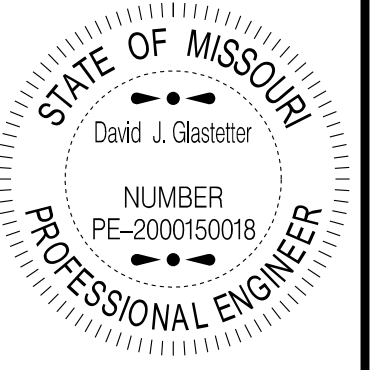


(97') PRESTRESSED CONCRETE NU-GIRDER SPAN

SEC/SUR	30	TWP	47N	RGE	2E
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COUNTY

ST. CHARLES

OB NO.
70000

JS10020

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

A9681

[illegible]

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A9681-3	GENERAL NOTES
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A9681-5	DETAILS OF END BENT NO. 1
A9681-6	DETAILS OF END BENT NO. 1
A9681-7	VERTICAL DRAIN AT END BENTS
A9681-8	DETAILS OF END BENT NO. 2
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A9681-12	THEORETICAL SLAB HAUNCHING DIAGRAM, BOTTOM OF SLAB ELEVATIONS, AND GIRDER CAMBER DIAGRAM
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A9681-20	AS-BUILT PILE DATA
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A9681-23	SURVEY CONTROL POINTS
A9681-24	SURVEY CONTROL DATA



LOCATION MAP

Designed	SEP	2025
Detailed	SEP	2025
Checked	SEP	2025

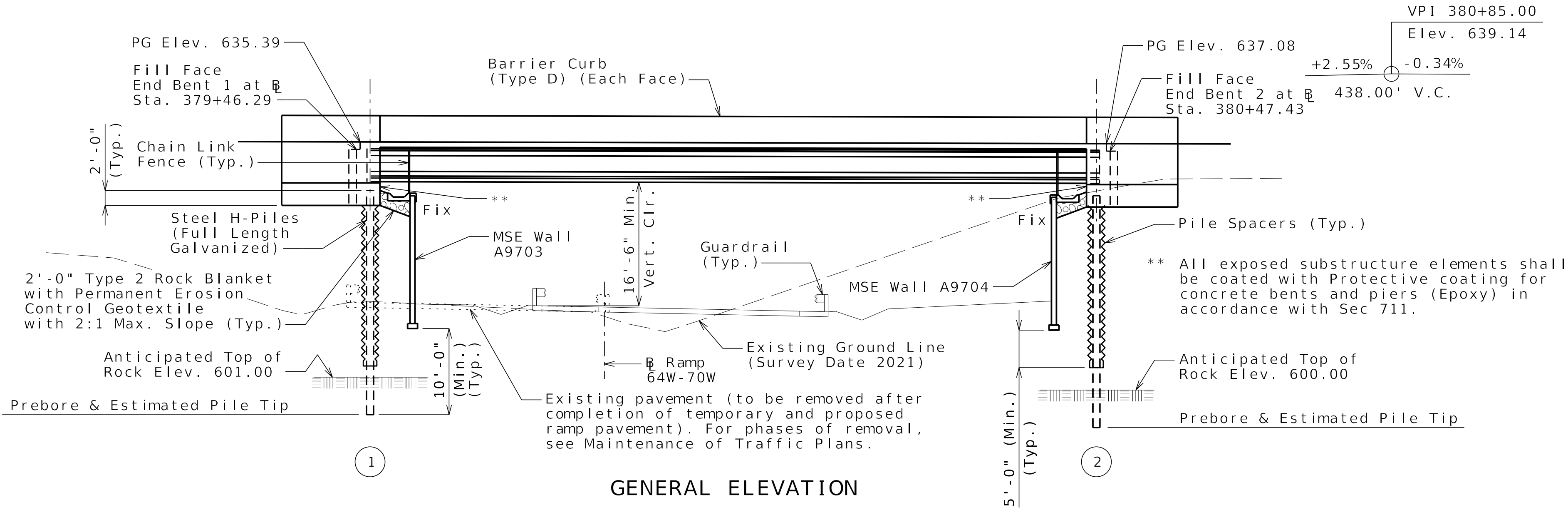
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Sheet 1 of 24

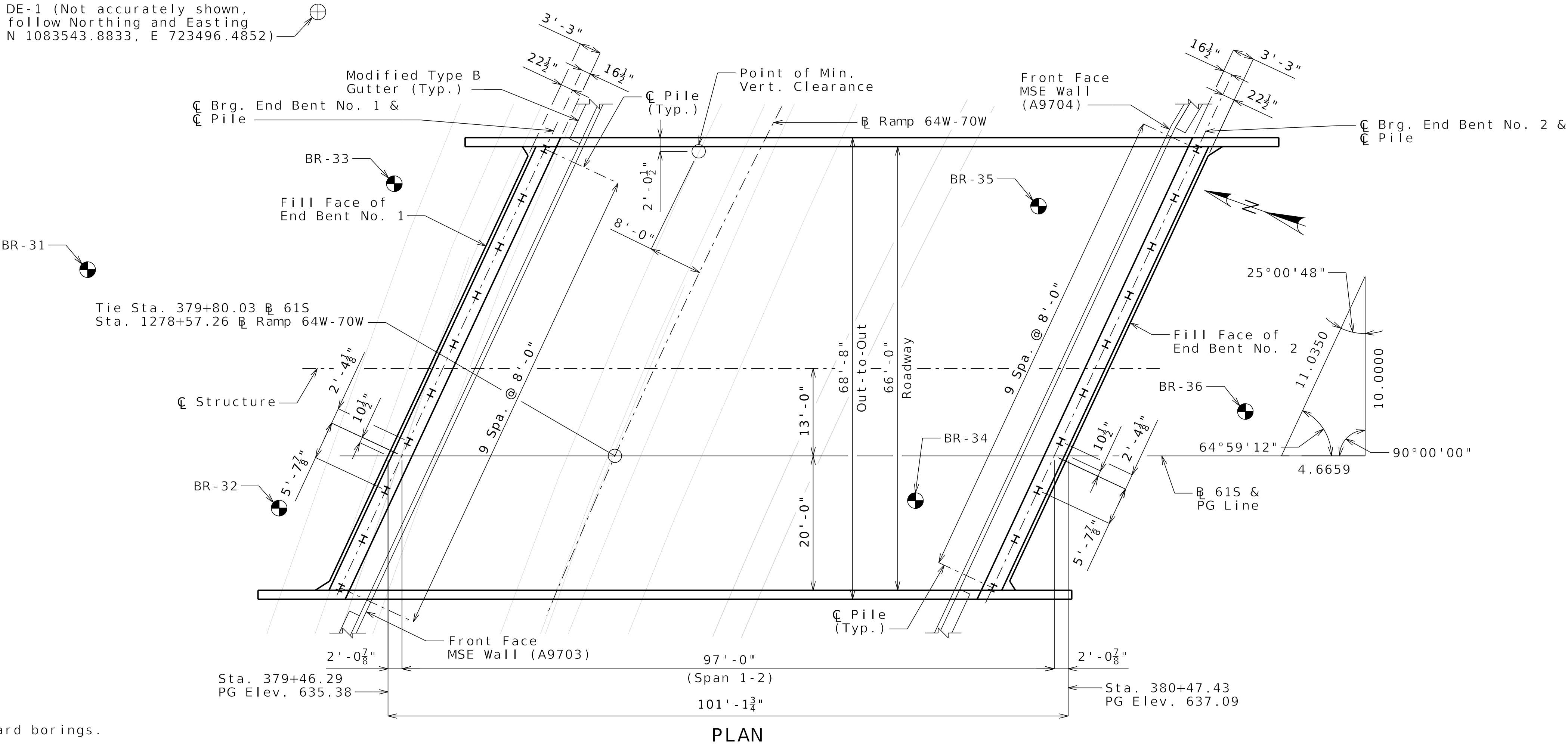
BRIDGE: 61S OVER RAMP 64W-70W

ROUTE 61 FROM ROUTE A TO ROUTE N
ABOUT 1.1 MILES SOUTH OF ROUTE A
BEGINNING STATION 379+46.29

(97') PRESTRESSED CONCRETE NU-GIRDER SPAN



GENERAL ELEVATION



Foundation Data			
Type	Design Data	Bent Number	
		1	2
Load Bearing Pile	Pile Type and Size	HP 12x53	HP 12x53
	Number	10	10
	Approximate Length Per Each	32	36
	Pile Point Reinforcement	All	All
	Min. Galvanized Penetration (Elev.)	Full Length	Full Length
	Pile Driving Verification Method	WEAP	WEAP
	Resistance Factor	0.5	0.5
	Minimum Nominal Axial Compressive Resistance	462	462

WEAP = Wave Equation Analysis of Piles

Load Bearing Piles:

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

Driven Piles:

Prebore for piles at end bents to elevations not less than 10 feet below bottom of MSE Wall leveling pad.

All piles shall be galvanized full length.

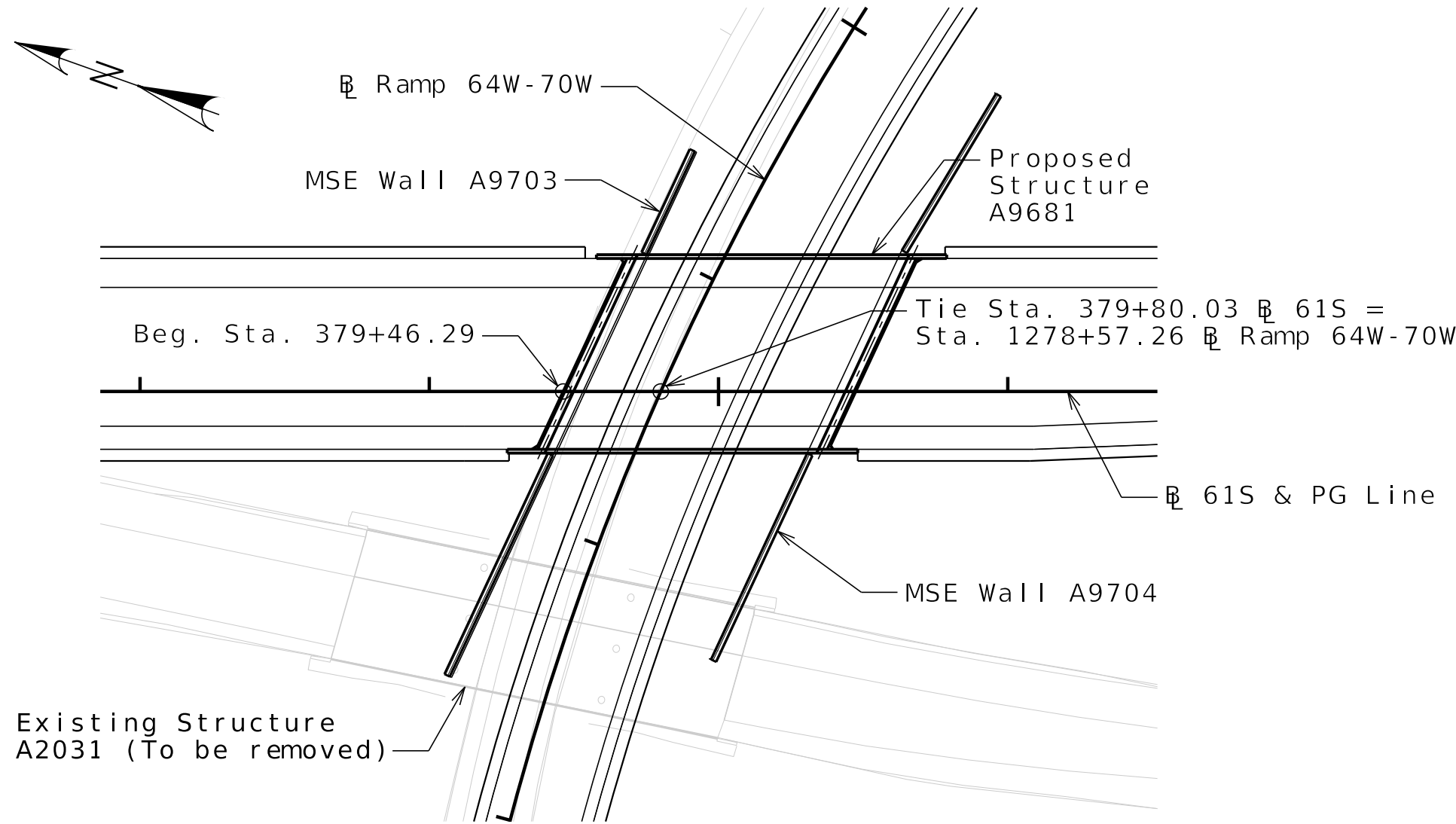
Manufactured pile point reinforcement shall be used on all piles in this structure.

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

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.



LOCATION SKETCH

General Notes:

Design Specifications:

2020 AASHTO LRFD Bridge Design Specifications (9th Ed.)
Seismic Design Category = A (Seismis Details plus Abutment Seismic Design)

Design Loading:

Vehicular = HL-93
Future Wearing Surface = 35 lb/sf (Min.)
Earth = 120 lb/cf
Equivalent Fluid Pressure = 45 lb/cf
Superstructure: Simply-Supported, Non-Composite for dead load.

Design Unit Stresses:

Class B Concrete (Substructure) f'c = 3,000 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 Sheet No. 11.

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.

All exposed substructure elements will contain epoxy coated reinforcing.

Traffic Handling:

Vertical Clearance for Ramp 64W-70W 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.

Structure to be closed during construction. Traffic to be maintained on other structures during construction. See Maintenance of Traffic Plans for traffic control.

Concrete Protective Coatings:

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

Miscellaneous:

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

Stay-In-Place 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.

Standard Plans:

609.00R
617.10N
706.35H

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PE-2000150018
PROFESSIONAL ENGINEER

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JOB NO.
JST0020

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
A9681

DESCRIPTION

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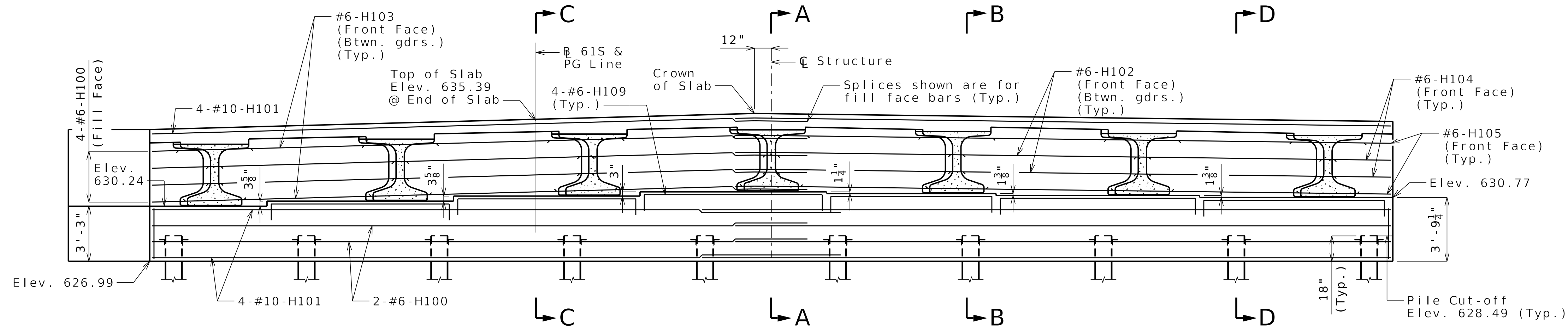
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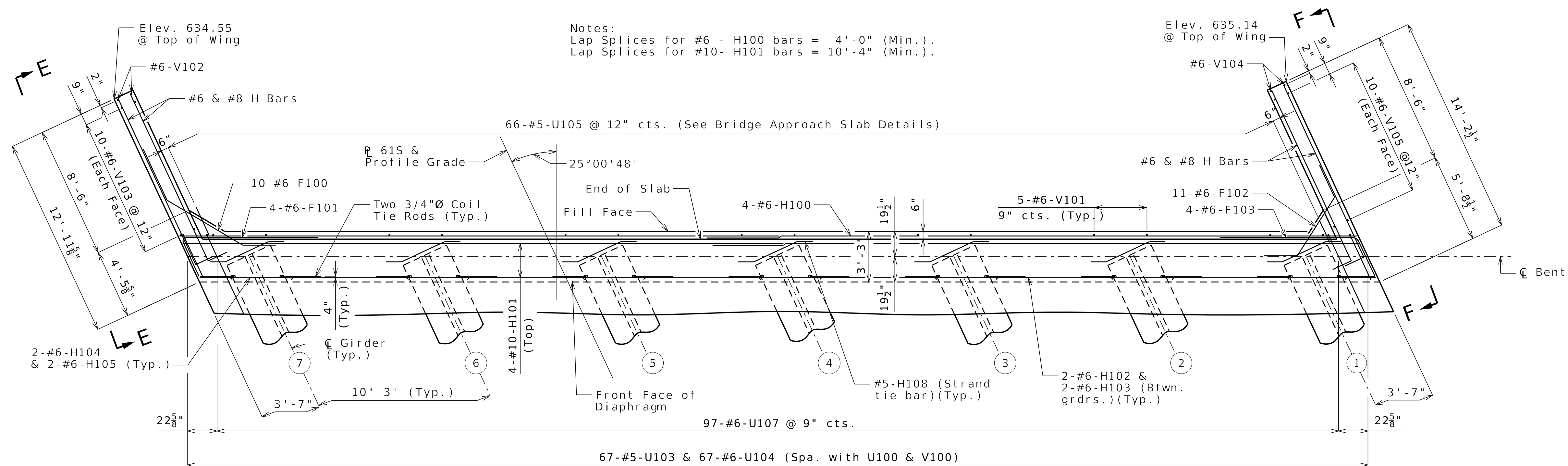
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SECTION NEAR END BENT



PART PLAN

(Keys not shown for clarity.)

General Notes:

Work this sheet with Sheets No. 4 & 6.

For Sections A-A, B-B, C-C & D-D and Elevations E-E & F-F, see Sheet No. 6.

The #6-F100 and #6-F102 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 on field to maintain 1 1/2-inch minimum clearance to fill face of end bent.

For location of coil tie rods and #5-H108 (strand tie bar), see Sheet No. 11.

For details of vertical drain at end bents, see Sheet No. 7.

For details of bridge approach slab, see Sheet No. 17.



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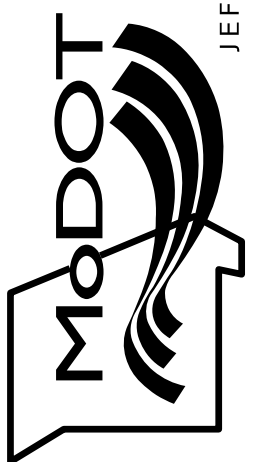
10. *Journal of the American Medical Association*, 2000; 284: 1039-1044.

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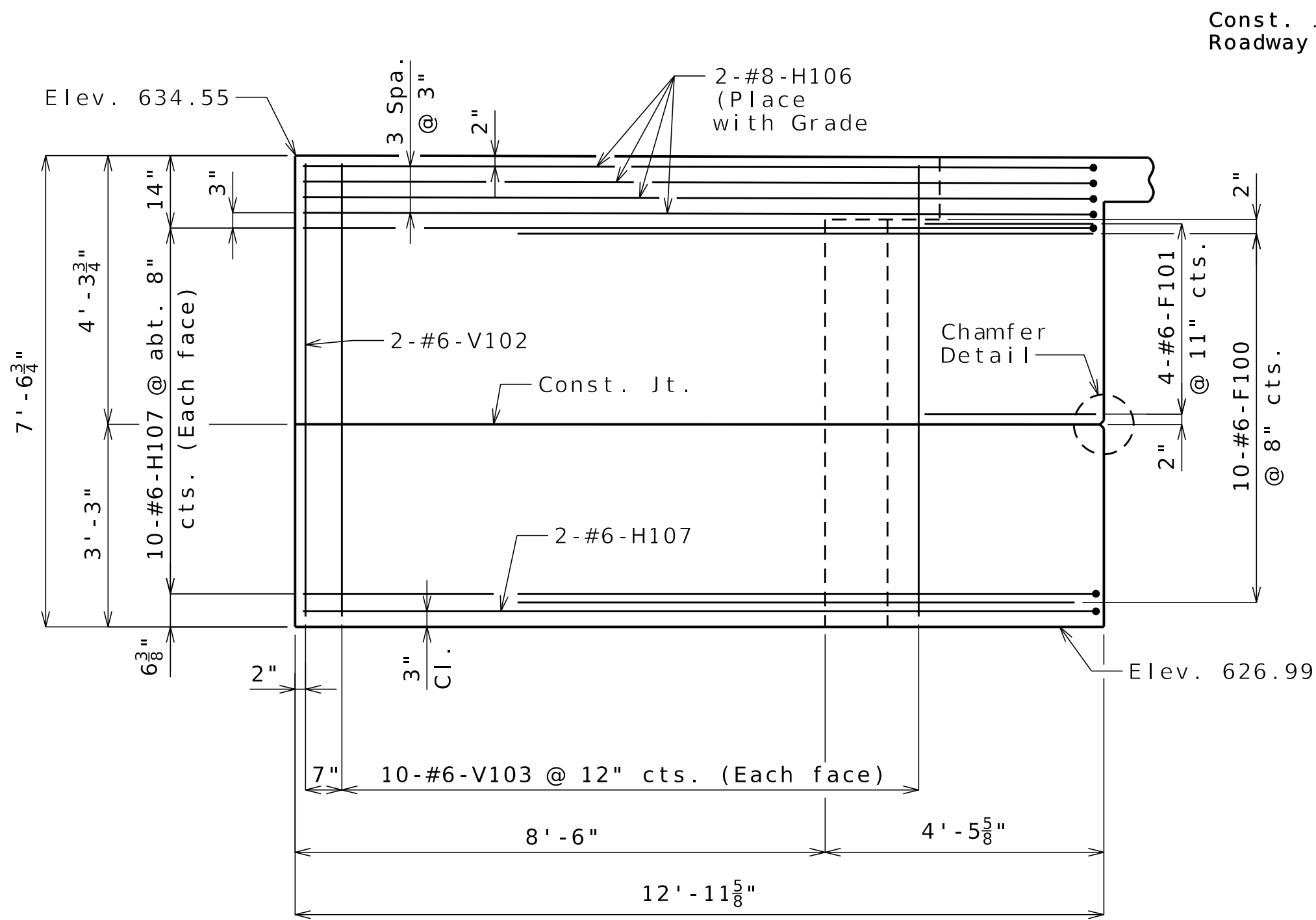
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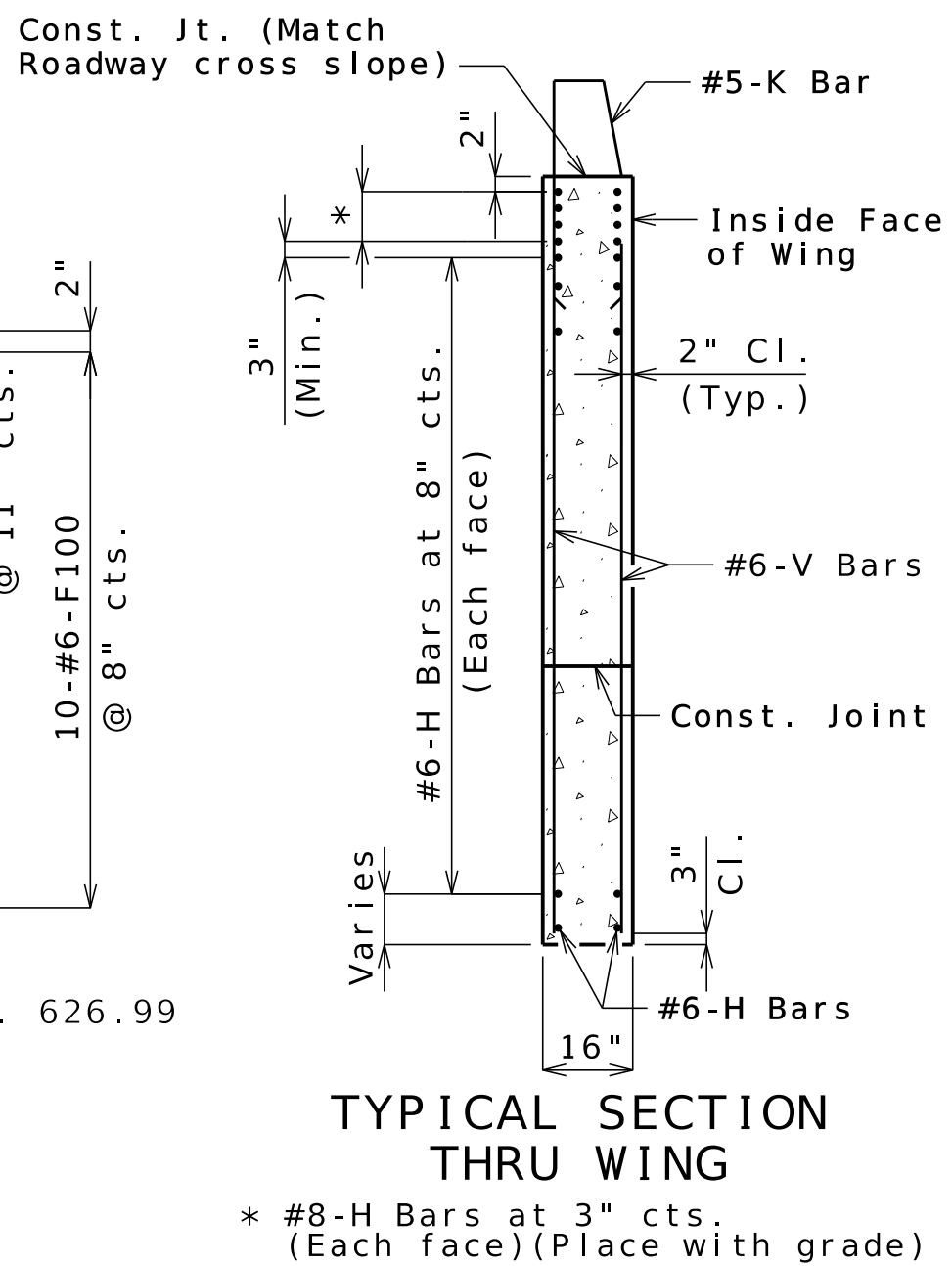


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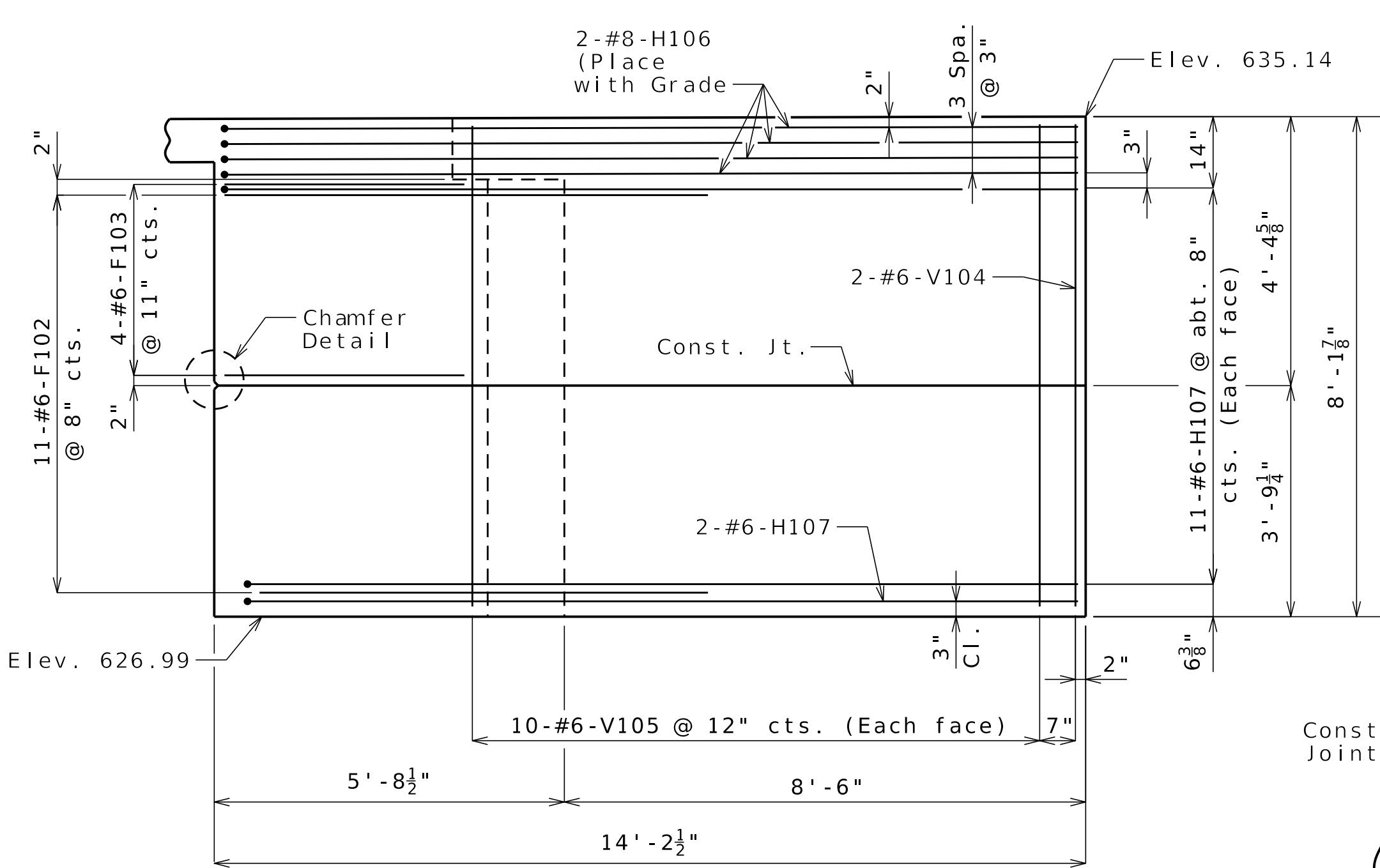
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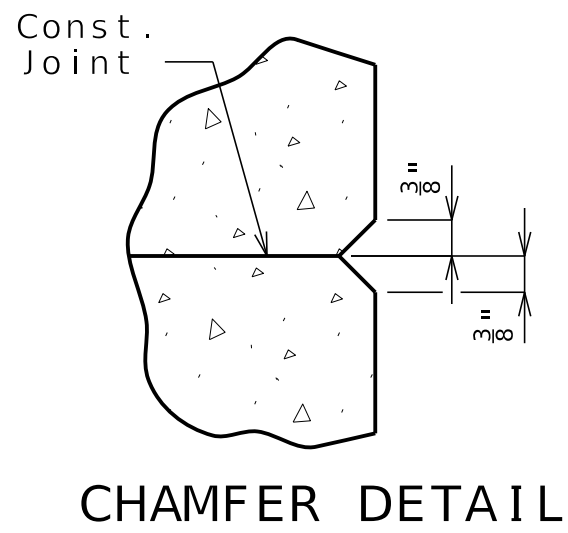
ELEVATION E-E



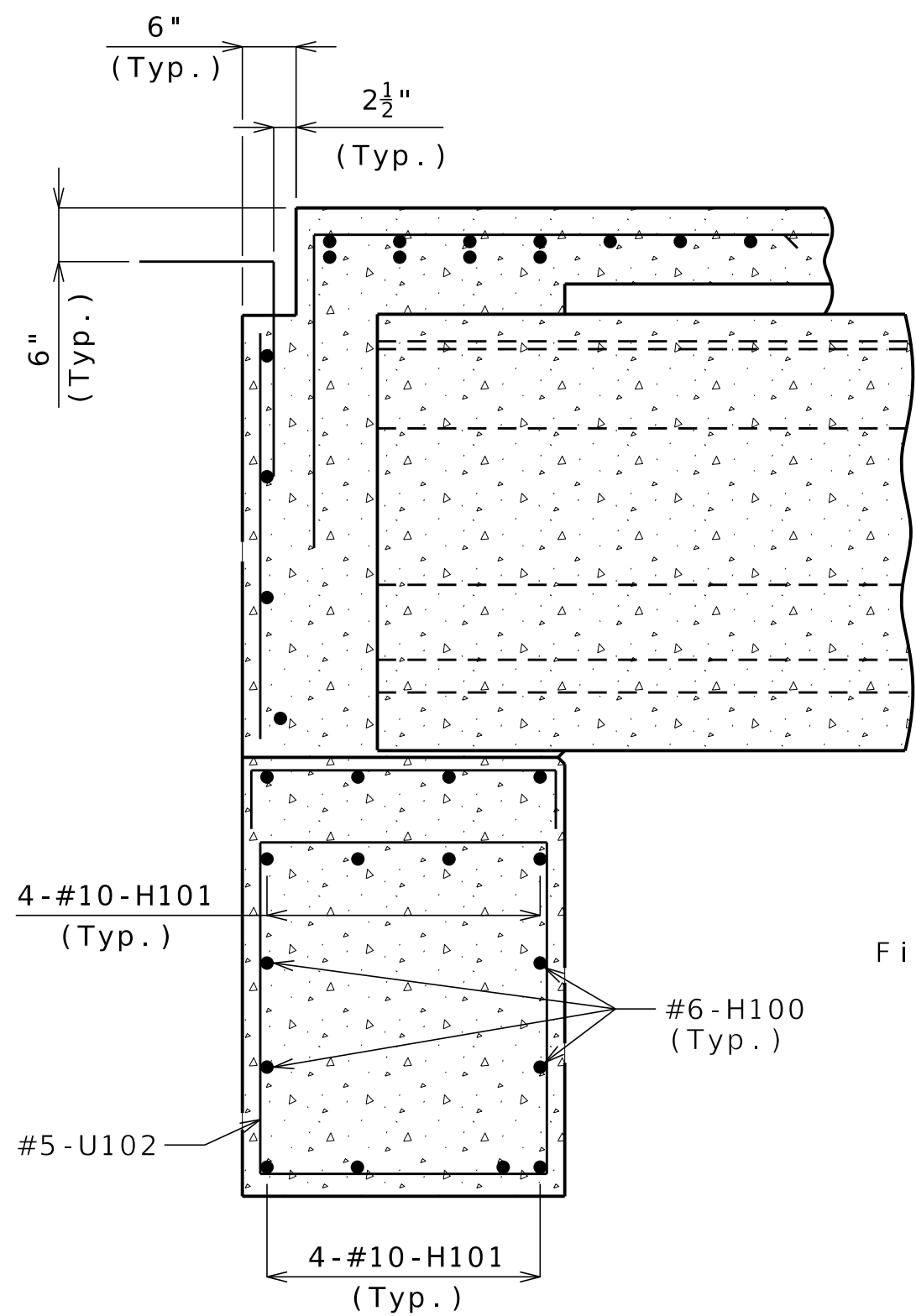
TYPICAL SECTION THRU WING



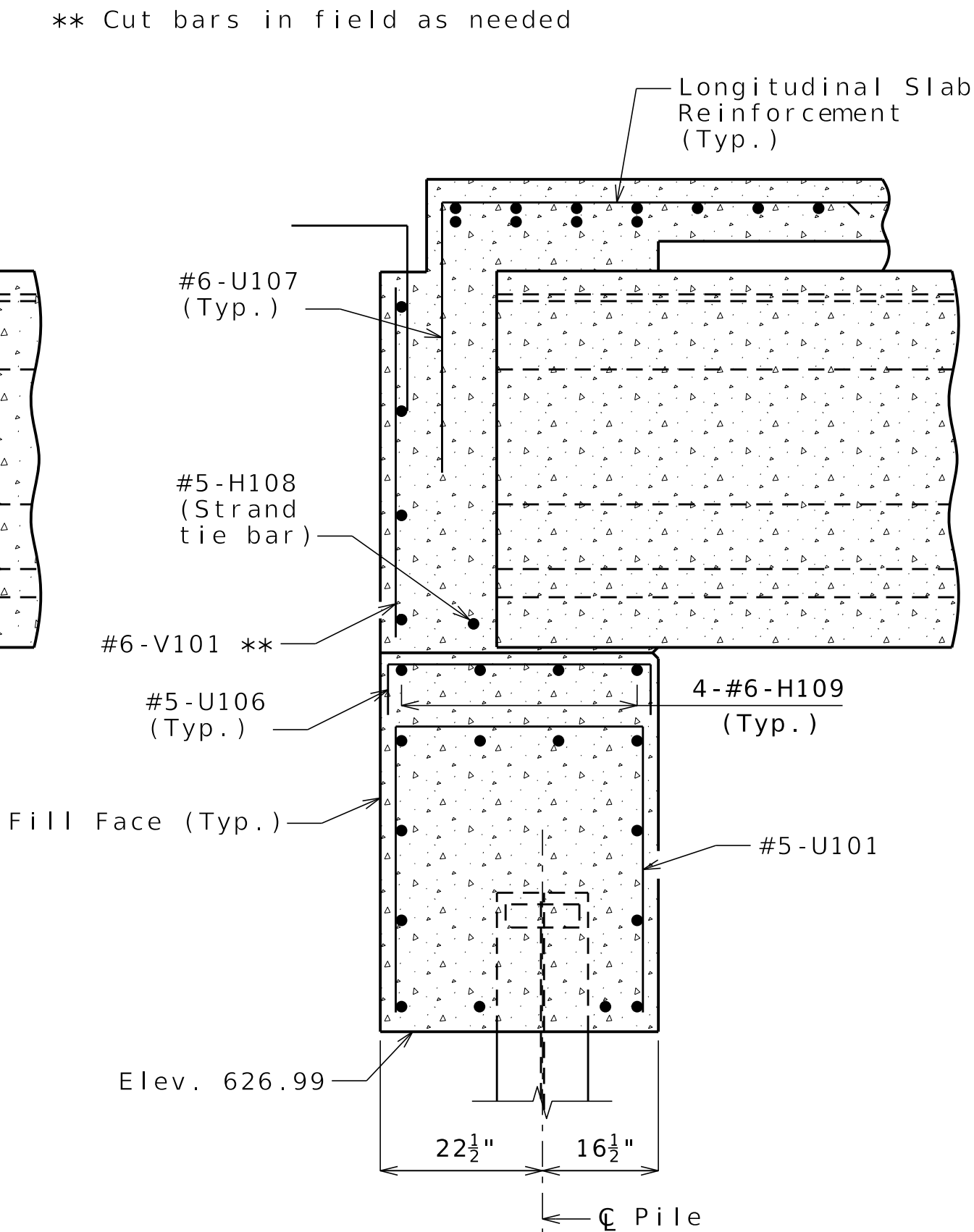
ELEVATION F-F



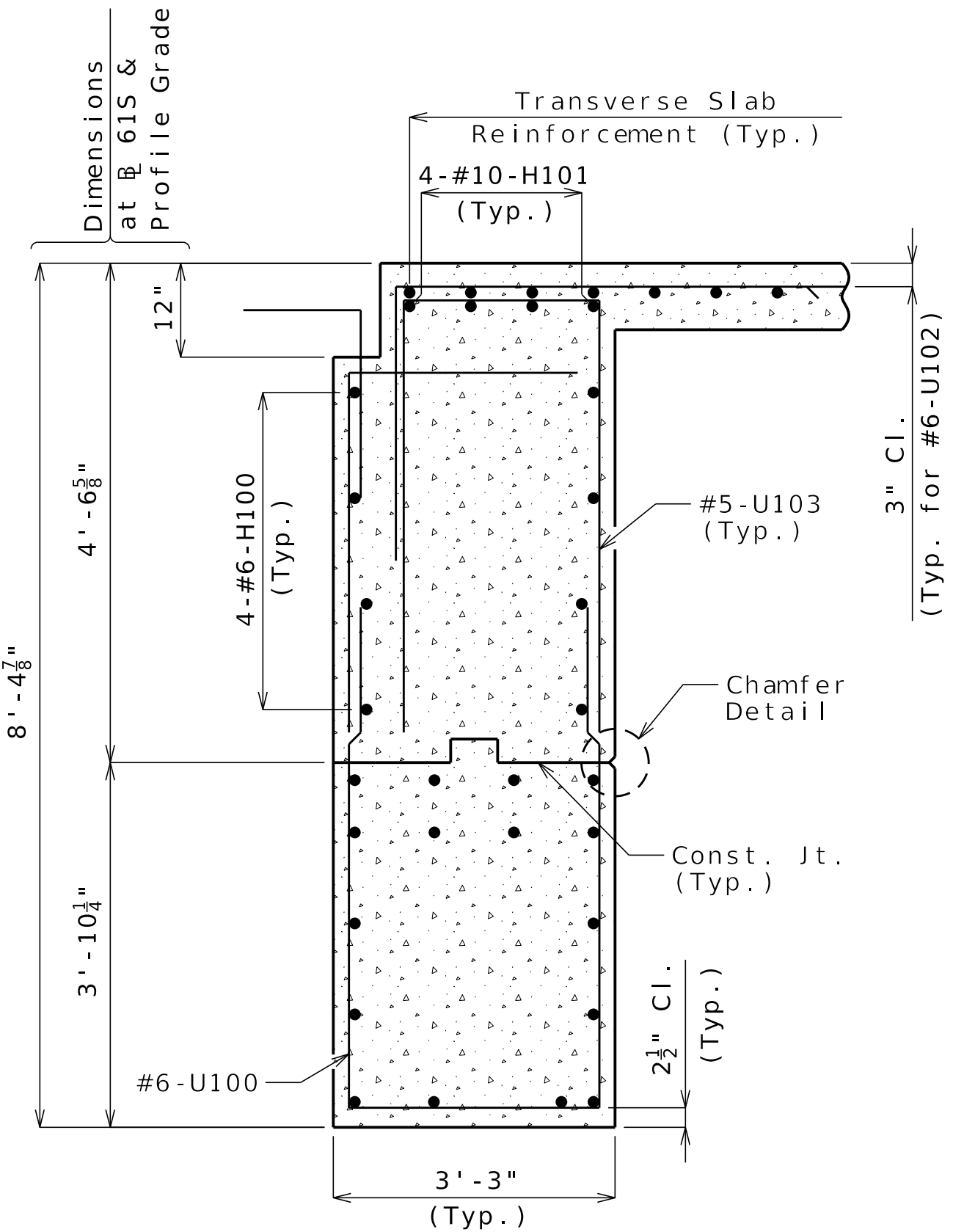
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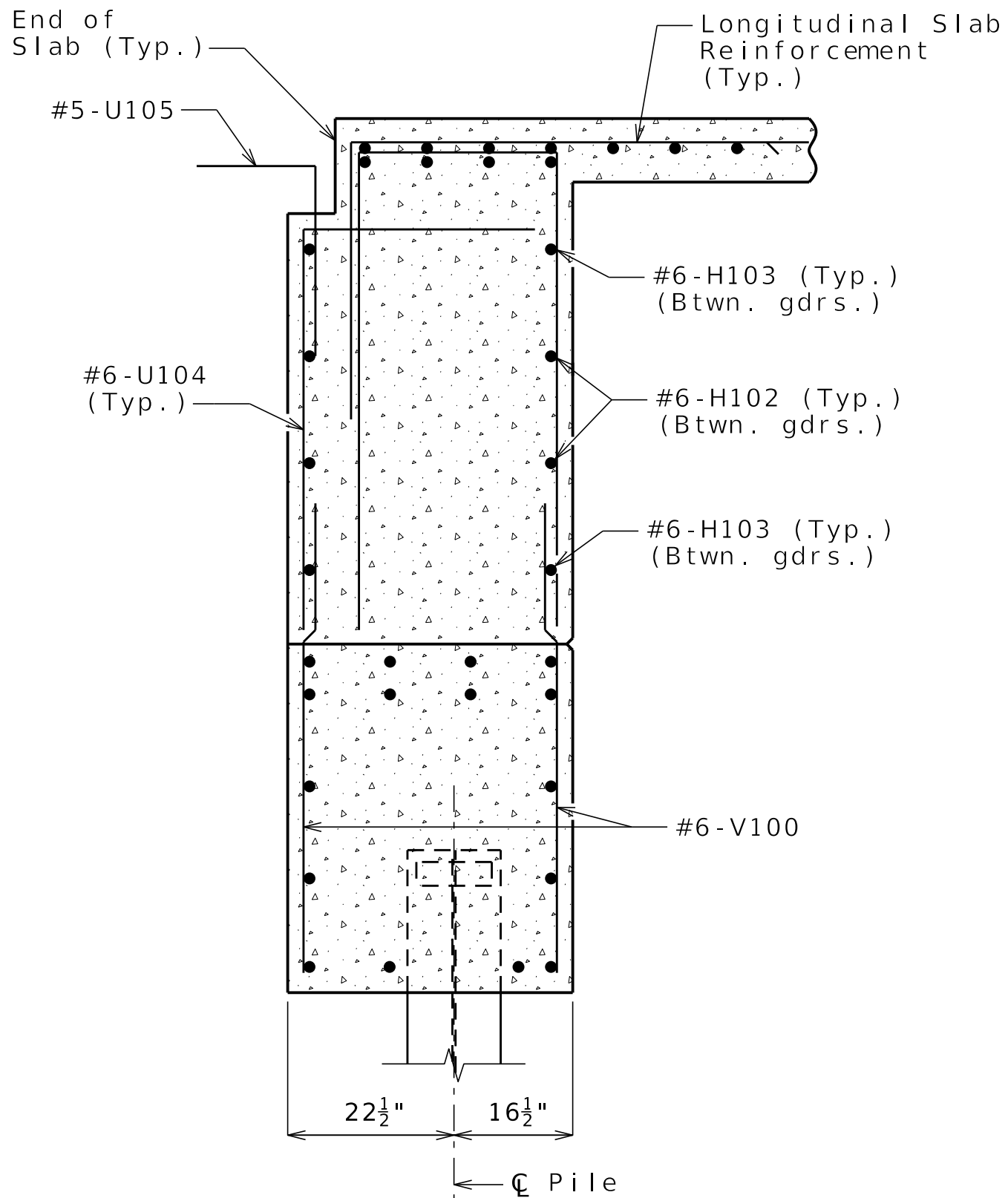
SECTION A-A



SECTION B-B



SECTION C-C



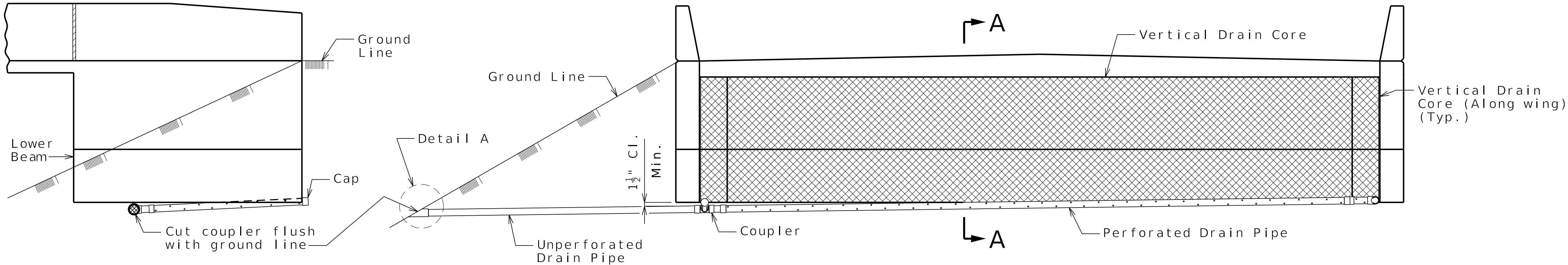
SECTION D-D

General Notes:
Work this sheet with Sheets No. 4 & 5.
For reinforcement of the barrier, see Sheet No. 16.

DETAILS OF END BENT NO. 1

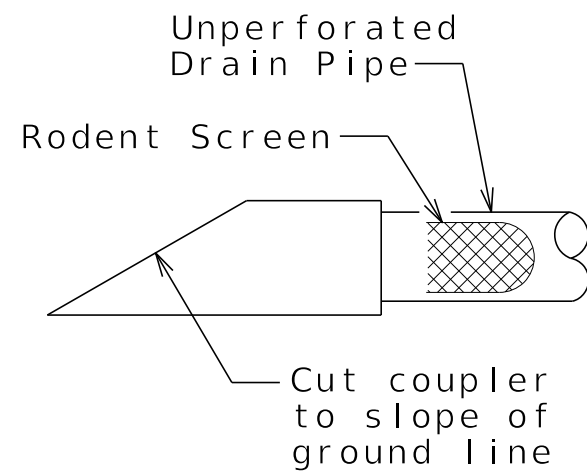
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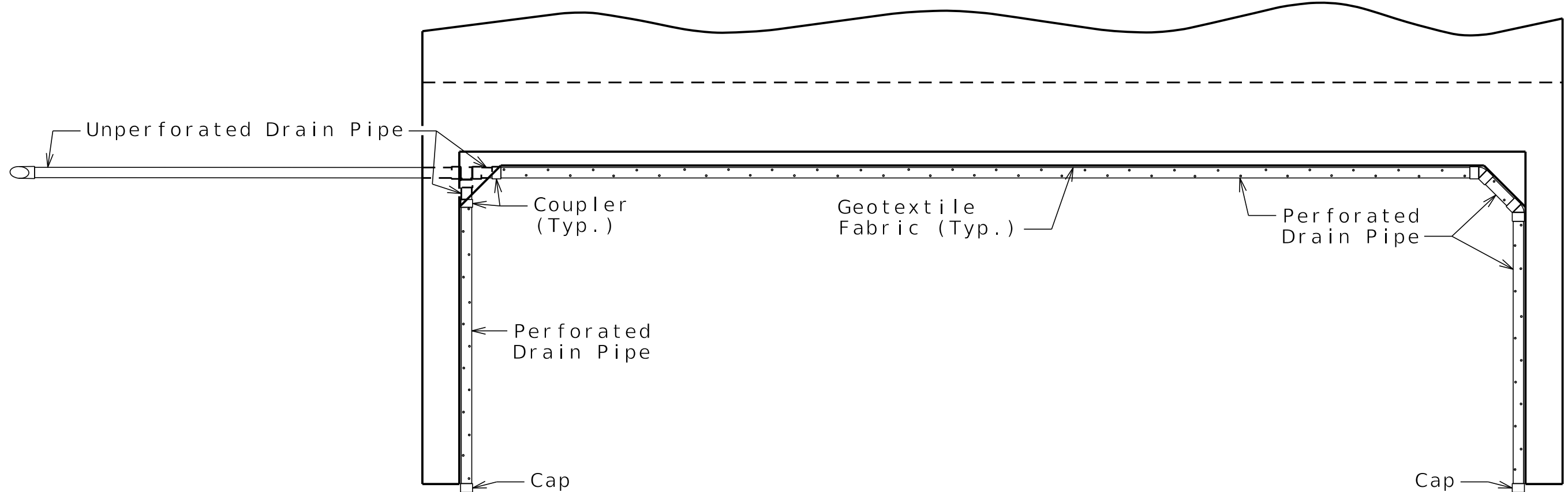


ELEVATION OF WING

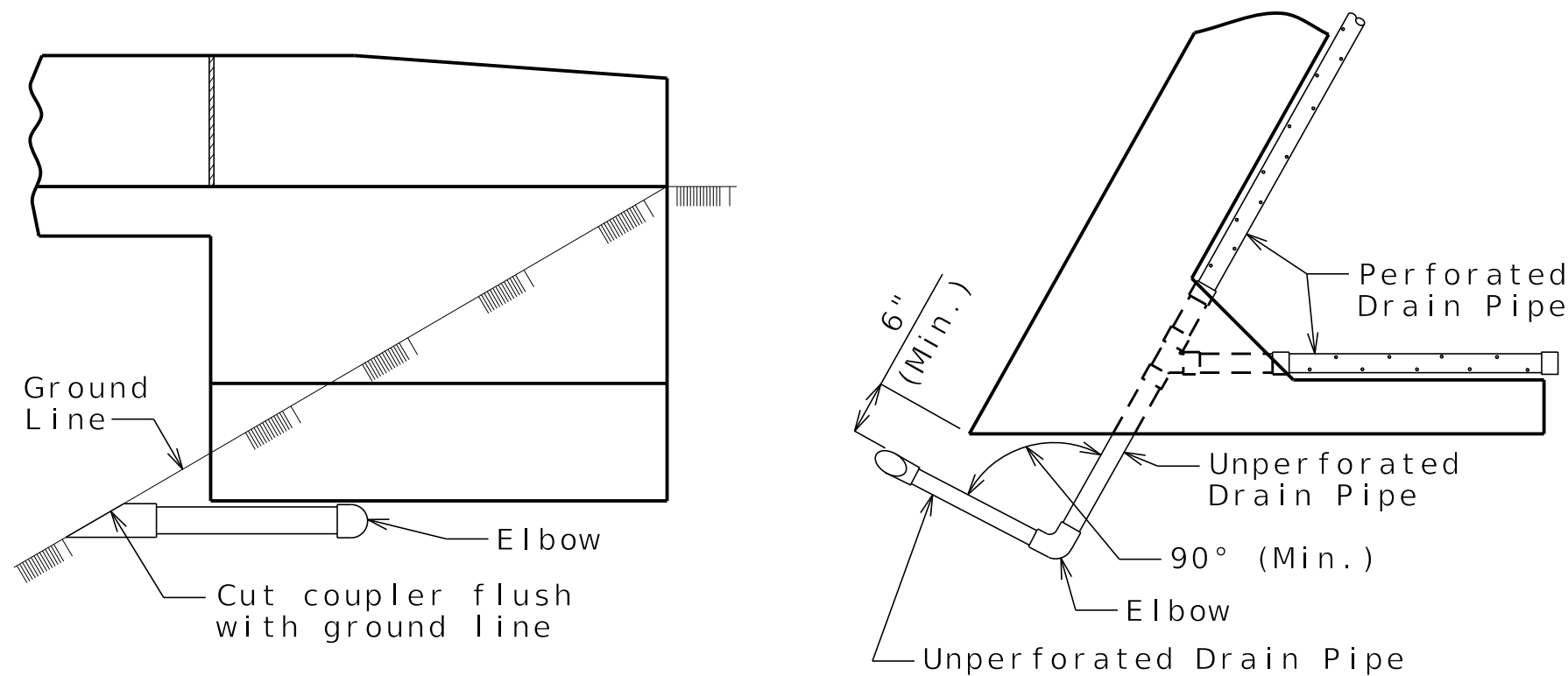
ELEVATION OF END BENT



DETAIL A



PLAN OF END BENT

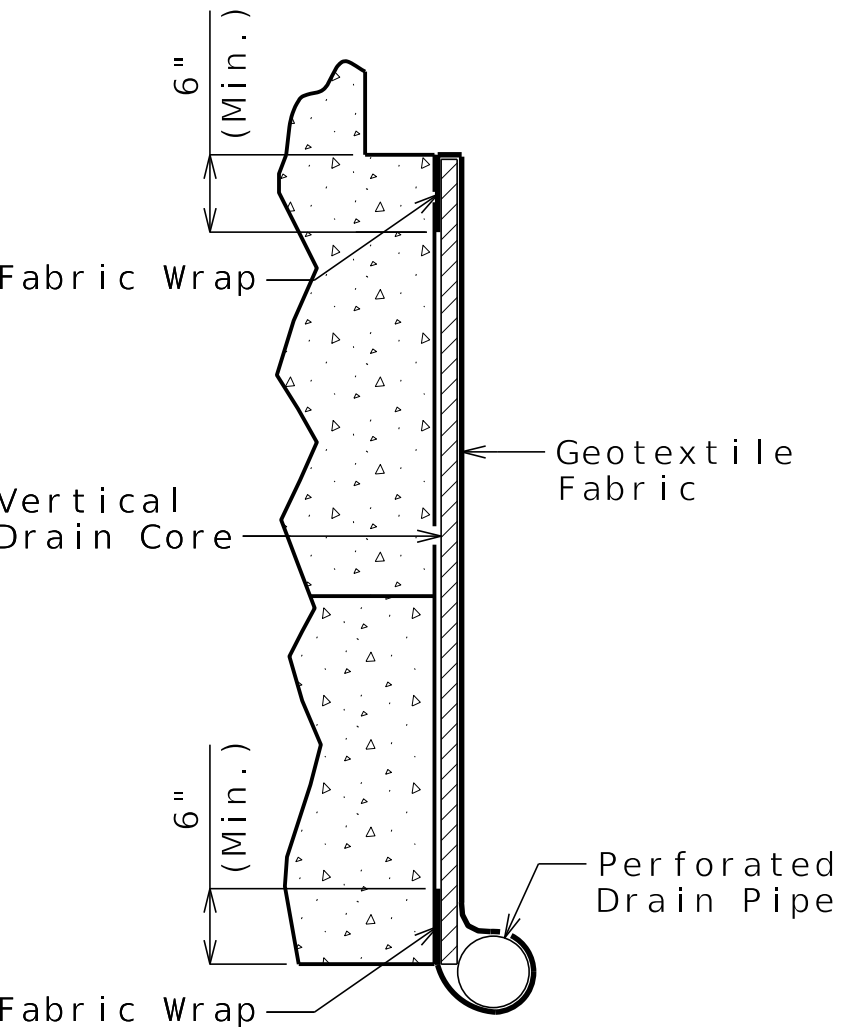


ELEVATION OF WING

PART PLAN

OPTIONAL TURNED DRAIN

(Use only when straight drain is not practical.)



PART SECTION A-A
(Section thru wing similar)

General Notes:

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.



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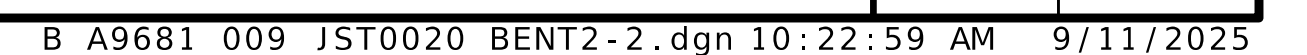
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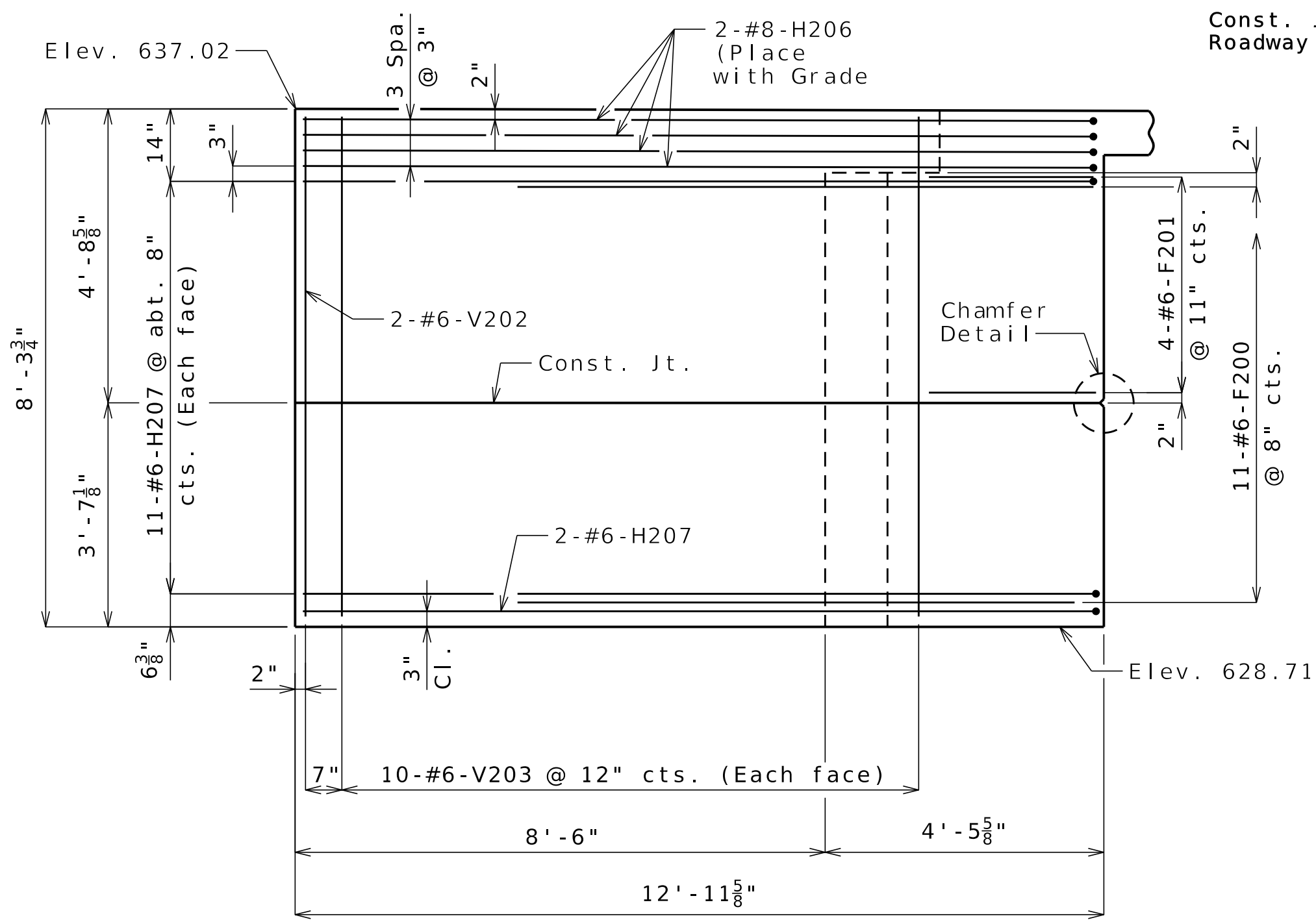
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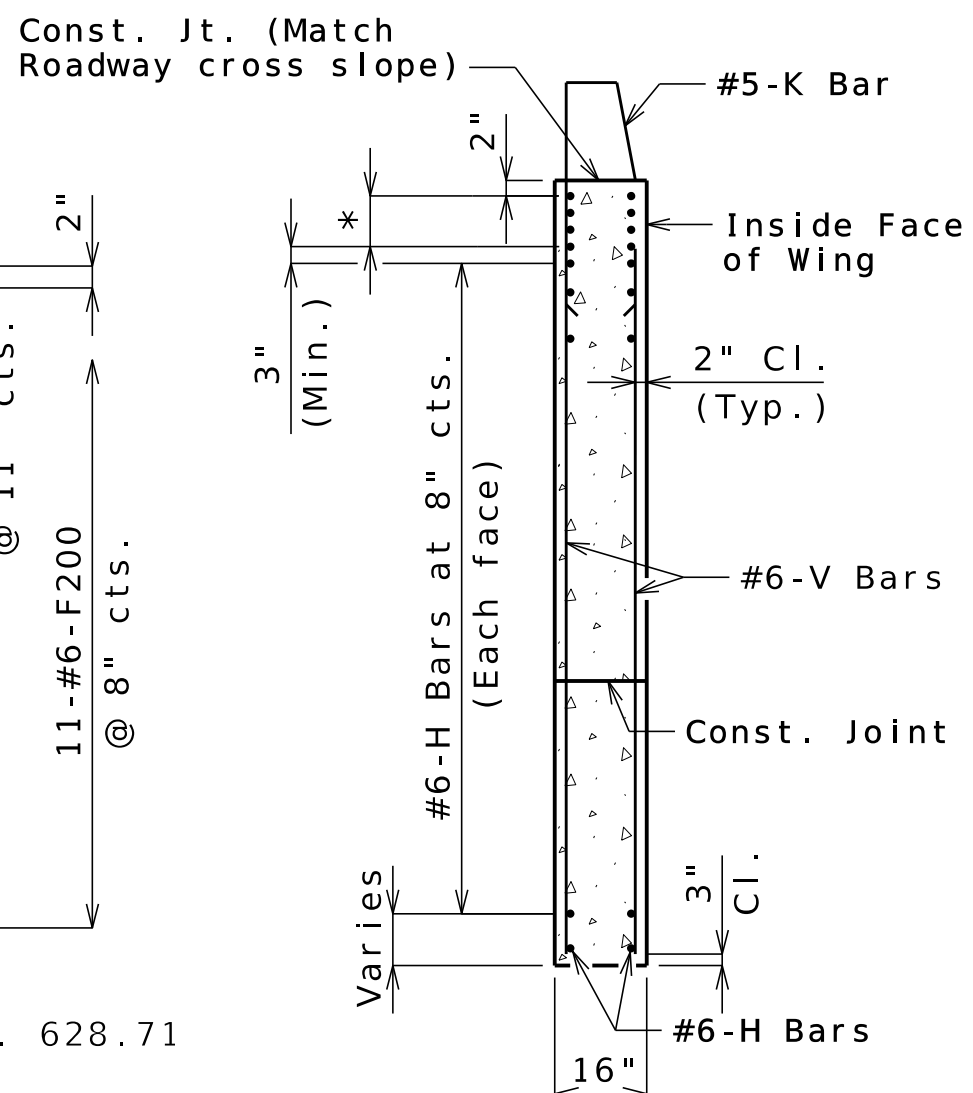
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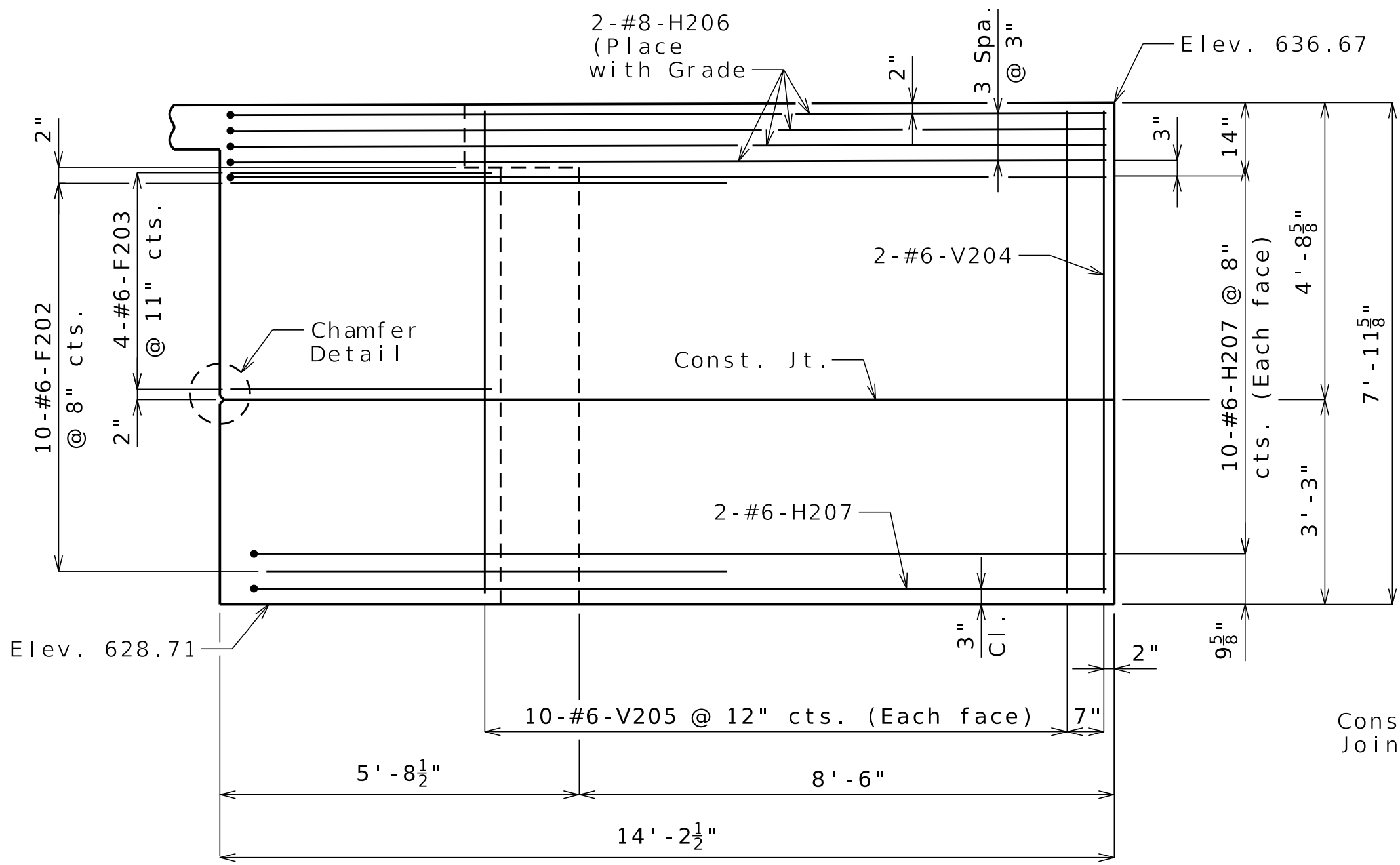


ELEVATION E-E

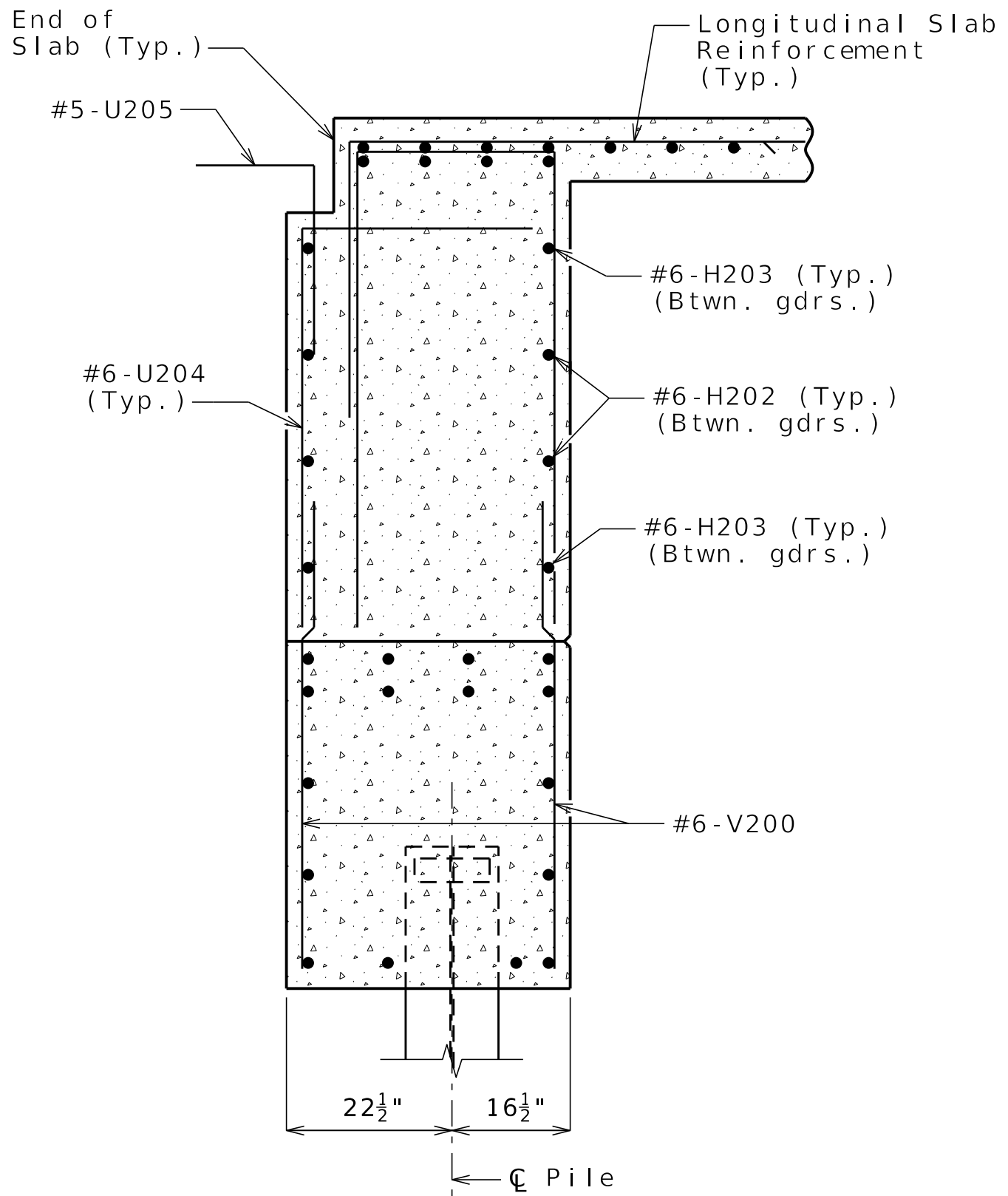
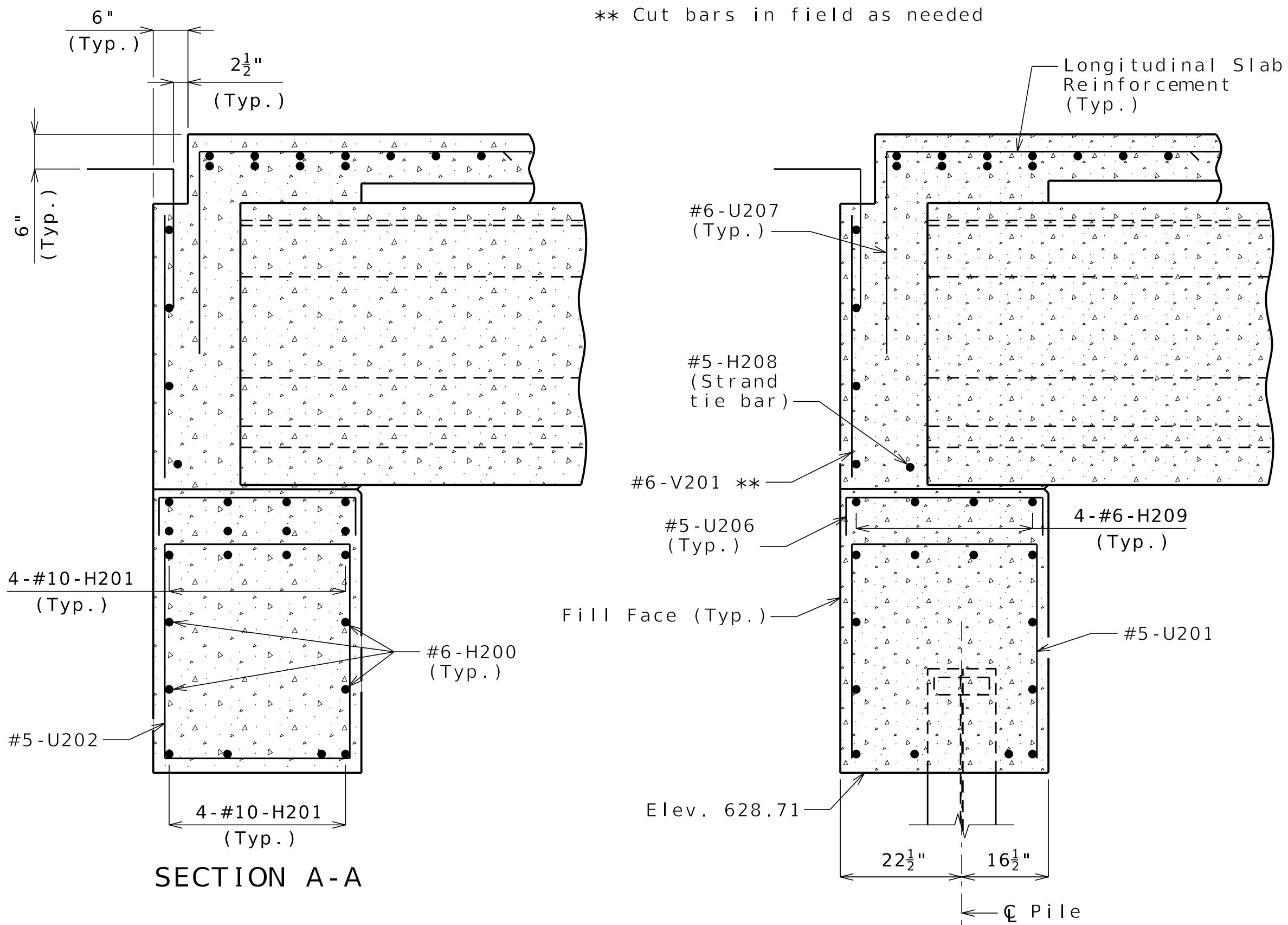
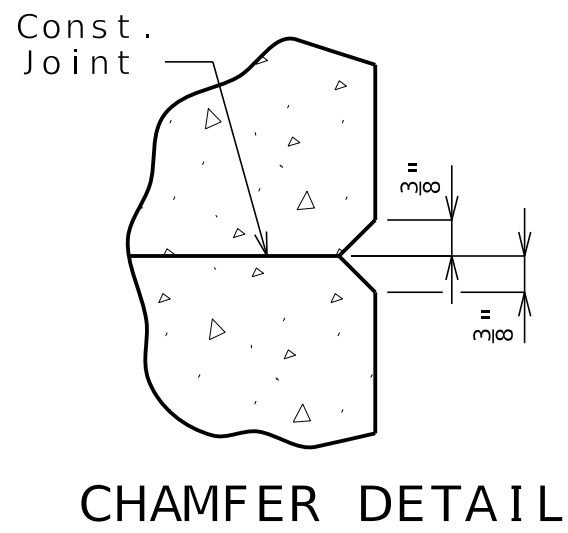


TYPICAL SECTION THRU WING

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



ELEVATION F-F



General Notes:

Work this sheet with Sheets No. 8 & 9.

For reinforcement of the barrier, see Sheet No. 16.

DETAILS OF END BENT NO. 2

Detailed SEP 2025
Checked SEP 2025

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

Sheet 10 of 24

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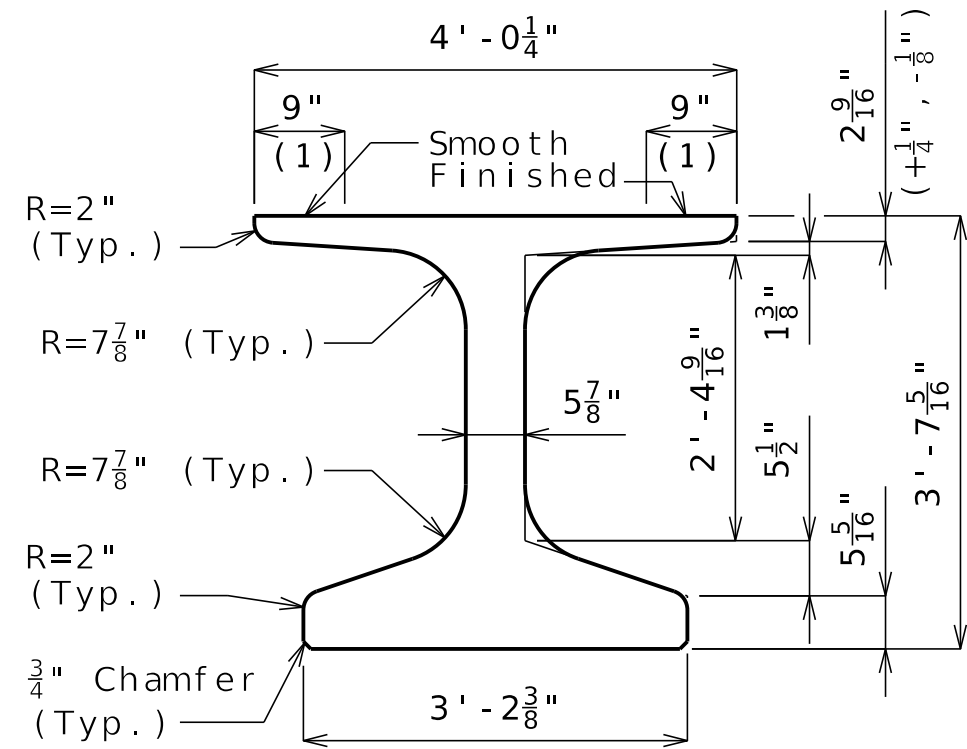
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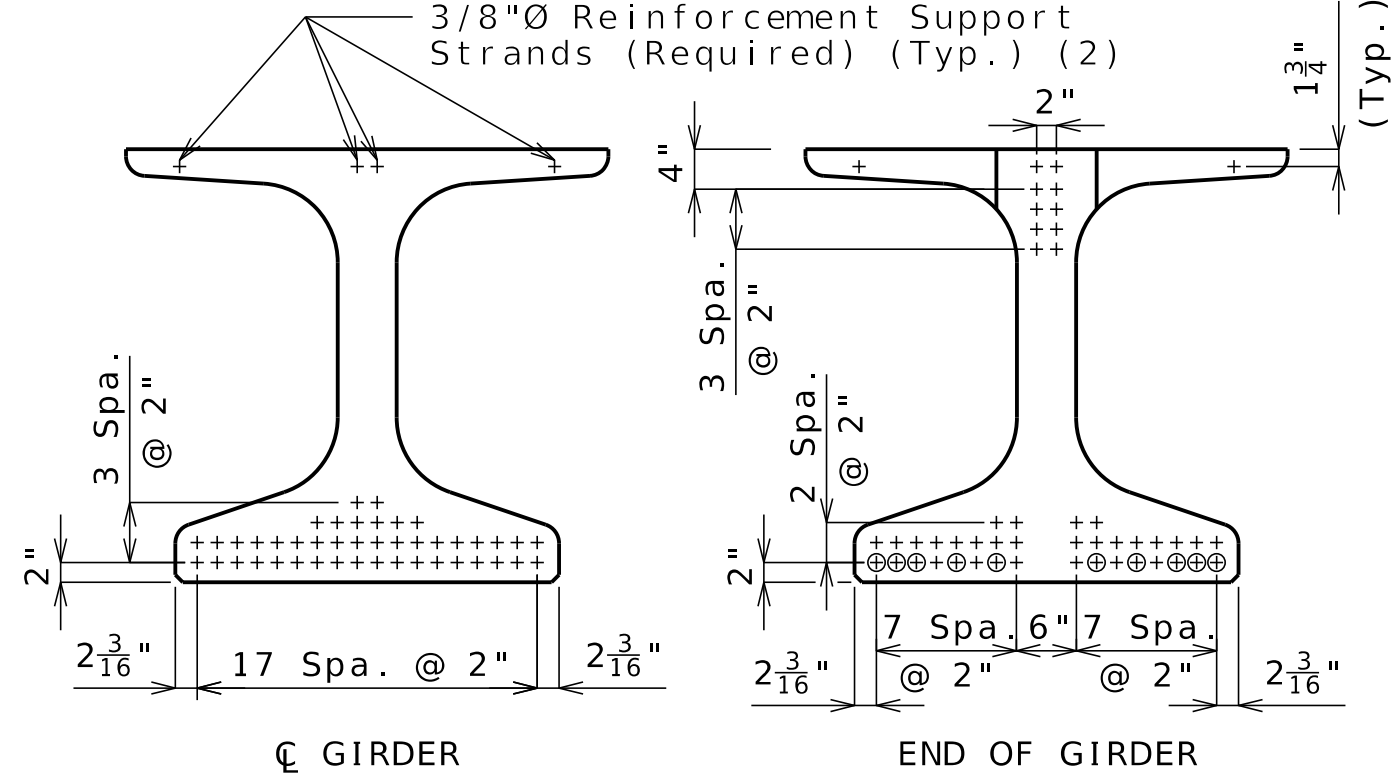
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(1) Fabricator shall apply a bond breaker to this region.

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



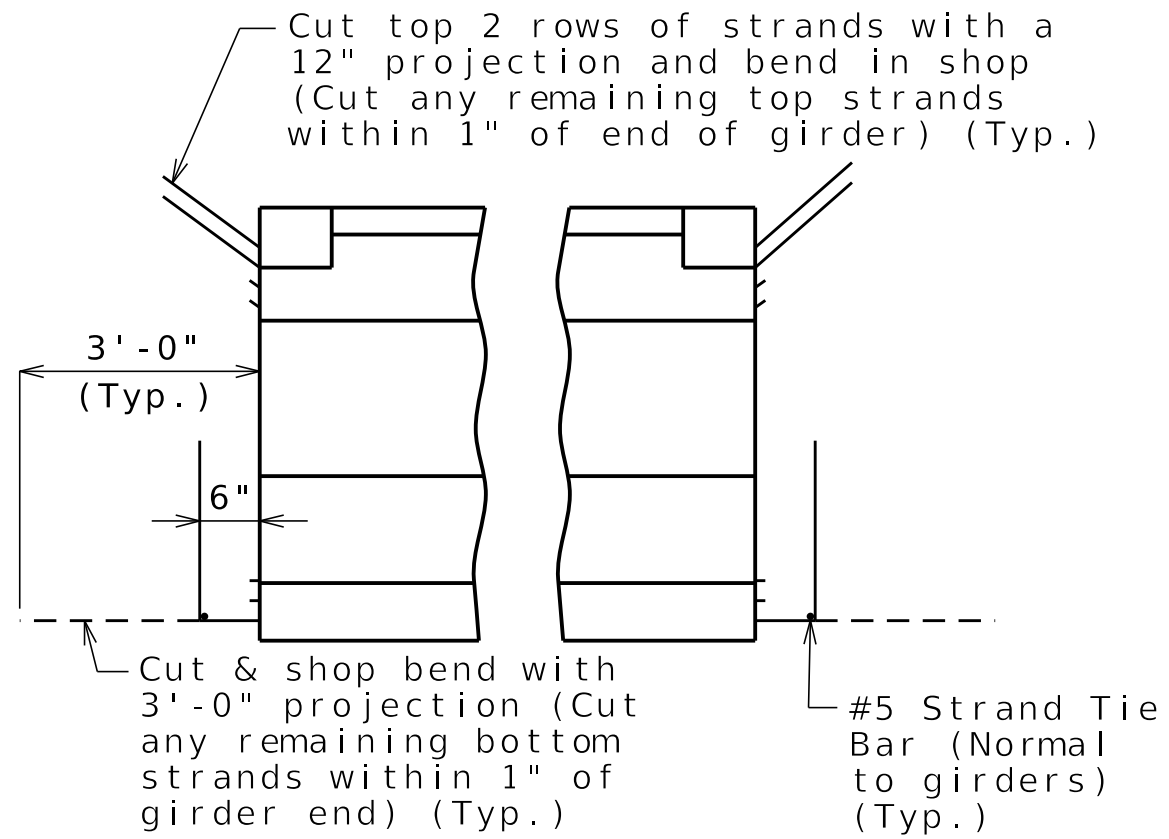
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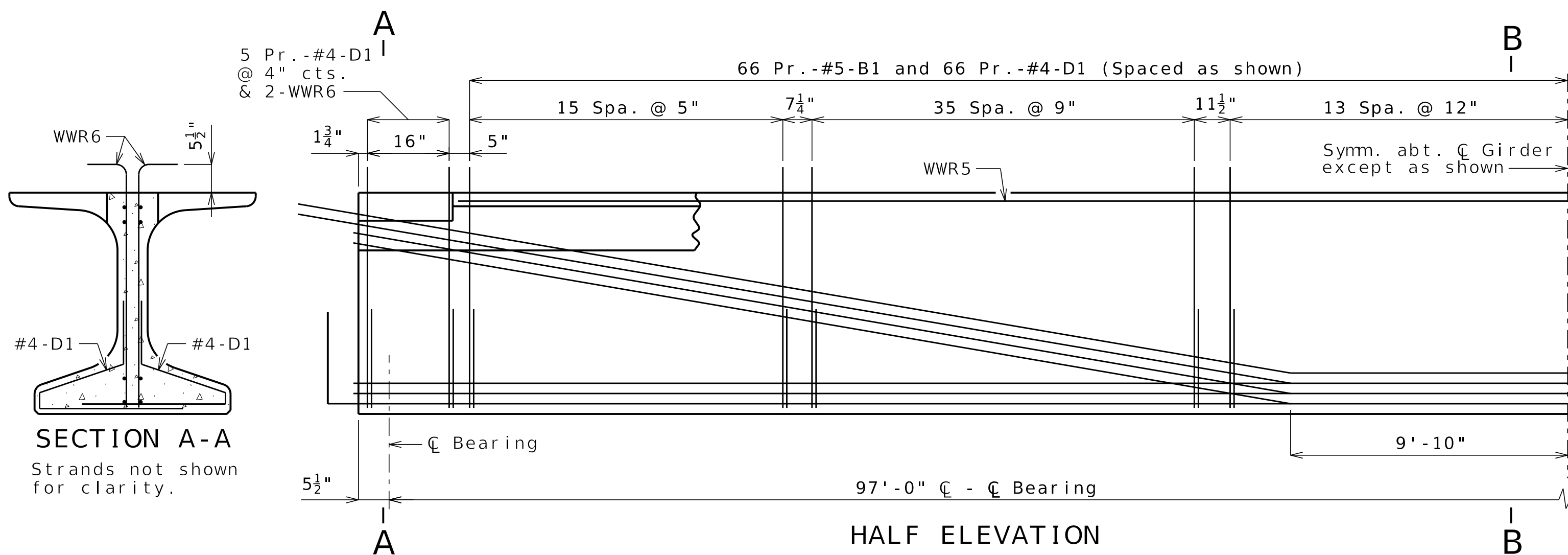
STRAND ARRANGEMENT

+ Indicates
prestressing strand.

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

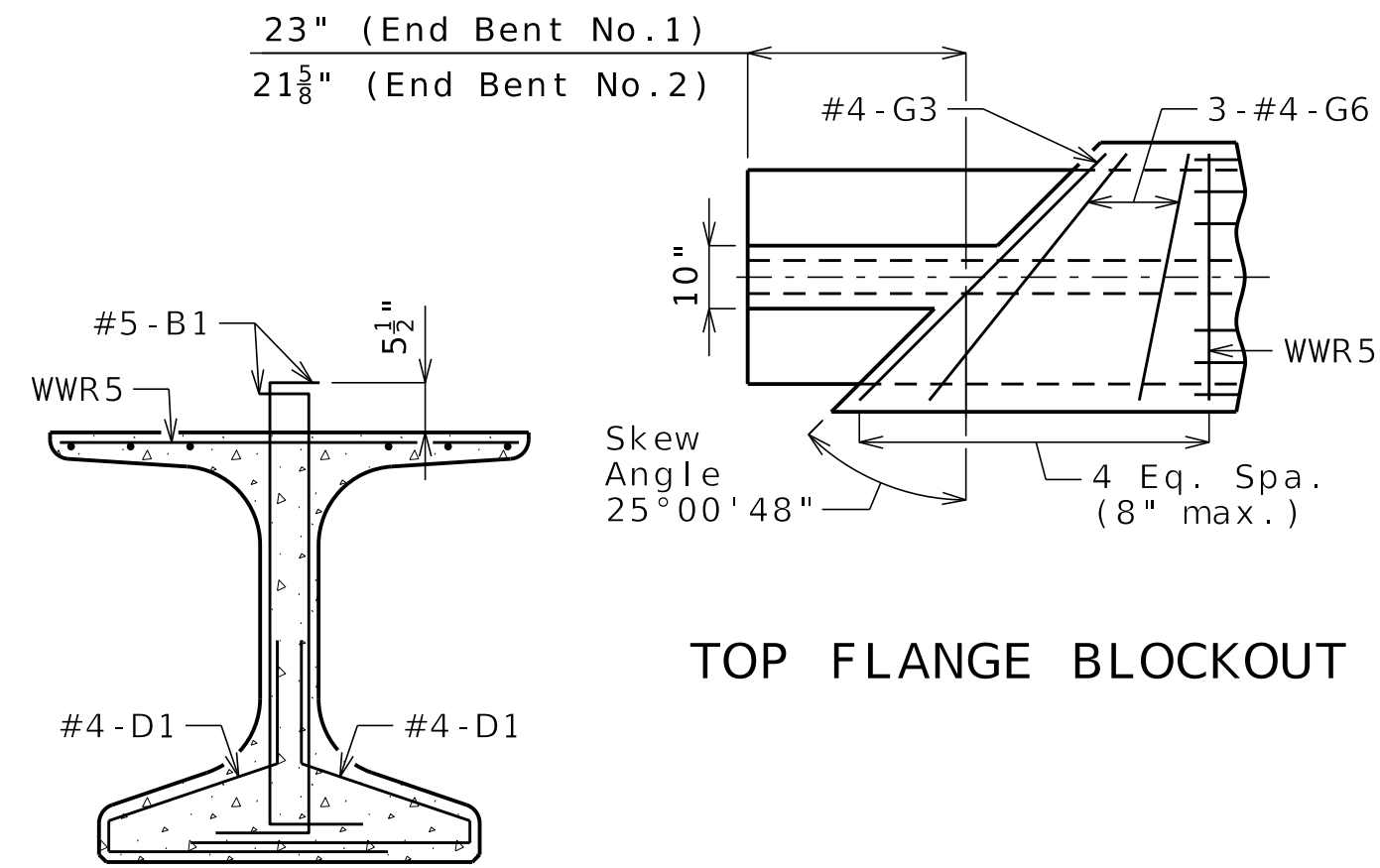


STRANDS AT GIRDER ENDS



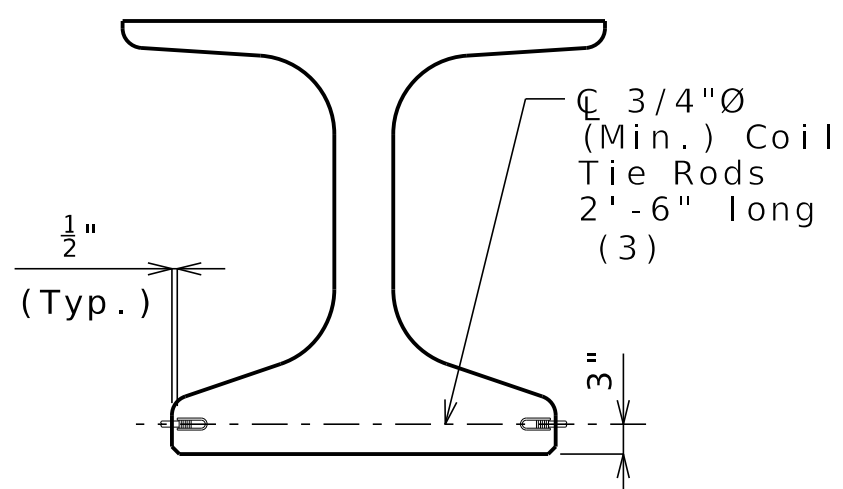
HALF ELEVATION

Reinforcement support strands not shown for clarity.
Exterior and interior girders are the same.



SECTION B-B

Strands not shown
for clarity.

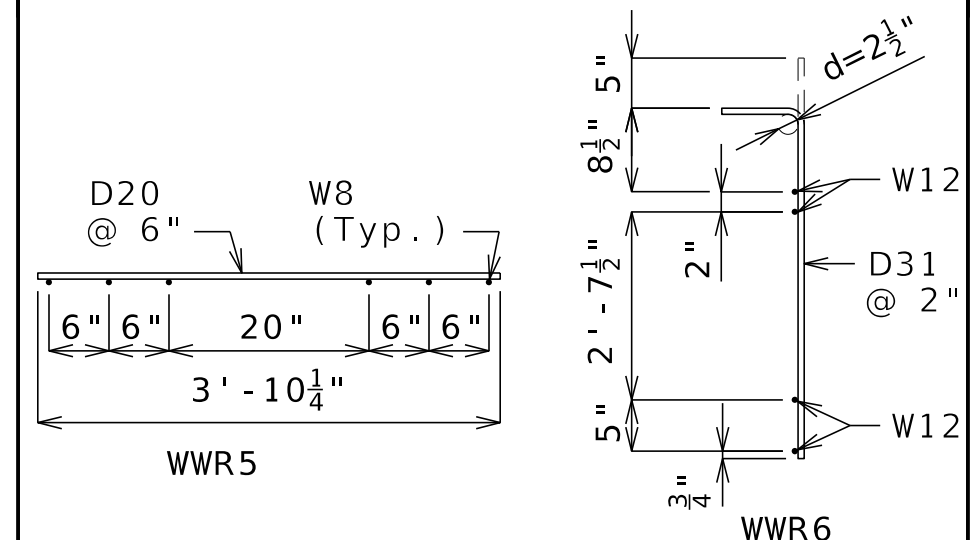


COIL TIES

(3) 2'-0" at exterior face of exterior girders

[illegible]

Welded Wire Reinforcement - Each Girder



All dimensions are out to out.

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

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

Minimum clearance to reinforcing shall be one inch.

All bar reinforcement shall be Grade 60.

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

All B1 bars shall be epoxy coated.

General Notes:

Concrete for prestressed girders shall be Class A-1 with $f'_c = 9000$ psi and $f'_{ci} = 7000$ psi.

Use 44 strands, 0.6"Ø Grade 270, with an initial prestress force of 1933 kips.

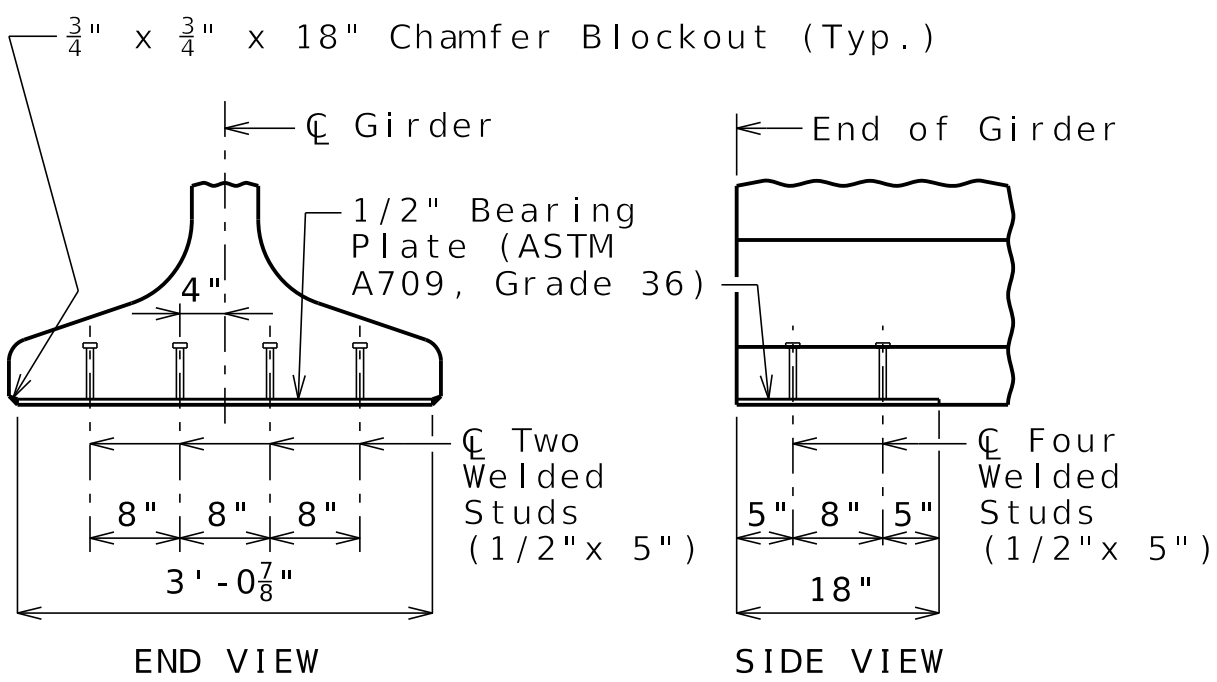
Pretensioned members shall be in accordance with Sec 1029.

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

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

For Girder Camber Diagram, see Sheet
No. 12.

For location of coil ties at integral bents, see Sheets No. 5 and 9.



BEARING PLATE

Detailed SEP 2025
Checked SEP 2025

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

Sheet 11 of 24

NU-GIRDERS - SPAN (1-2)

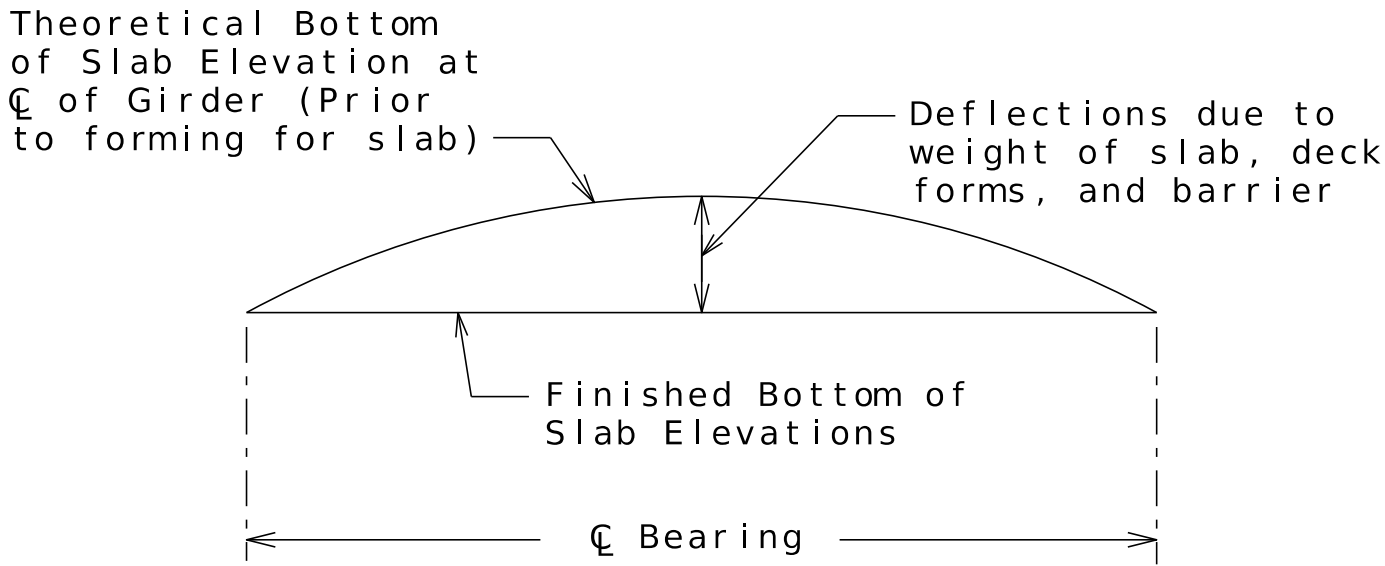
B A9681 012 JST0020 GIRELEV1-2.dgn 10:23:04 AM 9/11/2025



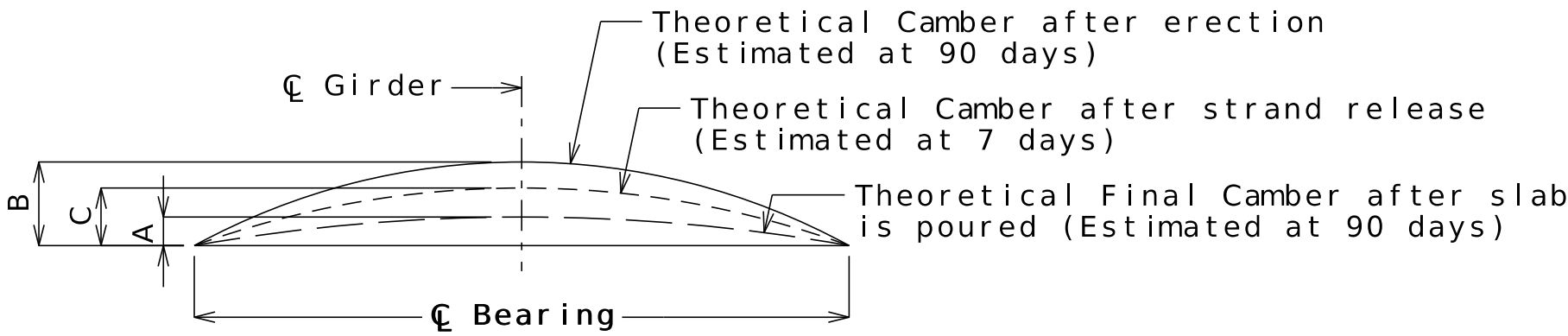
THEORETICAL SLAB HAUNCHING DIAGRAM (ESTIMATED AT 90 DAYS)

Theoretical Bottom of Slab Elevations at Centerline of Girder (Prior to forming for slab) (Estimated at 90 days)											
Girder Number	Span (1-2) (97'-0" CL Brg. - CL Brg.)										
	CL Brg.	.10	.20	.30	.40	.50	.60	.70	.80	.90	CL Brg.
1	634.72	634.96	635.18	635.39	635.58	635.74	635.88	635.99	636.09	636.16	636.22
2	634.83	635.08	635.32	635.54	635.73	635.90	636.04	636.15	636.24	636.31	636.37
3	634.94	635.20	635.44	635.66	635.85	636.03	636.17	636.29	636.38	636.45	636.51
4	635.05	635.31	635.55	635.77	635.97	636.15	636.29	636.41	636.51	636.59	636.65
5	634.80	635.05	635.30	635.53	635.73	635.91	636.06	636.18	636.28	636.36	636.43
6	634.49	634.76	635.01	635.24	635.44	635.62	635.77	635.90	636.00	636.09	636.16
7	634.19	634.45	634.69	634.92	635.13	635.31	635.46	635.60	635.71	635.80	635.88

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 (1-2)		
	A	B	C
Exterior	3 1/4"	5 3/8"	3 7/8"
Interior	2 5/8"		

GIRDER CAMBER DIAGRAM

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

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

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, an increase in slab thickness or a raise in grade uniformly throughout the structure shall be necessary. The haunch shall be limited to ensure the projecting girder reinforcement is embedded into the slab at least 2 inches.

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David J. Glasstetter
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PROFESSIONAL ENGINEER

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BRIDGE NO.
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DESCRIPTION

DATE

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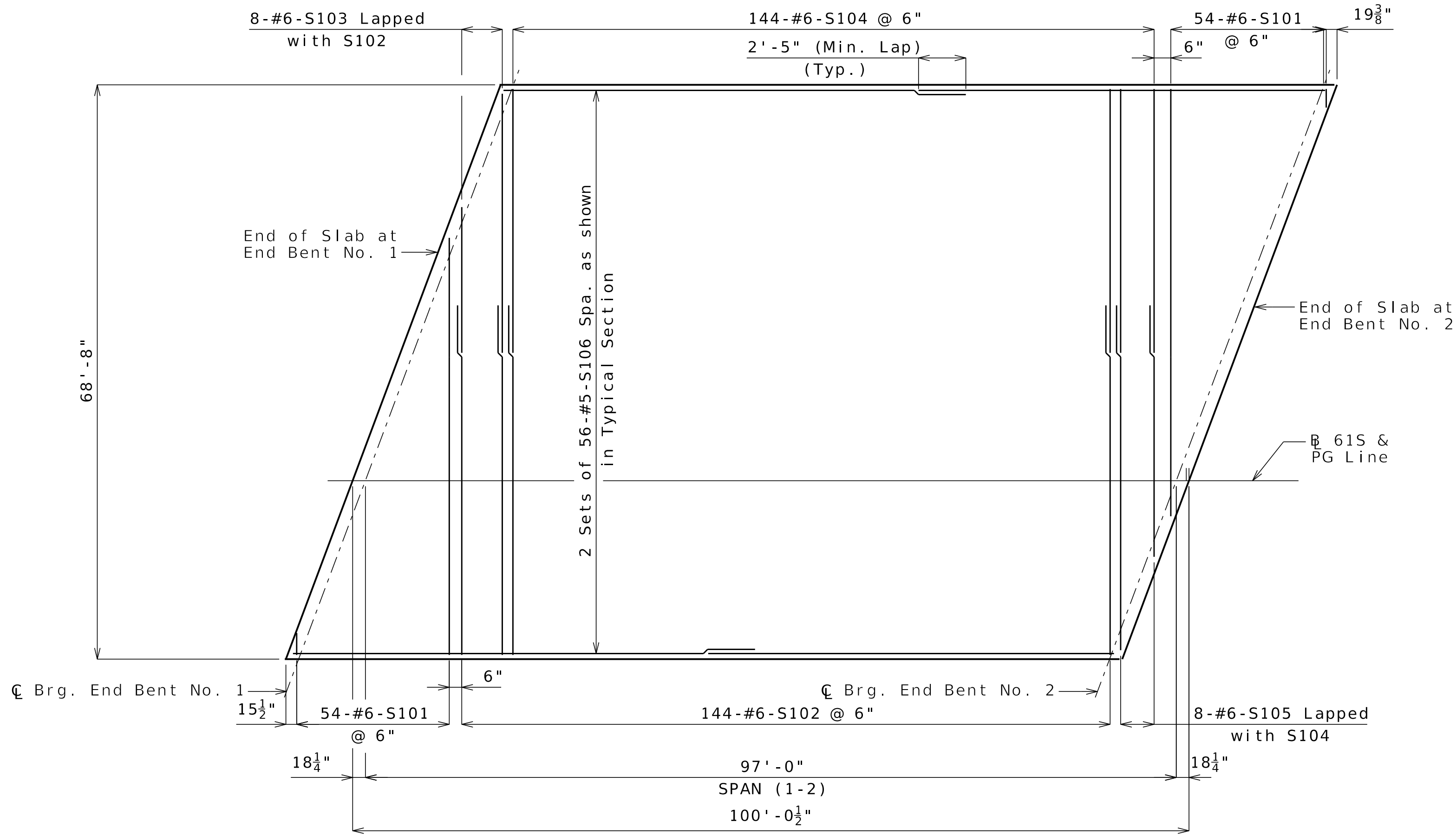
105 WEST CAPITOL
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IMPROVE 70
ALLIANCE

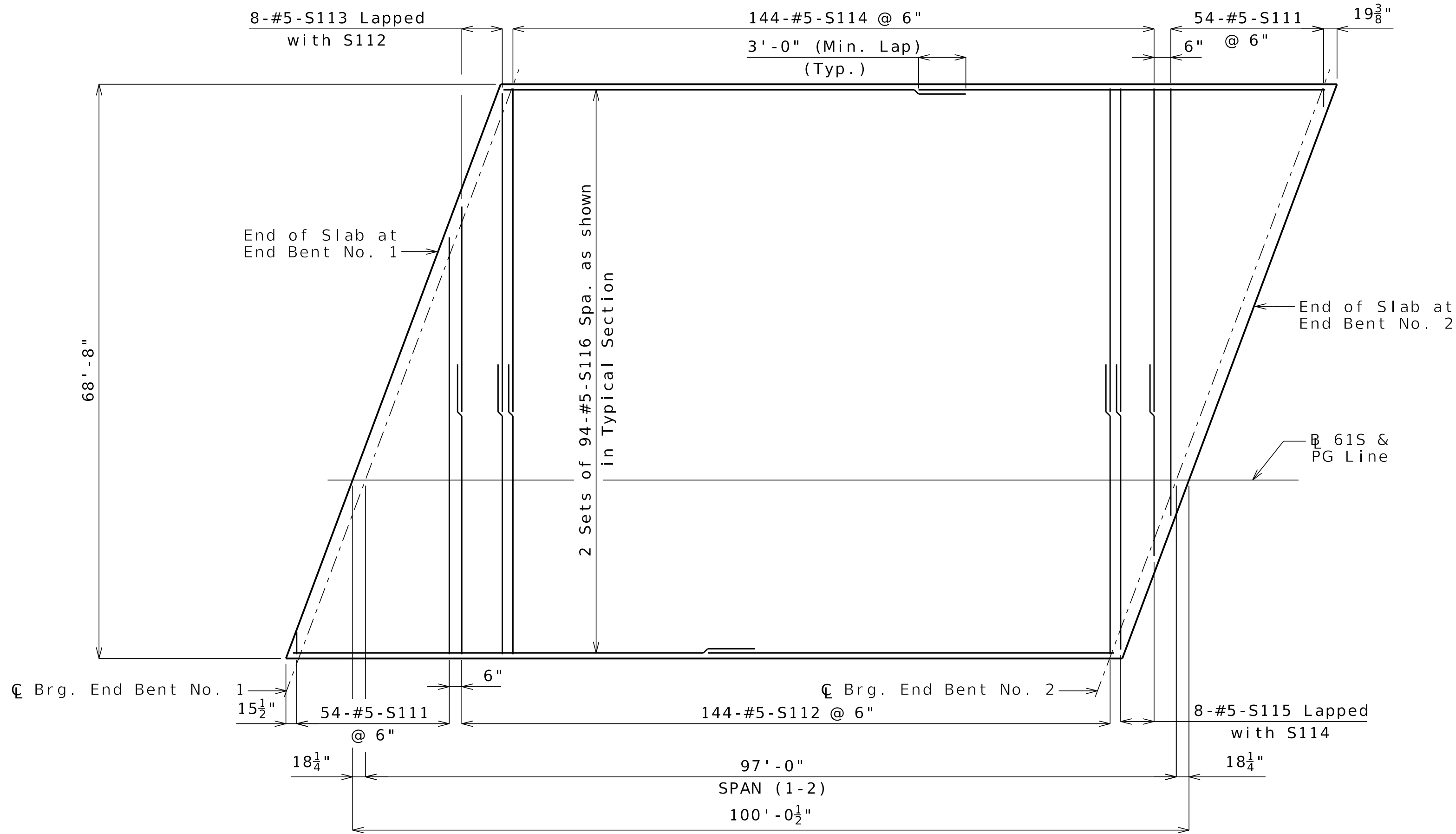
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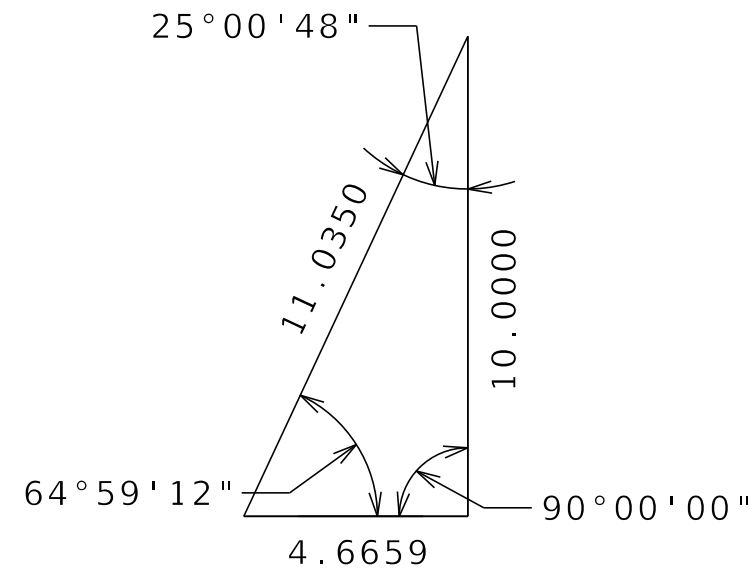
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TOP REINFORCING PLAN



BOTTOM REINFORCING PLAN



Notes:

Longitudinal slab dimensions are measured horizontally.

For Section Thru Slab and Slab Pouring Sequence, see Sheet No. 14.

For Details and Reinforcement of Barrier Curb not shown, see Sheets No. 15 & 16.

For Theoretical Slab Haunching Diagram, see Sheet No. 12.

For Theoretical Bottom of Slab Elevations, see Sheet No. 12.

PLAN OF SLAB SHOWING REINFORCEMENT

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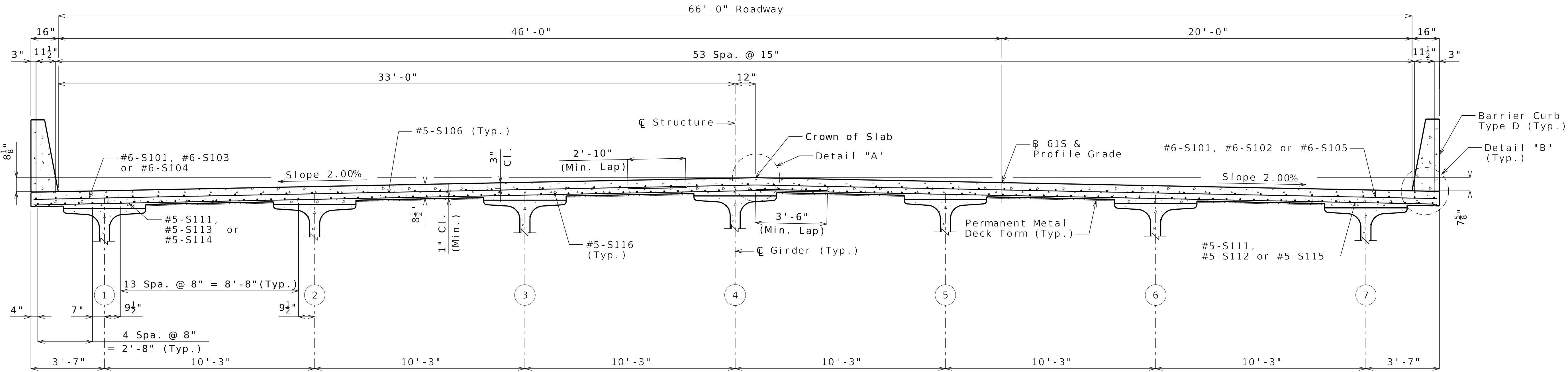
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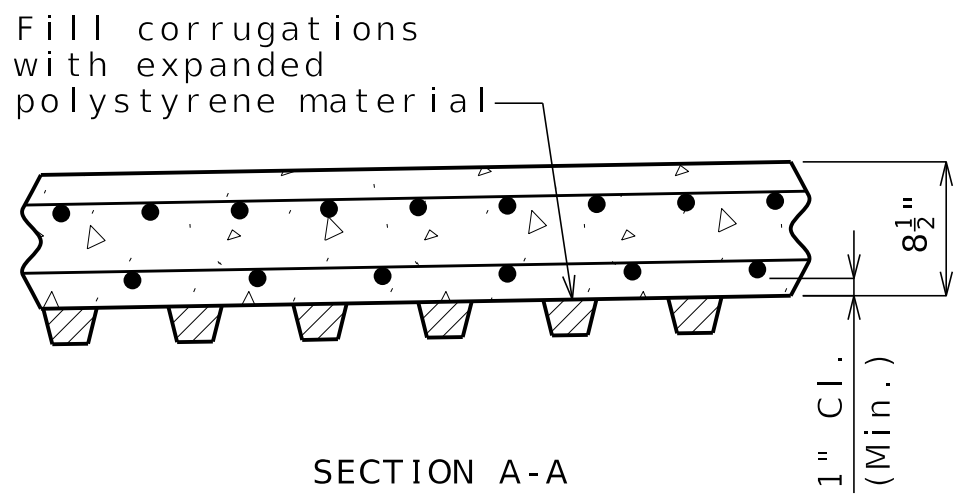
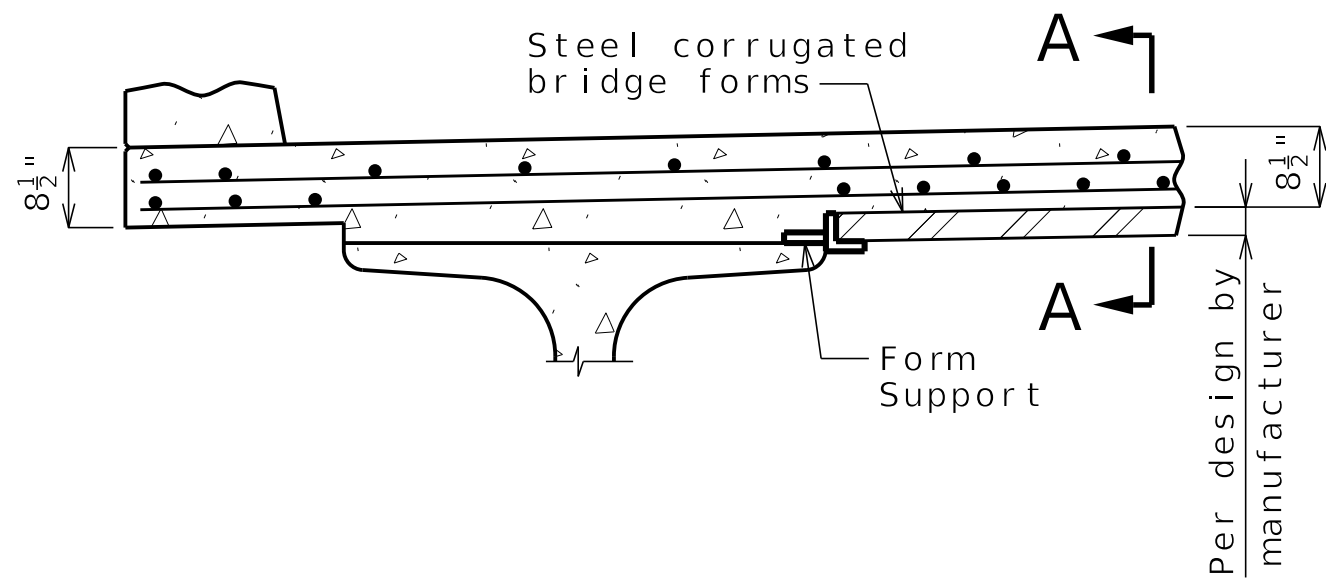
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TYPICAL SECTION THRU SLAB



STAY - IN-PLACE FORM DETAILS

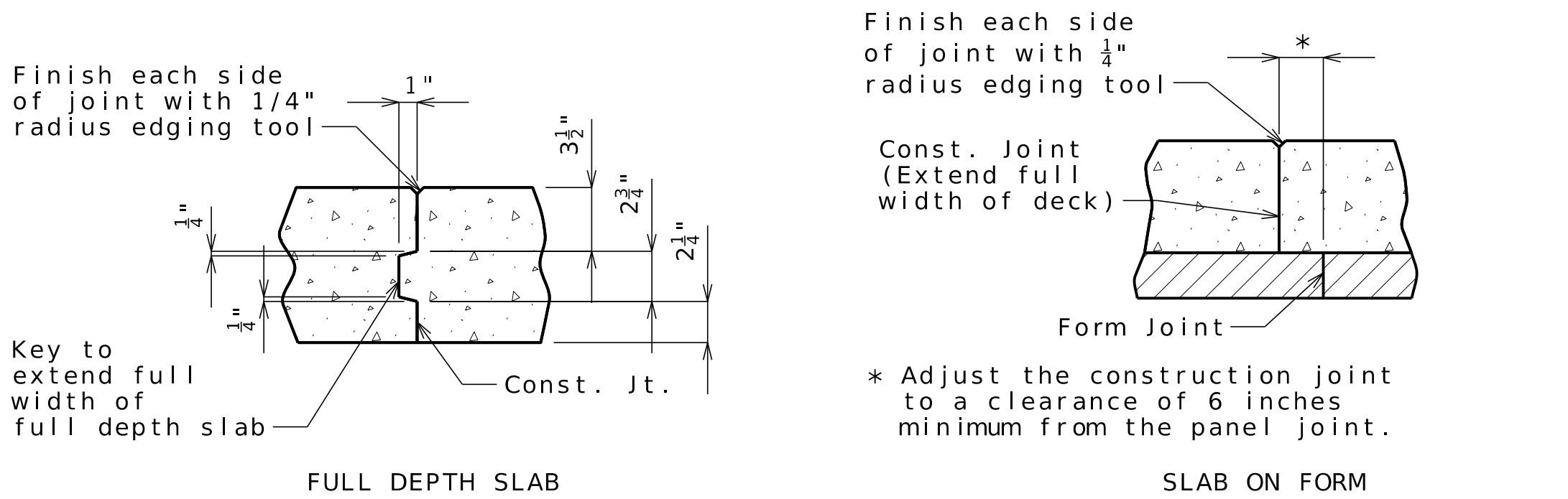
	SEQUENCE OF POURS	Min. Rate of Pour Cu. Yds./Hr.
	Direction	With Retarder
Basic Sequence	End to End	54

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.

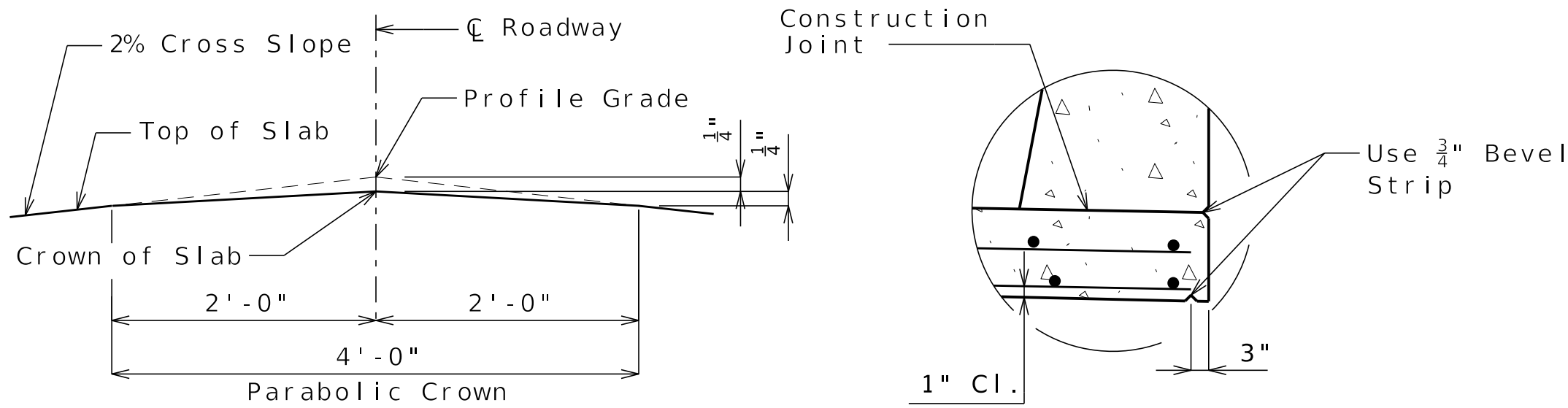
Bridge deck must be poured upgrade.

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

SLAB POURING SEQUENCE



SLAB CONSTRUCTION JOINT



DETAIL "A"

Notes:

Barrier Curb reinforcement not shown for clarity.

For Plan of Slab Showing Reinforcement and additional notes, see Sheet No. 13.

For metal deck form notes, see General Notes.

DETAIL "B"

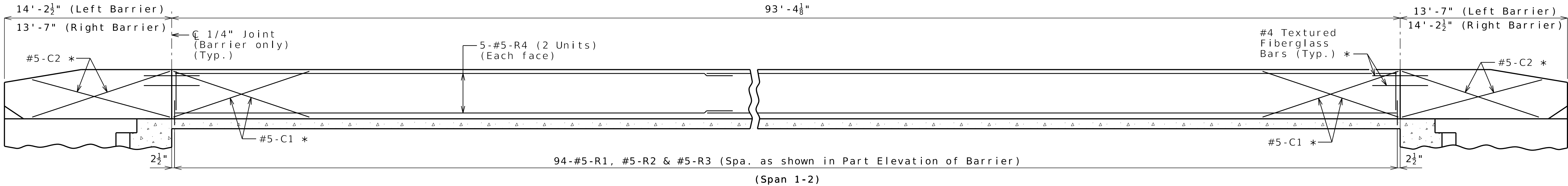
Notes: Contractor may shift bars as necessary to tie in barrier bars.

SLAB DETAILS

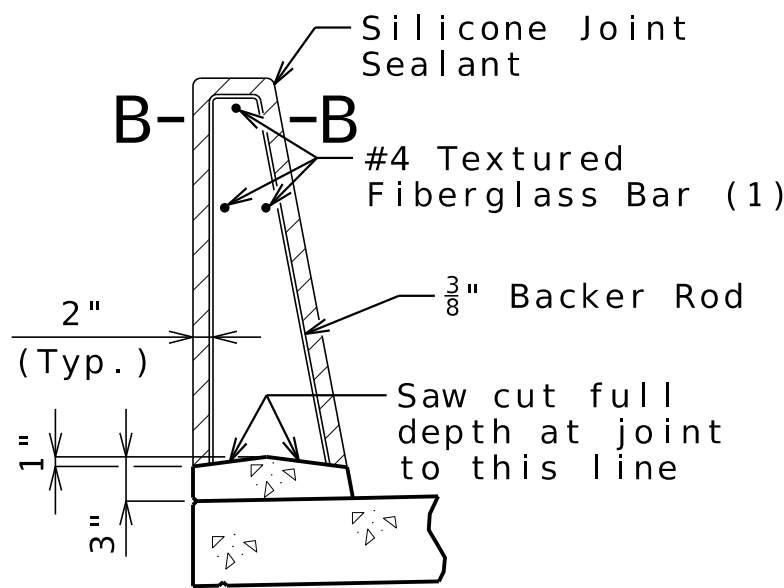
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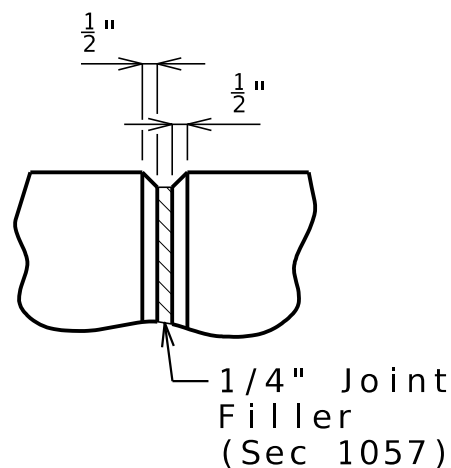
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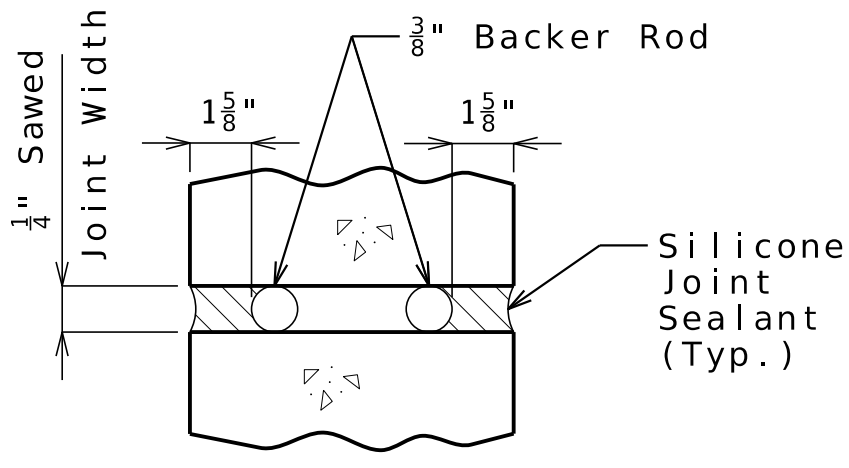
ELEVATION OF BARRIER
Longitudinal dimensions are horizontal.



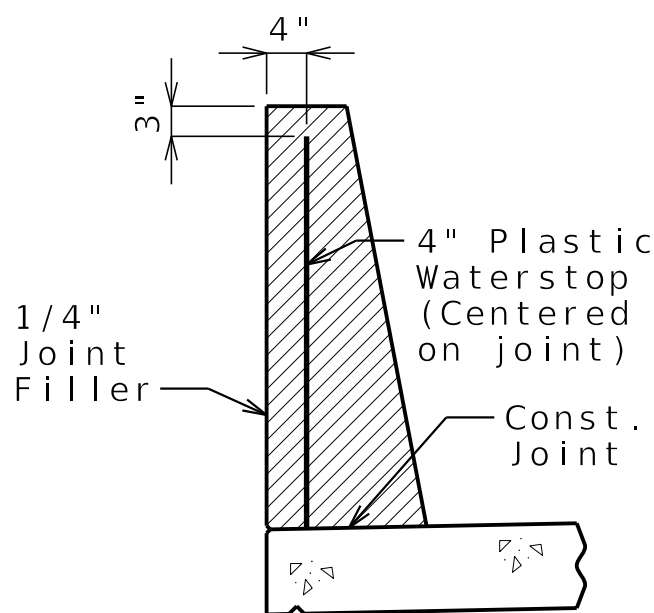
SECTION THRU
SAW CUT JOINT



PART ELEVATION
AT FORMED JOINT



SECTION B-B



WATERSTOP DETAIL

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

General Notes:

* Slip-formed option only.

Conventional forming or slip forming may be used. Saw cut joints may be used with conventional forming.

Top of barrier shall be built parallel to grade.

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

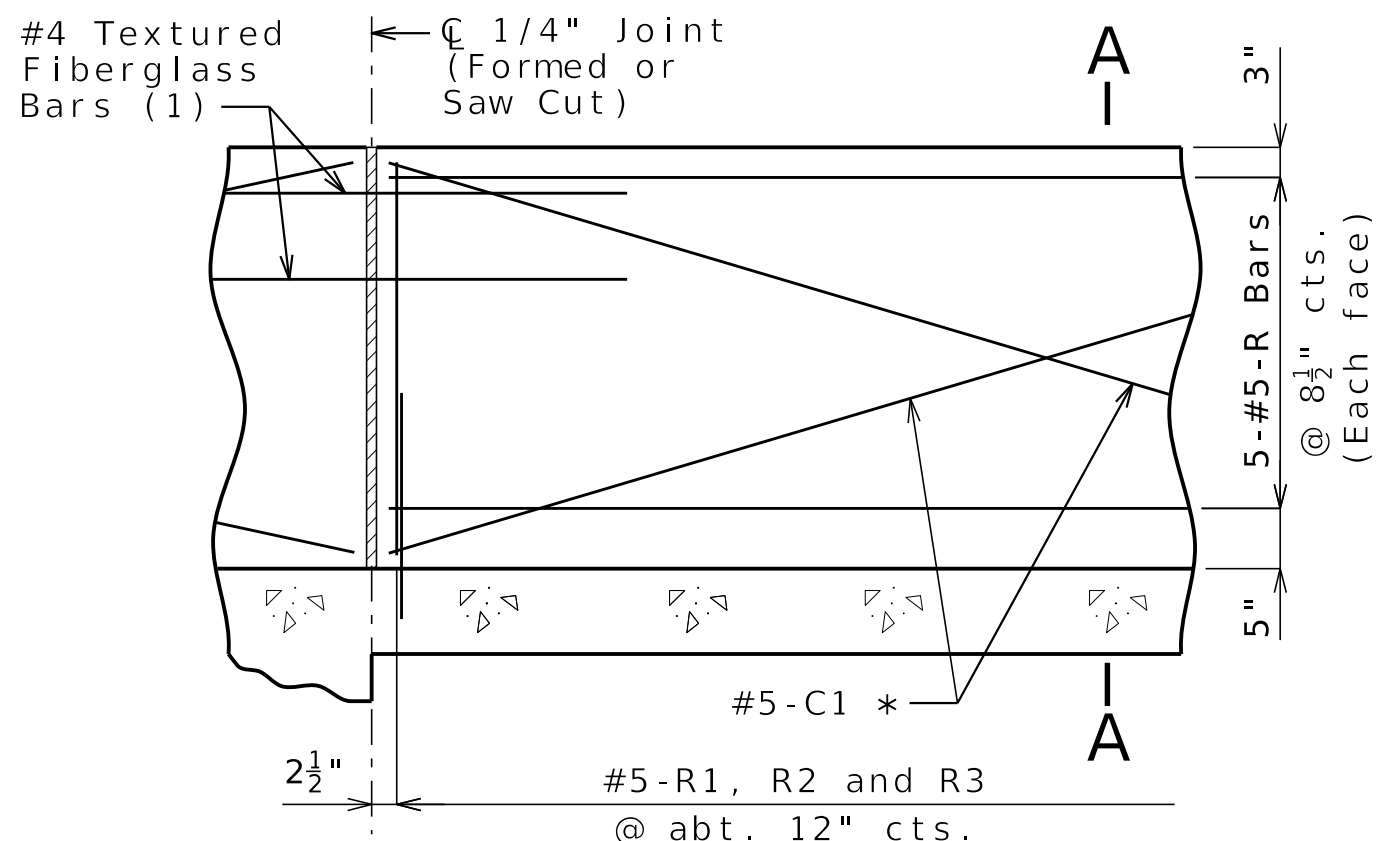
Concrete in barrier shall be Class B-1.

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.

Joint sealant and backer rods shall be in accordance with Sec 717 for silicone joint sealant for saw cut and formed joints.

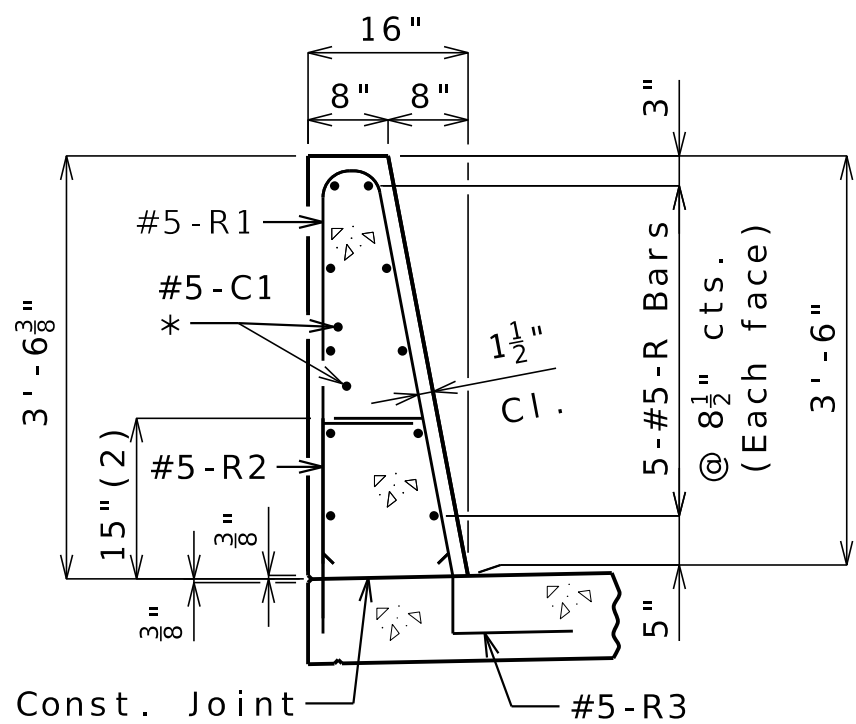
For slip-formed option, both sides of barrier shall have a vertically broomed finish and the top shall have a transversely broomed finish.

Plastic waterstop shall not be used with saw cut joints.



PART ELEVATION OF BARRIER

(1) Four feet long, centered on joint, slip-formed option only

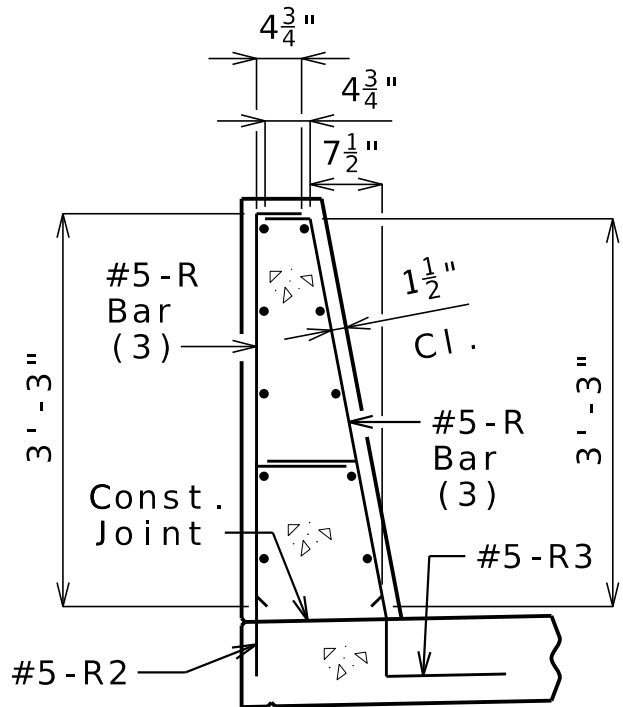


SECTION A-A

Use a minimum lap of 3'-1" for #5 horizontal barrier bars.

The cross-sectional area above the slab is 3.52 square feet.

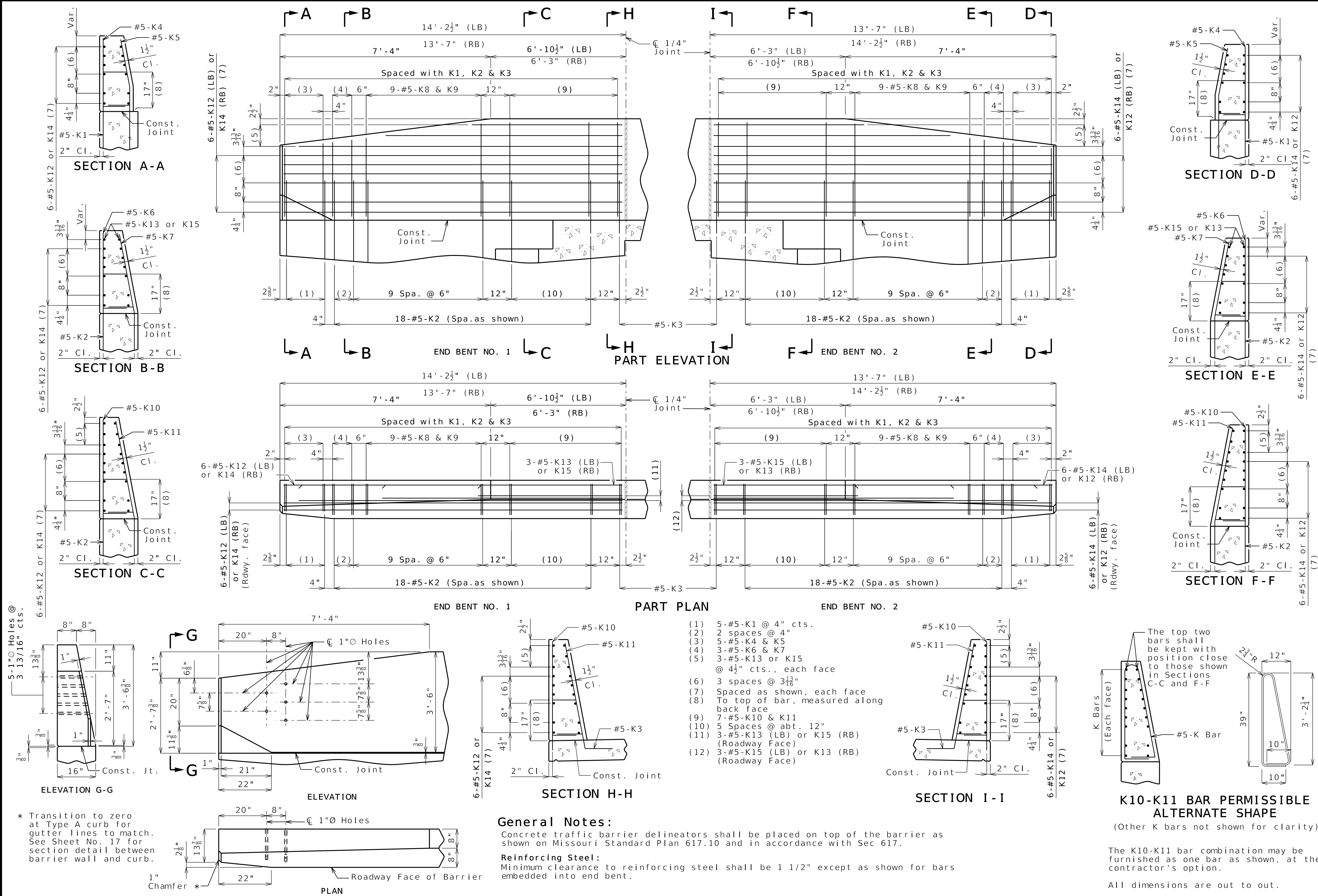
(2) To top of bar



R-BAR PERMISSIBLE ALTERNATE SHAPE

(3) The R1 bar may be separated into two bars as shown, at the contractor's option, only when slip forming is not used. (All dimensions are out to out.)

TYPE D BARRIER

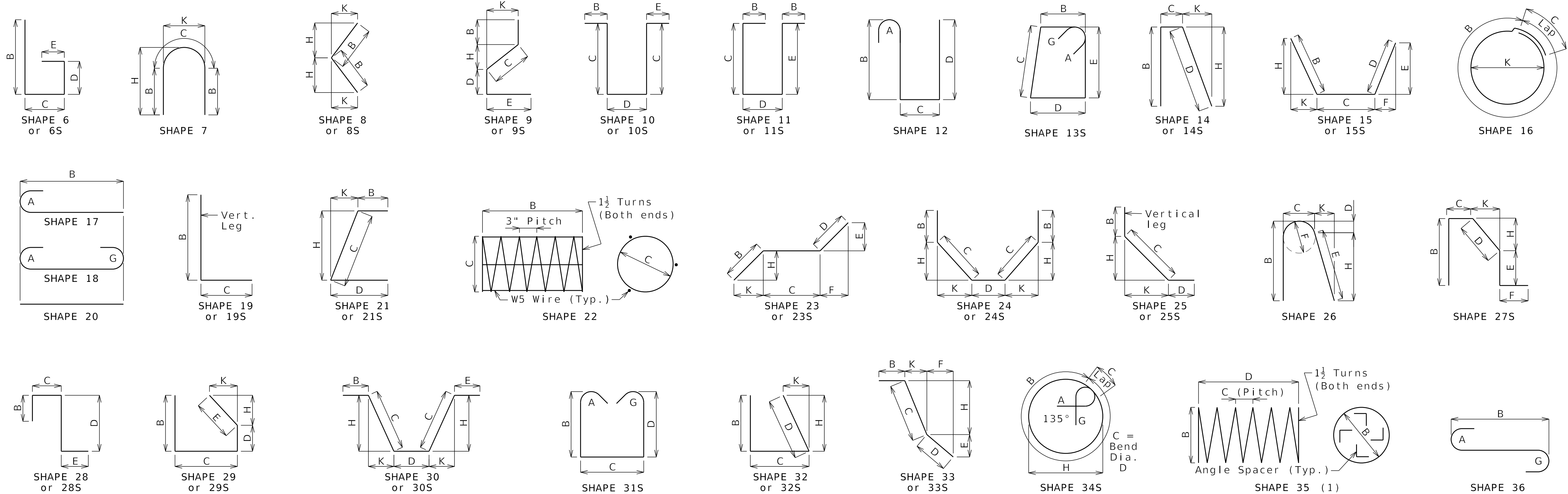


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Finished Bend Diameters D and Hook Dimensions

Standard Pin Bend Shapes

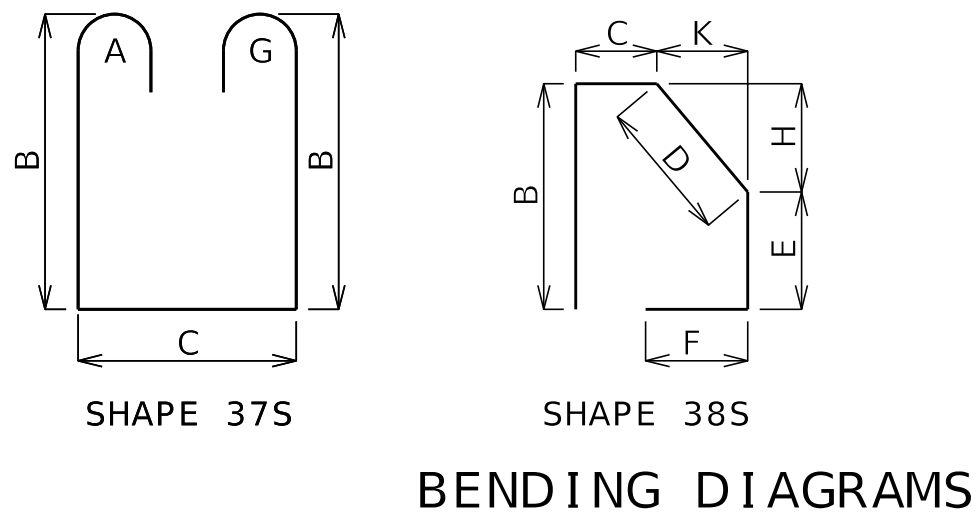
Size	Case	D	A or G		J
			90°	180°	180°
#4	1	3"	8"	6"	4"
#5	1	3 ³ / ₄ "	10"	7"	5"
#6	1	4 ¹ / ₂ "	12"	8 ¹ / ₄ "	6"
#7	2	5 ¹ / ₄ "	14"	9 ³ / ₄ "	7"
	3	7"	15"	11 ¹ / ₂ "	8 ³ / ₄ "
#8	2	6"	16"	11"	8"
	3	8"	17"	13 ¹ / ₄ "	10"
#9	1	9 ¹ / ₂ "	19 ¹ / ₂ "	15 ¹ / ₂ "	11 ³ / ₄ "
#10	1	10 ³ / ₄ "	22"	17 ¹ / ₂ "	13 ¹ / ₄ "
#11	1	12"	24 ¹ / ₂ "	19 ¹ / ₂ "	14 ⁷ / 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 "

Stirrup Pin Bend Shapes (S)

Size	Case	D	A or G		H	J	
			90°	135°	180°	135°	180°
#4	2	2"	4 ¹ / ₂ "	4 ¹ / ₂ "	5"	2 ⁷ / ₈ "	3"
	3	3"	5"	5 ¹ / ₄ "	6"	3"	4"
#5	2	2 ¹ / ₂ "	5 ³ / ₄ "	5 ³ / ₄ "	5 ³ / ₄ "	3 ⁵ / ₈ "	3 ³ / ₄ "
	3	3 ³ / ₄ "	6 ¹ / ₄ "	6 ¹ / ₂ "	7"	3 ⁷ / ₈ "	5"
#6	1	4 ¹ / ₂ "	12"	7 ³ / ₄ "	8 ¹ / ₄ "	4 ⁵ / ₈ "	6"

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.



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.

(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.

BENDING DIAGRAMS

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[illegible]

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. 18.

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Codes: C = Required coatings, where E = Epoxy Coated and G = Galvanized.

SH = Required shape, see bending diagrams.

V = Sets of varied bars and number of bars of each length. Bar dimensions vary in equal increments between dimensions shown on this line and the following line and the actual length dimension shown on this line and the following line vary by the specified increment.

All bars shall be Grade 60.

BILL OF REINFORCING STEEL (1 OF 1)

Bill of Reinforcing Steel																						
No. Req.	Size/ Mark	Location	Codes			Dimensions										Nom. Length		Actual Length		Weight		
						B		C		D		E		F							H	
			C	SH	V	ft	in.	ft	in.	ft	in.	ft	in.	ft	in.	ft	in.	ft	in.	ft	in.	lb
		Slab																				
108	6	S101	E	17	2	2	4.00											3	0	3	0	
						59	1.00											59	9	59	9	5090
144	6	S102	E	17		40	9.00											41	5	41	5	8958
8	6	S103	E	20	1	22	4.00											23	0	23	0	
						29	10.00											30	6	30	6	321
144	6	S104	E	17		30	6.00											30	6	30	6	6597
8	6	S105	E	20	1	32	7.00											32	7	32	7	
						40	1.00											40	1	40	1	437
112	5	S106	E	20		51	0.00											51	0	51	0	5958
108	5	S111	E	20	2	2	4.00											2	4	2	4	
						59	1.00											59	1	59	1	3459
144	5	S112	E	20		33	3.00											33	3	33	3	4994
8	5	S113	E	20	1	30	6.00											30	6	30	6	
						38	0.00											38	0	38	0	286
144	5	S114	E	20		38	8.00											38	8	38	8	5807
8	5	S115	E	20	1	25	1.00											25	1	25	1	
						32	7.00											32	7	32	7	241
188	5	S116	E	20		51	3.00											51	3	51	3	10049
		Barrier																				
20	5	K1	E	27S		3	8.00	9.25	5.38	3	2.75			5.25	1.00			8	1	7	11	165
72	5	K2	E	27S		3	8.00	9.25	14.50	2	5.75			14.25	2.75			8	2	7	11	595
4	5	K3	E	27S			22.50	9.25	14.50		7.75	12.00		14.25	2.75			5	6	5	2	22
20	5	K4	E	20S	4	2	4.25	10.00										3	2	3	1	
		Increment = 1/2"				2	6.25	10.00										3	4	3	3	66
20	5	K5	E	17S	4				18.50	9.50	8.25	18.00	4.00					3	0	2	11	
		Increment = 1/2"							20.50	9.50	8.25	20.00	4.25					3	2	3	1	63
12	5	K6	E	19S		2	6.75	10.00										3	5	3	4	42
12	5	K7	E	21S			2 6.63	10.00					2 6.00	6.25				3	5	3	3	41
36	5	K8	E	19S	4	2	8.50	10.00										3	7	3	5	
		Increment = 3/4"				3	2.50	10.00										4	1	3	11	139
36	5	K9	E	21S	4		2 8.50	10.00					2 7.75	6.75				3	6	3	5	
		Increment = 3/4"					3 2.50	10.00					3 1.75	7.75				4	1	3	11	136
28	5	K10	E	19S		3	3.00	10.00										4	1	4	0	117
28	5	K11	E	21S			3 3.00	10.00					3 2.25	7.75				4	1	3	11	114
24	5	K12	E	20		13	11.00											13	11	13	11	348
12	5	K13	E	20	4	7	2.00											7	2	7	2	
		Increment = 36"				13	2.00											13	2	13	2	127
24	5	K14	E	20		13	4.00											13	4	13	4	334
12	5	K15	E	20	4	6	7.00											6	7	6	7	
		Increment = 36"				12	7.00											12	7	12	7	120
188	5	R1	E	26		3	3.00	5.50	2.25	3	1.38	5.50	3	0.75	6.75			6	10	6	9	1324
188	5	R2	E	19S			20.50	9.50										2	6	2	5	474
188	5	R3	E	27S				9.50	15.25		5.00	12.00		15.00	3.00			3	6	3	4	654
40	5	R4	E	20		48	3.00											48	3	48	3	2013
8	5	C1	E	20		12	0.00											12	0	12	0	100
8	5	C2	E	20		10	6.00											10	6	10	6	88
		Totals																				
	5		E																			40595
	6		E																			36706
	8		E																			1132
	10		E																			8864
		TOTAL	E																			87297
																			TOTAL			87297
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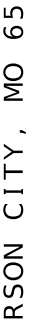
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PROJECT NO

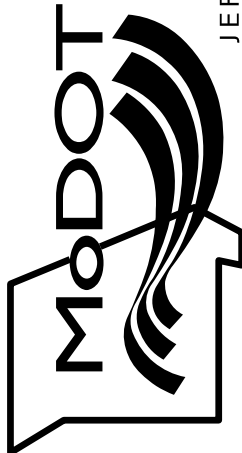
BRIDGE NO.

A9681

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MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

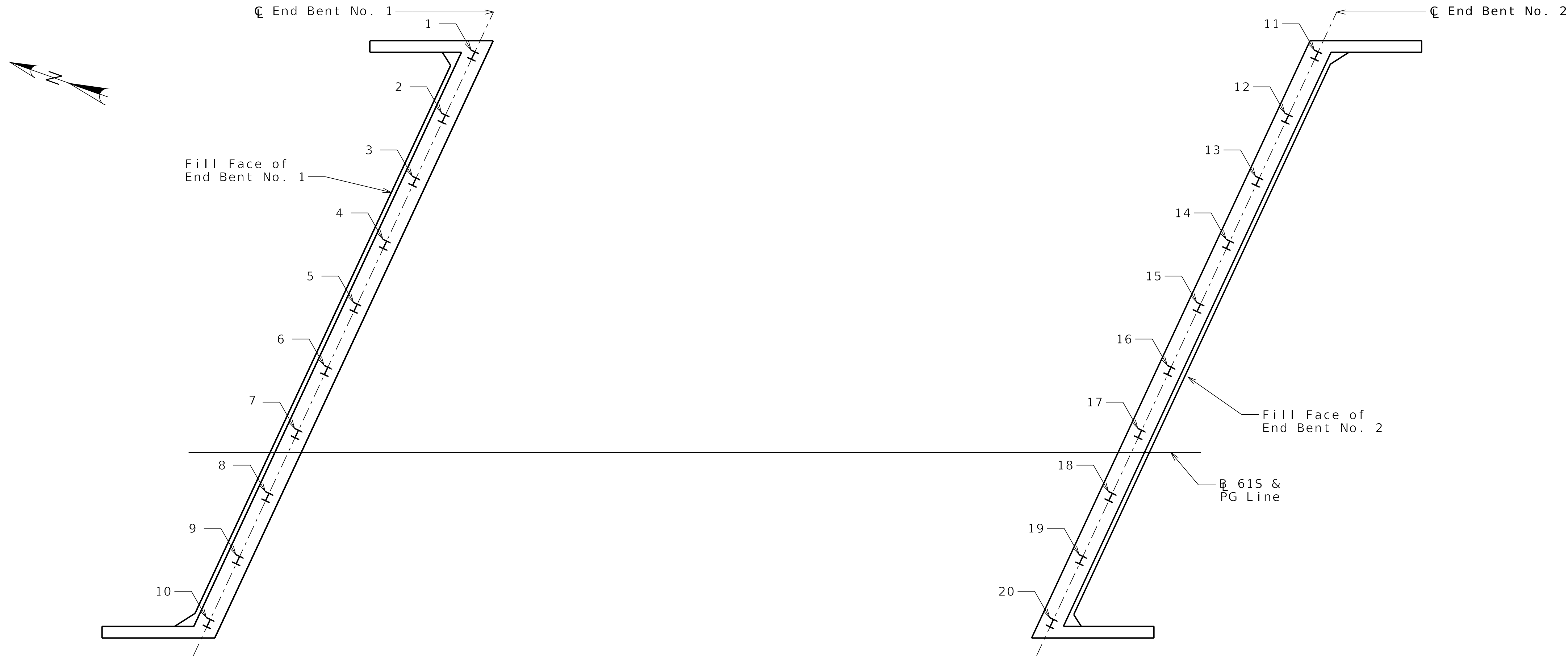
105 WEST CAPITAL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)



715 KIRK DRIVE
KANSAS CITY, MO 64105-1310
CERTIFICATE OF AUTHORITY

Bartlett & West

601 MONROE ST. SUITE 201 - JEFFERSON CITY, MO 65101
PHONE 573-634-3181
CERTIFICATE OF AUTHORITY NO. 000167 - ENGINEERING



PART PLAN SHOWING PILE NUMBERING FOR RECORDING AS-BUILT PILE DATA

As-Built Pile Data			
Pile No.	Length in Place (ft)	Computed Nominal Axial Compressive Resistance (kips)	Remarks
			End Bent No. 1
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			

As-Built Pile Data			
Pile No.	Length in Place (ft)	Computed Nominal Axial Compressive Resistance (kips)	Remarks
			End Bent No. 2
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			

Note:
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 DATA



STATE OF MISSOURI
David J. Glasstetter
NUMBER
PE-2000150018
PROFESSIONAL ENGINEER

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DATE PREPARED
9/11/2025

ROUTE	STATE
US-61	MO
DISTRICT	SHEET NO.
BR	A9681-20

COUNTY
ST. CHARLES

JOB NO.
JST0020

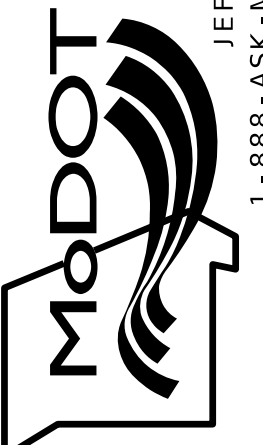
CONTRACT ID.

PROJECT NO.

BRIDGE NO.
A9681

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION



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

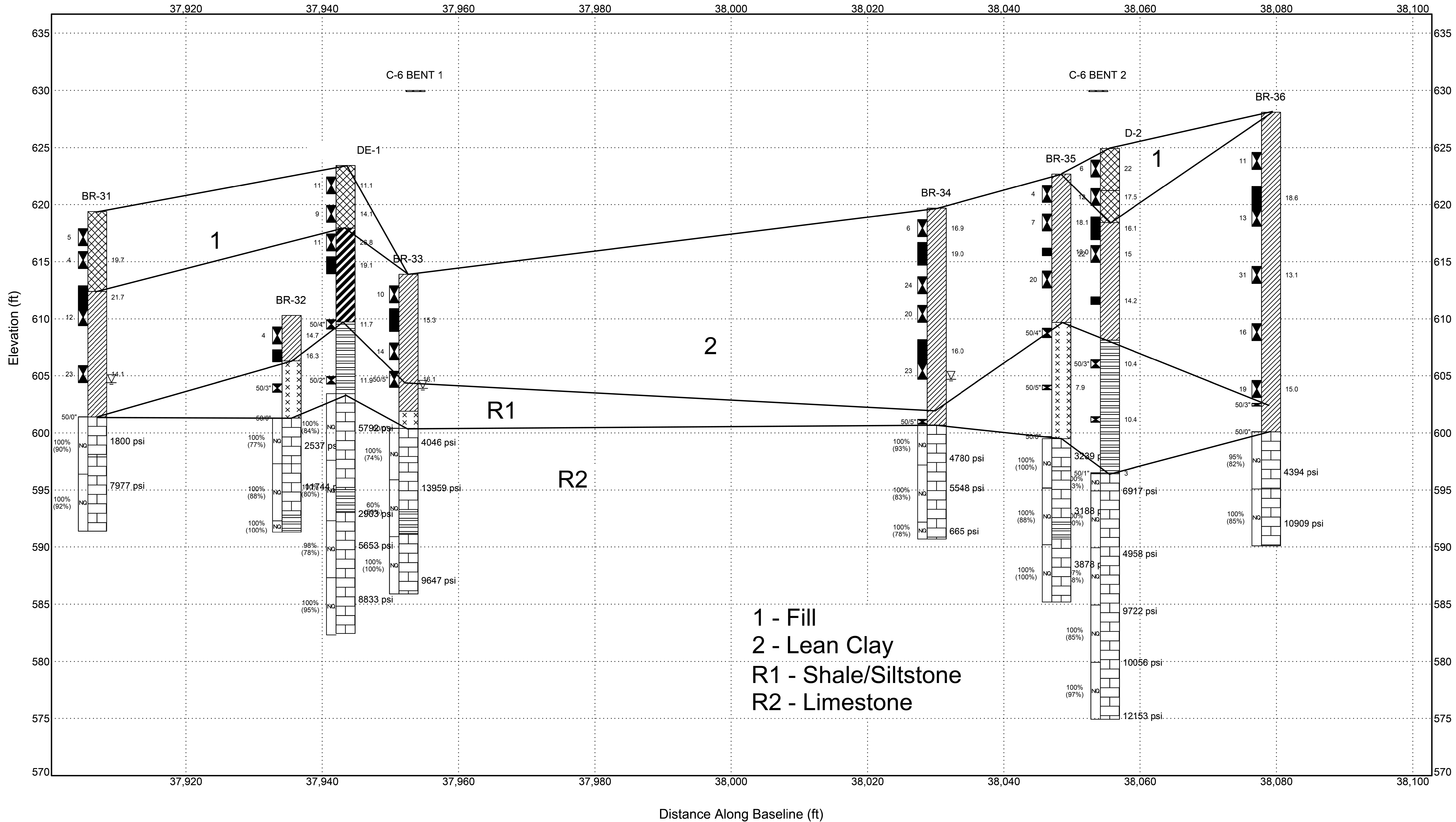




715 KIRK DRIVE
KANSAS CITY, MO 64105-1310
KANSAS CITY, MO
CERTIFICATE OF AUTHORITY
NO. 001270



601 MONROE ST., SUITE 201 - JEFFERSON CITY, MO 65101
PHONE 572-630-3181
FAX 572-630-3181
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STATE OF MISSOURI
David J. Glasstetter
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US - 61

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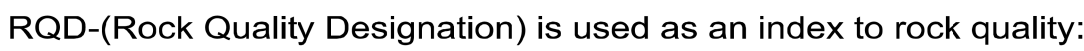
MISSOURI HIGHWAYS AND TRANSPORTATION
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IMPROVE 70 ALLIANCE

715 KIRK DRIVE
KANSAS CITY, MO 64105-1310
CERTIFICATE OF AUTHORITY
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RQD(%)	Rock Description
0-25	Very Poor
25-50	Poor
50-75	Fair
75-90	Good
90-100	Excellent

Unconfined Compressive Strength of rock in pounds per square inch as determined by Laboratory Unconfined Compression Test.

LITHOLOGIC SYMBOLS
(Unified Soil Classification System)

- | | |
|--|---|
| | Lean Clay (CL) |
| | Fat Clay (CH) |
| | Lean to Fat Clay |
| | Low Plastic Silt (ML) |
| | Poorly Graded Sand (SP) |
| | Well Graded Sand (SW) |
| | Clayey Sand (SC) |
| | Poorly Graded Gravel (GP) |
| | Boulders |
| | Clayey Gravel (GC) |
| | Gravel with Fat Clay (GP-GC) |
| | Asphalt |
| | Fill |
| | Topsoil |
| | Concrete |
| | Peat |
| | Poorly Graded Sand with Clayey Sand (SP-SC) |

LITHOLOGIC SYMBOLS
(Rock)

- | | | | |
|---|-----------|---|---------------------|
|  | Coal |  | Weathered Limestone |
|  | Dolomite |  | Weathered Shale |
|  | Limestone |  | Gypsiferous Shale |
|  | Sandstone | | |
|  | Shale | | |
|  | Gypsum | | |

SAMPLER SYMBOLS

- | | |
|---|-----------------------------|
|  | Auger Cuttings |
|  | Grab |
|  | Modified California Sampler |
|  | NQ Rock Core |
|  | NX Core Barrel |
|  | Standard Penetration Test |
|  | Shelby Tube |

DRILLING METHODS

- | | |
|---|-------------------|
|  | Core Barrel |
|  | Hollow Stem Auger |
|  | Rotary |
|  | Solid Stem Auger |

ABBREVIATIONS

- | | | |
|------|---|---------------------------|
| HSA | - | Hollow Stem Auger |
| SSA | - | Solid Stem Auger |
| ST | - | Shelby Tube |
| SPT | - | Standard Penetration Test |
| NATD | - | None At Time of Drilling |
| N/A | - | Not Available |



DATE PREPARED _____

9 / 11 / 2

ROUTE
US - 61

STATE

DISTRICT
BR

SHEET NO.
681-22

COUNTY

ST. CHARLES

JOB NO.

JST0020

CONTRACT ID.

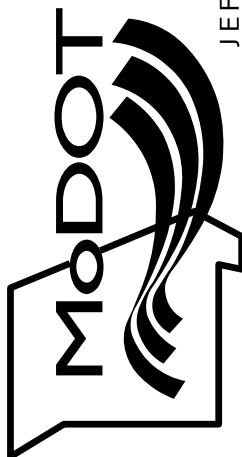
PROJECT NO.

BRIDGE NO.

A9681

DESCRIPTION

DATE _____

MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

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



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



Bartlett & West
601 MONROE ST., SUITE 201 • JEFFERSON CITY, MO 65101

601 MONROE ST, SUITE 201 - JEFFERSON CITY, MO 65101
PHONE 573-634-3181
CERTIFICATE OF AUTHORITY NO. 000167 - ENGINEERING
WWW.BARTLETT.COM

BENCHMARK 100 74 /5/8x24_ROD_W/CAP SIGN POST NORTH = 1081423.367 EAST = 723104.330 ELEV.= 599.597		BENCHMARK 113 74 /5/8x24_ROD_W/CAP NORTH = 1078977.686 EAST= 728186.747 ELEV.= 623.007	BENCHMARK 114 74 /5/8x24_ROD_W/CAP SOUTH EDGE OF ASPHALT ROAD NORTH = 1082531.641 EAST= 727818.620 ELEV.= 633.117	BENCHMARK 115 74 /5/8x24_ROD_W/CAP SOUTH EDGE OF ASPHALT ROAD NORTH = 1082444.293 EAST= 729392.876 ELEV.= 619.994		
BENCHMARK 116 74 /5/8x24_ROD_W/CAP NORTH = 1082653.370 EAST = 723222.089 ELEV.= 605.972	BENCHMARK 200 75 -BM 2IN SQ CUT NORTH = 1078971 EAST= 728573 ELEV.= 613.97	BENCHMARK 208 75 BM 2IN SQ CUT NORTH = 1082525 EAST= 721080 ELEV.= 597.57	BENCHMARK 209 75 -BM 2IN SQ CUT NORTH = 1082558 EAST= 721763 ELEV.= 599.72	BENCHMARK 210 74 /5/8x24_ROD_W/CAP MAG NAIL IN FOGLINE NORTH = 1082628.386 EAST= 722867.362 ELEV.= 604.348	BENCHMARK 211 75 -BM 2IN SQ CUT MAG NAIL IN FOGLINE NORTH = 1082667 EAST= 723955 ELEV.= 602.59	
BENCHMARK 212 75 -BM 2IN SQ CUT MAG NAIL IN FOGLINE NORTH = 1082716 EAST= 724964 ELEV.= 610.96	BENCHMARK 213 75 -BM 2IN SQ CUT SOUTH EDGE OF ASPHALT ROAD NORTH = 1082709 EAST= 726010 ELEV.= 622.86	BENCHMARK 214 75 -BM 2IN SQ CUT NORTH = 1082643 EAST= 727148 ELEV.= 631.52	BENCHMARK 215 74 /5/8x24_ROD_W/CAP SOUTH EDGE OF ASPHALT ROAD NORTH = 1082500.421 EAST= 728168.824 ELEV.= 626.184	BENCHMARK 216 75 -BM 2IN SQ CUT TELEPHONE PEDESTAL NORTH = 1082415 EAST= 729223 ELEV.= 616.20	BENCHMARK 217 75 -BM 2IN SQ CUT NORTH = 1082396 EAST= 730135 ELEV.= 612.21	
	BENCHMARK 220 75 -BM 2IN SQ CUT WATER VALVE NORTH = 1080588 EAST= 726887 ELEV.= 602.07			BENCHMARK 228 75 -BM 2IN SQ CUT NORTH = 1084862 EAST= 722908 ELEV.= 656.76	BENCHMARK 229 74 /5/8x24_ROD_W/CAP NORTH = 1083775.980 EAST= 723240.823 ELEV.= 619.275	

STATE OF MISSOURI

David J. Glasetter

NUMBER
PE-2000150018

PROFESSIONAL ENGINEER

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9/11/2025

ROUTE
US - 61

STATE
MO

DISTRICT
BR

SHEET NO.
A9681-23

COUNTY
ST. CHARLES

JOB NO.
JST0020

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
A9681

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MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

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

STATE OF MISSOURI
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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

601 MONROE ST., SUITE 201 - JEFFERSON CITY, MO 65101
PHONE 872-630-3181 - ENGINEERING
WWW.BARTLETTWEST.COM

ALL PROJECT COORDINATES HAVE BEEN PROJECTED FROM THE MISSOURI STATE PLANE COORDINATE (SPC) SYSTEM OF 1983 USING AN AVERAGE PROJECT PROJECTION (GRID TO GROUND) FACTOR. TO GET BACK TO STATE PLANE COORDINATES, MULTIPLY THE PROJECT COORDINATES BY THE AVERAGE GRID FACTOR AS SHOWN IN THE "REFERENCE CONTROL INFORMATION" PORTION OF THIS TABLE.		COORDINATE POINT LISTING								
		SHEET NO	STATION	LOCATION	OFFSET (USFT)	MODIFIED STATE PLANE (GROUND)			DESCRIPTION	GPK POINT ID
						NORTHING (US SURVEY FT)	EASTING (US SURVEY FT)	ELEVATION (US SURVEY FT)		
		PROJECT	CONTROL POINTS							
			STA 1272+83.75	I-70	1286.86' RT.	1081423.367	723104.330	599.60	74 /5/8x24_ROD_W/CAP	BM-100
			STA 41+40.91	I-64	626.94' RT.	1078977.686	728186.747	623.01	74 /5/8x24_ROD_W/CAP	BM-113
			STA 1320+80.05	I-70	129.99' RT.	1082531.641	727818.620	633.12	74 /5/8x24_ROD_W/CAP	BM-114
			STA 1336+56.72	I-70	125.22' RT.	1082444.293	729392.876	620.00	74 /5/8x24_ROD_W/CAP	BM-115
			STA 1274+58.72	RAMP 70E-64E	57.46' LT.	1082653.370	723222.089	605.97	74 /5/8x24_ROD_W/CAP	BM-116
			STA 44+49.76	I-64	394.74' RT.	1078971	728573	613.97	75 -BM 2IN SQ CUT	BM-200
	STA 1253+21.17	I-70	78.18' RT.	1082525	721080	597.57	75 BM 2IN SQ CUT	BM-208		
	STA 1260+04.89	I-70	81.53' RT.	1082558	721763	599.72	75 -BM 2IN SQ CUT	BM-209		
	STA 1271+12.53	RAMP 70E-64E	6.49' RT.	1082628.386	722867.362	604.35	74 /5/8x24_ROD_W/CAP	BM-210		
	STA 389+85.81	US-61 S	98.77' LT.	1082667	723955	602.59	75 -BM 2IN SQ CUT	BM-211		
	STA 1292+13.84	I-70	73.52' RT.	1082716	724964	610.96	75 -BM 2IN SQ CUT	BM-212		
	STA 1302+63.42	I-70	57.72' RT.	1082709	726010	622.86	75 -BM 2IN SQ CUT	BM-213		
	STA 1313+59.87	RAMP 61S-70E	22.92' LT.	1082643	727148	631.52	75 -BM 2IN SQ CUT	BM-214		
	STA 1324+31.47	I-70	140.70' RT.	1082500.421	728168.824	626.19	74 /5/8x24_ROD_W/CAP	BM-215		
	STA 1334+88.64	I-70	164.71' RT.	1082415	729223	616.20	75 -BM 2IN SQ CUT	BM-216		
	STA 1344+00.30	I-70	130.222' RT	1082396	730135	612.21	75 -BM 2IN SQ CUT	BM-217		
	STA 21+33.02	I-64	225.33' RT.	1080588	726887	602.07	75 -BM 2IN SQ CUT	BM-220		
	STA 364+97.19	US-61	64.17' RT.	1084862	722908	656.76	75 -BM 2IN SQ CUT	BM-228		
	STA 376+31.63	US-61 S	59.50' RT.	1083775.980	723240.823	619.28	74 /5/8x24_ROD_W/CAP	BM-229		
	</									

STATE OF MISSOURI

David J. Glasstetter

NUMBER
PE-2000150018

PROFESSIONAL ENGINEER

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DATE PREPARED
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ROUTE
US-61

DISTRICT
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STATE
MO

SHEET NO.
A9681-24

COUNTY
ST. CHARLES

JOB NO.
JST0020

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
A9681

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

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CERTIFICATE OF AUTHORITY
NO. 001270

HNTB

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PHONE 872-630-3181
WWW.BARTLETTWEST.COM

Bartlett & West

ENGINEERING

Detailed SEP 2025
Checked SEP 2025

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

Sheet 24 of 24

SURVEY CONTROL DATA

B_A9681_028_JST0020_SURV-2.dgn 10:24:14 AM 9/11/2025