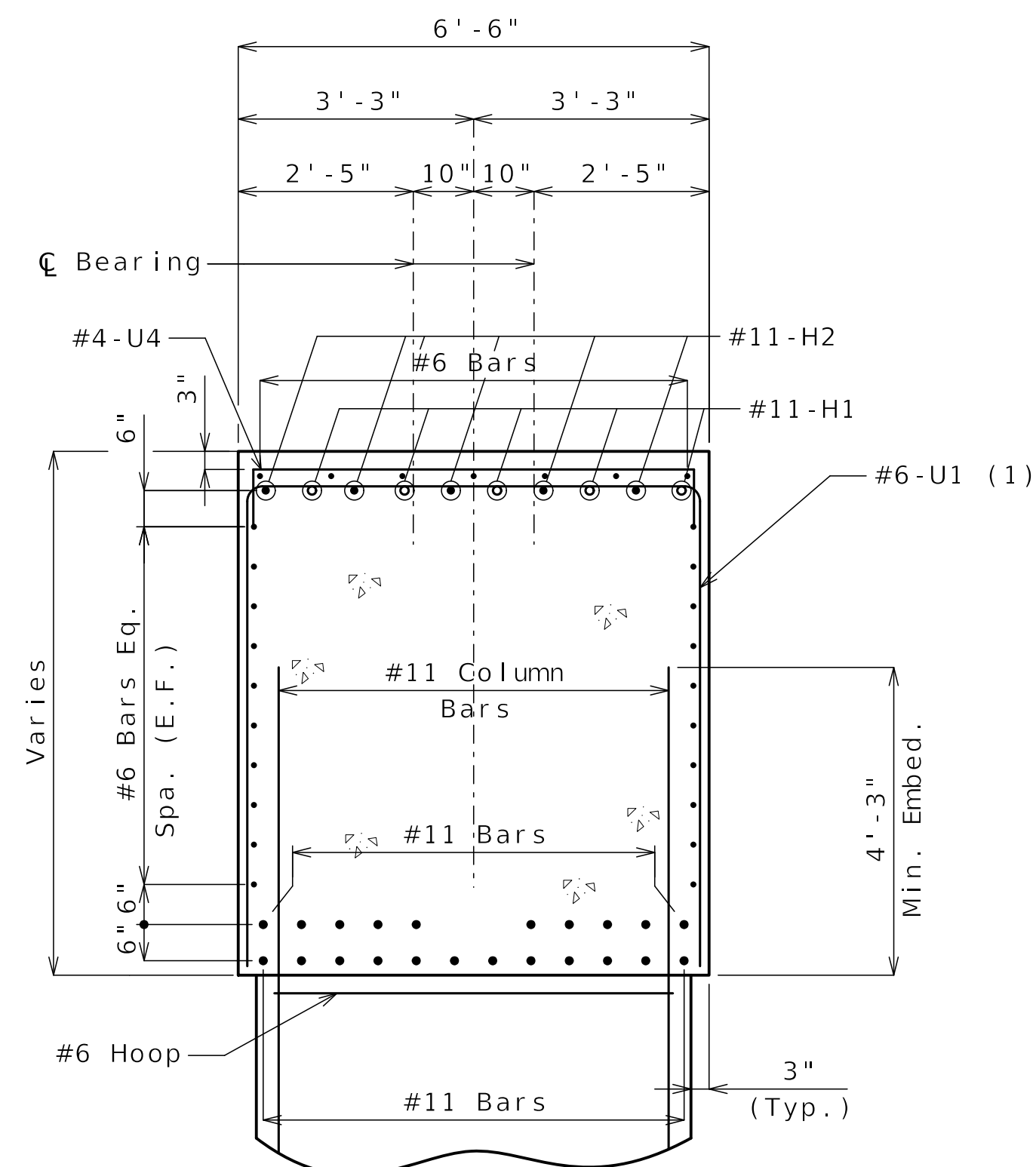
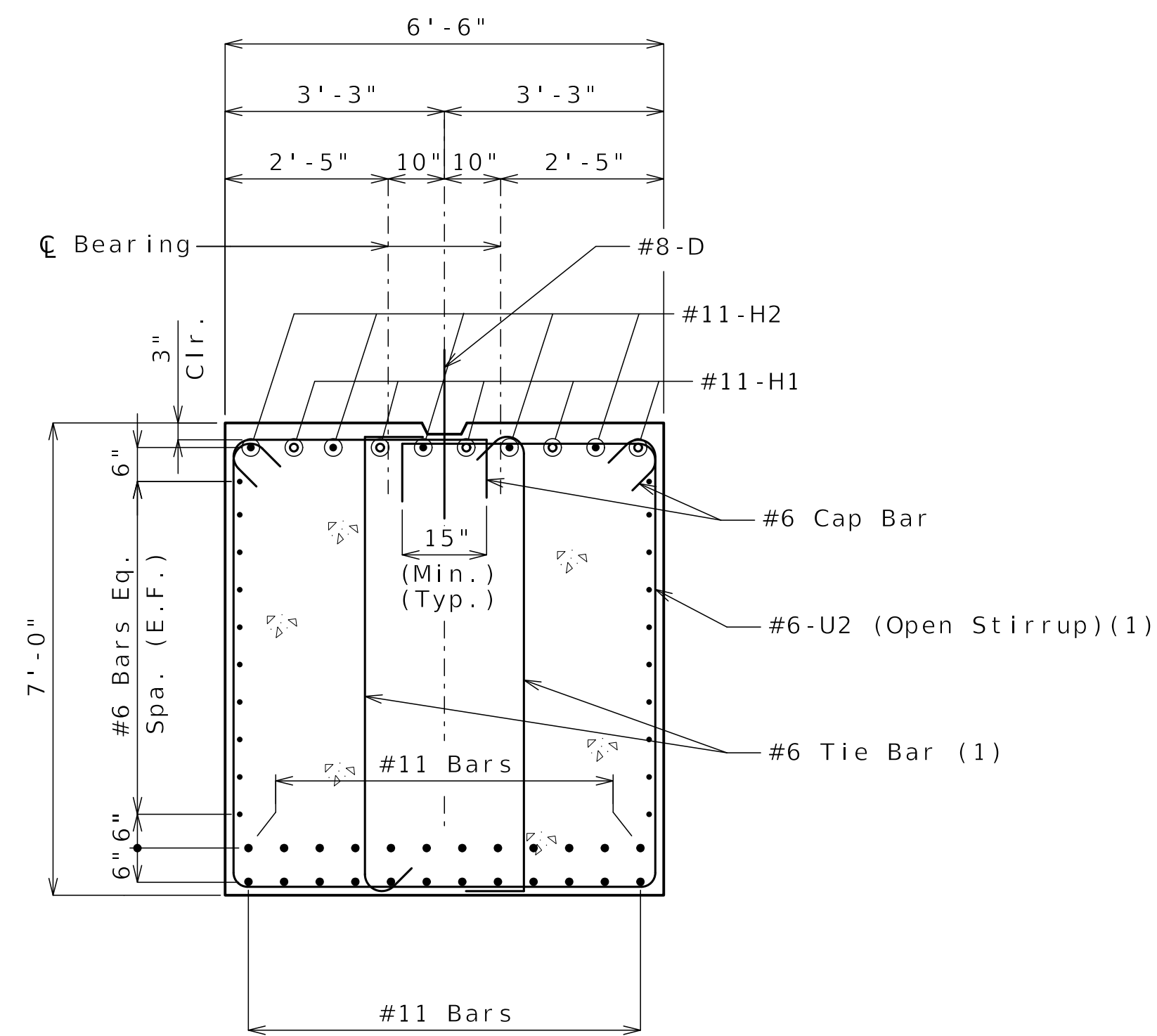
Steel for chairs shall be ASTM A709 Grade 36 for

angles and ASTM A572 Grade 50 for Plates.
Girders are parallel to G 1-70.

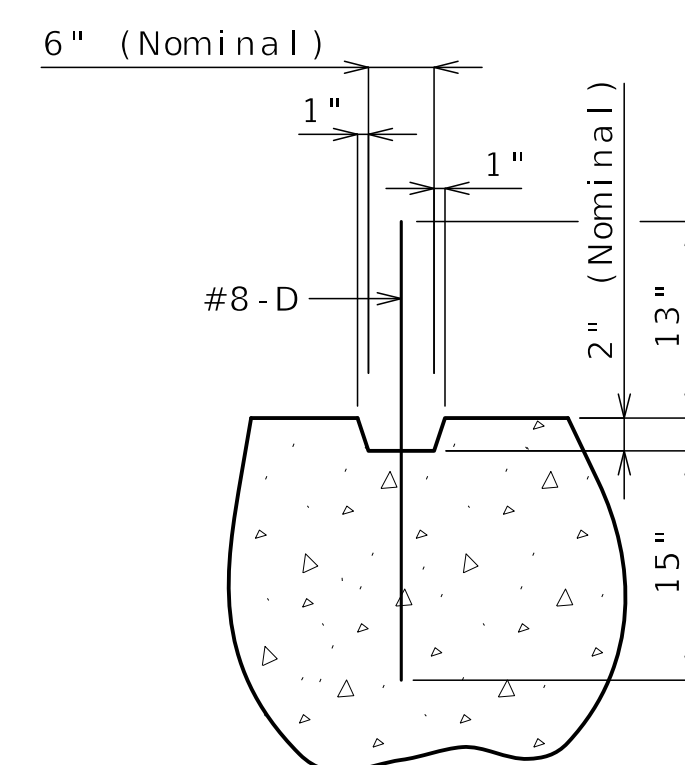
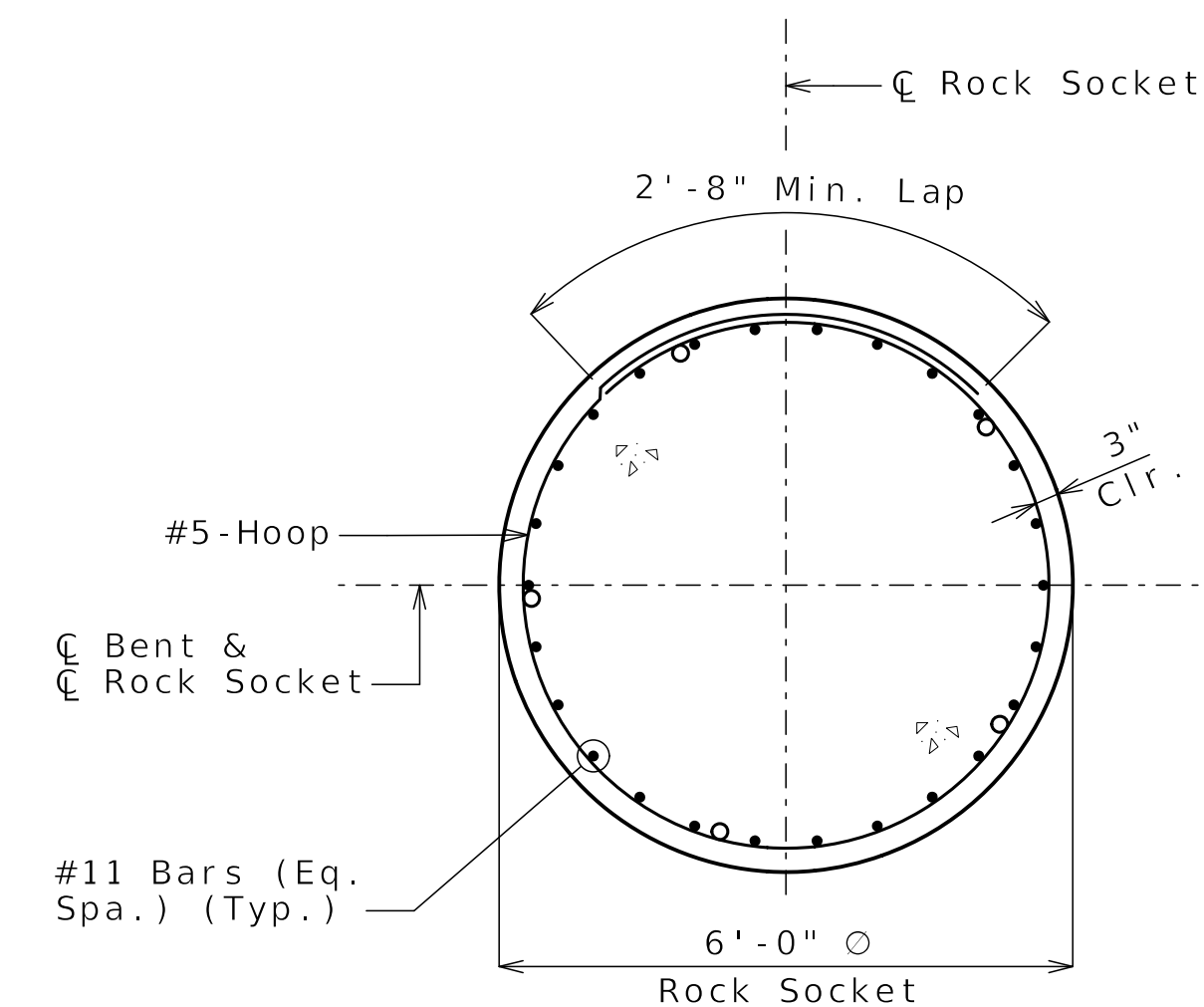
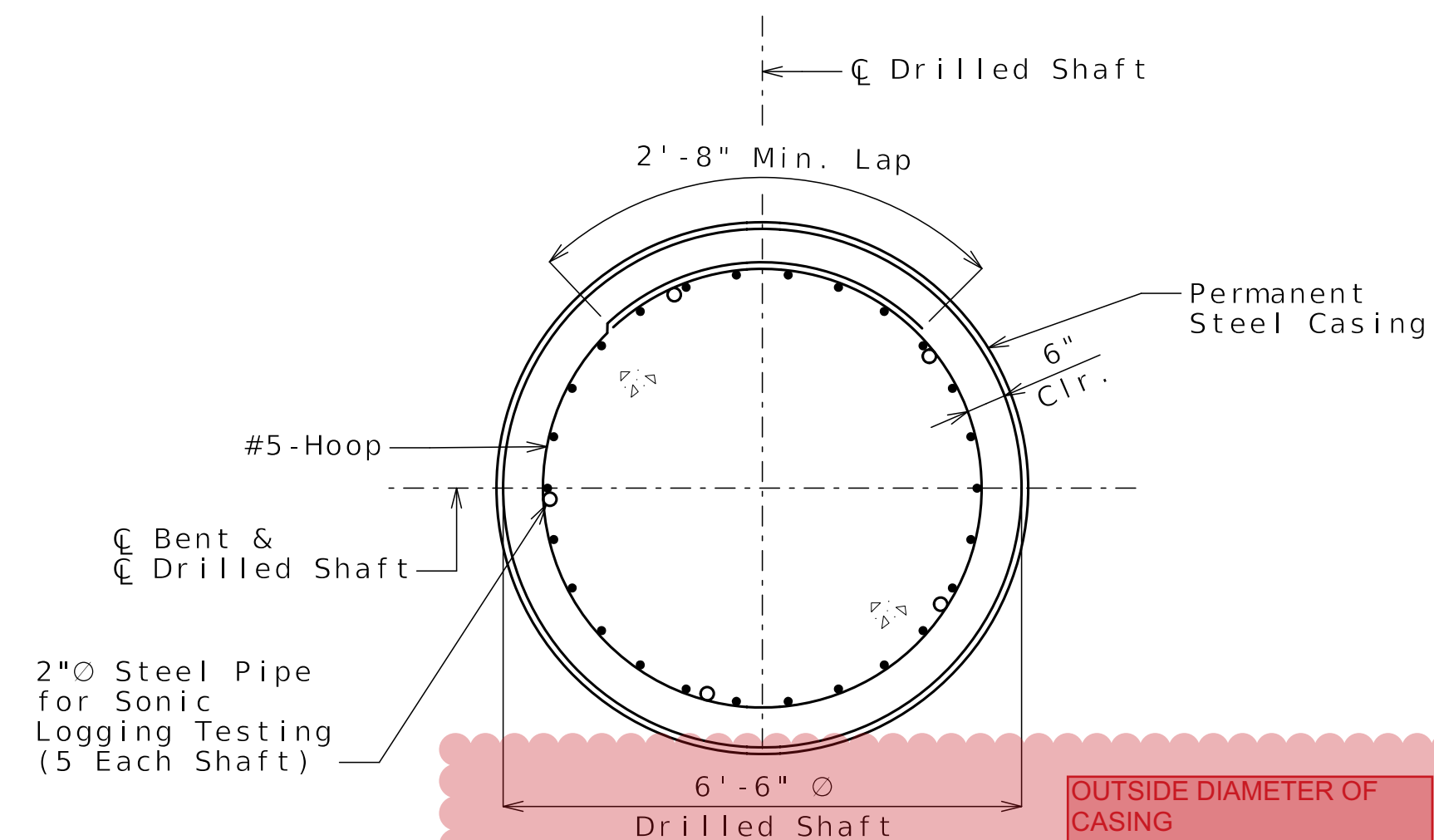
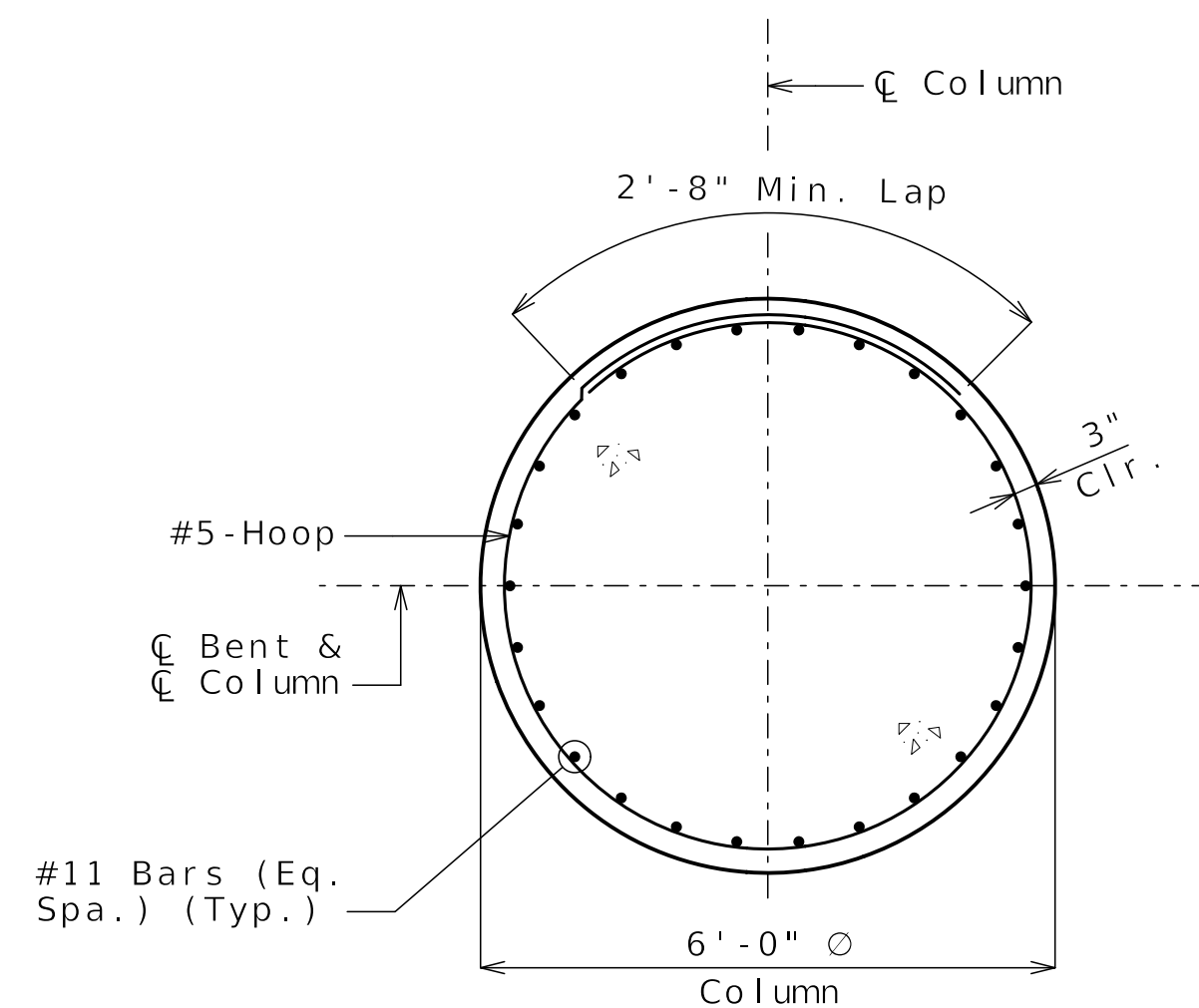
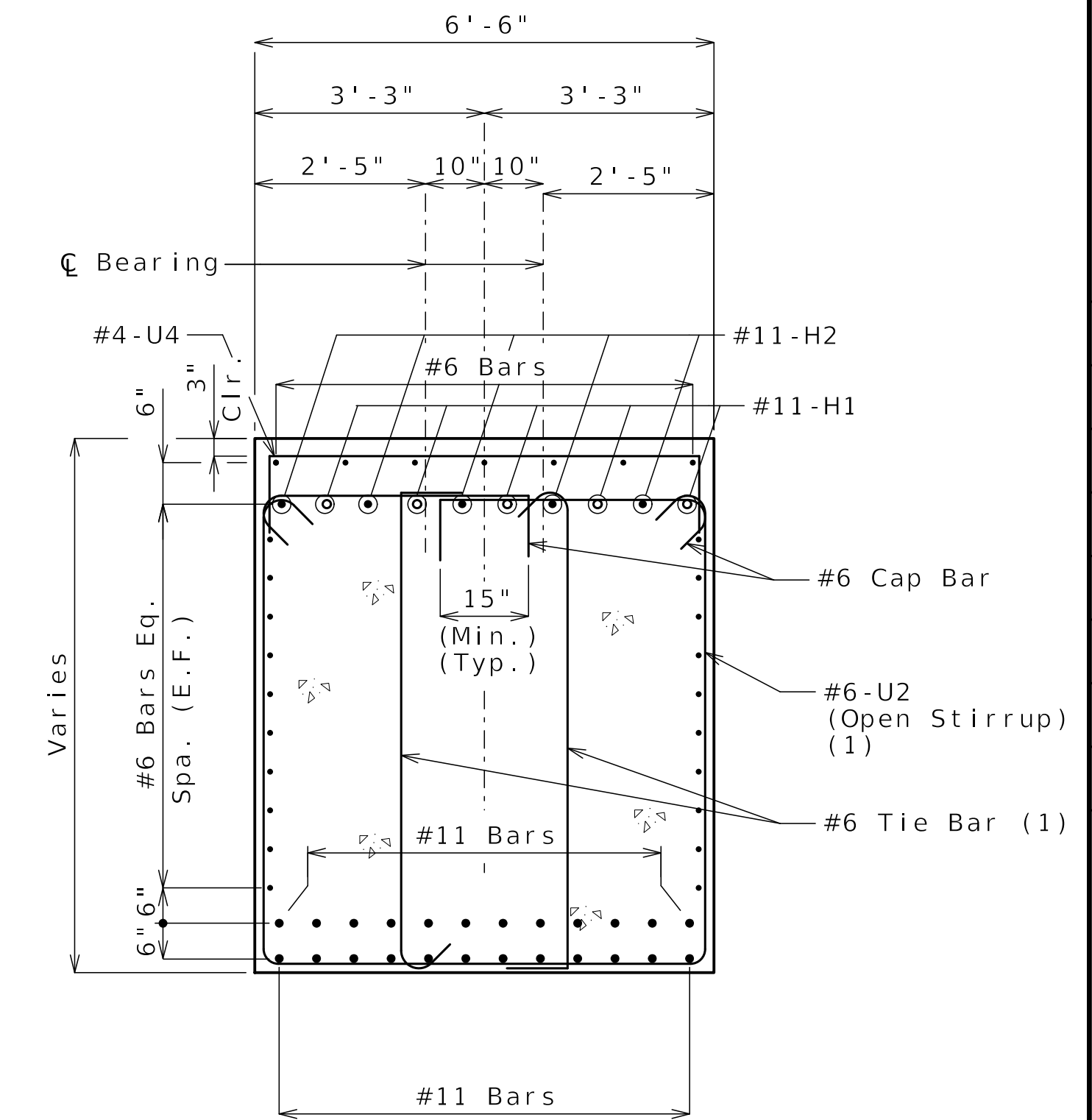
Girders are parallel to C 1-70.
For additional joint filler layout details, see

For additional joint filler layout details, see concrete diaphragm details sheet in A9625 (I-70 EB Over

DETAILS OF INTERMEDIATE BENT NO. 2



(1) U1, U2 and #6 Tie Bars vertical Leg = 6' - 7½"



Released For Construction
Not to Scale

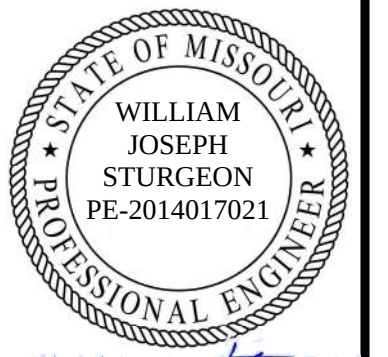
Revision: 0.0
Date: 06/09/2025
Package: BRD-08-EBKCTRR-Substructure

Notes:

Work this sheet with Sheets No. B08-12 and B08-13.

Hoop splices shall be staggered around the drilled shaft and rock socket at 90 degree intervals.

Shift #11-H1 and #11-H2 bars to provide clearance for girder chairs. Maintain a minimum spacing of 5½" and a maximum spacing of 12" between adjacent bars.



6/3/2025

DATE PREPARED

6/02/2025

ROUTE	STATE
70	MS

70	MO
----	----

TRICT	SHEET NO
RD	RD 1

BR	B08-1
COUNTY	

LACKSON

JOB NO.

4 I 1486D

CONTRACT ID.

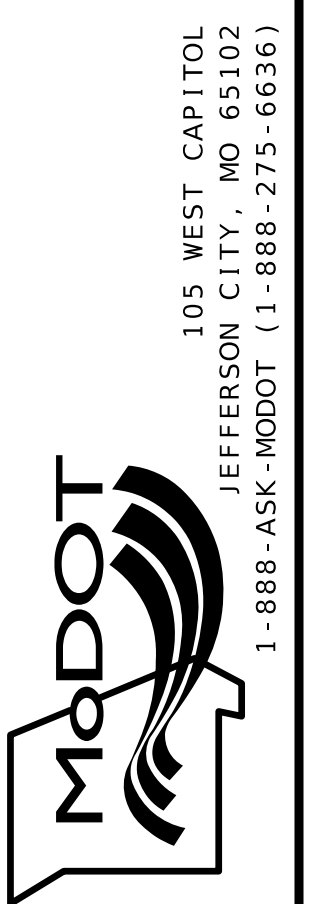
40807 - C01

PROJECT NO.

BRIDGE NO.
A0625

A9625

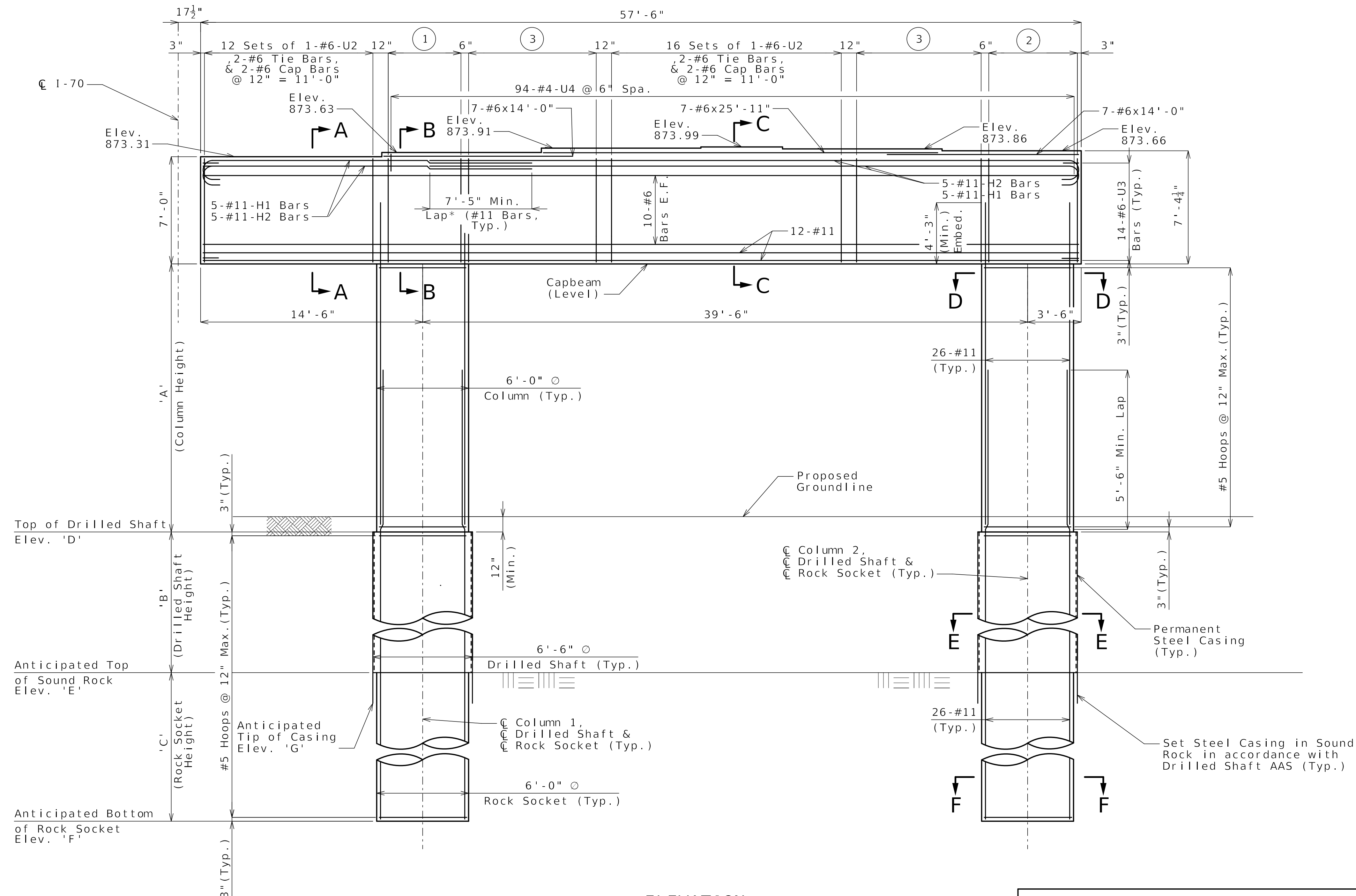
DATE	DESCRIPTION
06/02/25	REV 0 - RFC SUBMITTAL

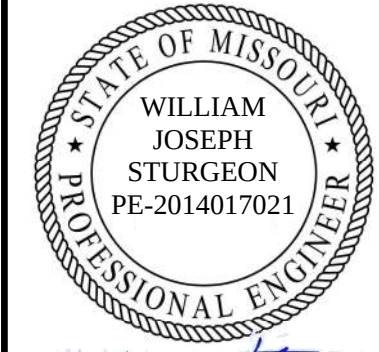
MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

CLARKSON
RADMACHER
JOINT VENTURE

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







6/3/2025

DATE PREPARED
06/02/2025

ROUTE
1-70

STATE
MO

DISTRICT
BR

SHEET NO.
B08-16

COUNTY
JACKSON

JOB NO.
J411486D

CONTRACT ID.
240807-C01

PROJECT NO.

BRIDGE NO.
A9625

DATE	DESCRIPTION
06/02/25	REV 0 - RFC SUBMITTAL

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

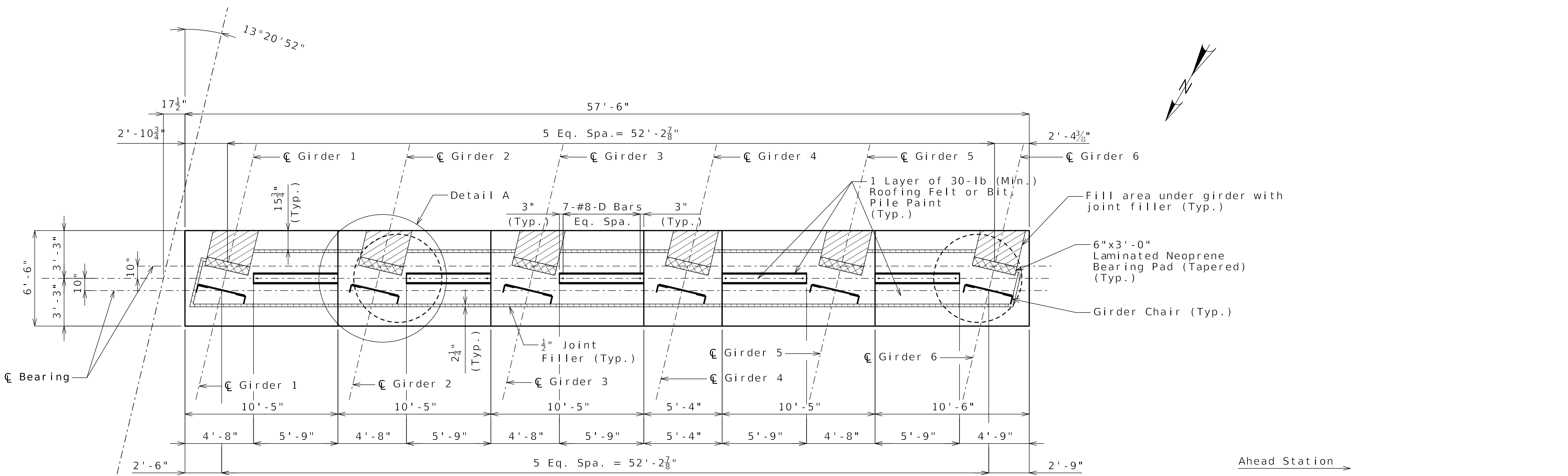
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

MoDOT

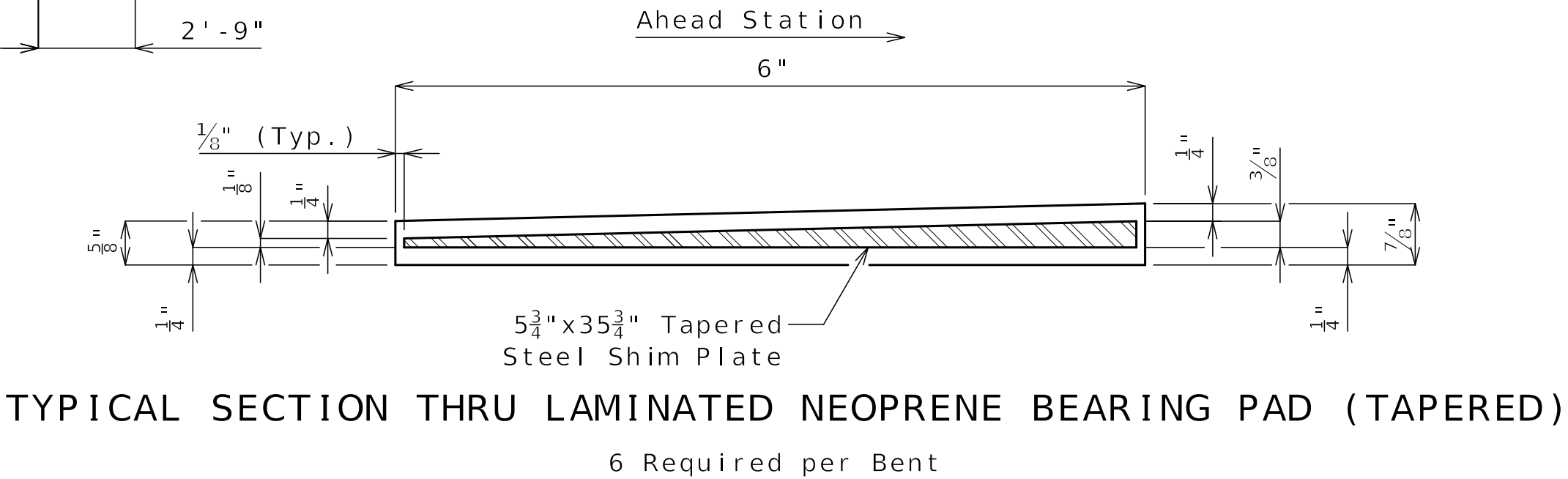
CLARKSON RADMACHER JOINT VENTURE

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

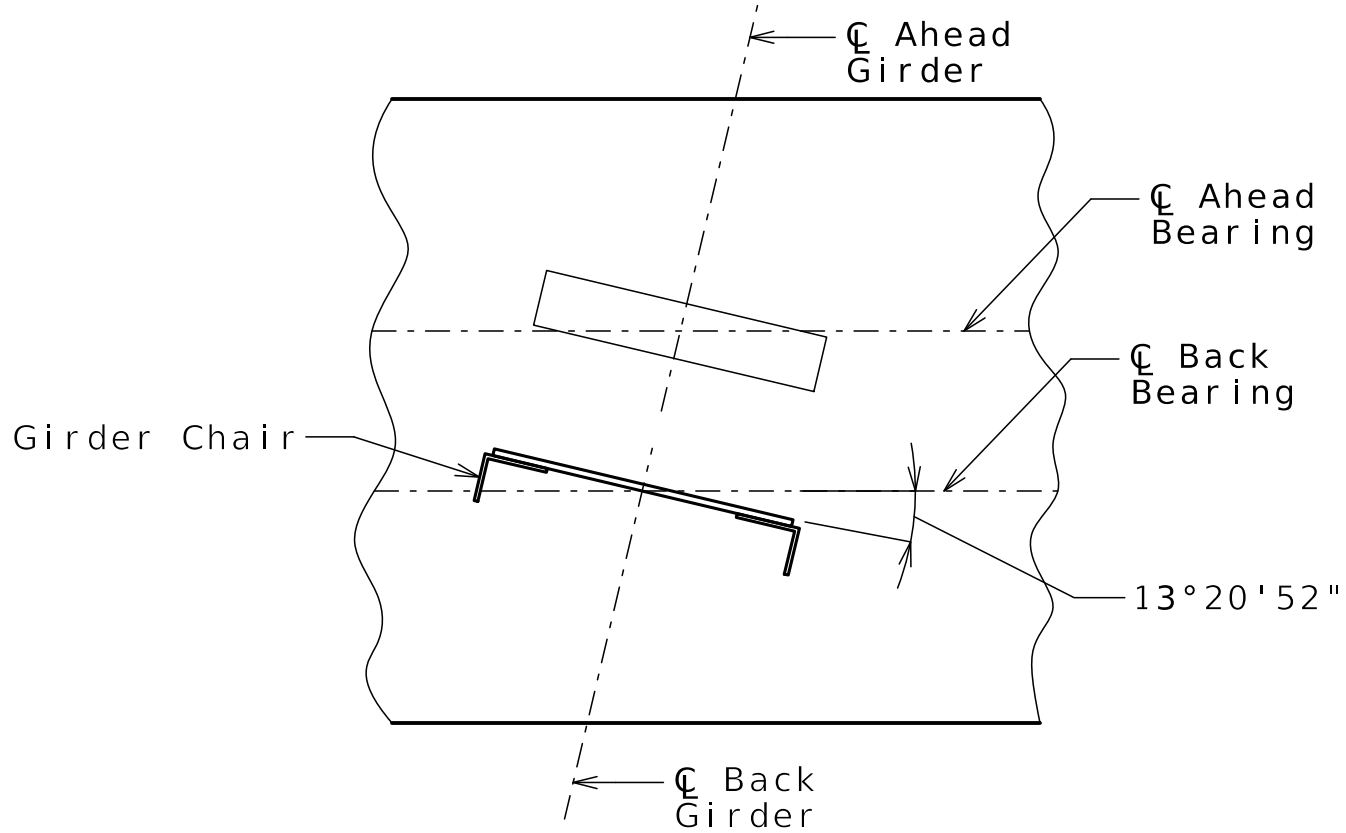
HNTB



PLAN OF CAPBEAM



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



DETAIL A

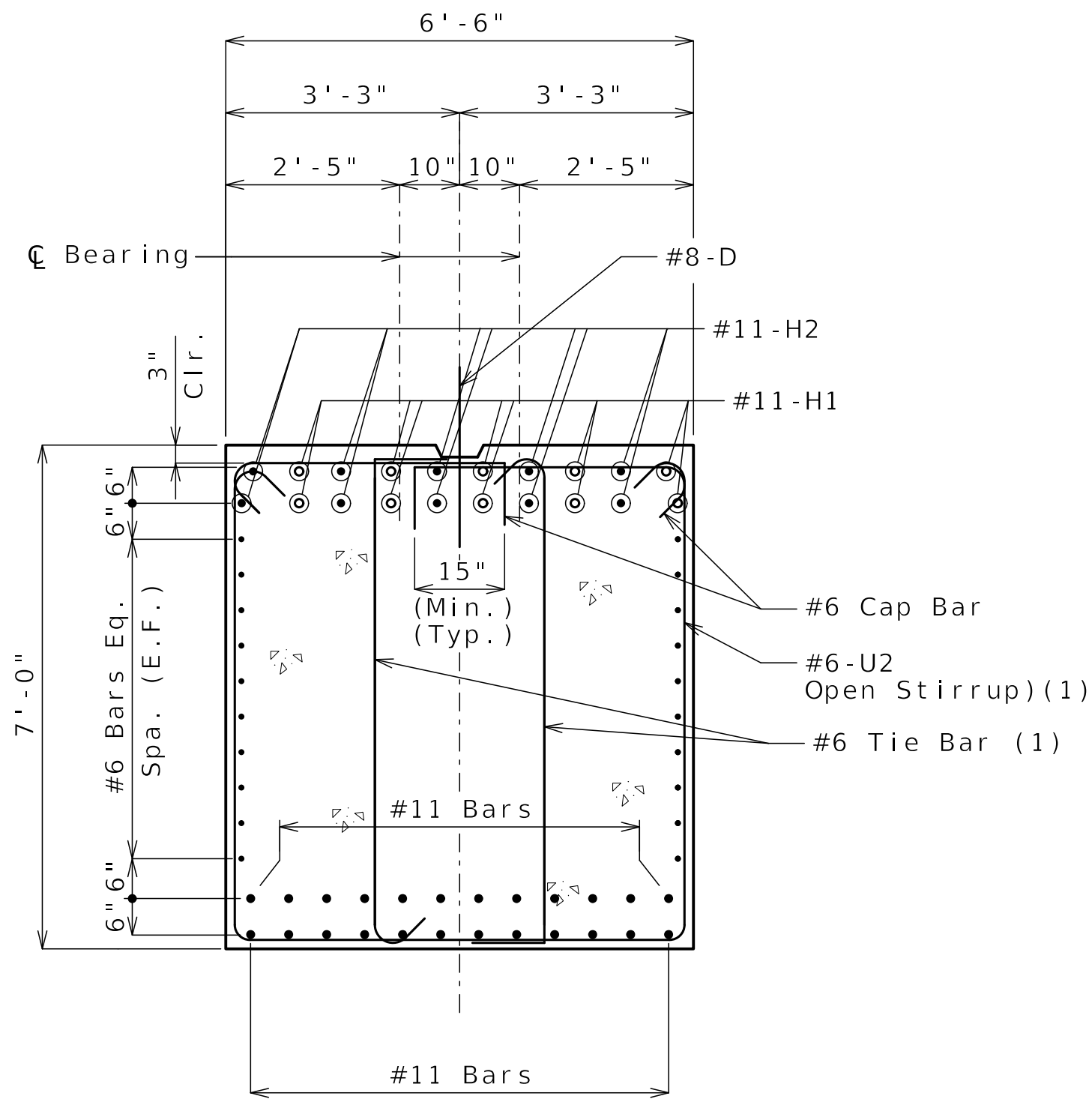
Released For Construction
Not to Scale
Revision: 0.0
Date: 06/09/2025
Package: BRD-08-EBKCTRR-Substructure

Table of Variables						
Girder	1	2	3	4	5	6
Elev. *	873.96	874.27	874.55	874.63	874.51	874.35

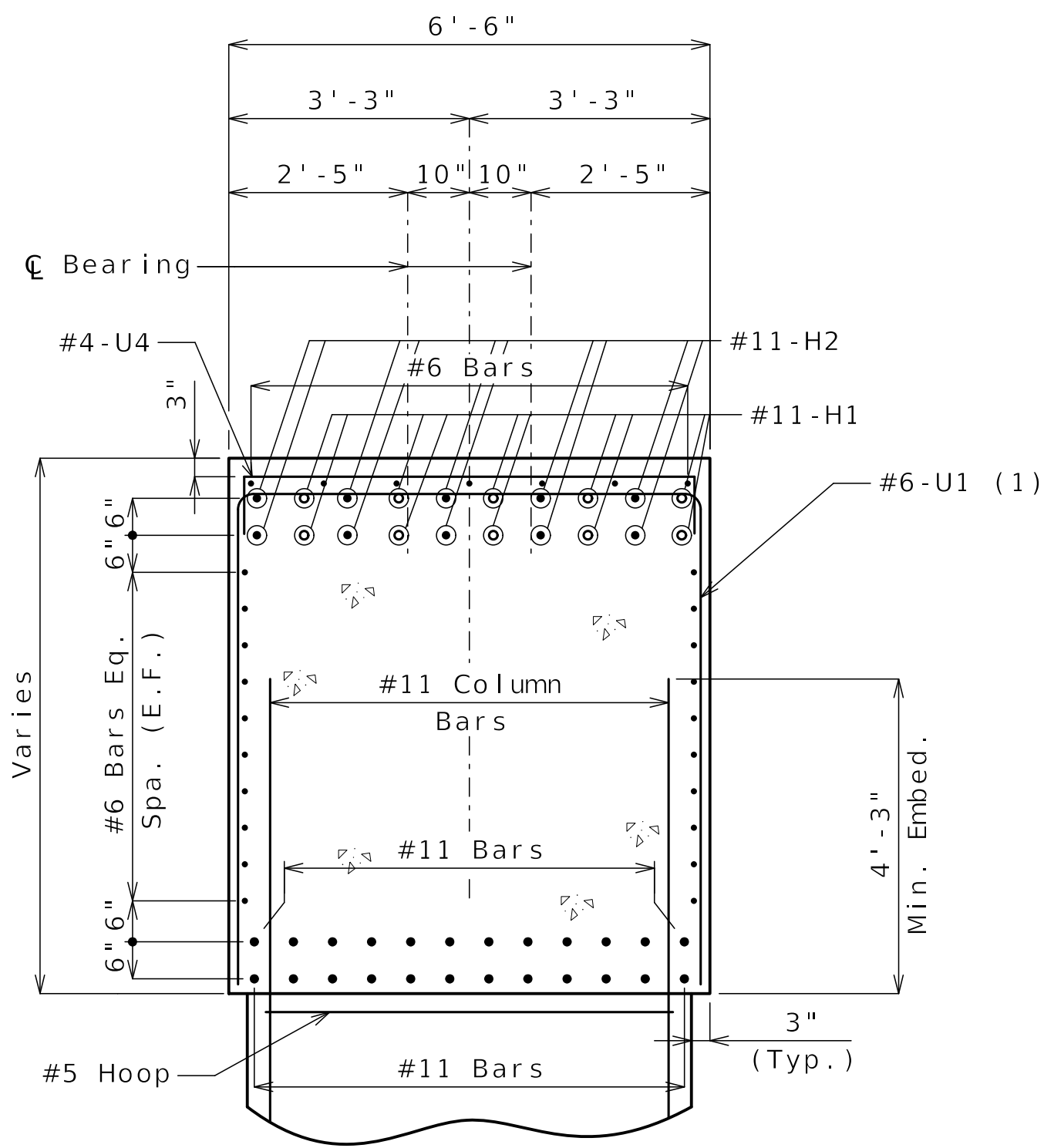
* See Girder Chair Elevation on Sheet No. B08-22 for elevation definition and additional girder chair details. Use orientation of vertical angle legs and 1" plate shown in Detail A on this sheet.

Notes:
Work this sheet with Sheets No. B08-15 and B08-17.
Steel for chairs shall be ASTM A709 Grade 36
for angles and ASTM A572 Grade 50 for plates.
Girders are parallel to CL I-70.
For additional joint filler layout details, see
concrete diaphragm details sheet in A9625 (I-70 EB Over
KCT, Indiana & 18th) Superstructure Package.
For steps 2 inches or more, use $2\frac{1}{4}" \times \frac{1}{2}"$ inch joint
filler up vertical face.

DETAILS OF INTERMEDIATE BENT NO. 3

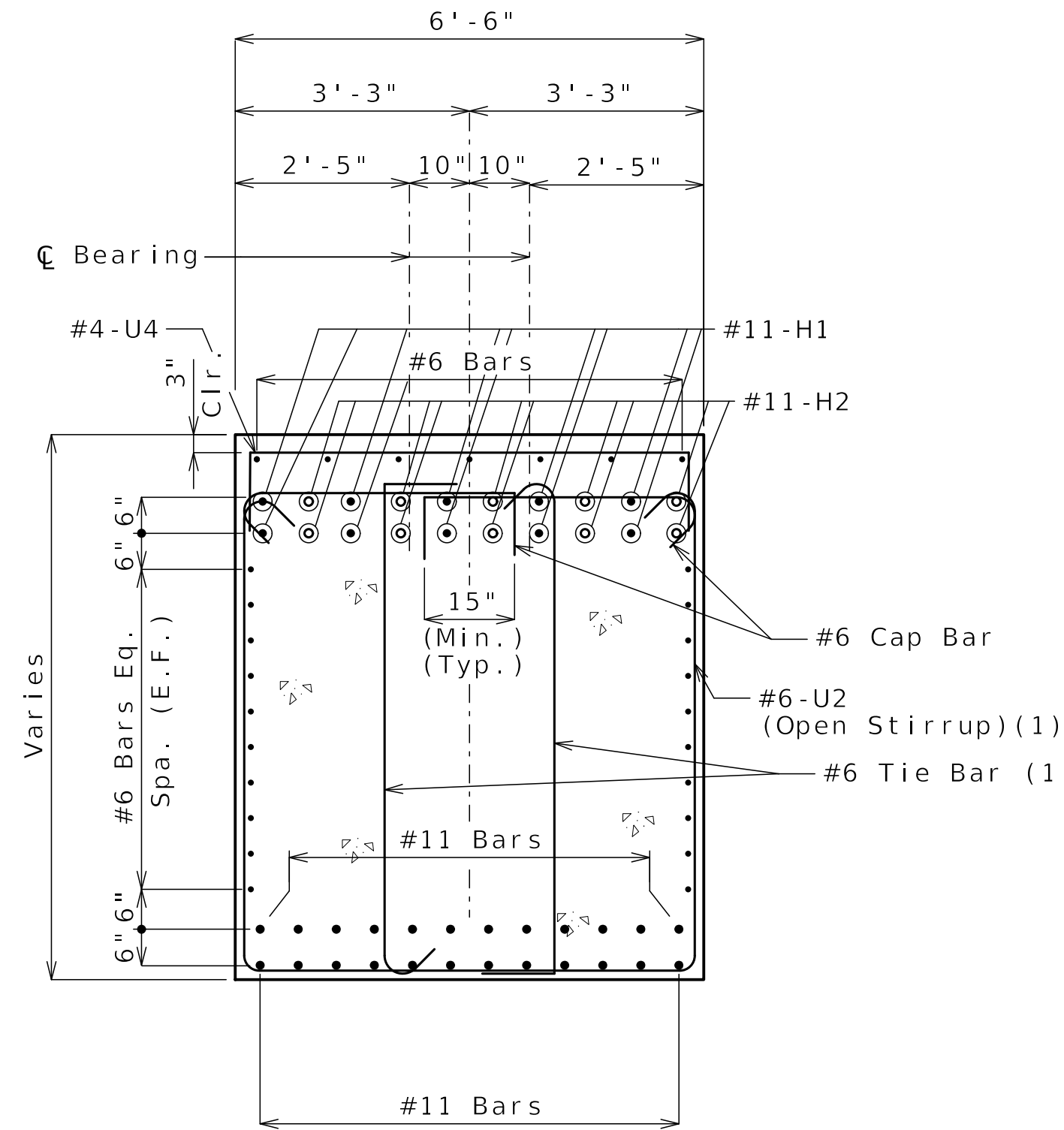


SECTION A-A

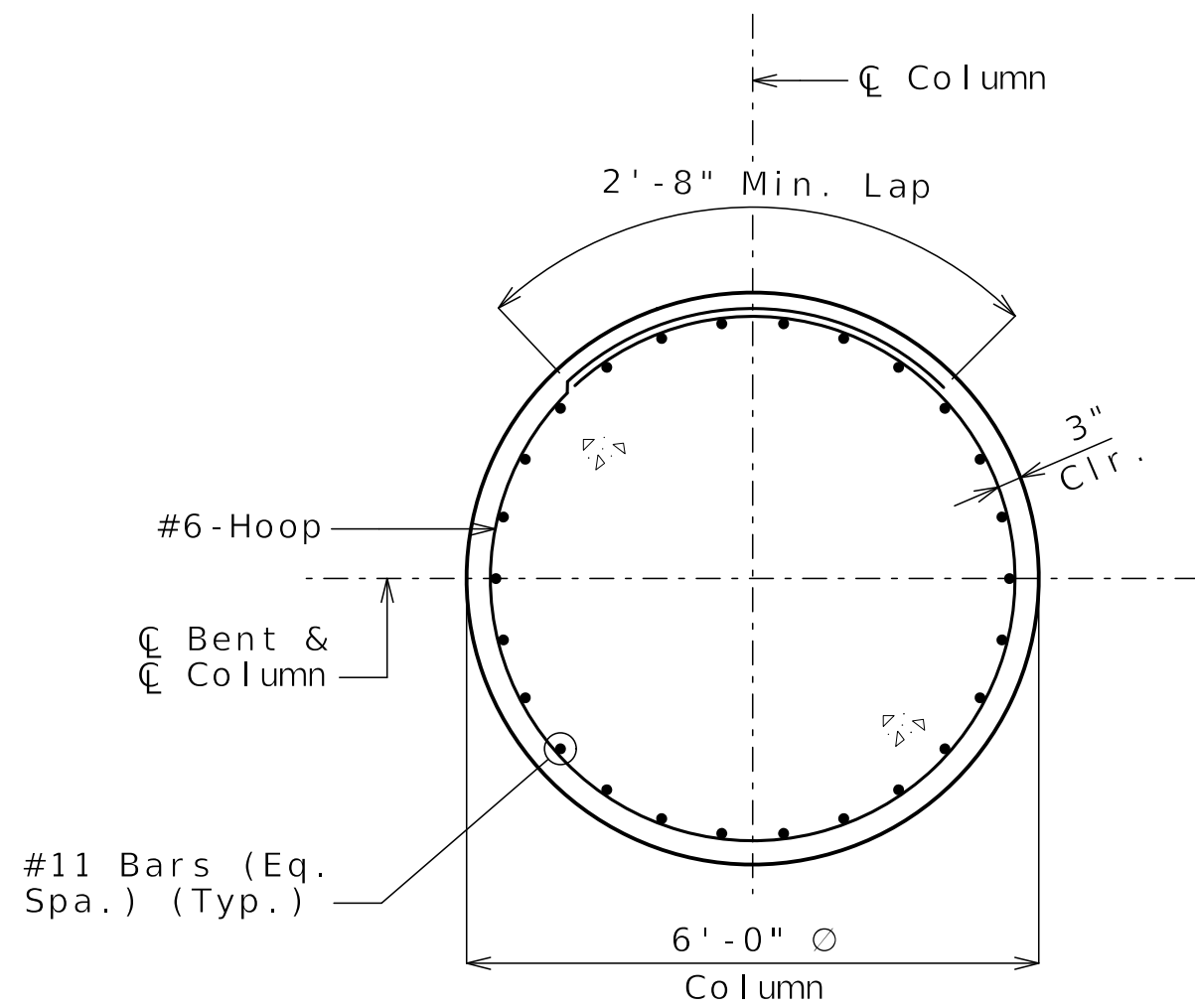


SECTION B-B

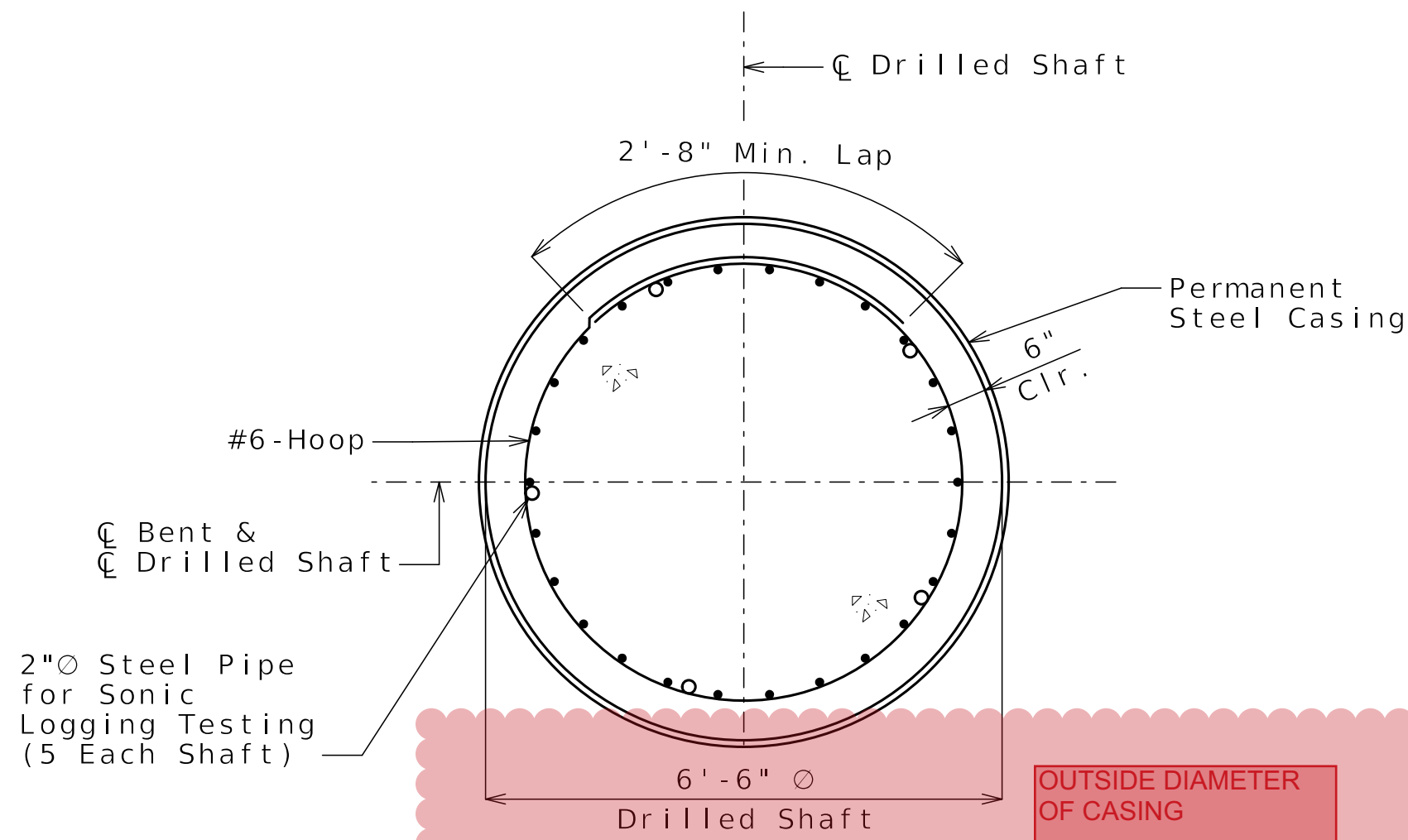
(1) U1, U2 and #6 Tie Bar vertical Leg = 6'-7½"



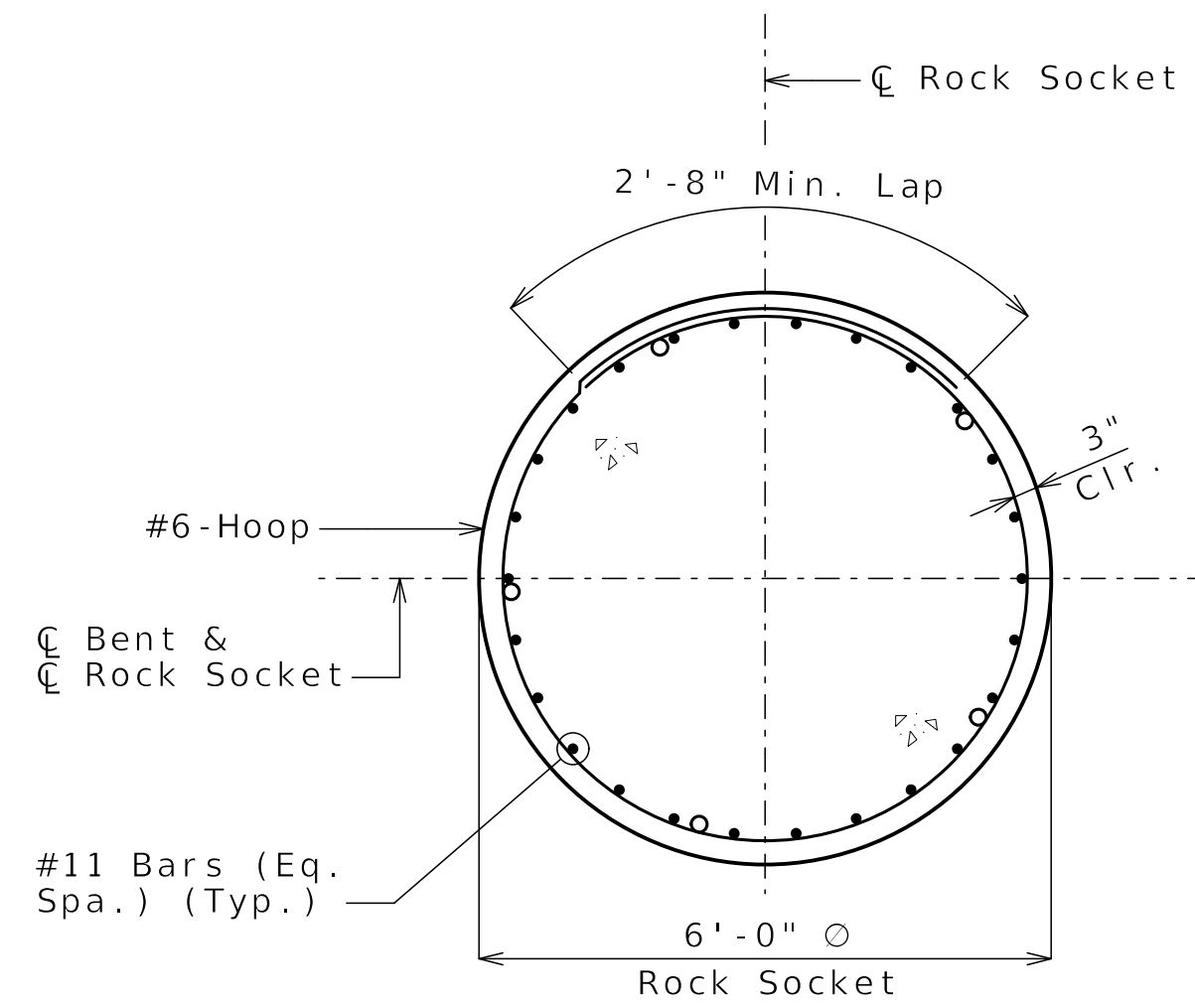
SECTION C-C



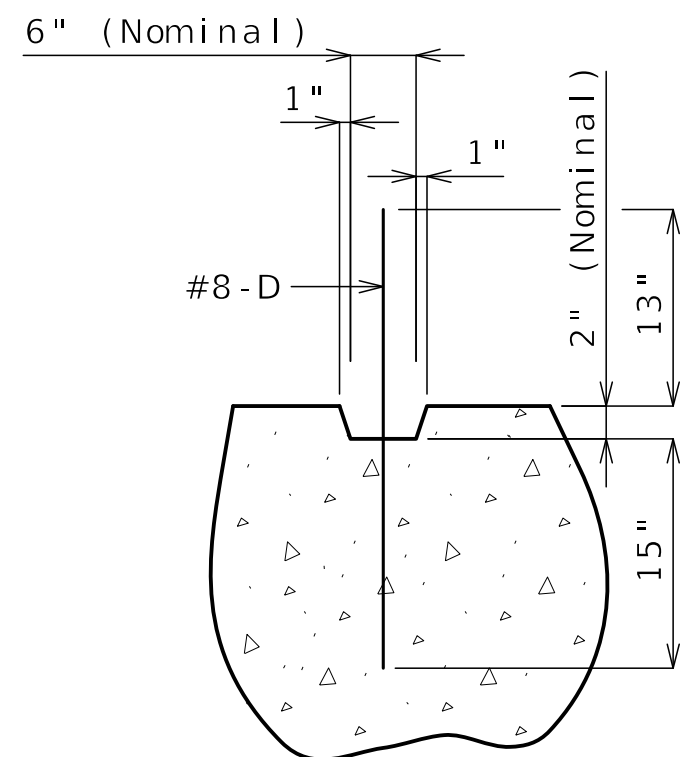
SECTION D-D



SECTION E-E



SECTION F-F



SECTION THRU KEY

Released For Construction
Not to Scale
Revision: 0.0
Date: 06/09/2025
Package: BRD-08-EBKCTRR-Substructure

Notes:
Work this sheet with Sheets No. B08-15 and B08-16.
Hoop splices shall be staggered around the drilled shaft and rock socket at 90 degree intervals.
Shift #11-H1 and #11-H2 bars to provide clearance for girder chairs. Maintain a minimum spacing of 5½" and a maximum spacing of 12" between adjacent bars.

DETAILS OF INTERMEDIATE BENT NO. 3



6/3/2025

DATE PREPARED
06/02/2025

ROUTE
1-70

DISTRICT
BR

COUNTY
JACKSON

JOB NO.
J4I1486D

CONTRACT ID.
240807-C01

PROJECT NO.

BRIDGE NO.
A9625

DESCRIPTION
REV 0 - RFC SUBMITTAL

DATE
06/02/25

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6/3/2025

DATE PREPARED
06/02/2025

ROUTE
I-70

STATE
MO

DISTRICT
BR

SHEET NO.
B08-18

COUNTY
JACKSON

JOB NO.
J411486D

CONTRACT ID.
240807-C01

PROJECT NO.

BRIDGE NO.
A9625

DATE	DESCRIPTION
06/02/25	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

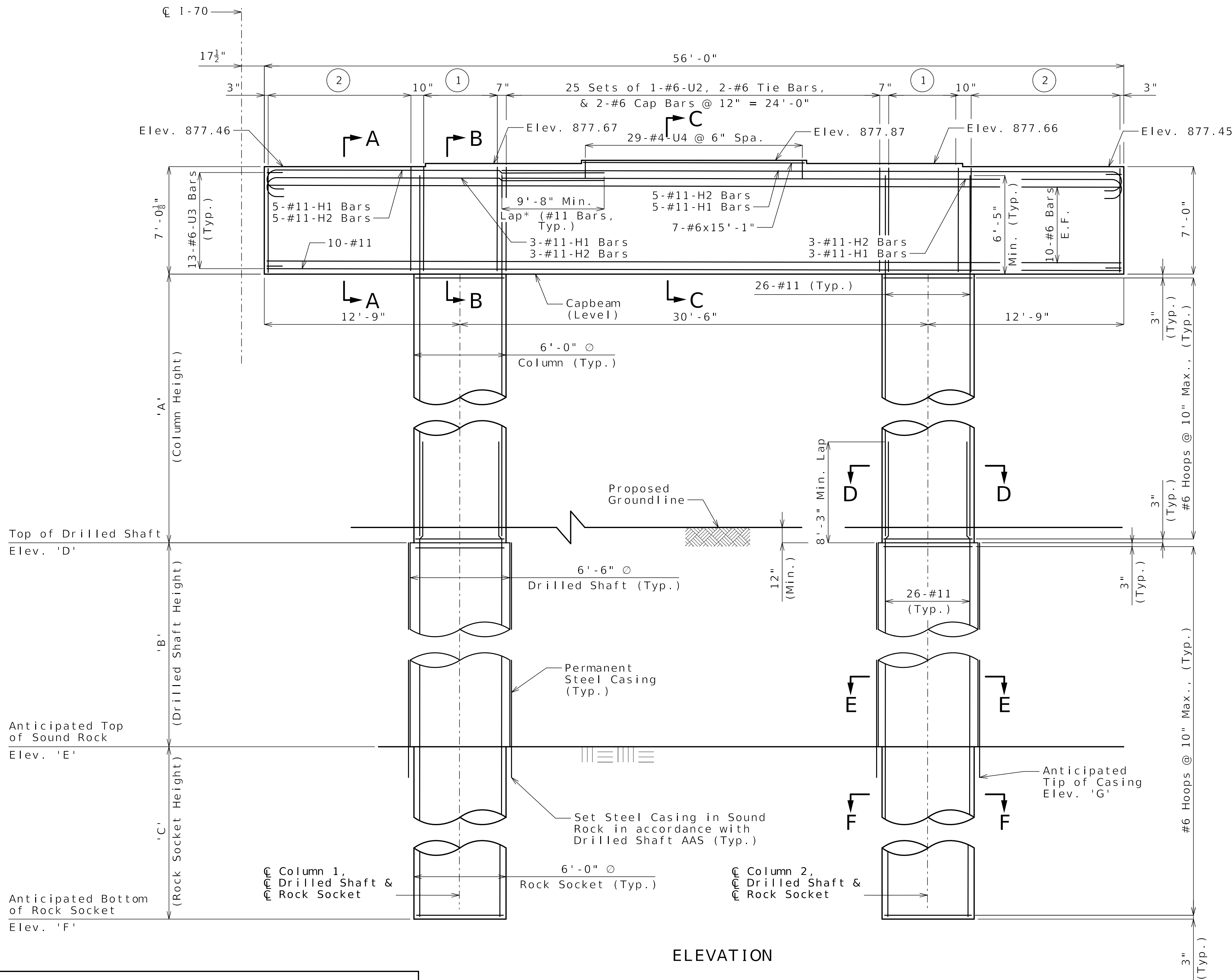
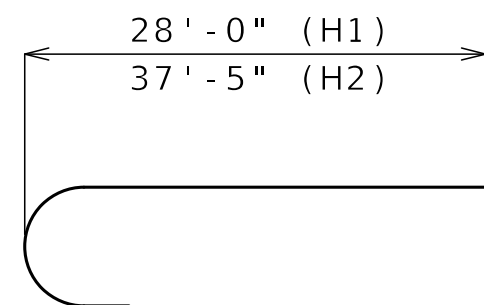
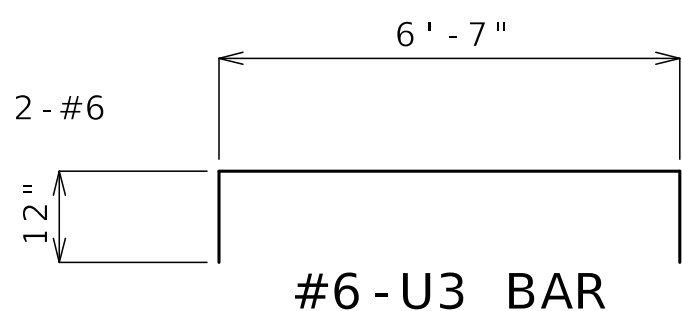


Table of Variables							
Column Number	"A"	"B"	"C"	"D"	"E"	"F"	"G"
1	25'-5 ³ / ₈ "	71'-0"	15'-0"	845.0	774.0	759.0	772.0
2	14'-5 ³ / ₈ "	82'-0"	15'-0"	856.0	774.0	759.0	772.0

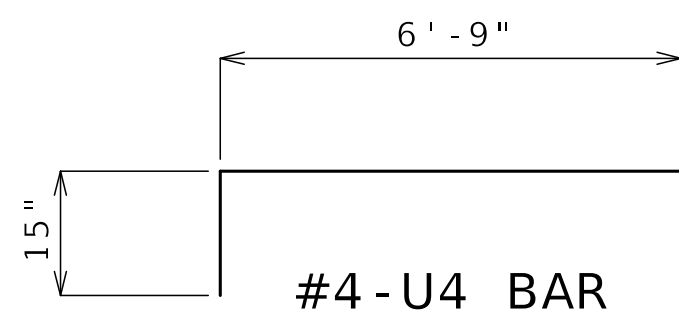


#11-H1 & #11-H2 BAR

- 1 5-#6-U1 @ Eq. Spa. = 5'-4"
- 2 10 Sets of 1-#6-U2, 2-#6 Tie Bars, & 2-#6 Cap Bars @ 12" Spa. = 9'-0"



#6-U3 BAR



#4-U4 BAR

Notes:

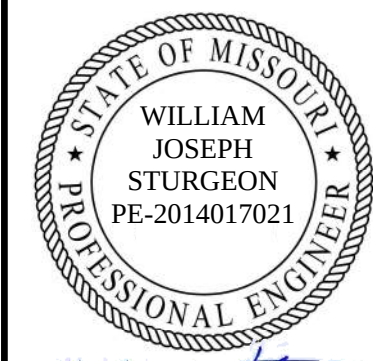
- * Alternate location of lap splices between adjacent bars about centerline of bent. Alternate lap splice location not shown.
- Prior to placing concrete for columns, position of vertical reinforcement shall be verified so as to provide clearance for capbeam reinforcement as applicable.
- Work this sheet with Sheets No. B08-19 and B08-20.
- For location of drilled shafts, see Sheet No. B08-06.
- For Sections A-A thru F-F, see Sheet No. B08-20.
- Top of cap between bearing seat pedestals is sloped down by 1" from C Bent to edge of cap. Top of cap elevation is at C Bent.
- For Optional Drilled Shaft Splice Detail and Rock Socket Over Excavation Detail, see Sheet No. B08-05.

DETAILS OF INTERMEDIATE BENT NO. 4

Detailed FEB 2025
Checked MAR 2025

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

Sheet No. B08-18 of B08-57



6/3/2025

DATE PREPARED
06/02/2025

ROUTE
1-70

STATE
MO

DISTRICT
BR

SHEET NO.
B08-19

COUNTY
JACKSON

JOB NO.
J411486D

CONTRACT ID.
240807-C01

PROJECT NO.

BRIDGE NO.
A9625

DESCRIPTION
REV 0 - RFC SUBMITTAL

DATE
06/02/25

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

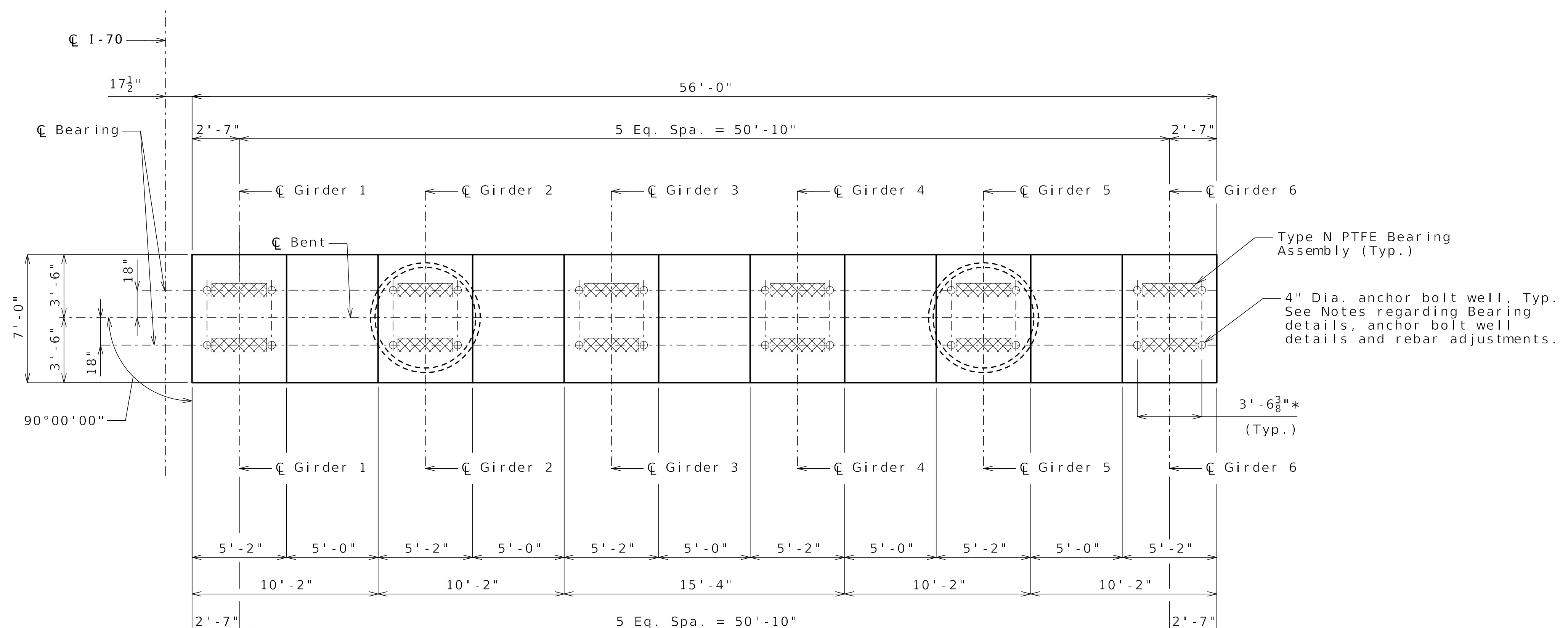
MoDOT

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

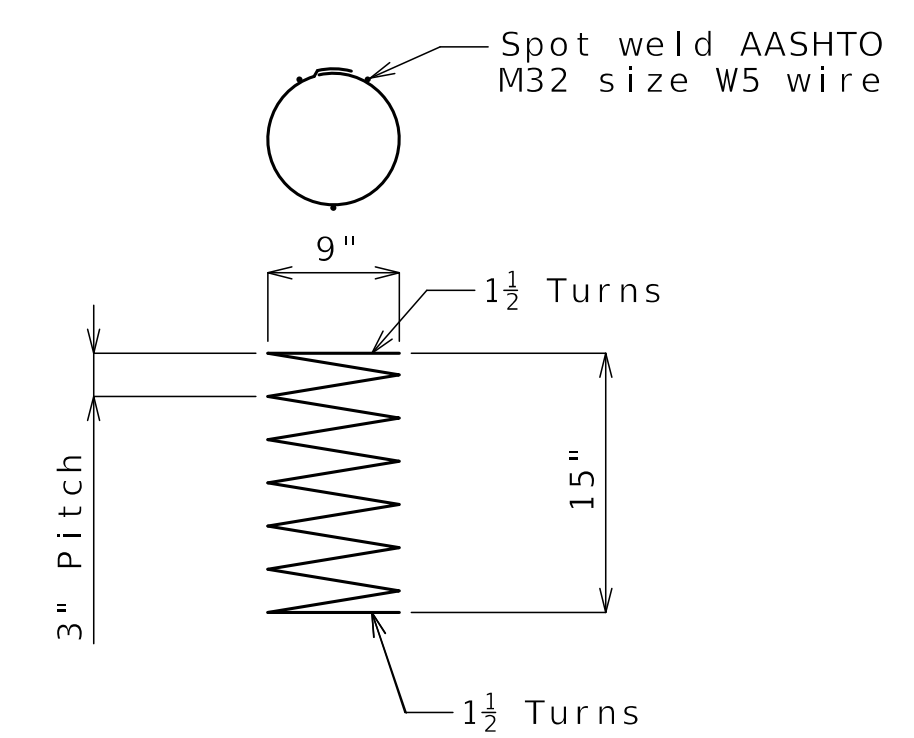
CLARKSON RADMACHER JOINT VENTURE

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

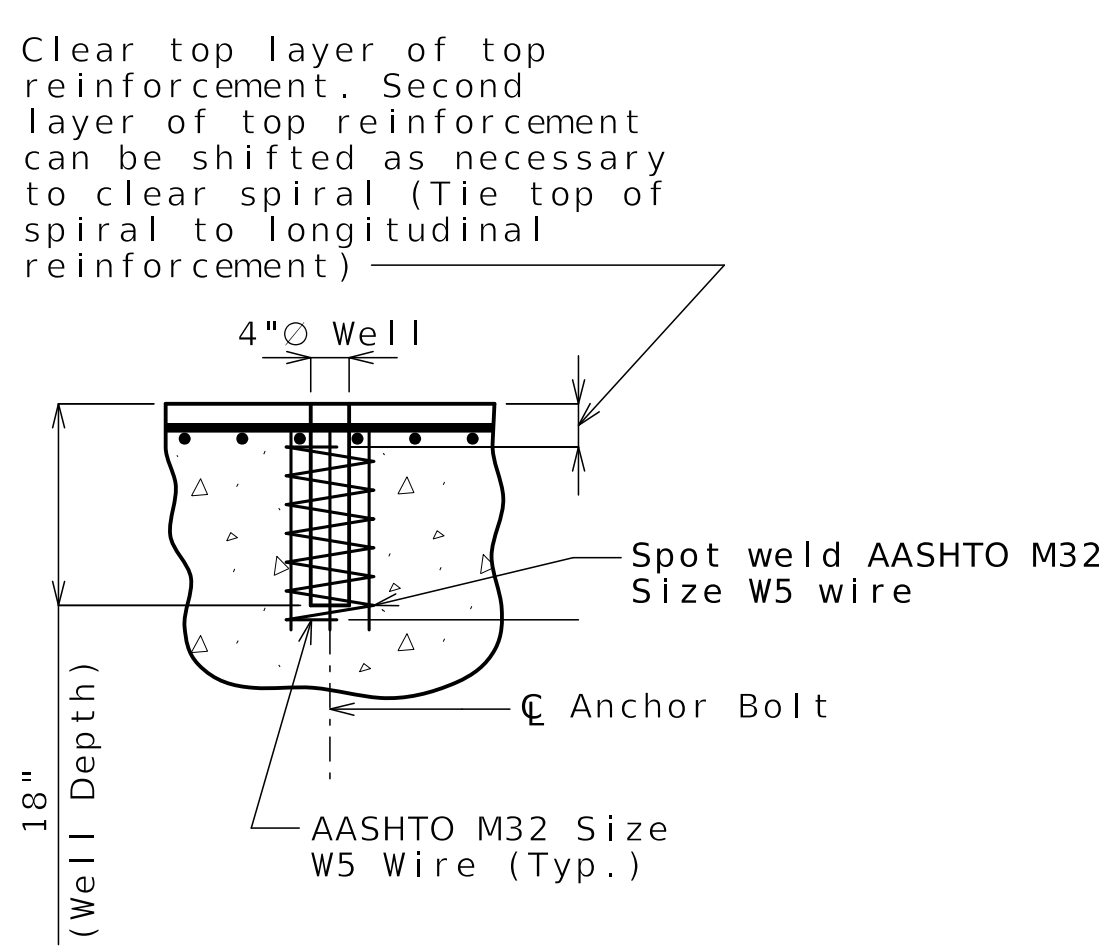
HNTB



PLAN OF CAPBEAM



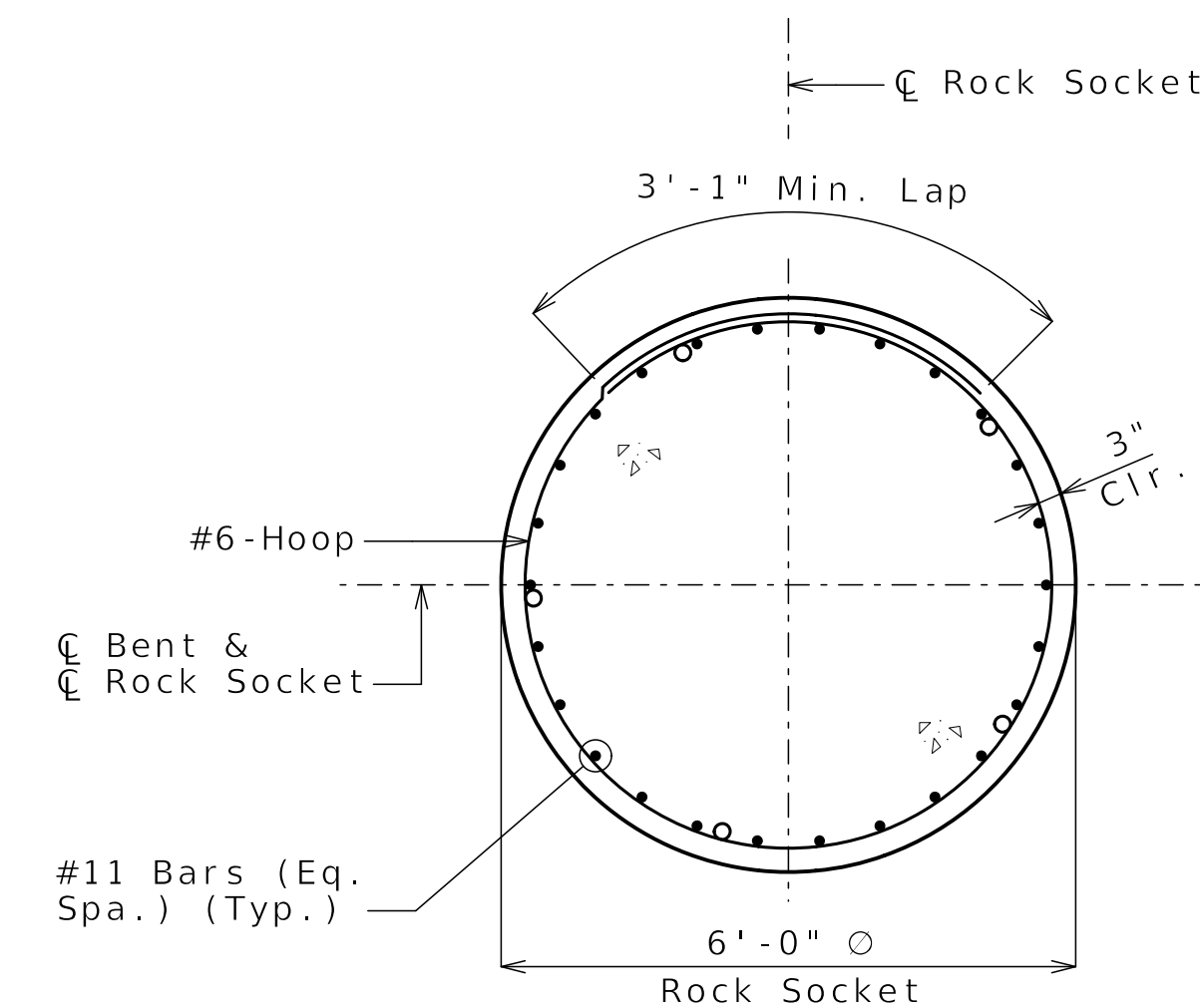
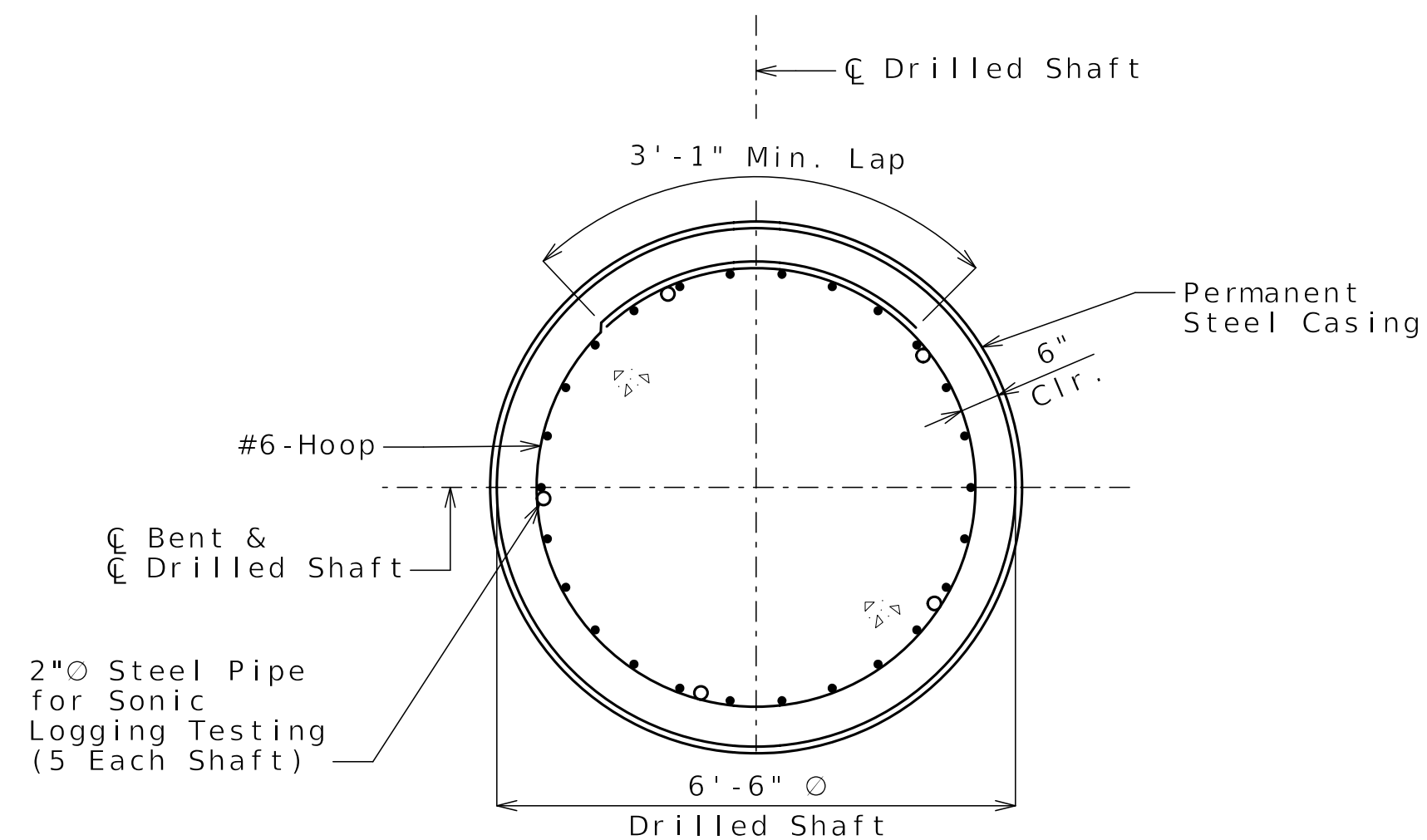
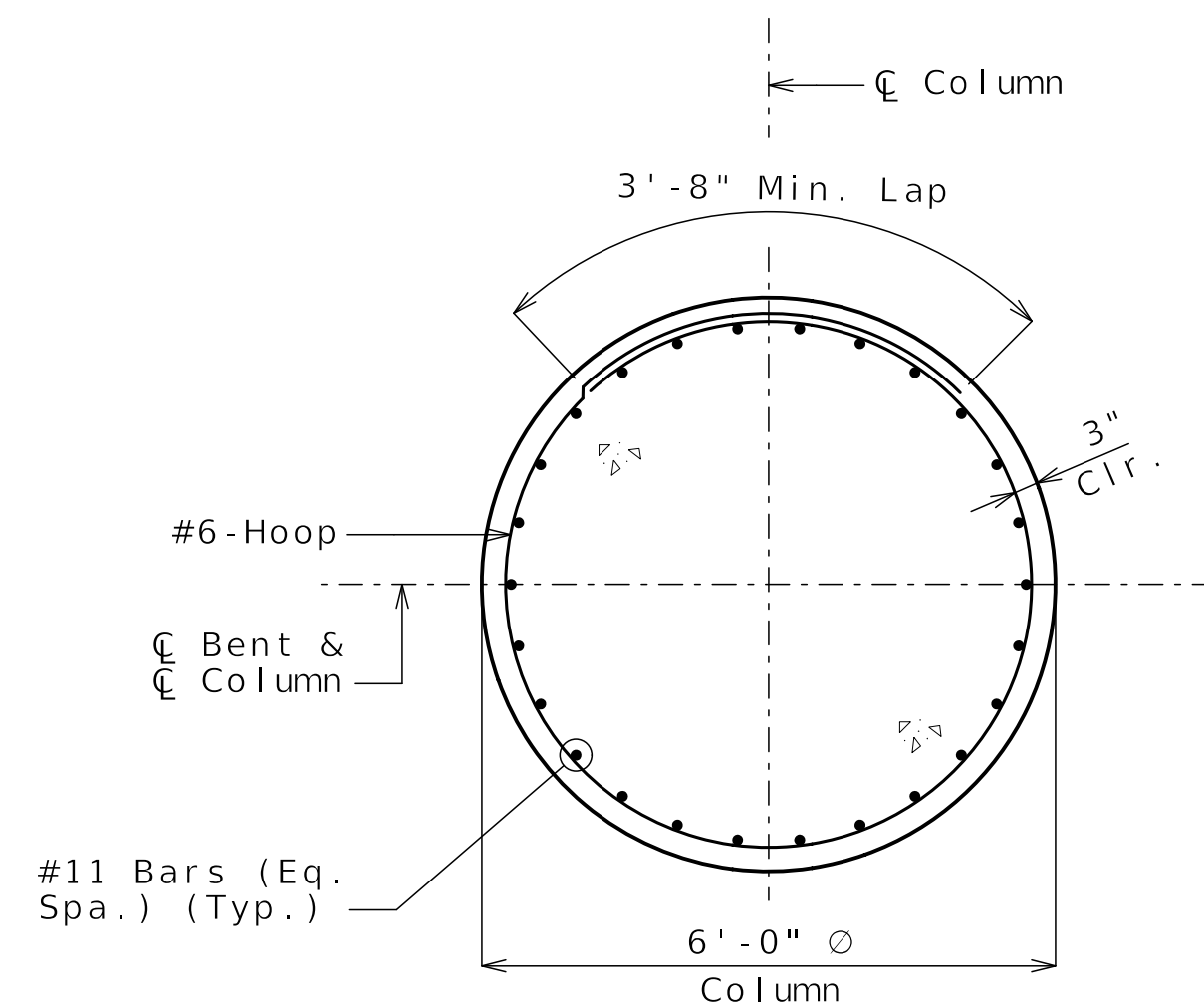
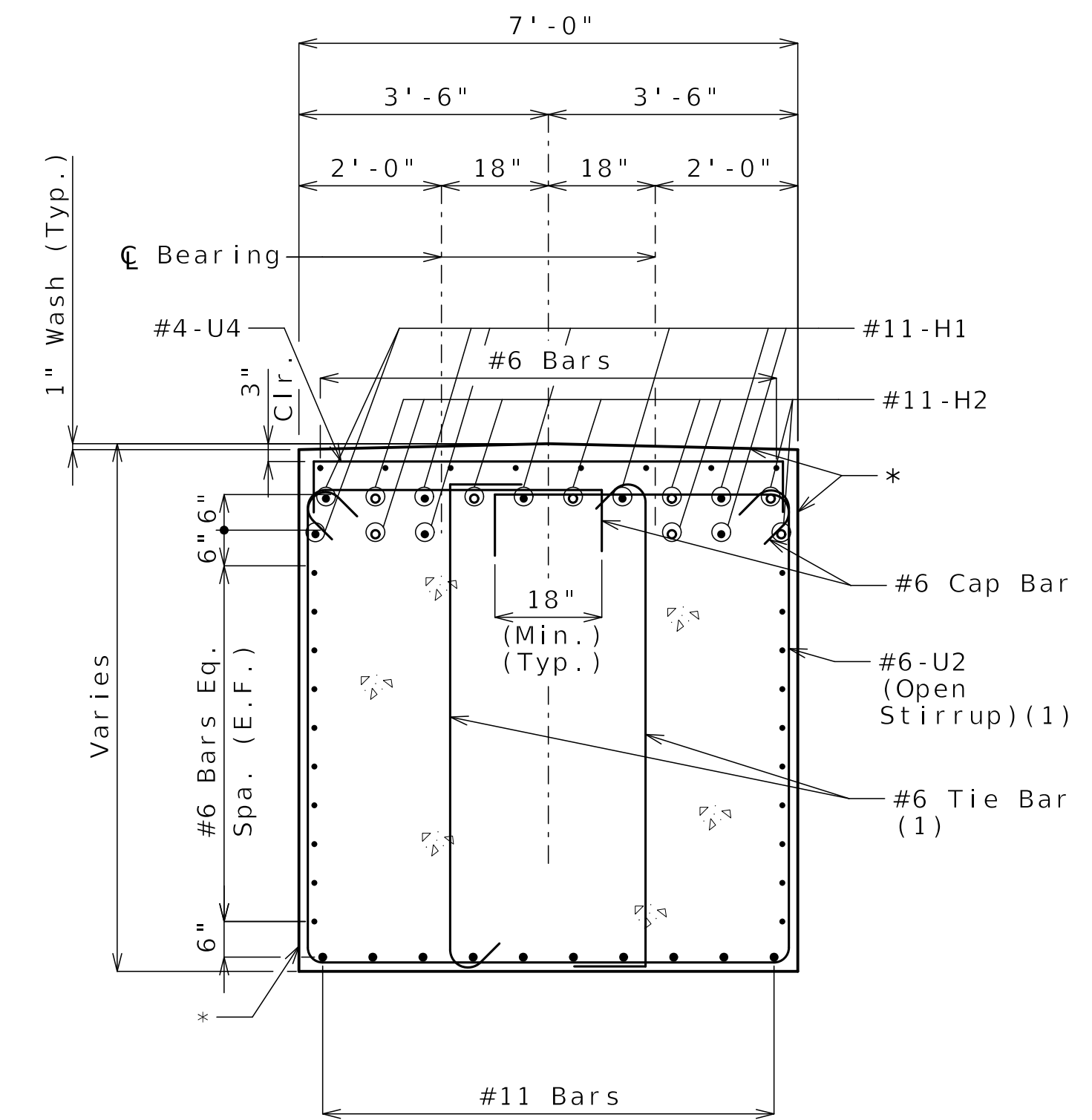
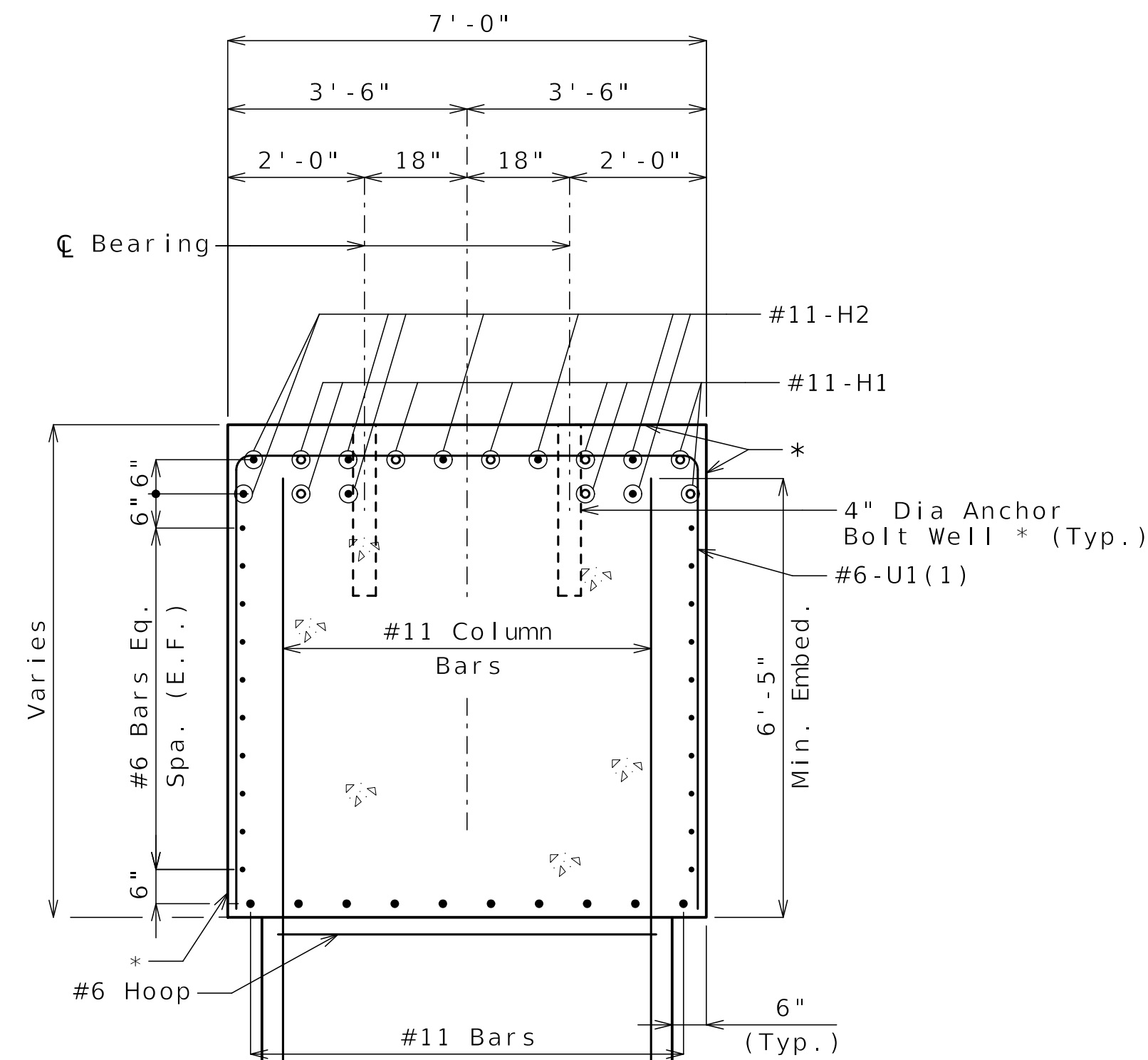
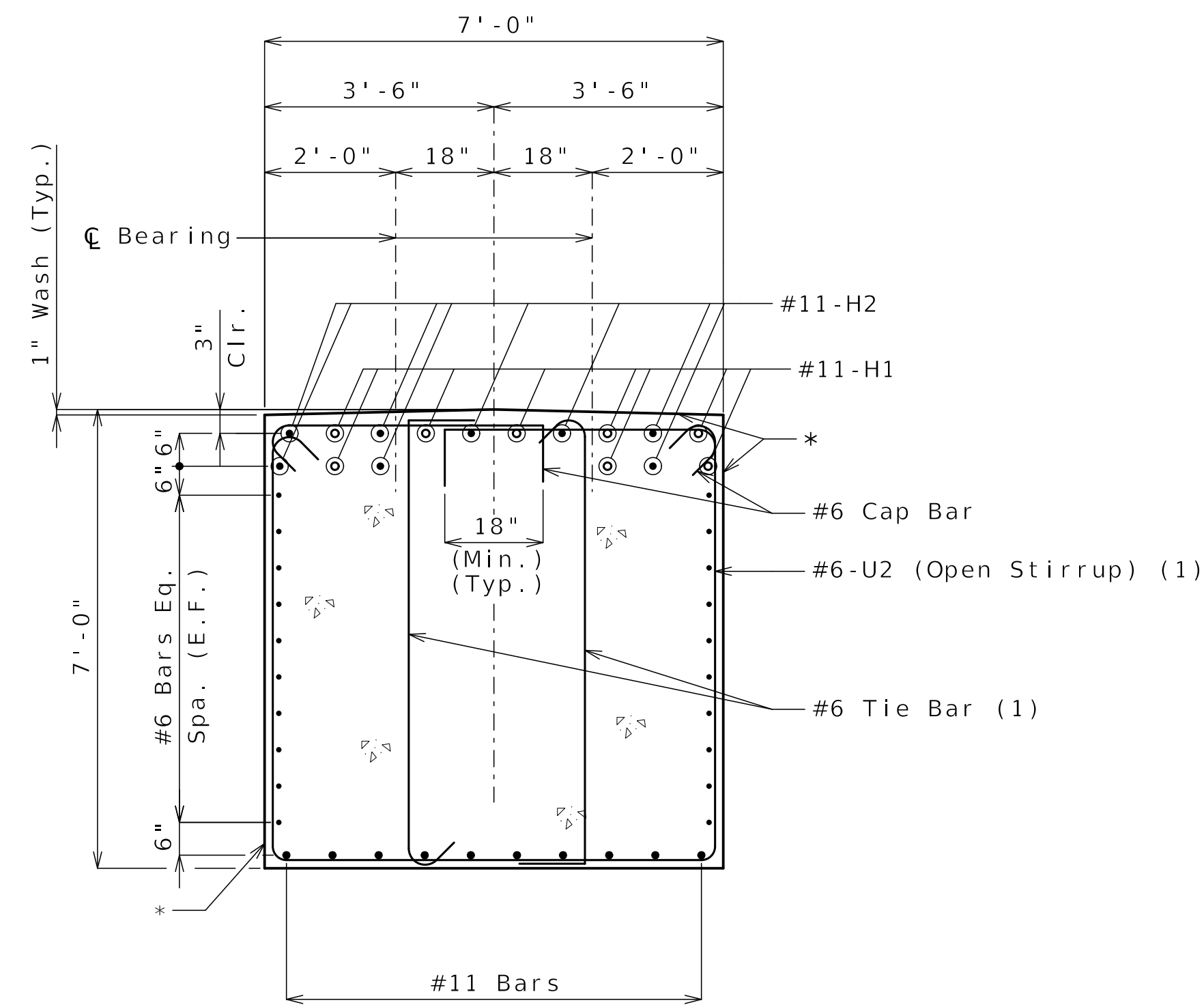
DETAIL OF SIZE W5 WIRE



DETAIL OF ANCHOR BOLT WELLS

Notes:
Work this sheet with Sheets No. B08-18 and B08-20.
For Details of Type N PTFE Bearings, see Sheet B08-36.
Anchor Bolt wells shall not be formed with galvanized corrugated steel pipe.
* Bearing pads and Anchor bolts are placed perpendicular to C Girder.
Reinforcing steel shall be shifted to clear anchor bolt wells by at least $\frac{1}{2}$ inch.
Girders are parallel to C I-70.

Released For Construction
Not to Scale
Revision: 0.0
Date: 06/09/2025
Package: BRD-08-EBKCTRR-Substructure



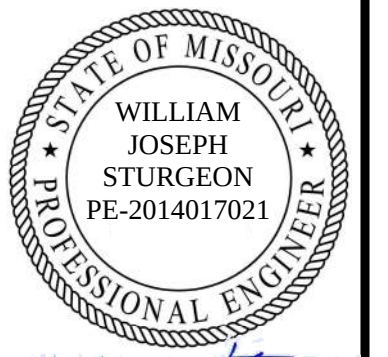
Notes:

Work this sheet with Sheets No. B08-18 and B08-19.
Hoop splices shall be staggered around the
drilled shaft and rock socket at 90 degree
intervals.

* Protective Coating - Concrete Bents and
Piers (Epoxy)(See Sec 711). Include in Anchor
Bolt Wells.

Released For Construction
Not to Scale

Revision: 0.0
Date: 06/09/2025
Package: BRD-08-EBKCTRR-Substructure



6/3/2025

DATE PREPARED

06/02/2025

ROUTE	STATE
1-70	MO

I - 70	MO
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DISTRICT	SHEET NO.
DD	BOB

BR	B08 -
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COUNTY
LACKSON

JACKSON

JOB NO.
141148CD

J411486D

CONTRACT ID.
240807 C01

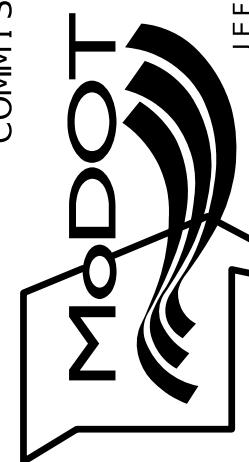
240807 - C01

PROJECT NO.

PROJECT NO.

BRIDGE NO.

A9625

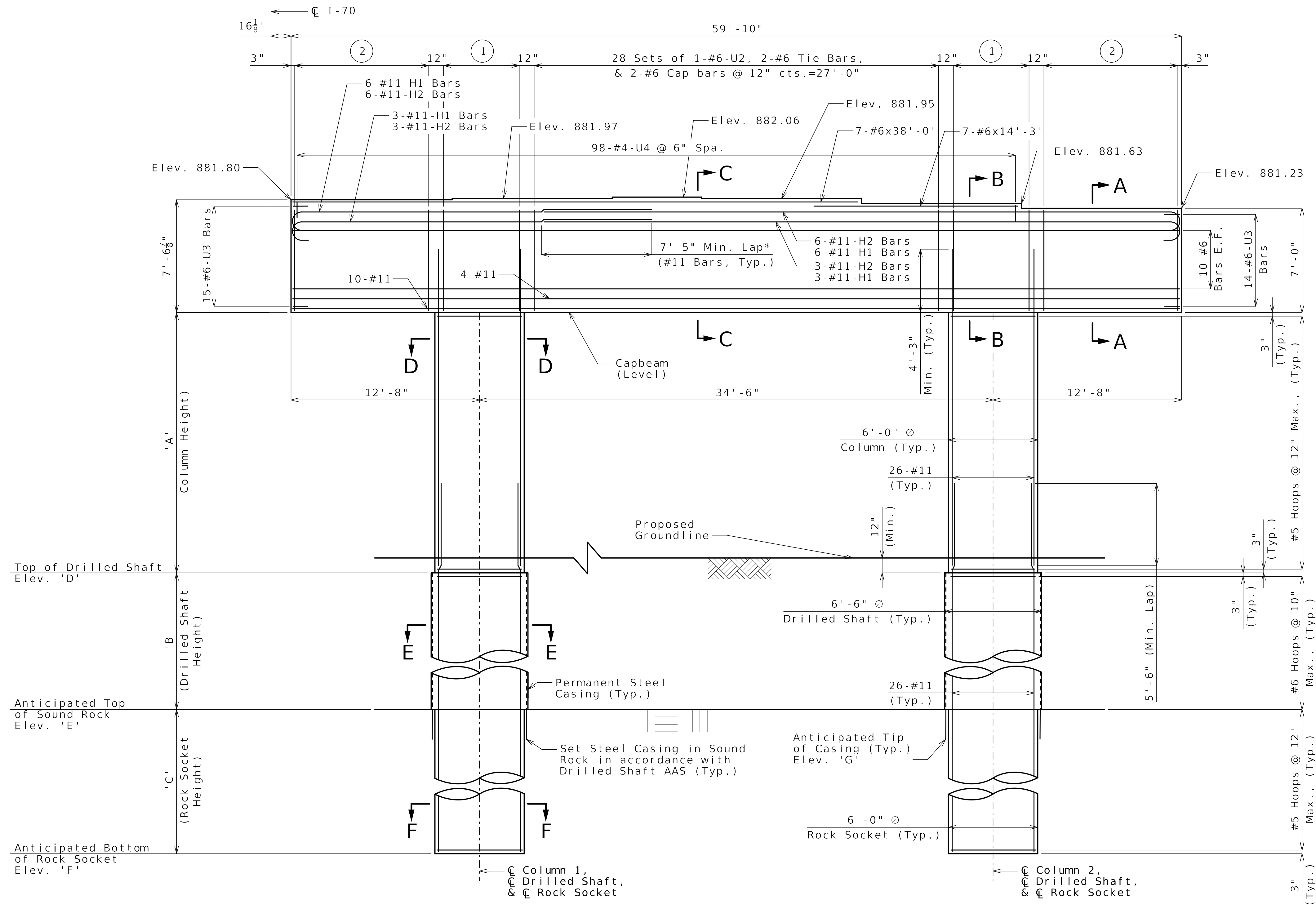
[illegible]MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

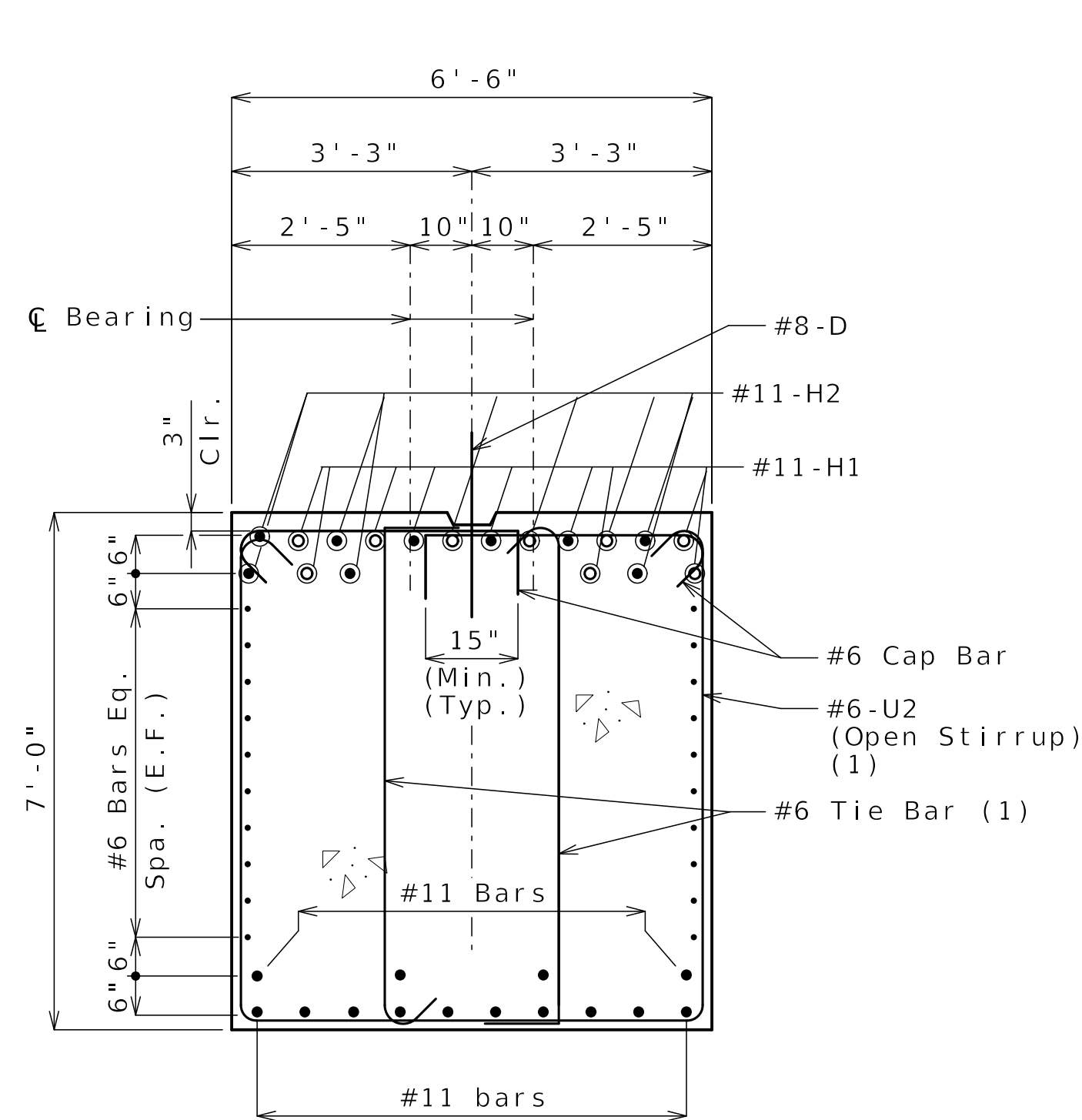
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

CLARKSON
RADMACHER
JOINT VENTURE

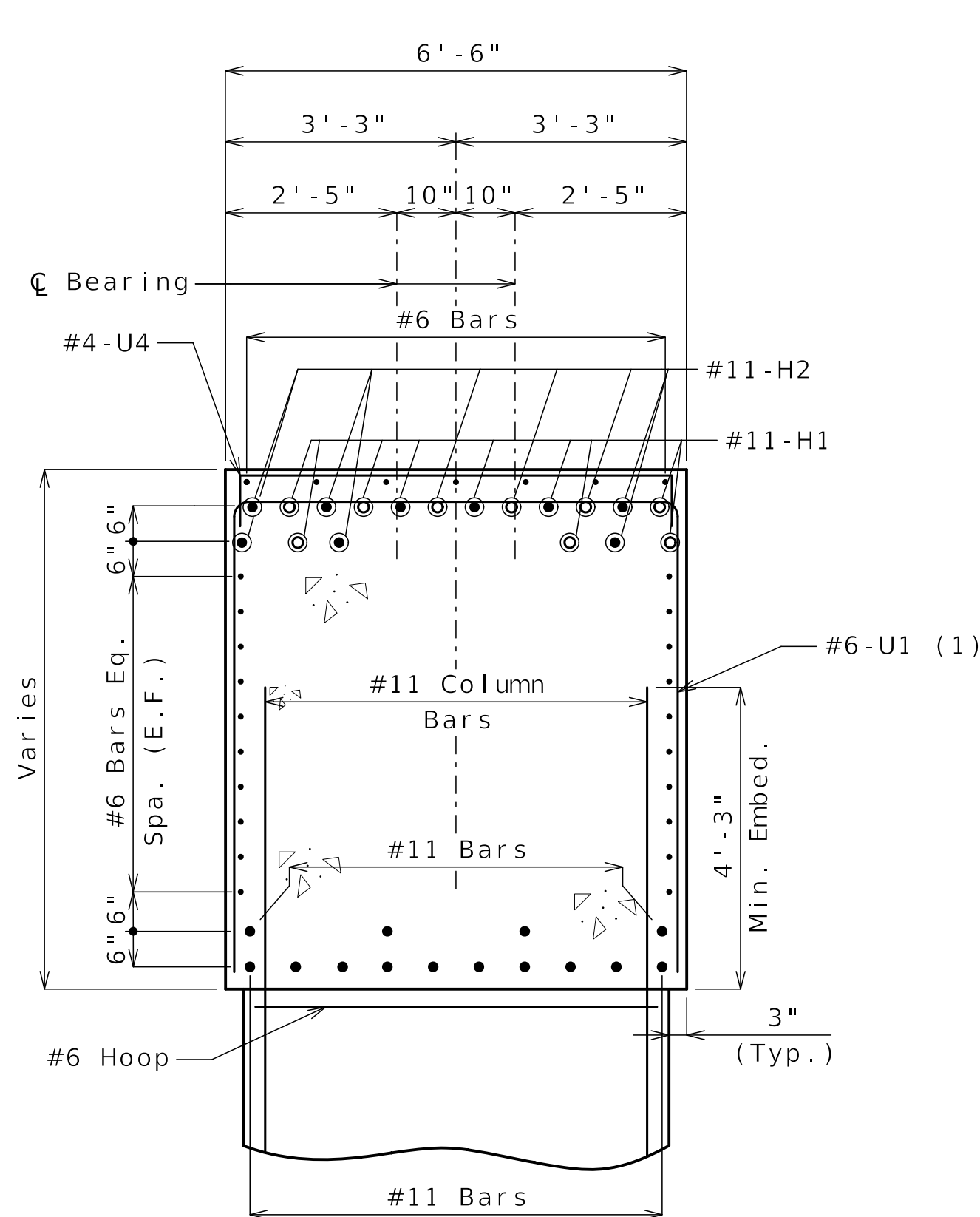
KANSAS CITY, MO 64105-1310
CERTIFICATE OF AUTHORITY
NO. 001270





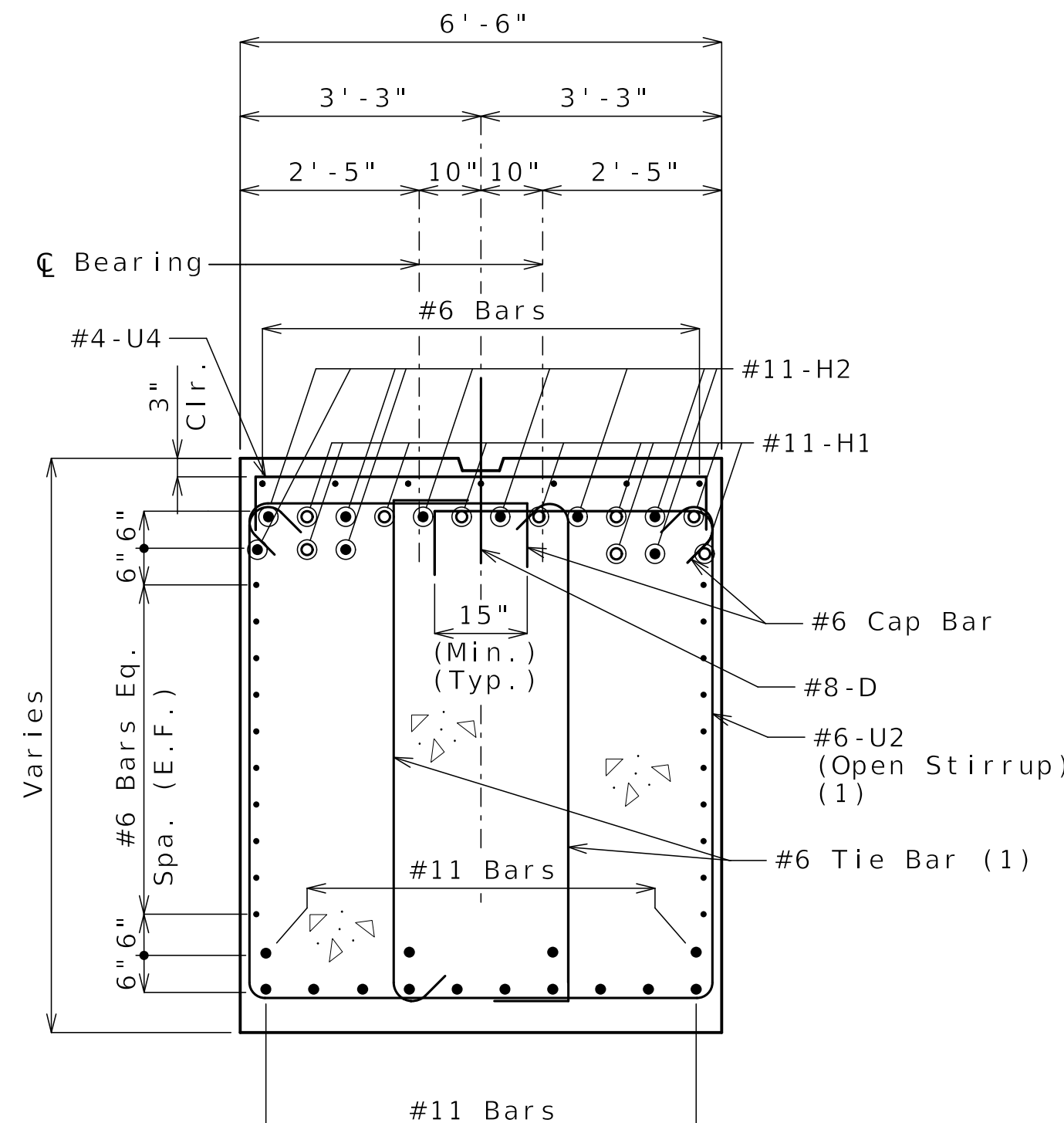


SECTION A-A

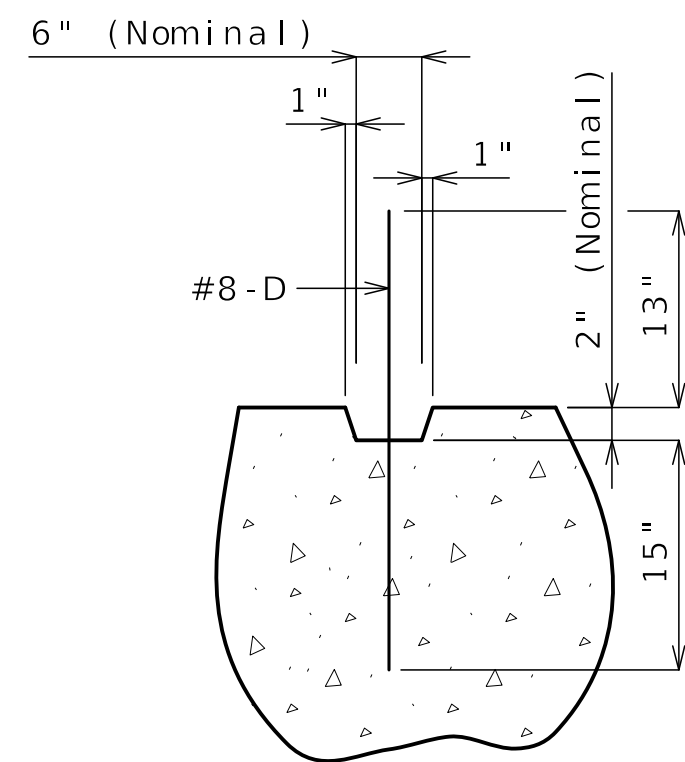


SECTION B-B

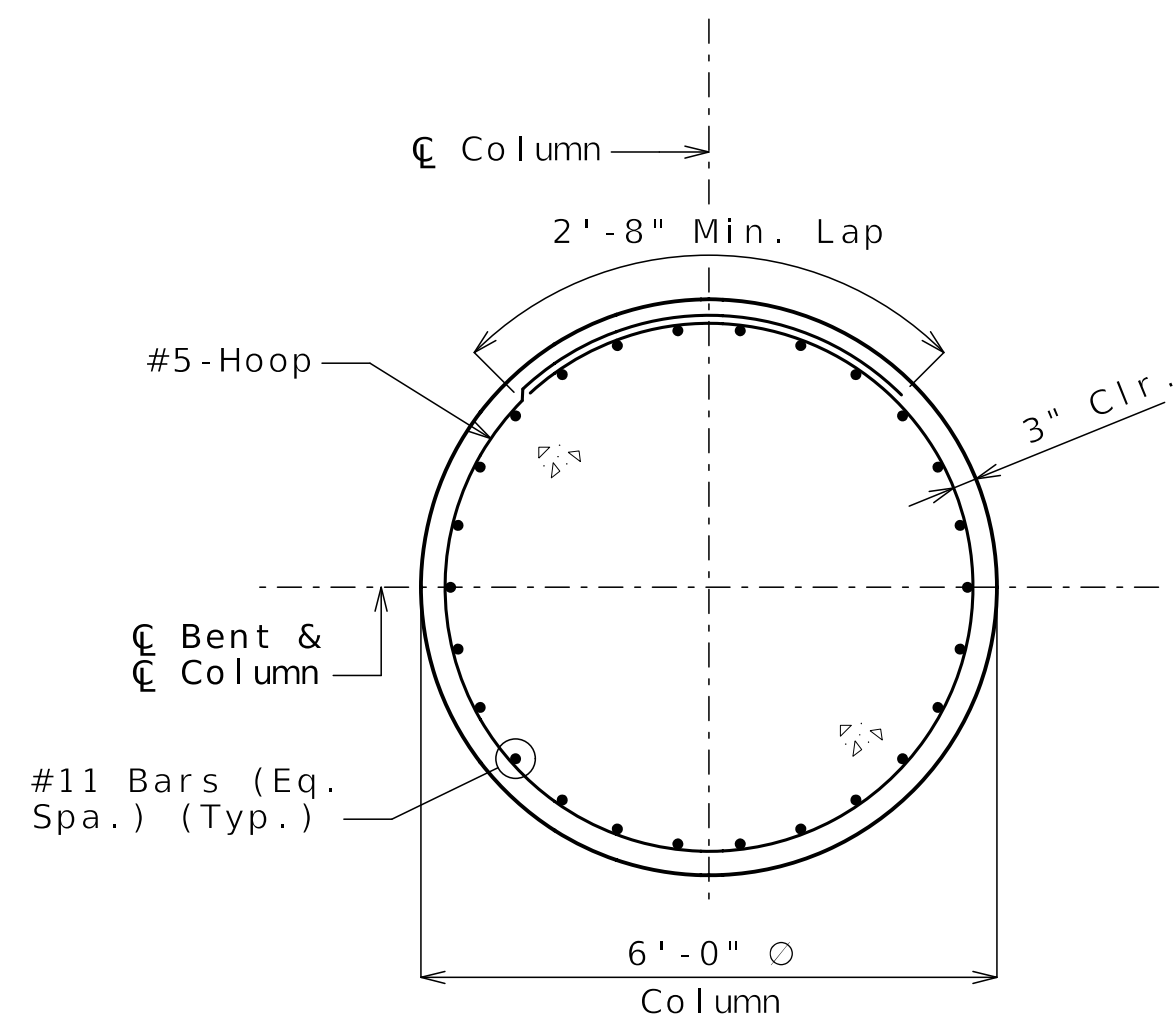
(1) U1, U2 and #6 Tie Bar vertical Leg = 6'-7½"



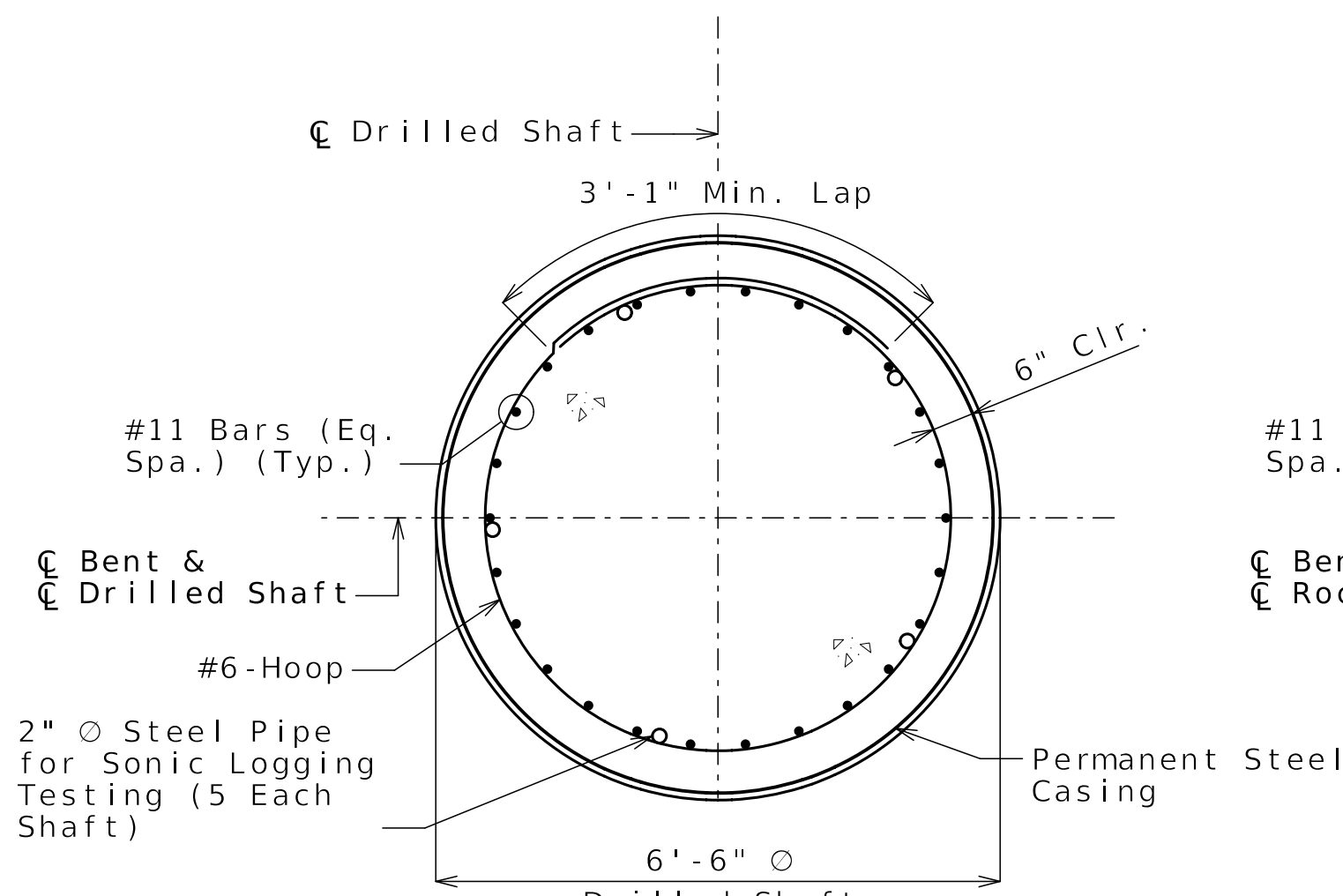
SECTION C-C



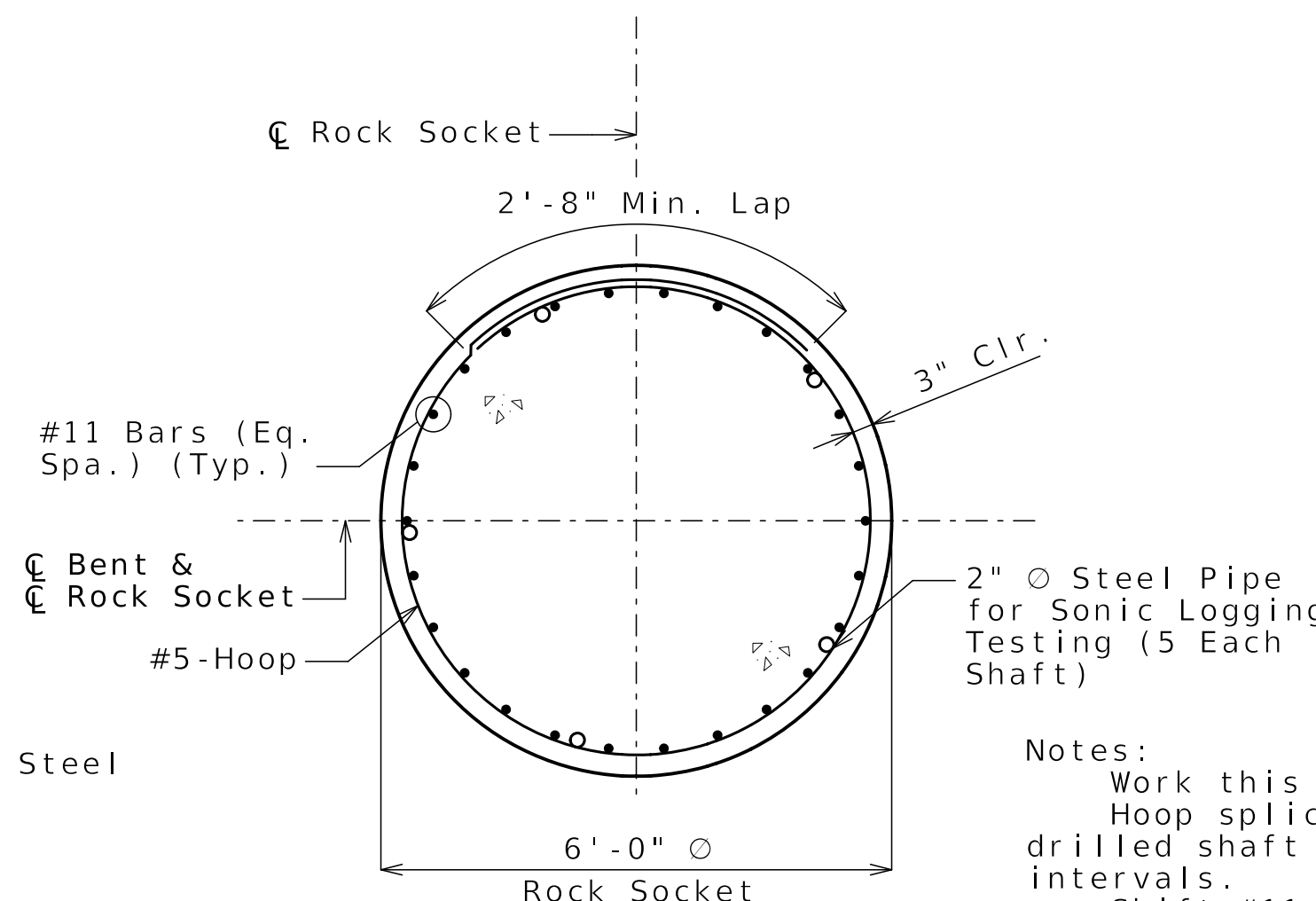
SECTION THRU KEY



SECTION D-D



SECTION E-E



SECTION F-F

Notes:
Work this sheet with Sheets No. B08-21 and B08-22.
Hoop splices shall be staggered around the drilled shaft and rock socket at 90 degree intervals.
Shift #11-H1 and #11-H2 bars to provide clearance for girder chairs. Maintain a minimum spacing of 5½" and maximum spacing of 12" between adjacent bars.

Released For Construction
Not to Scale
Revision: 0.0
Date: 06/09/2025
Package: BRD-08-EBKCTRR-Substructure



6/3/2025

DATE PREPARED
06/02/2025

ROUTE
1-70

DISTRICT
BR

COUNTY
JACKSON

JOB NO.
J4I1486D

CONTRACT ID.
240807-C01

PROJECT NO.

BRIDGE NO.
A9625

DESCRIPTION

REV 0 - RFC SUBMITTAL

DATE

06/02/25

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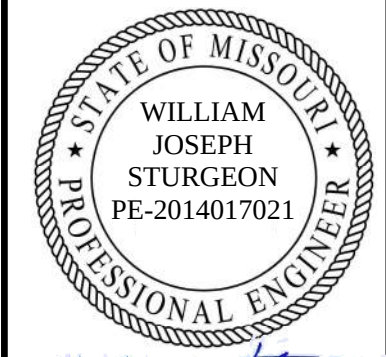
06/02/25

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6/3/2025

DATE PREPARED
06/02/2025

ROUTE 1-70 STATE MO
DISTRICT BR SHEET NO. B08-24

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

BRIDGE NO. A9625

DESCRIPTION	DATE
REV 0 - RFC SUBMITTAL	06/02/25

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

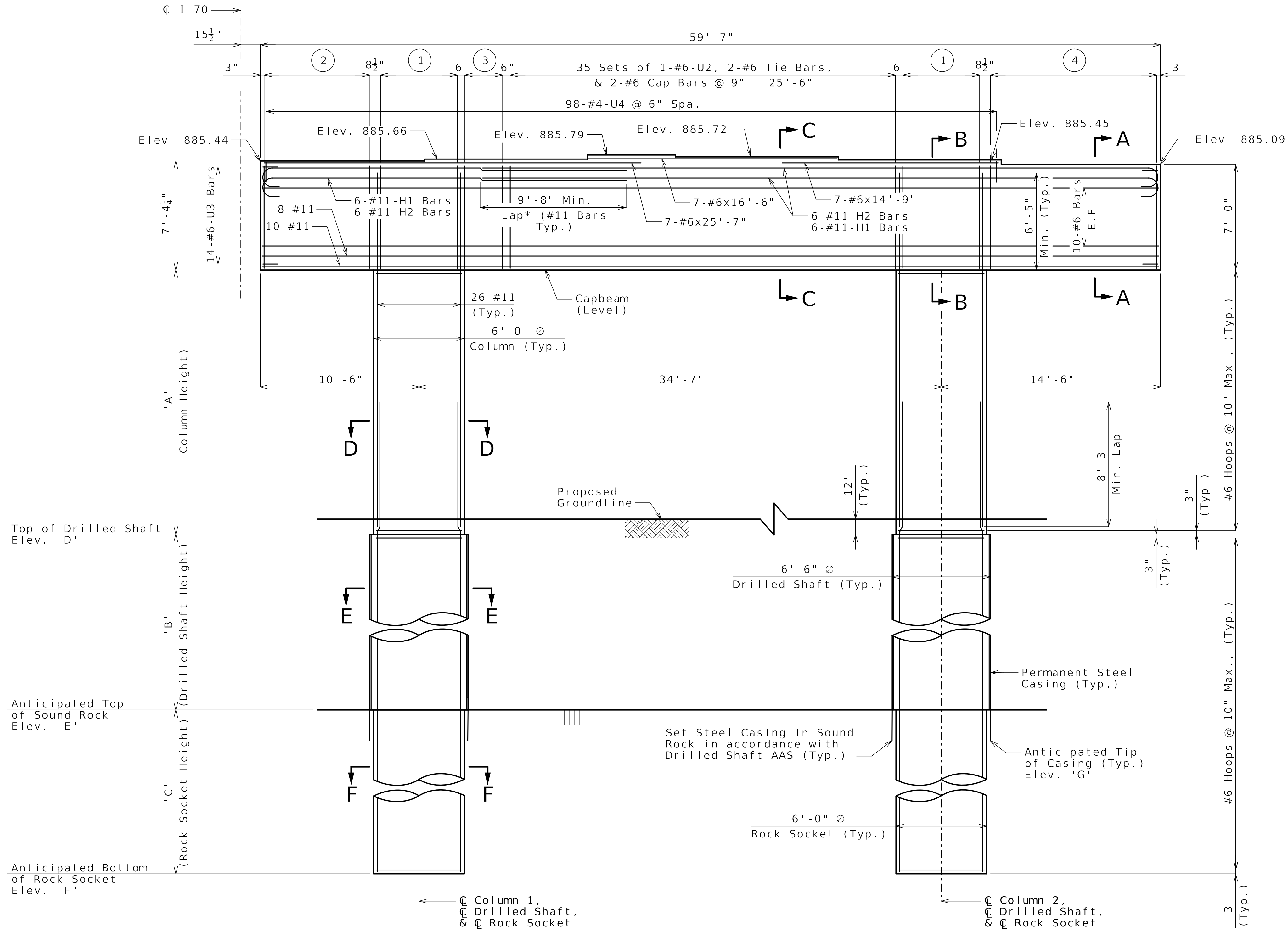


Table of Variables

Column Number	"A"	"B"	"C"	"D"	"E"	"F"	"G"
1	23'-11 ¹ / ₈ "	54'-0"	15'-0"	855.0	801.0	786.0	799.0
2	19'-11 ¹ / ₈ "	58'-0"	15'-0"	859.0	801.0	786.0	799.0

#11-H1 & #11-H2 BAR

- 5-#6-U1 @ Eq. Spa. = 5'-1"
- 8 Sets of 1-#6-U2, 2-#6 Tie Bars, & 2-#6 Cap Bars @ 12" = 7'-0"
- 6 Sets of 1-#6-U2, 2-#6 Tie Bars, & 2-#6 Cap Bars @ 6" = 2'-6"
- 12 Sets of 1-#6-U2, 2-#6 Tie Bars, & 2-#6 Cap Bars @ 9" = 11'-0"

#6-U3 BAR

#4-U4 BAR

ELEVATION

(Girder chairs and beam keys not shown for clarity)

Released For Construction
Not to Scale
Revision: 0.0
Date: 06/09/2025
Package: BRD-08-EBKCTRR-Substructure

Notes:
* Alternate location of lap splices between adjacent bars about centerline of bent. Alternate lap splice location not shown.
Prior to placing concrete for columns, position of vertical reinforcement shall be verified so as to provide clearance for capbeam reinforcement as applicable.
Work this sheet with Sheets No. B08-25 and B08-26.
For location of drilled shafts, see Sheet No. B08-07.
For Sections A-A thru F-F, see Sheet No. B08-26.
For Optional Drill Shaft Splice Detail and Rock Socket Over Excavation Detail, see Sheet No. B08-05.

DETAILS OF INTERMEDIATE BENT NO. 6

Detailed FEB 2025
Checked MAR 2025

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

Sheet No. B08-24 of B08-57

DATE PREPARED
06/02/2025

DISTRICT BR	SHEET NO. B08-25
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J4I1486D

CONTRACT ID:	240807-C01
PROJECT NO.	

BRIDGE NO.

A9625						

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MISSOURI HIGHWAY DEPARTMENT
COMMISSION

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

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



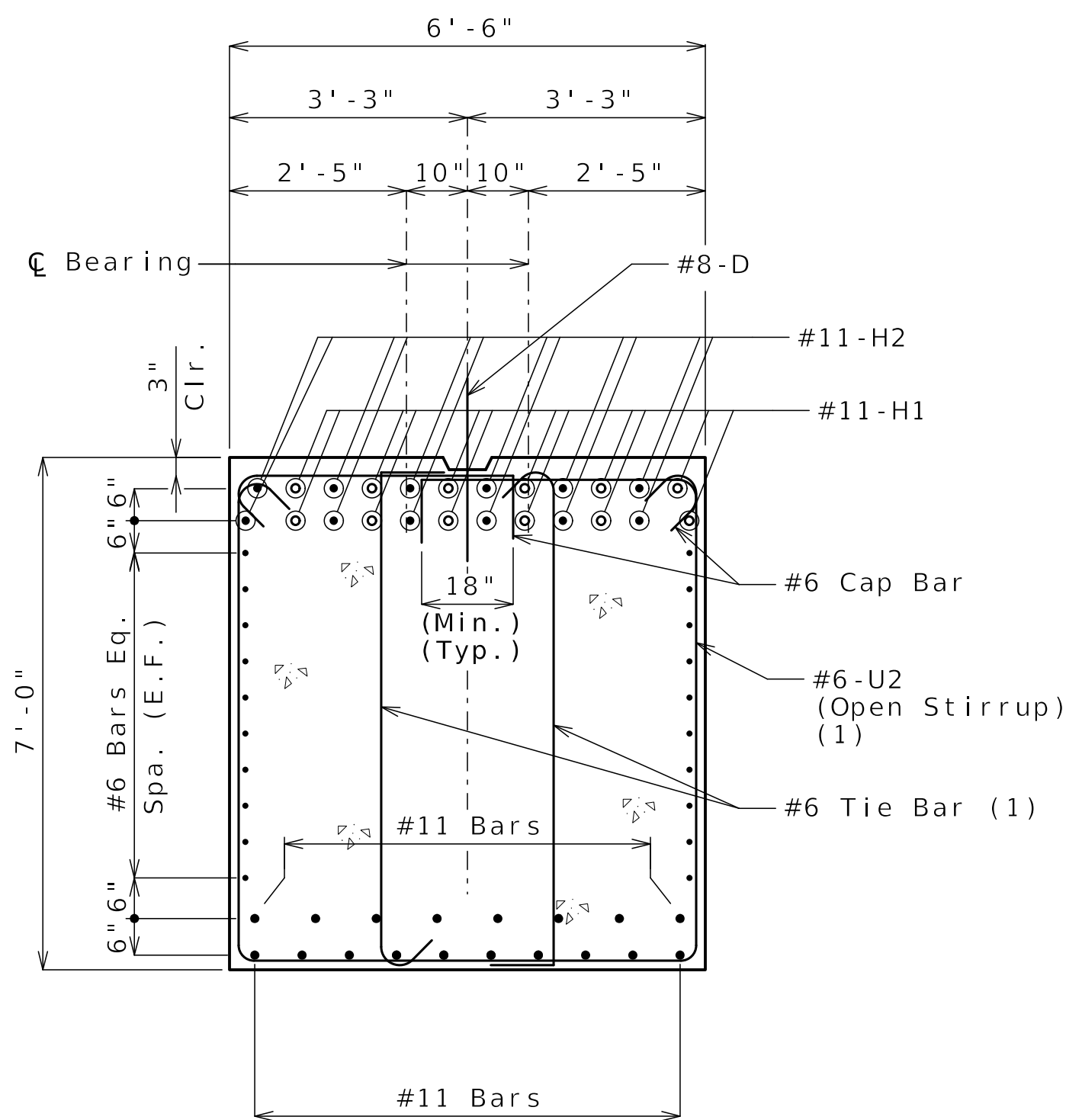
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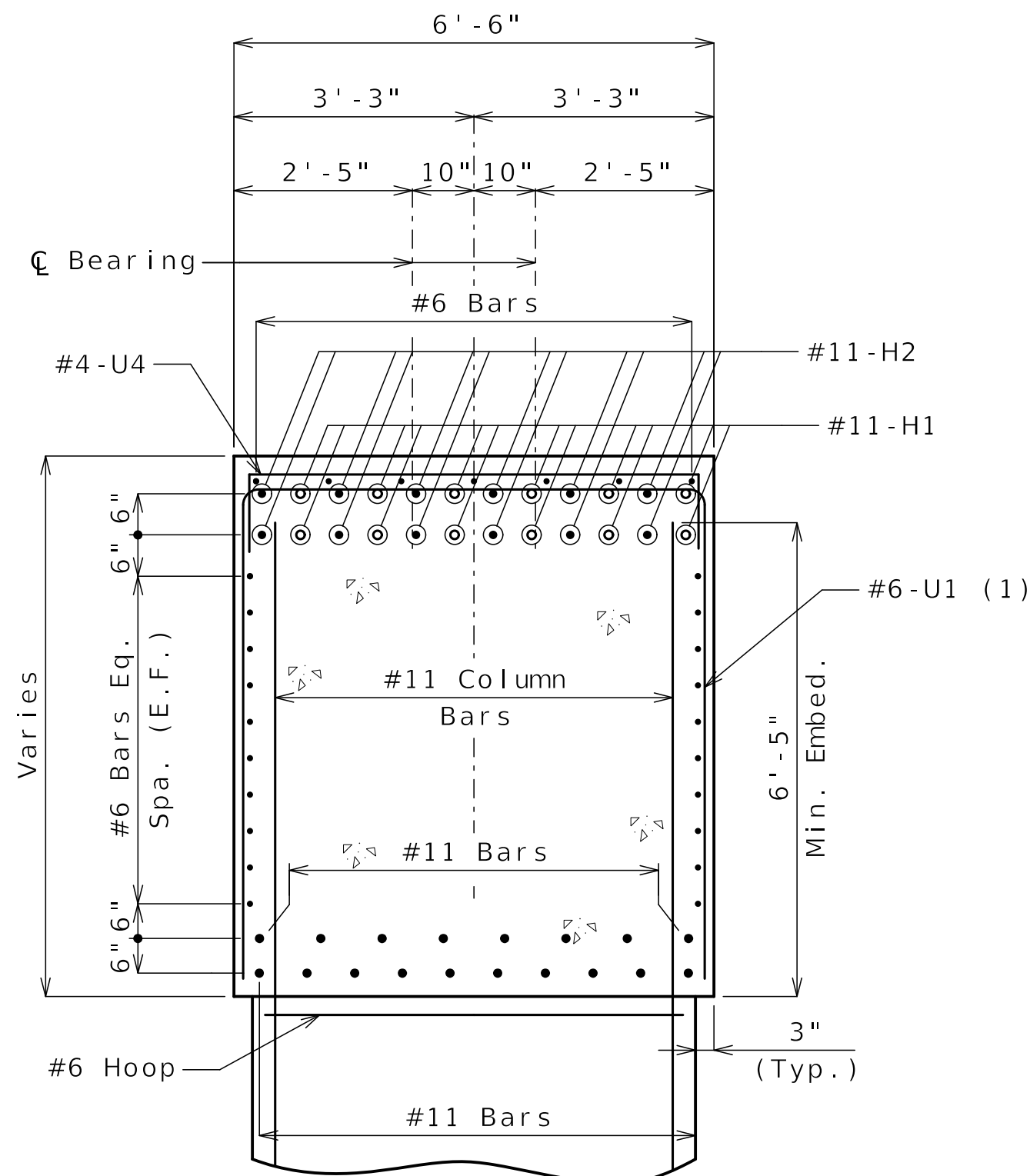
Released For Construction
Not to Scale

Revision: 0.0
Date: 06/09/2025
Package: BRD-08-EBKCTRR-Substructure

DETAILS OF INTERMEDIATE BENT NO. 6

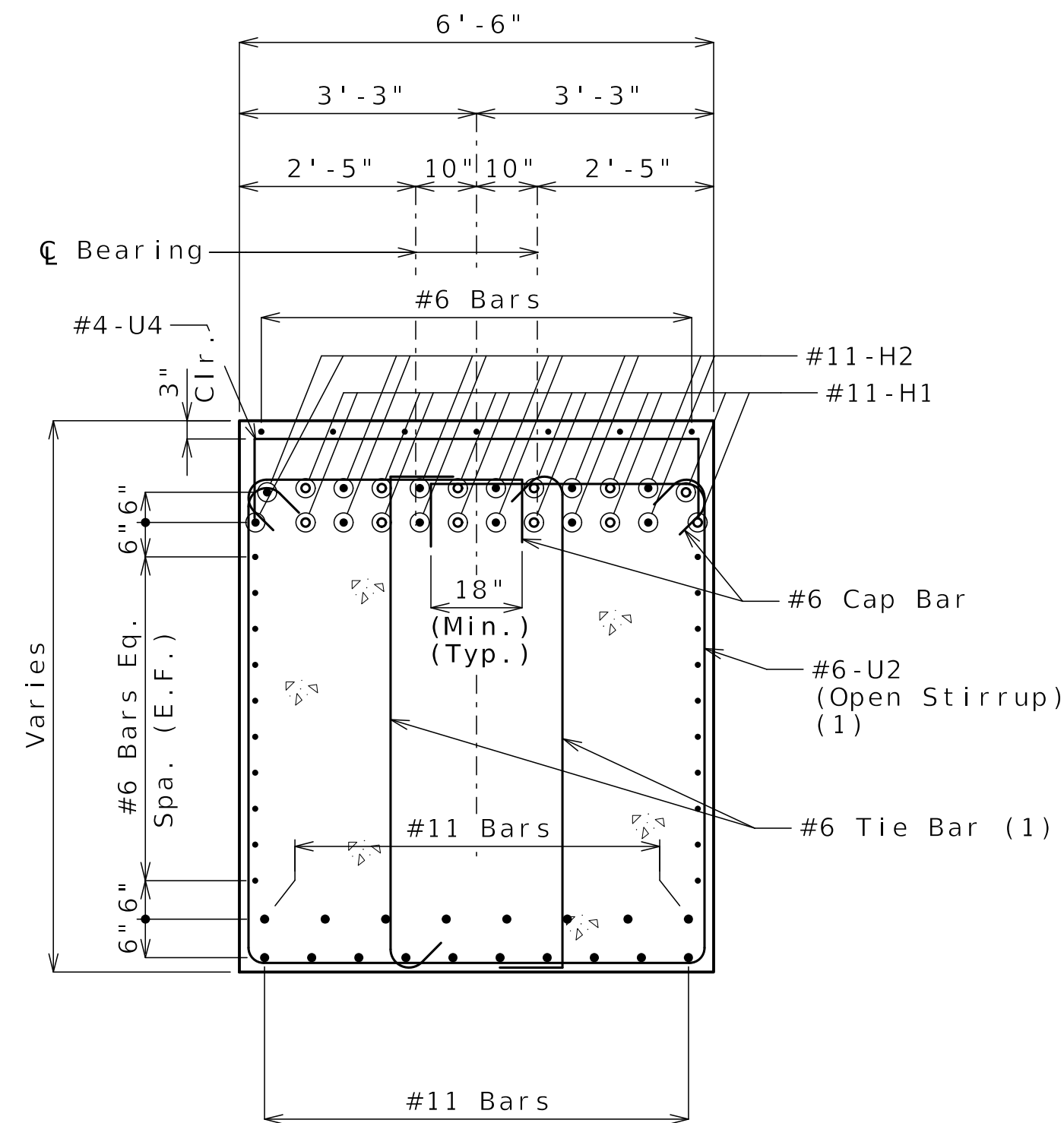


SECTION A-A

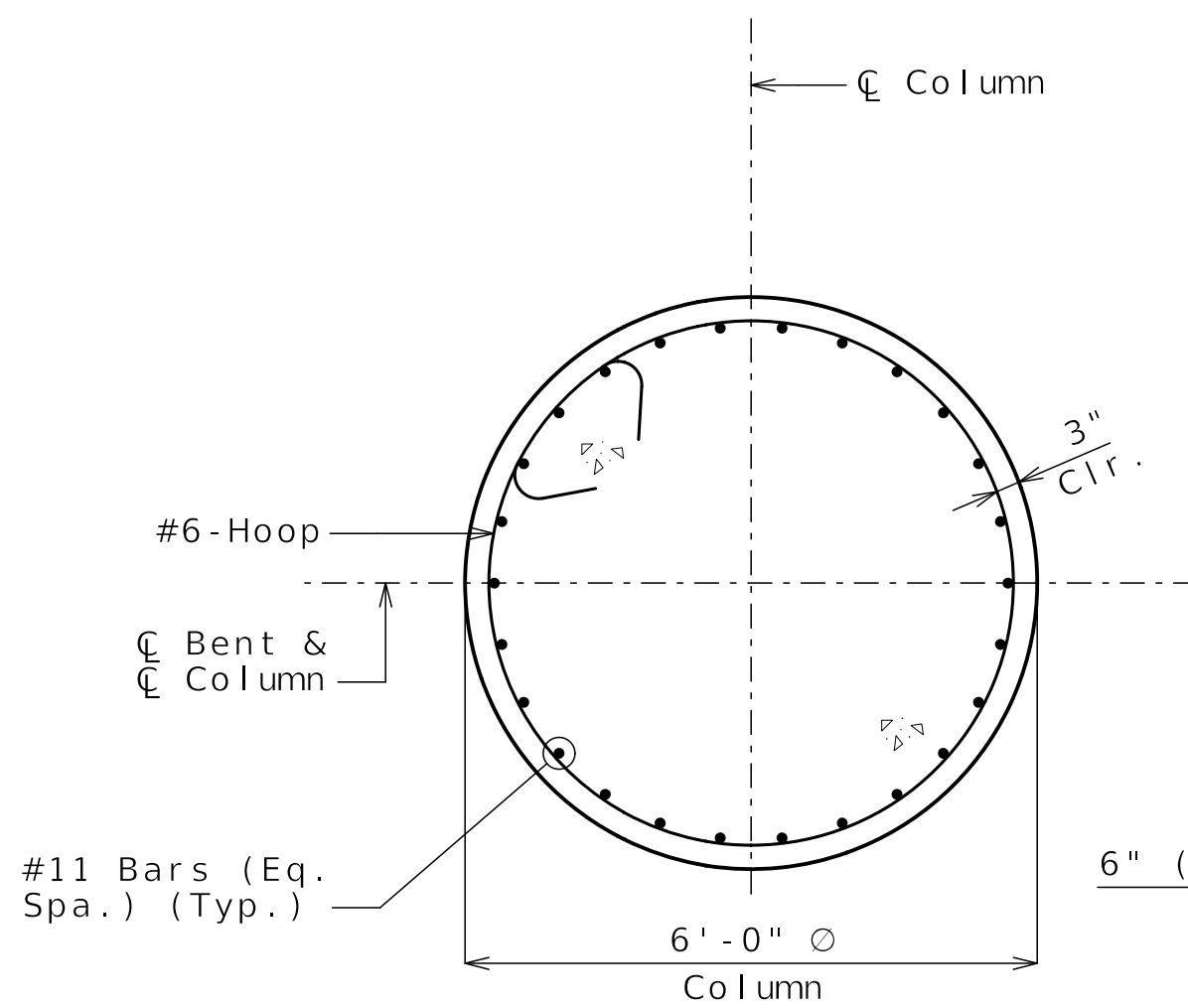


SECTION B-B

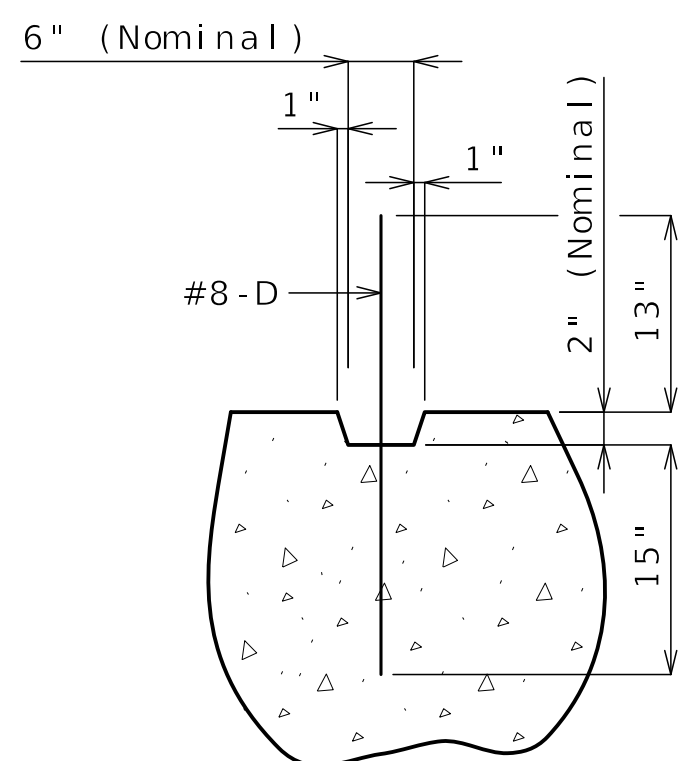
(1) U1, U2 and #6 Tie Bar vertical Leg = 6'-7½"



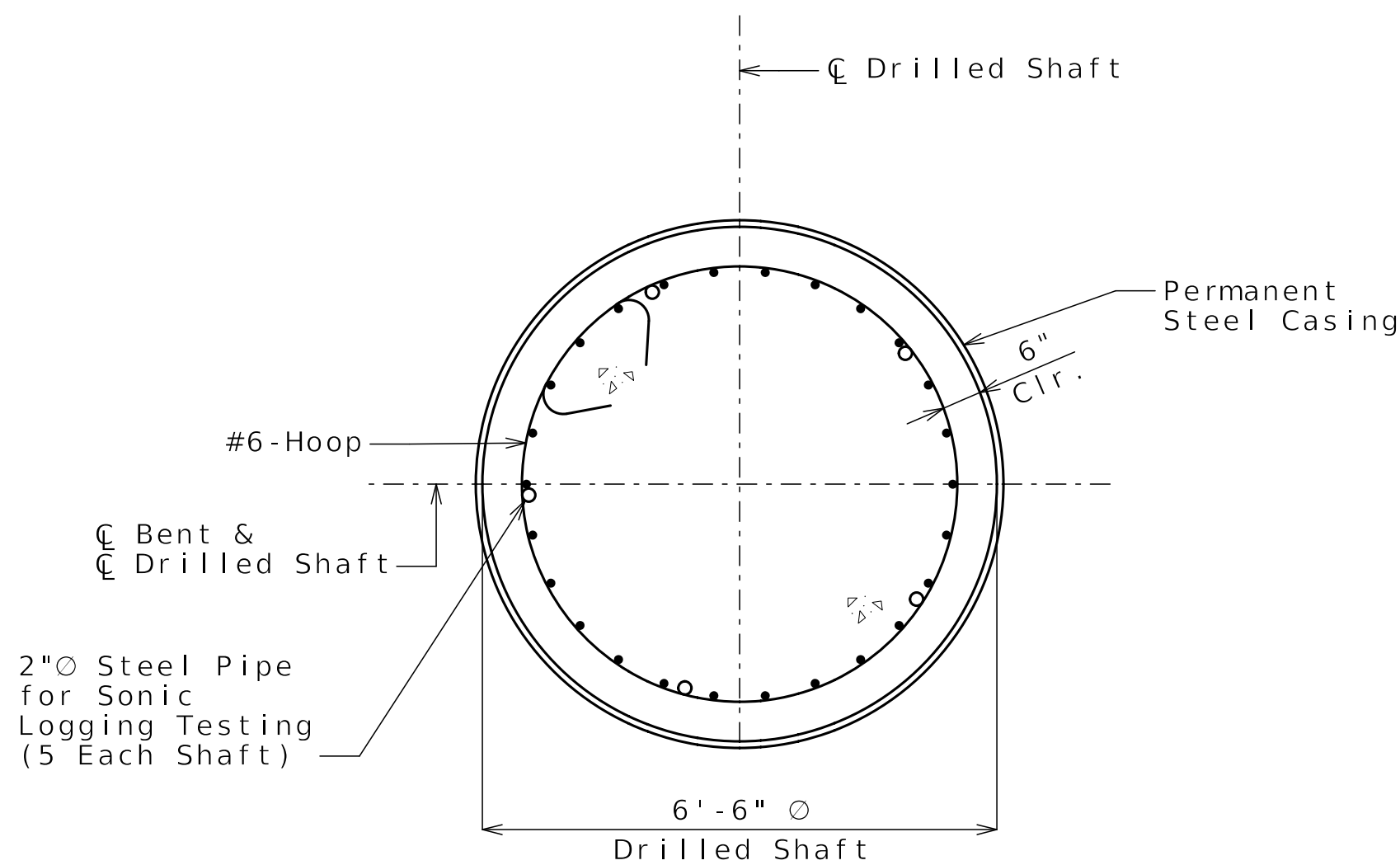
SECTION C-C



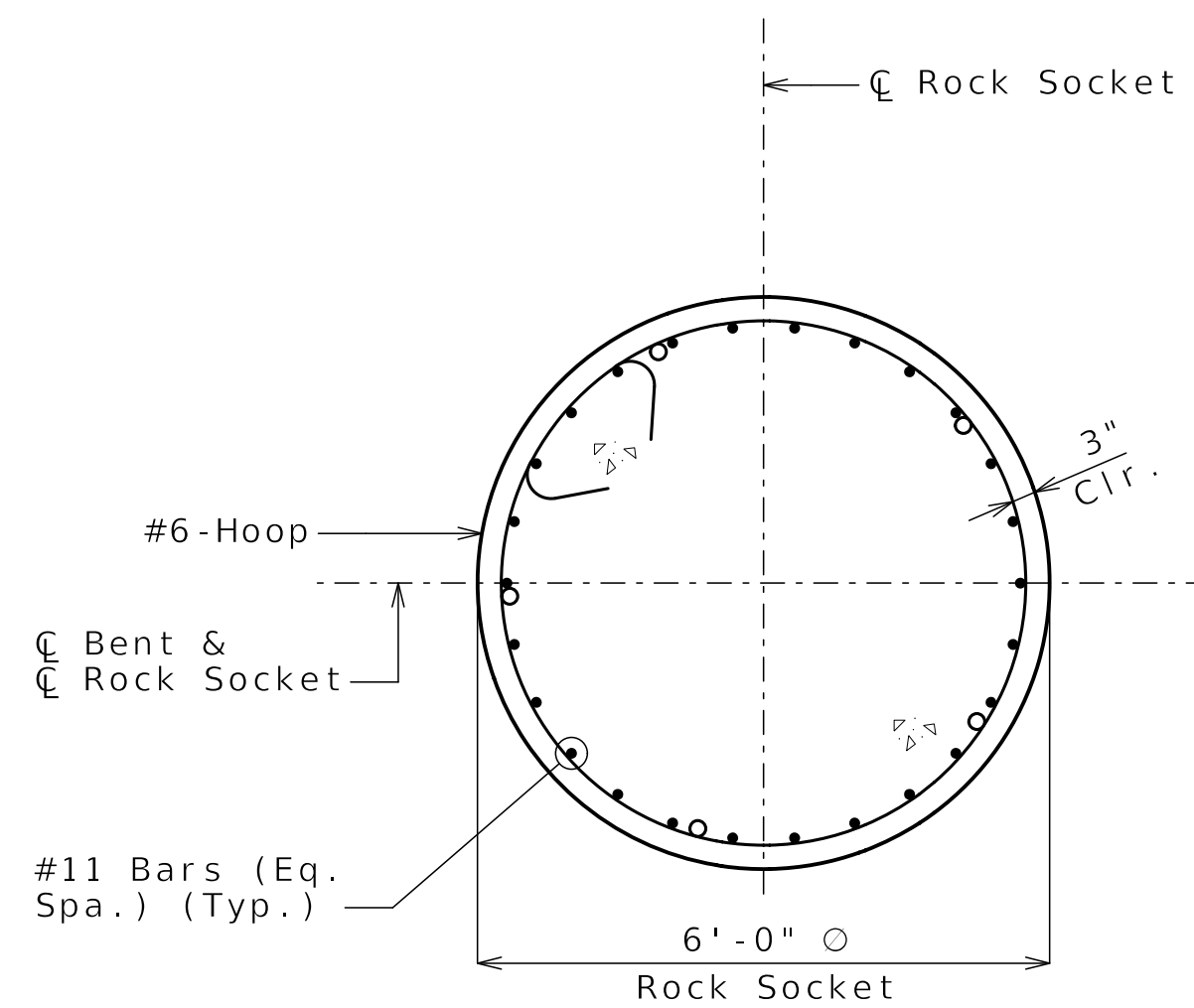
SECTION D-D



SECTION THRU KEY



SECTION E-E



SECTION F-F

Released For Construction
Not to Scale
Revision: 0.0
Date: 06/09/2025
Package: BRD-08-EBKCTRR-Substructure

Notes:
Work this sheet with Sheets No. B08-24 and B08-25.
Hoop splices shall be staggered around the drilled shaft and rock socket at 180 degree intervals.
Shift #11-H1 and #11-H2 bars to provide clearance for girder chairs. Maintain a minimum spacing of 5½" and a maximum spacing of 12" between adjacent bars.

DETAILS OF INTERMEDIATE BENT NO. 6



6/3/2025

DATE PREPARED
06/02/2025

ROUTE
1-70

DISTRICT
BR

COUNTY
JACKSON

JOB NO.
J4I1486D

CONTRACT ID.
240807-C01

PROJECT NO.

BRIDGE NO.
A9625

DESCRIPTION
REV 0 - RFC SUBMITTAL

DATE
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6/3/2025

DATE PREPARED

06/02/2025

ROUTE STATE

I-70 MO

DISTRICT SHEET NO.

BR B08-27

COUNTY

JACKSON

JOB NO.

J411486D

CONTRACT ID.

240807-C01

PROJECT NO.

BRIDGE NO.

A9625

DESCRIPTION

REV 0 - RFC SUBMITTAL

DATE

06/02/25

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL

JEFFERSON CITY, MO 65102

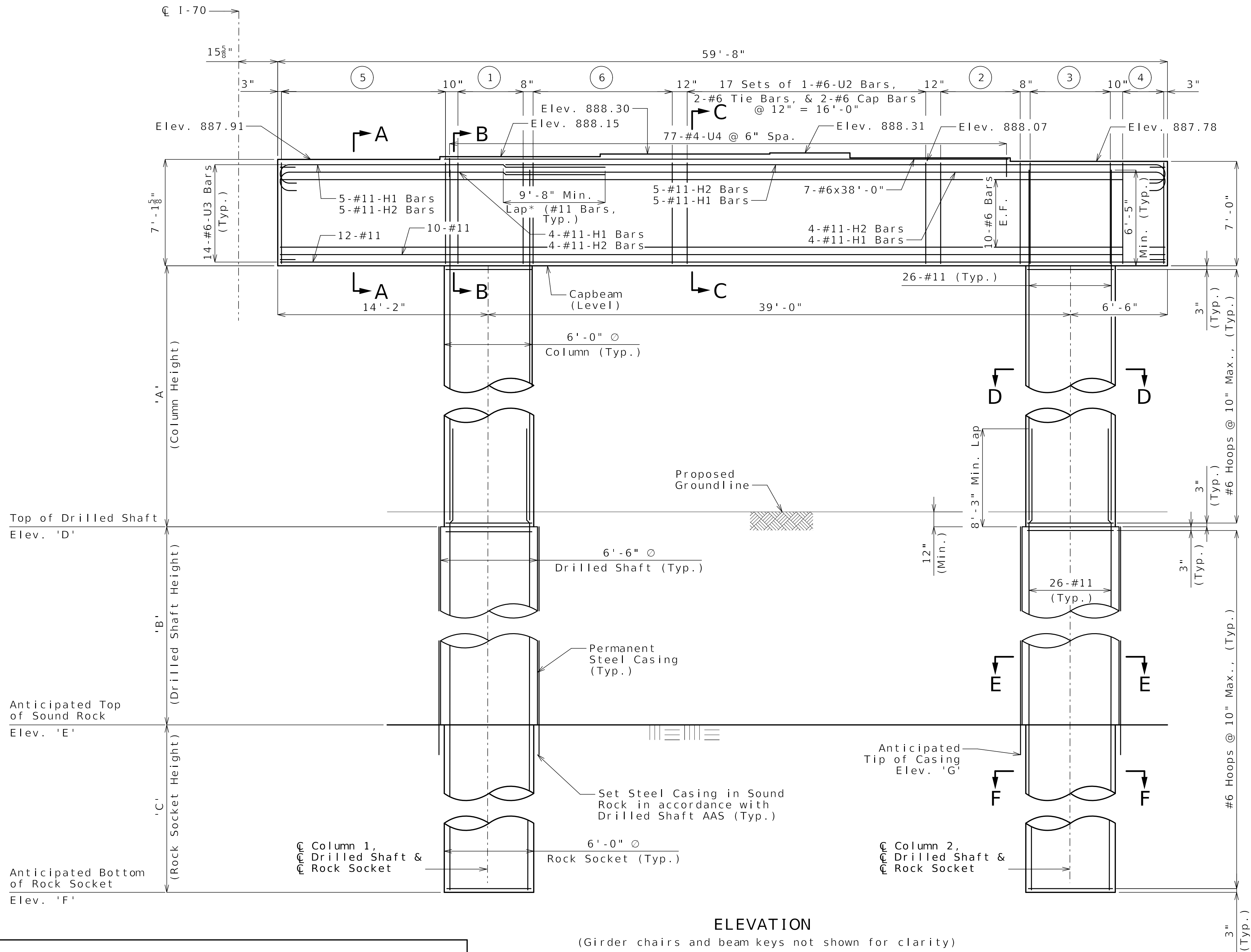
1-888-ASK-MODOT (1-888-275-6636)

MoDOT

CERTIFICATE OF AUTHORITY

NO. 001270

HNTB



ELEVATION

(Girder chairs and beam keys not shown for clarity)

Table of Variables

Column Number	"A"	"B"	"C"	"D"	"E"	"F"	"G"
1	16'-9 ³ / ₈ "	56'-0"	21'-0"	864.0	808.0	787.0	806.0
2	16'-9 ³ / ₈ "	56'-0"	21'-0"	864.0	808.0	787.0	806.0

① 5-#6-U1 @ Eq. Spa. = 4'-4¹/₂"

② 9 Sets of 1-#6-U2, 2-#6 Tie Bars, & 2-#6 Cap Bars @ 8" = 5'-4"

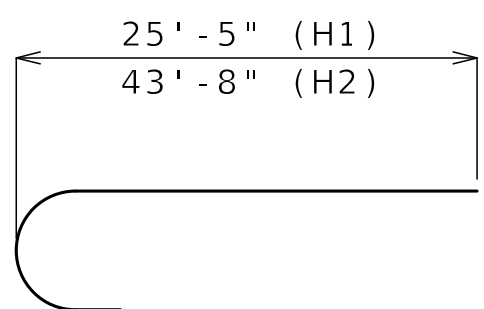
③ 6-#6-U1 @ Eq. Spa. = 5'-4¹/₂"

④ 4 Sets of 1-#6-U2, 2-#6 Tie Bars, & 2-#6 Cap Bars @ 11" = 2'-9"

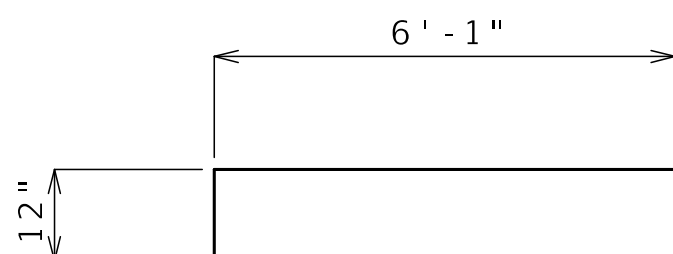
⑤ 12 Sets of 1-#6-U2, 2-#6 Tie Bars, & 2-#6 Cap Bars @ 12" = 11'-0"

⑥ 15 Sets of 1-#6-U2, 2-#6 Tie Bars, & 2-#6 Cap Bars @ 8" = 9'-4"

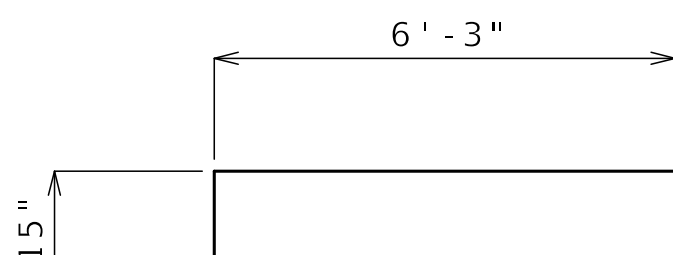
#11-H1 & #11-H2 BAR



#6-U3 BAR



#4-U4 BAR



Notes:

* Alternate location of lap splices between adjacent bars about centerline of bent. Alternate lap splice location not shown. Prior to placing concrete for columns, position of vertical reinforcement shall be verified so as to provide clearance for capbeam reinforcement as applicable.

Work this sheet with Sheets No. B08-28 and B08-29.

For location of drilled shafts, see Sheet No. B08-07.

For Sections A-A thru F-F, see Sheet No. B08-29.

For Optional Drilled Shaft Splice Detail and Rock Socket Over

Excavation Detail, see Sheet No. B08-05.

DETAILS OF INTERMEDIATE BENT NO. 7

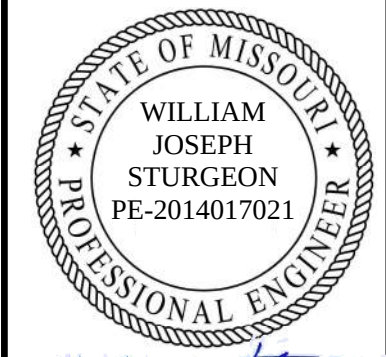
Detailed FEB 2025
Checked MAR 2025

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

Sheet No. B08-27 of B08-57

Released For Construction
Not to Scale

Revision: 0.0
Date: 06/09/2025
Package: BRD-08-EBKCTRR-Substructure



6/3/2025

DATE PREPARED
06/02/2025

ROUTE 1-70 STATE MO
DISTRICT BR SHEET NO. B08-28

COUNTY JACSON

JOB NO. J411486D

CONTRACT ID. 240807-C01

PROJECT NO.

BRIDGE NO. A9625

DATE	DESCRIPTION
06/02/25	REV 0 - RFC SUBMITTAL

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

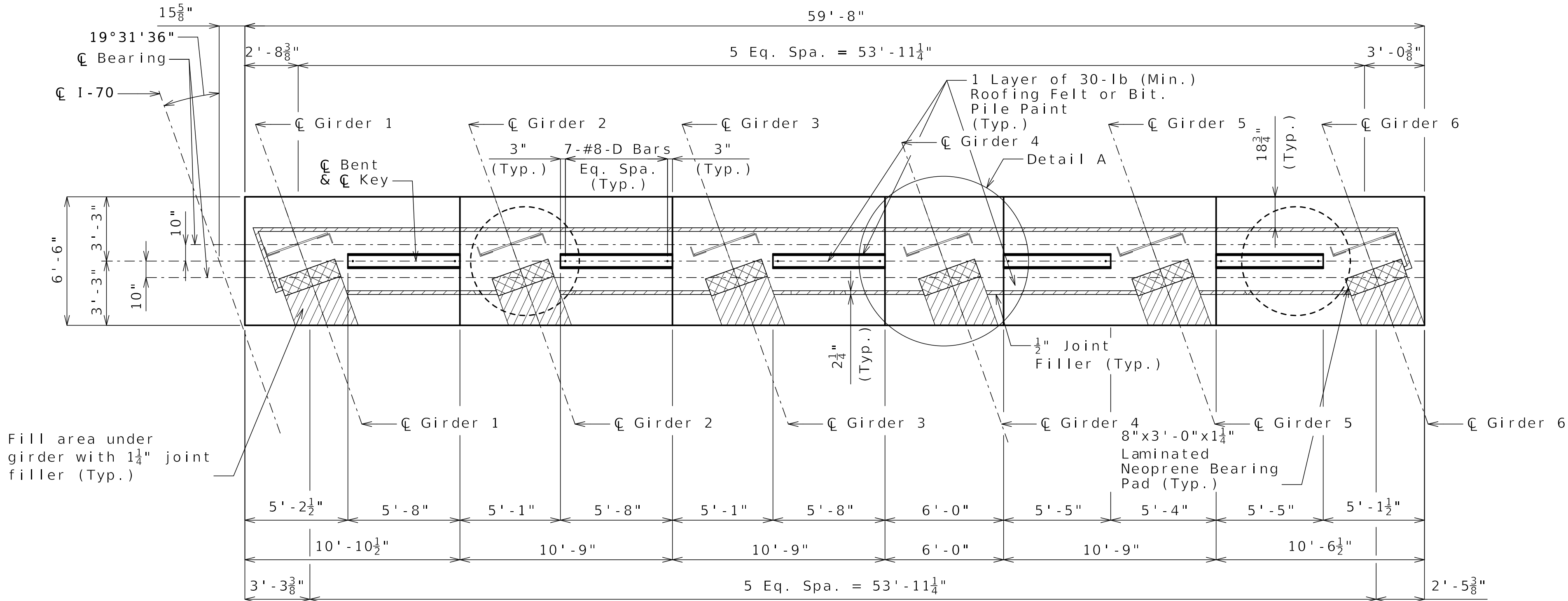
MoDOT

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

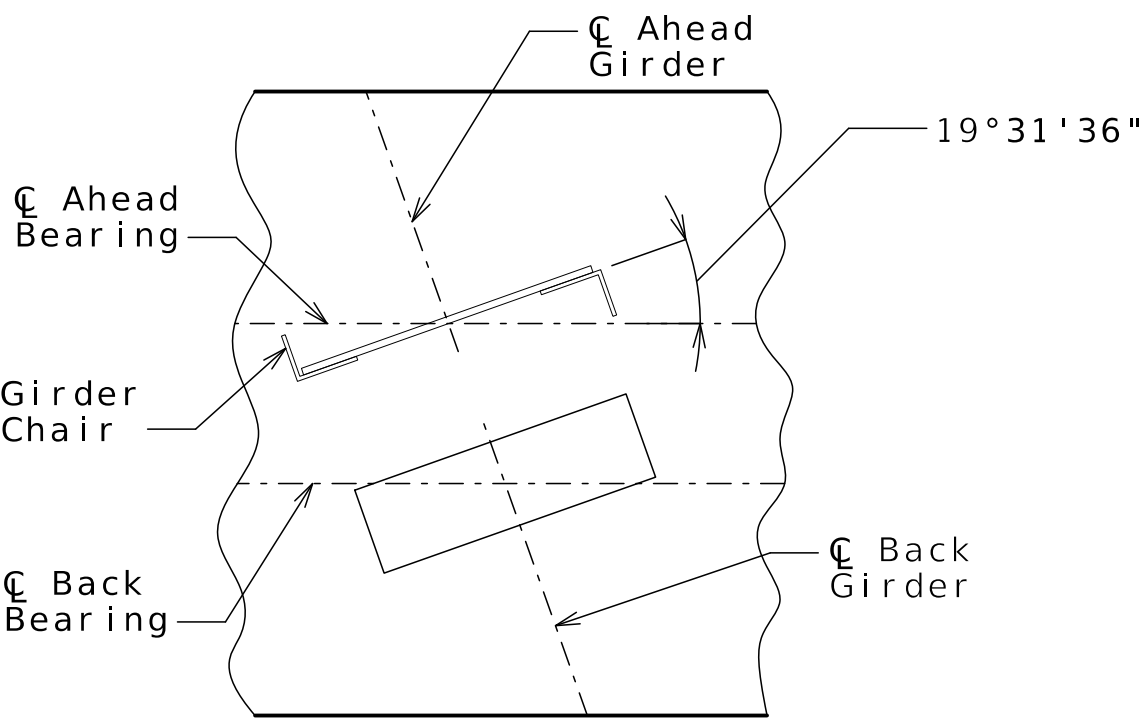
HNTB



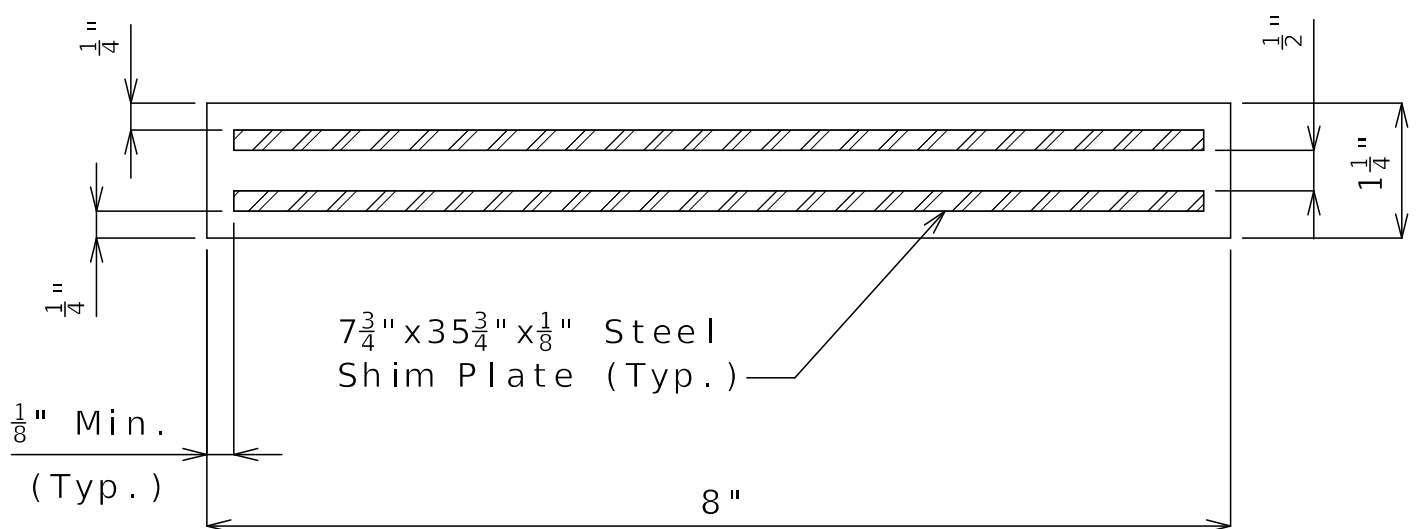
PLAN OF CAPBEAM

* See Girder Chair Elevation on Sheet No. B08-22 for elevation definition and additional girder chair details. Use orientation of vertical angle legs and 1" plate shown in Detail A on this sheet.

Table of Variables						
Girder	1	2	3	4	5	6
Elev. *	888.64	888.89	889.04	889.04	888.81	888.51



DETAIL A

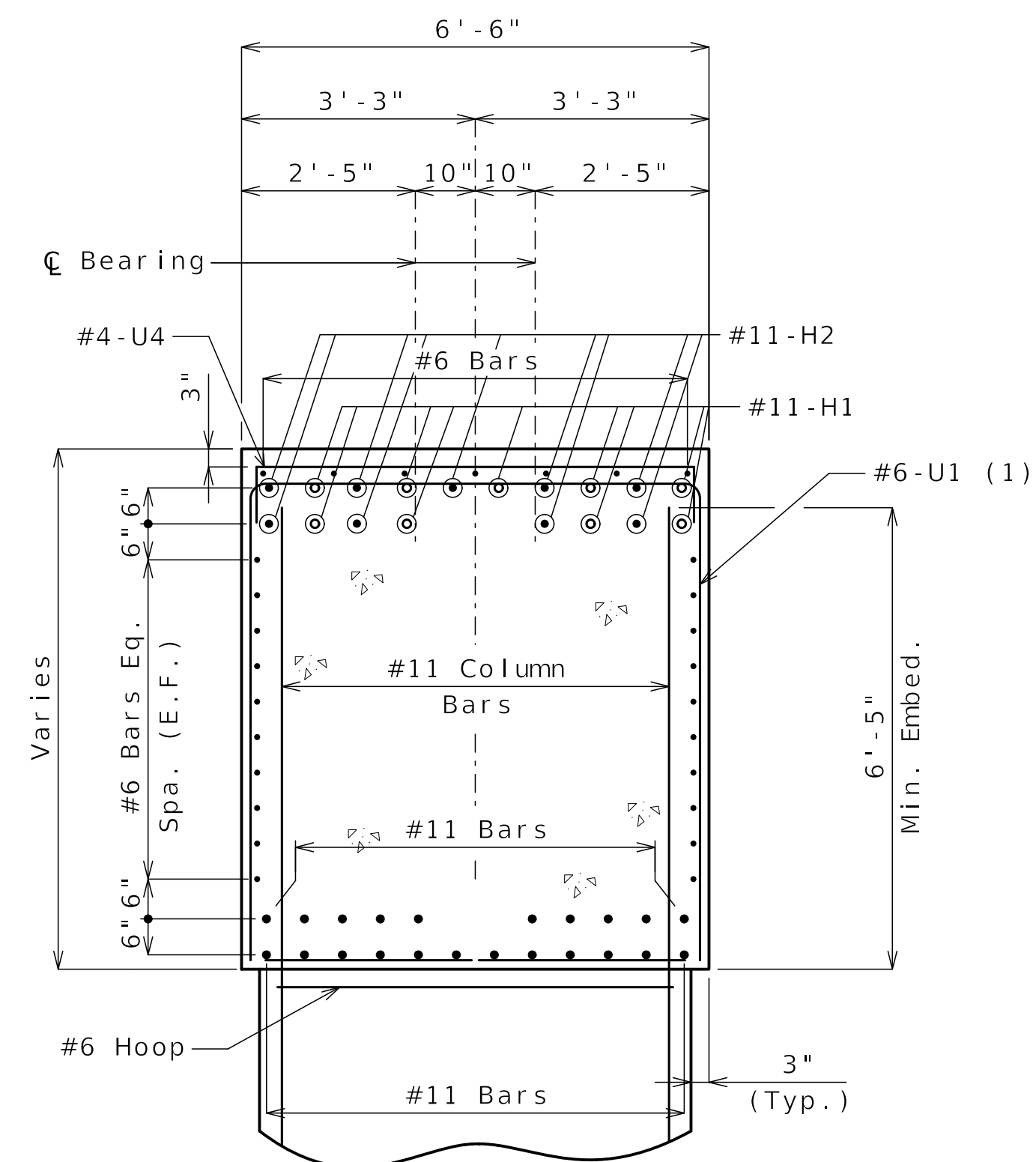
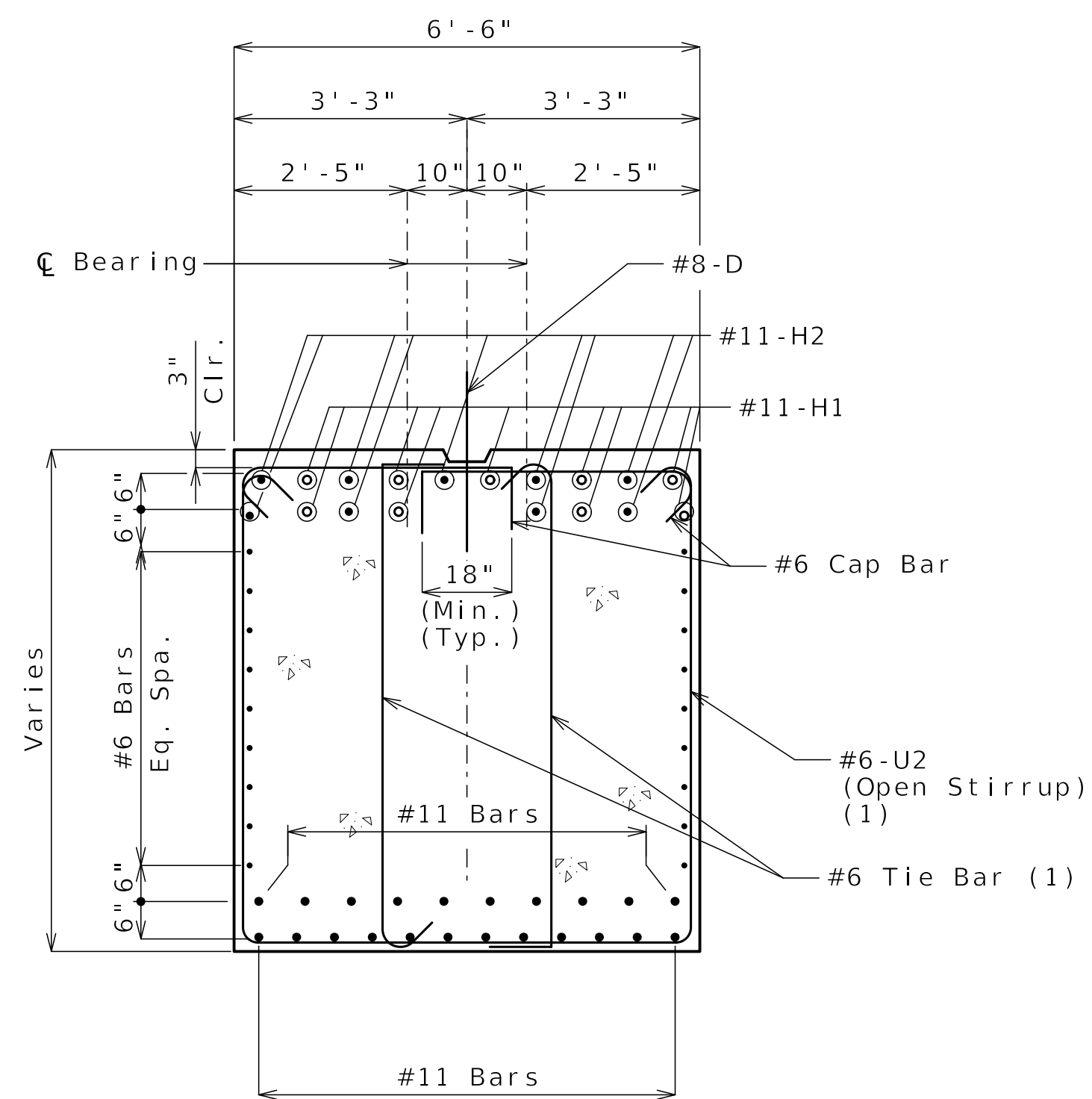


TYPICAL SECTION THRU
LAMINATED NEOPRENE BEARING PAD
6 Required per Bent

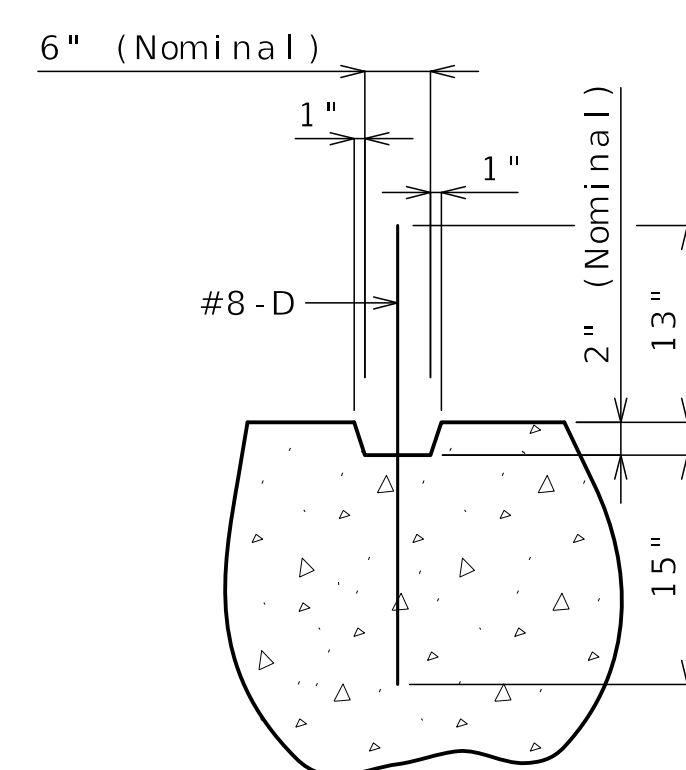
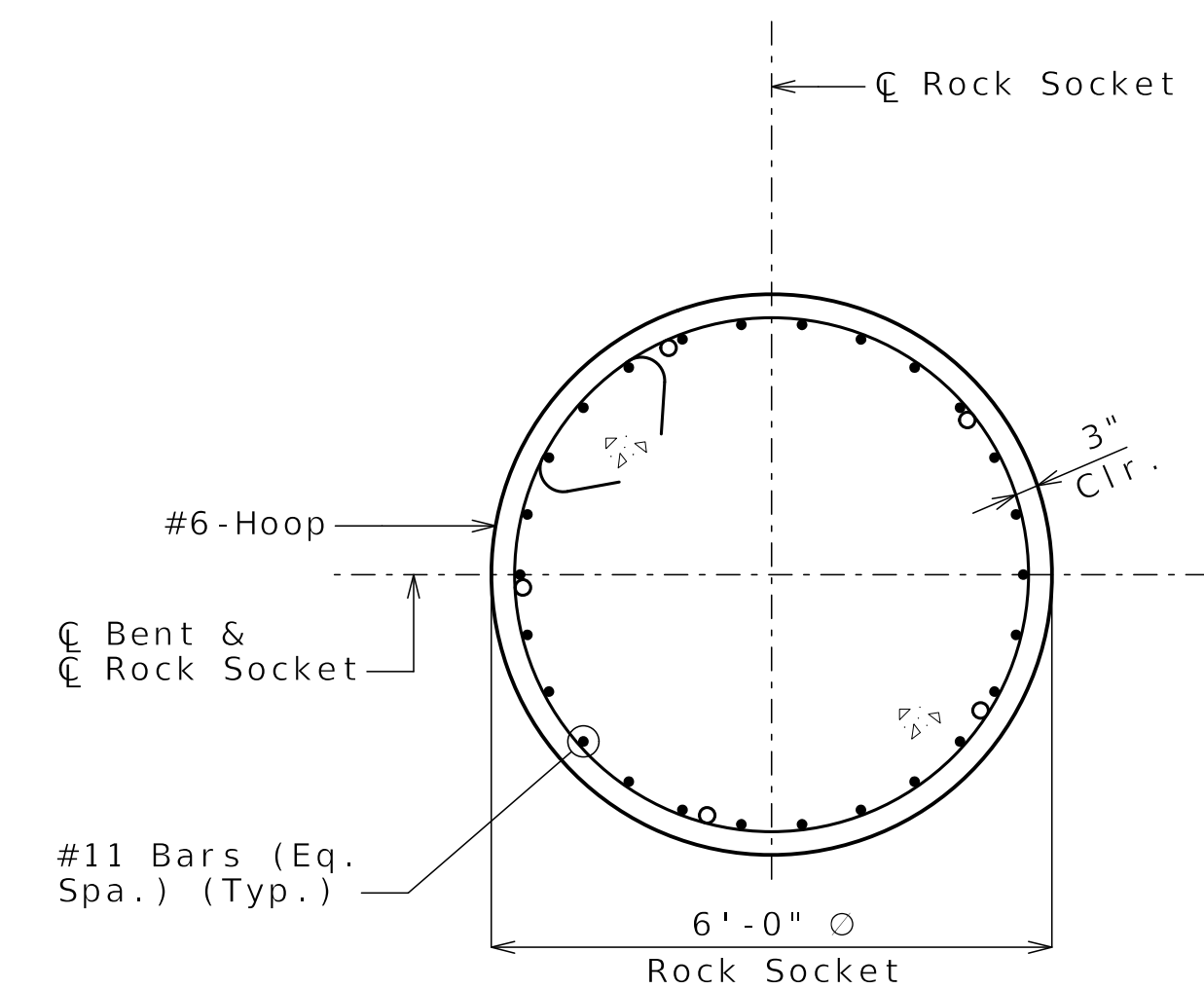
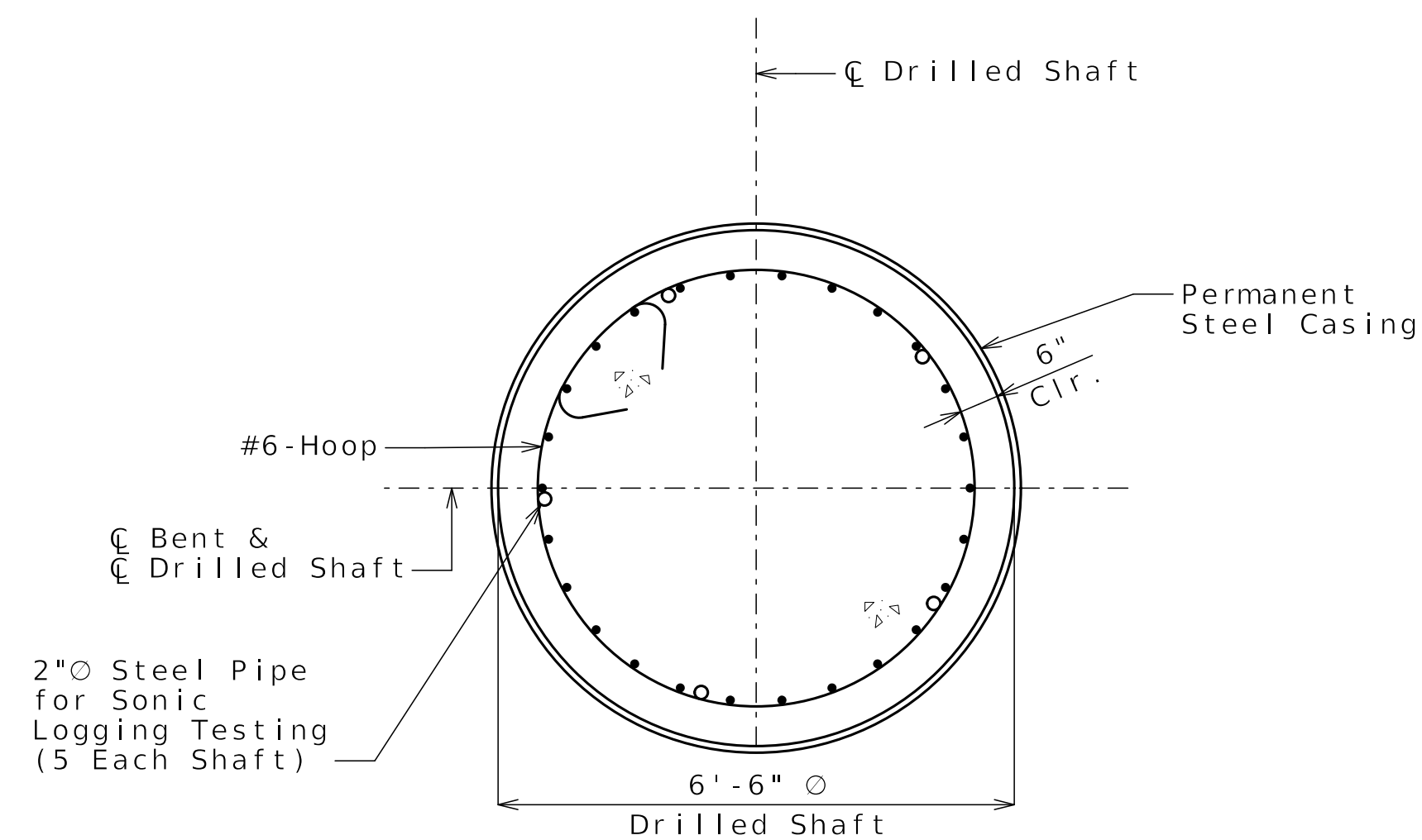
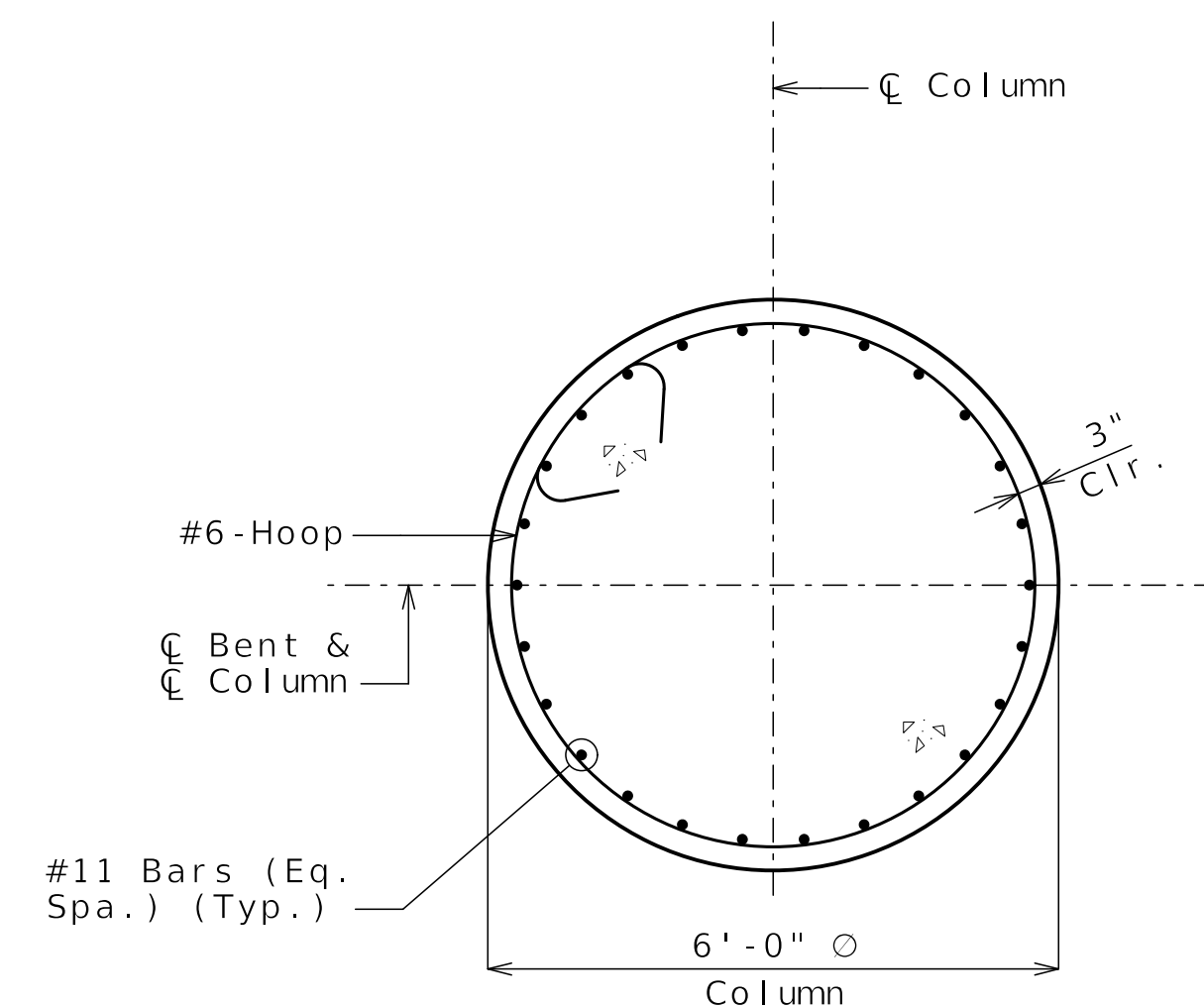
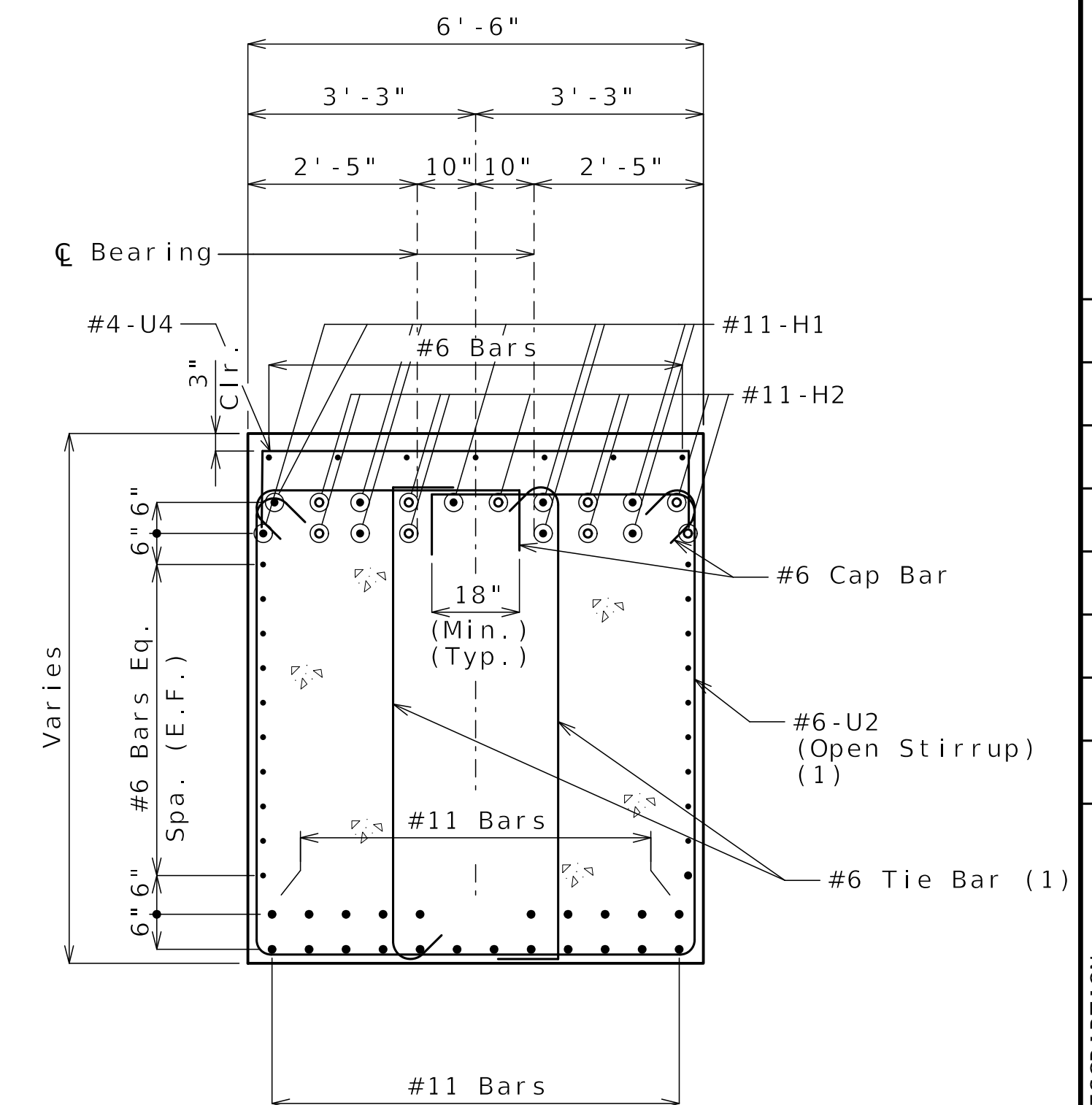
Released For Construction
Not to Scale
Revision: 0.0
Date: 06/09/2025
Package: BRD-08-EBKCTRR-Substructure

Notes:
Work this sheet with Sheets No. B08-27 and B08-29.
Steel for chairs shall be ASTM A709 Grade 36 for angles and ASTM A572 Grade 50 for Plates.
Girders are parallel to C I-70.
For additional joint filler layout details, see concrete diaphragm details sheet in A9625 (I-70 EB Over KCT, Indiana & 18th) Superstructure Package.
For steps 2 inches or more, use 2 1/4"x1 1/2" inch joint filler up vertical face.

DETAILS OF INTERMEDIATE BENT NO. 7



(1) U1, U2 and #6 Tie Bar vertical Leg = 6' - 7½"



SECTION THRU KEY

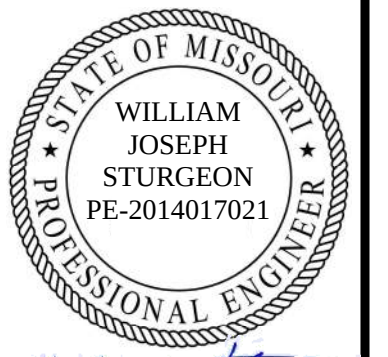
Note: This drawing is not to scale. Follow dimensions.

Sheet No. B08-29 of B08-57

Notes:
Work this sheet with Sheets No. B08-27 and B08-28.

Shift #11-H1 and #11-H2 bars to provide clearance for girder chairs. Maintain a minimum spacing of 5½" and a maximum spacing of 12" between adjacent bars.

DETAILS OF INTERMEDIATE BENT NO. 7



6/3/2025

DATE PREPARED

6/02/2025

ROUTE	STATE
70	MS

70	MO
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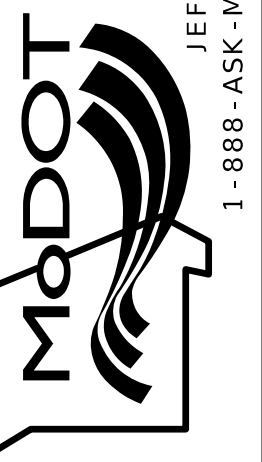
SHEET NO
B08-2

COUNTY

JACKSON

JOB NO.

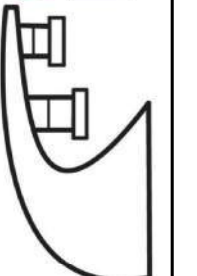
4 I 1486D

[illegible]MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

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

**CLARKSON
RADMACHER**
JOINT VENTURE

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



Detailed	FEB	2025
Checked	MAR	2025



6/3/2025

DATE PREPARED
06/02/2025

ROUTE 1-70 STATE MO
DISTRICT BR SHEET NO. B08-30

COUNTY JACKSON

JOB NO. J411486D

CONTRACT ID. 240807-C01

PROJECT NO.

BRIDGE NO. A9625

DATE	DESCRIPTION
06/02/25	REV 0 - RFC SUBMITTAL

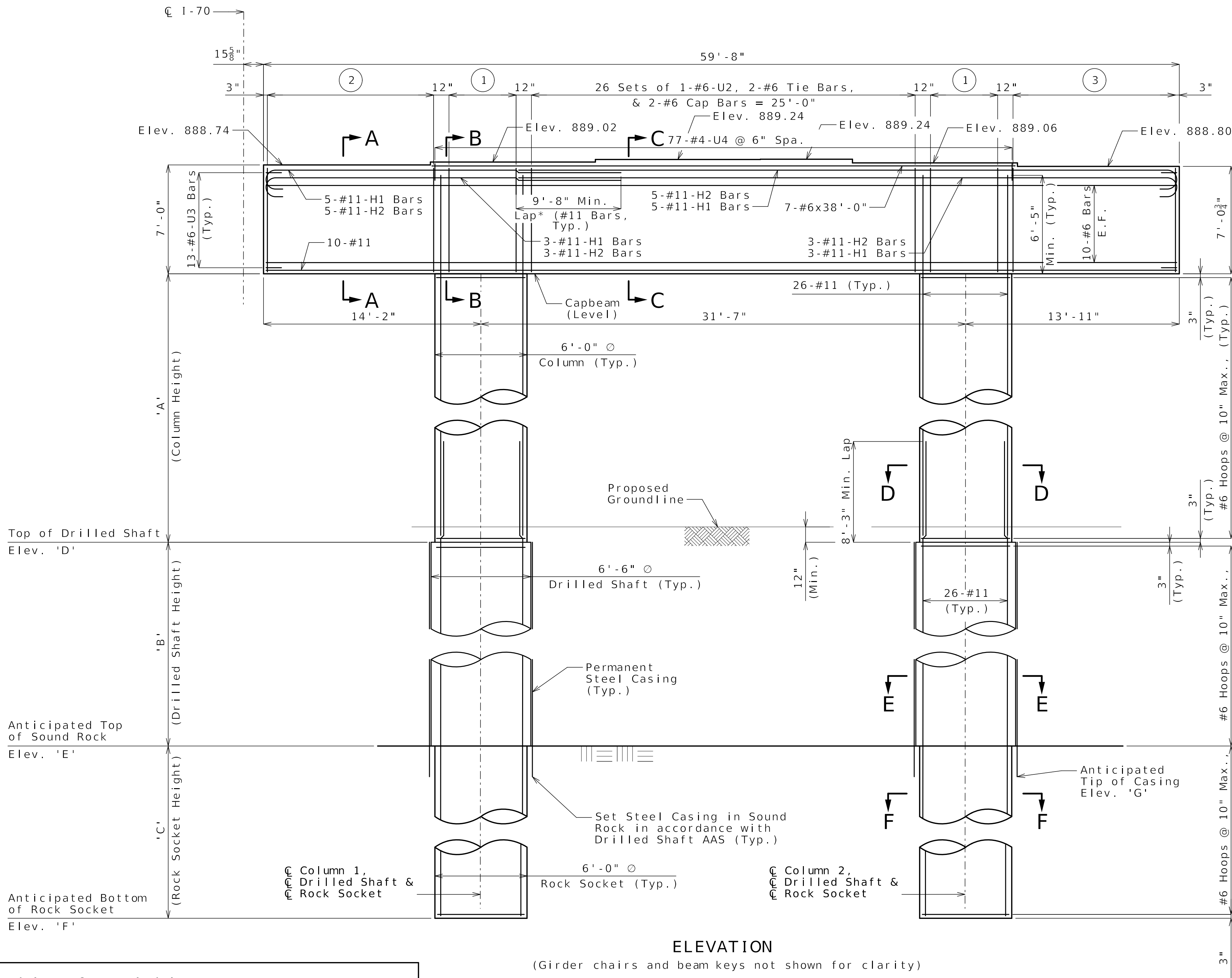
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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
(Girder chairs and beam keys not shown for clarity)

Table of Variables

Column Number	"A"	"B"	"C"	"D"	"E"	"F"	"G"
1	9'-8 $\frac{3}{8}$ "	39'-0"	32'-0"	872.0	833.0	801.0	831.0
2	9'-8 $\frac{3}{8}$ "	39'-0"	32'-0"	872.0	833.0	801.0	831.0

25'-3" (H1)
43'-10" (H2)

#11-H1 & #11-H2 BAR

- ① 5-#6-U1 @ Eq. Spa. = 4'-4 $\frac{1}{2}$ "
- ② 12 Sets of 1-#6-U2, 2-#6 Tie Bars, & 2-#6 Cap Bars @ 12" Max. Spa. = 10'-10"
- ③ 12 Sets of 1-#6-U2, 2-#6 Tie Bars, & 2-#6 Cap Bars @ 12" Max. Spa. = 10'-7"

6'-1"

#6-U3 BAR

6'-3"

#4-U4 BAR

Notes:

* Alternate location of lap splices between adjacent bars about centerline of bent. Alternate lap splice location not shown.

Prior to placing concrete for columns, position of vertical reinforcement shall be verified so as to provide clearance for capbeam reinforcement as applicable.

Work this sheet with Sheets No. B08-31 and B08-32.

For location of drilled shafts, see Sheet No. B08-07.

For Sections A-A thru F-F, see Sheet No. B08-32.

For Optional Drilled Shaft Splice Detail and Rock Socket Over Excavation Detail, see Sheet No. B08-05.

DETAILS OF INTERMEDIATE BENT NO. 8

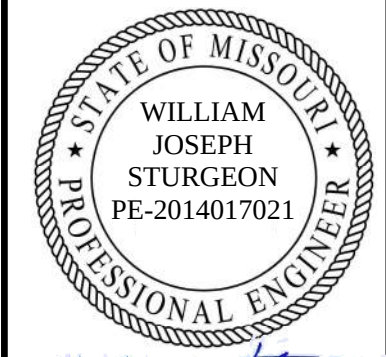
Detailed FEB 2025
Checked MAR 2025

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

Sheet No. B08-30 of B08-57

Released For Construction
Not to Scale

Revision: 0.0
Date: 06/09/2025
Package: BRD-08-EBKCTRR-Substructure



6/3/2025

DATE PREPARED
06/02/2025

ROUTE
I-70

STATE
MO

DISTRICT
BR

SHEET NO.
B08-31

COUNTY
JACKSON

JOB NO.
J411486D

CONTRACT ID.
240807-C01

PROJECT NO.

BRIDGE NO.
A9625

DESCRIPTION	DATE
REV 0 - RFC SUBMITTAL	06/02/25

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

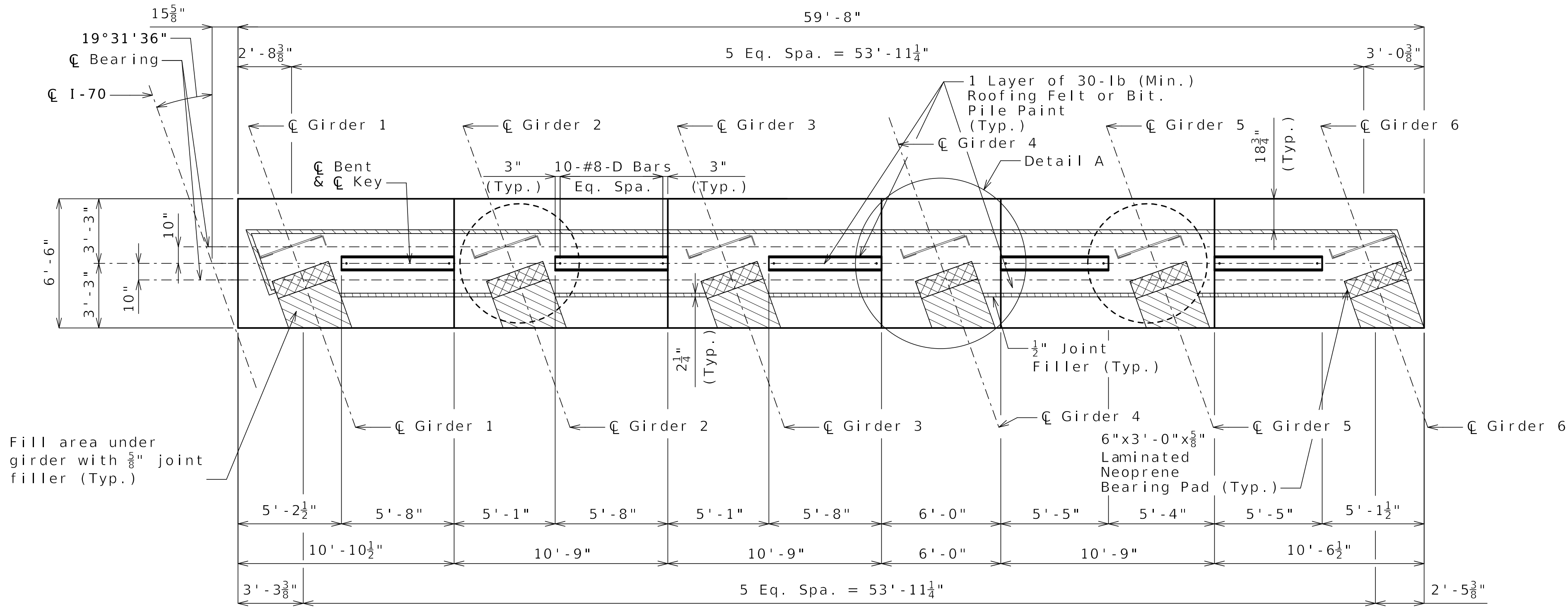
MoDOT

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

CLARKSON RADMACHER JOINT VENTURE

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

HNTB

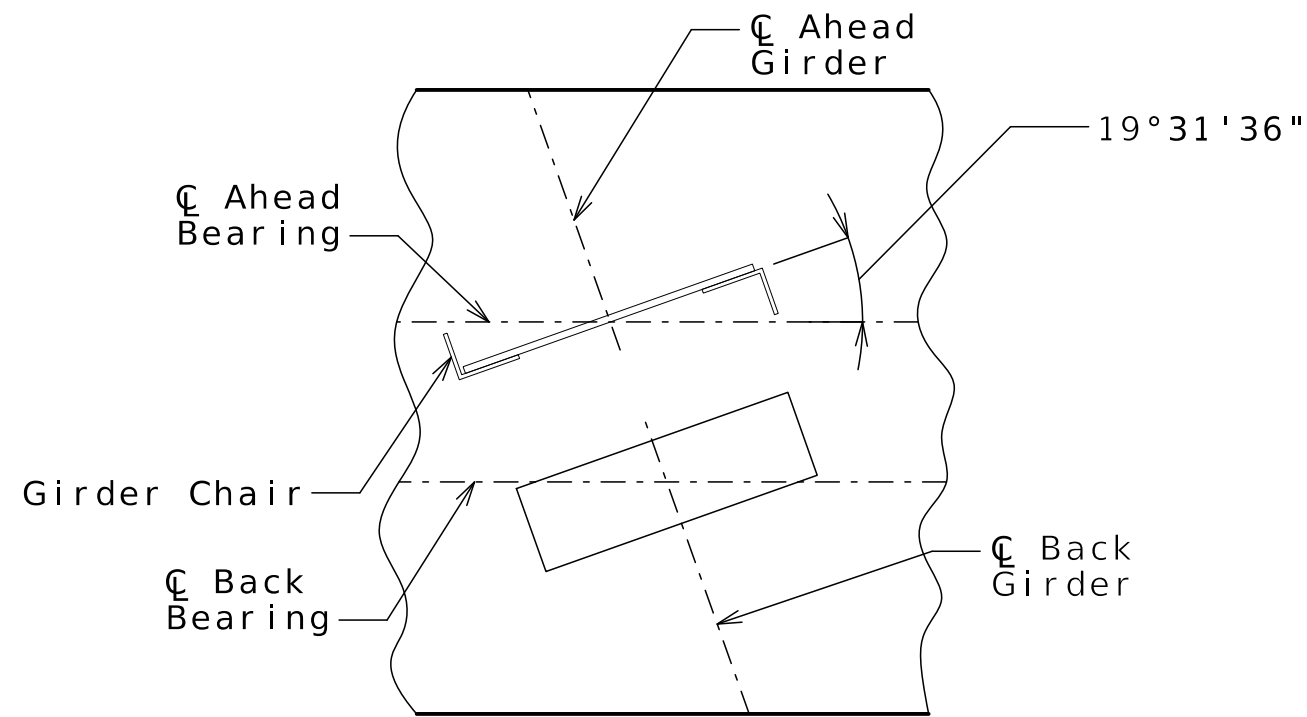


PLAN OF CAPBEAM

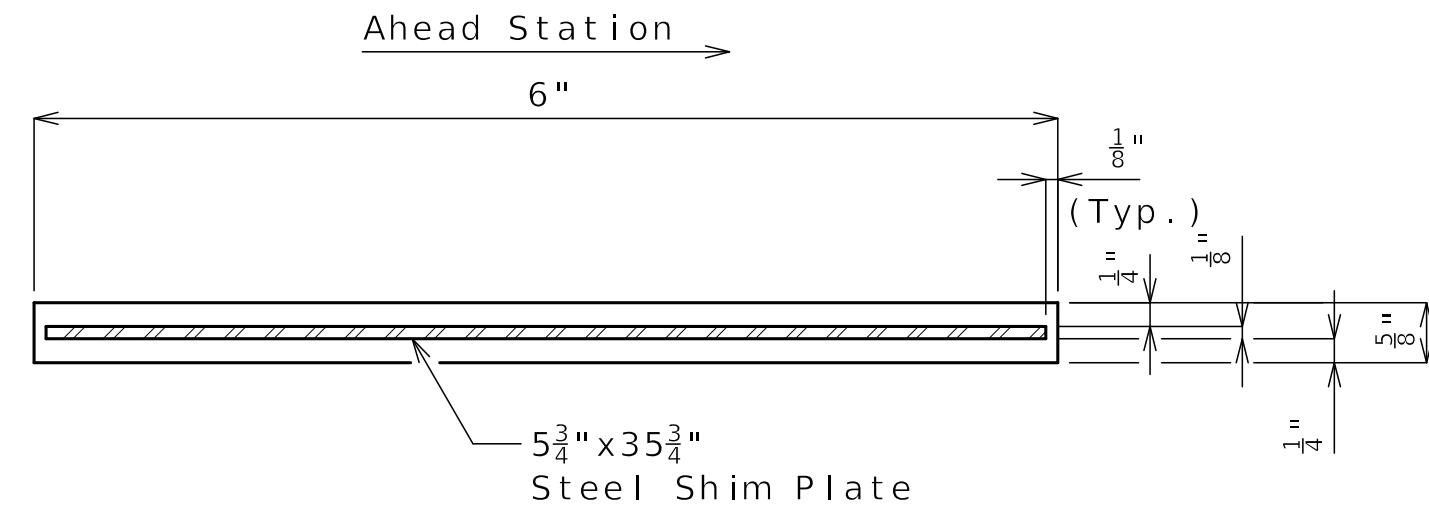
Table of Variables

Girder	1	2	3	4	5	6
Elev. *	889.61	889.89	890.11	890.11	889.93	889.67

* See Girder Chair Elevation on Sheet No. B08-22 for elevation definition and additional girder chair details. Use orientation of vertical angle legs and 1" plate shown in Detail A on this sheet.



DETAIL A



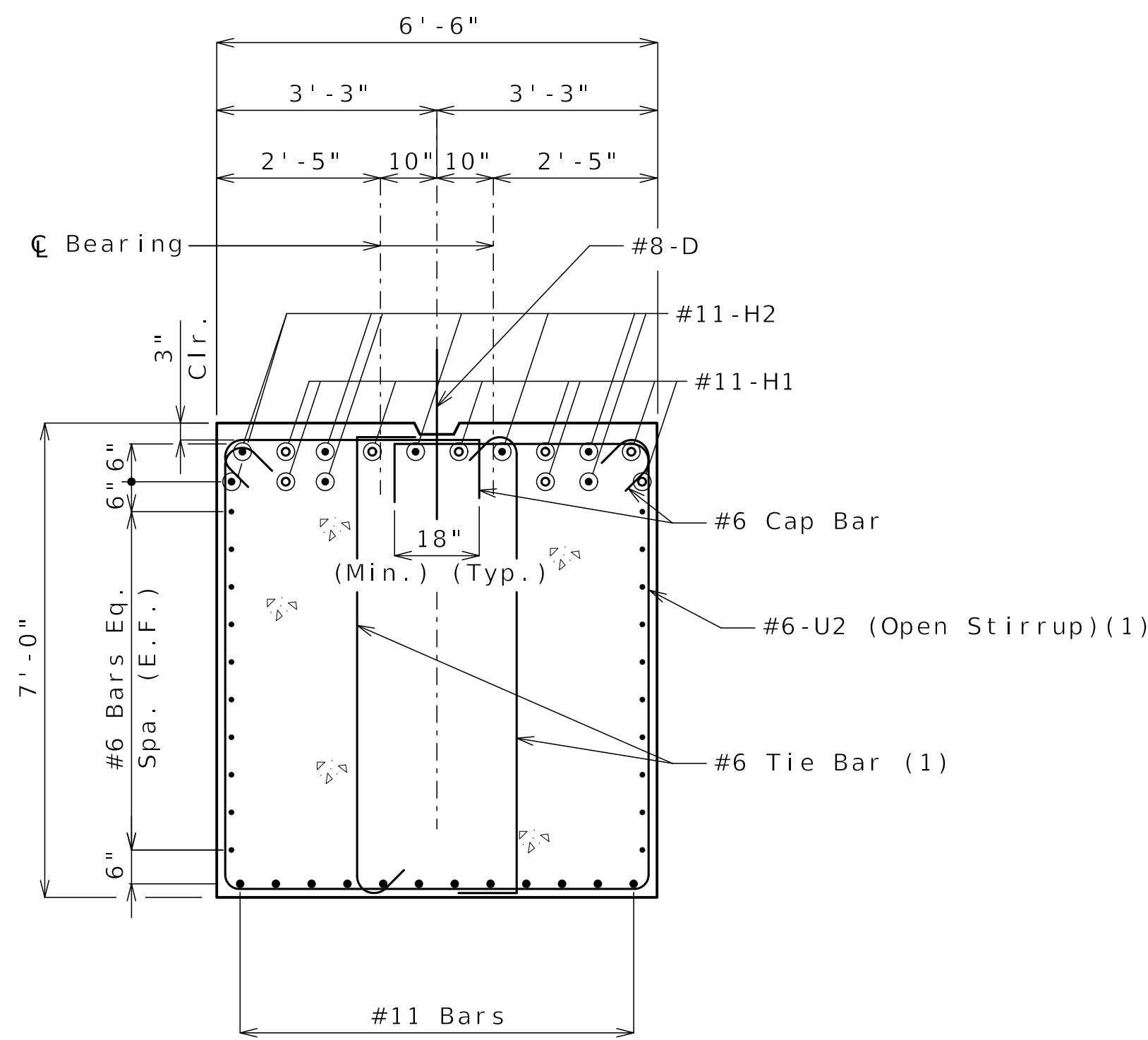
TYPICAL SECTION THRU LAMINATED NEOPRENE BEARING PAD

6 Required per Bent

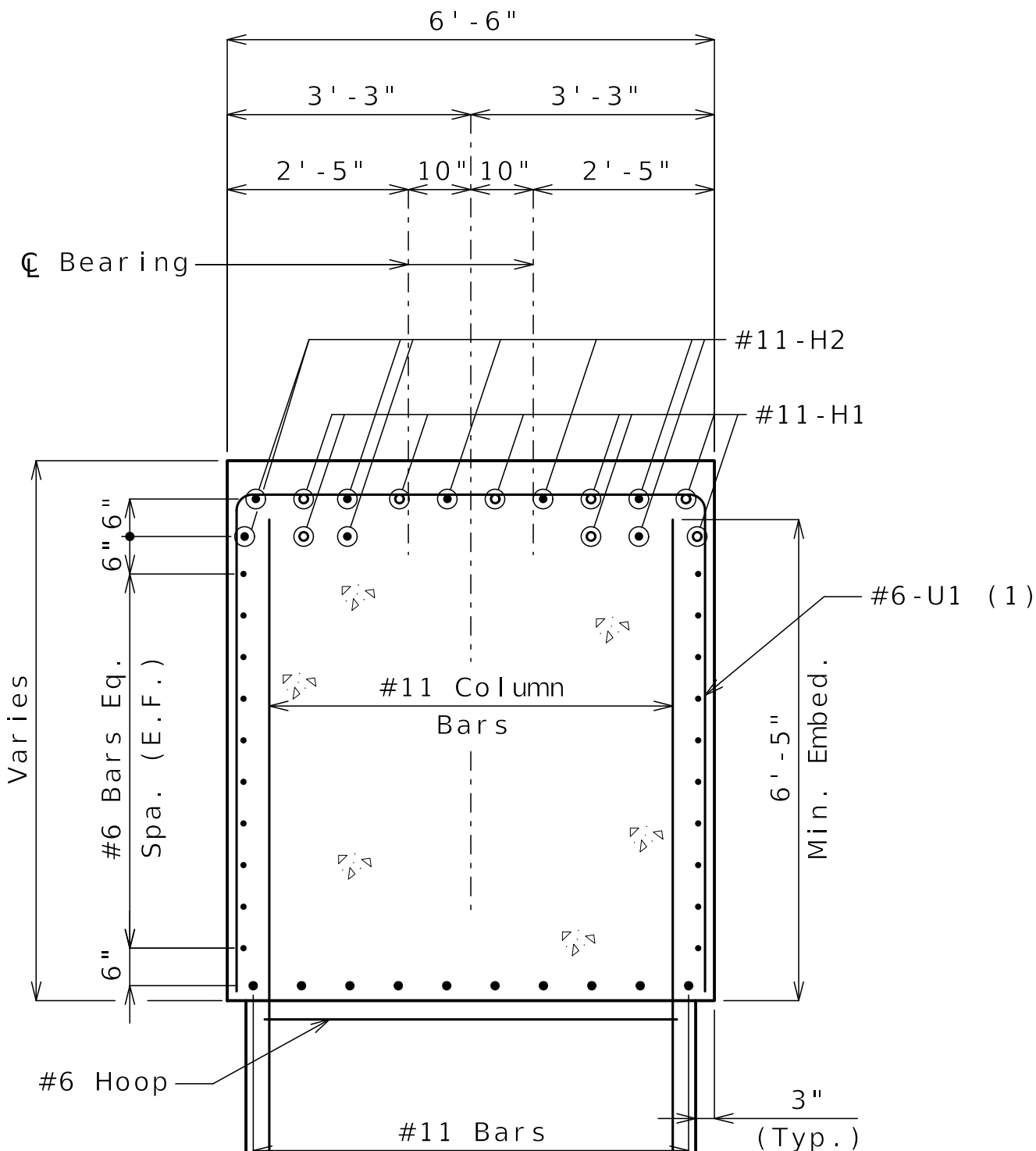
Released For Construction
Not to Scale
Revision: 0.0
Date: 06/09/2025
Package: BRD-08-EBKCTRR-Substructure

Notes:
Work this sheet with Sheets No. B08-30 and B08-32.
Steel for chairs shall be ASTM A709 Grade 36 for angles and ASTM A572 Grade 50 for Plates.
Girders parallel to C I-70.
For additional joint filler layout details, see concrete diaphragm details sheet in A9625 (I-70 EB Over KCT, Indiana & 18th) Superstructure Package.
For steps 2 inches or more, use 2 1/4 inch x 1/2 inch joint filler up vertical face.

DETAILS OF INTERMEDIATE BENT NO. 8

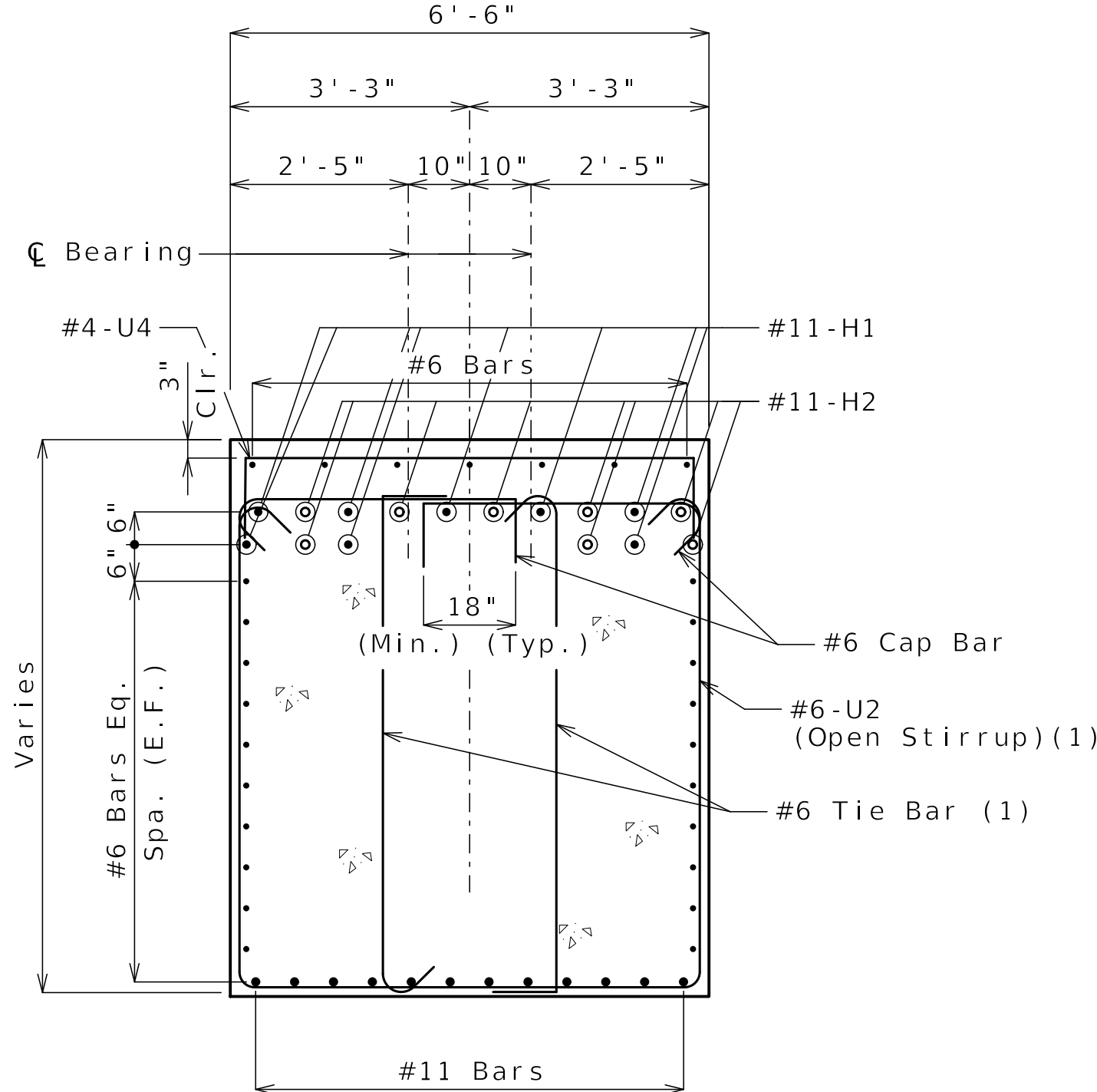


SECTION A-A

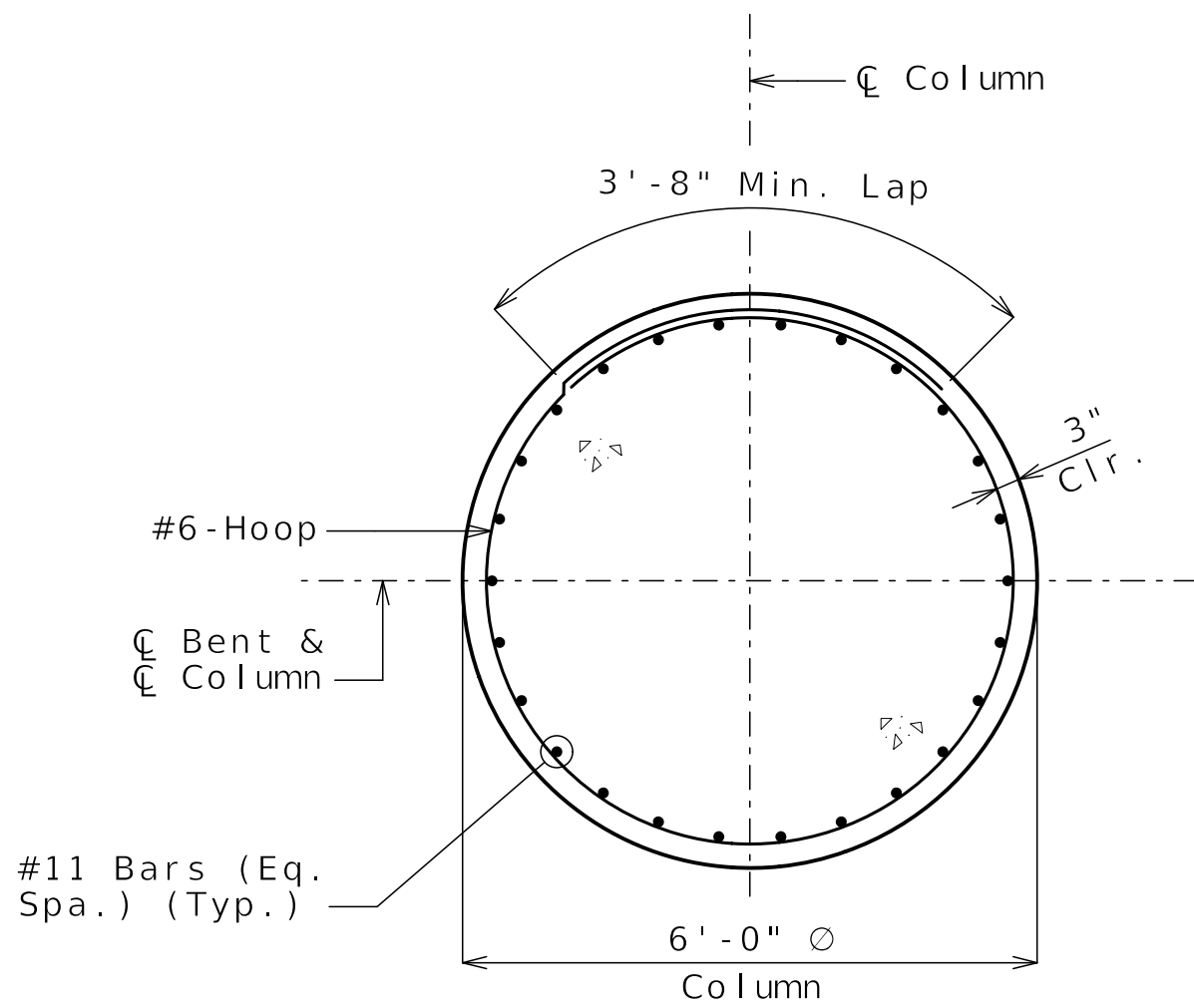


SECTION B-B

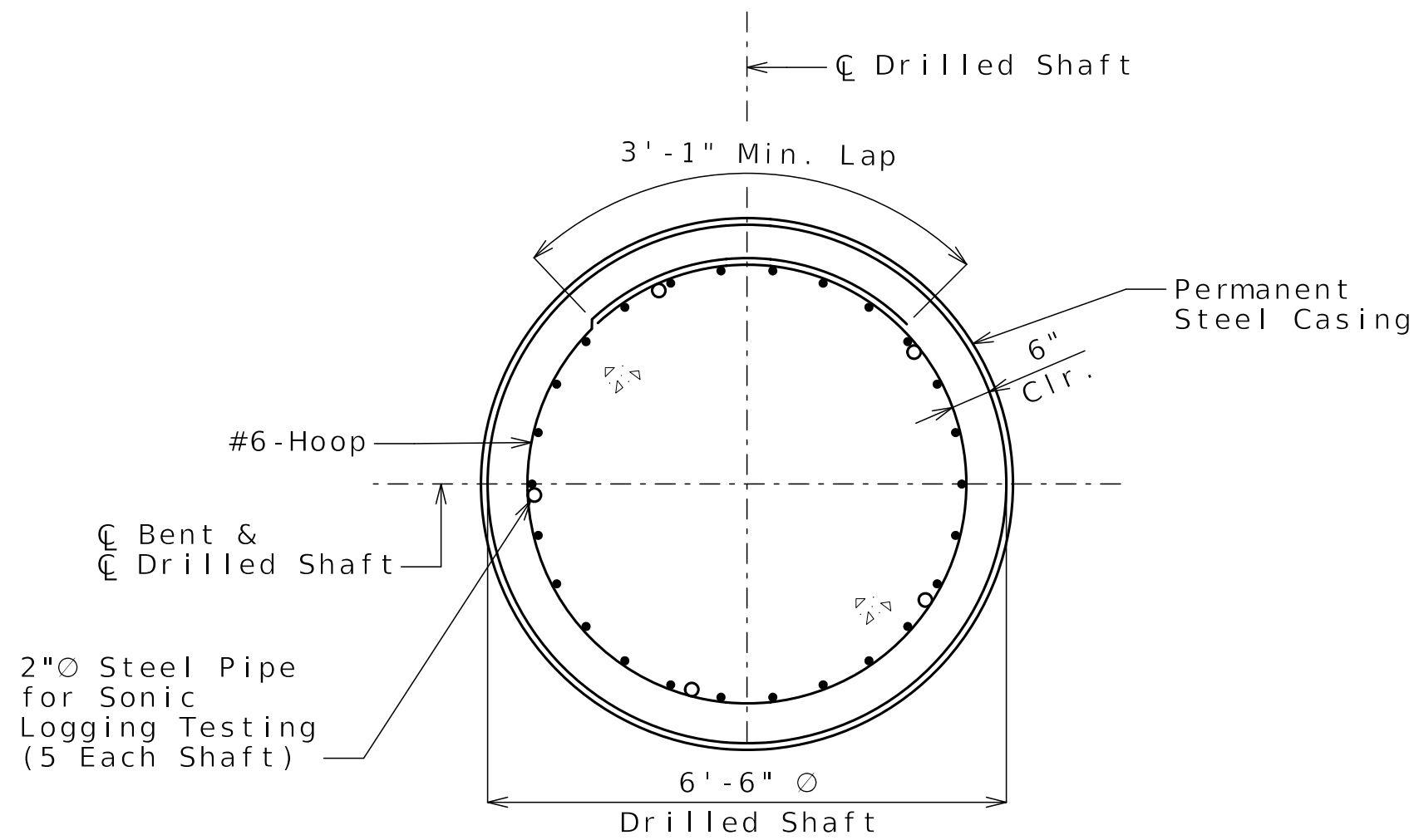
(1) U1, U2 and #6 Tie Bar vertical Leg = 6'-7½"



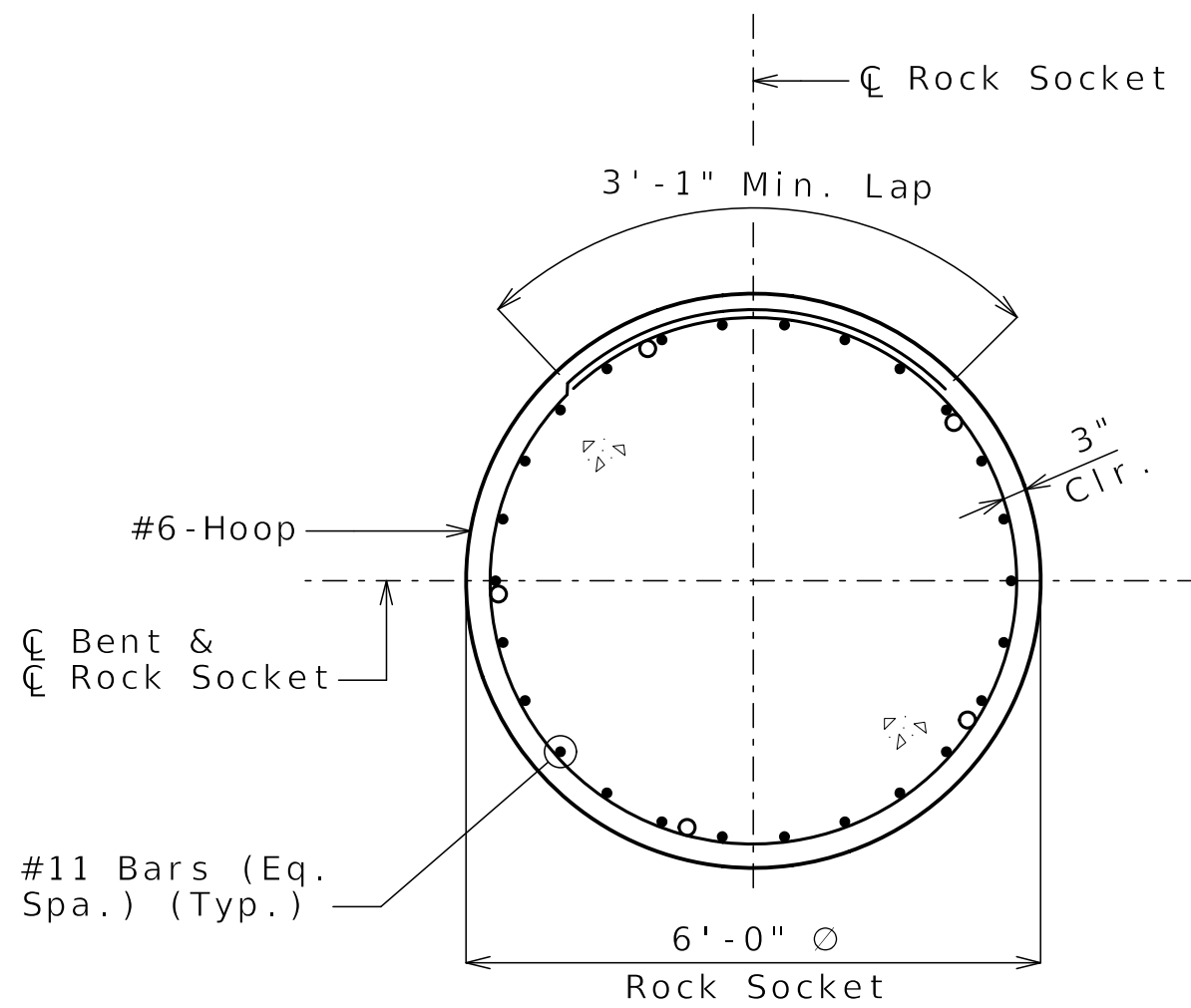
SECTION C-C



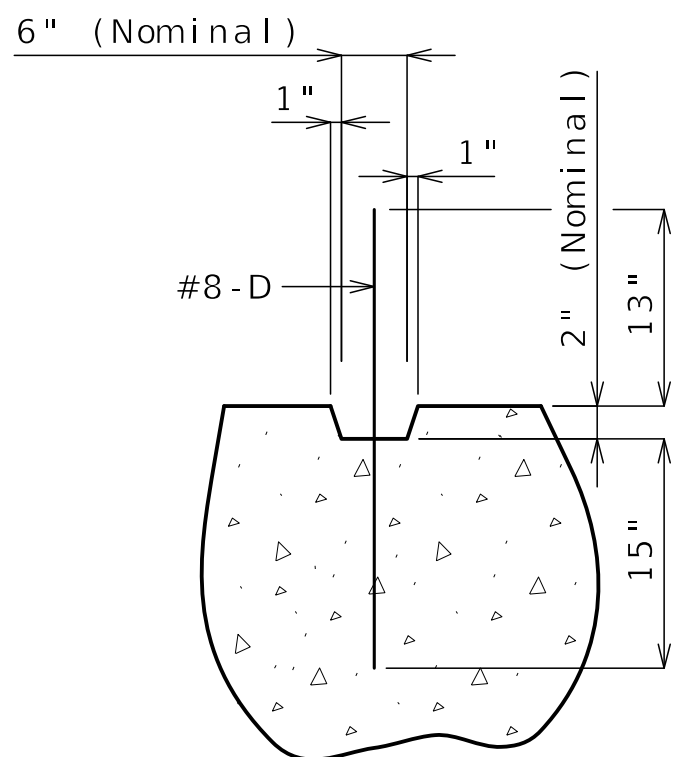
SECTION D-D



SECTION E-E



SECTION F-F



SECTION THRU KEY

Notes:
Work this sheet with Sheets No. B08-30 and B08-31.
Hoop splices shall be staggered around the drilled shaft and rock socket at 90 degree intervals.
Shift #11-H1 and #11-H2 bars to provide clearance for girder chairs. Maintain a minimum spacing of 5½" and a maximum spacing of 12" between adjacent bars.

Released For Construction
Not to Scale
Revision: 0.0
Date: 06/09/2025
Package: BRD-08-EBKCTRR-Substructure



6/3/2025

DATE PREPARED
06/02/2025

ROUTE
1 - 70

DISTRICT
BR

COUNTY
JACKSON

JOB NO.
J4I1486D

CONTRACT ID.
240807-C01

PROJECT NO.

BRIDGE NO.
A9625

DESCRIPTION
REV 0 - RFC SUBMITTAL

DATE
06/02/25

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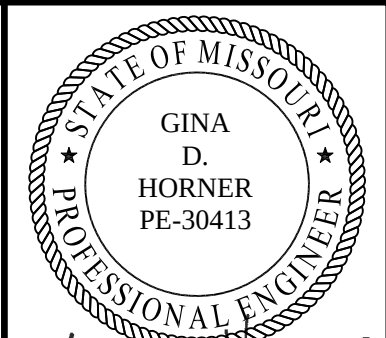
DATE
06/02/25

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06/02/25

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06/02/25

DATE
06/02/25

DATE
06/02/25



Gina D. Horner

06/03/25

DATE PREPARED

06/02/2025

ROUTE 1-70 STATE MO

DISTRICT BR SHEET NO. B08-34

COUNTY JACKSON

JOB NO. J411486D

CONTRACT ID. 240807-C01

PROJECT NO.

BRIDGE NO. A9625

DESCRIPTION

REV 0 - RFC SUBMITTAL

DATE 06/02/25

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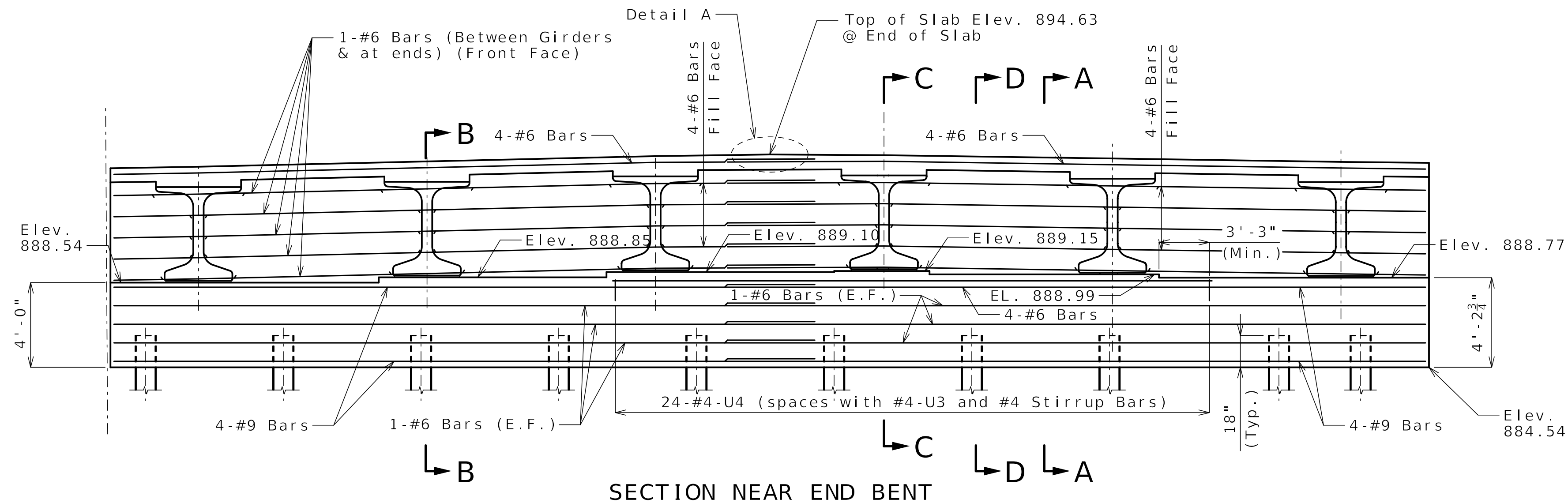
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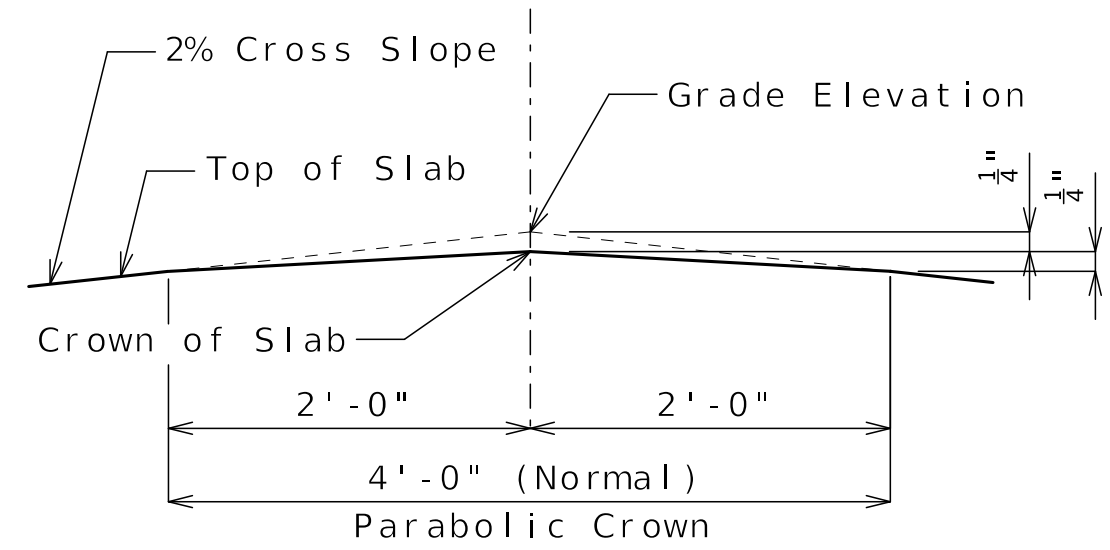
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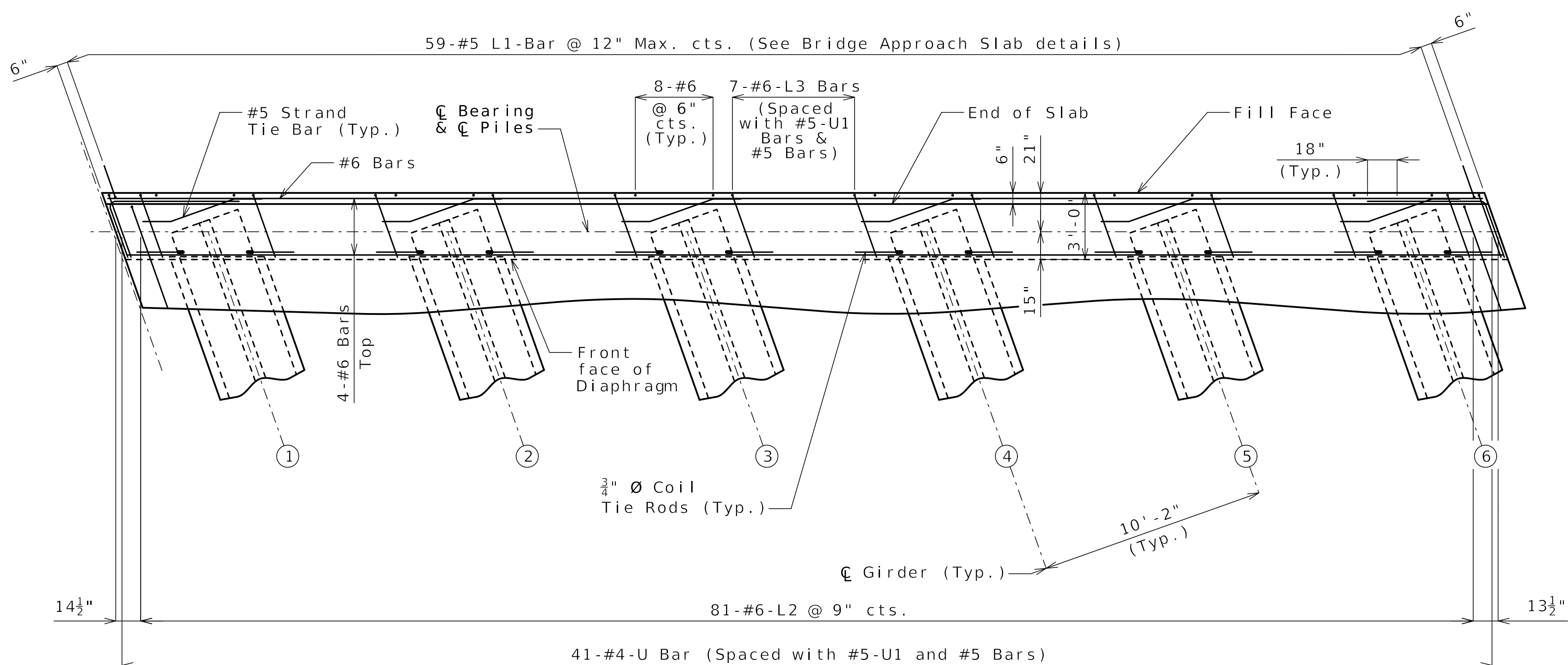
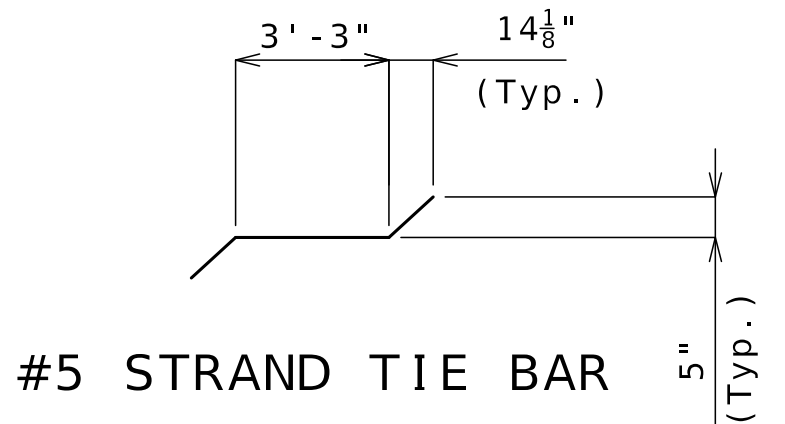
DATE



Notes:
Lap Splice for #6 bars = 4'-3" (Min.)
Lap Splice for #9 bars = 6'-5" (Min.)



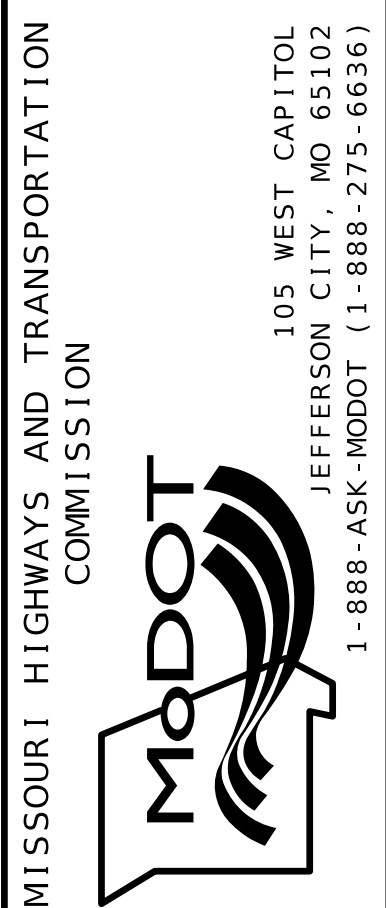
DETAIL A
(Crown is located 29'-5 1/2" right of C 1-70)

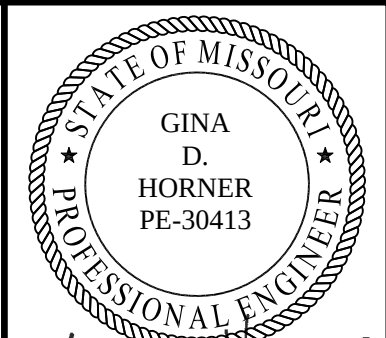


PART PLAN

General Notes:
Work this sheet with Sheets No. B08-33 and B08-35.
For Sections A-A, B-B, C-C and D-D and Elevation E-E, see Sheet No. B08-35.
Strands at end of the girders shall be field bent or, if necessary, cut in the 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 location of coil tie rods, See A9625 (I-70 EB Over KCT, Indiana, & 18th) Superstructure Package.
(X) Denotes girder number

Released For Construction
Not to Scale
Revision: 0.0
Date: 06/09/2025
Package: BRD-08-EBKCTRR-Substructure





Gina D. Horner
06/03/25

DATE PREPARED
06/02/2025

ROUTE
1-70

STATE
MO

DISTRICT
BR

SHEET NO.
B08-35

COUNTY
JACKSON

JOB NO.
J411486D

CONTRACT ID.
240807-C01

PROJECT NO.

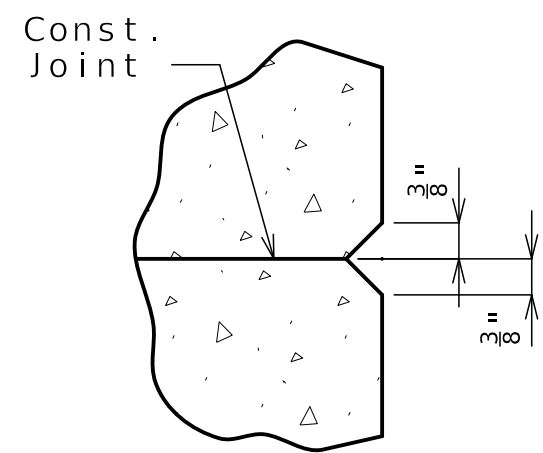
BRIDGE NO.
A9625

DESCRIPTION	DATE
REV 0 - RFC SUBMITTAL	06/02/25

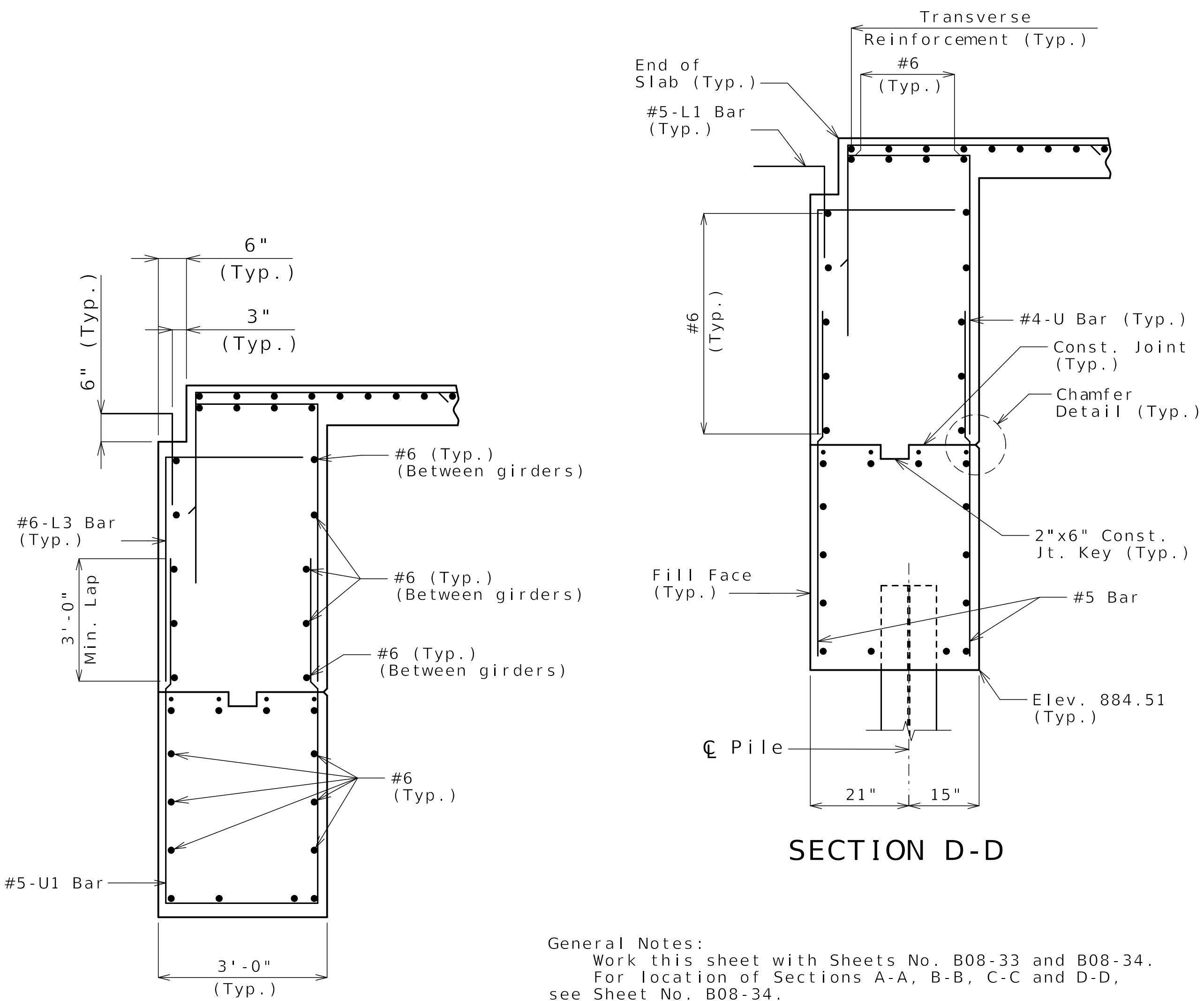
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

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



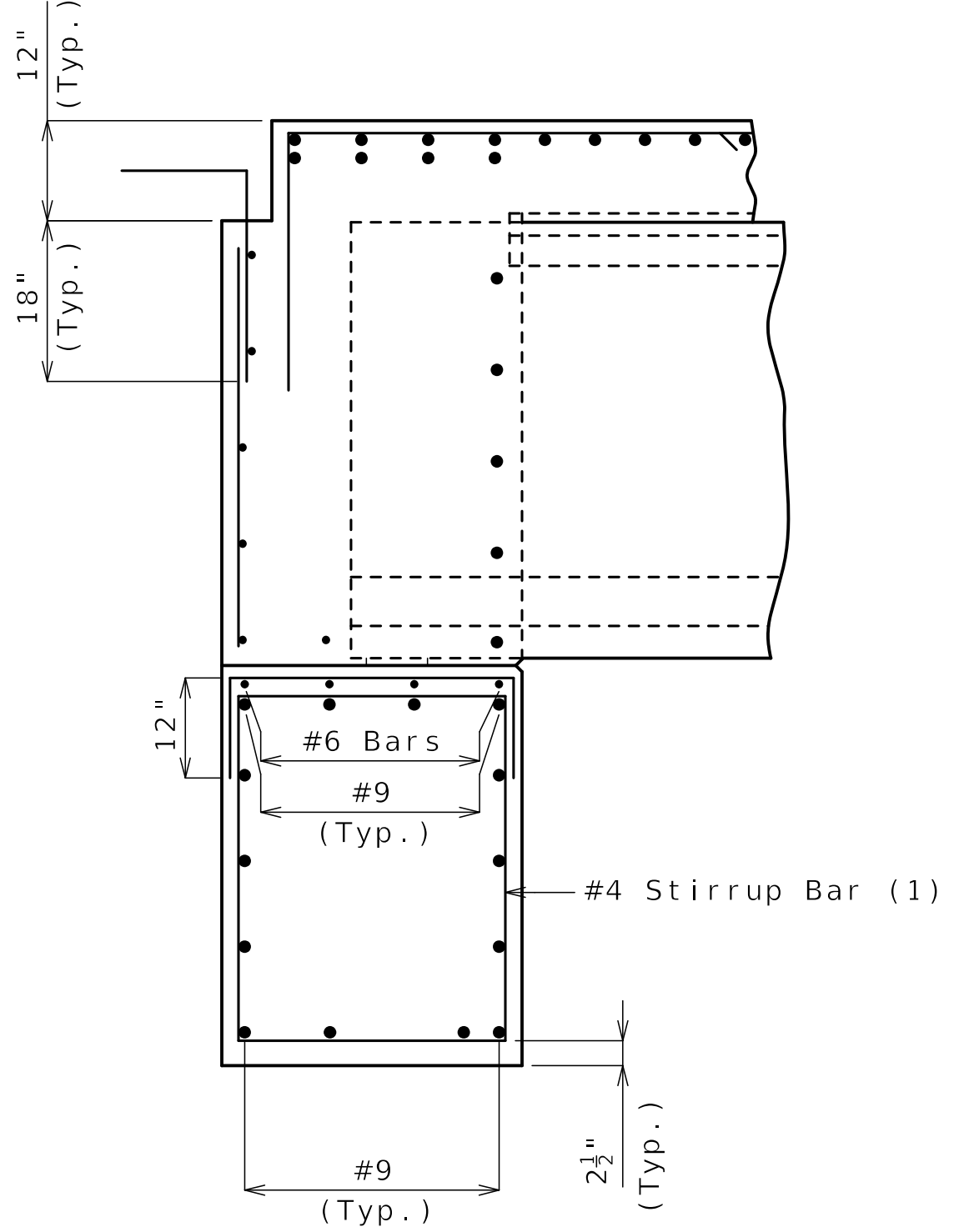
CHAMFER DETAIL



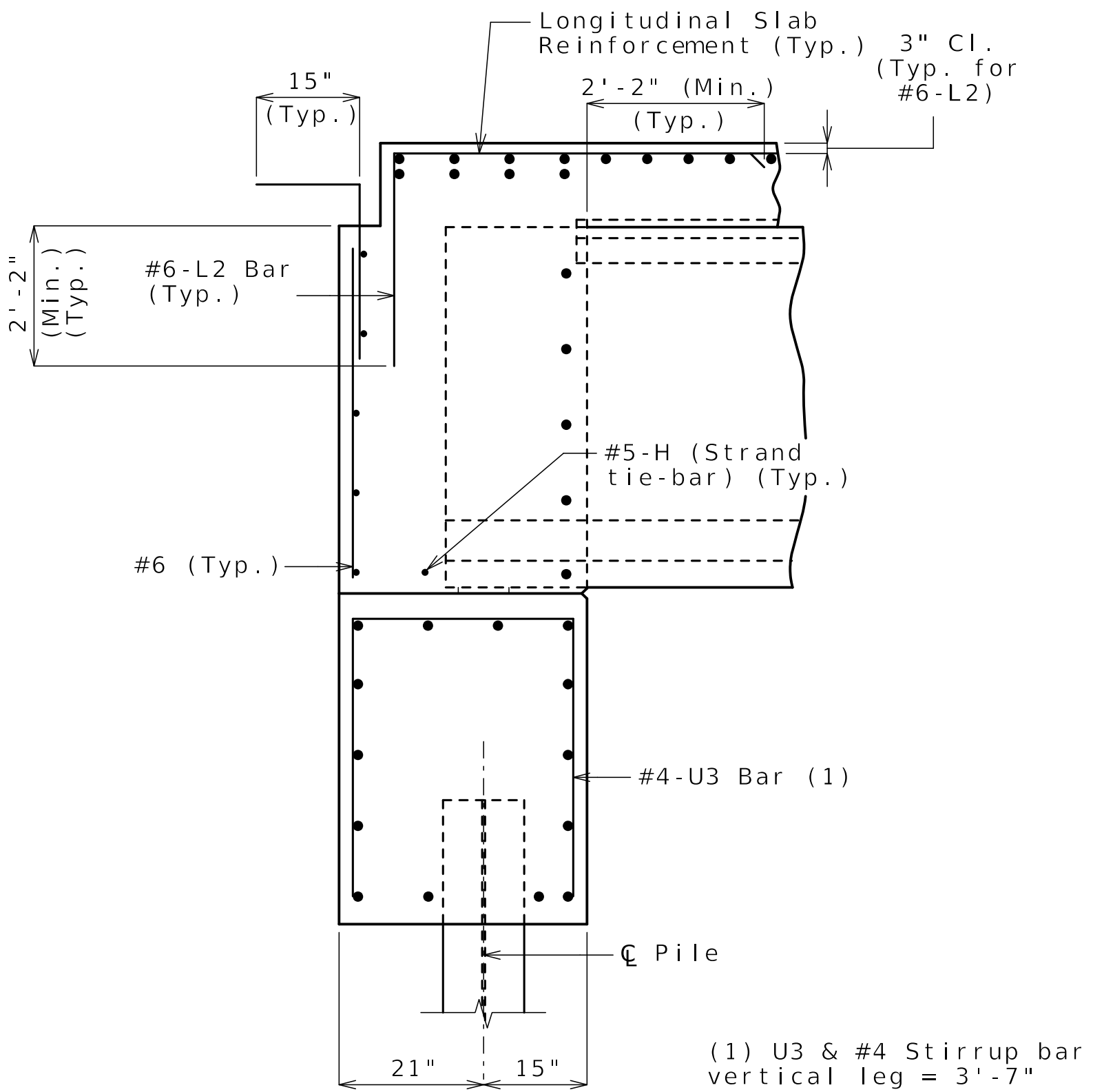
SECTION D-D

General Notes:
Work this sheet with Sheets No. B08-33 and B08-34.
For location of Sections A-A, B-B, C-C and D-D, see Sheet No. B08-34.
For reinforcement of the Type D Barrier, see A9625 (I-70 EB Over KCT, Indiana, & 18th) Superstructure Package.

SECTION A-A



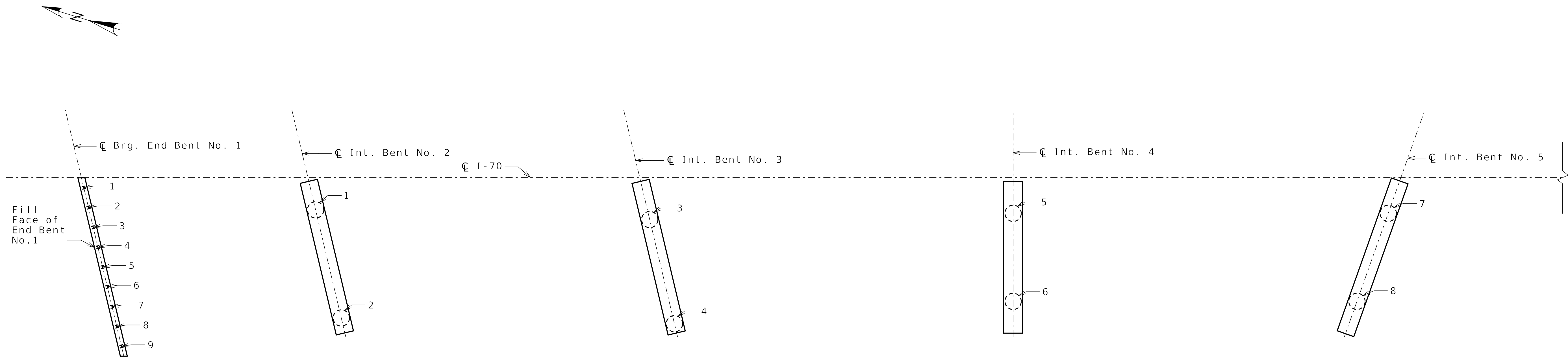
SECTION C-C



SECTION B-B

Released For Construction
Not to Scale
Revision: 0.0
Date: 06/09/2025
Package: BRD-08-EBKCTRR-Substructure

DETAILS OF END BENT NO. 9

[illegible]

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

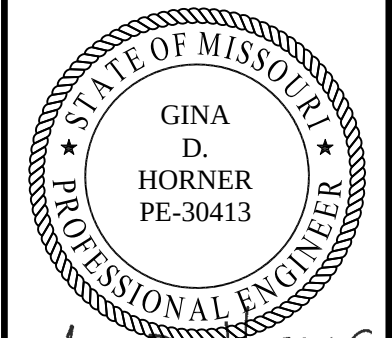
As-Built Drilled Shaft Data				
Shaft No.	Top of Sound Rock (Elev.)	Tip of Casing (Elev.)	Bottom of Rock Socket (Elev.)	Remarks
				Intermediate Bent No. 2
1				
2				
				Intermediate Bent No. 3
3				
4				
				Intermediate Bent No. 4
5				
6				
				Intermediate Bent No. 5
7				
8				

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

Released For Construction
Not to Scale
Revision: 0.0
Date: 06/09/2025
Package: BRD-08-EBKCTRR-Substructure

Revision: 0.0
Date: 06/09/2025
Package: BRD-08-EBKCTRR-Substructure

AS-BUILT PILE AND DRILLED SHAFT DATA



Lina D. Horner

06/03/25

DATE PREPARED
06/03/2025

06/02/2025	
ROUTE	STATE

ROUTE	STATE
I - 70	MO

DISTRICT	SHEET NO.
DD	B-00 27

BR	B08-37
COUNTY	

JACKSON

JOB NO.

J4I1486D

CONTRACT ID.
240807-C01

PROJECT NO.

BRIDGE NO.
A062E

A9625						

[illegible][illegible][illegible]

MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

 105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-273-6636)

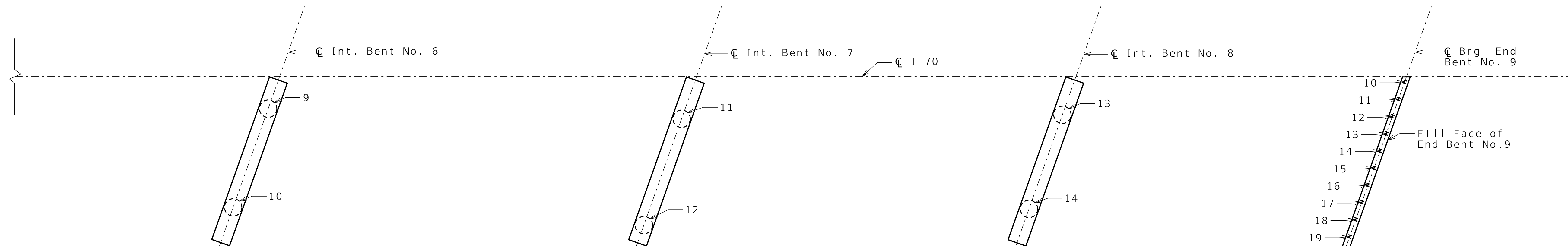


105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)



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



[illegible]

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

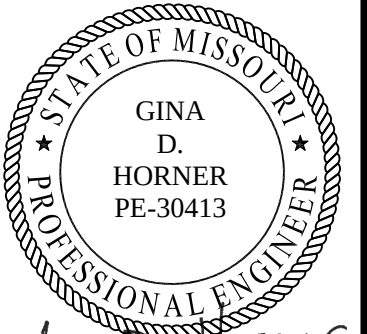
As-Built Drilled Shaft Data				
Shaft No.	Top of Sound Rock (Elev.)	Tip of Casing (Elev.)	Bottom of Rock Socket (Elev.)	Remarks
				Intermediate Bent No. 6
9				
10				
				Intermediate Bent No. 7
11				
12				
				Intermediate Bent No. 8
13				
14				

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

Released For Construction
Not to Scale

Revision: 0.0
Date: 06/09/2025
Package: BRD-08-EBKCTRR-Substructure

AS-BUILT PILE AND DRILLED SHAFT DATA



Gina D. Horner

06/03/25

DATE PREPARED

06/02/2025

ROUTE	STATE
I 70	MO

1 - 70	MO
DISTRICT	SHEET NO.

BR	B08-38
----	--------

COUNTY
LACKSON

JACKSON
JOB NO.

1411486D

CONTRACT ID.

240807-C01

PROJECT NO.

BRIDGE NO.

A9625

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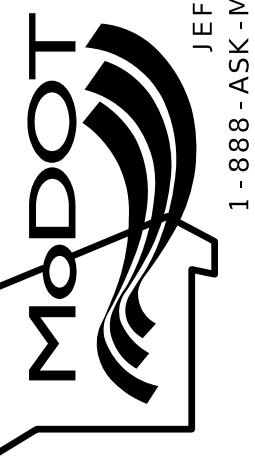
[illegible]

DATE	DESCRIPTION
06/02/25	REV 0 - RFC SUBMITTAL



MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-273-6536)



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

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



DATE PREPARED 06/02/2025	
ROUTE I - 70	STATE MO
DISTRICT BR	SHEET NO. B08 - 39

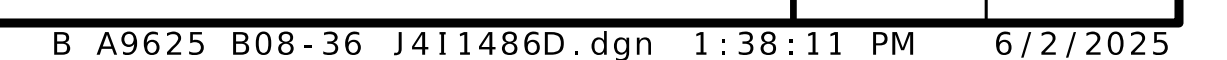
BRIDGE NO.
A9625[illegible]

MoDOT
MISSOURI DEPARTMENT OF
TRANSPORTATION
COMMISSION

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

ARKSON
ADMACHER
JOINT VENTURE

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





SOIL BORING NUMBER: RR_B1_2

Page 3 of 4

PROJECT Improve I 70 KC Design Build
NORTHING/EASTING 1065654.5 / 2776672.7
DRILLING FIRM PPI
DRILLER Eric P.
DATE STARTED 12/02/2024
LOGGED BY Zachary Boyd
DATE COMPLETED 12/02/2024
SURFACE ELEVATION 871.5'
RIG TYPE CME-550
METHOD Mud Rotary, NQ Core
TOOLING 3-3/4" Rotary Drill

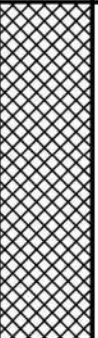
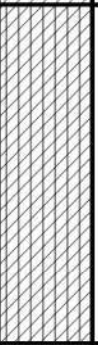
Depth (ft)	Depth of Sample	Sample Type	Sample ID	Recovery Length (in)	Blow Counts (N-Value)	% Recovery	RQD (%)	Pocket Pen (tsf)	Graphic Log	Groundwater Data		Lab				Visual Classification and Remarks
										During Drilling (ft):	N/A	Atterberg Limits (LL-PL-P)	Moisture Content (%)	Dry Density (PCF)	UCS (tsf)	
										After Drilling (ft):	N/A					
										After __ Hours (ft):	N/A					



SOIL BORING NUMBER: RR_B2_1

Page 1 of 4

PROJECT Improve I 70 KC Design Build NORTHING/EASTING 1065547.0 / 2776680.4
DRILLING FIRM PPI DRILLER David Allen DATE STARTED 12/09/2024
LOGGED BY Pradip Adhikari DATE COMPLETED 12/12/2024
SURFACE ELEVATION 845* RIG TYPE CME-55
METHOD Auger, NQ Core TOOLING 4-1/2" Continuous Flight Auger

Depth (ft)	Depth of Sample	Sample Type	Sample ID	Recovery Length (in)	Blow Counts (N-Value)	% Recovery	RQD (%)	Pocket Pen (tsf)	Graphic Log	Groundwater Data		Lab			
										During Drilling (ft):	5.0	Atterberg Limits (LL-PL-Pi)	Moisture Content (%)	Dry Density (PCF)	UCS (tsf)
										After Drilling (ft):	4.5				
										After __ Hours (ft):	N/A				
Visual Classification and Remarks															
3.5 ft		X	J-1	16	6-5-5 (10)	89		1.5		FILL, black, moist, LEAN CLAY (CL), silty, trace gravel, cinders					
										6.0 839					
8.5 ft		X	J-2	18	2-3-3 (6)	100		1.5		Brown and gray, firm, moist, LEAN CLAY (CL)					
10										36-20-16 28.5					
13.5 ft		X	J-3	18	3-3-5 (8)	100		3.5							
15															
18.5 ft		X	J-4	18	3-3-4 (7)	100		1.75		38-19-19 26.4					
20															
23.5 ft		X	J-5	18	4-5-5 (10)	100		2.75							
25										- stiff below 23.5'					
26.5 ft										25.8 819.3					
28.5 ft		X	J-6	18	2-2-3 (5)	100		1.0		Brown and gray, firm, moist, LEAN CLAY with SILT (CL-ML)					
30										37-17-20 21.2 105.1 3.29					
33.5 ft		X	J-7	18	3-4-7 (11)	100		3.0		31.8 813.3					
35										Brown and gray, stiff, moist, LEAN CLAY (CL), trace sand					
										36.75' becomes silty					



SOIL BORING NUMBER: RR_B2_1

Page 3 of 4

PROJECT Improve I 70 KC Design Build
NORTHING/EASTING 1065547.0 / 2776680.4
DRILLING FIRM PPI
DRILLER David Allen
DATE STARTED 12/09/2024
LOGGED BY Pradip Adhikari
DATE COMPLETED 12/12/2024
SURFACE ELEVATION 845*
RIG TYPE CME-55
METHOD Auger, NQ Core
TOOLING 4-1/2" Continuous Flight Auger

Depth (ft)	Depth of Sample	Sample Type	Sample ID	Recovery Length (in)	Blow Counts (N-Value)	% Recovery	RQD (%)	Pocket Pen (tsf)	Graphic Log	Groundwater Data		Lab				Visual Classification and Remarks
										During Drilling (ft):		Atterberg Limits (LL-PL-P)	Moisture Content (%)	Dry Density (PCF)	UCS (tsf)	
										After Drilling (ft):						
										After __ Hours (ft):	N/A					
78.5 ft			J-14	18	3-4-6 (10)	100		1.5								Brownish gray, firm, moist, FAT CLAY (CH), trace sand
80																
85																
88.3 ft			C-1	52		100	17									- SPT refusal at 88.3'
92.6 ft			C-2	60		100	33									Limestone, thinly bedded, weathered, very fine grained, light gray, moderately hard
97.6 ft			C-3	60		100	68									- slightly weathered, medium bedded below 97'
102.6 ft			C-4	60		100	70									103.6 741.4
107.6 ft			C-5	60		100	56									Shale, medium bedded, weathered, gray, moderately hard
110																108.3 736.7
																110.8 734.2
																Shale, medium bedded, weathered, gray, moderately hard

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



SOIL BORING NUMBER: RR_B2_1

Page 4 of 4

PROJECT Improve I 70 KC Design Build
NORTHING/EASTING 1065547.0 / 2776680.4
DRILLING FIRM PPI
DRILLER David Allen
DATE STARTED 12/09/2024
LOGGED BY Pradip Adhikari
DATE COMPLETED 12/12/2024
SURFACE ELEVATION 845*
RIG TYPE CME-55
METHOD Auger, NQ Core
TOOLING 4-1/2" Continuous Flight Auger

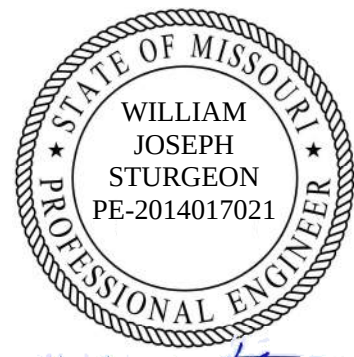
Depth (ft)	Depth of Sample	Sample Type	Sample ID	Recovery Length (in)	Blow Counts (N-Value)	% Recovery	RQD (%)	Pocket Pen (tsf)	Graphic Log	Groundwater Data		Lab				Visual Classification and Remarks
										During Drilling (ft):		Atterberg Limits (LL-PL-P)	Moisture Content (%)	Dry Density (PCF)	UCS (tsf)	
										After Drilling (ft):						
										After __ Hours (ft):	N/A					
115			C-5 C-6	60 60		100 100	45									Shale, medium bedded, weathered, gray, moderately hard
117.6 ft																112.6 732.4
120			C-7	41		100	85									Shale, medium bedded, weathered, gray, moderately hard
121.0																121.0 724
125																Bottom of Boring at 121'
130																Boring backfilled with cuttings 12/12/2024
135																
140																
145																

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

Released For Construction
Not to Scale
Revision: 0.0
Date: 06/09/2025
Package: BRD-08-EBKCTRR-Substructure

Notes:
For locations of borings, see Sheet No. B08-06 and Geotechnical Report.

BORING LOGS



6/3/2025

DATE PREPARED
06/02/2025

ROUTE
1 - 70

STATE
MO

DISTRICT
BR

SHEET NO.
B08 - 42

COUNTY
JACKSON

JOB NO.
J411486D

CONTRACT ID.
240807 - C01

PROJECT NO.

BRIDGE NO.
A9625

DESCRIPTION

REV 0 - RFC SUBMITTAL

DATE

06/02/25

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

MoDOT

105 WEST CAPITOL

JEFFERSON CITY, MO 65102

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

CERTIFICATE OF AUTHORITY

NO. 001270

HNTB



SOIL BORING NUMBER: RR_B2_2

Page 3 of 4

PROJECT Improve I 70 KC Design Build NORTHING/EASTING 1065583.6 / 2776750.8
DRILLING FIRM PPI DRILLER David Allen DATE STARTED 12/05/2024
LOGGED BY Pradip Adhikari DATE COMPLETED 12/06/2024
SURFACE ELEVATION 844.5' RIG TYPE CME-55
METHOD Auger, Mud Rotary, NQ Core TOOLING 4-1/4" Hollow Stem Auger, 3-3/4" Rotary Drill

Depth (ft)	Depth of Sample	Sample Type	Sample ID	Recovery Length (in)	Blow Counts (N-Value)	% Recovery	RQD (%)	Pocket Pen (tsf)	Graphic Log	Groundwater Data		Lab				Visual Classification and Remarks
										During Drilling (ft):	N/A	Atterberg Limits (LL-PL-Pi)	Moisture Content (%)	Dry Density (PCF)	UCS (tsf)	
75																Gray, stiff, moist, FAT CLAY (CH), trace sand
78.5 ft			J-14	18	4-5-6 (11)	100		3.0								
80																
85																
87.7 ft			C-1	2		100	0			87.6	756.9					Limestone, thinly bedded, weathered, very fine grained, light gray, moderately hard
87.8 ft			C-2	60		100	68					0.2	167.0	727		
82.8 ft			C-3	60		100	76									- 1" limey clay seam at 95.6'
95																- hard, medium bedded below 97.8'
97.8 ft			C-4	60		100	65									
100																
102.8 ft			C-5	60		100	66			102.5	742					Weathered, dark gray
105																
107.8 ft			C-6	60		100	66			107.0	737.5	1.5	119.8	486		Limestone, weathered, light gray, moderately hard
110										109.3	735.2					Shale, medium bedded, weathered, gray, soft



SOIL BORING NUMBER: RR_B2_2

Page 4 of 4

PROJECT Improve I 70 KC Design Build NORTHING/EASTING 1065583.6 / 2776750.8
DRILLING FIRM PPI DRILLER David Allen DATE STARTED 12/05/2024
LOGGED BY Pradip Adhikari DATE COMPLETED 12/06/2024
SURFACE ELEVATION 844.5' RIG TYPE CME-55
METHOD Auger, Mud Rotary, NQ Core TOOLING 4-1/4" Hollow Stem Auger, 3-3/4" Rotary Drill

Depth (ft)	Depth of Sample	Sample Type	Sample ID	Recovery Length (in)	Blow Counts (N-Value)	% Recovery	RQD (%)	Pocket Pen (tsf)	Graphic Log	Groundwater Data		Lab				Visual Classification and Remarks
										During Drilling (ft):	N/A	Atterberg Limits (LL-PL-Pi)	Moisture Content (%)	Dry Density (PCF)	UCS (tsf)	
111 ft			C-6	60		100	66									Shale, medium bedded, weathered, gray, soft
112.8 ft			C-7	60		100	75									- Limey shale below 112.8'
115										114.3	730.2					Limestone, thickly bedded, slightly weathered, light gray, hard
117.8 ft			C-8	60		100	100									
120																
122.8										122.8	721.7					Bottom of Boring at 122.8'
125																Boring backfilled with cuttings 12/6/2024
130																
135																
140																
145																

Released For Construction
Not to Scale
Revision: 0.0
Date: 06/09/2025
Package: BRD-08-EBKCTRR-Substructure

Notes:
For locations of borings, see Sheet No. B08-06 and Geotechnical Report.

BORING LOGS

Detailed FEB 2025
Checked MAR 2025

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

Sheet No. B08-44 of B08-57



6/3/2025

DATE PREPARED
06/02/2025

ROUTE
1 - 70

STATE
MO

DISTRICT
BR

SHEET NO.
B08 - 44

COUNTY
JACKSON

JOB NO.
J4I1486D

CONTRACT ID.
240807 - C01

PROJECT NO.

BRIDGE NO.
A9625

DESCRIPTION

REV 0 - RFC SUBMITTAL

DATE

06/02/25

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

MoDOT

105 WEST CAPITOL

JEFFERSON CITY, MO 65102

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

CERTIFICATE OF AUTHORITY

NO. 001270

HNTB



SOIL BORING NUMBER: RR_B3_1

Page 1 of 4

PROJECT Improve I 70 KC Design Build NORTHING/EASTING 1065381.9 / 2776645.9
DRILLING FIRM PPI DRILLER Ray A. DATE STARTED 12/19/2024
LOGGED BY Trent Shepherd DATE COMPLETED 12/20/2024
SURFACE ELEVATION 847.0' RIG TYPE CME-55
METHOD Auger, Mud Rotary, NQ Core TOOLING 4-1/4" Hollow Stem Auger, 3-3/4" Rotary Drill

Depth (ft)	Depth of Sample	Sample Type	Sample ID	Recovery Length (in)	Blow Counts (N-Value)	% Recovery	RQD (%)	Pocket Pen (tsf)	Graphic Log	Groundwater Data		Lab								
										During Drilling (ft):	9.0	▽	Atterberg Limits (LL-PL-P)	Moisture Content (%)	Dry Density (PCF)	UCS (tsf)				
										After Drilling (ft):	N/A									
										After __ Hours (ft):	N/A									
Visual Classification and Remarks																				
										FILL, very stiff, dry, SILTY SAND (CL), with fine grained sand and organics										
4 ft		⊗	J-1	8	2-3-4 (7)	44		>4.5		- % passing 200 = 89.7% at 4'						842	38-16-22	11.6		
5										FILL, brown, very dense, dry, SANDY LEAN CLAY (CL), with fine grained sand and organics										
										9.0						838				
9 ft		⊗	J-2	18	3-3-6 (9)	100		2.5		Dark brown, very stiff, dry, LEAN CLAY (CL)										
10																				
										13.0						834				
13 ft		■	U-1	24		100		1.75		Brown, stiff, moist, LEAN CLAY (CL)							44-17-27	23.5	103.7	2.12
15																				
										- becomes firm at 18'										
18 ft		⊗	J-3	18	2-4-4 (8)	100		1.0												
20																				
										- becomes soft at 23', driller notes trace gravel from 23.0 - 29.5'							41-15-26	30.9		
23 ft		⊗	J-4	14	WOH-WOH-WOH	78		<0.5												
25																				
										28.0						819				
28 ft		⊗	J-5	18	3-4-7 (11)	100		2.5		Gray, very stiff, moist, LEAN CLAY with SILT (CL-ML)										
30																				
										33.0						814				
33 ft		■	U-3	24		100		2.75		Brown, stiff, moist, FAT CLAY (CH)							56-18-38	21.7	105.0	2.14
35																				



SOIL BORING NUMBER: RR_B3_1

Page 3 of 4

PROJECT Improve I 70 KC Design Build NORTHING/EASTING 1065381.9 / 2776645.9
DRILLING FIRM PPI DRILLER Ray A. DATE STARTED 12/19/2024
LOGGED BY Trent Shepherd DATE COMPLETED 12/20/2024
SURFACE ELEVATION 847.0' RIG TYPE CME-55
METHOD Auger, Mud Rotary, NQ Core TOOLING 4-1/4" Hollow Stem Auger, 3-3/4" Rotary Drill

Depth (ft)	Depth of Sample	Sample Type	Sample ID	Recovery Length (in)	Blow Counts (N-Value)	% Recovery	RQD (%)	Pocket Pen (tsf)	Graphic Log	Groundwater Data		Lab				
										During Drilling (ft):	9.0	▽	Atterberg Limits (LL-PL-Pi)	Moisture Content (%)	Dry Density (PCF)	UCS (tsf)
										After Drilling (ft):	N/A					
										After __ Hours (ft):	N/A					
										Visual Classification and Remarks						
75										Brown, firm, moist, LEAN CLAY (CL), with trace gray clay						
	78 ft	X	J-11	18	4-7-19 (26)	100		<0.5		78.0	769					
80										Brown, soft, moist, FAT CLAY (CH), with some gravel						
										80.4	766.6					
										Shale, soft						
85										84.5	762.5					
	87 ft		C-1	34		100	100			Limestone, slightly weathered, light gray, moderately hard, with healed joints, with lenticular shale						
90	89.8 ft		C-2	60		100	100			- becomes fresh at 89.8'						
95	94.8 ft		C-3	60		100	100									
100	99.8 ft		C-4	60		100	100									
105	104.8 ft		C-5	60		100	100			- becomes shaly limestone at 105'						
										105.8	741.2					
										Shale, fresh, dark gray, hard						
										108.0	739					



SOIL BORING NUMBER: RR_B3_1

Page 4 of 4

PROJECT Improve I 70 KC Design Build NORTHING/EASTING 1065381.9 / 2776645.9
DRILLING FIRM PPI DRILLER Ray A. DATE STARTED 12/19/2024
LOGGED BY Trent Shepherd DATE COMPLETED 12/20/2024
SURFACE ELEVATION 847.0' RIG TYPE CME-55
METHOD Auger, Mud Rotary, NQ Core TOOLING 4-1/4" Hollow Stem Auger, 3-3/4" Rotary Drill

Depth (ft)	Depth of Sample	Sample Type	Sample ID	Recovery Length (in)	Blow Counts (N-Value)	% Recovery	RQD (%)	Pocket Pen (tsf)	Graphic Log	Groundwater Data		Lab				Visual Classification and Remarks
										During Drilling (ft):		Atterberg Limits (LL-PL-Pi)	Moisture Content (%)	Dry Density (PCF)	UCS (tsf)	
	108 ft		C-5	60		100				9.0	▽					
110	109.8 ft		C-6	27		100	74				N/A					
											N/A					
																Shale, fresh, dark gray, hard
										109.8						737.2
																Limestone, slightly weathered, light gray, moderately hard
										- 6" thick limy shale at 110.8'						
										112.1						734.9
																Bottom of Boring at 112.1'
																Boring backfilled with cuttings 12/20/2024
120																
125																
130																
135																
140																

Released For Construction
Not to Scale
Revision: 0.0
Date: 06/09/2025
Package: BRD-08-EBKCTRR-Substructure

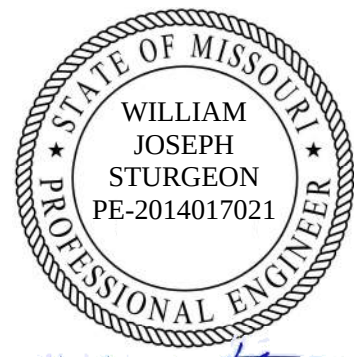
Notes:
For locations of borings, see Sheet No. B08-06 and Geotechnical Report.

BORING LOGS

Detailed FEB 2025
Checked MAR 2025

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

Sheet No. B08-46 of B08-57



6/3/2025

DATE PREPARED
06/02/2025

ROUTE
1 - 70

STATE
MO

DISTRICT
BR

SHEET NO.
B08 - 46

COUNTY
JACKSON

JOB NO.
J411486D

CONTRACT ID.
240807 - C01

PROJECT NO.

BRIDGE NO.
A9625

DESCRIPTION

REV 0 - RFC SUBMITTAL

DATE

06/02/25

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL

JEFFERSON CITY, MO 65102

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

MoDOT

CLARKSON RADMACHER JOINT VENTURE

715 KIRK DRIVE

KANSAS CITY, MO 64105-1310

CERTIFICATE OF AUTHORITY

NO. 001270

HNTB



SOIL BORING NUMBER: RR_B3_2

Page 1 of 4

PROJECT Improve I 70 KC Design Build
NORTHING/EASTING 1065409.7 / 2776698.0
DRILLING FIRM PPI
DRILLER Ray A.
DATE STARTED 01/13/2025
LOGGED BY Trent Shepherd
DATE COMPLETED 01/14/2025
SURFACE ELEVATION 844'
RIG TYPE CME-55
METHOD Auger, NQ Core
TOOLING 4-1/2" Continuous Flight Auger

Depth (ft)	Depth of Sample	Sample Type	Sample ID	Recovery Length (in)	Blow Counts (N-Value)	% Recovery	RQD (%)	Pocket Pen (tsf)	Graphic Log	Groundwater Data		Lab				Visual Classification and Remarks
										During Drilling (ft):		Atterberg Limits (LL-PL-P)	Moisture Content (%)	Dry Density (PCF)	UCS (tsf)	
										9.5						FILL, tan, loose, dry, medium grained, WELL-GRADED SAND (SW)
5	4 ft		J-1	11	2-1-2 (3)	61										
10	9 ft		J-2	15	2-1-3 (4)	83		1.5		9.5	834.5		24.2			Brown, stiff, moist, LEAN CLAY (CL), with trace sand
15	13.5 ft		J-3	24				2.5		13.5	830.5					Brown, very stiff, moist, LEAN CLAY (CL)
20	18.5 ft		J-4	18	3-3-5 (8)	100		2.5				45-22-23	22.4	104.9	1.83	
25	23.5 ft		J-5	18	3-3-3 (6)	100		2.0					25.1			- becomes gray at 23.5'
30	28.5 ft		J-6	24				4.0		28.5	815.5					Brown to tan, very stiff, moist, LEAN CLAY (CL), with some gravel
35	33.5 ft		J-7	18	3-7-4 (11)	100		3.5		33.5	810.5					Brown to gray, very stiff, moist, LEAN CLAY (CL)

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



SOIL BORING NUMBER: RR_B3_2

Page 2 of 4

PROJECT Improve I 70 KC Design Build
NORTHING/EASTING 1065409.7 / 2776698.0
DRILLING FIRM PPI
DRILLER Ray A.
DATE STARTED 01/13/2025
LOGGED BY Trent Shepherd
DATE COMPLETED 01/14/2025
SURFACE ELEVATION 844'
RIG TYPE CME-55
METHOD Auger, NQ Core
TOOLING 4-1/2" Continuous Flight Auger

Depth (ft)	Depth of Sample	Sample Type	Sample ID	Recovery Length (in)	Blow Counts (N-Value)	% Recovery	RQD (%)	Pocket Pen (tsf)	Graphic Log	Groundwater Data		Lab				Visual Classification and Remarks
										During Drilling (ft):		Atterberg Limits (LL-PL-P)	Moisture Content (%)	Dry Density (PCF)	UCS (tsf)	
40	40.5 ft		J-8	18	4-7-9 (16)	100		2.0								Brown to gray, very stiff, moist, LEAN CLAY (CL)
45	48.5 ft		J-9	9	15-16-19 (35)	50										- tube attempted, zero recovery at 38.5'
50	50 ft		J-10	18	4-6-9 (15)	100		4.0								Gray, stiff, wet, FAT CLAY (CH)
55	53.5 ft		J-11	18	5-5-9 (14)	100		3.0								- tube attempted, zero recovery at 45.5'
60	58.5 ft		J-12	18	5-6-9 (15)	100		3.0								Note: Blow counts could be affected from shelby tube that got stuck in the ground from previous attempt
65	68.5 ft		J-13	18	3-4-5 (9)	100		3.0								Dark gray, very stiff, moist, FAT CLAY (CH), with trace gravel
70																

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

Released For Construction
Not to Scale
Revision: 0.0
Date: 06/09/2025
Package: BRD-08-EBKCTRR-Substructure

Notes:
For locations of borings, see Sheet No. B08-06 and Geotechnical Report.

BORING LOGS

Detailed FEB 2025
Checked MAR 2025

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

Sheet No. B08-47 of B08-57



6/3/2025

DATE PREPARED
06/02/2025

ROUTE
1 - 70

STATE
MO

DISTRICT
BR

SHEET NO.
B08 - 47

COUNTY
JACKSON

JOB NO.
J411486D

CONTRACT ID.
240807 - C01

PROJECT NO.

BRIDGE NO.
A9625

DESCRIPTION

REV 0 - RFC SUBMITTAL

DATE

06/02/25

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

MoDOT

105 WEST CAPITOL
JEFFERSON CITY, MO 65102

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

CERTIFICATE OF AUTHORITY
NO. 001270

HNTB



SOIL BORING NUMBER: RR_B4_3

Page 3 of 3

PROJECT Improve I 70 KC Design Build NORTHING/EASTING 1065335.7 / 2776818.1
DRILLING FIRM PPI DRILLER Ray A. DATE STARTED 12/18/2024
LOGGED BY Trent Shepherd DATE COMPLETED 12/19/2024
SURFACE ELEVATION 858.1' RIG TYPE CME-55
METHOD Auger, Mud Rotary, NQ Core TOOLING 4-1/2" Hollow Stem Auger, 3-3/4" Rotary Drill

Depth (ft)	Depth of Sample	Sample Type	Sample ID	Recovery Length (in)	Blow Counts (N-Value)	% Recovery	RQD (%)	Pocket Pen (tsf)	Graphic Log	Groundwater Data		Lab				Visual Classification and Remarks
										During Drilling (ft):	N/A	Atterberg Limits (LL-PL-P)	Moisture Content (%)	Dry Density (PCF)	UCS (tsf)	
78 ft																
80			J-11	5	50/5"	100										Brownish gray, very stiff, moist, FAT CLAY with SILT (CH-MH), with some iron 781.6
																Brown, dense, wet, fine grained, CLAYEY GRAVEL (GC) 79.4
																- 12" clay seam at 78.4' 778.7
																Limestone, highly weathered, light gray, moderately hard 84.0
85	84.9 ft	C-1	C-2	11		100	36									Limestone, weathered, light gray, moderately hard 774.1
																86.4
												0.7	155.2	526		771.7
																Shaley limestone, slightly weathered, light to dark gray, moderately hard, with 2" clay seam at 86.9' 88.4
																769.7
90	89.9 ft		C-3	60		100	93									Shale, fresh, dark gray, moderately hard 90.9
												9.8	126.4	13		767.2
																Clayey shale, highly weathered, gray, soft 95.0
95	94.9 ft		C-4	60		100	95									763.1
																Limestone, weathered, light gray, moderately hard 96.0
																762.1
																Limestone, fresh, light gray, hard 109.9
																748.2
																Bottom of Boring at 109.9'
																Boring backfilled with cuttings 12/19/2024



SOIL BORING NUMBER: RR_B6_1

Page 1 of 3

PROJECT Improve I 70 KC Design Build NORTHING/EASTING 1065052.1 / 2776881.1
DRILLING FIRM PPI DRILLER Eric P. DATE STARTED 01/24/2025
LOGGED BY Zachary Boyd DATE COMPLETED 01/27/2025
SURFACE ELEVATION 856.5' RIG TYPE CME-550
METHOD Auger TOOLING 4-1/2" Continuous Flight Auger

Depth (ft)	Depth of Sample	Sample Type	Sample ID	Recovery Length (in)	Blow Counts (N-Value)	% Recovery	RQD (%)	Pocket Pen (tsf)	Graphic Log	Groundwater Data		Lab				Visual Classification and Remarks
										During Drilling (ft):	N/A	Atterberg Limits (LL-PL-P)	Moisture Content (%)	Dry Density (PCF)	UCS (tsf)	
																CONCRETE 1.0 855.5
	3.5 ft		J-1	18	2-5-5 (10)	100		1.5								Brown, stiff, moist, LEAN CLAY (CL), mottled, organics 44-20-24 22.8
5																
	8.5 ft		J-2	18	3-3-4 (7)	100		1.0								- becomes reddish brown to gray at 9.5'
10																
	13.5 ft		J-3	18	5-6-9 (15)	100		2.0								13.5 843
15																Reddish brown, stiff, moist, LEAN CLAY with SILT (CL-ML), organics
	18.5 ft		J-4	18	4-7-9 (16)	100		2.5								- becomes very stiff at 18.5' 42-21-21 20.6
20																
	23.5 ft		J-5	18	5-7-11 (18)	100		3.0								
25																
	28.5 ft		J-6	18	4-7-10 (17)	100		3.0								
30																
	33.5 ft		J-7	18	4-6-10 (16)	100		2.5								
35																

Released For Construction
Not to Scale

Revision: 0.0
Date: 06/09/2025
Package: BRD-08-EBKCTRR-Substructure

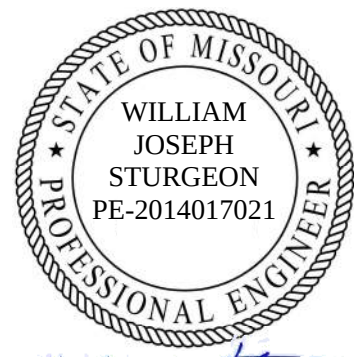
Notes:
For locations of borings, see Sheet No. B08-06 and Geotechnical Report.

BORING LOGS

Detailed FEB 2025
Checked MAR 2025

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

Sheet No. B08-52 of B08-57



6/3/2025

DATE PREPARED
06/02/2025

ROUTE
1 - 70

STATE
MO

DISTRICT
BR

SHEET NO.
B08 - 52

COUNTY
JACKSON

JOB NO.
J4I1486D

CONTRACT ID.
240807 - C01

PROJECT NO.

BRIDGE NO.
A9625

DESCRIPTION

REV 0 - RFC SUBMITTAL

DATE

06/02/25

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

MoDOT

105 WEST CAPITOL

JEFFERSON CITY, MO 65102

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

CLARKSON RADMACHER JOINT VENTURE

715 KIRK DRIVE

KANSAS CITY, MO 64105-1310

CERTIFICATE OF AUTHORITY

NO. 001270

HNTB



SOIL BORING NUMBER: RR_B7.1

Page 1 of 3

PROJECT Improve I 70 KC Design Build
NORTHING/EASTING 1064913.6 / 2776871.4
DRILLING FIRM PPI
DRILLER Ray A.
DATE STARTED 01/23/2025
LOGGED BY Trent Shepherd
DATE COMPLETED 01/24/2025
SURFACE ELEVATION 865*
RIG TYPE CME-55
METHOD Auger, Mud Rotary, NQ Core
TOOLING 4-1/4" Hollow Stem Auger, 3-3/4" Rotary Drill

Depth (ft)	Depth of Sample	Sample Type	Sample ID	Recovery Length (in)	Blow Counts (N-Value)	% Recovery	RQD (%)	Pocket Pen (tsf)	Graphic Log	Groundwater Data		Lab				Visual Classification and Remarks
										During Drilling (ft):	N/A	Atterberg Limits (LL-PL-P)	Moisture Content (%)	Dry Density (PCF)	UCS (tsf)	
3 ft			J-1	13	1-2-3 (5)	72		1.0					25.2			Brown, firm, moist, LEAN CLAY (CL)
5																
8 ft			J-2	18	2-3-4 (7)	100		2.5								- becomes very stiff at 8'
10																
13 ft			J-3	18	3-3-5 (8)	100		3.0				49-24-25	25.0			
15																
18 ft			J-4	18	4-5-7 (12)	100		3.25								
20																
23 ft			J-5	18	4-5-6 (11)	100		3.25								
25																
28 ft			J-6	18	4-5-8 (13)	100		3.25				45-21-24	20.2			
30																
33 ft			J-7	18	4-6-10 (16)	100		2.75								
35																

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



SOIL BORING NUMBER: RR_B7.1

Page 2 of 3

PROJECT Improve I 70 KC Design Build
NORTHING/EASTING 1064913.6 / 2776871.4
DRILLING FIRM PPI
DRILLER Ray A.
DATE STARTED 01/23/2025
LOGGED BY Trent Shepherd
DATE COMPLETED 01/24/2025
SURFACE ELEVATION 865*
RIG TYPE CME-55
METHOD Auger, Mud Rotary, NQ Core
TOOLING 4-1/4" Hollow Stem Auger, 3-3/4" Rotary Drill

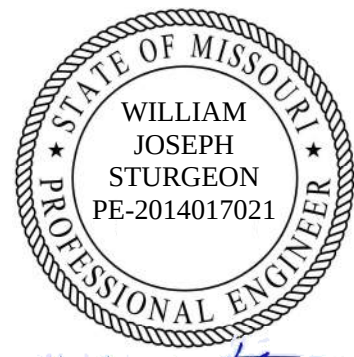
Depth (ft)	Depth of Sample	Sample Type	Sample ID	Recovery Length (in)	Blow Counts (N-Value)	% Recovery	RQD (%)	Pocket Pen (tsf)	Graphic Log	Groundwater Data		Lab				Visual Classification and Remarks
										During Drilling (ft):	N/A	Atterberg Limits (LL-PL-P)	Moisture Content (%)	Dry Density (PCF)	UCS (tsf)	
38 ft			J-8	18	3-4-6 (10)	100		2.0								Brown, firm, moist, LEAN CLAY (CL)
40													26.2			Reddish brown, stiff, moist, LEAN CLAY (CL), with iron
43 ft			J-9	18	7-11-19 (30)	100		3.5								
45																Gray to tan, very stiff, dry, LEAN CLAY (CL), shaly
48 ft			J-10	18	15-25-43 (68)	100										
50			C-1	60		100	98									Shale, highly weathered, dark gray, soft, with clay seams
50 ft																- becomes slightly weathered and moderately hard at 50'
52.0																813
53.5													2.0	150.50	142	Limestone, slightly weathered, light to dark gray, moderately hard
55			C-2	60		100	98									Shale, slightly weathered, dark gray, moderately hard, calcareous
57.8																807.2
59.0													0.3	166.60	1273	Limestone, fresh, light to dark gray, hard, calcareous
60			C-3	60		100	95									Shale, slightly weathered, dark gray, moderately hard
62.3																802.7
65			C-4	60		100	100						0.3	161.80	1654	Limestone, light to dark gray, hard, fresh with trace thinly laminated calcite and lenticular shale
70			C-5	60		100	100						0.2	166.30	1922	

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

Released For Construction
Not to Scale
Revision: 0.0
Date: 06/09/2025
Package: BRD-08-EBKCTRR-Substructure

Notes:
For locations of borings, see Sheet No. B08-06 and Geotechnical Report.

BORING LOGS



6/3/2025

DATE PREPARED
06/02/2025

ROUTE
1 - 70

STATE
MO

DISTRICT
BR

SHEET NO.
B08 - 54

COUNTY
JACKSON

JOB NO.
J4I1486D

CONTRACT ID.
240807-C01

PROJECT NO.

BRIDGE NO.
A9625

DESCRIPTION

REV 0 - RFC SUBMITTAL

DATE

06/02/25

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



SOIL BORING NUMBER: RR_B7_1

Page 3 of 3

PROJECT Improve I 70 KC Design Build NORTHING/EASTING 1064913.6 / 2776871.4
DRILLING FIRM PPI DRILLER Ray A. DATE STARTED 01/23/2025
LOGGED BY Trent Shepherd DATE COMPLETED 01/24/2025
SURFACE ELEVATION 865* RIG TYPE CME-55
METHOD Auger, Mud Rotary, NQ Core TOOLING 4-1/4" Hollow Stem Auger, 3-3/4" Rotary Drill

Depth (ft)	Depth of Sample	Sample Type	Sample ID	Recovery Length (in)	Blow Counts (N-Value)	% Recovery	RQD (%)	Pocket Pen (tsf)	Graphic Log	Groundwater Data		Lab				Visual Classification and Remarks
										During Drilling (ft):	N/A	Atterberg Limits (LL-PL-P)	Moisture Content (%)	Dry Density (PCF)	UCS (tsf)	
72.2			C-5	60		100										Limestone, light to dark gray, hard, fresh with trace thinly laminated calcite and lenticular shale
73.8																791.2
75	75 ft		C-6	60		100	100						8.7	135.1	34	Shale, fresh, dark gray, moderately hard to hard, calcareous
76.2																788.8
																Limestone, fresh, light to dark gray, hard
80													0.2	164.80	1525	80.0
																785
																Bottom of Boring at 80'
																Boring backfilled with cuttings 1/24/2025

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



SOIL BORING NUMBER: RR_B8_1

Page 1 of 2

PROJECT Improve I 70 KC Design Build NORTHING/EASTING 1064790.6 / 2776925.8
DRILLING FIRM PPI DRILLER Josh Starkey DATE STARTED 01/24/2025
LOGGED BY Cameron Dupont DATE COMPLETED 01/24/2025
SURFACE ELEVATION 872* RIG TYPE CME-55LC
METHOD Tricone, AWJ, NQ Core TOOLING 4-1/8" Tricone

Depth (ft)	Depth of Sample	Sample Type	Sample ID	Recovery Length (in)	Blow Counts (N-Value)	% Recovery	RQD (%)	Pocket Pen (tsf)	Graphic Log	Groundwater Data		Lab				Visual Classification and Remarks
										During Drilling (ft):	N/A	Atterberg Limits (LL-PL-P)	Moisture Content (%)	Dry Density (PCF)	UCS (tsf)	
																Brownish gray, firm, moist, FAT CLAY (CH), iron stained, trace organics
3.4			J-1	18	2-3-5 (8)	100		1.0								
5																
8.4			J-2	18	3-3-5 (8)	100		0.75								
10																
13.4			J-3	18	3-3-5 (8)	100		1.0								
15																
18.4			U-1	24		100		1.0								
20																
23.4			J-4	18	5-6-9 (15)	100		3.0								23.0
25																849
																Brown, stiff to very stiff, moist, LEAN CLAY (CL), iron nodules
28.4			J-5	18	4-5-8 (13)	100		3.0								
30																
33.4			J-6	18	4-4-5 (9)	100		1.5								33.0
35																839
																Brown-orange, stiff, moist, LEAN CLAY (CL), iron nodules, gray mottling
36.2			C-1	28		55	25									36.2
																835.8
																Limestone, slightly weathered, gray-orange, hard
													0.3	149.8	1089	

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

Released For Construction
Not to Scale
Revision: 0.0
Date: 06/09/2025
Package: BRD-08-EBKCTRR-Substructure

Notes:
For locations of borings, see Sheet No. B08-06 and Geotechnical Report.

BORING LOGS



6/3/2025

DATE PREPARED
06/02/2025

ROUTE
1 - 70

STATE
MO

DISTRICT
BR

SHEET NO.
B08 - 55

COUNTY
JACKSON

JOB NO.
J4I1486D

CONTRACT ID.
240807-C01

PROJECT NO.

BRIDGE NO.
A9625

DESCRIPTION

REV 0 - RFC SUBMITTAL

DATE

06/02/25

DATE

06/02/25

DATE

06/02/25

DATE

06/02/25

DATE

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06/02/25

DATE

06/02/25

DATE

06/02/25

DATE

06/02/25

DATE

06/02/25

DATE

06/02/25



SOIL BORING NUMBER: RR_B8_1

Page 2 of 2

PROJECT Improve I 70 KC Design Build
NORTHING/EASTING 1064790.6 / 2776925.8
DRILLING FIRM PPI
DRILLER Josh Starkey
DATE STARTED 01/24/2025
LOGGED BY Cameron Dupont
DATE COMPLETED 01/24/2025
SURFACE ELEVATION 872*
RIG TYPE CME-55LC
METHOD Tricone, AWJ, NQ Core
TOOLING 4-1/8" Tricone

Depth (ft)	Depth of Sample	Sample Type	Sample ID	Recovery Length (in)	Blow Counts (N-Value)	% Recovery	RQD (%)	Pocket Pen (tsf)	Graphic Log	Groundwater Data		Lab				Visual Classification and Remarks
										During Drilling (ft):	N/A	Atterberg Limits (LL-PL-P)	Moisture Content (%)	Dry Density (PCF)	UCS (tsf)	
40	39 ft		C-1	28		55										Limestone, slightly weathered, gray-orange, hard
	40.3 ft		C-2	60		100	53									39.5 832.5 Shale, medium to thin bedded, highly weathered, gray, soft
												15.9	119.9	7		
45	45.3 ft		C-3	60		100	72									
												13.7	122.6	9		
50	50.3 ft		C-4	15		25	8					14.9	117.2	6		
55	55.3 ft		C-5	43		72	7					4.5	146.1	100		
												12.4	112.0	5		
60	60.3 ft		C-6	56		93	25									59.8 812.2 Limestone, weathered to highly weathered, tan-gray, hard, fossiliferous
																61.0 811 Shale, weathered to highly weathered, dark gray, moderately hard
65	65.3 ft		C-7	58		97	48									65.3 806.7 Limestone, slightly weathered, gray, hard, fossiliferous
												17.0	117.4	6		66.8 805.2 Shale, weathered to highly weathered, dark gray, soft to moderately hard
70	70.3 ft		C-8	54		90	73									69.8 802.2 Limestone, slightly weathered, gray, hard
												0.4	149.7	1127		- white calcite veins at 73'
75																75.3 796.7 Bottom of Boring at 75.3'
																Boring backfilled with cuttings 1/24/2025

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



SOIL BORING NUMBER: RR_B9_1

Page 1 of 2

PROJECT Improve I 70 KC Design Build
NORTHING/EASTING 1064679.7 / 2776973.5
DRILLING FIRM PPI
DRILLER Ray A.
DATE STARTED 01/17/2025
LOGGED BY Trent Shepherd
DATE COMPLETED 01/17/2025
SURFACE ELEVATION 873*
RIG TYPE CME-55
METHOD Auger, Mud Rotary, NQ Core
TOOLING 4-1/4" Hollow Stem Auger, 3-3/4" Rotary Drill

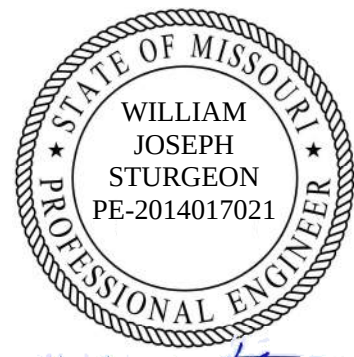
Depth (ft)	Depth of Sample	Sample Type	Sample ID	Recovery Length (in)	Blow Counts (N-Value)	% Recovery	RQD (%)	Pocket Pen (tsf)	Graphic Log	Groundwater Data		Lab				Visual Classification and Remarks
										During Drilling (ft):	N/A	Atterberg Limits (LL-PL-P)	Moisture Content (%)	Dry Density (PCF)	UCS (tsf)	
																CONCRETE
																0.3 872.8 Brown to gray, stiff, moist, LEAN CLAY (CL), with organics
3	3 ft		J-1	12	3-3-4 (7)	67		1.75					27.3			
5																
8	8 ft		J-2	18	2-2-4 (6)	100		1.5				43-24-19	29.5			- no organics after 8'
10																
13	13 ft		U-1	24		100		2.0					24.3	101.1	0.785	
15																
18	18 ft		J-3	18	2-2-3 (5)	100		1.0								- becomes firm at 18'
20																
23	23 ft		U-2	24		100		2.75				47-24-23	22.2	104.7	1.63	- becomes very stiff at 23'
25																
28	28 ft		J-4	18	x-2-1 (3)	100		1.75								28.0 845 Tan, stiff, wet, FAT CLAY (CH)
30																
32	32 ft		C-1	38		95	95									30.8 842.2 Shale, weathered
																32.0 841 Limestone, slightly weathered, light gray, moderately hard, with thinly laminated clay at 33.5' and 34.5'
35	35.3 ft		C-2	51		85	78						0.4	159.0	823	- with iron at 36'

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

Released For Construction
Not to Scale
Revision: 0.0
Date: 06/09/2025
Package: BRD-08-EBKCTRR-Substructure

Notes:
For locations of borings, see Sheet No. B08-06 and Geotechnical Report.

BORING LOGS



6/3/2025

DATE PREPARED
06/02/2025

ROUTE
I - 70

STATE
MO

DISTRICT
BR

SHEET NO.
B08 - 56

COUNTY
JACKSON

JOB NO.
J411486D

CONTRACT ID.
240807 - C01

PROJECT NO.

BRIDGE NO.
A9625

DESCRIPTION

REV 0 - RFC SUBMITTAL

DATE

06/02/25

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

MoDOT

105 WEST CAPITOL
JEFFERSON CITY, MO 65102

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

CLARKSON RADMACHER JOINT VENTURE

715 KIRK DRIVE
KANSAS CITY, MO 64105-1310

CERTIFICATE OF AUTHORITY
NO. 001270

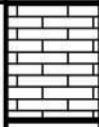
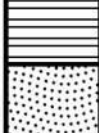
HNTB



SOIL BORING NUMBER: RR_B9_1

Page 2 of 2

PROJECT <u>Improve I 70 KC Design Build</u>	NORTHING/EASTING <u>1064679.7 / 2776973.5</u>
DRILLING FIRM <u>PPI</u> DRILLER <u>Ray A.</u>	DATE STARTED <u>01/17/2025</u>
LOGGED BY <u>Trent Shepherd</u>	DATE COMPLETED <u>01/17/2025</u>
SURFACE ELEVATION <u>873'</u> *	RIG TYPE <u>CME-55</u>
METHOD <u>Auger, Mud Rotary, NQ Core</u>	TOOLING <u>4-1/4" Hollow Stem Auger, 3-3/4" Rotary Drill</u>

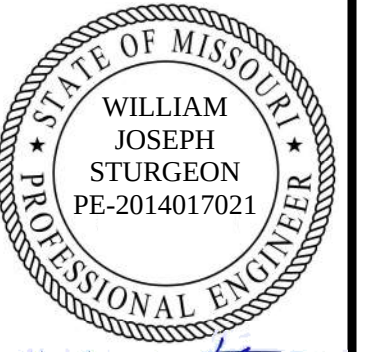
Boring Data										Lab					
Depth (ft)	Depth of Sample	Sample Type	Sample ID	Recovery Length (in)	Blow Counts (N-Value)	% Recovery	RQD (%)	Pocket Pen (tsf)	Graphic Log	Groundwater Data		Atterberg Limits (LL-PL-Pi)	Moisture Content (%)	Dry Density (pcf)	UCS (tsf)
										During Drilling (ft):	N/A				
										After Drilling (ft):	N/A				
										After __ Hours (ft):	N/A				
Visual Classification and Remarks															
37.5 ft			C-2	51		85				Limestone, slightly weathered, light gray, moderately hard, with thinly laminated clay at 33.5' and 34.5'	39.5	833.5	0.6	162.5	996
40	40.3 ft		C-3	60		100	97			Shale, highly weathered, gray, soft					
45	45.3 ft		C-4	60		100	93			Shale, slightly weathered, gray, moderately hard	44.0	829			
50	50.3 ft		C-5	60		100	92								
55	55.3 ft		C-6	60		100	70								
60	60.3 ft		C-7	20		100	70			Sandstone, weathered, light gray to tan, moderately hard	59.3	813.7			
65										Shale, slightly weathered, dark gray, hard, calcareous	61.2	811.8			
70										Bottom of Boring at 62'	62.0	811			
										Boring Backfilled with cuttings 1/17/2025					

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

Released For Construction
Not to Scale
Revision: 0.0
Date: 06/09/2025
Package: BRD-08-EBKCTRR-Substructure

Notes:
For locations of borings, see Sheet No. B08-06
and Geotechnical Report.

BORING LOGS



6/3/2025

DATE PREPARED
06/02/2025

ROUTE I - 70	STATE MO
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DISTRICT BR	SHEET NO. B08-57
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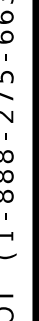
COUNTY
JACKSON

J4I1486D

240807 - C01
PROJECT NO.

BRIDGE NO.

A9625					

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MISSOURI DEPARTMENT OF TRANSPORTATION
COMMISSION

105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275.6636)

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