

**DESIGN DESIGNATION**

A.A.D.T. - 2020 = 144  
 A.A.D.T. - 2040 = 202  
 T = 8.7%  
 V = 35 M.P.H.

FUNCTIONAL CLASSIFICATION - RURAL MAJOR COLLECTOR

**NORMAL RIGHT OF WAY  
 REQUIRED FOR THIS PROJECT**

# MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION PLANS FOR PROPOSED STATE HIGHWAY

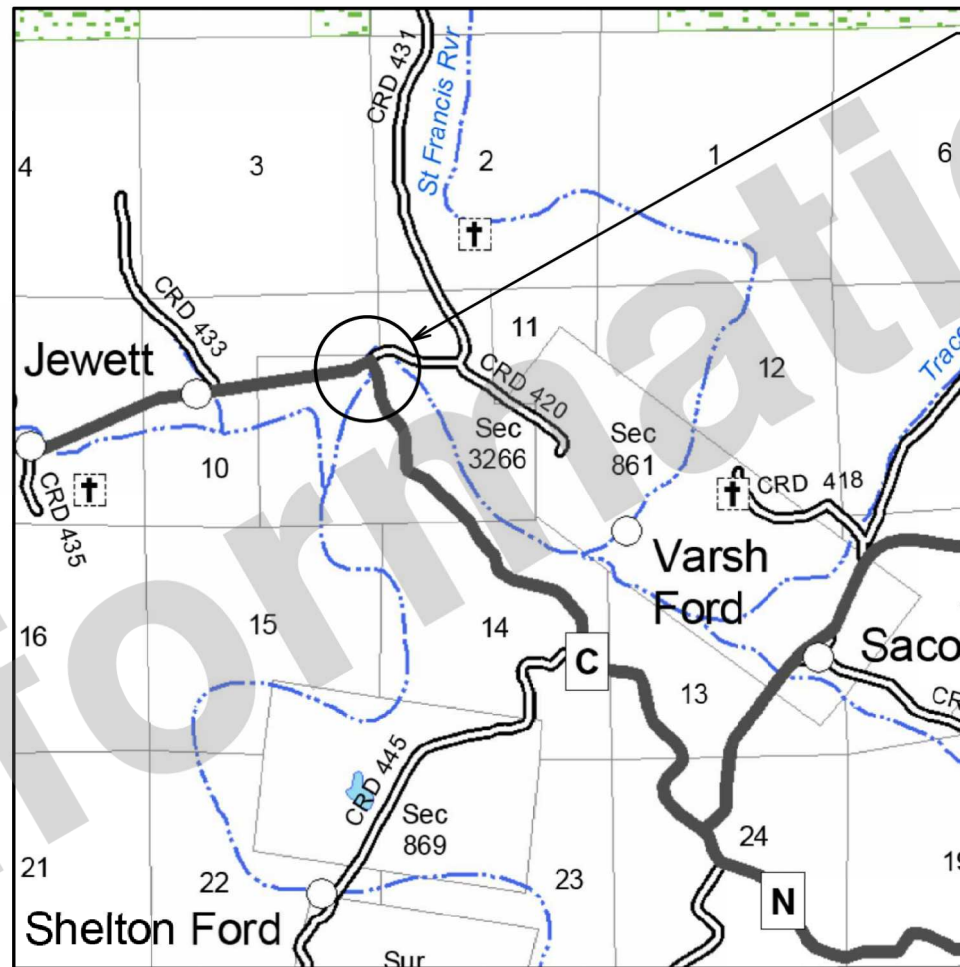
## MADISON COUNTY ROUTE C AT THE ST. FRANCIS RIVER

**INDEX OF SHEETS**

DESCRIPTION	SHEET NUMBER
TITLE SHEET -----	1
TYPICAL SECTIONS (TS) (1 SHEET)----	2
QUANTITIES (QU) (3 SHEETS)-----	3
PLAN (PP) -----	4
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TRAFFIC CONTROL SHEETS (TC)-----	12-13

DATE PREPARED 02/08/2023	
ROUTE C	STATE MO
DISTRICT SE	SHEET NO. 1
COUNTY MADISON	
JOB NO. JSE0160	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

SEC 11 TWP 31 N RGE 5 E



JOB NO. SE0160  
 SLIDE CORRECTION  
 LENGTH = 0.020 MILE  
 BEGIN STA. 224+50.00  
 END STA. 225+55.00

NOT TO SCALE

**CONVENTIONAL SYMBOLS  
 (USED IN PLANS)**

	EXISTING	NEW
BUILDINGS AND STRUCTURES	[Symbol]	[Symbol]
GUARD RAIL	[Symbol]	[Symbol]
CONCRETE RIGHT-OF-WAY MARKER	[Symbol]	[Symbol]
STEEL RIGHT-OF-WAY MARKER	[Symbol]	[Symbol]
LOCATION SURVEY MARKER	[Symbol]	[Symbol]
UTILITIES		
FIBER OPTICS	-FO-	-FO-
OVERHEAD TELEPHONE	-T-	-T-
UNDERGROUND TELEPHONE	-T-	-T-
OVERHEAD POWER	-P-	-P-
UNDERGROUND POWER	-P-	-P-
GAS	-G-	-G-
WATER	-W-	-W-
MANHOLE	[Symbol]	[Symbol]
FIRE HYDRANT	[Symbol]	[Symbol]
WATER VALVE	[Symbol]	[Symbol]
WATER METER	[Symbol]	[Symbol]
DROP INLET	[Symbol]	[Symbol]
DITCH BLOCK	[Symbol]	[Symbol]
GROUND MOUNTED SIGN	[Symbol]	[Symbol]
LIGHT POLE	[Symbol]	[Symbol]
H-FRAME POWER POLE	[Symbol]	[Symbol]
TELEPHONE PEDESTAL	[Symbol]	[Symbol]
FENCE		
CHAIN LINK	[Symbol]	[Symbol]
WOVEN WIRE	[Symbol]	[Symbol]
GATE POST	[Symbol]	[Symbol]
BENCHMARK	[Symbol]	[Symbol]
TEMPORARY CONSTRUCTION EASEMENT (T.C.E)	[Symbol]	[Symbol]
EXISTING R/W	[Symbol]	[Symbol]
PROPOSED ROW	[Symbol]	[Symbol]
PERMANENT DRAINAGE EASEMENT (P.D.E)	[Symbol]	[Symbol]

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 COMMISSION AT THIS TIME. THIS INFORMATION IS PROVIDED BY THE COMMISSION "AS-IS" AND THE COMMISSION 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 COMMISSION 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.

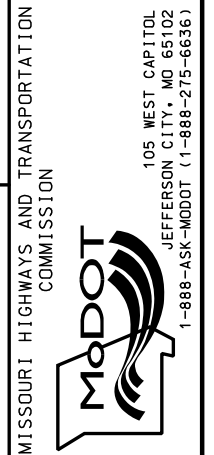
**DISCLAIMER**  
 THE PROFESSIONAL WHOSE SIGNATURE AND PERSONAL SEAL APPEAR HEREON ASSUMES RESPONSIBILITY ONLY FOR WHAT APPEARS ON THIS PAGE, AND DISCLAIMS (PURSUANT TO SECTION 327.411 RSMO) SPECIFICATION, ESTIMATES, REPORTS, OR OTHER DOCUMENTS OR INSTRUMENTS NOT SEALED BY THE UNDERSIGNED PROFESSIONAL RELATING TO OR INTENDED TO BE USED FOR ANY PART OR PARTS OF THE PROJECT TO WHICH THIS PAGE REFERS.

**LENGTH OF PROJECT**

BEGINNING OF PROJECT	224+50.00
END OF PROJECT	225+55.00
APPARENT LENGTH	105.0 FEET
EQUATIONS AND EXCEPTIONS:	NONE

TOTAL CORRECTIONS	0.00 FEET
NET LENGTH OF PROJECT	105.0 FEET
STATE LENGTH	0.020 MILES

FOR INFORMATION ONLY  
 ESTIMATED DISTURBED ACRES 0.5 ACRES



DESCRIPTION

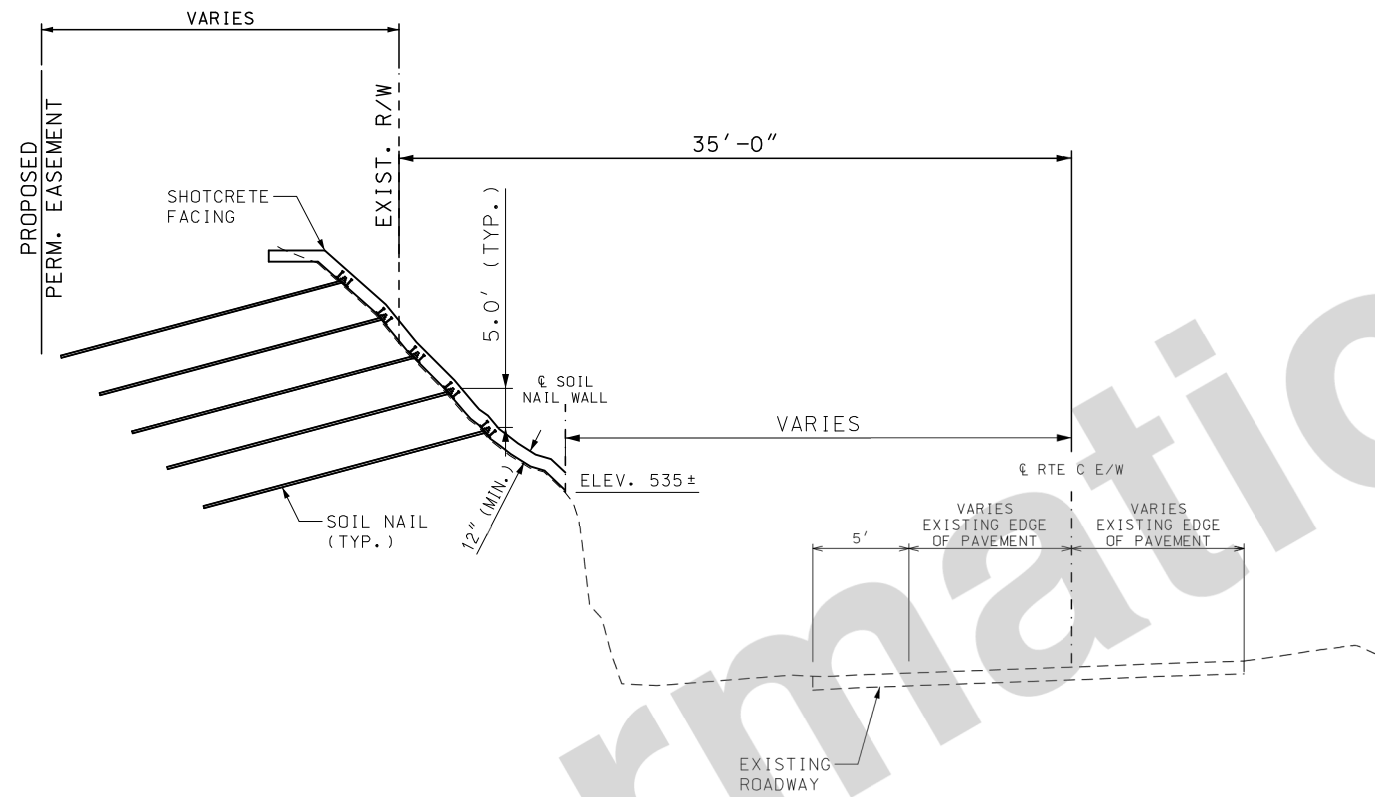
DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

HNTB

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

NOTES:  
 LENGTH AND QUANTITY OF SOIL NAILS VARY  
 THROUGHOUT THE LENGTH OF THE SOIL NAIL WALL.



**SOIL NAIL TYPICAL SECTION**

STA. 100+00.00 TO STA. 101+06.25 @ SOIL NAIL WALL  
 STA. 224+55.00 TO STA. 225+50.13 @ ROUTE C E/W

NOT TO SCALE


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RTE C  
 TYPICAL SECTION  
 SHEET 1 OF 1

DATE PREPARED 02/08/2023	
ROUTE C	STATE MO
DISTRICT SE	SHEET NO. 2
COUNTY MADISON	
JOB NO. JSE0160	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DATE	DESCRIPTION

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION



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

**HNTB**  
 715 KIRK DRIVE  
 KANSAS CITY, MO 64105-1310  
 TELEPHONE (816) 472-1201  
 CERTIFICATE OF AUTHORITY  
 NO. 001270

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





Table with columns: SIGN, SIZE, AREA, QTY, TOTAL AREA, QTY RELOC, TOTAL RELOC, SIGN NUM., DESCRIPTION. Includes sections for WARNING SIGNS and REGULATORY SIGNS.

Table with columns: SIGN, SIZE, AREA, QTY, TOTAL, QTY RELOC, TOTAL RELOC, SIGN NUM., DESCRIPTION. Includes sections for GUIDE SIGNS, REGULATORY SIGNS, and MISCELLANEOUS SIGNS.

Table with columns: ITEM NUMBER, TOTAL QTY, DESCRIPTION. Lists various traffic signs and their quantities.

Summary table for relocated signs with columns: SIGN, SIZE, AREA, QTY, TOTAL AREA, QTY RELOC, TOTAL RELOC, SIGN NUM., DESCRIPTION.

DATE PREPARED: 02/08/2023. ROUTE: C, STATE: MO, DISTRICT: SE, SHEET NO.: 3. COUNTY: MADISON, JOB NO.: JSE0160, CONTRACT ID.

Table with columns: DATE, DESCRIPTION. Lists project dates and descriptions.

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION logo and contact information: 105 WEST CAPITOL JEFFERSON CITY, MO 65102. 1-888-ASK-MODOT (1-888-275-6636).

SUMMARY OF QUANTITIES SHEET 3 OF 3

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

NOTES:

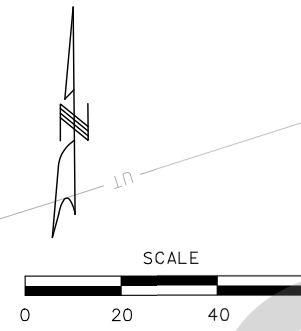
1. ANY WORK INDICATED ON THE PLANS THAT EXTENDS BEYOND THE PROJECT LIMITS IS CONSIDERED INCIDENTAL TO AND A PART OF THE CONSTRUCTION OF THIS PROJECT.
2. STATIONING IS RELATIVE TO ROUTE C E/W UNLESS OTHERWISE NOTED.
3. SEE SPECIAL SHEET 6 FOR GUARDRAIL DETAILS.
4. FIBER REINFORCED MATRIX (FRM), SEEDING, AND MULCHING TO BE PLACED EAST OF THE ROUTE C BRIDGE NEAR COUNTY RD. 431. FINAL LOCATION TO BE DETERMINED BY THE ENGINEER.

CURVE 3 ROUTE C E/W	
P.C.	226+70.23
P.T.	227+95.80
P.I.	227+33.04
Δ	3°46'00" (RT)
D	2°59'58.77"
T	62.81'
L	125.57'
R	1910.08'
SE	N/A
DS	N/A

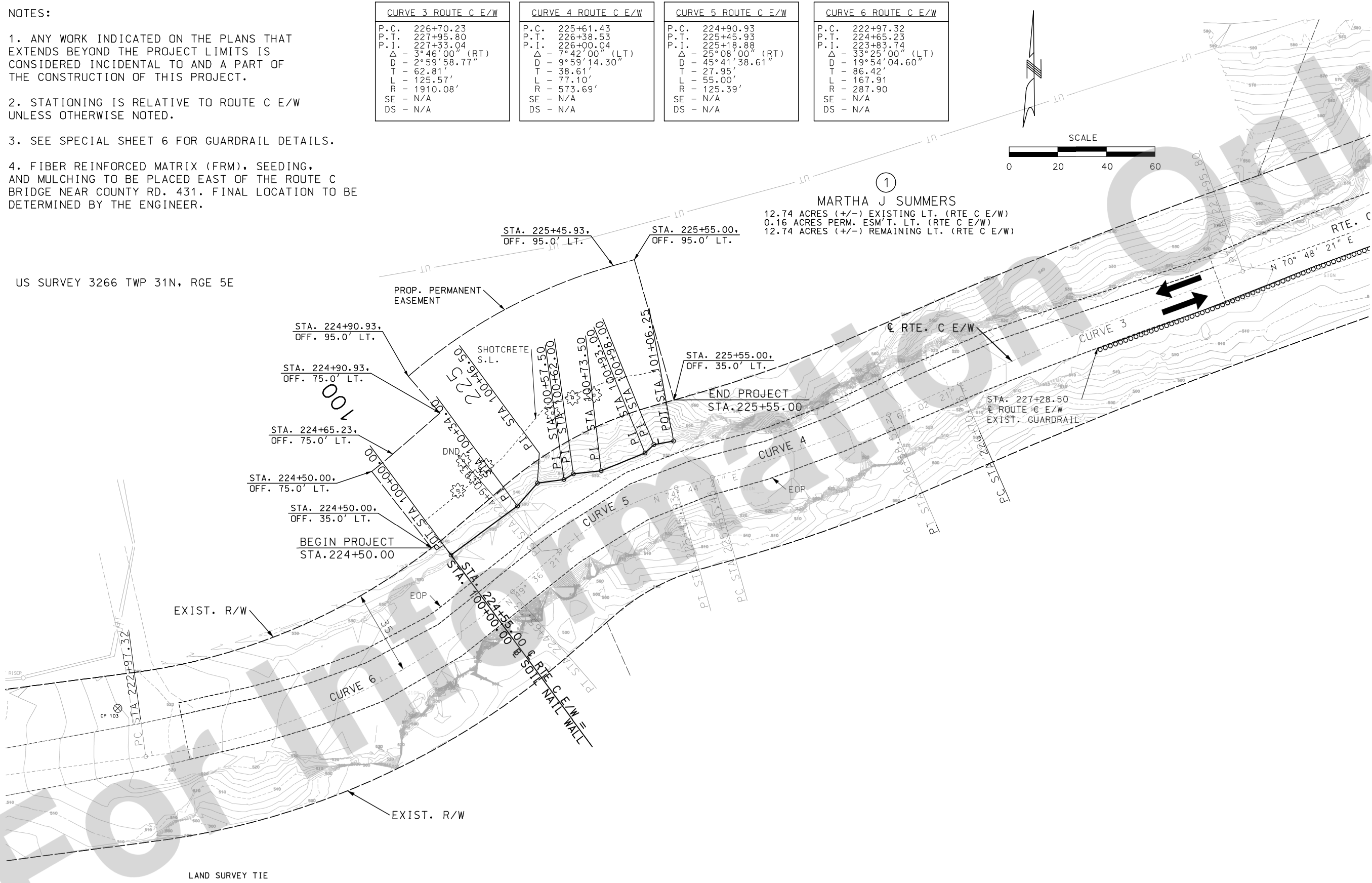
CURVE 4 ROUTE C E/W	
P.C.	225+61.43
P.T.	226+38.53
P.I.	226+00.04
Δ	7°42'00" (LT)
D	9°59'14.30"
T	38.61'
L	77.10'
R	573.69'
SE	N/A
DS	N/A

CURVE 5 ROUTE C E/W	
P.C.	224+90.93
P.T.	225+45.93
P.I.	225+18.88
Δ	25°08'00" (RT)
D	45°41'38.61"
T	27.95'
L	55.00'
R	125.39'
SE	N/A
DS	N/A

CURVE 6 ROUTE C E/W	
P.C.	222+97.32
P.T.	224+65.23
P.I.	223+83.74
Δ	33°25'00" (LT)
D	19°54'04.60"
T	86.42'
L	167.91'
R	287.90'
SE	N/A
DS	N/A </tr



US SURVEY 3266 TWP 31N, RGE 5E



MARTHA J SUMMERS  
 12.74 ACRES (+/-) EXISTING LT. (RTE C E/W)  
 0.16 ACRES PERM. ESM'T. LT. (RTE C E/W)  
 12.74 ACRES (+/-) REMAINING LT. (RTE C E/W)

LAND SURVEY TIE  
 THE EXISTING & RTE. C E/W STATION OF 225+50.00 BEARS N 60°20'03"E 3617.5285 FEET TO THE QUARTER CORNER OF SECTIONS 2 AND 11, AND THE N.E CORNER U.S. SURVEY 3266, T31N, R5E CORNER MARKED BY MLS ALUMINUM MONUMENT AS DESCRIBED BY O. DAN LASHLEY, MO RLS 1538 IN MLS DOCUMENT 600-36150

RTE C  
 PLAN SHEET  
 SHEET 1 OF 1

DATE PREPARED		02/08/2023	
ROUTE	C	STATE	MO
DISTRICT	SE	SHEET NO.	4
COUNTY			
MADISON			
JOB NO.			
JSE0160			
CONTRACT ID.			
PROJECT NO.			
BRIDGE NO.			

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL  
 JEFFERSON CITY, MO 65102  
 1-888-ASK-MODOT (1-888-278-6636)

**HNTB**

715 KIRK DRIVE  
 KANSAS CITY, MO 64105-1310  
 TELEPHONE (816) 472-1201  
 CERTIFICATE OF AUTHORITY NO. 001270

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



**GENERAL NOTES**

DESIGN SPECIFICATIONS:  
2020 AASHTO LRFD (9TH ED.) AND 2015 FHWA GEOTECHNICAL ENGINEERING CIRCULAR (GEC) NO. 7  
SOIL NAIL WALLS

DESIGN UNIT STRESSES:  
SHOTCRETE  $f'c = 4,000 \text{ psi}$   
REINFORCING STEEL (GRADE 60)  $f_y = 60,000 \text{ psi}$   
NAIL TENDON BARS (GRADE 75)  $f_y = 75,000 \text{ psi}$   
WELDED WIRE FABRIC (ASTM A884)  $f_y = 60,000 \text{ psi}$   
BEARING PLATE  $f_y = 50,000 \text{ psi}$   
HEADED STUDS  $f_y = 65,000 \text{ psi}$

ALL PERMANENT REINFORCING STEEL SHALL BE EPOXY COATED. PERMANENT WELDED WIRE FABRIC SHALL BE EITHER EPOXY COATED OR GALVANIZED.

ALL NAIL HEAD ELEMENTS SHALL BE EITHER EPOXY COATED OR GALVANIZED.

MINIMUM SHOTCRETE COVER OVER STEEL ELEMENTS SHALL BE 2 INCHES FOR THE OUTSIDE FACE AND 3 INCHES ON THE SOIL SIDE, UNLESS OTHERWISE SHOWN.

ROCK EXCAVATION FOR SHOTCRETE WALL CONSTRUCTION IS INCLUDED IN SCALING. SCALING OF THE EXISTING ROCK FACE/SOIL SLOPE FOR SHOTCRETE WALL CONSTRUCTION BEYOND THE WALL EXTENTS WILL BE CONSIDERED COMPLETELY COVERED BY THE CONTRACT LUMP SUM FOR THE SOIL NAIL WALL SYSTEM.

COMPLETE ROCK EXCAVATION AND SCALING ACTIVITIES PRIOR TO INSTALLING THE REINFORCEMENT AND GEOCOMPOSITE DRAINAGE STRIPS.

THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE TO COORDINATE CONSTRUCTION OF THE WALL WITH ROADWAY CONSTRUCTION AND ENSURE THAT THE ROADWAY CONSTRUCTION, RESULTING OR EXISTING OBSTRUCTIONS, SHALL NOT IMPACT THE CONSTRUCTION OR PERFORMANCE OF THE WALL. SOIL/ROCK SHALL BE PLACED TO AVOID DAMAGE BY GUARDRAIL POST INSTALLATION. (SEE ROADWAY PLANS.)

SEE JOB SPECIAL PROVISIONS FOR ADDITIONAL REQUIREMENTS.

THE COMMISSION 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 THOSE AVAILABLE FROM THE DISTRICT, OR ANY OTHER DOCUMENTATION NOT EXPRESSLY WARRANTED, WHICH THE CONTRACTOR MAY OBTAIN FROM THE COMMISSION.

PROOF AND VERIFICATION NAIL LOCATIONS AND TESTING REQUIREMENTS SHALL BE DEVELOPED BY THE CONTRACTOR IN ACCORDANCE WITH 2015 FHWA GEOTECHNICAL ENGINEERING CIRCULAR (GEC) NO. 7 SOIL NAIL WALLS AND SUBMITTED TO MODOOT FOR APPROVAL PRIOR TO WORK.

ESTIMATED QUANTITIES FOR WALL *		
ITEM	UNIT	TOTAL
SCALING (MACHINE) **	LUMP SUM	1
SHOTCRETE	SQ. FOOT	3,907
SOIL NAIL TENDON BARS	EACH	111
REINFORCING STEEL (EPOXY COATED)	POUND	9,250
WALL DRAINAGE NETWORK	SQ. FOOT	363
PROOF TEST	EACH	6
VERIFICATION TEST	EACH	2

\* FOR INFORMATION ONLY  
\*\* INCLUDES THE REMOVAL OF EXISTING BOULDERS AND TREES AS NOTED ON SPECIAL SHEET 2

TABLE OF ESTIMATED QUANTITIES FOR SOIL NAILS		
ITEM	UNIT	TOTAL
SOIL NAILS (15' EMBEDMENT)	EA.	13
SOIL NAILS (20' EMBEDMENT)	EA.	13
SOIL NAILS (22.5' EMBEDMENT)	EA.	13
SOIL NAILS (25' EMBEDMENT)	EA.	13
SOIL NAILS (27.5' EMBEDMENT)	EA.	13
SOIL NAILS (30' EMBEDMENT)	EA.	2
SOIL NAILS (32.5' EMBEDMENT)	EA.	2
SOIL NAILS (35' EMBEDMENT)	EA.	13
SOIL NAILS (37.5' EMBEDMENT)	EA.	2
SOIL NAILS (42.5' EMBEDMENT)	EA.	27

NOTE: MINIMUM SOIL NAIL EMBEDMENT LENGTH. LENGTH DOES NOT INCLUDE EXTENSION REQUIRED INTO TEMPORARY AND PERMANENT FACING AND FOR BEARING PLATE AND HARDWARE ATTACHMENT.


CONSTRUCTION JOINT LOCATIONS	
100+30	
100+60	
100+90	

EXPANSION JOINT LOCATIONS	
100+20	
100+40	
100+80	
101+00	

DATE PREPARED 02/08/2023	
ROUTE C	STATE MO
DISTRICT SE	SHEET NO. 6
COUNTY MADISON	
JOB NO. JSE0160	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DATE	DESCRIPTION

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION



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

**HNTB**

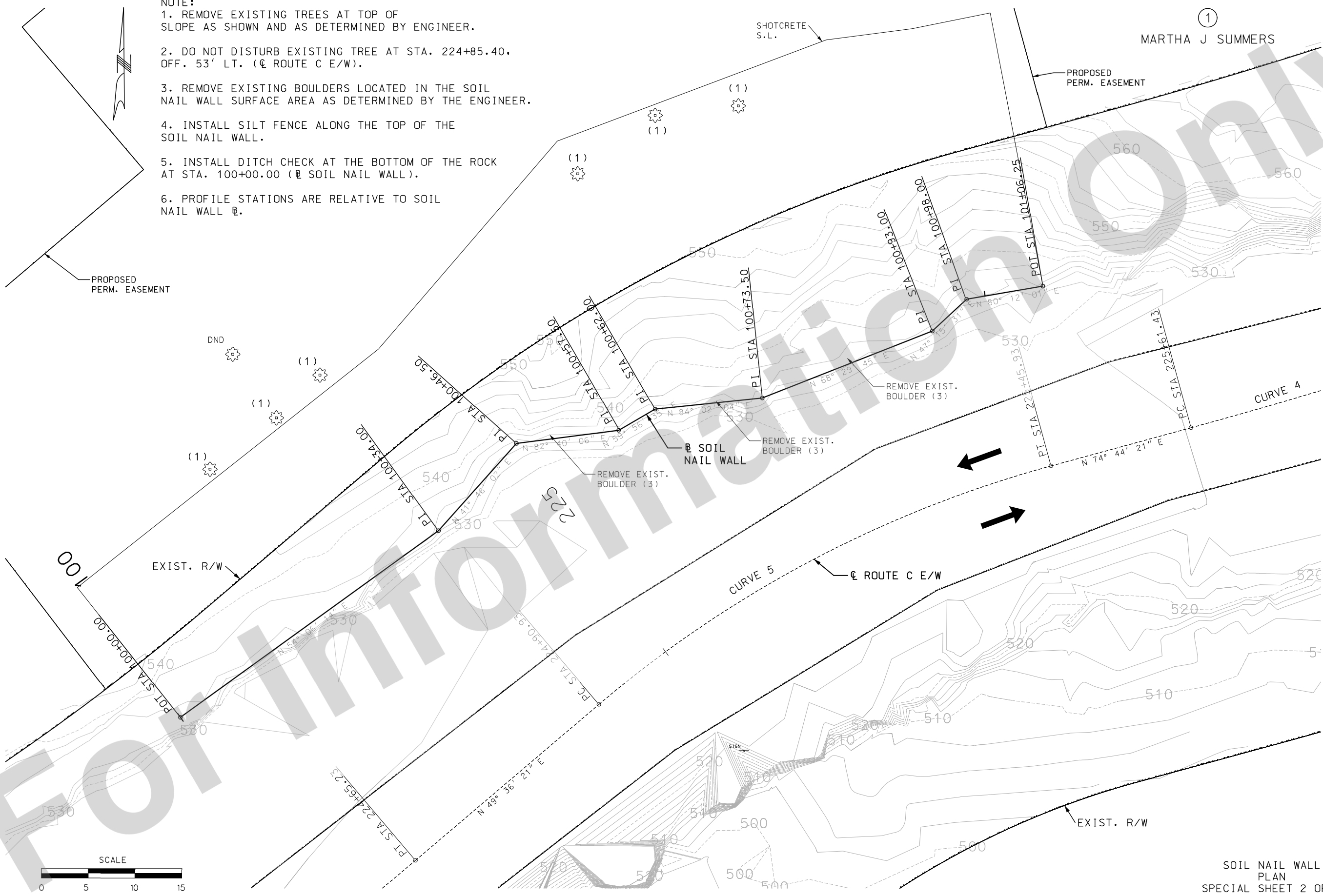
715 KIRK DRIVE  
KANSAS CITY, MO 64105-1310  
TELEPHONE (816) 472-1201  
CERTIFICATE OF AUTHORITY NO. 001270

SOIL NAIL WALL  
GENERAL NOTES  
SPECIAL SHEET 1 OF 6

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



- NOTE:
1. REMOVE EXISTING TREES AT TOP OF SLOPE AS SHOWN AND AS DETERMINED BY ENGINEER.
  2. DO NOT DISTURB EXISTING TREE AT STA. 224+85.40, OFF. 53' LT. (☉ ROUTE C E/W).
  3. REMOVE EXISTING BOULDERS LOCATED IN THE SOIL NAIL WALL SURFACE AREA AS DETERMINED BY THE ENGINEER.
  4. INSTALL SILT FENCE ALONG THE TOP OF THE SOIL NAIL WALL.
  5. INSTALL DITCH CHECK AT THE BOTTOM OF THE ROCK AT STA. 100+00.00 (☉ SOIL NAIL WALL).
  6. PROFILE STATIONS ARE RELATIVE TO SOIL NAIL WALL ☉.



①  
MARTHA J SUMMERS

DATE PREPARED 02/08/2023	
ROUTE C	STATE MO
DISTRICT SE	SHEET NO. 7
COUNTY MADISON	
JOB NO. JSE0160	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DATE	DESCRIPTION

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL  
JEFFERSON CITY, MO 65102  
1-888-ASK-MODOT (1-888-278-6636)

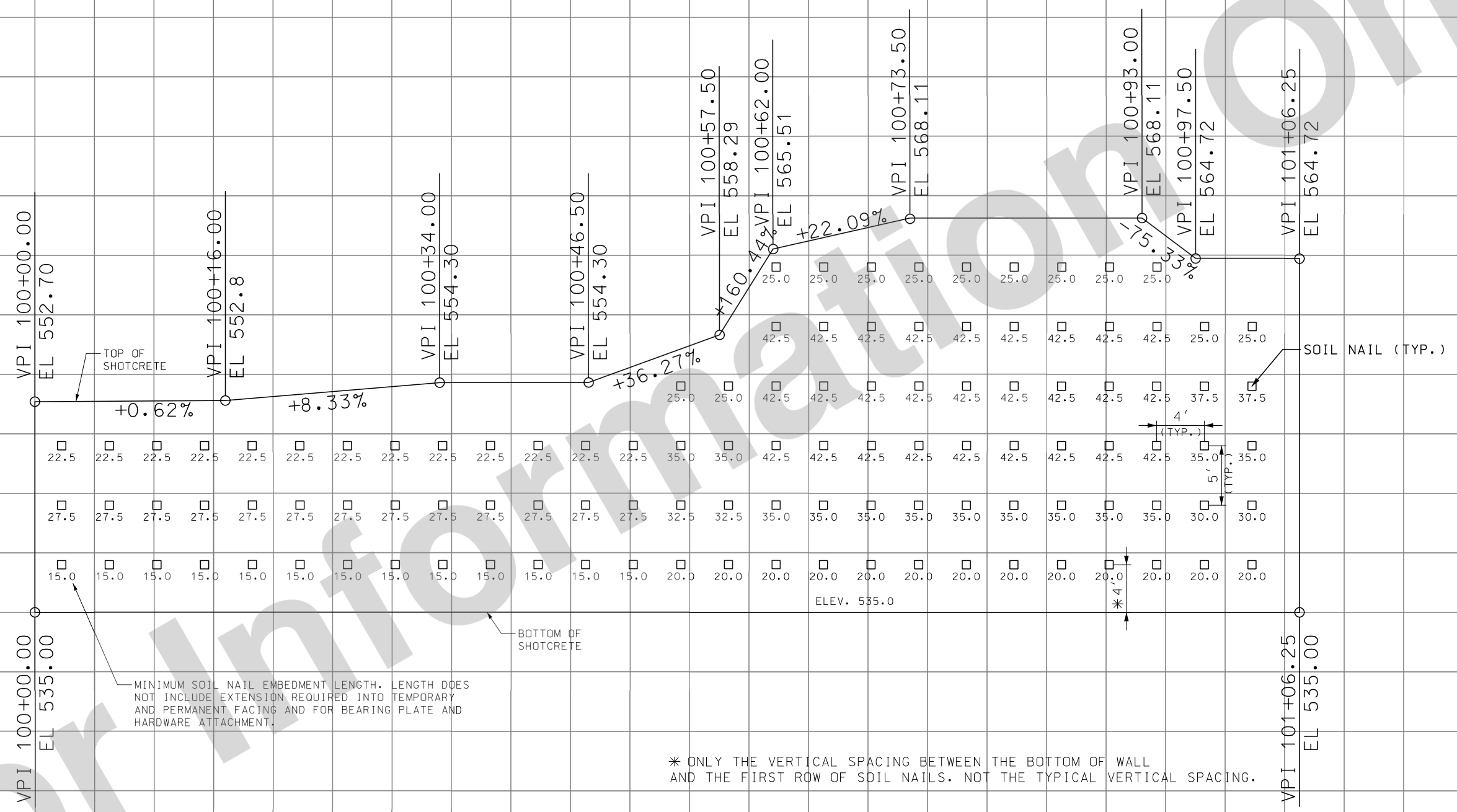
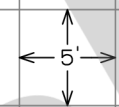
**HNTB**

715 KIRK DRIVE  
KANSAS CITY, MO 64105-1310  
TELEPHONE (816) 472-1201  
CERTIFICATE OF AUTHORITY NO. 001270

SOIL NAIL WALL  
PLAN  
SPECIAL SHEET 2 OF 6

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NOTES:  
 CONTRACTOR MUST VERIFY THE LOCATION OF EXISTING UTILITIES PRIOR TO INSTALLING NAILS.  
 PROFILES STATIONS ARE RELATIVE TO SOIL NAIL WALL  $\text{E}$ .



MINIMUM SOIL NAIL EMBEDMENT LENGTH. LENGTH DOES NOT INCLUDE EXTENSION REQUIRED INTO TEMPORARY AND PERMANENT FACING AND FOR BEARING PLATE AND HARDWARE ATTACHMENT.

\* ONLY THE VERTICAL SPACING BETWEEN THE BOTTOM OF WALL AND THE FIRST ROW OF SOIL NAILS. NOT THE TYPICAL VERTICAL SPACING.

DATE PREPARED	02/08/2023
ROUTE	C
STATE	MO
DISTRICT	SE
SHEET NO.	8
COUNTY	MADISON
JOB NO.	JSE0160
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DATE	DESCRIPTION

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

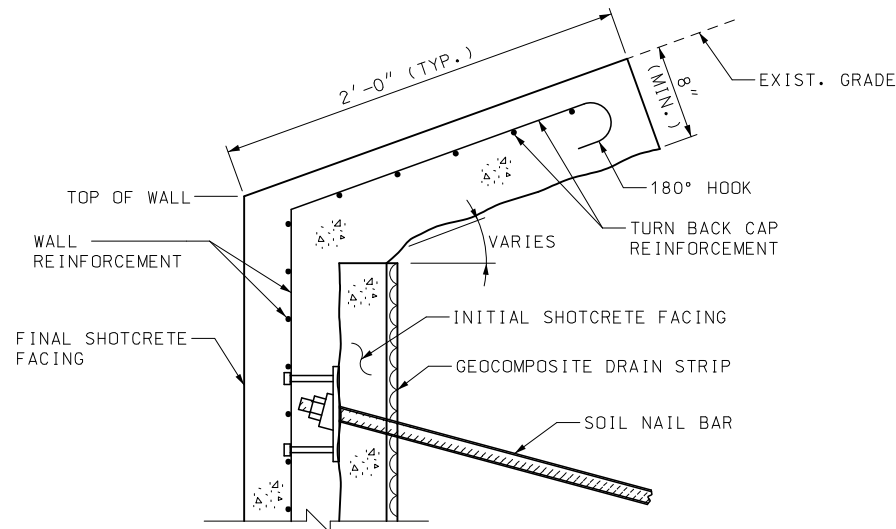
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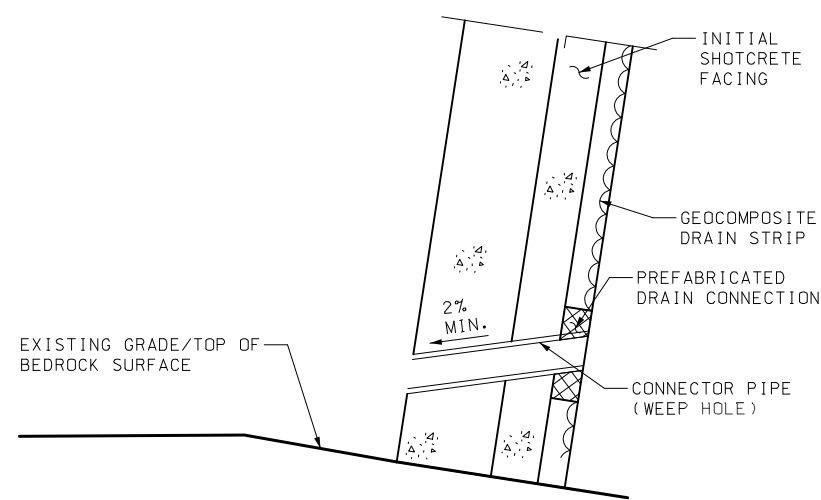
SOIL NAIL WALL LAYOUT  
 SPECIAL SHEET 3 OF 6

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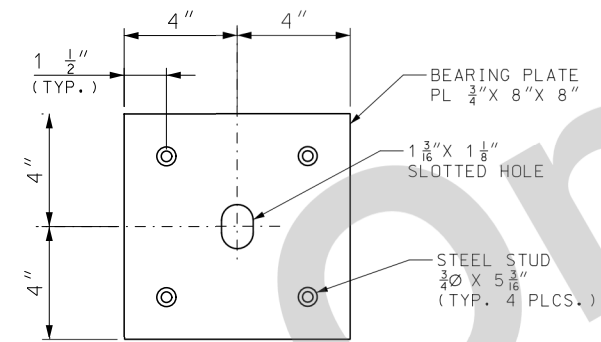
TOP OF WALL TURN BACK DETAIL  
(LOCATIONS AS REQUIRED)

INITIAL FACING REINFORCEMENT NO SHOWN FOR CLARITY.

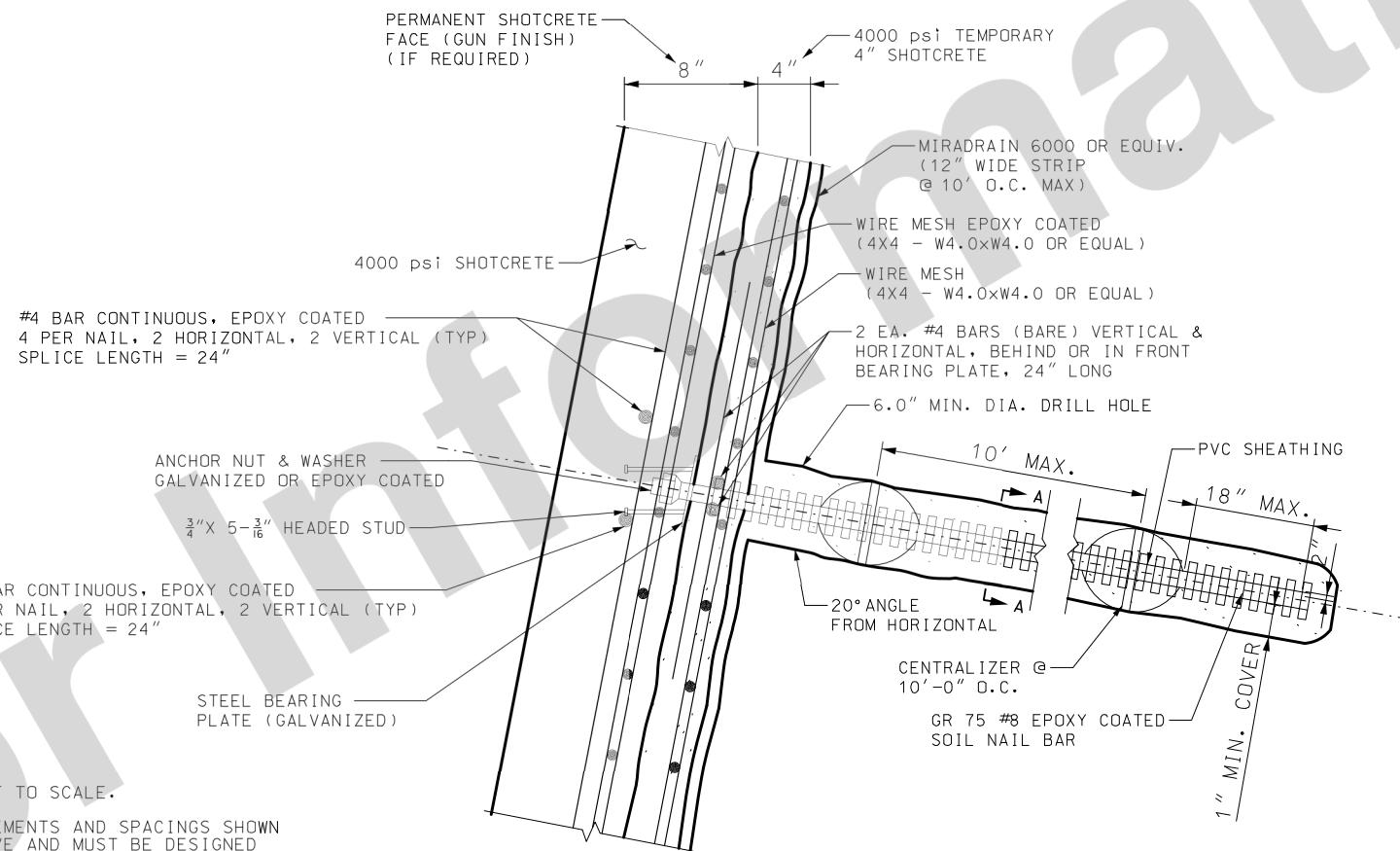


WEEP HOLE DETAIL

WALL REINFORCEMENT NOT SHOWN FOR CLARITY.



BEARING PLATE WITH STUDS DETAIL



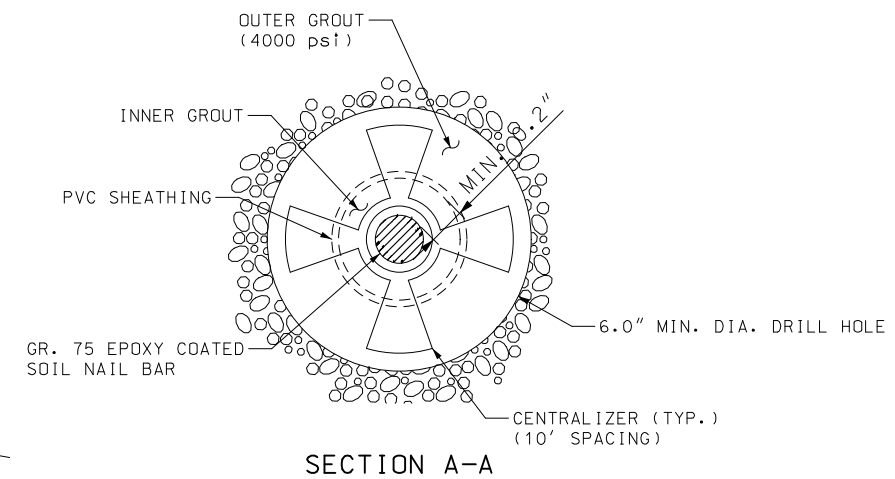
NAIL WALL DETAIL

NOTES:

DETAILS ARE NOT TO SCALE.

REINFORCING ELEMENTS AND SPACINGS SHOWN ARE ILLUSTRATIVE AND MUST BE DESIGNED IN ACCORDANCE WITH THE MODOT STANDARDS AND JOB SPECIAL PROVISIONS (JSP).

INSTALL SHOTCRETE FILL AND SOIL NAIL EXTENSION AT LOCATIONS AS DIRECTED BY THE ENGINEER WHERE MACHINE SCALING OR ROCK EXCAVATION RESULTS IN OVERBREAK.



SECTION A-A

DATE PREPARED 02/08/2023	
ROUTE C	STATE MO
DISTRICT SE	SHEET NO. 9
COUNTY MADISON	
JOB NO. JSE0160	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DATE	DESCRIPTION

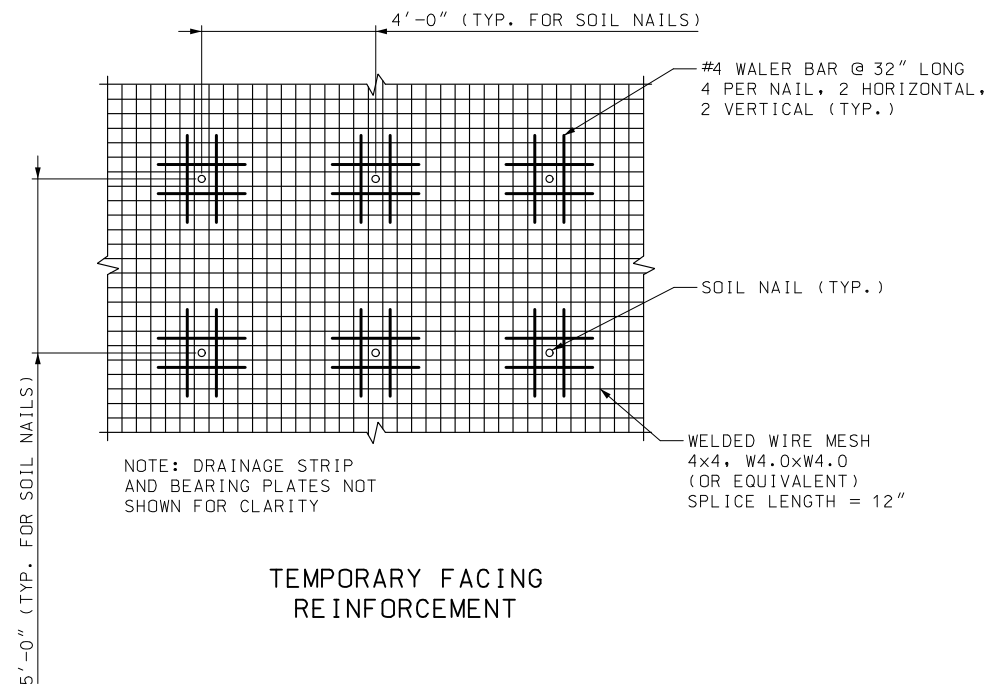
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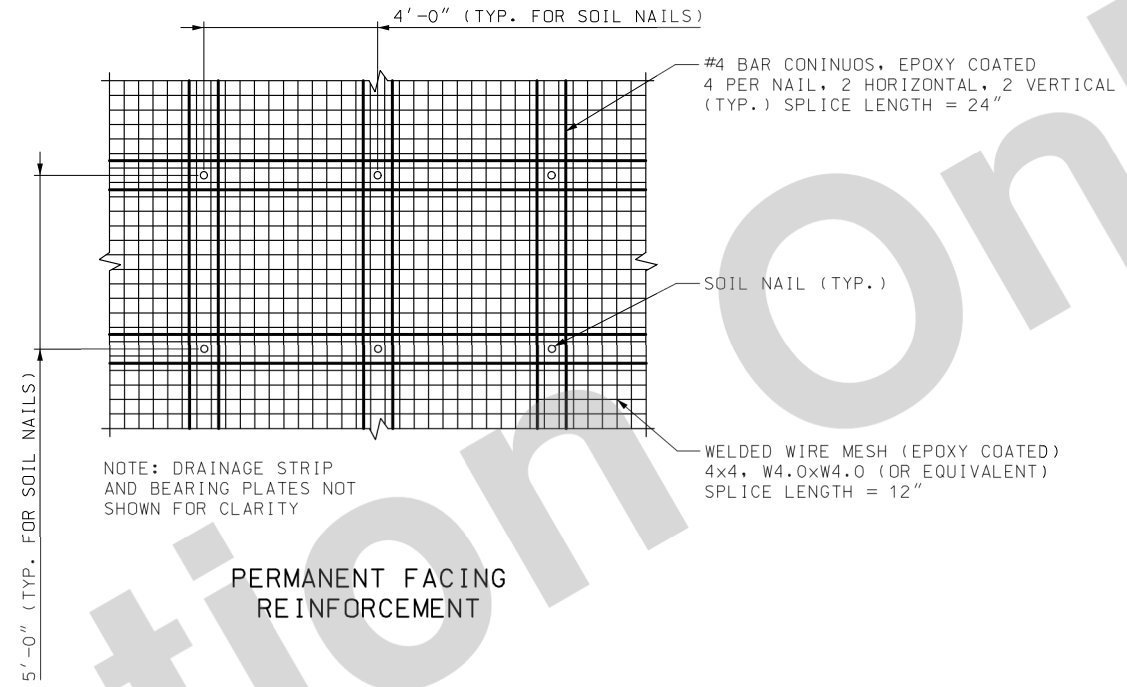
HNTB

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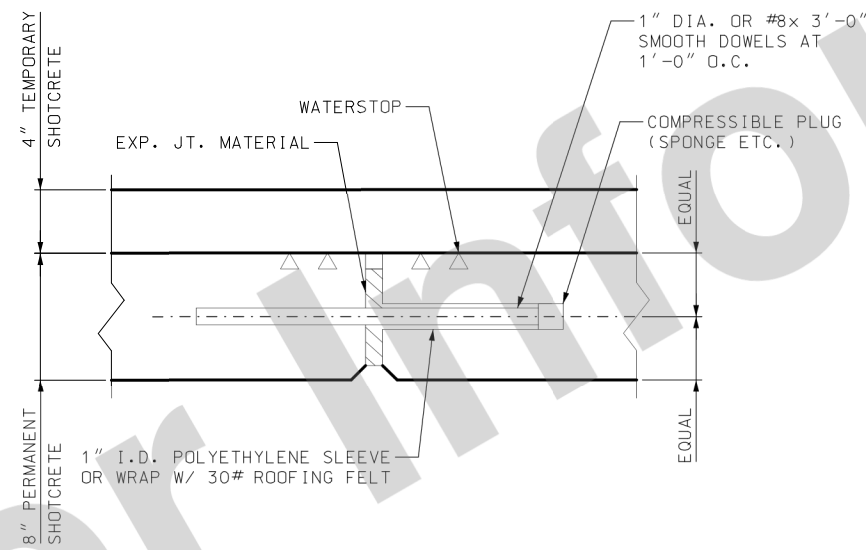
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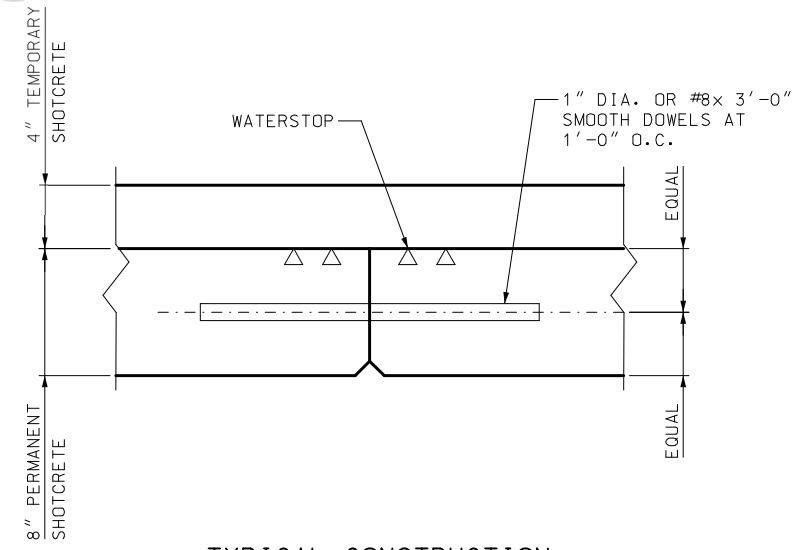
TEMPORARY FACING REINFORCEMENT



PERMANENT FACING REINFORCEMENT



EXPANSION JOINT DETAIL  
(EXPANSION JOINT AT 20'-0" MAX.)



TYPICAL CONSTRUCTION JOINT DETAIL  
(CONSTRUCTION JOINT AT 30'-0" MAX.)

DATE PREPARED		02/08/2023	
ROUTE	STATE	COUNTY	JOB NO.
C	MO	MADISON	JSE0160
DISTRICT	SHEET NO.	CONTRACT ID.	PROJECT NO.
SE	10		
BRIDGE NO.			

DATE	DESCRIPTION

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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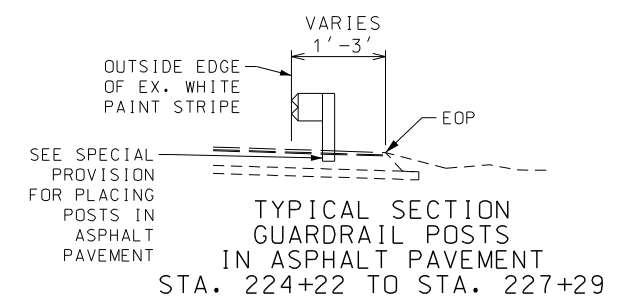
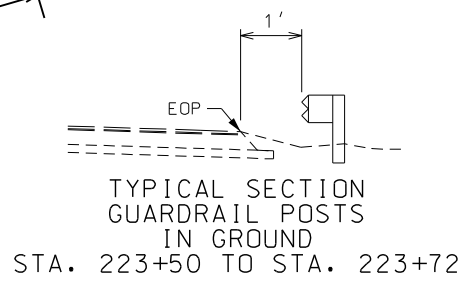
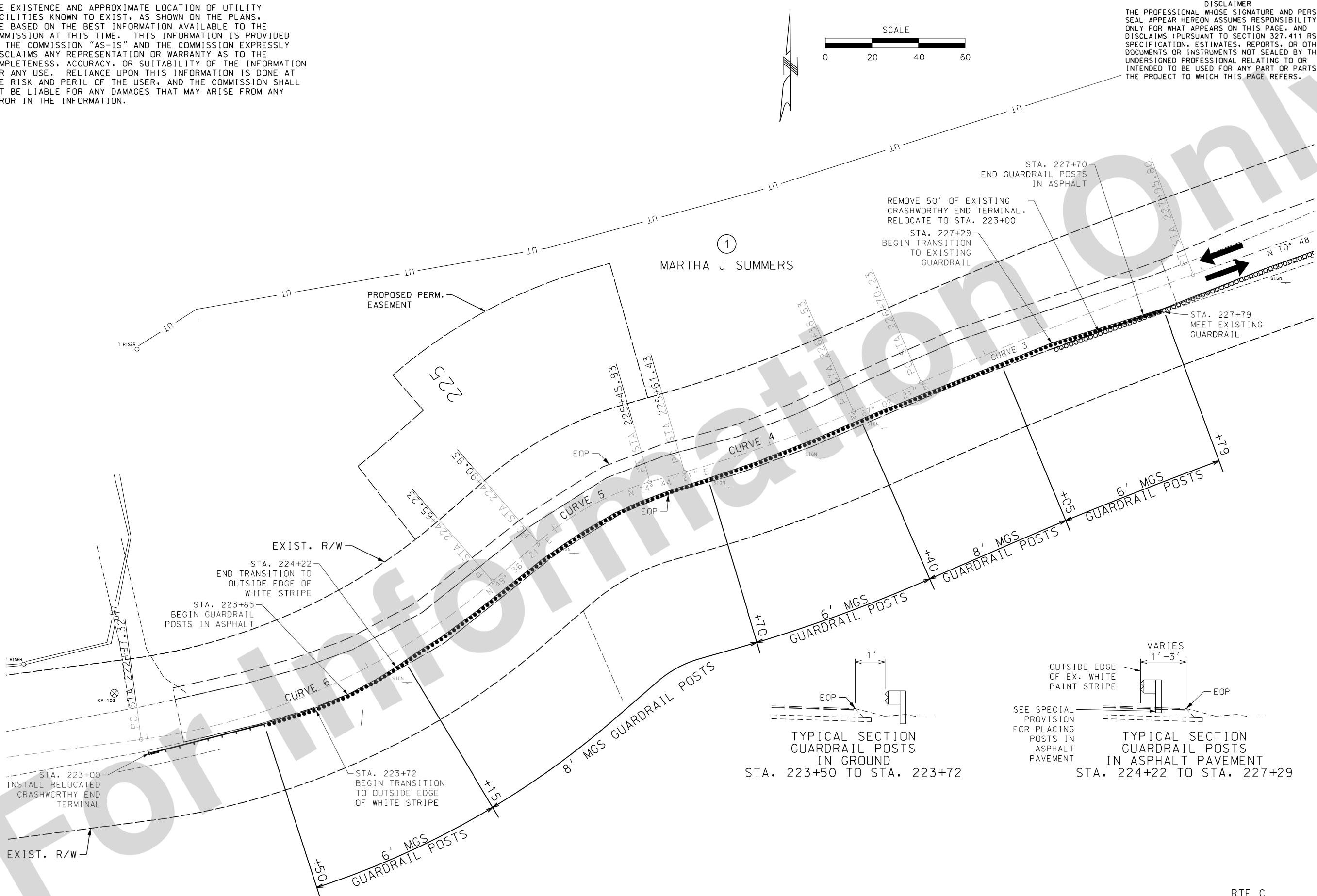
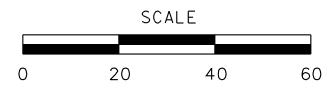
715 KIRK DRIVE  
KANSAS CITY, MO 64105-1310  
TELEPHONE (816) 472-1201  
CERTIFICATE OF AUTHORITY NO. 001270

SOIL NAIL WALL SHEET  
DETAILS  
SPECIAL SHEET 5 OF 6

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DATE PREPARED		3/22/2023	
ROUTE	STATE	DISTRICT	SHEET NO.
C	MO	SE	11
COUNTY			
MADISON			
JOB NO.			
JSE0160			
CONTRACT ID.			
PROJECT NO.			
BRIDGE NO.			

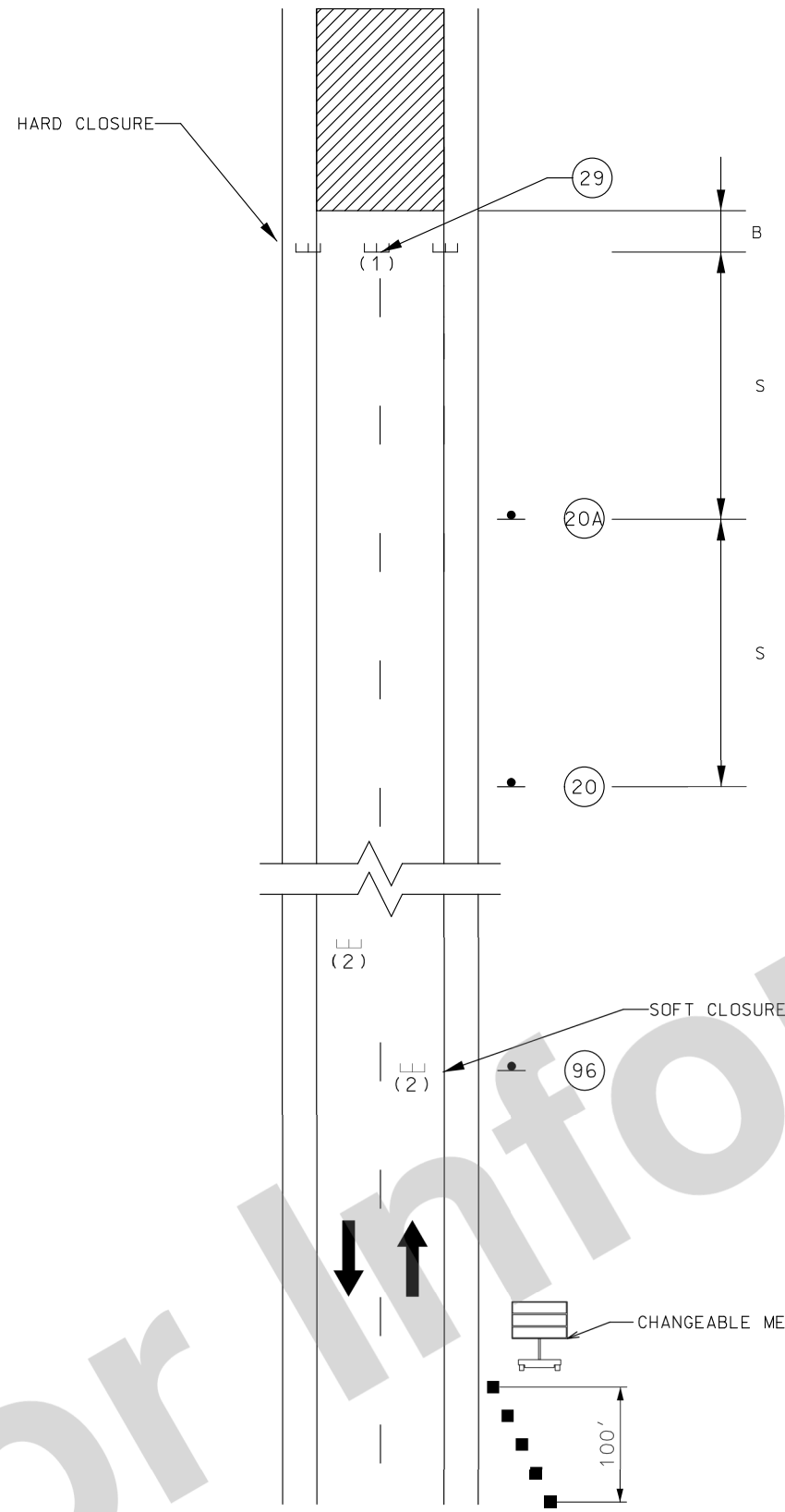
DATE	DESCRIPTION

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

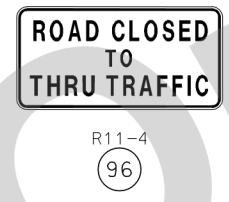
105 WEST CAPITOL  
JEFFERSON CITY, MO 65102  
1-888-ASK-MODOT (1-888-275-6636)

**EFK Moen**  
Civil Engineering Design  
13523 Barrett Parkway Dr  
Suite 250  
St. Louis, MO 63021  
Phone 314-394-3100  
Fax 314-394-3199  
Missouri Certificate of Authority: 001578

RTE C  
GUARDRAIL DETAILS  
SPECIAL SHEET 6 OF 6



ROADWAY CLOSURE  
NO SCALE



FOR FLAGS AND ADVANCE  
WARNING RAIL SYSTEMS,  
REFER TO EPG 616.6.2.2  
FLAGS AND ADVANCED  
WARNING RAIL SYSTEM

SPEED	SIGN SPACING (FT.)		TAPER LENGTH (FT.)		OPTIONAL BUFFER LENGTH (FT.) (B)	CHANNELIZER SPACING (FT.)	
	NORMAL POSTED (MPH)	UNDIVIDED (S)	DIVIDED (S)	SHOULDER (1) (T1)		LANE (2) (T2)	TAPERS
0 - 35	200	200	70	245	280	35	40
40 - 45	350	500	150	540	500	40	80

(1) SHOULDER TAPER LENGTH BASED ON 10 FT. STANDARD SHOULDER WIDTH OFFSET.  
(2) LANE TAPER LENGTH BASED ON 12 FT. STANDARD LANE WIDTH OFFSET.

NOTES:

(1) "ROAD CLOSED" SIGN MAY BE PLACED 7-10 FEET BEHIND THE BARRICADES AND AT A SIGN HEIGHT APPROPRIATE TO THE TYPE OF ROADWAY. ONE BARRICADE SHOULD BE REQUIRED TO COMPLETELY CLOSE EACH 8-FEET OF PAVEMENT. PAVED SHOULDER SHALL BE INCLUDED IN THE AREA TO BE CLOSED.

(2) IF USED, THE "ROAD CLOSED XX MILES AHEAD LOCAL TRAFFIC ONLY" OR "ROAD CLOSED TO THRU TRAFFIC" SIGN SHOULD BE LOCATED AT THE FIRST STATE ROUTE OR, AT THE DISCRETION OF THE ENGINEER, ANY OTHER INTERSECTION IN ADVANCE OF THE CLOSURE. ADDITIONAL BARRICADES MAY BE USED AND OFFSET TO FACILITATE ACCESS FOR WORK VEHICLES, LOCAL TRAFFIC, ETC.

TRAFFIC CONTROL SHOULD BE REMOVED AS SOON AS PRACTICAL AFTER CONDITION FOR THE CLOSURE NO LONGER EXISTS.

FOR LONG-TERM OPERATIONS, REFER TO EPG 616.6.2.2 FLAGS AND ADVANCE WARNING RAIL SYSTEM (AWRS).

ADDITIONAL WARNING SIGNS SHOULD BE ERECTED AT EACH INTERSECTION WITHIN THE WORKZONE.

SUPPLEMENTAL WARNING METHODS MAY BE USED TO CALL ATTENTION TO THE WORKZONE.

SEE STANDARD PLAN 616.10 FOR USE OF BARRICADES AND SIGNS.

FOR LONG TERM CLOSURE, DETOUR SIGNING SHOULD BE CONSIDERED.

FOR DETOUR SIGNING, REVIEW EPG 616.8.9 ROAD CLOSED BEYOND JUNCTION DETOUR.

PLACEMENT OF CHANGEABLE MESSAGE SIGN TO BE DETERMINED BY ENGINEER.

DATE PREPARED 02/08/2023	
ROUTE C	STATE MO
DISTRICT SE	SHEET NO. 12
COUNTY MADISON	
JOB NO. JSE0160	
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)

**HNTB**

715 KIRK DRIVE  
KANSAS CITY, MO 64105-1310  
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R11-2  
29



W020-3  
20A



W020-3  
20



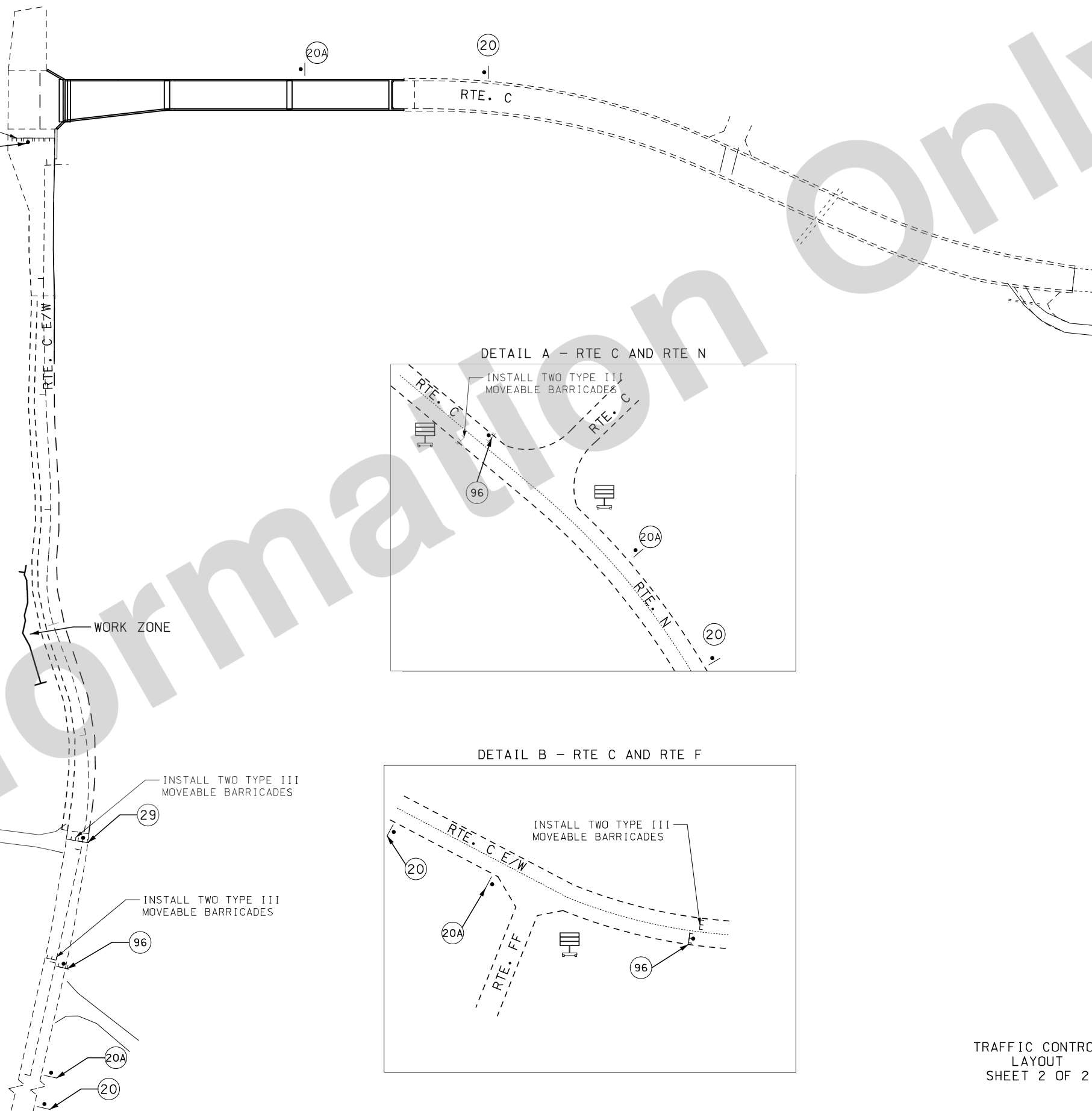
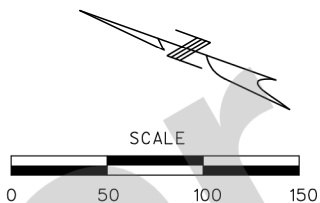
R11-4  
96

INSTALL FOUR TYPE III MOVEABLE BARRICADES

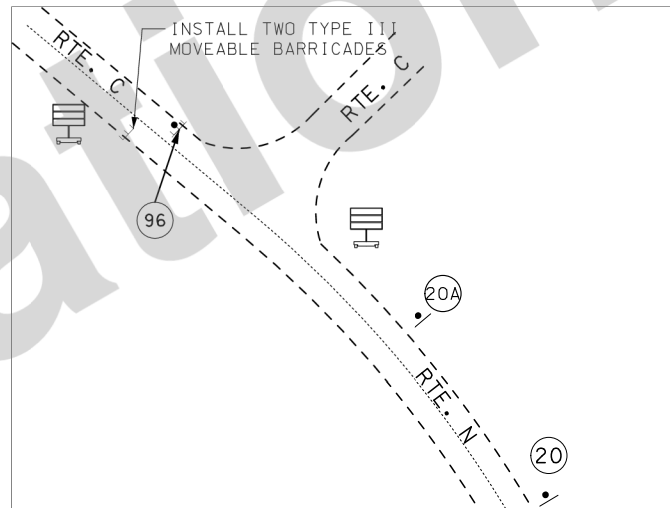
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TRAFFIC CONTROL LEGEND

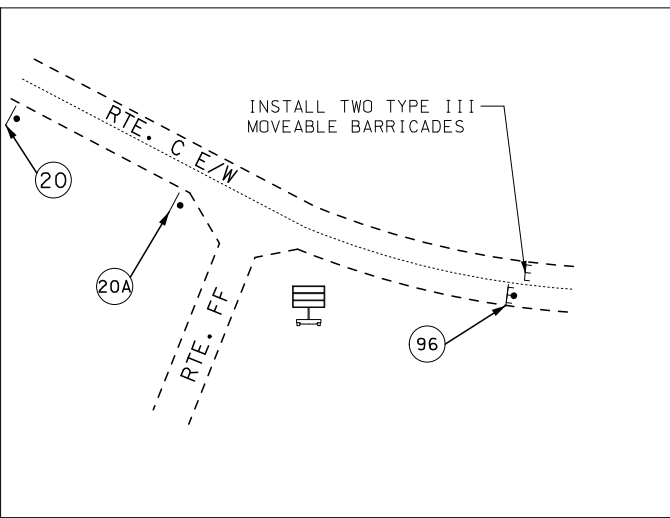
- SIGN (SINGLE SIDED)
- E TYPE III MOVEABLE BARRICADE
- ☐ CHANGEABLE MESSAGE BOARD



DETAIL A - RTE C AND RTE N



DETAIL B - RTE C AND RTE F



INSTALL TWO TYPE III MOVEABLE BARRICADES

29

INSTALL TWO TYPE III MOVEABLE BARRICADES

96

20A

20

DATE PREPARED 02/08/2023	
ROUTE C	STATE MO
DISTRICT SE	SHEET NO. 13
COUNTY MADISON	
JOB NO. JSE0160	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	

DATE	DESCRIPTION

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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

**HNTB**

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TRAFFIC CONTROL LAYOUT  
SHEET 2 OF 2

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