ENTRANCES PIPES

STATION	ROUTE	SUBPROJECT	LOCATION	17"x13" TYPE B-1 PIPE-ARCH (LF)	15" GROUP C PIPE (LF)	18" GROUP C PIPE (LF)	24" GROUP C PIPE (LF)	36" GROUP C PIPE (LF)	17"x13" TYPE B1 F.E.S. (EACH)	15" GROUP C F.E.S. (EACH)	18" GROUP C F.E.S. (EACH)	24" GROUP C F.E.S. (EACH)	36" GROUP C F.E.S. (EACH)	REMARKS
897+97.80	32, LT	A	1 - 32 & CC	32					2					
344+75.95	CC, LT	A	1 - 32 & CC			32					2			
344+75.95	CC, RT	A	1 - 32 & CC			32					2			
1145+02.43	32, LT	B	2 -32 &1350	32					2					
1166+13.41	32, RT	B	2 -32 &1350	32					2					
1166+14.11	32, LT	B	2 -32 &1350		32					2				
5+02.56	CR1350	B	2 -32 &1350		32					2				
1982+87.91	32, RT	C	3 - 32 & 245											48" RCB (UIP)
2+98.82	245, LT	C	3 - 32 & 245				60					2		
203+45.47	RTE 32, LT.	E	5 -BARREN CR.	41					2					
203+45.47	BYP 32, RT.	E	5 -BARREN CR.		2									TEMP. PIPE
357+78.42	RTE 32, RT.	F	6 - 32 & 76 RD			39					2			
360+47.52	RTE 32, RT.	F	6 - 32 & 76 RD			32					2			
366+36.25	RTE 32, LT.	F	6 - 32 & 76 RD					36					2	
24 IN. GROUP C F.E.S. SUBTOTAL CARRIED TO PIPE CULVERTS												2		
24 IN. GROUP C PIPE SUBTOTAL CARRIED TO PIPE CULVERTS							60							
	TOTAL			137	66	135		36	8	4	8		2	
	USE			137	66	135		36	8	4	8		2	

PIPE CULVERTS

STATION	ROUTE	SUBPROJECT	LOCATION	FILL HEIGHT (LF)	GROUP A PIPE 42" (LF)	GROUP B PIPE 18" (LF)	GROUP B PIPE 30" (LF)	GROUP B PIPE 72" (LF)	GROUP C PIPE 24" (LF)	GROUP A F.E.S. 42" (EA)	GROUP B F.E.S. 18" (EA)	GROUP B F.E.S. 30" (EA)	GROUP B F.E.S. 72" (EA)	GROUP C F.E.S. 24" (EA)	CL. 3 EXC. (CY)	ROCK LINING (CY)	REMARKS
5+26.40	C.R. 825	A	ROUTE CC	2					59					2	1	-	
1143+25.00	ROUTE 32	B	C.R. 1350	4		51					2				13	2	
1153+02.96	ROUTE 32	B	C.R. 1350	13				120					2		137	44	
1161+49.57	ROUTE 32	B	C.R. 1350	12			94					2			16	4	
1031+50.00	ROUTE 32 BYPASS	E	BARREN CR.					528							10	-	8-66' PIPES
369+83.75	ROUTE 32	F	S-CURVE	7	168					4					120	26	2-84' PIPES
24 IN. GROUP C F.E.S. SUBTOTAL CARRIED TO PIPE CULVERTS													2				
24 IN. GROUP C PIPE SUBTOTAL CARRIED TO PIPE CULVERTS									60								
ROCK LINING SUBTOTAL CARRIED TO BOX CULVERTS																76	
CL. 3 EXC. SUBTOTAL CARRIED FROM ELLIPTICAL PIPE															27		
TOTAL				168	51	94	648	119	4	2	2	4	2	324			

PRECAST CONCRETE BOX CULVERTS

STATION	ROUTE	SUBPROJECT	SKEW	LOCATION	FILL HEIGHT (FT)	SIZE DBL 7'X7' (LF) [1]	CL. 4 EXC. (CY)	ROCK LINING (CY)	REMARKS
872+15.22	ROUTE 32	A	34°02'32" L.A.	ROUTE CC	16	162	369	140	
	ROCK LINING SUBTOTAL CARRIED TO BOX CULVERTS							140	
	CL. 4 EXC. SUBTOTAL CARRIED TO BOX CULVERTS						369		
					TOTAL	162			
					USE	162			

ELLIPTICAL PIPE

STATION	ROUTE	SUBPROJECT	LOCATION	FILL HEIGHT (LF)	ELLIPTICAL PIPE 19" X 30" (LF)	F.E.S. 19" X 30" (EA)	CL. 3 EXC. (CY)	ROCK LINING (CY)	REMARKS
1170+03.00	ROUTE 32	B	C.R. 1350	2	38	2	27	4	
ROCK LINING SUBTOTAL CARRIED TO BOX CULVERTS								4	
CL. 3 EXC. SUBTOTAL CARRIED TO PIPE CULVERTS							27		
				TOTAL	38	2			
				USE	38	2			

BOX CULVERTS

STATION	ROUTE	SKEW	LOCATION	FILL HEIGHT (FT)	SIZE	LENGTH (FT)	CLASS B-1 CONCRETE (CY)	REINFORCING STEEL (LB)	CL. 4 EXC. (CY)	ROCK LINING (CY)	REMARKS
887+94.55	ROUTE 32	19°47'19"R.A.	ROUTE CC	4	2-(5' X 6')	94	89	9570	128	57	
1987+84.11	ROUTE 32	-	ROUTE 245	2	3' X 2'	21	9	1309	7	9	
1992+90.49	ROUTE 32	7°55'27" L.A.	ROUTE 245	5	3' X 2'	63	23	3185	4	9	
141+49.90	ROUTE 32	-	ROUTE 123	5	3' X 2'	36	44	5420	25	9	15°18'48"
ROCK LINING SUBTOTAL CARRIED FROM CULVERT, ELIPTICAL PIPES AND PRECAST BOX										220	
CL. 4 EXC. SUBTOTAL CARRIED FROM PRECAST BOX CULVERTS									369		
					TOTAL		165	19484	164	84	
					USE		165	19480	533	304	

[1] REVISED

SUMMARY OF QUANTITIES
SHEET 4 OF 13

STATE OF MISSOURI
SEAN U. MATLOCK
NUMBER E-27133
PROFESSIONAL ENGINEER

DATE PREPARED 11/16/2026
ROUTE 32 | STATE MO
DISTRICT SW | SHEET NO. 3
COUNTY CEDAR/POLK
JOB NO. JSR0059
CONTRACT ID. -
PROJECT NO. -
BRIDGE NO.

DESCRIPTION | DATE

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

2215 Fairlawn Dr
Carthage, MO 64836
417.358.9551
COA# 00062
weareown.com
Engineering beyond.

Estimated Quantities

Item		Substr.	Superstr.	Total
Removal of Bridges (H0021)	lump sum			1
Bridge Approcah Slab (Minor)	sq. yard		142	142
Galvanized Structural Steel Piles (12 in.)	linear foot	170		170
Pre-Bore For Piling	linear foot	150		150
Pile Point Reinforcement	each	10		10
Class B Concrete (Substructure)	cu. yard	34.6		34.6
Slab on Concrete I-Girder	sq. yard		303	303
Type D Barrier	linear foot		200	200
Type 4 (45 in.), Prestressed Concrete I-Girder	linear foot		309	309
Steel Intermediate Diaphragm for P/S Concrete Girders	each		3	3
Vertical Drain at End Bents	each		2	2
Laminated Neoprene Bearing Pad (Tapered)	each		8	8

1

All concrete above the construction joint in the end bents is included in the Estimated Quantities for Slab on Concrete I-Girder.

All reinforcement in the end bents is included in the Estimated Quantities for Slab on Concrete I-Girder.

Foundation Data

Type	Design Data		Bent Number 1	Bent Number 2
Load Bearing Pile	Pile Type and Size		HP 12x53	HP 12x53
	Number	ea	5	5
	Approximate Length Per Each	ft	17'	17'
	Pile Point Reinforcement	ea	ALL	ALL
	Min. Galvanized Penetration (Elev.)	ft	Full Length	Full Length
	Pile Driving Verification Method		DF	DF
	Resistance Factor		0.4	0.4
	Minimum Nominal Axial Compressive Resistance	kip	574	574

DF = FHWA-modified Gates Dynamic Pile Formula

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

All piles shall be galvanized down to the minimum galvanized penetration (elevation).

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

Prebore for piles at Bents No. 1 and 2 to elevations 954.99 and 953.83, respectively.

HP piles are anticipated to be driven to refusal on rock. Review all borings for depth of rock and restrict driving as appropriate to comply with hard rock driving criteria in accordance with Sec 702. When pile refusal on rock occurs, as approved by the engineer, the minimum nominal axial compressive resistance is verified and no additional pile driving verification method is required.

General Notes:

Design Specifications:
2020 AASHTO LRFD Bridge Design Specifications (9th ed.)
Seismic Performance Category = A (Nonseismic)

Design Loading:
Vehicular = HL-93
Future Wearing Surface = 35 lb/sf
Earth = 120 lb/cf
Equivalent Fluid Pressure = 45 lb/cf (Min.)
Superstructures: Non-Composite for dead load.
Composite for live load.

Design Unit Stresses:

Class B Concrete (Substructure)	f'c = 3,000 psi
Class B-2 Concrete (Superstructure, except Prestressed Girders and Barrier)	f'c = 4,000 psi
Class B-1 Concrete (Barrier)	f'c = 4,000 psi
Reinforcing Steel (ASTM A615 Grade 60)	f'c = 60,000 psi
Structural Steel HP Pile (ASTM A709 Grade 50)	f'c = 50,000 psi

For precast prestressed panels stresses, see Sheet No. 12.
For prestressed girder stresses, see Sheet No. 10.

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

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

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

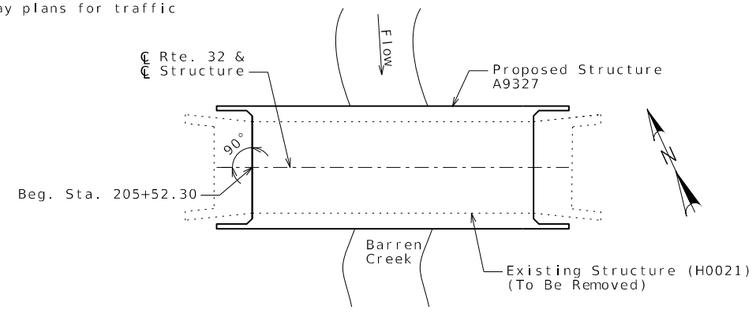
Traffic Handling:
Structure to be closed during construction. Traffic to be maintained on temporary bypass during construction. See roadway plans for traffic control.

Miscellaneous:
MoDOT Construction personnel will indicate the type of joint filler option used under the precast panels for this structure:

☐ Constant Joint Filler
☐ Variable Joint Filler

Hydrologic Data

Drainage Area = 6.3 mi²
Design Flood Frequency = 50 years
Design Flood Discharge = 3,370 cfs
Design Flood (D.F.) Elevation = 970.3
Base Flood (100-year)
Base Flood Elevation = 971.0
Base Flood Discharge = 3,960 cfs
Estimated Backwater = 2.0 ft
Average Velocity thru Opening = 12.8 ft/s
Freeboard (50-year)
Freeboard = 2.0 ft
Roadway Overtopping
Overtopping Flood Discharge = 9,820 cfs
Overtopping Flood Frequency = >500 years
Overtopping Flood Elevation = 972.5



Estimated Quantities for Slab on Concrete I-Girder

Item		Total
Class B-2 Concrete	cu. yard	112
Reinforcing Steel (Epoxy Coated)	pound	22,250

The table of Estimated Quantities for Slab on Concrete I-Girder represents the quantities used by the State in preparing the cost estimate for concrete slabs. The area of the concrete slab will be measured to the nearest square yard longitudinally from end of slab to end of slab and transversely from out to out of bridge slab (or with the horizontal dimensions as shown on the plan of slab). Payment for prestressed panels, conventional forms, all concrete and epoxy coated reinforcing steel will be considered completely covered by the contract unit price for the slab. Variations may be encountered in the estimated quantities but the variations cannot be used for an adjustment in the contract unit price.

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.

The prestressed panel quantities are not included in the table of Estimated Quantities for Slab on Concrete I-Girder.

Class B-2 Concrete quantity is based on minimum top flange thickness and minimum joint material thickness.

Detailed: March 2024
Checked: August 2026

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

1 REVISED

STATE OF MISSOURI
SEAN L. MATLOCK
NUMBER E-27133
PROFESSIONAL ENGINEER

DATE PREPARED
11/16/2026

ROUTE	STATE
32	MO
DISTRICT	SHEET NO.
BR	1

COUNTY
POLK

JOB NO.
JSR0059

CONTRACT ID.
-

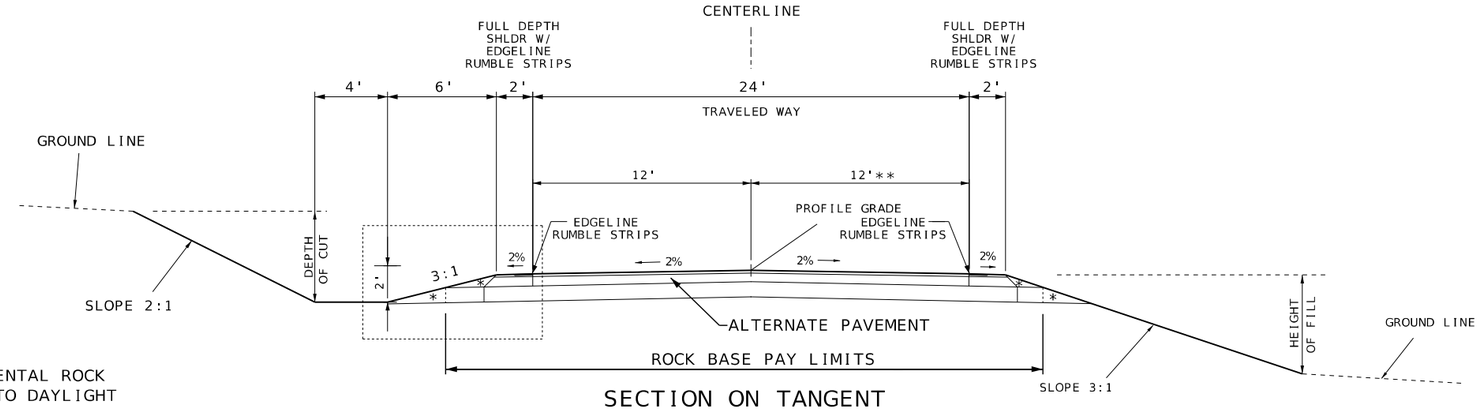
PROJECT NO.
-

BRIDGE NO.
A9327

DESCRIPTION | DATE

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

2215 Fairlawn Dr
Carthage, MO 64836
417.358.9551
COA# 00062
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* INCIDENTAL ROCK
BASE TO DAYLIGHT

SECTION ON TANGENT
TYPICAL SECTION RTE. 160
STA. 422+00.00 TO STA. 443+50.00

** FOR CURVE WIDENING
SEE STD. PLAN 203.22A

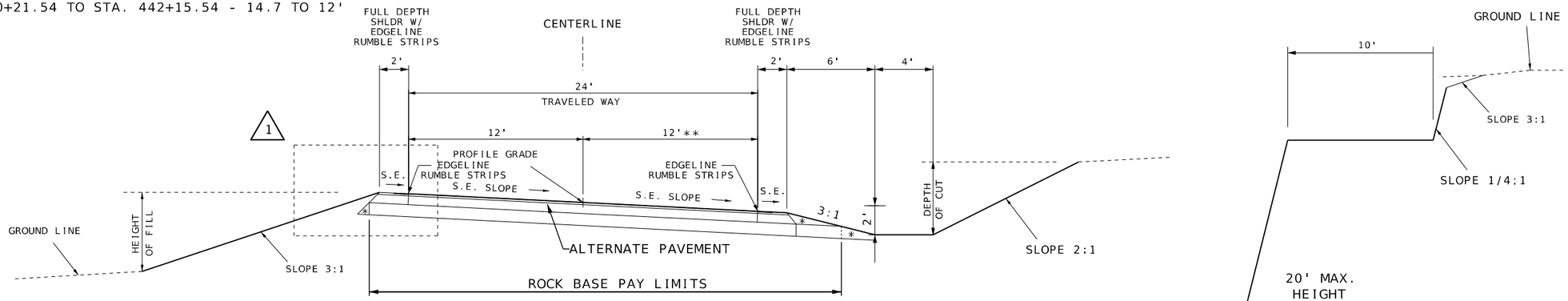
STA. 427+71.67 TO STA. 429+65.67 - 12' TO 14.7'
STA. 429+65.67 TO STA. 440+21.54 - 14.7'
STA. 440+21.54 TO STA. 442+15.54 - 14.7 TO 12'

CROSS SLOPE

(1) 2.0%

(2) S.E. SLOPE IF GREATER THAN 4.0%.

ROUTE 160 SUPERELEVATION TRANSITION			
STATION		℄	
422+00.00		← -2.5% , -0.3% →	MATCH EXIST.
422+50.00		← -2.0% , -2.0% →	NORMAL CROWN
427+20.58	A-A	← -2.0% , -2.0% →	NORMAL CROWN
427+71.64	B-B	0.0% , -2.0% →	LEVEL CROWN
428+22.70	C-C	2.0% → , -2.0% →	REVERSE CROWN
429+65.68	D-D	7.6% → , 7.6% →	BEGIN FULL SUPER
440+21.53	D-D	7.6% → , 7.6% →	END FULL SUPER
441+64.51	C-C	2.0% → , -2.0% →	REVERSE CROWN
442+15.57		0.0% , -1.9% →	
442+66.63		← -2.0% , -1.7% →	
443+50.00		← -2.3% , -1.5% →	MATCH EXIST.



1 ROLLED SHOULDER LT.

STA. 440+21.53 7.6% TO STA. 441+64.51 -2.0%

SECTION ON SUPERELEVATED CURVE
TYPICAL SECTION RTE. 160
STA. 422+00.00 TO STA. 443+50.00

ALTERNATE PAVEMENT			
HMA DESIGN (ALT G)	PCCP DESIGN (ALT H)	SHOULDERS	BASE TYPE
7" HMA	7" PCCP	FULL DEPTH	12" ROCK BASE
1.75" BP1 W/PG 64-22 5.25" BIT. BASE W/PG 64-22	W/15' JOINT SPACING AND 1.25" DOWELS (EXTENDED SLAB)		

NOT TO SCALE

BENCHING SECTION
TYPICAL ROCK SECTION RTE. 160 LT. & RT.
STA. 428+99.00 TO STA. 435+00.00

1 REVISED
TYPICAL SECTIONS
SHEET 1 OF 1

STATE OF MISSOURI
SEAN J. MATLOCK
NUMBER E-27133
PROFESSIONAL ENGINEER

DATE PREPARED

ROUTE	STATE
160	MO
DISTRICT	SHEET NO.
SW	2

COUNTY
DADE

JOB NO.
JSR0104

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

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

2215 Fairlawn Dr
Carthage, MO 64836
417.358.9551
COA# 00062
weareown.com
OWN
Engineering beyond.™

REMOVAL OF IMPROVEMENTS

STA.	STA.	RTE.	LOCATION	QTY	DESCRIPTION
422+00.00	426+35.78	EXIST. ROUTE 160	40' RT.	1	451' BARBED WIRE FENCE
424+11.62		EXIST. ROUTE 160	21' RT.	1	CHEVRON SIGN AND POST
424+87.10		EXIST. ROUTE 160	19' RT.	1	CHEVRON SIGN AND POST
425+29.01		EXIST. ROUTE 160	18' RT.	1	CHEVRON SIGN AND POST
425+71.16		EXIST. ROUTE 160	17' RT.	1	CHEVRON SIGN AND POST
426+11.98		EXIST. ROUTE 160	18' RT.	1	CHEVRON SIGN AND POST
426+25.39		EXIST. ROUTE 160	10' RT.	1	MAILBOX
426+44.40		EXIST. ROUTE 160	30' RT.	1	18" X 35' RCP
426+47.25	428+69.06	EXIST. ROUTE 160	40' RT.	1	243' BARBED WIRE FENCE
426+77.00		EXIST. ROUTE 160	18' RT.	1	CHEVRON SIGN AND POST
426+80.33		EXIST. ROUTE 160	21' RT.	1	LEFT ARROW SIGN AND (2) POSTS
427+08.18		EXIST. ROUTE 160	21' LT.	1	OBJECT MARKER SIGN AND POST
426+98.43		EXIST. ROUTE 160	21' RT.	1	RIGHT ARROW SIGN AND (2) POSTS
427+05.92		EXIST. ROUTE 160	C.L.	1	2'X2'X40' CONC. BOX CULVERT WITH HDWLLS
427+08.94		EXIST. ROUTE 160	18' RT.	1	CHEVRON SIGN AND POST
427+49.35		EXIST. ROUTE 160	19' RT.	1	CHEVRON SIGN AND POST
427+91.55		EXIST. ROUTE 160	20' RT.	1	CHEVRON SIGN AND POST
428+32.16		EXIST. ROUTE 160	20' RT.	1	CHEVRON SIGN AND POST
428+76.24		EXIST. ROUTE 160	21' RT.	1	CHEVRON SIGN AND POST
429+14.55		EXIST. ROUTE 160	23' RT.	1	CHEVRON SIGN AND POST
422+00.00	427+07.88	EXIST. ROUTE 160	40'-65' LT.	1	495' BARBED WIRE FENCE
430+07.79		EXIST. ROUTE 160	18' LT.	1	CHEVRON SIGN AND POST
430+61.35		EXIST. ROUTE 160	14' LT.	1	CHEVRON SIGN AND POST
430+91.15		EXIST. ROUTE 160	12' LT.	1	CHEVRON SIGN AND POST
431+20.66		EXIST. ROUTE 160	11' LT.	1	CHEVRON SIGN AND POST
431+49.47		EXIST. ROUTE 160	11' LT.	1	CHEVRON SIGN AND POST
431+78.56		EXIST. ROUTE 160	12' LT.	1	CHEVRON SIGN AND POST
432+04.59		EXIST. ROUTE 160	16' LT.	1	RIGHT ARROW SIGN AND (2) POSTS
432+09.74		EXIST. ROUTE 160	13' LT.	1	CHEVRON SIGN AND POST
432+25.00		EXIST. ROUTE 160	16' LT.	1	LEFT ARROW SIGN AND (2) POSTS
433+00.00		EXIST. ROUTE 160	16' LT.	1	CHEVRON SIGN AND POST
433+29.54		EXIST. ROUTE 160	17' LT.	1	CHEVRON SIGN AND POST
433+59.13		EXIST. ROUTE 160	18' LT.	1	CHEVRON SIGN AND POST
433+88.26		EXIST. ROUTE 160	18' LT.	1	CHEVRON SIGN AND POST
434+17.58		EXIST. ROUTE 160	19' LT.	1	CHEVRON SIGN AND POST
434+48.24		EXIST. ROUTE 160	19' LT.	1	CHEVRON SIGN AND POST
434+76.50		EXIST. ROUTE 160	18' LT.	1	CHEVRON SIGN AND POST
435+05.85		EXIST. ROUTE 160	18' LT.	1	CHEVRON SIGN AND POST
435+16.47		EXIST. ROUTE 160	17' LT.	1	LEFT ARROW SIGN AND (2) POSTS
435+34.49		EXIST. ROUTE 160	19' LT.	1	CHEVRON SIGN AND POST
435+61.10		EXIST. ROUTE 160	22' LT.	1	CHEVRON SIGN AND POST
435+85.91		EXIST. ROUTE 160	24' LT.	1	CHEVRON SIGN AND POST
436+14.80		EXIST. ROUTE 160	24' LT.	1	CHEVRON SIGN AND POST
436+37.37		EXIST. ROUTE 160	23' LT.	1	CHEVRON SIGN AND POST
438+47.53		EXIST. ROUTE 160	24' LT.	1	WARNING CURVE SIGN AND POST
438+74.06	445+27.34	EXIST. ROUTE 160	40' RT.	1	681' BARBED WIRE FENCE
440+51.20	445+27.34	EXIST. ROUTE 160	40' LT.	1	476' BARBED WIRE FENCE
441+71.92	441+88.16	EXIST. ROUTE 160	42' LT.	1	30' PIPE FENCE AND GATE
441+82.95		EXIST. ROUTE 160	24' LT.	1	18" X 19' CMP (ENTRANCE PIPE)
443+55.80		EXIST. ROUTE 160	17' RT.	1	POST FOR JUNCTION 160 SIGN
446+09.83		EXIST. ROUTE 160	23' RT.	1	(2) POSTS FOR DISTANCE SIGN
446+53.89		EXIST. ROUTE 160	22' LT.	1	POST FOR SPEED LIMIT SIGN
			LUMP SUM	1	

CLEARING & GRUBBING

4 ACRES

COMPACTING IN CUT

STA.	STA.	LOCATION	(STA.)	REMARKS
422+00.00	424+00.00	ROUTE 160	2.0	
428+75.00	435+75.00	ROUTE 160	7.0	
440+75.00	443+50.00	ROUTE 160	2.8	
		TOTAL	11.8	

LINEAR GRADING CLASS 1

STA.	STA.	LOCATION	(STA.)	REMARKS
427+92.73	438+84.40	EXIST. ROUTE 160	10.9	OBLITERATE EXIST. ROUTE 160
426+51.35	426+74.01	ROUTE 160 RT.	0.6	OBLITERATE ENTRANCE
		TOTAL	11.5	

EARTHWORK

STA.	STA.	ROUTE	UNCLASSIFIED EXCAVATION (C.Y.)	COMPACTING EMBANKMENT (C.Y.)	REMARKS
422+00.00	428+50.00	RTE 160, W. CONNECTION	1,334.3	7,817.4	OBTAIN 7354 CY FROM 160 RELOC.
428+50.00	436+50.00	RTE 160, RELOCATION	22,411.3	2,134.9	USE 20,038 CY ON CONNECTIONS & ENTRANCES
436+50.00	443+50.00	RTE 160, E. CONNECTION	525.3	6,734.3	OBTAIN 6959 CY FROM 160 RELOC.
426+00.00	LT.	DRIVEWAY	1.6	2,167.3	OBTAIN 2407 CY FROM 160 RELOC.
426+00.00	RT.	DRIVEWAY	68.0	426.5	OBTAIN 406 CY FROM 160 RELOC.
443+00.00	LT.	DRIVEWAY	5.4	72.1	OBTAIN 75 CY FROM 160 RELOC.
422+70.00	RT.	DRIVEWAY	12.5	13.6	OBTAIN 3 CY FROM 160 RELOC.
422+00.000	443+50.00	ROCK FOR 12" ROCK BASE			OBTAIN APPROX. 2,834 CY ROCK FROM 160 RELOC.
		TOTALS	24,358	19,366	

1

CONTRACTOR FURNISHED SURVEYING AND STAKING

1 LUMP SUM

MOBILIZATION

1 LUMP SUM

1 REVISED

SUMMARY OF QUANTITIES
SHEET 1 OF 4

STATE OF MISSOURI
SEAN U. MATLOCK
NUMBER E-27133
PROFESSIONAL ENGINEER

DATE PREPARED
11/12/2026

ROUTE 160 | STATE MO
DISTRICT SW | SHEET NO. 3
COUNTY DADE
JOB NO. JSR0104
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

DESCRIPTION | DATE

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

2215 Fairlawn Dr
Carthage, MO 64836
417.358.9551
COA# 00062
weareown.com
OWN
Engineering beyond.

ALTERNATE PAVEMENT

STA.	STA.	RTE.	WIDTH	(ALT G) 7" HMA OR (ALT H) 7"PCCP (SY)	PLACING 12" ROCK BASE (SY)	REMARKS
						OBTAIN ROCK THROUGH BENCHED AREAS
422+00.00	423+00.00	ROUTE 160	22.46' TO 28'	280.33	324.67	INCL.'S FULL DEPTH SHLDR. LT & RT.
423+00.00	427+71.67	ROUTE 160	28'	1467.42	1673.56	INCL.'S FULL DEPTH SHLDR. LT & RT.
427+71.67	429+65.67	ROUTE 160	28' TO 30.7'	632.66	690.96	INCL.'S FULL DEPTH SHLDR. LT & RT.
429+65.67	440+21.54	ROUTE 160	30.7'	3601.69	3954.82	INCL.'S FULL DEPTH SHLDR. LT & RT.
440+21.54	442+15.54	ROUTE 160	30.7' TO 28'	632.66	691.38	INCL.'S FULL DEPTH SHLDR. LT & RT.
442+15.54	442+50.00	ROUTE 160	28'	107.21	122.06	INCL.'S FULL DEPTH SHLDR. LT & RT.
442+50.00	443+50.00	ROUTE 160	28' TO 22.83'	282.44	327.11	INCL.'S FULL DEPTH SHLDR. LT & RT.
			TOTAL	7004.41	7784.56	
			USE	7,004.4	7,785	

SHOULDER RUMBLE STRIPS

STA.	STA.	RTE.	ALT G BIT. (STA)	ALT H PCCP (STA)	REMARKS
423+00.00	424+60.00	ROUTE 160 RT.	1.60	1.60	
426+60.00	442+50.00	ROUTE 160 RT.	15.90	15.90	
423+00.00	425+40.00	ROUTE 160 LT.	2.40	2.40	
427+40.00	442+40.00	ROUTE 160 LT.	15.00	15.00	
		TOTAL	34.9	34.9	
		USE	34.9	34.9	

CULVERTS

STA.	ROUTE	SKEW	36" CLASS III RCP (LF)	36" CLASS III F.E.S. (EACH)	CL. 3 EXC. (CY)	ROCK LINING (CY)	REMARKS
427+09.71	ROUTE 160	6°28'04"R.A.	113	2	171	9	
		TOTAL	113	2	171	9	
		USE	113	2	171	9	

6" GRAVEL (A) OR CRUSHED STONE (B) (SY)
76
535
411
87
1109
1,109

ENTRANCES

STA.	ROUTE	LOCATION	WIDTH (FT.)	RADIUS (FT.)	GRADE (%)	6" GRAVEL (A) OR CRUSHED STONE (B) (SY)	18" GROUP C PIPE (LF)	24" GROUP C PIPE (LF)	19" X 30" ELLIPTICAL PIPE (LF)	18" GROUP C F.E.S. EACH	24" GROUP C F.E.S. EACH	19" X 30" TAPERED END SECTION EACH	ROCK LINING (CY)	REMARKS
422+70.00	ROUTE 160	RT.	20	10	9.1	76			34			2		
426+00.00	ROUTE 160	LT.	20	25	-9.8	535	79			2			2	
426+00.00	ROUTE 160	RT.	20	25	-4.3	411		61			2		3	
433+00.00	ROUTE 160	LT.	20	25	-10	87								
					TOTAL	1109	79	61	34	2	2	2	5	
					USE	1,109	79	61	34	2	2	2	5	

1

CLASS 1 PAVEMENT MARKING PAINT (18-MIL, TYPE P BEADS)

RTE.	STA.	STA.	LOCATION	4" SOLID WHITE (FT.)	4" SOLID YELLOW (FT.)	REMARKS
ROUTE 160	422+00.00	443+50.00	RT	2150.00		
ROUTE 160	422+00.00	443+50.00	LT	2150.00		
ROUTE 160	422+00.00	443+50.00	C.L.		4300.00	DOUBLE YELLOW
			TOTAL	4300	4300	
			USE	4,300	4,300	

1 REVISED

SUMMARY OF QUANTITIES
SHEET 2 OF 4

STATE OF MISSOURI
SEAN T. MATLOCK
NUMBER E-27133
PROFESSIONAL ENGINEER

DATE PREPARED
11/12/2026

ROUTE	STATE
160	MO
DISTRICT	SHEET NO.
SW	3

COUNTY
DADE

JOB NO.
JSR0104

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

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

2215 Fairlawn Dr
Carthage, MO 64836
417.358.9551
COA# 00062
weareown.com
Engineering beyond.™

EROSION CONTROL

STA.	STA.	RTE.	LOCATION	SILT FENCE (LF)	ROCK DITCH CHECK (LF)	SEDIMENT REMOVAL (CY)	REMARKS
423+22.00		ROUTE 160	RT.		14	1	
423+60.00		ROUTE 160	LT.		14	1	
424+00.00		ROUTE 160	RT.		14	1	
424+55.00		ROUTE 160	LT.		14	1	
425+20.00		ROUTE 160	RT.		14	1	
425+40.00		ROUTE 160	LT.		14	1	
425+44.32	426+56.38	ROUTE 160	LT.	440.22		4.4	
425+47.81	426+80.83	ROUTE 160	RT.	296.65		3.0	
426+60.00		ROUTE 160	RT.		14	1	
426+65.00		ROUTE 160	LT.		14	1	
427+25.00		ROUTE 160	LT.		14	1	
427+36.00		ROUTE 160	RT.		14	1	
427+52.00		ROUTE 160	LT.		14	1	
427+54.00		ROUTE 160	RT.		14	1	
427+73.00		ROUTE 160	RT.		14	1	
427+79.00		ROUTE 160	LT.		14	1	
427+92.00		ROUTE 160	RT.		14	1	
428+06.00		ROUTE 160	LT.		14	1	
428+10.00		ROUTE 160	RT.		14	1	
428+29.00		ROUTE 160	LT. & RT.		28	2	
428+43.00		ROUTE 160	LT.		14	1	
428+48.00		ROUTE 160	RT.		14	1	
428+57.00		ROUTE 160	LT.		14	1	
428+66.00		ROUTE 160	RT.		14	1	
428+69.00		ROUTE 160	LT.		14	1	
428+85.00		ROUTE 160	LT.		14	1	
428+98.00		ROUTE 160	LT.		14	1	
429+11.00		ROUTE 160	LT.		14	1	
429+23.00		ROUTE 160	LT.		14	1	
433+00.00		ROUTE 160	LT. & RT.		28	2	
433+90.00		ROUTE 160	LT. & RT.		28	2	
434+32.00		ROUTE 160	LT.		14	1	
434+45.00		ROUTE 160	LT.		14	1	
434+59.00		ROUTE 160	LT. & RT.		28	2	
434+73.00		ROUTE 160	LT.		14	1	
434+86.00		ROUTE 160	LT.		14	1	
435+00.00		ROUTE 160	LT.		14	1	
435+17.00		ROUTE 160	LT.		14	1	
435+18.00		ROUTE 160	RT.		14	1	
435+35.00		ROUTE 160	LT.		14	1	
435+52.00		ROUTE 160	LT.		14	1	
435+54.00		ROUTE 160	RT.		14	1	
435+65.00		ROUTE 160	RT.		14	1	
435+70.00		ROUTE 160	LT.		14	1	
435+78.00		ROUTE 160	RT.		14	1	
436+09.00		ROUTE 160	RT.		14	1	
436+57.00		ROUTE 160	RT.		14	1	
436+91.00		ROUTE 160	RT.		14	1	
437+25.00		ROUTE 160	RT.		14	1	
437+77.00		ROUTE 160	RT.		14	1	
438+65.00		ROUTE 160	RT.		14	1	
439+45.00		ROUTE 160	RT.		14	1	
440+17.00		ROUTE 160	RT.		14	1	
435+65.00	443+52.47	ROUTE 160	LT.	1004		10	
443+41.19		ROUTE 160	RT.		14	1	
			TOTAL	1,740.9	784.0	73.4	
			USE	1,741	784	73	

EROSION CONTROL BLANKET

STA.	STA.	ROUTE	TYPE 2C (SY)	TYPE 2D (SY)	REMARKS
422+00.00	443+50.00	ROUTE 160 LT.	7228.9	457.2	
422+00.00	443+50.00	ROUTE 160 RT.	3916.9	923.1	
426+00.00		ROUTE 160	602.8	0	ENTRANCE LT.
426+00.00		ROUTE 160	281.4	0	ENTRANCE RT.
443+00.00		ROUTE 160	33.7	0	ENTRANCE LT.
		TOTAL	12063.7	1380.3	
		USE	12,064	1,380	

TEMPORARY SEEDING
0.9 ACRE

SEEDING - COOL SEASON MIXTURES
3.4 ACRES

ADDITIONAL MOBILIZATION FOR SEEDING
4 EACH

MULCHING
4.3 ACRES

GUARDRAIL

STA.	STA.	RTE.	MGS GUARDRAIL (LF)	TYPE A GUARDRAIL (LF)	MGS CWET (EA.)	END TERMINAL (EA.)	REMARKS
436+49.25	443+50.75	ROUTE 160 LT.	575	28	1.00	1.00	
		TOTAL	575	28	1.0	1.0	
		USE	575	28	1.0	1.0	

1 REVISED

SUMMARY OF QUANTITIES
SHEET 3 OF 4

STATE OF MISSOURI
SEAN J. MATLOCK
NUMBER E-27133
PROFESSIONAL ENGINEER

DATE PREPARED
11/12/2026

ROUTE	STATE
160	MO
DISTRICT	SHEET NO.
SW	3

COUNTY
DADE

JOB NO.
JSR0104

CONTRACT ID.

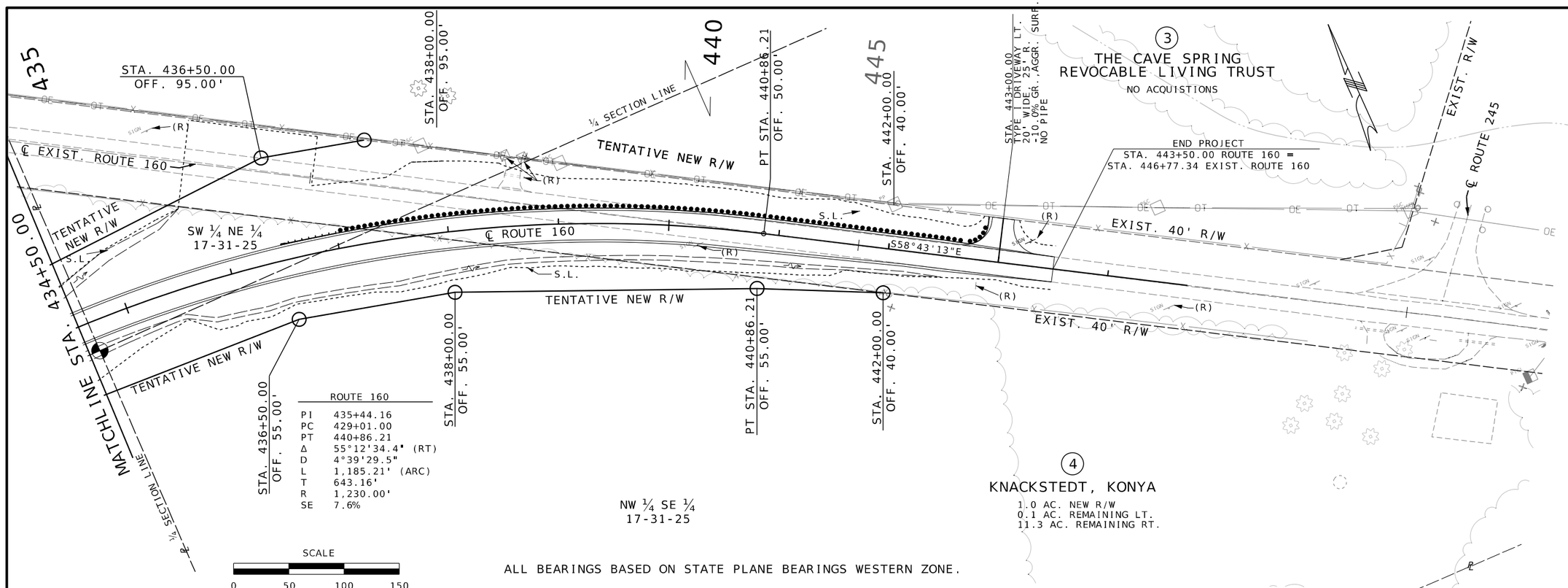
PROJECT NO.

BRIDGE NO.

DESCRIPTION | DATE

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

2215 Fairlawn Dr
Carthage, MO 64836
417.358.9551
COA# 00062
weareown.com
Engineering beyond.



ROUTE 160 PLAN/PROFILE
SHEET 2 OF 3

STATE OF MISSOURI
SEAN U. MATLOCK
NUMBER E-27133
PROFESSIONAL ENGINEER

DATE PREPARED	
6/15/2023	
ROUTE	STATE
160	MO
DISTRICT	SHEET NO.
SW	5

COUNTY
DADE

JOB NO.
JSR0104

CONTRACT ID.

PROJECT NO.

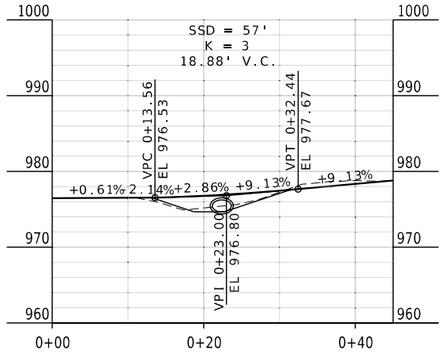
BRIDGE NO.

DESCRIPTION	DATE

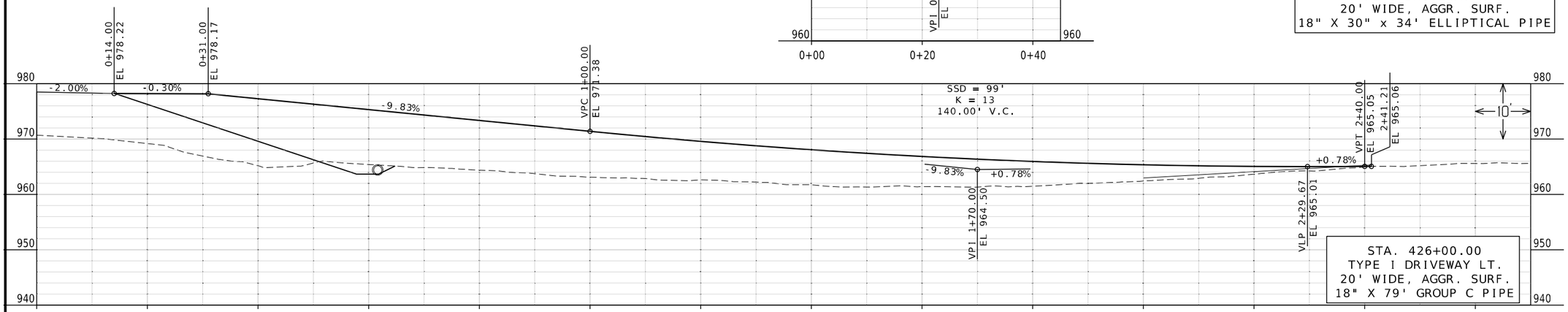
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

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

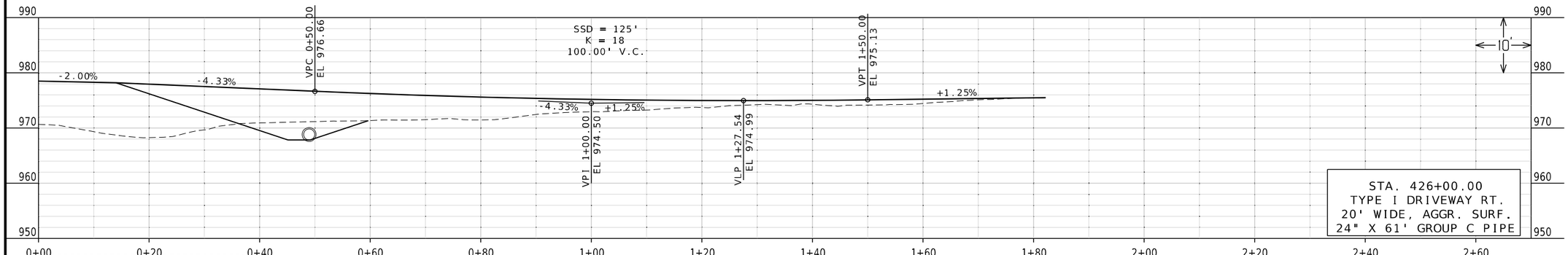
ANDERSON ENGINEERING
EMPLOYEE OWNED
ENGINEERS • SURVEYORS • LABORATORIES • DRILLING
1145 S. GLENSTONE AVENUE • SPRINGFIELD, MO 65804 • PHONE 417.268.9931
ANDERSON CORP 000062 • AE-INC.COM



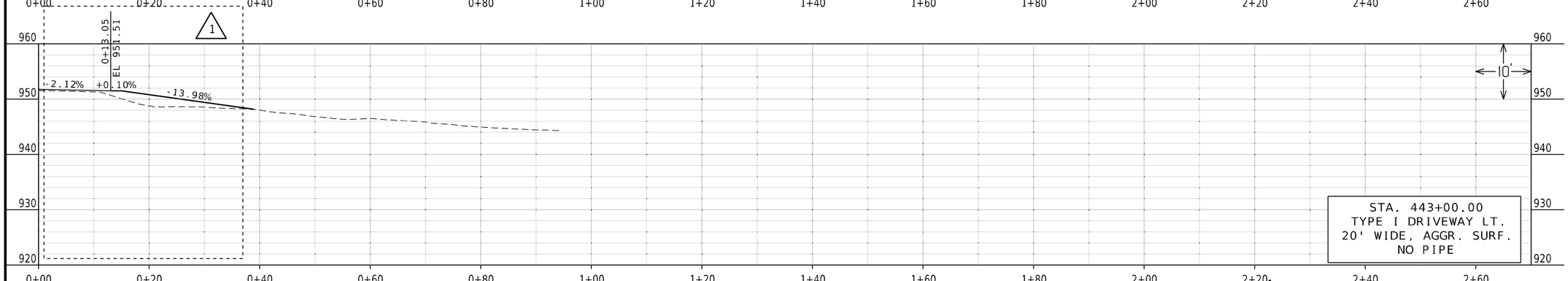
STA. 422+70.00
TYPE I DRIVEWAY RT.
20' WIDE, AGGR. SURF.
18" X 30" x 34' ELLIPTICAL PIPE



STA. 426+00.00
TYPE I DRIVEWAY LT.
20' WIDE, AGGR. SURF.
18" X 79' GROUP C PIPE



STA. 426+00.00
TYPE I DRIVEWAY RT.
20' WIDE, AGGR. SURF.
24" X 61' GROUP C PIPE



STA. 443+00.00
TYPE I DRIVEWAY LT.
20' WIDE, AGGR. SURF.
NO PIPE

1 REVISED

ROUTE 160 ENTRANCE PROFILES
SHEET 4 OF 5

STATE OF MISSOURI
SEAN J. MATLOCK
NUMBER E-27133
PROFESSIONAL ENGINEER

DATE PREPARED
11/12/2026

ROUTE	STATE
160	MO
DISTRICT	SHEET NO.
SW	7

COUNTY
DADE

JOB NO.
JSR0104

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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