



THIS DOCUMENT HAS BEEN DIGITALLY SIGNED AND SEALED BY:  
**Digitally signed by Patrick Leap**  
 Date: 2020.01.13 17:37:23 -06'00'

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BARGE DESIGN SOLUTIONS, INC.  
 615 THIRD AVE. SOUTH, SUITE 700  
 NASHVILLE, TN 37210  
 PATRICK LEAP, P.E. NO. 115462

THE ABOVE NAMED PROFESSIONAL ENGINEER SHALL BE RESPONSIBLE FOR THE FOLLOWING SHEETS IN ACCORDANCE OF TENN. CODE ANN. §62-2-306.

**PROJECT. NOS. 33003-3166-44 & 33003-3167-44**

SHEET NAME	SHEET NO.
SIGNATURE SHEET	STRUCTURE-SIGN1
SIGNATURE SHEET	STRUCTURE-SIGN2
TITLE SHEET	1
ROADWAY INDEX AND STANDARD ROADWAY DRAWINGS	1A
STANDARD ROADWAY DRAWINGS	1A1 – 1A1
PROJECT COMMITMENTS	1B
ESTIMATED ROADWAY QUANTITIES	2A, 2A1
TYPICAL SECTIONS AND PAVEMENT SCHEDULE	2B, 2B1 – 2B5
GENERAL NOTES	2C, 2C1 – 2C3
SPECIAL NOTES	2D
TABULATED QUANTITIES	2E, 2E1
RIGHT-OF-WAY NOTES, UTILITY NOTES AND UTILITY OWNERS	3
PROPERTY MAP AND RIGHT-OF-WAY ACQUISITION TABLES	3A – 3C
PRESENT LAYOUTS	4 – 6
PROPOSED LAYOUTS	4A – 6A
PROPOSED PROFILES	4B – 6B
GORE DETAILS	4C
RAMP PROFILES	7
SIDE ROADS PROFILES	8 – 9
DRAINAGE MAP	10
CULVERT SECTION	11
EROSION PREVENTION AND SEDIMENT CONTROL (EPSC)	
LEGEND & TABULATION	12
EROSION PREVENTION AND SEDIMENT CONTROL PLANS	13 – 15, 13A – 15A, 13B – 15B
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SIGN SCHEDULE SHEETS	19 – 21
ROADWAY CROSS SECTIONS	22 – 27
SIDE ROAD CROSS SECTIONS	28 – 34
RAMP CROSS SECTIONS	35 – 39
TEMPORARY RAMP CROSS SECTIONS	40 – 44
TRAFFIC CONTROL PLANS	T1 – T9, T4A – T9A, T4B – T9B, T4C – T9C, T4D – T9D
TRAFFIC CONTROL PROFILES	T10
RETAINING WALL PLANS	R2, R3, R5



THIS DOCUMENT HAS BEEN DIGITALLY SIGNED AND SEALED BY:  
**Kevin McAlister**  
 2020.01.13 15:16:57 -06'00'

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BARGE DESIGN SOLUTIONS, INC.  
 615 THIRD AVE. SOUTH, SUITE 700  
 NASHVILLE, TN 37210  
 KEVIN MCALISTER, P.E. NO. 110079

THE ABOVE NAMED PROFESSIONAL ENGINEER SHALL BE RESPONSIBLE FOR THE FOLLOWING SHEETS IN ACCORDANCE OF TENN. CODE ANN. §62-2-306.

**PROJECT NO. 33003-3166-44**

SHEET NAME	SHEET NO.
SIGNATURE SHEET	STRUCTURE-SIGN1
OVERALL BRIDGE AND WALL LAYOUT	U-92-1
OVERALL ESTIMATED QUANTITIES	U-92-2
LAYOUT OF BRIDGE	U-92-3
LIST OF DRAWINGS	U-92-4
GENERAL NOTES	U-92-5
GENERAL NOTES	U-92-6
ESTIMATED QUANTITIES	U-92-7
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PHASING AND DEMOLITION PLAN	U-92-13
PHASING AND DEMOLITION PLAN	U-92-14
BENT NOS. 1 & 3 & ABUTMENT DEMOLITION PLAN	U-92-15
EXIST. BENT NO. 2/PROP. BENT NO. 1 DEMOLITION PLAN	U-92-16
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EXCAVATION LIMITS	U-92-18
SUPERSTRUCTURE	U-92-19
SUPERSTRUCTURE DETAILS	U-92-20
SUPERSTRUCTURE DETAILS	U-92-21
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CLOSED DRAINAGE DETAILS	U-92-23
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PANEL DETAILS (1 OF 9)	U-92-25
PANEL DETAILS (2 OF 9)	U-92-26
PANEL DETAILS (3 OF 9)	U-92-27
PANEL DETAILS (4 OF 9)	U-92-28
PANEL DETAILS (5 OF 9)	U-92-29
PANEL DETAILS (6 OF 9)	U-92-30
PANEL DETAILS (7 OF 9)	U-92-31
PANEL DETAILS (8 OF 9)	U-92-32
PANEL DETAILS (9 OF 9)	U-92-33
SUPERSTRUCTURE BACKWALL DETAILS	U-92-34
SUPERSTRUCTURE BACKWALL DETAILS	U-92-35
SUPERSTRUCTURE BACKWALL DETAILS	U-92-36
SUPERSTRUCTURE BACKWALL DETAILS	U-92-37
CLOSURE POUR DETAILS	U-92-38
PRESTRESSED BOX BEAM DETAILS	U-92-39
ABUTMENT NO. 1 (1 OF 2)	U-92-40
ABUTMENT NO. 1 (2 OF 2)	U-92-41
ABUTMENT NO. 1 DETAILS	U-92-42
ABUTMENT NO. 1 DETAILS	U-92-43
ABUTMENT NO. 1 DETAILS	U-92-44
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ABUTMENT NO. 1 FOUNDATION DETAILS	U-92-50
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ABUTMENT NO. 2 DETAILS	U-92-55
ABUTMENT NO. 2 WINGWALL DETAILS	U-92-56
ABUTMENT NO. 2 COPING DETAILS	U-92-57
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ABUTMENT NO. 2 FOUNDATION DETAILS	U-92-59
ABUTMENT NO. 2 FOUNDATION DETAILS	U-92-60
ABUTMENT NO. 2 FOUNDATION DETAILS	U-92-61
EXIST. BENT NO. 2/ PROP. BENT NO. 1 LAYOUT (1 OF 2)	U-92-62
EXIST. BENT NO. 2/ PROP. BENT NO. 1 LAYOUT (2 OF 2)	U-92-63
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BENT NO. 1 DETAILS	U-92-65
BENT NO. 1 PILE LAYOUT	U-92-66
BENT NO. 1 FOUNDATION DETAILS	U-92-67
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PRECAST PAVEMENT AT BRIDGE ENDS PANEL LAYOUT	U-92-69
PRECAST PAVEMENT AT BRIDGE ENDS PANEL DETAILS	U-92-70
PRECAST PAVEMENT AT BRIDGE ENDS PANEL DETAILS	U-92-71
PRECAST PAVEMENT AT BRIDGE ENDS PANEL DETAILS	U-92-72
PRECAST PAVEMENT AT BRIDGE ENDS PANEL DETAILS	U-92-73

**SHEET NAME**

**SHEET NO.**

P.A.B.E. MODIFICATIONS	U-92-74
FINAL FOUNDATION DATA	U-92-75
FINAL FOUNDATION DATA	U-92-76
FINAL FOUNDATION DATA	U-92-77
FINAL FOUNDATION DATA	U-92-78
BILL OF STEEL	U-92-79
BILL OF STEEL	U-92-80

**PROJECT NO. 33003-3167-44**

**SHEET NAME**

LAYOUT OF BRIDGE	U-92-81
LIST OF DRAWINGS	U-92-82
GENERAL NOTES	U-92-83
ESTIMATED QUANTITIES	U-92-84
SUPERSTRUCTURE	U-92-86
SUPERSTRUCTURE DETAILS	U-92-87
SUPERSTRUCTURE DETAILS	U-92-88
PRESTRESSED BOX BEAM DETAILS	U-92-89
ABUTMENT NO. 1	U-92-90
ABUTMENT NO. 1 DETAILS	U-92-91
ABUTMENT NO. 2	U-92-92
ABUTMENT NO. 2 DETAILS	U-92-93
EXISTING BENT DEMOLITION	U-92-94
BENT NO. 1	U-92-95
BENT NO. 1 PILE LAYOUT	U-92-96
BENT NO. 1 DETAILS	U-92-97
FINAL FOUNDATION DATA	U-92-98
BILL OF STEEL	U-92-99



THIS DOCUMENT HAS BEEN DIGITALLY SIGNED AND SEALED BY:  
 Digitally signed by Derek L.  
**Derek L. Hodnett**  
 Hodnett  
 Date: 2020.01.13 15:05:53 -06'00'

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K.S. WARE ASSOCIATES, LLC.  
 5959 SHALLLOWFORD RD., SUITE 319  
 CHATTANOOGA, TN 37421  
 DEREK HODNETT, P.E. NO. 23206

THE ABOVE NAMED PROFESSIONAL ENGINEER SHALL BE RESPONSIBLE FOR THE FOLLOWING SHEETS IN ACCORDANCE OF TENN. CODE ANN. §62-2-306.

**PROJECT NO. 33003-3166-44**

**SHEET NAME**

**SHEET NO.**

SIGNATURE SHEET	STRUCTURE-SIGN1
RETAINING WALL PLANS	R4
FOUNDATION DATA	U-92-9
FOUNDATION DATA	U-92-10
FOUNDATION DATA	U-92-11

**PROJECT NO. 33003-3167-44**

**SHEET NAME**

RETAINING WALL PLANS	R-1
FOUNDATION DATA	U-92-85

**PROJECT NO. 33003-3166-44 & 33003-3167-44**

**SHEET NAME**

RETAINING WALL PLANS	R-6
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YEAR	PROJECT NO.	SHEET NO.
2020	33003-3166-44	STRUCTURE-SIGN1
2020	33003-3167-44	STRUCTURE-SIGN1

STATE OF TENNESSEE  
 DEPARTMENT OF TRANSPORTATION

SIGNATURE  
 SHEET



THIS DOCUMENT HAS BEEN DIGITALLY SIGNED AND SEALED BY:  
**Mark Washing**  
 2020.01.13 15:18:57 -06'00'

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BARGE DESIGN SOLUTIONS, INC.  
 615 THIRD AVE. SOUTH, SUITE 700  
 NASHVILLE, TN 37210  
 MARK WASHING, P.E. NO. 107908

THE ABOVE NAMED PROFESSIONAL ENGINEER SHALL BE RESPONSIBLE FOR THE FOLLOWING SHEETS IN ACCORDANCE OF TENN. CODE ANN. §62-2-306.

**PROJECT. NOS. 33003-3166-44 & 33003-3167-44**

SHEET NAME	SHEET NO.
SIGNATURE SHEET .....	STRUCTURE-SIGN2
LIGHTING SCHEDULE .....	L1
LIGHTING LAYOUT .....	L2 - L4
SIGNAL PLANS .....	SIG1 - SIG9

YEAR	PROJECT NO.	SHEET NO.
2020	33003-3166-44	STRUCTURE-SIGN2
2020	33003-3167-44	STRUCTURE-SIGN2

STATE OF TENNESSEE  
 DEPARTMENT OF TRANSPORTATION

SIGNATURE  
 SHEET

Index Of Sheets  
SEE SHEET NO. 1A

STATE OF TENNESSEE  
DEPARTMENT OF TRANSPORTATION  
BUREAU OF ENGINEERING

DOES THIS PROJECT QUALIFY FOR UTILITY CHAPTER 86	YES	NO X	TENN.	YEAR	SHEET NO.
WORK ZONE SIGNIFICANCE DETERMINATION	SIGNIFICANT			2020	1
PER FHWA (FORM A)	YES X	NO	FED. AID PROJ. NO.	BR-I-24-3(97)	
PER TDOT (FORM B)	YES X	NO	STATE PROJ. NO.	33003-3166-44 33003-3167-44	

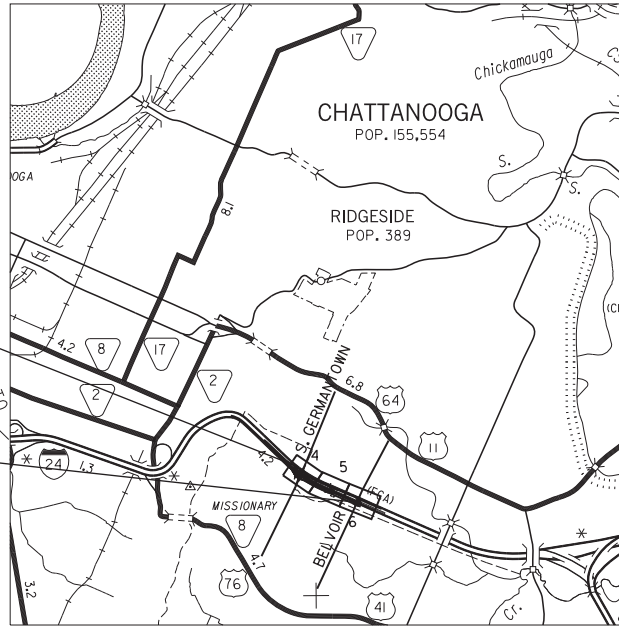
**HAMILTON COUNTY**

INTERSTATE 24 BRIDGE OVER  
SOUTH GERMANTOWN ROAD  
AND  
BELVOIR AVENUE BRIDGE OVER  
INTERSTATE 24  
CONSTRUCTION

STATE HIGHWAY NO. N/A F.A.H.S. NO. I-24  
GRADING, DRAINAGE, PAVING, BRIDGE  
SIGNING, LIGHTING, AND SIGNAL



PROJECT LOCATION  
BRIDGE ID. # 33100240055 33100240056  
33100240057



- NO EXCLUSIONS
  - NO EQUATIONS
  - ROADS TO BE CLOSED DURING CONSTRUCTION
- \* AS SHOWN IN TRAFFIC CONTROL

BEGIN PROJECT NO. BR-1-24-3(97) CONST.  
STA. 130+85.09 (L.M. 11.926)  
N 249252,2745 E 2191860,1989

END PROJECT NO. BR-I-24-3(97) CONST.  
STA. 166+61.42 (L.M. 12.603)  
N 247527,7161 E 2194967,5120

**SPECIAL NOTES**

PROPOSALS MAY BE REJECTED BY THE COMMISSIONER IF ANY OF THE UNIT PRICES CONTAINED THEREIN ARE OBVIOUSLY UNBALANCED, EITHER EXCESSIVE OR BELOW THE REASONABLE COST ANALYSIS VALUE.

THIS PROJECT TO BE CONSTRUCTED UNDER THE STANDARD SPECIFICATIONS OF THE TENNESSEE DEPARTMENT OF TRANSPORTATION DATED JANUARY 1, 2015 AND ADDITIONAL SPECIFICATIONS AND SPECIAL PROVISIONS CONTAINED IN THE PLANS AND IN THE PROPOSAL CONTRACT.

TDOT TRANS. PROJ. SPEC. SUP. 2: RACHEL GENTRY, P.E.  
DESIGNED BY: BARGE DESIGN SOLUTIONS, INC.  
DESIGNER: PATRICK LEAP, PE, CPESC CHECKED BY JONATHAN HAYCRAFT, PE, ENV SP  
P.E. NO. 33003-0166-44  
PIN NO. 124069,00

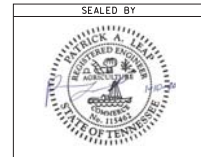
SCALE: 1" = 2640 FEET

R.O.W. LENGTH	00.000 MILES
ROADWAY LENGTH	00.979 MILES
BRIDGE LENGTH	00.052 MILES
PROJECT LENGTH	1.031 MILES

BELVOIR AVE TRAFFIC DATA	
ADT (2022)	9,300
ADT (2042)	10,320
DHV (2042)	1,125
D	70 - 30
T (ADT)	3 %
T (DHV)	2 %
V	30 MPH

SURVEY 01-18-18 I-24 TRAFFIC DATA	
ADT (2022)	114,670
ADT (2042)	142,650
DHV (2042)	12,830
D	65 - 35
T (ADT)	23 %
T (DHV)	15 %
V	55 MPH

STATE PLANE COORDINATES ARE BASED ON GPS MEASUREMENTS OBTAINED 12-18-17 USING GEOID 12S MODEL AND DATUM ADJUSTMENT FACTOR OF 0.99998



APPROVED: Paul D. Degges  
PAUL D. DEGGES, CHIEF ENGINEER  
DATE: \_\_\_\_\_  
APPROVED: Clay Bright  
CLAY BRIGHT, COMMISSIONER

U.S. DEPARTMENT OF TRANSPORTATION  
FEDERAL HIGHWAY ADMINISTRATION  
APPROVED: \_\_\_\_\_  
DIVISION ADMINISTRATOR DATE

# ROADWAY INDEX

# STANDARD ROADWAY DRAWINGS

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2020	33003-3166-44	1A
		33003-3167-44	

SHEET NAME	SHEET NO.
SIGNATURE SHEET	STRUCTURE-SIGN1
	STRUCTURE-SIGN2
TITLE SHEET	1
ROADWAY INDEX AND STANDARD ROADWAY DRAWINGS	1A
STANDARD ROADWAY DRAWINGS	1A1 - 1A1
PROJECT COMMITMENTS	1B
ESTIMATED ROADWAY QUANTITIES	2A, 2A1
TYPICAL SECTIONS AND PAVEMENT SCHEDULE	2B, 2B1 - 2B5
GENERAL NOTES	2C, 2C1 - 2C3
SPECIAL NOTES	2D
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RIGHT-OF-WAY NOTES, UTILITY NOTES AND UTILITY OWNERS	3
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DRAINAGE MAP	10
CULVERT SECTION	11
EROSION PREVENTION AND SEDIMENT CONTROL (EPSC)	
LEGEND & TABULATION	12
EROSION PREVENTION AND SEDIMENT CONTROL PLANS	13 - 15, 13A - 15A, 13B - 15B
SIGNING AND PAVEMENT MARKING PLAN(S)	16 - 18
SIGN SCHEDULE SHEETS	19 - 21
ROADWAY CROSS SECTIONS	22 - 27
SIDE ROAD CROSS SECTIONS	28 - 34
RAMP CROSS SECTIONS	35 - 39
TEMPORARY RAMP CROSS SECTIONS	40 - 44
TRAFFIC CONTROL PLANS	T1 - T9, T4A - T9A, T4B - T9B, T4C - T9C, T4D - T9D
TRAFFIC CONTROL PROFILES	T10
BRIDGE PLANS	U-92-1 - U-92-96
LIGHTING SCHEDULE	L1
LIGHTING LAYOUT	L2 - L4
RETAINING WALL PLANS	R1 - R6
SIGNAL PLANS	SIG1 - SIG9

NOTE: THE ALPHABETICAL LETTERS 'I', 'O' & 'Q' ARE NOT USED IN NUMBERING OF SHEETS.

## ROADWAY DESIGN STANDARDS

DWG.	REV.	DESCRIPTION
RD-TP-1	09-26-16	STANDARD ROADWAY DRAWINGS TITLE SHEET
RD-A-1	12-18-99	STANDARD ABBREVIATIONS
RD-L-1	10-26-04	STANDARD LEGEND
RD-L-2	09-05-01	STANDARD LEGEND FOR UTILITY INSTALLATIONS
RD-L-3	03-16-17	STANDARD LEGEND FOR SIGNALIZATION AND LIGHTING
RD-L-4	07-16-18	STANDARD LEGEND FOR SIGNALIZATION AND LIGHTING
RD-L-5	05-01-08	STANDARD LEGEND FOR EROSION PREVENTION AND SEDIMENT CONTROL
RD-L-6	03-30-10	STANDARD LEGEND FOR EROSION PREVENTION AND SEDIMENT CONTROL
RD-L-7	05-24-12	STANDARD LEGEND FOR EROSION PREVENTION AND SEDIMENT CONTROL
RD01-TS-3	10-15-02	DESIGN STANDARD FOR 2-LANE ARTERIAL HIGHWAYS
RD01-TS-4	07-23-13	DESIGN STANDARDS 1 AND 2 LANE RAMPS
RD01-TS-6A	01-07-19	TYPICAL CURB AND GUTTER SECTIONS WITHOUT SHOULDER
RD01-SE-2	10-15-02	URBAN SUPERELEVATION DETAILS
RD01-S-11	04-04-03	DESIGN AND CONSTRUCTION DETAILS FOR ROADSIDE SLOPE DEVELOPMENT
RD01-S-11A	10-15-02	ROADSIDE DITCH DETAILS FOR DESIGN AND CONSTRUCTION
RD01-S-11B	10-15-02	DESIGN AND CONSTRUCTION DETAILS FOR ROCK CUT SLOPE AND CATCHMENT
RD01-SA-1	10-15-02	SAFETY APPROACH TO UNDERPASSES GRADING DESIGN AND SLOPE PROTECTION
RD01-SD-1		INTERSECTION SIGHT DISTANCE DESIGN AND GENERAL NOTES
RD01-SD-2		INTERSECTION SIGHT DISTANCE LANDSCAPE AND OBSTRUCTION
RD01-SD-3		INTERSECTION SIGHT DISTANCE 2-LANE ROADWAYS
RD01-SD-4		INTERSECTION SIGHT DISTANCE 5-LANE AND 4-LANE UNDIVIDED ROADWAYS
RD-UD-3	09-05-96	UNDERDRAIN DETAILS
RD-UD-4	01-25-16	UNDERDRAIN LATERAL DETAILS
RD-UD-9	12-18-94	LATERAL UNDERDRAIN ENDWALL DETAIL FOR 6:1 SLOPES

## PIPE CULVERTS AND ENDWALLS

DWG.	REV.	DESCRIPTION
D-PB-1	03-16-17	STANDARD DETAILS FOR CONCRETE PIPE INSTALLATION
D-PB-2	01-29-14	STANDARD DETAILS FOR FLEXIBLE PIPE INSTALLATION
D-PB-3		INDUCED TRENCH SOIL EMBANKMENT FOR PIPE CULVERT INSTALLATION
D-PG-3	04-15-97	FERROUS AND ALUMINUM CORRUGATED METAL PIPE

## CATCH BASINS AND MANHOLES

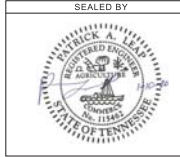
DWG.	REV.	DESCRIPTION
D-CB-10LPC	05-15-18	LOW PROFILE LOWERED CURB 32" X 26" RECTANGULAR CONCRETE NO. 10LPC CATCH BASIN
D-CB-10RA	05-15-18	STANDARD PRECAST 48" CIRCULAR NO. 10 CATCH BASIN (FOR USE WITH 6" NONMOUNTABLE CURB)
D-CB-10S	05-15-18	STANDARD RECTANGULAR CONCRETE NO. 10 CATCH BASIN
D-CB-10SB	05-15-18	STANDARD 4' X 4' SQUARE CONCRETE NO. 10 CATCH BASIN

## ROADWAY DESIGN STANDARDS

DWG.	REV.	DESCRIPTION
C-CB-12LP	05-15-18	LOW PROFILE 32" X 32" SQUARE CONCRETE NO. 12LP CATCH BASIN (FOR USE WITH 6" NON-MOUNTABLE CURB)
C-CB-12P	05-15-18	STANDARD PRECAST RECTANGULAR CONCRETE NO. 12 CATCH BASIN
C-CB-12RA	05-15-18	STANDARD PRECAST 48" CIRCULAR NO. 12 CATCH BASIN (FOR USE WITH 6" NONMOUNTABLE CURB)
C-CB-12RB	05-15-18	STANDARD PRECAST 60" AND 72" CIRCULAR NO. 12 CATCH BASIN (FOR USE WITH 6" NONMOUNTABLE CURB)
C-CB-12RC	05-15-18	STANDARD PRECAST 84" THRU 120" CIRCULAR NO. 12 CATCH BASIN (FOR USE WITH 6" NONMOUNTABLE CURB)
C-CB-12S	05-15-18	STANDARD RECTANGULAR CONCRETE NO. 12 CATCH BASIN
C-CB-12SB	05-15-18	STANDARD 4' X 4' SQUARE CONCRETE NO. 12 CATCH BASIN
C-CB-12SC	05-15-18	STANDARD 5' 2" X 5' 2" SQUARE CONCRETE NO. 12 CATCH BASIN
C-CB-12SD	05-15-18	STANDARD 7' X 7' SQUARE CONCRETE NO. 12 CATCH BASIN
C-CB-12SE	05-15-18	STANDARD 9' X 9' SQUARE CONCRETE NO. 12 CATCH BASIN
C-CB-14P	05-15-18	STANDARD PRECAST RECTANGULAR CONCRETE NO. 14 CATCH BASIN
C-CB-14RB	05-15-18	STANDARD PRECAST CIRCULAR NO. 14RB CATCH BASIN
C-CB-14S	05-15-18	STANDARD RECTANGULAR CONCRETE NO. 14 CATCH BASIN
C-CB-14SE	05-15-18	STANDARD 9' X 9' SQUARE CONCRETE NO. 14 CATCH BASIN
C-CB-99	05-20-14	MISCELLANEOUS DETAILS FOR RECTANGULAR STRUCTURES
C-CB-99R	03-11-14	MISCELLANEOUS DETAILS FOR ROUND STRUCTURES
C-CB-99RA	03-10-14	BILL OF STEEL FOR ROUND CATCH BASIN LIDS
C-CB-12A	05-27-01	TYPE 'B' CAST IRON FRAME, GRATE & NONMOUNTABLE INLET DETAILS FOR NOS. 10, 12, 14, 16 & 17 TYPE CATCH BASINS

## ROADWAY AND PAVEMENT APPURTENANCES

DWG.	REV.	DESCRIPTION
RP-J-1	10-20-00	PORTLAND CEMENT CONCRETE PAVEMENT JOINT TYPES AND SPACING
RP-J-3	10-26-00	PORTLAND CEMENT CONCRETE PAVEMENT JOINT TYPES AND SPACING
RP-J-5	07-01-01	TYPICAL ACCELERATION AND DECELERATION LANE JOINT TYPES AND SPACING FOR CONCRETE RAMPS
RP-J-7	07-14-14	CONCRETE RAMP JOINT TYPES AND SPACING
RP-J-9	02-02-12	CONTRACTION AND CONSTRUCTION JOINTS FOR CONCRETE PAVEMENT
RP-J-11	07-29-96	3/4" AND 1 3/4" EXPANSION AND EDGE PAVEMENT JOINTS
RP-J-13	03-20-91	3/4" AND 1 3/4" ELASTOMERIC COMPRESSION JOINT SEALS
RP-J-15	01-19-02	LONGITUDINAL CONTRACTION AND CONSTRUCTION JOINTS
RP-J-17	02-02-12	DOWEL ASSEMBLY DEVICES
RP-J-18	02-02-12	DOWEL ASSEMBLY DEVICES
RP-J-19	02-02-12	DOWEL ASSEMBLY DEVICES



STATE OF TENNESSEE  
DEPARTMENT OF  
TRANSPORTATION

ROADWAY INDEX  
AND  
STANDARD  
ROADWAY  
DRAWINGS

**ROADWAY AND PAVEMENT APPURTENANCES (CONT'D)**

RP-J-23	07-25-12	CONCRETE PAVEMENT REPAIR DETAILS	S-GRS-3	03-28-17	SPECIAL CASE: GUARDRAIL FOOTING	T-M-9	11-01-11	PAVEMENT MARKING AND SIGNING DETAILS FOR RAMP INTERSECTIONS
RP-J-24	05-27-01	CONCRETE PAVEMENT SPALL AND RANDOM CRACK REPAIR DETAILS	S-GRS-4	03-16-17	SPECIAL CASE GUARDRAIL HEIGHT TRANSITION DETAIL	T-M-15	08-02-18	ASPHALT SHOULDER RUMBLE STRIP INSTALLATION DETAILS FOR INTERSTATE AND ACCESS CONTROLLED ROUTES
RP-J-25	05-27-01	CONCRETE PAVEMENT JOINT REPAIR DETAILS	S-GRC-3	10-10-16	GUARDRAIL CONNECTION TO BRIDGE ENDS OR BARRIER WALL	T-M-15A	08-02-18	ASPHALT SHOULDER RUMBLE STRIP INSTALLATION DETAILS FOR NON-ACCESS CONTROLLED ROUTES
RP-I-5	12-18-96	EXAMPLES OF STREET & ALLEY INTERSECTIONS	S-GRC-4		MEDIAN DIVIDER GUARDRAIL TRANSITION TO CONCRETE MEDIAN BARRIER	T-M-16	08-02-18	ASPHALT SHOULDER RUMBLE STRIPE INSTALLATION DETAILS FOR NON-ACCESS CONTROLLED ROUTES
RP-R-1	05-27-01	STANDARD RAMPS TO SIDE ROADS	S-GRC-5		GUARDRAIL CONNECTION TO BRIDGE RAILING CONCRETE PARAPET	T-FAB-1	05-27-97	FLASHING YELLOW ARROW BOARD
RP-SC-1		6" SLOPING CONCRETE CURBS AND CONCRETE CURBS AND GUTTERS	S-GRC-6		GUARDRAIL CONNECTION TO BRIDGE ENDS (TRAILING ENDS)	T-PBR-1	03-16-17	INTERCONNECTED PORTABLE BARRIER RAIL
RP-VC-10		VERTICAL CONCRETE CURBS AND CONCRETE CURBS AND GUTTERS	S-GRT-2	03-28-17	GUARDRAIL CONNECTION TO BRIDGE ENDS FOR LOW SPEED ROADWAYS	T-PBR-2	03-16-17	DETAIL FOR FLEXIBLE DELINEATORS
RP-VC-11		VERTICAL CONCRETE CURBS AND GUTTERS 6" AND 7" DEPTH	S-GRT-2P	07-05-17	TYPE 38 GUARDRAIL TERMINAL	T-WZ-10	04-02-12	ADVANCE ROAD WORK SIGNING ON HIGHWAYS AND FREEWAYS
W-CIP-1	05-07-18	ROADWAY FEATURES AT CAST IN PLACE RETAINING WALL	S-GRT-2R	07-05-17	EARTH PAD FOR TYPE 38 AND TYPE 21 TERMINAL	T-WZ-11	03-05-17	ONE LANE CLOSURE DETAIL ON DIVIDED HIGHWAYS
W-MSE-1		ROADWAY FEATURES FOR MSE SEGMENTAL PRECAST FACING RETAINING WALL	S-GRT-2R	07-05-17	EARTH PAD FOR TYPE 38 AND TYPE 21 TERMINAL (RETROFIT)	T-WZ-13	03-05-17	TWO-OUTSIDE LANE CLOSURE ON FREEWAY OR EXPRESSWAY
W-MSE-2		ROADWAY FEATURES FOR MSE MODULAR BLOCK FACING RETAINING WALL	S-GRA-3	07-05-17	TYPE 13 GUARDRAIL ANCHOR	T-WZ-14	03-05-17	TWO-OUTSIDE LANE CLOSURE ON INTERSTATES AND EXPRESSWAYS (PORTABLE BARRIER RAIL)
W-SG-1		STANDARD GRAVITY-TYPE RETAINING WALLS	S-GRA-4	07-05-17	IN-LINE GUARDRAIL ANCHOR	T-WZ-15	03-05-17	INTERIOR LANE CLOSURE ON FREEWAYS OR EXPRESSWAYS
W-SP-1		ROADWAY FEATURES AT SOLDIER FILE AND SOIL ANCHORED RETAINING WALLS	S-GRA-5	03-28-17	FLARED GUARDRAIL ANCHOR	T-WZ-16	03-05-17	LANE SHIFT ON DIVIDED HIGHWAYS AND FREEWAYS

**MULTIMODAL**

MM-CR-1		DETECTABLE WARNING SURFACE PLACEMENT ON CURB RAMPS	S-SSMB-2	08-19-13	51" SINGLE SLOPE CONCRETE BARRIER WALL	T-WZ-16	03-05-17	LANE SHIFT ON DIVIDED HIGHWAYS AND FREEWAYS
MM-CR-3		PARALLEL CURB RAMP	S-SSMB-3	07-16-13	51" HALF SIZE SINGLE SLOPE CONCRETE BARRIER WALL	T-WZ-18	03-05-17	SHOULDER CLOSURE DETAIL FOR FREEWAYS AND DIVIDED HIGHWAYS
MM-CR-4		PEDESTRIAN REFUGE	S-SSMB-4	04-12-16	FLARED SINGLE SLOPE CONCRETE MEDIAN BARRIER WALL (VERTICAL BACK)	T-WZ-21	03-05-17	LANE CLOSURE WITH LEFT HAND MERGE AND LANE SHIFT
MM-CR-5		SINGLE CROSSING CURB RAMP IN CURVE	S-SSMB-5		SINGLE SLOPE MEDIAN BARRIER WALL CATCH BASIN DETAIL	T-WZ-30	09-01-05	TRAFFIC CONTROL 2-LANE, 2-WAY DIVERSION (40 MPH OR LESS)
MM-CR-7		CURB RAMPS IN CURVE BI-DIRECTIONAL DUAL CROSSING	S-SSMB-6	10-10-16	GUARDRAIL ATTACHMENT TO SINGLE SLOPE CONCRETE BARRIER WALL	T-WZ-31	09-01-05	TRAFFIC CONTROL 2-LANE, 2-WAY DIVERSION (GREATER THAN 40 MPH)
MM-CR-9		ALTERNATIVE CURB RAMP DETAILS	S-SSMB-8	05-20-14	FOOTING DETAILS FOR OVERHEAD SIGN STRUCTURE 51" MEDIAN BARRIER WALL	T-WZ-32	03-05-17	TRAFFIC CONTROL PLAN SIGNAL LAYOUT FOR TRAFFIC SIGNAL AT TWO LANE BRIDGE RECONSTRUCTION SITE
MM-PS-1		DETAILS FOR PEDESTRIAN STEPS AND HANDRAILS	S-F-1	05-24-12	HIGH VISIBILITY FENCE	T-WZ-33	05-27-98	TRAFFIC CONTROL PLAN FOR CLOSE INTERSECTION CONDITIONS USING TRAFFIC SIGNAL AT TWO LANE BRIDGE RECONSTRUCTION SITE
MM-SW-1		DETAILS FOR CONCRETE SIDEWALKS	S-F-10B	11-15-17	STANDARD RIGHT-OF-WAY CHAIN LINK FENCE	T-WZ-34	09-01-05	TRAFFIC CONTROL PLAN GENERAL NOTES FOR TRAFFIC SIGNAL AT TWO LANE BRIDGE RECONSTRUCTION SITE
MM-TS-2	01-07-19	LATERAL OFFSETS FOR SIDEWALK AND SHARED USE PATH	S-F-10C	11-15-17	RIGHT-OF-WAY FENCE AT BRIDGES AND BOX CULVERTS	T-WZ-35	04-02-12	TRAFFIC CONTROL PLAN PAY ITEM AND SIGN DETAILS FOR TRAFFIC SIGNAL AT TWO LANE BRIDGE RECONSTRUCTION SITE

**SAFETY DESIGN AND FENCES**

S-CZ-1		CLEAR ZONE CRITERIA	S-FG-1D	11-15-17	STANDARD STOCK FENCE GATE	T-WZ-40	03-05-17	RIGHT LANE CLOSURES AT NEAR SIDE OF INTERSECTIONS
S-PL-1		SAFETY PLAN AT ROADSIDE HAZARDS	S-FG-20	11-15-17	EXAMPLES OF WATER GATES AND WATER CROSSINGS	T-WZ-41	03-05-17	LEFT LANE CLOSURES AT NEAR SIDE OF INTERSECTIONS
S-PL-2	10-10-16	SAFETY PLAN AT SIDERoads OR PRIVATE DRIVES	S-GR2B-1		W-BEAM & THRIE BEAM BARRIER RAIL AND RUB RAIL DETAILS	T-WZ-42	03-05-17	CENTER LANE CLOSURES AT NEAR SIDE OF INTERSECTIONS
S-PL-3	10-10-16	SAFETY PLAN: MINIMUM INSTALLATION AT BRIDGE ENDS	S-GR2B-2		GUARDRAIL HARDWARE DETAILS	T-WZ-55	10-10-16	SIDEWALK TRAFFIC CONTROL
S-PL-4	10-10-16	SAFETY PLAN FOR BRIDGE PIERS IN CLEAR ZONE	S-GR2B-3		GUARDRAIL HEIGHT ADJUSTMENT	EC-STR-3B	03-16-17	SILT FENCE
S-PL-6	10-10-16	SAFETY PLAN FOR BRIDGE ENDS IN MEDIANS	S-GR2B-4		GUARDRAIL TERMINAL ANCHOR TYPE 13	EC-STR-3C	08-01-12	SILT FENCE WITH WIRE BACKING
S-PL-6	10-10-16	SAFETY PLAN SAFETY HARDWARE PLACEMENT ON OUTSIDE EDGE				EC-STR-3E	04-01-08	SILT FENCE FABRIC JOINING DETAILS
S-PL-6A	07-05-17	SAFETY PLAN SAFETY HARDWARE PLACEMENT IN MEDIAN				EC-STR-6	05-06-16	ROCK CHECK DAM

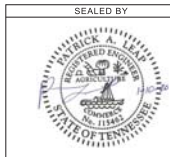
**DESIGN - TRAFFIC CONTROL**

T-M-1	07-05-17	DETAILS OF PAVEMENT MARKINGS FOR CONVENTIONAL ROADS AND MARKING ABBREVIATIONS	T-M-2	08-02-18	DETAILS OF PAVEMENT MARKINGS FOR CONVENTIONAL ROADS	EC-STR-19	04-01-08	CATCH BASIN PROTECTION
T-M-2	08-02-18	DETAILS OF PAVEMENT MARKINGS FOR CONVENTIONAL ROADS	T-M-3	07-24-14	MARKING STANDARDS FOR TRAFFIC ISLANDS, MEDIANS & PAVED SHOULDERS ON CONVENTIONAL ROADS	EC-STR-39A	08-01-12	CURB INLET PROTECTION TYPE 3 & 4
T-M-3	07-24-14	MARKING STANDARDS FOR TRAFFIC ISLANDS, MEDIANS & PAVED SHOULDERS ON CONVENTIONAL ROADS	T-M-4	08-02-18	STANDARD INTERSECTION PAVEMENT MARKINGS	EC-STR-25	08-01-12	TEMPORARY CULVERT CROSSING, CONSTRUCTION EXIT, CONSTRUCTION FORD
T-M-4	08-02-18	STANDARD INTERSECTION PAVEMENT MARKINGS	T-M-5	04-23-13	MARKING DETAILS FOR EXPRESSWAYS & FREEWAYS			
T-M-5	04-23-13	MARKING DETAILS FOR EXPRESSWAYS & FREEWAYS	T-M-6	01-07-19	MARKING DETAIL FOR EXPRESSWAY & FREEWAY INTERCHANGES			
T-M-6	01-07-19	MARKING DETAIL FOR EXPRESSWAY & FREEWAY INTERCHANGES	T-M-7	01-12-12	GORE MARKING DETAILS FOR EXPRESSWAY & FREEWAY INTERCHANGES			
T-M-7	01-12-12	GORE MARKING DETAILS FOR EXPRESSWAY & FREEWAY INTERCHANGES	T-M-8	01-12-12	MARKING DETAILS FOR EXPRESSWAYS & FREEWAYS			

**EROSION PREVENTION AND SEDIMENT CONTROL**

EC-STR-3B	03-16-17	SILT FENCE
EC-STR-3C	08-01-12	SILT FENCE WITH WIRE BACKING
EC-STR-3E	04-01-08	SILT FENCE FABRIC JOINING DETAILS
EC-STR-6	05-06-16	ROCK CHECK DAM
EC-STR-19	04-01-08	CATCH BASIN PROTECTION
EC-STR-39A	08-01-12	CURB INLET PROTECTION TYPE 3 & 4
EC-STR-25	08-01-12	TEMPORARY CULVERT CROSSING, CONSTRUCTION EXIT, CONSTRUCTION FORD

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2020	33003-3166-44	1A1
		33003-3167-44	

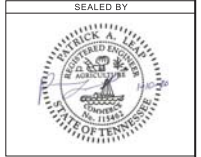


STATE OF TENNESSEE  
DEPARTMENT OF  
TRANSPORTATION

STANDARD  
ROADWAY  
DRAWINGS

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2019	33003-2166-44	1B
		33003-2167-44	
CONST.	2020	33003-3166-44	1B
		33003-3167-44	

PROJECT COMMITMENTS			
COMMITMENT ID	SOURCE DIVISION	DESCRIPTION	STA. / LOCATION
EDHZ001	ENVIRONMENTAL DIVISION, HAZARDOUS MATERIALS	ASBESTOS CONTAINING MATERIAL (ACM) SURVEYS WERE COMPLETED ON BRIDGE NO. 33100240055, GERMANTOWN RD OVER I-24, LM 12.08, (33-10024-12.08) AND BRIDGE NO. 33100240057, BELVOIR AVE OVER I-24, LM 12.59 (33-10024-12.59). NO ACM WAS DETECTED. NO SPECIAL ACCOMODATIONS FOR DEMOLITION AND WASTE DISPOSAL ARE ANTICIPATED FOR THESE STRUCTURES AND THE MATERIAL CAN BE DEPOSITED IN A C&D LANDFILL. PRIOR TO THE DEMOLITION OR REHABILITATION OF ANY STRUCTURE (BRIDGE OR BUILDING), THE CONTRACTOR IS REQUIRED TO SUBMIT THE NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS STANDARD 10-DAY NOTICE OF DEMOLITION TO THE TDEC DIVISION OF AIR POLLUTION CONTROL (PER TDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (JANUARY 1, 2015) SECTIONS 107.08 D AND 202.03).	BRIDGE NO. 33100240055, 33100240057
EDHZ002	ENVIRONMENTAL DIVISION, HAZARDOUS MATERIALS	A SUPPLEMENTAL ASBESTOS CONTAINING MATERIAL (ACM) SURVEY WAS COMPLETED ON BRIDGE NO. 33100240055, I-24 OVER GERMANTOWN RD, LM 12.08. THE BRIDGE HAS TEN ASBESTOS DRAIN PIPES EACH APPROXIMATELY 1-FOOT LONG AT 5% CROCIDOLITE AND 30% CHRYSOTILE. THESE DRAIN PIPES ARE ALONG THE NORTHERN SIDE OF THE BRIDGE, NEAR BOTH ABUTMENTS. PLEASE SEE THE REPORT FOR FURTHER DETAILS AND PHOTOGRAPHS. SEE NOTE EDHZ003.	BRIDGE NO. 33100240055
EDHZ003	ENVIRONMENTAL DIVISION, HAZARDOUS MATERIALS	THE STATE OF TENNESSEE ASBESTOS ACCREDITATION REQUIREMENTS (TDEC RULES CHAPTER 1200-01-20) MANDATES THAT ACM ABATEMENT WORK BE PERFORMED BY AN ACCREDITED FIRM (CONTRACTOR) USING ACCREDITED ABATEMENT WORKERS AND SUPERVISORS. ABATEMENT OF THIS MATERIAL SHOULD BE ACCOMPLISHED PER SP202ACM SPECIAL PROVISION REGARDING REMOVAL OF ASBESTOS-CONTAINING-MATERIALS. ACM ABATEMENT SHOULD BE COMPLETED PRIOR TO ANY DEMOLITION ACTIVITIES IF POSSIBLE. PRIOR TO THE DEMOLITION OR REHABILITATION OF ANY STRUCTURE (BRIDGE OR BUILDING), THE CONTRACTOR IS REQUIRED TO SUBMIT THE NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS STANDARD 10-DAY NOTICE OF DEMOLITION TO THE TDEC DIVISION OF AIR POLLUTION CONTROL (PER TDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (JANUARY 1, 2015) SECTIONS 107.08 D AND 202.03).	BRIDGE NO. 33100240055



STATE OF TENNESSEE  
DEPARTMENT OF  
TRANSPORTATION

PROJECT  
COMMITMENTS



TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2020	33003-3166-44	2A1
		33003-3167-44	

**ESTIMATED ROADWAY QUANTITIES**

ITEM NO.	DESCRIPTION	UNIT	S. GERMANTOWN		TOTAL QUANTITY
			QUANTITY 13003-3166-44	QUANTITY 33003-3167-44	
716-08.20	REMOVAL OF PAVEMENT MARKING (LINE)	L.M.	2	6	8
716-12.01	ENHANCED FLATLINE THERMO PVMIT MRKNG (4N LINE)	L.M.	1.5	0.2	1.7
716-12.02	ENHANCED FLATLINE THERMO PVMIT MRKNG (6N LINE)	L.M.	2	1.5	3.5
716-13.02	STRAY THERMO PVMIT MRKNG (60 mil) (6N LINE)	L.M.	3.5	1.75	5.25
717-01	MMBE LIZATION	L.S.	0.5	0.5	1
725-21.07	PORTABLE SMART WORKZONE SYSTEM	DAY	275	275	550
725-28.01	ROAD SIDE UNIT (RSU)	EACH	2	2	4
725-28.07	ETHERNET SWITCH (FIELD LAYER 2)	EACH	2	2	4
730-01.02	REMOVAL OF SIGNAL EQUIPMENT	EACH	2	2	4
730-02.09	SIGNAL HEAD ASSEMBLY(130 WITH BACKPLATE)	EACH	12	14	26
730-02.30	SIGNAL HEAD ASSEMBLY(140 A4F WITH BACKPLATE)	EACH	2	2	4
730-03.21	INSTALL PULL BOX (TYPE B)	EACH	7	8	15
730-03.24	INSTALL PULL BOX (FIBER OPTIC-TYPE B)	EACH	4	3	7
730-03.25	INSTALL PULL BOX (ELECTRICAL SERVICE PULL BOX)	EACH	4	3	7
730-05.01	ELECTRICAL SERVICE CONNECTION	EACH	1	1	2
730-05.02	SERVICE CABLE (2 CONDUCTOR, # 8 AWG)	L.F.	300	205	505
730-05.04	MODIFY EXISTING ELECTRICAL SERVICE CONNECTION	EACH	1	1	2
730-08.02	SIGNAL CABLE - 5 CONDUCTOR	L.F.	1270	1300	2570
730-08.04	SIGNAL CABLE - 9 CONDUCTOR	L.F.	1080	766	1846
730-08.40	INTERCONNECT CABLE - FIBER OPTIC	L.F.	500	405	905
730-11.10	RISER ASSEMBLY (2" COIM AND POWER RISERS)	EACH	4	4	8
730-12.02	CONDUIT 2" DIAMETER (PVC)	L.F.	640	290	930
730-12.13	CONDUIT 2" DIAMETER (JACK AND BORE)	L.F.	1335	1175	2510
730-13.08	VEHICLE DETECTOR (90-DEGREE CAMERA)	EACH	4	3	7
730-13.14	VEHICLE DETECTOR (360-DEGREE CAMERA)	EACH	2	2	4
730-15.32	CABINET (EIGHT PHASE BASE MOUNTED)	EACH	2	2	4
730-16.14	CONTROLLER (ATC)	EACH	2	2	4
730-23.30	PEDESTAL POLE (10' PEDESTRIAN POLE)	EACH	5	4	9
730-23.38	CANTILEVER SIGNAL SUPPORT (1 ARM @ 50' W/00' UPRIGHT)	EACH	1	-	1
730-23.37	CANTILEVER SIGNAL SUPPORT (2 @ 35' & 60')	EACH	1	-	1
730-23.38	CANTILEVER SIGNAL SUPPORT (2 @ 50' & 60')	EACH	1	-	1
730-23.39	CANTILEVER SIGNAL SUPPORT (1 ARM @ 55')	EACH	1	-	1
730-23.72	CANTILEVER SIGNAL SUPPORT (1 ARM @ 35')	EACH	-	2	2
730-23.80	CANTILEVER SIGNAL SUPPORT (1 ARM @ 40')	EACH	-	2	2
730-23.88	CANTILEVER SIGNAL SUPPORT (1 ARM @ 45')	EACH	-	2	2
730-26.11	COUNTDOWN PED SIGNAL HEAD WAUDBLE PUSH BUTTON & 15IN SIGN	EACH	10	14	24
740-10.03	GEOTEXTILE (TYPE III) EROSION CONTROL	S.Y.	600	153	753
801-01	SEEDING (WITH MULCH)	UNIT	7	3	10
801-01.07	TEMPORARY SEEDING (WITH MULCH)	UNIT	100	-	100
801-01.34	GRASS SEED MIX (RIPZNFLL)	UNIT	10	-	10
801-01.65	TEMPORARY MULCH	UNIT	50	-	50
801-03	WATER (SEEDING & SODDING)	M.G.	2	1	3
802-02.30	CUTTINGS: SALIX NIGRA (18IN-24IN LENGTH)	EACH	22	-	22
803-01	SODDING (NEW SOD)	S.Y.	7800	-	7800
806-02.03	PROJECT MOWING	CYCL	4	4	8

**FOOTNOTES**

- ITEM NO. 203-50 SHALL INCLUDE GEOTEXTILE (TYPE IV), BORROW EXCAVATION (GRADED SOLID ROCK) OR MACHINED RIP-RAP (CLASS A-1, CLASS B, OR CLASS C), MINERAL AGGREGATE (SIZE 57) AND TEMPORARY DRAINAGE PIPE (IF APPLICABLE). THE MINERAL AGGREGATE INCLUDES AN ADDITIONAL TEN (10) PERCENT FOR MAINTENANCE.
- SEE SUBSECTION 209.07 OF THE STANDARD SPECIFICATIONS FOR MAINTENANCE REPLACEMENT. ALL QUANTITIES ARE TO BE USED AS DIRECTED BY THE ENGINEER.
- ITEM TO BE USED AS DIRECTED BY THE ENGINEER.
- STANDARD DRAWING STD-1-7 IS TO BE USED FOR BURIAL OF THE OUTLET PIPE AND FOR END TREATMENT DETAILS.
- THIS ITEM SHALL BE A PORTABLE ENERGY ABSORBING TERMINAL MEETING THE REQUIREMENTS OF AASHTO MASH FOR TEST LEVEL 3. THE PAY ITEM WILL INCLUDE FURNISHING AND INSTALLING ALL COMPONENTS AS SHOWN ON THE MANUFACTURER'S DRAWING.
- "RECORD A COMMENT" SIGN SHALL BE 96"x48" (BLUE BACKGROUND WITH WHITE COPY) 0.100" SHEET ALUMINUM.
- ITEM TO BE USED ONLY WHEN THE CONTRACTOR ESTABLISHES A REDUCED SPEED LIMIT WITHIN THE PROJECT CONSTRUCTION WORK ZONE LIMITS. ITEM INCLUDES SIGN FACE, SUPPORTS, AND TWO TYPE 'B' FLASHERS PER THE STANDARD SPECIFICATIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR TURNING ON THE TYPE 'B' FLASHERS WHEN WORKERS ARE IN THE CONSTRUCTION WORK ZONE AND TURNING THEM OFF WHEN WORKERS ARE NO LONGER IN THE CONSTRUCTION WORK ZONE.
- INCLUDES 1 THOUSAND GALLONS FOR EROSION PREVENTION AND SEDIMENT CONTROL.
- ITEM INCLUDES LITTER AND TRASH REMOVAL. THIS WORK WILL NOT BE MEASURED AND PAID FOR DIRECTLY BUT WILL BE INCLUDED IN THE COST OF ITEM NO. 806-02.03, PROJECT MOWING, PER CYCL.
- INCLUDES RAMP "A" AND SIDEWALKS.
- TO BE USED AS WEEDED.
- TO BE USED FOR 4" CMP PIPE REPAIR.
- TO BE USED AT THE END OF THE PROJECT TO REMOVE EXISTING PAVEMENT MARKINGS AND GRINDING FROM TRAFFIC CONTROL ON I-24.
- ITEM INCLUDES THE COMPLETE REMOVAL OF ALL EXISTING SIGNAL EQUIPMENT AND POLES AT S. GERMANTOWN RD AT S. TERRACE, S. GERMANTOWN RD. AT N. TERRACE, BELVOIR AT S. TERRACE AND BELVOIR AT N. TERRACE.
- CONTRACTOR TO CONTACT THE CITY OF CHATTANOOGA ON TYPE OF CONTROLLER REQUIRED.
- INCLUDES REMOVAL OF CONCRETE DITCHES IN THE AREA OF THE TEMPORARY RAMPS.
- ELECTRICAL SERVICE PULL BOX SHALL BE A TYPE C LIGHTING PULL BOX. SEE TDOT STANDARD DRAWING T-1-3 FOR MORE INFORMATION.
- ITEM NUMBER IS FOR THE TYING IN THE UPGRADED TRAFFIC SIGNAL TO THE SERVICE OF THE EXISTING TRAFFIC SIGNAL. ALL WIRING, UPGRADES AND CONNECTIONS WITH FIBER SHALL BE INCLUDED IN THIS ITEM.
- ITEM NUMBER IS FOR NEW ELECTRICAL SERVICE TO THE INTERSECTIONS THAT WERE PREVIOUSLY POWERED FROM THE ADJACENT INTERSECTIONS ON S. GERMANTOWN RD AND BELVOIR AVE.
- VIDEO DETECTORS TO REPLACE EXISTING WIRELESS PUCK SYSTEM DETECTION.
- ITEM INCLUDES THE FOUNDATION TO MATCH THE EXISTING LIGHTING STANDARD BOLT PATTERN AND DESIGNED FOR THE EXISTING STANDARD.
- ITEM IS FOR THE POLES SHOWN IN THE LIGHTING SCHEDULE AS BEING REMOVED AND REPLACED. THE CONTRACTOR IS TO VERIFY THAT THE LIGHTING STANDARD IS OPERATIONAL BEFORE REMOVING STANDARD. THE CONTRACTOR IS TO REMOVE THE EXISTING POLE AND STORE THE STANDARD IN A SAFE LOCATION WHILE POLE IS NOT INSTALLED. THE POLE MUST BE REINSTALLED AND TESTED SHOWING THAT THE STANDARD IS IN GOOD WORKING ORDER BEFORE ACCEPTANCE WILL BE GIVEN.
- ITEM TO INCLUDE 10 C.Y. OF CLASS "A-1" RIP-RAP FOR BELVOIR BRIDGE END DRAIN OUTLET TREATMENTS. 5 C.Y. PER OUTLET TREATMENT.
- INCLUDES 419 SQUARE FEET FOR MEDIAN BARRIER CONCRETE CAP AT BELVOIR AVE.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING THE LOCAL UTILITY TO OBTAIN THE ESTIMATE FOR ANY CHARGES BY THE UTILITY PROVIDING ELECTRICAL SERVICE TO THE SIGNAL CONTROLLER. THESE CHARGES ARE TO BE INCLUDED IN THE BID PRICE UNDER ITEM NO. 730-05.04.
- COST OF INSTALLATION AND HARDWARE IS TO BE INCLUDED IN THE BID PRICE UNDER ITEM NO. 713-14.21. SEE SIGN SCHEDULE SHEET FOR DETAILS.
- INCLUDES 4 EACH OF TN-68A SIGNS. INCLUDES THE COST OF INSTALLATION AND HARDWARE.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN OF ALL SIGNAL POLES, MAST ARMS, AND FOOTING FOUNDATIONS. THIS BID ITEM INCLUDES THE COST OF THE FOUNDATION DESIGN AND IF NECESSARY, THE SOIL EXPLORATION REQUIRED FOR THE DESIGN OF THE SIGNAL POLE FOUNDATION.
- PEDESTRIAN PUSHBUTTON SHALL PROVIDE TACTILE VIBRATION ARROW BUTTON, AUDIBLE SOUND AND SHALL MEET THE PROPOSED ACCESSIBILITY GUIDELINES FOR PEDESTRIAN FACILITIES. COST TO INCLUDE FRAME, SIGN (R10-3E), ADA COMPLIANT PUSHBUTTON AND MOUNTING HARDWARE.
- ITEM NUMBER FOR ROADSIDE DSRC UNIT. CONTRACTOR SHALL CONTACT THE CITY OF CHATTANOOGA'S TRAFFIC DEPARTMENT FOR TYPE RADIO REQUIRED.
- CONTRACTOR TO CONTACT THE CITY OF CHATTANOOGA ON TYPE ETHERNET SWITCH REQUIRED.
- TO BE USED ALONG RESTORED STR-2 CHANNEL AS DIRECTED BY THE ENGINEER.

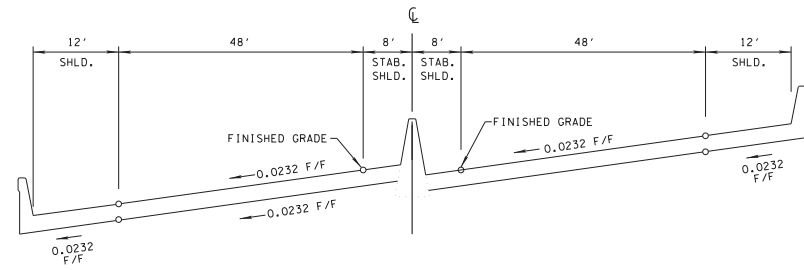
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ESTIMATED  
ROADWAY  
QUANTITIES  
S. GERMANTOWN RD

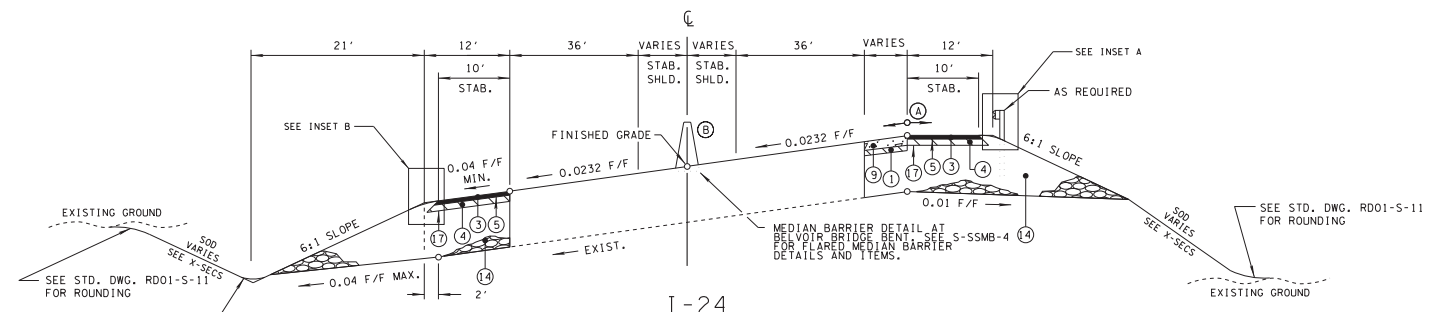


TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2020	33003-2166-44	2B
CONST.	2020	33003-3166-44	2B
		33003-3167-44	



**I-24  
BRIDGE SUPERELEVATED SECTION**  
STA 138+50.53 TO STA 139+70.53

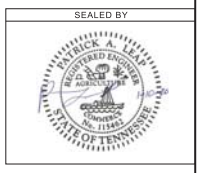
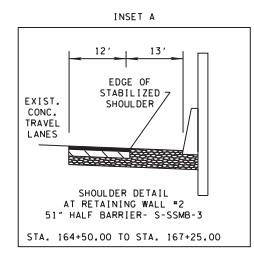
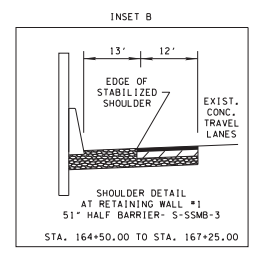
(A) THE SLOPES OF THE SHOULDER AND ROADWAY PAVEMENT SHALL NOT EXCEED AN ALGEBRAIC DIFFERENCE OF 0.07.



**I-24  
SUPERELEVATED SECTION**

(B) PROP. BARRIER WALL  
I-24 STA. 137+00.53 TO I-24 STA. 141+20.53  
I-24 STA. 164+96.56 TO I-24 STA. 166+63.82

PAVEMENT GRINDING LIMITS  
I-24 STA. 123+85.00 TO I-24 STA. 178+30.00

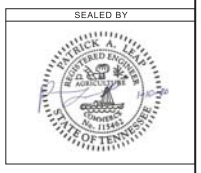
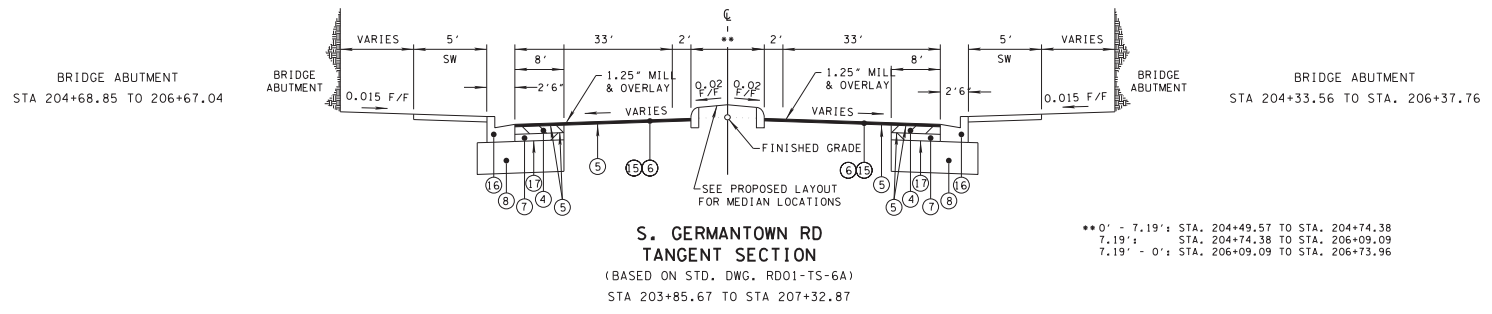
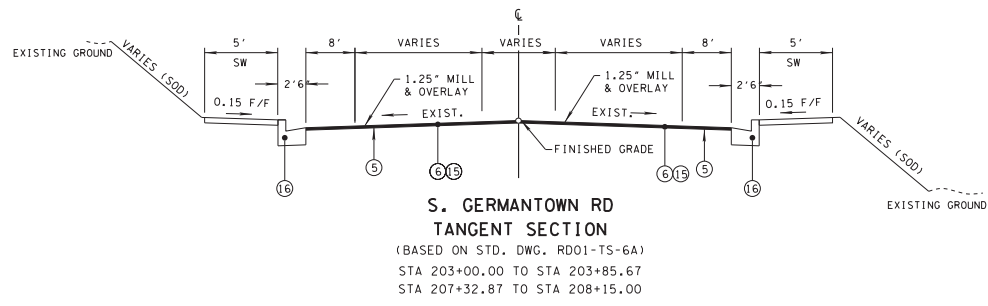


STATE OF TENNESSEE  
DEPARTMENT OF  
TRANSPORTATION

**TYPICAL  
SECTIONS**  
INTERSTATE 24

1/10/2020  
F:\3673013673000\04\_CAD\TRNS\002B.dgn

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2019	33003-2166-44	2B1
		33003-2167-44	
CONST.	2020	33003-3166-44	2B1
		33003-3167-44	

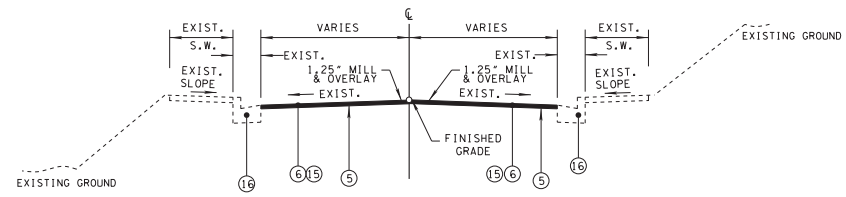


STATE OF TENNESSEE  
DEPARTMENT OF  
TRANSPORTATION

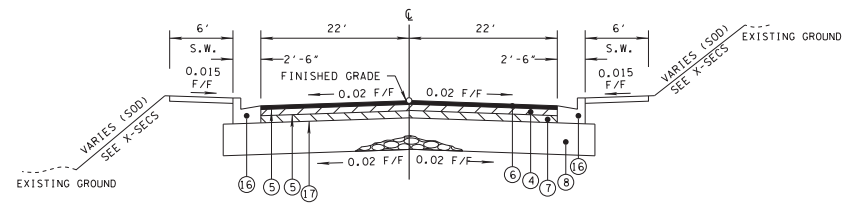
**TYPICAL  
SECTIONS**  
SOUTH GERMANTOWN ROAD

1/10/2020 F:\36\36730\3673000\04\_CAD\TRNS\002B1.sht

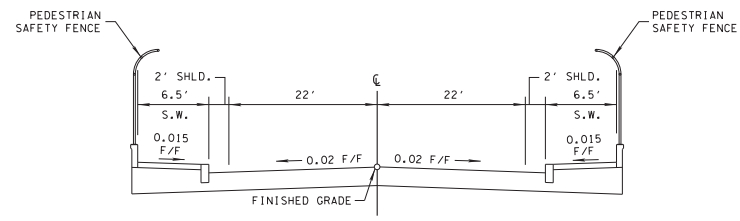
TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2019	33003-2166-44	262
CONST.	2020	33003-3166-44	262
		33003-3167-44	



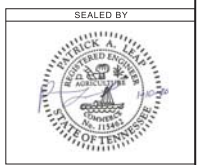
**BELVOIR AVE  
TANGENT SECTION**  
(BASED ON STD. DWG. RD01-TS-6A)  
STA 303+53.00 TO STA 304+25.60  
STA 306+70.73 TO STA 307+45.00



**BELVOIR AVE  
TANGENT SECTION**  
(BASED ON STD. DWG. RD01-TS-6A)  
STA 304+25.60 TO STA 304+77.69  
STA 306+29.69 TO STA 306+70.73



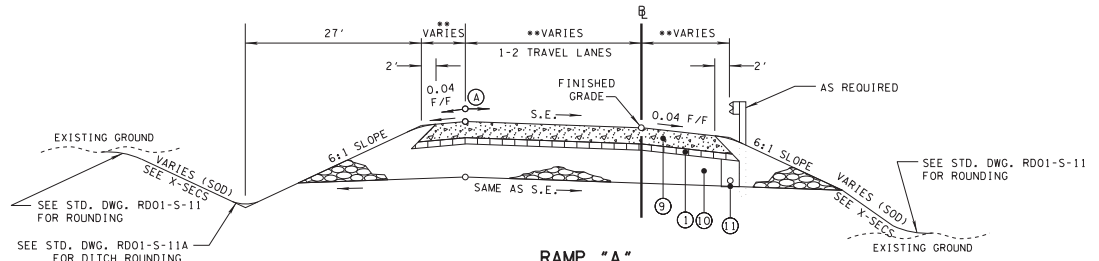
**BELVOIR AVE  
TANGENT SECTION  
BRIDGE SECTION**  
STA 304+77.69 TO STA 306+29.69



STATE OF TENNESSEE  
DEPARTMENT OF  
TRANSPORTATION

TYPICAL  
SECTIONS  
BELVOIR AVENUE

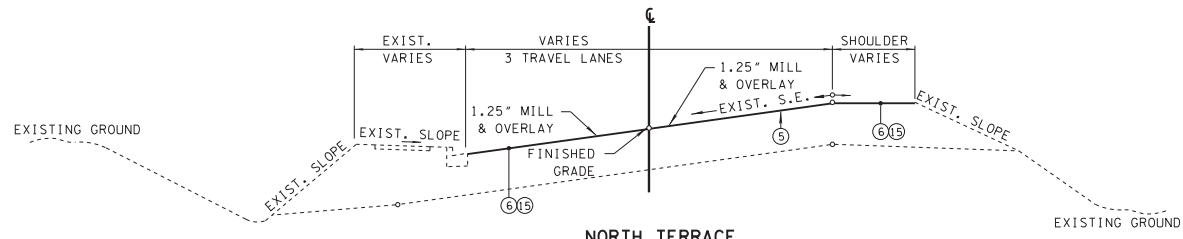
TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2019	33003-2166-44	2B3
		33003-2167-44	
CONST.	2020	33003-3166-44	2B3
		33003-3167-44	



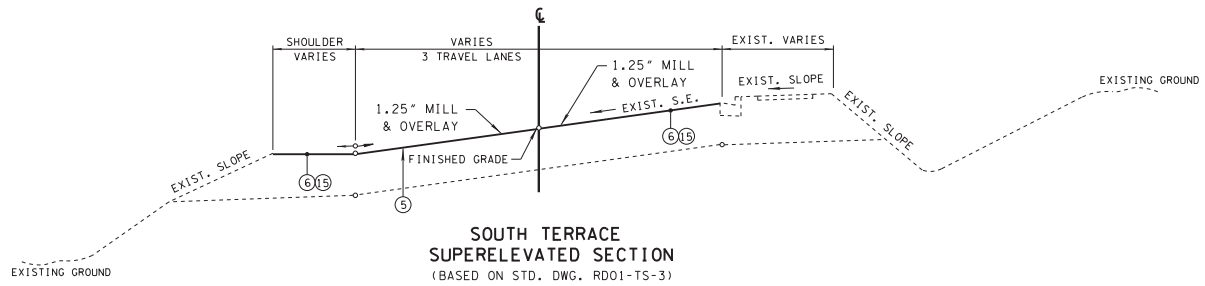
**RAMP "A"  
TANGENT SECTION**  
(BASED ON STD. DWG. RD01-TS-4)  
STA 500+00.00 TO STA 508+45.11

(A) THE SLOPES OF THE SHOULDER AND ROADWAY PAVEMENT SHALL NOT EXCEED AN ALGEBRAIC DIFFERENCE OF 0.07.

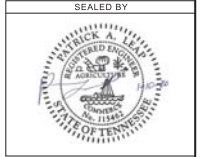
** STATION RANGE	GORE	SHLD. (LT)	TRAVEL LANE 1	TRAVEL LANE 2	SHLD. (RT)
STA 500+00.00 TO STA 504+40.43	0'-30"	N/A	16'	0'	8'
STA 504+40.43 TO STA 505+23.00	N/A	6'	16'	0'	8'
STA 505+23.00 TO STA 506+73.00	N/A	6'	16'-12"	0'-12"	8'-12"
STA 506+73.00 TO STA 508+45.11	N/A	6'	12'	12'	12'



**NORTH TERRACE  
SUPERELEVATED SECTION**  
(BASED ON STD. DWG. RD01-TS-3)  
STA 600+35.58 TO STA 613+25.00



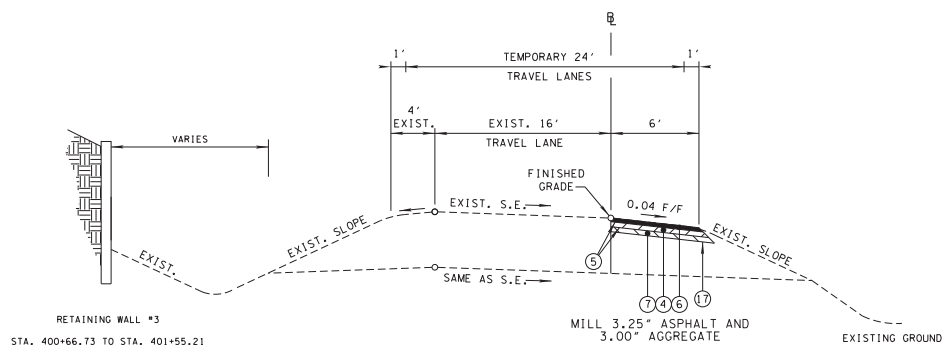
**SOUTH TERRACE  
SUPERELEVATED SECTION**  
(BASED ON STD. DWG. RD01-TS-3)  
STA 700+38.32 TO STA 714+00.00



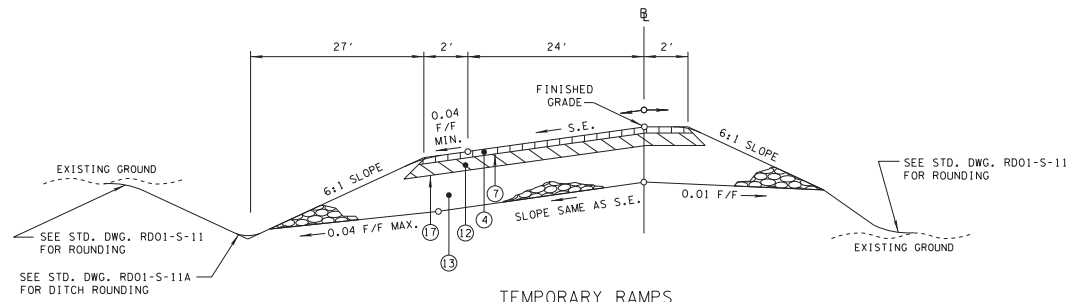
STATE OF TENNESSEE  
DEPARTMENT OF  
TRANSPORTATION

**TYPICAL  
SECTIONS**  
RAMP "A"

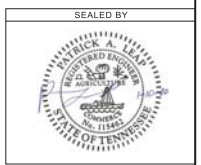
TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2019	33003-2166-44	2B4
		33003-2167-44	
CONST.	2020	33003-3166-44	2B4
		33003-3167-44	



RAMP "B" (TEMPORARY TRAVEL LANES)  
 (BASED ON STD. DWG. RD01-TS-4)  
 STA. 400+00.00 TO 407+02.85



TEMPORARY RAMPS  
 (BASED ON STD. DWG. RD01-TS-4)  
 STA. 0+00.00 TO 5+13.33  
 STA. 7+00.00 TO 11+41.55  
 SEE SHEET 5A



STATE OF TENNESSEE  
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TYPICAL  
 SECTIONS  
 TRAFFIC CONTROL

TYPE	YEAR	PROJECT NO.	SHEET NO.
R. O. W.	2019	33003-2166-44	2B5
		33003-2167-44	
CONST.	2020	33003-3166-44	2B5
		33003-3167-44	

**PROPOSED PAVEMENT SCHEDULE**

<p>① TREATED PERMEABLE BASE (4" DEPTH UNDER ROADWAY) ITEM NO. 313-03 TREATED PERMEABLE BASE</p>	<p>② MINERAL AGGREGATE BASE (6" DEPTH UNDER ROADWAY) ITEM NO. 303-01 MINERAL AGGREGATE, TYPE A BASE, GRADING D</p>	<p>③ BITUMINOUS SURFACING (SHOULDERS) (1.25" THICK) (APPROX. 128.75 LBS./S.Y.) ITEM NO. 411-01.07 ASPHALT CONCRETE MIX (PG64-22) (ACS) GRADING E (SHOULDER)</p>
<p>④ BITUMINOUS BINDER (2" THICK) (APPROX. 226 LBS./S.Y.) ITEM NO. 307-01.08 ASPHALT CONCRETE MIX (PG64-22) GRADING B-M2</p>	<p>⑤ TACK COAT BITUMINOUS MATERIAL FOR TACK COAT (TC) ITEM NO. 403-01 @ 0.05 - 0.10 GAL./S.Y. (GENERAL USE) @ 0.08 - 0.12 GAL./S.Y. (MILLING - COLD PLANING)</p>	<p>⑥ BITUMINOUS SURFACING (ROADWAY) (1.25" THICK) (APPROX. 132.5 LBS./S.Y.) ITEM NO. 411-01.10 ASPHALT CONCRETE MIX (PG64-22) (ACS) GRADING D</p>
<p>⑦ BITUMINOUS BASE MIX (ROADWAY) (3" +/- THICK) (APPROX. 345 LBS./S.Y.) ITEM NO. 307-01.01 ASPHALT CONCRETE MIX (PG64-22) (ACS) GRADING A</p>	<p>⑧ MINERAL AGGREGATE BASE (8" DEPTH) ITEM NO. 303-01 MINERAL AGGREGATE, TYPE A BASE, GRADING D</p>	<p>⑨ PORTLAND CEMENT CONCRETE PAVEMENT (PLAIN) (10" DEPTH) ITEM 501-01.03 PORTLAND CEMENT CONCRETE PAVEMENT (PLAIN)</p>
<p>⑩ MINERAL AGGREGATE BASE (6" DEPTH) ITEM NO. 303-01 MINERAL AGGREGATE, TYPE A BASE, GRADING D</p>	<p>⑪ AGGREGATE UNDERDRAIN WITH PIPE (SEE STD, DWG, RD-UD-3) ITEM NO. 710-02 AGGREGATE UNDERDRAIN (WITH PIPE)</p>	<p>⑫ BITUMINOUS BASE MIX (ROADWAY) (4" +/- THICK) (APPROX. 460 LBS./S.Y.) ITEM NO. 307-01.01 ASPHALT CONCRETE MIX (PG64-22) (ACS) GRADING A</p>
<p>⑬ MINERAL AGGREGATE BASE (10" DEPTH) ITEM NO. 303-01 MINERAL AGGREGATE, TYPE A BASE, GRADING D</p>	<p>⑭ MINERAL AGGREGATE BASE (16.75" DEPTH UNDER SHOULDER) ITEM NO. 303-01 MINERAL AGGREGATE, TYPE A BASE, GRADING D</p>	<p>⑮ COLD PLANING (1.25" THICK) (APPROX. 131.25 LBS./S.Y.) ITEM NO. 415-01.01</p>
<p>⑯ CURB AND GUTTER CONCRETE COMBINED CURB AND GUTTER ITEM NO. 702-03 TYPE 6-30</p>	<p>⑰ PRIME COAT BITUMINOUS MATERIAL FOR PRIME COAT (PC) ITEM NO. 402-01 @ 0.30 - 0.35 GAL./S.Y. ITEM NO. 402-02 AGGREGATE FOR COVER MATERIAL (PC) @ 6 - 12 LB/S.Y.</p>	

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STATE OF TENNESSEE  
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TRANSPORTATION

TYPICAL  
SECTIONS  
PAVEMENT SCHEDULE

# GENERAL NOTES

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2020	33003-3166-44	2C
		33003-3167-44	

## GRADING

- (1) ANY AREA THAT IS DISTURBED OUTSIDE LIMITS OF CONSTRUCTION DURING THE LIFE OF THIS PROJECT SHALL BE REPAIRED BY THE CONTRACTOR AT HIS EXPENSE.
- (2) CERTIFICATION FOR ALL BORROW PITS MUST BE OBTAINED IN ACCORDANCE WITH SUBSECTION 107.04 OF THE STANDARD SPECIFICATIONS.
- (3) THE CONTRACTOR SHALL NOT DISPOSE OF ANY MATERIAL EITHER ON OR OFF STATE-OWNED R.C.W. IN A REGULATORY FLOOD WAY AS DEFINED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) WITHOUT APPROVAL BY FEMA. ALL MATERIAL SHALL BE DISPOSED OF IN UPLAND (NON-WETLAND) AREAS AND ABOVE ORDINARY HIGH WATER OF ANY ADJACENT WATERCOURSE. THIS DOES NOT ELIMINATE THE NEED TO OBTAIN ANY OTHER LICENSES OR PERMITS THAT MAY BE REQUIRED BY ANY OTHER FEDERAL, STATE OR LOCAL AGENCY.

## SEEDING AND SODDING

- (1) ALL EXISTING ROADS WITHIN THE RIGHT-OF-WAY AND NOT IN THE GRADED AREA THAT ARE TO BE ABANDONED SHALL BE SCARIFIED, OBLITERATED, TOPSOILED AND SEEDED. SCARIFYING AND OBLITERATING THE PAVEMENT WILL NOT BE MEASURED AND PAID FOR DIRECTLY, BUT THE COST WILL BE INCLUDED IN THE COST OF OTHER ITEMS. TOPSOIL, IN ACCORDANCE WITH SECTION 203 OF THE STANDARD SPECIFICATIONS, WILL BE MEASURED AND PAID FOR UNDER ITEMS 203-04 AND/OR 203-07. SEEDING, IN ACCORDANCE WITH SECTION 801 OF THE STANDARD SPECIFICATIONS, WILL BE MEASURED AND PAID FOR UNDER ITEM 801-01.
- (2) SOD SHALL BE PLACED AT LOCATIONS SHOWN ON THE PLANS TO PREVENT DAMAGE TO ADJACENT FACILITIES AND PROPERTY DUE TO EROSION ON ALL NEWLY GRADED CUT AND FILL SLOPES AS WORK PROGRESSES.
- (3) ITEM NO. 801-01, SEEDING (WITH MULCH), SHALL BE USED WHERE EROSION CONTROL BLANKET OR SOD ARE NOT APPLIED.

## GUARDRAIL

- (4) THE CONTRACTOR SHALL NOT REMOVE ANY SECTIONS OF EXISTING GUARDRAIL TO REWORK SHOULDERS OR FLATTEN SLOPES UNTIL THE ENGINEER CONCURS IN THE NECESSITY OF REMOVAL DUE TO CONSTRUCTION REQUIREMENTS AND THE APPROPRIATE WARNING DEVICES ARE INSTALLED. THE PROPOSED GUARDRAIL, INCLUDING ANY ANCHOR SYSTEM, SHALL BE INSTALLED QUICKLY TO MINIMIZE TRAFFIC EXPOSURE TO ANY HAZARD. NO PAYMENT WILL BE MADE FOR A SECTION OF PROPOSED GUARDRAIL, INCLUDING ANCHORS, UNTIL IT IS COMPLETE IN PLACE.
- (5) IF ANY APPROACH END OF A SECTION OF GUARDRAIL OR BRIDGE RAIL MUST TEMPORARILY BE LEFT INCOMPLETE AND EXPOSED TO TRAFFIC, THE CONTRACTOR SHALL USE TWO (2) TEMPORARY BARRICADES OR DRUMS WITH TYPE "A" LIGHTS AND ROUNDED END ELEMENTS AS MINIMUM MEASURES TO PROTECT TRAFFIC FROM THE HAZARD OF AN EXPOSED END. ALL COST OF FURNISHING AND INSTALLING TEMPORARY BARRICADES OR DRUMS WITH TYPE "A" LIGHTS TO DELINEATE GUARDRAIL END AND A TEMPORARY ROUNDED END ELEMENT SHALL BE INCLUDED IN THE COST OF THE PROPOSED GUARDRAIL END TERMINAL.
- (6) GUARDRAIL IS TO BE COMPLETE IN PLACE BEFORE THE MAINLINE ROADWAY IS OPENED TO TRAFFIC.

## DRAINAGE

- (7) THE CONTRACTOR SHALL SHAPE DITCHES TO THE SPECIFIED DESIGN. THIS WORK WILL NOT BE MEASURED AND PAID FOR DIRECTLY, BUT THE COST WILL BE INCLUDED IN THE COST OF OTHER ITEMS.
- (8) EXCAVATION FOR ALL DRAINAGE STRUCTURES WILL NOT BE MEASURED AND PAID FOR DIRECTLY, BUT WILL BE INCLUDED IN THE PRICE BID PER LINEAR FOOT OF PIPE (PIPE CULVERTS, STORM SEWERS, CONDUITS, ALL OTHER CULVERTS AND MINOR STRUCTURES).
- (9) CULVERT EXCAVATION FOR CONCRETE BOX OR SLAB TYPE CULVERTS OR BRIDGES WILL NOT BE MEASURED AND PAID FOR DIRECTLY, BUT THE COST WILL BE INCLUDED IN THE COST OF OTHER ITEMS.
- (10) THE CUTTING OF INLET AND OUTLET DITCHES WHERE SHOWN ON PLANS OR AS DIRECTED BY THE ENGINEER WILL BE MEASURED AND PAID FOR AS ITEM NO. 203-01 ROAD AND DRAINAGE EXCAVATION (UNCLASSIFIED).

- (11) WHERE A CULVERT (PIPE, SLAB OR BOX) IS MOVED TO A NEW LOCATION OTHER THAN THAT SHOWN ON THE PLANS, INCREASING OR DECREASING THE AMOUNT OF CULVERT EXCAVATION, NO INCREASE OR DECREASE IN THE AMOUNT OF PAYMENT WILL BE MADE DUE TO SUCH CHANGE.
- (12) DURING CONSTRUCTION OF DRAINAGE STRUCTURES ALL COST ASSOCIATED WITH MAINTAINING THE FLOW OF WATER AND TRAFFIC, AT THESE STRUCTURES, DURING THE PHASED CONSTRUCTION OF THIS PROJECT ARE TO BE INCLUDED IN THE UNIT PRICE OF THE DRAINAGE STRUCTURES AND TRAFFIC CONTROL ITEMS.

## FENCING

- (13) LOCATION OF THE FENCE SHALL BE ONE FOOT INSIDE THE RIGHT-OF-WAY EXCEPT WHERE SHOWN ON THE PLANS.
- (14) FENCES SHALL BE TURNED IN AT DRAINAGE STRUCTURES, STOCK PASSES AND BRIDGES WHERE DIRECTED BY THE ENGINEER SO AS TO AVOID WINGWALLS AND/OR ABUTMENTS.
- (15) THE CONTRACTOR SHALL GIVE THE AFFECTED PROPERTY OWNERS TWO WEEKS NOTICE PRIOR TO CUTTING FENCES.
- (16) THE CONTRACTOR SHALL BE REQUIRED TO INSTALL ACCESS CONTROL FENCES PRIOR TO CUTTING EXISTING STOCK FENCES IN AREAS UTILIZED BY DOMESTIC LIVESTOCK OR OTHER AREAS AS DIRECTED BY THE ENGINEER.

## MISCELLANEOUS

- (17) ALL DETOUR, ACCESS, SERVICE AND FRONTAGE ROADS SHALL BE CONSTRUCTED WITH A MINIMUM OF ONE (1) COURSE OF BASE MATERIAL BEFORE TRAFFIC IS INTERRUPTED ON EXISTING ROADS.
- (18) NOTHING IN THE GENERAL NOTES OR SPECIAL PROVISIONS SHALL RELIEVE THE CONTRACTOR FROM HIS RESPONSIBILITIES TOWARD THE SAFETY AND CONVENIENCE OF THE GENERAL PUBLIC AND THE RESIDENTS ALONG THE PROPOSED CONSTRUCTION AREA.

## ROAD CLOSURE

- (19) NO LESS THAN SEVEN (7) DAYS PRIOR TO THE CLOSURE OF THE ROAD, THE CONTRACTOR SHALL NOTIFY THE FOLLOWING INDIVIDUALS OR AGENCIES COMPLETELY DESCRIBING THE AFFECTED ROADS AND THE APPROXIMATE DURATION OF THE CONSTRUCTION. THESE PARTIES INCLUDE, BUT ARE NOT LIMITED TO: (1) LOCAL LAW ENFORCEMENT OFFICE, (2) LOCAL FIRE DEPARTMENT, (3) AMBULANCE SERVICE, (4) LOCAL SCHOOL SUPERINTENDENT, (5) UNITED STATES POSTAL SERVICE, AND (6) LOCAL ROAD SUPERINTENDENT.

## PAVEMENT MARKINGS

### TEMPORARY PAVEMENT MARKINGS ON INTERMEDIATE LAYERS

#### GERMANTOWN ROAD/BELVOIR AVENUE/NORTH TERRACE/SOUTH TERRACE

- (20) TEMPORARY PAVEMENT LINE MARKINGS ON INTERMEDIATE LAYERS OF PAVEMENT SHALL BE REFLECTIVE TAPE OR REFLECTORIZED PAINT INSTALLED TO PERMANENT STANDARDS AT THE END OF EACH DAY'S WORK. SHORT, UNMARKED SECTIONS SHALL NOT BE ALLOWED. THESE MARKINGS WILL BE MEASURED AND PAID FOR UNDER ITEM NO. 716-05.20, PAINTED PAVEMENT MARKING (6" LINE), L.M.

#### INTERSTATE 24 AND RAMP

- (21) TEMPORARY PAVEMENT LINE MARKINGS ON INTERMEDIATE LAYERS OF PAVEMENT SHALL BE REFLECTIVE TAPE OR REFLECTORIZED PAINT INSTALLED TO PERMANENT STANDARDS AT THE END OF EACH DAY'S WORK. SHORT, UNMARKED SECTIONS SHALL NOT BE ALLOWED. THESE MARKINGS WILL BE MEASURED AND PAID FOR UNDER ITEM NO. 716-05.02, PAINTED PAVEMENT MARKING (6" BARRIER LINE), L.F.

## FINAL PAVEMENT MARKING

- (22) THE CONTRACTOR WILL BE REQUIRED TO PERFORM THE FOLLOWING WORK:
  - a. SHOULDERS SHALL BE BROOMED AND DE-GRASSED AND MATERIAL SHALL BE PICKED UP AND REMOVED. THIS WILL BE PAID FOR UNDER ITEM NUMBER 208-01.05.

- b. REMOVE ALL GARBAGE AND CONSTRUCTION DEBRIS FROM PROJECT. THE COST FOR THIS WILL BE INCLUDED IN THE PRICE BID FOR OTHER ITEMS OF CONSTRUCTION.

### GERMANTOWN ROAD/BELVOIR AVENUE/NORTH TERRACE/SOUTH TERRACE

- (23) PERMANENT PAVEMENT LINE MARKINGS SHALL BE REFLECTORIZED PAINT INSTALLED TO PERMANENT STANDARDS AT THE END OF EACH DAY'S WORK. SHORT, UNMARKED SECTIONS SHALL NOT BE ALLOWED. THESE MARKINGS WILL BE MEASURED AND PAID FOR UNDER ITEM NO. 716-05.01, PAINTED PAVEMENT MARKING (4IN LINE), L.M.

### INTERSTATE 24 AND RAMP

- (24) PERMANENT PAVEMENT LINE MARKINGS SHALL BE 6" ENHANCED FLATLINE THERMOPLASTIC INSTALLED TO PERMANENT STANDARDS AT THE END OF EACH DAY'S WORK. SHORT UNMARKED SECTIONS SHALL NOT BE ALLOWED. PAVEMENT MARKINGS WILL BE MEASURED AND PAID FOR UNDER ITEM NO. 716-12.02, ENHANCED FLATLINE THERMO PAVT MRKNG (6IN LINE), L.M. THE CONTRACTOR SHALL HAVE THE OPTION OF USING REFLECTORIZED PAINT INSTALLED TO PERMANENT STANDARDS AT THE END OF EACH DAY'S WORK AND THEN INSTALLING THE PERMANENT MARKINGS AFTER THE PAVING OPERATION IS COMPLETED. THE TEMPORARY MARKINGS FOR THE FINAL SURFACE WILL NOT BE MEASURED AND PAID FOR DIRECTLY, BUT THE COSTS ARE TO BE INCLUDED IN THE PRICE BID FOR THE PERMANENT MARKINGS.

## DETOURS, LANE SHIFTS AND MEDIAN CROSS-OVERS

- (25) THE PAVEMENT MARKING ON THE DETOUR AND LANE SHIFTS FOR EDGE LINES AND LANE LINES WILL BE INSTALLED AND MAINTAINED TO THE SAME STANDARDS AS FOR PERMANENT MARKINGS ON THE MAIN ROADWAY. THESE MARKINGS SHALL BE IN PLACE PRIOR TO ALLOWING TRAFFIC ONTO THE PAVEMENT. THESE PAVEMENT MARKINGS WILL BE MEASURED AND PAID FOR UNDER ITEM NO. 716-05.02 L.F. AND 716-05.20 L.M.

## PAVEMENT

### PAVING

- (26) THE CONTRACTOR SHALL BE REQUIRED TO PAVE IN THE DIRECTION OF TRAFFIC.
- (27) THE CONTRACTOR SHALL BE REQUIRED TO COLD PLANE AND PAVE IN THE DIRECTION OF TRAFFIC.
- (28) THE CONTRACTOR SHALL ATTACH A DEVICE TO THE SCREED OF THE PAYER SUCH THAT MATERIAL IS CONFINED AT THE END GATE AND EXTRUDES THE ASPHALT MATERIAL IN SUCH A WAY THAT RESULTS IN A CONSOLIDATED WEDGE-SHAPE PAVEMENT EDGE OF APPROXIMATELY 25 TO 30 DEGREES AS IT LEAVES THE PAYER (MEASURED FROM A LINE PARALLEL TO THE PAVEMENT SURFACE.) THE DEVICE SHALL MEET THE REQUIREMENTS THAT ARE CURRENTLY SET FORTH IN SPECIAL PROVISION 4075C.

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STATE OF TENNESSEE  
DEPARTMENT OF  
TRANSPORTATION

GENERAL  
NOTES

**SIGNING**

- (1) THE LETTERS, DIGITS, ARROWS, BORDERS, AND ALPHABET ACCESSORIES ON ALL FLAT SHEET SIGNS SHALL BE APPLIED BY SILK SCREENING PROCESS, EXCEPT THAT CUTOUT DIRECT APPLIED COPY SHALL BE USED ON ALL FLAT SHEET SIGNS WITH A GREEN BACKGROUND. THE LETTERS, DIGITS, ARROWS, BORDERS, AND ALPHABET ACCESSORIES ON ALL EXTRUDED PANEL SIGNS SHALL BE DEMOUNTABLE AND ATTACHED TO THE SIGN FACE, AS OUTLINED IN THE STANDARD SPECIFICATIONS. ALL SHIELDS ON GUIDE SIGNS SHALL BE DEMOUNTABLE AND ATTACHED TO THE SIGN FACE AS OUTLINED IN THE STANDARD SPECIFICATIONS.
- (2) THE LENGTHS OF ALL SIGN SUPPORTS SHOWN ON THE SIGN SCHEDULE ARE APPROXIMATE AND ARE FOR ESTIMATING PURPOSES ONLY. THE LENGTHS WERE COMPUTED FROM THE CROSS-SECTIONS CONTAINED IN THE CONSTRUCTION PLANS. IN THE EVENT THE SUPPORT LENGTHS ARE 2 FEET SHORTER OR LONGER THAN SHOWN ON THE PLANS, THE ENGINEER SHALL VERIFY THE SUPPORT TYPE WITH THE TRAFFIC OPERATIONS DIVISION, SIGNING SECTION, TELEPHONE NO. (615)-741-0802. THE CONTRACTOR SHALL VERIFY ALL SUPPORT LENGTHS AT THE SITE PRIOR TO ORDERING MATERIAL.
- (3) THE TOP OF THE SIGN FOOTINGS SHALL BE PLACED LEVEL WITH THE GROUND LINE.
- (4) AFTER THE SIGN LOCATIONS HAVE BEEN STAKED, BUT PRIOR TO ORDERING ANY MATERIAL FOR THE SUPPORTS, THERE SHALL BE A FIELD INSPECTION AND APPROVAL BY THE REGIONAL CONSTRUCTION OFFICE.
- (5) THE CONTRACTOR SHALL BE REQUIRED TO FURNISH LAYOUT DRAWINGS OF ALL EXTRUDED PANEL SIGNS WITH SPACING OF ALL LETTERS, NUMERALS, SHIELDS, AND ARROWS. ONE PDF SET OF THE LAYOUT DRAWINGS SHALL BE SENT TO THE TRAFFIC OPERATIONS DIVISION, SIGNING SECTION (TDOT.TrafficOps.SignReviews@tn.gov) FOR REVIEW. ONE PDF SET OF THE LAYOUT DRAWINGS SHALL BE SENT TO THE REGION 2 SIGN DESIGNER, KEVIN CRISP (Kevin.Crisp@dot.state.tn.us), FOR REVIEW.
- (6) ALL SIGNS MARKED "TO BE REMOVED" ARE TO BE REMOVED BY THE CONTRACTOR AND PAID FOR UNDER ITEM 713-15 AND BECOME THE PROPERTY OF THE CONTRACTOR.
- (7) THE EXISTING FOOTINGS ARE TO BE REMOVED 6 INCHES BELOW GROUND LINE.
- (8) THE LETTERS, DIGITS, ARROWS, BORDERS, AND ALPHABET ACCESSORIES ON ALL FLAT SHEET SIGNS SHALL BE APPLIED BY SILK SCREENING PROCESS, EXCEPT THAT CUT-OUT DIRECT APPLIED COPY SHALL BE USED ON ALL FLAT SHEET SIGNS WITH A GREEN BACKGROUND, OR BROWN BACKGROUND.
- (9) THE LENGTHS OF ALL SIGN SUPPORTS SHOWN ON THE SIGN SCHEDULE ARE APPROXIMATE AND ARE FOR ESTIMATING PURPOSES ONLY. THE CONTRACTOR SHALL VERIFY ALL SUPPORT LENGTHS AT THE SITE PRIOR TO ERECTION.
- (10) THE LETTERS, DIGITS, ARROWS, BORDERS, AND ALPHABET ACCESSORIES ON ALL FLAT SHEET SIGNS SHALL BE APPLIED BY SILK SCREENING PROCESS.
- (11) ALL SIGNS WHICH INTERFERE WITH CONSTRUCTION WILL BE RELOCATED OUTSIDE LIMITS OF CONSTRUCTION BY THE CONTRACTOR UPON COMPLETION OF CONSTRUCTION. THE CONTRACTOR WILL RESTORE THE SIGNS TO ORIGINAL LOCATION. THE CONTRACTOR SHALL CHECK WITH THE REGIONAL TRAFFIC ENGINEER PRIOR TO MOVING ANY PERMANENT SIGNS.

**TRAFFIC CONTROL DIRECTIONAL SIGNING**

- (12) ON ALL ACCESS CONTROLLED AND INTERSTATE RECONSTRUCTION AND NEW CONSTRUCTION PROJECTS, THE CONTRACTOR SHALL UTILIZE ALL EXISTING DIRECTIONAL SIGNING FOR AS LONG AS POSSIBLE. THESE EXISTING SIGNS CAN BE MOVED USING TEMPORARY SUPPORTS AS NEEDED. AS SOON AS THESE EXISTING DIRECTIONAL SIGNS COME DOWN PERMANENTLY, THE CONTRACTOR SHALL HAVE UP AT LEAST ONE NEW TEMPORARY "ADVANCE GUIDE SIGN" AND ONE NEW TEMPORARY "EXIT DIRECTIONAL SIGN" AT ALL EXIT RAMPS. THESE SIGNS ARE TO BE MAINTAINED WITHIN CLEAR VIEW OF THE PUBLIC ON THE RIGHT SIDE OF THE HIGHWAY AND SHALL BE REPLACED IF DAMAGED, DURING ALL PHASES OF CONSTRUCTION, AS DIRECTED BY THE ENGINEER.
- (13) THE SIZE OF THESE NEW TEMPORARY SIGNS WILL BE DETERMINED BY THE MESSAGE. THE MESSAGE SHALL BE THE SAME AS THE EXISTING SIGN THAT THESE NEW TEMPORARY SIGNS WILL BE REPLACING. THE LETTER SIZE SHALL BE A MINIMUM OF 8 INCH, "C" UPPER CASE LETTER. THE DIRECTIONAL ARROW WILL BE A "B" ARROW AT A 45 DEGREE ANGLE (SAME ANGLE AS THE EXISTING ARROW). THE MATERIAL SHALL BE 0.100 INCH SHEET ALUMINUM; THE COLOR SHALL BE A REFLECTIVE GREEN BACKGROUND WITH REFLECTIVE WHITE COPY.

- (14) ALL WORK AND MATERIAL TO MAKE THESE NEW TEMPORARY DIRECTIONAL SIGNS ALONG WITH ADEQUATE SUPPORTS AND TO MOVE THEM AS NEEDED DURING EACH PHASE OF CONSTRUCTION WILL BE PAID FOR UNDER ITEM NO. 712-06, AS DIRECTED BY THE ENGINEER.
- (15) SOME OF THESE DIRECTIONAL SIGNS WILL NEED AN INTERSTATE, U.S., OR A STATE HIGHWAY SHIELD, A CARDINAL DIRECTION, AND A DIRECTION ARROW TO ACCOMPANY THE DIRECTIONAL SIGN. THESE SIGNS SHALL BE MOUNTED BELOW THE DIRECTIONAL SIGN.
- (16) ALL EXISTING "EMERGENCY REFERENCE MARKERS" AND "HOSPITAL SIGNS" SHALL BE MAINTAINED WITHIN FULL VIEW OF THE MOTORING PUBLIC THROUGHOUT ALL PHASES OF CONSTRUCTION. ALL WORK IN MOVING AND TEMPORARY SUPPORTS SHALL BE PAID FOR UNDER ITEM NO. 712-06.
- (17) WHEN "LOGO" SIGNS ARE ON ACCESS CONTROLLED AND INTERSTATE RECONSTRUCTION AND NEW CONSTRUCTION PROJECTS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR KEEPING THESE SIGNS IN FULL VIEW TO THE MOTORING PUBLIC DURING ALL PHASES OF CONSTRUCTION. THE CONTRACTOR SHALL BE HELD RESPONSIBLE TO THE DEPARTMENT FOR THE REIMBURSEMENT OF THE SIGN FACE IF IT IS DAMAGED. ALL WORK IN MOVING THESE "LOGO" SIGNS AND THE TEMPORARY SUPPORTS ARE TO BE PAID FOR UNDER ITEM NO. 712-06, AS DIRECTED BY THE ENGINEER. THE SUPPORTS FOR THE FINAL LOCATION OF THESE SIGNS WILL BE PAID FOR UNDER OTHER ITEMS OF CONSTRUCTION.

**SIGNALIZATION**

- (18) EQUIPMENT AND INSTALLATION OF TRAFFIC SIGNALS SHALL COMPLY WITH TDOT STANDARD SPECIFICATIONS, SECTION 730.
- (19) EQUIPMENT AND INSTALLATION SHALL COMPLY WITH THE TDOT "SPECIAL PROVISIONS REGARDING SECTION 730C-TRAFFIC SIGNALS."
- (20) SALVAGEABLE EQUIPMENT SHALL BECOME THE PROPERTY OF THE CITY OF CHATTANOOGA AND SHALL BE STOCKPILED AT A LOCATION DESIGNATED BY THE ENGINEER FOR PICKUP BY THE CITY.
- (21) ANY SIGNAL HEADS, WHEN VISIBLE TO DRIVERS BUT NOT OPERATIONAL, SHALL BE COMPLETELY COVERED.
- (22) THE CONTRACTOR SHALL CONTACT THE CITY OF CHATTANOOGA A MINIMUM OF THIRTY (30) DAYS PRIOR TO ACTIVATION OF THE SIGNAL TO OBTAIN THE INITIAL SIGNAL TIMINGS. CONTACT TOMMY TROTTER (423)643-5126.
- (23) THE PROJECT ENGINEER SHALL NOTIFY THE LOCAL GOVERNMENTAL AGENCY RESPONSIBLE FOR TRAFFIC CONTROL MAINTENANCE AT LEAST ONE DAY IN ADVANCE OF THE COLD PLANING ACTIVITY AT SIGNALIZED INTERSECTIONS WHERE DETECTOR LOOPS ARE ON THE PAVEMENT. THE MAINTAINING AGENCY WILL THEN BE RESPONSIBLE FOR DISCONNECTING THE LOOP DETECTORS AND MAKING ANY NECESSARY TIMING ADJUSTMENTS IN THE SIGNAL CONTROLLER PRIOR TO THE CONSTRUCTION.

**CONSTRUCTION WORK ZONE & TRAFFIC CONTROL**

- (24) ADVANCED WARNING SIGNS SHALL NOT BE DISPLAYED MORE THAN FORTY-EIGHT (48) HOURS BEFORE PHYSICAL CONSTRUCTION BEGINS. SIGNS MAY BE ERECTED UP TO ONE WEEK BEFORE NEEDED, IF THE SIGN FACE IS FULLY COVERED.
- (25) IF THE CONTRACTOR MOVES OFF THE PROJECT, HE SHALL COVER OR REMOVE ALL UNNEEDED SIGNS AS DIRECTED BY THE ENGINEER. COSTS OF REMOVAL, COVERING, AND REINSTALLING SIGNS SHALL NOT BE MEASURED AND PAID FOR SEPARATELY, BUT ALL COSTS SHALL BE INCLUDED IN THE ORIGINAL UNIT PRICE BID FOR ITEM NO 712-06 SIGNS (CONSTRUCTION) PER SQUARE FOOT.
- (26) A LONG TERM BUT SPORADIC USE WARNING SIGN, SUCH AS A FLAGGER SIGN, MAY REMAIN IN PLACE WHEN NOT REQUIRED PROVIDED THE SIGN FACE IS FULLY COVERED.
- (27) TRAFFIC CONTROL DEVICES SHALL NOT BE DISPLAYED OR ERECTED UNLESS RELATED CONDITIONS ARE PRESENT NECESSITATING WARNING.
- (28) USE OF BARRICADES, PORTABLE BARRIER RAILS, AND DRUMS SHALL BE LIMITED TO THE IMMEDIATE AREAS OF CONSTRUCTION WHERE A HAZARD IS PRESENT. THESE DEVICES SHALL NOT BE STORED ALONG THE ROADWAY WITHIN THIRTY (30) FEET OF THE EDGE OF THE TRAVELED WAY BEFORE OR AFTER USE UNLESS PROTECTED BY GUARDRAIL, BRIDGE RAIL, AND/OR BARRIERS INSTALLED FOR OTHER PURPOSES FOR ROADWAYS WITH CURRENT ADT'S LESS THAN 1500 AND DESIGN SPEED OF LESS THAN 60 MPH. THIS DISTANCE SHALL INCREASE TO FORTY-FIVE (45) FEET FOR ROADWAYS WITH CURRENT ADT'S OF 1500 OR GREATER AND DESIGN SPEED OF 60 MPH OR GREATER OR ON THE OUTSIDE OF A HORIZONTAL CURVE. THESE DEVICES SHALL BE REMOVED FROM THE

CONSTRUCTION WORK ZONE WHEN THE ENGINEER DETERMINES THEY ARE NO LONGER NEEDED. WHERE THERE IS INSUFFICIENT RIGHT-OF-WAY TO PROVIDE FOR THIS REQUIRED SETBACK, THE CONTRACTOR SHALL DETERMINE THE ALTERNATE LOCATIONS AND REQUEST THE ENGINEER'S APPROVAL TO USE THEM.

- (29) THE CONTRACTOR SHALL NOT BE PERMITTED TO PARK ANY VEHICLES OR CONSTRUCTION EQUIPMENT DURING PERIODS OF INACTIVITY, WITHIN THIRTY (30) FEET OF THE EDGE OF PAVEMENT WHEN THE LANE IS OPEN TO TRAFFIC UNLESS PROTECTED BY GUARDRAIL, BRIDGE RAIL, AND/OR BARRIERS INSTALLED FOR OTHER PURPOSES FOR ROADWAYS WITH CURRENT ADT'S LESS THAN 1500 AND DESIGN SPEED OF LESS THAN 60 MPH. THIS DISTANCE SHALL BE INCREASED TO FORTY-FIVE (45) FEET FOR ROADWAYS WITH CURRENT ADT'S OF 1500 OR GREATER AND DESIGN SPEED OF 60 MPH OR GREATER OR ON THE OUTSIDE OF A HORIZONTAL CURVE. PRIVATELY OWNED VEHICLES SHALL NOT BE ALLOWED TO PARK WITHIN THIRTY (30) FEET OF AN OPEN TRAFFIC LANE AT ANY TIME UNLESS PROTECTED AS DESCRIBED ABOVE FOR ROADWAYS WITH CURRENT ADT'S LESS THAN 1500 AND DESIGN SPEED OF LESS THAN 60 MPH. THIS DISTANCE SHALL BE INCREASED TO FORTY-FIVE (45) FEET FOR ROADWAYS WITH CURRENT ADT'S OF 1500 OR GREATER AND DESIGN SPEED OF 60 MPH OR GREATER OR ON THE OUTSIDE OF A HORIZONTAL CURVE. WHERE THERE IS INSUFFICIENT RIGHT-OF-WAY TO PROVIDE FOR THIS REQUIRED SETBACK, THE CONTRACTOR SHALL DETERMINE THE ALTERNATE LOCATIONS AND REQUEST THE ENGINEER'S APPROVAL TO USE THEM.
- (30) ALL DETOUR AND CONSTRUCTION SIGNING SHALL BE IN STRICT ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
- (31) ALL DETOURS SHALL BE PAVED, STRIPED, SIGNED, AND FLEXIBLE DRUMS ARE TO BE IN PLACE BEFORE IT IS OPENED TO TRAFFIC.
- (32) THE CONTRACTOR SHALL BE RESPONSIBLE FOR STAKING CONSTRUCTION SIGNS. THE COST OF THIS WORK SHALL BE INCLUDED IN ITEM NO. 712-06. SIGNS (CONSTRUCTION), S.F.

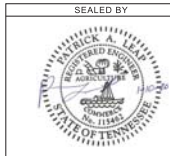
**LIGHTING**

- (33) INSTALLATION AND MATERIALS SHALL COMPLY WITH SECTIONS 714 AND 917 OF THE TENNESSEE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION DATED JANUARY 1, 2015 AND WITH THE LATEST REVISIONS TO THE NATIONAL ELECTRIC CODE, NFPA 70.
- (34) ALL WIRING SHALL BE CONCEALED UNDERGROUND IN 2-INCH SCHEDULE 40 PVC RIGID CONDUIT.
- (35) THE GROUND WIRE SHALL BE RUN INSIDE CONDUIT WITHIN STRUCTURES, SHALL BE COLORED GREEN AND HAVE THW INSULATION.
- (36) EXISTING FOUNDATIONS TO BE REMOVED A MINIMUM OF SIX INCHES BELOW GRADE.
- (37) ALL INCIDENTAL EQUIPMENT AND MATERIAL REQUIRED FOR THE SUCCESSFUL EXECUTION OF THIS WORK SHALL BE FURNISHED IN 714 ITEMS WHETHER SPECIFICALLY NOTED OR NOT.
- (38) LIGHT STANDARDS SHALL BE ROUND TAPERED POLES. LENGTH SHALL BE DETERMINED BY REQUIRED MOUNTING HEIGHT.

STANDARDS SHALL BE DESIGNED IN ACCORDANCE WITH THE REQUIREMENTS OF THE LATEST EDITION OF THE STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORT FOR HIGHWAY SIGNS, LUMINARIES AND TRAFFIC SIGNALS PUBLISHED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS.

- (39) STANDARDS SHALL BE DESIGNED FOR 80-MPH WIND PRESSURE AND SHALL SUPPORT A 62-POUND LUMINAIRE ON A 15-FOOT ARM.
- (40) ALL NEW ROADWAY LIGHTING STANDARDS SHALL BE MOUNTED ON BASES WITH ACCESS DOOR. TRANSFORMER BASES SHALL MEET AASHTO SPECIFICATIONS AND HAVE FHWA APPROVAL. STANDARDS SHALL BE ALUMINUM WITH TRANSFORMER BASES.
- (41) BRACKET ARMS SHALL BE ROUND TAPERED TRUSS TYPE WITH STRAP MOUNTING AND LENGTHS AS SCHEDULED.
- (42) BRACKET ARM UPSWEEP SHALL BE THE SAME FOR ALL LIGHT STANDARDS OF THE SAME TYPE.

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		33003-3167-44	



STATE OF TENNESSEE  
 DEPARTMENT OF  
 TRANSPORTATION

GENERAL  
 NOTES



**EROSION PREVENTION AND SEDIMENT CONTROL**

**DISTURBED AREA**

- (1) IF DISTURBED ACREAGE IS EQUAL TO ONE ACRE OR MORE, PLEASE CONTACT TDOT ENVIRONMENTAL DIVISION, PERMITS SECTION AS SOON AS POSSIBLE BECAUSE AN NPDES PERMIT WILL BE REQUIRED.
- (2) AREAS TO BE UNDISTURBED SHALL BE CLEARLY MARKED IN THE FIELD BEFORE CONSTRUCTION ACTIVITIES BEGIN.
- (3) UNLESS OTHERWISE NOTED IN THE PLANS, THE CONTRACTOR SHALL NOT CLEAR/DISTURB ANY AREA BEYOND 15 FEET FROM SLOPE LINES.
- (4) PRE-CONSTRUCTION VEGETATIVE GROUND COVER SHALL NOT BE DESTROYED, REMOVED OR DISTURBED (I.E. CLEARING AND GRUBBING INITIATED) MORE THAN 14 CALENDAR DAYS PRIOR TO GRADING OR EARTH MOVING ACTIVITIES UNLESS THE AREA IS MULCHED, SEEDED WITH MULCH, OR OTHER TEMPORARY COVER IS APPLIED.
- (5) CLEARING, GRUBBING, AND OTHER DISTURBANCE TO RIPARIAN VEGETATION SHALL BELIMITED TO THE MINIMUM NECESSARY FOR SLOPE CONSTRUCTION AND EQUIPMENT OPERATIONS. EXISTING VEGETATION, INCLUDING STREAM AND WETLAND BUFFERS (UNLESS PERMITTED), SHOULD BE PRESERVED TO THE MAXIMUM EXTENT POSSIBLE. UNNECESSARY VEGETATION REMOVAL IS PROHIBITED.

**SEDIMENT CONTROL**

- (6) EPSC MEASURES SHALL BE INSTALLED AND FUNCTIONAL PRIOR TO ANY EARTH-MOVING OPERATIONS, AND SHALL BE MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD EXCEPT AS SUCH WORK MAY BE NECESSARY TO INSTALL EPSC MEASURES.
- (7) TEMPORARY EPSC MEASURES MAY BE REMOVED AT THE BEGINNING OF THE WORKDAY, BUT MUST BE REINSTALLED AT THE END OF THE WORKDAY OR BEFORE DURING A PRECIPITATION EVENT.
- (8) THE CONTRACTOR SHALL ESTABLISH AND MAINTAIN A PROACTIVE METHOD TO PREVENT THE OFFSITE MIGRATION OR DEPOSIT OF SEDIMENT OFF THE PROJECT LIMITS (E.G. R.O.W., EASEMENTS, ETC.), INTO WATERS OF THE STATE/U.S., OR ONTO ROADWAYS USED BY THE GENERAL PUBLIC. IF SEDIMENT ESCAPES THE CONSTRUCTION SITE, OFFSITE ACCUMULATIONS OF SEDIMENT THAT HAVE NOT REACHED A STREAM MUST BE REMOVED AT A FREQUENCY SUFFICIENT TO MINIMIZE OFFSITE IMPACTS (E.G., FUGITIVE SEDIMENT THAT HAS ESCAPED THE CONSTRUCTION SITE AND HAS COLLECTED IN A STREET MUST BE REMOVED SO THAT IT IS NOT SUBSEQUENTLY WASHED INTO STORM SEWERS AND STREAMS BY THE NEXT RAIN AND/OR SO THAT IT DOES NOT POSE A SAFETY HAZARD TO USERS OF PUBLIC STREETS). ARRANGEMENTS CONCERNING REMOVAL OF SEDIMENT ON ADJOINING PROPERTY MUST BE NEGOTIATED WITH THE ADJOINING PROPERTY OWNER BEFORE REMOVAL OF SEDIMENT.
- (9) OFFSITE VEHICLE TRACKING OF SEDIMENTS AND THE GENERATION OF DUST SHALL BE MINIMIZED. A STABILIZED CONSTRUCTION EXIT (A POINT OF ENTRANCE/EXIT TO THE CONSTRUCTION PROJECT) SHALL BE PROVIDED TO REDUCE THE TRACKING OF MUD AND DIRT ONTO PUBLIC ROADS BY CONSTRUCTION VEHICLES.
- (10) THE DEWATERING OF WORK AREAS, TRENCHES, FOUNDATIONS, EXCAVATIONS, ETC. THAT HAVE COLLECTED STORMWATER, WATER FROM VEHICLE WASH AREAS, OR GROUNDWATER SHALL BE EITHER HELD IN SETTLING BASINS OR TREATED BY FILTRATION AND/OR CHEMICAL TREATMENT PRIOR TO ITS DISCHARGE. ALL PHYSICAL AND/OR CHEMICAL TREATMENT WILL BE APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S GUIDELINES AND FULLY DESCRIBED IN THE EPSC PLANS. WATER DISCHARGED SHALL NOT CAUSE AN OBJECTIONABLE COLOR CONTRAST WITHIN THE RECEIVING NATURAL RESOURCE. WATER MUST BE HELD IN SETTLING BASINS UNTIL AT LEAST AS CLEAR AS THE RECEIVING WATERS. SETTLING BASINS SHALL NOT BE LOCATED CLOSER THAN 20 FEET FROM THE TOP BANK OF A STREAM. SETTLING BASINS AND SEDIMENT TRAPS SHALL BE PROPERLY DESIGNED ACCORDING TO THE SIZE OF THE DRAINAGE AREAS OR VOLUME OF WATER TO BE TREATED. TREATED WATER MUST BE DISCHARGED THROUGH A PIPE OR WELL-VEGETATED OR LINED CHANNEL, SO THAT THE DISCHARGE DOES NOT CAUSE EROSION OR SEDIMENT TRANSPORT. DISCHARGES FROM BASINS AND IMPOUNDMENTS SHALL UTILIZE OUTLET STRUCTURES THAT ONLY WITHDRAW WATER FROM NEAR THE SURFACE OF THE BASIN OR IMPOUNDMENT. DISCHARGES MUST NOT CAUSE AN OBJECTIONABLE COLOR CONTRAST WITH THE RECEIVING STREAM.

**NATURAL RESOURCES**

- (11) SOIL MATERIALS MUST BE PREVENTED FROM ENTERING WATERS OF THE STATE/U.S. EPSC MEASURES TO PROTECT NATURAL RESOURCES AND WATER QUALITY SHALL BE MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD. APPROPRIATE EPSC MEASURES MUST BE

INSTALLED ALONG THE BASE OF ALL FILLS AND CUTS, ON THE DOWNHILL SIDE OF STOCKPILED SOIL, AND ALONG NATURAL RESOURCES IN CLEARED AREAS TO PREVENT SEDIMENT MIGRATION INTO STREAMS, WETLANDS OR OTHER NATURAL FEATURES IN ACCORDANCE WITH TDOT STANDARDS. EPSC MEASURES SHALL BE INSTALLED ON THE CONTOUR, ENTRENCHED AND STAKED, AND EXTEND THE WIDTH OF THE AREA TO BE CLEARED.

- (12) NEW CHANNEL CONSTRUCTION SHALL BE COMPLETED IN THE DRY AND STABILIZED FOR AT LEAST 72 HOURS PRIOR TO DIVERTING WATER FROM THE EXISTING AND/OR TEMPORARY CHANNEL.
- (13) INSTREAM EPSC DEVICES REQUIRE THE TDOT ENVIRONMENTAL DIVISION, PERMITS SECTION REVIEW AND MUST BE PROCESSED BY THE PERMITS SECTION TO OBTAIN WATER QUALITY PERMITS.
- (14) THE OPERATION OF EQUIPMENT IN WATERS OF THE STATE/U.S., INCLUDING WETLANDS AND EPHEMERAL, INTERMITTENT, AND PERENNIAL STREAMS, IS NOT ALLOWED.
- (15) THE WIDTH OF THE FILL ASSOCIATED WITH TEMPORARY CROSSINGS SHALL BE LIMITED TO THE MINIMUM NECESSARY FOR THE ACTUAL CROSSING, NOT TO EXCEED THE WIDTH SPECIFIED IN THE STANDARD DRAWING.
- (16) STREAM BEDS SHALL NOT BE USED AS TRANSPORTATION ROUTES FOR CONSTRUCTION EQUIPMENT. TEMPORARY CULVERT CROSSINGS SHALL BE LIMITED TO ONE POINT PER STREAM AND EPSC MEASURES SHALL BE USED WHERE THE STREAM BANKS ARE DISTURBED. WHERE THE STREAMBED IS NOT COMPOSED OF BEDROCK, A PAD OF CLEAN ROCK SHALL BE USED AT THE CROSSING POINT AND CULVERTED TO PREVENT THE IMPOUNDMENT OF WATERFLOW. CLEAN ROCK IS ROCK OF VARIOUS TYPE AND SIZE, DEPENDING UPON APPLICATION, WHICH CONTAINS NO FINES, SOILS, OR OTHER WASTES OR CONTAMINANTS. OTHER MATERIALS USED FOR ALL TEMPORARY FILLS SHALL BE COMPLETELY REMOVED IN THEIR ENTIRETY AFTER THE WORK IS COMPLETED AND THE AFFECTED AREAS RETURNED TO PREEXISTING ELEVATIONS. ALL TEMPORARY CROSSINGS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. DWG. EC-STR-25 UNLESS SPECIFICALLY ADDRESSED IN THE EPSC PLANS. ALTERNATIVELY, PLACING A TEMPORARY BRIDGE (E.G. BAILEY BRIDGE OR EQUIVALENT, TIMBERS, ETC.) FROM TOP OF BANK TO TOP OF BANK OR THE APPROPRIATE USE OF BARGES AT THE CROSSING TO AVOID DISTURBANCE OF THE STREAMBED IS AN ACCEPTABLE OPTION.
- (17) HEAVY EQUIPMENT WORKING IN WETLANDS WITH PERMITTED TEMPORARY IMPACTS SHALL BE PLACED ON MATS, OR OTHER MEASURES MUST BE TAKEN TO MINIMIZE SOIL DISTURBANCE AND COMPACTION UNLESS SPECIFICALLY ADDRESSED IN THE CONSTRUCTION PLANS. ANY MATS AND OTHER MEASURES USED FOR HEAVY EQUIPMENT SHALL BE REMOVED IN THEIR ENTIRETY AFTER THE WORK IS COMPLETED. ALL AFFECTED AREAS SHOULD BE RETURNED TO PRE-EXISTING CONDITIONS.
- (18) WETLANDS SHALL NOT BE USED AS EQUIPMENT STORAGE, STAGING, OR TRANSPORTATION AREAS, UNLESS SPECIFICALLY PROVIDED FOR IN THE CONSTRUCTION PLANS AND PERMITS.
- (19) THE CONTRACTOR SHALL TAKE APPROPRIATE STEPS PRIOR TO ANY CONSTRUCTION AND MAINTENANCE ACTIVITIES TO ENSURE THAT ENVIRONMENTAL FEATURES (E.G., STREAMS, WETLANDS, SPRINGS, ETC.) ARE NOT IMPACTED BEYOND PERMITTED LOCATIONS. IF THE CONTRACTOR OR TDOT INSPECTOR IS UNSURE OF THE IDENTITY OF AN ENVIRONMENTAL FEATURE, THE INSPECTOR SHALL CONTACT THE TDOT REGION ENVIRONMENTAL TECH GROUP IMMEDIATELY.

**SPECIES**

- (20) NO ACTIVITY MAY SUBSTANTIALLY DISRUPT THE MOVEMENT OF THOSE SPECIES OF AQUATIC LIFE INDIGENOUS TO THE WATER BODY, INCLUDING THOSE SPECIES THAT NORMALLY MIGRATE THROUGH THE AREA.
- (21) SHOULD CLIFF SWALLOW OR BARN SWALLOW NESTS, EGGS, OR BIRDS (YOUNG AND ADULTS) BE PRESENT, THE CONTRACTOR SHALL CONTACT THE REGIONAL ECOLOGY OFFICE TO DETERMINE IF SEASONAL RESTRICTIONS WILL BE NECESSARY. GENERALLY, BIRDS, NESTS, AND EGGS MAY NOT BE DISTURBED BETWEEN APRIL 15 AND JULY 31. FROM AUGUST 1 TO APRIL 14, NESTS CAN BE REMOVED OR DESTROYED SO LONG AS BIRDS OR EGGS ARE NOT PRESENT, AND MEASURES IMPLEMENTED TO PREVENT FUTURE NEST BUILDING AT THE SITE (I.E., CLOSING OFF AREA USING NETTING).
- (22) IF THE REMOVAL OF ANY TREES WITH A DIAMETER AT BREAST HEIGHT (DBH) GREATER THAN 3 INCHES IS DEEMED NECESSARY THE TDOT SUPERVISOR SHALL CONTACT THE TDOT ENVIRONMENTAL DIVISION, ECOLOGY SECTION IMMEDIATELY.

**INSPECTION, MAINTENANCE & REPAIR**

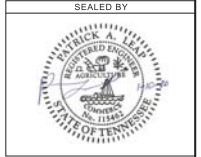
- (23) REFER TO THE STORM WATER POLLUTION AND PREVENTION PLAN SHEETS (S-1) FOR SWPPP, PERMITS, AND RECORDS NOTES.

**PERMITS, PLANS & RECORDS**

- (24) THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR AND OBTAIN ANY NECESSARY ENVIRONMENTAL PERMITS OR APPROVALS, INCLUDING BUT NOT LIMITED TO ARCHAEOLOGY, ECOLOGY, HISTORICAL, HAZARDOUS MATERIALS, AIR AND NOISE, TDEC ARAP/401, USACE SECTION 404, TVA SECTION 26A, AND TDEC NPDES PERMITS, FROM FEDERAL, STATE AND/OR LOCAL AGENCIES REGARDING ANY MATERIAL AND STAGING AREAS AND THE OPERATION OF ANY PROJECT-DEDICATED ASPHALT AND/OR CONCRETE PLANTS TO BE USED. ANY SUCH PERMITS SHALL BE SUPPLIED TO THE TDOT PROJECT RESPONSIBLE PARTY PRIOR TO THE USE OF THE PERMITTED AREA(S).
- (25) ANY DISAGREEMENT BETWEEN THE CONSTRUCTION PLANS, THE PROJECT AS CONSTRUCTED, AND THE PERMIT(S) ISSUED FOR THE PROJECT, SHALL BE BROUGHT TO THE ATTENTION OF THE TDOT PROJECT RESPONSIBLE PARTY, THE ENVIRONMENTAL DIVISION, DESIGN DIVISION, AND HEADQUARTERS CONSTRUCTION OFFICE SHALL BE CONTACTED IN THESE INSTANCES AND DECIDE WHICH HAS PRECEDENCE AND WHETHER PERMIT OR PLANS REVISIONS ARE NEEDED. IN GENERAL, PERMIT CONDITIONS WILL PREVAIL.
- (26) IF A CHANGE IN PROJECT SCOPE OCCURS DURING CONSTRUCTION, INCLUDING VALUE ENGINEERING, THE TDOT PERMIT SECTION SHALL BE CONTACTED TO DETERMINE WHETHER PERMIT REVISIONS ARE NEEDED. THE ROADWAY DESIGN DIVISION SHALL BE CONTACTED TO DETERMINE IF ANY PLAN REVISIONS ARE NEEDED.
- (27) THE CONTRACTOR SHALL REVIEW ALL EXISTING PERMITS TO ENSURE THAT WORK AT PERMITTED SITES DOES NOT EXCEED EXPIRATION DATE. IF WORK IS GOING TO BE CONTINUED AFTER EXPIRATION DATES, THE CONTRACTOR SHALL CONTACT THE TDOT PROJECT RESPONSIBLE PARTY TO COMMENCE PERMIT RENEWAL PROCESS.
- (28) ALL WATER QUALITY PERMITS SHALL BE POSTED NEAR THE MAIN ENTRANCE OF THE CONSTRUCTION SITE ACCESSIBLE TO THE PUBLIC. THE NAME, COMPANY NAME, EMAIL ADDRESS, TELEPHONE NUMBER AND ADDRESS OF THE PROJECT SITE OWNER, OPERATOR, OR A LOCAL CONTACT PERSON WITH A BRIEF DESCRIPTION OF THE PROJECT SHALL ALSO BE POSTED. IF POSTING THIS INFORMATION NEAR A MAIN ENTRANCE IS INFEASIBLE, THE INFORMATION SHALL BE PLACED IN A PUBLICLY ACCESSIBLE LOCATION NEAR WHERE THE CONSTRUCTION IS ACTIVELY UNDERWAY AND MOVED AS NECESSARY. THIS LOCATION SHALL BE POSTED AT THE CONSTRUCTION SITE. ALL POSTINGS SHALL BE MAINTAINED IN LEGIBLE CONDITION.

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		33003-3167-44	

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STATE OF TENNESSEE  
DEPARTMENT OF  
TRANSPORTATION

**GENERAL  
NOTES**

**EROSION PREVENTION AND SEDIMENT CONTROL (CONT'D)**

**GOOD HOUSEKEEPING MEASURES & WASTE DISPOSAL**

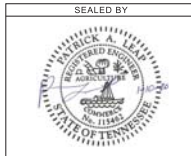
- (29) THE CONTRACTOR SHALL ESTABLISH AND MAINTAIN A PROACTIVE METHOD TO PREVENT LITTER AND CONSTRUCTION WASTES FROM ENTERING WATERS OF THE STATE/U.S. THESE MATERIALS SHALL BE REMOVED FROM STORMWATER EXPOSURE PRIOR TO ANTICIPATED STORM EVENTS OR BEFORE BEING CARRIED OFFSITE BY WIND, OR OTHERWISE PREVENTED FROM BECOMING A POLLUTANT SOURCE FOR STORMWATER DISCHARGES. AFTER USE, MATERIALS USED FOR EPSC SHALL BE REMOVED FROM THE SITE.
- (30) THE CONTRACTOR SHALL TAKE APPROPRIATE STEPS TO ENSURE THAT PETROLEUM PRODUCTS OR OTHER CHEMICAL POLLUTANTS ARE PREVENTED FROM ENTERING WATERS OF THE STATE/U.S. ALL EQUIPMENT REFUELING, SERVICING, AND STAGING AREAS SHALL COMPLY WITH ALL LOCAL STATE, AND FEDERAL LAWS, RULES, REGULATIONS, AND ORDINANCES, INCLUDING THOSE OF THE NATIONAL FIRE PROTECTION ASSOCIATION. APPROPRIATE CONTAINMENT MEASURES FOR THESE AREAS SHALL BE USED.
- (31) CONTRACTORS SHALL PROVIDE DESIGNATED TRUCK WASHOUT AREAS ON THE SITE. THESE AREAS MUST BE SELF-CONTAINED, NOT CONNECTED TO ANY STORMWATER OUTFLET OF THE SITE, AND PROPERLY SIGNED. WASH DOWN OR WASTE DISCHARGE OF CONCRETE TRUCKS SHALL NOT BE PERMITTED ONSITE UNLESS PROPER SETTLEMENT AREAS HAVE BEEN PROVIDED IN ACCORDANCE WITH BOTH STATE AND FEDERAL REGULATIONS.
- (32) WHEEL WASH WATER SHALL BE COLLECTED AND ALLOWED TO SETTLE OUT SUSPENDED SOLIDS PRIOR TO DISCHARGE. WHEEL WASH WATER SHALL NOT BE DISCHARGED DIRECTLY INTO ANY STORMWATER SYSTEM OR STORMWATER TREATMENT SYSTEM.
- (33) IF PORTABLE SANITARY FACILITIES ARE PROVIDED ON CONSTRUCTION SITES, SANITARY WASTE SHALL BE COLLECTED FROM THE PORTABLE UNITS IN A TIMELY MANNER BY A LICENSED WASTE MANAGEMENT CONTRACTOR OR AS REQUIRED BY ANY REGULATIONS. THE CONTRACTOR SHALL OBTAIN ANY AND ALL NECESSARY PERMITS TO DISPOSE OF SANITARY WASTE.
- (34) ONLY CONSTRUCTION PRODUCTS NEEDED SHALL BE STORED ONSITE BY THE CONTRACTOR. THE CONTRACTOR SHALL STORE ALL MATERIALS UNDER COVER AND IN APPROPRIATE CONTAINERS. PRODUCTS MUST BE STORED IN ORIGINAL CONTAINERS AND LABELED. MATERIAL MIXING SHALL BE CONDUCTED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. THE CONTRACTOR'S RESPONSIBLE PARTY SHALL INSPECT MATERIALS STORAGE AREAS REGULARLY TO ENSURE PROPER USE AND DISPOSAL.
- (35) WHEN POSSIBLE, ALL PRODUCTS SHALL BE USED COMPLETELY BEFORE PROPERLY DISPOSING OF THE CONTAINER OFFSITE. THE MANUFACTURER'S DIRECTIONS FOR DISPOSAL OF MATERIALS AND CONTAINERS SHALL BE FOLLOWED.
- (36) ALL PAINT CONTAINERS SHALL BE TIGHTLY SEALED AND STORED WHEN NOT REQUIRED FOR USE. EXCESS PAINT SHALL BE DISPOSED OF ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS AND APPLICABLE STATE AND LOCAL REGULATIONS.
- (37) ALL HAZARDOUS WASTE MATERIALS SHALL BE DISPOSED OF IN A MANNER WHICH IS COMPLIANT WITH LOCAL OR STATE REGULATIONS. SITE PERSONNEL SHALL BE INSTRUCTED IN THESE PRACTICES, AND THE INDIVIDUAL DESIGNATED AS THE CONTRACTOR'S RESPONSIBLE PARTY SHALL BE RESPONSIBLE FOR SEEING THAT THESE PRACTICES ARE FOLLOWED. THE CONTRACTOR SHALL OBTAIN ANY AND ALL NECESSARY PERMITS TO DISPOSE OF HAZARDOUS MATERIAL.
- (38) OPEN BURNING IS PROHIBITED UNLESS IT IS SPECIFICALLY ALLOWED BY LAW. IF ALLOWED, NATURAL VEGETATION, TREES, AND UNTREATED LUMBER SHALL BE THE ONLY MATERIALS THAT CAN BE OPEN BURNED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL APPLICABLE STATE AND LOCAL PERMITS PRIOR TO ANY BURNING.
- (39) DISPOSAL OF ONSITE VEGETATION AND TREES BY CHIPPING THEM INTO MULCH IS PREFERABLE TO OPEN BURNING. THIS MULCH MAY BE USED AS AN ONSITE SOIL STABILIZATION MEASURE WHERE APPROPRIATE.
- (40) WASTE MATERIAL (EARTH, ROCK, ASPHALT, CONCRETE, ETC.) NOT REQUIRED FOR THE CONSTRUCTION OF THE PROJECT WILL BE DISPOSED OF BY THE CONTRACTOR. IMPACTS TO WATERS OF THE STATE/U.S. SHALL BE AVOIDED IF POSSIBLE. IF UNAVOIDABLE, THE CONTRACTOR WILL OBTAIN ANY AND ALL NECESSARY PERMITS INCLUDING, BUT NOT LIMITED TO NPDES, AQUATIC RESOURCES ALTERATION PERMIT(S), CORPS OF ENGINEERS SECTION 404 PERMITS, AND TVA SECTION 26A PERMITS TO DISPOSE OF WASTE MATERIALS.

**SUPPORT ACTIVITIES**

- (41) MATERIALS AND STAGING AREAS SHALL NOT AFFECT ANY WATERS OF THE STATE/U.S. UNLESS THESE AREAS ARE SPECIFICALLY COVERED BY ENVIRONMENTAL PERMITS, OBTAINED SOLELY BY THE CONTRACTOR. THE CONTRACTOR SHALL REVIEW ALL EXISTING PERMITS TO ENSURE THAT WORK AT PERMITTED SITES DOES NOT EXCEED EXPIRATION DATES. IF WORK IS GOING TO BE CONTINUED AFTER EXPIRATION DATES, THE CONTRACTOR SHALL CONTACT THE DOT PROJECT RESPONSIBLE PARTY TO COMMENCE PERMIT RENEWAL PROCESS.

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2020	33003-3166-44	2C3
		33003-3167-44	

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STATE OF TENNESSEE  
DEPARTMENT OF  
TRANSPORTATION

**GENERAL  
NOTES**

# SPECIAL NOTES

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2020	33003-3166-44	20
		33003-3167-44	

## GRADING

- (1) THE GRADING TABULATIONS AND RESULTING EARTHWORK ASSOCIATED BID QUANTITIES WERE PREPARED UTILIZING AVAILABLE GEOTECHNICAL INFORMATION AND/OR REPORTS PREPARED FOR THIS PROJECT. THIS INFORMATION IS PROVIDED FOR GENERAL INFORMATION AND ESTIMATION GUIDANCE ONLY.
- (2) BORING DEPICTIONS SHOWN ON THE FOUNDATION DATA SHEETS, SOILS SHEETS, PLANS, AND CROSS-SECTIONS INDICATE SOIL AND ROCK CONDITIONS AT THE SPECIFIC BORING LOCATIONS. ANY SOIL PROFILE AND/OR ROCK LINE IS INTERPRETIVE BASED ON THE JUDGMENT OF THE GEOTECHNICAL ENGINEER/GEOLOGIST. THE TRANSITION BETWEEN BORINGS AND LAYERS MAY VARY SIGNIFICANTLY DEPENDING ON THE GEOLOGIC FORMATIONS ENCOUNTERED.
- (3) TO ASSIST IN BID PREPARATION FOR EARTHWORK AND FOUNDATION CONSTRUCTION, DETAIL ROCK AND SOIL DESCRIPTION AND ON SOME PROJECTS, ROCK CORE SAMPLES ARE AVAILABLE FOR INSPECTION AT THE MATERIALS AND TESTS HEADQUARTERS AT 6601 CENTENNIAL BOULEVARD, NASHVILLE, TN OR AT THE TDOT REGION 1 BUILDING IN KNOXVILLE, TN.
- (4) THE CONTRACTOR SHALL UTILIZE ALL INFORMATION PROVIDED IN THE PLANS, CROSS-SECTIONS AND CONTRACT DOCUMENTS INCLUDING ANY SPECIAL PROVISIONS AS WELL AS UTILIZING HIS PAST EXPERIENCE WITH PROJECTS OF SIMILAR NATURE, SCOPE AND LOCATION IN PREPARATION OF HIS BID FOR EARTHWORK ITEMS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE AND PROVIDE EQUIPMENT AND MEANS NECESSARY TO CONDUCT THE EXCAVATION ACTIVITIES IN ACCORDANCE WITH PLANS AND SPECIFICATIONS.
- (5) EARTHWORK IS PAID FOR UNDER ITEM 203-01, ROAD AND DRAINAGE EXCAVATION (UNCLASSIFIED). NO ADDITIONAL PAYMENT WILL BE MADE FOR EARTHWORK QUANTITIES BASED SOLELY ON A CLAIM THAT THE QUANTITIES SHOWN IN THE GRADING TABULATION OR ELSEWHERE IN THE PLANS ARE INACCURATE WITH RESPECT TO THE TYPE OF MATERIALS ENCOUNTERED DURING CONSTRUCTION EXCEPT AS PROVIDED FOR BY SECTION 104.02 IN THE CURRENT EDITION OF THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION OR AS AMENDED IN SUPPLEMENTAL SPECIFICATIONS.

## DEMOLITION

### DEMOLITION, REPAIR, OR REHABILITATION OF BRIDGES

- (1) IF THE CONTRACTOR SHALL VERIFY THAT AN ASBESTOS SURVEY HAS BEEN COMPLETED PRIOR TO ANY DEMOLITION, REPAIR OR REHABILITATIONS ACTIVITIES (NOT INCLUDING ASPHALT MILLING OR OVERLAY).
- (2) ASBESTOS-CONTAINING MATERIALS (ACM) ABATEMENT IS THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE COMPLETED PRIOR TO ANY DEMOLITION, REPAIR OR REHABILITATION OF BRIDGE(S). ABATEMENT SHOULD BE ACCOMPLISHED PER SP202ACM SPECIAL PROVISION REGARDING REMOVAL OF ASBESTOS-CONTAINING MATERIALS. STATE OF TENNESSEE ASBESTOS ACCREDITATION REQUIREMENTS (TCA 1200-01-20) MANDATE THAT ACM ABATEMENT WORK BE PERFORMED BY AN ACCREDITED FIRM (CONTRACTOR) USING ACCREDITED ABATEMENT WORKERS AND SUPERVISORS.
- (3) THE CONTRACTOR SHALL BE RESPONSIBLE FOR SUBMITTING A NOTICE TO THE TDEC, DIVISION OF AIR POLLUTION CONTROL TEN (10) DAYS IN ADVANCE OF ANY ACM ABATEMENT, DEMOLITION, OR MAJOR REPAIR INVOLVING THE REMOVAL/REPLACEMENT OF A STRUCTURAL COMPONENT.

## RETAINING WALLS

- (4) THE RIGHT-OF-WAY/EASEMENT WITHIN 30 FEET OF ANY PROPOSED RETAINING WALL SHALL REMAIN CLEAR FOR THE CONSTRUCTION OF THE RETAINING WALLS. NO UTILITY LINES MAY BE PLACED THERE WITHOUT APPROVAL FROM STRUCTURES DIVISION.
- (5) THE OPTIONS FOR RETAINING WALL TYPES SHALL BE LIMITED TO THE APPROVED ALTERNATIVES AS SPECIFIED ON THE RETAINING WALL SHEET(S).
- (6) VALUE ENGINEERING CHANGE PROPOSALS WILL NOT BE ACCEPTED FOR RETAINING WALLS ITEM NUMBER(S): 60-07.01 TO 604-0803.

- (7) ALL COST OF BUILDING, INSTALLING AND BACKFILLING THE RETAINING WALL, INCLUDING GRANULAR BACKFILL, GEOTEXTILE FABRIC (TYPE IV), LEVELING PAD, AND MOMENT SLAB, SHALL BE INCLUDED IN THE COST OF THE RETAINING WALL. COSTS FOR EXCAVATION OF THE WALL SHALL BE INCLUDED IN ITEM 203-01, ROAD AND DRAINAGE EXCAVATION PER CUBIC YARD. END AREAS FOR EXCAVATION FOR THE WALL SHALL BE INCLUDED IN END AREA TOTALS ON CROSS-SECTIONS.

## PAVEMENT

### RESURFACING

- (1) TRAFFIC WILL BE ALLOWED TO TEMPORARILY DRIVE ON THE MILLED SURFACE OF THE ROADWAY UNDER THE FOLLOWING CONDITIONS ONLY:
  - a. THE MILLED SURFACE IS FINE TEXTURED. THE FINE TEXTURE SHALL BE OBTAINED BY A MILLING MACHINE UTILIZING A MILLING HEAD WITH TEETH SPACING 3/8" OR LESS OPERATING AT LESS THAN 80 FEET PER MINUTE.
  - b. THE SURFACE SHALL BE SWEEPED AND CLEANED OF ALL LOOSE MATERIALS.
  - c. RAIN OR INCLEMENT WEATHER IS NOT EXPECTED OR FORECASTED WITHIN 48 HOURS AFTER MILLING.
  - d. ALL APPLICABLE SIGNING IS INSTALLED IN ACCORDANCE WITH THE MUTCD. SIGNING SHALL INCLUDE MOTORCYCLE WARNING SIGNS (TN-64) PLACED IN ADVANCE OF ANY MILLED AREAS
  - e. IF MILLED SURFACE BEGINS TO DETERIORATE, PAVING TO COVER UP DETERIORATING MILLED SURFACES SHOULD OCCUR AS DIRECTED BY THE ENGINEER DURING THE NEXT WORKING DAY. IF SEVERE DISTRESS OCCURS, IMMEDIATE RESPONSE WILL BE REQUIRED.

## SIGNALIZATION

- (2) THE DESIGN OF TRAFFIC SIGNAL SUPPORT POLES, MAST ARMS, STRAIN POLES, ETC. SHALL BE IN CONFORMANCE WITH THE AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS, CURRENT EDITION. OVERHEAD CANTILEVERED TRAFFIC SIGNAL STRUCTURES SHALL BE DESIGNED FOR FATIGUE CATEGORY 1.

## MULTIMODAL

- (3) DURING CONSTRUCTION, IF THE CONSTRUCTION SUPERVISOR IDENTIFIES CURB RAMP LOCATIONS WITHIN THE PROJECT LIMITS WHERE THE TDOT ROADWAY STANDARDS CANNOT BE USED DUE TO SITE LIMITATIONS, A SKETCH OR PICTURE, SHOWING EXISTING CONDITIONS AS WELL AS PROPOSED MODIFICATIONS SHOULD BE SUBMITTED TO THE REGIONAL PROJECT DEVELOPMENT OFFICE THREE WEEKS PRIOR TO THE BEGINNING OF CURB RAMP CONSTRUCTION. THE OFFICE WILL REVIEW AND EVALUATE THE LOCATIONS TO DEVELOP PROPER CURB RAMP DESIGN THAT WILL MEET REGULATIONS.

## EROSION PREVENTION AND SEDIMENT CONTROL

### ENVIRONMENTAL

- (1) STAFF FROM THE TDOT ENVIRONMENTAL DIVISION COMPLIANCE AND FIELD SERVICES OFFICE SHALL BE INVITED TO ALL PRE-CONSTRUCTION MEETINGS.

### ECOLOGY

- (2) STAFF FROM THE TDOT ENVIRONMENTAL DIVISION OR A DESIGNEE SHALL ADVISE THE CONTRACTOR DURING THE PRE-CONSTRUCTION MEETING WHEN ENVIRONMENTAL DIVISION PERSONNEL OR A DESIGNATED CONSULTANT WILL NEED TO BE ONSITE FOR WORK BEING DONE WHICH COULD AFFECT WATERS OF THE STATE/ U.S. OR SPECIES.
- (3) STAFF FROM THE TDOT ENVIRONMENTAL DIVISION OR A DESIGNEE SHALL ATTEND THE PRE-CONSTRUCTION MEETING FOR ALL PROJECTS WHICH HAVE THREATENED OR ENDANGERED SPECIES OR CRITICAL HABITAT PROXIMAL TO SCHEDULED WORK. THIS WILL PROVIDE THE OPPORTUNITY TO ENSURE THAT PERSONNEL INCLUDING THE CONTRACTOR'S PERSONNEL AND SUBCONTRACTORS ARE MADE AWARE OF THE NECESSARY PRECAUTIONS THAT MUST BE FOLLOWED.

- (4) ALL PROJECTS WITH LEGALLY PROTECTED SPECIES OR CRITICAL HABITAT IDENTIFIED SHALL HAVE MEASURES IN PLACE TO CONTAIN CONCRETE DUST, CEMENT DUST AND ALL OTHER MATERIALS. THESE MATERIALS ARE NOT ALLOWED TO ENTER WATERS OF THE STATE/ U.S.

## PROJECT COMMITMENTS

- (5) SEE PROJECT COMMITMENTS SHEET FOR DETAILS RELATING TO SPECIAL ENVIRONMENTAL COMMITMENTS REQUIRED BY THIS PROJECT.

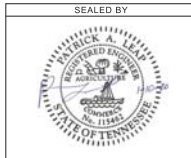
## SCOPE OF WORK

- (6) THE SCOPE OF WORK FOR THIS PROJECT INCLUDES GRADING, DRAINAGE, PAVING, BRIDGE, SIGNING, AND SIGNAL WORK.

## TRAFFIC CONTROL

### CHANGEABLE MESSAGE SIGN

- (1) MESSAGE BOARDS SHALL BE DISPLAYED A MINIMUM OF SEVEN (7) DAYS PRIOR TO STARTING WORK.
- (2) PRIOR TO DISPLAYING MESSAGES ON MOBILE AND CHANGEABLE MESSAGE BOARDS, ALL MESSAGES SHALL BE APPROVED BY THE TDOT ENGINEER.
- (3) INFORMATION ON MOBILE AND CHANGEABLE MESSAGE BOARDS SHALL BE UPDATED TO REFLECT CURRENT CONSTRUCTION CONDITIONS AT ALL TIMES.



STATE OF TENNESSEE  
DEPARTMENT OF  
TRANSPORTATION

SPECIAL  
NOTES



TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2020	33003-3166-44	2E1
		33003-3167-44	

**BELVOIR AVENUE - TRAFFIC CONTROL QUANTITIES CONSTRUCTION SIGNS**

ITEM NO.	DESCRIPTION	UNIT	QUANTITY	ITEM NO. 712-06 (S.F.)	SIZE	M.U.T.C.D. NO.	REMARKS
	END ROADWORK	EACH	4	32	48" X 24"	G20-2	
	45 SPEED LIMIT	EACH	2	40	48" X 60"	R2-1	
	STAY IN LANE	EACH	4	80	48" X 60"	R4-9	
	LANE SHIFT 1/2 MILE	EACH	4	64	48" X 48"	W1-4b (Mod.)	
	LANE SHIFT LEFT	EACH	4	64	48" X 48"	W1-4cL	
	LANE SHIFT RIGHT	EACH	4	64	48" X 48"	W1-4cR	
	45 SPEED WARNING	EACH	2	32	48" X 48"	W3-5	
	LEFT LANE CLOSED	EACH	4	64	48" X 48"	W4-2L	
	RIGHT LANE CLOSED	EACH	4	64	48" X 48"	W4-2R	
	ROAD WORK 1000'	EACH	2	32	48" X 48"	W20-1	
	ROAD WORK 1500'	EACH	4	64	48" X 48"	W20-1	
	ROAD WORK 1/2 MILE	EACH	4	64	48" X 48"	W20-1	
	ROAD WORK 1 MILE	EACH	4	64	48" X 48"	W20-1	
	ROAD WORK 2 MILES	EACH	4	64	48" X 48"	W20-1	
	LL CLOSED AHEAD	EACH	4	64	48" X 48"	W20-5L	
	LL CLOSED 1500'	EACH	2	32	48" X 48"	W20-5L	
	LL CLOSED 1/2 MILE	EACH	2	32	48" X 48"	W20-5L	
	RL CLOSED AHEAD	EACH	4	64	48" X 48"	W20-5R	
	REVERSE CURVE AHEAD	EACH	4	64	48" X 48"	W24-1BR	
<b>TOTAL</b>				<b>948</b>			

**BELVOIR AVENUE - TRAFFIC CONTROL QUANTITIES DETOUR SIGNS**

ITEM NO.	DESCRIPTION	UNIT	QUANTITY	ITEM NO. 712-06 (S.F.)	SIZE	M.U.T.C.D. NO.	REMARKS
	BELVOIR AVE	EACH	12	42	41" X 12"	D3-1	
	EXIT CLOSED	EACH	1	9	36" X 36"	E5-2A	
	NORTH	EACH	2	4	24" X 12"	M3-1	
	SOUTH	EACH	1	2	24" X 12"	M3-3	
	END DETOUR	EACH	2	6	24" X 16"	M4-8A	
	PEDESTRIAN DETOUR LEFT	EACH	4	20	30" X 24"	M4-9BL	
	PEDESTRIAN DETOUR RIGHT	EACH	4	20	30" X 24"	M4-9BR	
	DETOUR LEFT ARROW	EACH	7	35	30" X 24"	M4-9L	
	DETOUR RIGHT ARROW	EACH	1	5	30" X 24"	M4-9R	
	DETOUR STRAIGHT ARROW	EACH	4	20	30" X 24"	M4-9S	
	"DETOUR" ARROW	EACH	2	12	48" X 16"	M4-10R	
	RIGHT TURN ONLY	EACH	2	15	30" X 36"	R5-6R	
	SIDEWALK CLOSED	EACH	4	8	24" X 12"	R9-9	
	ROAD CLOSED	EACH	2	20	48" X 30"	R11-2	
	ALL TRUCKS	EACH	1	4	41" X 12"	R14- MOD	
	DETOUR AHEAD	EACH	2	18	36" X 36"	W30-2	
	ROAD CLOSED AHEAD	EACH	2	18	36" X 36"	W30-3	
<b>TOTAL</b>				<b>258</b>			

**BELVOIR AVENUE - PROPOSED CONCRETE BARRIER**

SHEET NO.	LOCATION	SIDE	STATION		51" HALF SIZE SINGLE SLOPE CONCRETE BARRIER WALL	FLARED SINGLE SLOPE CONCRETE BARRIER WALL	CONCRETE CAP (4" THICK)	MINERAL AGGREGATE SIZE 57	REMARKS
			FROM	TO	711-05.72 (L.F.)	711-05.77 (L.F.)	701-01.01 (S.F.)	303-10.01 (TON)	
			LT	RT	(L.F.)	(L.F.)	(S.F.)	(TON)	
6A	I-24	X	165+07.83	166+61.43	154			49	AT WALL #1
6A	I-24	X	165+22.12	166+44.05	122			39	AT WALL #2
6A	I-24	X	164+96.56	166+63.82		171		84	MEDIAN BARRIER
<b>TOTALS</b>					<b>276</b>	<b>171</b>		<b>172</b>	

**BELVOIR AVENUE - CATCH BASINS AND MANHoles**

SHEET NO.	LOCATION	STATION	OFFSET (FT.)	DRAINAGE CODE	GRATE/TOP ELEV.	STRUCTURE TYPE	DEPTH (FT.)	STANDARD DRAWING	TYPE 10 611-10.02 4" - 8"
6A	BELVOIR AVE	304+42.13	24.00	1	751.00	10	3.36	D-CB-10S	1
6A	BELVOIR AVE	304+41.92	-24.00	2	751.00	10	6.21	D-CB-10S	1
<b>TOTALS</b>									<b>2</b>

**BELVOIR AVENUE - PROPOSED GUARDRAIL**

SHEET NO.	LOCATION	SIDE	STATION		SINGLE GUARDRAIL TYPE 2	TERMINAL ANCHORS		BRIDGEWALL CONN.		REMARKS
			FROM	TO	705-06.01 (L.F.)	705-06.10 (EACH)	705-06.20 (EACH)	705-06.25 (EACH)	706-10.80 (EACH)	
			LT	RT	(L.F.)	(EACH)	(EACH)	(EACH)	(EACH)	
6A	I-24	X	164+55.73	165+23.25				1	1	
6A	I-24	X	166+60.30	167+27.82				1	1	
<b>TOTALS</b>								<b>2</b>	<b>2</b>	

**BELVOIR AVENUE - PAVEMENT QUANTITIES**

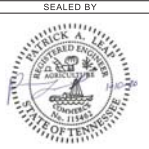
LOCATION	PAY ITEMS									
	303-01 (TON) BASE STONE	307-01.01 (TON) GRADING A	307-01.08 (TON) GRADING B-M2	402-01 (GAL) PRIME COAT	402-02 (TON) AGG. (PC)	403-01 (GAL) TACK COAT	411-01.07 (TON) GRADING "D"	411-01.10 (TON) GRADING "D"	415-01.01 (TON) COLD PLANING	503-01 (CY) CONC. GRIND
BELVOIR ROAD	189	44	29	0.4	1.3	0.7	-	95	78	-
I-24	143	-	83	1.0	3.7	0.3	47	-	-	15871
<b>TOTALS</b>	<b>332</b>	<b>44</b>	<b>111</b>	<b>1.4</b>	<b>5.0</b>	<b>1.0</b>	<b>47</b>	<b>95</b>	<b>78</b>	<b>15871</b>

**BELVOIR AVENUE - CURB RAMPS TABULATION**

MAINLINE	INTERSECTING	STATION OF LOG MILE (L.M.)	LOCATION			STANDARD DRAWING NO.	CONCRETE (NEW) ITEM NO. 701-02.03 S.F.	REMARKS
			Left	Median	Right			
			QUADRANT N. S. E. W.					
Belvoir	North Terrace	303+81.48	x			MM-CR-7	213.0	
Belvoir	North Terrace	303+82.35		x	x	MM-CR-7	213.0	
Belvoir	North Terrace	304+32.23	x		x	MM-CR-7	161.0	
Belvoir	North Terrace	304+32.59		x	x	MM-CR-7	161.0	
Belvoir	South Terrace	306+63.19		x	x	MM-CR-5	191.0	Dual Ramps
Belvoir	South Terrace	306+64.07	x		x	MM-CR-5	191.0	Dual Ramps
Belvoir	South Terrace	307+07.69		x	x	MM-CR-5	83.0	
Belvoir	South Terrace	307+07.98	x		x	MM-CR-5	83.0	
<b>TOTAL</b>							<b>1296</b>	

**BELVOIR AVENUE - TRAFFIC CONTROL QUANTITIES**

ITEM NO.	DESCRIPTION	UNIT	QUANTITY
705-20.25	TEMPORARY CRASH CUSHION (MASH TL-3)	EACH	4
712-01	TRAFFIC CONTROL	LS	0.5
712-02.02	INTERCONNECTED PORTABLE BARRIER RAIL	L.F.	5820
712-04.01	FLEXIBLE DRUMS (CHANNELIZING)	EACH	108
712-06	SIGNS (CONSTRUCTION)	S.F.	1361
712-07.02	TEMPORARY BARRICADES (TYPE II)	L.F.	40
712-07.03	TEMPORARY BARRICADES (TYPE III)	L.F.	80
712-08.10	MOBILE MESSAGE SIGN UNIT WATTENATOR	HOURLY	260
713-08.11	PORTABLE OREGON WARNING SYSTEM	DAY	270
713-02.28	CONCRETE BARRIER/PARAPET DELINEATOR	EACH	290
713-16.01	CHANGEABLE MESSAGE SIGN UNIT	EACH	8



STATE OF TENNESSEE  
DEPARTMENT OF  
TRANSPORTATION

TABULATED  
QUANTITIES

BELVOIR AVE

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2019	33003-2166-44	3
		33003-2167-44	
CONST.	2020	33003-3166-44	3
		33003-3167-44	

## UTILITIES

- (1) THE LOCATIONS OF UTILITIES SHOWN WITHIN THESE PLANS ARE APPROXIMATE ONLY. EXACT LOCATIONS SHALL BE DETERMINED IN THE FIELD BY CONTACTING THE UTILITY COMPANIES INVOLVED. NOTIFICATION BY CALLING THE TENNESSEE ONE CALL SYSTEM, INC., AT 1-800-351-1111 AS REQUIRED BY TCA 65-31-106 WILL BE REQUIRED.
- (2) UNLESS OTHERWISE NOTED, ALL UTILITY ADJUSTMENTS WILL BE PERFORMED BY THE UTILITY OR ITS REPRESENTATIVE. THE CONTRACTOR AND UTILITY OWNERS WILL BE REQUIRED TO COOPERATE WITH EACH OTHER IN ORDER TO EXPEDITE THE WORK REQUIRED BY THIS CONTRACT. ON CONTRACTS WHERE CONSTRUCTION STAKES, LINES, AND GRADES ARE CONTRACT ITEMS, THE CONTRACTOR WILL BE REQUIRED TO PROVIDE RIGHT-OF-WAY OR SLOPE STAKES, DITCH OR STREAM BED GRADES, OR OTHER ESSENTIAL SURVEY STAKING TO PREVENT CONFLICTS WITH THE HIGHWAY CONSTRUCTION. FREQUENTLY, THIS WILL BE REQUIRED AS THE FIRST ITEM OF WORK AND AT ANY LOCATION ON THE PROJECT DIRECTED BY THE ENGINEER.
- (3) THE CONTRACTOR WILL PROVIDE ALL NECESSARY PROTECTIVE MEASURES TO SAFEGUARD EXISTING UTILITIES FROM DAMAGE DURING CONSTRUCTION OF THIS PROJECT. IN THE EVENT THAT SPECIAL EQUIPMENT IS REQUIRED TO WORK OVER AND AROUND THE UTILITIES, THE CONTRACTOR WILL BE REQUIRED TO FURNISH SUCH EQUIPMENT. THE COST OF PROTECTING UTILITIES FROM DAMAGE AND FURNISHING SPECIAL EQUIPMENT WILL BE INCLUDED IN THE PRICE BID FOR OTHER ITEMS OF CONSTRUCTION.
- (4) PRIOR TO SUBMITTING HIS BID, THE CONTRACTOR WILL BE SOLELY RESPONSIBLE FOR CONTACTING OWNERS OF ALL AFFECTED UTILITIES IN ORDER TO DETERMINE THE EXTENT TO WHICH UTILITY RELOCATIONS AND/OR ADJUSTMENTS WILL HAVE UPON THE SCHEDULE OF WORK FOR THE PROJECT. WHILE SOME WORK MAY BE REQUIRED AROUND UTILITY FACILITIES THAT WILL REMAIN IN PLACE, OTHER UTILITY FACILITIES MAY NEED TO BE ADJUSTED CONCURRENTLY WITH THE CONTRACTOR'S OPERATIONS. ADVANCE CLEAR CUTTING MAY BE REQUIRED BY THE ENGINEER AT ANY LOCATION WHERE CLEARING IS CALLED FOR IN THE SPECIFICATIONS AND CLEAR CUTTING IS NECESSARY FOR A UTILITY RELOCATION. ANY ADDITIONAL COST WILL BE INCLUDED IN THE UNIT PRICE BID FOR THE CLEARING ITEM SPECIFIED IN THE PLANS.
- (5) THE CONTRACTOR SHALL NOTIFY EACH INDIVIDUAL UTILITY OWNER OF HIS PLAN OF OPERATION IN THE AREA OF THE UTILITIES. PRIOR TO COMMENCING WORK, THE CONTRACTOR SHALL CONTACT THE UTILITY OWNERS AND REQUEST THEM TO PROPERLY LOCATE THEIR RESPECTIVE UTILITY ON THE GROUND. THIS NOTIFICATION SHALL BE GIVEN AT LEAST THREE (3) BUSINESS DAYS PRIOR TO COMMENCEMENT OF OPERATIONS AROUND THE UTILITY IN ACCORDANCE WITH TCA 65-31-106.

## UTILITY OWNERS

### CABLE:

**COMCAST**  
2030 East Polymer Drive  
Chattanooga, TN 37421  
CONTACT: Tim Gregory  
OFFICE PHONE: 706 252 4185  
Email:

### GAS:

**CHATTANOOGA GAS COMPANY**  
10 Peachtree Place, 11<sup>th</sup> Floor  
Atlanta, GA 30309  
CONTACT: Brandon Stephens  
OFFICE PHONE: 404 584 3915  
Email:

### WATER:

**TN AMERICAN WATER**  
1500 Riverside Drive  
Chattanooga, TN 37406  
CONTACT: Grady Stout  
OFFICE PHONE: 423 771 4713  
Email:

### FIBER:

**ZAYO GROUP LLC**  
209 10<sup>th</sup> Avenue South, Suite 105  
Nashville, TN 37203  
CONTACT: Jeffrey Gains  
OFFICE PHONE 423 598 2937

### ELECTRIC/FIBER:

**Electric Power Board of Chattanooga**  
110 North Greenwood Avenue  
Chattanooga, TN 37104  
CONTACT: David Henderson  
OFFICE PHONE: 423 648 3257  
Email:

### TELEPHONE:

**BELLSOUTH dba AT&T**  
300 E. Martin Luther King Boulevard, 5<sup>th</sup> fl.  
Chattanooga, TN 37103  
CONTACT: Roger Flood  
OFFICE PHONE: 423 752 9133  
Email:

### SEWER:

**HAMILTON COUNTY WWTA**  
1250 Market Street, Suite 3050  
Chattanooga TN 37402-2713  
CONTACT: Taylor Yearman  
OFFICE PHONE: 423 209 7882  
Email:

SEALED BY



STATE OF TENNESSEE  
DEPARTMENT OF  
TRANSPORTATION

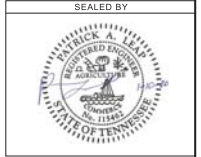
RIGHT-OF-WAY  
NOTES,  
UTILITY NOTES  
AND  
UTILITY OWNERS



TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2019	33003-2166-44	3B
		33003-2167-44	
CONST.	2020	33003-3166-44	3B
		33003-3167-44	

TRACT NO	PROPERTY OWNERS	COUNTY RECORDS				TOTAL AREA (ACRES)			AREA TO BE ACQUIRED (ACRES)			AREA REMAINING (ACRES)		EASEMENT (ACRES)			
		TAX MAP NO.	PARCEL NO.	DEED DOCUMENT REFERENCE		LEFT	RIGHT	TOTAL	LEFT	RIGHT	TOTAL	LEFT	RIGHT	PERMANENT	SLOPE	CONSTRUCTION	AIR RIGHTS
				BOOK	PAGE												
91	TONY L. DOBBIS AND ELIZABETH DOBBIS	157FL	0600	0090	0090		0.293	0.293				0.293					
92	DAVID W. STEWART AND SARAH E. STEWART	157FL	0600	1069	0600		0.294	0.294				0.294					
93	MARGARET ANN TIMMONS	157FL	0 000	4590	0297	0.149						0.149					
94	MARGUS L. COLE, JR.	157FL	0600	0700	0440		0.286	0.286				0.286					
98	JEFFREY L. SANDERS	187FL	01900	4174	0362		0.478	0.478				0.478					
96	JOE HUE P. ROSS AND J. NICOLE VELLA ESKEW	157VG	02500	8082	0378	0.235		0.235				0.235					
97	GHELAN K. PAEL	157FL	04200	9912	0112		0.190	0.190				0.190					
98	WILLIAM A. JOHNSON AND VIRGINIA M. JOHNSON	157VG	02401	6582	0234	0.222		0.222				0.222					
99	MARY BROWN WISNIEWSKI	157FL	09100	4230	0449	0.299		0.299				0.299					
102	WILLIAM A. JOHNSON AND VIRGINIA M. JOHNSON	157VG	02400	6582	0234	0.221		0.221				0.221					
10	WILLIAM A. JOHNSON AND VIRGINIA M. JOHNSON	157VG	02300	6582	0234	0.218		0.218				0.218					
102	NELSON EDDIE HAKES	157VG	02200	2742	0132	0.224		0.224				0.224					
102	THOMAS V. CANNON, SR.	157JM	08600	7808	0751		0.412	0.412				0.412					
102	DOUGLAS PARE	157VG	02100	10051	0398	0.247		0.247				0.247					
102	CHARLES L. ADAMS AND THERESE J. ADAMS	157JM	02000	5574	0311	0.324		0.324				0.324					
102	THOMAS V. CANNON, SR.	157JM	01700	7868	0751	0.139		0.139				0.139					
102	THOMAS V. CANNON, SR.	157JM	01800	7868	0751	0.158		0.158				0.158					
102	MAX R. ORTEGA, JR.	157VG	01900	7617	0799	0.360		0.360				0.360					
102	QUINTON LINDSAY	157JM	09000	11092	0154	0.177		0.177				0.177					
111	JOHN M. McDONALD	157VG	01600	11063	0597	0.180		0.180				0.180					
111	KEVIN GREGORY AND WILLIAM H. GREGORY	104RM	08301	10907	0154	0.206		0.206				0.206					
111	R. LAWRENCE SMITH, III	157VG	01700	4323	0657	0.179		0.179				0.179					
111	R. F. SMITH AND R. LAWRENCE SMITH	157VG	01601	4175	0979	0.237		0.237				0.237					
111	JAMES MICHAEL GRADY	157JM	01100	9128	0493	0.135		0.135				0.135					
111	TIMOTHY R. GEEK AND DONNA K. SISE	157VG	01600	6282	0894	0.236		0.236				0.236					
111	BRENFE HOLSTON	157JM	04200	9172	0458	0.132		0.132				0.132					
111	GEORGE TODD BROOK	157VG	01500	8783	0103	0.234		0.234				0.234					
111	DAVID BRIAN AILEY	157PAL	06000	9109	0636	0.237		0.237				0.237					
111	ANTONIO A. RODRIGUEZ AND RHONDA L. RODRIGUEZ	157VG	01401	3880	0209	0.229		0.229				0.229					
122	JOHN B. TELSTRA AND LISA TELSTRA	157VG	01400	10614	0880	0.222		0.222				0.222					
122	MICHAEL K. MORRISON	157PAL	01000	6188	00001	0.530		0.530				0.530					
122	YOLANDA TARUVELLO MARTIN	157VG	01300	7634	0599	0.268		0.268				0.268					
122	BARRY M. PLUMM	157PAL	06000	8593	0349	0.241		0.241				0.241					
122	RICHARD S. STAHL AND ROBERT A. STAHL AND PAUL STAHL	157PAL	06200	10198	0413	0.321		0.321				0.321					
122	JOHN J. BAKER III AND RAMONA H. BAKER	157PAL	06100	8016	0600	0.370		0.370				0.370					
122	ROBERT L. LOCKHART AND JANIE H. LOCKHART	157PAL	01100	4729	0465	0.366		0.366				0.366					
122	KATHY LEWIS	157VG	01200	7220	0621	0.829		0.829				0.829					
122	TINA H. HENNES	157VG	01100	4335	0900	0.373		0.373				0.373					
122	ETHAN ROGER AND SARA ROGERS	157VG	01000	10037	0878	0.373		0.373				0.373					
132	ERIC S. DAVIS AND ERICA N. DAVIS	157FM	01800	10895	0482	0.351		0.351				0.351					
132	ELLIS YARRELL, JR. AND LAURA YARRELL	157PM	01100	10617	0384	0.262		0.262				0.262					
132	KEITH J. REISMAN	157PM	06200	8395	0080	0.523		0.523				0.523					
132	TENNESSEE ASSOCIATION OF CHRISTIAN SCHOOLS	157PM	06300	7851	0408	0.890		0.890				0.890					
132	BRainerd Baptist Church	157FR	01800	1500	0927	5.216		5.216				5.216					
<b>ACQUISITION TOTALS (ACRES)</b>																	

DISURBED AREA	
IN BETWEEN SLOPE LINES	3.15 AC.
15 FOOT WID. STRIP (OUTSIDE SLOPE LINES)	1.32 AC.
TOTAL DISTURBED AREA	4.47 AC.



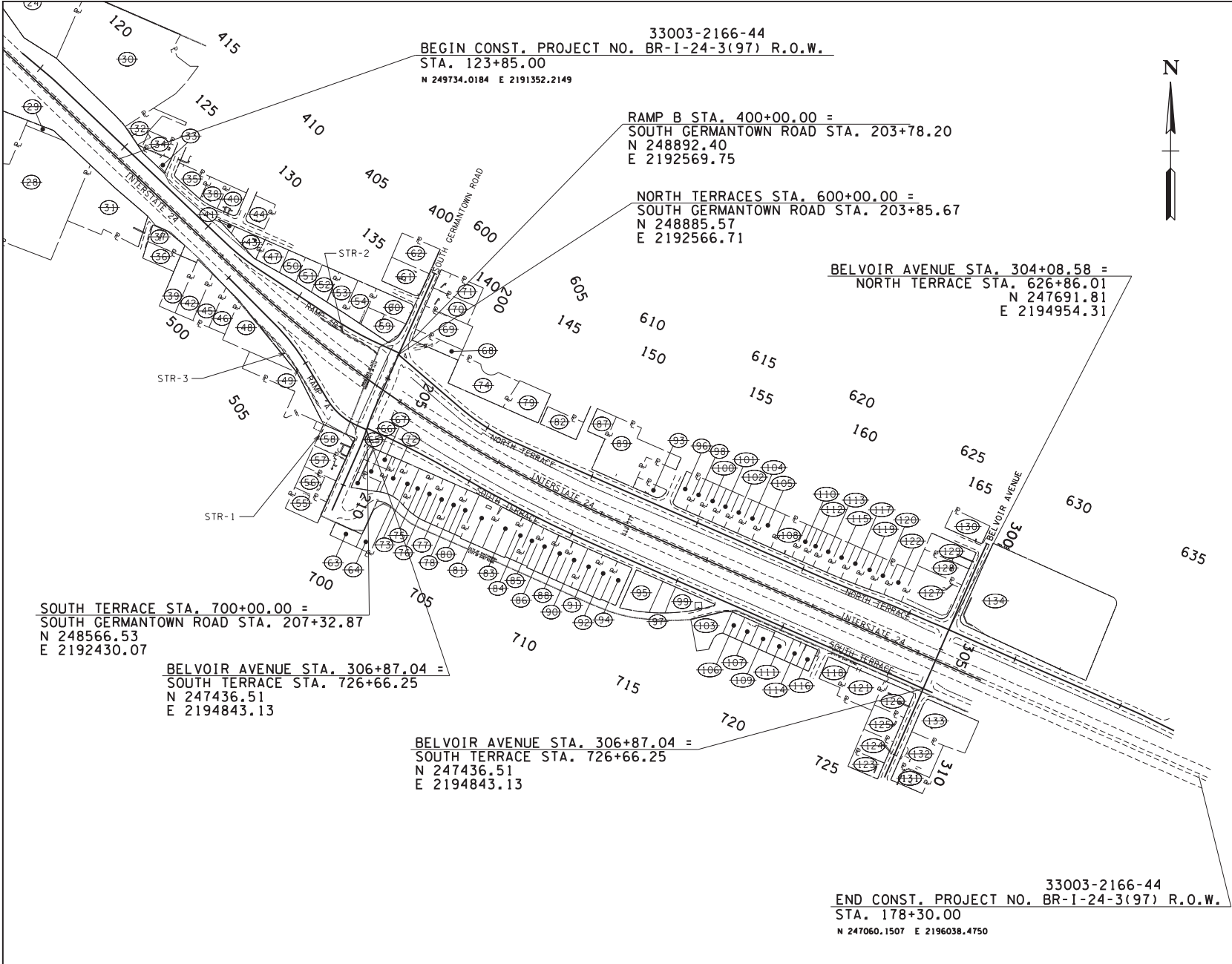
STATE OF TENNESSEE  
DEPARTMENT OF  
TRANSPORTATION

R.O.W.  
ACQUISITION  
TABLE

SHEET 2 OF 2



TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2019	33003-2166-44	3C
		33003-2167-44	
CONST.	2020	33003-3166-44	3C
		33003-3167-44	



33003-2166-44  
 BEGIN CONST. PROJECT NO. BR-I-24-3(97) R.O.W.  
 STA. 123+85.00  
 N 249734.0184 E 2191352.2149

RAMP B STA. 400+00.00 =  
 SOUTH GERMANTOWN ROAD STA. 203+78.20  
 N 248892.40  
 E 2192569.75

NORTH TERRACES STA. 600+00.00 =  
 SOUTH GERMANTOWN ROAD STA. 203+85.67  
 N 248885.57  
 E 2192566.71

BELVOIR AVENUE STA. 304+08.58 =  
 NORTH TERRACE STA. 626+86.01  
 N 247691.81  
 E 2194954.31

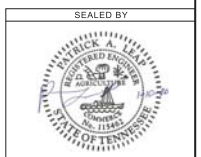
SOUTH TERRACE STA. 700+00.00 =  
 SOUTH GERMANTOWN ROAD STA. 207+32.87  
 N 248566.53  
 E 2192430.07

BELVOIR AVENUE STA. 306+87.04 =  
 SOUTH TERRACE STA. 726+66.25  
 N 247436.51  
 E 2194843.13

BELVOIR AVENUE STA. 306+87.04 =  
 SOUTH TERRACE STA. 726+66.25  
 N 247436.51  
 E 2194843.13

33003-2166-44  
 END CONST. PROJECT NO. BR-I-24-3(97) R.O.W.  
 STA. 178+30.00  
 N 247060.1507 E 2196038.4750

1/10/2020  
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COORDINATES ARE NAD(83/1995),  
 ARE DATUM ADJUSTED BY THE  
 FACTOR OF 0.99998 AND TIED TO  
 THE TGRN. ALL ELEVATIONS ARE  
 REFERENCED TO THE NAVD 1988.

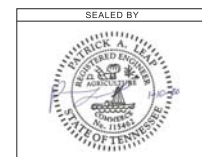
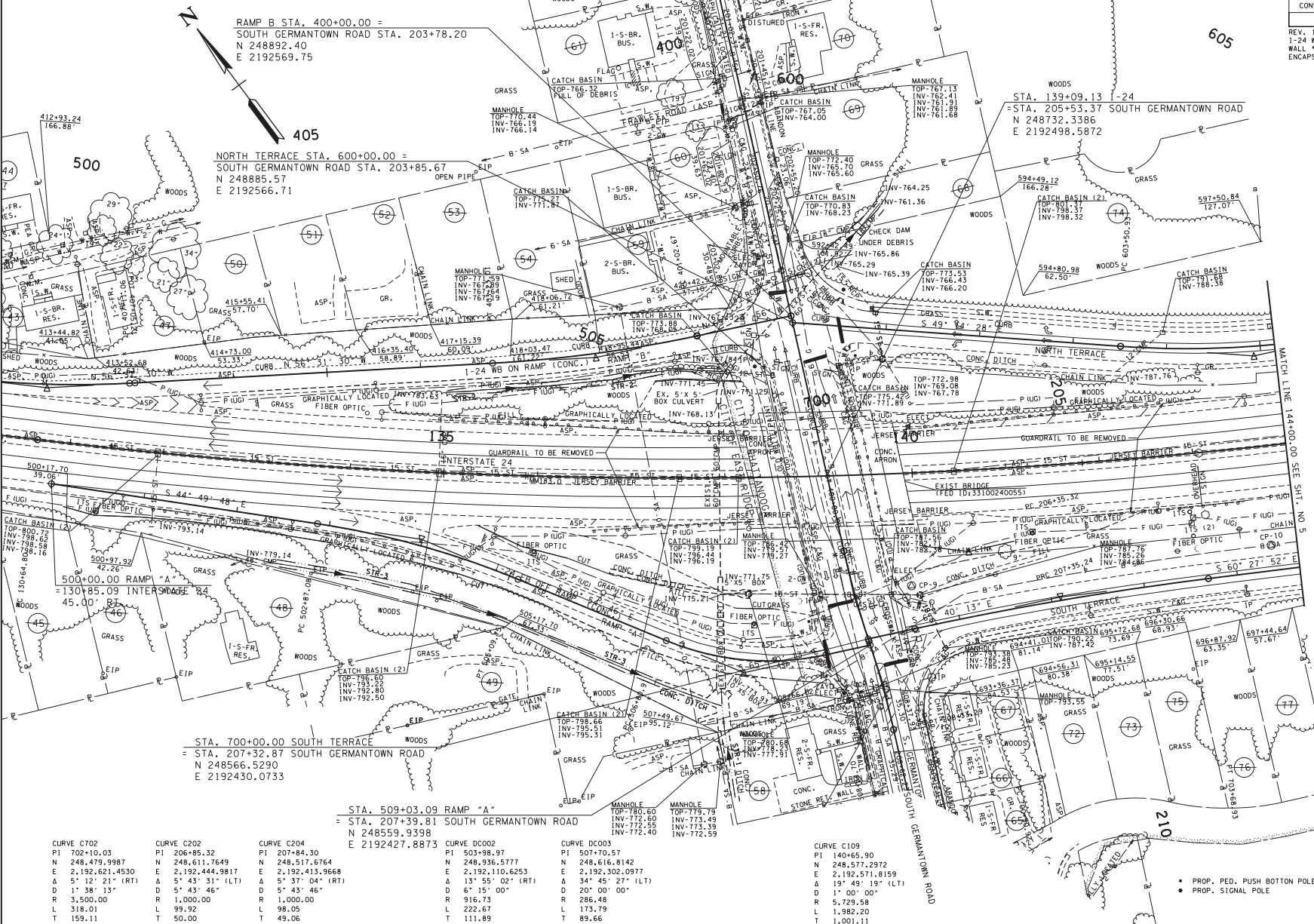
STATE OF TENNESSEE  
 DEPARTMENT OF  
 TRANSPORTATION

PROPERTY  
 MAP  
 SCALE: 1"=200'

CONTROL POINTS					
POINT	NORTH	EAST	ELEV.	STATION	CENTERLINE OFFSET
CP-9	248584.4698	2192501.0610	789.24	139+94.27	1-24 120.29' (RT)
CP-10	248390.1342	2192834.9026	806.59	143+72.89	1-24 106.18' (RT)

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2019	33003-2166-44	4
		33003-2167-44	
CONST.	2020	33003-3166-44	4
		33003-3167-44	

REV. 10-23-19: REV. SLOPE LINES ALONG 1-24 WB BETWEEN 135+00 AND 143+00; ADDED WALL #3, 60" PIPE REPAIR, AND TEMPORARY ENCLOSURE OF STR-2.



COORDINATES ARE NAD83(1995), ARE DATUM ADJUSTED BY THE FACTOR OF 0.99998 AND TIED TO THE TGN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988.

STATE OF TENNESSEE  
DEPARTMENT OF  
TRANSPORTATION

**PRESENT  
LAYOUT**

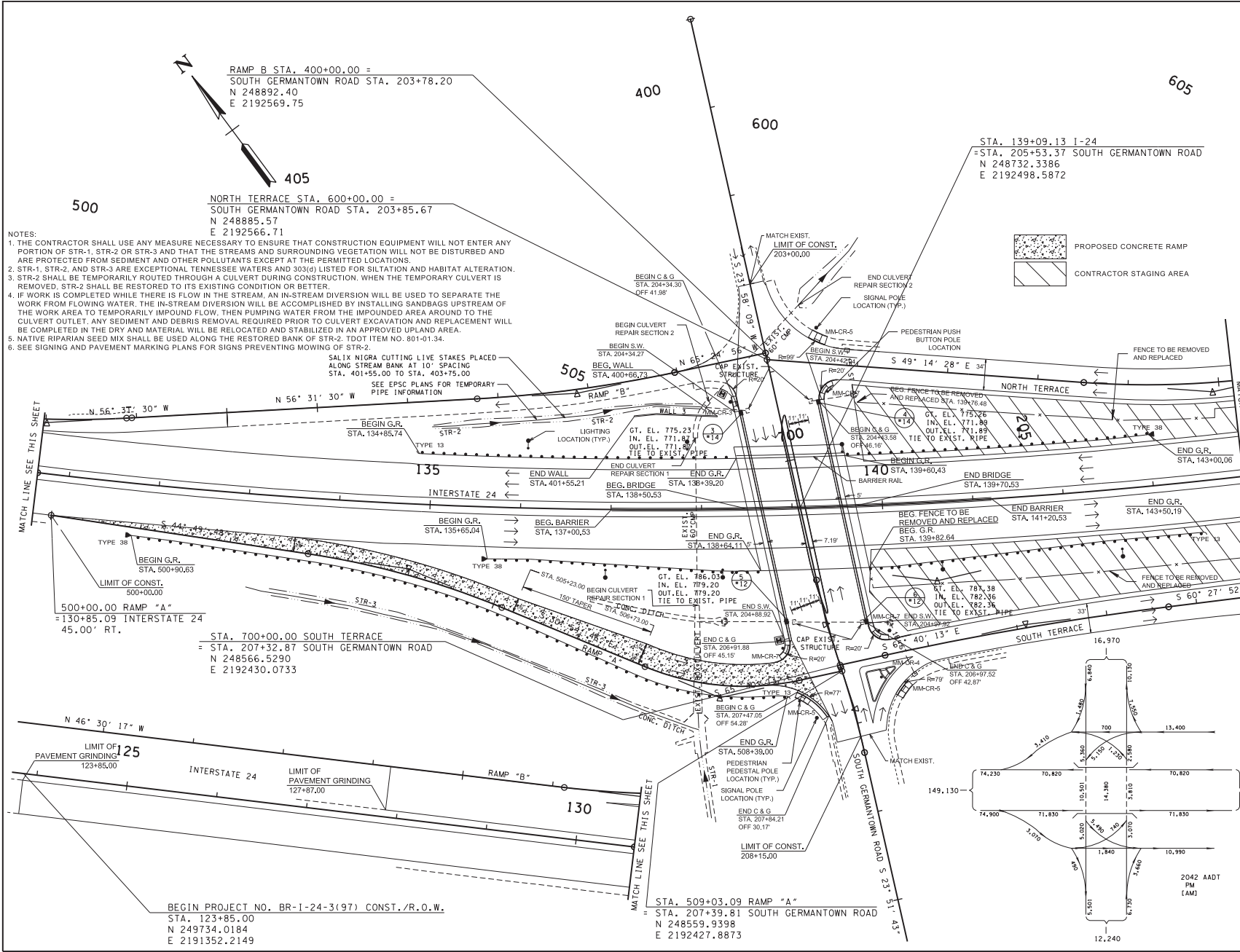
STA. 123+85.00 TO STA. 144+00  
SCALE: 1"=50'

CURVE C702 PI 702+10.03 N 248,479.9987 E 2,192,621.4530 A 5° 12' 21" (RT) D 1° 38' 13" R 3,500.00 L 318.01 T 159.11	CURVE C202 PI 206+85.32 N 248,611.7649 E 2,192,444.9817 A 5° 43' 31" (LT) D 5° 43' 46" R 1,000.00 L 99.92 T 50.00	CURVE C204 PI 207+84.30 N 248,517.6764 E 2,192,413.9668 A 5° 37' 04" (RT) D 5° 43' 46" R 1,000.00 L 98.05 T 49.06	CURVE D002 PI 503+98.97 N 248,936.5777 E 2,192,110.6253 A 13° 55' 02" (RT) D 6° 15' 00" R 916.73 L 222.67 T 111.89	CURVE D003 PI 507+70.57 N 248,616.8142 E 2,192,302.0977 A 34° 45' 27" (LT) D 20° 00' 00" R 286.48 L 173.79 T 89.66	CURVE C109 PI 140+65.90 N 248,577.2972 E 2,192,571.8159 A 19° 49' 19" (LT) D 1° 00' 00" R 5,729.58 L 1,982.20 T 1,001.11
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1/10/2020  
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TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2019	33003-2166-44	4A
		33003-2167-44	
CONST.	2020	33003-3166-44	4A
		33003-3167-44	

REV. 10-23-19: REV. SLOPE LINES ALONG 1-24 WB BETWEEN 135+00 AND 143+00; ADDED WALL #3, 60" PIPE REPAIR, AND TEMPORARY ENCAPSULATION OF STR-2.

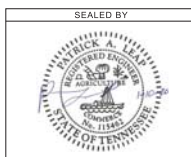


- NOTES:
1. THE CONTRACTOR SHALL USE ANY MEASURE NECESSARY TO ENSURE THAT CONSTRUCTION EQUIPMENT WILL NOT ENTER ANY PORTION OF STR-1, STR-2 OR STR-3 AND THAT THE STREAMS AND SURROUNDING VEGETATION WILL NOT BE DISTURBED AND ARE PROTECTED FROM SEDIMENT AND OTHER POLLUTANTS EXCEPT AT THE PERMITTED LOCATIONS.
  2. STR-1, STR-2, AND STR-3 ARE EXCEPTIONAL TENNESSEE WATERS AND 303(G) LISTED FOR SILTATION AND HABITAT ALTERATION.
  3. STR-2 SHALL BE TEMPORARILY ROUTED THROUGH A CULVERT DURING CONSTRUCTION. WHEN THE TEMPORARY CULVERT IS REMOVED, STR-2 SHALL BE RESTORED TO ITS EXISTING CONDITION OR BETTER.
  4. IF WORK IS COMPLETED WHILE THERE IS FLOW IN THE STREAM, AN IN-STREAM DIVERSION WILL BE USED TO SEPARATE THE WORK FROM FLOWING WATER. THE IN-STREAM DIVERSION WILL BE ACCOMPLISHED BY INSTALLING SANDBAGS UPSTREAM OF THE WORK AREA TO TEMPORARILY IMPOUND FLOW, THEN PUMPING WATER FROM THE IMPOUNDED AREA AROUND TO THE CULVERT OUTLET. ANY SEDIMENT AND DEBRIS REMOVAL REQUIRED PRIOR TO CULVERT EXCAVATION AND REPLACEMENT WILL BE COMPLETED IN THE DRY AND MATERIAL WILL BE RELOCATED AND STABILIZED IN AN APPROVED UPLAND AREA.
  5. NATIVE RIPARIAN SEED MIX SHALL BE USED ALONG THE RESTORED BANK OF STR-2. TDOT ITEM NO. 801-01.34.
  6. SEE SIGNING AND PAVEMENT MARKING PLANS FOR SIGNS PREVENTING MOWING OF STR-2.

MATCH LINE SEE THIS SHEET

MATCH LINE SEE THIS SHEET

MATCH LINE 144+00.00 SEE SH. NO. 5A



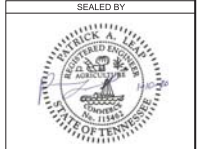
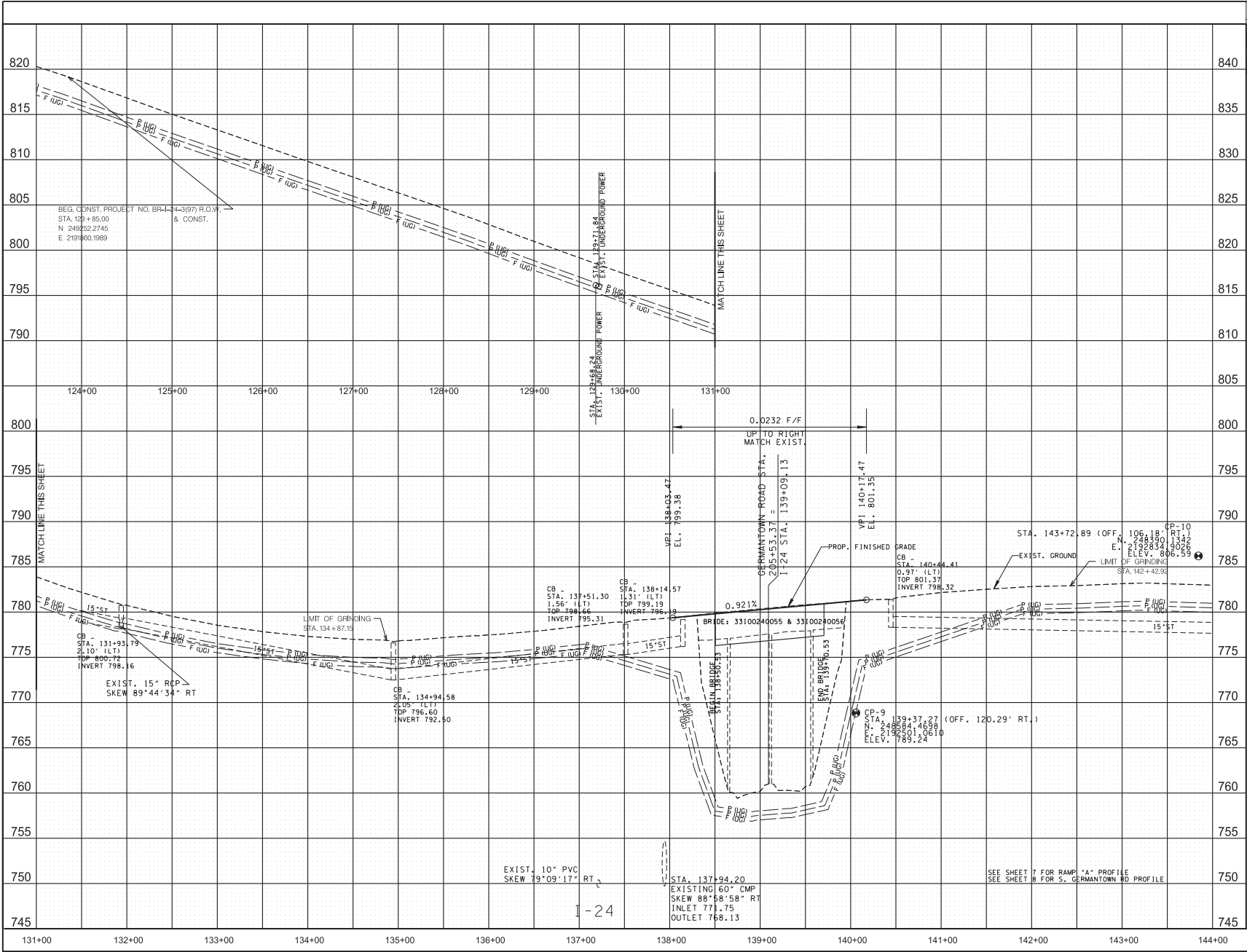
COORDINATES ARE NAD83(1995), ARE DATUM ADJUSTED BY THE FACTOR OF 0.99998 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988.

STATE OF TENNESSEE  
 DEPARTMENT OF  
 TRANSPORTATION

**PROPOSED LAYOUT**  
 STA. 130+85.09 TO STA. 144+00  
 SCALE: 1"=50'

1/10/2020 F:\36136730136730000104\_CAD\TRNS\004A.dgn

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2019	33003-2166-44	4B
		33003-2167-44	
CONST.	2020	33003-3166-44	4B
		33003-3167-44	



COORDINATES ARE NAD(83)1995), ARE DATUM ADJUSTED BY THE FACTOR OF 0.99998 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988.

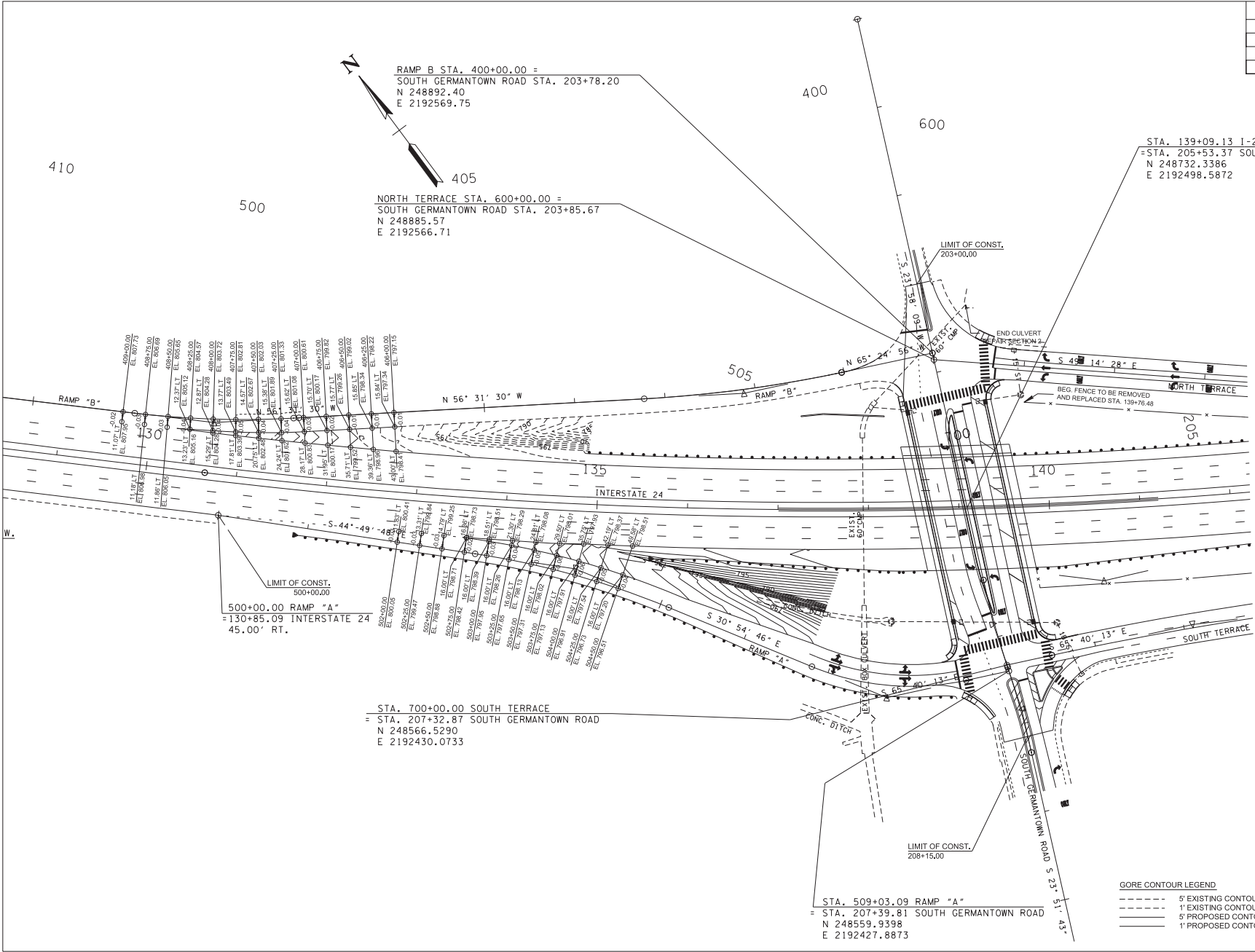
STATE OF TENNESSEE  
 DEPARTMENT OF  
 TRANSPORTATION

PROFILE

STA. 123+85.00 TO STA. 144+00  
 SCALE: 1" = 50' HORIZ.  
 1" = 5' VERT.

1/10/2020  
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TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2020	33003-3166-44	4C
		33003-3167-44	



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STATE OF TENNESSEE  
DEPARTMENT OF  
TRANSPORTATION

**GORE DETAILS**  
RAMP "A", RAMP "B"  
SCALE: 1"=50'

- GORE CONTOUR LEGEND**
- 5' EXISTING CONTOUR
  - 1' EXISTING CONTOUR
  - 5' PROPOSED CONTOUR
  - 1' PROPOSED CONTOUR

1/10/2020

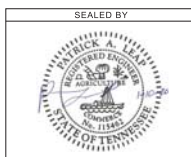
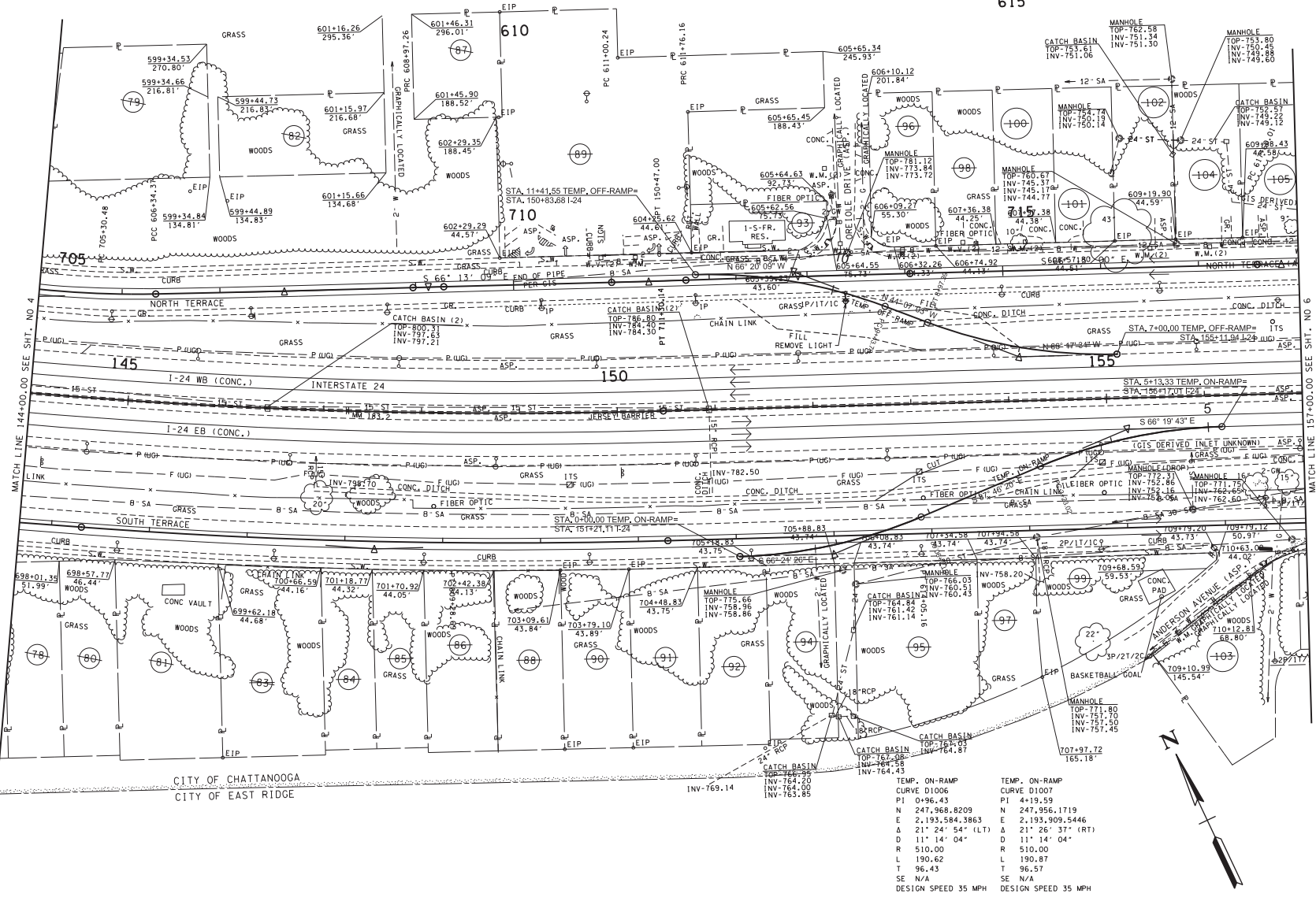
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TEMP. OFF-RAMP CURVE D1002 PI 10+43.93 N 248,247.3028 E 2,193,669.5933 Δ 22' 13' 06" (LT) D 11' 14' 04" R 510.00 L 197.77 T 100.14 SE N/A DESIGN SPEED 35 MPH	TEMP. OFF-RAMP CURVE D1001 PI 7+99.94 N 248,070.3471 E 2,193,841.1806 Δ 22' 10' 31" (RT) D 11' 14' 04" R 510.00 L 197.99 T 99.94 SE N/A DESIGN SPEED 35 MPH
--	--

615

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2019	33003-2166-44	5
		33003-2167-44	
CONST.	2020	33003-3166-44	5
		33003-3167-44	

REV. 10-23-19; REVISED TEMP. ON-RAMP AND TEMP. OFF-RAMP ALIGNMENTS.



COORDINATES ARE NAD(83)1995), ARE DATUM ADJUSTED BY THE FACTOR OF 0.99998 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988.

STATE OF TENNESSEE  
DEPARTMENT OF  
TRANSPORTATION

PRESENT  
LAYOUT

STA. 144+00 TO STA. 157+00  
SCALE: 1"=50'

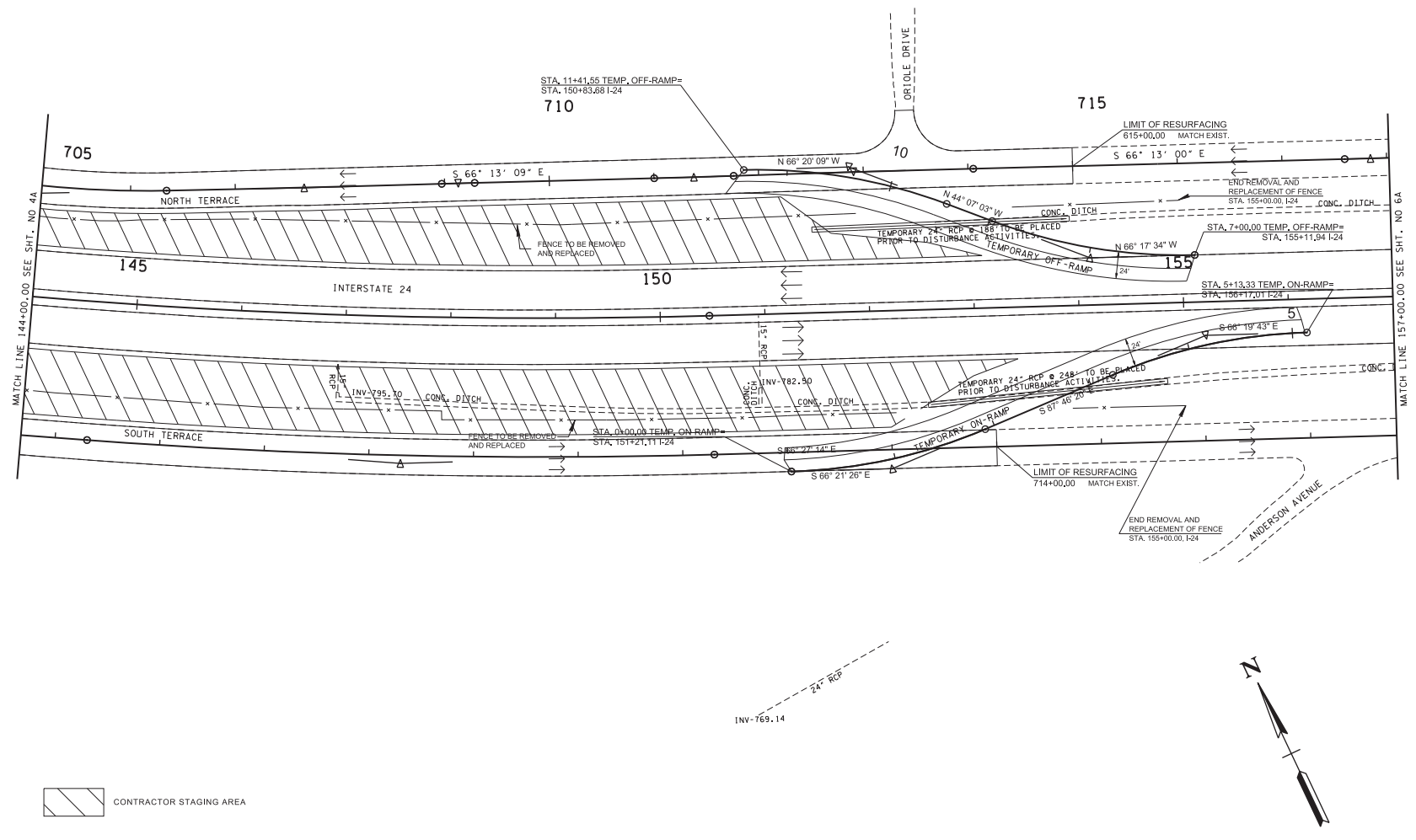
TEMP. ON-RAMP CURVE D1006 PI 0+96.43 N 247,968.8209 E 2,193,584.3863 Δ 21' 24' 54" (LT) D 11' 14' 04" R 510.00 L 190.62 T 96.43 SE N/A DESIGN SPEED 35 MPH	TEMP. ON-RAMP CURVE D1007 PI 4+19.59 N 247,956.1719 E 2,193,909.5446 Δ 21' 26' 37" (RT) D 11' 14' 04" R 510.00 L 190.87 T 96.57 SE N/A DESIGN SPEED 35 MPH
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TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2019	33003-2166-44	5A
		33003-2167-44	
CONST.	2020	33003-3166-44	5A
		33003-3167-44	

REV. 10-23-19: REVISED TEMP. ON-RAMP AND TEMP. OFF-RAMP ALIGNMENTS.

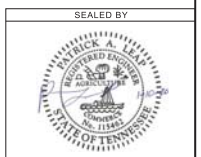
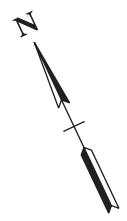
615

610



MATCH LINE 144+00.00 SEE SHT. NO 4A

MATCH LINE 157+00.00 SEE SHT. NO 6A

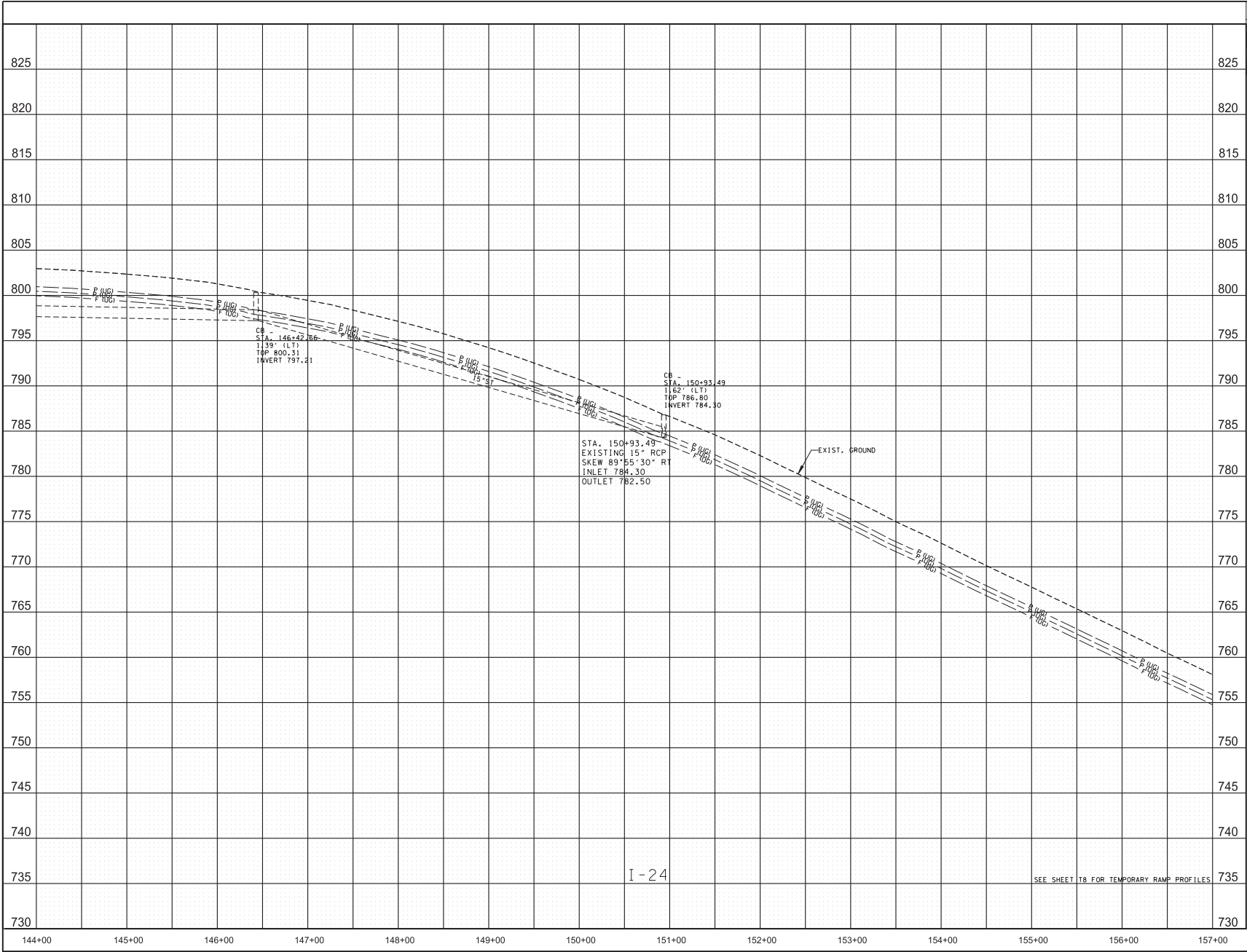


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STATE OF TENNESSEE  
DEPARTMENT OF  
TRANSPORTATION

PROPOSED  
LAYOUT  
STA. 144+00 TO STA. 157+00  
SCALE: 1"= 50'

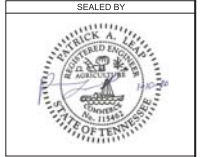
TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2019	33003-2166-44	5B
		33003-2167-44	
CONST.	2020	33003-3166-44	5B
		33003-3167-44	



1/10/2020  
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I - 24

SEE SHEET T8 FOR TEMPORARY RAMP PROFILES



COORDINATES ARE NAD(83)1995), ARE DATUM ADJUSTED BY THE FACTOR OF 0.99998 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988.

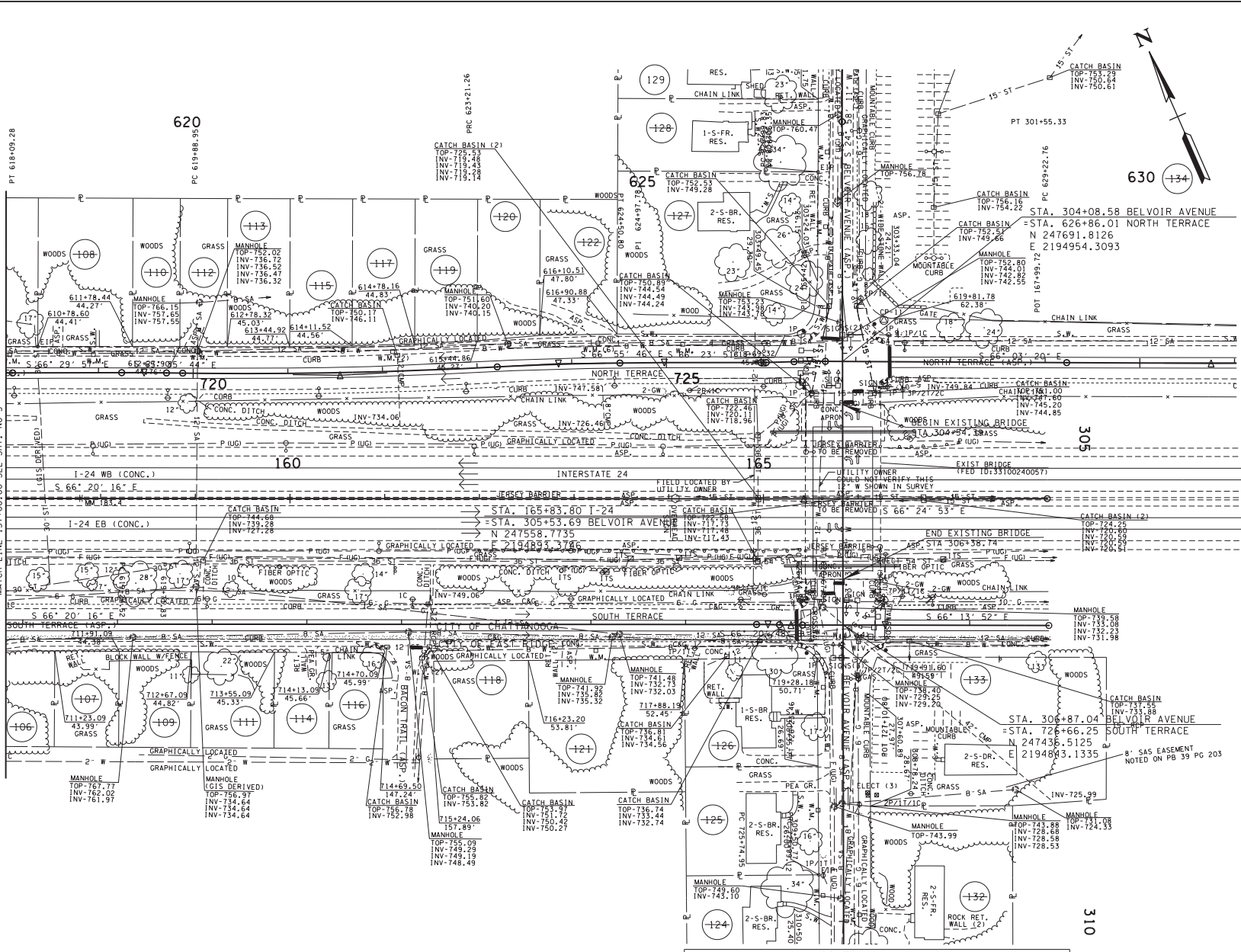
STATE OF TENNESSEE  
DEPARTMENT OF  
TRANSPORTATION

**PROFILE**

STA. 144+00 TO STA. 157+00  
SCALE: 1"= 50' HORIZ.  
1"= 5' VERT.

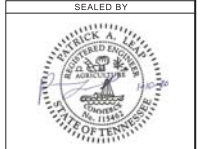


TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2019	33003-2166-44	6
		33003-2167-44	
CONST.	2020	33003-3166-44	6
		33003-3167-44	



CONTROL POINTS					
POINT	NORTH	EAST	ELEV.	STATION	OFFSET
CP-11	247714.0298	2195011.7908	754.69	166+27.45	1-24 60.25' (LT)

- PROP. PED. PUSH BOTTON POLE
- PROP. SIGNAL POLE



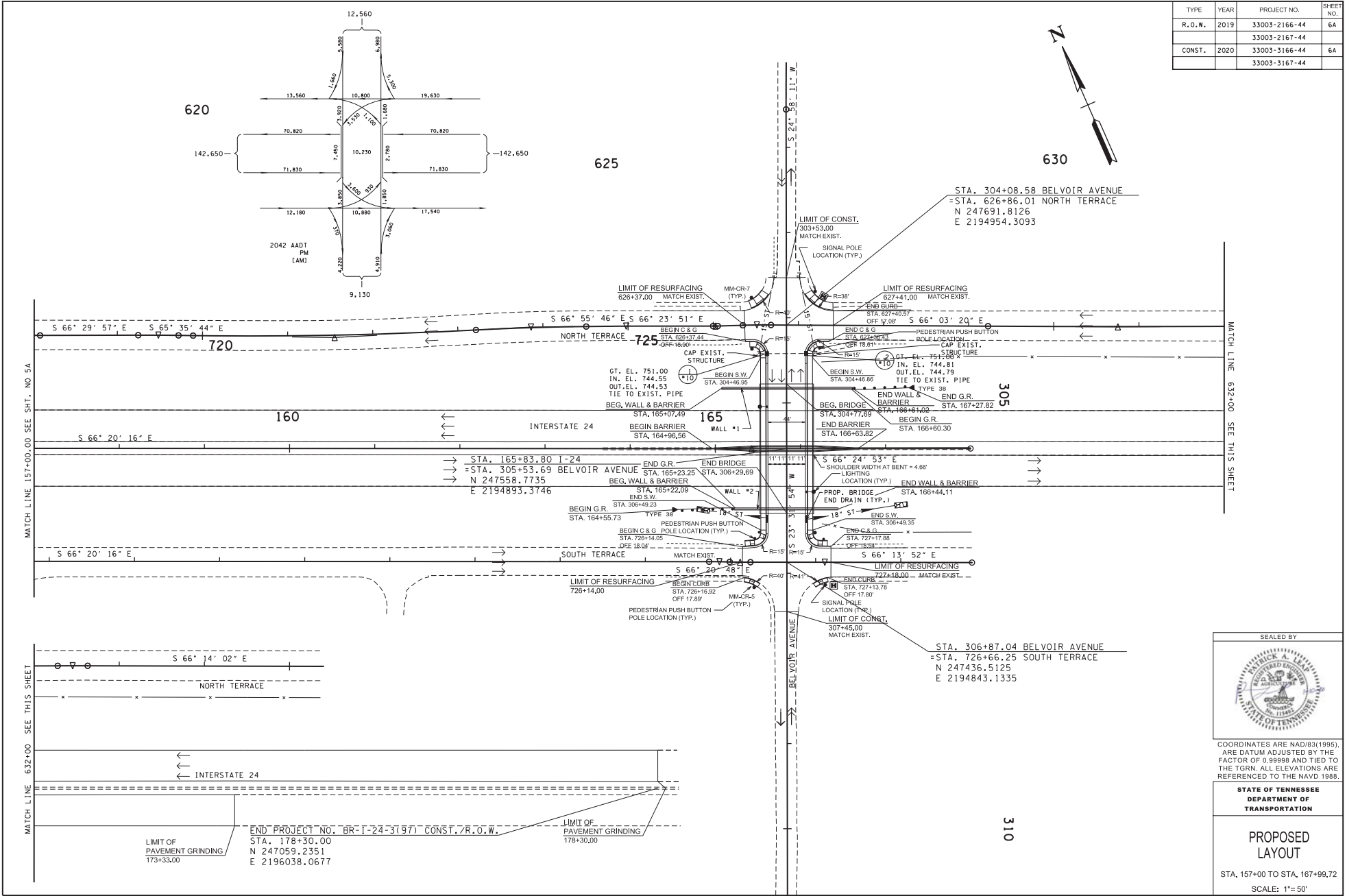
COORDINATES ARE NAD83(1995), ARE DATUM ADJUSTED BY THE FACTOR OF 0.99998 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988.

STATE OF TENNESSEE  
DEPARTMENT OF  
TRANSPORTATION

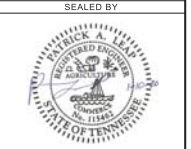
**PRESENT LAYOUT**

STA. 157+00 TO STA. 167+99.72  
SCALE: 1"=50'

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2019	33003-2166-44	6A
		33003-2167-44	
CONST.	2020	33003-3166-44	6A
		33003-3167-44	



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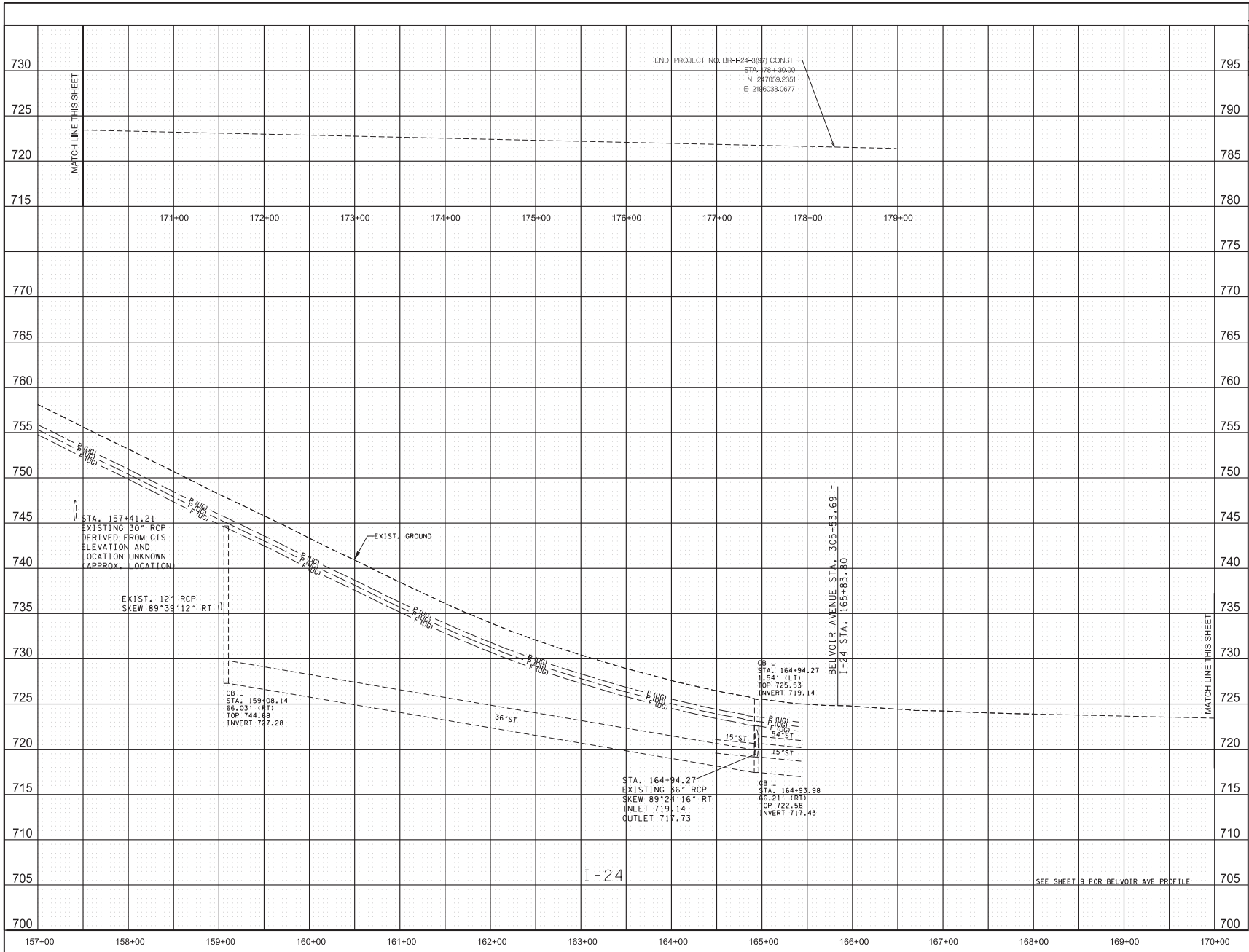


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STATE OF TENNESSEE  
DEPARTMENT OF  
TRANSPORTATION

PROPOSED  
LAYOUT

STA. 157+00 TO STA. 167+99.72  
SCALE: 1"=50'



TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2019	33003-2166-44	6B
		33003-2167-44	
CONST.	2020	33003-3166-44	6B
		33003-3167-44	

END PROJECT NO. BR-I-24-0891 CONST.  
 STA. 157+36.00  
 N 247059.2351  
 E 2196038.0677

MATCH LINE THIS SHEET

MATCH LINE THIS SHEET

STA. 157+41.21  
 EXISTING 30" RCP  
 DERIVED FROM GIS  
 ELEVATION AND  
 LOCATION UNKNOWN  
 APPROX. LOCATION

EXIST. 12" RCP  
 SKEW 89°39'12" RT

CB -  
 STA. 158+08.14  
 66.03' (RT)  
 TOP 744.68  
 INVERT 727.28

36° ST

STA. 164+94.27  
 EXISTING 36" RCP  
 SKEW 89°24'16" RT  
 INLET 719.14  
 OUTLET 717.73

CB -  
 STA. 164+94.27  
 0.54' (LT)  
 TOP 728.93  
 INVERT 719.44

15° ST

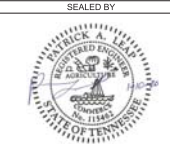
15° ST

CB -  
 STA. 164+93.98  
 66.21' (RT)  
 TOP 722.58  
 INVERT 717.43

BELVOIR AVENUE STA. 305+83.69 =  
 I-24 STA. 165+83.80

I-24

SEE SHEET 9 FOR BELVOIR AVE PROFILE



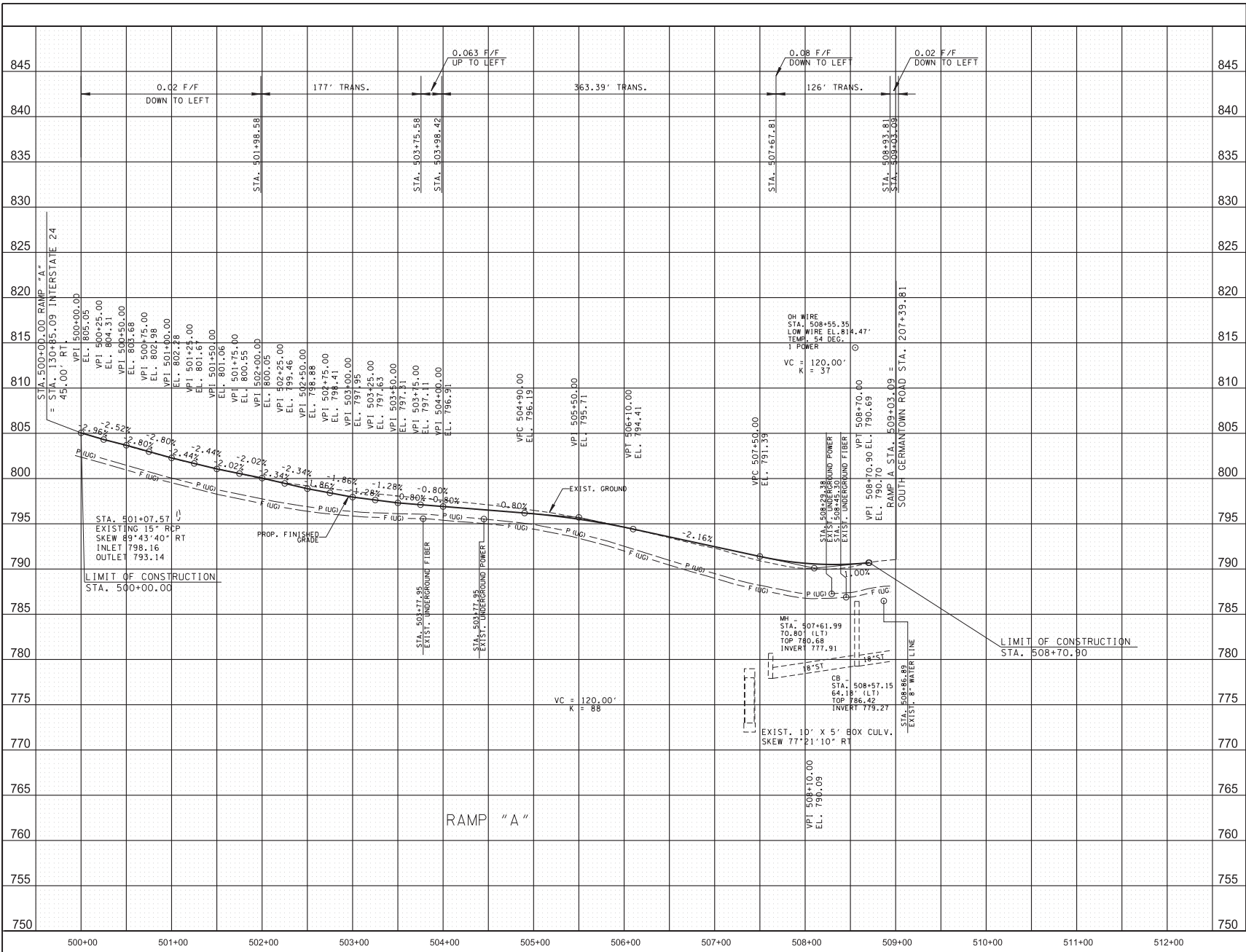
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 TRANSPORTATION

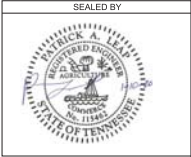
PROFILE

STA. 157+00 TO STA. 167+99.72  
 SCALE: 1"= 50' HORIZ.  
 1/4"= 5' VERT.

11/10/2020  
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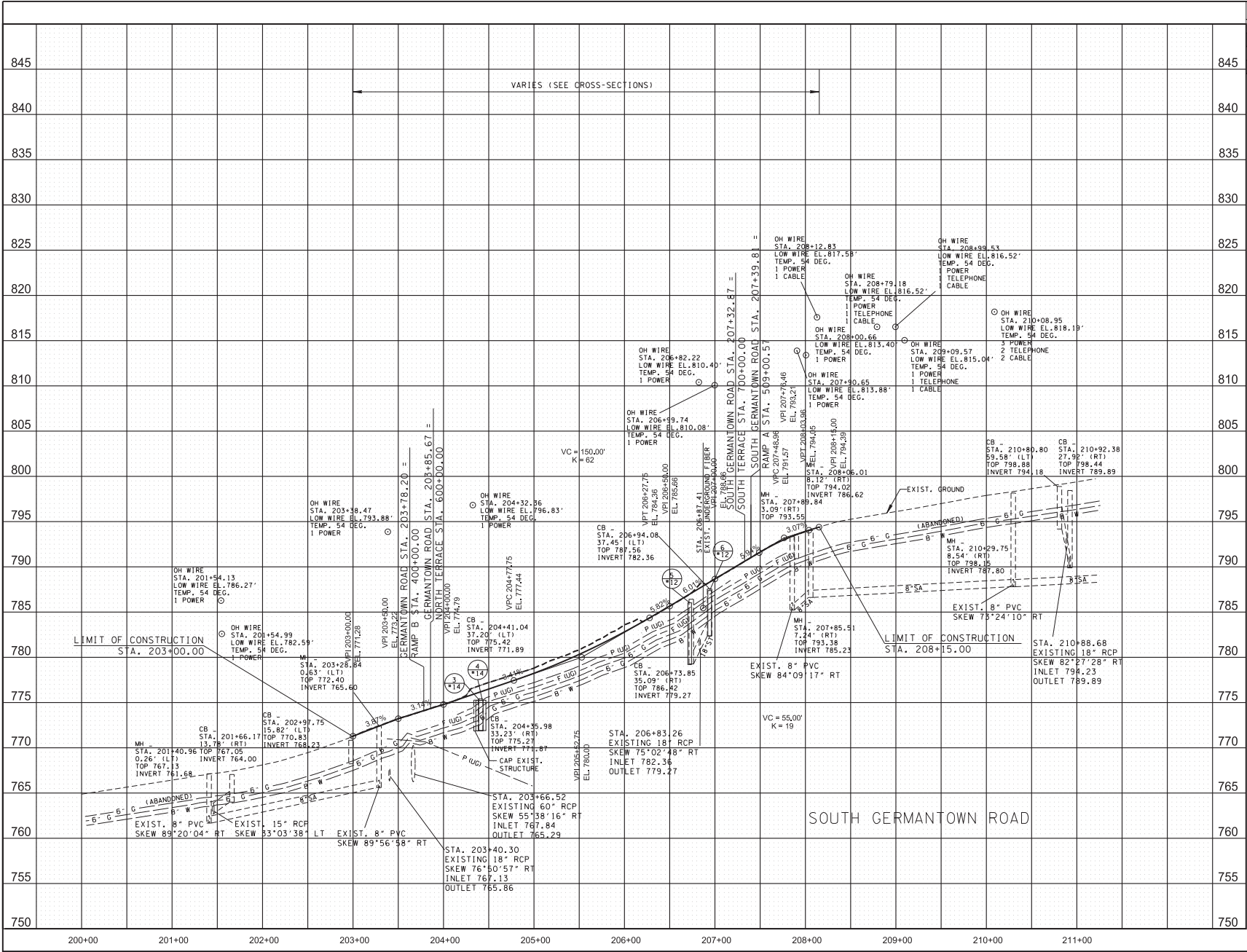
TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2019	33003-2166-44	7
CONST.	2020	33003-3166-44	7
		33003-3167-44	



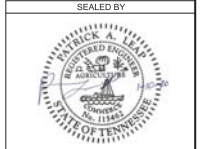
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STATE OF TENNESSEE  
 DEPARTMENT OF  
 TRANSPORTATION

RAMP PROFILE  
 RAMP "A"  
 SCALE: 1"=50' HORIZ.  
 1"=5' VERT.



TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2019	33003-2166-44	8
CONST.	2020	33003-2167-44	8
		33003-3167-44	



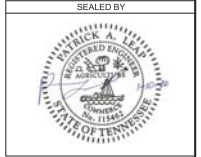
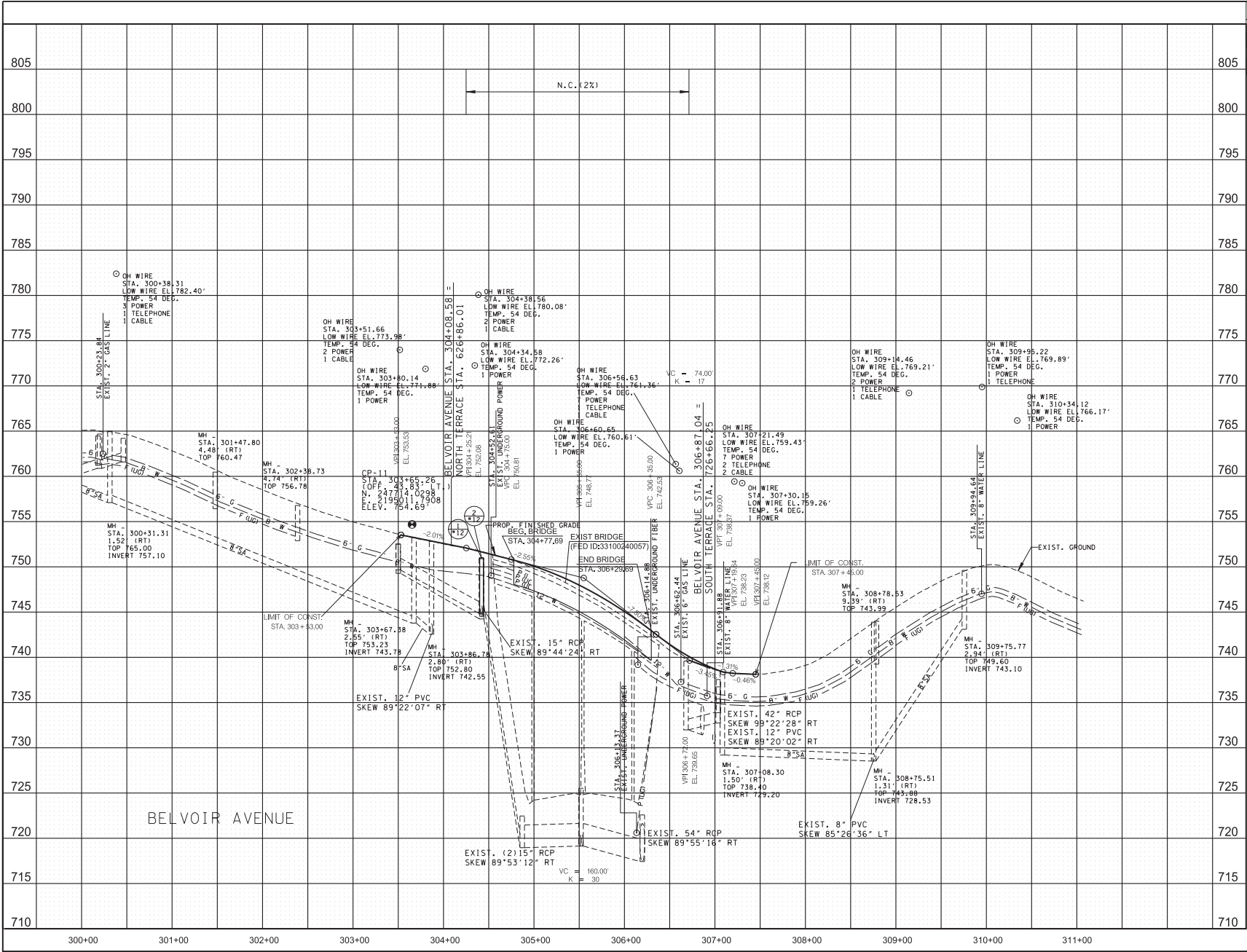
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STATE OF TENNESSEE  
DEPARTMENT OF  
TRANSPORTATION

**SIDE ROAD  
PROFILES**  
SOUTH GERMANTOWN ROAD  
SCALE: 1"=50' HORIZ.  
1"=5' VERT.

11/10/2020  
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TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2019	33003-2166-44	9
		33003-2167-44	
CONST.	2020	33003-3166-44	9
		33003-3167-44	



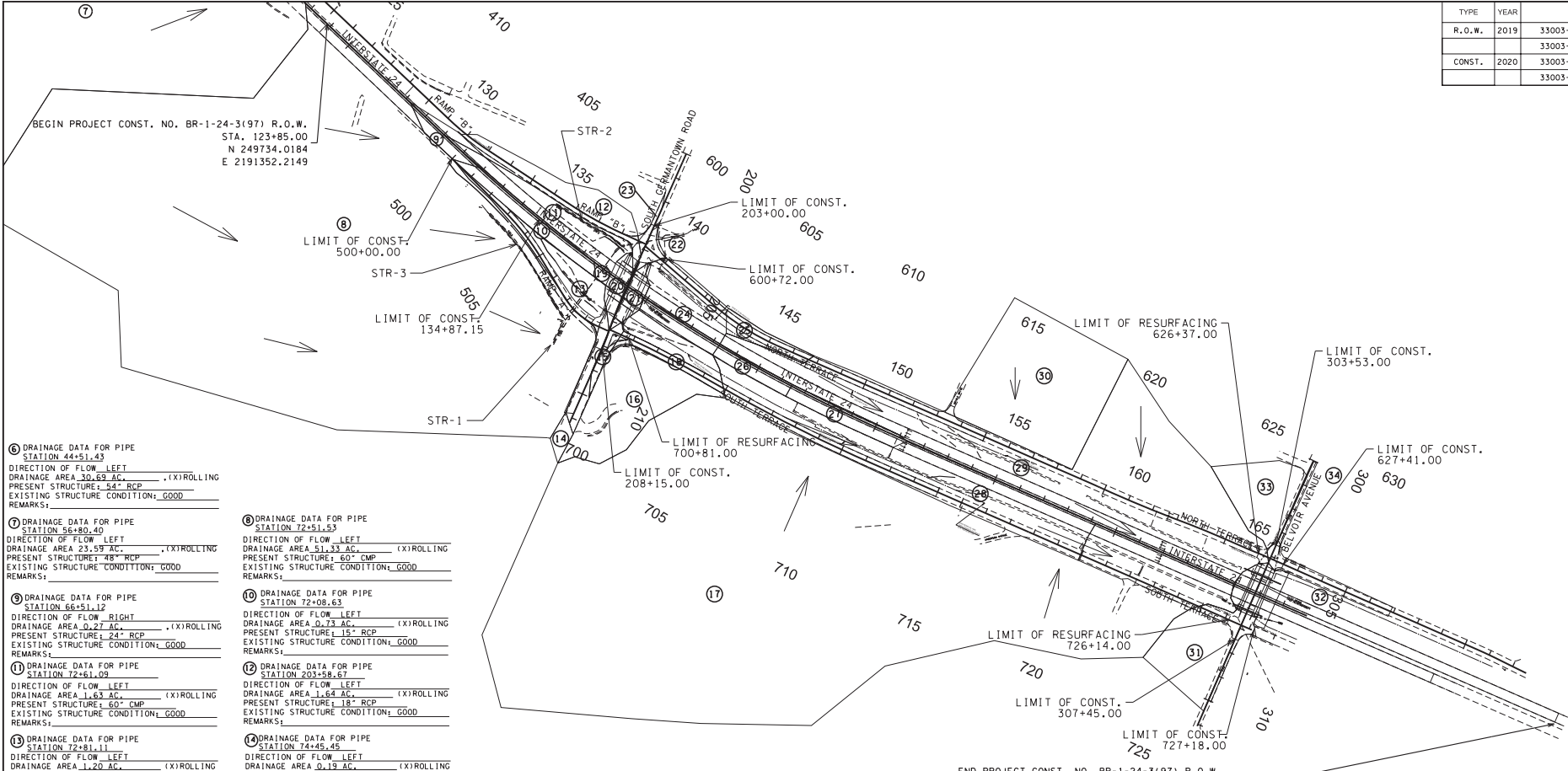
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STATE OF TENNESSEE  
DEPARTMENT OF  
TRANSPORTATION

SIDE ROAD  
PROFILE  
BELVOIR AVENUE  
SCALE: 1"=50' HORIZ.  
1"=5' VERT.

11/02/2020  
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TYPE	YEAR	NO.	SHEET NO.
R.O.W.	2019	33003-2166-44	10
		33003-2167-44	
CONST.	2020	33003-3166-44	10
		33003-3167-44	



⑥ DRAINAGE DATA FOR PIPE  
STATION 44+51.49  
DIRECTION OF FLOW LEFT  
DRAINAGE AREA 30.63 AC. (X)ROLLING  
PRESENT STRUCTURE: 54" RCP  
EXISTING STRUCTURE CONDITION: GOOD  
REMARKS:

⑦ DRAINAGE DATA FOR PIPE  
STATION 56+80.40  
DIRECTION OF FLOW LEFT  
DRAINAGE AREA 23.97 AC. (X)ROLLING  
PRESENT STRUCTURE: 48" RCP  
EXISTING STRUCTURE CONDITION: GOOD  
REMARKS:

⑧ DRAINAGE DATA FOR PIPE  
STATION 56+51.12  
DIRECTION OF FLOW RIGHT  
DRAINAGE AREA 0.27 AC. (X)ROLLING  
PRESENT STRUCTURE: 24" RCP  
EXISTING STRUCTURE CONDITION: GOOD  
REMARKS:

⑪ DRAINAGE DATA FOR PIPE  
STATION 72+61.09  
DIRECTION OF FLOW LEFT  
DRAINAGE AREA 1.63 AC. (X)ROLLING  
PRESENT STRUCTURE: 60" CMP  
EXISTING STRUCTURE CONDITION: GOOD  
REMARKS:

⑬ DRAINAGE DATA FOR PIPE  
STATION 72+81.11  
DIRECTION OF FLOW LEFT  
DRAINAGE AREA 1.20 AC. (X)ROLLING  
PRESENT STRUCTURE: 18" RCP  
EXISTING STRUCTURE CONDITION: GOOD  
REMARKS:

⑮ DRAINAGE DATA FOR PIPE  
STATION 74+30.01  
DIRECTION OF FLOW LEFT  
DRAINAGE AREA 0.22 AC. (X)ROLLING  
PRESENT STRUCTURE: 18" RCP  
EXISTING STRUCTURE CONDITION: GOOD  
REMARKS:

⑯ DRAINAGE DATA FOR PIPE  
STATION 204+35.98  
DIRECTION OF FLOW LEFT  
DRAINAGE AREA 0.37 AC. (X)ROLLING  
PRESENT STRUCTURE: 12" RCP  
EXISTING STRUCTURE CONDITION: GOOD  
REMARKS:

⑲ DRAINAGE DATA FOR PIPE  
STATION 596+33.93  
DIRECTION OF FLOW RIGHT  
DRAINAGE AREA 0.47 AC. (X)ROLLING  
PRESENT STRUCTURE: 12" CMP  
EXISTING STRUCTURE CONDITION: GOOD  
REMARKS:

⑳ DRAINAGE DATA FOR PIPE  
STATION 610+75.10  
DIRECTION OF FLOW RIGHT  
DRAINAGE AREA 5.78 AC. (X)ROLLING  
PRESENT STRUCTURE: 30" RCP  
EXISTING STRUCTURE CONDITION: GOOD  
REMARKS:

⑧ DRAINAGE DATA FOR PIPE  
STATION 72+51.53  
DIRECTION OF FLOW LEFT  
DRAINAGE AREA 51.33 AC. (X)ROLLING  
PRESENT STRUCTURE: 60" CMP  
EXISTING STRUCTURE CONDITION: GOOD  
REMARKS:

⑩ DRAINAGE DATA FOR PIPE  
STATION 72+08.63  
DIRECTION OF FLOW LEFT  
DRAINAGE AREA 0.73 AC. (X)ROLLING  
PRESENT STRUCTURE: 15" RCP  
EXISTING STRUCTURE CONDITION: GOOD  
REMARKS:

⑫ DRAINAGE DATA FOR PIPE  
STATION 203+58.67  
DIRECTION OF FLOW LEFT  
DRAINAGE AREA 1.64 AC. (X)ROLLING  
PRESENT STRUCTURE: 18" RCP  
EXISTING STRUCTURE CONDITION: GOOD  
REMARKS:

⑭ DRAINAGE DATA FOR PIPE  
STATION 74+45.45  
DIRECTION OF FLOW LEFT  
DRAINAGE AREA 0.19 AC. (X)ROLLING  
PRESENT STRUCTURE: 15" RCP  
EXISTING STRUCTURE CONDITION: GOOD  
REMARKS:

⑰ DRAINAGE DATA FOR PIPE  
STATION 210+80.80  
DIRECTION OF FLOW RIGHT  
DRAINAGE AREA 2.83 AC. (X)ROLLING  
PRESENT STRUCTURE: 18" RCP  
EXISTING STRUCTURE CONDITION: GOOD  
REMARKS:

⑱ DRAINAGE DATA FOR PIPE  
STATION 204+41.04  
DIRECTION OF FLOW RIGHT  
DRAINAGE AREA 0.35 AC. (X)ROLLING  
PRESENT STRUCTURE: 15" RCP  
EXISTING STRUCTURE CONDITION: GOOD  
REMARKS:

⑳ DRAINAGE DATA FOR PIPE  
STATION 80+99.99  
DIRECTION OF FLOW RIGHT  
DRAINAGE AREA 0.37 AC. (X)ROLLING  
PRESENT STRUCTURE: 12" RCP  
EXISTING STRUCTURE CONDITION: GOOD  
REMARKS:

㉑ DRAINAGE DATA FOR PIPE  
STATION 304+42.17  
DIRECTION OF FLOW RIGHT  
DRAINAGE AREA 2.15 AC. (X)ROLLING  
PRESENT STRUCTURE: 18" RCP  
EXISTING STRUCTURE CONDITION: GOOD  
REMARKS:

⑰ DRAINAGE DATA FOR PIPE  
STATION 99+51.60  
DIRECTION OF FLOW RIGHT  
DRAINAGE AREA 53.37 AC. (X)ROLLING  
PRESENT STRUCTURE: 36" RCP  
EXISTING STRUCTURE CONDITION: GOOD  
REMARKS:

⑳ DRAINAGE DATA FOR PIPE  
STATION 93+25.13  
DIRECTION OF FLOW RIGHT  
DRAINAGE AREA 0.19 AC. (X)ROLLING  
PRESENT STRUCTURE: 15" RCP  
EXISTING STRUCTURE CONDITION: GOOD  
REMARKS:

㉑ DRAINAGE DATA FOR PIPE  
STATION 93+65.47  
DIRECTION OF FLOW RIGHT  
DRAINAGE AREA 0.59 AC. (X)ROLLING  
PRESENT STRUCTURE: 15" RCP  
EXISTING STRUCTURE CONDITION: GOOD  
REMARKS:

㉒ DRAINAGE DATA FOR PIPE  
STATION 99+51.60  
DIRECTION OF FLOW RIGHT  
DRAINAGE AREA 0.57 AC. (X)ROLLING  
PRESENT STRUCTURE: 15" RCP  
EXISTING STRUCTURE CONDITION: GOOD  
REMARKS:

⑰ DRAINAGE DATA FOR PIPE  
STATION 93+65.34  
DIRECTION OF FLOW LEFT  
DRAINAGE AREA 0.38 AC. (X)ROLLING  
PRESENT STRUCTURE: 18" RCP  
EXISTING STRUCTURE CONDITION: GOOD  
REMARKS:

⑳ DRAINAGE DATA FOR PIPE  
STATION 201+66.17  
DIRECTION OF FLOW RIGHT  
DRAINAGE AREA 0.10 AC. (X)ROLLING  
PRESENT STRUCTURE: 15" RCP  
EXISTING STRUCTURE CONDITION: GOOD  
REMARKS:

㉑ DRAINAGE DATA FOR PIPE  
STATION 93+65.47  
DIRECTION OF FLOW RIGHT  
DRAINAGE AREA 0.15 AC. (X)ROLLING  
PRESENT STRUCTURE: 36" RCP  
EXISTING STRUCTURE CONDITION: GOOD  
REMARKS:

㉒ DRAINAGE DATA FOR PIPE  
STATION 303+50.09  
DIRECTION OF FLOW RIGHT  
DRAINAGE AREA 1.62 AC. (X)ROLLING  
PRESENT STRUCTURE: 15" RCP  
EXISTING STRUCTURE CONDITION: GOOD  
REMARKS:

⑲ DRAINAGE DATA FOR PIPE  
STATION 72+08.63  
DIRECTION OF FLOW LEFT  
DRAINAGE AREA 0.24 AC. (X)ROLLING  
PRESENT STRUCTURE: 15" RCP  
EXISTING STRUCTURE CONDITION: GOOD  
REMARKS:

㉓ DRAINAGE DATA FOR PIPE  
STATION 593+25.13  
DIRECTION OF FLOW LEFT  
DRAINAGE AREA 1.12 AC. (X)ROLLING  
PRESENT STRUCTURE: 15" RCP  
EXISTING STRUCTURE CONDITION: GOOD  
REMARKS:

㉔ DRAINAGE DATA FOR PIPE  
STATION 99+51.60  
DIRECTION OF FLOW RIGHT  
DRAINAGE AREA 1.11 AC. (X)ROLLING  
PRESENT STRUCTURE: 36" RCP  
EXISTING STRUCTURE CONDITION: GOOD  
REMARKS:

㉕ DRAINAGE DATA FOR PIPE  
STATION 303+49.82  
DIRECTION OF FLOW RIGHT  
DRAINAGE AREA 0.11 AC. (X)ROLLING  
PRESENT STRUCTURE: 15" RCP  
EXISTING STRUCTURE CONDITION: GOOD  
REMARKS:

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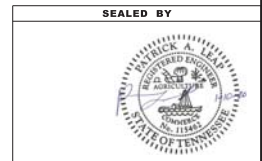
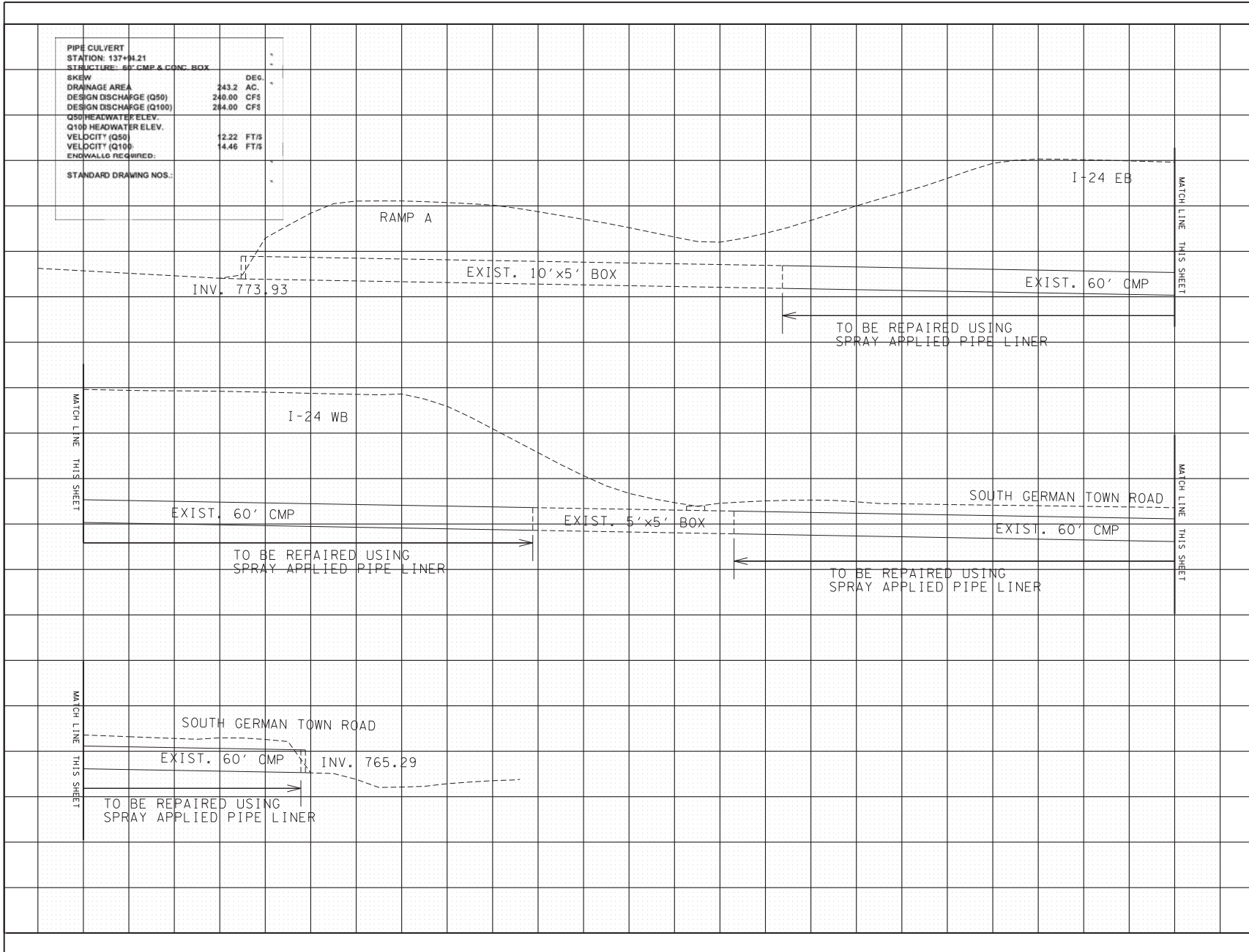
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STATE OF TENNESSEE  
DEPARTMENT OF  
TRANSPORTATION

DRAINAGE  
MAP

B.O.P. TO E.O.P.  
SCALE: 1"=200'

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST	2020	33003-3166-44	11
		33003-3167-44	



STATE OF TENNESSEE  
 DEPARTMENT OF TRANSPORTATION

**CULVERT SECTION**

SCALE: 1"=10' HORIZ.  
 1"=10' VERT.



# EPSC NOTES

## STREAMS, WETLANDS & BUFFER ZONES

- ANY WORK WITHIN THE STREAM CHANNEL AREA (E.G., PIER FOOTING, RIP-RAP PLACEMENT, CULVERT/BRIDGE CONSTRUCTION, ETC.) SHALL BE SEPARATED FROM FLOWING WATER OR EXPECTED FLOW PATH AND PERFORMED DURING LOW FLOW CONDITIONS. ALL ITEMS USED WITHIN THE STREAM CHANNEL AREA FOR DIVERSION OF FLOW (OR EXPECTED FLOW), UNLESS SPECIFIED IN THE PLANS, SHALL NOT BE PAID FOR DIRECTLY BUT SHALL BE INCLUDED IN THE COST OF OTHER ITEMS. THIS NOTE EXCLUDES ANY ITEMS SPECIFIED IN THE PLANS FOR THE TEMPORARY DIVERSION CHANNELS (EC-STR-31) AND TEMPORARY DIVERSION CULVERTS (EC STR-32) FOR SINGLE BARREL CULVERT CONSTRUCTION.

## UTILITY RELOCATION

- STORMWATER WHICH COLLECTS IN THE UTILITY TRENCH SHALL BE PUMPED INTO ADEWATERING STRUCTURE OR SEDIMENT FILTER BAG AND TREATED PRIOR TO DISCHARGE.
- SLT FENCE SHALL BE INSTALLED ON THE DOWNGRADIENT SIDE OF STOCKPILED SOIL. TRENCHING ACROSS WET WEATHER CONVEYANCES SHALL BE DONE DURING DRY CONDITIONS AND STABILIZED BY THE END OF THE WORK DAY.
- UTILITY CROSSINGS IN ENVIRONMENTAL FEATURES SHALL BE CONSTRUCTED IN ACCORDANCE WITH TDOT STANDARDS AND NO WORK SHALL BE CONDUCTED IN FLOWING WATERS ENVIRONMENTAL PERMITS APPLY TO UTILITIES IN THIS PROJECT. THE STATE CONTRACTOR SHALL COMPLY WITH ALL REQUIREMENTS OF THE PERMITS.
- IT IS THE RESPONSIBILITY OF THE STATE UTILITY CONTRACTOR TO PROTECT EXPOSED EARTH FROM EROSION AND TO PROVIDE FOR CONTAINMENT OF SEDIMENT THAT MAY RESULT FROM THEIR WORK. PRIOR TO BEGINNING WORK, ADEQUATE MEASURES MUST BE IN PLACE TO TRAP ANY SEDIMENT THAT MAY TRAVEL OFFSITE IN THE EVENT OF RAIN. DURING THE PROGRESSION OF THEIR WORK, EXPOSED EARTH AREAS SHALL BE STABILIZED AS SOON AS POSSIBLE TO PREVENT EROSION. AT NO TIME SHALL EXPOSED EARTH RESULTING FROM THEIR OPERATIONS HAVE UNPROTECTED ACCESS TO FLOWING OFFSITE AND ENTERING WATERS OF THE STATE U.S.
- FOR THE INSTALLATION OF BURIED UTILITIES (PIPES AND CABLES), TRENCHES SHALL BE BACKFILLED DAILY AS CONSTRUCTION PROCEEDS. BACKFILLED TRENCHES SHALL BE SEEDED AND MULCHED OR SOILED DAILY IF POSSIBLE, BUT NO LATER THAN SEVEN DAYS AFTER BEING BACKFILLED. ANY TEMPORARY SPOILS OF EXCAVATED EARTH SHALL BE LOCATED WITHIN TDOT EPSC MEASURES OR RECEIVE SEPARATE EPSC MEASURES. IF TRENCHES ARE NOT BACKFILLED OVERNIGHT, APPROPRIATE EPSC MEASURES WILL BE INSTALLED BY THE STATE UTILITY CONTRACTOR UNTIL SUCH TIME AS THE TRENCH IS BACKFILLED.
- IN REGARD TO EPSC, TDEC REGULATIONS APPLY TO THE STATE UTILITY CONTRACTORS ON THIS PROJECT. THE STATE CONTRACTOR IS RESPONSIBLE FOR EPSC MEASURES RELATED TO UTILITY CONSTRUCTION INCLUDED IN THE STATE CONTRACT.
- TRENCHES FORMED FOR THE INSTALLATION OF BURIED UTILITIES MAY CAUSE STORMWATER RUNOFF TO CONCENTRATE AT THE TRENCH LINE. ADDITIONAL EPSC MEASURES MAY BE REQUIRED TO BE INSTALLED AS APPROVED BY THE TDOT PROJECT RESPONSIBLE PARTY.
- FOR THE INSTALLATION OF UNDERGROUND UTILITIES OUTSIDE OF THE TDOT RIGHT-OF-WAY, EPSC MEASURES SHALL BE INSTALLED PRIOR TO CLEARING (TRENCHING AND ASSOCIATED BLASTING) IN THOSE AREAS NECESSARY TO PREVENT SEDIMENT FROM LEAVING THE CONSTRUCTION AREA. THESE EPSC MEASURES SHALL REMAIN UNTIL THE BACKFILLED TRENCH IS STABILIZED WITH FINAL VEGETATIVE COVER.
- THE UTILITY CONTRACTOR SHALL RESTORE ALL AFFECTED WET WEATHER CONVEYANCES TO THE EXISTING TOPOGRAPHIC CONDITIONS AS APPROVED BY THE TDOT RESPONSIBLE PARTY.
- THE UTILITY CONTRACTOR WILL PROVIDE APPROPRIATE EPSC MEASURES TO REPLACE ONSITE EPSC MEASURES REMOVED TO FACILITATE THE INSTALLATION OF UTILITIES. REPLACEMENT OF EPSC MEASURES WILL BE COORDINATED WITH THE TDOT RESPONSIBLE PARTY BEFORE COMMENCING WORK.

## ENVIRONMENTAL

- EXCEPT AS OTHERWISE SPECIFIED, THERE ARE NO KNOWN SPECIAL ENVIRONMENTAL FACTORS PRESENT ON THIS PROJECT THAT INDICATE A NEED FOR SEASONAL LIMITATIONS ON THE CLEARING, GRUBBING, EXCAVATION, GRADING, CUTTING OR FILLING OPERATIONS OR ON THE TOTAL AREA OF EXPOSED SOIL.

SOUTH GERMANTOWN ROAD TABULATED EPSC QUANTITIES			
ITEM NO.	DESCRIPTION	UNIT	QUANTITY
209-05	SEDIMENT REMOVAL	C.Y.	152
209-08.02	TEMPORARY SILT FENCE (WITH BACKING)	LF.	3240
209-08.03	TEMPORARY SILT FENCE (WITHOUT BACKING)	LF.	3400
209-08.07	ROCK CHECK DAM PER	EACH	39
209-09.43	CURB INLET PROTECTION (TYPE 4)	EACH	4
209-40.30	CATCH BASIN PROTECTION (TYPE A)	EACH	4
209-40.33	CATCH BASIN PROTECTION (TYPE D)	EACH	1
303-10.01	MINERAL AGGREGATE (SIZE 57)	TON	109
621-03.02	18" TEMPORARY DRAINAGE PIPE	LF.	296
707-08.11	HIGH-VISIBILITY CONSTRUCTION FENCE	LF.	700
709-05.05	MACHINED RIFRAP (CLASS A-3)	TON	100
709-05.06	MACHINED RIFRAP (CLASS A-1)	TON	192
740-10.03	GEOTEXTILE (TYPE III) (EROSION CONTROL)	S.Y.	600

BELVOIR AVENUE TABULATED EPSC QUANTITIES			
ITEM NO.	DESCRIPTION	UNIT	QUANTITY
209-05	SEDIMENT REMOVAL	C.Y.	152
209-08.03	TEMPORARY SILT FENCE (WITHOUT BACKING)	LF.	1800
209-09.43	CURB INLET PROTECTION (TYPE 4)	EACH	6
209-40.33	CATCH BASIN PROTECTION (TYPE D)	EACH	2

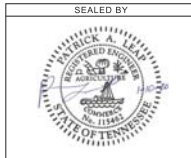
EROSION PREVENTION AND SEDIMENT CONTROL LEGEND		
SYMBOL	ITEM	STD. DWG.
● SF ● SF ● SF ●	SILT FENCE	EC-STR-3B
● SFB ● SFB ● SFB ●	SILT FENCE WITH WIRE BACKING	EC-STR-3C
◁	ROCK CHECK DAM (V-CATCH)	EC-STR-6
□ A	CATCH BASIN PROTECTION (TYPE A)	EC-STR-19
□ D	CATCH BASIN PROTECTION (TYPE D)	EC-STR-19
⊥ ⊥ ⊥       C C C       ⊥ ⊥ ⊥	TEMPORARY CULVERT CROSSING (DESCRIBE NUMBER AND SIZE OF PIPES)	EC-STR-25
⊥ ⊥ ⊥       C C C       ⊥ ⊥ ⊥	TEMPORARY CONSTRUCTION EXIT	EC-STR-25
□ A	CURB INLET PROTECTION (TYPE 4)	EC-STR-38A
■ HVF ■ HVF ■	HIGH VISIBILITY FENCE	S-F-1

STAGE 1, 2, AND 3 OUTFALLS		
OUTFALL NO.	DRAINAGE AREA (ACRE)	AVERAGE GRADE
1	3.189	3.81%
2	8.677 *	0.50%
3	6.444	4.44%
4	0.671	8.24%
5	0.519	4.34%
6	0.519	4.85%
12	2.297	5.71%
SUB 1	0.389	5.09%
SUB 2	1.491	4.21%
SUB 3	0.882	6.22%
SUB 4	0.504	2.85%
SUB 5	0.372	5.11%
SUB 6	1.011	6.97%
SUB 7	0.747	4.71%
SUB 8	0.092	4.81%
SUB 9	0.773	5.23%
SUB 10	0.027	1.86%
SUB 11	8.248 **	3.93%
SUB 13	1.151	5.15%
SUB 14	0.251	3.69%
SUB 15	0.035	2.28%

\* DRAINAGE AREA FOR OUTFALL 2 IS A COMBINATION OF THE DRAINAGE AREAS FROM OUTFALL 1 AND SUB-OUTFALLS 1, 2, 3, 4, 5, 6, 7, AND 8.

\*\* DRAINAGE AREA FOR SUB-OUTFALL 11 CONSIST OF RUNOFF FROM STA. 144+00± ALONG I-24, RUNOFF FROM NORTH TERRACE ROAD, AND RUNOFF FROM THE AREA NORTH OF NORTH TERRACE ROAD.

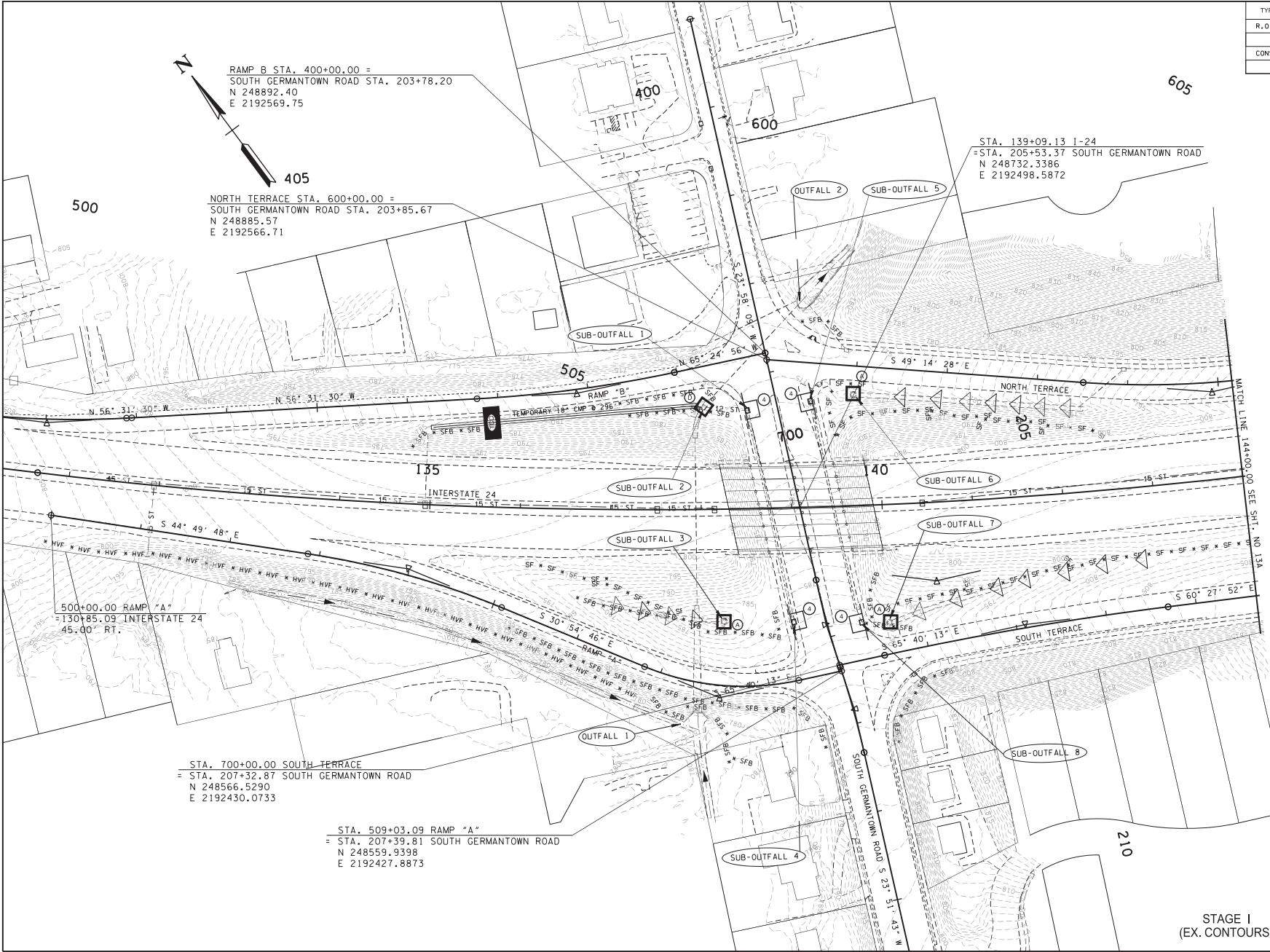
TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2019	33003-2166-44	12
		33003-2167-44	
CONST.	2020	33003-3166-44	12
		33003-3167-44	



STATE OF TENNESSEE  
DEPARTMENT OF  
TRANSPORTATION

EROSION  
PREVENTION &  
SEDIMENT CONTROL  
(EPSC) LEGEND &  
TABULATION

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2019	33003-2166-44	13
		33003-2167-44	
CONST.	2020	33003-3166-44	13
		33003-3167-44	



RAMP B STA. 400+00.00 =  
 SOUTH GERMANTOWN ROAD STA. 203+78.20  
 N 248892.40  
 E 2192569.75

NORTH TERRACE STA. 600+00.00 =  
 SOUTH GERMANTOWN ROAD STA. 203+85.67  
 N 248885.57  
 E 2192566.71

STA. 139+09.13 1-24  
 = STA. 205+53.37 SOUTH GERMANTOWN ROAD  
 N 248732.3386  
 E 2192498.5872

500+00.00 RAMP "A"  
 = 130+85.09 INTERSTATE 24  
 45-00' RT.

STA. 700+00.00 SOUTH TERRACE  
 = STA. 207+32.87 SOUTH GERMANTOWN ROAD  
 N 248566.5290  
 E 2192430.0733

STA. 509+03.09 RAMP "A"  
 = STA. 207+39.81 SOUTH GERMANTOWN ROAD  
 N 248559.9398  
 E 2192427.8873

STAGE I  
 (EX. CONTOURS)



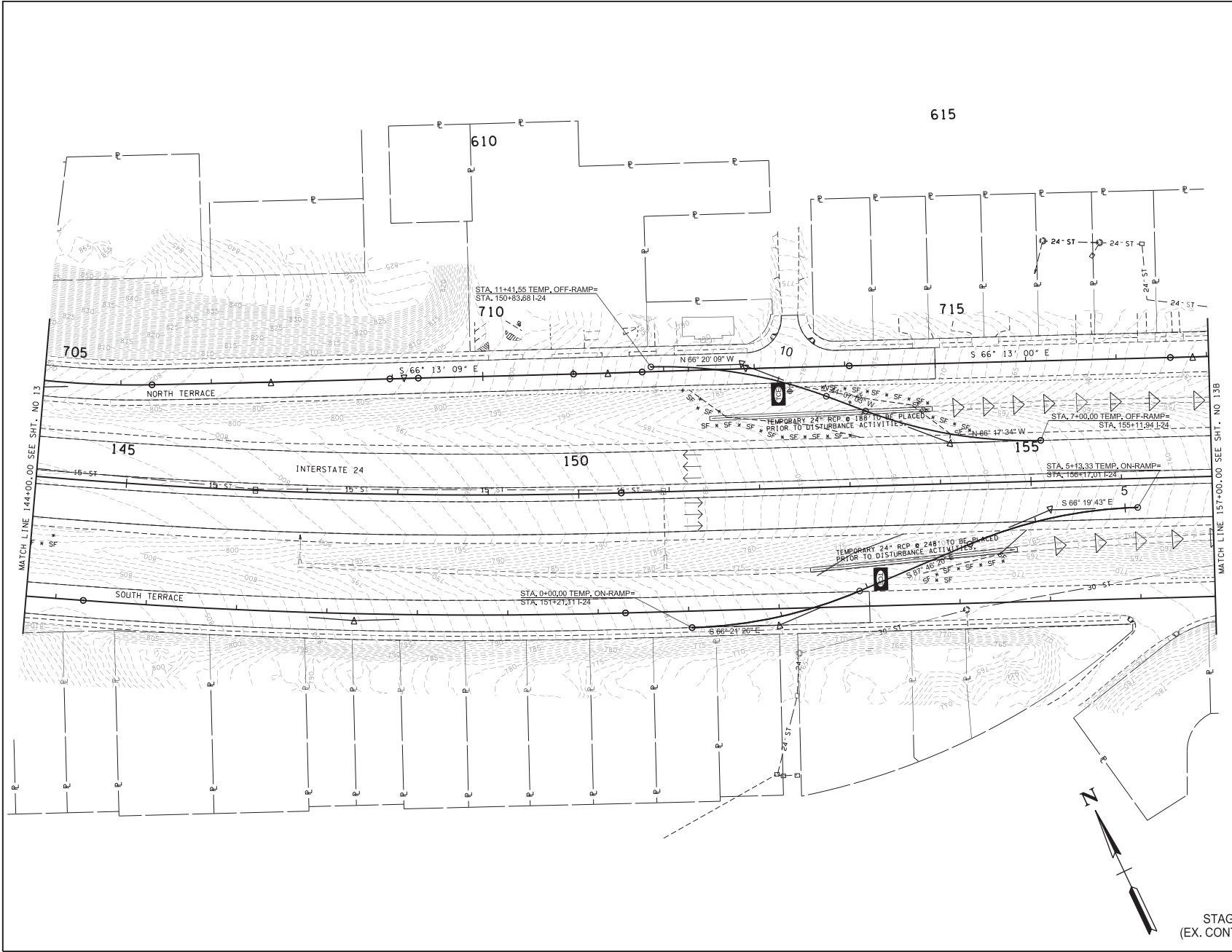
COORDINATES ARE NAD(83)/1995),  
 ARE DATUM ADJUSTED BY THE  
 FACTOR OF 0.99998 AND TIED TO  
 THE TGRN. ALL ELEVATIONS ARE  
 REFERENCED TO THE NAVD 1988.

STATE OF TENNESSEE  
 DEPARTMENT OF  
 TRANSPORTATION

EROSION  
 PREVENTION &  
 SEDIMENT CONTROL  
 (EPSC) PLANS  
 STA. 130+85.09 TO STA. 144+00  
 SCALE: 1"= 50'

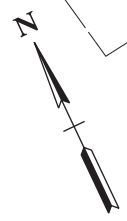
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TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2019	33003-2166-44	13A
		33003-2167-44	
CONST.	2020	33003-3166-44	13A
		33003-3167-44	



MATCH LINE 144+00.00 SEE SHT. NO 13

MATCH LINE 157+00.00 SEE SHT. NO 13B



STAGE I  
(EX. CONTOURS)

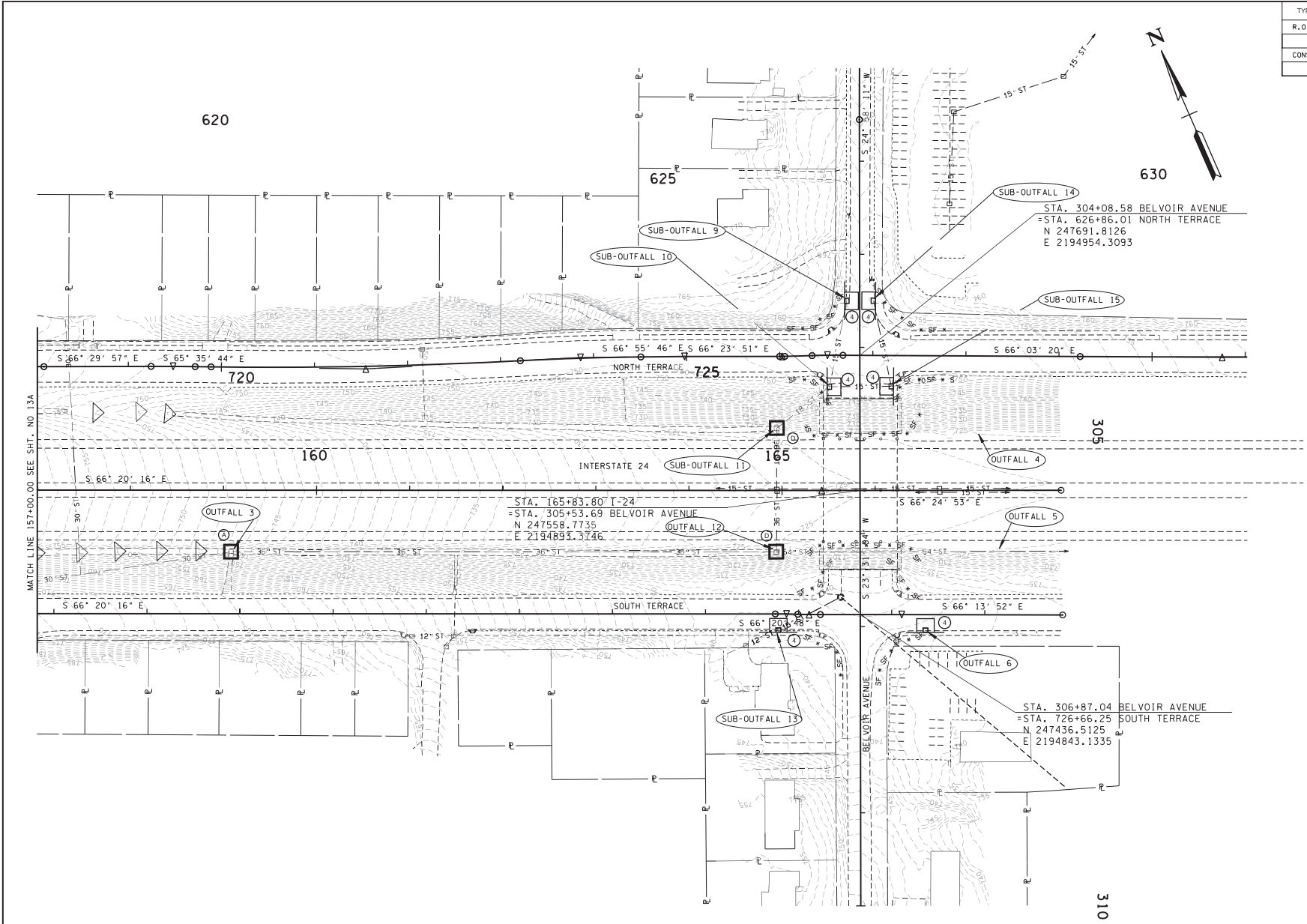


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STATE OF TENNESSEE  
DEPARTMENT OF  
TRANSPORTATION

EROSION  
PREVENTION &  
SEDIMENT CONTROL  
(EPSC) PLANS  
STA. 144+00 TO STA. 157+00  
SCALE: 1"= 50'

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2019	33003-2166-44	138
		33003-2167-44	
CONST.	2020	33003-3166-44	138
		33003-3167-44	



MATCH LINE 157+00.00 SEE SHT. NO. 13A

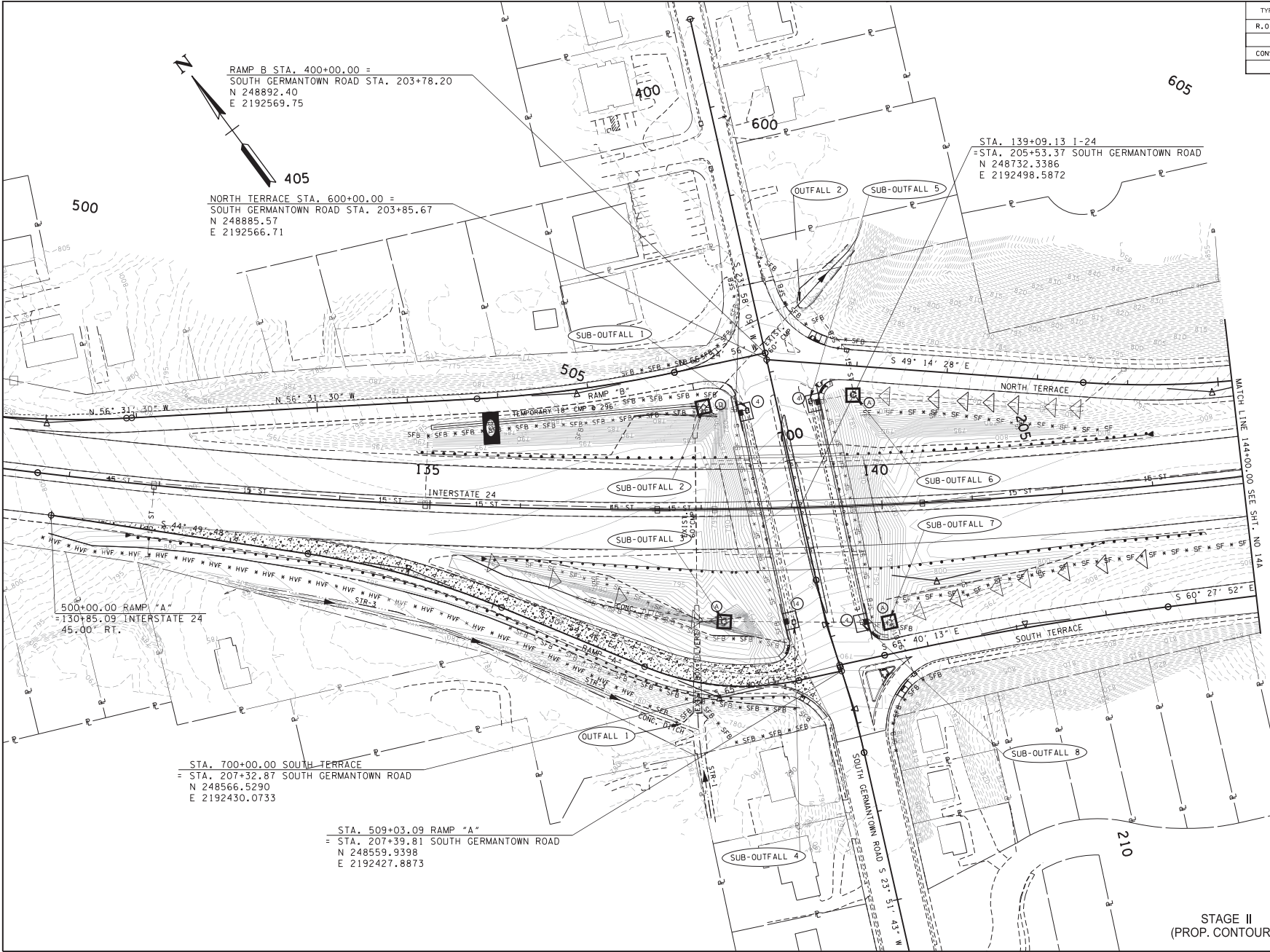
STAGE I  
(EX. CONTOURS)



COORDINATES ARE NAD83(1995), ARE DATUM ADJUSTED BY THE FACTOR OF 0.99998 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988.

STATE OF TENNESSEE  
DEPARTMENT OF  
TRANSPORTATION  
EROSION  
PREVENTION &  
SEDIMENT CONTROL  
(EPSC) PLANS  
STA.157+00 TO STA.167+98.72  
SCALE: 1"= 50'

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2019	33003-2166-44	14
		33003-2167-44	
CONST.	2020	33003-3166-44	14
		33003-3167-44	



RAMP B STA. 400+00.00 =  
 SOUTH GERMANTOWN ROAD STA. 203+78.20  
 N 248892.40  
 E 2192569.75

NORTH TERRACE STA. 600+00.00 =  
 SOUTH GERMANTOWN ROAD STA. 203+85.67  
 N 248885.57  
 E 2192566.71

STA. 139+09.13 I-24  
 = STA. 205+53.37 SOUTH GERMANTOWN ROAD  
 N 248732.3386  
 E 2192498.5872

500+00.00 RAMP "A"  
 = 130+85.09 INTERSTATE 24  
 45-00" RT.

STA. 700+00.00 SOUTH TERRACE  
 = STA. 207+32.87 SOUTH GERMANTOWN ROAD  
 N 248566.5290  
 E 2192430.0733

STA. 509+03.09 RAMP "A"  
 = STA. 207+39.81 SOUTH GERMANTOWN ROAD  
 N 248559.9398  
 E 2192427.8873

STAGE II  
 (PROP. CONTOURS)



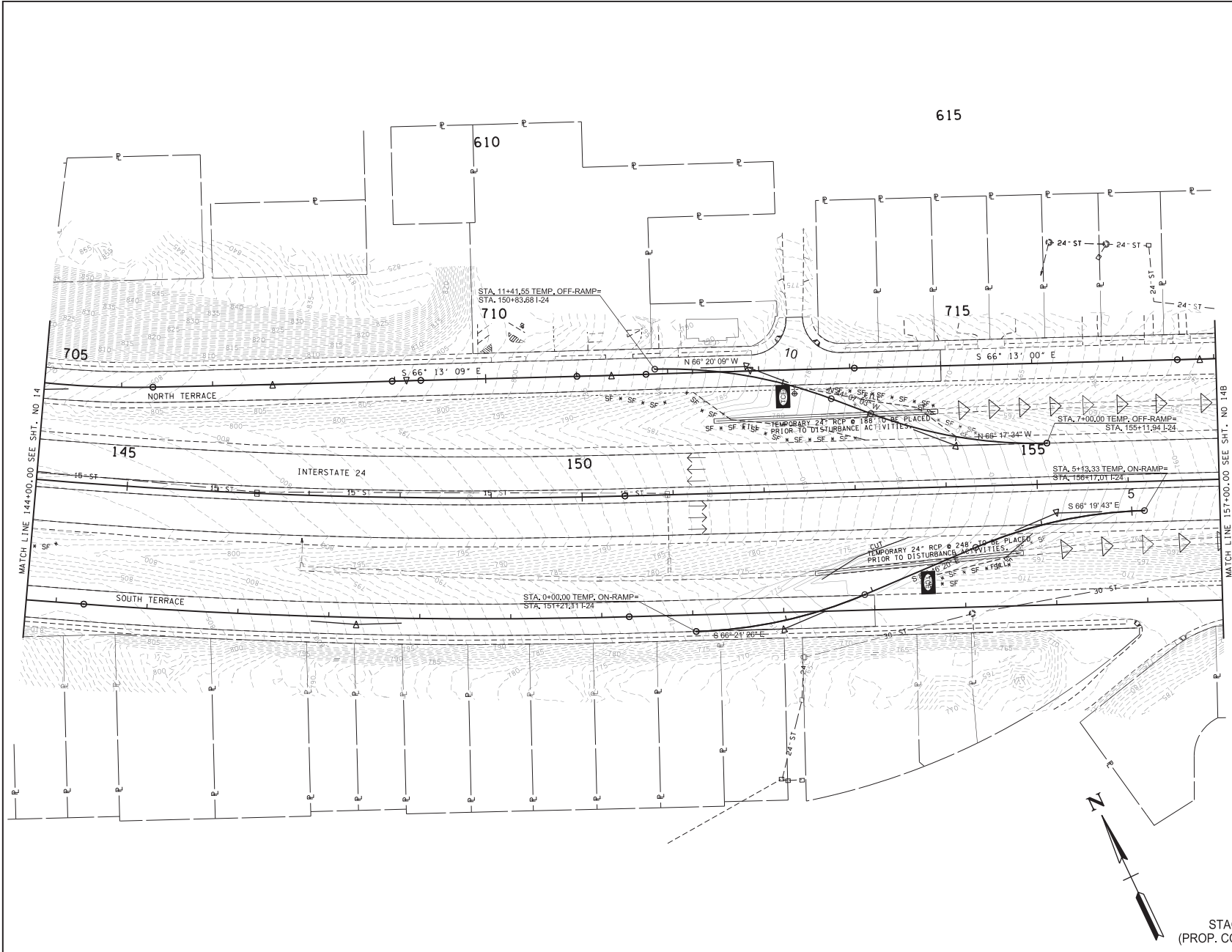
COORDINATES ARE NAD(83)1995),  
 ARE DATUM ADJUSTED BY THE  
 FACTOR OF 0.99998 AND TIED TO  
 THE TGRN. ALL ELEVATIONS ARE  
 REFERENCED TO THE NAVD 1988.

STATE OF TENNESSEE  
 DEPARTMENT OF  
 TRANSPORTATION

EROSION  
 PREVENTION &  
 SEDIMENT CONTROL  
 (EPSC) PLANS  
 STA.130+85.09 TO STA.144+00  
 SCALE: 1"= 50'

1/10/2020  
 F:\36\36730\3673000004\_CAD\TRNS\014.rvt

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2019	33003-2166-44	14A
		33003-2167-44	
CONST.	2020	33003-3166-44	14A
		33003-3167-44	



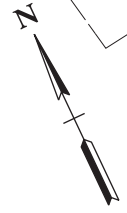
1/10/2020  
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COORDINATES ARE NAD(83)1995), ARE DATUM ADJUSTED BY THE FACTOR OF 0.99998 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988.

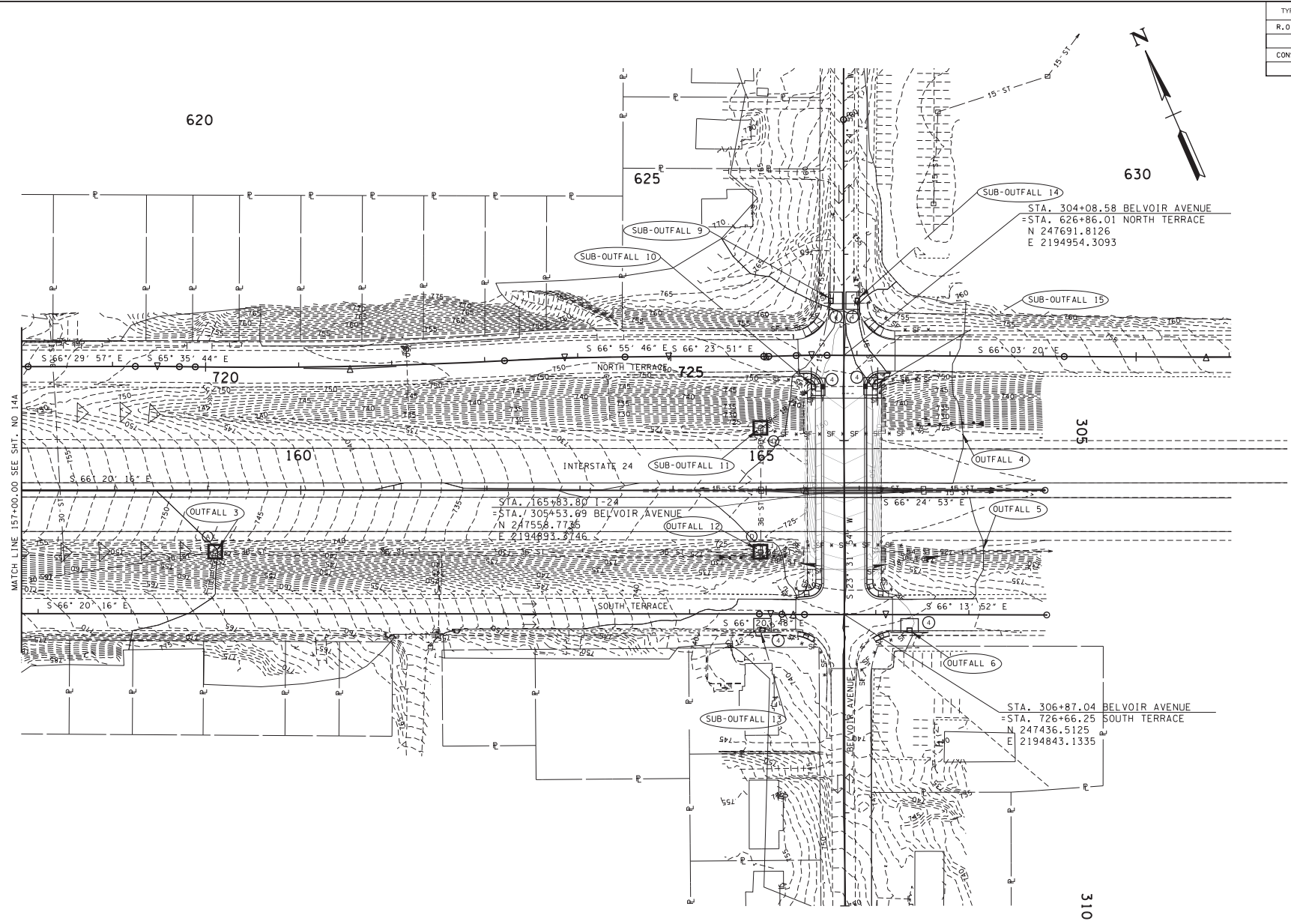
STATE OF TENNESSEE  
 DEPARTMENT OF  
 TRANSPORTATION

EROSION PREVENTION & SEDIMENT CONTROL (EPSC) PLANS  
 STA.144+00 TO STA.157+00  
 SCALE: 1"= 50'



STAGE II  
 (PROP. CONTOURS)

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2019	33003-2166-44	148
		33003-2167-44	
CONST.	2020	33003-3166-44	148
		33003-3167-44	



MATCH LINE 157+00.00 SEE SHT. NO. 14A

1/10/2020  
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COORDINATES ARE NAD83(1995), ARE DATUM ADJUSTED BY THE FACTOR OF 0.99998 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988.

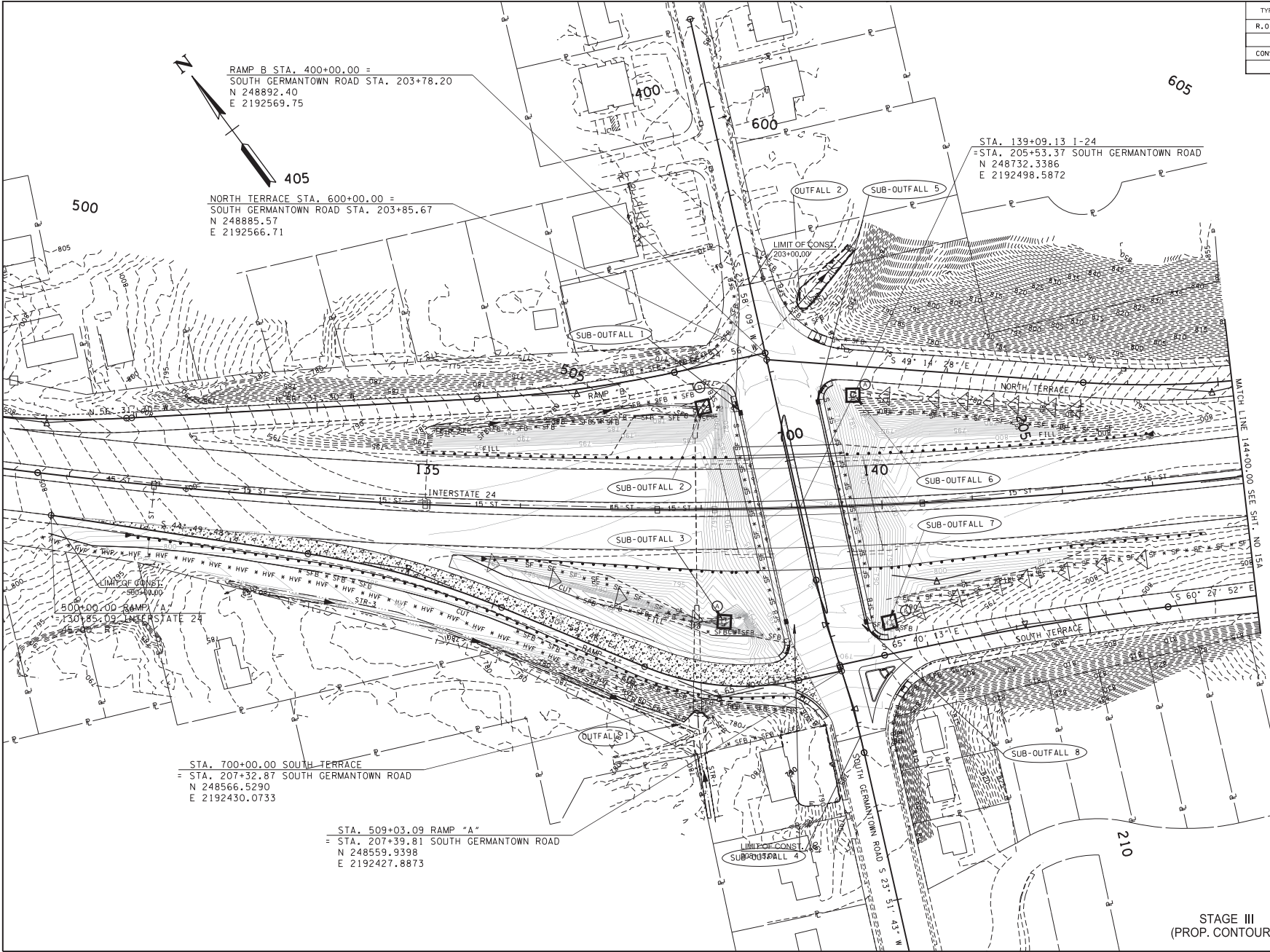
STATE OF TENNESSEE  
DEPARTMENT OF  
TRANSPORTATION

EROSION  
PREVENTION &  
SEDIMENT CONTROL  
(EPSC) PLANS  
STA.157+00 TO STA.167+98.72  
SCALE: 1"= 50'

STAGE II  
(PROP. CONTOURS)

310

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2019	33003-2166-44	15
		33003-2167-44	
CONST.	2020	33003-3166-44	15
		33003-3167-44	



RAMP B STA. 400+00.00 =  
 SOUTH GERMANTOWN ROAD STA. 203+78.20  
 N 248892.40  
 E 2192569.75

NORTH TERRACE STA. 600+00.00 =  
 SOUTH GERMANTOWN ROAD STA. 203+85.67  
 N 248885.57  
 E 2192566.71

STA. 139+09.13 1-24  
 = STA. 205+53.37 SOUTH GERMANTOWN ROAD  
 N 248732.3386  
 E 2192498.5872

STA. 700+00.00 SOUTH TERRACE  
 = STA. 207+32.87 SOUTH GERMANTOWN ROAD  
 N 248566.5290  
 E 2192430.0733

STA. 509+03.09 RAMP "A"  
 = STA. 207+39.81 SOUTH GERMANTOWN ROAD  
 N 248559.9398  
 E 2192427.8873

STAGE III  
 (PROP. CONTOURS)



COORDINATES ARE NAD(83)/1995,  
 ARE DATUM ADJUSTED BY THE  
 FACTOR OF 0.99998 AND TIED TO  
 THE TGRN. ALL ELEVATIONS ARE  
 REFERENCED TO THE NAVD 1988.

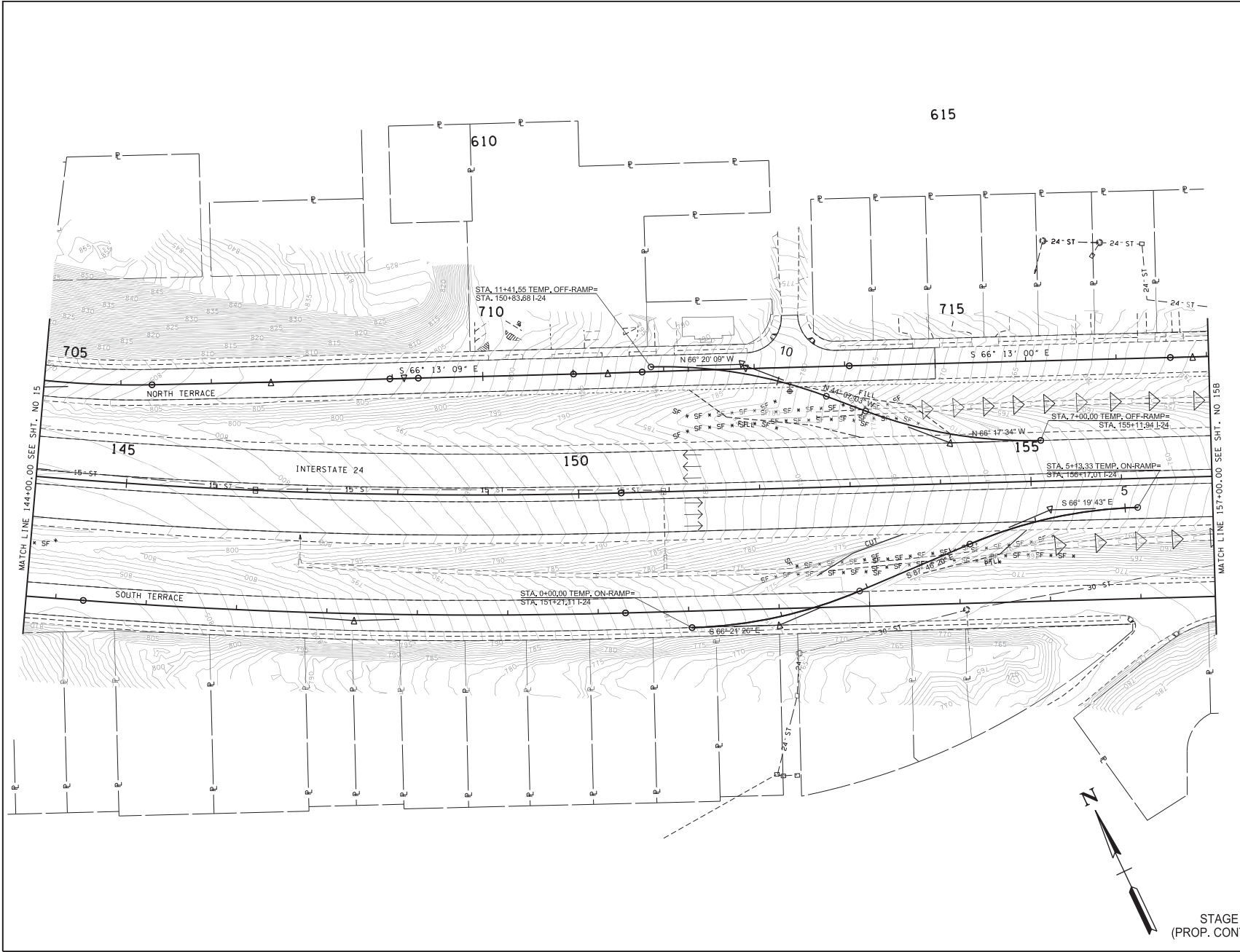
STATE OF TENNESSEE  
 DEPARTMENT OF  
 TRANSPORTATION

EROSION  
 PREVENTION &  
 SEDIMENT CONTROL  
 (EPSC) PLANS  
 STA.130+85.09 TO STA.144+00  
 SCALE: 1"= 50'

1/10/2020  
 F:\36\367301\3673000104\_CADD\TRNS\015.sht

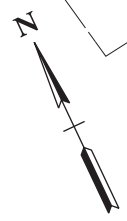


TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2019	33003-2166-44	15A
		33003-2167-44	
CONST.	2020	33003-3166-44	15A
		33003-3167-44	

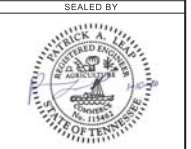


MATCH LINE 144+00.00 SEE SHT. NO 15

MATCH LINE 157+00.00 SEE SHT. NO 15B



STAGE III  
(PROP. CONTOURS)

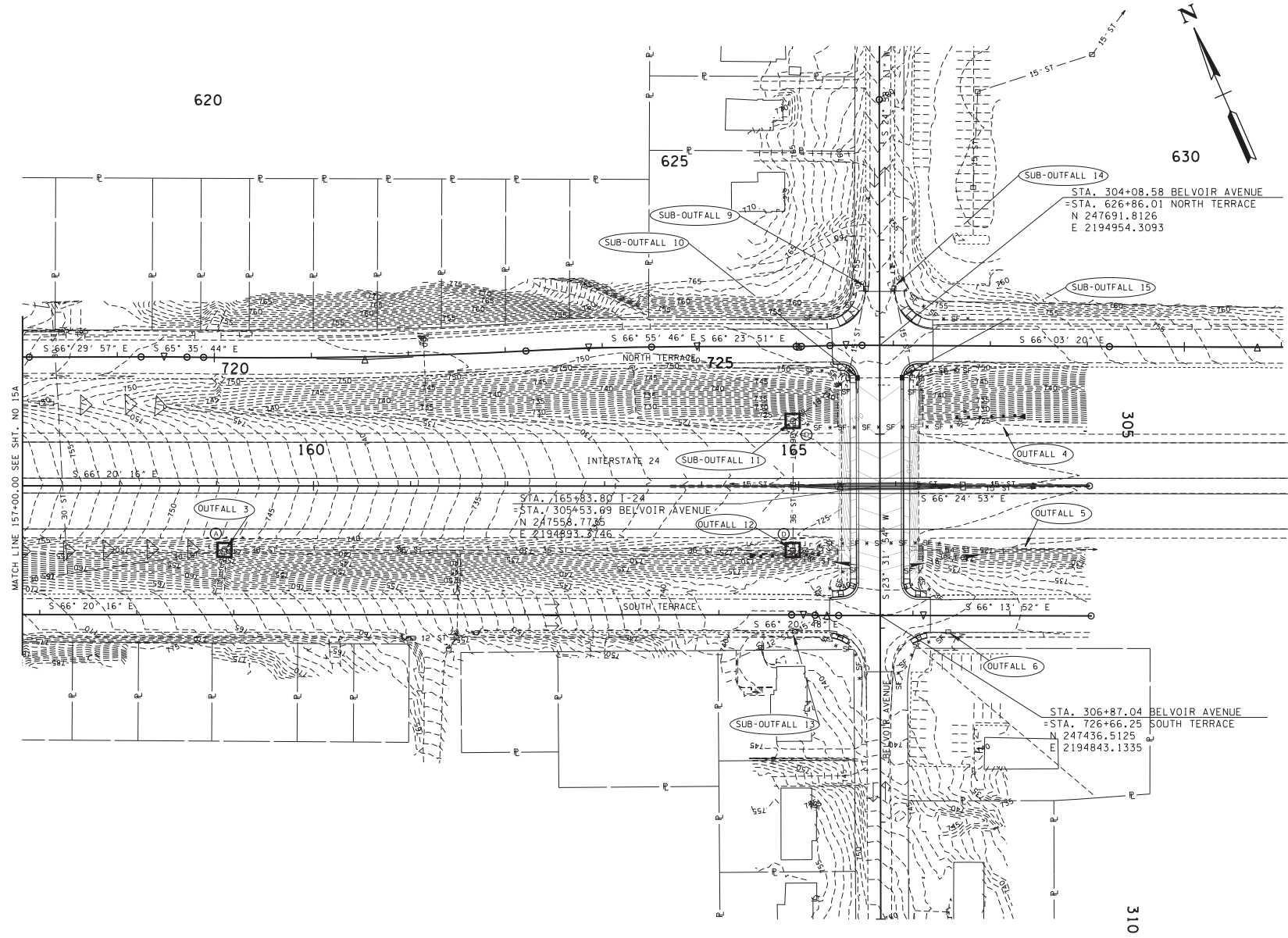


COORDINATES ARE NAD(83)/1995), ARE DATUM ADJUSTED BY THE FACTOR OF 0.99998 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988.

STATE OF TENNESSEE  
DEPARTMENT OF  
TRANSPORTATION

EROSION  
PREVENTION &  
SEDIMENT CONTROL  
(EPSC) PLANS  
STA.144+00 TO STA.157+00  
SCALE: 1"= 50'

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2019	33003-2166-44	158
		33003-2167-44	
CONST.	2020	33003-3166-44	158
		33003-3167-44	



MATCH LINE 157+00.00 SEE SHT. NO. 15A

1/10/2020  
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COORDINATES ARE NAD(83)1995), ARE DATUM ADJUSTED BY THE FACTOR OF 0.99998 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988.

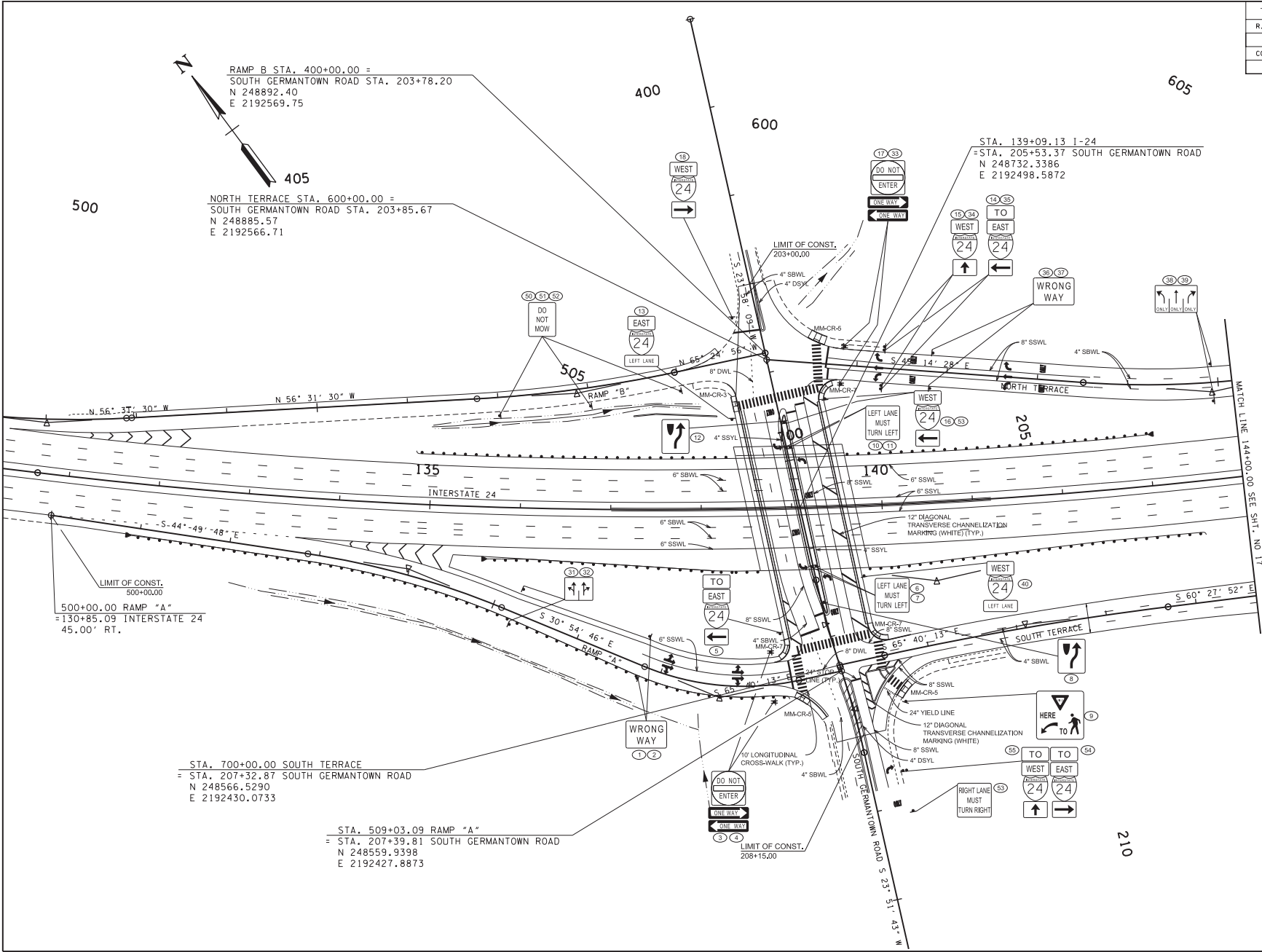
STATE OF TENNESSEE  
DEPARTMENT OF  
TRANSPORTATION

EROSION PREVENTION & SEDIMENT CONTROL (EPSC) PLANS  
STA.157+00 TO STA.167+98.72  
SCALE: 1"= 50'

STAGE III  
(PROP. CONTOURS)

310

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2019	33003-2166-44	16
		33003-2167-44	
CONST.	2020	33003-3166-44	16
		33003-3167-44	



RAMP B STA. 400+00.00 =  
 SOUTH GERMANTOWN ROAD STA. 203+78.20  
 N 248892.40  
 E 2192569.75

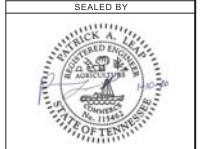
NORTH TERRACE STA. 600+00.00 =  
 SOUTH GERMANTOWN ROAD STA. 203+85.67  
 N 248885.57  
 E 2192566.71

STA. 139+09.13 1-24  
 = STA. 205+53.37 SOUTH GERMANTOWN ROAD  
 N 248732.3386  
 E 2192498.5872

LIMIT OF CONST.  
 500+00.00  
 = 130+85.09 INTERSTATE 24  
 45.00' RT.

STA. 700+00.00 SOUTH TERRACE  
 = STA. 207+32.87 SOUTH GERMANTOWN ROAD  
 N 248566.5290  
 E 2192430.0733

STA. 509+03.09 RAMP "A"  
 = STA. 207+39.81 SOUTH GERMANTOWN ROAD  
 N 248559.9398  
 E 2192427.8873



COORDINATES ARE NAD(83)/1995).  
 ARE DATUM ADJUSTED BY THE  
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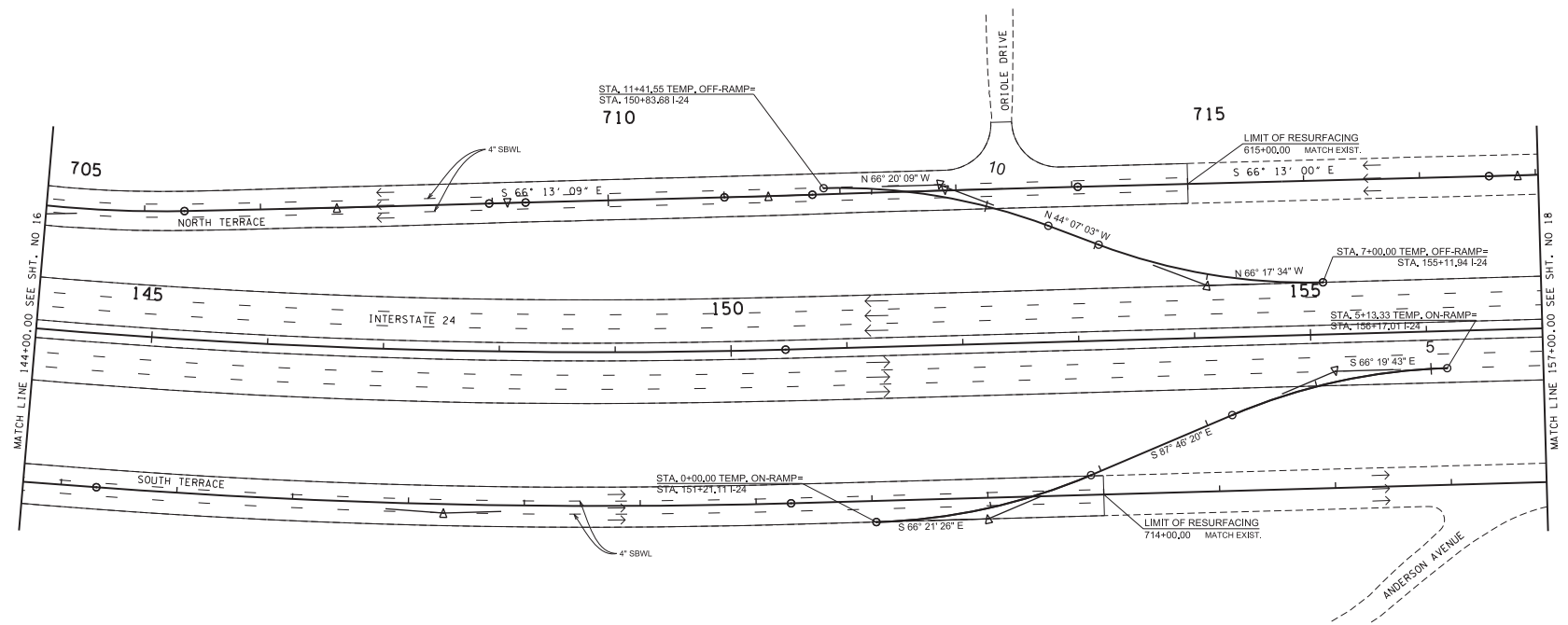
STATE OF TENNESSEE  
 DEPARTMENT OF  
 TRANSPORTATION

SIGNING AND  
 PAVEMENT  
 MARKING  
 PLANS

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2019	33003-2166-44	17
		33003-2167-44	
CONST.	2020	33003-3166-44	17
		33003-3167-44	

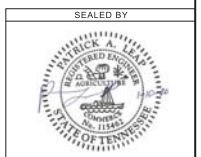
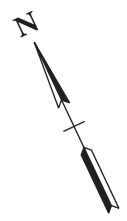
615

610



MATCH LINE 144+00.00 SEE SHT. NO 16

MATCH LINE 157+00.00 SEE SHT. NO 18

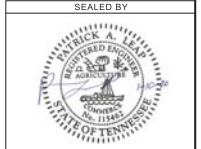
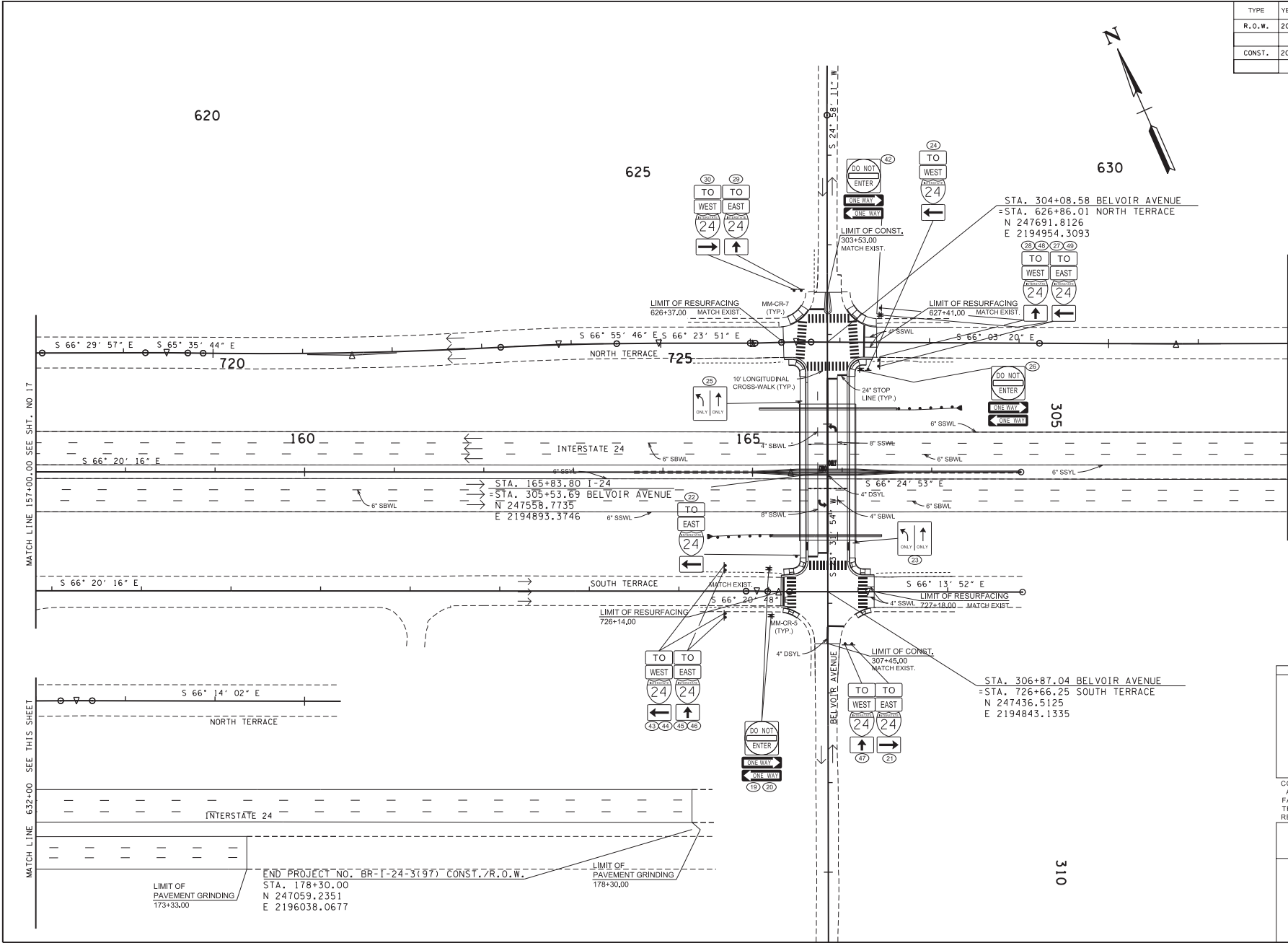


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STATE OF TENNESSEE  
DEPARTMENT OF  
TRANSPORTATION

SIGNING AND  
PAVEMENT  
MARKING  
PLANS

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2019	33003-2166-44	18
		33003-2167-44	
CONST.	2020	33003-3166-44	18
		33003-3167-44	



COORDINATES ARE NAD(83)1995), ARE DATUM ADJUSTED BY THE FACTOR OF 0.99998 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988.

STATE OF TENNESSEE  
DEPARTMENT OF  
TRANSPORTATION

SIGNING AND  
PAVEMENT  
MARKING PLANS

1/10/2020  
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ALL SIGNS SHOWN WITH DESIGNATIONS ARE TO BE FABRICATED AS  
 DETAILED IN THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (CURRENT EDITION)

SEE STD. DWG. NO. T-S-19

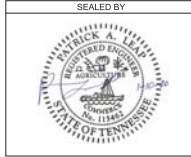
TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2019	33003-2166-44	19
		33003-2167-44	
CONST.	2020	33003-3166-44	19
		33003-3167-44	

SIGN NO	LEGEND	SHEET NO	SIZE				COPY				SHIELD	ARROW	SIGN FACE			STEEL DESIGN (BREAK-AWAY)				MINIMUM VERTICAL CLEARANCE	REMARKS		
			LENGTH	HEIGHT	RADIUS	BORDER WIDTH	CAPITAL	LOWER CASE	NUMERAL	SERIES			COPY	BACKGROUND	MATERIAL	SUPPORT TYPE	SUPPORT LENGTH	FOOTING	CONC. CU. YD.			REIN. STEEL LBS.	
1		16	36"	24"									WHITE	RED (REF)	0.080" SHEET ALUMINUM	U6	H = 12'-6"			7'-0"			
2																							
36																							
37																							
3		16	36"	36"									WHITE (REF)	WHITE (REF) RED (REF)	0.100" SHEET ALUMINUM	P8	H = 15'-6"			7'-0"			
4																							
17																							
19																							
19		18	36"	12"									BLACK	WHITE (REF)	0.080" SHEET ALUMINUM	P8	H = 15'-6"			7'-0"			
20																							
26		18	36"	12"									BLACK	WHITE (REF)	0.080" SHEET ALUMINUM	P8	H = 15'-6"			7'-0"			
33																							
42		18																					
5		16	24"	12"									WHITE (REF)	BLUE (REF)	0.080" SHEET ALUMINUM	P8	H = 16'-6"			7'-0"	CONTRACTOR TO USE STD. DWG. T-S-23C SINGLE DIRECTIONAL BREAK-AWAY LAP SPLICE		
14																							
22		18	24"	12"									WHITE (REF)	BLUE (REF)	0.080" SHEET ALUMINUM	P8	H = 16'-6"			7'-0"	CONTRACTOR TO USE STD. DWG. T-S-23C SINGLE DIRECTIONAL BREAK-AWAY LAP SPLICE		
27																							
35		18	24"	24"									WHITE (REF)	RED (REF) BLUE (REF)	0.080" SHEET ALUMINUM	P8	H = 16'-6"			7'-0"	CONTRACTOR TO USE STD. DWG. T-S-23C SINGLE DIRECTIONAL BREAK-AWAY LAP SPLICE		
49																							
6		16	30"	30"									BLACK	WHITE (REF)	0.080" SHEET ALUMINUM	U6	H = 13'-0"			7'-0"			
7																							
10																							
11																							
8		16	24"	30"									BLACK	WHITE (REF)	0.080" SHEET ALUMINUM	U6	H = 13'-0"			7'-0"	CONTRACTOR TO USE STD. DWG. T-S-23C SINGLE DIRECTIONAL BREAK-AWAY LAP SPLICE		
12																							
9		16	36"	36"										BLACK	WHITE (REF) RED (REF)	0.080" SHEET ALUMINUM	U6	H = 13'-0"			7'-0"		
28		18	24"	12"									WHITE (REF)	BLUE (REF)	0.080" SHEET ALUMINUM	P8	H = 16'-6"			7'-0"	CONTRACTOR TO USE STD. DWG. T-S-23C SINGLE DIRECTIONAL BREAK-AWAY LAP SPLICE		
47																							
48		18	24"	24"									WHITE (REF)	RED (REF) BLUE (REF)	0.080" SHEET ALUMINUM	P8	H = 16'-6"			7'-0"	CONTRACTOR TO USE STD. DWG. T-S-23C SINGLE DIRECTIONAL BREAK-AWAY LAP SPLICE		
55																							
24		18	24"	12"									WHITE (REF)	BLUE (REF)	0.080" SHEET ALUMINUM	P8	H = 16'-6"			7'-0"	CONTRACTOR TO USE STD. DWG. T-S-23C SINGLE DIRECTIONAL BREAK-AWAY LAP SPLICE		
43																							
44		18	24"	12"									WHITE (REF)	BLUE (REF)	0.080" SHEET ALUMINUM	P8	H = 16'-6"			7'-0"	CONTRACTOR TO USE STD. DWG. T-S-23C SINGLE DIRECTIONAL BREAK-AWAY LAP SPLICE		
44																							
		18	24"	24"									WHITE (REF)	RED (REF) BLUE (REF)	0.080" SHEET ALUMINUM	P8	H = 16'-6"			7'-0"	CONTRACTOR TO USE STD. DWG. T-S-23C SINGLE DIRECTIONAL BREAK-AWAY LAP SPLICE		
		18	21"	15"									WHITE (REF)	BLUE (REF)	0.080" SHEET ALUMINUM	P8	H = 16'-6"			7'-0"	CONTRACTOR TO USE STD. DWG. T-S-23C SINGLE DIRECTIONAL BREAK-AWAY LAP SPLICE		
30		18	24"	12"									WHITE (REF)	BLUE (REF)	0.080" SHEET ALUMINUM	P8	H = 16'-6"			7'-0"	CONTRACTOR TO USE STD. DWG. T-S-23C SINGLE DIRECTIONAL BREAK-AWAY LAP SPLICE		
			24"	12"											WHITE (REF)	BLUE (REF)	0.080" SHEET ALUMINUM	P8	H = 16'-6"			7'-0"	CONTRACTOR TO USE STD. DWG. T-S-23C SINGLE DIRECTIONAL BREAK-AWAY LAP SPLICE
			24"	24"											WHITE (REF)	RED (REF) BLUE (REF)	0.080" SHEET ALUMINUM	P8	H = 16'-6"			7'-0"	CONTRACTOR TO USE STD. DWG. T-S-23C SINGLE DIRECTIONAL BREAK-AWAY LAP SPLICE
			21"	15"											WHITE (REF)	BLUE (REF)	0.080" SHEET ALUMINUM	P8	H = 16'-6"			7'-0"	CONTRACTOR TO USE STD. DWG. T-S-23C SINGLE DIRECTIONAL BREAK-AWAY LAP SPLICE

U-POST SUBSTITUTION TABLE

BD ITEM	SUBSTITUTION ALLOWED
713-11.01	
2&FT. U1	2&FT. MU1 OR 2&FT. R1
2.5&FT. U3	2.5&FT. MU3 OR 3&FT. R2*
3&FT. U6	
4&FT. U7	NO SUBSTITUTES

\* PAID AT A RATE OF 2.5&FT.



STATE OF TENNESSEE  
 DEPARTMENT OF  
 TRANSPORTATION

SIGN  
 SCHEDULE

ALL SIGNS SHOWN WITH DESIGNATIONS ARE TO BE FABRICATED AS  
 DETAILED IN THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (CURRENT EDITION)

SEE STD. DWG. NO. T-S-19

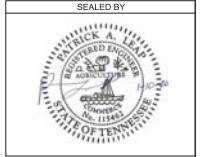
TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2019	33003-2166-44	20
		33003-2167-44	
CONST.	2020	33003-3166-44	20
		33003-3167-44	

SIGN NO	LEGEND	SHEET NO	SIZE				COPY				SHIELD	ARROW	SIGN FACE			STEEL DESIGN (BREAK-AWAY)					MINIMUM VERTICAL CLEARANCE	REMARKS	
			LENGTH	HEIGHT	RADIUS	BORDER WIDTH	CAPITAL	LOWER CASE	NUMERAL	SERIES			COPY	BACKGROUND	MATERIAL	SUPPORT TYPE	SUPPORT LENGTH	FOOTING	CONC. CU. YD.	REIN. STEEL LBS.			
23		18	36"	30"									BLACK	WHITE (REF)	0.080" SHEET ALUMINUM	U6	H = 13'-0"					7'-0"	
25		18																					
21		18	24"	12"									WHITE (REF)	BLUE (REF)	0.080" SHEET ALUMINUM	P8	H = 16'-6"					7'-0"	CONTRACTOR TO USE STD. DWG. T-S-23C SINGLE DIRECTIONAL BREAK-AWAY LAP SPLICE
54			24"	12"																			
54		16	24"	24"									WHITE (REF)	RED (REF)	0.080" SHEET ALUMINUM	P8	H = 16'-6"					7'-0"	CONTRACTOR TO USE STD. DWG. T-S-23C SINGLE DIRECTIONAL BREAK-AWAY LAP SPLICE
54			24"	24"																			
54		18	24"	24"									WHITE (REF)	BLUE (REF)	0.080" SHEET ALUMINUM	P8	H = 16'-6"					7'-0"	CONTRACTOR TO USE STD. DWG. T-S-23C SINGLE DIRECTIONAL BREAK-AWAY LAP SPLICE
54			24"	24"																			
29		18	24"	12"									WHITE (REF)	BLUE (REF)	0.080" SHEET ALUMINUM	P8	H = 16'-6"					7'-0"	CONTRACTOR TO USE STD. DWG. T-S-23C SINGLE DIRECTIONAL BREAK-AWAY LAP SPLICE
45			24"	12"																			
46		18	24"	12"									WHITE (REF)	BLUE (REF)	0.080" SHEET ALUMINUM	P8	H = 16'-6"					7'-0"	CONTRACTOR TO USE STD. DWG. T-S-23C SINGLE DIRECTIONAL BREAK-AWAY LAP SPLICE
46			24"	12"																			
46		18	24"	24"									WHITE (REF)	RED (REF)	0.080" SHEET ALUMINUM	P8	H = 16'-6"					7'-0"	CONTRACTOR TO USE STD. DWG. T-S-23C SINGLE DIRECTIONAL BREAK-AWAY LAP SPLICE
46			24"	24"																			
46		18	21"	15"									WHITE (REF)	BLUE (REF)	0.080" SHEET ALUMINUM	P8	H = 16'-6"					7'-0"	CONTRACTOR TO USE STD. DWG. T-S-23C SINGLE DIRECTIONAL BREAK-AWAY LAP SPLICE
46			21"	15"																			
15		16	24"	12"									WHITE (REF)	BLUE (REF)	0.080" SHEET ALUMINUM	P8	H = 15'-6"					7'-0"	CONTRACTOR TO USE STD. DWG. T-S-23C SINGLE DIRECTIONAL BREAK-AWAY LAP SPLICE
34			24"	12"																			
34		16	24"	24"									WHITE (REF)	RED (REF)	0.080" SHEET ALUMINUM	P8	H = 15'-6"					7'-0"	CONTRACTOR TO USE STD. DWG. T-S-23C SINGLE DIRECTIONAL BREAK-AWAY LAP SPLICE
34			24"	24"																			
34		16	21"	15"									WHITE (REF)	BLUE (REF)	0.080" SHEET ALUMINUM	P8	H = 15'-6"					7'-0"	CONTRACTOR TO USE STD. DWG. T-S-23C SINGLE DIRECTIONAL BREAK-AWAY LAP SPLICE
34			21"	15"																			
18		16	24"	12"									WHITE (REF)	BLUE (REF)	0.080" SHEET ALUMINUM	P8	H = 15'-6"					7'-0"	CONTRACTOR TO USE STD. DWG. T-S-23C SINGLE DIRECTIONAL BREAK-AWAY LAP SPLICE
18			24"	12"																			
18		16	24"	24"									WHITE (REF)	RED (REF)	0.080" SHEET ALUMINUM	P8	H = 15'-6"					7'-0"	CONTRACTOR TO USE STD. DWG. T-S-23C SINGLE DIRECTIONAL BREAK-AWAY LAP SPLICE
18			24"	24"																			
18		16	21"	15"									WHITE (REF)	BLUE (REF)	0.080" SHEET ALUMINUM	P8	H = 15'-6"					7'-0"	CONTRACTOR TO USE STD. DWG. T-S-23C SINGLE DIRECTIONAL BREAK-AWAY LAP SPLICE
18			21"	15"																			
16		16	24"	12"									WHITE (REF)	BLUE (REF)	0.080" SHEET ALUMINUM	P8	H = 15'-6"					7'-0"	CONTRACTOR TO USE STD. DWG. T-S-23C SINGLE DIRECTIONAL BREAK-AWAY LAP SPLICE
53			24"	12"																			
53		16	24"	24"									WHITE (REF)	RED (REF)	0.080" SHEET ALUMINUM	P8	H = 15'-6"					7'-0"	CONTRACTOR TO USE STD. DWG. T-S-23C SINGLE DIRECTIONAL BREAK-AWAY LAP SPLICE
53			24"	24"																			
53		16	21"	15"									WHITE (REF)	BLUE (REF)	0.080" SHEET ALUMINUM	P8	H = 15'-6"					7'-0"	CONTRACTOR TO USE STD. DWG. T-S-23C SINGLE DIRECTIONAL BREAK-AWAY LAP SPLICE
53			21"	15"																			
40		16	24"	12"									WHITE (REF)	BLUE (REF)	0.080" SHEET ALUMINUM	P8	H = 15'-6"					7'-0"	CONTRACTOR TO USE STD. DWG. T-S-23C SINGLE DIRECTIONAL BREAK-AWAY LAP SPLICE
40			24"	12"																			
40		16	24"	24"									WHITE (REF)	RED (REF)	0.080" SHEET ALUMINUM	P8	H = 15'-6"					7'-0"	CONTRACTOR TO USE STD. DWG. T-S-23C SINGLE DIRECTIONAL BREAK-AWAY LAP SPLICE
40			24"	24"																			
40		16	30"	12"									WHITE (REF)	BLUE (REF)	0.080" SHEET ALUMINUM	P8	H = 15'-6"					7'-0"	CONTRACTOR TO USE STD. DWG. T-S-23C SINGLE DIRECTIONAL BREAK-AWAY LAP SPLICE
40			30"	12"																			
38		16	48"	30"									BLACK	WHITE (REF)	0.080" SHEET ALUMINUM	20U6	H = 13'-0"					7'-0"	CONTRACTOR TO USE STD. DWG. T-S-23C SINGLE DIRECTIONAL BREAK-AWAY LAP SPLICE
39		16																					
31		16	30"	30"									BLACK	WHITE (REF)	0.080" SHEET ALUMINUM	U6	H = 13'-0"					7'-0"	CONTRACTOR TO USE STD. DWG. T-S-23C SINGLE DIRECTIONAL BREAK-AWAY LAP SPLICE
32		16																					

U-POST SUBSTITUTION TABLE

BID ITEM	SUBSTITUTION ALLOWED
713-11.01	ALLOWED
2#FT. U1	2#FT. MU1 OR 2#FT. R1
2.5#FT. U3	2.5#FT. MU3 OR 3#FT. R2*
3#FT. U6	
4#FT. U7	NO SUBSTITUTES

\* PAID AT A RATE OF 2.5#FT.



STATE OF TENNESSEE  
 DEPARTMENT OF  
 TRANSPORTATION

SIGN  
 SCHEDULE

ALL SIGNS SHOWN WITH DESIGNATIONS ARE TO BE FABRICATED AS DETAILED IN THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (CURRENT EDITION)

SEE STD. DWG. NO. T-S-19

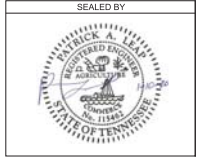
TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2019	33003-2166-44	21
		33003-2167-44	
CONST.	2020	33003-3166-44	21
		33003-3167-44	

SIGN NO	LEGEND	SHEET NO	SIZE				COPY				SHIELD	ARROW	SIGN FACE			STEEL DESIGN (BREAK-AWAY)					MINIMUM VERTICAL CLEARANCE	REMARKS		
			LENGTH	HEIGHT	RADIUS	BORDER WIDTH	CAPITAL	LOWER CASE	NUMERAL	SERIES			COPY	BACKGROUND	MATERIAL	SUPPORT TYPE	SUPPORT LENGTH	FOOTING	CONC.	REIN STEEL				
(50)	DO NOT MOW	16	30"	24"									BLACK (REF)	WHITE (REF)	0.080" SHEET ALUMINUM	P8	H = 16'-6"					7'-0"	CONTRACTOR TO USE STD. DWG. T-S-23C SINGLE DIRECTIONAL BREAK-AWAY LAP SPLICE	
(51)		16																						
(52)		16																						
(13)	EAST M3-4	16	24"	12"									WHITE (REF)	BLUE (REF)	0.080" SHEET ALUMINUM	P8	H = 16'-6"					7'-0"	CONTRACTOR TO USE STD. DWG. T-S-23C SINGLE DIRECTIONAL BREAK-AWAY LAP SPLICE	
	24 M1-1		24"	24"																				
	LEFT LANE R3-5bp		30"	12"																				
	S. Terrace		72"	24"									WHITE (REF)	GREEN (REF)	0.100" SHEET ALUMINUM								SEE SIGNAL PLANS FOR LOCATION DETAILS	
	S. Germantown Rd		108"	24"									WHITE (REF)	GREEN (REF)	0.100" SHEET ALUMINUM									SEE SIGNAL PLANS FOR LOCATION DETAILS
	N. Terrace		72'	24"									WHITE (REF)	GREEN (REF)	0.100" SHEET ALUMINUM									SEE SIGNAL PLANS FOR LOCATION DETAILS
	Belvoir Ave		60"	24"									WHITE (REF)	GREEN (REF)	0.100" SHEET ALUMINUM									SEE SIGNAL PLANS FOR LOCATION DETAILS
(53)	RIGHT LANE MUST TURN RIGHT R3-7R	16	36"	36"									BLACK (REF)	WHITE (REF)	0.080" SHEET ALUMINUM	U6	H = 13'-0"						7'-0"	CONTRACTOR TO REPLACE EXISTING SIGN AT EXISTING LOCATION

U-POST SUBSTITUTION TABLE

BID ITEM	SUBSTITUTION ALLOWED
713-11.01	
2#FT. U1	2#FT. MU1 OR 2#FT. R1
2.5#FT. U3	2.5#FT. MU3 OR 3#FT. R2*
3#FT. U6	
4#FT. U7	NO SUBSTITUTES

\* PAID AT A RATE OF 2.5#FT.

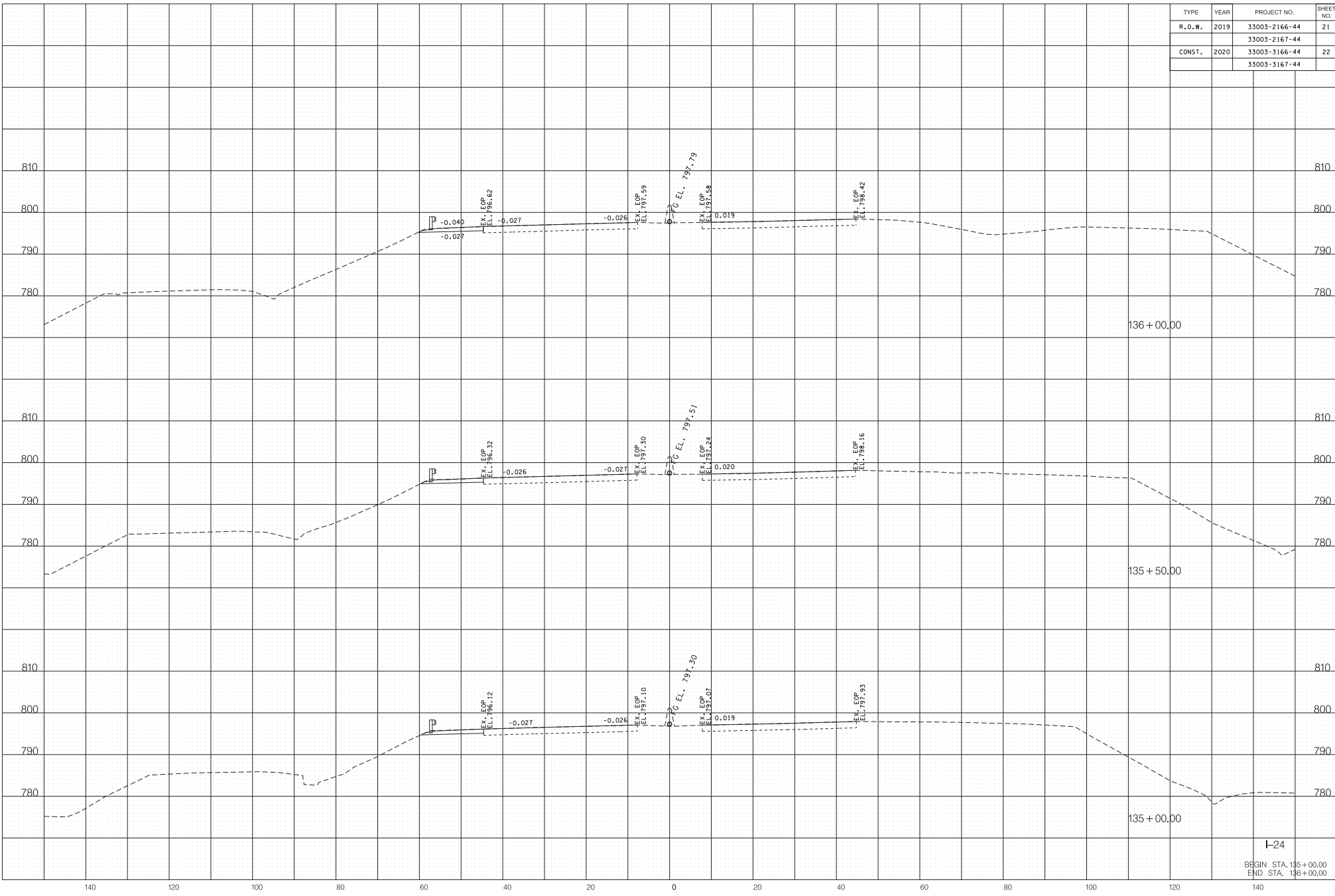


STATE OF TENNESSEE  
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TRANSPORTATION

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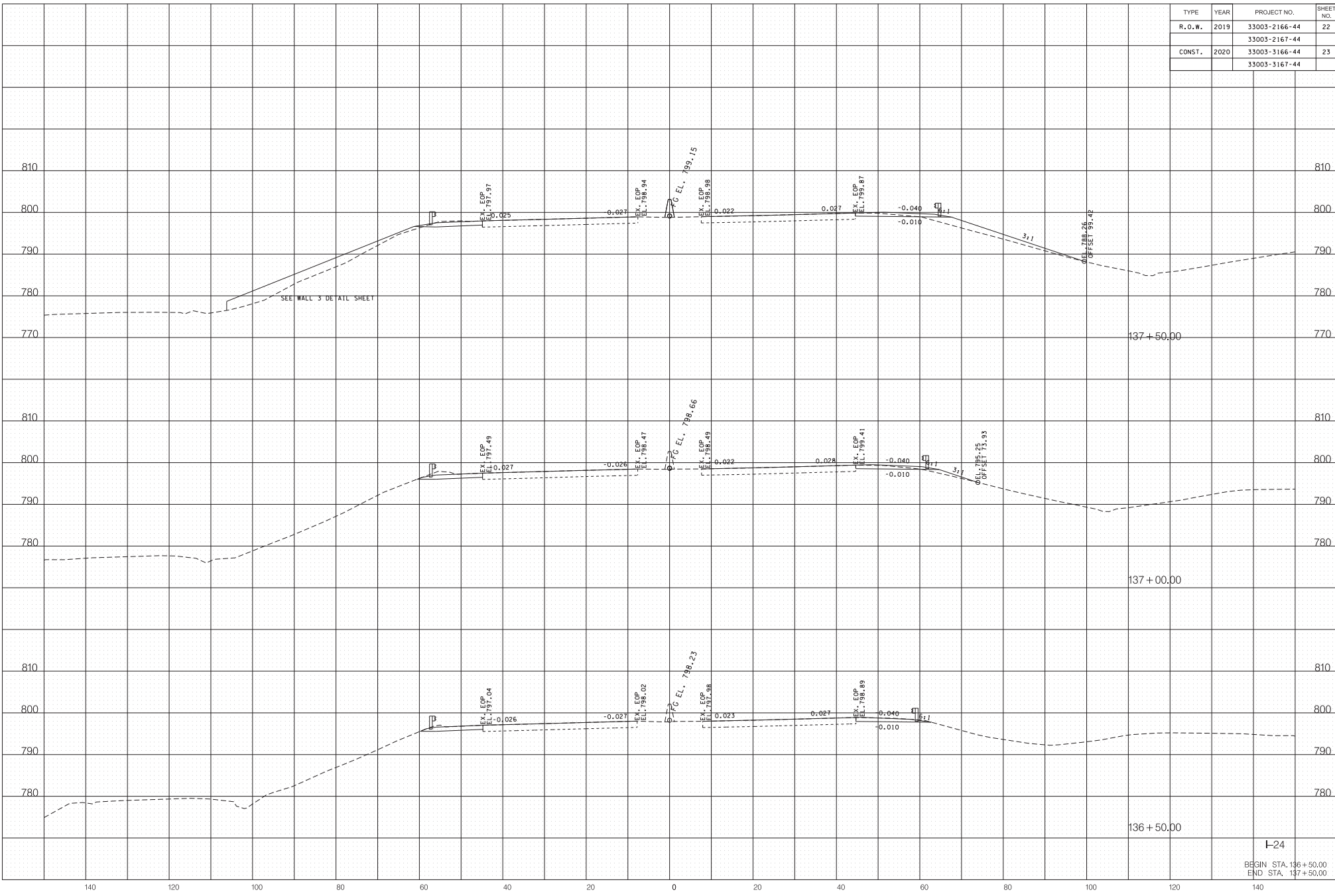


TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2019	33003-2166-44	21
		33003-2167-44	
CONST.	2020	33003-3166-44	22
		33003-3167-44	



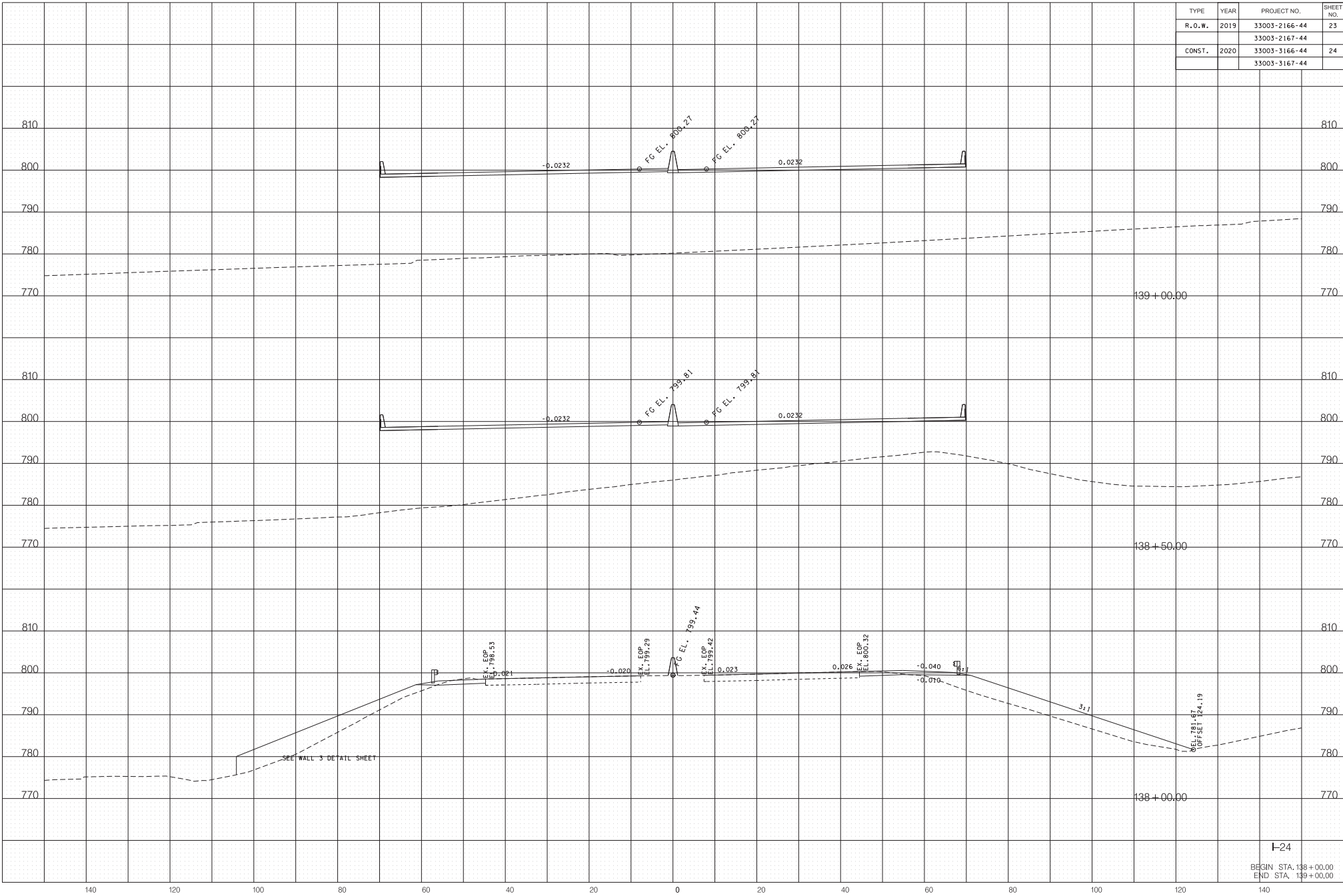
1/10/2020  
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TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2019	33003-2166-44	22
		33003-2167-44	
CONST.	2020	33003-3166-44	23
		33003-3167-44	

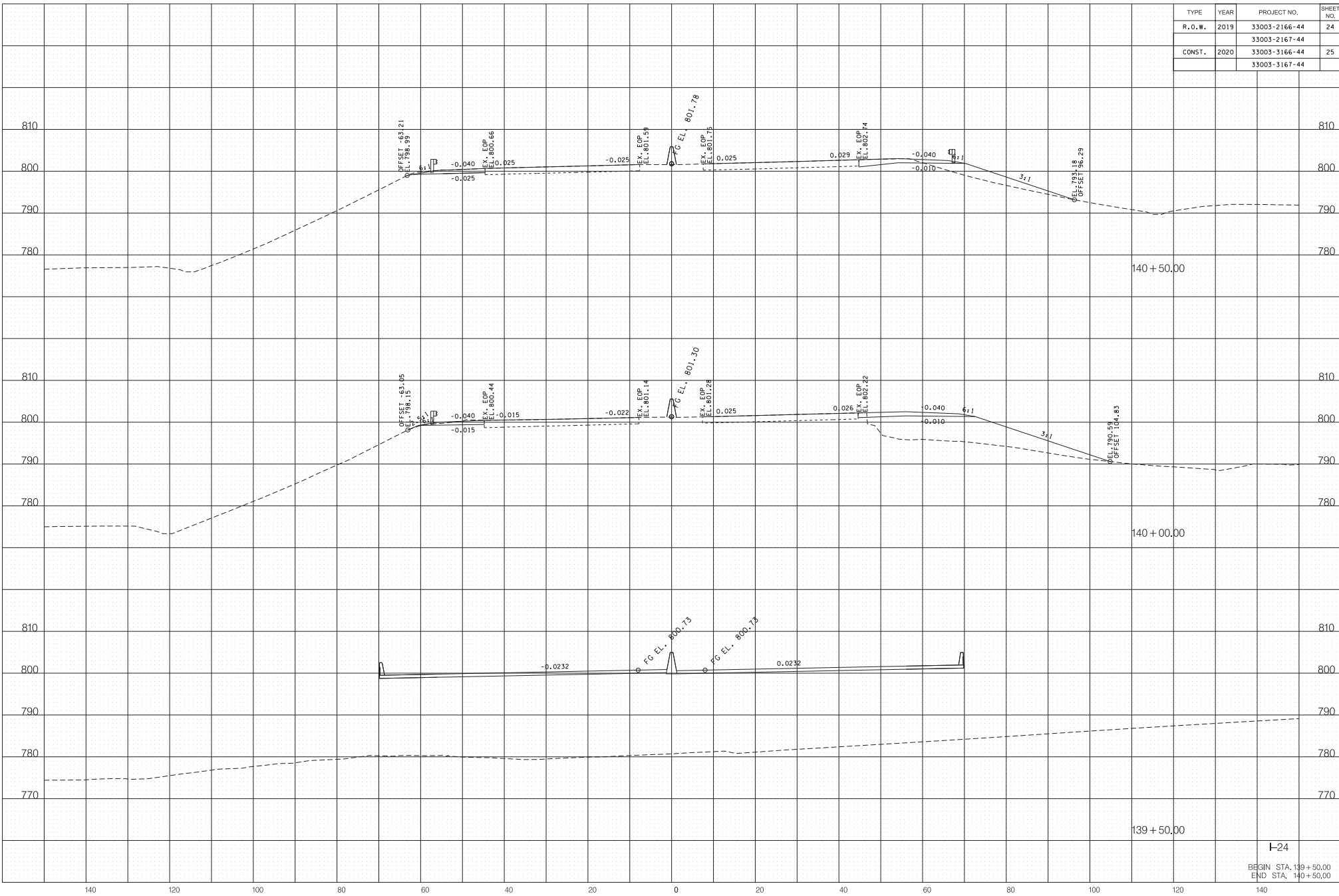


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TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2019	33003-2166-44	23
		33003-2167-44	
CONST.	2020	33003-3166-44	24
		33003-3167-44	

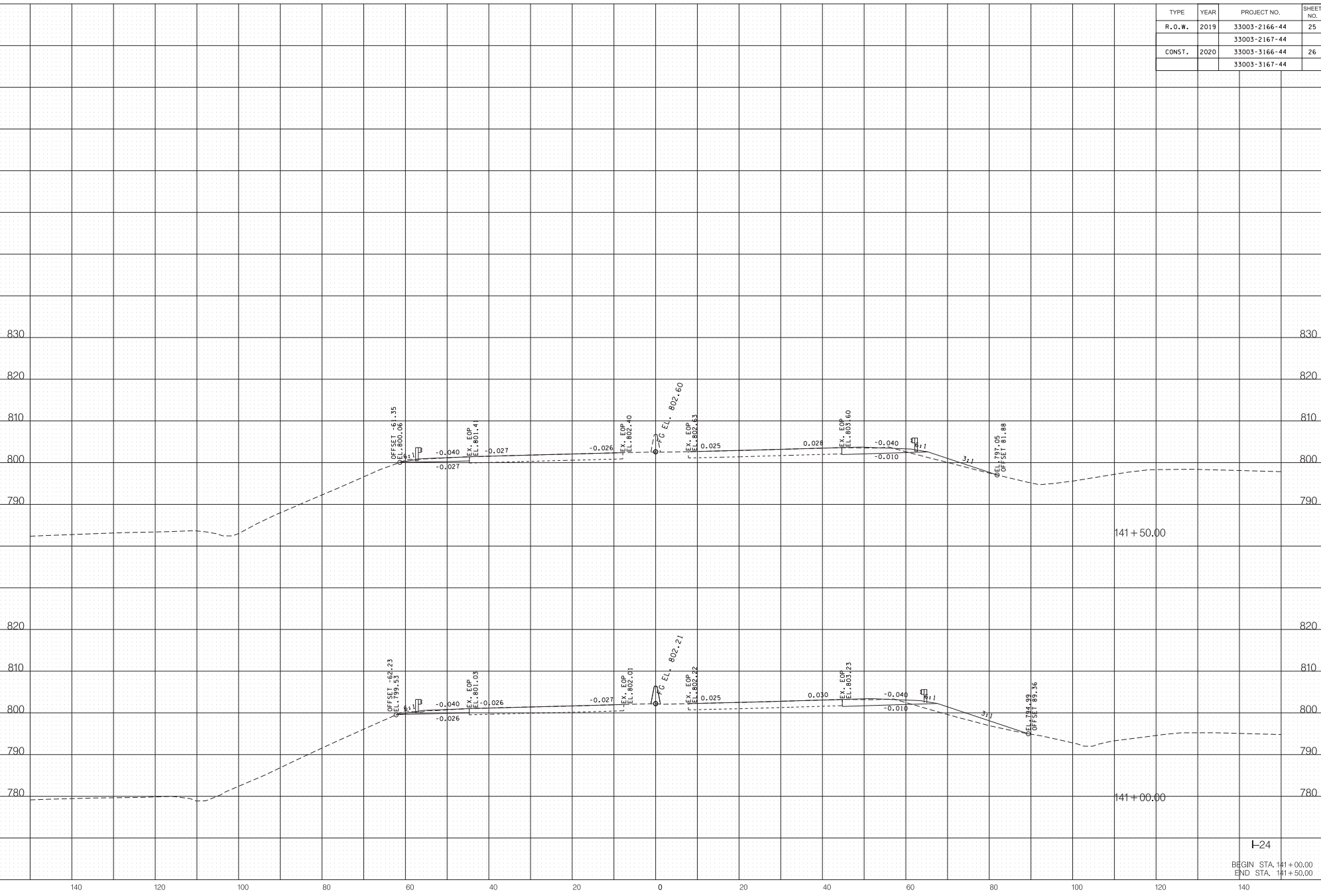


TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2019	33003-2166-44	24
		33003-2167-44	
CONST.	2020	33003-3166-44	25
		33003-3167-44	



1/10/2020  
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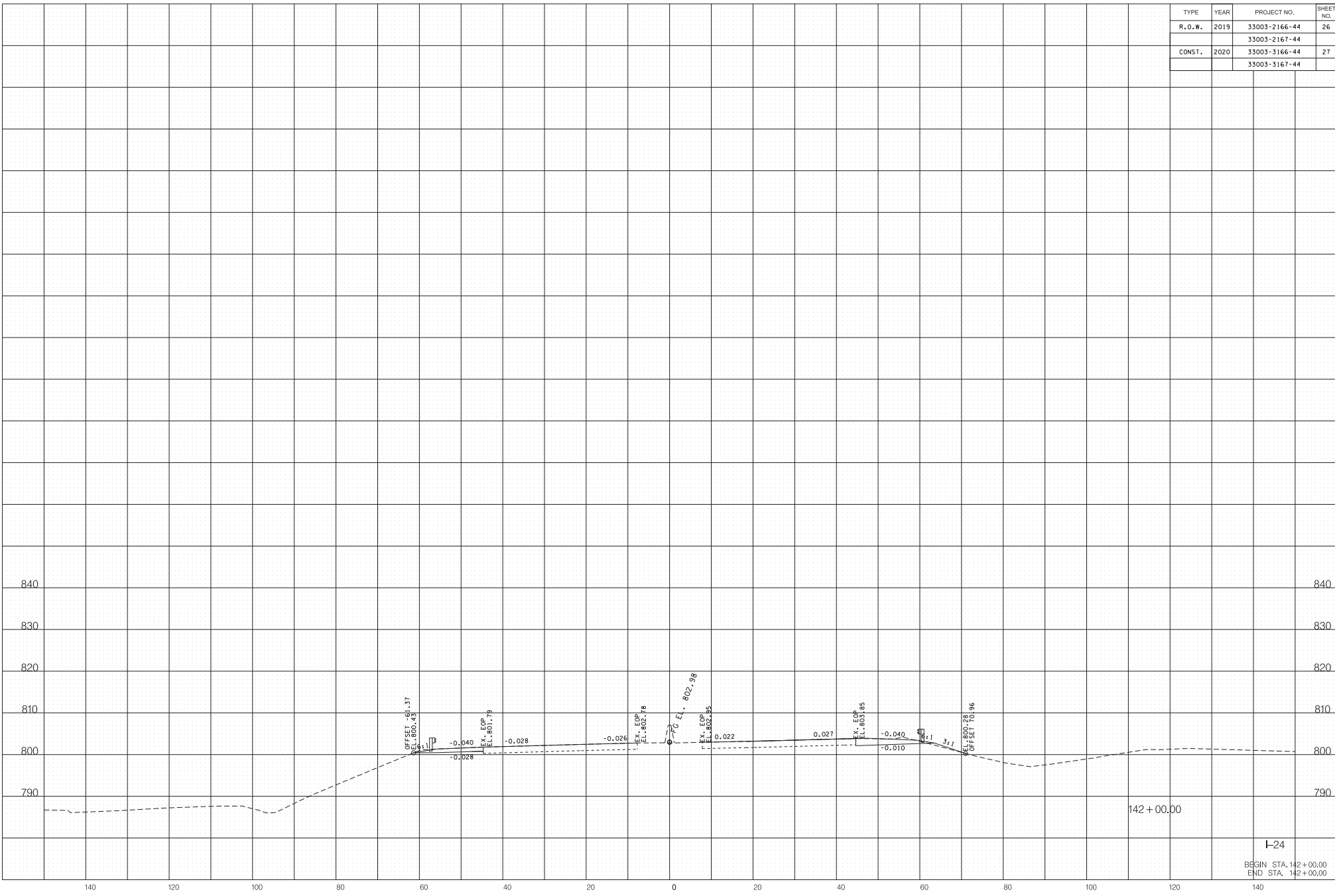
TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2019	33003-2166-44	25
		33003-2167-44	
CONST.	2020	33003-3166-44	26
		33003-3167-44	



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TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2019	33003-2166-44	26
		33003-2167-44	
CONST.	2020	33003-3166-44	27
		33003-3167-44	

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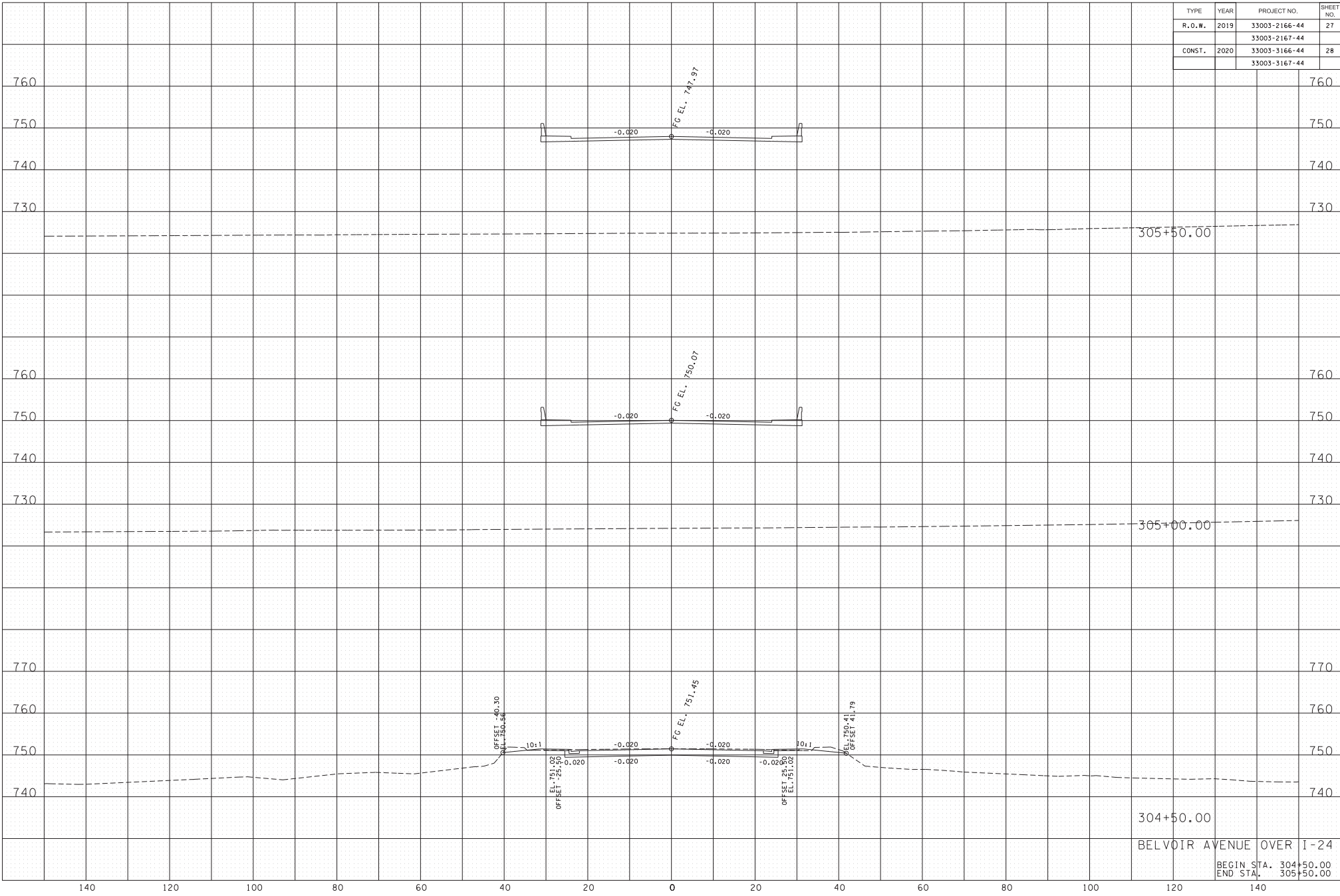


142 + 00.00

I-24

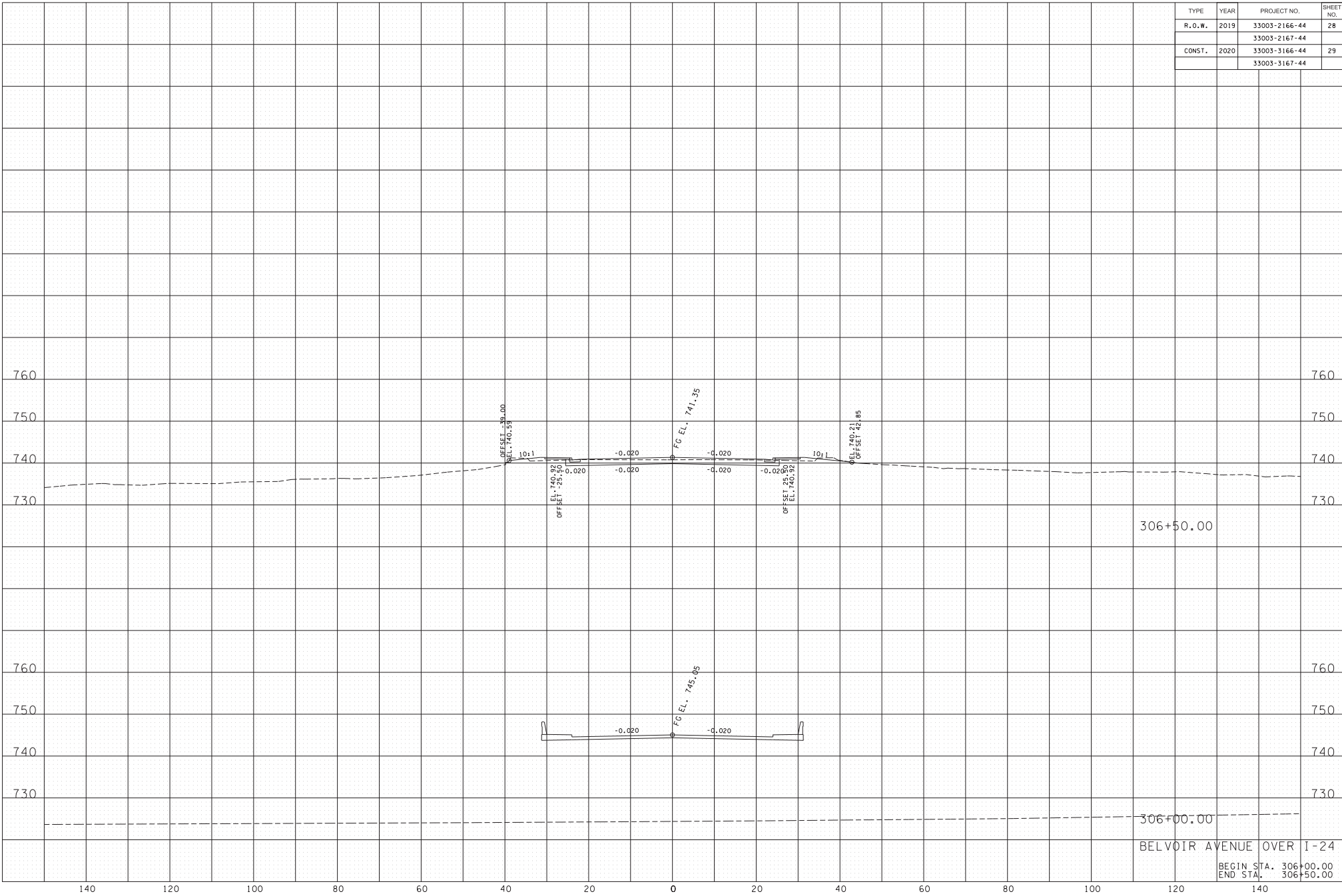
BEGIN STA. 142 + 00.00  
END STA. 142 + 00.00

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2019	33003-2166-44	27
		33003-2167-44	
CONST.	2020	33003-3166-44	28
		33003-3167-44	



1/10/2020  
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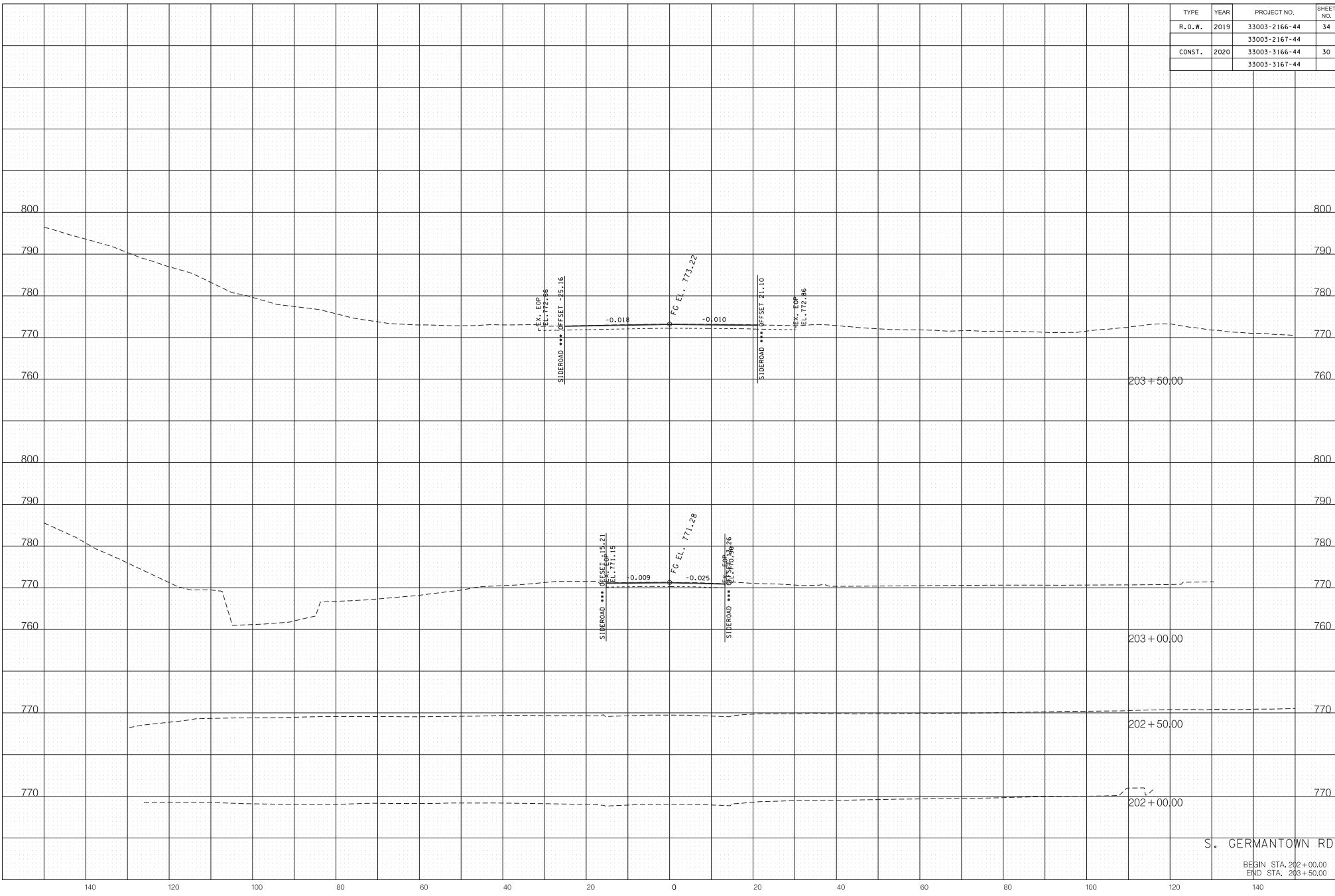
TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2019	33003-2166-44	28
		33003-2167-44	
CONST.	2020	33003-3166-44	29
		33003-3167-44	



1/17/2020  
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TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2019	33003-2166-44	34
		33003-2167-44	
CONST.	2020	33003-3166-44	30
		33003-3167-44	

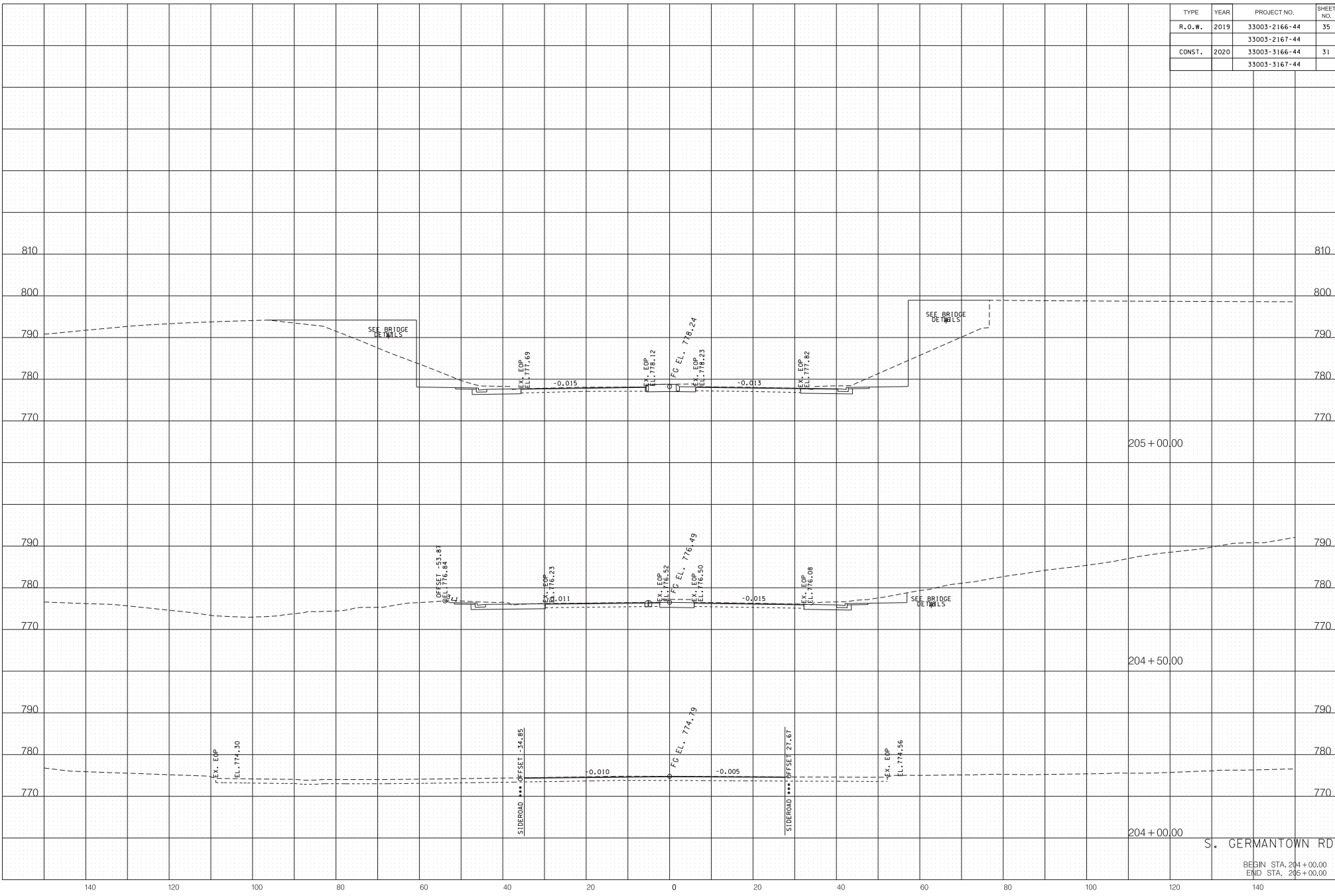


1/17/2020  
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S. GERMANTOWN RD

BEGIN STA. 202+00.00  
 END STA. 203+50.00

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2019	33003-2166-44	35
		33003-2167-44	
CONST.	2020	33003-3166-44	31
		33003-3167-44	

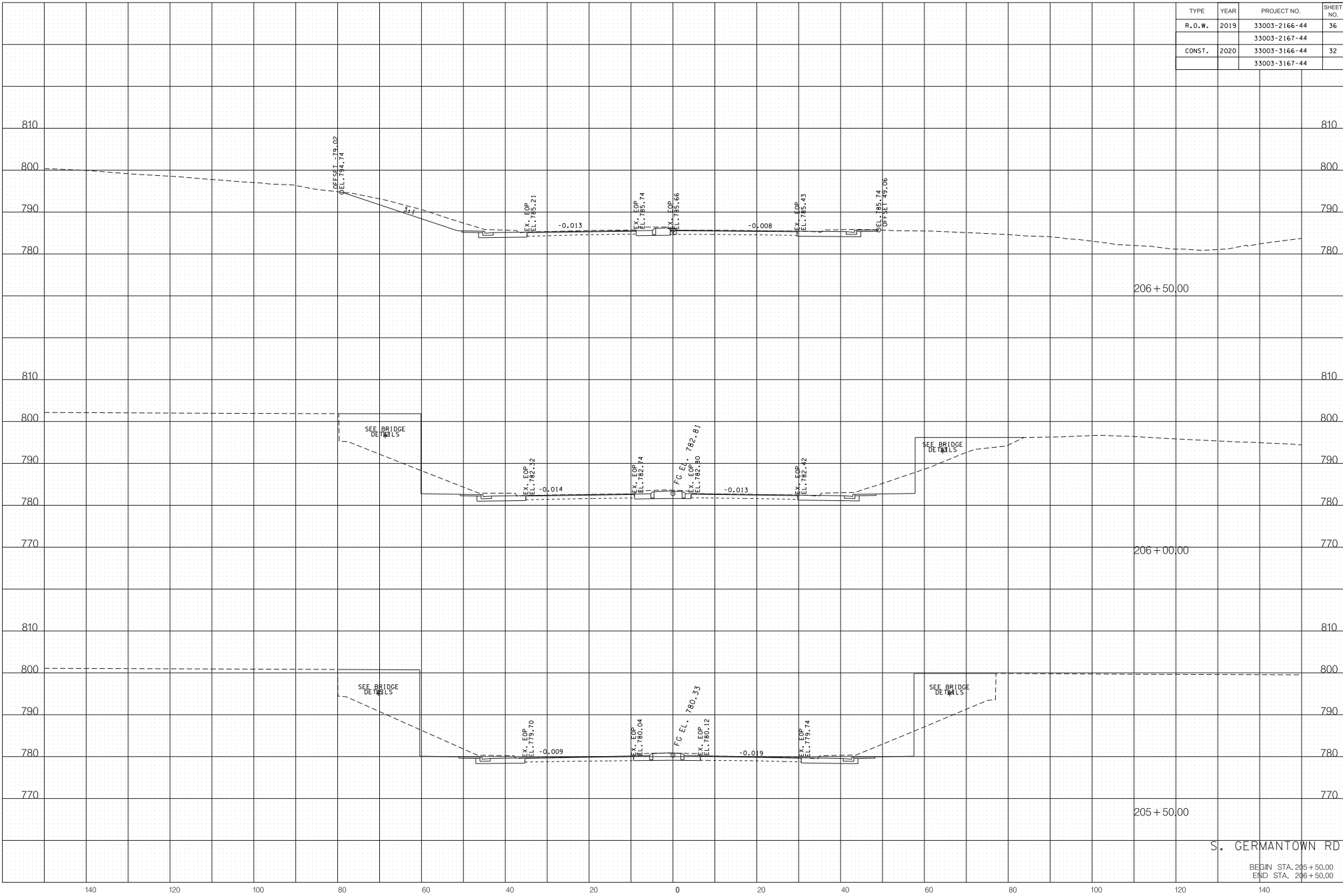


S. GERMANTOWN RD

BEGIN STA. 204+00.00  
END STA. 205+00.00

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TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2019	33003-2166-44	36
		33003-2167-44	
CONST.	2020	33003-3166-44	32
		33003-3167-44	

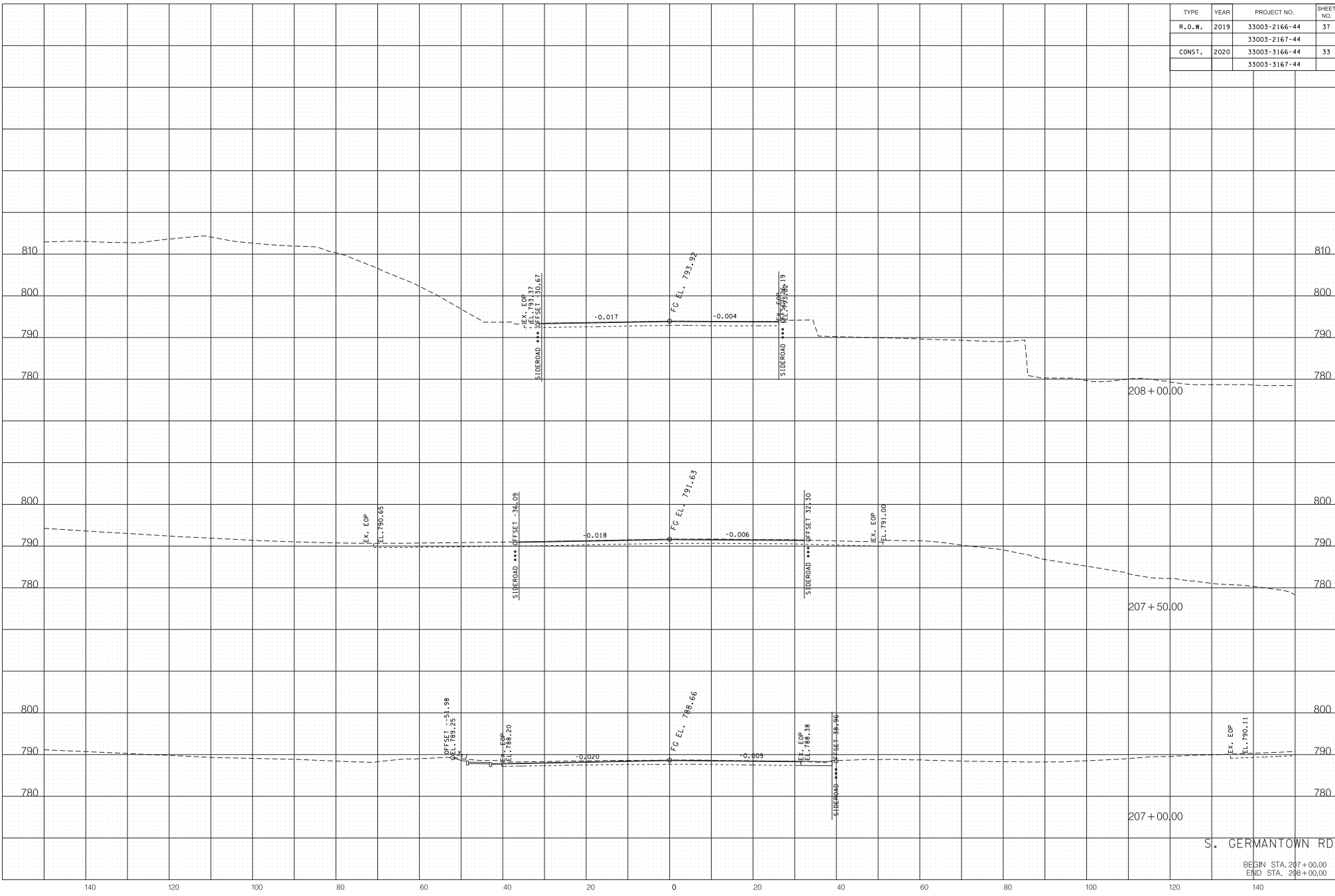


S. GERMANTOWN RD

BEGIN STA. 205+50.00  
END STA. 206+50.00

1/10/2020  
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TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2019	33003-2166-44	37
		33003-2167-44	
CONST.	2020	33003-3166-44	33
		33003-3167-44	

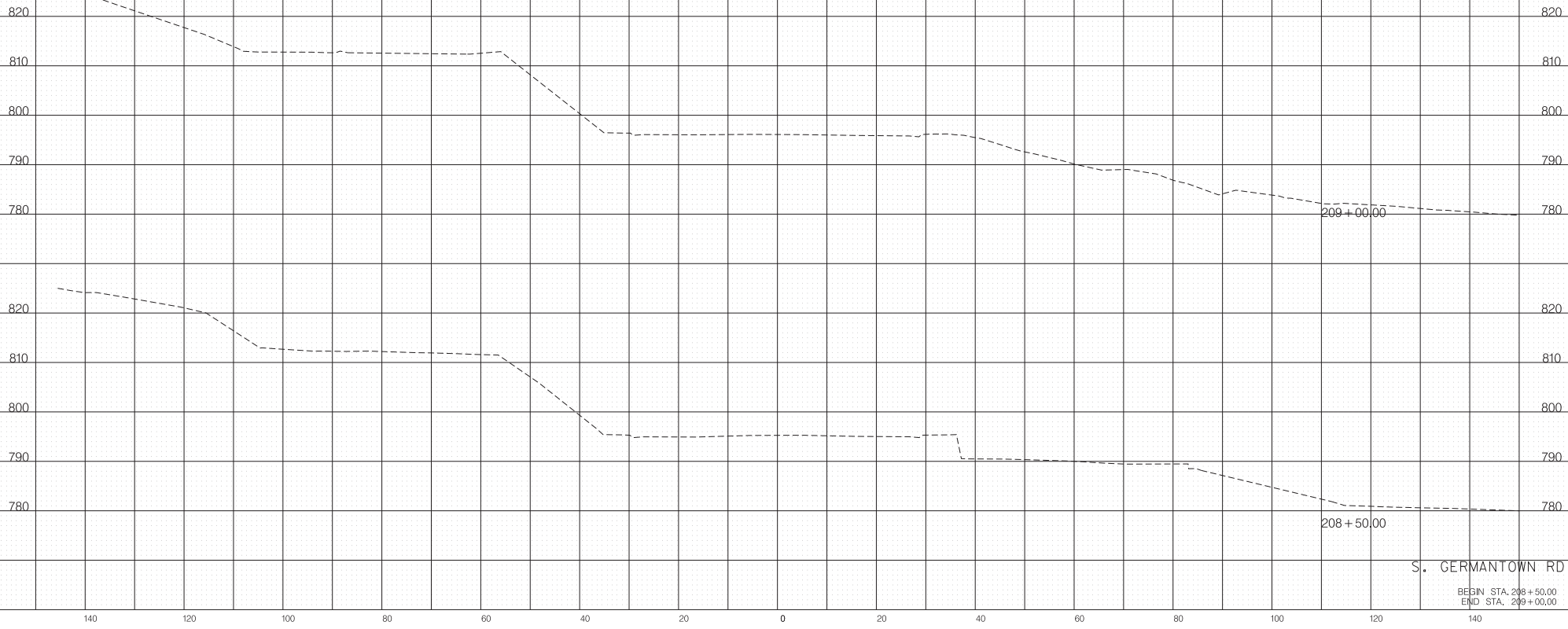


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S. GERMANTOWN RD

BEGIN STA. 207+00.00  
END STA. 208+00.00

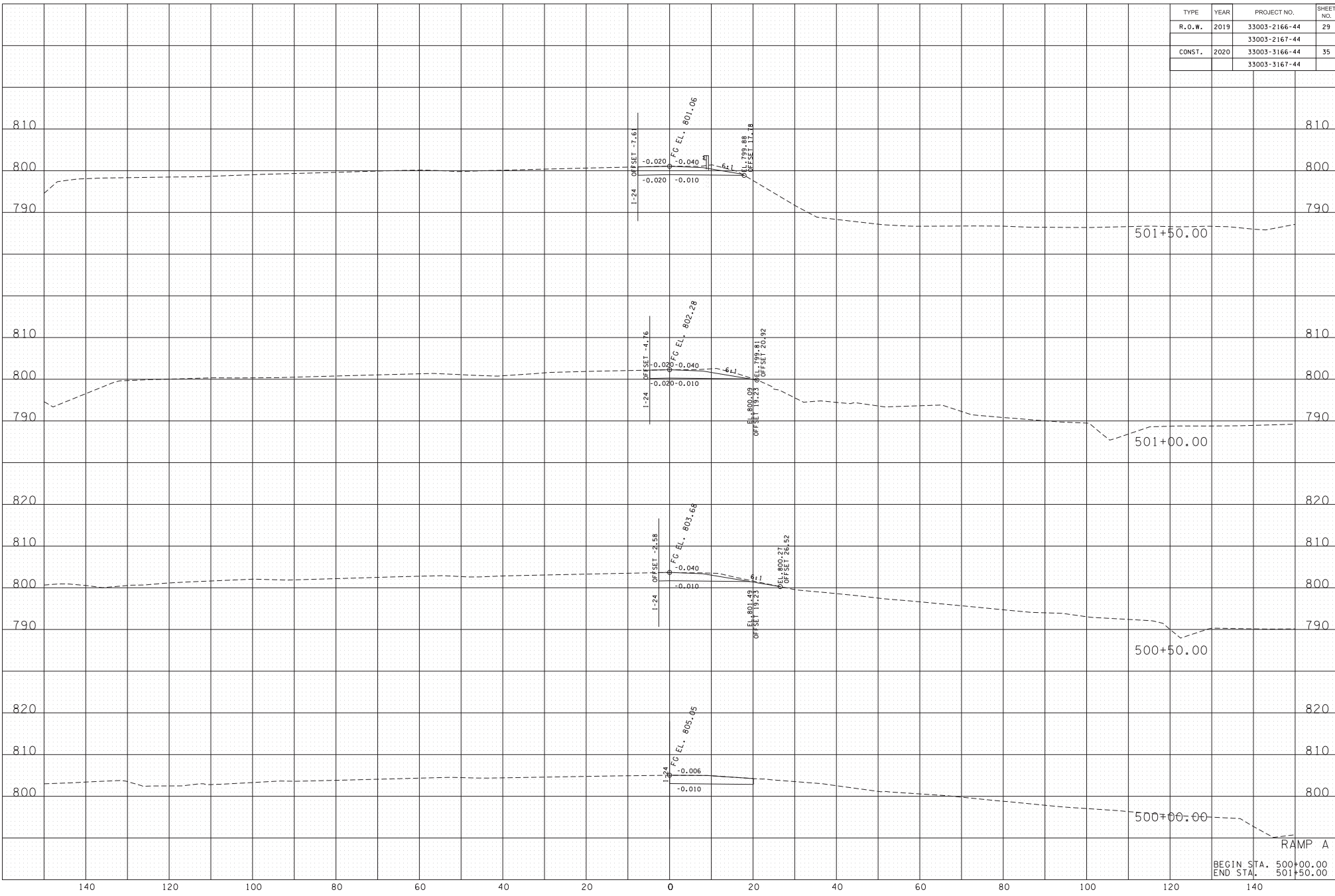
TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2019	33003-2166-44	38
		33003-2167-44	
CONST.	2020	33003-3166-44	34
		33003-3167-44	



1/17/2020  
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S. GERMANTOWN RD  
 BEGIN STA. 208+50.00  
 END STA. 209+00.00

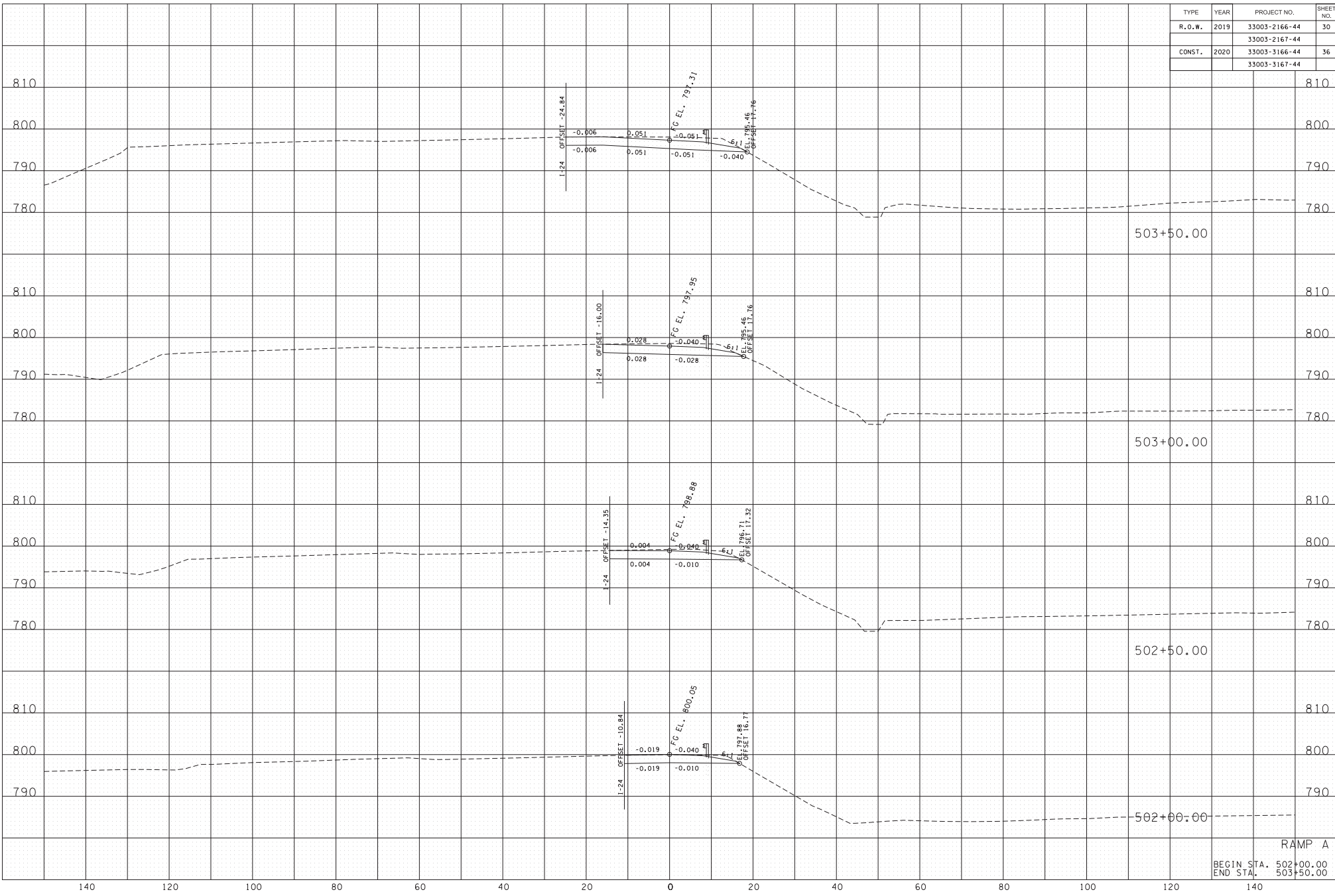
TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2019	33003-2166-44	29
		33003-2167-44	
CONST.	2020	33003-3166-44	35
		33003-3167-44	



1/10/2020  
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BEGIN STA. 500+00.00  
 END STA. 501+50.00  
 RAMP A

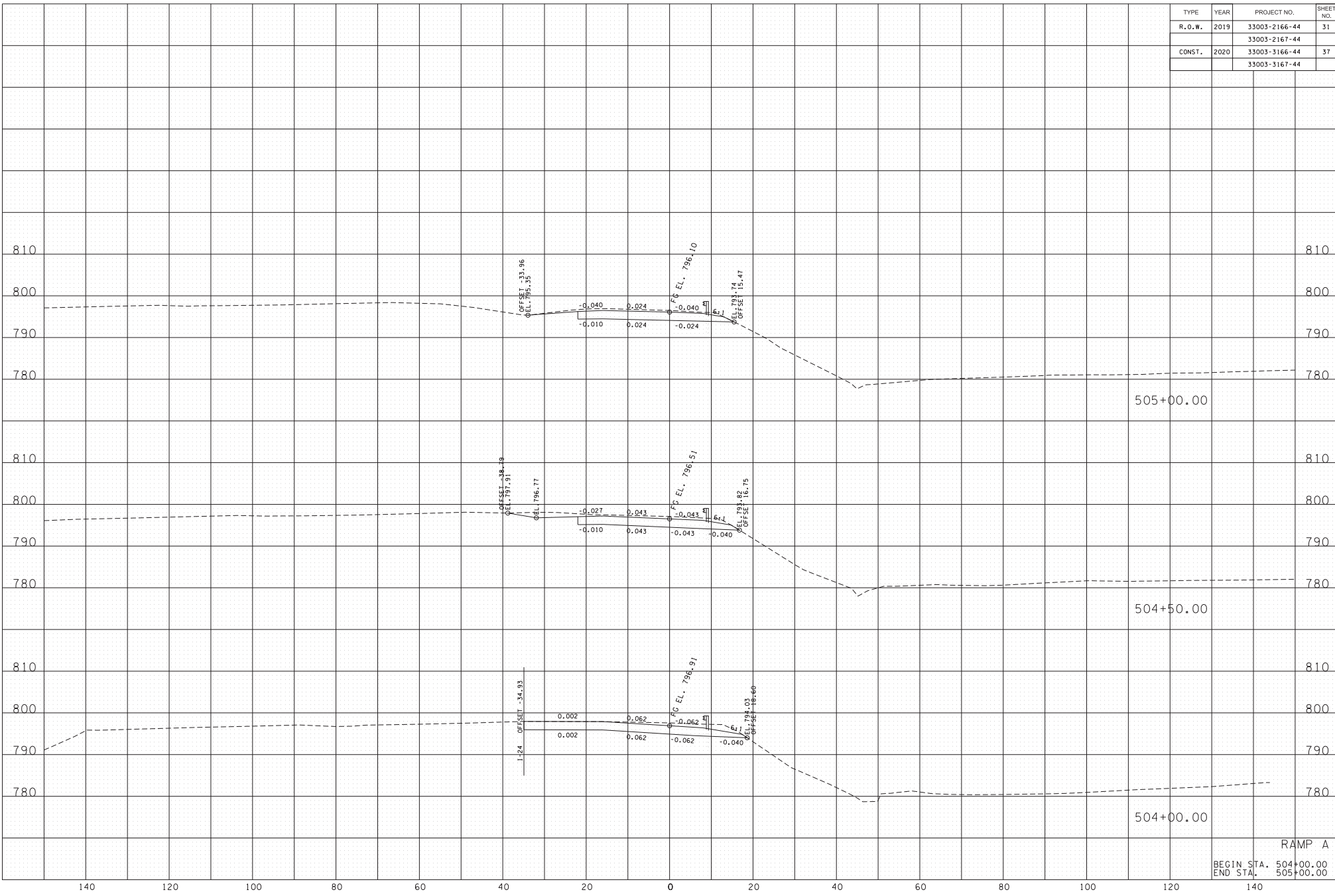
TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2019	33003-2166-44	30
		33003-2167-44	
CONST.	2020	33003-3166-44	36
		33003-3167-44	



1/10/2020  
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RAMP A  
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 END STA. 503+50.00

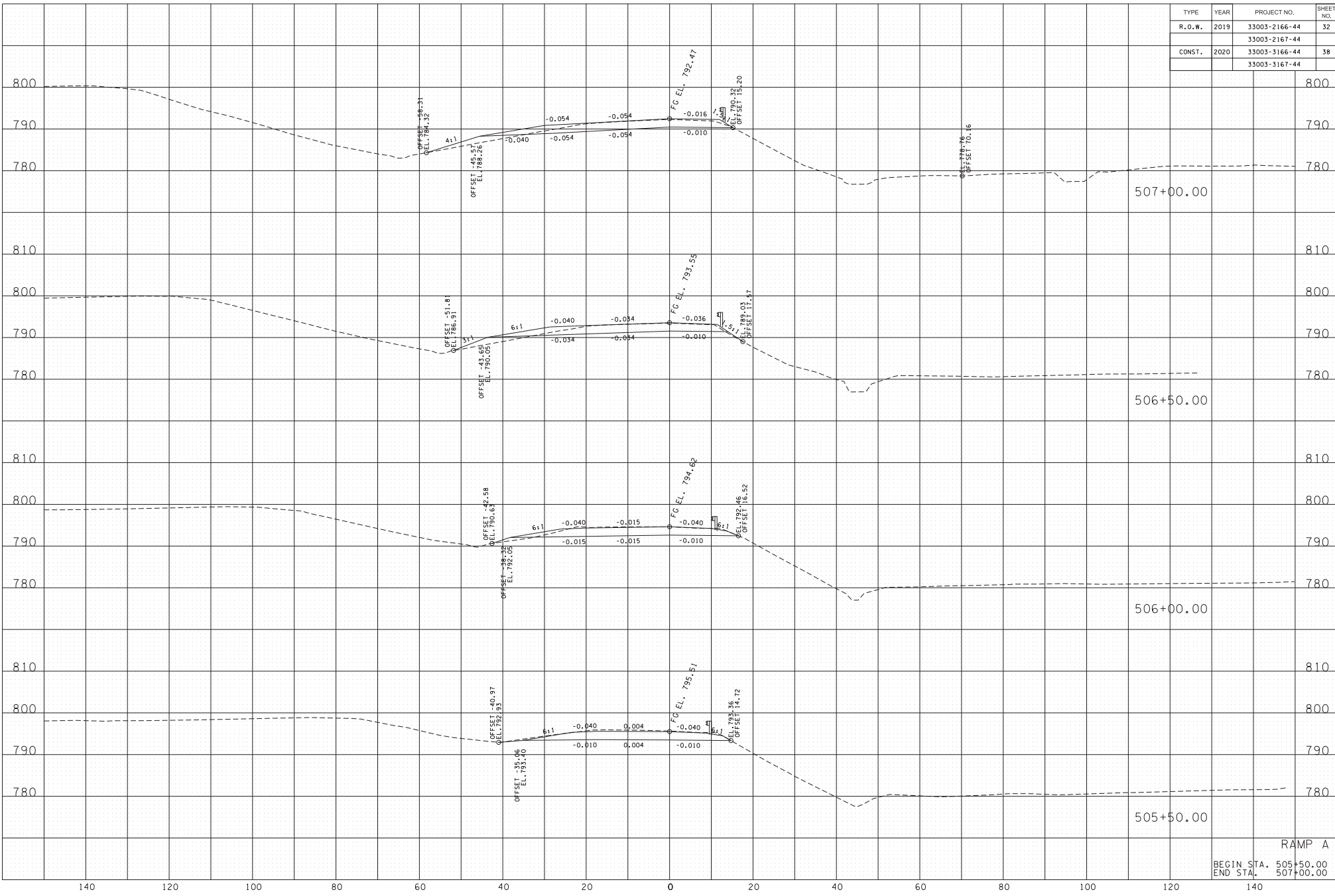
TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2019	33003-2166-44	31
		33003-2167-44	
CONST.	2020	33003-3166-44	37
		33003-3167-44	



RAMP A  
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 END STA. 505+00.00



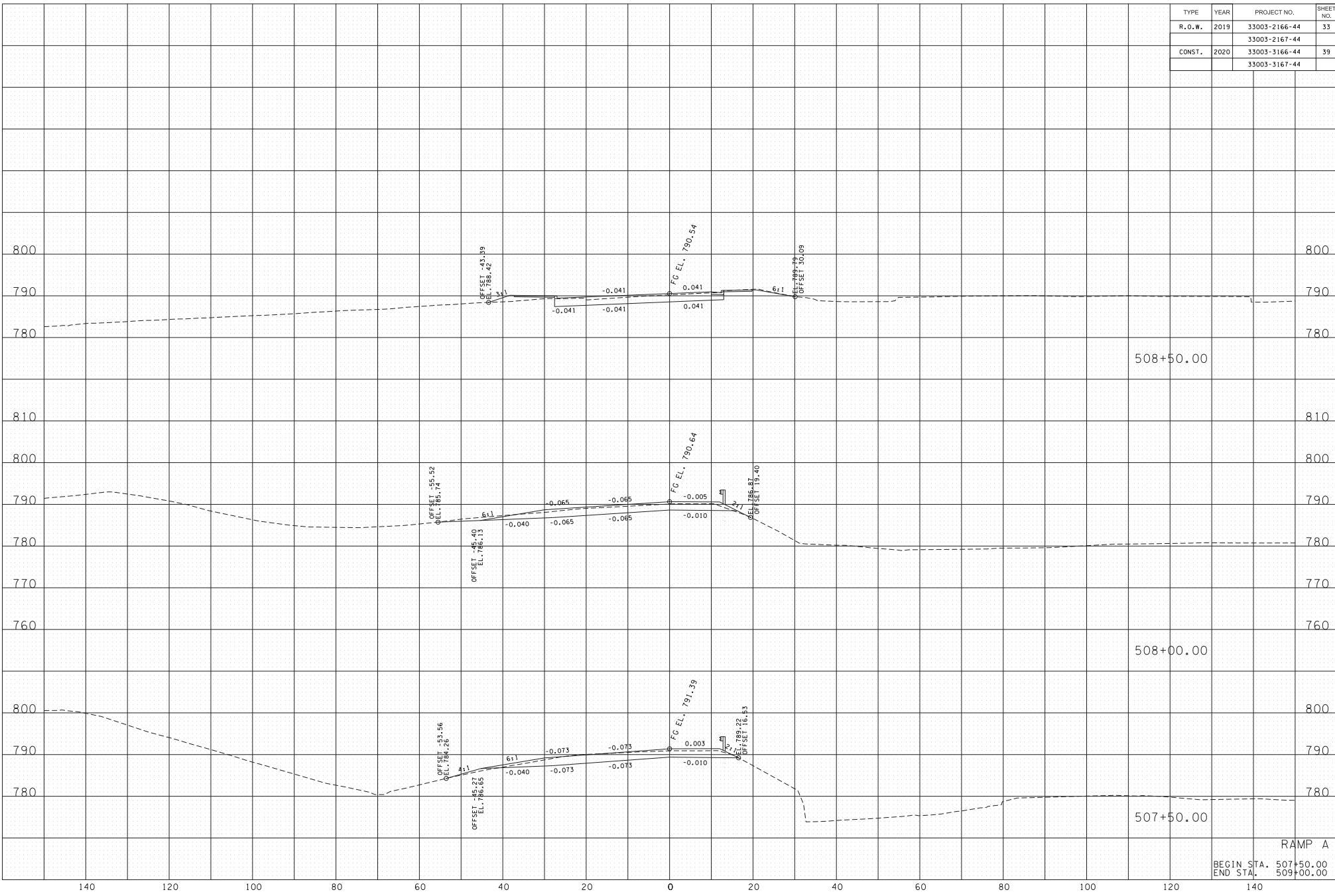
TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2019	33003-2166-44	32
		33003-2167-44	
CONST.	2020	33003-3166-44	38
		33003-3167-44	



RAMP A

BEGIN STA. 505+50.00  
END STA. 507+00.00

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2019	33003-2166-44	33
		33003-2167-44	
CONST.	2020	33003-3166-44	39
		33003-3167-44	

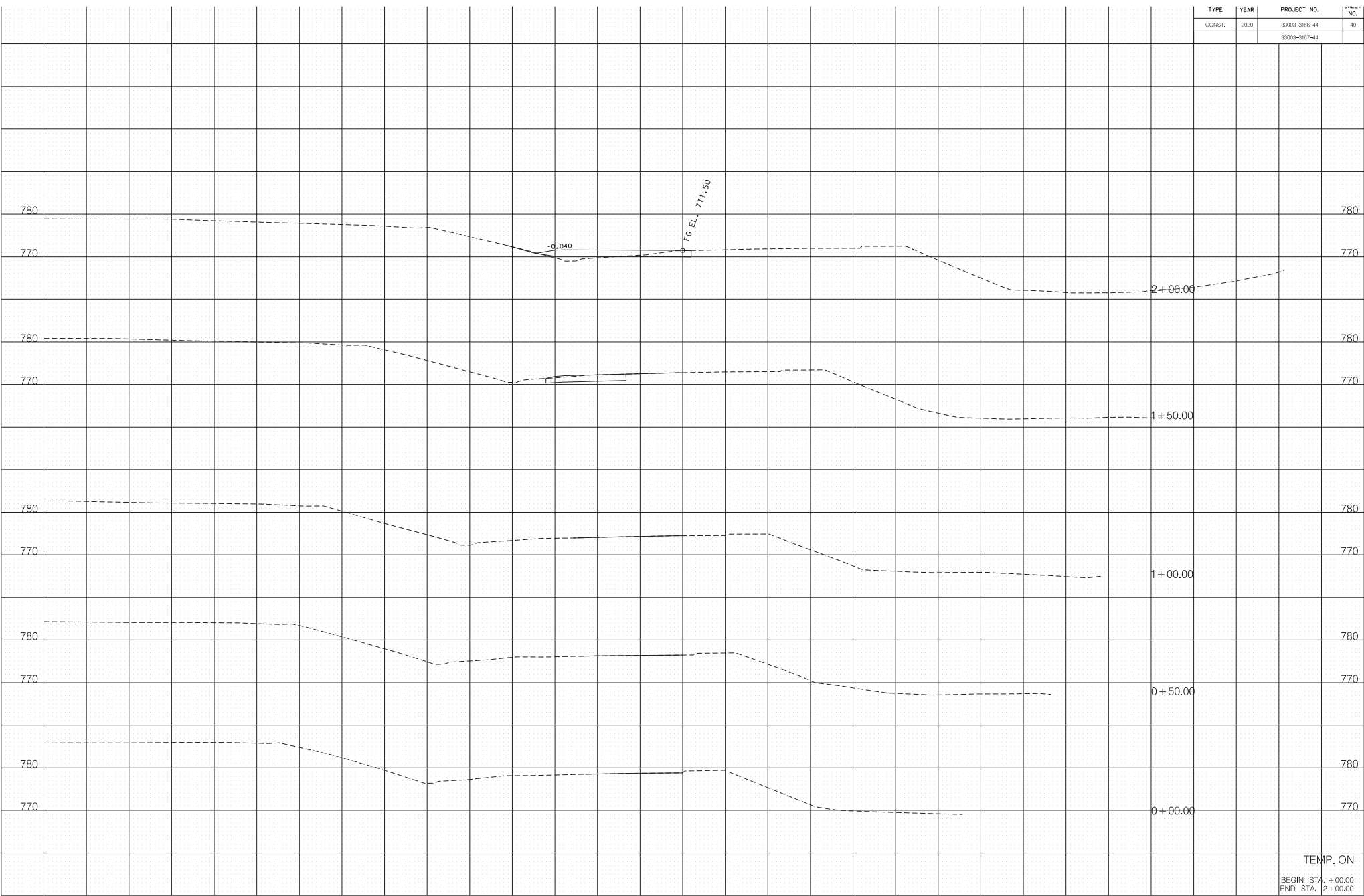


1/10/2020  
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RAMP A  
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1/10/2020  
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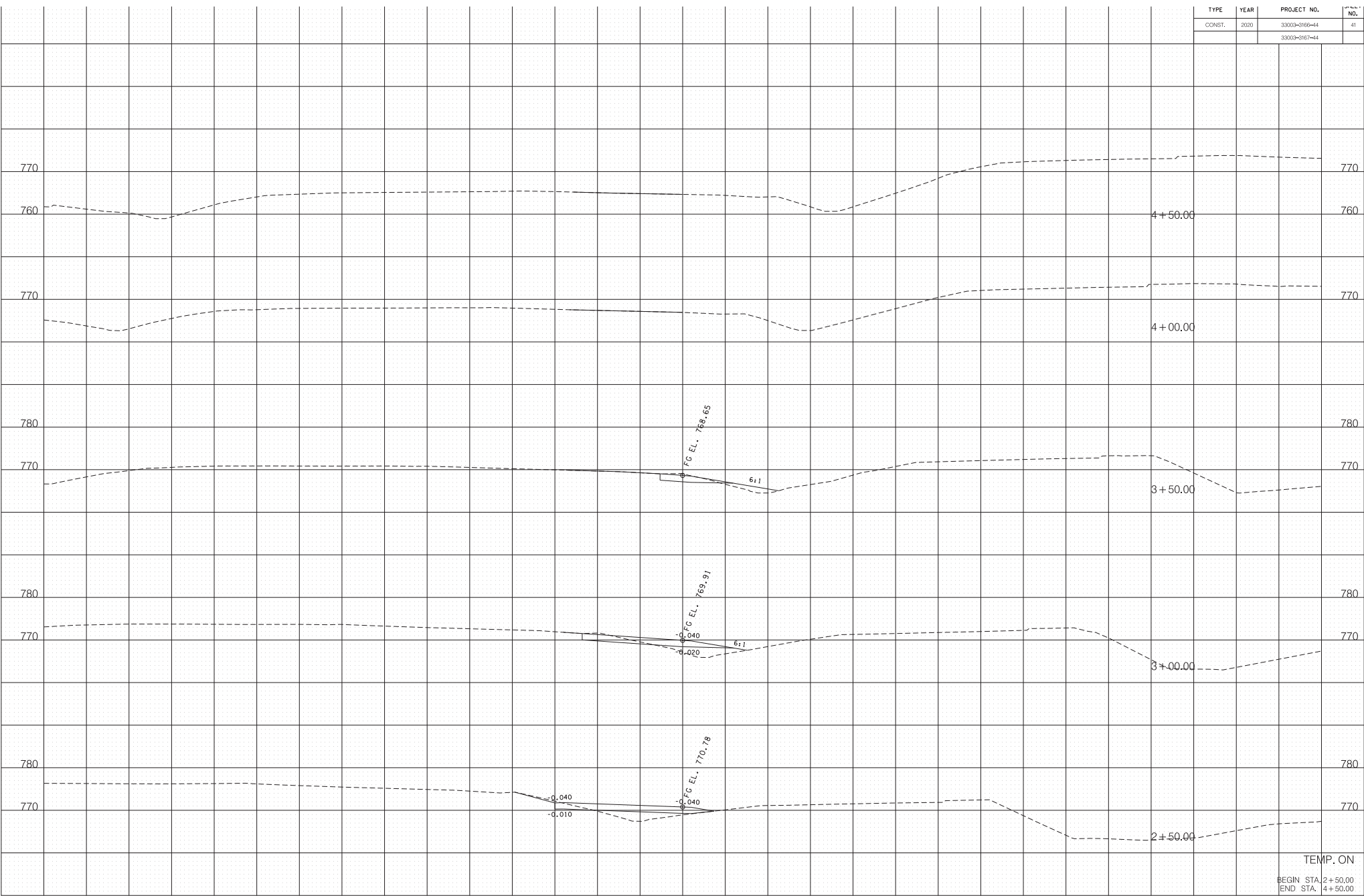
TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2020	33003-2168-44	40
		33003-2167-44	



TEMP. ON  
BEGIN STA. +00.00  
END STA. 2+00.00

1/10/2020  
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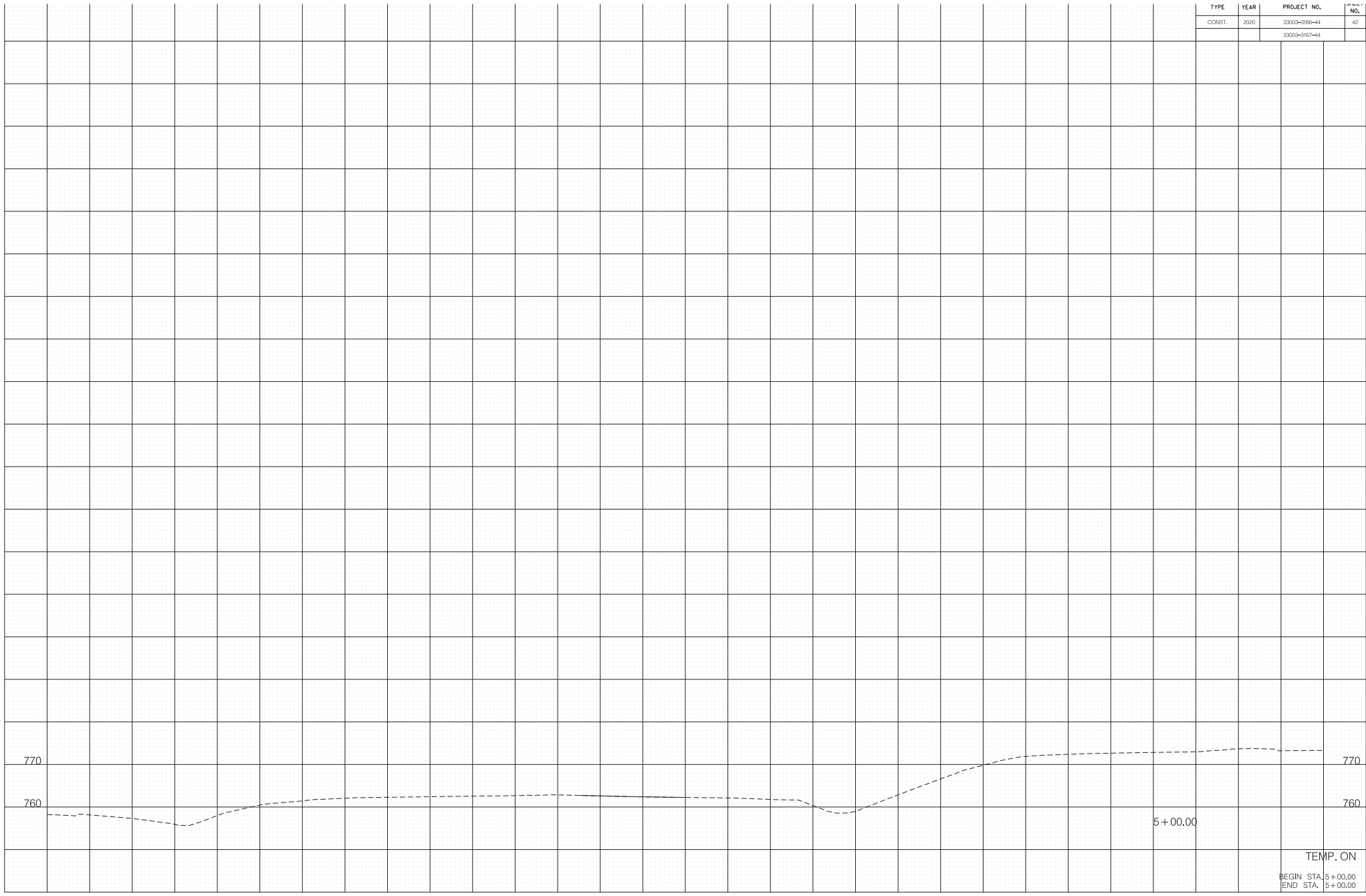
TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2020	33003-0169-44	41
		33003-0167-44	



TEMP. ON  
BEGIN STA. 2+50.00  
END STA. 4+50.00

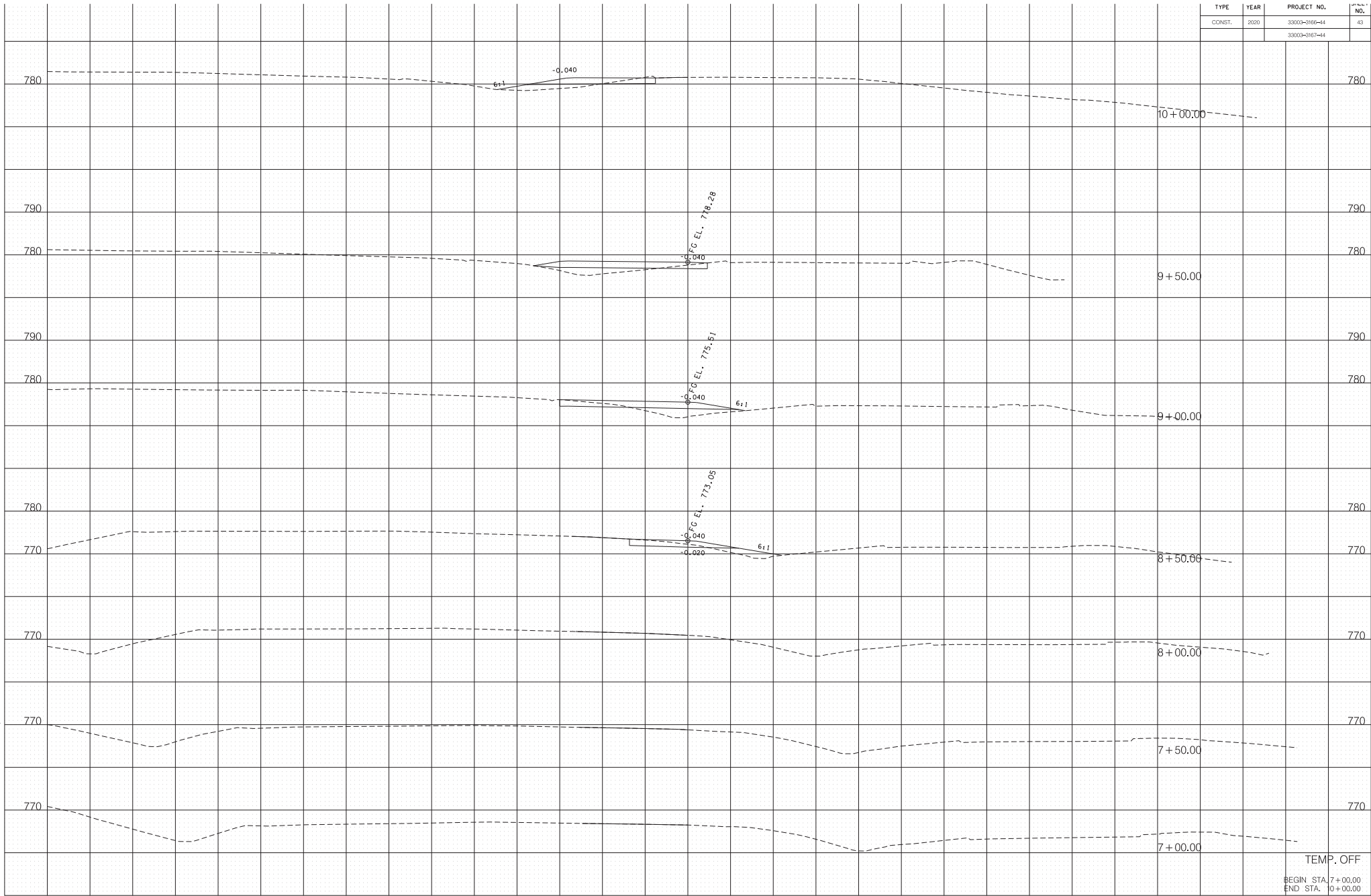
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TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2020	33003-0169-44	42
		33003-0167-44	



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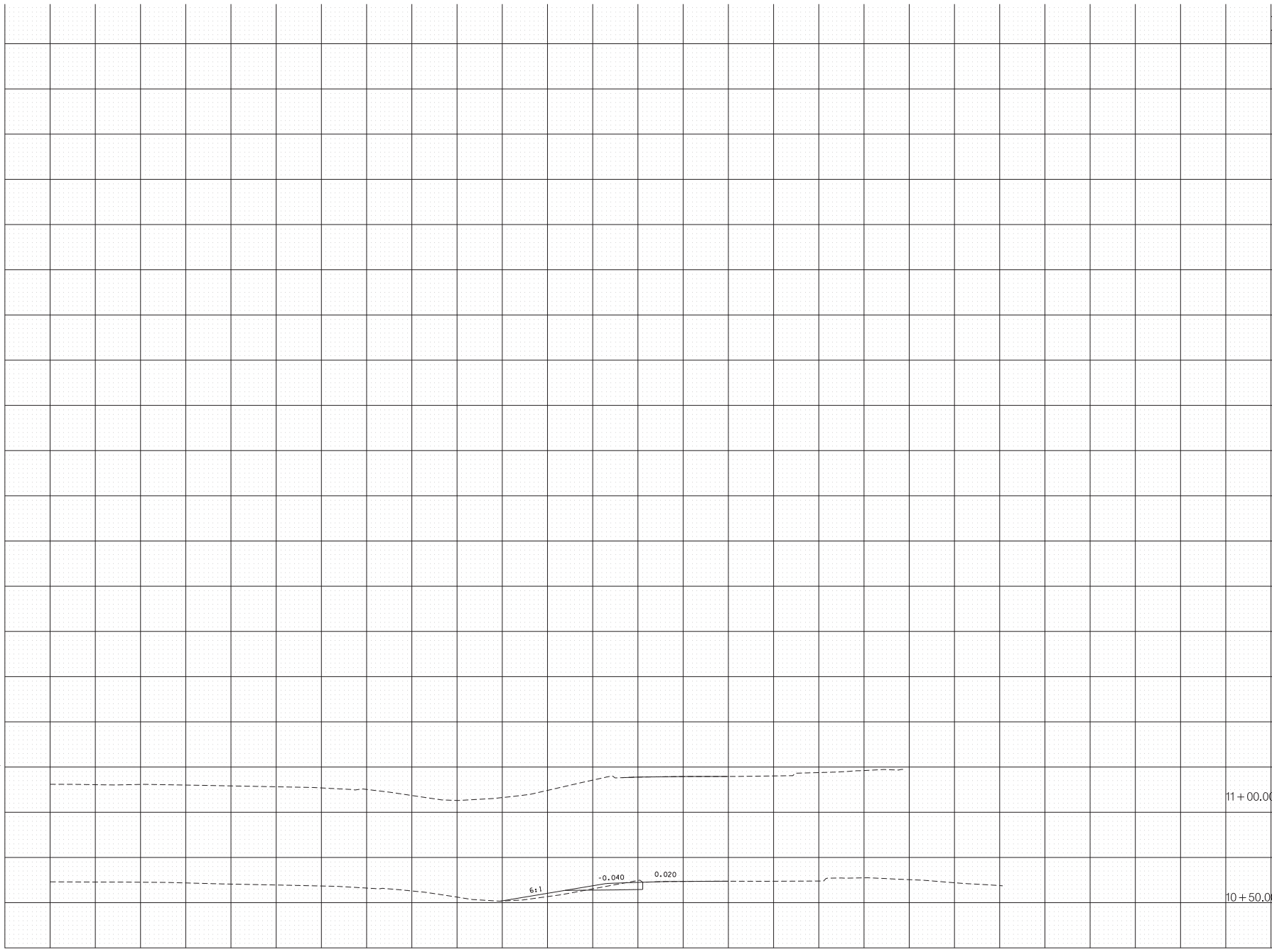
TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2020	33003-0169-44	43
		33003-0167-44	



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BEGIN STA. 7+00.00  
END STA. 10+00.00

1/10/2020  
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TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2020	33003-0169-44	44
		33003-0167-44	



11+00.00

10+50.00

TEMP. OFF  
BEGIN STA. 10+50.00  
END STA. 11+00.00

# PAVEMENT EDGE DROP-OFF TRAFFIC CONTROL NOTES

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2019	33003-2166-44	T1
		33003-2167-44	
CONST.	2020	33003-3166-44	T1
		33003-3167-44	

A. DIFFERENCES IN ELEVATION BETWEEN ADJACENT TRAFFIC LANES OR TRAFFIC LANE AND SHOULDER WHERE THE TRAFFIC LANE IS BEING USED BY TRAFFIC, CAUSED BY BASE, PAVING OR RESURFACING:

1. DIFFERENCES IN ELEVATION BETWEEN ADJACENT ROADWAY ELEMENTS GREATER THAN 0.75 INCH AND NOT EXCEEDING 1.75 INCHES:

- a. WARNING SIGNS, UNEVEN LANES (W8-11) AND/OR SHOULDER DROP-OFF WITH PLAQUE (W8-7 AND W8-17P), SHALL BE PLACED IN ADVANCE OF AND THROUGHOUT THE EXPOSED AREA. MAXIMUM SPACING BETWEEN SIGNS SHALL BE 2,000 FEET WITH A MINIMUM OF 2 SIGNS PER EXPOSED AREA. WHERE UNEVEN PAVEMENT IS ENCOUNTERED, SIGNS SHALL BE PLACED ON EACH SIDE OF THE ROADWAY.
- b. DIFFERENCES IN ELEVATION BETWEEN ADJACENT TRAFFIC LANES BEING UTILIZED BY TRAFFIC CAUSED BY ADDED PAVEMENT SHALL BE ELIMINATED WITHIN THREE WORKDAYS.
- c. DIFFERENCES IN ELEVATION BETWEEN ADJACENT TRAFFIC LANES BEING UTILIZED BY TRAFFIC CAUSED BY COLD PLANING SHALL BE ELIMINATED WITHIN THREE WORKDAYS.
- d. WHEN THE DIFFERENCE IN ELEVATION IS BETWEEN THE TRAFFIC LANE BEING UTILIZED BY TRAFFIC AND SHOULDER THE DIFFERENCE IN ELEVATION SHALL BE ELIMINATED WITHIN SEVEN WORKDAYS AFTER THE CONDITION IS CREATED.

2. DIFFERENCES IN ELEVATION BETWEEN ADJACENT ROADWAY ELEMENTS GREATER THAN 1.75 INCHES AND NOT EXCEEDING 6 INCHES. TRAFFIC IS NOT TO BE ALLOWED TO TRAVERSE THIS DIFFERENCE IN ELEVATION.

- a. SEPARATIONS SHALL BE ACCOMPLISHED BY DRUMS, BARRICADES OR OTHER APPROVED DEVICES IN ACCORDANCE WITH THE FOLLOWING:
  - (1) WHERE POSTED SPEEDS ARE 50 MPH OR GREATER, SPACING OF THE PROTECTIVE DEVICES SHALL NOT EXCEED 100 FEET.
  - (2) WHERE POSTED SPEEDS ARE LESS THAN 50 MPH, THE MAXIMUM SPACING OF THE PROTECTIVE DEVICES IN FEET SHALL NOT EXCEED TWICE THE POSTED SPEED IN MILES PER HOUR OR 50 FEET, WHICHEVER SPACING IS GREATER.
- b. IF THE DIFFERENCE IN ELEVATION IS ELIMINATED OR DECREASED TO 2 INCHES OR LESS BY THE END OF EACH WORKDAY, CONES MAY BE USED DURING DAYLIGHT HOURS IN LIEU OF DRUMS, BARRICADES OR OTHER APPROVED PROTECTIVE DEVICES MENTIONED IN PARAGRAPH a, PROVIDED WARNING SIGNS ARE ERECTED. WARNING SIGNS (UNEVEN LANES AND/OR SHOULDER DROP-OFF) SHALL BE PLACED IN ADVANCE OF AND THROUGHOUT THE EXPOSED AREA. MAXIMUM SPACING BETWEEN SIGNS SHALL BE 2,000 FEET WITH A MINIMUM OF 2 SIGNS PER EXPOSED AREA. WHERE UNEVEN PAVEMENT IS ENCOUNTERED, SIGNS SHALL BE PLACED ON EACH SIDE OF THE ROADWAY.
- c. WHEN THE DIFFERENCE IN ELEVATION IS BETWEEN THE THROUGH TRAFFIC LANE AND THE SHOULDER AND THE ELEVATION DIFFERENCE IS LESS THAN 3 INCHES, THE CONTRACTOR MAY USE WARNING SIGNS AND/OR PROTECTIVE DEVICES AS APPLICABLE AND APPROVED BY THE ENGINEER. SEE PARAGRAPH a REGARDING USE OF DRUMS, BARRICADES OR OTHER APPROVED PROTECTIVE DEVICES. WARNING SIGNS (UNEVEN LANES AND/OR SHOULDER DROP-OFF) WILL BE PLACED IN ADVANCE OF AND THROUGHOUT THE EXPOSED AREA. MAXIMUM SPACING BETWEEN SIGNS SHALL BE 2,000 FEET WITH A MINIMUM OF 2 SIGNS PER EXPOSED AREA. WHERE UNEVEN PAVEMENT IS ENCOUNTERED, SIGNS SHALL BE PLACED ON EACH SIDE OF THE ROADWAY.

IN THESE SITUATIONS, THE CONTRACTOR SHALL LIMIT HIS OPERATIONS TO ONE WORK ZONE NOT EXCEEDING 2 MILES IN LENGTH UNLESS OTHERWISE NOTED ON THE PLANS OR APPROVED BY THE ENGINEER. ONCE THE CONTRACTOR BEGINS WORK IN A WORK ZONE, A CONTINUOUS OPERATION SHALL BE MAINTAINED UNTIL THE DIFFERENCE IN ELEVATION IS ELIMINATED. SIMULTANEOUS WORK ON SEPARATE ROADWAYS OF DIVIDED HIGHWAYS WILL BE CONSIDERED INDEPENDENTLY IN REGARD TO RESTRICTION OF WORK ZONE ACTIVITY.

3. DIFFERENCES IN ELEVATION BETWEEN ADJACENT ROADWAY ELEMENTS GREATER THAN 6 INCHES BUT NOT EXCEEDING 18 INCHES, THE CONTRACTOR, WITH THE ENGINEER'S APPROVAL, MAY UTILIZE ONE OF THE FOLLOWING:

- a. THE CONTRACTOR SHALL ACCOMPLISH SEPARATION BY DRUMS, BARRICADES OR OTHER APPROVED DEVICES IN ACCORDANCE WITH THE FOLLOWING:
  - (1) WHERE POSTED SPEEDS ARE 50 MPH OR GREATER, SPACING OF THE PROTECTIVE DEVICES SHALL NOT EXCEED 100 FEET.
  - (2) WHERE POSTED SPEEDS ARE LESS THAN 50 MPH, THE MAXIMUM SPACING OF THE PROTECTIVE DEVICES IN FEET SHALL NOT EXCEED TWICE THE POSTED SPEED IN MILES PER HOUR OR 50 FEET, WHICHEVER SPACING IS GREATER.

IN ORDER TO USE THIS METHOD, THE CONTRACTOR MUST REDUCE THE DIFFERENCE IN ELEVATION TO 6 INCHES OR LESS BY THE END OF THE WORKDAY THAT THE CONDITION IS CREATED.

- b. THE CONTRACTOR SHALL PROVIDE DRUMS, BARRICADES OR OTHER APPROVED SEPARATION DEVICES AS SPECIFIED IN PARAGRAPH a, AND CONSTRUCT A STONE WEDGE WITH A 4:1 SLOPE OR FLATTER, TO ELIMINATE THE VERTICAL OFFSET IF THE LOWER ELEVATION IS AT OR BELOW SUBGRADE AT THE END OF EACH DAY.
- c. THE CONTRACTOR SHALL PROVIDE DRUMS, BARRICADES OR OTHER APPROVED SEPARATION DEVICES AS SPECIFIED IN PARAGRAPH a AND IF THE LOWER ELEVATION IS BASE STONE OR ASPHALT PAVEMENT, PLACEMENT OF SUBSEQUENT LAYERS OF PAVEMENT MUST BEGIN THE NEXT WORK DAY AND PROGRESS CONTINUOUSLY UNTIL THE DIFFERENCE IN ELEVATION IS ELIMINATED OR REDUCED TO SIX INCHES OR LESS.
- d. THE CONTRACTOR SHALL PROVIDE SEPARATION BY PORTABLE BARRIER RAIL.

FOR PRECEDING CONDITIONS a, b, AND c, THE CONTRACTOR SHALL USE THE SHOULDER DROP-OFF WARNING SIGN WITH PLAQUE (W8-17 AND W8-17P). IT SHALL BE PLACED IN ADVANCE OF AND THROUGHOUT THE EXPOSED AREA. MAXIMUM SPACING BETWEEN THE SIGNS SHALL BE 2,000 FEET WITH A MINIMUM OF 2 SIGNS PER EXPOSED AREA. IN THESE SITUATIONS, THE CONTRACTOR SHALL LIMIT HIS OPERATIONS TO ONE WORK ZONE NOT EXCEEDING 1 MILE IN LENGTH UNLESS OTHERWISE NOTED ON THE PLANS OR APPROVED BY THE ENGINEER. ONCE THE CONTRACTOR BEGINS WORK IN A WORK ZONE, A CONTINUOUS OPERATION SHALL BE MAINTAINED UNTIL THE DIFFERENCE IN ELEVATION IS ELIMINATED. SIMULTANEOUS WORK ON SEPARATE ROADWAYS OF DIVIDED HIGHWAYS WILL BE CONSIDERED INDEPENDENTLY IN REGARD TO RESTRICTION OF WORK ZONE ACTIVITY.

4. FOR DIFFERENCES IN ELEVATION BETWEEN ADJACENT ROADWAY ELEMENTS GREATER THAN 18 INCHES.

SEPARATION WILL BE PROVIDED BY USE OF PORTABLE BARRIER RAIL.

IN THIS SITUATION THE CONTRACTOR SHALL LIMIT HIS OPERATIONS TO ONE WORK ZONE NOT EXCEEDING 1 MILE IN LENGTH UNLESS OTHERWISE NOTED ON THE PLANS OR APPROVED BY THE ENGINEER. ONCE THE CONTRACTOR BEGINS WORK IN A WORK ZONE, A CONTINUOUS OPERATION SHALL BE MAINTAINED UNTIL THE DIFFERENCE IN ELEVATION IS ELIMINATED. SIMULTANEOUS WORK ON SEPARATE ROADWAYS OF DIVIDED HIGHWAYS WILL BE CONSIDERED INDEPENDENTLY IN REGARD TO RESTRICTION OF WORK ZONE ACTIVITY.

B. IF THE DIFFERENCE IN ELEVATION IS WITHIN 30 FEET OF THE NEAREST TRAFFIC LANE BEING USED BY TRAFFIC CAUSED BY GRADING, EXCAVATION OR UTILITIES, DRAINAGE STRUCTURES, UNDERCUTTING, ETC.:

1. IF THE DIFFERENCE IN ELEVATION IS WITHIN 8 FEET OF THE NEAREST TRAFFIC LANE WITH DIFFERENCE IN ELEVATION GREATER THAN 3/4 INCH AND NOT EXCEEDING 2 INCHES.

- a. WARNING SIGNS, UNEVEN LANES AND/OR SHOULDER DROP-OFF SHALL BE PLACED IN ADVANCE OF AND THROUGHOUT THE EXPOSED AREA. MAXIMUM SPACING BETWEEN SIGNS SHALL BE 2,000 FEET WITH A MINIMUM OF 2 SIGNS PER EXPOSED AREA. WHERE UNEVEN PAVEMENT IS ENCOUNTERED, SIGNS SHALL BE PLACED ON EACH SIDE OF THE ROADWAY.

2. IF THE DIFFERENCE IN ELEVATION IS WITHIN 8 FEET OF THE NEAREST TRAFFIC LANE WITH DIFFERENCE IN ELEVATION GREATER THAN 2 INCHES AND NOT EXCEEDING 6 INCHES

- a. SEPARATION SHALL BE ACCOMPLISHED BY DRUMS, BARRICADES OR OTHER APPROVED DEVICES IN ACCORDANCE WITH THE FOLLOWING:

- (1) WHERE POSTED SPEEDS ARE 50 MPH OR GREATER, SPACING OF THE PROTECTIVE DEVICES SHALL NOT EXCEED 100 FEET.
- (2) WHERE POSTED SPEEDS ARE LESS THAN 50 MPH THE MAXIMUM SPACING OF THE PROTECTIVE DEVICES IN FEET SHALL NOT EXCEED TWICE THE POSTED SPEED IN MILES PER HOUR OR 50 FEET, WHICHEVER SPACING IS GREATER.

3. IF THE DIFFERENCE IN ELEVATION IS WITHIN 8 FEET OF THE NEAREST TRAFFIC LANE WITH DIFFERENCE IN ELEVATION GREATER THAN 6 INCHES:

- a. SEPARATION SHALL BE ACCOMPLISHED BY DRUMS, BARRICADES OR OTHER APPROVED DEVICES IN ACCORDANCE WITH THE FOLLOWING:

- (1) WHERE POSTED SPEEDS ARE 50 MPH OR GREATER, SPACING OF THE PROTECTIVE DEVICES SHALL NOT EXCEED 100 FEET.
- (2) WHERE POSTED SPEEDS ARE LESS THAN 50 MPH THE MAXIMUM SPACING OF THE PROTECTIVE DEVICES IN FEET SHALL NOT EXCEED TWICE THE POSTED SPEED IN MILES PER HOUR OR 50 FEET, WHICHEVER SPACING IS GREATER.

- b. ELIMINATE VERTICAL OFFSET BY CONSTRUCTING A STONE WEDGE OR GRADING TO A 4:1 SLOPE, OR FLATTER, OR USE PORTABLE BARRIER RAIL.

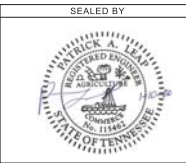
THE CONTRACTOR SHALL SCHEDULE THE WORK SO AS TO MINIMIZE THE TIME TRAFFIC IS EXPOSED TO AN ELEVATION DIFFERENCE. ONCE THE CONTRACTOR BEGINS AN ACTIVITY THAT CREATES AN ELEVATION DIFFERENCE WITHIN 8 FEET OF A TRAFFIC LANE, THE ACTIVITY SHALL BE PURSUED AS A CONTINUOUS OPERATION UNTIL THE ELEVATION DIFFERENCE IS ELIMINATED.

C. IF THE DIFFERENCE IN ELEVATION IS FARTHER THAN 8 FEET FROM THE NEAREST TRAFFIC LANE BUT NOT MORE THAN 30 FEET FROM THE NEAREST TRAFFIC LANE:

SEPARATION SHALL BE ACCOMPLISHED BY DRUMS, BARRICADES OR OTHER APPROVED DEVICES IN ACCORDANCE WITH THE FOLLOWING:

- 1. WHERE POSTED SPEEDS ARE 50 MPH OR GREATER, SPACING OF THE PROTECTIVE DEVICES SHALL NOT EXCEED 100 FEET.
- 2. WHERE POSTED SPEEDS ARE LESS THAN 50 MPH, THE MAXIMUM SPACING OF THE PROTECTIVE DEVICES IN FEET SHALL NOT EXCEED TWICE THE POSTED SPEED IN MILES PER HOUR OR 50 FEET, WHICHEVER SPACING IS GREATER.

THE CONTRACTOR SHALL SCHEDULE THE WORK SO AS TO MINIMIZE THE TIME TRAFFIC IS EXPOSED TO AN ELEVATION DIFFERENCE. ONCE THE CONTRACTOR BEGINS AN ACTIVITY THAT CREATES AN ELEVATION DIFFERENCE, THE ACTIVITY SHALL BE PURSUED AS A CONTINUOUS OPERATION UNTIL THE ELEVATION DIFFERENCE IS ELIMINATED.



STATE OF TENNESSEE  
DEPARTMENT OF  
TRANSPORTATION

PAVEMENT EDGE  
DROP-OFF NOTES  
FOR  
TRAFFIC CONTROL



TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2019	33003-2166-44	T2
		33003-2167-44	
CONST.	2020	33003-3166-44	T2
		33003-3167-44	

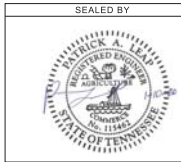
BELVOIR AVENUE - TRAFFIC CONTROL QUANTITIES			
ITEM NO.	DESCRIPTION	UNIT	QUANTITY
705-20.25	TEMPORARY CRASH CUSHION (MASH TL-3)	EACH	4
712-01	TRAFFIC CONTROL	LS	0.5
712-02.02	INTERCONNECTED PORTABLE BARRIER RAIL	L.F.	5820
712-04.01	FLEXIBLE DRUMS (CHANNELIZING)	EACH	108
712-06	SIGNS (CONSTRUCTION)	S.F.	1361
712-07.02	TEMPORARY BARRICADES (TYPE II)	L.F.	40
712-07.03	TEMPORARY BARRICADES (TYPE III)	L.F.	80
712-08.10	MOBILE MESSAGE SIGN UNIT WATTENUATOR	HOUR	260
712-08.14	PORTABLE QUEUE WARNING SYSTEM	DAY	279
713-02.26	CONCRETE BARRIER/PARAPET DELINEATOR	EACH	290
713-16.01	CHANGEABLE MESSAGE SIGN UNIT	EACH	8

S. GERMANTOWN RD. - TRAFFIC CONTROL QUANTITIES			
ITEM NO.	DESCRIPTION	UNIT	QUANTITY
821-03.03	24" TEMPORARY DRAINAGE PIPE	L.F.	436
705-20.25	TEMPORARY CRASH CUSHION (MASH TL-3)	EACH	15
712-01	TRAFFIC CONTROL	LS	0.5
712-02.02	INTERCONNECTED PORTABLE BARRIER RAIL	L.F.	8000
712-04.01	FLEXIBLE DRUMS (CHANNELIZING)	EACH	350
712-06	SIGNS (CONSTRUCTION)	S.F.	1663
712-07.02	TEMPORARY BARRICADES (TYPE II)	L.F.	40
712-07.03	TEMPORARY BARRICADES (TYPE III)	L.F.	120
712-08.01	UNIFORMED POLICE OFFICER	DOLL	200000
712-08.03	ARROW BOARD (TYPE C)	EACH	3
712-08.10	MOBILE MESSAGE SIGN UNIT WATTENUATOR	HOUR	1790
712-08.14	PORTABLE QUEUE WARNING SYSTEM	DAY	279
713-16.01	CHANGEABLE MESSAGE SIGN UNIT	EACH	8

TYPICAL USE FOR SIGN E5-2A



TRAFFIC CONTROL LEGEND	
SYMBOL	ITEM
	WORK ZONE
	TEMPORARY TRAVEL LANES
	FLEXIBLE DRUMS (CHANNELIZING)
	SIGN (CONSTRUCTION)
	TRAFFIC FLOW
	PORTABLE BARRIER RAIL
	TEMPORARY ATTENUATOR
	ARROW BOARD TYPE C
	TEMPORARY BARRICADE (TYPE III)
	TEMPORARY BARRICADE (TYPE II)
	WARNING LIGHT (TYPE A) (LOW INTENSITY FLASHING)

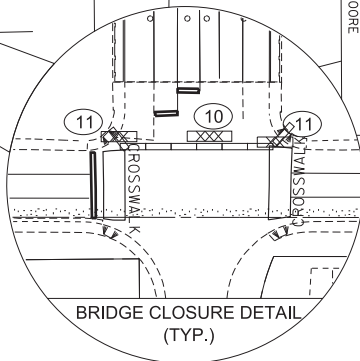


STATE OF TENNESSEE  
DEPARTMENT OF  
TRANSPORTATION

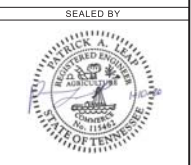
TRAFFIC CONTROL  
DETAILS,  
LEGEND AND  
TABULATION

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2019	33003-2166-44	T3
		33003-2167-44	
CONST.	2020	33003-3166-44	T3
		33003-3167-44	

TRAFFIC CONTROL DETOUR PHASE 1: BELVOIR AVE. BRIDGE CONSTRUCTION  
 1. NB VEHICULAR TRAFFIC DETOURED: S. TERRACE TO S. MOORE RD. TO N. TERRACE THEN BACK ONTO BELVOIR AVE.  
 2. SB VEHICULAR TRAFFIC DETOURED: N. TERRACE TO S. GERMANTOWN RD. TO S. TERRACE THEN BACK ONTO BELVOIR AVE.  
 3. PEDESTRIAN TRAFFIC DETOURED: N./S. TERRACE TO S. GERMANTOWN RD. TO N./S. TERRACE THEN BACK ONTO BELVOIR AVE.



 1 ROAD CLOSED AHEAD W20-3 36" X 36"	 2 DETOUR AHEAD W20-2 36" X 36"	 3 END DETOUR M4-8A 24" X 18"	 4 Belvoir DETOUR D3-1 41" X 12" M4-9L 30" X 24"	 5 Belvoir NORTH DETOUR D3-1 41" X 12" M3-1 24" X 12" M4-9R 30" X 24"	 6 Belvoir SOUTH DETOUR D3-1 41" X 12" M3-3 24" X 12" M4-9S 30" X 24"	
 7 Belvoir NORTH DETOUR D3-1 41" X 12" M3-1 24" X 12" M4-9S 30" X 24"	 8 DETOUR M4-9BL 30" X 24"	 9 DETOUR M4-9BR 30" X 24"	 10 DETOUR ROAD CLOSED M4-10R 48" X 18" R11-2 48" X 30" TYPE III BARRICADE ROAD CLOSURE w/ TYPE A WARNING LIGHTS		 11 SIDEWALK CLOSED R9-9 24" X 12" TYPE II BARRICADE w/ TYPE A WARNING LIGHT	 13 ONLY R3-5R 30" X 36"
		 12 Belvoir SOUTH DETOUR D3-1 41" X 12" M3-3 24" X 12" M4-9R 30" X 24"			 14 Belvoir ALL TRUCKS DETOUR D3-1 41" X 12" R14-1(MOD.) 41" X 12" M4-9S 30" X 24"	

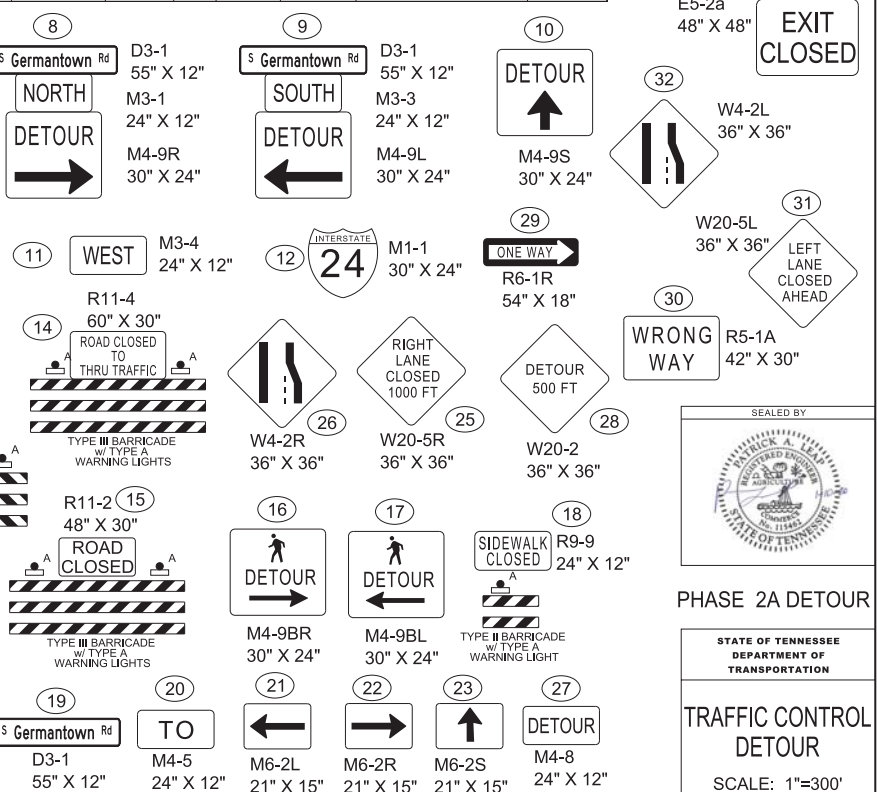
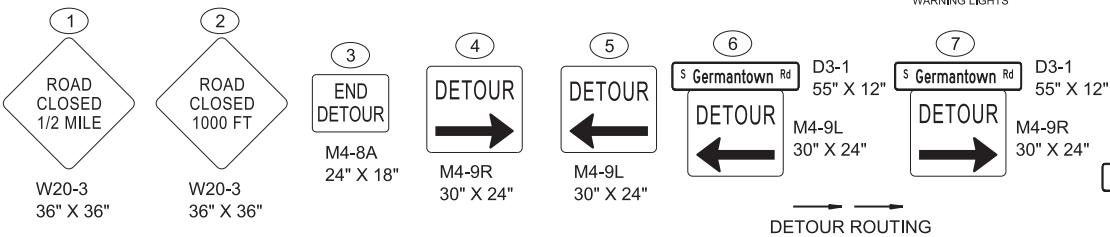
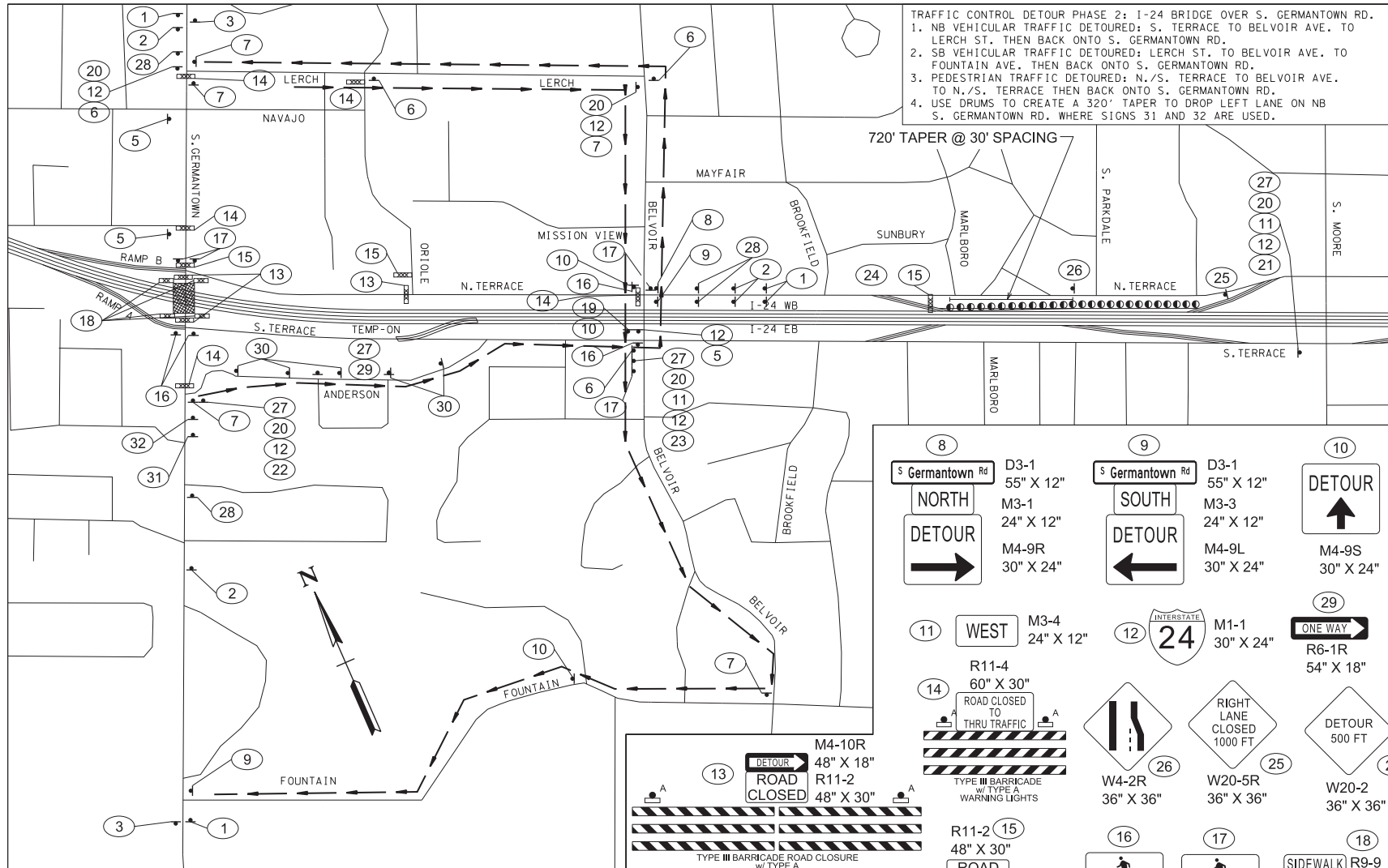


PHASE 1 DETOUR  
 STATE OF TENNESSEE  
 DEPARTMENT OF TRANSPORTATION  
 TRAFFIC CONTROL DETOUR  
 SCALE: 1"=300'

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TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2019	33003-2166-44	T3A
		33003-2167-44	
CONST.	2020	33003-3166-44	T3A
		33003-3167-44	

TRAFFIC CONTROL DETOUR PHASE 2: I-24 BRIDGE OVER S. GERMANTOWN RD.  
 1. NB VEHICULAR TRAFFIC DETOURED: S. TERRACE TO BELVOIR AVE. TO LERCH ST. THEN BACK ONTO S. GERMANTOWN RD.  
 2. SB VEHICULAR TRAFFIC DETOURED: LERCH ST. TO BELVOIR AVE. TO FOUNTAIN AVE. THEN BACK ONTO S. GERMANTOWN RD.  
 3. PEDESTRIAN TRAFFIC DETOURED: N./S. TERRACE TO BELVOIR AVE. TO N./S. TERRACE THEN BACK ONTO S. GERMANTOWN RD.  
 4. USE DRUMS TO CREATE A 320' TAPER TO DROP LEFT LANE ON NB S. GERMANTOWN RD. WHERE SIGNS 31 AND 32 ARE USED.



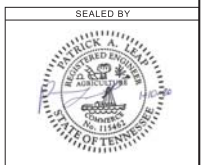
SEE SHEET T2 (24)  
 E5-2a  
 48" X 48" EXIT CLOSED

W4-2L  
 36" X 36"

W20-5L  
 36" X 36" LEFT LANE CLOSED AHEAD

W20-5R  
 36" X 36"

R5-1A  
 42" X 30" WRONG WAY



PHASE 2A DETOUR

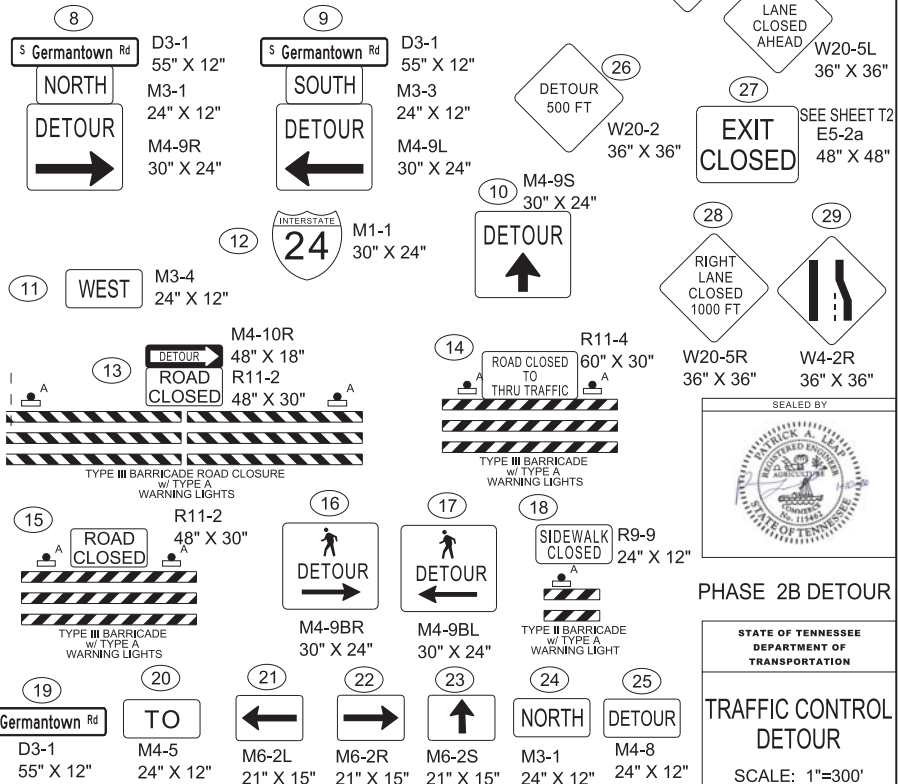
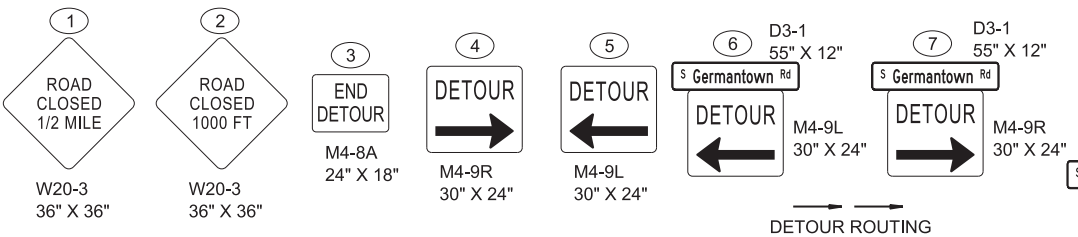
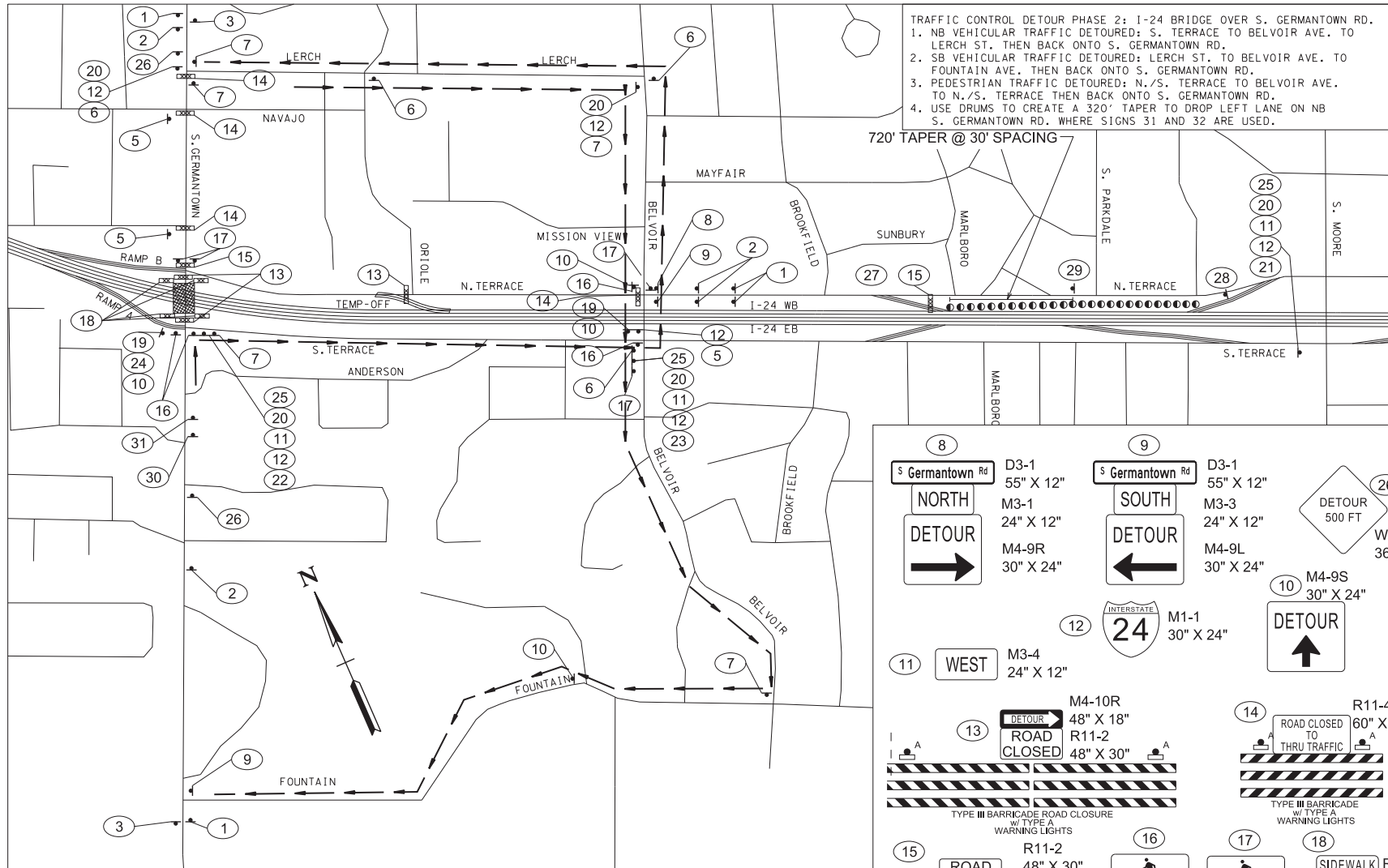
STATE OF TENNESSEE  
 DEPARTMENT OF  
 TRANSPORTATION

TRAFFIC CONTROL  
 DETOUR

SCALE: 1"=300'

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2019	33003-2166-44	T3B
		33003-2167-44	
CONST.	2020	33003-3166-44	T3B
		33003-3167-44	

TRAFFIC CONTROL DETOUR PHASE 2: I-24 BRIDGE OVER S. GERMANTOWN RD.  
 1. NB VEHICULAR TRAFFIC DETOURED: S. TERRACE TO BELVOIR AVE. TO LERCH ST. THEN BACK ONTO S. GERMANTOWN RD.  
 2. SB VEHICULAR TRAFFIC DETOURED: LERCH ST. TO BELVOIR AVE. TO FOUNTAIN AVE. THEN BACK ONTO S. GERMANTOWN RD.  
 3. PEDESTRIAN TRAFFIC DETOURED: N./S. TERRACE TO BELVOIR AVE. TO N./S. TERRACE THEN BACK ONTO S. GERMANTOWN RD.  
 4. USE DRUMS TO CREATE A 320' TAPER TO DROP LEFT LANE ON NB S. GERMANTOWN RD. WHERE SIGNS 31 AND 32 ARE USED.



SEALED BY

PHASE 2B DETOUR

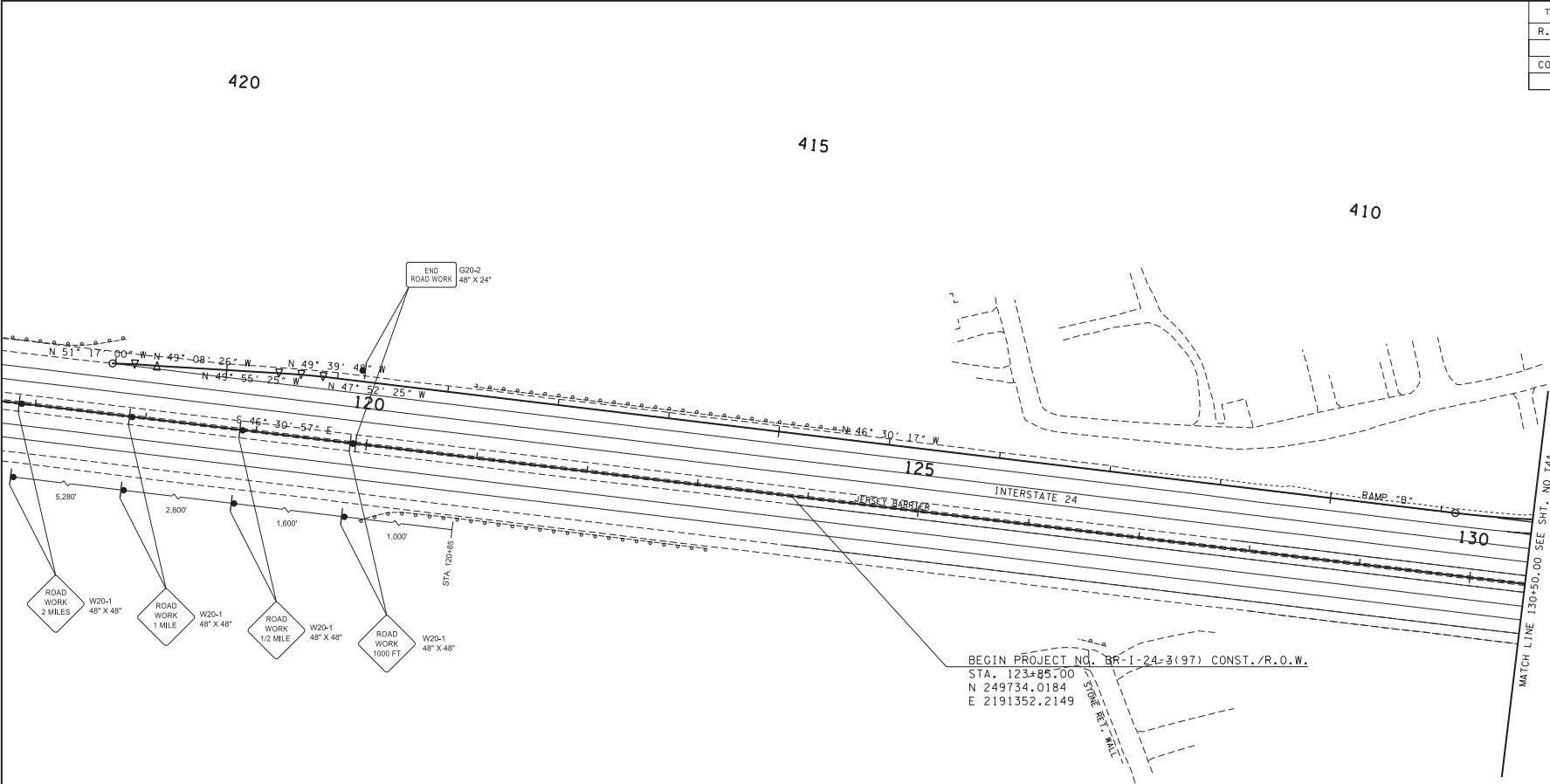
STATE OF TENNESSEE  
DEPARTMENT OF  
TRANSPORTATION

TRAFFIC CONTROL  
DETOUR

SCALE: 1"=300'

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TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2019	33003-2166-44	T4
		33003-2167-44	
CONST.	2020	33003-3166-44	T4
		33003-3167-44	




TRAFFIC CONTROL LEGEND	
SYMBOL	ITEM
	WORK ZONE
	TEMPORARY TRAVEL LANES
	FLEXIBLE DRUMS (CHANNELIZING)
	SIGN (CONSTRUCTION)
	TRAFFIC FLOW
	PORTABLE BARRIER RAIL
	TEMPORARY ATTENUATOR
	ARROW BOARD TYPE C
	TEMPORARY BARRICADE (TYPE III)
	TEMPORARY BARRICADE (TYPE II)
	WARNING LIGHT (TYPE A) (LOW-INTENSITY FLASHING)

- PHASE 1A:**
1. ALL ADVANCED WARNING SIGNS AND PORTABLE MESSAGE SIGNS SHALL BE IN PLACE PRIOR TO ANY CONSTRUCTION ACTIVITIES AND SHALL REMAIN IN PLACE UNTIL PHASE IS COMPLETE
  2. CONSTRUCTION BEGINS ON BELVOIR AVE BRIDGE, RAMP "A", TEMPORARY RAMP, RAMP "B" SHOULDER AND MICROPILES FOR I-24 BRIDGE OVER S. GERMANTOWN
  3. MAINTAIN 3-LANES IN EACH DIRECTION ON I-24
  4. LANE SHIFTS IN THE AREA OF BELVOIR AVE, WILL MAINTAIN MIN. 11' LANES AND 2' SHOULDERS
  5. UTILIZE EXISTING ITS MESSAGE BOARDS FOR ADDITIONAL ADVANCED WARNING
  6. SEE SPECIAL PROVISION 108B FOR ADDITIONAL INFORMATION REGARDING LANE CLOSURES

BEGIN PROJECT NO. BR-I-24-3(97) CONST./R.O.W.  
 STA. 123+85.00  
 N 249734.0184  
 E 2191352.2149

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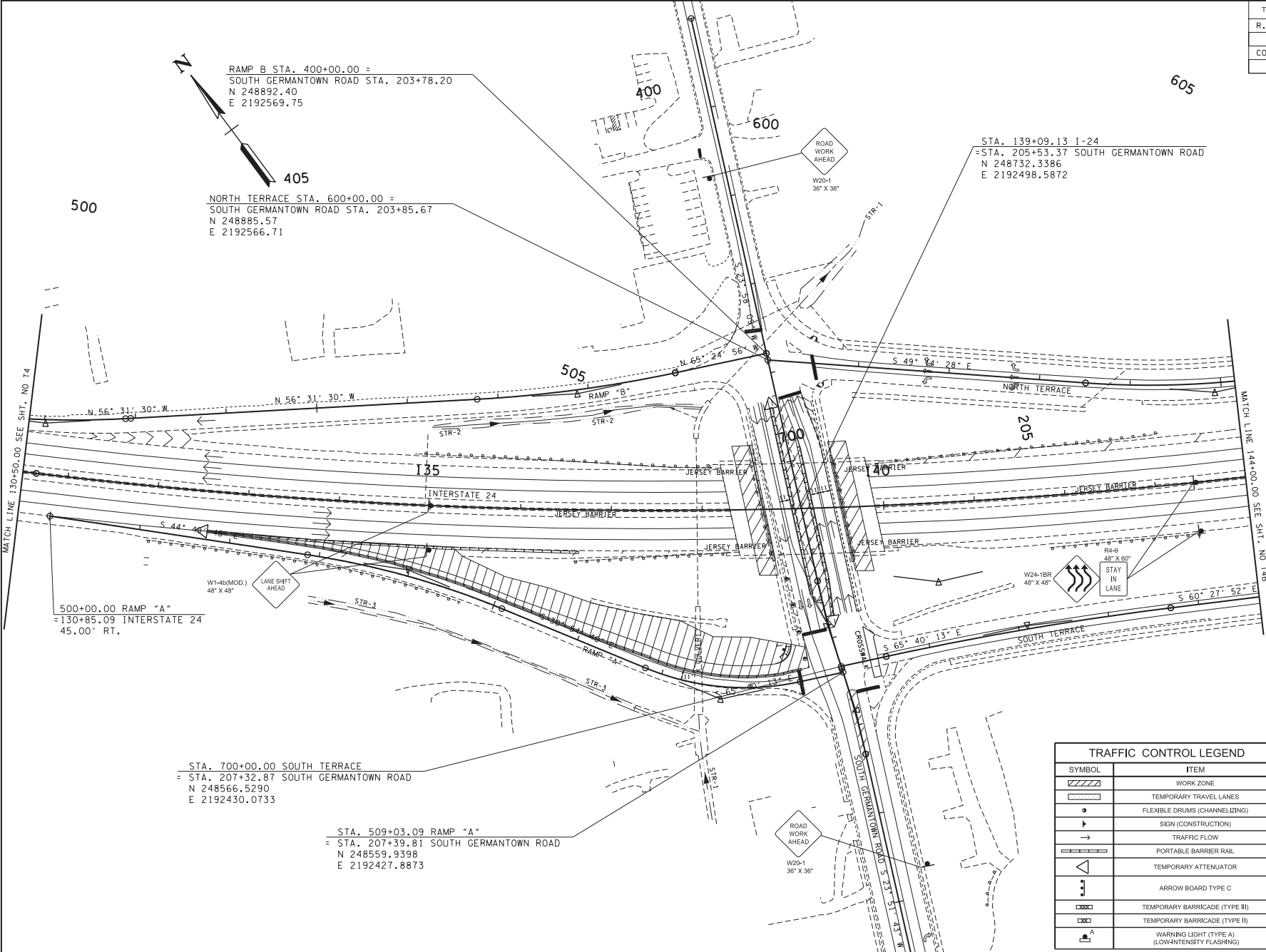


COORDINATES ARE NAD(83)(1995), ARE DATUM ADJUSTED BY THE FACTOR OF 0.99998 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988.

STATE OF TENNESSEE  
 DEPARTMENT OF  
 TRANSPORTATION

**TRAFFIC CONTROL PLANS  
 PHASE 1A**

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2019	33003-2166-44	T4A
		33003-2167-44	
CONST.	2020	33003-3166-44	T4A
		33003-3167-44	



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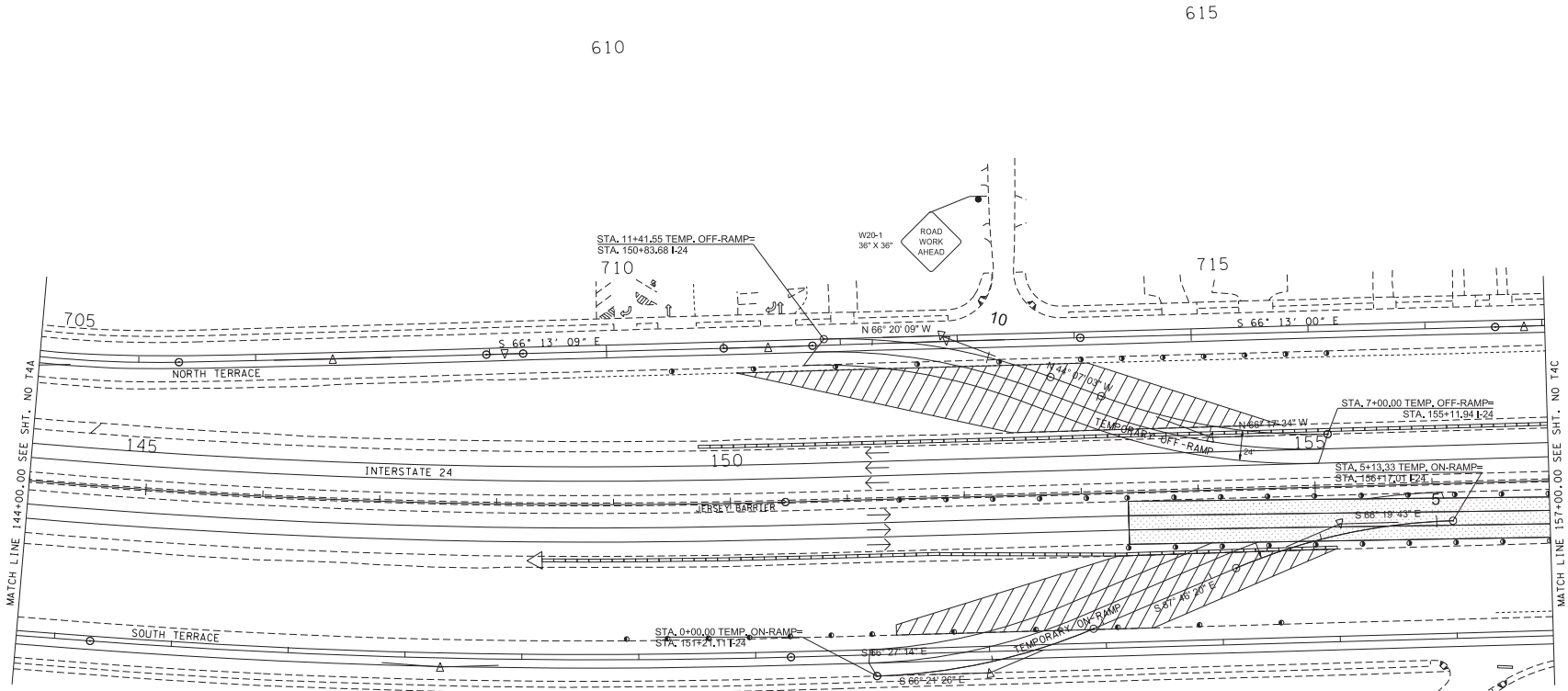
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**STATE OF TENNESSEE**  
**DEPARTMENT OF TRANSPORTATION**

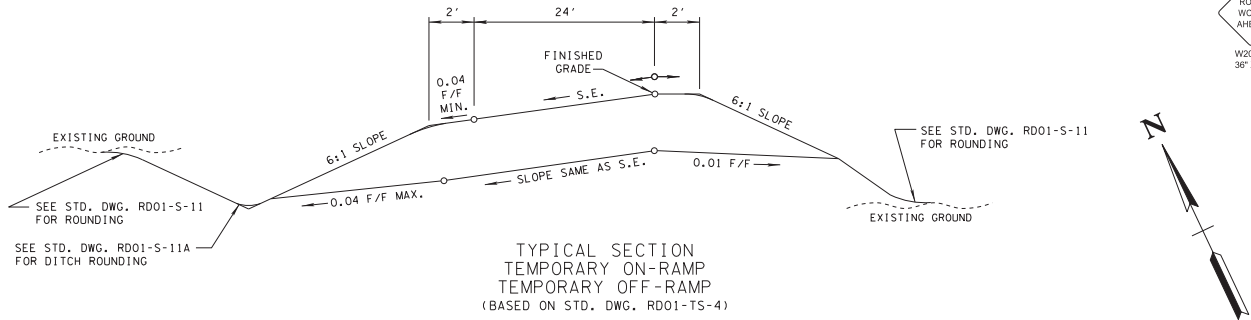
**TRAFFIC CONTROL PLANS**  
**PHASE 1A**

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TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2019	33003-2166-44	T4B
		33003-2167-44	
CONST.	2020	33003-3166-44	T4B
		33003-3167-44	



TRAFFIC CONTROL LEGEND	
	WORK ZONE
	TEMPORARY TRAVEL LANES
	FLEXIBLE DRUMS (CHANNELIZING)
	SIGN (CONSTRUCTION)
	TRAFFIC FLOW
	PORTABLE BARRIER RAIL
	TEMPORARY ATTENUATOR
	ARROW BOARD TYPE C
	TEMPORARY BARRICADE (TYPE III)
	TEMPORARY BARRICADE (TYPE II)
	WARNING LIGHT (TYPE A) (LOW-INTENSITY FLASHING)



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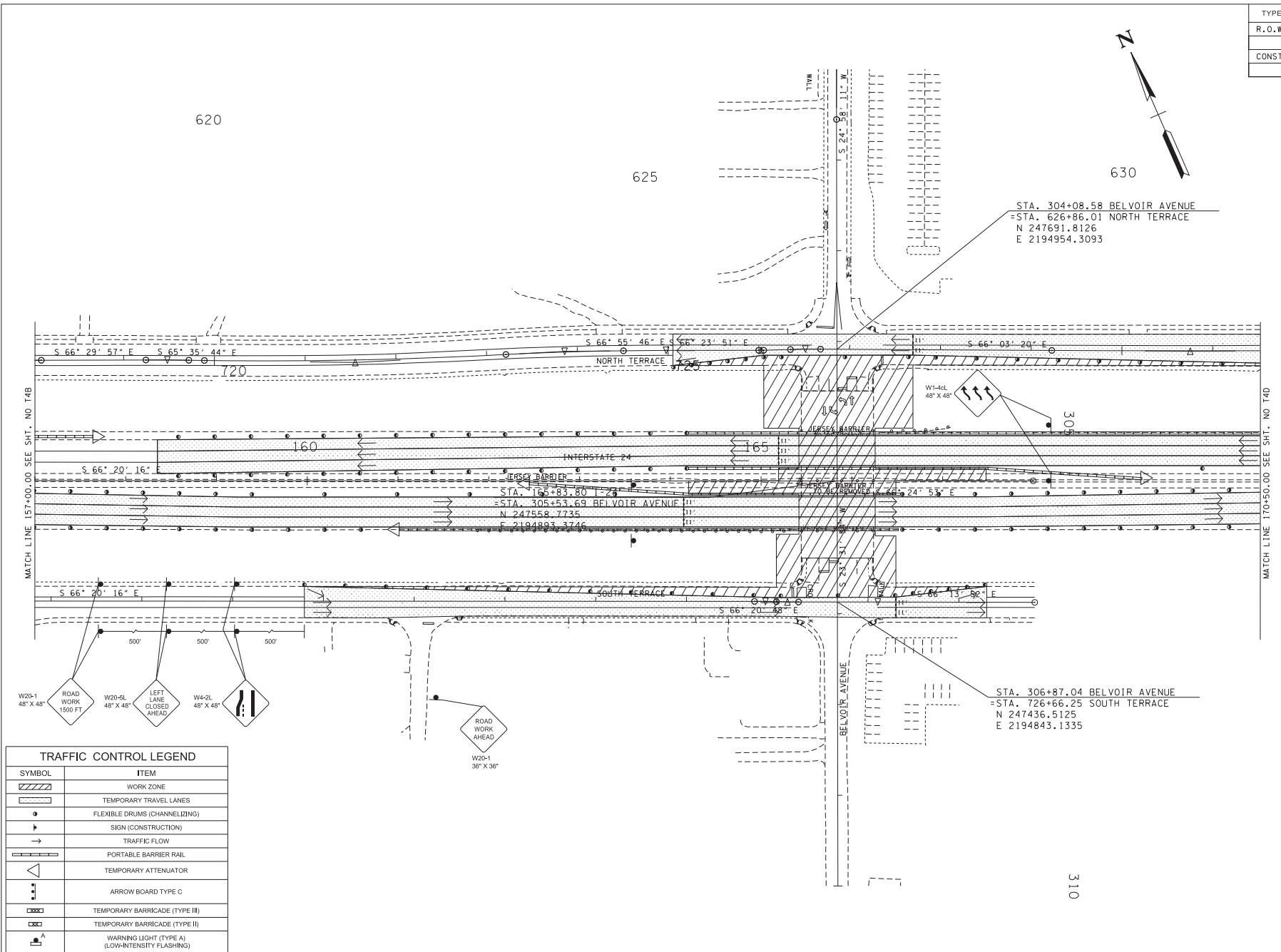
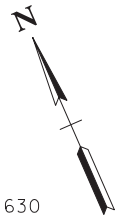
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STATE OF TENNESSEE  
DEPARTMENT OF  
TRANSPORTATION

TRAFFIC CONTROL  
PLANS  
PHASE 1A

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TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2019	33003-2166-44	T4C
		33003-2167-44	
CONST.	2020	33003-3166-44	T4C
		33003-3167-44	



TRAFFIC CONTROL LEGEND	
SYMBOL	ITEM
	WORK ZONE
	TEMPORARY TRAVEL LANES
	FLEXIBLE DRUMS (CHANNELIZING)
	SIGN (CONSTRUCTION)
	TRAFFIC FLOW
	PORTABLE BARRIER RAIL
	TEMPORARY ATTENUATOR
	ARROW BOARD TYPE C
	TEMPORARY BARRICADE (TYPE III)
	TEMPORARY BARRICADE (TYPE II)
	WARNING LIGHT (TYPE A) (LOW-INTENSITY FLASHING)

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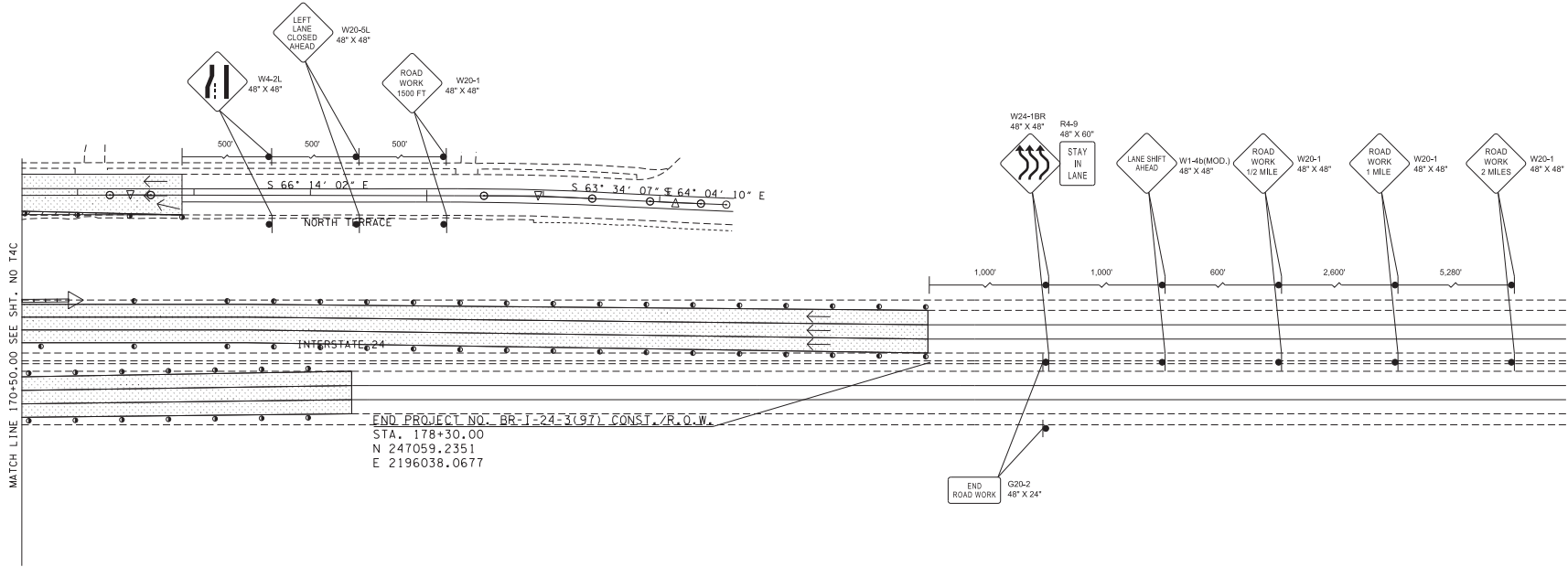
**TRAFFIC CONTROL  
PLANS  
PHASE 1A**

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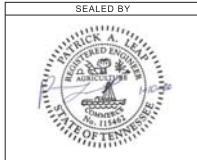
TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2019	33003-2166-44	T4D
		33003-2167-44	
CONST.	2020	33003-3166-44	T4D
		33003-3167-44	

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END PROJECT NO. BR-I-24-3(97) CONST. R.O.W.  
 STA. 178+30.00  
 N 247059.2351  
 E 2196038.0677

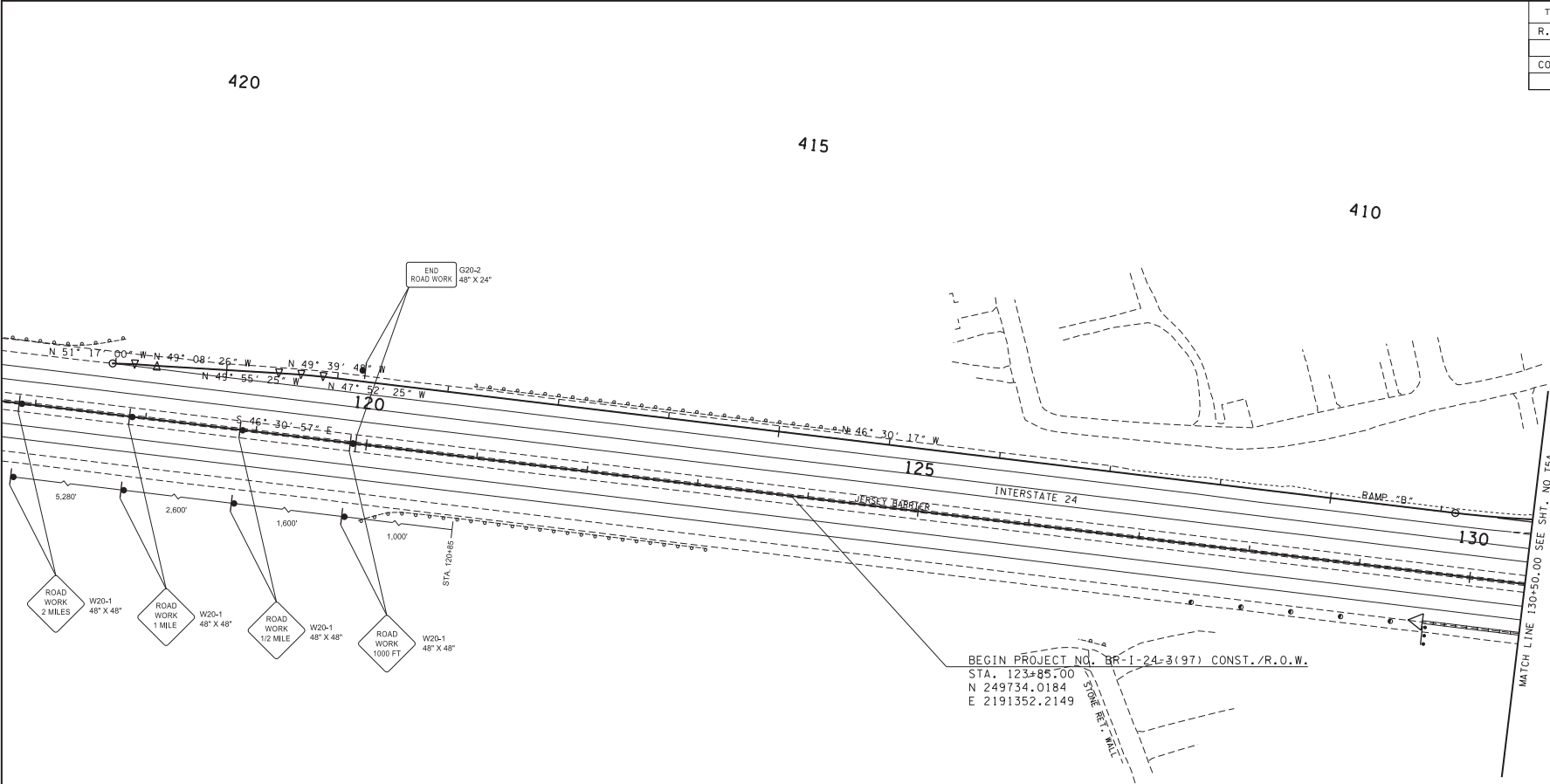
TRAFFIC CONTROL LEGEND	
	WORK ZONE
	TEMPORARY TRAVEL LANES
	FLEXIBLE DRUMS (CHANNELIZING)
	SIGN (CONSTRUCTION)
	TRAFFIC FLOW
	PORTABLE BARRIER RAIL
	TEMPORARY ATTENUATOR
	ARROW BOARD TYPE C
	TEMPORARY BARRICADE (TYPE III)
	TEMPORARY BARRICADE (TYPE I)
	WARNING LIGHT (TYPE A) (LOW-INTENSITY FLASHING)



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STATE OF TENNESSEE  
 DEPARTMENT OF  
 TRANSPORTATION  
**TRAFFIC CONTROL  
 PLANS  
 PHASE 1A**

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2019	33003-2166-44	T5
		33003-2167-44	
CONST.	2020	33003-3166-44	T5
		33003-3167-44	



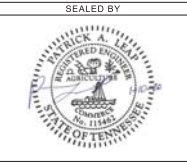
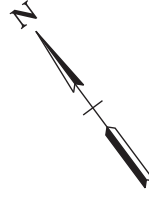
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TRAFFIC CONTROL LEGEND	
SYMBOL	ITEM
	WORK ZONE
	TEMPORARY TRAVEL LANES
	FLEXIBLE DRUMS (CHANNELIZING)
	SIGN (CONSTRUCTION)
	TRAFFIC FLOW
	PORTABLE BARRIER RAIL
	TEMPORARY ATTENUATOR
	ARROW BOARD TYPE C
	TEMPORARY BARRICADE (TYPE III)
	TEMPORARY BARRICADE (TYPE II)
	WARNING LIGHT (TYPE A) (LOW-INTENSITY FLASHING)

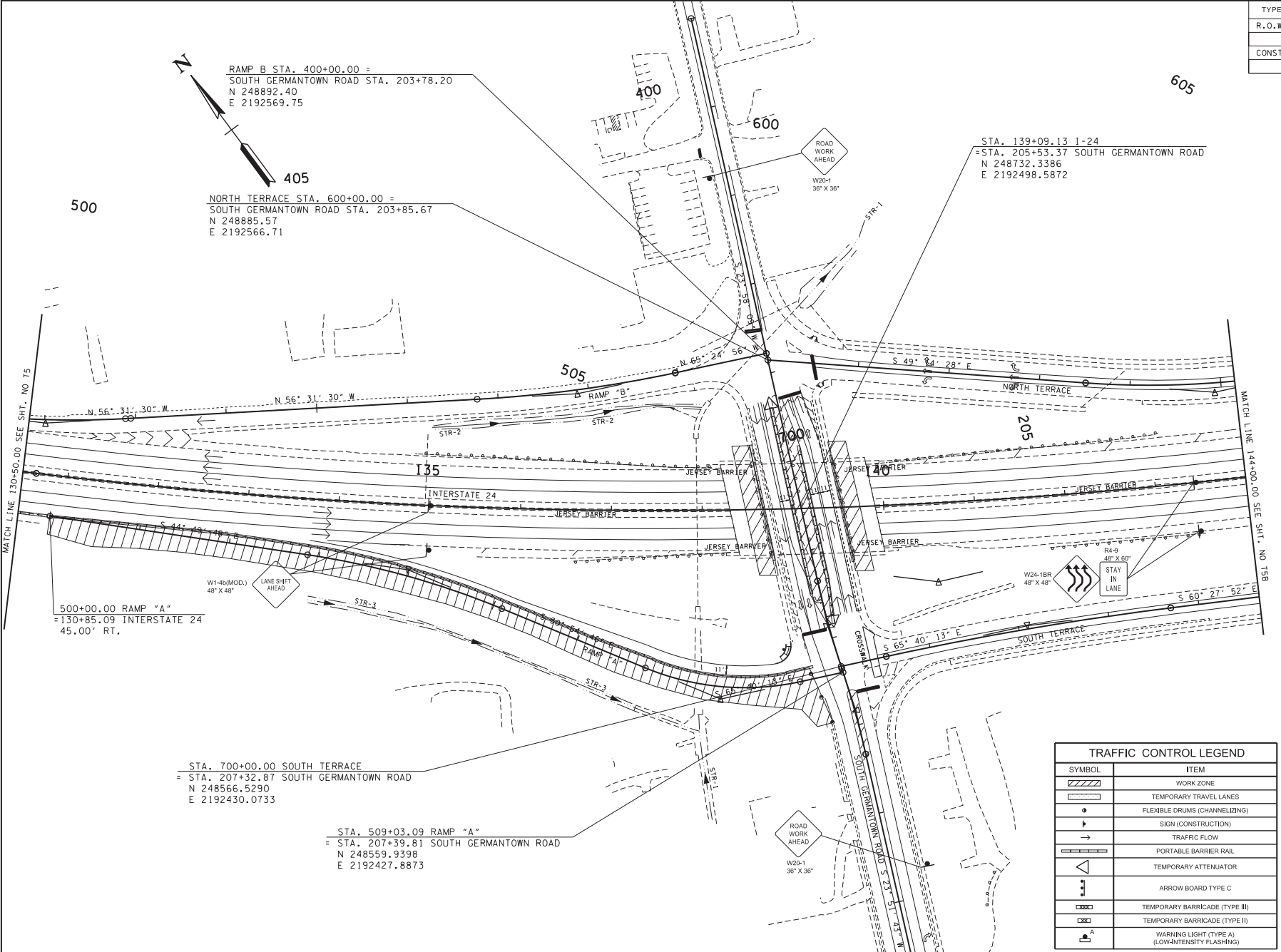
- PHASE 1B:**
1. ALL ADVANCED WARNING SIGNS AND PORTABLE MESSAGE SIGNS SHALL BE IN PLACE PRIOR TO ANY CONSTRUCTION ACTIVITIES AND SHALL REMAIN IN PLACE UNTIL PHASE IS COMPLETE
  2. CONSTRUCTION CONTINUES ON BELVOIR AVE BRIDGE, RAMP "A", TEMPORARY RAMPS, RAMP "B" SHOULDER AND MICROPILES FOR I-24 BRIDGE OVER S. GERMANTOWN
  3. MAINTAIN 3-LANES IN EACH DIRECTION ON I-24
  4. LANE SHIFTS IN THE AREA OF BELVOIR AVE, WILL MAINTAIN MIN. 11' LANES AND 2' SHOULDERS
  5. UTILIZE EXISTING ITS MESSAGE BOARDS FOR ADDITIONAL ADVANCED WARNING
  6. SEE SPECIAL PROVISION 108B FOR ADDITIONAL INFORMATION REGARDING LANE CLOSURES



COORDINATES ARE NAD(83)(1995). ARE DATUM ADJUSTED BY THE FACTOR OF 0.99998 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988.

STATE OF TENNESSEE  
DEPARTMENT OF  
TRANSPORTATION  
**TRAFFIC CONTROL  
PLANS  
PHASE 1B**

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2019	33003-2166-44	T5A
		33003-2167-44	
CONST.	2020	33003-3166-44	T5A
		33003-3167-44	



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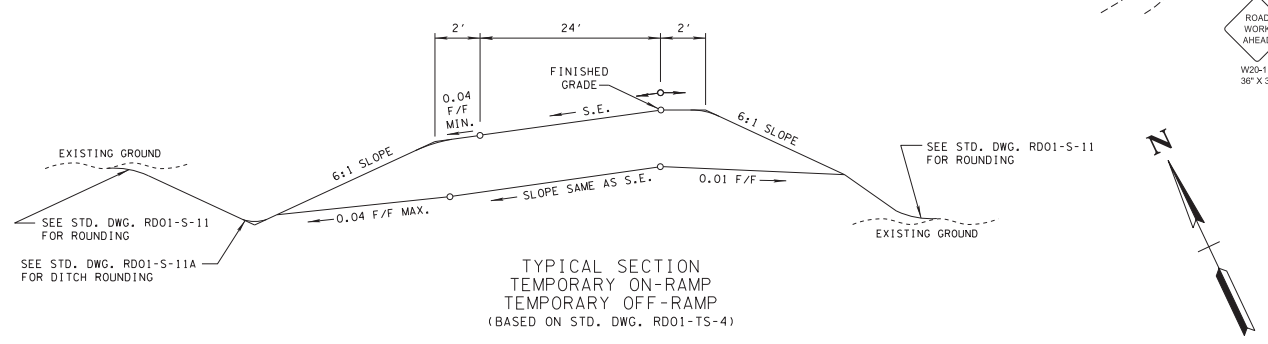
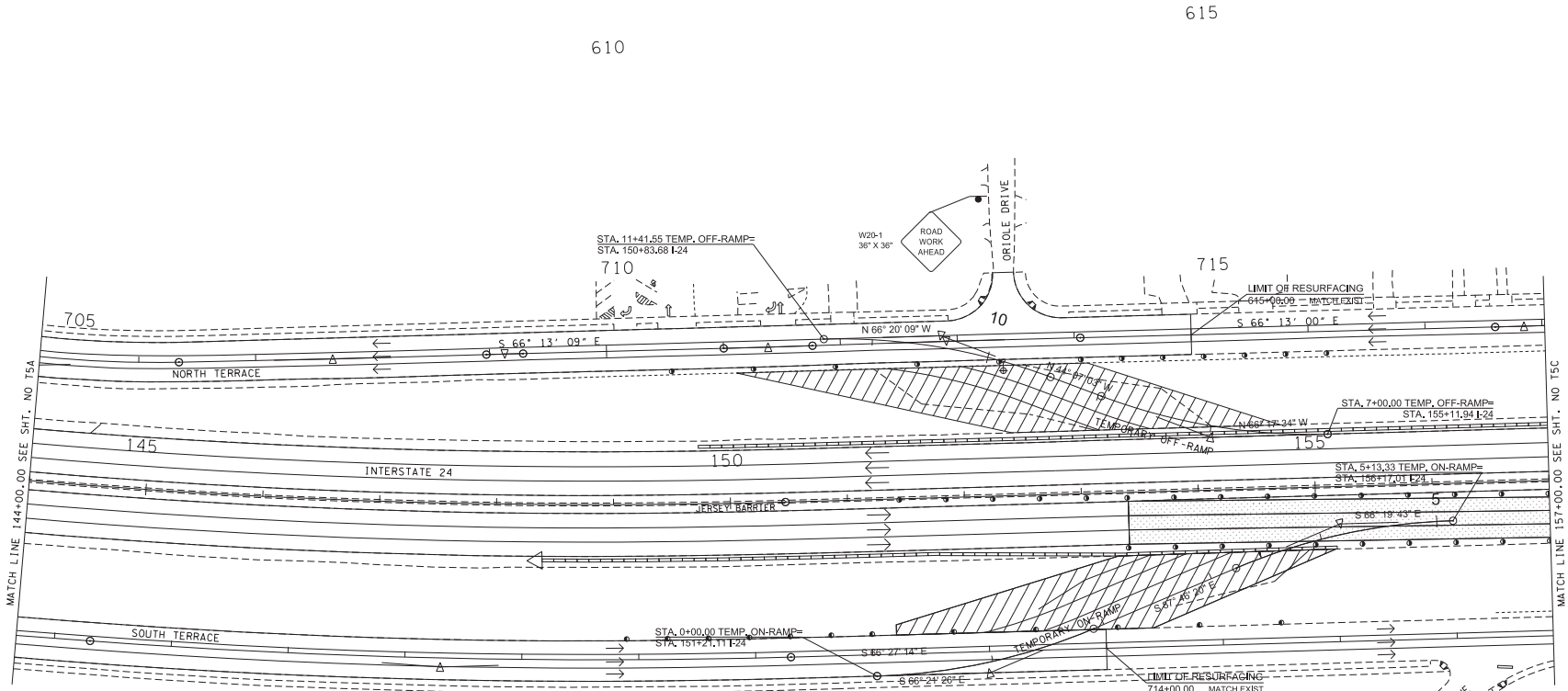
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DEPARTMENT OF  
TRANSPORTATION

**TRAFFIC CONTROL PLANS  
PHASE 1B**

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TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2019	33003-2166-44	T5B
		33003-2167-44	
CONST.	2020	33003-3166-44	T5B
		33003-3167-44	



TRAFFIC CONTROL LEGEND	
SYMBOL	ITEM
	WORK ZONE
	TEMPORARY TRAVEL LANES
	FLEXIBLE DRUMS (CHANNELIZING)
	SIGN (CONSTRUCTION)
	TRAFFIC FLOW
	PORTABLE BARRIER RAIL
	TEMPORARY ATTENUATOR
	ARROW BOARD TYPE C
	TEMPORARY BARRICADE (TYPE III)
	TEMPORARY BARRICADE (TYPE II)
	WARNING LIGHT (TYPE A) (LOW-INTENSITY FLASHING)

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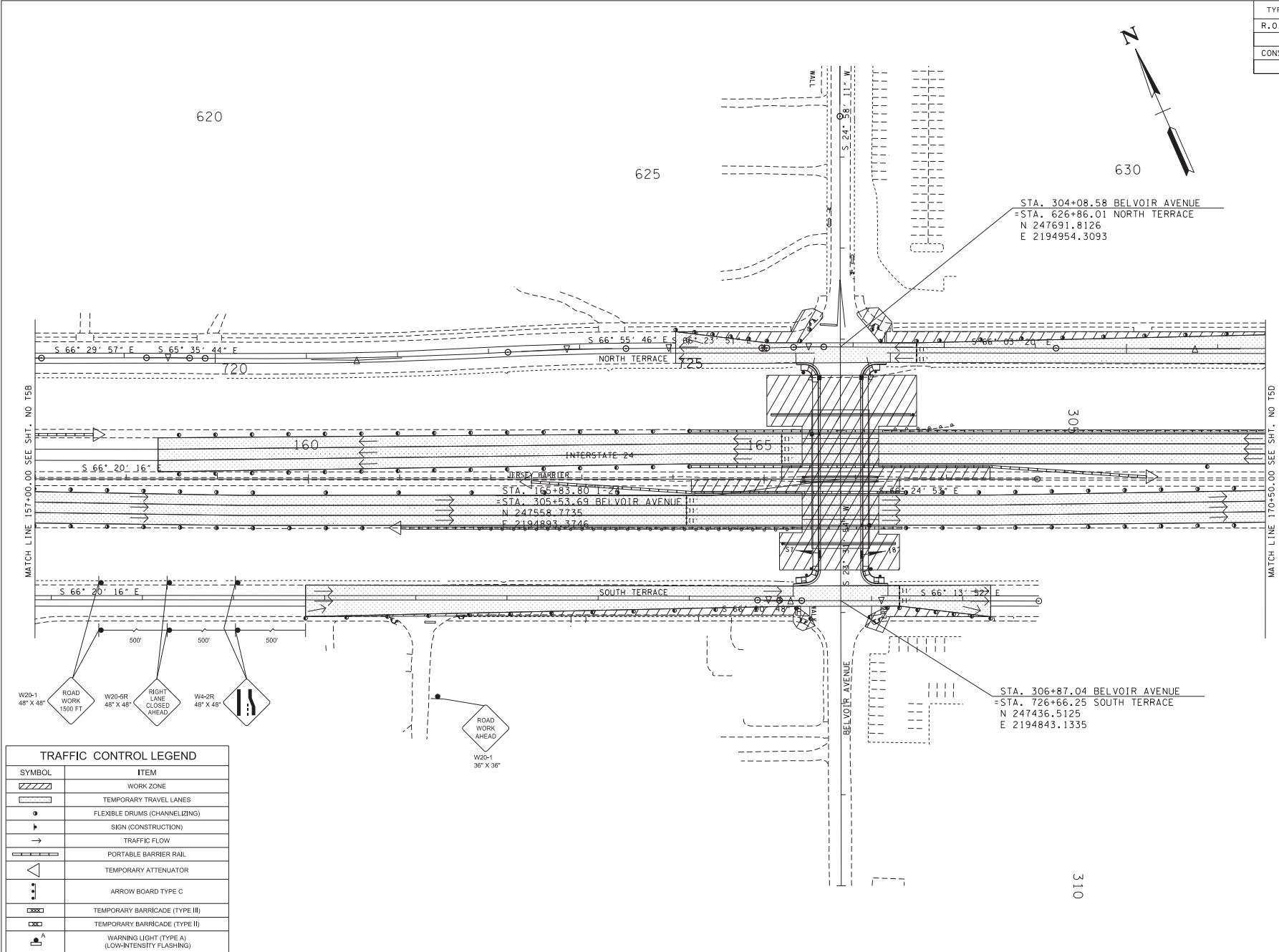
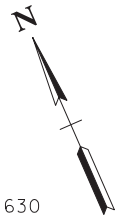
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STATE OF TENNESSEE  
DEPARTMENT OF  
TRANSPORTATION

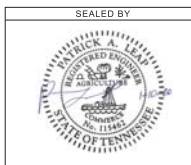
TRAFFIC CONTROL  
PLANS  
PHASE 1B

1/10/2020  
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TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2019	33003-2166-44	T5C
		33003-2167-44	
CONST.	2020	33003-3166-44	T5C
		33003-3167-44	



TRAFFIC CONTROL LEGEND	
SYMBOL	ITEM
	WORK ZONE
	TEMPORARY TRAVEL LANES
	FLEXIBLE DRUMS (CHANNELIZING)
	SIGN (CONSTRUCTION)
	TRAFFIC FLOW
	PORTABLE BARRIER RAIL
	TEMPORARY ATTENUATOR
	ARROW BOARD TYPE C
	TEMPORARY BARRICADE (TYPE III)
	TEMPORARY BARRICADE (TYPE II)
	WARNING LIGHT (TYPE A) (LOW-INTENSITY FLASHING)



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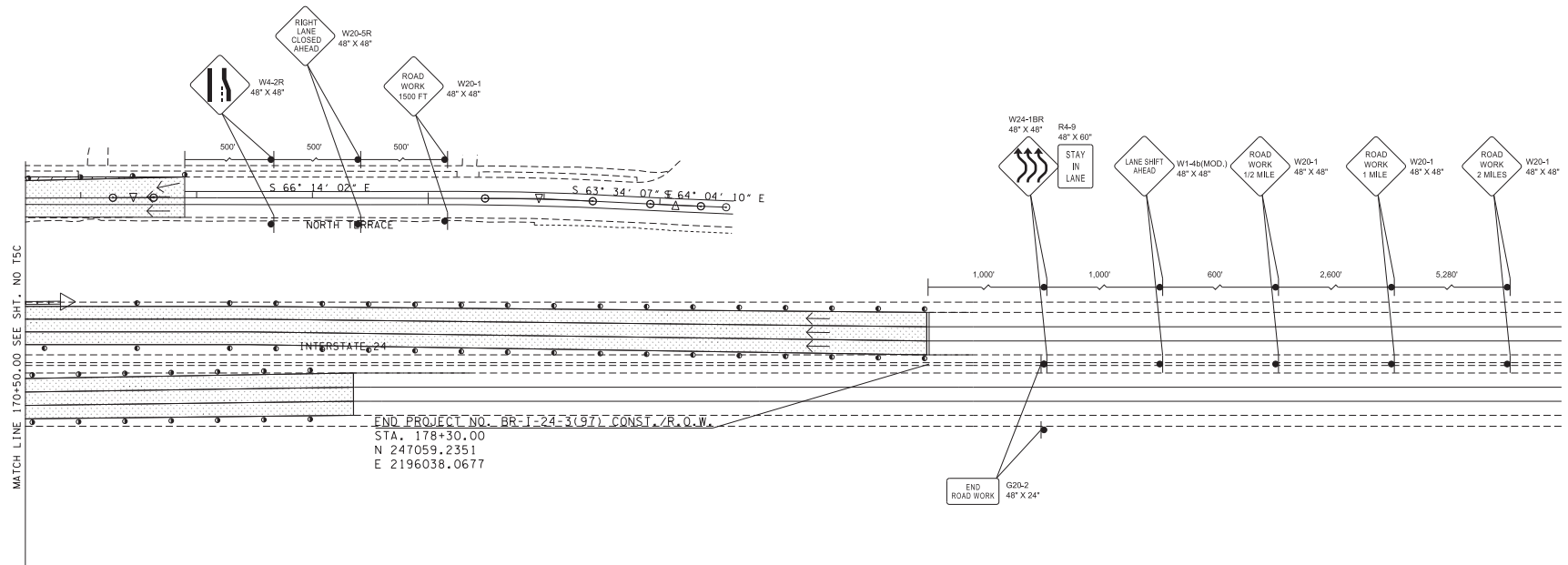
STATE OF TENNESSEE  
DEPARTMENT OF  
TRANSPORTATION

**TRAFFIC CONTROL  
PLANS  
PHASE 1B**

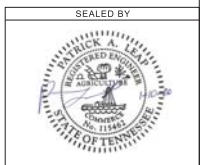
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TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2019	33003-2166-44	T5D
		33003-2167-44	
CONST.	2020	33003-3166-44	T5D
		33003-3167-44	

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TRAFFIC CONTROL LEGEND	
	WORK ZONE
	TEMPORARY TRAVEL LANES
	FLEXIBLE DRUMS (CHANNELIZING)
	SIGN (CONSTRUCTION)
	TRAFFIC FLOW
	PORTABLE BARRIER RAIL
	TEMPORARY ATTENUATOR
	ARROW BOARD TYPE C
	TEMPORARY BARRICADE (TYPE III)
	TEMPORARY BARRICADE (TYPE I)
	WARNING LIGHT (TYPE A) (LOW-INTENSITY FLASHING)

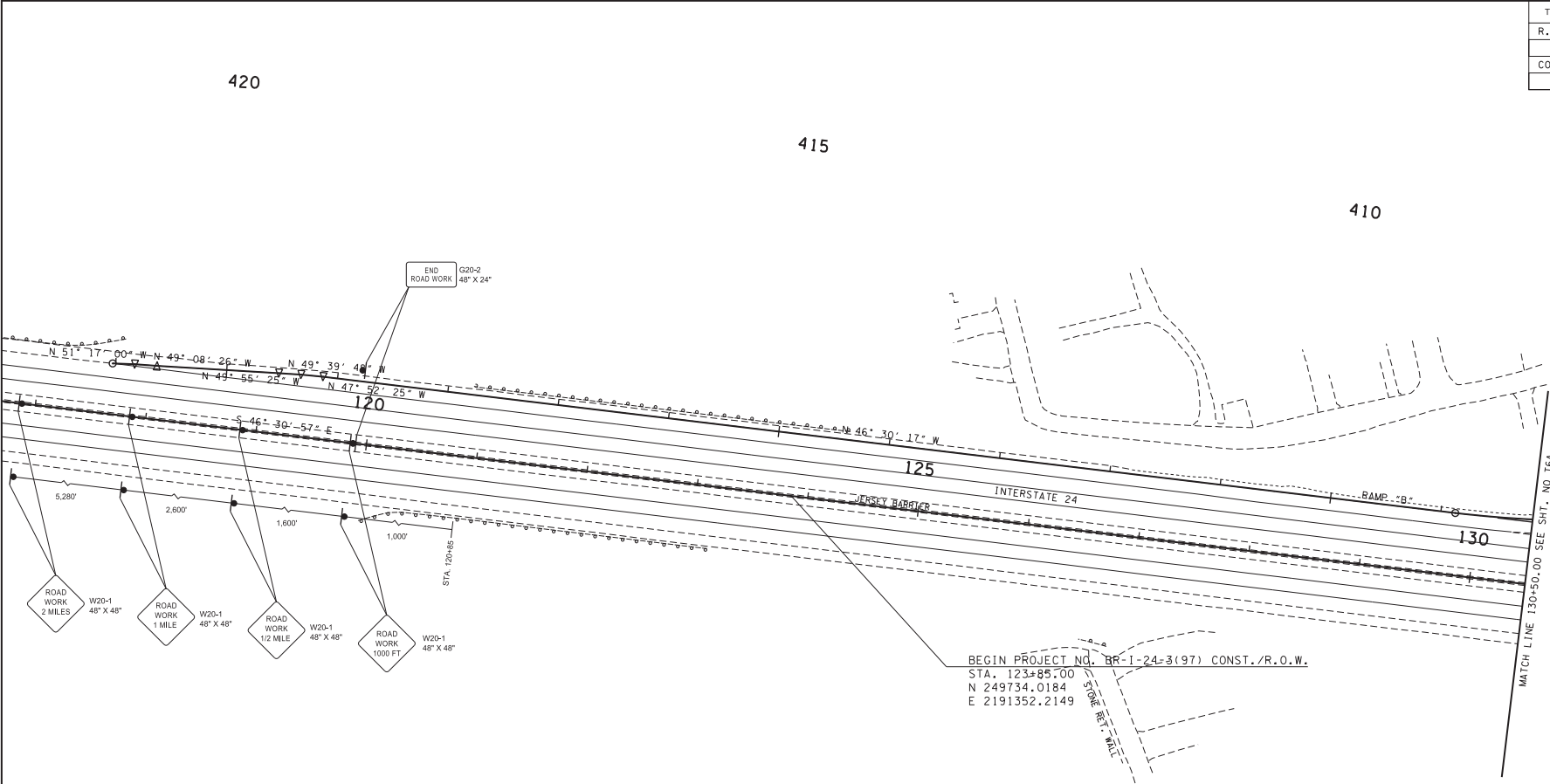


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STATE OF TENNESSEE  
DEPARTMENT OF  
TRANSPORTATION  
**TRAFFIC CONTROL  
PLANS  
PHASE 1B**

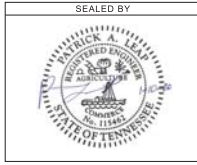
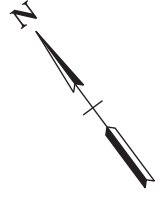
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TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2019	33003-2166-44	T6
		33003-2167-44	
CONST.	2020	33003-3166-44	T6
		33003-3167-44	



TRAFFIC CONTROL LEGEND	
SYMBOL	ITEM
	WORK ZONE
	TEMPORARY TRAVEL LANES
	FLEXIBLE DRUMS (CHANNELIZING)
	SIGN (CONSTRUCTION)
	TRAFFIC FLOW
	PORTABLE BARRIER RAIL
	TEMPORARY ATTENUATOR
	ARROW BOARD TYPE C
	TEMPORARY BARRICADE (TYPE III)
	TEMPORARY BARRICADE (TYPE II)
	WARNING LIGHT (TYPE A) (LOW-INTENSITY FLASHING)

- PHASE 1C:**
1. ALL ADVANCED WARNING SIGNS AND PORTABLE MESSAGE SIGNS SHALL BE IN PLACE PRIOR TO ANY CONSTRUCTION ACTIVITIES AND SHALL REMAIN IN PLACE UNTIL PHASE IS COMPLETE
  2. CONSTRUCTION COMPLETE ON BELVOIR AVE BRIDGE, RAMP "A", TEMPORARY RAMPS, RAMP "B" SHOULDER AND MICROPILES FOR I-24 BRIDGE OVER S. GERMANTOWN
  3. MAINTAIN 3-LANES IN EACH DIRECTION ON I-24
  4. LANE SHIFTS IN THE AREA OF BELVOIR AVE, WILL MAINTAIN MIN. 11' LANES AND 2' SHOULDERS
  5. UTILIZE EXISTING ITS MESSAGE BOARDS FOR ADDITIONAL ADVANCED WARNING
  6. SEE SPECIAL PROVISION 108B FOR ADDITIONAL INFORMATION REGARDING LANE CLOSURES
  7. SIDEWALK CONSTRUCTION ON S. GERMANTOWN RD.



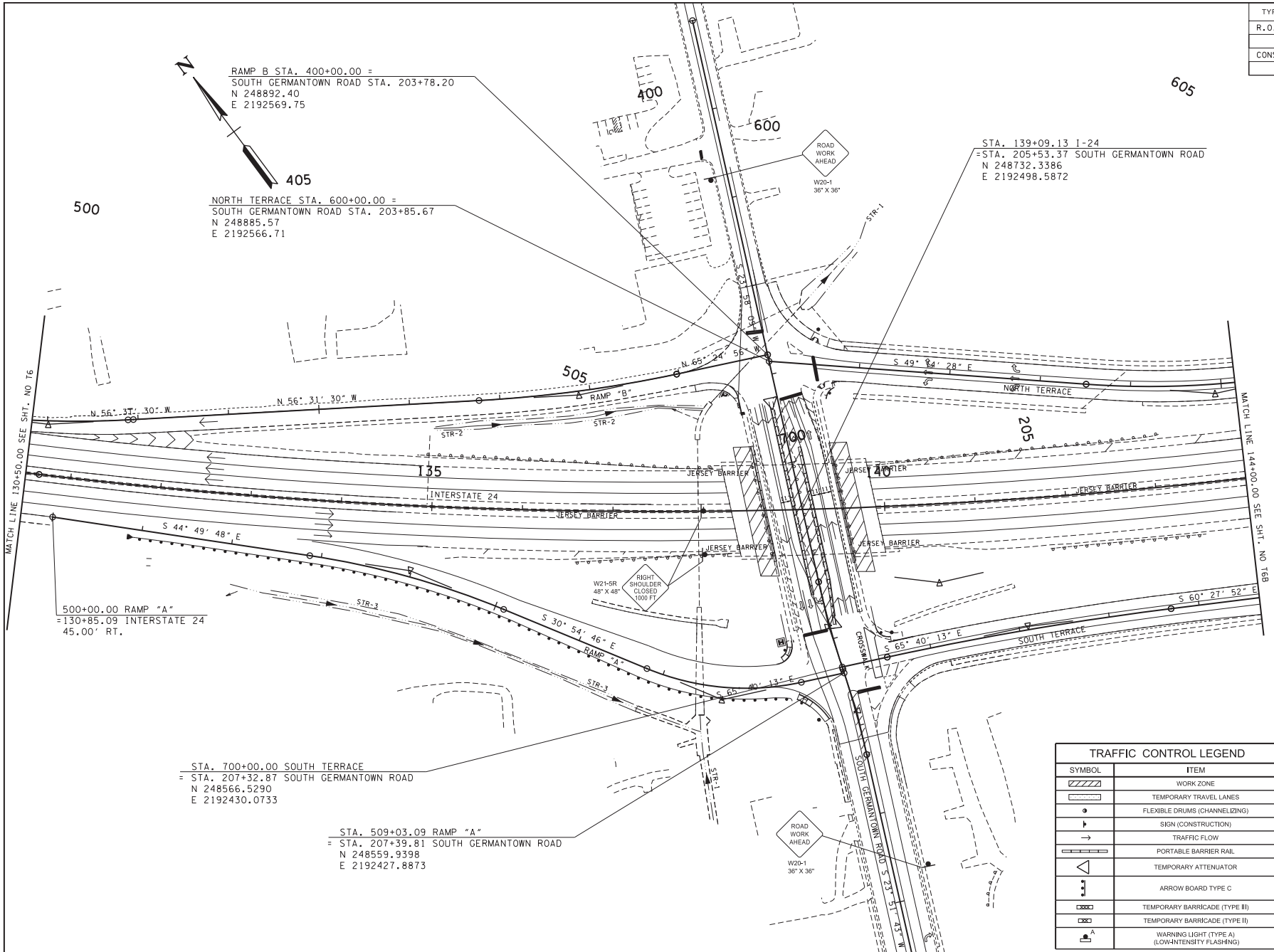
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DEPARTMENT OF  
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**TRAFFIC CONTROL  
PLANS  
PHASE 1C**

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TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2019	33003-2166-44	T6A
		33003-2167-44	
CONST.	2020	33003-3166-44	T6A
		33003-3167-44	



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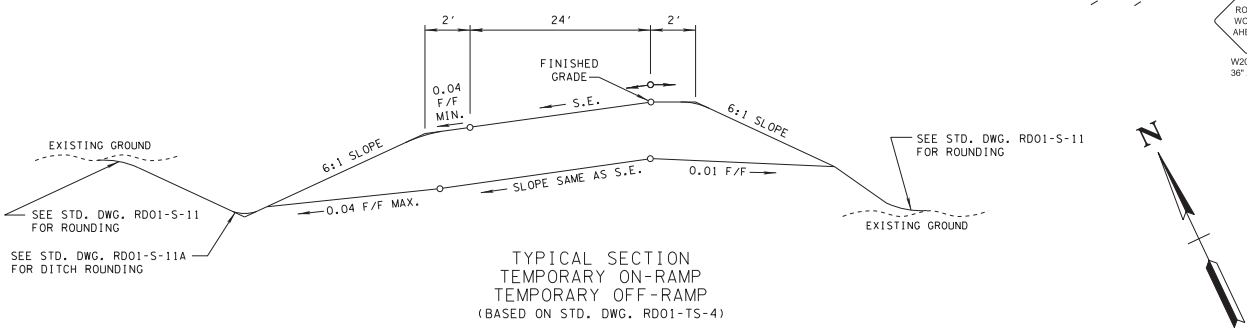
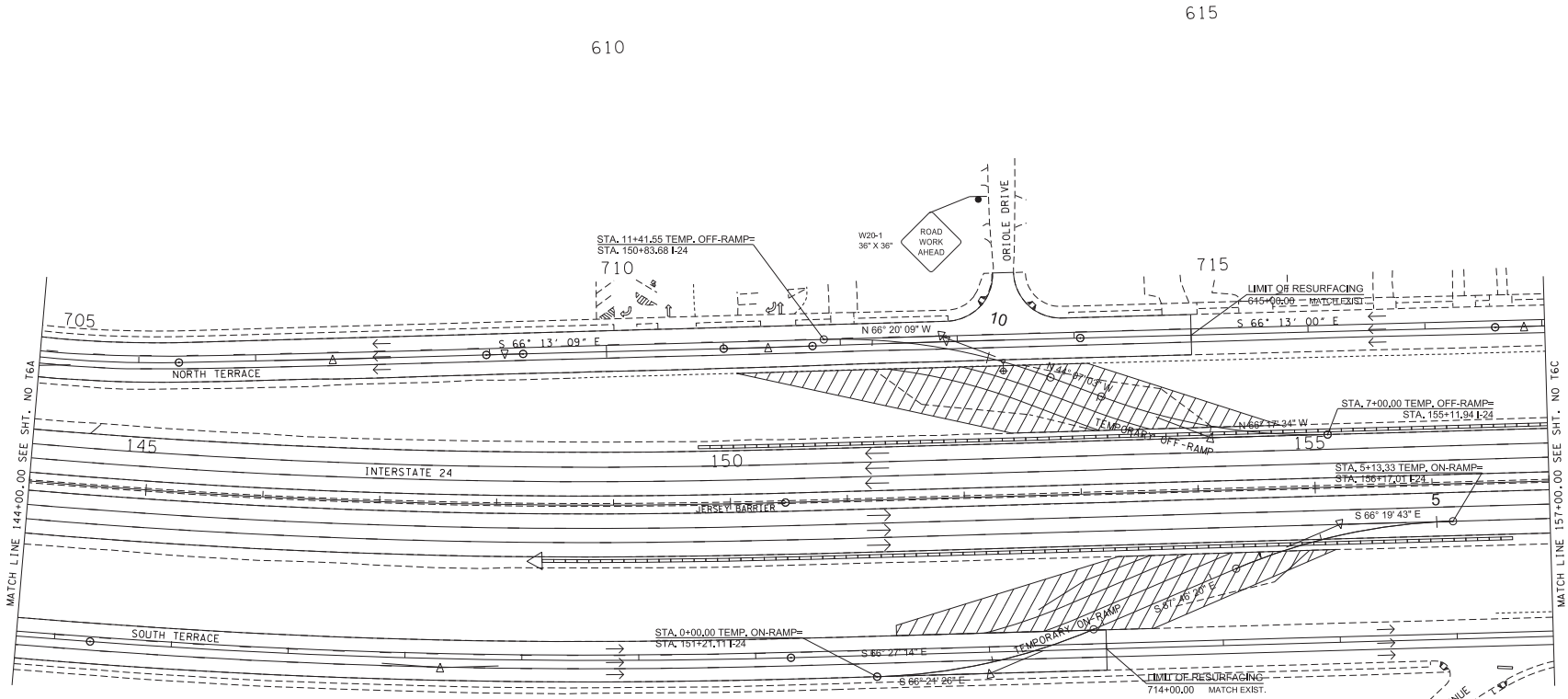
STATE OF TENNESSEE  
DEPARTMENT OF  
TRANSPORTATION

**TRAFFIC CONTROL PLANS  
PHASE 1C**

1/10/2020  
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TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2019	33003-2166-44	T6B
		33003-2167-44	
CONST.	2020	33003-3166-44	T6B
		33003-3167-44	



TRAFFIC CONTROL LEGEND	
	WORK ZONE
	TEMPORARY TRAVEL LANES
	FLEXIBLE DRUMS (CHANNELIZING)
	SIGN (CONSTRUCTION)
	TRAFFIC FLOW
	PORTABLE BARRIER RAIL
	TEMPORARY ATTENUATOR
	ARROW BOARD TYPE C
	TEMPORARY BARRICADE (TYPE III)
	TEMPORARY BARRICADE (TYPE II)
	WARNING LIGHT (TYPE A) (LOW-INTENSITY FLASHING)

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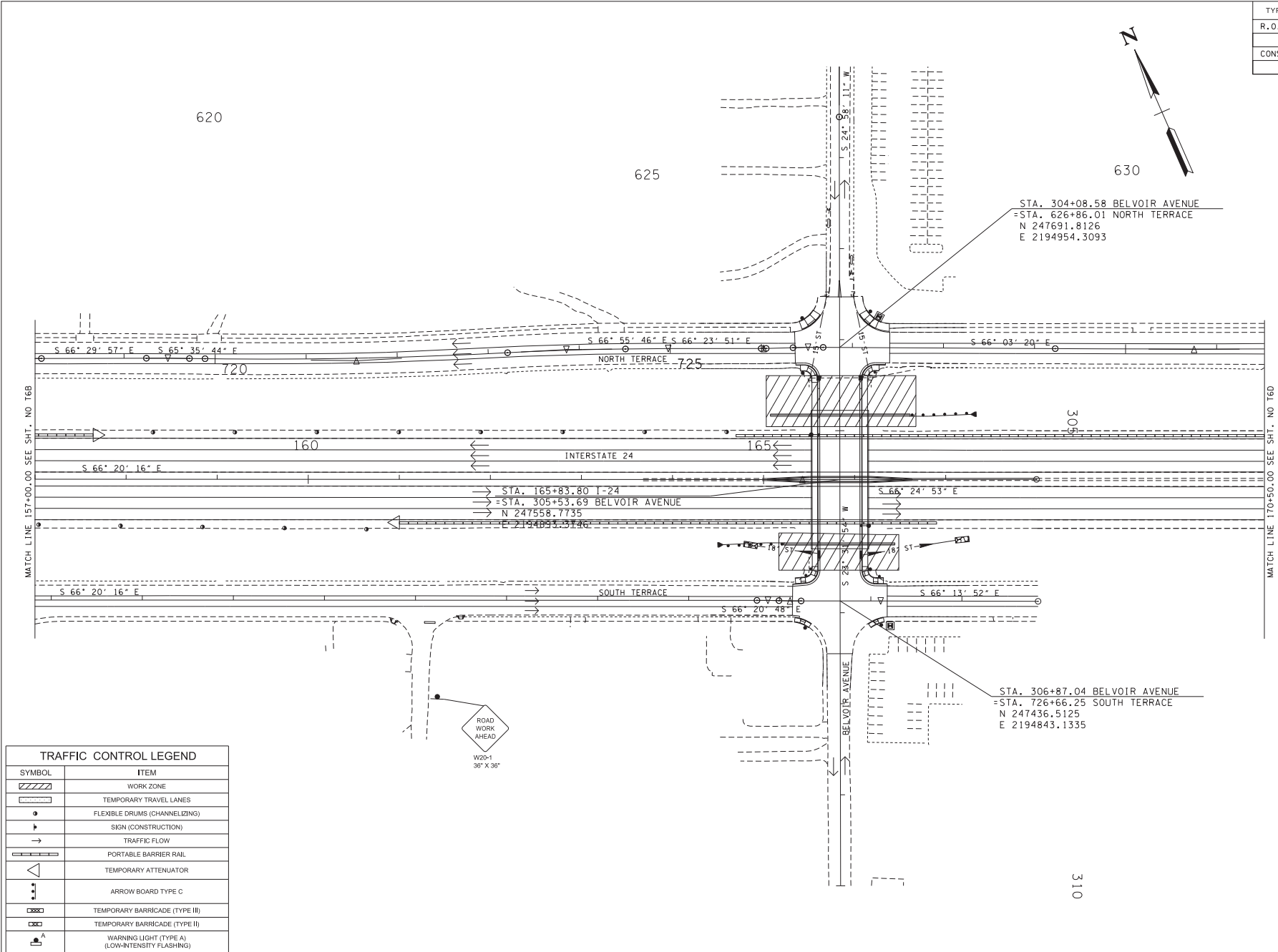
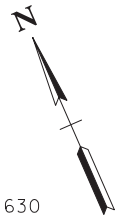
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STATE OF TENNESSEE  
DEPARTMENT OF TRANSPORTATION

**TRAFFIC CONTROL PLANS  
PHASE 1C**

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TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2019	33003-2166-44	T6C
		33003-2167-44	
CONST.	2020	33003-3166-44	T6C
		33003-3167-44	



TRAFFIC CONTROL LEGEND	
	WORK ZONE
	TEMPORARY TRAVEL LANES
	FLEXIBLE DRUMS (CHANNELIZING)
	SIGN (CONSTRUCTION)
	TRAFFIC FLOW
	PORTABLE BARRIER RAIL
	TEMPORARY ATTENUATOR
	ARROW BOARD TYPE C
	TEMPORARY BARRICADE (TYPE III)
	TEMPORARY BARRICADE (TYPE I)
	WARNING LIGHT (TYPE A) (LOW-INTENSITY FLASHING)



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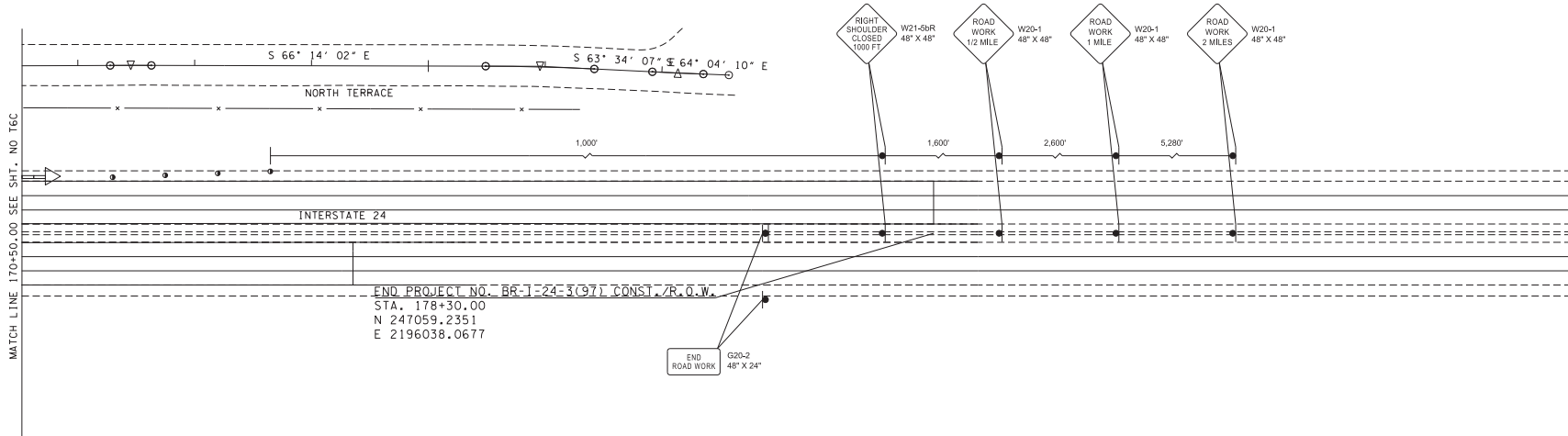
STATE OF TENNESSEE  
DEPARTMENT OF  
TRANSPORTATION

**TRAFFIC CONTROL  
PLANS  
PHASE 1C**

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TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2019	33003-2166-44	T6D
		33003-2167-44	
CONST.	2020	33003-3166-44	T6D
		33003-3167-44	

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END PROJECT NO. BR-1-24-3(97) CONST. R.O.W.  
 STA. 178+30.00  
 N 247059.2351  
 E 2196038.0677

END ROAD WORK  
 G20-2  
 48" X 24"

TRAFFIC CONTROL LEGEND	
SYMBOL	ITEM
	WORK ZONE
	TEMPORARY TRAVEL LANES
	FLEXIBLE DRUMS (CHANNELIZING)
	SIGN (CONSTRUCTION)
	TRAFFIC FLOW
	PORTABLE BARRIER RAIL
	TEMPORARY ATTENUATOR
	ARROW BOARD TYPE C
	TEMPORARY BARRICADE (TYPE III)
	TEMPORARY BARRICADE (TYPE I)
	WARNING LIGHT (TYPE A) (LOW-INTENSITY FLASHING)

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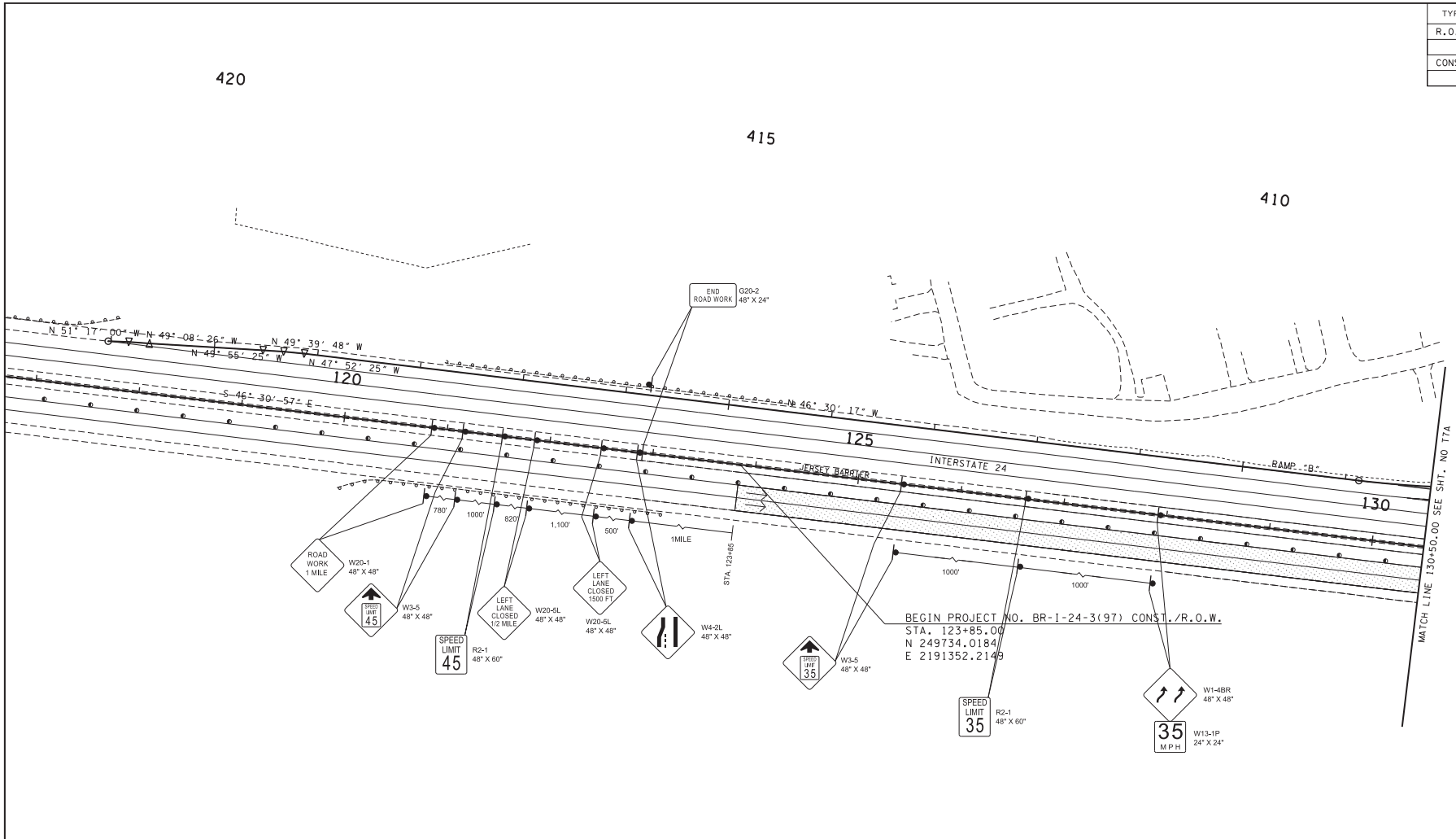
COORDINATES ARE NAD/83(1995).  
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STATE OF TENNESSEE  
 DEPARTMENT OF  
 TRANSPORTATION

TRAFFIC CONTROL  
 PLANS  
 PHASE 1C

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TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2019	33003-2166-44	T7
		33003-2167-44	
CONST.	2020	33003-3166-44	T7
		33003-3167-44	



TRAFFIC CONTROL LEGEND	
SYMBOL	ITEM
	WORK ZONE
	TEMPORARY TRAVEL LANES
	FLEXIBLE DRUMS (CHANNELIZING)
	SIGN (CONSTRUCTION)
	TRAFFIC FLOW
	PORTABLE BARRIER RAIL
	TEMPORARY ATTENUATOR
	ARROW BOARD TYPE C
	TEMPORARY BARRICADE (TYPE III)
	TEMPORARY BARRICADE (TYPE II)
	WARNING LIGHT (TYPE A) (LOW-INTENSITY FLASHING)

- PHASE 2A: FIRST WEEKEND CLOSURE
1. ALL ADVANCED WARNING SIGNS AND PORTABLE MESSAGE SIGNS SHALL BE IN PLACE PRIOR TO ANY CONSTRUCTION ACTIVITIES AND SHALL REMAIN IN PLACE UNTIL PHASE IS COMPLETE
  2. I-24 EASTBOUND LEFT LANE IS MERGED AT MILE MARKER 181.4
  3. I-24 EASTBOUND LANES ARE THEN DETOURED DOWN EXIT 183, ACROSS S. GERMANTOWN ROAD AND BACK ONTO I-24 VIA THE TEMPORARY ON-RAMP
  4. I-24 EASTBOUND BRIDGE DEMOLITION AND CONSTRUCTION ARE COMPLETED
  5. CONSTRUCTION BEGINS ON S. GERMANTOWN RD
  6. MAINTAIN LANES AS SHOWN IN EACH DIRECTION ON I-24
  7. CONSTRUCTION ZONE LANES WILL BE MAINTAINED AT A MIN. 11' LANES AND 2' SHOULDERS
  8. UTILIZE EXISTING ITS MESSAGE BOARDS FOR ADDITIONAL ADVANCED WARNING
  9. SEE SPECIAL PROVISION 108B FOR ADDITIONAL INFORMATION REGARDING LANE CLOSURES

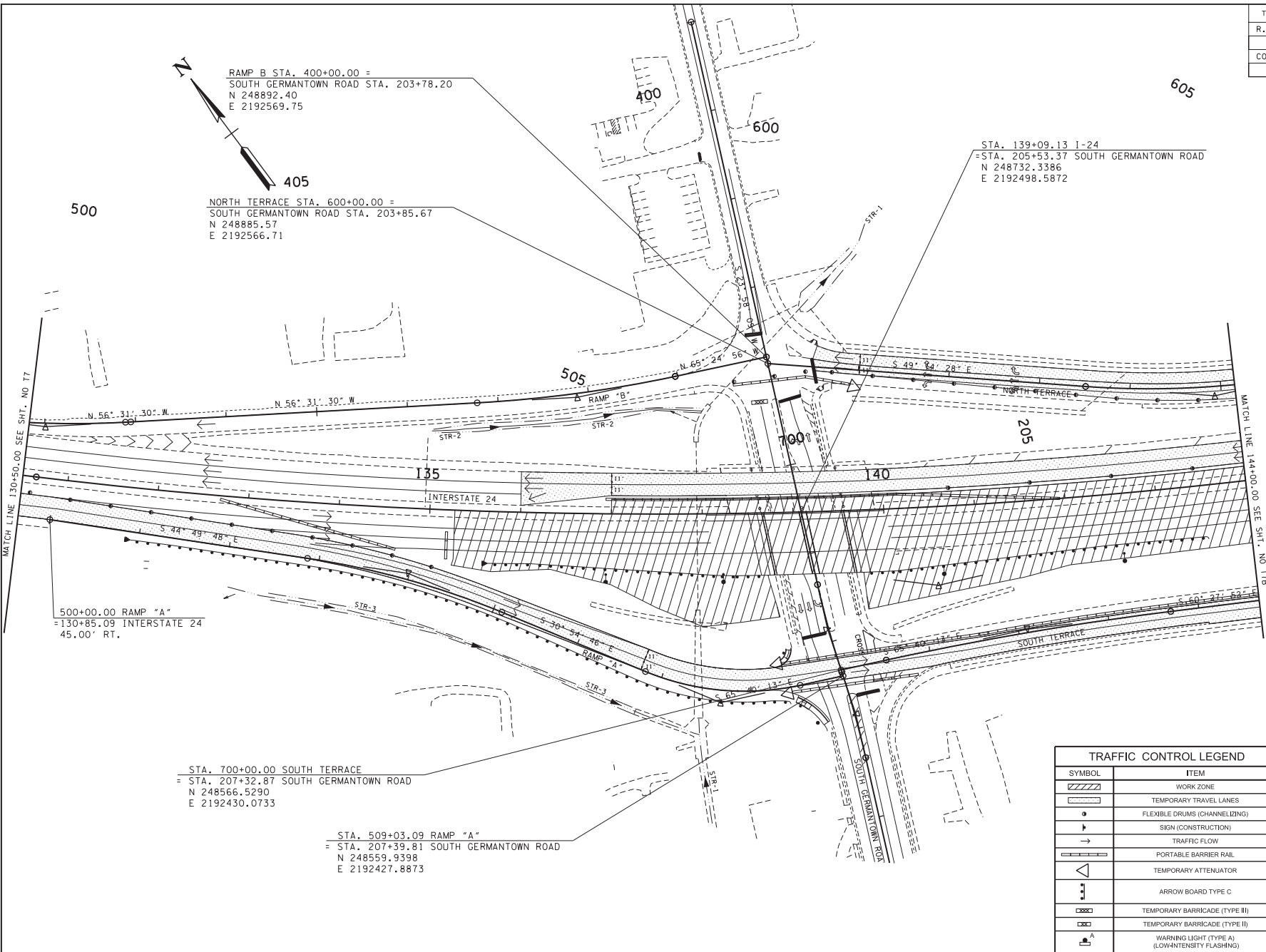
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COORDINATES ARE NAD(83)(1995). ARE DATUM ADJUSTED BY THE FACTOR OF 0.99998 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988.

STATE OF TENNESSEE  
DEPARTMENT OF  
TRANSPORTATION

**TRAFFIC CONTROL PLANS PHASE 2A**

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2019	33003-2166-44	T7A
		33003-2167-44	
CONST.	2020	33003-3166-44	TTA
		33003-3167-44	



TRAFFIC CONTROL LEGEND	
SYMBOL	ITEM
	WORK ZONE
	TEMPORARY TRAVEL LANES
	FLEXIBLE DRUMS (CHANNELIZING)
	SIGN (CONSTRUCTION)
	TRAFFIC FLOW
	PORTABLE BARRIER RAIL
	TEMPORARY ATTENUATOR
	ARROW BOARD TYPE C
	TEMPORARY BARRICADE (TYPE II)
	TEMPORARY BARRICADE (TYPE I)
	WARNING LIGHT (TYPE A) (LOW-INTENSITY FLASHING)

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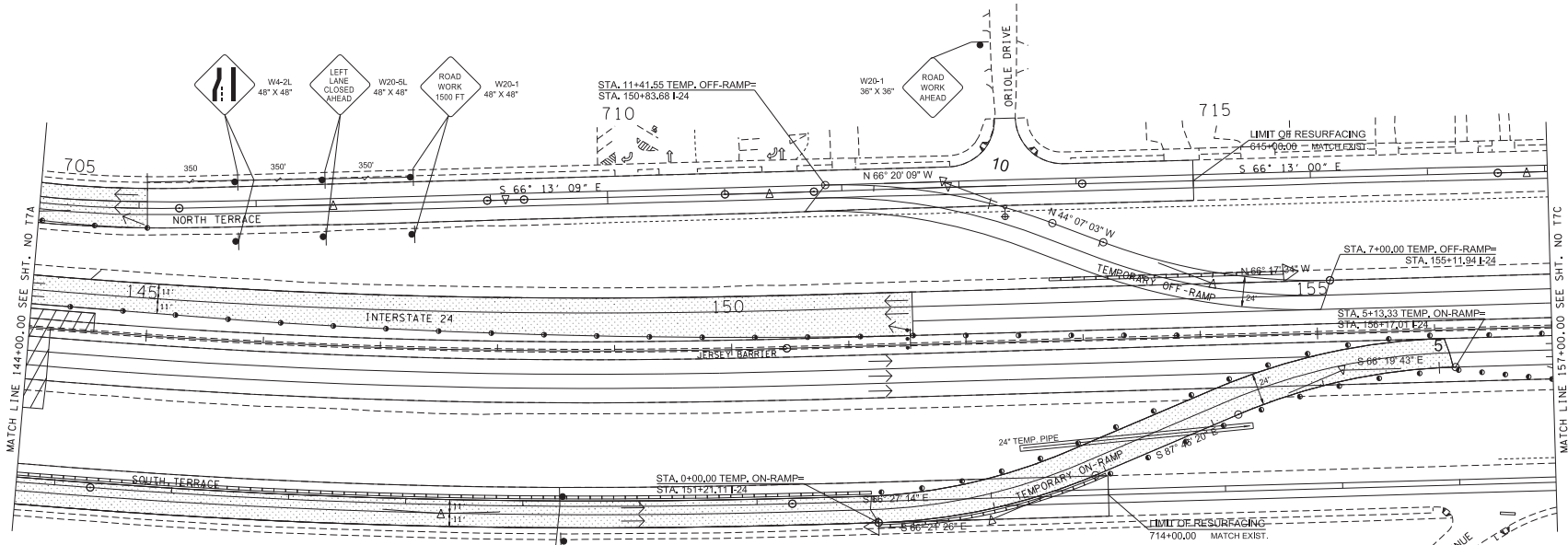
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**STATE OF TENNESSEE**  
**DEPARTMENT OF**  
**TRANSPORTATION**  
**TRAFFIC CONTROL**  
**PLANS**  
**PHASE 2A**

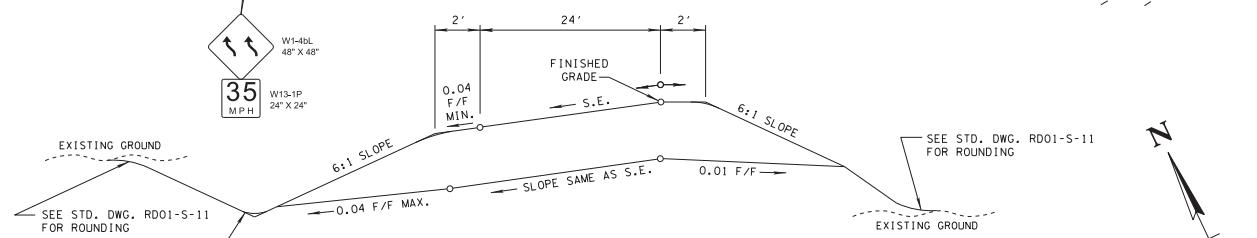
TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2019	33003-2166-44	T7B
		33003-2167-44	
CONST.	2020	33003-3166-44	T7B
		33003-3167-44	

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TRAFFIC CONTROL LEGEND	
	WORK ZONE
	TEMPORARY TRAVEL LANES
	FLEXIBLE DRUMS (CHANNELIZING)
	SIGN (CONSTRUCTION)
	TRAFFIC FLOW
	PORTABLE BARRIER RAIL
	TEMPORARY ATTENUATOR
	ARROW BOARD TYPE C
	TEMPORARY BARRICADE (TYPE III)
	TEMPORARY BARRICADE (TYPE II)
	WARNING LIGHT (TYPE A) (LOW-INTENSITY FLASHING)



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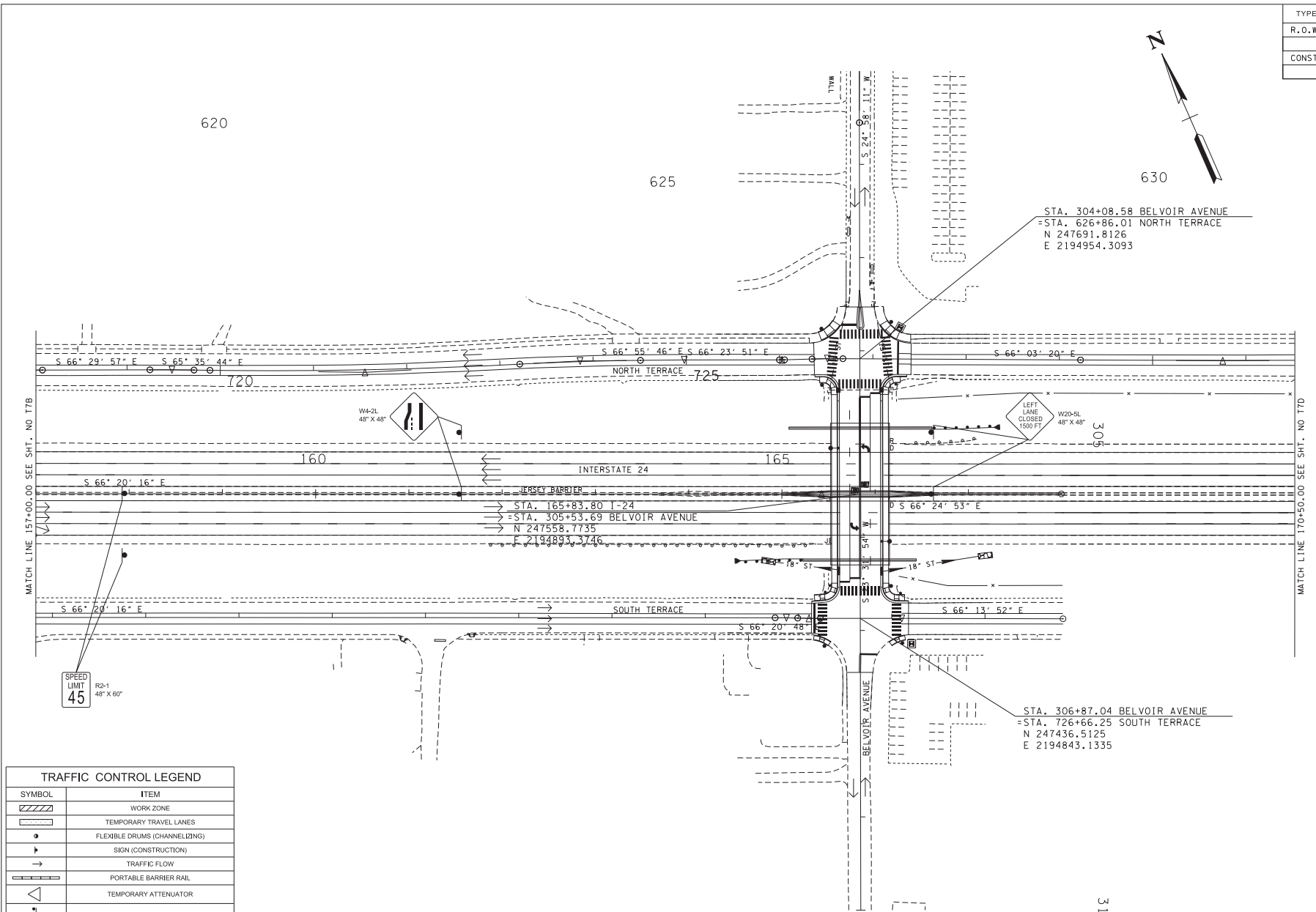
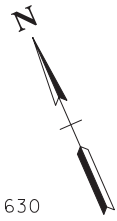
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STATE OF TENNESSEE  
DEPARTMENT OF TRANSPORTATION

**TRAFFIC CONTROL PLANS  
PHASE 2A**

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TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2019	33003-2166-44	T7C
		33003-2167-44	
CONST.	2020	33003-3166-44	T7C
		33003-3167-44	

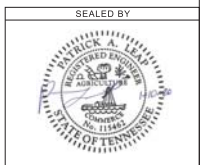


SPEED LIMIT 45  
R2-1  
48" X 60"

STA. 306+87.04 BELVOIR AVENUE  
= STA. 726+66.25 SOUTH TERRACE  
N 247436.5125  
E 2194843.1335

STA. 304+08.58 BELVOIR AVENUE  
= STA. 626+86.01 NORTH TERRACE  
N 247691.8126  
E 2194954.3093

TRAFFIC CONTROL LEGEND	
	WORK ZONE
	TEMPORARY TRAVEL LANES
	FLEXIBLE DRUMS (CHANNELIZING)
	SIGN (CONSTRUCTION)
	TRAFFIC FLOW
	PORTABLE BARRIER RAIL
	TEMPORARY ATTENUATOR
	ARROW BOARD TYPE C
	TEMPORARY BARRICADE (TYPE III)
	TEMPORARY BARRICADE (TYPE II)
	WARNING LIGHT (TYPE A) (LOW-INTENSITY FLASHING)



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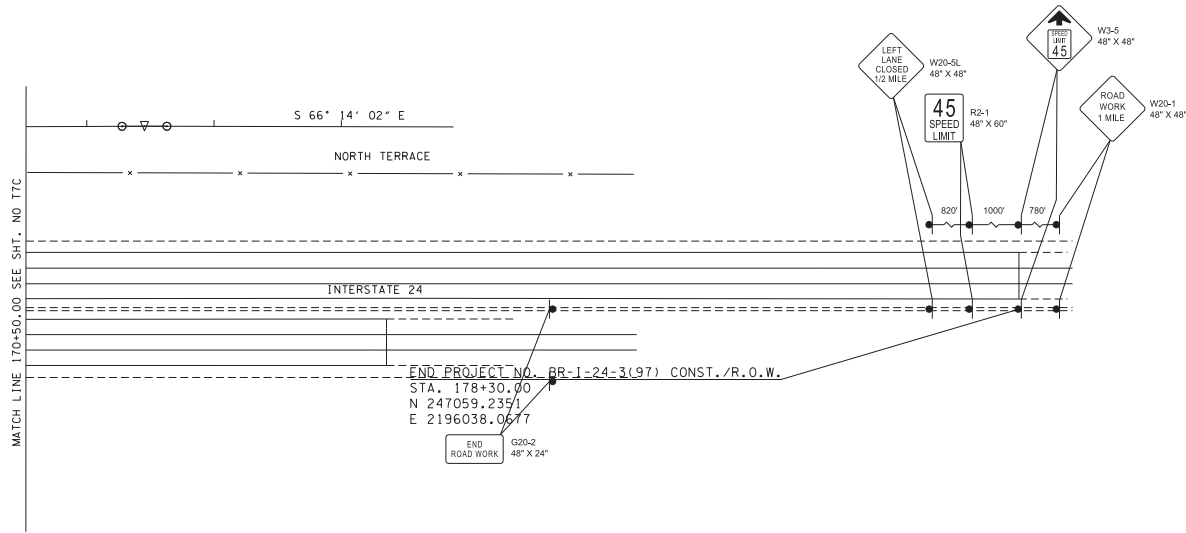
STATE OF TENNESSEE  
DEPARTMENT OF  
TRANSPORTATION  
**TRAFFIC CONTROL  
PLANS  
PHASE 2A**

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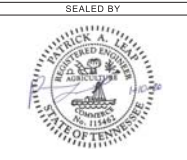
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TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2019	33003-2166-44	T7D
		33003-2167-44	
CONST.	2020	33003-3166-44	T7D
		33003-3167-44	

635



TRAFFIC CONTROL LEGEND	
SYMBOL	ITEM
	WORK ZONE
	TEMPORARY TRAVEL LANES
	FLEXIBLE DRUMS (CHANNELIZING)
	SIGN (CONSTRUCTION)
	TRAFFIC FLOW
	PORTABLE BARRIER RAIL
	TEMPORARY ATTENUATOR
	ARROW BOARD TYPE C
	TEMPORARY BARRICADE (TYPE III)
	TEMPORARY BARRICADE (TYPE II)
	WARNING LIGHT (TYPE A) (LOW-INTENSITY FLASHING)

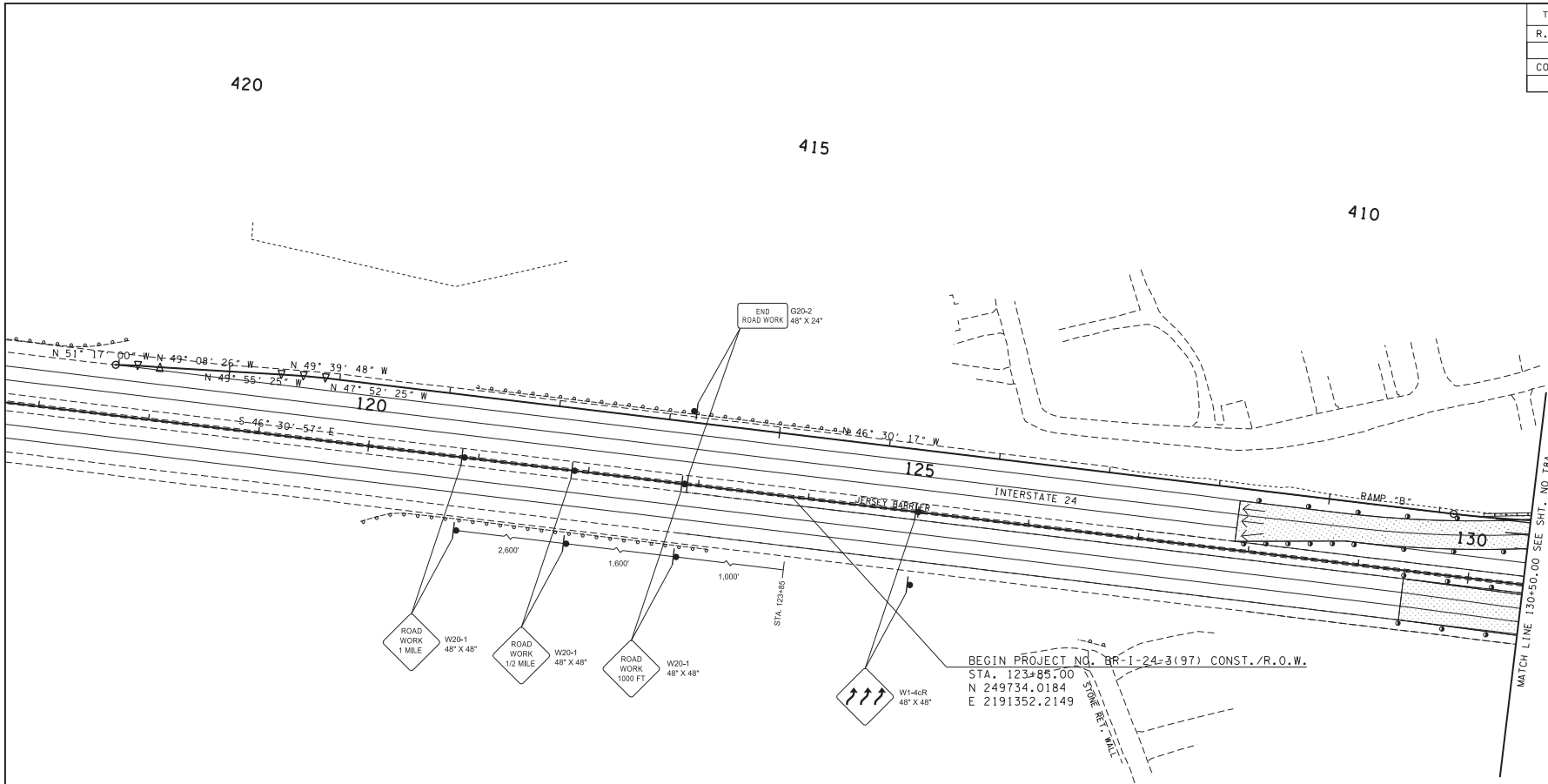


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STATE OF TENNESSEE  
DEPARTMENT OF  
TRANSPORTATION  
**TRAFFIC CONTROL  
PLANS  
PHASE 2A**




TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2019	33003-2166-44	T8
		33003-2167-44	
CONST.	2020	33003-3166-44	T8
		33003-3167-44	



TRAFFIC CONTROL LEGEND	
SYMBOL	ITEM
	WORK ZONE
	TEMPORARY TRAVEL LANES
	FLEXIBLE DRUMS (CHANNELIZING)
	SIGN (CONSTRUCTION)
	TRAFFIC FLOW
	PORTABLE BARRIER RAIL
	TEMPORARY ATTENUATOR
	ARROW BOARD TYPE C
	TEMPORARY BARRICADE (TYPE III)
	TEMPORARY BARRICADE (TYPE II)
	WARNING LIGHT (TYPE A) (LOW-INTENSITY FLASHING)

- PHASE 2B; SECOND WEEKEND CLOSURE
1. ALL ADVANCED WARNING SIGNS AND PORTABLE MESSAGE SIGNS SHALL BE IN PLACE PRIOR TO ANY CONSTRUCTION ACTIVITIES AND SHALL REMAIN IN PLACE UNTIL PHASE IS COMPLETE
  2. I-24 WESTBOUND LEFT LANE IS MERGED AS SHOWN
  3. I-24 WESTBOUND LANES ARE THEN DETOURED DOWN THE TEMPORARY OFF-RAMP, ACROSS S. GERMANTOWN ROAD AND BACK ONTO I-24 VIA RAMP "B"
  4. I-24 WESTBOUND BRIDGE DEMOLITION AND CONSTRUCTION ARE COMPLETED
  5. CONSTRUCTION BEGINS ON S. GERMANTOWN RD
  6. MAINTAIN LANES AS SHOWN IN EACH DIRECTION ON I-24
  7. CONSTRUCTION ZONE LANES WILL BE MAINTAINED AT A MIN. 11' LANES AND 2' SHOULDERS
  8. UTILIZE EXISTING ITS MESSAGE BOARDS FOR ADDITIONAL ADVANCED WARNING
  9. SEE SPECIAL PROVISION 108B FOR ADDITIONAL INFORMATION REGARDING LANE CLOSURES

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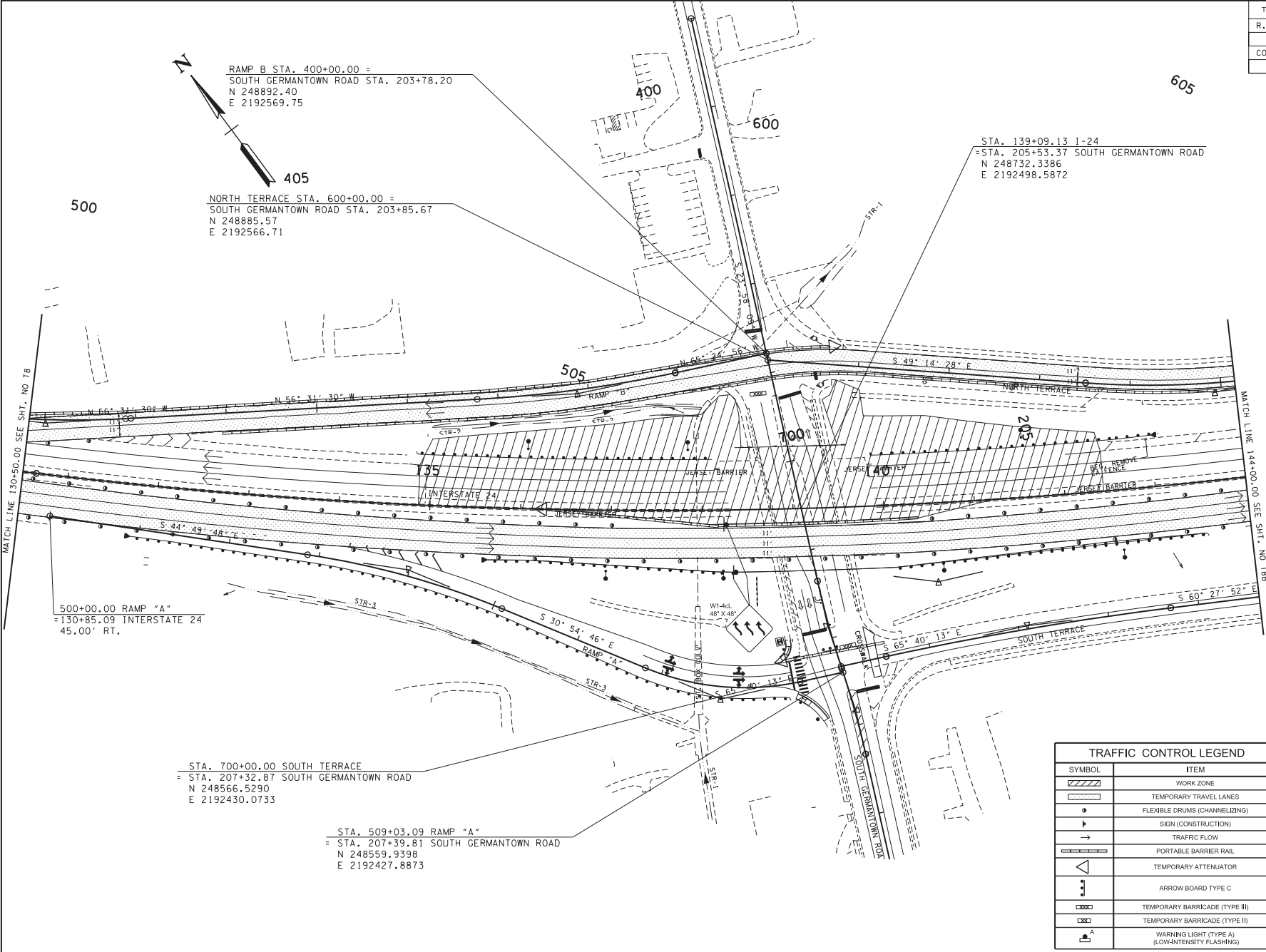
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DEPARTMENT OF  
TRANSPORTATION

**TRAFFIC CONTROL  
PLANS  
PHASE 2B**

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TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2019	33003-2166-44	T8A
		33003-2167-44	
CONST.	2020	33003-3166-44	T8A
		33003-3167-44	



RAMP B STA. 400+00.00 =  
 SOUTH GERMANTOWN ROAD STA. 203+78.20  
 N 248892.40  
 E 2192569.75

NORTH TERRACE STA. 600+00.00 =  
 SOUTH GERMANTOWN ROAD STA. 203+85.67  
 N 248885.57  
 E 2192566.71

STA. 139+09.13 I-24  
 = STA. 205+53.37 SOUTH GERMANTOWN ROAD  
 N 248732.3386  
 E 2192498.5872

500

405

400

600

605

MATCH LINE 130+50.00 SEE SHT. NO. T8

MATCH LINE 144+00.00 SEE SHT. NO. T8B

500+00.00 RAMP "A"  
 = 130+85.09 INTERSTATE 24  
 45.00' RT.

STA. 700+00.00 SOUTH TERRACE  
 = STA. 207+32.87 SOUTH GERMANTOWN ROAD  
 N 248566.5290  
 E 2192430.0733

STA. 509+03.09 RAMP "A"  
 = STA. 207+39.81 SOUTH GERMANTOWN ROAD  
 N 248559.9398  
 E 2192427.8873

TRAFFIC CONTROL LEGEND	
SYMBOL	ITEM
	WORK ZONE
	TEMPORARY TRAVEL LANES
	FLEXIBLE DRUMS (CHANNELIZING)
	SIGN (CONSTRUCTION)
	TRAFFIC FLOW
	PORTABLE BARRIER RAIL
	TEMPORARY ATTENUATOR
	ARROW BOARD TYPE C
	TEMPORARY BARRICADE (TYPE B)
	TEMPORARY BARRICADE (TYPE II)
	WARNING LIGHT (TYPE A) (LOW-INTENSITY FLASHING)

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STATE OF TENNESSEE  
 DEPARTMENT OF  
 TRANSPORTATION

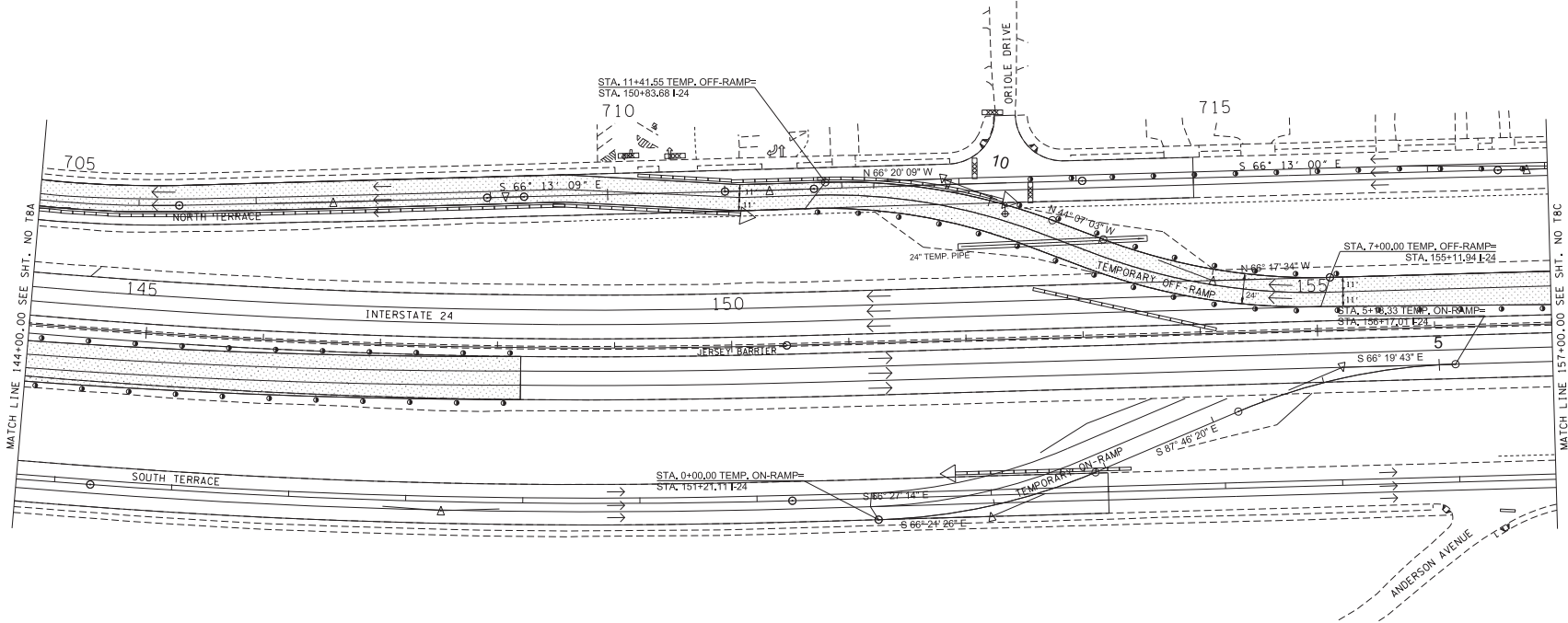
**TRAFFIC CONTROL  
 PLANS  
 PHASE 2B**

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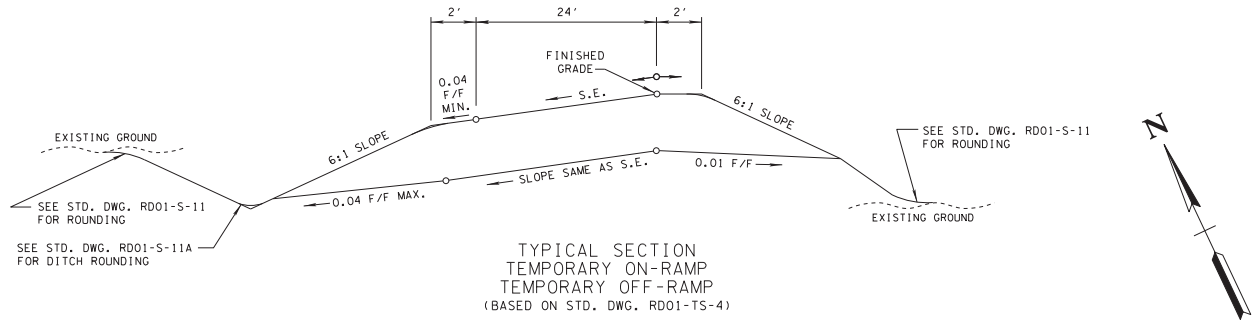
TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2019	33003-2166-44	T8B
		33003-2167-44	
CONST.	2020	33003-3166-44	T8B
		33003-3167-44	

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TRAFFIC CONTROL LEGEND	
	WORK ZONE
	TEMPORARY TRAVEL LANES
	FLEXIBLE DRUMS (CHANNELIZING)
	SIGN (CONSTRUCTION)
	TRAFFIC FLOW
	PORTABLE BARRIER RAIL
	TEMPORARY ATTENUATOR
	ARROW BOARD TYPE C
	TEMPORARY BARRICADE (TYPE III)
	TEMPORARY BARRICADE (TYPE II)
	WARNING LIGHT (TYPE A) (LOW-INTENSITY FLASHING)



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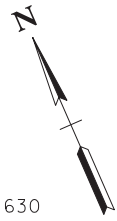
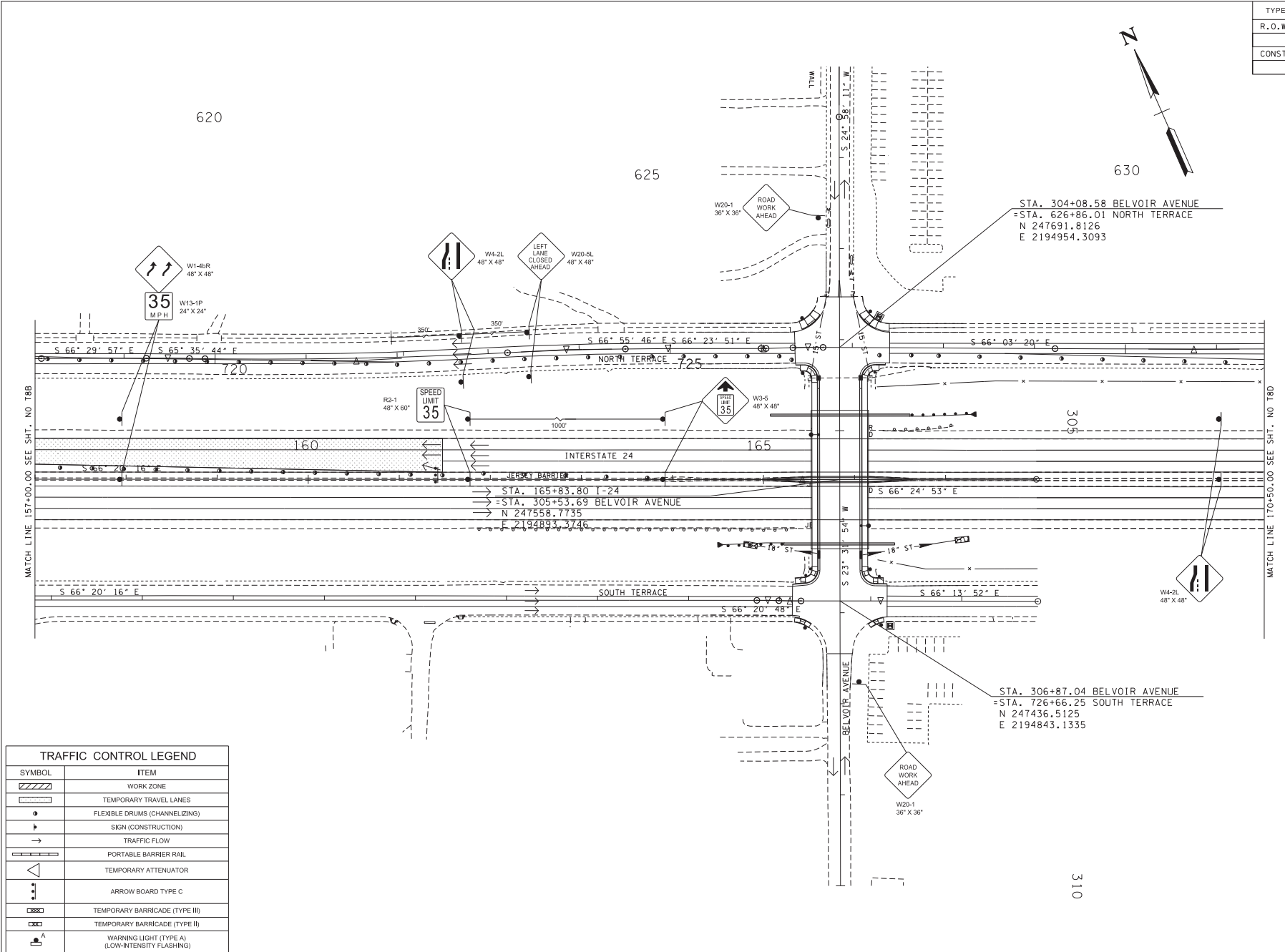
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DEPARTMENT OF  
TRANSPORTATION

TRAFFIC CONTROL  
PLANS  
PHASE 2B

1/10/2020  
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TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2019	33003-2166-44	T8C
		33003-2167-44	
CONST.	2020	33003-3166-44	T8C
		33003-3167-44	



TRAFFIC CONTROL LEGEND	
	WORK ZONE
	TEMPORARY TRAVEL LANES
	FLEXIBLE DRUMS (CHANNELIZING)
	SIGN (CONSTRUCTION)
	TRAFFIC FLOW
	PORTABLE BARRIER RAIL
	TEMPORARY ATTENUATOR
	ARROW BOARD TYPE C
	TEMPORARY BARRICADE (TYPE III)
	TEMPORARY BARRICADE (TYPE II)
	WARNING LIGHT (TYPE A) (LOW-INTENSITY FLASHING)

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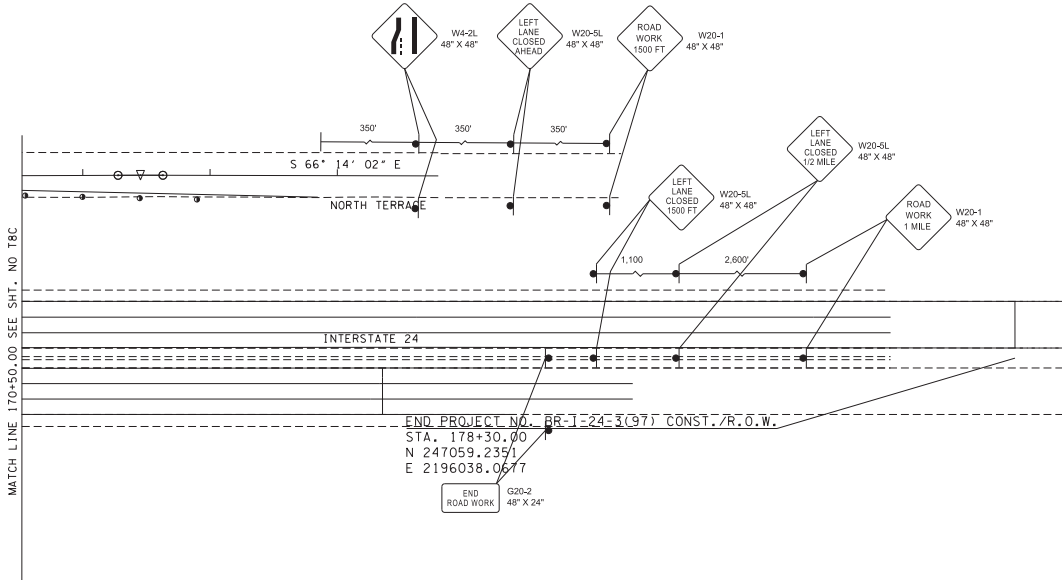
STATE OF TENNESSEE  
DEPARTMENT OF  
TRANSPORTATION

**TRAFFIC CONTROL  
PLANS  
PHASE 2B**

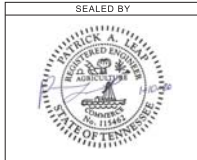
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TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2019	33003-2166-44	T8D
		33003-2167-44	
CONST.	2020	33003-3166-44	T8D
		33003-3167-44	

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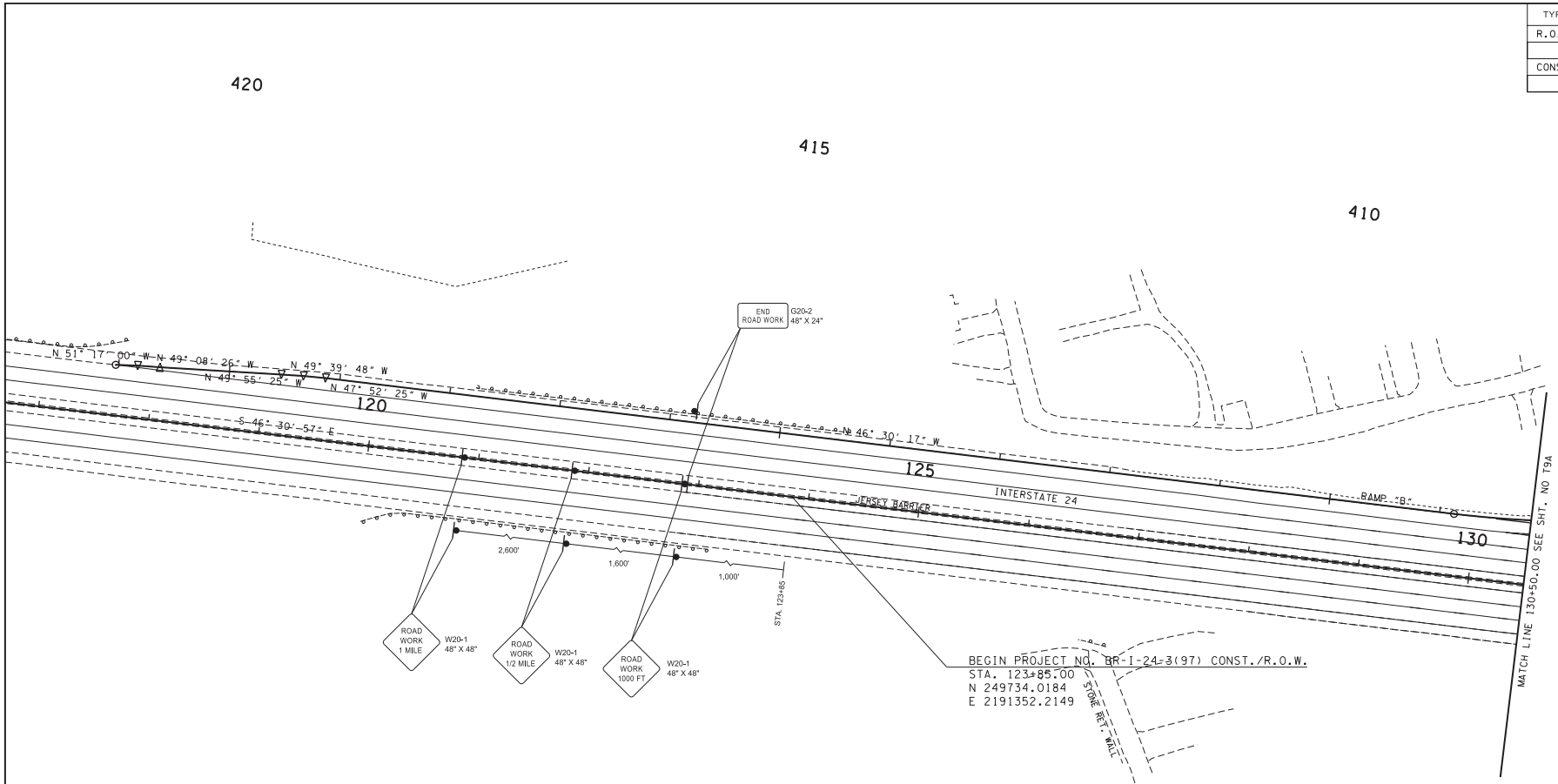
TRAFFIC CONTROL LEGEND	
SYMBOL	ITEM
	WORK ZONE
	TEMPORARY TRAVEL LANES
	FLEXIBLE DRUMS (CHANNELIZING)
	SIGN (CONSTRUCTION)
	TRAFFIC FLOW
	PORTABLE BARRIER RAIL
	TEMPORARY ATTENUATOR
	ARROW BOARD TYPE C
	TEMPORARY BARRICADE (TYPE III)
	TEMPORARY BARRICADE (TYPE I)
	WARNING LIGHT (TYPE A) (LOW-INTENSITY FLASHING)



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STATE OF TENNESSEE  
 DEPARTMENT OF  
 TRANSPORTATION  
 TRAFFIC CONTROL  
 PLANS  
 PHASE 2B

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2019	33003-2166-44	T9
		33003-2167-44	
CONST.	2020	33003-3166-44	T9
		33003-3167-44	



TRAFFIC CONTROL LEGEND	
SYMBOL	ITEM
	WORK ZONE
	TEMPORARY TRAVEL LANES
	FLEXIBLE DRUMS (CHANNELIZING)
	SIGN (CONSTRUCTION)
	TRAFFIC FLOW
	PORTABLE BARRIER RAIL
	TEMPORARY ATTENUATOR
	ARROW BOARD TYPE C
	TEMPORARY BARRICADE (TYPE III)
	TEMPORARY BARRICADE (TYPE II)
	WARNING LIGHT (TYPE A) (LOW-INTENSITY FLASHING)

- PHASE 3A:
1. ALL ADVANCED WARNING SIGNS AND PORTABLE MESSAGE SIGNS SHALL BE IN PLACE PRIOR TO ANY CONSTRUCTION ACTIVITIES AND SHALL REMAIN IN PLACE UNTIL PHASE IS COMPLETE
  2. WEEKEND CLOSURES ARE COMPLETE
  3. TEMPORARY RAMPS ARE REMOVED AND AREA IS RESTORED TO PRE-CONSTRUCTION CONDITION
  4. S. GERMANTOWN CONSTRUCTION IS COMPLETED
  5. CONSTRUCTION ZONE LANES WILL BE MAINTAINED AT A MIN. 11' LANES AND 2' SHOULDERS
  6. UTILIZE EXISTING ITS MESSAGE BOARDS FOR ADDITIONAL ADVANCED WARNING
  7. SEE SPECIAL PROVISION 1098B FOR ADDITIONAL INFORMATION REGARDING LANE CLOSURES
  8. FINAL PAVING AND MARKING BEING COMPLETED ON S. GERMANTOWN RD.
  9. ALL PEDESTRIAN FACILITIES WERE COMPLETED DURING PHASE 1C

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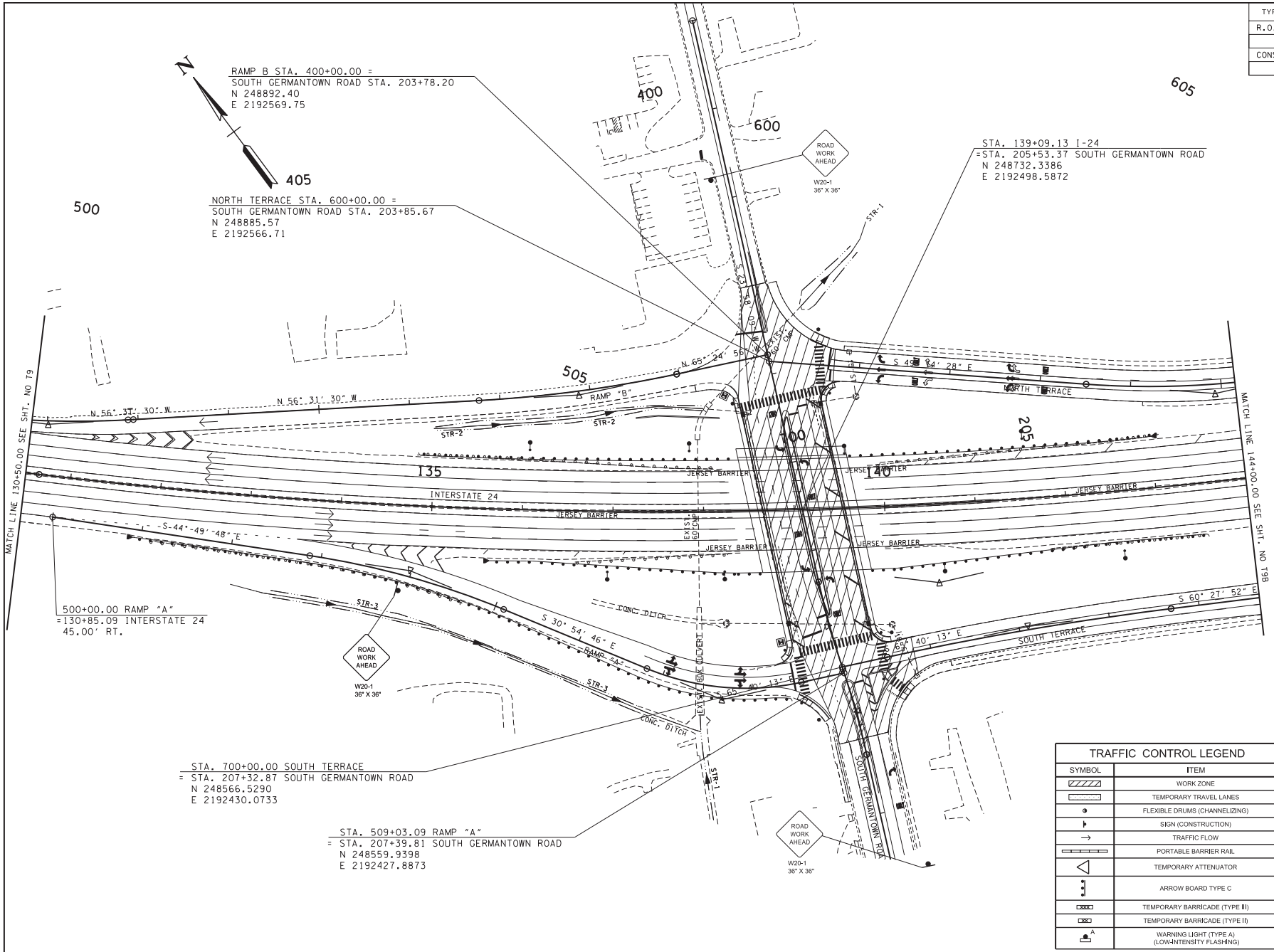
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TRANSPORTATION

**TRAFFIC CONTROL PLANS  
PHASE 3A**

1/10/2020  
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TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2019	33003-2166-44	T9A
		33003-2167-44	
CONST.	2020	33003-3166-44	T9A
		33003-3167-44	



RAMP B STA. 400+00.00 =  
 SOUTH GERMANTOWN ROAD STA. 203+78.20  
 N 248892.40  
 E 2192569.75

NORTH TERRACE STA. 600+00.00 =  
 SOUTH GERMANTOWN ROAD STA. 203+85.67  
 N 248885.57  
 E 2192566.71

STA. 139+09.13 I-24  
 = STA. 205+53.37 SOUTH GERMANTOWN ROAD  
 N 248732.3386  
 E 2192498.5872

500

400

600

605

505

205

135

400

INTERSTATE 24

SOUTH TERRACE

500+00.00 RAMP "A"  
 = 130+85.09 INTERSTATE 24  
 45.00' RT.

STA. 700+00.00 SOUTH TERRACE  
 = STA. 207+32.87 SOUTH GERMANTOWN ROAD  
 N 248566.5290  
 E 2192430.0733

STA. 509+03.09 RAMP "A"  
 = STA. 207+39.81 SOUTH GERMANTOWN ROAD  
 N 248559.9398  
 E 2192427.8873

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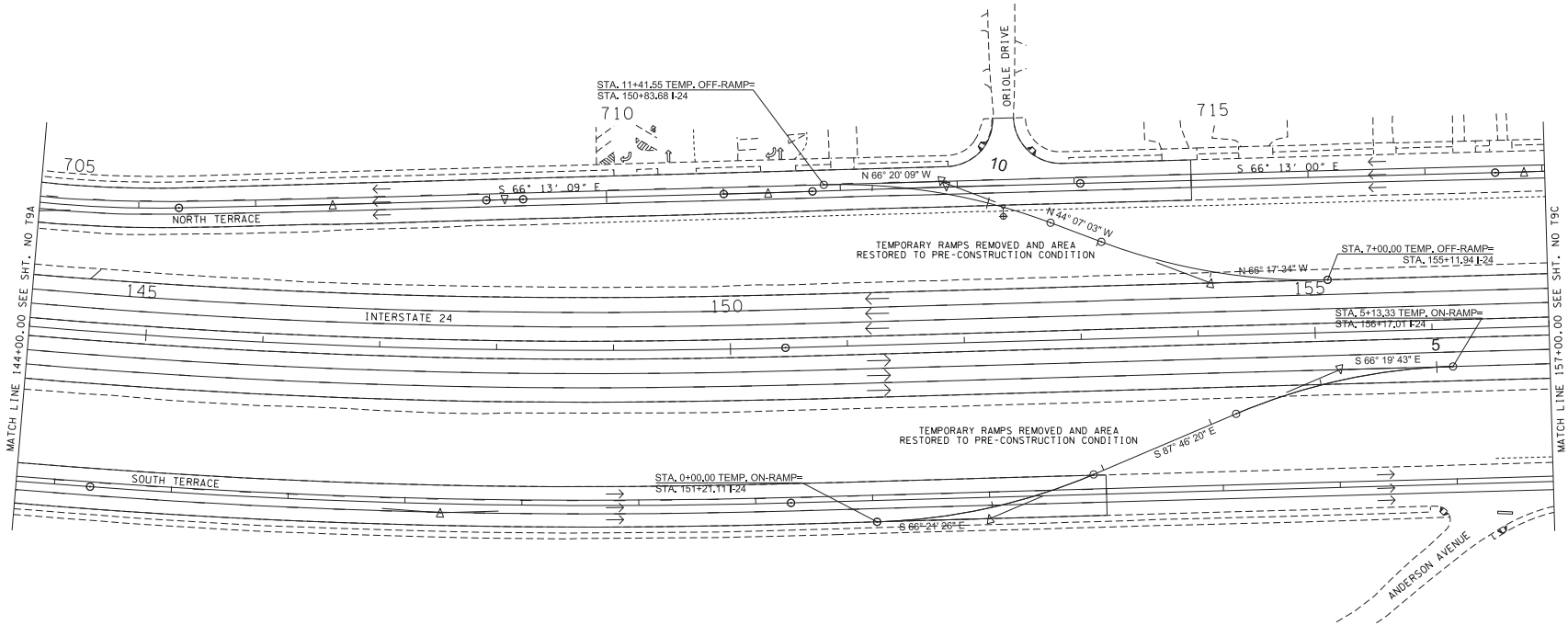
**TRAFFIC CONTROL PLANS  
 PHASE 3A**

1/10/2020  
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TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2019	33003-2166-44	T9B
		33003-2167-44	
CONST.	2020	33003-3166-44	T9B
		33003-3167-44	

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**TRAFFIC CONTROL LEGEND**

SYMBOL	ITEM
	WORK ZONE
	TEMPORARY TRAVEL LANES
	FLEXIBLE DRUMS (CHANNELIZING)
	SIGN (CONSTRUCTION)
	TRAFFIC FLOW
	PORTABLE BARRIER RAIL
	TEMPORARY ATTENUATOR
	ARROW BOARD TYPE C
	TEMPORARY BARRICADE (TYPE III)
	TEMPORARY BARRICADE (TYPE II)
	WARNING LIGHT (TYPE A) (LOW-INTENSITY FLASHING)

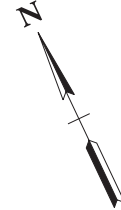
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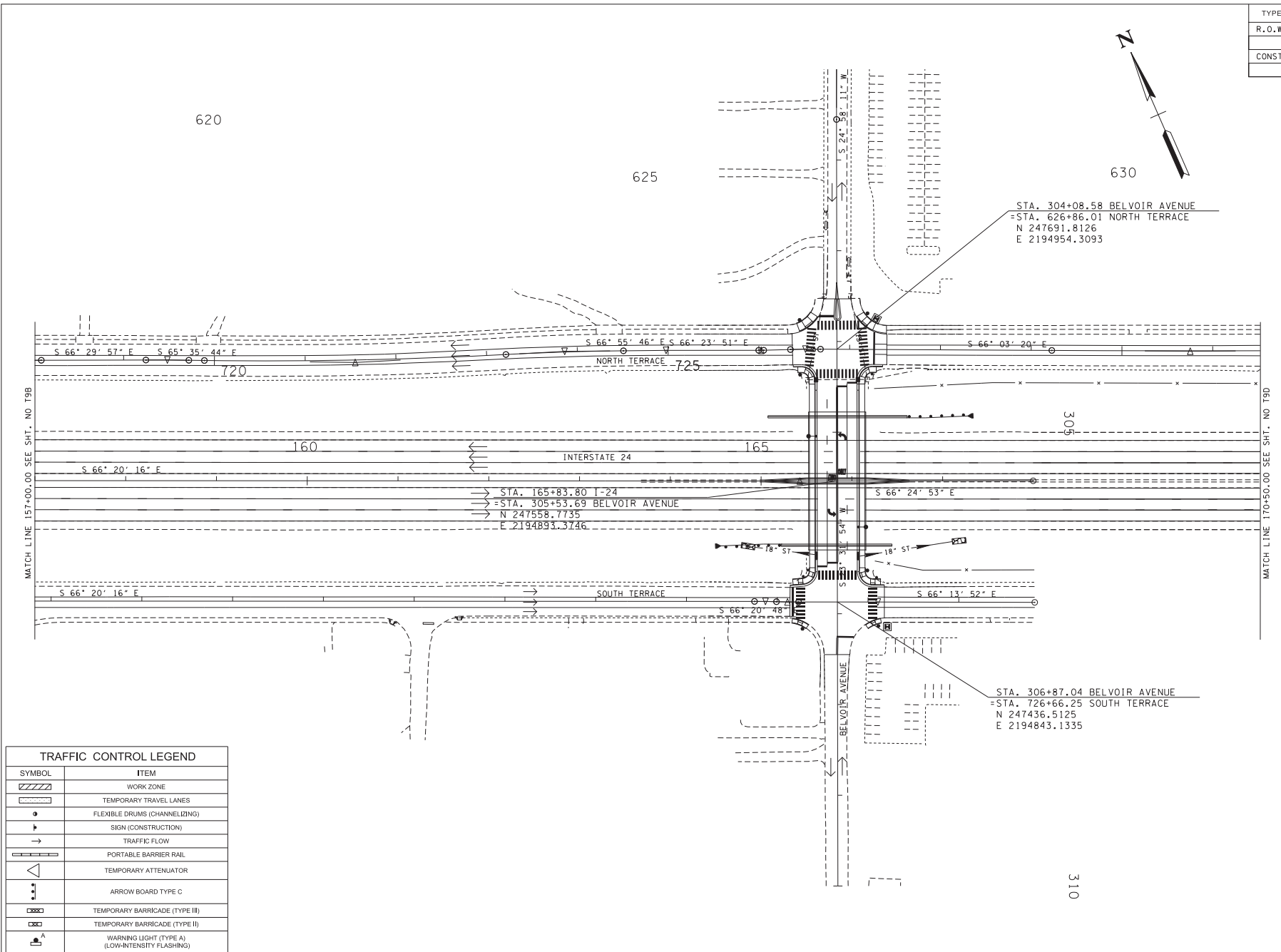
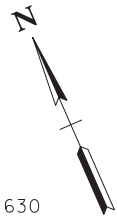
**STATE OF TENNESSEE  
DEPARTMENT OF  
TRANSPORTATION**

**TRAFFIC CONTROL  
PLANS  
PHASE 3A**

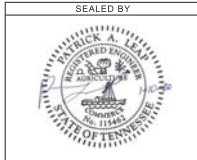




TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2019	33003-2166-44	T9C
		33003-2167-44	
CONST.	2020	33003-3166-44	T9C
		33003-3167-44	



TRAFFIC CONTROL LEGEND	
SYMBOL	ITEM
	WORK ZONE
	TEMPORARY TRAVEL LANES
	FLEXIBLE DRUMS (CHANNELIZING)
	SIGN (CONSTRUCTION)
	TRAFFIC FLOW
	PORTABLE BARRIER RAIL
	TEMPORARY ATTENUATOR
	ARROW BOARD TYPE C
	TEMPORARY BARRICADE (TYPE III)
	TEMPORARY BARRICADE (TYPE I)
	WARNING LIGHT (TYPE A) (LOW-INTENSITY FLASHING)



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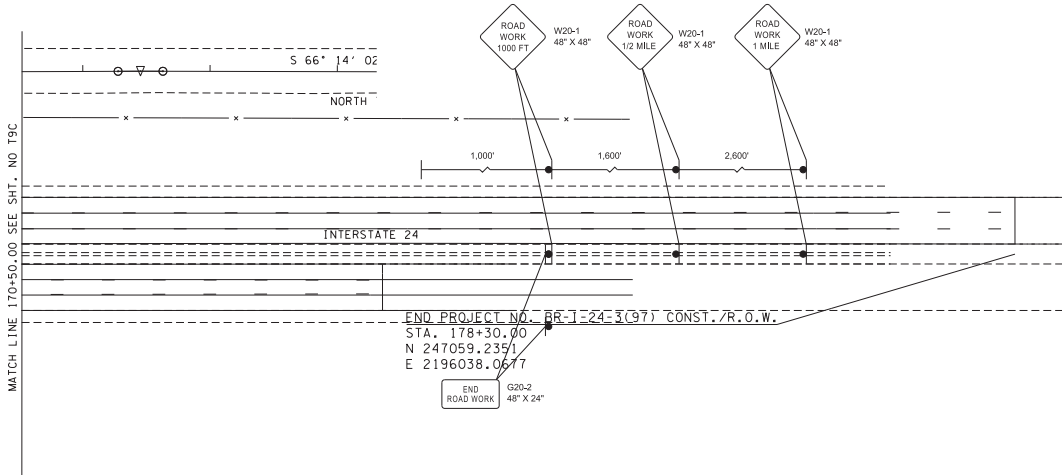
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TRANSPORTATION  
**TRAFFIC CONTROL  
PLANS  
PHASE 3A**

1/10/2020  
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310

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2019	33003-2166-44	T9D
		33003-2167-44	
CONST.	2020	33003-3166-44	T9D
		33003-3167-44	

635




END PROJECT NO. BR-1-24-3(97) CONST. R.O.W.  
 STA. 178+30.00  
 N 247059.2351  
 E 2196038.0677

END ROAD WORK G20-2  
 48" X 24"

MATCH LINE 170+50.00 SEE SH. NO T9C

TRAFFIC CONTROL LEGEND	
SYMBOL	ITEM
	WORK ZONE
	TEMPORARY TRAVEL LANES
	FLEXIBLE DRUMS (CHANNELIZING)
	SIGN (CONSTRUCTION)
	TRAFFIC FLOW
	PORTABLE BARRIER RAIL
	TEMPORARY ATTENUATOR
	ARROW BOARD TYPE C
	TEMPORARY BARRICADE (TYPE III)
	TEMPORARY BARRICADE (TYPE I)
	WARNING LIGHT (TYPE A) (LOW-INTENSITY FLASHING)

SEALED BY

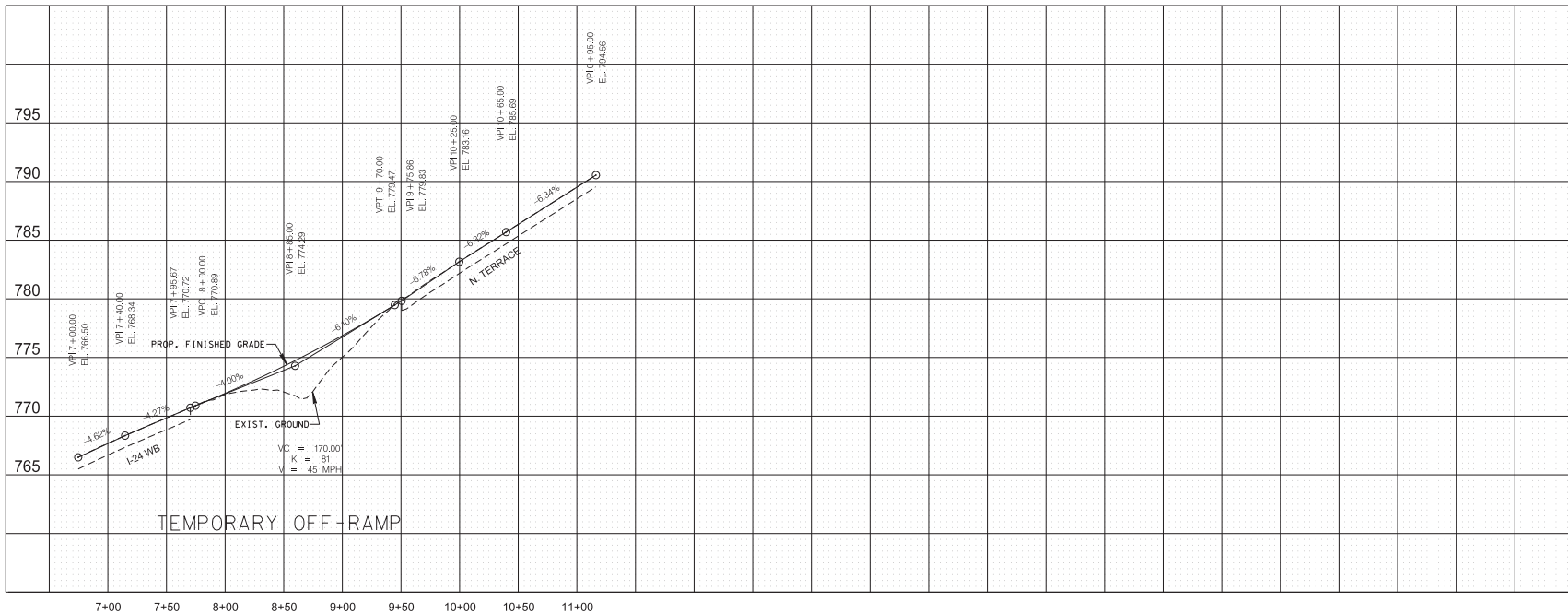
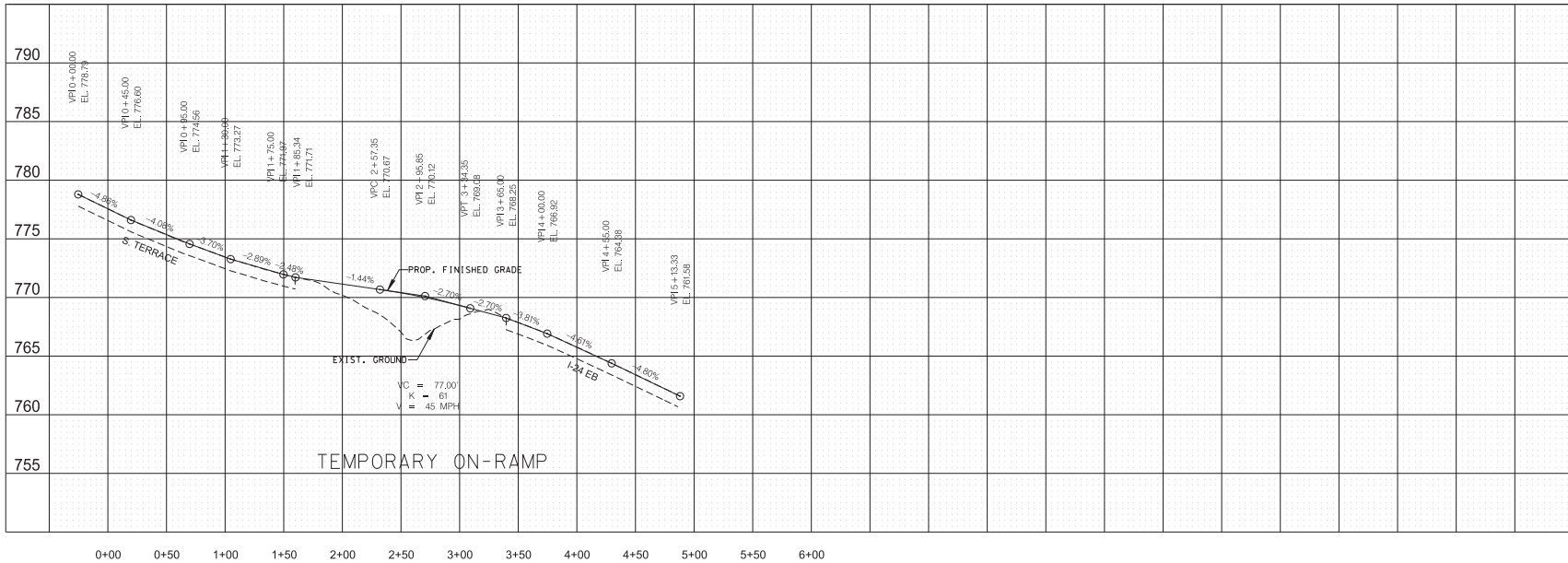


COORDINATES ARE NAD/83(1995).  
 ARE DATUM ADJUSTED BY THE  
 FACTOR OF 0.99998 AND TIED TO  
 THE TGRN. ALL ELEVATIONS ARE  
 REFERENCED TO THE NAVD 1988.

**STATE OF TENNESSEE**  
**DEPARTMENT OF**  
**TRANSPORTATION**

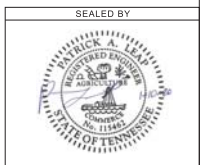
**TRAFFIC CONTROL PLANS**  
**PHASE 3A**

1/10/2020 F:\36136720\3673000\04\_CAD\TRANS\T9D.dwg



TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2019	33003-2166-44	T10
		33003-2167-44	
CONST.	2020	33003-3166-44	T10
		33003-3167-44	

REV. 10-23-19: REVISED PROFILES FOR TEMP. ON-RAMP AND TEMP. OFF-RAMP.



STATE OF TENNESSEE  
 DEPARTMENT OF  
 TRANSPORTATION

**TRAFFIC CONTROL  
 PROFILES**

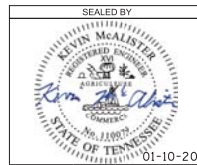
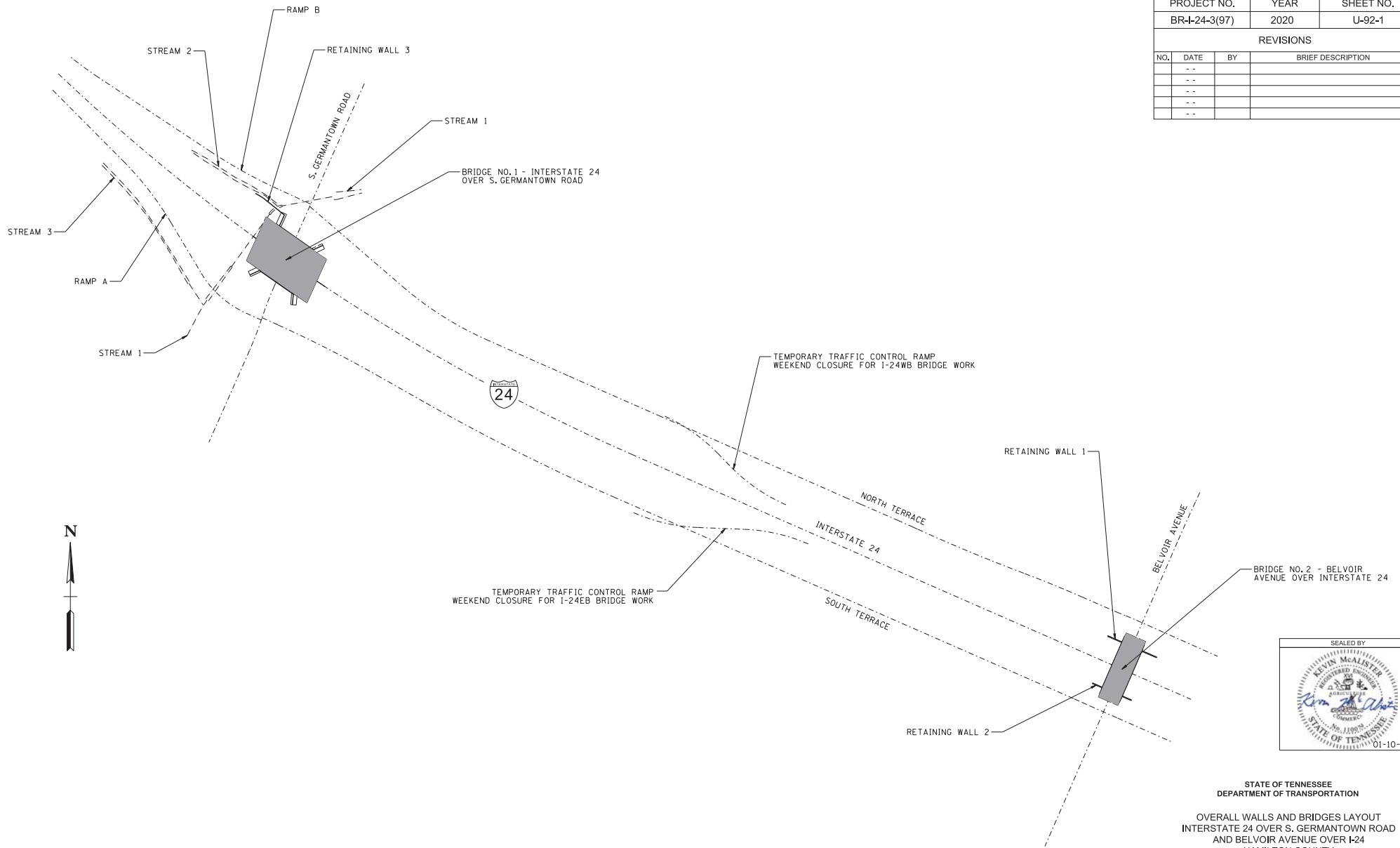
SCALE: 1"=50' HORIZ.  
 1"=5' VERT.

CONST. NO.: 33003-3166-44

PROJECT NO.	YEAR	SHEET NO.
BR-I-24-3(97)	2020	U-92-1

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
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STATE OF TENNESSEE  
 DEPARTMENT OF TRANSPORTATION  
 OVERALL WALLS AND BRIDGES LAYOUT  
 INTERSTATE 24 OVER S. GERMANTOWN ROAD  
 AND BELVOIR AVENUE OVER I-24  
 HAMILTON COUNTY  
 2019

PIN NO: 124069.00  
 DESIGN BY: BARGE DESIGN SOLUTIONS DATE: 01-2020  
 DRAWN BY: BARGE DESIGN SOLUTIONS DATE: 01-2020  
 SUPERVISED BY: BARGE DESIGN SOLUTIONS DATE: 01-2020  
 CHECKED BY: BARGE DESIGN SOLUTIONS DATE: 01-2020

1/10/2020  
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CONST. NO.: 33003-3166-44

PROJECT NO.	YEAR	SHEET NO.
BR-I-24-3(97)	2020	U-92-3

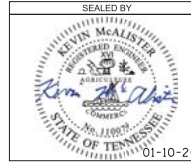
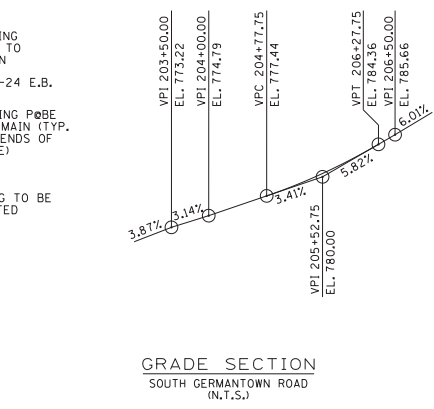
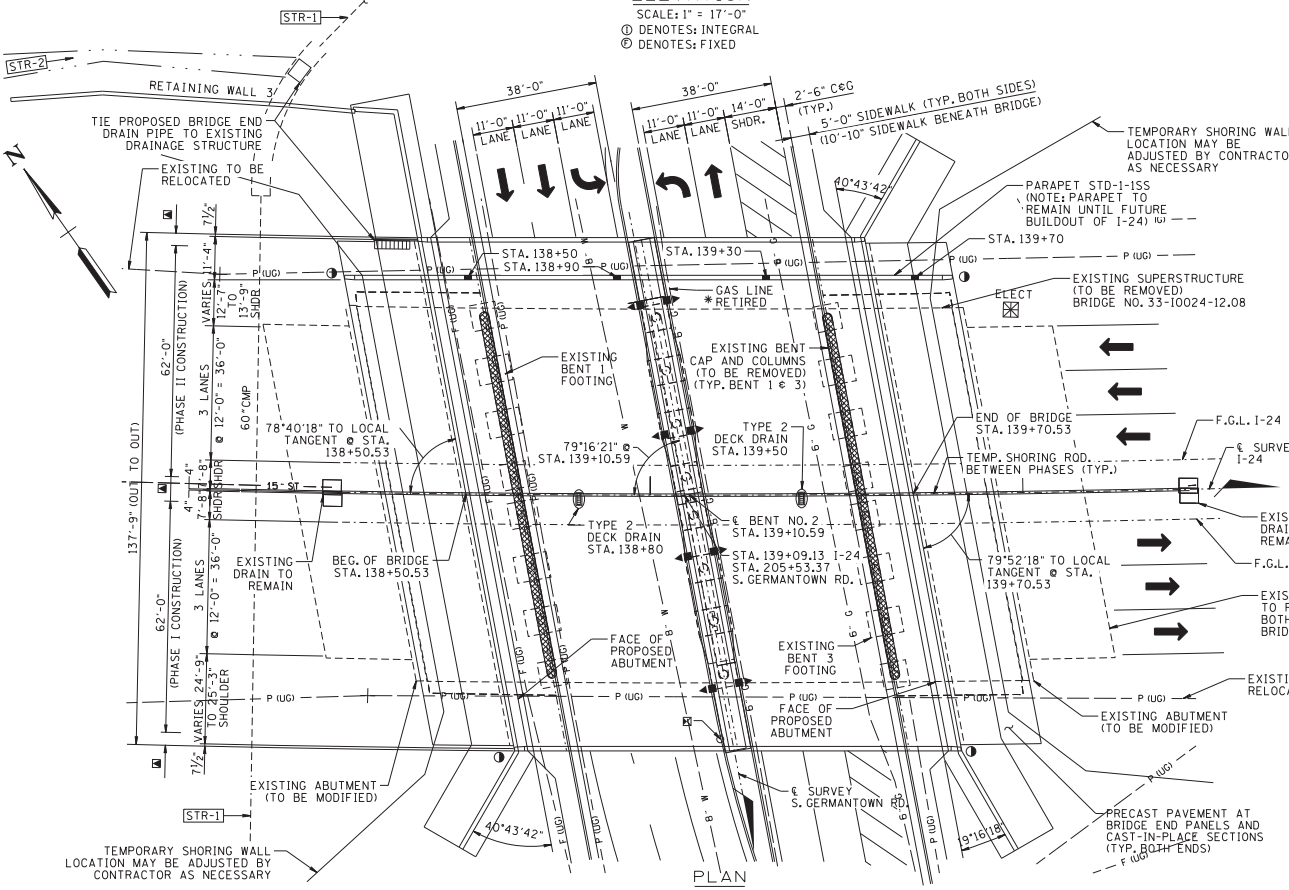
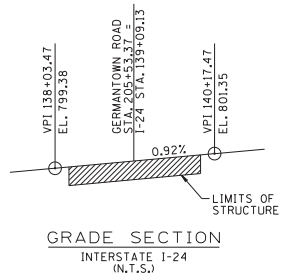
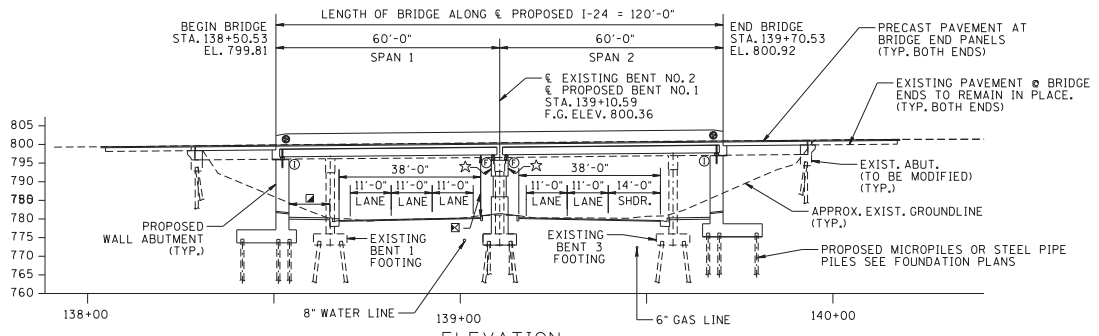
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION
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**SCOPE OF WORK**

- PLACE TRAFFIC CONTROL TO PERFORM INITIAL PREPARATORY WORK ON BRIDGES AND APPROACHES. USE OF OFF-PEAK LANE CLOSURES WILL BE ALLOWED IN ACCORDANCE WITH SP108B.
- COMPLETE WIDENING MODIFICATIONS AND CONSTRUCT WIDENED BENT AT EXISTING BENT 2/PROPOSED BENT 1 AND CONSTRUCT NEW ABUTMENTS 1 AND 2.
- COMPLETE REQUIRED PHASED DEMOLITION OF SUPERSTRUCTURE AND BENTS 1 & 3 DURING WEEKEND ROADWAY CLOSURES. PHASING MAY BE ADJUSTED BY THE CONTRACTOR. EXISTING BENTS 1 & 3 TO BE REMOVED TO 2'-0" BELOW PROPOSED GROUND OR TO THE TOP OF EXISTING FOOTING.
- COMPLETE BEARING MODIFICATIONS AT EXISTING BENT 2/PROPOSED BENT 1.
- INSTALL NEW PRECAST BOX BEAMS, FULL DEPTH LONGITUDINAL PRECAST DECK PANELS, PRECAST P.A.B.E. PANELS, ABUTMENT BACKWALLS, BENT DIAPHRAGMS AND CLOSURE POURS DURING WEEKEND ROADWAY CLOSURES.
- PLACE NEW CANTILEVERS, MEDIAN BARRIER DECK SECTION, CONCRETE PARAPETS ON BOTH SIDES OF THE BRIDGE. THIS WORK TO BE COMPLETED AFTER THE SUPERSTRUCTURE IS IN-PLACE AND CURED.
- INSTALL DECK SEALANT AND PAVE 3/4" ASPHALT.
- TEXTURE COAT ALL SURFACES OF THE SUPERSTRUCTURE SHOWN ON THE TEXTURE COAT SKETCH (SHEET U-92-7) TEXTURE COAT ALL EXPOSED STRUCTURE CONCRETE SURFACES.
- COMPLETE OTHER INCIDENTAL ROADWAY RELATED ITEMS.
- COMPLETE ANY REQUIRED UTILITY AND ITS MODIFICATIONS

CURVE C109  
 PI 140+65.90  
 N 248,577.2972  
 E 2,192,571.8159  
 Δ 19° 49' 19" (LT)  
 D 1' 00' 00"  
 R 5,729.58  
 L 1,982.20  
 T 1,001.11  
 SE 0.023 FT/FT  
 DESIGN SPEED N/A  
 TRANS. LENGTH EXIST

- DENOTES: 10'-10" SIDEWALK BENEATH BRIDGE (TYP. BOTH SIDES)
- ⊠ DENOTES: POINT OF MIN. VERT. CLEARANCE; REQUIRED: 14'-6" ACTUAL: 14'-9"
- ☆ DENOTES: WALL PACK LIGHTING MAX SPA. 40'



STATE OF TENNESSEE  
 DEPARTMENT OF TRANSPORTATION  
 BRIDGE NO. 1  
 LAYOUT OF BRIDGE

INTERSTATE 24 OVER  
 S. GERMANTOWN ROAD  
 FED. I.D. NO. 33100240055  
 HAMILTON COUNTY  
 2020

DESIGN BY: BARGE DESIGN SOLUTIONS  
 DRAWN BY: BARGE DESIGN SOLUTIONS  
 SUPERVISED BY: BARGE DESIGN SOLUTIONS  
 CHECKED BY: BARGE DESIGN SOLUTIONS

- ▨ DENOTES: 2'-0"X8'-7" END OF BRIDGE DRAIN WITH PAVEMENT AT BRIDGE ENDS SEE STD. DWG. NOS. STD-1-6,7, AND 8
- ▩ DENOTES: EXISTING TO BE DEMOLISHED MINIMUM OF 2'-0" BELOW PROPOSED GROUND SURFACE (TYP.) OR TOP OF EXIST. FTG.
- \* DENOTES: IF RETIRED GAS LINE NEEDS TO BE REMOVED CONTACT GAS COMPANY TO ENSURE LINE HAS BEEN PROPERLY BLED PRIOR TO REMOVAL.

- ⊠ DENOTES: TYPE 2 BRIDGE DECK GRATE DRAIN (SEE U-92-39)
- ⊡ DENOTES: GUARDRAIL ATTACHMENT TO STD-1-155
- ⊢ DENOTES: PHASE III CONSTRUCTION, CAST-IN-PLACE MEDIAN AND OVERHANG SECTIONS, DIMENSIONS VARY
- ▲ DENOTES: UP TYPE LIGHT FIXTURE UNDER BRIDGE (SEE LIGHTING PLANS)
- DENOTES: JUNCTION BOX MOUNTED FOR UNDER BRIDGE LIGHTING

- ⊠ DENOTES: POINT OF MIN. VERT. CLEARANCE; REQUIRED: 14'-6" ACTUAL: 14'-9"
- ▲ DENOTES: PARAPET DRAINS (SEE STD-1-25S)

INTERCONNECTED PORTABLE BARRIER RAIL 1080 L.F.

U-92-3

11/10/2020 F:\36\95730\97300004\_CADD\TNS\GERMANTOWN RD\Bridges\IGN\973000 GERmantown Layout.dgn

CONST. NO.: 33003-3166-44

PROJECT NO.	YEAR	SHEET NO.
BR-I-24-3(97)	2020	U-92-4

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
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LIST OF DRAWINGS

DRAWING	DWG. NO.	LAST REV. DATE
OVERALL BRIDGE AND WALL LAYOUT	U-92-1	
OVERALL ESTIMATED QUANTITIES	U-92-2	
LAYOUT OF BRIDGE	U-92-3	
LIST OF DRAWINGS	U-92-4	
GENERAL NOTES	U-92-5	
GENERAL NOTES	U-92-6	
ESTIMATED QUANTITIES	U-92-7	
ESTIMATED QUANTITIES	U-92-8	
FOUNDATION DATA	U-92-9	
FOUNDATION DATA	U-92-10	
FOUNDATION DATA	U-92-11	
PHASING AND DEMOLITION PLAN	U-92-12	
PHASING AND DEMOLITION PLAN	U-92-13	
PHASING AND DEMOLITION PLAN	U-92-14	
BENT NOS. 1 & 3 & ABUTMENT DEMOLITION PLAN	U-92-15	
EXIST. BENT NO. 2/PROP. BENT NO. 1 DEMOLITION PLAN	U-92-16	
CONCRETE REPAIR DETAILS	U-92-17	
EXCAVATION LIMITS	U-92-18	
SUPERSTRUCTURE	U-92-19	
SUPERSTRUCTURE DETAILS	U-92-20	
SUPERSTRUCTURE DETAILS	U-92-21	
FRAMING PLAN	U-92-22	
CLOSED DRAINAGE DETAILS	U-92-23	
PANEL LAYOUT	U-92-24	
PANEL DETAILS (1 OF 9)	U-92-25	
PANEL DETAILS (2 OF 9)	U-92-26	
PANEL DETAILS (3 OF 9)	U-92-27	
PANEL DETAILS (4 OF 9)	U-92-28	
PANEL DETAILS (5 OF 9)	U-92-29	
PANEL DETAILS (6 OF 9)	U-92-30	
PANEL DETAILS (7 OF 9)	U-92-31	
PANEL DETAILS (8 OF 9)	U-92-32	
PANEL DETAILS (9 OF 9)	U-92-33	
SUPERSTRUCTURE BACKWALL DETAILS	U-92-34	
SUPERSTRUCTURE BACKWALL DETAILS	U-92-35	
SUPERSTRUCTURE BACKWALL DETAILS	U-92-36	
SUPERSTRUCTURE BACKWALL DETAILS	U-92-37	
CLOSURE POUR DETAILS	U-92-38	
PRESTRESSED BOX BEAM DETAILS	U-92-39	
ABUTMENT NO. 1 (1 OF 2)	U-92-40	
ABUTMENT NO. 1 (2 OF 2)	U-92-41	
ABUTMENT NO. 1 DETAILS	U-92-42	
ABUTMENT NO. 1 DETAILS	U-92-43	
ABUTMENT NO. 1 DETAILS	U-92-44	
ABUTMENT NO. 1 WINGWALL DETAILS	U-92-45	
ABUTMENT NO. 1 COPING DETAILS	U-92-46	
ABUTMENT NO. 1 PILE LAYOUT	U-92-47	
ABUTMENT NO. 1 FOUNDATION DETAILS	U-92-48	
ABUTMENT NO. 1 FOUNDATION DETAILS	U-92-49	
ABUTMENT NO. 1 FOUNDATION DETAILS	U-92-50	
ABUTMENT NO. 2 (1 OF 2)	U-92-51	
ABUTMENT NO. 2 (2 OF 2)	U-92-52	
ABUTMENT NO. 2 DETAILS	U-92-53	
ABUTMENT NO. 2 DETAILS	U-92-54	
ABUTMENT NO. 2 DETAILS	U-92-55	
ABUTMENT NO. 2 WINGWALL DETAILS	U-92-56	
ABUTMENT NO. 2 COPING DETAILS	U-92-57	
ABUTMENT NO. 2 PILE LAYOUT	U-92-58	
ABUTMENT NO. 2 FOUNDATION DETAILS	U-92-59	
ABUTMENT NO. 2 FOUNDATION DETAILS	U-92-60	
ABUTMENT NO. 2 FOUNDATION DETAILS	U-92-61	
EXIST. BENT NO. 2/ PROP. BENT NO. 1 LAYOUT (1 OF 2)	U-92-62	
EXIST. BENT NO. 2/ PROP. BENT NO. 1 LAYOUT (2 OF 2)	U-92-63	
BENT NO. 1 DETAILS	U-92-64	
BENT NO. 1 DETAILS	U-92-65	
BENT NO. 1 PILE LAYOUT	U-92-66	
BENT NO. 1 FOUNDATION DETAILS	U-92-67	
MICROPILE DETAILS	U-92-68	
PRECAST PAVEMENT AT BRIDGE ENDS PANEL LAYOUT	U-92-69	
PRECAST PAVEMENT AT BRIDGE ENDS PANEL DETAILS	U-92-70	
PRECAST PAVEMENT AT BRIDGE ENDS PANEL DETAILS	U-92-71	
PRECAST PAVEMENT AT BRIDGE ENDS PANEL DETAILS	U-92-72	
PRECAST PAVEMENT AT BRIDGE ENDS PANEL DETAILS	U-92-73	
P.A.B.E. MODIFICATIONS	U-92-74	
FINAL FOUNDATION DATA	U-92-75	
FINAL FOUNDATION DATA	U-92-76	
FINAL FOUNDATION DATA	U-92-77	
FINAL FOUNDATION DATA	U-92-78	
BILL OF STEEL	U-92-79	
BILL OF STEEL	U-92-80	

LIST OF STANDARD DRAWINGS

DRAWING	DWG. NO.	LAST REV. DATE
BRIDGE RATLING SINGLE SLOPE	STD-1-1SS	5-1-14
CONCRETE PARAPET		
STEEL SLIDER PLATE ASSEMBLIES FOR SINGLE SLOPE CONCRETE PARAPET AND BRIDGE DECK DRAIN DETAILS	STD-1-2SS	
STD. SINGLE SLOPE CONCRETE	STD-1-3SS	11-1-10
MEDIAN BARRIER		
REINFORCED CONCRETE PAVEMENT AT BRIDGE ENDS	STD-1-5	3-26-14
BRIDGE END DRAIN W/ PABE	STD-1-6	4-28-97
BRIDGE END DRAIN W/ PABE	STD-1-7	8-24-11
BRIDGE END DRAIN 2'X8'-7" W/ PABE	STD-1-8	5-1-95
BRIDGE MOUNTED INTERCONNECTED PORTABLE BARRIER RAIL	STD-2-1	11-01-10
VERTICAL PANEL DETAILS	STD-2-2	
BRIDGE MOUNTED INTERCONNECTED PORTABLE BARRIER RAIL ALTERNATE CONNECTION DETAIL	STD-2-3	
STD. PILE DETAILS	STD-5-1	10-25-93
STD. PILE DETAILS	STD-5-2	5-01-14
STANDARD SEISMIC DETAILS	STD-6-1	11-01-10
STANDARD SEISMIC DETAILS	STD-6-2	11-7-94
TRI-STAR STATE EMBLEM FINISH DETAILS	STD-8-6	10-03-18
REINFORCING BAR SUPPORT DETAILS FOR CONCRETE SLABS	STD-9-1	10-07-08
MISCELLANEOUS ABUTMENT AND DRAINAGE DETAILS	STD-10-1	4-08-05
STD. DETAILS FOR PRESTRESSED BOX BEAMS	STD-14-3	10-15-08

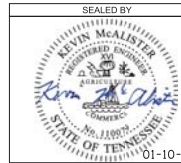
REFERENCE DRAWINGS

DWG. NO.	DRAWING
H-2-1 THRU H-2-11	EXISTING BRIDGE PLANS (1959)
HAMILTON COUNTY - F.A. PROJ. NO. 1-24-3	
BR-75-17 THRU BR-75-21	BRIDGE REPAIR PLANS (2005)
HAMILTON COUNTY - PROJ. NO. 33003-4159-04	

• DENOTES: THESE DRAWINGS TO BE PRINTED WITH PLANS.

LIST OF SPECIAL PROVISIONS

DRAWING	DWG. NO.	LAST REV. DATE
REPAIR OF BRIDGE DECK CRACKS	SP604CR	2-19-96
RETAINING WALLS	SP624	5-14-18
MICROPILES	SP625MP	1-6-20



STATE OF TENNESSEE  
DEPARTMENT OF TRANSPORTATION  
BRIDGE NO. 1  
LIST OF DRAWINGS

INTERSTATE 24 OVER  
S. GERMANTOWN ROAD  
FED. I.D. NO. 33100240055  
HAMILTON COUNTY  
2020

PIN NO.: 124089.00  
DESIGN BY: BARGE DESIGN SOLUTIONS DATE: 01-2020  
DRAWN BY: BARGE DESIGN SOLUTIONS DATE: 01-2020  
SUPERVISED BY: BARGE DESIGN SOLUTIONS DATE: 01-2020  
CHECKED BY: BARGE DESIGN SOLUTIONS DATE: 01-2020

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**GENERAL NOTES**

**SPECIFICATIONS & LOADING**

- (1) **SPECIFICATIONS:** STANDARD ROAD AND BRIDGE SPECIFICATIONS OF THE TENNESSEE DEPARTMENT OF TRANSPORTATION (JANUARY 1, 2015 EDITION).
- (2) **DESIGN SPECIFICATIONS:** 8<sup>TH</sup> EDITION (2018) AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS WITH INTERIMS, AND THE 2<sup>ND</sup> EDITION (2011) AASHTO GUIDE SPECIFICATIONS FOR LRFD SEISMIC BRIDGE DESIGN WITH INTERIMS.
- (3) **LOADING:**
  - A. HL-93 LIVE LOADING
  - B. SEISMIC CATEGORY A WITH  $A_S = 0.168$ ,  $S_{D5} = 0.308$ ,  $S_{D1} = 0.118$ , (1000 YEAR RETURN PERIOD).
  - C. DEAD LOAD INCLUDES 35 LB/SQ. FT. FOR FUTURE WEARING SURFACE.

**CONCRETE, REINFORCING & FORMING**

- (4) **CONCRETE:** TO BE CLASS "A" (CAST-IN-PLACE)  $f_c = 3000$  PSI EXCEPT AS NOTED OTHERWISE.
- (5) **BRIDGE DECKS:** CLASS "D" CONCRETE FOR BRIDGE DECKS SHALL BE IN ACCORDANCE WITH SECTION 604 OF THE STANDARD SPECIFICATIONS.
- (6) **BRIDGE DECK SURFACE FINISH:** TO BE BROOM FINISHED AND CURED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.
- (7) **BRIDGE DECK FORMS:** BRIDGE DECK FORMS FOR CAST-IN-PLACE PORTIONS OF CONCRETE DECKS SHALL BE CONSTRUCTED USING EITHER REMOVABLE FORMS OR PERMANENT FORMS. PERMANENT FORMS MAY BE EITHER REMAIN-IN-PLACE STEEL OR PRECAST, PRESTRESSED CONCRETE PANELS. IN EITHER CASE, FORMS SHALL BE ATTACHED BY MEANS OTHER THAN WELDING TO MAIN STRUCTURAL MEMBERS OR REINFORCING STEEL. SEE STANDARD DRAWING STD-14-3 AND ARTICLE 604.05 OF THE STANDARD SPECIFICATIONS.
- (8) **REINFORCING STEEL:** SHALL BE ASTM A615 GRADE 60 UNLESS NOTED OTHERWISE. SEE SECTION 604 AND 907 OF THE STANDARD SPECIFICATIONS.

**CONCRETE STRENGTH/CURE TIME**

- (9) **FULL DEPTH DECK PANELS:** FULL DEPTH DECK PANEL AND PAVEMENT AT BRIDGE END PANEL CONCRETE SHALL BE CLASS "D",  $f_c = 5,000$  PSI AND SHALL BE IN ACCORDANCE WITH SECTION 604 OF THE STANDARD SPECIFICATIONS.
- (10) **PRECAST ENDWALL UNITS:** PRECAST ENDWALL UNIT CONCRETE SHALL BE CLASS "A",  $f_c = 5,000$  PSI AND SHALL BE IN ACCORDANCE WITH SECTION 604 OF THE STANDARD SPECIFICATIONS.
- (11) **CAST-IN-PLACE:** CAST-IN-PLACE ABUTMENT WALLS, BENT MODIFICATIONS, BRIDGE RAIL, AND EXISTING ABUTMENT MODIFICATIONS SHALL BE CLASS "A" CONCRETE  $f_c = 3,000$  PSI (MIN.). CAST-IN-PLACE DECK SECTIONS OF MEDIAN, OVERHAUG, BACKWALL, AND PAVEMENT AT BRIDGE ENDS SECTIONS SHALL BE CLASS "D" CONCRETE  $f_c = 4,000$  PSI (MIN).
- (12) **CLOSURE POUR MATERIAL:** FOR STRENGTH, CURE TIMES, AND PERFORMANCE CRITERIA FOR STRUCTURAL CLOSURE POUR MATERIAL SEE INFORMATION UNDER PRECAST SUPERSTRUCTURE NOTES.
- (13) **PNEUMATIC CONCRETE:** OTHER THAN TEMPORARY STRUCTURES OR ENGINEERED FILL FACING SURFACES, NO PNEUMATIC CONCRETE WILL BE ALLOWED ON THIS PROJECT.

**FOUNDATION ELEMENTS**

- (14) **NOTE:** THE CONTRACTOR SHALL SUPPORT THE ABUTMENTS UNTIL THE SUPERSTRUCTURE IS IN PLACE, FALSEWORK HAS BEEN REMOVED, AND BACKFILLING HAS BEEN COMPLETED.
- (15) **PILE TIPS:** PILES SHALL BE EQUIPPED WITH CAST STEEL DRIVING SHOES. ALSO, SEE STANDARD DRAWING STD-5-1 FOR ADDITIONAL NOTES.
- (16) **FRICITION PILES:** TO BE 12 INCH. AFTER EXCAVATION TO THE PROPOSED FOOTING ELEVATIONS, A TEST PILE SHALL BE DRIVEN AT EACH SUBSTRUCTURE AT THE LOCATION DESIGNATED ON DRAWING NOS. U-92-47, U-92-58, U-92-66.

A LOAD TEST WILL THEN BE APPLIED TO THE TEST PILE IN ABUT. NO. 1. FROM THE RESULTS OF THE LOAD TEST, THE ENGINEER OF STRUCTURES WILL DETERMINE THE REQUIRED LENGTH OF THE PRODUCTION PILES AND MINIMUM REQUIRED BEARING. FOR PILE DESIGN LOADS AND CUT-OFF ELEVATIONS, SEE TABLE ON DRAWING NO. U-92-47.

THE CONTRACTOR SHALL INSTALL PILING SUCH THAT ALL THE FOLLOWING REQUIREMENTS ARE MET. THE TIP ELEVATION FOR ALL TEST PILES AND PRODUCTION PILES SHALL BE EQUAL TO OR BELOW THE MINIMUM PILE TIP ELEVATION SHOWN ON THE PLANS. IN ADDITION, TEST PILES TO BE LOAD TESTED SHALL BE INSTALLED TO AT LEAST THE SPECIFIED BEARING SHOWN ON THE PLANS OR FULL LENGTH. ALL OTHER TEST PILES SHALL BE INSTALLED TO AT LEAST 1.5 TIMES THE SPECIFIED BEARINGS SHOWN ON THE PLANS OR FULL LENGTH. ALL PRODUCTION PILES SHALL BE INSTALLED FULL LENGTH UNLESS EXCESSIVELY HARD DRIVING WHICH MIGHT DAMAGE THE PILES IS ENCOUNTERED. IF THE PRODUCTION PILES DO NOT ACHIEVE THE MINIMUM REQUIRED BEARING, THE ENGINEER OF STRUCTURES WILL DETERMINE IF ADDITIONAL PILES ARE REQUIRED.

IN THE EVENT THAT DRIVING THE TEST PILE TO AT LEAST THE MINIMUM TIP ELEVATION OR DRIVING THE PRODUCTION PILE FULL LENGTH MIGHT DAMAGE THE PILE BECAUSE OF EXCESSIVELY HARD DRIVING, THE CONTRACTOR SHALL USE OTHER METHODS APPROVED BY THE ENGINEER FOR INSTALLING THE PILES SUCH AS JETTING OR PRE-DRILLING HOLES. HOWEVER, ALL PILES MUST BE DRIVEN BY HAMMER FOR THE LAST FEW FEET OF PENETRATION. NO MEASUREMENT FOR PAYMENT WILL BE MADE FOR PRE-DRILLING HOLES OR FOR JETTING PILING TO OBTAIN THE REQUIRED PILE PENETRATION.

THE PILE LOAD TEST SHALL BE CONDUCTED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS. THE PILE LOAD TEST APPARATUS FOR APPLYING LOADS AND MEASURING MOVEMENT SHALL MEET THE REQUIREMENTS OF ASTM D1143, STANDARD METHOD OF TESTING PILES UNDER STATIC AXIAL COMPRESSIVE LOAD. WHEN INSUFFICIENT CLEARANCE IS AVAILABLE WITHIN AN EXCAVATION, THE CLEARANCE REQUIREMENTS IN ARTICLE 4.1.1 MAY BE REDUCED, BUT ONLY WITH PRIOR APPROVAL OF THE ENGINEER.

- (17) **ALTERNATE FRICTION PILES:** THE CONTRACTOR MAY USE PILING OF A DIFFERENT MATERIAL OR CONFIGURATION FROM THAT SHOWN ON THE PLANS PROVIDED THE SUBSTITUTION MEETS MINIMUM DESIGN STANDARDS AND SPECIFICATIONS, AND IS APPROVED BY THE ENGINEER.
- (18) **PIPE PILES:** SHALL BE 12" WITH A WALL THICKNESS OF 0.5" OR GREATER, GRADE 2, IN ACCORDANCE WITH ASTM A252. WEATHERING STEEL WILL NOT BE ALLOWED FOR PIPE PILES. ANY PIPE PILE HAVING BENDS, KINKS OR OTHER DEFORMATIONS DURING THE PROCESS OF DRIVING THAT WOULD IMPAIR THE STRENGTH (10% REDUCTION AS DETERMINED BY THE ENGINEER) EFFICIENCY OF THE COMPLETED PILE SHALL BE EITHER REMOVED AND REPLACED OR REPAIRED BY THE CONTRACTOR IN A MANNER SATISFACTORY TO THE ENGINEER. THE CONTRACTOR WILL NOT BE REIMBURSED FOR ANY SUCH PIPE PILE ORDERED, REMOVED OR REPLACED BY THE ENGINEER.
- (19) **PIPE PILE SPLICES:** FULL LENGTH PILES SHALL BE USED WHERE PRACTICAL. PILES MAY BE SPLICED WITH THE PRIOR APPROVAL OF THE ENGINEER. SPLICES SHALL USE FULL PENETRATION WELDS DESIGNED TO DEVELOP THE FULL STRENGTH OF THE PILE CROSS-SECTION IN TENSION AND COMPRESSION. ONLY ONE SPLICE PER 40 LINEAR FEET OF PILE WILL BE ALLOWED. DRIVE-ON SPLICES SHALL NOT BE USED AND ONLY COMMERCIAL MANUFACTURED SPLICES WILL BE ALLOWED. SPLICING DETAILS MUST BE SUBMITTED TO THE ENGINEER FOR APPROVAL. COST TO BE INCLUDED IN THE COST OF PILES ITEM NO. 606-17.03.

**PRECAST SUPERSTRUCTURES**

- (20) **CONTRACTOR:** CONTRACTOR SHALL SUBMIT A METHOD OF FORMING CLOSURE POUR AT JOINTS BETWEEN PRECAST DECK PANELS.

- (21) **CLOSURE POUR:** ALL STRUCTURAL CLOSURE POUR MATERIALS SHALL BE PLACED IN ACCORDANCE WITH THE CONTRACT SPECIFICATIONS. PARTICULAR EMPHASIS SHOULD BE GIVEN TO PROPER VIBRATION OF THE MATERIAL TO AVOID HONEYCOMBS AND VOIDS, ESPECIALLY AT CONSTRUCTION JOINTS. ALL JOINTS MUST BE MORTAR TIGHT, IMMEDIATELY PRIOR TO PLACING THE CLOSURE POUR, ADJACENT SURFACES OF THE DECK SLAB SHALL BE WETTED UNTIL FREE MOISTURE APPEARS AND REMAINS. IF THIS NOTE CONTRADICTS THE MANUFACTURER'S REQUIREMENTS, THE MANUFACTURER'S REQUIREMENTS SHALL TAKE PRECEDENCE.

EXTEND STRUCTURAL CLOSURE POUR MATERIAL PER THE MANUFACTURER'S RECOMMENDATIONS.

MIX, PLACE AND CURE STRUCTURAL CLOSURE POUR MATERIAL JUST PRIOR TO USE IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.

CONTACT THE MANUFACTURER'S REPRESENTATIVE FOR ADVICE ON HOW TO REDUCE HEAT SUCH AS WET CURING OR ADDING RETARDING ADMIXTURE IF THE HEAT OF HYDRATION IS EXCESSIVE.

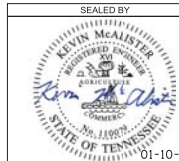
CLEAN AND REMOVE ALL DEBRIS FROM THE BLOCKOUTS PRIOR TO PLACEMENT OF CLOSURE POUR MATERIALS.

USE QUICK-SETTING RAPID STRENGTH GAIN CLOSURE POUR MATERIAL FOR CLOSURE POURS ON PRECAST SUPERSTRUCTURE PANELS.

FINISH GROUT FLUSH WITH ADJACENT FULL DEPTH DECK PANELS.

USE STRUCTURAL CLOSURE POUR MATERIAL IN GRAY IN COLOR AND CONTAINING NO CALCIUM CHLORIDE OR ADMIXTURE CONTAINING CALCIUM CHLORIDE OR OTHER INGREDIENT IN SUFFICIENT QUANTITY TO CAUSE CORROSION TO STEEL REINFORCEMENT.

PROJECT NO.	YEAR	SHEET NO.	
BR-I-24-3(97)	2020	U-92-5	
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION
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STATE OF TENNESSEE  
DEPARTMENT OF TRANSPORTATION  
BRIDGE NO. 1  
GENERAL NOTES

INTERSTATE 24 OVER  
S. GERMANTOWN ROAD  
FED. I.D. NO. 33100240055  
HAMILTON COUNTY  
2020

PIN NO.: 124089.00  
DESIGN BY: BARGE DESIGN SOLUTIONS DATE: 01-2020  
DRAWN BY: BARGE DESIGN SOLUTIONS DATE: 01-2020  
SUPERVISED BY: BARGE DESIGN SOLUTIONS DATE: 01-2020  
CHECKED BY: BARGE DESIGN SOLUTIONS DATE: 01-2020



PROJECT NO.	YEAR	SHEET NO.	
BR-I-24-3(97)	2020	U-92-6	
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION
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**PRECAST SUPERSTRUCTURES, CONT'D:**

SUBMIT A CERTIFICATE OF COMPLIANCE FOR STRUCTURAL CLOSURE POUR MATERIAL TO ENGINEER FOR APPROVAL.

REFER TO QPL 43 CLOSURE POUR MATERIAL FOR ADDITIONAL STRENGTH AND PERFORMANCE CRITERIA

- (1) **BONDING SURFACE:** KEEP BONDING SURFACE FREE FROM LAITANCE, DIRT, DUST, PAINT, GREASE, OIL, RUST, OR ANY CONTAMINANT OTHER THAN WATER.
- (2) **PROTECTIVE MATTING:** PROTECTIVE MATTING SHALL BE UTILIZED ON DECK SURFACE ADJACENT TO CLOSURE POURS DURING CLOSURE POUR OPERATIONS. THE INTENT OF THE MATTING IS TO MINIMIZE THE AMOUNT OF GROUT/MORTAR SPLATTER. THE TYPE OF MATTING SHALL BE DETERMINED BY THE CONTRACTOR AND PAIC FOR UNDER PRICE BID FOR OTHER ITEMS.
- (3) **FULL DEPTH DECK PANELS:** ALL FULL DEPTH DECK PANEL REINFORCEMENT TO BE EPOXY COATED. SEE SECTION 604 AND 907 OF THE STANDARD SPECIFICATIONS. REINFORCEMENT SHALL BE ASTM #615 GRADE 60 UNLESS NOTED OTHERWISE.

SURFACES OF FULL DEPTH DECK PANELS THAT ABUT CLOSURE POURS SHALL BE PREPARED BY REMOVING ALL CONTAMINANTS THAT COULD INTERFERE WITH ADHESION AND TO DEVELOP A SURFACE ROUGHNESS TO PROMOTE MECHANICAL BOND BETWEEN STRUCTURAL CLOSURE POUR MATERIAL AND DECK PANEL CONCRETE. ROUGHENED SURFACE MAY BE DEVELOPED AT A TIME OF CASTING BY CHEMICAL OR OTHER FORMING METHOD.

SURFACES OF FULL DEPTH DECK PANELS AT SHEAR KEY CONNECTIONS SHALL BE PREPARED BY A SAND-BLAST FINISH TO REMOVE ALL CONTAMINANTS THAT COULD INTERFERE WITH ADHESION AND TO DEVELOP A SURFACE ROUGHNESS TO PROMOTE MECHANICAL BOND BETWEEN STRUCTURAL CLOSURE POUR MATERIAL AND DECK PANEL CONCRETE.

THE NUMBER OF LIFTING DEVICES PER FULL DEPTH DECK PANEL UNIT SHALL BE DETERMINED BY THE CONTRACTOR.

THE DESIGN OF THE LIFTING DEVICES WILL BE THE RESPONSIBILITY OF THE CONTRACTOR. CONTRACTOR WILL SUBMIT PLANS AND HANDLING STRESS CALCULATIONS TO THE ENGINEER FOR APPROVAL PRIOR TO THE CONSTRUCTION OF THE FULL DEPTH DECK PANEL UNITS.

CONTRACTOR WILL BE RESPONSIBLE FOR THE HANDLING AND STORAGE OF THE PRECAST ELEMENTS IN SUCH A MANNER THAT DOES NOT CAUSE UNDUE STRESS ON THE ELEMENTS. CONTRACTOR WILL SUBMIT A HANDLING AND STORAGE PLAN TO THE ENGINEER FOR REVIEW PRIOR TO CONSTRUCTION.

ENGINEER WILL INSPECT PRECAST ELEMENTS AND COULD BE REJECTED DUE TO BUT NOT LIMITED TO THE FOLLOWING:

- FULL DEPTH CRACKING
- SIGNIFICANT DIMENSIONAL DEFORMITIES

- (4) **CHAMFERS:** CHAMFER ALL EXPOSED CORNERS ONE (1) INCH, CORNERS OF PRECAST DECK PANELS ADJACENT TO CLOSURE POURS ARE NOT CONSIDERED EXPOSED CORNERS.
- (5) **NOTE:** ALL EXPOSED SURFACES OF ABUTMENTS NO. 1 & 2, INCLUDING WING WALLS AND RETAINING WALLS, SHALL RECEIVE AN ASHLAR STONE FORMLINER FINISH AND BE STAINED SO THAT ALL SURFACES APPEAR UNIFORM IN COLOR. THE COLOR SHALL BE GRAY, AMS-STD-595A, COLOR NO. 36440. COST OF MATERIALS AND LABOR NECESSARY FOR THE STAIN TO BE INCLUDED IN THE UNIT PRICE BID FOR CLASS "A" CONCRETE, ITEM NO. 604-03.01.

**STEEL BEARING DEVICES**

- (6) **WELDING:** SEE SECTION 602 OF THE STANDARD SPECIFICATIONS.

- (7) **PROTECTION OF SUBSTRUCTURES:** SINCE THIS BRIDGE UTILIZES WEATHERING STEEL, THE CONTRACTOR MUST TAKE SPECIAL PRECAUTIONS TO PREVENT STAINING OF BENT AND ABUTMENTS. PRIOR TO THE ERECTION OF ANY STEEL, THE TOPS AND SIDES OF THE COMPLETED SUBSTRUCTURES SHALL BE PROTECTED FROM STAINING BY WRAPPING WITH TRANSLUCENT, REINFORCED, HIGH DENSITY, TWO-PLY, CROSS-LAMINATED POLYETHYLENE.

IN LIEU OF THIS PROTECTION, THE CONTRACTOR MAY ELECT TO THOROUGHLY CLEAN THE CONCRETE OF RUST STAINING BY SANDBLASTING OR OTHER APPROVED METHODS, PRIOR TO APPLYING A TEXTURE-COATED FINISH. NO SEALANT TYPE MATERIALS SHALL BE APPLIED WHICH ARE INCOMPATIBLE WITH THE TEXTURE-COATED FINISH UNLESS THEY CAN BE THOROUGHLY REMOVED PRIOR TO APPLYING THE FINISH. TEXTURE-COATINGS OF THE SUBSTRUCTURE SHOULD BE DELAYED UNTIL AFTER THE DECK IS COMPLETED.

AFTER A SUBSTRUCTURE HAS RECEIVED ITS FINAL FINISH, THE TOP AND SIDES SHALL BE PROTECTED FROM STAINING BY WRAPPING WITH REINFORCED POLYETHYLENE, WHICH, IF BEING REUSED, SHALL BE IN GOOD CONDITION AND FREE FROM HOLES AND TEARS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROTECT THE SUBSTRUCTURES FROM STAINING FOR THE DURATION OF THE CONTRACT. ANY CORRECTIVE TEXTURE-COATING SHALL BE AT HIS EXPENSE. COST TO BE INCLUDED IN THE UNIT PRICE BID FOR OTHER ITEMS.

- (8) **FINAL APPEARANCE:** PRIOR TO FINAL ACCEPTANCE, ALL STRUCTURAL STEEL SHALL BE FREE OF GREASE, OIL, CHALK MARKS, PAINT, CONCRETE SPATTER AND SIMILAR SOILAGE. DEPENDING ON THE LOCATION, WITH RESPECT TO VIEW AND SEVERITY OF THE FORE-GOING SOILAGE, THE STRUCTURAL STEEL SHALL BE CLEANED UNDER THE PROVISIONS OF ONE OF THE FOLLOWING STEEL STRUCTURES PAINTING COUNCIL SURFACE PREPARATION SPECIFICATIONS:

- NO. 1 SOLVENT CLEANING - SSPC-SP 1
- NO. 2 HAND CLEANING - SSPC-SP 2
- NO. 3 POWER TOOL CLEANING - SSPC-SP 3
- NO. 7 BRUSH-OFF BLAST CLEANING - SSPC-SP 7

**MISCELLANEOUS GENERAL NOTES**

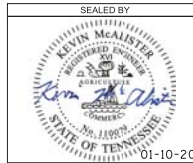
- (9) **DEMOLITION:** THE CONTRACTOR SHALL TAKE SPECIAL CARE TO PROTECT ANY PARTS OF THE EXISTING OR PROPOSED STRUCTURE THAT ARE NOT TO BE REMOVED SPECIFICALLY. ALL DEVICES PROPOSED FOR CONCRETE DEMOLITION SHALL MEET THE APPROVAL OF THE ENGINEER. ANY DAMAGE TO EXISTING STRUCTURES TO BE LEFT IN PLACE SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
- (10) **SPECIAL NOTE FOR UTILITIES:** IT IS INTENDED THAT THE COST OF MATERIALS AND LABOR NECESSARY FOR THE COMPLETE INSTALLATION OF UTILITIES SHALL BE BORNE BY OTHERS AND SHALL NOT BE PAID FOR AS A PART OF THIS CONTRACT. THE CONTRACTOR SHALL COOPERATE WITH OTHERS IN THE INSTALLATION OF UTILITIES WITH NO ADDITIONAL COMPENSATION ALLOWED THE CONTRACTOR AS A RESULT.
- (11) **SHOP DRAWINGS:** SEE SECTION 105.02 OF THE STANDARD SPECIFICATIONS.
- (12) **NOTE:** THE CONTRACTOR SHALL PROVIDE 100% CONVENTIONAL FALL PROTECTION FOR WORKERS INSTALLING DECKING ABOVE 15 FEET.
- (13) **BRIDGE RAIL SYSTEM:** BUILD BRIDGE RAILINGS ACCORDING TO STANDARD DRAWING STD-1-1SS. THE RAILING SHALL BE FORMED AND CAST PLUMB, NOT PERPENDICULAR TO THE SLAB, AND THE DIMENSIONS AT THE TRAFFIC FACE SHALL BE KEPT CONSTANT, WITH VARIATION DUE TO CROSS-SLOPE ACCOMMODATED AT THE REAR FACE.
- (14) **NOTE:** THE REINFORCED CONCRETE MEDIAN BARRIER RAIL SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE DETAILS SHOWN ON DRAWING STD-1-3SS AND SHALL BE GIVEN AN APPLIED TEXTURE FINISH. THE COLOR OF THE FINISH SHALL BE WHITE, COLOR NO. 37886, AMS-STD-595A. THE COST OF THE FINISH SHALL BE INCLUDED IN THE LINEAR FOOT PRICE BID FOR THE MEDIAN RAIL. PRECAST BRIDGE DECK PANELS ARE NOT PERMITTED IN THE BAY SUPPORTING THE MEDIAN BARRIER RAIL.
- (15) **GROUTED BARS IN DRILLED HOLES:** HORIZONTALLY DRILLED HOLES SHALL BE DRILLED 1/2" IN DIAMETER LARGER THAN THE BAR, CLEANED, PACKED WITH NON-SHRINK GROUT, AND THE BAR ROTATED (NOT DRIVEN) TO ITS SEAT. VERTICALLY DRILLED HOLES SHALL BE DRILLED 1/2" IN DIAMETER LARGER THAN THE BAR, CLEANED, PACKED WITH EPOXY GROUT, AND THE BAR SHALL BE DRIVEN TO ITS SEAT. ALL GROUTING MATERIAL SHALL BE APPROVED BY TDOF MATERIALS AND TESTS.

- (16) **DRILLED-IN ANCHORS (MECHANICAL OR EPOXY) CERTIFICATION:** THE CONTRACTOR SHALL FURNISH CERTIFIED ANCHOR PULL OUT DATA FROM AN INDEPENDENT TESTING LABORATORY USING CLASS "A" CONCRETE AS PRESCRIBED BY THE STANDARD SPECIFICATIONS. THE REQUIRED ULTIMATE LOAD FOR 7/8" Ø ANCHORS IS 19,000 LBS., 18,000 LBS. FOR 3/4" Ø ANCHORS, 12,000 BS. FOR 5/8" Ø AND 9,000 LBS. FOR 1/2" Ø. IN PLACE REQUIREMENTS, THE UNITS SHALL BE SUBSET 3/32" TO 1/2" AND TORQUED, WITH BASE PLATE IN PLACE, TO AN EQUIVALENT DIRECT PULL OUT LOAD OF 60 PERCENT OF REQUIRED ULTIMATE LOAD. THE DEPARTMENT WILL PERFORM TESTING OF ANCHORS ON SITE TO INSURE THE SPECIFIED IN PLACE REQUIREMENTS. INSTALLATIONS NOT MEETING THESE REQUIREMENTS MUST BE CORRECTED AT THE CONTRACTOR'S EXPENSE. FOR MECHANICAL ANCHORS, SLIPPAGE SHALL NOT EXCEED 1/4".

- (17) **FALSEWORK OVER TRAFFIC:** SEE SECTION 604.06 OF THE STANDARD SPECIFICATIONS.
- (18) **FORMS AND FALSEWORK:** ALL CONCRETE FORMWORK AND FALSEWORK SHALL BE REMOVED AFTER REPAIRS AND/OR MODIFICATIONS ARE COMPLETED. COST OF FORMS, FALSEWORK, AND THEIR REMOVAL SHALL BE INCLUDED IN OTHER ITEMS BID ON. THIS WORK SHALL BE COMPLETED BEFORE FINAL PAYMENT IS APPROVED.
- (19) **SPECIAL NOTE TO CONTRACTOR:** THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE STABILITY OF THE STRUCTURE DURING CONSTRUCTION. DESIGN CALCULATIONS AND DETAILS OF THE TEMPORARY SUPPORT SYSTEM OR FALSEWORK REQUIRED SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND SHALL MEET WITH THE FULL SATISFACTION OF THE ENGINEER BEFORE ANY DEMOLITION IS BEGUN. COST OF LABOR AND MATERIALS FOR STABILIZATION OF THE STRUCTURE SHALL BE INCLUDED IN ITEM NO. 602-10.05 BRACING REPAIRS, L.S.

**(20) REQUIREMENTS AND RESTRICTIONS FOR PHASE CONSTRUCTION**

- A. THE PHASE CONSTRUCTION SEQUENCE MAY PROHIBIT THE EXTRACTION OF SOME SHEET PILING. ALL COSTS ASSOCIATED WITH SHEET PILING SHALL BE INCLUDED IN THE UNIT PRICE BID FOR OTHER ITEMS.
- B. THE LOCATION OF LONGITUDINAL CONSTRUCTION JOINTS SHALL NOT BE CHANGED TO ACCOMMODATE STAY-IN-PLACE DECK FORMS.
- C. NO SHEET PILES OR BEARING PILES MAY BE DRIVEN FROM THE EXISTING OR PROPOSED STRUCTURE.
- D. (2 - 11'-0") TRAFFIC LANES SHALL BE MAINTAINED AT ALL TIMES. SEE SPECIAL PROVISION 108B AND TRAFFIC CONTROL SHEETS.
- (21) **FINISHING CONCRETE SURFACES:** CONCRETE FINISHING SHALL BE IN ACCORDANCE WITH SECTION 604.21 OF THE STANDARD SPECIFICATIONS. A CLASS II FINISH FOLLOWED BY AN APPLIED TEXTURE FINISH SHALL BE USED IN LIEU OF A CLASS II FINISH. NO TEXTURE FINISH SHALL BE APPLIED PRIOR TO COMPLETION OF PAVING AND HAULING OPERATIONS AT THE BRIDGE SITE. THE APPLIED TEXTURE FINISH SHALL BE MEASURED AND PAID FOR UNDER ITEM NO. 604-04.01.
- (22) **BRIDGE DECK SEALANT:** USE SYSTEM A OR B MODIFIED.
- (23) **NOTE:** THE CONTRACTOR SHALL CHECK THE LOCATION OF ALL EXISTING SUBSTRUCTURES AND VERIFY SPAN LENGTHS BEFORE FABRICATING GIRDERS.
- (24) **APPROVAL OF MATERIALS:** APPROVAL OF MATERIALS: NO FABRICATION SHALL BE STARTED UNTIL THE MATERIALS INVOLVED HAVE BEEN APPROVED BY THE TENNESSEE DEPARTMENT OF TRANSPORTATION, DIVISION OF MATERIALS AND TESTS, WITH A COPY OF THE TEST REPORTS GOING TO THE TENNESSEE DEPARTMENT OF TRANSPORTATION, DIVISION OF MATERIALS AND TESTS.



STATE OF TENNESSEE  
DEPARTMENT OF TRANSPORTATION  
BRIDGE NO. 1  
GENERAL NOTES

INTERSTATE 24 OVER  
S. GERMANTOWN ROAD  
FED. I.D. NO. 33100240055  
HAMILTON COUNTY  
2020

PIN NO.: 124069.00  
DESIGN BY: BARGE DESIGN SOLUTIONS DATE: 01-2020  
DRAWN BY: BARGE DESIGN SOLUTIONS DATE: 01-2020  
SUPERVISED BY: BARGE DESIGN SOLUTIONS DATE: 01-2020  
CHECKED BY: BARGE DESIGN SOLUTIONS DATE: 01-2020

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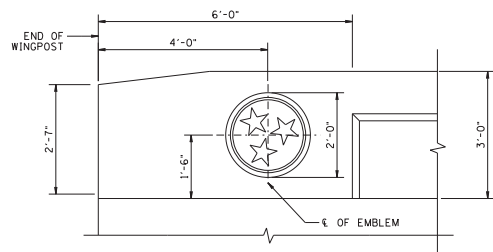
PROJECT NO.	YEAR	SHEET NO.
BR-I-24-3(97)	2020	U-92-7

REVISIONS

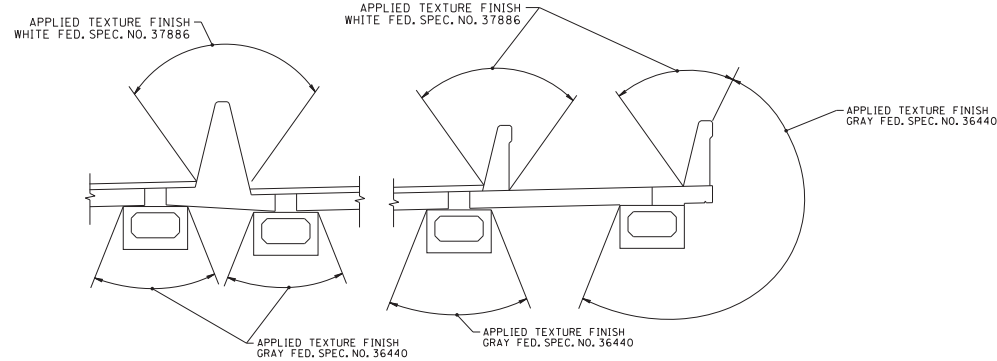
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ESTIMATED QUANTITIES

ITEM NO.	DESCRIPTION	UNIT	TOTAL	SUPERSTRUCTURE	ABUTMENT 1	BENT 1	ABUTMENT 2
①	202-01.02 REMOVAL OF ASBESTOS	L.S.	1				
②	202-04.01 REMOVAL OF STRUCTURES (BRIDGE NO. 33-10024-12.08, STA. 139+09.13)	L.S.	1				
③	204-02.01 DRY EXCAVATION (BRIDGES)	C.Y.	7015		3372	278	3365
④	303-01.02 GRANULAR BACKFILL (BRIDGES)	TON	8938		4469		4469
⑤	602-10.05 BRACING REPAIRS	L.S.	1				
⑥	602-10.60 BEARING DEVICE (ABUTMENTS)	EACH	32		16		16
⑦	602-10.61 BEARING DEVICE (BENT)	EACH	24			24	
⑧	604-02.03 EPOXY COATED REINFORCING STEEL	LB.	22130	22130			
⑨	604-03.01 CLASS 'A' CONCRETE (BRIDGES)	C.Y.	2043		876	303	864
⑩	604-03.02 STEEL BAR REINFORCEMENT (BRIDGES)	LB.	293870	960	111040	74720	107150
⑪	604-03.04 PAVEMENT AT BRIDGE ENDS	S.Y.	672		336		336
⑫	604-03.09 CLASS 'D' CONCRETE (BRIDGE DECK)	C.Y.	63		63		
⑬	604-03.74 CLASS 'X' CONCRETE	C.Y.	107		107		
⑭	604-04.01 APPLIED TEXTURE FINISH (NEW STRUCTURES)	S.Y.	2977	1870	369	366	372
⑮	604-04.41 THREE STAR STATE EMBLEM	EACH	4				
	604-10.14 REMOVE EXISTING WEARING SURFACE	L.S.	1				
⑯	604-12.15 DRILL AND GROUT STEEL BARS	EACH	440			440	
⑰	604-15.01 PORTLAND CEMENT GROUT	C.Y.	1094		445	178	471
⑱	606-17.02 LOADING TEST (STEEL PIPE PILES, 12 INCH)	EACH	1				
⑲	606-17.03 STEEL PIPE PILES (12 INCH)	L.F.	10160		4400	1760	4000
⑳	606-17.06 PILE TIPS (STEEL PIPE PILES, 12 INCH)	EACH	100		44	16	40
	606-28.10 TEST PILES (9 5/8" x .500" MICROPILE)	L.F.	180				
	606-28.11 VERIFICATION LOADING TEST (9 5/8" x .500" MICROPILE)	EACH	1				
㉑	606-28.12 MICROPILE (9 5/8" x .500" MICROPILE)	L.F.	29242		11894	4753	12595
	606-28.13 PROOF LOADING TEST (9 5/8" x .500" MICROPILE)	EACH	10		4	4	2
㉒	610-10.04 DRAINAGE SYSTEM - BRIDGE DECK (CLOSED SYSTEM)	L.S.	1				
㉓	610-10.45 DECK DRAINS (TYPE 2)	EACH	2				
㉔	615-02.19 PRESTRESSED CONCRETE BOX BEAM (24"x36")	L.F.	1864	1864			
㉕	615-04.04 FULL DEPTH PRECAST DECK PANEL (5000 PSI)	S.Y.	1373	1373			
㉖	615-04.10 NON-SHRINK GROUT	C.F.	120		47	25	48
㉗	615-04.30 PRECAST BRIDGE ABUTMENT WALL	C.Y.	88		44		44
㉘	617-01 BRIDGE DECK SEALANT	S.Y.	2310	2310			
㉙	617-02 BRIDGE DECK CRACK SEALING	L.F.	191	191			
㉚	617-05 SEALANT (HMWM)	GAL	3	3			
㉛	620-05.01 CONCRETE PARAPET SINGLE SLOPE (STD-1-1SS)	L.F.	404	404			
㉜	621-05.01 TEMPORARY SHORING	S.F.	8910		4455		4455
㉝	710-09.01 6" PERFORATED PIPE WITH VERTICAL DRAIN SYSTEM	L.F.	416		208		208
	710-09.02 6" PIPE UNDERDRAIN	L.F.	80		40		40
㉞	711-05.74 CONC. MEDIAN BARR. SING. SLOPE (STD-1-3SS)	L.F.	215	215			
㉟	714-01.01 STRUCTURAL LIGHTING (BRIDGE NO. 1)	L.S.	1				
㊱	920-08.22 TEMPORARY SHORING	S.F.	528		264		264

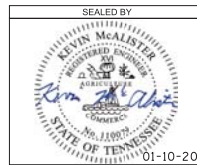


THREE STAR STATE EMBLEM LOCATION



APPLIED TEXTURE FINISH SKETCH  
NOT TO SCALE

IN ADDITION TO THE SURFACES SHOWN IN THE APPLIED TEXTURE FINISH SKETCH, ALL EXPOSED SURFACES OF WINGWALLS, ABUTMENT WALL, EXTERIOR PORTIONS OF THE ENDWALLS, BENT CAP, BENT COLUMNS, AND EXTERIOR TOP PORTION OF THE BENT CAP SHALL RECEIVE AN APPLIED TEXTURE FINISH, GRAY, FED. SPEC. NO. 36440



STATE OF TENNESSEE  
DEPARTMENT OF TRANSPORTATION  
BRIDGE NO. 1  
ESTIMATED QUANTITIES

INTERSTATE 24 OVER  
S. GERMANTOWN ROAD  
FED. I.D. NO. 33100240055  
HAMILTON COUNTY  
2020

PIN NO.: 124089.00  
DESIGN BY: BARGE DESIGN SOLUTIONS DATE: 01-2020  
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CONST. NO.: 33003-3166-44

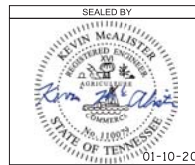
PROJECT NO.	YEAR	SHEET NO.
BR-I-24-3(97)	2020	U-92-8

REVISIONS

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FOOTNOTES

- INCLUDES ALL COSTS FOR REMOVAL AND DISPOSAL OF ASBESTOS CONTAINING MATERIALS.
- LUMP SUM; COMPLETE REMOVAL OF FOUR SPAN CONCRETE SUPERSTRUCTURE, REMOVAL OF EXISTING ABUTMENTS AND CONCRETE SLOPE PAVING, REMOVAL OF EXISTING BENTS 1 & 3 AS SHOWN ON DEMOLITION SHEET, REMOVAL OF EXISTING BENT 2/ PROPOSED BENT 1 STOP BLOCKS, EXISTING BENT 2/ PROPOSED BENT 1 RAISED MEDIAN, AND REMOVAL OF EXISTING BENT 2/PROPOSED BENT 1 SPALLED AND DELAMINATED AREA OF APPROXIMATELY 250 S.F., DIMENSIONS OF EXISTING STRUCTURE APPROXIMATELY 166'-0" IN LENGTH AND 100'-3" WIDE.
- NOTE: EXCAVATION BASED ON EXISTING GROUND.
- NOTE: GRANULAR BACKFILL SHALL BE CLASS "A" GRADING "D" MATERIAL. SEE STANDARD DRAWING STD-10-1.
- INCLUDES ALL NECESSARY TEMPORARY SUPPORT OF THE STRUCTURE FOR THE DURATION OF THE PROJECT, BRACING PLANS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.
- NOTE: INCLUDES COST OF APPROX. 36,000 LBS. OF SHIM STACKS, ANCHOR BOLTS, & MISCELLANEOUS MATERIALS REQUIRED FOR INSTALLATION OF BEARING DEVICES AT ABUTMENTS.
- NOTE: INCLUDES COST OF APPROX. 24,400 LBS. OF SHIM STACKS, ANCHOR BOLTS, & MISCELLANEOUS MATERIALS REQUIRED FOR INSTALLATION OF BEARING DEVICES AT THE BENT.
- EPOXY COATED REINFORCING STEEL TO BE USED IN THE BRIDGE DECK, CLOSURE POURS, MEDIAN AND OVERHANGS.
- NOTE: THE COST OF FORMLINER AND INSTALLATION SHALL BE INCLUDED IN THE UNIT PRICE BID FOR CLASS "A" CONCRETE (BRIDGES)
- STEEL BAR REINFORCEMENT TO BE USED IN ABUTMENTS, BENT MODIFICATIONS, AND FOUNDATIONS.
- INCLUDES COST OF ALL BACKFILL, APPROX. 550 S.Y. OF PRECAST PANELS, APPROX. 18 C.Y. OF CLASS "D" CAST-IN-PLACE SECTIONS, APPROX. 11 C.Y. OF CLASS "A" CAST-IN-PLACE SECTIONS, REINFORCEMENT, APPROX. 57 C.Y. OF CLOSURE POUR MATERIAL, AND ANY OTHER MISCELLANEOUS MATERIALS REQUIRED FOR CONSTRUCTION.
- QUANTITY SHOWN IS FOR ALL CAST-IN-PLACE SECTIONS OF THE PROPOSED BRIDGE DECK.
- CLASS "X" CONCRETE IS TO BE USED FOR CLOSURE POURS AT SUPPORTS AND BETWEEN PANELS, SEE GENERAL NOTES FOR ADDITIONAL INFORMATION.
- NOTE: FOR NOTES AND LIMITS OF TEXTURE COATING, SEE DETAIL ON SHEET U-92-7.
- NOTE: THREE STAR STATE EMBLEM SHALL BE PAID FOR IN ACCORDANCE WITH STANDARD DRAWING STD-8-6, LOCATION TO BE ON THE OUTSIDE FACE AT EACH END OF THE PARAPET WITH EXACT LOCATIONS DESIGNATED ON SHEET U-92-7.
- INCLUDES COST OF ALL MATERIALS, LABOR, AND EQUIPMENT REQUIRED FOR THE DRILLING AND GROUTING OF BARS AT LOCATIONS SPECIFIED AT BENT 1 REINFORCING BARS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM NO. 604-03.02, STEEL BAR REINFORCEMENT (BRIDGES).
- INCLUDES ALL COST ASSOCIATED WITH MIXING AND PLACING GROUT IN ACCORDANCE WITH THE MICROPILE SPECIAL PROVISION (GRAVITY GROUT), QUANTITY SHOWN IS ESTIMATED @ 200% OF NEAT HOLE.
- SEE ABUTMENT AND BENT PILE LAYOUT SHEETS FOR PIPE PILE LENGTHS PER EACH SUBSTRUCTURE, CONTRACTOR SHALL USE SKYLINE STEEL OR APPROVED EQUIVALENT 12"Ø PIPE PILES WITH A WALL THICKNESS OF 1/2" OR GREATER (50 KSI STEEL).
- COST OF ALL LABOR AND MATERIALS NECESSARY TO INSTALL PIPE PILE CAP TO BE INCLUDED IN THE COST OF PILES.
- NOTE: THE UNIT PRICE BID FOR THE CAST STEEL DRIVING SHOE SHALL INCLUDE FURNISHING AND INSTALLATION TO THE PILES.
- SEE ABUTMENT AND BENT PILE LAYOUT SHEETS FOR MICROPILE LENGTHS PER EACH SUBSTRUCTURE.
- INCLUDES ALL LABOR, MATERIALS, AND EQUIPMENT REQUIRED TO INSTALL CLOSED DRAINAGE SYSTEM, INCLUDING CONNECTIONS TO DECK DRAINS AND EXISTING STORM DRAINAGE SYSTEM CATCH BASIN AS SHOWN ON SHEET U-92-23.
- INCLUDES COST OF DECK DRAIN ASSEMBLIES AND ALL LABOR, MATERIALS, AND EQUIPMENT NECESSARY FOR INSTALLATION.
- NOTE: COST OF 1/2" & 1/8" ELASTOMERIC BEARING PADS AND RUBBER BONDING CEMENT TO BE INCLUDED IN THE UNIT PRICE BID FOR PRESTRESSED BEAM.
- INCLUDES ALL COSTS FOR SUPPLYING AND INSTALLING FULL DEPTH PRECAST CONCRETE DECK PANELS INCLUDING CONCRETE, EPOXY COATED REINFORCING STEEL, SPLICE BARS, BACKER RODS, BITUMINOUS FIBERBOARD, HAUNCH FORMS, SPACERS, SHIMS & ADHESIVE AND LIFTING HARDWARE, QUANTITIES BASED ON PANEL CONCRETE SURFACE AREAS AND DIMENSIONS SHOWN IN DECK PANEL DRAWINGS, AVERAGE PANEL CONSISTS OF 150 LBS/SY REBAR.
- INCLUDES ALL COSTS ASSOCIATED WITH MIXING AND PLACING HIGH STRENGTH NON-SHRINK GROUT USED FOR GROUTING ANCHORS IN BEAMS, ABUTMENTS, AND BACKWALL UNITS, THIS QUANTITY SHALL ALSO INCLUDE ALL MATERIALS AND LABOR REQUIRED FOR PLACING LEVELING GROUT ON THE EXISTING BENT CAP PRIOR TO PLACING SHIM STACK.
- INCLUDES ALL COSTS ASSOCIATED WITH PRECASTING AND PLACING ABUTMENT BACKWALL UNITS, INCLUDING CONCRETE AND REINFORCEMENT, UNIT PRICE ALSO INCLUDES ALL ANCHORS, WASHERS, NUTS, GROUT AND ANY OTHER MISCELLANEOUS MATERIALS NECESSARY TO ATTACH PRECAST BACKWALL UNITS TO THE PROPOSED ABUTMENTS AS SHOWN ON THE PLANS.
- BRIDGE DECK SEALANT TO BE APPLIED TO MANUFACTURERS SPECIFICATIONS, PRIMER AND MASTIC SHALL BE SPRAY APPLIED AND SHALL ACHIEVE 100% COVERAGE TO THE SATISFACTION OF THE ENGINEER, SEE STANDARD SPECIFICATION SECTIONS 617 AND 906.04 FOR ADDITIONAL REQUIREMENTS AND INFORMATION.
- ITEM TO BE USED FOR THE LONGITUDINAL AND TRANSVERSE JOINTS ON THE BRIDGE DECK AND PAVEMENT AT BRIDGE ENDS BETWEEN STD-1-1SS RAILS ON WESTBOUND I-24.
- QUANTITY INCLUDES BOTH PARAPET RAILS ALONG THE OUTSIDE EDGE OF BRIDGE DECK AND THE ADDITIONAL RAIL ALONG WESTBOUND I-24 INCLUDING LENGTH ALONG THE PAVEMENT AT BRIDGE ENDS.
- INCLUDES ALL COSTS ASSOCIATED WITH DESIGN AND INSTALLATION OF TEMPORARY SHORING BETWEEN THE EXISTING ABUTMENTS AND THE PROPOSED ABUTMENT WALL AT ABUTMENT 1 AND ABUTMENT 2. SEE SECTION 621 OF THE STANDARD SPECIFICATIONS.
- NOTE: COST OF POLYETHYLENE SHEETING AND ALL MISCELLANEOUS ITEMS NECESSARY FOR INSTALLATION TO BE INCLUDED IN THE UNIT PRICE BID FOR PERFORATED PIPE.
- NOTE: QUANTITY INCLUDES LENGTH ALONG BRIDGE AND PAVEMENT AT BRIDGE ENDS.
- NOTE: INCLUDES COST OF 240 LF OF 2" SCHEDULE 80 CONDUIT IN THE PARAPET RAIL FOR ROADWAY LIGHTING, 350 LF OF 1" RGS CONDUIT FOR LIGHTING FIXTURES FOR UNDER BRIDGE LIGHTING, AND 8 JUNCTION BOXES FOR WALL PACKS UNDER BRIDGE, SEE LIGHTING PLANS FOR ADDITIONAL DETAILS.
- INCLUDES ALL COSTS ASSOCIATED WITH DESIGN AND INSTALLATION OF TEMPORARY SHORING BETWEEN PHASES LOCATED NEAR THE E OF THE I-24 ALIGNMENT FOR ABUTMENT 1 AND ABUTMENT 2. SEE SECTION 621 OF THE STANDARD SPECIFICATIONS.



STATE OF TENNESSEE  
DEPARTMENT OF TRANSPORTATION  
BRIDGE NO. 1  
ESTIMATED QUANTITIES

INTERSTATE 24 OVER  
S. GERMANTOWN ROAD  
FED. I.D. NO. 33100240055  
HAMILTON COUNTY  
2020

PIN NO.: 124069.00  
DESIGN BY: BARGE DESIGN SOLUTIONS DATE: 01-2020  
DRAWN BY: BARGE DESIGN SOLUTIONS DATE: 01-2020  
SUPERVISED BY: BARGE DESIGN SOLUTIONS DATE: 01-2020  
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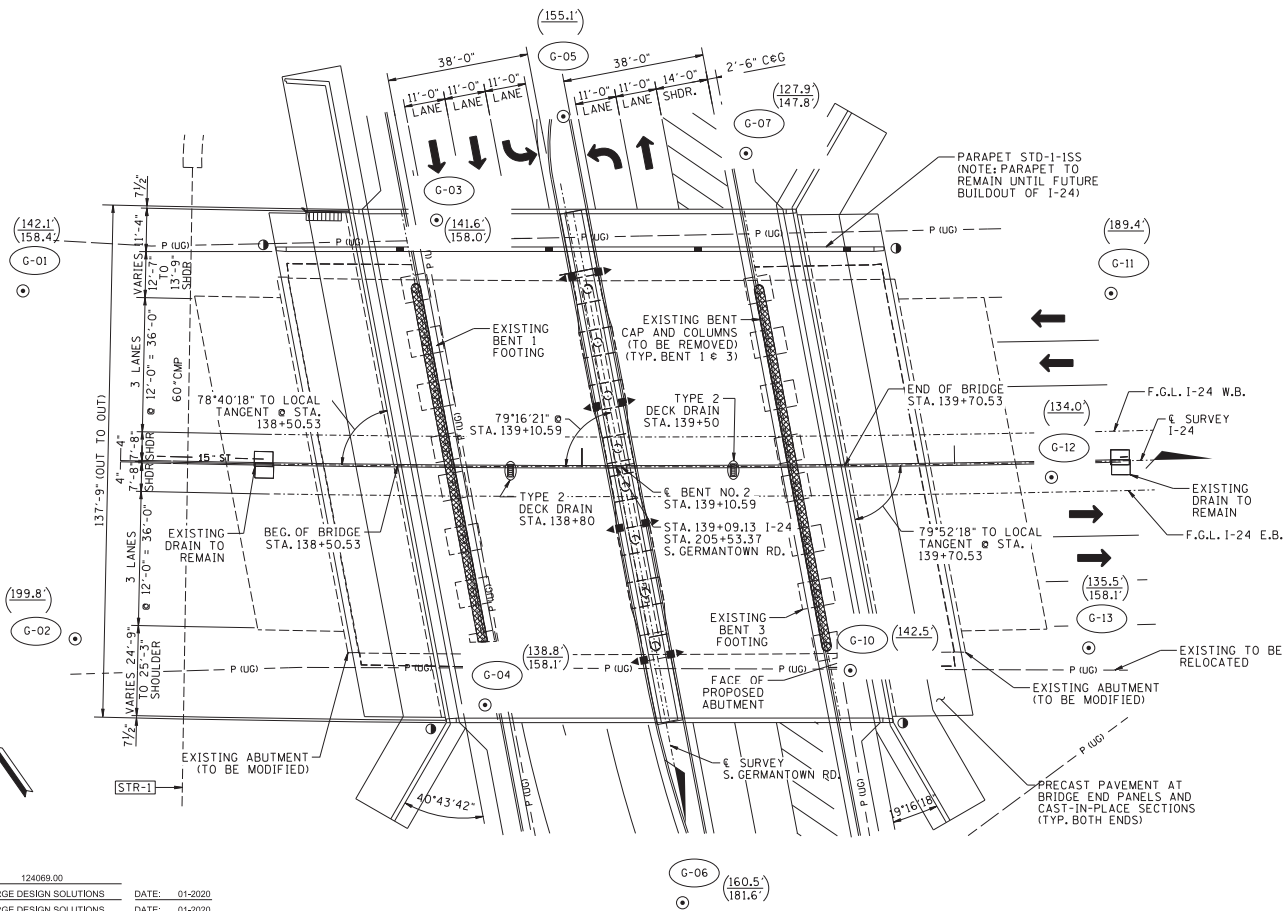
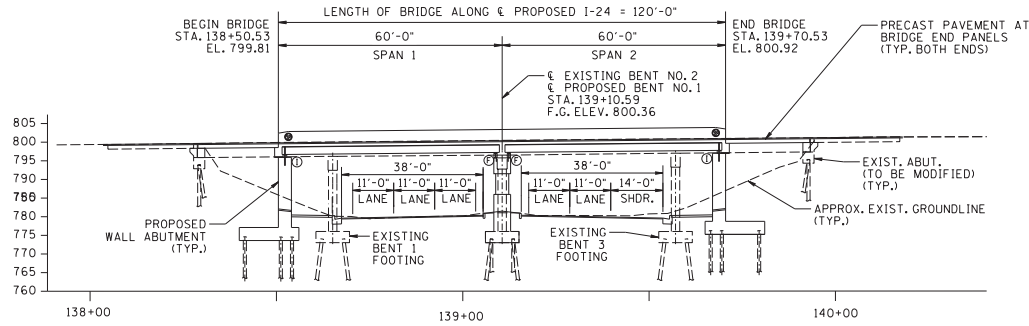
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CONST. NO.: 33003-3166-44

PROJECT NO.	YEAR	SHEET NO.
BR-I-24-3(97)	2020	U-92-9

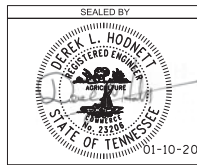
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NO.	DATE	BY	BRIEF DESCRIPTION



**LEGEND:**

- ⊙ BORING LOCATION
- G-XX (XX.X' / XX.X') — BORING LOCATION, DEPTH TO REFUSAL (ABOVE LINE), BOTTOM OF HOLE (BELOW LINE)
- G-XX (XX.X') — BORING LOCATION WITH DEPTH TO REFUSAL

NOTE: THIS DRAWING IS FOR FOUNDATION DATA ONLY AND IS NOT TO BE USED AS A LAYOUT.



STATE OF TENNESSEE  
DEPARTMENT OF TRANSPORTATION  
BRIDGE NO. 1  
FOUNDATION DATA

INTERSTATE 24 OVER  
S. GERMANTOWN ROAD  
FED. I.D. NO. 33100240055  
HAMILTON COUNTY  
2020

U-92-9

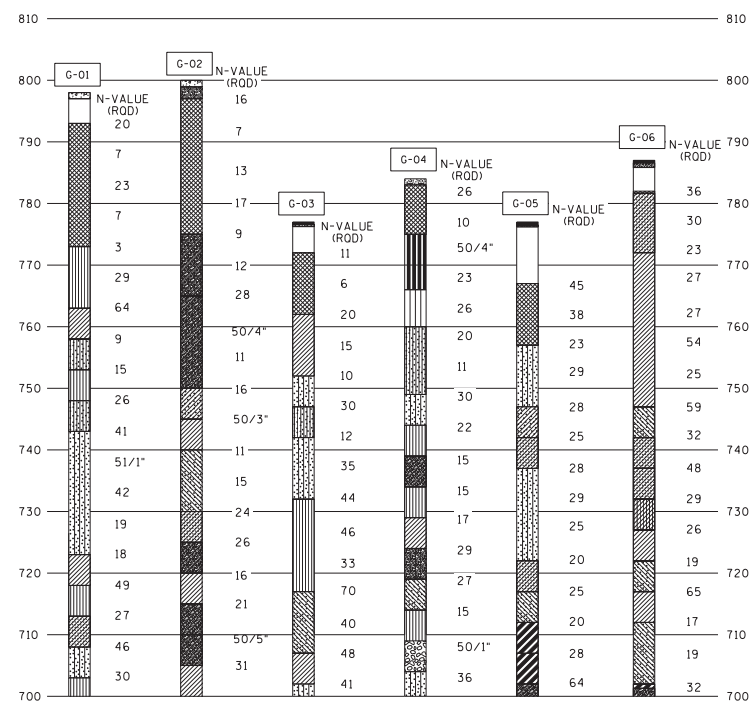
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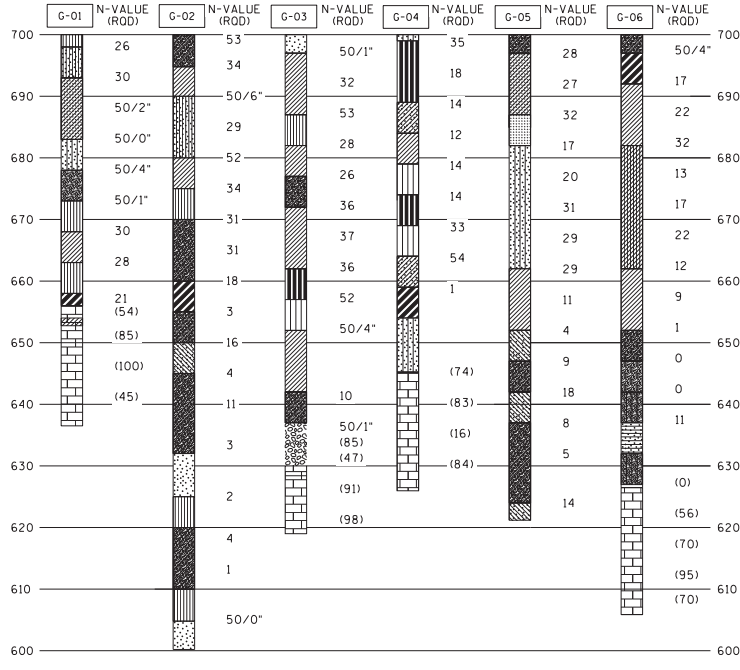
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BR-I-24-3(97)	2020	U-92-10

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BORING LOCATIONS AND INFORMATION



BORING LOCATIONS AND INFORMATION



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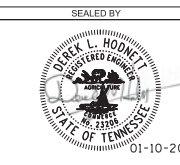
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- BASESTONE
- CONCRETE
- LEAN CLAY (CL)
- CLAY (CL)
- CLAY (CL)
- CLAY (CL)
- FAT CLAY (CH)
- BORING LOCATION
- SANDY LEAN CLAY (CL)
- SILTY CLAY (ML-CL)
- CLAYEY GRAVEL (GC)
- SILTY GRAVEL (GC)
- POORLY-GRADED GRAVEL (GP)
- CLAYEY SAND (SC)
- SAND (SC)
- POORLY-GRADED SAND (SP)
- SILT (MH)
- SILT (ML)
- SILT (ML)
- SILT (ML)
- SILTY SAND (SM)
- TOPSOIL
- LIMESTONE
- WEATHERED LIMESTONE
- HIGHLY WEATHERED LIMESTONE FRAGMENTS
- DENSELY GRATED AGGREGATE

BRIDGE	BORING NO.	STATION NO.	OFFSET	SURFACE EL.	AUGER REFUSAL DEPTH	AUGER REFUSAL ELEVATION	ROCK QUALITY	
INTERSTATE 24 BRIDGE OVER GERMANTOWN ROAD	G-01	137+50	45 L	798	142.1	656	FAIR TO GOOD TO EXCELLENT TO POOR	
	G-02	137+64	48 R	800	199.8	600	N/A	
	G-03	138+61	66 L	777	141.6	635 1/2	GOOD TO POOR TO EXCELLENT	
	G-04	138+74	64 L	784	138.8	645	FAIR TO GOOD TO VERY POOR TO GOOD	
	G-05	138+95	94 L	777	155.1	622	N/A	
	G-06	139+27	117 R	787	160.5	626 1/2	VERY POOR TO FAIR TO EXCELLENT TO FAIR	
	G-07	139+44	84 L	778	127.9	650	POOR TO FAIR TO VERY POOR TO GOOD	
	G-08	BORING NOT DRILLED						
	G-09	BORING NOT DRILLED						
	G-10	139+72	55 R	786	142.5	643 1/2	N/A	
	G-11	140+42	45 L	801	189.4	611 1/2	N/A	
	G-12	140+26	4 R	802	134.0	668	N/A	
	G-13	140+36	50 R	803	135.5	667 1/2	VERY POOR TO POOR TO GOOD TO FAIR TO GOOD	

NOTE: STATION NUMBERS AND GROUND ELEVATIONS WERE SCALED FROM THE DETAILS SHOWN AS PROVIDED BY KSWARE.

NOTE: THIS DRAWING IS FOR FOUNDATION DATA ONLY AND IS NOT TO BE USED AS A LAYOUT.

PIN NO.: 124089.00  
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STATE OF TENNESSEE  
 DEPARTMENT OF TRANSPORTATION  
 BRIDGE NO. 1  
 FOUNDATION DATA

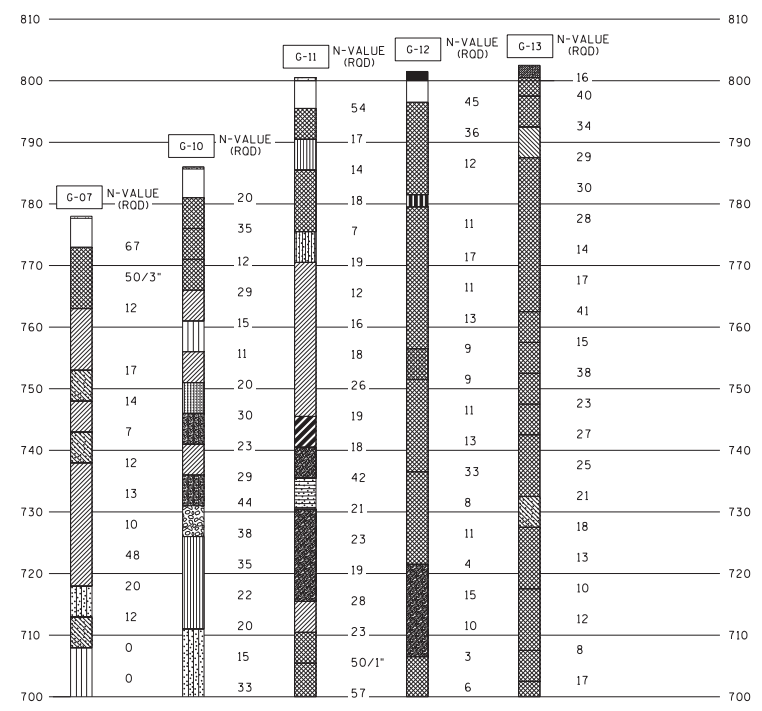
INTERSTATE 24 OVER  
 S. GERMANTOWN ROAD  
 FED. I.D. NO. 33100240055  
 HAMILTON COUNTY  
 2020

CONST. NO.: 33003-3166-44

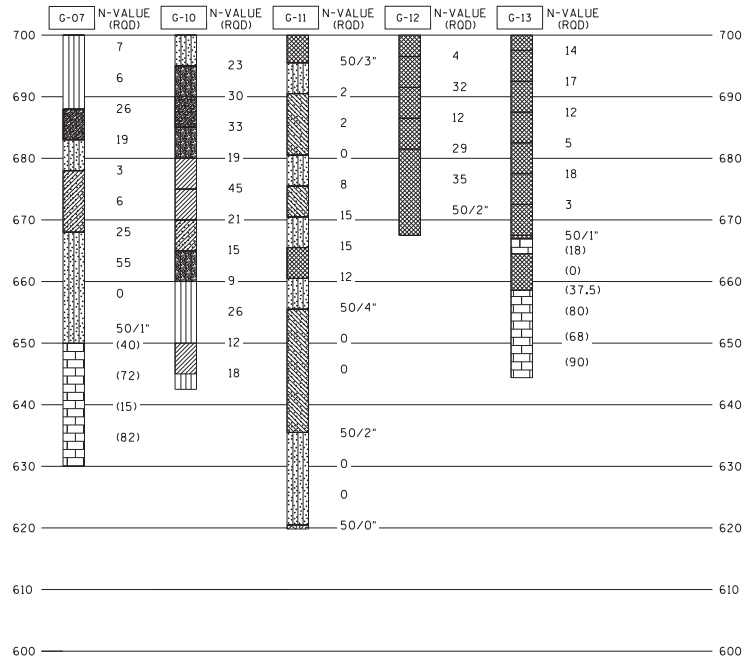
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BR-I-24-3(97)	2020	U-92-11

REVISIONS			
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BORING LOCATIONS AND INFORMATION



BORING LOCATIONS AND INFORMATION



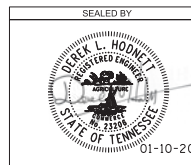
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- ASPHALT
- BASESTONE
- CONCRETE
- LEAN CLAY (CL)
- CLAY (CL)
- CLAY (CL)
- CLAY (CL)
- FAT CLAY (CH)
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- SANDY LEAN CLAY (CL)
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- WEATHERED LIMESTONE
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BRIDGE	BORING NO.	STATION NO.	OFFSET	SURFACE EL.	AUGER REFUSAL DEPTH	AUGER REFUSAL ELEVATION	ROCK QUALITY	
INTERSTATE 24 BRIDGE OVER GERMANTOWN ROAD	G-01	137+50	45 L	798	142.1	656	FAIR TO GOOD TO EXCELLENT TO POOR	
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	G-10	139+72	55 R	786	142.5	643 1/2	N/A	
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	G-13	140+36	50 R	803	135.5	667 1/2	VERY POOR TO POOR TO GOOD TO FAIR TO GOOD	

NOTE: STATION NUMBERS AND GROUND ELEVATIONS WERE SCALED FROM THE DETAILS SHOWN AS PROVIDED BY KSWARE.

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STATE OF TENNESSEE  
DEPARTMENT OF TRANSPORTATION  
BRIDGE NO. 1  
FOUNDATION DATA

INTERSTATE 24 OVER  
S. GERMANTOWN ROAD  
FED. I.D. NO. 33100240055  
HAMILTON COUNTY  
2020

1/10/2020 F:\36787\30\36787\000\03\_PROJECT\_EXECUTION\01\_REC'D\_INFO\2020-01-03\_Final Plans from KSWare\Germantown U-92-11.dgn

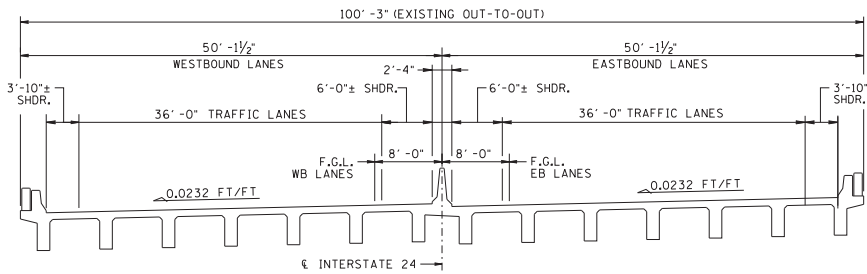
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CONST. NO.: 33003-3166-44

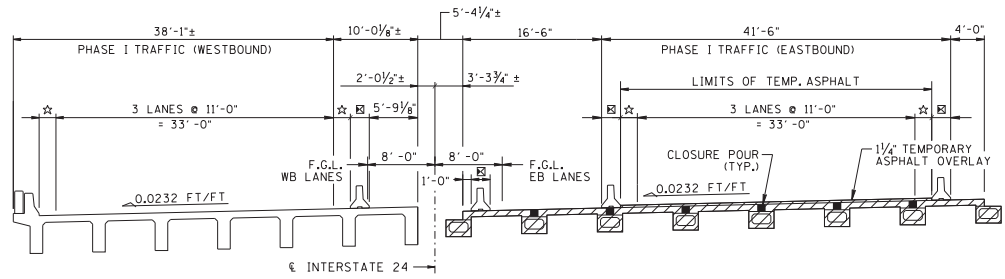
PROJECT NO.	YEAR	SHEET NO.	
BR-I-24-3(97)	2020	U-92-12	
REVISIONS			
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**LEGEND:**

- ☒ DENOTES: LIMITS OF DEMOLITION DURING PHASED CONSTRUCTION.
- ▨ DENOTES: LIMITS OF NEW CONSTRUCTION DURING PHASED CONSTRUCTION.
- ☒ DENOTES: 2'-3" INTERCONNECTED PORTABLE BARRIER, SEE STD-2-1, STD-2-2, & STD-2-3.
- ☆ DENOTES: 2'-0" SHOULDER.
- DENOTES: CLOSURE POUR.

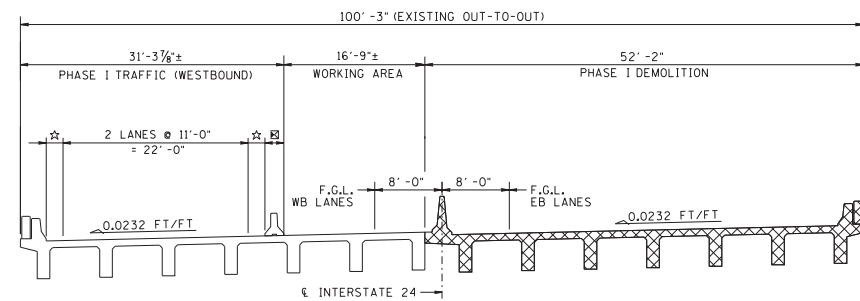


**EXISTING CONDITION**  
(LOOKING FORWARD ON SURVEY)



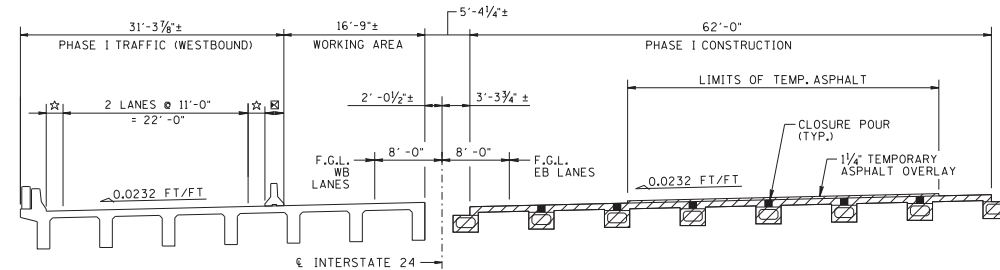
**PHASE I TRAFFIC - AFTER WEEKEND 1 CLOSURE**  
(LOOKING FORWARD ON SURVEY)

DEPTH OF TEMPORARY ASPHALT OVERLAY DOES NOT INCLUDE ANY REQUIRED TAPERS FOR VERTICAL GRADE ADJUSTMENT.



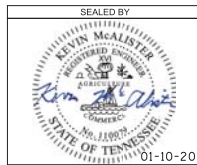
**PHASE I DEMOLITION - WEEKEND 1 CLOSURE**  
(LOOKING FORWARD ON SURVEY)

EASTBOUND TRAFFIC TO BE DIRECTED TO SOUTH TERRACE FOR PHASE I DEMOLITION AND CONSTRUCTION. SEE TRAFFIC CONTROL PLANS FOR DETOUR DETAILS.



**PHASE I CONSTRUCTION - WEEKEND 1 CLOSURE**  
(LOOKING FORWARD ON SURVEY)

EASTBOUND TRAFFIC TO BE DIRECTED TO SOUTH TERRACE FOR PHASE I DEMOLITION AND CONSTRUCTION. SEE TRAFFIC CONTROL PLANS FOR DETOUR DETAILS.  
DEPTH OF TEMPORARY ASPHALT OVERLAY DOES NOT INCLUDE ANY REQUIRED TAPERS FOR VERTICAL GRADE ADJUSTMENT.



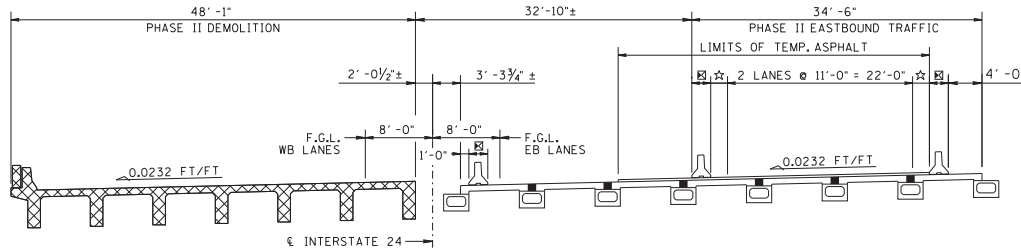
STATE OF TENNESSEE  
DEPARTMENT OF TRANSPORTATION  
BRIDGE NO. 1  
PHASING AND  
DEMOLITION PLAN  
INTERSTATE 24 OVER  
S. GERMANTOWN ROAD  
FED. I.D. NO. 33100240055  
HAMILTON COUNTY  
2020

PIN NO.: 124089.00  
DESIGN BY: BARGE DESIGN SOLUTIONS DATE: 01-2020  
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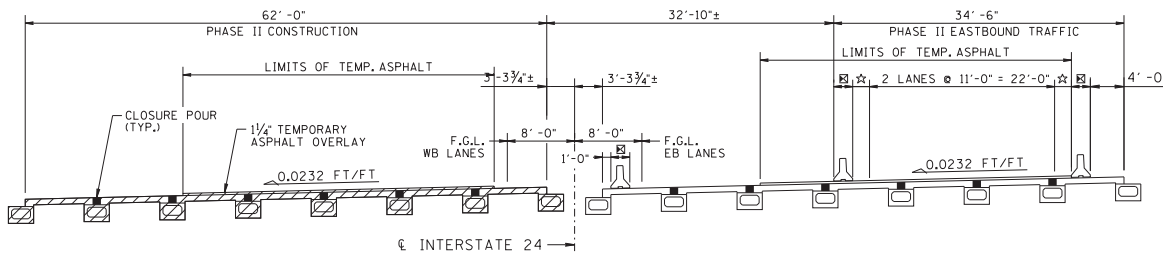
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PROJECT NO.	YEAR	SHEET NO.
BR-I-24-3(97)	2020	U-92-13

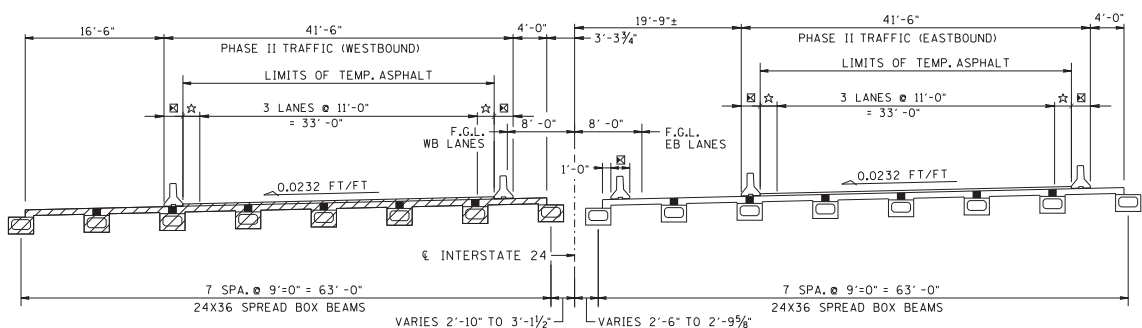
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION
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**PHASE II DEMOLITION - WEEKEND 2 CLOSURE**  
 (LOOKING FORWARD ON SURVEY)  
 WESTBOUND TRAFFIC TO BE DIRECTED TO NORTH TERRACE FOR PHASE II DEMOLITION AND CONSTRUCTION. SEE TRAFFIC CONTROL PLANS FOR DETOUR DETAILS.  
 DEPTH OF TEMPORARY ASPHALT OVERLAY DOES NOT INCLUDE ANY REQUIRED TAPERS FOR VERTICAL GRADE ADJUSTMENT.

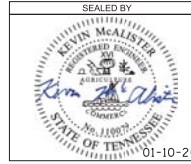


**PHASE II CONSTRUCTION - WEEKEND 2 CLOSURE**  
 (LOOKING FORWARD ON SURVEY)  
 WESTBOUND TRAFFIC TO BE DIRECTED TO NORTH TERRACE FOR PHASE II DEMOLITION AND CONSTRUCTION. SEE TRAFFIC CONTROL PLANS FOR DETOUR DETAILS.  
 DEPTH OF TEMPORARY ASPHALT OVERLAY DOES NOT INCLUDE ANY REQUIRED TAPERS FOR VERTICAL GRADE ADJUSTMENT.



**PHASE II TRAFFIC - AFTER WEEKEND 2 CLOSURE**  
 (LOOKING FORWARD ON SURVEY)  
 DEPTH OF TEMPORARY ASPHALT OVERLAY DOES NOT INCLUDE ANY REQUIRED TAPERS FOR VERTICAL GRADE ADJUSTMENT.

- LEGEND:**
- ☒ DENOTES: LIMITS OF DEMOLITION DURING PHASED CONSTRUCTION.
  - ☒ DENOTES: LIMITS OF NEW CONSTRUCTION DURING PHASED CONSTRUCTION.
  - ☒ DENOTES: 2'-3" INTERCONNECTED PORTABLE BARRIER. SEE STD-2-1, STD-2-2, & STD-2-3.
  - ☆ DENOTES: 2'-0" SHOULDER.
  - DENOTES: CLOSURE POUR.



STATE OF TENNESSEE  
 DEPARTMENT OF TRANSPORTATION  
 BRIDGE NO. 1  
 PHASING AND  
 DEMOLITION PLAN  
 INTERSTATE 24 OVER  
 S. GERMANTOWN ROAD  
 FED. I.D. NO. 33100240055  
 HAMILTON COUNTY  
 2020

PIN NO.: 124089.00  
 DESIGN BY: BARGE DESIGN SOLUTIONS DATE: 01-2020  
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CONST. NO.: 33003-3166-44

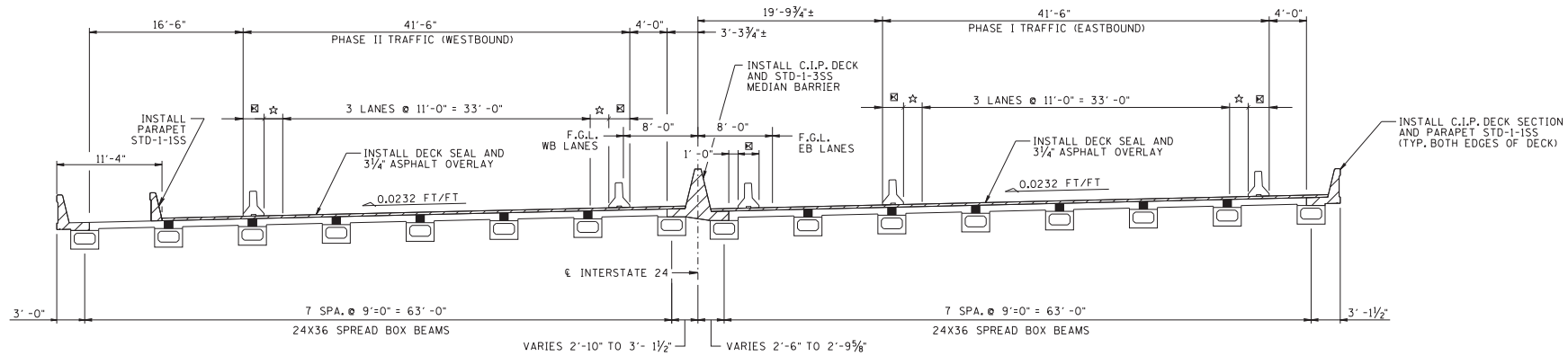
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BR-1-24-3(97)	2020	U-92-14

REVISIONS

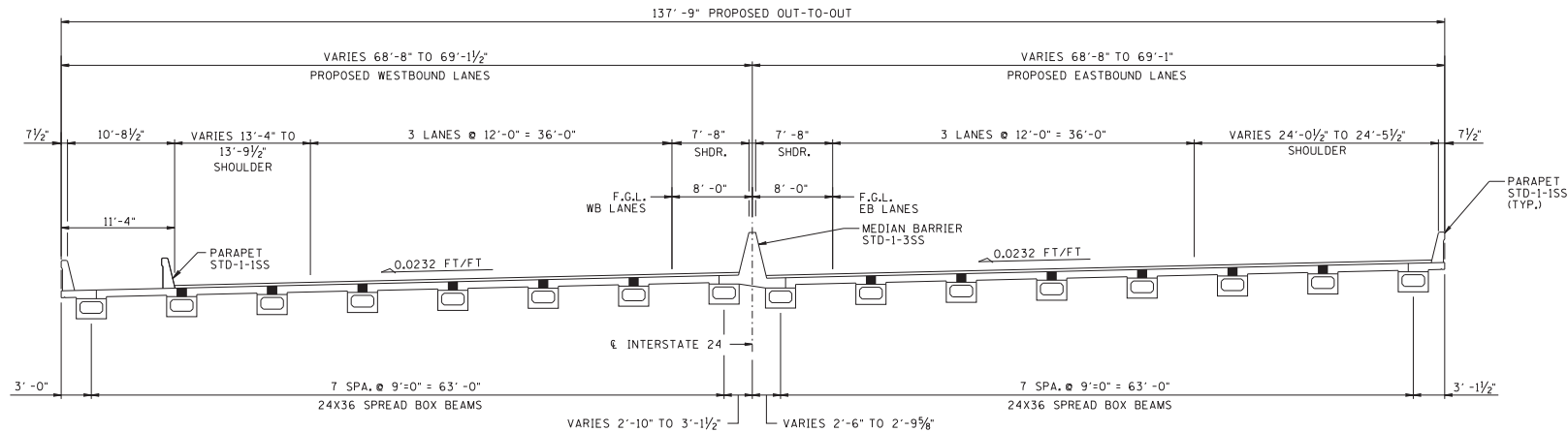
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LEGEND:

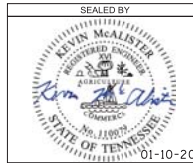
- ☒ DENOTES: LIMITS OF DEMOLITION DURING PHASED CONSTRUCTION.
- ▨ DENOTES: LIMITS OF NEW CONSTRUCTION DURING PHASED CONSTRUCTION.
- ☒ DENOTES: 2'-3" INTERCONNECTED PORTABLE BARRIER. SEE STD-2-1, STD-2-2, & STD-2-3.
- ☆ DENOTES: 2'-0" SHOULDER.
- DENOTES: CLOSURE POUR.



PHASE III TRAFFIC  
(LOOKING FORWARD ON SURVEY)



PROPOSED FINAL CONDITION  
(LOOKING FORWARD ON SURVEY)

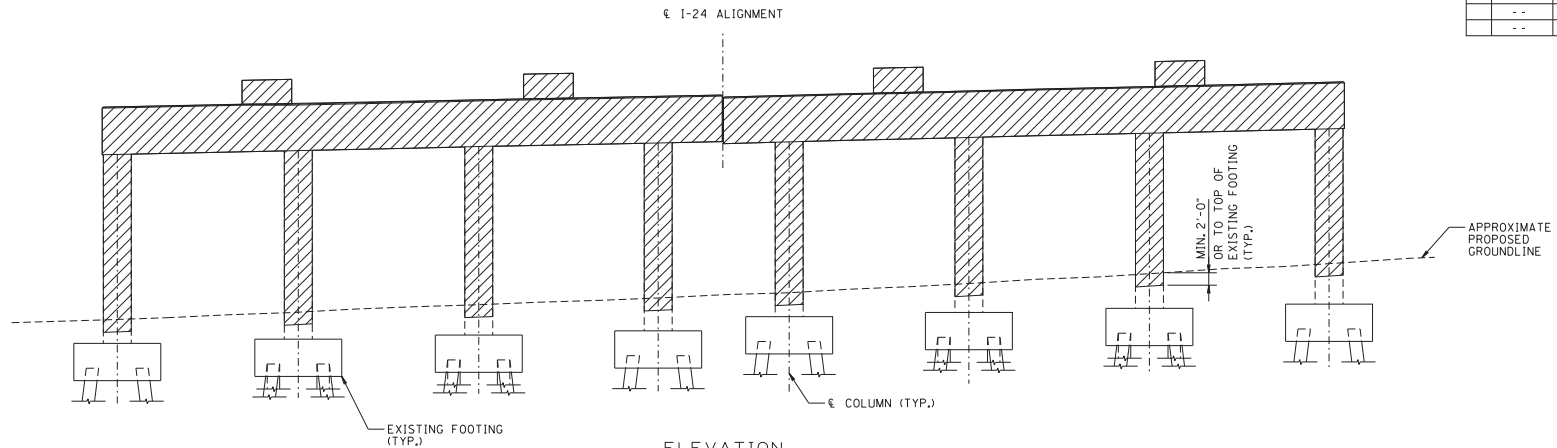


STATE OF TENNESSEE  
DEPARTMENT OF TRANSPORTATION  
BRIDGE NO. 1  
PHASING AND  
DEMOLITION PLAN  
INTERSTATE 24 OVER  
S. GERMANTOWN ROAD  
FED. I.D. NO. 33100240055  
HAMILTON COUNTY  
2020

PIN NO.: 124089.00  
DESIGN BY: BARGE DESIGN SOLUTIONS DATE: 01-2020  
DRAWN BY: BARGE DESIGN SOLUTIONS DATE: 01-2020  
SUPERVISED BY: BARGE DESIGN SOLUTIONS DATE: 01-2020  
CHECKED BY: BARGE DESIGN SOLUTIONS DATE: 01-2020

CONST. NO.: 33003-3166-44

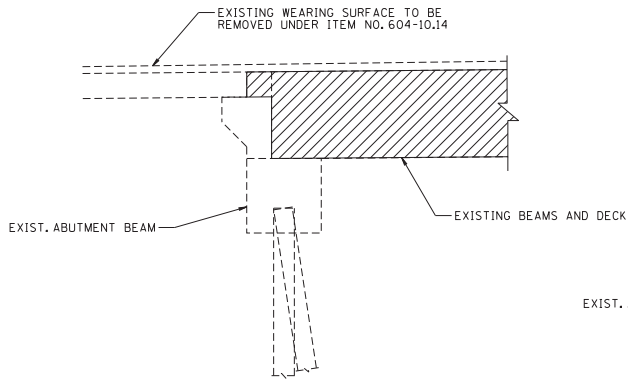
PROJECT NO.	YEAR	SHEET NO.	
BR-I-24-3(97)	2020	U-92-15	
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION
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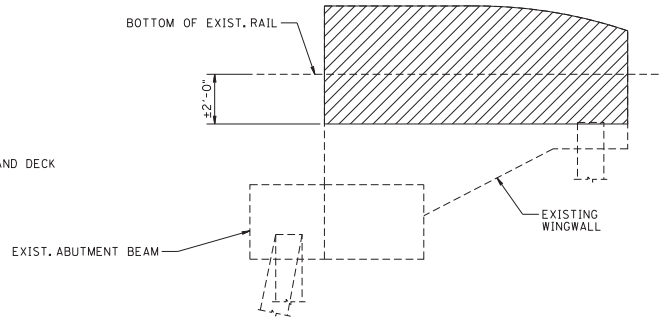
**ELEVATION**

BENT 1 SHOWN (BENT 3 SIMILAR)  
(LOOKING FORWARD ON SURVEY)

▨ DENOTES AREA OF CONCRETE TO BE REMOVED



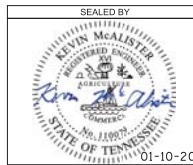
**ABUTMENT 1**  
BOTH ABUTMENTS SIMILAR



**WINGWALL**  
ALL WINGWALLS SIMILAR

IT WILL BE NECESSARY FOR THE CONTRACTOR TO INSTALL BRACING TO STABILIZE THE EXISTING BACKWALL PRIOR TO REMOVING THE EXISTING CONCRETE BEAMS AND DECK.

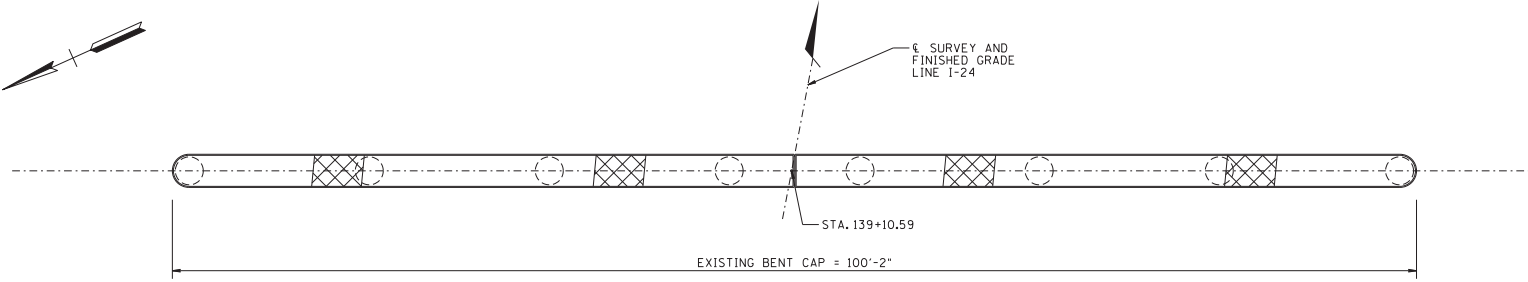
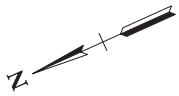
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DRAWN BY: BARGE DESIGN SOLUTIONS	DATE: 01-2020
SUPERVISED BY: BARGE DESIGN SOLUTIONS	DATE: 01-2020
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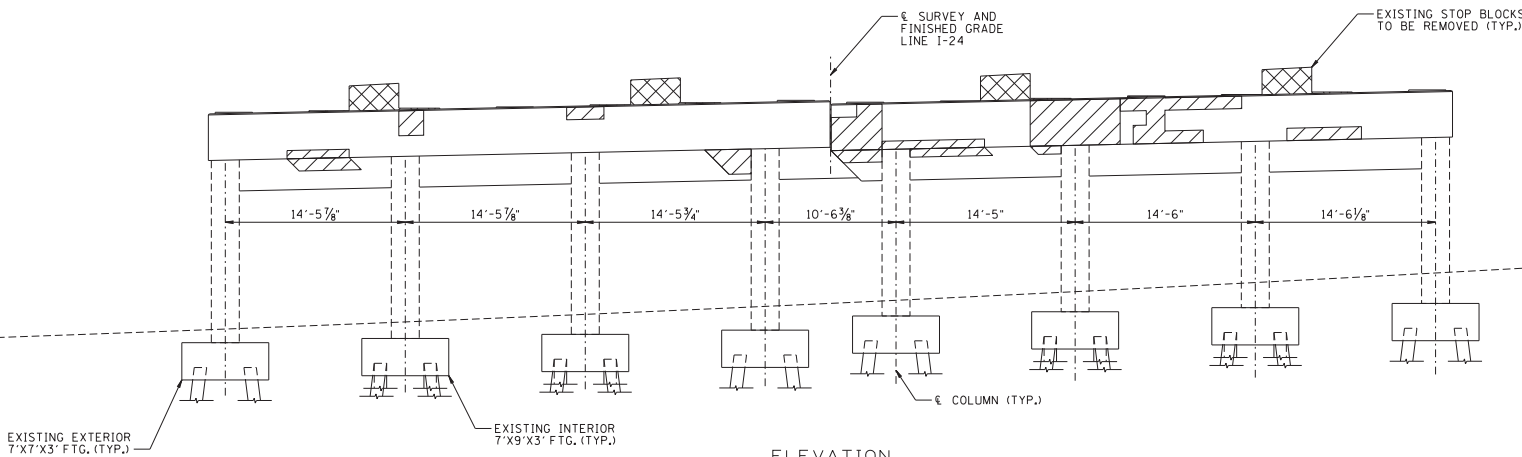
STATE OF TENNESSEE  
DEPARTMENT OF TRANSPORTATION  
BRIDGE NO. 1  
BENT NOS. 1 & 3 & ABUTMENT  
DEMOLITION PLAN  
INTERSTATE 24 OVER  
S. GERMANTOWN ROAD  
FED. I.D. NO. 33100240055  
HAMILTON COUNTY  
2020

CONST. NO.: 33003-3166-44

PROJECT NO.	YEAR	SHEET NO.	
BR-1-24-3(97)	2020	U-92-16	
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION
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PLAN



ELEVATION

(LOOKING FORWARD ON SURVEY)

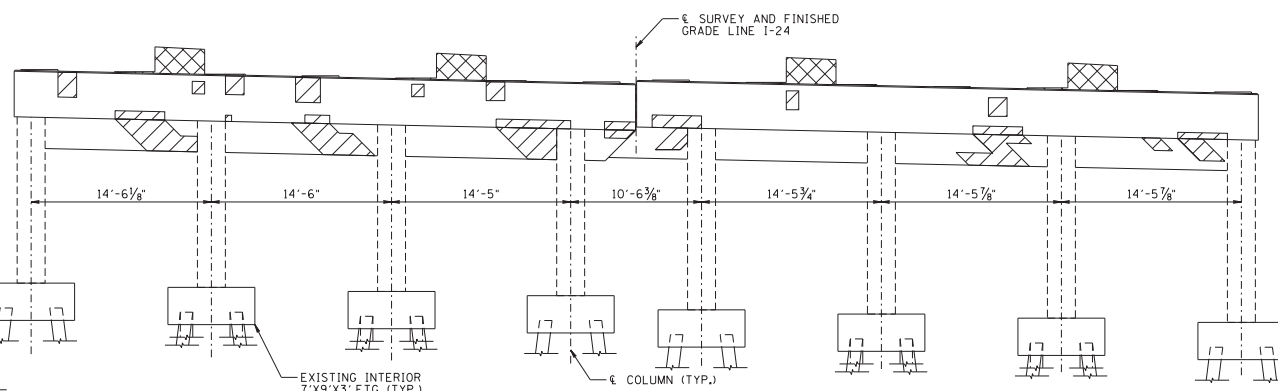
ESTIMATED REPAIR QUANTITIES	
LOCATION OF REPAIR	APPROX. AREA OF SPALL AND DELAMINATION (S.F.)
EXIST. BENT 2/PROP. BENT 1	250

NOTE: COST OF SPALL/DELAMINATION AND CONCRETE REMOVAL INCLUDED IN ITEM NO. 202-04.01 REMOVAL OF STRUCTURES

☒ DENOTES: AREA OF CONCRETE TO BE REMOVED

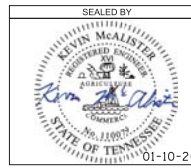
▨ DENOTES: APPROX. AREA OF SPALL/DELAMINATION

NOTE: SPALLED AND DELAMINATED AREAS OF CONCRETE REPAIR TO BE POURED BACK AS PART OF THE BENT MODIFICATIONS. CONTRACTOR SHALL ENSURE ALL VOIDS ARE FILLED AND CONCRETE HAS ADEQUATELY SURROUNDED EXISTING REINFORCEMENT.



ELEVATION

(LOOKING BACK ON SURVEY)



STATE OF TENNESSEE  
 DEPARTMENT OF TRANSPORTATION  
 BRIDGE NO. 1  
 EXIST. BENT NO. 2/PROP. BENT NO. 1  
 DEMOLITION PLAN  
 INTERSTATE 24 OVER  
 S. GERMANTOWN ROAD  
 FED. I.D. NO. 33100240055  
 HAMILTON COUNTY  
 2020

PIN NO.: 124089.00  
 DESIGN BY: BARGE DESIGN SOLUTIONS DATE: 01-2020  
 DRAWN BY: BARGE DESIGN SOLUTIONS DATE: 01-2020  
 SUPERVISED BY: BARGE DESIGN SOLUTIONS DATE: 01-2020  
 CHECKED BY: BARGE DESIGN SOLUTIONS DATE: 01-2020

U-92-16

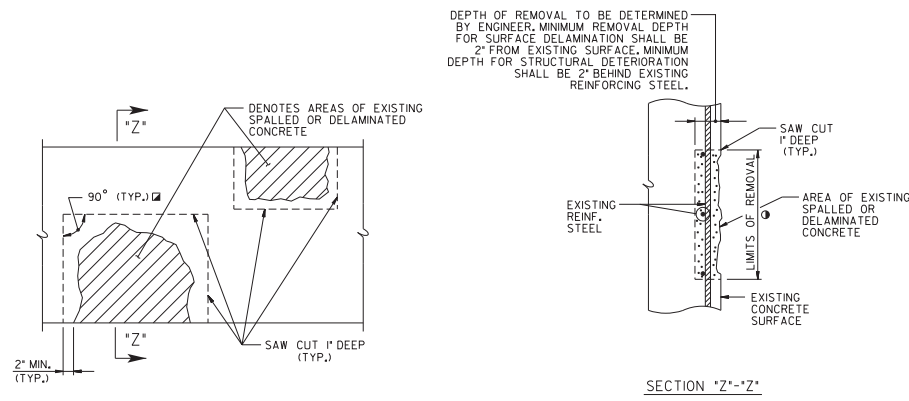
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CONST. NO.: 33003-3166-44

PROJECT NO.	YEAR	SHEET NO.
BR-I-24-3(97)	2020	U-92-17

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
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DETAIL SHOWING AREAS OF EXISTING SPALLED OR DELAMINATED CONCRETE SURFACES TO BE REMOVED AND REPAIRED

- DENOTES: LIMITS AND LOCATION OF REPAIRS TO BE DESIGNATED BY THE ENGINEER.
- ▣ DENOTES: SAW CUT EXISTING CONCRETE SURFACES SO AS TO OBTAIN SQUARED CORNERS.

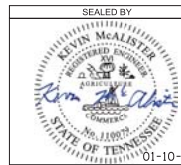
NOTE: EXTREME CARE SHALL BE TAKEN WHEN REMOVING THE EXISTING SPALLED OR DELAMINATED CONCRETE SO AS NOT TO DAMAGE THE EXISTING REINFORCING STEEL. ALL EXPOSED EXISTING REINFORCING STEEL SHALL RECEIVE A COMPLETE CLEANING TO REMOVE ALL RUST. ALL EXISTING REINFORCEMENT SHALL REMAIN IN PLACE AND INCORPORATED INTO THE NEW CONSTRUCTION. ALL WORK MUST MEET WITH THE FULL APPROVAL OF THE ENGINEER.

NOTE: PNEUMATICALLY PLACED CONCRETE IS NOT ALLOWED.

COST OF SAW CUTTING, REMOVING SPALLED OR DELAMINATED CONCRETE, CLEANING, LABOR AND ANY MISCELLANEOUS MATERIALS NECESSARY TO COMPLETE THE REPAIRS AS SHOWN TO BE INCLUDED IN ITEM NO. 202-04.01 REMOVAL OF STRUCTURES (L.S.)

THE ENGINEER SHALL DESIGNATE ALL SPALLED OR DELAMINATED CONCRETE AREAS IN THE FIELD. SPALLED OR DELAMINATED AREAS SHOWN ARE APPROXIMATE AND MAY BE INCREASED OR DECREASED AS DIRECTED BY THE ENGINEER.

POWER HAND DRIVEN TOOLS USED FOR REMOVAL OF UNSOUND CONCRETE ARE SUBJECT TO THE FOLLOWING RESTRICTIONS:  
 1. PNEUMATIC HAMMERS HEAVIER THAN THE 35 LB. CLASS SHALL NOT BE USED.  
 2. CHIPPING HAMMERS OF THE 15 LB. CLASS SHALL BE USED TO REMOVE CONCRETE FROM BEHIND REINFORCING STEEL.



STATE OF TENNESSEE  
 DEPARTMENT OF TRANSPORTATION  
 BRIDGE NO. 1  
 CONCRETE REPAIR  
 DETAILS  
 INTERSTATE 24 OVER  
 S. GERMANTOWN ROAD  
 FED. I.D. NO. 33100240055  
 HAMILTON COUNTY  
 2020

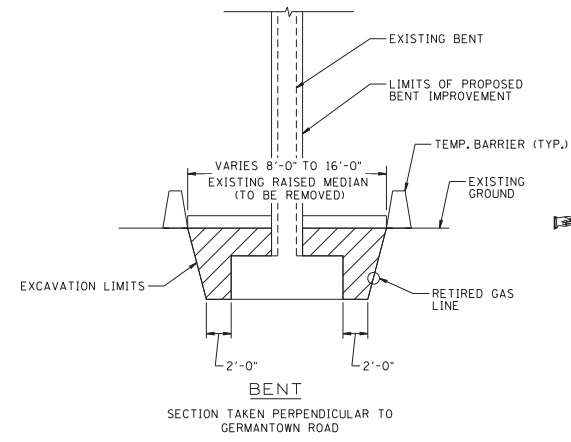
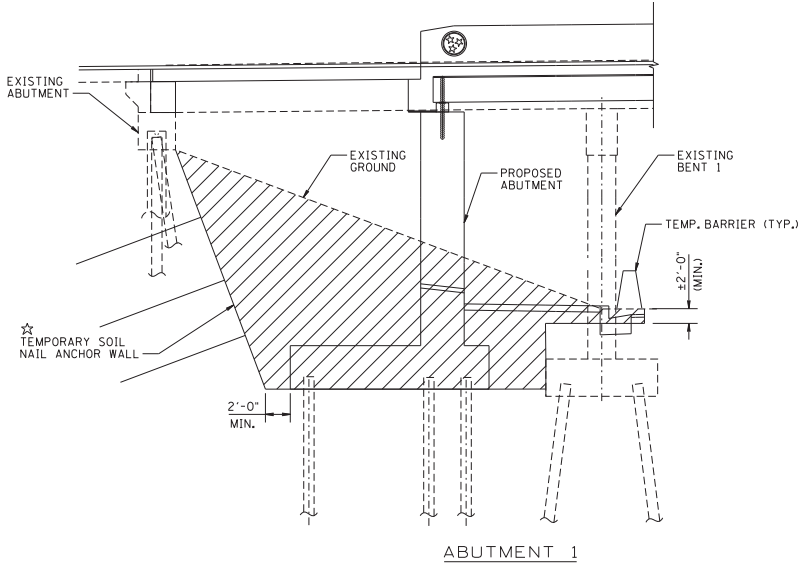
U-92-17

PIN NO.: 124089.00  
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 DRAWN BY: BARGE DESIGN SOLUTIONS DATE: 01-2020  
 SUPERVISED BY: BARGE DESIGN SOLUTIONS DATE: 01-2020  
 CHECKED BY: BARGE DESIGN SOLUTIONS DATE: 01-2020

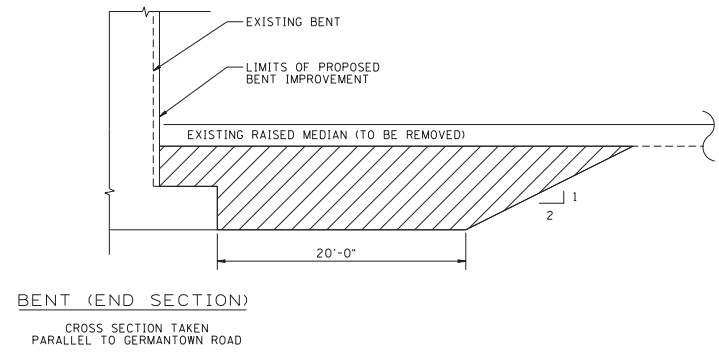
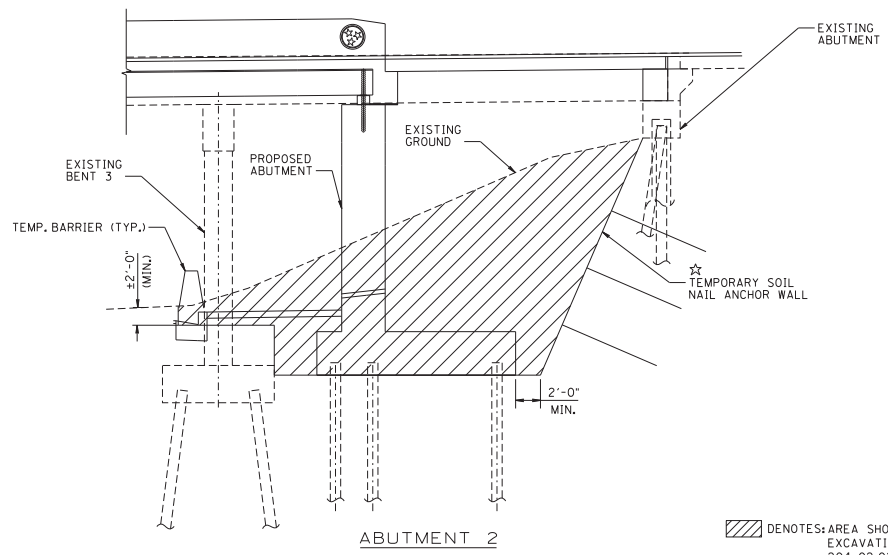
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CONST. NO.: 33003-3166-44

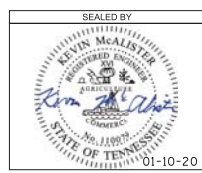
PROJECT NO.	YEAR	SHEET NO.	
BR-I-24-3(97)	2020	U-92-18	
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION
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SPECIAL NOTE TO CONTRACTOR: PRIOR TO EXCAVATING FOR BENT 1 MODIFICATIONS THE CONTRACTOR SHALL NOTIFY SOUTHERN GAS COMPANY. NOTIFICATION SHALL BE GIVEN A MINIMUM OF TWO (2) BUSINESS DAYS IN ADVANCE OF THE PLANNED EXCAVATION SO SOUTHERN GAS TO HAVE REPRESENTATIVES ON SITE TO ENSURE THE GAS LINE HAS BEEN PROPERLY BLEED. EXACT LOCATION OF GAS LINE MAY VARY. CONTACT INFORMATION FOR SOUTHERN GAS COMPANY REPRESENTATIVE: MARCUS SMITH OFFICE: 423-490-4262 MOBILE: 423-421-5654.



/// DENOTES: AREA SHOWN IN DETAIL ON THIS SHEET ARE EXCAVATION LIMITS FOR ITEM NUMBER 204-02.01 DRY EXCAVATION (BRIDGES) C.Y.  
★ DENOTES: TEMPORARY SHORING SOIL NAIL/ANCHOR WALL (DESIGNED BY CONTRACTOR) QUANTITY INCLUDED IN ITEM NO. 621-05.01 TEMPORARY SHORING (S.F.). CONTRACTOR SHALL REFER TO STANDARD SPECIFICATIONS FOR THE SUBMISSION OF WORKING DRAWINGS FOR APPROVAL.



STATE OF TENNESSEE  
DEPARTMENT OF TRANSPORTATION  
BRIDGE NO. 1  
EXCAVATION LIMITS

INTERSTATE 24 OVER  
S. GERMANTOWN ROAD  
FED. I.D. NO. 33100240055  
HAMILTON COUNTY  
2020

PIN NO.: 124089.00  
DESIGN BY: BARGE DESIGN SOLUTIONS DATE: 01-2020  
DRAWN BY: BARGE DESIGN SOLUTIONS DATE: 01-2020  
SUPERVISED BY: BARGE DESIGN SOLUTIONS DATE: 01-2020  
CHECKED BY: BARGE DESIGN SOLUTIONS DATE: 01-2020

NOTE: WHEN POURING SLAB, PROVISIONS SHALL BE MADE FOR SETTING REINFORCING STEEL FOR THE PARAPET.

NOTE: NO PORTION OF THE PARAPET SHALL BE POURED UNTIL THE ENTIRE CANTILEVER DECK SLAB IS IN PLACE AND CURED.

NOTE: ALL REINFORCING STEEL FOR THE C.I.P. SECTIONS OF THE NEW CONCRETE SLAB SHALL BE EPOXY COATED REINFORCING STEEL TO BE INCLUDED IN THE PRICE BID FOR ITEM NO. 604-02.03 EPOXY COATED REINFORCING STEEL, LB.

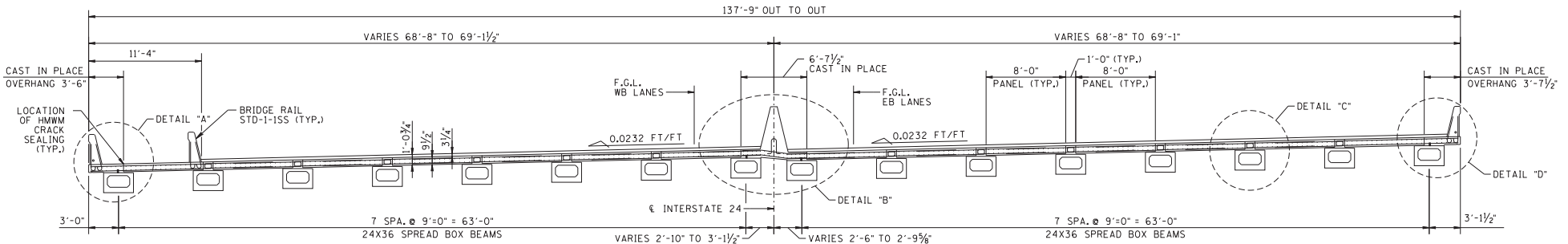
NOTE: THE COST OF CONCRETE REQUIRED FOR THE NEW BRIDGE DECK OVERHANG AND MEDIAN SLAB SHALL BE INCLUDED IN THE PRICE BID FOR ITEM NO. 604-03.09 CLASS "D" CONCRETE (BRIDGE DECK), C.Y.

CONST. NO.: 33003-3166-44

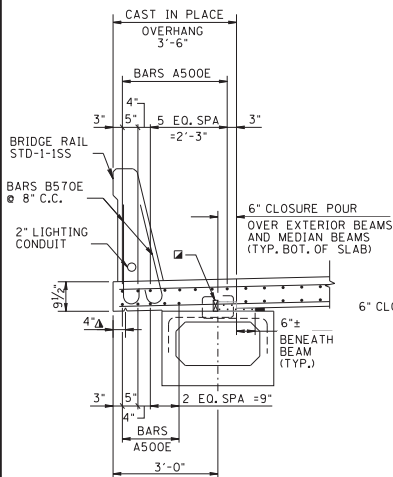
PROJECT NO.	YEAR	SHEET NO.
BR-I-24-3(97)	2020	U-92-19

REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION
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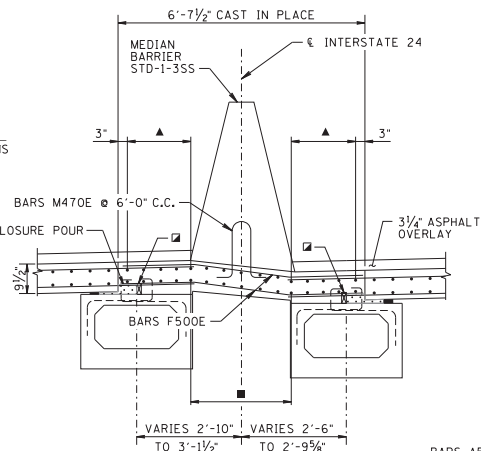


PROPOSED TYPICAL SECTION  
(LOOKING FORWARD ON SURVEY)



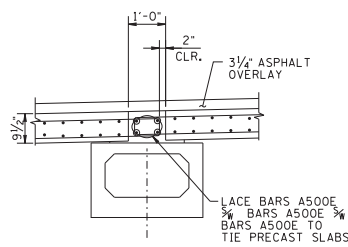
DETAIL "A"

- ▲ DENOTES: 1" TRIANGULAR DRIP NOTCH TO RUN FULL LENGTH OF SLAB
- DENOTES: 2"x4" OR OTHER FORM BOARD FOR PLACEMENT OF CLOSURE POUR MATERIAL BENEATH PANELS (TYP.)



DETAIL "B"

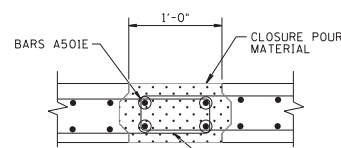
- ▲ DENOTES: BARS A500E (TOP @ BOT.) 4 EO. SPA. = 1'-9"
- DENOTES: BARS A500E (TOP @ BOT.) 6 EO. SPA.
- DENOTES: 2"x4" OR OTHER FORM BOARD FOR PLACEMENT OF CLOSURE POUR MATERIAL BENEATH PANELS (TYP.)



DETAIL "C"

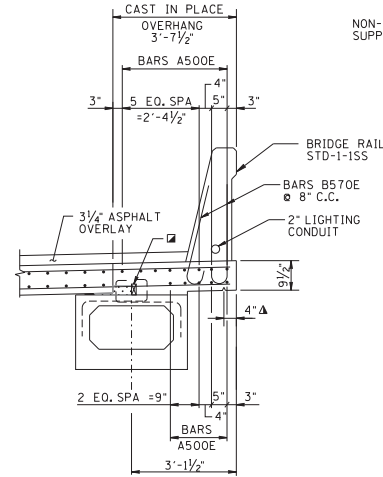
NOTE: MINIMUM ALLOWABLE TOP COVER FOR BARS IN CLOSURE POUR SHALL BE 1 1/4"

PROJECTING BEAM STIRRUPS NOT SHOWN FOR CLARITY



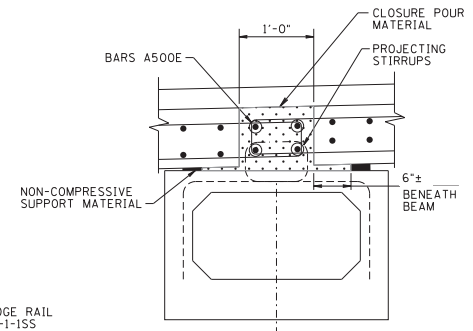
PANEL TO PANEL CONNECTION

NOTE: VERTICAL FACE OF SUPERSTRUCTURE UNITS SHALL BE ROUGHENED AT TIME OF CASTING BY CHEMICAL OR OTHER FORMING METHODS.



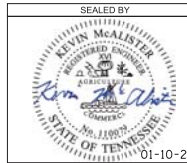
DETAIL "D"

- ▲ DENOTES: 1" TRIANGULAR DRIP NOTCH TO RUN FULL LENGTH OF SLAB
- DENOTES: 2"x4" OR OTHER FORM BOARD FOR PLACEMENT OF CLOSURE POUR MATERIAL BENEATH PANELS (TYP.)



PANEL TO BEAM CONNECTION

NOTE: VERTICAL FACE OF SUPERSTRUCTURE UNITS SHALL BE ROUGHENED AT TIME OF CASTING BY CHEMICAL OR OTHER FORMING METHODS.



STATE OF TENNESSEE  
DEPARTMENT OF TRANSPORTATION  
BRIDGE NO. 1  
SUPERSTRUCTURE

INTERSTATE 24 OVER  
S. GERMANTOWN ROAD  
FED. I.D. NO. 33100240055  
HAMILTON COUNTY  
2020

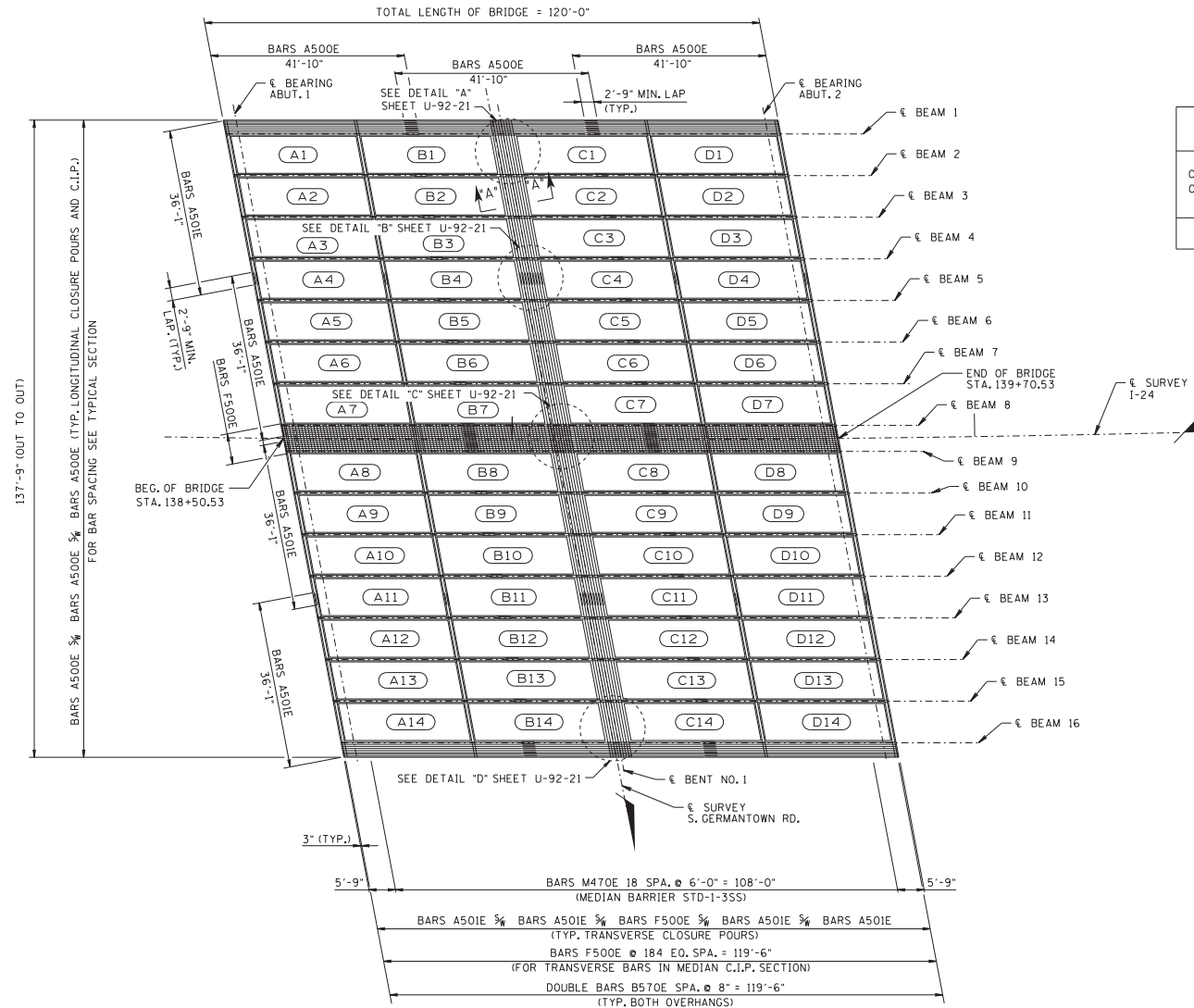
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SUPERVISED BY: BARGE DESIGN SOLUTIONS DATE: 01-2020  
CHECKED BY: BARGE DESIGN SOLUTIONS DATE: 01-2020

CONST. NO.: 33003-3166-44

PROJECT NO.	YEAR	SHEET NO.
BR-I-24-3(97)	2020	U-92-20

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
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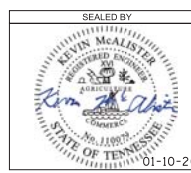


ESTIMATED QUANTITIES

CLASS "D" CONCRETE (C.Y.)	CLASS "X" CONCRETE (C.Y.)	EPOXY STEEL REINFORCING (L.B.)	STEEL BAR REINFORCEMENT (L.B.)	PRECAST CONCRETE PANELS (S.Y.)
63	107	22,130	960	1,373

NOTE: FOR SECTION "A"- "A" SEE SHEET NO U-92-38

NOTE: IT WILL BE NECESSARY FOR THE CONTRACTOR TO INSTALL ADDITIONAL BARS B570E IN THE TRANSVERSE CLOSURE POURS FOR THE PARAPET ALONG WESTBOUND I-24, BARS SHALL ALIGN WITH BARS CAST IN PANELS A1, B1, C1, & D1.



STATE OF TENNESSEE  
DEPARTMENT OF TRANSPORTATION  
BRIDGE NO. 1  
SUPERSTRUCTURE DETAILS

INTERSTATE 24 OVER  
S. GERMANTOWN ROAD  
FED. I.D. NO. 33100240055  
HAMILTON COUNTY  
2020

PLAN OF MAIN REINFORCEMENT

SHOWING TOP AND BOTTOM LONGITUDINAL AND TRANSVERSE REINFORCEMENT

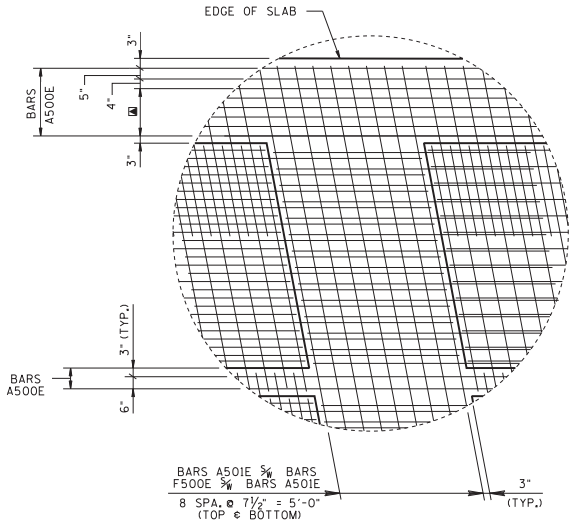
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U-92-20

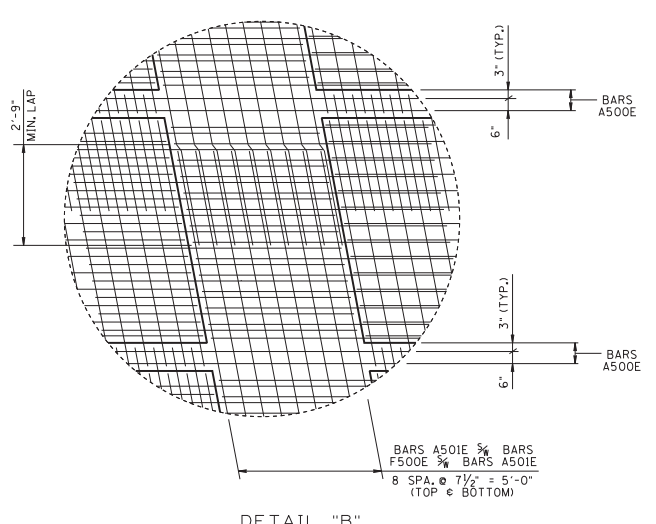
CONST. NO.: 33003-3166-44

PROJECT NO.	YEAR	SHEET NO.
BR-I-24-3(97)	2020	U-92-21

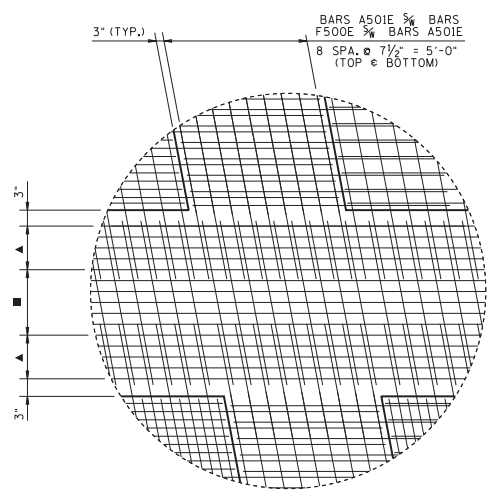
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NO.	DATE	BY	BRIEF DESCRIPTION
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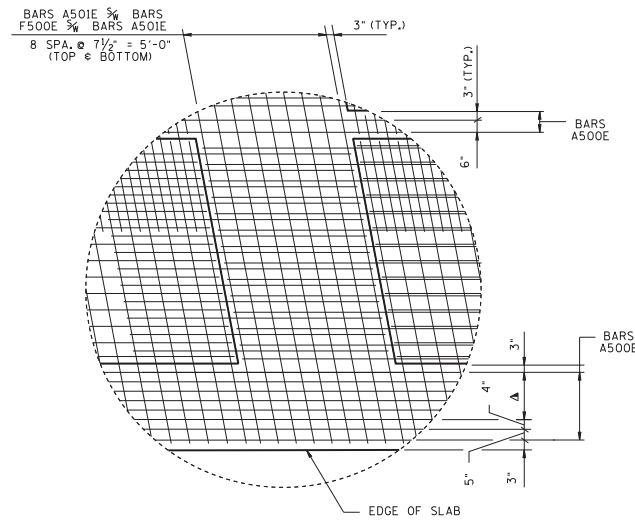
DETAIL "A"  
 ■ DENOTES: 5 EO, SPA = 2'-3"



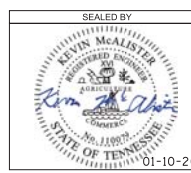
DETAIL "B"



DETAIL "C"  
 ▲ DENOTES: BARS A500E 4 EO, SPA = 1'-9"  
 ■ DENOTES: BARS A500E 6 EO, SPA



DETAIL "D"  
 ▲ DENOTES: 5 EO, SPA = 2'-4 1/2"



STATE OF TENNESSEE  
 DEPARTMENT OF TRANSPORTATION  
 BRIDGE NO. 1  
 SUPERSTRUCTURE DETAILS

INTERSTATE 24 OVER  
 S. GERMANTOWN ROAD  
 FED. I.D. NO. 33100240055  
 HAMILTON COUNTY  
 2020

U-92-21

PIN NO.: 124089.00  
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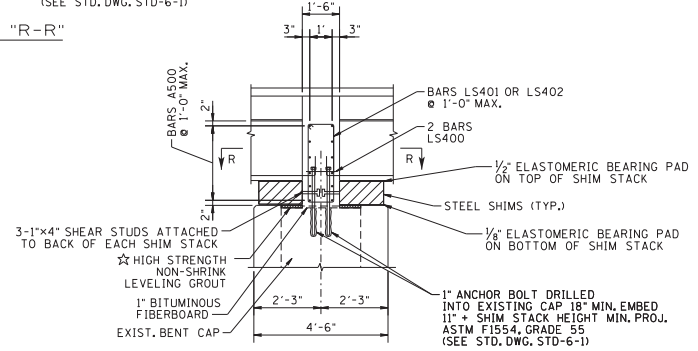
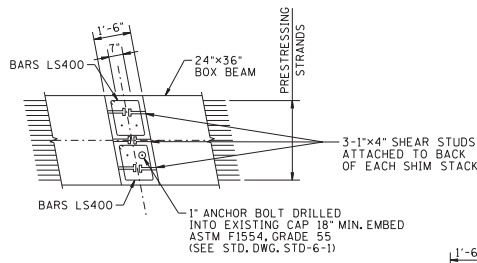


CONST. NO.: 33003-3166-44

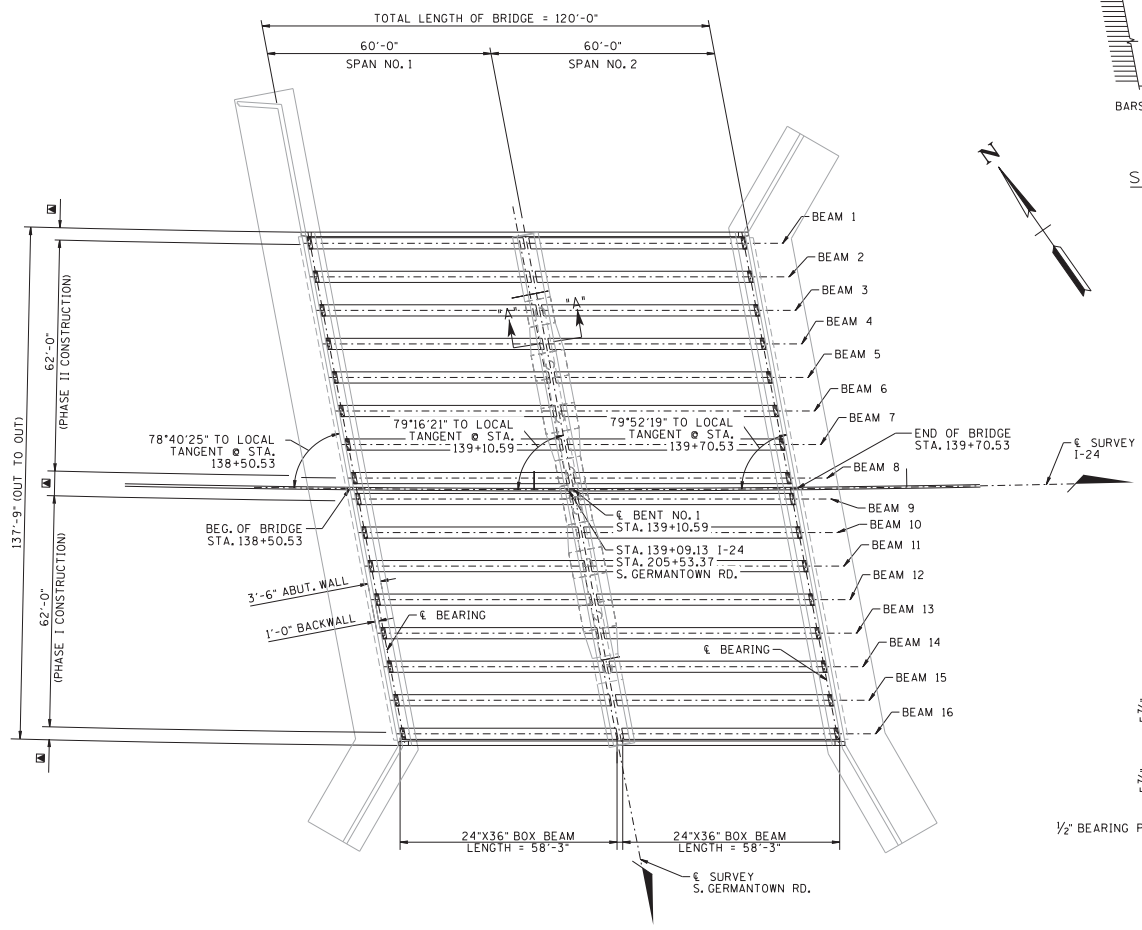
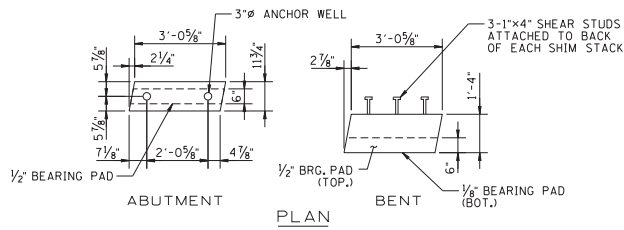
PROJECT NO.	YEAR	SHEET NO.
BR-I-24-3(97)	2020	U-92-22

REVISIONS

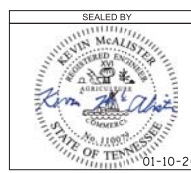
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SPECIAL NOTE FOR ANCHOR BOLTS AT BENTS: EXCEPT OTHERWISE NOTED, ANCHOR BOLT ASSEMBLIES AT BENTS SHALL BE IN ACCORDANCE WITH STANDARD DRAWING STD-6-1 WITH HOOK OMITTED.  
 ☆ HIGH STRENGTH NON-SHRINK LEVELING GROUT SHALL BE USED TO CREATE A LEVEL BEARING SURFACE FOR SETTING SHIM STACK.  
 BARS L5402 ARE FOR DIAPHRAGMS BETWEEN BEAM LINES 1, 2, 15, & 16



■ DENOTES: PHASE III CONSTRUCTION, CAST-IN-PLACE MEDIAN AND OVERHANG SECTIONS. DIMENSIONS VARY



STATE OF TENNESSEE  
 DEPARTMENT OF TRANSPORTATION  
 BRIDGE NO. 1  
 FRAMING PLAN

INTERSTATE 24 OVER  
 S. GERMANTOWN ROAD  
 FED. I.D. NO. 33100240055  
 HAMILTON COUNTY  
 2020

SHIM STACK NOTES:  
 VIEW SHOWING STEEL SHIM STACKS AT ABUTMENTS AND BENT  
 HEIGHT OF SHIM STACK VARIES, SEE ABUTMENT AND BENT ELEVATIONS FOR ADDITIONAL DETAILS  
 1/8" BEARING PAD BENEATH SHIM STACK FULL WIDTH,  
 1/2" STANDARD BEARING PAD ON TOP OF SHIM STACK  
 ELASTOMERIC BEARING PADS TO BE CEMENTED TO CONCRETE SURFACES  
 SHIM STACK PLATES TO BE A588 WEATHERING STEEL  
 CONTRACTOR MAY SUBMIT ALTERNATE BEARING DESIGN FOR CONSIDERATION

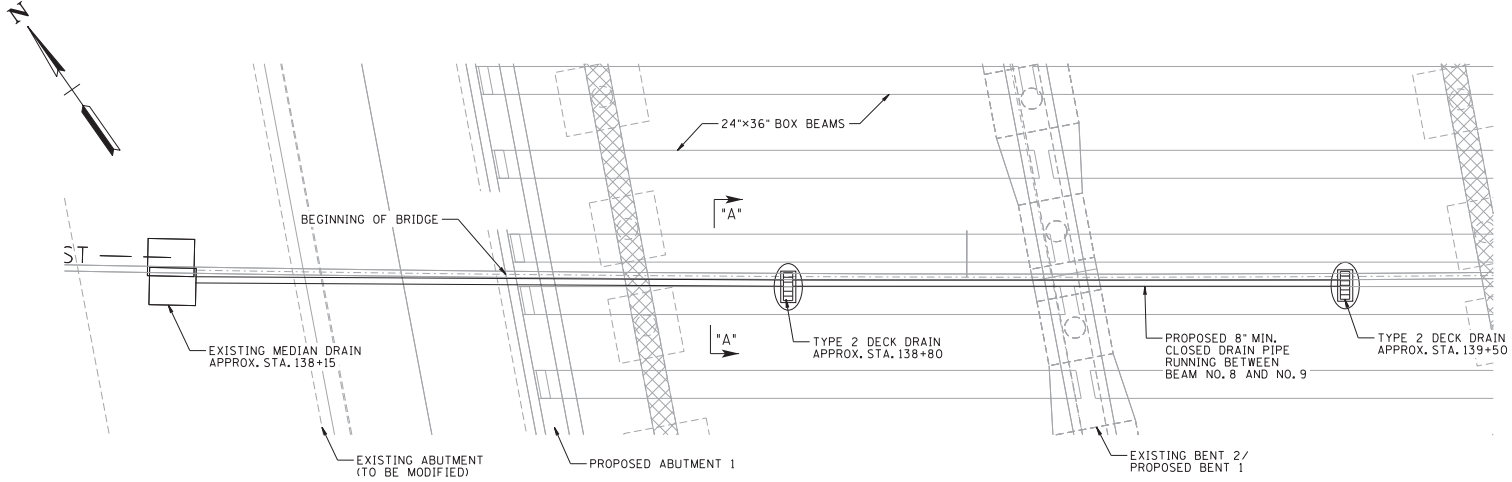
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DRAWN BY:	BARGE DESIGN SOLUTIONS
SUPERVISED BY:	BARGE DESIGN SOLUTIONS
CHECKED BY:	BARGE DESIGN SOLUTIONS
DATE:	01-2020
DATE:	01-2020
DATE:	01-2020
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CONST. NO.: 33003-3166-44

PROJECT NO.	YEAR	SHEET NO.
BR-I-24-3(97)	2020	U-92-23

REVISIONS

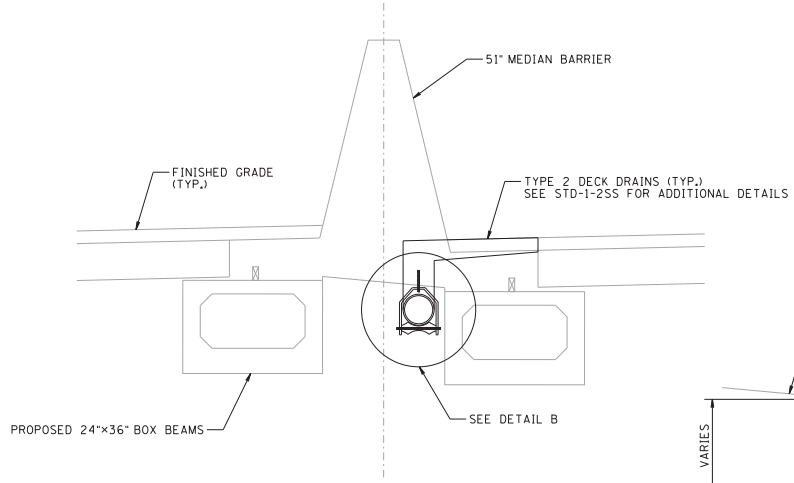
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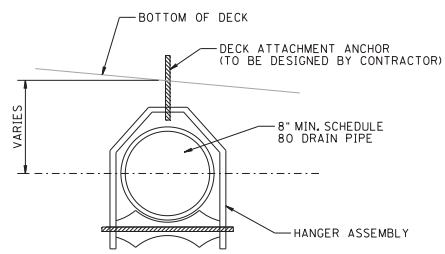
PLAN

NOTES:

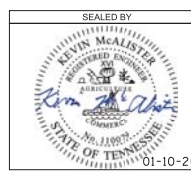
- CONTRACTOR SHALL INSTALL DECK DRAINS AT OR NEAR THE LOCATION SHOWN. CONTRACTOR MAY ADJUST DECK DRAIN LOCATION UP TO 2'-0" AS NEEDED TO WORK WITH DECK REINFORCEMENT. ANY EPOXY COATED REINFORCING STEEL CUT FOR THE INSTALLATION OF THE DECK DRAIN SHALL BE PAINTED WITH APPROVED EPOXY COATING SYSTEM. THE CONTRACTOR SHALL NOT CUT OR BEND ANY MORE BARS THAN ABSOLUTELY REQUIRED TO INSTALL THE DECK DRAINS.
- DECK DRAINS SHALL MEET SPECIFICATIONS FOR TYPE 2 DECK DRAINS. FOR ADDITIONAL INFORMATION SEE STANDARD DRAWING STD-1-25S.
- CONTRACTOR SHALL MATCH THE SLOPE OF I-24 ROADWAY APPROX. 0.92%. IN ANY CASE THE SLOPE OF THE PIPE SHALL NOT BE LESS THAN 0.5%. THE CONTRACTOR SHALL ADJUST THE HANGER ASSEMBLY TO ACHIEVE PROPER SLOPE.
- ALL DRAIN PIPE SHALL BE SMOOTH WALL 8" MIN. SCHEDULE 80 PVC PIPE.
- CLEAN OUTS SHALL BE INSTALLED WITHIN 2'-0" OF ALL PIPE BENDS AND A MINIMUM OF EVERY 20'-0" C.C. ALONG THE MAIN DRAIN LINE.
- HANGER ASSEMBLY SHALL BE EITHER STAINLESS STEEL OR HOT-DIP GALVANIZED. HANGER ASSEMBLY AND ANCHORS SHALL HAVE A DESIGN CAPACITY NOT LESS THAN 700 LBS. HANGER ASSEMBLY SPACING SHALL NOT EXCEED 8'-0" C.C. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DESIGN AND SHOP DRAWINGS NECESSARY FOR ALL COMPONENTS OF CLOSED DRAINAGE SYSTEM.
- CONTRACTOR SHALL INSTALL EXPANSION FITTING AROUND PIPE FOR INSTALLATION THROUGH ABUTMENT BACKWALL SO AS TO SEPARATE THE PIPE FROM THE ABUTMENT BACK WALL AND PREVENT ANY DAMAGE TO THE DRAIN PIPE.
- ALL COSTS ASSOCIATED WITH DESIGN AND INSTALLATION OF CLOSED DRAINAGE SYSTEM INCLUDING ALL PIPE, FITTINGS, HANGER ASSEMBLY, DECK ATTACHMENT, AND ANY OTHER MISCELLANEOUS MATERIALS NECESSARY FOR COMPLETE INSTALLATION OF THE CLOSED SYSTEM SHALL BE INCLUDED IN THE COST OF DRAINAGE SYSTEM - BRIDGE DECK (CLOSED SYSTEM) ITEM NO. 610-10.04 (L.S.)
- COST OF DECK DRAIN ASSEMBLY, GRATE, AND INSTALLATION INCLUDED IN DECK DRAINS (TYPE 2) ITEM NO. 610-10.45 (EACH).



SECTION "A"-A"



DETAIL B



STATE OF TENNESSEE  
DEPARTMENT OF TRANSPORTATION  
BRIDGE NO. 1  
CLOSED DRAINAGE SYSTEM

INTERSTATE 24 OVER  
S. GERMANTOWN ROAD  
FED. I.D. NO. 33100240055  
HAMILTON COUNTY  
2020

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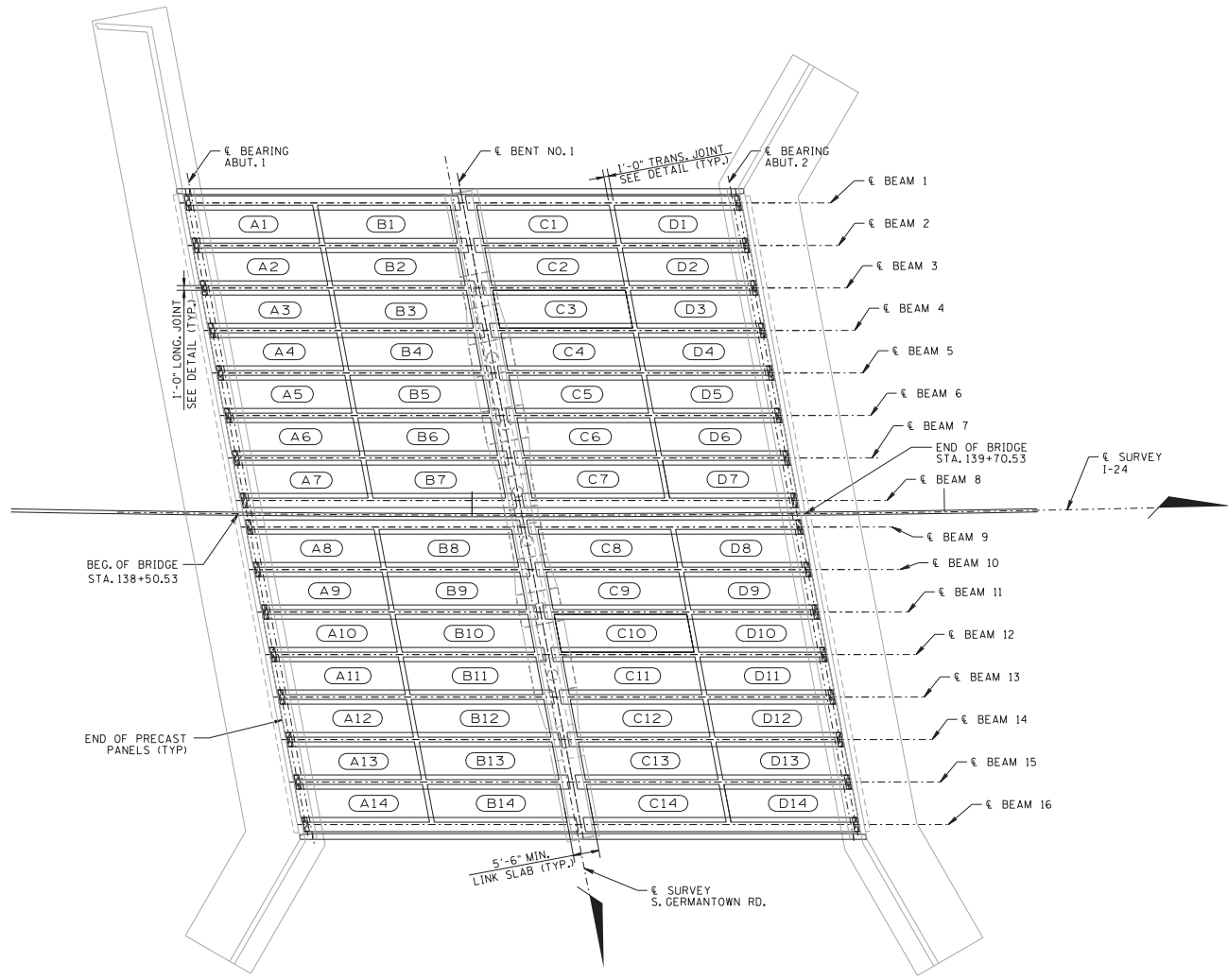
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CONST. NO.: 33003-3166-44

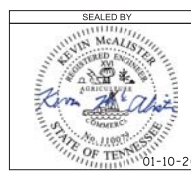
PROJECT NO.	YEAR	SHEET NO.
BR-I-24-3(97)	2020	U-92-24

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
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PANEL LAYOUT



STATE OF TENNESSEE  
DEPARTMENT OF TRANSPORTATION  
BRIDGE NO. 1  
PANEL LAYOUT

INTERSTATE 24 OVER  
S. GERMANTOWN ROAD  
FED. I.D. NO. 33100240055  
HAMILTON COUNTY  
2020

U-92-24

PIN NO.:	124069.00
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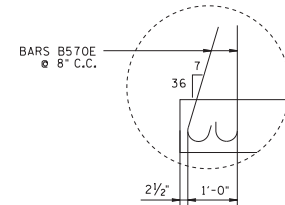
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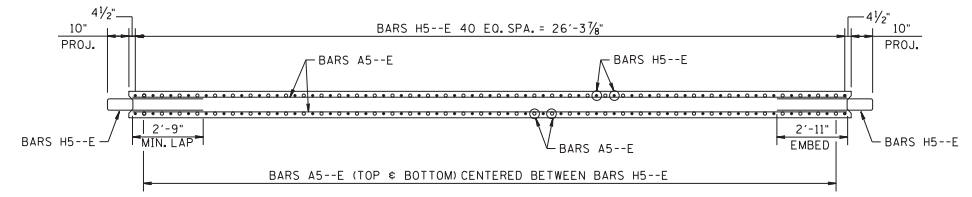
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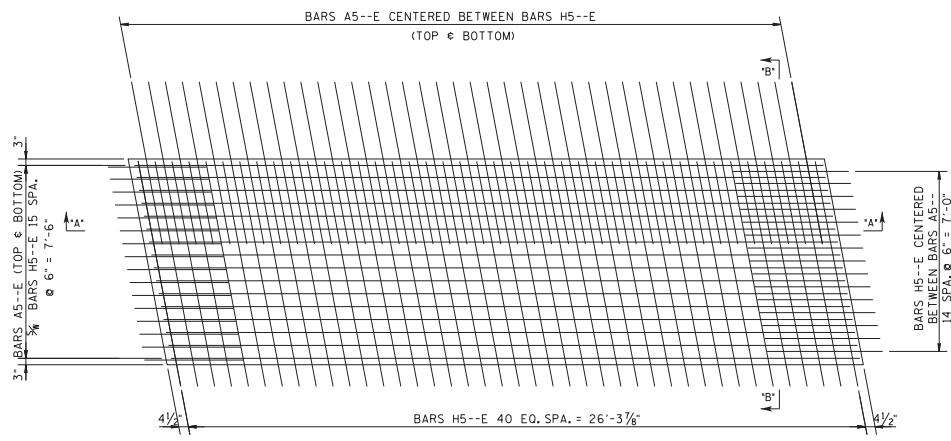
PANEL LAYOUT



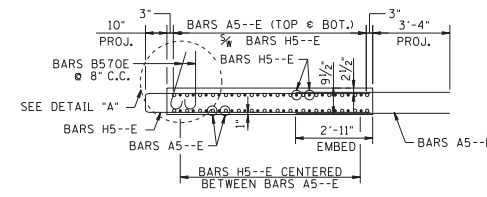
DETAIL "A"  
BARS A5--E AND BARS H5--E NOT SHOWN FOR CLARITY



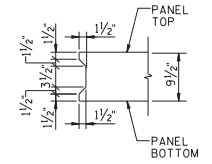
SECTION A-A  
PANEL NOS. A1, A8, D1, & D8



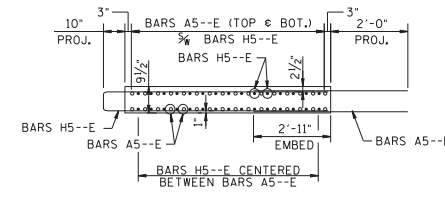
BAR LAYOUT  
PANEL NOS. A1, A8, D1, & D8



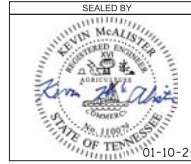
SECTION B-B  
PANEL NOS. A1 & D1



KEY WAY DETAIL  
NOTE: THE KEY WAY FACE SHALL BE SAND-BLAST FINISHED PRIOR TO PLACING OF CLOSURE POUR MATERIAL.



SECTION B-B  
PANEL NOS. A8 & D8



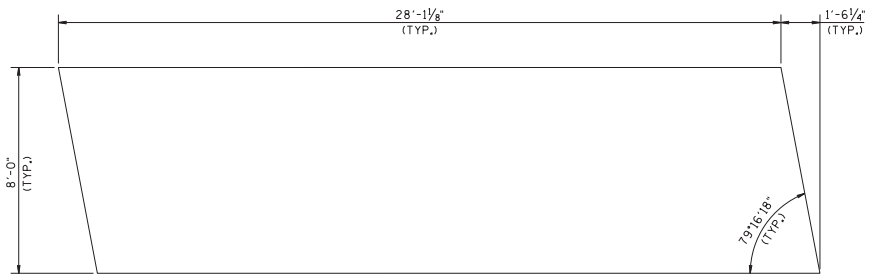
STATE OF TENNESSEE  
DEPARTMENT OF TRANSPORTATION  
BRIDGE NO. 1  
PANEL DETAILS  
(SHEET 1 OF 9)  
INTERSTATE 24 OVER  
S. GERMANTOWN ROAD  
FED. I.D. NO. 33100240055  
HAMILTON COUNTY  
2020

PIN NO.: 124069.00  
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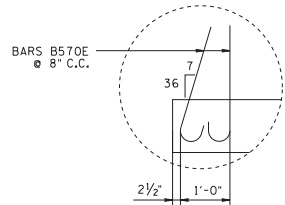
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PROJECT NO.	YEAR	SHEET NO.
BR-I-24-3(97)	2020	U-92-26

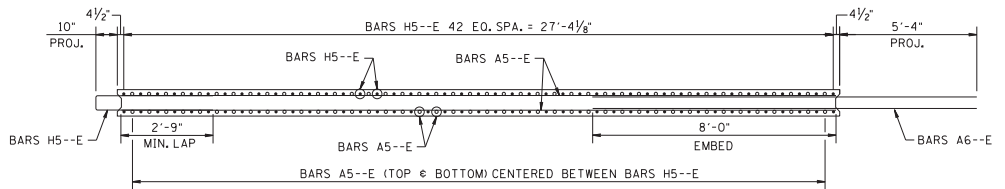
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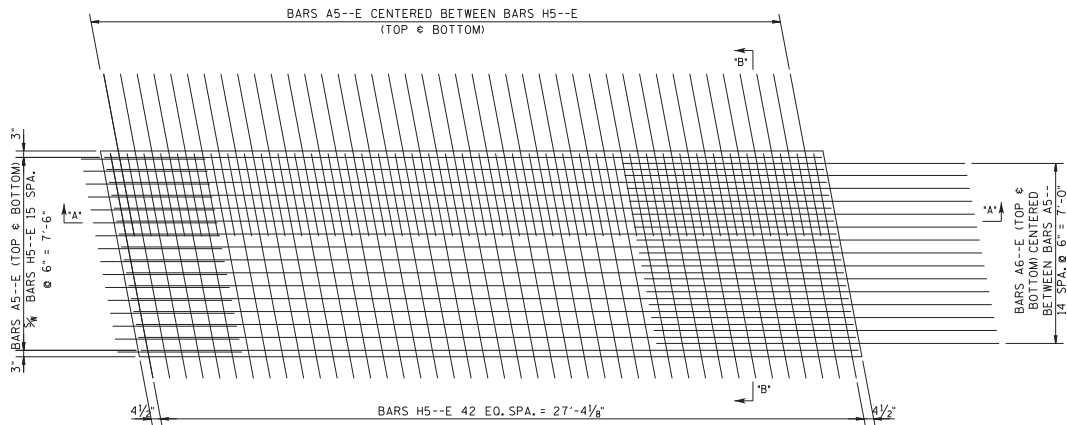
PANEL LAYOUT



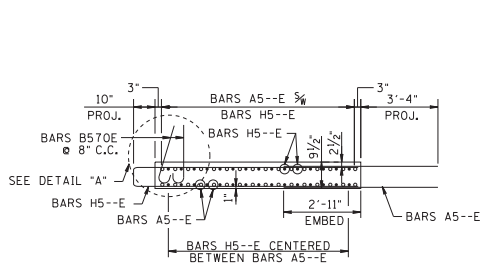
DETAIL "A"  
BARS A5--E AND BARS H5--E NOT SHOWN FOR CLARITY



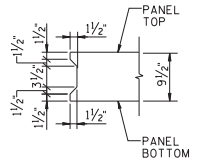
SECTION A-A  
PANEL NOS. B1 & B8



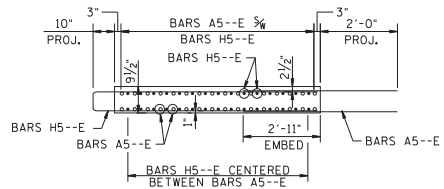
BAR LAYOUT  
PANEL NOS. B1 & B8



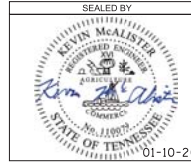
SECTION B-B  
PANEL NO. B1



KEY WAY DETAIL  
NOTE: THE KEY WAY FACE SHALL BE SAND-BLAST FINISHED PRIOR TO PLACING OF CLOSURE POUR MATERIAL.



SECTION B-B  
PANEL NO. B8

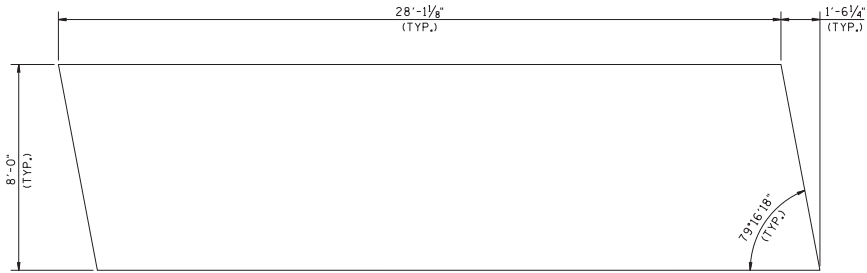


STATE OF TENNESSEE  
DEPARTMENT OF TRANSPORTATION  
BRIDGE NO. 1  
PANEL DETAILS  
(SHEET 2 OF 9)  
INTERSTATE 24 OVER  
S. GERMANTOWN ROAD  
FED. I.D. NO. 33100240055  
HAMILTON COUNTY  
2020

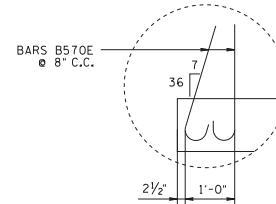
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CONST. NO.: 33003-3166-44

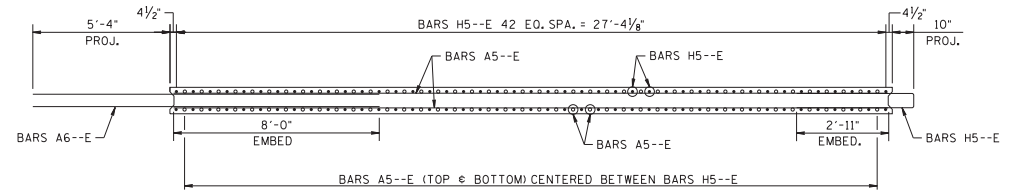
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BR-I-24-3(97)	2020	U-92-27	
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NO.	DATE	BY	BRIEF DESCRIPTION
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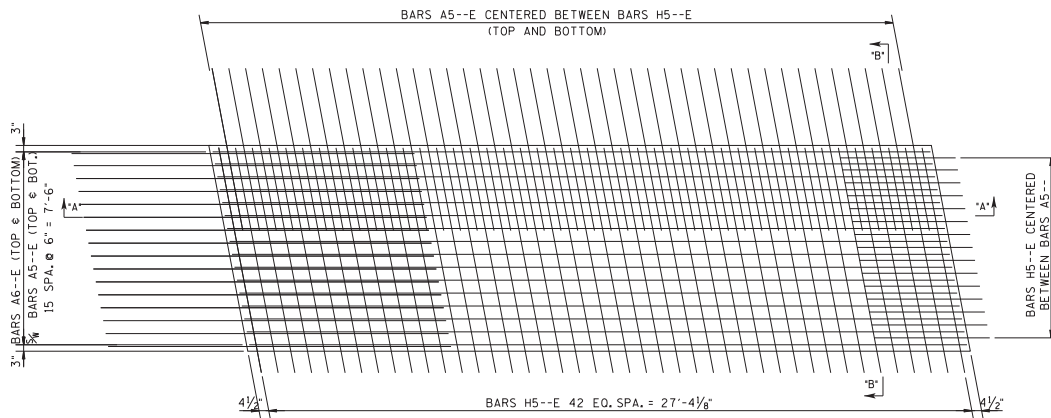
PANEL LAYOUT



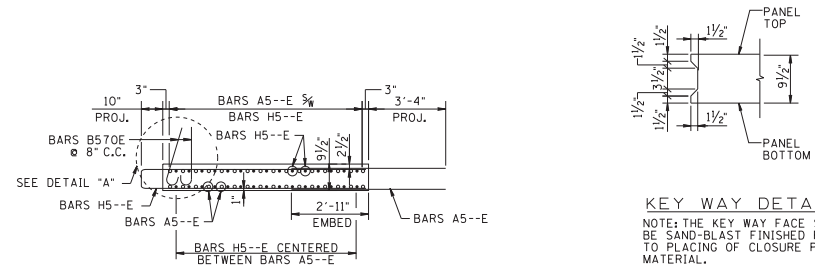
DETAIL "A"  
BARS A5--E AND BARS H5--E NOT SHOWN FOR CLARITY



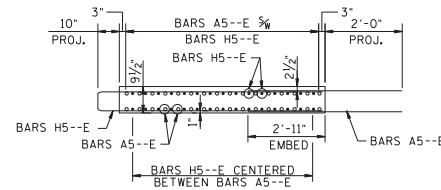
SECTION A-A  
PANEL NOS. C1 & C8



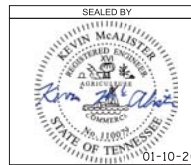
BAR LAYOUT  
PANEL NOS. C1 & C8



SECTION B-B  
PANEL NO. C1



SECTION B-B  
PANEL NO. C8



STATE OF TENNESSEE  
DEPARTMENT OF TRANSPORTATION  
BRIDGE NO. 1  
PANEL DETAILS  
(SHEET 3 OF 9)  
INTERSTATE 24 OVER  
S. GERMANTOWN ROAD  
FED. I.D. NO. 33100240055  
HAMILTON COUNTY  
2020

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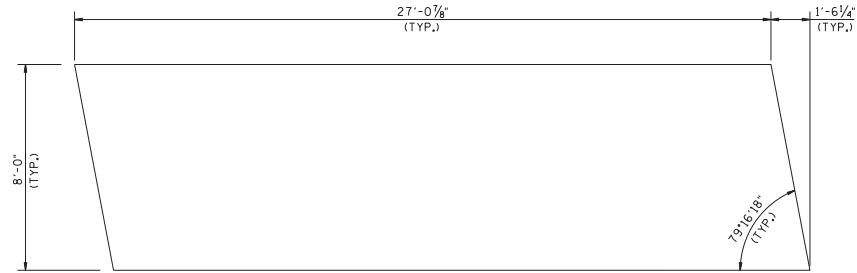
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CONST. NO.: 33003-3166-44

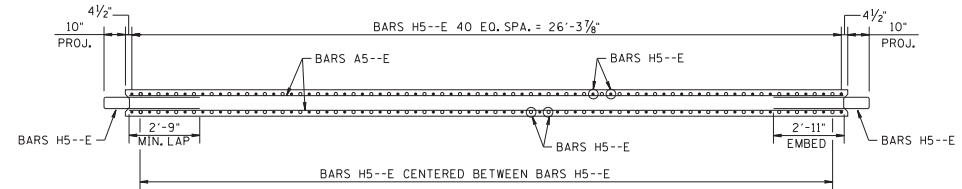
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BR-1-24-3(97)	2020	U-92-28

REVISIONS

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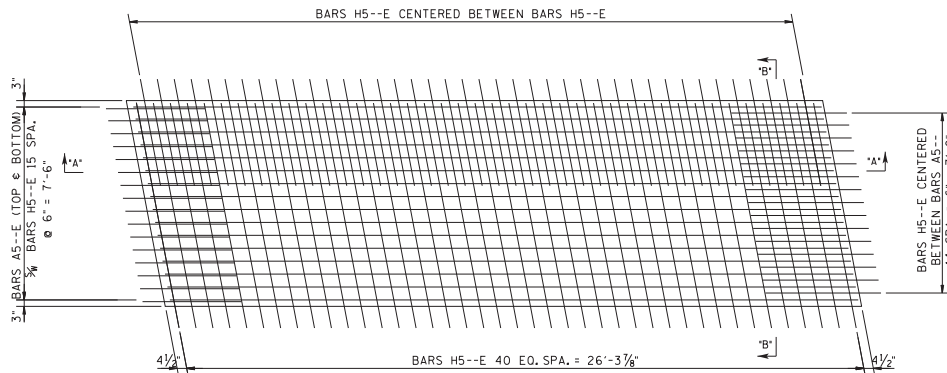


PANEL LAYOUT



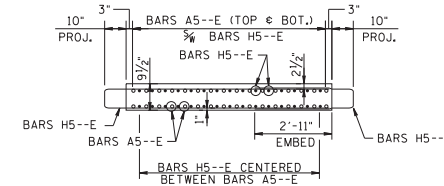
SECTION A-A

PANEL NOS. A2, A3, A4, A5, A6, A9, A10, A11, A12, A13  
D2, D3, D4, D5, D6, D9, D10, D11, D12, & D13



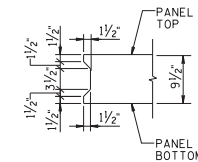
BAR LAYOUT

PANEL NOS. A2, A3, A4, A5, A6, A9, A10, A11, A12, A13  
D2, D3, D4, D5, D6, D9, D10, D11, D12, & D13



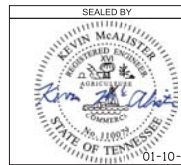
SECTION B-B

PANEL NOS. A2, A3, A4, A5, A6, A9, A10, A11, A12, A13  
D2, D3, D4, D5, D6, D9, D10, D11, D12, & D13



KEY WAY DETAIL

NOTE: THE KEY WAY FACE SHALL BE SAND-BLAST FINISHED PRIOR TO PLACING OF CLOSURE POUR MATERIAL.



STATE OF TENNESSEE  
DEPARTMENT OF TRANSPORTATION  
BRIDGE NO. 1  
PANEL DETAILS  
(SHEET 4 OF 9)  
INTERSTATE 24 OVER  
S. GERMANTOWN ROAD  
FED. I.D. NO. 33100240055  
HAMILTON COUNTY  
2020

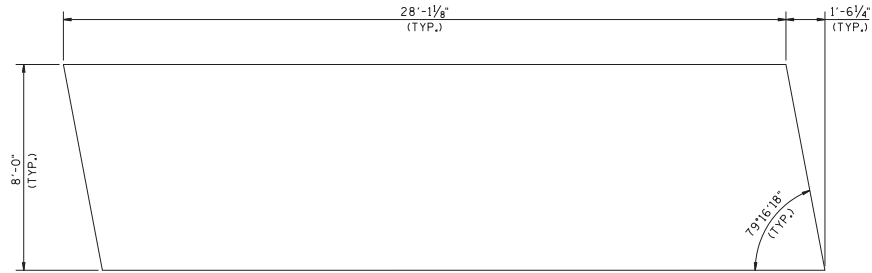
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CONST. NO.: 33003-3166-44

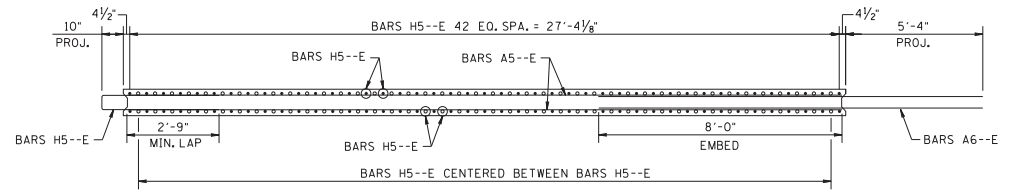
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BR-I-24-3(97)	2020	U-92-29

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
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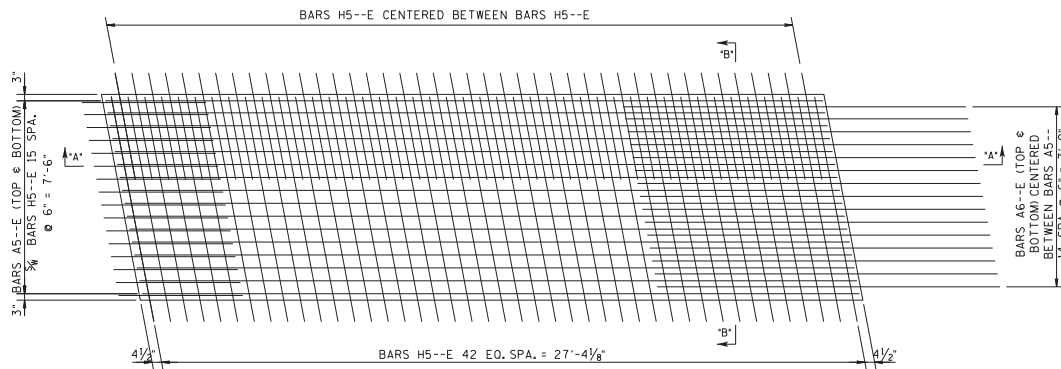


PANEL LAYOUT



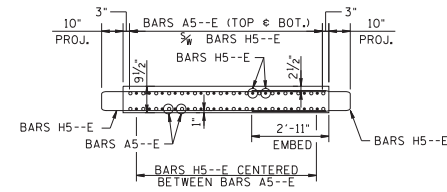
SECTION A-A

PANEL NOS. B2, B3, B4, B5, B6, B9, B10, B11, B12, & B13



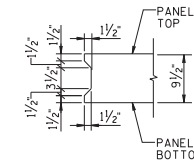
BAR LAYOUT

PANEL NOS. B2, B3, B4, B5, B6, B9, B10, B11, B12, & B13



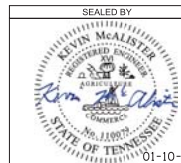
SECTION B-B

PANEL NOS. B2, B3, B4, B5, B6, B9, B10, B11, B12, & B13



KEY WAY DETAIL

NOTE: THE KEY WAY FACE SHALL BE SAND-BLAST FINISHED PRIOR TO PLACING OF CLOSURE POUR MATERIAL.



STATE OF TENNESSEE  
DEPARTMENT OF TRANSPORTATION  
BRIDGE NO. 1  
PANEL DETAILS  
(SHEET 5 OF 9)  
INTERSTATE 24 OVER  
S. GERMANTOWN ROAD  
FED. I.D. NO. 33100240055  
HAMILTON COUNTY  
2020

U-92-29

PIN NO.: 124089.00  
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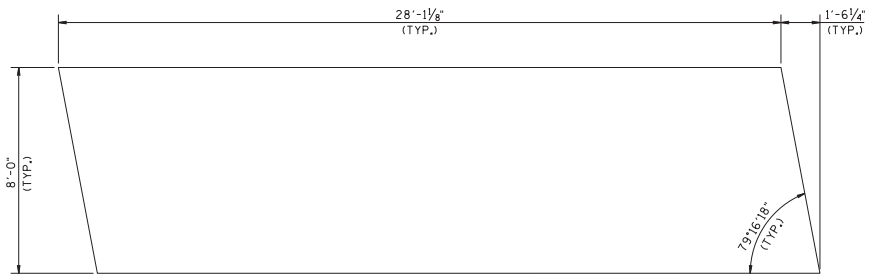
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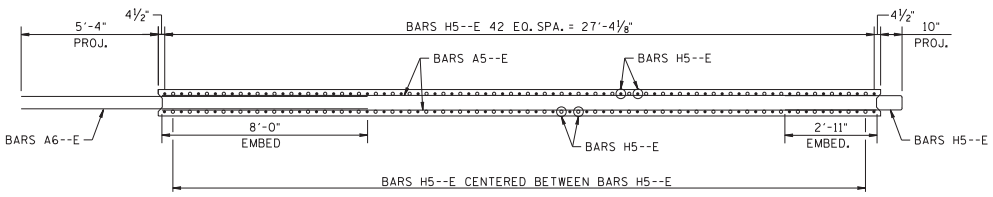
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PROJECT NO.	YEAR	SHEET NO.
BR-1-24-3(97)	2020	U-92-30

REVISIONS			
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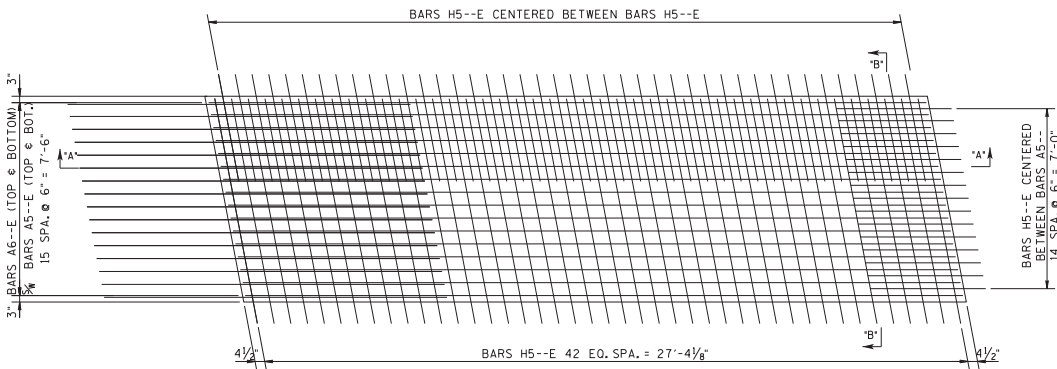


PANEL LAYOUT

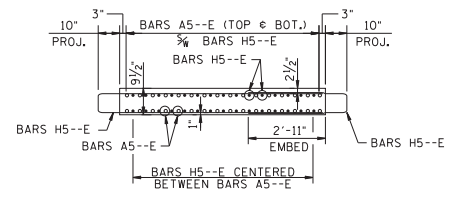


SECTION A-A

PANEL NOS. C2, C3, C4, C5, C6, C9, C10, C11, C12, & C13

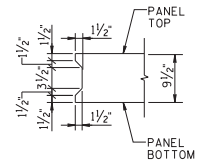


BAR LAYOUT  
PANEL NOS. C2, C3, C4, C5, C6, C9, C10, C11, C12, & C13



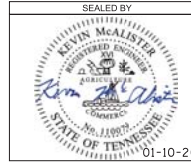
SECTION B-B

PANEL NOS. C2, C3, C4, C5, C6, C9, C10, C11, C12, & C13



KEY WAY DETAIL

NOTE: THE KEY WAY FACE SHALL BE SAND-BLAST FINISHED PRIOR TO PLACING OF CLOSURE POUR MATERIAL.



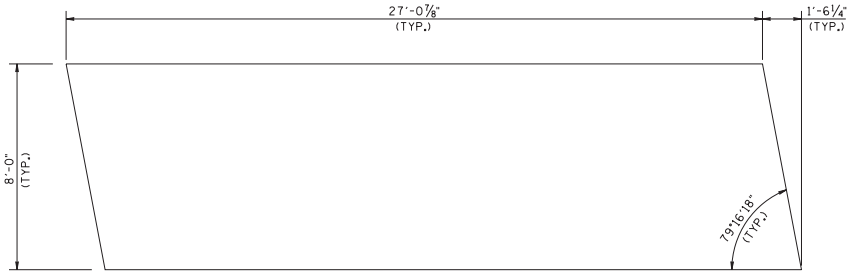
STATE OF TENNESSEE  
DEPARTMENT OF TRANSPORTATION  
BRIDGE NO. 1  
PANEL DETAILS  
(SHEET 6 OF 9)  
INTERSTATE 24 OVER  
S. GERMANTOWN ROAD  
FED. I.D. NO. 33100240055  
HAMILTON COUNTY  
2020

11/10/2020 F:\38\387240\387240004\_CADD\TRNS\GERMANTOWN RD\BRIDGE\38724000\_PANELL010.dgn

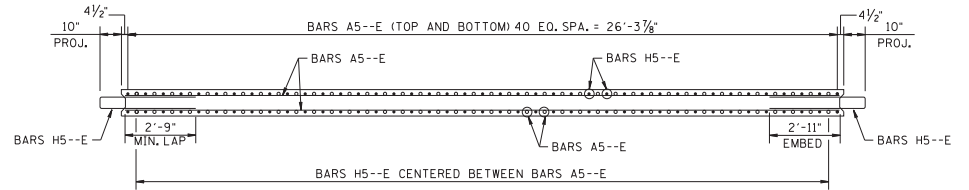
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DESIGN BY:	BARGE DESIGN SOLUTIONS	DATE:	01-2020
DRAWN BY:	BARGE DESIGN SOLUTIONS	DATE:	01-2020
SUPERVISED BY:	BARGE DESIGN SOLUTIONS	DATE:	01-2020
CHECKED BY:	BARGE DESIGN SOLUTIONS	DATE:	01-2020

CONST. NO.: 33003-3166-44

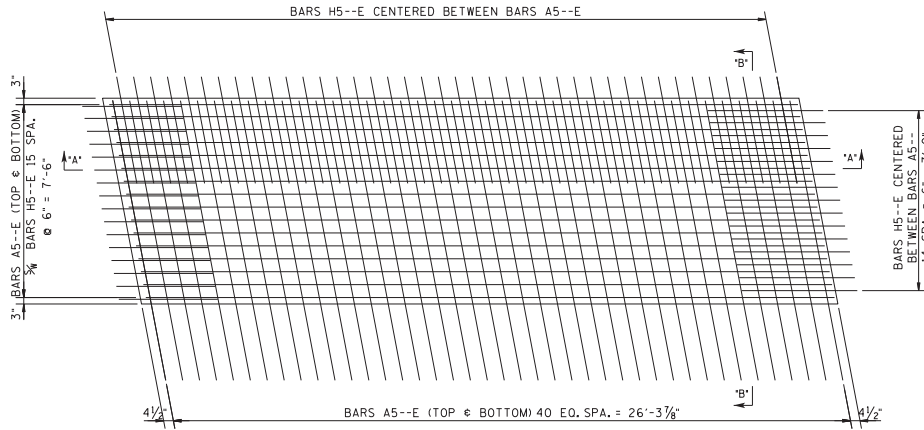
PROJECT NO.		YEAR	SHEET NO.
BR-I-24-3(97)		2020	U-92-31
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION
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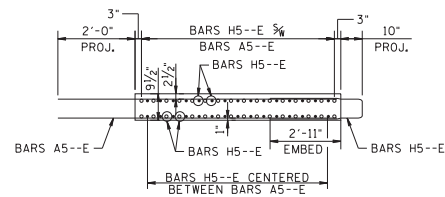
PANEL LAYOUT



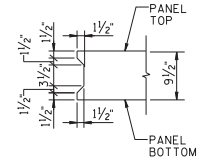
SECTION A-A  
PANEL NOS. A7, A14, D7, & D14



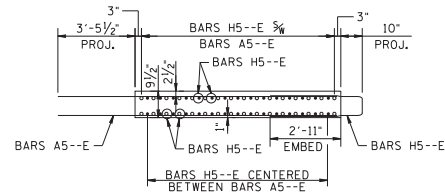
BAR LAYOUT  
PANEL NOS. A7, A14, D7, & D14



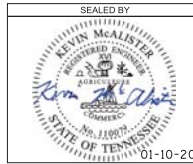
SECTION B-B  
PANEL NOS. A7 & D7



KEY WAY DETAIL  
NOTE: THE KEY WAY FACE SHALL BE SAND-BLAST FINISHED PRIOR TO PLACING OF CLOSURE POUR MATERIAL.



SECTION B-B  
PANEL NOS. A14 & D14



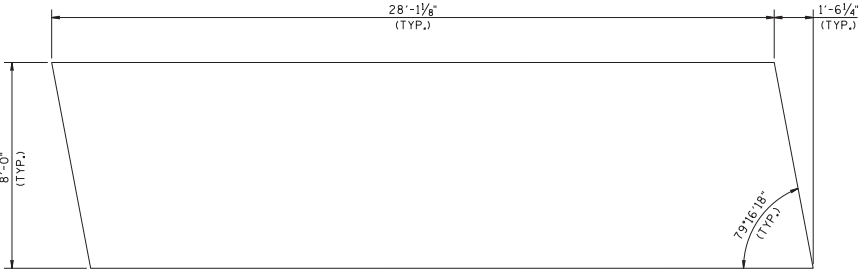
STATE OF TENNESSEE  
DEPARTMENT OF TRANSPORTATION  
BRIDGE NO. 1  
PANEL DETAILS  
(SHEET 7 OF 9)  
INTERSTATE 24 OVER  
S. GERMANTOWN ROAD  
FED. I.D. NO. 33100240055  
HAMILTON COUNTY  
2020

PIN NO.: 124089.00  
DESIGN BY: BARGE DESIGN SOLUTIONS DATE: 01-2020  
DRAWN BY: BARGE DESIGN SOLUTIONS DATE: 01-2020  
SUPERVISED BY: BARGE DESIGN SOLUTIONS DATE: 01-2020  
CHECKED BY: BARGE DESIGN SOLUTIONS DATE: 01-2020

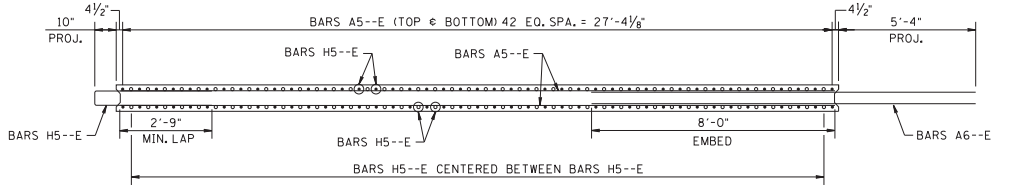
CONST. NO.: 33003-3166-44

PROJECT NO.	YEAR	SHEET NO.
BR-I-24-3(97)	2020	U-92-32

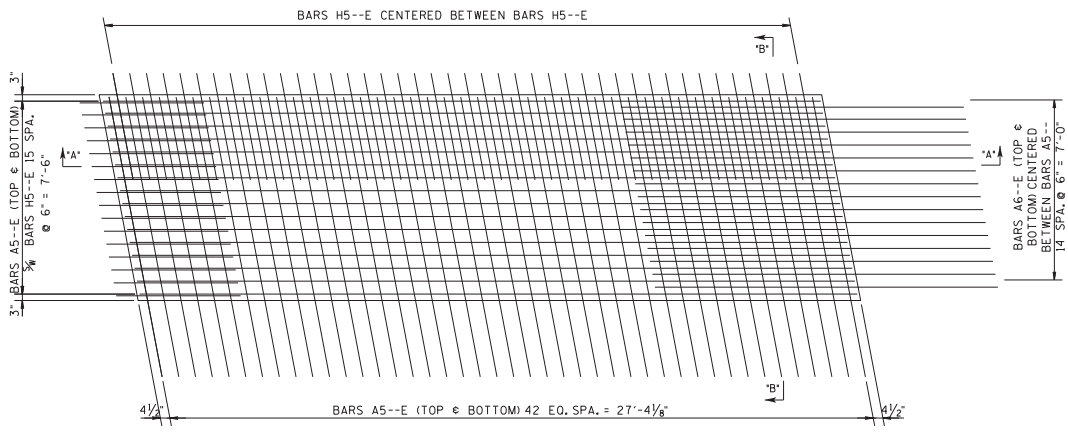
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION
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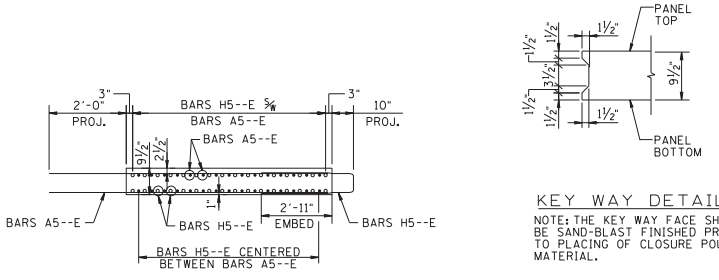
PANEL LAYOUT



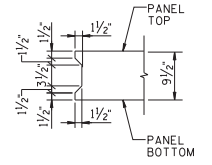
SECTION A-A  
PANEL NOS. B7 & B14



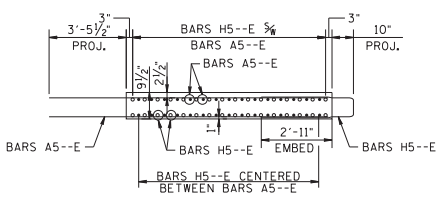
BAR LAYOUT  
PANEL NOS. B7 & B14



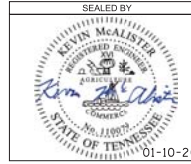
SECTION B-B  
PANEL NOS. B7



KEY WAY DETAIL  
NOTE: THE KEY WAY FACE SHALL BE SAND-BLAST FINISHED PRIOR TO PLACING OF CLOSURE POUR MATERIAL.



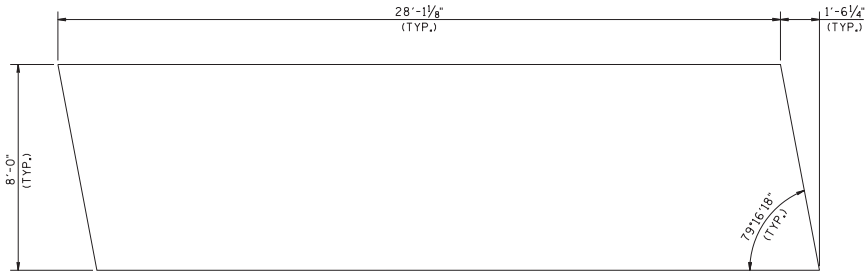
SECTION B-B  
PANEL NOS. B14



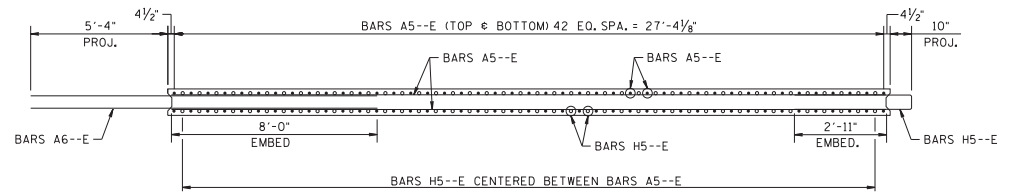
STATE OF TENNESSEE  
DEPARTMENT OF TRANSPORTATION  
BRIDGE NO. 1  
PANEL DETAILS  
(SHEET 8 OF 9)  
INTERSTATE 24 OVER  
S. GERMANTOWN ROAD  
FED. I.D. NO. 33100240055  
HAMILTON COUNTY  
2020

PIN NO.:	124089.00	DATE:	01-2020
DESIGN BY:	BARGE DESIGN SOLUTIONS	DATE:	01-2020
DRAWN BY:	BARGE DESIGN SOLUTIONS	DATE:	01-2020
SUPERVISED BY:	BARGE DESIGN SOLUTIONS	DATE:	01-2020
CHECKED BY:	BARGE DESIGN SOLUTIONS	DATE:	01-2020

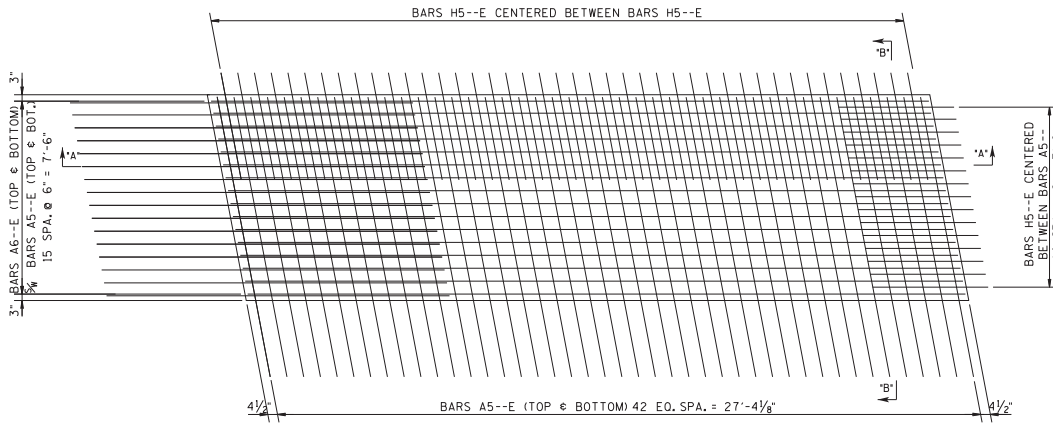
CONST. NO.: 33003-3166-44			
PROJECT NO.	YEAR	SHEET NO.	
BR-I-24-3(97)	2020	U-92-33	
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION
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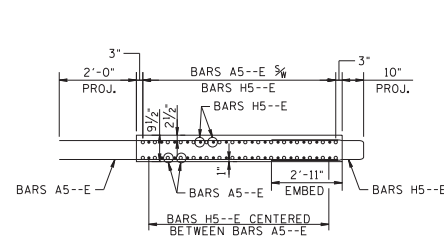
PANEL LAYOUT



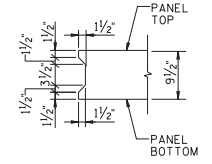
SECTION A-A  
PANEL NOS. C7 & C14



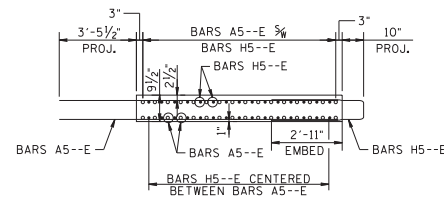
BAR LAYOUT  
PANEL NOS. C7 & C14



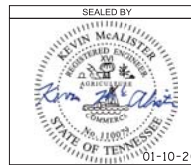
SECTION B-B  
PANEL NOS. C7



KEY WAY DETAIL  
NOTE: THE KEY WAY FACE SHALL BE SAND-BLAST FINISHED PRIOR TO PLACING OF CLOSURE POUR MATERIAL.



SECTION B-B  
PANEL NOS. C14



STATE OF TENNESSEE  
DEPARTMENT OF TRANSPORTATION  
BRIDGE NO. 1  
PANEL DETAILS  
(SHEET 9 OF 9)  
INTERSTATE 24 OVER  
S. GERMANTOWN ROAD  
FED. I.D. NO. 33100240055  
HAMILTON COUNTY  
2020

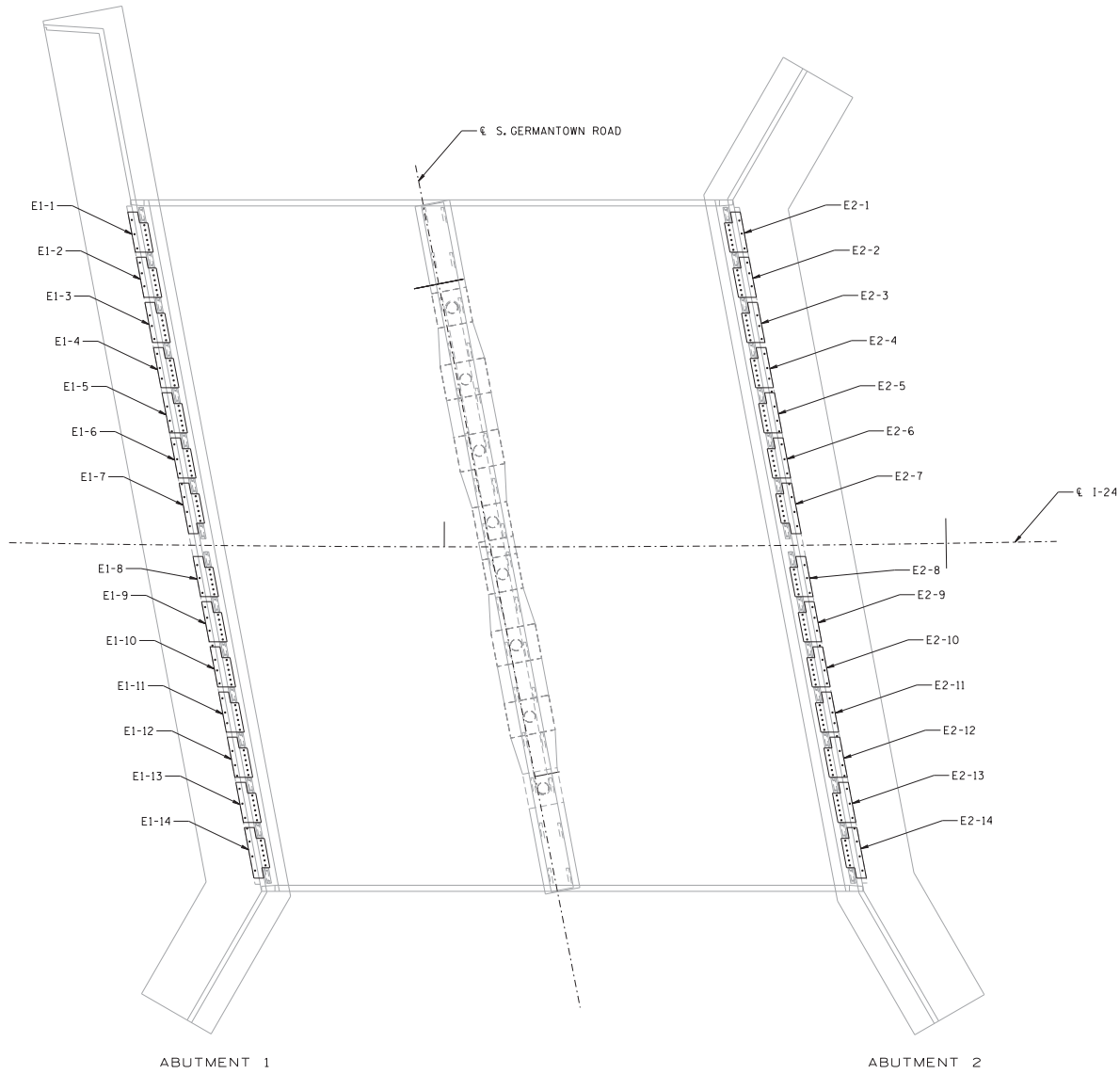
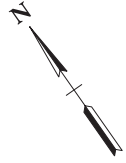
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DESIGN BY:	BARGE DESIGN SOLUTIONS	DATE:	01-2020
DRAWN BY:	BARGE DESIGN SOLUTIONS	DATE:	01-2020
SUPERVISED BY:	BARGE DESIGN SOLUTIONS	DATE:	01-2020
CHECKED BY:	BARGE DESIGN SOLUTIONS	DATE:	01-2020

CONST. NO.: 33003-3166-44

PROJECT NO.	YEAR	SHEET NO.
BR-I-24-3(97)	2020	U-92-34

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
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-	-	-	-
-	-	-	-
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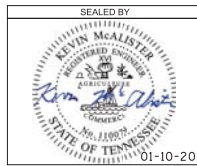


ABUTMENT 1

ABUTMENT 2

PLAN

VIEW SHOWING LOCATION OF PRECAST BACKWALL UNITS



STATE OF TENNESSEE  
 DEPARTMENT OF TRANSPORTATION  
 BRIDGE NO. 1  
 SUPERSTRUCTURE BACKWALL DETAILS

INTERSTATE 24 OVER  
 S. GERMANTOWN ROAD  
 FED. I.D. NO. 33100240055  
 HAMILTON COUNTY  
 2020

U-92-34

PIN NO.: 124089.00  
 DESIGN BY: BARGE DESIGN SOLUTIONS DATE: 01-2020  
 DRAWN BY: BARGE DESIGN SOLUTIONS DATE: 01-2020  
 SUPERVISED BY: BARGE DESIGN SOLUTIONS DATE: 01-2020  
 CHECKED BY: BARGE DESIGN SOLUTIONS DATE: 01-2020

11/10/2020  
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PROJECT NO. BR-I-24-3(97)	YEAR 2020	SHEET NO. U-92-35
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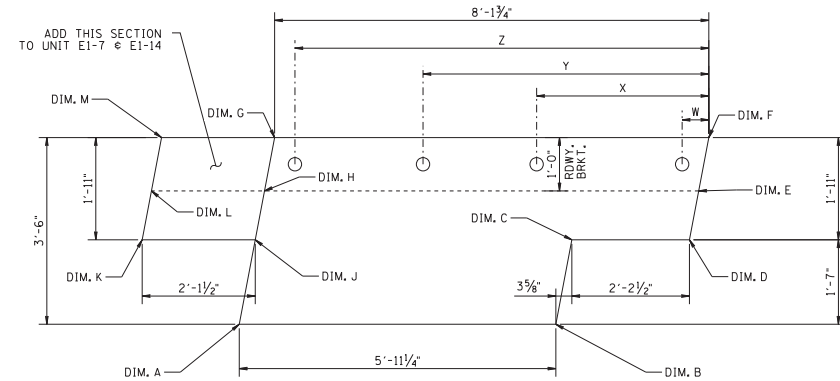
REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
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PRECAST ENDWALL UNIT DIMENSIONS												
LOCATION	A	B	C	D	E	F	G	H	J	K	L	M
ABUT #1												
E1-1	2'-5 1/4"	2'-3 1/2"	2'-3 1/4"	2'-2 5/8"	2'-2 1/2"	2'-2 1/2"	2'-4 7/8"	2'-5"				
E1-2	2'-8"	2'-5 1/8"	2'-6"	2'-5 3/8"	2'-5 1/4"	2'-5 1/8"	2'-7 1/2"	2'-5 5/8"	2'-7 3/4"			
E1-3	2'-10 5/8"	2'-8 7/8"	2'-8 3/4"	2'-8 1/8"	2'-8"	2'-7 7/8"	2'-10 1/4"	2'-10 3/8"	2'-10 1/2"			
E1-4	2'-11 1/4"	2'-9 1/2"	2'-9 3/8"	2'-8 3/4"	2'-8 5/8"	2'-8 1/2"	2'-10 7/8"	2'-11"	2'-11 1/8"			
E1-5	2'-10 1/8"	2'-8 3/8"	2'-8 1/4"	2'-7 5/8"	2'-7 1/2"	2'-7 3/8"	2'-9 3/4"	2'-9 7/8"	2'-10"			
E1-6	2'-10 3/4"	2'-9"	2'-8 3/4"	2'-8 1/8"	2'-8"	2'-7 7/8"	2'-10 3/8"	2'-10 3/8"	2'-10 1/2"			
E1-7	2'-11"	2'-9 1/4"	2'-9 1/8"	2'-8 3/8"	2'-8 3/8"	2'-8 1/4"	2'-10 5/8"	2'-10 3/4"	2'-10 7/8"	2'-9 1/4"	2'-9 1/4"	2'-9 1/8"
E1-8	3'-0"	2'-10 1/4"	2'-10 1/8"	2'-9 1/2"	2'-9 3/8"	2'-9 1/4"	2'-11 5/8"	2'-11 3/4"	2'-11 7/8"			
E1-9	3'-1/4"	2'-10 1/2"	2'-10 1/4"	2'-9 5/8"	2'-9 1/2"	2'-9 3/8"	2'-11 3/4"	2'-11 7/8"	3'-0"			
E1-10	2'-10 1/2"	2'-8 3/4"	2'-8 1/2"	2'-7 7/8"	2'-7 3/4"	2'-7 5/8"	2'-10 1/8"	2'-10 1/8"	2'-10 1/4"			
E1-11	2'-11 7/8"	2'-10 1/8"	2'-9 7/8"	2'-9 1/4"	2'-9 1/8"	2'-9"	2'-11 1/2"	2'-11 1/2"	2'-11 5/8"			
E1-12	2'-11 7/8"	2'-10 1/8"	2'-10"	2'-9 3/8"	2'-9 1/4"	2'-9 1/8"	2'-11 1/2"	2'-11 5/8"	2'-11 3/4"			
E1-13	2'-10 7/8"	2'-10 1/2"	2'-10 3/8"	2'-9 3/4"	2'-9 5/8"	2'-9 1/2"	2'-11 7/8"	3'-0"	3'-1/8"			
E1-14	2'-4 1/2"	2'-4 3/4"	2'-2 5/8"	2'-2"	2'-1 7/8"	2'-1 3/4"	2'-4 1/8"	2'-4 1/4"	2'-4 3/8"	2'-5"	2'-4 7/8"	2'-4 3/4"
ABUT #2												
E2-1	2'-4 1/2"	2'-2 3/4"	2'-2 7/8"	2'-2 1/4"	2'-2 3/8"	2'-2 1/2"	2'-4 7/8"	2'-4 3/4"	2'-4 5/8"			
E2-2	2'-7 1/8"	2'-5 3/8"	2'-5 5/8"	2'-4 7/8"	2'-5"	2'-5 1/8"	2'-7 1/2"	2'-7 3/8"	2'-7 3/8"			
E2-3	2'-9 7/8"	2'-8 1/8"	2'-8 1/4"	2'-7 5/8"	2'-7 3/4"	2'-7 7/8"	2'-10 1/4"	2'-10 1/8"	2'-10"			
E2-4	2'-10 1/4"	2'-8 1/2"	2'-8 5/8"	2'-8"	2'-8 1/8"	2'-8 1/4"	2'-10 5/8"	2'-10 1/2"	2'-10 3/8"			
E2-5	2'-8 3/4"	2'-7"	2'-7 1/8"	2'-6 1/2"	2'-6 5/8"	2'-6 3/4"	2'-9 1/8"	2'-9"	2'-8 7/8"			
E2-6	2'-9 3/8"	2'-7 5/8"	2'-7 7/8"	2'-7 1/8"	2'-7 1/4"	2'-7 3/8"	2'-9 3/4"	2'-9 5/8"	2'-9 1/2"			
E2-7	2'-9 7/8"	2'-8 1/8"	2'-8 3/8"	2'-7 3/4"	2'-7 3/4"	2'-7 7/8"	2'-10 1/4"	2'-10 1/4"	2'-10 1/8"	2'-8 1/2"	2'-8 5/8"	2'-8 3/4"
E2-8	2'-10 3/8"	2'-8 5/8"	2'-8 7/8"	2'-8 1/4"	2'-8 3/8"	2'-8 3/8"	2'-10 7/8"	2'-10 3/4"	2'-10 5/8"			
E2-9	2'-11"	2'-9 1/4"	2'-9 3/8"	2'-8 3/4"	2'-8 7/8"	2'-9"	2'-11 3/8"	2'-11 1/4"	2'-11 1/8"			
E2-10	2'-9 3/8"	2'-7 5/8"	2'-7 3/4"	2'-7 1/8"	2'-7 1/4"	2'-7 3/8"	2'-9 3/4"	2'-9 5/8"	2'-9 1/2"			
E2-11	2'-10 1/8"	2'-8 3/8"	2'-8 1/2"	2'-7 7/8"	2'-8"	2'-8 1/8"	2'-10 1/2"	2'-10 3/8"	2'-10 1/4"			
E2-12	2'-10 1/2"	2'-8 3/4"	2'-8 7/8"	2'-8 1/4"	2'-8 3/8"	2'-8 1/2"	2'-10 7/8"	2'-10 3/4"	2'-10 5/8"			
E2-13	2'-11"	2'-9 1/4"	2'-9 1/2"	2'-8 7/8"	2'-8 7/8"	2'-9"	2'-11 3/8"	2'-11 1/4"	2'-11 1/4"			
E2-14	2'-3 3/8"	2'-1 5/8"	2'-1 7/8"	2'-1 1/8"	2'-1 1/4"	2'-1 3/8"	2'-3 3/4"	2'-3 5/8"	2'-3 5/8"	2'-4 1/8"	2'-4 1/4"	2'-4 3/8"

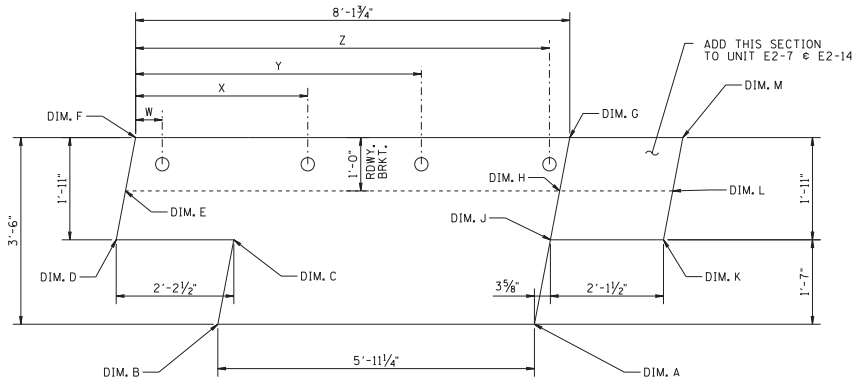
ANCHOR LOCATIONS				
LOCATION	W	X	Y	Z
ABUT #1				
E1-1	1'-0"	4'-5"	7'-3"	
E1-2	1'-0"	3'-2 1/2"	5'-9 1/2"	
E1-3	2'-7"	4'-8 1/2"	7'-3 1/2"	
E1-4	1'-3"	4'-1"	6'-2 1/2"	
E1-5	2'-9"	5'-7"	7'-8 1/2"	
E1-6	1'-3 1/2"	4'-3"	7'-1"	
E1-7	2 1/2"	2'-9 1/2"	5'-9"	8'-7"
E1-8	1'-8 1/2"	4'-3 1/2"	7'-3"	
E1-9	1'-0"	3'-2 1/2"	5'-9 1/2"	
E1-10	2'-7"	4'-8 1/2"	7'-3 1/2"	
E1-11	1'-3"	4'-1"	6'-2 1/2"	
E1-12	2'-9"	5'-7"	7'-8 1/2"	
E1-13	1'-3 1/2"	4'-3"	7'-1"	
E1-14	2 1/2"	2'-9 1/2"	5'-9"	8'-7"
ABUT #2				
E2-1	1'-8 1/2"	4'-3 1/2"	7'-3"	
E2-2	1'-0"	3'-2 1/2"	5'-9 1/2"	
E2-3	2'-7"	4'-8 1/2"	7'-3 1/2"	
E2-4	1'-3"	4'-1"	6'-2 1/2"	
E2-5	2'-9"	5'-7"	7'-8 1/2"	
E2-6	1'-3 1/2"	4'-3"	7'-1"	
E2-7	2 1/2"	2'-9 1/2"	5'-9"	8'-7"
E2-8	1'-8 1/2"	4'-3 1/2"	7'-3"	
E2-9	1'-0"	3'-2 1/2"	5'-9 1/2"	
E2-10	2'-7"	4'-8 1/2"	7'-3 1/2"	
E2-11	1'-3"	4'-1"	6'-2 1/2"	
E2-12	2'-9"	5'-7"	7'-8 1/2"	
E2-13	1'-3 1/2"	4'-3"	7'-1"	
E2-14	2 1/2"	2'-9 1/2"	5'-9"	8'-7"

NOTE: ALL UNITS HAVE A FLAT BOTTOM UNLESS NOTED OTHERWISE.  
 ☆ DENOTES: PRECAST UNIT HAS STEP IN BOTTOM TO MATCH ABUTMENT WALL STEP.



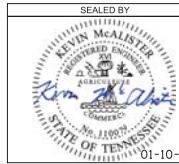
PLAN

ABUTMENT 1 PRECAST UNITS  
 FOR VERTICAL DIMENSIONS SEE PRECAST ENDWALL UNIT DIMENSIONS TABLE THIS SHEET  
 BOTTOM OF PRECAST UNIT IS FLAT UNLESS STATED OTHERWISE



PLAN

ABUTMENT 2 PRECAST UNITS  
 FOR VERTICAL DIMENSIONS SEE PRECAST ENDWALL UNIT DIMENSIONS TABLE THIS SHEET  
 BOTTOM OF PRECAST UNIT IS FLAT UNLESS STATED OTHERWISE

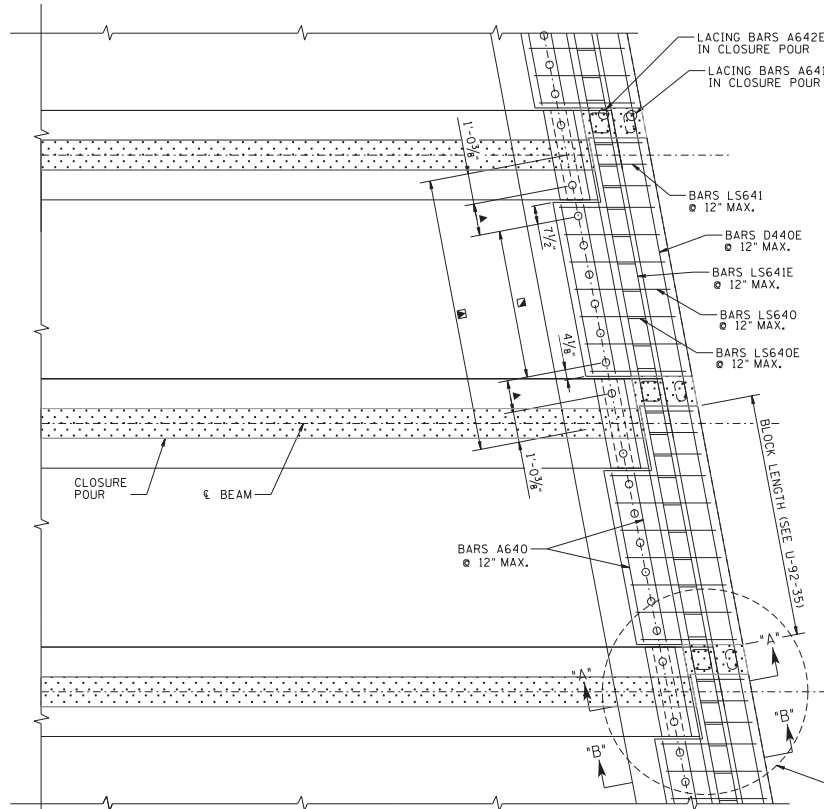


STATE OF TENNESSEE  
 DEPARTMENT OF TRANSPORTATION  
 BRIDGE NO. 1  
 SUPERSTRUCTURE BACKWALL DETAILS

INTERSTATE 24 OVER  
 S. GERMANTOWN ROAD  
 FED. I.D. NO. 33100240055  
 HAMILTON COUNTY  
 2020

PN NO.: 124089.00  
 DESIGN BY: BARGE DESIGN SOLUTIONS DATE: 01-2020  
 DRAWN BY: BARGE DESIGN SOLUTIONS DATE: 01-2020  
 SUPERVISED BY: BARGE DESIGN SOLUTIONS DATE: 01-2020  
 CHECKED BY: BARGE DESIGN SOLUTIONS DATE: 01-2020

PROJECT NO.	YEAR	SHEET NO.	
BR-1-24-3(97)	2020	U-92-36	
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-



**PLAN VIEW**

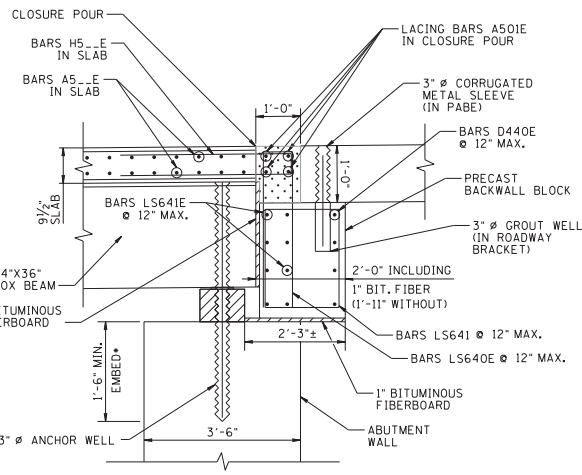
(ABUTMENT 2 SHOWN, ABUTMENT 1 SIMILAR)  
NOTE: CLOSURE POUR MATERIAL TO CONSIST OF CLASS "X" CONCRETE.

(NS) DENOTES: NEAR SIDE  
(FS) DENOTES: FAR SIDE

**ANCHOR SPA. BETWEEN BEAMS**

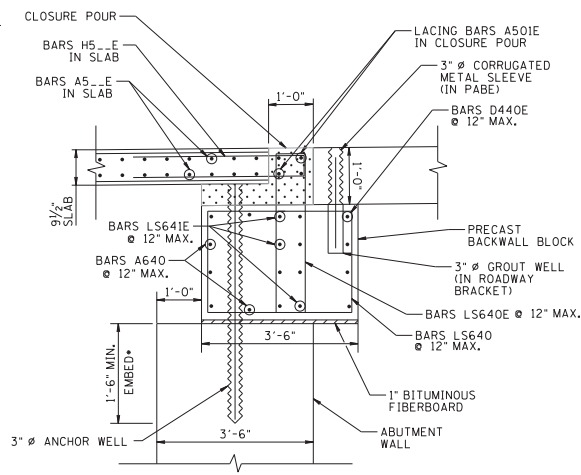
- DENOTES: 9'-2" MEASURED ALONG  $\epsilon$  BEARING
- ▲ DENOTES: 1'-0 3/4"
- ▣ DENOTES: 5 SPA. @ 1'-0" = 5'-0"

■ DENOTES: CLOSURE POUR



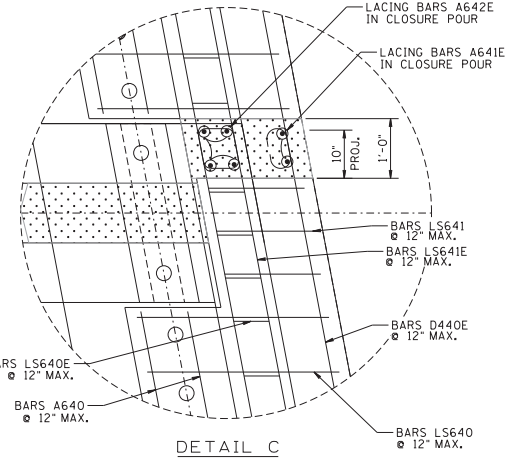
**SECTION "A"-A' @ GIRDER**

ALONG CENTERLINE GIRDER  
TYPICAL AT ABUTMENTS 1 & 2  
3 1/4" ASPHALT OVERLAY NOT SHOWN  
FOR CLARITY  
• SEE STD 6-1 FOR ADDITIONAL DETAILS



**SECTION "B"-B' BETWEEN GIRDERS**

TYPICAL AT ABUTMENTS 1 & 2  
3 1/4" ASPHALT OVERLAY NOT SHOWN  
FOR CLARITY  
• SEE STD 6-1 FOR ADDITIONAL DETAILS



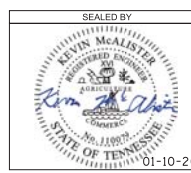
**DETAIL C**

**BAR ESTIMATE**

- ★ DENOTES QUANTITY INCREASES FOR BLOCKS E1-7, E1-14, E2-7, & E2-14
- ★ EPOXY BARS:  
 A641E - 2/CLOSURE POUR  
 A642E - 4/CLOSURE POUR  
 D440E - 4/BLOCK  
 ★ LS640E - 10/BLOCK  
 LS641E - 4/BLOCK
- REGULAR BARS:  
 A640 - 6/BLOCK  
 LS640 - 7/BLOCK  
 ★ LS641 - 3/BLOCK

**NOTES:**

- FOR ADDITIONAL BACKWALL CLOSURE POUR DETAILS, SEE SHEET U-92-38.
- REINFORCEMENT SPACING IN PRECAST BACKWALL UNITS SHALL NOT BE GREATER THAN 12" C.C.
- BACKWALL UNITS SHALL MAINTAIN A MIN. 2" COVER ON ALL REINFORCING BARS.
- HORIZONTAL AND VERTICAL LACING BARS USED IN CLOSURE POUR SHALL BE EPOXY COATED.
- CONTRACTOR MAY ADJUST HORIZONTAL PROJECTING BARS VERTICALLY A MAXIMUM OF 2" SO AS TO AVOID BAR CONFLICTS IN ADJACENT PRECAST UNITS DURING THE WEEKEND CLOSURE.
- ANCHORS SHALL BE #8 STEEL BAR REINFORCEMENT AND SHALL BE INCLUDED IN THE COST OF THE PRECAST BACKWALL UNITS.
- CONTRACTOR TO SUBMIT SHOP DRAWINGS IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.

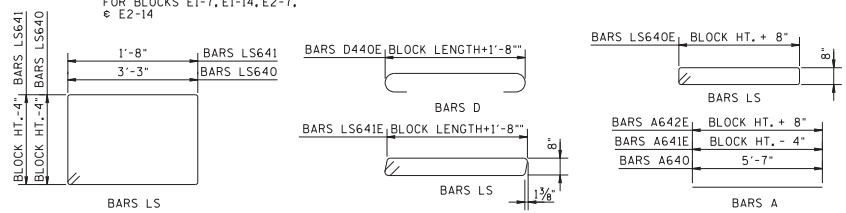


STATE OF TENNESSEE  
DEPARTMENT OF TRANSPORTATION  
BRIDGE NO. 1  
SUPERSTRUCTURE BACKWALL DETAILS

ESTIMATED QUANTITIES		
STEEL BAR REINF. (LB.)	EPOXY COATING REINF. STEEL (LB.)	CONCRETE (C.Y.)
140	260	3.1

QUANTITY SHOWN PER BACKWALL BLOCK UNIT.  
ALL MATERIALS AND LABOR ASSOCIATED WITH FABRICATION OF BACKWALL BLOCK UNITS INCLUDED IN ITEM NO. 615-04.30

11/10/2020  
PIN NO.: 124089.00  
DESIGN BY: BARGE DESIGN SOLUTIONS DATE: 01-2020  
DRAWN BY: BARGE DESIGN SOLUTIONS DATE: 01-2020  
SUPERVISED BY: BARGE DESIGN SOLUTIONS DATE: 01-2020  
CHECKED BY: BARGE DESIGN SOLUTIONS DATE: 01-2020

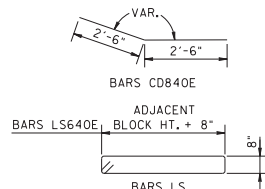
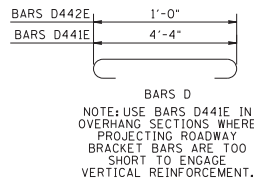
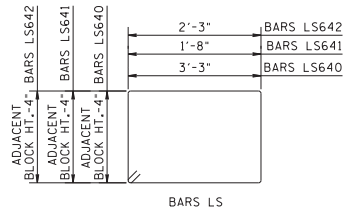


INTERSTATE 24 OVER  
S. GERMANTOWN ROAD  
FED. I.D. NO. 33100240055  
HAMILTON COUNTY  
2020

PROJECT NO.	YEAR	SHEET NO.
BR-I-24-3(97)	2020	U-92-37

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
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-	-	-	-
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-	-	-	-
-	-	-	-
-	-	-	-



BAR ESTIMATE

EPOXY BARS:

A641E	- 2/OVERHANG	4/MEDIAN
A642E	- 4/OVERHANG	8/MEDIAN
D441E	- 4/MEDIAN	
D442E	- 4/OVERHANG	
LS640E	- 5/OVERHANG	8/MEDIAN
LS642E	- 4/MEDIAN	
LS643E	- 4/OVERHANG	
F640E	- 2/OVERHANG	8/MEDIAN
CD840E	- 6/OVERHANG	

REGULAR BARS:

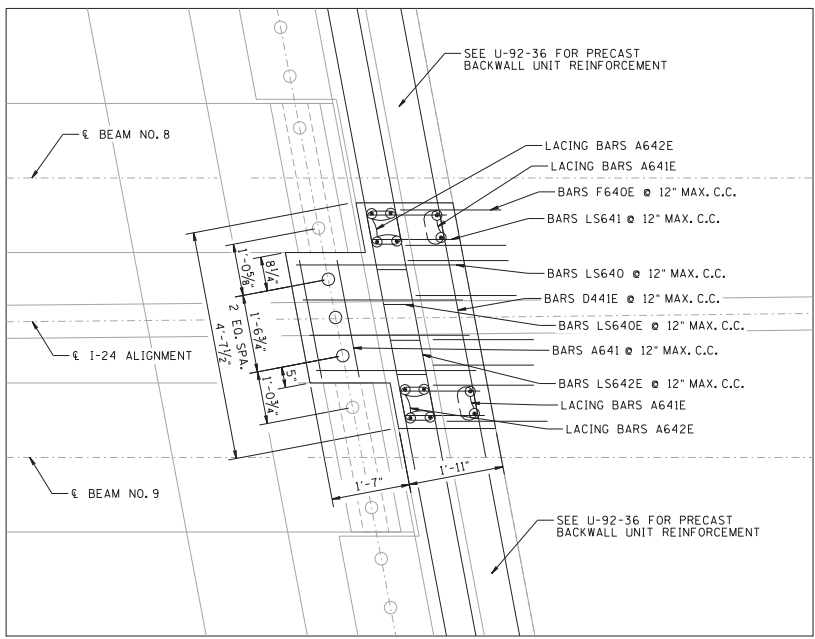
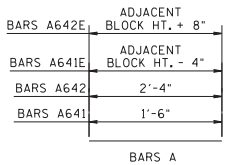
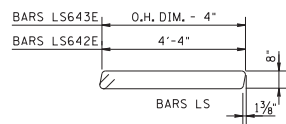
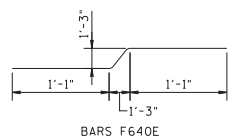
A641	- 6/MEDIAN
A642	- 6/OVERHANG
LS640	- 4/MEDIAN
LS641	- 2/OVERHANG
LS642	- 3/OVERHANG

ESTIMATED QUANTITIES

604-03.02 STEEL BAR REINFORCEMENT (L.B.)	604-02.03 EPOXY COATED REINFORCING STEEL (L.B.)	604-03.09 CLASS "D" CONCRETE (C.Y.)
680	1,380	8

NOTES:

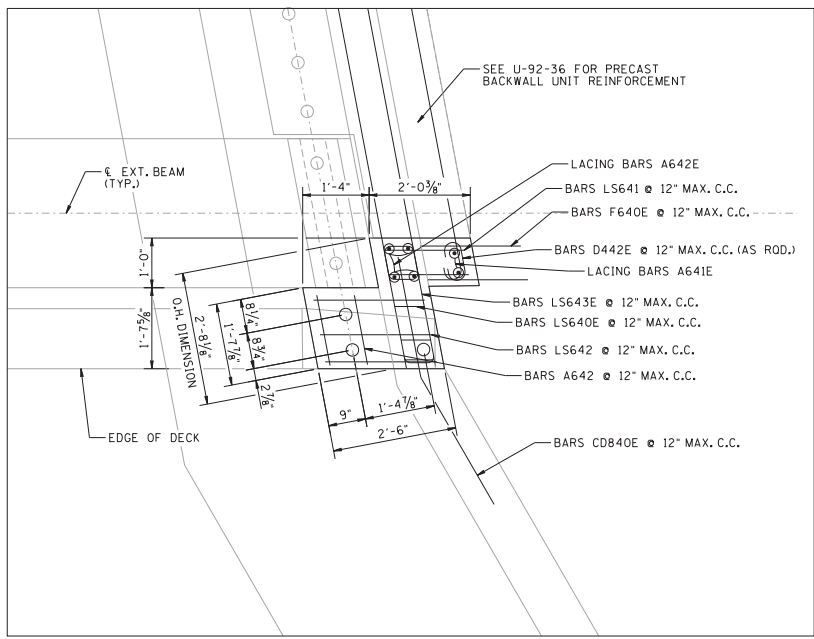
- CONTRACTOR IS RESPONSIBLE FOR VERIFYING BAR DIMENSIONS PRIOR TO ORDERING REINFORCING STEEL.
- PLACEMENT OF HORIZONTAL BARS SHALL MATCH LOCATION OF PROJECTING BARS FROM PRECAST BACKWALL UNITS.
- CONTRACTOR SHALL PLACE ALL BARS SUCH THAT THE MAXIMUM BAR SPACING IS 12" C.C. AND THE MINIMUM BAR COVER IS 2".
- ESTIMATED QUANTITIES SHOWN ARE FOR ALL FOUR OVERHANG LOCATIONS AND BOTH MEDIAN SECTIONS. ESTIMATED QUANTITIES ARE PAID FOR UNDER THE RESPECTIVE ITEM NUMBERS.
- CONTRACTOR SHALL SUBMIT SHOP DRAWINGS IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.



PLAN

TYPICAL VIEW OF C.I.P. PORTION OF THE BACKWALL IN MEDIAN  
 NOTE: THE CONTRACTOR SHALL MAKE PROVISIONS FOR THE CLOSED DRAINAGE PIPE PASSING THROUGH THE BACKWALL AT ABUTMENT 1  
 THE CONTRACTOR SHALL TIE REINFORCEMENT TO CONNECT THE C.I.P. PORTIONS OF THE MEDIAN AND POBE  
 DIMENSIONS SHOWN MAY VARY AT OTHER LOCATIONS.  
 THE CONTRACTOR SHALL VERIFY PLAN DIMENSIONS PRIOR TO ORDERING REINFORCEMENT.

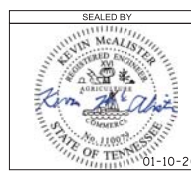
SEE SECTION "A"-A AND "B"-B ON SHEET U-92-36



PLAN

TYPICAL VIEW OF C.I.P. PORTION OF THE BACKWALL FOR THE OVERHANG PORTION CONNECTING TO THE WINGWALLS  
 THE CONTRACTOR SHALL TIE REINFORCEMENT TO CONNECT THE C.I.P. PORTIONS OF THE OVERHANG AND POBE  
 USE A MINIMUM OF 3 ANCHORS FOR OVERHANG SECTIONS. FRONT TWO ANCHORS @ EO.SPA. FROM BEAM TO OVERHANG REAR ANCHOR SHALL BE PLACED TO MISS REINFORCEMENT  
 DIMENSIONS SHOWN MAY VARY AT OTHER LOCATIONS.  
 THE CONTRACTOR SHALL VERIFY PLAN DIMENSIONS PRIOR TO ORDERING REINFORCEMENT.

SEE SECTION "A"-A AND "B"-B ON SHEET U-92-36



STATE OF TENNESSEE  
 DEPARTMENT OF TRANSPORTATION  
 BRIDGE NO. 1  
 SUPERSTRUCTURE BACKWALL DETAILS

INTERSTATE 24 OVER  
 S. GERMANTOWN ROAD  
 FED. I.D. NO. 33100240055  
 HAMILTON COUNTY  
 2020

11/10/2020  
 F:\36\367290\367290004\_CADD\TNS\GERMANTOWN RD\Bridge\IGN\36729000 SUPERSTRUCTURE BACKWALL004.dgn

PN NO:	124089.00	DATE:	01-2020
DESIGN BY:	BARGE DESIGN SOLUTIONS	DATE:	01-2020
DRAWN BY:	BARGE DESIGN SOLUTIONS	DATE:	01-2020
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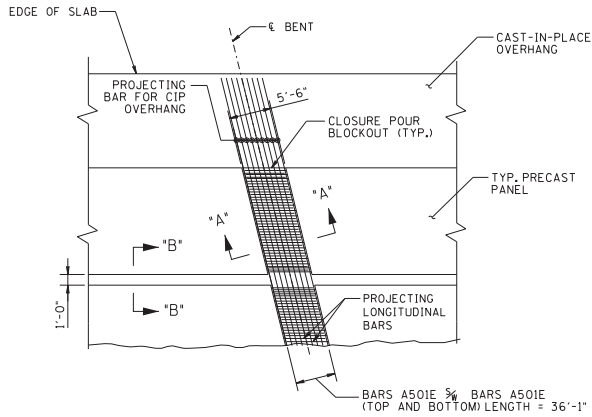


CONST. NO.: 33003-3166-44

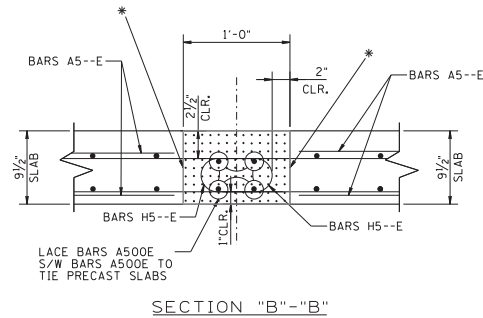
PROJECT NO.	YEAR	SHEET NO.
BR-I-24-3(97)	2020	U-92-38

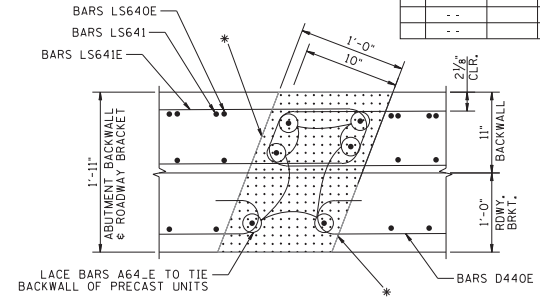
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION



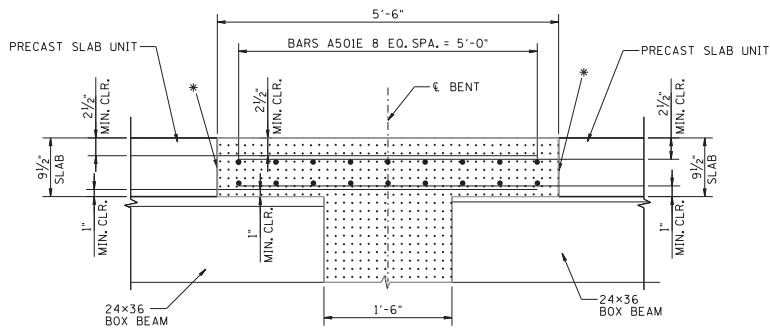
LINK SLAB CLOSURE POUR DETAIL  
5'-6" CLOSURE POUR WIDTH



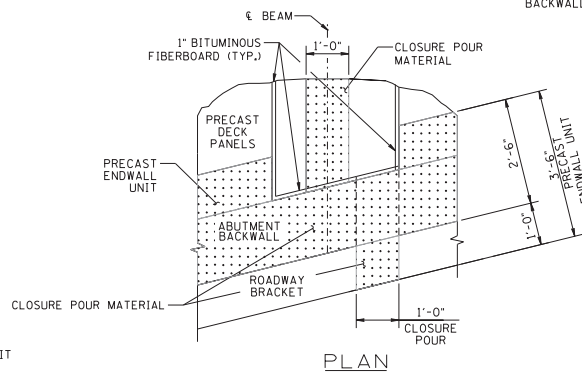
SECTION "B"-"B"



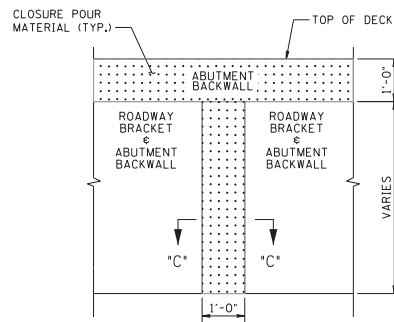
SECTION "C"-"C"



SECTION "A"-"A"  
SECTION OF CLOSURE POUR OVER BENT

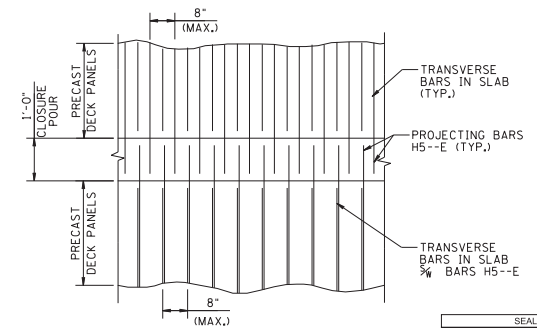


PLAN



ELEVATION

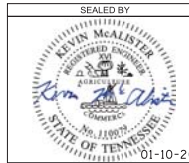
CLOSURE POUR DETAIL AT ABUTMENT BACKWALL



LONGITUDINAL CLOSURE POUR

NOTE: TRANSVERSE BARS IN DECK SHALL BE ADJUSTED TO ACCOMMODATE SPACING OF H BARS, TRANSVERSE BARS A5--E SPACING SHALL NOT EXCEED 8" C.C.

••••• DENOTES: CLOSURE POUR MATERIAL



STATE OF TENNESSEE  
DEPARTMENT OF TRANSPORTATION  
BRIDGE NO. 1  
CLOSURE POUR DETAILS

INTERSTATE 24 OVER  
S. GERMANTOWN ROAD  
FED. I.D. NO. 33100240055  
HAMILTON COUNTY  
2020

PIN NO.: 124089.00  
DESIGN BY: BARGE DESIGN SOLUTIONS DATE: 01-2020  
DRAWN BY: BARGE DESIGN SOLUTIONS DATE: 01-2020  
SUPERVISED BY: BARGE DESIGN SOLUTIONS DATE: 01-2020  
CHECKED BY: BARGE DESIGN SOLUTIONS DATE: 01-2020

\* DENOTES: VERTICAL FACE OF PRECAST CONCRETE UNITS ADJACENT TO CLOSURE POUR SHALL BE ROUGHENED AT THE TIME OF CASTING BY CHEMICAL OR OTHER FORMING METHODS.

1/10/2020 F:\36\97\20\367\3000\04\_CAD\TRNS\GERMANTOWN RD\Bridg\IGN\97\3000\_Germantown Closure Pour.dgn

CONST. NO.: 33003-3166-44

PROJECT NO.	YEAR	SHEET NO.
BR-1-24-3(97)	2020	U-92-39

REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION
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ESTIMATED QUANTITIES PER BEAM			
NO. REQ'D	CLASS CONCRETE C.Y.	STEEL BAR REINFORCING LB.	PRESTRESSING STRANDS (LOW RELAXATION) LB.
32	8.2	1,891	998

**BILL OF STEEL PER BEAM**

BAR	SIZE	NO. REQ'D	LENGTH
A300	3	2	57'-11"
A500	5	8	5'-6"
A501	5	6	2'-8"
A502	5	8	1'-8"
C500	5	8	32'-0"
H300	3	14	4'-9 1/2"
H500	5	33	5'-11 1/2"
H600	6	50	5'-11 1/2"
ZA500	5	66	3'-8 3/8"
ZA600	6	100	3'-8 3/8"

**PRESTRESSED BEAM DESIGN DATA PER BEAM:**

LIVE LOAD DISTRIBUTION FACTOR IN LANES:  
 BEAM LLDF  
 MOMENT 0.789  
 SHEAR 0.866

COMPOSITE DEAD LOADS:  
 DC = 106 LB/FT  
 DW = 295 LB/FT

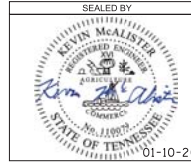
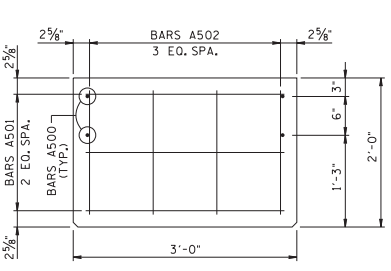
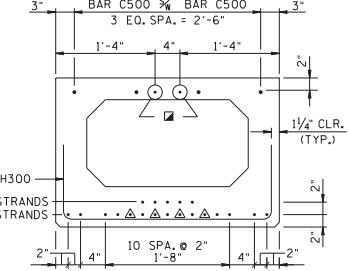
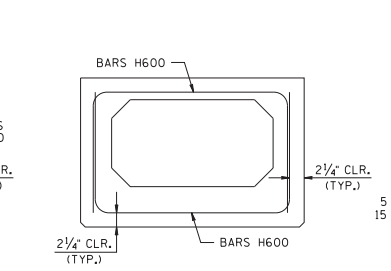
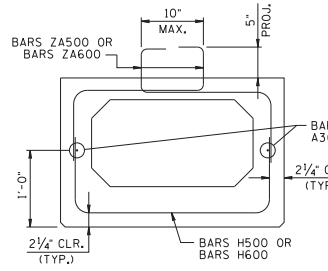
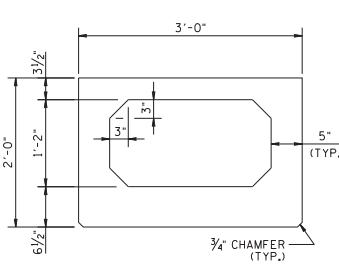
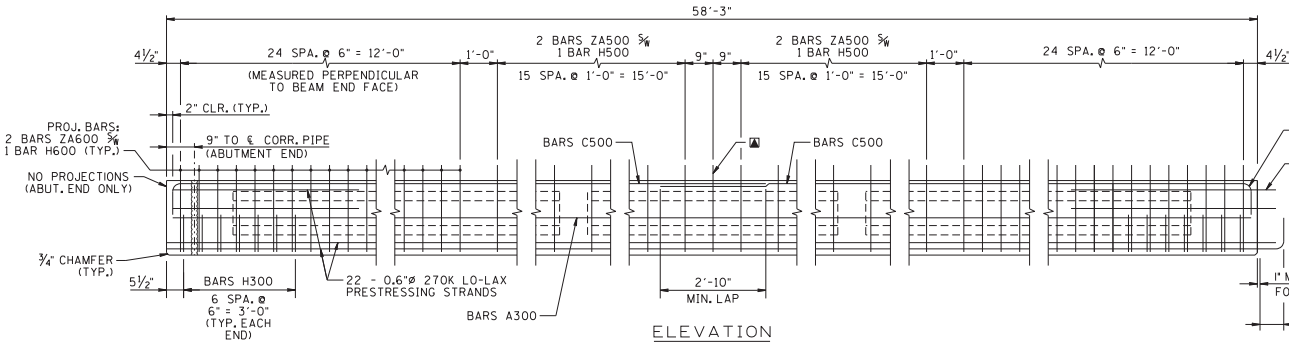
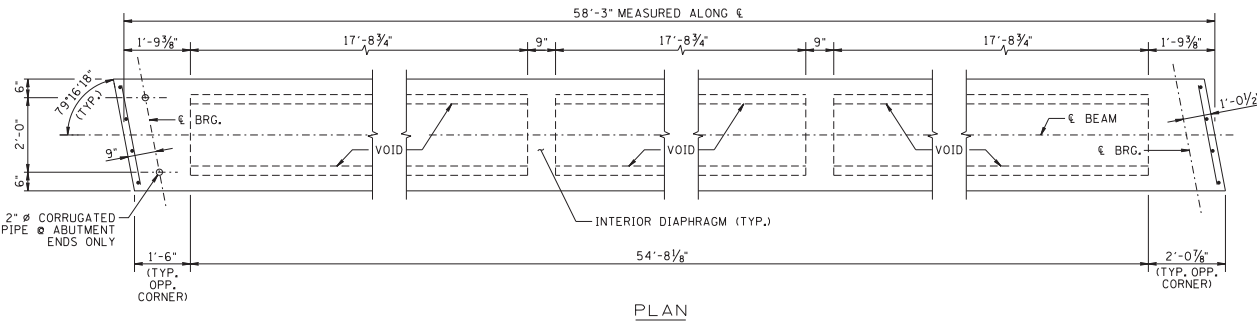
COMPOSITE DESIGN SLAB STRENGTH:  $f'c = 4,000$  PSI.  
 DOWNWARD DEFLECTION UNDER TOTAL DL IS NOT ALLOWED.

**PRESTRESSED STRAND DATA:**

LOW-LAX, ASTM GRADE 270 KSI, UNCOATED 7-WIRE STRANDS  
 DIAMETER = 0.6 INCH  
 AREA = 0.217 IN<sup>2</sup>  
 INITIAL JACKING FORCE = 43,943 LBS.

**BEAM NOTES:**

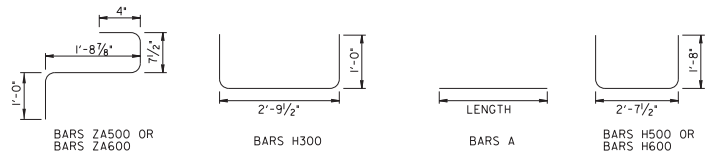
- SEE STD-14-3 FOR BOX BEAM STANDARD DETAILS, NOTES AND REINFORCING.
- THE PRESTRESSED BEAMS SHALL ATTAIN AN AGE OF AT LEAST 90 DAYS PRIOR TO POURING THE SUPPORT DIAPHRAGMS (EXCLUDING BOTTOM 15") AND DECK SLAB.
- THE PRESTRESSING STRANDS SHALL BE CUT FLUSH AT THE ABUTMENT END OF THE BEAM AND A PROTECTIVE COATING PLACE ON THE END OF THE BEAM.
- THE CONCRETE FOR THIS CONSTRUCTION SHALL BE OF SUCH PROPERTIES AS TO ATTAIN A COMPRESSIVE STRENGTH OF NOT LESS THAN 8,000 PSI AT THE AGE OF 28 DAYS AND STRESS TRANSFER SHALL NOT BE MADE TO THE BRIDGE MEMBER UNTIL THE TEST SPECIMENS INDICATE THAT THE CONCRETE HAS REACHED A COMPRESSIVE STRENGTH OF AT LEAST 6,000 PSI. SEE GENERAL NOTES FOR CONCRETE FINISHING NOTE.
- TOP FLANGE TO BE CLEAN, FREE OF LAITANCE, AND INTENTIONALLY ROUGHENED TO AN AMPLITUDE OF 1/4".
- ALL BOX BEAMS ARE 24" H X 36" W.
- ANCHORS SHALL BE #8 STEEL BAR REINFORCEMENT AND SHALL BE INCLUDED IN THE COST OF THE BEAM.



STATE OF TENNESSEE  
 DEPARTMENT OF TRANSPORTATION  
 BRIDGE NO. 1  
 PRESTRESSED BOX BEAM DETAILS

INTERSTATE 24 OVER  
 S. GERMANTOWN ROAD  
 FED. I.D. NO. 33100240055  
 HAMILTON COUNTY  
 2020

DESIGN BY: BARGE DESIGN SOLUTIONS  
 DRAWN BY: BARGE DESIGN SOLUTIONS  
 SUPERVISED BY: BARGE DESIGN SOLUTIONS  
 CHECKED BY: BARGE DESIGN SOLUTIONS

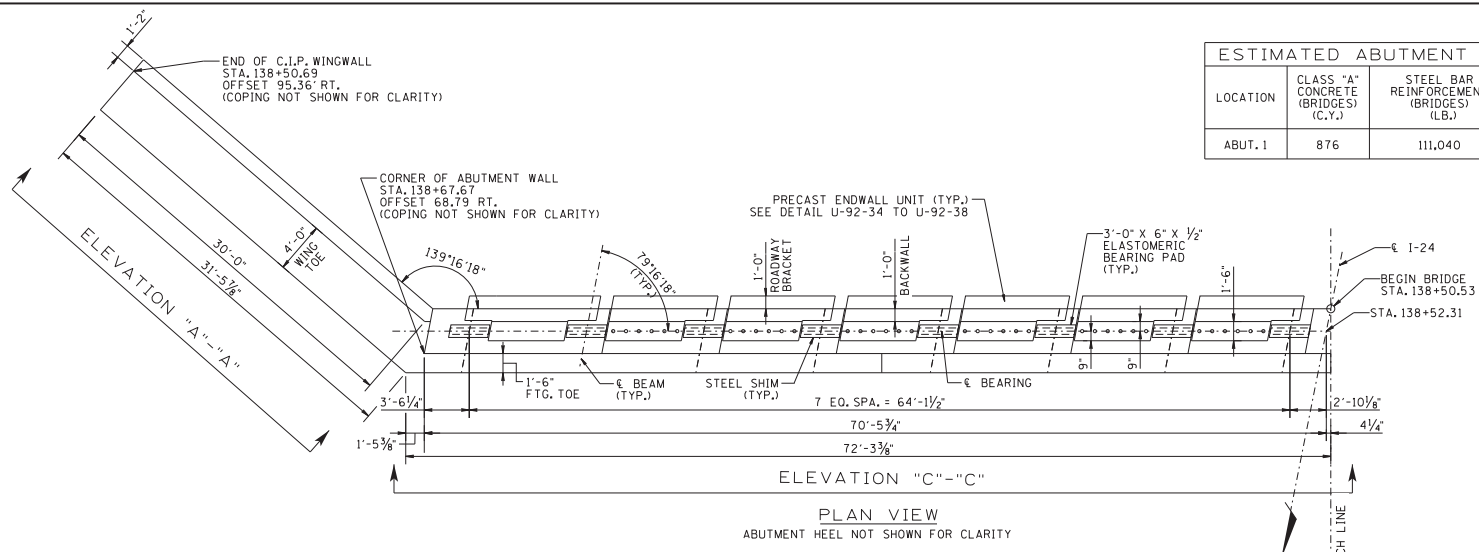


SECTION (SHOWING PRESTRESSING STRANDS)  
 ▲ DEBOND 8"-0" EACH END  
 ■ DENOTES: 2 STRAIGHT 0.6" PRESTRESSED STRANDS PULLED TO AN INITIAL FORCE OF 5 KIPS EACH

CONST. NO.: 33003-3166-44

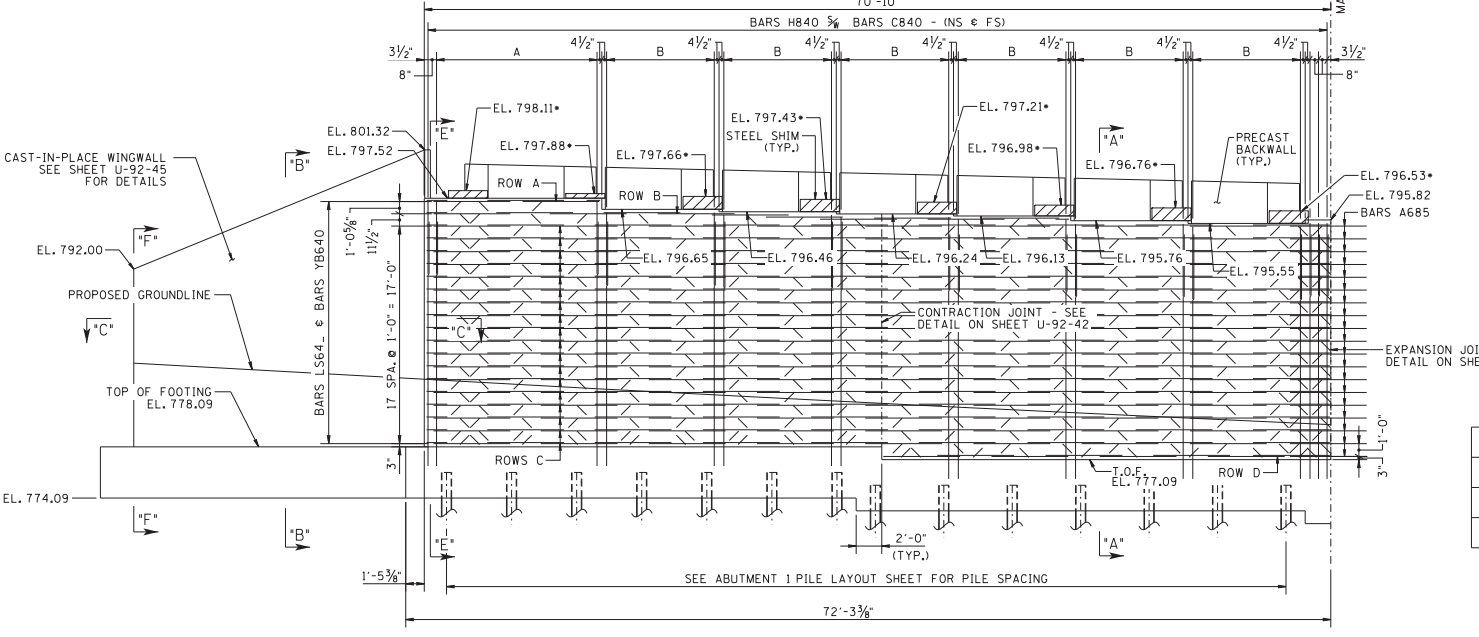
PROJECT NO.	YEAR	SHEET NO.	
BR-I-24-3(97)	2020	U-92-40	
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION
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ESTIMATED ABUTMENT QUANTITIES			
LOCATION	CLASS "A" CONCRETE (BRIDGES) (C.Y.)	STEEL BAR REINFORCEMENT (BRIDGES) (LB.)	BEARING DEVICE (EACH)
ABUT. 1	876	111,040	16

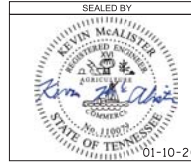


NOTES:

- WHEN POURING ABUTMENT WALL, THE CONTRACTOR SHALL INSTALL ANCHOR WELLS AS SHOWN ON THE PLANS TO ACCOMMODATE ANCHORS FOR PRECAST BOX BEAMS AND PRECAST ENDWALL SECTIONS.
- THE CONTRACTOR SHALL SUPPORT THE ABUTMENT UNTIL THE SUPERSTRUCTURE IS IN PLACE, FALSEWORK HAS BEEN REMOVED AND BACKFILLING HAS BEEN COMPLETED.
- SEE STANDARD DRAWING STD-6-1 FOR PILE DETAILS AND NOTES
- WINGBEAM PILES SHALL BE DRIVEN TO THE PLANS TIP ELEVATION OR REFUSAL. SEISMIC ATTACHMENT IS NOT REQUIRED FOR WINGBEAM PILES.
- ALL EXPOSED SURFACES OF ABUTMENT WALL AND WINGWALLS SHALL RECEIVE AN ASHLAR STONE FORMLINER FINISH.
- THE CONTRACTOR SHALL FIELD VERIFY ALL CONDITIONS, GRADES, AND DIMENSIONS PRIOR TO CONSTRUCTION. IF THE CONTRACTOR DISCOVERS ANY ERRORS, OMISSIONS, OR DISCREPANCIES, THEY SHALL CONTACT THE ENGINEER IMMEDIATELY. THE ENGINEER WILL THEN ISSUE INSTRUCTIONS AS TO HOW TO PROCEED.
- CONSTRUCT MICROPILES IN ACCORDANCE WITH THESE DRAWINGS OR AS DIRECTED BY THE ENGINEER DURING THE COURSE OF CONSTRUCTION.
- THE CONTRACTOR SHALL FIELD VERIFY LOCATIONS AND ELEVATIONS OF ALL UTILITIES FOR THE CONSTRUCTION AREA. THE ENGINEER IS NOT RESPONSIBLE FOR FIELD VERIFYING THESE LOCATIONS AND DAMAGE TO IDENTIFIED AND UNIDENTIFIED UTILITIES AND FOUNDATIONS.
- IF THE SITE CONDITIONS AND DESIGN PARAMETERS ARE DIFFERENT THAN THOSE SHOWN ON THE DRAWINGS, THE CONTRACTOR SHALL IMMEDIATELY INFORM THE ENGINEER OR HIS REPRESENTATIVE WHO WILL DETERMINE IF ADJUSTMENTS TO THE DESIGN ARE REQUIRED.
- THE TOP OF ALL MICROPILES SHALL BE TERMINATED AS SHOWN IN THE TYPICAL MICROPILE DETAIL.
- SEE SHEET U-92-68 FOR MICROPILE NOTES AND DATA.



DIMENSIONS	
LOCATION	DIMENSION & SPACING
A	18 EQ. SPA. = 12'-6 1/2"
B	12 EQ. SPA. = 8'-4 7/8"



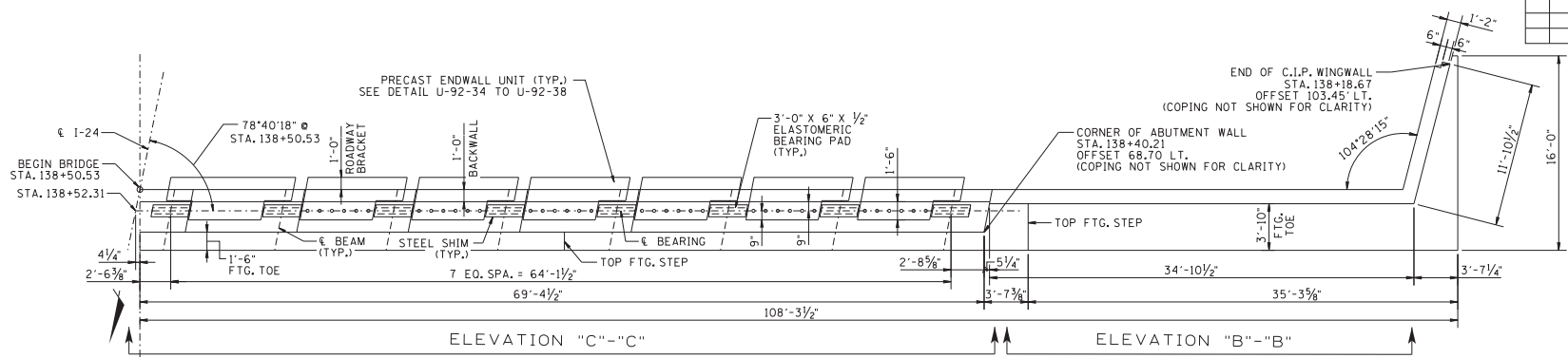
STATE OF TENNESSEE  
 DEPARTMENT OF TRANSPORTATION  
 BRIDGE NO. 1  
 ABUTMENT NO. 1  
 (SHEET 1 OF 2)  
 INTERSTATE 24 OVER  
 S. GERMANTOWN ROAD  
 FED. I.D. NO. 33100240055  
 HAMILTON COUNTY  
 2020

\*NOTES: 1) ELEVATIONS ARE TO TOP OF SHIM STACK NOT INCLUDING THE 1/2" BEARING PAD.  
 2) CLOSURE POUR MATERIAL NOT SHOWN FOR CLARITY

/// DENOTES: STEEL SHIM STACK

PIN NO.: 124089.00  
 DESIGN BY: BARGE DESIGN SOLUTIONS DATE: 01-2020  
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CONST. NO.: 33003-3166-44			
PROJECT NO.	YEAR	SHEET NO.	
BR-I-24-3(97)	2020	U-92-41	
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION
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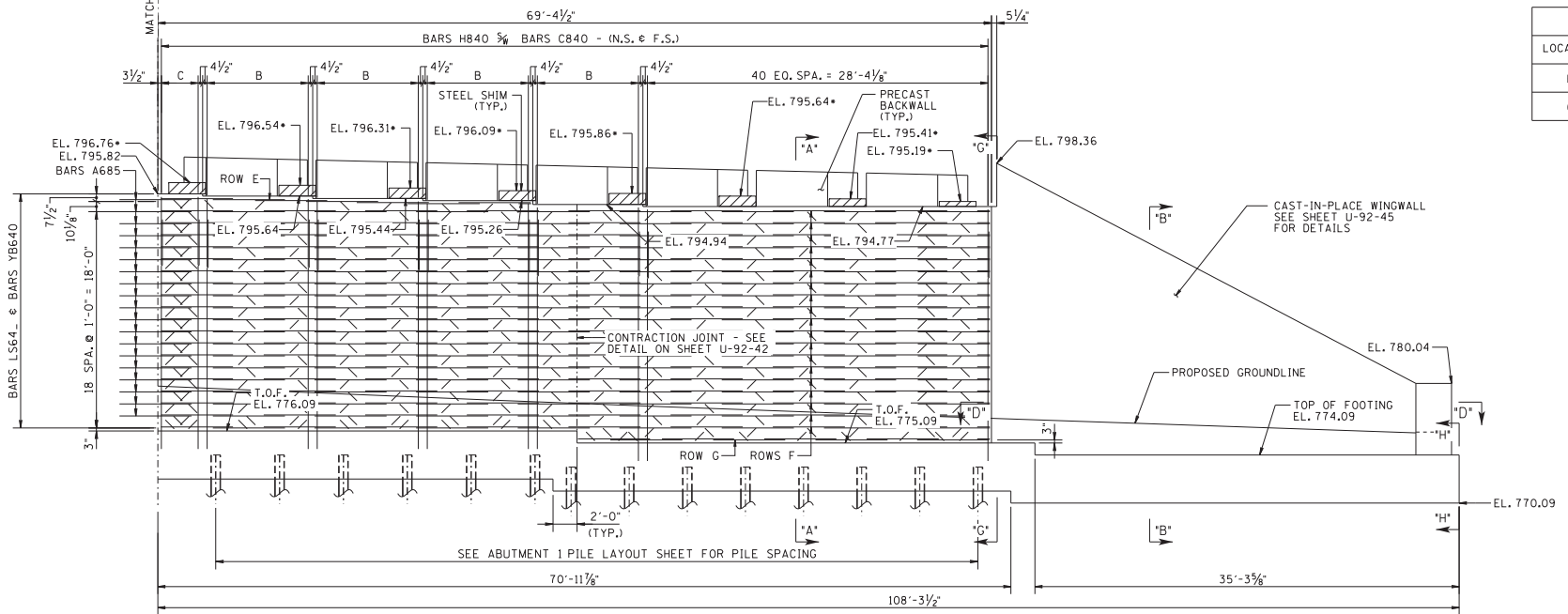


ELEVATION "C"-"C"

ELEVATION "B"-"B"

PLAN VIEW  
ABUTMENT HEEL NOT SHOWN FOR CLARITY

DIMENSIONS	
LOCATION	DIMENSION & SPACING
B	12 EQ. SPA. = 8'-4 7/8"
C	5 EQ. SPA. = 3'-0 3/4"



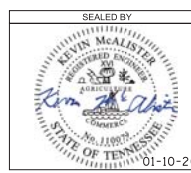
ELEVATION  
(LOOKING BACK ON SURVEY)

- NOTES: 1) ELEVATIONS ARE TO TOP OF SHIM STACK NOT INCLUDING THE 1/2" BEARING PAD.
- 2) CLOSURE POUR MATERIAL NOT SHOWN FOR CLARITY

▨ DENOTES: STEEL SHIM STACK

SEE SHEET U-92-43 FOR ROWS E-G OVERLAPPING BARS LS64- AND YB640 BARS.

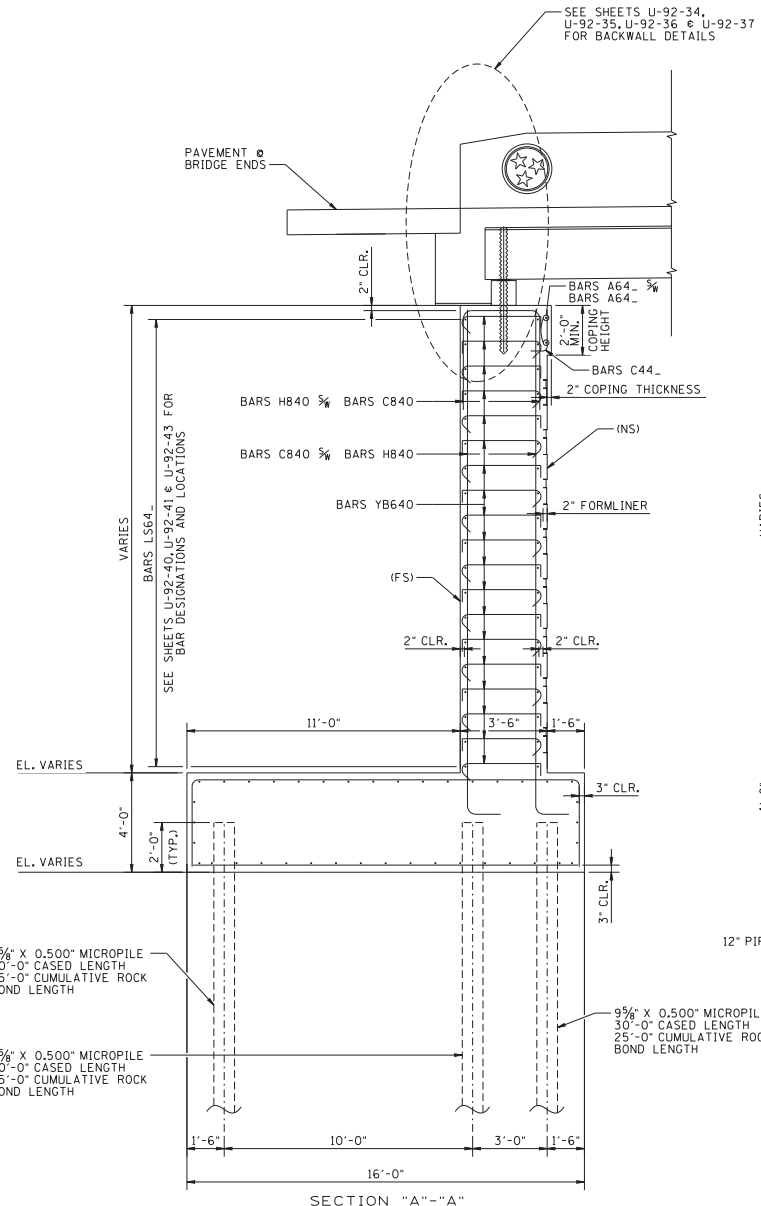
PIN NO.: 124069.00  
 DESIGN BY: BARGE DESIGN SOLUTIONS DATE: 01-2020  
 DRAWN BY: BARGE DESIGN SOLUTIONS DATE: 01-2020  
 SUPERVISED BY: BARGE DESIGN SOLUTIONS DATE: 01-2020  
 CHECKED BY: BARGE DESIGN SOLUTIONS DATE: 01-2020



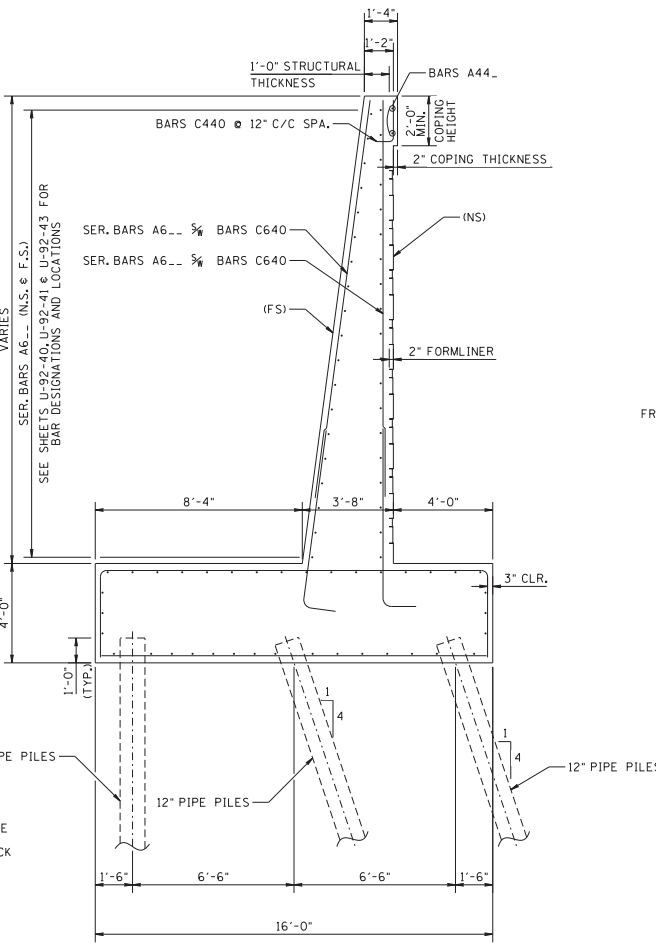
STATE OF TENNESSEE  
 DEPARTMENT OF TRANSPORTATION  
 BRIDGE NO. 1  
 ABUTMENT NO. 1  
 (SHEET 2 OF 2)  
 INTERSTATE 24 OVER  
 S. GERMANTOWN ROAD  
 FED. I.D. NO. 33100240055  
 HAMILTON COUNTY  
 2020

CONST. NO.: 33003-3166-44

PROJECT NO.	YEAR	SHEET NO.	
BR-I-24-3(97)	2020	U-92-42	
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION
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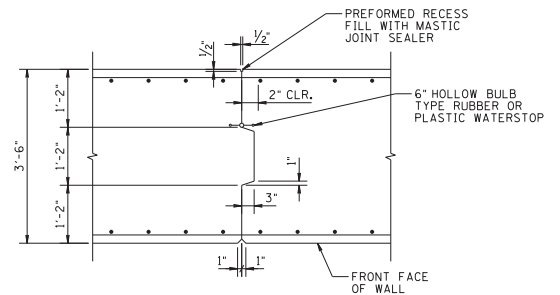


SECTION "A"- "A"



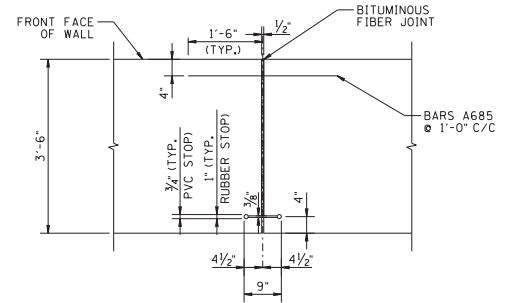
SECTION "B"- "B"

LEFT WING FOOTING TOE TO BE 3'-10" AND IN LINE WITH ABUTMENT FOOTING



CONTRACTION JOINT DETAIL

NOTE: STOP KEY 1'-0" BELOW TOP OF WALL.

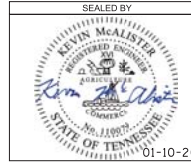


EXPANSION JOINT DETAIL

THE EXPANSION JOINT SHALL BE USED IN THE WALL ONLY AND NOT CARRIED THROUGH THE FOOTING. NO REINFORCEMENT SHALL PASS THROUGH THE JOINT. ONE END OF THE DOWELS SHALL BE WRAPPED IN A LAYER OF TARPAPER WITH A TARPAPER CAP OVER THE END.

PIN NO.: 124089.00  
 DESIGN BY: BARGE DESIGN SOLUTIONS DATE: 01-2020  
 DRAWN BY: BARGE DESIGN SOLUTIONS DATE: 01-2020  
 SUPERVISED BY: BARGE DESIGN SOLUTIONS DATE: 01-2020  
 CHECKED BY: BARGE DESIGN SOLUTIONS DATE: 01-2020

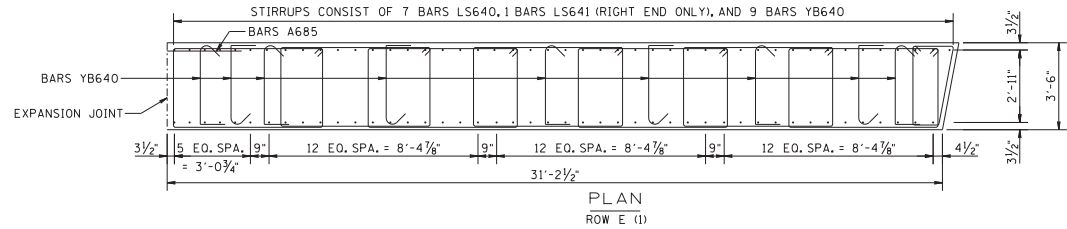
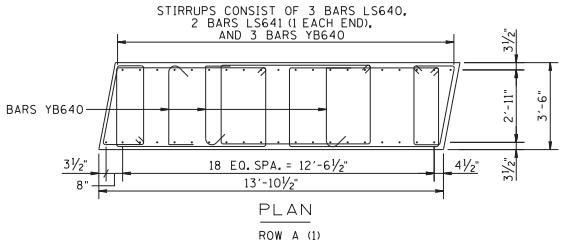
NOTE:  
 1) SEE SHEET U-92-68 FOR MICROPILE NOTES AND DATA  
 2) THE 90-DEGREE HOOKS OF ADJACENT CROSS-TIES ARE ALTERNATED SO THAT HOOKS OF THE SAME BEND ANGLE ARE NOT ADJACENT TO EACH OTHER BOTH VERTICALLY AND HORIZONTALLY.



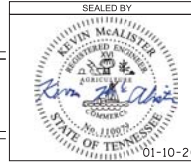
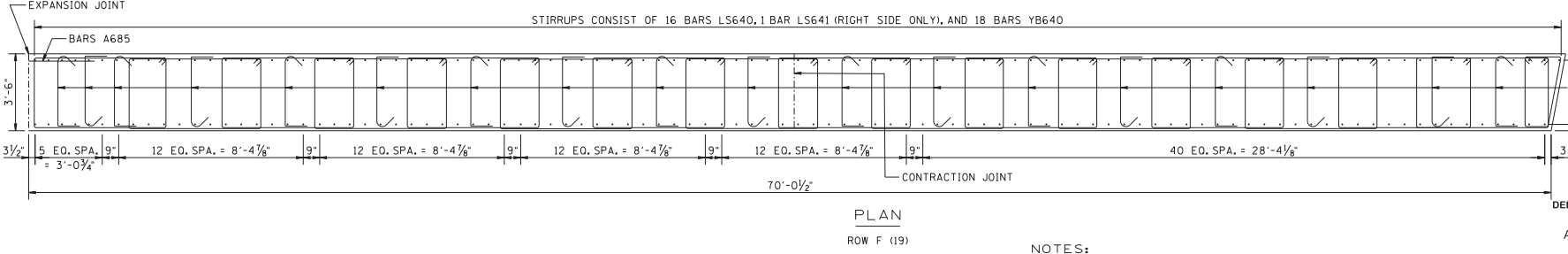
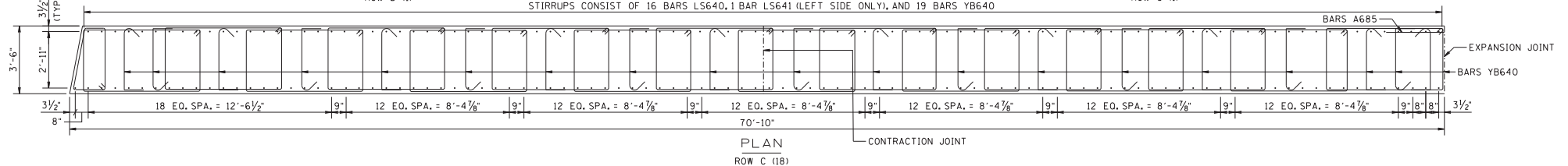
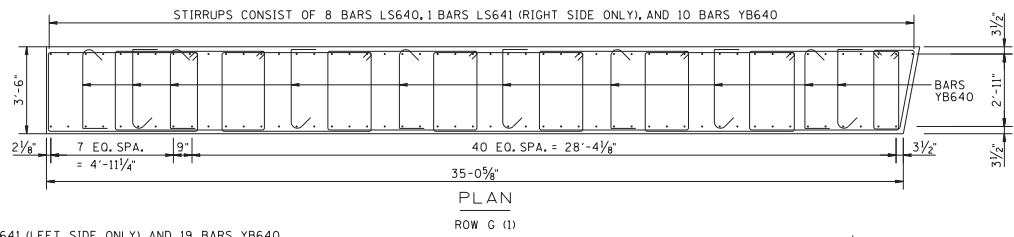
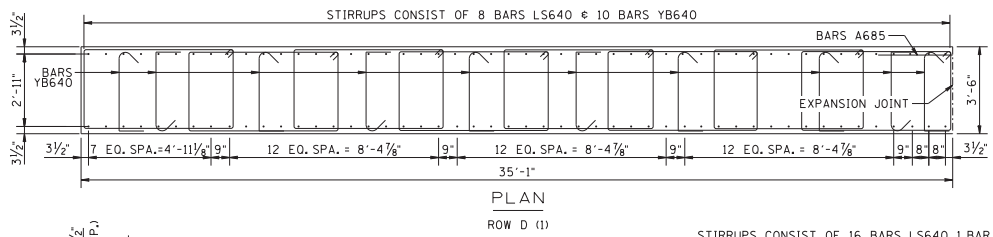
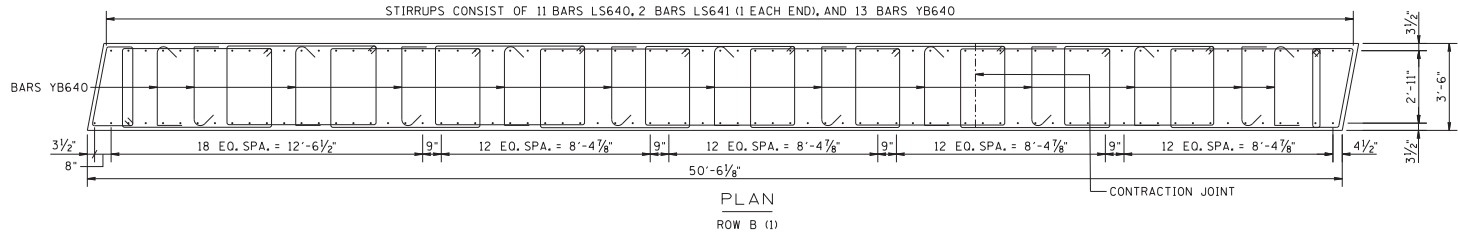
STATE OF TENNESSEE  
 DEPARTMENT OF TRANSPORTATION  
 BRIDGE NO. 1  
 ABUTMENT NO. 1 DETAILS  
 SHEET (1 OF 3)  
 INTERSTATE 24 OVER  
 S. GERMANTOWN ROAD  
 FED. I.D. NO. 33100240055  
 HAMILTON COUNTY  
 2020

CONST. NO.: 33003-3166-44

PROJECT NO.	YEAR	SHEET NO.	
BR-I-24-3(97)	2020	U-92-43	
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION



NOTE: ROW B & E SHALL FOLLOW TOP OF ABUTMENT WALL BY STEPPING DOWN ALONG WALL AS NECESSARY. CONTRACTOR SHALL MAINTAIN MINIMUM OF 2" COVER.



STATE OF TENNESSEE  
DEPARTMENT OF TRANSPORTATION  
BRIDGE NO. 1  
ABUTMENT NO. 1 DETAILS  
SHEET (2 OF 3)  
INTERSTATE 24 OVER  
S. GERMANTOWN ROAD  
FED. I.D. NO. 33100240055  
HAMILTON COUNTY  
2020

- NOTES:
- 1) VERTICAL REINFORCEMENT FS & NS = BARS C840 3/4 H840
  - 2) THE 90-DEGREE HOOKS OF ADJACENT YB BARS ARE ALTERNATED SO THAT HOOKS OF THE SAME BEND ANGLE ARE NOT ADJACENT TO EACH OTHER BOTH VERTICALLY AND HORIZONTALLY.
  - 3) FOR EXPANSION AND CONTRACTION JOINT DETAILS SEE SHEET U-92-42.

PIN NO.: 124069.00  
DESIGN BY: BARGE DESIGN SOLUTIONS DATE: 01-2020  
DRAWN BY: BARGE DESIGN SOLUTIONS DATE: 01-2020  
SUPERVISED BY: BARGE DESIGN SOLUTIONS DATE: 01-2020  
CHECKED BY: BARGE DESIGN SOLUTIONS DATE: 01-2020

CONST. NO.: 33003-3166-44

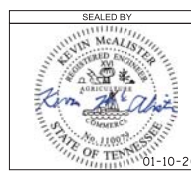
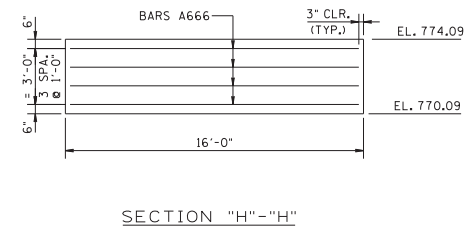
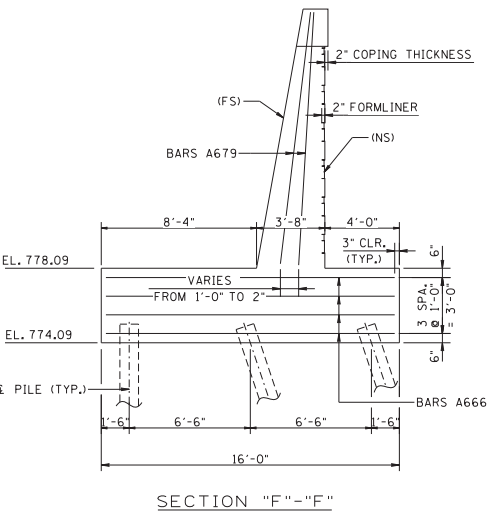
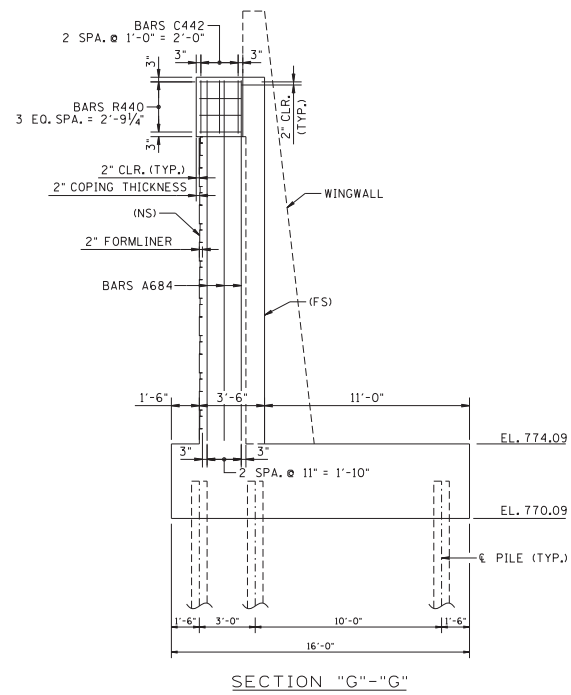
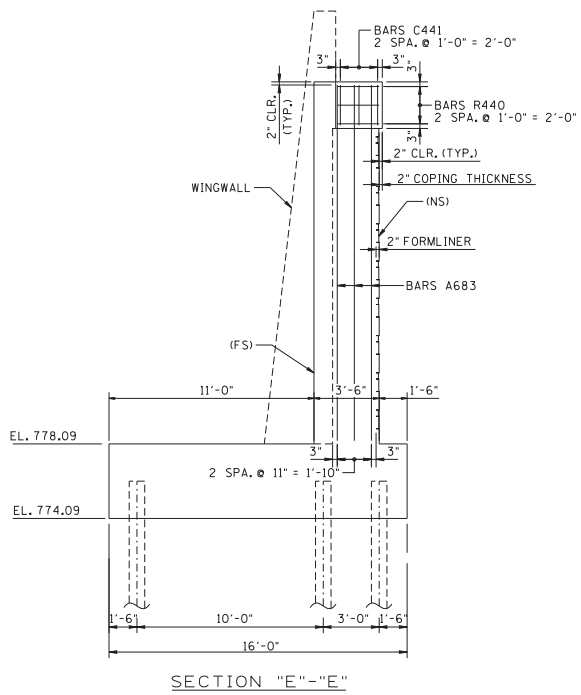
PROJECT NO.	YEAR	SHEET NO.
BR-I-24-3(97)	2020	U-92-44

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
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NOTES:

- STEMWALL AND WINGWALL REINFORCEMENT NOT SHOWN FOR CLARITY, SEE SHEET U-92-42 FOR DESIGNATIONS AND LOCATIONS.
- SEE SHEET U-92-68 FOR MICROPILE NOTES AND DATA.



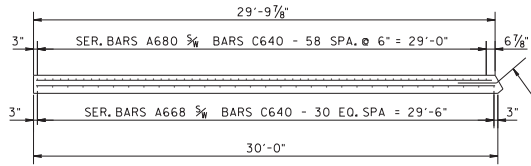
STATE OF TENNESSEE  
 DEPARTMENT OF TRANSPORTATION  
 BRIDGE NO. 1  
 ABUTMENT NO. 1 DETAILS  
 SHEET (3 OF 3)  
 INTERSTATE 24 OVER  
 S. GERMANTOWN ROAD  
 FED. I.D. NO. 33100240055  
 HAMILTON COUNTY  
 2020

PIN NO.: 124089.00  
 DESIGN BY: BARGE DESIGN SOLUTIONS DATE: 01-2020  
 DRAWN BY: BARGE DESIGN SOLUTIONS DATE: 01-2020  
 SUPERVISED BY: BARGE DESIGN SOLUTIONS DATE: 01-2020  
 CHECKED BY: BARGE DESIGN SOLUTIONS DATE: 01-2020

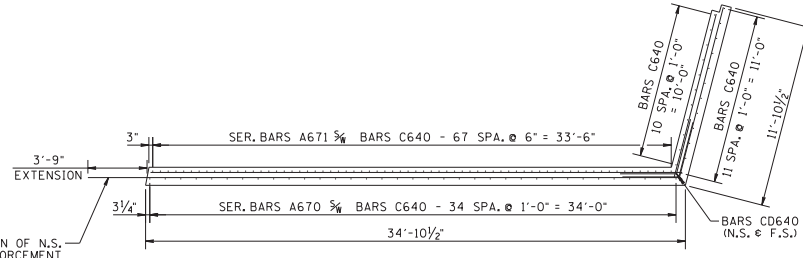
CONST. NO.: 33003-3166-44

PROJECT NO.	YEAR	SHEET NO.
BR-I-24-3(97)	2020	U-92-45

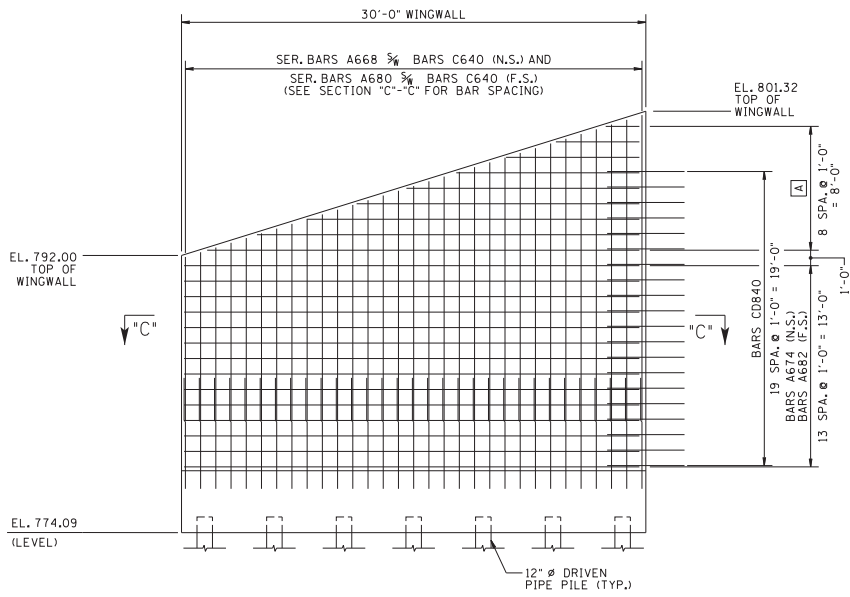
REVISIONS				
NO.	DATE	BY	BRIEF DESCRIPTION	
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SECTION "C"-"C"

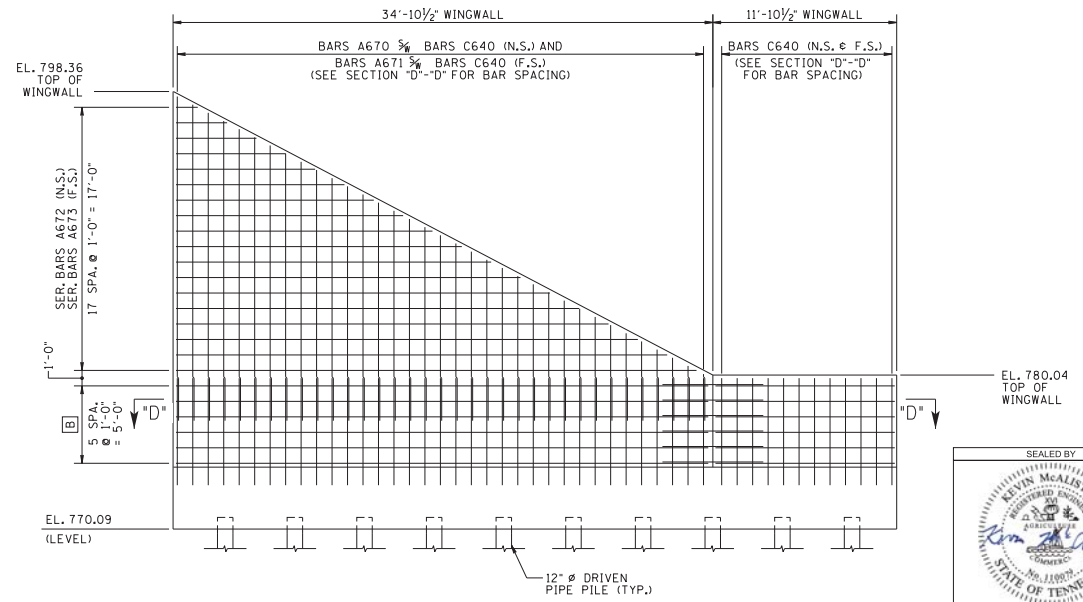


SECTION "D"-"D"



[A] DENOTES: SER. BARS A669 (N.S.)  
SER. BARS A681 (F.S.)

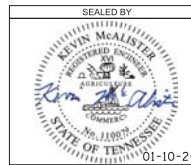
ELEVATION "A"-"A"



[B] DENOTES: BARS A677 3/8" BARS CD640 3/8" BARS A676 (N.S.)  
BARS A678 3/8" BARS CD640 3/8" BARS A677 (F.S.)

ELEVATION "B"-"B"

NOTE: N.S. EXTENSION IN TO THE STEMWALL  
NOT SHOWN FOR CLARITY.



STATE OF TENNESSEE  
DEPARTMENT OF TRANSPORTATION  
BRIDGE NO. 1  
ABUTMENT NO. 1  
WINGWALL DETAILS  
INTERSTATE 24 OVER  
S. GERMANTOWN ROAD  
FED. I.D. NO. 33100240055  
HAMILTON COUNTY  
2020

PIN NO.: 124089.00  
DESIGN BY: BARGE DESIGN SOLUTIONS DATE: 01-2020  
DRAWN BY: BARGE DESIGN SOLUTIONS DATE: 01-2020  
SUPERVISED BY: BARGE DESIGN SOLUTIONS DATE: 01-2020  
CHECKED BY: BARGE DESIGN SOLUTIONS DATE: 01-2020

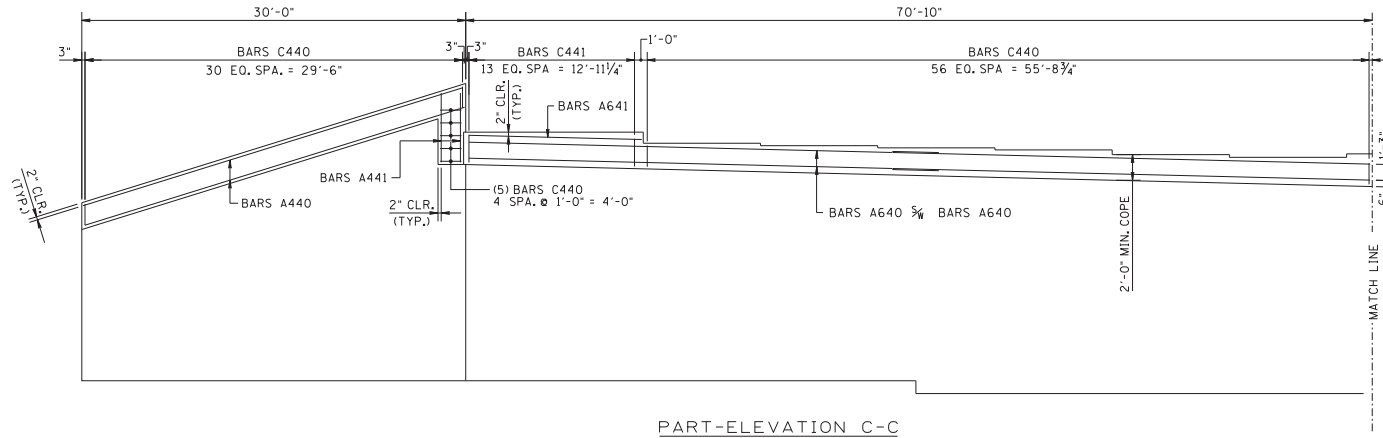


CONST. NO.: 33003-3166-44

PROJECT NO.	YEAR	SHEET NO.
BR-I-24-3(97)	2020	U-92-46

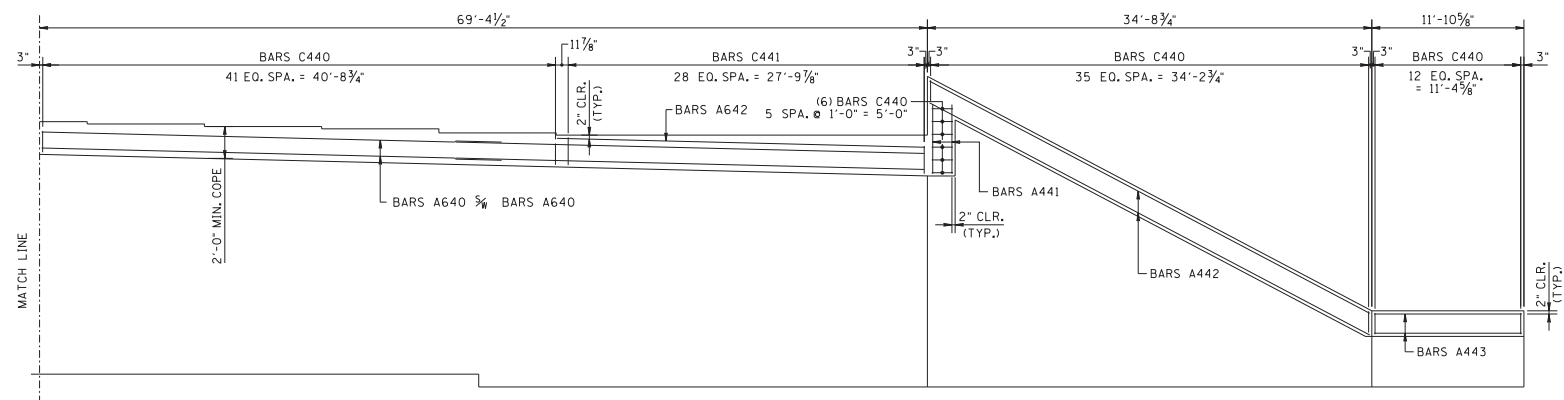
REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
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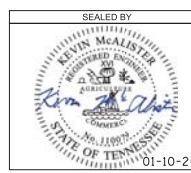
PART-ELEVATION C-C  
(LOOKING BACK ON SURVEY)

NOTE: SEE SHEET U-92-44 FOR STEMWALL EDGE COPING REINFORCEMENT.



PART-ELEVATION C-C  
(LOOKING BACK ON SURVEY)

NOTES: 1) FOOTING NOT SHOWN FOR CLARITY.  
2) WINGWALL ELEVATIONS SHOWN ARE PARALLEL TO THE WALL FACE.



STATE OF TENNESSEE  
DEPARTMENT OF TRANSPORTATION  
BRIDGE NO. 1  
ABUTMENT NO. 1  
COPING DETAILS  
INTERSTATE 24 OVER  
S. GERMANTOWN ROAD  
FED. I.D. NO. 33100240055  
HAMILTON COUNTY  
2020

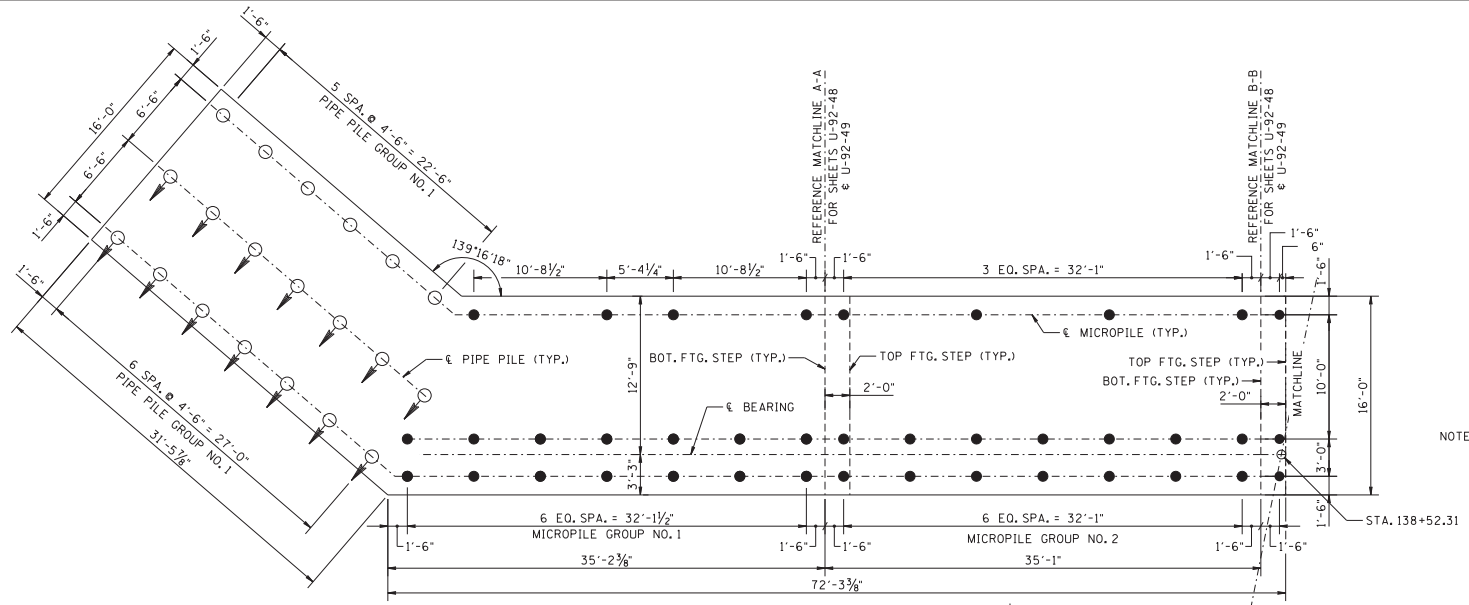
PIN NO.:	124089.00
DESIGN BY:	BARGE DESIGN SOLUTIONS
DRAWN BY:	BARGE DESIGN SOLUTIONS
SUPERVISED BY:	BARGE DESIGN SOLUTIONS
CHECKED BY:	BARGE DESIGN SOLUTIONS
DATE:	01-2020
DATE:	01-2020
DATE:	01-2020
DATE:	01-2020

CONST. NO.: 33003-3166-44

PROJECT NO.	YEAR	SHEET NO.
BR-I-24-3(97)	2020	U-92-47

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
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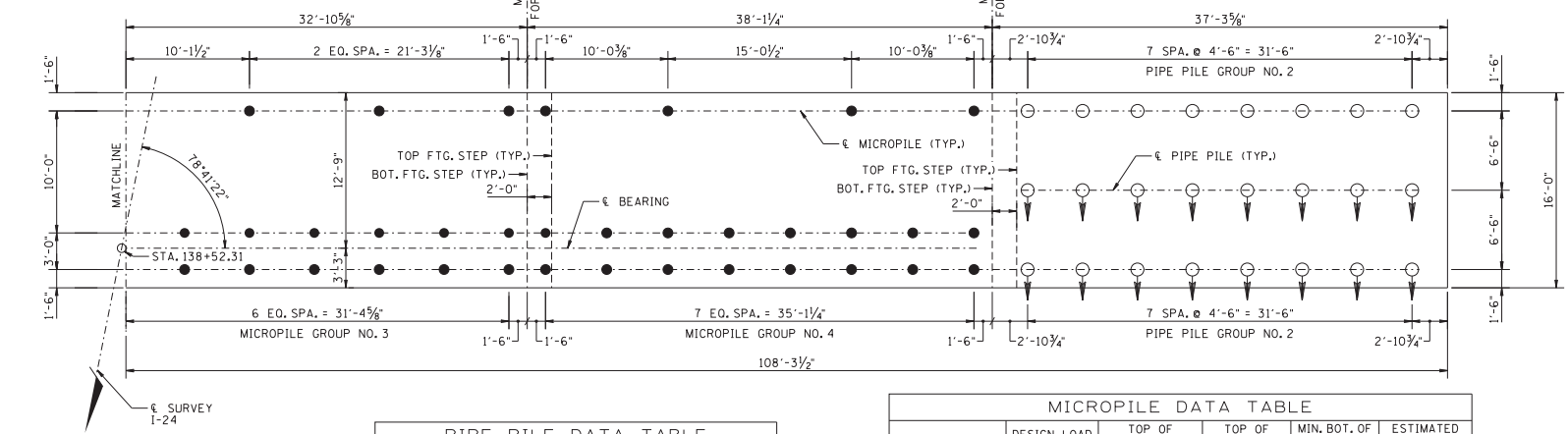


- NON-BATTERED DRIVEN PIPE PILE (14 PILES)
- BATTERED DRIVEN PIPE PILE 1:4 (30 PILES)
- NON-BATTERED MICROPILE (74 PILES)

NOTE: TOTAL NUMBER OF 9 1/2" X 1/2" MICROPILES = 74  
TOTAL NUMBER OF 12" X 1/2" PIPE PILES = 44

NOTES: CONTRACTOR SHALL INSTALL PIPE PILE CAPS FOR ALL DRIVEN PIPE PILES. PIPE PILE CAP SHALL BE WELDED OR BOLTED ON TO THE TOP OF THE PIPE PILE AFTER THE PILES ARE DRIVEN AND CUT-OFF AT THE ELEVATION AS SHOWN ON THE PLANS. PIPE CAP SHALL BE PLATE STEEL A MINIMUM OF 1/2" THICK AND SHALL OVERLAP THE EDGE OF THE PILE OR BOLT COLLAR BY A MINIMUM OF 1/2". PIPE PILE CAP SHALL BE INSTALLED WITH SUFFICIENT RIGIDITY SO AS TO PREVENT MOVEMENT DURING PLACING OF REINFORCING STEEL AND FOOTING CONCRETE. PIPE PILE CAP SHALL BE INCLUDED IN THE COST OF THE PILES ITEM NO. 606-17.03 STEEL PIPE PILES (12 INCH).

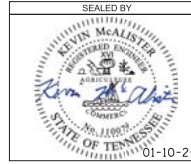
THE CONTRACTOR SHALL INSTALL MICROPILES ACCORDING TO THE REQUIREMENTS ESTABLISHED IN SPECIAL PROVISION 625MP. THE MICROPILES WERE DESIGNED TO BE A TYPE A INSTALLATION (PER THE FHWA MICROPILE DESIGN MANUAL), WITH AT LEAST 30 FEET OF PERMANENT CASING INSTALLED FROM THE PILE CUT OFF ELEVATION INTO THE GROUND AND A BOND LENGTH WITH AT LEAST 25 FEET (CUMULATIVE) IN ROCK. THE PLANS SHOW AN ESTIMATED LENGTH OF MICROPILES BASED ON GEOTECHNICAL EXPLORATION, BUT THE CONTRACTOR SHALL INSTALL THE MICROPILES TO A DEPTH THAT ACHIEVES A CUMULATIVE ROCK BOND OF 25 FEET, REGARDLESS OF TOTAL OVERALL DEPTH.



PILE GROUP	DESIGN LOAD (TONS)	ESTIMATED PILE LENGTH (FT.)	MINIMUM PILE TIP ELEVATION
PIPE PILE NO. 1	86	100	674.09
PIPE PILE NO. 2	97	100	670.09

PILE GROUP	DESIGN LOAD (TONS)	TOP OF THREADBAR EL. (FT.)	TOP OF CASING EL. (FT.)	MIN. BOT. OF CASING EL. (FT.)	ESTIMATED PILE TIP EL. (FT.)
MICROPILE NO. 1	*	776.09	776.09	744.09	608.89
MICROPILE NO. 2	*	775.09	775.09	743.09	607.89
MICROPILE NO. 3	*	774.09	774.09	742.09	606.89
MICROPILE NO. 4	*	773.09	773.09	741.09	605.89

\* SEE SHEET U-92-68 FOR MICROPILE LOADING



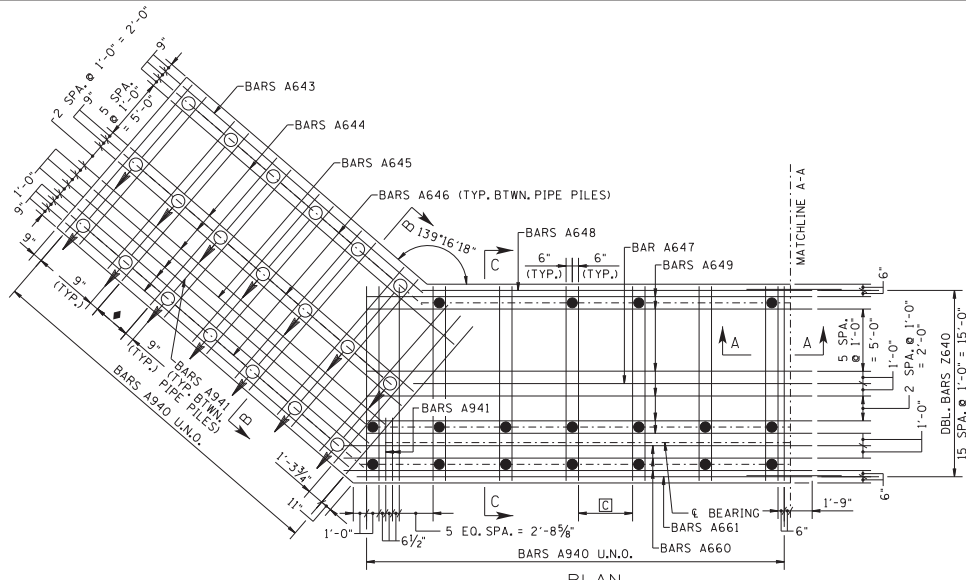
STATE OF TENNESSEE  
DEPARTMENT OF TRANSPORTATION  
BRIDGE NO. 1  
ABUTMENT NO. 1  
PILE LAYOUT  
INTERSTATE 24 OVER  
S. GERMANTOWN ROAD  
FED. I.D. NO. 33100240055  
HAMILTON COUNTY  
2020

PIN NO.: 124089.00  
DESIGN BY: BARGE DESIGN SOLUTIONS DATE: 01-2020  
DRAWN BY: BARGE DESIGN SOLUTIONS DATE: 01-2020  
SUPERVISED BY: BARGE DESIGN SOLUTIONS DATE: 01-2020  
CHECKED BY: BARGE DESIGN SOLUTIONS DATE: 01-2020

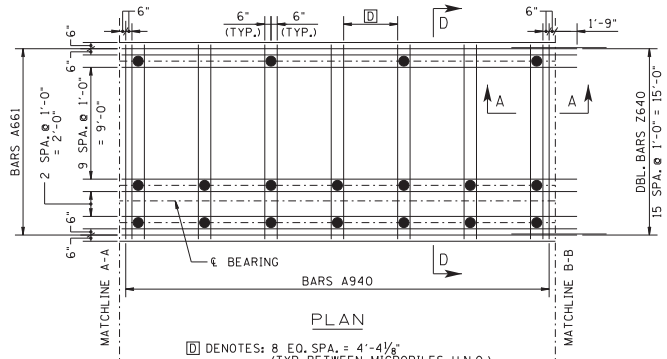
CONST. NO.: 33003-3166-44

PROJECT NO.	YEAR	SHEET NO.
BR-I-24-3(97)	2020	U-92-48

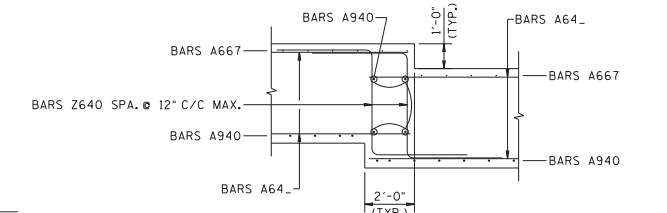
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION



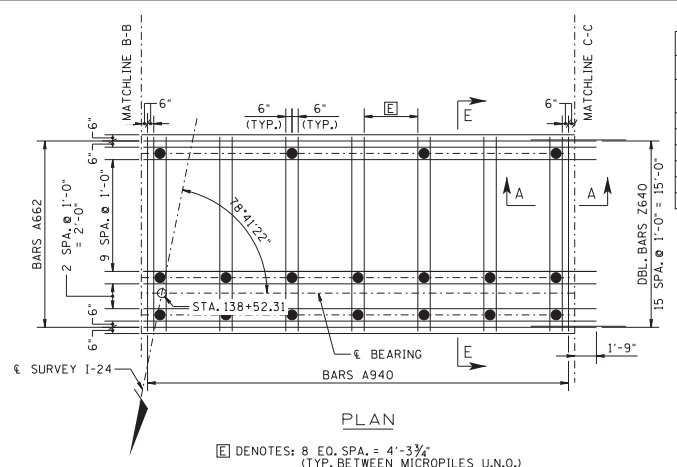
PLAN  
 ◆ DENOTES: 3 SPA,  $\emptyset$  1'-0" = 3'-0" (TYP. BETWEEN PIPE PILES)  
 ◻ DENOTES: 8 EQ. SPA. = 4'-4 1/2" (TYP. BETWEEN MICROPILES U.N.O.)



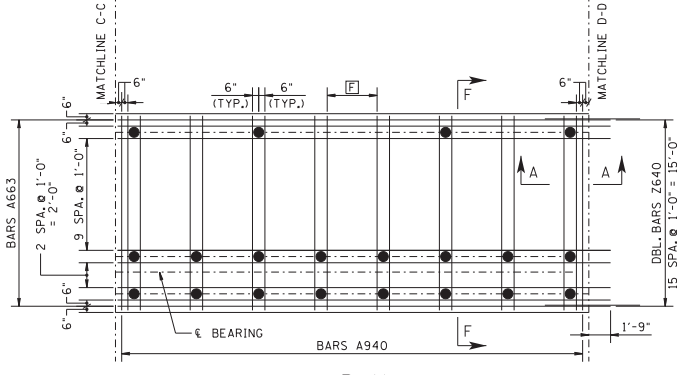
PLAN  
 ◆ DENOTES: 8 EQ. SPA. = 4'-4 1/2" (TYP. BETWEEN MICROPILES U.N.O.)



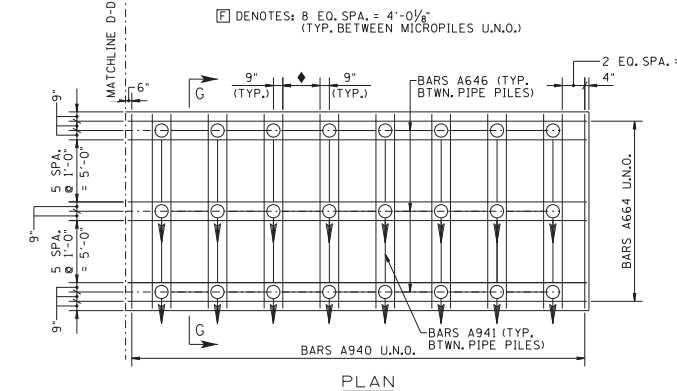
SECTION A-A



PLAN  
 ◻ DENOTES: 8 EQ. SPA. = 4'-3 3/4" (TYP. BETWEEN MICROPILES U.N.O.)

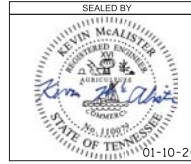


PLAN  
 ◻ DENOTES: 8 EQ. SPA. = 4'-0 1/2" (TYP. BETWEEN MICROPILES U.N.O.)



PLAN  
 ◆ DENOTES: 3 SPA,  $\emptyset$  1'-0" = 3'-0" (TYP. BETWEEN PIPE PILES)

NOTE: THIS DRAWING SHOWS THE BOTTOM MAT OF REINFORCING STEEL.  
 NOTE: FOR SECTIONS B-B THROUGH G-G SHOWN HERE, SEE SHEET NO. U-92-50.



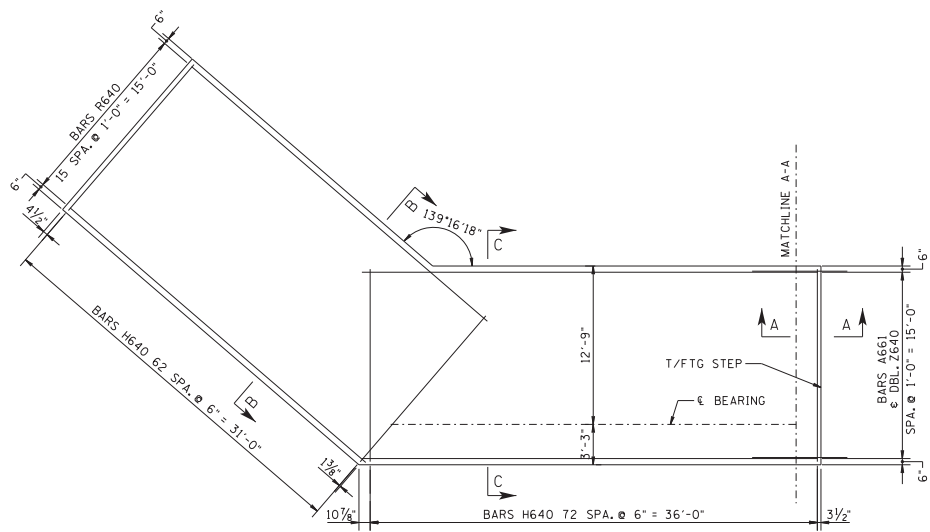
STATE OF TENNESSEE  
 DEPARTMENT OF TRANSPORTATION  
 BRIDGE NO. 1  
 ABUTMENT NO. 1  
 FOUNDATION DETAILS  
 INTERSTATE 24 OVER  
 S. GERMANTOWN ROAD  
 FED. I.D. NO. 33100240055  
 HAMILTON COUNTY  
 2020

PIN NO.: 124089.00  
 DESIGN BY: BARGE DESIGN SOLUTIONS DATE: 01-2020  
 DRAWN BY: BARGE DESIGN SOLUTIONS DATE: 01-2020  
 SUPERVISED BY: BARGE DESIGN SOLUTIONS DATE: 01-2020  
 CHECKED BY: BARGE DESIGN SOLUTIONS DATE: 01-2020

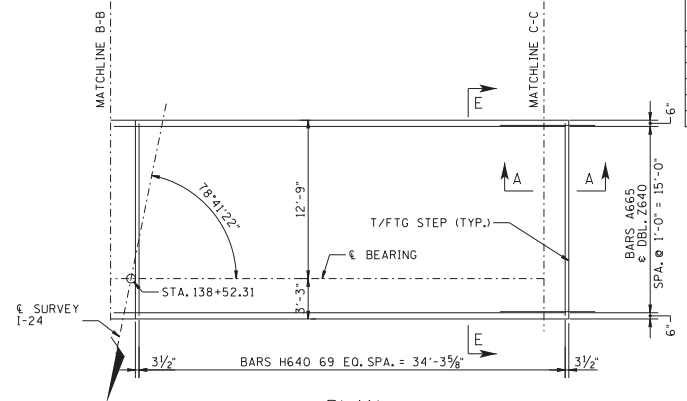
CONST. NO.: 33003-3166-44

PROJECT NO.	YEAR	SHEET NO.
BR-I-24-3(97)	2020	U-92-49

REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION

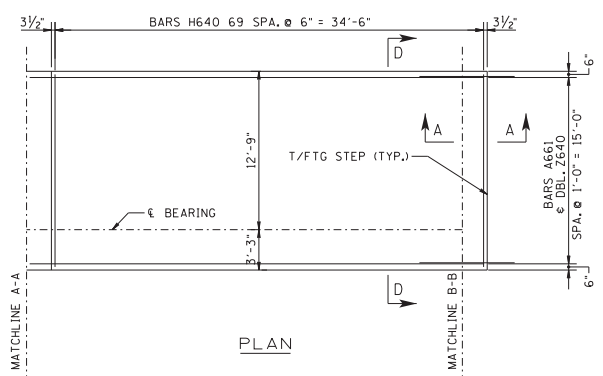


PLAN

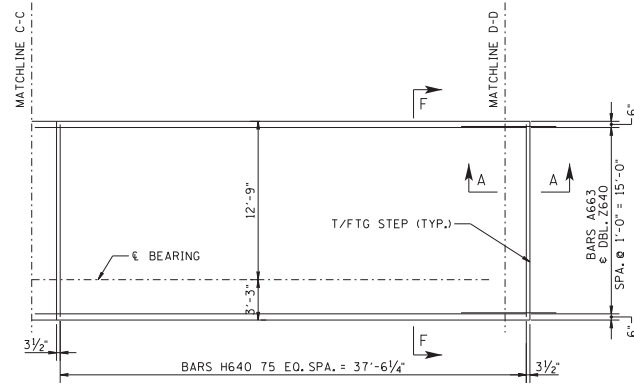


PLAN

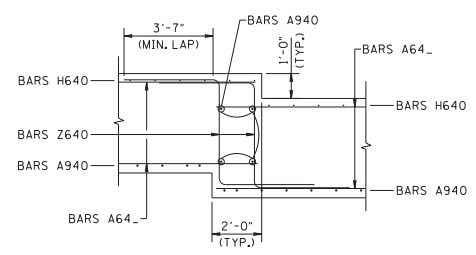
NOTE: THIS DRAWING SHOWS THE TOP MAT OF REINFORCING STEEL.



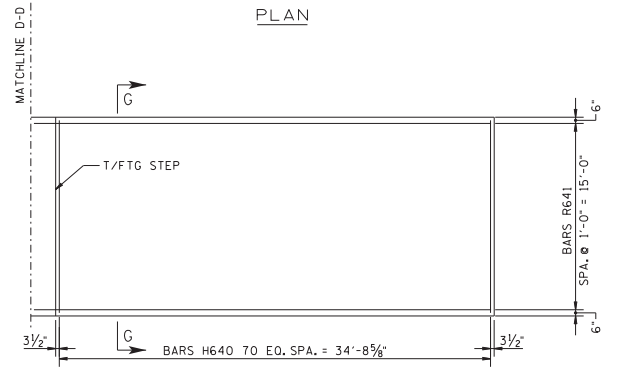
PLAN



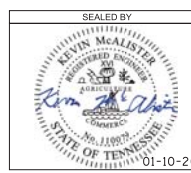
PLAN



SECTION A-A



PLAN



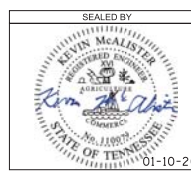
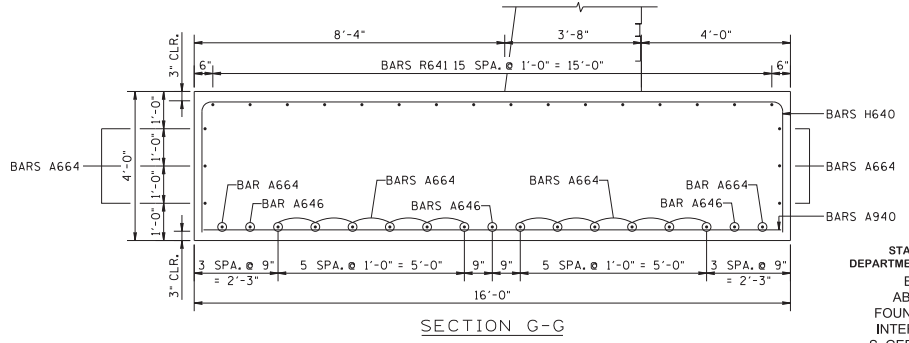
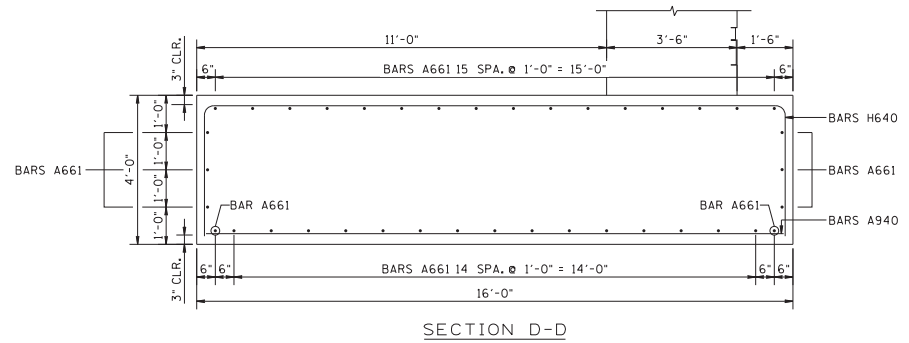
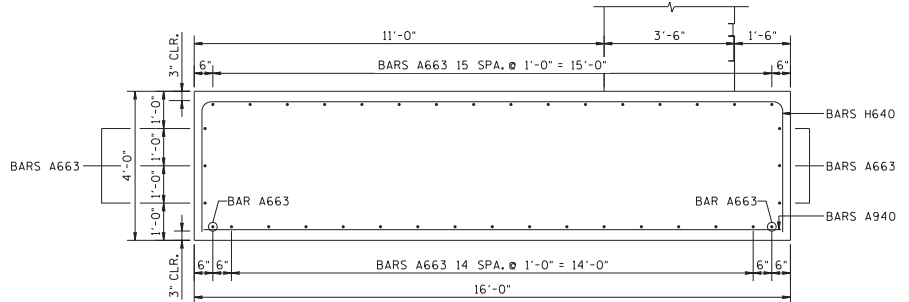
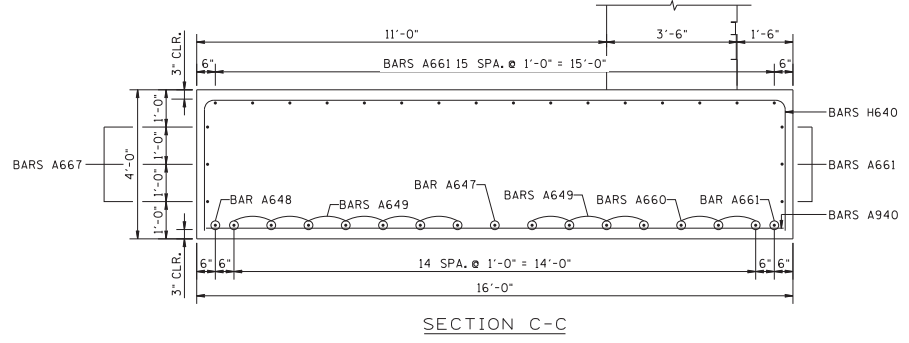
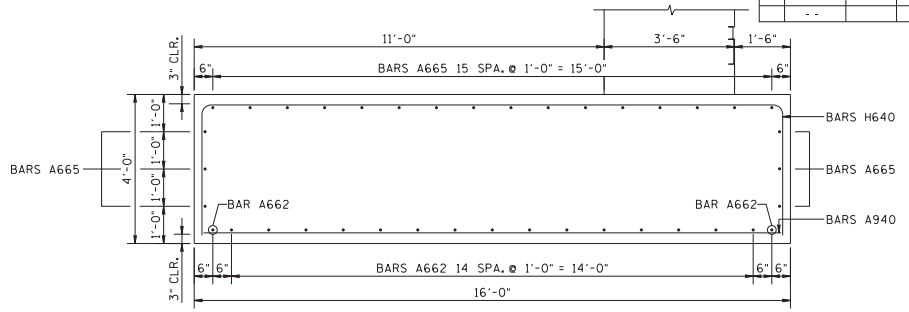
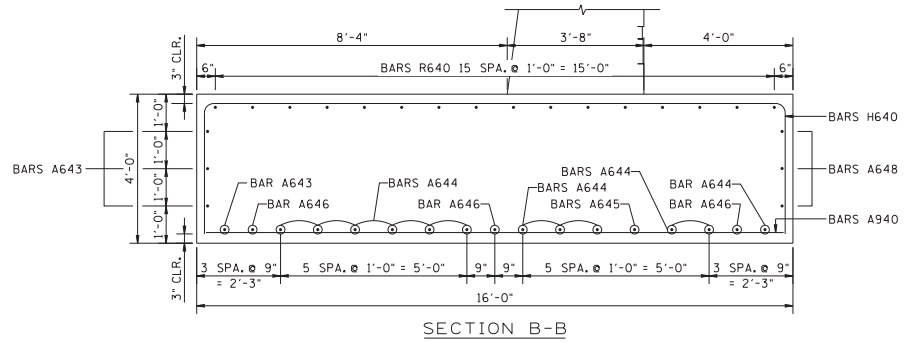
STATE OF TENNESSEE  
 DEPARTMENT OF TRANSPORTATION  
 BRIDGE NO. 1  
 ABUTMENT NO. 1  
 FOUNDATION DETAILS  
 INTERSTATE 24 OVER  
 S. GERMANTOWN ROAD  
 FED. I.D. NO. 33100240055  
 HAMILTON COUNTY  
 2020

PIN NO.: 124089.00  
 DESIGN BY: BARGE DESIGN SOLUTIONS DATE: 01-2020  
 DRAWN BY: BARGE DESIGN SOLUTIONS DATE: 01-2020  
 SUPERVISED BY: BARGE DESIGN SOLUTIONS DATE: 01-2020  
 CHECKED BY: BARGE DESIGN SOLUTIONS DATE: 01-2020

CONST. NO.: 33003-3166-44

PROJECT NO.	YEAR	SHEET NO.
BR-I-24-3(97)	2020	U-92-50

REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION
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STATE OF TENNESSEE  
 DEPARTMENT OF TRANSPORTATION  
 BRIDGE NO. 1  
 ABUTMENT NO. 1  
 FOUNDATION DETAILS  
 INTERSTATE 24 OVER  
 S. GERMANTOWN ROAD  
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CONST. NO.: 33003-3166-44

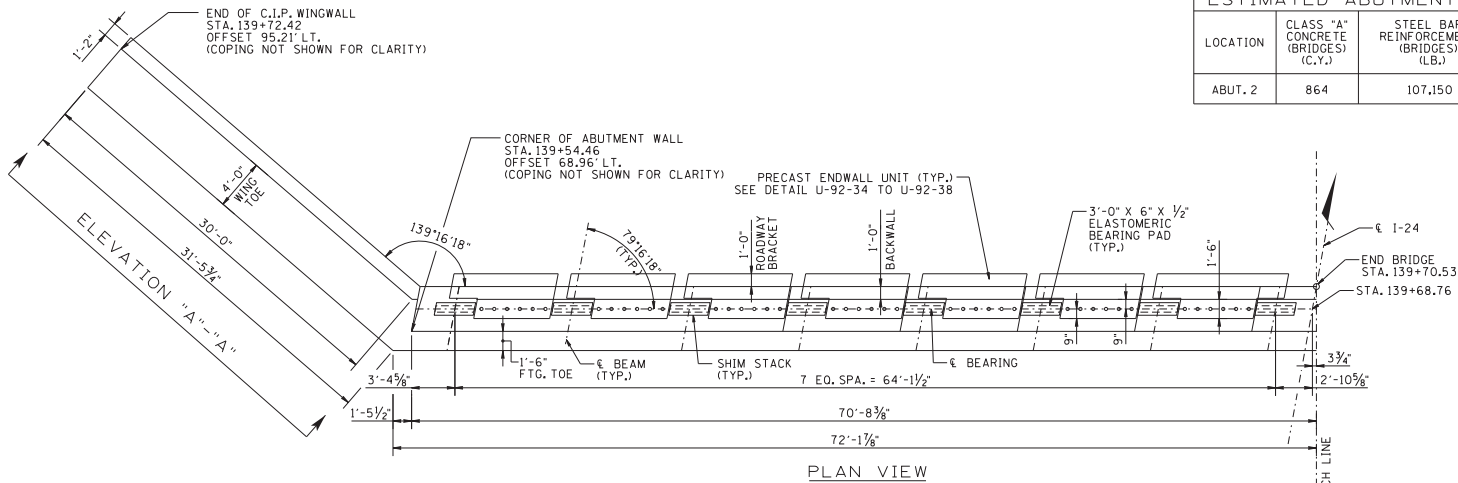
ESTIMATED ABUTMENT QUANTITIES

LOCATION	CLASS "A" CONCRETE (BRIDGES) (C.Y.)	STEEL BAR REINFORCEMENT (BRIDGES) (L.B.)	BEARING DEVICE (EACH)
ABUT. 2	864	107,150	16

PROJECT NO.	YEAR	SHEET NO.
BR-I-24-3(97)	2020	U-92-51

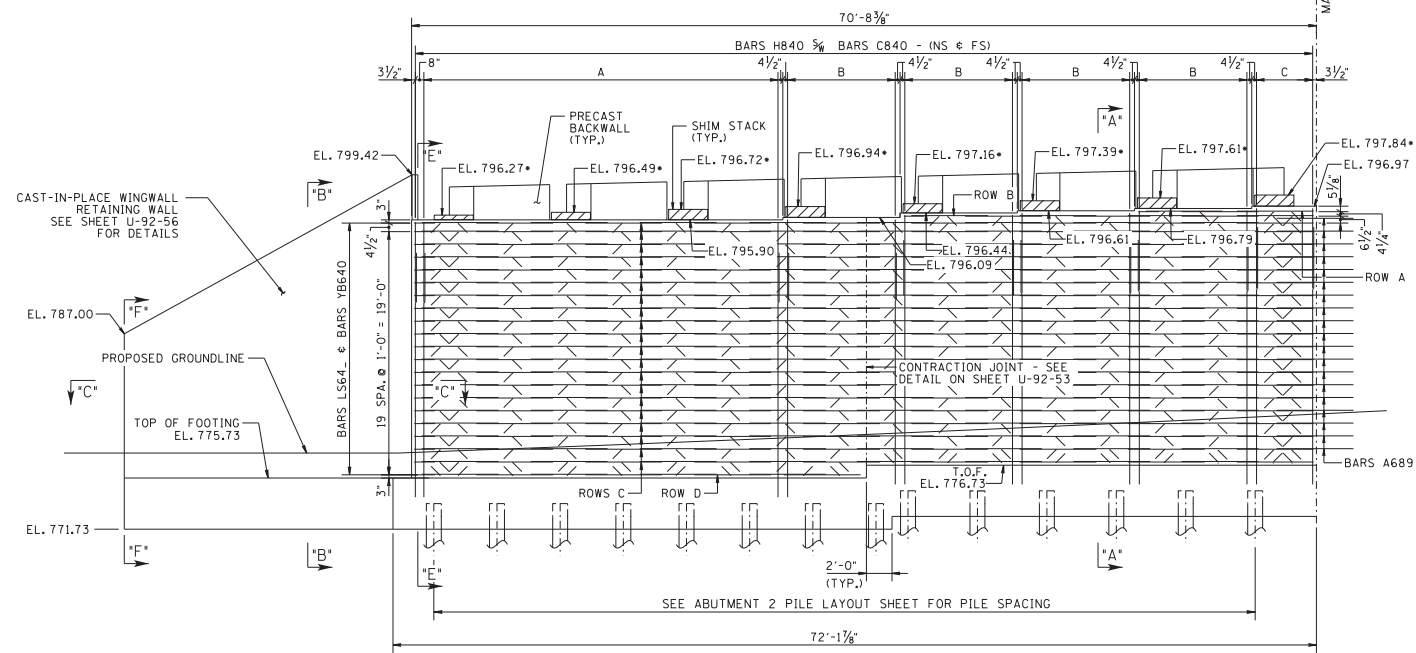
  

REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION
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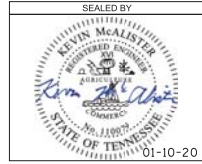


NOTES:

1. WHEN POURING ABUTMENT WALL, THE CONTRACTOR SHALL INSTALL ANCHOR WELLS AS SHOWN ON THE PLANS TO ACCOMMODATE PRECAST BOX BEAMS AND PRECAST ENDWALL SECTIONS.
2. THE CONTRACTOR SHALL SUPPORT THE ABUTMENT UNTIL THE SUPERSTRUCTURE IS IN PLACE, FALSEWORK HAS BEEN REMOVED AND BACKFILLING HAS BEEN COMPLETED.
3. SEE STANDARD DRAWING STD-6-1 FOR PILE DETAILS AND NOTES.
4. WINGBEAM PILES SHALL BE DRIVEN TO THE PLANS TIP ELEVATION OR REFUSAL. SEISMIC ATTACHMENT IS NOT REQUIRED FOR WINGBEAM PILES.
5. ALL EXPOSED SURFACES OF ABUTMENT WALL AND WINGWALLS SHALL RECEIVE AN ASHLAR STONE FORMLINER FINISH.
6. THE CONTRACTOR SHALL FIELD VERIFY ALL CONDITIONS, GRADES, AND DIMENSIONS PRIOR TO CONSTRUCTION. IF THE CONTRACTOR DISCOVERS AND ERRORS, OMISSIONS, OR DISCREPANCIES, THEY SHALL CONTACT THE ENGINEER IMMEDIATELY. THE ENGINEER WILL THEN ISSUE INSTRUCTIONS AS TO HOW TO PROCEED.
7. CONSTRUCT MICROPILES IN ACCORDANCE WITH THESE DRAWINGS OR AS DIRECTED BY THE ENGINEER DURING THE COURSE OF CONSTRUCTION.
8. THE CONTRACTOR SHALL FIELD VERIFY LOCATIONS AND ELEVATIONS OF ALL UTILITIES FOR THE CONSTRUCTION AREA. THE ENGINEER IS NOT RESPONSIBLE FOR FIELD VERIFYING THESE LOCATIONS AND DAMAGE TO IDENTIFIED AND UNIDENTIFIED UTILITIES AND FOUNDATIONS.
9. IF THE SITE CONDITIONS AND DESIGN PARAMETERS ARE DIFFERENT THAN THOSE SHOWN ON THE DRAWINGS, THE CONTRACTOR SHALL IMMEDIATELY INFORM THE ENGINEER OR HIS REPRESENTATIVE WHO WILL DETERMINE IF ADJUSTMENTS TO THE DESIGN ARE REQUIRED.
10. THE TOP OF ALL MICROPILES SHALL BE TERMINATED AS SHOWN IN THE TYPICAL MICROPILE DETAIL.
11. SEE SHEET U-92-68 FOR MICROPILE NOTES AND DATA.



DIMENSIONS	
LOCATION	DIMENSION & SPACING
A	39 EQ. SPA. = 27'-8 3/8"
B	12 EQ. SPA. = 8'-4 7/8"
C	6 EQ. SPA. = 4'-4 5/8"



STATE OF TENNESSEE  
DEPARTMENT OF TRANSPORTATION  
BRIDGE NO. 1  
ABUTMENT NO. 2  
(SHEET 1 OF 2)  
INTERSTATE 24 OVER  
S. GERMANTOWN ROAD  
FED. I.D. NO. 33100240055  
HAMILTON COUNTY  
2020

- \*NOTES: 1) ELEVATIONS ARE TO TOP OF SHIM STACK NOT INCLUDING THE 1/2" BEARING PAD.  
2) CLOSURE POUR MATERIAL NOT SHOWN FOR CLARITY

PIN NO.: 124069.00  
DESIGN BY: BARGE DESIGN SOLUTIONS DATE: 01-2020  
DRAWN BY: BARGE DESIGN SOLUTIONS DATE: 01-2020  
SUPERVISED BY: BARGE DESIGN SOLUTIONS DATE: 01-2020  
CHECKED BY: BARGE DESIGN SOLUTIONS DATE: 01-2020

SEE SHEET U-92-54 FOR ROWS A-D OVERLAPPING BARS LS64. AND YB640 BARS.

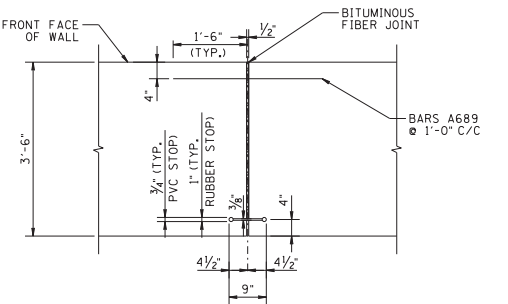
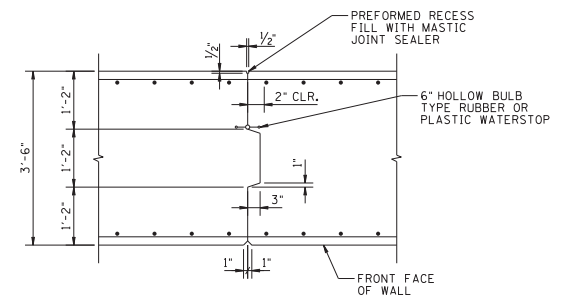
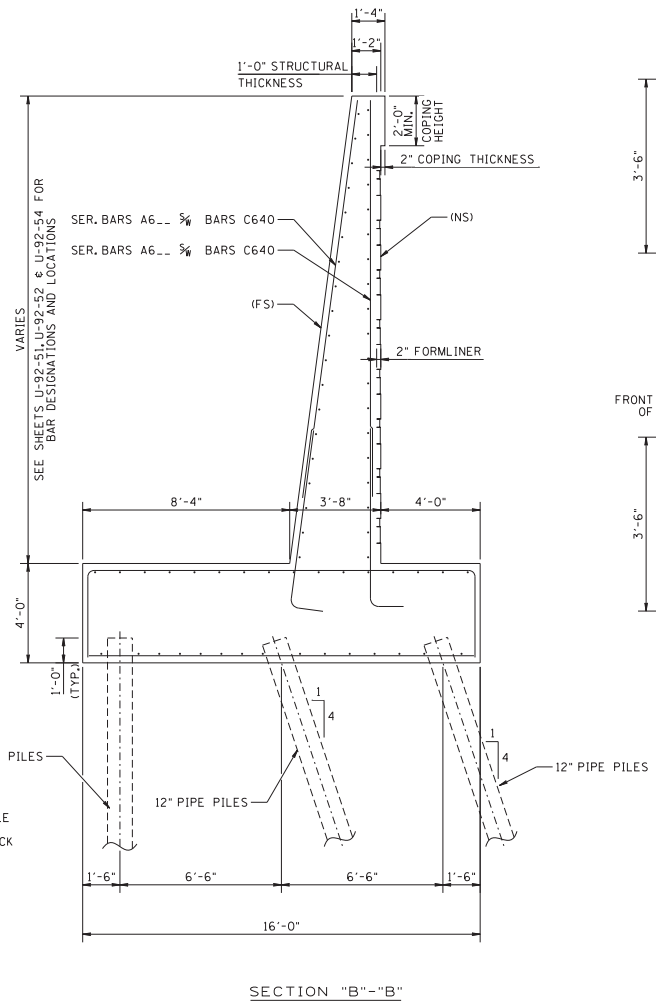
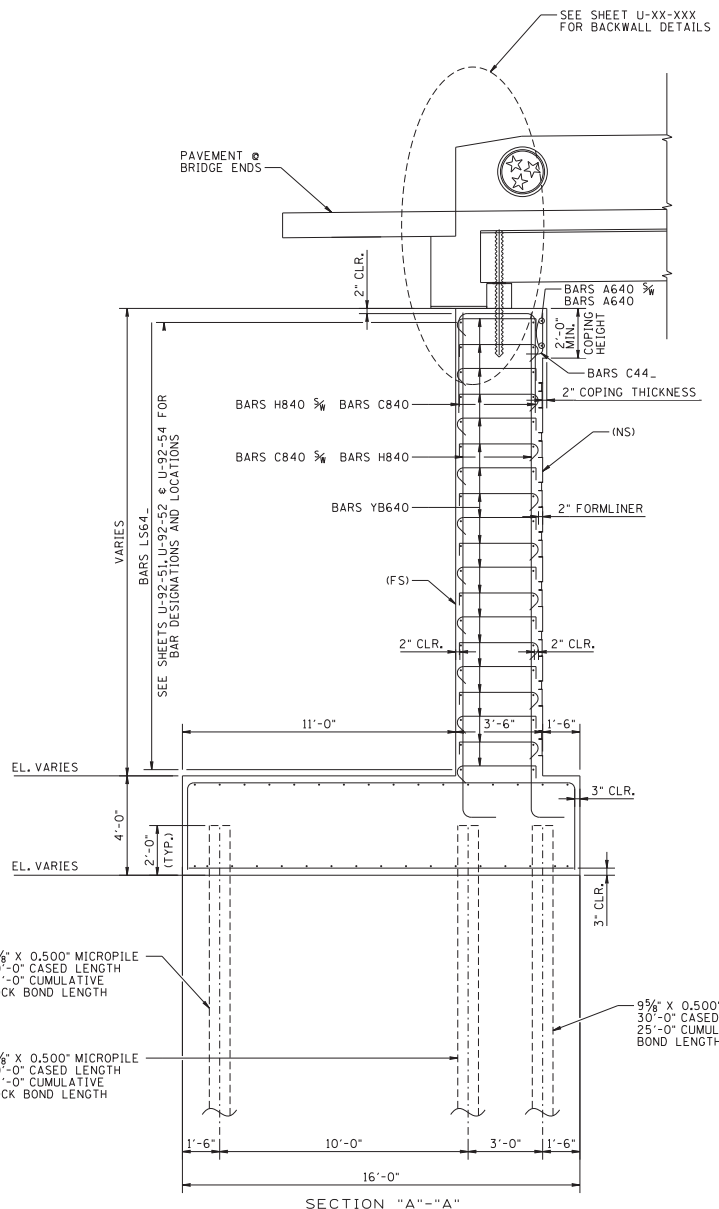


CONST. NO.: 33003-3166-44

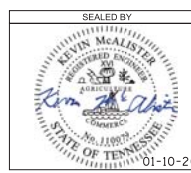
PROJECT NO.	YEAR	SHEET NO.
BR-I-24-3(97)	2020	U-92-53

REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION



THE EXPANSION JOINT SHALL BE USED IN THE WALL ONLY AND NOT CARRIED THROUGH THE FOOTING. NO REINFORCEMENT SHALL PASS THROUGH THE JOINT. ONE END OF THE DOWELS SHALL BE WRAPPED IN A LAYER OF TARPAPER WITH A TARPAPER CAP OVER THE END.



STATE OF TENNESSEE  
 DEPARTMENT OF TRANSPORTATION  
 BRIDGE NO. 1  
 ABUTMENT NO. 2 DETAILS  
 (SHEET 1 OF 3)  
 INTERSTATE 24 OVER  
 S. GERMANTOWN ROAD  
 FED. I.D. NO. 33100240055  
 HAMILTON COUNTY  
 2020

NOTE:  
 1) SEE SHEET U-92-68 FOR MICROPILE NOTES AND DATA  
 2) THE 90-DEGREE HOOKS OF ADJACENT CROSS-TIES ARE ALTERNATED SO THAT HOOKS OF THE SAME BEND ANGLE ARE NOT ADJACENT TO EACH OTHER BOTH VERTICALLY AND HORIZONTALLY.

11/10/2020  
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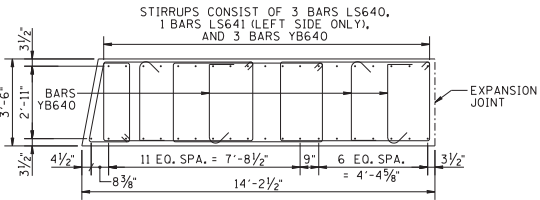
PIN NO.: 124069.00  
 DESIGN BY: BARGE DESIGN SOLUTIONS DATE: 01-2020  
 DRAWN BY: BARGE DESIGN SOLUTIONS DATE: 01-2020  
 SUPERVISED BY: BARGE DESIGN SOLUTIONS DATE: 01-2020  
 CHECKED BY: BARGE DESIGN SOLUTIONS DATE: 01-2020



CONST. NO.: 33003-3166-44

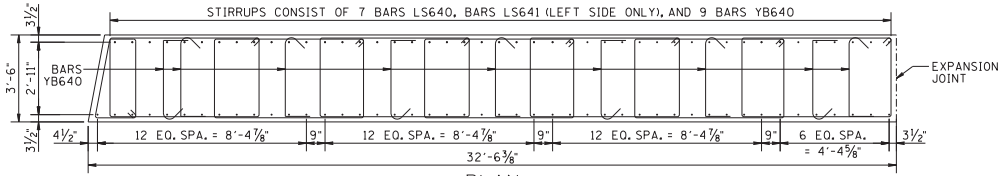
PROJECT NO.	YEAR	SHEET NO.
BR-I-24-3(97)	2020	U-92-54

REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION



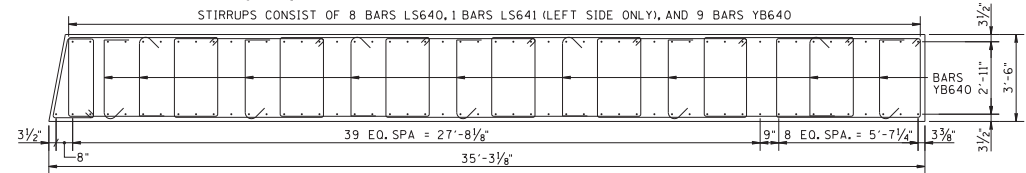
PLAN

ROW A (1)



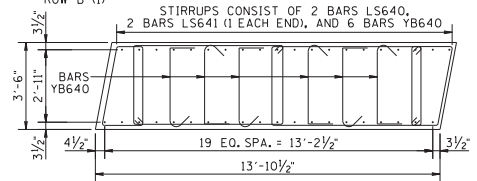
PLAN

ROW B (1)



PLAN

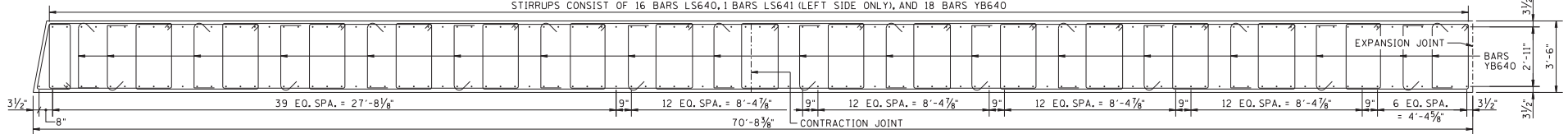
ROW D (1)



PLAN

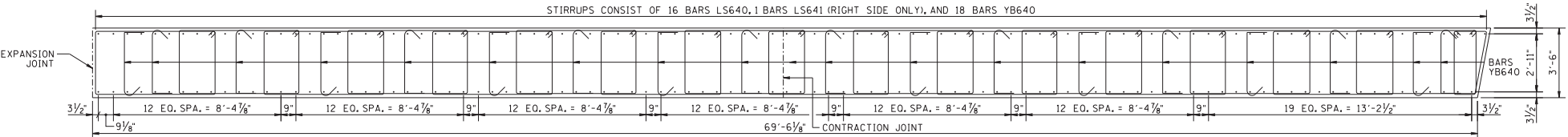
ROW E (1)

- NOTES:
- 1) VERTICAL REINFORCEMENT FS @ NS = BARS C840 5/8" H840
  - 2) THE 90-DEGREE HOOKS OF ADJACENT CROSS-TIES ARE ALTERNATED SO THAT HOOKS OF THE SAME BEND ANGLE ARE NOT ADJACENT TO EACH OTHER BOTH VERTICALLY AND HORIZONTALLY.
  - 3) FOR EXPANSION AND CONTRACTION JOINT DETAILS SEE SHEET U-92-53.



PLAN

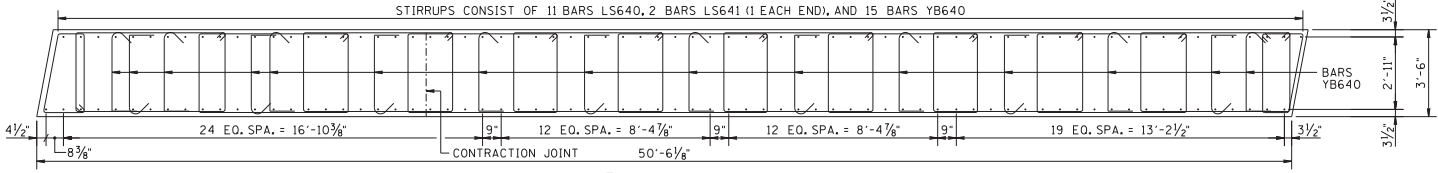
ROW C (20)



PLAN

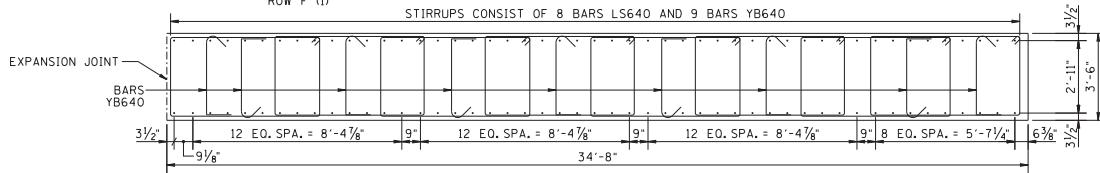
ROW G (19)

NOTE: ROW F SHALL FOLLOW TOP OF ABUTMENT WALL BY STEPPING DOWN ALONG WALL AS NECESSARY, CONTRACTOR SHALL MAINTAIN MINIMUM OF 2" COVER.



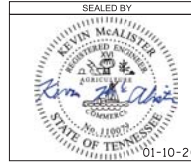
PLAN

ROW F (1)



PLAN

ROW H (1)

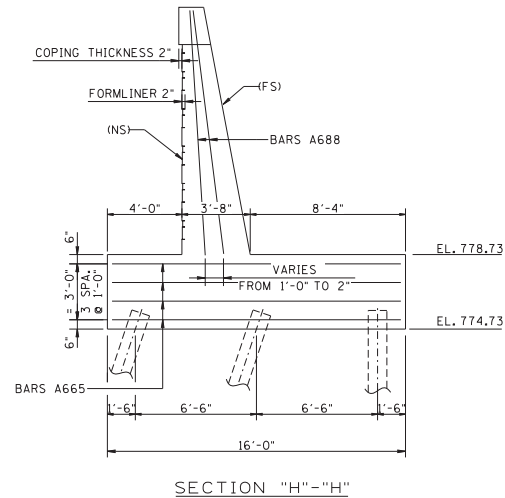
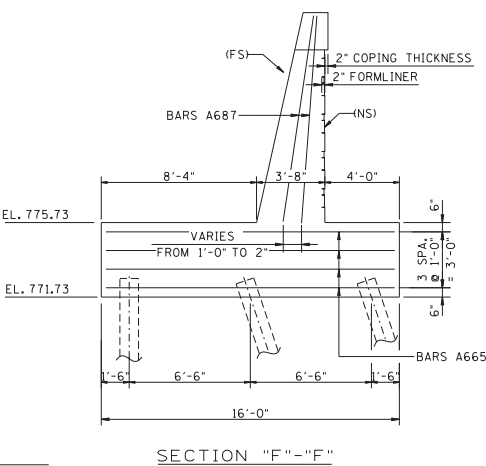
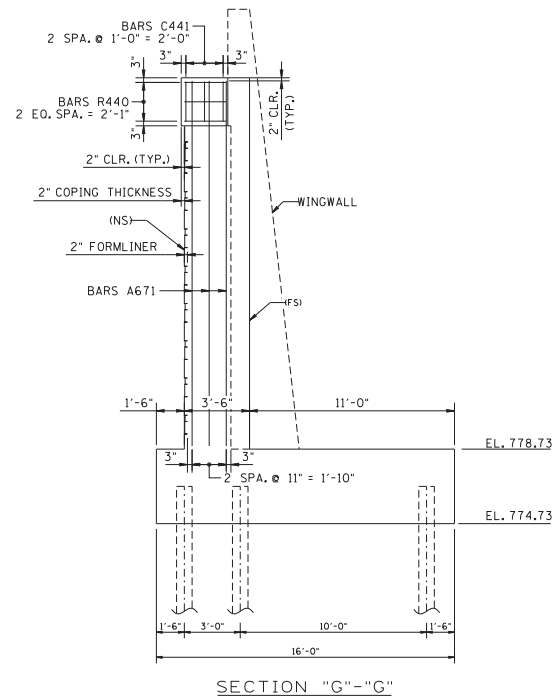
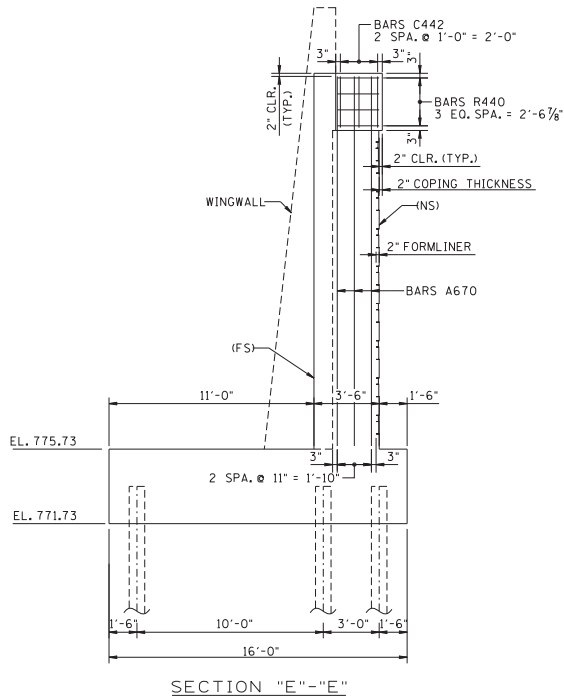


STATE OF TENNESSEE  
DEPARTMENT OF TRANSPORTATION  
BRIDGE NO. 1  
ABUTMENT NO. 2 DETAILS  
SHEET (2 OF 3)  
INTERSTATE 24 OVER  
S. GERMANTOWN ROAD  
FED. I.D. NO. 33100240055  
HAMILTON COUNTY  
2020

PIN NO.:	124069.00	DATE:	01-2020
DESIGN BY:	BARGE DESIGN SOLUTIONS	DATE:	01-2020
DRAWN BY:	BARGE DESIGN SOLUTIONS	DATE:	01-2020
SUPERVISED BY:	BARGE DESIGN SOLUTIONS	DATE:	01-2020
CHECKED BY:	BARGE DESIGN SOLUTIONS	DATE:	01-2020

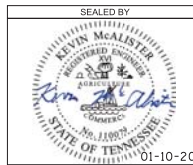
CONST. NO.: 33003-3166-44

PROJECT NO.	YEAR	SHEET NO.	
BR-I-24-3(97)	2020	U-92-55	
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION
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**NOTES:**

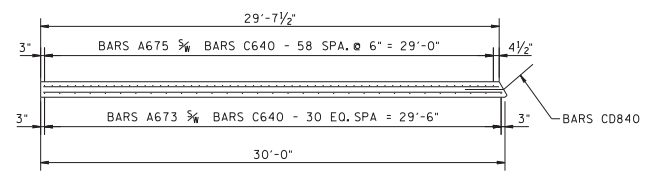
- 1) STEMWALL AND WINGWALL REINFORCEMENT NOT SHOWN FOR CLARITY, SEE SHEET U-92-42 FOR DESIGNATIONS AND LOCATIONS.
- 2) SEE SHEET U-92-68 FOR MICROPILE NOTES AND DATA.



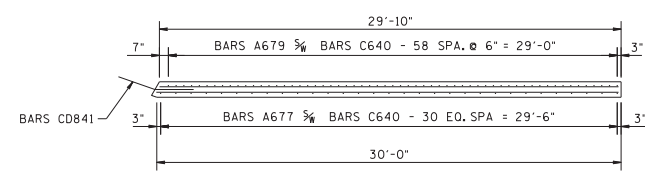
STATE OF TENNESSEE  
 DEPARTMENT OF TRANSPORTATION  
 BRIDGE NO. 1  
 ABUTMENT NO. 2 DETAILS  
 SHEET (3 OF 3)  
 INTERSTATE 24 OVER  
 S. GERMANTOWN ROAD  
 FED. I.D. NO. 33100240055  
 HAMILTON COUNTY  
 2020

PIN NO.: 124089.00  
 DESIGN BY: BARGE DESIGN SOLUTIONS DATE: 01-2020  
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 SUPERVISED BY: BARGE DESIGN SOLUTIONS DATE: 01-2020  
 CHECKED BY: BARGE DESIGN SOLUTIONS DATE: 01-2020

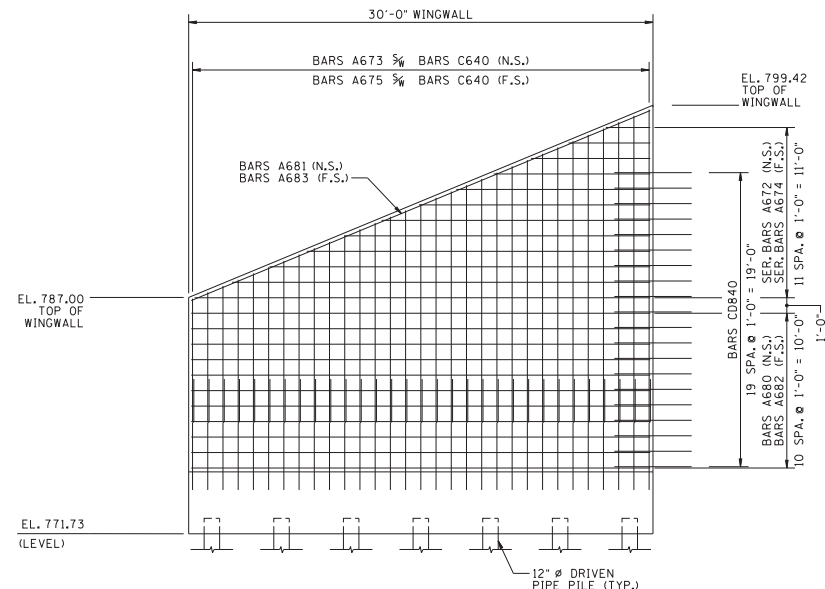
CONST. NO.: 33003-3166-44			
PROJECT NO.	YEAR	SHEET NO.	
BR-I-24-3(97)	2020	U-92-56	
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION
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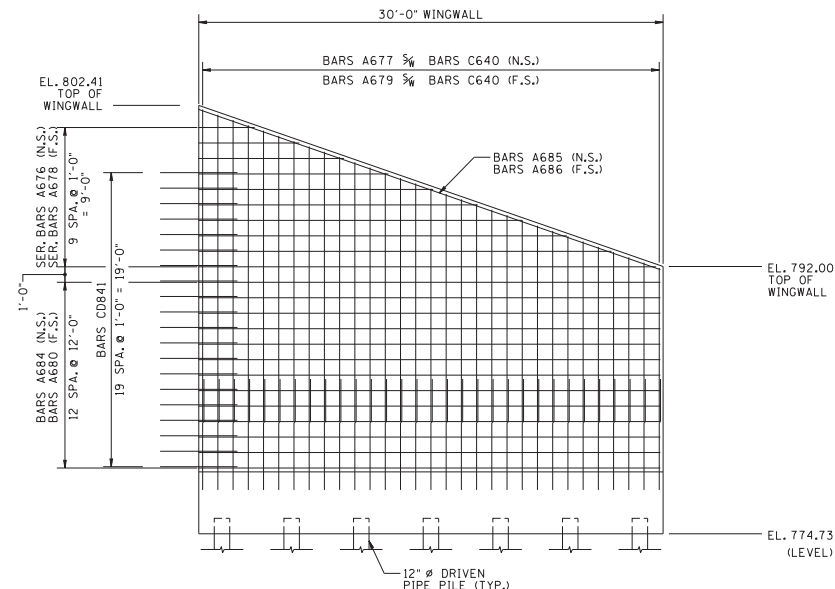
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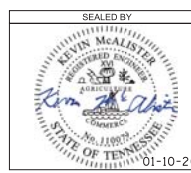
SECTION "D"-"D"



ELEVATION "A"-"A"



ELEVATION "B"-"B"



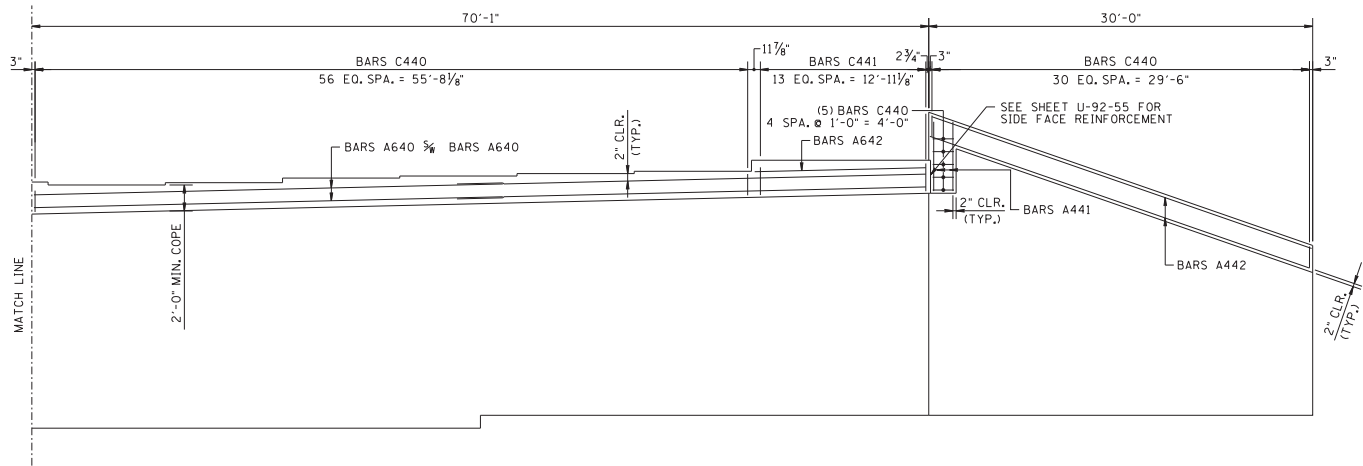
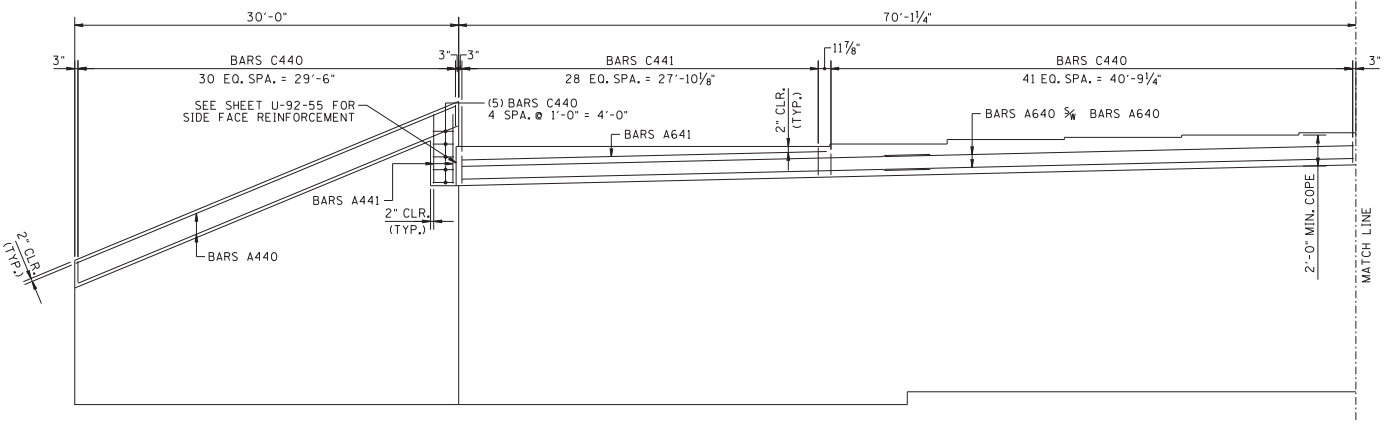
STATE OF TENNESSEE  
 DEPARTMENT OF TRANSPORTATION  
 BRIDGE NO. 1  
 ABUTMENT NO. 2  
 WINGWALL DETAILS  
 INTERSTATE 24 OVER  
 S. GERMANTOWN ROAD  
 FED. I.D. NO. 33100240055  
 HAMILTON COUNTY  
 2020

PIN NO.: 124069.00  
 DESIGN BY: BARGE DESIGN SOLUTIONS DATE: 01-2020  
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CONST. NO.: 33003-3166-44

PROJECT NO.	YEAR	SHEET NO.
BR-I-24-3(97)	2020	U-92-57

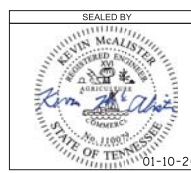
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION
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ELEVATION C-C  
(LOOKING FORWARD ON SURVEY)

NOTES: 1) FOOTING NOT SHOWN FOR CLARITY.  
2) WINGWALL ELEVATIONS SHOWN ARE PARALLEL TO THE WALL FACE.

NOTE: SEE SHEET U-92-44 FOR STEMWALL EDGE COPING REINFORCEMENT.



STATE OF TENNESSEE  
DEPARTMENT OF TRANSPORTATION  
BRIDGE NO. 1  
ABUTMENT NO. 2  
COPING DETAILS  
INTERSTATE 24 OVER  
S. GERMANTOWN ROAD  
FED. I.D. NO. 33100240055  
HAMILTON COUNTY  
2020

PIN NO.:	124089.00	DATE:	01-2020
DESIGN BY:	BARGE DESIGN SOLUTIONS	DATE:	01-2020
DRAWN BY:	BARGE DESIGN SOLUTIONS	DATE:	01-2020
SUPERVISED BY:	BARGE DESIGN SOLUTIONS	DATE:	01-2020
CHECKED BY:	BARGE DESIGN SOLUTIONS	DATE:	01-2020

PROJECT NO.	YEAR	SHEET NO.
BR-I-24-3(97)	2020	U-92-58

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
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- NON-BATTERED DRIVEN PIPE PILE (12 PILES)
- BATTERED DRIVEN PIPE PILE 1:3 (28 PILES)
- NON-BATTERED MICROPILE (72 PILES)

NOTE: TOTAL NUMBER OF 9 5/8" X 1/2" MICROPILES = 72  
 TOTAL NUMBER OF 12" X 1/2" PIPE PILES = 40

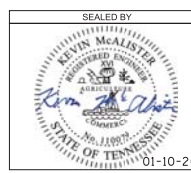
PILE GROUP	DESIGN LOAD (TONS)	TEST PILE LENGTH (FT.)	MINIMUM PILE TIP ELEVATION
PIPE PILE NO. 5	86	100	671.73
PIPE PILE NO. 6	87	100	674.73

PILE GROUP	DESIGN LOAD (TONS)	TOP OF THREADBAR EL. (FT.)	TOP OF CASING EL. (FT.)	MIN. BOT. OF CASING EL. (FT.)	ESTIMATED PILE TIP EL. (FT.)
MICROPILE NO. 12	*	773.73	773.73	741.73	601.53
MICROPILE NO. 13	*	774.73	774.73	742.73	602.53
MICROPILE NO. 14	*	775.73	775.73	743.73	603.53
MICROPILE NO. 15	*	776.73	776.73	744.73	604.53

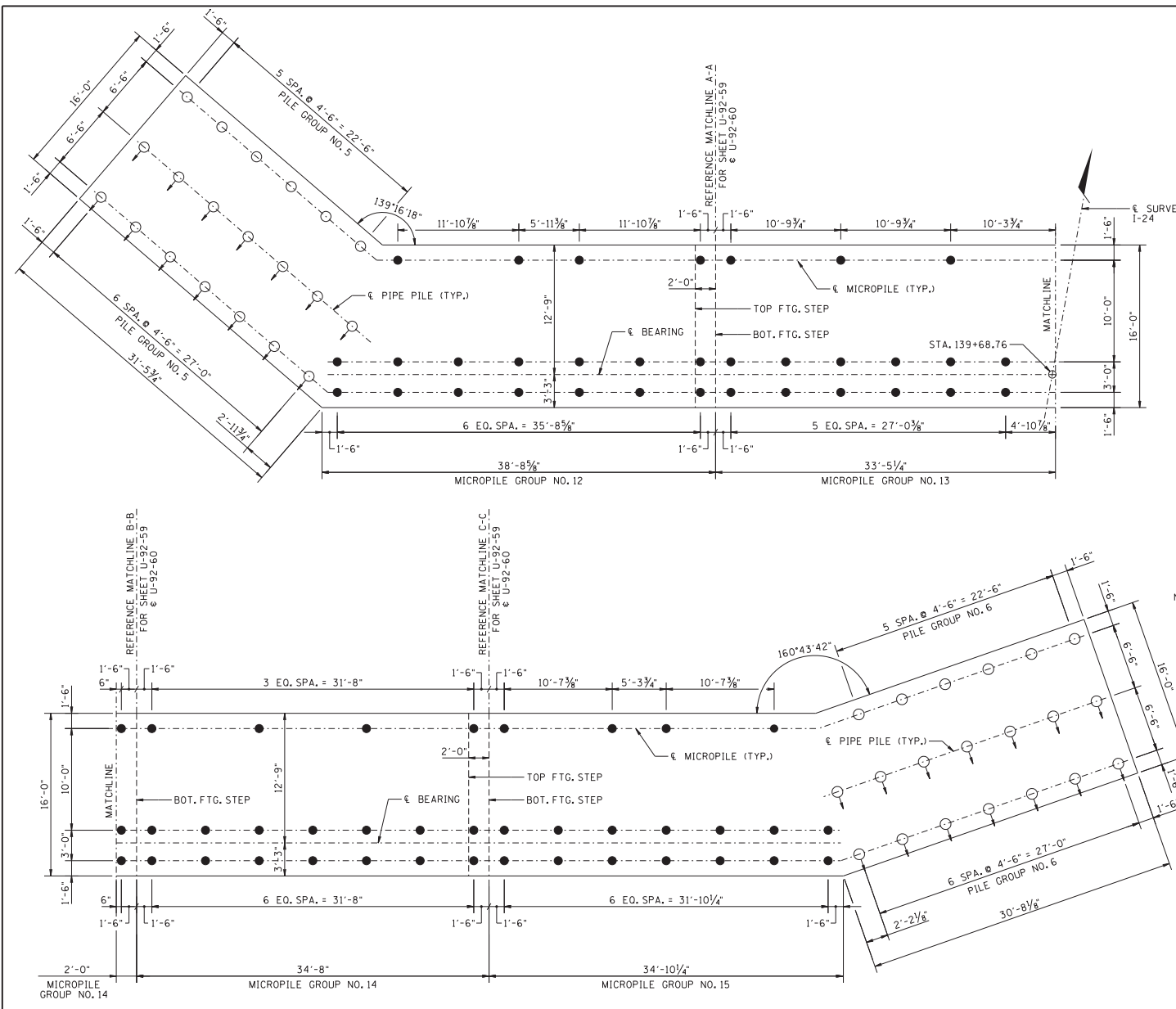
\* SEE SHEET U-92-68 FOR MICROPILE LOADING

NOTES: CONTRACTOR SHALL INSTALL PIPE PILE CAPS FOR ALL DRIVEN PIPE PILES. PIPE PILE CAP SHALL BE WELDED OR BOLTED ON TO THE TOP OF THE PIPE PILE AFTER THE PILES ARE DRIVEN AND CUT-OFF AT THE ELEVATION AS SHOWN ON THE PLANS. PIPE PILE CAP SHALL BE PLATE STEEL A MINIMUM OF 1/2" THICK AND SHALL OVERLAP THE EDGE OF THE PILE OR BOLT COLLAR BY A MINIMUM OF 1/2". PIPE PILE CAP SHALL BE INSTALLED WITH SUFFICIENT RIGIDITY SO AS TO PREVENT MOVEMENT DURING PLACING OF REINFORCING STEEL AND FOOTING CONCRETE. PIPE PILE CAP SHALL BE INCLUDED IN THE COST OF THE PILES ITEM NO. 606-17.03 STEEL PIPE PILES (12 INCH).

THE CONTRACTOR SHALL INSTALL MICROPILES ACCORDING TO THE REQUIREMENTS ESTABLISHED IN SPECIAL PROVISION 625MP. THE MICROPILES WERE DESIGNED TO BE A TYPE A INSTALLATION (PER THE FHWA MICROPILE DESIGN MANUAL), WITH AT LEAST 30 FEET OF PERMANENT CASING INSTALLED FROM THE PILE CUT OFF ELEVATION INTO THE GROUND AND A BOND LENGTH WITH AT LEAST 25 FEET (CUMULATIVE) IN ROCK. THE PLANS SHOW AN ESTIMATED LENGTH OF MICROPILES BASED ON GEOTECHNICAL EXPLORATION, BUT THE CONTRACTOR SHALL INSTALL THE MICROPILES TO A DEPTH THAT ACHIEVES A CUMULATIVE ROCK BOND OF 25 FEET, REGARDLESS OF TOTAL OVERALL DEPTH.



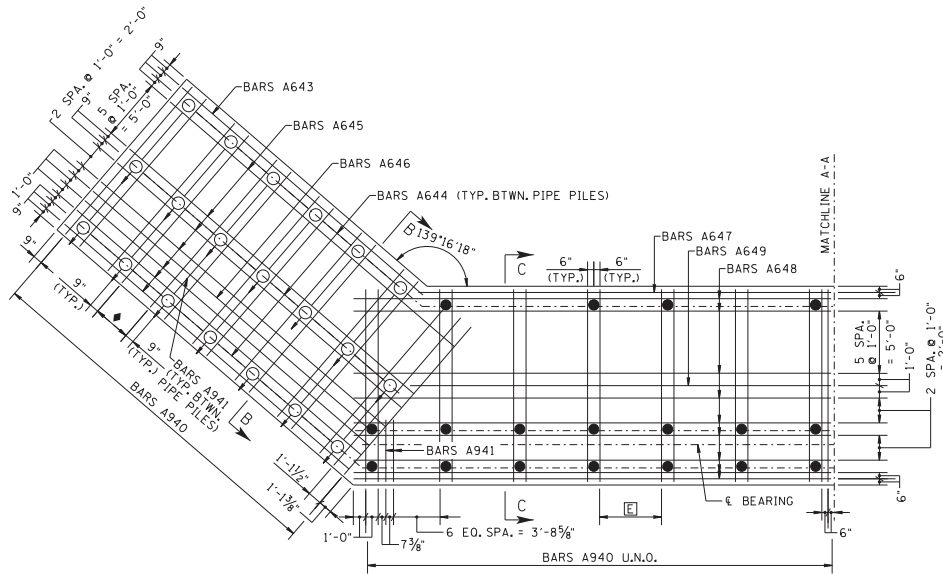
STATE OF TENNESSEE  
 DEPARTMENT OF TRANSPORTATION  
 BRIDGE NO. 1  
 ABUTMENT NO. 2  
 PILE LAYOUT  
 INTERSTATE 24 OVER  
 S. GERMANTOWN ROAD  
 FED. I.D. NO. 33100240055  
 HAMILTON COUNTY  
 2020



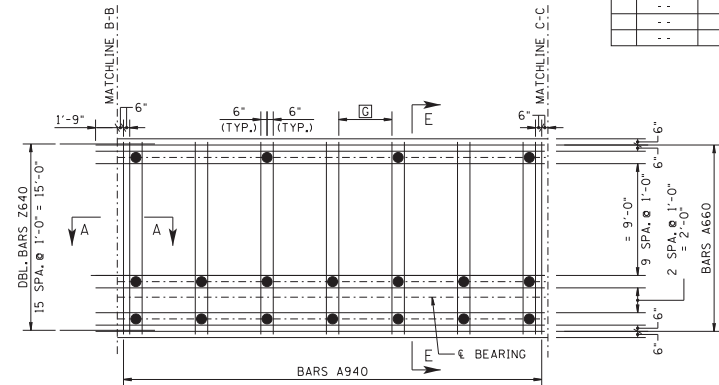
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CONST. NO.: 33003-3166-44

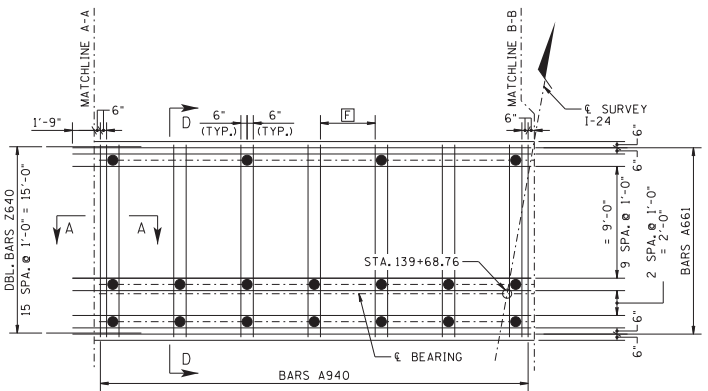
PROJECT NO.	YEAR	SHEET NO.	
BR-I-24-3(97)	2020	U-92-59	
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION



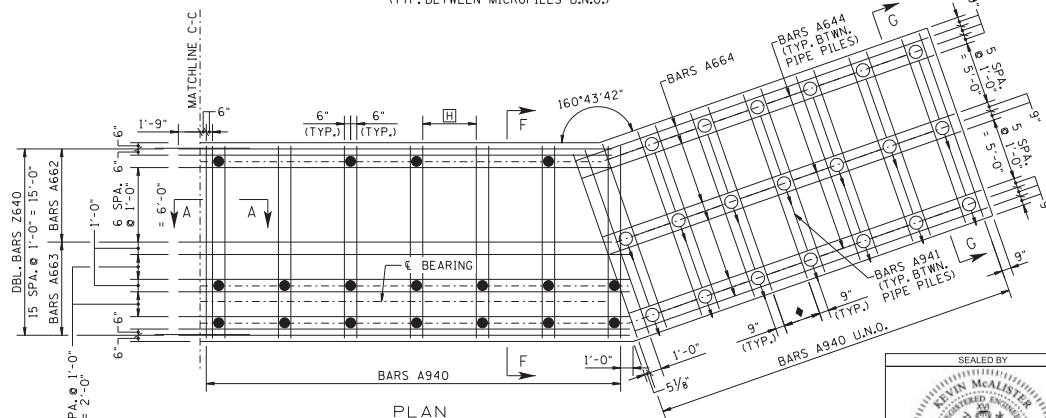
**PLAN**  
 ♦ DENOTES: 3 SPA, Ø 1'-0" = 3'-0" (TYP. BETWEEN PIPE PILES)  
 [E] DENOTES: 8 EO. SPA. = 4'-11 1/8" (TYP. BETWEEN MICROPILES U.N.O.)



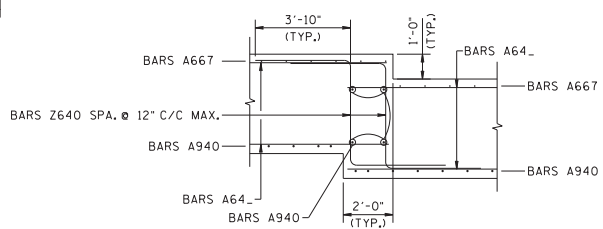
**PLAN**  
 [G] DENOTES: 7 EO. SPA. = 4'-3 3/8" (TYP. BETWEEN MICROPILES U.N.O.)



**PLAN**  
 [F] DENOTES: 8 EO. SPA. = 4'-4 7/8" (TYP. BETWEEN MICROPILES U.N.O.)



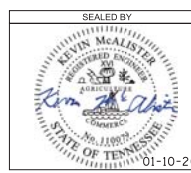
**PLAN**  
 [H] DENOTES: 7 EO. SPA. = 4'-3 3/8" (TYP. BETWEEN MICROPILES U.N.O.)  
 ♦ DENOTES: 3 SPA, Ø 1'-0" = 3'-0" (TYP. BETWEEN PIPE PILES)



SECTION A-A

NOTE: THIS DRAWING SHOWS THE BOTTOM MAT OF REINFORCING STEEL.

NOTE: FOR SECTIONS B-B THROUGH G-G SHOWN HERE, SEE SHEET NO. U-92-50.



STATE OF TENNESSEE  
 DEPARTMENT OF TRANSPORTATION  
 BRIDGE NO. 1  
 ABUTMENT NO. 2  
 FOUNDATION DETAILS  
 INTERSTATE 24 OVER  
 S. GERMANTOWN ROAD  
 FED. I.D. NO. 33100240055  
 HAMILTON COUNTY  
 2020

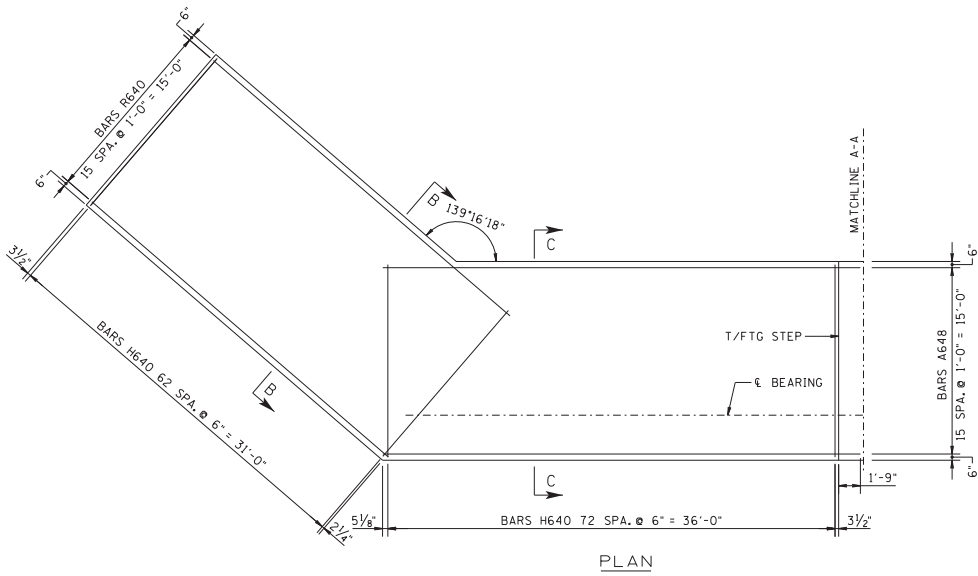
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DRAWN BY:	BARGE DESIGN SOLUTIONS
SUPERVISED BY:	BARGE DESIGN SOLUTIONS
CHECKED BY:	BARGE DESIGN SOLUTIONS
DATE:	01-2020
DATE:	01-2020
DATE:	01-2020
DATE:	01-2020

CONST. NO.: 33003-3166-44

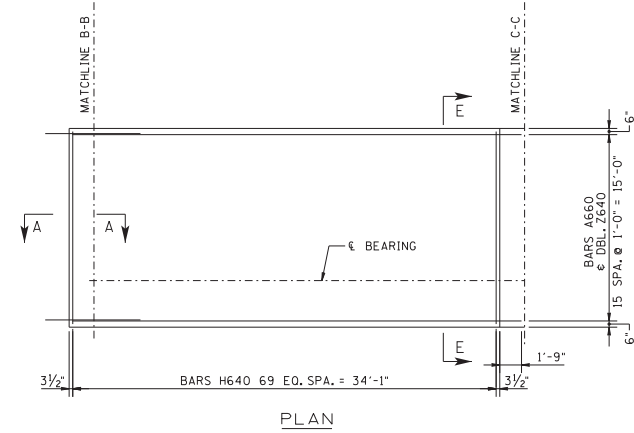
PROJECT NO.	YEAR	SHEET NO.
BR-I-24-3(97)	2020	U-92-60

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION

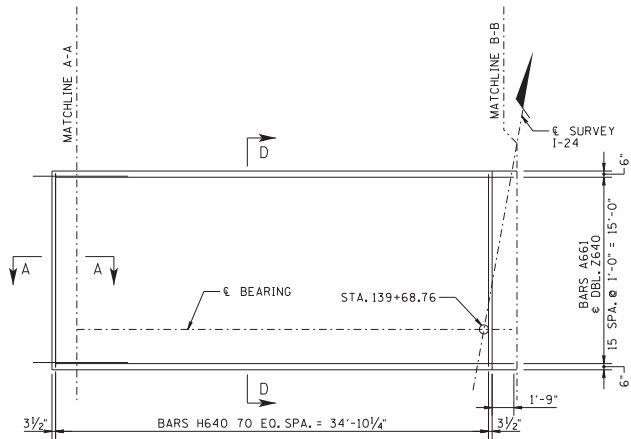


PLAN

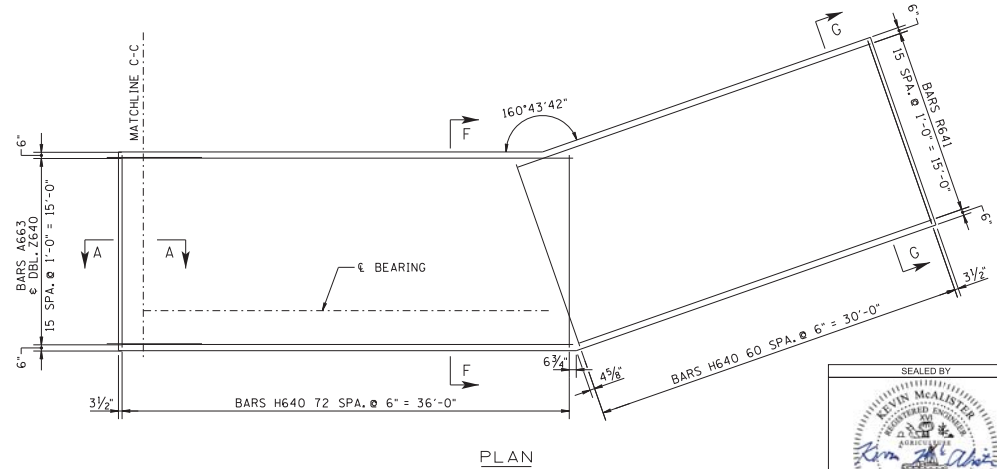


PLAN

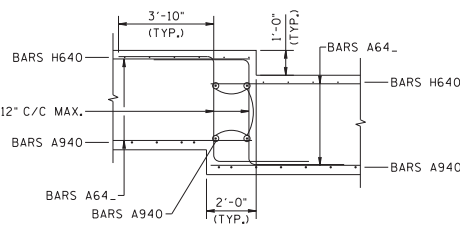
NOTE: THIS DRAWING SHOWS THE TOP MAT OF REINFORCING STEEL.



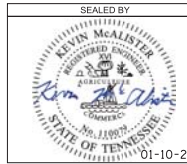
PLAN



PLAN



SECTION A-A



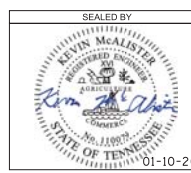
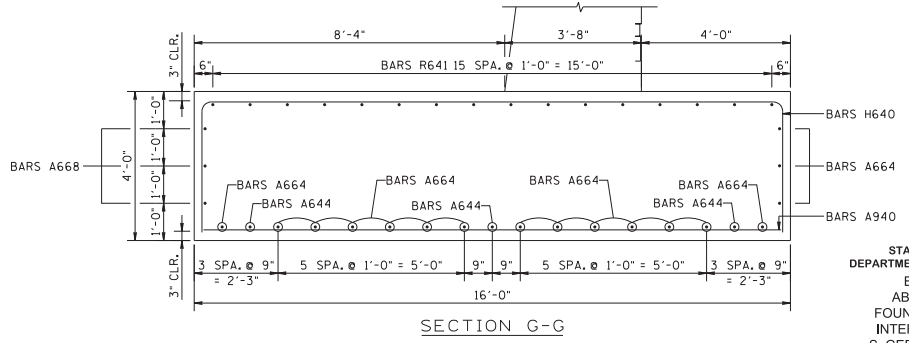
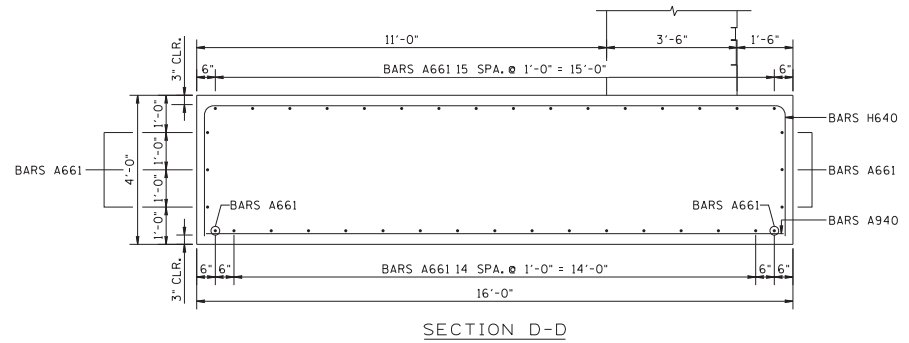
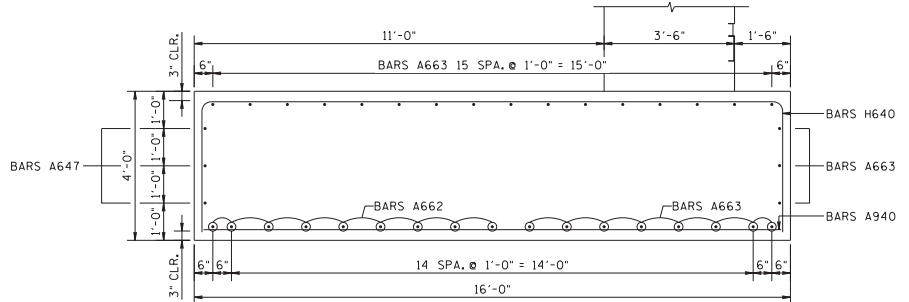
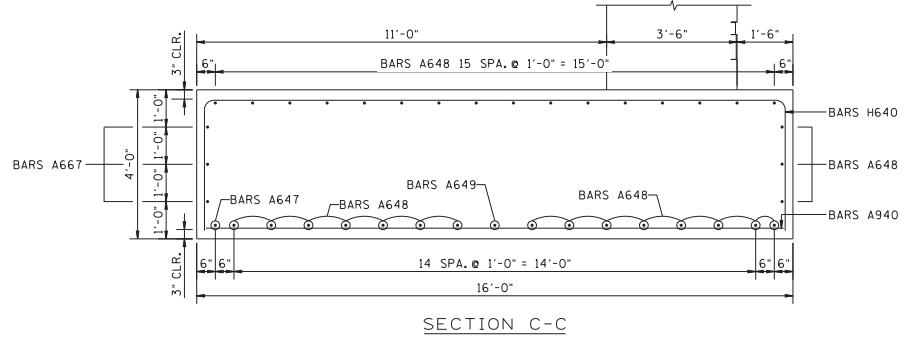
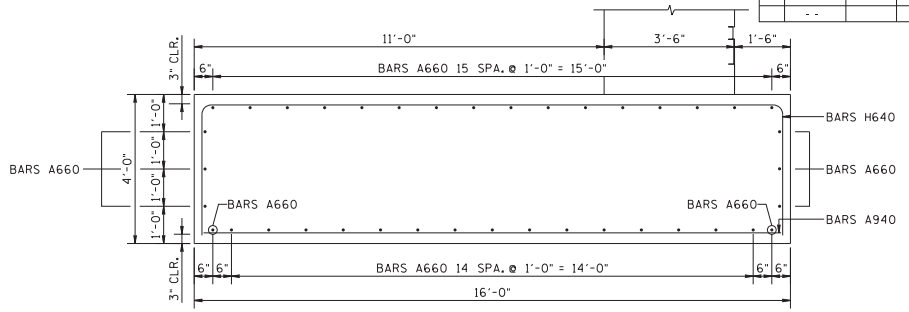
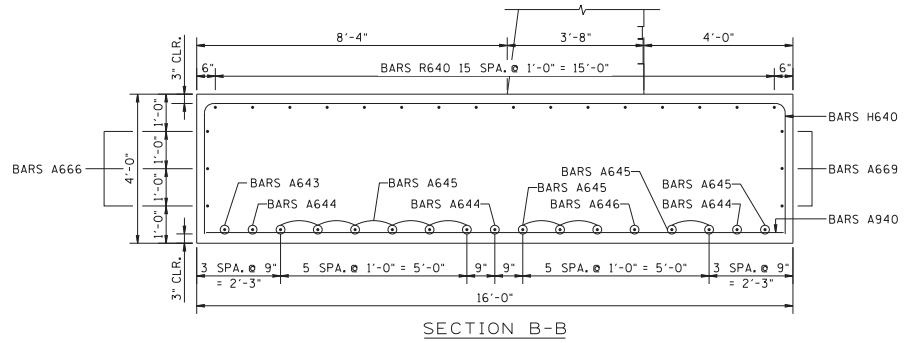
STATE OF TENNESSEE  
 DEPARTMENT OF TRANSPORTATION  
 BRIDGE NO. 1  
 ABUTMENT NO. 2  
 INTERSTATE 24 OVER  
 S. GERMANTOWN ROAD  
 FED. I.D. NO. 33100240055  
 HAMILTON COUNTY  
 2020

PIN NO.: 124089.00  
 DESIGN BY: BARGE DESIGN SOLUTIONS DATE: 01-2020  
 DRAWN BY: BARGE DESIGN SOLUTIONS DATE: 01-2020  
 SUPERVISED BY: BARGE DESIGN SOLUTIONS DATE: 01-2020  
 CHECKED BY: BARGE DESIGN SOLUTIONS DATE: 01-2020

CONST. NO.: 33003-3166-44

PROJECT NO.	YEAR	SHEET NO.
BR-I-24-3(97)	2020	U-92-61

REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION
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STATE OF TENNESSEE  
 DEPARTMENT OF TRANSPORTATION  
 BRIDGE NO. 1  
 ABUTMENT NO. 2  
 FOUNDATION DETAILS  
 INTERSTATE 24 OVER  
 S. GERMANTOWN ROAD  
 FED. I.D. NO. 33100240055  
 HAMILTON COUNTY  
 2020

PIN NO.: 124089.00  
 DESIGN BY: BARGE DESIGN SOLUTIONS DATE: 01-2020  
 DRAWN BY: BARGE DESIGN SOLUTIONS DATE: 01-2020  
 SUPERVISED BY: BARGE DESIGN SOLUTIONS DATE: 01-2020  
 CHECKED BY: BARGE DESIGN SOLUTIONS DATE: 01-2020



CONST. NO.: 33003-3166-44

PROJECT NO.	YEAR	SHEET NO.
BR-I-24-3(97)	2020	U-92-62

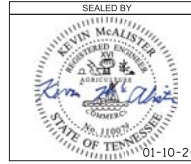
REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
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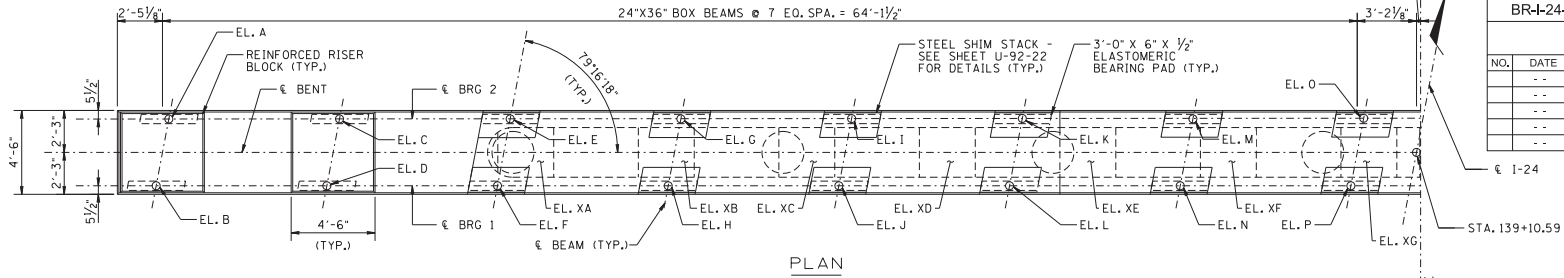
LOCATION	ELEV.
XA	795.27
XB	795.39
XC	795.60
XD	795.70
XE	795.87
XF	796.04
XG	796.23

LOCATION	ELEV.
A	795.74
B	795.70
C	795.96
D	795.93
E	796.19
F	796.15
G	796.41
H	796.38
I	796.64
J	796.60
K	796.86
L	796.83
M	797.09
N	797.05
O	797.31
P	797.28

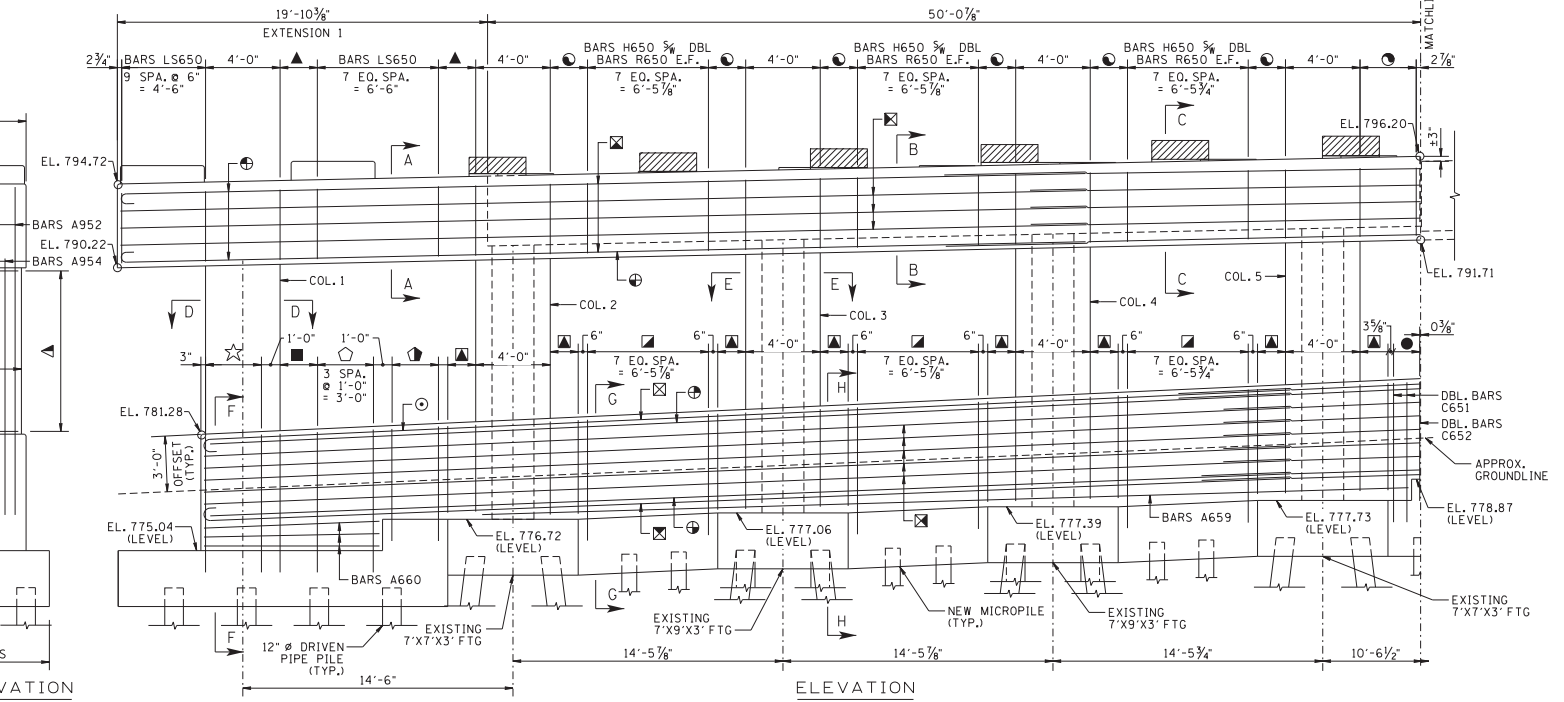
\* NOTE: ELEVATIONS ARE TO TOP OF EXISTING BEAM SEAT WHICH IS ASSUMED TO BE LEVEL.  
 \*\* NOTE: ELEVATIONS ARE TO TOP OF SHIM STACK OR TOP OF REINFORCED RISER BLOCK NOT INCLUDING THE 1/2" BEARING PAD.



STATE OF TENNESSEE  
 DEPARTMENT OF TRANSPORTATION  
 BRIDGE NO. 1  
 EXIST. BENT 2/ PROP. BENT NO. 1 LAYOUT  
 (SHEET 1 OF 2)  
 INTERSTATE 24 OVER  
 S. GERMANTOWN ROAD  
 FED. I.D. NO. 33100240055  
 HAMILTON COUNTY  
 2020



PLAN



ELEVATION  
 (LOOKING FORWARD ON SURVEY AT € BRG 1)  
 (€ BRG 2 SIMILAR)

LOCATION	CLASS "A" CONCRETE (BRIDGES) (C.Y.)	STEEL BAR REINFORCEMENT (LB.)	BEARING DEVICE (EACH)
BENT NO. 1	303	74,720	24

- ▲ DENOTES: INDIVIDUAL LAYERS CONSISTING OF DBL BARS H655, 4 BARS YB650, & 4 BARS YB651. SPACING OF LAYERS SHOWN BELOW:  
 COL 1: 26 SPA. @ 4" = 8'-8"  
 COL 2: 25 SPA. @ 4" = 8'-4"  
 COL 3: 24 SPA. @ 4" = 8'-0"  
 COL 4: 23 SPA. @ 4" = 7'-8"  
 COL 5: 22 SPA. @ 4" = 7'-4"
- ☆ DENOTES: DBL. BARS C650 3 SPA. @ 1'-0" = 3'-0"
- ⊕ DENOTES: DBL. BARS H654 TOP AND BOT. 3 SPA. @ 6" = 1'-6"
- DENOTES: DBL. BARS H651 TOP AND BOT. 4 SPA. @ 6" = 2'-0"
- ⬠ DENOTES: DBL. BARS H651 TOP AND BOT.
- ⊖ DENOTES: DBL. BARS H652 TOP AND BOT. 3 EQ. SPA. = 2'-6"
- ⊓ DENOTES: DBL. BARS H653 TOP AND BOT.
- ▲ DENOTES: BARS LS650 4 SPA. @ 6" = 2'-0"

- ⊙ DENOTES: BARS H650 3/4 DBL BARS R650 E.F. 4 SPA. @ 6" = 2'-0"
- ⊙ DENOTES: BARS H650 3/4 DBL BARS R650 E.F. 6 SPA. @ 6" = 3'-0"
- DENOTES: 2 EQ. SPA. = 1'-5 1/4"
- ⊗ DENOTES: BARS B950 3/4 BARS A951 3/4 BARS B950
- ⊗ DENOTES: BARS B850 3/4 BARS A851 3/4 BARS B850
- ⊗ DENOTES: BARS A657 3/4 BARS A658 3/4 BARS A657
- ⊗ DENOTES: BARS B1050 3/4 BARS A1050 3/4 BARS B1051
- ⊗ DENOTES: BARS A652 3/4 BARS A653 3/4 BARS A652
- ⊕ DENOTES: BARS A950 3/4 BARS A951 3/4 BARS A950
- ⊕ DENOTES: BARS A850 3/4 BARS A851 3/4 BARS A850
- ⊕ DENOTES: SEE BENT CAP PLAN OF MAIN REINFORCEMENT ON SHEET NO. U-92-64 FOR BARS A655 OR BARS A656 TYP. BTWN EXISTING COLUMNS.
- ⊕ DENOTES: SEE BENT CAP PLAN OF MAIN REINFORCEMENT ON SHEET NO. U-92-64 FOR BARS A650 @ EXTENSION 1.
- ⊕ DENOTES: SEE GRADE BEAM PLAN OF MAIN REINFORCEMENT ON SHEET NO. U-92-65 FOR BARS A655 TYP. BTWN COLUMNS.

PN NO.: 124089.00  
 DESIGN BY: BARGE DESIGN SOLUTIONS DATE: 01-2020  
 DRAWN BY: BARGE DESIGN SOLUTIONS DATE: 01-2020  
 SUPERVISED BY: BARGE DESIGN SOLUTIONS DATE: 01-2020  
 CHECKED BY: BARGE DESIGN SOLUTIONS DATE: 01-2020

CONST. NO.: 33003-3166-44

PROJECT NO.	YEAR	SHEET NO.
BR-I-24-3(97)	2020	U-92-63

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION

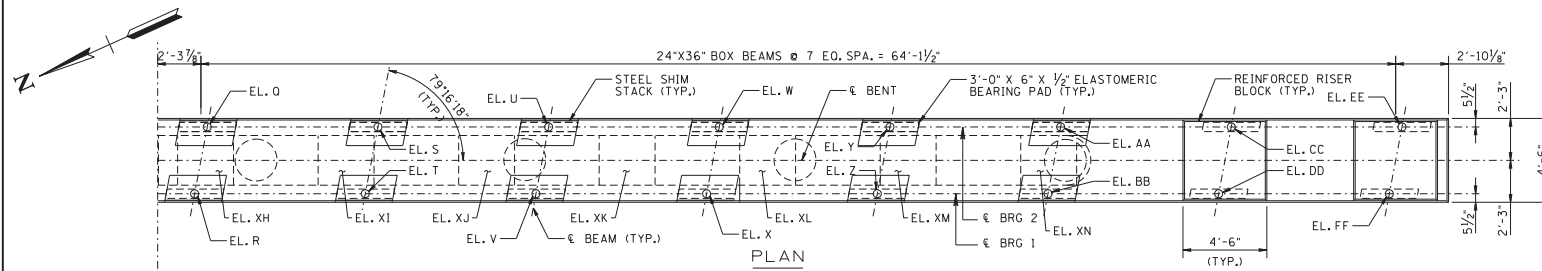
EXISTING ELEVATIONS \*

LOCATION	ELEV.
XH	796.08
XI	796.18
XJ	796.39
XK	796.57
XL	796.70
XM	796.90
XN	797.07

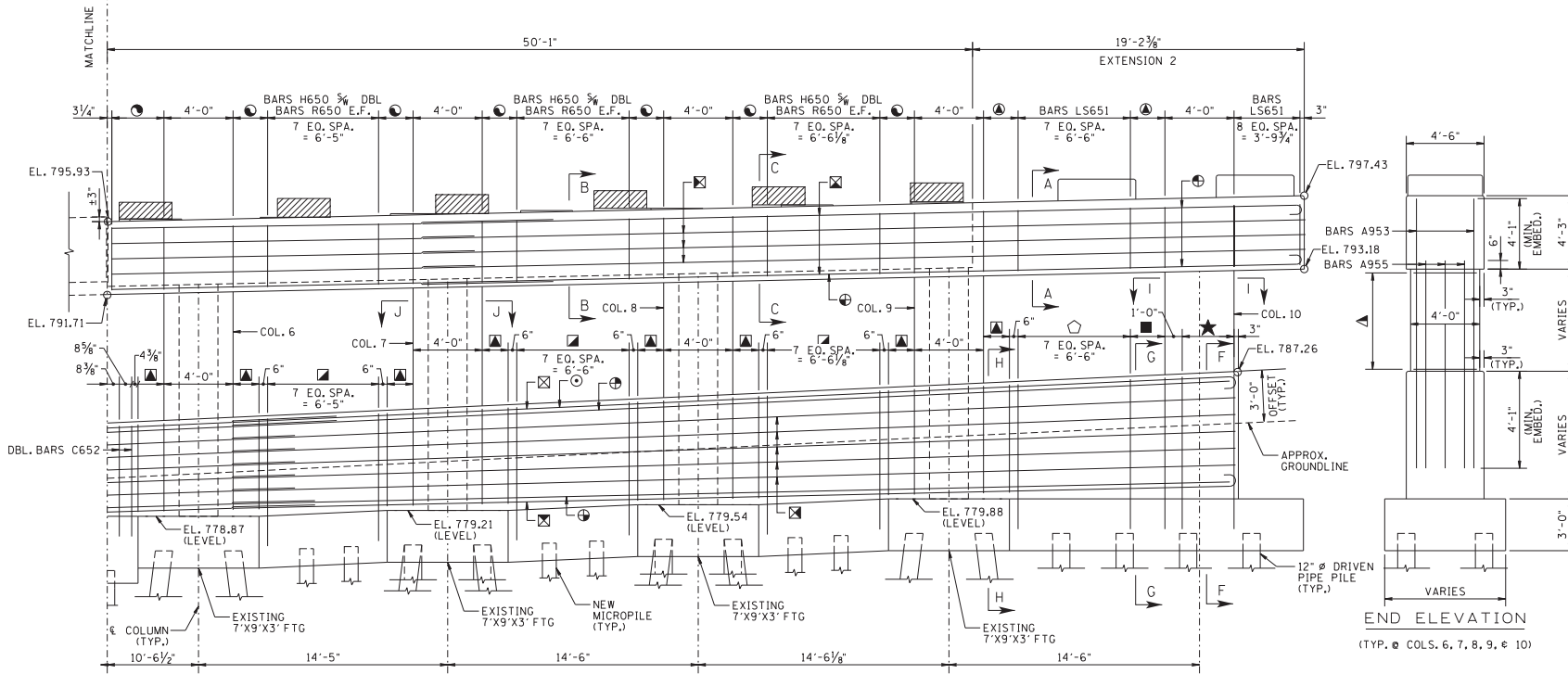
PROPOSED ELEVATIONS \*\*

LOCATION	ELEV.
O	797.08
R	797.05
S	797.30
T	797.27
U	797.53
V	797.49
W	797.75
X	797.72
Y	797.98
Z	797.94
AA	798.20
BB	798.17
CC	798.43
DD	798.39
EE	798.65
FF	798.62

\* NOTE: ELEVATIONS ARE TO TOP OF EXISTING BEAM SEAT WHICH IS ASSUMED TO BE LEVEL.  
 \*\* NOTE: ELEVATIONS ARE TO TOP OF SHIM STACK OR TOP OF REINFORCED RISER BLOCK NOT INCLUDING THE 1/2" BEARING PAD.



PLAN



ELEVATION

(LOOKING FORWARD ON SURVEY AT € BRG 1)  
 (€ BRG 2 SIMILAR)

▲ DENOTES: INDIVIDUAL LAYERS CONSISTING OF DBL. BARS H655, 4 BARS YB650, € 4 BARS YB651, SPACING OF LAYERS SHOWN BELOW:  
 COL 6: 21 SPA. @ 4" = 7'-0"  
 COL 7: 20 SPA. @ 4" = 6'-8"  
 COL 8: 19 SPA. @ 4" = 6'-4"  
 COL 9: 18 SPA. @ 4" = 6'-0"  
 COL 10: 17 SPA. @ 4" = 5'-8"

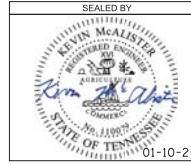
★ DENOTES: DBL. BARS C653 3 SPA. @ 1'-0" = 3'-0"  
 ■ DENOTES: DBL. BARS H654 TOP AND BOT. 3 SPA. @ 6" = 1'-6"  
 ▣ DENOTES: DBL. BARS H651 TOP AND BOT. 4 SPA. @ 6" = 2'-0"  
 ○ DENOTES: DBL. BARS H651 TOP AND BOT.  
 ▤ DENOTES: DBL. BARS H653 TOP AND BOT.  
 ● DENOTES: BARS LS651 4 SPA. @ 6" = 2'-0"

● DENOTES: BARS H650 3/4 DBL BARS R650 4 SPA. @ 6" = 2'-0"  
 ○ DENOTES: BARS H650 3/4 DBL BARS R650 6 SPA. @ 6" = 3'-0"  
 ⊠ DENOTES: BARS B950 3/4 BARS A951 3/4 BARS B950  
 ⊞ DENOTES: BARS B850 3/4 BARS A851 3/4 BARS B850  
 ⊞ DENOTES: BARS A657 3/4 BARS A658 3/4 BARS A657  
 ⊞ DENOTES: BARS B1050 3/4 BARS A1050 3/4 BARS B1051  
 ⊞ DENOTES: BARS A652 3/4 BARS A653 3/4 BARS A654  
 ⊞ DENOTES: BARS A950 3/4 BARS A951 3/4 BARS A950  
 ⊞ DENOTES: BARS A850 3/4 BARS A851 3/4 BARS A850

⊕ DENOTES: SEE BENT CAP PLAN OF MAIN REINFORCEMENT ON SHEET NO. U-92-64 FOR BARS A655 OR BARS A656 TYP. BTWN EXISTING COLUMNS.  
 ⊕ DENOTES: SEE BENT CAP PLAN OF MAIN REINFORCEMENT ON SHEET NO. U-92-64 FOR BARS A651 @ EXTENSION 2.  
 ⊕ DENOTES: SEE GRADE BEAM PLAN OF MAIN REINFORCEMENT ON SHEET NO. U-92-65 FOR BARS A655 TYP. BTWN COLUMNS.



END ELEVATION  
 (TYP. @ COLS. 6, 7, 8, 9, € 10)

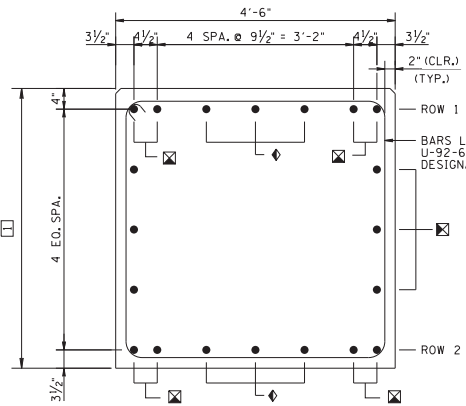


STATE OF TENNESSEE  
 DEPARTMENT OF TRANSPORTATION  
 BRIDGE NO. 1  
 EXIST. BENT 2/ PROP. BENT NO. 1 LAYOUT  
 (SHEET 2 OF 2)  
 INTERSTATE 24 OVER  
 S. GERMANTOWN ROAD  
 FED. I.D. NO. 33100240055  
 HAMILTON COUNTY  
 2020

U-92-63

11/10/2020  
 PIN NO.: 124089.00  
 DESIGN BY: BARGE DESIGN SOLUTIONS DATE: 01-2020  
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 SUPERVISED BY: BARGE DESIGN SOLUTIONS DATE: 01-2020  
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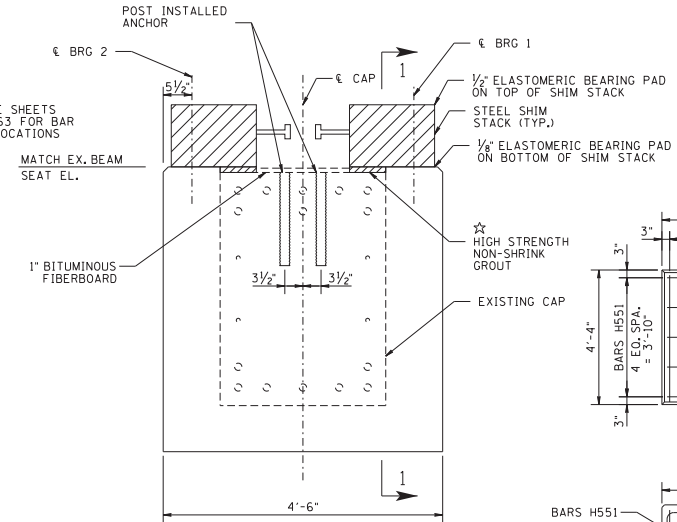
PROJECT NO.	YEAR	SHEET NO.	
BR-I-24-3(97)	2020	U-92-64	
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION
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-	-	-	-
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**SECTION A-A**

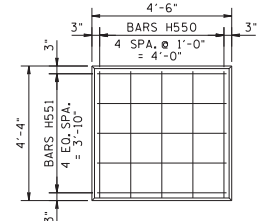
SEE BENT CAP PLAN OF MAIN REINFORCEMENT THIS SHEET FOR ADDITIONAL DETAILS

- DENOTES: 4'-6" LEFT OF MATCHLINE LOOKING FORWARD ON SURVEY.
- ◇ DENOTES: 4'-3" RIGHT OF MATCHLINE LOOKING FORWARD ON SURVEY.
- ◆ DENOTES: BARS A650 & EXTENSION 1
- ◆ DENOTES: BARS A651 & EXTENSION 2
- ⊠ DENOTES: BARS A652 3/8"
- ⊠ DENOTES: BARS A653 3/8"
- ⊠ DENOTES: BARS A654

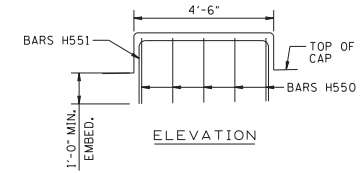


**SECTION C-C**

☆ HIGH STRENGTH NON-SHRINK LEVELING GROUT SHALL BE USED TO CREATE A LEVEL BEARING SURFACE FOR SETTING SHIM STACK.

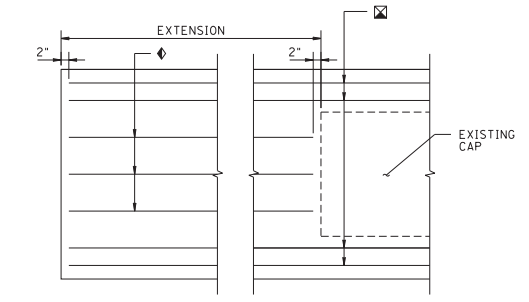


**PLAN**



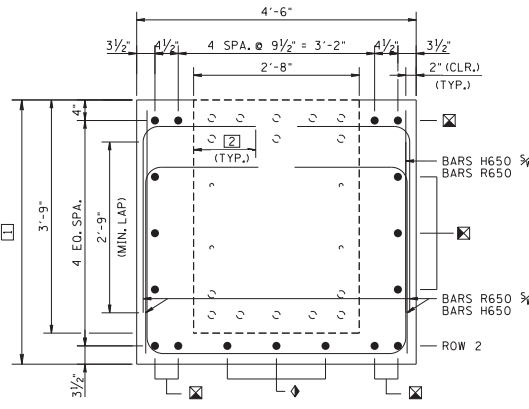
**ELEVATION**

**RISER BLOCK REINFORCING DETAIL**



**BENT CAP PLAN OF MAIN REINFORCEMENT**

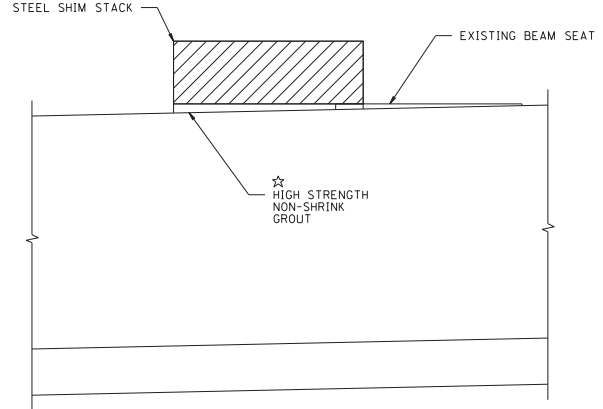
- (SEE SECTION A-A ROWS 1 & 2)
- ◆ DENOTES: BARS A650 & EXTENSION 1
  - ◆ DENOTES: BARS A651 & EXTENSION 2
  - ⊠ DENOTES: BARS B1050 3/8"
  - ⊠ DENOTES: BARS A1050 3/8"
  - ⊠ DENOTES: BARS B1051



**SECTION B-B**

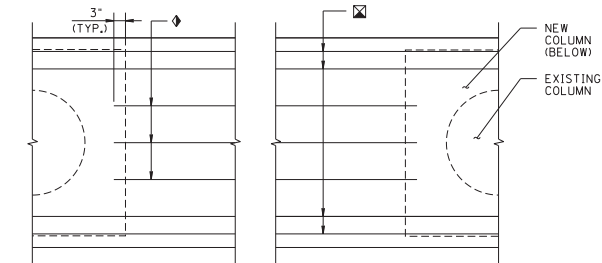
SEE BENT CAP PLAN OF MAIN REINFORCEMENT THIS SHEET FOR ADDITIONAL DETAILS

- DENOTES: 4'-6" LEFT OF MATCHLINE LOOKING FORWARD ON SURVEY.
- ◇ DENOTES: 4'-3" RIGHT OF MATCHLINE LOOKING FORWARD ON SURVEY.
- ◆ DENOTES: BARS A655 BTWN. COLUMNS 2-3, 3-4, 4-5, 6-7, 7-8, 8-9
- ◆ DENOTES: BARS A656 BTWN. COLUMNS 5-6
- ⊠ DENOTES: BARS B1050 3/8"
- ⊠ DENOTES: BARS A1050 3/8"
- ⊠ DENOTES: BARS B1051
- ⊠ DENOTES: BARS A652 3/8"
- ⊠ DENOTES: BARS A653 3/8"
- ⊠ DENOTES: BARS A654



**SECTION 1-1**

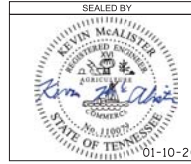
☆ HIGH STRENGTH NON-SHRINK LEVELING GROUT SHALL BE USED TO CREATE A LEVEL BEARING SURFACE FOR SETTING SHIM STACK.



**BENT CAP PLAN OF MAIN REINFORCEMENT**

(SEE SECTION B-B ROW 2)  
(COLUMN STEEL NOT SHOWN FOR CLARITY)

- ◆ DENOTES: BARS A655 BTWN. COLUMNS 2-3, 3-4, 4-5, 6-7, 7-8, 8-9
- ◆ DENOTES: BARS A656 BTWN. COLUMNS 5-6
- ⊠ DENOTES: BARS B1050 3/8"
- ⊠ DENOTES: BARS A1050 3/8"
- ⊠ DENOTES: BARS B1051



STATE OF TENNESSEE  
DEPARTMENT OF TRANSPORTATION  
BRIDGE NO. 1  
BENT NO. 1 DETAILS

INTERSTATE 24 OVER  
S. GERMANTOWN ROAD  
FED. I.D. NO. 33100240055  
HAMILTON COUNTY  
2020

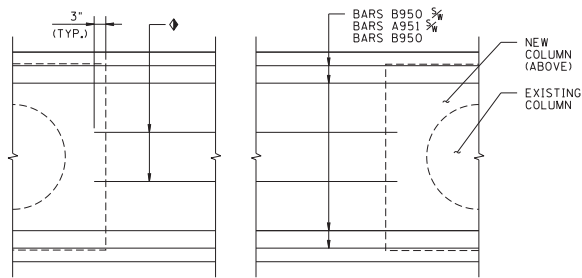
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DRAWN BY:	BARGE DESIGN SOLUTIONS
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CHECKED BY:	BARGE DESIGN SOLUTIONS
DATE:	01-2020

CONST. NO.: 33003-3166-44

PROJECT NO.	YEAR	SHEET NO.
BR-I-24-3(97)	2020	U-92-65

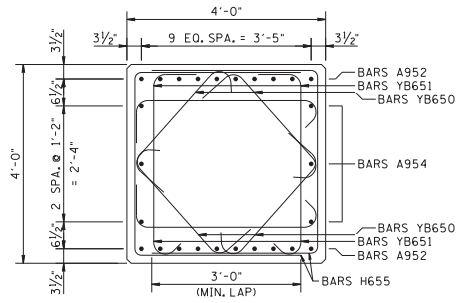
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION
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- ☒ DENOTES: BARS B950 3/4" BARS A951 3/4" BARS B950
- ☒ DENOTES: BARS B850 3/4" BARS A851 3/4" BARS B850
- ☒ DENOTES: BARS A657 3/4" BARS A658 3/4" BARS A657
- ⊕ DENOTES: BARS A950 3/4" BARS A951 3/4" BARS A950
- ⊕ DENOTES: BARS A850 3/4" BARS A851 3/4" BARS A850
- Ⓜ DENOTES: 7'-0" Ⓜ COLS. 2, 5, 6, 8 9  
9'-0" Ⓜ COLS. 3, 4, 7, 8

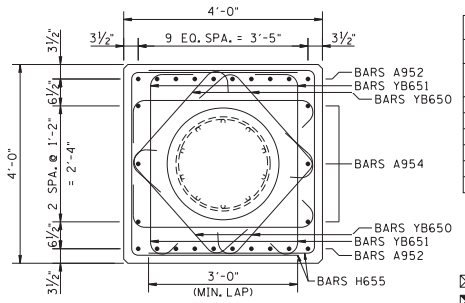


GRADE BEAM PLAN OF MAIN REINFORCEMENT

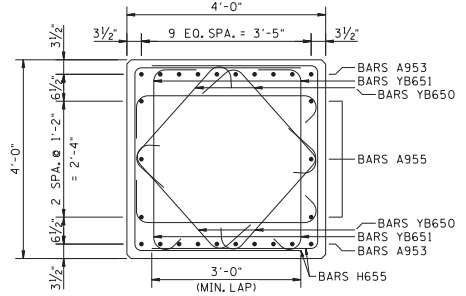
(SEE SECTIONS G-G & H-H ROW I)  
(COLUMN STEEL NOT SHOWN FOR CLARITY)  
⊕ DENOTES: BARS A655 BTWN. COLUMNS 1-2, 2-3, 3-4, 4-5, 6-7, 7-8, 8-9, 9-10  
BARS A656 BTWN. COLUMNS 5-6



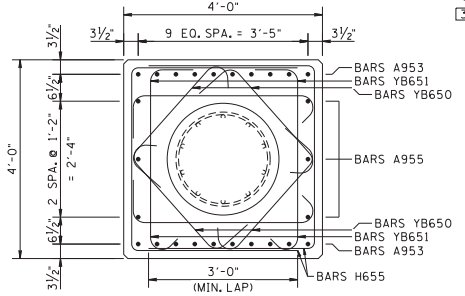
SECTION D-D  
(COLUMN 1)



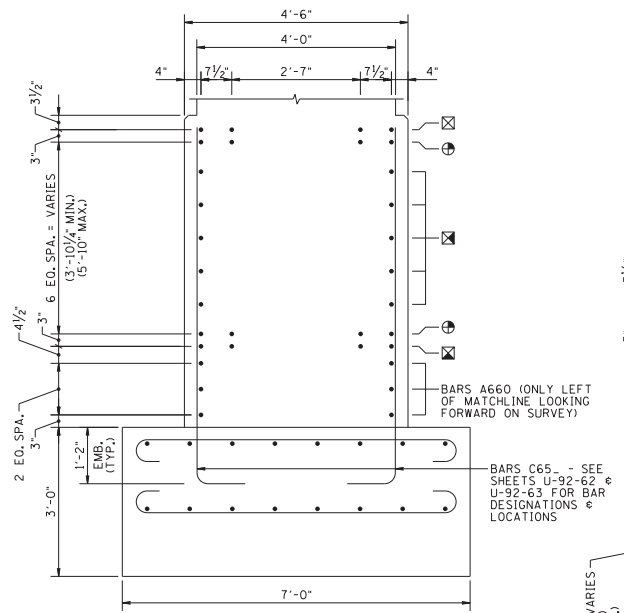
SECTION E-E  
(COLUMNS 2, 3, 4 & 5)



SECTION I-I  
(COLUMN 10)

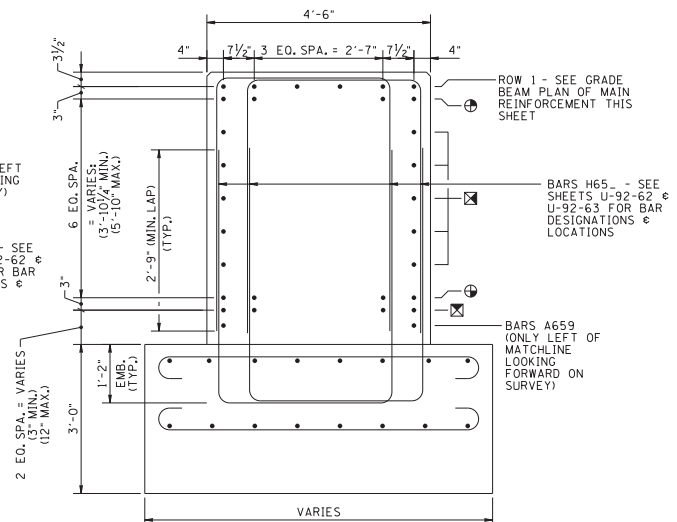


SECTION J-J  
(COLUMNS 6, 7, 8 & 9)



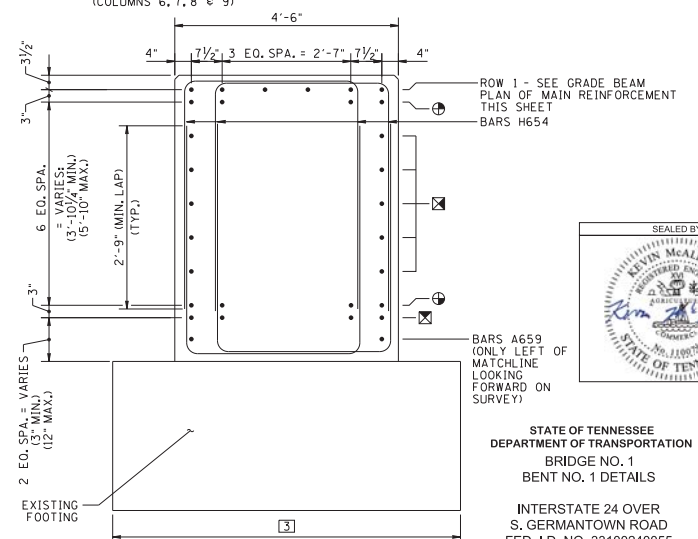
SECTION F-F

NOTE: COLUMN STEEL NOT SHOWN FOR CLARITY.  
NOTE: SEE SHEET U-92-67 FOR FOOTING REINFORCEMENT.

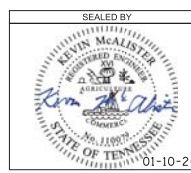


SECTION G-G

NOTE: SEE SHEET U-92-67 FOR FOOTING REINFORCEMENT.



SECTION H-H



STATE OF TENNESSEE  
DEPARTMENT OF TRANSPORTATION  
BRIDGE NO. 1  
BENT NO. 1 DETAILS

INTERSTATE 24 OVER  
S. GERMANTOWN ROAD  
FED. I.D. NO. 33100240055  
HAMILTON COUNTY  
2020

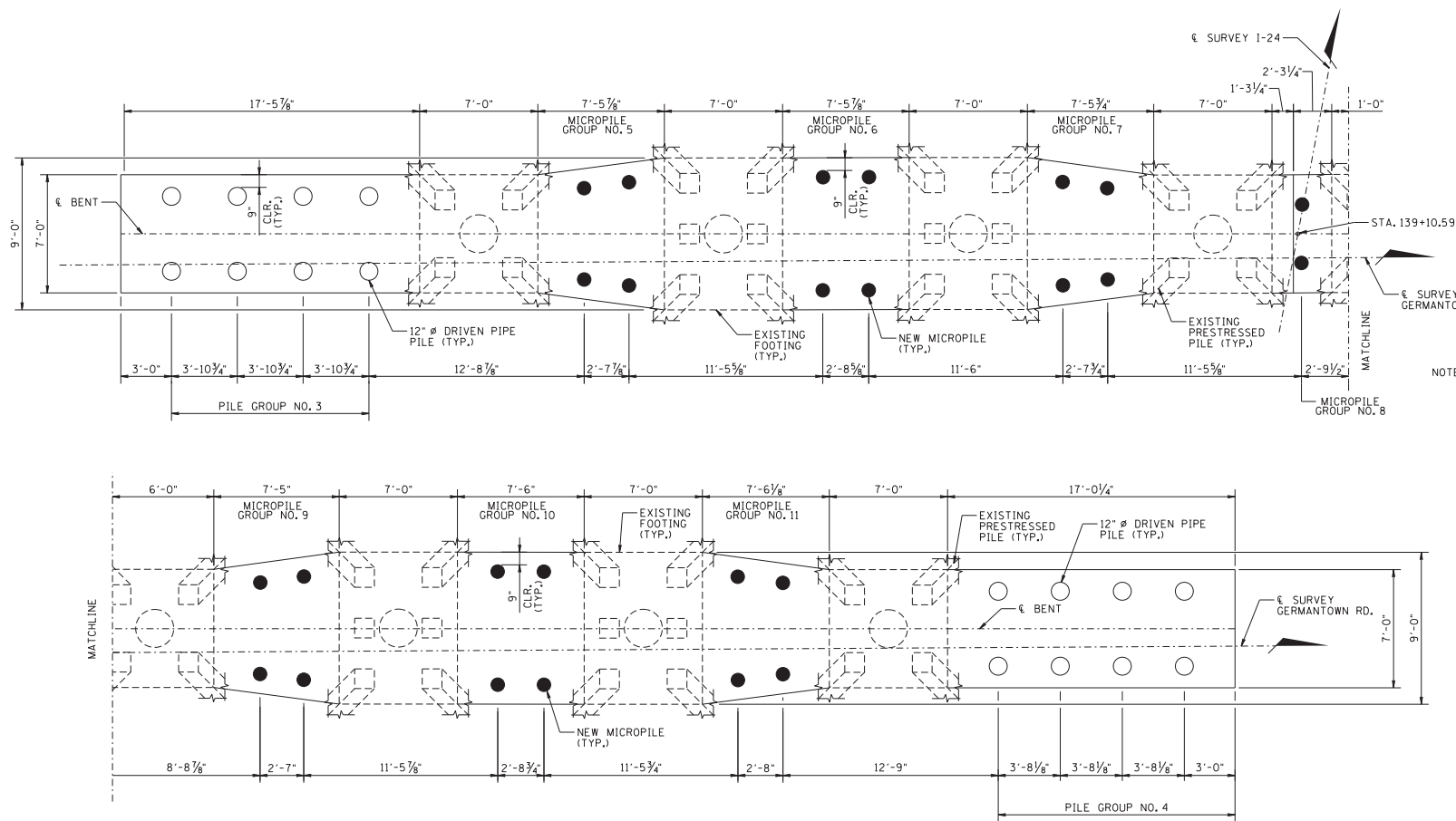
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SUPERVISED BY: BARGE DESIGN SOLUTIONS DATE: 01-2020  
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CONST. NO.: 33003-3166-44

PROJECT NO.	YEAR	SHEET NO.
BR-I-24-3(97)	2020	U-92-66

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
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○ NON-BATTERED DRIVEN PIPE PILE (16 PILES)  
 ● NON-BATTERED MICROPILE (26 PILES)

NOTE: TOTAL NUMBER OF 9 5/8" x 1/2" MICROPILES = 26  
 TOTAL NUMBER OF 12" x 1/2" PIPE PILES = 16

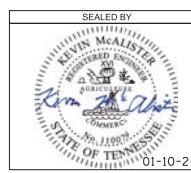
NOTE: CONTRACTOR SHALL INSTALL PIPE PILE CAPS FOR ALL DRIVEN PIPE PILES. PIPE PILE CAP SHALL BE WELDED OR BOLTED ON TO THE TOP OF THE PIPE PILE AFTER THE PILES ARE DRIVEN AND CUT-OFF AT THE ELEVATION AS SHOWN ON THE PLANS. PILE CAP SHALL BE PLATE STEEL A MINIMUM OF 1/2" THICK AND SHALL OVERLAP THE EDGE OF THE PILE OR BOLT COLLAR BY A MINIMUM OF 1/2". PIPE PILE CAP SHALL BE INSTALLED WITH SUFFICIENT RIGIDITY SO AS TO PREVENT MOVEMENT DURING PLACING OF REINFORCING STEEL AND FOOTING CONCRETE. PIPE PILE CAP SHALL BE INCLUDED IN THE COST OF THE PILES ITEM NO. 606-17.03 STEEL PIPE PILES (12 INCH).

THE CONTRACTOR SHALL INSTALL MICROPILES ACCORDING TO THE REQUIREMENTS ESTABLISHED IN SPECIAL PROVISION 625MP. THE MICROPILES WERE DESIGNED TO BE A TYPE A INSTALLATION (PER THE FHWA MICROPILE DESIGN MANUAL), WITH AT LEAST 30 FEET OF PERMANENT CASING INSTALLED FROM THE PILE CUT OFF ELEVATION INTO THE GROUND AND A BOND LENGTH WITH AT LEAST 25 FEET (CUMULATIVE) IN ROCK. THE PLANS SHOW AN ESTIMATED LENGTH OF MICROPILES BASED ON GEOTECHNICAL EXPLORATION, BUT THE CONTRACTOR SHALL INSTALL THE MICROPILES TO A DEPTH THAT ACHIEVES A CUMULATIVE ROCK BOND OF 25 FEET, REGARDLESS OF TOTAL OVERALL DEPTH.

PILE GROUP	DESIGN LOAD (TONS)	TEST PILE LENGTH (FT.)	MINIMUM PILE TIP ELEVATION
PIPE PILE NO. 3	122	110	667.88
PIPE PILE NO. 4	122	110	663.04

PILE GROUP	DESIGN LOAD (TONS)	TOP OF THREADBAR EL. (FT.)	TOP OF CASING EL. (FT.)	MIN. BOT. OF CASING EL. (FT.)	ESTIMATED PILE TIP EL. (FT.)
MICROPILE NO. 5	*	775.06	775.06	744.06	590.26
MICROPILE NO. 6	*	775.39	775.39	744.39	590.59
MICROPILE NO. 7	*	775.73	775.73	744.73	590.93
MICROPILE NO. 8	*	775.73	775.73	744.73	590.93
MICROPILE NO. 9	*	777.21	777.21	746.21	592.41
MICROPILE NO. 10	*	777.54	777.54	746.54	592.74
MICROPILE NO. 11	*	777.88	777.88	746.88	593.08

\* SEE SHEET U-92-68 FOR MICROPILE LOADING



STATE OF TENNESSEE  
 DEPARTMENT OF TRANSPORTATION  
 BRIDGE NO. 1  
 BENT NO. 1 PILE LAYOUT

INTERSTATE 24 OVER  
 S. GERMANTOWN ROAD  
 FED. I.D. NO. 3310240055  
 HAMILTON COUNTY  
 2020

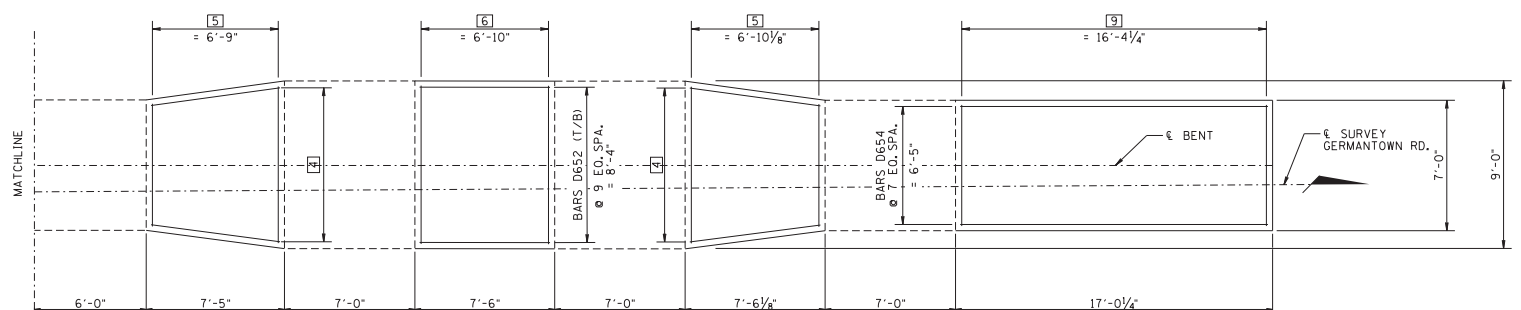
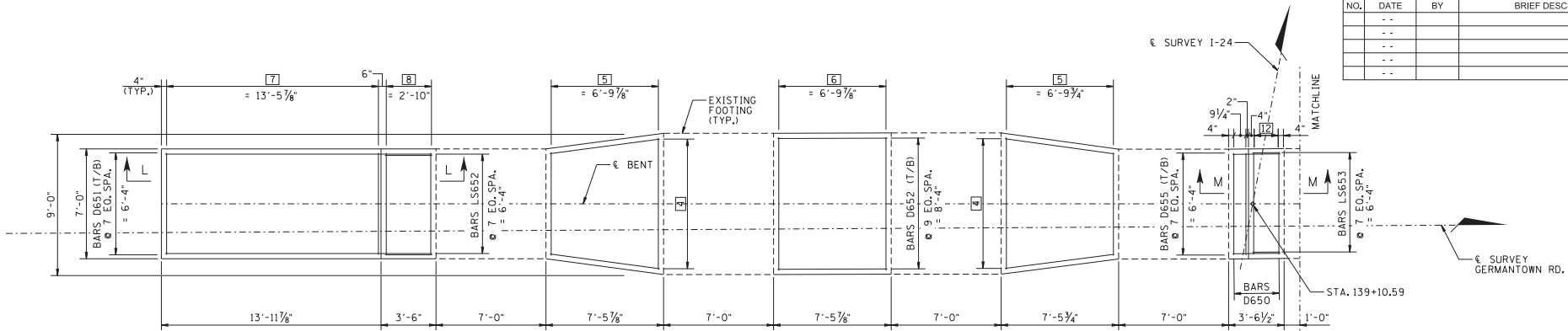
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CONST. NO.: 33003-3166-44

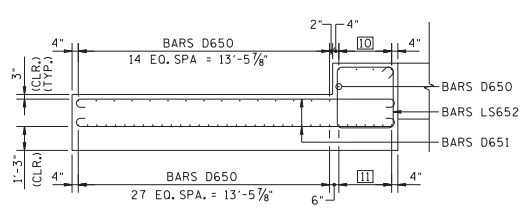
PROJECT NO.	YEAR	SHEET NO.
BR-I-24-3(97)	2020	U-92-67

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION

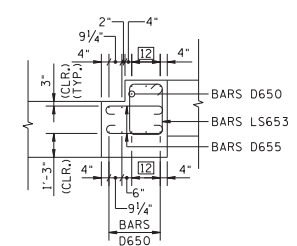


- 4** DENOTES: BARS D652 @ 9 EO. SPA. = VARIES FROM 6'-4 3/4" TO 8'-3 3/8" (T/B)
- 5** DENOTES: SER. BARS D656 @ 14 EO. SPA. (BOTTOM MAT)  
SER. BARS D657 @ 7 EO. SPA. (TOP MAT)
- 6** DENOTES: BARS D653 @ 14 EO. SPA. (BOTTOM MAT)  
BARS D653 @ 7 EO. SPA. (TOP MAT)
- 7** DENOTES: SER. BARS D650 @ 27 EO. SPA. (BOTTOM MAT)  
SER. BARS D650 @ 14 EO. SPA. (TOP MAT)
- 8** DENOTES: SER. BARS D650 @ 6 EO. SPA. (BOTTOM MAT)  
SER. BARS D650 @ 3 EO. SPA. (TOP MAT)
- 9** DENOTES: SER. BARS D650 @ 33 EO. SPA. (BOTTOM MAT)  
SER. BARS D650 @ 17 EO. SPA. (TOP MAT)
- 10** DENOTES: BARS D650 @ 2 EO. SPA. = 1'-7 1/4" (T/B)



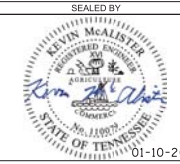
- 10** DENOTES: BARS D650 @ 3 EO. SPA. = 2'-10"
- 11** DENOTES: BARS D650 @ 6 EO. SPA. = 2'-10"

SECTION L-L



- 12** DENOTES: BARS D650 @ 2 EO. SPA. = 1'-7 1/4"

SECTION M-M



STATE OF TENNESSEE  
DEPARTMENT OF TRANSPORTATION  
BRIDGE NO. 1  
FOUNDATION DETAILS  
INTERSTATE 24 OVER  
S. GERMANTOWN ROAD  
FED. I.D. NO. 33100240055  
HAMILTON COUNTY  
2020

PIN NO.: 124089.00  
DESIGN BY: BARGE DESIGN SOLUTIONS DATE: 01-2020  
DRAWN BY: BARGE DESIGN SOLUTIONS DATE: 01-2020  
SUPERVISED BY: BARGE DESIGN SOLUTIONS DATE: 01-2020  
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PROJECT NO.	YEAR	SHEET NO.
BR-I-24-3(97)	2020	U-92-68

REVISIONS				
NO.	DATE	BY	BRIEF DESCRIPTION	
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### MICROPILE SCHEDULE

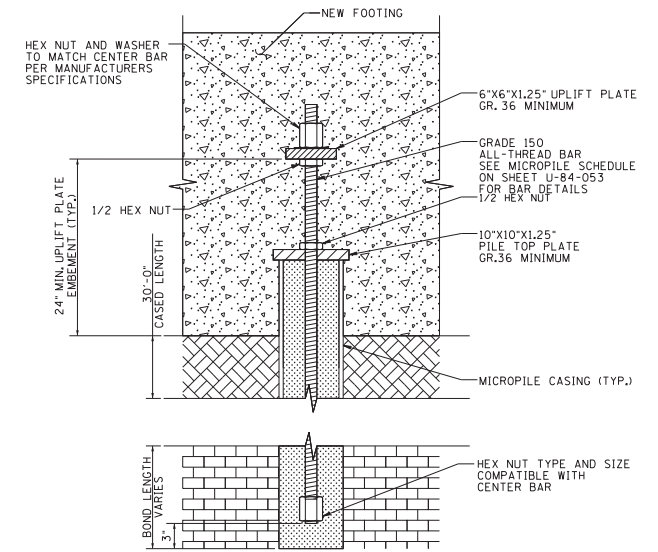
SUBSTRUCTURE UNIT	BATTER	CASING SIZE	PRODUCTION PILE THREADBAR SIZE	BOND ZONE DIAMETER	FACTORED DESIGN LOAD - FDL (KIPS)		EXTREME EVENT FACTORED DESIGN LOAD - EFDL (KIPS)		FACTORED DESIGN LATERAL LOAD (KIPS)	TOP OF THREADBAR EL.	TOP OF CASING EL.	MIN. BOTTOM OF CASING EL.	ESTIMATED PILE TIP EL.
					COMPRESSION	TENSION	COMPRESSION	TENSION					
ALL SUBSTRUCTURES	NONE	9.625"x.500"	1 3/4"	9 5/8"	222	23	206	21	50	SEE SHEET U-92-47, U-92-58 & U-92-66 FOR ELEVATIONS			

**MICROPILE NOTES:**

- THE CONTRACTOR SHALL FURNISH EQUIPMENT AND ACCESSORIES CAPABLE OF SAFELY AND EFFICIENTLY INSTALLING THE MICRO-PILES TO THE DESIGN REQUIREMENTS OF THE PROJECT. THE CONTRACTOR SHALL SELECT THE DRILLING METHODS, GROUTING PROCEDURE, AND GROUTING PRESSURES USED FOR INSTALLATION OF THE MICROPILES. THE DRILLING METHOD CHOSEN SHALL NOT CAUSE DAMAGE TO NEARBY STRUCTURES.
- PILE INSTALLATION SHALL BE BY NON-VIBRATORY AND NON-DISPLACEMENT METHODS. DRILLING AND EXCAVATION SHALL BE PERFORMED IN SUCH A MANNER TO MINIMIZE THE COLLAPSE OF THE HOLE.
- THE SURFACE OF THE THREADBAR REINFORCEMENT SHALL BE FREE OF DELETERIOUS SUBSTANCES SUCH AS SOIL, MUD, GREASE, OR OIL THAT MAY CONTAMINATE THE GROUT OR COAT THE SURFACE AND IMPAIR BOND.
- GROUTING SHALL OCCUR ON THE SAME DAY THAT THE LOAD TRANSFER BOND LENGTH IS DRILLED. GROUT SHALL BE FREE OF LUMPS AND UNDISPERSED CEMENT. EACH PILE SHALL BE GROUTED IN A SINGLE, CONTINUOUS OPERATION.
- THE COST OF GROUT SHALL BE PAID FOR UNDER ITEM NO. 604-15.01 PORTLAND CEMENT GROUT, C.Y.
- UPON COMPLETION OF DAILY GROUT OPERATIONS, EXCESS GROUT IN HOSES, MIXER, AND GROUP PUMP SHALL BE CONTAINED AND IMMEDIATELY REMOVED OFF-SITE IN A SAFE AND LEGAL MANNER.
- THE CONTRACTOR SHALL FURNISH ALL PUMPS THAT MAY BE NECESSARY TO CARE FOR WASTE WATER AND GROUT FROM HIS OPERATIONS; CLEAN UP ALL WASTE RESULTING FROM HIS OPERATIONS, AND RESTORE ANY DAMAGE CAUSED BY HIS OPERATION TO ORIGINAL CONDITIONS.
- TDOT RESERVES THE RIGHT, AND THE CONTRACTOR SHALL RECOGNIZE SUCH RIGHT, TO DIRECT THE INSTALLATION OF THE MICRO-PILES IN ANY SEQUENCE TDOT DEEMS NECESSARY FOR THE SATISFACTORY COMPLETION OF THE WORK.
- MICRO-PILES SHALL BE INSTALLED TO THE FOLLOWING TOLERANCES:  
 -MAXIMUM VARIATION FROM VERTICAL FOR PLUMB MICRO-PILES: ±2%;  
 -MAXIMUM VARIATION FROM REQUIRED BATTER FOR BATTERED MICRO-PILES: +2%, -0%  
 -TOP CUT OFF ELEVATION: MAXIMUM 1 INCH FROM ELEVATION INDICATED ON THE PLANS  
 -MAXIMUM VARIATION OF MICRO-PILE HEAD FROM PLAN LOCATION: 1 INCH  
 -CENTERLINE OF THE THREADBAR FROM CENTER OF THE CASING: NOT MORE THAN 1/2 INCH
- MICRO-PILE LOAD TESTING SHALL BE PERFORMED IN ACCORDANCE WITH THE LOAD TESTING PROGRAM OUTLINED WITHIN THESE PLANS AND IN THE SPECIAL PROVISIONS.
- MICROPILE ELEVATIONS SHOWN TAKE THE PILE BATTER INTO ACCOUNT.
- CASING SHALL MEET THE TENSILE REQUIREMENTS OF ASTM A252, GRADE 3, EXCEPT THE YIELD STRENGTH SHALL BE A MINIMUM OF 80 KSI. THE STEEL SHALL BE NEW PRIME STEEL WITH MILL CERTIFICATION.
- STRUCTURAL STEEL PLATES AND SHAPES FOR PILE TOP ATTACHMENTS SHALL CONFORM TO ASTM A36/AASHTO M183.
- THREADBAR SHALL CONFORM TO ASTM A722, TYPE II/AASHTO M275 TYPE II, GRADE 150, AND SHALL BE FURNISHED WITH ANCHORAGE DEVICES AND/OR COUPLERS AS REQUIRED.
- PORTLAND CEMENT FOR GROUT SHALL CONFORM TO ASTM C150/AASHTO M85, TYPE I, II OR III.
- ADMIXTURES MAY BE USED IN THE GROUT SUBJECT TO THE APPROVAL OF TDOT. ACCELERATORS, EXPANSIVE ADMIXTURES, AND ADMIXTURES CONTAINING CHLORIDES ARE NOT PERMITTED.
- GROUT SHALL HAVE A 28 DAY COMPRESSIVE STRENGTH OF 5,000 PSI WHEN TESTED IN ACCORDANCE WITH ASTM C109/AASHTO 1106.
- GROUT TUBES INSTALLED IN THE BOND ZONE OF PILES AND SHALL BE STRONG ENOUGH TO WITHSTAND GROUTING PRESSURES UP TO 70 PSI.

**MICROPILE TESTING PROGRAM:**

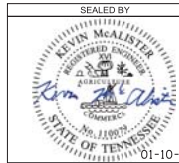
- ONE (1) PRE-PRODUCTION VERIFICATION TEST SHALL BE PERFORMED AT THE LOCATION OF THE SACRIFICIAL MICROPILE SHOWN THE PLAN PRIOR TO THE INSTALLATION OF ANY PRODUCTION MICROPILES.
- THE SACRIFICIAL MICROPILE SHALL BE THE SAME DESIGN AS THE ABUTMENT MICROPILES, AND INSTALLED WITH THE SAME MEANS AND METHODS AS THE PRODUCTION PILES, EXCEPT FOR THE SIZE OF THE THREADBAR.
- THE SACRIFICIAL MICROPILE FOR THE VERIFICATION TEST SHALL BE INSTALLED WITH A 2 1/4" THREADBAR THAT CONFORM TO ASTM A722, TYPE II, GRADE 150/AASHTO M275 TYPE II, GRADE 150.
- THE VERIFICATION PILE LOAD TEST SHALL BE PERFORMED IN TENSION TO A TEST LOAD OF 311 KIPS (1.4 TIMES THE MAXIMUM COMPRESSION FACTORED DESIGN LOAD, FDL) IN ACCORDANCE WITH ASTM D3689.
- PROOF TESTS SHALL BE PERFORMED ON 5% OF TOTAL PRODUCTION MICROPILES, WITH A MINIMUM OF ONE (1) MICROPILE PROOF TEST PER SUBSTRUCTURE UNIT. PRODUCTION PILES TO BE PROOF TESTED SHALL BE CHOSEN BY TDOT PRIOR TO INSTALLATION.
- THE PRODUCTION MICROPILE(S) USED FOR PROOF TESTING SHALL BE THE SAME DESIGN AS ALL OTHER MICROPILES, AND INSTALLED WITH THE SAME MEANS AND METHODS AS ALL OTHER PRODUCTION PILES, EXCEPT FOR THE SIZE OF THE THREADBAR.
- THE PRODUCTION MICROPILE(S) FOR THE PROOF TEST SHALL BE INSTALLED WITH A 1 3/4" THREADBAR THAT CONFORM TO ASTM A722, TYPE II, GRADE 150/AASHTO M275 TYPE II, GRADE 150.
- PROOF TESTS SHALL BE PERFORMED IN TENSION TO A TEST LOAD OF 1.0 TIMES THE MAXIMUM FACTORED DESIGN LOAD OF THE PILE BEING TESTED, (FDL OR EFDL) IN ACCORDANCE WITH ASTM D3689.
- VERIFICATION AND PROOF TEST PROCEDURES, ACCEPTANCE CRITERIA, AND TEST REPORTS SHALL BE IN ACCORDANCE WITH THE PROOF TEST PROCEDURES OUTLINED IN THE SPECIAL PROVISION.
- PRIOR TO PERFORMING ANY LOAD TESTS, INFORMATION ON ALL EQUIPMENT, TESTING PROCEDURES, TEST DATA SHEETS, AND QUALIFICATIONS OF PERSONNEL SHALL BE SUBMITTED TO TDOT FOR REVIEW AND APPROVAL.
- PILE LOAD TESTS SHALL BE PERFORMED AFTER THE GROUT HAS ATTAINED 100 PERCENT OF THE REQUIRED COMPRESSIVE STRENGTH AS SPECIFIED ELSEWHERE HEREIN.
- TDOT OR TDOT'S REPRESENTATIVE MUST BE PRESENT DURING EACH PILE LOAD TEST.
- ALL DATA FROM ALL PILE LOAD TESTS SHALL BE SUBMITTED TO TDOT FOR REVIEW AND FILING.



MICROPILE DETAIL

**GENERAL NOTES**

- THE CONTRACTOR SHALL FIELD VERIFY ALL CONDITIONS, GRADES, AND DIMENSIONS PRIOR TO CONSTRUCTION. IF THE CONTRACTOR DISCOVERS ANY ERRORS, OMISSIONS, OR DISCREPANCIES, THEY SHALL CONTACT THE ENGINEER IMMEDIATELY. THE ENGINEER WILL THEN ISSUE INSTRUCTIONS AS TO HOW TO PROCEED.
- CONSTRUCT MICROPILES IN ACCORDANCE WITH THESE DRAWINGS OR AS DIRECTED BY THE ENGINEER DURING THE COURSE OF CONSTRUCTION.
- THE CONTRACTOR SHALL FIELD VERIFY LOCATIONS AND ELEVATIONS OF ALL UTILITIES FOR THE CONSTRUCTION AREA. THE ENGINEER IS NOT RESPONSIBLE FOR FIELD VERIFYING THESE LOCATIONS AND DAMAGE TO IDENTIFIED AND UNIDENTIFIED UTILITIES AND FOUNDATIONS.
- IF THE SITE CONDITIONS AND DESIGN PARAMETERS ARE DIFFERENT THAN THOSE SHOWN ON THE DRAWINGS, THE CONTRACTOR SHALL IMMEDIATELY INFORM THE ENGINEER OR HIS REPRESENTATIVE WHO WILL DETERMINE IF ADJUSTMENTS TO THE DESIGN ARE REQUIRED.
- THE TOP OF ALL MICROPILES SHALL BE TERMINATED AS SHOWN IN THE TYPICAL MICROPILE DETAIL.



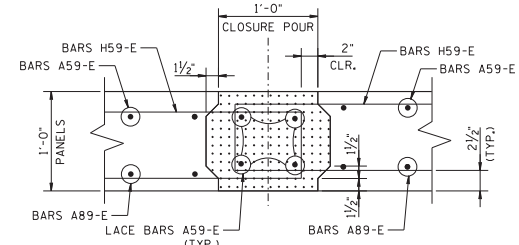
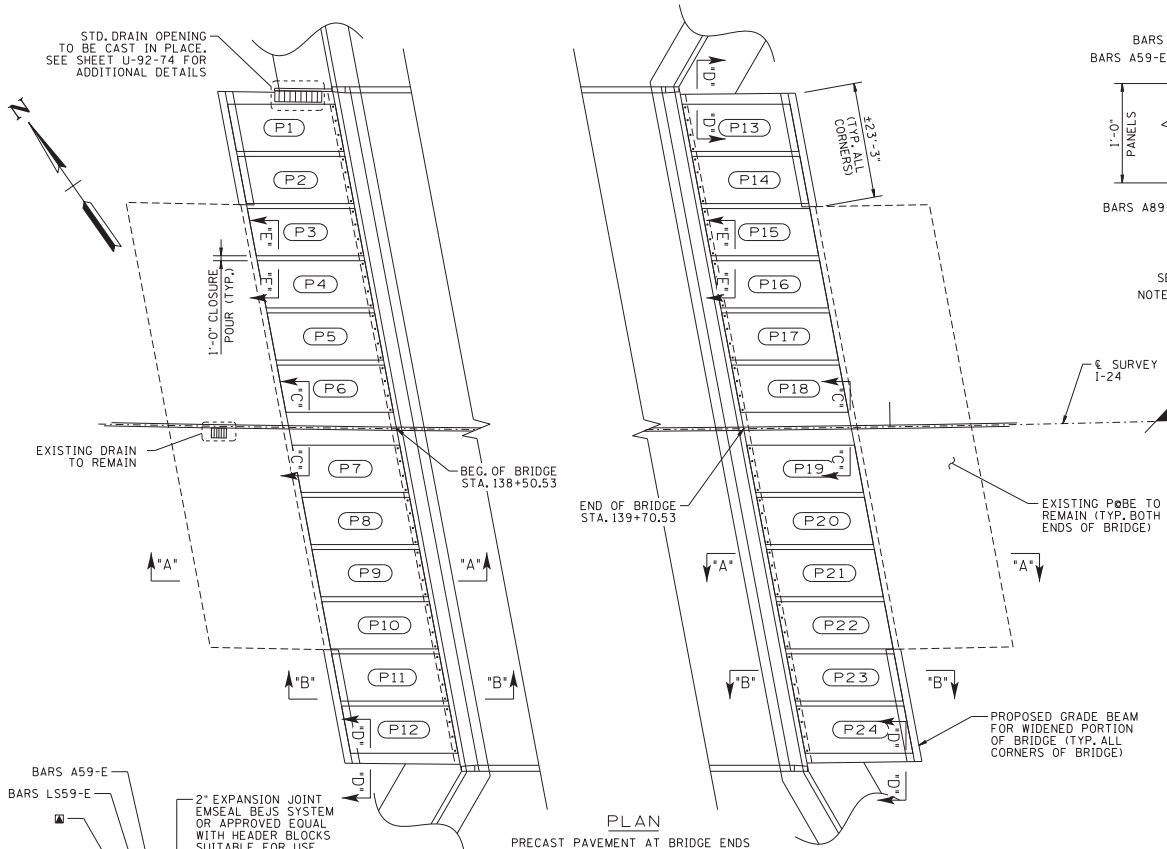
STATE OF TENNESSEE  
 DEPARTMENT OF TRANSPORTATION  
 BRIDGE NO. 1  
 MICROPILE DETAILS

INTERSTATE 24 OVER  
 S. GERMANTOWN ROAD  
 FED. I.D. NO. 33100240055  
 HAMILTON COUNTY  
 2020

PIN NO.: 124089.00  
 DESIGN BY: BARGE DESIGN SOLUTIONS DATE: 01-2020  
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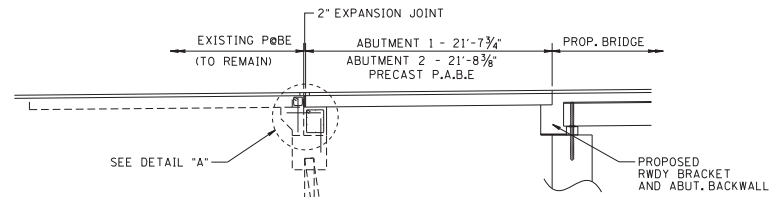
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BR-I-24-3(97)	2020	U-92-69	
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION



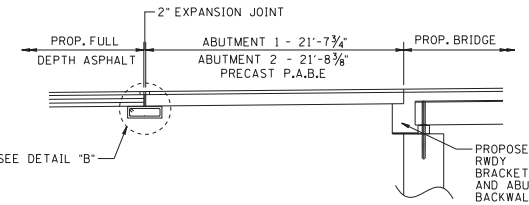
**SECTION "E"-"E"**  
 SEE P08E PANEL SHEETS FOR REINFORCEMENT DETAILS  
 NOTE: THE KEY WAY FACE SHALL BE SAND-BLAST FINISHED PRIOR TO PLACING OF CLOSURE POUR MATERIAL.

**NOTES:**

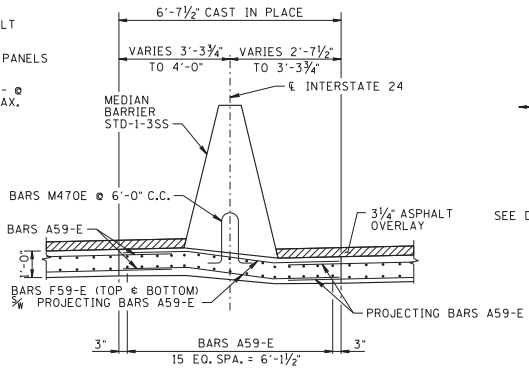
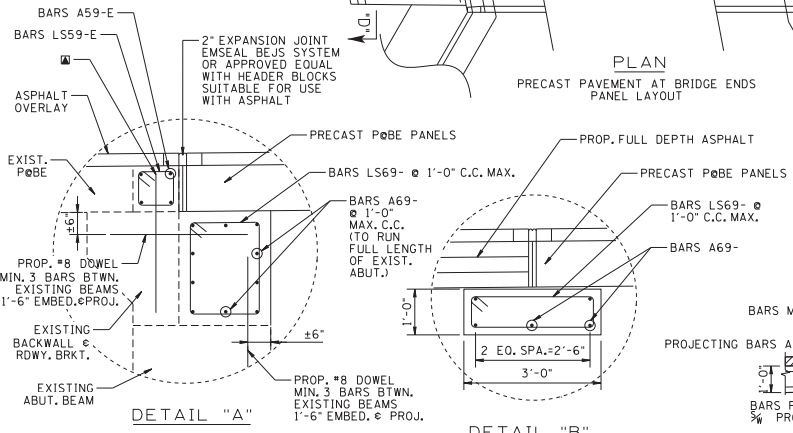
- IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY ALL DIMENSIONS AND LOCATION OF EXISTING CONCRETE PAVEMENT JOINTS PRIOR TO PRECASTING AND WEEKEND CLOSURE.
- PAVEMENT AT BRIDGE ENDS SHALL BE PRECAST AND REINFORCED AS SHOWN IN THESE PLANS. CLOSURE POUR JOINT MATERIAL SHALL BE CLASS "X" CONCRETE SIMILAR TO SYSTEM USED ON SUPERSTRUCTURE UNITS AND IS INCLUDED IN UNIT PRICE FOR PAVEMENT AT BRIDGE ENDS ITEM NO. 604-03.04.
- COST OF ALL LABOR AND MATERIALS INCLUDING REINFORCING STEEL AND CONCRETE FOR CLOSURE POUR, C.I.P. MEDIAN, C.I.P. OVERHANG, AND EXISTING ABUTMENT MODIFICATIONS SHALL BE INCLUDED IN THE UNIT COST FOR PAVEMENT AT BRIDGE ENDS ITEM NO. 604-03.04.
- THE CONTRACTOR MAY ELECT TO INSTALL SECTIONS OF THE PRECAST CONCRETE PAVEMENT AT BRIDGE ENDS AS CAST IN PLACE SECTIONS WHERE DOING SO PROVIDES A BENEFIT TO THE PROJECT OR THE TRAVELING PUBLIC. ANY CHANGES MUST BE APPROVED BY THE ENGINEER PRIOR TO THE WEEKEND CLOSURE.
- VERTICAL FACE OF PRECAST PANELS SECTIONS SHALL BE ROUGHENED AT TIME OF CASTING BY CHEMICAL OR OTHER FORMING METHODS.
- CONTRACTOR MAY PRECAST OR CAST-IN-PLACE EXISTING ABUTMENT MODIFICATIONS INTENDED TO SUPPORT PRECAST P08E PANELS. THE CONTRACTOR SHALL SUBMIT CONSTRUCTION METHOD AND ANY SHOP DRAWINGS NECESSARY TO THE ENGINEER FOR APPROVAL.



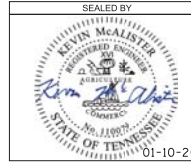
**SECTION "A"-"A"**  
 ABUTMENT 1 SHOWN, ABUTMENT 2 SIMILAR



**SECTION "B"-"B"**  
 ABUTMENT 1 SHOWN, ABUTMENT 2 SIMILAR



**SECTION "C"-"C"**



STATE OF TENNESSEE  
 DEPARTMENT OF TRANSPORTATION  
 BRIDGE NO. 1  
 PRECAST PAVEMENT AT  
 BRIDGE ENDS PANEL LAYOUT  
 INTERSTATE 24 OVER  
 S. GERMANTOWN ROAD  
 FED. I.D. NO. 33100240055  
 HAMILTON COUNTY  
 2020

11/10/2020  
 F:\38\97\20\39\3900004\_CADD\TNS\GERMANTOWN RD\Bridges\IGN\973000\_Germantown PABE.dgn  
 PIN NO.: 124089.00  
 DESIGN BY: BARGE DESIGN SOLUTIONS DATE: 01-2020  
 DRAWN BY: BARGE DESIGN SOLUTIONS DATE: 01-2020  
 SUPERVISED BY: BARGE DESIGN SOLUTIONS DATE: 01-2020  
 CHECKED BY: BARGE DESIGN SOLUTIONS DATE: 01-2020

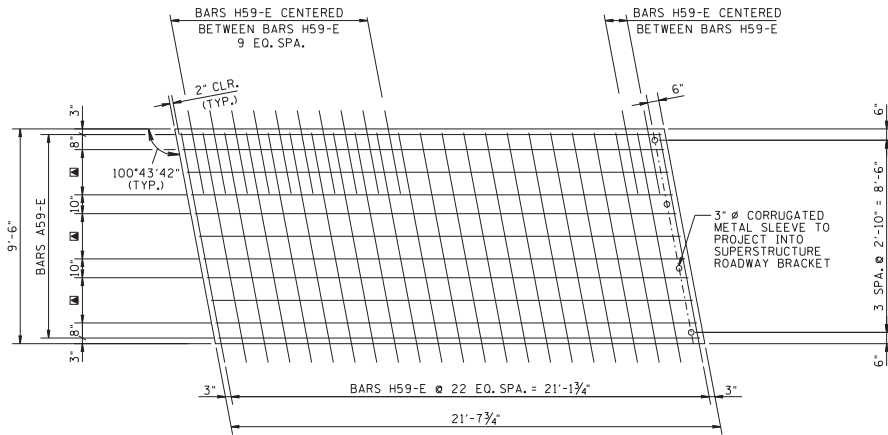
NOTE: FOR SECTION "D"-"D" SEE SHEET U-92-74



CONST. NO.: 33003-3166-44

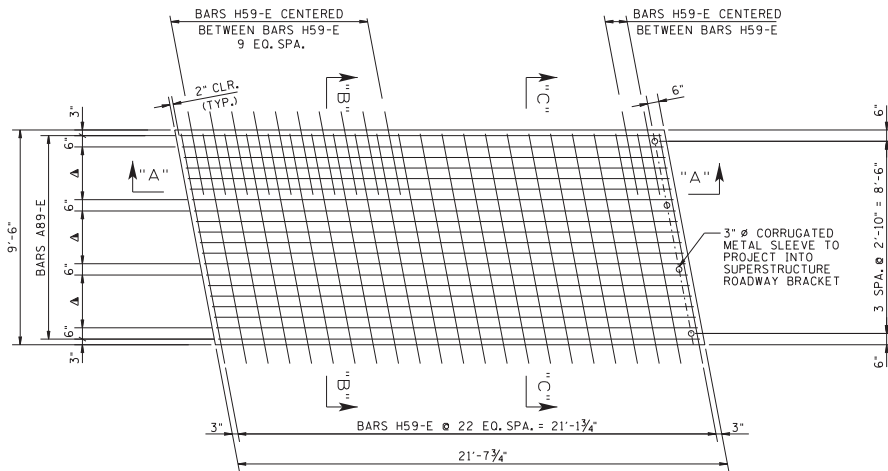
PROJECT NO.	YEAR	SHEET NO.
BR-I-24-3(97)	2020	U-92-70

REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION
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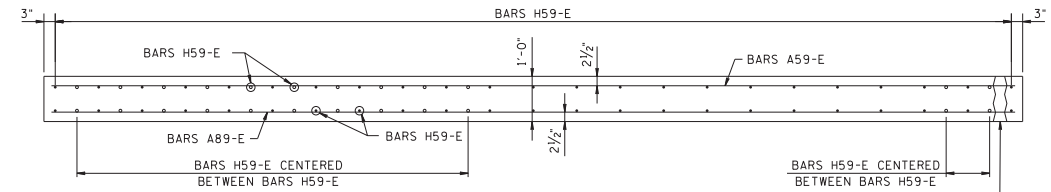
TOP MAT REINFORCEMENT

PANEL NO. P1



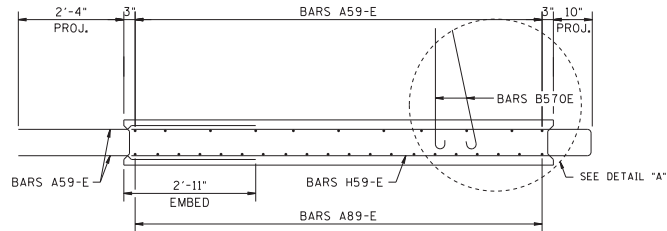
BOTTOM MAT REINFORCEMENT

PANEL NO. P1



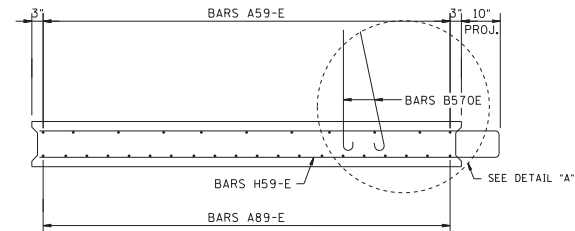
SECTION "A"-A"

PANEL NO. P1



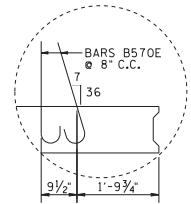
SECTION "B"-B"

PANEL NO. P1



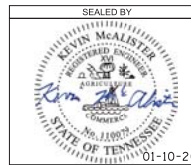
SECTION "C"-C"

PANEL NO. P1



DETAIL "A"

BARS H64\_E NOT SHOWN FOR CLARITY



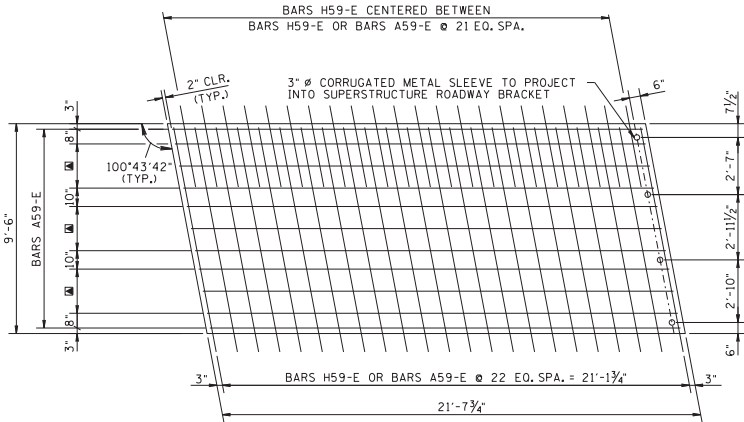
STATE OF TENNESSEE  
DEPARTMENT OF TRANSPORTATION  
BRIDGE NO. 1  
PRECAST PAVEMENT AT  
BRIDGE ENDS PANEL DETAILS  
INTERSTATE 24 OVER  
S. GERMANTOWN ROAD  
FED. I.D. NO. 33100240055  
HAMILTON COUNTY  
2020

PIN NO.: 124089.00  
DESIGN BY: BARGE DESIGN SOLUTIONS DATE: 01-2020  
DRAWN BY: BARGE DESIGN SOLUTIONS DATE: 01-2020  
SUPERVISED BY: BARGE DESIGN SOLUTIONS DATE: 01-2020  
CHECKED BY: BARGE DESIGN SOLUTIONS DATE: 01-2020

■ DENOTES: 2 SPA. @ 1'-0" = 2'-0"  
▲ DENOTES: 5 E.O. SPA. = 2'-4"

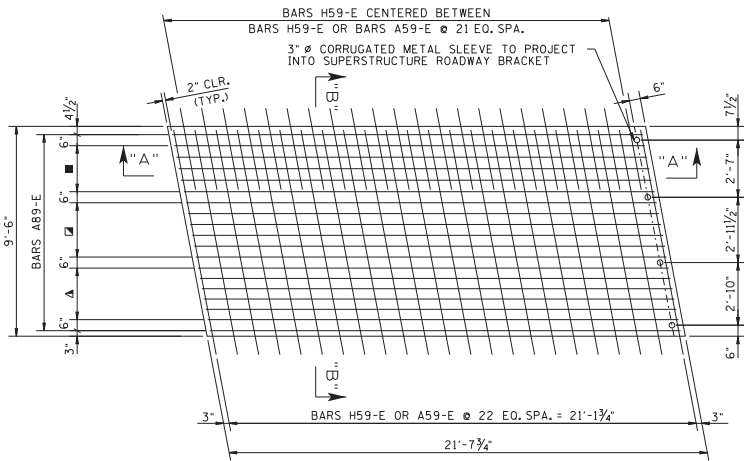
CONST. NO.: 33003-3166-44

PROJECT NO.		YEAR		SHEET NO.	
BR-I-24-3(97)		2020		U-92-71	
REVISIONS					
NO.	DATE	BY	BRIEF DESCRIPTION		
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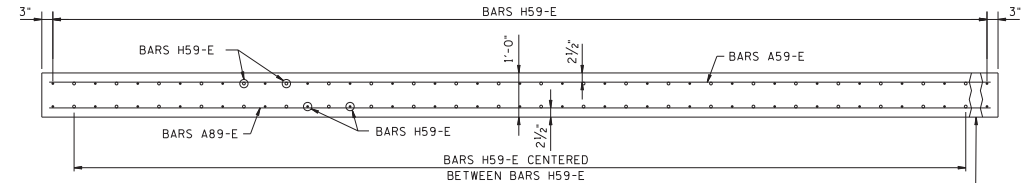
**TOP MAT REINFORCEMENT**

PANEL NOS. P2, P3, P4, P5, P6, P7, P8, P9, P10, P11 & P12



**BOTTOM MAT REINFORCEMENT**

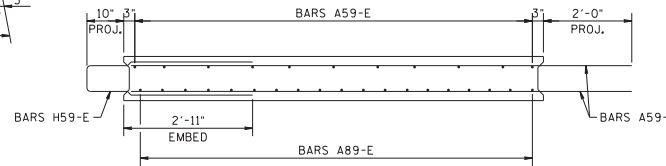
PANEL NOS. P2, P3, P4, P5, P6, P7, P8, P9, P10, P11 & P12



**SECTION "A"-"A"**

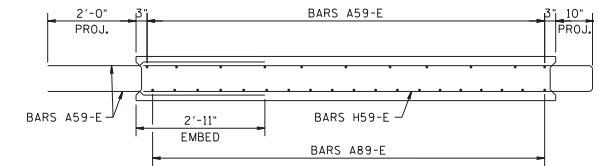
PANEL NOS. P2, P3, P4, P5, P6, P7, P8, P9, P10, P11 & P12

3"  $\emptyset$  CORRUGATED METAL SLEEVE. BARS MAY BE CUT FOR SLEEVE PLACEMENT. AVOID LONGITUDINAL BARS.



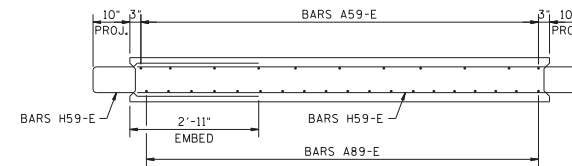
**SECTION "B"-"B"**

PANEL NO. P6



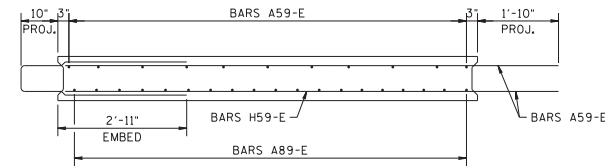
**SECTION "B"-"B"**

PANEL NO. P7



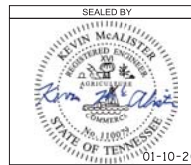
**SECTION "B"-"B"**

PANEL NOS. P2, P3, P4, P5, P8, P9, P10, P11



**SECTION "B"-"B"**

PANEL NO. P12



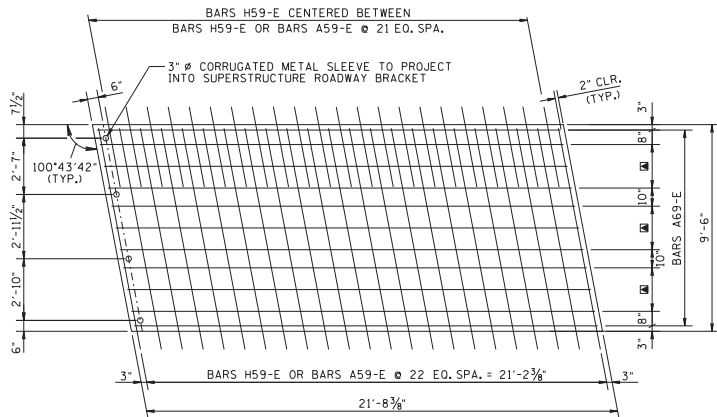
STATE OF TENNESSEE  
DEPARTMENT OF TRANSPORTATION  
BRIDGE NO. 1  
PRECAST PAVEMENT AT  
BRIDGE ENDS PANEL DETAILS  
INTERSTATE 24 OVER  
S. GERMANTOWN ROAD  
FED. I.D. NO. 33100240055  
HAMILTON COUNTY  
2020

PIN NO.: 124069.00  
DESIGN BY: BARGE DESIGN SOLUTIONS DATE: 01-2020  
DRAWN BY: BARGE DESIGN SOLUTIONS DATE: 01-2020  
SUPERVISED BY: BARGE DESIGN SOLUTIONS DATE: 01-2020  
CHECKED BY: BARGE DESIGN SOLUTIONS DATE: 01-2020

■ DENOTES: 2 SPA.  $\emptyset$  1'-0" = 2'-0"  
▲ DENOTES: 5 EQ. SPA. = 2'-4"  
■ DENOTES: 4 EQ. SPA. = 2'-1"  
■ DENOTES: 5 EQ. SPA.  $\emptyset$  = 2'-5 1/2"

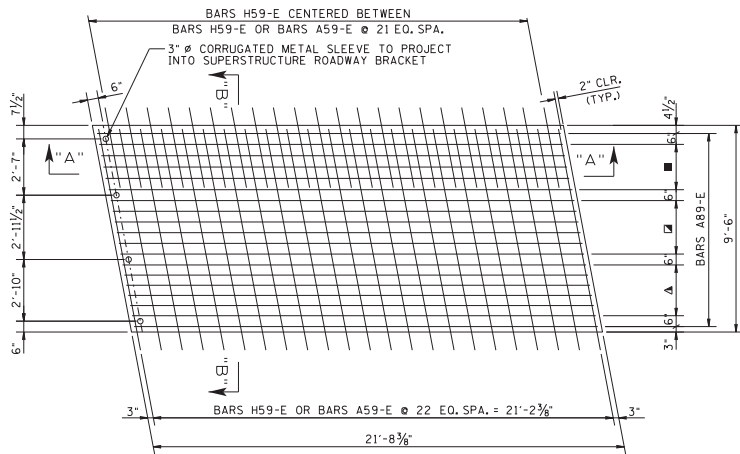
CONST. NO.: 33003-3166-44

PROJECT NO.	YEAR	SHEET NO.	
BR-I-24-3(97)	2020	U-92-72	
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION
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**TOP MAT REINFORCEMENT**

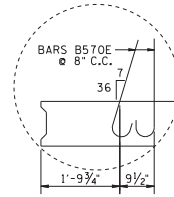
PANEL NOS. P13, P14, P15, P16, P17, P18, P19, P20, P21, P22, P23 & P24



**BOTTOM MAT REINFORCEMENT**

PANEL NOS. P13, P14, P15, P16, P17, P18, P19, P20, P21, P22, P23 & P24

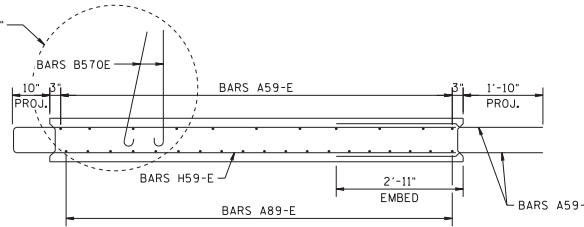
- ▲ DENOTES: 2 SPA. @ 1'-0" = 2'-0"
- △ DENOTES: 4 EO. SPA. = 2'-4"
- DENOTES: 4 EO. SPA. = 2'-1"
- ▣ DENOTES: 5 EO. SPA. @ 2'-5 1/2"



**DETAIL "A"**

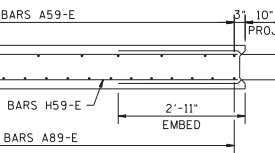
BARS H64-E NOT SHOWN FOR CLARITY

SEE DETAIL "A"



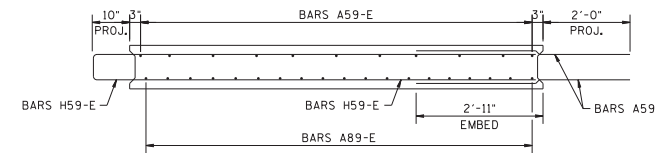
**SECTION "B"-"B"**

PANEL NO. P13



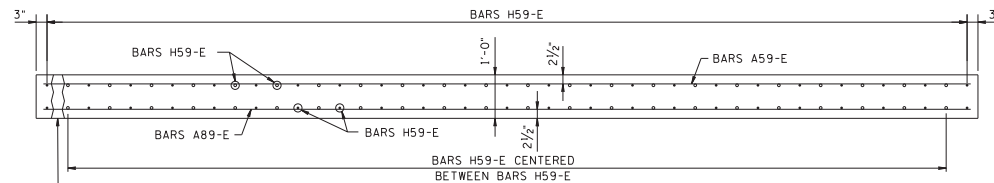
**SECTION "B"-"B"**

PANEL NO. P18



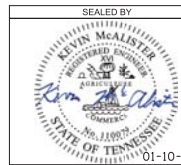
**SECTION "B"-"B"**

PANEL NO. P19



**SECTION "A"-"A"**

PANEL NOS. P13, P14, P15, P16, P17, P18, P19, P20, P21, P22, P23 & P24



STATE OF TENNESSEE  
DEPARTMENT OF TRANSPORTATION  
BRIDGE NO. 1  
PRECAST PAVEMENT AT  
BRIDGE ENDS PANEL DETAILS  
INTERSTATE 24 OVER  
S. GERMANTOWN ROAD  
FED. I.D. NO. 33100240055  
HAMILTON COUNTY  
2020

U-92-72

PIN NO.: 124069.00  
DESIGN BY: BARGE DESIGN SOLUTIONS DATE: 01-2020  
DRAWN BY: BARGE DESIGN SOLUTIONS DATE: 01-2020  
SUPERVISED BY: BARGE DESIGN SOLUTIONS DATE: 01-2020  
CHECKED BY: BARGE DESIGN SOLUTIONS DATE: 01-2020

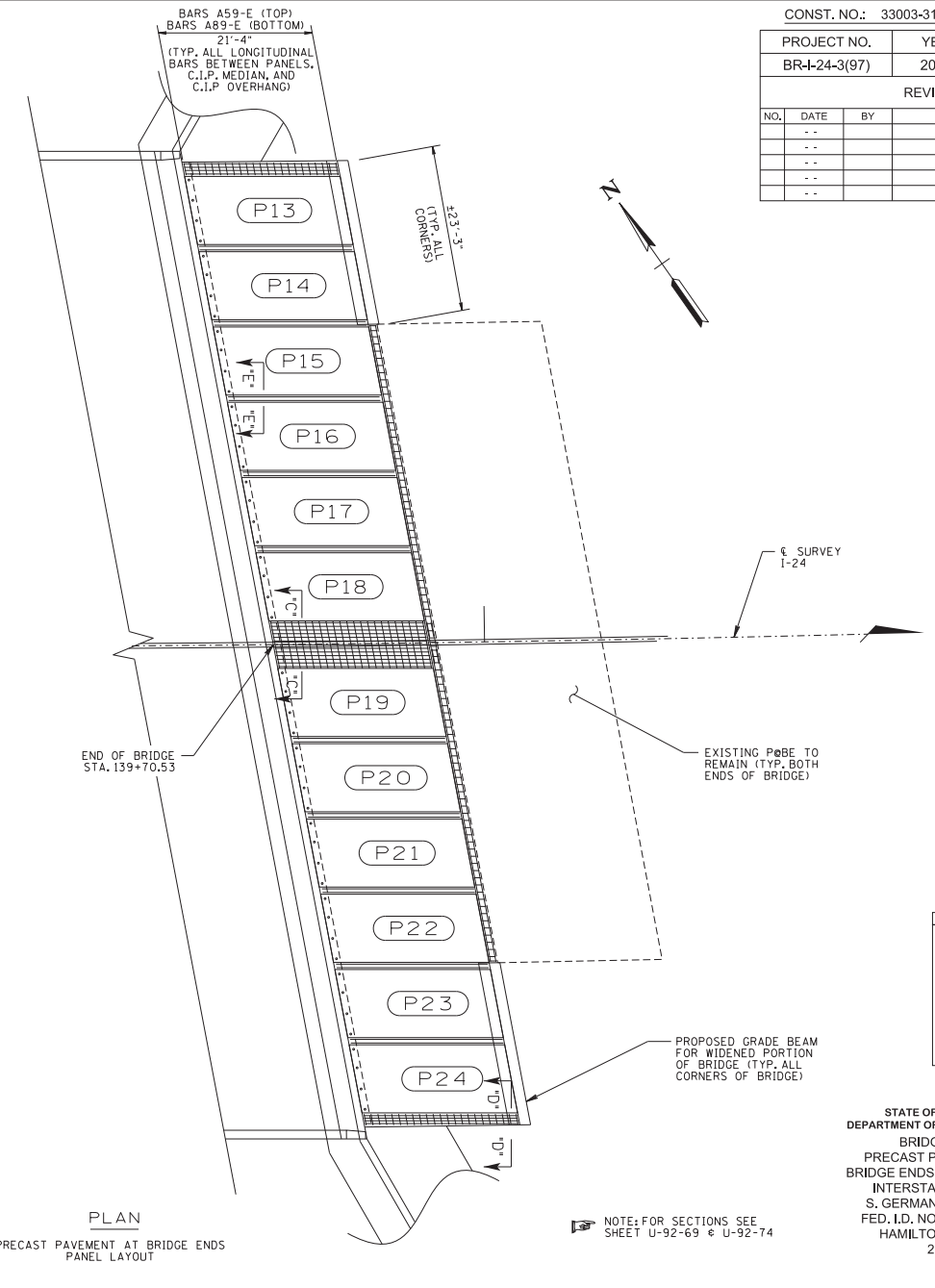
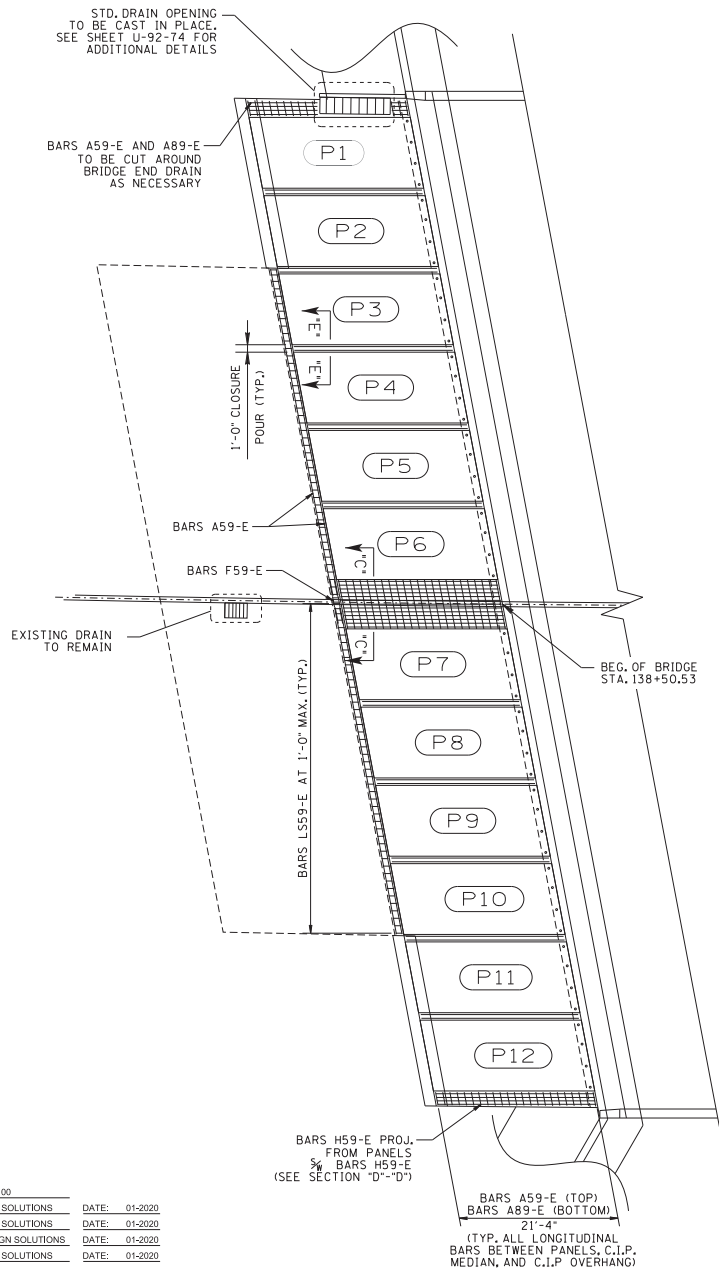
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CONST. NO.: 33003-3166-44

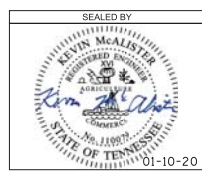
PROJECT NO.	YEAR	SHEET NO.
BR-I-24-3(97)	2020	U-92-73

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
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PLAN  
PRECAST PAVEMENT AT BRIDGE ENDS  
PANEL LAYOUT



STATE OF TENNESSEE  
DEPARTMENT OF TRANSPORTATION  
BRIDGE NO. 1  
PRECAST PAVEMENT AT  
BRIDGE ENDS PANEL DETAILS  
INTERSTATE 24 OVER  
S. GERMANTOWN ROAD  
FED. I.D. NO. 33100240055  
HAMILTON COUNTY  
2020

1/10/2020 F:\38\92730\38\92730\04\_CADD\TNS\GERMANTOWN RD\BRIDGE\IGN\9273000\_Germantown P&BE\_DET004.dgn

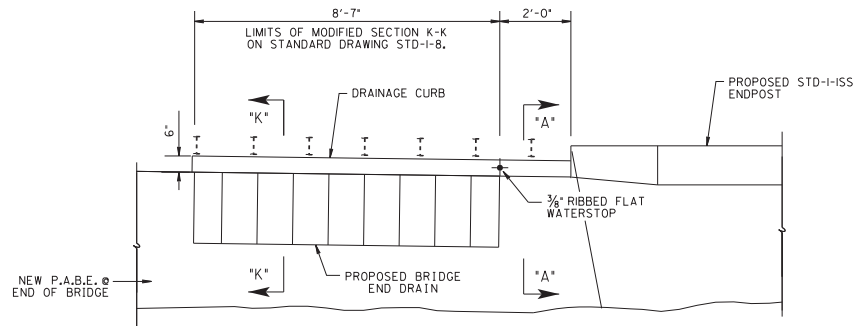
PIN NO.:	124069.00	DATE:	01-2020
DESIGN BY:	BARGE DESIGN SOLUTIONS	DATE:	01-2020
DRAWN BY:	BARGE DESIGN SOLUTIONS	DATE:	01-2020
SUPERVISED BY:	BARGE DESIGN SOLUTIONS	DATE:	01-2020
CHECKED BY:	BARGE DESIGN SOLUTIONS	DATE:	01-2020

CONST. NO.: 33003-3166-44

PROJECT NO.	YEAR	SHEET NO.
BR-I-24-3(97)	2020	U-92-74

REVISIONS

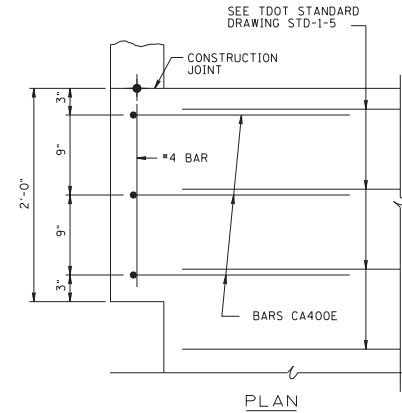
NO.	DATE	BY	BRIEF DESCRIPTION
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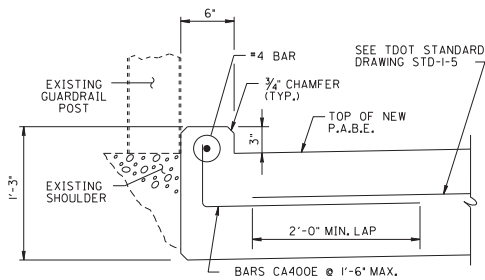
DRAINAGE CURB DETAIL

(TYP. @ END OF WESTBOUND BRIDGE ONLY) (N.T.S.)

NOTE: COST FOR ALL LABOR, EXCAVATION, EPOXY COATED REINFORCING STEEL, CLASS "A" CONCRETE COMPLETE AND IN PLACE, FORMING, WATERSTOP, AND ANY MISCELLANEOUS MATERIALS NECESSARY TO CONSTRUCT THE DRAINAGE CURBS AT THE END OF THE BRIDGE SHALL BE INCLUDED IN THE PRICE BID FOR ITEM NO. 604-03.04, PAVEMENT AT BRIDGE ENDS, S.Y.

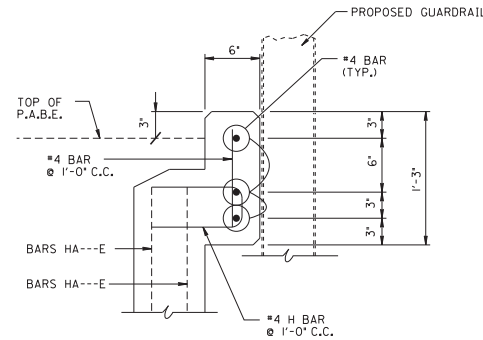


PLAN



ELEVATION

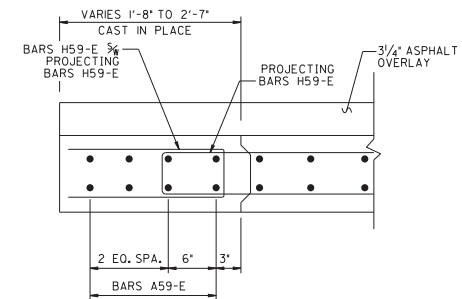
SECTION "A"- "A"  
(SHOWING PROPOSED CURB REINFORCING)  
(N.T.S.)



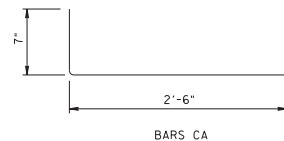
PARTIAL-MODIFIED SECTION "K"- "K"  
(N.T.S.)

NOTE: SEE SECTION "K"- "K" ON DOT STANDARD DRAWING STD-I-8 FOR DETAILS NOT SHOWN HERE.

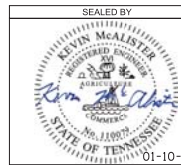
NOTE: CHAMFER ALL EXPOSED CORNERS 3/4"



SECTION "D"- "D"



BARS CA



STATE OF TENNESSEE  
DEPARTMENT OF TRANSPORTATION  
BRIDGE NO. 1  
P.A.B.E. MODIFICATIONS

INTERSTATE 24 OVER  
S. GERMANTOWN ROAD  
FED. I.D. NO. 33100240055  
HAMILTON COUNTY  
2020

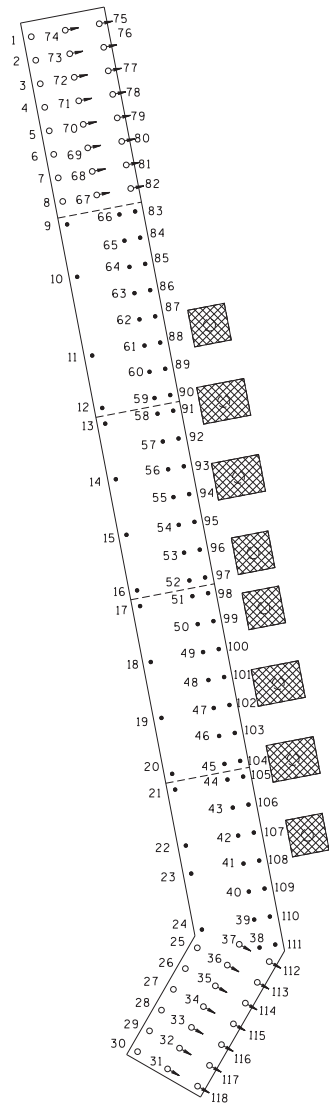
U-92-74

PIN NO.: 124089.00  
DESIGN BY: BARGE DESIGN SOLUTIONS DATE: 01-2020  
DRAWN BY: BARGE DESIGN SOLUTIONS DATE: 01-2020  
SUPERVISED BY: BARGE DESIGN SOLUTIONS DATE: 01-2020  
CHECKED BY: BARGE DESIGN SOLUTIONS DATE: 01-2020

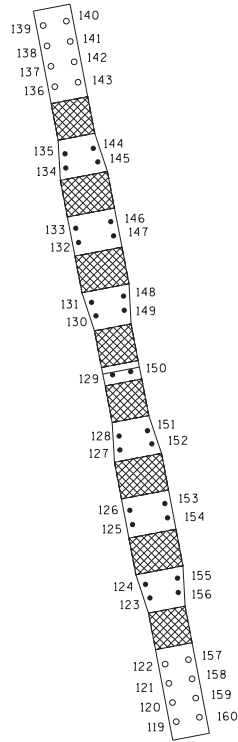
CONST. NO.: 33003-3166-44

PROJECT NO.	YEAR	SHEET NO.	
BR-I-24-3(97)	2020	U-92-75	
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION
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-	-	-	-
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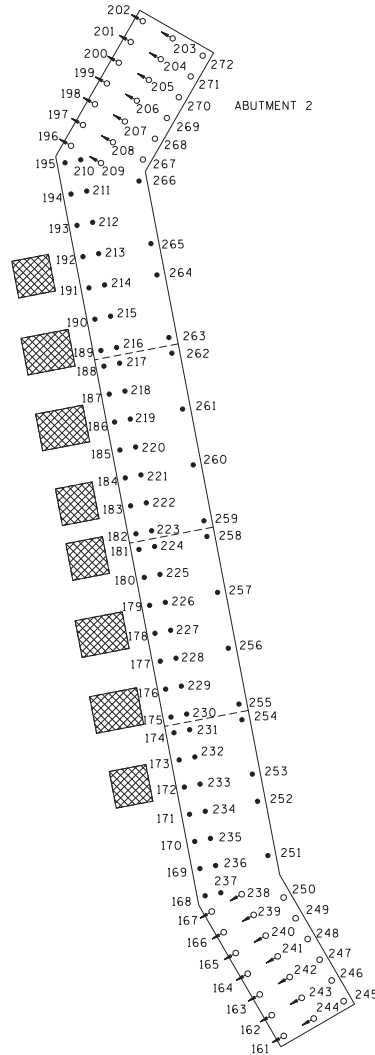
ABUTMENT 1



BENT 1

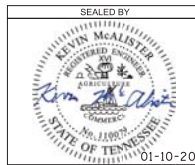


ABUTMENT 2



NOTE: EXISTING PILES NOT SHOWN FOR CLARITY

NOTE TO CONTRACTOR AND CONSTRUCTION OFFICE: THE BLANKS SHOWN ON THE FINAL FOUNDATION DATA SHEETS ARE TO BE FILLED IN BY THE CONSTRUCTION OFFICE AND/OR THE FIELD ENGINEER GIVING AS BUILT CONDITIONS, AFTER COMPLETION, IT IS TO BE SENT TO THE DIVISION OF STRUCTURES TO BECOME PART OF THE FINAL BRIDGE DOCUMENTS.



STATE OF TENNESSEE  
DEPARTMENT OF TRANSPORTATION  
BRIDGE NO. 1  
FINAL FOUNDATION DATA

INTERSTATE 24 OVER  
S. GERMANTOWN ROAD  
FED. I.D. NO. 33100240055  
HAMILTON COUNTY  
2020

U-92-75

PIN NO.: 124069.00  
DESIGN BY: BARGE DESIGN SOLUTIONS DATE: 01-2020  
DRAWN BY: BARGE DESIGN SOLUTIONS DATE: 01-2020  
SUPERVISED BY: BARGE DESIGN SOLUTIONS DATE: 01-2020  
CHECKED BY: BARGE DESIGN SOLUTIONS DATE: 01-2020

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CONST. NO.: 33003-3166-44

PROJECT NO.	YEAR	SHEET NO.
BR-I-24-3(97)	2020	U-92-76

REVISIONS

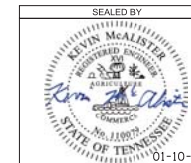
NO.	DATE	BY	BRIEF DESCRIPTION
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-

ABUTMENT NO. 1 PILE DATA

PILE NO.	PILE CUTOFF ELEV.	PILE TIP ELEV.	IN PLACE LENGTH	BOTTOM OF CASING ELEV.	CASING LENGTH	PILE NO.	PILE CUTOFF ELEV.	PILE TIP ELEV.	IN PLACE LENGTH	BOTTOM OF CASING ELEV.	CASING LENGTH	PILE NO.	PILE CUTOFF ELEV.	PILE TIP ELEV.	IN PLACE LENGTH	BOTTOM OF CASING ELEV.	CASING LENGTH
1				N/A	N/A	41						81				N/A	N/A
2				N/A	N/A	42						82				N/A	N/A
3				N/A	N/A	43						83					
4				N/A	N/A	44						84					
5				N/A	N/A	45						85					
6				N/A	N/A	46						86					
7				N/A	N/A	47						87					
8				N/A	N/A	48						88					
9						49						89					
10						50						90					
11						51						91					
12						52						92					
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26				N/A	N/A	66						106					
27				N/A	N/A	67				N/A	N/A	107					
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30				N/A	N/A	70				N/A	N/A	110					
31				N/A	N/A	71				N/A	N/A	111					
32				N/A	N/A	72				N/A	N/A	112				N/A	N/A
33				N/A	N/A	73				N/A	N/A	113				N/A	N/A
34				N/A	N/A	74				N/A	N/A	114				N/A	N/A
35				N/A	N/A	75				N/A	N/A	115				N/A	N/A
36				N/A	N/A	76				N/A	N/A	116				N/A	N/A
37				N/A	N/A	77				N/A	N/A	117				N/A	N/A
38						78				N/A	N/A	118				N/A	N/A
39						79				N/A	N/A						
40						80				N/A	N/A						

NOTE TO CONTRACTOR AND CONSTRUCTION OFFICE: THE BLANKS SHOWN ON THE FINAL FOUNDATION DATA SHEETS ARE TO BE FILLED IN BY THE CONSTRUCTION OFFICE AND/OR THE FIELD ENGINEER GIVING AS BUILT CONDITIONS. AFTER COMPLETION, IT IS TO BE SENT TO THE DIVISION OF STRUCTURES TO BECOME PART OF THE FINAL BRIDGE DOCUMENTS.

PIN NO.: 124069.00  
 DESIGN BY: BARGE DESIGN SOLUTIONS DATE: 01-2020  
 DRAWN BY: BARGE DESIGN SOLUTIONS DATE: 01-2020  
 SUPERVISED BY: BARGE DESIGN SOLUTIONS DATE: 01-2020  
 CHECKED BY: BARGE DESIGN SOLUTIONS DATE: 01-2020



STATE OF TENNESSEE  
 DEPARTMENT OF TRANSPORTATION  
 BRIDGE NO. 1  
 FINAL FOUNDATION DATA

INTERSTATE 24 OVER  
 S. GERMANTOWN ROAD  
 FED. I.D. NO. 33100240055  
 HAMILTON COUNTY  
 2020

U-92-76

11/10/2020 F:\36\367\30\367\3000\04\_CAD\TRNS\GERMANTOWN RD\Bridg\CGN\3673000\_Germantown\_FFDATA\02.dgn

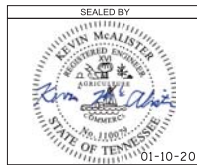
CONST. NO.: 33003-3166-44

PROJECT NO.	YEAR	SHEET NO.	
BR-I-24-3(97)	2020	U-92-77	
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION
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BENT NO. 1 PILE DATA

PILE NO.	PILE CUTOFF ELEV.	PILE TIP ELEV.	IN PLACE LENGTH	BOTTOM OF CASING ELEV.	CASING LENGTH	PILE NO.	PILE CUTOFF ELEV.	PILE TIP ELEV.	IN PLACE LENGTH	BOTTOM OF CASING ELEV.	CASING LENGTH
119				N/A	N/A	143				N/A	N/A
120				N/A	N/A	144					
121				N/A	N/A	145					
122				N/A	N/A	146					
123						147					
124						148					
125						149					
126						150					
127						151					
128						152					
129						153					
130						154					
131						155					
132						156					
133						157				N/A	N/A
134						158				N/A	N/A
135						159				N/A	N/A
136				N/A	N/A	160				N/A	N/A
137				N/A	N/A						
138				N/A	N/A						
139				N/A	N/A						
140				N/A	N/A						
141				N/A	N/A						
142				N/A	N/A						

NOTE TO CONTRACTOR AND CONSTRUCTION OFFICE: THE BLANKS SHOWN ON THE FINAL FOUNDATION DATA SHEETS ARE TO BE FILLED IN BY THE CONSTRUCTION OFFICE AND/OR THE FIELD ENGINEER GIVING AS BUILT CONDITIONS, AFTER COMPLETION, IT IS TO BE SENT TO THE DIVISION OF STRUCTURES TO BECOME PART OF THE FINAL BRIDGE DOCUMENTS.



STATE OF TENNESSEE  
DEPARTMENT OF TRANSPORTATION  
BRIDGE NO. 1  
FINAL FOUNDATION DATA

INTERSTATE 24 OVER  
S. GERMANTOWN ROAD  
FED. I.D. NO. 33100240055  
HAMILTON COUNTY  
2020

U-92-77

PIN NO.: 124069.00  
DESIGN BY: BARGE DESIGN SOLUTIONS DATE: 01-2020  
DRAWN BY: BARGE DESIGN SOLUTIONS DATE: 01-2020  
SUPERVISED BY: BARGE DESIGN SOLUTIONS DATE: 01-2020  
CHECKED BY: BARGE DESIGN SOLUTIONS DATE: 01-2020

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CONST. NO.: 33003-3166-44

PROJECT NO.	YEAR	SHEET NO.
BR-I-24-3(97)	2020	U-92-78

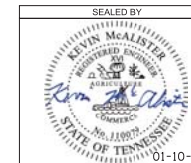
REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-

ABUTMENT NO. 2 PILE DATA

PILE NO.	PILE CUTOFF ELEV.	PILE TIP ELEV.	IN PLACE LENGTH	BOTTOM OF CASING ELEV.	CASING LENGTH	PILE NO.	PILE CUTOFF ELEV.	PILE TIP ELEV.	IN PLACE LENGTH	BOTTOM OF CASING ELEV.	CASING LENGTH	PILE NO.	PILE CUTOFF ELEV.	PILE TIP ELEV.	IN PLACE LENGTH	BOTTOM OF CASING ELEV.	CASING LENGTH
161				N/A	N/A	201				N/A	N/A	241				N/A	N/A
162				N/A	N/A	202				N/A	N/A	242				N/A	N/A
163				N/A	N/A	203				N/A	N/A	243				N/A	N/A
164				N/A	N/A	204				N/A	N/A	244				N/A	N/A
165				N/A	N/A	205				N/A	N/A	245				N/A	N/A
166				N/A	N/A	206				N/A	N/A	246				N/A	N/A
167				N/A	N/A	207				N/A	N/A	247				N/A	N/A
168				N/A	N/A	208				N/A	N/A	248				N/A	N/A
169						209				N/A	N/A	249				N/A	N/A
170						210						250				N/A	N/A
171						211						251					
172						212						252					
173						213						253					
174						214						254					
175						215						255					
176						216						256					
177						217						257					
178						218						258					
179						219						259					
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183						223						263					
184						224						264					
185						225						265					
186						226						266					
187						227						267				N/A	N/A
188						228						268				N/A	N/A
189						229						269				N/A	N/A
190						230						270				N/A	N/A
191						231						271				N/A	N/A
192						232						272				N/A	N/A
193						233											
194						234											
195						235											
196				N/A	N/A	236											
197				N/A	N/A	237											
198				N/A	N/A	238				N/A	N/A						
199				N/A	N/A	239				N/A	N/A						
200				N/A	N/A	240				N/A	N/A						

NOTE TO CONTRACTOR AND CONSTRUCTION OFFICE: THE BLANKS SHOWN ON THE FINAL FOUNDATION DATA SHEETS ARE TO BE FILLED IN BY THE CONSTRUCTION OFFICE AND/OR THE FIELD ENGINEER GIVING AS BUILT CONDITIONS. AFTER COMPLETION, IT IS TO BE SENT TO THE DIVISION OF STRUCTURES TO BECOME PART OF THE FINAL BRIDGE DOCUMENTS.



STATE OF TENNESSEE  
DEPARTMENT OF TRANSPORTATION  
BRIDGE NO. 1  
FINAL FOUNDATION DATA

INTERSTATE 24 OVER  
S. GERMANTOWN ROAD  
FED. I.D. NO. 33100240055  
HAMILTON COUNTY  
2020

U-92-78

PIN NO.: 124069.00  
DESIGN BY: BARGE DESIGN SOLUTIONS DATE: 01-2020  
DRAWN BY: BARGE DESIGN SOLUTIONS DATE: 01-2020  
SUPERVISED BY: BARGE DESIGN SOLUTIONS DATE: 01-2020  
CHECKED BY: BARGE DESIGN SOLUTIONS DATE: 01-2020

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BENT NO. 1

Table with columns: BAR, LOCATION, SIZE, NO. REQ'D, BENDING DIMENSIONS (A, B, C, D), LENGTH. Rows include bars A650-A660, A850-A851, A950-A955, A1050, B850-B851, B1050-B1051, C650-C653, D650-D655, SER D656, SER D657, H550-H551, H650-H655, L5650-L5653, R650, VA850, YB650-YB651.

ABUTMENT NO. 2

Table with columns: BAR, LOCATION, SIZE, NO. REQ'D, BENDING DIMENSIONS (A, B, C, D), LENGTH. Rows include bars A640-A642, A640-A649, A660-A671, SER A672-A677, SER A678-A679, A680-A689.

ABUTMENT NO. 2 CONT'D

Table with columns: BAR, LOCATION, SIZE, NO. REQ'D, BENDING DIMENSIONS (A, B, C, D), LENGTH. Rows include bars A940-A941, C440-C442, C640-C642, CD840-CD841, H640-H642, L5640-L5641, R440-R441, YB640, Z640.

CONST. NO.: 33003-3166-44

Table with columns: PROJECT NO., YEAR, SHEET NO. Values: BR-I-24-3(97), 2020, U-92-80

Table with columns: NO., DATE, BY, BRIEF DESCRIPTION. Includes a header row and several empty rows.

REINFORCING STEEL CODE

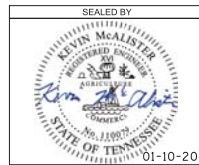
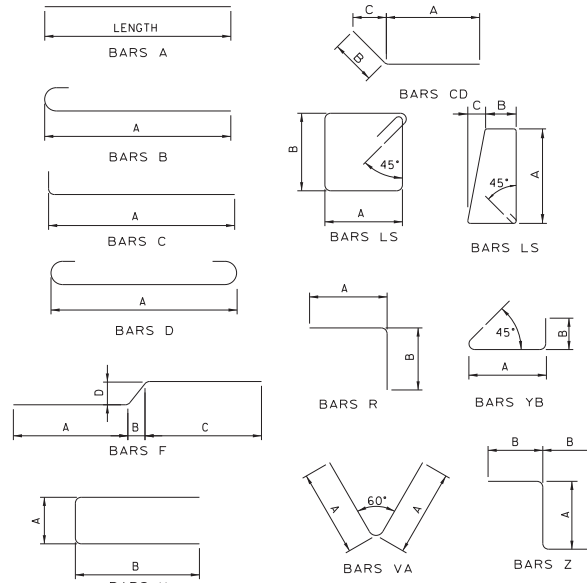
Table with columns: TYPE, SIZE, SERIES. Values: A, 5, 06

NOTE: DIMENSIONS SHOWN ON THIS SHEET ARE OUTSIDE TO OUTSIDE OF BARS. STANDARD C.R.S.I. HOOK DETAILS SHALL APPLY, EXCEPT AS NOTED. NOTE: THE SUFFIX E FOR BARS SO MARKED DENOTES EPOXY COATED REINFORCEMENT. NOTE: BAR CALLOUTS MAY BE REPEATED. MANUFACTURER SHALL DENOTE SUBSTRUCTURE ON BAR TAG.

SPLICE LENGTHS

Table with columns: BAR, REG., EPOXY. Values: #4 2'-5" 2'-11", #5 3'-0" 3'-6", #6 3'-7" 4'-10", #7 4'-2" 4'-2", #8 4'-9" 4'-9", #9 6'-0" --, #10 7'-7" --

NOTE: SPLICE LENGTHS APPLY TO ALL SPLICES UNLESS NOTED OTHERWISE.



STATE OF TENNESSEE DEPARTMENT OF TRANSPORTATION BRIDGE NO. 1 BILL OF STEEL

INTERSTATE 24 OVER S. GERMANTOWN ROAD FED. I.D. NO. 3310240055 HAMILTON COUNTY 2020

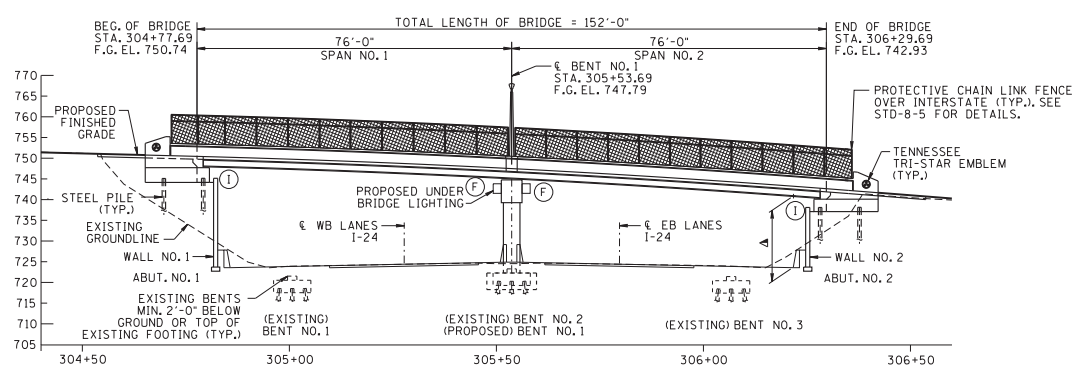
PIN NO.: 124098.00 DESIGN BY: BARGE DESIGN SOLUTIONS DATE: 01-2020 DRAWN BY: BARGE DESIGN SOLUTIONS DATE: 01-2020 SUPERVISED BY: BARGE DESIGN SOLUTIONS DATE: 01-2020 CHECKED BY: BARGE DESIGN SOLUTIONS DATE: 01-2020

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CONST. NO.: 33003-3167-44

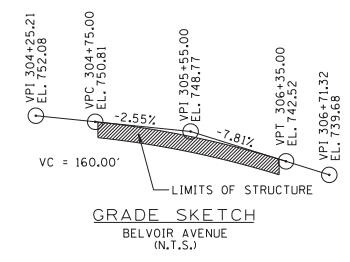
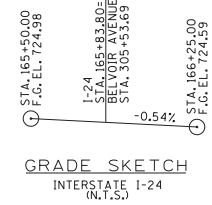
PROJECT NO.	YEAR	SHEET NO.
BR-I-24-3(97)	2020	U-92-81

REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION
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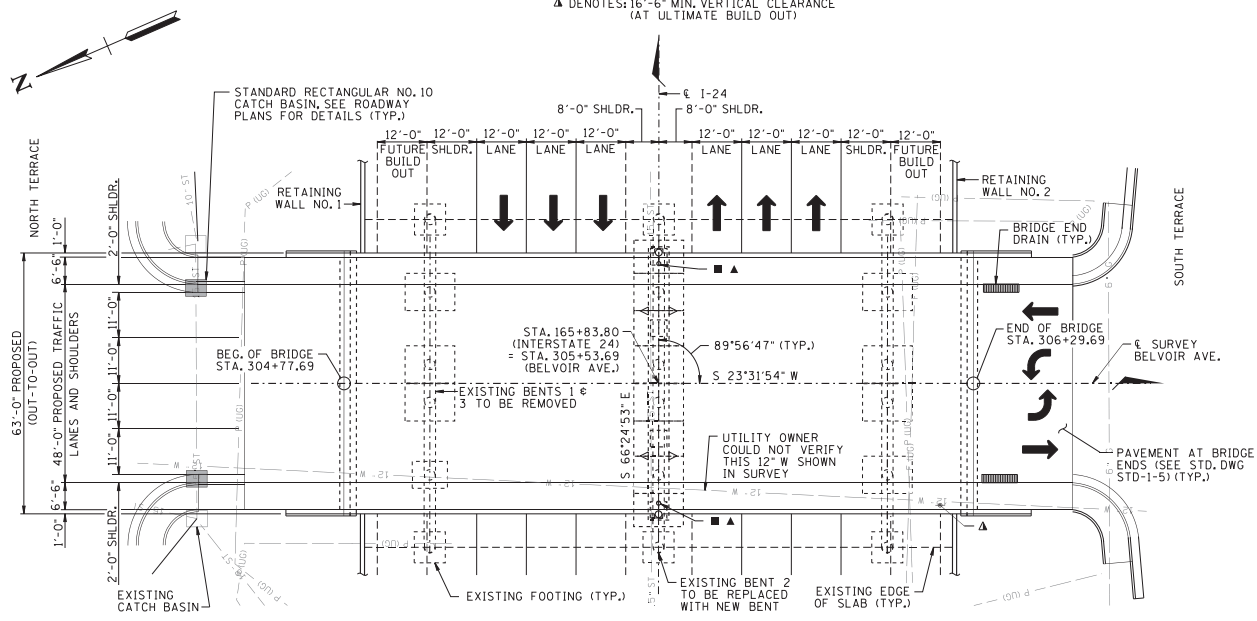


**ELEVATION**  
(SCALE: 1" = 15'-0")

⊙ DENOTES: FIXED  
 ⊙ DENOTES: INTEGRAL  
 ▲ DENOTES: 16'-6" MIN. VERTICAL CLEARANCE (AT ULTIMATE BUILD OUT)



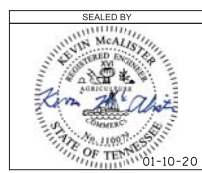
2042 ADT (BELVOIR AVENUE) = 10,320  
 2042 ADT (I-24) = 142,650  
 DESIGN SPEED (BELVOIR AVENUE) = 30 MPH  
 DESIGN SPEED (I-24) = 55 MPH  
 48'-0" ROADWAY WITH STD-11-1 PARAPET



**PLAN**  
(SCALE: 1" = 15'-0")

▨ DENOTES: NEW 2'x8'-7" BRIDGE END DRAIN (TYP.) SEE STD. DWGS. STD.-1-6, STD-1-7 AND STD-1-8.  
 → DENOTES: DIRECTION OF ONE LANE OF TRAVEL

▲ DENOTES: 16'-6" MIN. VERTICAL CLEARANCE (AT ULTIMATE BUILD OUT)  
 ■ DENOTES: BRIDGE MOUNTED PEDESTAL FOR LIGHT STANDARD.  
 ▲ DENOTES: JUNCTION BOX MOUNTED IN PARAPET WALL AT THE BASE OF THE LIGHT PEDESTAL ON THE STREET SIDE.  
 ▷ DENOTES: UP-TYPE LIGHT FIXTURE UNDER BRIDGE



STATE OF TENNESSEE  
 DEPARTMENT OF TRANSPORTATION  
 BRIDGE NO. 2  
 LAYOUT OF BRIDGE  
 BELVOIR AVENUE OVER  
 INTERSTATE 24  
 FED. I.D. NO. 33100240057  
 HAMILTON COUNTY  
 2020

PIN NO.: 124069.00  
 DESIGN BY: J. LEADERS DATE: 01-2020  
 DRAWN BY: K. SWANK / K. BELL DATE: 01-2020  
 SUPERVISED BY: K. McALISTER DATE: 01-2020  
 CHECKED BY: K. McALISTER DATE: 01-2020

U-92-81

CONST. NO.: 33003-3167-44

PROJECT NO.	YEAR	SHEET NO.
BR-I-24-3(97)	2020	U-92-82

REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-

LIST OF DRAWINGS

DRAWING	DWG. NO.	LAST REV. DATE
LAYOUT OF BRIDGE	U-92-81	
LIST OF DRAWINGS	U-92-82	
GENERAL NOTES	U-92-83	
ESTIMATED QUANTITIES	U-92-84	
FOUNDATION DATA	U-92-85	
SUPERSTRUCTURE	U-92-86	
SUPERSTRUCTURE DETAILS	U-92-87	
SUPERSTRUCTURE DETAILS	U-92-88	
PRESTRESSED BOX BEAM DETAILS	U-92-89	
ABUTMENT NO. 1	U-92-90	
ABUTMENT NO. 1 DETAILS	U-92-91	
ABUTMENT NO. 2	U-92-92	
ABUTMENT NO. 2 DETAILS	U-92-93	
EXISTING BENT DEMOLITION	U-92-94	
BENT NO. 1	U-92-95	
BENT NO. 1 PILE LAYOUT	U-92-96	
BENT NO. 1 DETAILS	U-92-97	
FINAL FOUNDATION DATA	U-92-98	
BILL OF STEEL	U-92-99	

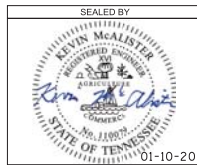
LIST OF STANDARD DRAWINGS

DRAWING	DWG. NO.	LAST REV. DATE
REINFORCED CONCRETE PAVEMENT	STD-1-5	3-26-14
AT BRIDGE ENDS		
BRIDGE MOUNTED INTERCONNECTED PORTABLE	STD-2-1	11-01-10
BARRIER RAIL		
VERTICAL PANEL DETAILS	STD-2-2	
BRIDGE MOUNTED INTERCONNECTED PORTABLE	STD-2-3	
BARRIER RAIL ALTERNATE CONNECTION DETAIL		
STD. PILE DETAILS	STD-5-1	10-25-93
STD. PILE DETAILS	STD-5-2	5-01-14
STANDARD SEISMIC DETAILS	STD-6-1	11-01-10
PROTECTIVE FENCE DETAILS	STD-8-5	
TRI-STAR STATE EMBLEM FINISH DETAILS	STD-8-6	10-03-18
REINFORCING BAR SUPPORT DETAILS	STD-9-1	10-07-08
FOR CONCRETE SLABS		
MISCELLANEOUS ABUTMENT AND	STD-10-1	4-08-05
DRAINAGE DETAILS		
BRIDGE RAILING WITH STRUCTURAL TUBING	STD-11-1	5-01-14
STD. DETAILS FOR PRESTRESSED BOX BEAMS	STD-14-3	10-15-08

• REFERENCE DRAWINGS

DWG. NO.	DRAWING
H-2-15 THRU H-2-22	EXISTING BRIDGE PLANS (1959)
HAMILTON COUNTY - F.A. PROJ. NO. I-24-3	

\* DENOTES: THESE DRAWINGS TO BE PRINTED WITH PLANS.



STATE OF TENNESSEE  
 DEPARTMENT OF TRANSPORTATION  
 BRIDGE NO. 2  
 LIST OF DRAWINGS  
 BELVOIR AVENUE OVER  
 INTERSTATE 24  
 FED. I.D. NO. 33100240057  
 HAMILTON COUNTY  
 2020

U-92-82

PIN NO.: 124069.00  
 DESIGN BY: J. LEADERS DATE: 01-2020  
 DRAWN BY: K. SWANK / K. BELL DATE: 01-2020  
 SUPERVISED BY: K. McALISTER DATE: 01-2020  
 CHECKED BY: K. McALISTER DATE: 01-2020

11/10/2020  
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CONST. NO.: 33003-3167-44		
PROJECT NO.	YEAR	SHEET NO.
BR-I-24-3(97)	2020	U-92-83

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
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GENERAL NOTES

SPECIFICATIONS; STANDARD ROAD AND BRIDGE SPECIFICATIONS OF THE TENNESSEE DEPARTMENT OF TRANSPORTATION (JANUARY 1, 2015 EDITION).

LOADING: HL-93 LIVE LOADING; SEISMIC CATEGORY A WITH  $AS = 0.216g$ ,  $SDS = 0.414g$ ,  $SOI = 0.167g$  (1000 YEAR RETURN PERIOD); DEAD LOAD INCLUDES 35 PSF FOR FUTURE WEARING SURFACE.

DESIGN SPECIFICATIONS: AASHTO LRFD EIGHTH EDITION, 2017, AND THE 2011 AASHTO GUIDE SPECIFICATIONS FOR LRFD SEISMIC BRIDGE DESIGN, EDITION 2 (WITH INTERIMS).

CONCRETE: TO BE CLASS "A" F' C = 3000 PSI EXCEPT AS NOTED OTHERWISE.

CLASS "DS" CONCRETE FOR BRIDGE DECKS SHALL BE IN ACCORDANCE WITH SECTION 604 OF THE STANDARD SPECIFICATIONS.

BRIDGE DECK SURFACE FINISH: TO BE IN ACCORDANCE WITH METHOD 1 IN ARTICLE 604.22 OF THE STANDARD SPECIFICATIONS.

BEARING DEVICES SHALL BE IN ACCORDANCE WITH THE DETAILS AND DIMENSIONS SHOWN ON DRAWING STD-14-3.

REINFORCING STEEL: SHALL BE ASTM A615 GRADE 60 UNLESS NOTED OTHERWISE, SEE SECTION 604 AND 907 OF THE STANDARD SPECIFICATIONS.

PILES: TO BE HP 10x42 PILES GRADE 50 DRIVEN TO REFUSAL ON ROCK OR A MINIMUM BEARING OF 55 TONS FOR THE ABUTMENTS. CONTRACTOR TO USE BOND BREAKER ON QUALIFIED PRODUCTS LIST.

PILES: TO BE HP 14x89 PILES GRADE 50 DRIVEN TO REFUSAL ON ROCK OR A MINIMUM BEARING OF 163 TONS FOR THE BENT.

NOTE: PILES SHALL BE EQUIPPED WITH CAST STEEL POINTS, ALSO, SEE STANDARD DRAWING STD-5-1 FOR ADDITIONAL NOTES.

BRIDGE RAIL SYSTEM: BUILD BRIDGE RAILINGS ACCORDING TO STANDARD DRAWING STD-11-1. THE RAILING SHALL BE FORMED AND CAST PLUMB, NOT PERPENDICULAR TO THE SLAB. THE DIMENSIONS AT THE TRAFFIC FACE SHALL BE KEPT CONSTANT, WITH VARIATION DUE TO CROSS SLOPE ACCOMMODATED AT THE REAR FACE.

NOTE: THE CONTRACTOR SHALL PROVIDE 100% CONVENTIONAL FALL PROTECTION FOR WORKERS ABOVE 15 FEET.

SHOP DRAWINGS: SEE SECTION 105.02 OF THE STANDARD SPECIFICATIONS.

FALSEWORK OVER TRAFFIC: SEE SECTION 604.06 OF THE STANDARD SPECIFICATIONS

NOTE: THE CONTRACTOR SHALL SUPPORT THE ABUTMENTS UNTIL THE SUPERSTRUCTURE IS IN PLACE. FALSEWORK HAS BEEN REMOVED AND BACKFILLING HAS BEEN COMPLETED.

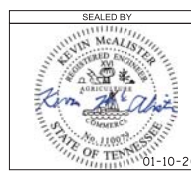
FINISHING CONCRETE SURFACES: CONCRETE FINISHING SHALL BE IN ACCORDANCE WITH SECTION 604.21 OF THE TENNESSEE STANDARD SPECIFICATIONS. A CLASS I FINISH FOLLOWED BY AN APPLIED TEXTURE FINISH SHALL BE USED IN LIEU OF A CLASS II FINISH. NO TEXTURE COATING SHALL BE APPLIED PRIOR TO COMPLETION OF PAVING AND HAULING OPERATIONS AT THE BRIDGE SITE. THE APPLIED TEXTURE FINISH SHALL BE MEASURED AND PAID FOR UNDER ITEM NO. 604-04.01. FOR LOCATION DETAILS, SEE APPLIED TEXTURE FINISH SKETCH ON SHEET NO. U-92-84.

SPECIAL NOTE FOR UTILITIES: IT IS INTENDED THAT THE COST OF MATERIALS AND LABOR NECESSARY FOR THE COMPLETE INSTALLATION OF UTILITIES SHALL BE BORNE BY OTHERS AND SHALL NOT BE PAID FOR AS PART OF THIS CONTRACT. THE CONTRACTOR SHALL COOPERATE WITH OTHERS IN THE INSTALLATION OF UTILITIES WITH NO ADDITIONAL COMPENSATION ALLOWED THE CONTRACTOR AS A RESULT.

PILES: THE CONTRACTOR SHALL SUBMIT APPROPRIATE PILE DRIVING SYSTEMS TO TDOT FOR REVIEW PRIOR TO THE INSTALLATION OF THE FIRST PILE. FINAL APPROVAL OF THE PILE DRIVING SYSTEM BY THE ENGINEER WILL BE SUBJECT TO SATISFACTORY FIELD PERFORMANCE OF THE PILE DRIVING PROCEDURES.

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PIN NO: 124069.00  
 DESIGN BY: J. LEADERS DATE: 01-2020  
 DRAWN BY: K. SWANK / K. BELL DATE: 01-2020  
 SUPERVISED BY: K. MCALISTER DATE: 01-2020  
 CHECKED BY: K. MCALISTER DATE: 01-2020



STATE OF TENNESSEE  
 DEPARTMENT OF TRANSPORTATION  
 BRIDGE NO. 2  
 GENERAL NOTES  
 BELVOIR AVENUE OVER  
 INTERSTATE 24  
 FED. I.D. NO. 33100240057  
 HAMILTON COUNTY  
 2020

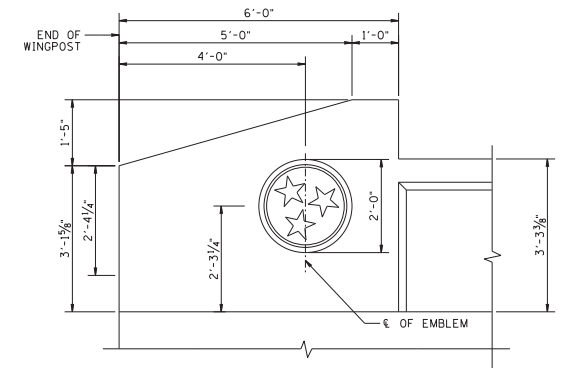
U-92-83

PROJECT NO.	YEAR	SHEET NO.
BR-I-24-3(97)	2020	U-92-84

ESTIMATED QUANTITIES

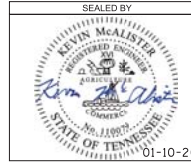
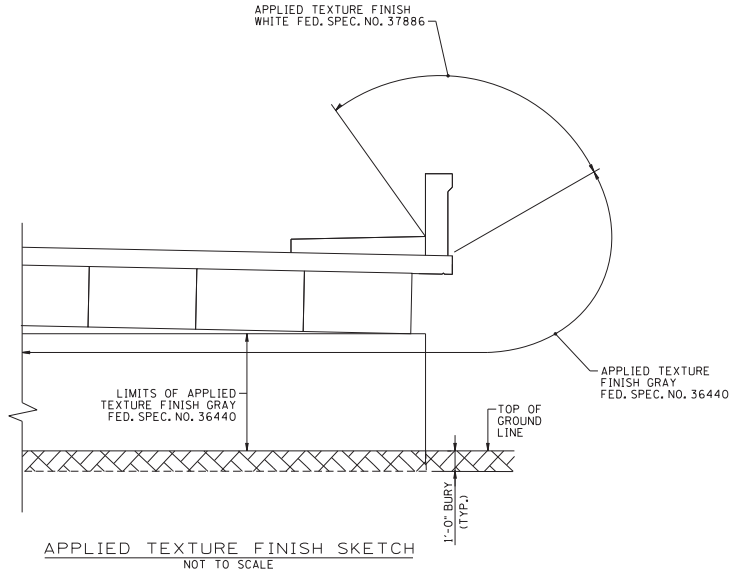
ITEM NO.	DESCRIPTION	UNIT	TOTAL	SUPERSTRUCTURE	ABUTMENT 1	BENT 1	ABUTMENT 2
① 202-04.02	REMOVAL OF STRUCTURES (BRIDGE NO. 33-03611-1.01)	L.S.	1				
② 204-02.01	DRY EXCAVATION (BRIDGES)	C.Y.	119			119	
③ 303-01.02	GRANULAR BACKFILL (BRIDGES)	TON	46		23		23
604-02.03	EPOXY COATED REINFORCING STEEL	LB.	53,454	48,986	2,234		2,234
604-03.01	CLASS 'A' CONCRETE (BRIDGES)	C.Y.	329	62	46	175	46
604-03.02	STEEL BAR REINFORCEMENT (BRIDGES)	LB.	56,635	623	5,320	45,372	5,320
④ 604-03.04	PAVEMENT AT BRIDGE ENDS	S.Y.	336		168		168
604-03.32	CLASS 'DS' CONCRETE	C.Y.	180	180			
⑤ 604-04.01	APPLIED TEXTURE FINISH (NEW STRUCTURES)	S.Y.	1,747	1,329	76	266	76
⑥ 604-04.41	THREE STAR STATE EMBLEM	EACH	4				
⑦ 604-05.31	BRIDGE DECK GROOVING (MECHANICAL)	S.Y.	1,023	1,023			
606-02.03	STEEL PILES (10 INCH)	L.F.	3,026		1,377		1,649
⑧ 606-02.06	PILE TIPS (STEEL PILES, 10 INCH)	EACH	34		17		17
606-04.03	STEEL PILES (14 INCH)	L.F.	1,152			1,152	
⑧ 606-04.06	PILE TIPS (STEEL PILES, 14 INCH)	EACH	24			24	
⑨ 615-02.10	PRESTRESSED CONCRETE BOX BEAM (27"x48")	L.F.	2,213	2,213			
⑩ 620-05	CONCRETE PARAPET WITH STRUCTURAL TUBING	L.F.	354	304			50
⑪ 621-05.02	TEMPORARY SHORING	L.S.	1				
707-07.01	CHAIN-LINK FENCE (BRIDGES)	S.F.	1,815	1,815			
⑫ 710-09.01	6" PERFORATED PIPE WITH VERTICAL DRAIN SYSTEM	L.F.	164		82		82
⑬ 710-09.02	6" PIPE UNDERDRAIN	L.F.	198		99		99
⑭ 714-01.02	STRUCTURAL LIGHTING (BRIDGE NO. 2)	L.S.	1				

REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION
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FOOTNOTES

- ① NOTE: LUMP SUM COMPLETE REMOVAL OF FOUR SPAN PRESTRESSED BOX BEAM WITH CONCRETE DECK SLAB AND CONCRETE OVERLAY, TOTAL LENGTH 190'-6" AND 79'-6" WIDE.
- ② NOTE: EXCAVATION BASED ON EXISTING GROUND.
- ③ NOTE: GRANULAR BACKFILL SHALL BE CLASS "A" GRADING "D" MATERIAL. SEE STANDARD DRAWING STD-10-1.
- ④ NOTE: PRIOR TO THE CONSTRUCTION OF THE PAVEMENT AT BRIDGE ENDS, THE CONTRACTOR SHALL SUBMIT A PROPOSED BILL OF STEEL TO THE ENGINEER FOR APPROVAL.
- ⑤ NOTE: FOR NOTES AND LIMITS OF TEXTURE COATING, SEE DETAIL ON THIS SHEET.
- ⑥ NOTE: THREE STAR STATE EMBLEM SHALL BE PAID FOR IN ACCORDANCE WITH STANDARD DRAWING STD-8-6. LOCATION TO BE ON THE OUTSIDE FACE AT EACH END OF THE PARAPET WITH EXACT LOCATION DESIGNATED ON THIS SHEET.
- ⑦ NOTE: COST INCLUDE LABOR AND MATERIALS TO MECHANICALLY GROOVE BRIDGE DECK AND PAVEMENT AT BRIDGE ENDS, INCLUDING THE REMOVAL OF THE GROOVING RESIDUE.
- ⑧ NOTE: THE UNIT PRICE BID FOR THE CAST STEEL POINTS SHALL INCLUDE FURNISHING AND INSTALLATION TO THE PILES.
- ⑨ NOTE: COST OF ELASTOMERIC BEARING PADS AND RUBBER BONDING CEMENT TO BE INCLUDED IN THE UNIT PRICE BID FOR PRESTRESSED BEAM.
- ⑩ NOTE: CHAIN-LINK FENCE TO BE USED IN LIEU OF STRUCTURAL TUBING. SEE ITEM NO. 707-07.01 FOR PAYMENT.
- ⑪ NOTE: TEMPORARY SHORING OF SLOPE FOR INSTALLATION OF MSE WALLS.
- ⑫ NOTE: COST OF POLYETHYLENE SHEETING AND ALL MISCELLANEOUS ITEMS NECESSARY FOR INSTALLATION TO BE INCLUDED IN THE UNIT PRICE BID FOR PERFORATED PIPE.
- ⑬ NOTE: INCLUDES COST OF 6" UNDERDRAIN HEADWALL TO DAYLIGHT PIPE.
- ⑭ NOTE: INCLUDES COST OF ALL 350 FT OF EMBEDDED 2" CONDUIT, 350 FT OF EMBEDDED 1" CONDUIT, 4 JUNCTION BOXES FOR WALL PACK LIGHTING UNDER BRIDGE, & MISCELLANEOUS MATERIALS REQUIRED FOR INSTALLATION OF STRUCTURAL LIGHTING, SEE LIGHTING PLANS FOR ADDITIONAL DETAILS.



STATE OF TENNESSEE  
 DEPARTMENT OF TRANSPORTATION  
 BRIDGE NO. 2  
 ESTIMATED QUANTITIES  
 BELVOIR AVENUE OVER  
 INTERSTATE 24  
 FED. I.D. NO. 33100240057  
 HAMILTON COUNTY  
 2020

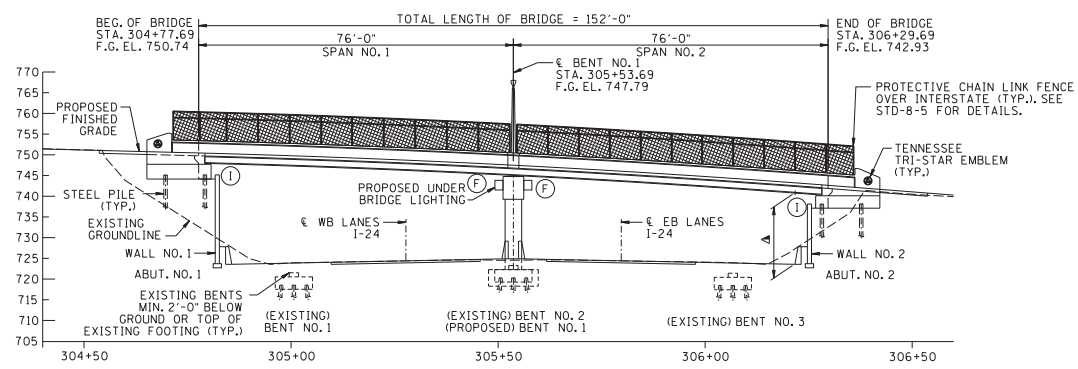
PIN NO.: 124089.00  
 DESIGN BY: J. LEADERS DATE: 01-2020  
 DRAWN BY: K. SWANK / K. BELL DATE: 01-2020  
 SUPERVISED BY: K. McALISTER DATE: 01-2020  
 CHECKED BY: K. McALISTER DATE: 01-2020

IN ADDITION TO THE SURFACES SHOWN IN THE APPLIED TEXTURE FINISH SKETCH, ALL EXPOSED SURFACES OF WINGWALLS, ABUTMENT BEAMS, EXTERIOR PORTIONS OF THE ENDWALLS, BENT CAP, BENT COLUMNS, AND EXTERIOR TOP PORTIONS OF BENT CAP SHALL RECEIVE AN APPLIED TEXTURE FINISH, GRAY, FED. SPEC. NO. 36440.

CONST. NO.: 33003-3167-44

PROJECT NO.	YEAR	SHEET NO.
BR-I-24-3(97)	2020	U-92-85

REVISIONS		
NO.	DATE	BY
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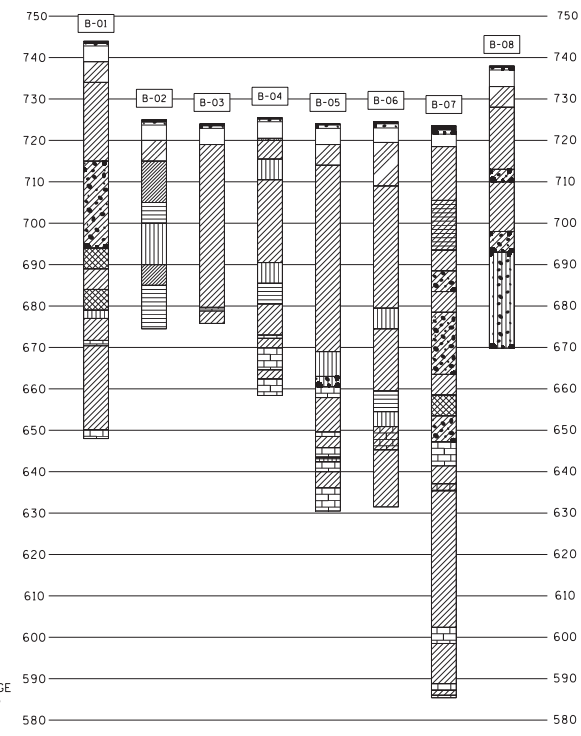


ELEVATION  
(SCALE: 1" = 15'-0")

⊕ DENOTES: FIXED  
⊙ DENOTES: INTEGRAL  
▲ DENOTES: 16'-6" MIN. VERTICAL CLEARANCE (AT ULTIMATE BUILD OUT)

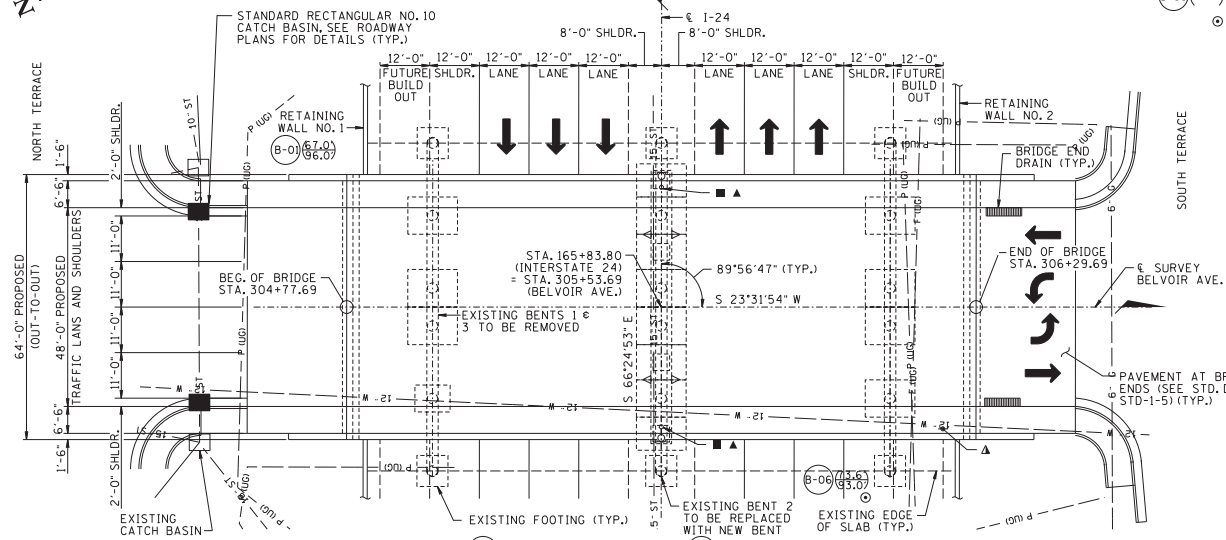
LEGEND:  
⊙ AUGER BORING  
⊙ (10.0) BORING LOCATION, DEPTH TO REFUSAL (ABOVE LINE), BOTTOM OF HOLE (BELOW LINE)  
⊙ (10.0) BORING LOCATION WITH DEPTH TO REFUSAL

BORING LOCATIONS AND INFORMATION



LEGEND:

- ASPHALT
- ▣ BASESTONE
- NO SAMPLE TAKEN
- ▨ LEAN CLAY (CL)
- ▨ LEAN CLAY (CL) (FILL)
- ▨ FAT CLAY
- ▨ CLAYEY GRAVEL
- ▨ GRAVELLY SAND
- ▨ CLAYEY SAND
- ▨ SILTY SAND
- ▨ SILT (ML)
- ▨ SILT (MH)
- ▨ WEATHERED LIMESTONE
- ▨ LIMESTONE



PLAN  
(SCALE: 1" = 15'-0")

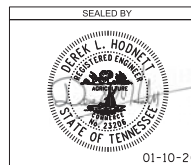
▬ DENOTES: NEW 2'x8'-7" BRIDGE END DRAIN (TYP.) SEE STD. DWGS. STD.-1-6, STD.-1-7 AND STD.-1-8.  
➔ DENOTES: DIRECTION OF ONE LANE OF TRAVEL

▲ DENOTES: 16'-6" MIN. VERTICAL CLEARANCE (AT ULTIMATE BUILD OUT)  
■ DENOTES: BRIDGE MOUNTED PEDESTAL FOR LIGHT STANDARD.  
▲ DENOTES: JUNCTION BOX MOUNTED IN PARAPET WALL AT THE BASE OF THE LIGHT PEDESTAL ON THE STREET SIDE.  
▷ DENOTES: UP-TYPE LIGHT FIXTURE UNDER BRIDGE

BORING NO.	ELEVATIONS		DEPTH TO ROCK	TOTAL DEPTH IF CORED
	STATION NO.	GROUND EL./ROCK EL.		
B-01	304+59.00, 34L	744.0 / 671.7	67.0	96.0
B-02	305+05.00, 59R	725.0 / 674.5	50.5	
B-03	305+05.00, 95L	724.0 / 679.7	44.3	48.2
B-04	305+58.00, 58R	725.5 / 673.0	52.5	67.1
B-05	305+58.00, 106L	724.0 / 660.5	63.5	93.5
B-06	306+03.00, 146R	724.5 / 650.9	73.6	93.0
B-07	306+03.00, 155L	723.5 / 647.2	76.3	138.1
B-08	306+88.00, 69L	738.0 / 669.8	68.2	

NOTE: STATION NUMBERS AND GROUND ELEVATIONS WERE SCALED FROM THE DETAILS SHOWN AS PROVIDED BY TTL.

NOTE: THIS DRAWING IS FOR FOUNDATION DATA ONLY AND IS NOT TO BE USED AS A LAYOUT.



STATE OF TENNESSEE  
DEPARTMENT OF TRANSPORTATION  
BRIDGE NO. 1  
FOUNDATION DATA

INTERSTATE 24 OVER  
S. GERMANTOWN ROAD  
FED. I.D. NO. 33100240055  
HAMILTON COUNTY  
2020

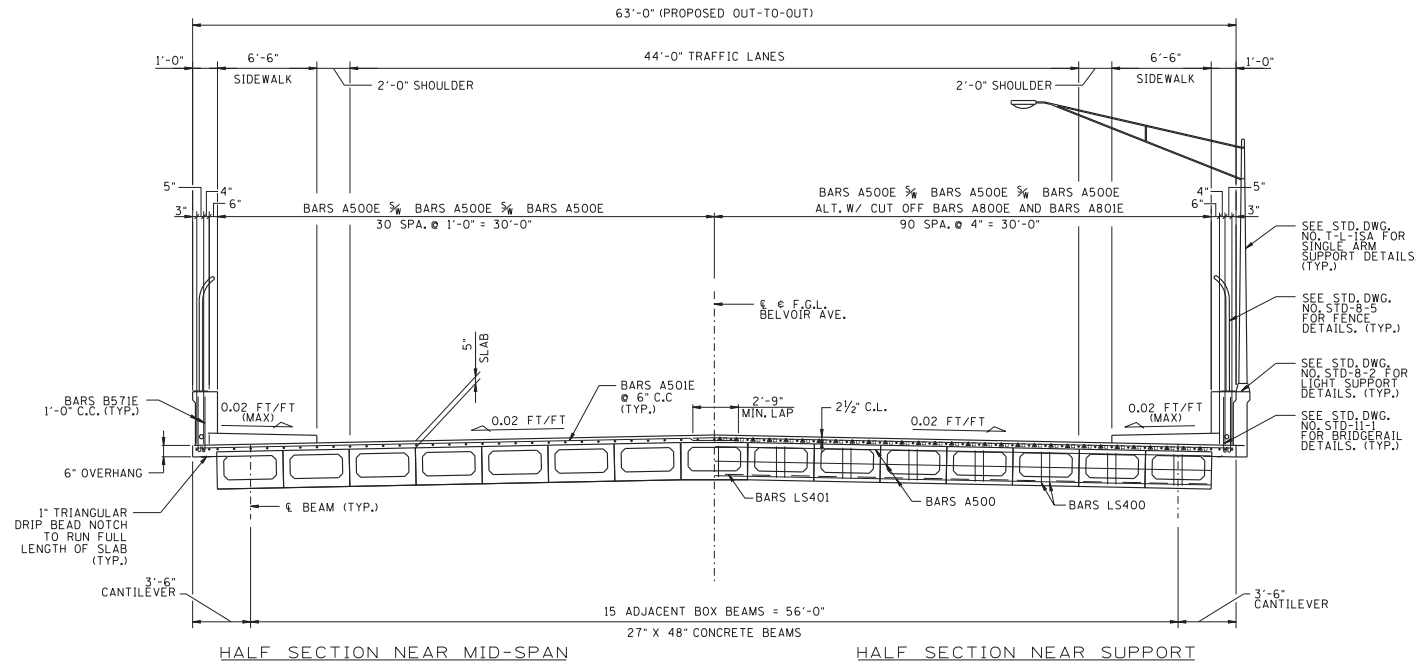
U-92-85

PIN NO.: 124089.00  
DESIGN BY: BARGE DESIGN SOLUTIONS DATE: 01-2020  
DRAWN BY: BARGE DESIGN SOLUTIONS DATE: 01-2020  
SUPERVISED BY: BARGE DESIGN SOLUTIONS DATE: 01-2020  
CHECKED BY: BARGE DESIGN SOLUTIONS DATE: 01-2020



CONST. NO.: 33003-3167-44

PROJECT NO.	YEAR	SHEET NO.	
BR-I-24-3(97)	2020	U-92-86	
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION
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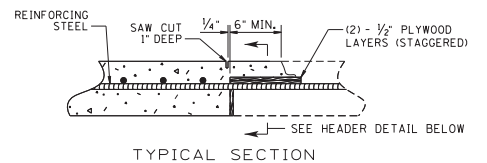


**NOTES:**

- WHEN POURING SLAB, PROVISIONS SHALL BE MADE FOR SETTING REINFORCING STEEL FOR PARAPET. THE PARAPET SHALL NOT BE POURD UNTIL THE SLAB IS POURD AND CURED. WHEN POURING PARAPET, PROVISIONS SHALL BE MADE FOR SETTING ANCHOR BOLTS FOR PARAPET FENCE. ALSO SEE STANDARD DRAWING NO. STD-11-1 AND STD-8-5.
- NO PORTION OF THE PARAPET SHALL BE POURD UNTIL THE ENTIRE DECK SLAB IS IN PLACE.
- THE CONTRACTOR IS SOLELY RESPONSIBLE FOR SUPPORTING THE BEAMS TO PREVENT DAMAGE DUE TO TWISTING OR OVERTURNING DURING ALL PHASES OF CONSTRUCTION.
- SPECIAL NOTE FOR ANCHOR BOLTS AT BENT: ANCHOR BOLT ASSEMBLIES AT BENT SHALL BE IN ACCORDANCE WITH STD. DWG. 6-1.
- THE CONTRACTOR IS SOLELY RESPONSIBLE FOR SUPPORTING THE BEAMS TO PREVENT DAMAGE DUE TO TWISTING OR OVERTURNING DURING ALL PHASES OF CONSTRUCTION.
- BEAMS SHALL ATTAIN AN AGE OF AT LEAST 90 DAYS BEFORE SLAB IS POURD.
- NO PORTION OF THE SIDEWALK SHALL BE POURD UNTIL THE ENTIRE PARAPET IS IN PLACE AND CURED.

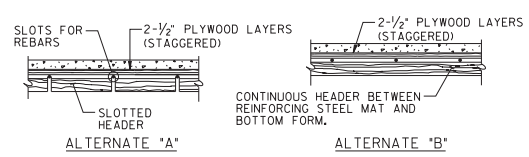
HALF SECTION NEAR MID-SPAN

HALF SECTION NEAR SUPPORT



TYPICAL CROSS-SECTION

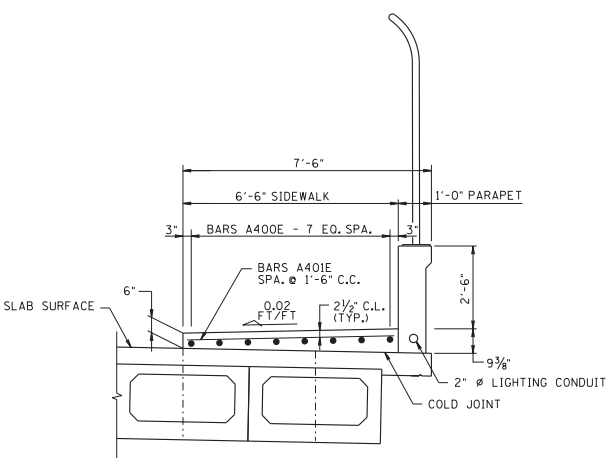
(N.T.S.)  
 ▲ DENOTES: A800E CUT OFF BARS (50'-6")  
 □ DENOTES: A801E CUT OFF BARS (21'-6")



ALTERNATE HEADER DETAILS

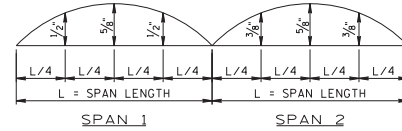
DECK CONCRETE POURING SEQUENCE: SLAB CONSTRUCTION JOINTS MAY BE LOCATED AT THE CONTRACTOR'S OPTION SUBJECT TO THE FOLLOWING:

- NO CONSTRUCTION JOINT MAY BE LOCATED CLOSER THAN 10 FEET OR FURTHER THAN 15 FEET FROM AN ABUTMENT.
- THE SLAB IN THE MIDDLE SECTION OF BOTH ADJACENT SPANS MUST BE POURD TO WITHIN AT LEAST 15 FEET OF THE SUPPORTS EITHER PRIOR TO OR CONCURRENTLY WITH THE SLAB OVER AN INTERIOR SUPPORT.
- ALL SLAB CONSTRUCTION JOINTS SHALL BE IN ACCORDANCE WITH THE SLAB CONSTRUCTION DETAILS SHOWN ABOVE.



SIDEWALK DETAIL

(FOR CLARITY, OTHER SLAB AND PARAPET REINFORCEMENT NOT SHOWN)  
 NOTE: MINIMUM SPLICE LENGTH = 2'-3" FOR NO. 4 EPOXY BARS

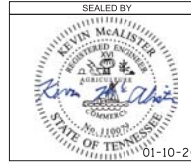


DEAD LOAD CORRECTION CURVE

THIS CURVE IS FOR DEAD LOAD SLAB AND ALL DEAD LOADS THAT ARE APPLIED AFTER THE SLAB IS IN PLACE AND SHOULD BE CORRECTED TO COMPENSATE FOR THE EFFECTS DUE TO VERTICAL CURVE.

ESTIMATED QUANTITIES

CLASS "DS" CONCRETE (C.Y.)	CLASS "A" CONCRETE (C.Y.)	EPOXY COATED REINFORCING STEEL (LB.)	STEEL BAR REINFORCEMENT (BRIDGES) (LB.)
180	62	48,986	623

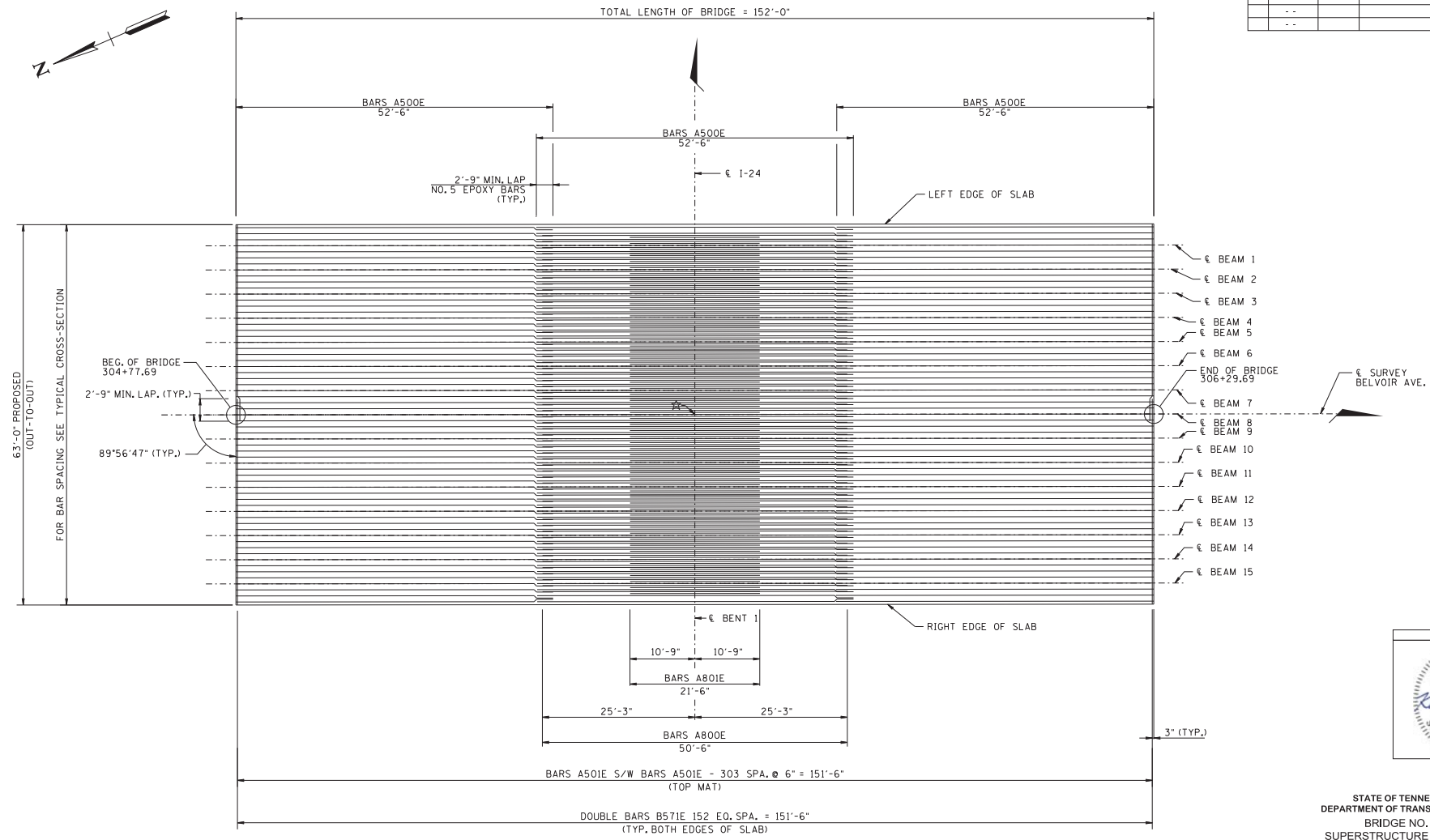


STATE OF TENNESSEE  
 DEPARTMENT OF TRANSPORTATION  
 BRIDGE NO. 2  
 SUPERSTRUCTURE  
 BELVOIR AVENUE OVER  
 INTERSTATE 24  
 FED. I.D. NO. 33100240057  
 HAMILTON COUNTY  
 2020

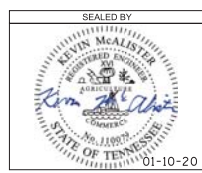
11/10/2020  
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PIN NO.: 124069.00  
 DESIGN BY: J. LEADERS DATE: 01-2020  
 DRAWN BY: K. SWANK / K. BELL DATE: 01-2020  
 SUPERVISED BY: K. McALISTER DATE: 01-2020  
 CHECKED BY: K. McALISTER DATE: 01-2020

CONST. NO.: 33003-3167-44			
PROJECT NO.	YEAR	SHEET NO.	
BR-I-24-3(97)	2020	U-92-87	
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION
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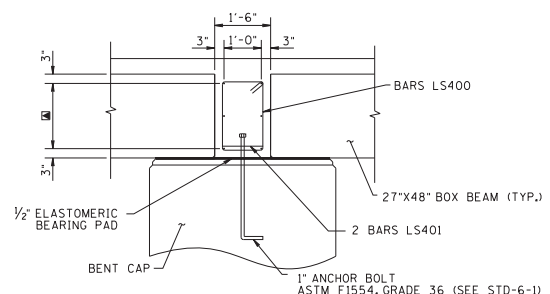
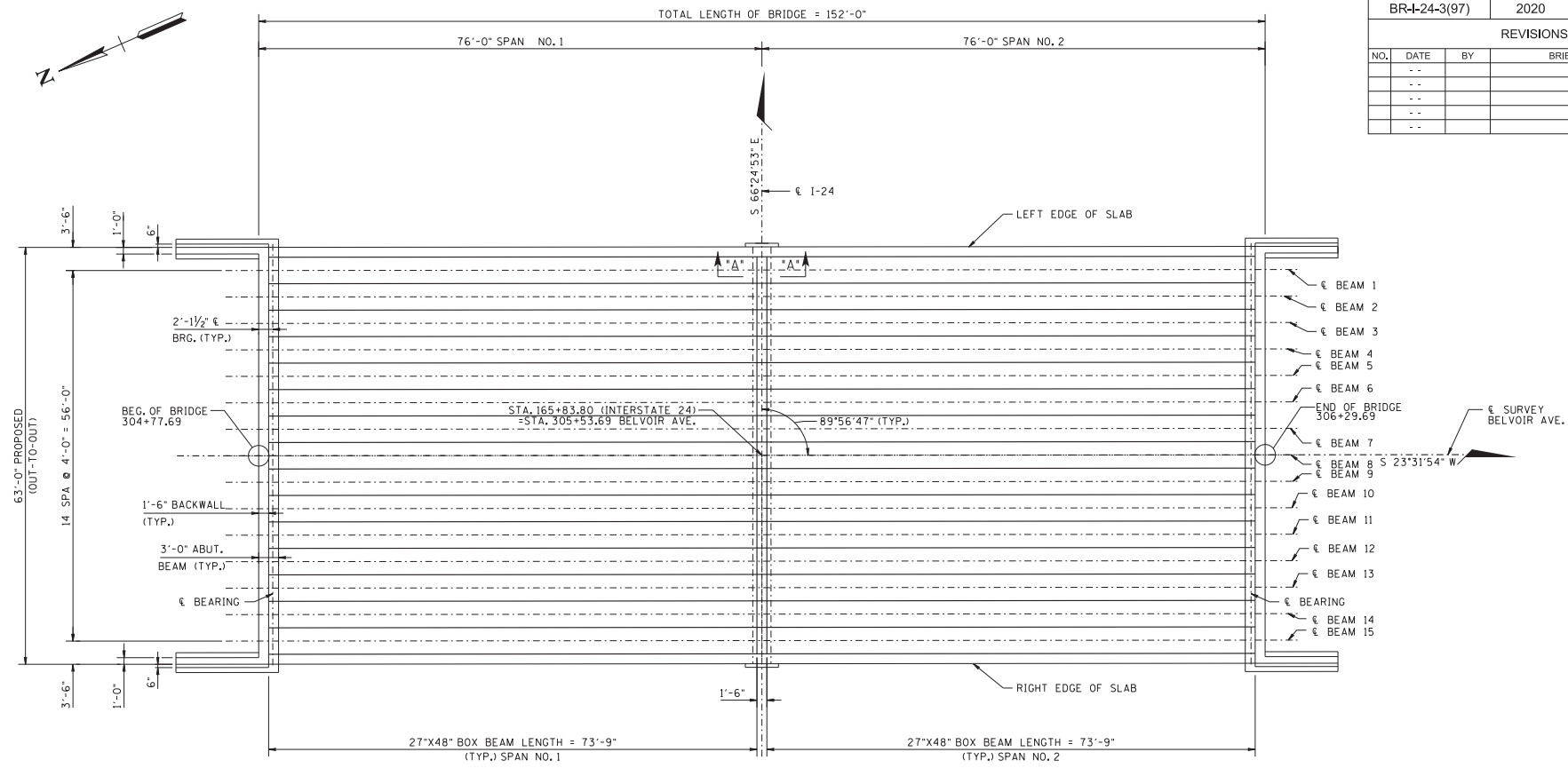
**PLAN OF MAIN REINFORCEMENT**  
 (SHOWING TOP LONGITUDINAL REINFORCEMENT ε TOP TRANSVERSE REINFORCEMENT)  
 ☆ STA. 165+83.80 (INTERSTATE 24) = STA. 305+53.69 BELVOIR AVE.



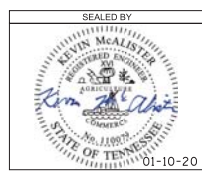
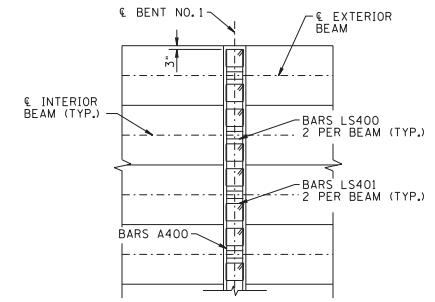
STATE OF TENNESSEE  
 DEPARTMENT OF TRANSPORTATION  
 BRIDGE NO. 2  
 SUPERSTRUCTURE DETAILS  
 BELVOIR AVENUE OVER  
 INTERSTATE 24  
 FED. I.D. NO. 33100240057  
 HAMILTON COUNTY  
 2020

PIN NO.:	124069.00	DATE:	01-2020
DESIGN BY:	J. LEADERS	DATE:	01-2020
DRAWN BY:	K. SWANK / K. BELL	DATE:	01-2020
SUPERVISED BY:	K. MCALISTER	DATE:	01-2020
CHECKED BY:	K. MCALISTER	DATE:	01-2020

CONST. NO.: 33003-3167-44			
PROJECT NO.	YEAR	SHEET NO.	
BR-I-24-3(97)	2020	U-92-88	
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION
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NOTES: BARS A500 2 E.O. SPA. = 1'-9"



STATE OF TENNESSEE  
DEPARTMENT OF TRANSPORTATION  
BRIDGE NO. 2  
SUPERSTRUCTURE DETAILS  
BELVOIR AVENUE OVER  
INTERSTATE 24  
FED. I.D. NO. 33100240057  
HAMILTON COUNTY  
2020

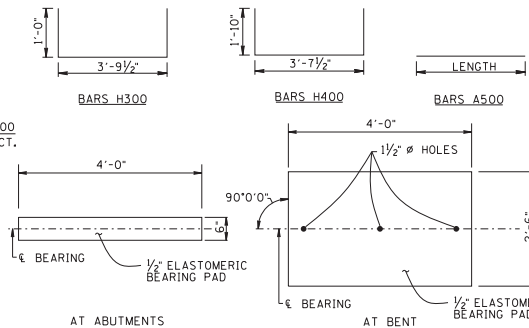
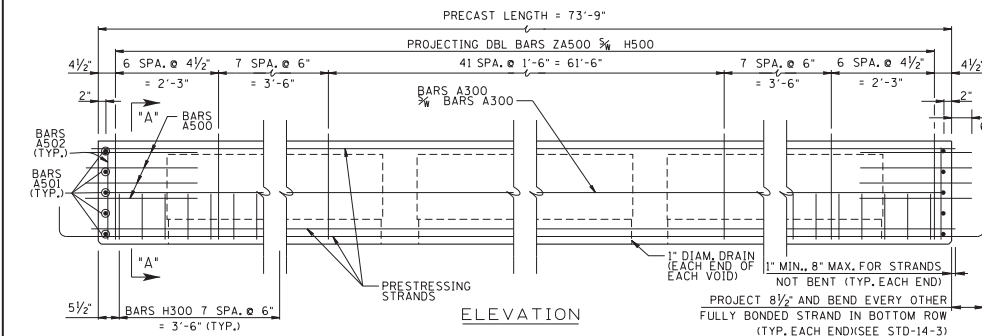
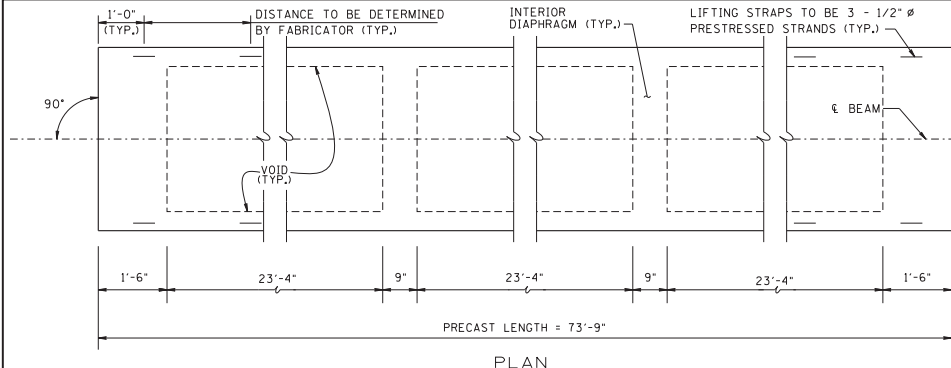
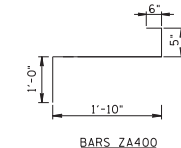
PIN NO.: 124089.00  
DESIGN BY: J. LEADERS      DATE: 01-2020  
DRAWN BY: K. SWANK / K. BELL      DATE: 01-2020  
SUPERVISED BY: K. McALISTER      DATE: 01-2020  
CHECKED BY: K. McALISTER      DATE: 01-2020

CONST. NO.: 33003-3167-44

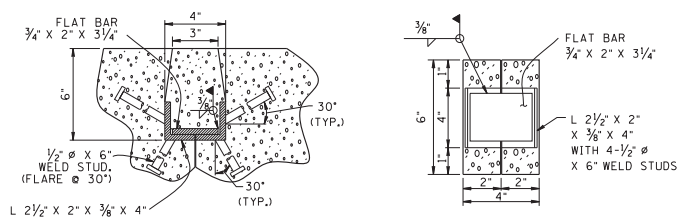
PROJECT NO.	YEAR	SHEET NO.	
BR-1-24-3(97)	2020	U-92-89	
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION
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NO. BEAMS REQ'D	PRESTRESSING STRANDS (LOW RELAXATION) (LB.)	CLASS "A" CONCRETE (C.Y.)	REINFORCING STEEL (LB.)
15	1,427	13.3	504

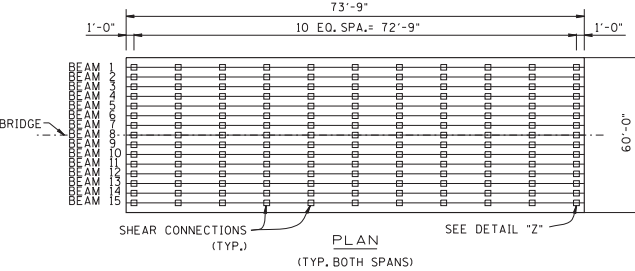
BAR	SIZE	NO. REQ'D	LENGTH
A500	5	16	5'-6"
A501	5	10	3'-8"
A502	5	10	1'-11"
H300	3	16	5'-10"
H500	4	75	5'-8"
ZA500	4	150	4'-9"



USE 1/2" THICK ELASTOMERIC BEARING PAD UNLESS SHOWN OTHERWISE ON THE CONTRACT PLANS.



DETAIL "Z" (SHEAR CONNECTION, TYP. ALL BEAMS) (SEE WELD DETAIL)



PLAN (TYP. BOTH SPANS)

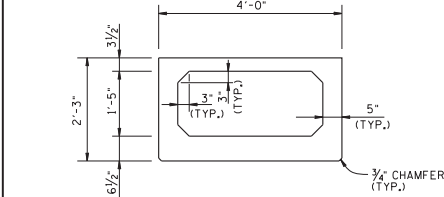
**PRESTRESSED BEAM DESIGN DATA**  
 PER BEAM  
 LIVE LOAD DISTRIBUTION FACTOR IN LANES:  
 INTERIOR BEAM LLDF EXTERIOR BEAM LLDF  
 MOMENT 0.26 MOMENT 0.28  
 SHEAR 0.45 SHEAR 0.57

COMPOSITE DEAD LOADS:  
 DC = 40I LB/FT  
 DW = 112 LB/FT

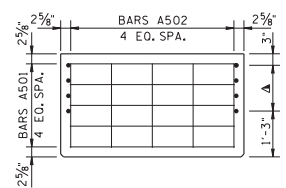
COMPOSITE DESIGN SLAB STRENGTH:  $f'c = 3000$  PSI  
 DOWNWARD DEFLECTION UNDER TOTAL DL IS NOT ALLOWED

**PRESTRESSED STRAND DATA**  
 LOW-LAX, ASTM GRADE 270 KSI, UNCOATED 7-WIRE STRANDS  
 DIAMETER = 0.6 INCH  
 AREA = 0.217 IN<sup>2</sup>  
 INITIAL JACKING FORCE = 44 KIPS

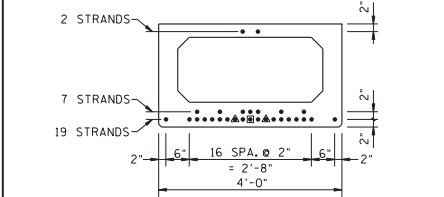
- BEAM NOTES:**
- SEE STD-14-3 FOR PRESTRESSED BOX BEAM STANDARD DETAILS AND NOTES.
  - THE BEAM CONCRETE SHALL ATTAIN A COMPRESSIVE STRENGTH OF NOT LESS THAN 8,000 PSI AT 28 DAYS AND STRESS TRANSFER SHALL NOT BE MADE UNTIL CONCRETE TEST SPECIMENS HAVE REACHED A COMPRESSIVE STRENGTH OF AT LEAST 7,000 PSI.
  - SEE GENERAL NOTES FOR FINISHING CONCRETE SURFACES.
  - TOP FLANGE TO BE CLEAN, FREE OF LAITANCE, AND INTENTIONALLY ROUGHENED TO AN AMPLITUDE OF 1/4".
  - ALL BOX BEAMS ARE 27" H X 48" W.
  - SLOPE SIDES OF BEAMS LOCATED AT CROWN POINT TO MATCH ROADWAY CROSS SLOPE.



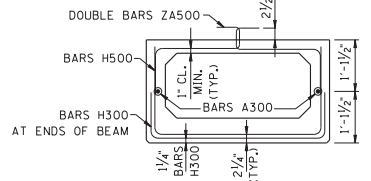
SECTION "A"-"A" (SHOWING PROPERTIES)



SECTION "A"-"A" (SHOWING END REINFORCEMENT)  
 ▲ DENOTES: BARS A500 3 EQ. SPA. = 1'-0"

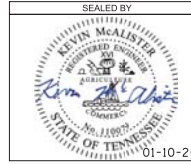


SECTION "A"-"A" (SHOWING PRESTRESSED STRANDS)  
 ▲ DENOTES: BOND BREAK 2'-0" FROM END OF BEAM.  
 ■ DENOTES: BOND BREAK 4'-0" FROM END OF BEAM.



SECTION "C"-"C" (SHOWING STIRRUPS)

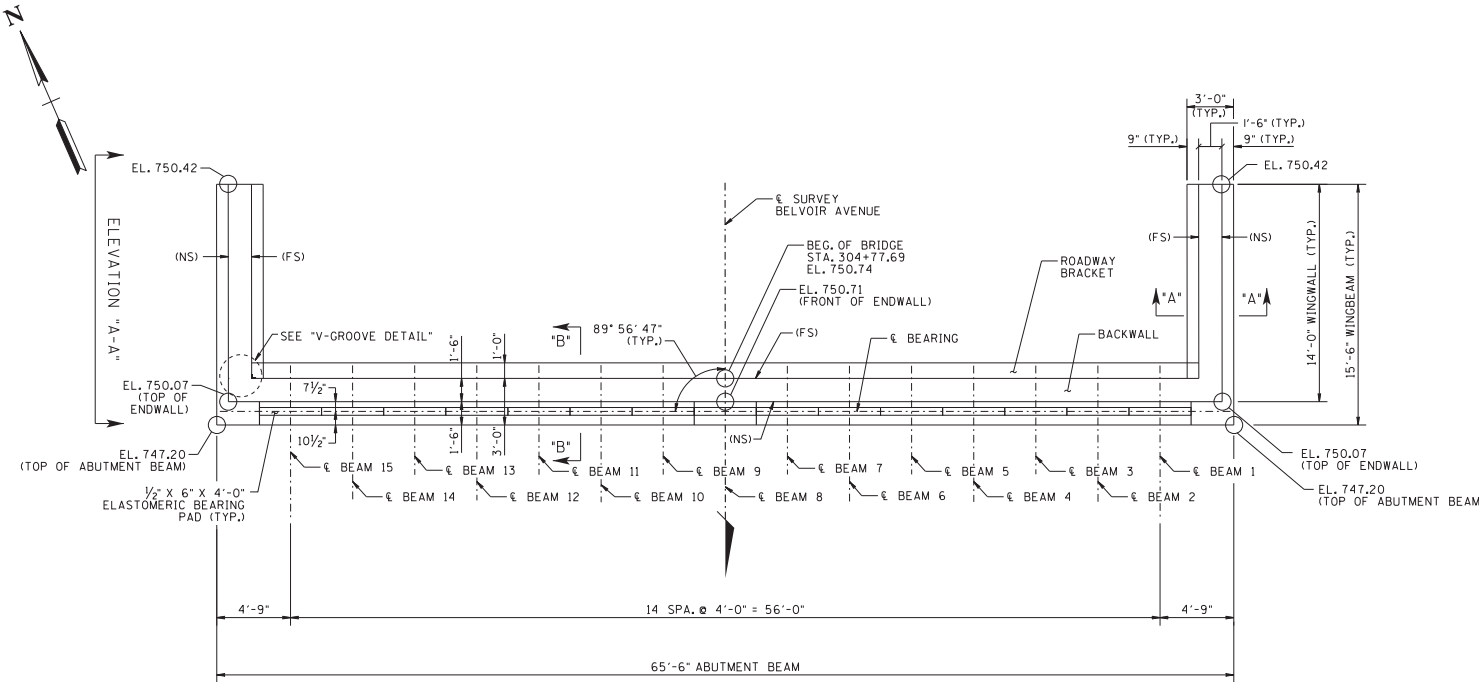
PIN NO.: 124099.00  
 DESIGN BY: J. LEADERS DATE: 01-2020  
 DRAWN BY: K. SWANK / K. BELL DATE: 01-2020  
 SUPERVISED BY: K. MCALISTER DATE: 01-2020  
 CHECKED BY: K. MCALISTER DATE: 01-2020



STATE OF TENNESSEE  
 DEPARTMENT OF TRANSPORTATION  
 BRIDGE NO. 2  
 PRESTRESSED BOX BEAM DETAILS  
 BELVOIR AVENUE OVER  
 INTERSTATE 24  
 FED. I.D. NO. 33100240057  
 HAMILTON COUNTY  
 2020

CONST. NO.: 33003-3167-44

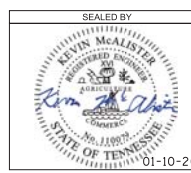
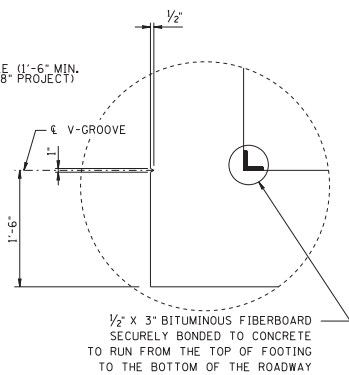
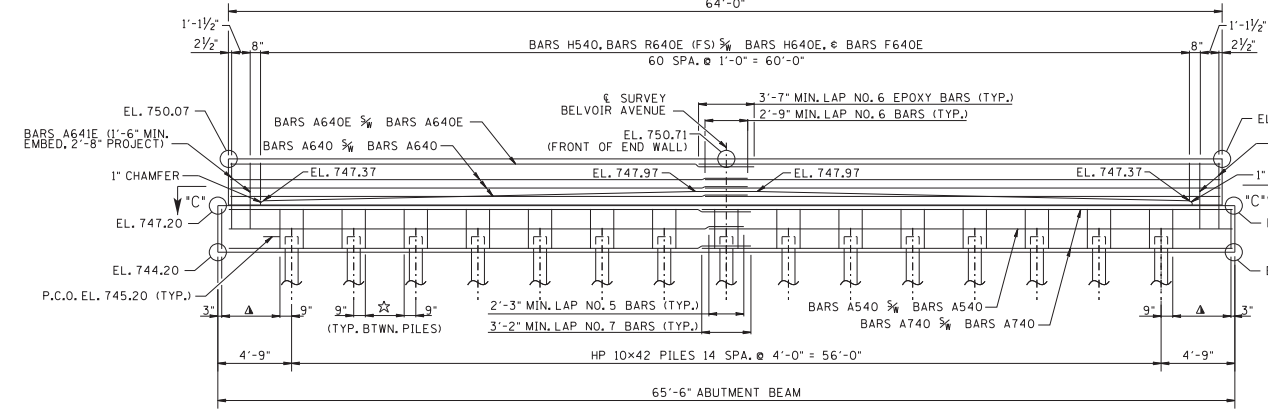
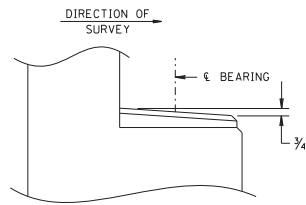
PROJECT NO.	YEAR	SHEET NO.	
BR-I-24-3(97)	2020	U-92-90	
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION
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- NOTES:**
- RISER BLOCKS TO BE POURED MONOLITHICALLY WITH ABUTMENT BEAM.
  - RISER BLOCK BEARING PAD SURFACE TO CONFORM TO BOTTOM OF BEAM GRADE.
  - WHEN POURING WINGWALLS PROVISIONS SHALL BE MADE FOR SETTING REINFORCING STEEL FOR WINGPOSTS AND PARAPETS. FOR DETAILS OF WINGPOSTS AND PARAPET, SEE STD. DWG. NO. STD-11-1.
  - COST OF BRIDGE RAIL AND POST IS TO BE INCLUDED IN THE UNIT PRICE BID FOR THE BRIDGE RAIL SYSTEM.
  - ELASTOMERIC PADS SHALL BE IN PLACE A MINIMUM OF ONE DAY BEFORE BEING DISTURBED BY SETTING BEAMS. PLACE RUBBER BONDING CEMENT IN SUCH A WAY THAT VISIBLE CONCRETE SURFACES WILL NOT BE STAINED.
  - NOT LESS THAN HALF OF THE SLAB IN THE END SPAN SHALL BE POURED PRIOR TO, OR CONCURRENTLY WITH, PLACEMENT OF ANY PART OF THE ABUTMENT BACKWALL. AT LEAST THE TOP 12 INCHES OF THE BACKWALL SHALL BE POURED CONCURRENTLY WITH THE END OF THE SLAB.
  - THE CONTRACTOR SHALL SUPPORT THE ABUTMENT UNTIL THE SUPERSTRUCTURE IS IN PLACE, FALSEWORK HAS BEEN REMOVED, AND BACKFILLING HAS BEEN COMPLETED.
  - SEE STANDARD DRAWING STD-6-1 FOR PILE DETAILS AND NOTES.
  - WINGBEAM PILES SHALL BE DRIVEN TO REFUSAL, SEISMIC ATTACHMENT IS NOT REQUIRED FOR WINGBEAM PILES.

**ESTIMATED ABUTMENT QUANTITIES**

LOCATION	CLASS "A" CONCRETE (BRIDGES) (C.Y.)	EPOXY COATED REINFORCING STEEL (LB.)	STEEL BAR REINFORCEMENT (BRIDGES) (LB.)
ABUT. NO. 1	46	2,234	5,320



STATE OF TENNESSEE  
DEPARTMENT OF TRANSPORTATION  
BRIDGE NO. 2  
ABUTMENT NO. 1  
BELVOIR AVENUE OVER  
INTERSTATE 24  
FED. I.D. NO. 33100240057  
HAMILTON COUNTY  
2020

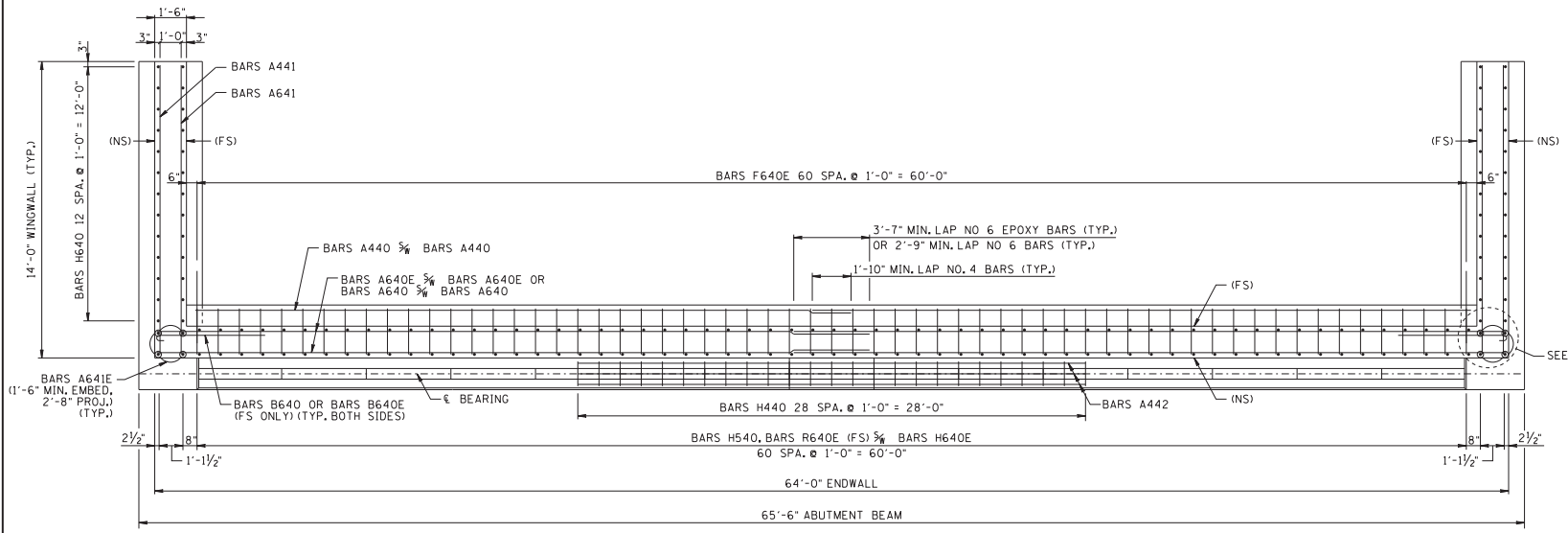
PIN NO.: 124099.00  
DESIGN BY: J. LEADERS DATE: 01-2020  
DRAWN BY: K. SWANK / K. BELL DATE: 01-2020  
SUPERVISED BY: K. McALISTER DATE: 01-2020  
CHECKED BY: K. McALISTER DATE: 01-2020

▲ DENOTES: BARS L5540 @ 4 E.O. SPA = 3'-9"  
☆ DENOTES: BARS L5540 @ 3 E.O. SPA = 2'-6"

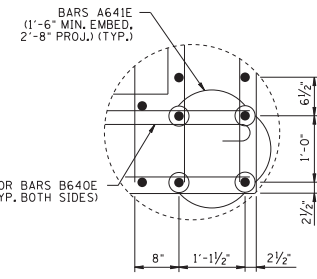
CONST. NO.: 33003-3167-44

PROJECT NO.	YEAR	SHEET NO.
BR-I-24-3(97)	2020	U-92-91

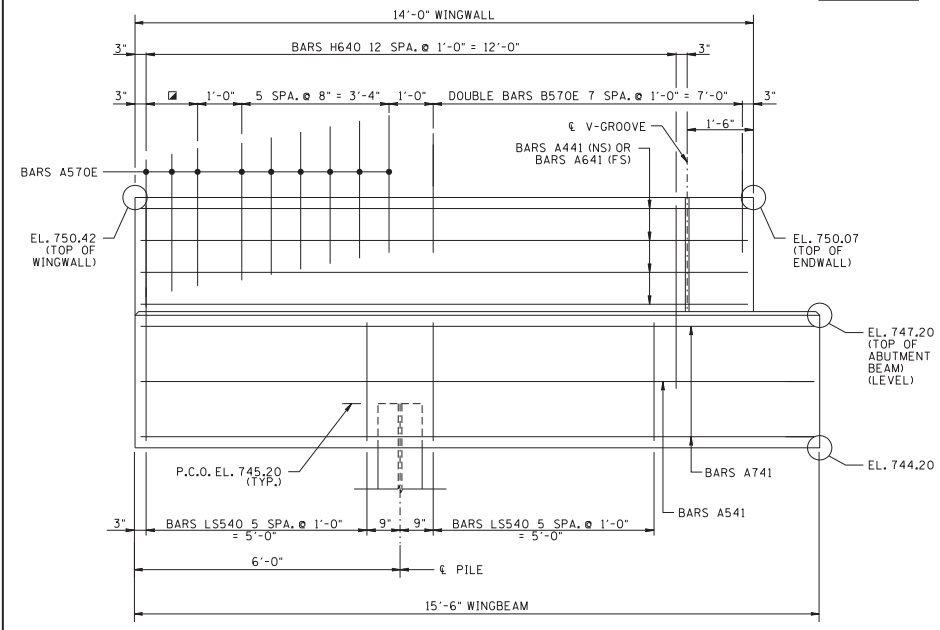
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION
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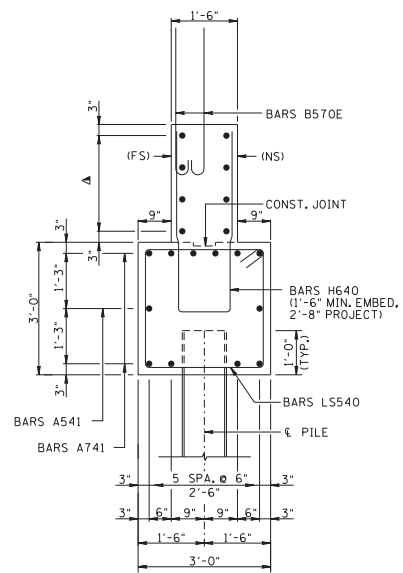
SECTION C-C



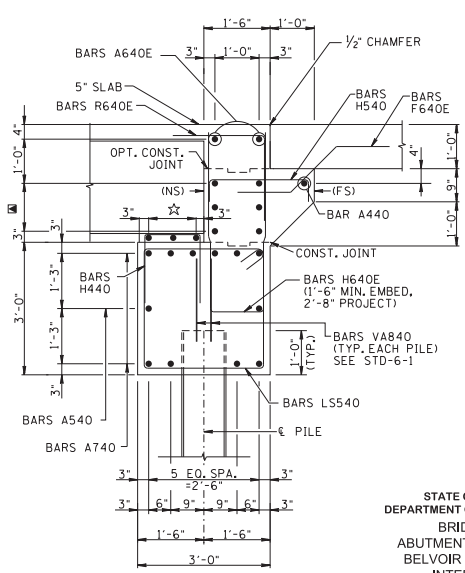
DETAIL "A"  
(N.T.S.)



ELEVATION "A-A"



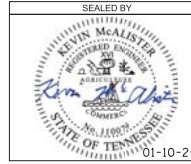
SECTION A-A



SECTION B-B

▲ DENOTES: BARS A441 (NS) OR BARS A641 (FS)  
3 EQ. SPA. = 2'-2"

■ DENOTES: BARS A640 2 EQ. SPA. = 1'-1"  
☆ DENOTES: BARS A442 2 SPA. @ 6" = 1'-0"



STATE OF TENNESSEE  
DEPARTMENT OF TRANSPORTATION  
BRIDGE NO. 2  
ABUTMENT NO. 1 DETAILS  
BELVOIR AVENUE OVER  
INTERSTATE 24  
FED. I.D. NO. 33100240057  
HAMILTON COUNTY  
2020

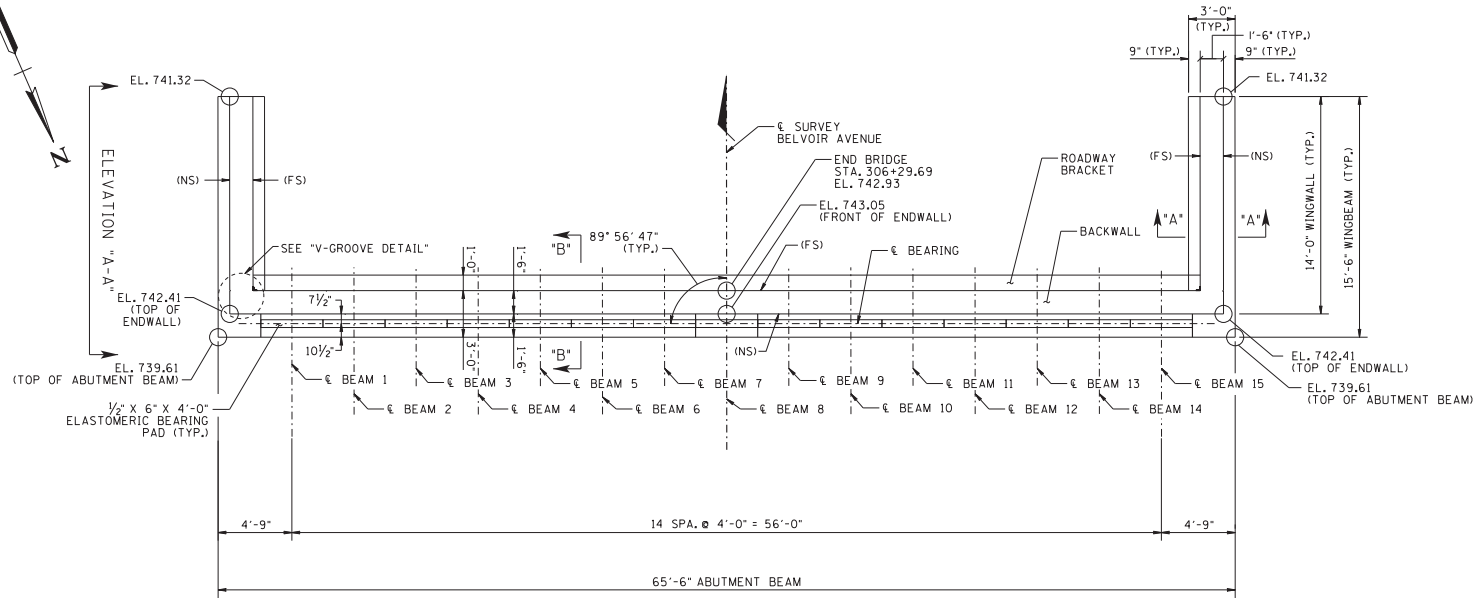
PIN NO.: 124089.00  
DESIGN BY: J. LEADERS DATE: 01-2020  
DRAWN BY: K. SWANK / K. BELL DATE: 01-2020  
SUPERVISED BY: K. MCALISTER DATE: 01-2020  
CHECKED BY: K. MCALISTER DATE: 01-2020

CONST. NO.: 33003-3167-44

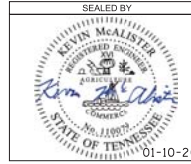
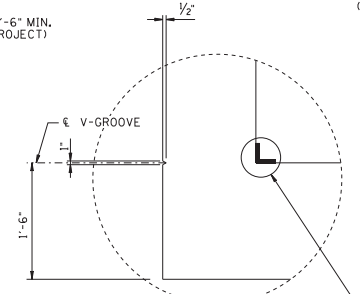
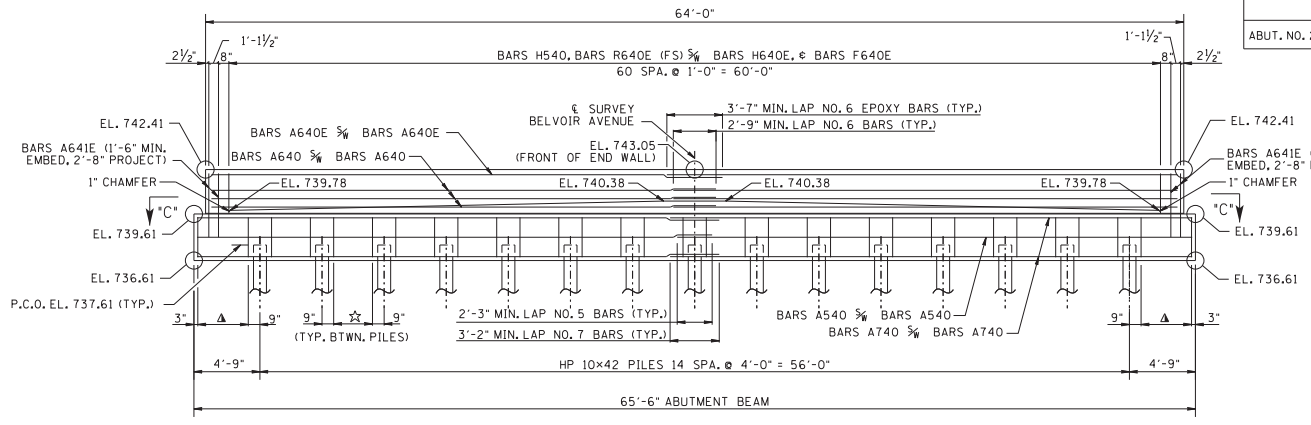
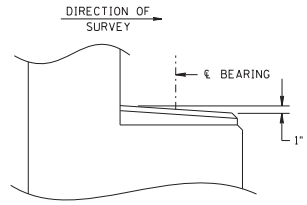
PROJECT NO.	YEAR	SHEET NO.	
BR-I-24-3(97)	2020	U-92-92	
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION
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-	-	-	-
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-	-	-	-
-	-	-	-

**NOTES:**

1. RISER BLOCKS TO BE POURED MONOLITHICALLY WITH ABUTMENT BEAM.
2. RISER BLOCK BEARING PAD SURFACE TO CONFORM TO BOTTOM OF BEAM GRADE.
3. WHEN POURING WINGWALLS PROVISIONS SHALL BE MADE FOR SETTING REINFORCING STEEL FOR WINGPOSTS AND PARAPETS, FOR DETAILS OF WINGPOSTS AND PARAPET, SEE STD. DWG. NO. STD-11-1.
4. COST OF BRIDGE RAIL AND POST IS TO BE INCLUDED IN THE UNIT PRICE BID FOR THE BRIDGE RAIL SYSTEM.
5. ELASTOMERIC PADS SHALL BE IN PLACE A MINIMUM OF ONE DAY BEFORE BEING DISTURBED BY SETTING BEAMS, PLACE RUBBER BONDING CEMENT IN SUCH A WAY THAT VISIBLE CONCRETE SURFACES WILL NOT BE STAINED.
6. NOT LESS THAN HALF OF THE SLAB IN THE END SPAN SHALL BE POURED PRIOR TO, OR CONCURRENTLY WITH, PLACEMENT OF ANY PART OF THE ABUTMENT BACKWALL, AT LEAST THE TOP 12 INCHES OF THE BACKWALL SHALL BE POURED CONCURRENTLY WITH THE END OF THE SLAB.
7. THE CONTRACTOR SHALL SUPPORT THE ABUTMENT UNTIL THE SUPERSTRUCTURE IS IN PLACE, FALSEWORK HAS BEEN REMOVED, AND BACKFILLING HAS BEEN COMPLETED.
8. SEE STANDARD DRAWING STD-6-1 FOR PILE DETAILS AND NOTES.
9. WINGBEAM PILES SHALL BE DRIVEN TO REFUSAL, SEISMIC ATTACHMENT IS NOT REQUIRED FOR WINGBEAM PILES.



LOCATION	CLASS "A" CONCRETE (BRIDGES) (C.Y.)	EPOXY COATED REINFORCING STEEL (L.B.)	STEEL BAR REINFORCEMENT (L.B.)
ABUT. NO. 2	46	2,234	5,320



STATE OF TENNESSEE  
DEPARTMENT OF TRANSPORTATION  
BRIDGE NO. 2  
BELVOIR AVENUE OVER  
INTERSTATE 24  
FED. I.D. NO. 33100240057  
HAMILTON COUNTY  
2020

PIN NO.: 124099.00  
DESIGN BY: J. LEADERS DATE: 01-2020  
DRAWN BY: K. SWANK / K. BELL DATE: 01-2020  
SUPERVISED BY: K. McALISTER DATE: 01-2020  
CHECKED BY: K. McALISTER DATE: 01-2020

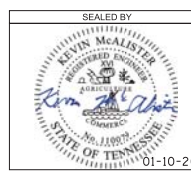
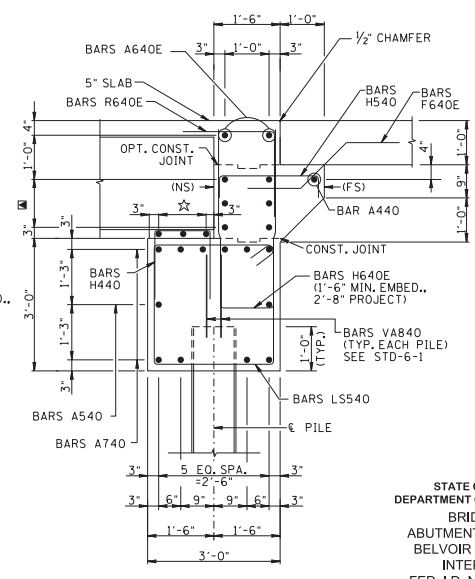
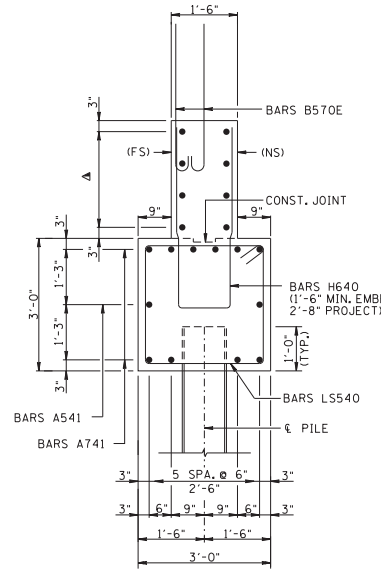
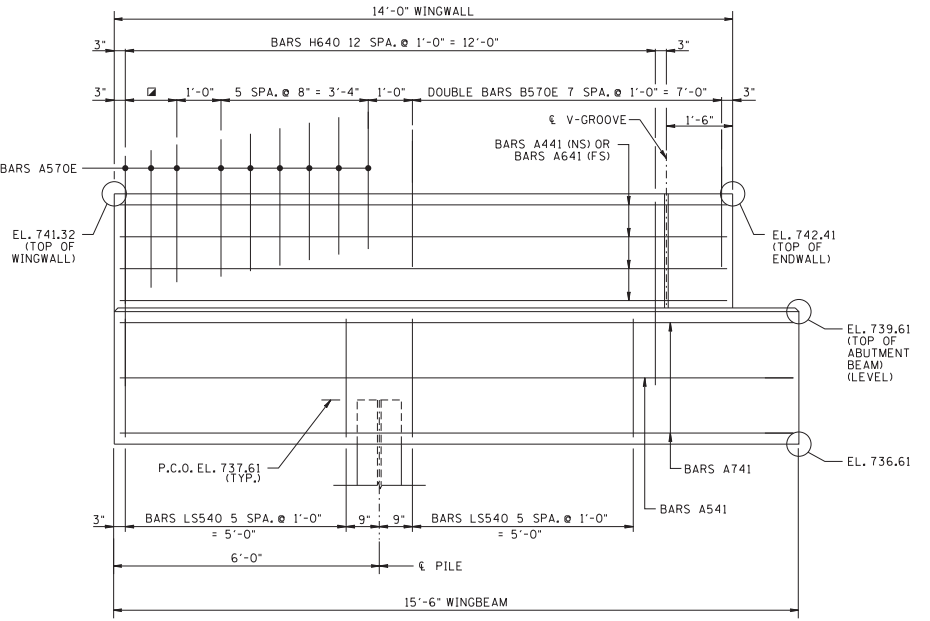
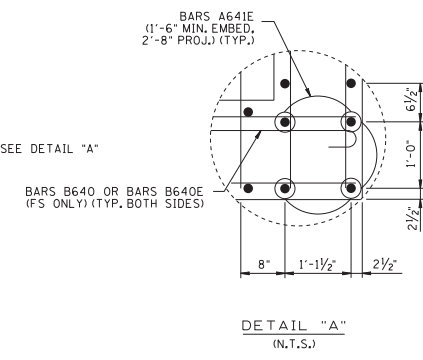
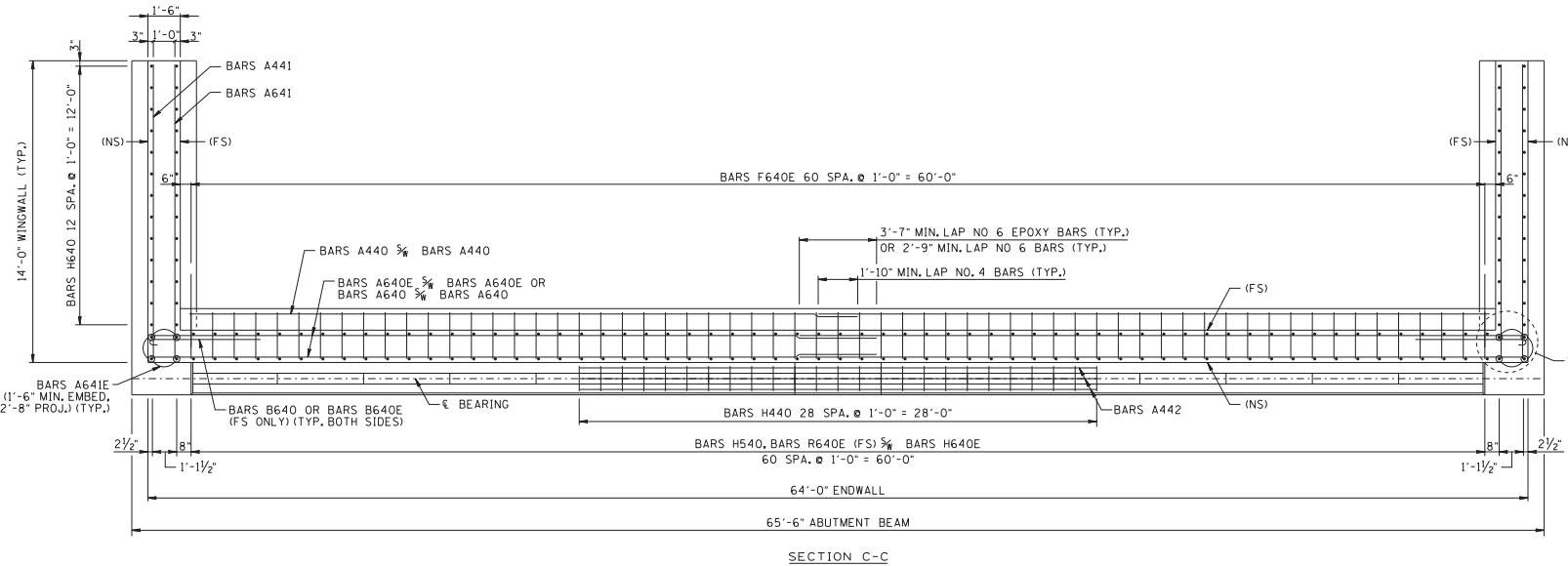
▲ DENOTES: BARS L5540 @ 4 E.O. SPA = 3'-9"  
☆ DENOTES: BARS L5540 @ 3 E.O. SPA = 2'-6"

CONST. NO.: 33003-3167-44

PROJECT NO.	YEAR	SHEET NO.
BR-I-24-3(97)	2020	U-92-93

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
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STATE OF TENNESSEE  
DEPARTMENT OF TRANSPORTATION  
BRIDGE NO. 2  
ABUTMENT NO. 2 DETAILS  
BELVOIR AVENUE OVER  
INTERSTATE 24  
FED. I.D. NO. 33100240057  
HAMILTON COUNTY  
2020

PIN NO.: 124099.00  
DESIGN BY: J. LEADERS DATE: 01-2020  
DRAWN BY: K. SWANK / K. BELL DATE: 01-2020  
SUPERVISED BY: K. McALISTER DATE: 01-2020  
CHECKED BY: K. McALISTER DATE: 01-2020

ELEVATION "A-A"  
2 SPA, @ 7' = 1'-2"

SECTION A-A  
▲ DENOTES: BARS A441 (NS) OR BARS A641 (FS)  
3 EQ. SPA. = 2'-2"

SECTION B-B  
■ DENOTES: BARS A640 2 EQ. SPA. = 1'-1"  
☆ DENOTES: BARS A442 2 SPA. @ 6" = 1'-0"

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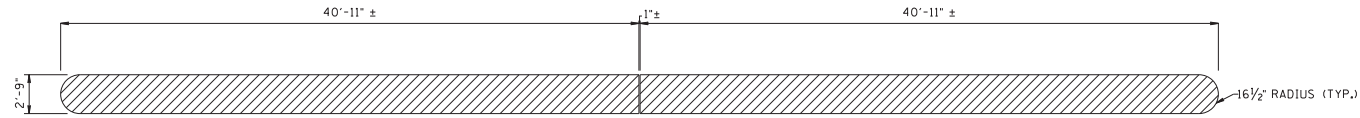


CONST. NO.: 33003-3167-44

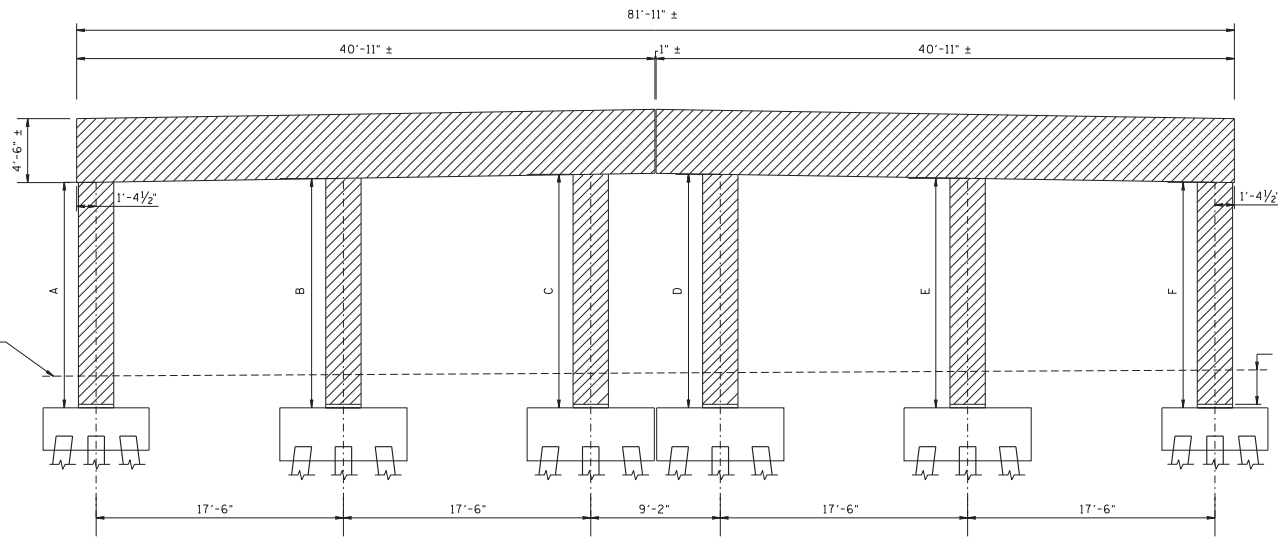
PROJECT NO.	YEAR	SHEET NO.
BR-I-24-3(97)	2020	U-92-94

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
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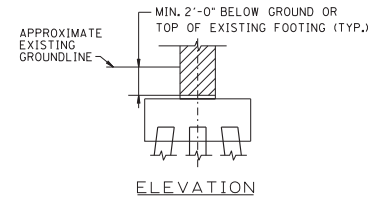
PLAN



ELEVATION

▨ DENOTES: AREA OF EXISTING BRIDGE TO BE REMOVED

	A	B	C	D	E	F	TOP OF FTG. EL.
BENT 1	21'-11"	22'-2 3/8"	22'-5 5/8"	22'-5 5/8"	22'-2 3/8"	21'-11"	720.52
BENT 2	15'-11 1/2"	16'-2 7/8"	16'-6 1/8"	16'-6 1/8"	16'-2 7/8"	15'-11 1/2"	723.85
BENT 3	15'-11 1/2"	16'-2 7/8"	16'-6 1/8"	16'-6 1/8"	16'-2 7/8"	15'-11 1/2"	720.49

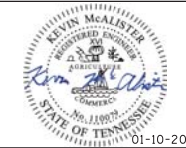


ELEVATION

BENT NO. 1, 2, & 3 (EXISTING)  
REMOVE ALL EXISTING COLUMNS  
TO 2" MIN. BELOW GROUNDLINE

MIN. 2'-0" BELOW GROUND OR  
TOP OF EXISTING FOOTING (TYP.)

SEALED BY



STATE OF TENNESSEE  
DEPARTMENT OF TRANSPORTATION  
BRIDGE NO. 2  
EXISTING BENT DEMOLITION  
BELVOIR AVENUE OVER  
INTERSTATE 24  
FED. I.D. NO. 33100240057  
HAMILTON COUNTY  
2020

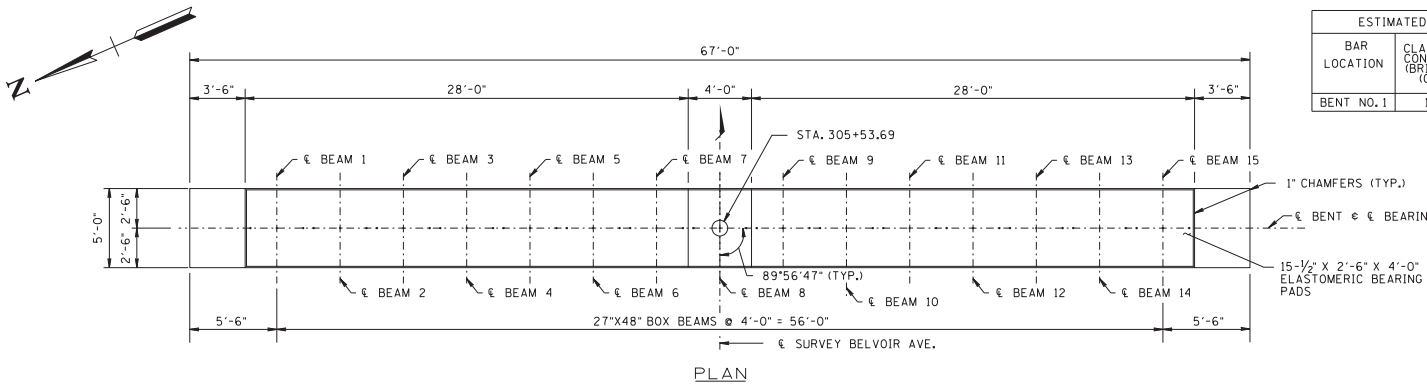
PIN NO.: 124069.00  
DESIGN BY: J. LEADERS DATE: 01-2020  
DRAWN BY: K. SWANK / K. BELL DATE: 01-2020  
SUPERVISED BY: K. McALISTER DATE: 01-2020  
CHECKED BY: K. McALISTER DATE: 01-2020

U-92-94

CONST. NO.: 33003-3167-44

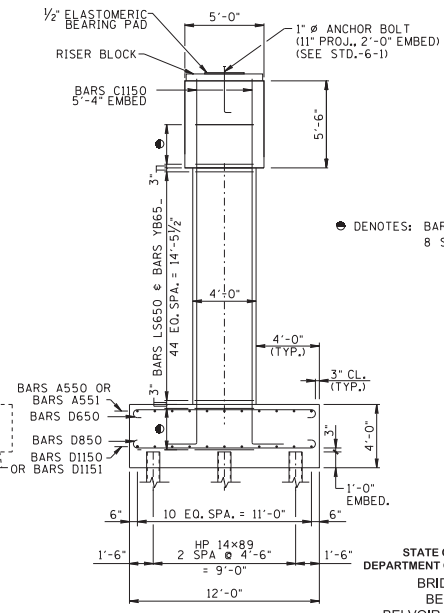
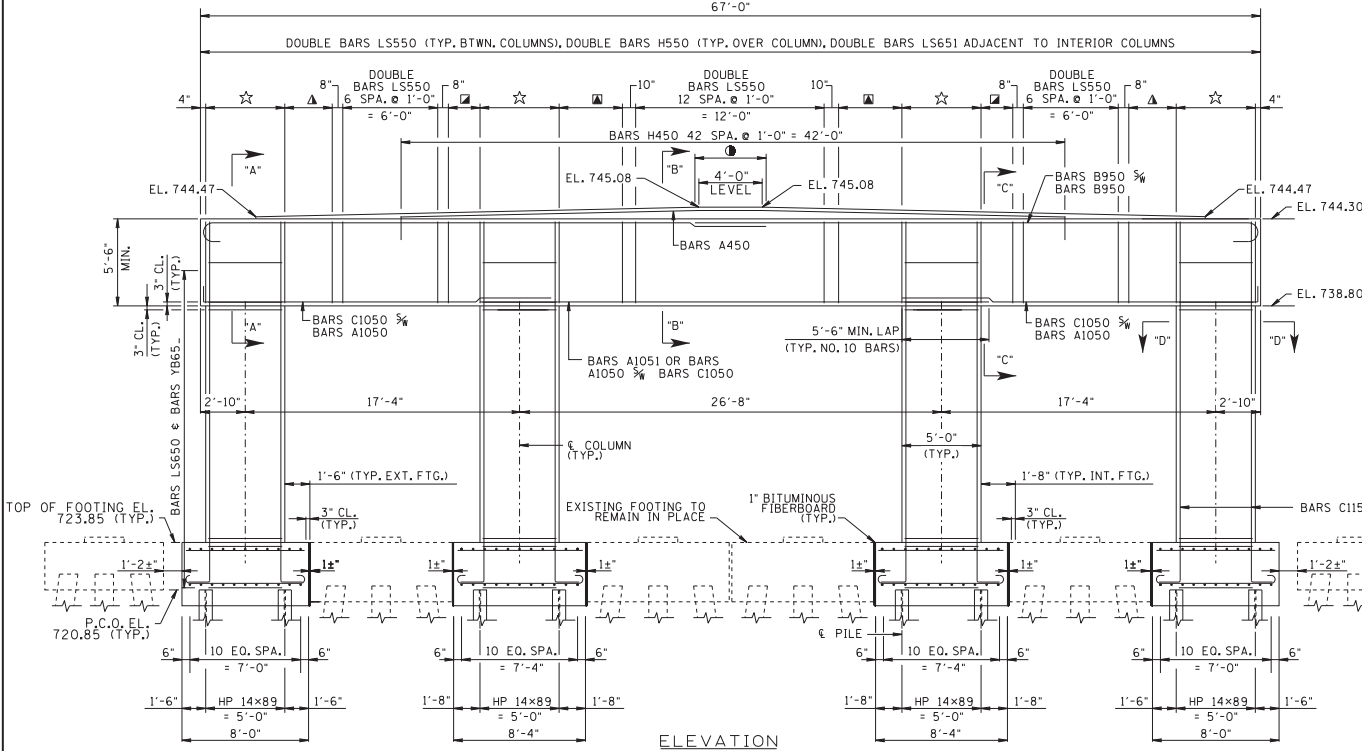
PROJECT NO.	YEAR	SHEET NO.	
BR-I-24-3(97)	2020	U-92-95	
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION
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ESTIMATED BENT QUANTITIES		
BAR LOCATION	CLASS "A" CONCRETE (BRIDGES) (C.Y.)	STEEL BAR REINFORCEMENT (LB.)
BENT NO. 1	175	45,372

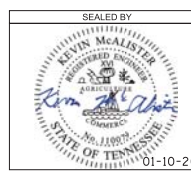


NOTES:

- WHEN POURING CAP BEAM, PROVISIONS SHALL BE MADE FOR SETTING ANCHOR BOLTS. SEE STANDARD DRAWING STD-6-1. BOLT PROJECTIONS 11".
- RISER BLOCKS TO BE POURED MONOLITHICALLY WITH CAP BEAM.
- ELASTOMERIC BEARING PADS SHALL BE IN PLACE A MINIMUM OF ONE (1) DAY BEFORE BEING DISTURBED BY SETTING BEAMS ON CONCRETE. PLACE RUBBER BONDING CEMENT IN SUCH A WAY THAT VISIBLE CONCRETE SURFACES WILL NOT BE STAINED.
- RISER BLOCK BEARING SURFACE TO CONFORM TO BOTTOM OF BEAM GRADE.
- COLUMN STEEL TO EXTEND 5'-4" INTO CAP BEAM.



● DENOTES: BARS LS650 & BARS YB65...  
8 SPA. @ 4" = 2'-8"



STATE OF TENNESSEE  
DEPARTMENT OF TRANSPORTATION  
BRIDGE NO. 2  
BENT NO. 1  
BELVOIR AVENUE OVER  
INTERSTATE 24  
FED. I.D. NO. 33100240057  
HAMILTON COUNTY  
2020

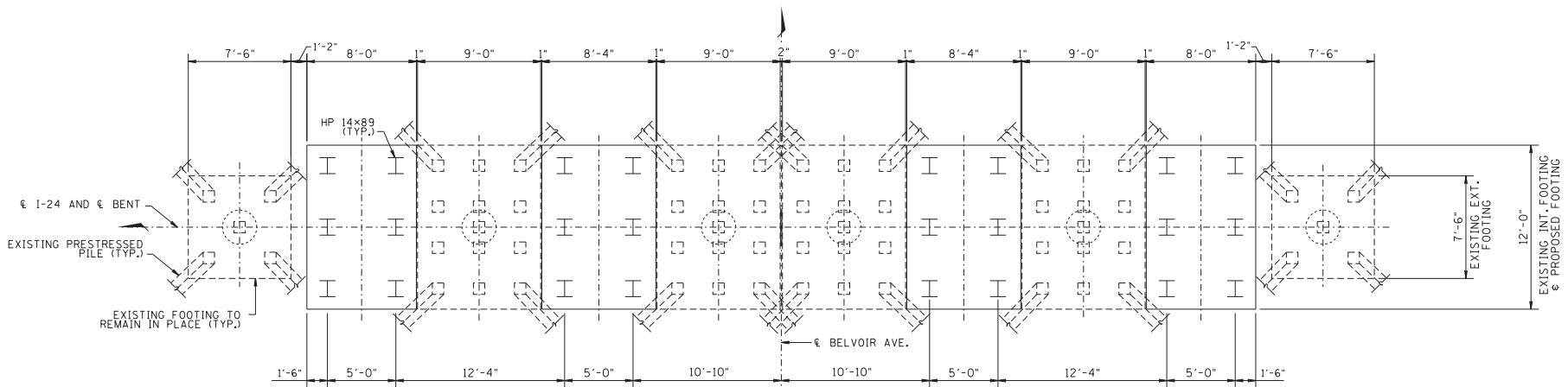
PIN NO.: 124069.00  
DESIGN BY: J. LEADERS DATE: 01-2020  
DRAWN BY: K. SWANK / K. BELL DATE: 01-2020  
SUPERVISED BY: K. McALISTER DATE: 01-2020  
CHECKED BY: K. McALISTER DATE: 01-2020

- ☆ DENOTES: DOUBLE BARS H550 5 SPA. @ 1'-0" = 5'-0"
- ▲ DENOTES: DOUBLE BARS LS550 6 SPA. @ 6" = 3'-0"
- ▴ DENOTES: DOUBLE BARS LS651 4 SPA. @ 6" = 2'-0"
- ▾ DENOTES: DOUBLE BARS LS651 8 SPA. @ 6" = 4'-0"
- DENOTES: 4'-6" MIN. LAP (TYP. NO. 9 BARS)

CONST. NO.: 33003-3167-44

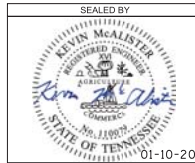
PROJECT NO.	YEAR	SHEET NO.
BR-I-24-3(97)	2020	U-92-96

REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION
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PIN NO.: 124069.00  
 DESIGN BY: J. LEADERS DATE: 01-2020  
 DRAWN BY: K. SWANK / K. BELL DATE: 01-2020  
 SUPERVISED BY: K. MCALISTER DATE: 01-2020  
 CHECKED BY: K. MCALISTER DATE: 01-2020

NOTE: TOTAL NUMBER OF HP 14x89 PILES = 24



STATE OF TENNESSEE  
 DEPARTMENT OF TRANSPORTATION  
 BRIDGE NO. 2  
 BENT 1 PILE LAYOUT  
 BELVOIR AVENUE OVER  
 INTERSTATE 24  
 FED. I.D. NO. 33100240057  
 HAMILTON COUNTY  
 2020

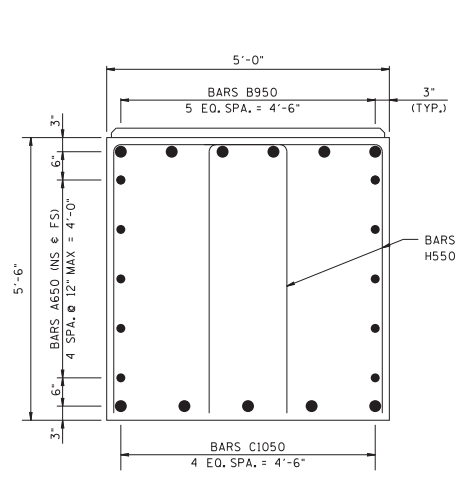
U-92-96

1/10/2020  
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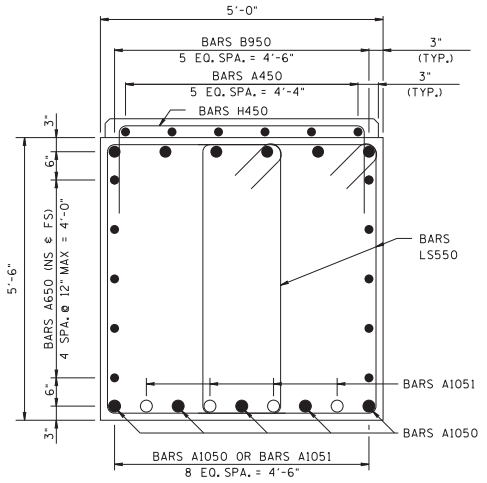
CONST. NO.: 33003-3167-44

PROJECT NO.	YEAR	SHEET NO.
BR-I-24-3(97)	2020	U-92-97

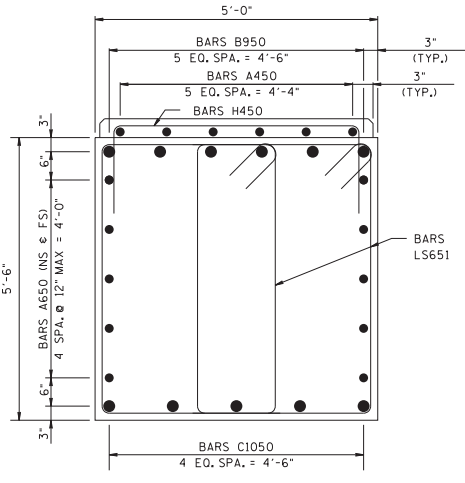
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION
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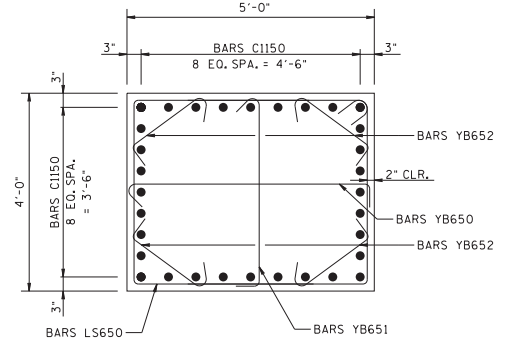
SECTION "A"-"A"  
NTS  
BARS C1150 NOT SHOWN FOR CLARITY



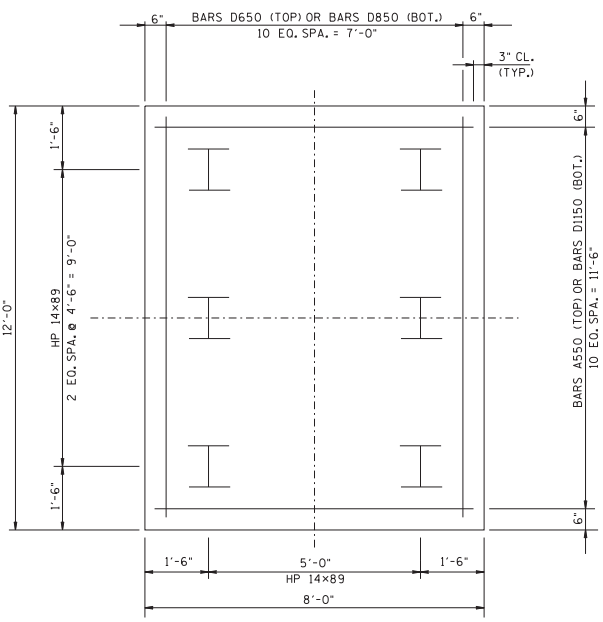
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NTS



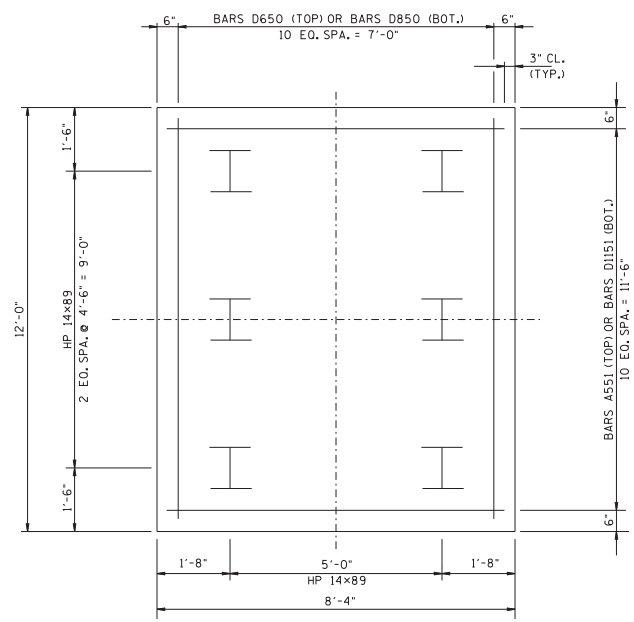
SECTION "C"-"C"  
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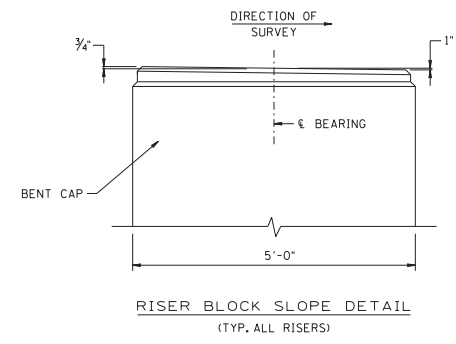
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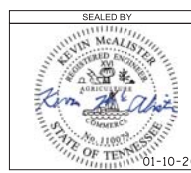
PLAN OF EXTERIOR FOOTING  
NTS



PLAN OF INTERIOR FOOTING  
NTS



RISER BLOCK SLOPE DETAIL  
(TYP. ALL RISERS)



STATE OF TENNESSEE  
DEPARTMENT OF TRANSPORTATION  
BRIDGE NO. 2  
BENT NO. 1 DETAILS  
BELVOIR AVENUE OVER  
INTERSTATE 24  
FED. I.D. NO. 33100240057  
HAMILTON COUNTY  
2020

PIN NO.: 124069.00  
DESIGN BY: J. LEADERS DATE: 01-2020  
DRAWN BY: K. SWANK / K. BELL DATE: 01-2020  
SUPERVISED BY: K. McALISTER DATE: 01-2020  
CHECKED BY: K. McALISTER DATE: 01-2020

CONST. NO.: 33003-3167-44

PROJECT NO.	YEAR	SHEET NO.
BR-I-24-3(97)	2020	U-92-98

REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION
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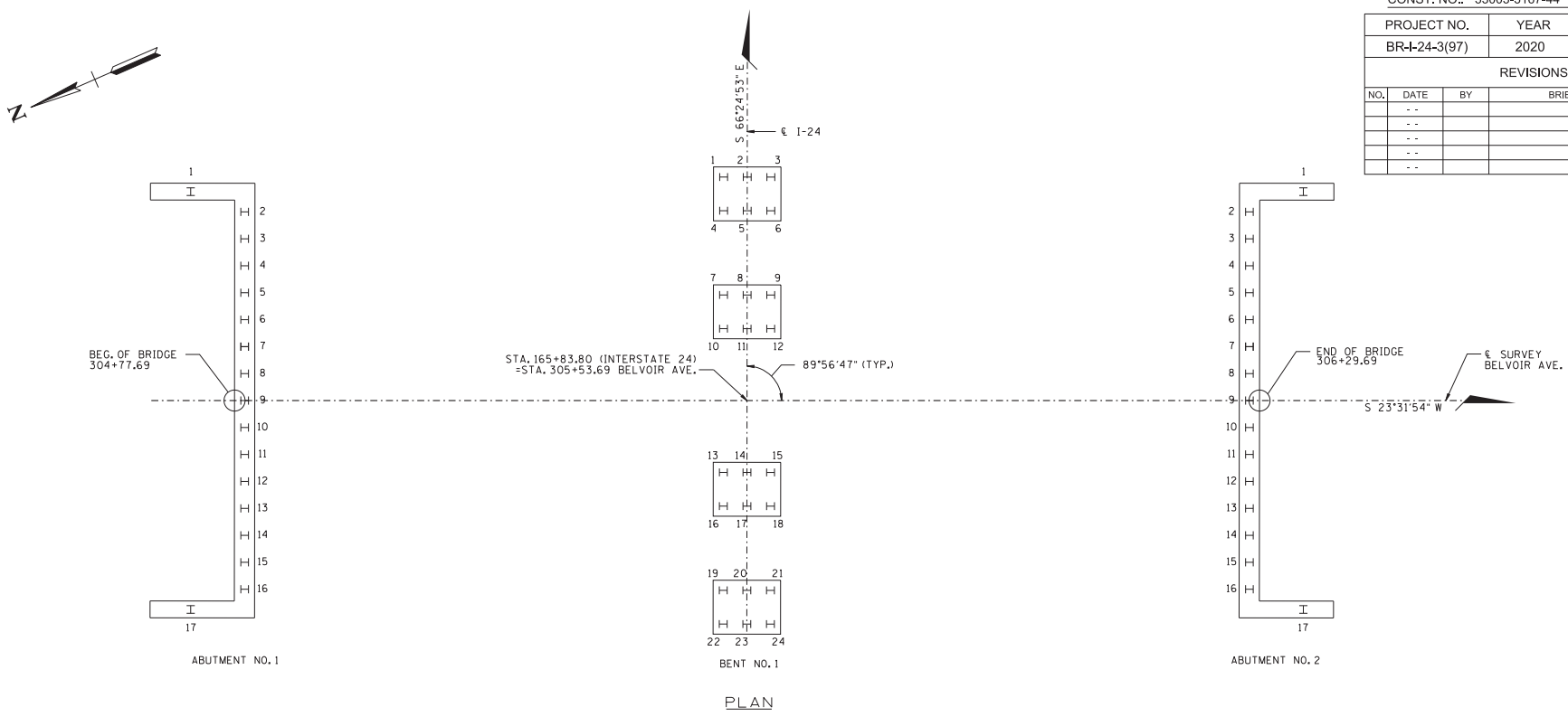
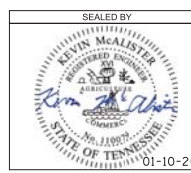


TABLE OF PILE DATA

	PILE NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
ABUTMENT NO. 1	PILE CUT-OFF ELEV.																								
	PILE TIP ELEV.																								
	IN-PLACE PILE LENGTH																								
BENT NO. 1	PILE CUT-OFF ELEV.																								
	PILE TIP ELEV.																								
	IN-PLACE PILE LENGTH																								
ABUTMENT NO. 2	PILE CUT-OFF ELEV.																								
	PILE TIP ELEV.																								
	IN-PLACE PILE LENGTH																								

NOTE TO CONTRACTOR AND CONSTRUCTION OFFICE:  
 THE BLANKS ON THIS SHEET ARE TO BE FILLED IN BY THE CONSTRUCTION OFFICE AND/OR FIELD  
 ENGINEER GIVING AS BUILT CONDITIONS. AFTER COMPLETION, IT IS TO BE SENT TO THE DIVISION  
 OF STRUCTURES TO BECOME PART OF FINAL BRIDGE DOCUMENTS.

PIN NO.: 124069.00  
 DESIGN BY: J. LEADERS DATE: 01-2020  
 DRAWN BY: K. SWANK / K. BELL DATE: 01-2020  
 SUPERVISED BY: K. MCALISTER DATE: 01-2020  
 CHECKED BY: K. MCALISTER DATE: 01-2020



STATE OF TENNESSEE  
 DEPARTMENT OF TRANSPORTATION  
 BRIDGE NO. 2  
 FINAL FOUNDATION DATA  
 BELVOIR AVENUE OVER  
 INTERSTATE 24  
 FED. I.D. NO. 33100240057  
 HAMILTON COUNTY  
 2020

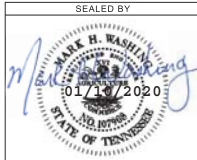
1/10/2020 F:\36\367\30\367300004\_CADD\TNS\BELVOIR\_AVE\Bridge\CGM\100%\_submission\3673000\_FFDDATA001.dgn



TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2020	33003-3166-44	L1
		33003-3167-44	

LIGHTING SCHEDULE													
POLE NO.	SHEET NO.	STATION	OFFSET	OFFSET FROM	LAMP WATTAGE	VOLTAGE	NUMBER OF LAMPS	MOUNTING HEIGHT	FIXTURE TYPE	TILT	CONTROL CENTER NO.	CIRCUIT NO.	NOTES
1	L-2	502+56.32	3' RT.	RAMF A	250	480	1	30'	EXISTING	EXIST.	EXIST.	EXIST.	REMOVE AND REPLACE EXISTING
2	L-2	504+70.14	3' LT.	RAMF A	250	480	2	30'	EXISTING	EXIST.	EXIST.	EXIST.	REMOVE AND REPLACE EXISTING
3	L-2	136+05.94	6' LT.	I-24	250	480	1	30'	EXISTING	EXIST.	EXIST.	EXIST.	REMOVE AND REPLACE EXISTING
4	L-2	505+99.20	3' LT.	RAMF A	250	480	1	30'	EXISTING	EXIST.	EXIST.	EXIST.	REMOVE AND REPLACE EXISTING
5	L-2	136+93.82	6' RT.	I-24	250	480	1	30'	EXISTING	EXIST.	EXIST.	EXIST.	REMOVE AND REPLACE EXISTING
6	L-2	137+83.10	6' LT.	I-24	250	480	1	30'	EXISTING	EXIST.	EXIST.	EXIST.	REMOVE AND REPLACE EXISTING
7	L-2	507+71.38	3' LT.	RAMF A	250	480	1	30'	EXISTING	EXIST.	EXIST.	EXIST.	REMOVE AND REPLACE EXISTING
8	L-2	204+41.65	5' RT.	S. GERMANTOWN	250	480	1	30'	EXISTING	EXIST.	EXIST.	EXIST.	REMOVE AND REPLACE EXISTING
9	L-2	138+57.58	7' RT.	I-24	250	480	1	30'	EXISTING	EXIST.	EXIST.	EXIST.	REMOVE AND REPLACE EXISTING
10	L-2	139+70.28	7' LT.	I-24	250	480	1	30'	EXISTING	EXIST.	EXIST.	EXIST.	REMOVE AND REPLACE EXISTING
11	L-2	206+87.10	5' LT.	S. GERMANTOWN	250	480	1	30'	EXISTING	EXIST.	EXIST.	EXIST.	REMOVE AND REPLACE EXISTING
12	L-2	700+61.35	2' LT.	S. TERRACE	250	480	1	30'	EXISTING	EXIST.	EXIST.	EXIST.	REMOVE AND REPLACE EXISTING
13	L-2	140+64.45	7' RT.	I-24	250	480	1	30'	EXISTING	EXIST.	EXIST.	EXIST.	REMOVE AND REPLACE EXISTING
14	L-2	141+57.05	6' LT.	I-24	250	480	1	30'	EXISTING	EXIST.	EXIST.	EXIST.	REMOVE AND REPLACE EXISTING
15	L-3	206+05.53	0'	S. GERMANTOWN	39	480	1	13'	W4GLED 10C1000 30K T3M	0	EXIST.	EXIST.	MOUNTED ON CENTER BRIDGE BENT
16	L-3	205+70.5	0'	S. GERMANTOWN	39	480	1	13'	W4GLED 10C1000 30K T3M	0	EXIST.	EXIST.	MOUNTED ON CENTER BRIDGE BENT
17	L-3	205+35.84	0'	S. GERMANTOWN	39	480	1	13'	W4GLED 10C1000 30K T3M	0	EXIST.	EXIST.	MOUNTED ON CENTER BRIDGE BENT
18	L-3	205+00.84	0'	S. GERMANTOWN	39	480	1	13'	W4GLED 10C1000 30K T3M	0	EXIST.	EXIST.	MOUNTED ON CENTER BRIDGE BENT
19	L-3	206+05.53	0'	S. GERMANTOWN	39	480	1	13'	W4GLED 10C1000 30K T3M	0	EXIST.	EXIST.	MOUNTED ON CENTER BRIDGE BENT
20	L-3	205+70.5	0'	S. GERMANTOWN	39	480	1	13'	W4GLED 10C1000 30K T3M	0	EXIST.	EXIST.	MOUNTED ON CENTER BRIDGE BENT
21	L-3	205+35.84	0'	S. GERMANTOWN	39	480	1	13'	W4GLED 10C1000 30K T3M	0	EXIST.	EXIST.	MOUNTED ON CENTER BRIDGE BENT
22	L-3	205+00.84	0'	S. GERMANTOWN	39	480	1	13'	W4GLED 10C1000 30K T3M	0	EXIST.	EXIST.	MOUNTED ON CENTER BRIDGE BENT
23	L-3	165+68.05	0'	I-24	39	480	1	17'	W4GLED 10C1000 30K T3M	0	EXIST.	EXIST.	MOUNTED ON CENTER BRIDGE BENT
24	L-3	165+68.05	0'	I-24	39	480	1	17'	W4GLED 10C1000 30K T3M	0	EXIST.	EXIST.	MOUNTED ON CENTER BRIDGE BENT
25	L-3	165+99.55	0'	I-24	39	480	1	17'	W4GLED 10C1000 30K T3M	0	EXIST.	EXIST.	MOUNTED ON CENTER BRIDGE BENT
26	L-3	165+99.55	0'	I-24	39	480	1	17'	W4GLED 10C1000 30K T3M	0	EXIST.	EXIST.	MOUNTED ON CENTER BRIDGE BENT
27	L-3	305+04.15	3' RT.	BELVOIR	168	480	1	40'	MGLED 4 30K A1-W LV G	0	EXIST.	EXIST.	MOUNTED ON PARAPET WALL
28	L-3	306+04.44	3' LT.	BELVOIR	168	480	1	40'	MGLED 4 30K A1-W LV G	0	EXIST.	EXIST.	MOUNTED ON PARAPET WALL
29	L-3	164+91.15	7' RT.	I-24	250	480	1	30'	EXISTING	EXIST.	EXIST.	EXIST.	REMOVE AND REPLACE EXISTING
30	L-2	207+82.08	41.58' RT.	S. GERMANTOWN	168	480	1	30'	MGLED 4 30K A1-W LV G	0	EXIST.	EXIST.	MOUNTED ON SIGNAL POLE

NOTE: POLES 1-14 AND 29 ARE EXISTING POLES AND ARE TO BE RELOCATED AND REUSED ON NEW FOUNDATIONS.



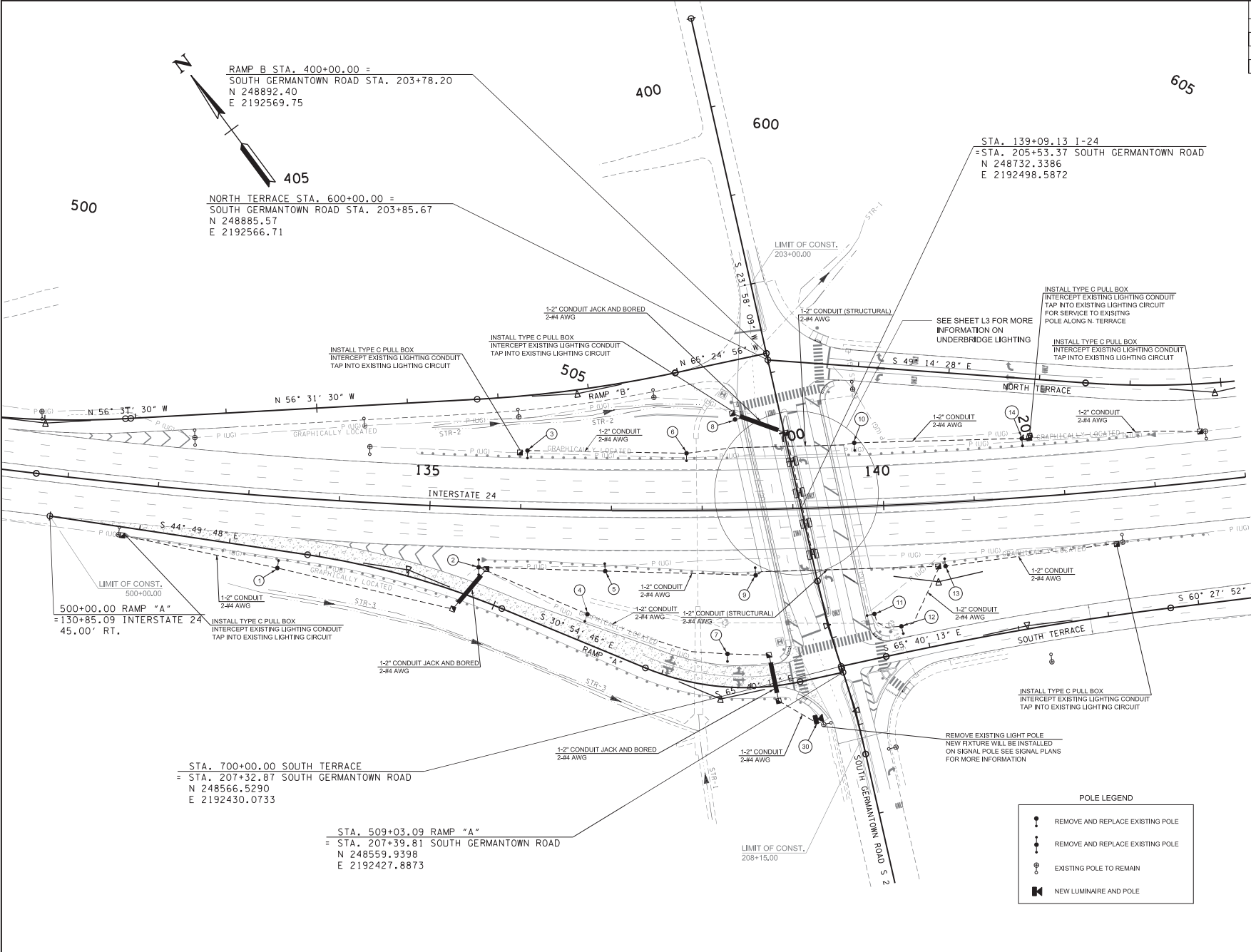
COORDINATES ARE NAD(83)(1995). ARE DATUM ADJUSTED BY THE FACTOR OF 0.99998 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988.

STATE OF TENNESSEE  
DEPARTMENT OF  
TRANSPORTATION

LIGHTING  
SCHEDULE

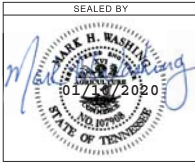
N.T.S.

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2020	33003-3166-44	L2
		33003-3167-44	



**POLE LEGEND**

	REMOVE AND REPLACE EXISTING POLE
	REMOVE AND REPLACE EXISTING POLE
	EXISTING POLE TO REMAIN
	NEW LUMINAIRE AND POLE



STATE OF TENNESSEE  
DEPARTMENT OF  
TRANSPORTATION

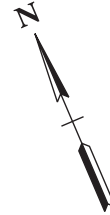
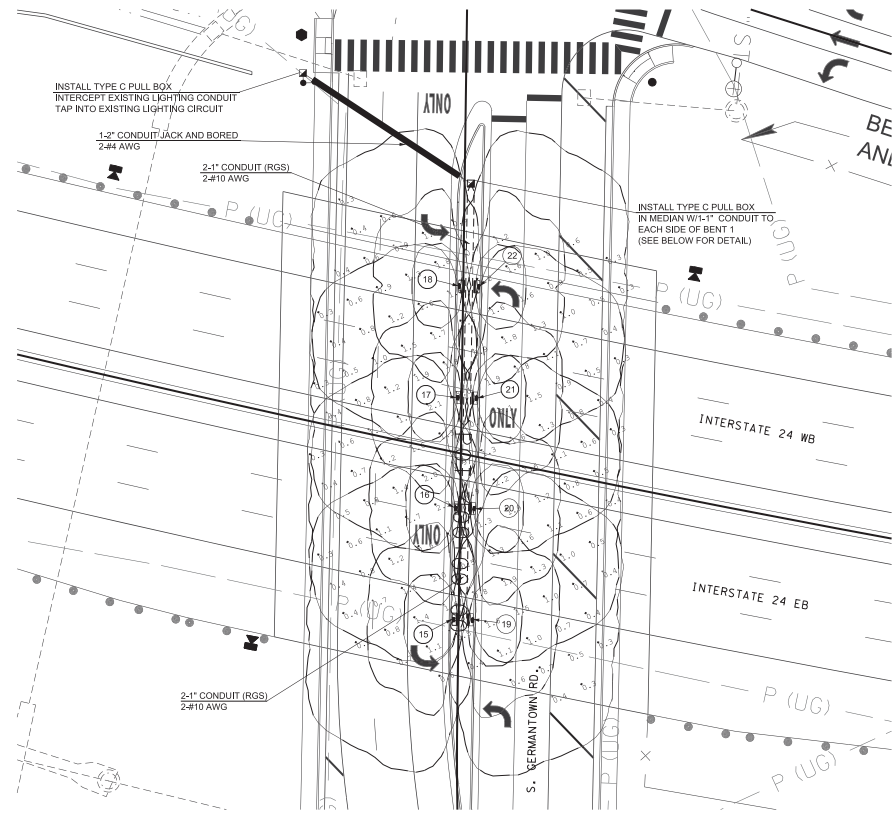
**LIGHTING  
LAYOUT**

STA. 130+85.09 TO STA. 144+00  
SCALE: 1"=50'

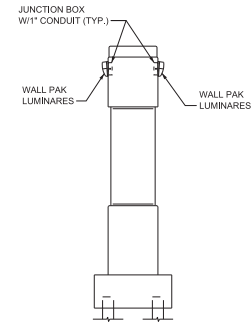
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TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2020	33003-3166-44	L3
		33003-3167-44	

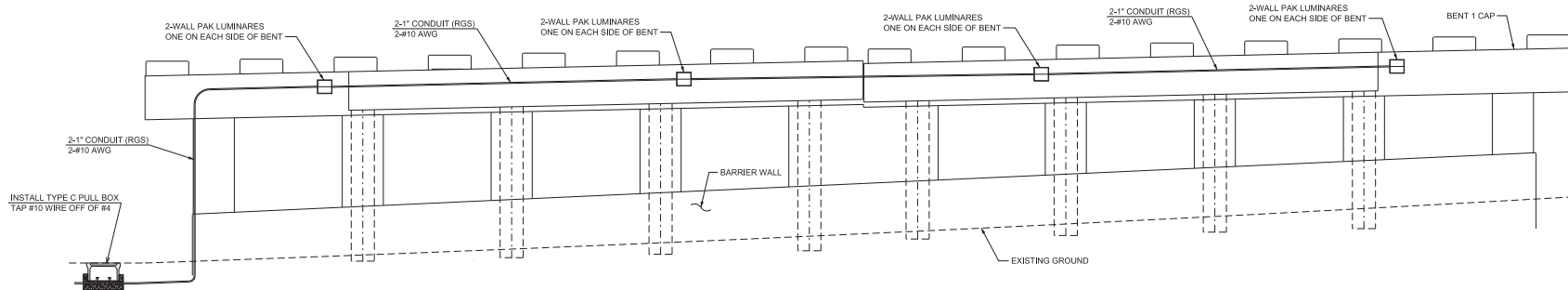


PHOTOMETRIC SUMMARY							
ROUTE	CALCULATION TYPE	UNITS	AVG.	MAX.	MN.	AVG/MIN	MAX/MIN
S. GERMANTOWN RD.	ILLUMINANCE	FC	1	2.3	0.3	3.3	7.67



END ELEVATION OF PROP BENT 1  
N.T.S.

UNDER BRIDGE LIGHTING FOR S. GERMANTOWN RD.



PROFILE OF PROPOSED BENT 1  
N.T.S.



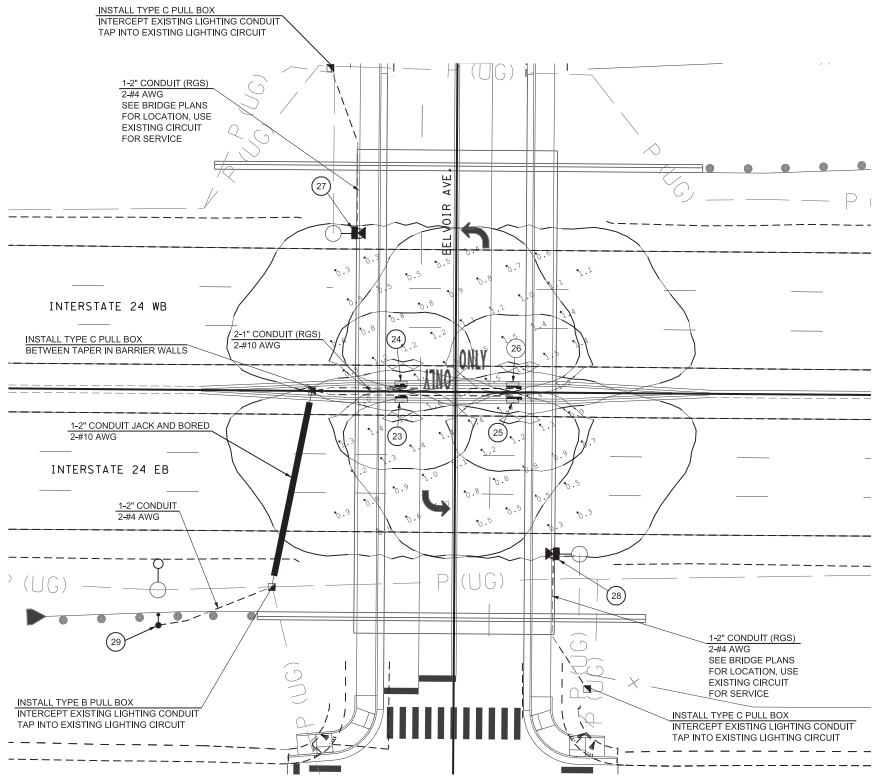
STATE OF TENNESSEE  
DEPARTMENT OF  
TRANSPORTATION

LIGHTING  
LAYOUT

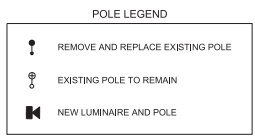
S. GERMANTOWN RD.  
UNDER BRIDGE LIGHTING  
SCALE: 1"=20'

1/10/2020  
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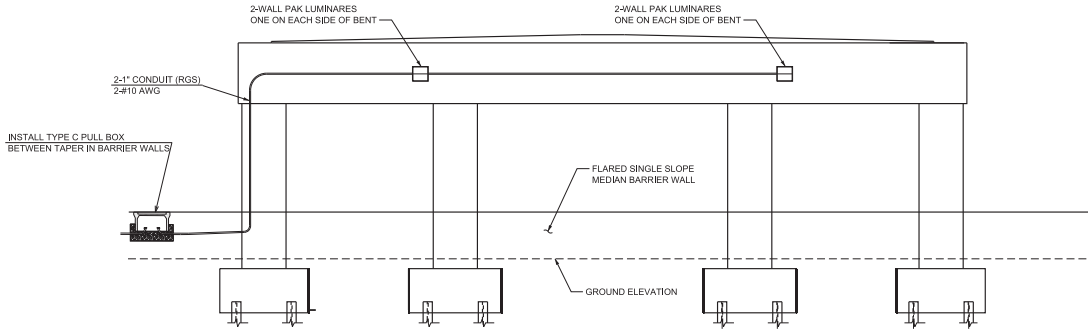
TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2020	33003-3166-44	L4
		33003-3167-44	



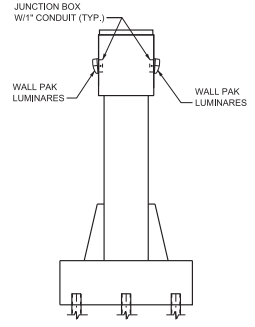
PHOTOMETRIC SUMMARY						
ROUTE	CALCULATION TYPE	UNITS	AVG.	MAX.	MN.	AVG/MIN
BELVOIR AVE.	ILLUMINANCE	FC	1.0	1.8	0.3	3.3
						6.0



UNDER BRIDGE LIGHTING FOR BELVOIR AVE.



PROFILE OF PROPOSED BENT 1  
N.T.S.



END ELEVATION OF PROP BENT 1  
N.T.S.

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STATE OF TENNESSEE  
DEPARTMENT OF  
TRANSPORTATION

LIGHTING  
LAYOUT  
BELVOIR AVE.  
UNDER BRIDGE LIGHTING  
SCALE: 1"=20'

ACCEPTABLE WALL TYPES

MECHANICALLY STABILIZED EARTH (MSE) WALL = SEGMENTAL PRECAST
MECHANICALLY STABILIZED EARTH (MSE) WALL = MODULAR BLOCK

THE RETAINING WALL(S) SHALL BE ONE OF THE WALL TYPE(S) AS LISTED ABOVE. ANY PROPRIETARY RETAINING WALL SYSTEM SHOULD BE LISTED AS PRE-APPROVED IN OPL 38.

RETAINING WALL DESIGN NOTES

UNLESS SPECIFICALLY STATED OTHERWISE IN THE CONTRACT PLANS, THE BIDDING FOR, THE DESIGN OF AND THE CONSTRUCTION OF RETAINING WALLS SHOWN IN THE PLANS SHALL BE GOVERNED BY THE TENNESSEE DEPARTMENT OF TRANSPORTATION SPECIAL PROVISION 624 REGARDING RETAINING WALLS...

EXCAVATION FOR THE WALL AND/OR ITS FOOTING SHALL NOT BE ACCOMPLISHED UNTIL THE CONTRACTOR HAS SUBMITTED WALL DESIGNS AND CALCULATIONS AND HAS BEEN ISSUED AN APPROVED SET OF WALL PLANS AND HAS LABOR AND MATERIAL RESOURCES AVAILABLE TO BEGIN AND CONTINUE WALL CONSTRUCTION IMMEDIATELY AFTER EXCAVATION.

THIS WALL SHALL BE DESIGNED IN ACCORDANCE WITH LRFD DESIGN PROCEDURES AND REQUIREMENTS AS DESCRIBED IN:

- AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 2017 AND INTERIMS
- PUBLICATION FHWA-NHI-10-024/FHWA GEC 011, DESIGN AND CONSTRUCTION OF MECHANICALLY STABILIZED EARTH WALLS AND REINFORCED SOIL SLOPES, NOVEMBER 2009 FOR MSE WALLS

FOR PROPRIETARY WALL SYSTEMS THAT HAVE BEEN APPROVED AS SHOWN IN OPL 38, THE WALL DESIGNER SHALL BE RESPONSIBLE FOR PROVIDING WALL DESIGNS INCORPORATING MATERIALS AND COMPONENTS (I.E., REINFORCEMENT CONNECTION DEVICES, SPECIFIC MANUFACTURER AND PROPERTIES OF GEORID) AS WAS ORIGINALLY SUBMITTED AND APPROVED BY TDOT...

THE WALL DESIGNER SHALL PROVIDE RETAINING WALL PLANS, DETAILS AND CALCULATIONS AS REQUIRED BY SPECIAL PROVISION 624 AND AS REQUIRED HEREIN.

- THE WALL DESIGNER SHALL UTILIZE THE GEOTECHNICAL PARAMETERS AND RESISTANCE FACTORS AS PROVIDED FOR EACH PROJECT RETAINING WALL ON THIS SHEET TO PREPARE AND SUBMIT DESIGN CALCULATIONS...
• CALCULATIONS FOR BOTH INTERNAL AND EXTERNAL STABILITY (SLIDING, ECCENTRICITY, AND BEARING CAPACITY-GLOBAL STABILITY AND SETTLEMENT BEING THE EXCEPTIONS) SHALL BE PROVIDED FOR EACH CRITICAL WALL SECTION...

NOTE REGARDING CONSTRUCTION SLOPES

THE CONTRACTOR SHALL BE RESPONSIBLE FOR MARKING THE EXCAVATION IN ACCORDANCE WITH OSHA AND OTHER APPLICABLE STATE AND LOCAL REGULATIONS REGARDING CONSTRUCTION SLOPES AND TRENCHES. IN ADDITION TO FOLLOWING APPLICABLE REGULATORY REQUIREMENTS, AS A MINIMUM REQUIREMENT, ALL TEMPORARY CONSTRUCTION SLOPES SHALL BE PLACED AT A MAXIMUM OF A 1:1 SLOPE IN SOIL AND SHALL NOT BE LEFT OPEN WITHOUT SHORING FOR ANY LONGER THAN ABSOLUTELY NECESSARY...

TABLE 1-DESIGN REQUIREMENTS AND PARAMETERS

Table with 3 columns: DESCRIPTION, MSE WALLS, and NOTE. It details design life (75 years), seismic acceleration coefficients, effective friction angle, unit weight, and various resistance factors for static and combined static/earthquake conditions.

NOTES FOR TABLE 1

Table with 3 columns: NO., NOTE. It contains 8 detailed notes regarding design parameters, material testing, construction details, and safety requirements for the retaining walls.

Table with 4 columns: TYPE, YEAR, PROJECT NO., SHEET NO. It shows CONST., 2020, 33003-3167-44, and RI.

TABLE 2-FOUNDATION PARAMETERS AND REQUIREMENTS FOR MSE WALLS

Table with 4 columns: STATION LIMITS, FOUNDATION (REINFORCED ZONE) BEARING CONDITION REQUIREMENT, NOMINAL BEARING RESISTANCE (psf), and COEFFICIENT OF SLIDING FRICTION. It specifies a 12-INCH LAYER OF SELECT GRANULAR BACKFILL OVER STIFF OR BETTER CLAY with a bearing resistance of 9,000 psf and a sliding friction coefficient of 0.35.

OTHER DESIGN REQUIREMENTS

THE WALL SHALL HAVE A DRAINAGE CUTTER AT THE TOP DESIGNED TO CARRY SURFACE RUNOFF TO EITHER OR BOTH ENDS OF WALLS. DETAILS OF THIS DRAINAGE FEATURE SHALL BE PROVIDED IN WALL DESIGNER/CONTRACTOR'S WALL DESIGN PLANS AND COSTS SHALL BE CONSIDERED INCIDENTAL TO THE COST OF THE WALL.

ANY SHIMMING PLATES MUST BE PERMANENT (NO ASPHALT SHIMS).

IF REQUIRED, THE RETAINING WALL FOOTING HEEL OR REINFORCED ZONE MUST BE CONSTRUCTED WITH ALLOWANCES MADE TO ENABLE THE PILES FOR THE ABUTMENTS TO BE DRIVEN (SONDTUBE, ETC).

BECAUSE OF CONSTRUCTION PHASING AND THE TRAFFIC CONTROL PLAN, THIS WALL MUST BE PHASE CONSTRUCTED. TEMPORARY SHORING, OTHER THAN SHEET PILING, SHALL BE REQUIRED. ALL WALL ELEMENTS SHALL BE WITHIN TDOT ROW.

ALL CONSTRUCTION MUST STAY WITHIN TDOT ROW, SLOPE EASEMENT, AND CONSTRUCTION EASEMENT.

WALLS SHALL BE FINISHED WITH AN ASHLAR FINISH.

IF A STEEPER THAN 1:1 BACKSLOPE IS REQUIRED BEHIND RETAINING WALL OR TEMPORARY SHORING, THE EFFECTIVE FRICTION ANGLE FOR SELECT BACKFILL WILL NOT BE ALLOWABLE FOR DESIGN AND THE EFFECTIVE FRICTION ANGLE FOR UNCLASSIFIED SITE OR BORROW SITE SHALL BE REQUIRED.

THE CONTRACTOR SHALL COORDINATE AND PERFORM ALL UTILITY RELOCATION SO THAT IT DOES NOT INTERFERE WITH THE RETAINING WALL INSTALLATION.

ALL TEMPORARY SHORING SHALL BE DESIGNED BY A PROFESSIONAL ENGINEER.

FOR FOUNDATION IMPROVEMENT AND EXCAVATION ZONE DETAILS, SEE TYPICAL DETAIL FOR UNDERCUTTING AND BACKFILLING DETAIL ON ACCOMPANYING SHEET.

WHERE A PROPOSED RETAINING WALL MEETS AN EXISTING RETAINING WALL OR ANOTHER STRUCTURE, THE INTERFACE SHOULD BE ONE VERTICAL JOINT. THIS INTERFACE SHOULD BE DESIGNED TO PREVENT LOSS OF FINES AND ALLOW FOR DIFFERENTIAL SETTLEMENT. DETAILS OF THIS JOINT SHALL BE PROVIDED IN WALL DESIGNER/CONTRACTOR'S WALL DESIGN PLANS AND COSTS SHALL BE CONSIDERED INCIDENTAL TO THE COST OF THE WALL.

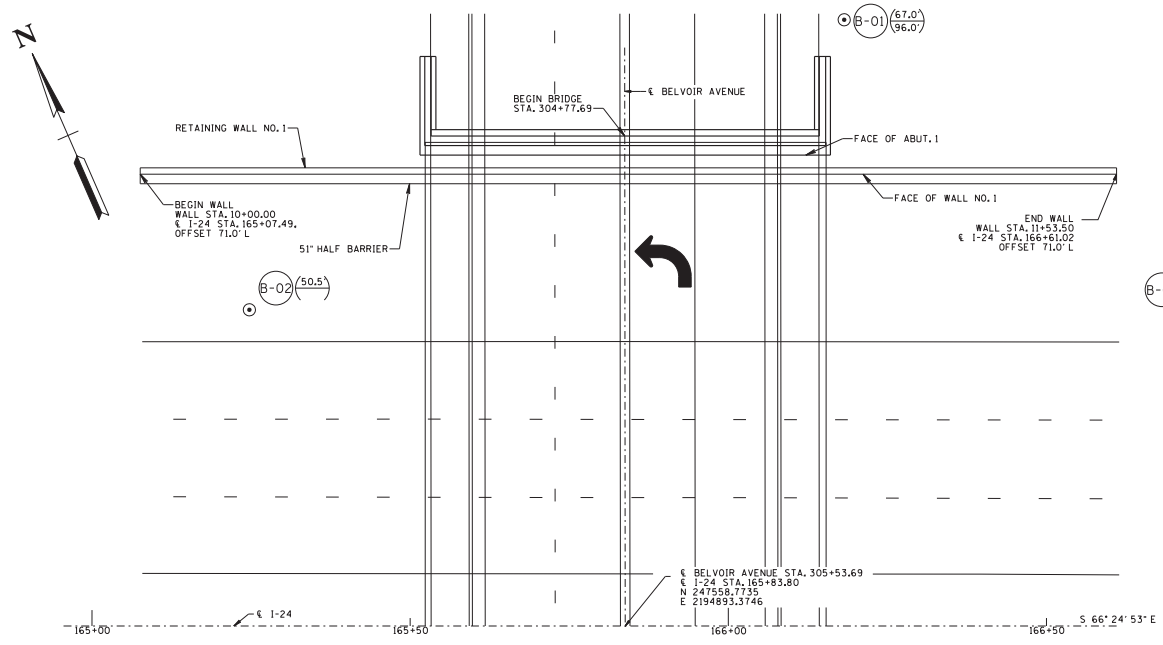
FOR MSE WALLS, A MINIMUM HORIZONTAL BENCH 4 FEET WIDE AS MEASURED FROM THE FACE SHALL BE PROVIDED IN FRONT OF WALLS FOUNDED ON SLOPES. THE BENCH MAY BE FORMED OR THE SLOPE CONTINUED ABOVE THAT LEVEL. SEE ARTICLE 11-10.2.2, AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 2014 AND INTERIMS. ALTERNATIVELY, THE EMBEDMENT DEPTH MAY BE INCREASED TO SATISFY THE REQUIREMENTS.



STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
RETAINING WALLS
1 & 2 DETAIL -
GEOTECHNICAL
DESIGN NOTES &
REQUIREMENTS

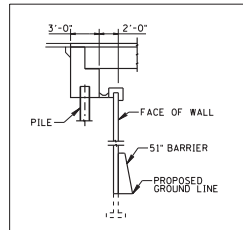
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TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2019	33003-2167-44	R1
CONST.	2020	33003-3167-44	R2



RETAINING WALL NO. 1 ALIGNMENT

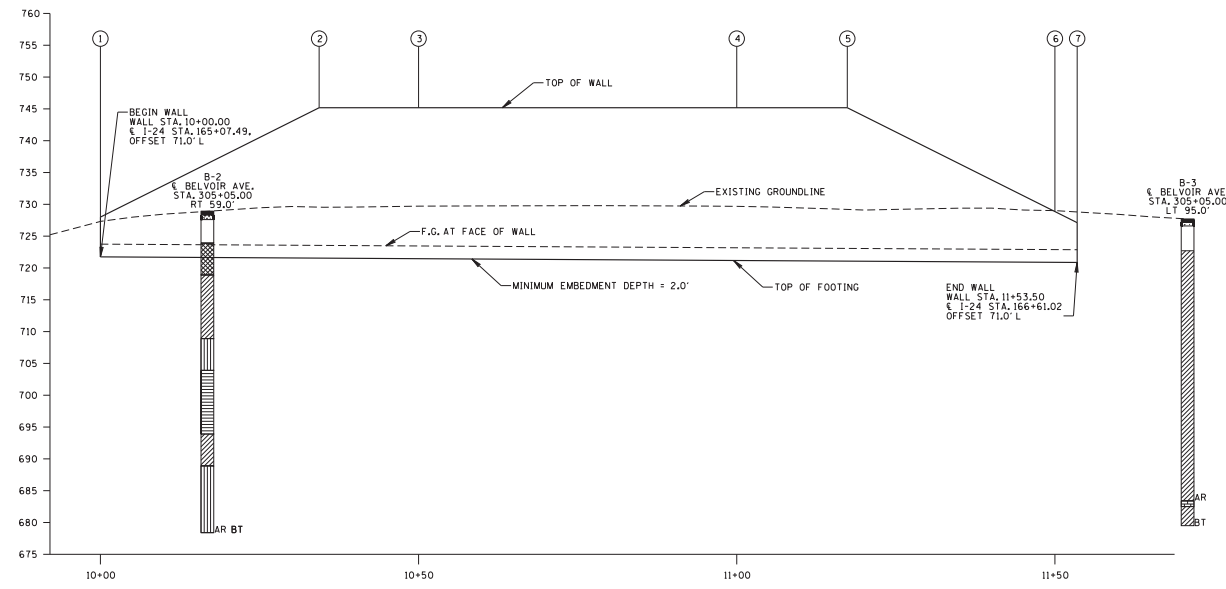
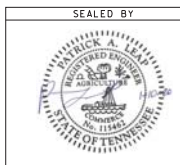
POINT	WALL STATION	BASELINE	BASELINE STATION	OFFSET	T.O.W ELEV.	F.G. AT FACE OF WALL	T.O.F ELEV.	WALL HEIGHT
1	10+00.00	I-24	165+07.93	71.0'	727.99	723.74	721.74	6.25'
2	10+34.37	I-24	165+42.30	71.0'	745.18	723.55	721.55	23.63'
3	10+50.00	I-24	165+57.93	71.0'	745.18	723.46	721.46	23.72'
4	11+00.00	I-24	166+07.93	71.0'	745.18	723.17	721.17	24.01'
5	11+17.37	I-24	166+25.30	71.0'	745.18	723.07	721.07	24.11'
6	11+50.00	I-24	166+57.93	71.0'	728.87	722.89	720.89	7.98'
7	11+53.50	I-24	166+61.43	71.0'	727.12	722.87	720.87	6.25'



TYPICAL SECTION OF RETAINING WALL I-24, STA. 166+00

OTHER DESIGN REQUIREMENTS  
 THE MINIMUM EMBEDMENT DEPTH FOR A MSE WALL IS 2 FEET.  
 THE WALL SHALL BE DESIGNED BY THE CONTRACTOR AND MUST FOLLOW THE GUIDELINES OF SPECIAL PROVISION 624.

ESTIMATED QUANTITIES	
ITEM NO.	604-07.01
DESCRIPTION	RETAINING WALL NO. 1 SO. FT
QUANTITY	3,044



RETAINING WALL NO. 1 ELEVATION

LEGEND:

- ASPHALT
- BASESTONE
- NO SAMPLE TAKEN
- LEAN CLAY (CL) (FILL)
- LEAN CLAY (CL)
- SILT (MH)
- SILT (ML)
- LIMESTONE
- AUGER REFUSAL
- BT BORING TERMINATED

LEGEND:

- AUGER BORING
- 1 (10.0') (20.0') BORING LOCATION, DEPTH TO REFUSAL (ABOVE LINE), BOTTOM OF HOLE (BELOW LINE)
- 1 (10.0') BORING LOCATION WITH DEPTH TO REFUSAL

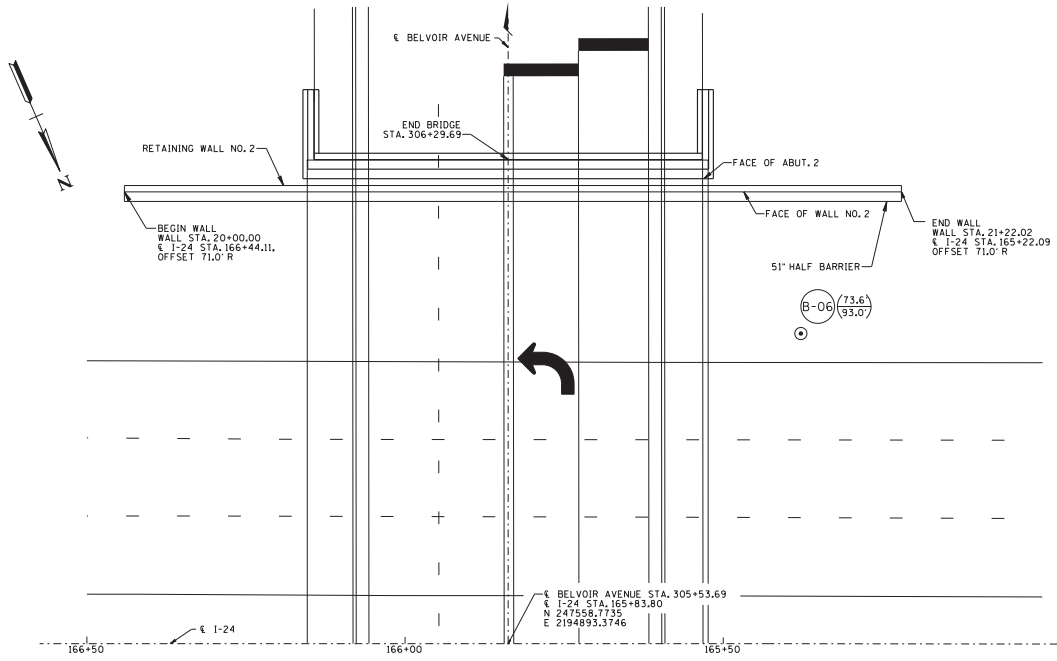
STATE OF TENNESSEE  
 DEPARTMENT OF  
 TRANSPORTATION

WALL 1 PLAN & PROFILE

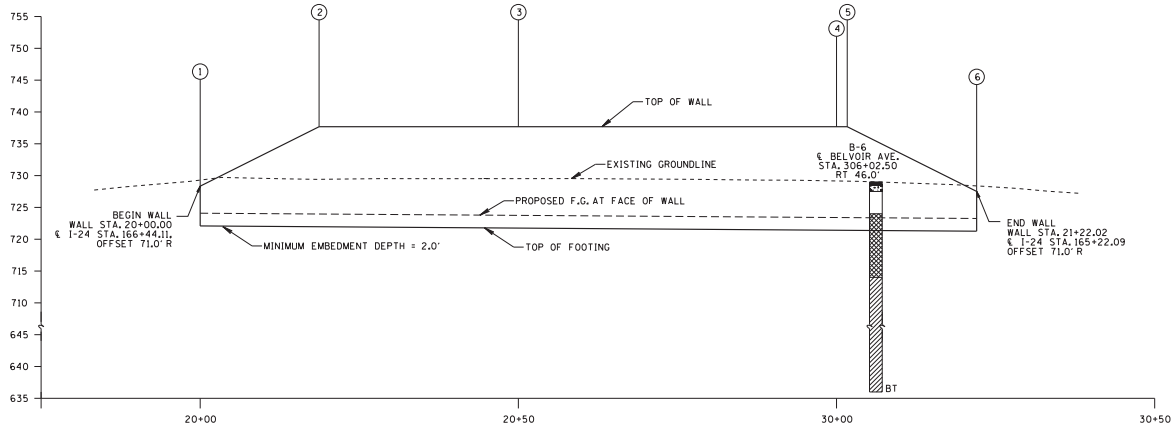
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TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2019	33003-2167-44	R2
CONST.	2020	33003-3167-44	R3



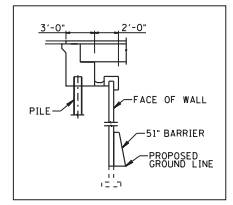
RETAINING WALL NO. 2 ALIGNMENT



RETAINING WALL NO. 2 ELEVATION

POINT	WALL STATION	BASELINE	BASELINE STATION	OFFSET	T.O.W ELEV.	F.G. AT FACE OF WALL	T.O.F ELEV.	WALL HEIGHT
1	20+00.00	I-24	166+43.98	71.0'	728.34	724.09	722.09	6.25'
2	20+18.68	I-24	166+25.30	71.0'	737.68	723.96	721.96	15.72'
3	20+50.00	I-24	165+93.98	71.0'	737.68	723.75	721.75	15.93'
4	21+00.00	I-24	165+43.98	71.0'	737.68	723.41	721.41	16.27'
5	21+01.68	I-24	165+42.30	71.0'	737.68	723.40	721.40	16.28'
6	21+22.02	I-24	165+21.96	71.0'	727.51	723.26	721.26	6.25'

ESTIMATED QUANTITIES	
ITEM NO.	604-07.02
DESCRIPTION	RETAINING WALL NO. 2 SO. FT
QUANTITY	1,763

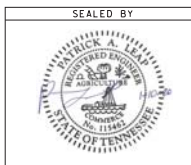


TYPICAL SECTION OF RETAINING WALL I-24, STA. 166+00

**OTHER DESIGN REQUIREMENTS**  
 THE MINIMUM EMBEDMENT DEPTH FOR A MSE WALL IS 2 FEET.  
 THE WALL SHALL BE DESIGNED BY THE CONTRACTOR AND MUST FOLLOW THE GUIDELINES OF SPECIAL PROVISION 624.

- LEGEND:**
- ASPHALT
  - BASESTONE
  - NO SAMPLE TAKEN
  - LEAN CLAY (CL) (FILL)
  - LEAN CLAY (CL)
  - BT BORING TERMINATED

- LEGEND:**
- AUGER BORING
  - ① (10.0' / 20.0') BORING LOCATION, DEPTH TO REFUSAL (ABOVE LINE), BOTTOM OF HOLE (BELOW LINE)
  - ① (10.0') BORING LOCATION WITH DEPTH TO REFUSAL



STATE OF TENNESSEE  
 DEPARTMENT OF  
 TRANSPORTATION

**WALL 2 PLAN & PROFILE**

SCALE: 1"=10'

1/10/2020 F:\36736730\3673000\04\_CAD\TRNS\R3\_SHT



TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2019	33003-2166-44	R3
CONST.	2020	33003-3166-44	R5

REV. 10-23-19; ADDED SHEET TO PLANS.

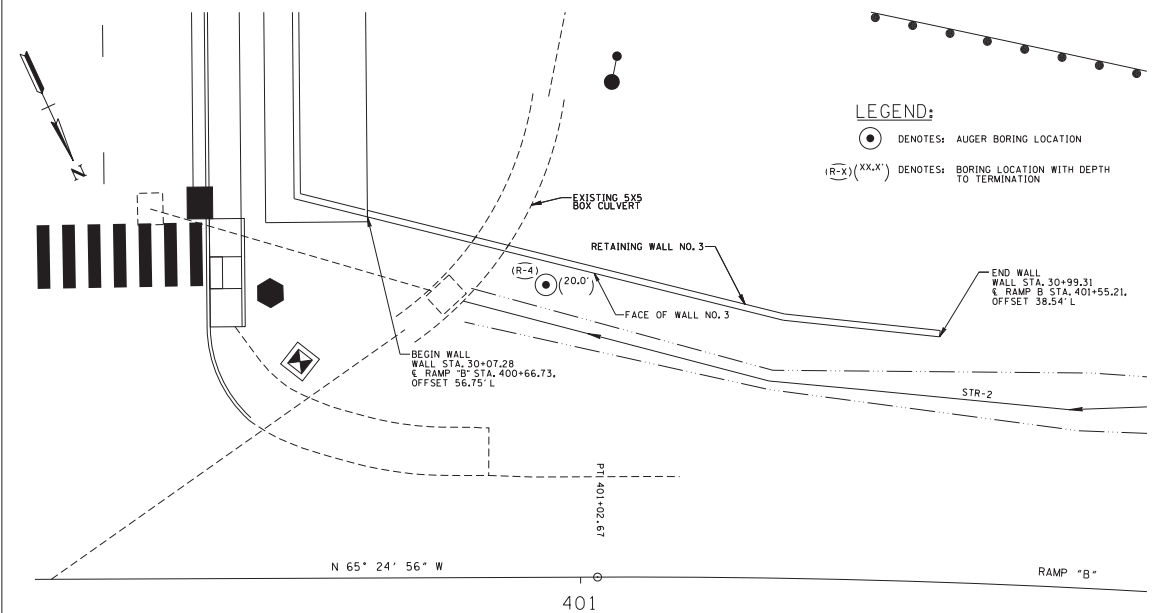
**OTHER DESIGN REQUIREMENTS**

IF A CONCRETE CANTILEVER WALL IS USED, THE WALL DESIGNER MUST PROVIDE FOR A DRAINAGE LAYER BEHIND THE WALL STEM WITH ADEQUATE DRAINAGE PROVIDED VIA WEEP HOLES.

THE MINIMUM EMBEDMENT DEPTH FOR A MSE WALL IS 2 FEET.

WALL 3 SHALL BE DESIGNED BY THE CONTRACTOR AND MUST FOLLOW THE GUIDELINES OF SPECIAL PROVISION 624.

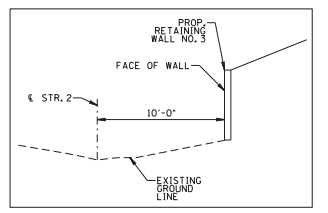
RETAINING WALL DESIGNER SHALL TIE BEGINNING OF WALL TO PROPOSED ABUTMENT WINGWALL.



**RETAINING WALL NO. 3 ALIGNMENT**

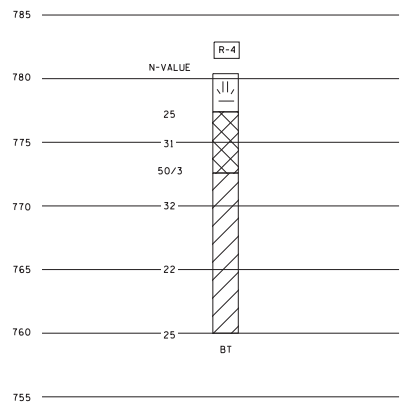
POINT	WALL STATION	BASELINE	BASELINE STATION	OFFSET	T.O.W ELEV.	F.G. AT FACE OF WALL	T.O.F ELEV.	WALL HEIGHT
1	30+07.28	RAMP B	400+66.73	56.75'	780.04	776.99	774.99	5.05'
2	30+25.50	RAMP B	400+84.39	52.29'	780.04	775.69	773.69	6.35'
3	30+50.00	RAMP B	401+07.97	46.29'	779.42	775.94	773.94	5.48'
4	30+74.62	RAMP B	401+31.21	40.54'	778.80	776.50	774.50	4.30'
5	30+99.31	RAMP B	401+55.21	38.54'	779.62	777.22	775.22	4.40'

ESTIMATED QUANTITIES	
ITEM NO.	604-07.03
DESCRIPTION	RETAINING WALL NO. 3 50. FT
QUANTITY	477



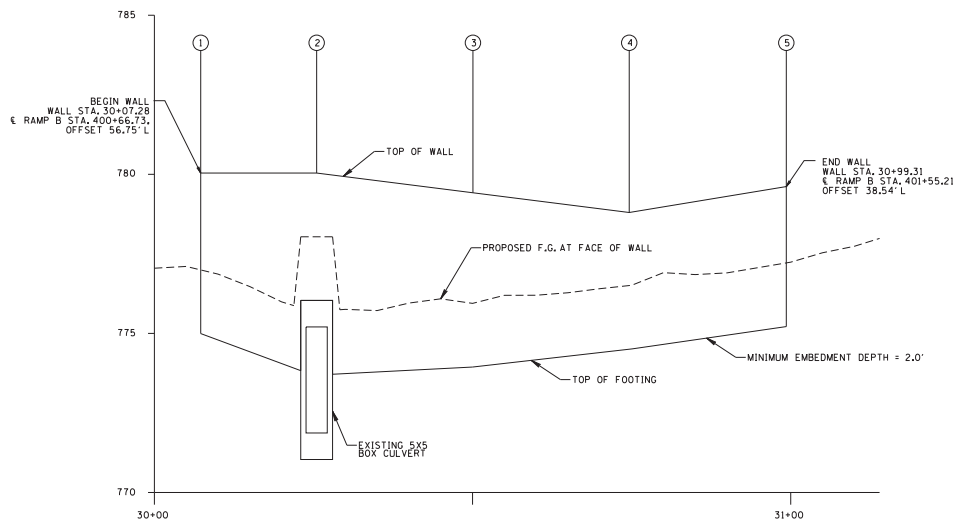
**RETAINING WALL NO. 3  
CROSS SECTION  
RAMP B, STA. 30+50**

**BORING LOG:**

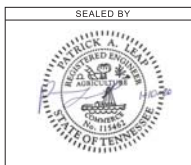


**LEGEND:**

- DENOTES: TOPSOIL
- DENOTES: FILL
- DENOTES: LEAN CLAY (CL)
- DENOTES: BORING TERMINATED



**RETAINING WALL NO. 3 ELEVATION**

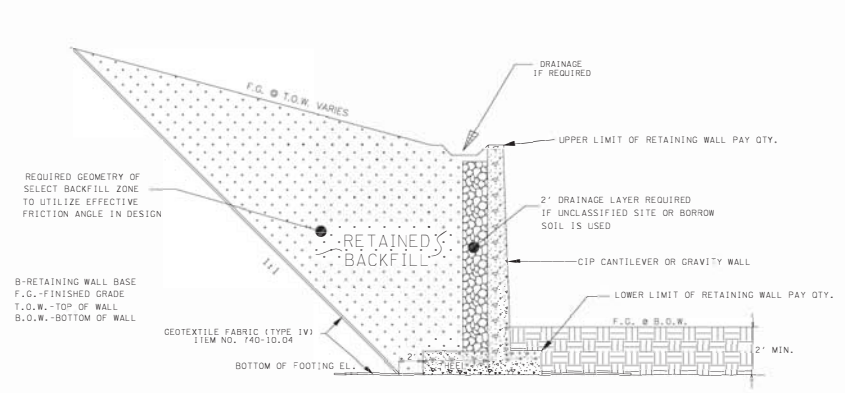


STATE OF TENNESSEE  
DEPARTMENT OF  
TRANSPORTATION

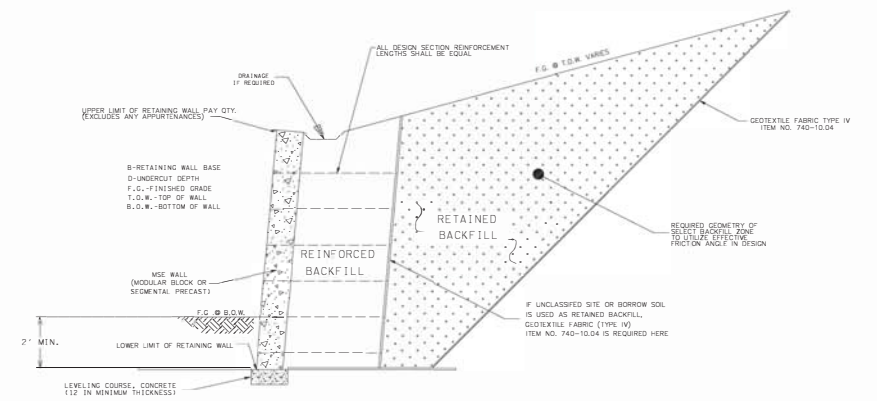
**WALL 3 PLAN  
& PROFILE**

SCALE: 1"=10'

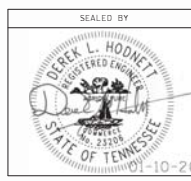
TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2020	33003-3166-44	R6
	2020	33003-3167-44	



TYPICAL DETAIL  
CIP CONCRETE CANTILEVER OR GRAVITY WALL



TYPICAL DETAIL  
MSE WALL - MODULAR BLOCK/SEGMENTAL PRECAST



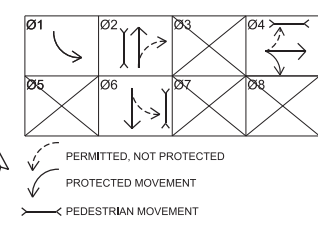
STATE OF TENNESSEE  
DEPARTMENT OF TRANSPORTATION

TYPICAL DETAIL  
MSE MODULAR BLOCK  
MSE SEGMENTAL PRECAST

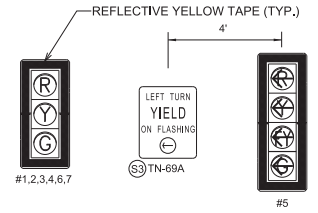


TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2020	33003-3166-44	SIG1
		33003-3167-44	

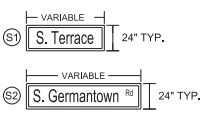
**PHASING DIAGRAM**



**SIGNAL HEAD DISPLAYS**

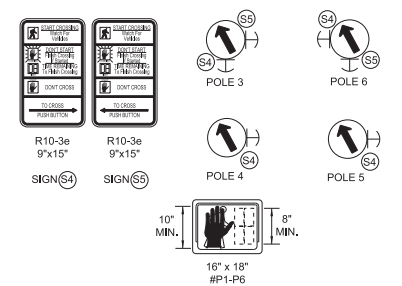


**OVERHEAD STREET NAME SIGNS**



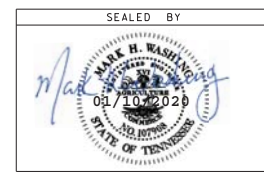
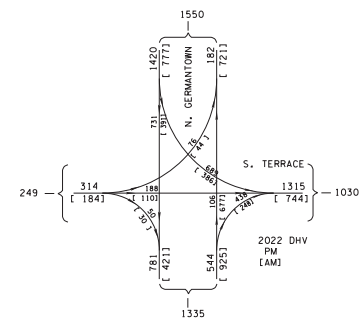
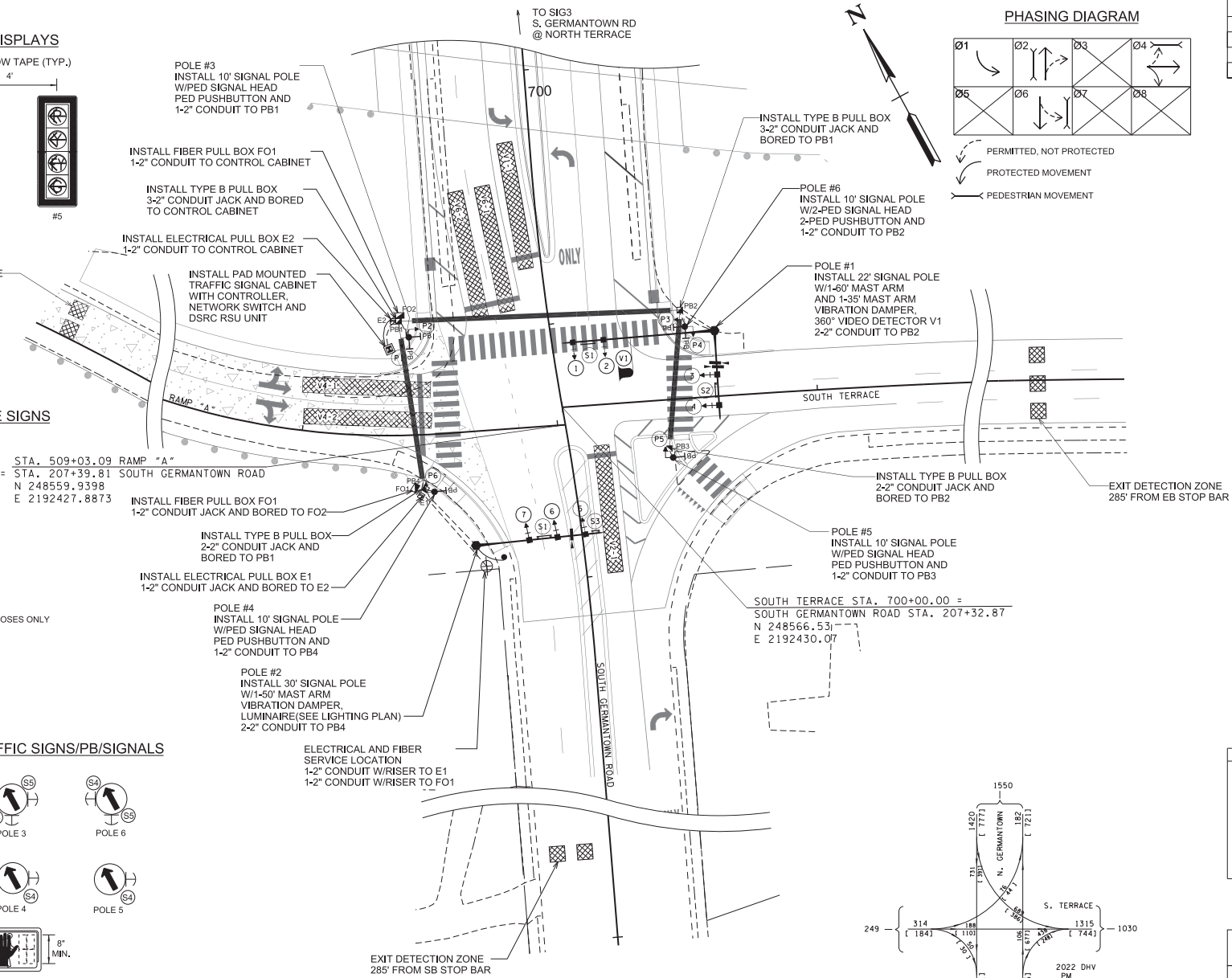
NOTE:  
 - 12" U.C. LETTERS (MINIMUM)  
 - 9" L.C. LETTERS (MINIMUM)  
 - HIGH INTENSITY REFLECTIVE SHEETING  
 - REFLECTIVE WHITE COPY  
 - GREEN BACKGROUND  
 - SIGNS SHOWN FOR ILLUSTRATIVE PURPOSES ONLY

**PEDESTRIAN TRAFFIC SIGNS/PB/SIGNALS**



COUNTDOWN TYPE  
 L.E.D. PED WITH  
 OVERLAPPING, FULLY POPULATED  
 SOLID SYMBOLS

COLOR LEGEND  
 MAN - WHITE  
 HAND - PORTLAND  
 ORANGE



STATE OF TENNESSEE  
 DEPARTMENT OF TRANSPORTATION

**SIGNAL PLANS**

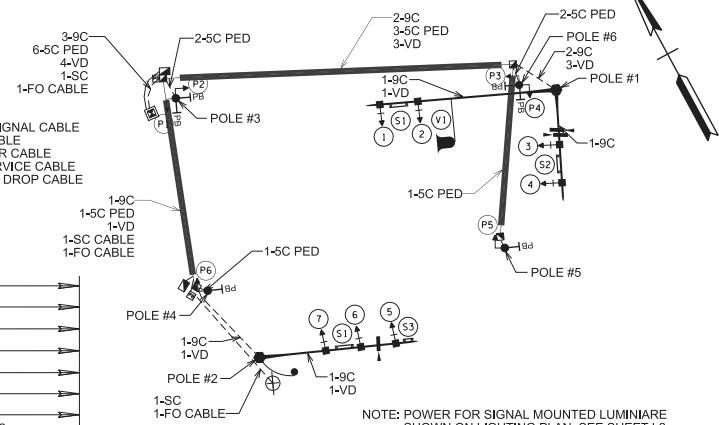
SCALE: 1"= 20'

1/8/2020 F:\33613673003\04\_CAD\TRNS\SIG-1-.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2020	33003-3166-44	SIG2
		33003-3167-44	

**WIRING DIAGRAM**

**LEGEND**  
 5C -5 CONDUCTOR  
 9C -9 CONDUCTOR SIGNAL CABLE  
 PRE -PREEMPTION CABLE  
 VD -VIDEO DETECTOR CABLE  
 SC -ELECTRICAL SERVICE CABLE  
 FO -12F FIBER OPTIC DROP CABLE

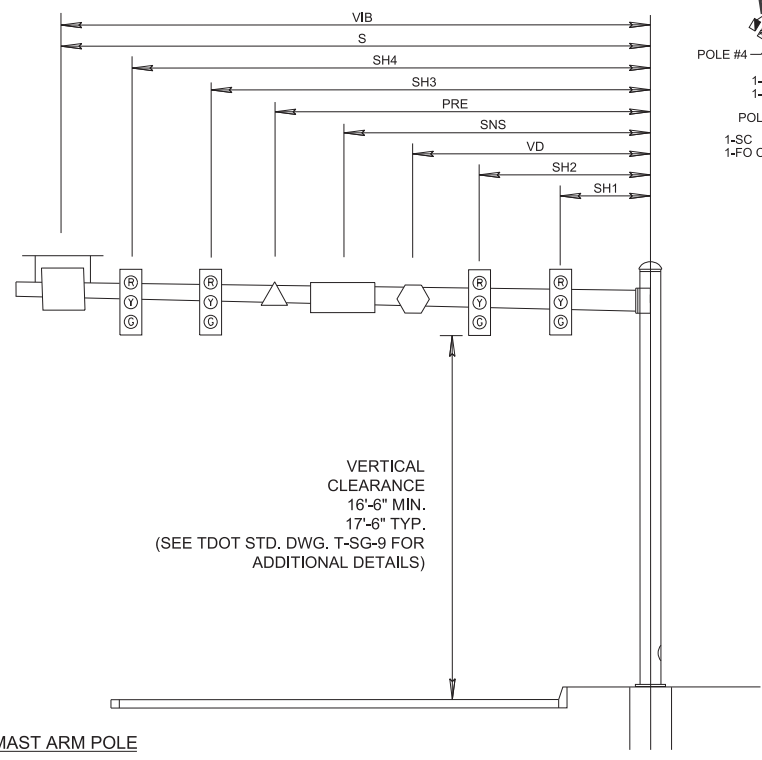


NOTE: POWER FOR SIGNAL MOUNTED LUMINAIRE SHOWN ON LIGHTING PLAN. SEE SHEET L2 FOR MORE INFORMATION.

**LEGEND**

- SIGNAL HEAD
- STREET NAME SIGN
- SIGN
- VEHICLE DETECTOR (VIDEO/RADAR)
- PRE-EMPTION

S: SIGN  
 SNS: STREET NAME SIGN  
 SHX: SIGNAL HEAD  
 VD: VEHICLE DETECTOR (VIDEO/RADAR)  
 PRE: PRE-EMPTION



VERTICAL CLEARANCE  
 16'-6" MIN.  
 17'-6" TYP.  
 (SEE TDOT STD. DWG. T-SG-9 FOR ADDITIONAL DETAILS)

**SIGNAL HEAD ASSIGNMENT**

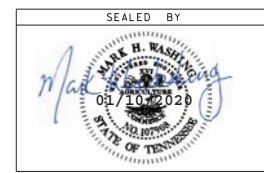
SIGNAL HEAD	PHASE(S)	FLASHING MODE
1	2	Y
2	2	Y
3	4	R
4	4	R
5	1	Y
6	6	Y
7	6	Y

**VIDEO DETECTION ASSIGNMENTS**

ZONE ASSIGNMENT	SIZE	CAMERA	MODE	DISTANCE FROM STOP LINE
V1-1	6X50	Y1	PRESENCE	-5'
V2-1	6X50	Y1	PRESENCE	-5'
V4-1	6X50	Y1	PRESENCE	-5'
V4-2	6X50	Y1	PRESENCE	-5'
V6-1	6X50	Y1	PRESENCE	-5'
V6-2	6X50	Y1	PRESENCE	-5'

POLE	STATION	OFFSET	NORTHING	EASTING	ARM LENGTH	SNS	SH1	SH2	SH3	VD	VIB	ELEV.
1	207+12.37	63.64' LT.	2485564.6156	2192496.7034	30'	49'-7"	43'-7"	55'-7"		33'-0"	63'-0"	795.42'
						35'	23'-3"	17'-3"	29'-3"	13'-1"		
2	207+82.08	41.68' RT.	248535.0387	2192374.6973	50'	26'-6"	20'-11"	32'-0"	43'-1"	37'-8"	43'-0"	792.50'
3	206+97.34	54.97' RT.	248619.2159	2192390.3537	0'							792.95'
4	207+57.77	54.82' RT.	248561.2900	2192370.3700	0'							791.20'
5	207+58.93	39.51' LT.	248528.6063	2192458.8644	0'							792.69'
6	207+08.87	52.39' LT.	248571.4991	2192487.2207	0'							791.36'

\* MAST ARM MOUNTING HEIGHT FOR ALL MAST ARMS IS 20'



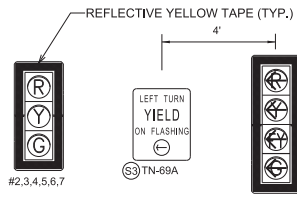
STATE OF TENNESSEE  
 DEPARTMENT OF TRANSPORTATION

**SIGNAL PLANS**  
 SCALE: 1"= 20'

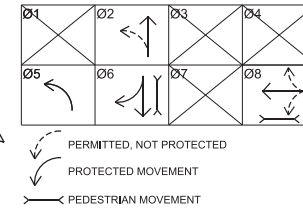
1/8/2020 F:\36136\30136\3000\04\_CAD\TRNS\SIG-2.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2020	33003-3166-44	SIG 3
		33003-3167-44	

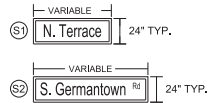
**SIGNAL HEAD DISPLAYS**



**PHASING DIAGRAM**

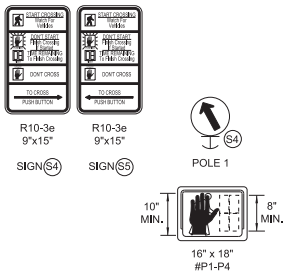


**OVERHEAD STREET NAME SIGNS**



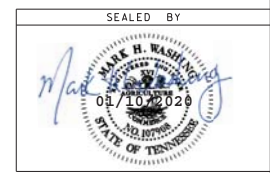
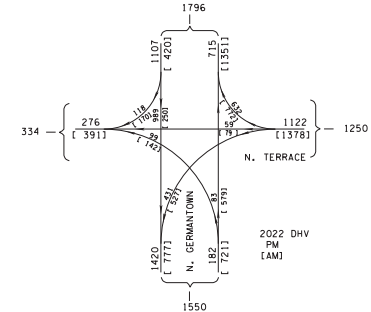
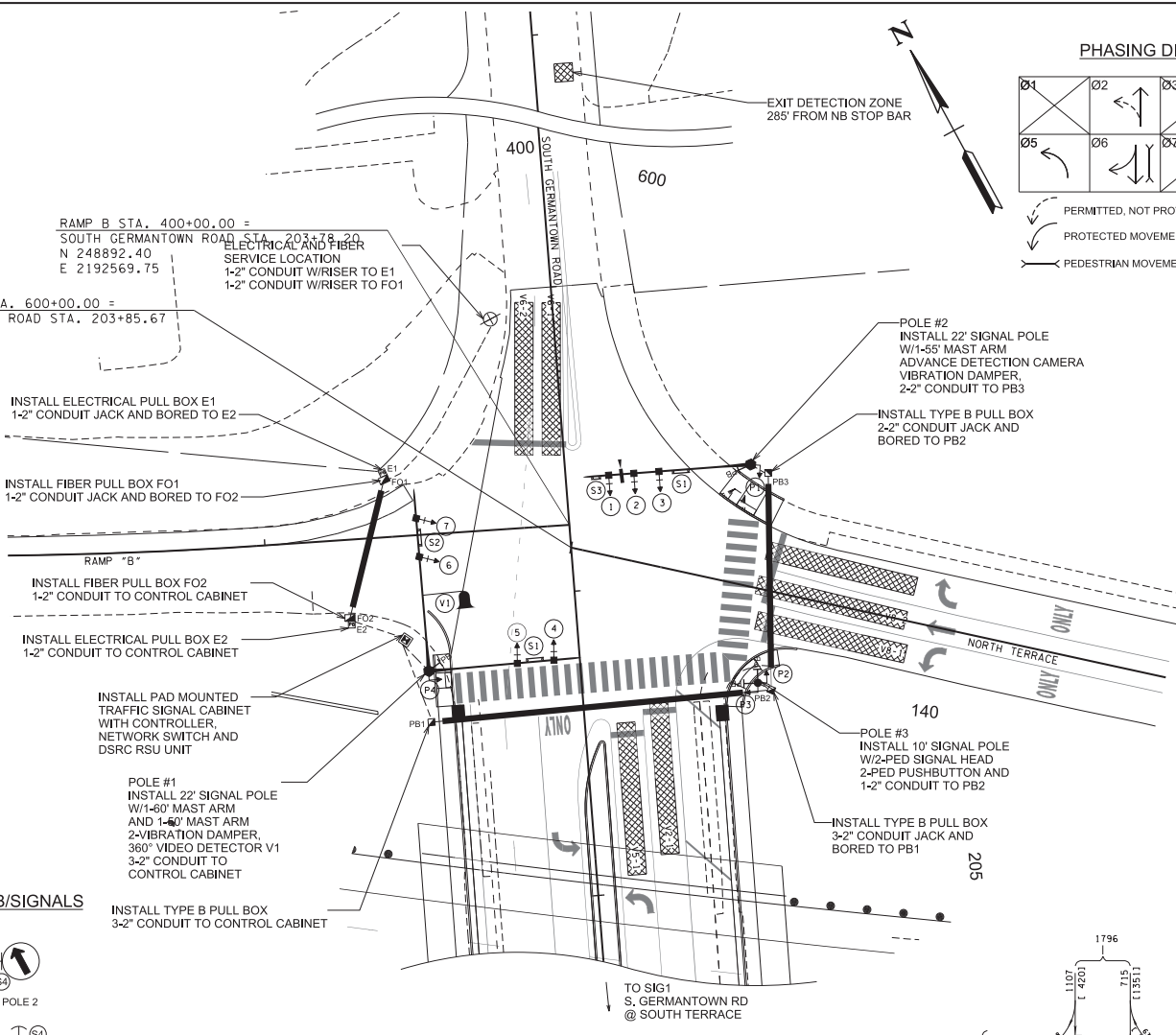
- NOTE:
- 12" U.C. LETTERS (MINIMUM)
  - 9" L.C. LETTERS (MINIMUM)
  - HIGH INTENSITY REFLECTIVE SHEETING
  - REFLECTIVE WHITE COPY
  - GREEN BACKGROUND
  - SIGNS SHOWN FOR ILLUSTRATIVE PURPOSES ONLY

**PEDESTRIAN TRAFFIC SIGNS/PB/SIGNALS**



COUNTDOWN TYPE  
L.E.D. PED WITH  
OVERLAPPING, FULLY POPULATED  
SOLID SYMBOLS

COLOR LEGEND  
MAN - WHITE  
HAND - PORTLAND  
ORANGE



STATE OF TENNESSEE  
DEPARTMENT OF TRANSPORTATION

**SIGNAL PLANS**

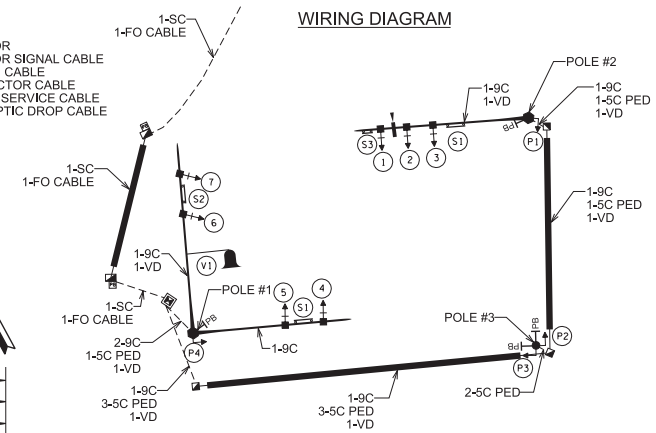
SCALE: 1"= 20'

1/8/2020 F:\3613613013617300004\_CAD\TRNS\SIG-3-.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2020	33003-3166-44	SIG 4
		33003-3167-44	

**LEGEND**  
 5C -5 CONDUCTOR  
 9C -9 CONDUCTOR SIGNAL CABLE  
 PRE -PREEMPTION CABLE  
 VD -VIDEO DETECTOR CABLE  
 SC -ELECTRICAL SERVICE CABLE  
 FO -12F FIBER OPTIC DROP CABLE

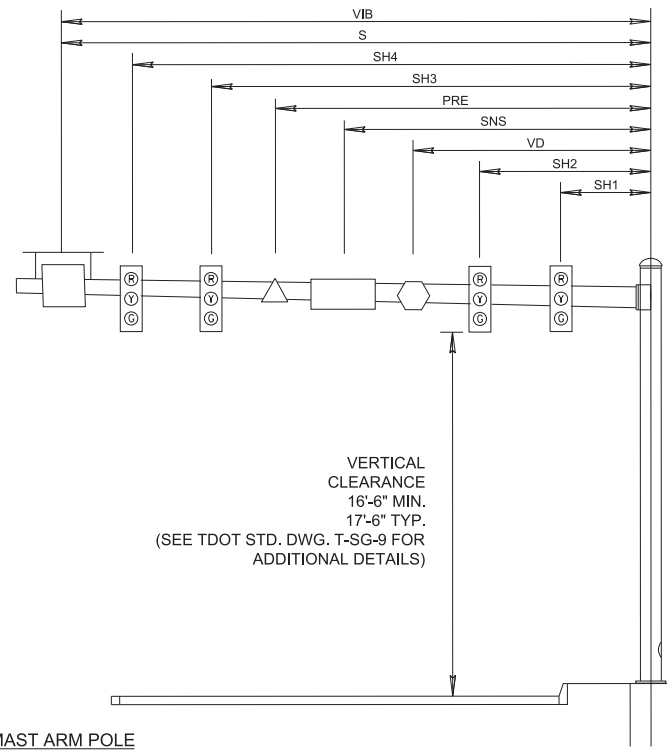
**WIRING DIAGRAM**



**LEGEND**

- SIGNAL HEAD
- STREET NAME SIGN
- SIGN
- VEHICLE DETECTOR (VIDEO/RADAR)
- PRE-EMPTION

S: SIGN  
 SNS: STREET NAME SIGN  
 SHX: SIGNAL HEAD  
 VD: VEHICLE DETECTOR (VIDEO/RADAR)  
 PRE: PRE-EMPTION



**MAST ARM POLE**

**SIGNAL HEAD ASSIGNMENT**

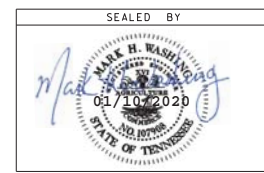
SIGNAL HEAD	PHASE(S)	FLASHING MODE
1	5	Y
2	2	Y
3	2	Y
4	6	Y
5	6	Y
6	8	R
7	8	R

**VIDEO DETECTION ASSIGNMENTS**

ZONE ASSIGNMENT	SIZE	CAMERA	MODE	DISTANCE FROM STOP LINE
V2-1	6X50	V1	PRESENCE	-5'
V5-1	6X50	V1	PRESENCE	-5'
V6-1	6X50	V1	PRESENCE	-5'
V6-2	6X50	V1	PRESENCE	-5'
V8-1	6X50	V1	PRESENCE	-5'
V8-2	6X50	V1	PRESENCE	-5'

POLE	STATION	OFFSET	NORTHING	EASTING	ARM LENGTH	SNS	SH1	SH2	SH3	VD	VIB	ELEV.
1	204+22.3'	49.61' RT.	248872.1898	2192506.4735	60'	44'-0"	37'-7"	50'-2"		25'-0"	53'-0"	777.60'
2	203+63.1'	60.77' LT.	248881.4927	2192631.4094	50'	35'-1"	29'-1"	41'-2"		43'-0"		
3	204+34.6'	57.55' LT.	248817.4891	2192599.4192	0'	20'-2"	30'-2"	38'-4"	46'-8"	42'-6"	43'-0"	774.10'

\* MAST ARM MOUNTING HIGHT FOR ALL MAST ARMS IS 20'



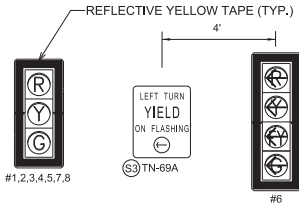
STATE OF TENNESSEE  
 DEPARTMENT OF TRANSPORTATION

**SIGNAL PLANS**  
 SCALE: 1"= 20'

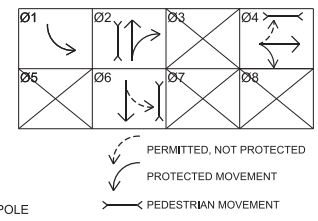
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TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2020	33003-3166-44	SIG 5
		33003-3167-44	

**SIGNAL HEAD DISPLAYS**



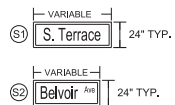
**PHASING DIAGRAM**



STA. 306+87.04 BELVOIR AVENUE  
 = STA. 726+66.25 SOUTH TERRACE  
 N 247436.5125  
 E 2194843.1335

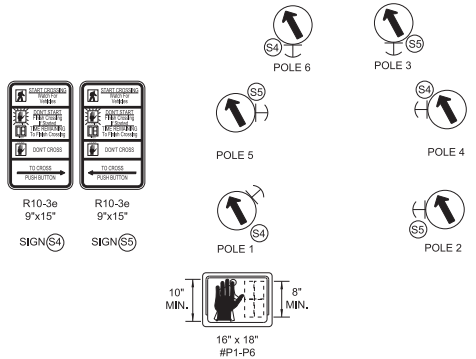
TO SIG7  
 BELVOIR AVE @  
 NORTH TERRACE

**OVERHEAD STREET NAME SIGNS**



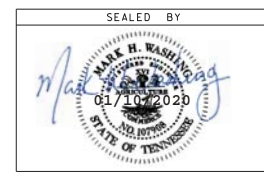
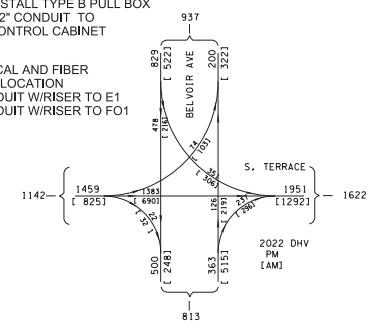
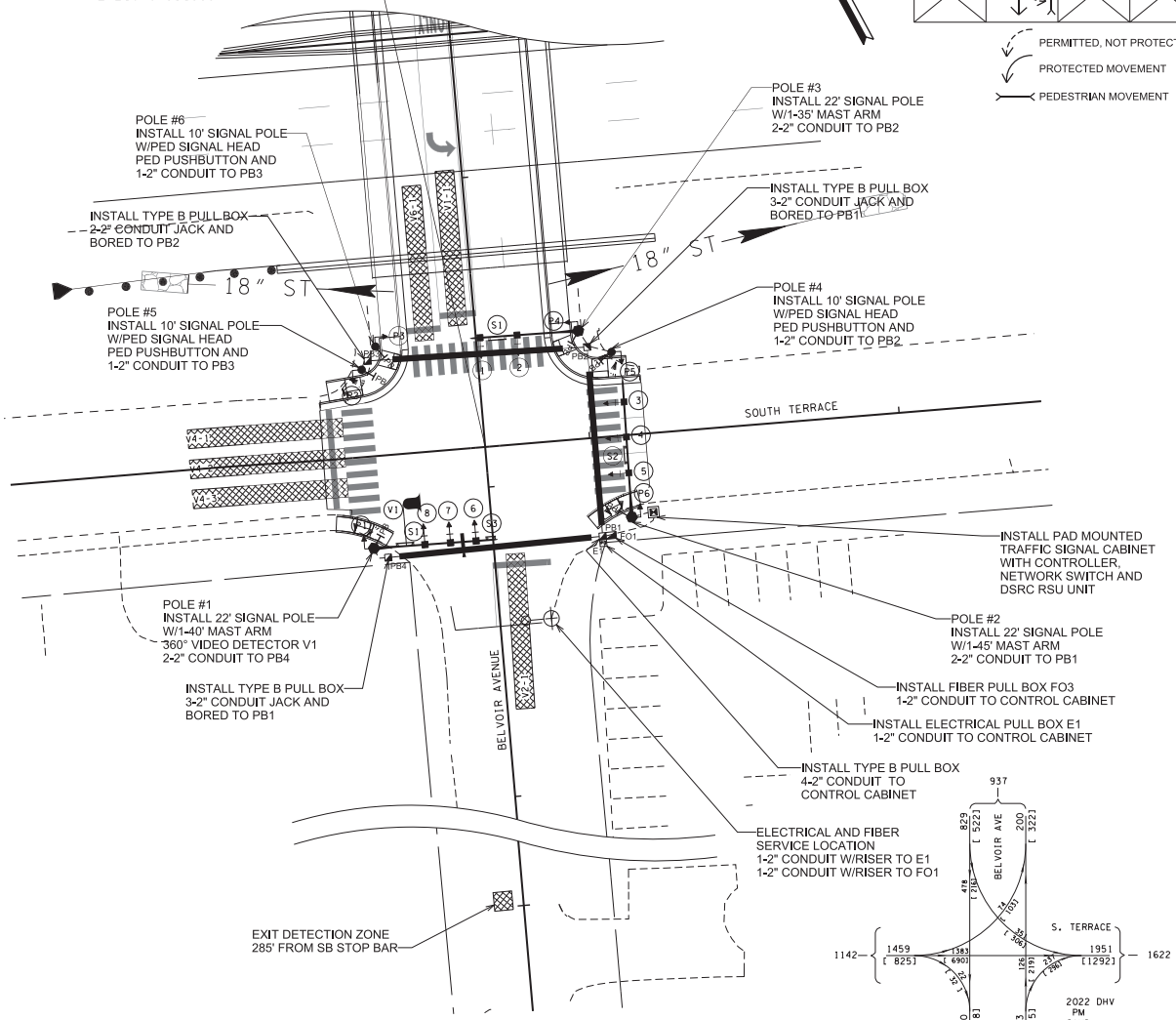
- NOTE:
- 12" U.C. LETTERS (MINIMUM)
  - 9" L.C. LETTERS (MINIMUM)
  - HIGH INTENSITY REFLECTIVE SHEETING
  - REFLECTIVE WHITE COPY
  - GREEN BACKGROUND
  - SIGNS SHOWN FOR ILLUSTRATIVE PURPOSES ONLY

**PEDESTRIAN TRAFFIC SIGNS/PB/SIGNALS**



COUNTDOWN TYPE  
 L.E.D. PED WITH  
 OVERLAPPING, FULLY POPULATED  
 SOLID SYMBOLS

COLOR LEGEND  
 MAN - WHITE  
 HAND - PORTLAND  
 ORANGE



STATE OF TENNESSEE  
 DEPARTMENT OF TRANSPORTATION

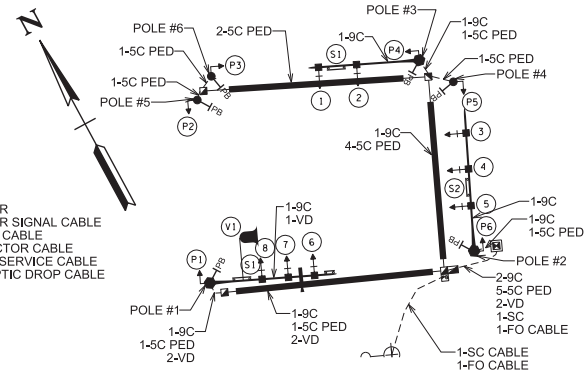
**SIGNAL PLANS**

SCALE: 1"= 20'

1/8/2020 F:\361367300\04\_CAD\TRNS\SIG-5.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2020	33003-3166-44	SIG 6
		33003-3167-44	

### WIRING DIAGRAM



### LEGEND

- 5C -5 CONDUCTOR
- 9C -9 CONDUCTOR SIGNAL CABLE
- PRE -PREEMPTION CABLE
- VD -VIDEO DETECTOR CABLE
- SC -ELECTRICAL SERVICE CABLE
- FO -12F FIBER OPTIC DROP CABLE

### LEGEND



SIGNAL HEAD



STREET NAME SIGN



SIGN

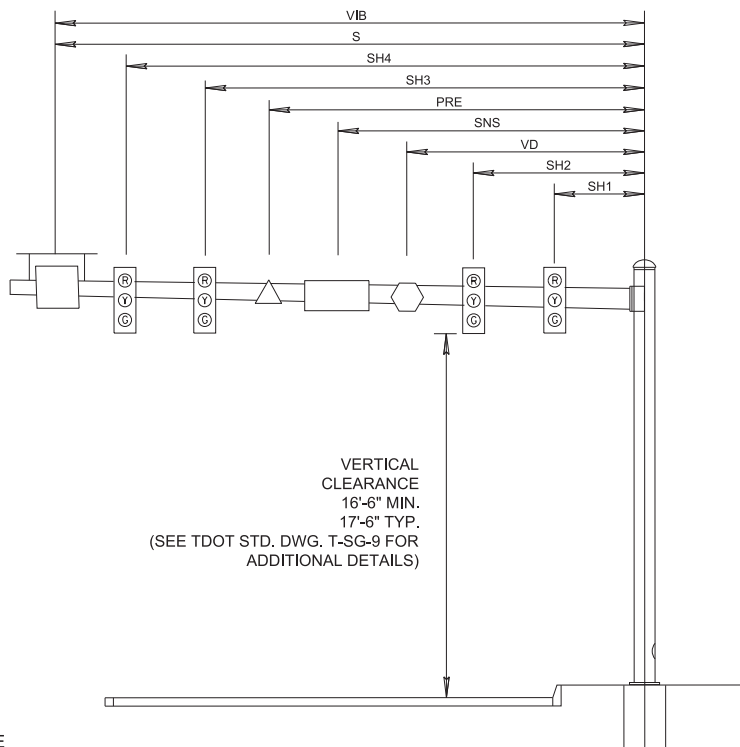


VEHICLE DETECTOR  
(VIDEO/RADAR)



PRE-EMPTION

- S: SIGN  
 SNS: STREET NAME SIGN  
 SHX: SIGNAL HEAD  
 VD: VEHICLE DETECTOR (VIDEO/RADAR)  
 PRE: PRE-EMPTION



### SIGNAL HEAD ASSIGNMENT

SIGNAL HEAD	PHASE(S)	FLASHING MODE
1	2	Y
2	2	Y
3	4	R
4	4	R
5	4	R
6	1	Y
7	6	Y
8	6	Y

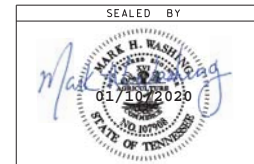
### VIDEO DETECTION ASSIGNMENTS

ZONE ASSIGNMENT	SIZE	CAMERA	MODE	DISTANCE FROM STOP LINE
V1-1	6X50	Y1	PRESENCE	-5'
V2-1	6X50	Y1	PRESENCE	-5'
V4-1	6X50	Y1	PRESENCE	-5'
V4-2	6X50	Y1	PRESENCE	-5'
V4-3	6X50	Y1	PRESENCE	-5'
V6-1	6X50	Y1	PRESENCE	-5'

### MAST ARM POLE

POLE	STATION	OFFSET	NORTHING	EASTING	ARM LENGTH	SNS	SH1	SH2	SH3	VD	VD2	ELEV.
1	307+16.51	31.48' RT.	247421.8498	2194796.1134	40'	8'-3"	16'-6"	24'-9"	33'-0"	10'-0"	28'-9"	738.13
2	307+13.60	41.14' LT.	247394.1435	2194873.9124	45'	20'-1"	14'-4"	25'-10"	37'-2"			738.27
3	306+52.35	31.08' LT.	247455.1041	2194887.3132	35'	25'-9"	19'-9"	31'-9"				740.35
4	306+60.04	41.17' LT.	247444.0311	2194893.4117	0'							740.12
5	306+58.85	3'-51' RT.	247471.3328	2194819.9174	0'							740.59
6	306+51.80	31.48' RT.	247481.7928	2194827.4341	0'							740.41

\*MAST ARM MOUNTING HEIGHT FOR ALL MAST ARMS IS 20'



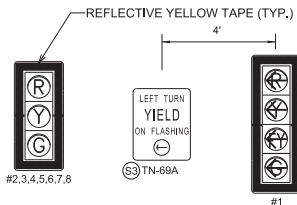
STATE OF TENNESSEE  
DEPARTMENT OF TRANSPORTATION

SIGNAL  
PLANS

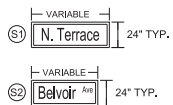
SCALE: 1"= 20'

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2020	33003-3166-44	SIG 7
		33003-3167-44	

**SIGNAL HEAD DISPLAYS**

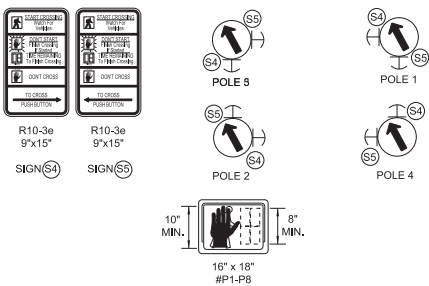


**OVERHEAD STREET NAME SIGNS**



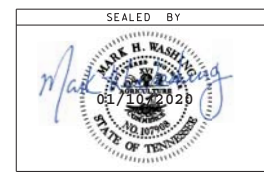
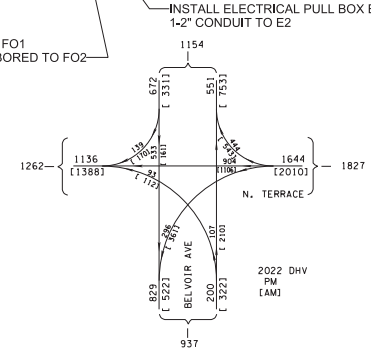
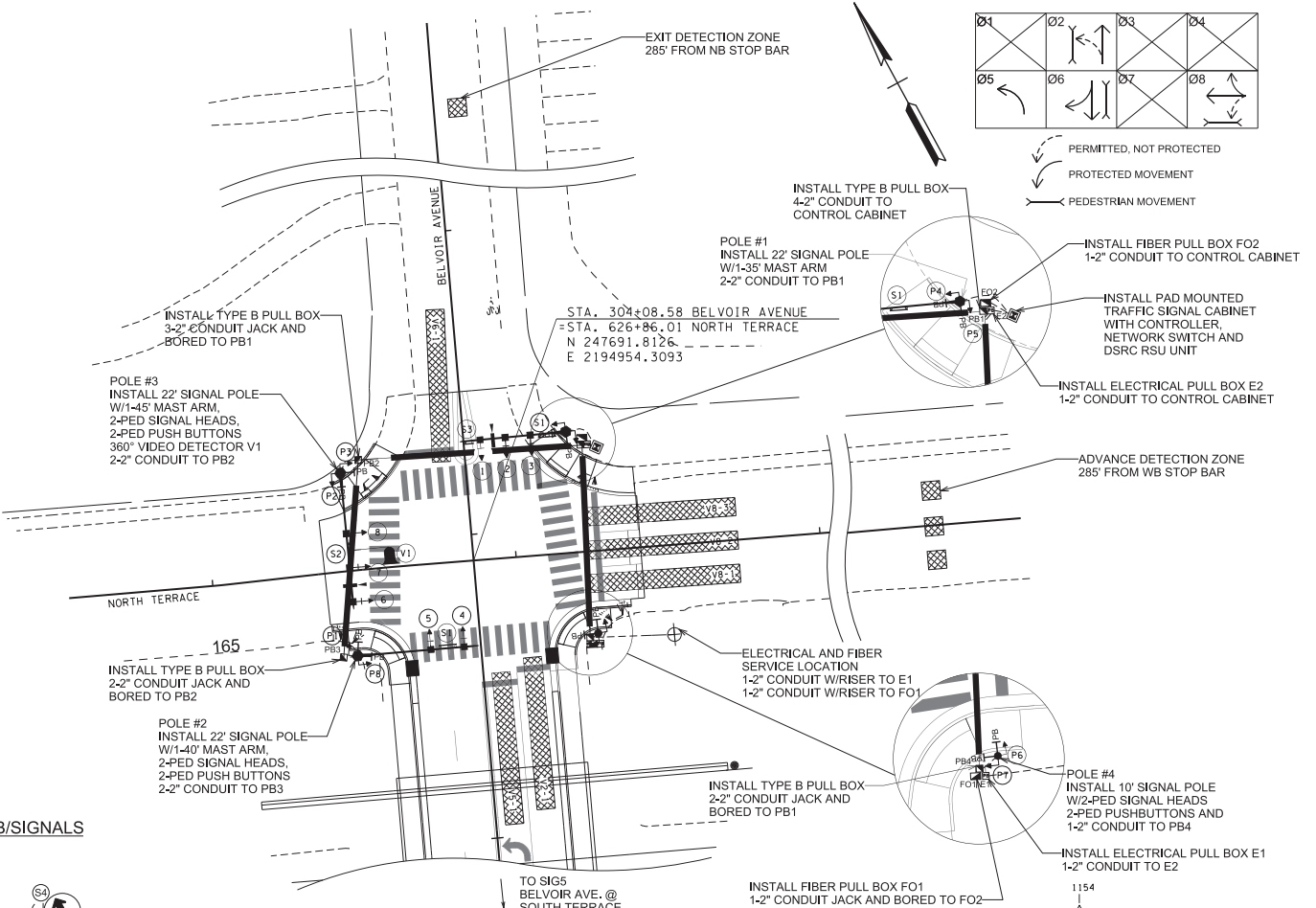
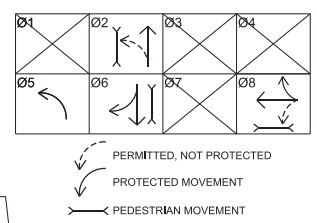
- NOTE:
- 12" L.C. LETTERS (MINIMUM)
  - 9" L.C. LETTERS (MINIMUM)
  - HIGH INTENSITY REFLECTIVE SHEETING
  - REFLECTIVE WHITE COPY
  - GREEN BACKGROUND
  - SIGNS SHOWN FOR ILLUSTRATIVE PURPOSES ONLY

**PEDESTRIAN TRAFFIC SIGNS/PB/SIGNALS**



- COUNTDOWN TYPE  
L.E.D. PED WITH  
OVERLAPPING, FULLY POPULATED  
SOLID SYMBOLS
- COLOR LEGEND  
MAN - WHITE  
HAND - PORTLAND  
ORANGE

**PHASING DIAGRAM**



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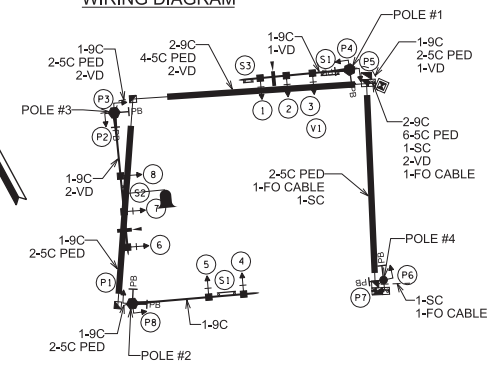
**SIGNAL PLANS**

SCALE: 1"= 20'

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TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2020	33003-3166-44	SIG 8
		33003-3167-44	

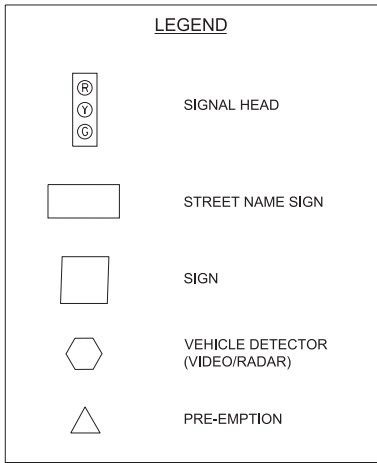
**WIRING DIAGRAM**



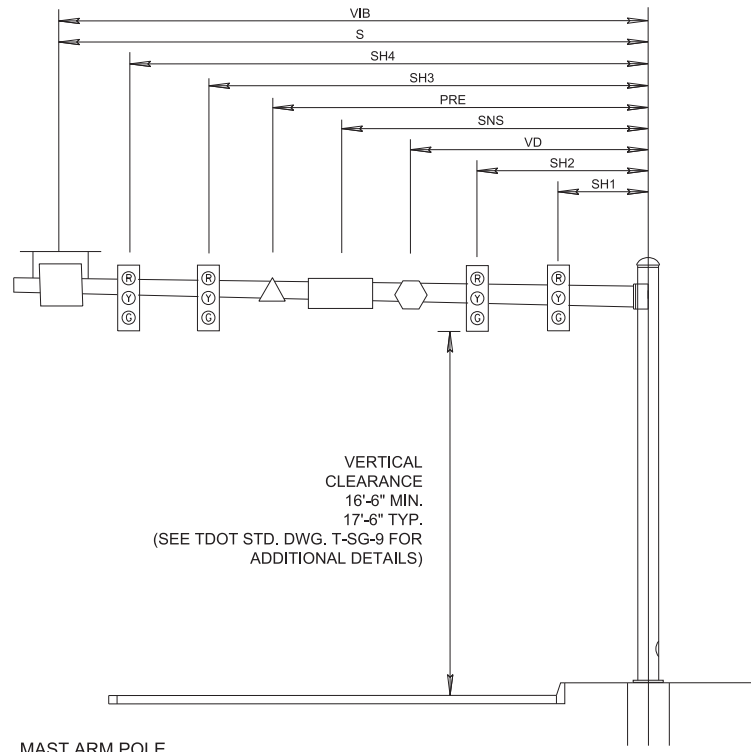
**LEGEND**

- 5C -5 CONDUCTOR
- 9C -9 CONDUCTOR SIGNAL CABLE
- PRE -PREEMPTION CABLE
- VD -VIDEO DETECTOR CABLE
- SC -ELECTRICAL SERVICE CABLE
- FO -12F FIBER OPTIC DROP CABLE

**LEGEND**



- S: SIGN
- SNS: STREET NAME SIGN
- SHX: SIGNAL HEAD
- VD: VEHICLE DETECTOR (VIDEO/RADAR)
- PRE: PRE-EMPTION



**MAST ARM POLE**

**SIGNAL HEAD ASSIGNMENT**

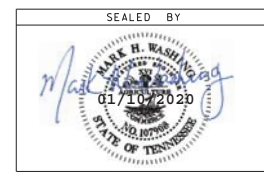
SIGNAL HEAD	PHASE(S)	FLASHING MODE
1	5	Y
2	2	Y
3	2	Y
4	6	Y
5	6	Y
6	8	R
7	8	R
8	8	R

**VIDEO DETECTION ASSIGNMENTS**

ZONE ASSIGNMENT	SIZE	CMERA	MODE	DISTANCE FROM STOP LINE
V2-1	6X50	V1	PRESENCE	-5'
V5-1	6X50	V1	PRESENCE	-5'
V6-1	6X50	V1	PRESENCE	-5'
V8-1	6X50	V1	PRESENCE	-5'
V8-2	6X50	V1	PRESENCE	-5'
V8-3	6X50	V1	PRESENCE	-5'

POLE	STATION	OFFSET	NORTHING	EASTING	ARM LENGTH	SNS	SH1	SH2	SH3	VD	VD2	ELEV.
1	303+89.07	33.73'LT.	247714.5763	2195001.0100	35'	6'-0"	11'-9"	20'-0"	28'-3"	24'-2"		753.58
2	304+36.50	40.58'RT.	247682.4152	2194905.9525	40'	29'-7"	24'-1"	35'-1"				751.85
3	302+76.24	41.12'RT.	247737.8767	2194929.5242	45'	25'-9"	20'-0"	31'-3"	42'-6"	25'-9"	37'-9"	753.66
4	304+35.89	38.70'LT.	247651.3260	2194978.8883	0'							752.01

\* MAST ARM MOUNTING HEIGHT FOR ALL MAST ARMS IS 20'



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**SIGNAL PLANS**  
 SCALE: 1"= 20'

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# SIGNAL NOTES

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2020	33003-3166-44	SIG9
		33003-3167-44	

## TRAFFIC SIGNAL POLES

- (1) THE PROPOSED LOCATION OF THE SIGNAL SUPPORT POLES, AS SHOWN ON THESE PLANS, IS APPROXIMATE. SOME FIELD ADJUSTMENTS MAY BE REQUIRED IN ORDER TO AVOID CONFLICTS WITH EITHER UNDERGROUND OR OVERHEAD UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING AND STAKING THE OPTIMUM LOCATION FOR THE POLES AND FOR RECEIVING APPROVAL FROM THE CITY OF CHATTANOOGA AND THE APPROPRIATE UTILITIES BEFORE INSTALLATION BEGINS. THE ENGINEER SHALL BE ADVISED BY THE CONTRACTOR OF ANY FIELD ADJUSTMENTS TO POLE LOCATIONS TO VERIFY THAT SUCH CHANGES ARE STRUCTURALLY POSSIBLE. PROPER ROAD SIDE CLEAR ZONES SHALL BE OBSERVED.
- (2) SHAFTS FOR FOOTINGS SHALL BE DRILLED THROUGH FIRM, UNDISTURBED, UNSATURATED SOIL AND SHALL BE VISUALLY INSPECTED BY THE ENGINEER OR ENGINEERING REPRESENTATIVE PRIOR TO PLACEMENT OF REINFORCEMENT. THE ENGINEER OF ENGINEERING REPRESENTATIVE SHALL BE ADVISED BY THE CONTRACTOR OF ANY GROUND WATER OR LOOSE SOIL ENCOUNTERED DURING DRILLING.
- (3) THE CONTRACTOR AND/OR POLE FABRICATOR SHALL DETERMINE THE SIZE AND DESIGN OF ALL STEEL SIGNAL SUPPORT POLE(S) AND FOUNDATION(S). SHOP DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER AND TO THE CITY OF CHATTANOOGA FOR REVIEW AND APPROVAL PRIOR TO ORDERING. FOUNDATIONS ARE TO CONFORM TO TDOT STANDARD DRAWINGS.
- (4) NEW TRAFFIC SIGNAL SUPPORT POLE(S) SHALL BE ROUND, TAPERED STEEL STRAIN POLES WITH MAST ARM(S) IN ACCORDANCE WITH TDOT STANDARD DRAWINGS.
- (5) NO GROUT SHALL BE PLACED AT THE BASE OF STEEL POLE BETWEEN THE POLE BASE AND FOUNDATION. BASE OF POLE SHALL REMAIN OPEN TO PERMIT DRAINAGE AND AIR CIRCULATION.

## TRAFFIC SIGNAL HEADS

- (6) TRAFFIC SIGNAL HEADS (VEHICLE AND PEDESTRIAN) SIGNAL HEAD PLACEMENT SHALL BE IN ACCORDANCE WITH TDOT STANDARD TRAFFIC OPERATIONS DRAWING T-SG-7C THRU 7G.
- (7) SIGNAL HEAD EQUIPMENT (I.E. FRAME AND ILLUMINATION TYPE) SHALL BE APPROVED BY THE CITY OF CHATTANOOGA PRIOR TO INSTALLATION.
- (8) ALL NEW TRAFFIC SIGNAL HEADS SHALL BE FABRICATED FROM POLYCARBONATE.
- (9) ALL NEW TRAFFIC SIGNAL HEAD INDICATIONS SHALL HAVE 12 INCH LED FACES.
- (10) IF FIELD ADJUSTMENTS RESULT IN CHANGES TO SIGNAL HEAD PLACEMENT, ATTACHMENT HEIGHT, OR SPAN WIRE/MAST ARM LENGTH, THE ENGINEER SHALL BE RE-EVALUATED TO VERIFY THAT THE CHANGES ARE STRUCTURALLY ACCEPTABLE.
- (11) PEDESTRIAN SIGNAL HEADS SHALL BE MOUNTED USING "CLAMHELL" TYPE HARDWARE.
- (12) ALL PEDESTRIAN TRAFFIC CONTROL INDICATIONS, WHERE CALLED FOR, SHALL CONSIST OF LED MODULES DISPLAYING "WALKING PERSON" AND "HAND" SYMBOLS, ALONG WITH A PEDESTRIAN INTERVAL COUNTDOWN WITH THE SAME FACE UNLESS OTHERWISE NOTED IN THE PLANS.
- (13) CIRCULAR INDICATIONS SHALL MEET THE VTCSH-LED CIRCULAR SIGNAL SUPPLEMENT FOR EXPANDED EXTENDED VIEW PEDESTRIAN INDICATIONS SHALL MEET THE VTCSPART 2"
- (14) INCANDESCENT OR SCREW-IN MODULES ARE NOT ACCEPTABLE.
- (15) MANUFACTURER SHALL PROVIDE A MINIMUM FIVE-YEAR WARRANTY FOR OPERATION OF THE UNIT.
- (16) SIGNAL HEADS SHALL INCLUDE LOUVERED BACKPLATES WITH A 1" MINIMUM AND 3" MAXIMUM YELLOW RETRO REFLECTIVE BORDER AROUND THE PERIMETER OF THE FACE OF THE BACKPLATE. THE RETRO-REFLECTIVE BORDER TO BE MADE OF A TYPE III PRISMATIC OR BETTER MATERIAL.

## PEDESTRIAN PUSH BUTTONS

- (17) PEDESTRIAN PUSH BUTTONS SHALL BE MOUNTED 42 INCHES ABOVE LEVEL LANDING AT A MAXIMUM DISTANCE OF 10 INCHES FROM LANDING.
- (18) PEDESTRIAN PUSH BUTTONS AND SIGNS SHALL BE A SINGLE UNIT "PED PUSH BUTTON STATION" WITH ADA COMPLIANT "BIG BUTTON". NO "STICK

ON" PEDESTRIAN SIGNS WILL BE ACCEPTED. ALL PEDESTRIAN SIGNAL HEADS SHALL BE PROWAG COMPLIANT.

## VIDEO DETECTION

- (19) STOP BAR VIDEO DETECTION AND ADVANCE DETECTION SHALL BE CUBIC GRIDSWART OR EQUIVALENT. ALL EQUIPMENT NECESSARY FOR VIDEO DETECTION SHALL BE FURNISHED BY THE CONTRACTOR AND INSTALLED IN CABINET.
- (20) VIDEO DETECTION CAMERAS SHALL BE INSTALLED IN ACCORDANCE WITH TDOT STANDARD DRAWINGS T-SG-2 AND T-SG-3 UNLESS OTHERWISE NOTED.
- (21) VIDEO LEAD-IN CABLE SHALL BE CONTINUOUS LENGTH. SPLICES SHALL BE PERMITTED ONLY IN A PULL BOX, POLE BASES OR CONTROLLER CABINET.

## CABINET AND CONTROLLER

- (22) THE CABINET AND CONTROLLER SHALL SIEMENS M60. SEE 730C SPECIFICATIONS FOR MORE INFORMATION.
- (23) THE TRAFFIC SIGNAL CONTROLLER FURNISHED BY THE CONTRACTOR SHALL BE COMPLETE WITH ALL INCIDENTAL AND AUXILIARY EQUIPMENT (CONFLICT MONITOR, HARDWARE AND CABINET) NECESSARY FOR INSTALLATION AND OPERATION EITHER AS ISOLATED LOCATION OR AS PART OF A SYSTEM OF INTERSECTIONS. ALL WIRING AND EQUIPMENT TO ACTIVATE THE SIGNAL HEADS AND OPERATE THE TRAFFIC SIGNAL AS SPECIFIED SHALL BE PROVIDED AND INSTALLED BY THE CONTRACTOR.
- (24) CONSTRUCT CABINET AND FOUNDATION IN ACCORDANCE WITH TDOT STANDARD TRAFFIC OPERATIONS DRAWINGS T-SG-5 AND T-SG-6 AND TYPE IV CABINET AND FOUNDATION SHALL BE INSTALLED.
- (25) THE CONFLICT MONITOR SHALL BE A 12 CHANNEL MODEL AS SPECIFIED BY THE CITY OF CHATTANOOGA WITH COMMUNICATIONS PORT AND SHALL INCLUDE CONTROLLER INTERCONNECT CABLE.
- (26) COMPATIBILITY WITH CONFLICT MONITORS AND LOAD SWITCHES SHALL BE TESTED AND CONFIRMED.

## CONDUIT

- (27) ALL CONDUITS SHALL BE SCHEDULE 80 PVC UNLESS OTHERWISE NOTED. A PULL STRING IS TO BE PROVIDED IN EACH CONDUIT FROM JUNCTION TO JUNCTION.
- (28) CONDUIT SHALL BE LAID AT A MINIMUM DEPTH OF 24 INCHES BELOW FINISHED GRADE AND SHALL COMPLY WITH TDOT TRENCHING DETAILS AND CONDUIT PLACEMENT.
- (29) THE CONTRACTOR SHALL SEAL ALL OPEN CONDUIT ENTRANCE HOLES, WITH OR WITHOUT CABLES, WITH CONDUIT DUCT SEAL PUTTY. WHERE CABLES ENTER THE CONDUIT, THE SEALANT SHALL BE APPLIED AFTER INSTALLING THE CABLE. THESE LOCATIONS SHALL CONSIST OF CONDUIT ENDS AND PULL BOXES, CABINET BASES AND WEATHER HEADS.

## WIRING

- (30) THE CONTRACTOR SHALL LABEL ALL CABLES IN THE CABINET, POLE/PEDESTAL BASES AND PULL BOXES USING THE CONVENTION OF TDOT STANDARD TRAFFIC OPERATIONS DRAWING T-SG-12. EACH WIRE SHALL BE IDENTIFIED BY A CIRCULAR PLASTIC TAG, 1-3/8 INCHES IN DIAMETER WITH PREPRESSED LETTERING DIES OF MINIMUM 1/4 INCH IN HEIGHT. TAGS SHALL BE PERMANENTLY FASTENED TO WIRE BY MEANS OF NYLON SELF CLINCHING STRAPS. MARKING SHALL INDICATE "GRD" FOR ALL GROUND AND GROUNDED NEUTRAL CONDUCTORS. COMPANION CIRCUIT CONDUCTORS SHALL BE MARKED "CKT" FOLLOWED BY THE DESIGNATED CHARACTERIS AS SHOWN ON THE PLANS.

## ELECTRICAL SERVICE

- (31) THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ELECTRICAL SERVICE TO THE SITE.
- (32) THE CONTRACTOR SHALL OBTAIN AS ELECTRICAL PERMIT FROM THE CITY OF CHATTANOOGA PRIOR TO BEGINNING CONSTRUCTION.
- (33) CONTRACTOR SHALL INSTALL A 50 AMP, 2 POLE WEATHERPROOF EXTERNAL DISCONNECT OF THE POLE WITH AC SERVICE CONNECTION. ENCLOSURE SHALL BE METALLIC WITH A 50 AMP SINGLE POLE CIRCUIT BREAKER.

## SIGNAL PHASING AND TIMING

- (34) THE CONTRACTOR SHALL INSTALL INITIAL SIGNAL TIMINGS AS PROVIDED BY THE CITY OF CHATTANOOGA.
- (35) THE CONTRACTOR SHALL NOTIFY LOCAL MUNICIPALITY A MINIMUM OF THIRTY (30) DAYS PRIOR TO ACTIVATION OF THE TRAFFIC SIGNAL.
- (36) ALL PEDESTRIAN PHASING SHALL BE MONITORED AS PEDESTRIANS AND NOT AS CHANNELS. PEDESTRIAN SIGNALS WITH PUSH BUTTONS SHALL BE WIRED SEPARATELY.

## OVERHEAD STREET NAME SIGNS

- (37) STREET NAME SIGNS ARE TO BE PAID FOR AND INSTALLED BY THE CONTRACTOR. COORDINATE WITH CITY OF CHATTANOOGA FOR SIZE, TYPE AND FONT PRIOR TO ORDERING. SEE TRAFFIC DESIGN MANUAL SECT. 14.2.9 FOR SIZE AND SPECS.

## OPEN CUT AND TRENCH REPAIRS

- (38) ALL OPEN CUTS AND TRENCH REPAIRS SHALL BE PERFORMED IN STRICT ACCORDANCE WITH THE CURRENT STANDARDS OF THE CITY OF CHATTANOOGA AND TDOT.

## LIGHT EMITTING DIODES (LED)

- (39) ALL OPEN CUTS AND TRENCH REPAIRS SHALL BE PERFORMED IN STRICT ACCORDANCE WITH THE CURRENT STANDARDS OF THE CITY OF CHATTANOOGA AND TDOT.

## NETWORK SWITCH

- (40) ETHERNET SWITCH SHALL BE HARDENED AND UNMANAGED WITH TWO SMALL FORM FACTOR PLUGGABLE (SFP) PORTS AS WELL AS A MINIMUM OF SIX GIGABIT ETHERNET PORTS. SFP TRANSCEIVER MODULES SHALL BE COMPATIBLE WITH SINGLE MODE FIBER AND HAVE LC CONNECTORS. ETHERNET SWITCH SHALL FUNCTION ON 1310nm WAVELENGTH AND CONTAIN ANY NECESSARY HARDWARE TO BRING INTO FULL OPERATION.



STATE OF TENNESSEE  
DEPARTMENT OF TRANSPORTATION

SIGNAL  
NOTES

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