

DESIGN DESIGNATION

A.A.D.T. - 2016 = <150

A.A.D.T. - 2031 = <400

T = 5%

V = 25 MPH

D = 50%

CURRENT POSTED SPEED = 25 MPH

FUNCTIONAL CLASSIFICATION- RURAL LOCAL

UTILITY CONTACTS

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PUBLIC WATER SUPPLY DISTRICT C8
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CABLE - CHARTER
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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.

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		
RIGHT-OF-WAY		
TEMPORARY EASEMENT		
PERMANENT EASEMENT		
PERMANENT DRAINAGE EASEMENT		
CONSTRUCTION LIMITS		
UTILITIES		
FIBER OPTICS		
OVERHEAD TELEPHONE		
UNDERGROUND TELEPHONE		
OVERHEAD POWER		
UNDERGROUND POWER		
OVERHEAD POWER & TELEPHONE		
GAS		
WATER		
MANHOLE		
FIRE HYDRANT		
WATER VALVE		
WATER METER		
DROP INLET		
DITCH BLOCK		
GROUND MOUNTED SIGN		
LIGHT POLE		
H-FRAME POWER POLE		
TELEPHONE PEDESTAL		
FENCE		
CHAIN LINK		
WOVEN WIRE		
GATE POST		
BENCHMARK		

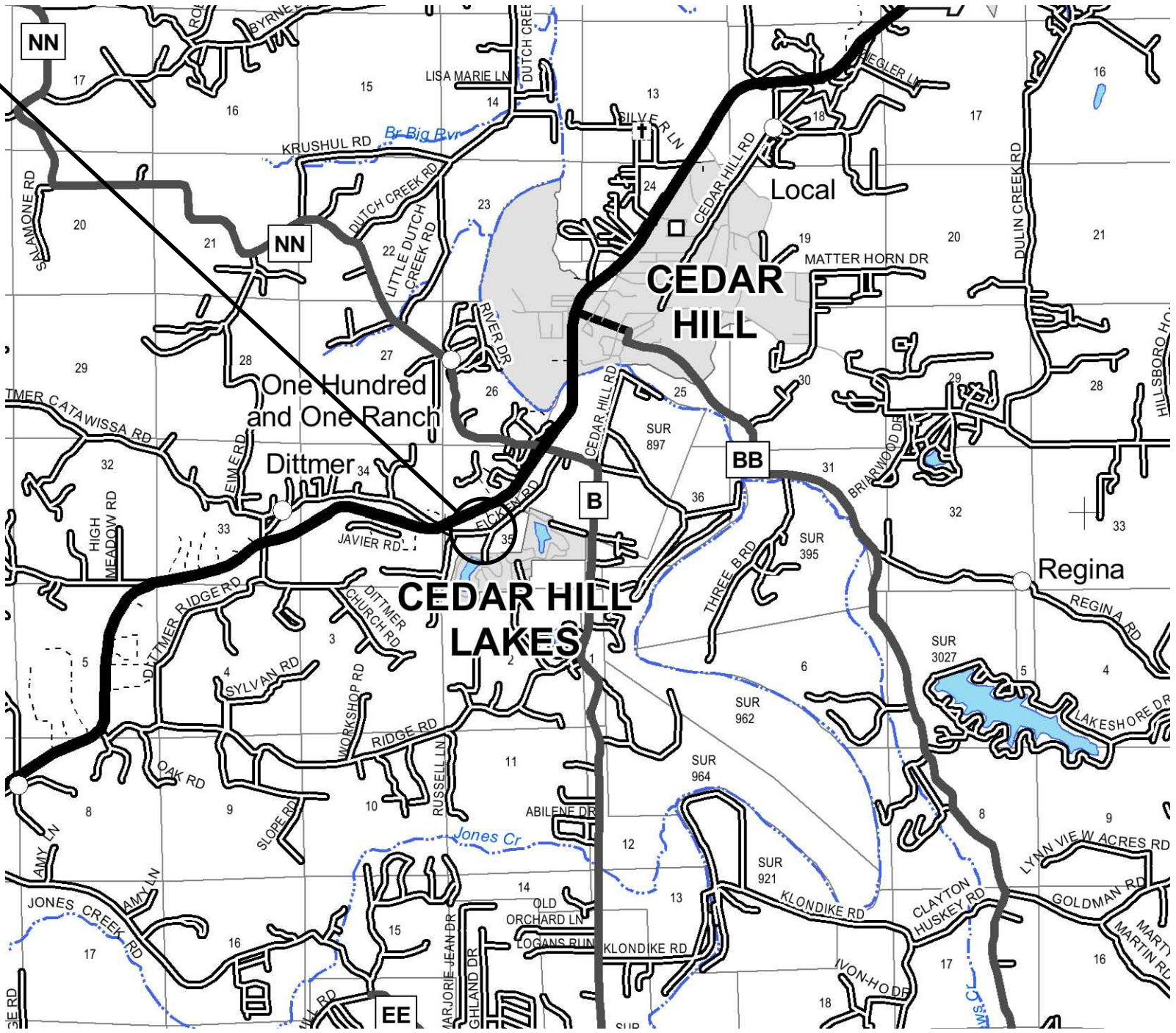
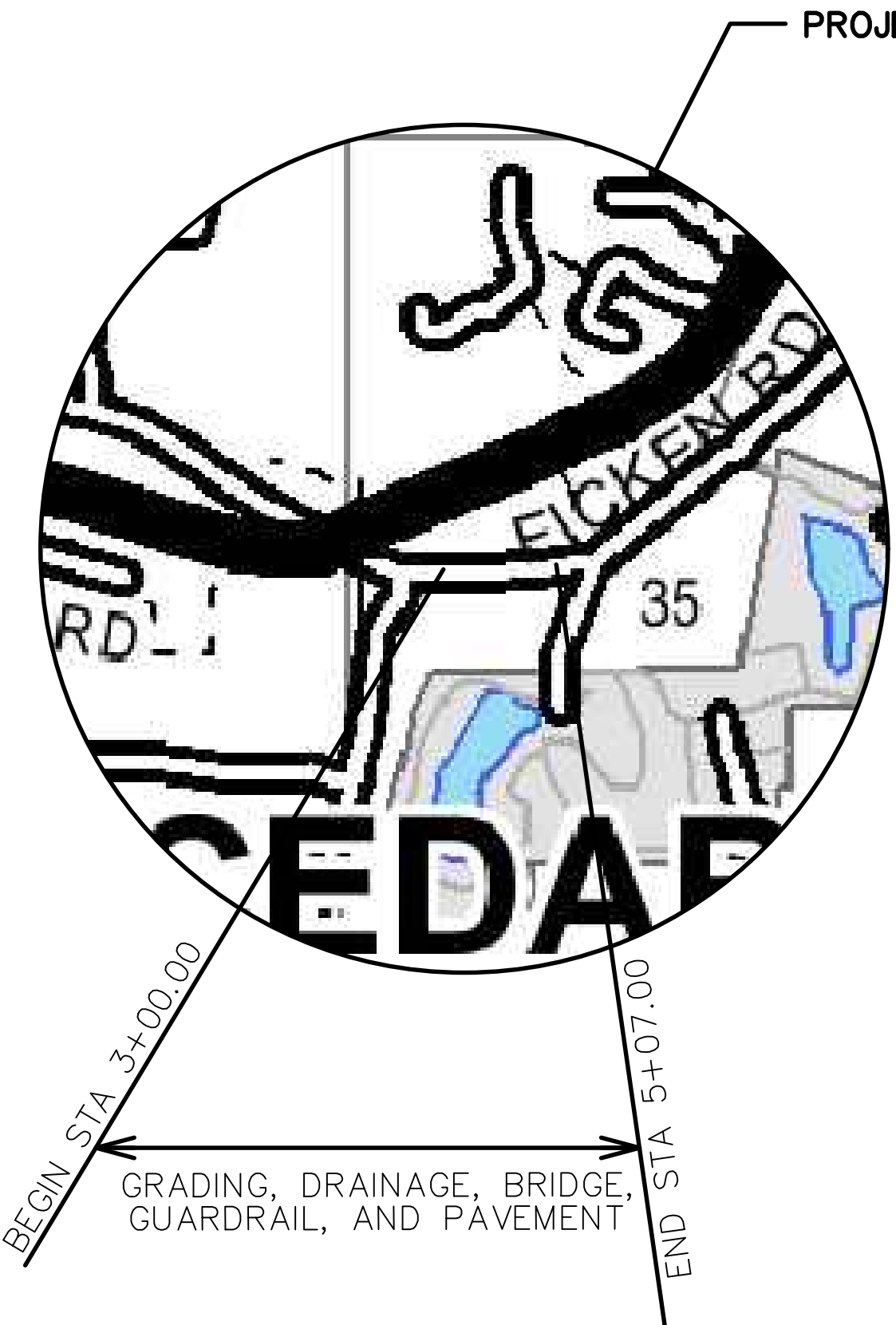
NOTE: DASHED, OPEN OR TRANSPARENT SYMBOLS INDICATE EXISTING FEATURES

STATE OF MISSOURI
JEFFERSON COUNTY DEPARTMENT OF PUBLIC WORKS
STRUCTURE REPLACEMENT
FICKEN ROAD
BOX NO. 0151-03978-002
PROJECT NO. PW19151BXC

FINAL PLANS

March 11, 2019

SECTION 35, TOWNSHIP 42 NORTH, RANGE 3 EAST
JEFFERSON COUNTY, MISSOURI



LOCATION MAP

BENCHMARK INFORMATION:
Horizontal and vertical datum were derived from GPS observations using MODOT "VRS MOS2" network with GEIOD Model "12B"

Temporary Benchmark - TBM "A"
Found Cross on the north side of Ficken Road on the bridge wall, as shown EL=493.58

Set Temporary Benchmark - TBM "B"
Southwest corner of concrete pad west of west drive for #7320 Ficken Road, as shown EL=488.41

UTILITY LOCATION SERVICE
1-800-DIG-RITE

INDEX OF SHEETS

DESCRIPTION	SHEET NUMBER
COVER SHEET	1
TYPICAL SECTIONS (TS)	2
QUANTITIES (3 SHEETS)	2A-2BS
PLAN-PROFILE (PP)	3
CONTROL POINTS	4
ENTRANCE PLANS	5
DETOUR PLAN	6
TRAFFIC CONTROL/EROSION CONTROL PLAN	7
TYPE 2 ROCK BLANKET & GUARDRAIL PLAN	8
BRIDGE DRAWINGS (B)	9-22
CROSS SECTION (XS) (5 SHEETS)	23-27

ABBREVIATIONS

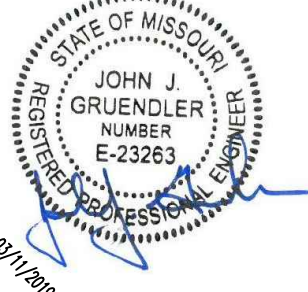
DO NOT DISTURB	DND
TYPICAL	TYP
USE IN PLACE	UIP
SANITARY	SAN
MANHOLE	MH
OFFSET	OFF.
ELEVATION	EL OR ELEV
RIGHT-OF-WAY	R/W
BASELINE	BL
CENTERLINE	CL
PROFILE GRADE	P.G.
POLYVINYL CHLORIDE	PVC
CORRUGATED METAL PIPE	CMP
EXISTING	EXIST OR EX
STATION	STA
DOUBLE SOLID YELLOW STRIPING	DSY
SOLID WHITE STRIPING	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

LENGTH OF PROJECT

BEGINNING OF PROJECT	STA.	3+00.00
END OF PROJECT	STA.	5+07.00
APPARENT LENGTH		207.00 FEET
EQUATIONS AND EXCEPTIONS:		NONE
TOTAL CORRECTIONS		0.00 FEET
NET LENGTH OF PROJECT		207.00 FEET

COVER SHEET
Ficken Road

COUNTY ROAD: Ficken Road



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

DATE SIGNED/SEALED
03/11/2019

DATE PREPARED
12/21/2018

ROUTE
SL

STATE
MO

DISTRICT
SL

SHEET NO.
1

COUNTY
JEFFERSON

JOB NO.

CONTRACT ID.

PROJECT NO.
PW19151BXC

STRUCTURE NO.
0151-03978-002

DESCRIPTION

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Construction CL & CL Roadway

24'

3' Shoulder*

12' Lane *

12' Lane *

3' Shoulder*

1:1 (Typ.)

Exist. Ground Line

Proposed Ground Line

4:1 (Typ. **)

Profile Grade

S.E. Slope

S.E. Slope

2' Min.

4:1 (Typ. **)

4:1 (Typ. **)

Existing Bituminous Pavement (Remove)

2" BP-1 w/ PG64-22 Bituminous Pavement

8" Bituminous Base w/ PG64-22

4" Type 5 Aggregate Base

Also varies from Sta. 4+85.00 (LT RT) to Sta. 5+07.00.

** See Roadway Cross Section Sheets for slope variations.

TYPICAL SECTION ON SUPERELEVATED CURVE

See Plan

CL Driveway

Existing Ground Line

Existing Ground Line

2%

2%

3:1

1:1

3:1

1:1

2" BP-1 w/ PG64-22 Bituminous Pavement

4" Bituminous Base w/ PG64-22

4" Type 5 Aggregate Base

TYPE 1 DRIVEWAY (ASPHALT)

Diagram illustrating the required clearance for a vehicle turning right from a driveway. The diagram shows a driveway on the left and a road on the right. A vehicle is shown turning right from the driveway onto the road. The required clearance is indicated as 3'-5" from the driveway edge to the start of the turn, and a minimum clearance of 2'-0" (Min.) for the vehicle's path.

SECTION AT GUARDRAIL

TYPICAL SECTIONS

Ficken Road

REMOVAL OF IMPROVEMENTS (202-20.10)						
BEGIN STATION	END STATION	ROADWAY	LOCATION	DESCRIPTION	QUANTITY	UNITS
3+00		FICKEN ROAD	LT & RT	SAWCUT	25	LF
3+00	4+15	FICKEN ROAD	LT & RT	PAVEMENT	279	SY
3+24	3+80	FICKEN ROAD	RT	ASPHALT/GRAVEL DRIVE ENTRANCE	90	SY
3+67		FICKEN ROAD	LT	MAILBOX RELOCATION	1	EA
3+75	4+10	FICKEN ROAD	RT	48" WOOD FENCE INCLUDING POSTS & FOUNDATIONS	40	LF
3+83		FICKEN ROAD	RT	DECORATIVE ROCKS	1	LS
4+00		FICKEN ROAD	LT	SIGN, POST & FOUNDATION	1	EA
4+03		FICKEN ROAD	RT	SIGN, POST & FOUNDATION	1	EA
4+46		FICKEN ROAD	RT	SIGN, POST & FOUNDATION	1	EA
4+48		FICKEN ROAD	LT	SIGN, POST & FOUNDATION	1	EA
4+33	5+07	FICKEN ROAD	LT & RT	PAVEMENT	176	SY
4+76	4+96	FICKEN ROAD	RT	ASPHALT/GRAVEL DRIVE ENTRANCE	24	SY
4+48	4+87	FICKEN ROAD	RT	48" WOOD FENCE INCLUDING POSTS & FOUNDATIONS	40	LF
4+48	4+70	FICKEN ROAD	LT	72" WOOD FENCE INCLUDING POSTS & FOUNDATIONS	22	LF
5+00	5+06	FICKEN ROAD	RT	SAWCUT	6	LF
5+07		FICKEN ROAD	LT & RT	SAWCUT	24	LF
5+02	5+38	FICKEN ROAD	RT	SAWCUT	63	LF
5+02	5+38	FICKEN ROAD	RT	CONCRETE/ASPHALT DRIVEWAY	24	SY
TOTAL (202-20.10)					1	LS

FLEXIBLE PAVEMENTS						
BEGIN STATION	END STATION	ROADWAY	LOCATION	BITUMINOUS PAVEMENT MIXTURE PG64-22 (BP-1) TONS 401-12.09	BITUMINOUS PAVEMENT MIXTURE PG64-22 (BASE) TONS 401-30.00	REMARKS
3+00.00	3+94.86	FICKEN ROAD	LT & RT	37.2	151.7	
4+53.14	5+07.00	FICKEN ROAD	LT & RT	20.5	83.7	
3+65.28		FICKEN ROAD	RT	3.5	7.4	TYPE I DRIVEWAY APPROACH
4+93.34		FICKEN ROAD	RT	1.2	2.6	TYPE I DRIVEWAY APPROACH
TOTAL				62.4	245.4	INCLUDES PAYMENT FOR 1 LIFT OF TACK COAT

INCIDENTAL CONSTRUCTION																	
BEGIN STATION	END STATION	ROADWAY	LOCATION	GUARDRAIL TYPE E, 6 FT POST, 6 FT-3 IN SPACING LF 606-10.54	BRIDGE ANCHOR SECTION, 6.5 FT. POSTS (SAFETY BARRIER CURB) EA 606-22.04A	TRANSITION SECTION, 6.5 FT. POSTS EA 606-23.00A	TYPE A CRASHWORTHY END TERMINAL EA 606-30.15	DRIVE GATE (TUBULAR STEEL) (12 FT. MIN.) LS 607-10.41	(48 IN) PROPERTY FENCE (WOODEN) LF 607-10.59	FURNISHING TYPE 2 ROCK BLANKET CU YD 611-30.20	PLACING TYPE 2 ROCK BLANKET CU YD 611-30.40	ROCK BLANKET BEDDING SQ YD 611-99.05	CONSTRUCTION SIGNS SQ FT 616-10.05	TYPE III MOVEABLE BARRICADE WITH LIGHT EA 616-10.31	MOBILIZATION LS 618-10.00	CONTRACTOR FURNISHED SURVEYING AND STAKING LS 627-40.00	REMARKS
3+37	4+00	FICKEN ROAD	LT		1	1	1										37.5'-LONG CRASHWORTHY TERMINAL
4+43	5+01	FICKEN ROAD	LT		1	1	1										37.5'-LONG CRASHWORTHY TERMINAL
3+71	3+91	FICKEN ROAD	RT	25.0													15' RADIUS - INCLUDES TYPE E END SECTION
3+91	4+03	FICKEN ROAD	RT		1												
4+62	4+75	FICKEN ROAD	RT	12.5													INCLUDES TYPE E END SECTION
4+50	4+62	FICKEN ROAD	RT		1												
3+97	4+20	FICKEN ROAD	LT							28.8	28.8	43.2					
4+2.5	4+27	FICKEN ROAD	RT							32.4	32.4	48.6					
4+22	4+45	FICKEN ROAD	LT							20.2	20.2	30.3					
4+28	4+51	FICKEN ROAD	RT							21.1	21.1	31.7					
4+15	4+34	FICKEN ROAD (CHANNEL SECTION)	LT & RT							44.1	44.1	66.2					
3+00	5+07	FICKEN ROAD	LT & RT										286	4			
4+50	4+78	FICKEN ROAD	RT						28								
4+94	4+94	FICKEN ROAD	RT					1									
TOTAL				38	4	2	2	1	28	147	147	220.0	286	4	1	1	

ROADSIDE DEVELOPMENT					
BEGIN STATION	END STATION	ROADWAY	LOCATION	SEEDING - COOL SEASON MIXTURES ACRE 805-10.00A	SILT FENCE LF 806-10.19
3+00	5+07	FICKEN ROAD	LT	0.09	
3+00	5+07	FICKEN ROAD	RT	0.04	
3+25	4+10	FICKEN ROAD	LT		105
3+71	4+15	FICKEN ROAD	RT		80
4+34	4+86	FICKEN ROAD	LT		77
4+38	4+73	FICKEN ROAD	RT		58
TOTAL				0.1	320

GRADING AND REMOVALS							
BEGIN STATION	END STATION	ROADWAY	LOCATION	CLEARING AND GRUBBING ACRE 201-30.00	REMOVAL OF IMPROVEMENTS LS 202-20.10	CLASS A EXCAVATION CU YD 203-10.00	COMPACTING EMBANKMENT CU YD 203-60.00
3+00	5+07	FICKEN ROAD (MAIN LINE)	LT & RT	0.4	1	164	184
4+15	4+30	FICKEN ROAD (CHANNEL SECTION)	LT & RT			38	
TOTAL				0.4	1	202	184

EXCESS MATERIAL TO BE DISPOSED OF OFF SITE AT A LOCATION PROVIDED BY CONTRACTOR

BASES AND AGGREGATE SURFACES						
BEGIN STATION	END STATION	ROADWAY	LOCATION	TYPE 5 AGGREGATE FOR BASE (4 in. THICK) SQ YD 304-05.04	GRAVEL (A) or CRUSHED STONE (B) SQ YD 310-50.03	REMARKS
3+00.00	3+94.86	FICKEN ROAD	LT & RT	331		
4+53.14	5+07.00	FICKEN ROAD	LT & RT	183		
3+65.28		FICKEN ROAD	RT	36		TYPE I DRIVEWAY APPROACH
4+93.34		FICKEN ROAD	RT	12		TYPE I DRIVEWAY APPROACH
3+25	3+58	FICKEN ROAD	RT		15	(8 INCHES THICK)
3+60	3+71	FICKEN ROAD	RT		10	(8 INCHES THICK)
4+75	4+87	FICKEN ROAD	RT		8	(8 INCHES THICK)
5+02	5+38	FICKEN ROAD	RT	24		
TOTAL				586	33	

RIGID PAVEMENTS					
BEGIN STATION	END STATION	ROADWAY	LOCATION	CONCRETE PAVEMENT (6 in. NON-REINFORCED) SQYD 502-11.06	REMARKS
5+02	5+38	FICKEN ROAD	RT	24	
TOTAL				24	



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

DATE SIGNED/SEALED
04/26/2019

DATE PREPARED
12/21/2018

ROUTE SL STATE MO
DISTRICT 2B SHEET NO. 2B

COUNTY JEFFERSON
JOB NO.

CONTRACT ID.

PROJECT NO. PW19151BXC
STRUCTURE NO. 0151-03978-002

DESCRIPTION

DATE

JEFFERSON COUNTY
DEPARTMENT OF PUBLIC WORKS

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

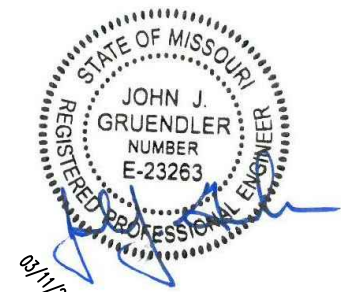


STRUCTURES, INC.
A STRUCTURAL ENGINEERING FIRM
11414 Gravois Rd • Suite 201
St. Louis, MO 63126
314.638.6650

CERT. OF AUTHORITY: E-2006035000

SIGN	SIZE IN.	AREA SQ.FT.	QTY EACH	TOTAL AREA SQ.FT.	QTY RELOC EACH	TOTAL RELOC SQ.FT.	SIGN NUM.		SIGN	SIZE IN.	AREA SQ.FT.	QTY EACH	TOTAL SQ.FT.	QTY RELOC EACH	TOTAL RELOC SQ.FT.	SIGN NUM.		ITEM NUMBER	TOTAL EACH	DESCRIPTION
WARNING SIGNS								DESCRIPTION	GUIDE SIGNS								DESCRIPTION			
W01-1L	48X48	16.00						TURN (SYMBOL LEFT ARROW)	E05-1	36X48	12.00							6122008		IMPACT ATTENUATOR (8 SAND BARRELS)
W01-1R	48X48	16.00						TURN (SYMBOL RIGHT ARROW)	E05-2	48X36	12.00							6122009		IMPACT ATTENUATOR (9 SAND BARRELS)
W01-2L	48X48	16.00						CURVE (SYMBOL LEFT ARROW)	E05-2a	48X36	12.00							6122010		IMPACT ATTENUATOR (10 SAND BARRELS)
W01-2R	48X48	16.00						CURVE (SYMBOL RIGHT ARROW)	G020-1	60X24	10.00							6122012		IMPACT ATTENUATOR (12 SAND BARRELS)
W01-3L	48X48	16.00						REVERSE TURN (SYMBOL LEFT ARROW)	G020-2	48X24	8.00							6122014		IMPACT ATTENUATOR (14 SAND BARRELS)
W01-3R	48X48	16.00						REVERSE TURN (SYMBOL RIGHT ARROW)	G020-4	36X18	4.50							6122017		IMPACT ATTENUATOR (17 SAND BARRELS)
W01-4L	48X48	16.00						REVERSE CURVE (SYMBOL LEFT ARROW)	G020-4a	42X30	8.75							6122019		IMPACT ATTENUATOR (19 SAND BARRELS)
W01-4R	48X48	16.00						REVERSE CURVE (SYMBOL RIGHT ARROW)	G020-5aP	36X24	6.00							6122020		REPLACEMENT SAND BARREL
W01-4bL	48X48	16.00						DOUBLE ARROW REVERSE CURVE (SYMBOL LT ARROWS)	M04-8a	24X18	3.00							6122030		IMPACT ATTENUATOR (RELOCATION)
W01-4bR	48X48	16.00						DOUBLE ARROW REVERSE CURVE (SYMBOL RT ARROWS)	M04-9L	48X36	12.00		4	48.0				6123000A		TRUCK OR TRAILER MOUNTED ATTENUATOR (TMA)
W01-4cL	48X48	16.00						TRIPLE ARROW REVERSE CURVE (SYMBOL LT ARROWS)	M04-9R	48X36	12.00		5	60.0				6161007		SPEED LIMIT AND STROBE LIGHT ASSEMBLY
W01-4cR	48X48	16.00						TRIPLE ARROW REVERSE CURVE (SYMBOL RT ARROWS)	M04-9P	48X12	4.00		11	44.0				6161008		ADVANCED WARNING RAIL SYSTEM
W01-6	60X30	12.50						HORIZONTAL ARROW (SYMBOL)	M04-10L	48X18	6.00							6161009		FLAG ASSEMBLY
W01-6a	72X36	18.00						HORIZ. ARROW (SYMBOL ON PERMANENT BARRICADE)	M04-10R	48X18	6.00							6161012		BUOYS (BOATS KEEP OUT)
W01-7	60X30	12.50						DOUBLE HEAD HORIZONTAL ARROW (SYMBOL)	REGULATORY SIGNS								6161013		BUOYS (NO WAKE)	
W01-7a	72X36	18.00						DOUBLE HEAD HORIZ. ARROW (SYMBOL ON PERM. BARR.)	R1-1	48X48	13.25							6161014		SPECIAL SIGN ASSEMBLY (BOATS KEEP OUT)
W01-8	18X24	3.00						CHEVRON (SYMBOL)	R1-2	48TRI.	6.93							6161024		CHANNELIZER (TRIM LINE) WITH LIGHT
W01-8a	30X36	7.50						CHEVRON (SYMBOL FOR DIVIDED HIGHWAYS)	R1-2a	36X36	9.00							6161025		CHANNELIZER (TRIM LINE)
W03-1	48X48	16.00						STOP AHEAD (SYMBOL)	R1-3P	30X12	2.50							6161030		TYPE III MOVEABLE BARRICADE
W03-2	48X48	16.00						YIELD AHEAD (SYMBOL)	R2-1	36X48	12.00							6161031	4	TYPE III MOVEABLE BARRICADE WITH LIGHT
W03-3	48X48	16.00						SIGNAL AHEAD (SYMBOL)	R3-1	48X48	16.00							6161033		DIRECTION INDICATOR BARRICADE
W03-4	48X48	16.00						BE PREPARED TO STOP	R3-2	48X48	16.00							6161034		DIRECTION INDICATOR BARRICADE, WITH LIGHT
W03-5	48X48	16.00						SPEED LIMIT AHEAD	R3-3	36X36	9.00							6161040		FLASHING ARROW PANEL
W04-1L	48X48	16.00						MERGE (SYMBOL FROM LEFT)	R3-4	48X48	16.00							6161047		TYPE III OBJECT MARKER
W04-1R	48X48	16.00						MERGE (SYMBOL FROM RIGHT)	R3-7L	30X30	6.25							6161052		WARNING LIGHT, TYPE B
W04-1aL	48X48	16.00						MERGE (ARROW SYMBOL)	R3-7R	30X30	6.25							6161055		SEQUENTIAL FLASHING WARNING LIGHT
W04-1aR	48X48	16.00						MERGE (ARROW SYMBOL)	R4-1	36X48	12.00							6161070		TUBULAR MARKER
W05-1	48X48	16.00						ROAD/BRIDGE/RAMP NARROWS	R4-2	36X48	12.00							6161095		RADAR SPEED ADVISORY SYSTEM
W05-3	48X48	16.00						ONE LANE BRIDGE	R4-7aL	36X48	12.00							6161096		CHANGEABLE MESSAGE SIGN, COMMISSION FURNISHED/RETAINED
W05-5	48X48	16.00						NARROW LANES	R4-7a	36X48	12.00									CHANGEABLE MESSAGE SIGN W/O COMM.
W06-1	48X48	16.00						DIVIDED HIGHWAY (SYMBOL)	R5-1	30X30	6.25							6161098A		INTERFACE, CONTRACTOR FURNISHED/RETAINED
W06-2	48X48	16.00						DIVIDED HIGHWAY END (SYMBOL)	R5-1a	36X24	6.00							6161099		CHANGEABLE MESSAGE SIGN WITH COMM. INTERFACE, CONTRACTOR FURNISHED/RETAINED
W06-3	48X48	16.00						TWO WAY TRAFFIC (SYMBOL)	R6-1L	54X18	6.75									WORK ZONE TRAFFIC SIGNAL SYSTEM
W07-3a	30X24	5.00						NEXT XX MILES (PLAQUE)	R6-1R	54X18	6.75							6162000A		TEMPORARY LONG-TERM RUMBLE STRIPS
W08-1	48X48	16.00						BUMP	R6-2L	24X30	5.00							6162002		TEMPORARY SHORT-TERM RUMBLE STRIPS
W08-2	48X48	16.00						DIP	R6-2R	24X30	5.00							6162004		TEMPORARY TRAFFIC BARRIER
W08-3	48X48	16.00						PAVEMENT ENDS	R9-9	24X12	2.00							6173600D		CONTRACTOR FURNISHED/RETAINED
W08-4	48X48	16.00						SOFT SHOULDER	R9-11L	24X18	3.00									TEMPORARY TRAFFIC BARRIER
W08-5	48X48	16.00						SLIPPERY WHEN WET (SYMBOL)	R9-11R	24X18	3.00							6173602B		CONTRACTOR FURNISHED/COMMISSION RETAINED
W08-6	48X48	16.00						TRUCK CROSSING	R10-6	24X36	6.00							6174000A		TEMP. TRAFFIC BARRIER HEIGHT TRANSITION
W08-6c	48X48	16.00						TRUCK ENTRANCE	R11-2	48X30	10.00	2	20.0					6175010A		RELOCATING TEMPORARY TRAFFIC BARRIER
W08-7	36X36	9.00						LOOSE GRAVEL	R11-3a	60X30	12.50	2	25.0					6176000B		TEMPORARY TRAFFIC BARRIER
W08-7a	36X36	9.00						FRESH OIL/LOOSE GRAVEL	R11-4	60X30	12.50	2	25.0							COMMISSION FURNISHED/RETAINED
W08-9	48X48	16.00						LOW SHOULDER	CONST-3A	60X48	20.00							6177000B		TEMP. TRAFFIC BARRIER HEIGHT TRANSITION
W08-11	48X48	16.00						UNEVEN LANES	CONST-3X	56X12	4.67							6208064A		COMMISSION FURNISHED/RETAINED
W08-12	48X48	16.00						NO CENTER LINE	MISCELLANEOUS SIGNS								6208064A		TEMPORARY RAISED PAVEMENT MARKER	
W08-15	48X48	16.00						GROOVED PAVEMENT	CONST-5	48X36	12.00							9029400		TEMPORARY TRAFFIC SIGNALS
W08-15P	30X24	5.00						MOTORCYCLE (PLAQUE)	CONST-4	96X48	32.00							9029401		TEMPORARY TRAFFIC SIGNALS AND LIGHTING
W08-17	48X48	16.00						SHOULDER DROP-OFF (SYMBOL)	CONST-7	48X24	8.00									
W08-17P	30X24	5.00						SHOULDER DROP-OFF (PLAQUE)	CONST-7	72X36	18.00									
W10-1	42RND.	9.62						RAILROAD CROSSING	CONST-8	48X36	12.00									
W012-1	24X24	4.00						DOUBLE DOWN ARROW (SYMBOL)												
W012-2	48X48	16.00						LOW CLEARANCE (SYMBOL)												
W012-2X	24X18	3.00						LOW CLEARANCE (PLAQUE)												
W012-2a	84X24	14.00						OVERHEAD LOW CLEARANCE (FEET AND INCHES)												
W012-4	120X60	50.00						LOW CLEARANCE XX FT XX IN XX MILES AHEAD												
W012-5	120X60	50.00						WIDTH RESTRICTION XX FT XX IN XX MILES AHEAD												
W013-1	30X30	6.25						ADVISORY SPEED (PLAQUE)												
W016-2	30X24	5.00						XXX FEET (PLAQUE)												
W016-3	30X24	5.00						X MILE (PLAQUE)												
W020-1	48X48	16.00						ROAD/BRIDGE/RAMP WORK AHEAD												
W020-2	48X48	16.00																		

SCHEDULE OF QUANTITIES
(Sheet 2 of 2)
Ficken Road



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

DATE SIGNED/SEALED

03/11/2019

DATE PREPARED

12/21/2018

ROUTE

STATE

MO

DISTRICT

SHEET NO.

SL 2BS

COUNTY

JEFFERSON

JOB NO.

CONTRACT ID.

PROJECT NO.

PW19151BXC

STRUCTURE NO.

0151-03978-002

DATE

DESCRIPTION

DATE

DESCRIPTION

DATE

DESCRIPTION

DATE

DESCRIPTION

DATE

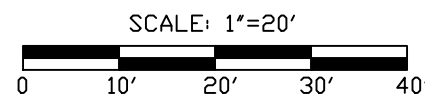
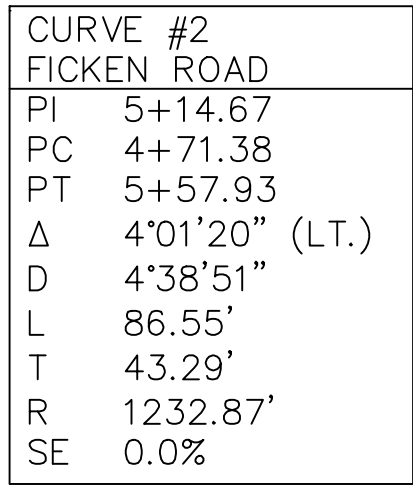
DESCRIPTION

DATE

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1. UNLESS OTHERWISE NOTED, FEATURES SHOWN IN PLAN DOCUMENTS ARE TO REMAIN.
2. 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.
3. ALL TREES, SHRUBS, AND SIGNS WITHIN CONSTRUCTION LIMITS SHALL BE REMOVED UNLESS OTHERWISE SHOWN
4. CONTRACTOR SHALL COORDINATE THEIR ACTIVITIES IN COOPERATION WITH UTILITY COMPANIES.
5. CONTRACTOR SHALL MAINTAIN ACCESS FOR PROPERTY OWNERS.
6. CONTRACTOR SHALL FURNISH AND INSTALL TEMPORARY BARB WIRE FENCE FROM STA. 4+50 TO THE FIELD ENTRANCE AT STA. 4+93.64 AND A TEMPORARY BARB WIRE GATE SHALL BE INSTALLED ACROSS THE FIELD ENTRANCE DURING CONSTRUCTION.
7. CONTRACTOR SHALL FURNISH AND INSTALL PERMANENT 48" WOOD RAIL FENCE FROM STA. 4+50 TO FIELD ENTRANCE AT STA. 4+93.64 AND FARM GATE ACROSS FIELD ENTRANCE, CONNECTING WITH EXISTING FENCE EAST OF FIELD ENTRANCE. OFFSET FROM CL ALIGNMENT TO BE DETERMINED AT TIME OF INSTALLATION.
8. DECORATIVE ROCKS TO BE REMOVED AND RELOCATED BY CONTRACTOR AS DIRECTED BY ENGINEER. THE COST OF THIS WORK WILL NOT BE PAID FOR DIRECTLY BUT SHALL BE CONSIDERED COMPLETELY COVERED BY THE CONTRACT PRICE FOR REMOVAL OF IMPROVEMENTS.

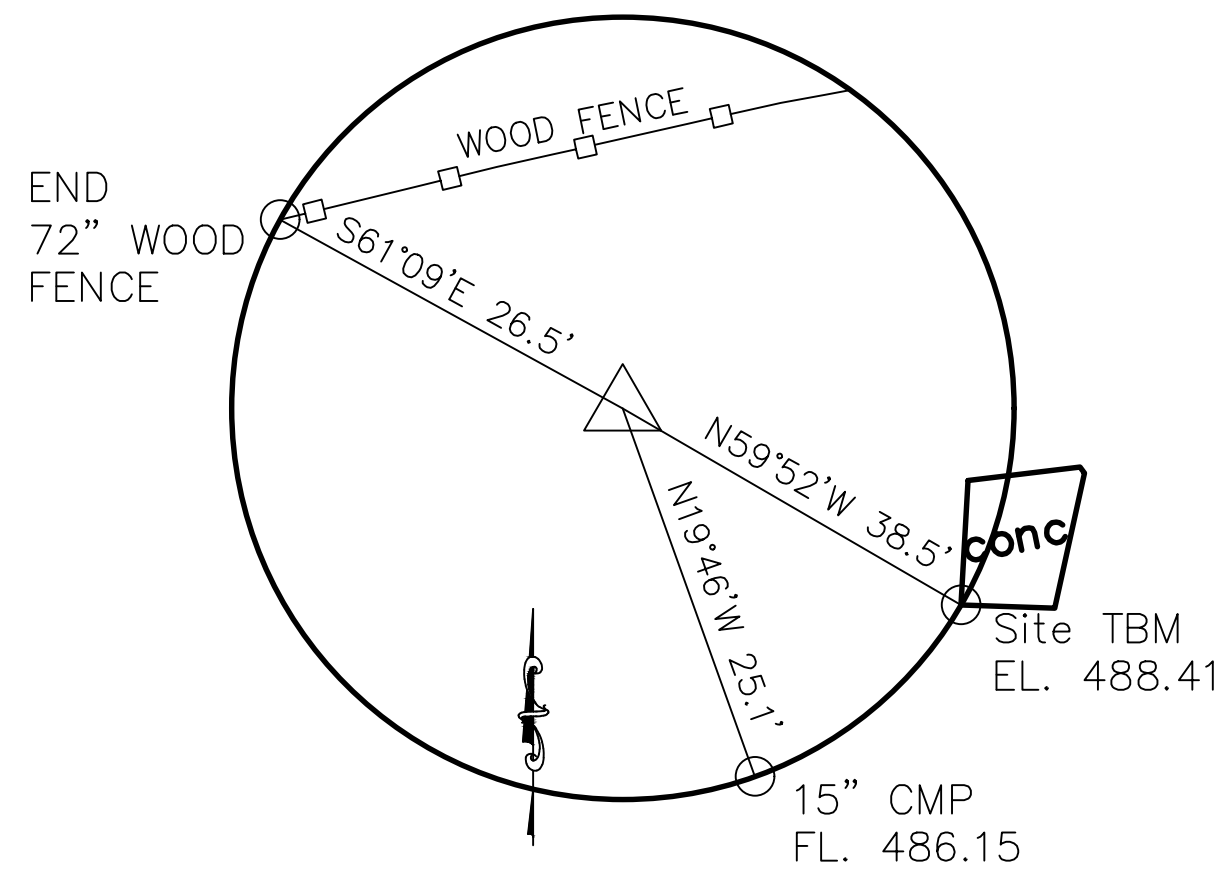
CURVE #1	
FICKEN ROAD	
PI	3+59.41
PC	3+36.42
PT	3+82.19
Δ	13°15'08" (LT.)
D	28°57'05"
L	45.77'
T	22.99'
R	197.90'
SE	3.8%



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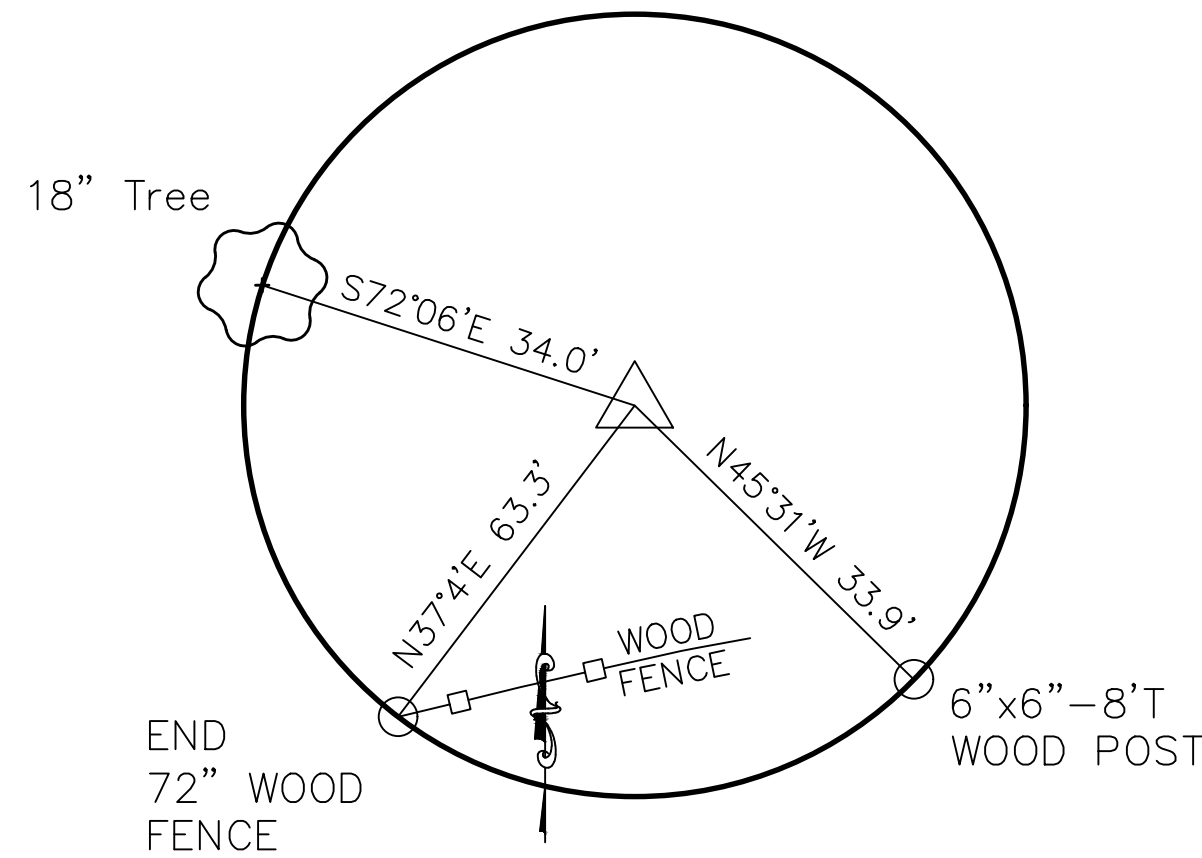
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314.638.6650

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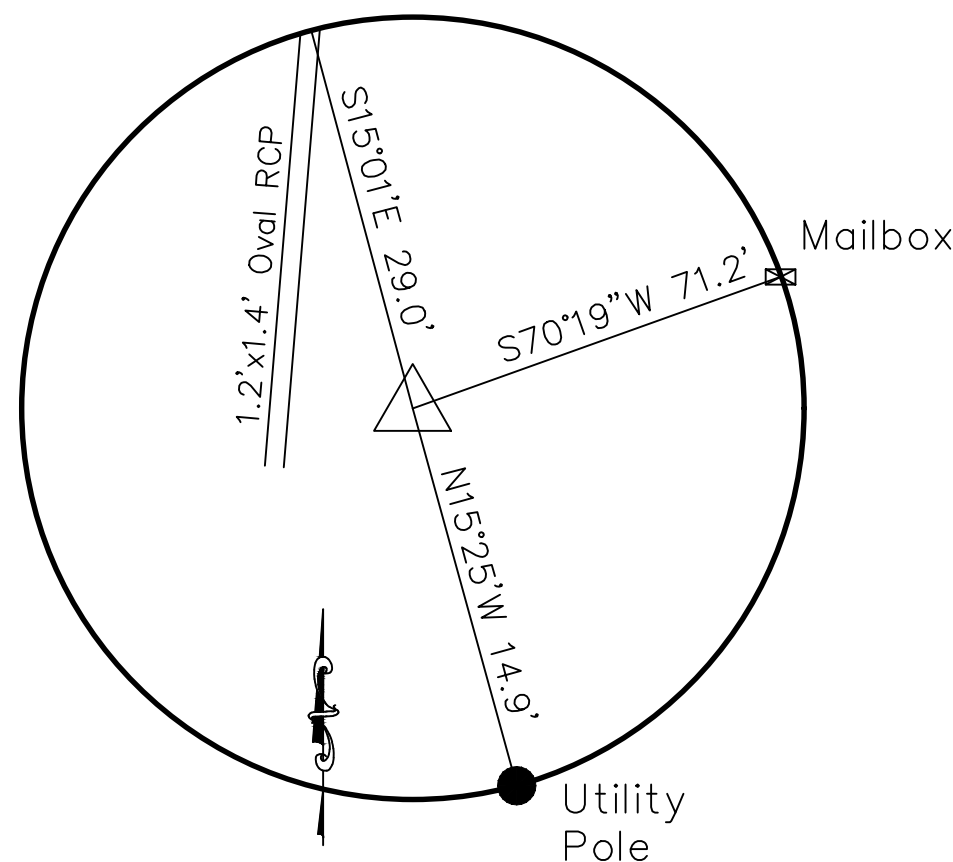
REFERENCE TIE

CONTROL POINT #1002
MAG Nail
Sta. 4+68.92, 7.55' LT.
N 910,169.5680
E 773,851.4450
EL. 489.16



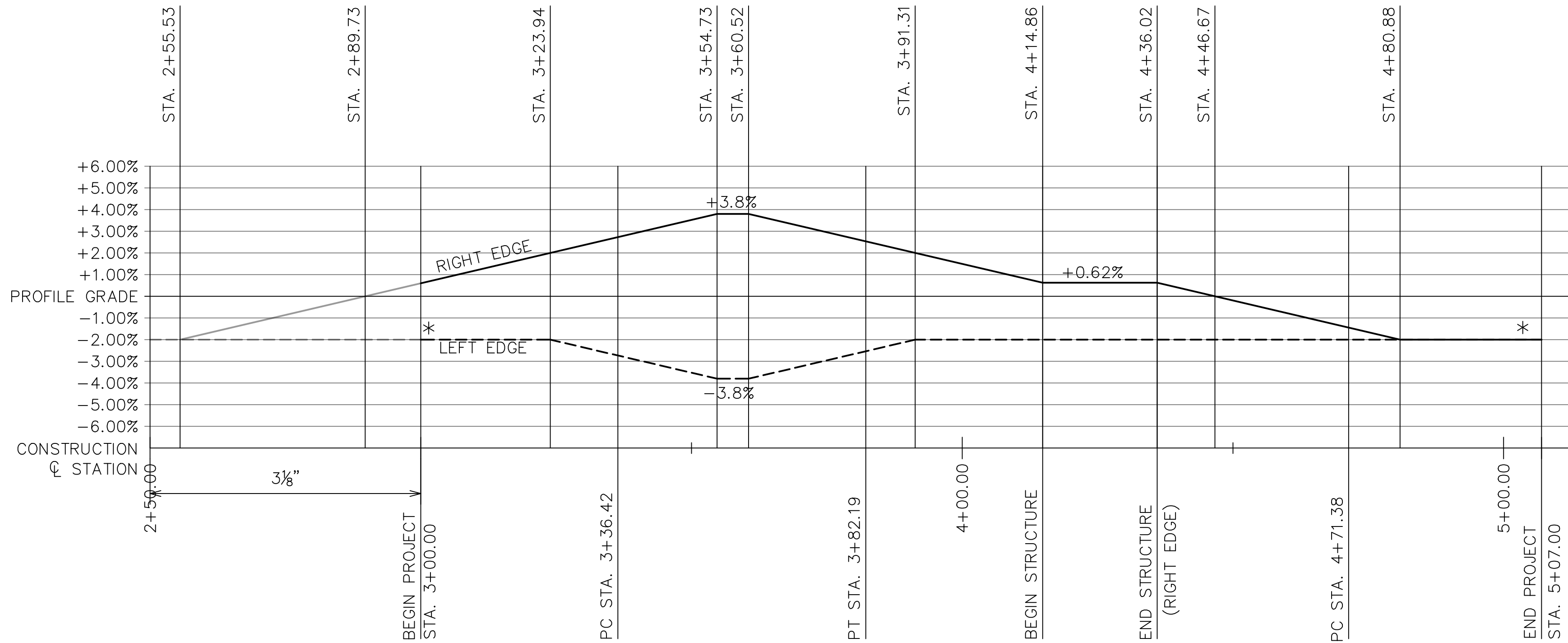
REFERENCE TIE

CONTROL POINT #1008
MAG Spike
Sta. 4+95.17, 67.28' LT.
N 910,232.7194
E 773,866.5837
EL. 484.48



REFERENCE TIE

CONTROL POINT #1011
MAG Spike
Sta. 2+99.85, 11.99' RT.
N 910,137.0558
E 773,684.0208
EL. 488.99



SUPERELEVATION DIAGRAM – FICKEN ROAD

* WARP TO MATCH EXISTING

COORDINATE POINT LISTING					
POINT NO.	STATION	LOCATION	MISSOURI STATE PLANE COORDINATE SYSTEM		DESCRIPTION
			N	E	
1	3+00.00	Ficken Road	910,149.0070	773,685.0593	Begin Project
--	3+36.42	Ficken Road	910,146.3828	773,721.3804	Full Depth Sawcut Across Pavement
--	3+59.41	Ficken Road	910,144.7261	773,744.3101	Begin Bituminous Pavement
--	3+82.19	Ficken Road	910,148.3699	773,767.0090	P.C. Curve #1
2	3+94.86	Ficken Road	910,150.3786	773,779.5218	P.I. Curve #1
3	4+14.86	Ficken Road	910,153.5485	773,799.2689	End Bituminous Pavement/Begin Bridge Approach Slab
4	4+33.14	Ficken Road	910,156.4455	773,817.3154	End Bridge Approach Slab/Begin Bridge Slab
5	4+53.14	Ficken Road	910,159.6154	773,837.0625	End Bridge Slab/Begin Bridge Approach Slab
--	4+71.38	Ficken Road	910,162.5066	773,855.0730	End Bridge Approach Slab/Begin Bituminous Pavement
					P.C. Curve #2
					End Project
6	5+07.00	Ficken Road	910,168.6595	773,890.1559	Full Depth Sawcut Across Pavement
--	5+14.67	Ficken Road	910,169.3682	773,897.8168	End Bituminous Pavement
--	5+57.93	Ficken Road	910,179.2111	773,939.9745	P.I. Curve #2
					P.T. Curve #2

CONTROL POINTS & MISC. DETAILS
Ficken Road

JOHN J. GRUENDLER
PROFESSIONAL ENGINEER
MO PE NO. E-23263
DATE SIGNED/SEALED
03/11/2019
DATE PREPARED
12/21/2018

ROUTE	STATE
DISTRICT	SHEET NO.
SL	4

COUNTY
JEFFERSON
JOB NO.

CONTRACT ID.

PROJECT NO.
PW19151BXC
STRUCTURE NO.
0151-03978-002

DESCRIPTION	DATE

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DRIVEWAY 1
Sta. 3+65.28
Not to Scale

DRIVEWAY 2

ENTRANCE PLANS

Ficken Road

DATE SIGNED/SEALED

DATE PREPARED
10 / 01 / 2010

	MO
DISTRICT	SHEET NO.

JEFFERSON

CONTRACT ID:

STRUCTURE NO.		
0151	03078	002

[illegible]

DATE	DESCRIPTION
12/1/2011	12/1/2011
12/2/2011	12/2/2011
12/3/2011	12/3/2011
12/4/2011	12/4/2011
12/5/2011	12/5/2011
12/6/2011	12/6/2011
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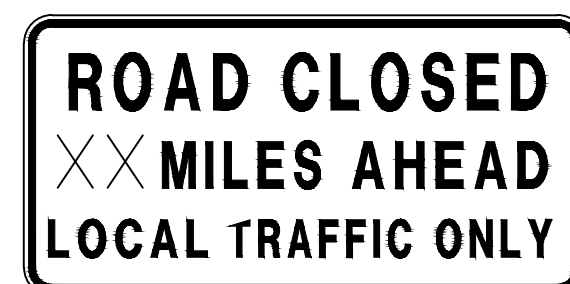
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CONFIDENTIAL



R11-3a

①



W020-3

②



R11-2

③



M04-9F



M04-9P



R11-4

4



MO4-9L

⑤



MO4-9R

⑥

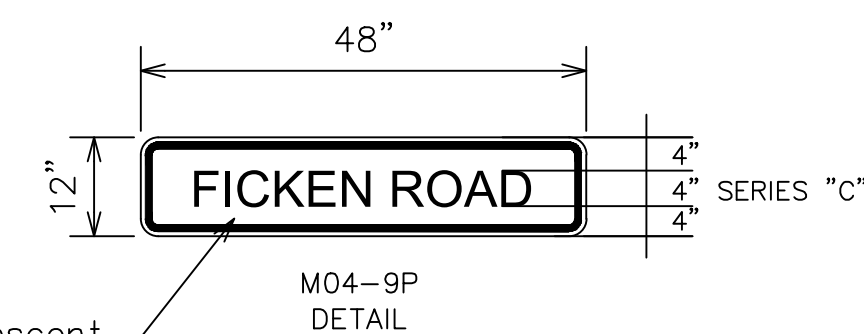


M04-9F



W020-2

⑦



Fluorescent
Orange
Background
With Black
Lettering

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.
8. See Signing Quantities Sheet for Construction Sign Schedule.

CMS CHANGEABLE MESSAGE
SIGN, CONTRACTOR FURNISHED,
CONTRACTOR RETAINED

NOT TO SCALE

FICKEN ROAD DETOUR PLAN

DETOUR PLAN

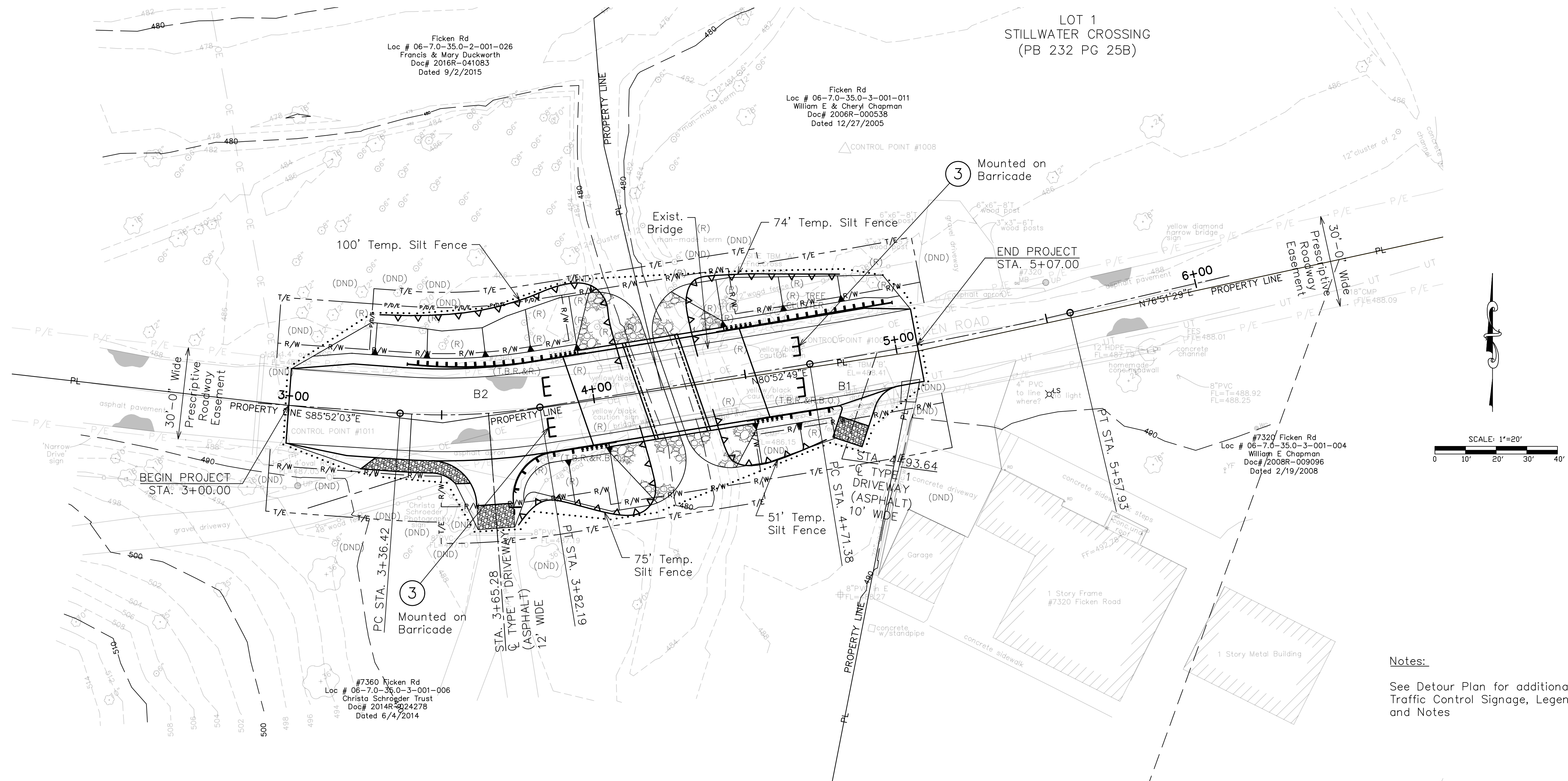
Ficken Road



Three triangles are drawn on a horizontal line, with their bases on the line and their vertices pointing upwards.

NOTES:

1. 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.
2. CONTRACTOR SHALL COORDINATE THEIR ACTIVITIES IN COOPERATION WITH UTILITY COMPANIES.
3. ALL DIMENSIONS ARE APPROXIMATE AND SHALL BE FIELD VERIFIED AND DETERMINED PRIOR TO MATERIAL PURCHASING.
4. ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE CURRENT MISSOURI STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION AND MISSOURI STANDARD PLANS FOR HIGHWAY CONSTRUCTION.
5. REFER TO MoDOT STANDARD PLAN 806.10 FOR DETAILS OF CONSTRUCTION OF TEMPORARY EROSION CONTROL MEASURES.



Notes:

See Detour Plan for additional
Traffic Control Signage, Legend,
and Notes

TRAFFIC CONTROL/
EROSION CONTROL PLAN
Ficken Road



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

DATE SIGNED/SEALED
03/11/2019

DATE PREPARED
12/21/2018

ROUTE	STATE MO
-------	-------------

DISTRICT	SHEET NO.
SL	7

COUNTY
JEFFERSON
JOB NO.

CONTRACT ID.

PROJECT NO.
PW19151BXC

STRUCTURE NO.
51-03978-002

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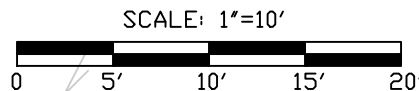


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1. ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE CURRENT MISSOURI STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION AND MISSOURI STANDARD PLANS FOR HIGHWAY CONSTRUCTION.
2. REFER TO PLAN SHEET FOR ADDITIONAL DIMENSIONS.
3. END OF GUARDRAIL 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.
4. 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.



NOTE: "Dxx" indicates the diameter at which "xx%" of the material's mass is comprised of particles less than the values shown.

ROCK BLANKET BOUNDARY

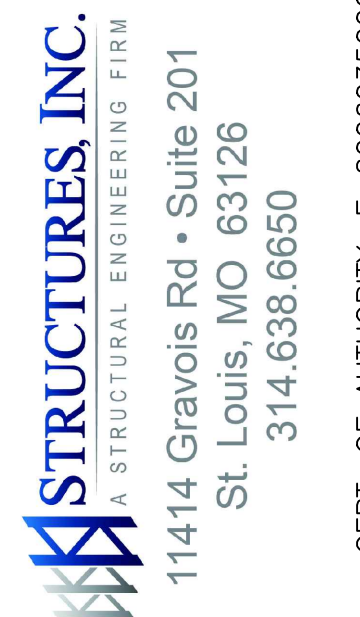
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2. CONTRACTOR SHALL COORDINATE THEIR ACTIVITIES IN COOPERATION WITH UTILITY COMPANIES.
3. ALL DIMENSIONS ARE APPROXIMATE AND SHALL BE FIELD VERIFIED AND DETERMINED PRIOR TO MATERIAL PURCHASING AND EXCAVATION. LAYOUT OF ROCK BLANKET MAY BE ADJUSTED IN FIELD TO SUIT GROUND CONDITIONS AS DIRECTED BY THE ENGINEER.



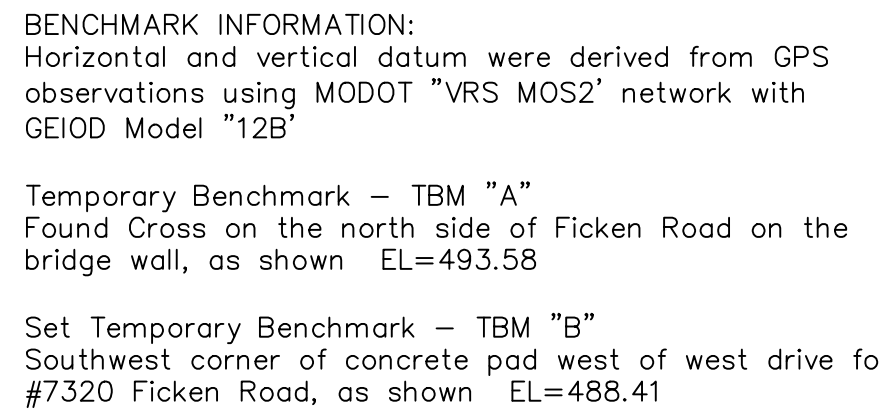
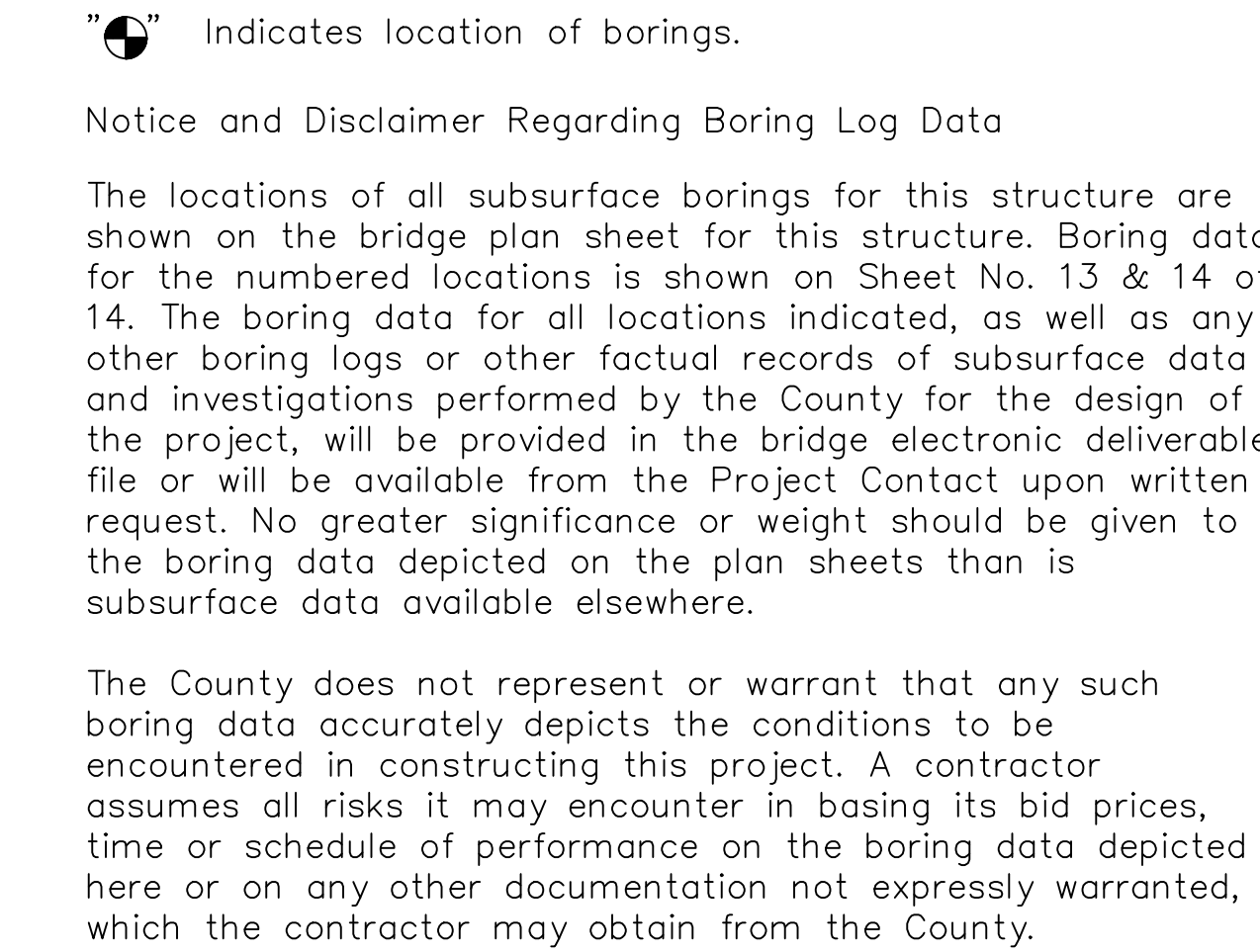
TYPE 2 ROCK BLANKET
& GUARDRAIL PLAN
Ficken Road



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[illegible]

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

GENERAL NOTES:

Design Specifications:
2012 AASHTO LRFD Bridge Design Specifications, 6th Edition and 2013 Interim Revisions
2011 AASHTO Guide Specifications for LRFD Seismic Bridge Design (2nd Ed.) and
2014 Interim Revisions (Seismic Details)
Seismic Design Category = B

Standard Specifications:
Missouri Standard Specifications for Highway Construction, 2018 Edition,
and Supplemental Specifications, Latest Edition

Design Loading:
Vehicular = HL-9.3
Future Wearing Surface = 35 lb/sf
Earth = 120 lb/cf, Equivalent Fluid Pressure 50 lb/cf

Design Unit Stresses:
Class B Concrete (Substructure) f'c = 3,000 psi
Class B-1 Concrete (Safety Barrier Curb) f'c = 4,000 psi
Class B-2 Concrete (Superstructure, except Safety Barrier Curb) f'c = 4,000 psi
Reinforcing Steel (Grade 60) fy = 60,000 psi

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 1½", unless otherwise shown. The use of automatic tie guns shall not be permitted. All steel shall be tied 100%.

Concrete:
All exposed edges of concrete shall have a 3/4" chamfer unless noted otherwise.

Miscellaneous:
"Sec" refers to the sections in the standard and supplemental specifications unless specified otherwise.

Traffic Handling:
Ficken Road will be closed during construction.

Hydrologic Data	
Drainage Area	= 0.5 sq. miles
Base Flood (100 Year)	
Base Flood Elevation	= 486.1
Base Flood Discharge	= 790 cfs
Estimated Backwater	= 0.6 ft.
Average Velocity thru Opening	= 8.3 ft/s
Roadway Overtopping	
Overtopping Flood Discharge	= NA cfs
Overtopping Flood Frequency	= > 500 years
500-Year Flood Elevation	= 486.5

Note:
Existing Low Chord Elev. = 488.88
New Low Chord Elev. = 489.09

Foundation Data			
TYPE	DESIGN DATA	ABUTMENT NO. 1	ABUTMENT NO. 2
Spread Footing	Foundation Material	Rock	Rock
	Minimum Nominal Bearing Resistance ksf	11.7	11.7

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

In no case shall footings of Abutment No. 1 and Abutment No. 2 be placed higher than elevations shown on plans.

Estimated Quantities				
Item		Substr.	Superstr.	Total
Class 1 Excavation	cu. yard	380.0		380.0
Class 1 Excavation in Rock	cu. yard	19.0		19.0
Removal of Bridges	lump sum			1
Bridge Approach Slab (Minor Road)	sq. yard		133	133
Class B Concrete (Substructure)	cu. yard	133.2		133.2
Class B-2 Concrete (Superstructure Solid Slab)	cu. yard		25.8	25.8
* Safety Barrier Curb	linear foot		97	97
Reinforcing Steel (Bridges)	pound	17,390		17,390
Reinforcing Steel (Epoxy Coated)	pound	3,040	4,250	7,290
Vertical Drain at Abutments	each	2		2

* Safety barrier curb shall be cast-in-place.

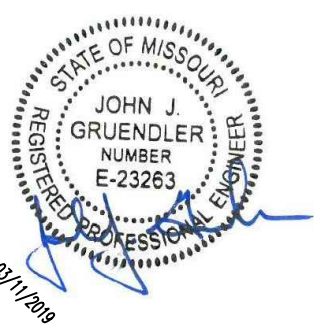
Note: An approved concrete sealer shall be applied to the surfaces specified, in accordance with Sec. 703.3.8. No direct payment will be made for furnishing and applying the surface sealer and all incidental work. Payment shall be considered completely covered by the contract unit price for other items.

Method of forming the slab shall be as shown on the plans and in accordance with Sec 703. All hardware for forming the slab to be left in place as a permanent part of the structure shall be coated in accordance with ASTM A123 or ASTM B633 with a thickness class SC 4 and a finish type I, II or III.

GENERAL NOTES & QUANTITIES
Ficken Road

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

Bridge Sheet 2 of 14



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

DATE SIGNED/SEALED
03/11/2019

DATE PREPARED
12/21/2018

ROUTE	STATE
SL	MO
DISTRICT	SHEET NO.
SL	10

COUNTY
JEFFERSON

JOB NO.

CONTRACT ID.

PROJECT NO.
PW19151BXC

STRUCTURE NO.
0151-03978-002

DESCRIPTION							
DATE							

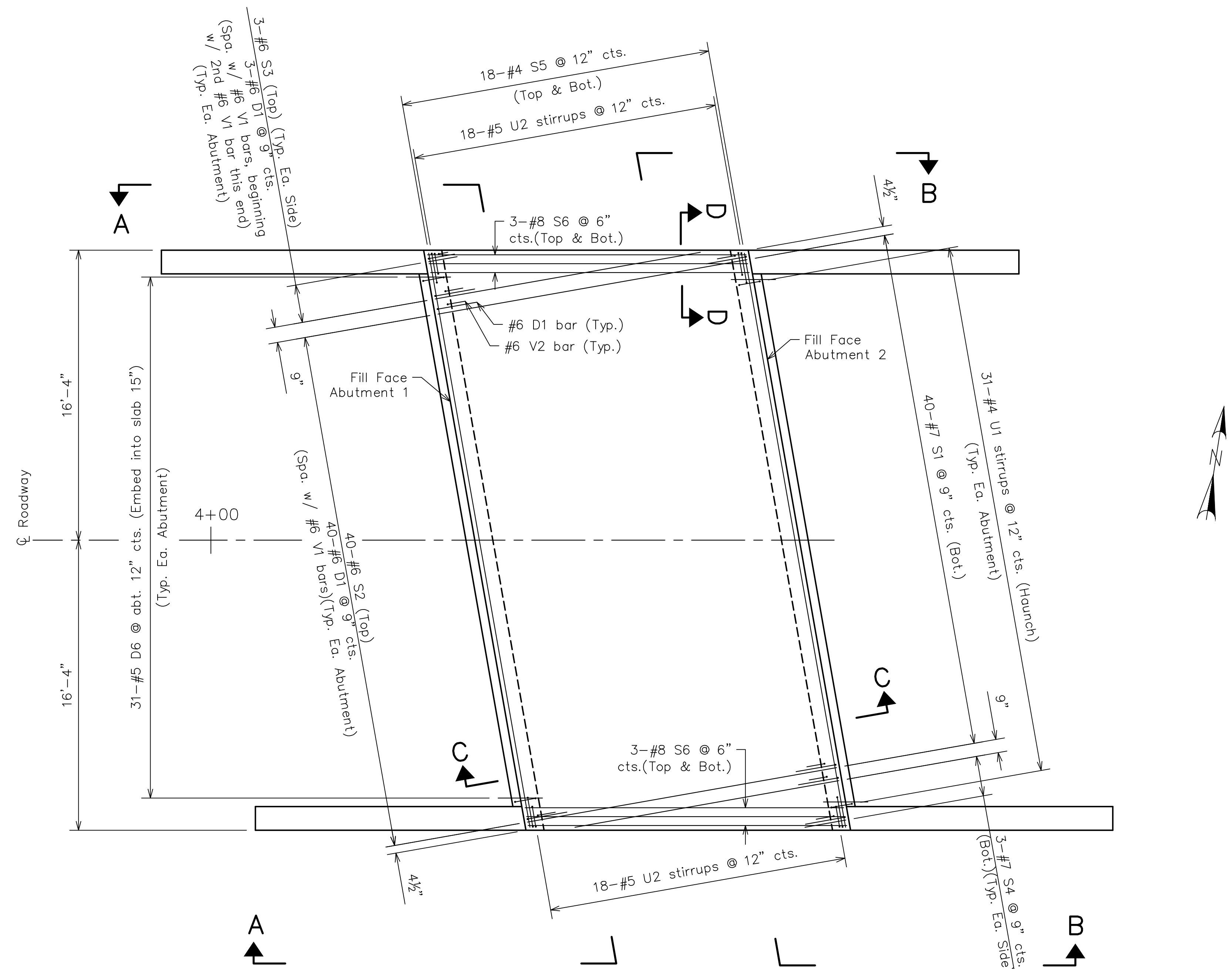
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PLAN
(Showing Slab Reinforcing Steel)

Notes:
For Elevations A-A and B-B, see Sheet 5 of 14.

For Section C-C, see Sheet 6 of 14.

For Section D-D, see Sheet 7 of 14.

SLAB PLAN
Ficken Road

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

JOHN J. GRUENDLER
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ROUTE	STATE
SL	MO
DISTRICT	SHEET NO.
SL	11
COUNTY	
JEFFERSON	
JOB NO.	
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PW19151BXC	
STRUCTURE NO.	
0151-03978-002	

DATE	DESCRIPTION

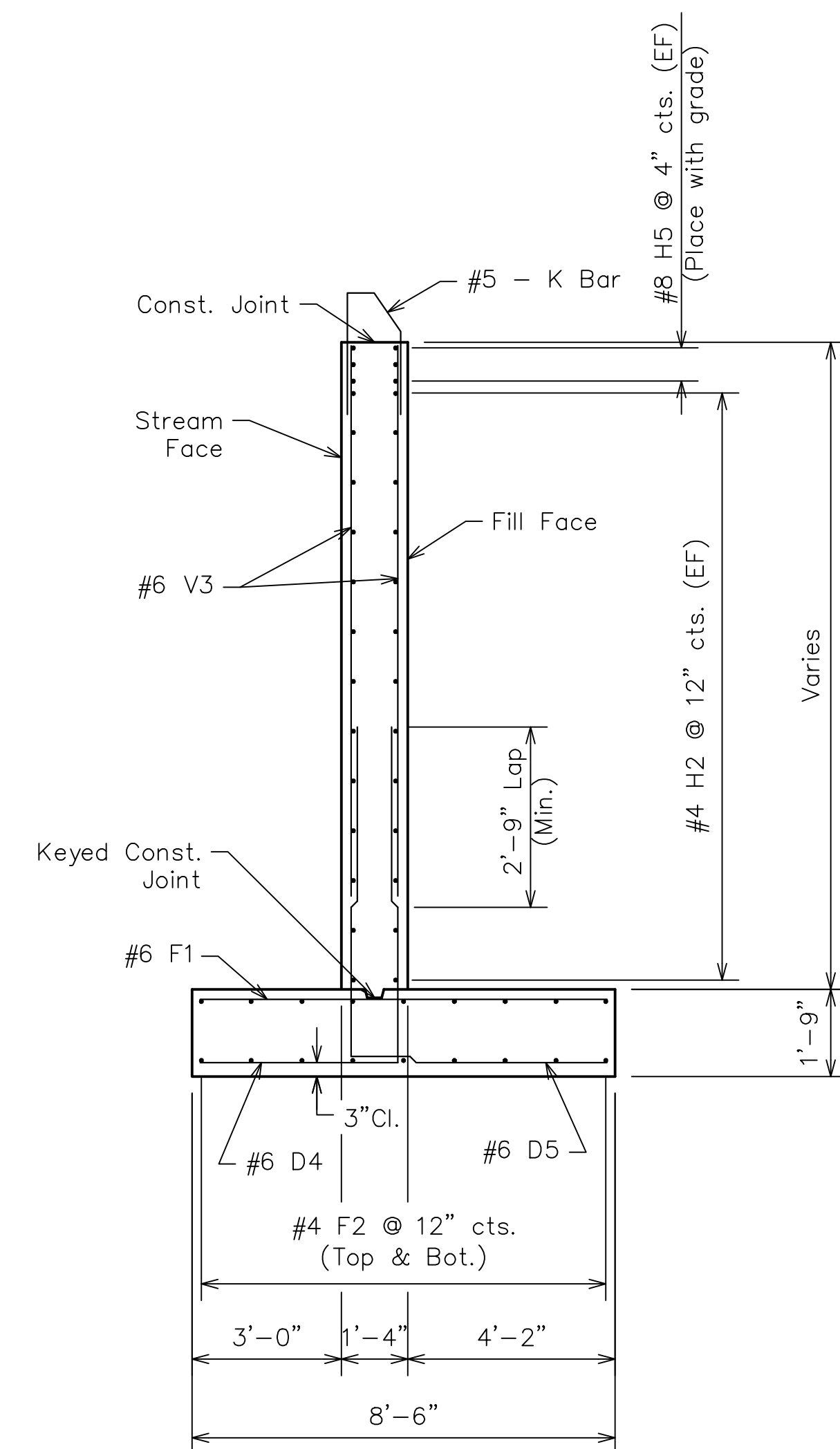
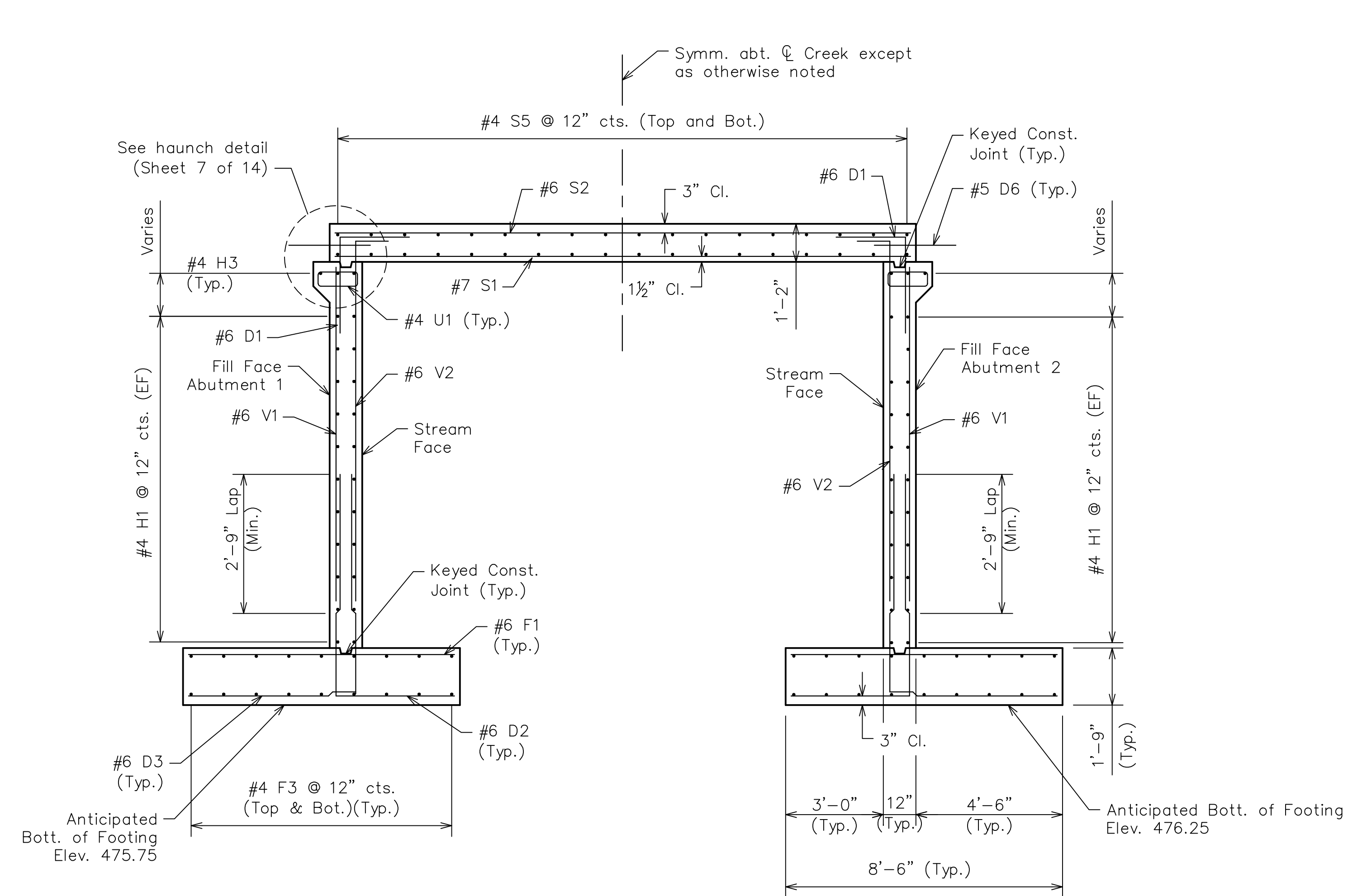
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BRIDGE SECTIONS & DETAILS
(Sheet 1 of 2)
Ficken Road

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

Bridge Sheet 6 of 14



JOHN J. GRUENDLER
PROFESSIONAL ENGINEER
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03/11/2019

DATE PREPARED
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ROUTE	STATE MO
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SL	14

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JOB NO.

CONTRACT ID.

PROJECT NO.	PW19151BXC
STRUCTURE NO.	

51-03978-002

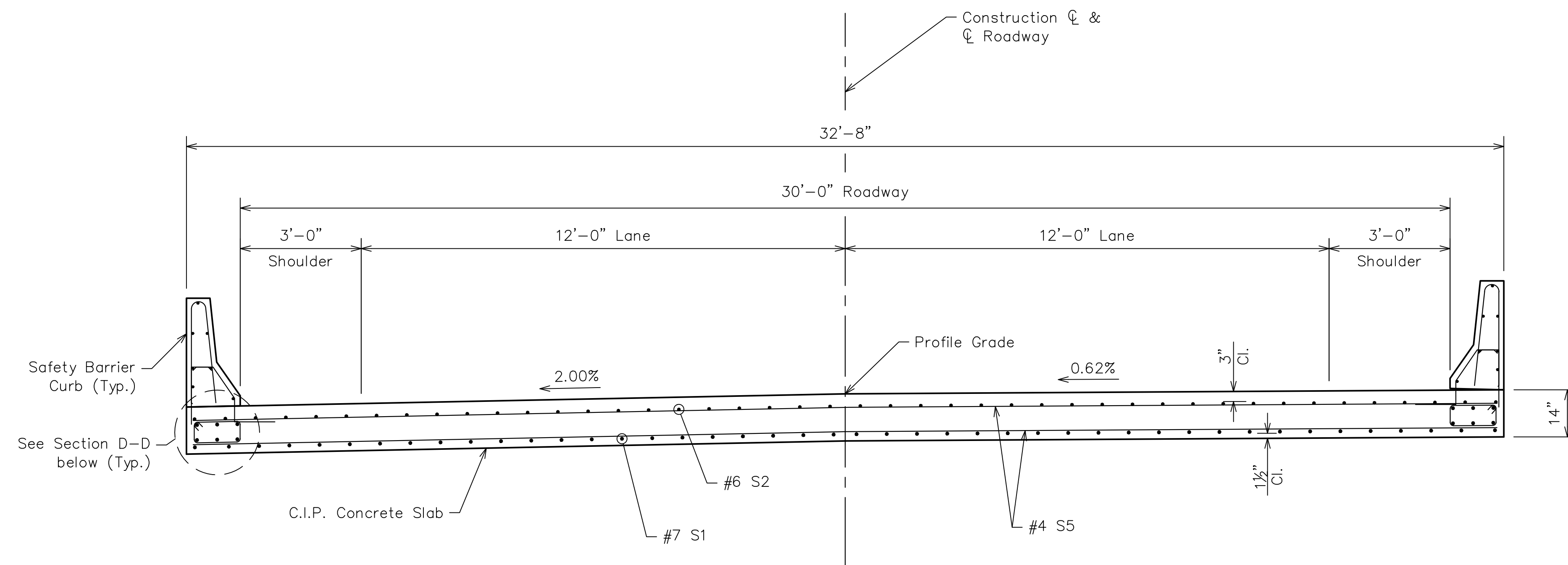
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WORKS

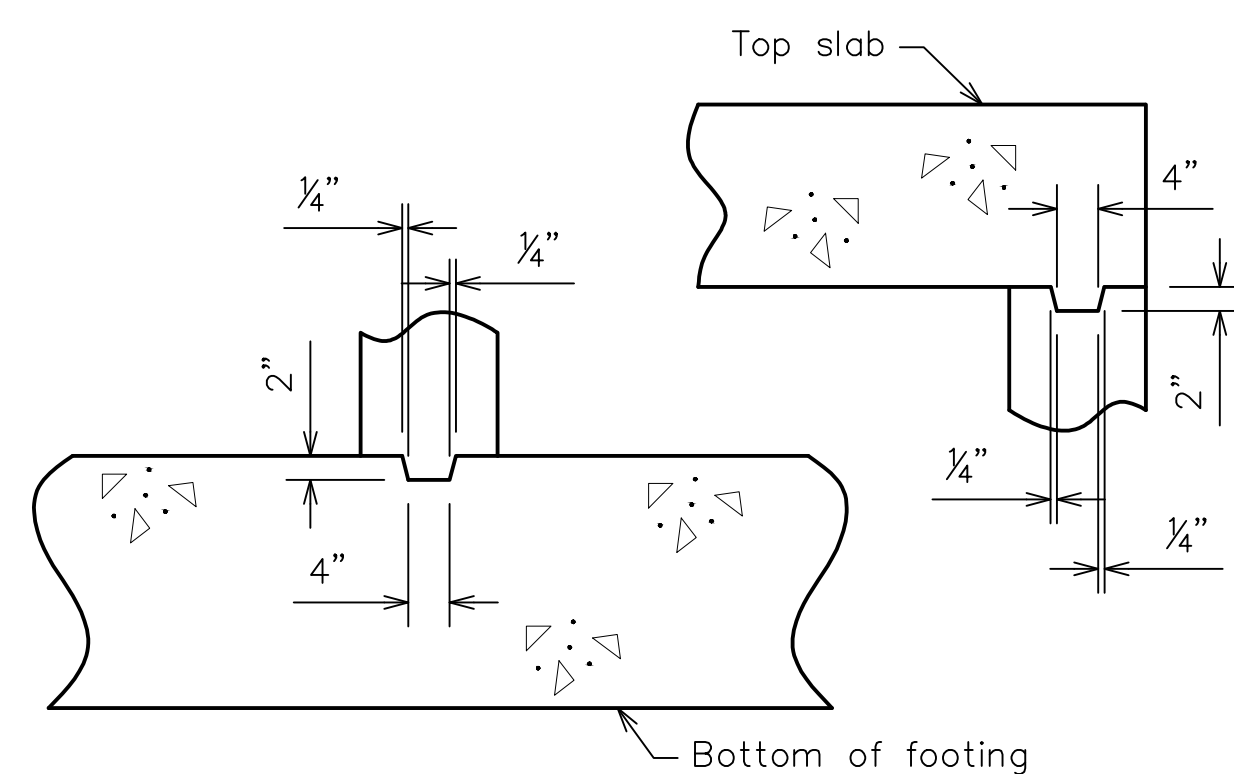
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(636-797-5340) PHONE
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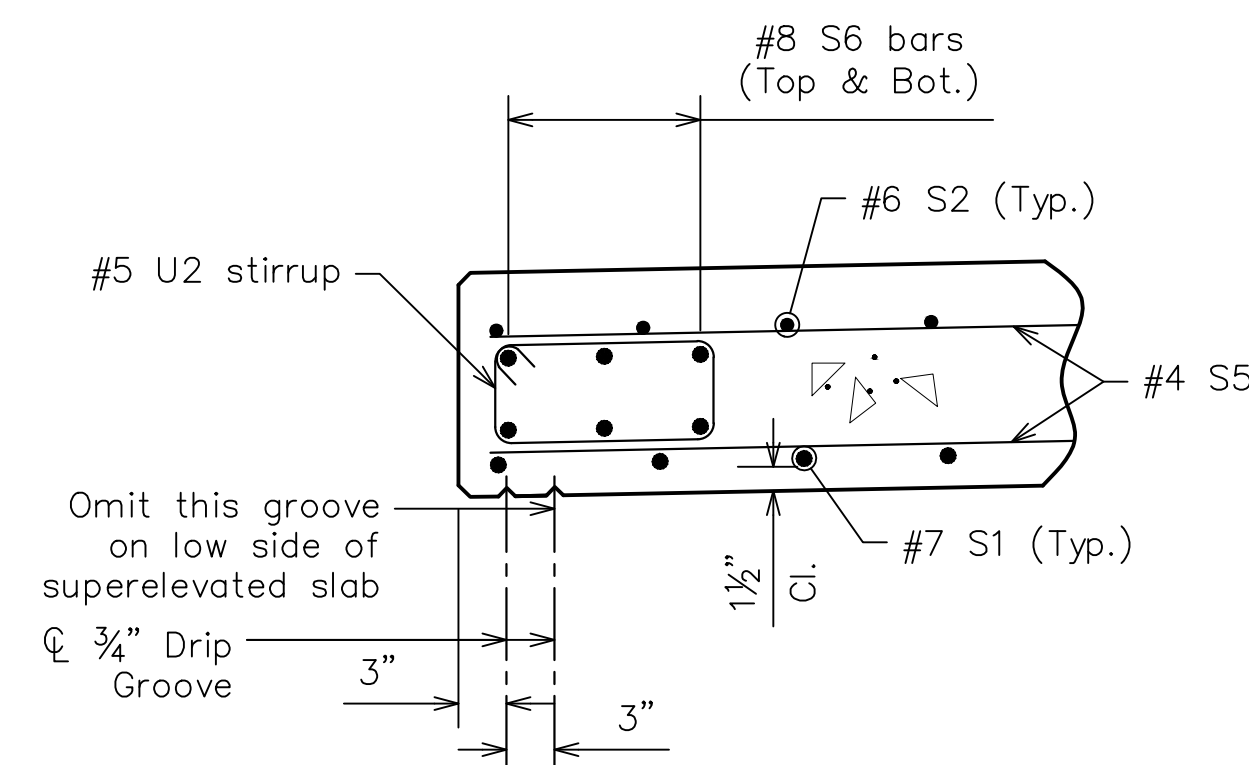
K STRUCTURES, INC.
A STRUCTURAL ENGINEERING FIRM
11414 Gravois Rd • Suite 201
St. Louis, MO 63126
314.638.6650
CERT. OF AUTHORITY: E-2006035000



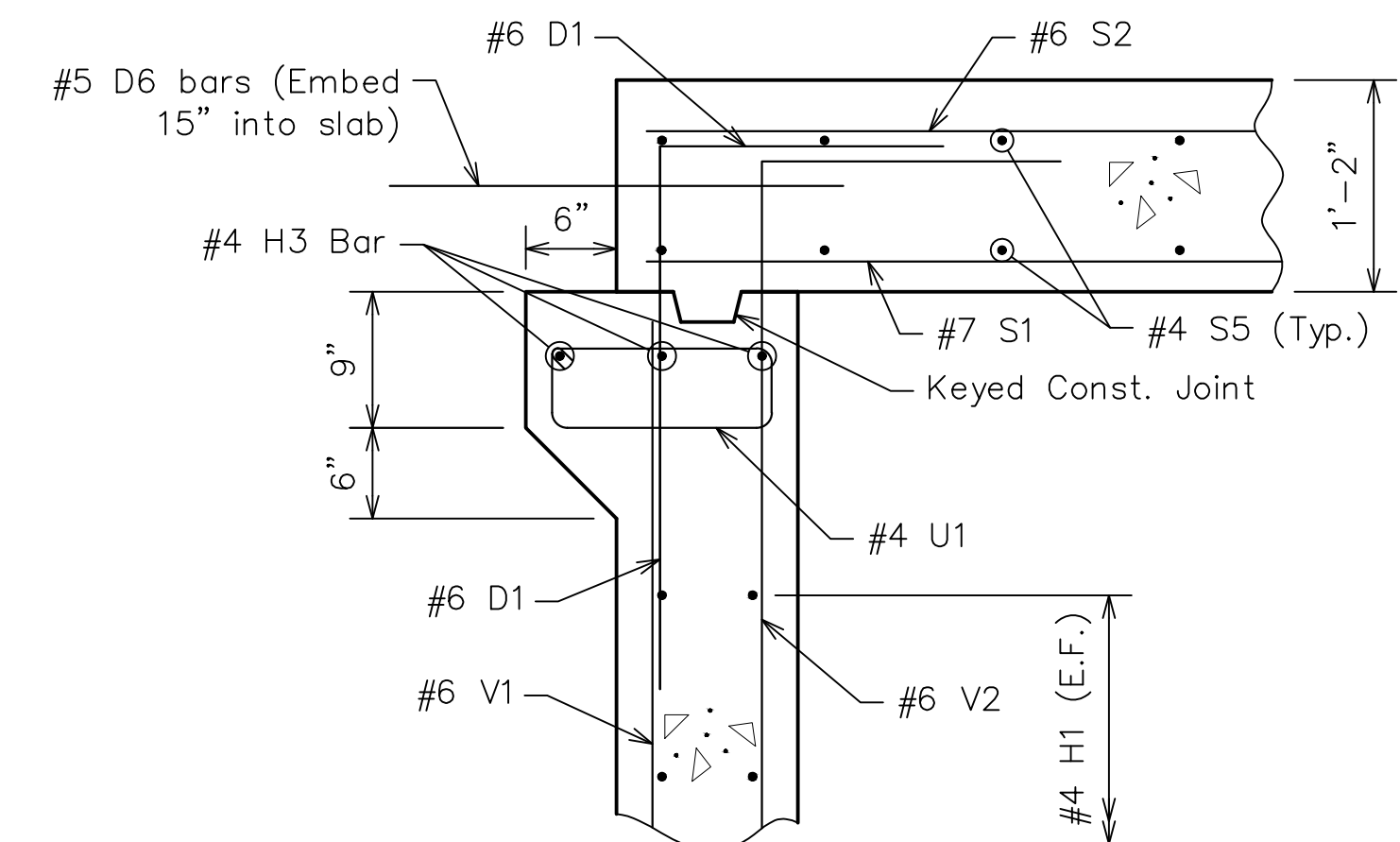
TYPICAL SECTION THRU SLAB BRIDGE
(Looking Upstation)



KEYED CONSTRUCTION JOINT



SECTION D-D



HAUNCH DETAIL

BRIDGE SECTIONS & DETAILS
(Sheet 2 of 2)
Ficken Road

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

STATE OF MISSOURI

JOHN J. GRUENDLER

NUMBER E-23263

PROFESSIONAL ENGINEER

8/1/2018

JOHN J. GRUENDLER

PROFESSIONAL ENGINEER

MO PE NO. E-23263

DATE SIGNED/SEALED 03/11/2019

DATE PREPARED 12/21/2018

ROUTE

STATE MO

DISTRICT SL

SHEET NO. 16

COUNTY JEFFERSON

JOB NO.

CONTRACT ID.

PROJECT NO. PW19151BXC

STRUCTURE NO. 0151-03978-002

DESCRIPTION

DATE

JEFFERSON COUNTY

DEPARTMENT OF PUBLIC WORKS

P.O. BOX 100

HILLSBORO, MO

(636-797-5340) PHONE

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SEAL

MISSOURI

4848

STRUCTURES, INC.

A STRUCTURAL ENGINEERING FIRM

11414 Gravois Rd • Suite 201

St. Louis, MO 63126

314.638.6650

CERT. OF AUTHORITY: E-2006035000

ELEVATION OF ABUTMENT

PLAN OF ABUTMENT

Labels: 8" x 8" Block out through wingwall, 1" Cl. Min., Vertical Drain Core, Vertical Drain Core (Along wing) (Typ.), Unperforated Drain Pipe, Coupler, Perforated Drain Pipe, Backfill, Haunch not shown for clarity, Unperforated Drain Pipe, Geotextile Fabric (Typ.), Perforated Drain Pipe, Cap, 8" x 8" Block out through wingwall, Cap, Backfill, Elbow, Stream, Rock Blanket, Detail A, Cut coupler flush with ground line.

PART SECTION A-A
(Section thru wing similar)

Labels: Fabric Wrap, Fill Face, Geotextile Fabric, Vertical Drain Core, Rock Blanket, Stream, Fabric Wrap, Perforated Drain Pipe, Backfill.

DETAIL A

Labels: Unperforated Drain Pipe, Rodent Screen, Cut coupler to slope of ground line.

PART PLAN

Labels: Perforated Drain Pipe, Unperforated Drain Pipe, 90° (Min.), Elbow, Unperforated Drain Pipe.

TURNED DRAIN

VERTICAL DRAIN AT ABUTMENTS
(Squared abutment shown, skewed abutment 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.

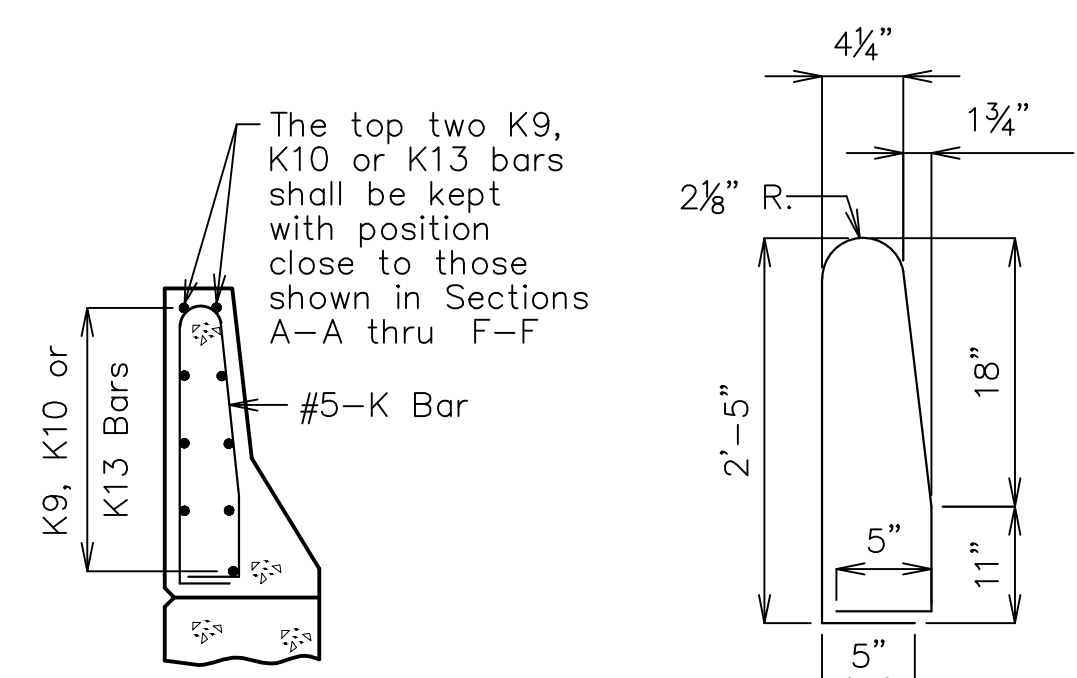
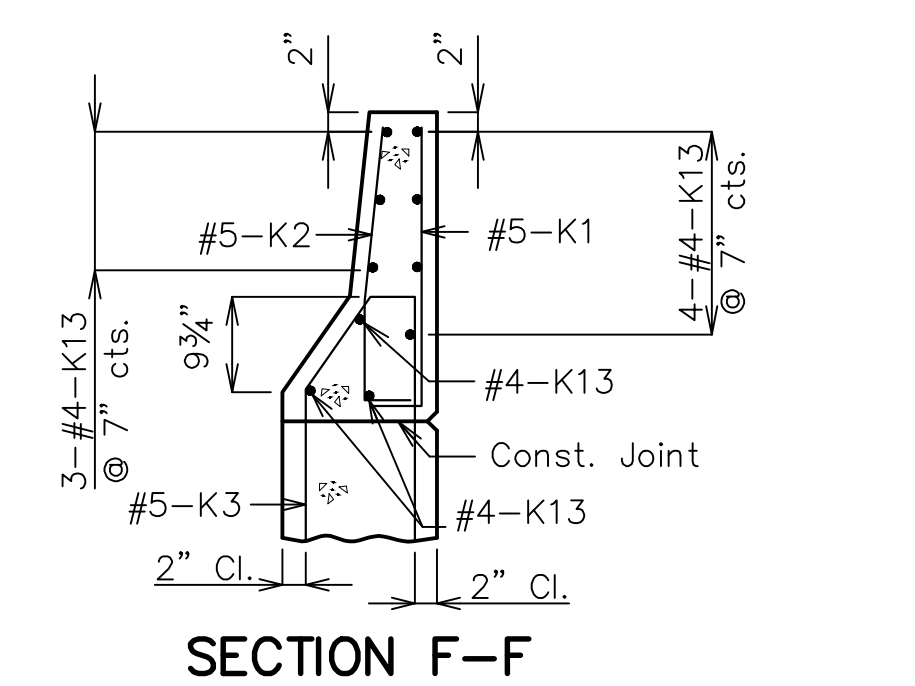
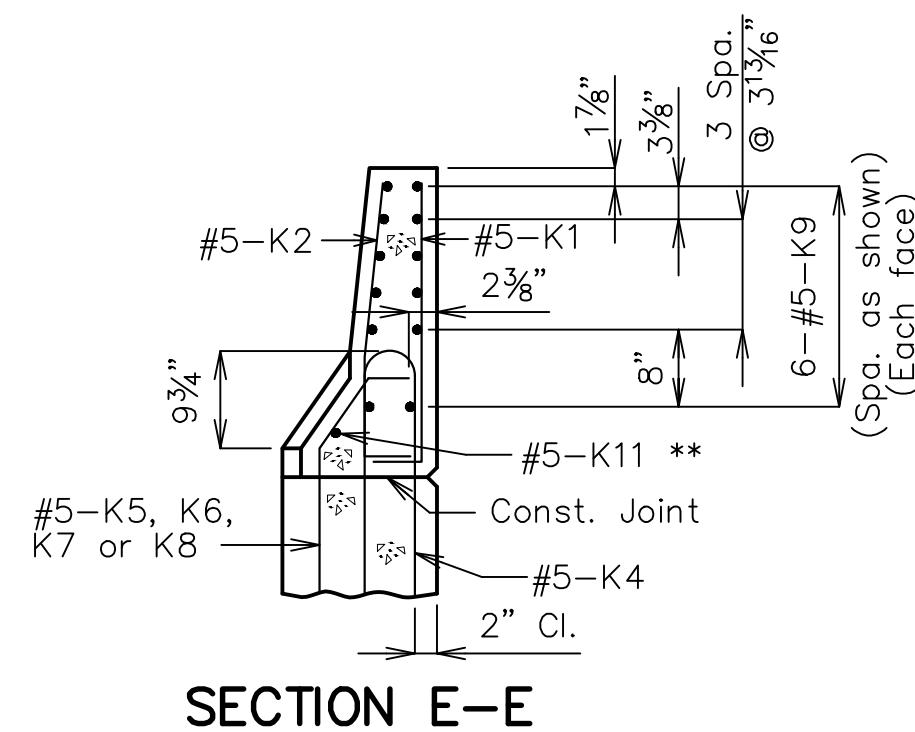
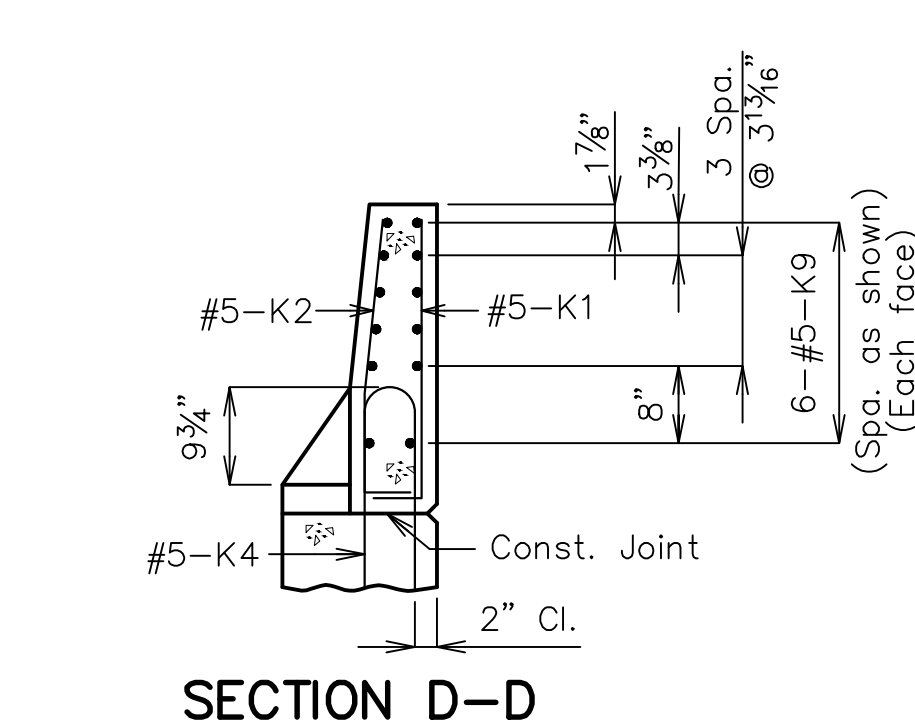
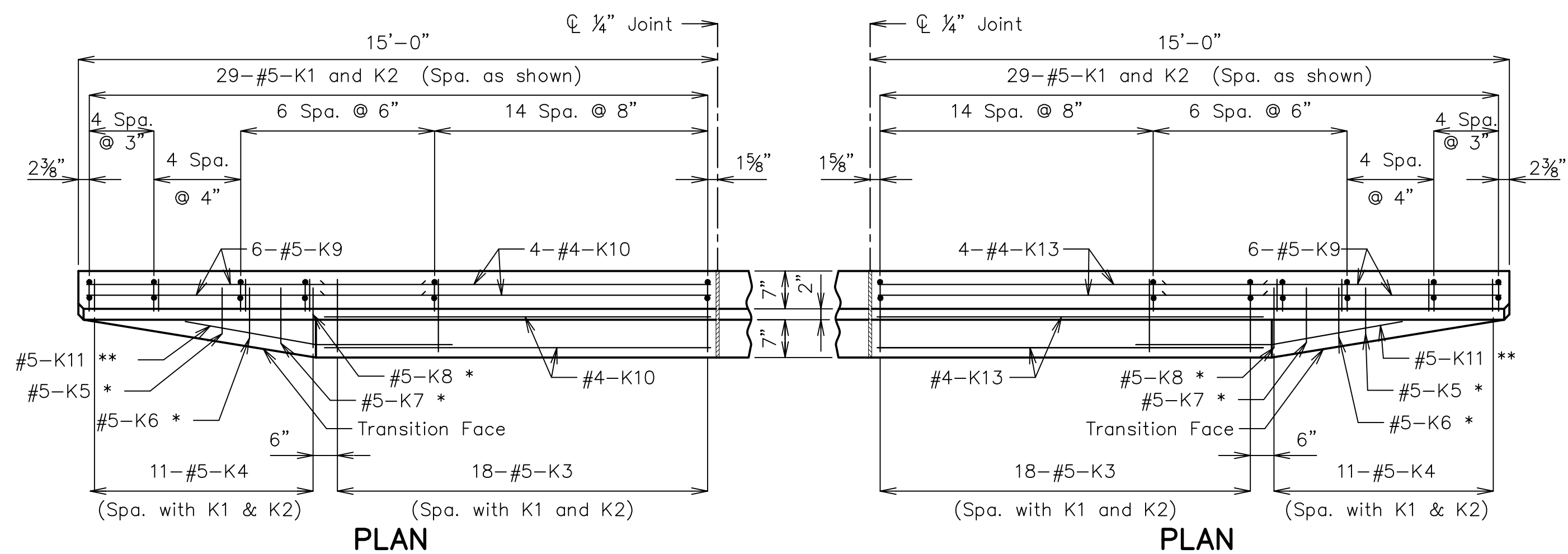
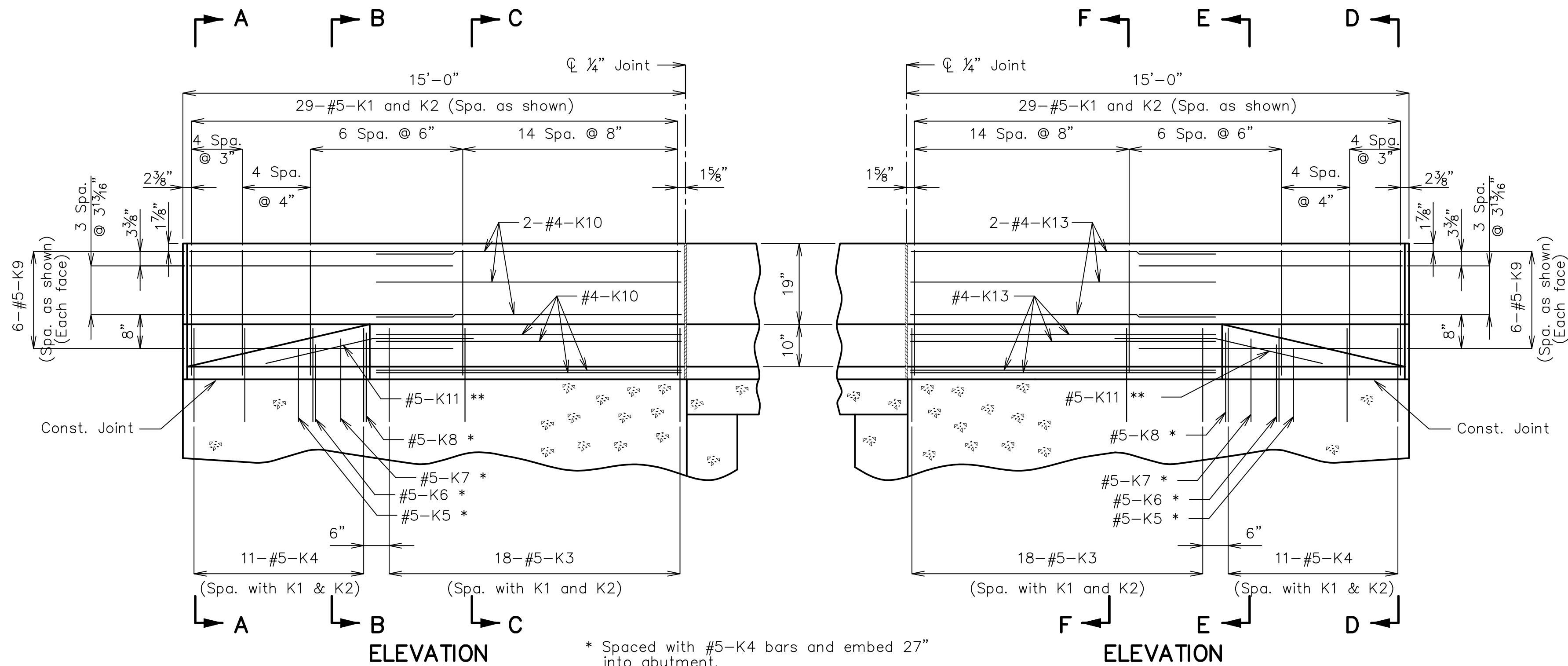
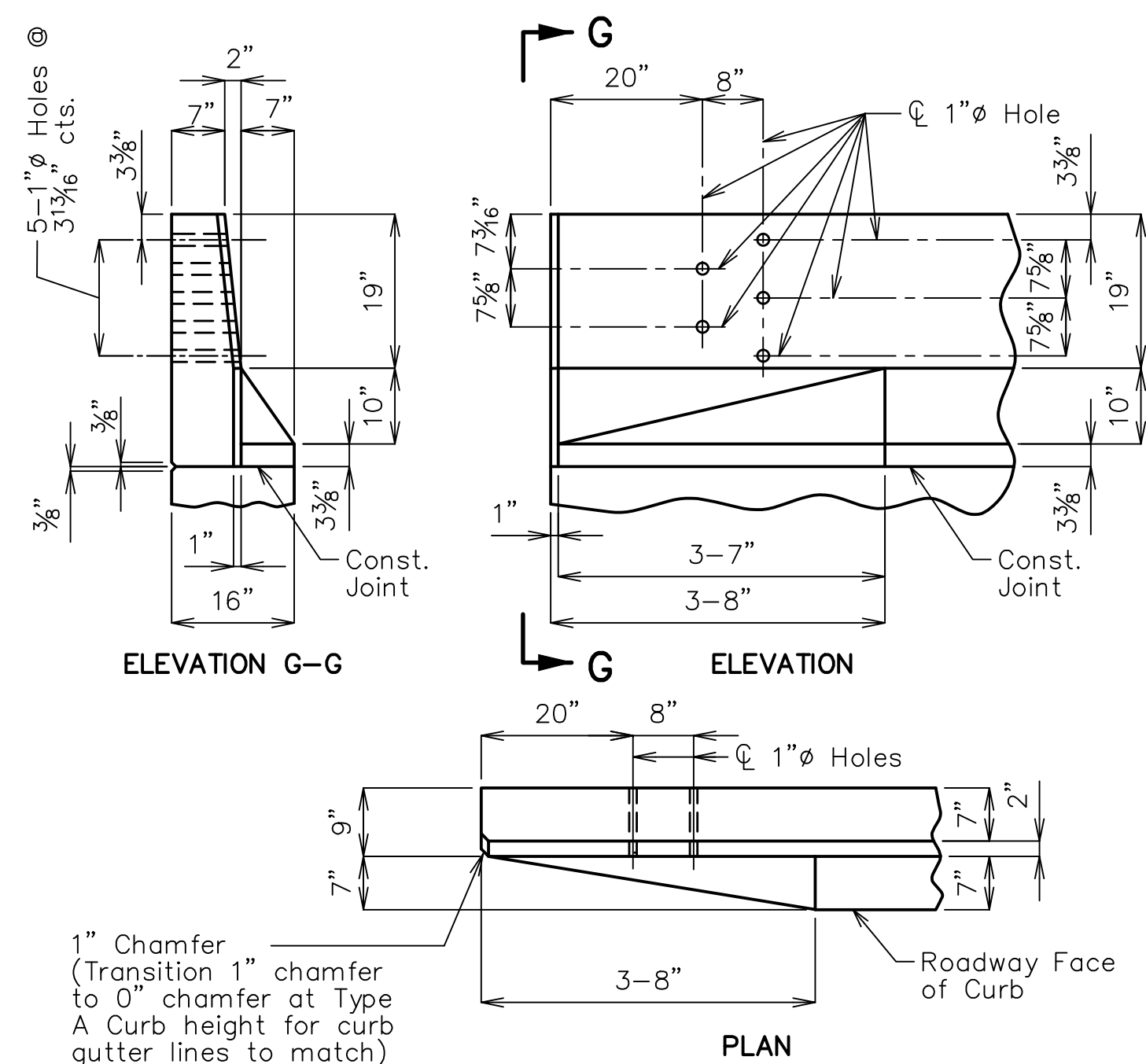
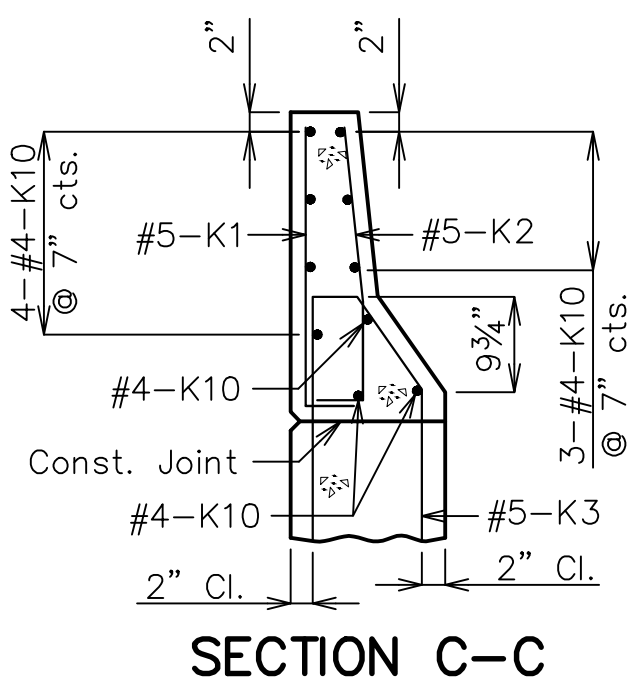
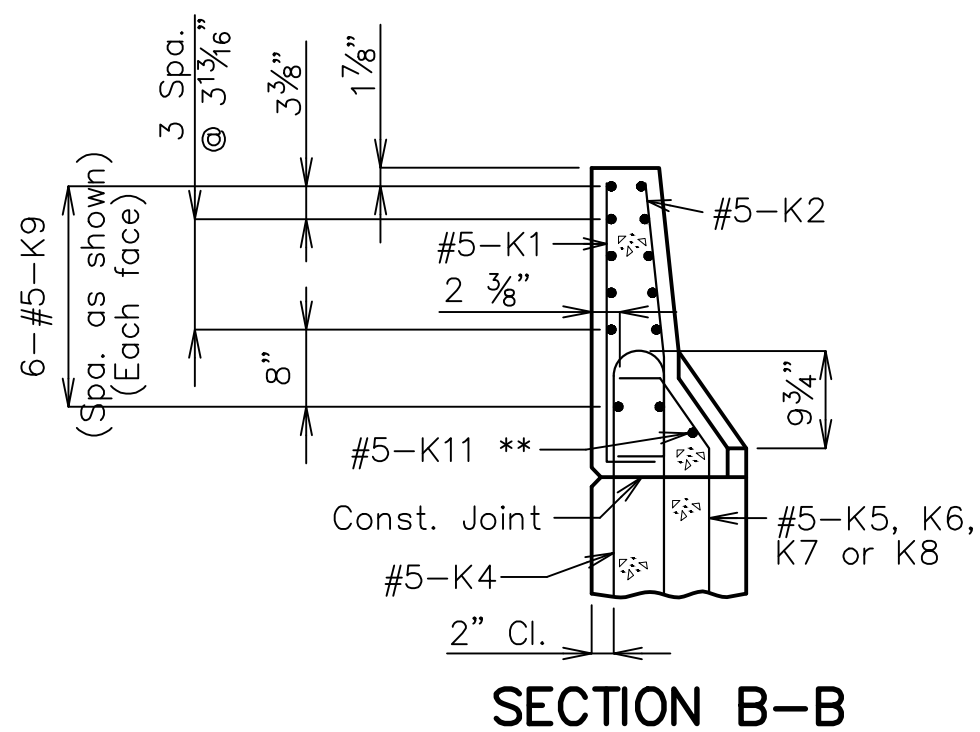
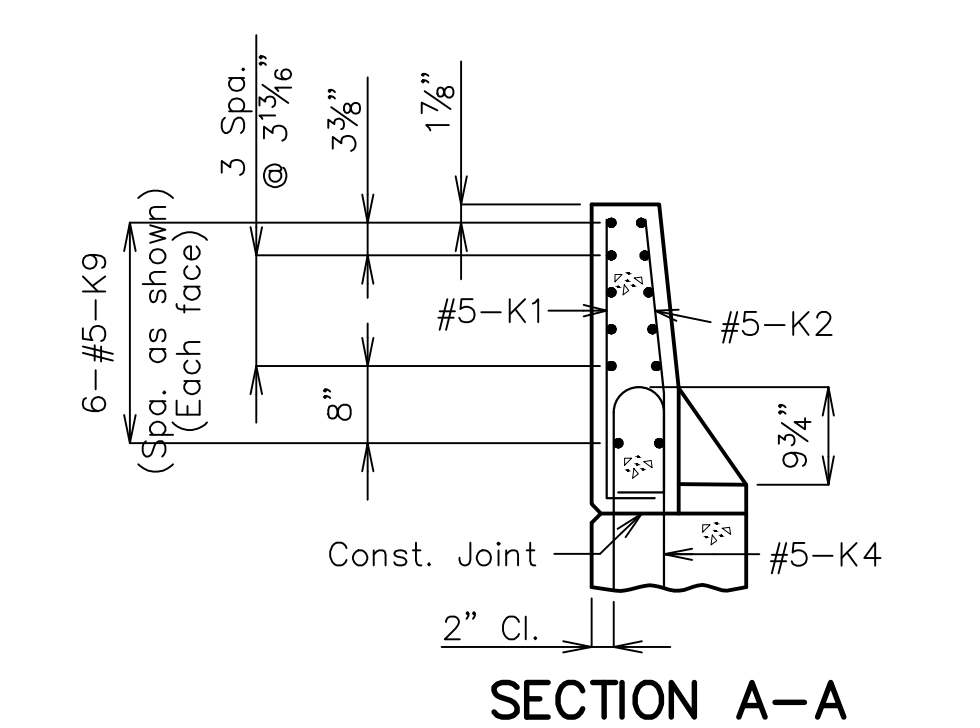
Drain pipe shall be placed at fill face of abutment and inside face of wings. The pipe shall slope to lowest grade of ground line, also missing the footing by a minimum of 1½ inches.

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

VERTICAL DRAIN AT ABUTMENTS
Ficken Road

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

Bridge Sheet 8 of 14



General Notes

Concrete traffic barrier delineators shall be placed on top of the safety barrier curb as shown on Missouri Standard Plans 617.10 and in accordance with Sec 617. Delineators on bridges with two-lane, two way traffic shall have retroreflective sheeting on both sides. Concrete traffic barrier delineators will be considered completely covered by the contract unit price for Safety Barrier Curb.

Reinforcing Steel:

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

Use a minimum lap of 2'-7" between K9 and K10 or K13 bars.

CONVENTIONAL-FORMED SAFETY BARRIER CURB AT END BENTS

(Left barrier curb shown, right barrier curb similar)

SAFETY BARRIER CURB

(Sheet 2 of 2)
Ficken Road

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

Bridge Sheet 10 of 14

JOHN J. GRUENDLER
PROFESSIONAL ENGINEER
MO PE NO. E-23263
DATE SIGNED/SEALED
03/11/2019
DATE PREPARED
12/21/2018

ROUTE	STATE
DISTRICT	SHEET NO.
COUNTY	
JEFFERSON	
JOB NO.	
CONTRACT ID.	
PROJECT NO.	
PW19151BXC	
STRUCTURE NO.	
0151-03978-002	

DATE	DESCRIPTION

**JEFFERSON COUNTY
DEPARTMENT OF PUBLIC
WORKS**

P.O. BOX 100
HILLSBORO, MO
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A STRUCTURAL ENGINEERING FIRM
11414 Gravois Rd • Suite 201
St. Louis, MO 63126
314.638.6650

CERT. OF AUTHORITY: E-2006035000



Diagram illustrating the cross-section of a bridge deck and approach slab, showing reinforcement details and drainage components.

Reinforcement Details:

- #4 Bars at 18" cts. (Top)
- #4 Bars at 12" cts. (Bot.)
- #5 Bars at 12" cts.
- #5-D6 Bars at abt. 12" cts. (See Slab Plan and Details)
- #6 Bars at 8" cts.

Dimensions and Spacing:

- 12" (Min.) (At bridge gutter line)
- 4" (Vertical dimension for drainage area)
- 18" (Width of drainage area)
- 14" (Depth of drainage area)

Drainage Components:

- Type 5 Aggregate Base
- Perforated Drain Pipe (Slope to drain)

Other Labels:

- End of Slab
- 2 Layers of 4 Mil Polyethylene Sheeting between bridge approach slab and granular base in accordance with ASTM E 1745 Performance Class A
- (1) (Top)
- (2) (Bot.)
- (3)
- (4)

SECTION B-B

[illegible]

General Notes:

All concrete for the bridge approach slab shall be in accordance with Sec 503 ($f'_c = 4,000$ psi).

The reinforcing steel in the bridge approach slab shall be epoxy coated Grade 60 with $f_y = 60,000$ psi.

Longitudinal construction joints in bridge approach slab shall be aligned with longitudinal construction joints in bridge slab.

Minimum clearance to reinforcing steel shall be 1 1/2",
unless otherwise shown.

The reinforcing steel in the bridge approach slab shall be continuous. The transverse reinforcing steel may be made continuous by lap splicing the #4 bars 23".

Mechanical bar splices shall be in accordance with Sec 710.

All joint filler shall be in accordance with Sec 1057 for preformed fiber expansion joint filler except as noted.

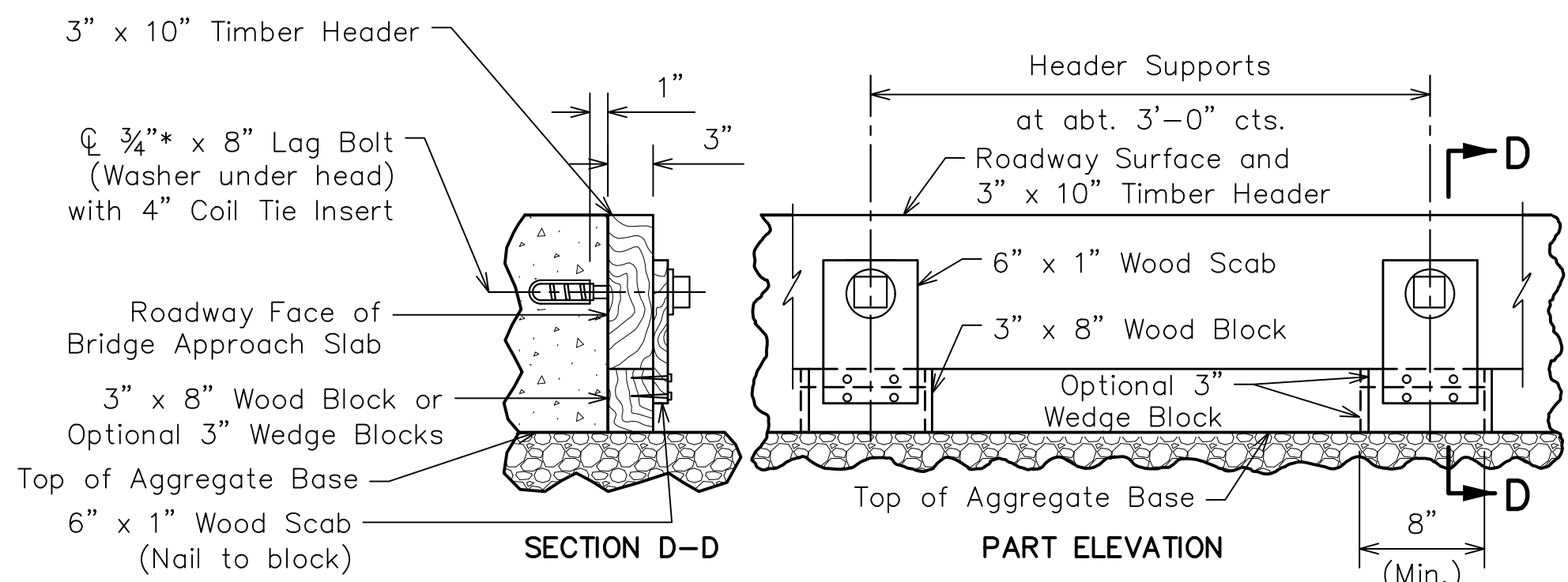
Payment for furnishing all materials, labor and excavation necessary to construct the bridge approach slab, including the timber header, underdrain, Type 5 aggregate base, joint filler and all other appurtenances and incidental work as shown on this sheet, complete in place, will be considered completely covered by the contract unit price for Bridge Approach Slab (Minor Road) per square yard.

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

The contractor shall pour and satisfactorily finish the bridge before pouring the bridge approach slab.

* Seal joint between vertical face of bridge approach slab and wing with "Silicone Joint Sealant for Saw Cut and Formed Joints" in accordance with Sec 717.

** Except not allowed with asphalt pavement.



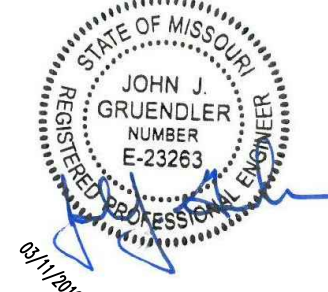
SECTION D-D

PART ELEVATION

DETAILS OF TIMBER HEADER

Remove timber header when pavement is placed.

BRIDGE APPROACH SLAB
Ficken Road



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

DATE SIGNED/SEALED

03/11/2019

DATE PREPARED
10/2/81

12/21/2018

ROUTE	STATE	MO
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	MO
DISTRICT	SHEET NO.

DISTRICT SHEET NO.
SI 19

SE | TS
COUNTY

JEFFERSON

JOB NO.

CONTRACT ID.

PROJECT NO.
PW10151PVC

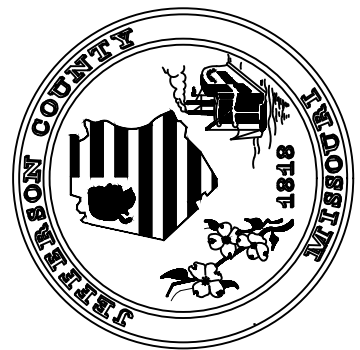
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STRUCTURE NO.

0151-03978-002

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JEFFERSON COUNTY
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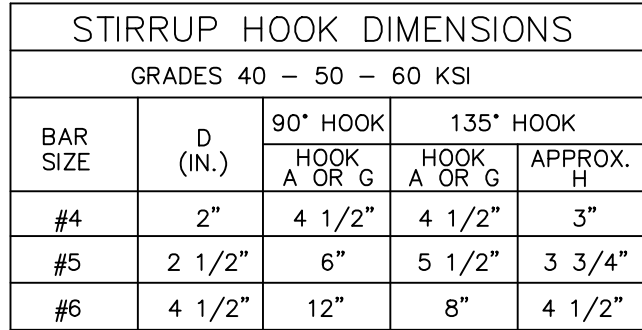
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A STRUCTURAL ENGINEERING FIRM
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314.638.6650

CERT OF AUTHORITY: E-2006035000

NO. REQ'D.	MARK NO.	LOCATION	EPOXY	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIES (Y)	NO. EACH	DIMENSIONS								NOMINAL LENGTH	ACTUAL LENGTH	WEIGHT						
									B		C		D		E					F		H		K	
									FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.				FT.	IN.	FT.	IN.	FT.	IN.
		SLAB																							
40	7	S1	Slab	E 20					17	8						17	8	1444							
40	6	S2	Slab	E 20					17	8						17	8	1061							
6	6	S3	Slab	E 20			V 2		14	8						14	8								
		INCR.=4'-3"							6	2						6	2	94							
6	7	S4	Slab	E 20			V 2		14	8						14	8								
		INCR.=4'-3"							6	2						6	2	128							
36	4	S5	Slab	E 20					32	10						32	10	790							
12	8	S6	Edge Beam	E 20					17	11						17	11	574							
36	5	U2	Edge Beam	E 13	S				1	2	0	7	1	2	0	7									
		ABUTMENTS																							
88	6	V1	Abutments	20					10	0						10	0	1322							
88	6	V2	Abut./Slab	E 19					11	1	1	0				12	1	1575							
160	6	V3	Wing Walls	20					11	1						11	1	2664							
46	4	H1	Abutments	20					32	10						32	10	1009							
92	4	H2	Wing Walls	20					15	6						15	6	953							
6	4	H3	Abut./Haunch	E 20					32	6						32	6	130							
12	8	H4	Wing Walls	20					14	8						14	8	470							
12	8	H5	Wing Walls	20					14	5						14	5	462							
24	5	H6	Abut./Wing	15					1	6	2	8	1	6	11.5	1	1.75	140							
24	5	H7	Abut./Wing	15					1	6	2	3	1	6	11.5	1	1.75	129							
86	6	D1	Abut./Slab	E 19					4	6	3	6				8	0	1012							
88	6	D2	Abut./Footing	19					8	3	3	8				11	11	1553							
88	6	D3	Abut./Footing	19					8	3	5	2				13	5	1751							
80	6	D4	WingWall/Footing	19					8	3	4	0				12	3	1452							
80	6	D5	WingWall/Footing	19					8	3	5	2				13	5	1592							
62	5	D6	App. Slab/Slab	E 20					2	6						2	6	162							
168	6	F1	Footing	20					8	2						8	2	2061							
72	4	F2	Footing	20			V 8		18	0						18	0								
		INCR.=2"							19	4						19	4	898							
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62	4	U1</																							



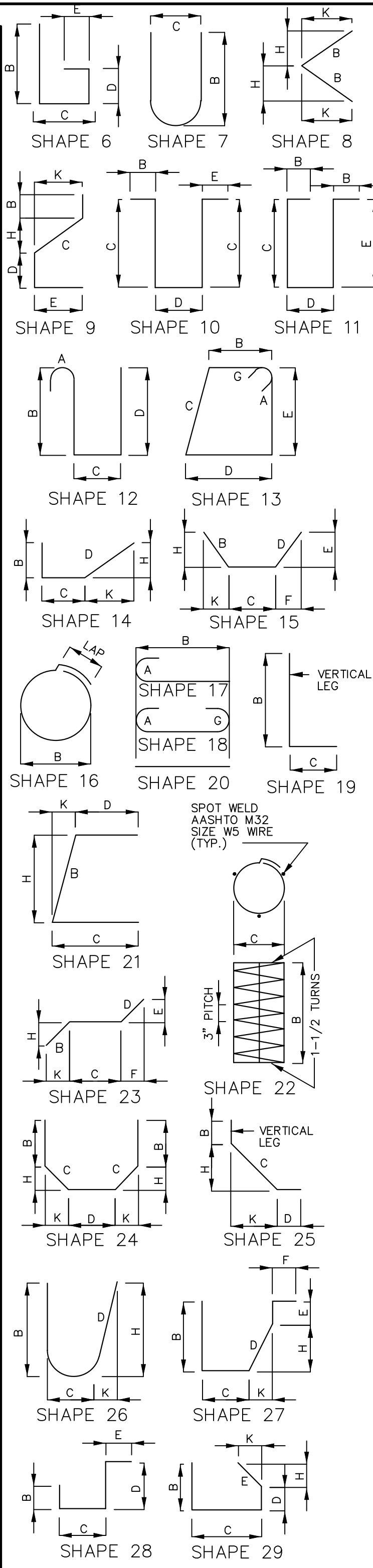
NOTE: UNLESS OTHERWISE NOTED, DIAMETER "D" IS THE SAME FOR ALL BENDS AND HOOKS ON A BAR.

END HOOK DIMENSIONS					
BAR SIZE	D. (IN.)	ALL GRADES			
		180° HOOKS		90° HOOKS	
		A	O	A	O
#3	2 1/4"	5"	3"	6"	6"
#4	3"	6"	4"	8"	8"
#5	3 3/4"	7"	5"	10"	10"
#6	4 1/2"	8"	6"	12"	12"
#7	5 1/4"	10"	7"	14"	14"
#8	6"	11"	8"	16"	16"
#9	9 1/2"	15"	11 3/4"	19"	19"
#10	10 3/4"	17"	13 1/4"	22"	22"
#11	12"	19"	14 3/4"	24"	24"
#14	18 1/4"	2-3"	21 3/4"	2-7"	2-7"

ALL STANDARD HOOKS AND BENDS OTHER THAN 180 DEGREE ARE TO BE BENT WITH SAME PROCEDURE AS FOR 90 DEGREE STANDARD HOOKS.
HOOKS AND BENDS SHALL BE IN ACCORDANCE WITH THE PROCEDURES AS SHOWN ON THIS SHEET.
E = EPOXY COATED REINFORCEMENT.
S = STIRRUP.
X = BAR IS INCLUDED IN SUBSTRUCTURE QUANTITIES.
V = BAR DIMENSIONS VARY IN EQUAL INCREMENTS BETWEEN DIMENSIONS SHOWN ON THIS LINE AND THE FOLLOWING LINE.
NO. EA. = NUMBER OF BARS OF EACH LENGTH.
NOMINAL LENGTHS ARE BASED ON OUT TO OUT DIMENSIONS SHOWN IN BENDING DIAGRAMS AND ARE LISTED FOR FABRICATORS USE. (NEAREST INCH)
ACTUAL LENGTHS ARE MEASURED ALONG CENTERLINE BAR TO THE NEAREST INCH.
PAYWEIGHTS ARE BASED ON ACTUAL LENGTHS.
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.
REINFORCING STEEL (GRADE 60) FY = 60,000 PSI.

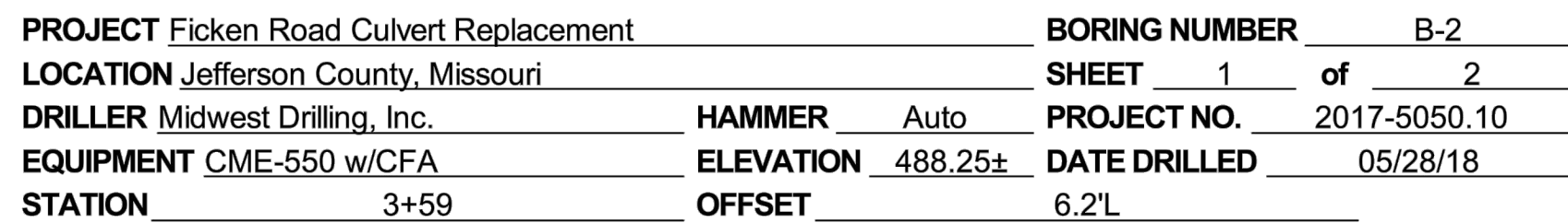
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Bridge Sheet 12 of 14



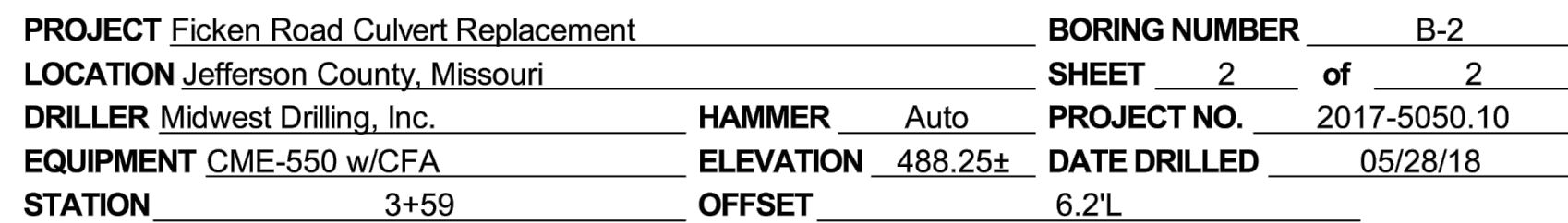
K STRUCTURES, INC.
A STRUCTURAL ENGINEERING FIRM
11414 Gravois Rd • Suite 201
St. Louis, MO 63126
314.638.6650

CERT. OF AUTHORITY: E-2006035000



WATER LEVEL: _____ X NONE OBSERVED WHILE DRILLING _____ ft WHILE DRILLING _____ ft AT COMPLETION OF DRILLING _____ ft _____ HRS AFTER DRILLING	REMARKS: 1) Auger refusal on dolomite at 12 feet. Boring advanced using rock coring methods. 2) RQD = 83% 3) RQD = 85%
---	--

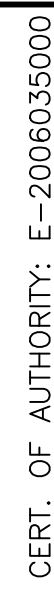
See June 2018 SCI Engineering Inc.
geotechnical report for additional data.

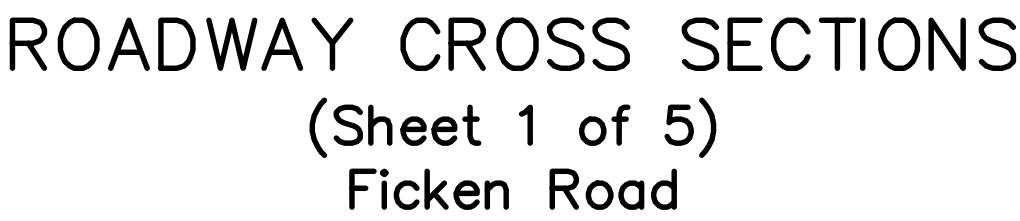


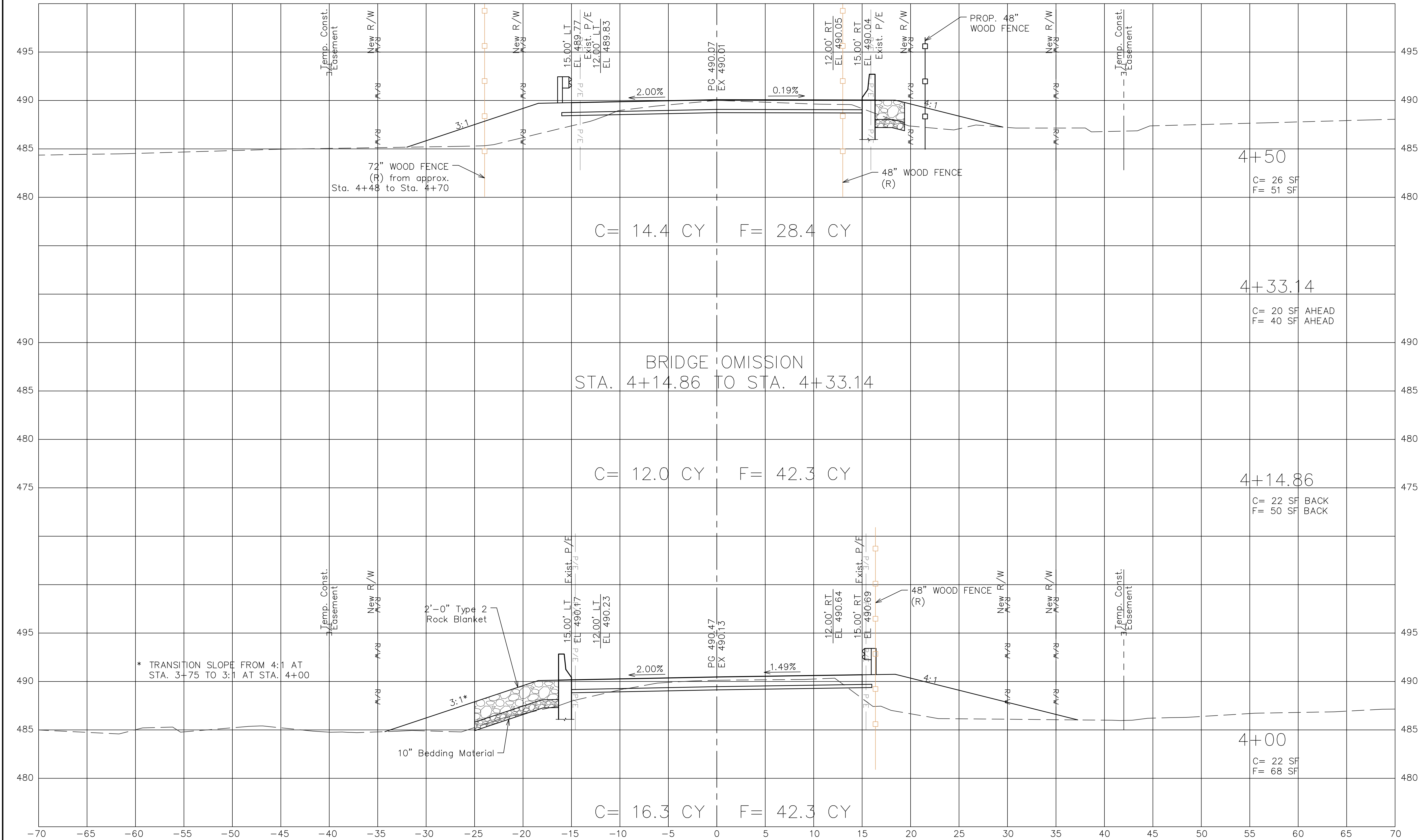
WATER LEVEL: _____ X _____ NONE OBSERVED WHILE DRILLING _____ ft WHILE DRILLING _____ ft AT COMPLETION OF DRILLING _____ ft _____ HRS AFTER DRILLING	REMARKS:
--	-----------------

Bridge Sheet 14 of 14

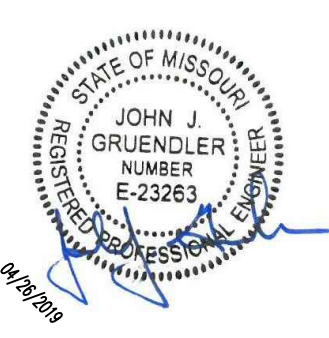
Note: This drawing is not to scale. Follow dimensions.







ROADWAY CROSS SECTIONS
(Sheet 3 of 5)
Ficken Road



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

DATE SIGNED/SEALED
04/26/2019

DATE PREPARED
12/21/2018

ROUTE	STATE
DISTRICT	SHEET NO.
SL	25

COUNTY
JEFFERSON

JOB NO.

CONTRACT ID.

PROJECT NO.
PW19151BXC

STRUCTURE NO.
0151-03978-002

DATE	DESCRIPTION

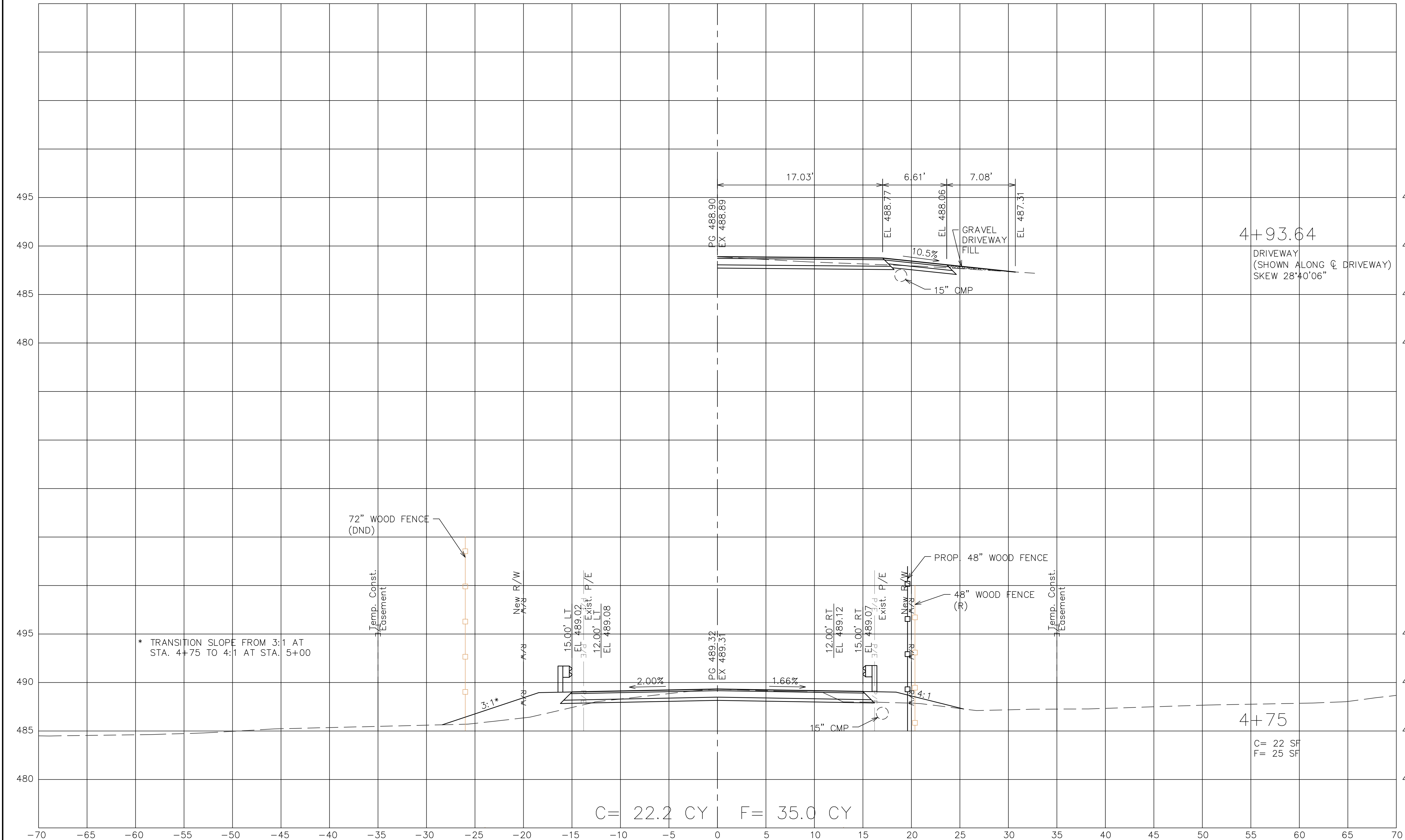
JEFFERSON COUNTY
DEPARTMENT OF PUBLIC
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HILLSBORO, MO
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(636-797-5565) FAX

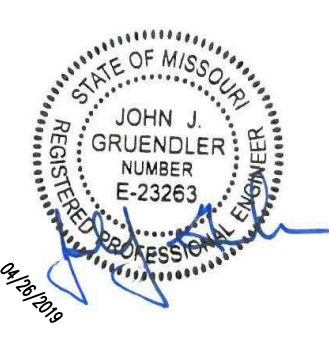


STRUCTURES, INC.
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CERT. OF AUTHORITY: E-2006035000



ROADWAY CROSS SECTIONS
(Sheet 4 of 5)
Ficken Road



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

DATE SIGNED/SEALED
04/26/2019

DATE PREPARED
12/21/2018

ROUTE	STATE
DISTRICT	SHEET NO.
SL	26
COUNTY	
JEFFERSON	
JOB NO.	
CONTRACT ID.	
PROJECT NO.	
PW19151BXC	
STRUCTURE NO.	
0151-03978-002	

DATE	DESCRIPTION

JEFFERSON COUNTY
DEPARTMENT OF PUBLIC
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