



DATE PREPARED
6/5/2025

ROUTE I - 70	STATE MO
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DISTRICT BR	SHEET NO A43202-
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COUNTY
ST. CHARLES

JOB NO.
JST0020

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
A43202

[illegible]

MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

105 WEST CAPITOL
JEFFERSON CITY, MO 65102



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

Bartlett & West
KANSAS CITY, MO 64105-1310
601 MONROE ST, SUITE 201 - JEFFERSON CITY, MO 65101
CERTIFICATE OF AUTHORIZATION NO. 000197 - ENGINEERING



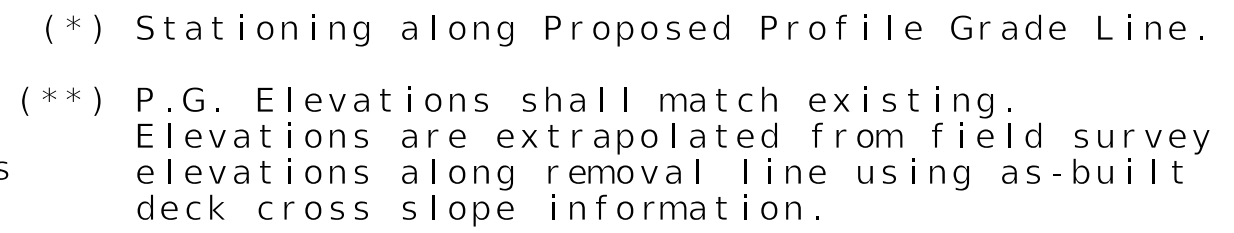
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ROUTE 1-70 FROM WENTZVILLE PKWY TO ROUTE 61
ABOUT 1.1 MILES EAST OF WENTZVILLE PKWY

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Sheet 1 of 37

Profile view showing a vertical curve (V.C.) with a length of 400.00'. The profile starts at a grade of +0.30% and ends at a grade of -1.50%. The profile is labeled 'PROFILE GRADE' and 'V.C.'.



Plan view of the proposed bridge structure. The diagram shows four spans: Span 1-2 (48'-0" / 148'-7"), Span 2-3 (59'-7" / 152'-3 1/2"), Span 3-4 (41'-0" / 148'-7"), and Widened Span Lengths (22 1/4"). Key features include:

- Bents:** End Bent No. 1, Existing Intermediate Bent No. 2, Existing Intermediate Bent No. 3, and End Bent No. 4.
- Structural Elements:** Columns, Drilled Shaft Rock Sockets, and Piles (Typ.).
- Existing Infrastructure:** Route Z, Roadway, and existing bridge components.
- Dimensions and Offsets:** Various offsets (e.g., 31'-6 1/2", 39'-7 1/2", 57'-2") and widths (e.g., 48'-0", 59'-7", 41'-0").
- Angles:** 19°30'00", 70°30'00", and 90°00'00".
- Labels:** "New Fill Face", "Removal Line", "Point of Min. Vertical Clr.", "End of Appr. Slab Seat", "PG Line", "BR-23", "BR-23A", "BR-102", "BR-202", "BR-302", "BR-24", "BR-402".

Bridge A4323 not shown for clarity

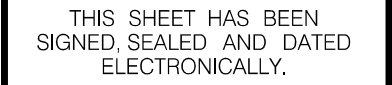
- ## Notice and Disclaimer Regarding Boring Log Data

Notes :

New Fill Face of End Bent 1 is offset 6" normal away from the fill face of existing backwall to eliminate the need to form the approach notch corbel.

All bents are parallel.

For General Notes and Foundation Data,
see Sheets 3 and 4.



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ROUTE I - 70	STATE MO
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DISTRICT BR	SHEET NO. A43202-2
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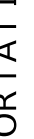
COUNTY
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BRIDGE NO.	A43202
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MISSOURI HIGHWAYS AND TRANSPORTATION
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105 WEST CAPITOL
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HNTB 715 KIRK DRIVE
KANSAS CITY, MO 64105-1310
CERTIFICATE OF AUTHORITY
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Bartlett & West
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PHONE 572-843-5198
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Foundation Data						
Type	Design Data		Bent Number			
			1	2	3	4
Load Bearing Pile	Pile Type and Size		HP12x53	--	--	HP12x53
	Number	ea	2	--	--	2
	Approximate Length Per Each	ft	49	--	--	17
	Pile Point Reinforcement	ea	ALL	--	--	ALL
	Min. Galvanized Penetration (Elev.)	ft	Full Length	--	--	Full Length
	Pile Driving Verification Method		DT	--	--	WEAP
	Resistance Factor		0.65	--	--	0.5
Rock Socket	Minimum Nominal Axial Compressive Resistance	kip	378	--	--	492
	Number	ea	--	1	1	--
	Layer 1	Foundation Material	--	Limestone	Limestone	--
		Elevation Range	ft	558.5-535	567.5-543	--
		Minimum Nominal Axial Compressive Resistance (Side Resistance)	ksf	--	22.4	--
				22.4		--
		Minimum Nominal Axial Compressive Resistance (Tip Resistance)	ksf	--	400	--

DT = Dynamic Testing

WEAP = Wave Equation Analysis of Piles

Load Bearing Pile:

Minimum Nominal Axial Compressive Resistance = $\frac{\text{Maximum Factored Loads}}{\text{Resistance Factor}}$

Rock Socket (Drilled Shafts):

Minimum Nominal Axial Compressive Resistance (Side Resistance + Tip Resistance) = $\frac{\text{Maximum Factored Loads}}{\text{Resistance Factors}}$

Foundation Inspection Hole required at Int. Bent No. 2 only.

Driven Piles:

All piles shall be galvanized full length.

Manufactured pile point reinforcement shall be used on all piles in this structure.

Pile point reinforcement need not be galvanized. Shop drawings will not be required for pile point reinforcement.

Prebore Pile 1 at End Bent No. 1 to elevation 550.00. Prebore all others to elevation 577.00.

Prebore holes shall be backfilled with sand (or other approved material), in accordance with Sec 702, before piles are driven to bearing.

Roadway fill shall be completed to the final roadway section and up to the elevation of the bottom of the concrete beam within the limits of the structure and for not less than 25 feet in back of the fill face of the end bents before any piles are driven for any bents falling within the embankment section.

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.

General Notes:

Design Specifications:

2002 AASHTO LFD Standard Specifications for Highway Bridges (17th Ed.) (Superstructure)
2020 AASHTO LRFD Bridge Design Specifications (9th Ed.) (Substructure)
Seismic Performance Category A

Design Loading:

Vehicular = HS20 Modified & Military 24,000 lb Tandem Axle (1983) (New and Existing Girders & Slab)
Vehicular = HL-93 (Substructure)
Future Wearing Surface = 15 lb/sf
Earth = 120 lb/cf
Equivalent Fluid Pressure = 45 lb/cf
Superstructure: Simply-Supported, Non-Composite for Dead Load. Continuous Composite for live load.

Design Unit Stresses:

Class B Concrete (Substructure) f'c = 3,000 psi
Class B-2 Concrete (Drilled Shafts & Rock Sockets) f'c = 4,000 psi
Class B-1 Concrete (Barrier) f'c = 4,000 psi
Class B-2 Concrete (Superstructure, except Prestressed Girders and Barrier) f'c = 4,000 psi
Reinforcing Steel (ASTM A706 Grade 60) fy = 60,000 psi
Structural Steel HP Pile (ASTM A709 Grade 50) fy = 50,000 psi
For prestressed girder stresses, see Sheets No. 18 thru 20.

Neoprene Pads:

Neoprene bearing pads shall be 60 durometer and shall be in accordance with Sec 716.

Pile Protective Coatings:

Piles shall be galvanized in accordance with Sec 702 and Sec. 1081.
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.

MBS Refers to mechanical bar splices. Mechanical bar splices shall be in accordance with Sec 706 or 710

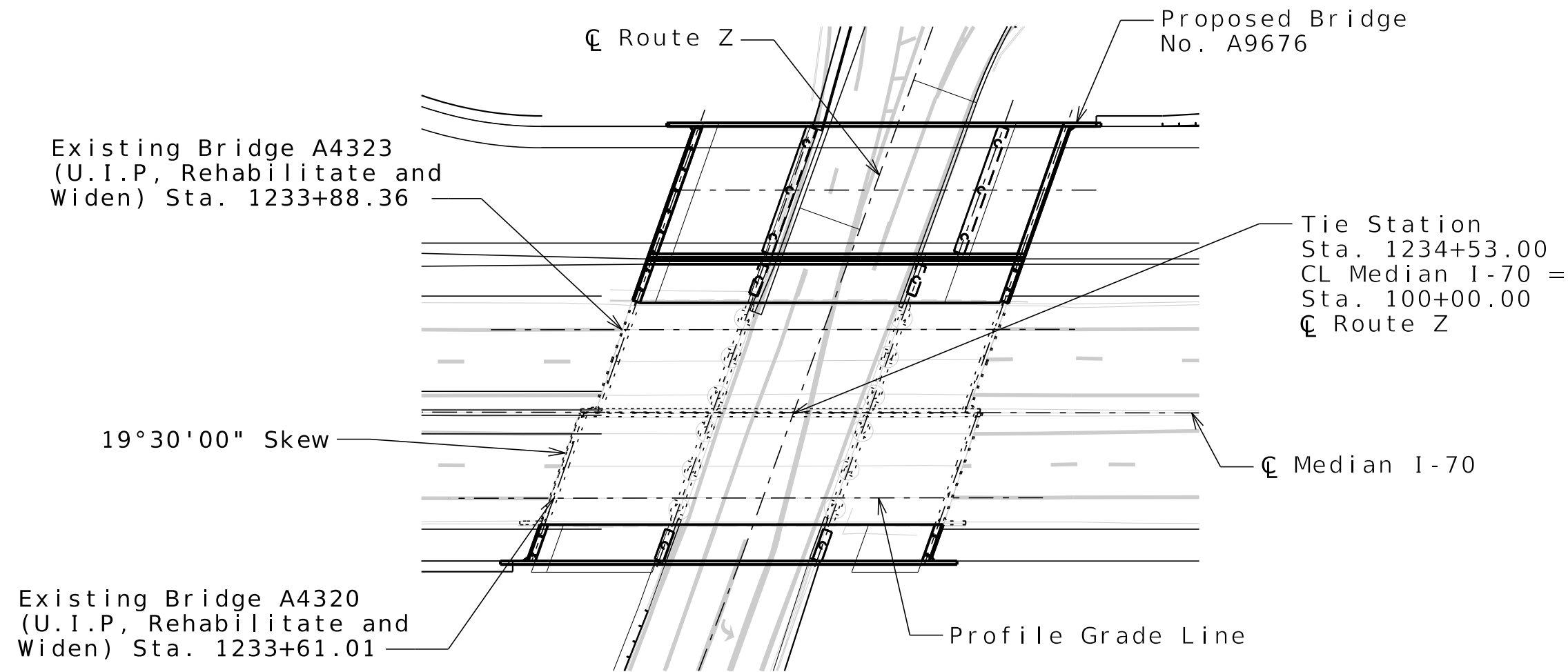
All exposed substructure elements will contain epoxy coated reinforcing.
Traffic Handling:

Vertical clearance for Route Z traffic during construction shall be 15 ft. minimum over all lanes of live traffic as shown in each phase of the Maintenance of Traffic plans.

For traffic phasing during construction, see Maintenance of Traffic Plans.
Concrete Protective Coatings:

Protective coating for concrete bents and piers (Epoxy) shall be applied to all exposed substructure surfaces and in accordance with Sec 711.

Aesthetic Stain shall be applied to the vertical faces of the exterior barrier, deck and Prestressed Concrete Girders as shown on the plans in accordance with Sec 711. The color of the stain shall be opaque gray, matching Sherwin Williams exterior satin latex paint, color "7066 Gray Matters".



LOCATION SKETCH

GENERAL NOTES (1 OF 2)

STATE OF MISSOURI
David J. Glasstetter
NUMBER
PE-2000150018
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN
SIGNED, SEALED AND DATED
ELECTRONICALLY.

DATE PREPARED
6/5/2025

ROUTE
1 - 70

STATE
MO

DISTRICT
BR

SHEET NO.
A43202-3

COUNTY
ST. CHARLES

JOB NO.
JST0020

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
A43202

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

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

MoDOT

IMPROVE 70
ALLIANCE

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

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General Notes (cont.):

Bridge Deck:

Method of forming the slab shall be as shown on the plans and in accordance with Sec 703. All hardware for forming the slab to be left in place as a permanent part of the structure shall be coated in accordance with ASTM A123 or ASTM B633 with a thickness class SC4 and a finish type I, II, or III.

Slab shall be cast-in-place. Precast prestressed panels will not be permitted in lieu of stay-in-place corrugated steel forms.

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

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

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

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

Miscellaneous:

High strength bolts, nuts and washers will be sampled for quality assurance as specified in Sec 106.

Roadway surfacing adjacent to bridge ends shall match new bridge wearing surface (roadway item).

Outline of existing work is indicated by light dashed lines. Heavy lines indicate new work.

Contractor shall verify all dimensions in field before finalizing shop drawings.

Bars bonded in existing concrete not removed shall be cleanly stripped and embedded into new concrete where possible. If length is available, existing bars shall extend into new concrete at least 40 diameters for plain bars and 30 diameters, for deformed bars unless otherwise noted.

STATE OF MISSOURI

David J. Glaslettler

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PROFESSIONAL ENGINEER

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ROUTE
1 - 70

STATE
MO

DISTRICT
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A43202-4

COUNTY
ST. CHARLES

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IMPROVE 70 ALLIANCE

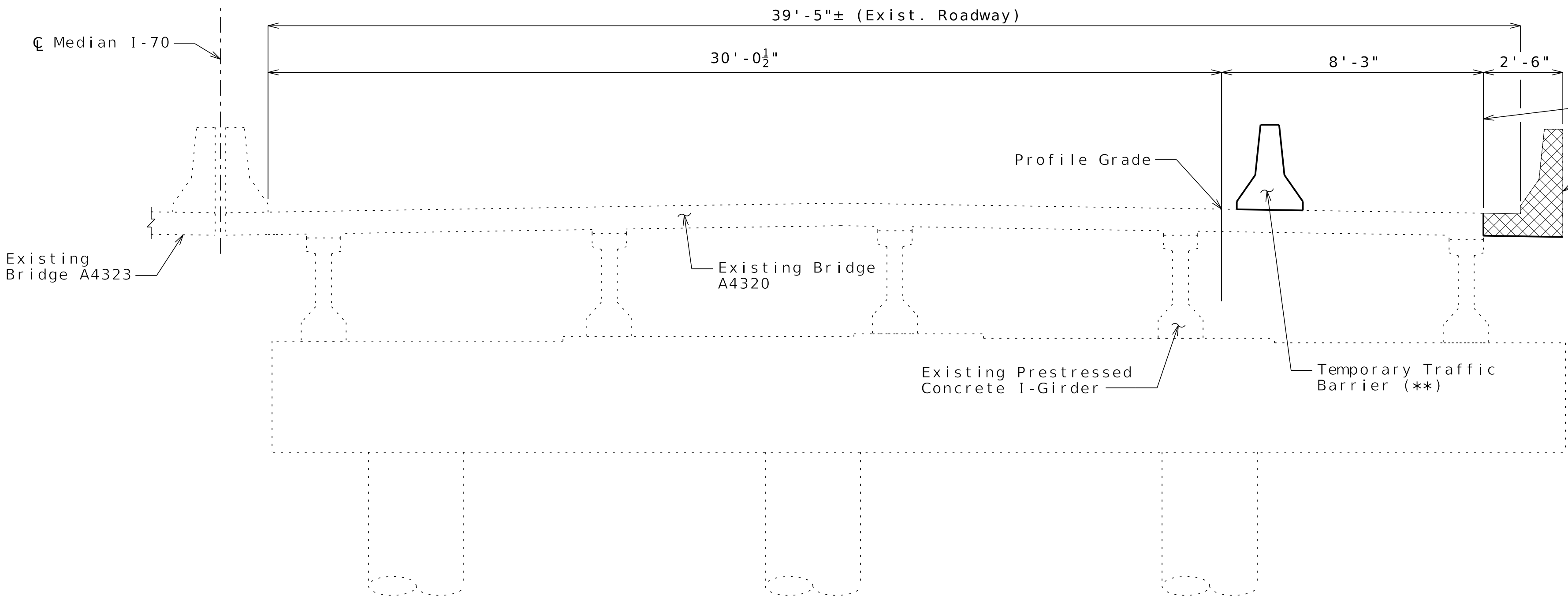
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(*) Remove existing deck to Removal Line. Existing Transverse reinforcing to be cleaned and remain in place to be mechanically spliced with new reinforcing.

(**) Temporary Traffic Barrier shall not be attached to the bridge. For placement during phasing, see Maintenance of Traffic Plans.

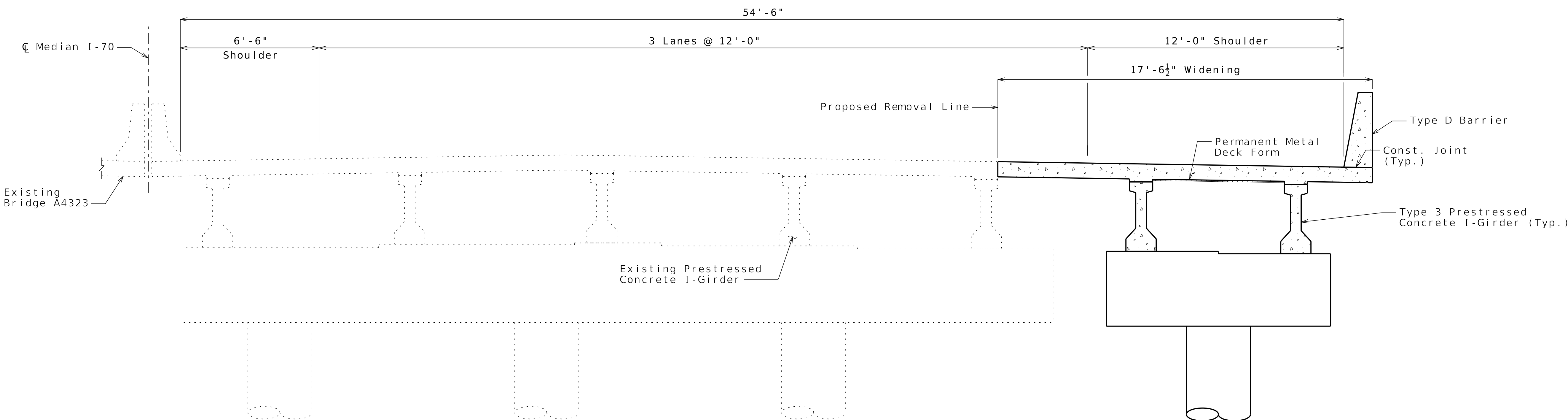
Notes:

Existing slab and barrier to be removed as shown.

All slab concrete and longitudinal steel in removal area shall be removed. An adequate length of transverse steel shall be retained in place to facilitate the attachment of mechanical splices. The Removal line shall be marked and sawcut with a concrete saw.

Care must be taken not to cut the transverse reinforcing steel or existing concrete girders.

EXISTING TYPICAL SECTION SHOWING REMOVAL



TYPICAL SECTION SHOWING WIDENING

STATE OF MISSOURI
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PROFESSIONAL ENGINEER

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ROUTE
1-70

STATE
MO

DISTRICT
BR

SHEET NO.
A43202-5

COUNTY
ST. CHARLES

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BRIDGE NO.
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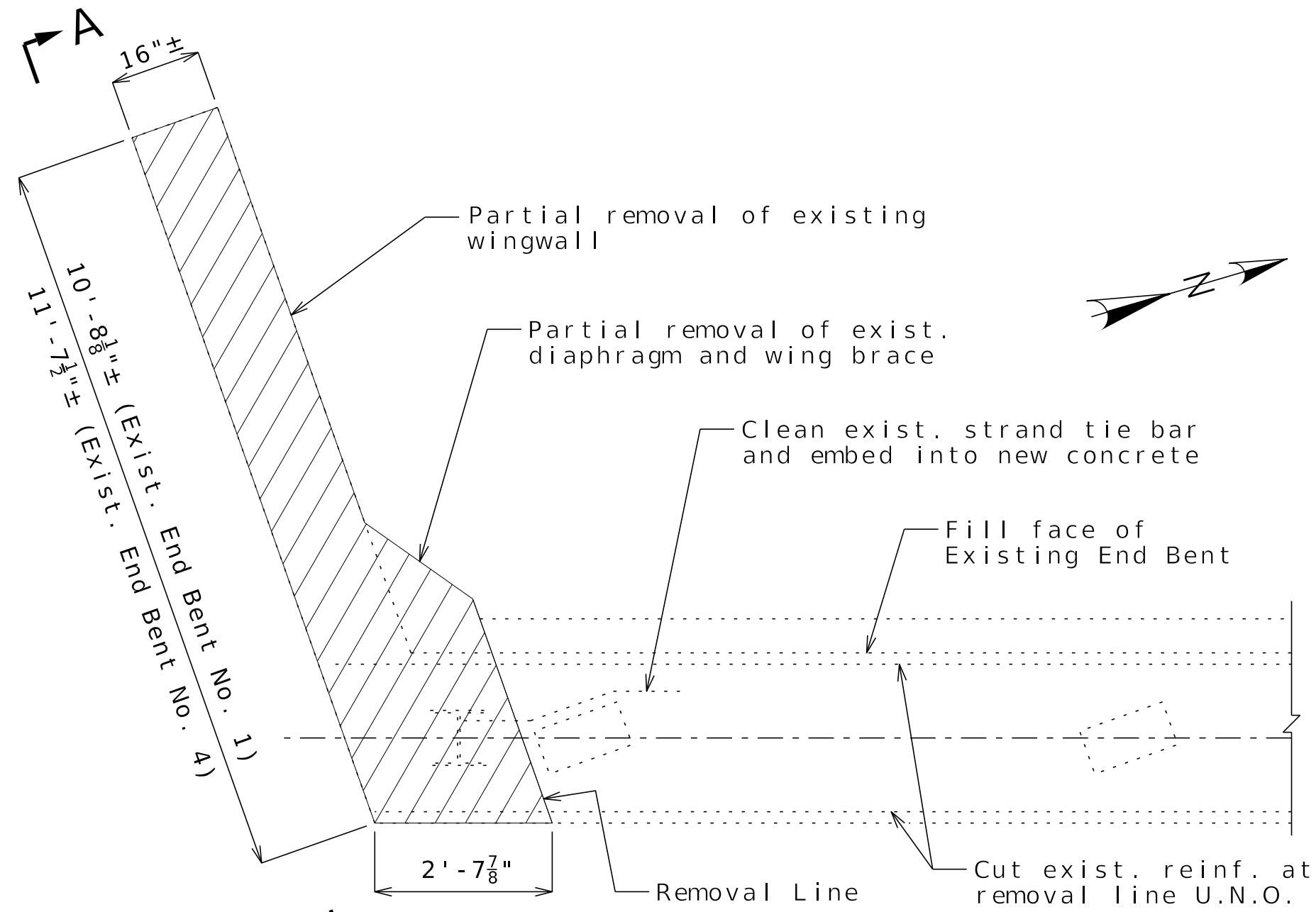
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ALLIANCE

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NO. 001270

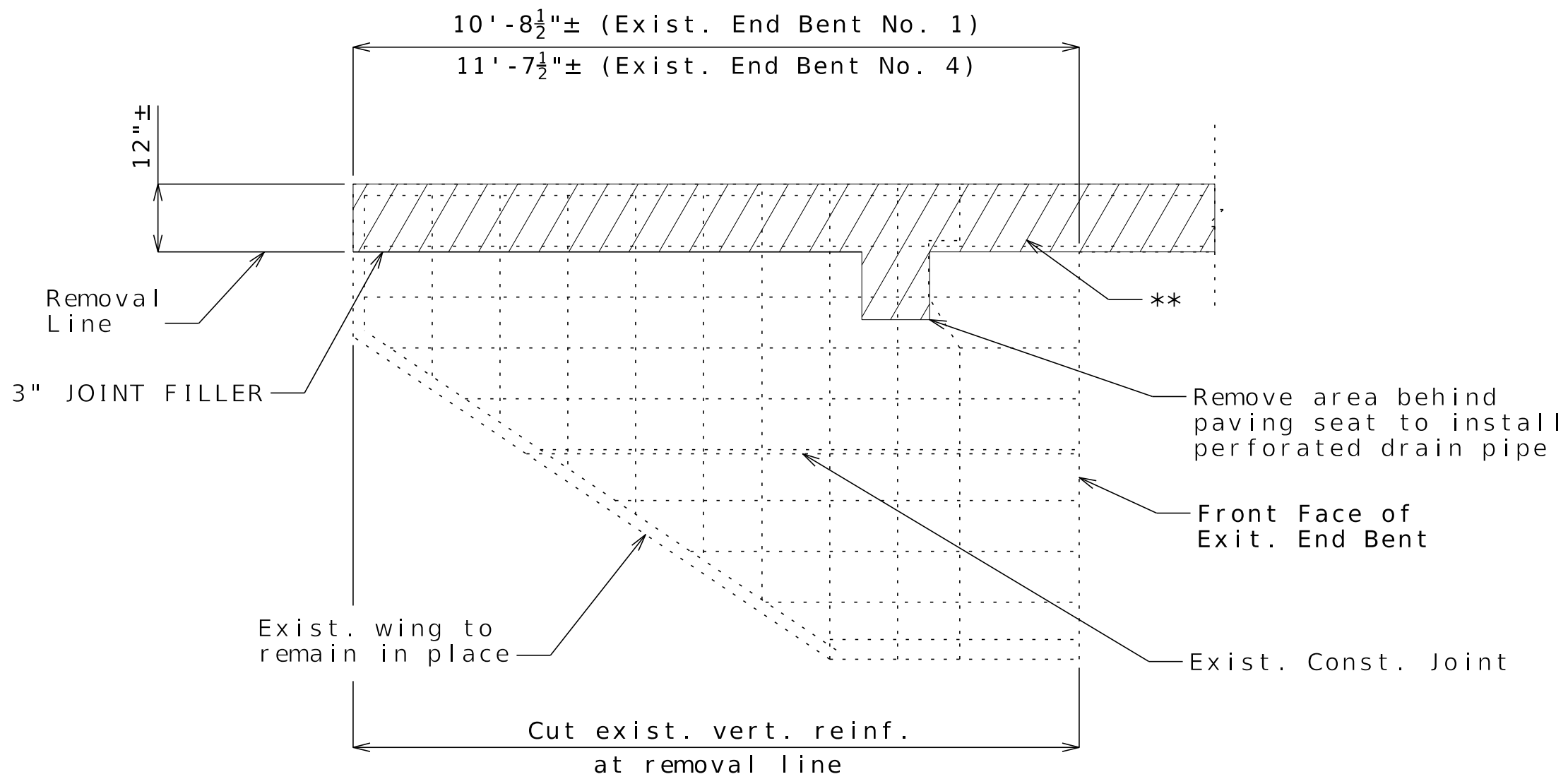
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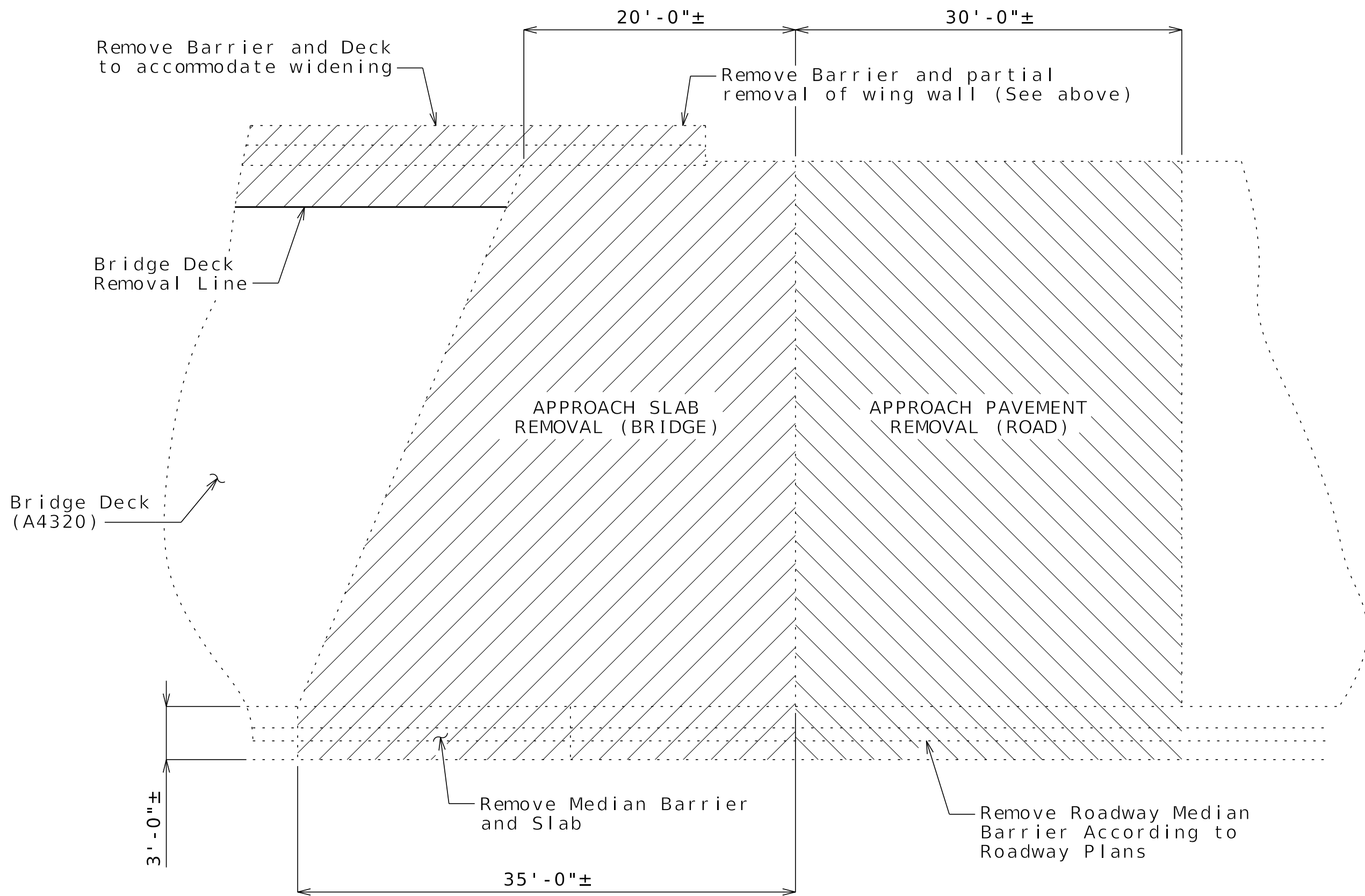
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PART PLAN OF EXISTING END BENT
(End Bent No. 1 shown, End Bent No. 4 similar, U.N.O.)



ELEVATION A-A
(**) Coordinate partial removal of existing wingwalls with the installation of vertical drain at end bents.



APPROACH SLAB REMOVAL DETAILS
(End Bent No. 1 shown, End Bent No. 4 similar)

Notes:

Denotes Removal

Outline of work is indicated by light dashed lines.

Contractor shall verify all dimensions in the field before ordering new material.

Bars bonded in existing concrete not removed shall be cleanly stripped and embedded into new concrete as shown.

U.N.O. - Denotes Unless Noted Otherwise.

STATE OF MISSOURI
David J. Glasstetter
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PROFESSIONAL ENGINEER

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ROUTE
1 - 70

STATE
MO

DISTRICT
BR

SHEET NO.
A43202-6

COUNTY
ST. CHARLES

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JST0020

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
A43202

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

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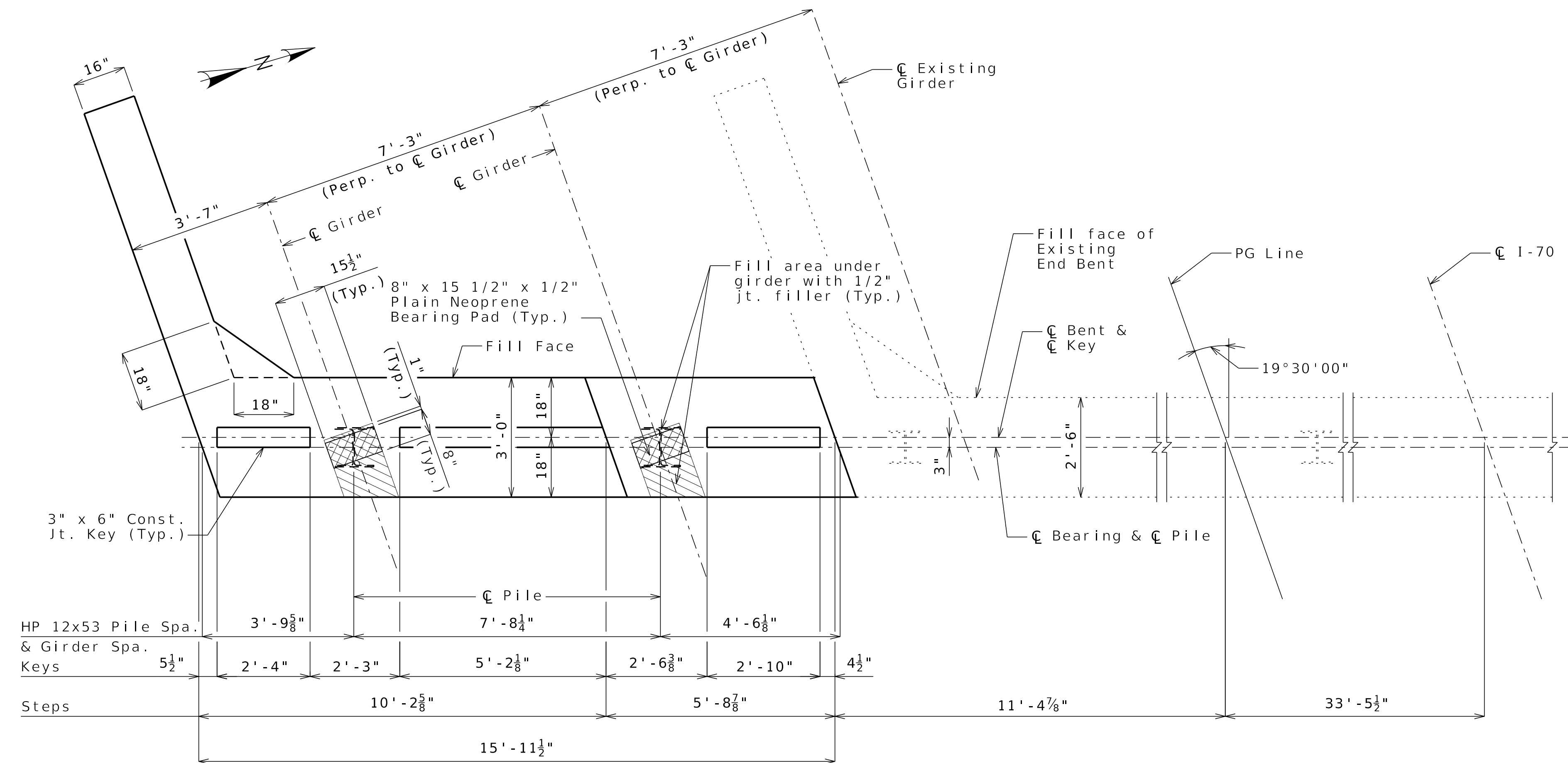
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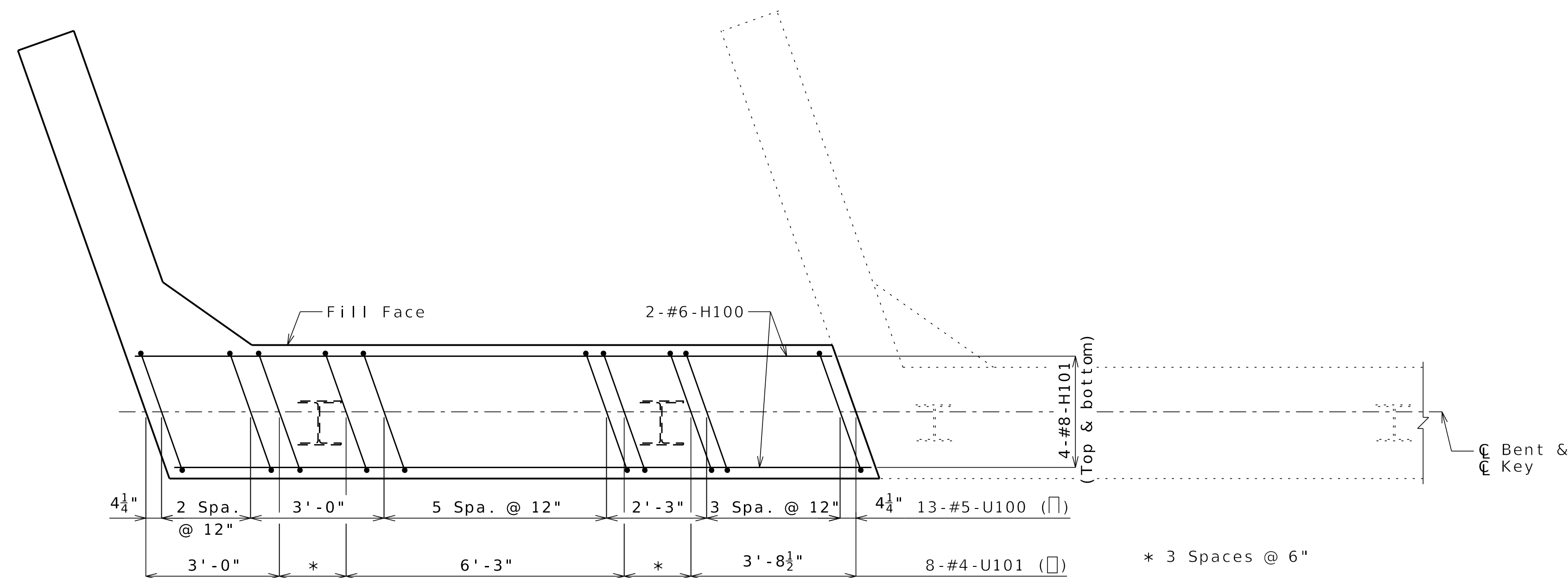
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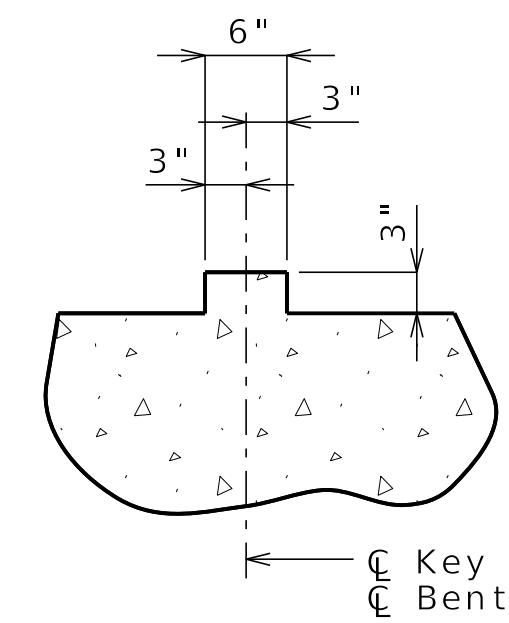
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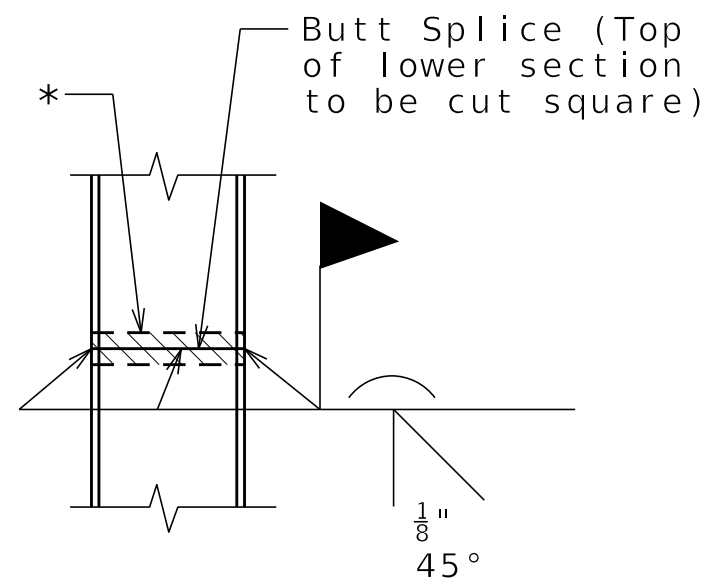
PLAN OF BEAM



PLAN OF BEAM SHOWING REINFORCEMENT
Keys not shown for clarity.



SECTION THRU KEY



STEEL PILE SPLICE
(If required)

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

General Notes:

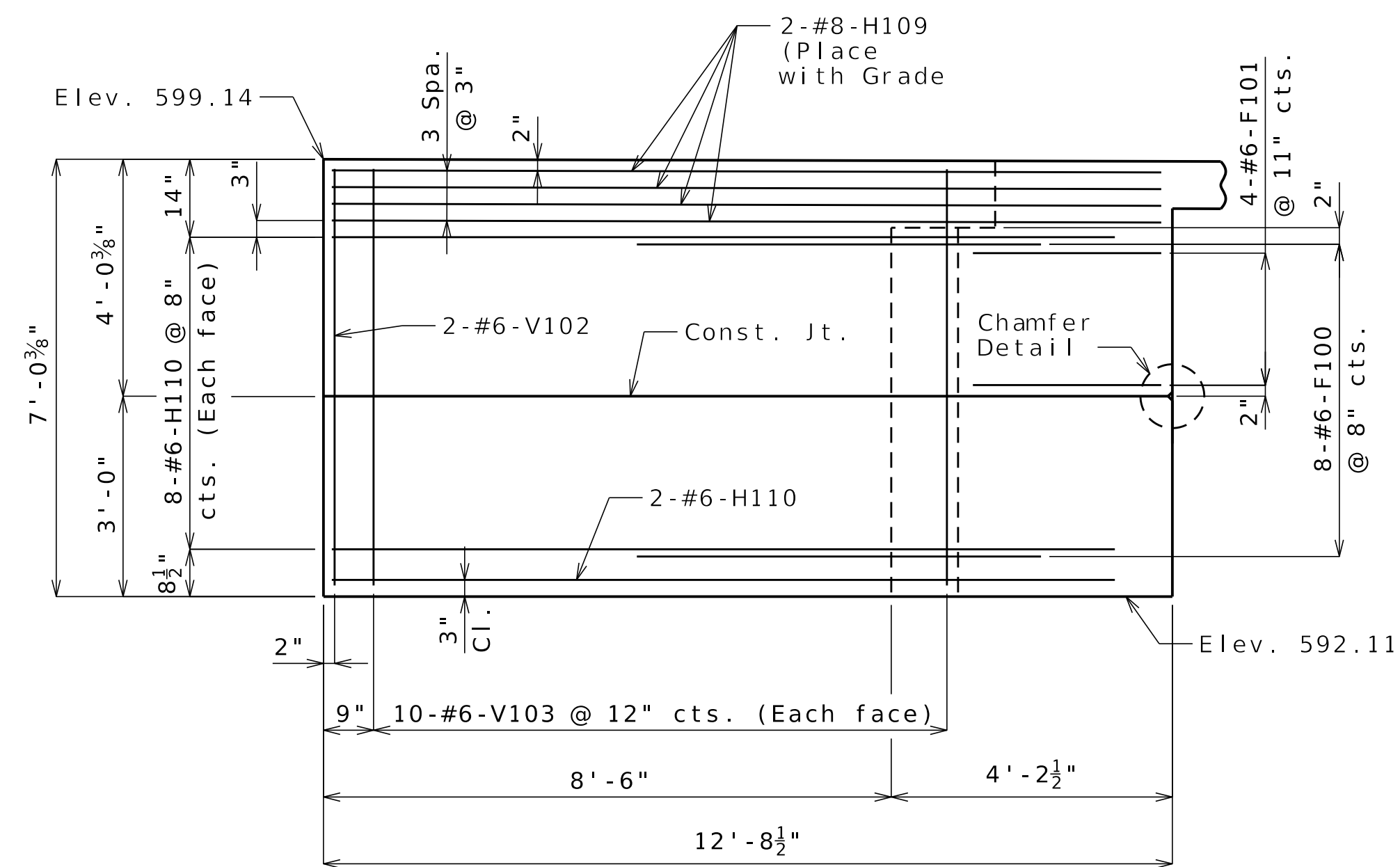
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All U bars shall be placed parallel to skewed steps.

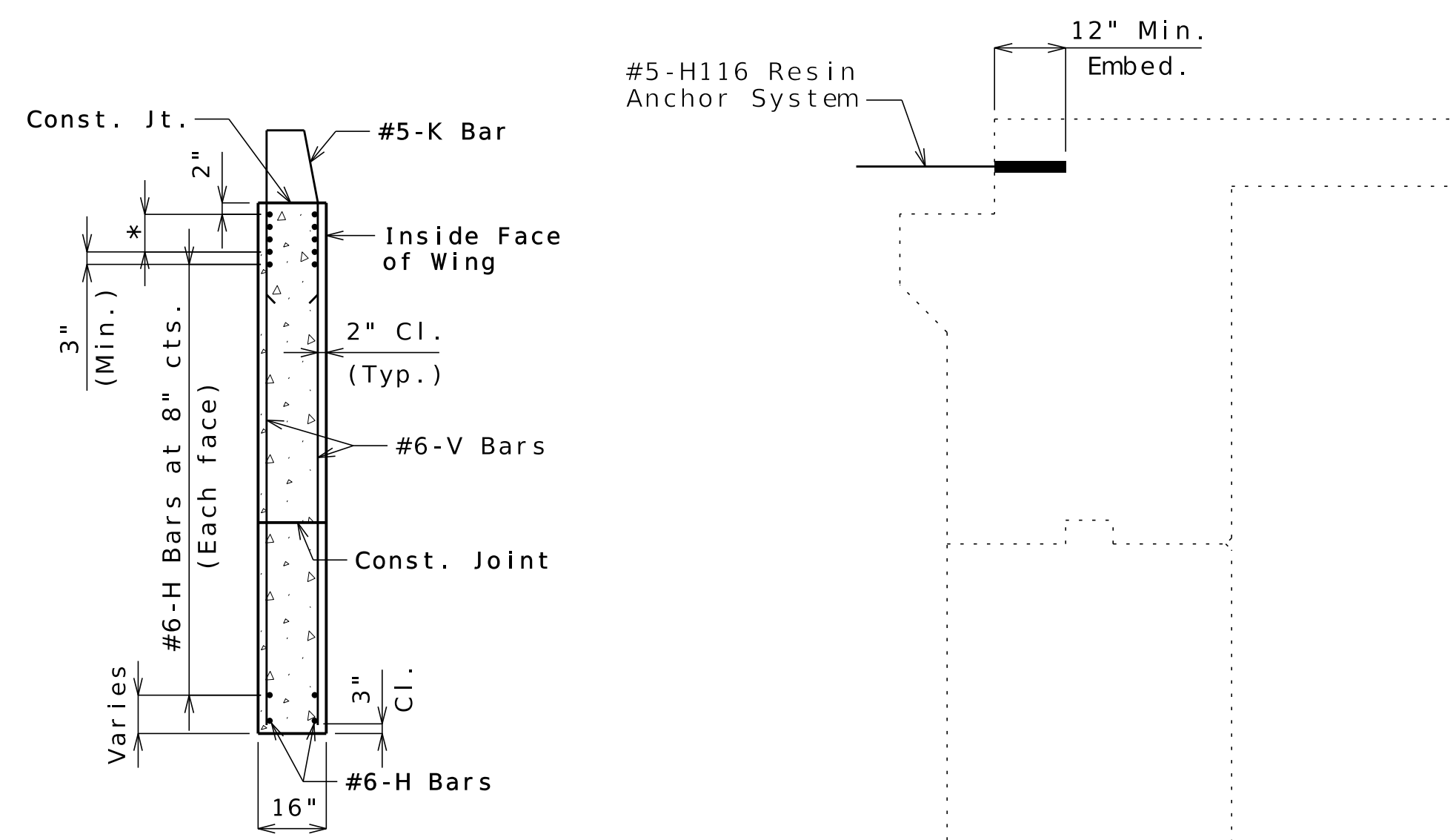
Reinforcing steel shall be shifted to clear piles by at least 1 1/2" (38 mm).

SECTION NEAR END BENT

PART PLAN



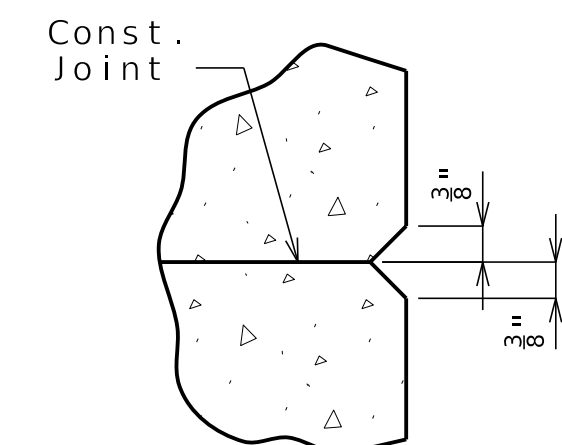
ELEVATION F - F



TYPICAL SECTION
THRU WING

* #8-H Bars at 3" cts.
(Each face)(Place with grade)

SECTION E - E

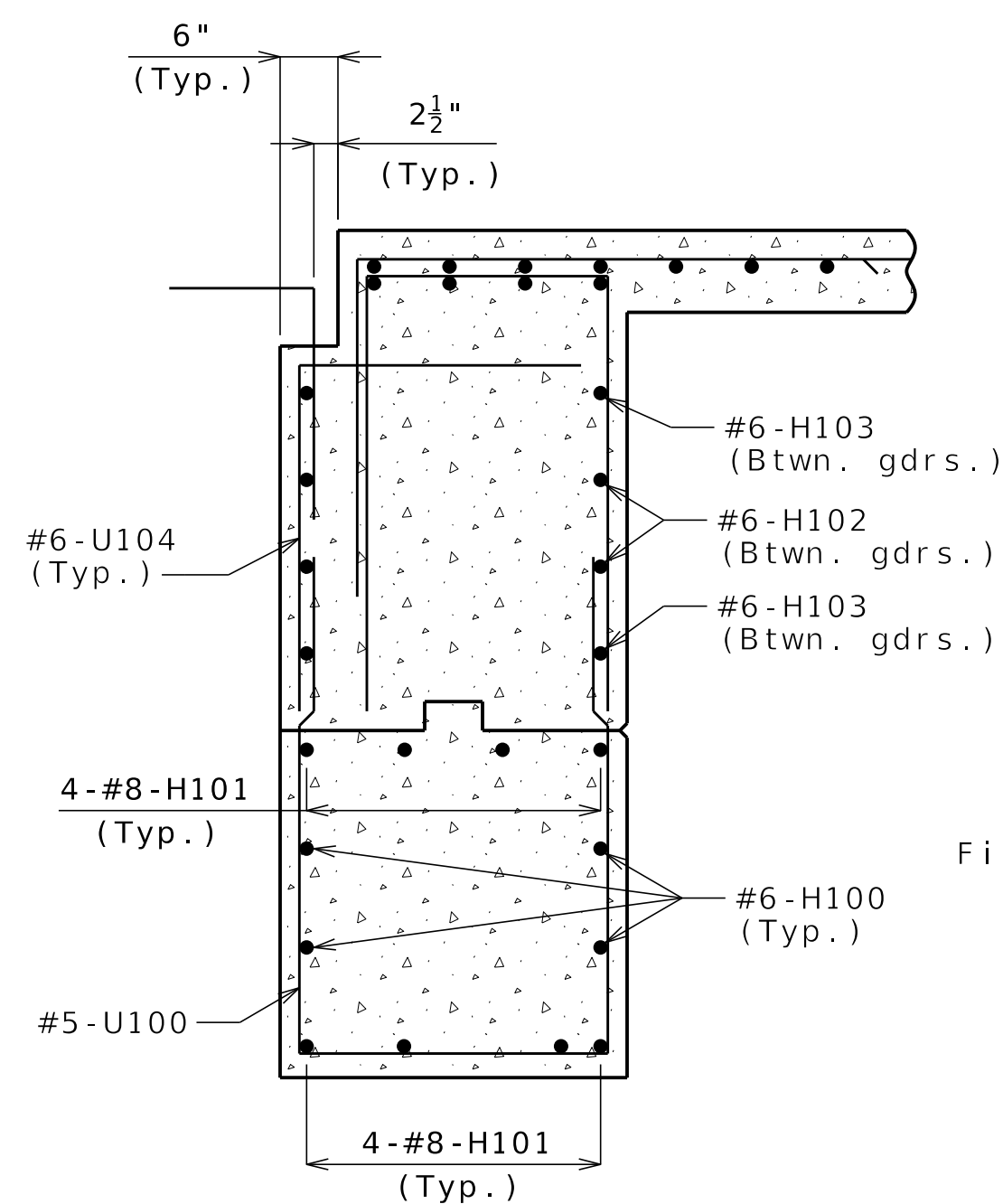


CHAMFER DETAIL

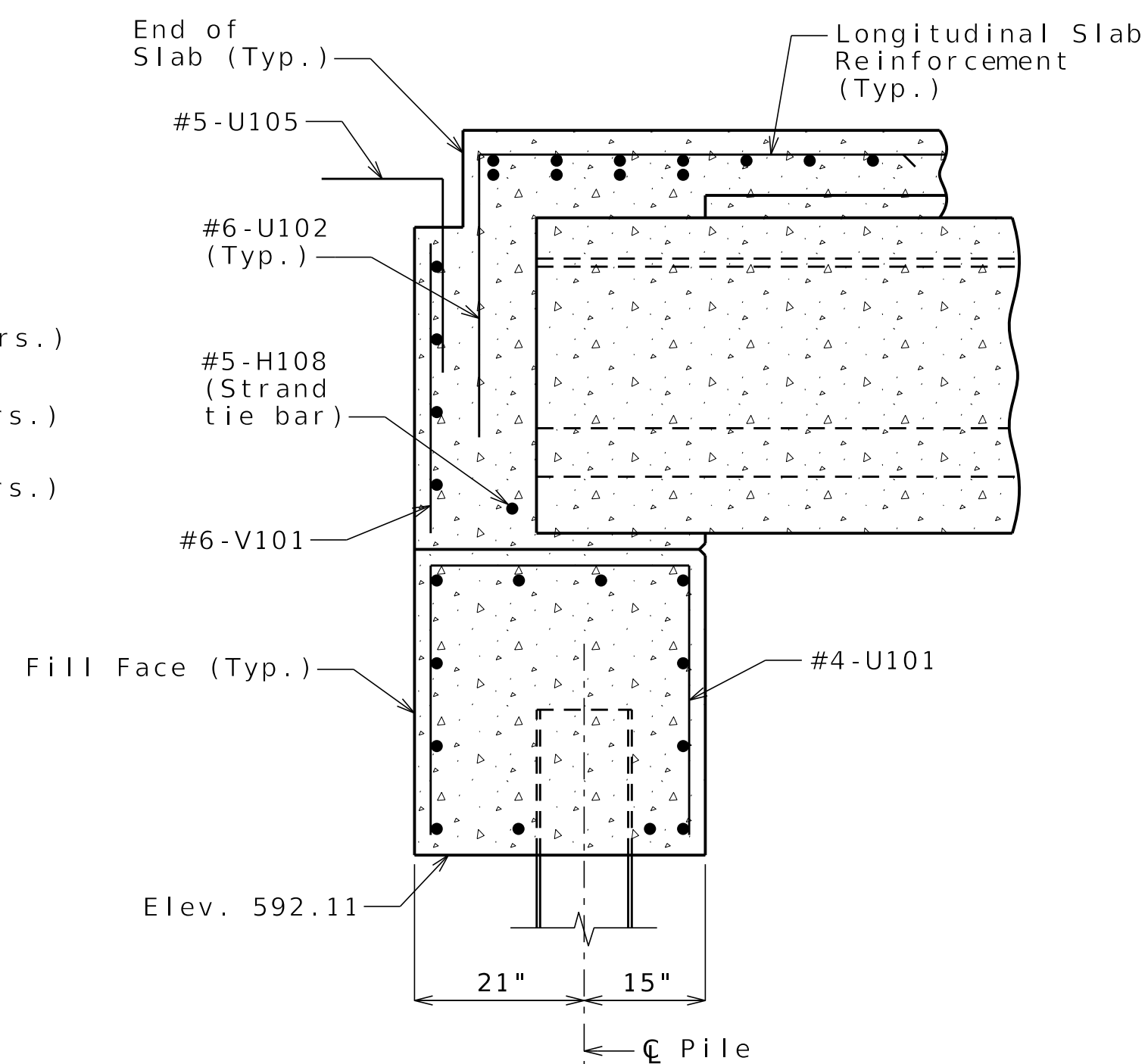
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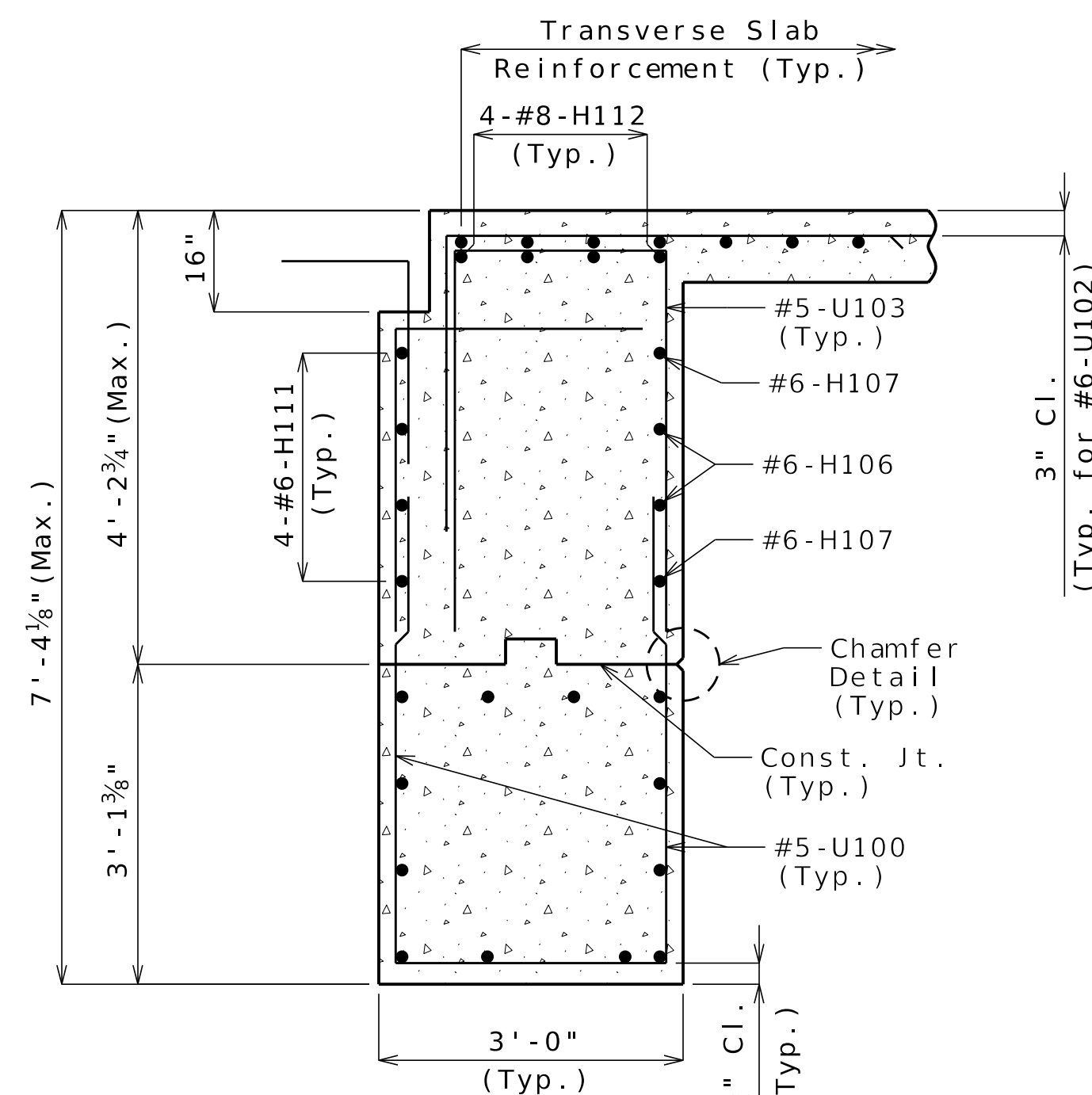
For reinforcement of the barrier, see
Sheet No. 27.



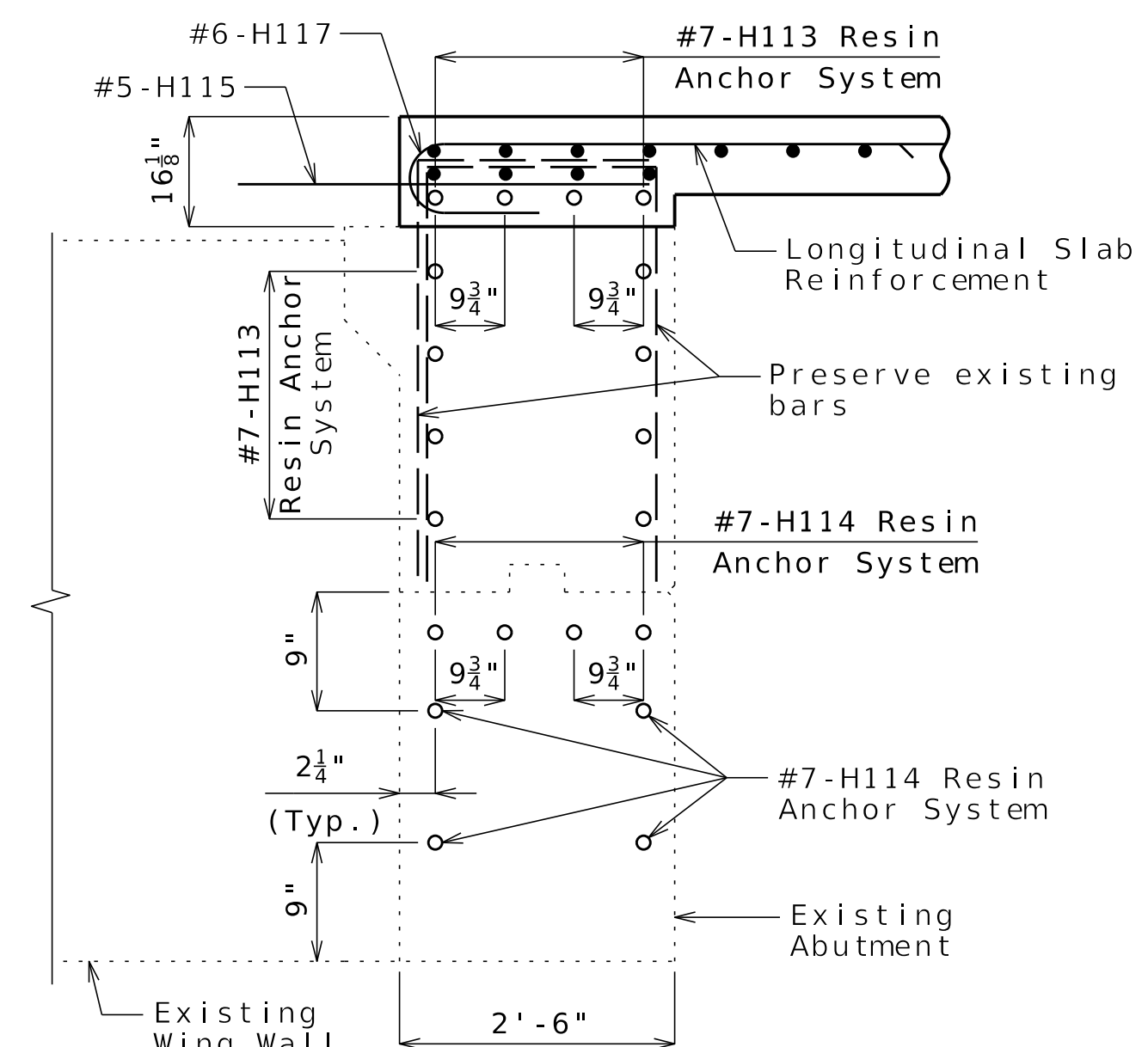
SECTION A-A



SECTION B - B



SECTION C-C



SECTION D-D



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DISTRICT BR	SHEET NO. A43202-10

COUNTY
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A43202

DESCRIPTION	DATE

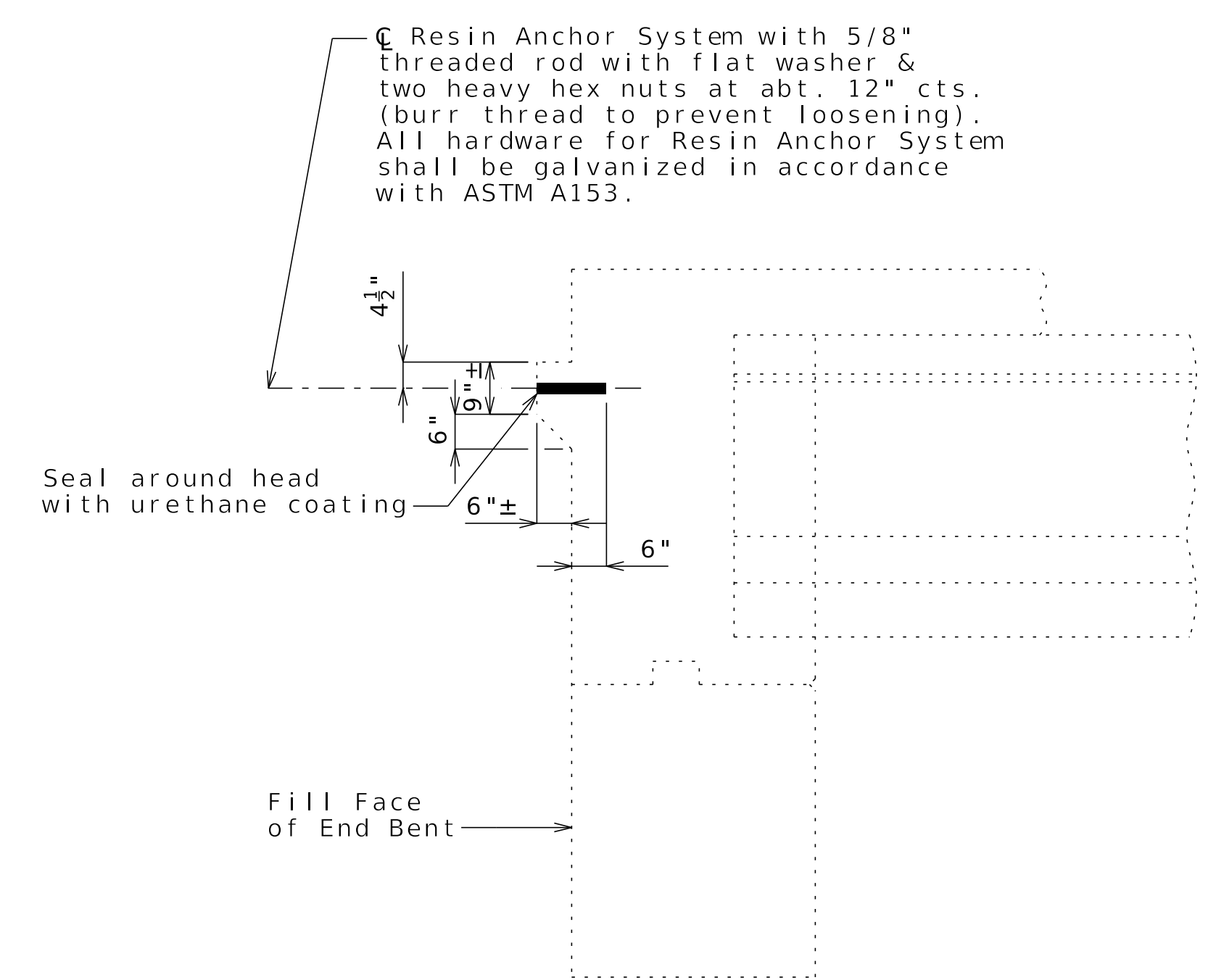
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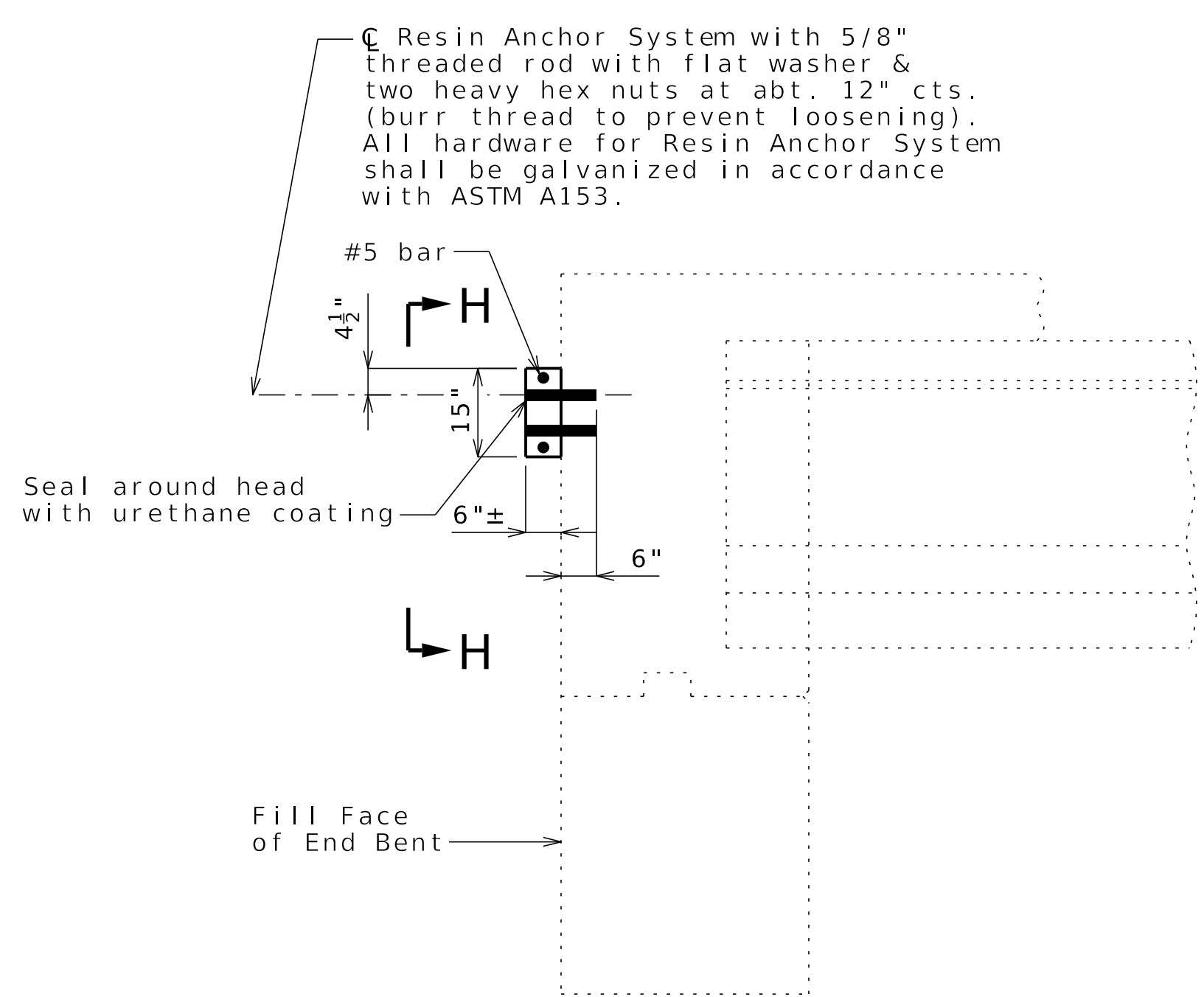


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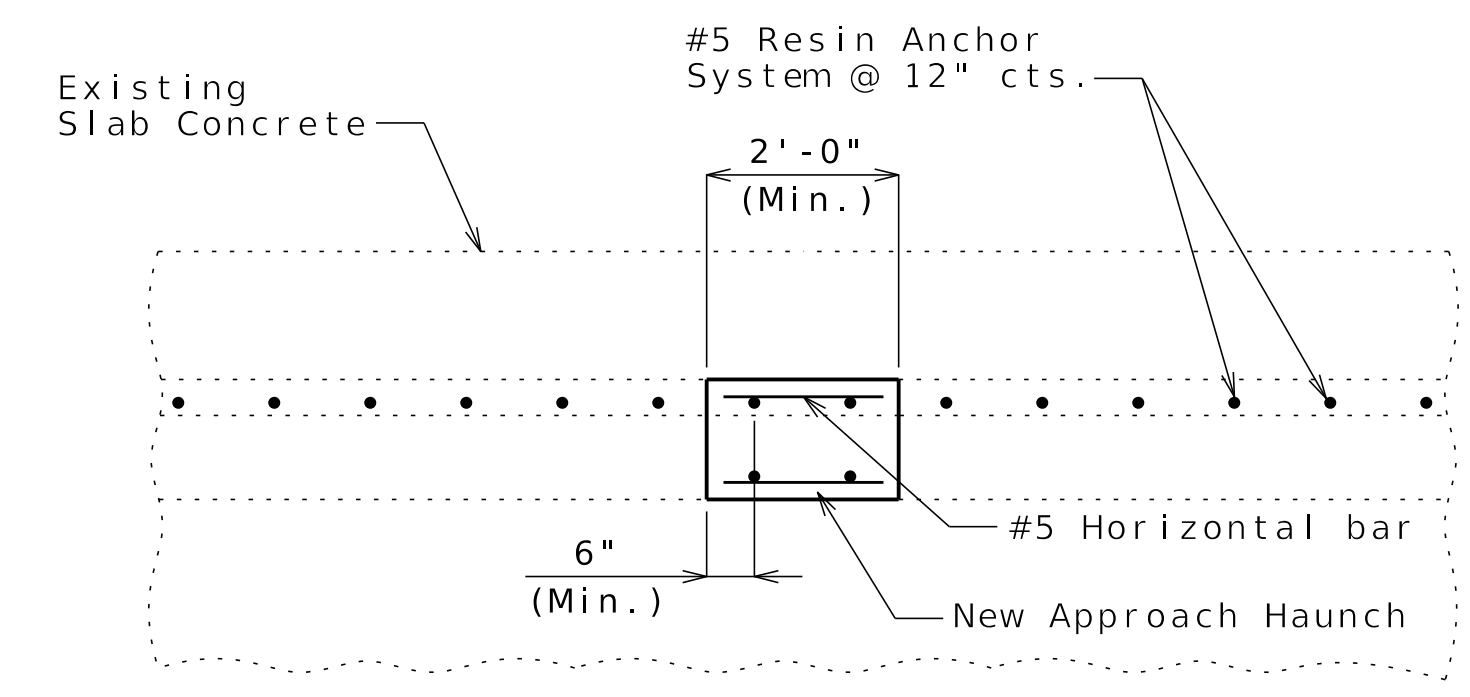
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SECTION THRU END BENT WITH
APPROACH HAUNCH REPAIR
(End Bent No.1 shown, End Bent No.4 similar)

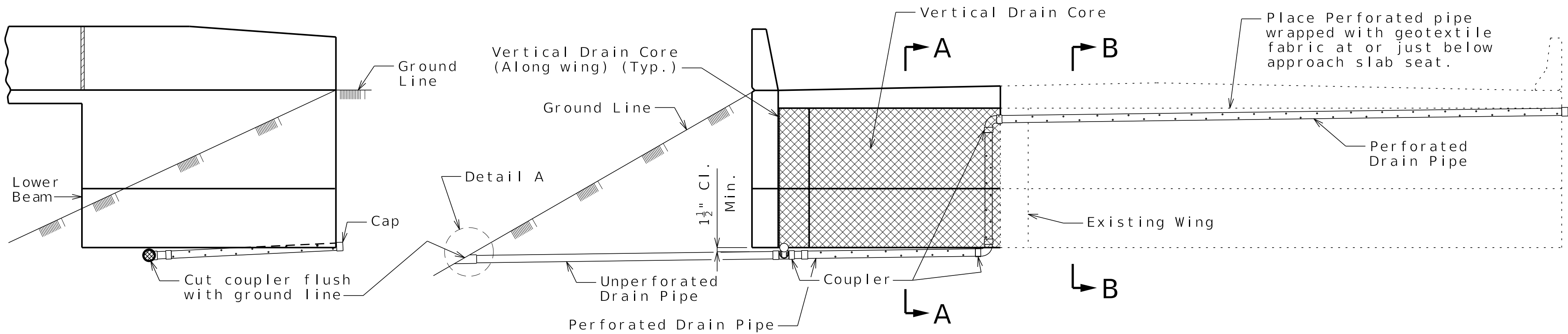


SECTION THRU END BENT
WITH APPROACH HAUNCH REPLACEMENT
(End Bent No.1 shown, End Bent No.4 similar)



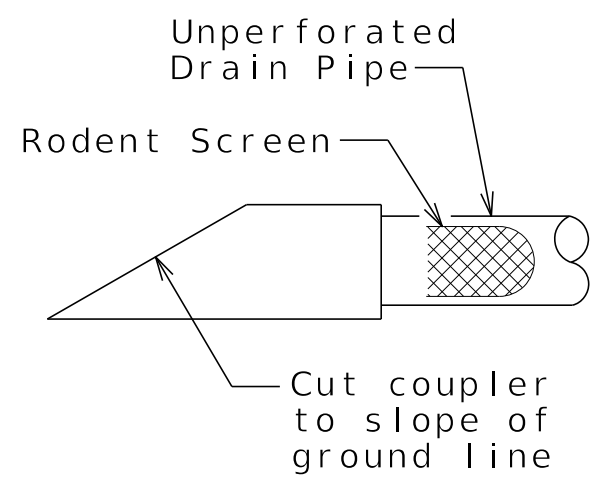
ELEVATION H-H
(End Bent No.1 shown, End Bent No.4 similar)

Notes:
Remove and replace deteriorated sections of approach notch as designated by the engineer and in accordance with details shown.
Minimum length of replacement shall be 2'-0" as shown.
Removal of concrete shall be in accordance with Sec 216.
Concrete for approach notch replacement shall be Class B-1.
46 - 5/8" threaded rods along End Bent No. 1 and End Bent No. 4 = 92 total

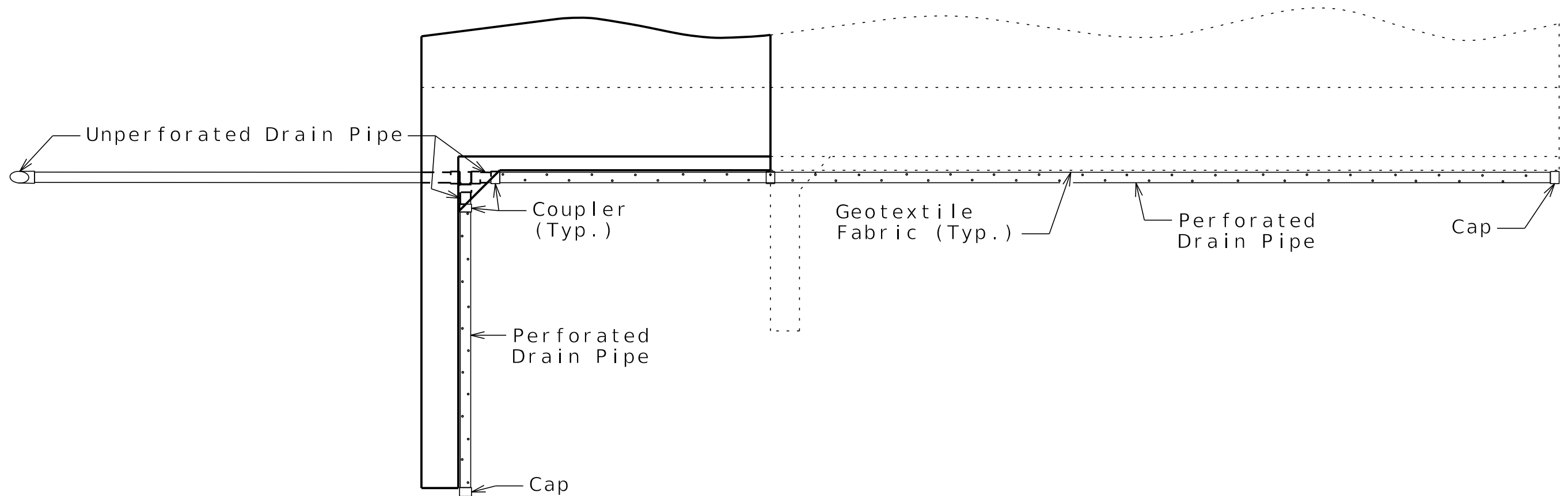


ELEVATION OF WING

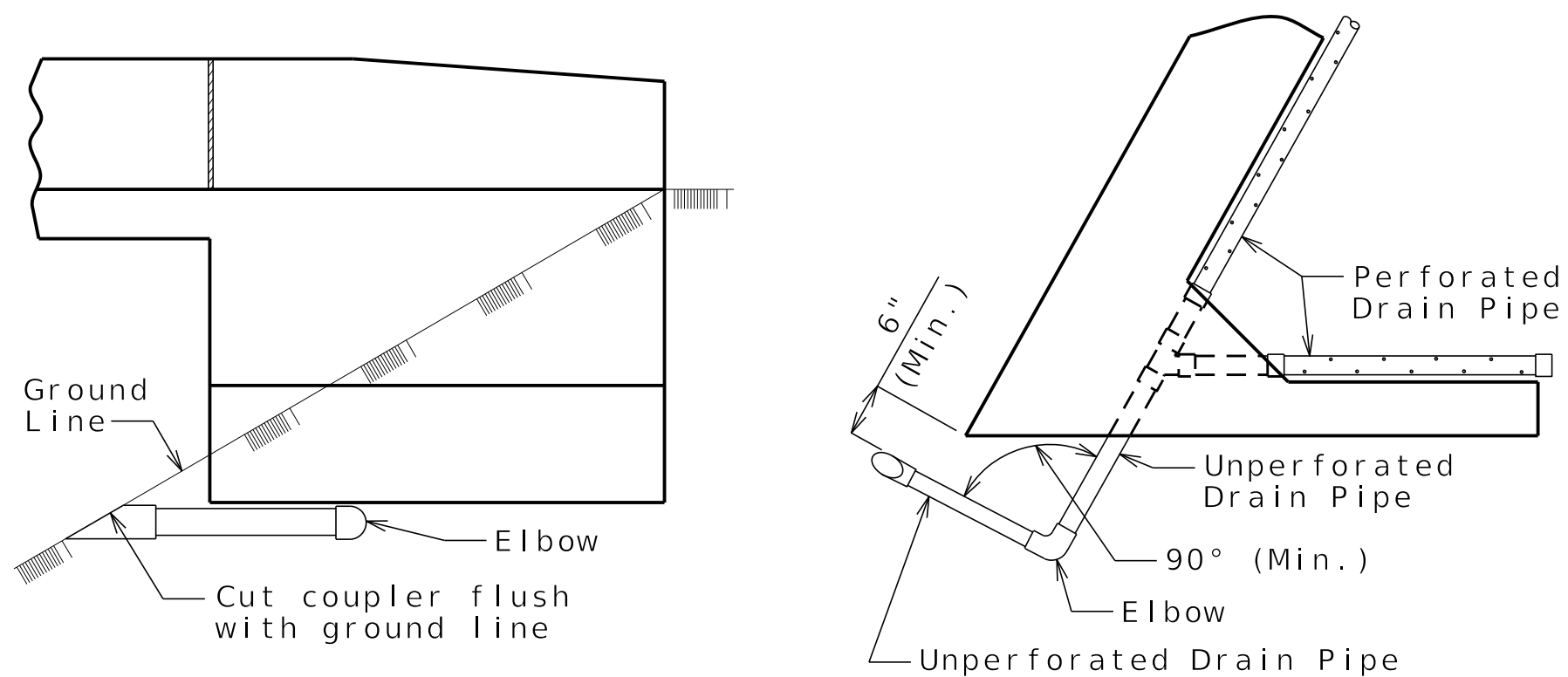
ELEVATION OF END BENT



DETAIL A



PLAN OF END BENT



ELEVATION OF WING

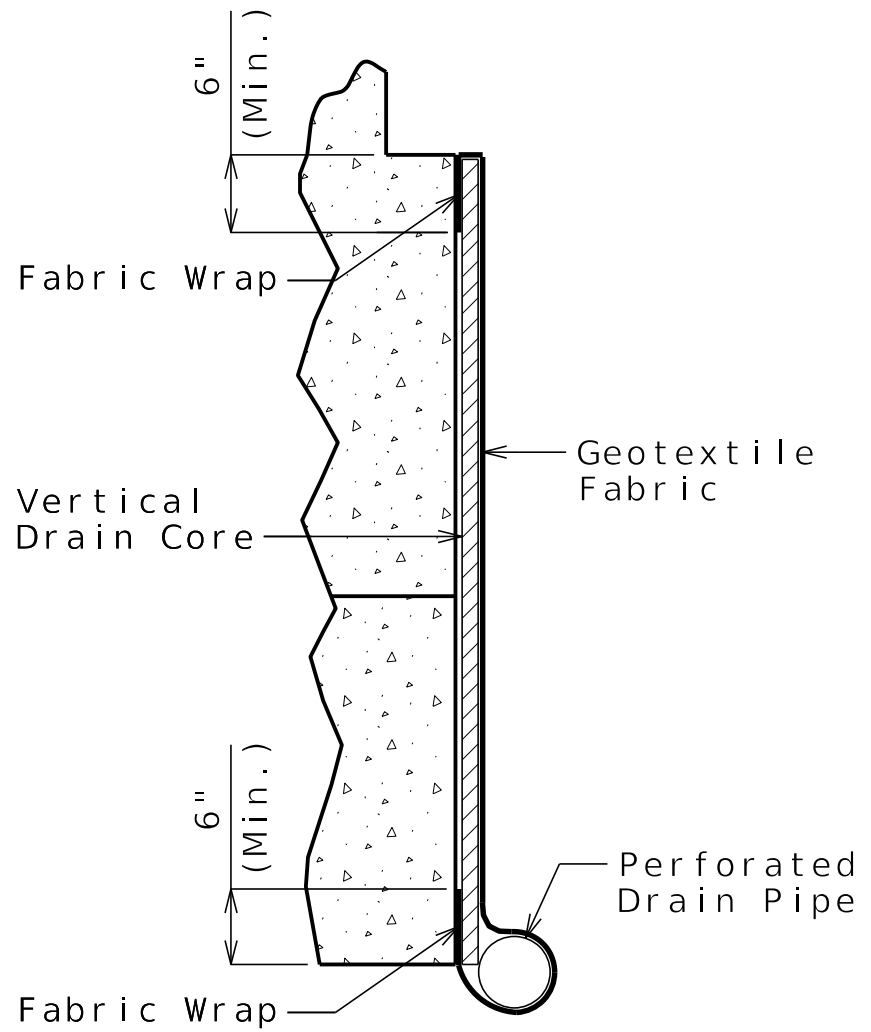
PART PLAN

OPTIONAL TURNED DRAIN

(Use only when straight drain is not practical.)

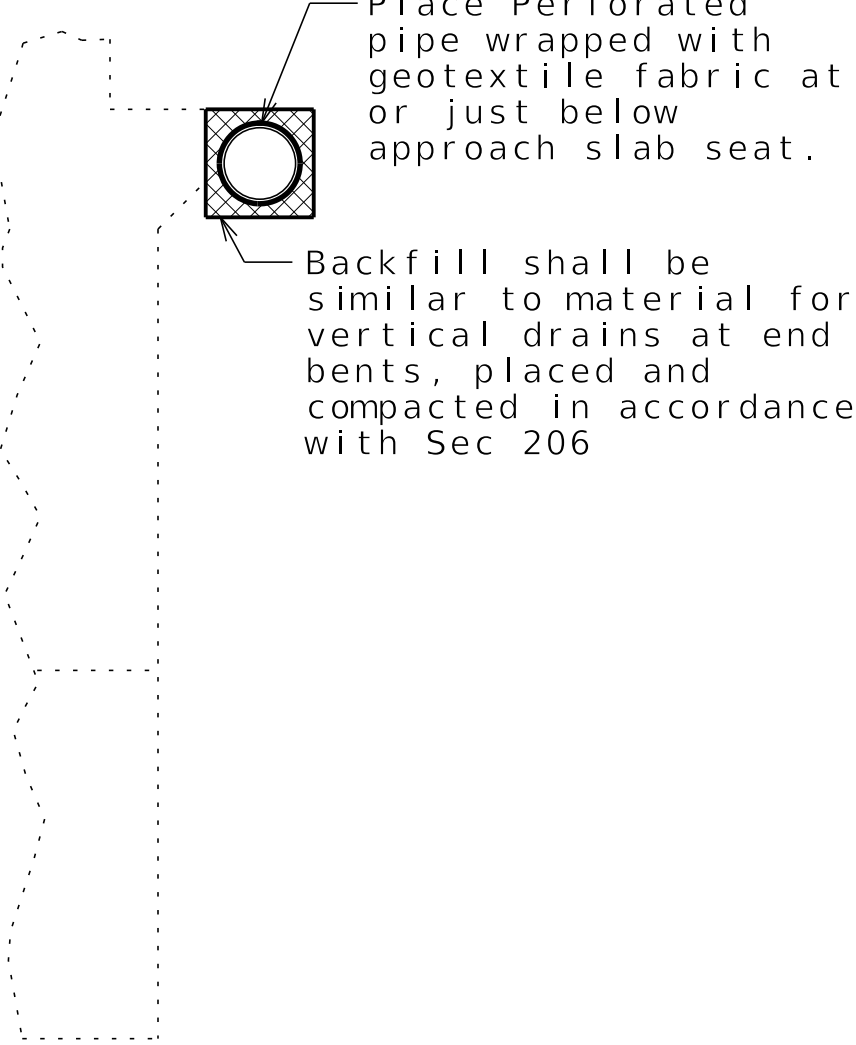
VERTICAL DRAIN AT END BENTS

(Squared end bent shown, skewed end bent similar)



PART SECTION A-A

(Section thru wing similar)



PART SECTION B-B

General Notes:

All drain pipe shall be sloped 1 to 2 percent.

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

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

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



THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
6/5/2025

ROUTE
1-70

STATE
MO

DISTRICT
BR

SHEET NO.
A43202-11

COUNTY
ST. CHARLES

JOB NO.
JST0020

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
A43202

DESCRIPTION

DATE

DATE

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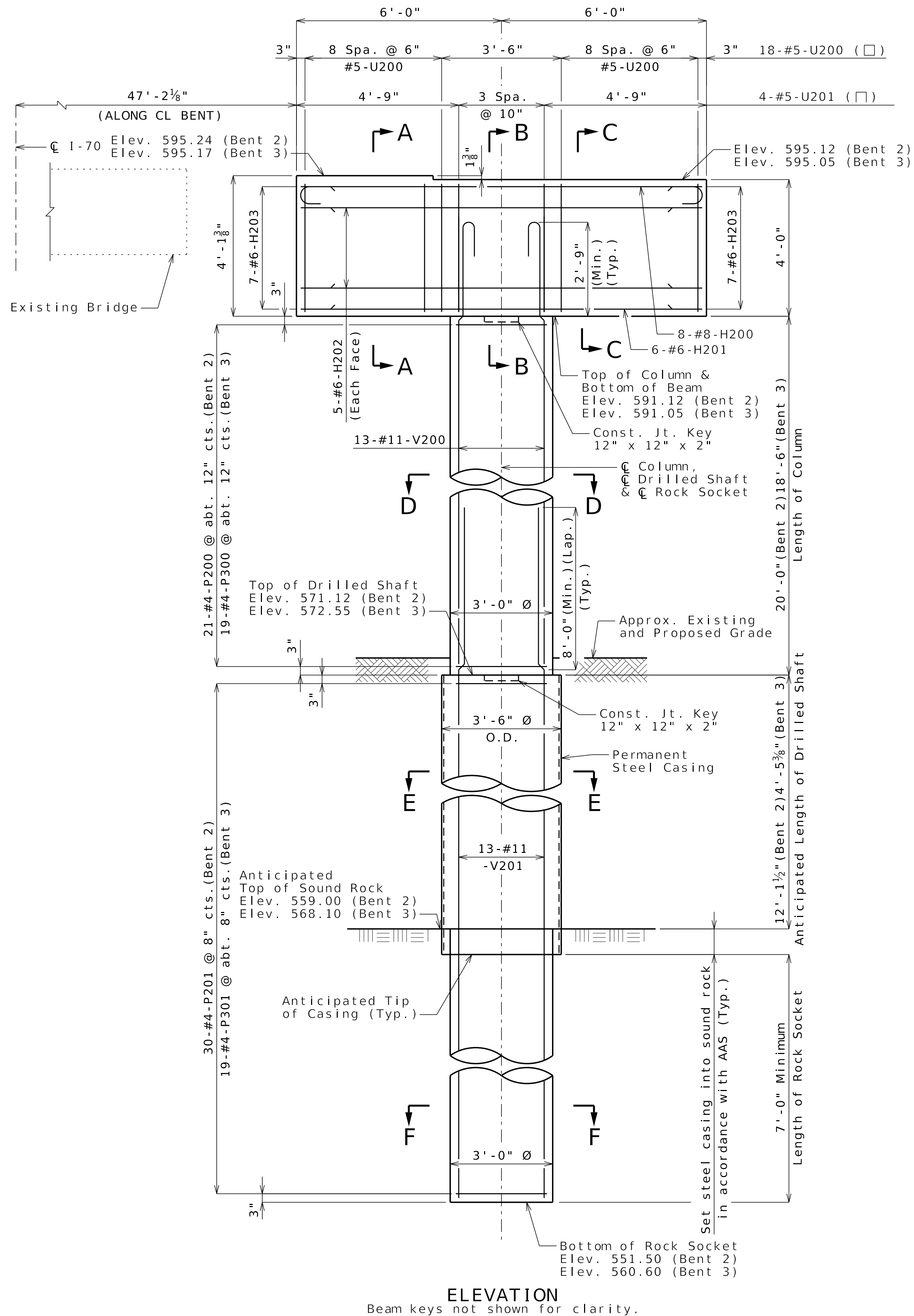
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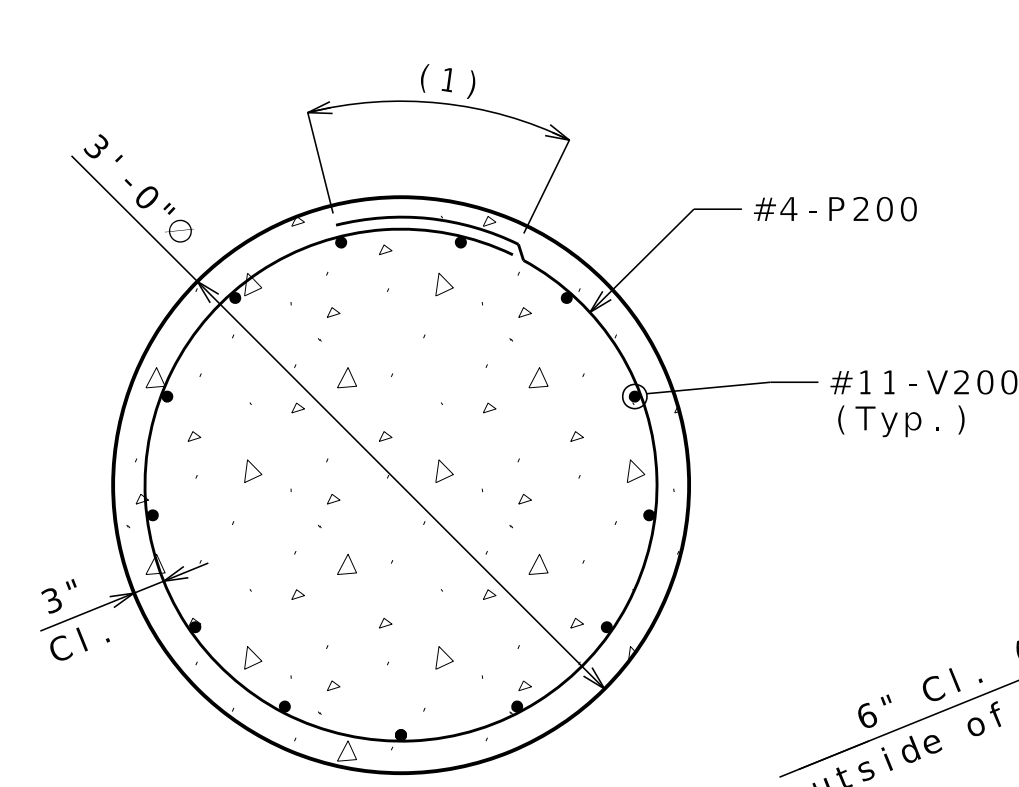
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DATE

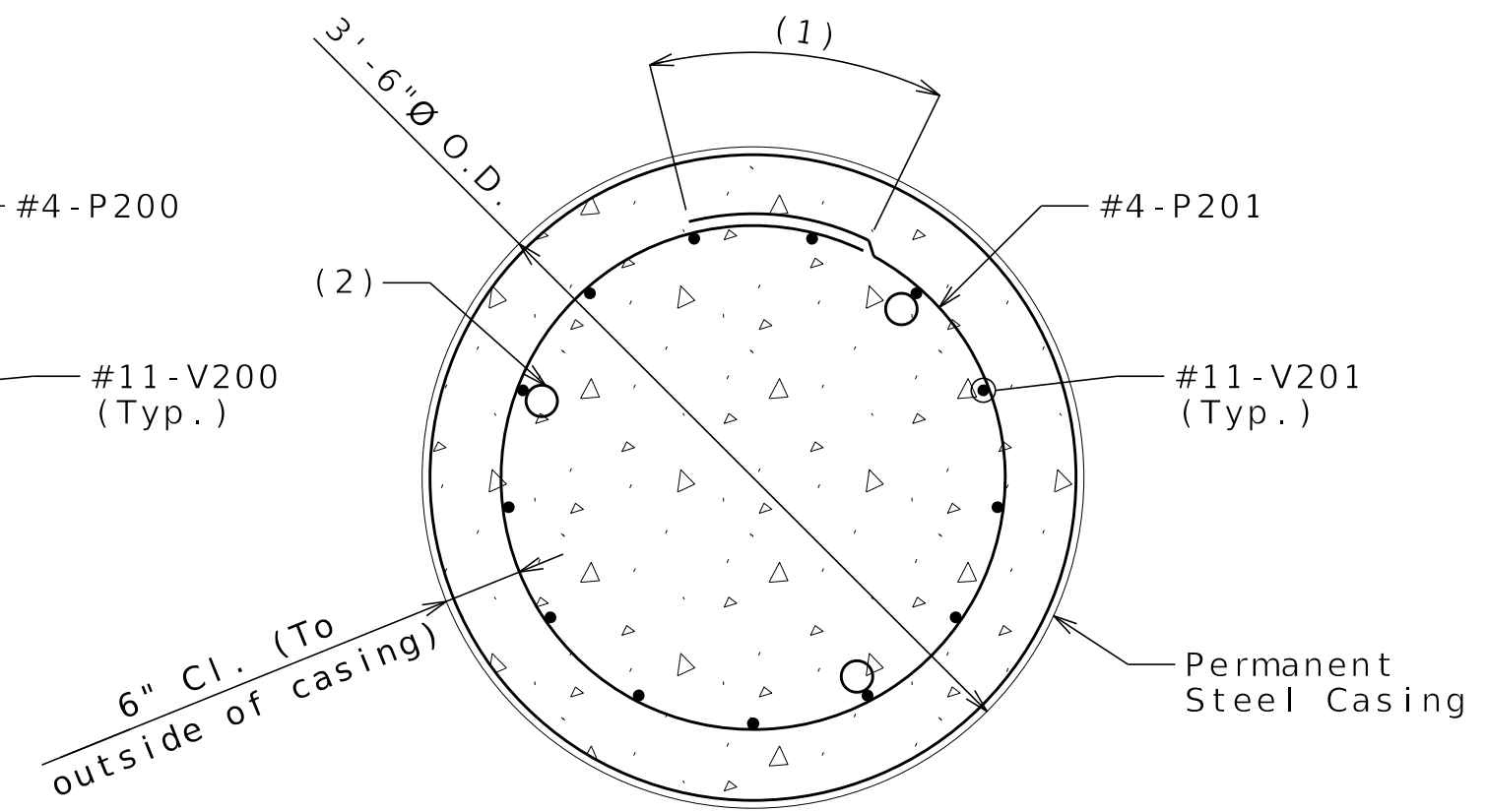
VERTICAL DRAIN AT END BENTS



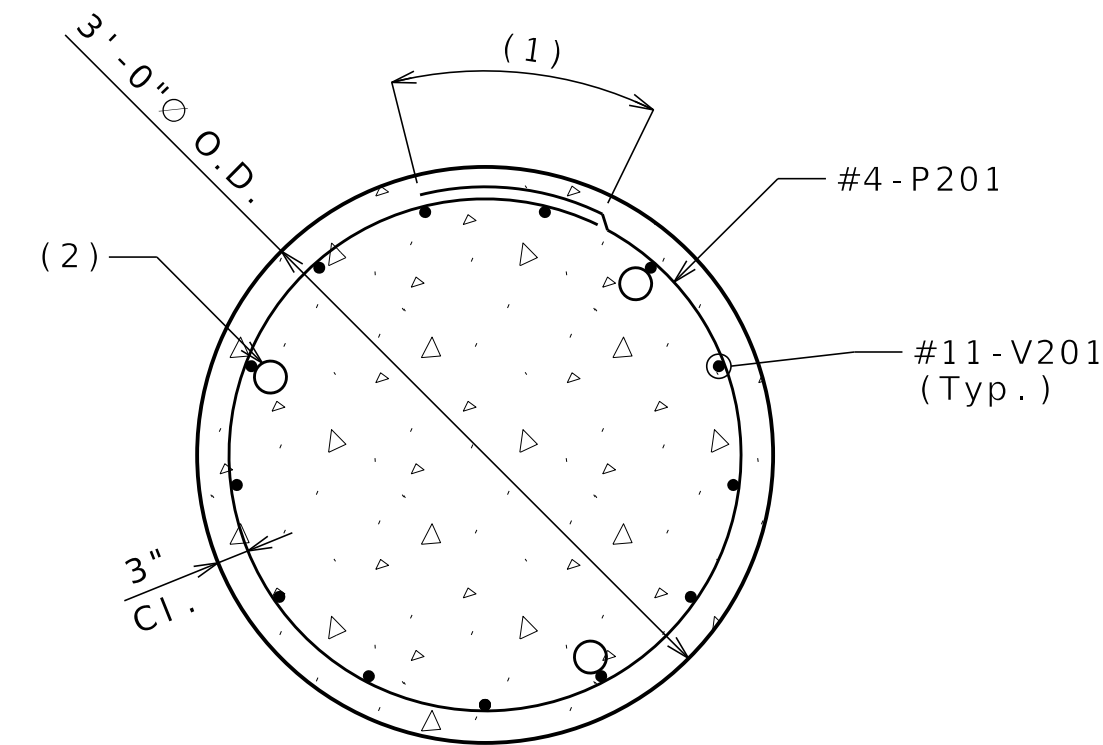
SECTION D-D



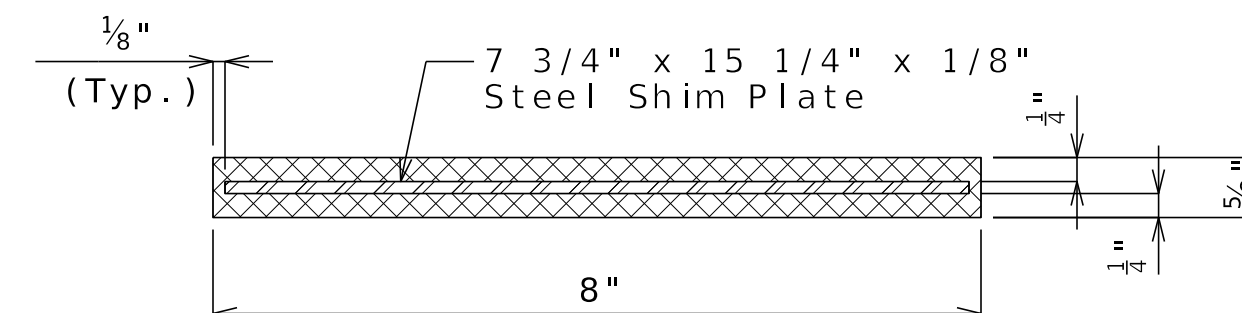
SECTION E-E



SECTION F - F



SECTION THRU LAMINATED
NEOPRENE BEARING PAD



General Notes:

Drilled shafts shall be constructed and inspected in accordance with the Bridge Geotechnical Memo and the project Drilled Shaft Construction AAS.

Work this sheet with Sheet No. 13.

At the contractor's option, the hooks of vertical bars embedded in the beam cap may be oriented inward or outward.

Thickness of permanent steel casing shall be in accordance with Drilled Shaft Construction AAS.

An additional 4 feet has been added to V-bar lengths and additional 6-#4-P201 bars have been added for possible change in drilled shaft or rock socket length. The additional V-bar length shall be cut off or included in the reinforcement lap if not required. The P bars shall be spaced similarly to that shown in Elevation, if required, or a lesser spacing if not required but not less than 6-inch centers.

The tip of casing shall not extend into the rock socket elevation range reported in the Foundation Data table without approval by the engineer.

Bar marks are shown for Bent 2, using "200" series bar marks. Bent 3 is similar, except use "300" series bar marks.



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ELECTRONICALLY.

DATE PREPARED
6/5/2025

ROUTE I - 70	STATE MO
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DISTRICT BR	SHEET NO. A43202-12
----------------	------------------------

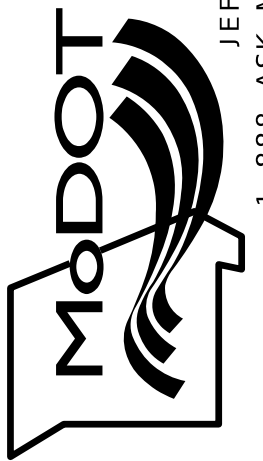
COUNTY
ST. CHARLES

JOB NO.
JST0020

CONTRACT ID.

PROJECT NO.

BRIDGE NO.							
A43202							

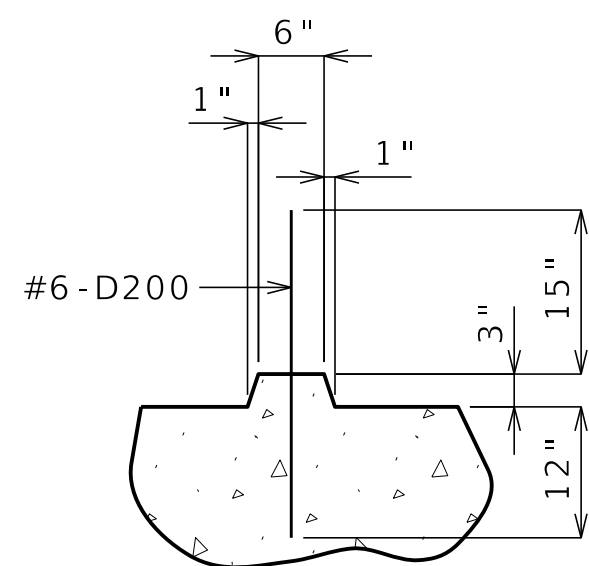
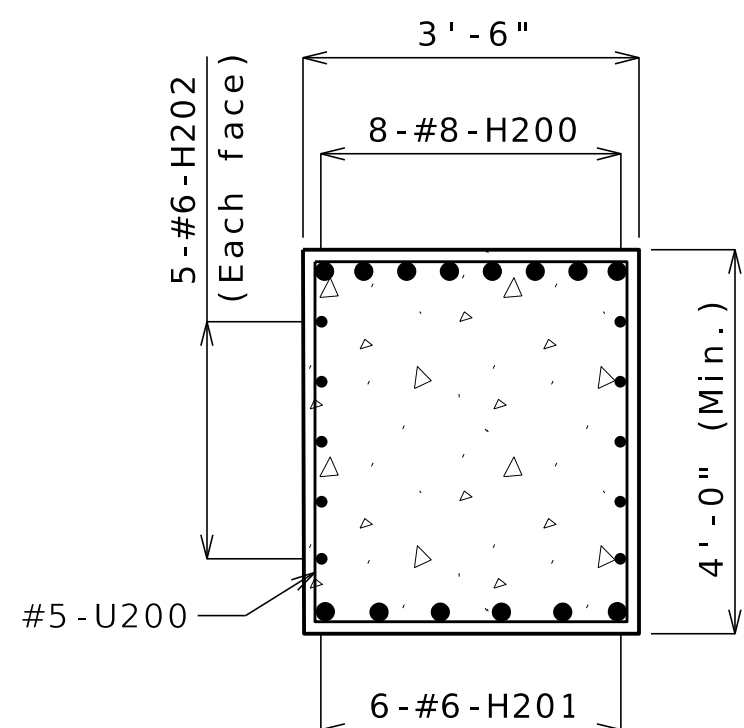
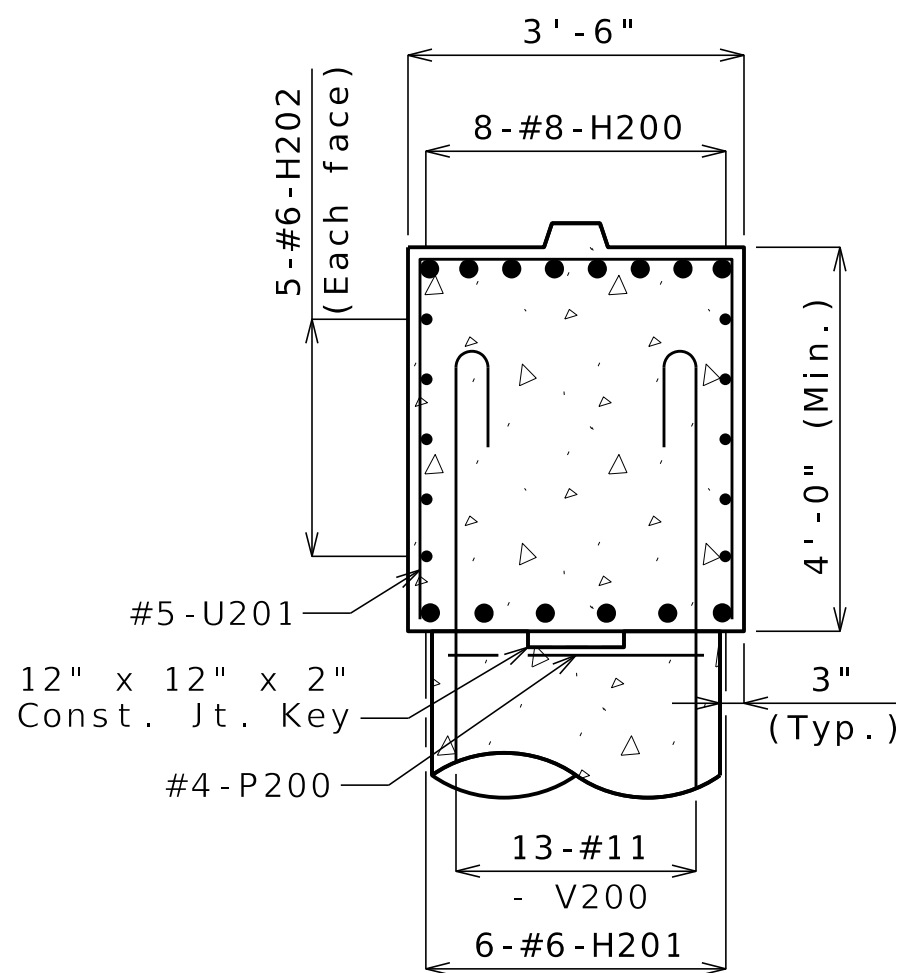
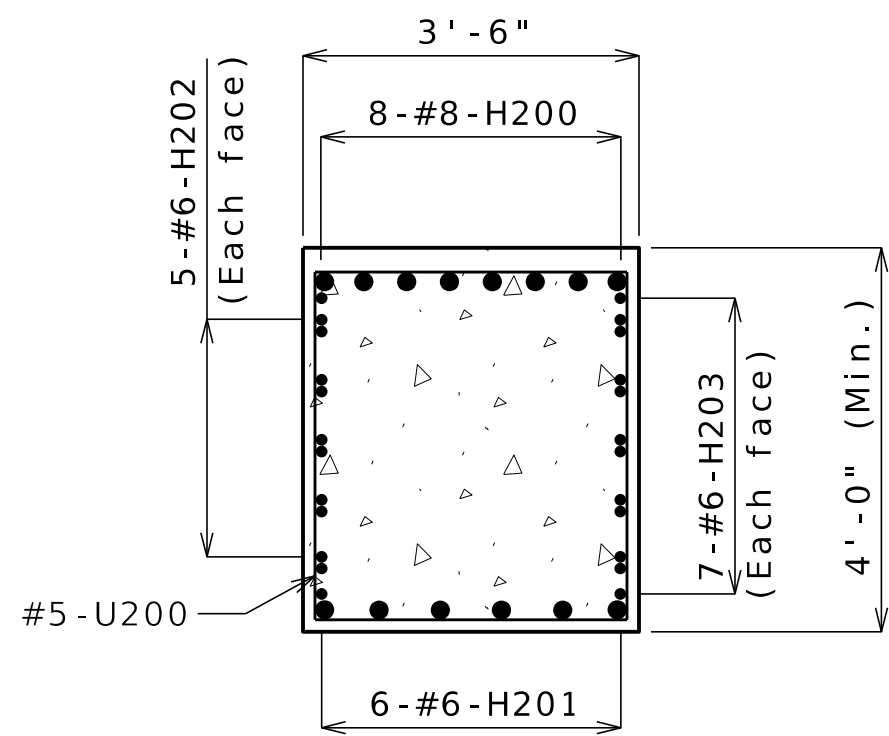
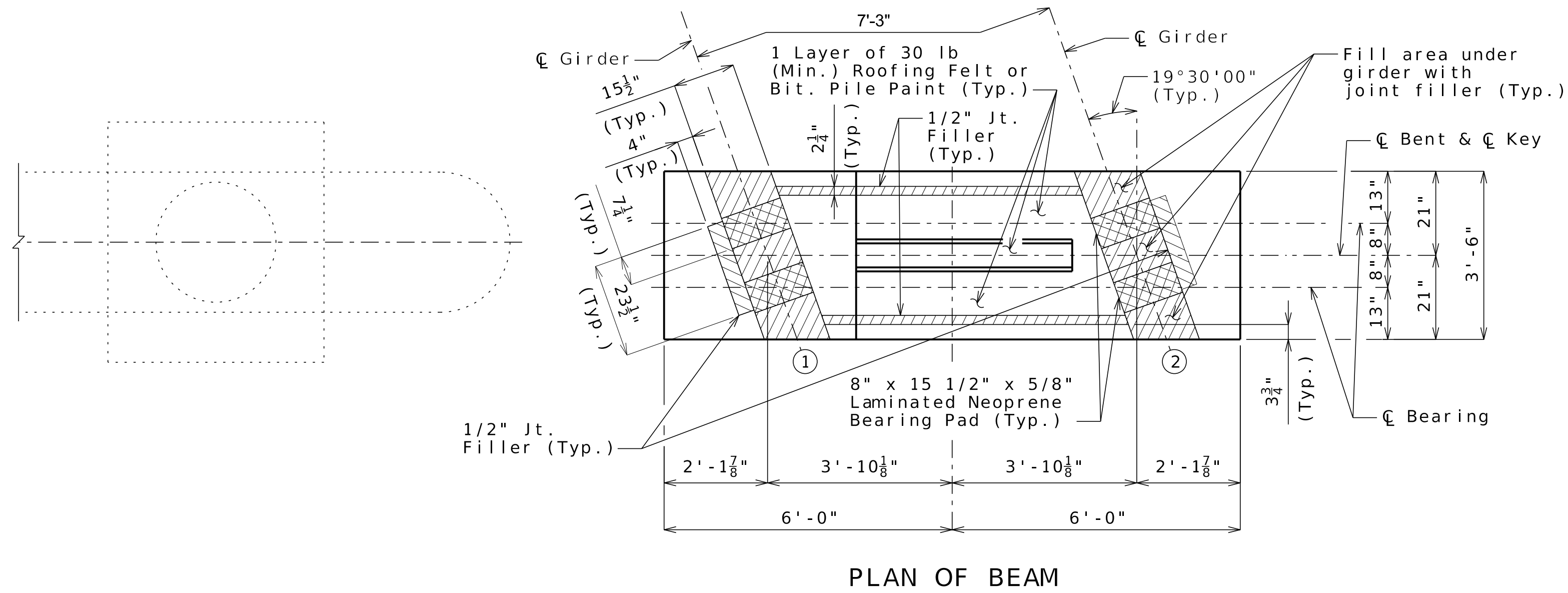
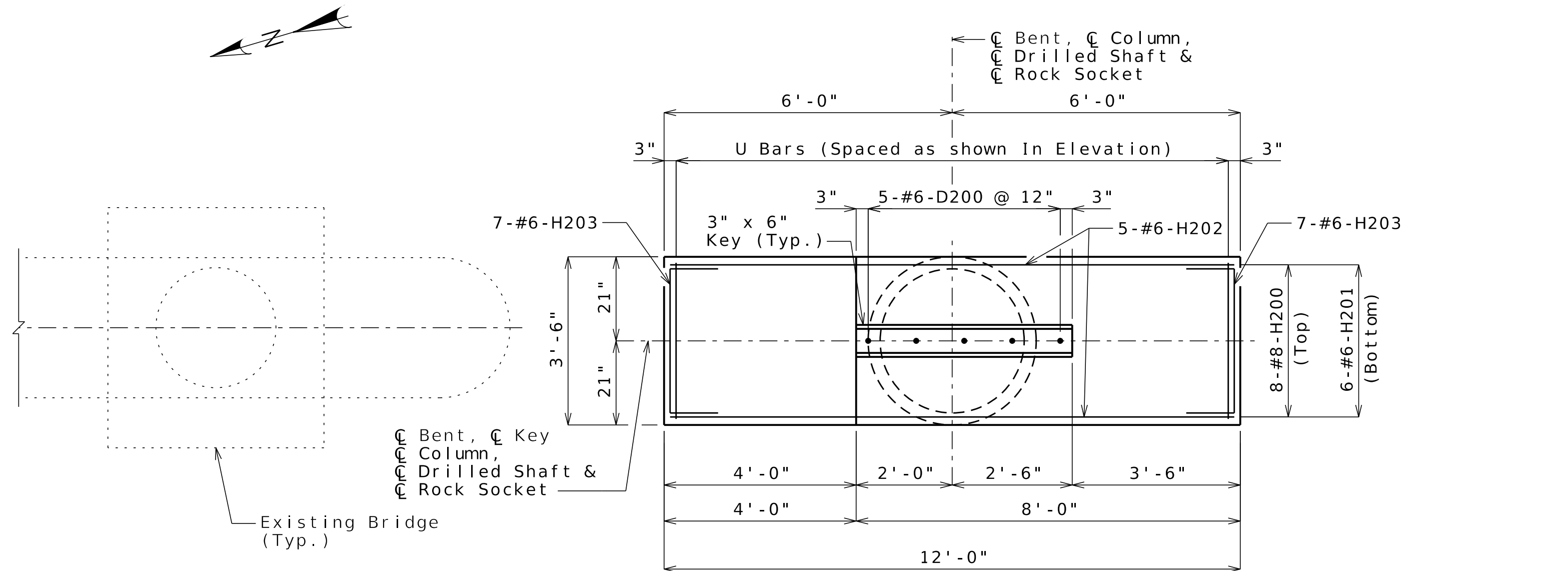
[illegible]MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

105 WEST CAPITOL
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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General Notes:

Work this sheet with Sheet No. 12.

For steps 2 inches or more, use 2 1/4x 1/2-inch joint filler up vertical face.

Bar marks are shown for Bent 2, using "200" series bar marks. Bent 3 is similar, except use "300" series bar marks.

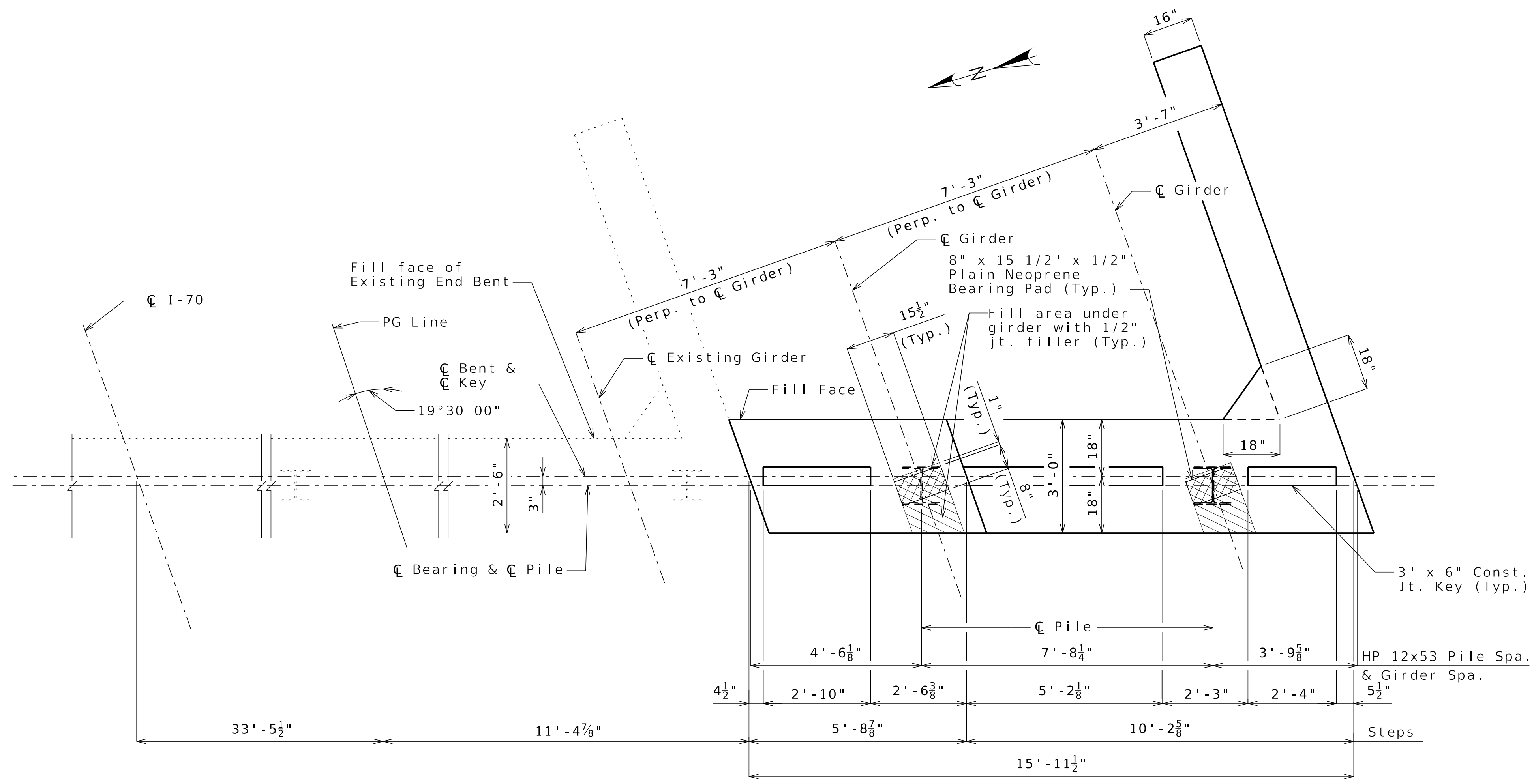
STATE OF MISSOURI
David J. Glasstetter
NUMBER
PE-2000150018
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN
SIGNED, SEALED AND DATED
ELECTRONICALLY.
DATE PREPARED
6/5/2025
ROUTE
1 - 70
STATE
MO
DISTRICT
BR
SHEET NO.
A43202-13
COUNTY
ST. CHARLES
JOB NO.
JST0020
CONTRACT ID.
PROJECT NO.
BRIDGE NO.
A43202

DESCRIPTION
DATE

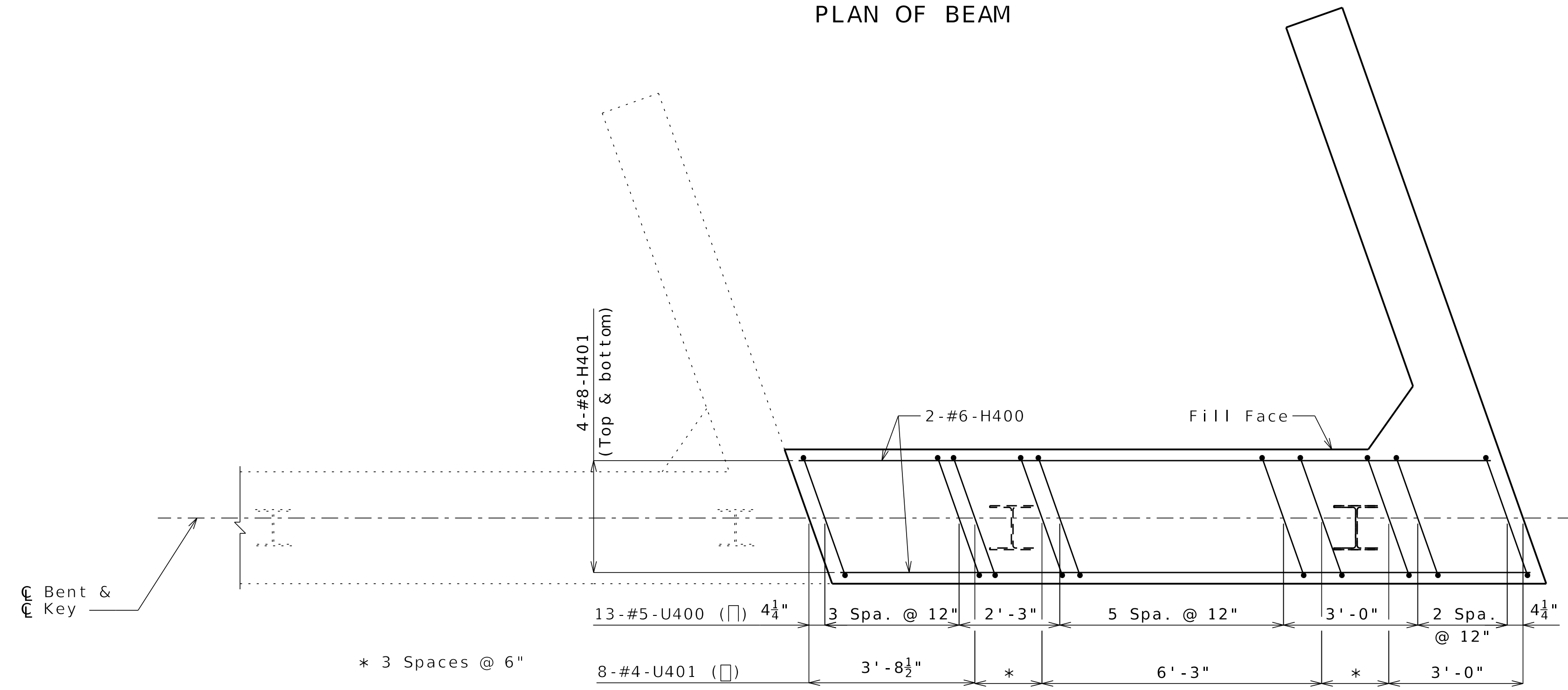
MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

IMPROVE 70
ALLIANCE

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KANSAS CITY, MO 64105-1310
PHONE 874-333181
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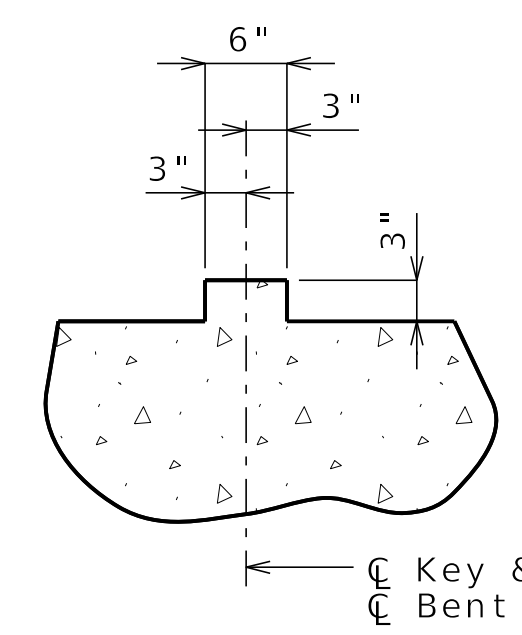
PLAN OF BEAM



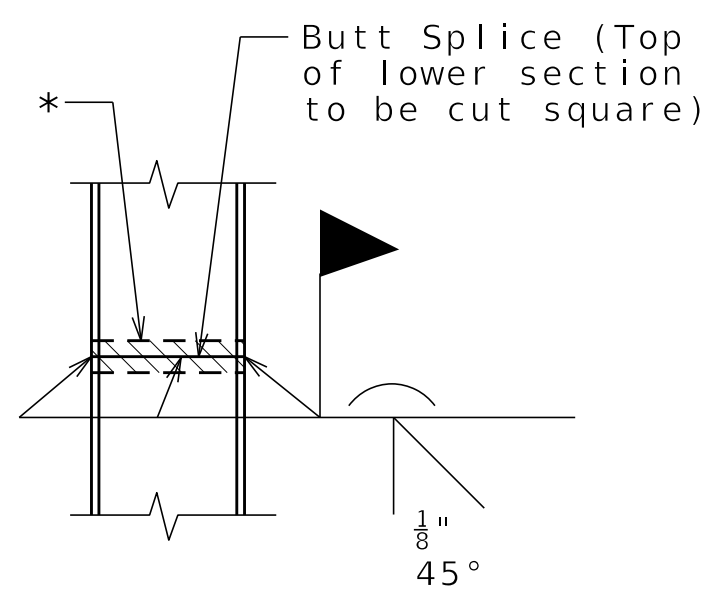
PLAN OF BEAM SHOWING REINFORCEMENT

Keys not shown for clarity.

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



SECTION THRU KEY



STEEL PILE SPLICE
(If required)

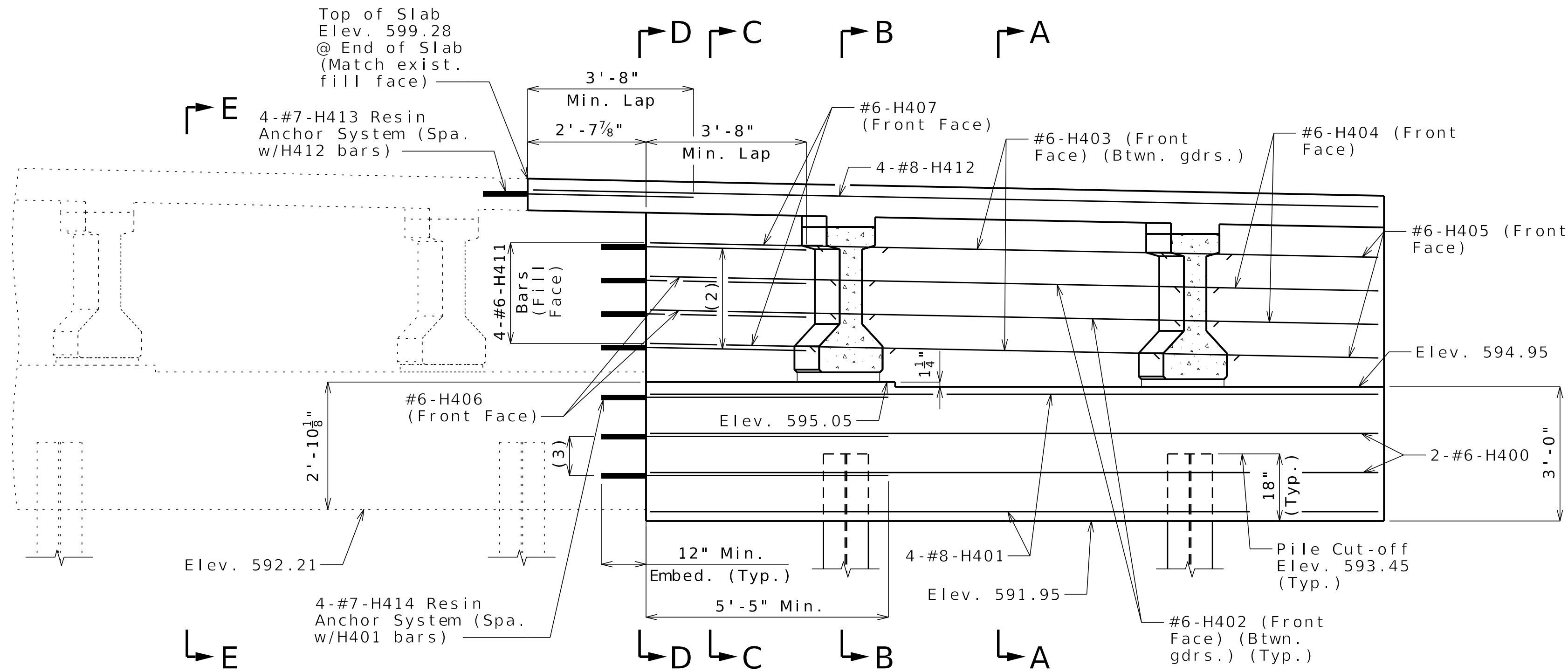
* Galvanizing material shall be omitted or removed one inch clear of weld locations in accordance with Sec 702.

General Notes:

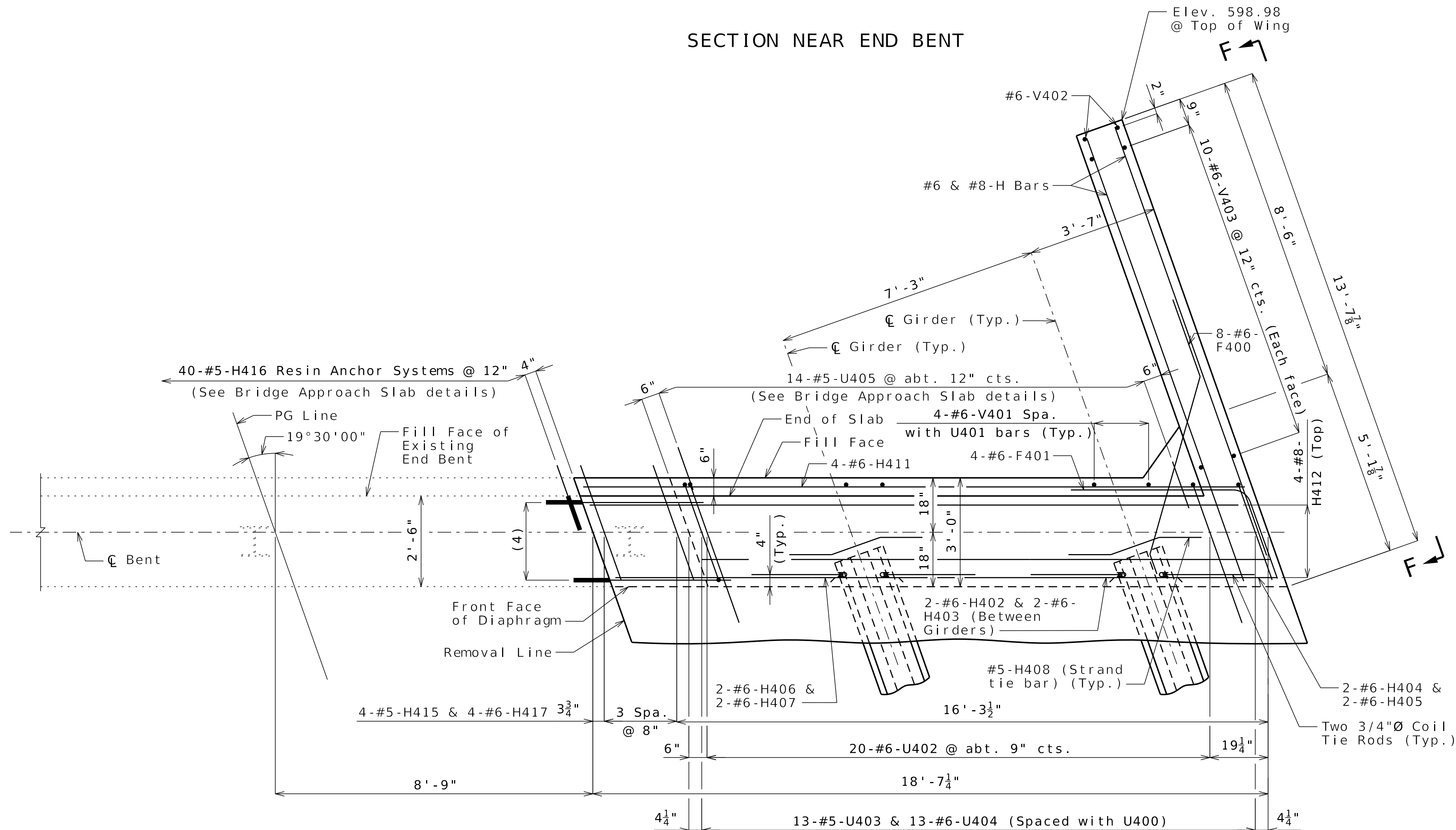
Work this sheet with Sheets No. 15 and 16.

All U bars and pairs of V bars shall be placed parallel to skewed steps.

Reinforcing steel shall be shifted to clear piles.
U bars shall clear piles by at least 1 1/2 inches.



SECTION NEAR END BENT



PART PLAN

(2) 2-#7-H413 Resin Anchor System
(E.F.) (Spa. w/H411 bars)

(3) 2-#7-H414 Resin Anchor System
(E.F.) (Spa. w/H400 bars)

(4) 4-#7-H413 Resin Anchor System
(Top) (Spa. w/H412 bars)

General Notes:

Work this sheet with Sheets No. 14 and 16.

For Sections A-A, B-B & C-C and Elevations D-D & E-E, see Sheet No. 16.

The #6-F400 bars shall be bent in the field to clear girders.

The U bars shall be placed parallel to skewed steps.

All concrete in the end bent above top of beam and below top of slab shall be Class B-2.

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

For location of coil tie rods and #5-H408 (strand tie bar), see Sheet No. 20.

For details of vertical drain at end bents, see Sheet No. 11.

For details of bridge approach slab, see Sheet No. 29.

For Partial Wingwall Removal details, see Sheet No. 6.

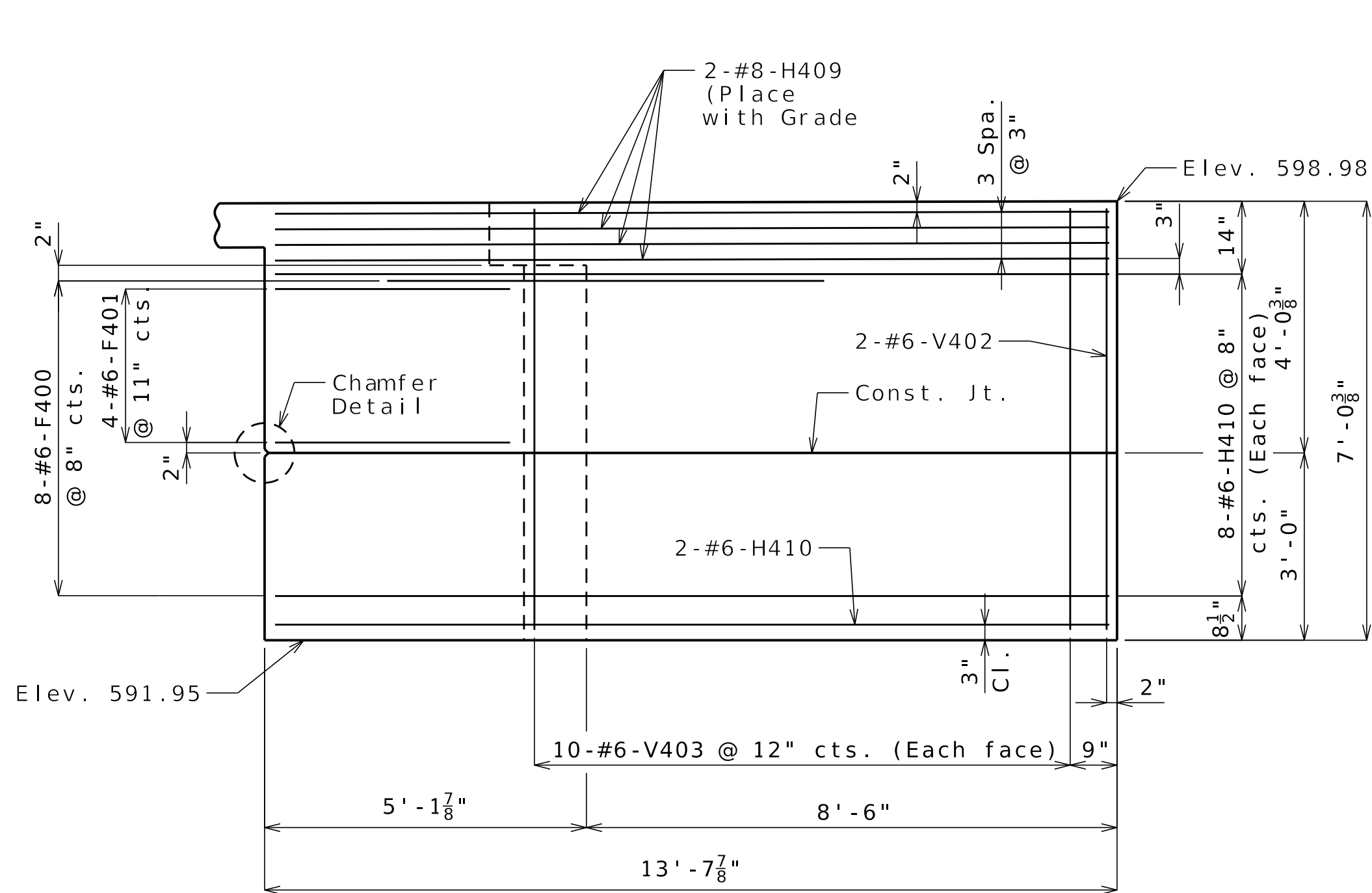
The contractor shall use one of the qualified resin anchor systems in accordance with Sec 1039.

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

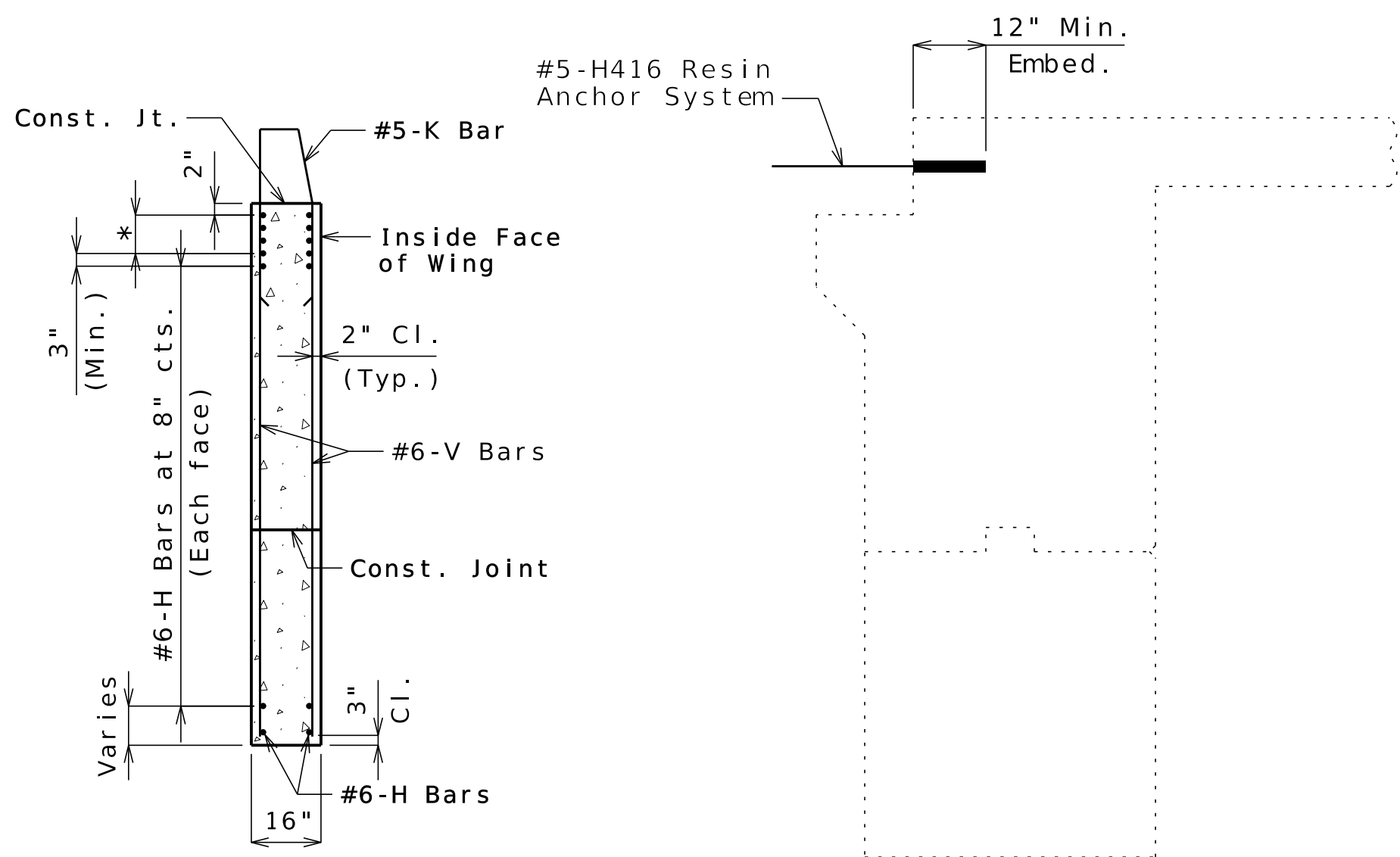
All Elevations shown are based on profile grade elevations taken from the as-built plans and shall be field verified by the Contractor.

Contractor has the option to preserve existing transverse reinforcing bars over the diaphragm or to use the epoxy resin anchor systems (H113) shown.

[illegible]

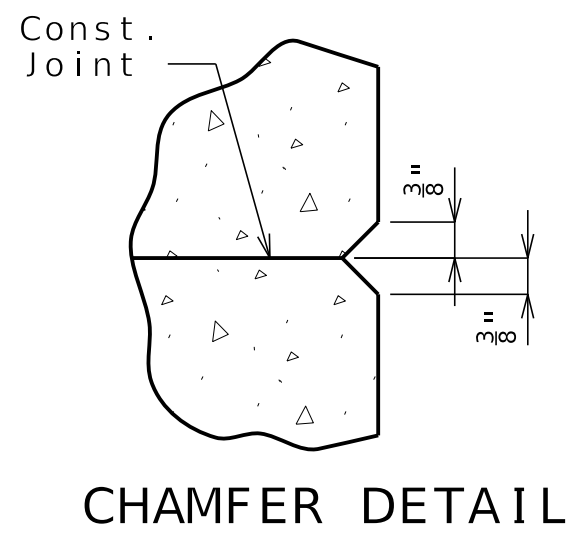


ELEVATION F-F

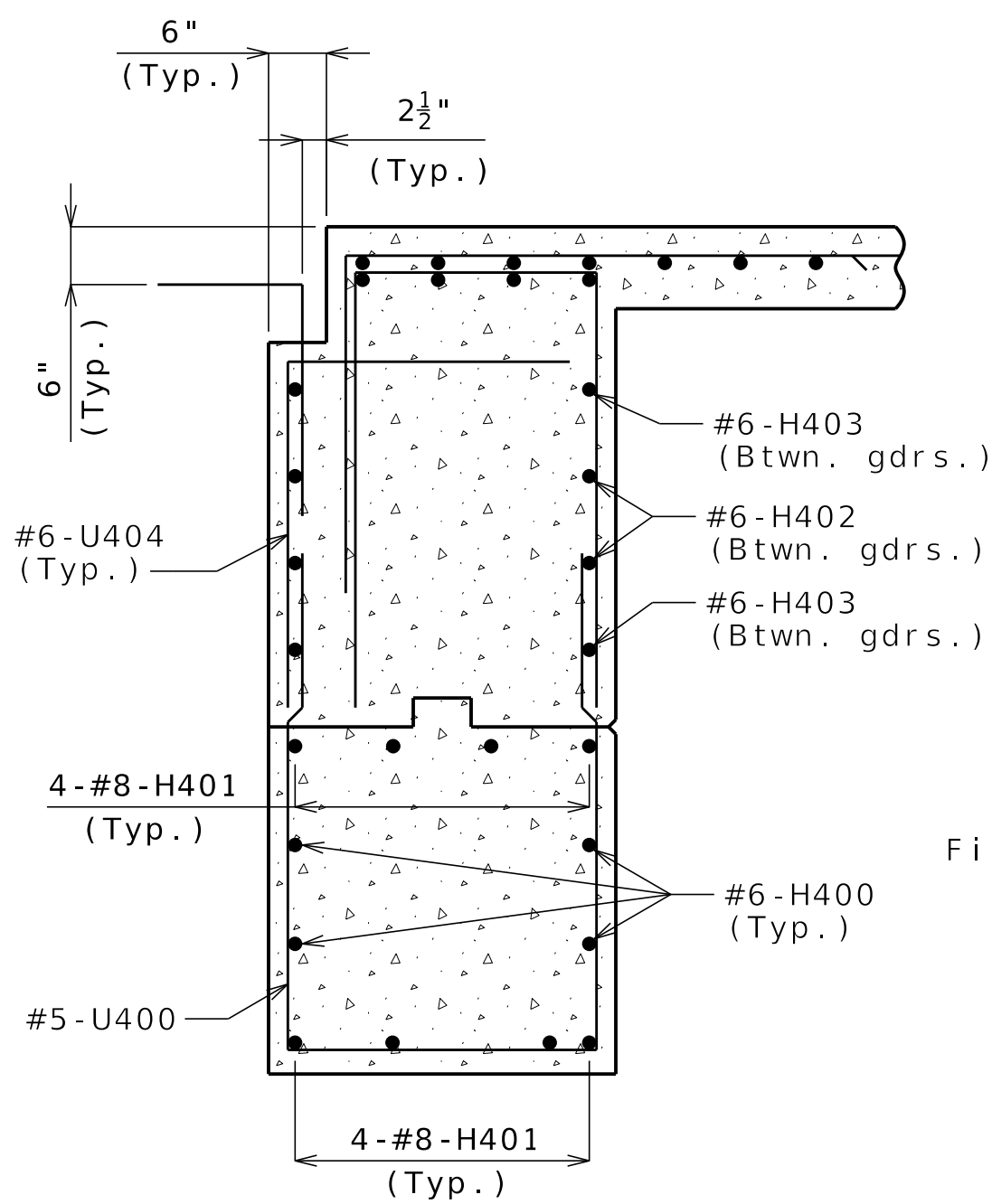


TYPICAL SECTION THRU WING
* #8-H Bars at 3" cts. (Each face)(Place with grade)

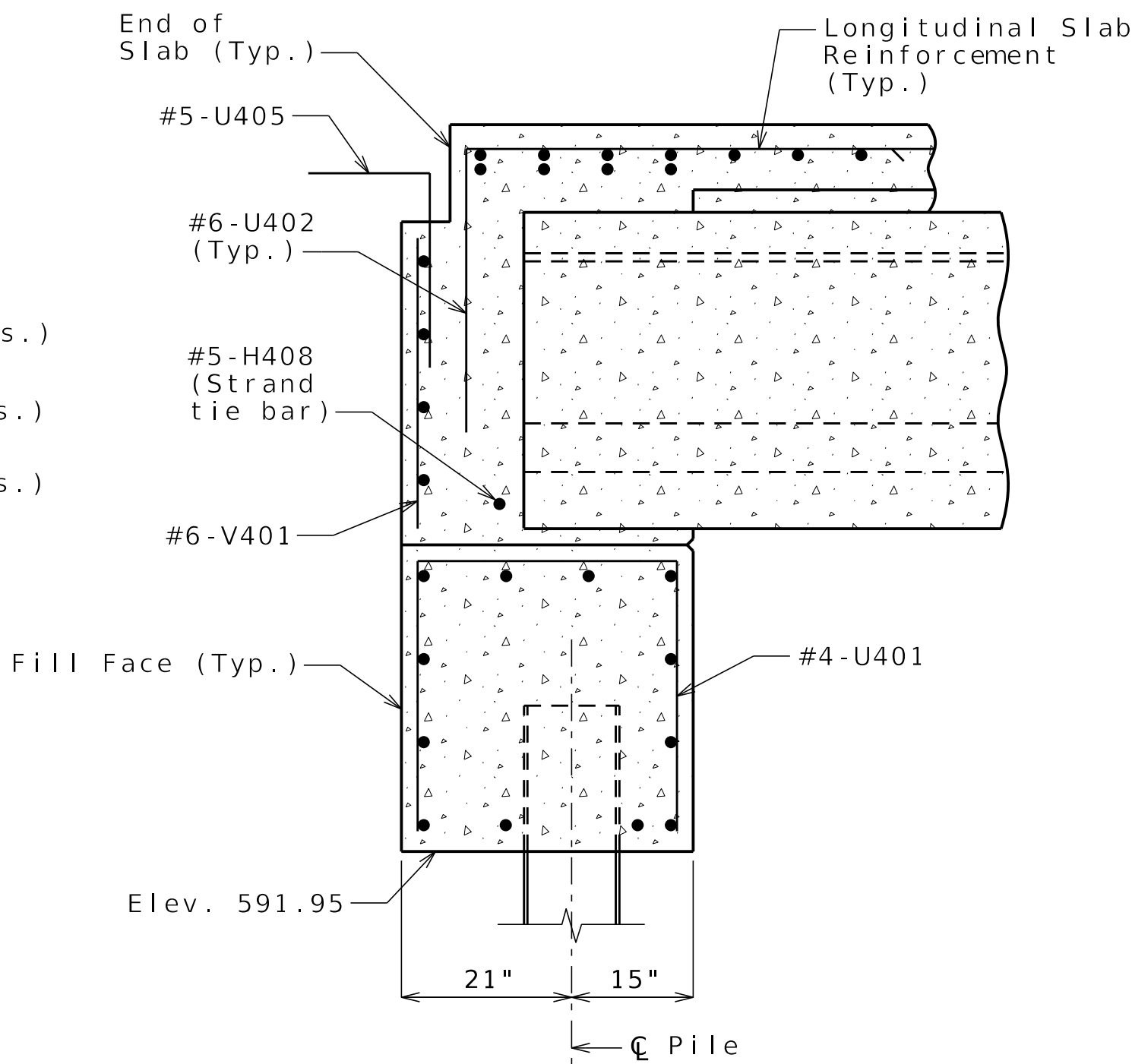
SECTION E-E



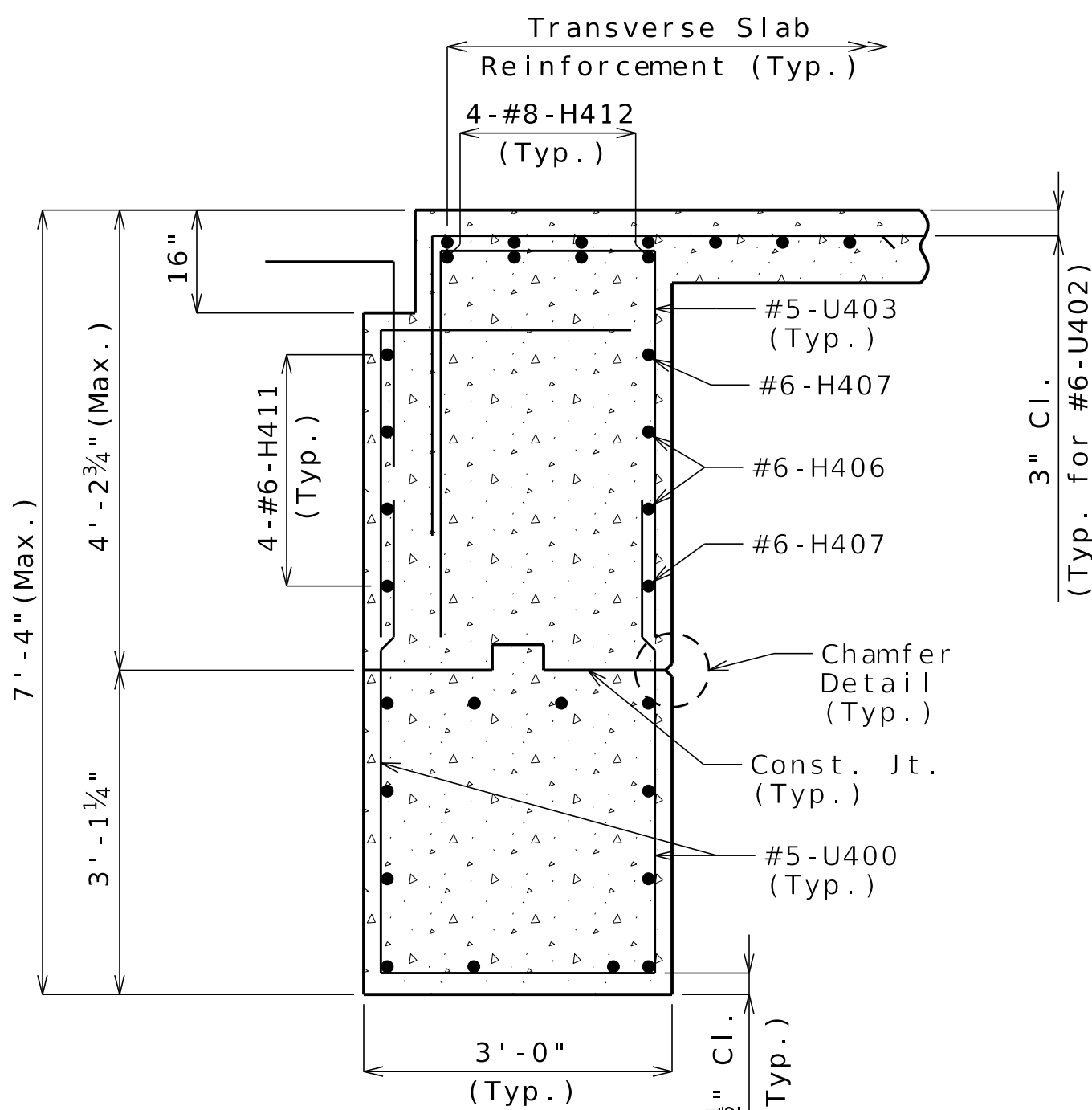
General Notes:
Work this sheet with Sheets No. 14 and 15.
For reinforcement of the barrier, see Sheet No. 27.



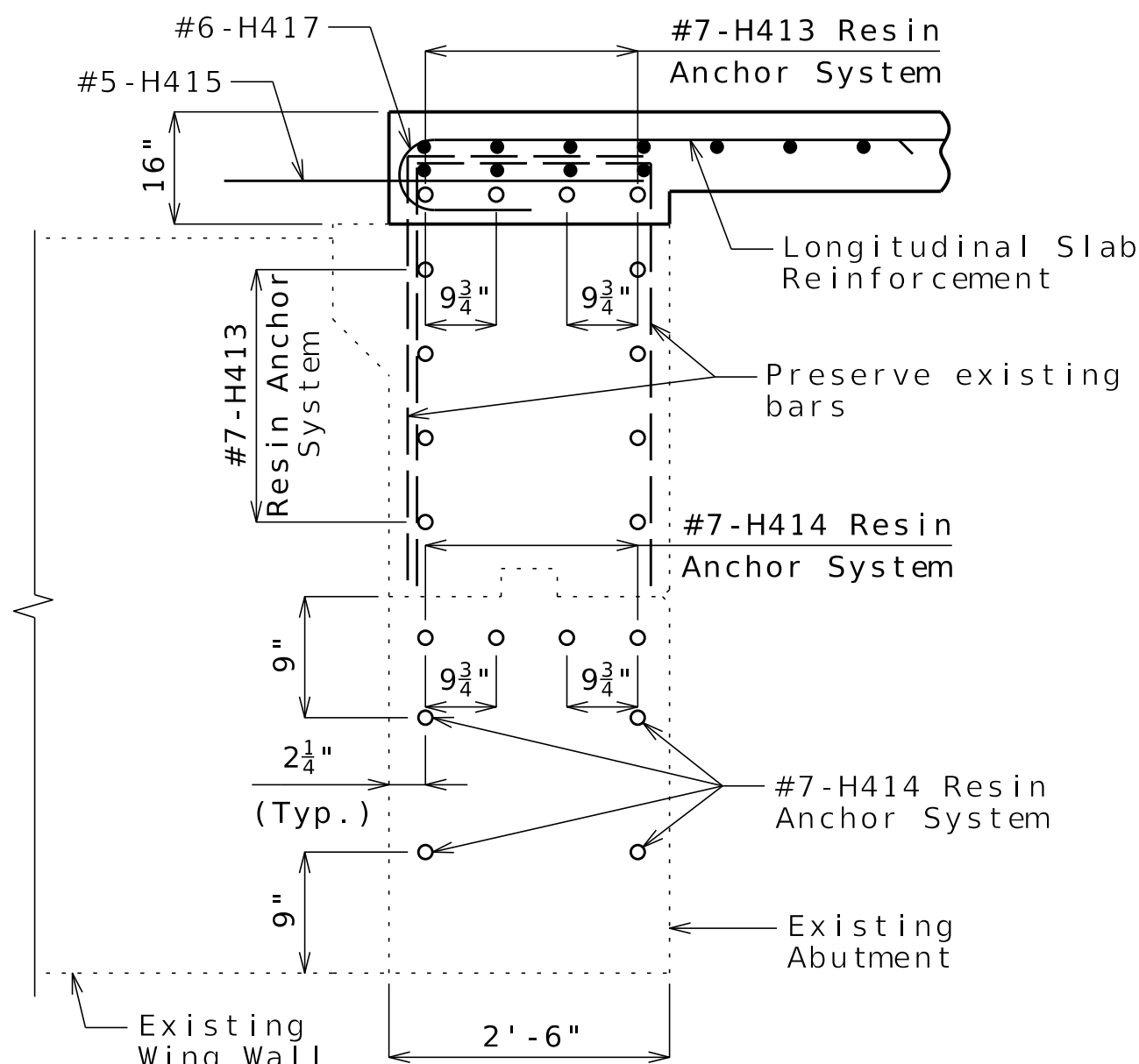
SECTION A-A



SECTION B-B



SECTION C-C



SECTION D-D

DETAILS OF END BENT NO. 4

STATE OF MISSOURI
David J. Glasstetter
NUMBER
PE-2000150018
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN
SIGNED, SEALED AND DATED
ELECTRONICALLY.
DATE PREPARED
6/5/2025
ROUTE
1-70
DISTRICT
BR
COUNTY
ST. CHARLES
JOB NO.
JST0020
CONTRACT ID.
PROJECT NO.
BRIDGE NO.
A43202

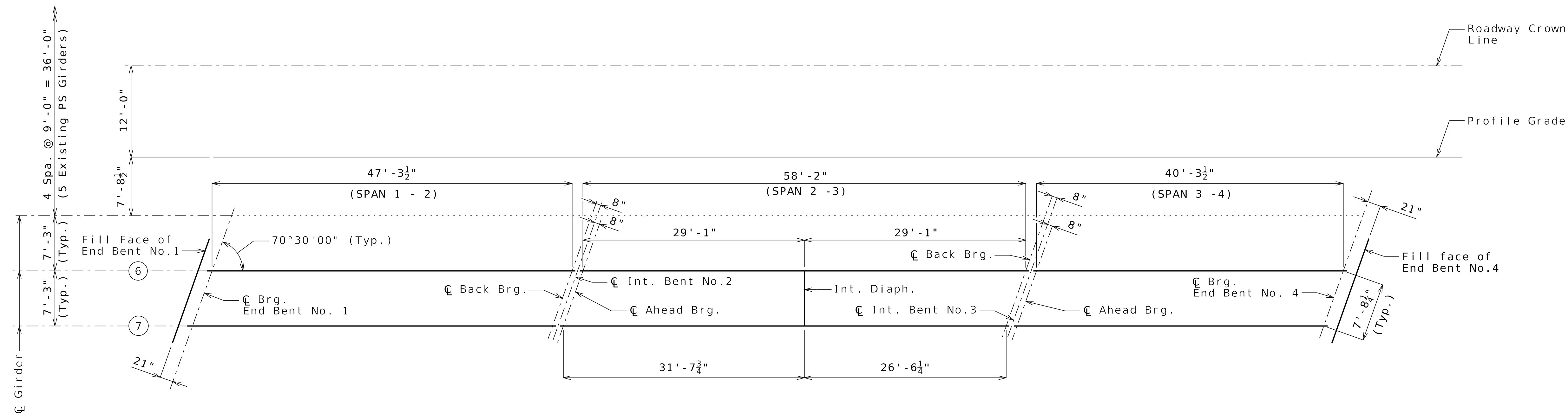
DESCRIPTION
DATE

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

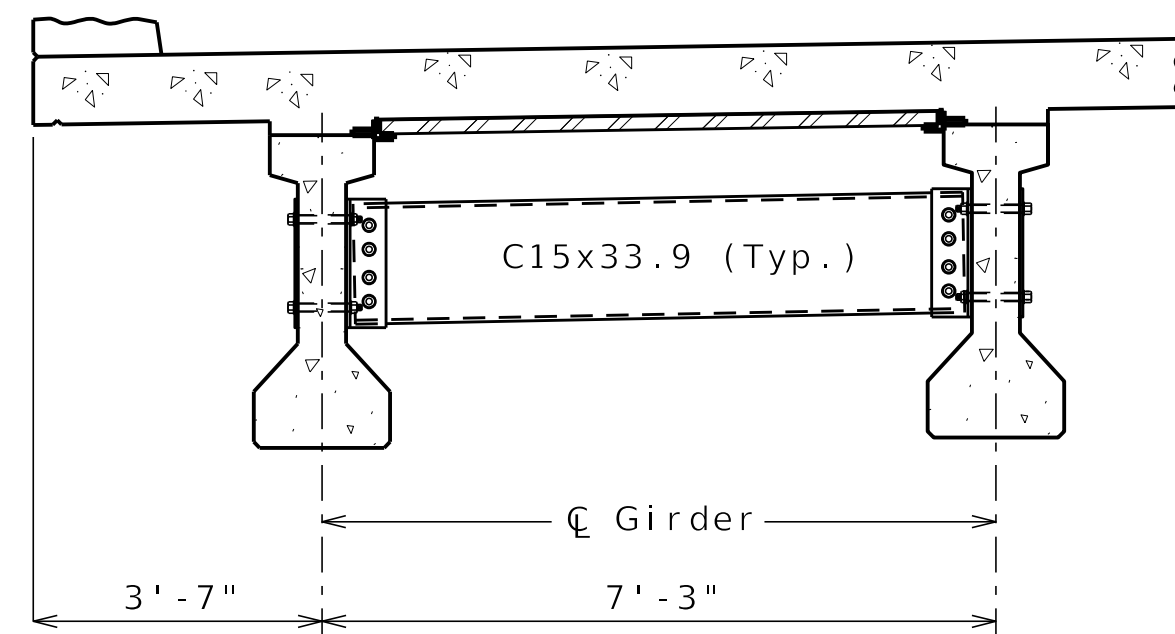
IMPROVE70
ALLIANCE

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

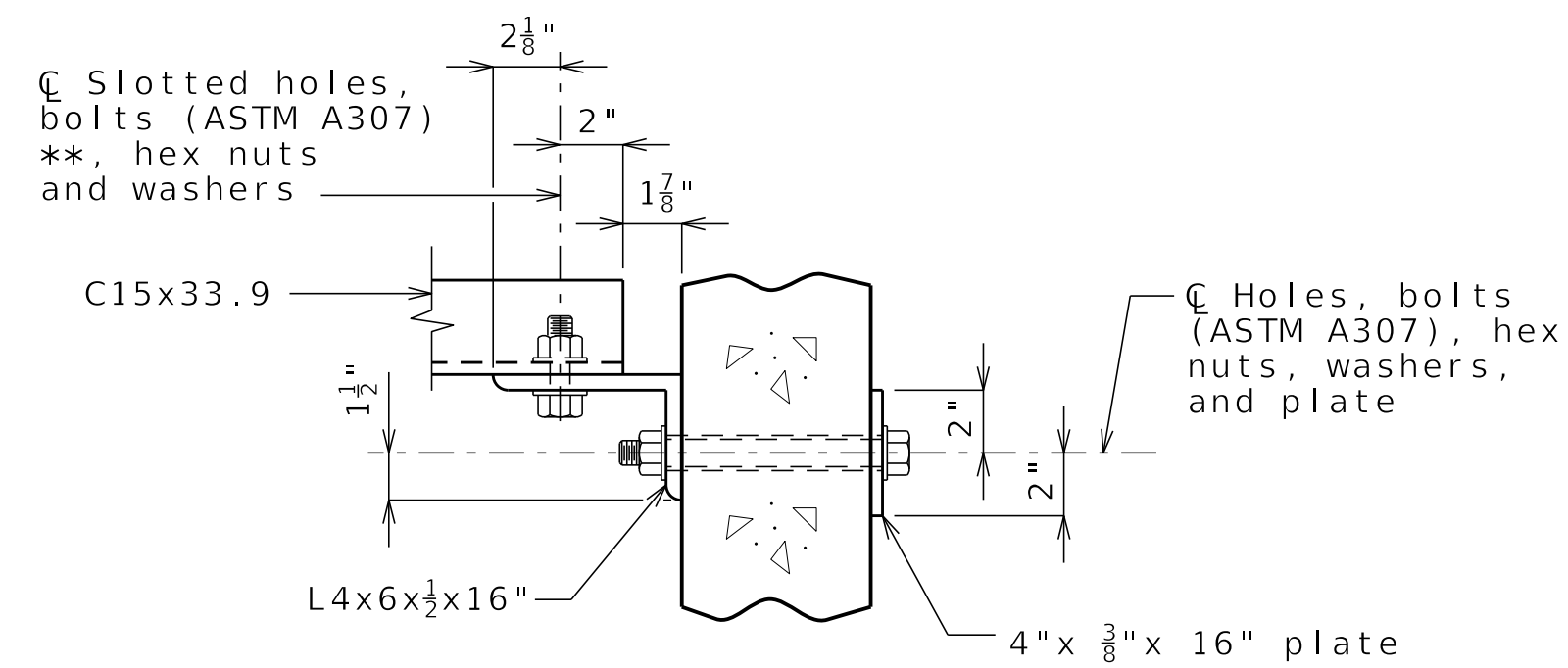
Bartlett & West
601 MONROE ST., SUITE 201 - JEFFERSON CITY, MO 65101
PHONE 572-630-3181
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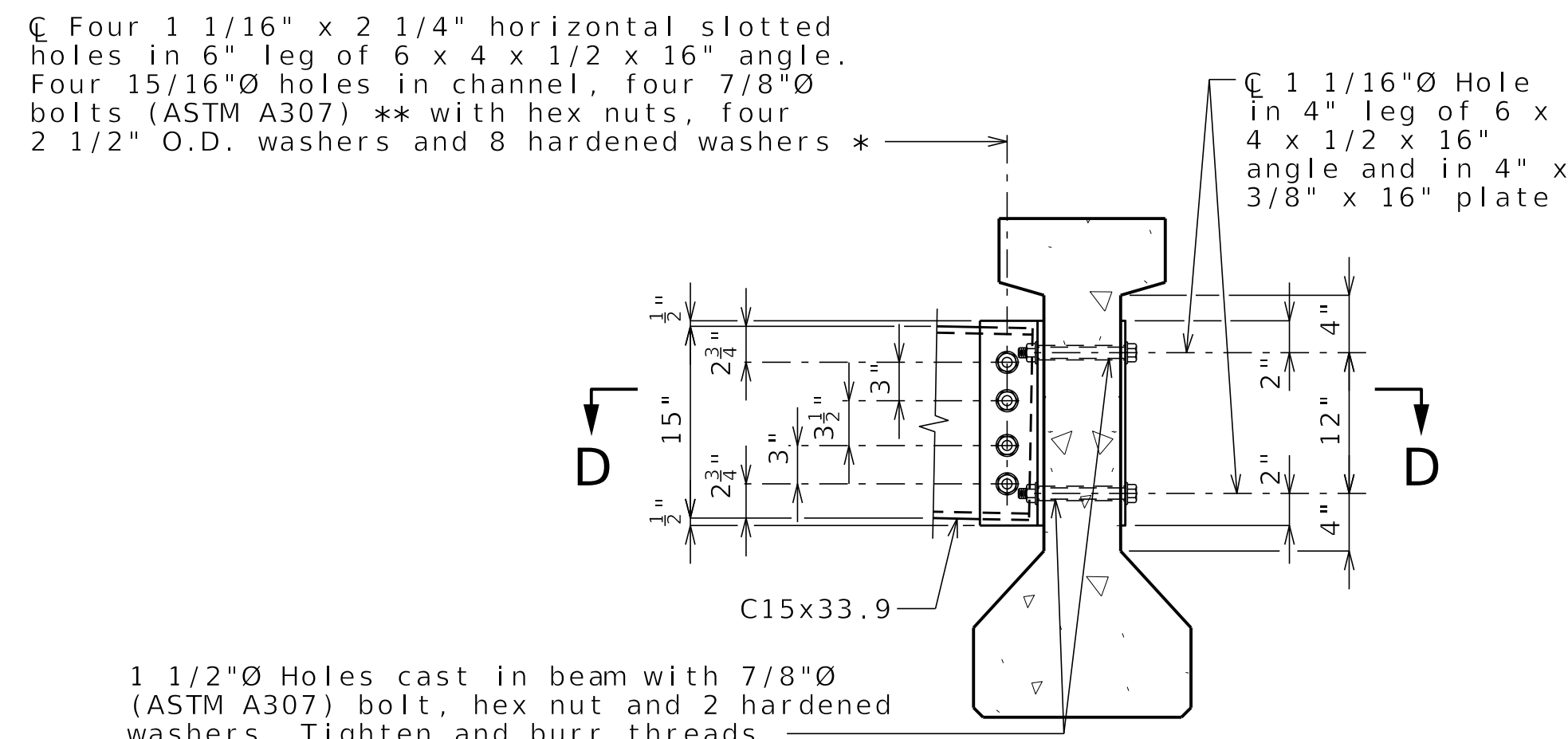
PLAN SHOWING LOCATION OF STEEL INTERMEDIATE DIAPHRAGMS
Longitudinal dimensions are horizontal.



PART SECTION SHOWING
INTERMEDIATE DIAPHRAGMS



SECTION D-D



SECTION THRU GIRDER
AT DIAPHRAGM

STEEL DIAPHRAGM NOTES:

* In lieu of 2 1/2" outside diameter washers, contractor may substitute a 3/16" (Min. thickness) plate with four 15/16" Ø holes and one hardened washer per bolt.

** Bolts shall be tightened to provide a tension of one-half that specified in Sec 712 for high strength bolt installation. ASTM F3125 Grade A325 Type 1 bolts may be substituted for and installed in accordance with the requirements for the specified ASTM A307 bolts.

All diaphragm materials including bolts, nuts, and washers shall be galvanized.

Fabricated structural steel shall be ASTM A709 Grade 36 except as noted.

Shop drawings will not be required for steel intermediate diaphragms and angle connections.



THIS SHEET HAS BEEN
SIGNED, SEALED AND DATED
ELECTRONICALLY.

DATE PREPARED
6/5/2025

ROUTE I - 70	STATE MO
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DISTRICT BR	SHEET NO. A43202-17
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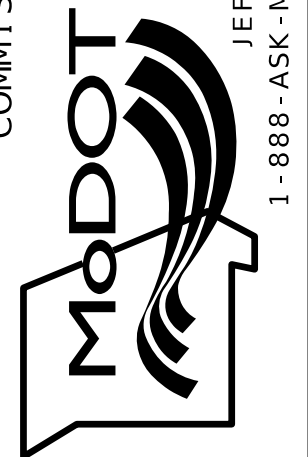
COUNTY
ST. CHARLES

JOB NO.
JST0020

CONTRACT ID.

PROJECT NO.

BRIDGE NO.	A43202
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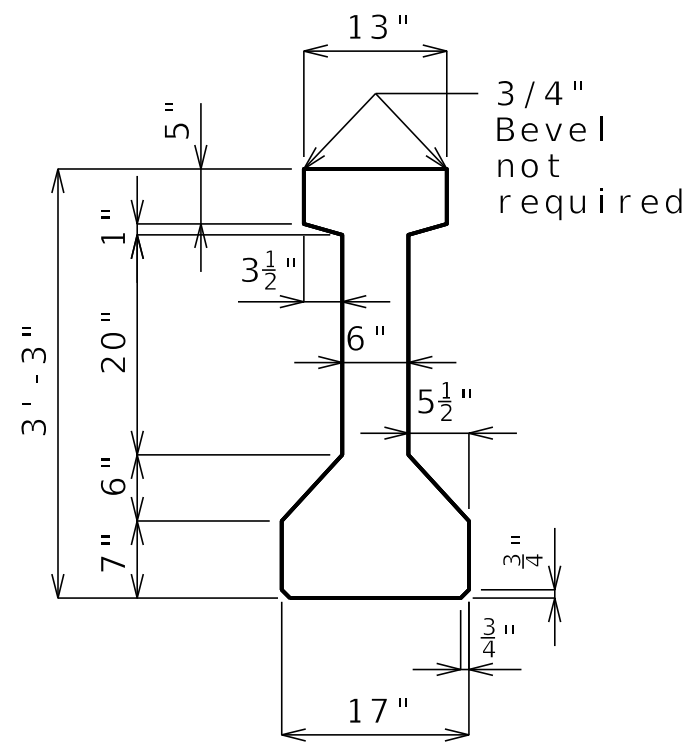
[illegible]MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

105 WEST CAPITOL
JEFFERSON CITY, MO 65102
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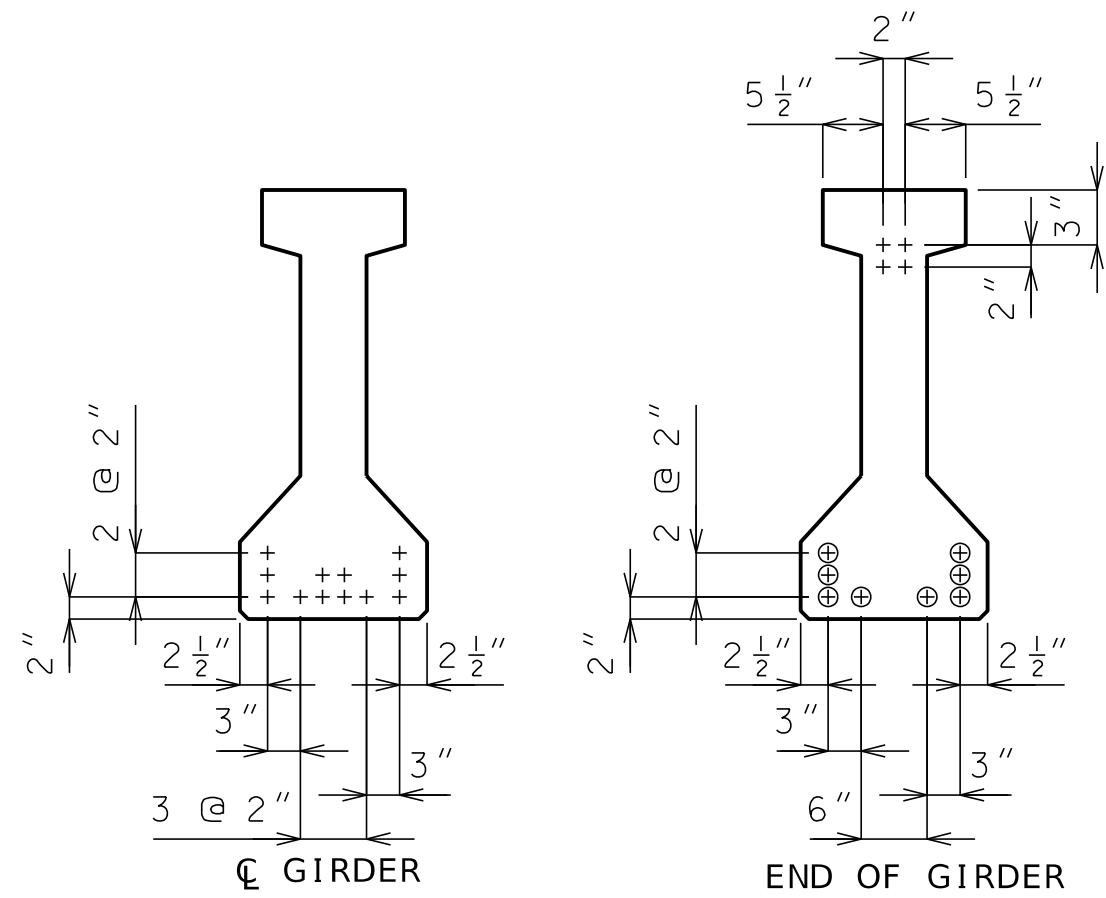


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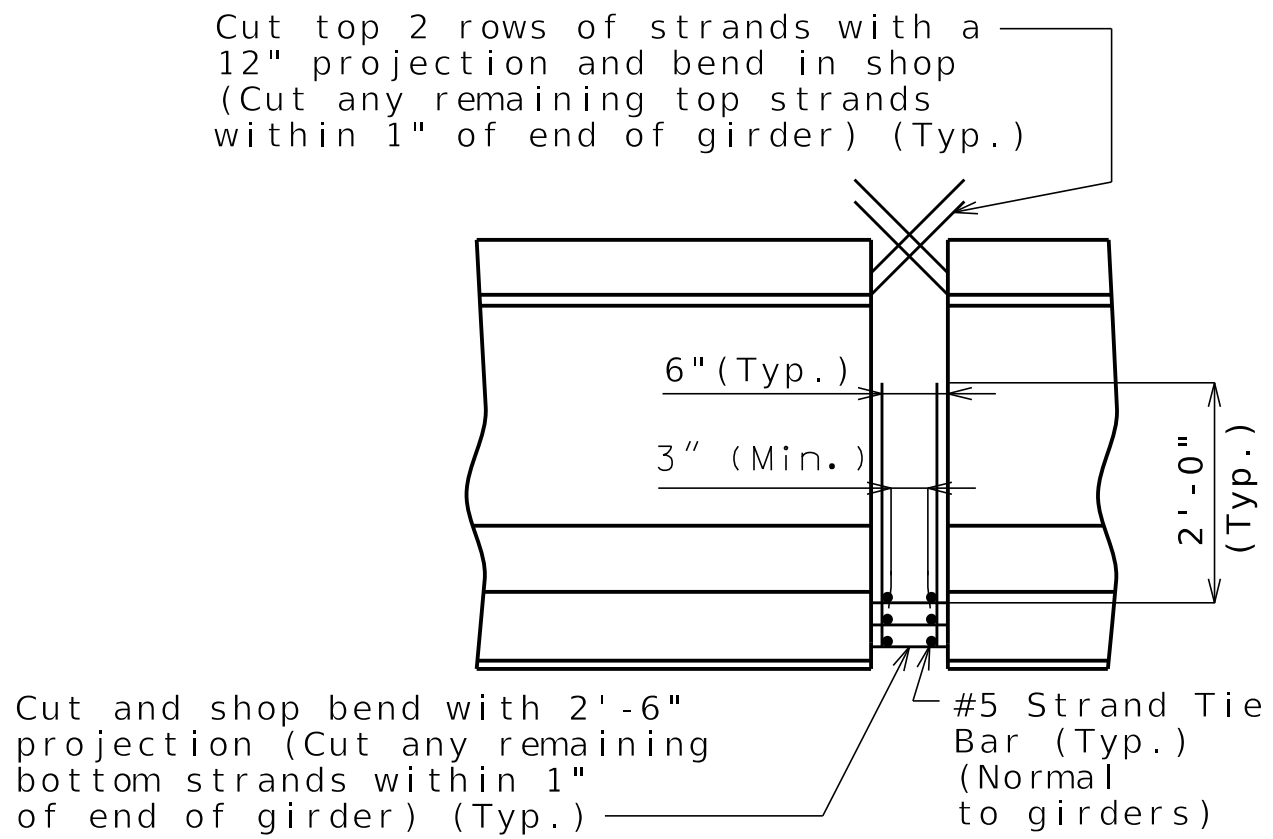


DIMENSIONS

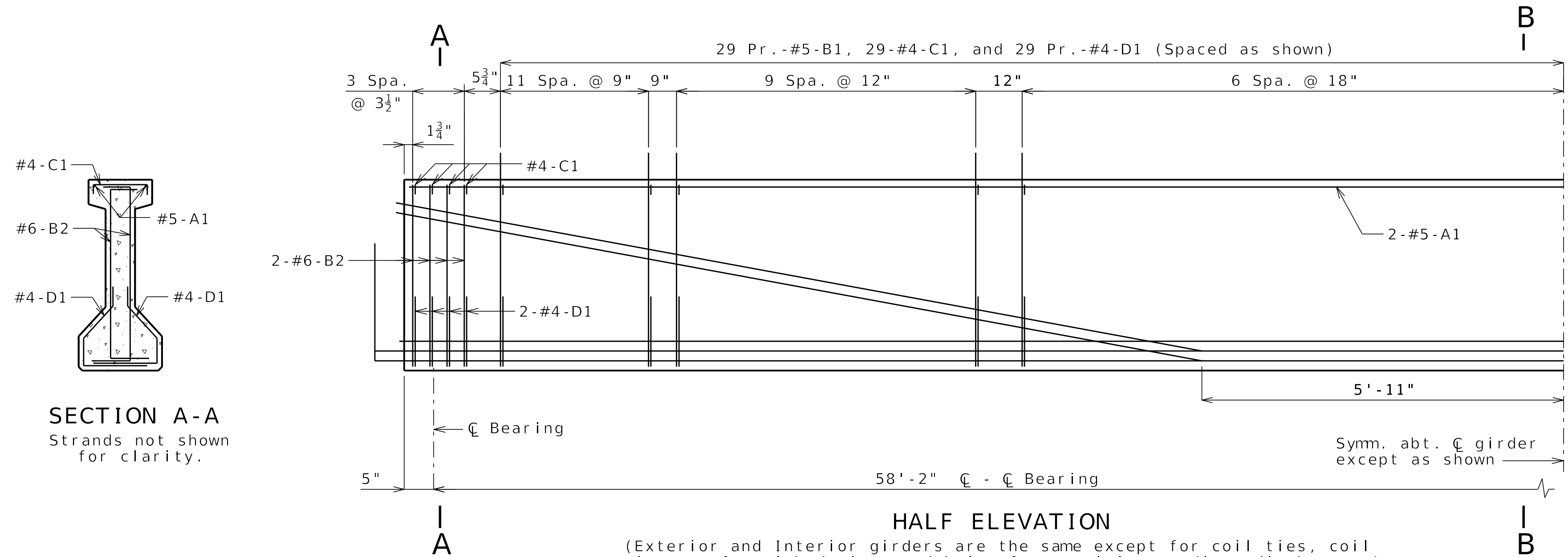


STRAND ARRANGEMENT

+ Indicates prestressing strand. ○ Indicates cut & shop bend with 2'-6" projection.

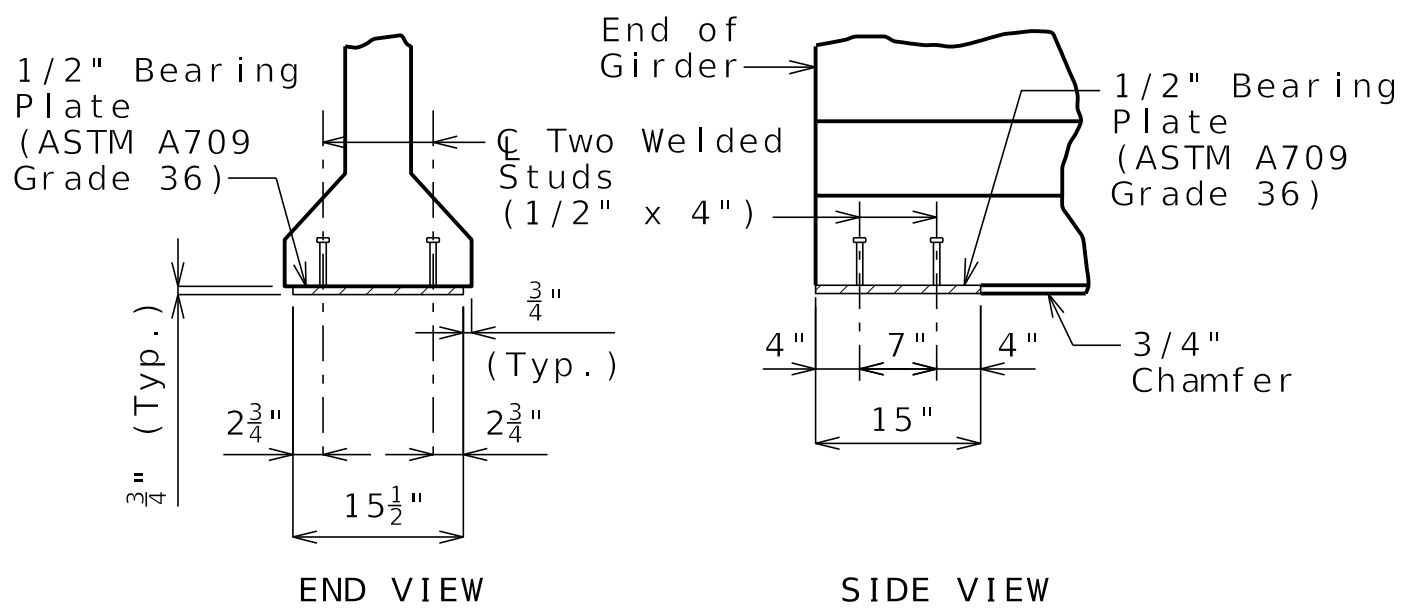


INTERMEDIATE BENT
STRANDS AT GIRDER ENDS

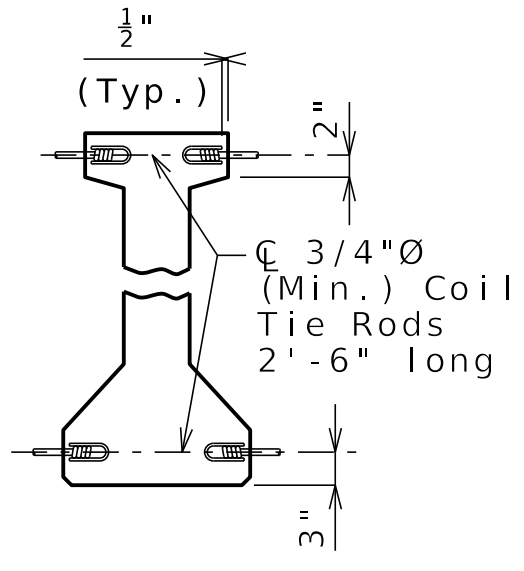


HALF ELEVATION

(Exterior and Interior girders are the same except for coil ties, coil inserts for slab drains, and holes for steel intermediate diaphragms.)



BEARING PLATE



COIL TIES

Exclude coil tie at intermediate bent
diaphragms as shown on Sheet No. X.

BILL OF REINFORCING STEEL - EACH GIRDER				
NO.	SIZE & MARK	ACTUAL LENGTH	SHAPE	BENDING DIAGRAM
2	5 A1	58' - 8"	20	
114	5 B1	4' - 7"	11S	
16	6 B2	4' - 0"	11S	
65	4 C1	13"	10S	
130	4 D1	2' - 5"	9S	

All dimensions are out to out.

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

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

Minimum clearance to reinforcing shall be one inch.

All reinforcement shall be Grade 60.

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

All B1 bars shall be epoxy coated.

General Notes:

Concrete for prestressed girders shall be Class A-1 with $f'_c = 6,000$ psi and $f'_{ci} = 4,500$ psi.

Use 12 strands, 0.6"Ø Grade 270, with an initial prestress force of 527 kips.

Pretensioned members shall be in accordance with Sec 1029.

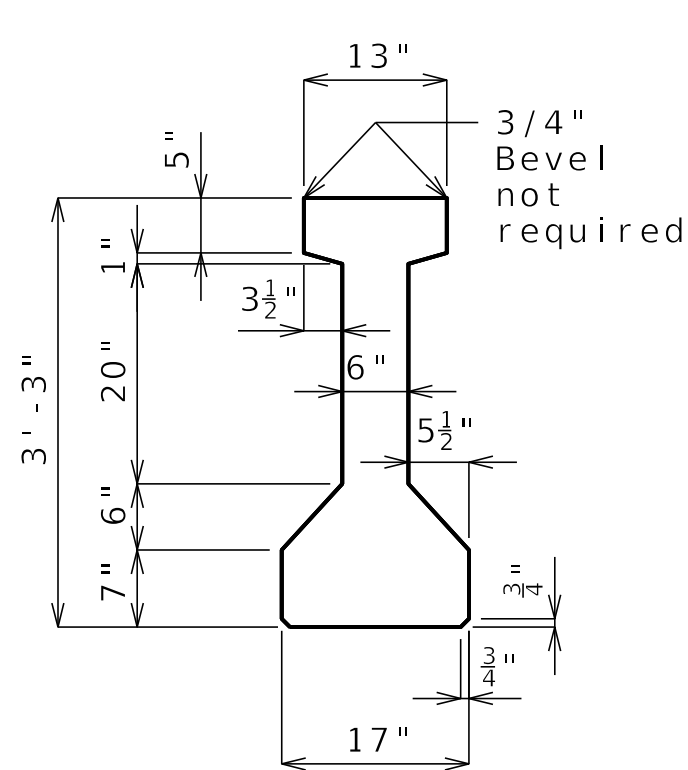
Fabricator shall be responsible for location and design of lifting devices.

For Girder Camber Diagram, see Sheet No. 23.

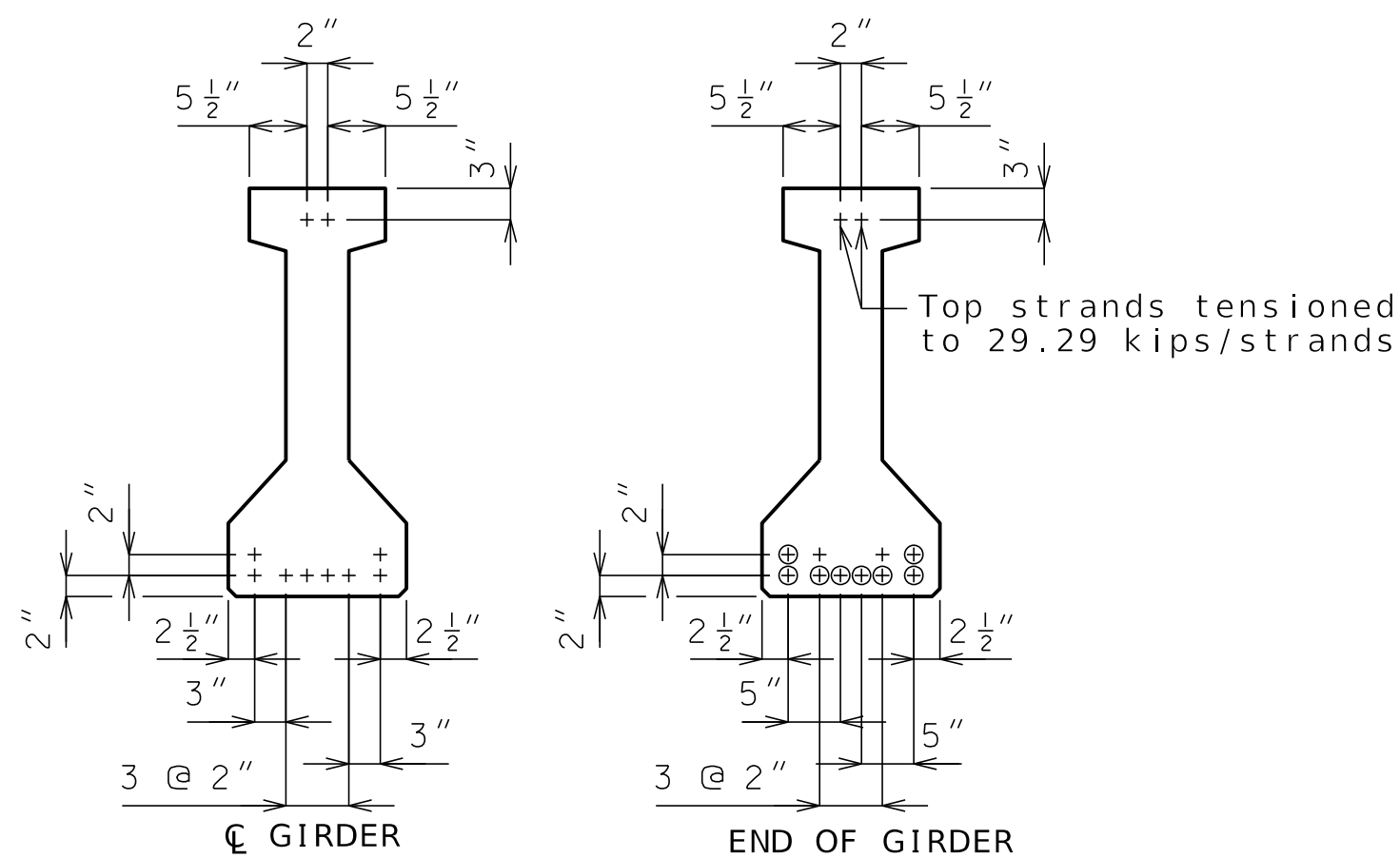
The 1 1/2"Ø holes shall be cast in the web for steel intermediate diaphragms. Drilling is not allowed. For location of holes and details of steel intermediate diaphragms, see Sheet No. 17.

For location of coil inserts at slab drains, see Sheet No. 22.

For location of coil ties at concrete diaphragms, see Sheet No. 21.

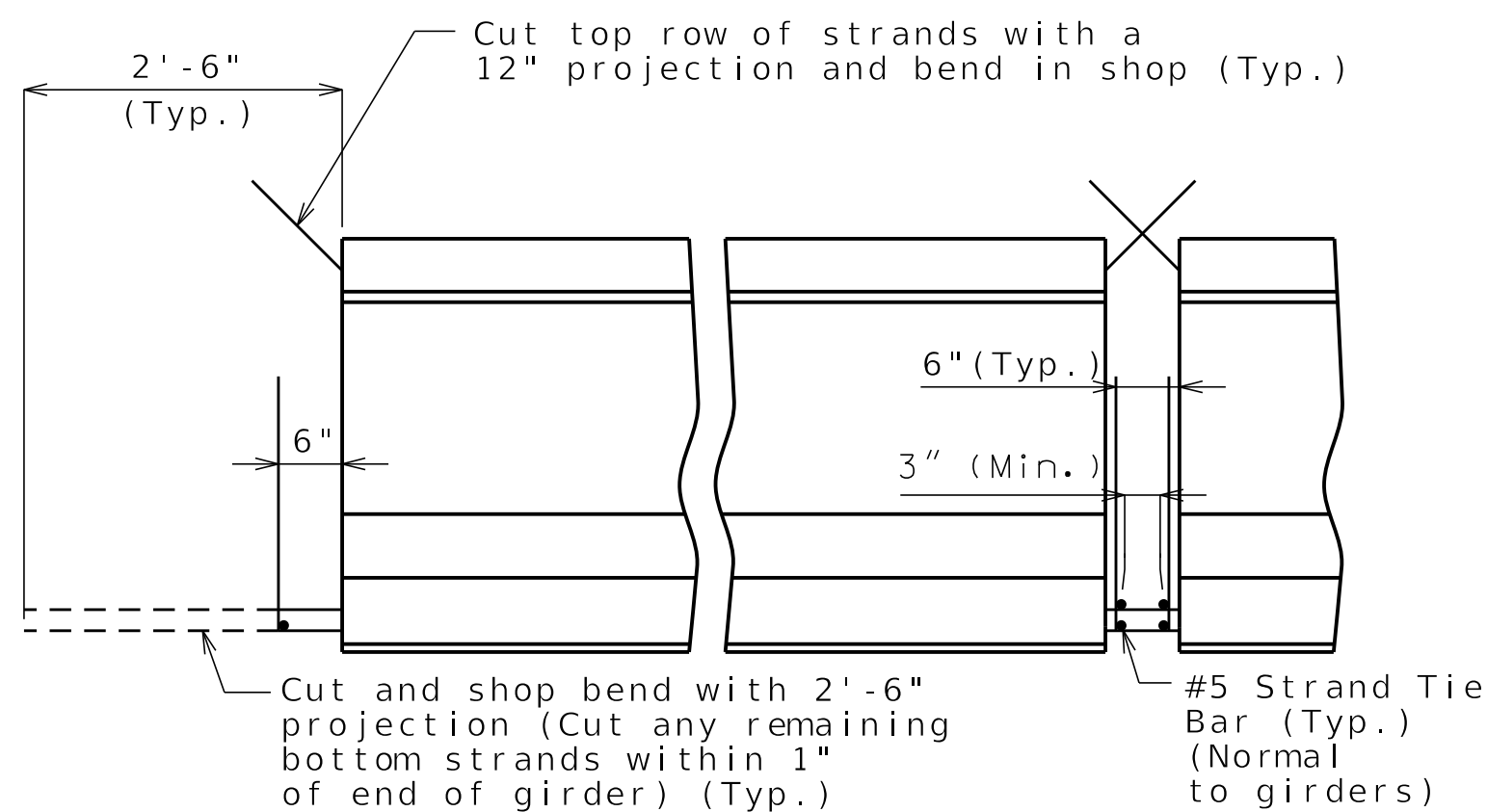


DIMENSIONS

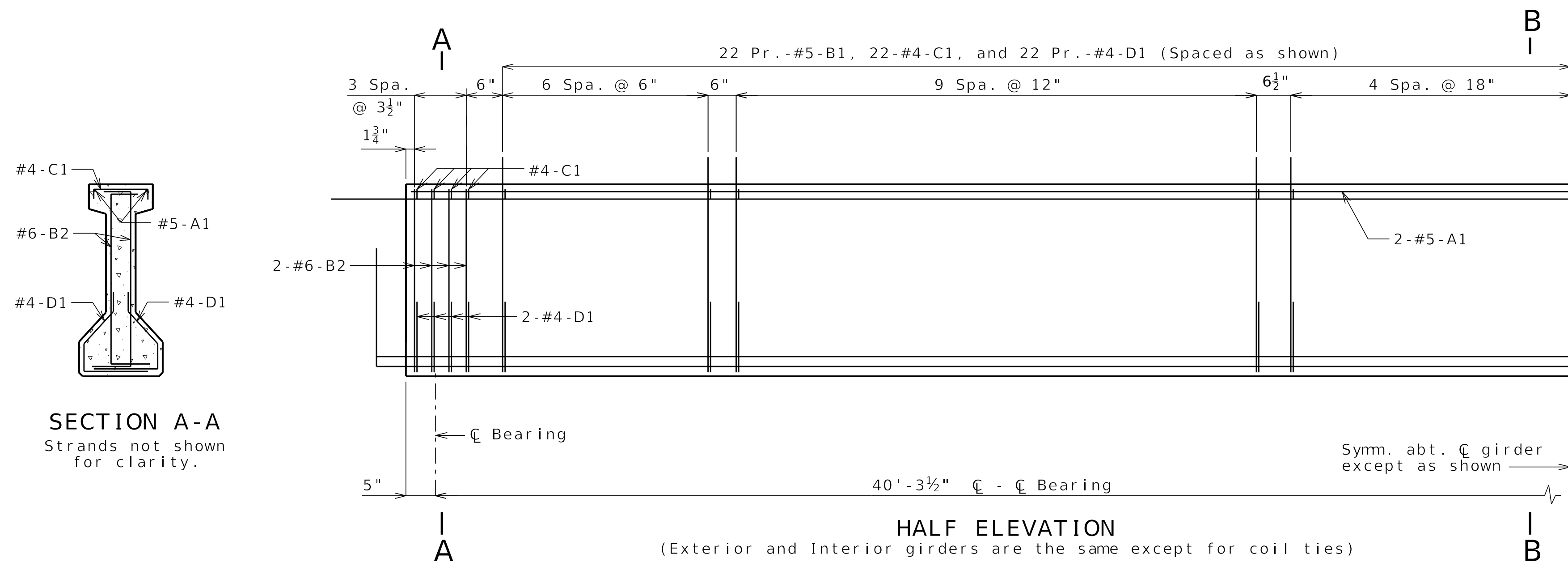


STRAND ARRANGEMENT

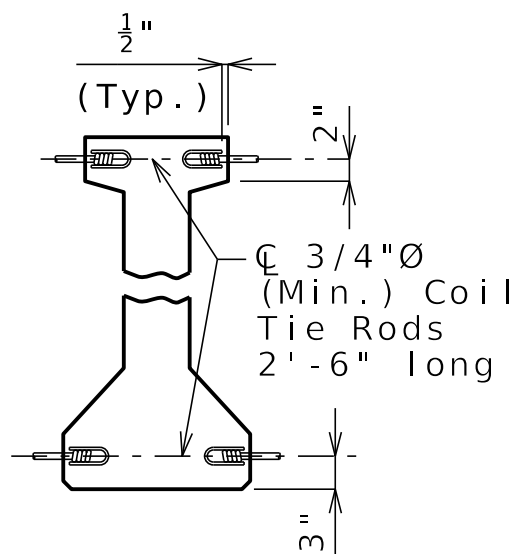
+ Indicates prestressing strand. ○ Indicates cut & shop bend with 2'-6" projection.



END BENT INTERMEDIATE BENT
STRANDS AT GIRDER ENDS

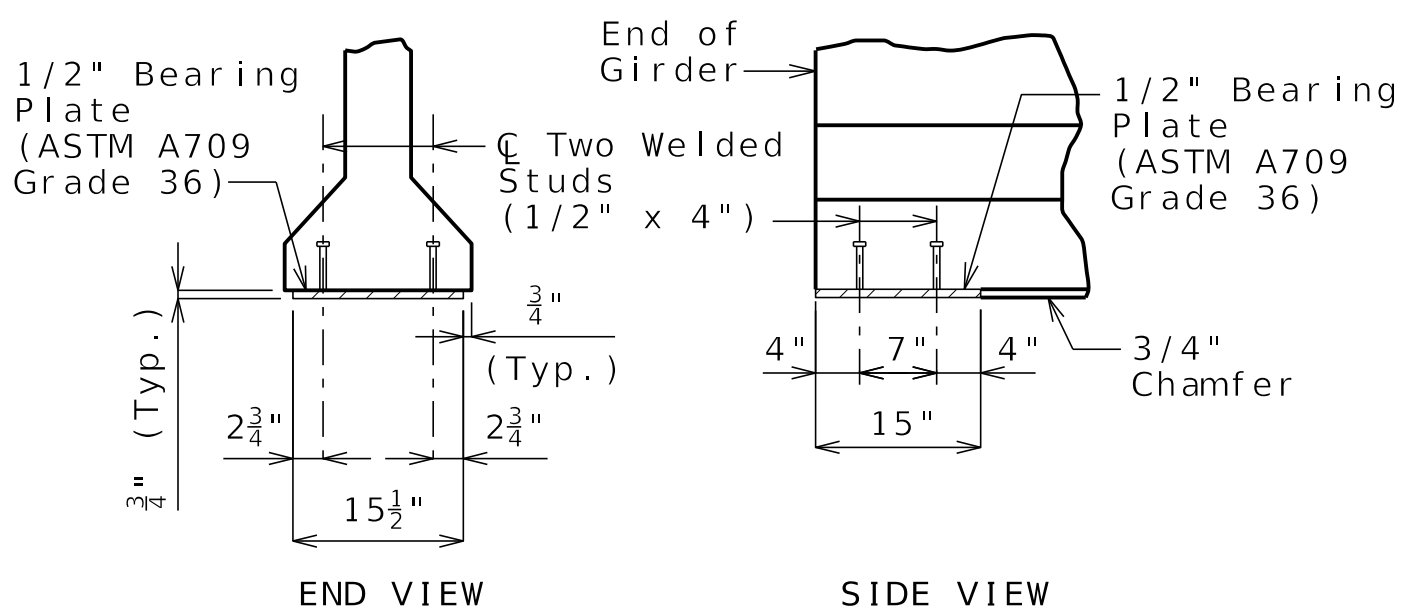


SECTION B-B
Strands not shown
for clarity.



COIL TIES

Exclude coil tie at intermediate bent
diaphragms as shown on Sheet No. X.



BEARING PLATE

Detailed JUN 2025
Checked JUN 2025

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

Sheet 20 of 37

BILL OF REINFORCING STEEL - EACH GIRDER					
NO.	SIZE & MARK	ACTUAL LENGTH	SHAPE	BENDING DIAGRAM	
2	5 A1	40' - 10"	20		
86	5 B1	4' - 7"	11S		
16	6 B2	4' - 0"	11S		
51	4 C1	13"	10S		
102	4 D1	2' - 5"	9S		

All dimensions are out to out.

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

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

Minimum clearance to reinforcing shall be one inch.

All reinforcement shall be Grade 60.

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

All B1 bars shall be epoxy coated.

General Notes:

Concrete for prestressed girders shall be Class A-1 with $f'_c = 6,000$ psi and $f'_{ci} = 4,500$ psi.

Use 10 bottom strands with an initial prestress force of 43.94 kips each and 2 top strands with an initial prestress force of 29.29 kips each for a total of 497.98 kips. Each strands shall be 0.6"Ø Grade 270.

Pretensioned members shall be in accordance with Sec 1029.

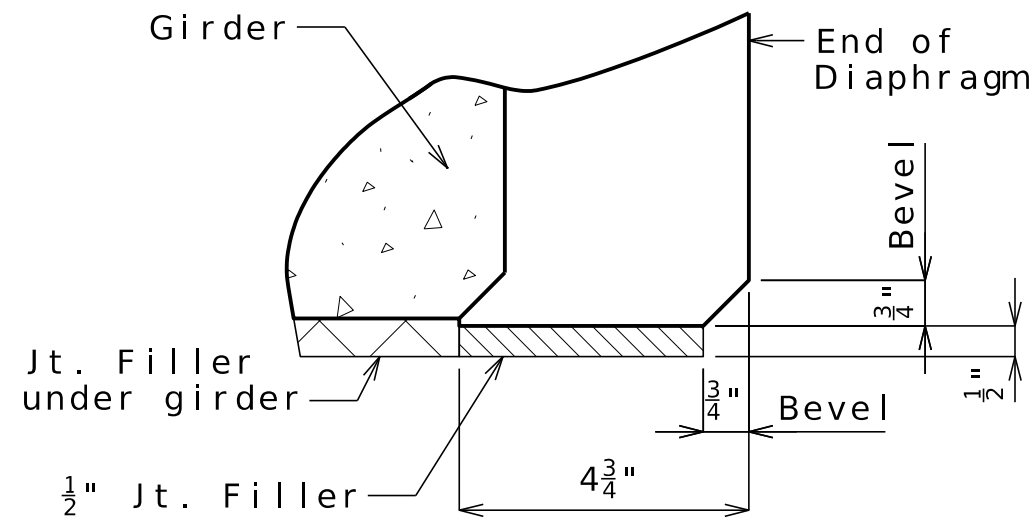
Fabricator shall be responsible for location and design of lifting devices.

For Girder Camber Diagram, see Sheet No. 23.

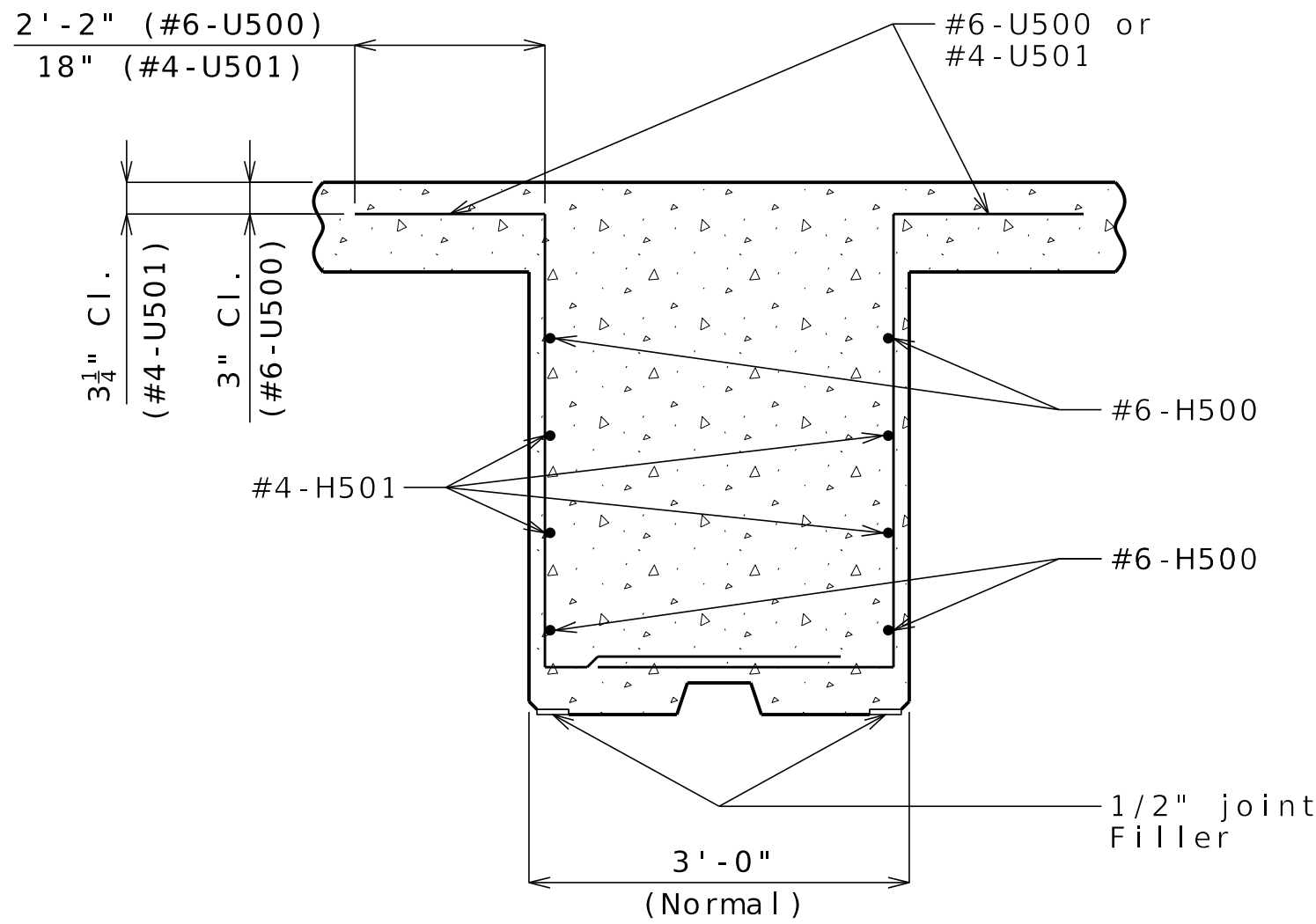
For location of coil inserts at slab drains, see Sheet No. 22.

For location of coil ties at concrete diaphragms and integral bents, see Sheets No. 15 and 21

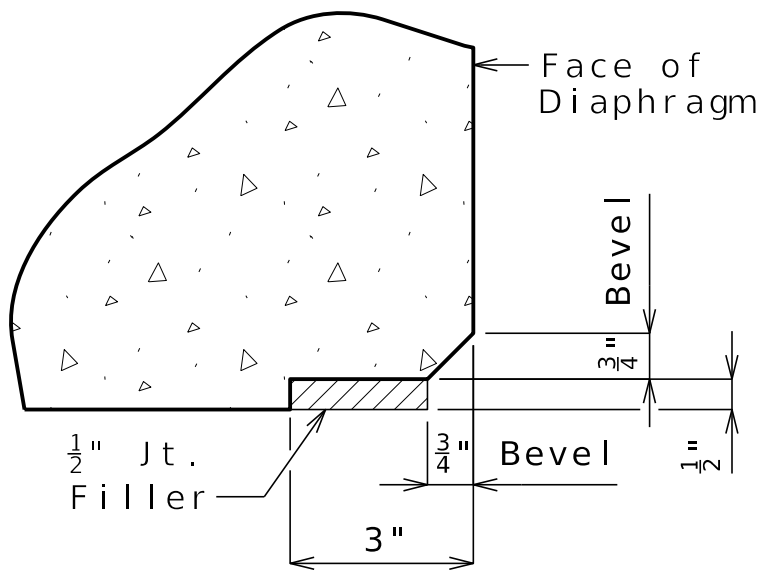
I - GIRDERS - SPAN (3-4)



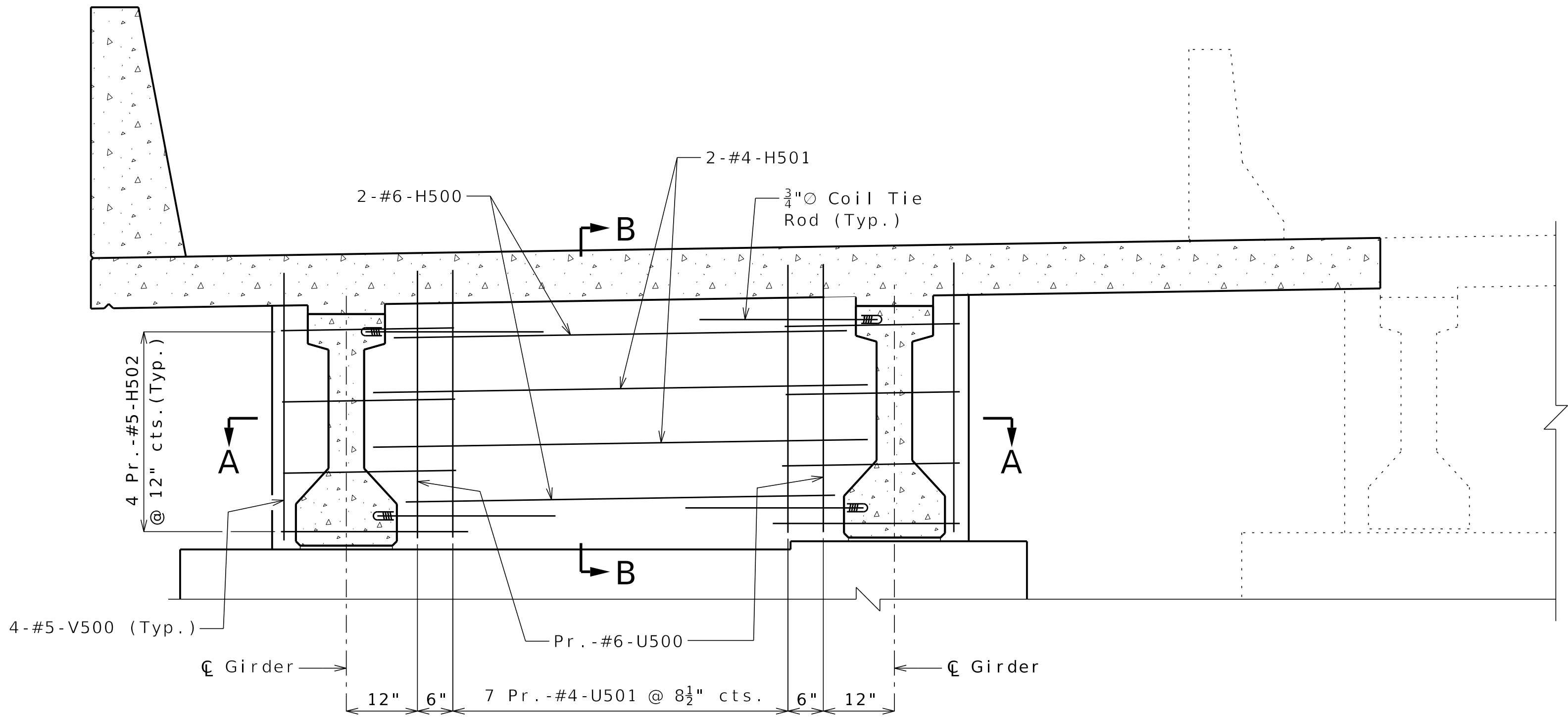
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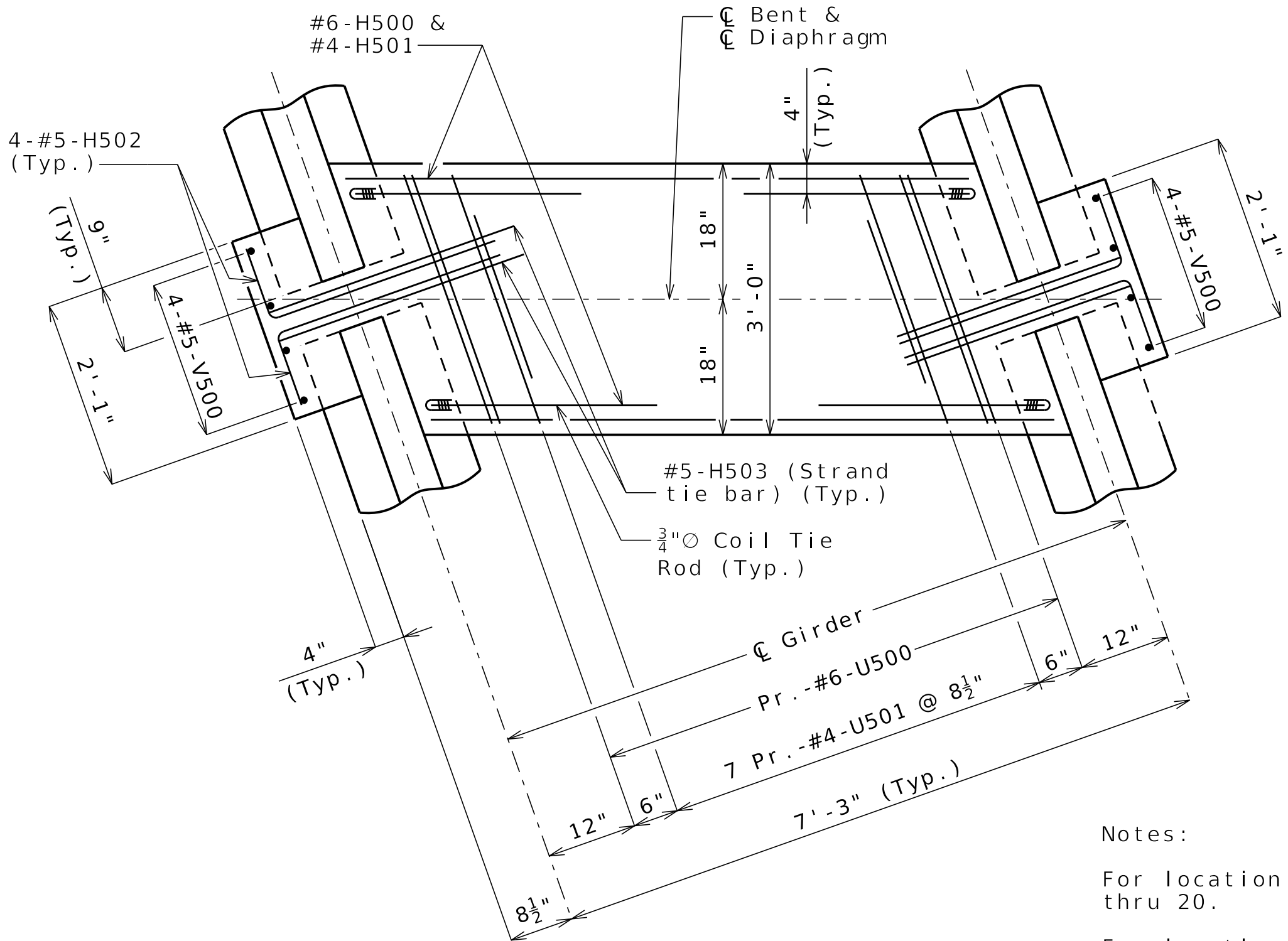
SECTION B-B



EDGE DETAIL



SECTION NEAR INTERMEDIATE BENT
Normal to ϕ Structure



SECTION A-A

Notes:

For location and number of Strand Tie Bars, see Sheets No. 18 thru 20.

For location and details of Coil Tie Rods, see Sheets No. 18 thru 20.

Diaphragms at intermediate bents shall be built vertical.

All U-bars in diaphragms are to be placed parallel to ϕ Roadway.

See Details of Intermediate Bents for shear key, dowel placement, and joint filler details not shown here.

CONCRETE DIAPHRAGM AT INTERMEDIATE BENTS

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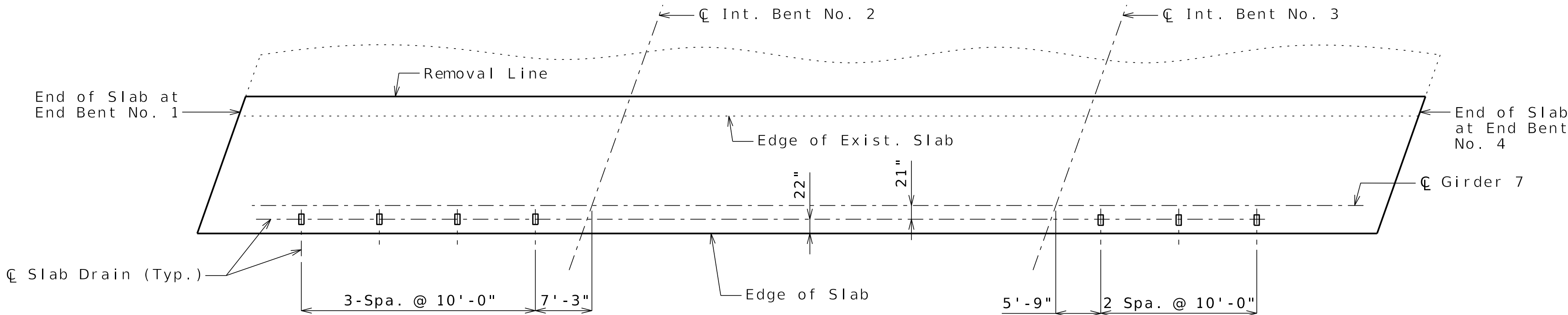
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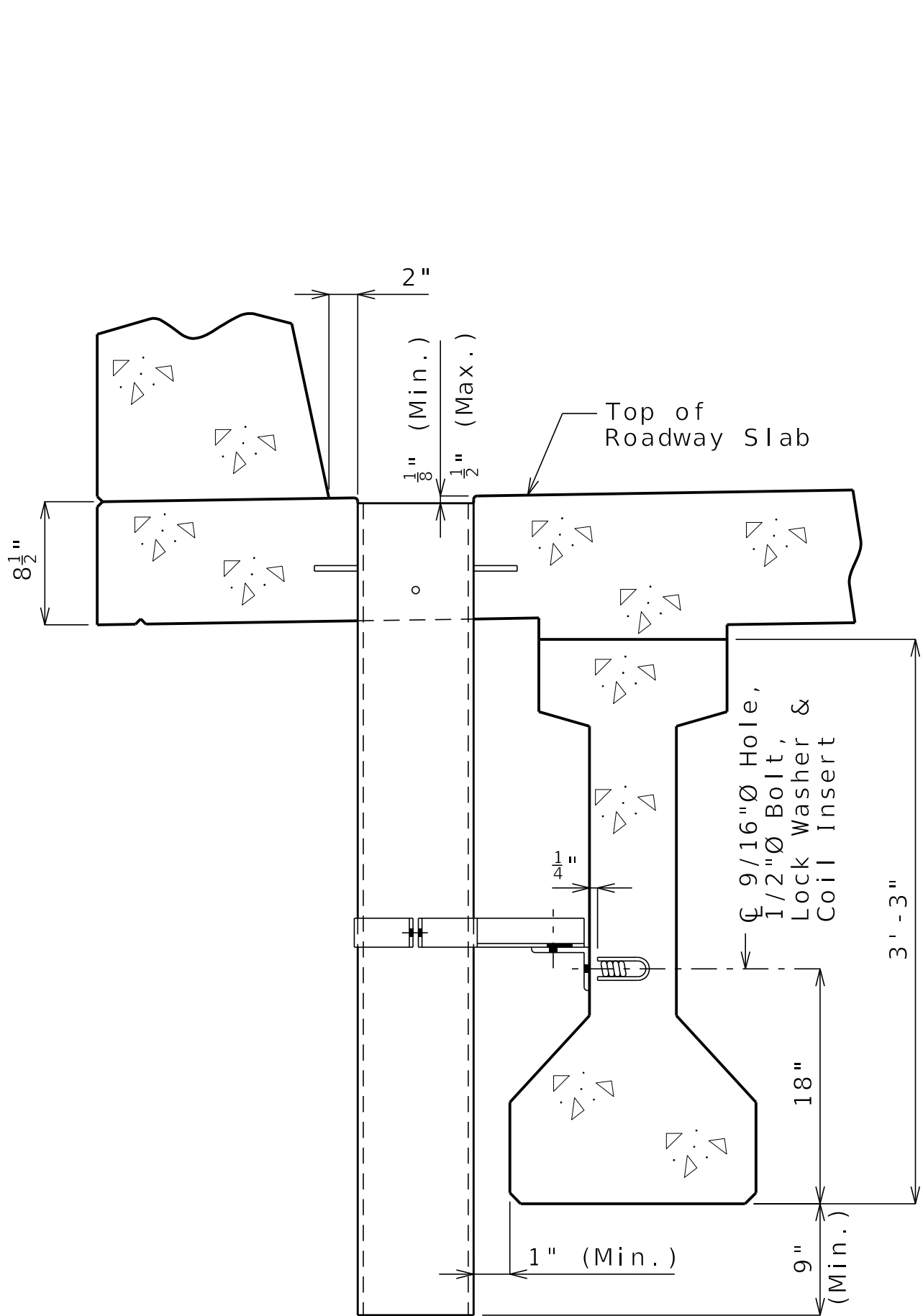
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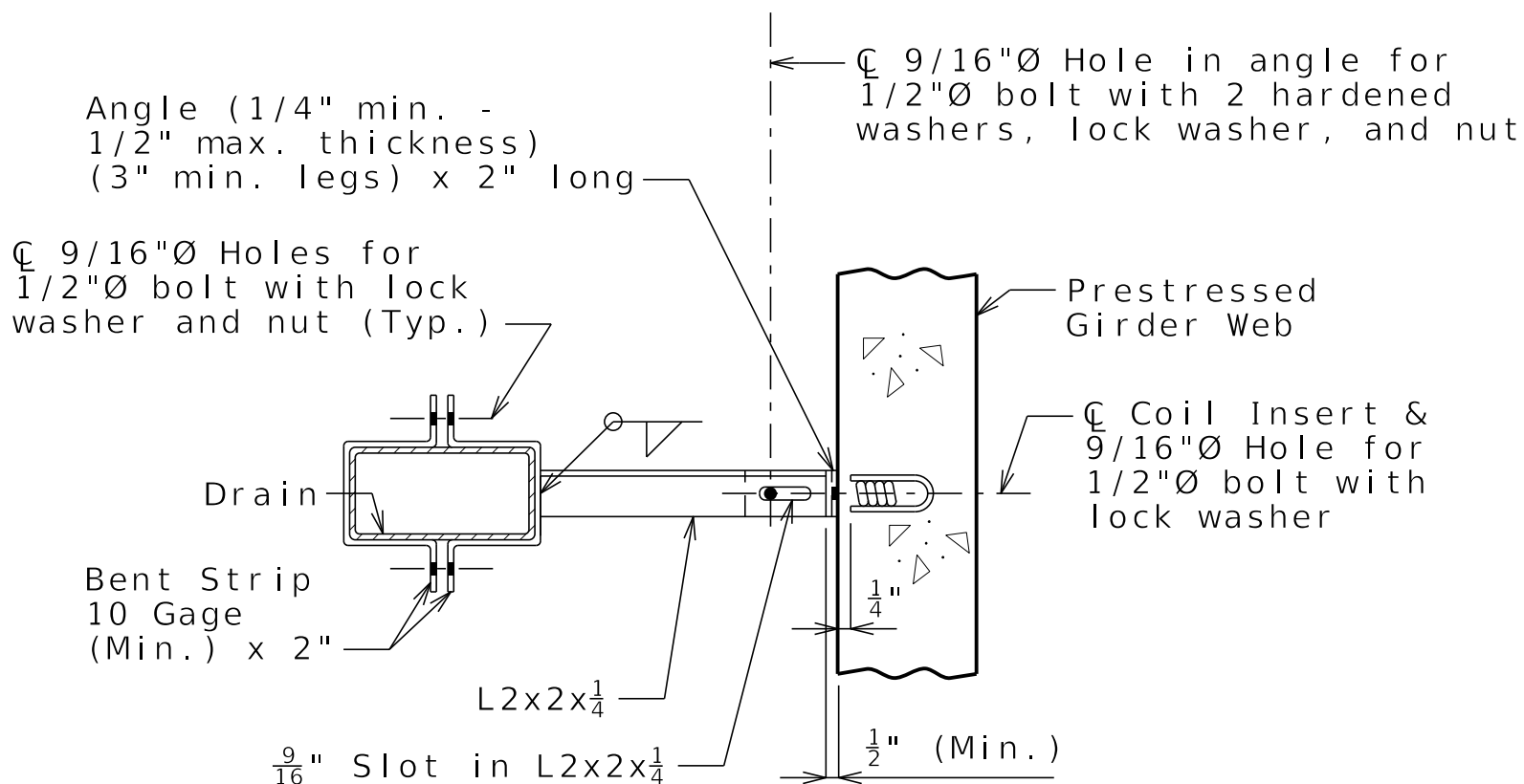
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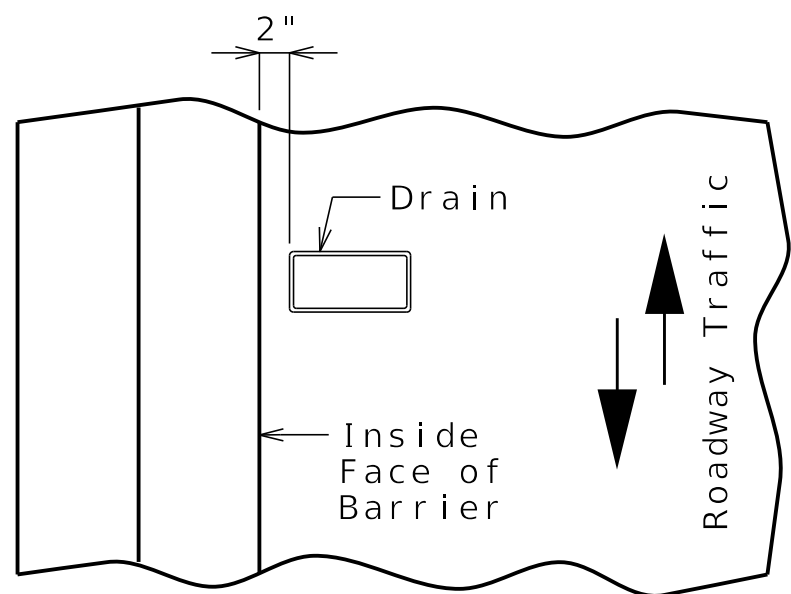
PLAN OF SLAB SHOWING SLAB DRAIN LOCATIONS



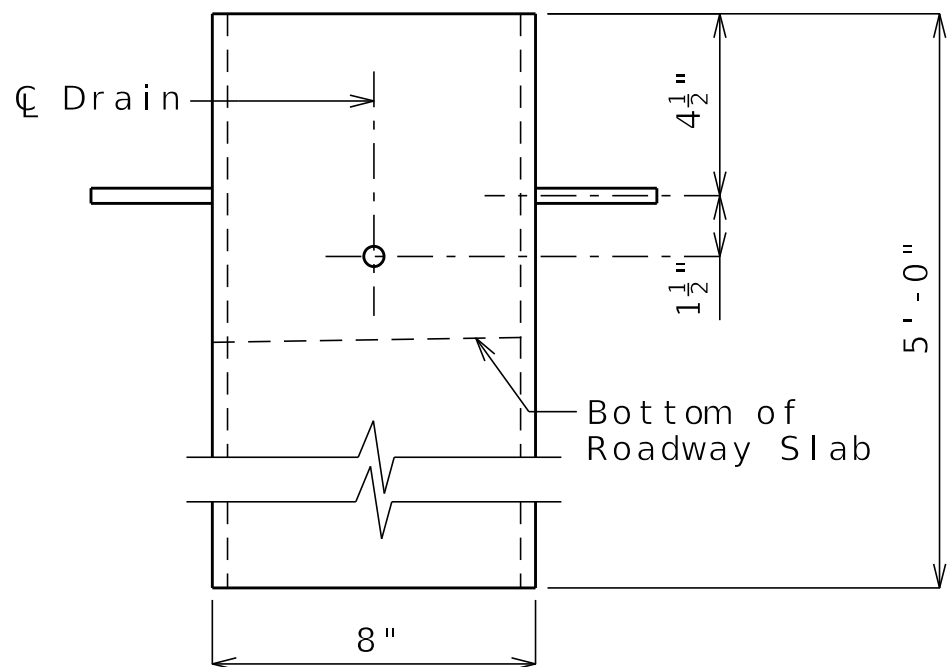
PART SECTION NEAR DRAIN



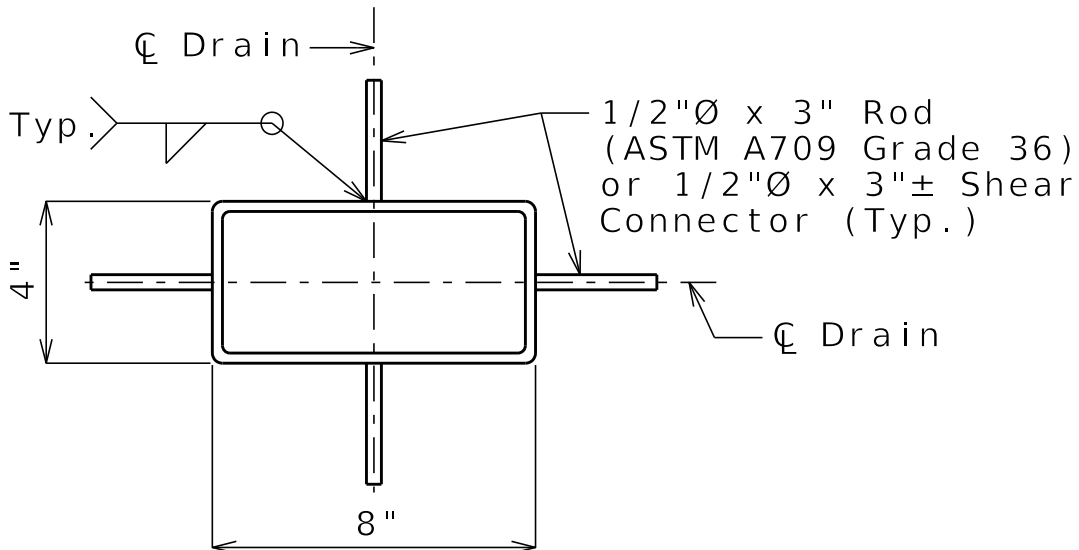
PART SECTION SHOWING BRACKET ASSEMBLY



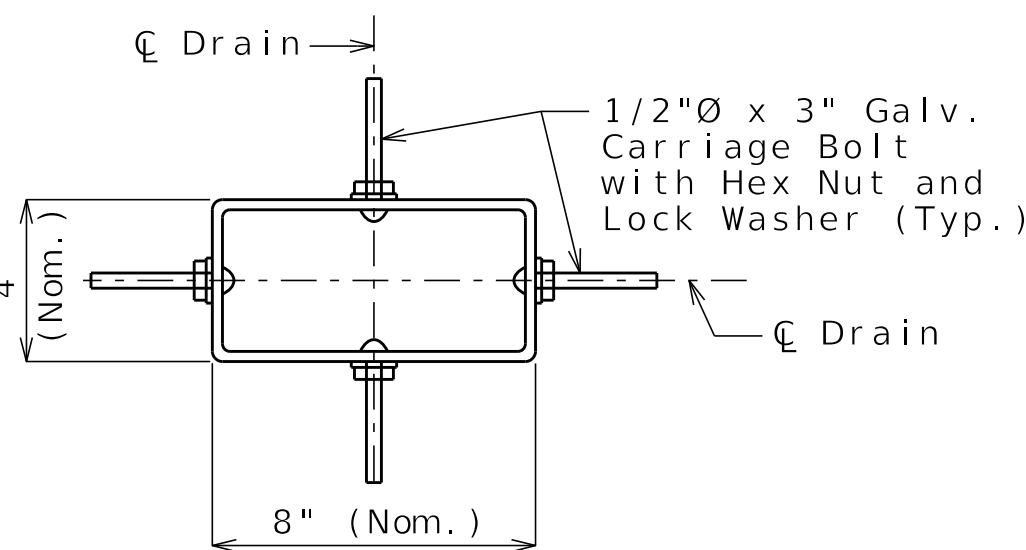
PART PLAN OF SLAB AT DRAIN



ELEVATION OF DRAIN



PLAN OF STEEL DRAIN OPTION



PLAN OF FRP DRAIN OPTION

General Notes:

Contractor shall have the option to construct either steel or FRP slab drains. All drains shall be of same type.

Slab drain bracket assembly shall be ASTM A709 Grade 36 steel.

Locate drains in slab by dimensions shown in Part Section Near Drain.

Reinforcing steel shall be shifted to clear drains.

The coil inserts and bracket assembly shall be galvanized in accordance with ASTM A123.

All bolts, hardened washers, lock washers and nuts shall be galvanized in accordance with AASHTO M 232 (ASTM A153), Class C.

All 1/2"Ø bolts shall be ASTM A307.

Shop drawings will not be required for the slab drains and the bracket assembly.

The coil insert required for the bracket assembly attachment shall be located on the prestressed girder shop drawings.

Coil inserts shall have a concrete pull-out strength (ultimate load) of at least 2,500 pounds in 5,000 psi concrete.

The bolt required to attach the slab drain bracket assembly to the prestressed girder web shall be supplied by the prestressed girder fabricator.

Coil insert locations in prestressed girders shall be modified by fabricator to provide 1 1/2" clear between the prestressing strand and the edge of the coil insert.

Notes for Steel Drain:

Slab drains may be fabricated of either 1/4" welded sheets of ASTM A709 Grade 36 steel or from 1/4" structural steel tubing ASTM A500 or A501.

Outside dimensions of drains are 8" x 4".

The drains shall be galvanized in accordance with ASTM A123.

Notes for FRP Drain:

Drains shall be machine filament-wound thermosetting resin tubing meeting the requirements of ASTM D2996 with the following exceptions:

Shape of drains shall be rectangular with outside nominal dimensions of 8" x 4".

Minimum reinforced wall thickness shall be 1/4 inch.

The resin used shall be ultraviolet (UV) resistant and/or have UV inhibitors mixed throughout. Drains may have an exterior coating for additional UV resistance.

The color of the slab drain shall be gray (Federal Standard 26373). The color shall be uniform throughout the resin and any coating used.

The combination of materials used in the manufacture of the drains shall be tested for UV resistance in accordance with ASTM D4329 Cycle A. The representative material shall withstand at least 500 hours of testing with only minor discoloration and without any physical deterioration. The contractor shall furnish the results of the required ultraviolet testing prior to acceptance of the slab drains.

At the contractor's option, drains may be field cut. The method of cutting FRP slab drain shall be as recommended by the manufacturer to ensure a smooth, chip free cut.

SLAB DRAINS

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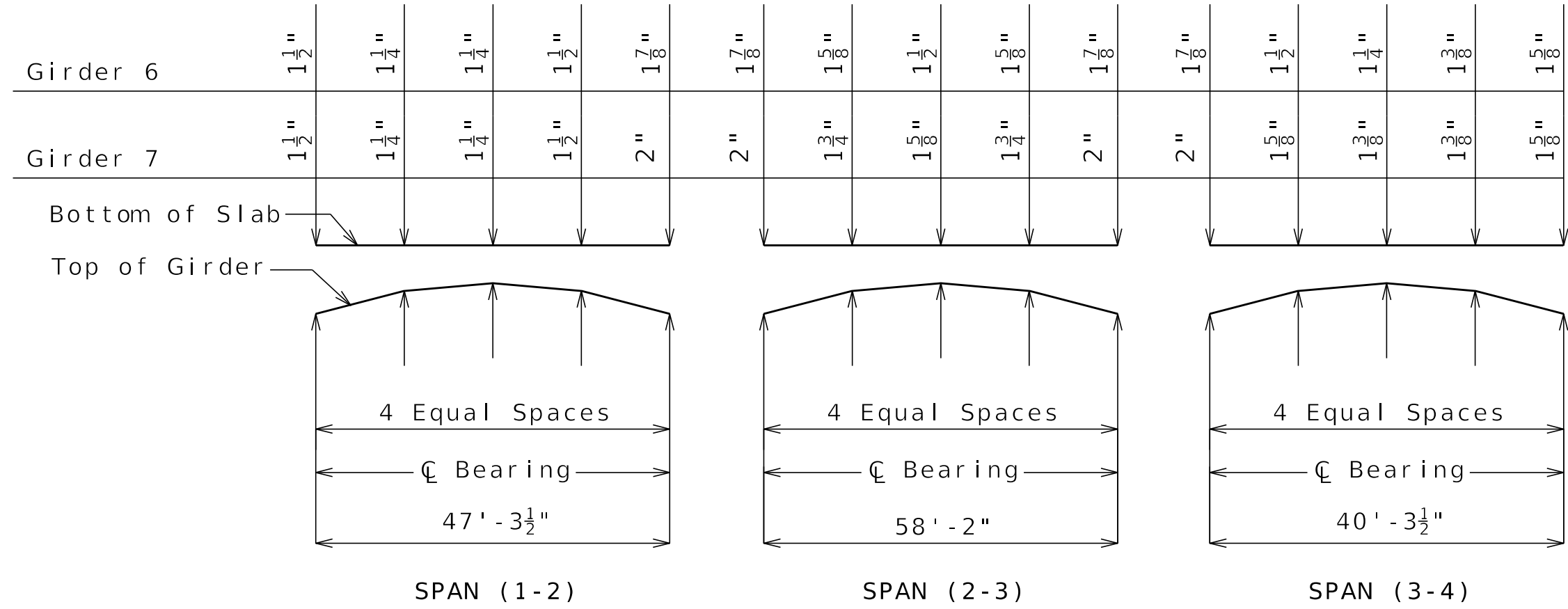
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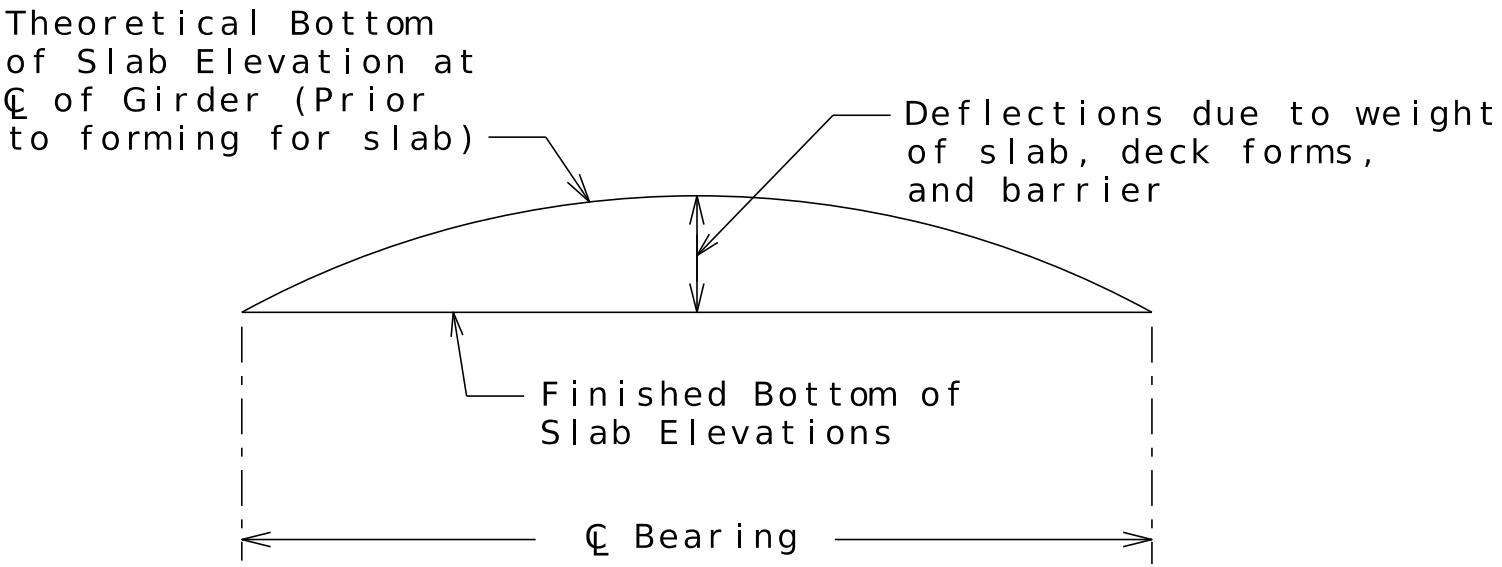


THEORETICAL SLAB HAUNCHING DIAGRAM (ESTIMATED AT 90 DAYS)

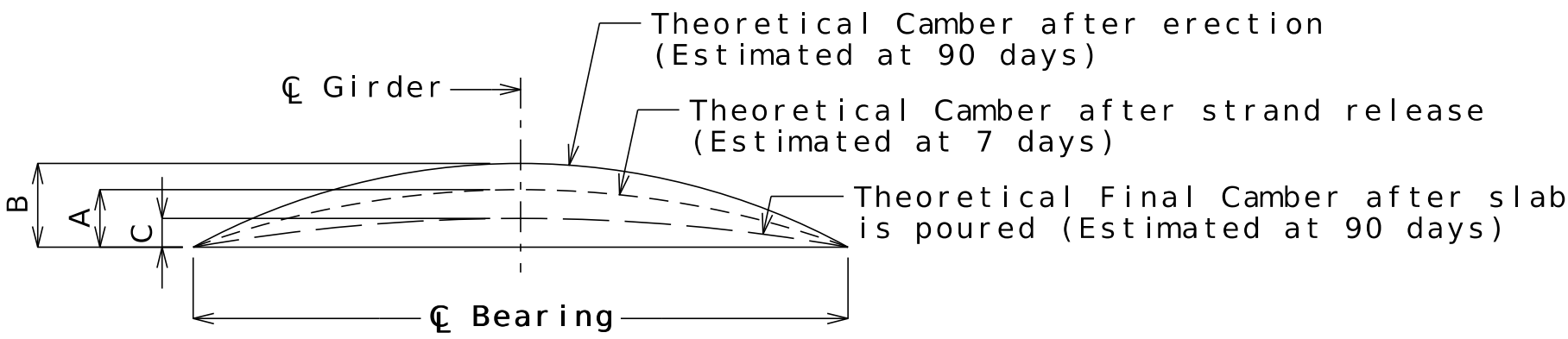
If girder camber is different from that shown in the camber diagram, in order to maintain minimum slab thickness, an adjustment of the slab haunches shall be necessary. The haunch shall be limited to ensure the projecting girder reinforcement is embedded into the slab at least 2 inches.

Theoretical Bottom of Slab Elevations at Centerline of Girder (Prior to forming for slab) (Estimated at 90 days)															
Girder Number	Span (1-2) (47'-3½" CL Brg. - CL Brg.)					Span (2-3) (58'-2" CL Brg. - CL Brg.)					Span (3-4) (40'-3½" CL Brg. - CL Brg.)				
	CL Brg.	.25	.50	.75	CL Brg.	CL Brg.	.25	.50	.75	CL Brg.	CL Brg.	.25	.50	.75	CL Brg.
6	598.64	598.69	598.72	598.72	598.70	598.70	598.75	598.76	598.71	598.63	598.62	598.61	598.58	598.54	598.48
7	598.53	598.57	598.60	598.60	598.59	598.59	598.64	598.65	598.61	598.52	598.52	598.50	598.47	598.43	598.38

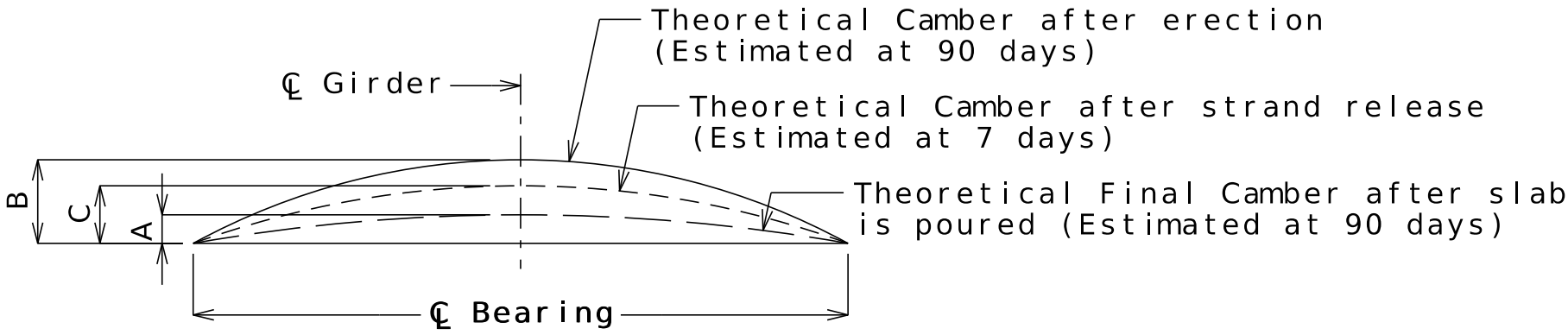
Elevations are based on a constant slab thickness of 8 1/2" and include allowance for theoretical dead load deflections due to weight of slab (including deck forms) and barrier.



TYPICAL SLAB ELEVATIONS DIAGRAM



Girder	Span (2-3)		
	A	B	C
6	1"	1 1/2"	7/8"
7	1"		



Girder	Span (1-2)			Span (3-4)		
	A	B	C	A	B	C
6	3/4"	1"	5/8"	5/8"	3/4"	1/2"
7	3/4"			5/8"		

GIRDER CAMBER DIAGRAM

Conversion Factors for Girder Camber (Estimated at 90 days):

0.25 pt. = 0.7125 x 0.5 pt.

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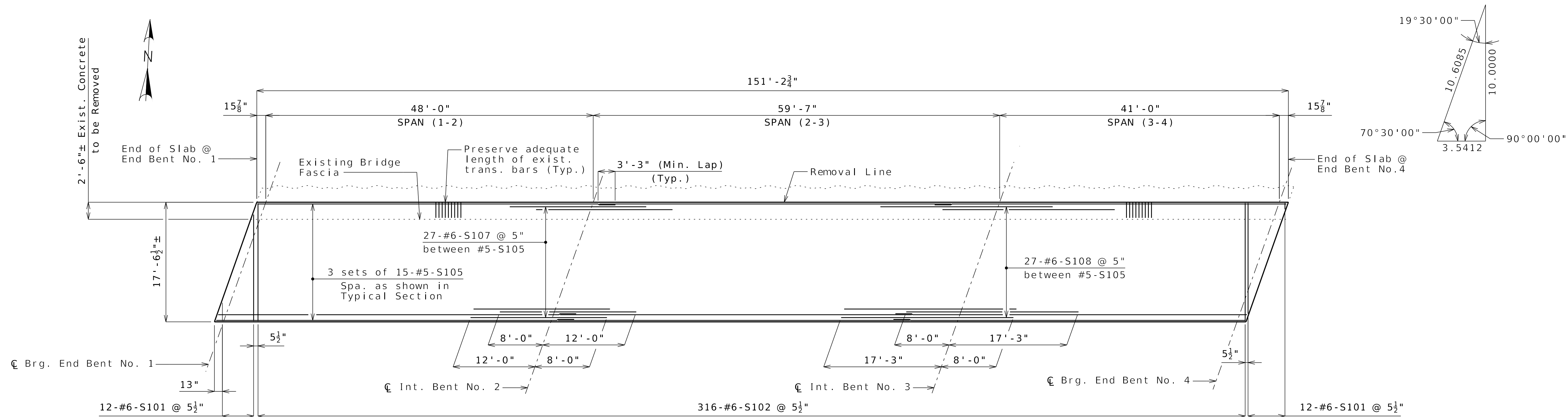
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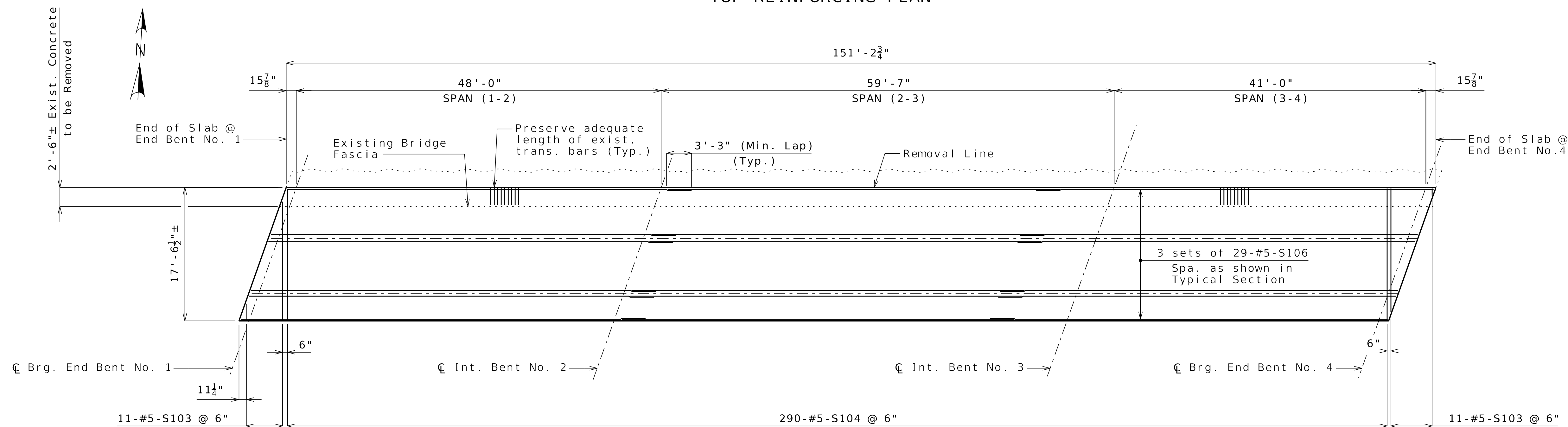
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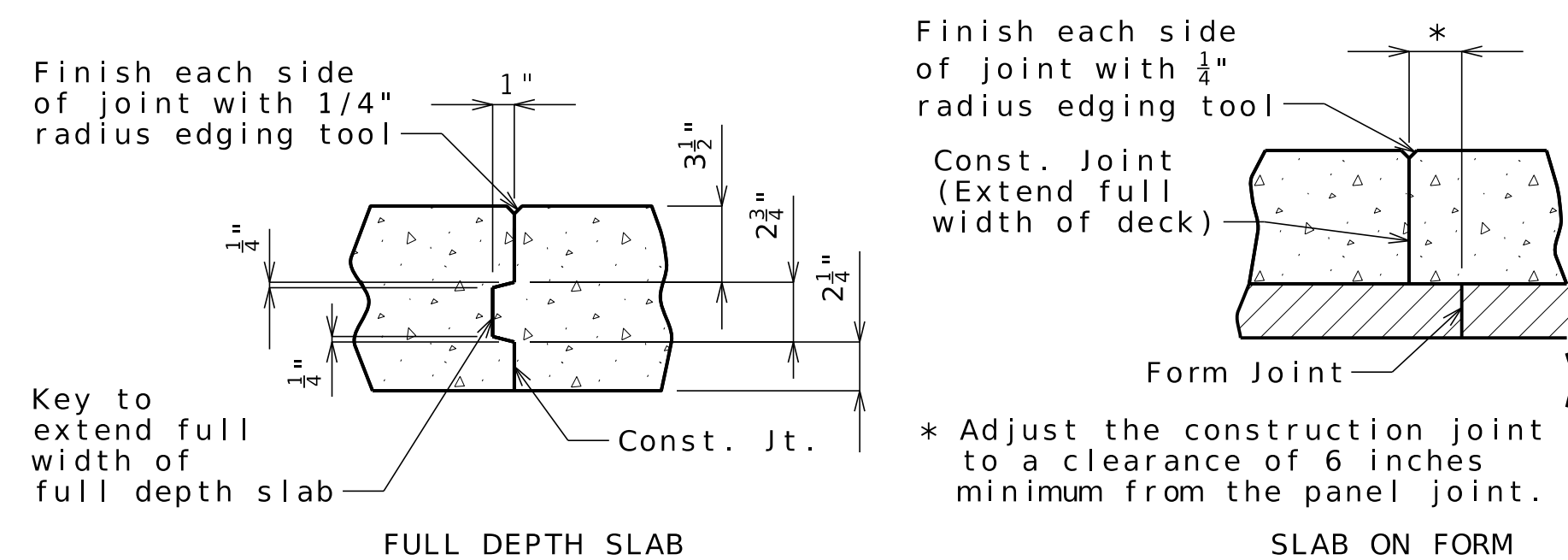
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TOP REINFORCING PLAN



BOTTOM REINFORCING PLAN



SLAB CONSTRUCTION JOINT

Notes:

Longitudinal slab dimensions are measured horizontally.

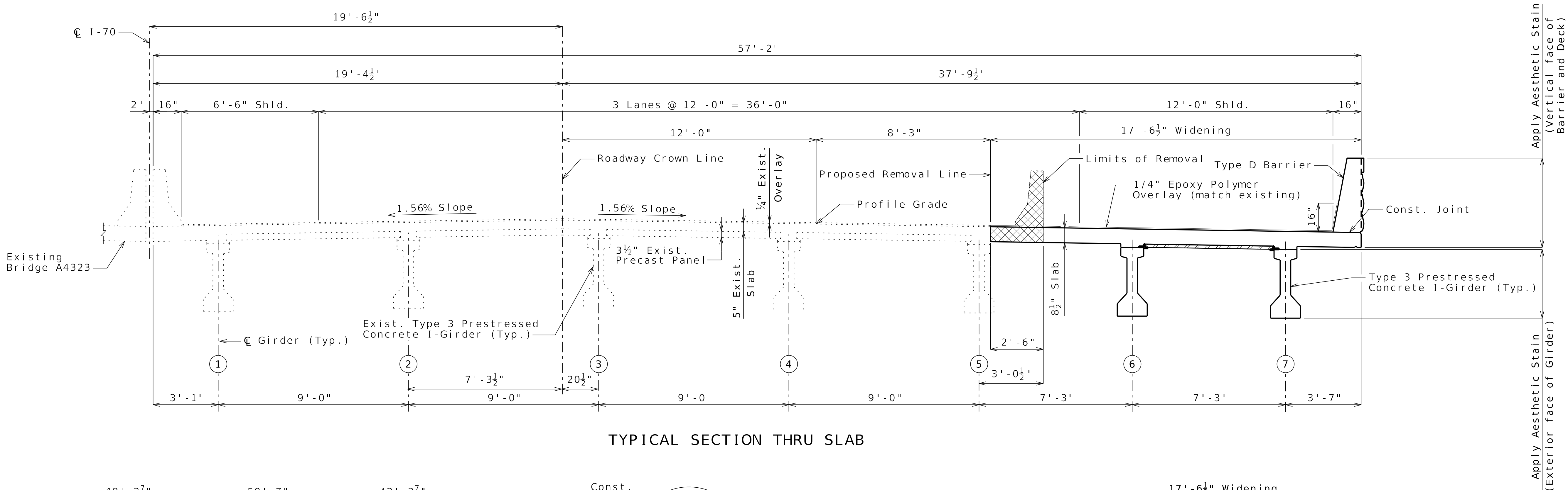
For Section Thru Slab and Slab Pouring Sequence, see
Sheet No. 25.

For Details and Reinforcement of Type D Barrier
not shown, see Sheets No. 26 and 27.

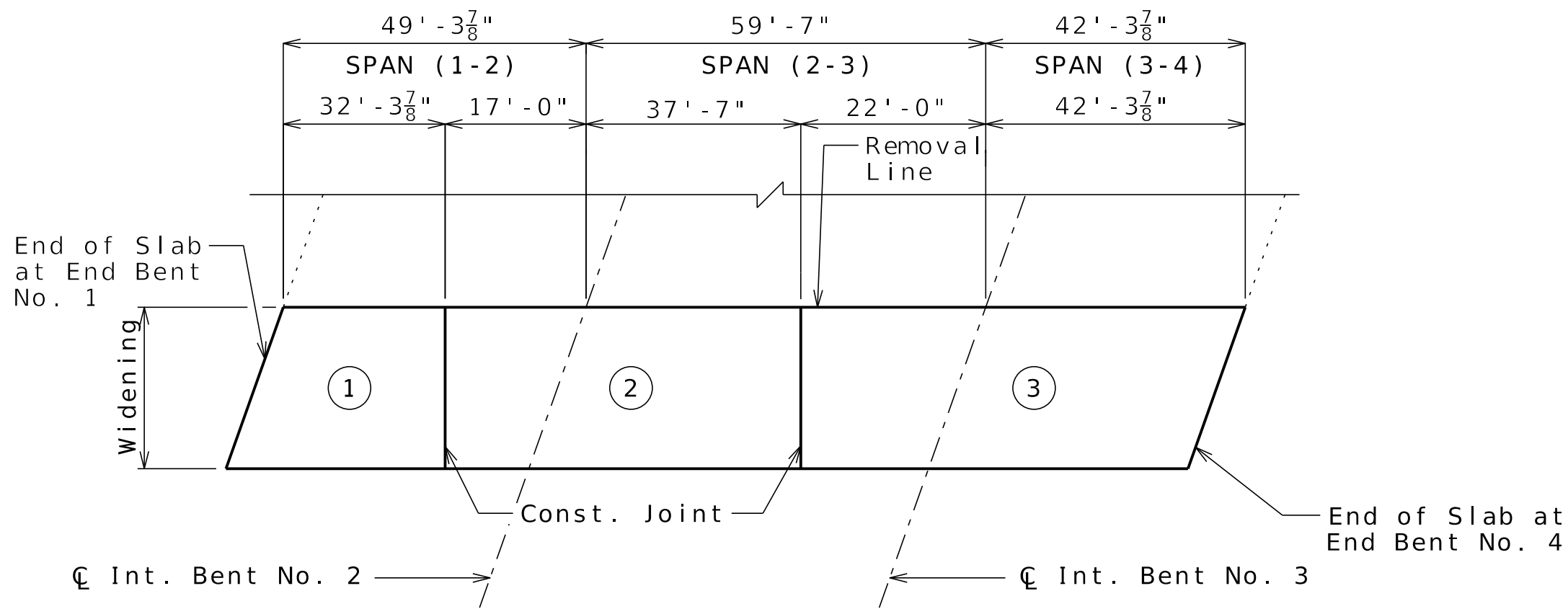
For Theoretical Slab Haunching Diagram, see Sheet No. 23.

For Theoretical Bottom of Slab Elevations, see Sheet No. 23.

For details and locations of Slab Drains, see Sheet No. 22.



TYPICAL SECTION THRU SLAB



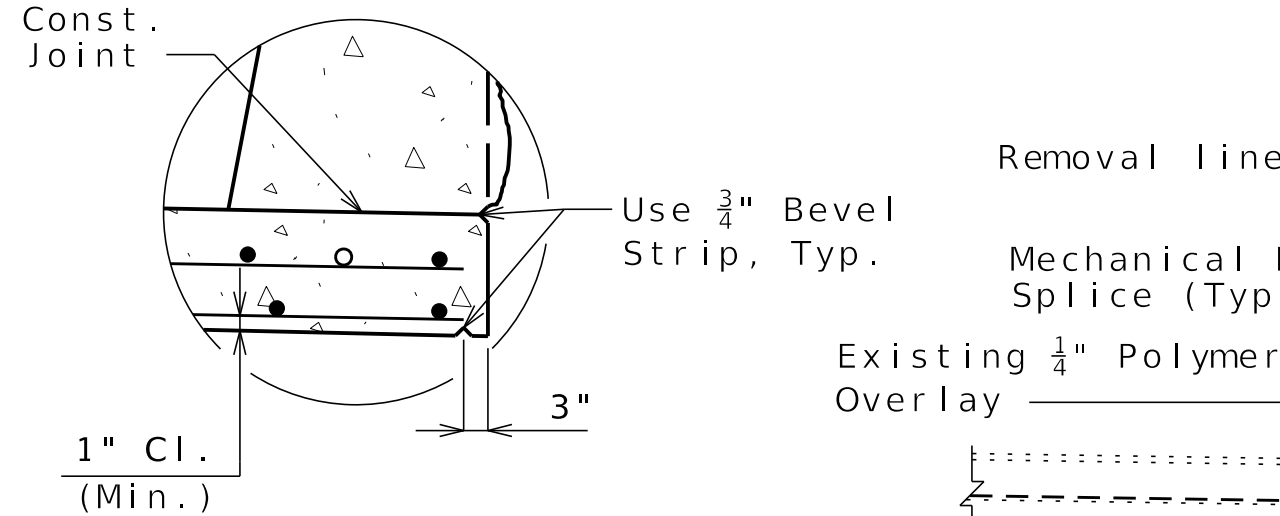
	Sequence of Pours			Min. Rate of Pour Cu. Yds./Hr.
	Direction			With Retarder
Basic Sequence	1	2	3	25
	End to 2	1 to 3	2 to End	
Alternate pours to the basic skip sequence are subject to the approval of the engineer in accordance with Sec 703.				
Alternate A Pours	1 + 2		3	25
	End to 2		2 to End	
Alternate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

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

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

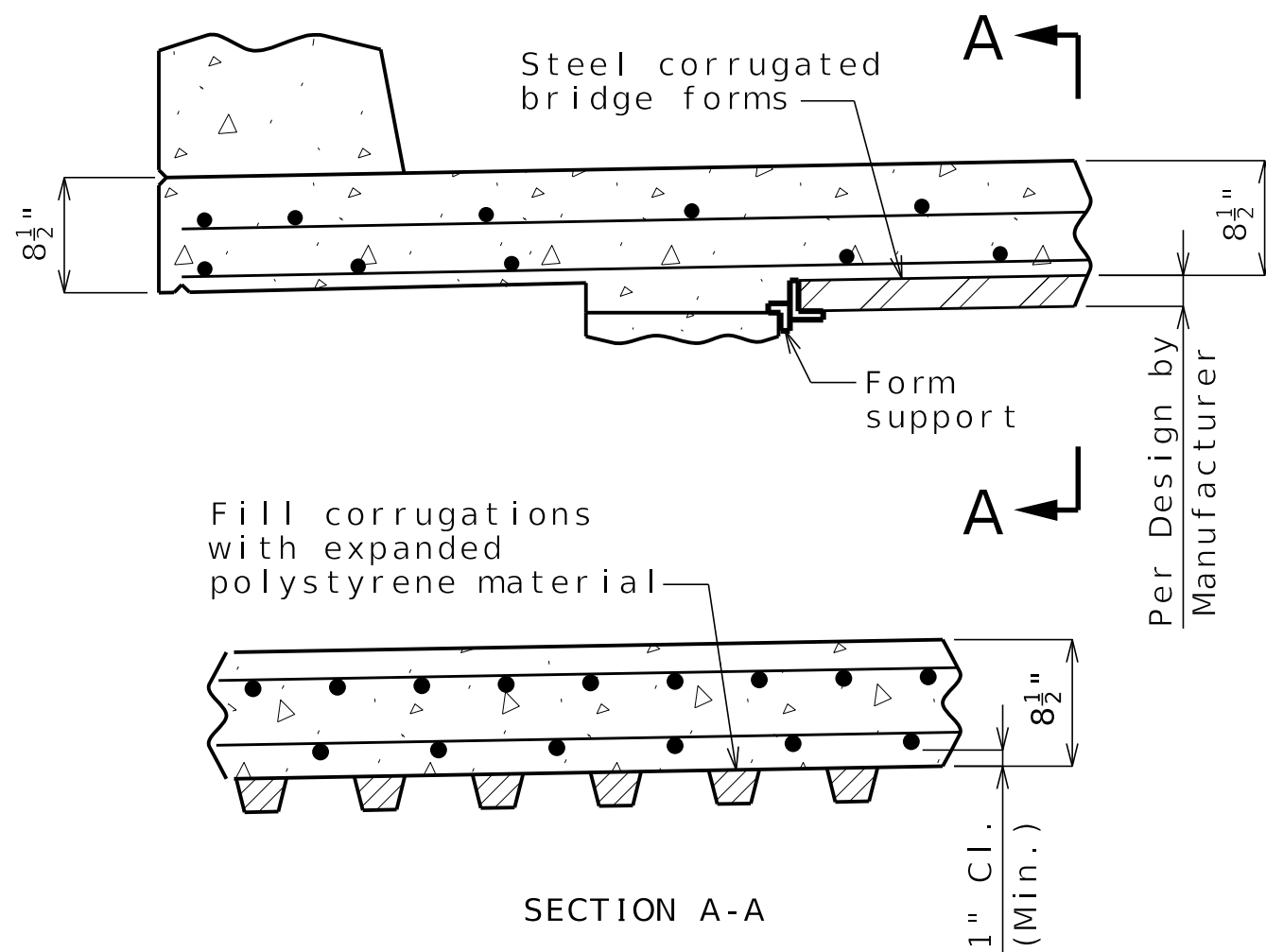
Install new diaphragm between proposed girders within Span (2-3). No permanent diaphragm will be installed between proposed and existing girders. Contractor to ensure stability of proposed girders during deck pour.

SLAB POURING SEQUENCE



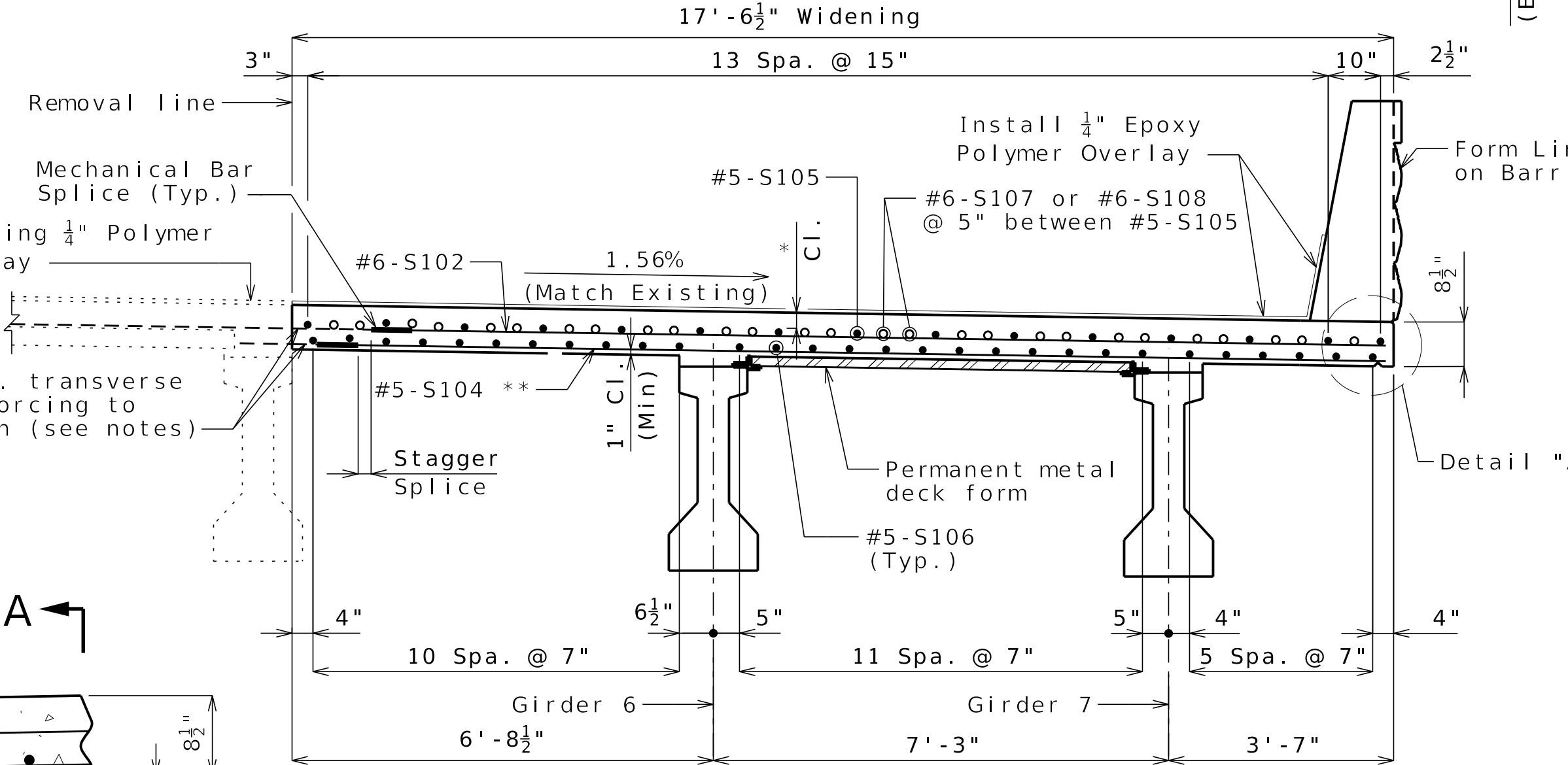
DETAIL "A"

Notes: Contractor may shift bars as necessary to tie in barrier bars.



SECTION A-A

STAY-IN-PLACE
FORM DETAILS



WIDENING SECTION THRU SLAB
SECTION NEAR INTERMEDIATE BENT

Notes:

Type D Barrier reinforcement not shown for clarity.

Adequate length of existing transverse reinforcement shall be retained for mechanical bar splices. All concrete and pack rust to be removed prior to splicing to new reinforcement.

For metal deck form notes, see General Notes.

For slab plan showing reinforcement, Slab Construction Joint, and additional notes, see Sheet No. 24.

Mechanical bar splices shall be in accordance with Sec 710. Estimated 478 splices required.

Aesthetic stain shall be applied to the vertical faces of the barrier and deck as well as the exterior face of the prestressed beam as shown. The color of the stain shall be opaque gray, matching Sherwin Williams exterior satin latex paint, color "7066 Gray Matters".

SLAB DETAILS

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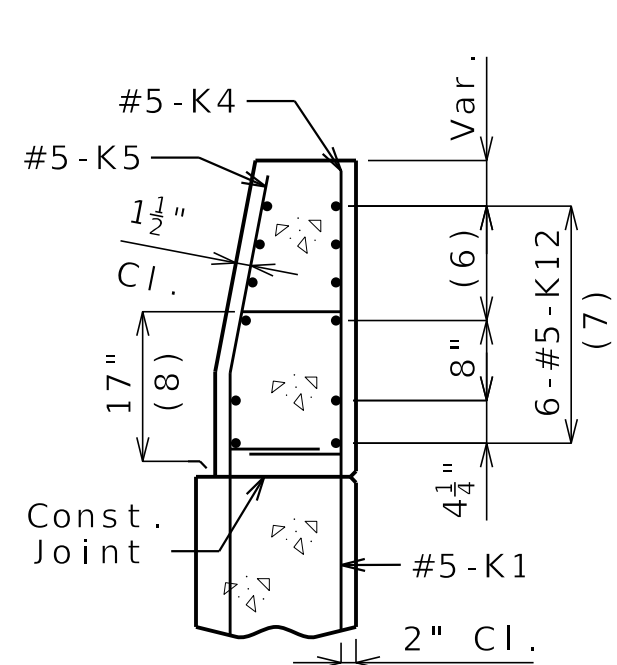
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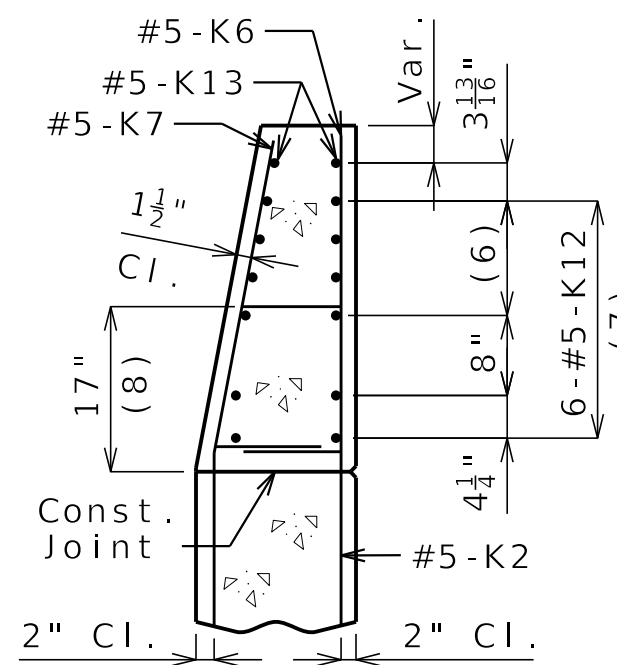
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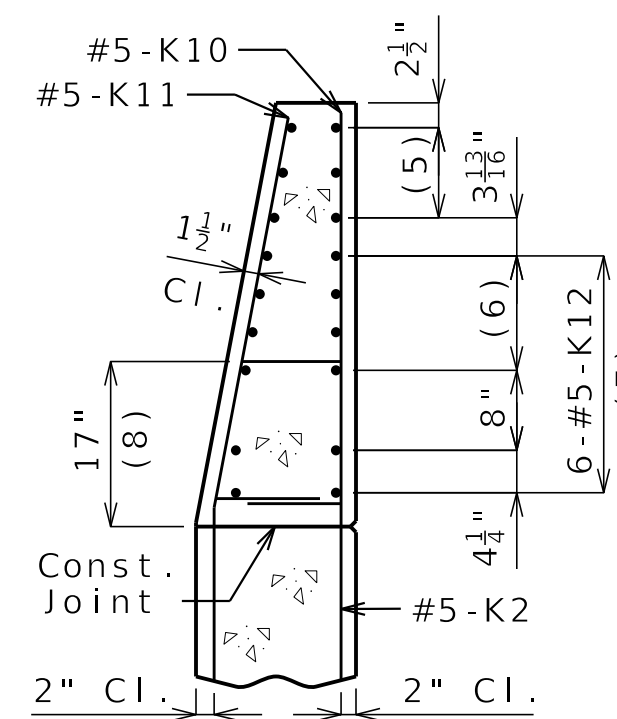
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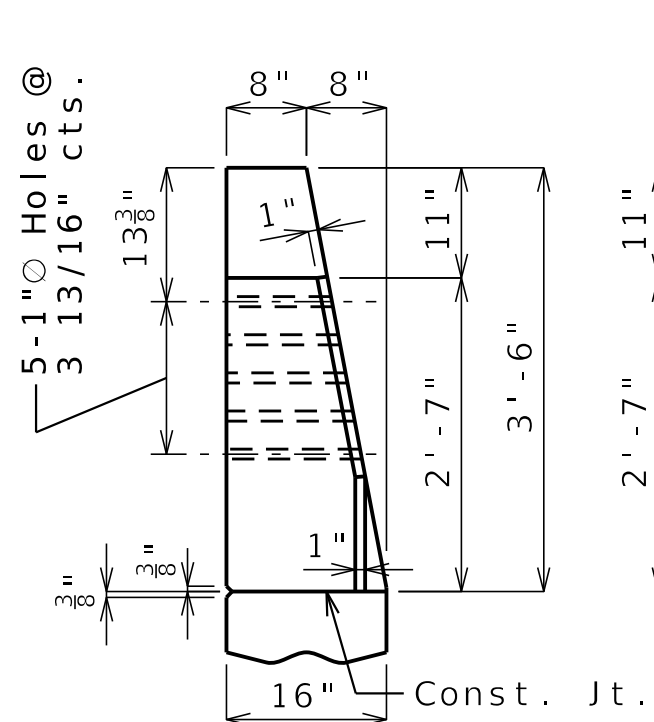
SECTION A-A



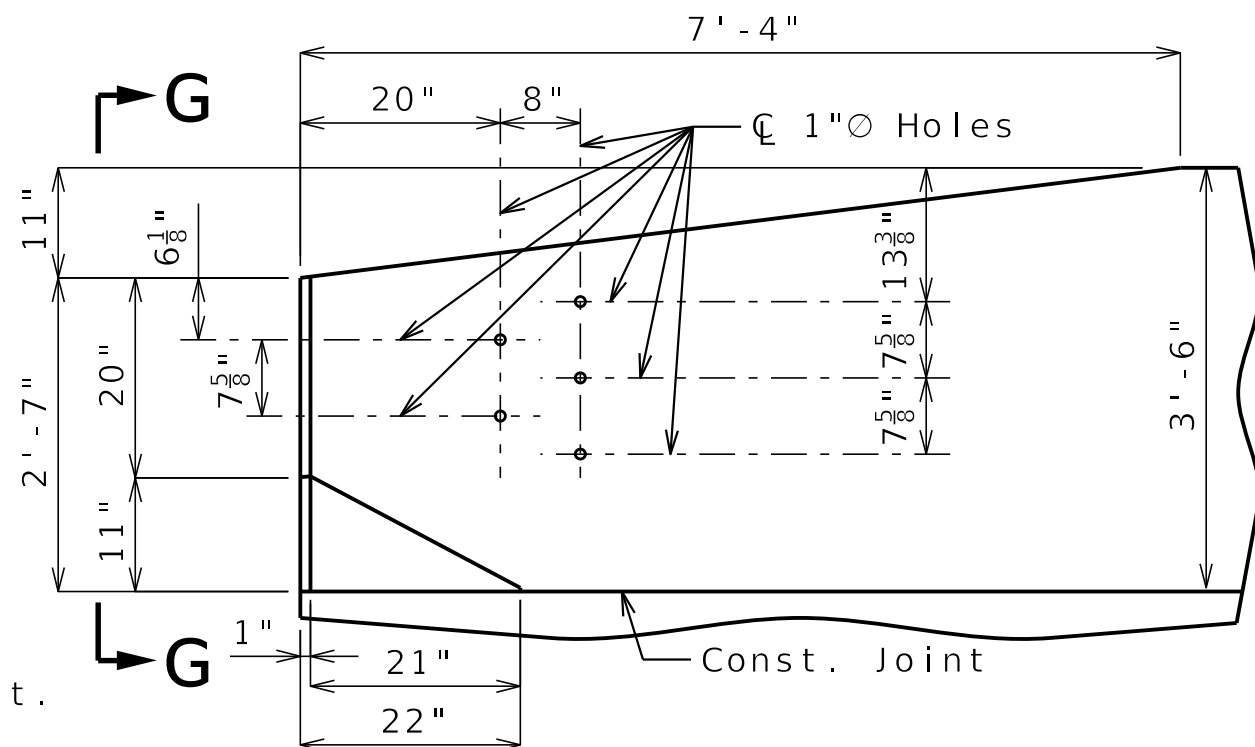
SECTION B-B



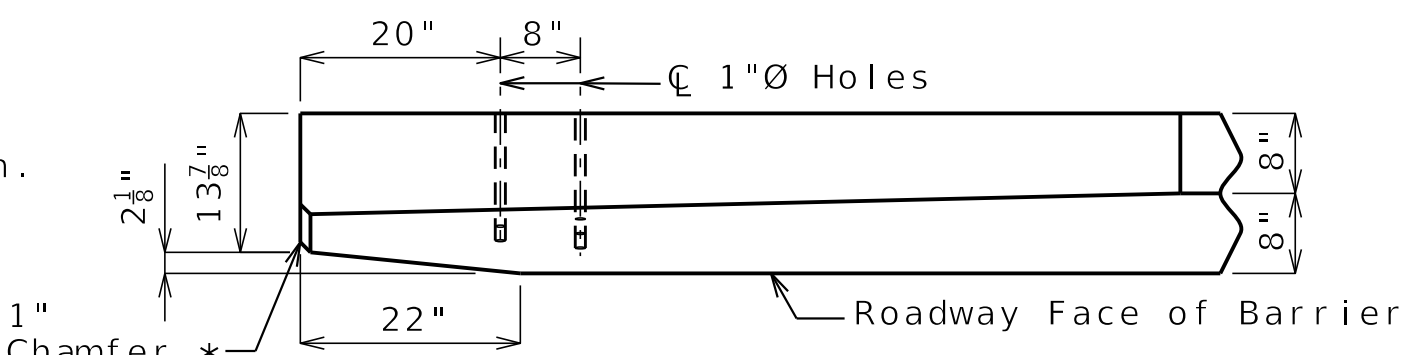
SECTION C-C



ELEVATION G-G

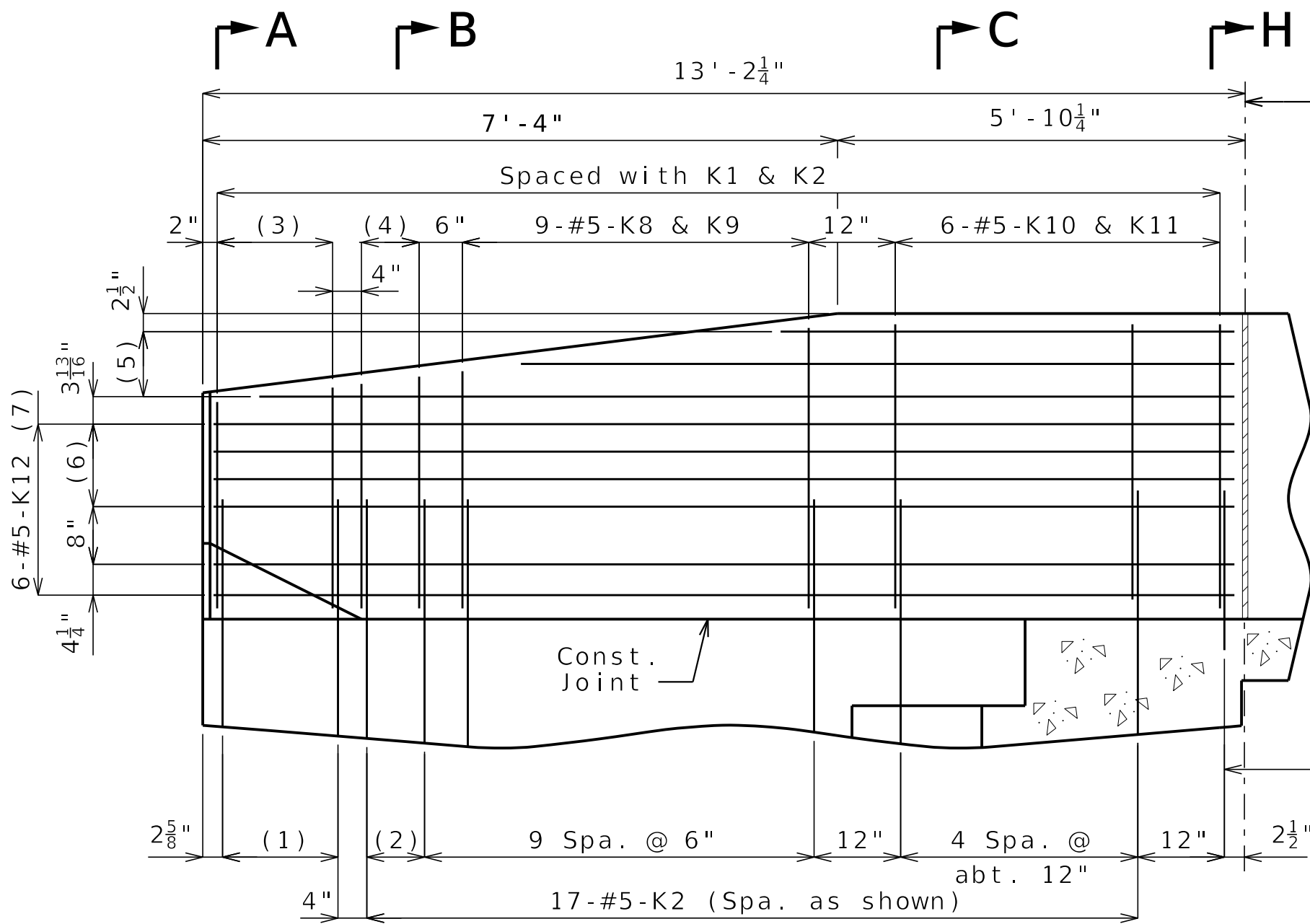


ELEVATION

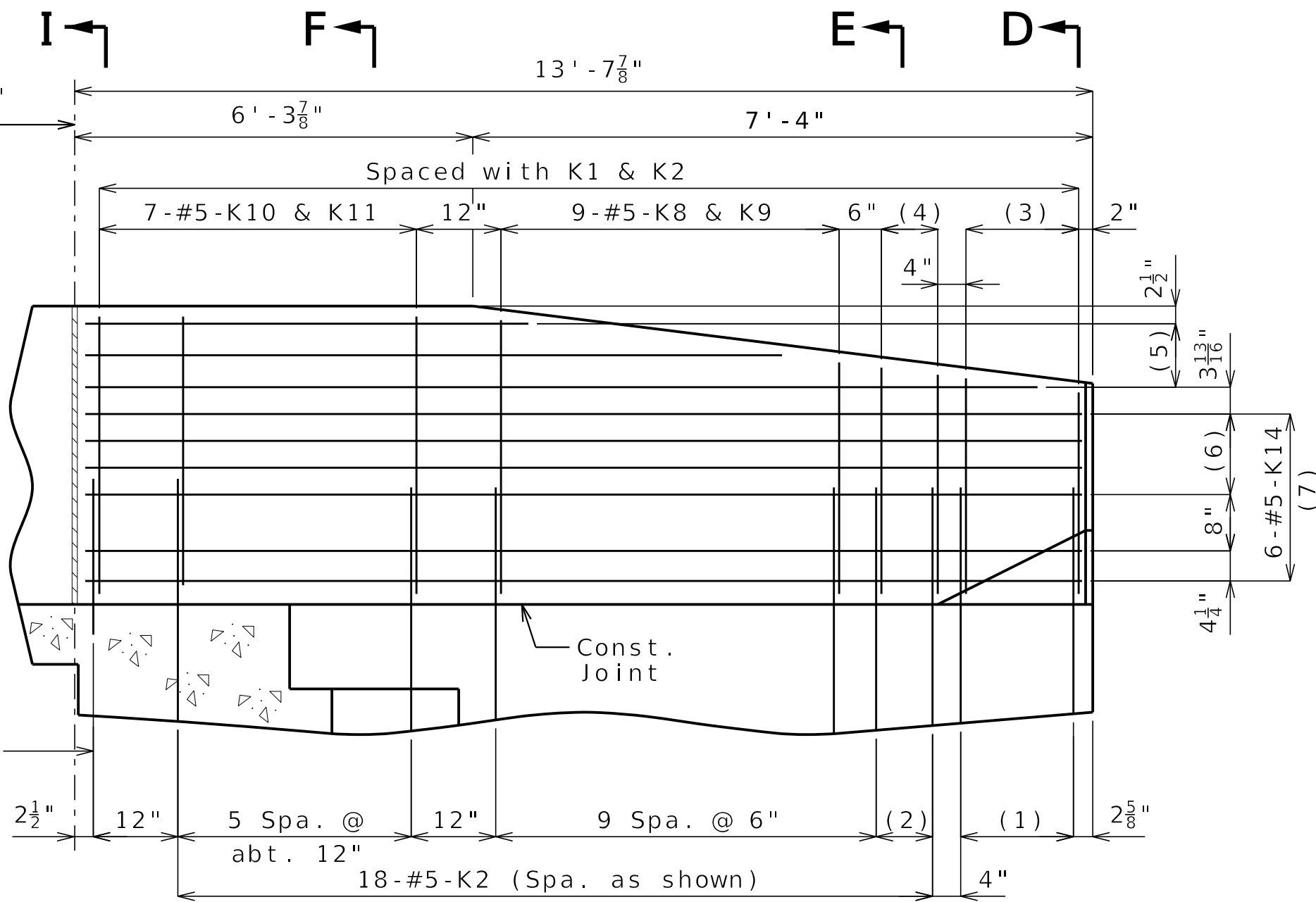


PLAN

DETAILS OF GUARD RAIL ATTACHMENT

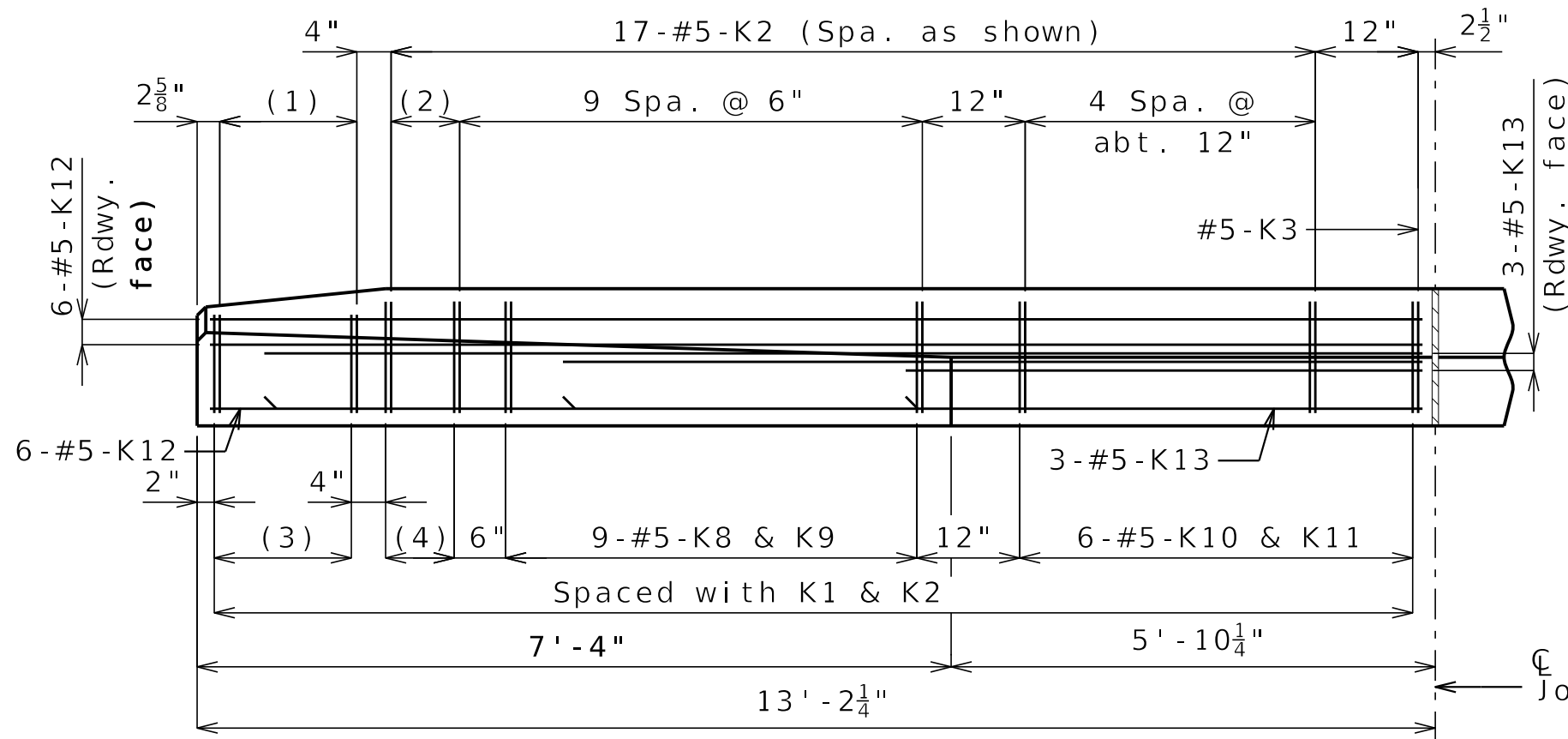


End Bent No. 1

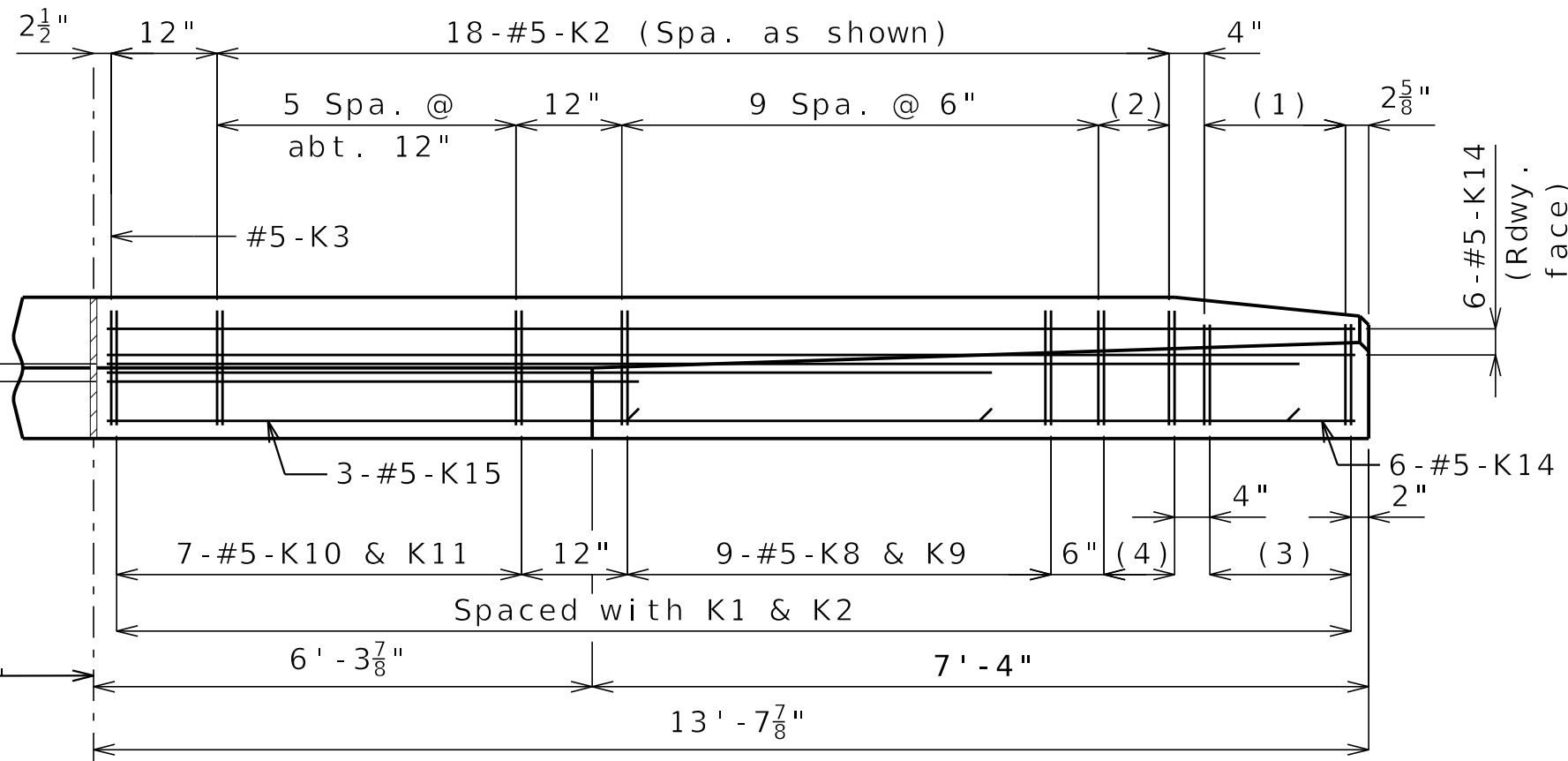


End Bent No. 4

PART ELEVATION

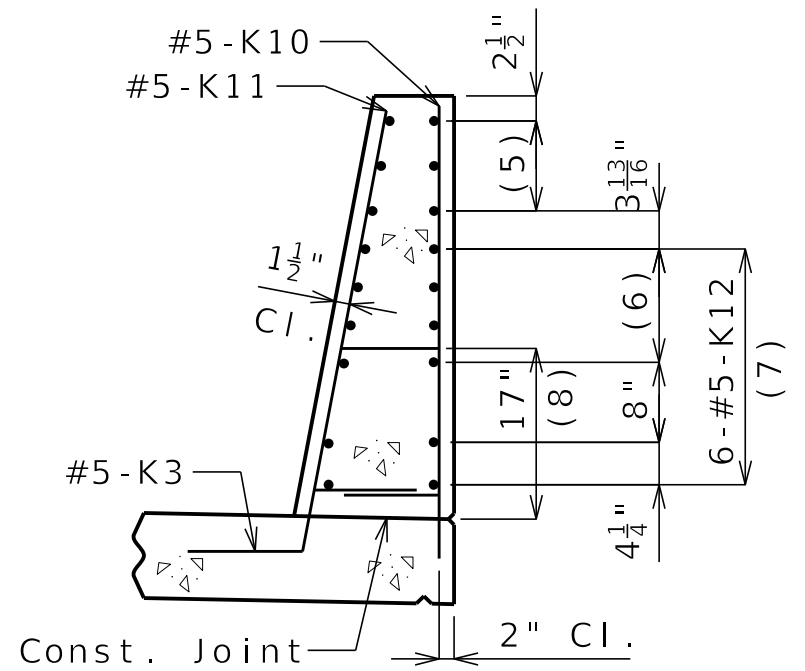


End Bent No. 1



End Bent No. 4

PART PLAN



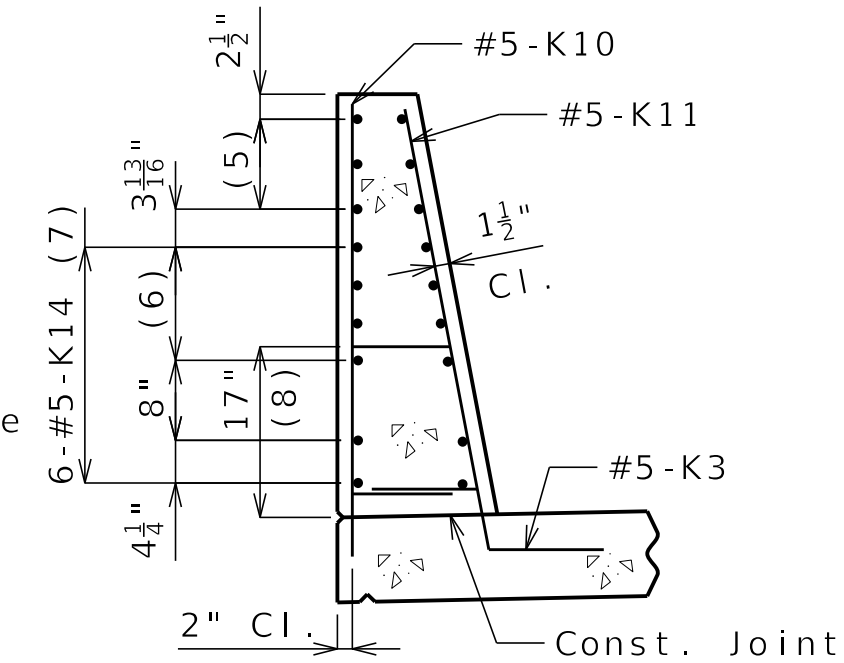
SECTION H-H

- (1) 5-#5-K1 @ 4" cts.
- (2) 2 spaces @ 4"
- (3) 5-#5-K4 & K5
- (4) 3-#5-K6 & K7
- (5) 3-#5-K13 or K15 @ 4 1/2" cts., each face
- (6) 3 spaces @ 3 1/8"
- (7) Spaced as shown, each face
- (8) To top of bar

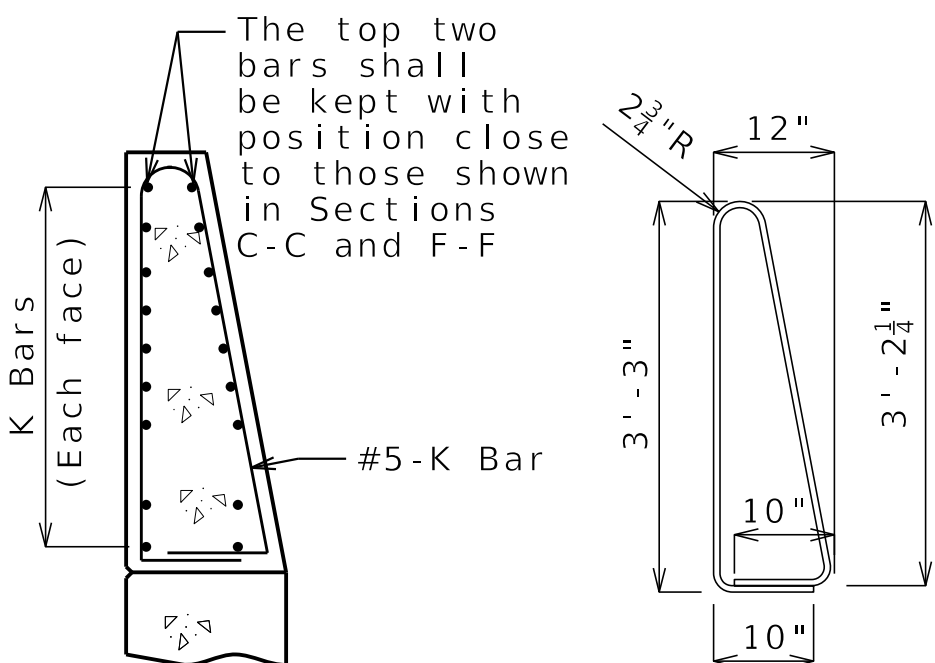
General Notes:

Concrete traffic barrier delineators shall be placed on top of the barrier as shown on Missouri Standard Plan 617.10 and in accordance with Sec 617.

Minimum clearance to reinforcing steel shall be 1 1/2" except as shown for bars embedded into end bent.



SECTION I-I

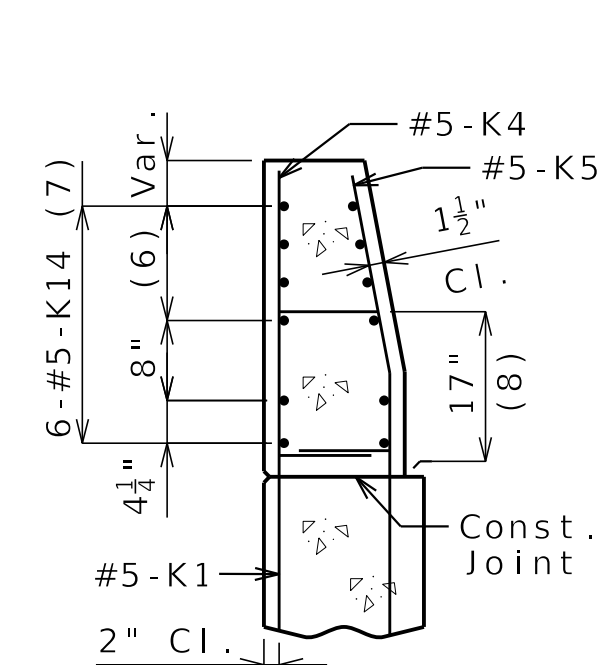


K10-K11 BAR PERMISSIBLE ALTERNATE SHAPE

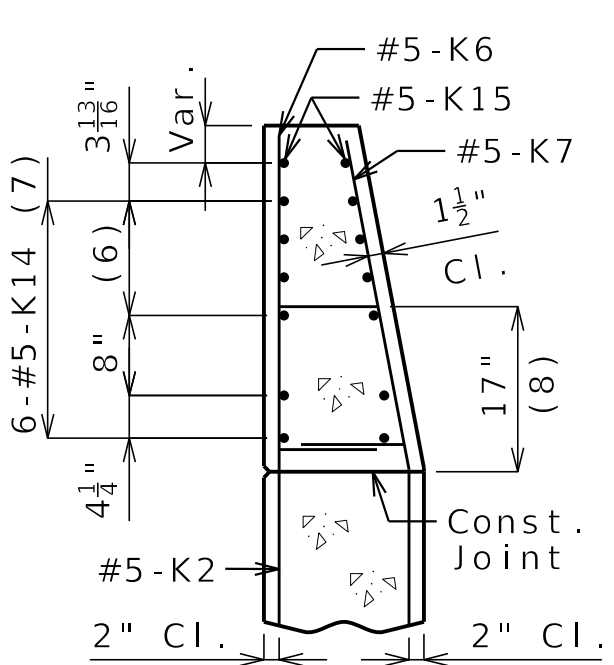
(Other K bars not shown for clarity)

The K10-K11 bar combination may be furnished as one bar as shown, at the contractor's option.

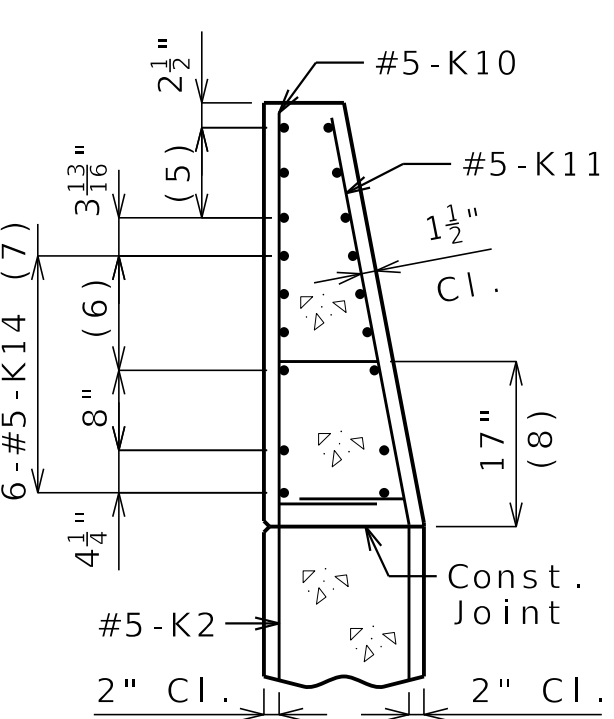
All dimensions are out to out.



SECTION D-D



SECTION E-E



SECTION F-F

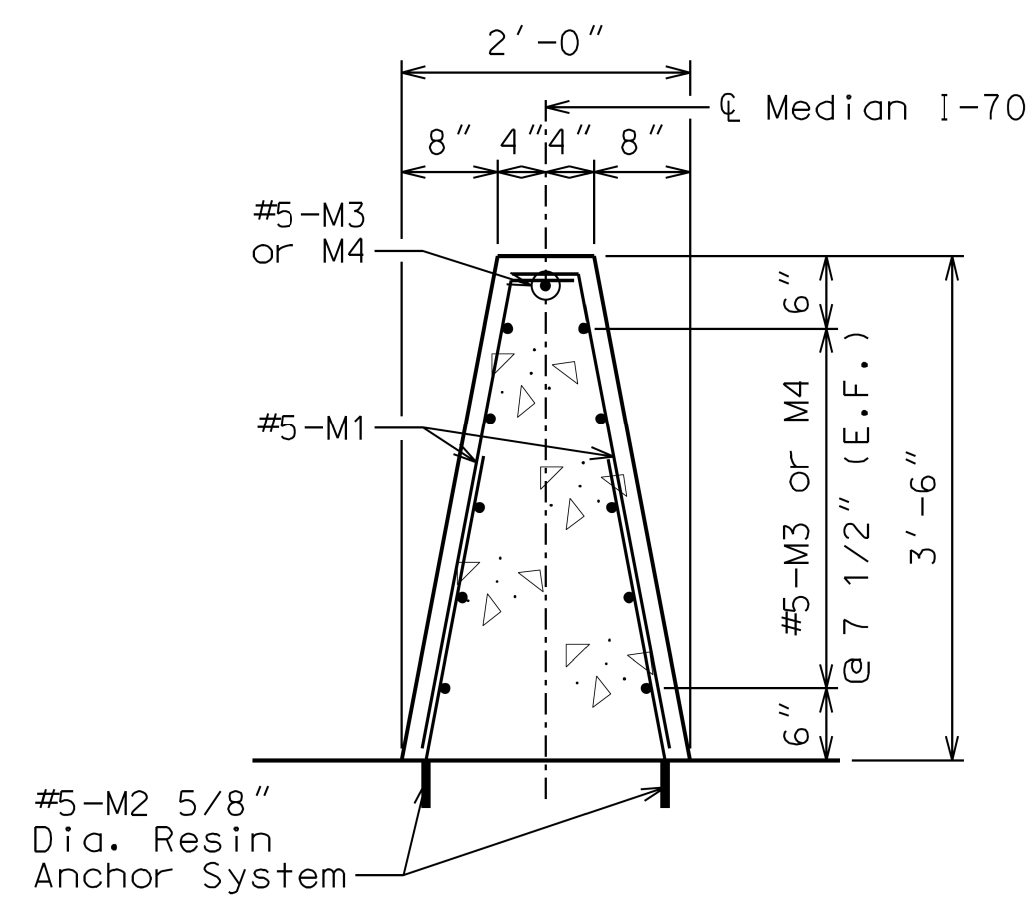
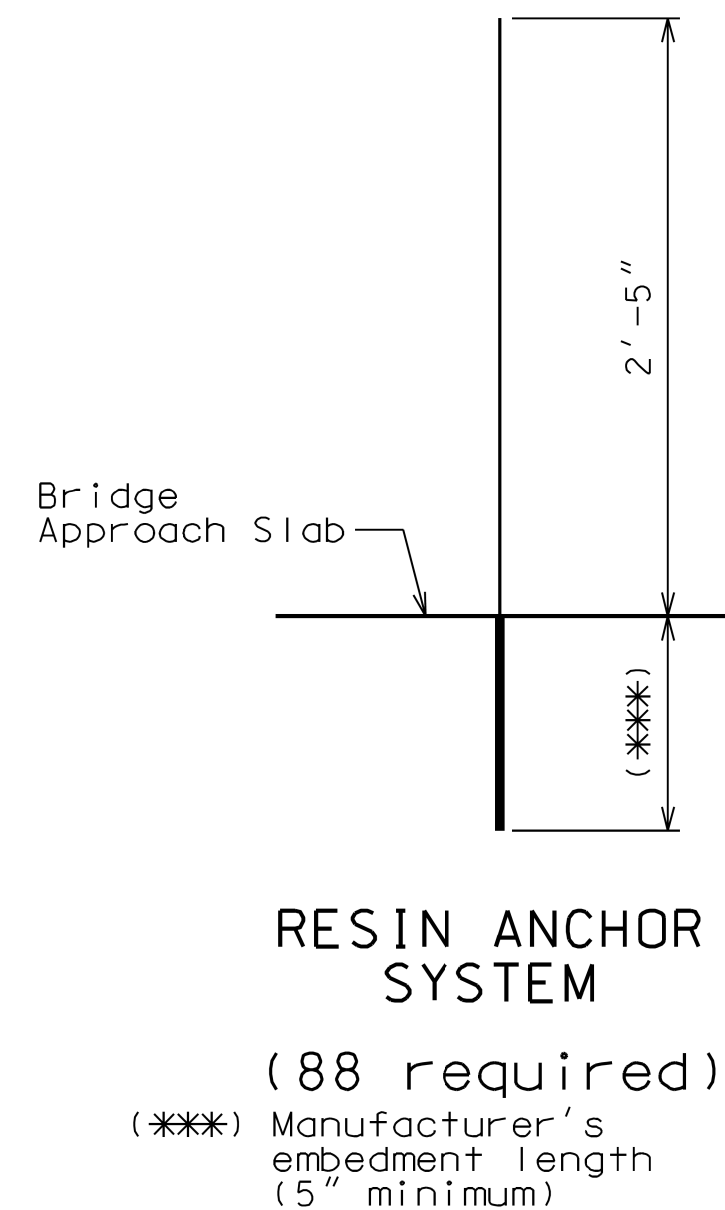
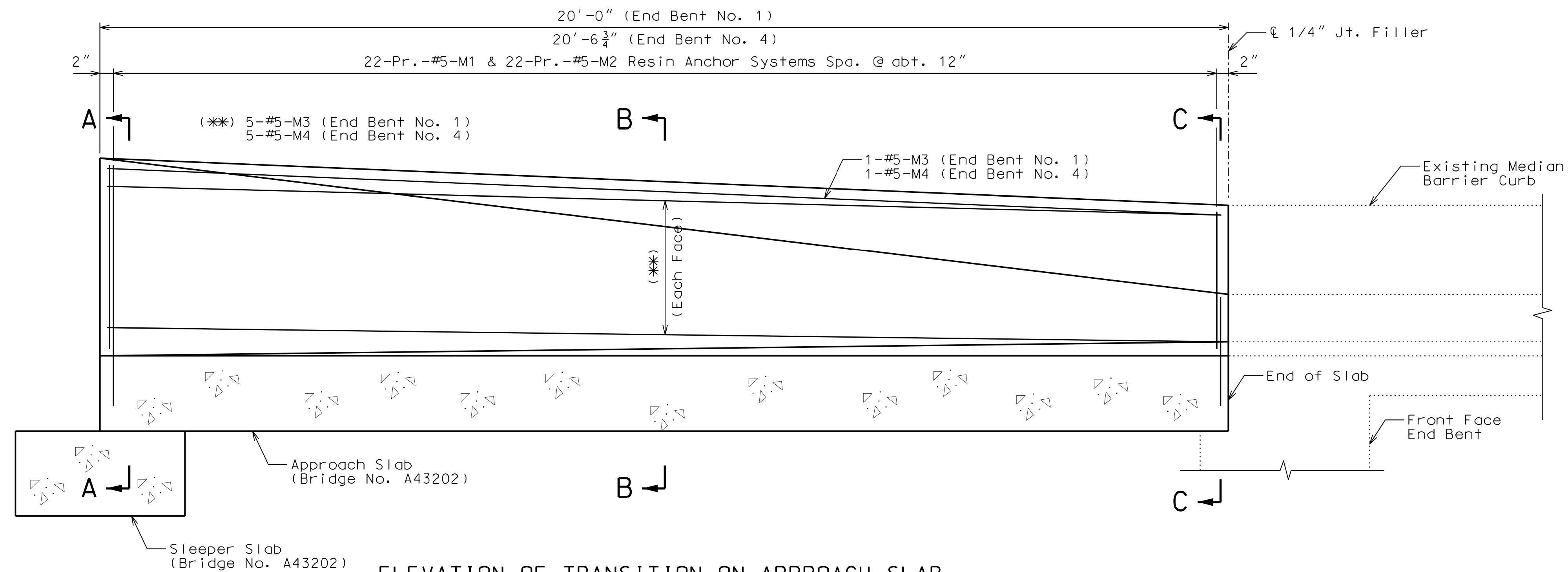
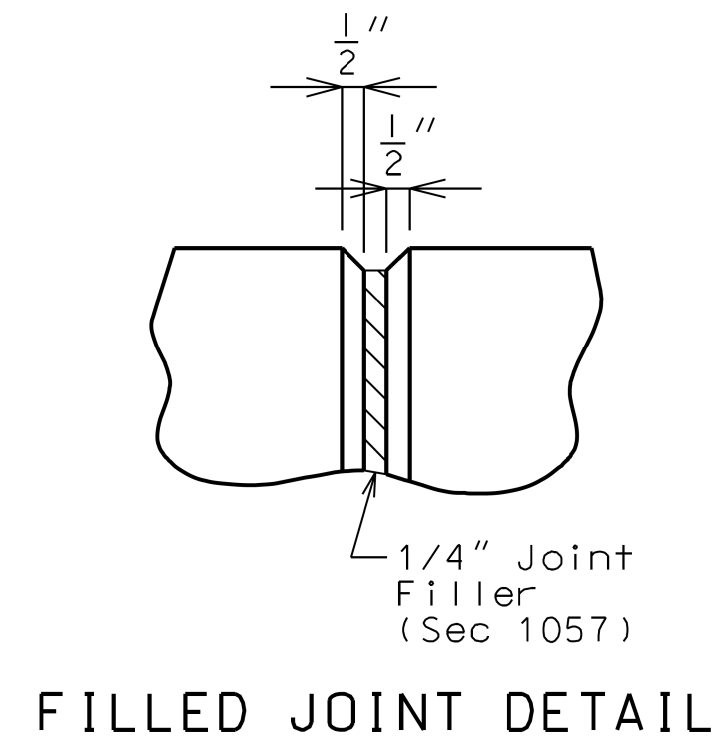
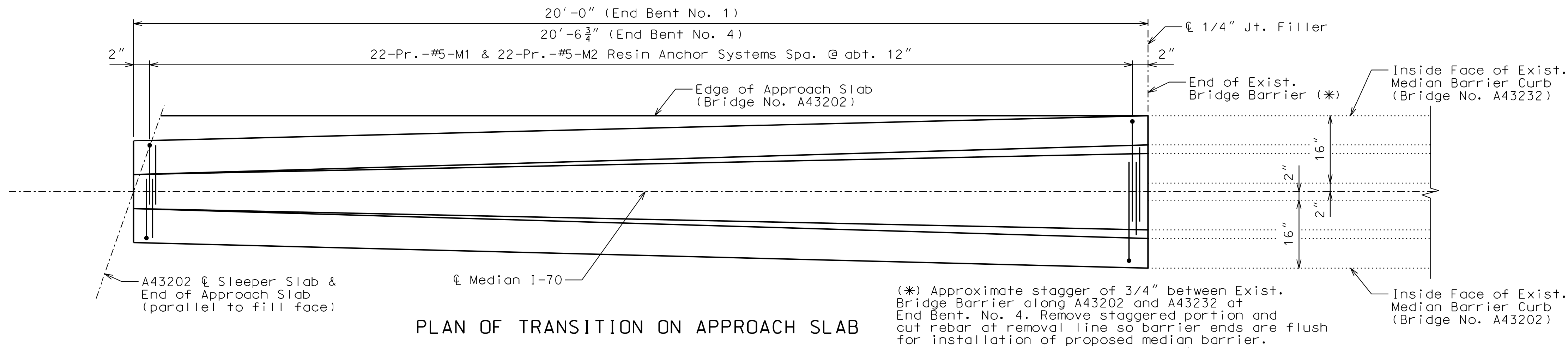
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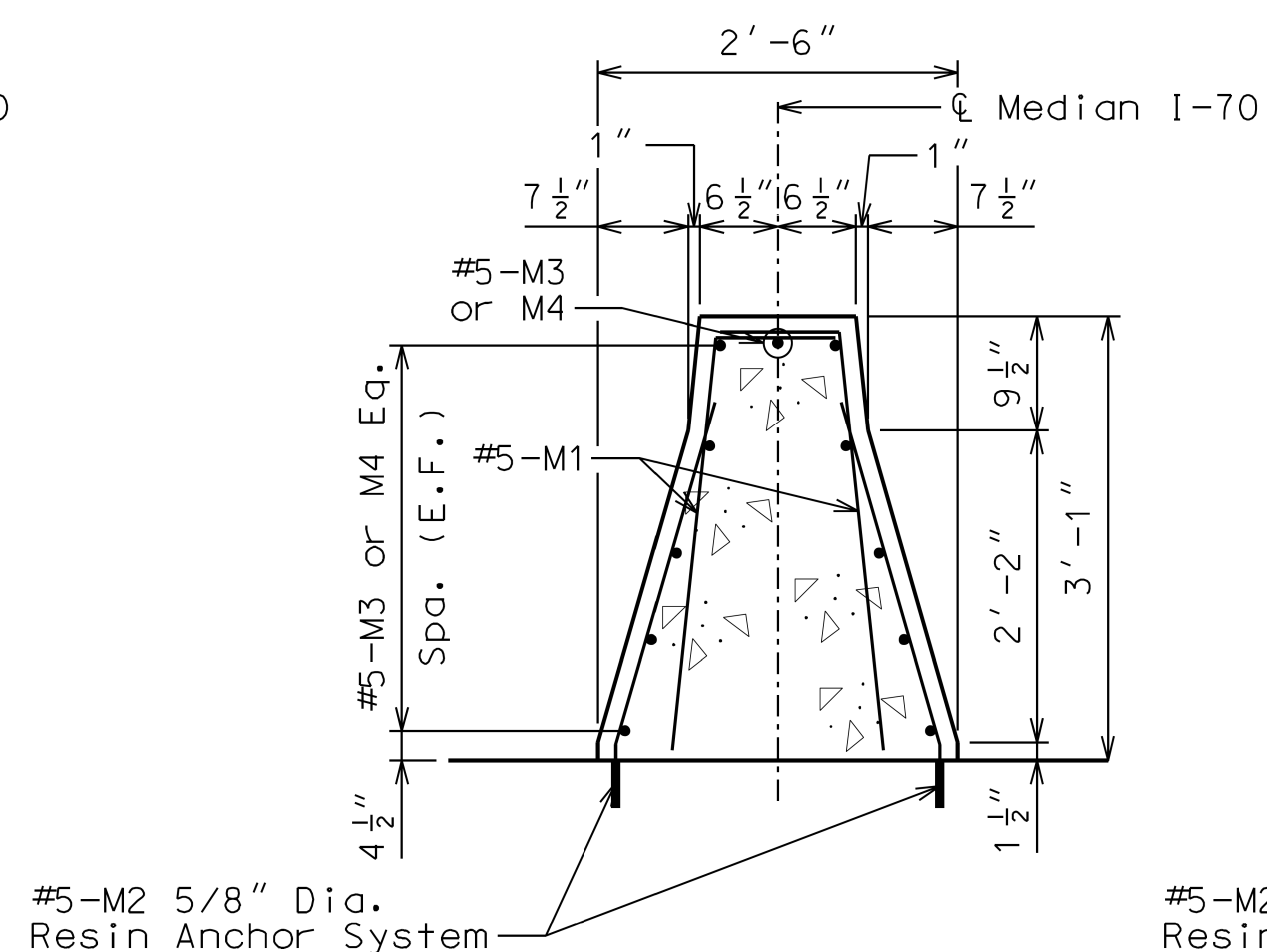
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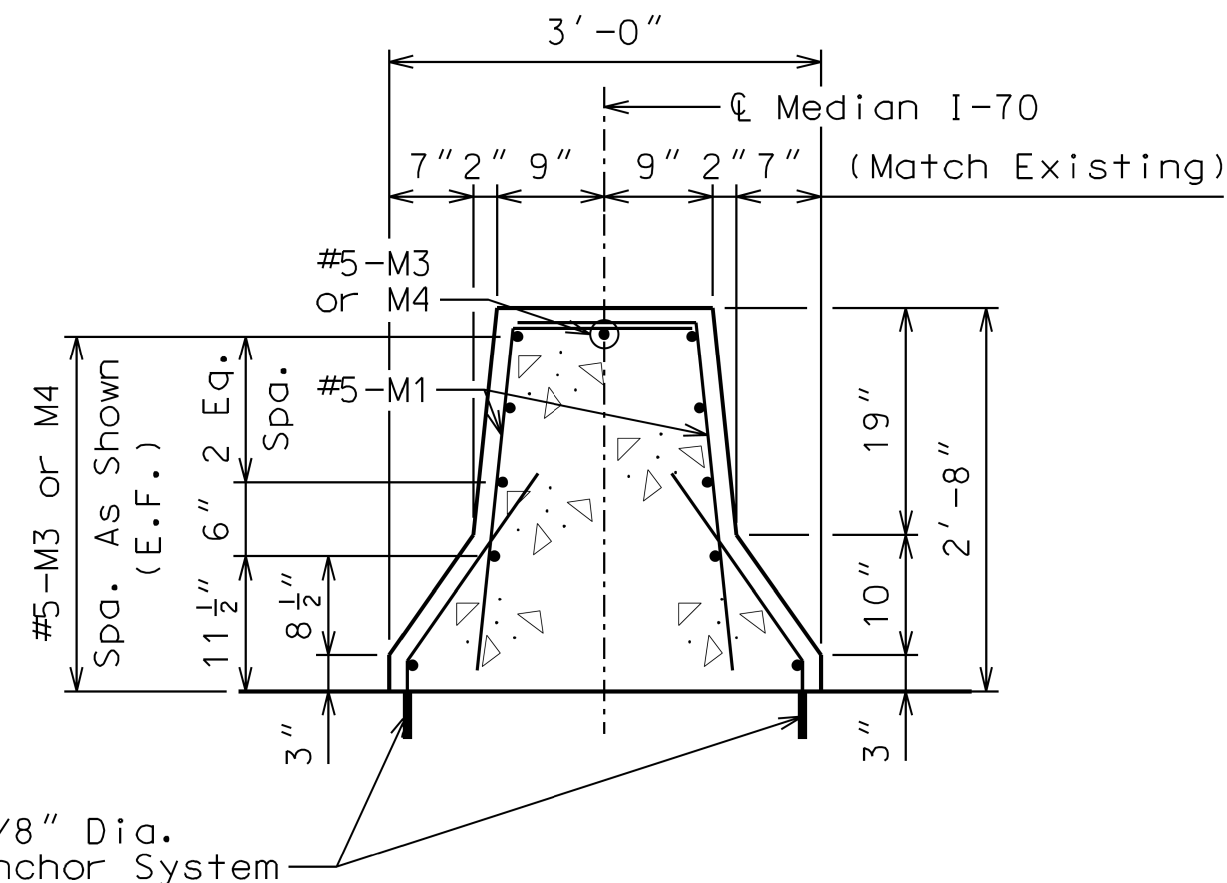
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715 KIRK DRIVE
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SECTION A-A



SECTION B-B



SECTION C-C

DETAILS OF TYPE C MEDIAN BARRIER TRANSITION ON APPROACH SLABS

Sheet 28 of 37

General Notes:

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

Concrete in the barrier shall be Class B-1.

Concrete traffic barrier delineators shall be placed on top of the barrier as shown on Missouri Standard Plan 617.10 and in accordance with Sec 617.

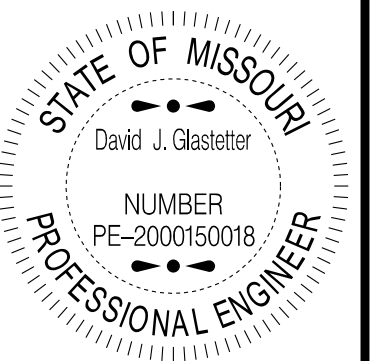
The contractor shall use one of the qualified resin anchor systems in accordance with Sec 1039.

The minimum embedment depth in concrete with f'c = 4000psi for the resin anchor system shall be that required to meet the minimum ultimate pullout strength in accordance with Sec 1039 but shall not be less than 5".

Type C Barrier Transition shall be coordinated with the construction of Bridge No. A43232.

An epoxy coated #5 Grade 60 reinforcing bar shall be substituted for 5/8"Ø threaded rod.

Field bend #5-M2 Bars as needed to fit barrier transitions.



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CONTRACT ID.

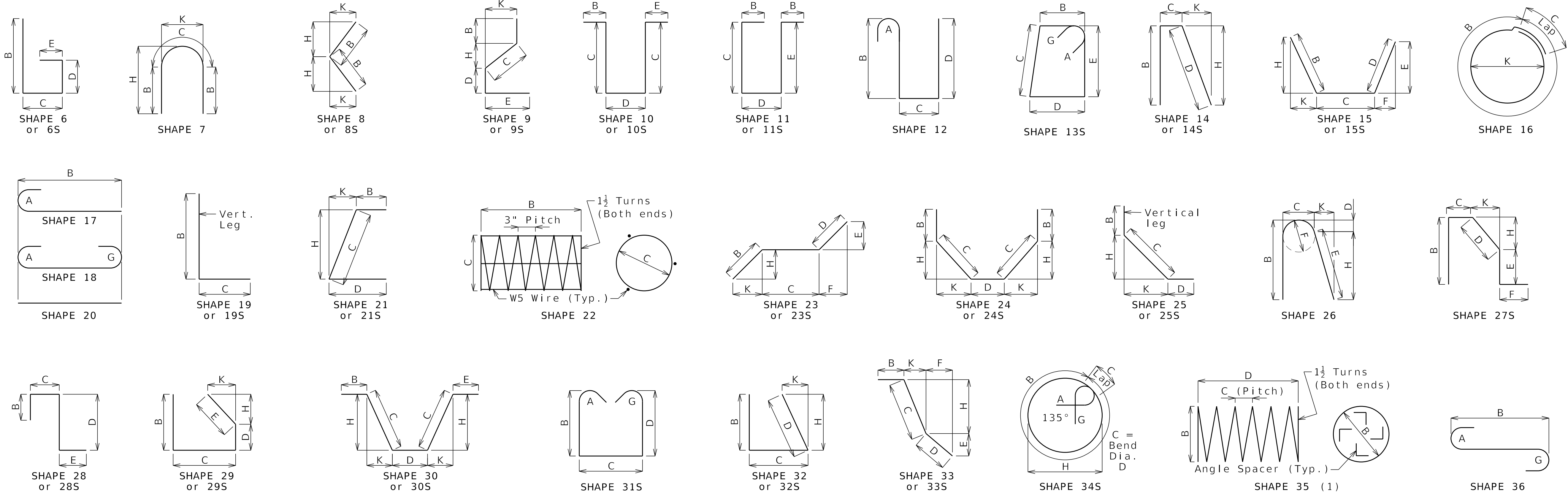
PROJECT NO.
BRIDGE NO.
A43202

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION
105 WEST CAPITOL
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Finished Bend Diameters D and Hook Dimensions						
Standard Pin Bend Shapes						
Size	Case	D	A or G		J	
			90°	180°	180°	
#4	1	3"	8"	6"	4"	
#5	1	3 3/4"	10"	7"	5"	
#6	1	4 1/2"	12"	8 1/4"	6"	
#7	2	5 1/4"	14"	9 3/4"	7"	
	3	7"	15"	11 1/2"	8 3/4"	
#8	2	6"	16"	11"	8"	
	3	8"	17"	13 1/4"	10"	
#9	1	9 1/2"	19 1/2"	15 1/2"	11 3/4"	
#10	1	10 3/4"	22"	17 1/2"	13 1/4"	
#11	1	12"	24 1/2"	19 1/2"	14 3/8"	
#14	1	18 1/4"	31 1/4"	27 1/2"	21 3/8"	
#18	1	24"	41 1/2"	36 1/4"	28 1/2"	

Detailing Dimension

Detailing Dimension

Stirrup Pin Bend Shapes (S)						
Size	Case	D	A or G		H	
			90°	135°	180°	180°
#4	2	2"	4 1/2"	4 1/2"	5"	2 7/8"
	3	3"	5"	5 1/4"	6"	3"
#5	2	2 1/2"	5 3/4"	5 3/4"	5 3/4"	3 3/4"
	3	3 3/4"	6 1/4"	6 1/4"	7"	3 5/8"
#6	1	4 1/2"	12"	7 3/4"	8 1/4"	4 5/8"

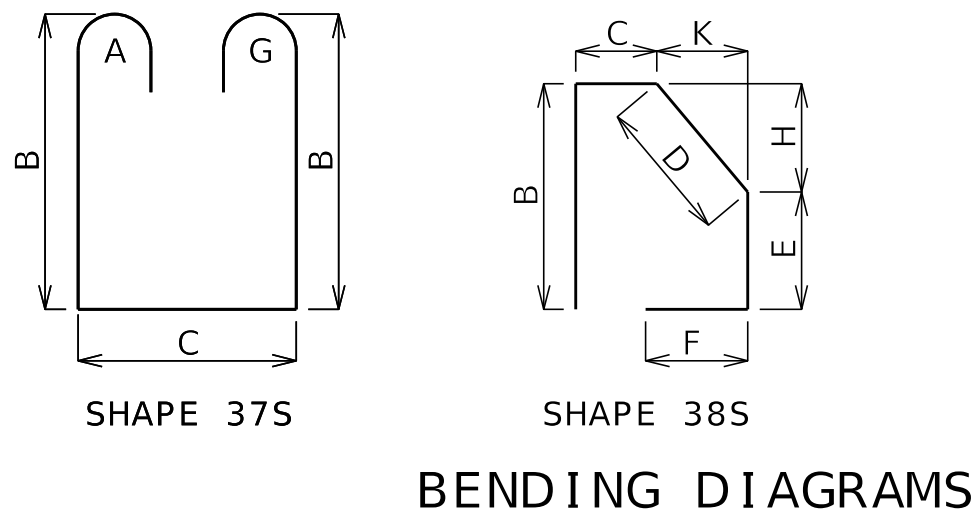
Detailing Dimension

Detailing Dimension

Detailing Dimension

Applicable for all grades of steel.

Case 1 applies to all reinforcement. Case 2 applies to all reinforcement except for galvanized bars. Case 3 applies to galvanized bars only.



(1) Shall be a deformed or plain spiral bar or wire.

Four angle or channel spacers are required for each column spiral. Spacers are to be placed on inside of spirals. Length and weight of column spirals do not include splices or spacers.

Notes:

All dimensions are out-to-out.

Shapes ending with an S shall be bent in accordance with stirrup pin bend shapes.

Unless otherwise noted, finished bending diameter D is the same for all bends of a shape.

Hooks and bends shall be in accordance with the procedures as shown on this sheet.

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NUMBER
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PROFESSIONAL ENGINEER
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I - 70
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A43202-30
COUNTY
ST. CHARLES
JOB NO.
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CONTRACT ID.
PROJECT NO.
BRIDGE NO.
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Nominal lengths are based on out to out dimensions shown in bending diagrams and are listed to the nearest inch for fabricator's use. Actual lengths are measured along centerline bar to the nearest inch. Weights are based on actual lengths.

For bending diagrams, see Sheet No. 30.

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Codes: C = Required coatings, V = Required shape, S = Sets of varied bars, dimensions vary in equal line and the following this line and the follow

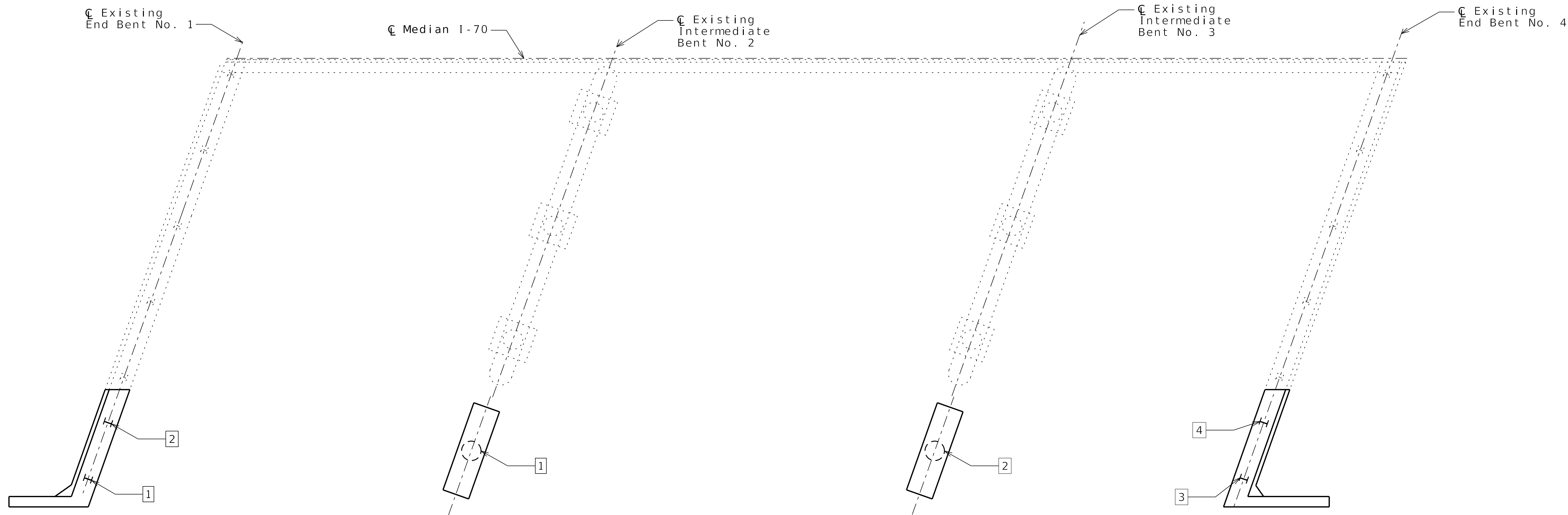
Note: This drawing is not to scale. Follow dimensions.

where E = Epoxy Coated and G = Galvanized.
bending diagrams. All bars shall be Grade 60.
and number of bars of each length. Bar
increments between dimensions shown on this
line and the actual length dimension shown on
ing line vary by the specified increment.

Sheet 32 of 37

BILL OF REINFORCING STEEL (2 OF 2)

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

As-Built Pile Data					
Pile No.	Length in Place (ft)	PDA Nom. Axial Compressive Resistance (kips)	PDA End of Drive Blow Count (blows/in.)	Actual End of Drive Blow Count (blows/in.)	Remarks
					End Bent No.1
1					
2					

As-Built Pile Data			
Pile No.	Length in Place (ft)	Computed Nominal Axial Compressive Resistance (kips)	Remarks
			End Bent No.4
3			
4			

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

Note:
For End Bent No. 1, indicate in remarks column:
A. Pile type and grade
B. Batter
C. Driven to practical refusal
D. PDA test pile
E. Minimum tip elevation controlled
(Use when actual blow count is less then PDA blow count due to minimum tip elevation requirement. A plus sign (+) shall be placed after the PDA nominal axial compressive resistance value indicating actual value is higher than PDA value.

For End Bent No. 4, Indicate in remarks column:
A. Pile type and grade
B. Batter
C. Driven to practical refusal

This sheet to be completed by the design-builder.
AS-BUILT PILE AND DRILLED SHAFT DATA



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DISTRICT BR	SHEET NO. A43202-33

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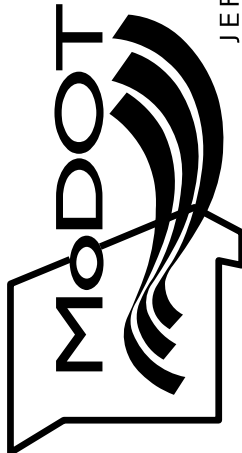
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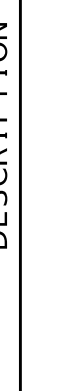
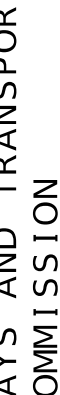


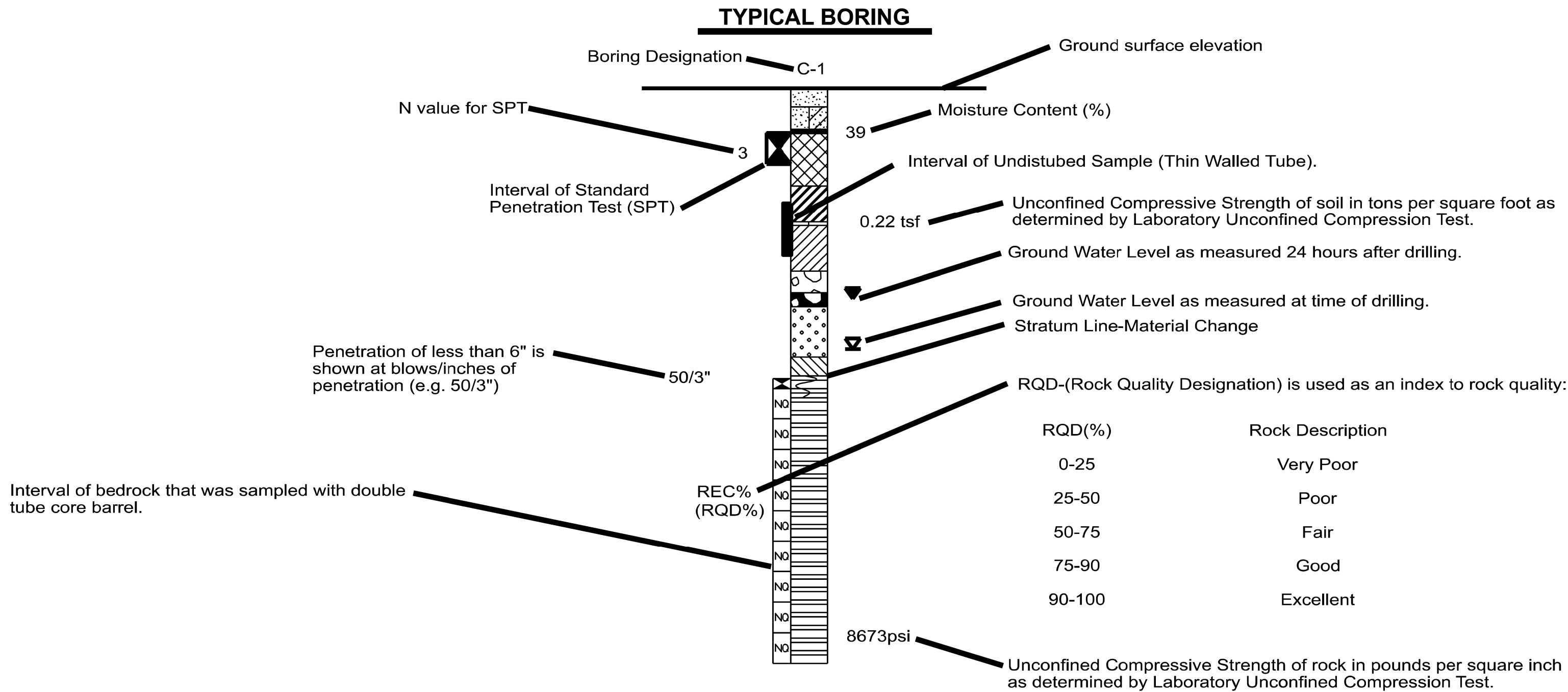
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KEY TO BORING LOG SYMBOLS			
LITHOLOGIC SYMBOLS (Unified Soil Classification System)		LITHOLOGIC SYMBOLS (Rock)	
 Lean Clay (CL)		 Coal	 Weathered Limestone
 Fat Clay (CH)		 Dolomite	 Weathered Shale
 Lean to Fat Clay		 Limestone	 Gypsiferous Shale
 Low Plastic Silt (ML)		 Sandstone	
 Poorly Graded Sand (SP)		 Shale	
 Well Graded Sand (SW)		 Gypsum	
 Clayey Sand (SC)		SAMPLER SYMBOLS	
 Poorly Graded Gravel (GP)		 Auger Cuttings	
 Boulders		 Grab	
 Clayey Gravel (GC)		 Modified California Sampler	
 Gravel with Fat Clay (GP-GC)		 NQ Rock Core	
 Asphalt		 NX Core Barrel	
 Fill		 Standard Penetration Test	
 Topsoil		 Shelby Tube	
 Concrete			
 Peat			
 Poorly Graded Sand with Clayey Sand (SP-SC)			
DRILLING METHODS		ABBREVIATIONS	
 Core Barrel		HSA	- Hollow Stem Auger
 Hollow Stem Auger		SSA	- Solid Stem Auger
 Rotary		ST	- Shelby Tube
 Solid Stem Auger		SPT	- Standard Penetration Test
		NATD	- None At Time of Drilling
		N/A	- Not Available

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PROFESSIONAL ENGINEER

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1 - 70

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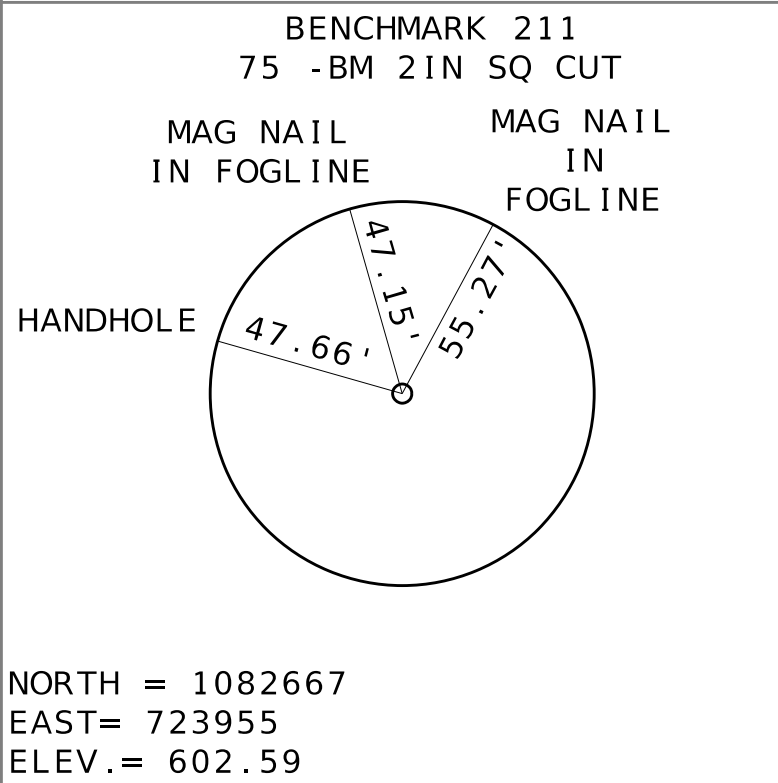
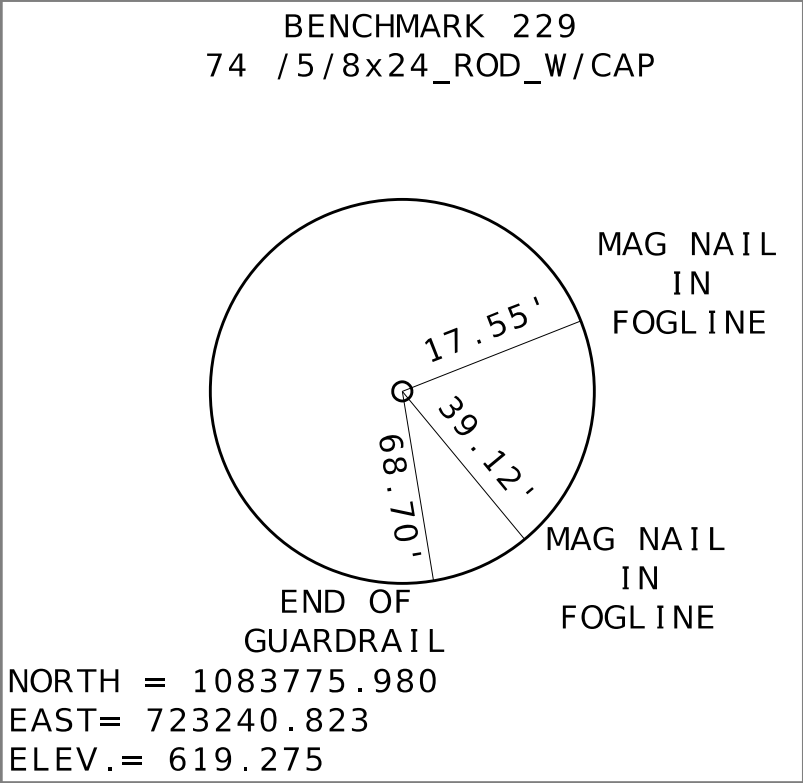
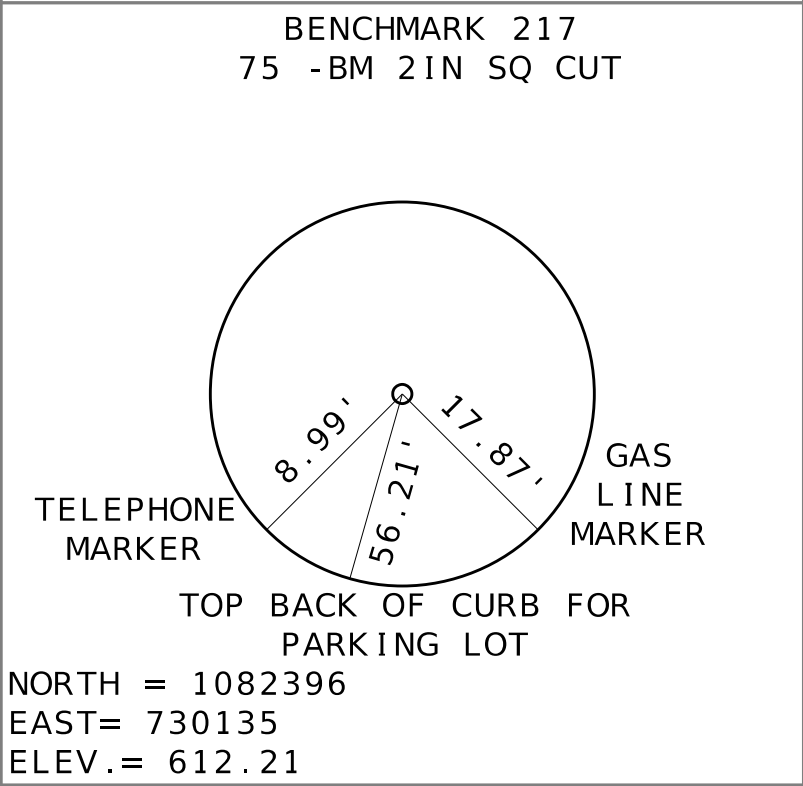
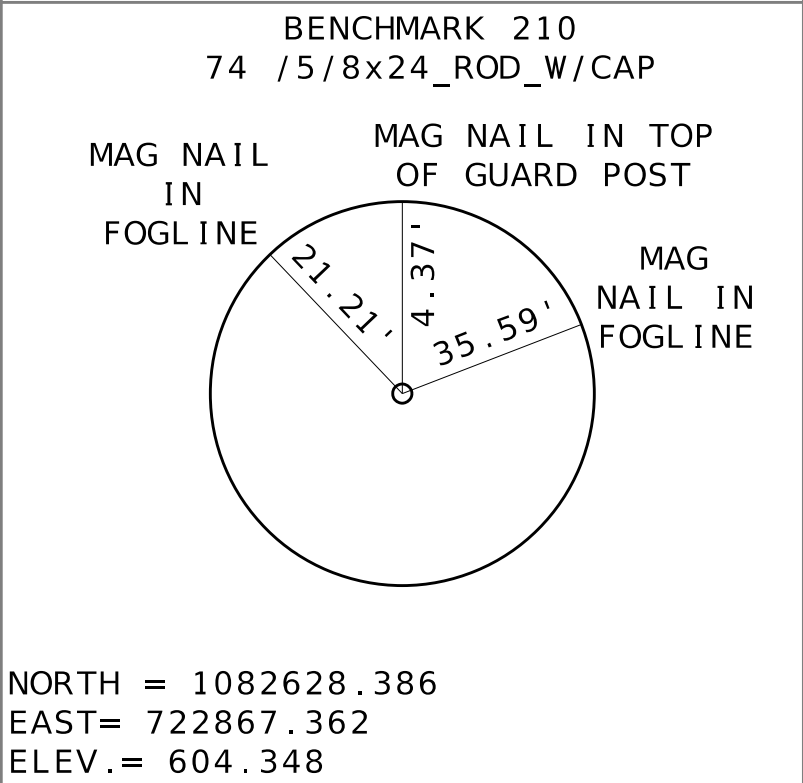
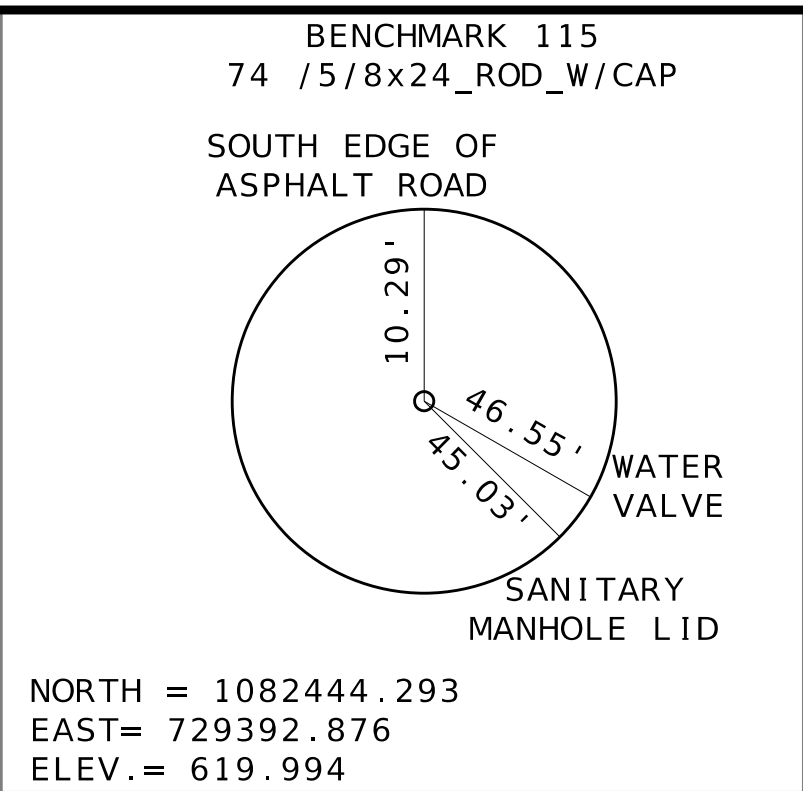
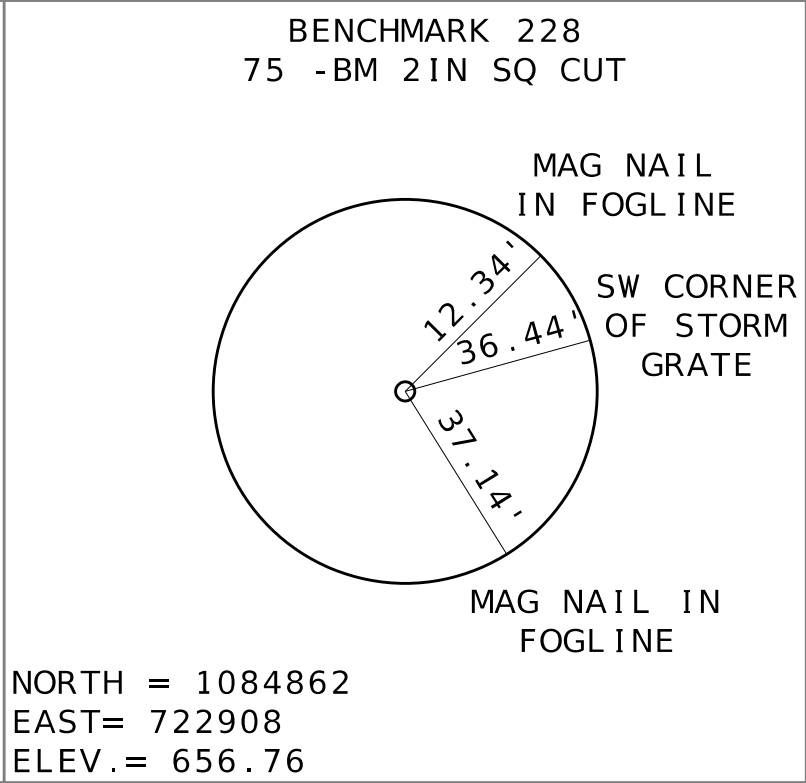
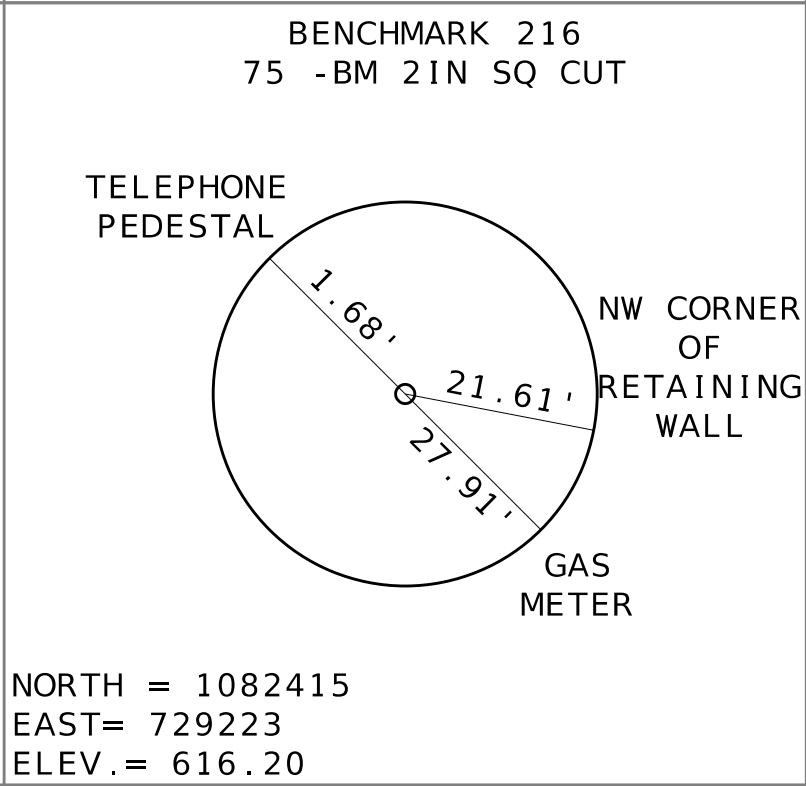
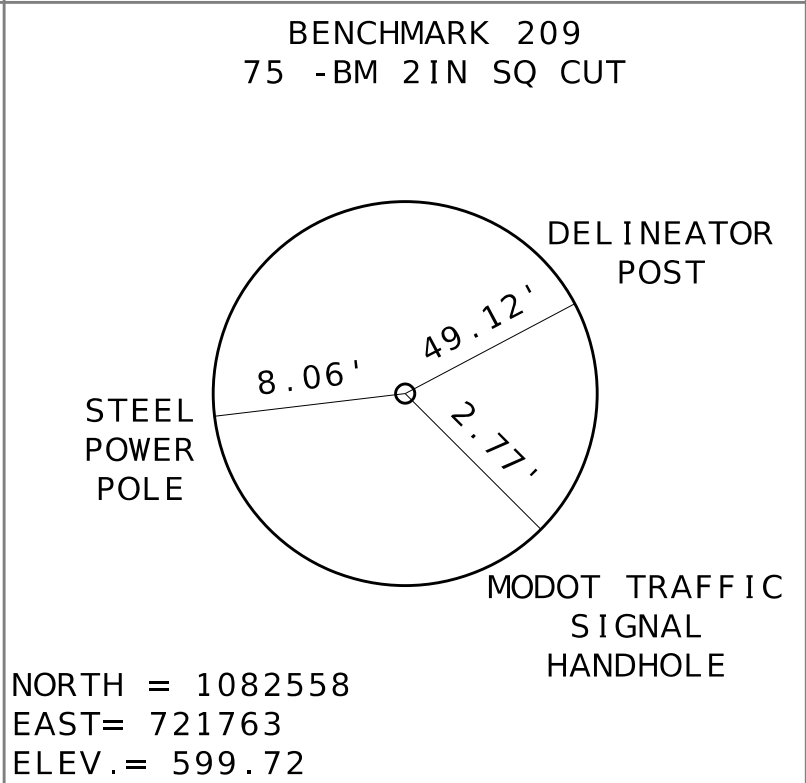
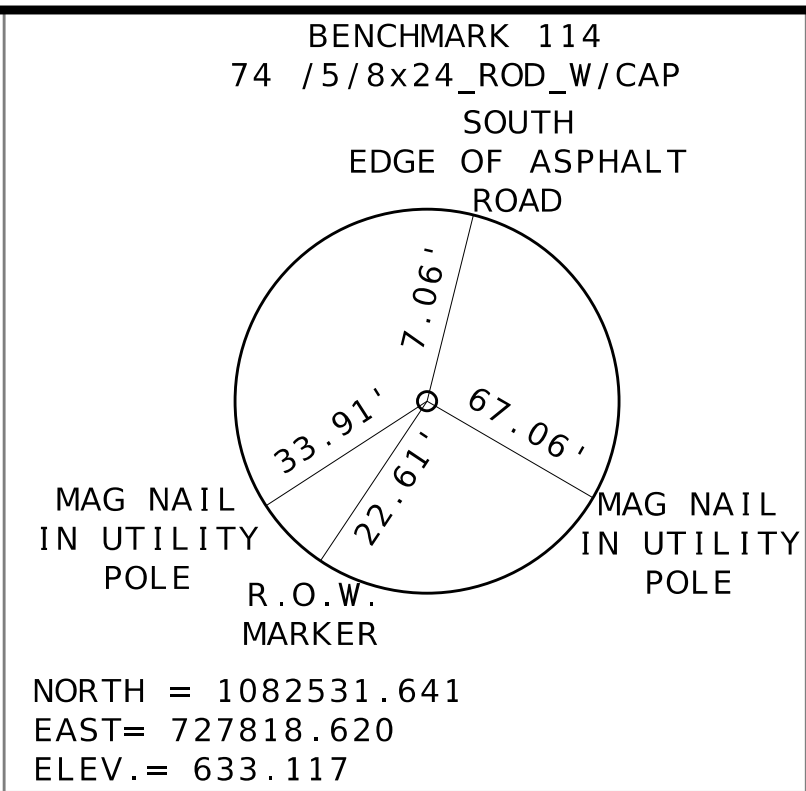
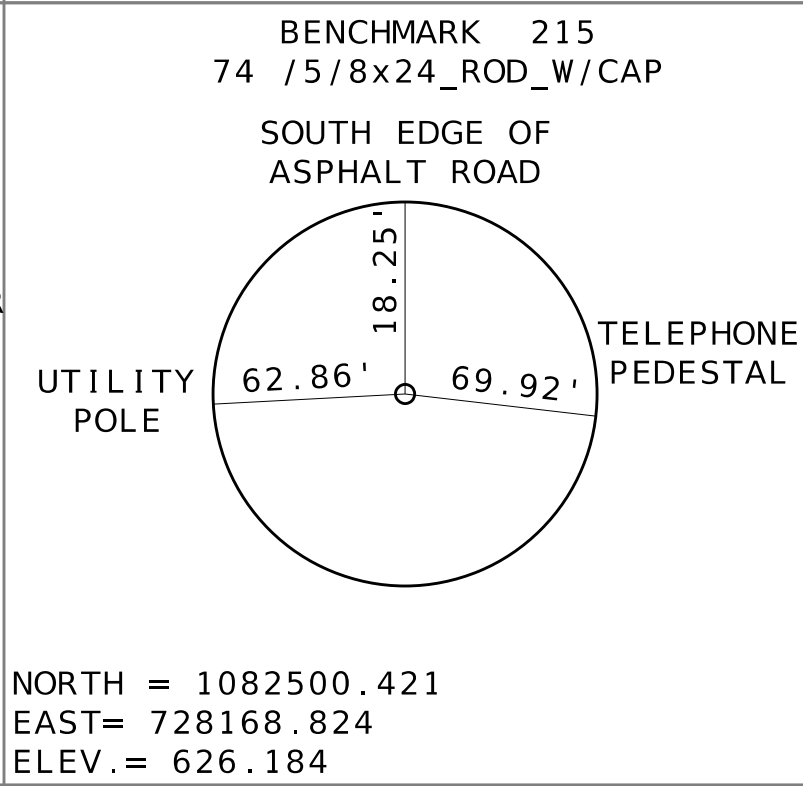
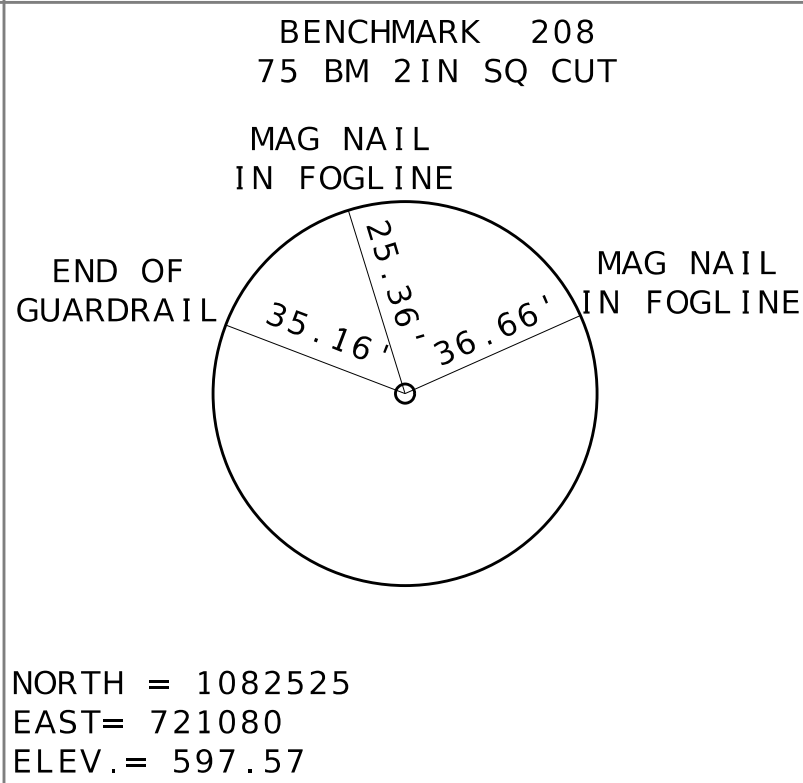
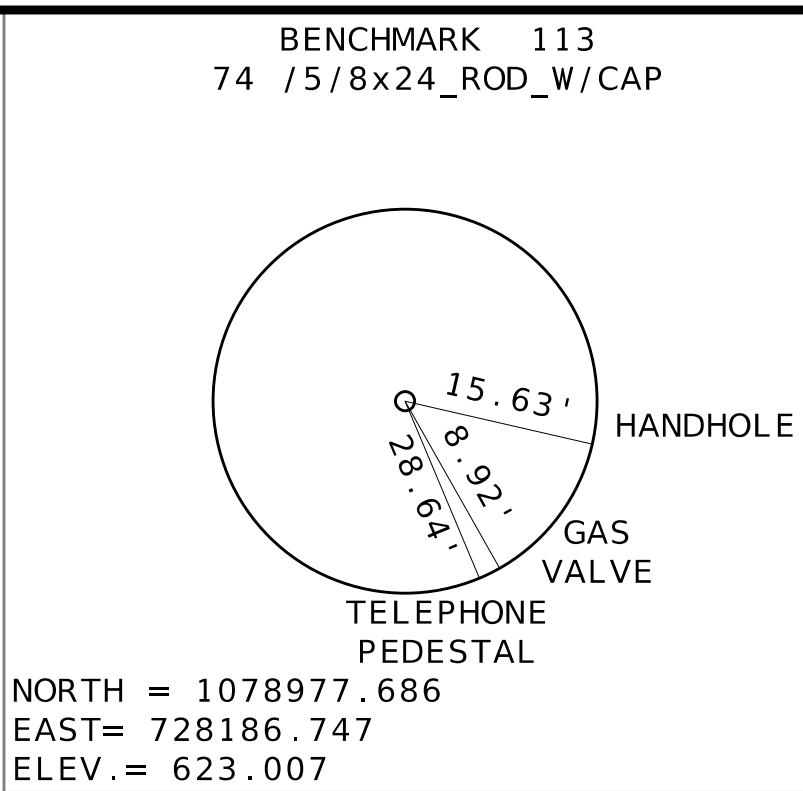
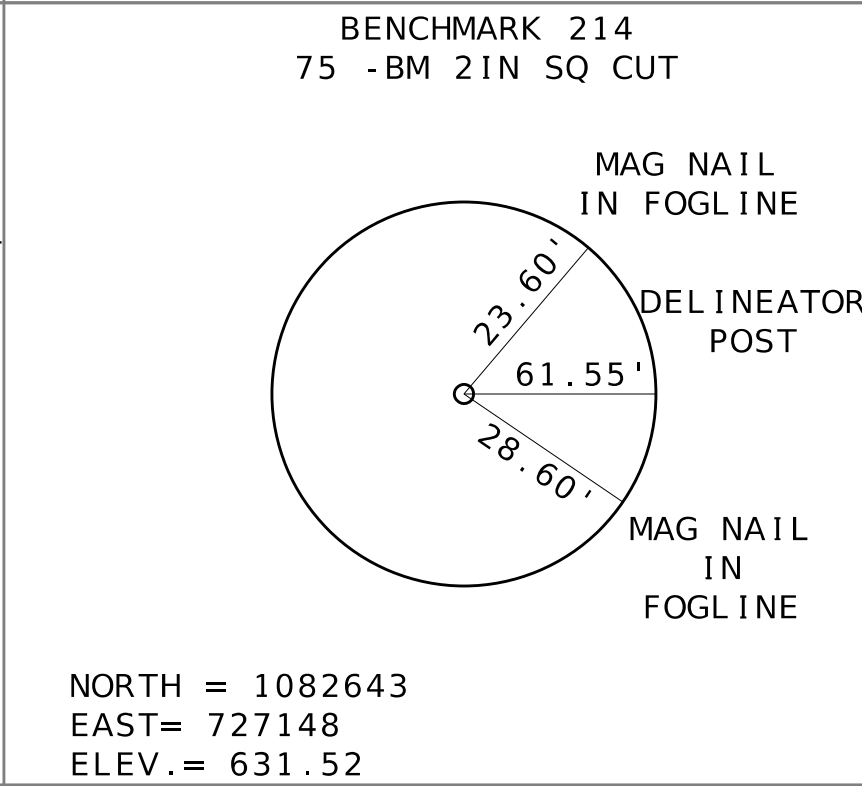
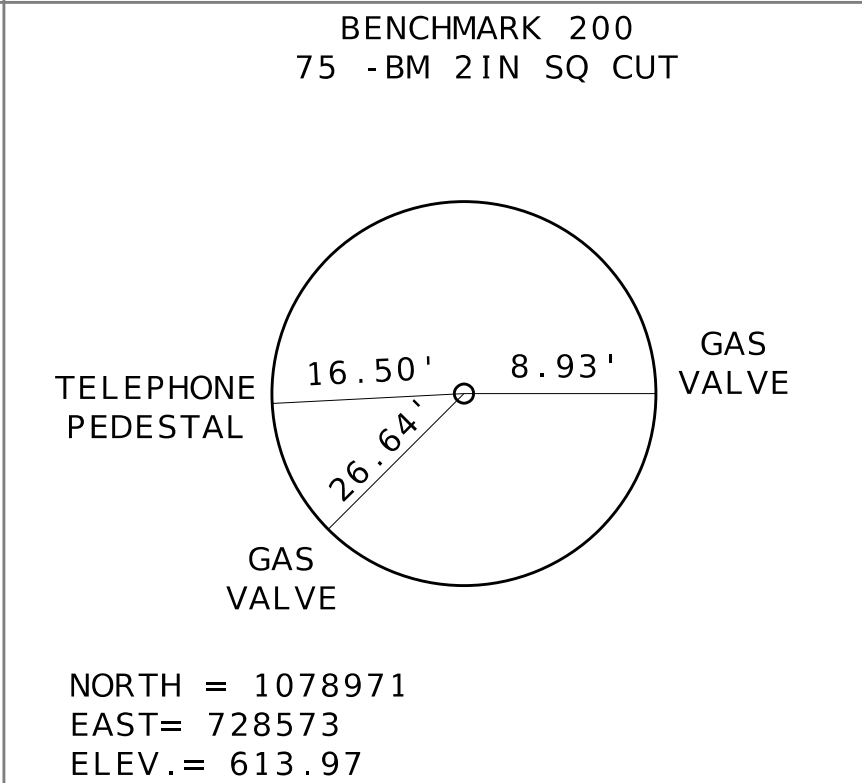
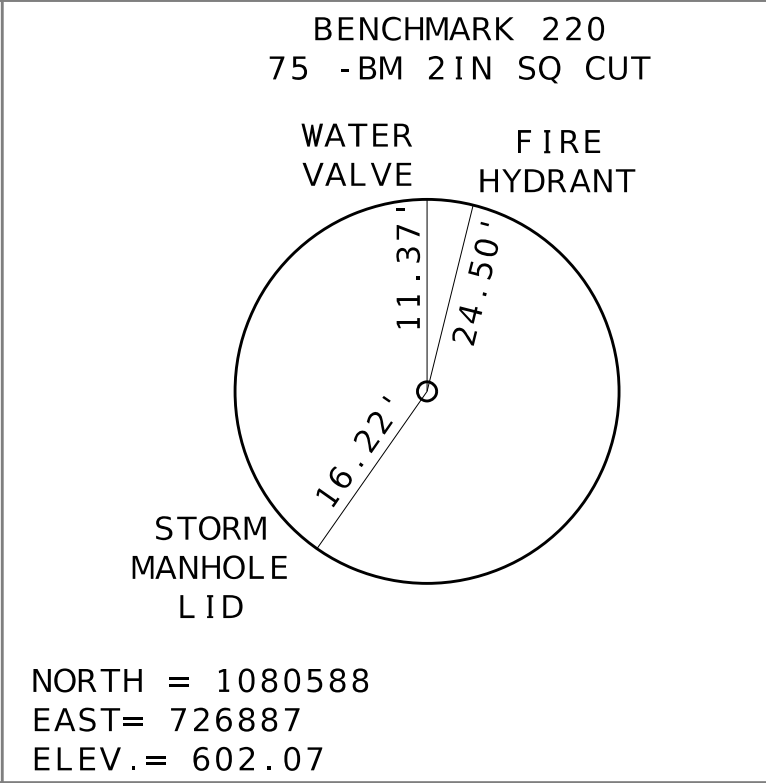
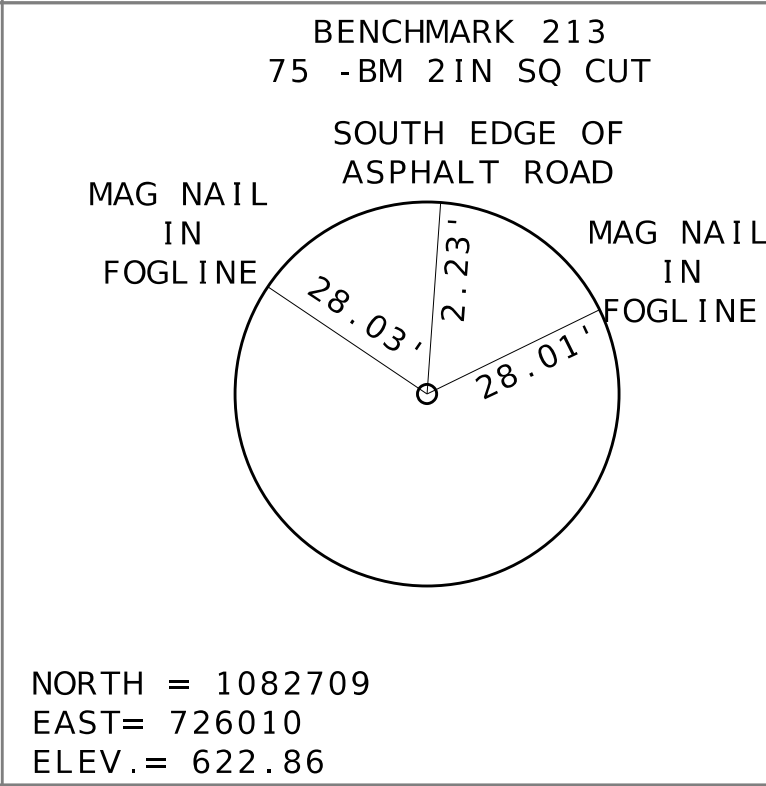
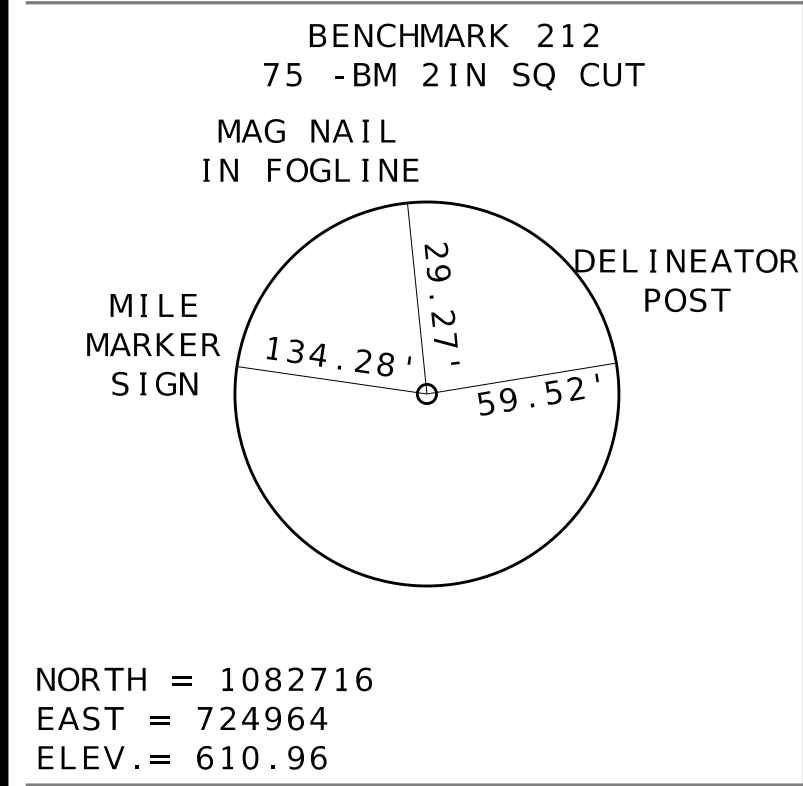
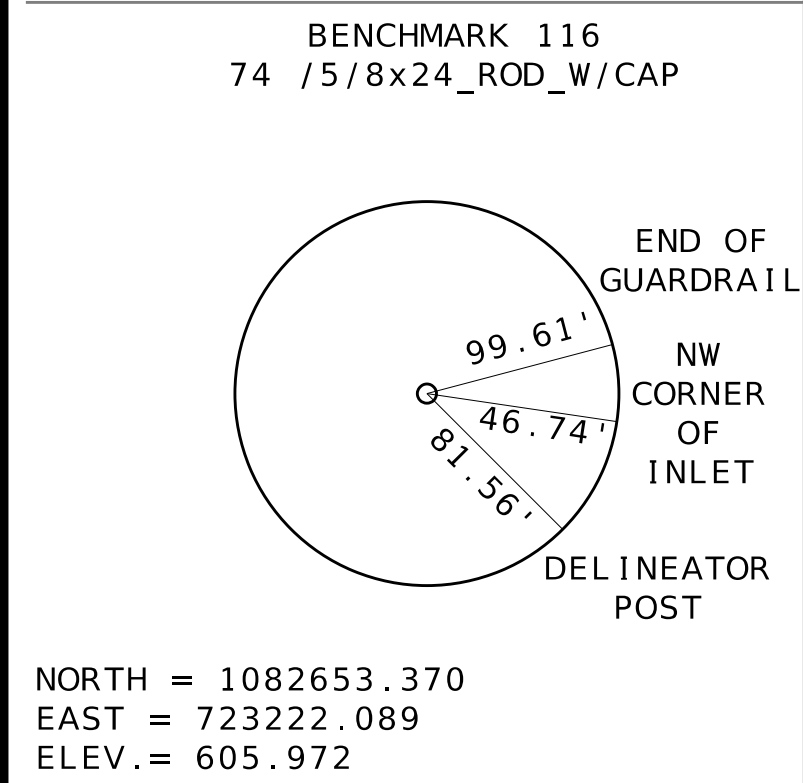
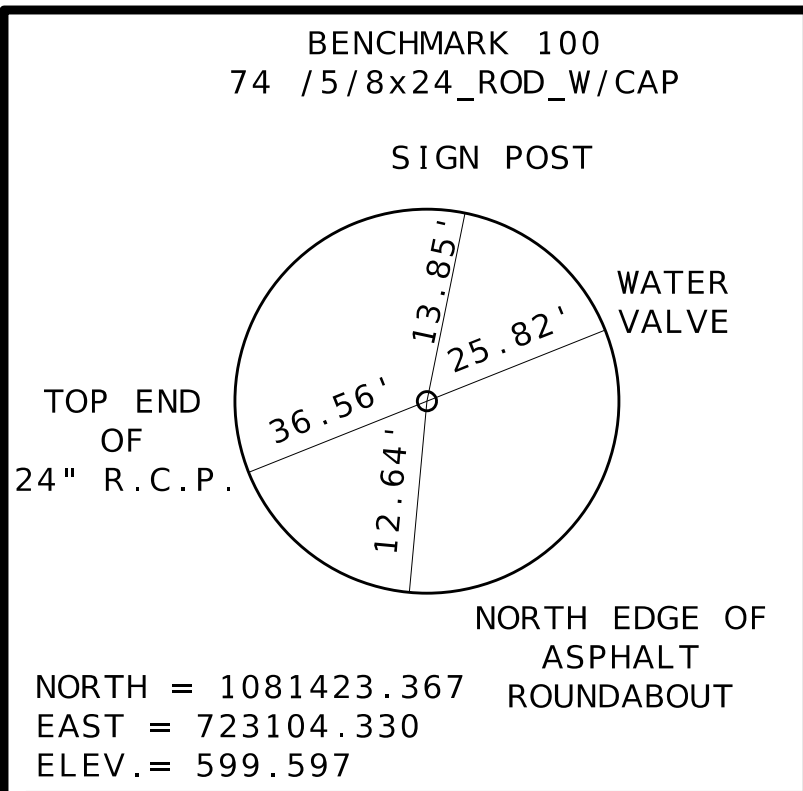
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Note: For locations of borings, see Sheet No. 2.
Note: This drawing is not to scale. Follow dimensions.

Sheet 35 of 37

BORING DATA (2 OF 2)

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