

DESIGN DESIGNATION	
A.A.D.T. - 2015 =	368
A.A.D.T. - 2035 =	603
D.H.V. =	10%
T =	11%
V =	30 mph
D =	50%
CURRENT POSTED SPEED =	30 mph
FUNCTIONAL CLASSIFICATION- RURAL LOCAL	

DESIGN CRITERIA

1. A POLICY ON GEOMETRIC DESIGN OF HIGHWAYS AND STREETS (AASHTO "GREEN BOOK" EDITION 2011).
2. AASHTO ROADSIDE DESIGN GUIDE, 2011 EDITION.
3. 2019 MISSOURI STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.
4. MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) EDITION 2009.
5. AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS.
6. MODOT ENGINEERING POLICY GUIDE.

UTILITY CONTACTS

TELEPHONE - AT&T
DAN GRAY
636-949-1320
402 N. 3RD ST.
ST. CHARLES, MO 63301

ELECTRIC - AMEREN
CRAIG FOX
636-671-6162
6450 HWY MM
HOUSE SPRINGS, MO 63051

THE EXISTENCE AND APPROXIMATE LOCATION OF UTILITY FACILITIES KNOWN TO EXIST, AS SHOWN ON THE PLANS, ARE BASED ON THE BEST INFORMATION AVAILABLE TO THE COUNTY AT THIS TIME. THIS INFORMATION IS PROVIDED BY THE COUNTY "AS-IS" AND THE COUNTY EXPRESSLY DISCLAIMS ANY REPRESENTATION OR WARRANTY AS TO THE ACCURACY, OR THE ABILITY OF THE INFORMATION FOR ANY USE. RELIANCE UPON THIS INFORMATION IS DANGEROUS. THE RISK AND PERIL OF USE ARE AND THE COUNTY SHALL NOT BE LIABLE FOR ANY DAMAGES THAT MAY ARISE FROM ANY ERROR IN THE INFORMATION. IT IS, THEREFORE, THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE EXISTENCE, LOCATION, AND STATUS OF ANY FACILITY. SUCH VERIFICATION INCLUDES DIRECT CONTACT WITH THE LISTED UTILITIES.

CONVENTIONAL SYMBOLS (USED IN PLANS)

	EXISTING	NEW
BUILDINGS AND STRUCTURES	□	■
GUARD RAIL	○○○○○	■■■■■
CONCRETE RIGHT-OF-WAY MARKER	—	—
STEEL RIGHT-OF-WAY MARKER	—	—
LOCATION SURVEY MARKER	○	—
PROPERTY LINE	—PL—	—PL—
RIGHT-OF-WAY	—R/W—	—R/W—
TEMPORARY EASEMENT	—T/E—	—T/E—
PERMANENT EASEMENT	—P/E—	—P/E—
PERMANENT DRAINAGE EASEMENT	—P/D/E—	—P/D/E—
CONSTRUCTION LIMITS	—	—
UTILITIES		
FIBER OPTICS	—FO—	—FO—
OVERHEAD TELEPHONE	—○—	—○—
UNDERGROUND TELEPHONE	—UT—	—UT—
OVERHEAD POWER	—□—	—□—
UNDERGROUND POWER	—P—	—P—
OVERHEAD POWER & TELEPHONE	—OET—	—OET—
GAS	—G—	—G—
WATER	—W—	—W—
MANHOLE	SAN	—
FIRE HYDRANT	HYD	—
WATER VALVE	WV	—
WATER METER	WM	—
DROP INLET	—	—
DITCH BLOCK	—	—
GROUND MOUNTED SIGN	SIGN	—
LIGHT POLE	—	—
H-FRAME POWER POLE	PED	—
TELEPHONE PEDESTAL	△	—
FENCE	—	—
CHAIN LINK	V	—
WOVEN WIRE	X	—
GATE POST	—	—
BENCHMARK	BM	—

NOTE: DASHED, OPEN OR TRANSPARENT SYMBOLS INDICATE EXISTING FEATURES

STATE OF MISSOURI

JEFFERSON COUNTY DEPARTMENT OF PUBLIC WORKS

STRUCTURE REPLACEMENT

DOC SARGENT ROAD

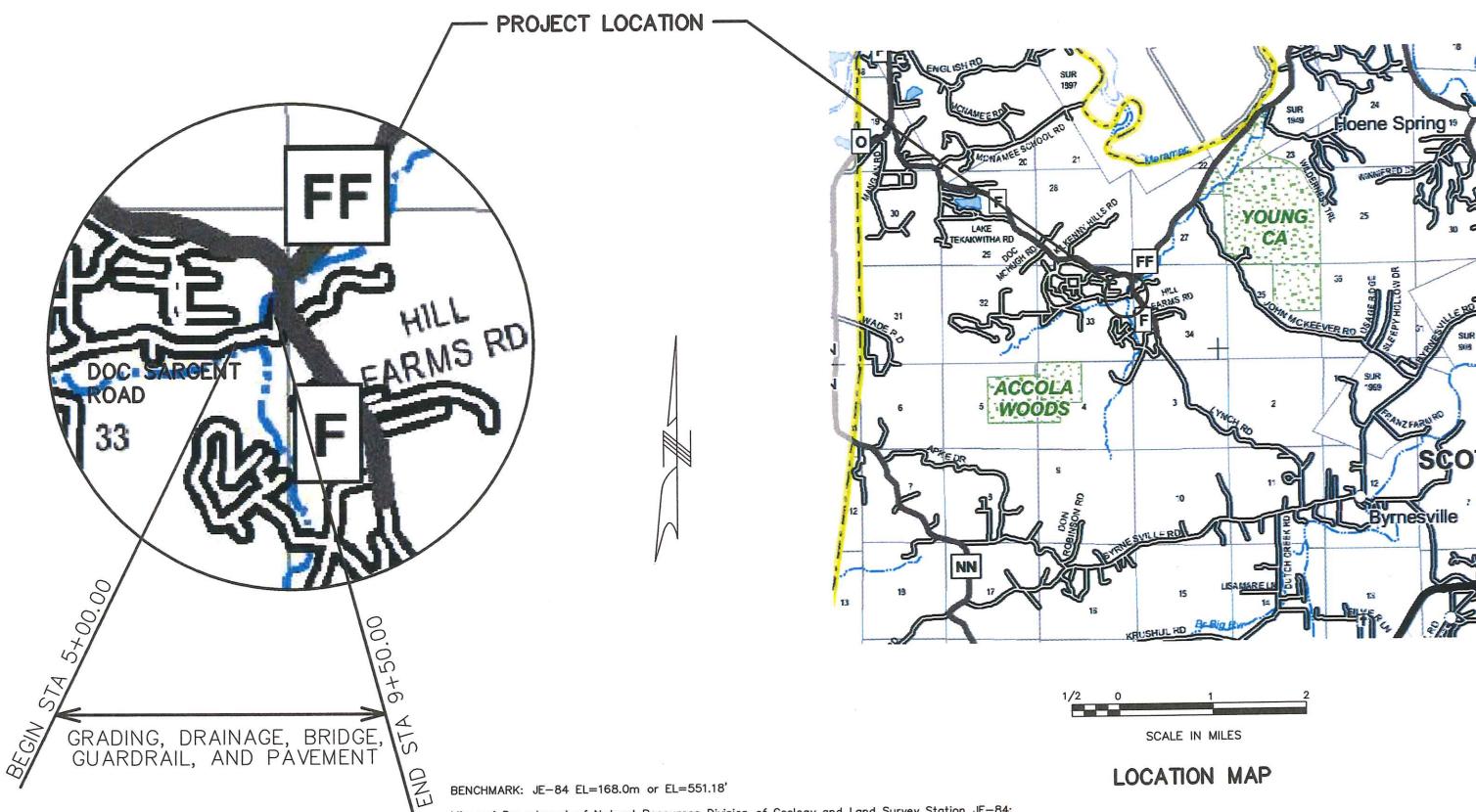
BRIDGE NO. 00800021

PROJECT NO. STP-5403(674)

FINAL PLANS

OCTOBER 29, 2019

SECTION 33, TOWNSHIP 43 NORTH, RANGE 3 EAST
JEFFERSON COUNTY, MISSOURI



APPROVED FOR CONSTRUCTION BY:
JEFFERSON COUNTY, MISSOURI
DEPARTMENT OF PUBLIC WORKS
JASON JONAS, P.E. DIRECTOR OF PUBLIC WORKS
Date: 11-13-19

INDEX OF SHEETS

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STATE OF MISSOURI
JOHN J. GRUENDLER
NUMBER E-23263
PROFESSIONAL ENGINEER
MO PE NO. E-23263
DATE SIGNED/SEALED
10/29/2019
DATE PREPARED
10/29/2019
ROUTE STATE
MO
DISTRICT SHEET NO.
SL 1
COUNTY
JEFFERSON
JOB NO.
PROJECT NO.
STP-5403(674)
BRIDGE NO.
00800021

ABBREVIATIONS

DO NOT DISTURB	DND
TYPICAL	TYP
USE IN PLACE	UIP
SANITARY	SAN
MANHOLE	MH
OFFSET	OFF
ELEVATION	EL OR ELEV
RIGHT-OF-WAY	R/W
BASELINE	BL
CENTERLINE	CL
PROFILE GRADE	P.G.
POLYVINYL CHLORIDE	PVC
CORRUGATED METAL PIPE	CMP
EXISTING	EXIST OR EX
STATION	STA
DOUBLE SOLID YELLOW STRIPING	DSY
SOLID WHITE STRIPING	SW
FLOWLINE	FL
TANGENT LENGTH	T
REMOVE OR RADIUS	R
NORTH	N
EAST	E
POINT OF CURVATURE	PC
POINT OF REVERSE CURVATURE	PRC
POINT OF INTERSECTION	PI
POINT OF TANGENT	PT
VERTICAL POINT OF INTERSECTION	VPI
VERTICAL POINT OF CURVATURE	VPC
VERTICAL POINT OF TANGENT	VPT
TO BE REMOVED	TBR
TO BE REMOVED AND REPLACED BY OTHERS	TBR&RBO
CURVE LENGTH	L
TRIBUTARY	TRIB
DRIVEWAY	DWY
RIGHT	RT
LEFT	LT
REMAINING	REM
PROPOSED	PROP.
CONTROL POINT	CP#1
AGGREGATE	AGG
SHOULDER	SHLDR
ADJUST TO GRADE	ATG
NUMBER	NO.
EDGE OF PAVEMENT	EOP
BEGIN PROJECT	BP
END PROJECT	EP

JEFFERSON COUNTY
DEPARTMENT OF PUBLIC
WORKS
P.O. BOX 100
HILLSBORO, MO
(636-797-5565) FAX
(636-797-5340) PHONE



LENGTH OF PROJECT

BEGINNING OF PROJECT	STA. 5+00.00
END OF PROJECT	STA. 9+50.00
APPARENT LENGTH	450.00 FEET
EQUATIONS AND EXCEPTIONS:	NONE
TOTAL CORRECTIONS	0.00 FEET
NET LENGTH OF PROJECT	450.00 FEET

TITLE SHEET

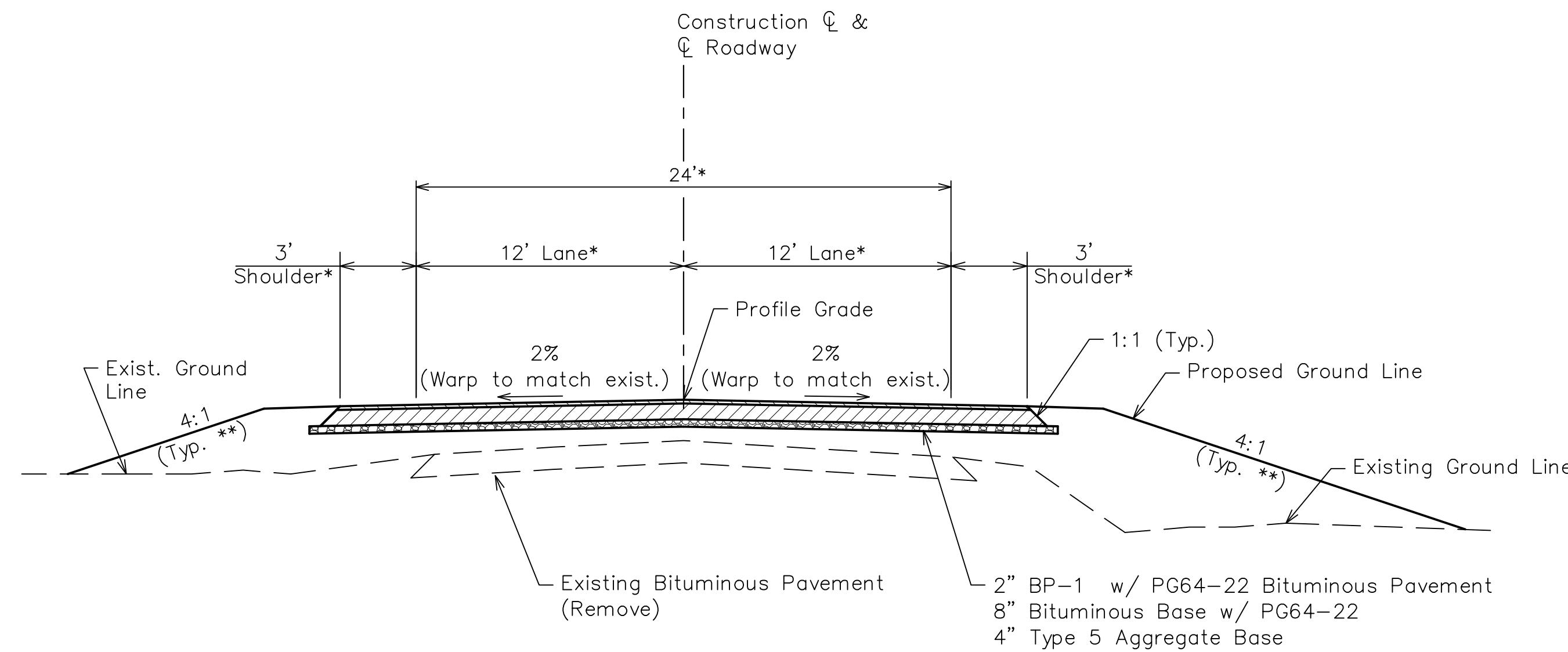
Doc Sargent Road

COUNTY ROAD: Doc Sargent Road

STRUCTURES, INC.
STRUCTURAL ENGINEERING FIRM
11414 Gravois Rd • Suite 201
St. Louis, MO 63126
314.638.6650
CERT. OF AUTHORITY: E-2006135000



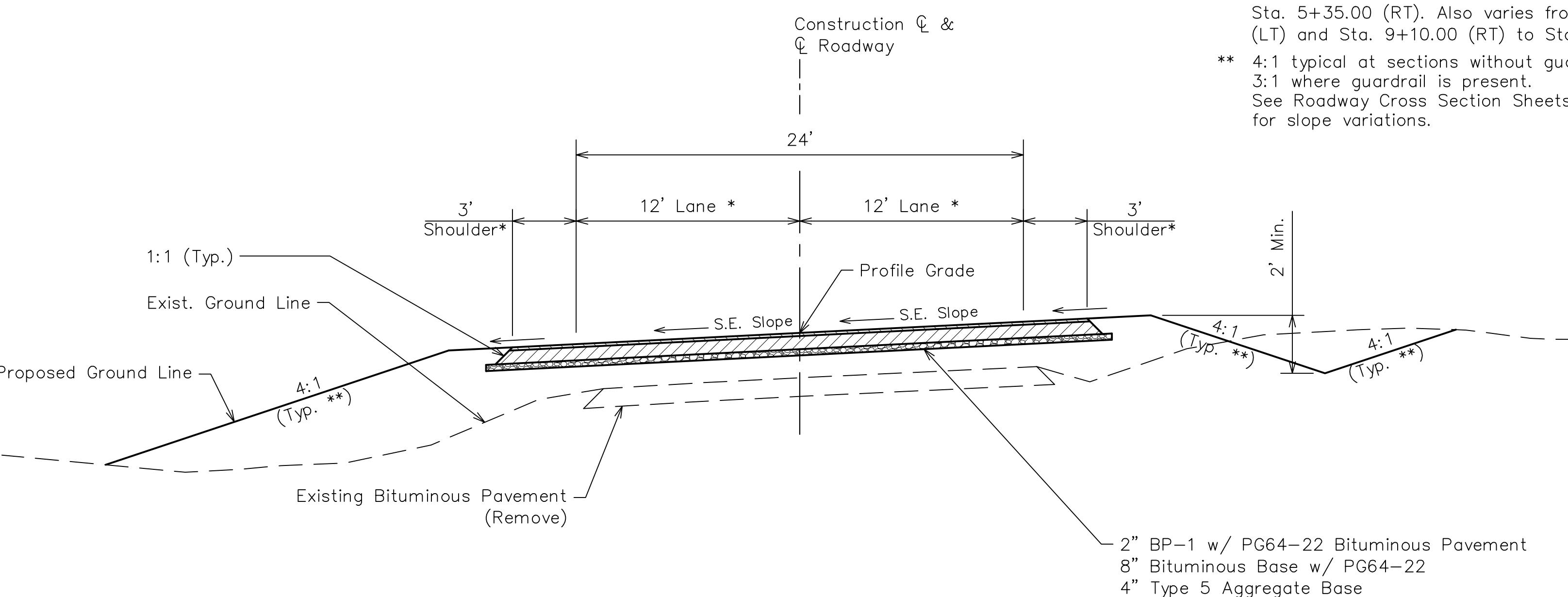
JOHN J. GRUENDLER
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SL 2
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BRIDGE NO.
00800021



TYPICAL SECTION ON TANGENT

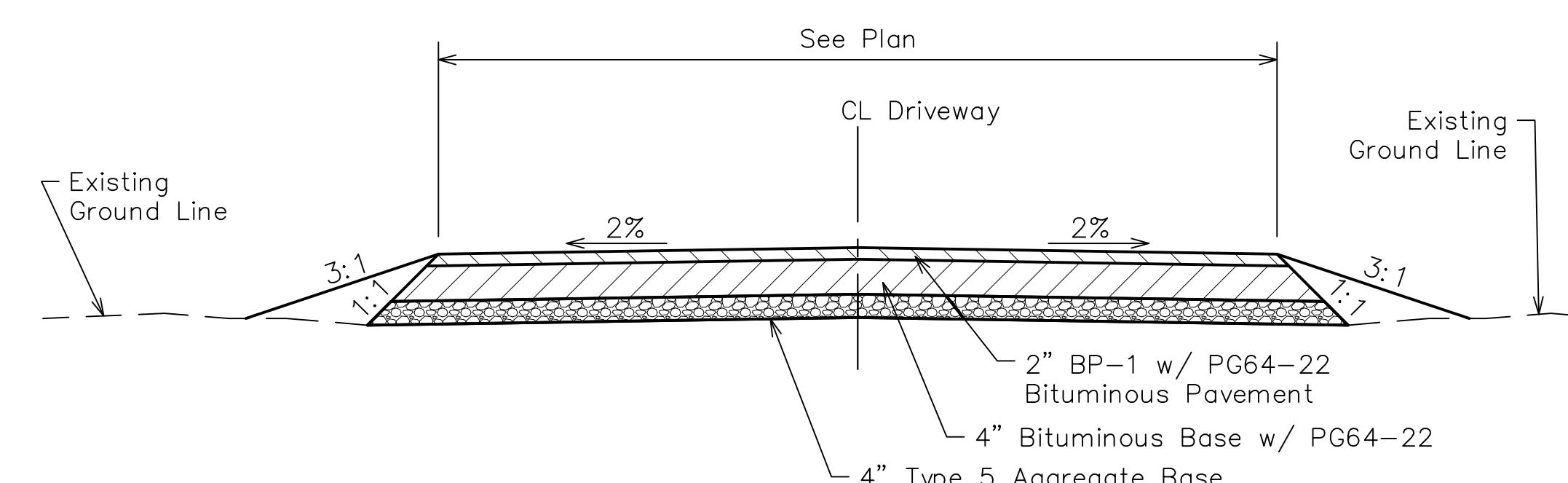
Doc Sargent Road
Sta. 5+05.00 to Sta. 6+08.00
Sta. 9+17.36 to Sta. 9+40.00

* Varies from Sta. 5+05.00 to Sta. 5+09.19 (LT) and Sta. 5+35.00 (RT). Also varies from Sta. 8+85.00 (LT) and Sta. 9+10.00 (RT) to Sta. 9+40.00.
** 4:1 typical at sections without guardrail.
3:1 where guardrail is present.
See Roadway Cross Section Sheets for slope variations.



TYPICAL SECTION ON SUPERELEVATED CURVE

Doc Sargent Road
Sta. 6+08.00 to Sta. 6+41.87
Sta. 8+01.70 to Sta. 9+17.36

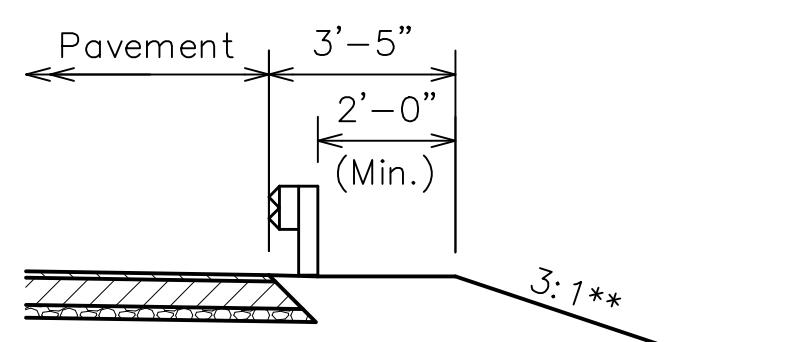


TYPE 1 DRIVEWAY (ASPHALT)

Driveway Entrance at Sta. 5+22.70 Left
Driveway at Sta. 8+23.61 Right

GENERAL NOTES:

- Any work indicated on the plans that extends beyond the project limits is considered incidental to and a part of the construction of this project.
- All construction shall be in accordance with the current editions of the Missouri Standard Specifications for Highway Construction and the Missouri Standard Plans for Highway Construction.
- Traffic control shall be maintained in accordance with the Manual on Uniform Traffic Control Devices (MUTCD) and MoDOT Standard Plan 616.10 for traffic control devices.
- All graded areas shall be seeded and mulched.



SECTION AT GUARDRAIL

JEFFERSON COUNTY
DEPARTMENT OF PUBLIC
WORKS

P.O. BOX 100
HILLSBORO, MO
(636) 797-5340 PHONE
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PAVEMENT ESTIMATE FACTORS

TYPE 5 AGGREGATE FOR BASE (4" THICK)
BITUMINOUS PAVEMENT MIXTURE PG64-22(BASE)
BITUMINOUS PAVEMENT MIXTURE PG64-22(BP-1)
TACK COAT

0.058 TONS/YD²/INCH COMPACTED
2.13 TON/YD³ COMPACTED MIXTURE
2.15 TON/YD³ COMPACTED MIXTURE
0.10 GAL/YD²

TYPICAL SECTIONS Doc Sargent Road

STRUCTURES, INC.
A STRUCTURAL ENGINEERING FIRM
11414 Gravois Rd • Suite 201
St. Louis, MO 63126
314.638.6650

CERT. OF AUTHORITY: E-200603600



JOHN J. GRUENDLER
PROFESSIONAL ENGINEER
MO PE NO. E-23263

DATE SIGNED/SEALED
10/29/2019

DATE PREPARED
10/29/2019

ROUTE STATE
MO

DISTRICT SHEET NO.
SL 3

COUNTY JEFFERSON

JOB NO.

CONTRACT ID.

PROJECT NO.
STP-5403(674)

BRIDGE NO.
00800021

Roadway Items			
Pay Item No.	Description	Unit	Quantity
201-30.00	Clearing and Grubbing	Acre	0.8
202-20.10	Removal of Improvements	Lump Sum	1
203-10.00	Class A Excavation	Cu. Yard	906
203-60.00	Compacting Embankment	Cu. Yard	515
206-30.00	Class 3 Excavation	Cu. Yard	20
304-05.04	Type 5 Aggregate for Base (4 in. thick)	Sq. Yard	1177
401-12.09	Bituminous Pavement Mixture PG64-22 (BP-1)	Tons	130.4
401-30.00	Bituminous Pavement Mixture PG64-22 (Base)	Tons	492.5
407-10.05	Tack Coat	Gal.	109
504-10.00	Concrete Approach Pavement	Sq. Yard	157.3
606-10.10	Guardrail Type A	Linear Foot	100
606-10.54	Guardrail Type E, 6 Ft. Post, 6 ft-3 in Spacing	Linear Foot	56
606-23.00A	Transition Section, 6.5 Ft. Posts	Each	3
606-24.00	Bridge Anchor Section (Thrie Beam)	Each	4
606-30.15	Type A Crashworthy End Terminal	Each	3
611-30.20	Furnishing Type 2 Rock Blanket	Cu. Yard	551
611-30.40	Placing Type 2 Rock Blanket	Cu. Yard	551
611-99.05	Rock Blanket Bedding	Sq. Yard	431.0
618-10.00	Mobilization	Lump Sum	1
627-40.00	Contractor Furnished Surveying and Staking	Lump Sum	1
726-10.15	15 in. Pipe Group A	Linear Foot	24
726-10.18	18 in. Pipe Group A	Linear Foot	39
732-06.15A	15 in. or Allowed Substitute Group A Flared End Section	Each	2
732-06.18A	18 in. or Allowed Substitute Group A Flared End Section	Each	2
806-10.05	Rock Ditch Check	Linear Foot	50
806-10.19	Silt Fence	Linear Foot	742
806-10.50	Type C Berm	Linear Foot	225

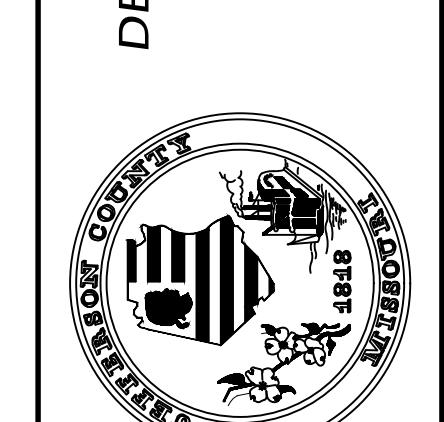
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Bridge Items			
Pay Item No.	Description	Unit	Quantity
206-10.00	Class 1 Excavation	Cu. Yard	108.0
216-05.00	Removal of Bridges	Lump Sum	1
503-10.10A	Bridge Approach Slab (Major Road)	Sq. Yard	136
701-12.02	Rock Sockets (2 ft. 0 in. Dia.)	Linear Foot	60.0
701-14.00	Foundation Inspection Holes	Linear Foot	217.5
702-12.12	Galvanized Structural Steel Piles (12 in.)	Linear Foot	200
702-60.00	Pre-Bore for Piling	Linear Foot	117
703-20.03	Class B Concrete (Substructure)	Cu. Yard	29.9
703-42.21	Slab on Concrete NU-Girder	Sq. Yard	267
705-60.21	NU 35, Prestressed Concrete NU-Girder	Linear Foot	283
713-40.00	Bridge Guardrail (Thrie Beam)	Linear Foot	175
715-10.01	Vertical Drain at End Bents	Each	2
716-10.02	Laminated Neoprene Bearing Pad	Each	8

Signing/Striping Items			
Pay Item No.	Description	Unit	Quantity
616-10.05	Construction Signs	Sq. Foot	350
616-10.10	Relocated Signs	Sq. Foot	13
616-10.25	Channelizer (Trim Line)	Each	20
616-1098A	Changeable Message Sign Without Communication Interface, Contractor Furnished, Contractor Retained	Each	2
616-10.31	Type III Moveable Barricade with Light	Each	4
620-60.00C	4 in. White Waterborne Pavement Marking Paint, Type P Beads	Linear Foot	880
620-60.01C	4 in. Yellow Waterborne Pavement Marking Paint, Type P Beads	Linear Foot	880

Landscaping Items			
Pay Item No.	Description	Unit	Quantity
805-10.00A	Seeding - Cool Season Mixtures	Acre	0.4

JEFFERSON COUNTY
DEPARTMENT OF PUBLIC
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HILLSBORO, MO
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K STRUCTURES, INC.
A STRUCTURAL ENGINEERING FIRM
11414 Gravois Rd • Suite 201
St. Louis, MO 63126
314.638.6650
CERT. OF AUTHORITY: E-2006036000

SUMMARY OF QUANTITIES
Doc Sargent Road

SIGN	SIZE IN.	AREA SQ.FT.	QTY EACH	TOTAL AREA SQ.FT.	QTY RELOC EACH	TOTAL RELOC SQ.FT.	SIGN NUM.	DESCRIPTION	SIGN	SIZE IN.	AREA SQ.FT.	QTY EACH	TOTAL SQ.FT.	QTY RELOC EACH	TOTAL RELOC SQ.FT.	SIGN NUM.	DESCRIPTION	ITEM NUMBER	TOTAL EACH	DESCRIPTION	
								WARNING SIGNS				GUIDE SIGNS				DESCRIPTION					
W01-1L	48X48	16.00						TURN (SYMBOL LEFT ARROW)	E05-1	36X48	12.00					GORE EXIT	6122008		IMPACT ATTENUATOR (8 SAND BARRELS)		
W01-1R	48X48	16.00						TURN (SYMBOL RIGHT ARROW)	E05-2	48X36	12.00					EXIT OPEN	6122009		IMPACT ATTENUATOR (9 SAND BARRELS)		
W01-2L	48X48	16.00						CURVE (SYMBOL LEFT ARROW)	E05-2a	48X36	12.00					EXIT CLOSED	6122010		IMPACT ATTENUATOR (10 SAND BARRELS)		
W01-2R	48X48	16.00						CURVE (SYMBOL RIGHT ARROW)	G020-1	60X24	10.00					ROAD WORK NEXT XX MILES	6122012		IMPACT ATTENUATOR (12 SAND BARRELS)		
W01-3L	48X48	16.00						REVERSE TURN (SYMBOL LEFT ARROW)	G020-2	48X24	8.00					END ROAD WORK	6122014		IMPACT ATTENUATOR (14 SAND BARRELS)		
W01-3R	48X48	16.00						REVERSE TURN (SYMBOL RIGHT ARROW)	G020-4	36X18	4.50					PILOT CAR FOLLOW ME	6122017		IMPACT ATTENUATOR (17 SAND BARRELS)		
W01-4L	48X48	16.00						REVERSE CURVE (SYMBOL LEFT ARROW)	G020-4a	42X30	8.75					PLEASE WAIT FOR PILOT CAR	6122019		IMPACT ATTENUATOR (19 SAND BARRELS)		
W01-4R	48X48	16.00						REVERSE CURVE (SYMBOL RIGHT ARROW)	G020-5P	36X24	6.00					WORK ZONE (PLAQUE)	6122020		REPLACEMENT SAND BARREL		
W01-4bL	48X48	16.00						DOUBLE ARROW REVERSE CURVE (SYMBOL LT ARROWS)	M04-8a	24X18	3.00	2	6			END DETOUR	6122030		IMPACT ATTENUATOR (RELOCATION)		
W01-4bR	48X48	16.00						DOUBLE ARROW REVERSE CURVE (SYMBOL RT ARROWS)	M04-9L	48X36	12.00	3	36			DETOUR (LEFT ARROW)	6123000A		TRUCK OR TRAILER MOUNTED ATTENUATOR (TMA)		
W01-4cL	48X48	16.00						TRIPLE ARROW REVERSE CURVE (SYMBOL LT ARROWS)	M04-9R	48X36	12.00	4	48			DETOUR (RIGHT ARROW)	6161007		SPEED LIMIT AND STROBE LIGHT ASSEMBLY		
W01-4cR	48X48	16.00						TRIPLE ARROW REVERSE CURVE (SYMBOL RT ARROWS)	M04-9P	48X12	4.00					STREET NAME (PLAQUE)	6161008		ADVANCED WARNING RAIL SYSTEM		
W01-6	60X30	12.50						HORIZONTAL ARROW (SYMBOL)	M04-10L	48X18	6.00					DETOUR (ARROW LEFT)	6161009		FLAG ASSEMBLY		
W01-6a	72X36	18.00						HORIZ. ARROW (SYMBOL ON PERMANENT BARRICADE)	M04-10R	48X18	6.00					DETOUR (ARROW RIGHT)	6161012		BOOYS (BOATS KEEP OUT)		
W01-7	60X30	12.50						DOUBLE HEAD HORIZONTAL ARROW (SYMBOL)	M4-8	24X12	2.00	2	4			DETOUR	6161013		BOOYS (NO WAKE)		
W01-7a	72X36	18.00						DOUBLE HEAD HORIZ. ARROW (SYMBOL ON PERM. BARR.)	M6-3	21X15	2.1875	2	4.375			DIRECTION ARROW (UP)	6161014		SPECIAL SIGN ASSEMBLY (BOATS KEEP OUT)		
W01-8	18X24	3.00						CHEVRON (SYMBOL)	REGULATORY SIGNS								6161024		CHANNELIZER (TRIM LINE) WITH LIGHT		
W01-8a	30X36	7.50						CHEVRON (SYMBOL FOR DIVIDED HIGHWAYS)	R1-1	48X48	13.25					STOP	6161025	20	CHANNELIZER (TRIM LINE)		
W03-1	48X48	16.00						STOP AHEAD (SYMBOL)	R1-2	48TRI	6.93	2	13.86			YIELD	6161030		TYPE III MOVEABLE BARRICADE		
W03-2	48X48	16.00						YIELD AHEAD (SYMBOL)	R1-2a	36X36	9.00	2	18			TO ONCOMING TRAFFIC (PLAQUE)	6161031	4	TYPE III MOVEABLE BARRICADE WITH LIGHT		
W03-3	48X48	16.00						SIGNAL AHEAD (SYMBOL)	R1-3P	30X12	2.50					ALL WAY (PLAQUE)	6161033		DIRECTION INDICATOR BARRICADE		
W03-4	48X48	16.00						BE PREPARED TO STOP	R2-1	36X48	12.00					SPEED LIMIT XX	6161034		DIRECTION INDICATOR BARRICADE, WITH LIGHT		
W03-5	48X48	16.00						SPEED LIMIT AHEAD	R3-1	48X48	16.00					NO RIGHT TURN (SYMBOL)	6161040		FLASHING ARROW PANEL		
W04-1L	48X48	16.00						MERGE (SYMBOL FROM LEFT)	R3-2	48X48	16.00					NO LEFT TURN (SYMBOL)	6161047		TYPE III OBJECT MARKER		
W04-1R	48X48	16.00						MERGE (SYMBOL FROM RIGHT)	R3-3	36X36	9.00					NO TURNS	6161052		WARNING LIGHT, TYPE B		
W04-1aL	48X48	16.00						MERGE (ARROW SYMBOL)	R3-4	48X48	16.00					NO U-TURN (SYMBOL)	6161055		SEQUENTIAL FLASHING WARNING LIGHT		
W04-1aR	48X48	16.00						MERGE (ARROW SYMBOL)	R3-7L	30X30	6.25					LEFT LANE MUST TURN LEFT	6161070		TUBULAR MARKER		
W05-1	48X48	16.00						ROAD/BRIDGE/RAMP NARROWS	R3-7R	30X30	6.25					RIGHT LANE MUST TURN RIGHT	6161095		RADAR SPEED ADVISORY SYSTEM		
W05-3	48X48	16.00						ONE LANE BRIDGE	R4-1	36X48	12.00					DO NOT PASS	6161096		CHANGEABLE MESSAGE SIGN,		
W05-5	48X48	16.00						NARROW LANES	R4-2	36X48	12.00					PASS WITH CARE	6161098A	2	COMMISSION FURNISHED/RETAINED		
W06-1	48X48	16.00						DIVIDED HIGHWAY (SYMBOL)	R4-7a	36X48	12.00					KEEP LEFT (HORIZONTAL ARROW)	6161098A		CHANGEABLE MESSAGE SIGN W/O COMM.		
W06-2	48X48	16.00						DIVIDED HIGHWAY END (SYMBOL)	R4-7a	36X48	12.00					KEEP RIGHT (HORIZONTAL ARROW)	6162000A		INTERFACE, CONTRACTOR FURNISHED/RETAINED		
W06-3	48X48	16.00						TWO WAY TRAFFIC (SYMBOL)	R5-1	30X30	6.25					DO NOT ENTER	6162002		TEMPORARY LONG-TERM RUMBLE STRIPS		
W07-3a	30X24	5.00						NEXT XX MILES (PLAQUE)	R5-1a	36X24	6.00					WRONG WAY	6162004		TEMPORARY SHORT-TERM RUMBLE STRIPS		
W08-1	48X48	16.00						BUMP	R6-1L	54X18	6.75					ONE WAY ARROW (LEFT)	6173600D		TEMPORARY TRAFFIC BARRIER		
W08-2	48X48	16.00						DIP	R6-1R	54X18	6.75					ONE WAY ARROW (RIGHT)	6173602B		CONTRACTOR FURNISHED/COMMISSION RETAINED		
W08-3	48X48	16.00						PAVEMENT ENDS	R6-2L	24X30	5.00					ONE WAY (LEFT)	6174000A		TEMP. TRAFFIC BARRIER HEIGHT TRANSITION		
W08-4	48X48	16.00						SOFT SHOULDER	R6-2R	24X30	5.00					ONE WAY (RIGHT)	6175010A		RELOCATING TEMPORARY TRAFFIC BARRIER		
W08-5	48X48	16.00						SLIPPERY WHEN WET (SYMBOL)	R9-9	24X12	2.00					SIDEWALK CLOSED	6176000B		TEMPORARY TRAFFIC BARRIER		
W08-6	48X48	16.00						TRUCK CROSSING	R9-11L	24X18	3.00					SIDEWALK CLOSED AHEAD, (ARROW LEFT) CROSS HERE	6177000B		CONTRACTOR FURNISHED/COMMISSION RETAINED		
W08-6c	48X48	16.00						TRUCK ENTRANCE	R9-11R	24X18	3.00					SIDEWALK CLOSED AHEAD, (ARROW RIGHT) CROSS HERE	6208064A		TEMP. TRAFFIC BARRIER HEIGHT TRANSITION		
W08-7	36X36																				

COORDINATE POINT LISTING					
POINT NO.	STATION	LOCATION	MISSOURI STATE PLANE COORDINATE SYSTEM		DESCRIPTION
			N	E	
1	5+00.00	Doc Sargent Rd.	943,680.7262	767,147.3560	Begin Project
2	5+05.00	Doc Sargent Rd.	943,681.0981	767,152.3422	Full Depth Sawcut Across Pavement
3	6+41.87	Doc Sargent Rd.	943,691.2016	767,288.8395	Begin Bituminous Pavement
4	6+60.89	Doc Sargent Rd.	943,692.6056	767,307.8067	Begin Concrete Approach Pavement
5	6+80.89	Doc Sargent Rd.	943,694.0819	767,327.7521	End Concrete Approach Pavement/Begin Bridge Approach Slab
6	7+53.48	Doc Sargent Rd.	943,699.4402	767,400.1420	End Bridge Approach Slab/Begin Bridge Slab
--	7+59.18	Doc Sargent Rd.	943,699.8614	767,405.8319	P.C. Curve #1
7	7+73.47	Doc Sargent Rd.	943,702.2646	767,419.9008	End Bridge Approach Slab/Begin Concrete Approach Pavement
8	8+01.70	Doc Sargent Rd.	943,714.5354	767,445.1330	End Concrete Approach Pavement
--	8+10.84	Doc Sargent Rd.	943,703.6749	767,457.3521	P.I. Curve #1
--	8+49.66	Doc Sargent Rd.	943,753.1710	767,472.1517	P.T. Curve #1
--	9+00.00	Doc Sargent Rd.	943,801.4014	767,486.5713	Point of Intersection (P.I.)
9	9+40.00	Doc Sargent Rd.	943,840.9299	767,492.6874	Full Depth Sawcut Across Pavement
10	9+50.00	Doc Sargent Rd.	943,850.8120	767,494.2180	End Bituminous Pavement
					End Project

SURVEY NOTES:

BENCHMARK: JE-84 EL=168.0m or EL=551.18'

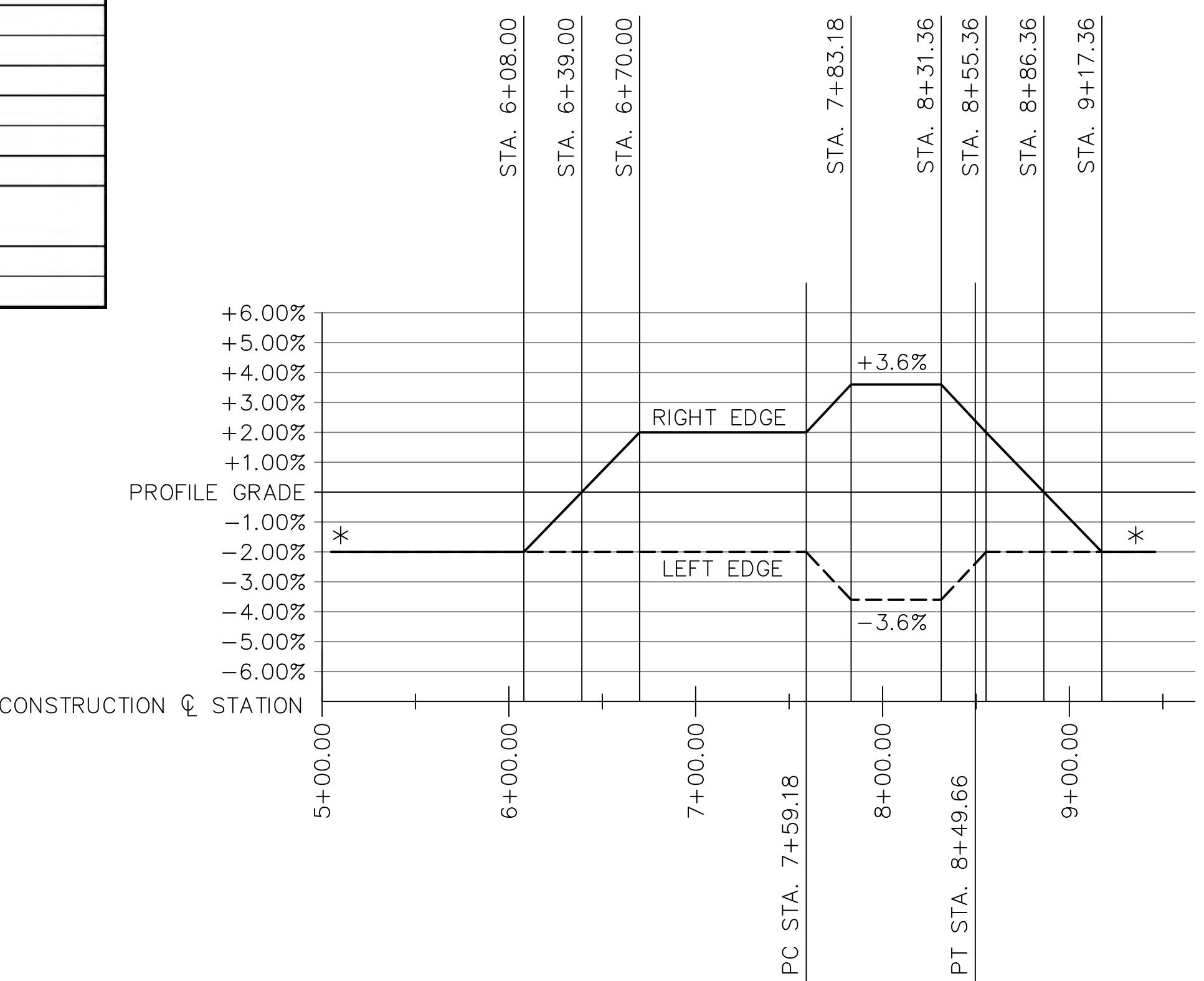
Missouri Department of Natural Resources Division of Geology and Land Survey Station JE-84: The station is marked by standard MO DNR GRS disk stamped "JE-84, 1996". Located about 2.9 miles north-northwest of the hamlet of Byrnesville, MO, about 5.5 miles south-southeast of Pacific, MO, on the east right-of-way of Route F. It is 15 ft. east of the center of Route F; 15 ft. south of a macadamized road that leads to Cedar Hill Farm (address #3270); 69.7 ft. easterly from a nail and blue plastic cap in a utility pole (#SW 5626); and 28.7 ft. west from a nail and blue plastic cap in a fence post with carbonite witness post.

The azimuth JE-84A is marked by standard MO DNR GRS disk stamped "JE-84A, 1996". Located one-half mile northwest of the station on the south right-of-way of Route F. It is 39 ft. southeasterly from the center of Hillside Drive; 22 ft. south from the center of Route F; 64.3 ft. northerly from a nail and blue plastic cap in a utility pole with transformer; and 14.2 ft. easterly from a nail and blue plastic cap in a utility pole (#W3472) with a carbonite witness post.

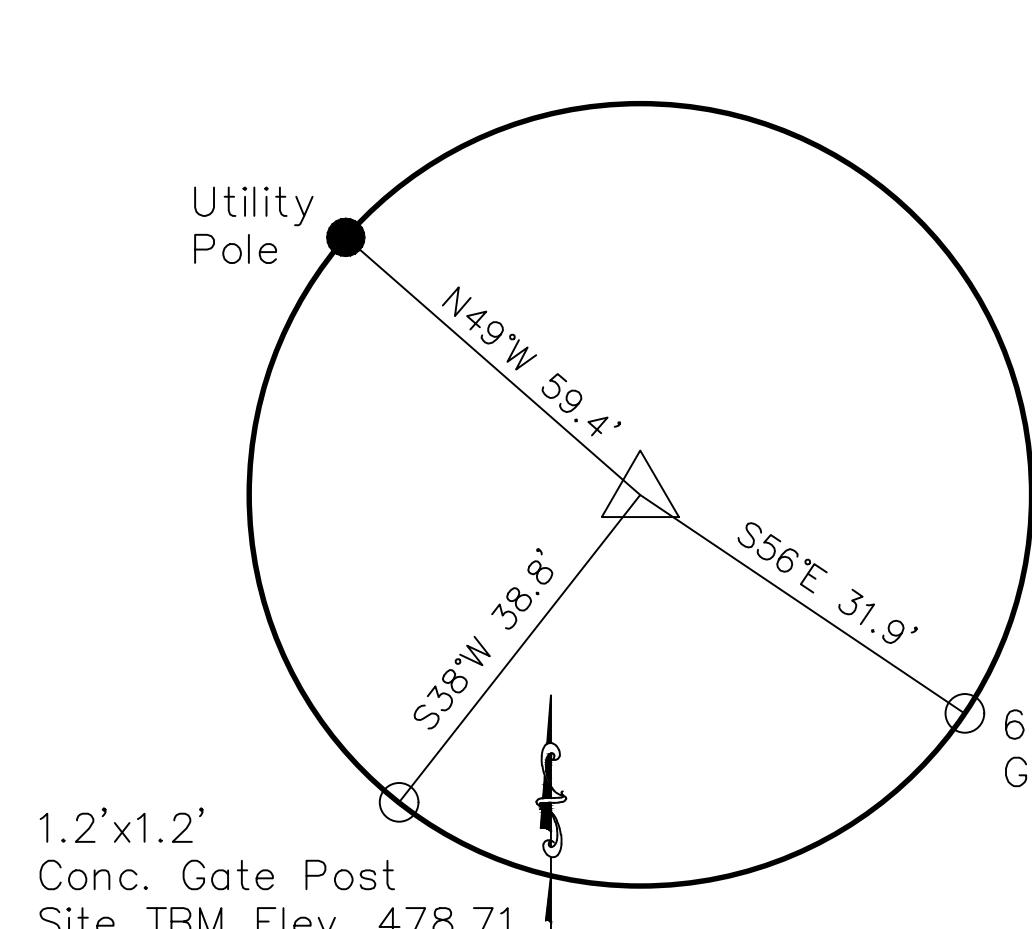
SITE Temporary Benchmark

Top hinge pin on the West side of the concrete gate post as shown on detail with Control Point #1. Elevation=478.71

On December 14, 2017 three random points were set for the project. These three points were then occupied using Trimble Real Time Kinematic equipment using MODOT "VRS MOS2" network with Geoid Model "12B". In addition control points JE-84 and JE-100 were confirmed as existing monuments.

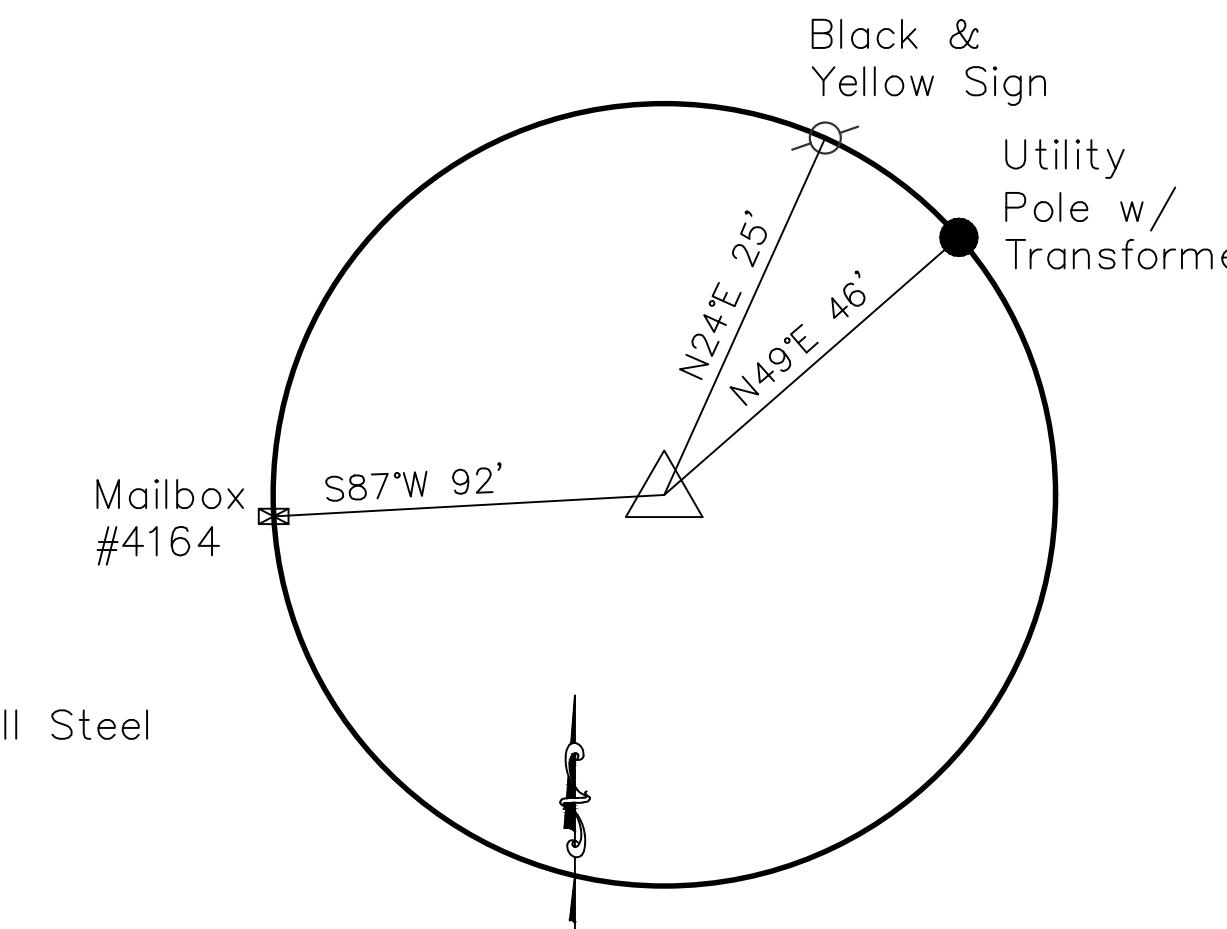


SUPERELEVATION DIAGRAM – DOC SARGENT ROAD



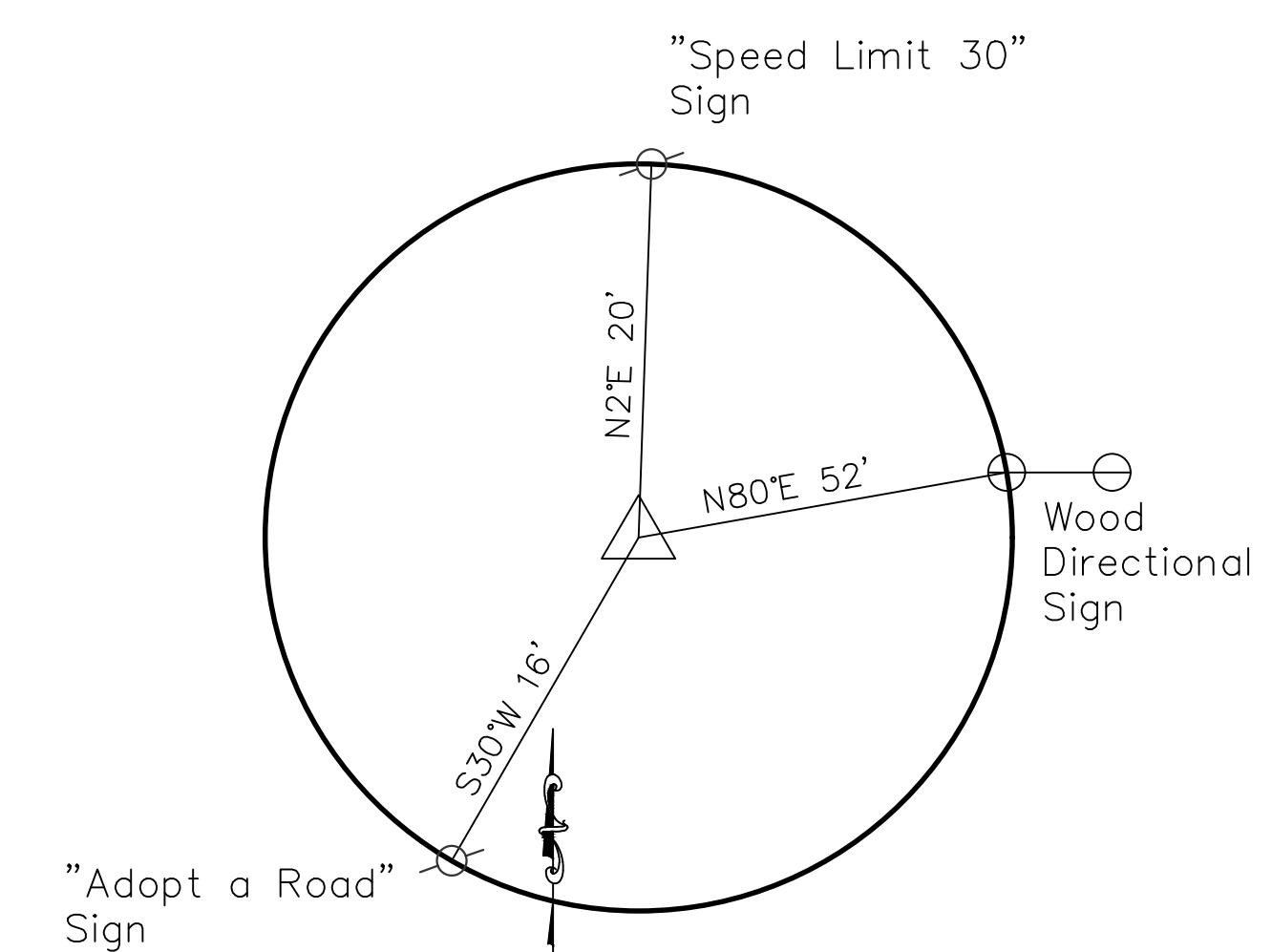
REFERENCE TIE

CONTROL POINT #1
MAG Nail
Sta. 8+13.09, 37.06' RT
N 943,695.9910
E 767,480.1070
EL. 475.78



REFERENCE TIE

CONTROL POINT #2
MAG Nail
Sta. 6+36.71, 12.18' RT
N 943,678.6740
E 767,284.5890
EL. 475.83



REFERENCE TIE

CONTROL POINT #3
MAG Nail
N 944,160.0015
E 767,517.5378
EL. 476.04

CONTROL POINTS & MISC. DETAILS
Doc Sargent Road



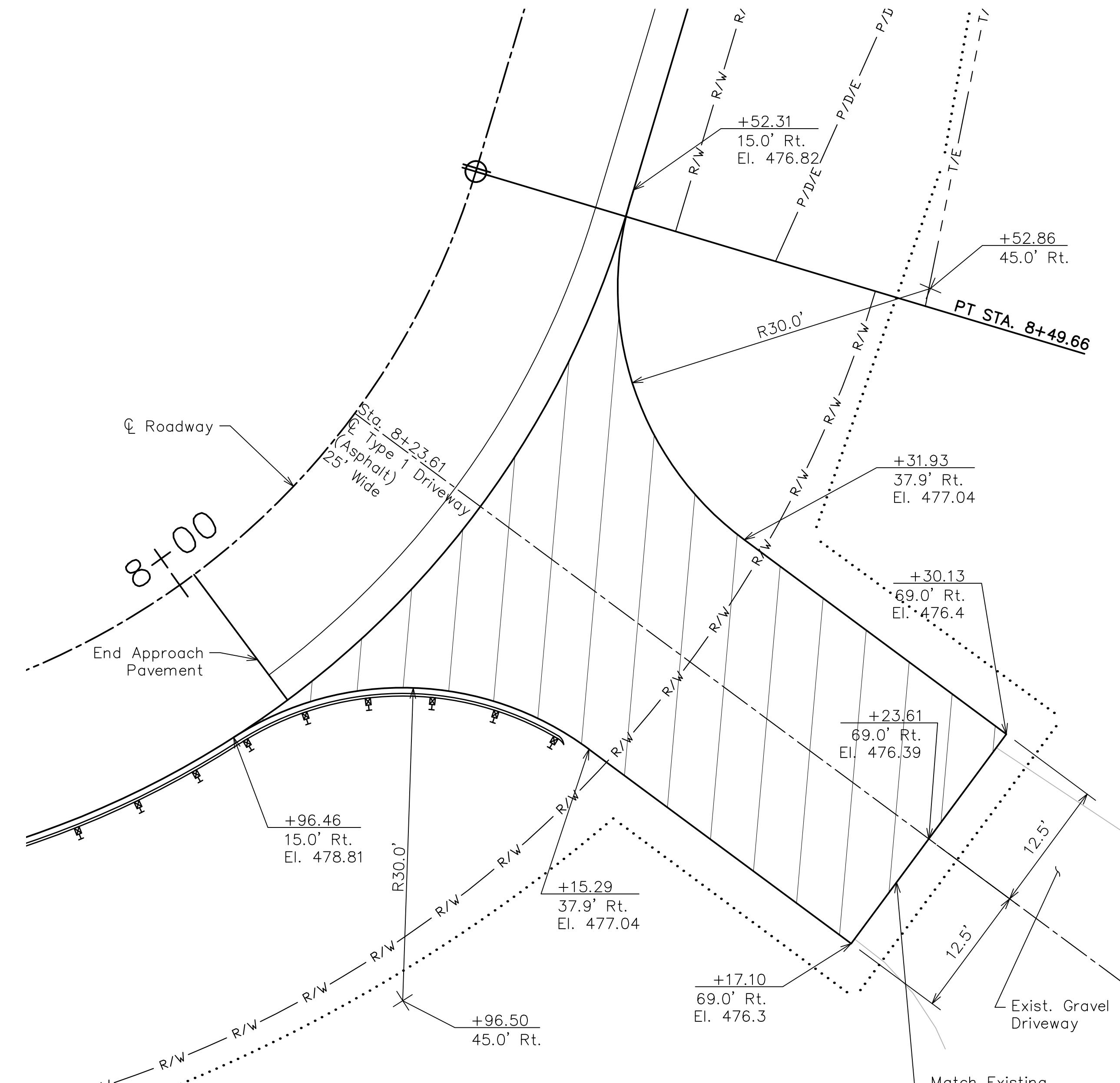
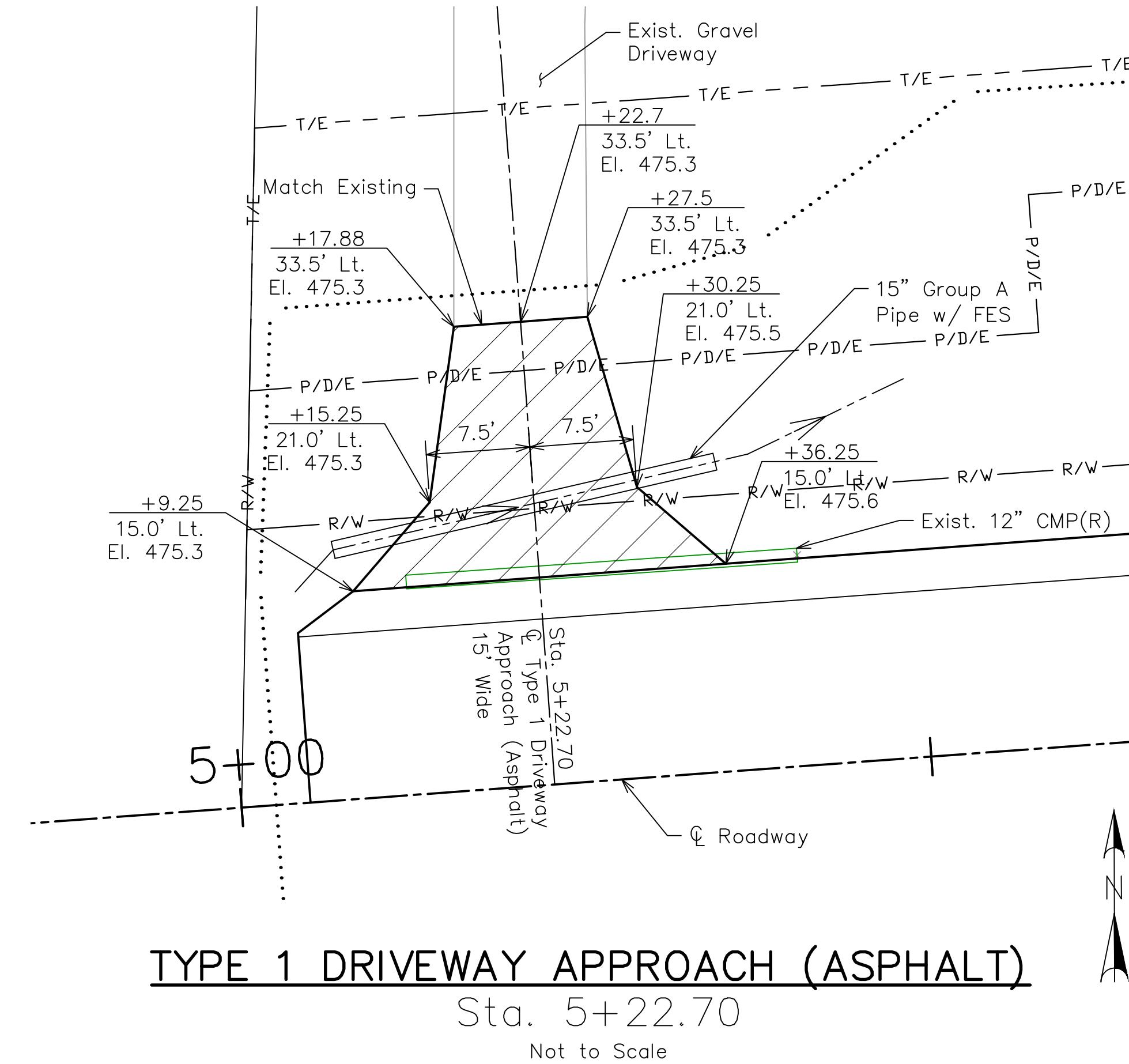
JOHN J. GRUENDLER
PROFESSIONAL ENGINEER
MO PE NO. E-23263
DATE SIGNED/SEALED
10/29/2019
DATE PREPARED
10/29/2019
ROUTE STATE
MO
DISTRICT SHEET NO.
SL 7
COUNTY JEFFERSON
JOB NO.
CONTRACT ID.
PROJECT NO.
STP-5403(674)
BRIDGE NO.
00800021

JEFFERSON COUNTY
DEPARTMENT OF PUBLIC
WORKS
P.O. BOX 100
HILLSBORO, MO
(636)797-5340 PHONE
(636)797-5565 FAX





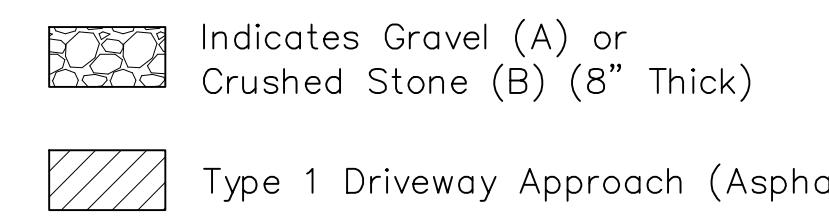
JOHN J. GRUENDLER PROFESSIONAL ENGINEER MO PE NO. E-23263	
DATE SIGNED/SEALED 10/29/2019	
DATE PREPARED 10/29/2019	
ROUTE	STATE MO
DISTRICT SL	SHEET NO. 8
COUNTY JEFFERSON	
JOB NO.	
CONTRACT ID.	
PROJECT NO. STP-5403(674)	
BRIDGE NO. 00800021	



TYPE 1 DRIVEWAY APPROACH (ASPHALT)

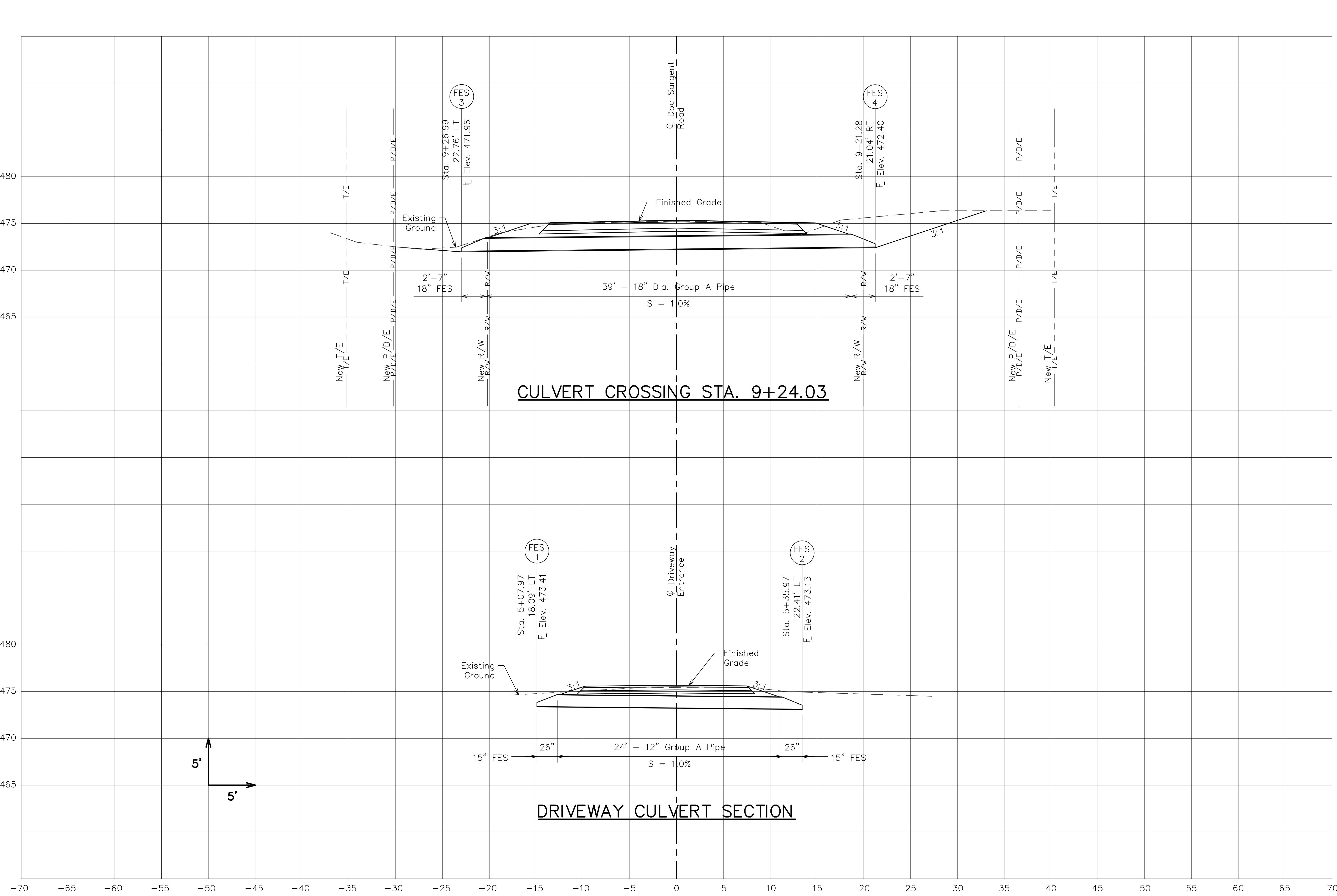
Notes

1. See Roadway Cross Section sheets for entrance profiles.
2. Elevations shown are finished top of pavement elevations



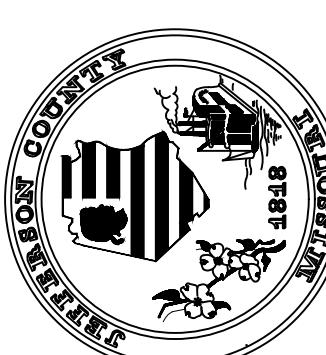
ENTRANCE PLANS

Doc Sargent Road

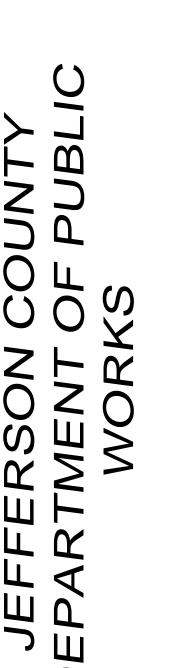


CULVERT SECTIONS

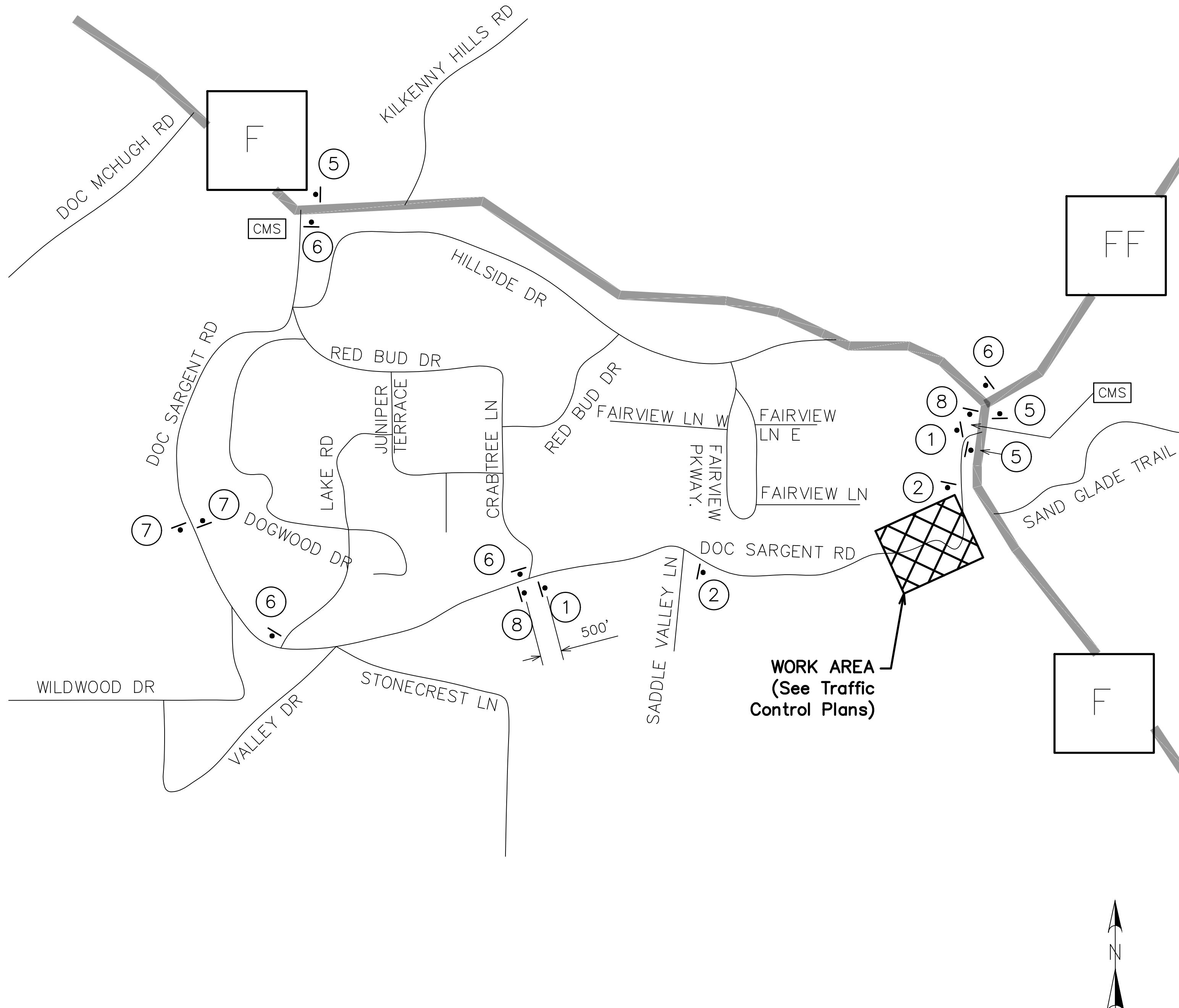
Doc Sargent Road



K-STRUCTURES, INC.
A STRUCTURAL ENGINEERING FIRM
11414 Gravois Rd • Suite 201
St. Louis, MO 63126
314.638.6650

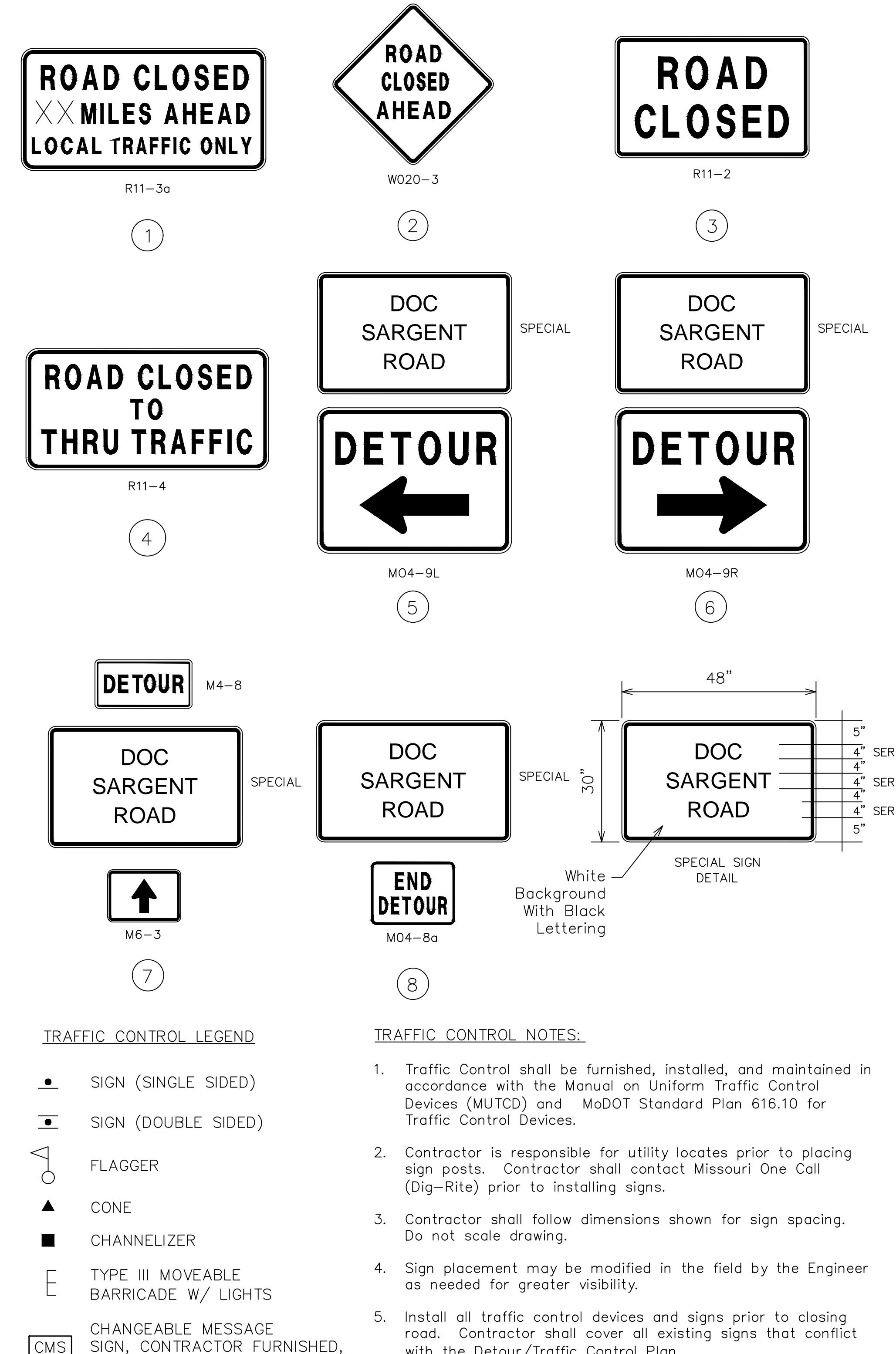


TRAFFIC CONTROL SIGNAGE



NOT TO SCALE

DOC SARGENT ROAD DETOUR PLAN

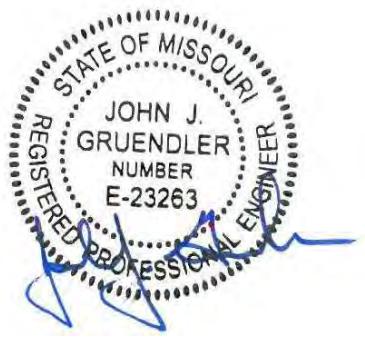


TRAFFIC CONTROL NOTES:

1. Traffic Control shall be furnished, installed, and maintained in accordance with the Manual on Uniform Traffic Control Devices (MUTCD) and MoDOT Standard Plan 616.10 for Traffic Control Devices.
2. Contractor is responsible for utility locates prior to placing sign posts. Contractor shall contact Missouri One Call (Dig-Rite) prior to installing signs.
3. Contractor shall follow dimensions shown for sign spacing. Do not scale drawing.
4. Sign placement may be modified in the field by the Engineer as needed for greater visibility.
5. Install all traffic control devices and signs prior to closing road. Contractor shall cover all existing signs that conflict with the Detour/Traffic Control Plan.
6. Contractor shall maintain access to private properties adjacent to work area at all times. Driveways shall be constructed one-half at a time to allow traffic access if necessary.
7. Contractor shall coordinate message displayed on Changeable Message Signs with Engineer.

DETOUR PLAN

Doc Sargent Road



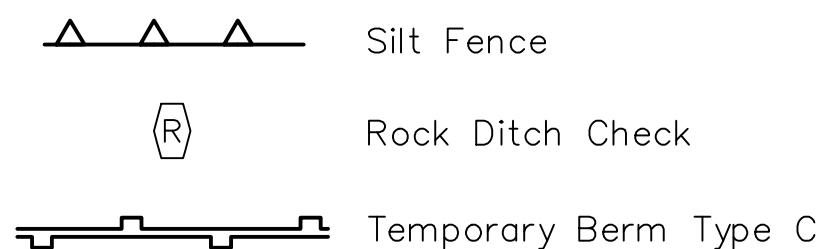
JOHN J. GRUENDLER PROFESSIONAL ENGINEER MO PE NO. E-23263	
DATE SIGNED/SEALED 10/29/2019	
DATE PREPARED 10/29/2019	
ROUTE SL	STATE MO
DISTRICT COUNTY JEFFERSON	SHEET NO. 10
JOB NO.	
CONTRACT ID.	
PROJECT NO. STP-5403(674)	
BRIDGE NO. 00800021	

P.O. BOX 100
HILLSBORO, MO
(636-797-5340) PHONE
(636-797-5565) FAX



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A STRUCTURAL ENGINEERING FIRM
1414 Gravois Rd • Suite 201
St. Louis, MO 63126
314.638.6650

TEMPORARY EROSION CONTROL LEGEND



NOTES:

- THE EXISTENCE AND APPROXIMATE LOCATION OF UTILITY FACILITIES KNOWN TO EXIST, AS SHOWN ON THE PLANS, ARE BASED ON THE BEST INFORMATION AVAILABLE TO THE COUNTY AT THIS TIME. THIS INFORMATION IS PROVIDED BY THE COUNTY "AS-IS" AND THE COUNTY EXPRESSLY DISCLAIMS ANY REPRESENTATION OR WARRANTY AS TO THE COMPLETENESS, ACCURACY, OR SUITABILITY OF THE INFORMATION FOR ANY USE. RELIANCE UPON THIS INFORMATION IS DONE AT THE RISK AND PERIL OF THE USER, AND THE COUNTY SHALL NOT BE LIABLE FOR ANY DAMAGES THAT MAY ARISE FROM ANY ERROR IN THE INFORMATION.
- CONTRACTOR SHALL COORDINATE THEIR ACTIVITIES IN COOPERATION WITH UTILITY COMPANIES.
- ALL DIMENSIONS ARE APPROXIMATE AND SHALL BE FIELD VERIFIED AND DETERMINED PRIOR TO MATERIAL PURCHASING.
- ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE CURRENT MISSOURI STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION AND MISSOURI STANDARD PLANS FOR HIGHWAY CONSTRUCTION.
- REFER TO MGDOT STANDARD PLAN 806.10 FOR DETAILS OF CONSTRUCTION OF TEMPORARY EROSION CONTROL MEASURES.
- END OF GUARDRAIL LOCATIONS SHOWN ARE APPROXIMATE. AFTER BRIDGE SAFETY BARRIER CURB IS CONSTRUCTED, CONTRACTOR SHALL INSTALL GUARDRAIL SECTIONS BEGINNING WITH BRIDGE ANCHOR SECTIONS (SAFETY BARRIER CURB) AND CONTINUE WORKING AWAY FROM BRIDGE.
- COST OF FURNISHING AND INSTALLING THREE BEAM GUARDRAIL END SECTION WILL BE CONSIDERED COMPLETELY COVERED BY THE CONTRACT UNIT PRICE FOR "GUARDRAIL TYPE E, 6 FT. POST, 6 FT. - 3 IN. SPACING" PER LINEAR FOOT.
- REFER TO PLAN SHEET FOR ADDITIONAL DIMENSIONS.

ROCK DITCH CHECK

LOCATION	WIDTH (FEET)
RT. STA. 6+25	6
LT. STA. 6+25	6
RT. STA. 7+75	6
RT. STA. 9+00	6
LT. STA. 9+00	6
TOTAL	30 LIN. FT.



JOHN J. GRUENDLER
PROFESSIONAL ENGINEER
MO PE NO. E-23263

DATE SIGNED/SEALED
10/29/2019

DATE PREPARED
10/29/2019

ROUTE STATE
MO

DISTRICT SHEET NO.
SL 13

COUNTY JEFFERSON

JOB NO.

CONTRACT ID.

PROJECT NO.
STP-5403(674)

BRIDGE NO.
00800021

DATE	DESCRIPTION

P.O. BOX 100
HILLSBORO, MO
(636)797-5340 PHONE
(636)797-5345 FAX

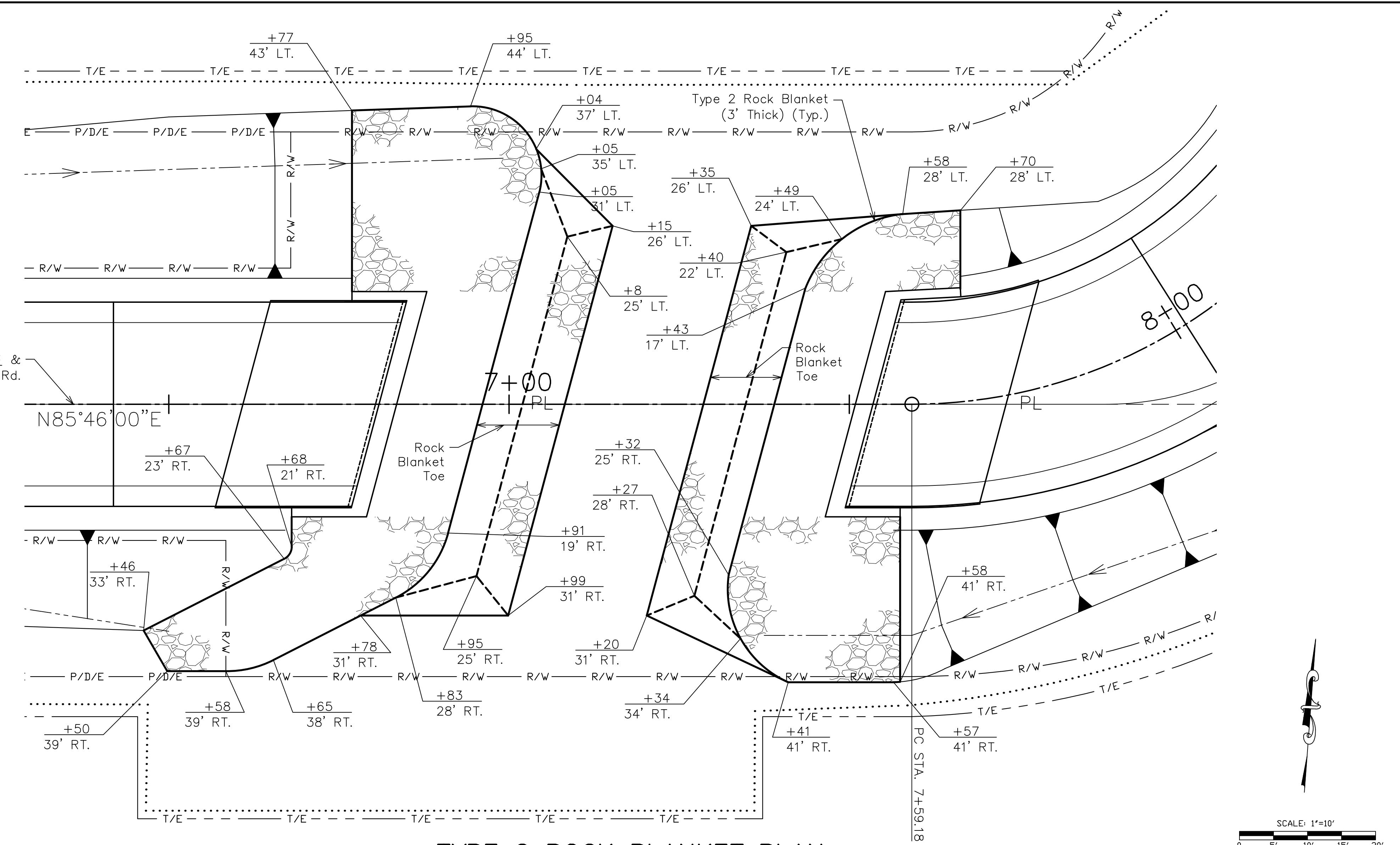
JEFFERSON COUNTY
DEPARTMENT OF PUBLIC
WORKS



EROSION CONTROL & GUARDRAIL PLAN Doc Sargent Road

NOTES:

1. ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE CURRENT MISSOURI STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION AND MISSOURI STANDARD PLANS FOR HIGHWAY CONSTRUCTION.
2. REFER TO PLAN SHEET FOR ADDITIONAL DIMENSIONS.



RIGHT OF WAY SUMMARY																		
PARCEL No.	OWNER	Affected Area		Ex. RW		Ex. P.R.E.		NEW R/W		T.C.E.		P.D.E.		Assessed Area		Area W/O RW & P.R.E.		
		Acres	Sq.Ft.	Acres	Sq.Ft.	Acres	Sq.Ft.	Acres	Sq.Ft.	Acres	Sq.Ft.	Acres	Sq.Ft.	Acres	Sq.Ft.	Acres	Sq.Ft.	
1	Floyd T & Kathryn A Yancey	0.441	19189	0.014	616	0.155	6737	0.107	4667	0.079	3464	0.085	3704	3.77	164,221	3.49	152,201	
2	College School Association	0.538	23447	0.051	2221	0.162	7049	0.095	4151	0.139	6059	0.091	3967	27.08	1,179,605	26.77	1,166,184	
		TOTAL	0.979	42636	0.065	2837	0.316	13786	0.202	8818	0.219	9523	0.176	7671	30.85	1,343,826	30.26	1,318,385

DATE SIGNED/SEALED
12/21/2018

DATE PREPARED
06/01/2018

ROUTE STATE
MO

DISTRICT SHEET NO.
15

COUNTY JOB NO.
JEFFERSON

CONTRACT ID.

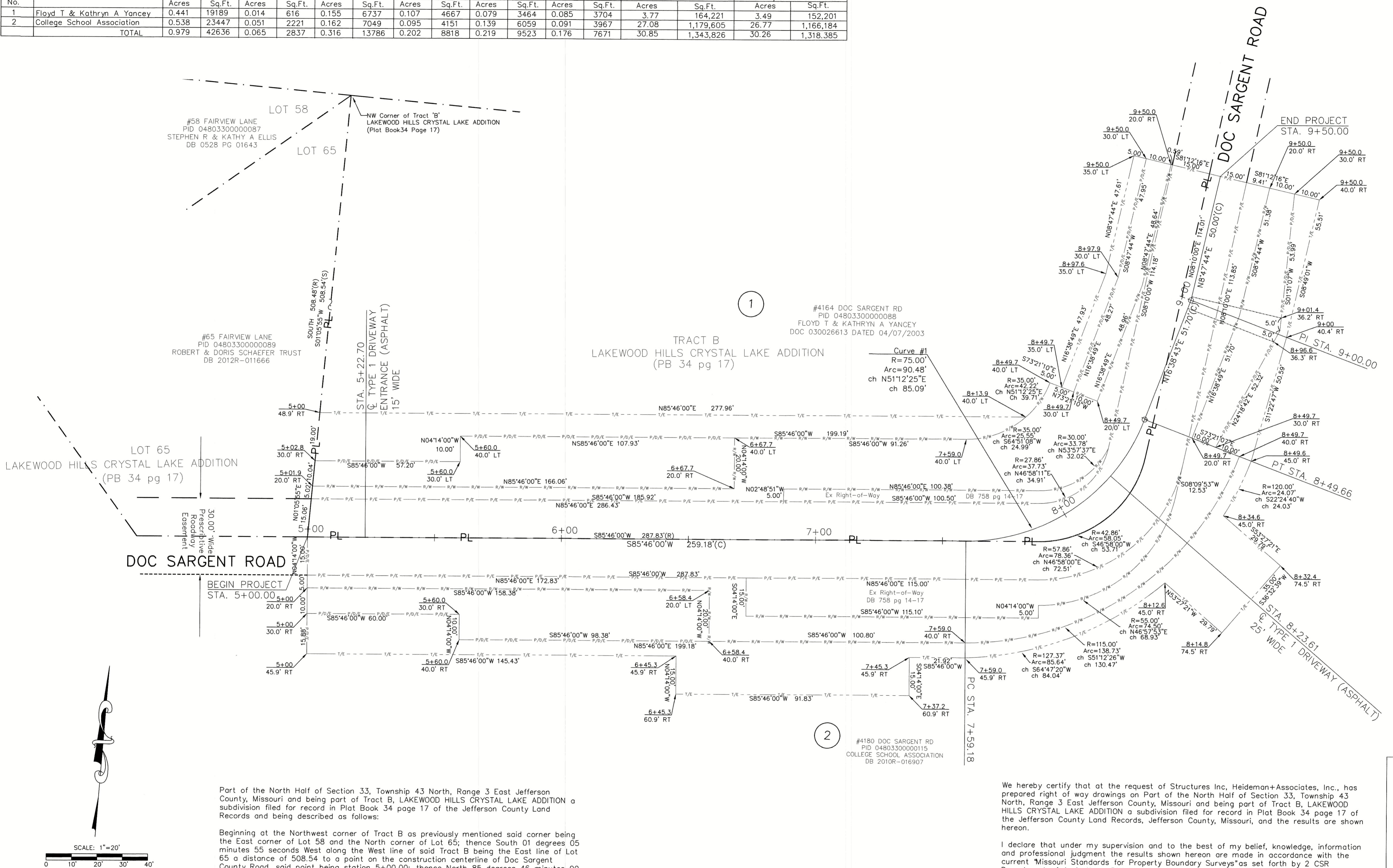
PROJECT NO.
STP-5403(674)

BRIDGE NO.
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DATE DESCRIPTION

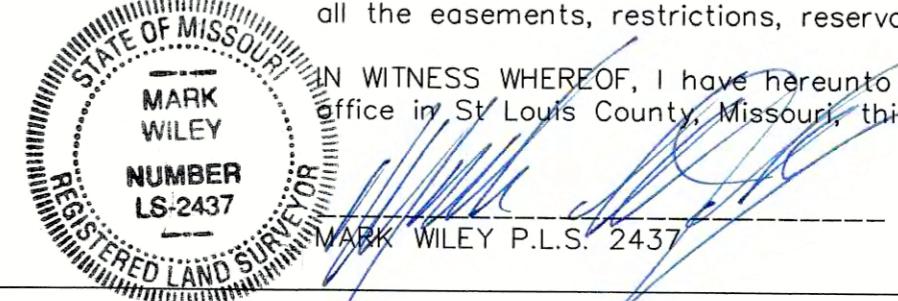
P.O. BOX 100
HILLSBORO, MO
(636-797-5340) PHONE
(636-797-5565) FAX

JEFFERSON COUNTY
DEPARTMENT OF PUBLIC
WORKS



We hereby certify that at the request of Structures Inc, Heideman+Associates, Inc., has prepared right of way drawings on Part of the North Half of Section 33, Township 43 North, Range 3 East Jefferson County, Missouri and being part of Tract B, LAKEWOOD HILLS CRYSTAL LAKE ADDITION a subdivision filed for record in Plat Book 34 page 17 of the Jefferson County Land Records, Jefferson County, Missouri, and the results are shown hereon.

I declare that under my supervision and to the best of my belief, knowledge, information and professional judgment the results shown hereon are made in accordance with the current "Missouri Standards for Property Boundary Surveys" as set forth by 2 CSR Chapter 60-Missouri Standards for Property Boundary Surveys. This plat has been compiled without the aid of a current Certificate of Title, and therefore may not contain all the easements, restrictions, reservations and covenants, if any.



IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal at our office in St. Louis County, Missouri this 21st day of December, 2018.

RIGHT OF WAY SUMMARY																	
PARCEL No.	OWNER	Affected Area		Ex. RW		Ex. P.R.E.		NEW R/W		T.C.E.		P.D.E.		Assessed Area		Area W/O RW & P.R.E.	
		Acres	Sq.Ft.	Acres	Sq.Ft.	Acres	Sq.Ft.	Acres	Sq.Ft.	Acres	Sq.Ft.	Acres	Sq.Ft.	Acres	Sq.Ft.	Acres	Sq.Ft.
1	Floyd T & Kathryn A Yancey	0.441	19189	0.014	616	0.155	6737	0.107	4667	0.079	3464	0.085	3704	3.77	164,221	3.49	152,201
2	College School Association	0.538	23447	0.051	2221	0.162	7049	0.095	4151	0.139	6059	0.091	3967	27.08	1,179,605	26.77	1,166,184
	TOTAL	0.979	42636	0.065	2837	0.316	13786	0.202	8818	0.219	9523	0.176	7671	30.85	1,343,826	30.26	1,318.385

LEGEND

- EX. R/W
- EX. PRESCRIPTIVE EASEMENT
- NEW R/W
- PERMANENT DRAINAGE EASEMENT
- TEMPORARY CONSTRUCTION EASEMENT

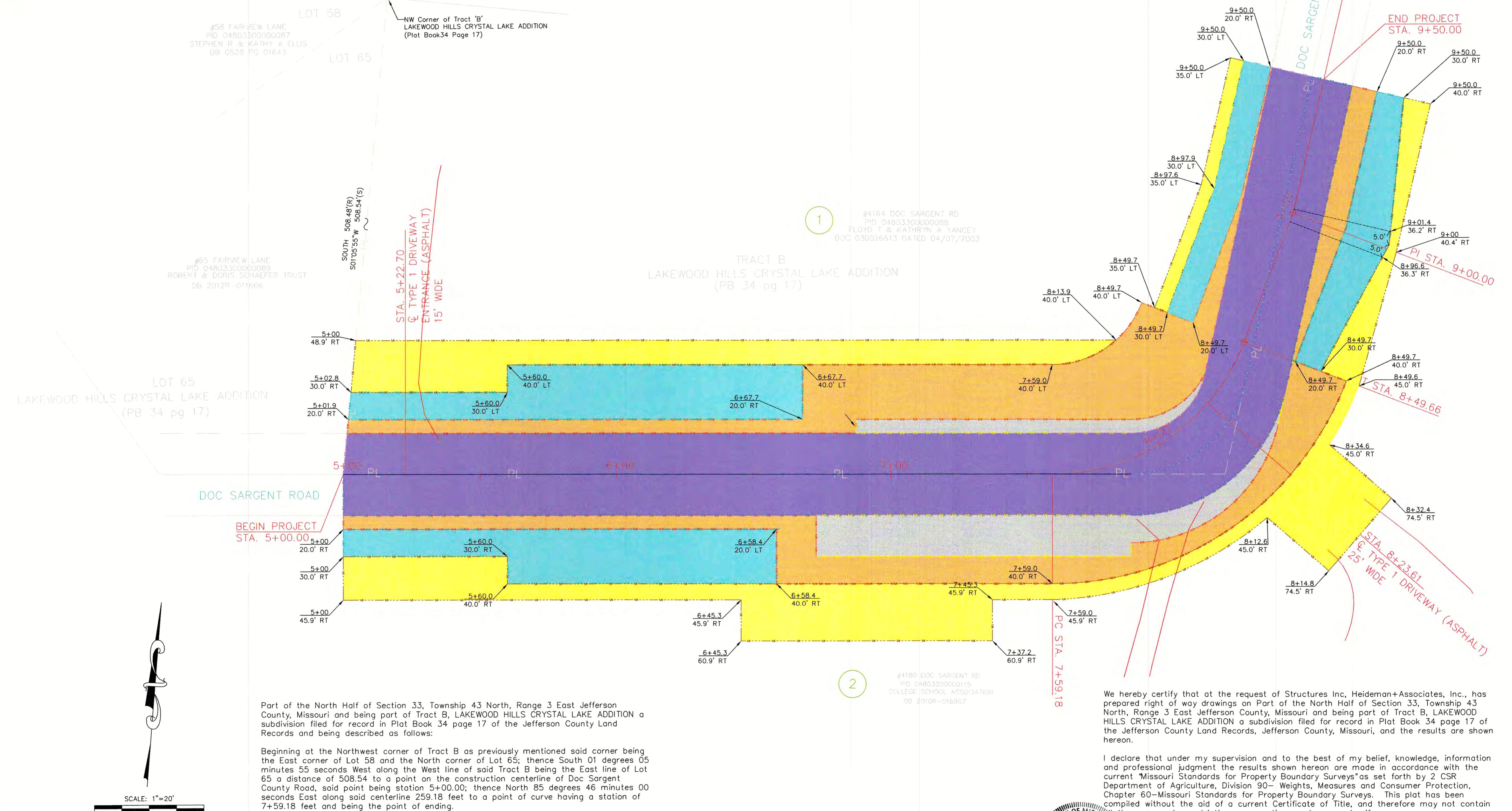
DATE SIGNED/SEALED
12/21/2018
DATE PREPARED
06/01/2018
ROUTE STATE
DISTRICT SHEET NO.
COUNTY
JEFFERSON
JOB NO.
CONTRACT ID.
PROJECT NO.
TP-5403(674)
BRIDGE NO.
00800021

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DEPARTMENT OF PUBLIC WORKS

P.O. BOX 100
HILLSBORO, MO
6-797-5340) PHONE
602-555-1234

636-797-5340) PHONE
(636-797-5565) FAX



Part of the North Half of Section 33, Township 43 North, Range 3 East Jefferson County, Missouri and being part of Tract B, LAKEWOOD HILLS CRYSTAL LAKE ADDITION a subdivision filed for record in Plat Book 34 page 17 of the Jefferson County Land Records and being described as follows:

Beginning at the Northwest corner of Tract B as previously mentioned said corner being the East corner of Lot 58 and the North corner of Lot 65; thence South 01 degrees 05 minutes 55 seconds West along the West line of said Tract B being the East line of Lot 65 a distance of 508.54 to a point on the construction centerline of Doc Sargent County Road, said point being station 5+00.00; thence North 85 degrees 46 minutes 00 seconds East along said centerline 259.18 feet to a point of curve having a station of 7+59.18 feet and being the point of ending.

The purpose of this description is to connect the centerline stationing for this project to the United States Public Land Survey System.

We hereby certify that at the request of Structures Inc, Heideman+Associates, Inc., has prepared right of way drawings on Part of the North Half of Section 33, Township 43 North, Range 3 East Jefferson County, Missouri and being part of Tract B, LAKEWOOD HILLS CRYSTAL LAKE ADDITION a subdivision filed for record in Plat Book 34 page 17 of the Jefferson County Land Records, Jefferson County, Missouri, and the results are shown hereon.

I declare that under my supervision and to the best of my belief, knowledge, information and professional judgment the results shown hereon are made in accordance with the current "Missouri Standards for Property Boundary Surveys" as set forth by 2 CSR Department of Agriculture, Division 90- Weights, Measures and Consumer Protection, Chapter 60-Missouri Standards for Property Boundary Surveys. This plat has been compiled without the aid of a current Certificate of Title, and therefore may not contain all the easements, restrictions, reservations and covenants, if any.

IN WITNESS WHEREOF, I have hereunto set my hand and seal at my office in St. Louis County, Missouri, this 24th day of April, 1987.

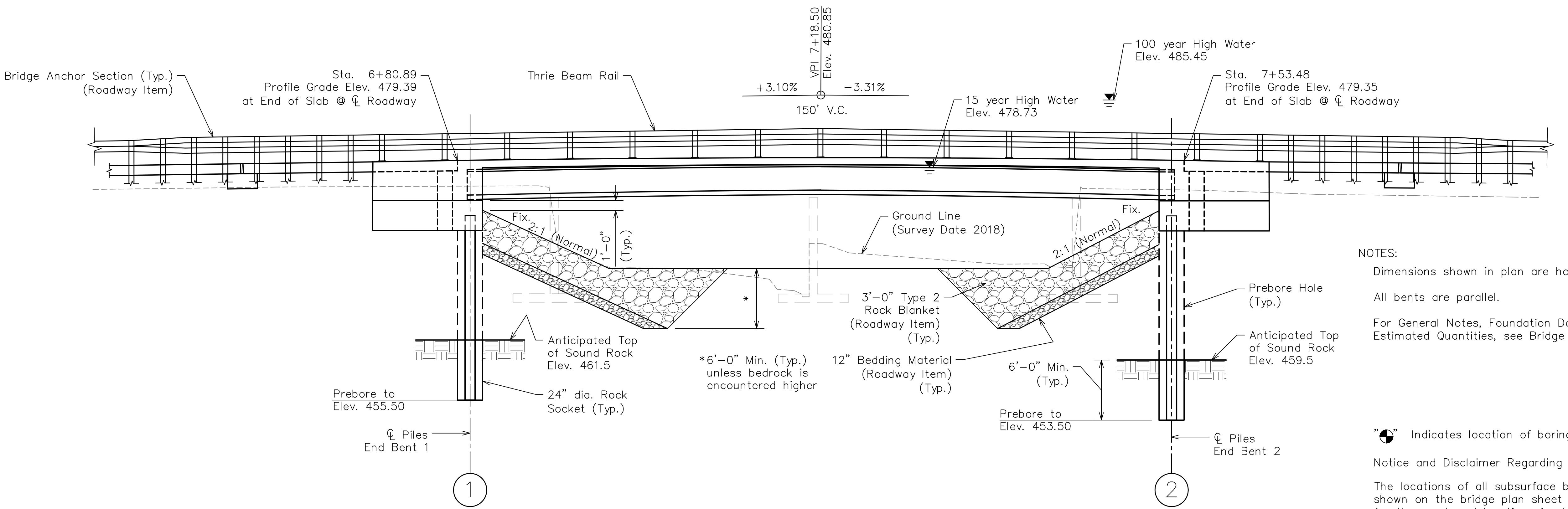
MARK WILEY P.L.S. 2437

HEIDEMAN ASSOCIATES, INC.
240 LARKIN WILLIAMS INDUSTRIAL COURT
FENTON, MISSOURI 63026
Phone: 636-492-3200
Fax: 636-492-7202

STRUCTURES, INC.

414 Gravois Rd • Suite 201
St. Louis, MO 63126

(70') PRESTRESSED CONCRETE NU-GIRDER SPAN



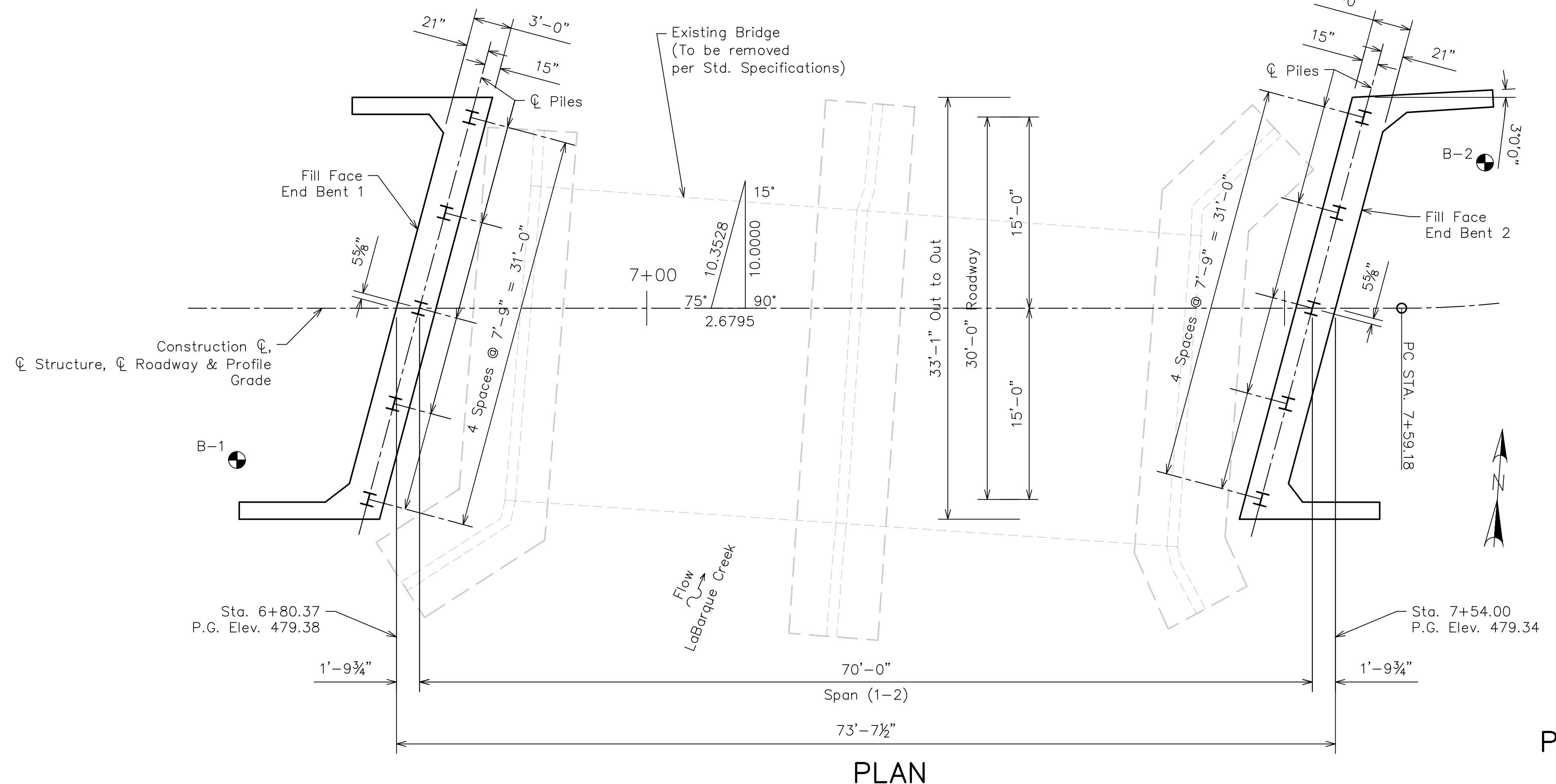
"●" Indicates location of borings.

Notice and Disclaimer Regarding Boring Log Data

The locations of all subsurface borings for this structure are shown on the bridge plan sheet for this structure. Boring data for the numbered locations is shown on Bridge Sheets No. 20 & 21 of 21. The boring data for all locations indicated, as well as any other boring logs or other factual records of subsurface data and investigations performed by the County for the design of the project, will be provided in the bridge electronic deliverable file or will be available from the Project Contact upon written request. No greater significance or weight should be given to the boring data depicted on the plan sheets than is subsurface data available elsewhere.

The County does not represent or warrant that any such boring data accurately depicts the conditions to be encountered in constructing this project. A contractor assumes all risks it may encounter in basing its bid prices, time or schedule of performance on the boring data depicted here or on any other documentation not expressly warranted, which the contractor may obtain from the County.

GENERAL ELEVATION



PLAN & GENERAL ELEVATION
Doc Sargent Road



JOHN J. GRUENDLER
PROFESSIONAL ENGINEER
MO PE NO. E-23263
DATE SIGNED/SEALED
10/29/2019
DATE PREPARED
10/29/2019
ROUTE STATE
SL MO
DISTRICT SHEET NO.
17
COUNTY JEFFERSON
JOB NO.
CONTRACT ID.
PROJECT NO.
STP-5403(674)
BRIDGE NO.
00800021

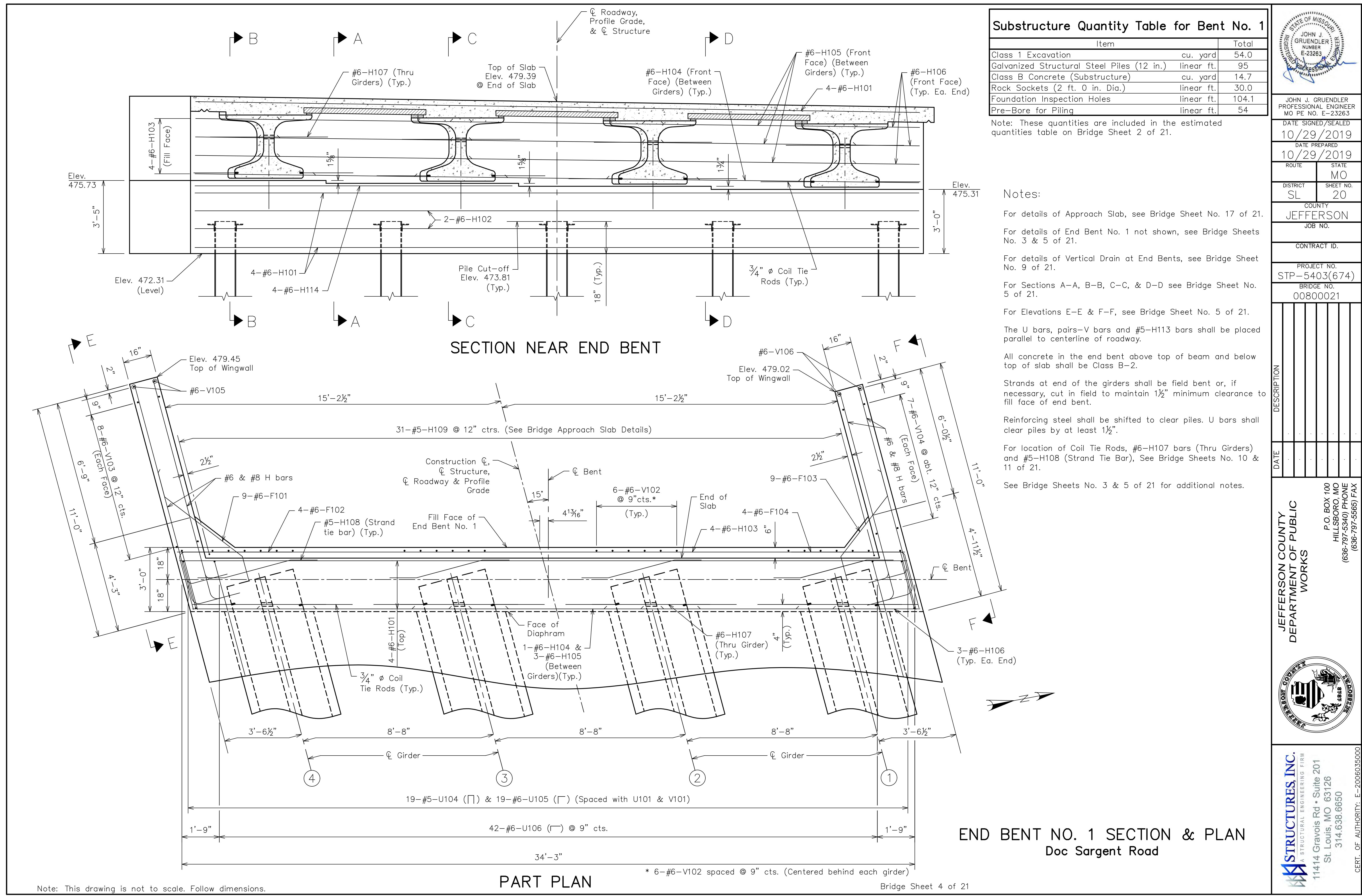
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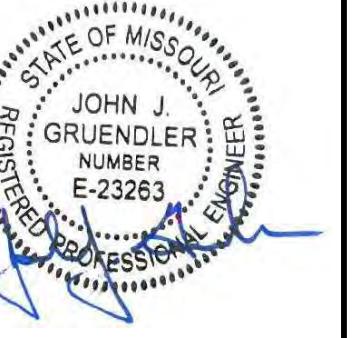
P.O. BOX 100
HILLSBORO, MO
(636)797-5340 PHONE
(636)797-5565 FAX

JEFFERSON COUNTY
DEPARTMENT OF PUBLIC
WORKS

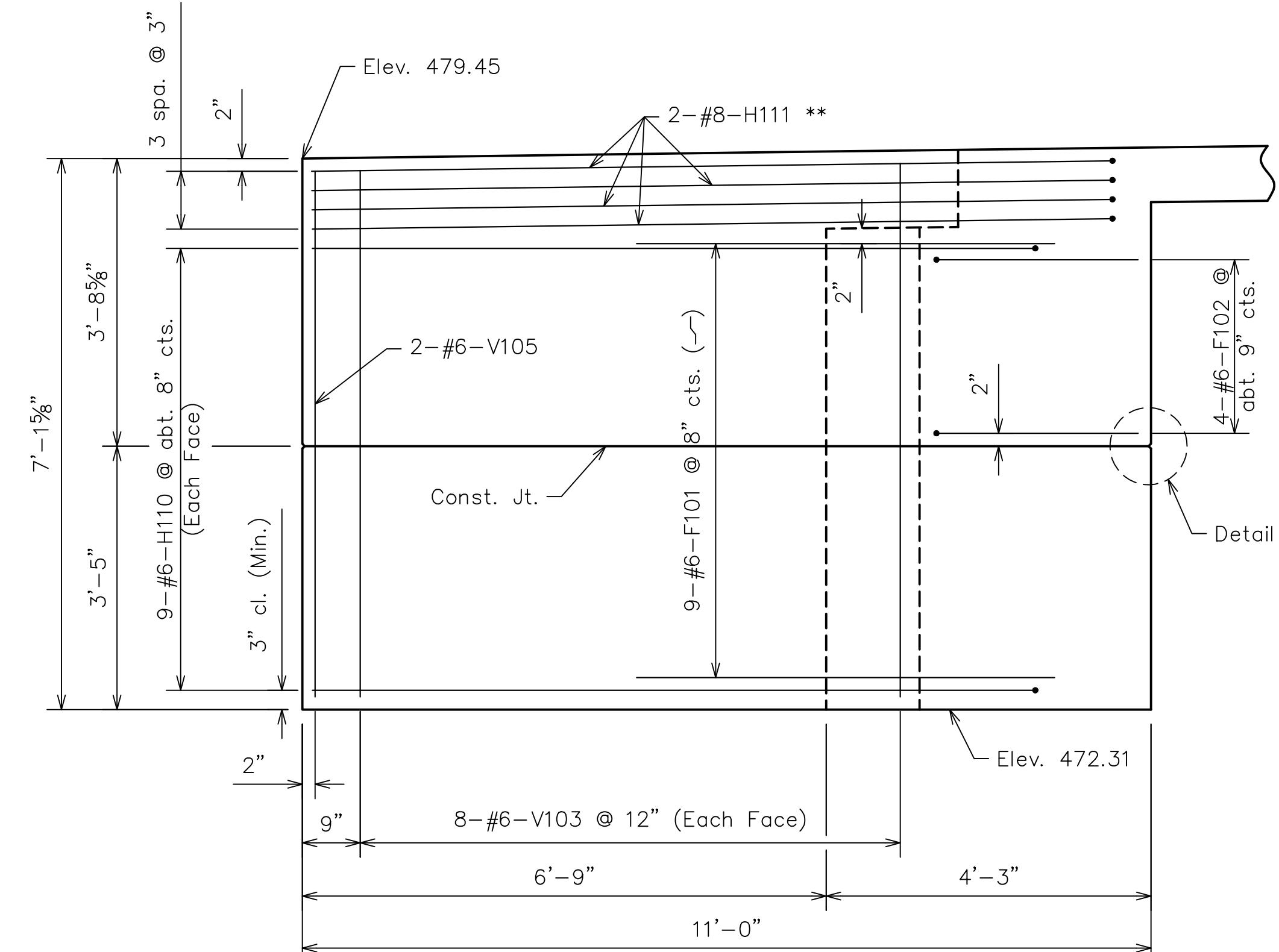


STRUCTURES, INC.
A STRUCTURAL ENGINEERING FIRM
11414 Gravois Rd • Suite 201
St. Louis, MO 63126
314.638.6650
CERT. OF AUTHORITY: E-2006036000

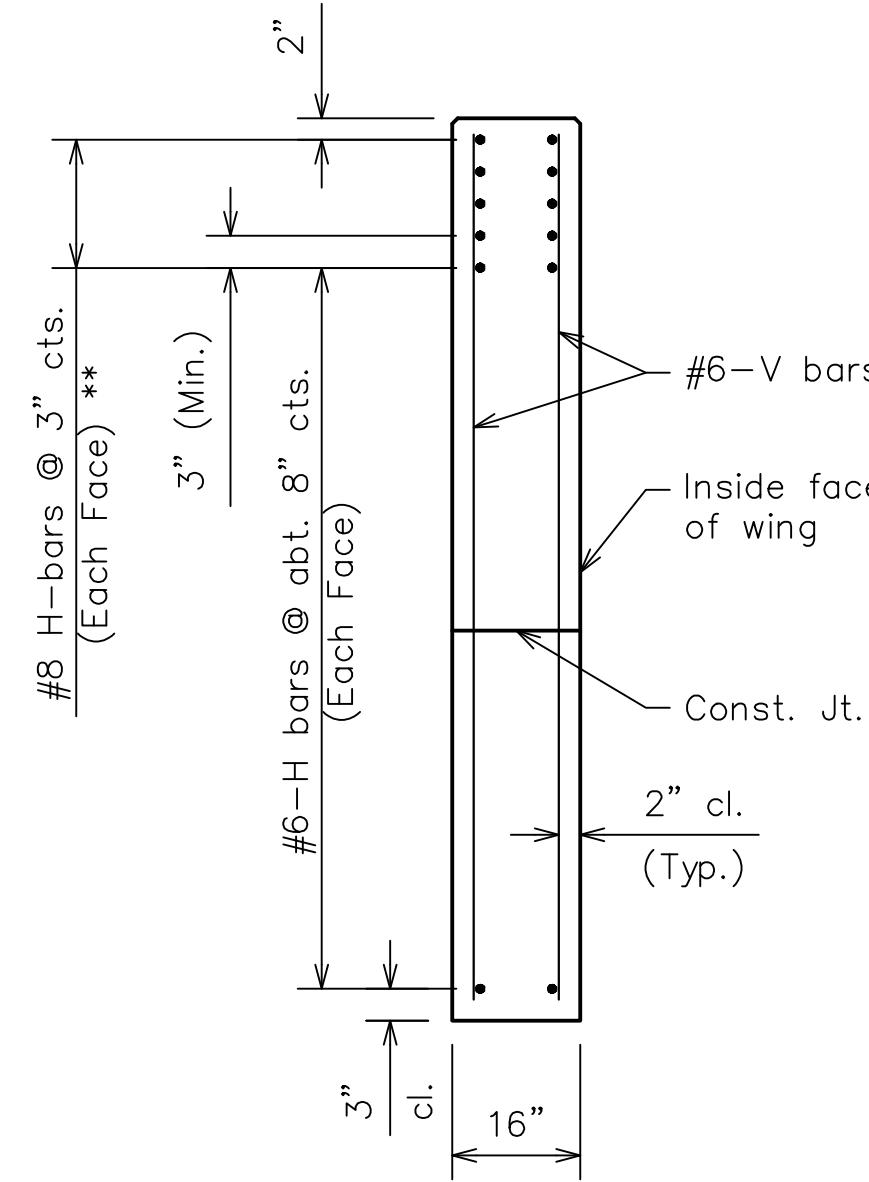




JOHN J. GRUENDLER
PROFESSIONAL ENGINEER
MO PE NO. E-23263
DATE SIGNED/SEALED
10/29/2019
DATE PREPARED
10/29/2019
ROUTE STATE MO
DISTRICT SHEET NO. 21
COUNTY JEFFERSON
JOB NO.
CONTRACT ID.
PROJECT NO. STP-5403(674)
BRIDGE NO. 00800021

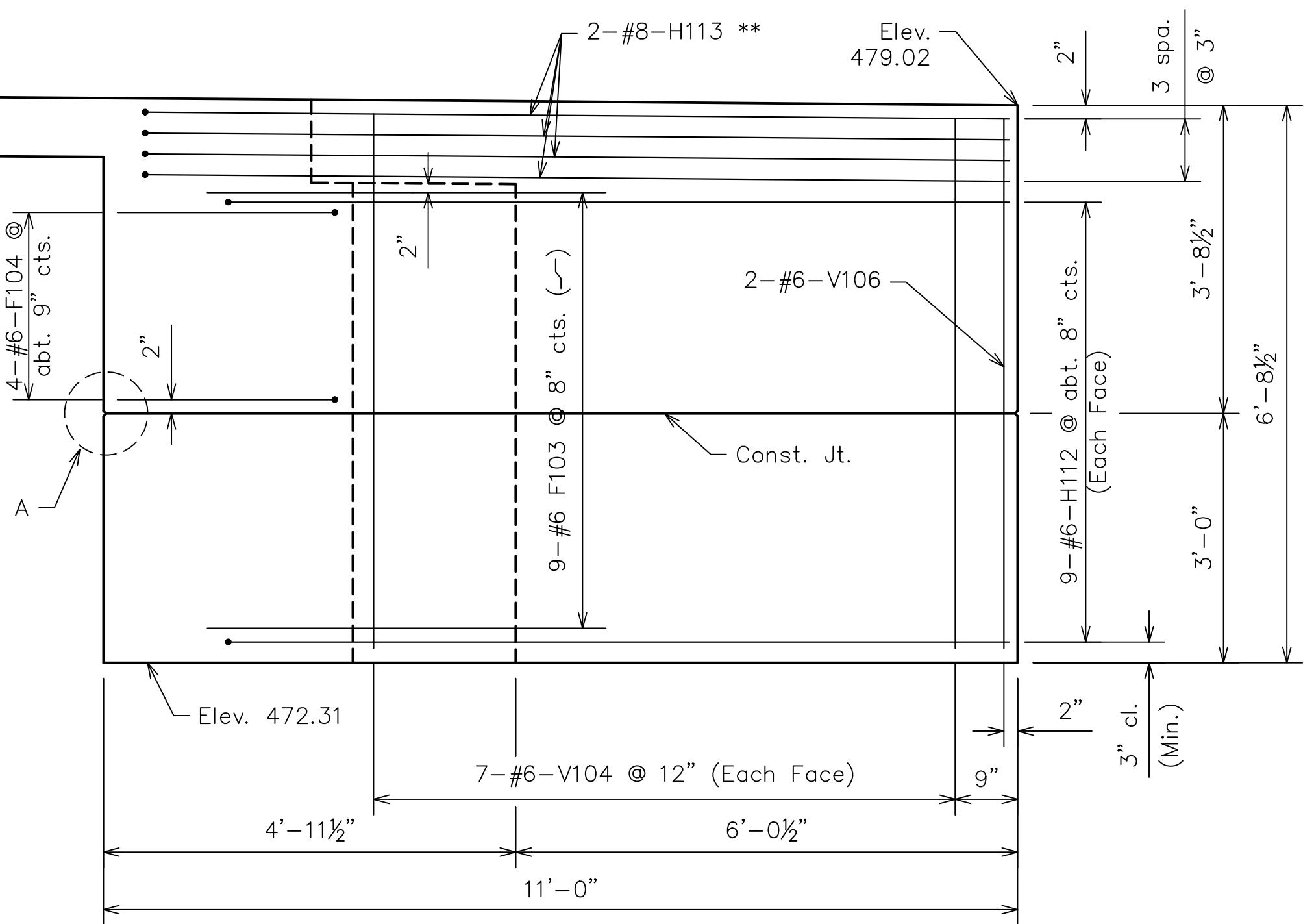


ELEVATION E-E



TYPICAL SECTION
THRU WING

** Placed with grade



ELEVATION F-F

Notes:

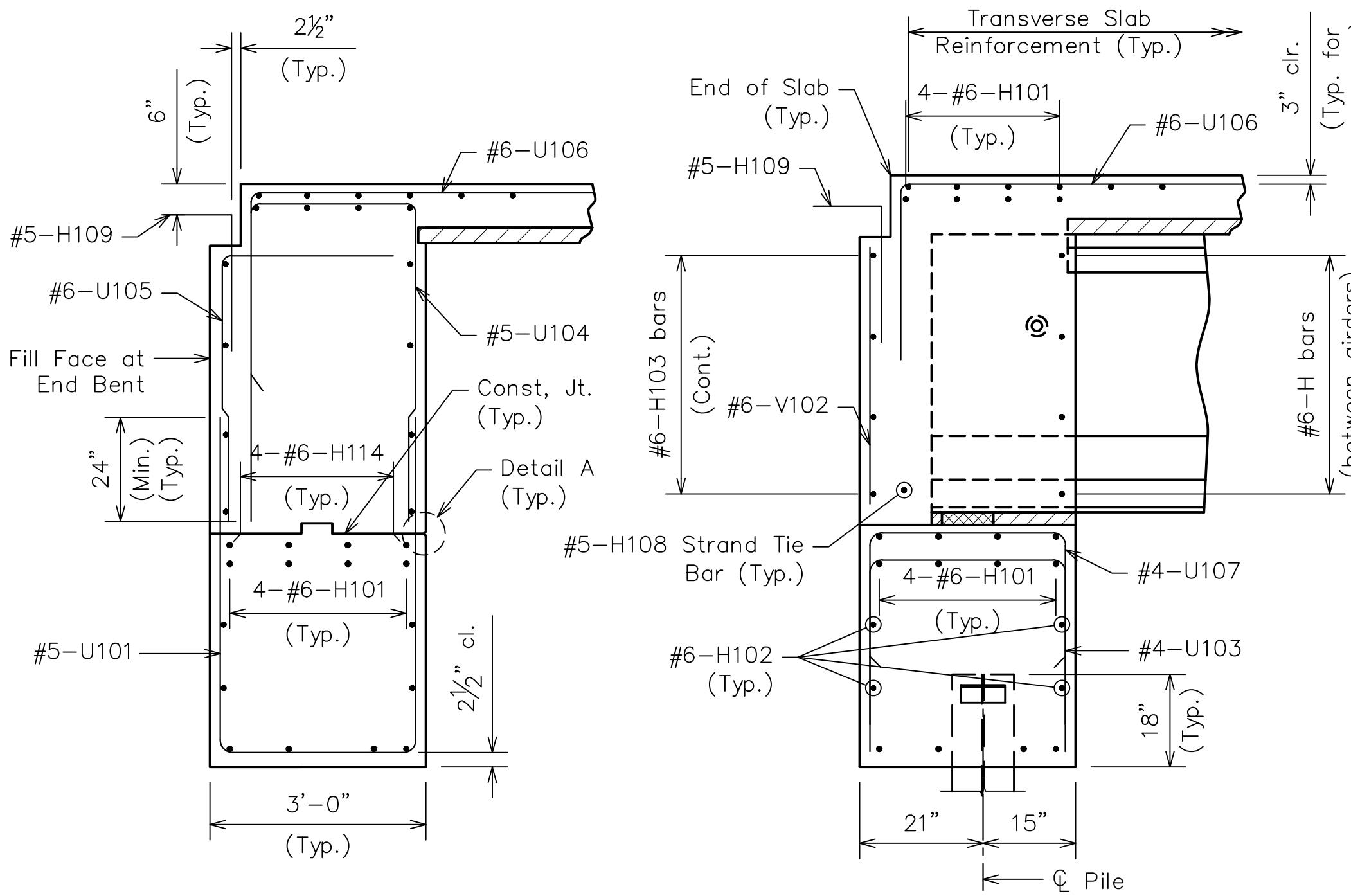
For details of End Bent No. 1 not shown, see Bridge Sheets No. 3 & 4 of 21.

For locations of Sections A-A, B-B, C-C, & D-D see Bridge Sheet No. 4 of 21.

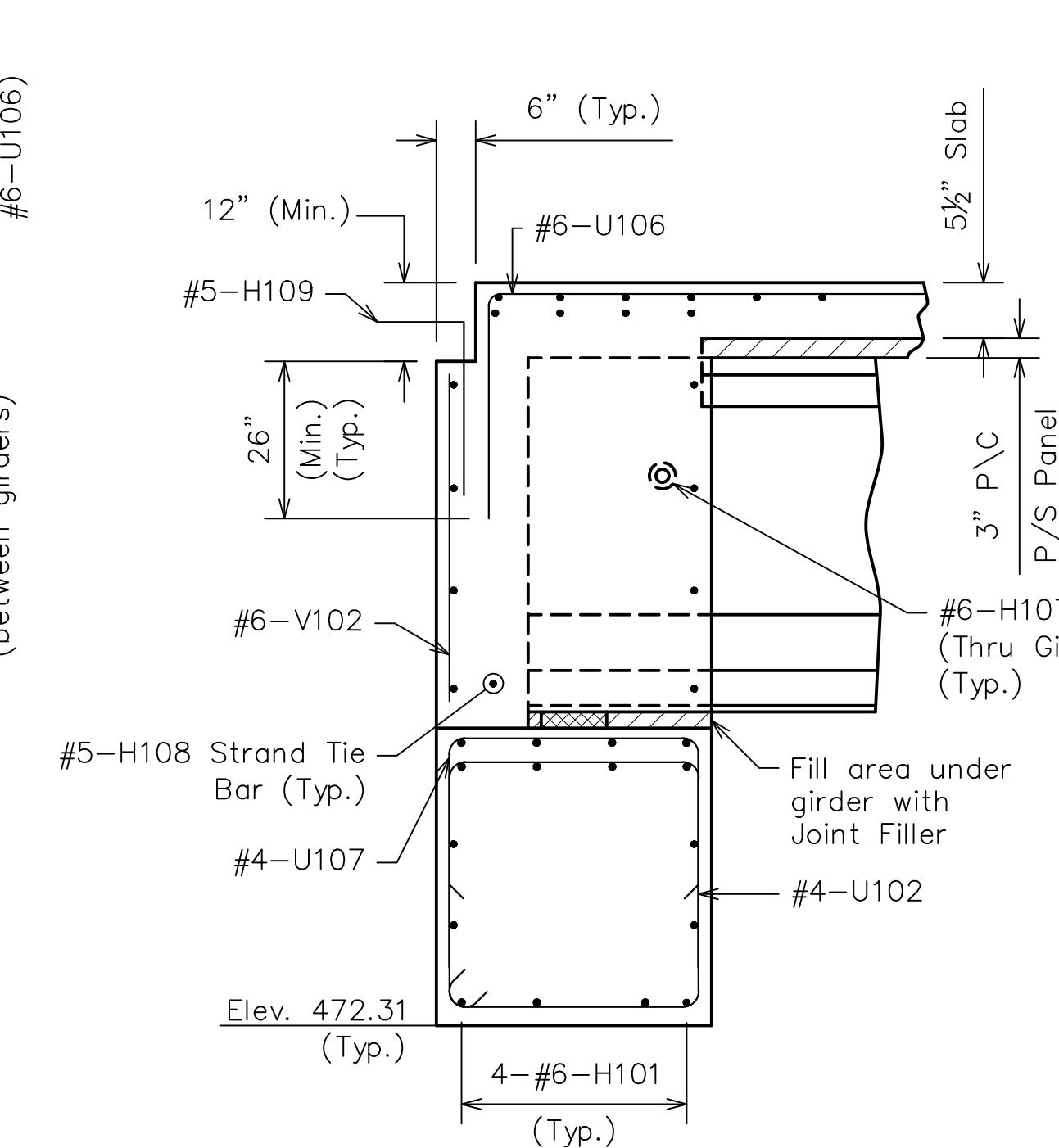
For locations of Elevation E-E & F-F, see Bridge Sheet No. 4 of 21.

The #6-F101 and #6-F103 bars shall be bent in the field to clear Girders.

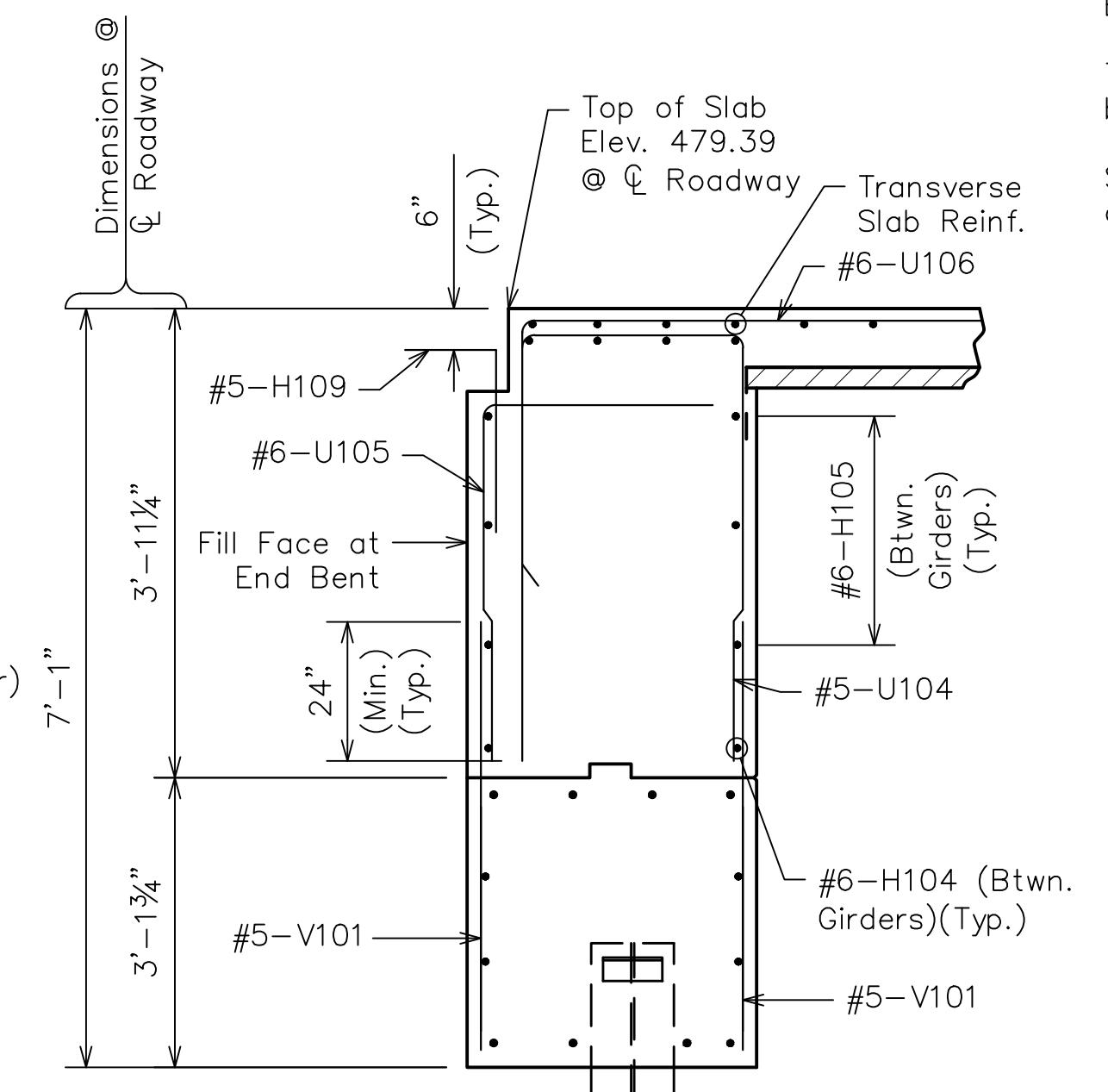
See Bridge Sheets No. 3 & 4 of 21 for additional notes.



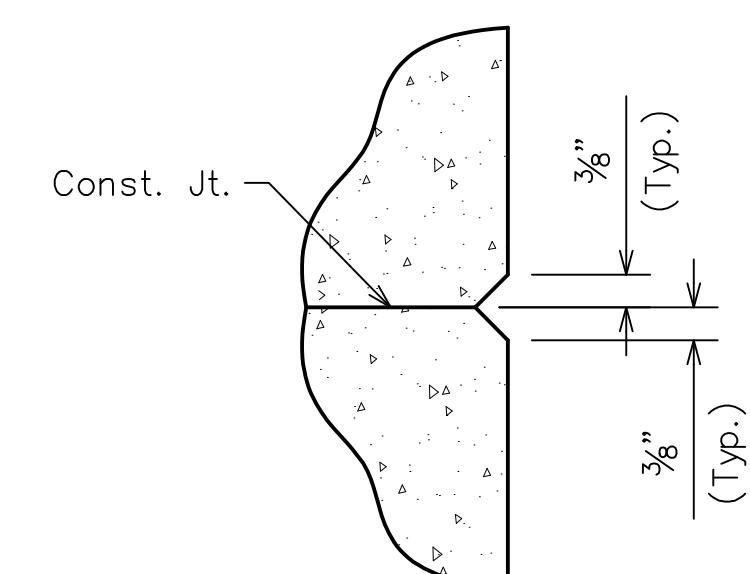
SECTION A-A



SECTION B-B



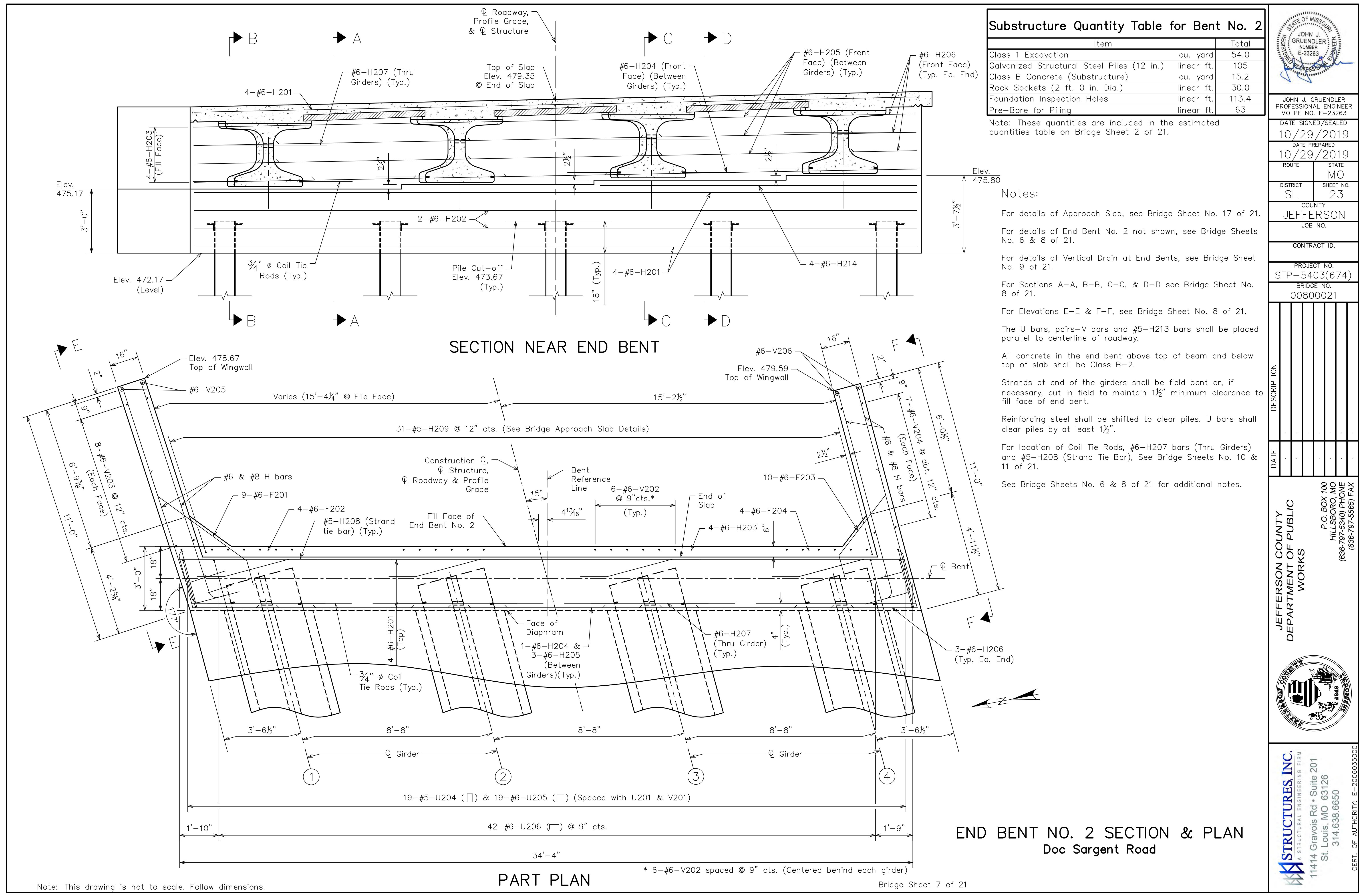
SECTION C-C

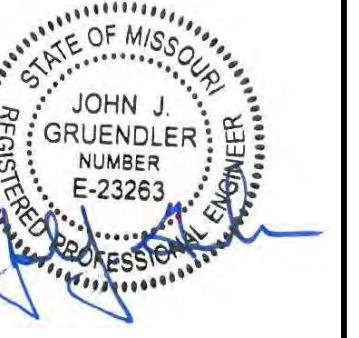


SECTION D-D

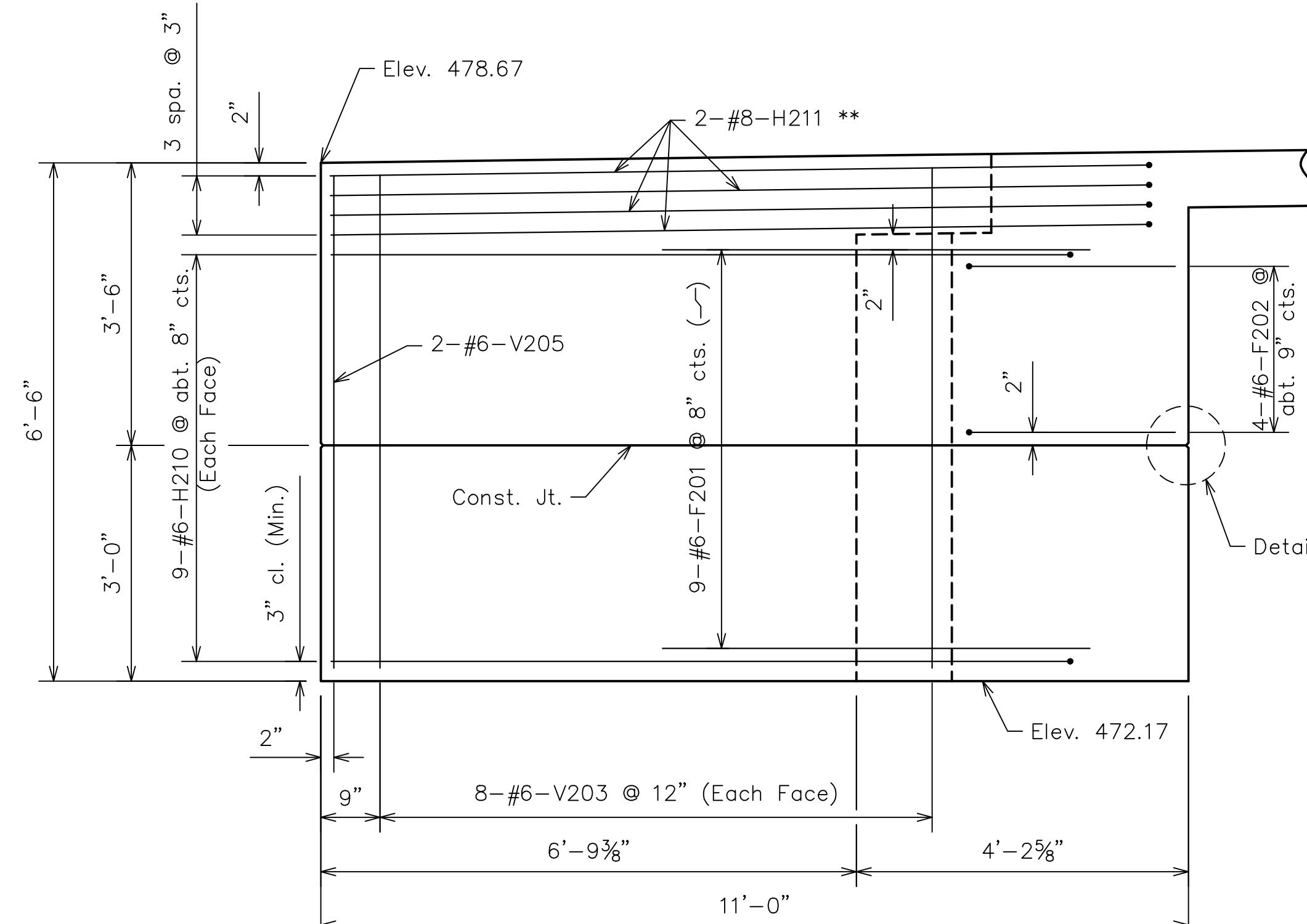
DETAIL A

END BENT NO. 1 DETAILS
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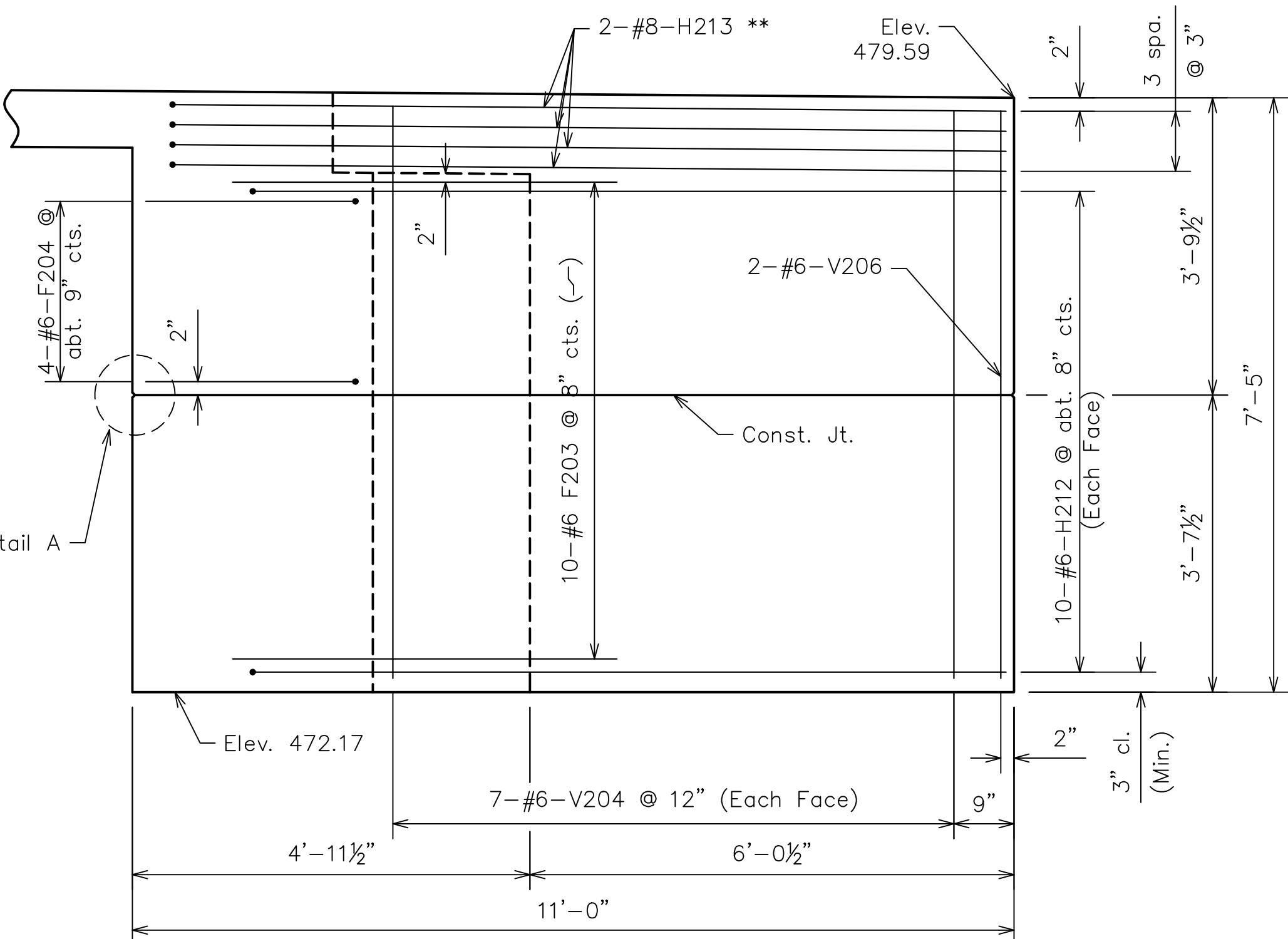
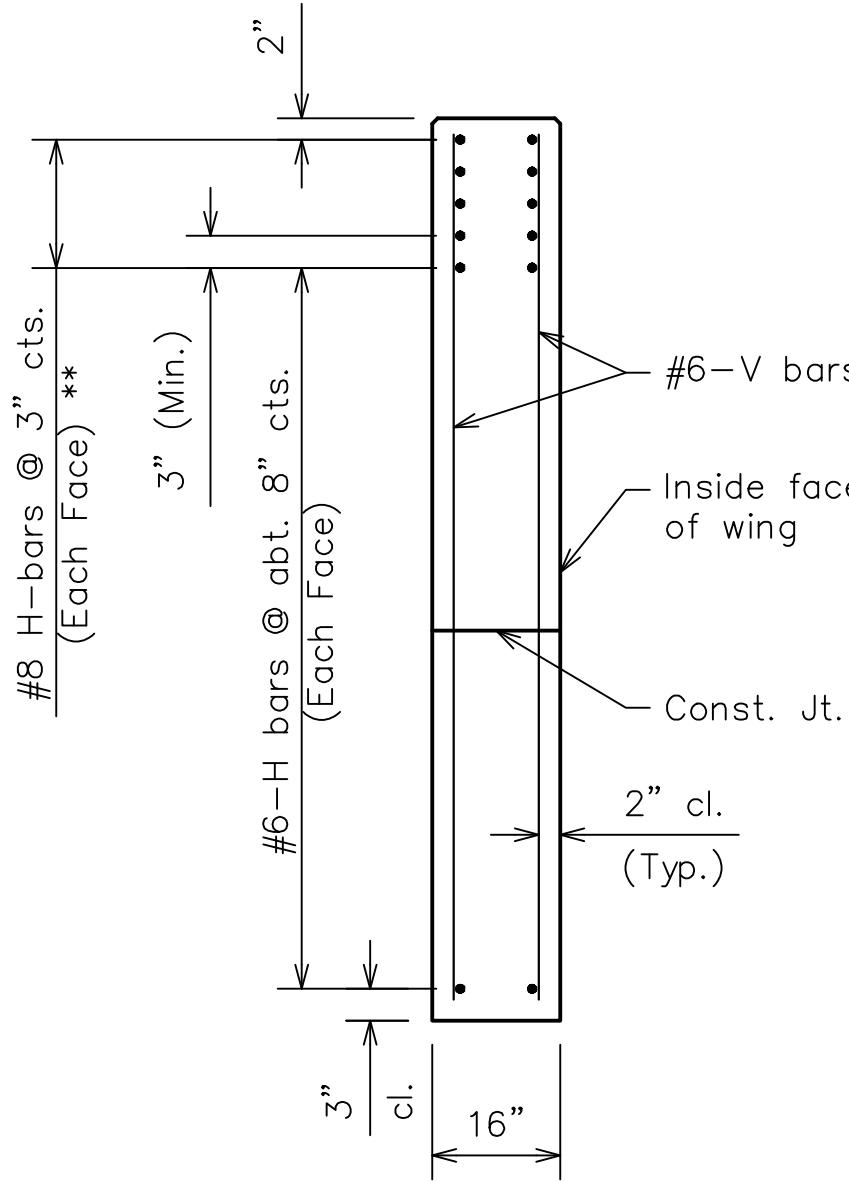
JOHN J. GRUENDLER
PROFESSIONAL ENGINEER
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JOB NO.
CONTRACT ID.
PROJECT NO. STP-5403(674)
BRIDGE NO. 00800021



ELEVATION E-E

TYPICAL SECTION
THRU WING

** Placed with grade



ELEVATION F-F

Notes:

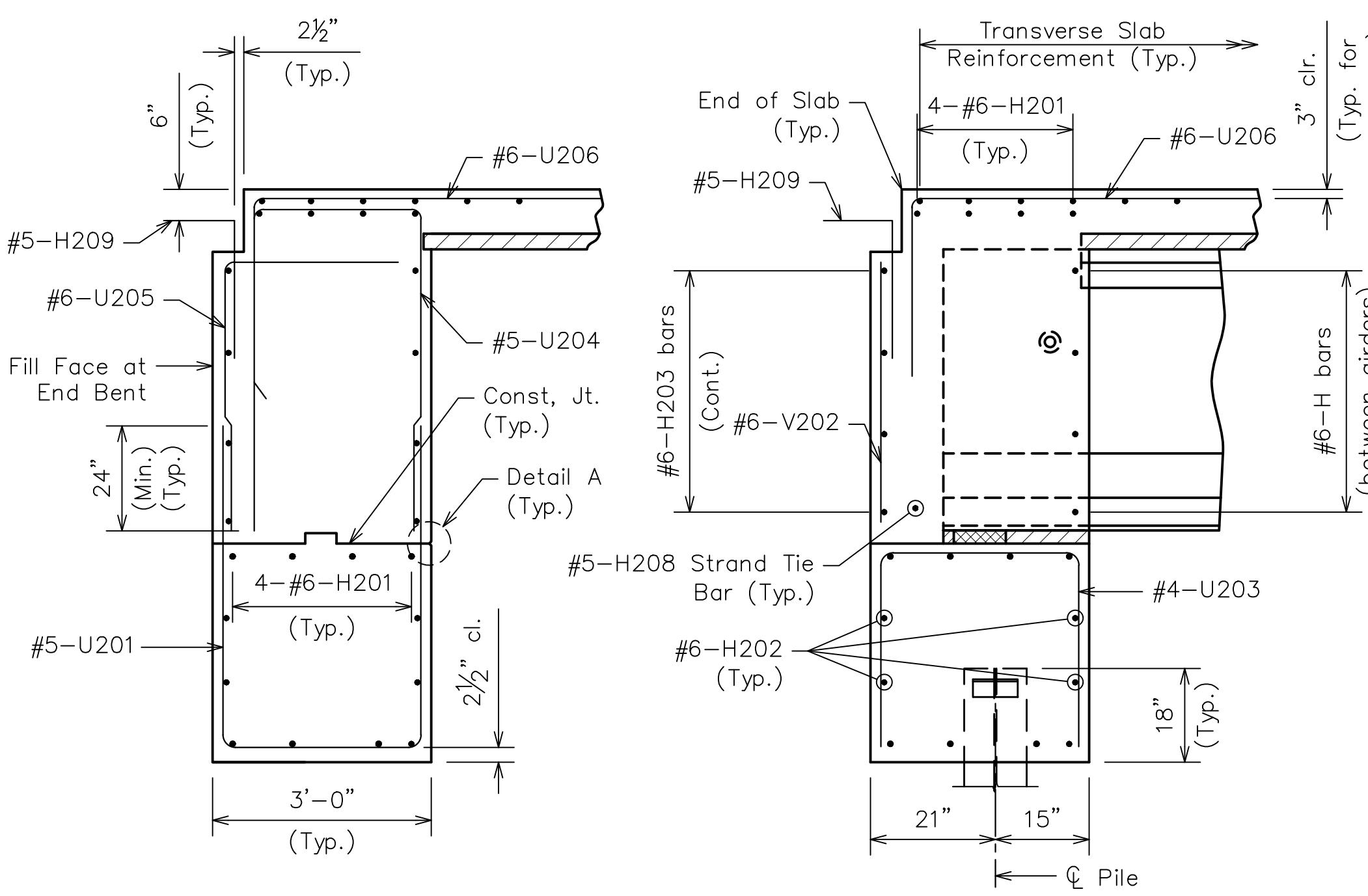
For details of End Bent No. 2 not shown, see Bridge Sheets No. 6 & 7 of 21.

For locations of Sections A-A, B-B, C-C, & D-D see Bridge Sheet No. 7 of 21.

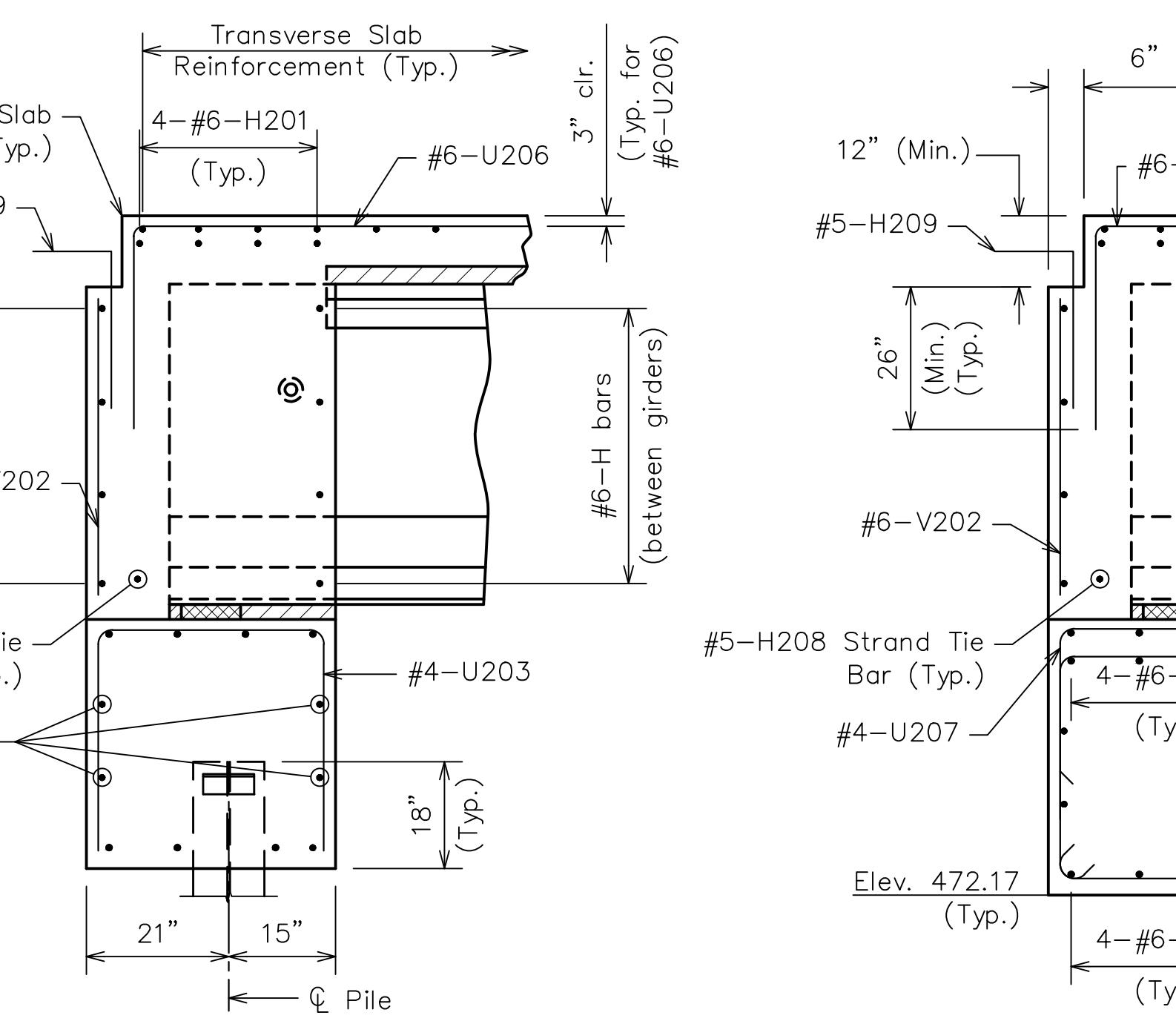
For locations of Elevations E-E & F-F, see Bridge Sheet No. 7 of 21.

The #6-F201 and #6-F203 bars shall be bent in the field to clear Girders.

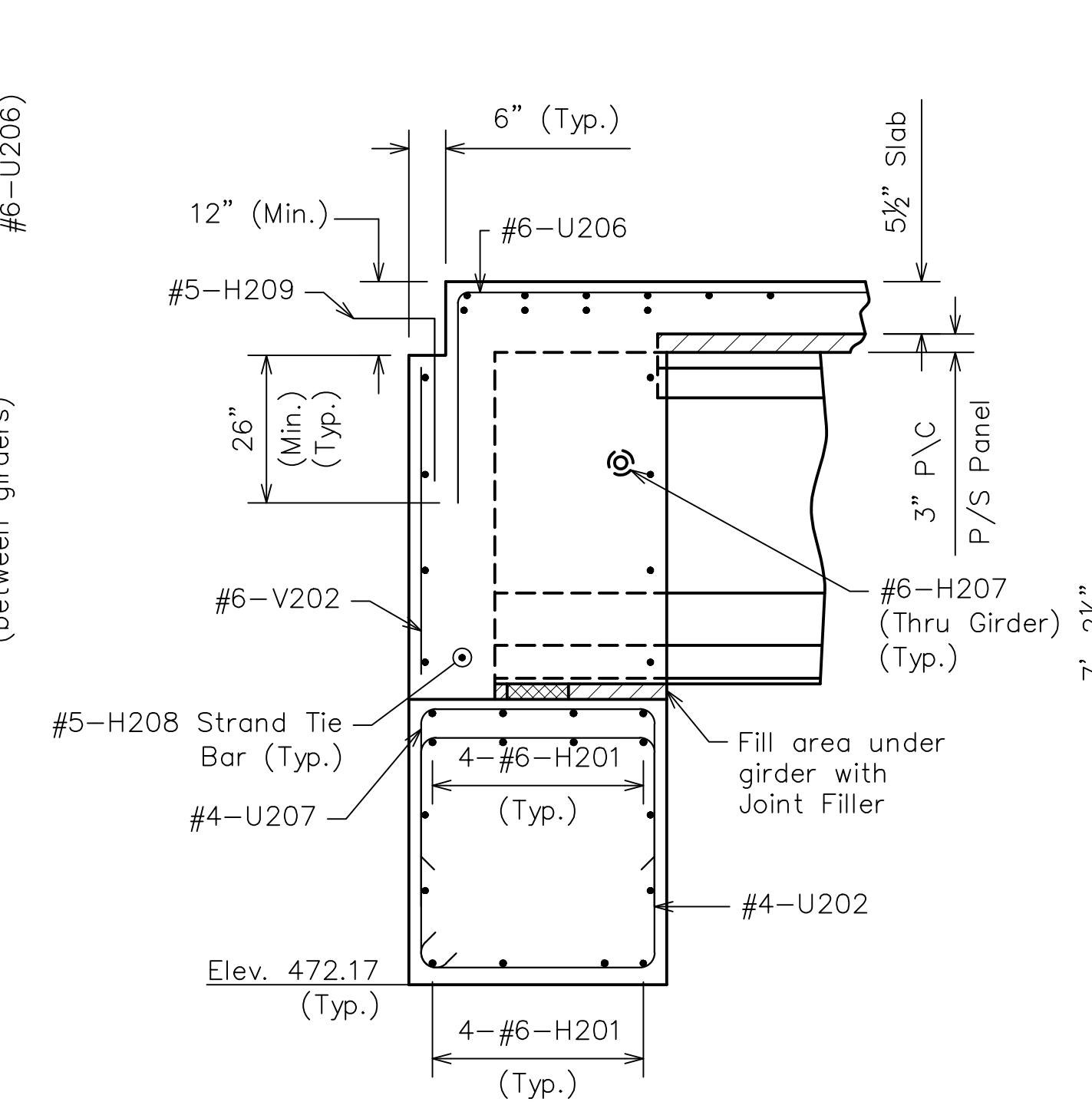
See Bridge Sheets No. 6 & 7 of 21 for additional notes.



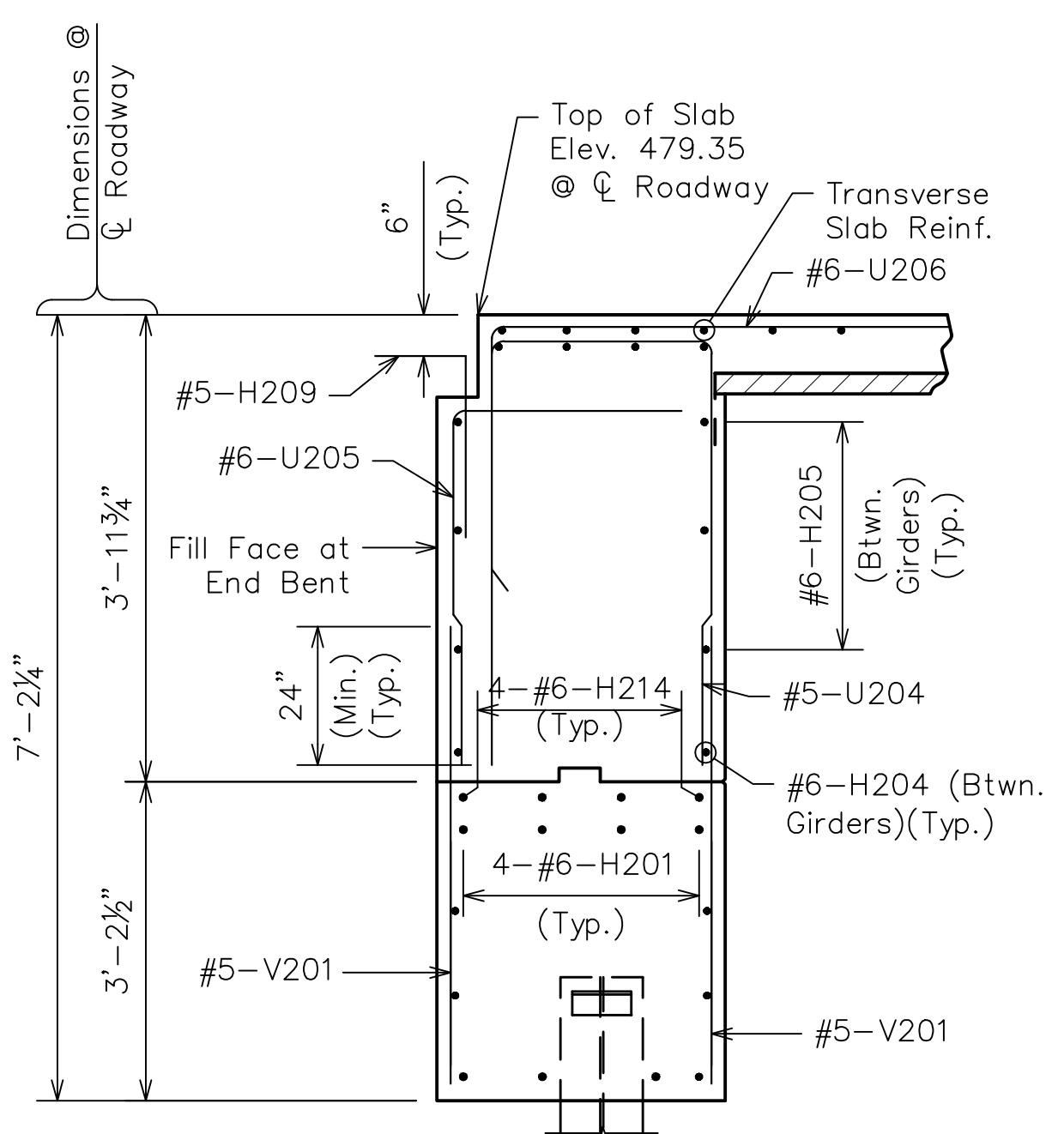
SECTION A-A



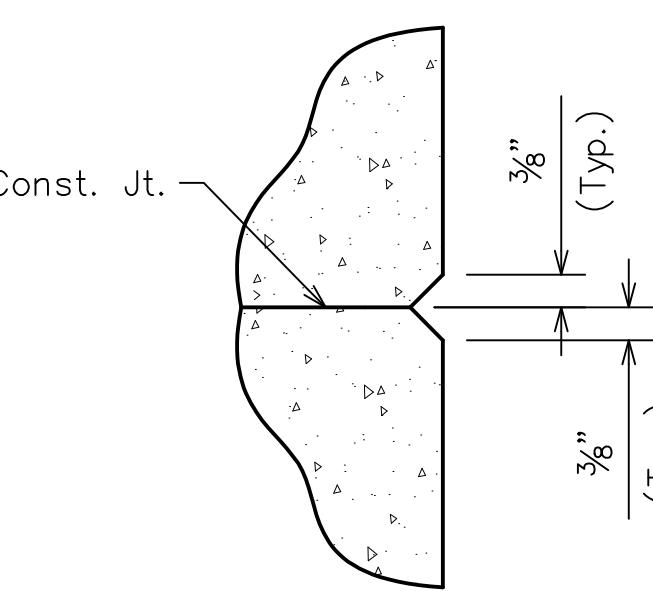
SECTION B-B



SECTION C-C



SECTION D-D

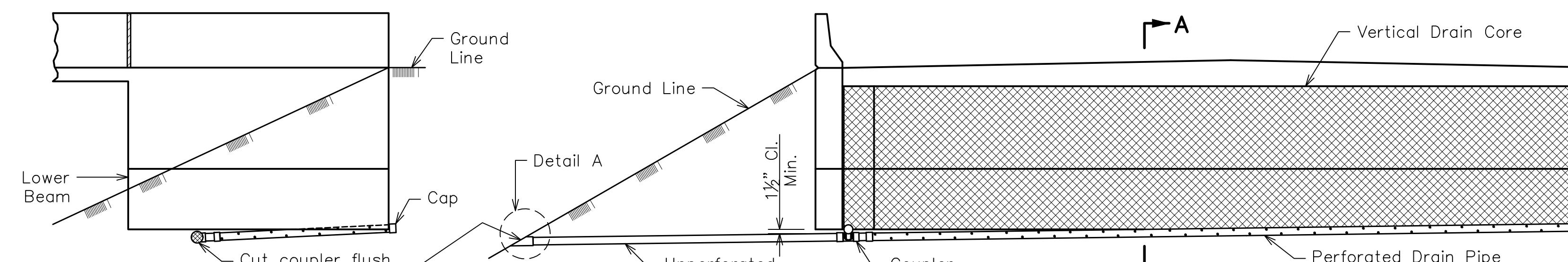


DETAIL A

END BENT NO. 2 DETAILS
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CONTRACT ID.
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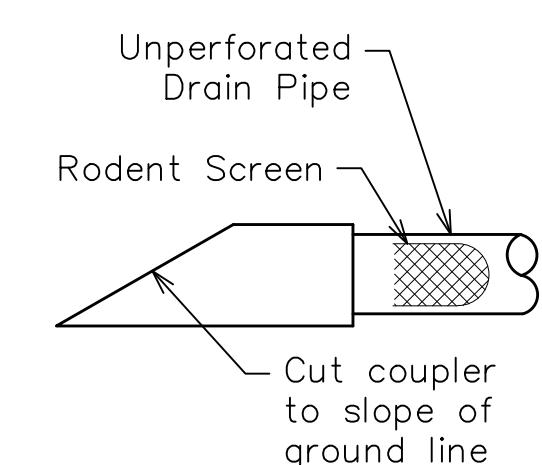


ELEVATION OF WING

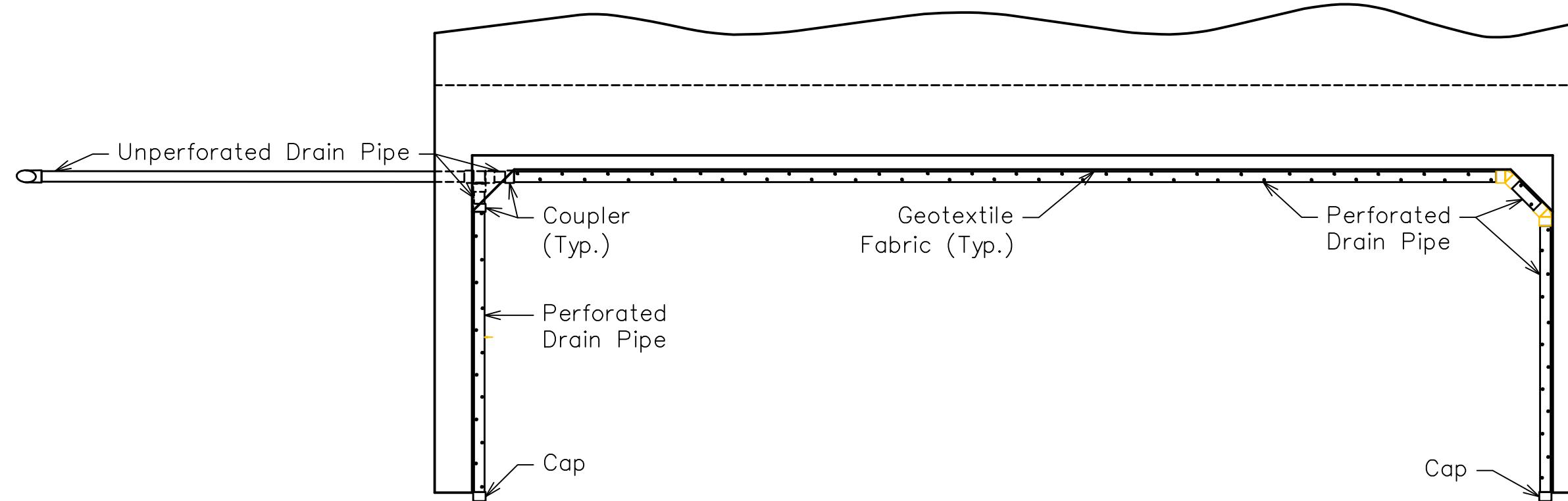
A

A

ELEVATION OF END BENT

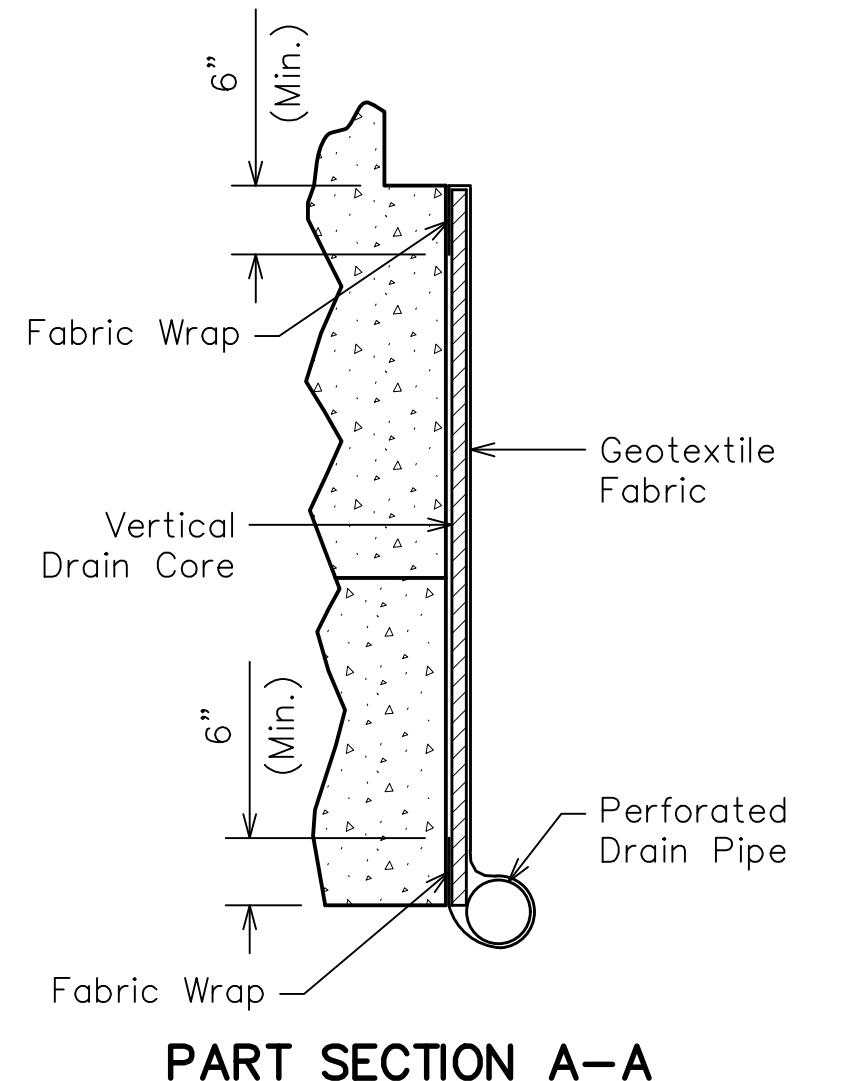


DETAIL A

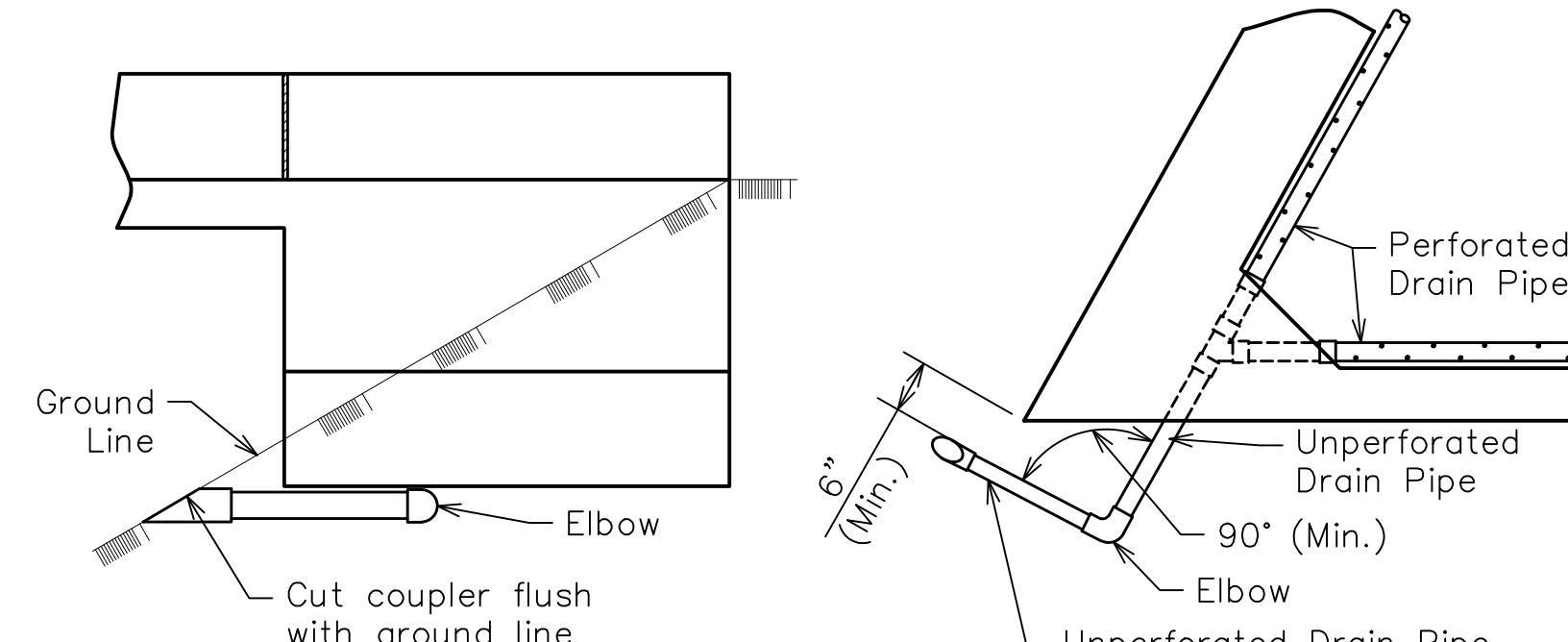


PLAN OF END BENT

(Squared end bent shown, skewed end bent similar)



PART SECTION A-A
(Section thru wing similar)



ELEVATION OF WING

OPTIONAL TURNED DRAIN
(Only if rock is encountered outside of wing)

PART PLAN

General Notes:

All drain pipe shall be sloped 1 to 2 percent.

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

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

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

VERTICAL DRAIN AT END BENTS Doc Sargent Road



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BRIDGE NO.
00800021

DATE DESCRIPTION

10/29/2019

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General Notes:

Prestressed Panels:

Concrete for prestressed panels shall be Class A-1 with $f'_c = 6,000$ psi, $f'_c = 4,000$ psi.

The top surface of all panels shall receive a scored finish with a depth of scoring of $1/8$ " perpendicular to the prestressing strands in the panels.

Prestressing tendons shall be high-tensile strength, uncoated, seven-wire, low-relaxation strands for prestressed concrete in accordance with AASHTO M 203 Grade 270, with nominal diameter of strand = $3/8$ " and nominal area = 0.085 sq.in. and minimum ultimate strength = 22.95 kips (270 ksi). Larger strands may be used with the same spacing and initial tension.

Initial prestressing force = 17.2 kips/strand.

The method and sequence of releasing the strands shall be shown on the shop drawings.

Suitable anchorage devices for lifting panels may be cast in panels, provided the devices are shown on the shop drawings and approved by the engineer. Panel lengths shall be determined by the contractor and shown on the shop drawings.

When squared end panels are used at skewed bents, the skewed portion shall be cast full depth. No separate payment will be made for additional concrete and reinforcing required.

Support from diaphragm forms is required under the optional skewed end until cast-in-place concrete has reached 3,000 psi compressive strength.

Prestressed panels shall be brought to saturated surface-dry (SSD) condition just prior to the deck pour. There shall be no free standing water on the panels or in the area to be cast.

The prestressed panel quantities are not included in the table of estimated quantities for the slab.

Reinforcing Steel:

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.

Minimum clearance to reinforcing steel shall be $1\frac{1}{2}$ ", unless otherwise shown.

If U1 bars interfere with placement of slab steel, U1 loops may be bent over, as necessary, to clear slab steel.

Deformed welded wire reinforcement (WWR) providing a minimum area of reinforcing perpendicular to strands of 0.22 sq.in./ft, with spacing parallel to strands sufficient to ensure proper handling, may be used in lieu of the #3-P2 bars shown. Wire diameter shall not be larger than 0.375 inch. The above alternative reinforcement criteria may be used in lieu of the #3-P3 bars, when required, and placed over a width not less than 2 feet.

The following reinforcing steel shall be tied securely to the strands with the following maximum spacing in each direction: #3-P2 bars at 16 inches. WWR at 24 inches.

The #3-U1 bars shall be tied securely to #3-P2 bars, to WWR or to strands (when placed between P1 bars) at about 3-foot centers.

Minimum reinforcement steel length shall be $2'-0"$.

All reinforcement other than prestressing strands shall be epoxy coated.

Precast panels may be in contact with stirrup reinforcing in diaphragms.

S-bars are not listed in the bill of reinforcing.

Cost of S-bars will be considered completely covered by the contract unit price for the slab.

Joint Filler:

Joint filler shall be preformed fiber expansion joint material in accordance with Sec 1057 or expanded or extruded polystyrene bedding material in accordance with Sec 1073.

Use Slab Haunching Diagram on Bridge Sheet No. 14 of 21 for determining thickness of joint filler within the limits noted in the table of Joint Filler Dimensions.

Thicker material may be used on one or both sides of the girder to reduce cast-in-place concrete thickness to within tolerances.

The same thickness of preformed fiber expansion joint material shall be used under any one edge of any panel except at locations where top flange thickness may be stepped. The maximum change in thickness between adjacent panels shall be $1/4$ inch. The polystyrene bedding material may be cut with a transition to match haunch height above top of flange.

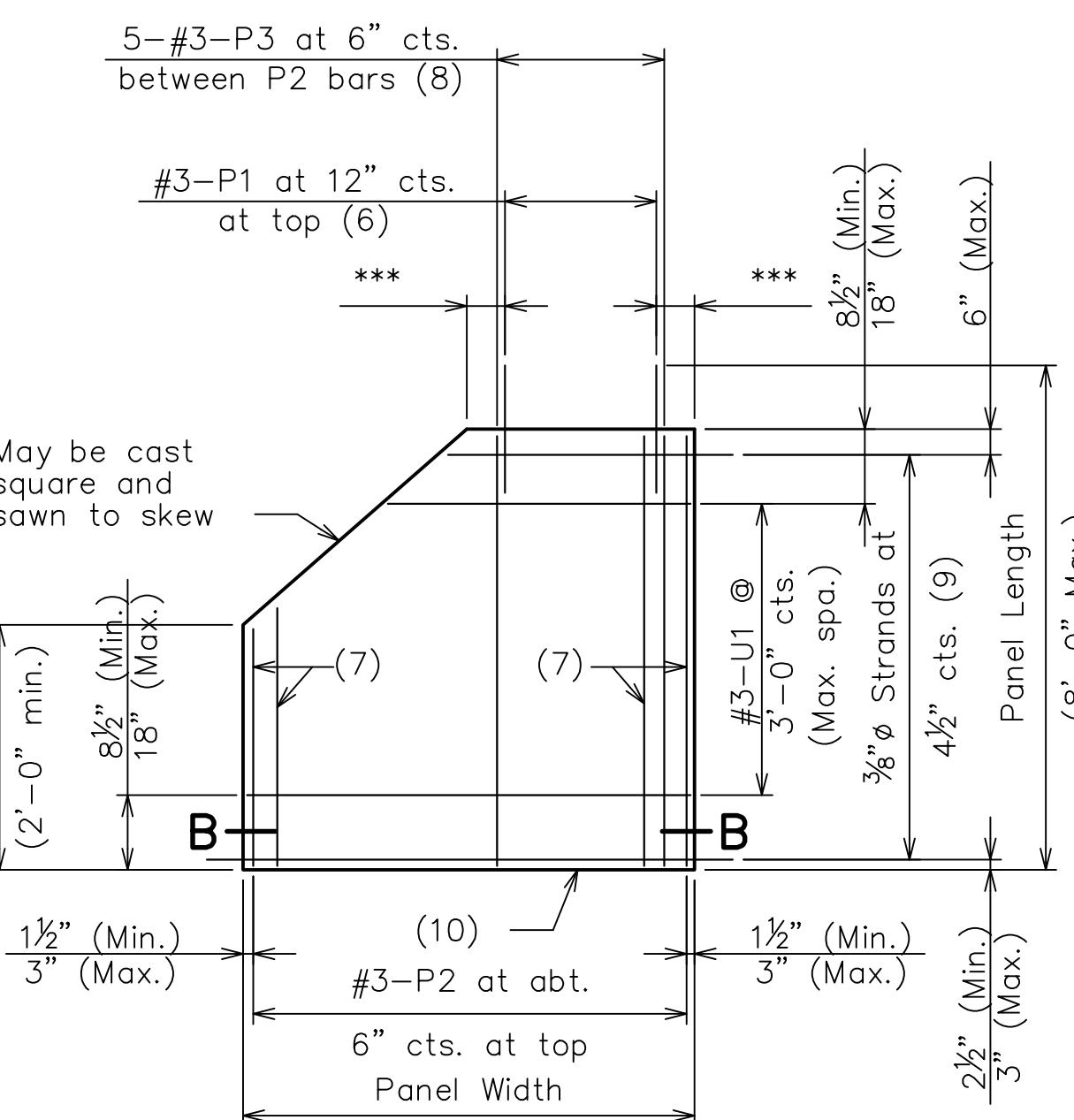
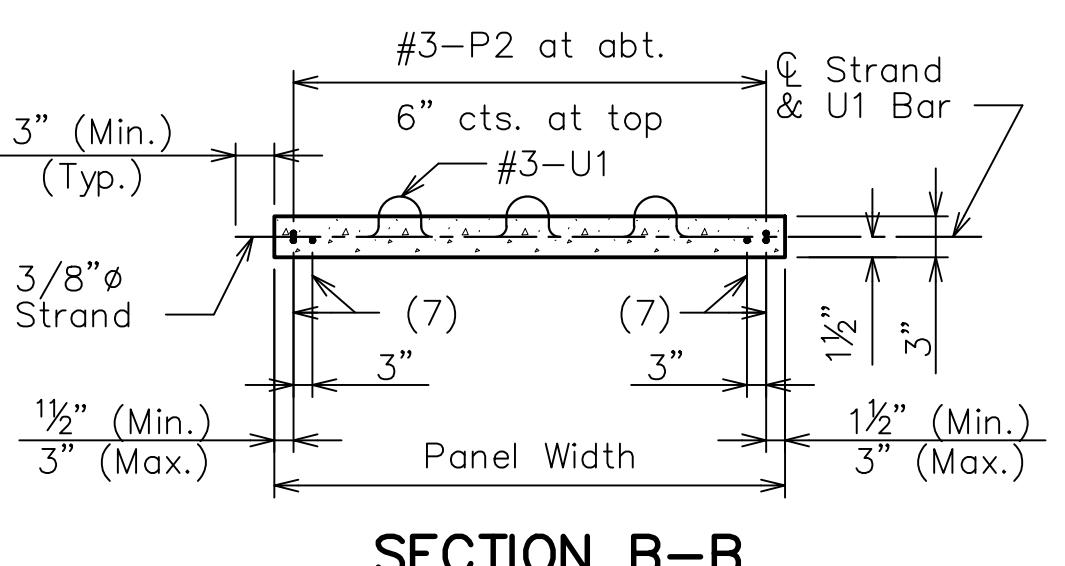
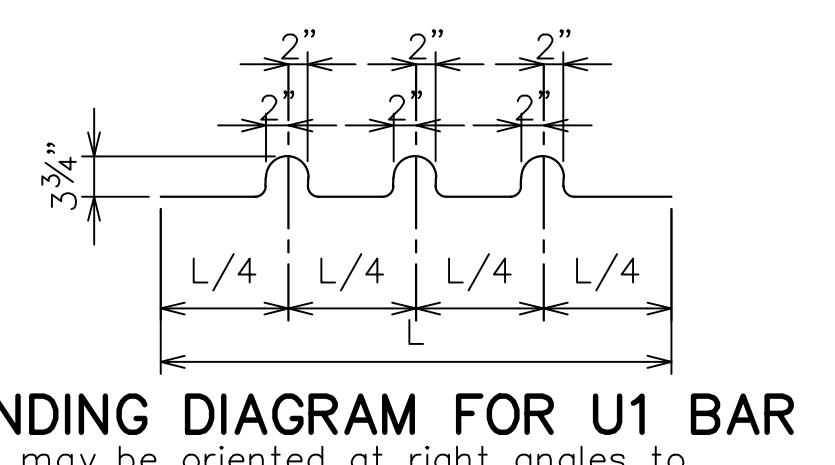
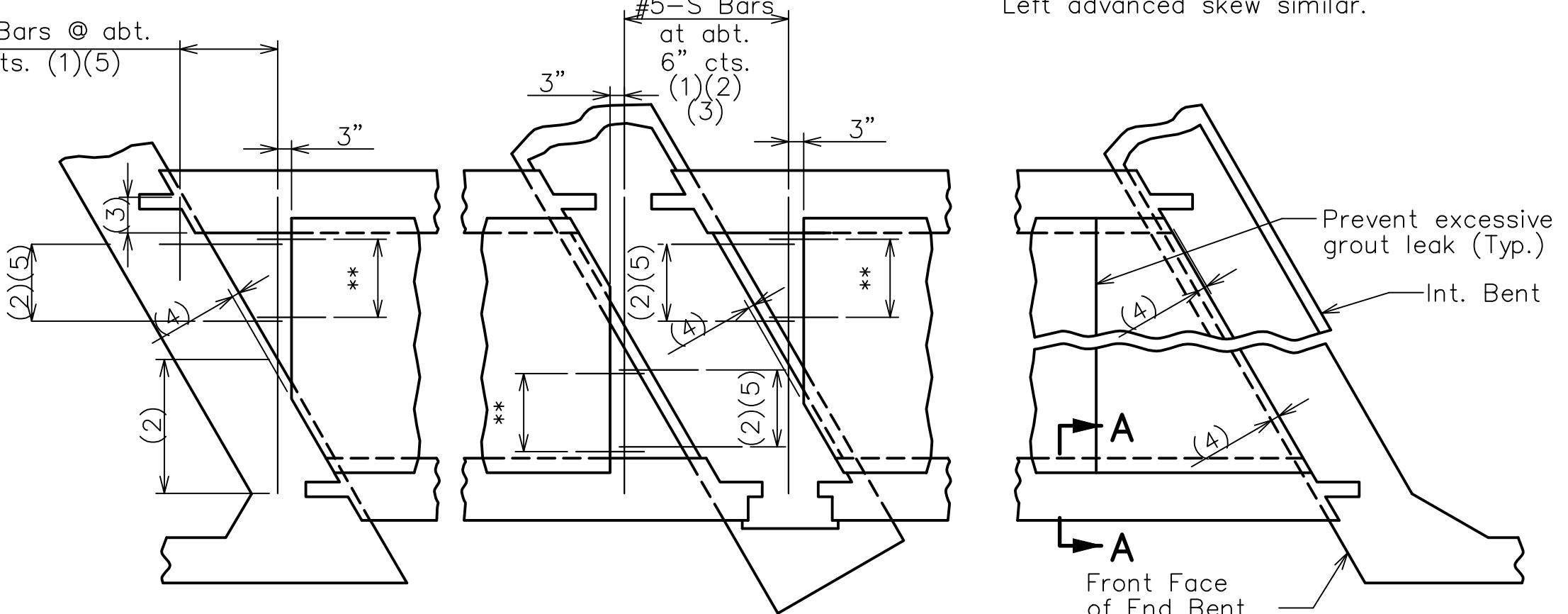
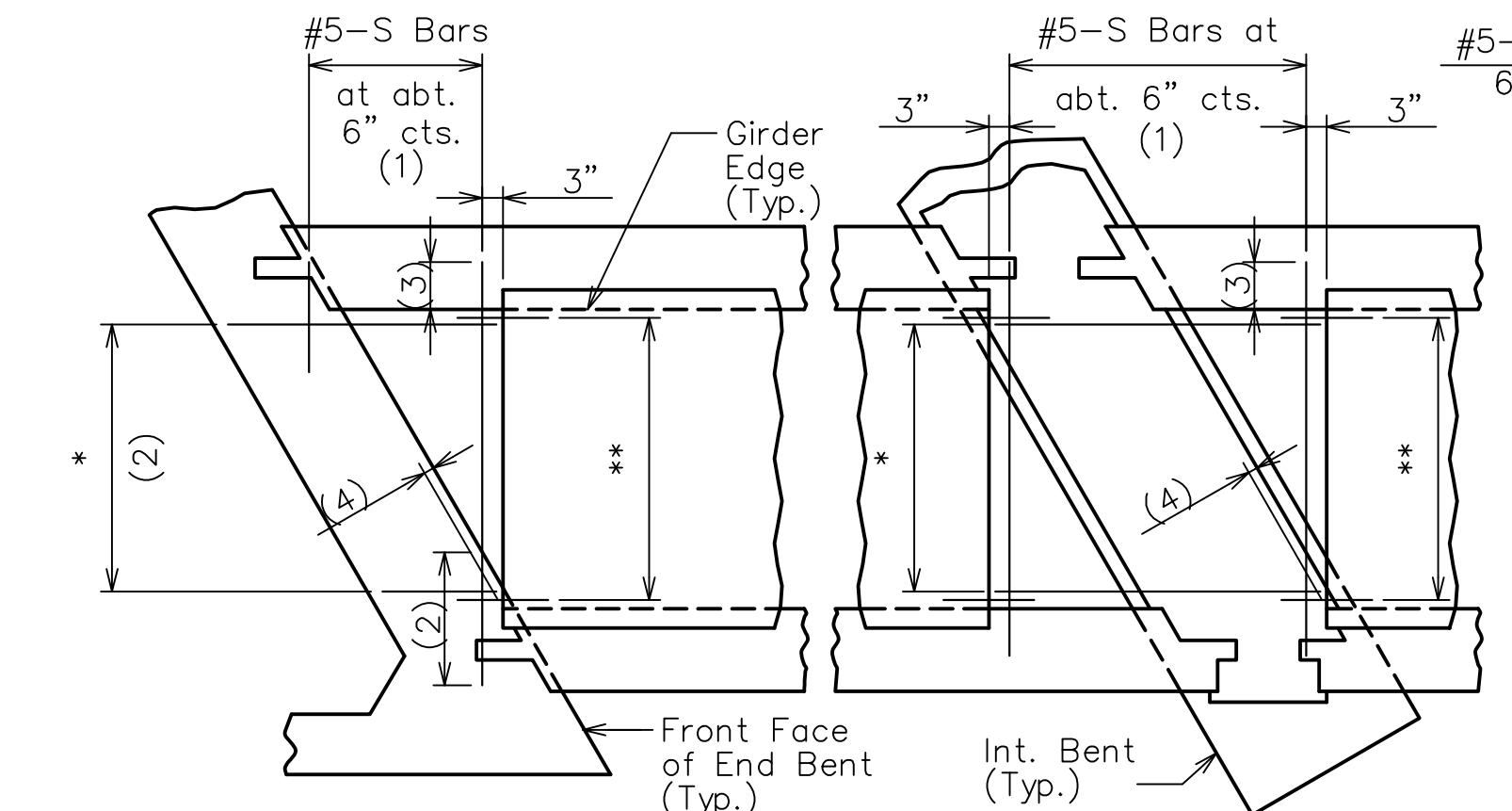
Joint filler shall be glued to the girder. When thickness exceeds $1\frac{1}{2}$ inches, the joint filler shall be glued top and bottom. The glue used shall be the type recommended by the joint filler manufacturer.

Edges of panels shall be uniformly seated on the joint filler before slab reinforcement is placed.

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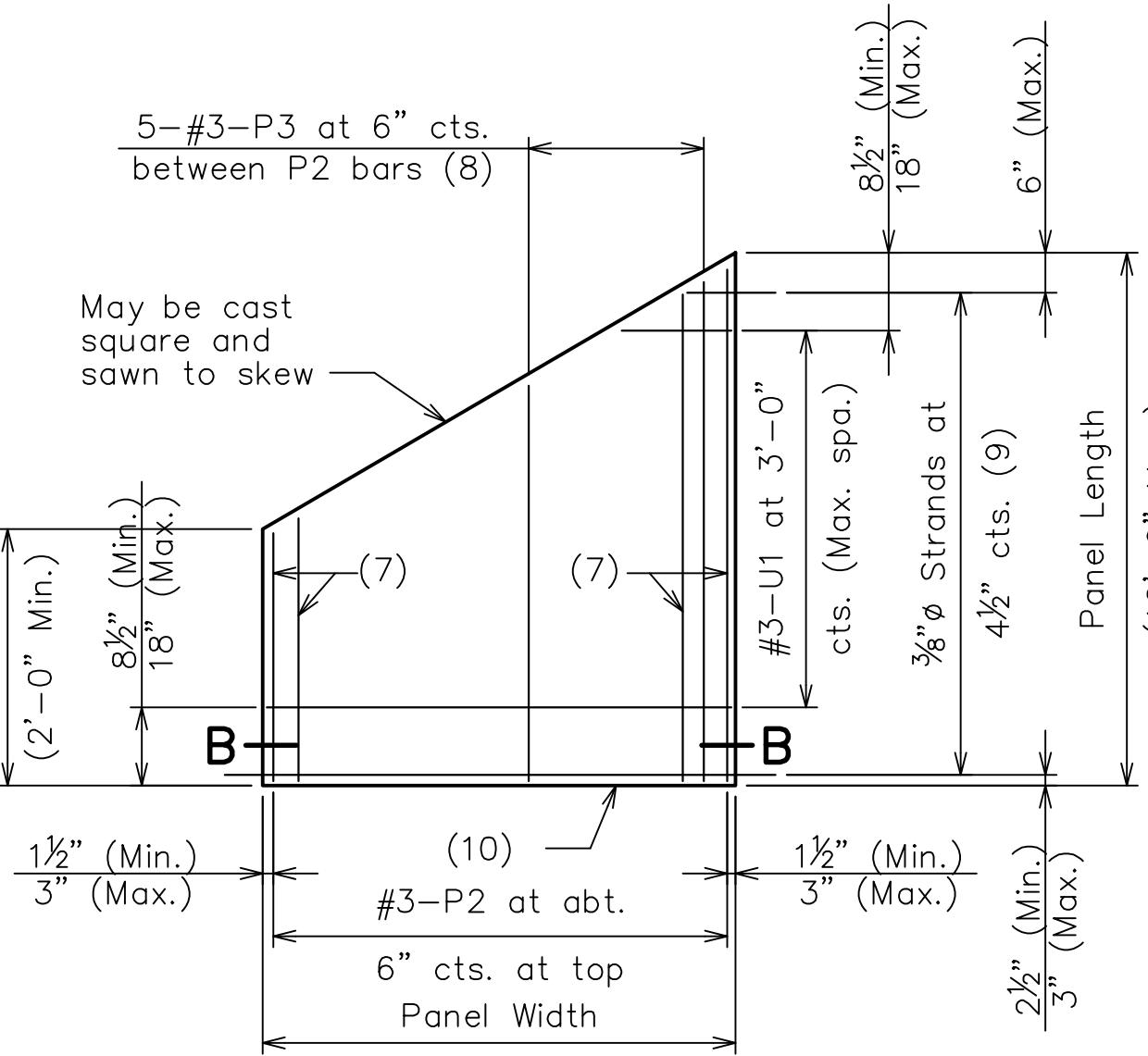


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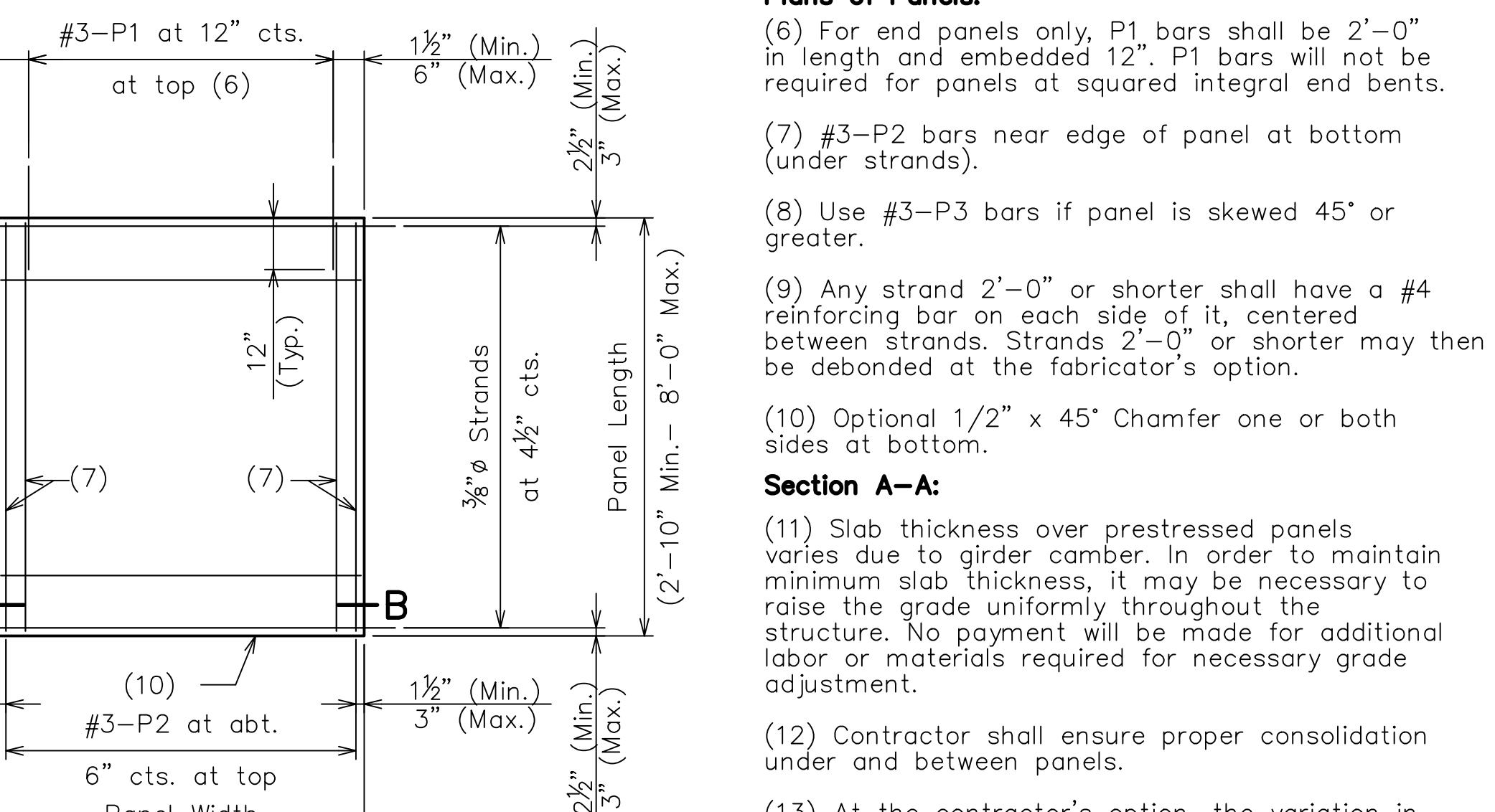


PLAN SHOWING PANELS PLACEMENT

* #5-S Bars at abt. 9" cts. (1)
** #3-P1 at 12" cts. (End panels only)



PLAN OF OPTIONAL SKEWED END PANEL

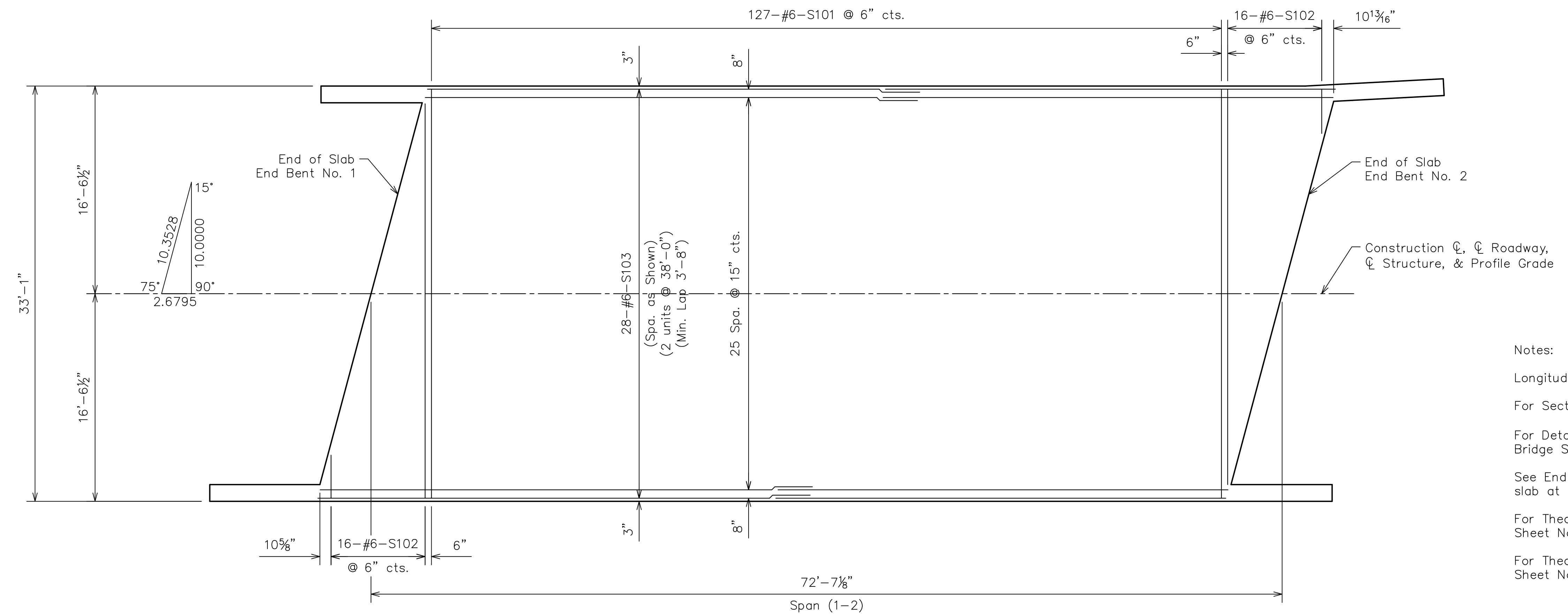


DETAILS OF PRESTRESSED PANELS

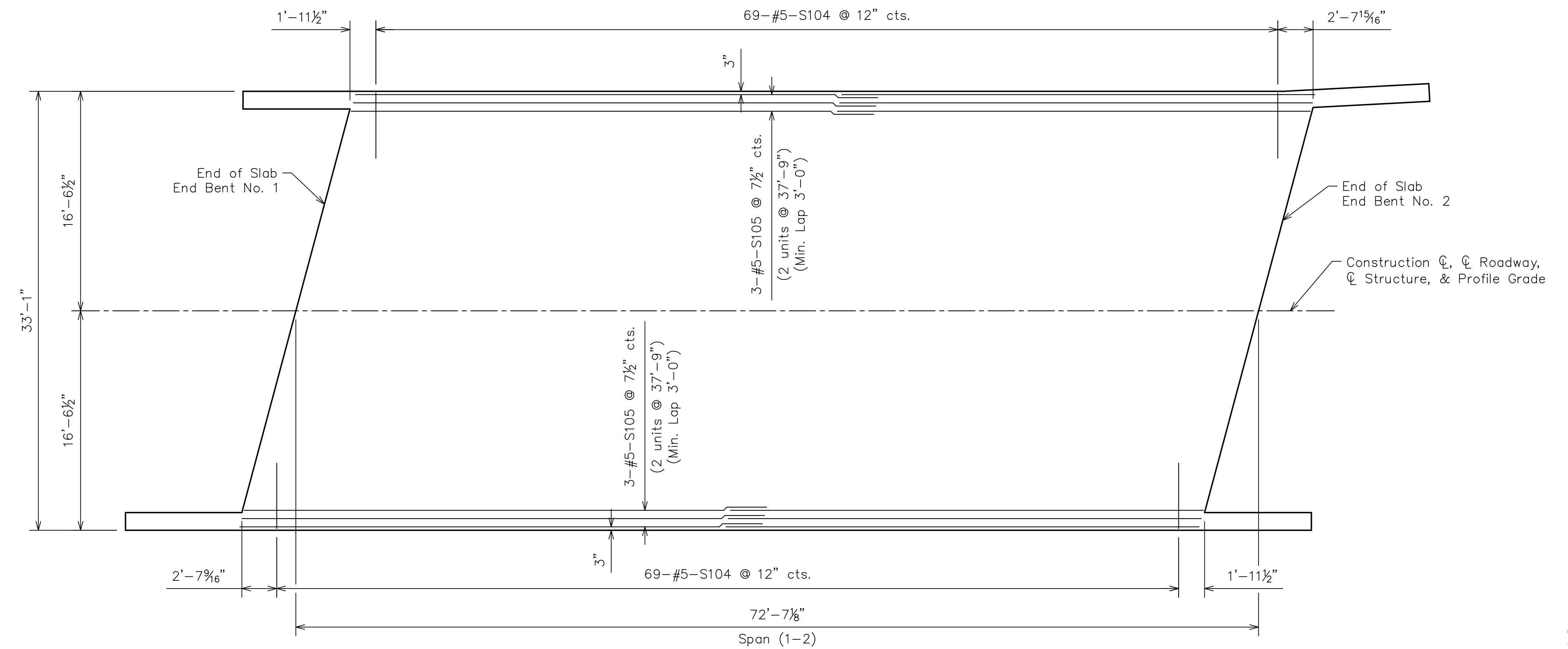
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Note: This drawing is not to scale. Follow dimensions.

Bridge Sheet 12 of 21



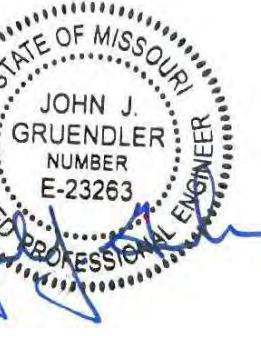
PLAN OF SLAB SHOWING TOP REINFORCEMENT



PLAN OF SLAB SHOWING BOTTOM REINFORCEMENT

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

Bridge Sheet 13 of 21



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COUNTY	
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JOB NO.

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BRIDGE NO.
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RESCRIPTION

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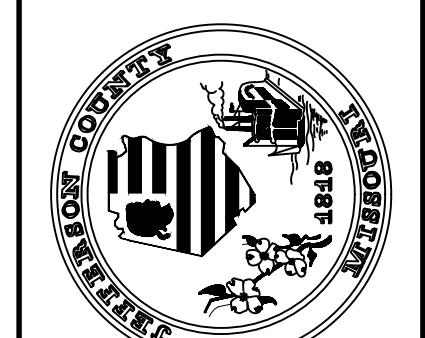
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SLAB PLANS

Doc Sargent Road



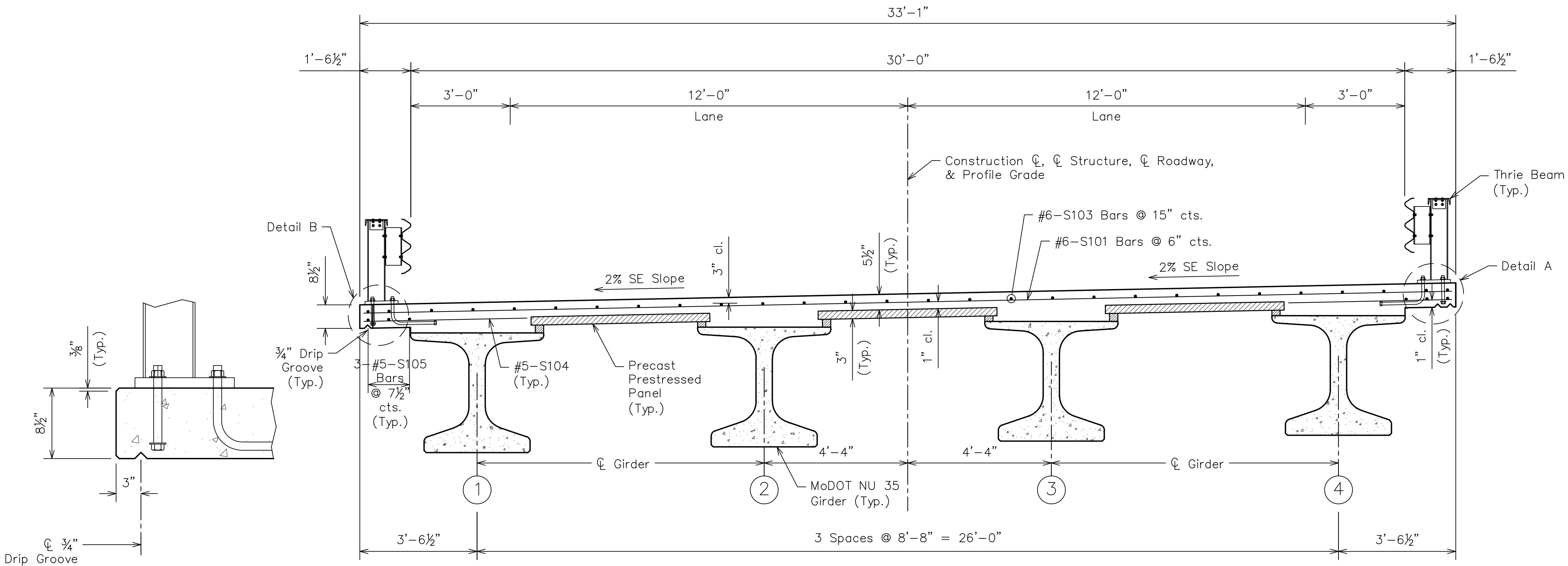
JOHN J. GRUENDLER
PROFESSIONAL ENGINEER
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DATE SIGNED/SEALED
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DATE PREPARED
10/29/2019
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SL 30
COUNTY JEFFERSON
JOB NO.
CONTRACT ID.
PROJECT NO.
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BRIDGE NO.
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Notes:

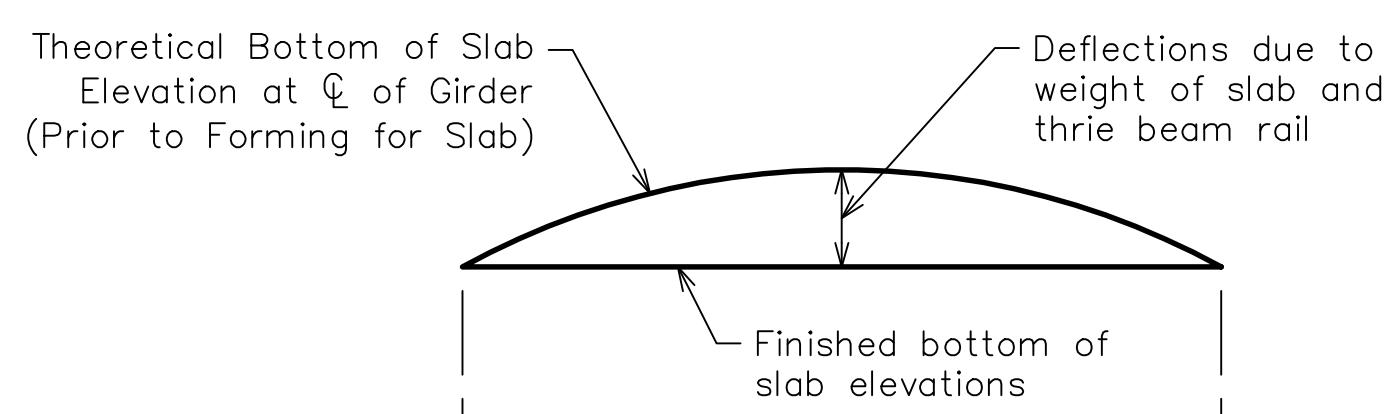
The contractor shall furnish an approved retarder to retard the set of the concrete to 2.5 hours and shall pour and satisfactorily finish the slab pours at the rate given.

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

The contractor shall pour and satisfactorily finish the roadway slab at a rate of not less than 25 cubic yards per hour.

DETAIL B

Girder No. 1	1/2"	1/2"	1/2"	1/2"	2 3/16"	2 3/16"
Girder No. 2	2 3/16"	2 3/16"	2 3/16"	2 3/16"	2 3/16"	2 3/16"
Girder No. 3	2 3/16"	2 3/16"	2 3/16"	2 3/16"	2 3/16"	2 3/16"
Girder No. 4	2 3/16"	2 3/16"	2 3/16"	2 3/16"	2 3/16"	2 3/16"
Bottom of Slab						



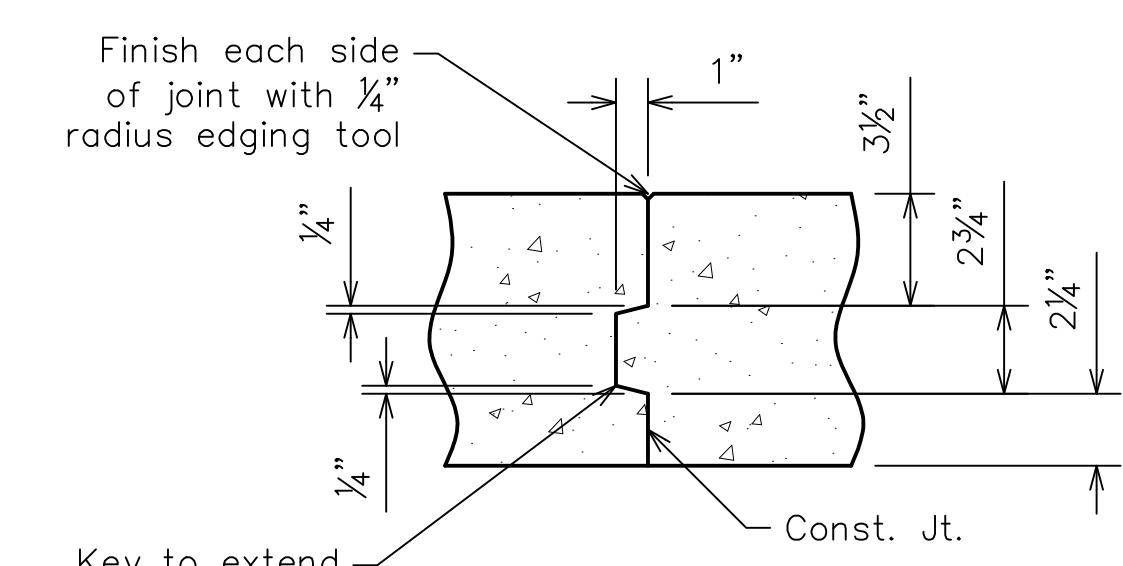
SECTION THRU SLAB

(Looking Ahead Station)

Theoretical Bottom of Slab Elevations
at $\frac{1}{4}$ of Girder
(Prior to forming for slab)
(Estimated at 90 days) **

Girder	Span (1-2)				
	$\frac{1}{4}$ brg.	0.25	0.50	0.75	$\frac{1}{4}$ brg.
1	478.49	478.71	478.76	478.64	478.35
2	478.63	478.87	478.95	478.84	478.56
3	478.77	479.03	479.12	479.03	478.77
4	478.91	479.18	479.29	479.22	478.98

** 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 precast panel) and thrie beam rail.

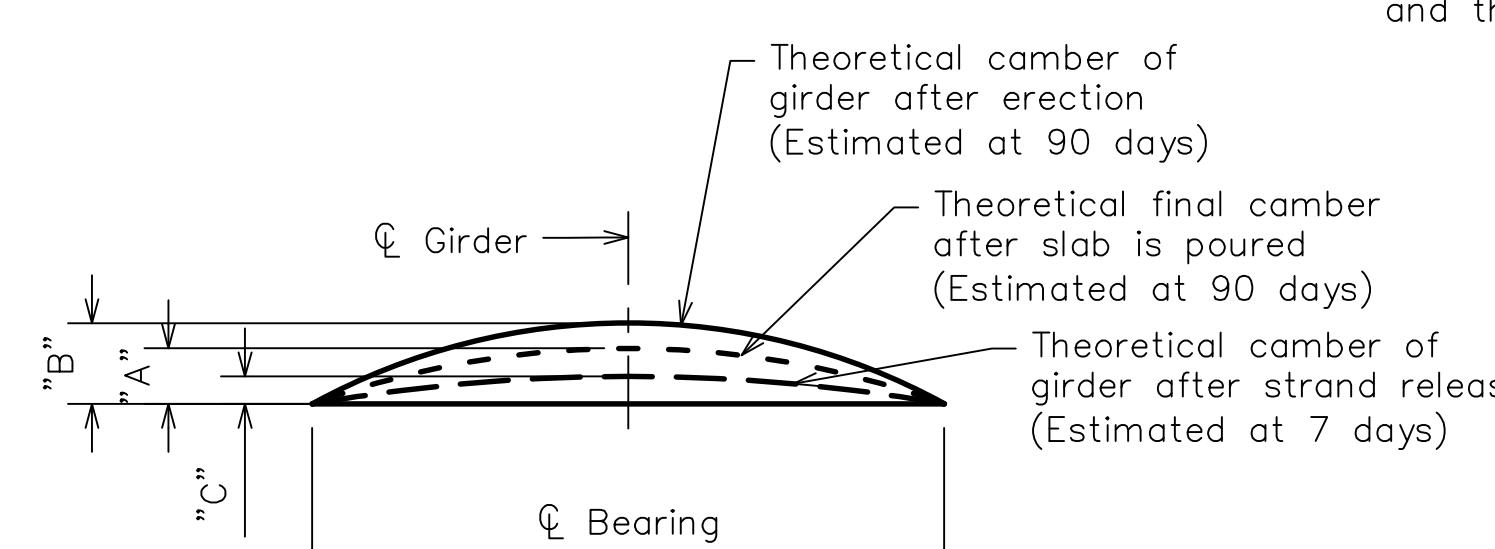


THEORETICAL SLAB HAUNCHING DIAGRAM

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. No payment will be made for additional labor or materials required for variation in haunching, slab thickness or grade adjustment.

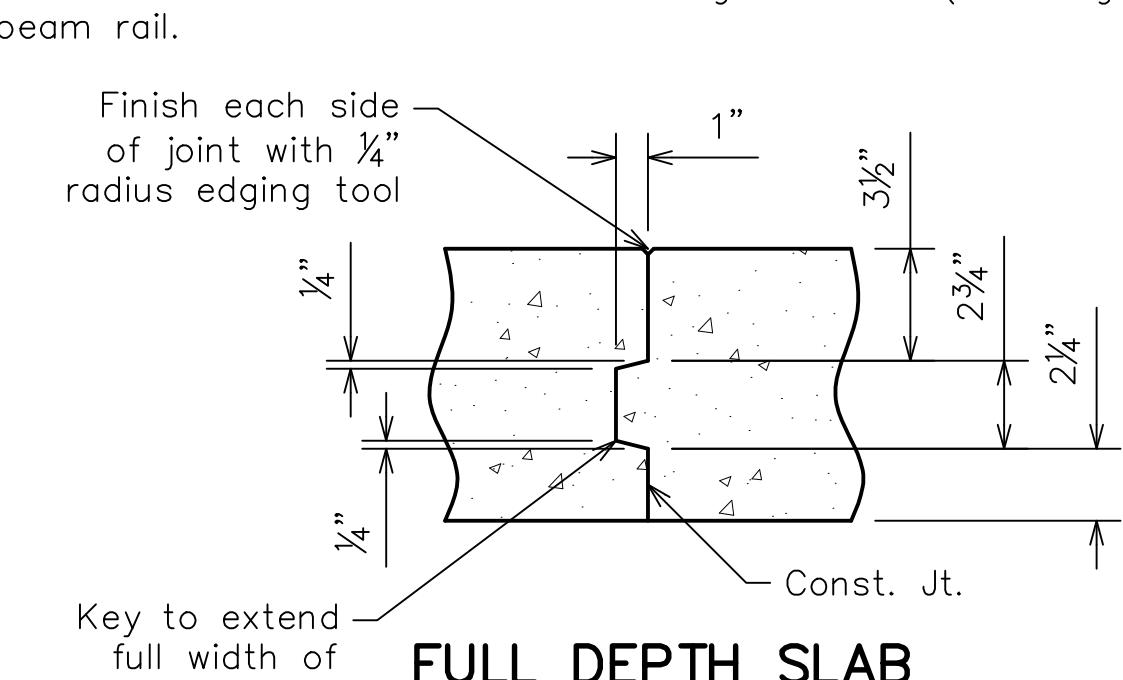
Concrete in the slab haunches is included in the Estimated Quantities for Slab on Concrete NU-Girder.

Haunching values estimated at 90 days are shown.

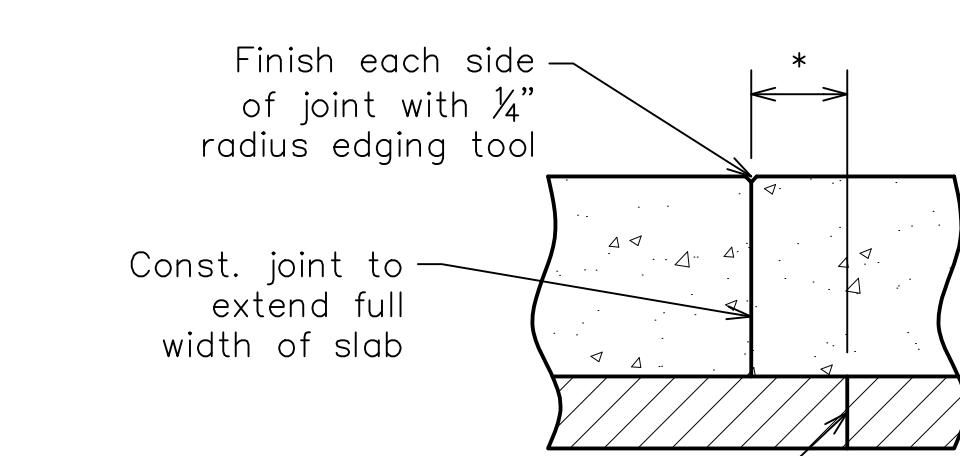


GIRDER CAMBER DIAGRAM

Conversion factors for girder camber (Estimated at 90 days):
0.25 pt. = 0.7125 x 0.5 pt.



FULL DEPTH SLAB

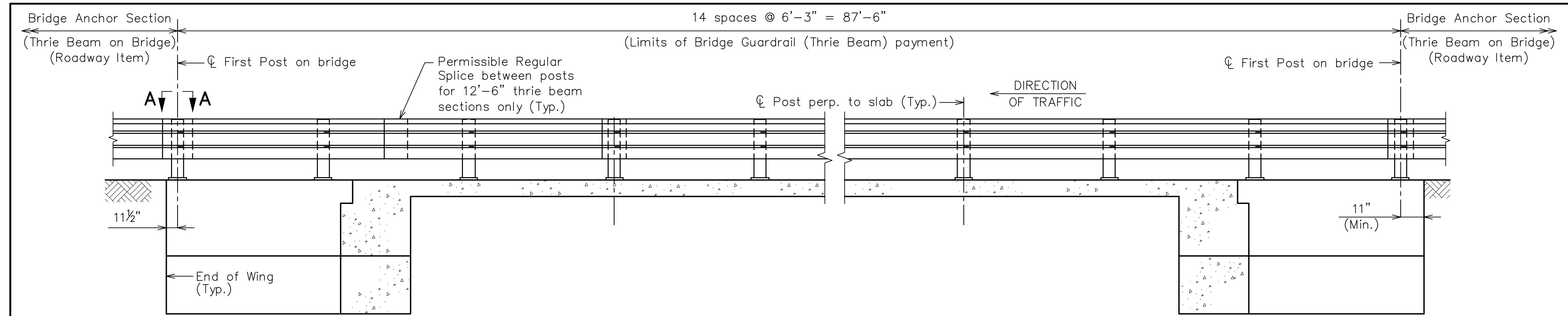


SLAB CONSTRUCTION JOINT

* Adjust the construction joint to a clearance of 6 inches minimum from the panel joint.

SLAB SECTION & DETAILS

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GENERAL NOTES:

Design Specifications: 2002 AASHTO LFD (17th Ed.)
Standard Specifications



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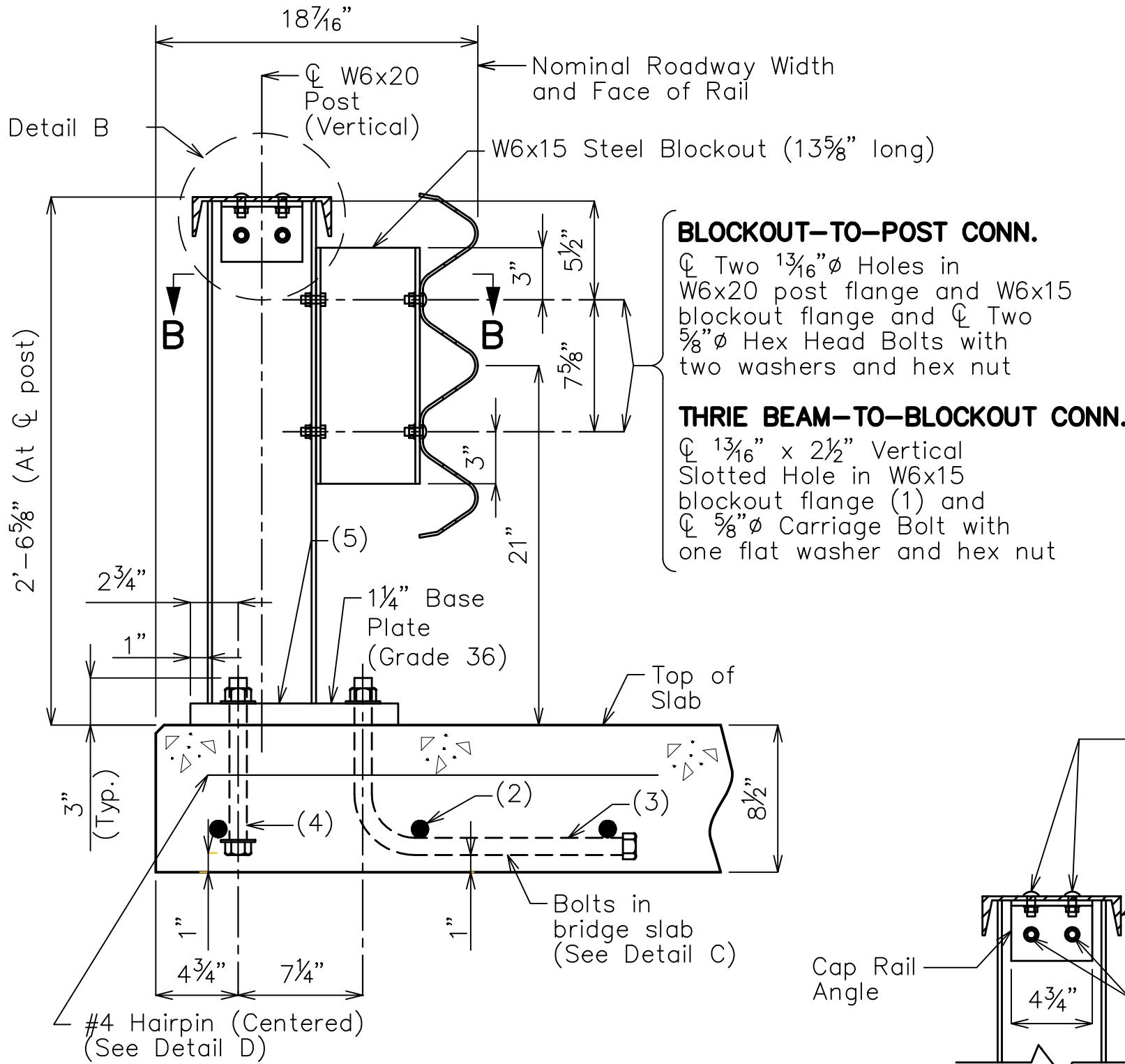
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AT END BENTS

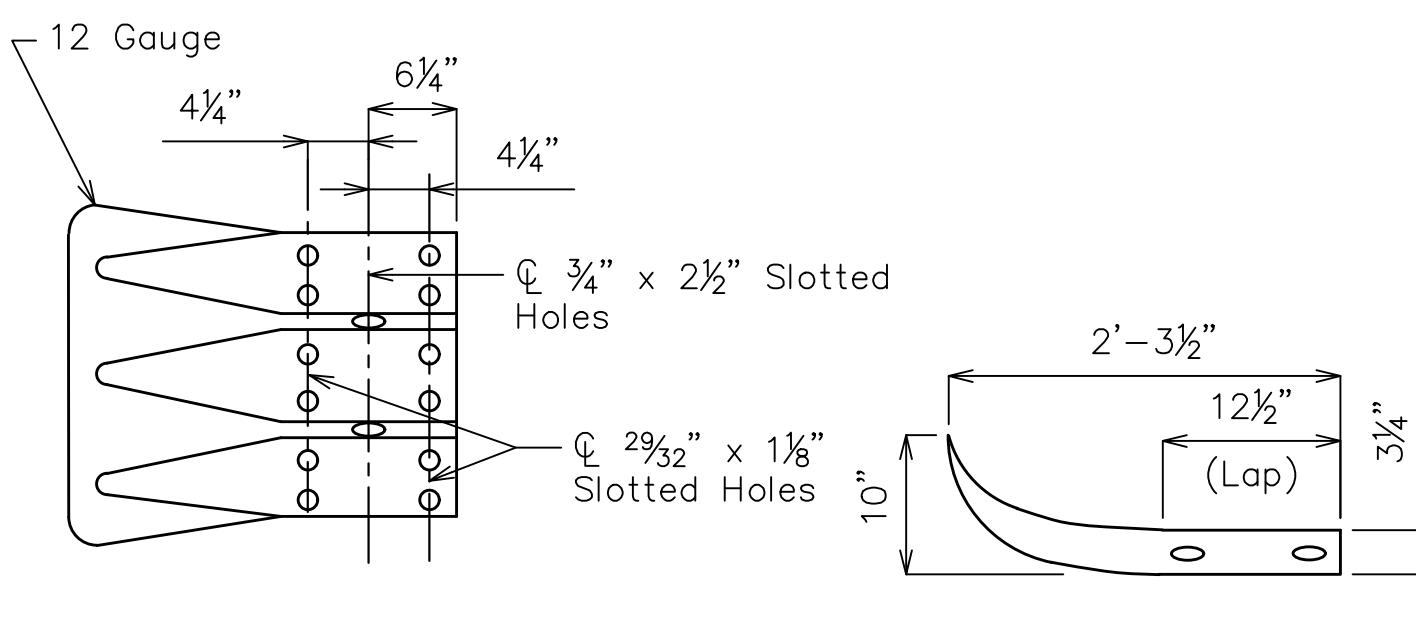


PART SECTION AT RAIL POST

- Required on one side of web only, but may be provided on both sides of web at the contractor's option.
- Tack weld 32-inch long centered bar of the same size as longitudinal slab reinforcement. Optional to wrap bolt under longitudinal slab reinforcement provided that 1-inch clearance is maintained to bottom of slab.
- Three 1-inch diameter A307 bolts with hex nuts and washers.
- Two 1-inch diameter A307 bolts with hex nuts and standard flat washers. Use same length bolts in end bent wing as in slab.
- Bevel bottom of post (slope 2% or slab elevation).

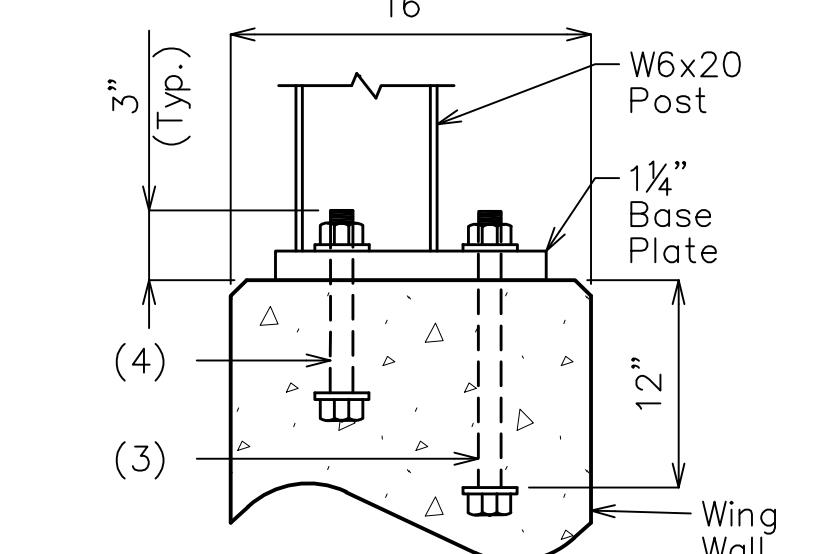
ELEVATION OF THRIE BEAM RAIL

For Part Plan A-A, see Bridge Sheet No. 16.



ELEVATION

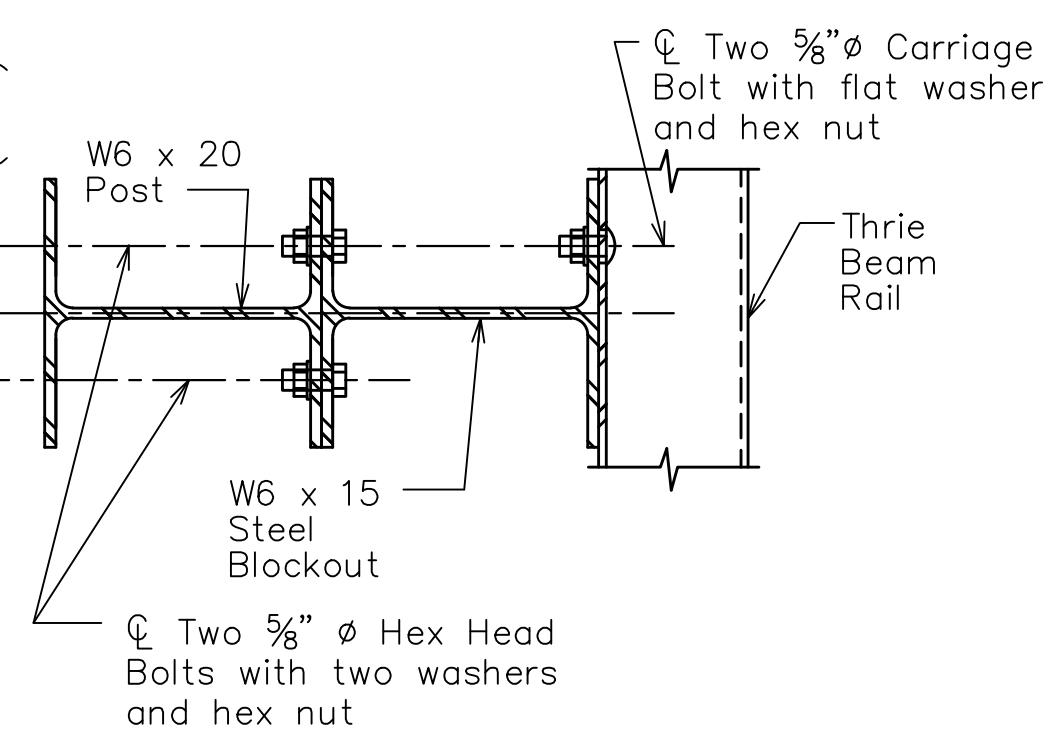
PLAN



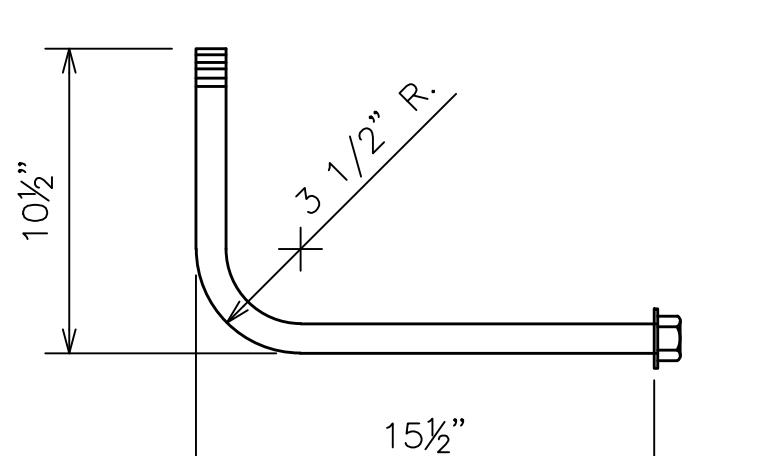
PART SECTION AT WING

DETAIL A

Note: See roadway plans for locations.

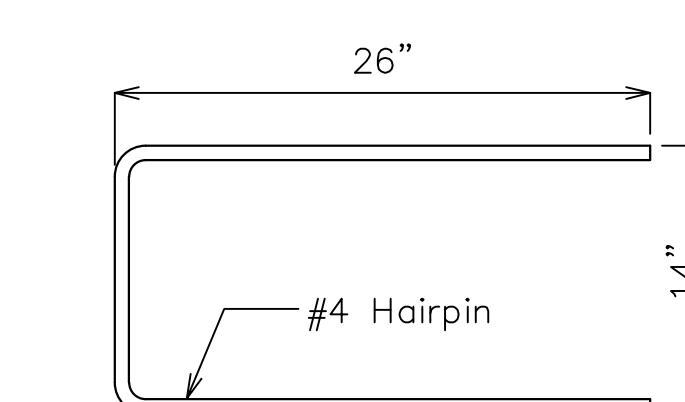


DETAIL B

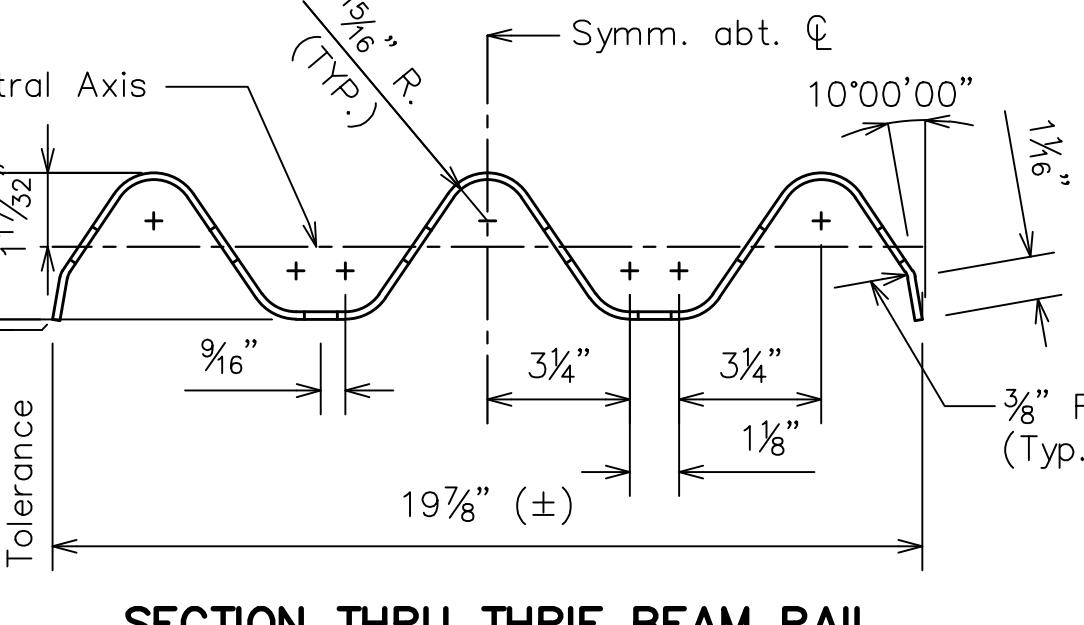


DETAIL C

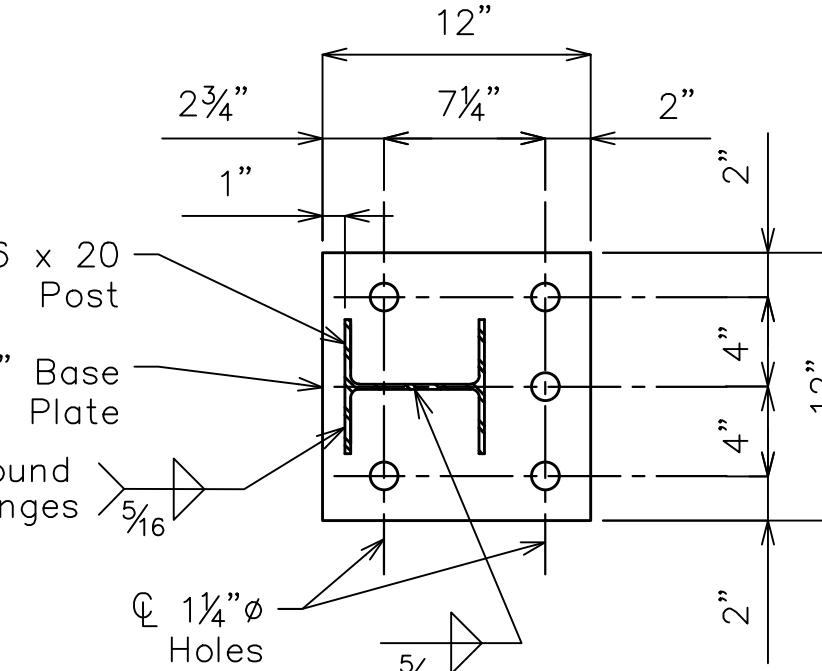
Bolt shall not be bent in slab depths greater than 14", use 12" straight embedment.



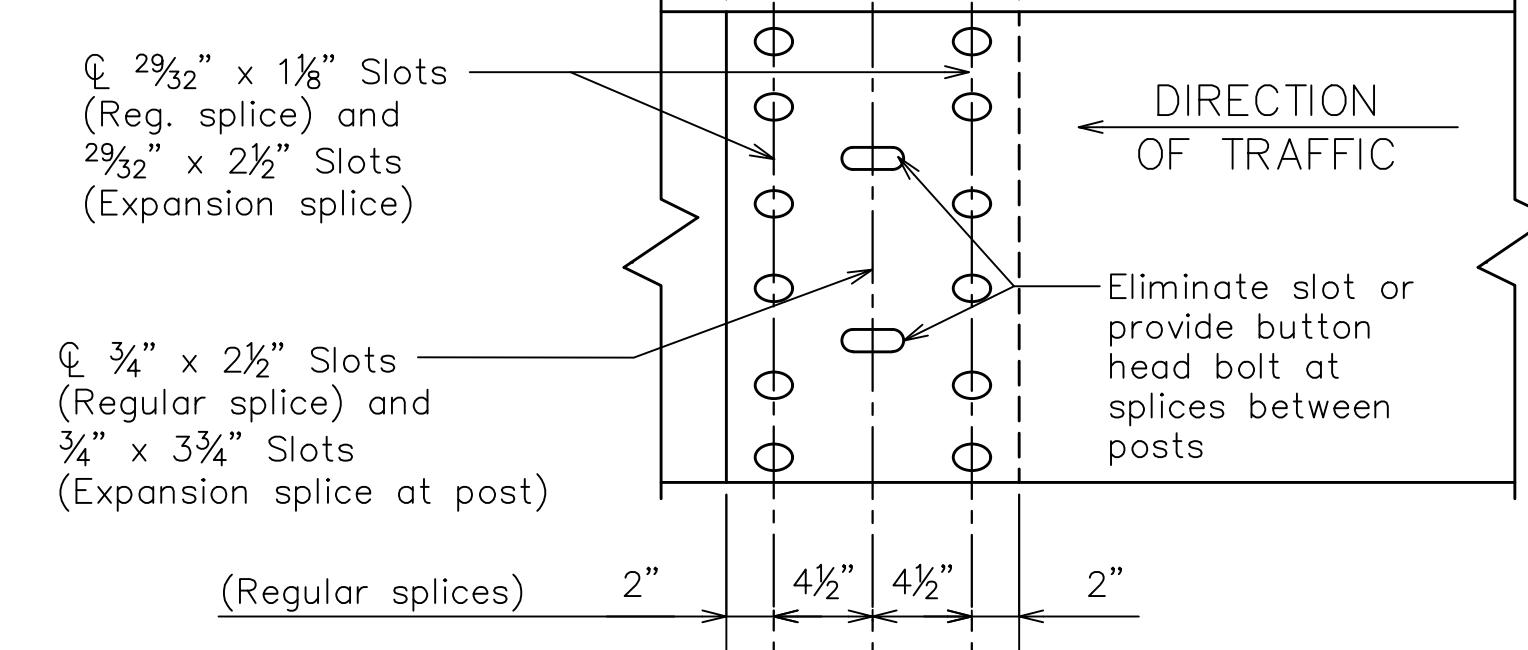
DETAIL D



SECTION THRU THRIE BEAM RAIL



BASE PLATE



THRIE BEAM RAIL SPICE DETAILS

BRIDGE RAILING Doc Sargent Road

Bridge Sheet 15 of 21

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

Guardrail delineators shall be attached to the top of the guardrail and shall similarly use the delineator details of Missouri Standard Plan 617.10, except that the delineator body shall be attached to the top of the cap rail using galvanized anchorage as shown on Missouri Standard Plan 606.00. Delineators on bridges with two-lane, two-way traffic shall have retroreflective sheeting on both sides. Guardrail delineators will be considered completely covered by the contract unit price for Bridge Guardrail (Thrie Beam).

Panel lengths of channel members shall be attached continuously to a minimum of four posts and a maximum of six posts (except at end bents).

All bolts, nuts, washers, plates, reinforcement and elastomeric material will be considered completely covered by the contract unit price for Bridge Guardrail (Thrie Beam).

All steel connecting bolts and fasteners for posts and railing, and all anchor bolts, nuts, washers and plates shall be galvanized after fabrication. Protective coating and material requirement of steel railing shall be in accordance with Sec 1040.

Rail posts shall be set perpendicular to roadway profile grade, vertically in cross section and aligned in accordance with Sec 713 except that the rail posts shall be aligned by the use of 3 x 1 3/4-inch shims such that the post deviates not more than 1/2 inch from true horizontal alignment after final adjustment. The shims shall be placed between the blockout and the thrie beam rail. The thickness of the shims shall be determined by the contractor and verified by the engineer before ordering material for this work.

Rail posts shall be seated on 1/16-inch elastomeric pads having the same dimensions as the post base plate. Such pads may be any elastomeric material, plain or fibered, having a hardness (durometer) of 50 or above, as certified by the manufacturer. Additional pads or half pads may be used in shimming for alignment. Post heights shown will increase by the thickness of the pad.

At the expansion slots in the thrie beam rails and channels, the bolts shall be tightened and backed off one-half turn and the threads shall be burried.

At the thrie beam connection to blockout on wings, the bolts shall be tightened and backed off one-half turn and the threads shall be burried.

Minimum length of thrie beam sections is equal to one post space.

A 5/8-inch diameter button-head, oval shoulder bolt with a minimum 3/8-inch thick hex nut shall be used at all slots.

Thrie beam guardrail on the bridge shall be 12-gauge steel.

Posts, cap rail angles, base plates, channels and channel splice plates shall be fabricated from ASTM A709 Grade 36 steel and galvanized.

Flat washers 3 x 1 3/4 x 3/16-inch minimum shall be used at all post bolts between the bolt head and beam. The washers shall be rectangular in shape with an 11/16 x 1-inch slot, or when necessary of such design as to fit the contour of the beam. Rectangular washers 3 x 1 3/4 x 5/8-inch shall be used between the blockout and the thrie beam rail.

Special drilling of the thrie beam may be required at the splices. All drilling details shall be shown on the shop drawings.

Fabrication of structural steel shall be in accordance with Sec 1080.

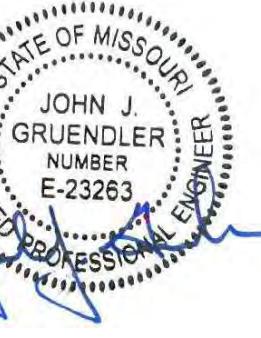
Expansion splices in the thrie beam rail shall be made at either the first or second post on either side of the joint and on structure at bridge ends. When the splice is made at the second post, an expansion slot shall be provided in the thrie beam rail for connection to the first post to allow for movement.

In addition to the expansion provisions at the expansion joints, expansion splices in the thrie beam rail and the channel shall be provided at other locations so that the maximum length without expansion provisions does not exceed 200 feet.

Shim plates 6 x 6 x 1/16-inch may be used between the top of the post and the channel member as required for vertical alignment.

Shim plates shall be galvanized after fabrication.

See Missouri Standard Plan 606.00 for details not shown.

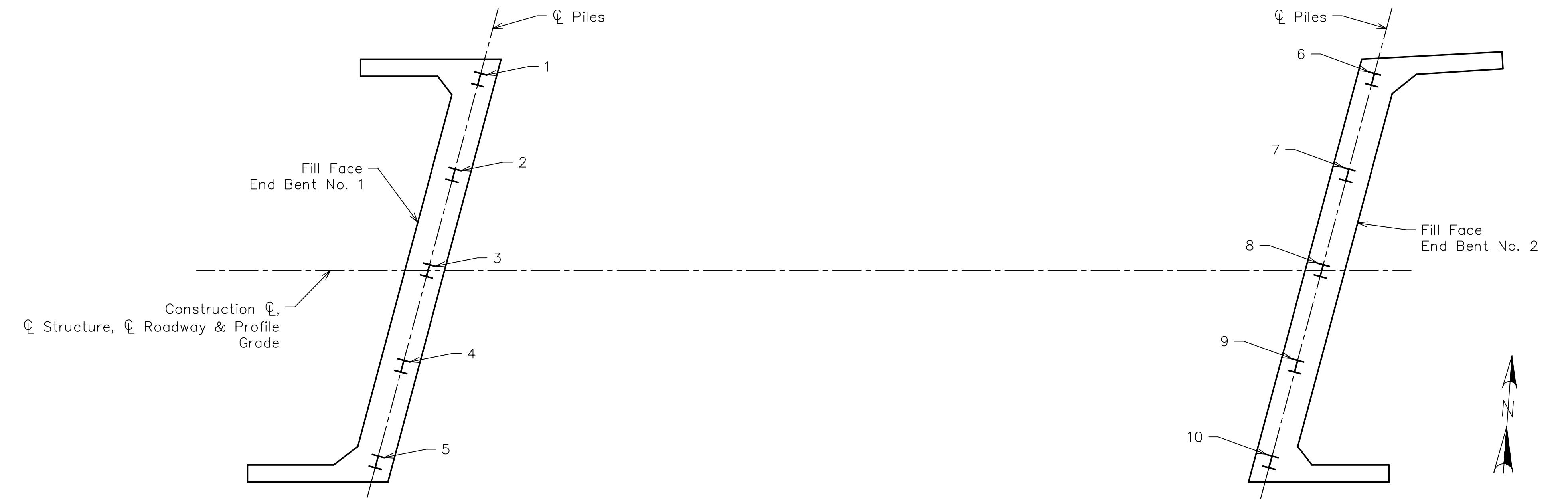


JOHN J. GRUENDLER PROFESSIONAL ENGINEER MO PE NO. E-23263	
DATE SIGNED/SEALED	
10/29/2019	
DATE PREPARED	
10/29/2019	
ROUTE	STATE
	MO
DISTRICT	SHEET NO.
SL	35
COUNTY	
JEFFERSON	
JOB NO.	
CONTRACT ID.	
PROJECT NO.	
STP-5403(674)	
BRIDGE NO.	
00800021	

KSTRUCTURES, INC.
A STRUCTURAL ENGINEERING FIRM

111414 Gravois Rd • Suite 201
St. Louis, MO 63126
314.638.6650

CERT. OF AUTHORITY: E-2006035000



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			

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

Note: Indicate in remarks column:

- A.) If piles were driven to practical refusal.
- B.) Pile batter if other than shown on bent detail sheet.
- C.) Type of piling used.

Note: This sheet to be completed by construction personnel.

AS-BUILT PILE DATA

Doc Sargent Road

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



JOHN J. GRUENDLER
PROFESSIONAL ENGINEER
MO PE NO. E-23263

DATE SIGNED/SEALED
10/29/2019

DATE PREPARED
10/29/2019

ROUTE STATE
MO

DISTRICT SHEET NO.
SL 36

COUNTY JEFFERSON

JOB NO.

CONTRACT ID.

PROJECT NO.
STP-5403(674)

BRIDGE NO.

00800021

DATE DESCRIPTION

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PROJECT Doc Sargent Road Bridge Replacement
LOCATION Jefferson County, Missouri
DRILLER Midwest Drilling, Inc.
EQUIPMENT CME-550 w/HSA

BORING LOG

BORING NUMBER B-1
SHEET 1 of 2
PROJECT NO. 2017-5051.10
ELEVATION 477± DATE DRILLED 04/16/18

DEPTH (ft)	SAMPLE			GRAPHIC	SEE REMARK NO.	LABORATORY TEST RESULTS						
	NUMBER	TYPE	RECOVERY (in/in)			BLOWS (per 6 in)	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	HAND PENETROMETER (ksf)	UNCONFINED COMPRESSIVE STRENGTH (ksf)	LIQUID LIMIT	PLASTICITY INDEX
8												
1	SS	0/18	6	4	15							
3	SS	2/18	8	19								
6	SS	14/18	6	8	13							
9	SS	13/18	18	8								
12												
15	SS	2/5	50/5		1							
18	NX	48/60			2							
					3							
					4							

WATER LEVEL:
NONE OBSERVED WHILE DRILLING
8.0 ft WHILE DRILLING
ft HRS AFTER DRILLING
ft DAYS AFTER DRILLING

REMARKS:

1) Soil description based on field observation.
2) Auger refusal on sandstone at 14.5 feet. Boring advanced using rock coring methods. Roller bit used to clear out sand that had blown in to hole up to 13 feet before coring began.
3) RQD values determined using measurements taken from core samples as they were removed from the barrel, prior to transportation and handling of the sample. Hole flushed with drilling mud prior to starting each run.
4) RQD = 48%



PROJECT Doc Sargent Road Bridge Replacement
LOCATION Jefferson County, Missouri
DRILLER Midwest Drilling, Inc.
EQUIPMENT CME-550 w/HSA

BORING LOG

BORING NUMBER B-1
SHEET 2 of 2
PROJECT NO. 2017-5051.10
ELEVATION 477± DATE DRILLED 04/16/18

DEPTH (ft)	SAMPLE			GRAPHIC	SEE REMARK NO.	LABORATORY TEST RESULTS						
	NUMBER	TYPE	RECOVERY (in/in)			BLOWS (per 6 in)	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	HAND PENETROMETER (ksf)	UNCONFINED COMPRESSIVE STRENGTH (ksf)	LIQUID LIMIT	PLASTICITY INDEX
21	7	NX	55/60		5							
24					6							
27	8	NX	59/60		7							
30					8							
33					9							
36												
39												

WATER LEVEL:
NONE OBSERVED WHILE DRILLING
8.0 ft WHILE DRILLING
ft HRS AFTER DRILLING
ft DAYS AFTER DRILLING

REMARKS:
5) Percent passing No. 200 sieve = 30.3%
6) RQD = 77%
7) Sample ends were capped with gypsum prior to performing unconfined compressive strength test.
8) Sample ends were capped with gypsum prior to performing unconfined compressive strength test.
9) RQD = 72%

BORING LOGS
Doc Sargent Road

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CERT. OF AUTHORITY: E-2006036000



JOHN J. GRUENDLER
PROFESSIONAL ENGINEER
MO PE NO. E-23263

DATE SIGNED/SEALED
10/29/2019

DATE PREPARED
10/29/2019

ROUTE STATE
MO

DISTRICT SHEET NO.
SL 37

COUNTY JEFFERSON

JOB NO.

CONTRACT ID.

PROJECT NO.
STP-5403(674)

BRIDGE NO.
00800021

DATE DESCRIPTION

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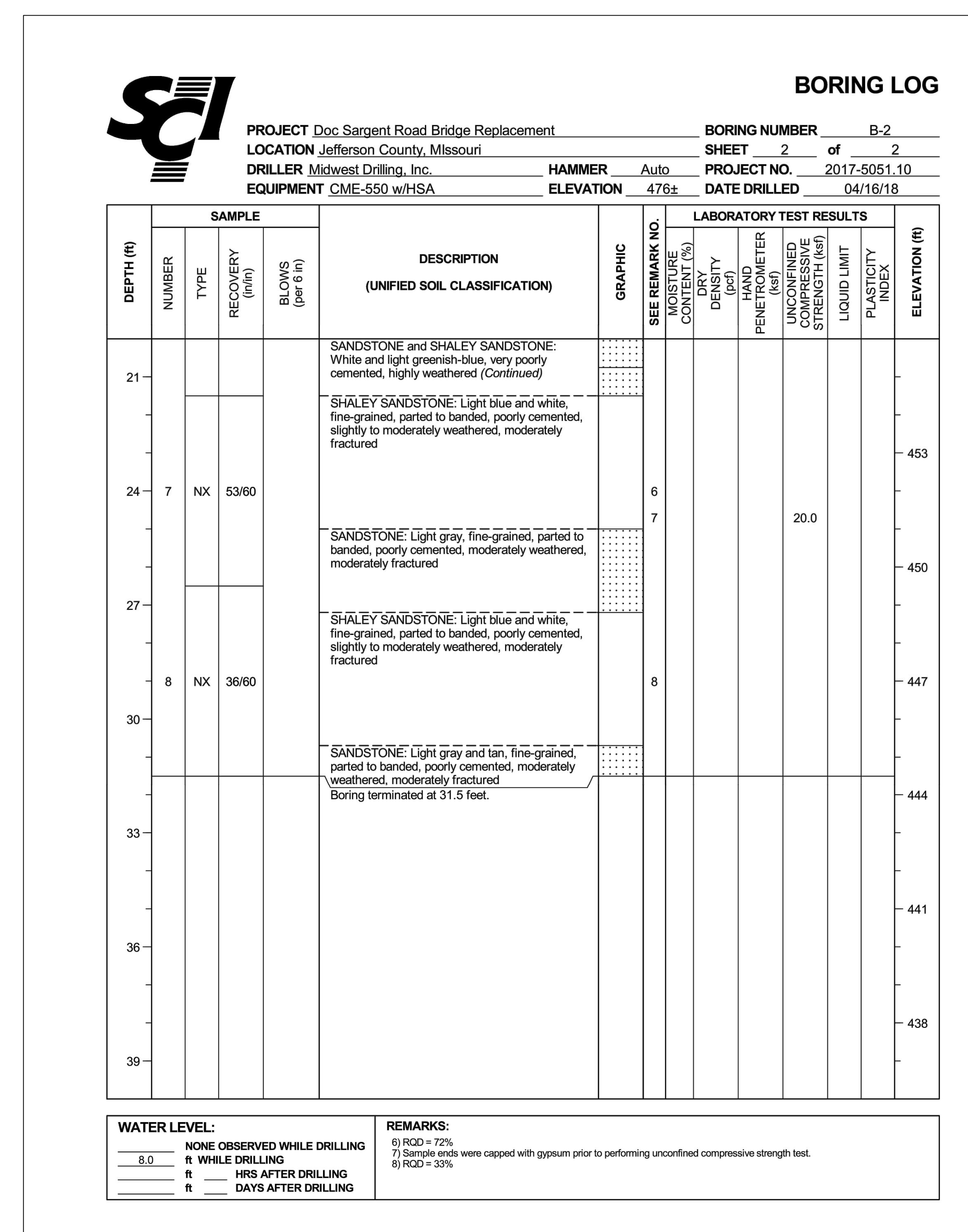
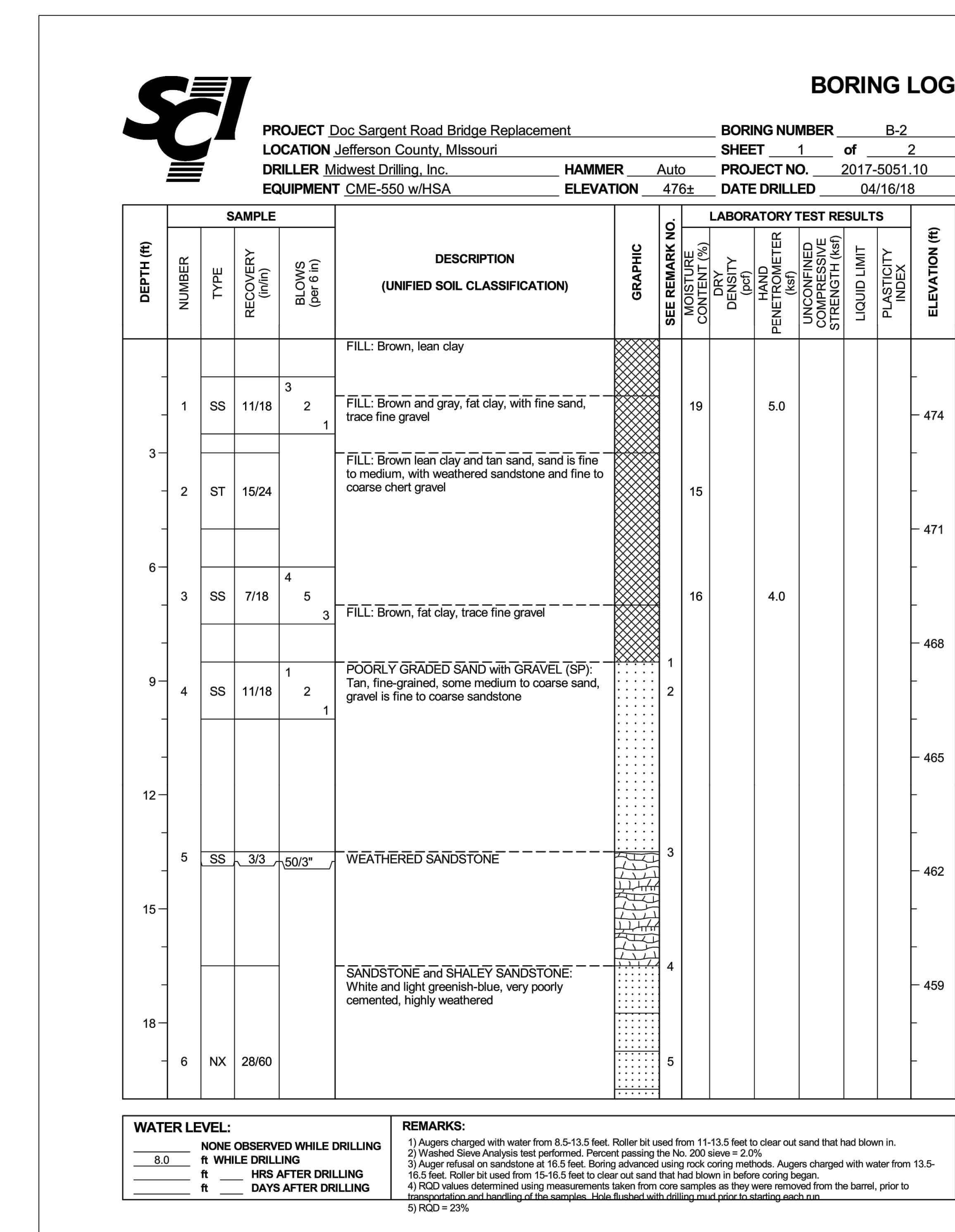
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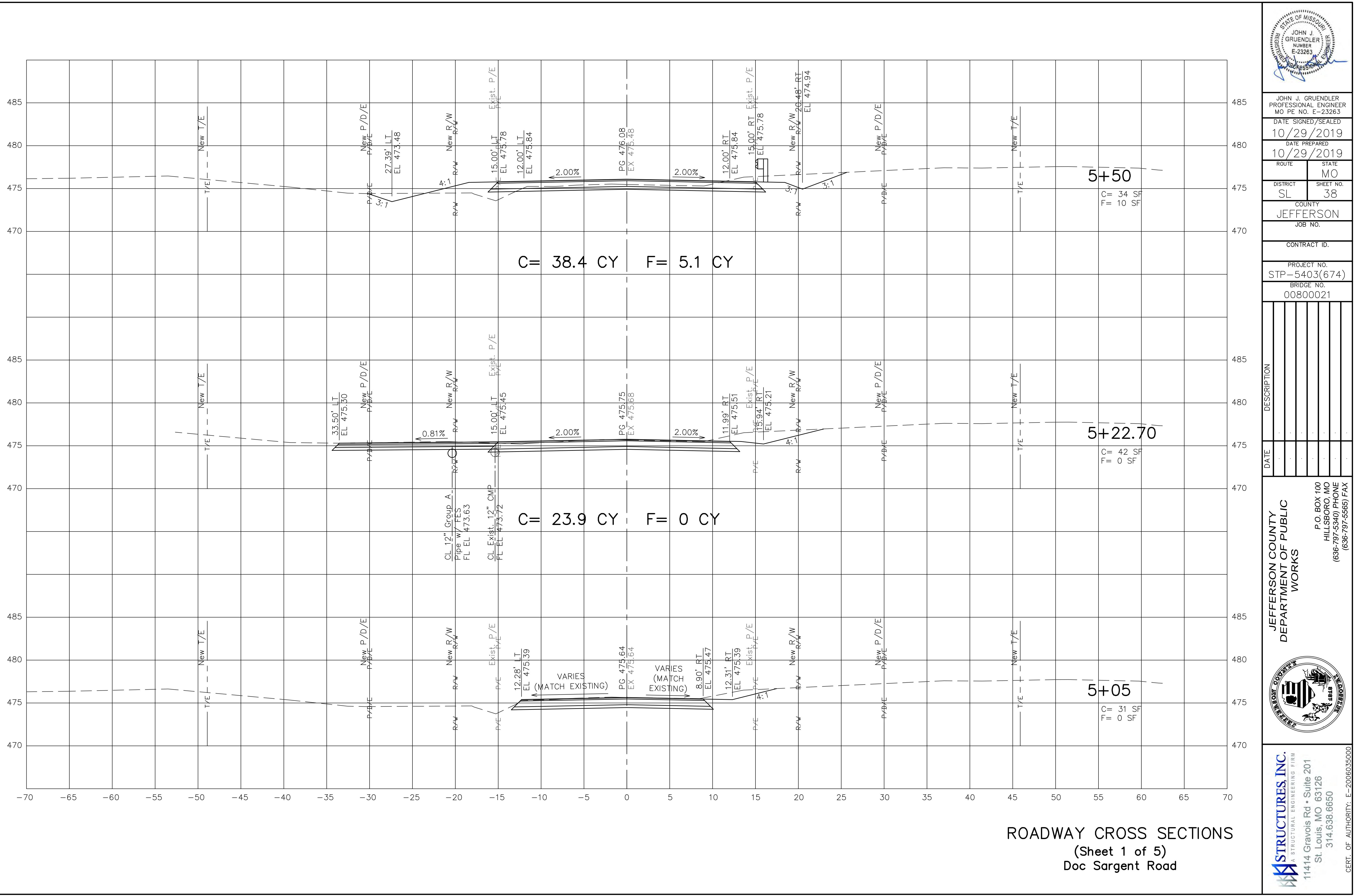
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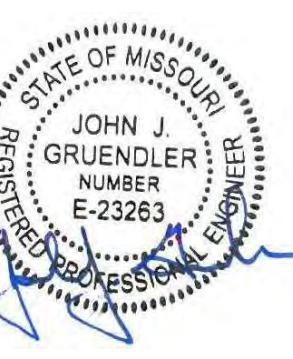


For location of borings, see Bridge Sheet No. 1 of 21.

See April 2018 SCI Engineering Inc.
geotechnical report for additional data.

BORING LOGS
Doc Sargent Road





JOHN J. GRUENDLER
PROFESSIONAL ENGINEER
MO PE NO. E-23263
DATE SIGNED/SEALED
10/29/2019
DATE PREPARED
10/29/2019
ROUTE STATE MO
DISTRICT SHEET NO. 39
COUNTY JEFFERSON
JOB NO.
CONTRACT ID.
PROJECT NO. STP-5403(674)
BRIDGE NO. 00800021

DATE DESCRIPTION

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JEFFERSON COUNTY
DEPARTMENT OF PUBLIC
WORKS



STRUCTURES, INC.
A STRUCTURAL ENGINEERING FIRM
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St. Louis, MO 63126
314.638.6650
CERT. OF AUTHORITY: E-2006036000

BRIDGE OMISSION
STA. 6+80.37 TO STA. 7+54.00

C= 91.1 CY F= 94.5 CY

6+80.37

C= 97 SF BACK
F= 67 SF BACK

C= 85.2 CY F= 125.0 CY

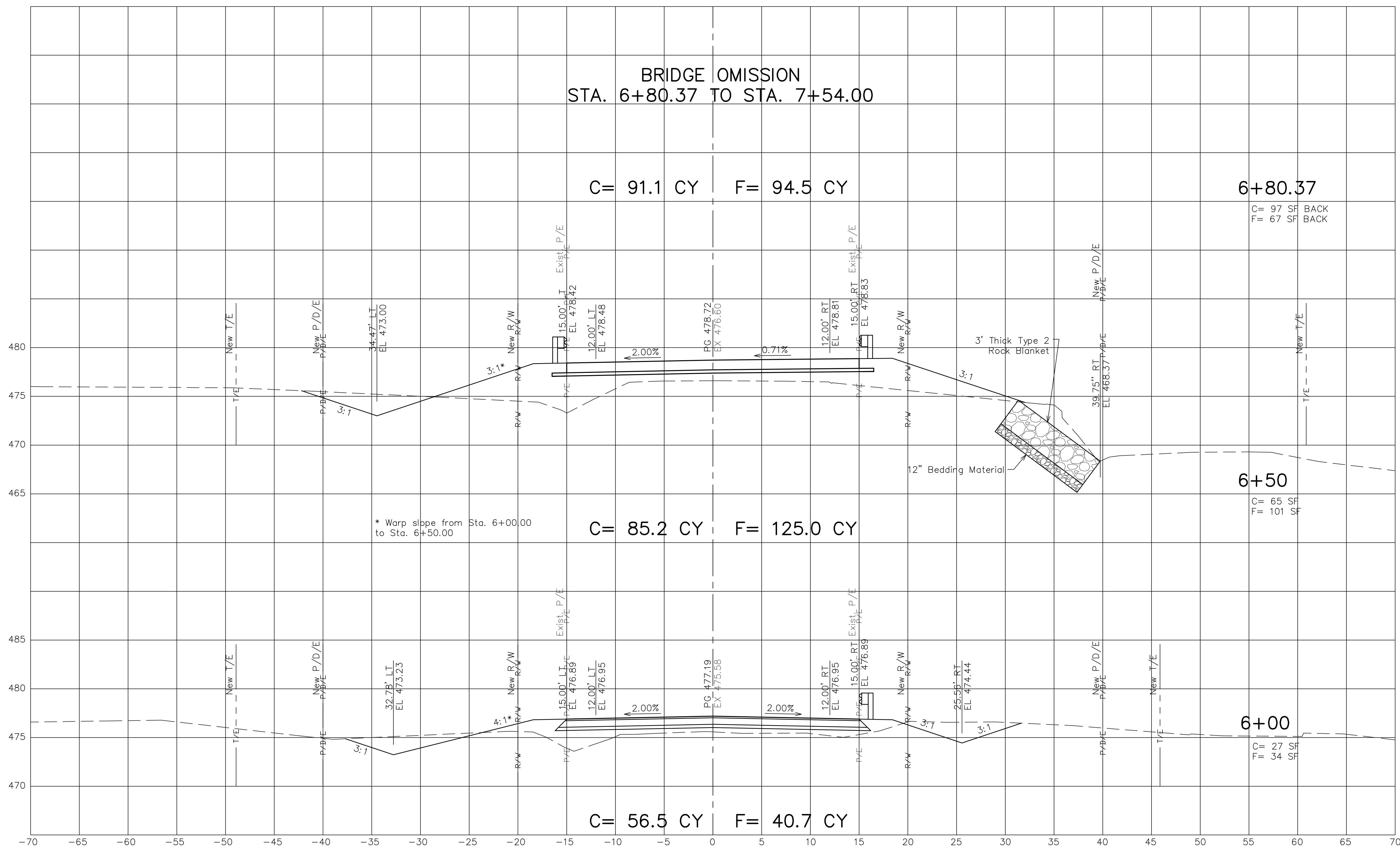
6+50

C= 65 SF
F= 101 SF

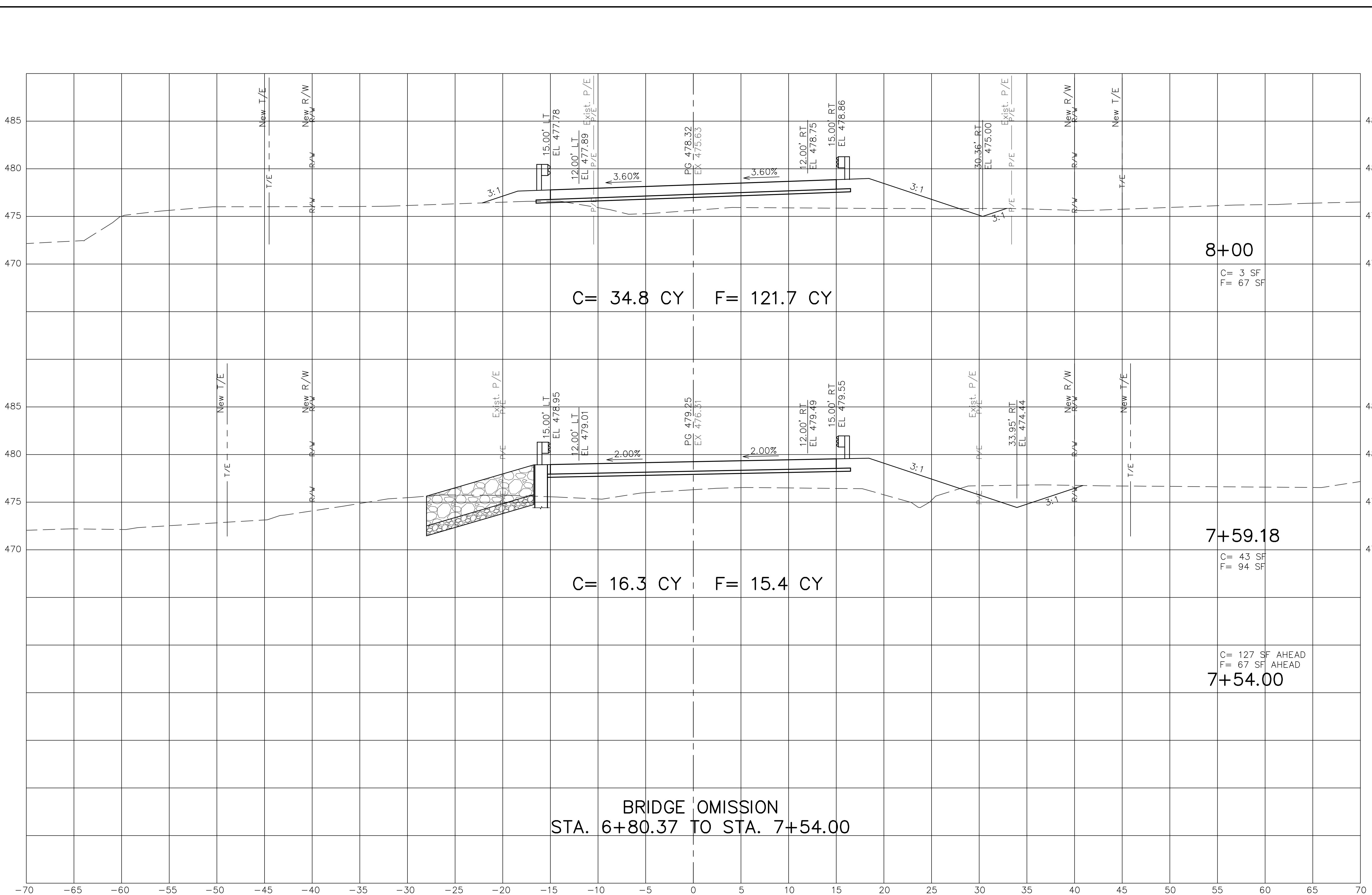
C= 56.5 CY F= 40.7 CY

6+00

C= 27 SF
F= 34 SF



ROADWAY CROSS SECTIONS
(Sheet 2 of 5)
Doc Sargent Road



ROADWAY CROSS SECTIONS

(Sheet 3 of 5)

Doc Sargent Road



PERSON COUNTY MENT OF PUBLIC WORKS

P.O. BOX 100
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