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Todd Kemp
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PALMER ENGINEERING COMPANY
2817 ERICA PLACE
NASHVILLE, TN 37204
RANDALL T. KEMP, P.E. NO. 100992

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

SHEET NAME	SHEET NO.
SIGNATURE SHEET	ROADWAY-SIGN1
TITLE SHEET	1
ROADWAY INDEX AND STANDARD ROADWAY DRAWINGS	1A, 1A1
STANDARD TRAFFIC DESIGN DRAWINGS	1A2
PROJECT COMMITMENTS	1B
ESTIMATED ROADWAY QUANTITIES	2, 2-1
TYPICAL SECTIONS AND PAVEMENT SCHEDULE	2B, 2B1 - 2B3
GENERAL NOTES	2C, 2C1
SPECIAL NOTES	2D
ENVIRONMENTAL NOTES	2E
TABULATED QUANTITIES	2F, 2F1 - 2F2
DITCH DETAIL SHEET	2G
UTILITY NOTES AND UTILITY OWNERS	3
PRESENT LAYOUTS	4 - 10
PROPOSED LAYOUTS	4A - 10A
PROPOSED PROFILES	4B - 10B
SIDE ROAD PROFILE	11
DRAINAGE MAPS	12 - 13
CULVERT SECTIONS	14 - 16
EROSION PREVENTION AND SEDIMENT CONTROL PLANS	17, 18, 19 - 21F
SIGN SCHEDULE	22
ROADWAY CROSS SECTIONS	23 - 50
SIDE ROAD CROSS SECTIONS	51 - 56
PAVEMENT EDGE DROP-OFF NOTES FOR TRAFFIC CONTROL	T1
TRAFFIC PHASING NOTES, LEGEND, AND TRAFFIC CONTROL QUANTITIES	T2
TRAFFIC CONTROL PLANS	T3 - T6



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Logan Colbert
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PALMER ENGINEERING CO.
2817 ERICA PLACE
NASHVILLE, TN 37204
LOGAN COLBERT, P.E. NO. 117913

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

SHEET NAME	SHEET NO.
SIGNATURE SHEET	ROADWAY-SIGN1
CONCRETE BARRIER WALL DETAILS	2G1

YEAR	PROJECT NO.	SHEET NO.
2025	18100-4148-04	ROADWAY-SIGN1

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

SIGNATURE SHEET

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J:\Structures\11685-14_CumberlandCo_I-40_over_SR24_(orig_10705-35)\Drawings\Survey\000-ROADWAY-SIGN1.sht

Index Of Sheets
SEE SHEET NO. 1A

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF ENGINEERING

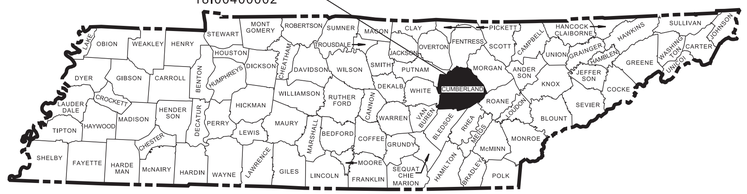
DOES THIS PROJECT QUALIFY FOR UTILITY CHAPTER 86	YES	NO X
WORK ZONE SIGNIFICANCE DETERMINATION		
SIGNIFICANT	YES X	NO

TENN.	YEAR	SHEET NO.
	2025	1
FED. AID PROJ. NO.		
STATE PROJ. NO.	18100-4148-04	

CUMBERLAND COUNTY

I-40 BRIDGES OVER SR-24 (US-70N), L.M. 0.24

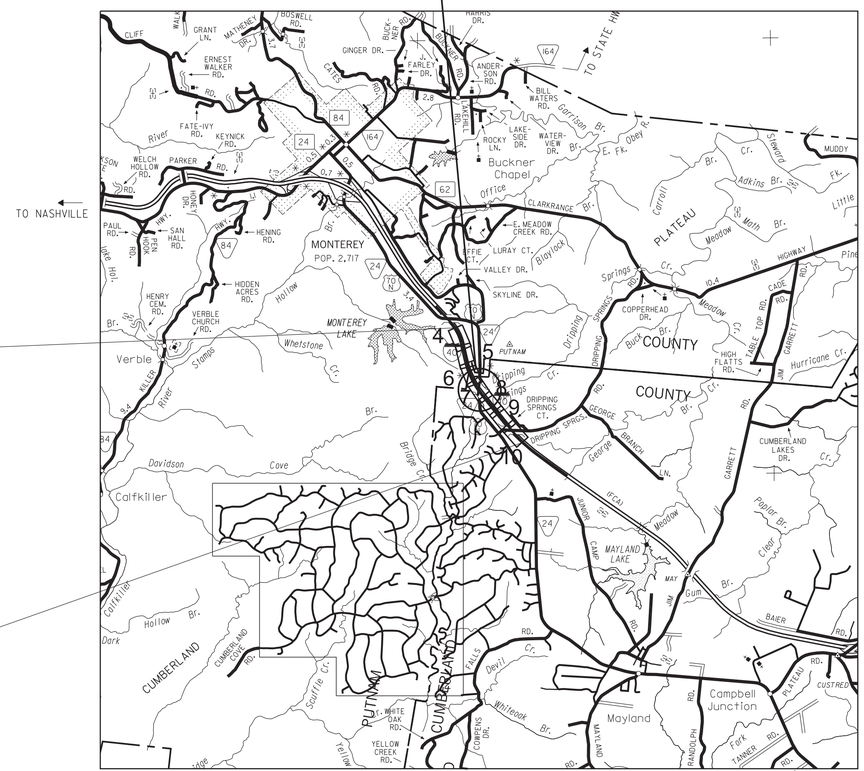
PROJECT LOCATION
BRIDGE ID. # 18I00400001
18I00400002



PS&E
BRIDGE REPAIR

INTERSTATE 40

BRIDGE NO: 18I00400001
BRIDGE NO: 18I00400002


TO NASHVILLE
TO CROSSVILLE
MONTEREY
POP. 2,717
Buckner Chapel
PLATEAU
COUNTY
CUMBERLAND
PUTNAM
Mayland
Campbell Junction
MAYLAND LAKE
MONTEREY LAKE
Calfkiller
Verble
Davidson Cove
Dark Hollow
Whitlock Br.
Scuffle Cr.
Yellow Creek
Devil Cr.
Hurricane Cr.
Dripping Springs Cr.
Obey R.
Little Fk.
Muddy Fk.
Stewart Cr.
Adkins Br.
Meadow Br.
Garrison Br.
Clarkrange Br.
Carroll Br.
Gum Br.
Poplar Br.
Cedar Br.
Pine Top Rd.
Cage Rd.
Garrett Rd.
Custred Rd.
Baker Rd.
Plateau Rd.
Dripping Springs Rd.
Jim George Branch
Cumberland Lakes Dr.
Copperhead Dr.
High Flatts Rd.
Valley Dr.
Skyline Dr.
Rocky Ln.
Lake Side Dr.
Water-view Dr.
E. Meadow Creek Rd.
Effie Ct.
Luray Ct.
Bill Waters Rd.
Anderson Rd.
Farley Dr.
Ginger Dr.
Harris Dr.
Grant Ln.
Ernest Walker Rd.
Fate-Ivy Rd.
Keynick Rd.
Welch Hollow Rd.
Parker Rd.
Paul Rd.
San Hall Rd.
Henning Rd.
Hidden Acres Rd.
Henry Cem. Rd.
Verble Church Rd.
Mt. White Oak Rd.
Yellow Creek Rd.
Cumberland Lodge Rd.
Compens Dr.
Wayland Rd.
Randolph Rd.
Tanner Rd.
Mayland Rd.
Mt. Pleasant Rd.
Boswell Rd.
Mathenay Rd.
Cliff Rd.
Walker Rd.
Buckner Rd.
Lakeshore Rd.
Hwy. 70N
Hwy. 127
Hwy. 84
Hwy. 24
Hwy. 62
Hwy. 164
Hwy. 70
Hwy. 70S
Hwy. 70N
Hwy. 4
Hwy. 8
Hwy. 9
Hwy. 10
Hwy. 6
Hwy. 5
Hwy. 4
Hwy. 70
Hwy. 127
Hwy. 24
Hwy. 84
Hwy. 164
Hwy. 62

TYPE	YEAR	PROJECT NO.	SHEET NO.
L&G	2025	18100-4148-04	1A
PS&E	2025	18100-4148-04	1A

ROADWAY INDEX

SHEET NAME	SHEET NO.
SIGNATURE SHEET	ROADWAY-SIGN1
TITLE SHEET	1
ROADWAY INDEX AND STANDARD ROADWAY DRAWINGS	1A, 1A1
STANDARD TRAFFIC DESIGN DRAWINGS	1A2
PROJECT COMMITMENTS	1B
ESTIMATED ROADWAY QUANTITIES	2, 2-1
TYPICAL SECTIONS AND PAVEMENT SCHEDULE	2B, 2B1 - 2B3
GENERAL NOTES	2C, 2C1
SPECIAL NOTES	2D
ENVIRONMENTAL NOTES	2E
TABULATED QUANTITIES	2F, 2F1 - 2F2
DITCH DETAIL SHEET	2G
CONCRETE BARRIER WALL DETAILS	2G1
UTILITY NOTES AND UTILITY OWNERS	3
PRESENT LAYOUTS	4 - 10
PROPOSED LAYOUTS	4A - 10A
PROPOSED PROFILES	4B - 10B
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DRAINAGE MAPS	12 - 13
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EROSION PREVENTION AND SEDIMENT CONTROL PLANS	17, 18, 19 - 21F
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PAVEMENT EDGE DROP-OFF NOTES FOR TRAFFIC CONTROL	T1
TRAFFIC PHASING NOTES, LEGEND, AND TRAFFIC CONTROL QUANTITIES	T2
TRAFFIC CONTROL PLANS	T3 - T6
BRIDGE SHEETS	B-1
STORM WATER POLLUTION PREVENTION PLAN (SWPPP) PLANS	S-1
UTILITIES PLANS	U1-1

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

STANDARD ROADWAY DRAWINGS

DWG.	REV.	DESCRIPTION
10-100.00 STANDARD ROADWAY TITLE SHEET, ABBREVIATIONS, AND LEGENDS		
RD-TP-1	10-01-24	STANDARD ROADWAY DRAWINGS TITLE SHEET
RD-A-1	02-20-20	STANDARD ABBREVIATIONS A THROUGH L
RD-A-2		STANDARD ABBREVIATIONS M THROUGH Z
RD-L-1	02-20-20	STANDARD LEGEND
RD-L-1A		STANDARD LEGEND
RD-L-2	02-20-20	STANDARD LEGEND FOR UTILITY INSTALLATIONS
RD-L-3	03-01-23	STANDARD LEGEND FOR SIGNALIZATION AND LIGHTING
RD-L-4	10-01-24	STANDARD LEGEND FOR SIGNALIZATION AND LIGHTING
RD-L-5	07-30-24	STANDARD LEGEND FOR EROSION PREVENTION AND SEDIMENT CONTROL
RD-L-6	02-20-20	STANDARD LEGEND FOR EROSION PREVENTION AND SEDIMENT CONTROL
RD-L-7	02-20-20	STANDARD LEGEND FOR EROSION PREVENTION AND SEDIMENT CONTROL
10-101.00 STANDARDS ROADWAY DRAWINGS		
RD11-SE-1		TRANSITION AND CROSS SLOPE DETAILS
RD11-SE-3		SUPERELEVATION TRANSITION DETAILS FOR DIVIDED ROADWAYS
RD11-SE-3A		SUPERELEVATION TRANSITION SECTIONS FOR DIVIDED ROADWAYS
RD11-TS-5	06-28-19	DESIGN STANDARDS FOR FREEWAYS WITH DEPRESSED MEDIAN (4 AND 6 LANE)
RD11-TS-5B		DESIGN STANDARDS FOR FREEWAYS WITH MEDIAN BARRIER (4 AND 6 LANE)
RD11-TS-5W	06-15-21	TYPICAL DETAIL FOR INSIDE LANE WIDENING OF FREEWAYS
RD11-LR-1		MINIMUM RUNOFF LENGTHS (LR) FOR URBAN HIGHWAYS
RD11-LR-2		MINIMUM RUNOFF LENGTHS (LR) FOR RURAL HIGHWAYS
RD11-S-11		DESIGN AND CONSTRUCTION DETAILS FOR ROADSIDE SLOPE DEVELOPMENT
RD11-SA-1	01-09-24	SAFETY APPROACH TO UNDERPASSES GRADING DESIGN AND SLOPE PROTECTION
RD11-SD-5		INTERSECTION SIGHT DISTANCE 4-LANE DIVIDED HIGHWAYS
RD-UD-3	01-09-24	UNDERDRAIN DETAILS
RD-UD-4	06-28-19	UNDERDRAIN LATERAL DETAILS
RD-UD-8	06-28-19	LATERAL UNDERDRAIN ENDWALL DETAIL FOR 5:1 SLOPES
RD-UD-9	06-28-19	LATERAL UNDERDRAIN ENDWALL DETAIL FOR 6:1 SLOPES
10-102.00 AQUATIC ORGANISM PASSAGE (AOP) DESIGN, PIPE CULVERTS, AND ENDWALLS		
D-PB-1	03-01-23	STANDARD DETAILS FOR CONCRETE PIPE INSTALLATION
D-PG-3	06-28-19	FERROUS AND ALUMINUM CORRUGATED METAL PIPE
D-PO-1	06-28-19	STANDARD OVAL AND REINFORCED CONCRETE ARCH PIPE CULVERT
D-PE-30A	06-28-19	TYPE "U" CROSS DRAIN ENDWALL FOR 30" PIPE WITH STEEL PIPE GRATE (FOR 3:1, 4:1 & 6:1 SLOPES)
D-PE-30B	06-28-19	TYPE "U" CROSS DRAIN ENDWALL FOR 30" PIPE, BILL OF STEEL AND PRECAST NOTES
D-SEW-1A	07-07-23	TYPE "SAFETY" SIDE ENDWALL WITH STEEL PIPE GRATE, FOR 15" THRU 48" PIPES, 6:1 SLOPE
D-PEW-1		PROTECTED ENDWALLS FOR ROUND & OVAL PIPES (PIPE SIZES 18” TO 72”, ALL SKEWS, 2:1 & 3:1 SLOPES)
D-PEW-2		PROTECTED ENDWALLS FOR ROUND PIPES DETAILS & QUANTITIES (PIPE SIZES 18” TO 72”, ALL SKEWS, 2:1 & 3:1 SLOPES)
D-PEW-4		PROTECTED STRAIGHT ENDWALLS (PIPE SIZES 18” TO 30” & EQU. OVAL PIPES)
10-104.00 CATCH BASINS AND MANHOLES		
D-CB-38RB	03-04-21	STANDARD PRECAST CIRCULAR NO. 38 CATCH BASIN
D-CB-38S	03-04-21	STANDARD 32" X 32" SQUARE CONCRETE NO. 38 CATCH BASIN
D-CB-38SB	03-04-21	STANDARD 4' X 4' SQUARE CONCRETE NO. 38 CATCH BASIN
D-CB-42RB	02-20-20	STANDARD PRECAST CIRCULAR NO. 42 CATCH BASIN
D-CB-42S	02-20-20	STANDARD 32" X 32" SQUARE CONCRETE NO. 42 CATCH BASIN
D-JBS-1	02-20-20	STANDARD 32" X 32" SQUARE CONCRETE NO. 1 JUNCTION BOX
10-105.00 ROADWAY, PAVEMENT APPURTENANCES, AND FENCES		
S-F-1	03-01-23	HIGH VISIBILITY FENCE
10-107.00 SAFETY DESIGN AND GUARDRAILS		
S-CZ-1	06-28-19	CLEAR ZONE CRITERIA
S-PL-1	03-01-23	SAFETY PLAN FOR BARRIER LENGTH OF NEED
S-PL-3	03-01-23	SAFETY PLAN MINIMUM INSTALLATION AT BRIDGE ENDS
S-PL-4	01-09-24	SAFETY PLAN FOR BRIDGE PIERS IN DEPRESSED MEDIAN
S-PL-4A	01-09-24	SAFETY PLAN TO FOR BRIDGE PIERS/ ABUTMENTS OUTSIDE THE SHOULDER
S-PL-5	06-28-19	SAFETY PLAN FOR BRIDGE ENDS IN MEDIANS
S-PL-6	07-30-24	SAFETY PLAN SAFETY HARDWARE PLACEMENT ON OUTSIDE EDGE
S-PL-6A	06-28-19	SAFETY PLAN SAFETY HARDWARE PLACEMENT IN MEDIAN
S-CB-1	01-09-24	CABLE BARRIER PLACEMENT
S-CB-2	07-07-23	HIGH TENSION CABLE BARRIER
S-CC-1	10-01-24	CRASH CUSHION
S-GR31-1	03-13-25	GUARDRAIL DETAILS
S-GR31-1A	06-28-19	GUARDRAIL AND BLOCK-OUT DETAILS
S-GR31-1B		GUARDRAIL FASTENING HARDWARE
S-GR31-1C	07-07-23	GUARDRAIL GENERAL NOTES AND POST DETAILS
S-AGT-1		LONG SPAN APPROACH GUARDRAIL TRANSITION
S-AGT-2		LONG SPAN APPROACH GUARDRAIL TRANSITION
S-AGT-3		LONG SPAN APPROACH GUARDRAIL TRANSITION
S-AGT-4		LONG SPAN APPROACH GUARDRAIL TRANSITION
S-AGT-5		LONG SPAN APPROACH GUARDRAIL TRANSITION
S-AGT-6		LONG SPAN APPROACH GUARDRAIL TRANSITION
S-AGT-7		LONG SPAN APPROACH GUARDRAIL TRANSITION

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RANDALL T. KEMP
REGISTERED ENGINEER
No. 109927
09/23/2025
COMMERCE
STATE OF TENNESSEE

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

ROADWAY INDEX AND STANDARD ROADWAY DRAWINGS

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TYPE	YEAR	PROJECT NO.	SHEET NO.
L&G	2025	18100-4148-04	1A1
PS&E	2025	18100-4148-04	1A1

STANDARD ROADWAY DRAWINGS CONT.

DWG.	REV.	DESCRIPTION
10-107.00		**SAFETY DESIGN AND GUARDRAILS CONT.**
S-GRC-4	01-30-25	GUARDRAIL CONNECTION TO BRIDGE RAILING CONCRETE PARAPET
S-GRC-5	02-28-20	GUARDRAIL CONNECTION TO BRIDGE ENDS (TRAILING ENDS)
S-GRT-2	06-28-19	TYPE 38 GUARDRAIL END TERMINAL
S-GRT-2P	10-16-20	EARTH PAD FOR TYPE 38 AND TYPE 21 TERMINAL
S-GRT-2R	06-28-19	EARTH PAD FOR TYPE 38 AND TYPE 21 TERMINAL (RETROFIT)
S-GRT-3	06-28-19	TYPE 21 GUARDRAIL END TERMINAL
S-GRT-4	01-30-25	TYPE 21 GATING END TERMINAL
S-SSMB-1A	10-01-24	36” SINGLE SLOPE CONCRETE BARRIER WALL
S-SSMB-6A		36” CONCRETE SINGLE SLOPE BARRIER WALL FOR ATTACHING GUARDRAIL
S-PL-2M		SAFETY PLAN AT SIDE ROADS OR PRIVATE DRIVES
10-108.00		**EROSION PREVENTION AND SEDIMENT CONTROL**
EC-STR-3B	06-15-21	SILT FENCE
EC-STR-3C	03-01-23	SILT FENCE WITH WIRE BACKING
EC-STR-3E	04-01-08	SILT FENCE FABRIC JOINING DETAILS
EC-STR-6A	05-06-16	ENHANCED ROCK CHECK DAM
EC-STR-8	06-10-14	FILTER SOCK
EC-STR-11	03-16-17	CULVERT PROTECTION TYPE 1
EC-STR-19	04-01-08	CATCH BASIN PROTECTION
EC-STR-25	08-01-12	TEMPORARY CULVERT CROSSING, CONSTRUCTION EXIT, CONSTRUCTION FORD
EC-STR-31	05-04-22	TEMPORARY DIVERSION CHANNEL
EC-STR-31A	04-01-08	TEMPORARY DIVERSION CHANNEL DESIGN
EC-STR-32	08-01-12	TEMPORARY DIVERSION CULVERTS
EC-STR-37	06-10-14	SEDIMENT TUBE
EC-STR-41		CATCH BASIN FILTER ASSEMBLY (TYPE 1)
EC-STR-41A		CATCH BASIN FILTER ASSEMBLY (TYPE 1) SLIPCOVER DETAILS
EC-STR-42		CATCH BASIN FILTER ASSEMBLY (TYPE 2)
EC-STR-42A		CATCH BASIN FILTER ASSEMBLY (TYPE 2) SLIPCOVER DETAILS

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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

STANDARD ROADWAY DRAWINGS

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TYPE	YEAR	PROJECT NO.	SHEET NO.
L&G	2025	18100-4148-04	1A2
PS&E	2025	18100-4148-04	1A2

STANDARD TRAFFIC DESIGN DRAWINGS

DWG.	REV.	DESCRIPTION
10-200.00		**SIGN**
T-S-10	07-30-25	STANDARD MOUNTING DETAILS FLAT SHEET SIGNS, ALUMINUM-STEEL DESIGN
T-S-11	07-30-25	DELINEATOR AND MILEPOST DETAILS
T-S-12	07-30-25	STANDARD STEEL GROUND MOUNTED SIGNS, BREAK-AWAY TYPE POST FOOTING DETAILS, SQUARE TUBES
T-S-16	07-30-25	GROUND MOUNTED ROADSIDE SIGN PLACEMENT DETAILS
T-S-16A	07-02-15	GROUND MOUNTED ROADSIDE SIGN PLACEMENT DETAILS
T-S-17	07-30-25	STANDARD GROUND MOUNTED SIGN USING PERFORATED/KNOCKOUT SQUARE TUBE
T-S-20	07-30-25	SIGN DETAILS
T-S-23A	07-30-25	MULTI-DIRECTIONAL SLIP BASE BREAKAWAY P-POST SIGN SUPPORT
10-204.00		**DESIGN - TRAFFIC CONTROL**
T-M-1	01-24-25	DETAILS OF PAVEMENT MARKINGS FOR CONVENTIONAL ROADS AND MARKING ABBREVIATIONS
T-M-2	01-24-25	DETAILS OF PAVEMENT MARKINGS FOR CONVENTIONAL ROADS
T-M-3	01-24-25	MARKING STANDARDS FOR TRAFFIC ISLANDS, PAVED SHOULDERS AND MEDIANS FOR CONVENTIONAL ROADS
T-M-4	01-24-25	STANDARD INTERSECTION PAVEMENT MARKINGS
T-M-5	01-24-25	MARKING DETAIL FOR FREEWAYS
T-M-8	01-24-25	MARKING DETAILS FOR EXPRESSWAYS & FREEWAYS
T-M-15	01-24-25	ASPHALT SHOULDER RUMBLE STRIP INSTALLATION DETAILS FOR INTERSTATE AND ACCESS CONTROLLED ROUTES
T-WZ-10	03-26-25	ADVANCE ROAD WORK SIGNING ON HIGHWAYS AND FREEWAYS
T-WZ-11	03-26-25	ONE LANE CLOSURE DETAIL ON DIVIDED HIGHWAYS
T-WZ-12	03-26-25	ONE LANE CLOSURE DETAIL FOR BRIDGES ON DIVIDED HIGHWAYS
T-WZ-15	03-26-25	INTERIOR LANE CLOSURE FOR EXPRESSWAYS AND FREEWAYS
T-WZ-16	03-26-25	LANE SHIFT FOR DIVIDED HIGHWAYS AND FREEWAYS
T-WZ-18	03-26-25	SHOULDER CLOSURE DETAIL FOR FREEWAYS AND DIVIDED HIGHWAYS
T-WZ-32	03-26-25	TRAFFIC CONTROL PLAN SIGNAL LAYOUT FOR TRAFFIC SIGNAL AT TWO LANE BRIDGE RECONSTRUCTION SITE
T-WZ-33	03-26-25	TRAFFIC CONTROL PLAN FOR CLOSE INTERSECTION CONDITIONS USING TRAFFIC SIGNAL AT TWO LANE BRIDGE RECONSTRUCTION SITE
T-WZ-35	03-26-25	TRAFFIC CONTROL PLAN PAY ITEM AND SIGN DETAILS FOR TRAFFIC SIGNAL AT TWO LANE BRIDGE RECONSTRUCTION SITE
T-WZ-56	03-26-25	TRANSVERSE RUMBLE STRIP USE WITHIN WORK ZONES
T-WZ-62	08-20-25	CONSTRUCTION ACCESS/EMERGENCY PULL-OFF ON FREEWAYS
T-WZ-FAB1	03-26-25	FLASHING YELLOW ARROW BOARD
T-WZ-PBR1	03-26-25	INTERCONNECTED PORTABLE BARRIER RAIL
T-WZ-PCB1	03-26-25	10 FOOT PORTABLE CONCRETE BARRIER RAIL
T-WZ-PCB2	03-26-25	20 FOOT PORTABLE CONCRETE BARRIER RAIL
T-WZ-PCB2A	03-26-25	20 FOOT PORTABLE CONCRETE BARRIER RAIL STIFFENER TUBE
T-WZ-PCB3	03-26-25	PORTABLE CONCRETE BARRIER RAIL DETAILS
T-WZ-PCB4	07-22-25	PORTABLE CONCRETE BARRIER RAIL ANCHOR PIN DETAILS

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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

STANDARD TRAFFIC DESIGN DRAWINGS

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TYPE	YEAR	PROJECT NO.	SHEET NO.
L&G	2025	18100-4148-04	1B
PS&E	2025	18100-4148-04	1B

PROJECT COMMITMENTS

COMMITMENT ID	SOURCE DIVISON	DESCRIPTION	STATION / LOCATION
EDHZ001	ENVIRONMENTAL DIVISION, HAZARDOUS MATERIALS	ASBESTOS CONTAINING MATERIAL (ACM) SURVEYS WERE COMPLETED ON BRIDGE NO. 18I00400001 I-40 EB OVER SR-24 LM 0.24 (18-I0040-00.24R) AND BRIDGE NO. 18I00400002 I-40 WB OVER SR-24 LM 0.24 (18-I0040-00.24L). NO ACM WAS DETECTED. PLEASE SEE THE REPORTS FOR FURTHER DETAILS AND PHOTOGRAPHS. NO SPECIAL ACCOMMODATIONS 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. BR-18-I0040-00.24 (LT & RT) INTERSTATE 40 OVER STATE ROUTE 24
EDEC001	ENVIRONMENTAL DIVISION, ECOLOGY	CLIFF SWALLOW AND BARN SWALLOW NESTS, EGGS, OR BIRDS (YOUNG AND ADULTS) WILL NOT BE DISTURBED BETWEEN APRIL 15 AND JULY 31. FROM AUGUST 1 TO APRIL 14, NESTS MAY BE REMOVED OR DESTROYED, AND MEASURES MAY BE INPLEMENTED TO PREVENT FUTURE NEST BUILDING AT THE SITE. (E.G., CLOSING OFF ARE USING NETTING).	BRIDGE NO. BR-18-I0040-00.24 (LT & RT) INTERSTATE 40 OVER STATE ROUTE 24

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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

PROJECT COMMITMENTS

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TYPE	YEAR	PROJECT NO.	SHEET NO.
L&G	2025	18100-4148-04	2
PS&E	2025	18100-4148-04	2

ESTIMATED ROADWAY QUANTITIES

	ITEM NO.	DESCRIPTION	UNIT	QUANTITY 18100-4148-04
	105-01	CONSTRUCTION STAKES, LINES AND GRADES	LS	1
	201-01	CLEARING AND GRUBBING	LS	1
(17)	202-01	REMOVAL OF STRUCTURES AND OBSTRUCTIONS	LS	1
(3)(4)	203-01	ROAD & DRAINAGE EXCAVATION (UNCLASSIFIED)	C.Y.	5991
(4)	203-03	BORROW EXCAVATION (UNCLASSIFIED)	C.Y.	3165
	203-04	PLACING AND SPREADING TOPSOIL	C.Y.	308
	203-06	WATER	M.G.	178
(15)	204-08.01	BACKFILL MATERIAL (FLOWABLE FILL)	C.Y.	10
(1)(5)	209-03.23	FILTER SOCK (24 INCH)	L.F.	604
(1)(5)	209-05	SEDIMENT REMOVAL	C.Y.	122
(1)(5)	209-08.02	TEMPORARY SILT FENCE (WITH BACKING)	L.F.	10263
(1)(5)	209-08.03	TEMPORARY SILT FENCE (WITHOUT BACKING)	L.F.	475
(1)(5)	209-08.08	ENHANCED ROCK CHECK DAM	EACH	15
(1)(5)	209-08.09	FILTER SOCK CHECK DAM	EACH	144
(1)(5)	209-09.01	SANDBAGS	BAG	176
(1)(5)	209-20.03	POLYETHYLENE SHEETING (6 MIL. MINIMUM)	S.Y.	6
	209-40.30	CATCH BASIN PROTECTION (TYPE A)	EACH	5
	209-40.33	CATCH BASIN PROTECTION (TYPE D)	EACH	7
	209-40.41	CATCH BASIN FILTER ASSEMBLY(TYPE 1)	EACH	16
	209-40.42	CATCH BASIN FILTER ASSEMBLY(TYPE 2)	EACH	2
	209-65.03	TEMPORARY DIVERSION CHANNEL	L.F.	40
	303-01	MINERAL AGGREGATE, TYPE A BASE, GRADING D	TON	41749
(14)	303-10.01	MINERAL AGGREGATE (SIZE 57)	TON	4146
	307-01.01	ASPHALT CONCRETE MIX (PG64-22) (BPMB-HM) GRADING A	TON	77
	307-01.08	ASPHALT CONCRETE MIX (PG64-22) (BPMB-HM) GRADING B-M2	TON	79
	307-01.22	ASP. CONC. MIX(PG76-22) (BPMB-HM) GR. A-S	TON	4949
	307-03.01	ASPHALT CONCRETE MIX (PG76-22) (BPMB-HM) GRADING A	TON	12008
	307-03.08	ASPHALT CONCRETE MIX (PG76-22) (BPMB-HM) GRADING B-M2	TON	1969
	402-01	BITUMINOUS MATERIAL FOR PRIME COAT (PC)	TON	57
	402-02	AGGREGATE FOR COVER MATERIAL (PC)	TON	197
	403-01	BITUMINOUS MATERIAL FOR TACK COAT (TC)	TON	62
	407-20.05	SAW CUTTING ASPHALT PAVEMENT	L.F.	9670
	411-01.10	ACS MIX(PG64-22) GRADING D	TON	209
	411-03.10	ACS MIX(PG76-22) GRADING D	TON	7041
	411-12.01	SCORING SHOULDERS (CONTINUOUS) (16IN WIDTH)	L.M.	5.5
	411-12.03	SCORING FOR RUMBLE STRIPE (NON-CONTINUOUS) (8IN WIDTH)	L.M.	0.3
	415-01.01	COLD PLANING BITUMINOUS PAVEMENT	TON	9383
(8)	607-03.02	18" CONCRETE PIPE CULVERT (CLASS III)	L.F.	2174
(8)	607-03.05	18" CONCRETE PIPE CULVERT(CLASS IV)JACKED-IN-PLACE	L.F.	64
(8)	607-05.02	24" CONCRETE PIPE CULVERT (CLASS III)	L.F.	776
(8)	607-05.05	24" CONCRETE PIPE CULVERT(CLASS IV) JACKED-IN-PLACE	L.F.	68
(8)	607-06.02	30" CONCRETE PIPE CULVERT (CLASS III)	L.F.	129
(8)	607-16.02	30"X 19" HORIZONTAL OVAL CONCRETE PIPE CULVERT	L.F.	168
(8)(18)	607-37.01	15" CORRUGATED METAL PIPE CULVERT	L.F.	8
(8)(18)	607-37.02	18" CORRUGATED METAL PIPE CULVERT	L.F.	8
(8)	607-37.04	30" CORRUGATED METAL PIPE CULVERT	L.F.	20
	611-02.10	JUNCTION BOX, TYPE 1	EACH	1
	611-07.01	CLASS A CONCRETE (PIPE ENDWALLS)	C.Y.	4.1
	611-07.02	STEEL BAR REINFORCEMENT (PIPE ENDWALLS)	LB.	122
	611-07.33	30IN ENDWALL (SIDE DRAIN)	EACH	1
	611-07.61	30IN ENDWALL (CROSS DRAIN) 4:1	EACH	1
	611-07.62	30IN ENDWALL (CROSS DRAIN) 6:1	EACH	1
	611-38.01	CATCH BASINS, TYPE 38, 0' - 4' DEPTH	EACH	13
	611-38.02	CATCH BASINS, TYPE 38, > 4' - 8' DEPTH	EACH	3
	611-39.01	CATCH BASINS, TYPE 39, 0' - 4' DEPTH	EACH	1
	611-42.02	CATCH BASINS, TYPE 42, > 4' - 8' DEPTH	EACH	5
	620-05.10	CONCRETE PARAPET CURVED WALL (<= TO 40 MPH)	L.F.	24

ESTIMATED ROADWAY QUANTITIES

	ITEM NO.	DESCRIPTION	UNIT	QUANTITY 18100-4148-04
(1)(5)	621-03.02	18" TEMPORARY DRAINAGE PIPE	L.F.	104
	703-01	PORTLAND CEMENT CONCRETE DITCH PAVING	C.Y.	236
	705-02.10	GUARDRAIL TRANSITION 27IN TO 31IN	EACH	4
	705-06.01	W BEAM GR (TYPE 2) MASH TL3	L.F.	4769
	705-06.10	GR TERMINAL TRAILING END (TYPE 13) MASH TL3	EACH	1
	705-06.20	TANGENT ENERGY ABSORBING TERM MASH TL-3	EACH	3
	705-06.25	THRIE BEAM BRIDGE TRANSITION MASH TL-3	EACH	8
	705-06.28	THRIE BEAM AGT (LONG SPAN) MASH TL-3	EACH	1
	705-06.50	CABLE BARRIER (MASH TL-4)	L.F.	809
	705-06.51	CABLE BARRIER ANCHOR (MASH TL-4)	EACH	1
	705-20.20	LOW MAINT CRASH CUSHN NARROW (MASH TL-3)	EACH	1
	706-01	GUARDRAIL REMOVED	L.F.	1052
	706-80.18	CABLE BARRIER TERMINAL (REMOVAL)	EACH	1
	706-80.19	CABLE BARRIER (REMOVAL)	L.F.	784
(1)(5)	707-08.11	HIGH-VISIBILITY CONSTRUCTION FENCE	L.F.	2906
(1)(5)	709-05.05	MACHINED RIP-RAP (CLASS A-3)	TON	200
(2)	709-05.06	MACHINED RIP-RAP (CLASS A-1)	TON	217
	709-05.08	MACHINED RIP-RAP (CLASS B)	TON	153
(11)	710-05	LATERAL UNDERDRAIN	L.F.	300
(11)	710-06.15	LATERAL UNDERDRAIN ENDWALL (6:1)	EACH	6
	711-05.69	36IN SINGLE SLOPE CONCRETE BARRIER WALL	L.F.	58
(24)	712-01	TRAFFIC CONTROL	LS	1
(25)	712-02.10	PORTABLE BARRIER RAIL (MASH TL-3)	L.F.	13350
(25)	712-02.12	PORTABLE BARRIER RAIL, REDUCED DEFLECTION (MASH TL-3)	L.F.	960
(26)	712-02.60	TEMPORARY WORK ZONE CRASH CUSHION (MASH TL-3)	EACH	8
	712-04.01	FLEXIBLE DRUMS (CHANNELIZING)	EACH	453
	712-04.50	BARRIER RAIL DELINEATOR	EACH	632
	712-05.01	WARNING LIGHTS (TYPE A)	EACH	457
(27)	712-06	SIGNS (CONSTRUCTION)	S.F.	1257
	712-07.03	TEMPORARY BARRICADES (TYPE III)	L.F.	48
	712-08.03	ARROW BOARD (TYPE C)	EACH	2
(31)	712-08.08	SPEED FEEDBACK SIGN ASSEMBLY	EACH	2
(32)	712-08.09	DIGITAL SPEED LIMIT SIGN ASSEMBLY	EACH	4
(12)(28)	712-08.12	QUEUE PROTECTION TRUCK	DAY	40
(13)	712-09.04	REMOVABLE PAVEMENT MARKING (STOP LINE)	L.F.	36
	716-05.20	PAINTED PAVEMENT MARKING (6" LINE)	L.M.	1.2
(33)	712-10.02	TEMPORARY TRANSVERSE RUMBLE STRIPS	L.F.	960
	713-01.01	CLASS A CONCRETE (FOUNDATION FOR SIGN SUPPORTS)	C.Y.	0.24
	713-01.02	STEEL BAR REINFORCEMENT(FOUNDATION FOR SIGN SUPPORTS)	LB.	50
	713-02.04	DELINEATOR (MILE MARKER) & STEEL POST	EACH	4
	713-02.14	FLEXIBLE DELINEATOR (WHITE)	EACH	422
	713-11.02	PERFORATED/KNOCKOUT SQUARE TUBE POST	LB.	243.5
	713-11.21	P POST SLIP BASE	EACH	2
	713-13.02	FLAT SHEET ALUMINUM SIGNS (0.080" THICK)	S.F.	15
	713-13.03	FLAT SHEET ALUMINUM SIGNS (0.100" THICK)	S.F.	32
(19)	713-15	REMOVAL OF SIGNS, POSTS AND FOOTINGS	LS	1
(29)	713-16.01	CHANGEABLE MESSAGE SIGN UNIT	EACH	6
	716-01.21	SNOWPLOWABLE RAISED PAVEMENT MARKERS (BI-DIR) (1 COLOR)	EACH	11
	716-01.22	SNOWPLOWABLE RAISED PAVEMENT MARKERS (MONO-DIR) (1 COLOR)	EACH	735
	716-01.23	SNOWPLOWABLE RAISED PAVEMENT MARKERS (BI-DIR) (2 COLOR)	EACH	226
(22)	716-01.30	REMOVAL OF SNOWPLOWABLE REFLECTIVE MARKER	EACH	972
	716-02.07	PLASTIC PAVEMENT MARKING (24" BARRIER LINE)	L.F.	2325
(21)	716-05.49	PAINTED PAVEMENT MARKINGS (8" LINE)	L.M.	6
	716-08.20	REMOVAL OF PAVEMENT MARKING (LINE)	L.M.	17.8
	716-09.94	CONTRAST PAVEMENT SHADOW MARKING 6"	L.M.	0.1
(6)	716-12.02	ENHANCED FLATLINE THERMO PVMT MRKNG (6IN LINE)	L.M.	8
(34)	716-13.03	SPRAY THERMO PVMT MRKNG (60 mil) (8IN BARRIER LINE)	L.F.	56070

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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

ESTIMATED ROADWAY QUANTITIES

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TYPE	YEAR	PROJECT NO.	SHEET NO.
L&G	2025	18100-4148-04	2-1
PS&E	2025	18100-4148-04	2-1

ESTIMATED ROADWAY QUANTITIES

	ITEM NO.	DESCRIPTION	UNIT	QUANTITY 18100-4148-04
	717-01	MOBILIZATION	LS	1
(35)	725-21.07	PORTABLE SMART WORK ZONE SYSTEM	DAY	365
(30)	730-40	TEMPORARY TRAFFIC SIGNAL SYSTEM	EACH	1
	730-50.20	RECTANGULAR RAPID FLASHING BEACON ASSEMBLY (SOLAR POWERED)	EACH	2
(14)	740-07.04	GEOGRID REINFORCEMENT TYPE 2	S.Y.	8323
(1)(5)	740-10.03	GEOTEXTILE (TYPE III)(EROSION CONTROL)	S.Y.	449
(16)	740-10.04	GEOTEXTILE (TYPE IV)(STABILIZATION)	S.Y.	2406
(1)(5)	740-11.04	TEMPORARY SEDIMENT TUBE 20IN	L.F.	2560
(9)(20)	801-01	SEEDING (WITH MULCH)	UNIT	74
(9)	801-01.07	TEMPORARY SEEDING (WITH MULCH)	UNIT	80
	801-01.36	SPECIAL WETLAND SEED MIXTURE	UNIT	1
(23)	801-01.38	NATVE SEED MX FINAL STABLIZATN OF SLOPES	UNIT	5
(7)	801-03	WATER (SEEDING & SODDING)	M.G.	71
	801-07	SEED (SUPPLEMENTAL APPLICATION)	LB.	128
(10)	801-08	FERTILIZER (SUPPLEMENTAL APPLICATION)	TON	1
	803-01	SODDING (NEW SOD)	S.Y.	4409
	806-02.03	PROJECT MOWING	CYCL	4

FOOTNOTES

(1) SEE SUBSECTION 209.07 OF THE STANDARD SPECIFICATION FOR MAINTENANCE REPLACEMENT.
(2) INCLUDES 35 TONS FOR BRIDGE END FLUME CONSTRUCTION (ALSO INCLUDES GROUT WITHIN THE FIRST 5 FEET OF THE FLUME DRAIN), 138 TONS FOR PIPE OUTLET DITCH, 39 TONS FOR EPSC, AND 5 TONS FOR MITIGATION OF SOIL PIPING.
(3) INCLUDES 39 C.Y. FOR EROSION CONTROL, 24 C.Y. FOR CONSTRUCTION OF BRIDGE END RIP-RAP FLUMES, AND 5928 C.Y. FOR GRADING.
(4) SEE GRADING SPECIAL NOTES ON SHEET "2D".
(5) ALL QUANTITIES ARE TO BE USED AS DIRECTED BY THE ENGINEER.
(6) CONTRACTOR SHALL USE THE RIBBON METHOD FOR APPLICATION.
(7) INCLUDES 11 THOUSAND GALLONS FOR EROSION PREVENTION AND SEDIMENT CONTROL.
(8) THE BEDDING MATERIAL SHALL BE INCLUDED IN THE COST OF THE PROPOSED PIPE CULVERT.
(9) THE COST OF FERTILIZER AND LIME USED IN INITIAL SEED BED PREPARATION IS TO BE INCLUDED IN THE COST OF SEEDING. SEE SECTION 801 OF TDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
(10) THE COST OF ANY NECESSARY LIME TO BE USED IN CONJUNCTION WITH SUPPLEMENT FERTILIZER IS TO BE INCLUDED IN THE COST OF THE SUPPLEMENTAL FERTILIZER. SEE SECTION 801 OF TDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
(11) LATERAL UNDERDRAIN AND ENDWALLS WILL BE NEEDED IF EXISTING UNDERDRAIN IS ENCOUNTERED DURING CONSTRUCTION OF THE PAVEMENT WIDENING FOR TRAFFIC CONTROL.
(12) DAY SHALL BE MEASURED IN 8 HOUR SHIFTS
(13) FOR TEMPORARY MARKINGS FOR TRAFFIC CONTROL AND FOR STRIPING ON INTERMEDIATE PAVEMENT LAYERS.
(14) 4141 TONS FOR PAVEMENT AT BRIDGE ENDS AND 5 TONS FOR EPSC.
(15) TO BE USED TO PLUG EXISTING CULVERT AT STA. 767+00 OF I-40 AND STA. 20+60 OF SR-24.
(16) 2356 S.Y. FOR PAVEMENT AT BRIDGE ENDS AND 50 S.Y. FOR BRIDGE FLUME.
(17) SEE SHEET "2F" FOR REMOVAL OF STRUCTURES TABLE.
(18) TO BE USED FOR REPLACING DAMAGED PIPE DURING EXISTING CATCH BASIN REMOVAL.
(19) MILE MARKER SIGNS, AUTHORIZED VEHICLES ONLY, AND BRIDGES ICE BEFORE ROAD ARE TO BE REMOVED AND REPLACED.
(20) TO BE USED ALONG S.R. 24 NEAR BRIDGE PIERS FOR FINAL STABILIZATION AS DIRECTED BY FIELD ENGINEER.
(21) INCLUDES 6.0 L.M. FOR MAINTENANCE OF TRAFFIC.
(22) INCLUDES 735 FOR MAINTENANCE OF TRAFFIC.
(23) PERMANENT STABILIZATION WITH NATIVE OR NATURALIZED PERENNIAL VEGETATION IS REQUIRED IN ALL AREAS AUTHORIZED FOR TEMPORARY AND PERMANENT IMPACTS TO STREAMS AND RIPARIAN AREAS, INCLUDING ADJACENT BUFFER ZONES WITHIN 60 FT OF THE EDGE OF WATER. THE APPROPRIATE SEED MIXTURE FOR THE REGION AND SITE CONDITIONS SHALL BE SELECTED FROM TABLE 7.9-1 (PREFERRED SEED MIXES USING NATIVES OR NATURALIZED PLANTS AND PLANTING DATES) FOUND IN CHAPTER 7.9 (PERMANENT VEGETATION) OF THE TENNESSEE DEPARTMENT OF ENVIRONMENTA AND CONSERVATION (TDEC) TENNESSEE EROSION & SEDIMENT CONTROL HANDBOOK 4TH EDITION.

FOOTNOTES

(24) ALL COSTS ASSOCIATED WITH INSTALLING, STROING, AND RE-INSTALLING ALL TRAFFIC CONTROL DEVICES DURING AND BETWEEN THE DIFFERENT TRAFFIC CONTROL PHASES SHALL BE INCLUDED IN THE PRICE BID FOR EACH ITEM. DURING THE TIME BETWEEN DIFFERENT TRAFFIC CONTROL PHASES, THE CONTRACTOR SHALL STROE ALL TRAFFIC CONTROL DEVICES IN A PROPER LOCATION THAT WILL NOT INTERFERE WITH THE TRAFFIC FLOW. ALL WORK MUST MEET THE FULL APPROVAL OF THE TDOT ENGINEER.
(25) ITEM INCLUDES COST OF INSTALLING AND RELOCATING PORTABLE BARRIER RAIL.
(26) THIS ITEM SHALL BE A PORTABLE ENERGY ABSORBING TERMINAL MEETING THE REQUIREMENTS OF AASHTO MASH FOR TEST LEVEL 3. THE UNIT BID ITEM WILL INCLUDE FURNISHING AND INSTALLING ALL COMPONENTS AS SHOWN ON THE MANUFACTURER'S DRAWINGS.
(27) ANY LOSS OR DAMAGE TO THE SIGNS SHALL BE PAID FOR BY THE CONTRACTOR.
(28) INCLUDES QUANTITY FOR FOUR (4) QUEUE TRUCKS, TWO (2) FOR EACH DIRECTION ON I-40. QUEUE TRUCKS ARE TO REMAIN ON-SITE FOR THE DURATION OF THE PROJECT, AND ARE TO BE USED DURING PHASES 1 & 4, DURING ANY LANE CLOSURES, AND ANY OTHER TIMES AS DIRECTED BY THE ENGINEER.
(29) QUANTITY INCLUDES FOUR (4) UNITS TO BE USED ALONG I-40 AND TWO (2) UNITS ALONG SR-24. MESSAGES AND LOCATIONS TO BE DIRECTED BY THE ENGINEER.
(30) ITEM INCLUDES TEMPORARY SIGNALS AND A SINGLE (1) RESIDENTIAL DRIVEWAY TEMPORARY SIGNAL AT LOCATION SHOWN IN THE PLANS.
(31) LOCATIONS TO BE DETERMINED BY THE ENGINEER. QUANTITY INCLUDES ONE SIGN FOR EACH DIRECTION.
(32) SPEED AND LOCATIONS TO BE DETERMINED BY THE ENGINEER BASED ON FIELD CONDITIONS.
(33) ITEM INCLUDES ALL COST ASSOCIATED WITH REMOVAL OF TEMPORARY RUMBLE STRIPS.
(34) SPRAY THERMO PAVEMENT MARKINGS TO BE USED FOR TEMPORARY STRIPING IN PHASE 2 ONLY.
(35) INCLUDES COST OF ALL EQUIPMENT FOR 2 COMPLETE TDOT APPROVED SOLAR ADVANCED WARNING SYSTEMS (SAWS) THAT ALERT DRIVERS OF CONSTRUCTION VEHICLES EMERGING FROM THE WORK ZONE INTO THE ROADWAY. COST INCLUDES 2 RADAR TRAILERS AND 2 LED REGULATORY SIGN TRAILERS TOTAL. 1 SYSTEM REQUIRED IN EACH DIRECTION ON I-40 DURING PHASE 2. SYSTEMS MUST UTILIZE EIGHT (8) OR MORE ENCRYPTED CHANNELS OF FIELD PROGRAMMABLE RADIO FREQUENCY COMMUNICATION TO TRIGGER AN ARRAY OF EDGE LIT WIG-WAG SIGNS WITH BEACONS THAT ALERT THE DRIVERS ONLY DURING ACTIVE EGRESS FROM THE WORK ZONE. QUANTITY REPRESENTS THE TOTAL NUMBER OF 24HR CALENDAR DAYS ESTIMATED FOR PHASE 2 ONLY. ITEM INCLUDES ALL COSTS ASSOCIATED DEPLOYING, PROGRAMMING, AND MAINTAINING THE SAWS SYSTEMS PER THE MANUFACTURERS SPECIFICATIONS FOR THE DURATION OF USE. LOCATIONS OF RADAR AND REGULATORY SIGN TRAILERS TO BE DETERMINED BY THE ENGINEER.

SEALED BY

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09/23/2025

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

ESTIMATED ROADWAY QUANTITIES

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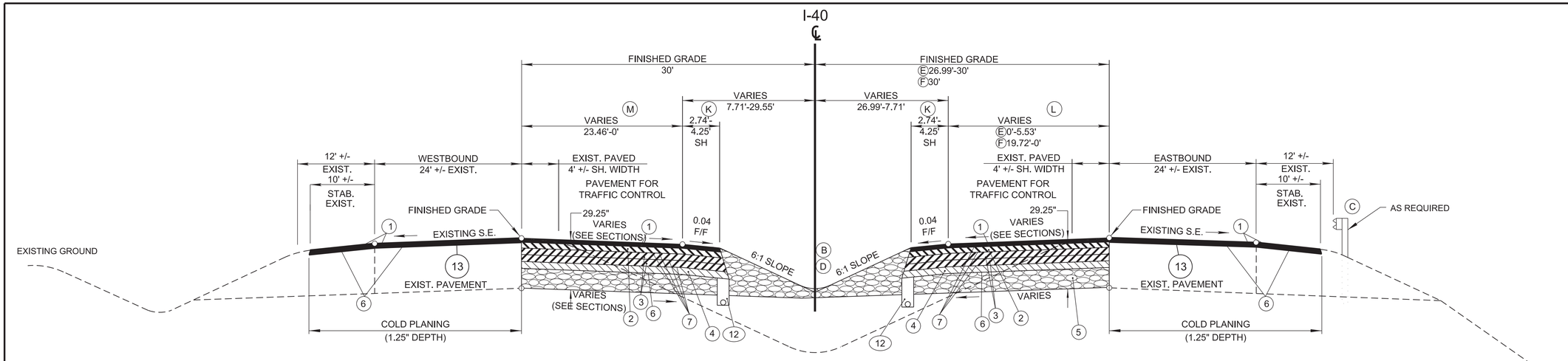
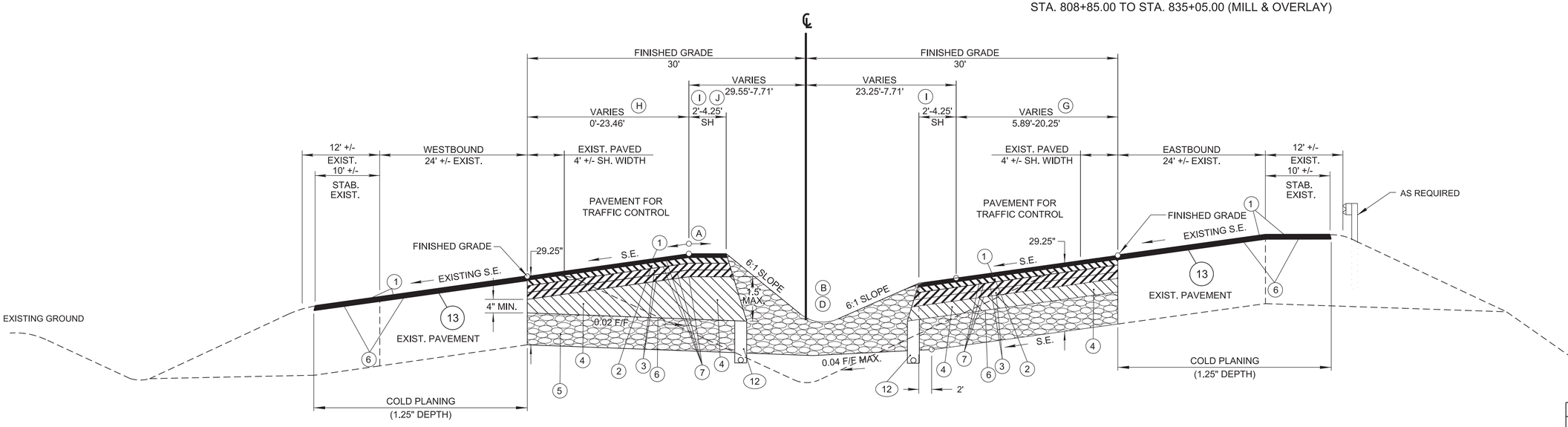
PS&E	2025	18100-4148-04	2B



WESTBOUND
STA. 791+98.99 TO STA. 814+12.79
STA. 814+12.79 TO STA. 835+05.00 (MILL & OVERLAY)

TANGENT SECTION
(BASED ON STD. DWG. RD11-TS-5)

EASTBOUND
STA. 740+65.00 TO STA. 762+83.00 (MILL & OVERLAY)
STA. 762+83.00 TO STA. 765+83.99 E
STA. 791+88.16 TO STA. 808+85.00 F
STA. 808+85.00 TO STA. 835+05.00 (MILL & OVERLAY)



SUPERELEVATED SECTION
(BASED ON STD. DWG. RD11-TS-5)

WESTBOUND
STA. 740+65.00 TO STA. 766+15.00 (MILL & OVERLAY)
STA. 766+15.00 TO STA. 784+04.36
STA. 790+66.16 TO STA. 791+98.99

EASTBOUND
STA. 765+83.99 TO STA. 784+40.14

NOTE:
SEE SHEET 2B3 FOR PROPOSED PAVEMENT SCHEDULE

A THE SLOPE OF THE SHOULDER AND ROADWAY PAVEMENT SHALL NOT EXCEED AN ALGEBRAIC DIFFERENCE OF 0.07 F/F.

B SEE PROPOSED LAYOUT SHEETS FOR DITCH LINING SPECIFIED.

C SEE STANDARD DRAWING S-PL-6 FOR TYPICAL GUARDRAIL PLACEMENT.

D SEE STANDARD DRAWING RD11-S-11A FOR ROUNDING OF ROADSIDE DITCH SLOPES.

G STA. 778+33.33 RT. END PAVEMENT TAPER

H STA. 784+00.00 LT. END PAVEMENT TAPER

I STA. 781+50.00 LT. & RT. BEGIN INSIDE SHOULDER TAPER
STA. 784+00.00 LT. & RT. END INSIDE SHOULDER TAPER

J STA. 791+00.00 RT. BEGIN INSIDE SHOULDER TAPER

K STA. 794+00.00 LT. & RT. END INSIDE SHOULDER TAPER

L STA. 796+27.79 RT. BEGIN PAVEMENT TAPER

SEALED BY

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STATE OF TENNESSEE
09/23/2025

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

TYPICAL SECTIONS

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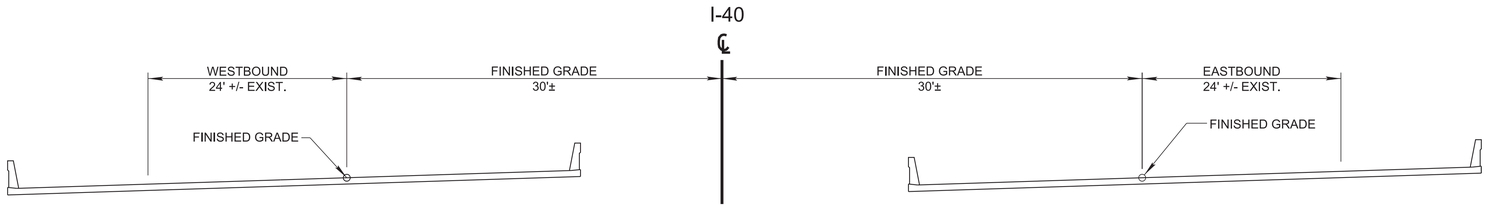
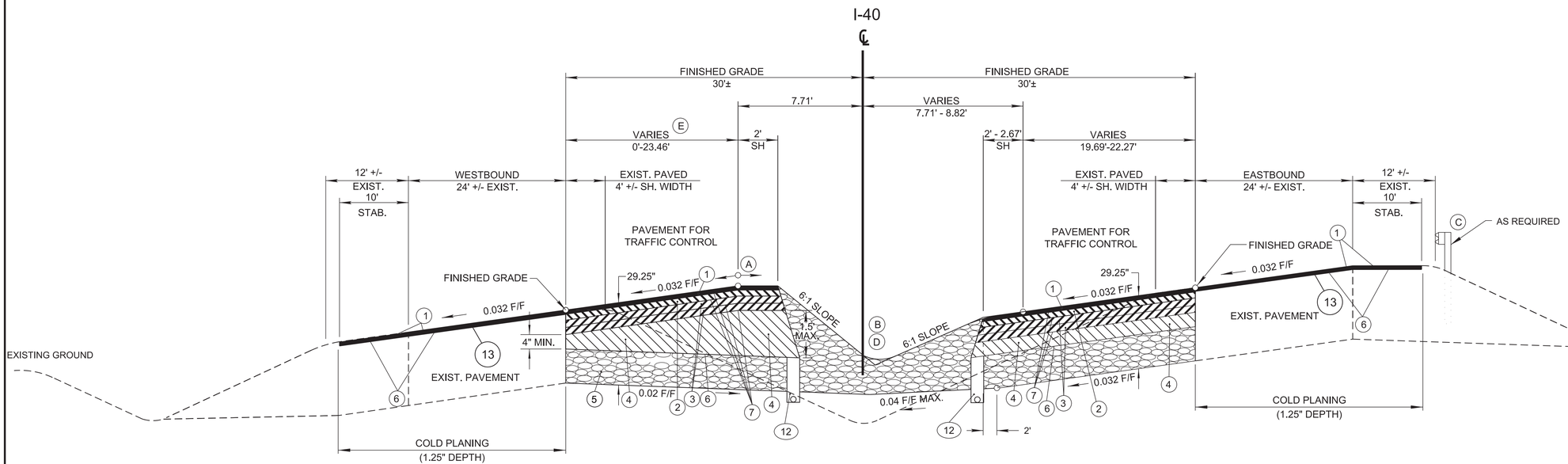
PS&E	2025	18100-4148-04	2B1



WESTBOUND
STA. 785+41.80 TO STA. 788+51.16

SUPERELEVATED SECTION
(I-40 BRIDGES)
(BASED ON STD. DWG. RD11-TS-5)

EASTBOUND
STA. 786+11.66 TO STA. 789+13.91



WESTBOUND
STA. 784+04.36 TO CONC. @ BRIDGE END
CONC. @ BRIDGE END TO STA. 790+66.16

SUPERELEVATED SECTION
(BASED ON STD. DWG. RD11-TS-5)

EASTBOUND
STA. 784+40.14 TO CONC. @ BRIDGE END
CONC. @ BRIDGE END TO STA. 791+88.16

NOTE:
SEE SHEET 2B3 FOR PROPOSED PAVEMENT SCHEDULE

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

(B) SEE PROPOSED LAYOUT SHEETS AND DETAIL SHEET 2G FOR DITCH LINING SPECIFIED.

(C) SEE STANDARD DRAWING S-PL-6 FOR TYPICAL GUARDRAIL PLACEMENT.

(D) SEE STANDARD DRAWINGS RD11-S-11 AND RD11-S-11B FOR FILL AND CUT SLOPE TABLES, ROUNDING ON TOP OF CUT SLOPES AND TOE OF FILL SLOPES, SPECIAL ROCK TREATMENT AND SUB GRADE ROUNDING IF APPLICABLE.

(E) STA. 791+00.00 LT. BEGIN INSIDE SHOULDER TAPER

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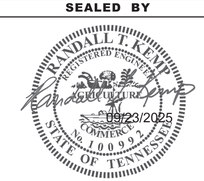

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

TYPICAL SECTIONS

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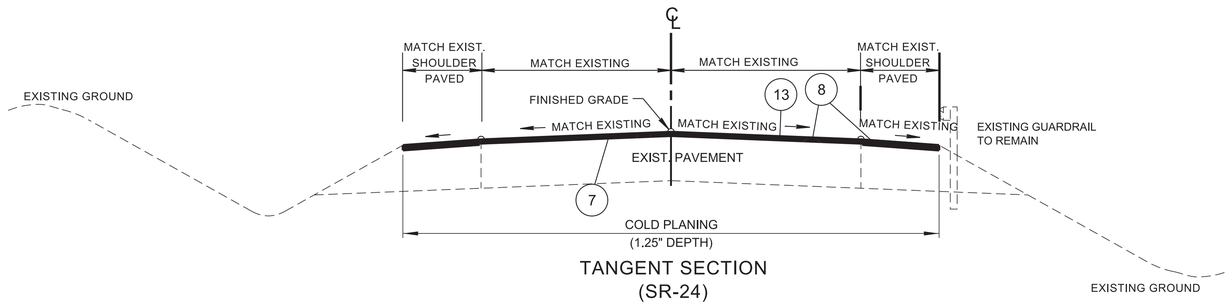
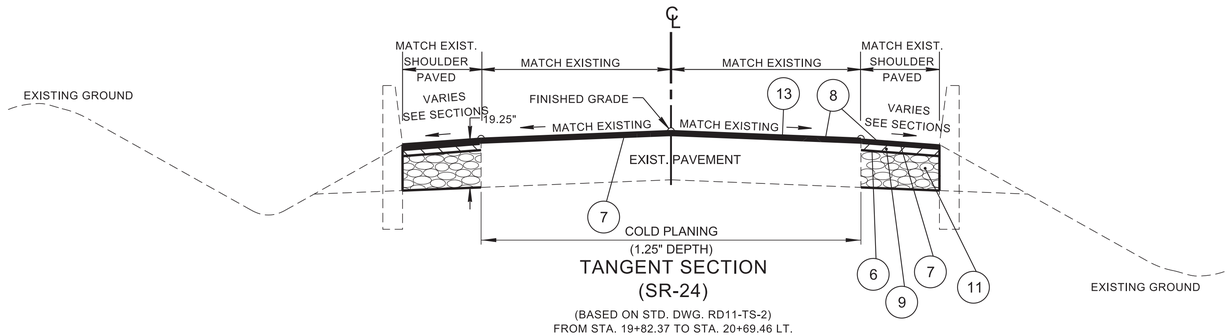
TYPE	YEAR	PROJECT NO.	SHEET NO.
L&G	2025	18100-4148-04	2B2
PS&E	2025	18100-4148-04	2B2



TANGENT SECTION
(SR-24)

(BASED ON STD. DWG. RD11-TS-2)
FROM STA. 15+57.77 TO STA. 15+58.89 RT.
FROM STA. 15+57.77 TO STA. 18+46.65 LT.
FROM STA. 18+61.17 TO STA. 19+82.37 LT.
FROM STA. 20+69.46 TO STA. 22+53.62 LT.



TANGENT SECTION
(SR-24)

(BASED ON STD. DWG. RD11-TS-2)
FROM STA. 19+82.37 TO STA. 20+69.46 LT.
FROM STA. 15+58.89 TO STA. 18+46.65 RT.
FROM STA. 18+61.17 TO STA. 22+53.62 RT.

NOTE:
SEE SHEET 2B3 FOR PROPOSED PAVEMENT SCHEDULE

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RANDALL T. KEMP
REGISTERED ENGINEER
AGRICULTURE
09/23/2025
No. 100992
STATE OF TENNESSEE

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

TYPICAL SECTIONS

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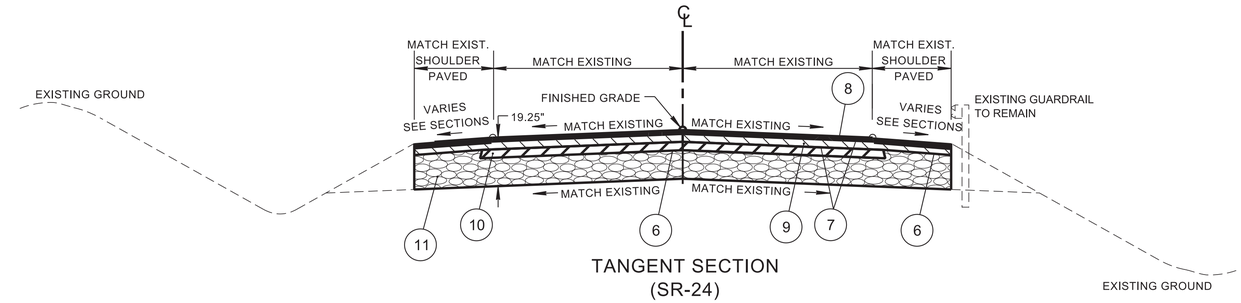
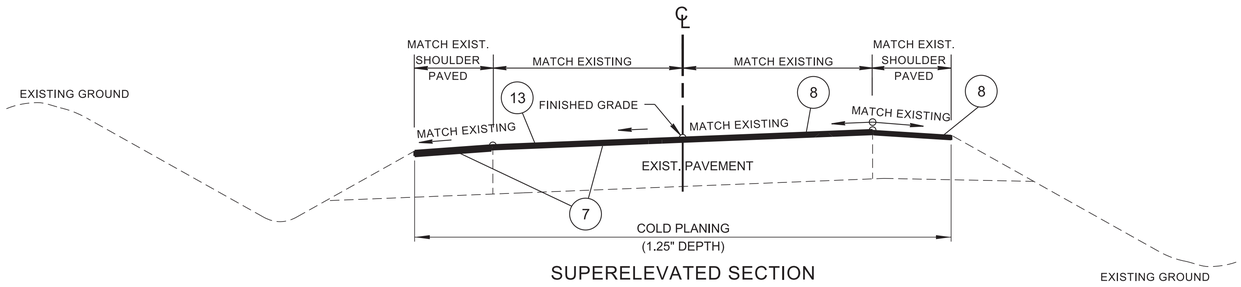
TYPE	YEAR	PROJECT NO.	SHEET NO.
L&G	2025	18100-4148-04	2B3
PS&E	2025	18100-4148-04	2B3



TANGENT SECTION
(SR-24)

(BASED ON STD. DWG. RD11-TS-2)
FROM STA. 18+46.65 TO STA. 18+61.17



SUPERELEVATED SECTION
(SR-24)

(BASED ON STD. DWG. RD11-TS-2)
FROM STA. 22+53.62 TO STA. 23+78.55

PROPOSED PAVEMENT SCHEDULE

1. GRADING "D" SURFACE @ 1.25" THICK (132.5±LB/SY)
   411-03.10 - ACS MIX (PG76-22) GRADING D
2. GRADING "B-M2" MIXTURE (BINDER) @ 2" THICK (226±LB/SY)
   307-03.08 - ASPHALT CONCRETE MIX (PG76-22) GRADING B-M2
3. GRADING "A" (BLACK BASE) @ 8" THICK (920±LB/SY)
   307-03.01 - ASPHALT CONCRETE MIX (PG76-22)(BPMB-HM) GRADING A
4. GRADING "A-S" (BLACK BASE) @ 4" THICK (MIN.)(360±LB/SY)
   307-01.22 - ASPHALT CONCRETE MIX (PG76-22)(BPMB-HM) GRADING A-S
5. MINERAL AGGREGATE BASE @ 14" THICK
   303-01 - MINERAL AGGREGATE, TYPE A BASE, GRADING D
6. PRIME COAT
   402-01 - BITUMINOUS MATERIAL FOR PRIME COAT (PC) (0.30-0.35 gal./SY)
   402-02 - AGGREGATE FOR COVER MATERIAL (PC) (8-12 LB/SY)
7. TACK COAT
   403-01 - BITUMINOUS MATERIAL FOR TACK COAT (TC) (SEE REMARK NO. 3 BELOW FOR APPLICATION INFORMATION)
8. GRADING "D" SURFACE @ 1.25" THICK (132.5±LB/SY)
   411-01.10 - ACS MIX (PG64-22) GRADING D
9. GRADING "B-M2" MIXTURE (BINDER) @ 2" THICK (226±LB/SY)
   307-01.08 - ASPHALT CONCRETE MIX (PG64-22) GRADING B-M2
10. GRADING "A" (BLACK BASE) @ 4" THICK (460±LB/SY)
    307-01.01 - ASPHALT CONCRETE MIX (PG64-22)(BPMB-HM) GRADING A
11. MINERAL AGGREGATE BASE @ 12" THICK (ROADWAY)
    16" THICK (SHOULDER)
    303-01 - MINERAL AGGREGATE, TYPE A BASE, GRADING D
12. UNDERDRAIN
    710-02 - AGGREGATE UNDERDRAIN W/PIPE
13. COLD PLANING @ 1.25" THICK
    415-01.02 COLD PLANING BITUMINOUS PAVEMENT

REMARKS: 1. OVERLAY EXISTING PAVEMENT WITH "D-MIX" TO MATCH BRIDGE ELEVATION
2. 8" OF "A-MIX" TO BE APPLIED AT TWO EQUAL LIFTS.
3. SEE 403.05 FOR DETERMINING APPLICATION RATE IN THE FIELD

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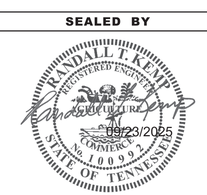

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

TYPICAL SECTIONS AND PAVEMENT SCHEDULE

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GENERAL NOTES

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 107.06 OF THE STANDARD SPECIFICATIONS.

(3) THE CONTRACTOR SHALL NOT DISPOSE OF ANY MATERIAL EITHER ON OR OFF STATE-OWNED R.O.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 ITEM NO. 203-04 AND/OR 203-07. SEEDING, IN ACCORDANCE WITH SECTION 801 OF THE STANDARD SPECIFICATIONS, WILL BE MEASURED AND PAID FOR UNDER ITEM NO. 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.

(4) ITEM NO. 801-01, SEEDING (WITH MULCH), SHALL BE USED WHERE EROSION CONTROL BLANKET OR SOD ARE NOT APPLIED.

GUARDRAIL

(1) 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.

(4) GUARDRAIL IS TO BE COMPLETE IN PLACE BEFORE THE MAINLINE ROADWAY IS OPENED TO TRAFFIC.

DRAINAGE

(1) 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.

(2) EXCAVATION FOR PIPES, CULVERTS, AND STRUCTURES WILL NOT BE MEASURED AND PAID FOR DIRECTLY, BUT WILL BE INCLUDED IN THE PRICE BID PER LINEAR FOOT OF PIPE (CHOOSE THE APPLICABLE ITEM(S) FROM THE FOLLOWING: PIPE CULVERTS, STORM SEWERS, CONDUITS, ALL OTHER CULVERTS AND MINOR STRUCTURES).

(4) 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).

(5) 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 WILL NOT RESULT IN AN INCREASE OR DECREASE IN THE AMOUNT OF PAYMENT THAT WILL BE MADE DUE TO SUCH CHANGE.

(6) 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.

(7) ALL EXISTING PIPES AS SHOWN ON PLANS OR AS DIRECTED BY THE ENGINEER THAT ARE TO BE LEFT IN PLACE AND ABANDONED MUST BE BACKFILLED AND PLUGGED. ALL COST FOR THIS WORK SHALL BE INCLUDED IN ITEM NO. 204-08.01, BACKFILL MATERIAL (FLOWABLE FILL), C.Y.

FENCING

(1) LOCATION OF THE FENCE SHALL BE ONE FOOT INSIDE THE RIGHT-OF-WAY EXCEPT WHERE SHOWN OTHERWISE ON THE PLANS.

(2) FENCES SHALL BE TURNED IN AT DRAINAGE STRUCTURES, STOCK PASSES AND BRIDGES WHERE DIRECTED BY THE ENGINEER SO AS TO ABUT WINGWALLS AND/OR ABUTMENTS.

(3) THE CONTRACTOR SHALL GIVE THE AFFECTED PROPERTY OWNERS A TWO-WEEK NOTICE PRIOR TO CUTTING FENCES.

(4) 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

(1) 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.

(2) THE CONTRACTOR SHALL BE REQUIRED TO REMOVE AND RESET MAILBOXES AND POSTS WHERE AND AS DIRECTED BY THE ENGINEER. COST TO BE INCLUDED IN PRICE BID FOR OTHER CONSTRUCTION ITEMS.

(3) 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.

PAVEMENT MARKINGS

TEMPORARY PAVEMENT MARKINGS ON INTERMEDIATE LAYERS

(1) 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. 716-05.49, PAINTED PAVEMENT MARKING (8" LINE), LIN.FT.

FINAL PAVEMENT MARKING

(8) 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 PVMT 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

(16) THE PAVEMENT MARKING ON THE LANESHIFTS FOR EDGELINES 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. 716-05.49, L.M.

(17) BEFORE OPENING THE LANESHIFTS TO TRAFFIC, THE TRANSITIONAL MARKINGS ON THE EXISTING ROADWAY MUST BE IN PLACE. THESE MARKINGS WILL BE MEASURED AND PAID FOR UNDER ITEM NO. 712-09.08 PER L.F. ALL EXISTING MARKINGS IN THE AREA OF THESE TRANSITIONAL MARKINGS SHALL BE OBLITERATED AND ALL EXISTING RAISED PAVEMENT MARKERS SHALL BE REMOVED TO ELIMINATE CONFLICTING MARKINGS. REMOVAL OF THE EXISTING CONFLICTING MARKINGS AND RAISED PAVEMENT MARKERS WILL NOT BE MEASURED AND PAID FOR DIRECTLY, BUT THE COST WILL BE INCLUDED IN ITEM NO. 712-01, TRAFFIC CONTROL, LUMP SUM.

SNOWPLOWABLE REFLECTIVE PAVEMENT MARKERS

(19) REMOVE EXISTING SNOWPLOWABLE MARKERS PRIOR TO PAVING AND/OR COLD PLANING. REMOVE ALL ADHESIVES PRIOR TO PAVING. PATCH ANY HOLES OR DIVOTS RESULTING FROM THE REMOVAL OF A MARKER IN A MANNER WHICH ENSURES A UNIFORM PAVED SURFACE. PATCH WORK SHALL BE INCLUDED WITH COST OF OTHER ITEMS OF CONSTRUCTION.

PAVEMENT

PAVING

(1) THE CONTRACTOR SHALL BE REQUIRED TO PAVE IN THE DIRECTION OF TRAFFIC.

(2) THE CONTRACTOR SHALL BE REQUIRED TO COLD PLANE AND PAVE IN THE DIRECTION OF TRAFFIC.

(3) THE CONTRACTOR SHALL ATTACH A DEVICE TO THE SCREED OF THE PAVER 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 PAVER (MEASURED FROM A LINE PARALLEL TO THE PAVEMENT SURFACE.) THE DEVICE SHALL MEET THE REQUIREMENTS THAT ARE CURRENTLY SET FORTH IN SPECIAL PROVISION 407SE.

SIGNING

(1) 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. THE LETTERS, DIGITS, ARROWS, BORDERS, AND ALPHABET ACCESSORIES ON ALL EXTRUDED PANEL SIGNS SHALL BE DIRECT APPLIED OR DEMOUNTABLE. ALL EXTRUDED PANEL SIGNS SHALL BE ATTACHED TO THE SIGN FACE, AS OUTLINED IN THE STANDARD SPECIFICATIONS. ALL SHIELDS ON GUIDE SIGNS SHALL BE DIRECT APPLIED OR DEMOUNTABLE AND ATTACHED TO THE SIGN FACE AS OUTLINED IN THE STANDARD SPECIFICATIONS.

(2) FOR ALL PERMANENT PANEL SIGNS WITH A SILVER-WHITE, YELLOW, RED, GREEN, BROWN, OR BLUE BACKGROUND, PROVIDE REFLECTIVE SHEETING THAT MEETS OR EXCEEDS AASHTO M268, TYPE D.

(3) 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 DESIGN DIVISION, SIGNING SECTION, TELEPHONE NO. (615)-741-0802. THE CONTRACTOR SHALL VERIFY ALL SUPPORT LENGTHS AT THE SITE PRIOR TO ORDERING MATERIAL.

(4) THE TOP OF THE SIGN FOOTINGS SHALL BE PLACED LEVEL WITH THE GROUND LINE.

(5) 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 OPERATIONS OFFICE.

(6) 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 DESIGN DIVISION, SIGNING SECTION (TDOT.TrafficDesign.SignsandMarking@tn.gov) FOR REVIEW. ONE PDF SET OF THE LAYOUT DRAWINGS SHALL BE SENT TO THE REGIONAL SIGN DESIGNER FOR REVIEW.

(7) ALL SIGNS MARKED "TO BE REMOVED" ARE TO BE REMOVED BY THE CONTRACTOR AND PAID FOR UNDER ITEM NO. 713-15 AND BECOME THE PROPERTY OF THE CONTRACTOR.

(8) THE EXISTING FOOTINGS ARE TO BE REMOVED 6 INCHES BELOW GROUND LINE.

(9) 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.

(10) 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.

TYPE	YEAR	PROJECT NO.	SHEET NO.
L&G	2025	18100-4148-04	2C
PS&E	2025	18100-4148-04	2C

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GENERAL NOTES

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TYPE	YEAR	PROJECT NO.	SHEET NO.
L&G	2025	18100-4148-04	2C1
PS&E	2025	18100-4148-04	2C1

GENERAL NOTES

SIGNING CONTINUED

(11) THE LETTERS, DIGITS, ARROWS, BORDERS, AND ALPHABET ACCESSORIES ON ALL FLAT SHEET SIGNS SHALL BE APPLIED BY SILK SCREENING PROCESS.

(12) 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.

(13) AFTER THE PERMANENT SIGN LOCATIONS HAVE BEEN STAKED, THERE SHALL BE A FIELD INSPECTION AND APPROVAL BY THE CONSTRUCTION FIELD OFFICE. PAYMENT FOR LOCATION AND STAKING SHOULD BE INCLUDED IN THE BID PRICE FOR OTHER ITEMS OF CONSTRUCTION. ANY RELOCATION REQUIRED, DUE TO THE SIGN NOT BEING INSTALLED IN THE CORRECT LOCATION, WILL BE DONE AT THE CONTRACTOR'S EXPENSE.

TRAFFIC CONTROL DIRECTIONAL SIGNING

(1) 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.

(2) 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, "D" 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.

(3) 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.

(4) 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.

(6) 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.

CONSTRUCTION WORK ZONE & TRAFFIC CONTROL

(1) 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.

(2) 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.

(3) 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.

(4) TRAFFIC CONTROL DEVICES SHALL NOT BE DISPLAYED OR ERECTED UNLESS RELATED CONDITIONS ARE PRESENT NECESSITATING WARNING.

(5) 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.

(6) 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.

(7) ALL DETOUR AND CONSTRUCTION SIGNING SHALL BE IN STRICT ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

(9) 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.

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GENERAL NOTES

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TYPE	YEAR	PROJECT NO.	SHEET NO.
L&G	2025	18100-4148-04	2D
PS&E	2025	18100-4148-04	2D

SPECIAL NOTES

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 NO. 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.

(6) THE CONTRACTOR SHALL CONSTRUCT AND COMPACT ALL EMBANKMENTS AND BRIDGE APPROACHES WITHIN THE PROJECT LIMITS AS PER 205.04.C IN THE STANDARD SPECIFICATIONS FOR DEGRADABLE ROCK. STOCKPILING OF NON-DEGRADABLE MATERIAL MAY BE REQUIRED FOR USE IN CAPPING EMBANKMENT. NO SEPARATE PAYMENT WILL BE MADE FOR STOCKPILING OR ADDITIONAL HANDLING OF NON-DEGRADABLE MATERIAL.

DEMOLITION

DEMOLITION, REPAIR, OR REHABILITATION OF BRIDGES

(1) 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.

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 SWEPT AND CLEANED OF ALL LOOSE MATERIALS.

C. THE MILLED SURFACE SHALL BE PAVED WITHIN 72 HOURS IF THE CURRENT ADT IS ≥ 70,000 OR WITHIN 96 HOURS IF THE CURRENT ADT IS < 70,000.

D. RAIN OR INCLEMENT WEATHER IS NOT EXPECTED OR FORECASTED WITHIN 48 HOURS AFTER MILLING.

E. 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

F. 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.

G. ONLY ONE LANE IN EACH DIRECTION SHALL HAVE A MILLED SURFACE AT ONE TIME.

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SPECIAL NOTES

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TYPE	YEAR	PROJECT NO.	SHEET NO.
L&G	2025	18100-4148-04	2E
PS&E	2025	18100-4148-04	2E

ENVIRONMENTAL NOTES

SUBSECTION 1 – ENVIRONMENTAL GENERAL NOTES

ENVIRONMENTAL GENERAL NOTES

NATURAL RESOURCES

(1) 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.

(2) 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.

(3) INSTREAM EPSC DEVICES REQUIRE THE TDOT ENVIRONMENTAL DIVISION, PERMITS SECTION REVIEW AND MUST BE PROCESSED BY THE PERMITS SECTION TO OBTAIN WATER QUALITY PERMITS.

(4) THE OPERATION OF EQUIPMENT IN WATERS OF THE STATE/U.S., INCLUDING WETLANDS AND EPHEMERAL, INTERMITTENT, AND PERENNIAL STREAMS, IS NOT ALLOWED.

(5) 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.

(6) 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 WATER FLOW. 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.

(7) 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.

(8) WETLANDS SHALL NOT BE USED AS EQUIPMENT STORAGE, STAGING, OR TRANSPORTATION AREAS, UNLESS SPECIFICALLY PROVIDED FOR IN THE CONSTRUCTION PLANS AND PERMITS.

(9) 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.

(10) 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.

(11) 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).

(12) 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.

PERMITS, PLANS & RECORDS

(13) 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).

(14) 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.

(15) 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.

(16) 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.

(17) 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.

SUPPORT ACTIVITIES

(18) 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 TDOT PROJECT RESPONSIBLE PARTY TO COMMENCE PERMIT RENEWAL PROCESS.

ENVIRONMENTAL

(20) 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.

SUBSECTION 2 – ENVIRONMENTAL SPECIAL NOTES

ENVIRONMENTAL SPECIAL NOTES

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 PRECONSTRUCTION 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 1B, FOR DETAILS RELATING TO SPECIAL ENVIRONMENTAL COMMITMENTS REQUIRED BY THIS PROJECT.

SCOPE OF WORK

(6) THE GRADING, DRAINING, AND PAVING OF I-40 WITHIN THE PROJECT LIMITS.

(7) THE WIDENING OF THE I-40 BRIDGES OVER SR-24.

(8) CONSTRUCTION OF ALL DITCHES, STORM DRAINAGE, GUARDRAIL, APPLICATION OF EROSION CONTROL DEVICES, SODDING, PAVEMENT MARKINGS, SIGNING, INSTALLATION OF TRAFFIC CONTROL DEVICES, AND OTHER DESIGN FEATURES AS INDICATED ON THE PLANS OR AS DIRECTED BY THE T.D.O.T. SUPERVISOR.

(9) THE MILLING, OVERLAY, AND PAVEMENT MARKINGS NECESSARY TO TIE INTO THE EXISTING ROADWAY ON EACH END OF THE PROJECT ON I-40 AND SR-24 BELOW.

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ENVIRONMENTAL NOTES

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TYPE	YEAR	PROJECT NO.	SHEET NO.
L&G	2025	18100-4148-04	2F
PS&E	2025	18100-4148-04	2F

CATCH BASINS AND MANHOLES

SHEET NO.	LOCATION	STATION	OFFSET (FT.)	DRAINAGE CODE	GRATE/ TOP ELEV.	INVERT ELEV.	DEPTH (FT.)	INSIDE DIM.	STANDARD DRAWING NO.	PAY ITEMS				
										TYPE 1 611-02.10 EACH	TYPE 38 611-38.01 0'-4'	TYPE 38 611-38.02 4'-8'	TYPE 39 611-39.01 0'-4'	TYPE 42 611-42.02 4'-8'
5A	I-40	767+50.00	3.25 LT	1	2018.05	2014.50	3.55	48" X 48"	D-CB-39S				1	
6A	I-40	769+00.00	3.21 LT	6	2021.44	2017.96	3.48	32" X 32"	D-CB-38S		1			
6A	I-40	771+00.00	1.80 LT	7	2026.52	2023.04	3.48	32" X 32"	D-CB-38S		1			
6A	I-40	773+10.00	1.62 LT	8	2031.16	2027.68	3.48	32" X 32"	D-CB-38S		1			
6A	I-40	775+20.00	0.98 LT	9	2034.85	2031.91	2.94	32" X 32"	D-CB-38S		1			
6A	I-40	777+30.00	1.50 LT	10	2037.97	2035.03	2.94	32" X 32"	D-CB-38S		1			
6A	I-40	779+40.00	1.06 LT	11	2039.62	2036.68	2.94	32" X 32"	D-CB-38S		1			
7A	I-40	783+55.00	0.31 RT	16	2039.88	2036.94	2.94	32" X 32"	D-CB-38S		1			
7A	I-40	785+05.00	1.60 RT	17	2038.97	2034.00	4.97	32" X 32"	D-CB-42S					1
7A	I-40	789+55.00	2.31 RT	18	2034.48	2030.33	4.15	32" X 32"	D-CB-38S			1		
7A	I-40	791+45.00	2.52 RT	19	2031.59	2028.11	3.48	32" X 32"	D-CB-38S		1			
7A	SR-24	17+85.00	19.50 RT	26	2009.62	2004.60	5.02	5' DIA	D-CB-42RB					1
7A	SR-24	18+53.05	18.50 RT	27	2008.90	2003.75	5.15	48" X 48"	D-CB-42SB					1
7A	SR-24	18+77.27	17.00 RT	28	2009.40	2004.25	5.15	48" X 48"	D-CB-42SB					1
7A	SR-24	20+81.27	17.00 RT	29	2010.11	2005.75	4.36	48" X 48"	D-CB-42SB					1
8A	I-40	793+35.00	1.67 RT	20	2029.18	2025.70	3.48	32" X 32"	D-CB-38S		1			
8A	I-40	795+40.00	2.40 RT	21	2025.81	2021.23	4.58	32" X 32"	D-CB-38S			1		
8A	I-40	797+14.53	2.86 RT	2	2019.79	2016.50	3.29	32" X 32"	D-JBS-1	1				
8A	I-40	797+50.00	3.02 RT	3	2021.98	2018.25	3.73	32" X 32"	D-CB-38S		1			
8A	I-40	799+40.00	3.52 RT	22	2018.78	2015.30	3.48	32" X 32"	D-CB-38S		1			
8A	I-40	801+35.00	3.94 RT	23	2016.27	2012.79	3.48	32" X 32"	D-CB-38S		1			
8A	I-40	803+25.00	3.53 RT	24	2014.68	2011.20	3.48	32" X 32"	D-CB-38S		1			
8A	I-40	805+14.31	3.60 RT	4	2013.30	2008.50	4.8	48" X 48"	D-CB-38SB			1		
TOTALS										1	13	3	1	5

REMOVAL OF STRUCTURES

SHEET NO.	STATION	LOCATION	DESCRIPTION	REMARKS
6	774+10.48	I-40 CL	81 LF OF 15" CMP	
6	774+90.72	I-40 CL	CATCH BASIN	
7	18+47.82	SR-24 CL	41 LF OF 18" CMP	
7	18+15.00	SR-24 RT	60 LF OF 18" CMP	
7	21+69.71	SR-24 RT	181' OF 22" X 13" CMP	
7	20+81.27	SR-24 RT	CATCH BASIN	
8	797+01.43	I-40 CL	13 LF OF 15" CMP	
8	797+14.53	I-40 CL	JUNCTION BOX	
8	805+14.31	I-40 CL	CATCH BASIN	

STORM DRAIN ENDWALLS

LOCATION \ SHEET NO.	STATION	OFFSET (FT.)	SKEW	CODE	TYPE	STANDARD DRAWING NO.	RIP-RAP		PROTECTED ENDWALLS		SAFETY ENDWALLS		
							CLASS A-1 709-05.06 (TON)	CLASS B 709-05.08 (TON)	CLASS "A" CONCRETE 611-07.01 (C.Y.)	STEEL BAR REINFORCING 611-07.02 (LB.)	30 IN. 6:1 611-07.33 (EACH)	30 IN. 4:1 611-07.61 (EACH)	30 IN. 6:1 611-07.62 (EACH)
I-40 \ 4A, 5A	767+00	77.00 LT	90°	5	SAFETY	D-PE-30A	109.0						1
I-40 \ 4A, 5A	785+05	84.47 RT	90°	25	PROTECTED	D-PEW-4		115.4	1.13	29			
SR-24 \ 7A	22+50	20.50 RT		12	SAFETY	D-SEW-1A					1		
SR-24 \ 7A	20+81.27	38.58 RT	90°	13	PROTECTED	D-PEW-1	17.5		0.91	25			
SR-24 \ 7A	18+55	26.41 LT	90°	14	SAFETY	D-PE-30A		37.0				1	
SR-24 \ 7A	17+70	35.00 RT	90°	15	PROTECTED	D-PEW-1	11.2		2.07	68			
TOTALS							137.7	152.4	4.1	122	1	1	1

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RANDALL T. KEMP
REGISTERED ENGINEER
SIGNATURE
09/23/2025
FORMER E
NO. 100992
STATE OF TENNESSEE

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

TABULATED QUANTITIES

SHEET 1 OF 3

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TYPE	YEAR	PROJECT NO.	SHEET NO.
L&G	2025	18100-4148-04	2F1
PS&E	2025	18100-4148-04	2F1

STORM DRAINAGE PIPES

SHEET NO.	INLET		OUTLET		% GRADE	CMP			REINFORCED CONCRETE PIPE - CLASS, ITEM NO., SIZE & LENGTH (FT.)					
	CODE NO.	OUTLET ELEV.	CODE NO.	INLET ELEV.		607-37.01 15"	607-37.02 18"	607-37.04 30"	CLASS III 607-03.02 18"	JACKED-IN-PLACE 607-03.05 18"	CLASS III 607-05.02 24"	JACKED-IN-PLACE 607-05.05 24"	CLASS III 607-06.02 30"	CLASS III 607-16.02 30"X 19"
5A	1	2014.50	5	2013.75	0.84%						20'	68'		
6A	6	2017.96	1	2014.62	2.23%						148'			
6A	7	2023.04	6	2018.08	2.48%						198'			
6A	8	2027.68	7	2023.16	2.15%						208'			
6A	9	2031.91	8	2027.80	1.96%				208'					
6A	10	2035.03	9	2032.03	1.43%				208'					
6A	11	2036.68	10	2035.15	0.73%				208'					
7A	16	2036.94	17	2034.12	1.86%				148'					
7A	17	2034.00	25	2032.50	1.86%				18'	64'				
7A	15	2009.00	26	2004.81	19.43%			20'						
7A	26	2004.60	27	2003.92	1.00%								64'	
7A	27	2003.75	14	2003.00	1.70%								43'	
7A	28	2004.25	27	2003.92	1.53%								22'	
7A	29	2005.75	28	2004.42	0.65%						202'			
7A	13	2008.40	29	2006.34	9.58%				20'					
7A	12	2008.00	29	2005.92	1.35%									168'
7A	18	2030.33	19	2028.23	1.11%				188'					
7A/8A	19	2028.11	20	2025.82	1.22%				188'					
8A	20	2025.70	21	2021.35	2.12%				206'					
8A	21	2021.23	2	2016.62	2.64%				178'					
8A	3	2018.25	2	2016.62	4.60%				34'					
7A	2	2016.50	EXIST	2016.28	2.80%	8'								
8A	22	2015.30	23	2012.91	1.23%				194'					
8A	23	2012.79	24	2011.32	0.78%				188'					
8A	24	2011.20	4	2008.62	1.36%				188'					
8A	4	2008.50	EXIST	2008.41	1.36%		8'							
TOTALS						8'	8'	20'	2174'	64'	776'	68'	129'	168'

ESTIMATED GRADING QUANTITIES

DESCRIPTION	UNADJUSTED VOLUMES (CY)		ADJUSTED VOLUMES (CY)
	EXC.	EMB.	EXC.
MAINLINE	5126	7133	4101
SIDE ROADS	431	0	345
PVT. DRIVES, BUSINESS AND FIELD ENTRANCES	0	0	
INDEPENDENT DITCHES	0	0	
TEMPORARY CONSTRUCTION EXITS	39	0	32
BRIDGE END FLUME	24	0	20
TOPSOIL (EMB.)	0		
TOPSOIL (EXC.)	308		
TOPSOIL TOTALS (SEE TOPSOIL TABLE)			

BALANCE SUMMARY

SHRINK = 20 % SWELL = 20 %

EMB.		EXC.
7133	VS.	-4496
AVAILABLE	=	2637
BORROW MATERIAL	=	3165

ROCK (C.Y.)		TOTALS (C.Y.)				
EXC.	EMB.	EXC. (UNCL.)	EMB. (UNCL.)	EXC (COMMON)	EXC. (AVAIL.)	EXC. (ADJ.)
0	0	5928	7133	5928	5620	4496

TOPSOIL

IF EXISTING TOPSOIL IS SUITABLE FOR REUSE

PROPOSED SLOPE AREA S.F.	EXISTING TOPSOIL (EXC.)	EXISTING TOPSOIL (EMB.)	EXISTING TOPSOIL (TOTAL) C.Y.	REQUIRED TOPSOIL C.Y.	PLACING TOPSOIL 203-04 C.Y.	FURNISHED TOPSOIL 203-07 C.Y.	EXCESS TOPSOIL C.Y.
16637	1348	2742	4090	308	308	0	3782

IF EXISTING TOPSOIL IS NOT SUITABLE FOR REUSE

PROPOSED SLOPE AREA S.F.	EXISTING TOPSOIL (EXC.)	EXISTING TOPSOIL (EMB.)	EXISTING TOPSOIL (TOTAL) C.Y.	REQUIRED TOPSOIL C.Y.	PLACING TOPSOIL 203-04 C.Y.	FURNISHED TOPSOIL 203-07 C.Y.	EXCESS TOPSOIL C.Y.
0	N/A	N/A	N/A	0	N/A	0	N/A

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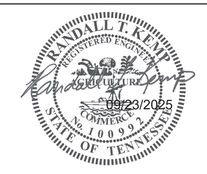

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

TABULATED QUANTITIES

SHEET 2 OF 3

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TYPE	YEAR	PROJECT NO.	SHEET NO.
L&G	2025	18100-4148-04	2F2
PS&E	2025	18100-4148-04	2F2

PROPOSED GUARDRAIL

SHEET NO.	LOCATION	SIDE		STATIONS		GUARDRAIL					CABLE RAIL		TERMINAL ANCHORS					REMARKS
						GUARDRAIL TRANSITION 27 IN. TO 31 IN. (29.13') 705-02.10	THRIE BEAM BRIDGE TRAN. MASH TL-3 (20.65') 705-06.25	THRIE BEAM AGT (LONG SPAN) MASH TL-3 (27.31') 705-06.28	RADIUS RAIL 706-06.03	W BEAM GR (TYPE 2) MASH TL3 705-06.01	CABLE BARRIER (MASH TL-4) 706-06.50	CABLE BARRIER ANCHOR (MASH TL-4) 705-06.51	TYPE 13 MASH TL3 (9.375') 705-06.10	IN-LINE MASH TL3 705-06.11	TYPE 21 MASH TL2 (21.875') 705-06.30	TYPE 38 MASH TL3 (46.875') 705-06.20	LOW MAINT. CRASH CUSHION NARROW MASH TL3 705-20.20	
		LT	RT	FROM	TO	EACH	EACH	EACH	(L.F.)	(L.F.)	(L.F.)	(EACH)	(EACH)	(EACH)	(EACH)	(EACH)	(C.Y.)	
5A/6A	I-40	X		766+15.00	774+24.00						809	1						
5A/7A	I-40	X		774+88.23	785+60.88		1			1012.5						1		
6A/7A	I-40	X		778+45.30	785+74.79		1			662.5						1		
6A/7A	I-40		X	784+11.62	784+86.99	1	1			25								
7A	I-40		X	785+70.59	786+45.02	1	1			25								
7A	I-40		X	788+18.26	788+93.63	1	1			25								
7A/8A	I-40	X		788+85.76	800+03.58		1	1		1043.75						1		
7A/9A	I-40		X	788+98.46	808+78.07		1			1950			1					
7A	I-40		X	789+59.94	790+34.01	1	1			25								
7A	SR-24		X	17+59.47	18+58.25		1			31.25						1		
7A	SR-24	X		21+37.46	22+17.49		1			12.5						1		
7A	SR-24		X	20+85.40	20+97.85		1		48	37.5				1	1			RADIUS RAIL RADIUS = 20'
7A	SR-24	X		19+29.51													1	
TOTALS						4	11	1	48	4850	809	1	1	1	1	5	1	

PAVEMENT QUANTITIES

LOCATION (ROADWAY)	ALTERNATE	TYPE - GRADE - PAY ITEM (TON)													COLD PLANING
		MINERAL AGG.	BITUMINOUS PLANT MIX BASE (HOT MIX)					PRIME COAT		TACK COAT	ASPHALTIC CONCRETE SURFACE (HOT MIX)				
			PG-64-22		PG-76-22						PG-64-22	PG 76-22			
		D	A	B-M2	A	A-S	B-M2				D	D	OGFC	TL	TON
		303-01	307-01.01	307-01.08	307-03.01	307-01.22	307-03.08	402-01	402-02	403-01	411-01.10	411-03.10	411-03.23	411-03.09	415-01.01
I-40		39925			8302	4949	1969	26	92	53		5713			4530
SR-24		583	77	79				2	4	2	209				161
MAINTENANCE OF TRAFFIC		1241			3706			29	101	7		1328			4692
TOTALS		41749	77	79	12008	4949	1969	57	197	62	209	7041			9383

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TABULATED QUANTITIES

SHEET 3 OF 3

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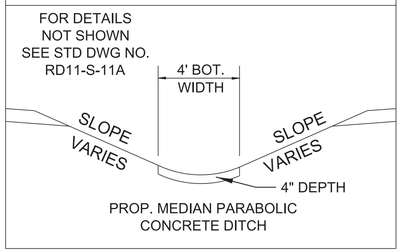
TYPE	YEAR	PROJECT NO.	SHEET NO.
L&G	2025	18100-4148-04	2G
PS&E	2025	18100-4148-04	2G

SPECIAL DITCHES

ROAD	STATION		DETAIL NO.	TYPE
	FROM	TO		
I-40	762+83.00	774+00.00	1	CONCRETE
I-40	775+00.00	785+78.55	1	CONCRETE
I-40	788+85.16	813+50.00	1	CONCRETE

DETAIL NO. 1



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DEPARTMENT OF TRANSPORTATION

DITCH DETAIL SHEET

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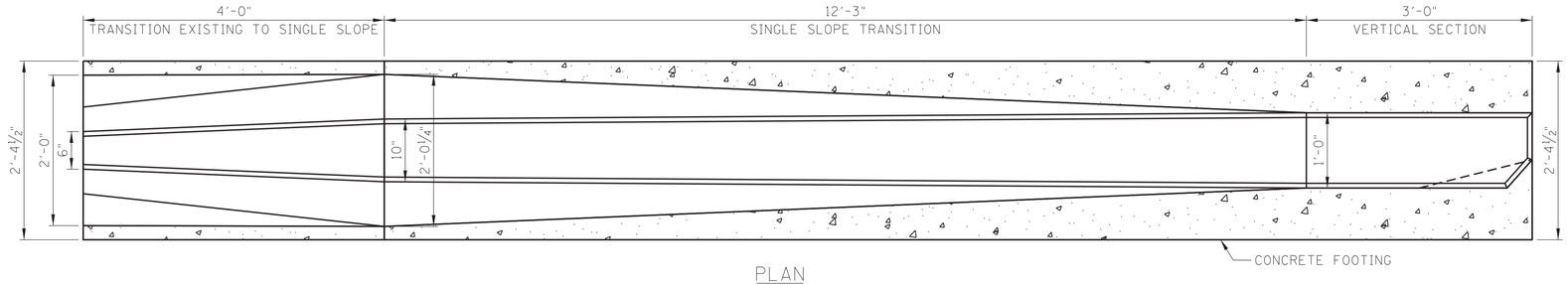
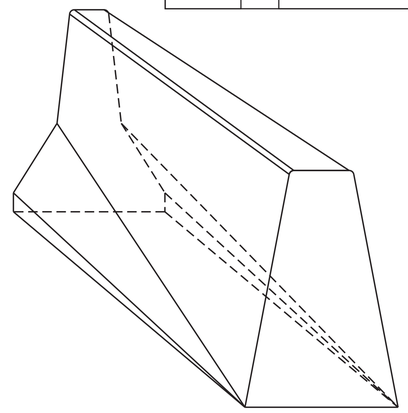
TYPE	YEAR	PROJECT NO.	SHEET NO.
PS&E	2025	18100-4148-04	2G1

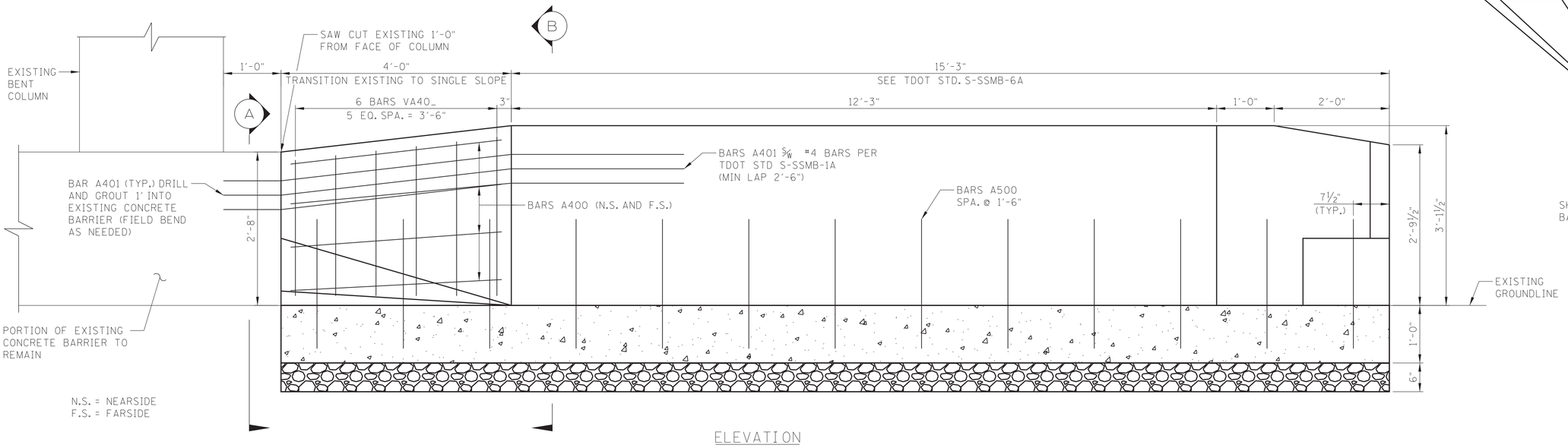


PLAN

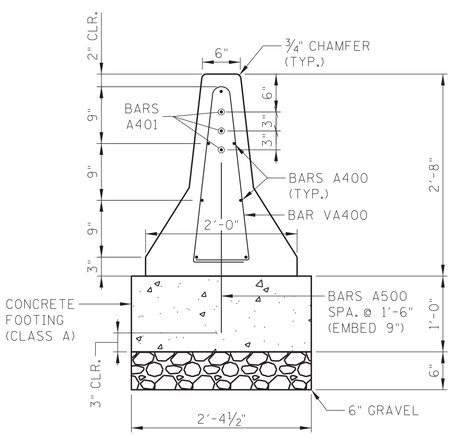


ISOMETRIC VIEW

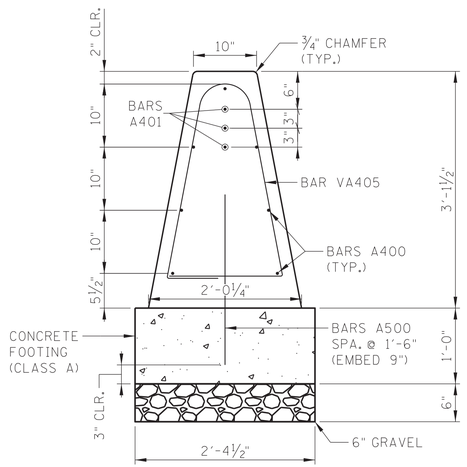
SHOWING TRANSITION FROM EXISTING BARRIER TO SINGLE SLOPE BARRIER



ELEVATION



SECTION "A"



SECTION "B"

EXISTING BARRIER IS NON-STANDARD AND DIMENSIONS MAY VARY SLIGHTLY AT EACH LOCATION. CONTRACTOR SHALL FIELD VERIFY DIMENSIONS PRIOR TO CONSTRUCTION AND ENSURE THE SHAPE AT THE START OF THE TRANSITION MATCHES THE EXISTING SHAPE.

CONCRETE BARRIER WALL TRANSITION AND ENDPOST DETAILS

DETAILS AND QUANTITIES SHOWN FOR CONCRETE BARRIER WALL TRANSITIONS AND ENDPOST FOR NEW THRIE-BEAM GUARDRAIL ATTACHMENTS ALONG SR-24. THREE (3) TOTAL LOCATIONS NEEDED AS SHOWN ON THE PROPOSED LAYOUT, SHEET 7A. ALL LOCATIONS SIMILAR.

REFER TO TDOT STANDARD DRAWINGS S-SSMB-1A, S-SSMB-6A, AND S-SSMB-6C FOR DIMENSIONS, DETAILS, AND NOTES NOT SHOWN. STEEL REINFORCING BARS SHOWN IN S-SSMB-1A AND S-SSMB-6A ARE NOT SHOWN AND NOT INCLUDED IN THE BILL OF STEEL BELOW.

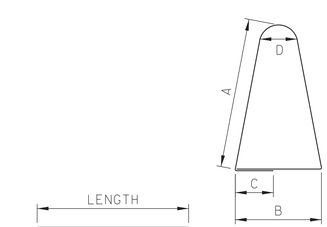
CONCRETE SHALL BE CLASS A, AND REINFORCING STELL SHALL BE ASTM A615 GRADE 60.

A PORTION OF EXISTING CONCRETE SLOPE PAVEMENT WILL NEED TO BE REMOVED TO CONSTRUCT THE NEW BARRIER WALL AT THE NORTHWEST LOCATION. AFTER THE WALL IS CONSTRUCTED, THE SLOPE PAVEMENT IS TO BE REPLACED BACK IN-KIND, WITH COST TO BE INCLUDED UNDER ITEM 709-04, REINFORCED CONCRETE SLOPE PAVEMENT, C.Y. WHERE THE NEW CONCRETE SLOPE PAVEMENT TERMINATES BEHIND THE NEW BARRIER WALL, THE SLOPE PAVEMENT SHALL BE GRADED TO DIRECT THE FLOW OF WATER TOWARD THE END OF THE WALL.

COST OF ALL EQUIPMENT, MATERIALS, AND LABOR REQUIRED TO CONSTRUCT THE CONCRETE BARRIER WALLS AS SHOWN, INCLUDING REMOVING PORTIONS OF SLOPE PAVEMENT, REMOVING PORTIONS OF EXISTING BARRIER WALLS, EXCAVATION FOR FOOTINGS, GRAVEL, CONCRETE, AND REINFORCING STEEL TO BE INCLUDED IN THE PRICE BID FOR ITEM 711-05.69, 36IN SINGLE SLOPE CONCRETE BARRIER WALL, L.F.

BILL OF STEEL (FOR A SINGLE LOCATION)

BAR	LOCATION	SIZE	NO. REQ'D	BENDING DIMENSIONS				LENGTH
				A	B	C	D	
A400	BARRIER	4	7					3'-8"
A401	BARRIER	4	3					8'-0"
A500	FOOTING	5	13					2'-3"
VA400	BARRIER	4	1	2'-4⅛"	8¾"	8"	2"	6'-2"
VA401	BARRIER	4	1	2'-4⅞"	10¾"	8"	2¾"	6'-6"
VA402	BARRIER	4	1	2'-5⅝"	1'-0⅝"	8"	3⅝"	6'-10"
VA403	BARRIER	4	1	2'-6⅜"	1'-2½"	8"	4⅜"	7'-1"
VA404	BARRIER	4	1	2'-7⅛"	1'-4⅜"	8"	5¼"	7'-5""
VA405	BARRIER	4	1	2'-7⅞"	1'-6¼"	8"	6"	7'-9"



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RICHARD LOGAN COLBERT
REGISTERED ENGINEER
AGRICULTURE
COMMERCE
No. 117913
STATE OF TENNESSEE

R. Logan Colbert
09/23/2025

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

CONCRETE BARRIER WALL DETAILS

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TYPE	YEAR	PROJECT NO.	SHEET NO.
L&G	2025	18100-4148-04	3
PS&E	2025	18100-4148-04	3

UTILITY

(1) THE LOCATIONS OF UTILITIES SHOWN WITHIN THESE PLANS ARE APPROXIMATE ONLY. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES. ABOVE GRADE AND UNDERGROUND UTILITIES SHOWN WERE TAKEN FROM VISIBLE APPURTENANCES AT THE SITE, PUBLIC RECORDS, AND/OR MAPS PREPARED BY OTHERS. THEREFORE, RELIANCE UPON THE TYPE, SIZE, AND LOCATION OF UTILITIES SHOWN SHOULD BE DONE SO WITH THIS CIRCUMSTANCE CONSIDERED. DETAILED VERIFICATION OF EXISTENCE, LOCATION, AND DEPTH SHOULD ALSO BE MADE PRIOR TO ANY DECISION RELATIVE THERETO IS MADE. AVAILABILITY AND COST OF SERVICE SHOULD BE CONFIRMED WITH THE APPROPRIATE UTILITY COMPANY. IN TENNESSEE, IT IS A REQUIREMENT, PER "THE UNDERGROUND UTILITY DAMAGE PREVENTION ACT", THAT ANYONE WHO ENGAGES IN EXCAVATION MUST NOTIFY ALL KNOWN UNDERGROUND UTILITY OWNERS, NO LESS THAN THREE (3) OR NOT MORE THAN TEN (10) WORKING DAYS PRIOR TO THE DATE OF THEIR INTENT TO EXCAVATE AND ALSO TO AVOID ANY POSSIBLE HAZARD OR CONFLICT. 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. NOTIFICATION BY CALLING THE TENNESSEE ONE CALL SYSTEM, INC AT 1-800-351-1111 WILL BE REQUIRED.

UTILITY OWNERS

CABLE:

CHARTER COMMUNICATIONS
851 S. WILLOW AVE., SUITE 206
COOKEVILLE, TN 38501
CONTACT: MR. MORGAN WILCHER
OFFICE PHONE: N/A
CELL PHONE: 931 239 9222
Email: MORGAN.WILCHER@CHARTER.COM

FIBER:

SPRINT
411 HUGER STREET
COLUMBIA, SC 29201
CONTACT: STEVE THOMPSON
OFFICE PHONE: 678 852 2726
CELL PHONE: N/A
Email: STEVE.R.THOMPSON@SPRINT.COM

ELECTRIC:

VOLUNTEER ENERGY COOPERATIVE
PO BOX 277
18359 HIGHWAY 58N
NORTH DECATUR, TN 37322
CONTACT: MATTHEW TEAGUE
OFFICE PHONE: 423 334 7040
CELL PHONE: N/A
Email: MTEAGUE@VEC.ORG

GAS:

MIDDLE TENNESSEE NATURAL GAS UTILITY DISTRICT
PO BOX 670
1030 WEST BROAD STREET
SMITHVILLE, TN 37166
CONTACT: MATTHEW STENNETT
OFFICE PHONE: 615 597 3515
CELL PHONE: 931 239 9111
Email: MSTENNETT@MTNG.COM

GAS:

ENBRIDGE (SPECTRA/ EAST TN GAS)
555 MARRIOTT DRIVE
SUITE 600
NASHVILLE, TN 37214
CONTACT: ASHLEY CLEMONS
OFFICE PHONE: 615 872 5140
CELL PHONE: 615 418 3049
Email: ASHLEY.CLEMONS@ENBRIDGE.COM

TELEPHONE:

FRONTIER/CITIZENS COMMUNICATIONS COMPANY
2104 WEST EMORY ROAD
POWELL, TN 37849
CONTACT: JIM HEATHERLY
OFFICE PHONE: 865 947 8260
CELL PHONE: 865 236 5083
Email: JIMHEATHERLY@FTR.COM

WATER:

CROSSVILLE/CATOOSA WATER DEPARTMENT
392 NORTH MAIN STREET
CROSSVILLE, TN 38555-4232
CONTACT: JEFF JOHNSON
OFFICE PHONE: 931 277 5126
CELL PHONE: 931 510 0442
Email: JEFF.JOHNSON@CROSSVILLETN.GOV

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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

UTILITY NOTES
AND
UTILITY OWNERS

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TYPE	YEAR	PROJECT NO.	SHEET NO.
L&G	2025	18100-4148-04	3
PS&E	2025	18100-4148-04	3

UTILITY

(1) THE LOCATIONS OF UTILITIES SHOWN WITHIN THESE PLANS ARE APPROXIMATE ONLY. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES. ABOVE GRADE AND UNDERGROUND UTILITIES SHOWN WERE TAKEN FROM VISIBLE APPURTENANCES AT THE SITE, PUBLIC RECORDS, AND/OR MAPS PREPARED BY OTHERS. THEREFORE, RELIANCE UPON THE TYPE, SIZE, AND LOCATION OF UTILITIES SHOWN SHOULD BE DONE SO WITH THIS CIRCUMSTANCE CONSIDERED. DETAILED VERIFICATION OF EXISTENCE, LOCATION, AND DEPTH SHOULD ALSO BE MADE PRIOR TO ANY DECISION RELATIVE THERETO IS MADE. AVAILABILITY AND COST OF SERVICE SHOULD BE CONFIRMED WITH THE APPROPRIATE UTILITY COMPANY. IN TENNESSEE, IT IS A REQUIREMENT, PER "THE UNDERGROUND UTILITY DAMAGE PREVENTION ACT", THAT ANYONE WHO ENGAGES IN EXCAVATION MUST NOTIFY ALL KNOWN UNDERGROUND UTILITY OWNERS, NO LESS THAN THREE (3) OR NOT MORE THAN TEN (10) WORKING DAYS PRIOR TO THE DATE OF THEIR INTENT TO EXCAVATE AND ALSO TO AVOID ANY POSSIBLE HAZARD OR CONFLICT. 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. NOTIFICATION BY CALLING THE TENNESSEE ONE CALL SYSTEM, INC AT 1-800-351-1111 WILL BE REQUIRED.

UTILITY OWNERS

CABLE:

CHARTER COMMUNICATIONS
851 S. WILLOW AVE., SUITE 206
COOKEVILLE, TN 38501
CONTACT: MR. MORGAN WILCHER
OFFICE PHONE: N/A
CELL PHONE: 931 239 9222
Email: MORGAN.WILCHER@CHARTER.COM

FIBER:

SPRINT
411 HUGER STREET
COLUMBIA, SC 29201
CONTACT: STEVE THOMPSON
OFFICE PHONE: 678 852 2726
CELL PHONE: N/A
Email: STEVE.R.THOMPSON@SPRINT.COM

ELECTRIC:

VOLUNTEER ENERGY COOPERATIVE
PO BOX 277
18359 HIGHWAY 58N
NORTH DECATUR, TN 37322
CONTACT: MATTHEW TEAGUE
OFFICE PHONE: 423 334 7040
CELL PHONE: N/A
Email: MTEAGUE@VEC.ORG

GAS:

MIDDLE TENNESSEE NATURAL GAS UTILITY DISTRICT
PO BOX 670
1030 WEST BROAD STREET
SMITHVILLE, TN 37166
CONTACT: MATTHEW STENNETT
OFFICE PHONE: 615 597 3515
CELL PHONE: 931 239 9111
Email: MSTENNETT@MTNG.COM

GAS:

ENBRIDGE (SPECTRA/ EAST TN GAS)
555 MARRIOTT DRIVE
SUITE 600
NASHVILLE, TN 37214
CONTACT: ASHLEY CLEMONS
OFFICE PHONE: 615 872 5140
CELL PHONE: 615 418 3049
Email: ASHLEY.CLEMONS@ENBRIDGE.COM

TELEPHONE:

FRONTIER/CITIZENS COMMUNICATIONS COMPANY
2104 WEST EMORY ROAD
POWELL, TN 37849
CONTACT: JIM HEATHERLY
OFFICE PHONE: 865 947 8260
CELL PHONE: 865 236 5083
Email: JIMHEATHERLY@FTR.COM

WATER:

CROSSVILLE/CATOOSA WATER DEPARTMENT
392 NORTH MAIN STREET
CROSSVILLE, TN 38555-4232
CONTACT: JEFF JOHNSON
OFFICE PHONE: 931 277 5126
CELL PHONE: 931 510 0442
Email: JEFF.JOHNSON@CROSSVILLETN.GOV

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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

UTILITY NOTES
AND
UTILITY OWNERS

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TYPE	YEAR	PROJECT NO.	SHEET NO.
L&G	2025	18100-4148-04	4
PS&E	2025	18100-4148-04	4

745

750

BEGIN PROJ. NO. 18100-4148-04 CONSTRUCTION
STA. 740+65.00
N 648318.6689
E 2192779.5209

S 42° 46' 45" E

S 13° 04' 46" E

N 648000
E 2193000

I-40 (W.B.) ASP.

I-40 (E.B.) ASP.

EXIST. TO REMAIN

EXIST. TO REMAIN

SEE SHEET NO. 5

STA. 754+00

MATCH LINE

N 647500
E 2193500

N 647500
E 2193000

CS 752+07.33

N 648000
E 2192500

CURVE DC99
PI 744+78.42
N 648,035.9221
E 2,193,084.8205
Δs 29° 41′ 59″ (RT)
θs 1° 45′ 00″
Δc 26° 11′ 59″ (RT)
Dc 1° 45′ 00″
Rc 3,274.04
Lc 1,497.13
Ts 968.22
Ls 200.00
SE SEE SECTIONS
DESIGN SPEED MATCH EXISTING
TRANS. LENGTH MATCH EXISTING

SEALED BY

RANDALL T. KEEL
REGISTERED ENGINEER
AGRICULTURE
09/23/2025
No. 100997
STATE OF TENNESSEE

COORDINATES ARE NAD 83(1995), ARE DATUM ADJUSTED BY THE FACTOR OF 1.00013 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988 WITH GEOID 03.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

PRESENT LAYOUT

STA.740+65 TO STA.754+00
SCALE: 1"=50'

9/22/2025 9:19:36 AM
J:\Structures\11685-14_CumberlandCo_I-40_over_SR24_(orig_10705-35)\Drawings\Survey\004.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.
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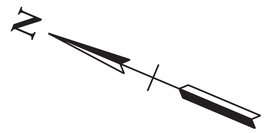
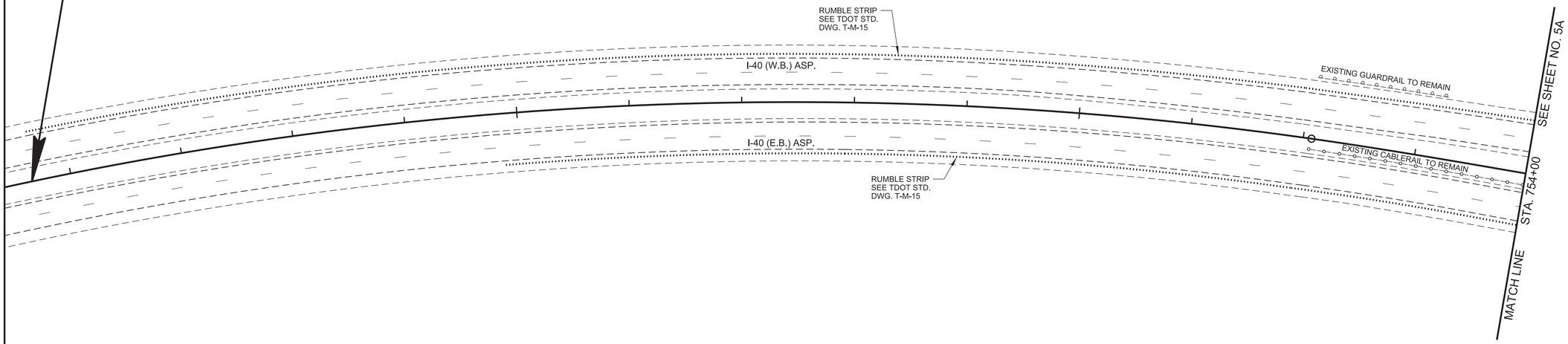
PS&E	2025	18100-4148-04	4A

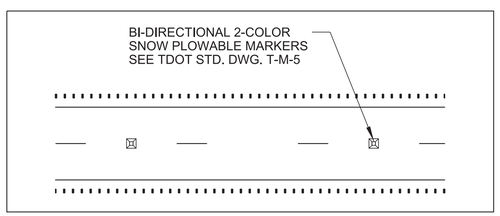


745

750

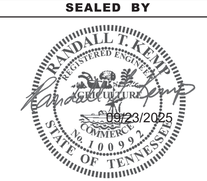
BEGIN PROJ. NO. 18100-4148-04 CONSTRUCTION
STA. 740+65.00
N 648318.6689
E 2192779.5209





SNOWPLOWABLE MARKERS DETAIL
SCALE:2X

SEALED BY



COORDINATES ARE NAD 83(1995), ARE DATUM ADJUSTED BY THE FACTOR OF 1.00013 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988 WITH GEOID 03.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

PROPOSED LAYOUT

STA.740+65 TO STA.754+00
SCALE: 1"=50'

9/22/2025 9:19:37 AM
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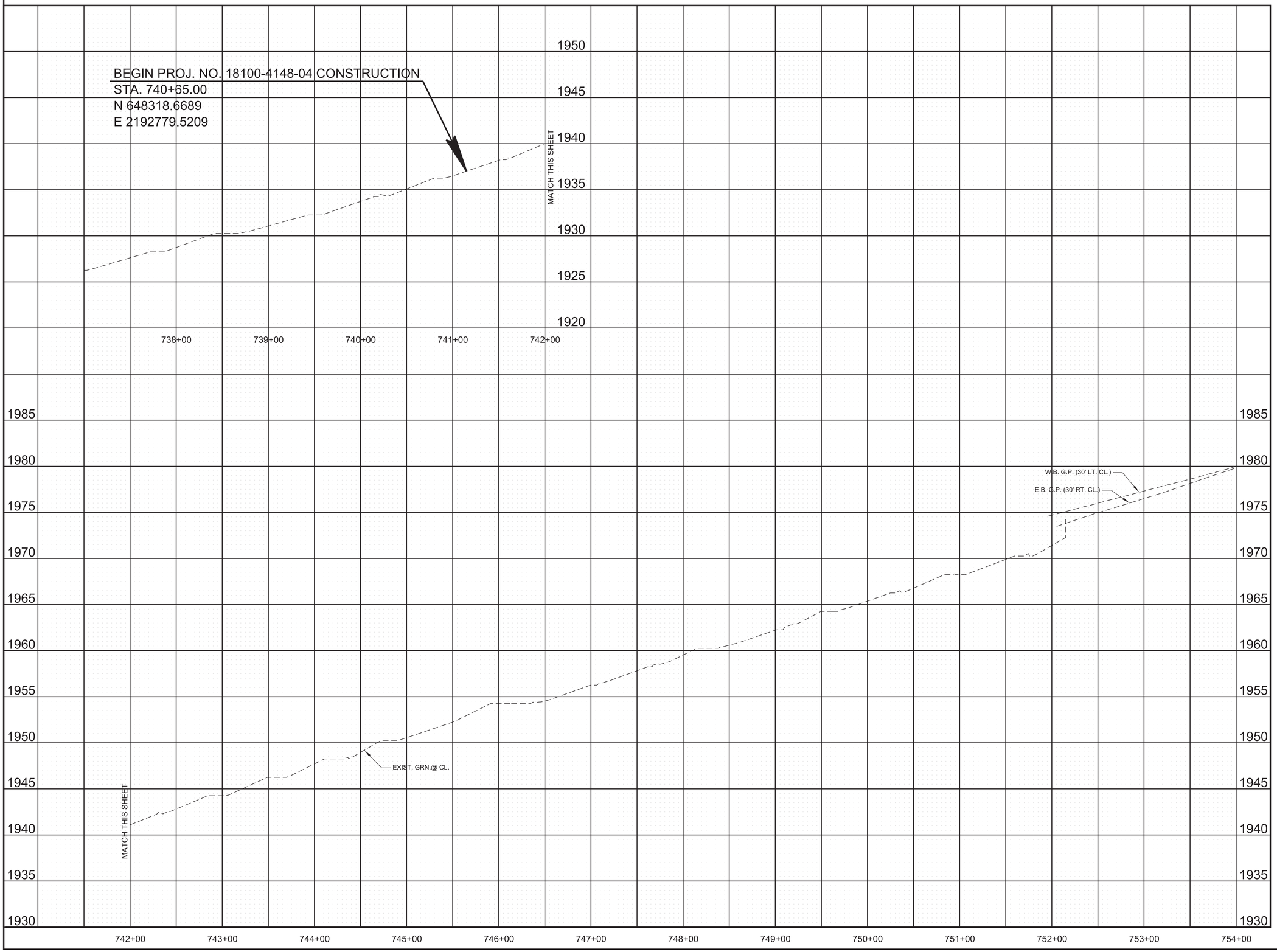
TYPE	YEAR	PROJECT NO.	SHEET NO.
L&G	2025	18100-4148-04	4B
PS&E	2025	18100-4148-04	4B



LINE & GRADE PLANS

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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

PROPOSED PROFILE

STA.740+65 TO STA.754+00

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

9/22/2025 9:19:38 AM
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TYPE	YEAR	PROJECT NO.	SHEET NO.
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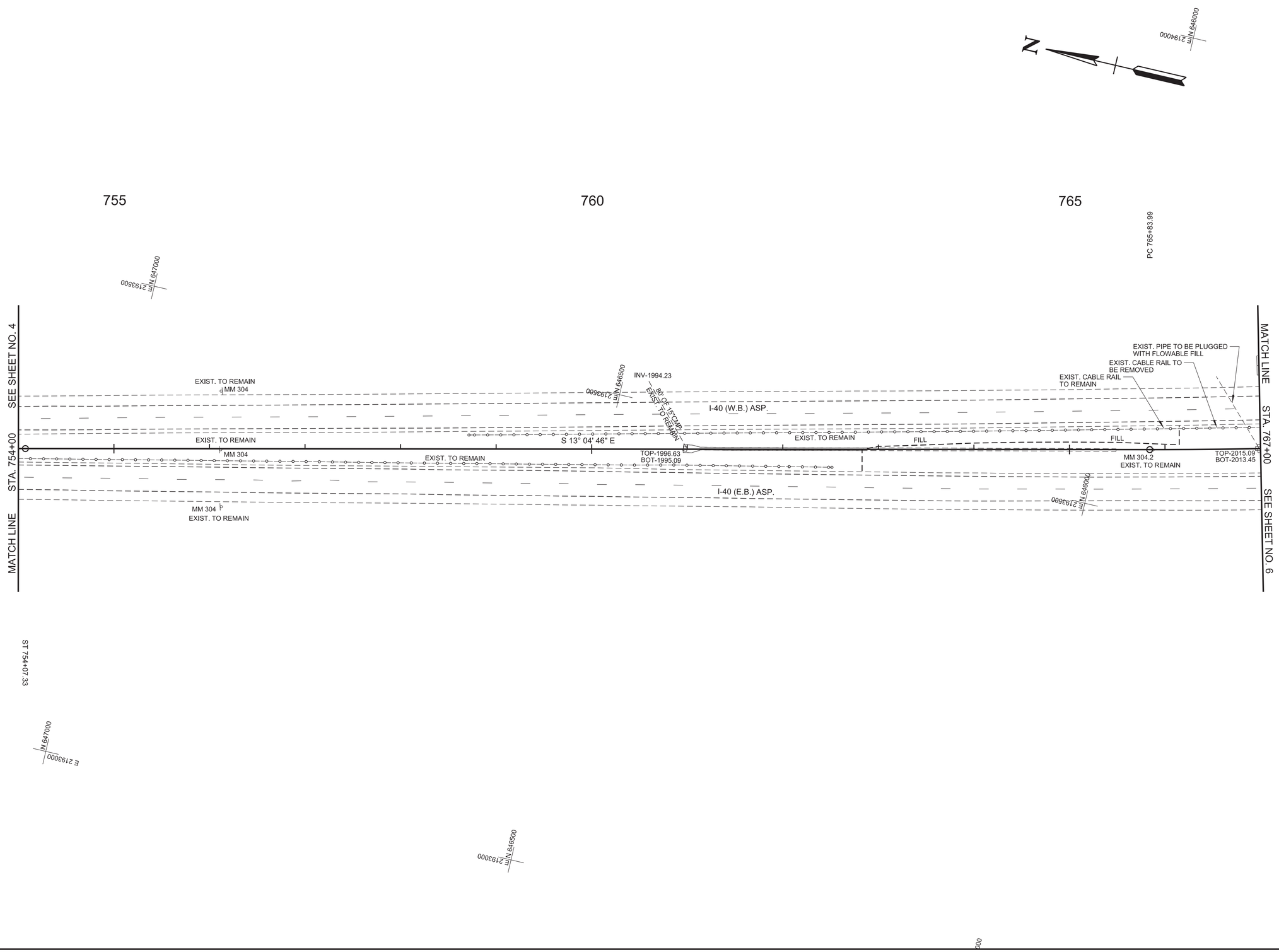
PS&E	2025	18100-4148-04	5



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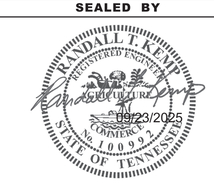

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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

PRESENT LAYOUT

STA.754+00 TO STA.767+00
SCALE: 1"=50'

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TYPE	YEAR	PROJECT NO.	SHEET NO.
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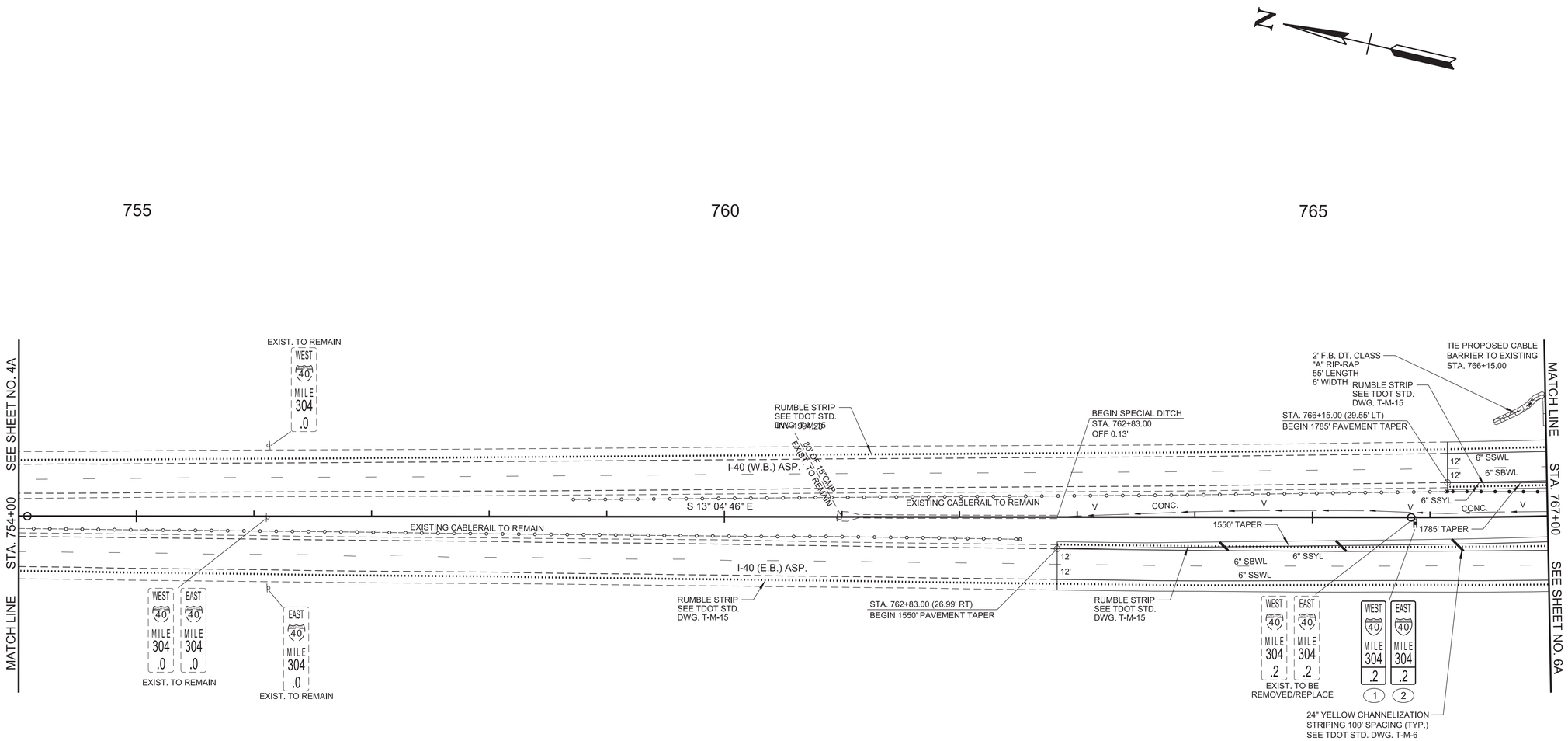
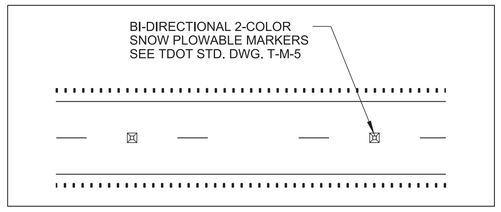
PS&E	2025	18100-4148-04	5A

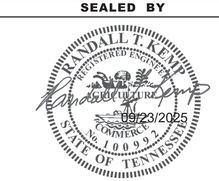




SNOWPLOWABLE MARKERS DETAIL

SCALE:2X

SEALED BY



COORDINATES ARE NAD 83(1995), ARE DATUM ADJUSTED BY THE FACTOR OF 1.00013 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988 WITH GEOID 03.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

PROPOSED LAYOUT

STA.754+00 TO STA.767+00
SCALE: 1"=50'

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TYPE	YEAR	PROJECT NO.	SHEET NO.
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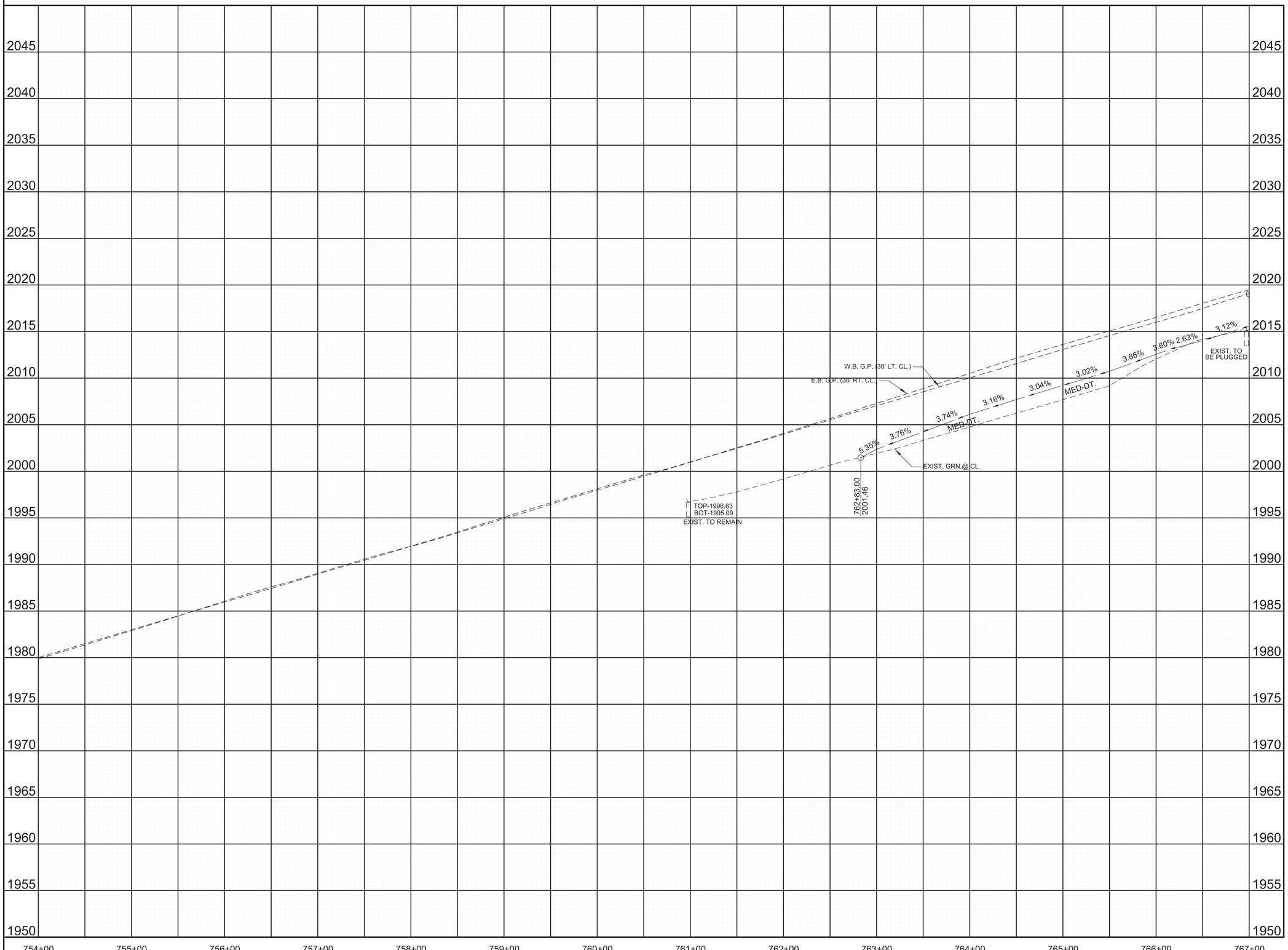
PS&E	2025	18100-4148-04	5B



LINE & GRADE PLANS

SEALED BY

RANDALL T. KEAL
REGISTERED ENGINEER
AGRICULTURE
09/23/2025
NO. 109979
STATE OF TENNESSEE

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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

PROPOSED PROFILE

STA.754+00 TO STA.767+00

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

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TYPE	YEAR	PROJECT NO.	SHEET NO.
L&G	2025	18100-4148-04	6
PS&E	2025	18100-4148-04	6

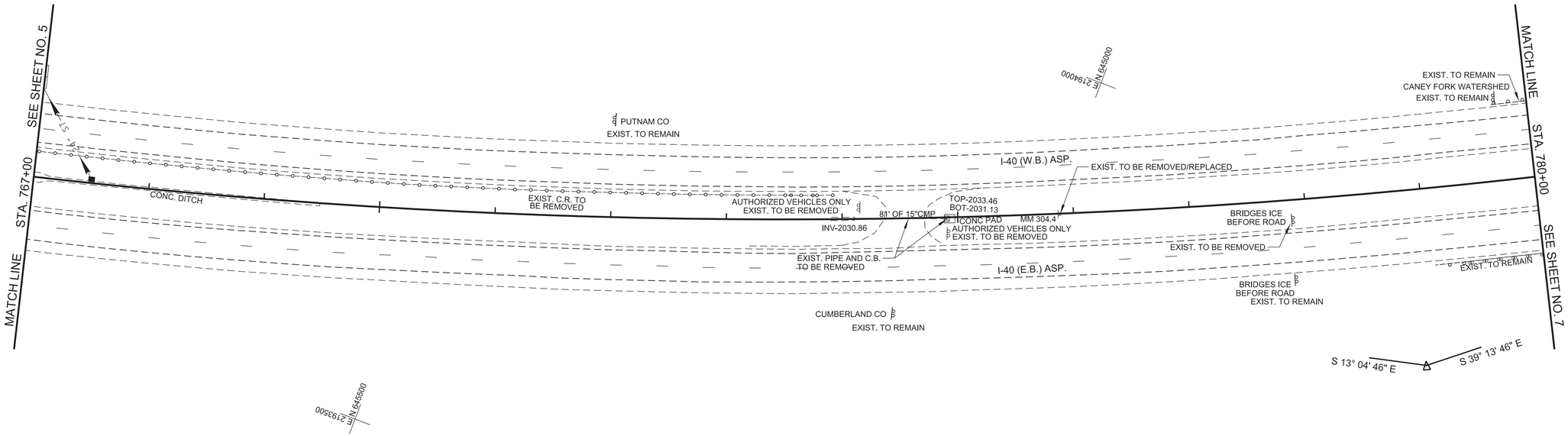
N

770

775

780

CURVE DC100
PI 779+14.67
N 644,650.5183
E 2,193,871.3482
Δ 26° 09′ 00″ (LT)
D 1° 00′ 00″
R 5,729.58
L 2,615.00
T 1,330.68
SE SEE SECTIONS
DESIGN SPEED MATCH EXISTING
TRANS. LENGTH MATCH EXISTING



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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

PRESENT LAYOUT

STA.767+00 TO STA.780+00
SCALE: 1"=50'

9/22/2025 9:19:40 AM
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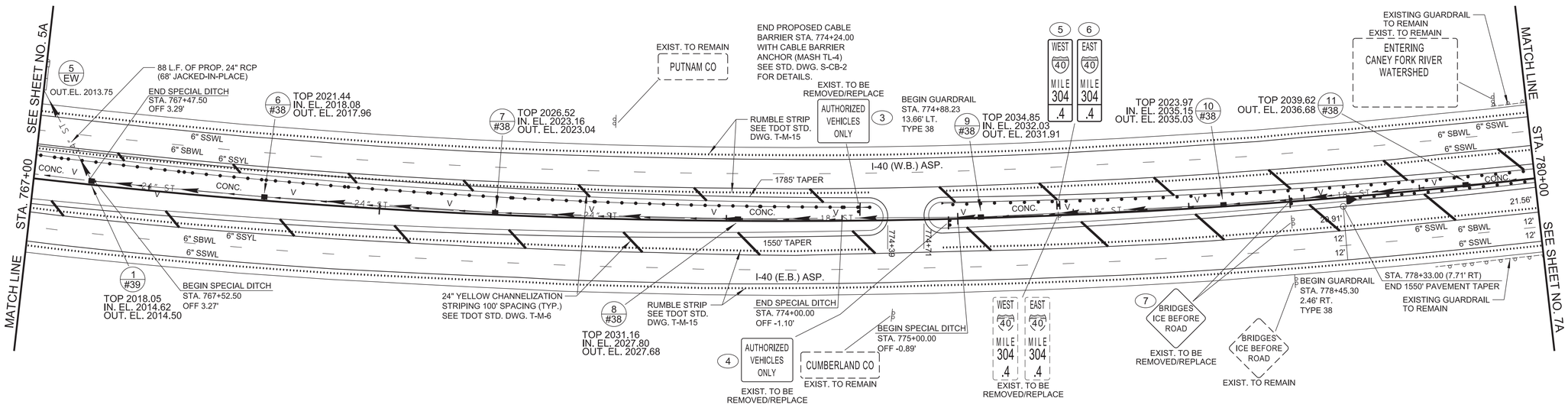
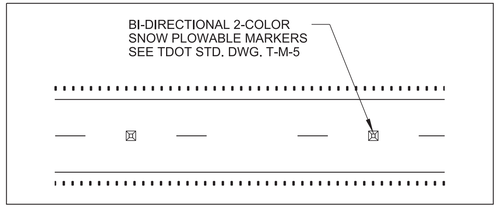
TYPE	YEAR	PROJECT NO.	SHEET NO.
L&G	2025	18100-4148-04	6A
PS&E	2025	18100-4148-04	6A

770

775

780





SNOWPLOWABLE MARKERS DETAIL
SCALE:2X

SEALED BY



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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

PROPOSED LAYOUT

STA.767+00 TO STA.780+00
SCALE: 1"=50'

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TYPE	YEAR	PROJECT NO.	SHEET NO.
L&G	2025	18100-4148-04	6B
PS&E	2025	18100-4148-04	6B

PIPE CULVERT
STATION: 767+50.00
STRUCTURE: #39-S C.B. @ 3.25' LT. - 20' OF PROP. 24" RCP
68' OF 24" RCP JACKED-IN-PLACE

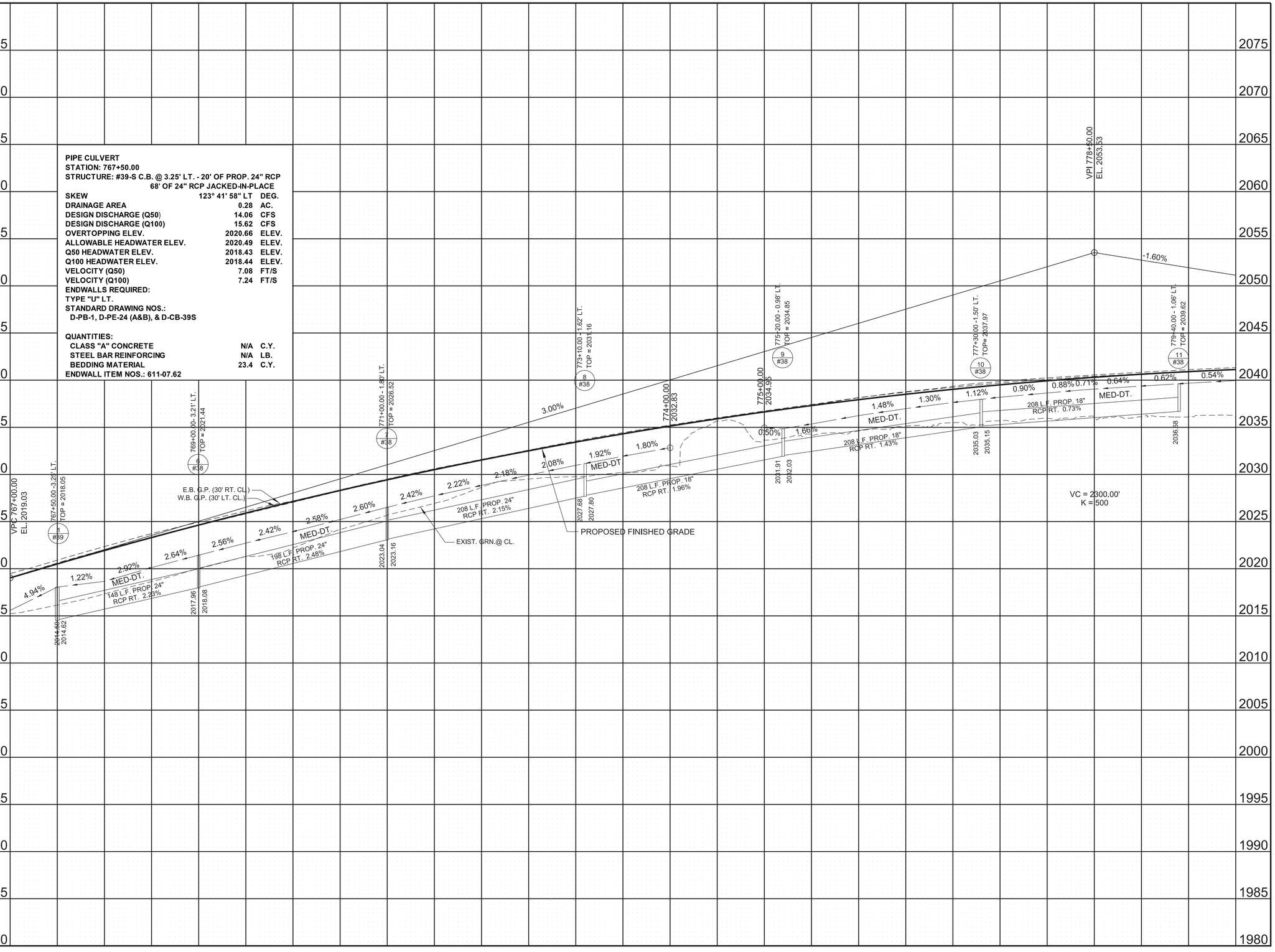
SKEW	123° 41' 58" LT	DEG.
DRAINAGE AREA	0.28	AC.
DESIGN DISCHARGE (Q50)	14.06	CFS
DESIGN DISCHARGE (Q100)	15.62	CFS
OVERTOPPING ELEV.	2020.66	ELEV.
ALLOWABLE HEADWATER ELEV.	2020.49	ELEV.
Q50 HEADWATER ELEV.	2018.43	ELEV.
Q100 HEADWATER ELEV.	2018.44	ELEV.
VELOCITY (Q50)	7.08	FT/S
VELOCITY (Q100)	7.24	FT/S

ENDWALLS REQUIRED:
TYPE "U" LT.
STANDARD DRAWING NOS.:
D-PB-1, D-PE-24 (A&B), & D-CB-39S

QUANTITIES:

CLASS "A" CONCRETE	N/A	C.Y.
STEEL BAR REINFORCING	N/A	LB.
BEDDING MATERIAL	23.4	C.Y.

ENDWALL ITEM NOS.: 611-07.62



LINE & GRADE PLANS

SEALED BY



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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

PROPOSED PROFILE

STA.767+00 TO STA.780+00

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

9/22/2025 9:19:42 AM
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TYPE	YEAR	PROJECT NO.	SHEET NO.
L&G	2025	18100-4148-04	7
PS&E	2025	18100-4148-04	7

CONTROL POINTS

POINT	NORTH	EAST	ELEV.	STATION	OFFSET
S4019	644164.2083	2194309.0778	2039.24	785+21.28	8.58' (RT)
S4020	643834.2377	2194536.7080	2038.41	789+21.67	7.56' (RT)

NOTE:
18" DIA. (APPROX.) SOIL PIPING CAN BE MITIGATED AT EACH LOCATION BY PLUGGING THE VISIBLE AND ACCESSIBLE OPEN THROATS WITH CLASS "A-1" RIP-RAP TO THE EXTENT POSSIBLE AS DIRECTED BY THE CEI REPRESENTATIVE, AND SHAPING THE GROUND SURFACE AT THE SPECIFIC LOCATIONS TO PROMOTE AND MAINTAIN POSITIVE DRAINAGE AS STATED IN GEOTECH REPORT.

LEGEND	WETLAND IMPACTS (WTL-1)
	AREA OF PERMANENT IMPACT = 54 SF
	VOLUME OF PERMANENT IMPACT = 2 C.Y.
	AREA OF TEMPORARY IMPACT = 353 SF
	VOLUME OF TEMPORARY IMPACT = 13 C.Y.

LEGEND	WETLAND IMPACTS (WTL-2)
	AREA OF PERMANENT IMPACT = 164 SF
	VOLUME OF PERMANENT IMPACT = 6 C.Y.
	AREA OF TEMPORARY IMPACT = 0 SF
	VOLUME OF TEMPORARY IMPACT = 0 SF.

STA. 786+88.04 I-40 =
STA. 20+00.00 SR-24
(SEE SHEET 11 FOR PROFILE)
N 644029.4171
E 2194407.8299

CURVE DC121
PI 23+48.11
N 643,684.4412
E 2,194,361.2487
Δ 5° 24' 34" (LT)
D 2° 51' 53"
R 2,000.00
L 188.83
T 94.48
SE SEE SECTIONS
DESIGN SPEED MATCH EXISTING
TRANS. LENGTH MATCH EXISTING

SEALED BY

RANDALL T. KEET
REGISTERED ENGINEER
No. 109999
STATE OF TENNESSEE
09/23/2025

COORDINATES ARE NAD 83(1995), ARE DATUM ADJUSTED BY THE FACTOR OF 1.00013 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988 WITH GEOID 03.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

PRESENT LAYOUT

STA.780+00 TO STA.793+00
SCALE: 1"=50'

9/22/2025 9:19:43 AM
J:\Structures\11685-14_CumberlandCo_I-40_over_SR24_(orig_10705-35)\Drawings\Survey\007.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.
L&G	2025	18100-4148-04	7A
PS&E	2025	18100-4148-04	7A

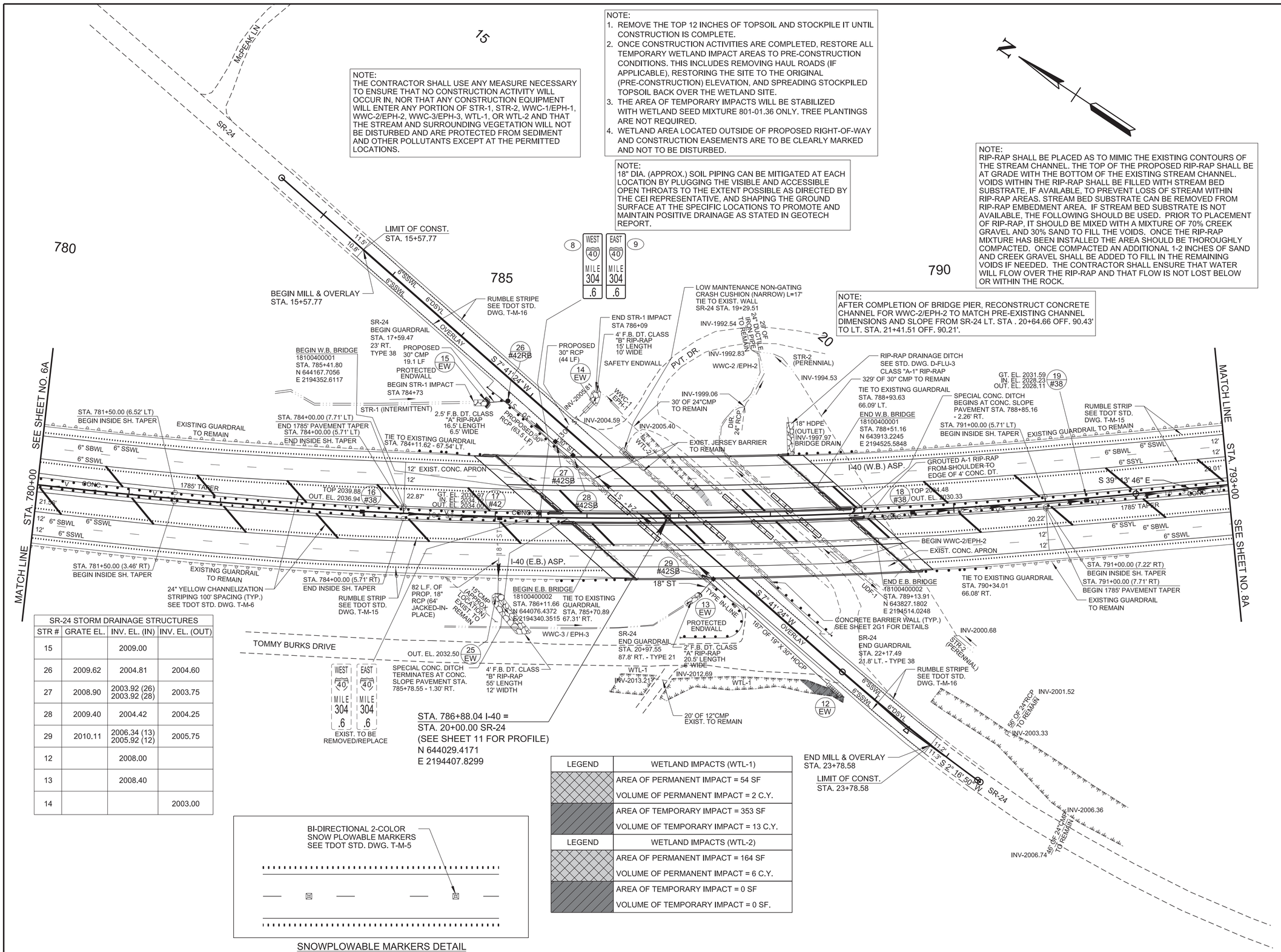
NOTE:
THE CONTRACTOR SHALL USE ANY MEASURE NECESSARY TO ENSURE THAT NO CONSTRUCTION ACTIVITY WILL OCCUR IN, NOR THAT ANY CONSTRUCTION EQUIPMENT WILL ENTER ANY PORTION OF STR-1, STR-2, WWC-1/EPH-1, WWC-2/EPH-2, WWC-3/EPH-3, WTL-1, OR WTL-2 AND THAT THE STREAM AND SURROUNDING VEGETATION WILL NOT BE DISTURBED AND ARE PROTECTED FROM SEDIMENT AND OTHER POLLUTANTS EXCEPT AT THE PERMITTED LOCATIONS.

NOTE:
1. REMOVE THE TOP 12 INCHES OF TOPSOIL AND STOCKPILE IT UNTIL CONSTRUCTION IS COMPLETE.
2. ONCE CONSTRUCTION ACTIVITIES ARE COMPLETED, RESTORE ALL TEMPORARY WETLAND IMPACT AREAS TO PRE-CONSTRUCTION CONDITIONS. THIS INCLUDES REMOVING HAUL ROADS (IF APPLICABLE), RESTORING THE SITE TO THE ORIGINAL (PRE-CONSTRUCTION) ELEVATION, AND SPREADING STOCKPILED TOPSOIL BACK OVER THE WETLAND SITE.
3. THE AREA OF TEMPORARY IMPACTS WILL BE STABILIZED WITH WETLAND SEED MIXTURE 801-01.36 ONLY. TREE PLANTINGS ARE NOT REQUIRED.
4. WETLAND AREA LOCATED OUTSIDE OF PROPOSED RIGHT-OF-WAY AND CONSTRUCTION EASEMENTS ARE TO BE CLEARLY MARKED AND NOT TO BE DISTURBED.

NOTE:
18" DIA. (APPROX.) SOIL PIPING CAN BE MITIGATED AT EACH LOCATION BY PLUGGING THE VISIBLE AND ACCESSIBLE OPEN THROATS TO THE EXTENT POSSIBLE AS DIRECTED BY THE CEI REPRESENTATIVE, AND SHAPING THE GROUND SURFACE AT THE SPECIFIC LOCATIONS TO PROMOTE AND MAINTAIN POSITIVE DRAINAGE AS STATED IN GEOTECH REPORT.

NOTE:
RIP-RAP SHALL BE PLACED AS TO MIMIC THE EXISTING CONTOURS OF THE STREAM CHANNEL. THE TOP OF THE PROPOSED RIP-RAP SHALL BE AT GRADE WITH THE BOTTOM OF THE EXISTING STREAM CHANNEL. VOIDS WITHIN THE RIP-RAP SHALL BE FILLED WITH STREAM BED SUBSTRATE, IF AVAILABLE, TO PREVENT LOSS OF STREAM WITHIN RIP-RAP AREAS. STREAM BED SUBSTRATE CAN BE REMOVED FROM RIP-RAP EMBEDMENT AREA. IF STREAM BED SUBSTRATE IS NOT AVAILABLE, THE FOLLOWING SHOULD BE USED. PRIOR TO PLACEMENT OF RIP-RAP, IT SHOULD BE MIXED WITH A MIXTURE OF 70% CREEK GRAVEL AND 30% SAND TO FILL THE VOIDS. ONCE THE RIP-RAP MIXTURE HAS BEEN INSTALLED THE AREA SHOULD BE THOROUGHLY COMPACTED. ONCE COMPACTED AN ADDITIONAL 1-2 INCHES OF SAND AND CREEK GRAVEL SHALL BE ADDED TO FILL IN THE REMAINING VOIDS IF NEEDED. THE CONTRACTOR SHALL ENSURE THAT WATER WILL FLOW OVER THE RIP-RAP AND THAT FLOW IS NOT LOST BELOW OR WITHIN THE ROCK.

NOTE:
AFTER COMPLETION OF BRIDGE PIER, RECONSTRUCT CONCRETE CHANNEL FOR WWC-2/EPH-2 TO MATCH PRE-EXISTING CHANNEL DIMENSIONS AND SLOPE FROM SR-24 LT. STA . 20+64.66 OFF. 90.43' TO LT. STA. 21+41.51 OFF. 90.21'.



SR-24 STORM DRAINAGE STRUCTURES			
STR #	GRATE EL.	INV. EL. (IN)	INV. EL. (OUT)
15		2009.00	
26	2009.62	2004.81	2004.60
27	2008.90	2003.92 (26) 2003.92 (28)	2003.75
28	2009.40	2004.42	2004.25
29	2010.11	2006.34 (13) 2005.92 (12)	2005.75
12		2008.00	
13		2008.40	
14			2003.00

STA. 786+88.04 I-40 =
STA. 20+00.00 SR-24
(SEE SHEET 11 FOR PROFILE)
N 644029.4171
E 2194407.8299

LEGEND	WETLAND IMPACTS (WTL-1)
	AREA OF PERMANENT IMPACT = 54 SF
	VOLUME OF PERMANENT IMPACT = 2 C.Y.
	AREA OF TEMPORARY IMPACT = 353 SF
	VOLUME OF TEMPORARY IMPACT = 13 C.Y.

LEGEND	WETLAND IMPACTS (WTL-2)
	AREA OF PERMANENT IMPACT = 164 SF
	VOLUME OF PERMANENT IMPACT = 6 C.Y.
	AREA OF TEMPORARY IMPACT = 0 SF
	VOLUME OF TEMPORARY IMPACT = 0 SF.

SNOWPLOWABLE MARKERS DETAIL
SCALE:2X

SEALED BY

RANDALL T. KEMP
REGISTERED ENGINEER
No. 109927
STATE OF TENNESSEE
9/23/2025

COORDINATES ARE NAD 83(1995), ARE DATUM ADJUSTED BY THE FACTOR OF 1.00013 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988 WITH GEOID 03.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

PROPOSED LAYOUT

STA.780+00 TO STA.793+00
SCALE: 1"=50'

9/22/2025 9:19:43 AM
J:\Structures\111685-14_CumberlandCo_I-40_over_SR24_(orig_10705-35)\Drawings\Survey\007A.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.
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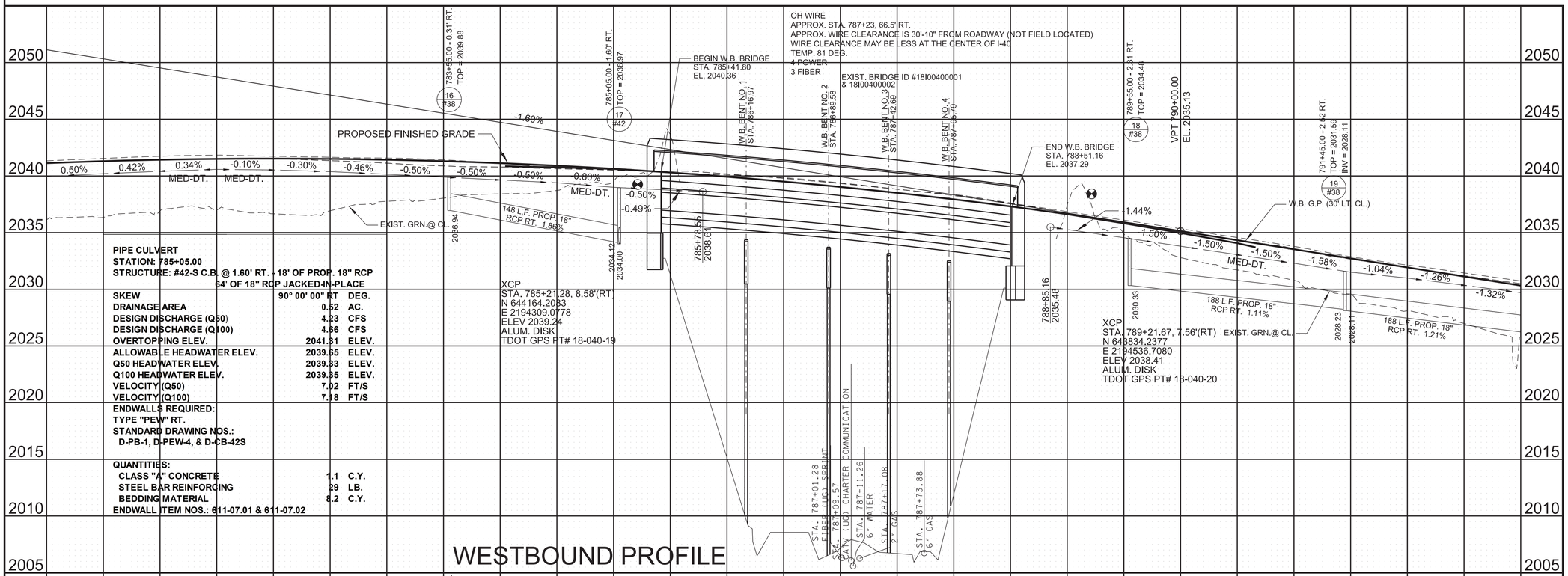
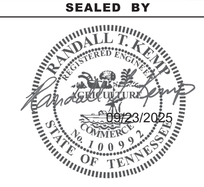
PS&E	2025	18100-4148-04	7B



LINE & GRADE PLANS

SEALED BY



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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

PROPOSED PROFILE

STA.780+00 TO STA.793+00

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

9/22/2025 1:58:29 PM
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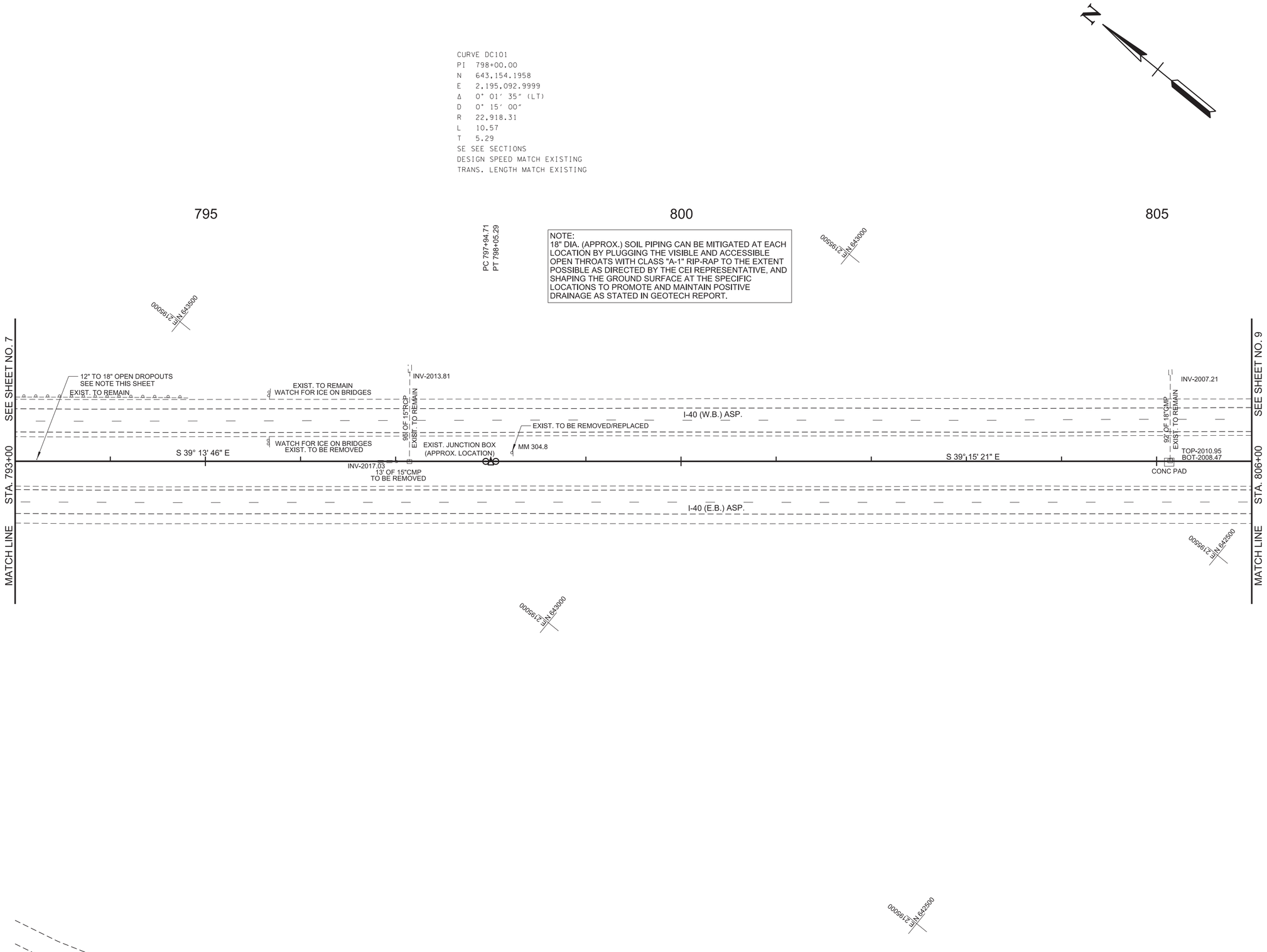
TYPE	YEAR	PROJECT NO.	SHEET NO.
L&G	2025	18100-4148-04	8
PS&E	2025	18100-4148-04	8

CURVE DC101
PI 798+00.00
N 643,154.1958
E 2,195,092.9999
Δ 0° 01' 35" (LT)
D 0° 15' 00"
R 22,918.31
L 10.57
T 5.29
SE SEE SECTIONS
DESIGN SPEED MATCH EXISTING
TRANS. LENGTH MATCH EXISTING



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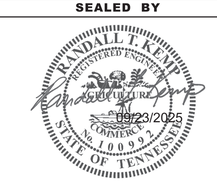


COORDINATES ARE NAD 83(1995), ARE DATUM ADJUSTED BY THE FACTOR OF 1.00013 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988 WITH GEOID 03.

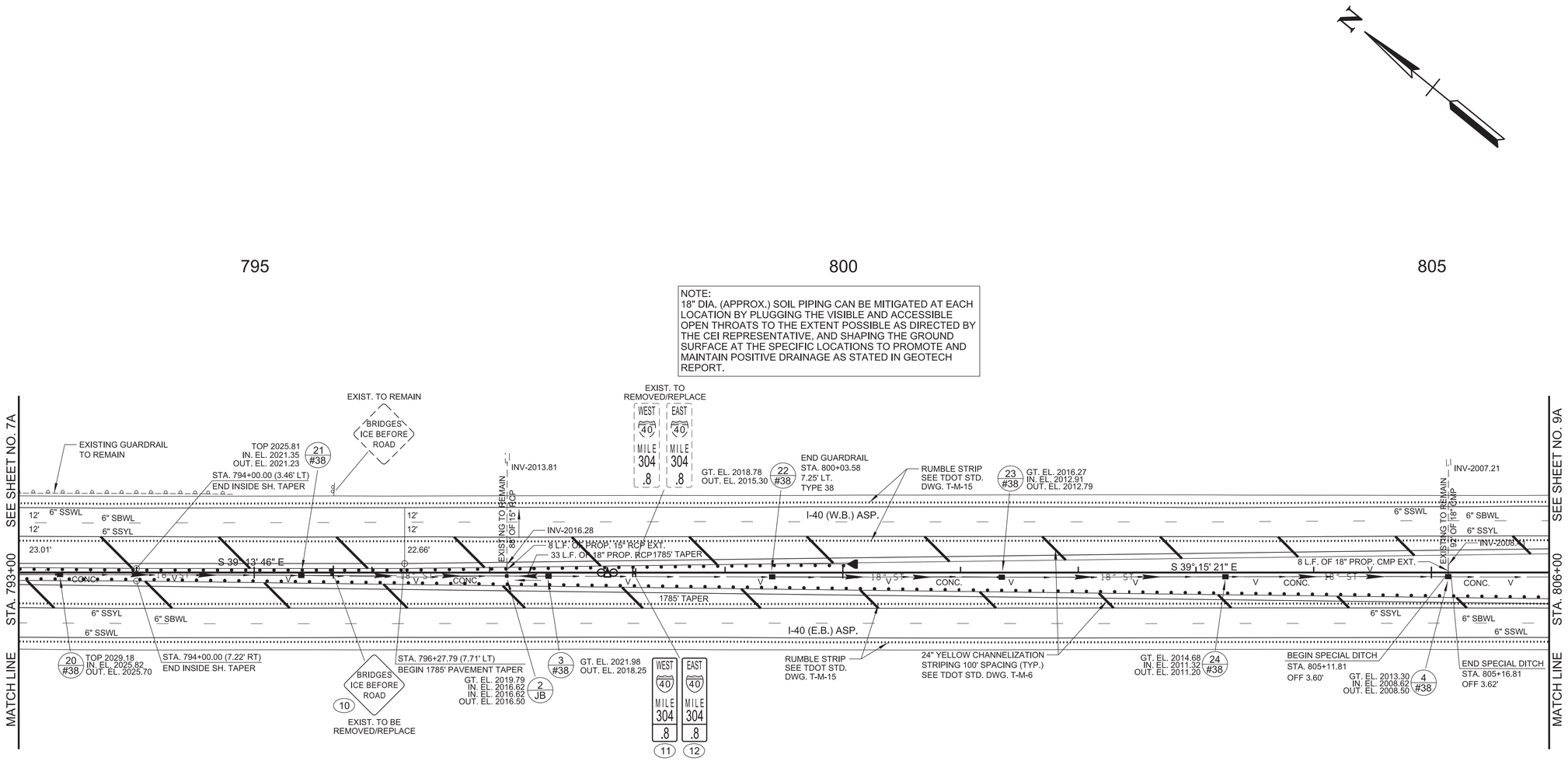
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

PRESENT LAYOUT

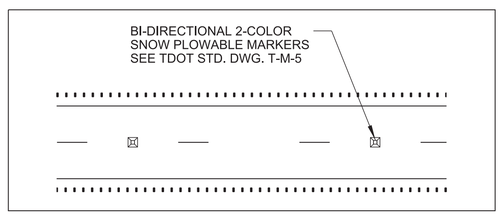
STA.793+00 TO STA.806+00
SCALE: 1"=50'

9/22/2025 9:19:46 AM
J:\Structures\11685-14_CumberlandCo_I-40_over_SR24_(orig_10705-35)\Drawings\Survey\008.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.
L&G	2025	18100-4148-04	8A
PS&E	2025	18100-4148-04	8A

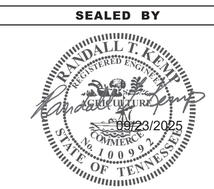


NOTE:
18" DIA. (APPROX.) SOIL PIPING CAN BE MITIGATED AT EACH LOCATION BY PLUGGING THE VISIBLE AND ACCESSIBLE OPEN THROATS TO THE EXTENT POSSIBLE AS DIRECTED BY THE CEI REPRESENTATIVE, AND SHAPING THE GROUND SURFACE AT THE SPECIFIC LOCATIONS TO PROMOTE AND MAINTAIN POSITIVE DRAINAGE AS STATED IN GEOTECH REPORT.



SNOWPLOWABLE MARKERS DETAIL
SCALE:2X

SEALED BY



COORDINATES ARE NAD 83(1995), ARE DATUM ADJUSTED BY THE FACTOR OF 1.00013 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988 WITH GEOID 03.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

PROPOSED LAYOUT

STA.793+00 TO STA.806+00
SCALE: 1"=50'

9/22/2025 9:19:47 AM
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TYPE	YEAR	PROJECT NO.	SHEET NO.
L&G	2025	18100-4148-04	8B
PS&E	2025	18100-4148-04	8B

PIPE CULVERT
STATION: 797+50.00
STRUCTURE: #38-S C.B. @ 3' RT. - 33' OF PROP. 18" RCP
STA. 797+14.53 JB#1 @ 2.86' RT. - 8' OF PROP. 15" RCP EXT.

SKEW	90°	DEG.
DRAINAGE AREA	0.11	AC.
DESIGN DISCHARGE (Q50)	6.17	CFS
DESIGN DISCHARGE (Q100)	6.85	CFS
OVERTOPPING ELEV.	2023.58	ELEV.
ALLOWABLE HEADWATER ELEV.	2023.41	ELEV.
Q50 HEADWATER ELEV.	2022.62	ELEV.
Q100 HEADWATER ELEV.	2022.63	ELEV.
VELOCITY (Q50)	8.99	FT/S
VELOCITY (Q100)	9.21	FT/S

ENDWALLS REQUIRED:
N/A
STANDARD DRAWING NOS.:
D-PB-1, D-PE-18 (A&B), & D-CB-38S, D-JBS-1

QUANTITIES:

CLASS "A" CONCRETE	N/A	C.Y.
STEEL BAR REINFORCING	N/A	LB.
BEDDING MATERIAL	8.9	C.Y.

ENDWALL ITEM NOS.: N/A

* 8' OF ADDITIONAL PIPE LENGTH INCLUDED IN QUANTITIES TO ALLOW FOR ANY DAMAGE THAT MAY OCCUR WHEN REMOVING EXISTING CATCH BASIN.

PIPE CULVERT
STATION: 805+14.32
STRUCTURE: #38-SB C.B. (4'X4') @ 3' RT. - 8' OF PROP. 18" CMP EXT.

SKEW	89° 53' 29" LT	DEG.
DRAINAGE AREA	0.18	AC.
DESIGN DISCHARGE (Q50)	4.42	CFS
DESIGN DISCHARGE (Q100)	4.91	CFS
OVERTOPPING ELEV.	2016.39	ELEV.
ALLOWABLE HEADWATER ELEV.	2016.22	ELEV.
Q50 HEADWATER ELEV.	2014.21	ELEV.
Q100 HEADWATER ELEV.	2014.23	ELEV.
VELOCITY (Q50)	4.56	FT/S
VELOCITY (Q100)	4.74	FT/S

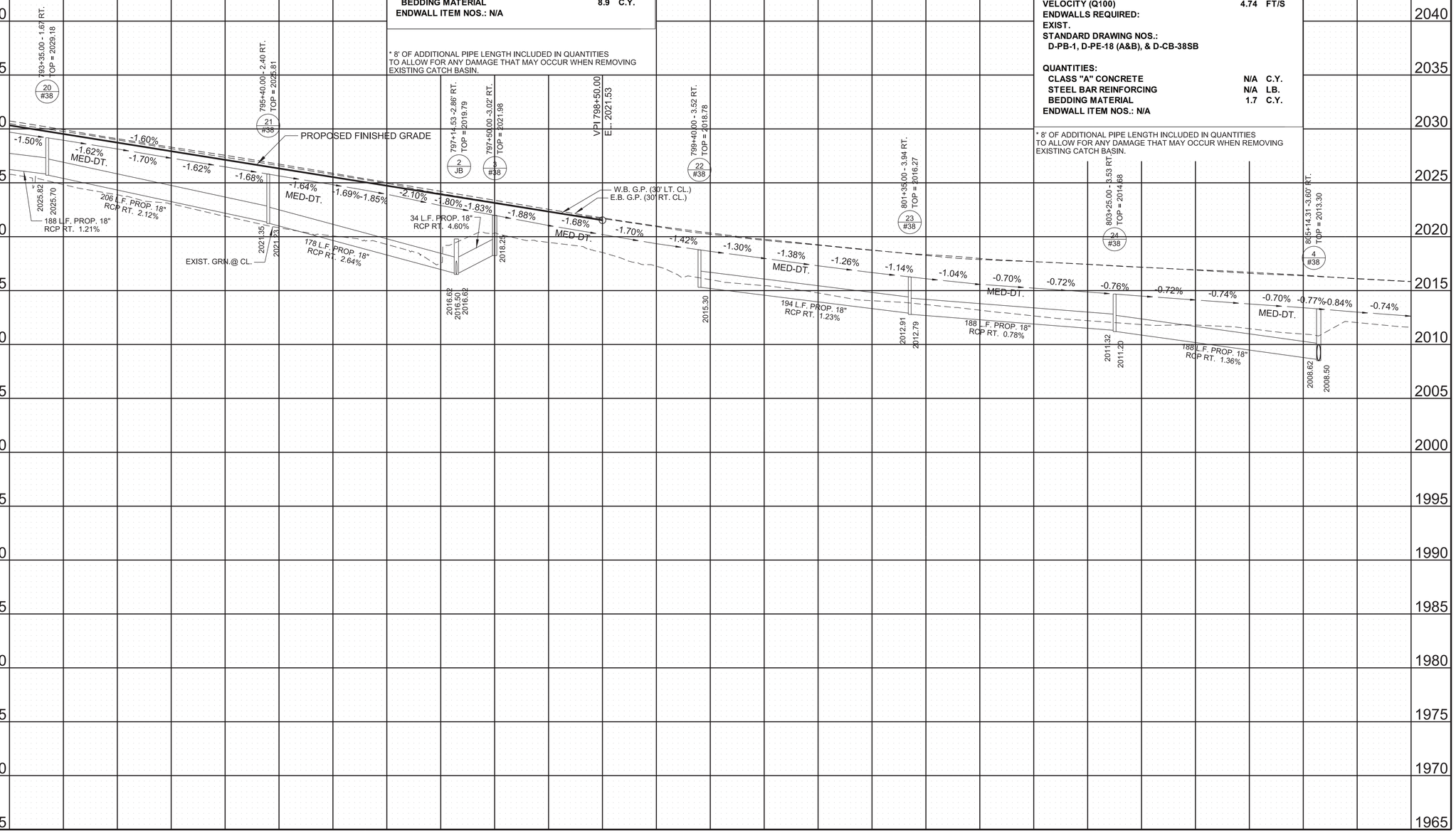
ENDWALLS REQUIRED:
EXIST.
STANDARD DRAWING NOS.:
D-PB-1, D-PE-18 (A&B), & D-CB-38SB

QUANTITIES:

CLASS "A" CONCRETE	N/A	C.Y.
STEEL BAR REINFORCING	N/A	LB.
BEDDING MATERIAL	1.7	C.Y.

ENDWALL ITEM NOS.: N/A

* 8' OF ADDITIONAL PIPE LENGTH INCLUDED IN QUANTITIES TO ALLOW FOR ANY DAMAGE THAT MAY OCCUR WHEN REMOVING EXISTING CATCH BASIN.



LINE & GRADE PLANS

SEALED BY

RANDALL T. KEAL — REGISTERED ENGINEER — LICENSED PROFESSIONAL ENGINEER — 09/23/2025 — COMMISSION NO. 109999 — STATE OF TENNESSEE

COORDINATES ARE NAD 83(1995), ARE DATUM ADJUSTED BY THE FACTOR OF 1.00013 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988 WITH GEOID 03.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

PROPOSED PROFILE

STA.793+00 TO STA.806+00

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

9/22/2025 9:19:49 AM
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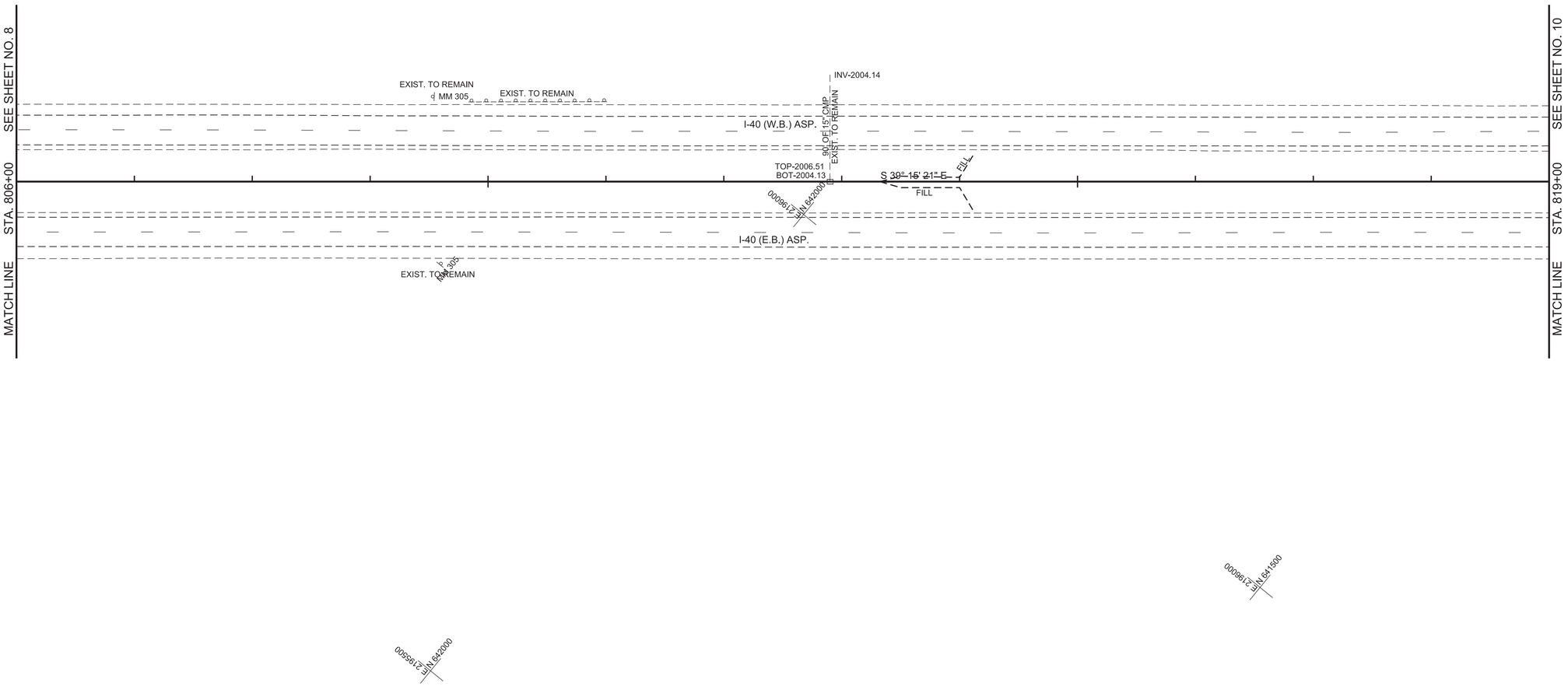
TYPE	YEAR	PROJECT NO.	SHEET NO.
L&G	2025	18100-4148-04	9
PS&E	2025	18100-4148-04	9



SEALED BY

RANDALL T. KEITH
REGISTERED ENGINEER
09/23/2025
STATE OF TENNESSEE

COORDINATES ARE NAD 83(1995), ARE DATUM ADJUSTED BY THE FACTOR OF 1.00013 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988 WITH GEOID 03.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

PRESENT LAYOUT

STA.806+00 TO STA.819+00
SCALE: 1"=50'

9/22/2025 9:19:50 AM
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TYPE	YEAR	PROJECT NO.	SHEET NO.
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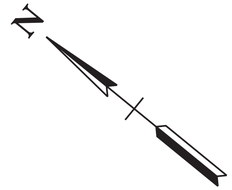
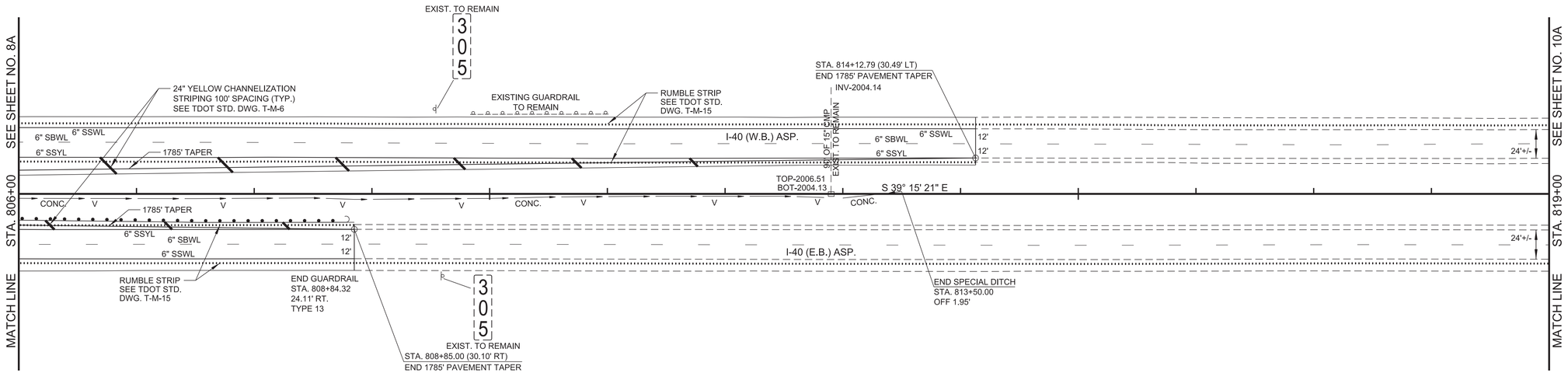
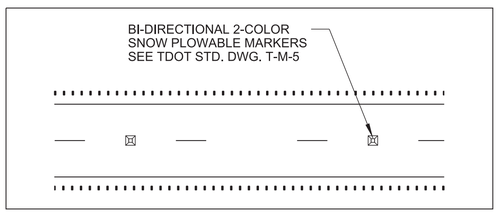
PS&E	2025	18100-4148-04	9A







SNOWPLOWABLE MARKERS DETAIL
SCALE:2X

SEALED BY



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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

PROPOSED LAYOUT

STA.806+00 TO STA.819+00
SCALE: 1"=50'

9/22/2025 9:19:50 AM
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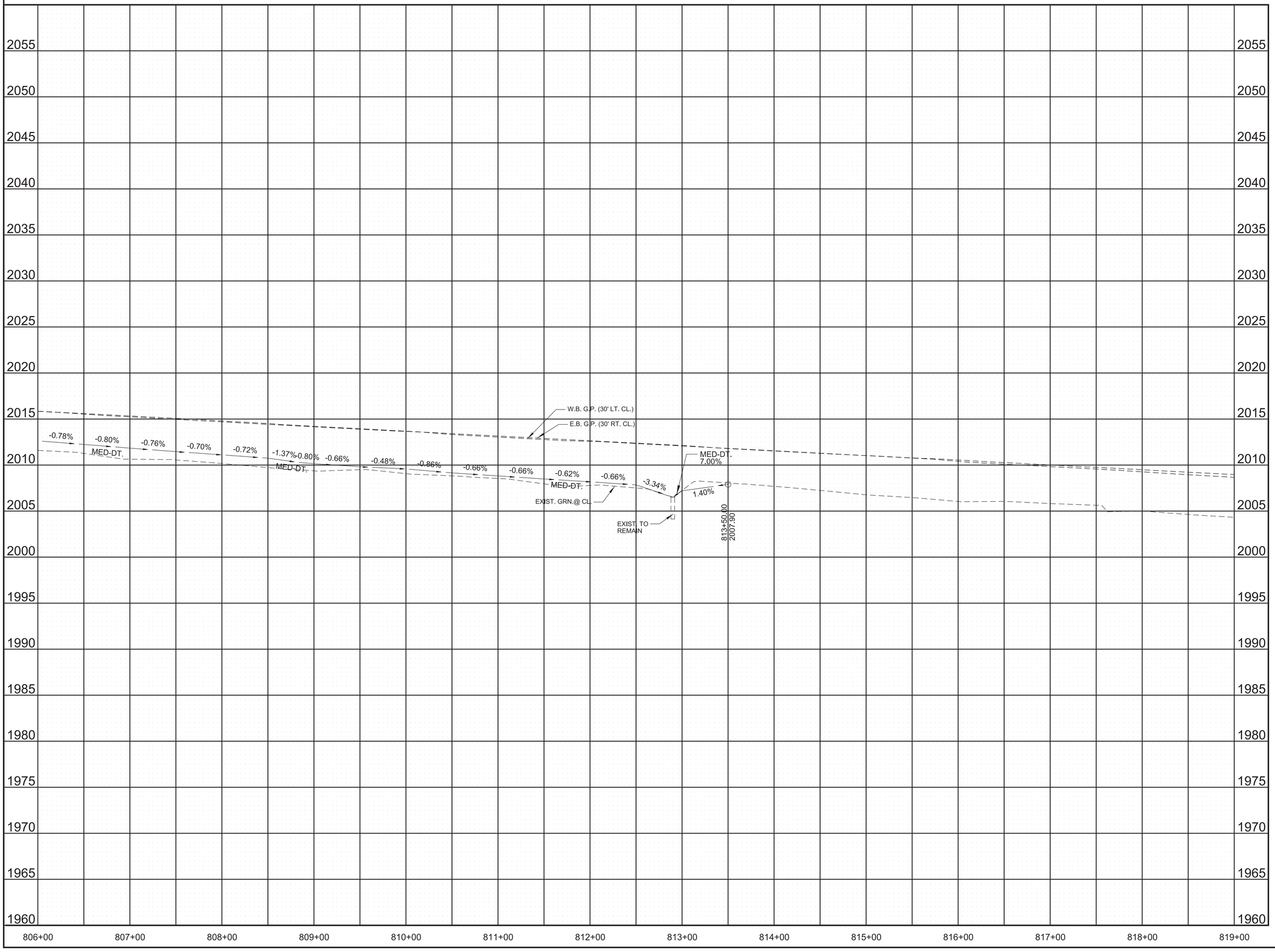
TYPE	YEAR	PROJECT NO.	SHEET NO.
L&G	2025	18100-4148-04	9B
PS&E	2025	18100-4148-04	9B



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LINE & GRADE PLANS

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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

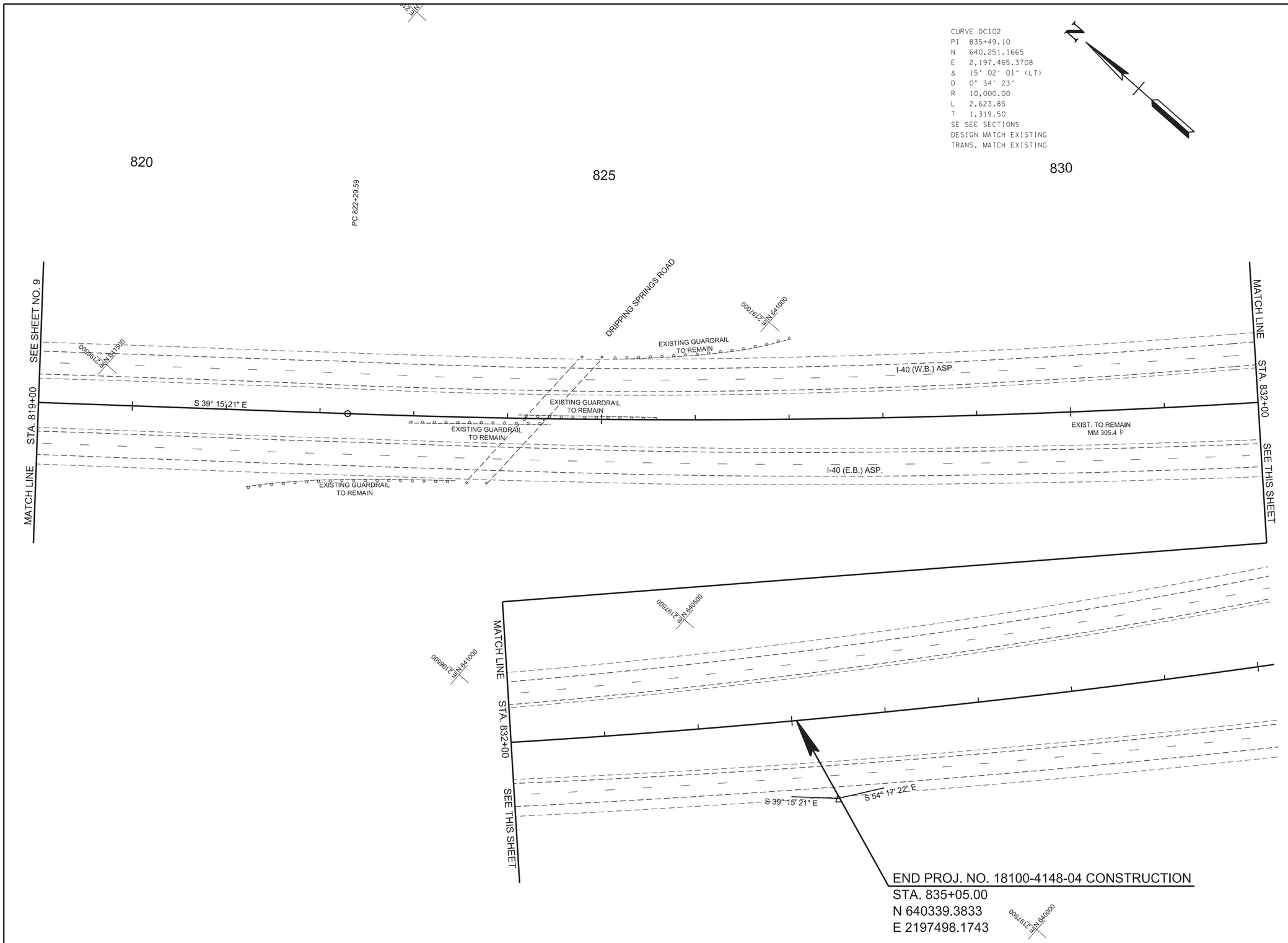
PROPOSED PROFILE

STA.806+00 TO STA.819+00

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

TYPE	YEAR	PROJECT NO.	SHEET NO.
L&G	2025	18100-4148-04	10
PS&E	2025	18100-4148-04	10

CURVE DC102
PI 835+49.10
N 640,251.1665
E 2,197,465.3708
Δ 15° 02' 01" (LT)
D 0° 34' 23"
R 10,000.00
L 2,623.85
T 1,319.50
SE SEE SECTIONS
DESIGN MATCH EXISTING
TRANS. MATCH EXISTING



SEALED BY

RANDALL T. KEMP
REGISTERED ENGINEER
AGRICULTURE
09/23/2025
COMMERCE
No. 100927
STATE OF TENNESSEE

COORDINATES ARE NAD 83(1995), ARE DATUM ADJUSTED BY THE FACTOR OF 1.00013 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988 WITH GEOID 03.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

PRESENT LAYOUT

STA.819+00 TO STA.835+05
SCALE: 1"=50'

9/22/2025 9:19:51 AM
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TYPE	YEAR	PROJECT NO.	SHEET NO.
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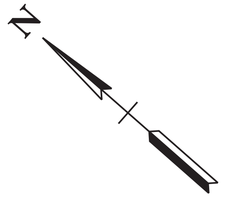
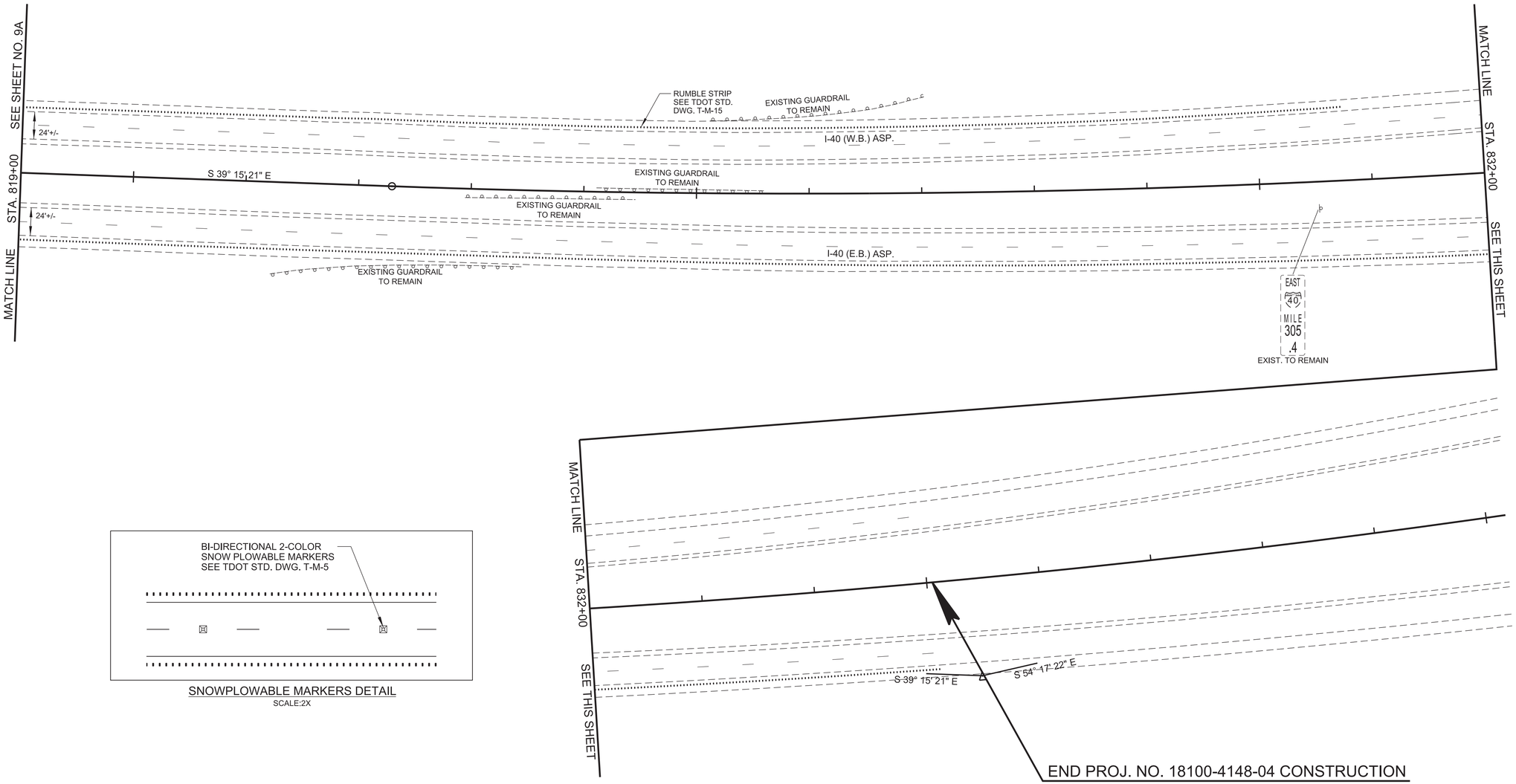
PS&E	2025	18100-4148-04	10A



820

825

830



SNOWPLOWABLE MARKERS DETAIL
SCALE:2X

END PROJ. NO. 18100-4148-04 CONSTRUCTION
STA. 835+05.00
N 640339.3833
E 2197498.1743

SEALED BY



COORDINATES ARE NAD 83(1995), ARE DATUM ADJUSTED BY THE FACTOR OF 1.00013 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988 WITH GEOID 03.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

PROPOSED LAYOUT

STA.819+00 TO STA.835+05
SCALE: 1"=50'

9/22/2025 9:19:52 AM
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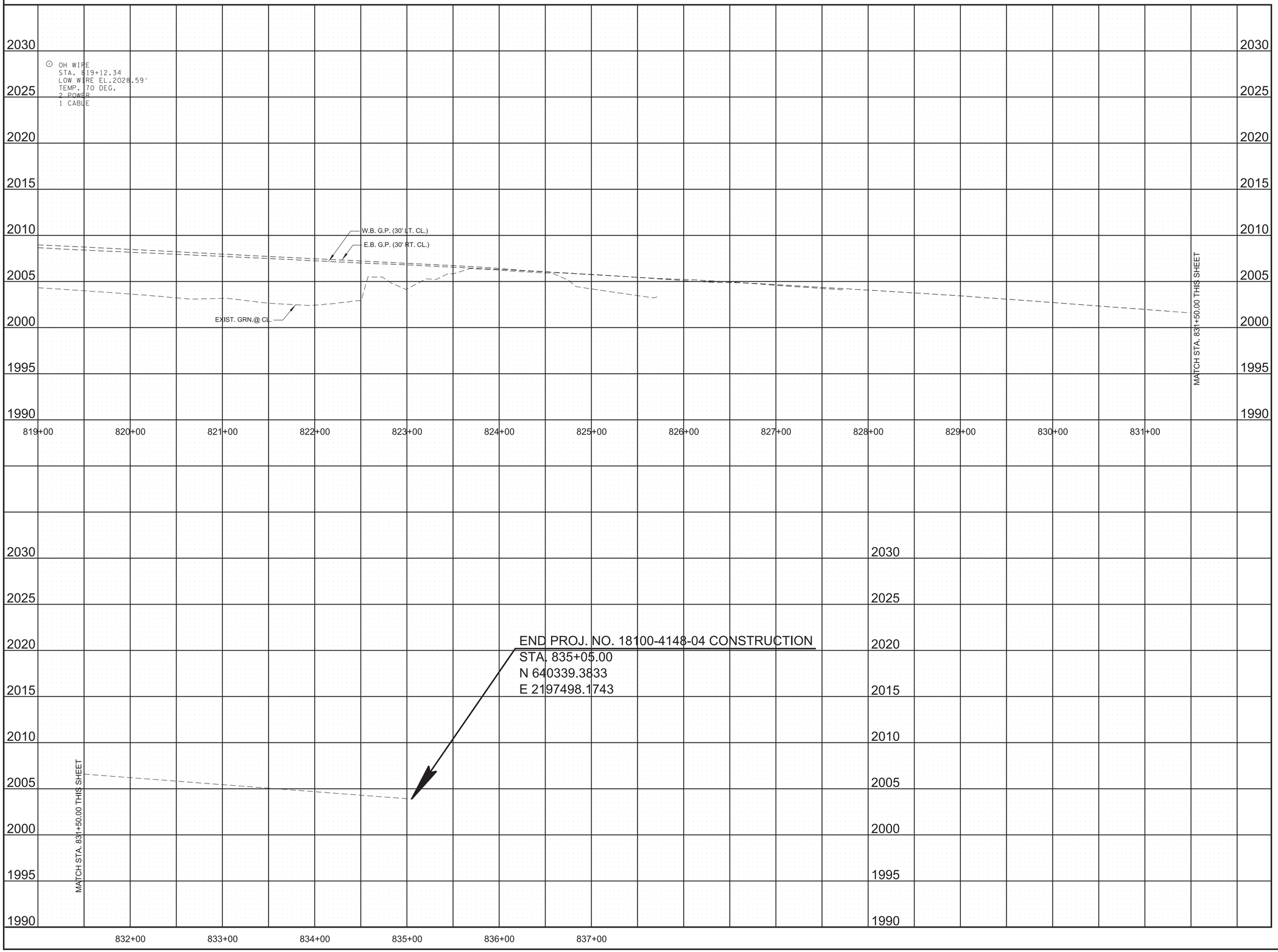
TYPE	YEAR	PROJECT NO.	SHEET NO.
L&G	2025	18100-4148-04	10B
PS&E	2025	18100-4148-04	10B



LINE & GRADE PLANS

SEALED BY



COORDINATES ARE NAD 83(1995), ARE DATUM ADJUSTED BY THE FACTOR OF 1.00013 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988 WITH GEOID 03.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

PROPOSED PROFILE

STA.819+00 TO STA.835+05

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

9/22/2025 9:19:52 AM
J:\Structures\11685-14_CumberlandCo_I-40_over_SR24_(orig_10705-35)\Drawings\Survey\010B.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.
L&G	2025	18100-4148-04	11
PS&E	2025	18100-4148-04	11

PIPE CULVERT
STATION: 18+53.91 SR-24
STRUCTURE: #42-SB C.B. @ 18.5' RT. - 43' OF 30" RCP

SKEW	86° 25' 25" RT	DEG.
DRAINAGE AREA (C.B.)	0.13	AC.
DRAINAGE AREA (TOTAL)	8.62	AC.
DESIGN DISCHARGE (Q50) (C.B.)	1.12	CFS
DESIGN DISCHARGE (Q50) (TOTAL)	18.90	CFS
DESIGN DISCHARGE (Q100) (C.B.)	1.23	CFS
DESIGN DISCHARGE (Q100) (TOTAL)	20.74	CFS
OVERTOPPING ELEV.	2010.20	ELEV.
ALLOWABLE HEADWATER ELEV.	2010.09	ELEV.
Q50 HEADWATER ELEV.	2009.05	ELEV.
Q100 HEADWATER ELEV.	2009.06	ELEV.
VELOCITY (Q50)	8.98	FT/S
VELOCITY (Q100)	9.18	FT/S

ENDWALLS REQUIRED:
SAFETY ENDWALLS
STANDARD DRAWING NOS.:
D-PB-1, D-CB-42SB, & D-PE-30 (A&B)

QUANTITIES:

CLASS "A" CONCRETE		C.Y.
STEEL BAR REINFORCING		LB.
BEDDING MATERIAL	12.5	C.Y.

ENDWALL ITEM NOS.: 611-07.61

PIPE CULVERT
STATION: 20+81.27 SR-24
STRUCTURE: #42-SB C.B. @ 17' RT. - 200' OF 24" RCP

SKEW	0° RT	DEG.
DRAINAGE AREA (C.B.)	0.11	AC.
DRAINAGE AREA (TOTAL)	7.19	AC.
DESIGN DISCHARGE (Q50) (C.B.)	0.18	CFS
DESIGN DISCHARGE (Q50) (TOTAL)	15.14	CFS
DESIGN DISCHARGE (Q100) (C.B.)	0.20	CFS
DESIGN DISCHARGE (Q100) (TOTAL)	16.60	CFS
OVERTOPPING ELEV.	2010.55	ELEV.
ALLOWABLE HEADWATER ELEV.	2010.27	ELEV.
Q50 HEADWATER ELEV.	2010.17	ELEV.
Q100 HEADWATER ELEV.	2010.18	ELEV.
VELOCITY (Q50)	6.48	FT/S
VELOCITY (Q100)	6.15	FT/S

ENDWALLS REQUIRED:
NONE
STANDARD DRAWING NOS.:
D-PB-1 & D-CB-42SB

QUANTITIES:

CLASS "A" CONCRETE		C.Y.
STEEL BAR REINFORCING		LB.
BEDDING MATERIAL	53.2	C.Y.

ENDWALL ITEM NOS.:

PIPE CULVERT
STATION: 20+81.27 SR-24
STRUCTURE: PEW @ 38.58' RT. - 20' OF 18" RCP

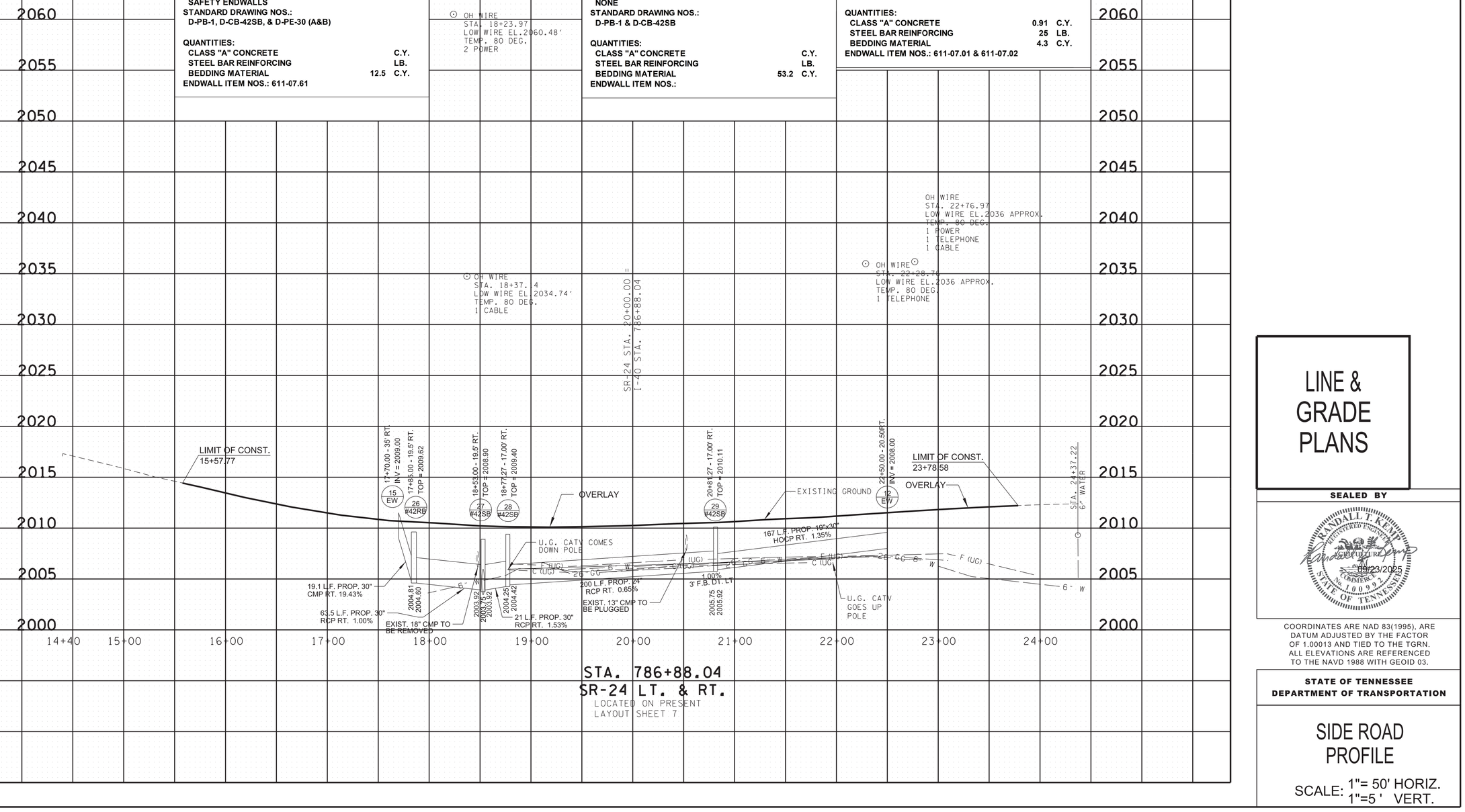
SKEW	90° RT	DEG.
DRAINAGE AREA	2.46	AC.
DESIGN DISCHARGE (Q50)	6.27	CFS
DESIGN DISCHARGE (Q100)	6.88	CFS
OVERTOPPING ELEV.	2010.55	ELEV.
ALLOWABLE HEADWATER ELEV.	2010.27	ELEV.
Q50 HEADWATER ELEV.	2009.91	ELEV.
Q100 HEADWATER ELEV.	2010.02	ELEV.
VELOCITY (Q50)	11.80	FT/S
VELOCITY (Q100)	11.97	FT/S

ENDWALLS REQUIRED:
PROTECTED ENDWALLS
STANDARD DRAWING NOS.:
D-PB-1, D-PEW-1 & D-PEW-2

QUANTITIES:

CLASS "A" CONCRETE	0.91	C.Y.
STEEL BAR REINFORCING	25	LB.
BEDDING MATERIAL	4.3	C.Y.

ENDWALL ITEM NOS.: 611-07.01 & 611-07.02



STA. 786+88.04
SR-24 LT. & RT.
LOCATED ON PRESENT LAYOUT SHEET 7

LINE & GRADE PLANS

SEALED BY

COORDINATES ARE NAD 83(1995), ARE DATUM ADJUSTED BY THE FACTOR OF 1.00013 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988 WITH GEOID 03.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

SIDE ROAD PROFILE

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

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TYPE	YEAR	PROJECT NO.	SHEET NO.
L&G	2025	18100-4148-04	12
PS&E	2025	18100-4148-04	12

DRAINAGE DATA FOR PIPE
STATION: 18+53.91 SR-24
PROPOSED STRUCTURE:
#42-SB C.B. @ 18.5' RT. - 43' OF 30" RCP

INLET	2003.75	ELEV.
OUTLET	2003.00	ELEV.
SKEW	86° 25' 25" RT	DEG.
FLOW	RIGHT TO LEFT	
DRAINAGE AREA	8.62	AC.
TERRAIN	ROLLING	
IMPERVIOUS AREA	10	%
DISCHARGE (Q50)	18.90	CFS
DISCHARGE (Q100)	20.74	CFS
VELOCITY (Q50)	8.98	FT/S
VELOCITY (Q100)	9.18	FT/S

DRAINAGE DATA FOR PIPE
STATION: 20+81.27 SR-24
PROPOSED STRUCTURE:
#42-SB C.B. @ 17' RT. - 200' OF 24" RCP

INLET	2005.75	ELEV.
OUTLET	2004.42	ELEV.
SKEW	0° RT	DEG.
FLOW	RIGHT TO LEFT	
DRAINAGE AREA	7.19	AC.
TERRAIN	ROLLING	
IMPERVIOUS AREA	4	%
DISCHARGE (Q50)	15.14	CFS
DISCHARGE (Q100)	16.50	CFS
VELOCITY (Q50)	6.48	FT/S
VELOCITY (Q100)	6.15	FT/S

DRAINAGE DATA FOR PIPE
STATION: 20+81.27 SR-24
PROPOSED STRUCTURE:
PEW @ 38.58' RT. - 20' OF 18" RCP

INLET	2008.40	ELEV.
OUTLET	2006.34	ELEV.
SKEW	90° RT	DEG.
FLOW	RIGHT TO LEFT	
DRAINAGE AREA	2.46	AC.
TERRAIN	ROLLING	
IMPERVIOUS AREA	4	%
DISCHARGE (Q50)	6.27	CFS
DISCHARGE (Q100)	6.88	CFS
VELOCITY (Q50)	11.80	FT/S
VELOCITY (Q100)	11.97	FT/S

745 750 755 760 765 770 775 780 785 790 795

BEGIN PROJ. NO. 18100-4148-04 CONSTRUCTION
STA. 740+65.00
N 648318.6689
E 2192779.5209

MATCH LINE STA. 798+00
SEE SHEET NO. 13

STR-2 (PERENNIAL)
WWC-2/EPH-2
WTL-2
WWC-1/EPH-1
S 7° 41' 24" W
STR-1 (INTERMITTENT)
UDF-1
STR-2 (PERENNIAL)
S 7° 41' 24" W
S 82° 18' 50" W
WTL-1
WWC-3/EPH-3
S 39° 13' 46" E
S 13° 04' 46" E
I-40 (W.B.)
I-40 (E.B.)

STA. 786+88.04 I-40 =
STA. 20+00.00 SR-24
(SEE SHEET 11 FOR PROFILE)
N 644029.4171
E 2194407.8299
BRIDGE ID NO'S 18100400001
& 18100400002

DRAINAGE DATA FOR PIPE
STATION: 767+50.00
PROPOSED STRUCTURE:
#39-S C.B. @ 3.25' LT. 88' OF PROP. 24" RCP

INLET	2014.50	ELEV.
OUTLET	2013.75	ELEV.
SKEW	123° 41' 58" LT	DEG.
FLOW	RIGHT TO LEFT	
DRAINAGE AREA	0.28	AC.
TERRAIN	ROLLING	
IMPERVIOUS AREA	75	%
DISCHARGE (Q50)	14.06	CFS
DISCHARGE (Q100)	15.62	CFS
VELOCITY (Q50)	7.08	FT/S
VELOCITY (Q100)	7.24	FT/S

DRAINAGE DATA FOR PIPE
STATION: 785+05.00
PROPOSED STRUCTURE:
#42-S C.B. @ 1.60' RT. 82' OF PROP. 18" RCP

INLET	2014.50	ELEV.
OUTLET	2013.75	ELEV.
SKEW	90° 00' 00" RT	DEG.
FLOW	RIGHT TO LEFT	
DRAINAGE AREA	0.52	AC.
TERRAIN	ROLLING	
IMPERVIOUS AREA	75	%
DISCHARGE (Q50)	4.23	CFS
DISCHARGE (Q100)	4.66	CFS
VELOCITY (Q50)	7.02	FT/S
VELOCITY (Q100)	7.18	FT/S

DRAINAGE DATA FOR PIPE
STATION: 797+50.00
PROPOSED STRUCTURE:
#38-S C.B. @ 3' RT. - 33' OF PROP. 18" RCP
STA. 797+14.53 JB#1 @ 2.86' RT. -8' OF PROP. 15" RCP EXT.

INLET	2018.25	ELEV.
OUTLET	2016.62	ELEV.
SKEW	90°	DEG.
FLOW	RIGHT TO LEFT	
DRAINAGE AREA	0.11	AC.
TERRAIN	ROLLING	
IMPERVIOUS AREA	86	%
DISCHARGE (Q50)	6.17	CFS
DISCHARGE (Q100)	6.85	CFS
VELOCITY (Q50)	8.99	FT/S
VELOCITY (Q100)	9.21	FT/S

SEALED BY

RANDALL T. KEMP
REGISTERED ENGINEER
No. 109927
STATE OF TENNESSEE
09/23/2025

COORDINATES ARE NAD 83(1995), ARE DATUM ADJUSTED BY THE FACTOR OF 1.00013 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988 WITH GEOID 03.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

DRAINAGE MAP

STA.740+74.79 TO STA.798+00
SCALE: 1"=200'

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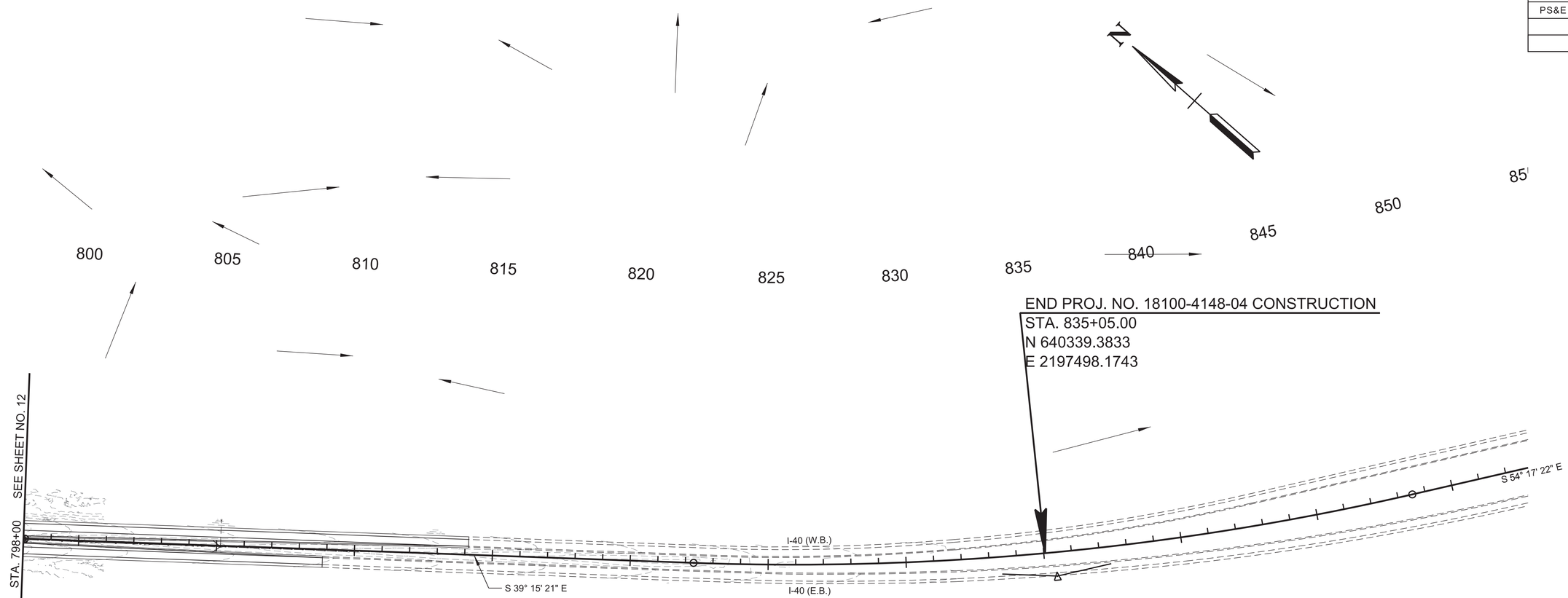
TYPE	YEAR	PROJECT NO.	SHEET NO.
L&G	2025	18100-4148-04	13
PS&E	2025	18100-4148-04	13



DRAINAGE DATA FOR PIPE
STATION: 805+14.32
PROPOSED STRUCTURE:
#38-SB C.B. (4'X4') @ 3' RT. - 8' OF PROP. 18" CMP EXT

INLET	2008.50	ELEV.
OUTLET	2007.21	ELEV.
SKEW	89° 53' 29" LT	DEG.
FLOW	RIGHT TO LEFT	
DRAINAGE AREA	0.18	AC.
TERRAIN	ROLLING	
IMPERVIOUS AREA	83	%
DISCHARGE (Q50)	4.42	CFS
DISCHARGE (Q100)	4.91	CFS
VELOCITY (Q50)	4.56	FT/S
VELOCITY (Q100)	4.74	FT/S

SEALED BY

RANDALL T. KEMP
REGISTERED ENGINEER
09/23/2025
NO. 100997
STATE OF TENNESSEE

COORDINATES ARE NAD 83(1995), ARE DATUM ADJUSTED BY THE FACTOR OF 1.00013 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988 WITH GEOID 03.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

DRAINAGE MAP

STA.798+00 TO STA.832+95
SCALE: 1"=200'

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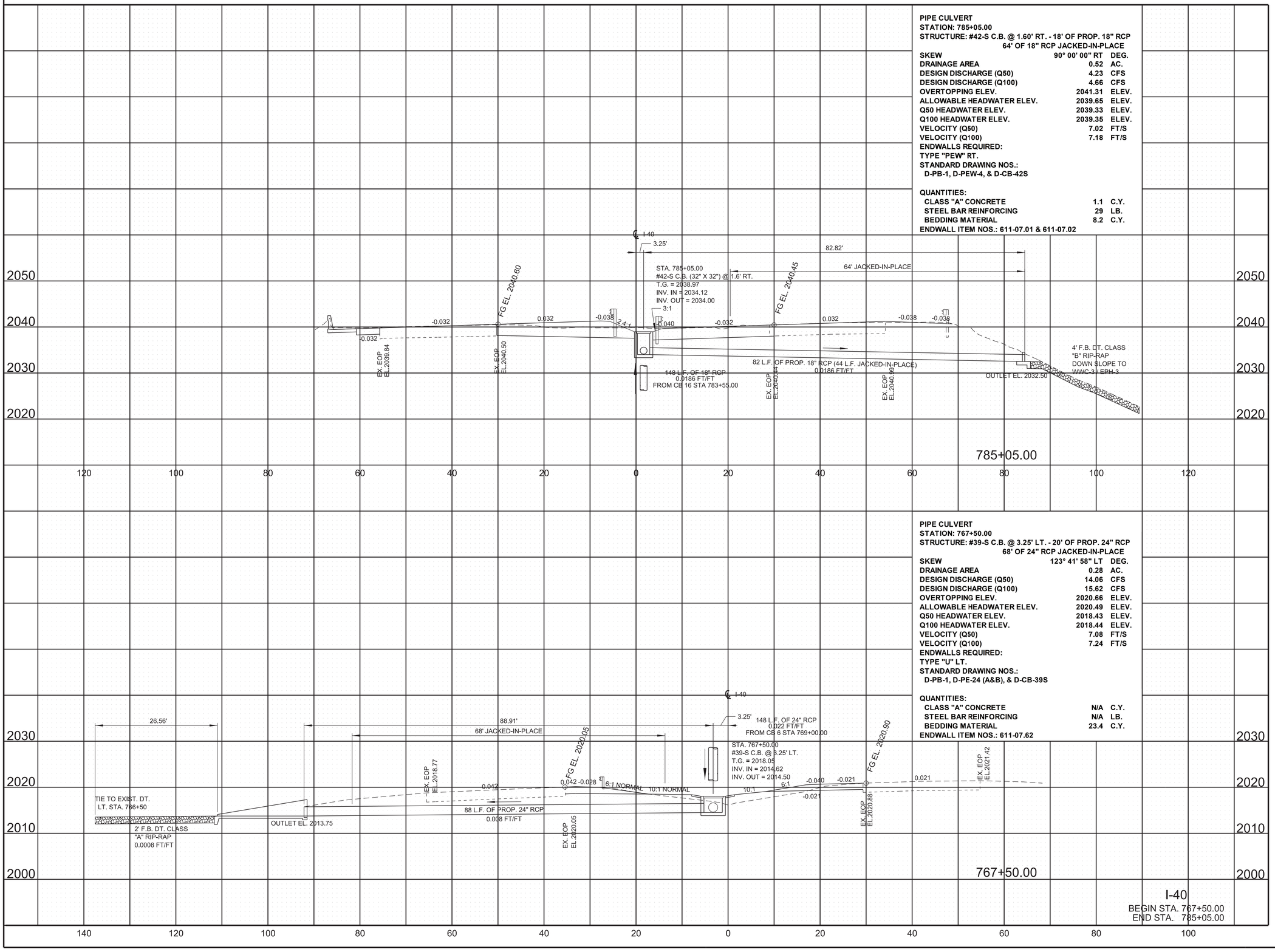
TYPE	YEAR	PROJECT NO.	SHEET NO.
L&G	2025	18100-4148-04	14
PS&E	2025	18100-4148-04	14



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LINE & GRADE PLANS

SEALED BY

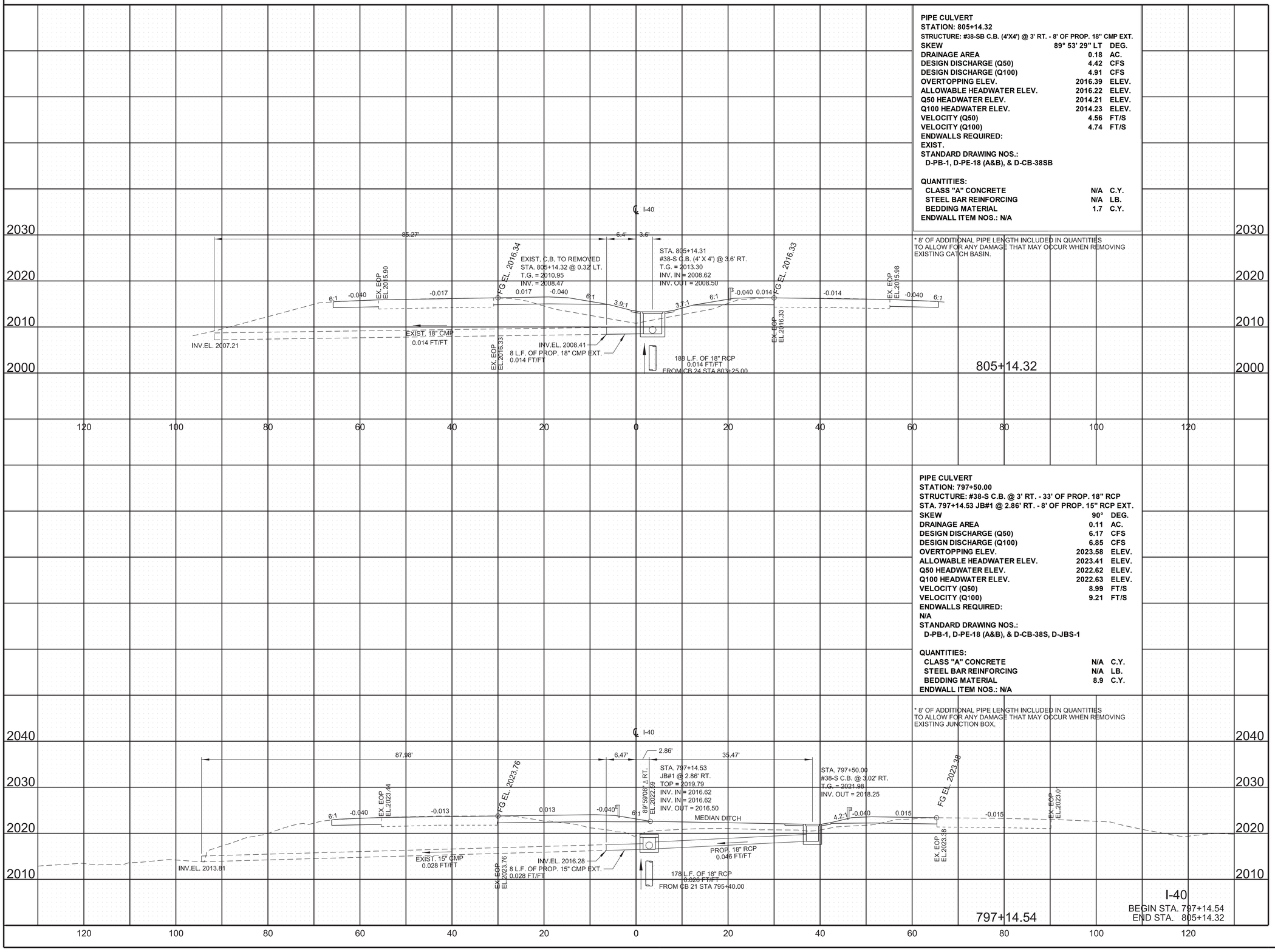
RANDALL T. KEMP
REGISTERED ENGINEER
AGRICULTURE
09/23/2025
NO. 100992
STATE OF TENNESSEE

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

CULVERT SECTION

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

TYPE	YEAR	PROJECT NO.	SHEET NO.
L&G	2025	18100-4148-04	15
PS&E	2025	18100-4148-04	15



PIPE CULVERT
STATION: 805+14.32
STRUCTURE: #38-SB C.B. (4'X4') @ 3' RT. - 8' OF PROP. 18" CMP EXT.

SKEW	**89° 53' 29" LT**	**DEG.**
DRAINAGE AREA	**0.18**	**AC.**
DESIGN DISCHARGE (Q50)	**4.42**	**CFS**
DESIGN DISCHARGE (Q100)	**4.91**	**CFS**
OVERTOPPING ELEV.	**2016.39**	**ELEV.**
ALLOWABLE HEADWATER ELEV.	**2016.22**	**ELEV.**
Q50 HEADWATER ELEV.	**2014.21**	**ELEV.**
Q100 HEADWATER ELEV.	**2014.23**	**ELEV.**
VELOCITY (Q50)	**4.56**	**FT/S**
VELOCITY (Q100)	**4.74**	**FT/S**

ENDWALLS REQUIRED:
EXIST.
STANDARD DRAWING NOS.:
D-PB-1, D-PE-18 (A&B), & D-CB-38SB

QUANTITIES:

CLASS "A" CONCRETE	**N/A**	**C.Y.**
STEEL BAR REINFORCING	**N/A**	**LB.**
BEDDING MATERIAL	**1.7**	**C.Y.**

ENDWALL ITEM NOS.: N/A

* 8' OF ADDITIONAL PIPE LENGTH INCLUDED IN QUANTITIES TO ALLOW FOR ANY DAMAGE THAT MAY OCCUR WHEN REMOVING EXISTING CATCH BASIN.

PIPE CULVERT
STATION: 797+50.00
STRUCTURE: #38-S C.B. @ 3' RT. - 33' OF PROP. 18" RCP
STA. 797+14.53 JB#1 @ 2.86' RT. - 8' OF PROP. 15" RCP EXT.

SKEW	**90°**	**DEG.**
DRAINAGE AREA	**0.11**	**AC.**
DESIGN DISCHARGE (Q50)	**6.17**	**CFS**
DESIGN DISCHARGE (Q100)	**6.85**	**CFS**
OVERTOPPING ELEV.	**2023.58**	**ELEV.**
ALLOWABLE HEADWATER ELEV.	**2023.41**	**ELEV.**
Q50 HEADWATER ELEV.	**2022.62**	**ELEV.**
Q100 HEADWATER ELEV.	**2022.63**	**ELEV.**
VELOCITY (Q50)	**8.99**	**FT/S**
VELOCITY (Q100)	**9.21**	**FT/S**

ENDWALLS REQUIRED:
N/A
STANDARD DRAWING NOS.:
D-PB-1, D-PE-18 (A&B), & D-CB-38S, D-JBS-1

QUANTITIES:

CLASS "A" CONCRETE	**N/A**	**C.Y.**
STEEL BAR REINFORCING	**N/A**	**LB.**
BEDDING MATERIAL	**8.9**	**C.Y.**

ENDWALL ITEM NOS.: N/A

* 8' OF ADDITIONAL PIPE LENGTH INCLUDED IN QUANTITIES TO ALLOW FOR ANY DAMAGE THAT MAY OCCUR WHEN REMOVING EXISTING JUNCTION BOX.

LINE & GRADE PLANS

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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

CULVERT SECTION

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

I-40
BEGIN STA. 797+14.54
END STA. 805+14.32

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TYPE	YEAR	PROJECT NO.	SHEET NO.
L&G	2025	18100-4148-04	16
PS&E	2025	18100-4148-04	16

PIPE CULVERT
STATION: 20+81.27 SR-24
STRUCTURE: #42-SB C.B. @ 17' RT. - 200' OF 24" RCP

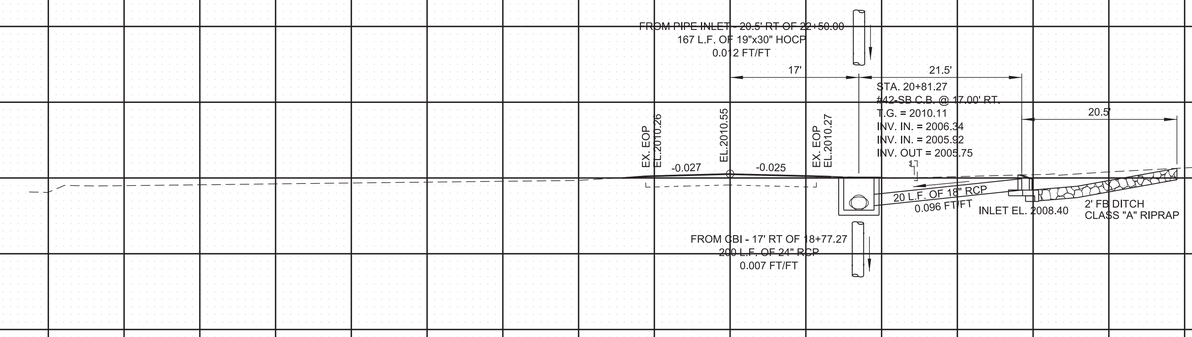
SKEW	0° RT	DEG.
DRAINAGE AREA (C.B.)	0.11	AC.
DRAINAGE AREA (TOTAL)	7.19	AC.
DESIGN DISCHARGE (Q50) (C.B.)	0.18	CFS
DESIGN DISCHARGE (Q50) (TOTAL)	15.14	CFS
DESIGN DISCHARGE (Q100) (C.B.)	0.20	CFS
DESIGN DISCHARGE (Q100) (TOTAL)	16.60	CFS
OVERTOPPING ELEV.	2010.55	ELEV.
ALLOWABLE HEADWATER ELEV.	2010.27	ELEV.
Q50 HEADWATER ELEV.	2010.17	ELEV.
Q100 HEADWATER ELEV.	2010.18	ELEV.
VELOCITY (Q50)	6.48	FT/S
VELOCITY (Q100)	6.15	FT/S

ENDWALLS REQUIRED:
NONE
STANDARD DRAWING NOS.:
D-PB-1 & D-CB-42SB

QUANTITIES:

CLASS "A" CONCRETE		C.Y.
STEEL BAR REINFORCING		LB.
BEDDING MATERIAL	53.2	C.Y.

ENDWALL ITEM NOS.:



PIPE CULVERT
STATION: 20+81.27 SR-24
STRUCTURE: PEW @ 38.58' RT. - 20' OF 18" RCP

SKEW	90° RT	DEG.
DRAINAGE AREA	2.46	AC.
DESIGN DISCHARGE (Q50)	6.27	CFS
DESIGN DISCHARGE (Q100)	6.88	CFS
OVERTOPPING ELEV.	2010.55	ELEV.
ALLOWABLE HEADWATER ELEV.	2010.27	ELEV.
Q50 HEADWATER ELEV.	2009.91	ELEV.
Q100 HEADWATER ELEV.	2010.02	ELEV.
VELOCITY (Q50)	11.80	FT/S
VELOCITY (Q100)	11.97	FT/S

ENDWALLS REQUIRED:
PROTECTED ENDWALLS
STANDARD DRAWING NOS.:
D-PB-1, D-PEW-1 & D-PEW-2

QUANTITIES:

CLASS "A" CONCRETE	0.91	C.Y.
STEEL BAR REINFORCING	25	LB.
BEDDING MATERIAL	4.3	C.Y.

ENDWALL ITEM NOS.: 611-07.01 & 611-07.02

PIPE CULVERT
STATION: 18+53.91 SR-24
STRUCTURE: #42-SB C.B. @ 18.5' RT. - 43' OF 30" RCP

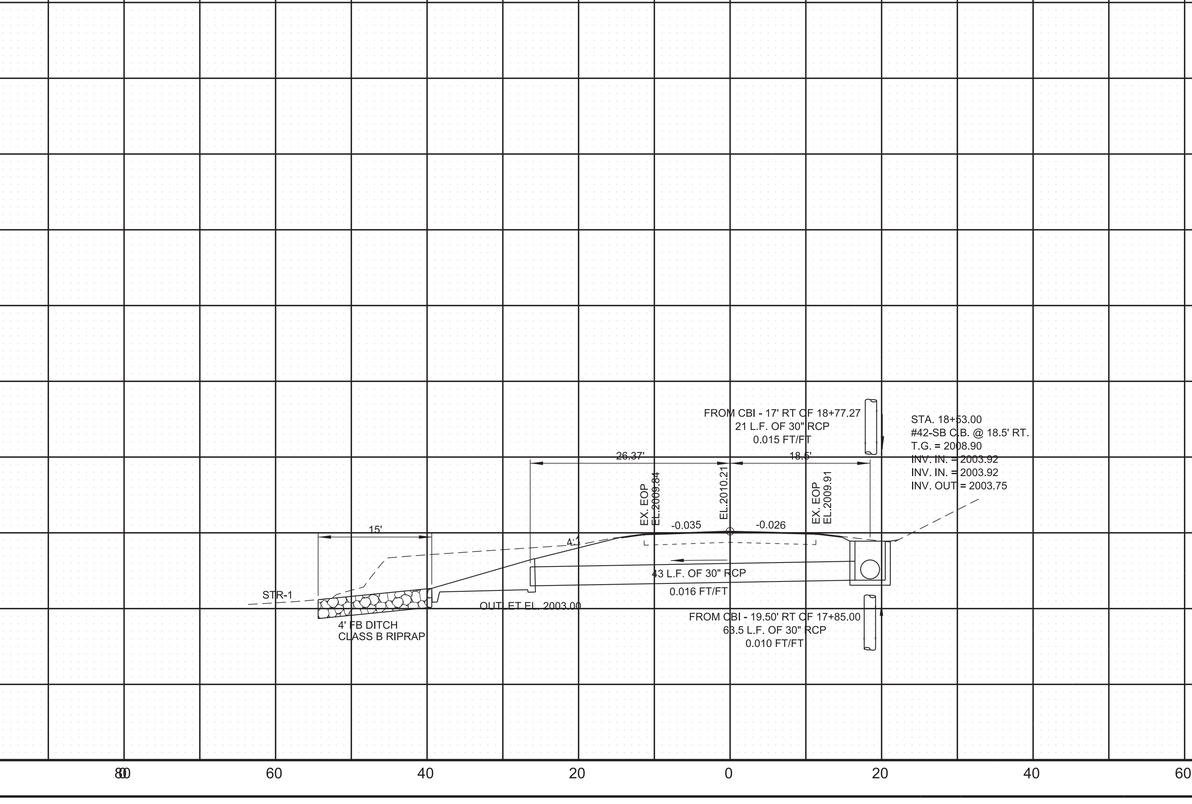
SKEW	86° 25' 25" RT	DEG.
DRAINAGE AREA (C.B.)	0.13	AC.
DRAINAGE AREA (TOTAL)	8.62	AC.
DESIGN DISCHARGE (Q50) (C.B.)	1.12	CFS
DESIGN DISCHARGE (Q50) (TOTAL)	18.90	CFS
DESIGN DISCHARGE (Q100) (C.B.)	1.23	CFS
DESIGN DISCHARGE (Q100) (TOTAL)	20.74	CFS
OVERTOPPING ELEV.	2010.20	ELEV.
ALLOWABLE HEADWATER ELEV.	2010.09	ELEV.
Q50 HEADWATER ELEV.	2009.05	ELEV.
Q100 HEADWATER ELEV.	2009.06	ELEV.
VELOCITY (Q50)	8.98	FT/S
VELOCITY (Q100)	9.18	FT/S

ENDWALLS REQUIRED:
SAFETY ENDWALLS
STANDARD DRAWING NOS.:
D-PB-1, D-CB-42SB, & D-PE-30 (A&B)

QUANTITIES:

CLASS "A" CONCRETE		C.Y.
STEEL BAR REINFORCING		LB.
BEDDING MATERIAL	12.5	C.Y.

ENDWALL ITEM NOS.: 611-07.61



SR-24
BEGIN STA. 18+53.91
END STA. 20+81.19

120 100 80 60 40 20 0 20 40 60 80 100 120

LINE & GRADE PLANS

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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

CULVERT SECTION

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

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TYPE	YEAR	PROJECT NO.	SHEET NO.
L&G	2025	18100-4148-04	17
PS&E	2025	18100-4148-04	17

ENVIRONMENTAL NOTES

SUBSECTION 3 – EROSION PREVENTION AND SEDIMENT CONTROL GENERAL NOTES

EROSION PREVENTION AND SEDIMENT CONTROL GENERAL NOTES

INSPECTION, MAINTENANCE & REPAIR

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

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 OUTLET 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.

STREAMS, WETLANDS & BUFFER ZONES

(54) 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.

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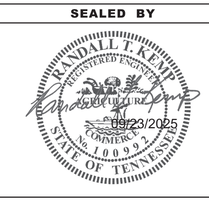

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

EROSION PREVENTION AND SEDIMENT CONTROL NOTES

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TYPE	YEAR	PROJECT NO.	SHEET NO.
L&G	2025	18100-4148-04	18
PS&E	2025	18100-4148-04	18

TABULATED EPSC QUANTITIES

	ITEM NO.	DESCRIPTION	UNIT	QUANTITY 18100-4148-04
(4)	203-01	ROAD & DRAINAGE EXCAVATION (UNCLASSIFIED)	C.Y.	39
(1)(5)	209-03.23	FILTER SOCK (24 INCH)	L.F.	604
(1)(5)	209-05	SEDIMENT REMOVAL	C.Y.	122
(1)(5)	209-08.02	TEMPORARY SILT FENCE (WITH BACKING)	L.F.	10263
(1)(5)	209-08.03	TEMPORARY SILT FENCE (WITHOUT BACKING)	L.F.	475
(1)(5)	209-08.08	ENHANCED ROCK CHECK DAM	EACH	15
(1)(5)	209-08.09	FILTER SOCK CHECK DAM	EACH	144
(1)(5)	209-09.01	SANDBAGS	BAG	176
(1)(5)	209-20.03	POLYETHYLENE SHEETING (6 MIL. MINIMUM)	S.Y.	6
	209-40.30	CATCH BASIN PROTECTION (TYPE A)	EACH	5
	209-40.33	CATCH BASIN PROTECTION (TYPE D)	EACH	7
	209-40.41	CATCH BASIN FILTER ASSEMBLY (TYPE 1)	EACH	16
	209-40.42	CATCH BASIN FILTER ASSEMBLY (TYPE 2)	EACH	2
	209-65.03	TEMPORARY DIVERSION CHANNEL	L.F.	40
	303-10.01	MINERAL AGGREGATE (SIZE 57)	TON	5
(1)(5)	621-03.02	18" TEMPORARY DRAINAGE PIPE	L.F.	104
(1)(5)	707-08.11	HIGH-VISIBILITY CONSTRUCTION FENCE	L.F.	2906
(1)(5)	709-05.05	MACHINED RIP-RAP (CLASS A-3)	TON	200
	709-05.06	MACHINED RIP-RAP (CLASS A-1)	TON	39
(1)(5)	740-10.03	GEOTEXTILE (TYPE III) (EROSION CONTROL)	S.Y.	449
(1)(5)	740-11.04	TEMPORARY SEDIMENT TUBE 20IN	L.F.	2560

(1) SEE SUBSECTION 209.07 OF THE STANDARD SPECIFICATION FOR MAINTENANCE REPLACEMENT.
(4) SEE GRADING SPECIAL NOTES ON SHEET "2D".
(5) ALL QUANTITIES ARE TO BE USED AS DIRECTED BY THE ENGINEER.

ITEMS TO BE USED FOR TEMPORARY CONSTRUCTION ENTRANCES / EXIT, TO BE INSTALLED AT LOCATIONS DIRECTED BY ENGINEER IN FIELD.

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
	ENHANCED ROCK CHECK DAM (V-DITCH)	EC-STR-6A
✳ ✳SOCK 24" ✳ ✳SOCK 24"✳ ✳	24 INCH FILTER SOCK	EC-STR-8
	CULVERT PROTECTION (TYPE 1)	EC-STR-11
A	CATCH BASIN PROTECTION (TYPE A)	EC-STR-19
D	CATCH BASIN PROTECTION (TYPE D)	EC-STR-19
TCE	TEMPORARY CONSTRUCTION EXIT	EC-STR-25
	TEMPORARY DIVERSION CULVERT (1 - 18" TEMP. PIPE)	EC-STR-32
✳ ✳TUBE 20" ✳ ✳TUBE 20"✳ ✳	20 INCH SEDIMENT TUBE	EC-STR-37
1	CATCH BASIN FILTER ASSEMBLY (TYPE 1)	EC-STR-41
2	CATCH BASIN FILTER ASSEMBLY (TYPE 2)	EC-STR-42
✳ HVF ✳ HVF ✳	HIGH VISIBILITY FENCE	S-F-1

NOTE: SF/SFB NOT ON CONTOUR SHOULD HAVE J-HOOKS ADDED.

TEMPORARY CONSTRUCTION EXITS TO BE LOCATED BY THE ENGINEER.

DISTURBED AREA

IN BETWEEN SLOPE LINES	**7.145 (AC)**
15 FOOT WIDE STRIP (OUTSIDE SLOPE LINES)	**0.467 (AC)**
TOTAL DISTURBED AREA	**7.612 (AC)**
TOTAL PROJECT AREA	**58.613 (AC)**

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RANDALL T. KEMP
REGISTERED ENGINEER
AGRICULTURE
09/23/2025
COMMERCE
No. 100992
STATE OF TENNESSEE

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

EROSION PREVENTION & SEDIMENT CONTROL (EPSC) LEGEND & TABULATION

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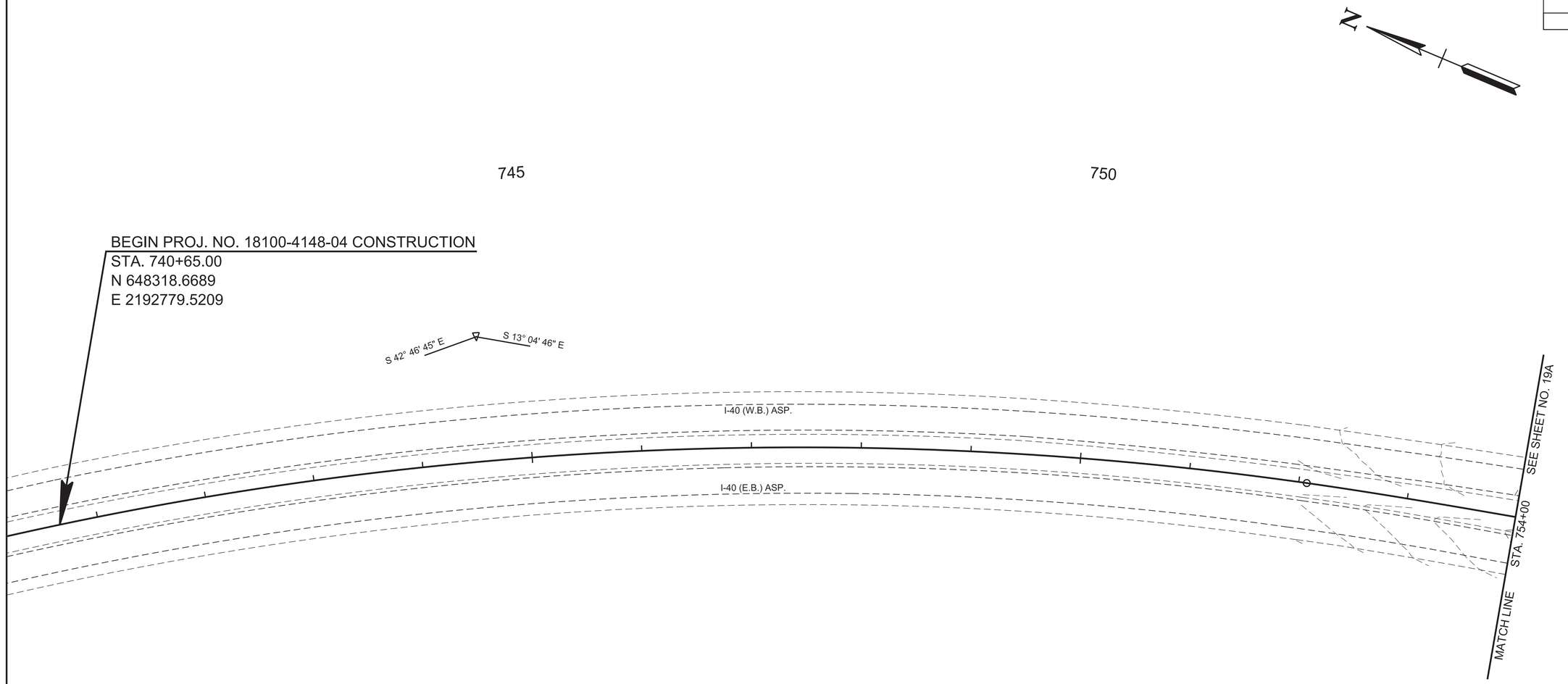
TYPE	YEAR	PROJECT NO.	SHEET NO.
L&G	2025	18100-4148-04	19
PS&E	2025	18100-4148-04	19



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09/23/2025
NO. 109979
STATE OF TENNESSEE

COORDINATES ARE NAD 83(1995), ARE DATUM ADJUSTED BY THE FACTOR OF 1.00013 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988 WITH GEOID 03.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

STAGE I
CLEARING & GRUBBING

EXISTING
CONTOURS

EROSION PREVENTION & SEDIMENT CONTROL (EPSC) PLANS

STA.740+65 TO STA.754+00

SCALE: 1"=50'

9/22/2025 9:20:48 AM
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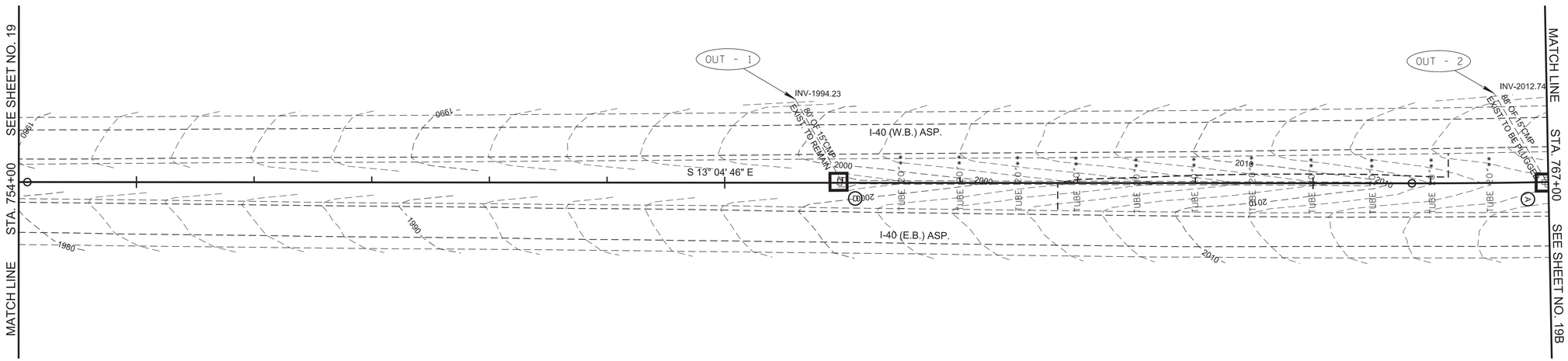
TYPE	YEAR	PROJECT NO.	SHEET NO.
L&G	2025	18100-4148-04	19A
PS&E	2025	18100-4148-04	19A

755

760

765



OUTFALL LABEL	DRAINAGE AREA (AC)	SLOPE WITHIN R.O.W. (%)
OUT-1	0.81	6.24
OUT-2	3.45	3.45

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09/23/2025

COORDINATES ARE NAD 83(1995), ARE DATUM ADJUSTED BY THE FACTOR OF 1.00013 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988 WITH GEOID 03.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

STAGE I
CLEARING & GRUBBING

EXISTING CONTOURS

EROSION PREVENTION & SEDIMENT CONTROL (EPSC) PLANS

STA.754+00 TO STA.767+00

SCALE: 1"=50'

9/22/2025 9:20:49 AM
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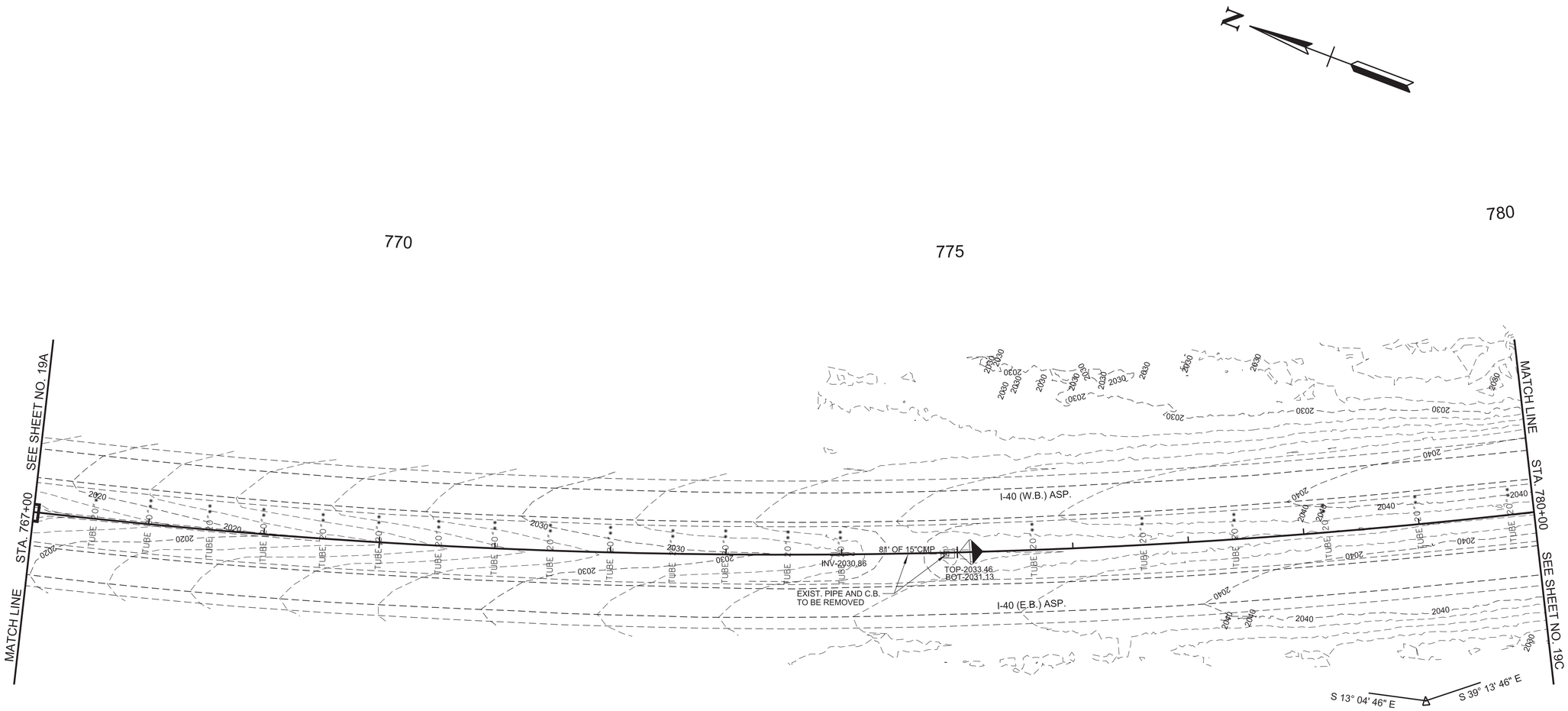
TYPE	YEAR	PROJECT NO.	SHEET NO.
L&G	2025	18100-4148-04	19B
PS&E	2025	18100-4148-04	19B



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COMMERCE
No. 100992
STATE OF TENNESSEE
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COORDINATES ARE NAD 83(1995), ARE DATUM ADJUSTED BY THE FACTOR OF 1.00013 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988 WITH GEOID 03.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

STAGE I
CLEARING & GRUBBING

EXISTING
CONTOURS

EROSION
PREVENTION &
SEDIMENT CONTROL
(EPSC) PLANS
STA.767+00 TO STA.780+00
SCALE: 1"=50'

9/22/2025 9:20:50 AM
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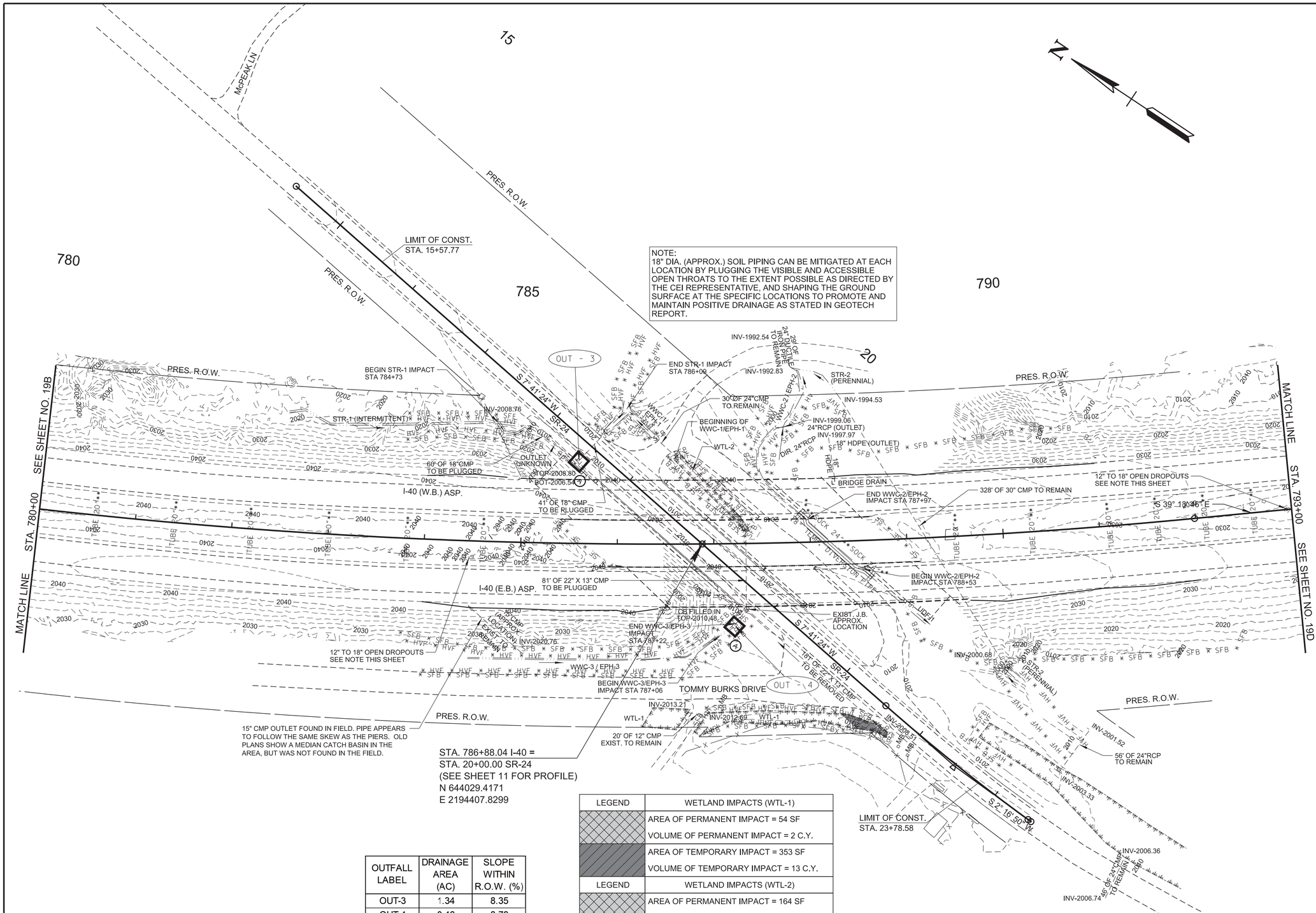
TYPE	YEAR	PROJECT NO.	SHEET NO.
L&G	2025	18100-4148-04	19C
PS&E	2025	18100-4148-04	19C



OUTFALL LABEL	DRAINAGE AREA (AC)	SLOPE WITHIN R.O.W. (%)
OUT-3	1.34	8.35
OUT-4	2.46	8.78

LEGEND	WETLAND IMPACTS (WTL-1)
	AREA OF PERMANENT IMPACT = 54 SF
	VOLUME OF PERMANENT IMPACT = 2 C.Y.
	AREA OF TEMPORARY IMPACT = 353 SF
	VOLUME OF TEMPORARY IMPACT = 13 C.Y.
LEGEND	WETLAND IMPACTS (WTL-2)
	AREA OF PERMANENT IMPACT = 164 SF
	VOLUME OF PERMANENT IMPACT = 6 C.Y.
	AREA OF TEMPORARY IMPACT = 0 SF
	VOLUME OF TEMPORARY IMPACT = 0 SF.

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STATE OF TENNESSEE
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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

STAGE I
CLEARING & GRUBBING

EXISTING CONTOURS

EROSION PREVENTION & SEDIMENT CONTROL (EPSC) PLANS
STA.780+00 TO STA.793+00
SCALE: 1"=50'

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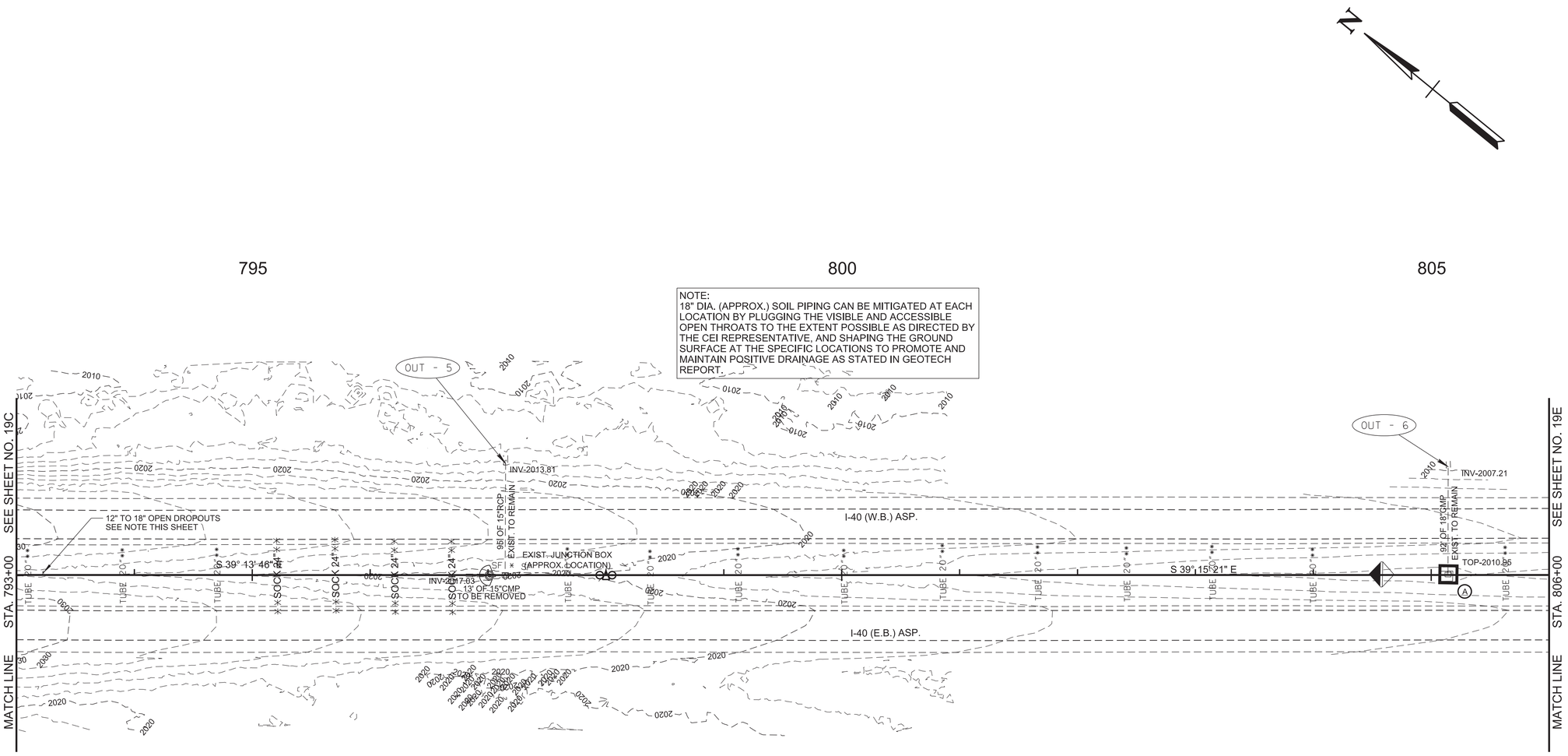
TYPE	YEAR	PROJECT NO.	SHEET NO.
L&G	2025	18100-4148-04	19D
PS&E	2025	18100-4148-04	19D



NOTE:
18" DIA. (APPROX.) SOIL PIPING CAN BE MITIGATED AT EACH LOCATION BY PLUGGING THE VISIBLE AND ACCESSIBLE OPEN THROATS TO THE EXTENT POSSIBLE AS DIRECTED BY THE CEI REPRESENTATIVE, AND SHAPING THE GROUND SURFACE AT THE SPECIFIC LOCATIONS TO PROMOTE AND MAINTAIN POSITIVE DRAINAGE AS STATED IN GEOTECH REPORT.

OUTFALL LABEL	DRAINAGE AREA (AC)	SLOPE WITHIN R.O.W. (%)
OUT-5	1.45	7.27
OUT-6	1.07	5.30

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COMMERCE
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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

STAGE I
CLEARING & GRUBBING

EXISTING CONTOURS

EROSION PREVENTION & SEDIMENT CONTROL (EPSC) PLANS
STA.793+00 TO STA.806+00
SCALE: 1"=50'

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TYPE	YEAR	PROJECT NO.	SHEET NO.
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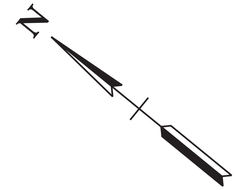
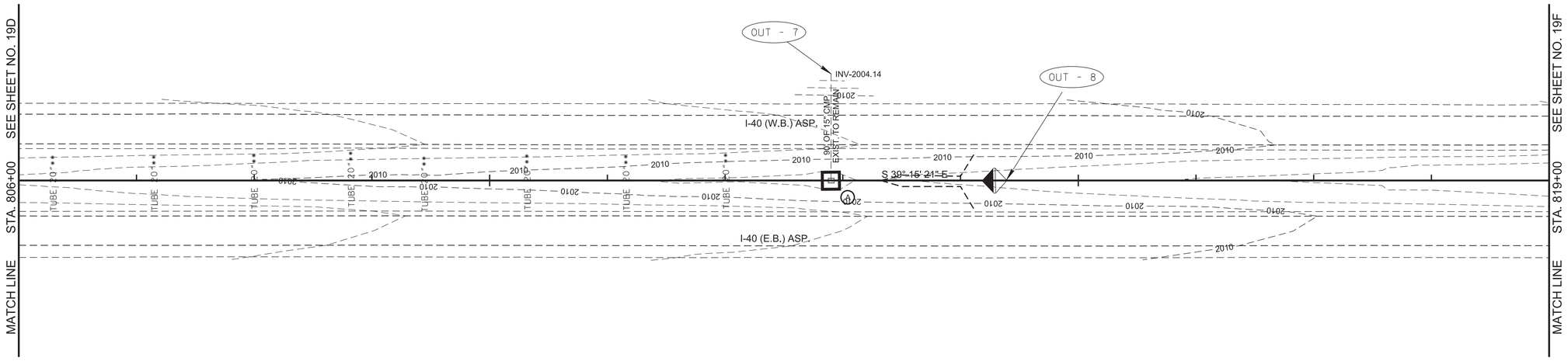
PS&E	2025	18100-4148-04	19E



810

815



OUTFALL LABEL	DRAINAGE AREA (AC)	SLOPE WITHIN R.O.W. (%)
OUT-7	1.12	2.63
OUT-8	0.16	3.22

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REGISTERED ENGINEER
SIGNATURE
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TENNESSEE
No. 100927
STATE OF TENNESSEE

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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

EROSION PREVENTION & SEDIMENT CONTROL (EPSC) PLANS

STA.806+00 TO STA.819+00

SCALE: 1"=50'

STAGE I
CLEARING & GRUBBING

EXISTING CONTOURS

9/22/2025 9:20:53 AM
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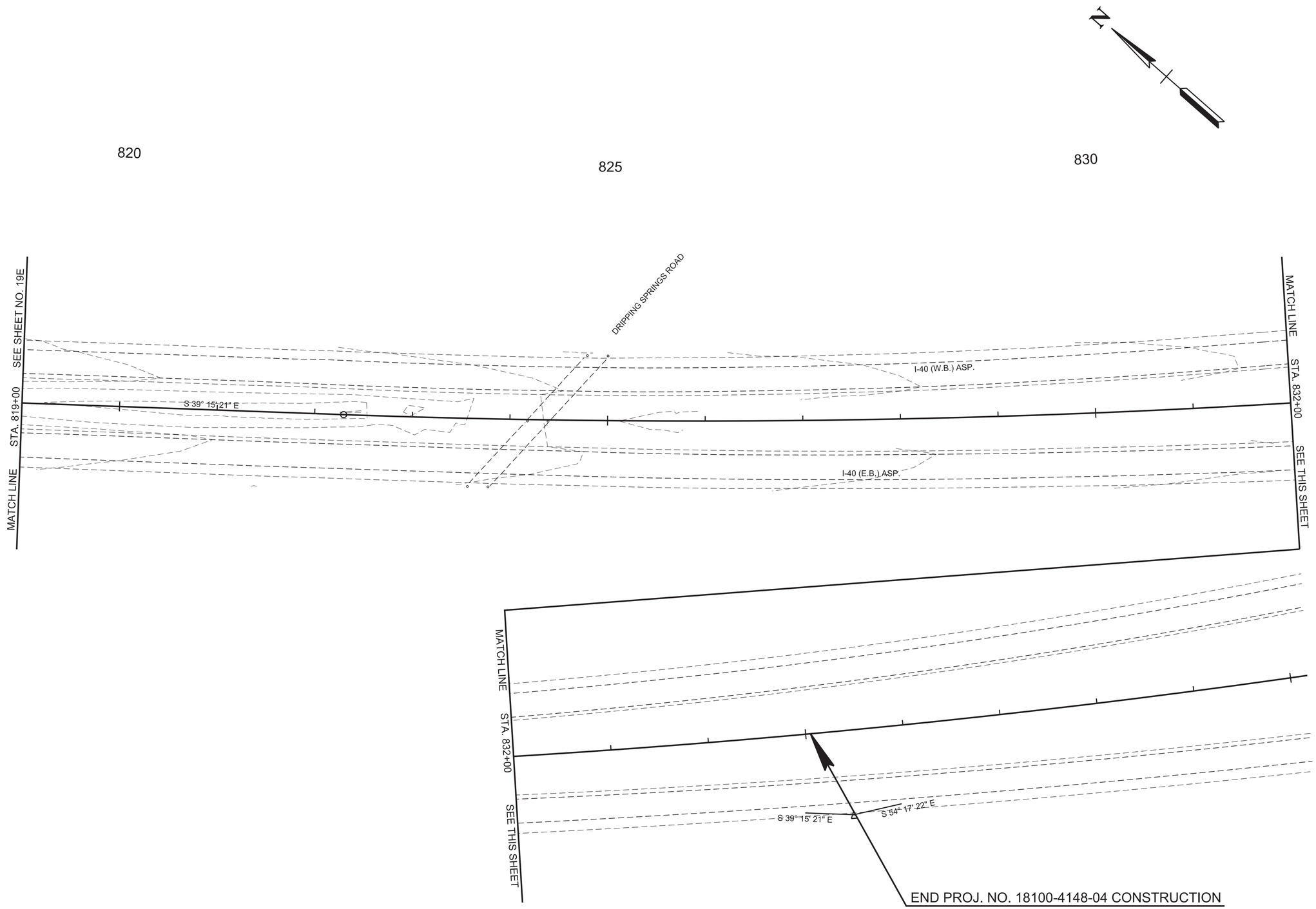
TYPE	YEAR	PROJECT NO.	SHEET NO.
L&G	2025	18100-4148-04	19F
PS&E	2025	18100-4148-04	19F



STAGE I
CLEARING & GRUBBING

EXISTING CONTOURS

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REGISTERED ENGINEER
09/23/2025
No. 100992
STATE OF TENNESSEE

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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

EROSION PREVENTION & SEDIMENT CONTROL (EPSC) PLANS

STA.819+00 TO STA.835+05

SCALE: 1"=50'

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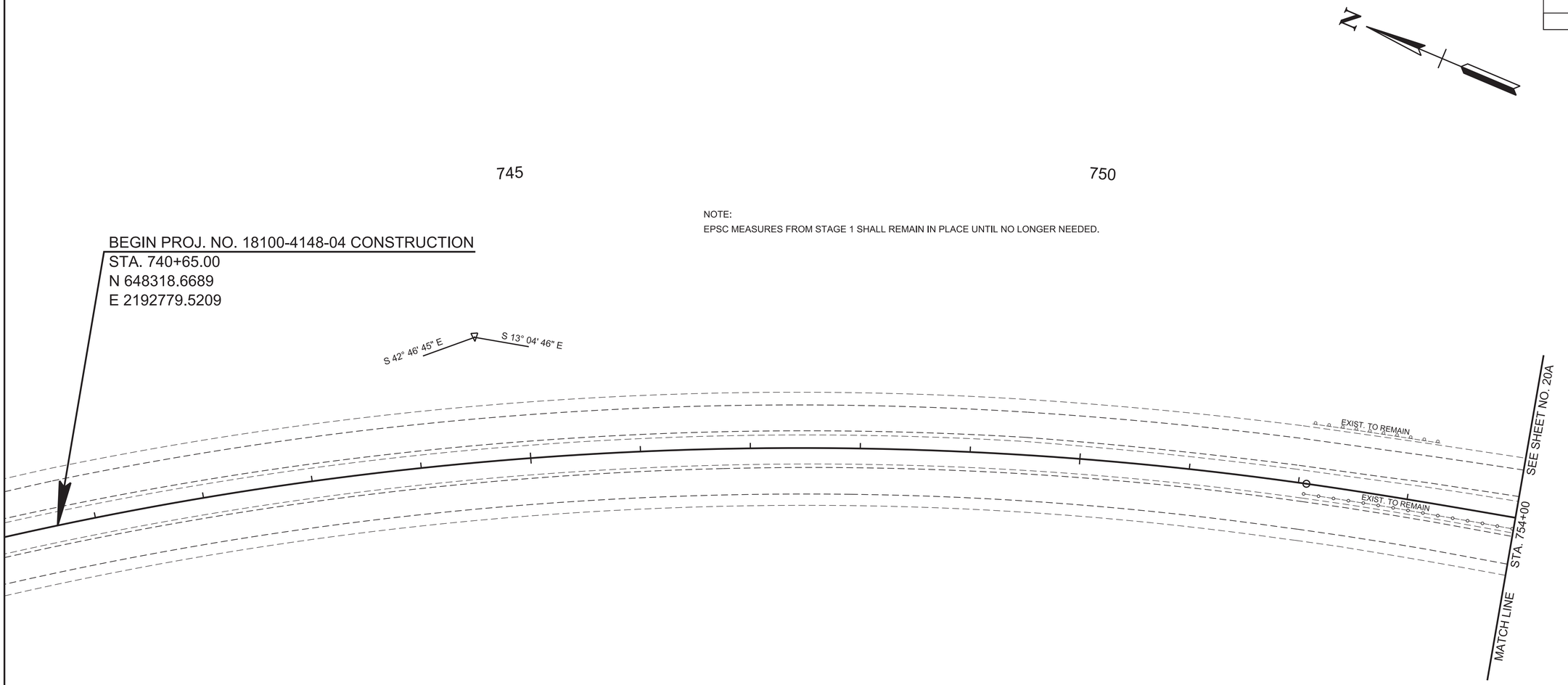
TYPE	YEAR	PROJECT NO.	SHEET NO.
L&G	2025	18100-4148-04	20
PS&E	2025	18100-4148-04	20



NOTE:
EPSC MEASURES FROM STAGE 1 SHALL REMAIN IN PLACE UNTIL NO LONGER NEEDED.

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REGISTERED ENGINEER
AGRICULTURE
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NO. 109979
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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

STAGE II
INTERMEDIATE GRADING

PROPOSED
CONTOURS

EROSION PREVENTION & SEDIMENT CONTROL (EPSC) PLANS

STA.740+65 TO STA.754+00

SCALE: 1"=50'

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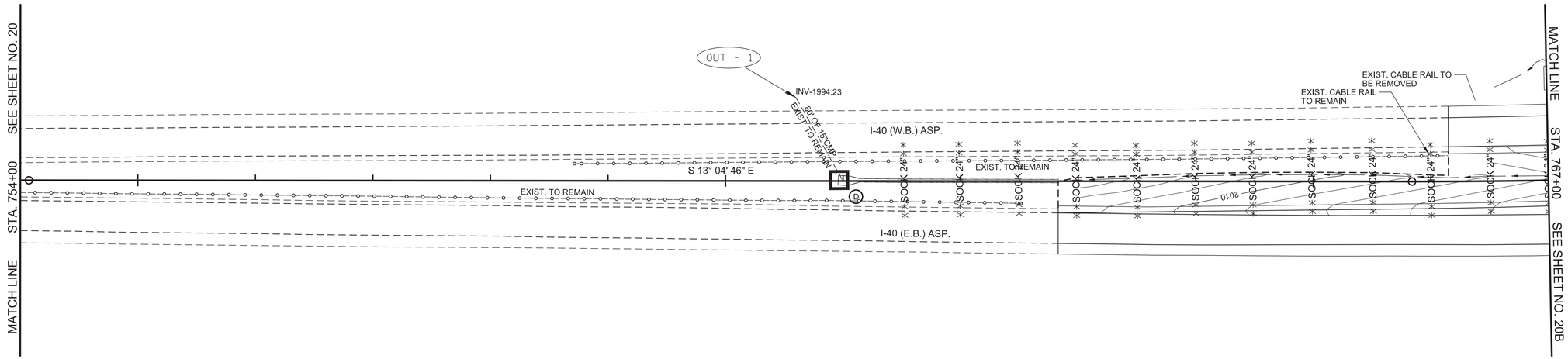
TYPE	YEAR	PROJECT NO.	SHEET NO.
L&G	2025	18100-4148-04	20A
PS&E	2025	18100-4148-04	20A

755 760 765

NOTE:
EPSC MEASURES FROM STAGE 1 SHALL REMAIN IN PLACE UNTIL NO LONGER NEEDED.



OUTFALL LABEL	DRAINAGE AREA (AC)	SLOPE WITHIN R.O.W. (%)
OUT-1	0.94	6.24

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REGISTERED ENGINEER
09/23/2025
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STATE OF TENNESSEE

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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

STAGE II
INTERMEDIATE GRADING

PROPOSED CONTOURS

EROSION PREVENTION & SEDIMENT CONTROL (EPSC) PLANS
STA.754+00 TO STA.767+00
SCALE: 1"=50'

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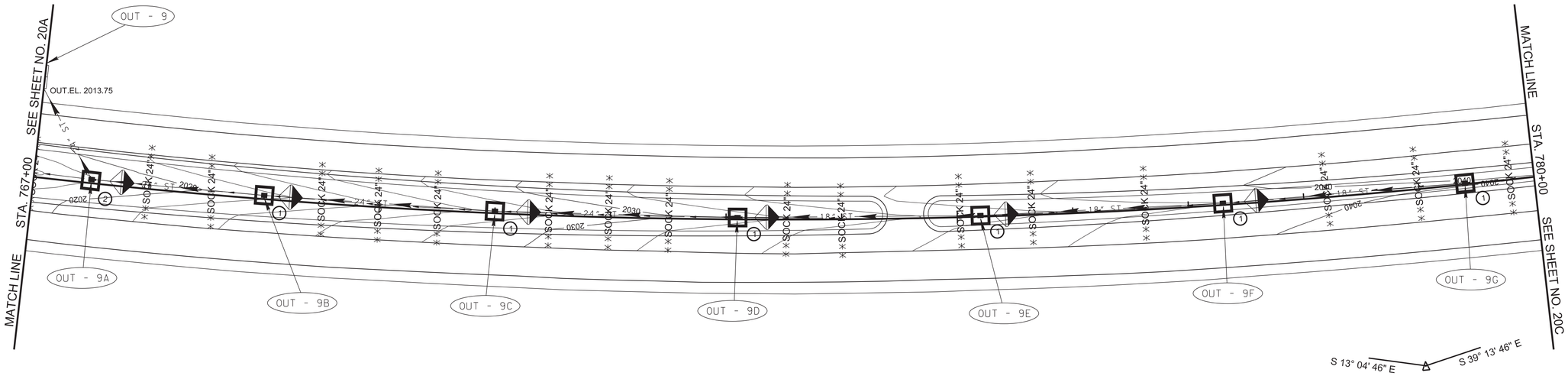
TYPE	YEAR	PROJECT NO.	SHEET NO.
L&G	2025	18100-4148-04	20B
PS&E	2025	18100-4148-04	20B

NOTE:
EPSC MEASURES FROM STAGE 1 SHALL REMAIN IN PLACE UNTIL NO LONGER NEEDED.

770

775

780



OUTFALL LABEL	DRAINAGE AREA (AC)	SLOPE WITHIN R.O.W. (%)
OUT-9	2.35	3.66
OUT-9A	0.28	3.10
OUT-9B	0.36	3.85
OUT-9C	0.37	3.15
OUT-9D	0.36	2.63
OUT-9E	0.34	2.06
OUT-9F	0.33	1.43
OUT-9G	0.32	1.02

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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

EROSION PREVENTION & SEDIMENT CONTROL (EPSC) PLANS

STA.767+00 TO STA.780+00

SCALE: 1"=50'

STAGE II
INTERMEDIATE GRADING

PROPOSED CONTOURS

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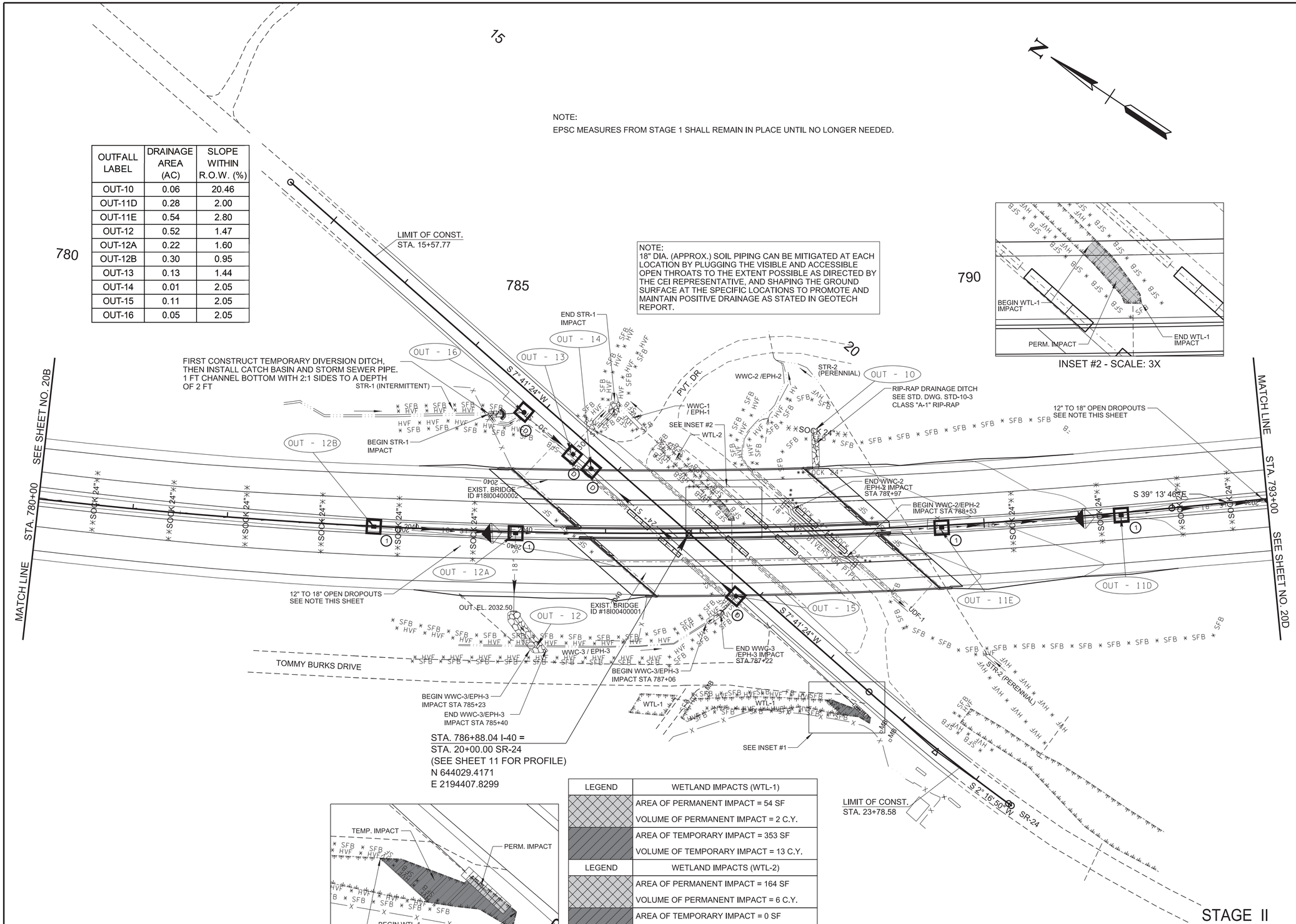
TYPE	YEAR	PROJECT NO.	SHEET NO.
L&G	2025	18100-4148-04	20C
PS&E	2025	18100-4148-04	20C

NOTE:
EPSC MEASURES FROM STAGE 1 SHALL REMAIN IN PLACE UNTIL NO LONGER NEEDED.

OUTFALL LABEL	DRAINAGE AREA (AC)	SLOPE WITHIN R.O.W. (%)
OUT-10	0.06	20.46
OUT-11D	0.28	2.00
OUT-11E	0.54	2.80
OUT-12	0.52	1.47
OUT-12A	0.22	1.60
OUT-12B	0.30	0.95
OUT-13	0.13	1.44
OUT-14	0.01	2.05
OUT-15	0.11	2.05
OUT-16	0.05	2.05



NOTE:
18" DIA. (APPROX.) SOIL PIPING CAN BE MITIGATED AT EACH LOCATION BY PLUGGING THE VISIBLE AND ACCESSIBLE OPEN THROATS TO THE EXTENT POSSIBLE AS DIRECTED BY THE CEI REPRESENTATIVE, AND SHAPING THE GROUND SURFACE AT THE SPECIFIC LOCATIONS TO PROMOTE AND MAINTAIN POSITIVE DRAINAGE AS STATED IN GEOTECH REPORT.

LEGEND	WETLAND IMPACTS (WTL-1)
	AREA OF PERMANENT IMPACT = 54 SF
	VOLUME OF PERMANENT IMPACT = 2 C.Y.
	AREA OF TEMPORARY IMPACT = 353 SF
	VOLUME OF TEMPORARY IMPACT = 13 C.Y.
LEGEND	WETLAND IMPACTS (WTL-2)
	AREA OF PERMANENT IMPACT = 164 SF
	VOLUME OF PERMANENT IMPACT = 6 C.Y.
	AREA OF TEMPORARY IMPACT = 0 SF
	VOLUME OF TEMPORARY IMPACT = 0 SF.

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RANDALL T. KEMP
REGISTERED ENGINEER
AGRICULTURE
COMMERCE
No. 100992
STATE OF TENNESSEE
09/23/2025

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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

EROSION PREVENTION & SEDIMENT CONTROL (EPSC) PLANS

STA.780+00 TO STA.793+00
SCALE: 1"=50'

STAGE II
INTERMEDIATE GRADING

PROPOSED CONTOURS

9/22/2025 9:20:59 AM
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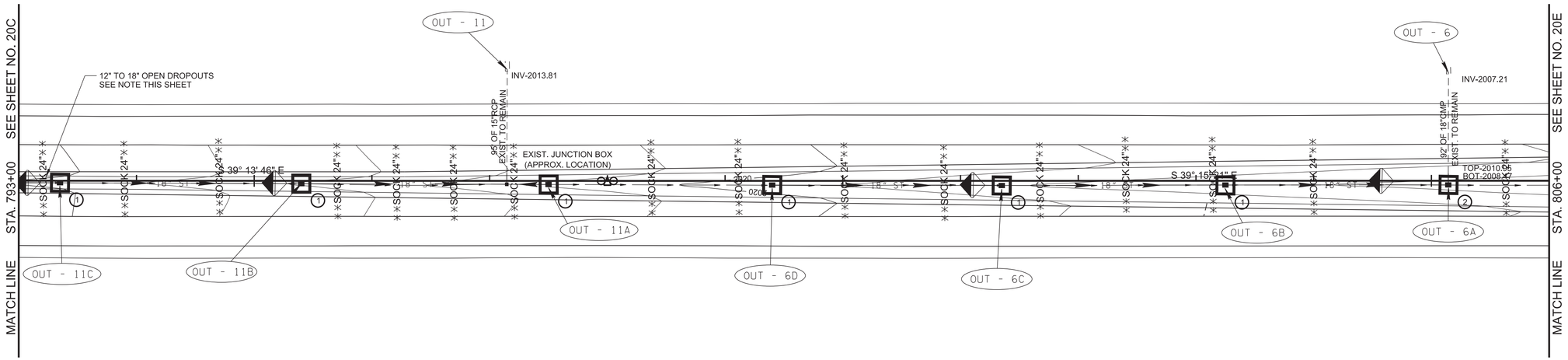
TYPE	YEAR	PROJECT NO.	SHEET NO.
L&G	2025	18100-4148-04	20D
PS&E	2025	18100-4148-04	20D

NOTE:
EPSC MEASURES FROM STAGE 1 SHALL REMAIN IN PLACE UNTIL NO LONGER NEEDED.

795 800 805

NOTE:
18" DIA. (APPROX.) SOIL PIPING CAN BE MITIGATED AT EACH LOCATION BY PLUGGING THE VISIBLE AND ACCESSIBLE OPEN THROATS WITH CLASS "A-1" RIP-RAP TO THE EXTENT POSSIBLE AS DIRECTED BY THE CEI REPRESENTATIVE, AND SHAPING THE GROUND SURFACE AT THE SPECIFIC LOCATIONS TO PROMOTE AND MAINTAIN POSITIVE DRAINAGE AS STATED IN GEOTECH REPORT.



OUTFALL LABEL	DRAINAGE AREA (AC)	SLOPE WITHIN R.O.W. (%)
OUT-6	0.76	1.38
OUT-6A	0.34	3.04
OUT-6B	0.16	1.95
OUT-6C	0.14	2.39
OUT-6D	0.12	2.49
OUT-11	0.12	2.99
OUT-11A	0.12	2.42
OUT-11B	0.09	2.12
OUT-11C	0.19	1.66

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RANDALL T. KEMP
REGISTERED ENGINEER
09/23/2025
No. 100992
COMMERCE
STATE OF TENNESSEE

COORDINATES ARE NAD 83(1995), ARE DATUM ADJUSTED BY THE FACTOR OF 1.00013 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988 WITH GEOID 03.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

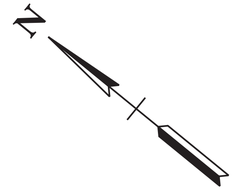
STAGE II
INTERMEDIATE GRADING

PROPOSED CONTOURS

EROSION PREVENTION & SEDIMENT CONTROL (EPSC) PLANS
STA.793+00 TO STA.806+00
SCALE: 1"=50'

9/22/2025 9:21:01 AM
J:\Structures\11685-14_CumberlandCo_I-40_over_SR24_(orig_10705-35)\Drawings\Survey\020D.sht

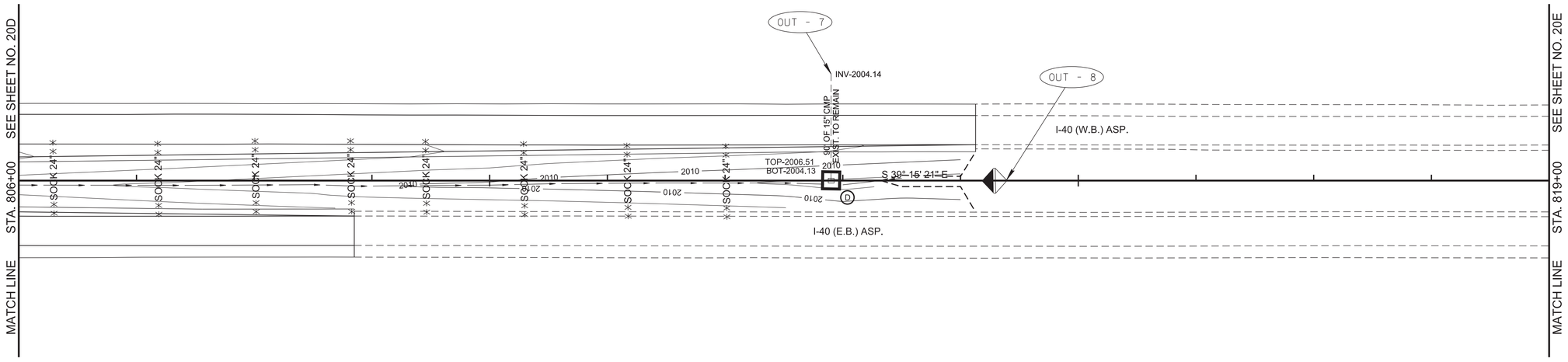
TYPE	YEAR	PROJECT NO.	SHEET NO.
L&G	2025	18100-4148-04	20E
PS&E	2025	18100-4148-04	20E



810

815

NOTE:
EPSC MEASURES FROM STAGE 1 SHALL REMAIN IN PLACE UNTIL NO LONGER NEEDED.



OUTFALL LABEL	DRAINAGE AREA (AC)	SLOPE WITHIN R.O.W. (%)
OUT-7	0.98	4.21
OUT-8	0.15	5.55

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RANDALL T. KEMP
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09/23/2025
TENNESSEE
No. 100972
STATE OF TENNESSEE

COORDINATES ARE NAD 83(1995), ARE DATUM ADJUSTED BY THE FACTOR OF 1.00013 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988 WITH GEOID 03.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

STAGE II
INTERMEDIATE GRADING

PROPOSED CONTOURS

EROSION PREVENTION & SEDIMENT CONTROL (EPSC) PLANS

STA.806+00 TO STA.819+00

SCALE: 1"=50'

9/22/2025 9:21:02 AM
J:\Structures\11685-14_CumberlandCo_I-40_over_SR24_(orig_10705-35)\Drawings\Survey\020E.sht

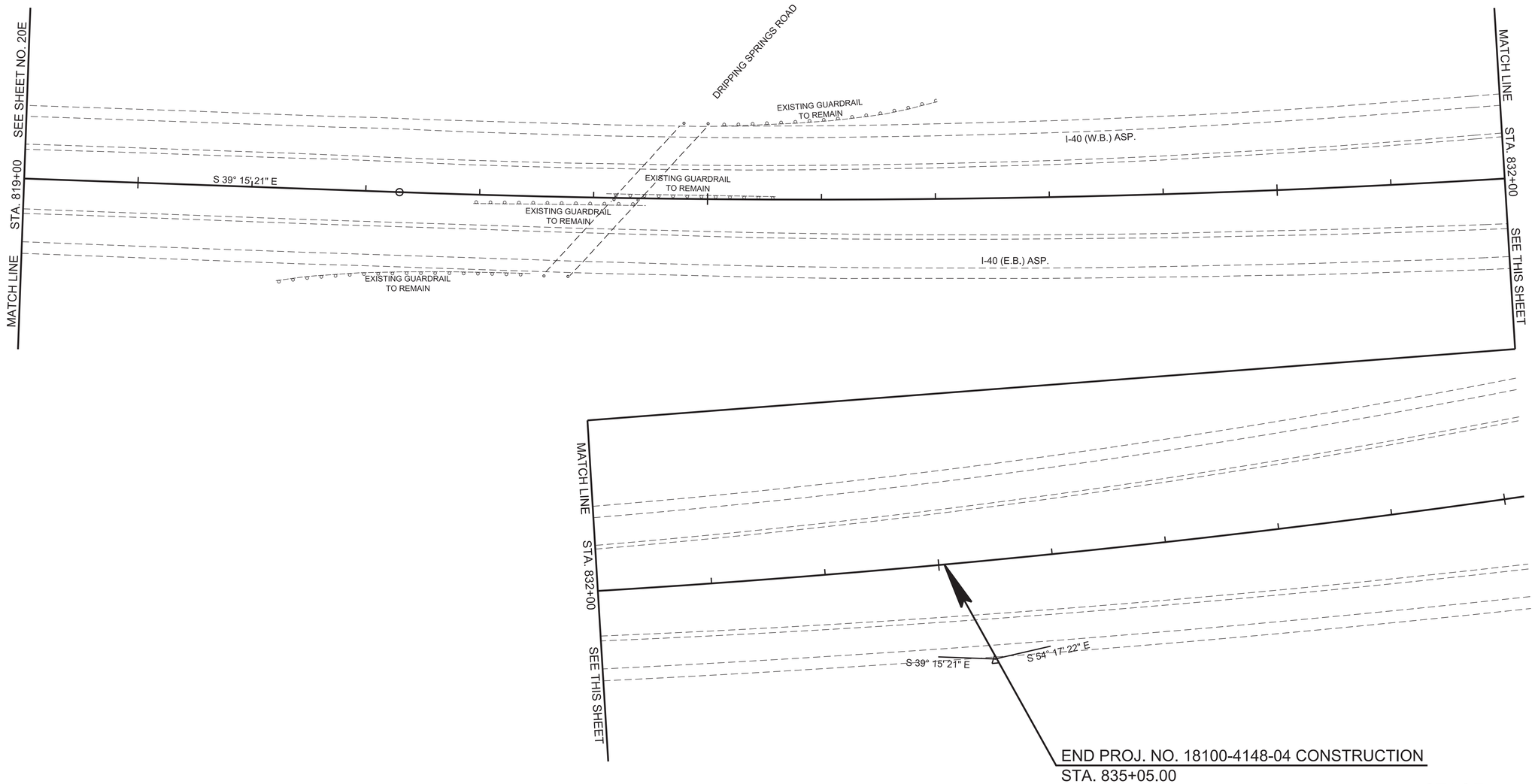
TYPE	YEAR	PROJECT NO.	SHEET NO.
L&G	2025	18100-4148-04	20F
PS&E	2025	18100-4148-04	20F

820

825

830

NOTE:
EPSC MEASURES FROM STAGE 1 SHALL REMAIN IN PLACE UNTIL NO LONGER NEEDED.



STAGE II
INTERMEDIATE GRADING

PROPOSED CONTOURS

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RANDALL T. KEMP
REGISTERED ENGINEER
AGRICULTURE
09/23/2025
COMMERCE
No. 100927
STATE OF TENNESSEE

COORDINATES ARE NAD 83(1995), ARE DATUM ADJUSTED BY THE FACTOR OF 1.00013 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988 WITH GEOID 03.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

EROSION PREVENTION & SEDIMENT CONTROL (EPSC) PLANS

STA.819+00 TO STA.835+05

SCALE: 1"=50'

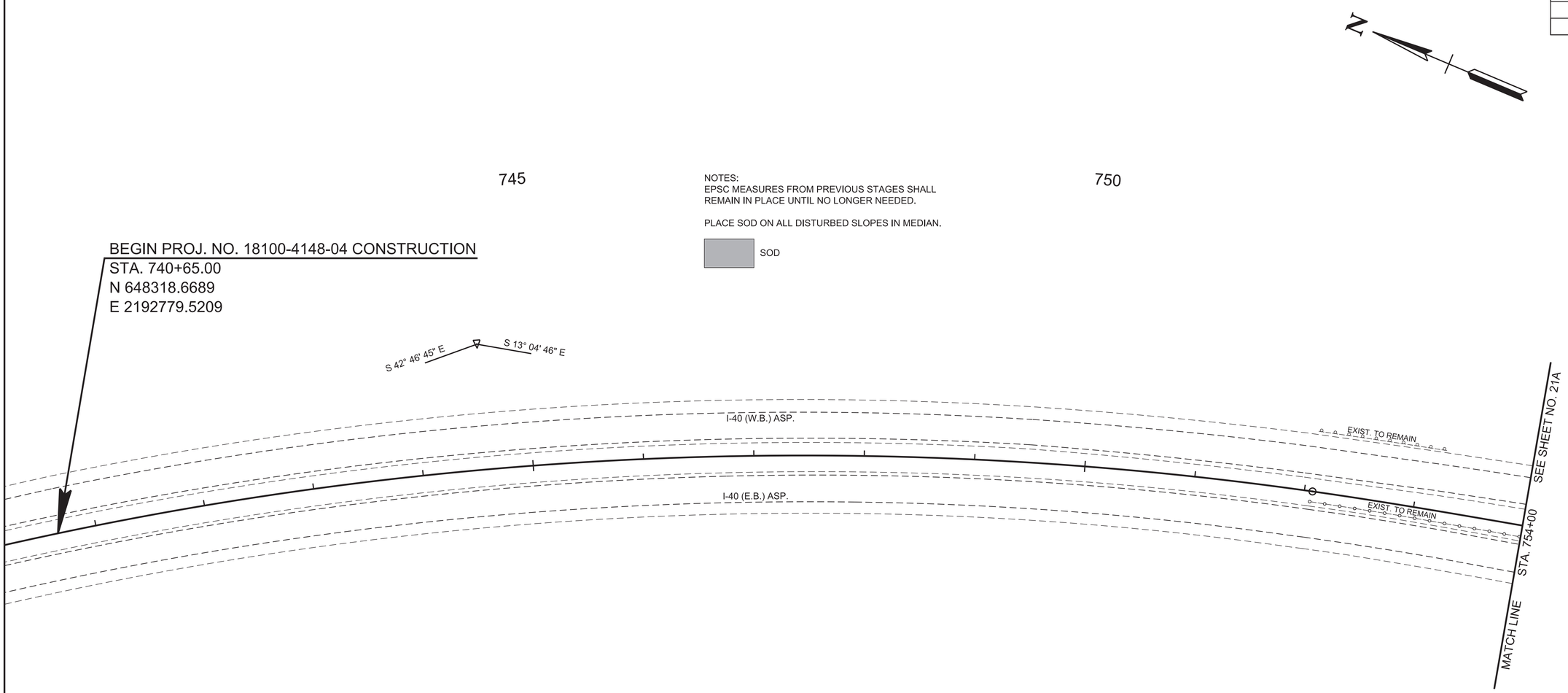
9/22/2025 9:21:03 AM
J:\Structures\111685-14_CumberlandCo_I-40_over_SR24_(orig_10705-35)\Drawings\Survey\020F.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.
L&G	2025	18100-4148-04	21
PS&E	2025	18100-4148-04	21

NOTES:
EPSC MEASURES FROM PREVIOUS STAGES SHALL REMAIN IN PLACE UNTIL NO LONGER NEEDED.

PLACE SOD ON ALL DISTURBED SLOPES IN MEDIAN.

SOD



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RANDALL T. KEMP
REGISTERED ENGINEER
CIVIL CULTURE
COMMERCE
No. 100992
STATE OF TENNESSEE
09/23/2025

COORDINATES ARE NAD 83(1995), ARE DATUM ADJUSTED BY THE FACTOR OF 1.00013 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988 WITH GEOID 03.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

STAGE III
FINAL CONSTRUCTION

PROPOSED CONTOURS

EROSION PREVENTION & SEDIMENT CONTROL (EPSC) PLANS
STA.740+65 TO STA.754+00
SCALE: 1"=50'

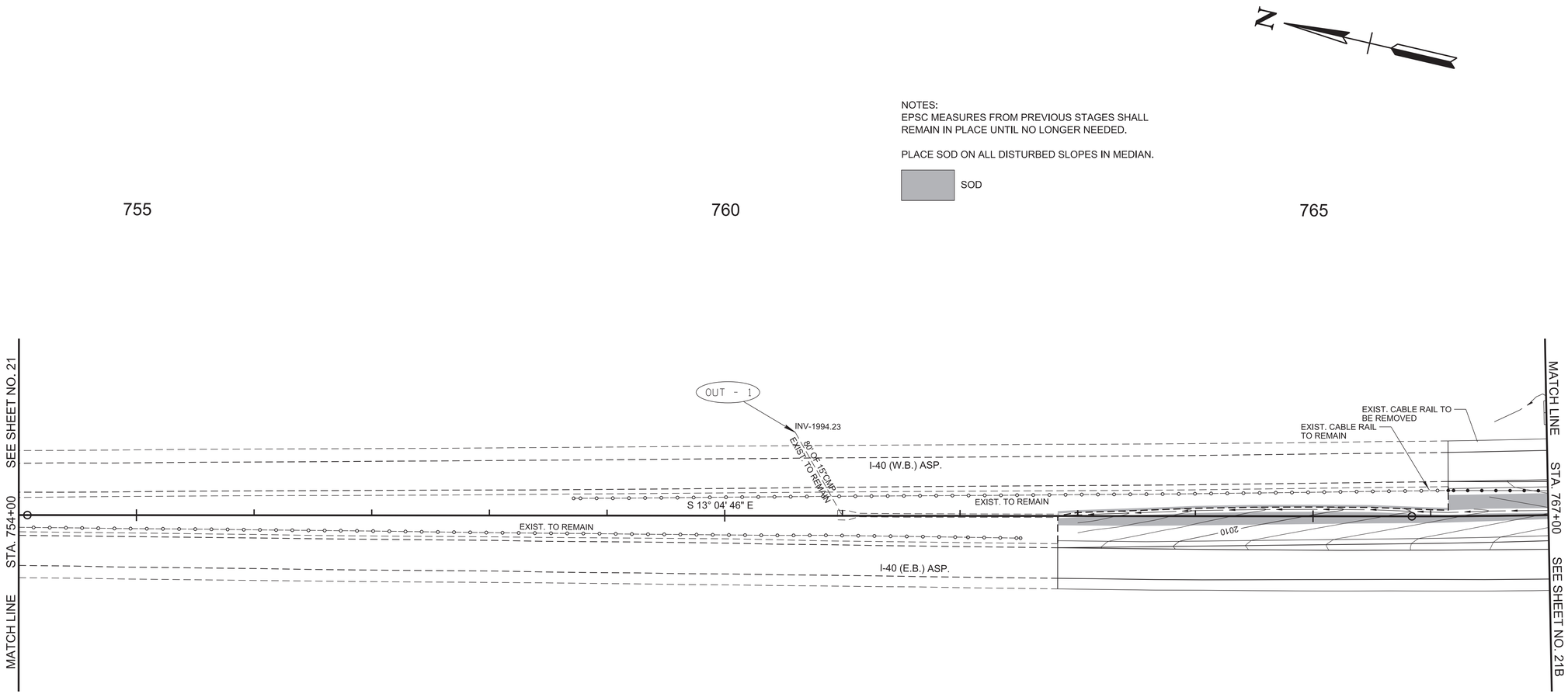
9/22/2025 9:21:04 AM
J:\Structures\11685-14_CumberlandCo_I-40_over_SR24_(orig_10705-35)\Drawings\Survey\021.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.
L&G	2025	18100-4148-04	20A
PS&E	2025	18100-4148-04	20A

NOTES:
EPSC MEASURES FROM PREVIOUS STAGES SHALL REMAIN IN PLACE UNTIL NO LONGER NEEDED.

PLACE SOD ON ALL DISTURBED SLOPES IN MEDIAN.

SOD



OUTFALL LABEL	DRAINAGE AREA (AC)	SLOPE WITHIN R.O.W. (%)
OUT-1	0.94	6.24

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RANDALL T. KEMP
REGISTERED ENGINEER
CIVIL
CIVIL
COMMERCE
No. 100992
STATE OF TENNESSEE
09/23/2025

COORDINATES ARE NAD 83(1995), ARE DATUM ADJUSTED BY THE FACTOR OF 1.00013 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988 WITH GEOID 03.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

STAGE III
FINAL CONSTRUCTION

PROPOSED CONTOURS

EROSION PREVENTION & SEDIMENT CONTROL (EPSC) PLANS
STA.754+00 TO STA.767+00
SCALE: 1"=50'

9/22/2025 9:21:04 AM
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TYPE	YEAR	PROJECT NO.	SHEET NO.
L&G	2025	18100-4148-04	21B
PS&E	2025	18100-4148-04	21B

N

NOTES:
EPSC MEASURES FROM PREVIOUS STAGES SHALL REMAIN IN PLACE UNTIL NO LONGER NEEDED.

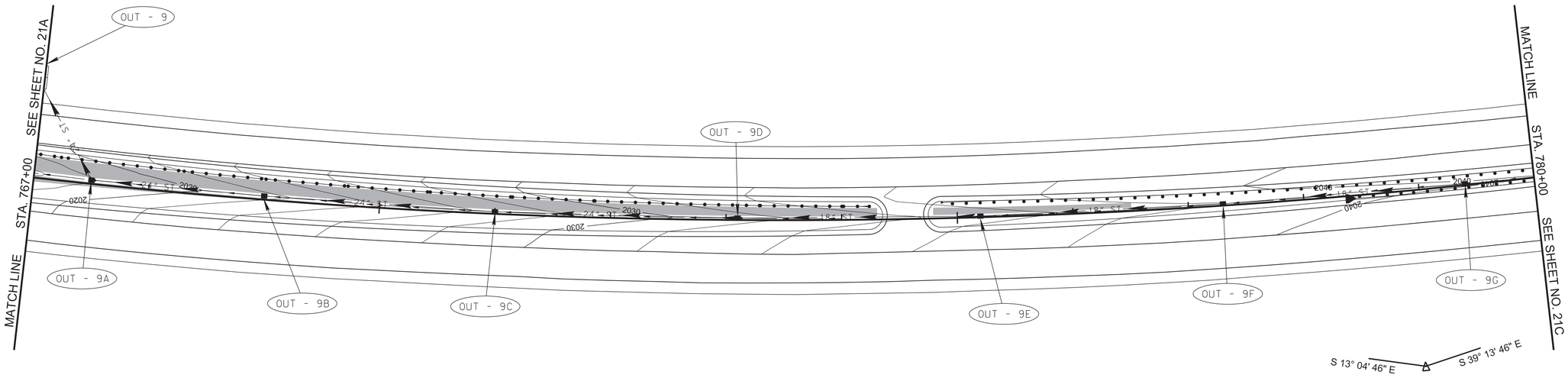
PLACE SOD ON ALL DISTURBED SLOPES IN MEDIAN.

SOD

770

775

780



OUTFALL LABEL	DRAINAGE AREA (AC)	SLOPE WITHIN R.O.W. (%)
OUT-9	2.35	3.66
OUT-9A	0.28	3.10
OUT-9B	0.36	3.85
OUT-9C	0.37	3.15
OUT-9D	0.36	2.63
OUT-9E	0.34	2.06
OUT-9F	0.33	1.43
OUT-9G	0.32	1.02

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KENDALL T. KEMP
REGISTERED ENGINEER
AGRICULTURE
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COMMERCE
No. 100992
STATE OF TENNESSEE

COORDINATES ARE NAD 83(1995), ARE DATUM ADJUSTED BY THE FACTOR OF 1.00013 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988 WITH GEOID 03.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

STAGE III
FINAL CONSTRUCTION

PROPOSED CONTOURS

EROSION PREVENTION & SEDIMENT CONTROL (EPSC) PLANS

STA.767+00 TO STA.780+00

SCALE: 1"=50'

9/22/2025 9:21:06 AM
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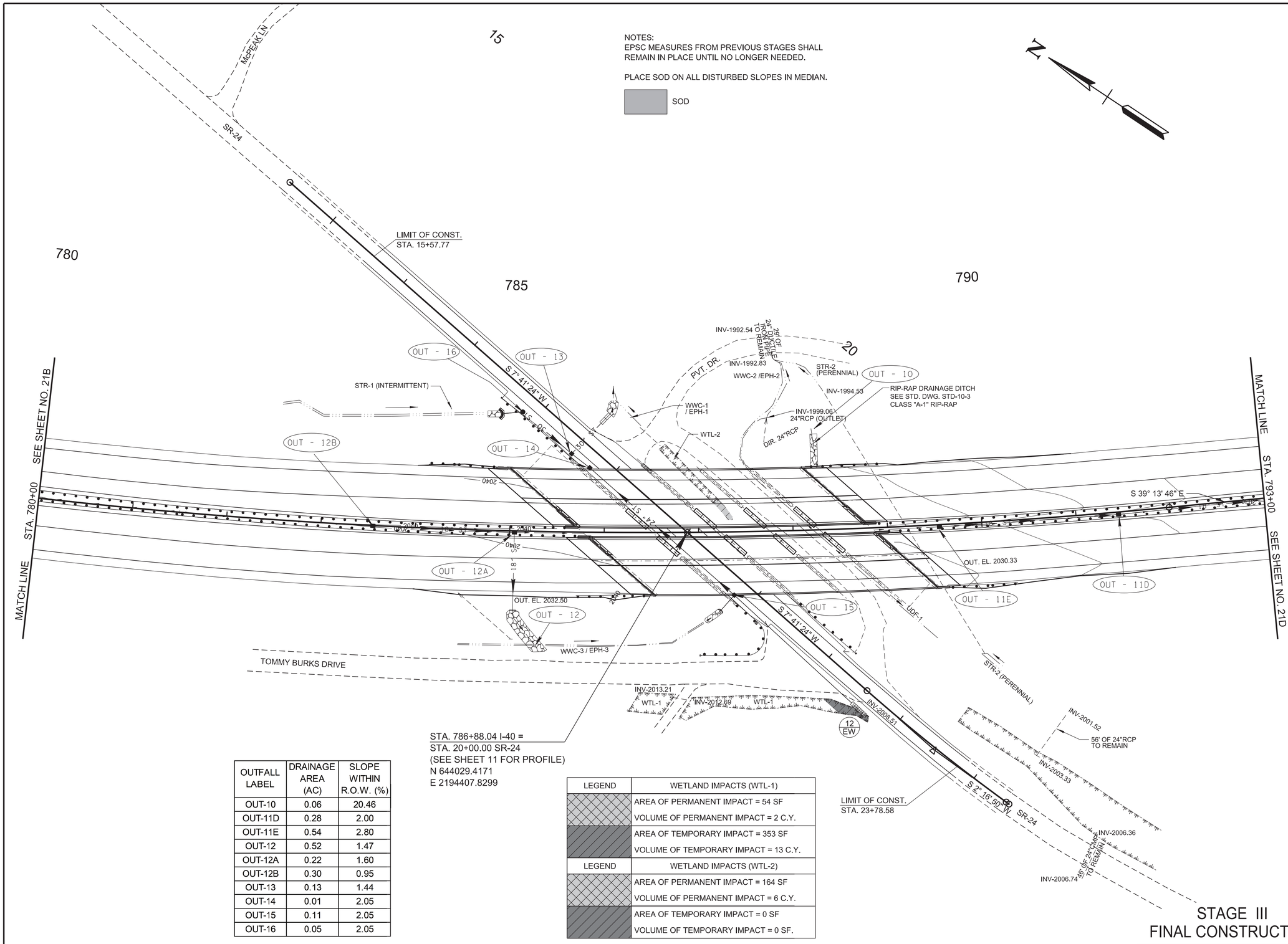
TYPE	YEAR	PROJECT NO.	SHEET NO.
L&G	2025	18100-4148-04	21C
PS&E	2025	18100-4148-04	21C

NOTES:
EPSC MEASURES FROM PREVIOUS STAGES SHALL REMAIN IN PLACE UNTIL NO LONGER NEEDED.

PLACE SOD ON ALL DISTURBED SLOPES IN MEDIAN.

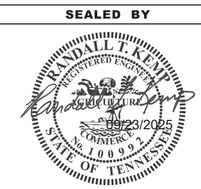
SOD



OUTFALL LABEL	DRAINAGE AREA (AC)	SLOPE WITHIN R.O.W. (%)
OUT-10	0.06	20.46
OUT-11D	0.28	2.00
OUT-11E	0.54	2.80
OUT-12	0.52	1.47
OUT-12A	0.22	1.60
OUT-12B	0.30	0.95
OUT-13	0.13	1.44
OUT-14	0.01	2.05
OUT-15	0.11	2.05
OUT-16	0.05	2.05

LEGEND	WETLAND IMPACTS (WTL-1)
	AREA OF PERMANENT IMPACT = 54 SF
	VOLUME OF PERMANENT IMPACT = 2 C.Y.
	AREA OF TEMPORARY IMPACT = 353 SF
	VOLUME OF TEMPORARY IMPACT = 13 C.Y.
LEGEND	WETLAND IMPACTS (WTL-2)
	AREA OF PERMANENT IMPACT = 164 SF
	VOLUME OF PERMANENT IMPACT = 6 C.Y.
	AREA OF TEMPORARY IMPACT = 0 SF
	VOLUME OF TEMPORARY IMPACT = 0 SF.

SEALED BY



COORDINATES ARE NAD 83(1995), ARE DATUM ADJUSTED BY THE FACTOR OF 1.00013 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988 WITH GEOID 03.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

EROSION PREVENTION & SEDIMENT CONTROL (EPSC) PLANS

STA.780+00 TO STA.793+00

SCALE: 1"=50'

STAGE III
FINAL CONSTRUCTION

PROPOSED CONTOURS

9/22/2025 9:21:08 AM
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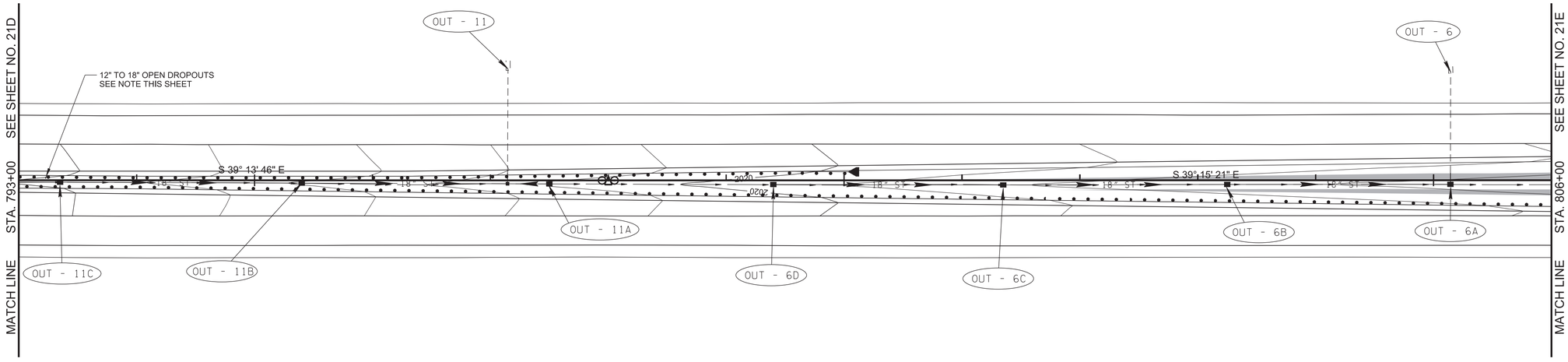
TYPE	YEAR	PROJECT NO.	SHEET NO.
L&G	2025	18100-4148-04	21D
PS&E	2025	18100-4148-04	21D

NOTES:
EPSC MEASURES FROM PREVIOUS STAGES SHALL REMAIN IN PLACE UNTIL NO LONGER NEEDED.

PLACE SOD ON ALL DISTURBED SLOPES IN MEDIAN.

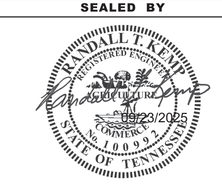
SOD

NOTE:
18" DIA. (APPROX.) SOIL PIPING CAN BE MITIGATED AT EACH LOCATION BY PLUGGING THE VISIBLE AND ACCESSIBLE OPEN THROATS WITH CLASS "A-1" RIP-RAP TO THE EXTENT POSSIBLE AS DIRECTED BY THE CEI REPRESENTATIVE, AND SHAPING THE GROUND SURFACE AT THE SPECIFIC LOCATIONS TO PROMOTE AND MAINTAIN POSITIVE DRAINAGE AS STATED IN GEOTECH REPORT.



OUTFALL LABEL	DRAINAGE AREA (AC)	SLOPE WITHIN R.O.W. (%)
OUT-6	0.76	1.38
OUT-6A	0.34	3.04
OUT-6B	0.16	1.95
OUT-6C	0.14	2.39
OUT-6D	0.12	2.49
OUT-11	0.12	2.99
OUT-11A	0.12	2.42
OUT-11B	0.09	2.12
OUT-11C	0.19	1.66

SEALED BY



COORDINATES ARE NAD 83(1995), ARE DATUM ADJUSTED BY THE FACTOR OF 1.00013 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988 WITH GEOID 03.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

STAGE III
FINAL CONSTRUCTION

PROPOSED CONTOURS

EROSION PREVENTION & SEDIMENT CONTROL (EPSC) PLANS
STA.793+00 TO STA.806+00
SCALE: 1"=50'

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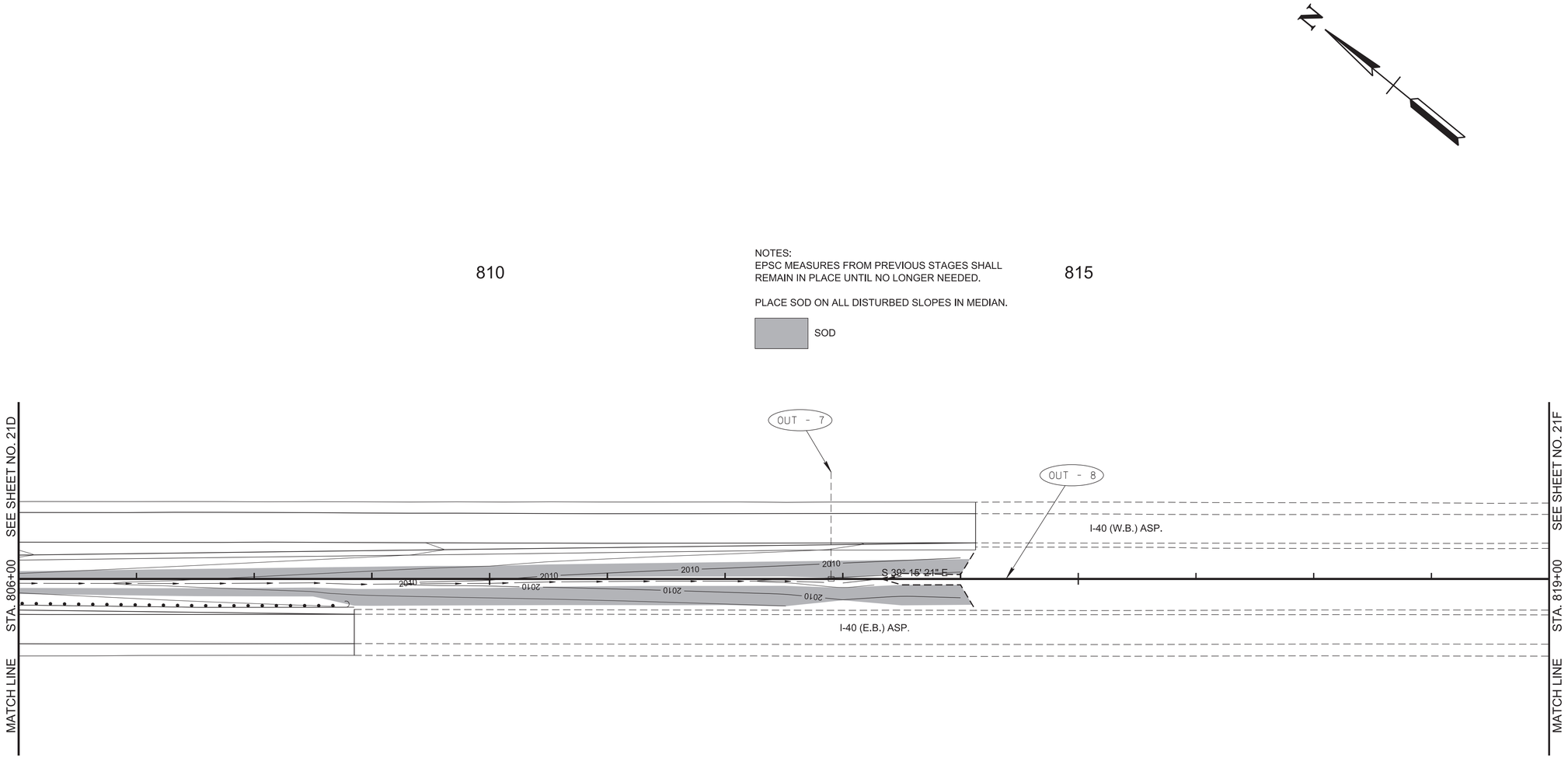
TYPE	YEAR	PROJECT NO.	SHEET NO.
L&G	2025	18100-4148-04	21E
PS&E	2025	18100-4148-04	21E



NOTES:
EPSC MEASURES FROM PREVIOUS STAGES SHALL REMAIN IN PLACE UNTIL NO LONGER NEEDED.

PLACE SOD ON ALL DISTURBED SLOPES IN MEDIAN.

SOD

OUTFALL LABEL	DRAINAGE AREA (AC)	SLOPE WITHIN R.O.W. (%)
OUT-7	0.98	4.21
OUT-8	0.15	5.55

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RANDALL T. KEMP
REGISTERED ENGINEER
AGRICULTURE
COMMERCE
No. 100992
STATE OF TENNESSEE
09/23/2025

COORDINATES ARE NAD 83(1995), ARE DATUM ADJUSTED BY THE FACTOR OF 1.00013 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988 WITH GEOID 03.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

STAGE III
FINAL CONSTRUCTION

PROPOSED CONTOURS

EROSION PREVENTION & SEDIMENT CONTROL (EPSC) PLANS
STA.806+00 TO STA.819+00
SCALE: 1"=50'

9/22/2025 9:21:10 AM
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TYPE	YEAR	PROJECT NO.	SHEET NO.
L&G	2025	18100-4148-04	21F
PS&E	2025	18100-4148-04	21F

820

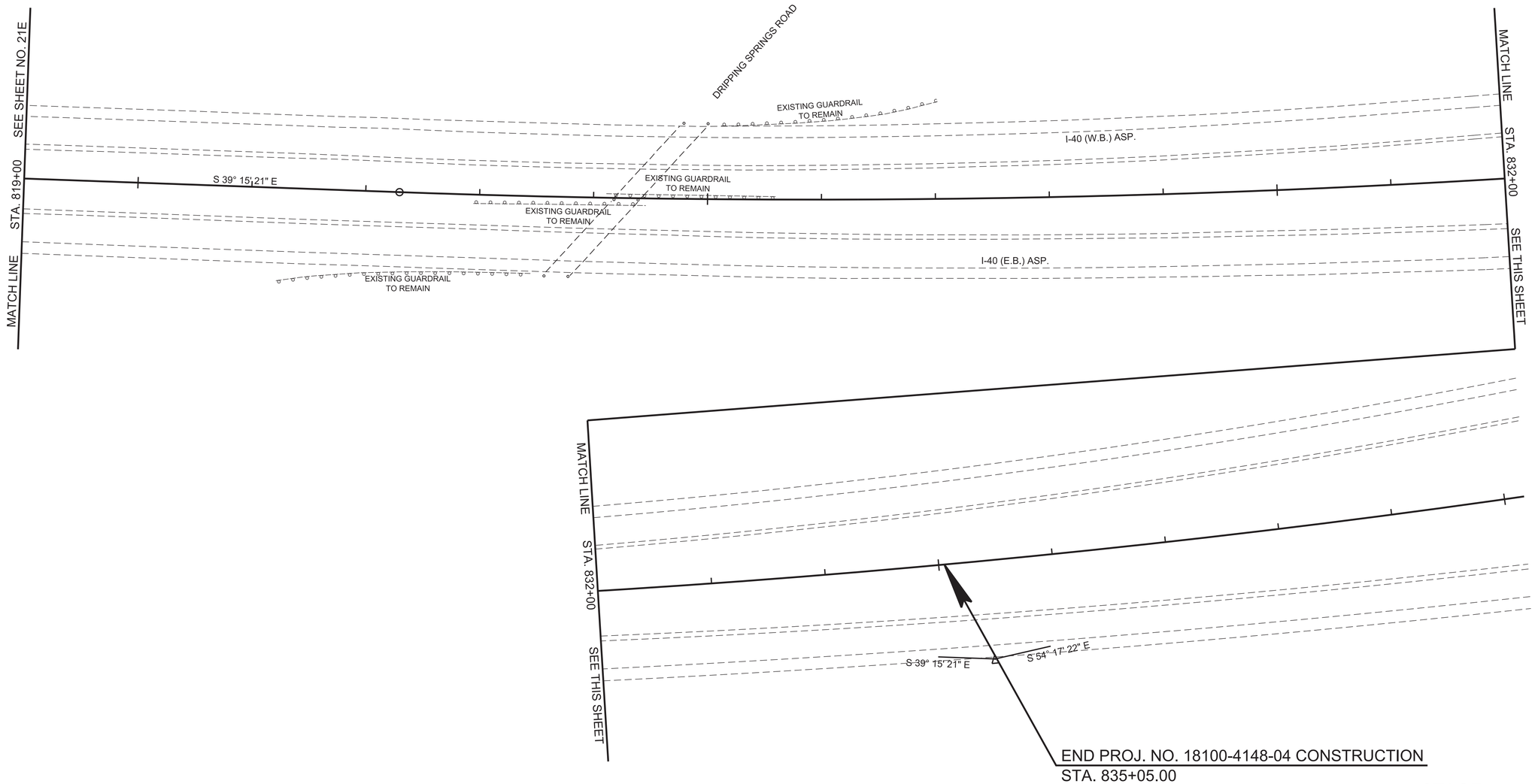
825

830

NOTES:
EPSC MEASURES FROM PREVIOUS STAGES SHALL REMAIN IN PLACE UNTIL NO LONGER NEEDED.

PLACE SOD ON ALL DISTURBED SLOPES IN MEDIAN.

SOD



END PROJ. NO. 18100-4148-04 CONSTRUCTION
STA. 835+05.00
N 640339.3833
E 2197498.1743

STAGE III
FINAL CONSTRUCTION

PROPOSED CONTOURS

SEALED BY

RANDALL T. KEMP
REGISTERED ENGINEER
AGRICULTURE
No. 100997
COMMERCE
STATE OF TENNESSEE
09/23/2025

COORDINATES ARE NAD 83(1995), ARE DATUM ADJUSTED BY THE FACTOR OF 1.00013 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988 WITH GEOID 03.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

EROSION PREVENTION & SEDIMENT CONTROL (EPSC) PLANS
STA.819+00 TO STA.835+05
SCALE: 1"=50'

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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

THE FOLLOWING STANDARD DRAWINGS APPLY UNLESS OTHERWISE NOTED IN THE REMARKS: FLAT SHEET (T-S SERIES 10, 12, 16, 17, 19, 20); EXTRUDED PANEL (T-S SERIES 6, 9, 13, 14); WALL/BARRIER MOUNTED (T-S-21), MULTI-DIRECTIONAL BASE (T-S SERIES 23A, 23B, 23C); RAILROAD (T-S-16)

TYPE	YEAR	PROJECT NO.	SHEET NO.
PS&E	2025	18100-4148-04	22

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		TN-45A	5A	18"	60"	SEE STANDARD DRAWING T-S-11								WHITE (REF.)	BLUE (REF.)	0.080" SHEET ALUM.	ITEM NO. 713-02.04						SIGN NO. 1 IS LOG MILE 304.2
5			6A																				SIGN NO. 5 IS LOG MILE 304.4
8			7A																				SIGN NO. 8 IS LOG MILE 304.6
11			8A																				SIGN NO. 11 IS LOG MILE 304.8
2		TN-45A	5A	18"	60"	SEE STANDARD DRAWING T-S-11								WHITE (REF.)	BLUE (REF.)	0.080" SHEET ALUM.	MOUNTED ON POST WITH SIGN NO. 1						SIGN NO. 2 IS LOG MILE 304.2
6			6A														MOUNTED ON POST WITH SIGN NO. 5						SIGN NO. 6 IS LOG MILE 304.4
9			7A														MOUNTED ON POST WITH SIGN NO. 8						SIGN NO. 9 IS LOG MILE 304.6
12			8A														MOUNTED ON POST WITH SIGN NO. 11						SIGN NO. 12 IS LOG MILE 304.8
3		R5-11	6A	30"	24"									BLACK (REF.)	WHITE (REF.)	0.080" SHEET ALUM.	P7	h1=16'-6" h2=16'-6"				7'-0"	
4			6A																				
7		W8-13	6A	48"	48"									WHITE (REF.)	YELLOW (REF.)	0.100" SHEET ALUM.	P6	h1=15'-9" h2=15'-9"	1.0'x4' CYL.	0.24	49.8	7'-0"	SLIP BASE REQUIRED
10			6A																				

U-POST SUBSTITUTION TABLE	
BID ITEM 713-11.01	SUBSTITUTION ALLOWED
2#/FT. U1	2#/FT. MUI 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.

SEALED BY



STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

SIGN SCHEDULE

9/22/2025 9:21:11 AM
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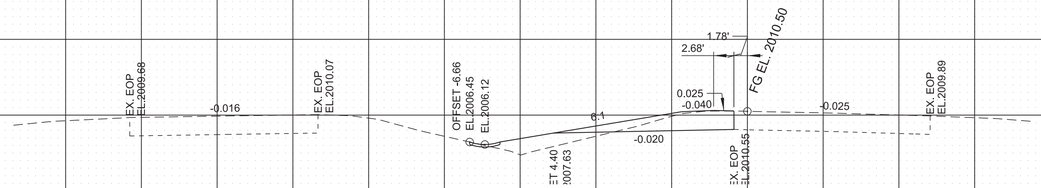
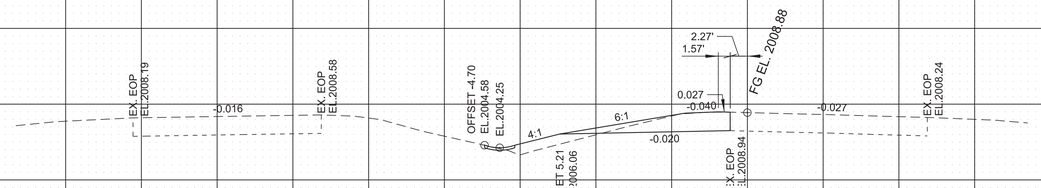
TYPE	YEAR	PROJECT NO.	SHEET NO.
L&G	2025	18100-4148-04	22
PS&E	2025	18100-4148-04	23



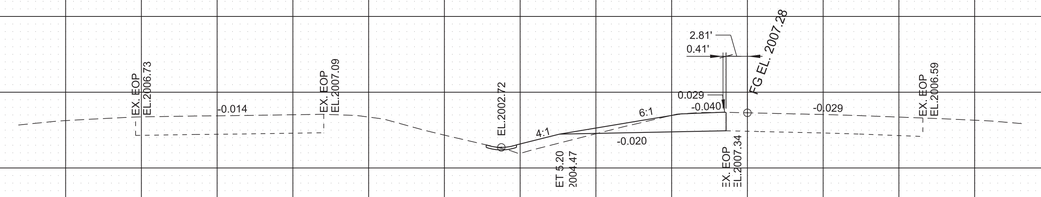
764+00.00

CUT 14
FILL 27



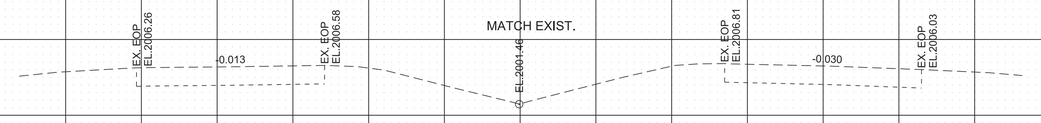
763+50.00

CUT 15
FILL 15

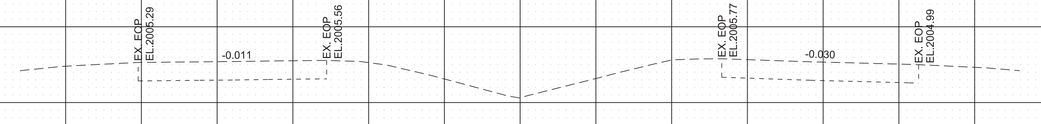


763+00.00

CUT 15
FILL 7



762+83.00



762+50.00

I-40 CUMBERLAND CO.

BEGIN STA. 762+50.00
END STA. 764+00.00

140 120 100 80 60 40 20 0 20 40 60 80 100 120 140

9/22/2025 9:21:15 AM
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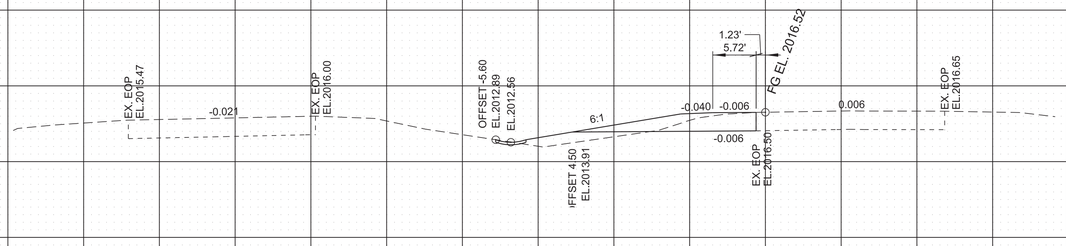
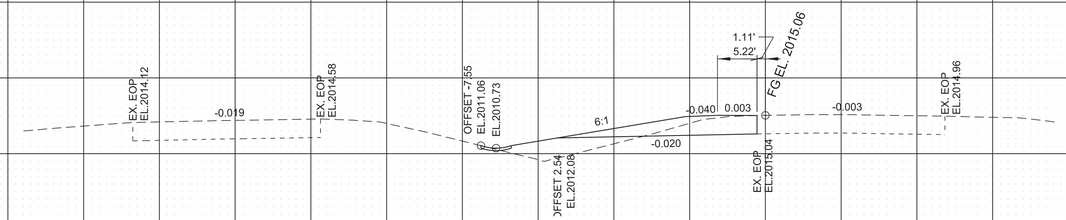
TYPE	YEAR	PROJECT NO.	SHEET NO.
L&G	2025	18100-4148-04	23
PS&E	2025	18100-4148-04	24



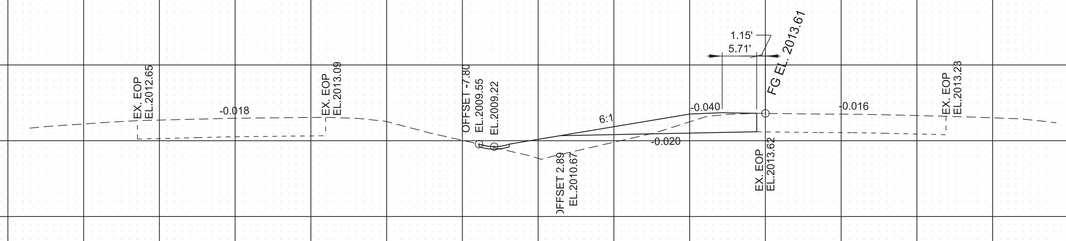
766+00.00

CUT 13
FILL 23



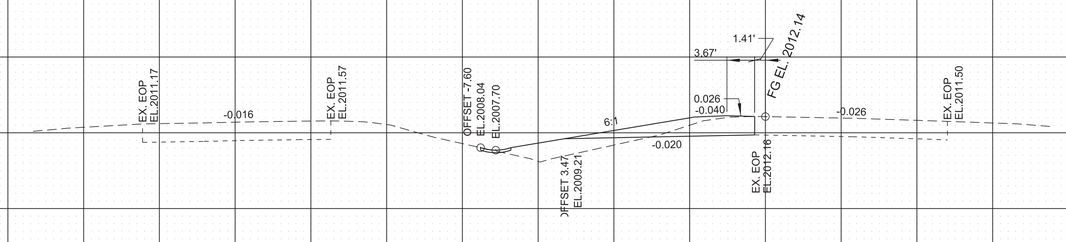
765+50.00

CUT 13
FILL 39



765+00.00

CUT 12
FILL 40



764+50.00

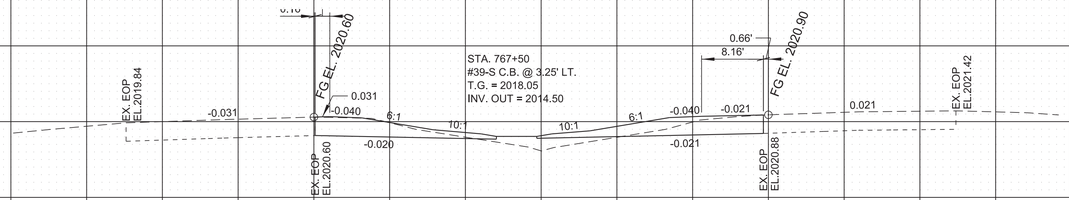
CUT 11
FILL 38

I-40 CUMBERLAND CO.

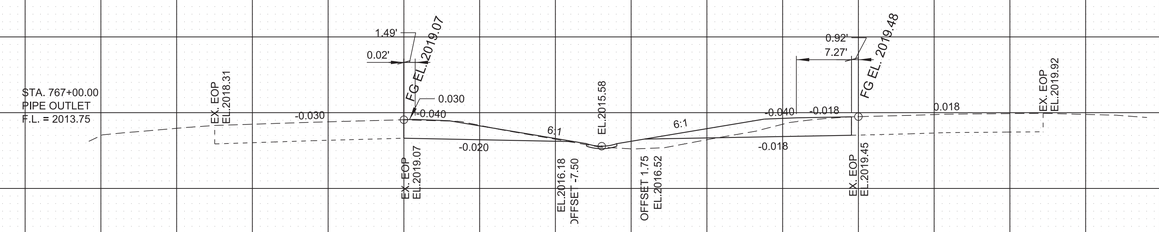
BEGIN STA. 764+50.00
END STA. 766+00.00

9/22/2025 9:21:16 AM
J:\Structures\111685-14_CumberlandCo_I-40_over_SR24_(orig_10705-35)\Drawings\Survey\I40CrossSections.sht

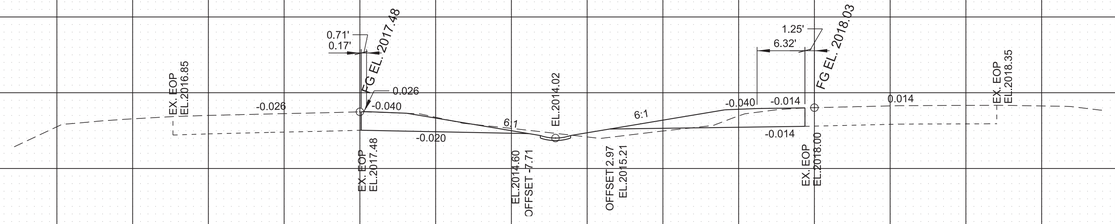
TYPE	YEAR	PROJECT NO.	SHEET NO.
L&G	2025	18100-4148-04	24
PS&E	2025	18100-4148-04	25



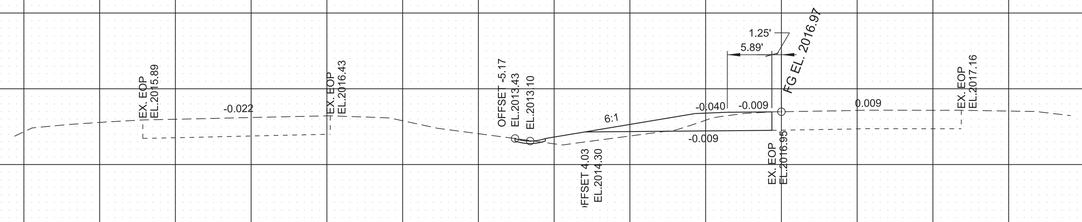
767+50.00 — CUT 30, FILL 31



767+00.00 — CUT 30, FILL 20



766+50.00 — CUT 34, FILL 18



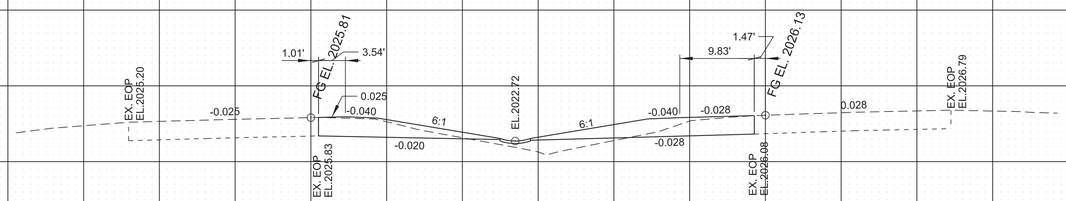
766+15.00 — CUT 13, FILL 21

I-40 CUMBERLAND CO.

BEGIN STA. 766+15.00
END STA. 767+50.00

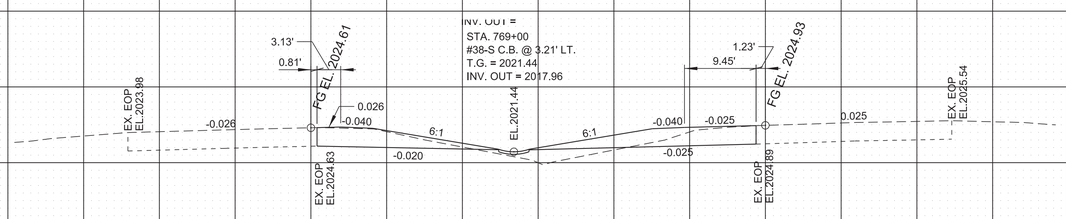
9/22/2025 9:21:17 AM
J:\Structures\11685-14_CumberlandCo_I-40_over_SR24_(orig_10705-35)\Drawings\Survey\I40CrossSections.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.
L&G	2025	18100-4148-04	25
PS&E	2025	18100-4148-04	26



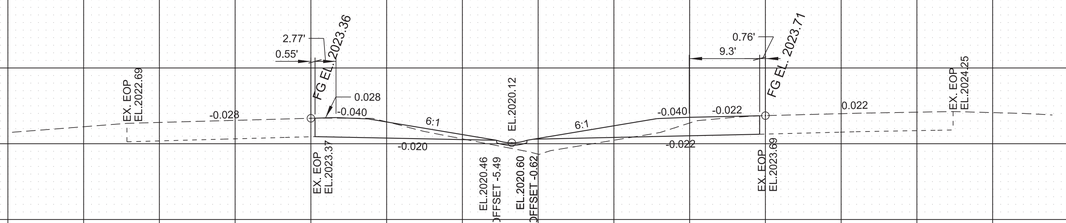
769+50.00

CUT 29
FILL 34



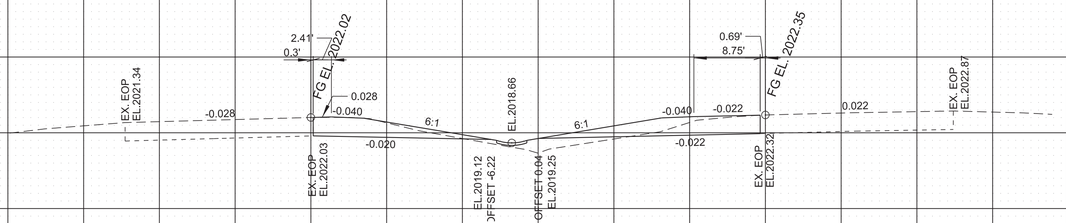
769+00.00

CUT 30
FILL 31



768+50.00

CUT 31
FILL 32



768+00.00

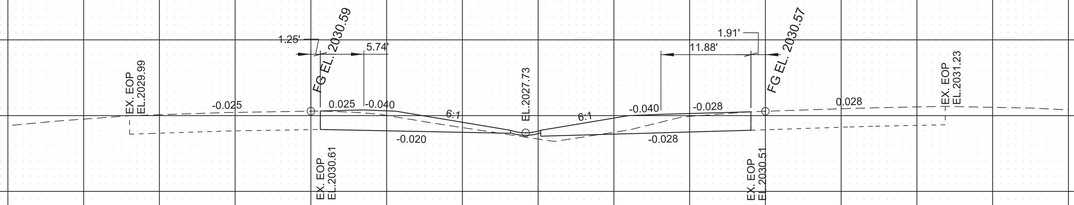
CUT 30
FILL 29

I-40 CUMBERLAND CO.

BEGIN STA. 768+00.00
END STA. 769+50.00

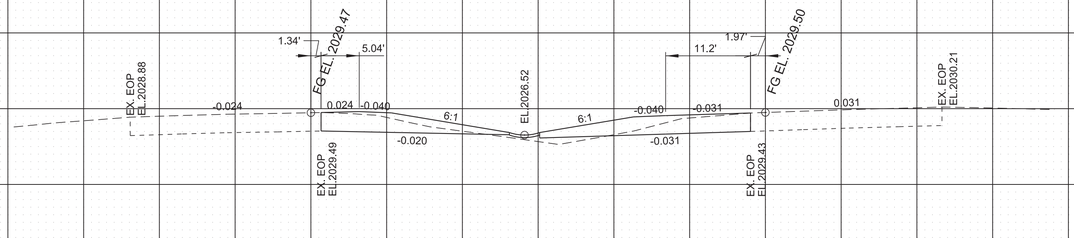
9/22/2025 9:21:19 AM
J:\Structures\11685-14_CumberlandCo_I-40_over_SR24_(orig_10705-35)\Drawings\Survey\I40CrossSections.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.
L&G	2025	18100-4148-04	26
PS&E	2025	18100-4148-04	27



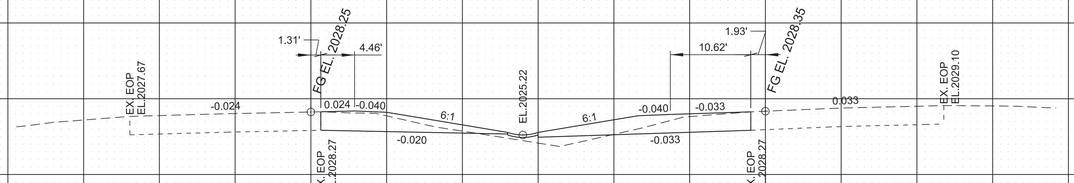
771+50.00

CUT 30
FILL 19



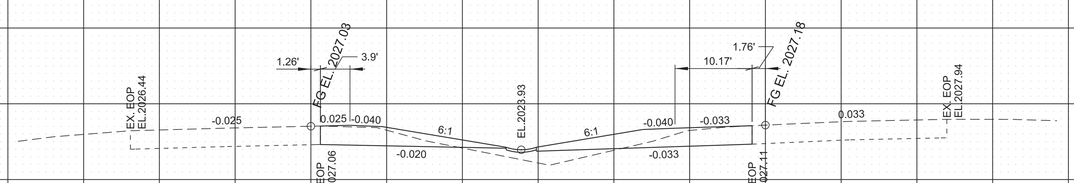
771+00.00

CUT 28
FILL 24



770+50.00

CUT 30
FILL 27



770+00.00

CUT 29
FILL 38

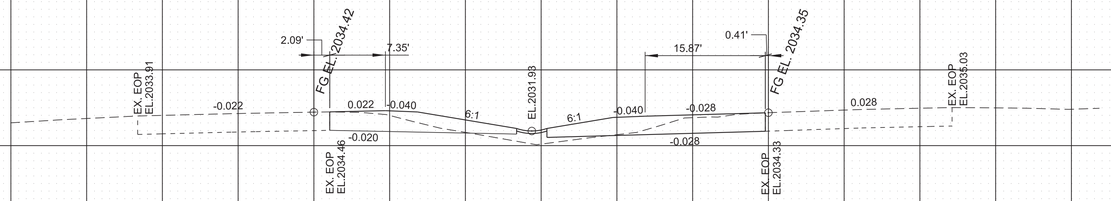
I-40 CUMBERLAND CO.

BEGIN STA. 770+00.00
END STA. 771+50.00

140 120 100 80 60 40 20 0 20 40 60 80 100 120 140

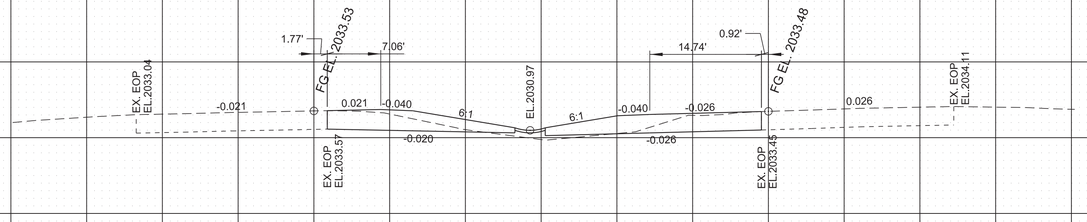
9/22/2025 9:21:20 AM
J:\Structures\11685-14_CumberlandCo_I-40_over_SR24_(orig_10705-35)\Drawings\Survey\I40CrossSections.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.
L&G	2025	18100-4148-04	27
PS&E	2025	18100-4148-04	28



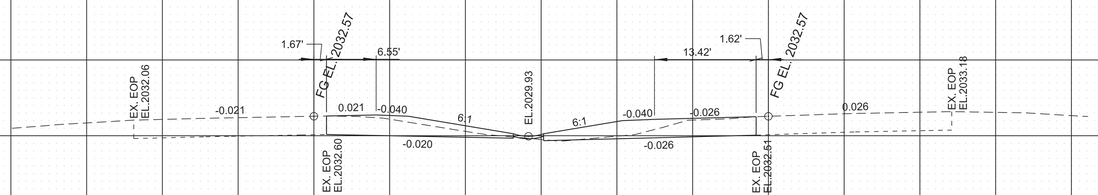
773+50.00

CUT 30
FILL 33



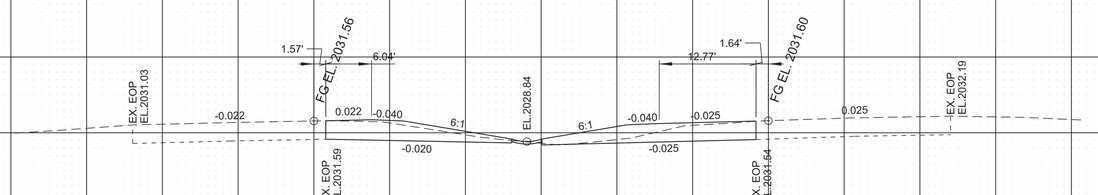
773+00.00

CUT 31
FILL 26



772+50.00

CUT 32
FILL 13



772+00.00

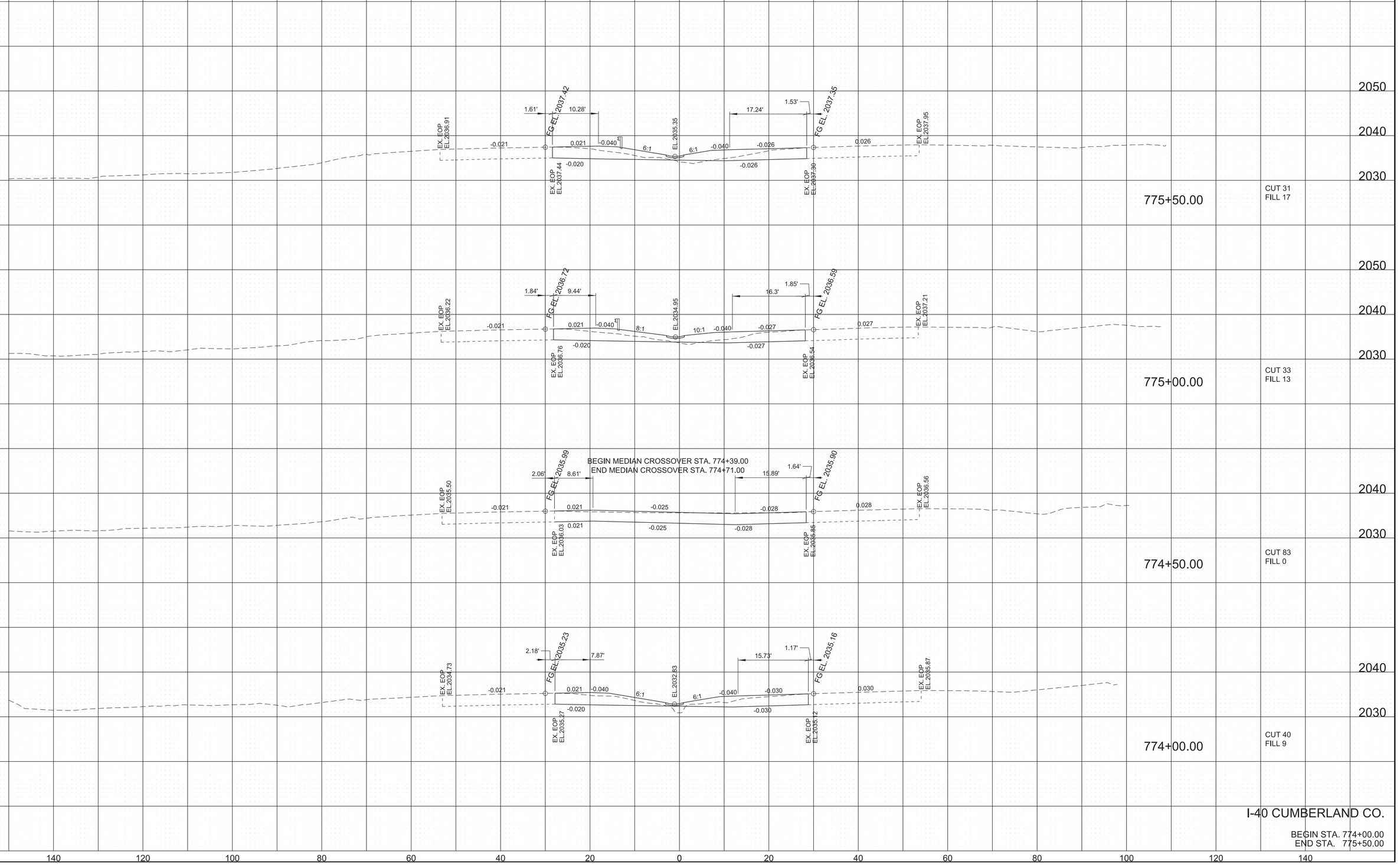
CUT 35
FILL 10

I-40 CUMBERLAND CO.

BEGIN STA. 772+00.00
END STA. 773+50.00

9/22/2025 9:21:22 AM
J:\Structures\11685-14_CumberlandCo_I-40_over_SR24_(orig_10705-35)\Drawings\Survey\I40CrossSections.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.
L&G	2025	18100-4148-04	28
PS&E	2025	18100-4148-04	29

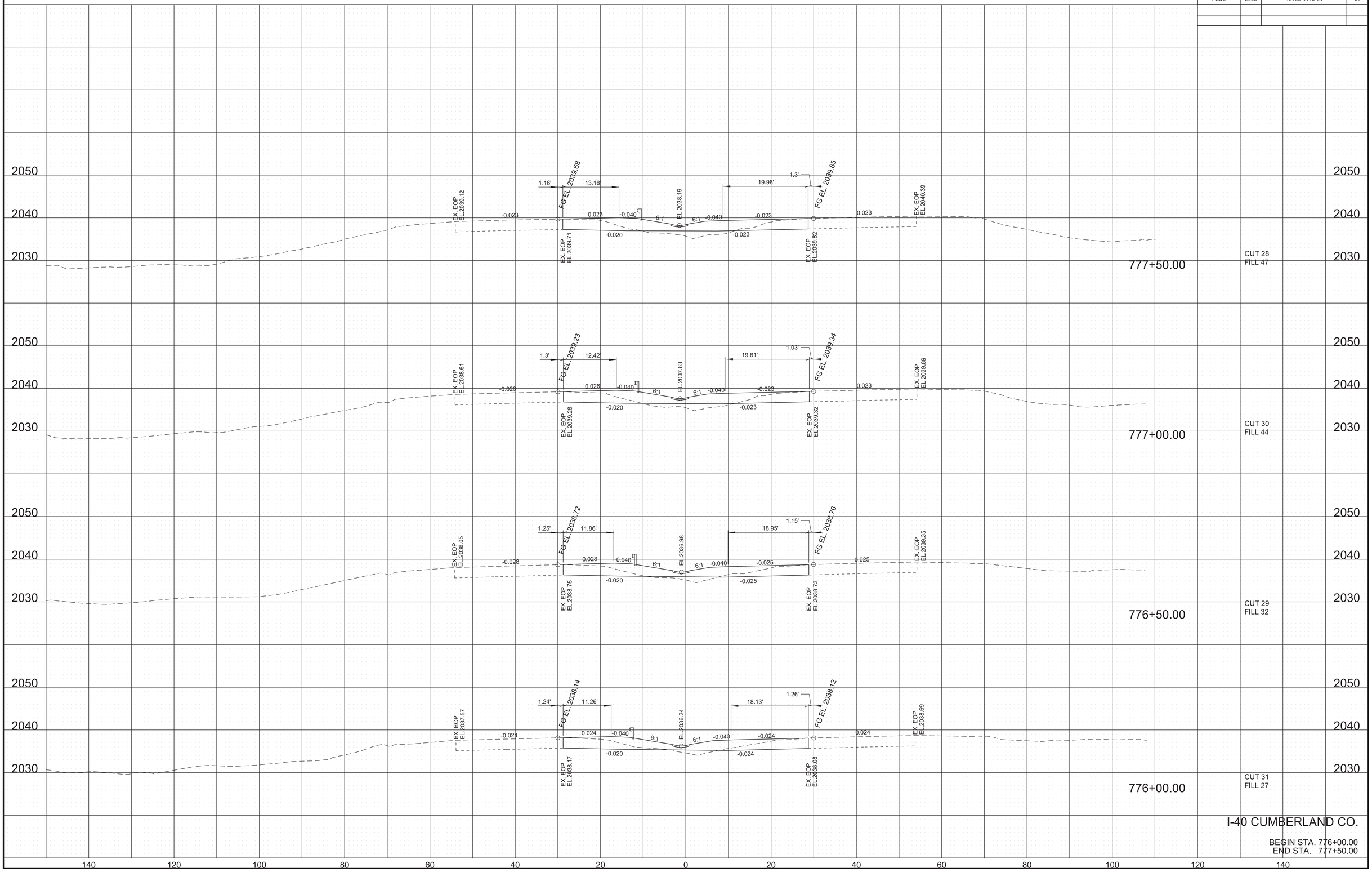


I-40 CUMBERLAND CO.

BEGIN STA. 774+00.00
END STA. 775+50.00

9/22/2025 9:21:23 AM
J:\Structures\11685-14_CumberlandCo_I-40_over_SR24_(orig_10705-35)\Drawings\Survey\I40CrossSections.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.
L&G	2025	18100-4148-04	29
PS&E	2025	18100-4148-04	30

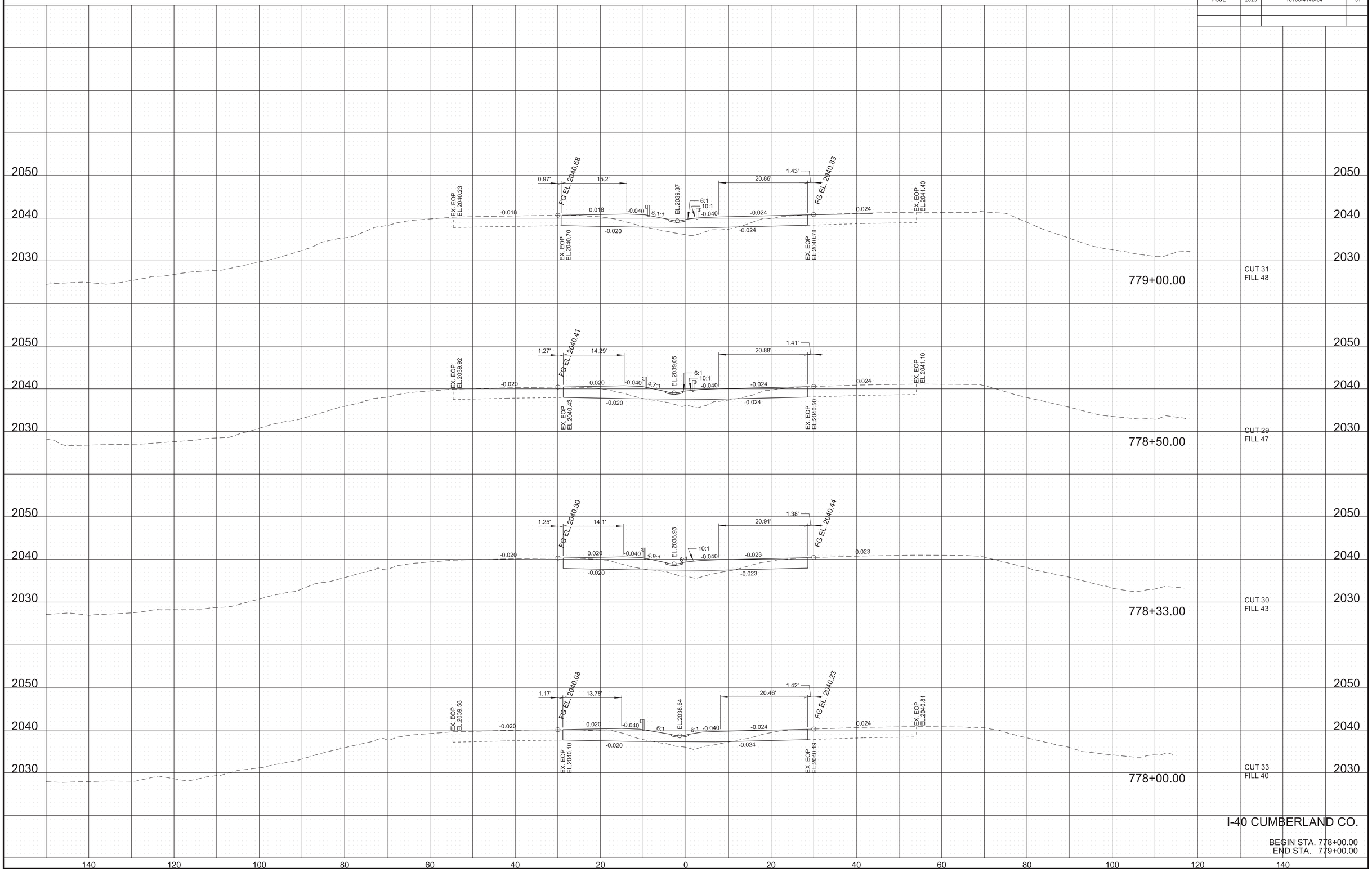


I-40 CUMBERLAND CO.

BEGIN STA. 776+00.00
END STA. 777+50.00

9/22/2025 9:21:24 AM
J:\Structures\111685-14_CumberlandCo_I-40_over_SR24_(orig_10705-35)\Drawings\Survey\I40CrossSections.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.
L&G	2025	18100-4148-04	30
PS&E	2025	18100-4148-04	31



9/22/2025 9:21:26 AM
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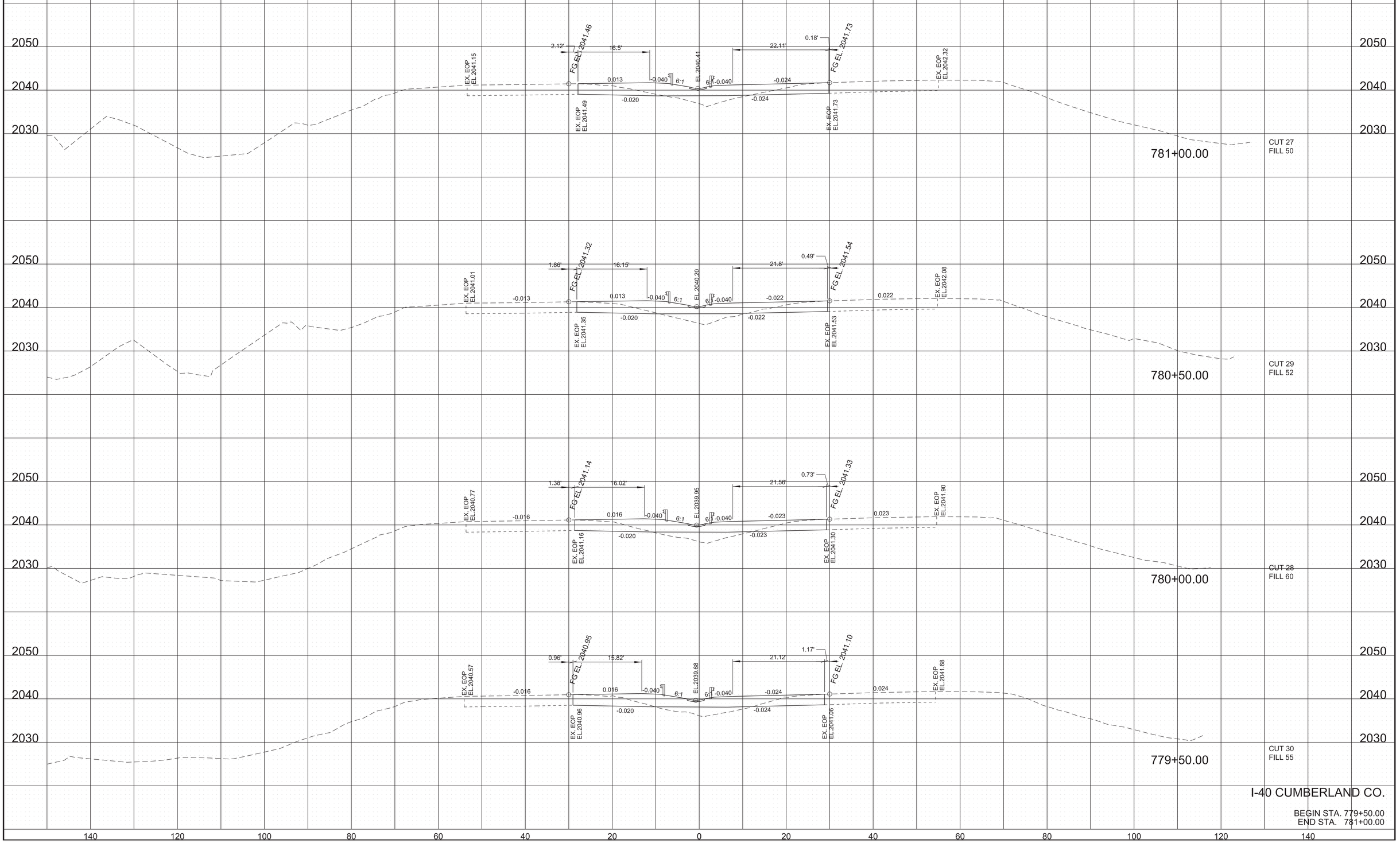
TYPE	YEAR	PROJECT NO.	SHEET NO.
L&G	2025	18100-4148-04	31
PS&E	2025	18100-4148-04	32

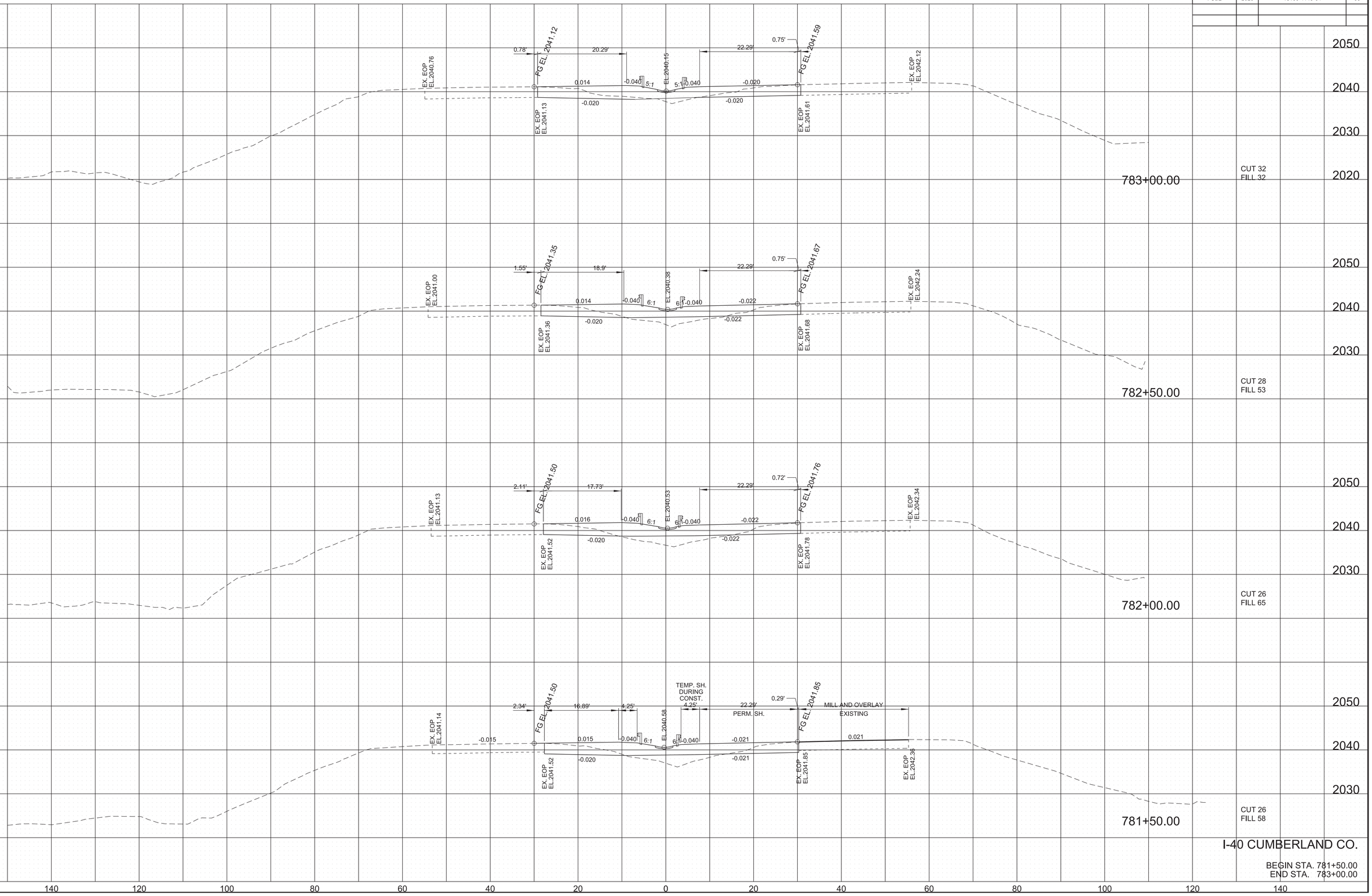


I-40 CUMBERLAND CO.

BEGIN STA. 779+50.00
END STA. 781+00.00

9/22/2025 9:21:27 AM
J:\Structures\11685-14_CumberlandCo_I-40_over_SR24_(orig_10705-35)\Drawings\Survey\I40CrossSections.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.
L&G	2025	18100-4148-04	32
PS&E	2025	18100-4148-04	33

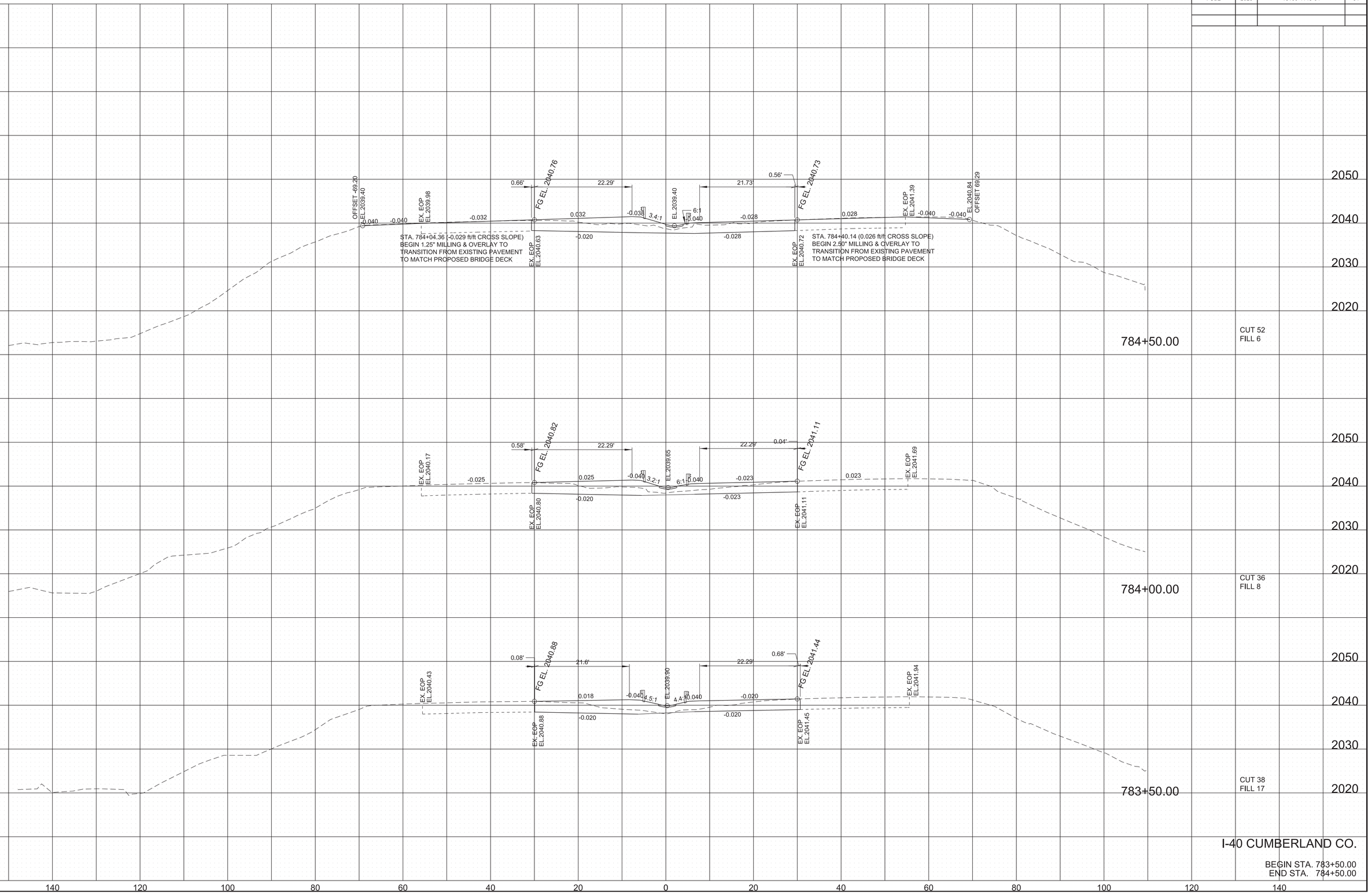


I-40 CUMBERLAND CO.

BEGIN STA. 781+50.00
END STA. 783+00.00

9/22/2025 9:21:29 AM
J:\Structures\11685-14_CumberlandCo_I-40_over_SR24_(orig_10705-35)\Drawings\Survey\I40CrossSections.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.
L&G	2025	18100-4148-04	33
PS&E	2025	18100-4148-04	34



I-40 CUMBERLAND CO.

BEGIN STA. 783+50.00
END STA. 784+50.00

9/22/2025 9:21:30 AM
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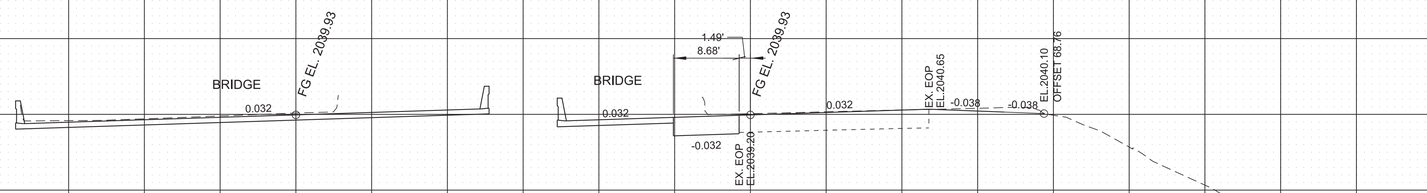
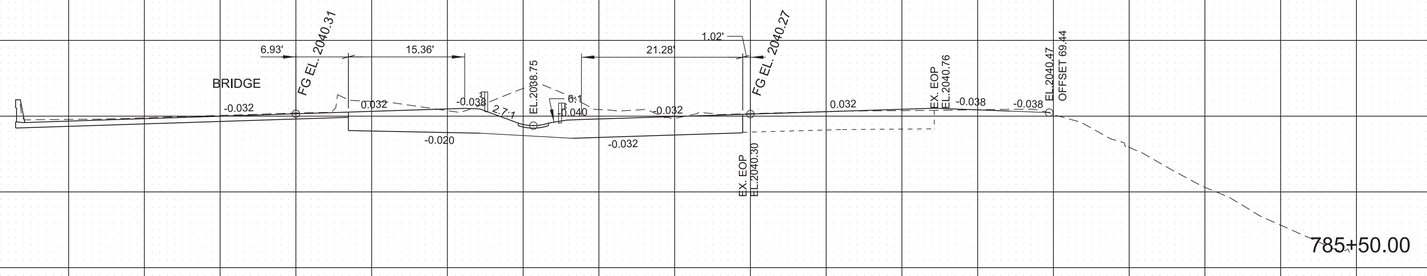
TYPE	YEAR	PROJECT NO.	SHEET NO.
L&G	2025	18100-4148-04	34
PS&E	2025	18100-4148-04	35



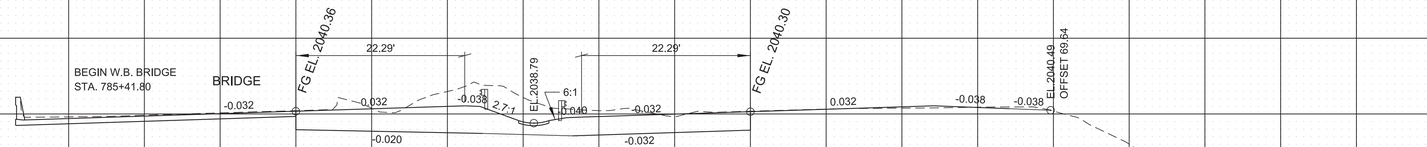
786+00.00

CUT 20
FILL 0



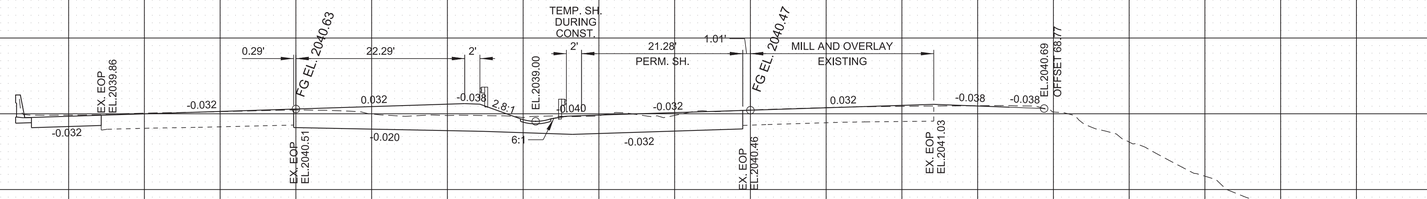
785+50.00

CUT 134
FILL 2



785+41.80

CUT 143
FILL 2



785+00.00

CUT 75
FILL 2

I-40 CUMBERLAND CO.

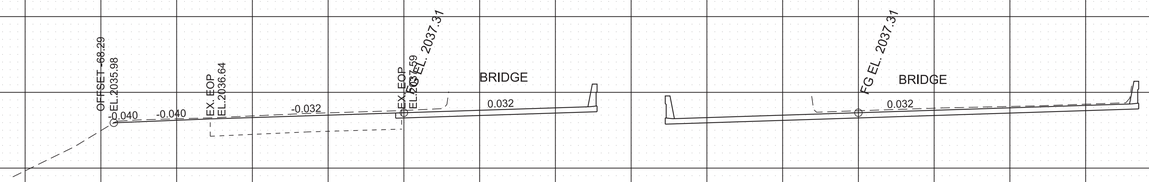
BEGIN STA. 785+00.00
END STA. 786+00.00

2050
2040
2030

140 120 100 80 60 40 20 0 20 40 60 80 100 120 140

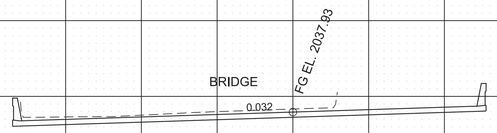
9/22/2025 9:21:32 AM
J:\Structures\11685-14_CumberlandCo_I-40_over_SR24_(orig_10705-35)\Drawings\Survey\I40CrossSections.sht

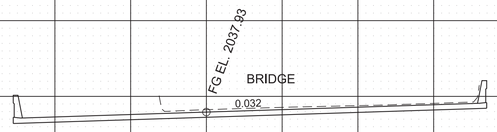
TYPE	YEAR	PROJECT NO.	SHEET NO.
L&G	2025	18100-4148-04	35
PS&E	2025	18100-4148-04	36



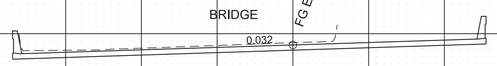
788+50.00

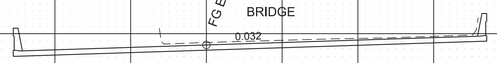
CUT 9
FILL 0



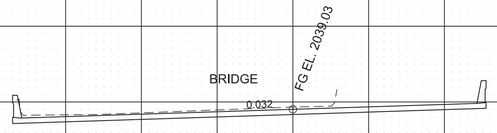


788+00.00



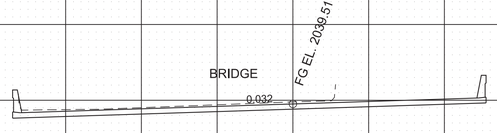


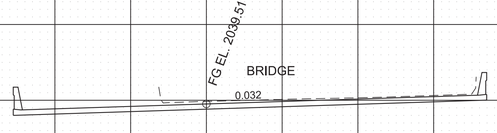
787+50.00



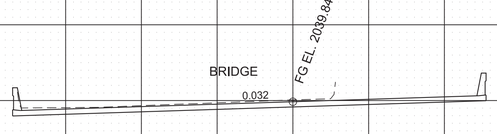


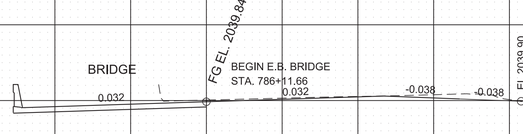
787+00.00





786+50.00





786+11.66

CUT 11
FILL 0

I-40 CUMBERLAND CO.

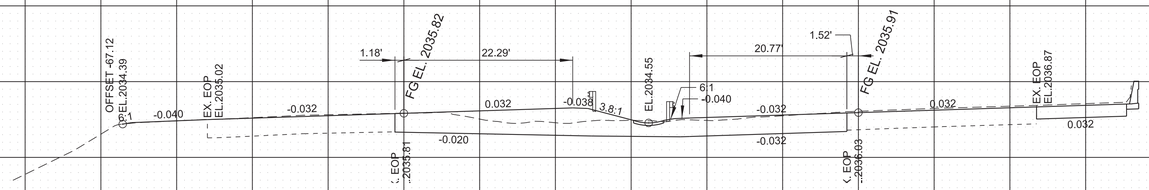
BEGIN STA. 786+11.66
END STA. 788+50.00

2050
2040
2030

140 120 100 80 60 40 20 0 20 40 60 80 100 120 140

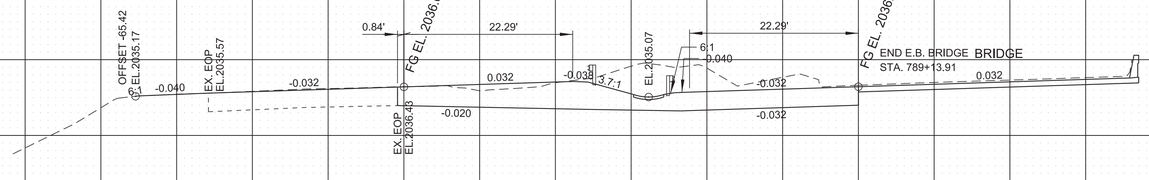
9/22/2025 9:21:33 AM
J:\Structures\11685-14_CumberlandCo_I-40_over_SR24_(orig_10705-35)\Drawings\Survey\I40CrossSections.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.
L&G	2025	18100-4148-04	36
PS&E	2025	18100-4148-04	37



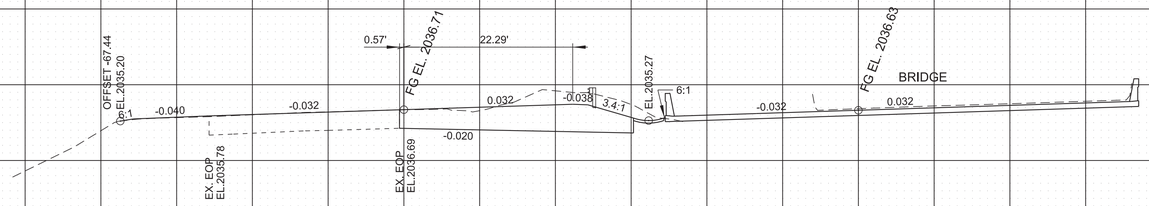
789+50.00

CUT 73
FILL 3



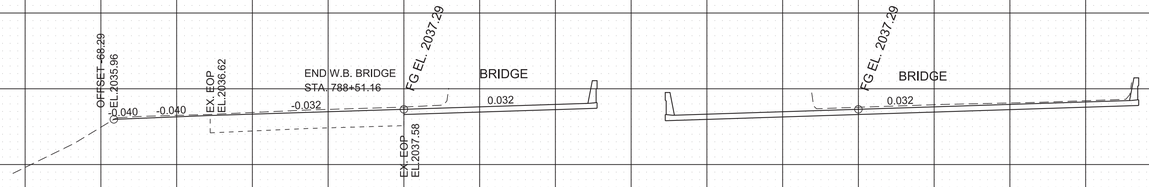
789+13.91

CUT 81
FILL 0



789+00.00

CUT 73
FILL 1



788+51.16

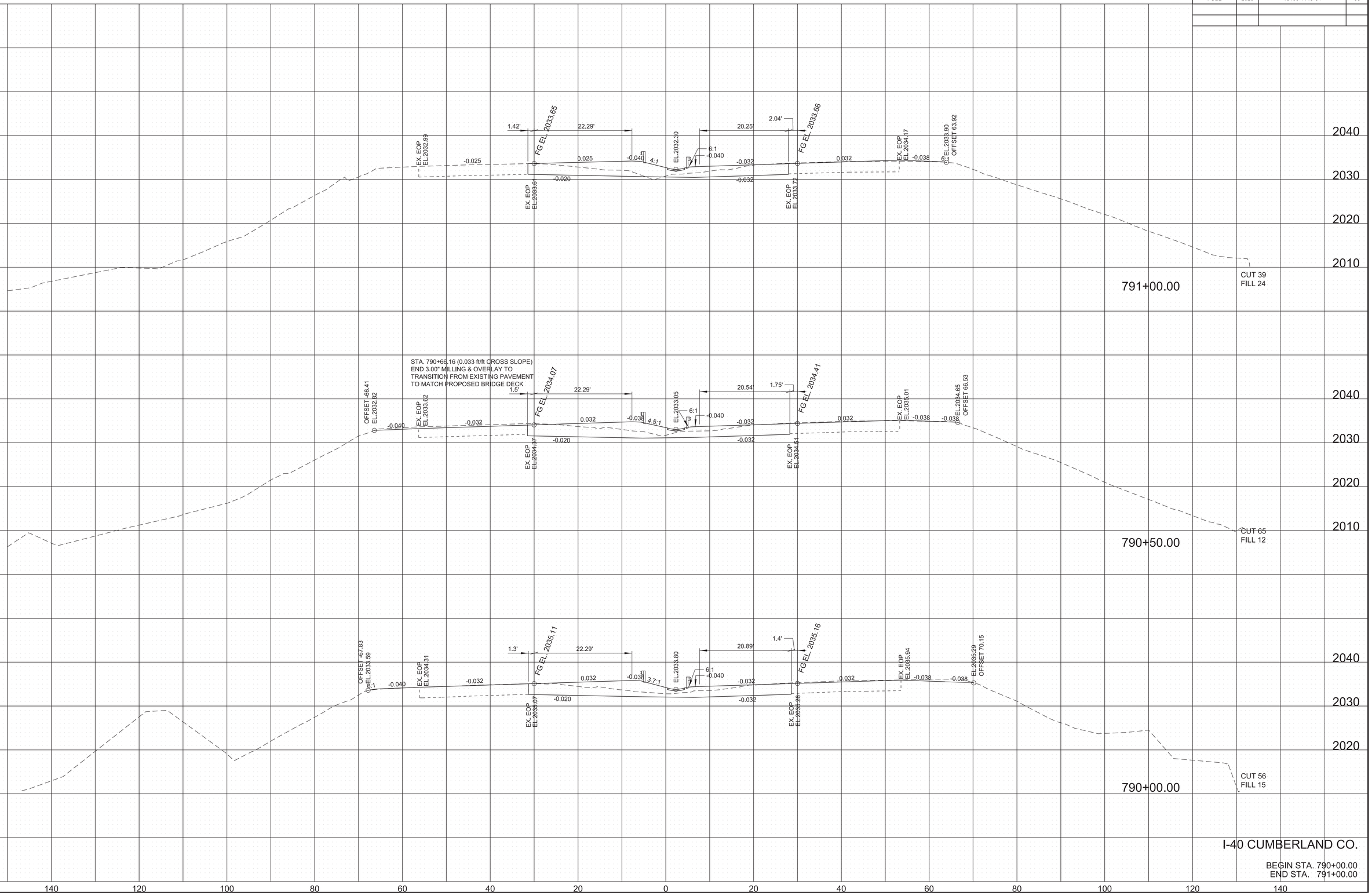
CUT 9
FILL 0

I-40 CUMBERLAND CO.

BEGIN STA. 788+51.16
END STA. 789+50.00

9/22/2025 9:21:34 AM
J:\Structures\11685-14_CumberlandCo_I-40_over_SR24_(orig_10705-35)\Drawings\Survey\I40CrossSections.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.
L&G	2025	18100-4148-04	37
PS&E	2025	18100-4148-04	38

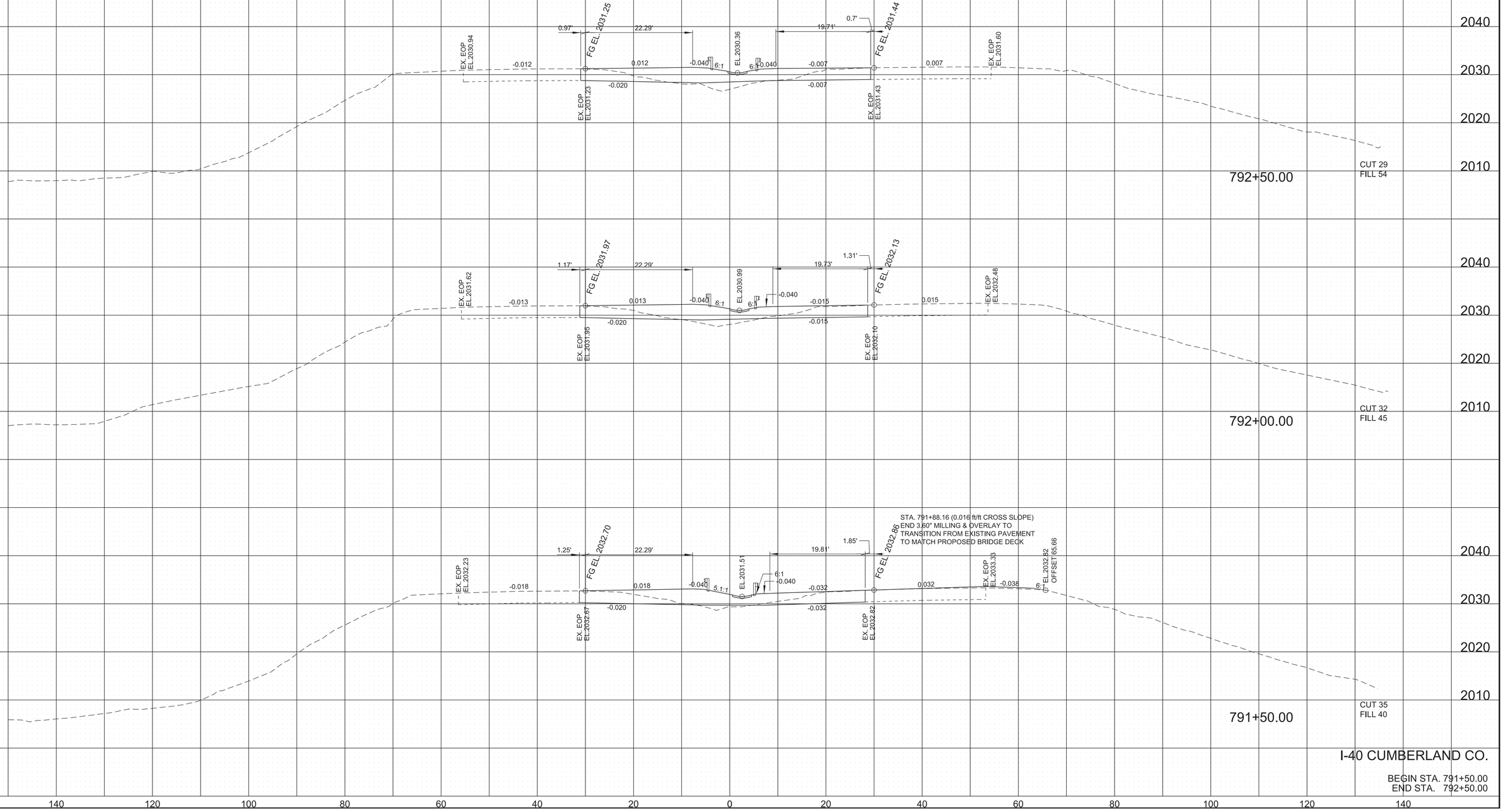


I-40 CUMBERLAND CO.

BEGIN STA. 790+00.00
END STA. 791+00.00

9/22/2025 9:21:36 AM
J:\Structures\11685-14_CumberlandCo_I-40_over_SR24_(orig_10705-35)\Drawings\Survey\I40CrossSections.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.
L&G	2025	18100-4148-04	38
PS&E	2025	18100-4148-04	39

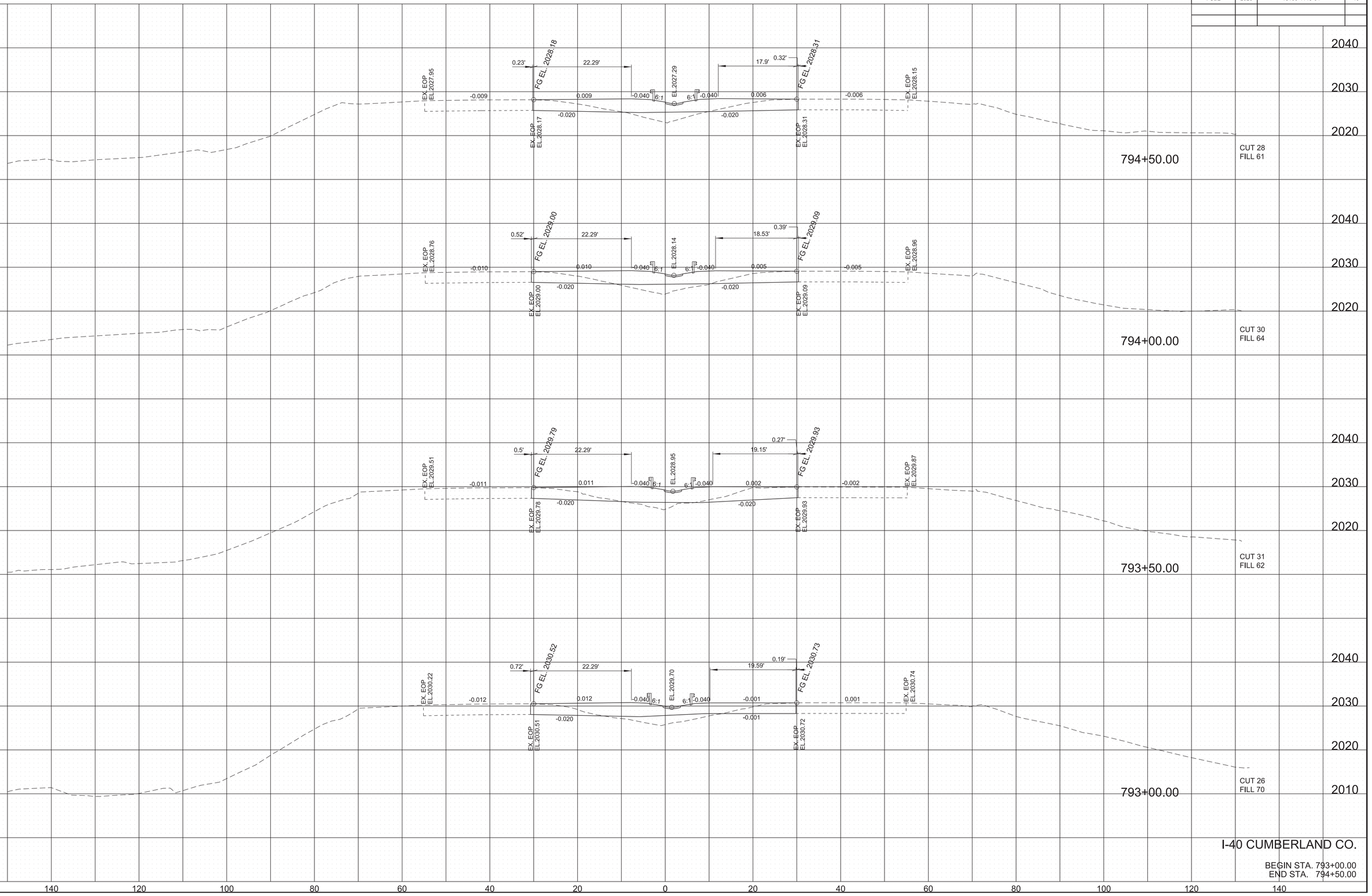


I-40 CUMBERLAND CO.

BEGIN STA. 791+50.00
END STA. 792+50.00

9/22/2025 9:21:37 AM
J:\Structures\11685-14_CumberlandCo_I-40_over_SR24_(orig_10705-35)\Drawings\Survey\I40CrossSections.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.
L&G	2025	18100-4148-04	39
PS&E	2025	18100-4148-04	40

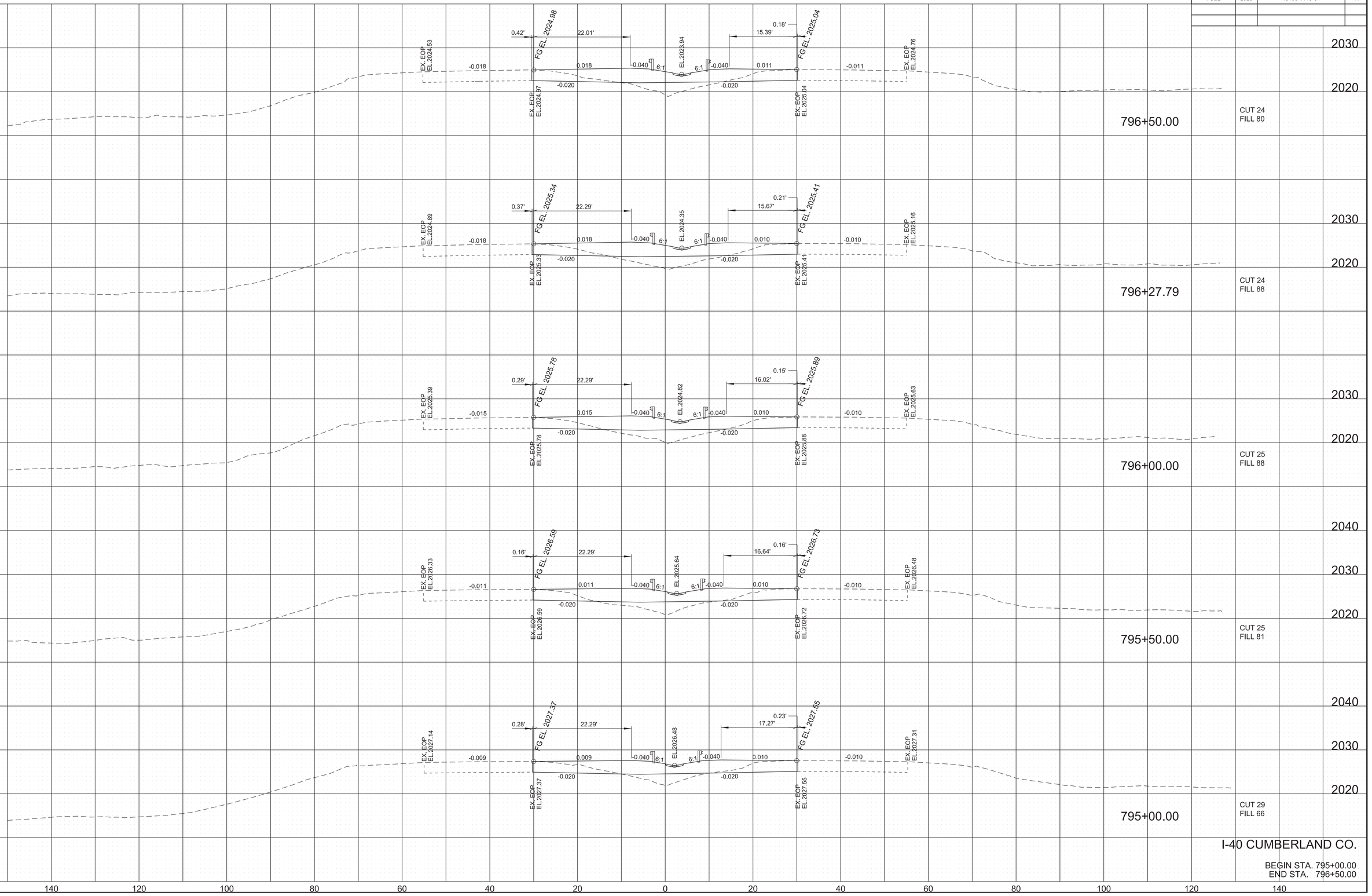


I-40 CUMBERLAND CO.

BEGIN STA. 793+00.00
END STA. 794+50.00

9/22/2025 9:21:39 AM
J:\Structures\11685-14_CumberlandCo_I-40_over_SR24_(orig_10705-35)\Drawings\Survey\I40CrossSections.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.
L&G	2025	18100-4148-04	40
PS&E	2025	18100-4148-04	41

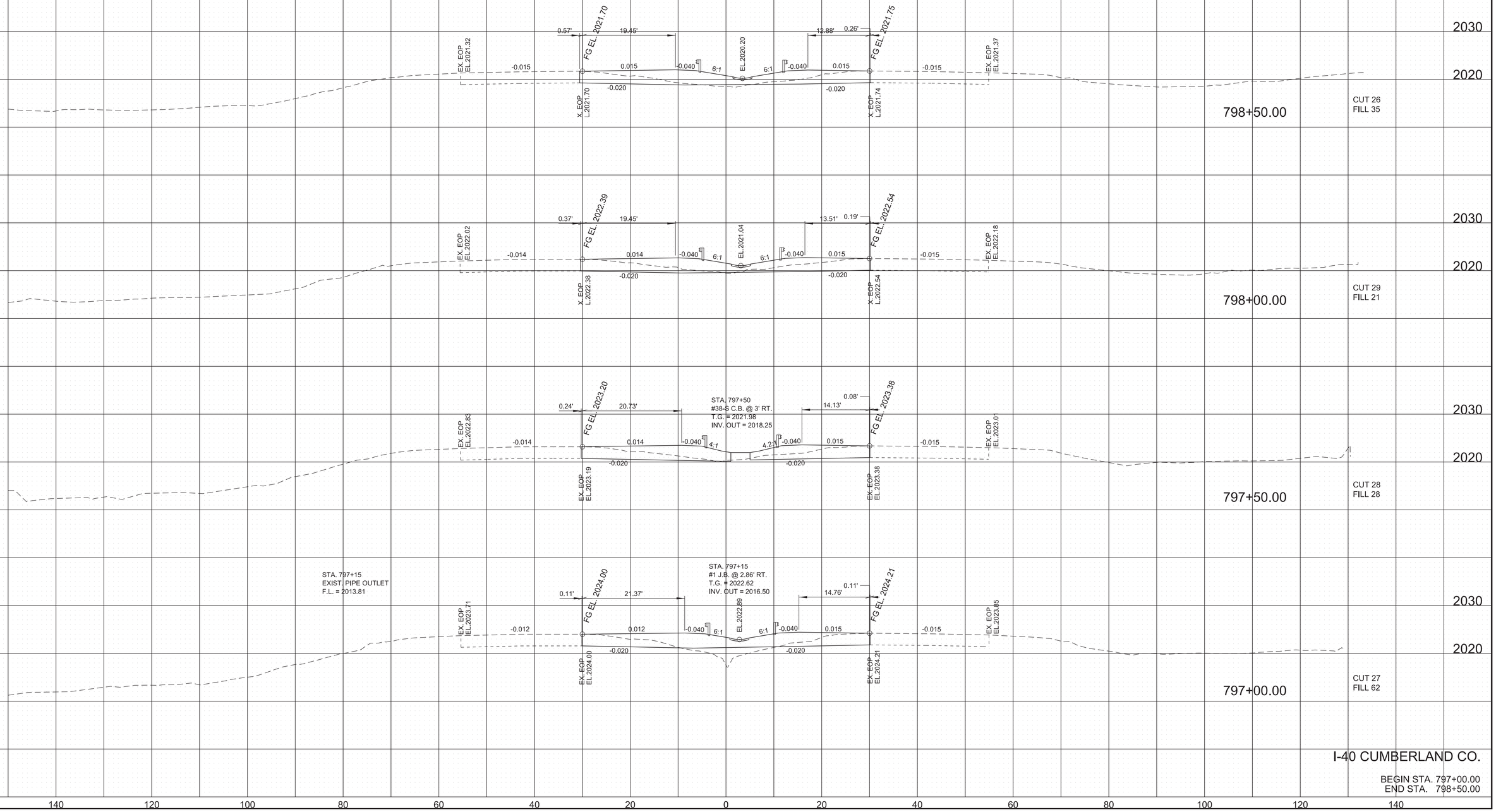


I-40 CUMBERLAND CO.

BEGIN STA. 795+00.00
END STA. 796+50.00

9/22/2025 9:21:40 AM
J:\Structures\11685-14_CumberlandCo_I-40_over_SR24_(orig_10705-35)\Drawings\Survey\I40CrossSections.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.
L&G	2025	18100-4148-04	41
PS&E	2025	18100-4148-04	42



I-40 CUMBERLAND CO.

BEGIN STA. 797+00.00
END STA. 798+50.00

9/22/2025 9:21:41 AM
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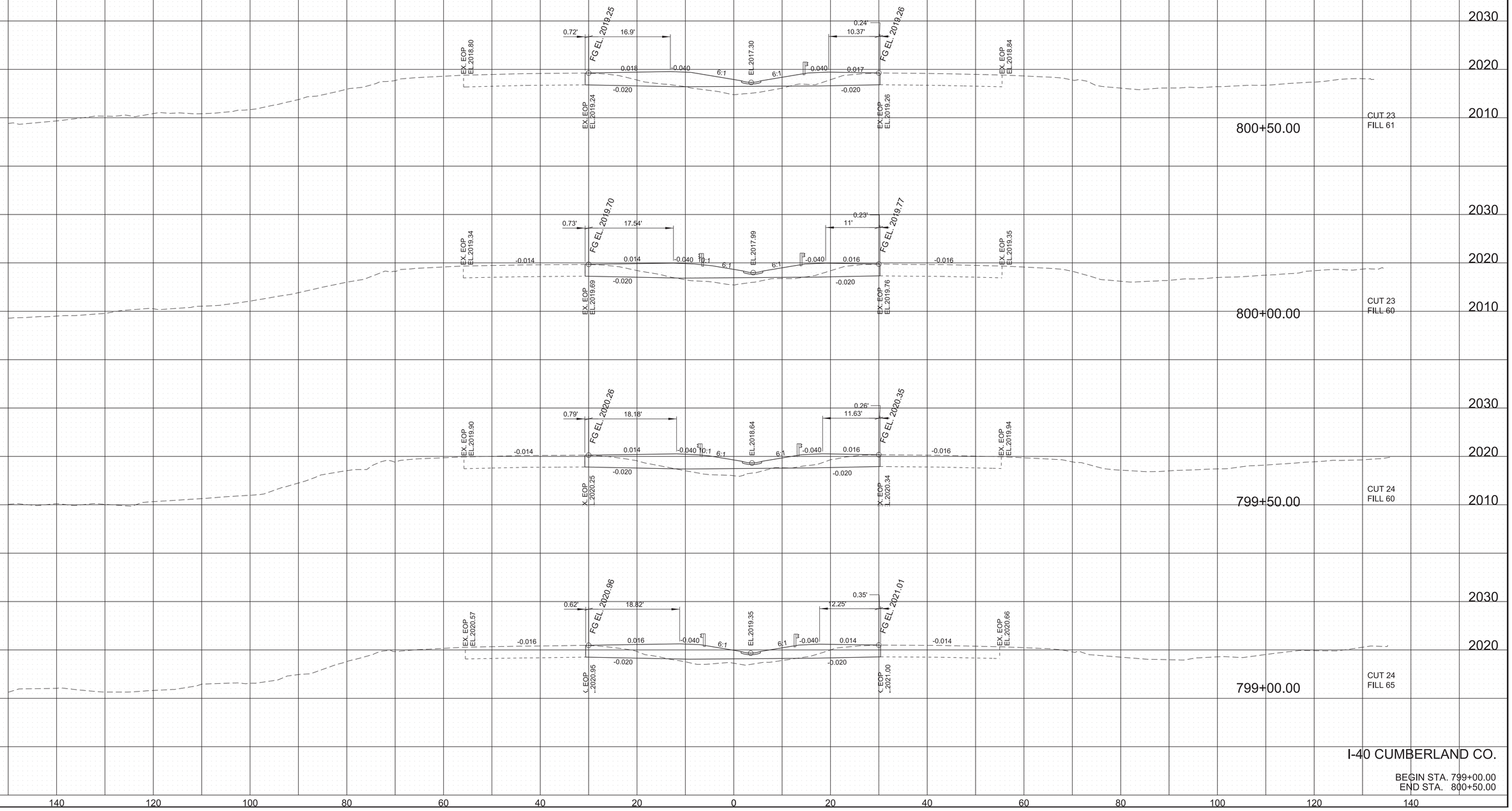
TYPE	YEAR	PROJECT NO.	SHEET NO.
L&G	2025	18100-4148-04	42
PS&E	2025	18100-4148-04	43



9/22/2025 9:21:43 AM
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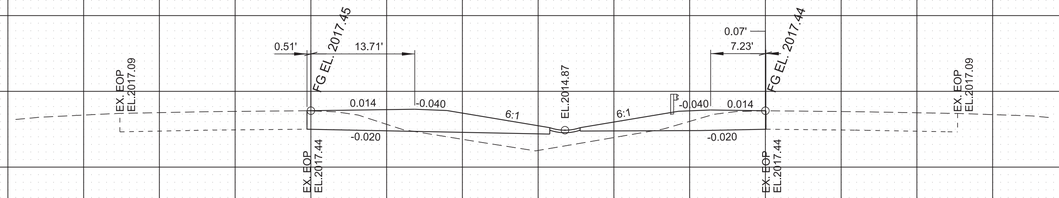
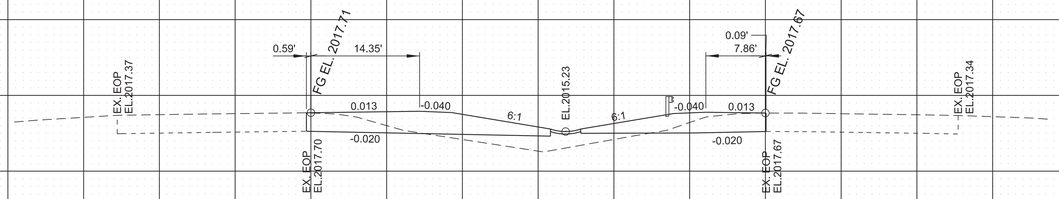
TYPE	YEAR	PROJECT NO.	SHEET NO.
L&G	2025	18100-4148-04	43
PS&E	2025	18100-4148-04	44



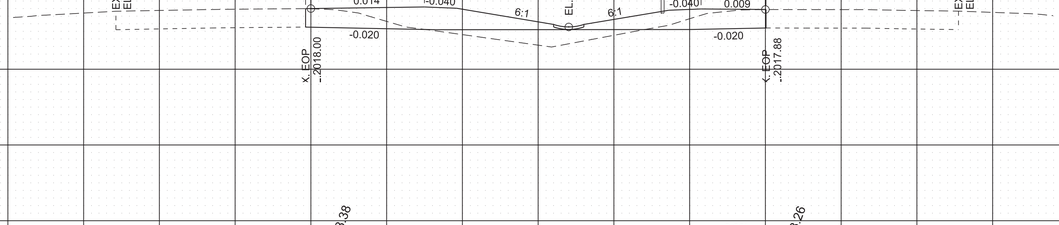
803+00.00

CUT 22
FILL 76



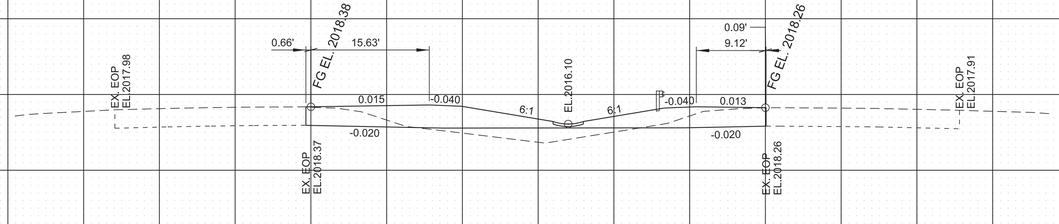
802+50.00

CUT 23
FILL 72



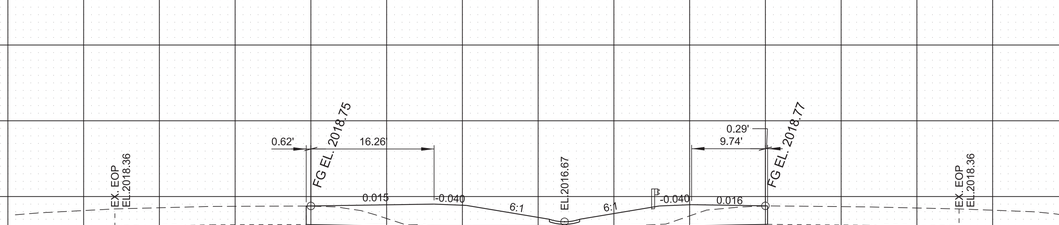
802+00.00

CUT 23
FILL 70



801+50.00

CUT 23
FILL 69



801+00.00

CUT 23
FILL 71

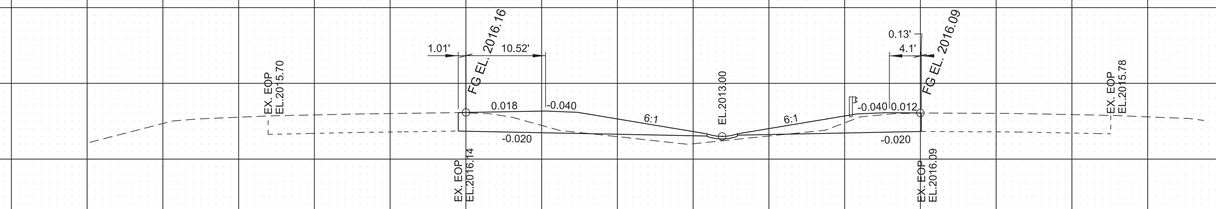
I-40 CUMBERLAND CO.

BEGIN STA. 801+00.00
END STA. 803+00.00

9/22/2025 9:21:44 AM
J:\Structures\11685-14_CumberlandCo_I-40_over_SR24_(orig_10705-35)\Drawings\Survey\I40CrossSections.sht

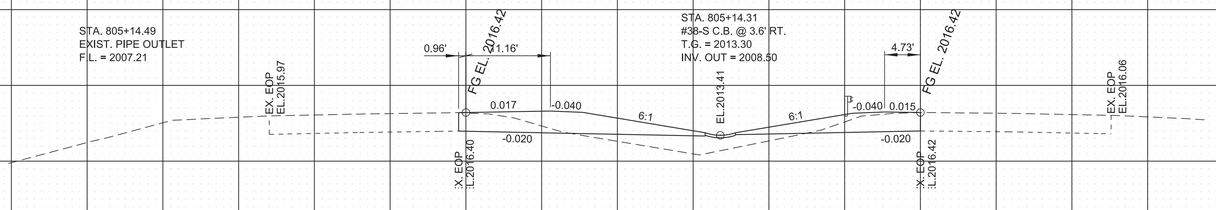
140 120 100 80 60 40 20 0 20 40 60 80 100 120 140

TYPE	YEAR	PROJECT NO.	SHEET NO.
L&G	2025	18100-4148-04	44
PS&E	2025	18100-4148-04	45



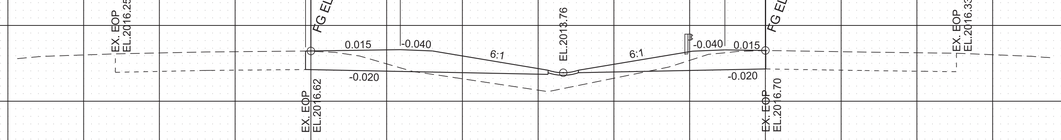
805+50.00

CUT 24
FILL 46



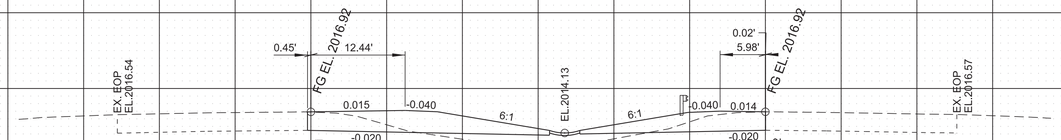
805+00.00

CUT 23
FILL 74



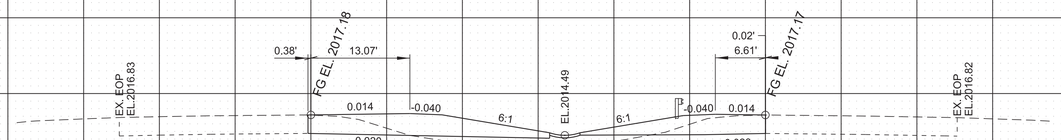
804+50.00

CUT 23
FILL 71



804+00.00

CUT 22
FILL 71



803+50.00

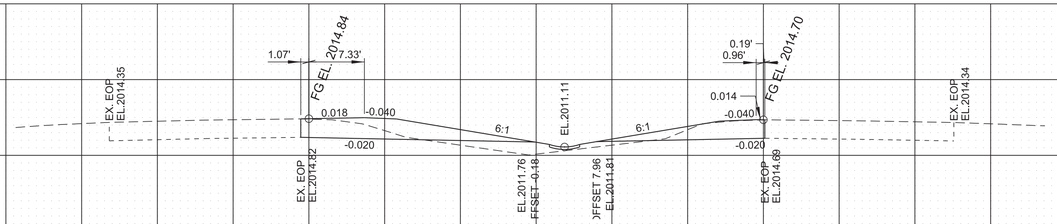
CUT 23
FILL 75

I-40 CUMBERLAND CO.

BEGIN STA. 803+50.00
END STA. 805+50.00

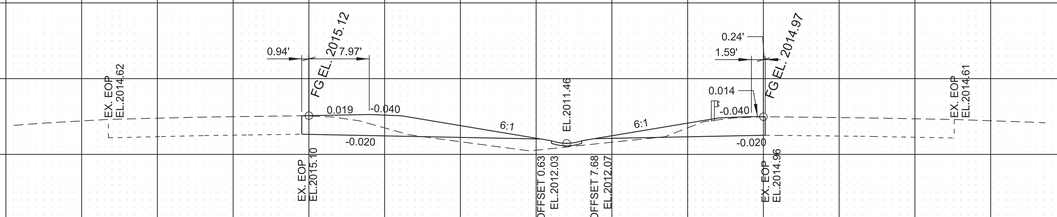
9/22/2025 9:21:46 AM
J:\Structures\11685-14_CumberlandCo_I-40_over_SR24_(orig_10705-35)\Drawings\Survey\I40CrossSections.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.
L&G	2025	18100-4148-04	45
PS&E	2025	18100-4148-04	46



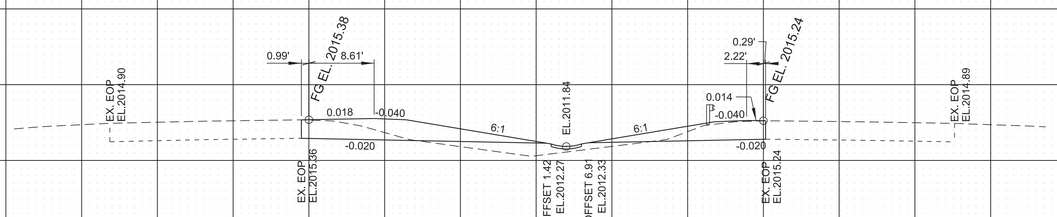
808+00.00

CUT 25
FILL 45



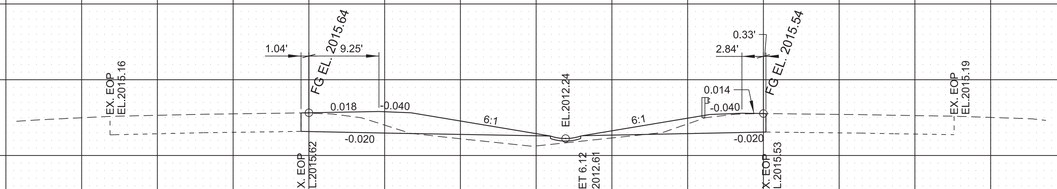
807+50.00

CUT 23
FILL 46



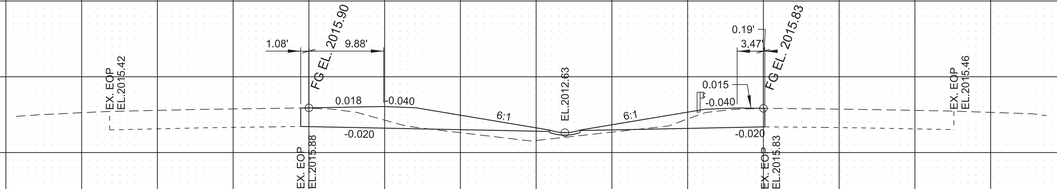
807+00.00

CUT 23
FILL 52



806+50.00

CUT 24
FILL 48



806+00.00

CUT 24
FILL 47

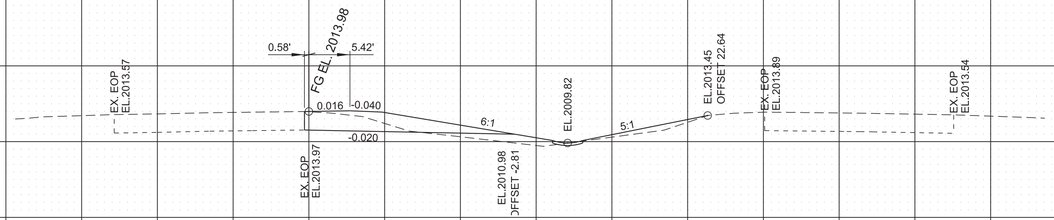
I-40 CUMBERLAND CO.

BEGIN STA. 806+00.00
END STA. 808+00.00

140 120 100 80 60 40 20 0 20 40 60 80 100 120 140

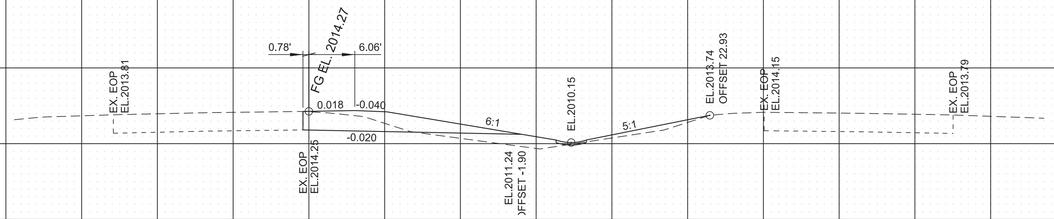
9/22/2025 9:21:47 AM
J:\Structures\111685-14_CumberlandCo_I-40_over_SR24_(orig_10705-35)\Drawings\Survey\I40CrossSections.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.
L&G	2025	18100-4148-04	46
PS&E	2025	18100-4148-04	47



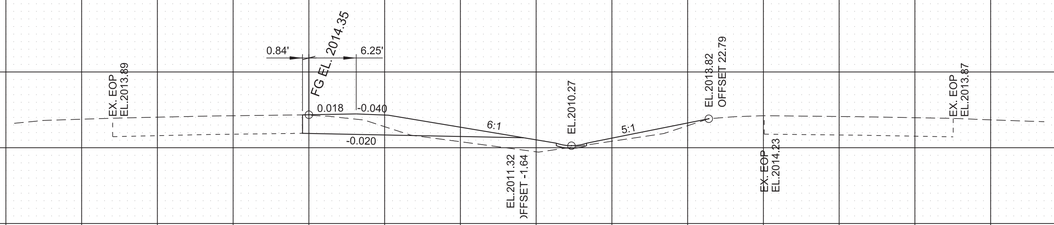
809+50.00

CUT 12
FILL 32



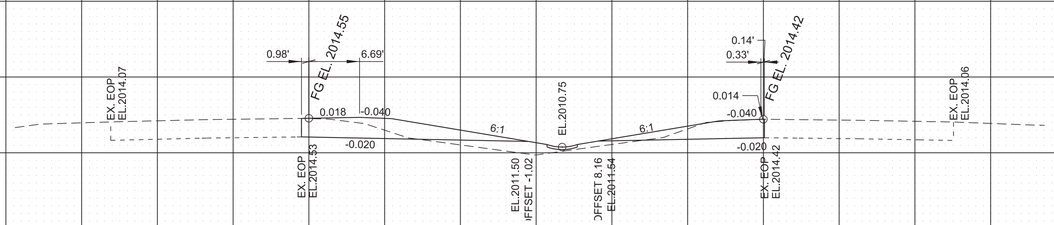
809+00.00

CUT 11
FILL 40



808+85.00

CUT 12
FILL 41



808+50.00

CUT 25
FILL 43

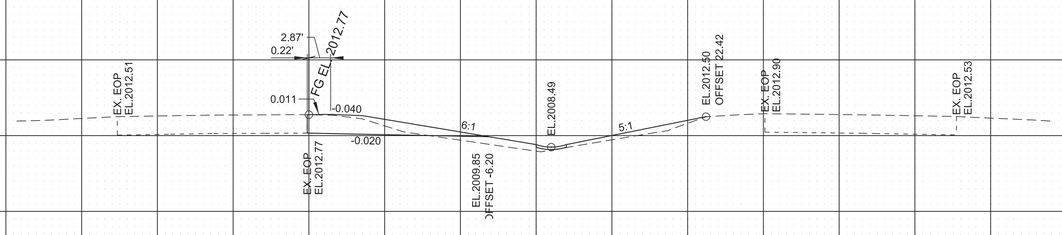
I-40 CUMBERLAND CO.

BEGIN STA. 808+50.00
END STA. 809+50.00

140 120 100 80 60 40 20 0 20 40 60 80 100 120 140

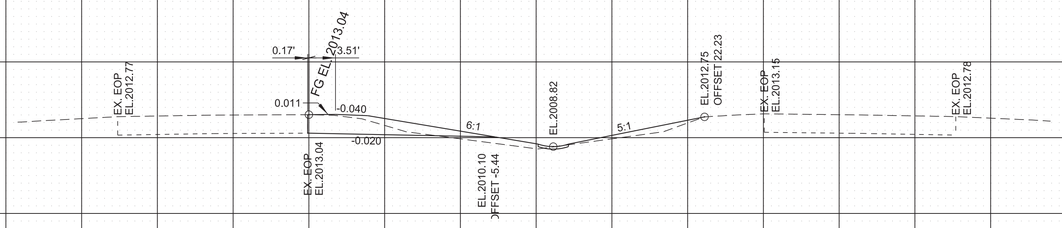
9/22/2025 9:21:48 AM
J:\Structures\11685-14_CumberlandCo_I-40_over_SR24_(orig_10705-35)\Drawings\Survey\I40CrossSections.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.
L&G	2025	18100-4148-04	47
PS&E	2025	18100-4148-04	48



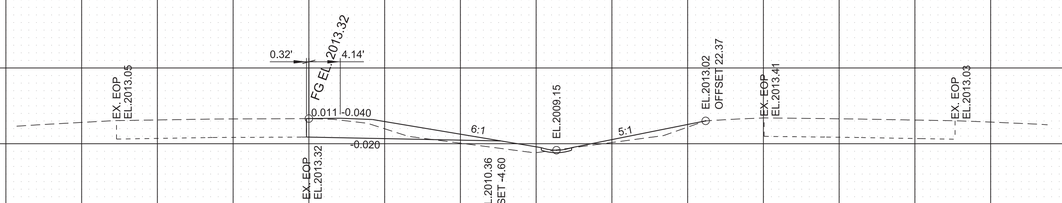
811+50.00

CUT 12
FILL 29



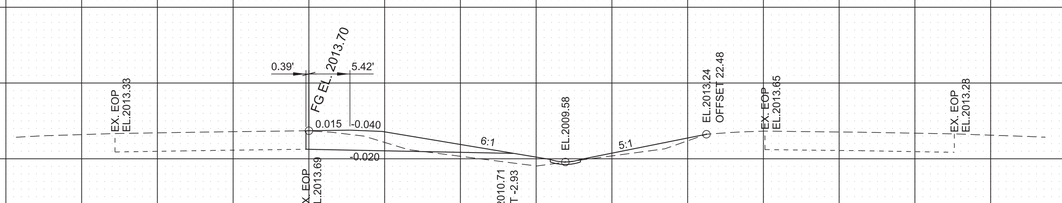
811+00.00

CUT 13
FILL 25



810+50.00

CUT 14
FILL 26



810+00.00

CUT 12
FILL 33

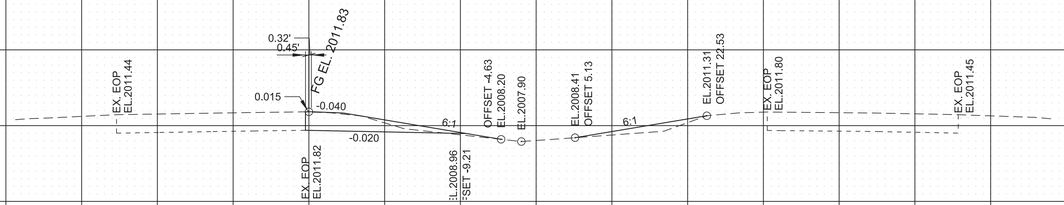
I-40 CUMBERLAND CO.

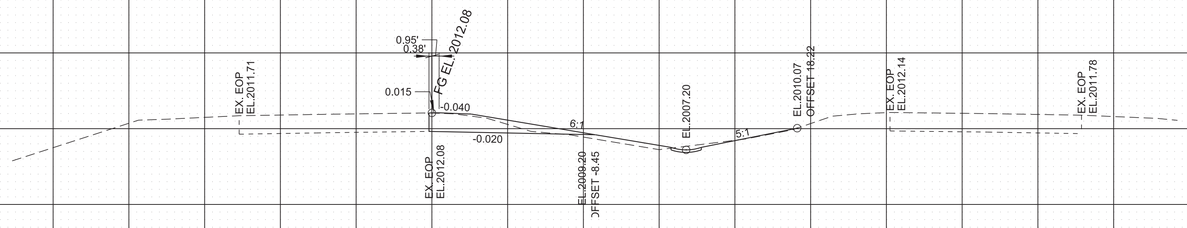
BEGIN STA. 810+00.00
END STA. 811+50.00

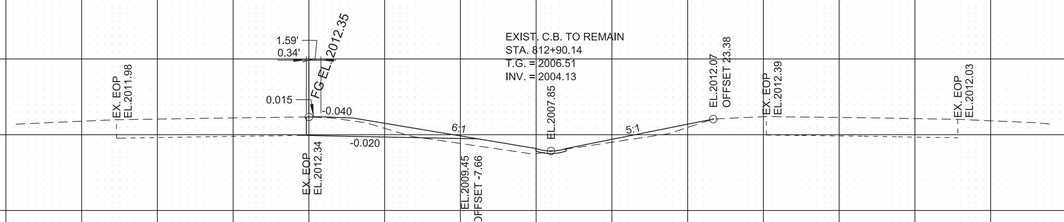
140 120 100 80 60 40 20 0 20 40 60 80 100 120 140

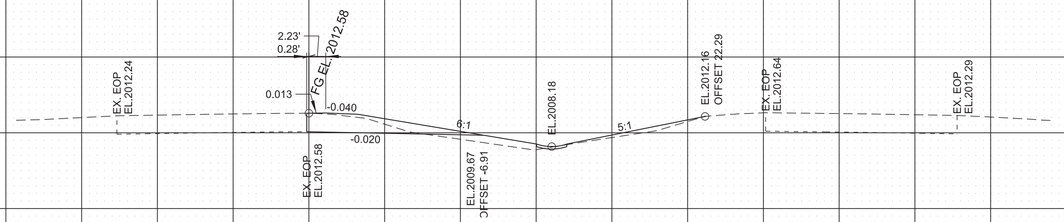
9/22/2025 9:21:50 AM
J:\Structures\11685-14_CumberlandCo_I-40_over_SR24_(orig_10705-35)\Drawings\Survey\I40CrossSections.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.
L&G	2025	18100-4148-04	48
PS&E	2025	18100-4148-04	49









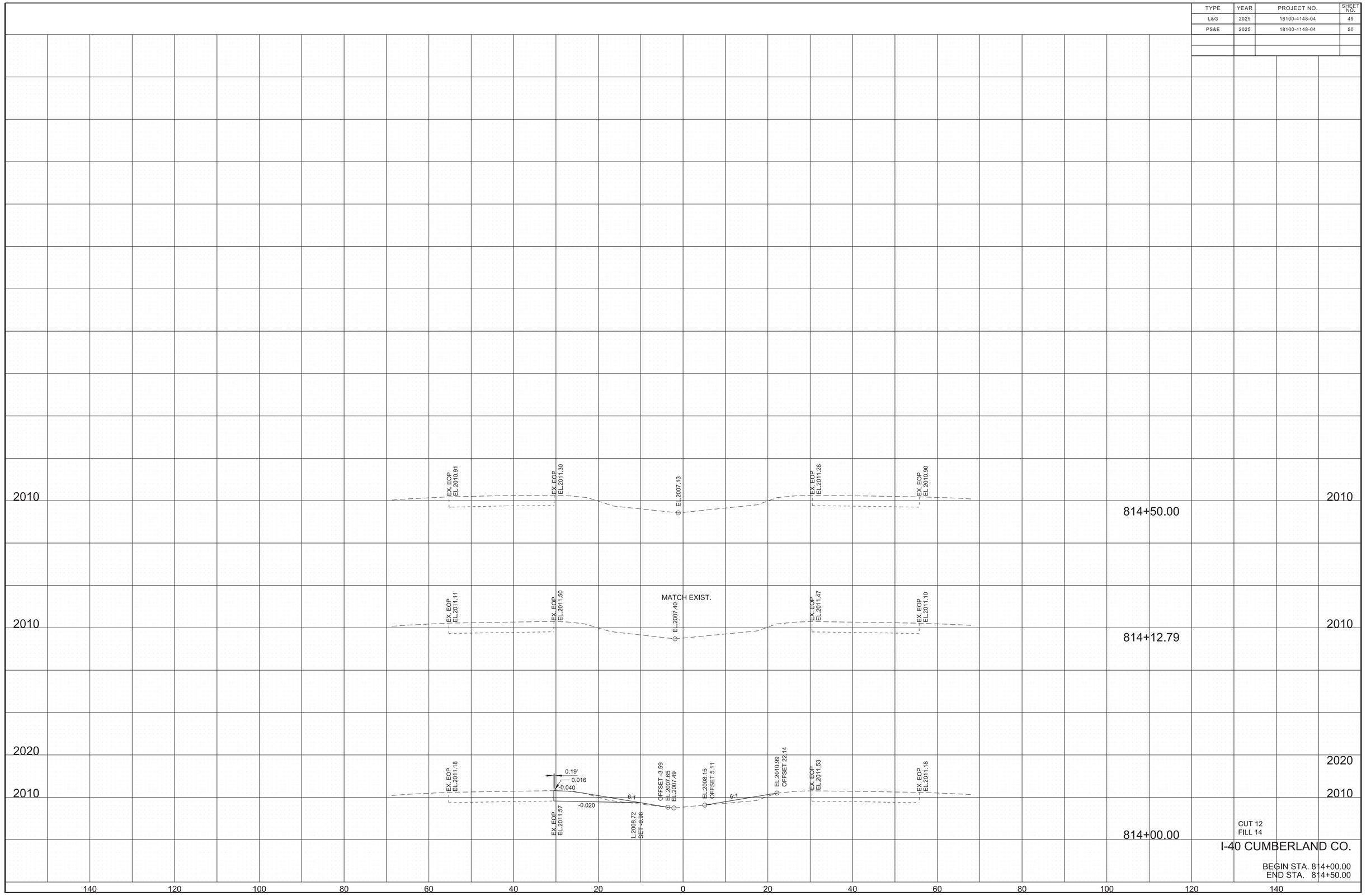
I-40 CUMBERLAND CO.

BEGIN STA. 812+00.00
END STA. 813+50.00

140 120 100 80 60 40 20 0 20 40 60 80 100 120 140

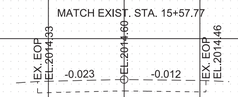
9/22/2025 9:21:51 AM
J:\Structures\11685-14_CumberlandCo_I-40_over_SR24_(orig_10705-35)\Drawings\Survey\I40CrossSections.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.
L&G	2025	18100-4148-04	49
PS&E	2025	18100-4148-04	50

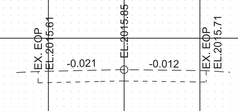


9/22/2025 9:22:01 AM
J:\Structures\11685-14_CumberlandCo_I-40_over_SR24_(orig_10705-35)\Drawings\Survey\I40CrossSections.sht

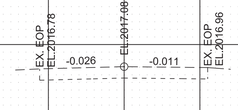
TYPE	YEAR	PROJECT NO.	SHEET NO.
L&G	2025	18100-4148-04	50
PS&E	2025	18100-4148-04	51



15+50.00



15+00.00



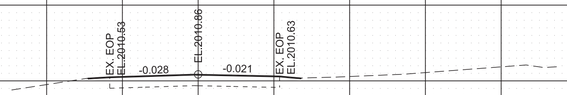
14+50.00

SR-24 CUMBERLAND CO.

BEGIN STA. 14+50.00
END STA. 15+50.00

9/22/2025 9:22:02 AM
J:\Structures\11685-14_CumberlandCo_I-40_over_SR24_(orig_10705-35)\Drawings\Survey\SR24XSections.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.
L&G	2025	18100-4148-04	51
PS&E	2025	18100-4148-04	52



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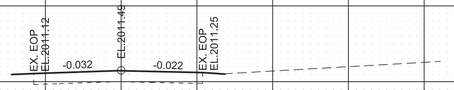

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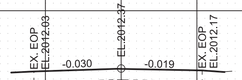

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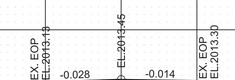

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SR-24 CUMBERLAND CO.

BEGIN STA. 16+00.00
END STA. 17+50.00

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TYPE	YEAR	PROJECT NO.	SHEET NO.
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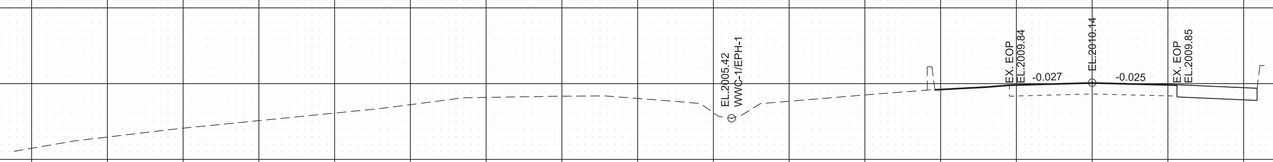
PS&E	2025	18100-4148-04	53



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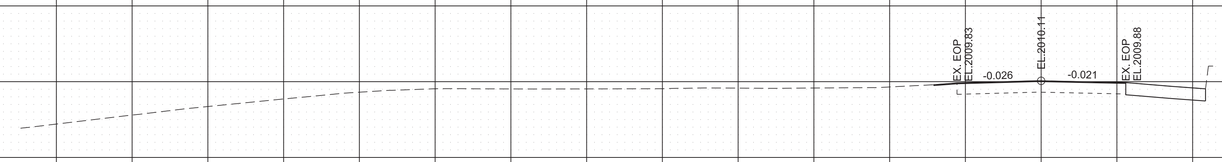

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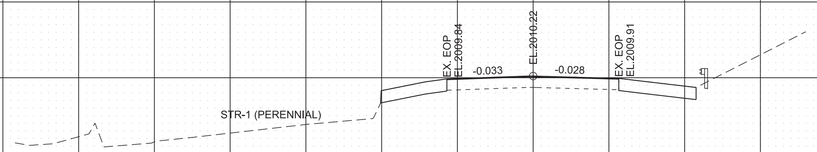

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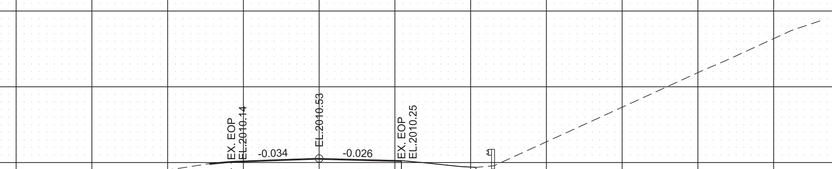

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SR-24 CUMBERLAND CO.

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END STA. 19+50.00

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TYPE	YEAR	PROJECT NO.	SHEET NO.
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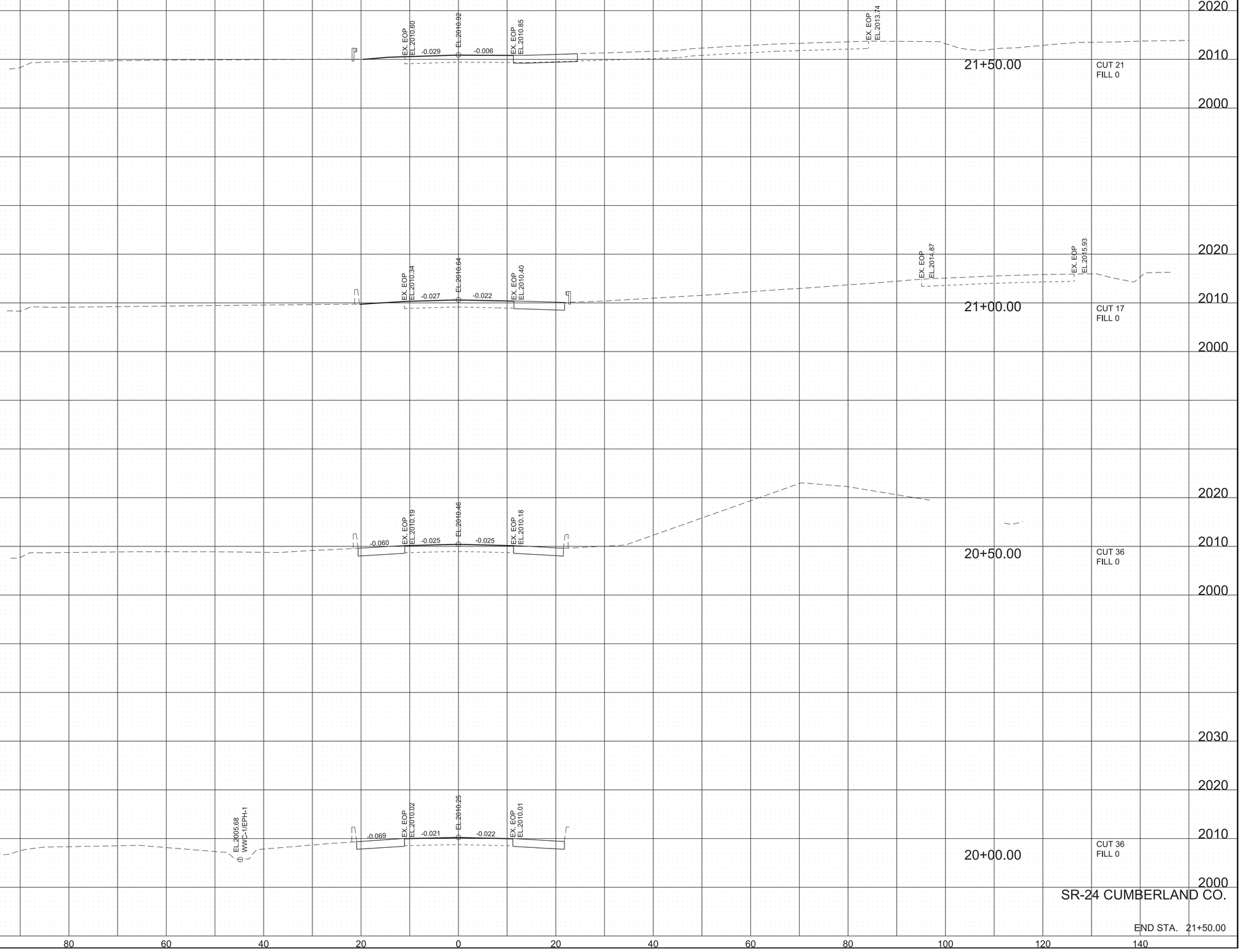
PS&E	2025	18100-4148-04	54



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TYPE	YEAR	PROJECT NO.	SHEET NO.
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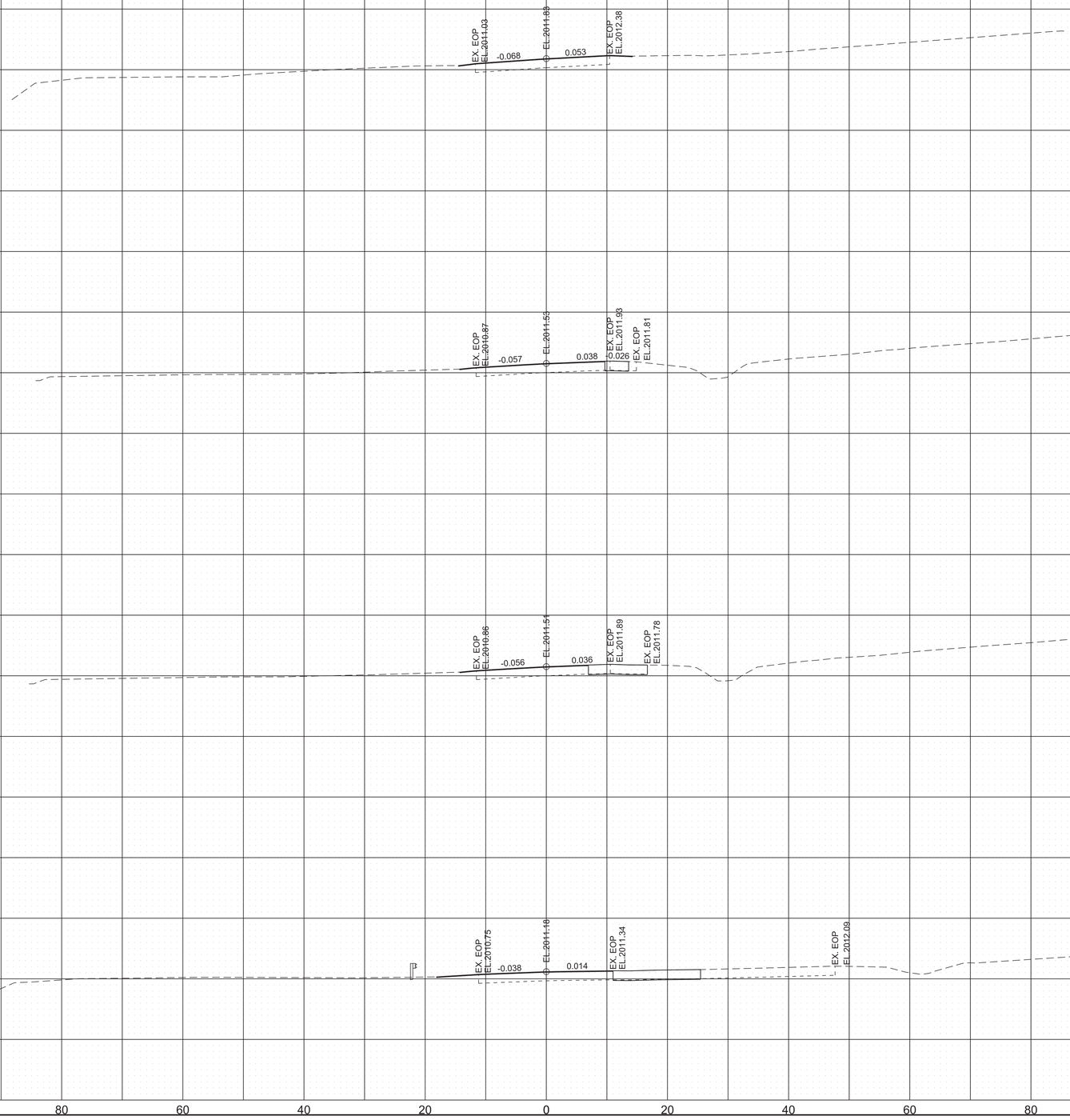
PS&E	2025	18100-4148-04	55



SR-24 CUMBERLAND CO.

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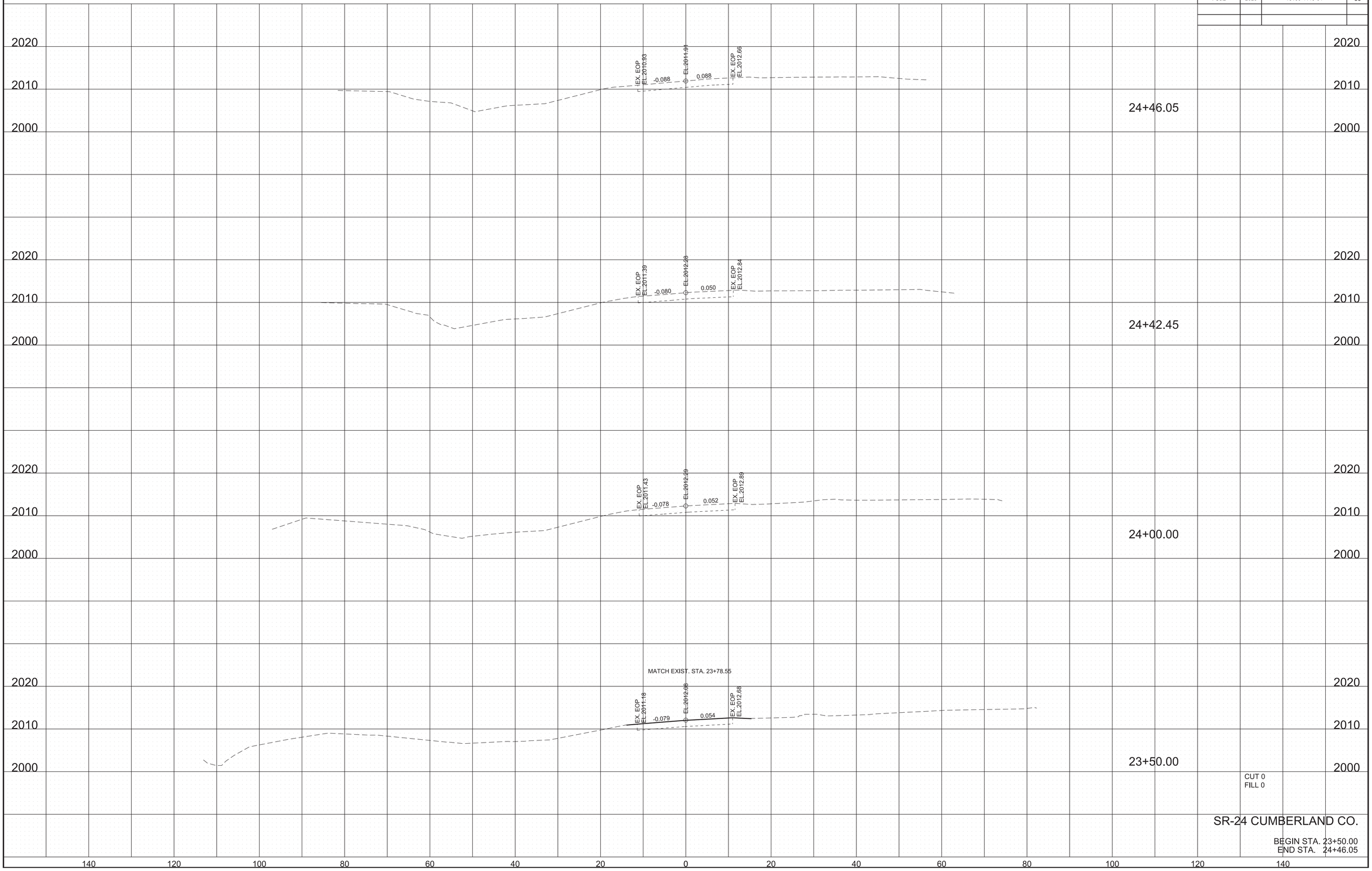
TYPE	YEAR	PROJECT NO.	SHEET NO.
L&G	2025	18100-4148-04	55
PS&E	2025	18100-4148-04	56



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SR-24 CUMBERLAND CO.

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TYPE	YEAR	PROJECT NO.	SHEET NO.
L&G	2025	18100-4148-04	T1
PS&E	2025	18100-4148-04	T1

PAVEMENT EDGE DROP-OFF TRAFFIC CONTROL NOTES

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 (W8-17 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. 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. 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 REGIONAL TRAFFIC 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.

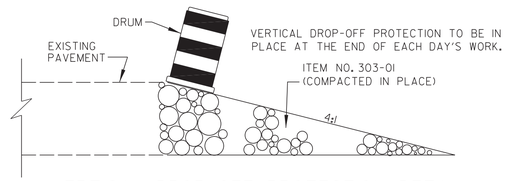
   d. THE CONTRACTOR SHALL PROVIDE SEPARATION BY PORTABLE BARRIER RAIL.

   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 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.



VERTICAL DROP-OFF PROTECTION DETAIL

B. IF THE DIFFERENCE IN ELEVATION IS WITHIN 30 FEET OF THE NEAREST TRAFFIC LANE BEING USED BY TRAFFIC CAUSED BY GRADING, EXCAVATION FOR 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.

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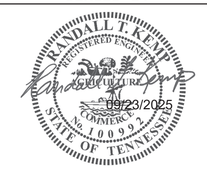

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

PAVEMENT EDGE DROP-OFF NOTES FOR TRAFFIC CONTROL

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TYPE	YEAR	PROJECT NO.	SHEET NO.
L&G	2025	18100-4148-04	T2
PS&E	2025	18100-4148-04	T2

TRAFFIC CONTROL SIGN TABULATION

M.U.T.C.D. SIGN NO.	LEGEND	SIZE IN INCHES L X W	S.F.	NO. REQUIRED PHASE I	NO. REQUIRED PHASE II	NO. REQUIRED PHASE III	TOTAL NO. REQUIRED	ITEM NO. 712-06 S.F.	STANDARD DRAWING NO.	REMARKS
G20-2	END ROAD WORK	48" X 24"	8	7	7	4	7	56.00		
R4-9	STAY IN LANE	48" X 60"	20		4	4	4	80.00		
R10-11	NO TURN ON RED	36" X 48"	12	2	2		2	24.00		
R10-6	STOP HERE ON RED	24" X 36"	6	3	3		3	18.00		
R10-6(MOD)	STAY IN LANE TO EXTEND GREEN	24" X 36"	6	2	2		2	12.00		
R11-2	ROAD CLOSED	48" X 30"	10	2	2		2	20.00		
SPECIAL	MAXIMUM X MINUTE RED	42" X 48"	14	3	3		3	42.00		
SPECIAL	MAINTAIN X MPH SPEED	42" X 36"	11	2	2		2	21.00		
SPECIAL	WAIT TURN ONLY IN DIRECTION OF ARROW	24" X 36"	6	1	1		1	6.00		
SPECIAL	TRUCKS ENTERING/EXITING	48" X 48"	16		8		8	128.00		
SPECIAL	TRUCKS ENTERING HIGHWAY	48" X 48"	16		4		4	64.00		
SPECIAL	WHEN FLASHING	60" X 12"	5		2		2	10.00		
TN-78	RUMBLE STRIPS AHEAD	48" X 48"	16		4	4	4	64.00		
W1-4	LANE SHIFT RIGHT	48" X 48"	16	1	1		1	16.00		
W1-4BL	TWO LANE SHIFT (LEFT)	48" X 48"	16		4	4	4	64.00		
W1-4BR	TWO LANE SHIFT (RIGHT)	48" X 48"	16		4	4	4	64.00		
W3-3	SIGNAL AHEAD	48" X 48"	16	2	2		2	32.00		
W3-4	BE PREPARED TO STOP	48" X 48"	16	3	3		3	48.00		
W4-2R	LANE ENDS (RIGHT)	48" X 48"	16	4			4	64.00		
W16-2P	500 FEET PLAQUE	30" X 24"	5		4		4	20.00		
W16-3P	1/2 MILE PLAQUE	30" X 24"	5		4		4	20.00		
W20-1	ROAD WORK 1 MILE	48" X 48"	16	4	4	4	4	64.00		
W20-1	ROAD WORK 1/2 MILE	48" X 48"	16	2	6	4	6	96.00		
W20-1	ROAD WORK AHEAD	48" X 48"	16	4	4		4	64.00		
W20-4	ONE LANE ROAD (1500 FT)	48" X 48"	16	2	2		2	32.00		
W20-5	RIGHT LANE CLOSED 1/2 MILE	48" X 48"	16	4			4	64.00		
W20-5	RIGHT LANE CLOSED 1500 FT	48" X 48"	16	4			4	64.00		
						TOTAL		1257	S.F.	

TABULATED TRAFFIC CONTROL QUANTITIES

	ITEM NO.	DESCRIPTION	UNIT	QUANTITY 18100-4148-04
(24)	712-01	TRAFFIC CONTROL	LS	1
(25)	712-02.10	PORTABLE BARRIER RAIL (MASH TL-3)	L.F.	13350
(25)	712-02.12	PORTABLE BARRIER RAIL, REDUCED DEFLECTION (MASH TL-3)	L.F.	960
(26)	712-02.60	TEMPORARY WORK ZONE CRASH CUSHION (MASH TL-3)	EACH	8
	712-04.01	FLEXIBLE DRUMS (CHANNELIZING)	EACH	453
	712-04.50	BARRIER RAIL DELINEATOR	EACH	632
	712-05.01	WARNING LIGHTS (TYPE A)	EACH	457
(27)	712-06	SIGNS (CONSTRUCTION)	S.F.	1257
	712-07.03	TEMPORARY BARRICADES (TYPE III)	L.F.	48
	712-08.03	ARROW BOARD (TYPE C)	EACH	2
(31)	712-08.08	SPEED FEEDBACK SIGN ASSEMBLY	EACH	2
(32)	712-08.09	DIGITAL SPEED LIMIT SIGN ASSEMBLY	EACH	4
(28)	712-08.12	QUEUE PROTECTION TRUCK	DAY	40
	712-09.04	REMOVABLE PAVEMENT MARKING (STOP LINE)	L.F.	36
(33)	712-10.02	TEMPORARY TRANSVERSE RUMBLE STRIPS	L.F.	960
	713-02.14	FLEXIBLE DELINEATOR (WHITE)	EACH	422
(29)	713-16.01	CHANGEABLE MESSAGE SIGN UNIT	EACH	6
	716-01.22	SNOWPLOWABLE RAISED PAVMENT MARKERS (MONO-DIR)(1 COLOR)	EACH	735
	716-01.30	REMOVAL OF SNOWPLOWABLE REFLECTIVE MARKER	EACH	735
	716-05.20	PAINTED PAVEMENT MARKING (6" LINE)	L.M.	1.2
	716-05.49	PAINTED PAVEMENT MARKINGS (8" LINE)	L.M.	6
	716-08.20	REMOVAL OF PAVEMENT MARKING (LINE)	L.M.	17.8
(34)	716-13.03	SPRAY THERMO PVMT MRKNG (60 mil) (8IN BARRIER LINE)	L.F.	56070
	717-01	MOBILIZATION	LS	1
(35)	725-21.07	PORTABLE SMART WORK ZONE SYSTEM	DAY	365
(30)	730-40	TEMPORARY TRAFFIC SIGNAL SYSTEM	EACH	1
	730-50.20	RECTANGULAR RAPID FLASHING BEACON ASSEMBLY (SOLAR POWERED)	EACH	2

(24) ALL COSTS ASSOCIATED WITH INSTALLING, STORING, AND RE-INSTALLING ALL TRAFFIC CONTROL DEVICES DURING AND BETWEEN THE DIFFERENT TRAFFIC CONTROL PHASES SHALL BE INCLUDED IN THE PRICE BID FOR EACH ITEM. DURING THE TIME BETWEEN DIFFERENT TRAFFIC CONTROL PHASES, THE CONTRACTOR SHALL STORE ALL TRAFFIC CONTROL DEVICES IN A PROPER LOCATION THAT WILL NOT INTERFERE WITH THE TRAFFIC FLOW. ALL WORK MUST MEET THE FULL APPROVAL OF THE TDOT ENGINEER.

(25) ITEM INCLUDES COST OF INSTALLING AND RELOCATING PORTABLE BARRIER RAIL.

(26) THIS ITEM SHALL BE A PORTABLE ENERGY ABSORBING TERMINAL MEETING THE REQUIREMENTS OF AASHTO MASH FOR TEST LEVEL 3. THE UNIT BID ITEM WILL INCLUDE FURNISHING AND INSTALLING ALL COMPONENTS AS SHOWN ON THE MANUFACTURER'S DRAWINGS.

(27) ANY LOSS OR DAMAGE TO THE SIGNS SHALL BE PAID FOR BY THE CONTRACTOR.

(28) INCLUDES QUANTITY FOR FOUR (4) QUEUE TRUCKS, TWO (2) FOR EACH DIRECTION ON I-40. QUEUE TRUCKS ARE TO REMAIN ON-SITE FOR THE DURATION OF THE PROJECT, AND ARE TO BE USED DURING PHASES 1 & 4, DURING ANY LANE CLOSURES, AND ANY OTHER TIMES AS DIRECTED BY THE ENGINEER.

(29) QUANTITY INCLUDES FOUR (4) UNITS TO BE USED ALONG I-40 AND TWO (2) UNITS ALONG SR-24. MESSAGES AND LOCATIONS TO BE DIRECTED BY THE ENGINEER.

(30) ITEM INCLUDES TEMPORARY SIGNALS AND A SINGLE (1) RESIDENTIAL DRIVEWAY TEMPORARY SIGNAL AT LOCATION SHOWN IN THE PLANS.

(31) LOCATIONS TO BE DETERMINED BY THE ENGINEER. QUANTITY INCLUDES ONE SIGN FOR EACH DIRECTION.

(32) SPEED AND LOCATIONS TO BE DETERMINED BY THE ENGINEER BASED ON FIELD CONDITIONS.

(33) ITEM INCLUDES ALL COST ASSOCIATED WITH REMOVAL OF TEMPORARY RUMBLE STRIPS.

(34) SPRAY THERMO PAVEMENT MARKINGS TO BE USED FOR TEMPORARY STRIPING IN PHASE 2 ONLY.

(35) INCLUDES COST OF ALL EQUIPMENT FOR 2 COMPLETE TDOT APPROVED SOLAR ADVANCED WARNING SYSTEMS (SAWS) THAT ALERT DRIVERS OF CONSTRUCTION VEHICLES EMERGING FROM THE WORK ZONE INTO THE ROADWAY. COST INCLUDES 2 RADAR TRAILERS AND 2 LED REGULATORY SIGN TRAILERS TOTAL. 1 SYSTEM REQUIRED IN EACH DIRECTION ON I-40 DURING PHASE 2. SYSTEMS MUST UTILIZE EIGHT (8) OR MORE ENCRYPTED CHANNELS OF FIELD PROGRAMMABLE RADIO FREQUENCY COMMUNICATION TO TRIGGER AN ARRAY OF EDGE LIT WIG-WAG SIGNS WITH BEACONS THAT ALERT THE DRIVERS ONLY DURING ACTIVE EGRESS FROM THE WORK ZONE. QUANTITY REPRESENTS THE TOTAL NUMBER OF 24HR CALENDAR DAYS ESTIMATED FOR PHASE 2 ONLY. ITEM INCLUDES ALL COSTS ASSOCIATED DEPLOYING, PROGRAMMING, AND MAINTAINING THE SAWS SYSTEMS PER THE MANUFACTURERS SPECIFICATIONS FOR THE DURATION OF USE. LOCATIONS OF RADAR AND REGULATORY SIGN TRAILERS TO BE DETERMINED BY THE ENGINEER.

PHASE 1

1. INSTALL APPROPRIATE MEASURES TO CLOSE EB AND WB OUTSIDE LANE AND SHOULDER TO ALLOW FOR MOBILE MILLING OPERATION TO REMOVE EXISTING RUMBLE STRIPS.
2. MILL 3.25" TO REMOVE RUMBLE STRIPS AND PLACE BACK 1.25" OF "D" MIX AND 2.00" OF "BM-2" TO BRING MILLED AREA ON OUTSIDE SHOULDERS TO MATCH ROADWAY SUPERELEVATION.
3. REMOVE EXISTING PAVEMENT MARKINGS AND INSTALL TEMPORARY PAVEMENT MARKINGS TO ALLOW FOR TRAFFIC SHIFTS IN PHASE 2.
4. PHASE 1 CONSTRUCTION SHALL BE RESTRICTED TO NIGHT-TIME HOURS SUNDAY THRU THURSDAY (WB 7:00P.M. - 7:00A.M. & EB 6:00P.M. - 7:00A.M.).

PHASE 2

1. INSTALL APPROPRIATE MEASURES TO SHIFT I-40 EB AND WB TRAFFIC PARTIALLY ONTO THE OUTSIDE SHOULDER. WIDEN I-40 EB AND WB INSIDE LANES AND BRIDGES.
2. REMOVE TEMPORARY PAVEMENT MARKINGS AND INSTALL TEMPORARY PAVEMENT MARKINGS FOR PHASE 3 TRAFFIC.
3. PHASE 2 CONSTRUCTION SHALL NOT BE RESTRICTED TO NIGHT-TIME HOURS.

PHASE 3

1. INSTALL APPROPRIATE MEASURES TO SHIFT I-40 EB AND WB TRAFFIC ONTO THE NEWLY CONSTRUCTED INSIDE LANES AND BRIDGES. PRIOR TO TRAFFIC BEING SHIFTED INTO MEDIAN, ALL PERMANENT GUARDRAIL MUST BE IN PLACE.
2. CONSTRUCT THE REMAINING PORTION OF THE EB AND WB I-40 BRIDGES.
3. REPAIR OUTSIDE SHOULDERS ON THE HIGH SIDE OF SUPERELEVATED AREAS BACK TO STANDARD CROSS SLOPES.
4. REMOVE TEMPORARY PAVEMENT MARKINGS.
5. PHASE 3 CONSTRUCTION SHALL NOT BE RESTRICTED TO NIGHT-TIME HOURS.

PHASE 4

1. INSTALL APPROPRIATE MEASURES TO CLOSE EB AND WB LANES AND SHOULDERS TO ALLOW FOR MOBILE MILLING OPERATION FOR FINAL OVERLAY.
2. INSTALL FINAL RUMBLE STRIPS AND FINAL PAINT STRIPING.
3. PHASE 4 CONSTRUCTION SHALL BE RESTRICTED TO NIGHT-TIME HOURS SUNDAY THRU THURSDAY (WB 7:00P.M. - 7:00A.M. & EB 6:00P.M. - 7:00A.M.).

TRAFFIC CONTROL LEGEND

SYMBOL	ITEM
	SIGN (CONSTRUCTION)
	WORK ZONE
	FLEXIBLE DRUMS (CHANNELIZING) W/ TYPE "A" WARNING LIGHTS
	ARROW BOARD TYPE C (SINGLE ARROW)
	CRASH CUSHION
	CONST. COMPLETED IN PREVIOUS PHASE
	ARROW BOARD TYPE C
	PORTABLE BARRIER RAIL (WITH BARRIER RAIL DELINEATORS)
■	SNOWPLOWABLE PAVEMENT MARKER (SEE APPROVED QUALIFIED PRODUCT LIST)
→	TRAFFIC FLOW
	GUYING DEVICE VERTICAL ANCHOR (7/16 DIAMETER)
	CHANGEABLE MESSAGE SIGN UNIT
●	WOOD POLE
	TEMPORARY TRAFFIC CONTROL SIGNAL
	TRANSVERSE RUMBLE STRIP
	SAWS WARNING SYSTEM RADAR TRAILER

☞ CONSTRUCTION ACCESS LOCATIONS FOR PHASE 2 ARE PROVIDED IN THESE PLANS. REFER TO TDOT STANDARD DRAWING T-WZ-62 FOR SIGN DETAILS. ANY ALTERNATE DESIGN FOR CONSTRUCTION ACCESS SHALL MEET THE REQUIREMENTS OF T-WZ-62.

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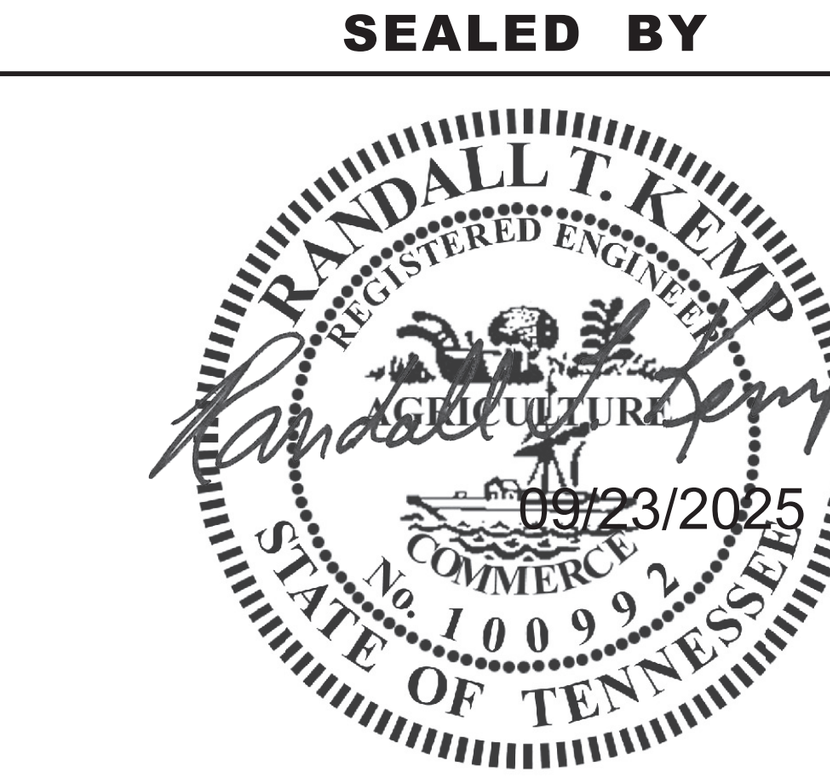

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

TRAFFIC PHASING NOTES, LEGEND, AND TRAFFIC CONTROL QUANTITIES

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TYPE	YEAR	PROJECT NO.	SHEET NO.
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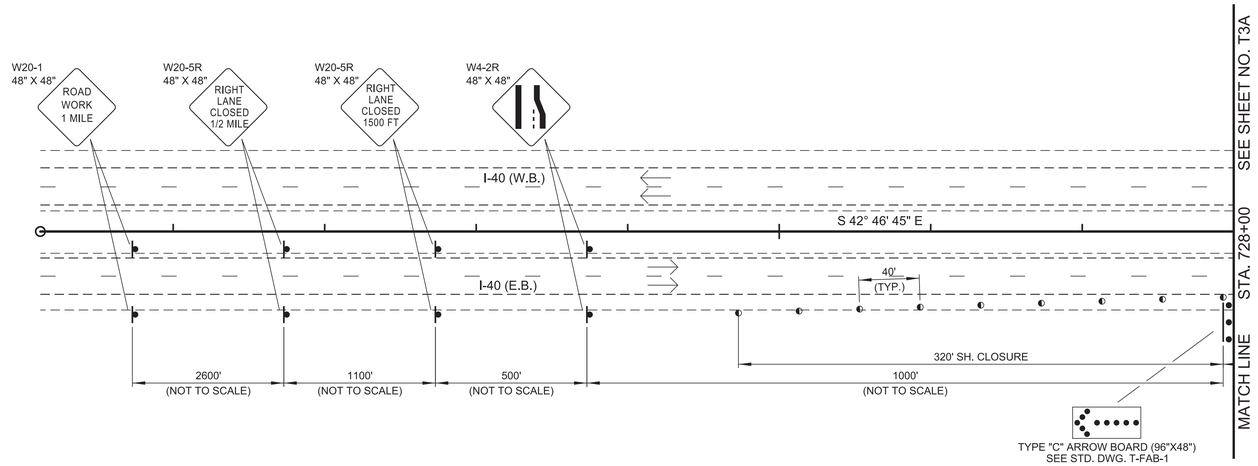
PS&E	2025	18100-4148-04	T3

N

725



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RANDALL T. KEMP
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09/23/2025
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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL PLANS PHASE 1

STA.721+00 TO STA.728+00

SCALE: 1"=50'

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TYPE	YEAR	PROJECT NO.	SHEET NO.
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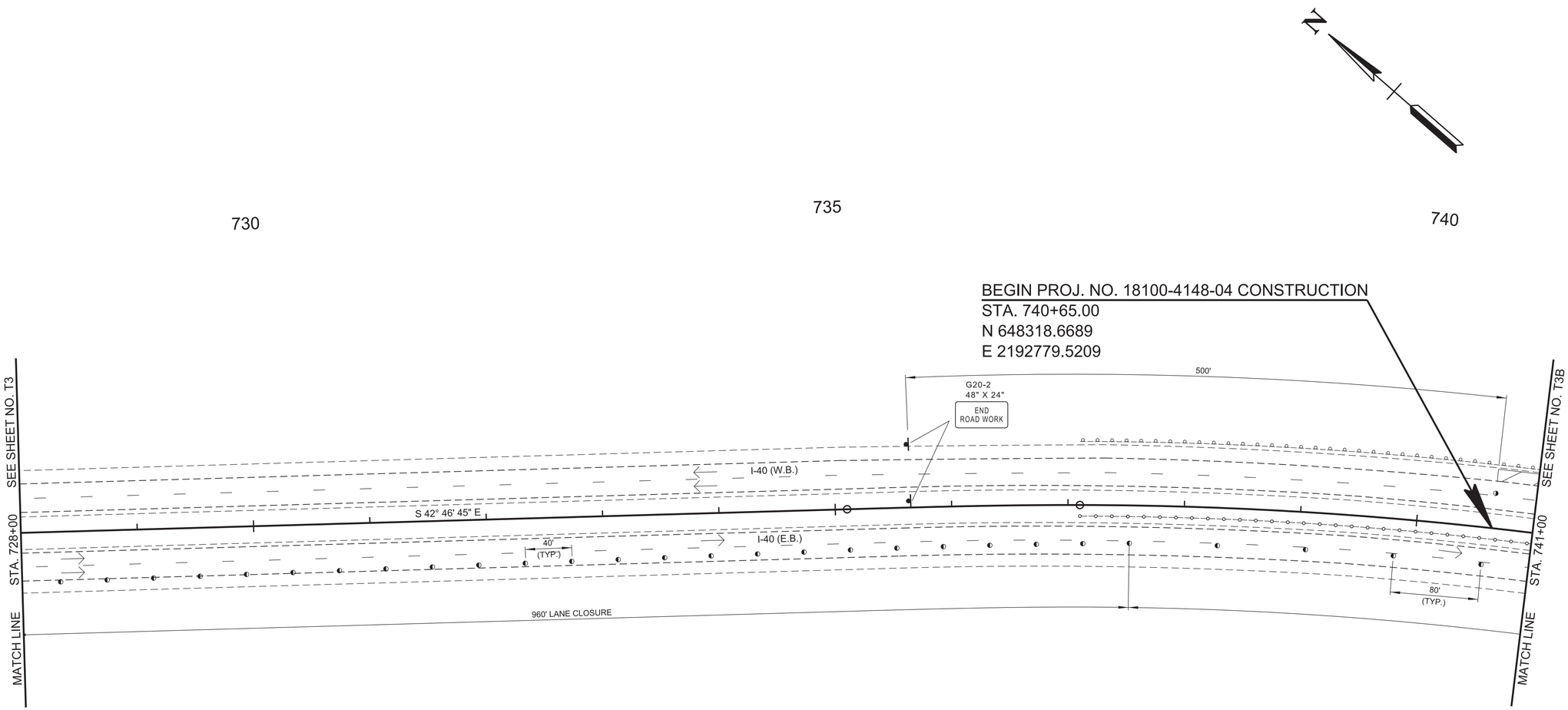
PS&E	2025	18100-4148-04	T3A



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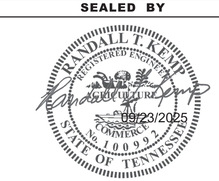

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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL PLANS PHASE 1

STA.728+00 TO STA.741+00

SCALE: 1"=50'

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TYPE	YEAR	PROJECT NO.	SHEET NO.
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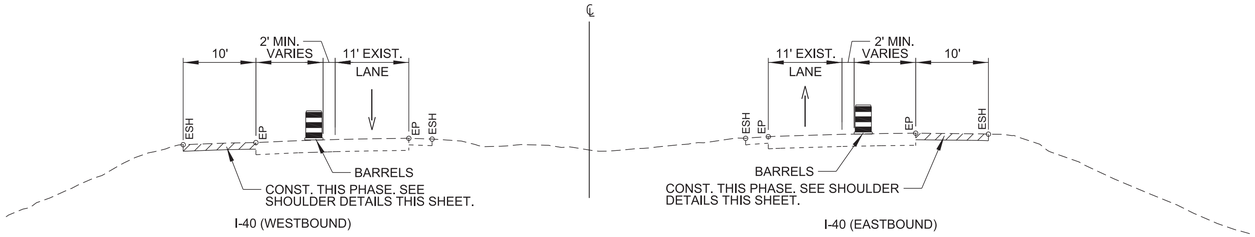
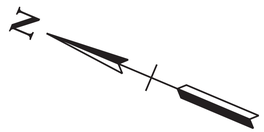
PS&E	2025	18100-4148-04	T3B



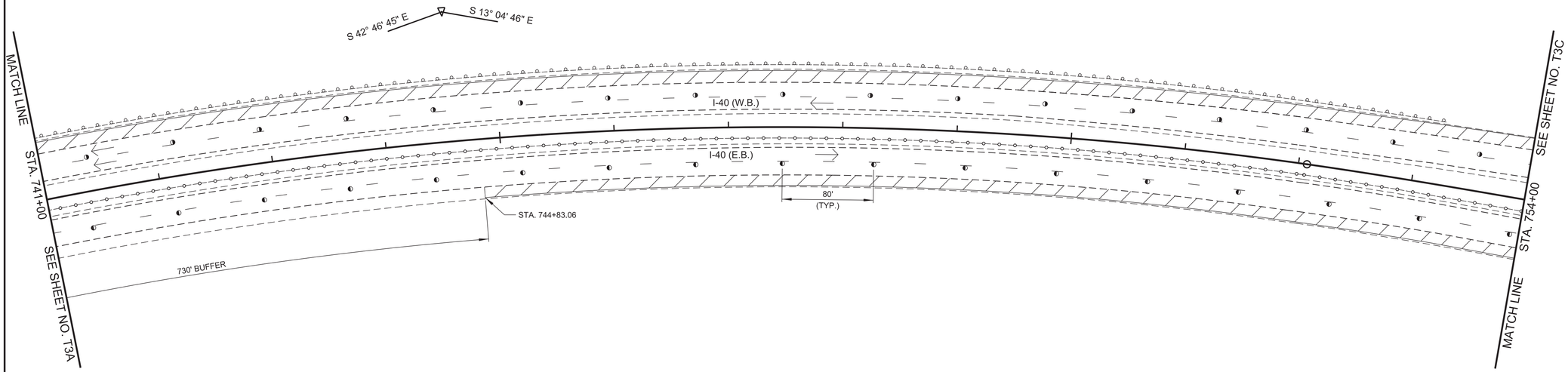
ESH - EXISTING SHOULDER
EP - EXISTING PAVEMENT

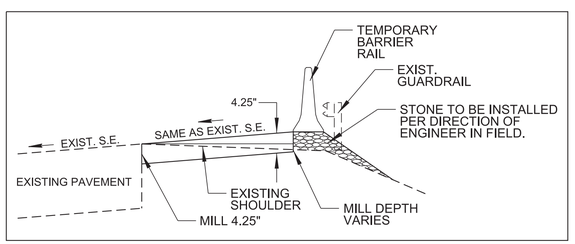


PHASE 1

745 750

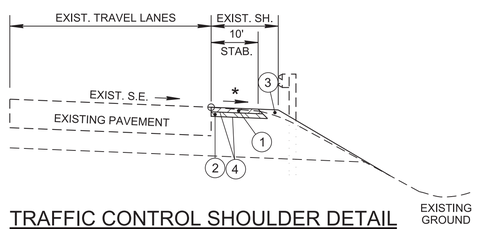
1. INSTALL APPROPRIATE MEASURES TO CLOSE EB AND WB OUTSIDE LANE AND SHOULDER TO ALLOW FOR MOBILE MILLING OPERATION TO REMOVE EXISTING RUMBLE STRIPS.
2. MILL 4.25" TO REMOVE RUMBLE STRIPS AND PLACE BACK 1.25" OF "D" MIX AND 3.00" OF "A MIX" TO BRING MILLED AREA ON OUTSIDE SHOULDERS TO MATCH ROADWAY SUPERELEVATION.
3. REMOVE EXISTING PAVEMENT MARKINGS AND INSTALL TEMPORARY PAVEMENT MARKINGS TO ALLOW FOR TRAFFIC SHIFTS IN PHASE 2.
4. PHASE 1 CONSTRUCTION SHALL BE RESTRICTED TO NIGHT-TIME HOURS SUNDAY THRU THURSDAY (WB 7:00 P.M.-7:00 A.M. AND EB 6:00 P.M. - 7:00 A.M.).





TEMP. SHOULDER MILL & PAVE
DETAIL FOR HIGH SIDE SUPER ELEVATED AREAS

NOTE: MILL 4.25"+/- AT EDGE OF TRAVEL LANE, ALIGN MILLING HEAD TO MATCH EXISTING S.E. CROSS SLOPE. (SLOPES AND MILLING DEPTHS TO BE ADJUSTED AT HIGH SIDE IN SUPER ELEVATED AREAS.)



TRAFFIC CONTROL SHOULDER DETAIL
FOR EB AND WB TRAFFIC CONTROL SHOULDER STABILIZATION.

* SHOULDER SLOPE TO BE ADJUSTED TO MATCH EXISTING PAVEMENT.

TRAFFIC CONTROL SHOULDER PAVEMENT SCHEDULE

(1) ASPHALTIC CONCRETE SURFACE (HOT MIX) PG76-22 GRADING "D" SURFACE @ 1.25" THICK (APPROX. 132.5 LB./S.Y.)

411-03.10 ACS MIX (PG76-22) GRADING "D"

(2) GRADING "A" (BLACK BASE) @ 3" THICK (345+/- LB/SY)

307-03.01 - ASPHALT CONCRETE MIX (PG76-22)(BPMB-HM) GRADING A

(3) MINERAL AGGREGATE BASE AS NEEDED

303-01 MINERAL AGGREGATE, TYPE "A" BASE, GRADING "D"

(4) TACK COAT

403-01 BITUMINOUS MATERIAL FOR TACK COAT (TC) AT 0.07 GAL./S.Y.
(APPROX. 0.05 - 0.10 GAL./S.Y.) (GENERAL USE)
(APPROX. 0.08 - 0.12 GAL./S.Y.) (MILLING-COLD PLANE)

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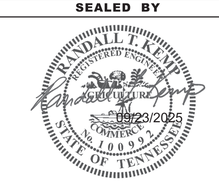

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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL PLANS PHASE 1

STA.741+00 TO STA.754+00

SCALE: 1"=50'

9/22/2025 9:23:05 AM
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TYPE	YEAR	PROJECT NO.	SHEET NO.
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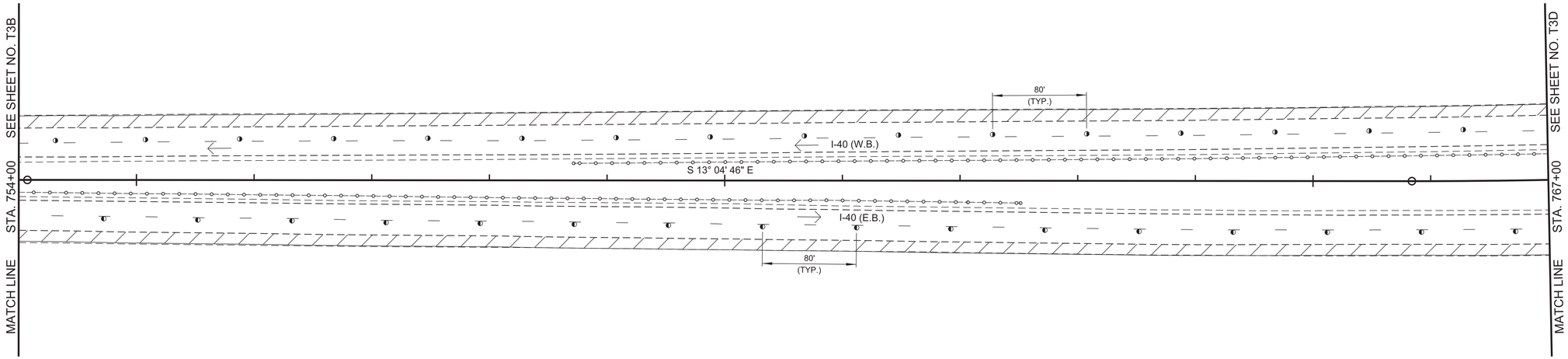
PS&E	2025	18100-4148-04	T3C

755

760

765



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STATE OF TENNESSEE
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TRAFFIC CONTROL PLANS PHASE 1

STA.754+00 TO STA.767+00

SCALE: 1"=50'

9/22/2025 9:23:06 AM
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TYPE	YEAR	PROJECT NO.	SHEET NO.
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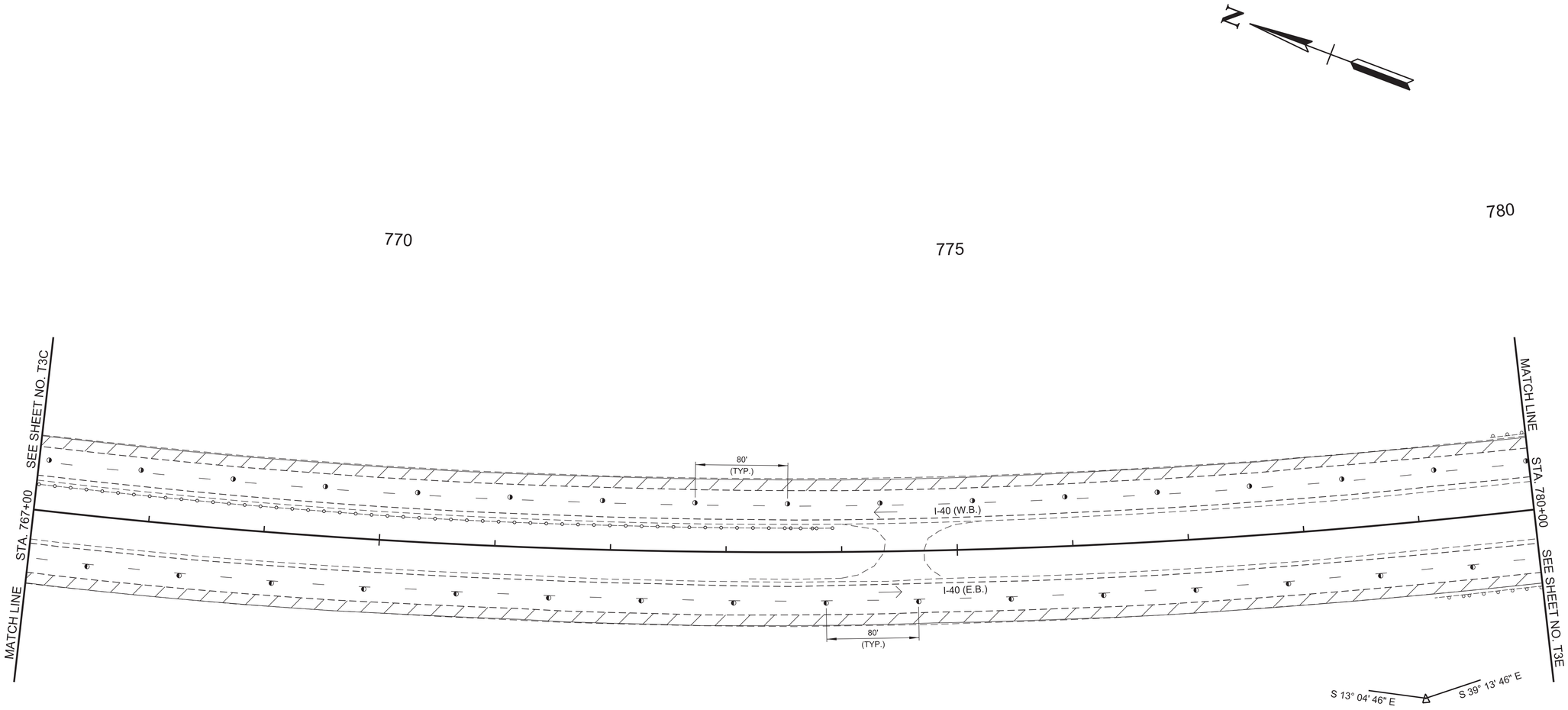
PS&E	2025	18100-4148-04	T3D



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AGRICULTURE
09/23/2025
NO. 100972
STATE OF TENNESSEE

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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL PLANS PHASE 1

STA.767+00 TO STA.780+00

SCALE: 1"=50'

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TYPE	YEAR	PROJECT NO.	SHEET NO.
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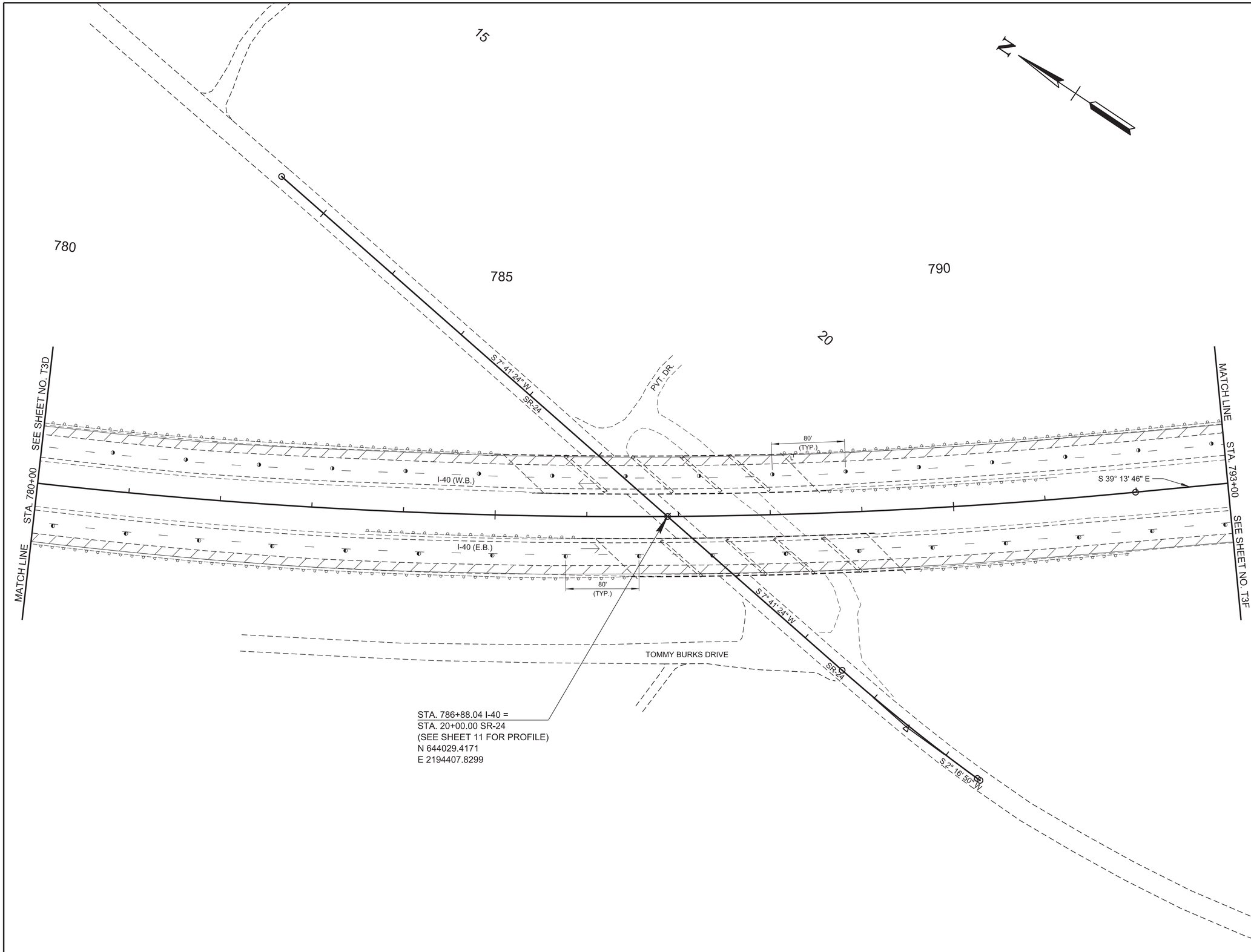

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No. 109927
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DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL PLANS PHASE 1

STA.780+00 TO STA.793+00

SCALE: 1"=50'

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TYPE	YEAR	PROJECT NO.	SHEET NO.
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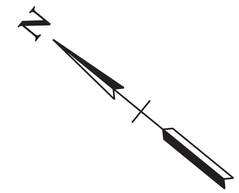

795

800

805

SEE SHEET NO. T3E

STA. 793+00

MATCH LINE

80'
(TYP.)

I-40 (W.B.)

S 39° 13' 46" E

S 39°15' 21" E

I-40 (E.B.)

80'
(TYP.)

SEE SHEET NO. T3G

STA. 806+00

MATCH LINE

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AGRICULTURE
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FARMERS
No. 100994
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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL PLANS PHASE 1

STA.793+00 TO STA.806+00

SCALE: 1"=50'

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TYPE	YEAR	PROJECT NO.	SHEET NO.
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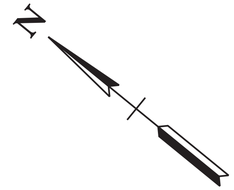

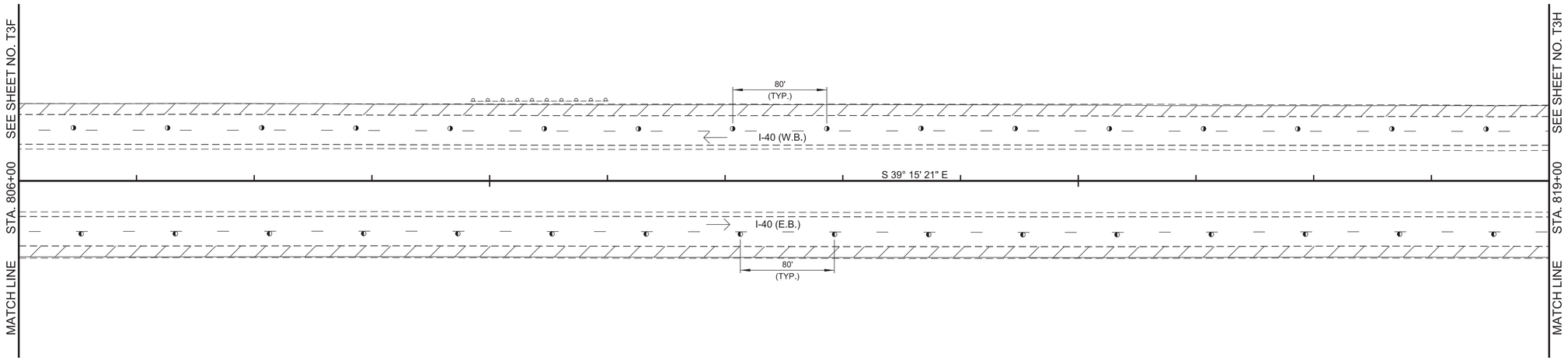

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AGRICULTURE
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NUMBER
100999
STATE OF TENNESSEE

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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL PLANS PHASE 1

STA.806+00 TO STA.819+00

SCALE: 1"=50'

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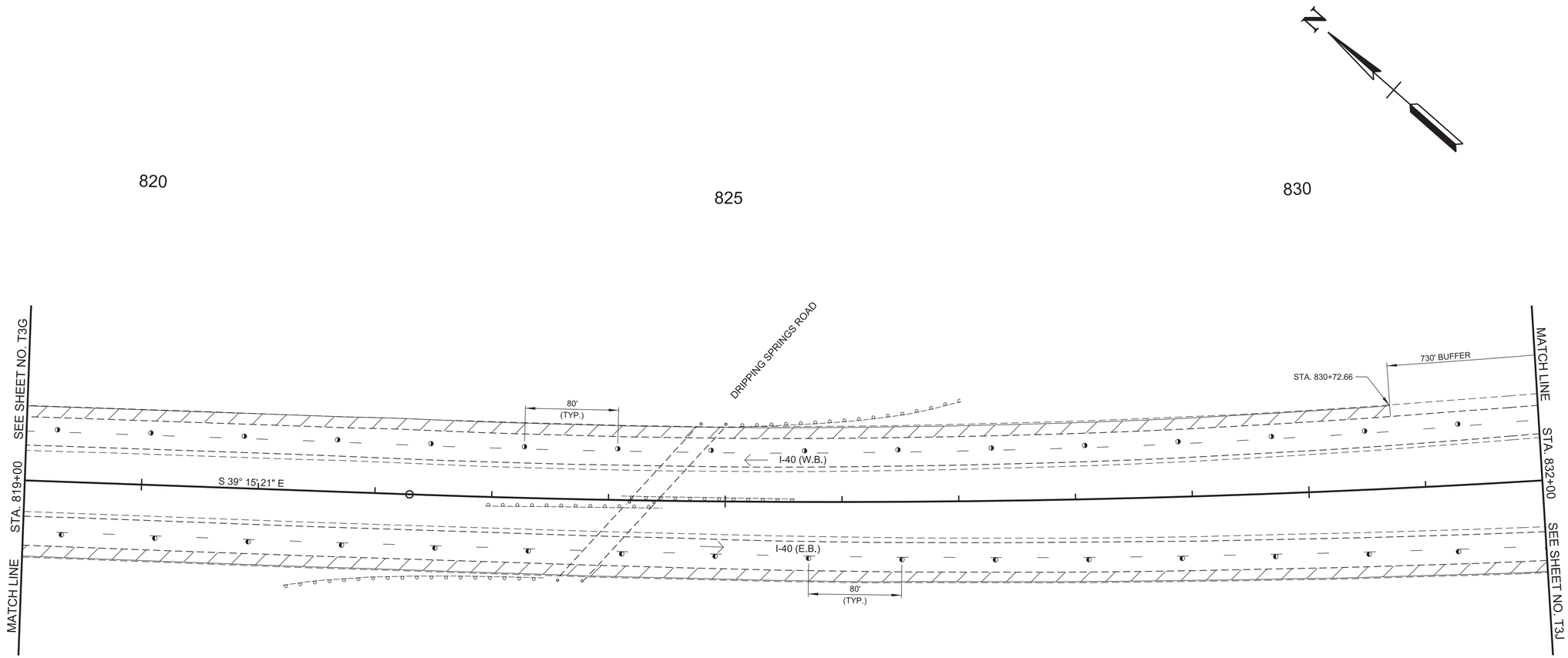
PS&E	2025	18100-4148-04	T3H



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RANDALL T. KEEL
REGISTERED ENGINEER
AGRICULTURE
09/23/2025
COMMERCE
No. 100997
STATE OF TENNESSEE

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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL PLANS PHASE 1

STA.819+00 TO STA.832+00

SCALE: 1"=50'

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TYPE	YEAR	PROJECT NO.	SHEET NO.
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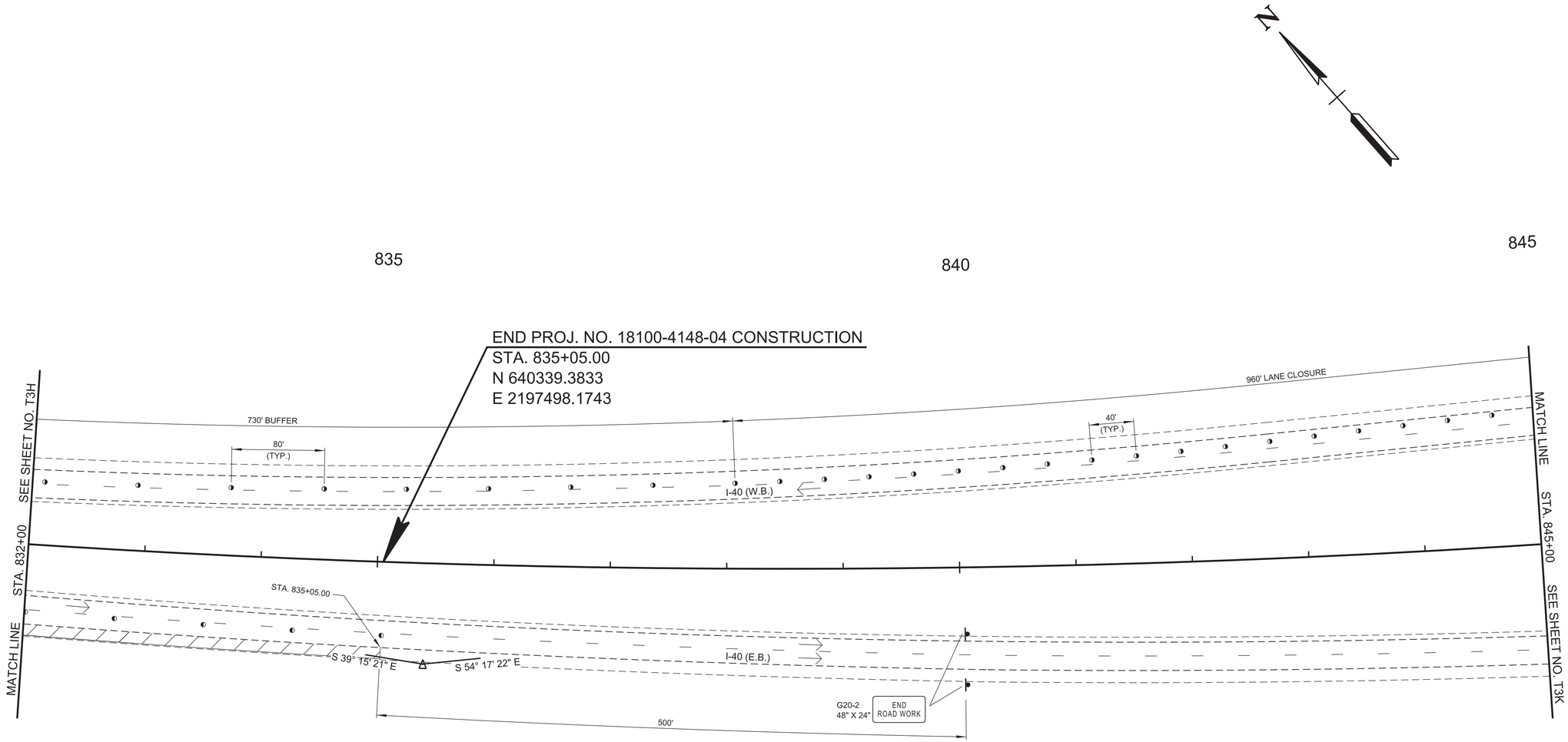

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AGRICULTURE
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COMMERCE
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STATE OF TENNESSEE

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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL PLANS PHASE 1

STA.832+00 TO STA.845+00

SCALE: 1"=50'

9/22/2025 9:23:08 AM
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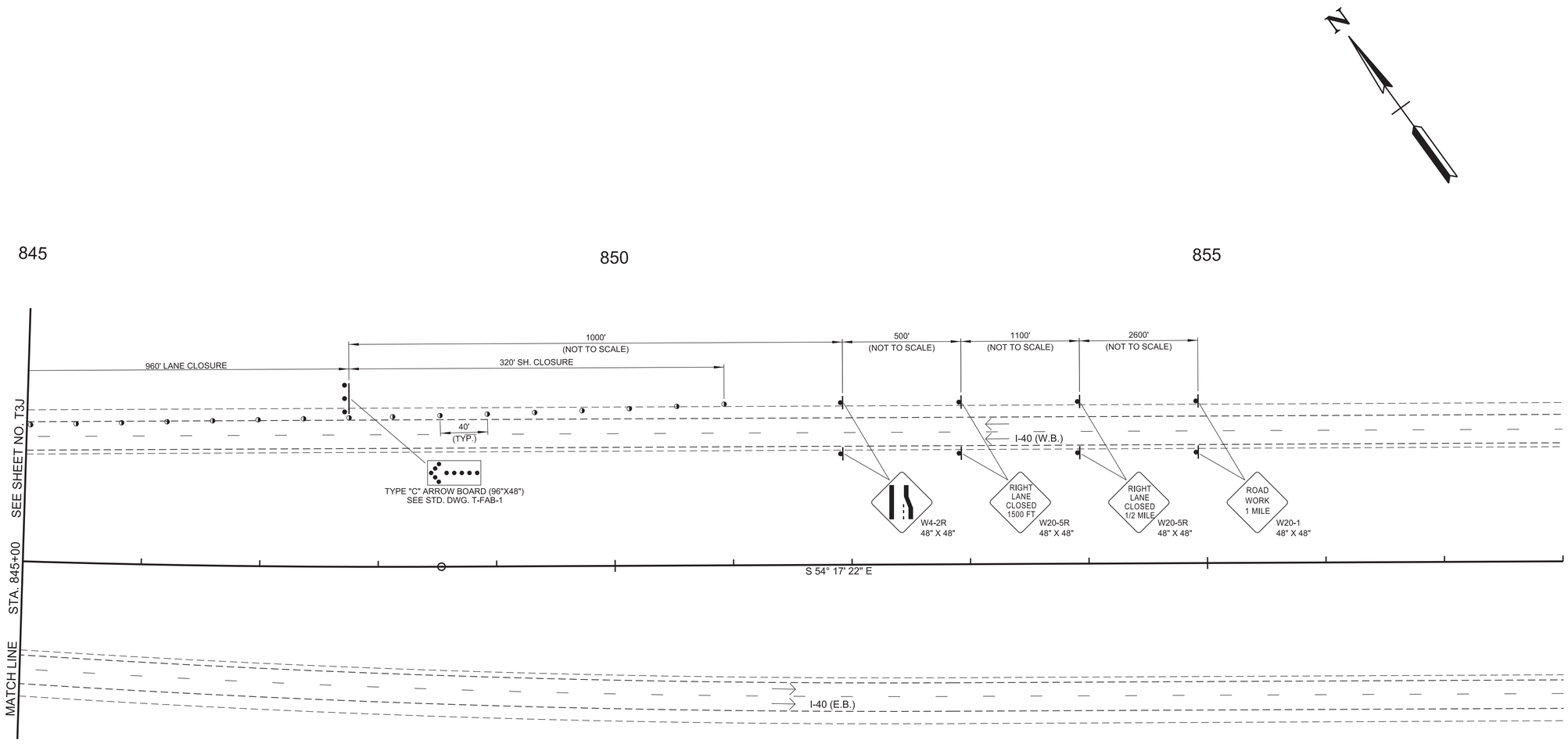
PS&E	2025	18100-4148-04	T3K



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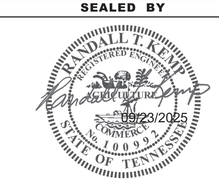


COORDINATES ARE NAD 83(1995), ARE DATUM ADJUSTED BY THE FACTOR OF 1.00013 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988 WITH GEOID 03.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL PLANS PHASE 1

STA.845+00 TO STA.854+00

SCALE: 1"=50'

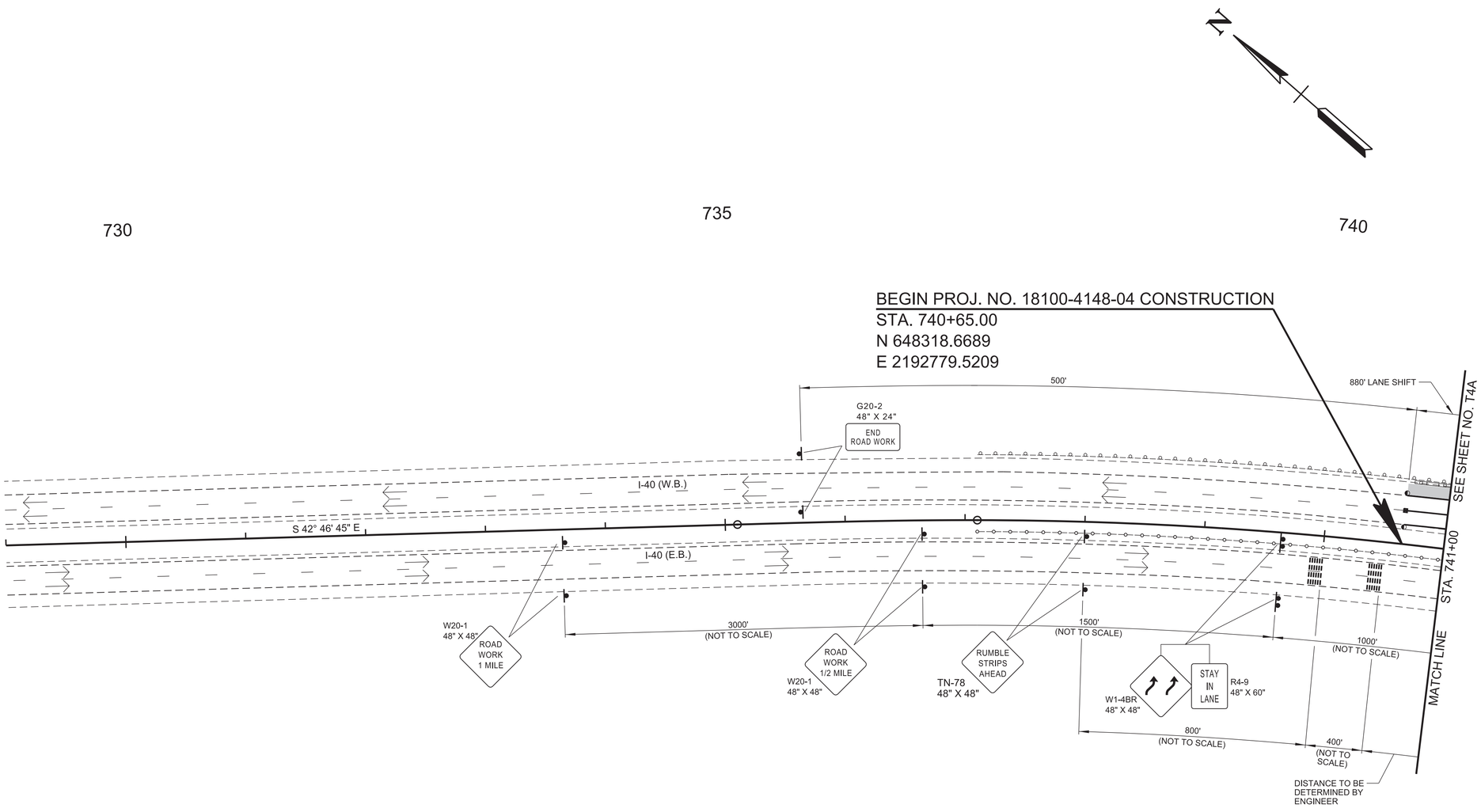
9/22/2025 9:23:09 AM
J:\Structures\11685-14_CumberlandCo_I-40_over_SR24_(orig_10705-35)\Drawings\Survey\T3K.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.
L&G	2025	18100-4148-04	T4
PS&E	2025	18100-4148-04	T4

730

735

740



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COORDINATES ARE NAD 83(1995), ARE DATUM ADJUSTED BY THE FACTOR OF 1.00013 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988 WITH GEOID 03.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

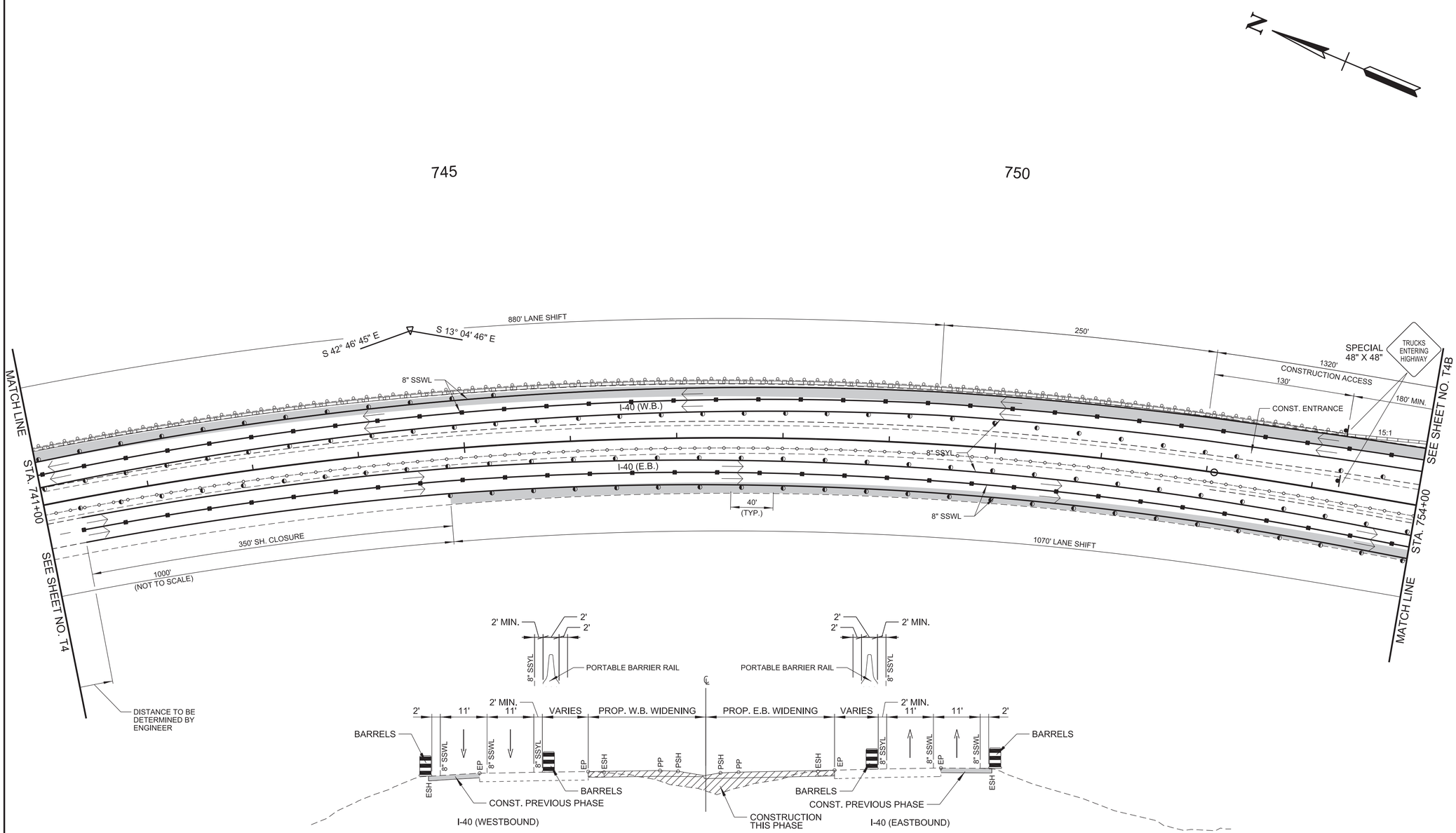
TRAFFIC CONTROL PLANS PHASE 2

STA.732+00 TO STA.741+00

SCALE: 1"=50'

9/22/2025 9:23:10 AM
J:\Structures\11685-14_CumberlandCo_I-40_over_SR24_(orig_10705-35)\Drawings\Survey\T4.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.
L&G	2025	18100-4148-04	T4A
PS&E	2025	18100-4148-04	T4A

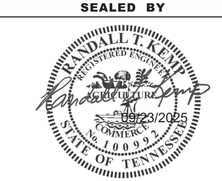


PHASE 2

1. INSTALL APPROPRIATE MEASURES TO SHIFT I-40 EB AND WB TRAFFIC PARTIALLY ONTO THE OUTSIDE SHOULDER. WIDEN I-40 EB AND WB INSIDE LANES AND BRIDGES.
2. REMOVE TEMPORARY PAVEMENT MARKINGS AND INSTALL TEMPORARY PAVEMENT MARKINGS FOR PHASE 3 TRAFFIC.
3. PHASE 2 CONSTRUCTION SHALL NOT BE RESTRICTED TO NIGHT-TIME HOURS.

SSYL - SINGLE SOLID YELLOW LINE
SSWL - SINGLE SOLID WHITE LINE
ESH - EXISTING SHOULDER
EP - EXISTING PAVEMENT
PSH - PROPOSED SHOULDER
PP - PROPOSED PAVEMENT

SEALED BY



COORDINATES ARE NAD 83(1995), ARE DATUM ADJUSTED BY THE FACTOR OF 1.00013 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988 WITH GEOID 03.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

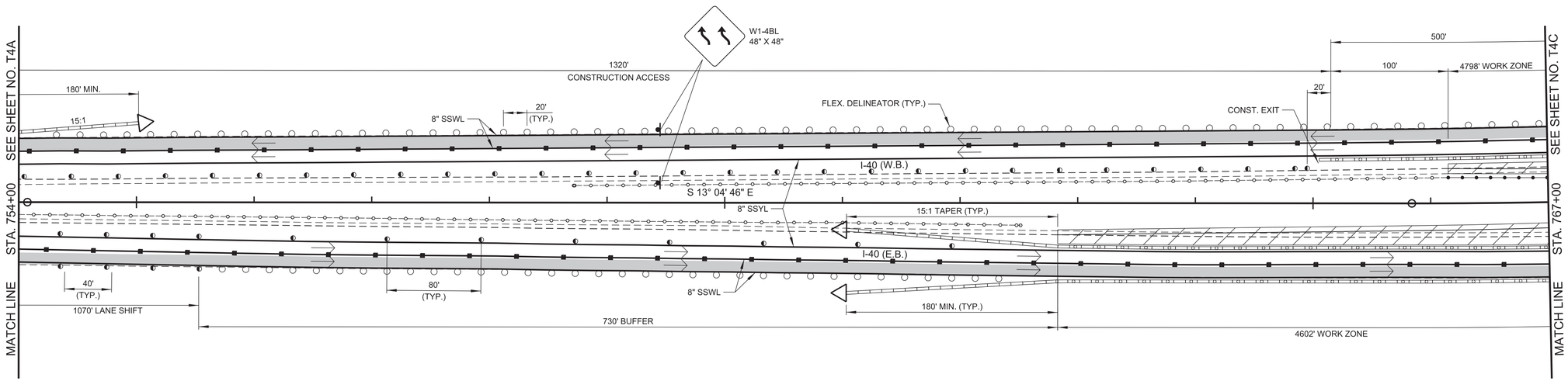
TRAFFIC CONTROL PLANS PHASE 2
STA.741+00 TO STA.754+00
SCALE: 1"=50'

9/22/2025 9:23:11 AM
J:\Structures\11685-14_CumberlandCo_I-40_over_SR24_(orig_10705-35)\Drawings\Survey\T4A.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.
L&G	2025	18100-4148-04	T4B
PS&E	2025	18100-4148-04	T4B

N

755 760 765



SEALED BY



COORDINATES ARE NAD 83(1995), ARE DATUM ADJUSTED BY THE FACTOR OF 1.00013 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988 WITH GEOID 03.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL PLANS PHASE 2

STA.754+00 TO STA.767+00

SCALE: 1"=50'

9/22/2025 9:23:11 AM
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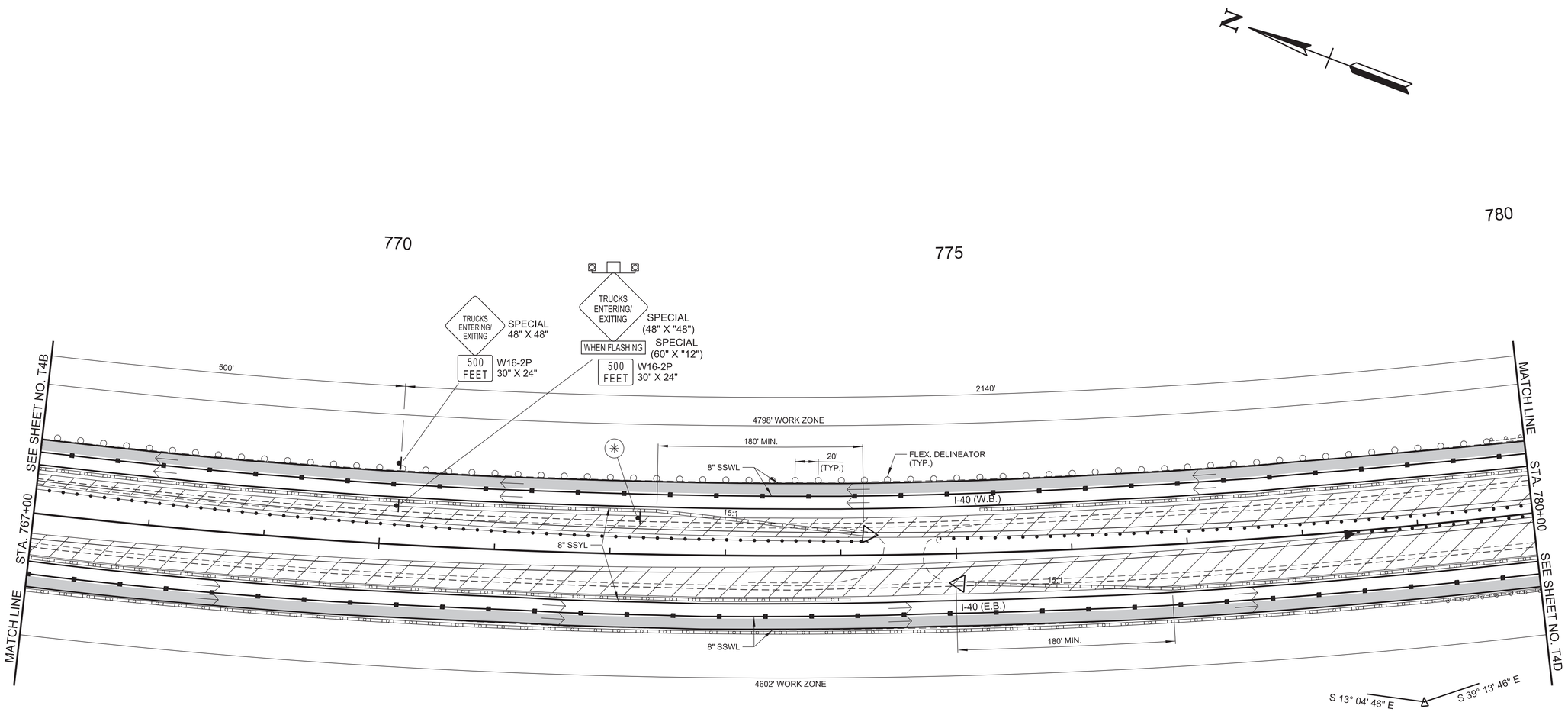
TYPE	YEAR	PROJECT NO.	SHEET NO.
L&G	2025	18100-4148-04	T4C
PS&E	2025	18100-4148-04	T4C



LOCATION OF SAWS WARNING SYSTEM RADAR TRAILERS AND REGULATORY SIGN WIG-WAG TRAILERS TO BE DETERMINED BY THE ENGINEER.

SEALED BY



COORDINATES ARE NAD 83(1995), ARE DATUM ADJUSTED BY THE FACTOR OF 1.00013 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988 WITH GEOID 03.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL PLANS PHASE 2

STA.767+00 TO STA.780+00

SCALE: 1"=50'

9/22/2025 9:23:12 AM
J:\Structures\11685-14_CumberlandCo_I-40_over_SR24_(orig_10705-35)\Drawings\Survey\T4C.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.
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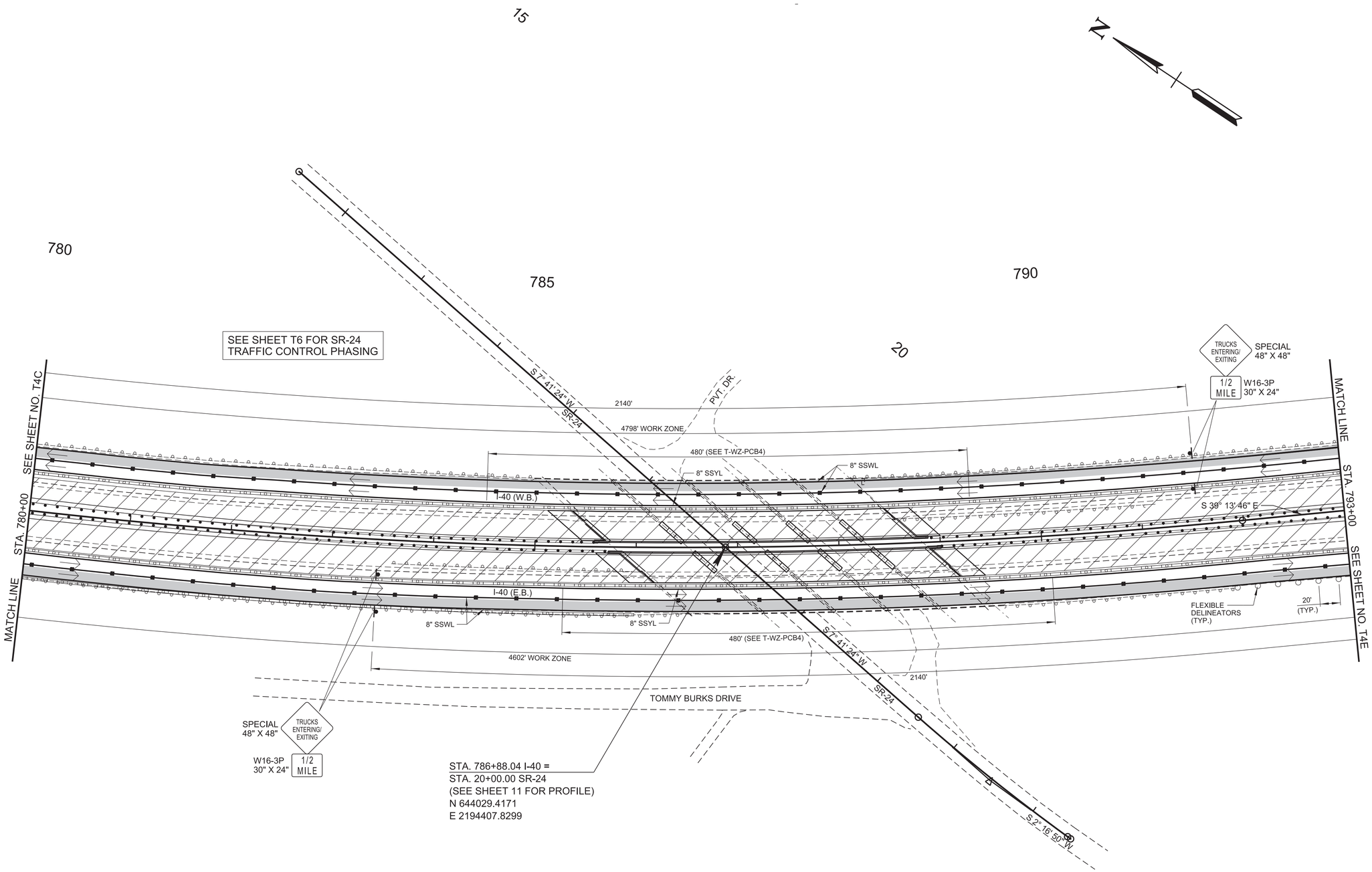
PS&E	2025	18100-4148-04	T4D



SEALED BY



COORDINATES ARE NAD 83(1995), ARE DATUM ADJUSTED BY THE FACTOR OF 1.00013 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988 WITH GEOID 03.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL PLANS PHASE 2

STA.780+00 TO STA.793+00

SCALE: 1"=50'

9/22/2025 9:23:12 AM
J:\Structures\111685-14_CumberlandCo_I-40_over_SR24_(orig_10705-35)\Drawings\Survey\T4D.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.
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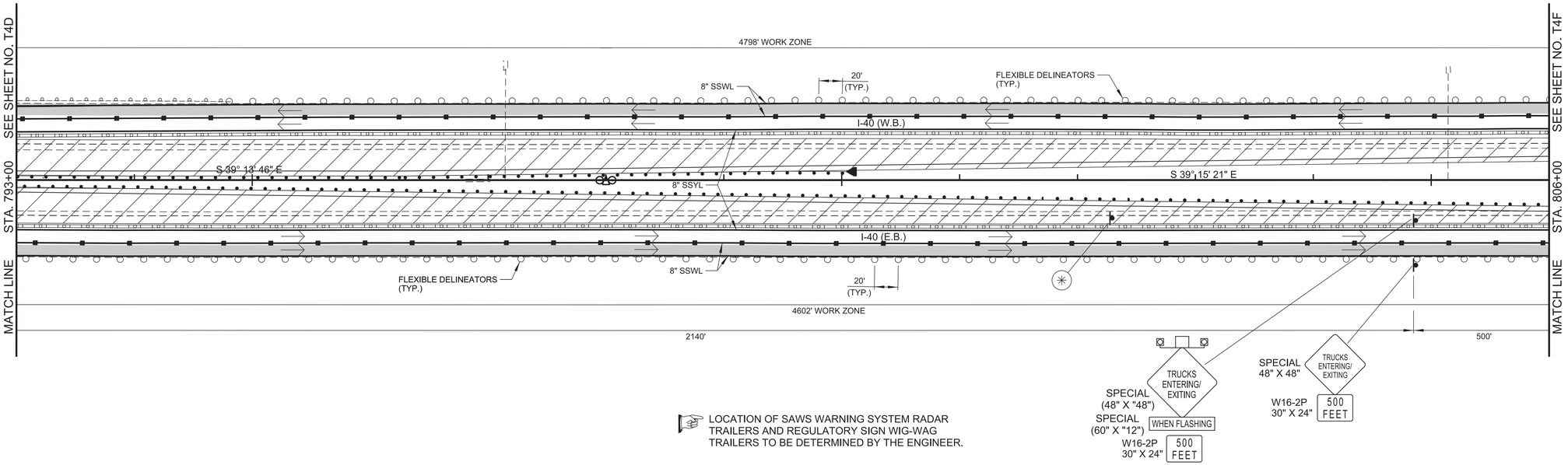
PS&E	2025	18100-4148-04	T4E



LOCATION OF SAWS WARNING SYSTEM RADAR TRAILERS AND REGULATORY SIGN WIG-WAG TRAILERS TO BE DETERMINED BY THE ENGINEER.

SEALED BY



COORDINATES ARE NAD 83(1995), ARE DATUM ADJUSTED BY THE FACTOR OF 1.00013 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988 WITH GEOID 03.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

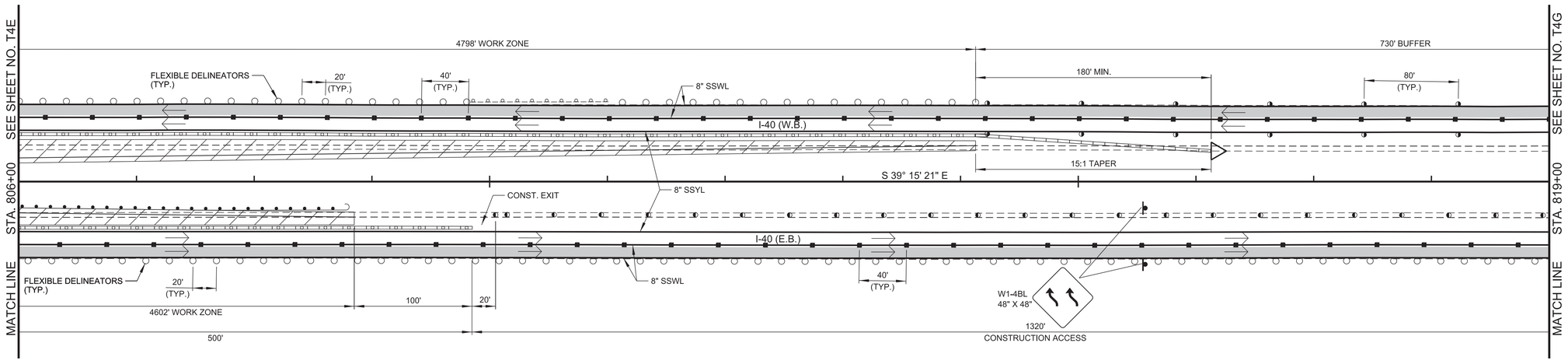
TRAFFIC CONTROL PLANS PHASE 2

STA.793+00 TO STA.806+00

SCALE: 1"=50'

9/22/2025 9:23:13 AM
J:\Structures\11685-14_CumberlandCo_I-40_over_SR24_(orig_10705-35)\Drawings\Survey\T4E.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.
L&G	2025	18100-4148-04	T4F
PS&E	2025	18100-4148-04	T4F



SEALED BY

RANDALL T. KEMP
REGISTERED ENGINEER
SIGNATURE
09/23/2025
DATE
NO. 100972
STATE OF TENNESSEE

COORDINATES ARE NAD 83(1995), ARE DATUM ADJUSTED BY THE FACTOR OF 1.00013 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988 WITH GEOID 03.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL PLANS PHASE 2

STA.806+00 TO STA.819+00

SCALE: 1"=50'

9/22/2025 9:23:13 AM
J:\Structures\111685-14_CumberlandCo_I-40_over_SR24_(orig_10705-35)\Drawings\Survey\T4F.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.
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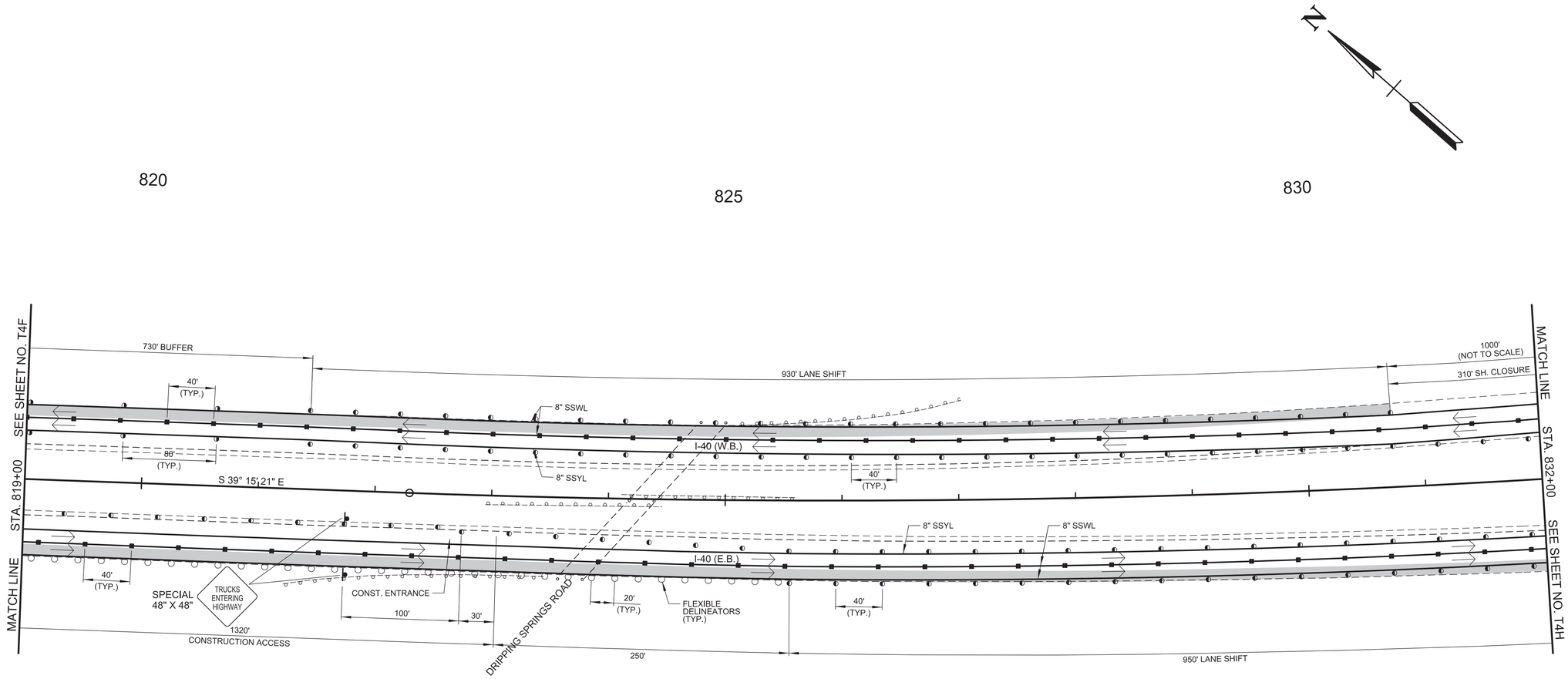
PS&E	2025	18100-4148-04	T4G



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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL PLANS PHASE 2

STA.819+00 TO STA.832+00

SCALE: 1"=50'

9/22/2025 9:23:14 AM
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TYPE	YEAR	PROJECT NO.	SHEET NO.
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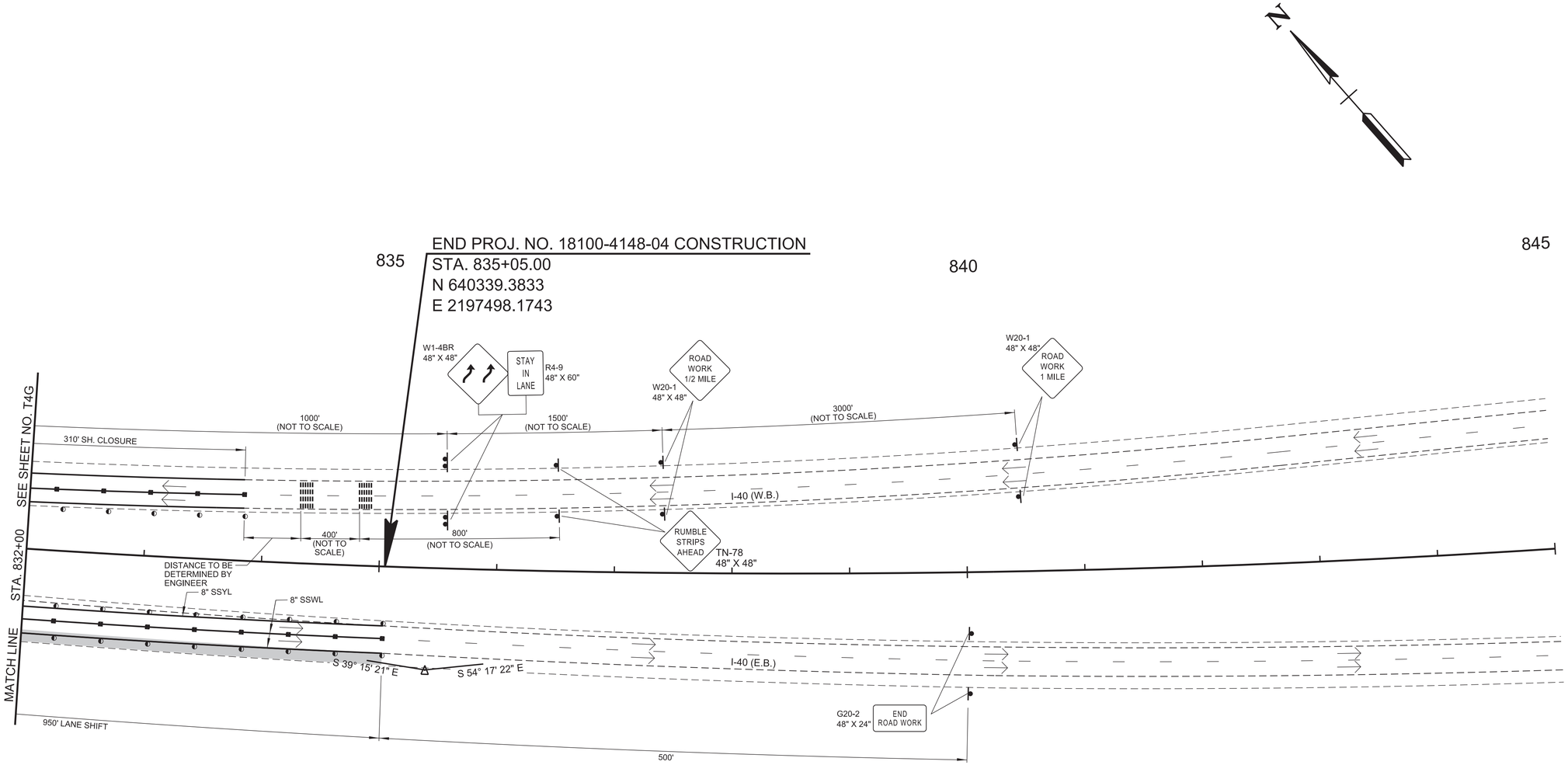
PS&E	2025	18100-4148-04	T4H



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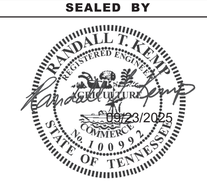

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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL PLANS PHASE 2

STA.832+00 TO STA.841+00

SCALE: 1"=50'

9/22/2025 9:23:14 AM
J:\Structures\111685-14_CumberlandCo_I-40_over_SR24_(orig_10705-35)\Drawings\Survey\T4H.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.
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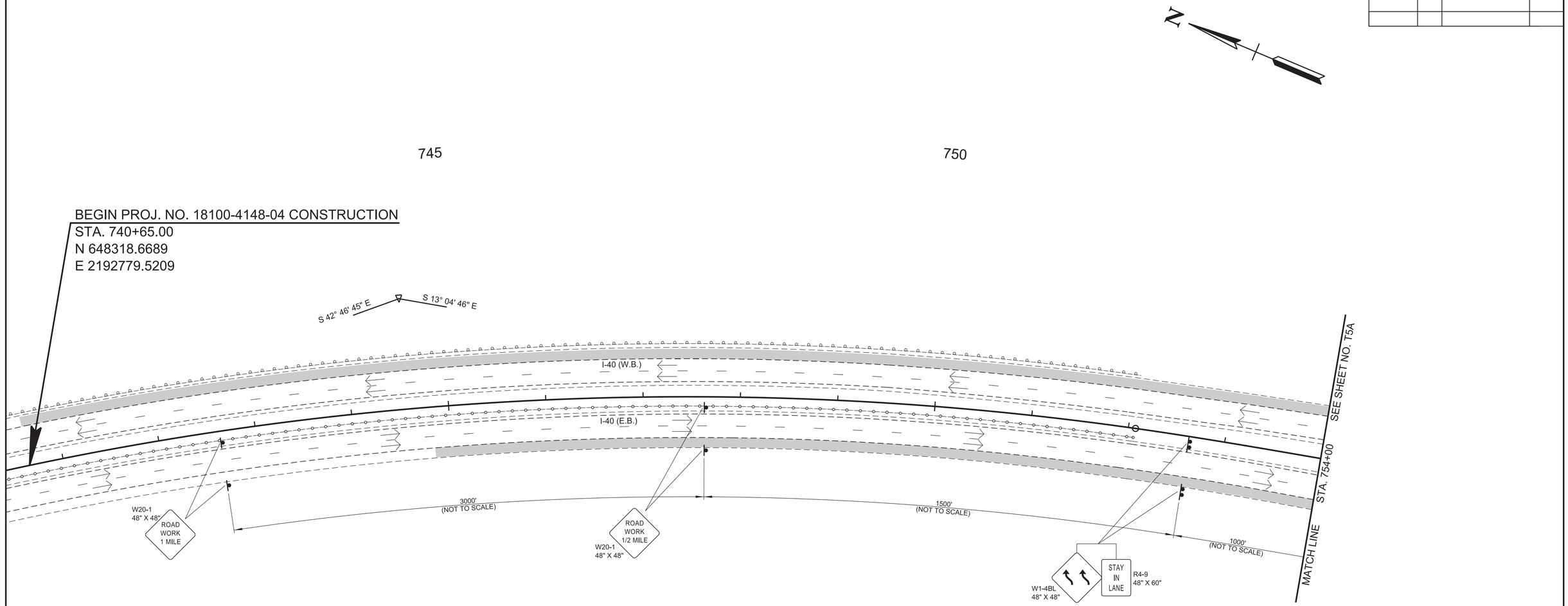
PS&E	2025	18100-4148-04	T5



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RANDALL T. KEETH
REGISTERED ENGINEER
SIGNATURE
09/23/2025
COMMERCE
No. 100997
STATE OF TENNESSEE

COORDINATES ARE NAD 83(1995), ARE DATUM ADJUSTED BY THE FACTOR OF 1.00013 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988 WITH GEOID 03.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL PLANS PHASE 3

STA.740+65 TO STA.754+00

SCALE: 1"=50'

9/22/2025 9:23:15 AM
J:\Structures\11685-14_CumberlandCo_I-40_over_SR24_(orig_10705-35)\Drawings\Survey\T5.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.
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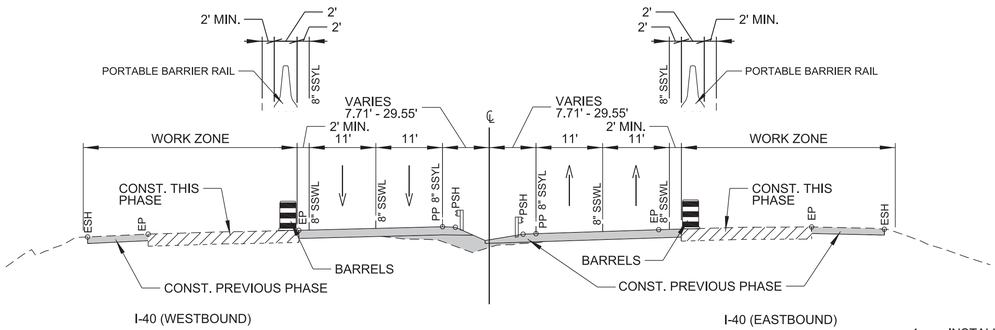
PS&E	2025	18100-4148-04	T5A

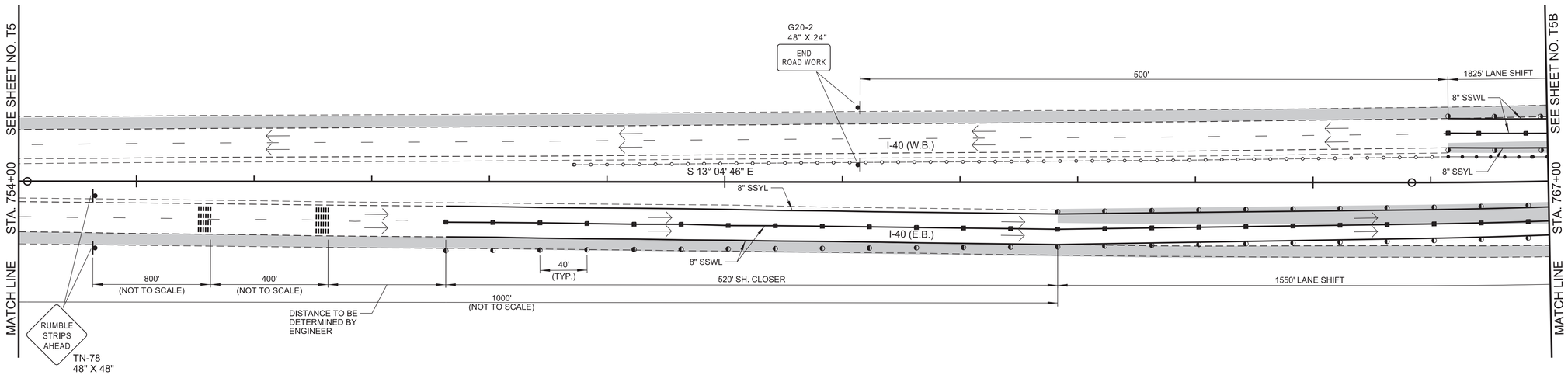


755 760 765

SSYL - SINGLE SOLID YELLOW LINE
SSWL - SINGLE SOLID WHITE LINE
ESH - EXISTING SHOULDER
EP - EXISTING PAVEMENT
PSH - PROPOSED SHOULDER
PP - PROPOSED PAVEMENT

PHASE 3

1. INSTALL APPROPRIATE MEASURES TO SHIFT I-40 EB AND WB TRAFFIC ONTO THE NEWLY CONSTRUCTED INSIDE LANES AND BRIDGES. PRIOR TO TRAFFIC BEING SHIFTED INTO MEDIAN, ALL PERMANENT GUARDRAIL MUST BE IN PLACE.
2. CONSTRUCT THE REMAINING PORTION OF THE EB AND WB I-40 BRIDGES.
3. REPAIR OUTSIDE SHOULDERS ON THE HIGH SIDE OF SUPERELEVATED AREAS BACK TO STANDARD CROSS SLOPES.
4. REMOVE TEMPORARY PAVEMENT MARKINGS.
5. PHASE 3 CONSTRUCTION SHALL NOT BE RESTRICTED TO NIGHT-TIME HOURS.



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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL PLANS PHASE 3

STA.754+00 TO STA.767+00

SCALE: 1"=50'

9/22/2025 9:23:16 AM
J:\Structures\111685-14_CumberlandCo_I-40_over_SR24_(orig_10705-35)\Drawings\Survey\T5A.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.
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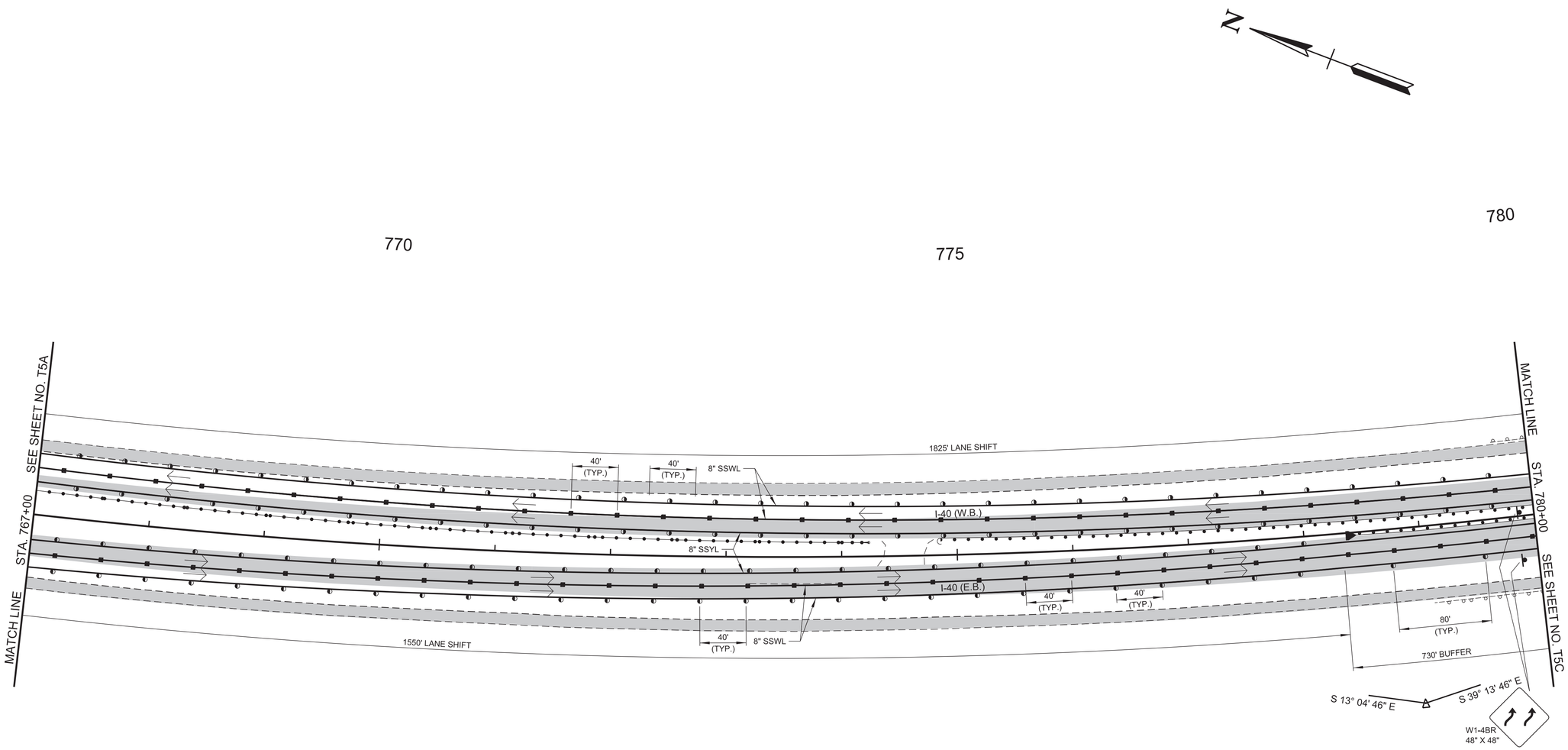
PS&E	2025	18100-4148-04	T5B



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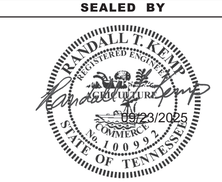

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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL PLANS PHASE 3

STA.767+00 TO STA.780+00

SCALE: 1"=50'

9/22/2025 9:23:16 AM
J:\Structures\11685-14_CumberlandCo_I-40_over_SR24_(orig_10705-35)\Drawings\Survey\T5B.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.
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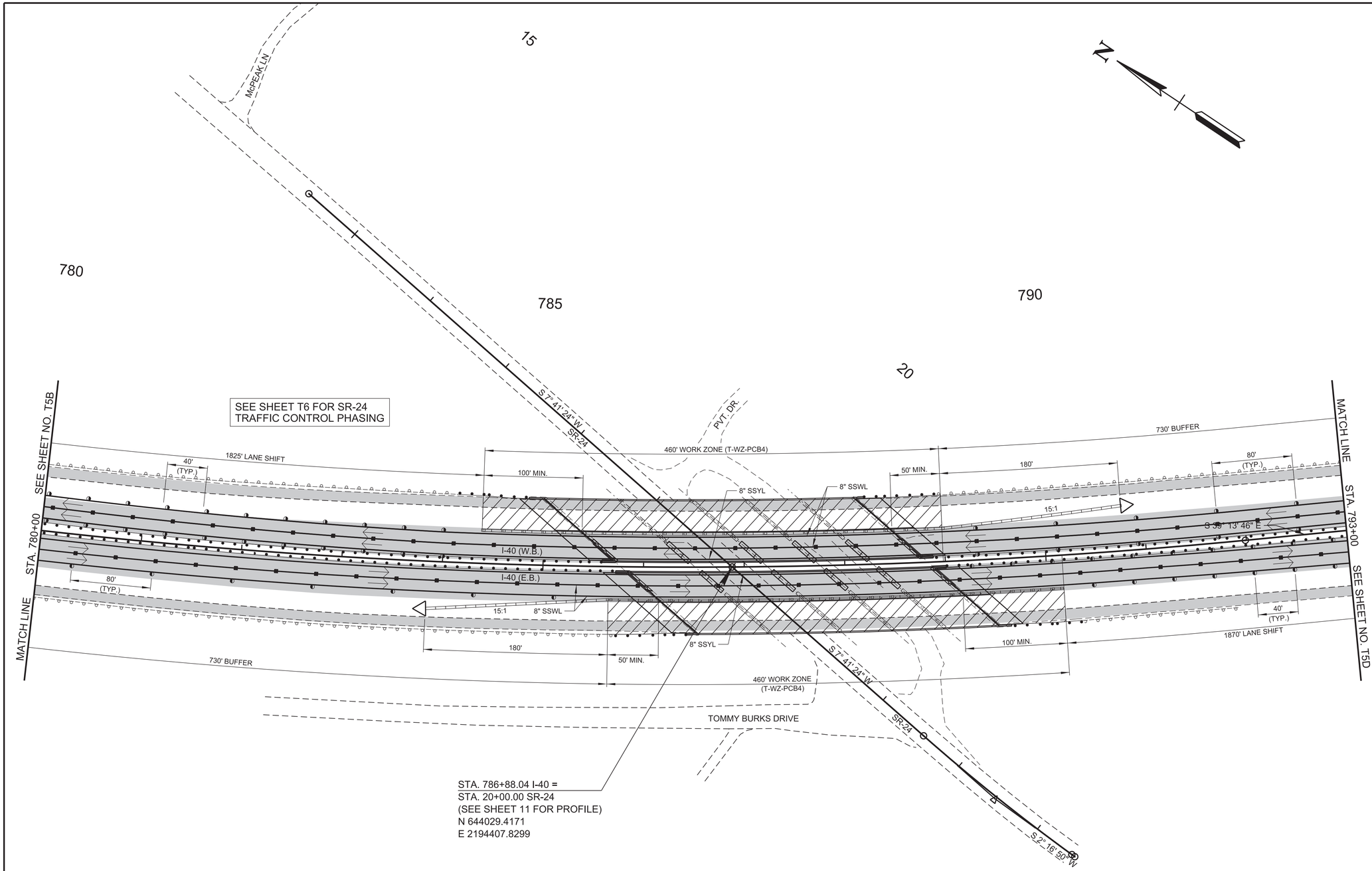
PS&E	2025	18100-4148-04	T5C



SEALED BY



COORDINATES ARE NAD 83(1995), ARE DATUM ADJUSTED BY THE FACTOR OF 1.00013 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988 WITH GEOID 03.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL PLANS PHASE 3

STA.780+00 TO STA.793+00

SCALE: 1"=50'

9/22/2025 9:23:17 AM
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TYPE	YEAR	PROJECT NO.	SHEET NO.
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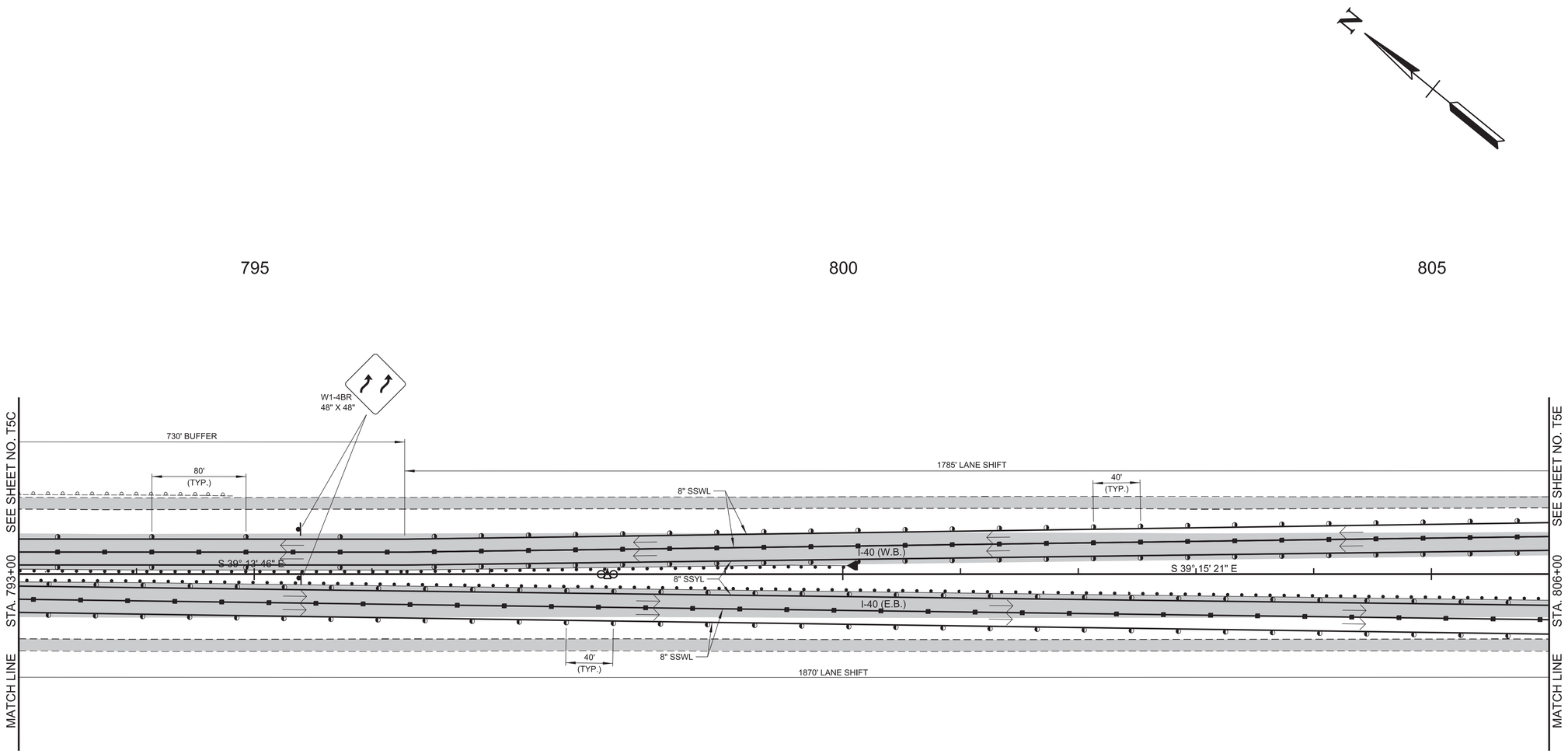
PS&E	2025	18100-4148-04	T5D



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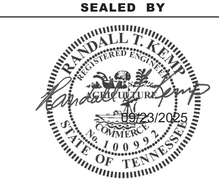

COORDINATES ARE NAD 83(1995), ARE DATUM ADJUSTED BY THE FACTOR OF 1.00013 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988 WITH GEOID 03.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL PLANS PHASE 3

STA.793+00 TO STA.806+00

SCALE: 1"=50'

9/22/2025 9:23:19 AM
J:\Structures\11685-14_CumberlandCo_I-40_over_SR24_(orig_10705-35)\Drawings\Survey\T5D.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.
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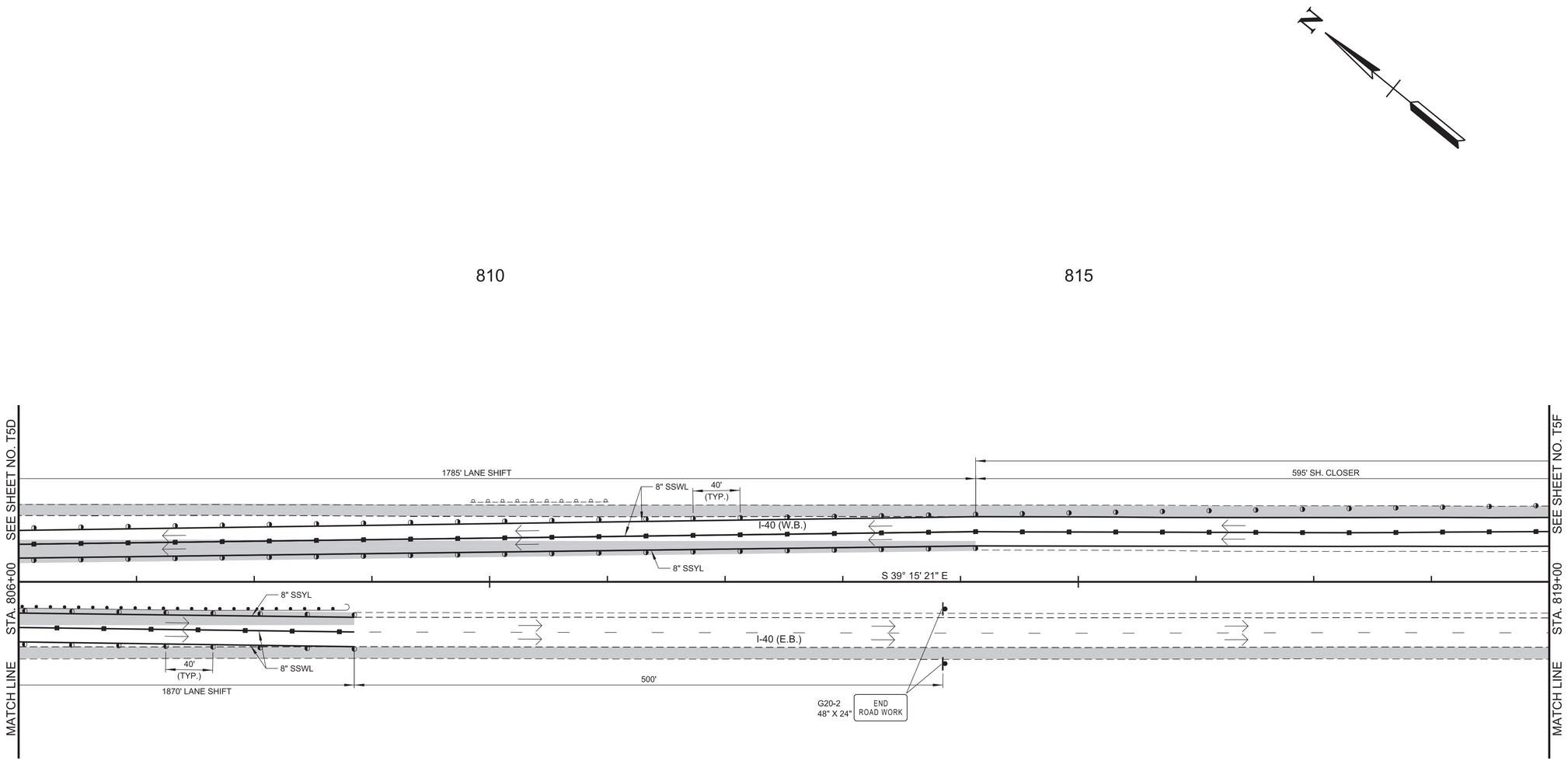
PS&E	2025	18100-4148-04	T5E



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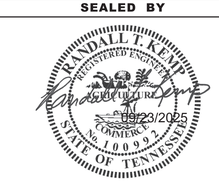

COORDINATES ARE NAD 83(1995), ARE DATUM ADJUSTED BY THE FACTOR OF 1.00013 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988 WITH GEOID 03.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL PLANS PHASE 3

STA.806+00 TO STA.819+00

SCALE: 1"=50'

9/22/2025 9:23:19 AM
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TYPE	YEAR	PROJECT NO.	SHEET NO.
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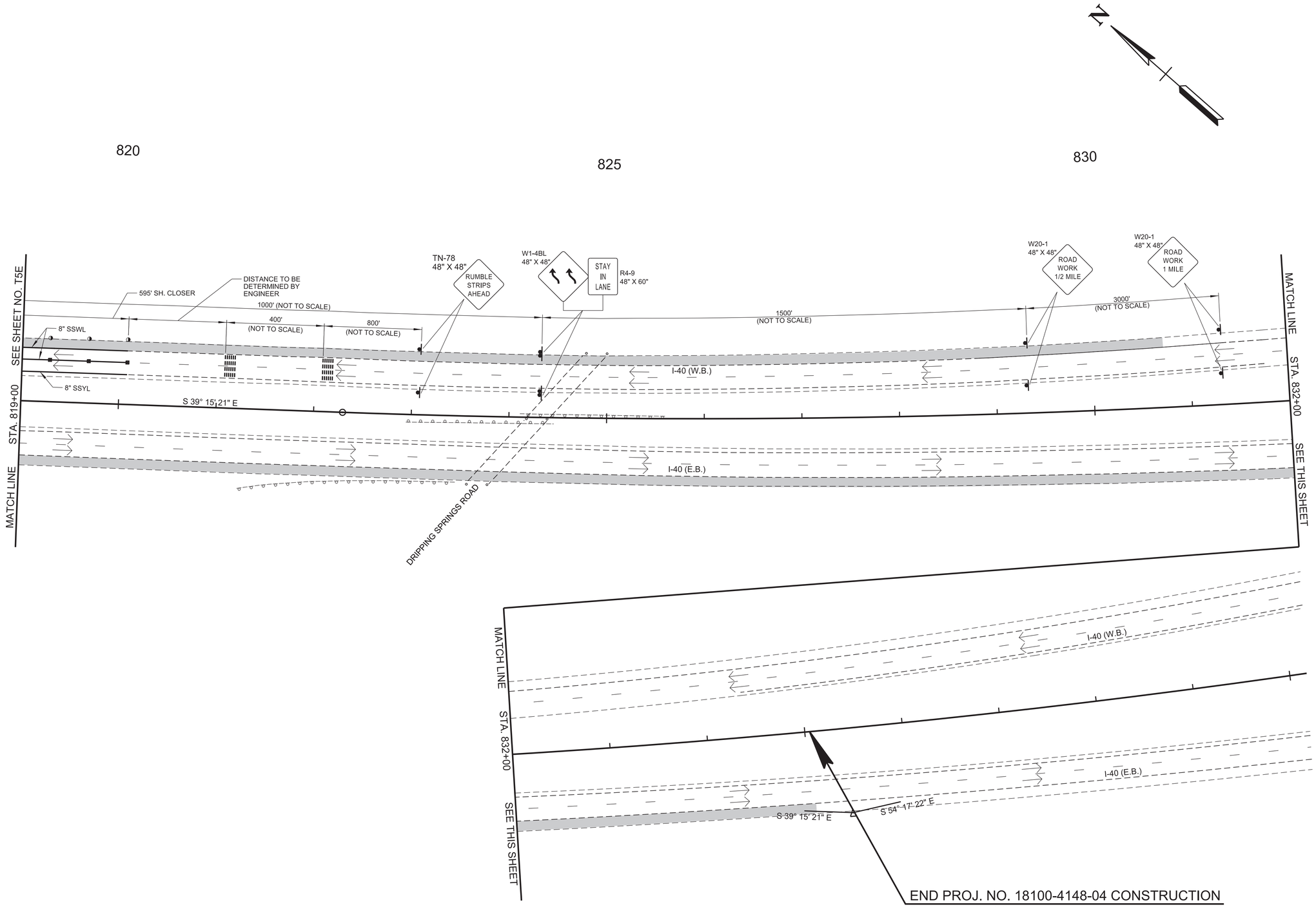
PS&E	2025	18100-4148-04	T5F



SEALED BY

RANDALL T. KEITH
REGISTERED ENGINEER
AGRICULTURE
10/23/2025
NUMBER
No. 100999
STATE OF TENNESSEE

COORDINATES ARE NAD 83(1995), ARE DATUM ADJUSTED BY THE FACTOR OF 1.00013 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988 WITH GEOID 03.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL PLANS PHASE 3

STA.819+00 TO STA.835+05

SCALE: 1"=50'

9/22/2025 9:23:20 AM
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TYPE	YEAR	PROJECT NO.	SHEET NO.
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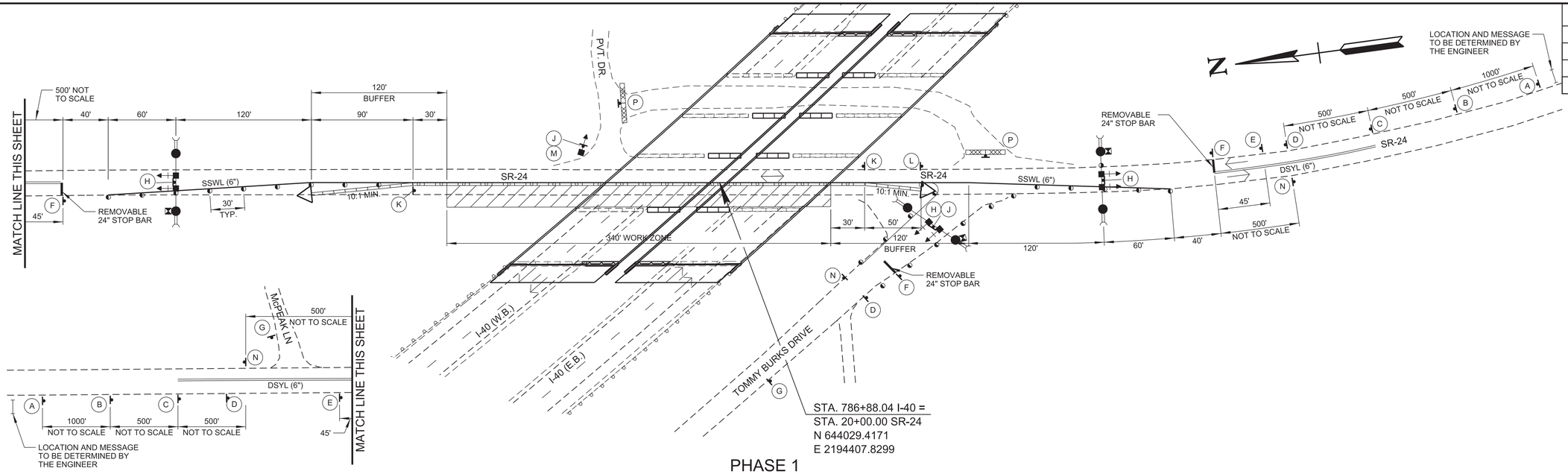
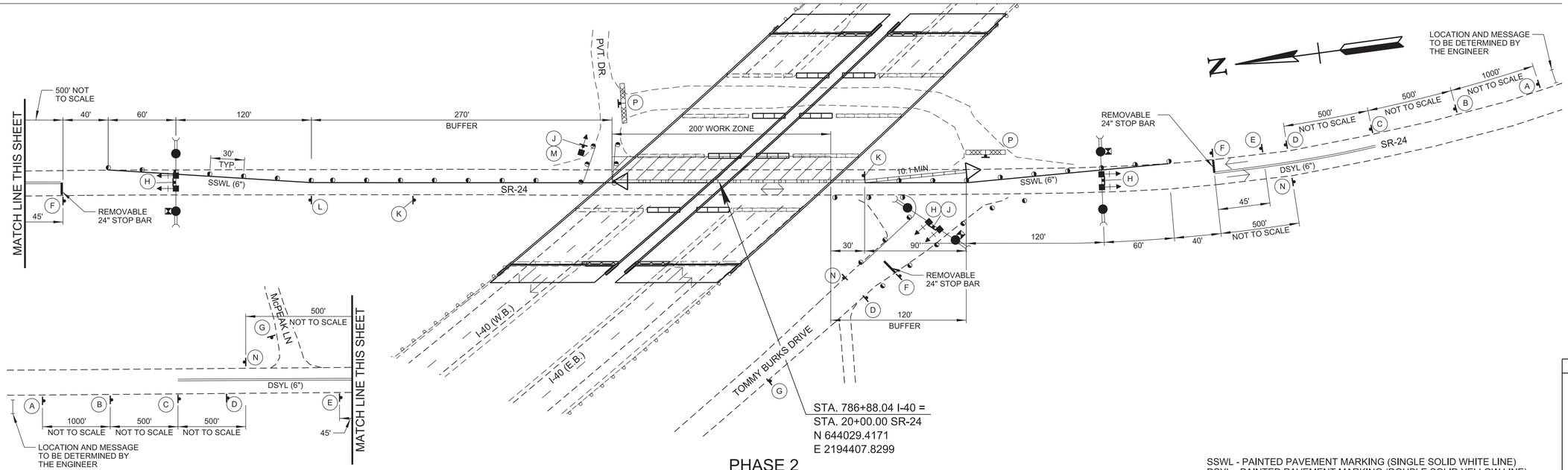
PS&E	2025	18100-4148-04	T6



PHASE 1



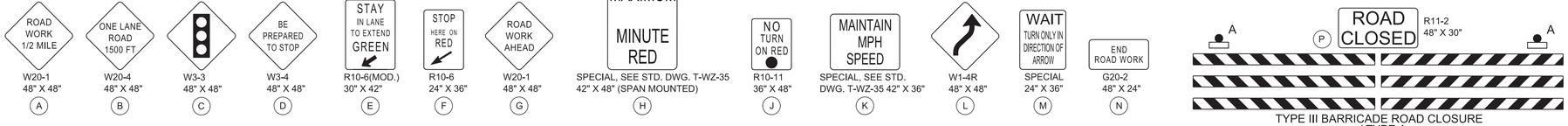
PHASE 2

SSWL - PAINTED PAVEMENT MARKING (SINGLE SOLID WHITE LINE)
DSYL - PAINTED PAVEMENT MARKING (DOUBLE SOLID YELLOW LINE)

SEALED BY



PLACE ADDITIONAL "ROAD WORK AHEAD" SIGNS ON BENT TREE RD. AND BAKER DR. AT INTERSECTION WITH SR-24



TYPE III BARRICADE ROAD CLOSURE w/ TYPE A WARNING LIGHTS

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL PLANS

SR-24

SCALE: 1"=50'

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PALMER ENGINEERING CO.
2817 ERICA PLACE
NASHVILLE, TN 37204
LOGAN COLBERT, P.E. NO. 117913

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

SHEET NAME	SHEET NO.
SIGNATURE SHEET	STRUCTURE-SIGN1
BRIDGE INDEX AND STANDARD STRUCTURE DRAWINGS	B-1 (BR-133-174)
ESTIMATED BRIDGE QUANTITIES AND NOTES	B-2 (BR-133-175)
BRIDGE GENERAL NOTES	B-3 (BR-133-176)
LAYOUT OF BRIDGE TO BE REPAIRED	BR-133-173
CONSTRUCTION PHASING	BR-133-178
SUPERSTRUCTURE	BR-133-179
SUPERSTRUCTURE	BR-133-180
SLAB DETAILS - TRANSVERSE	BR-133-181
SLAB DETAILS - TRANSVERSE	BR-133-182
SLAB DETAILS - LONGITUDINAL	BR-133-183
PARTIAL FRAMING PLAN	BR-133-184
SUPERSTRUCTURE DETAILS	BR-133-185
PRESTRESSED I-BEAM DETAILS – SPANS 1 & 2	BR-133-186
PRESTRESSED I-BEAM DETAILS – SPANS 3, 4, & 5	BR-133-187
CONSTRUCTION ELEVATIONS LEFT BRIDGE	BR-133-188
CONSTRUCTION ELEVATIONS RIGHT BRIDGE	BR-133-189
CONSTRUCTION ELEVATIONS	BR-133-190
PAVEMENT AT BRIDGE ENDS	BR-133-191
ABUTMENT DETAILS	BR-133-192
WING WALL MODIFICATIONS	BR-133-193
WING WALL MODIFICATIONS	BR-133-194
CONSTRUCTION JOINT DETAILS	BR-133-195
ABUTMENT SECTIONS	BR-133-196
LEFT BRIDGE - ABUTMENT 1 DETAILS	BR-133-197
LEFT BRIDGE - ABUTMENT 1 DETAILS	BR-133-198
LEFT BRIDGE - ABUTMENT 1 DETAILS	BR-133-199
LEFT BRIDGE - ABUTMENT 2 DETAILS	BR-133-200
LEFT BRIDGE - ABUTMENT 2 DETAILS	BR-133-201
LEFT BRIDGE - ABUTMENT 2 DETAILS	BR-133-202
RIGHT BRIDGE - ABUTMENT 1 DETAILS	BR-133-203
RIGHT BRIDGE - ABUTMENT 1 DETAILS	BR-133-204
RIGHT BRIDGE - ABUTMENT 1 DETAILS	BR-133-205
RIGHT BRIDGE - ABUTMENT 2 DETAILS	BR-133-206
RIGHT BRIDGE - ABUTMENT 2 DETAILS	BR-133-207
RIGHT BRIDGE - ABUTMENT 2 DETAILS	BR-133-208
BENT DETAILS	BR-133-209
RISER BLOCK DETAILS	BR-133-210
FINAL FOUNDATION DATA	BR-133-211
BILL OF STEEL	BR-133-212
BILL OF STEEL	BR-133-213
BILL OF STEEL	BR-133-214
SUPERSTRUCTURE REPAIRS	BR-133-215
SUBSTRUCTURE REPAIRS	BR-133-216
SUBSTRUCTURE REPAIRS	BR-133-217
CONCRETE REPAIR DETAILS	BR-133-218

YEAR	PROJECT NO.	SHEET NO.
2025	18100-4148-04	STRUCTURE-SIGN1

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

SIGNATURE SHEET

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BRIDGE INDEX

SHEET NAME	SHEET NO.
SIGNATURE SHEET	STRUCTURE-SIGN1
BRIDGE INDEX AND STANDARD STRUCTURE DRAWINGS	B-1 (BR-133-174)
ESTIMATED BRIDGE QUANTITIES AND NOTES	B-2 (BR-133-175)
BRIDGE GENERAL NOTES	B-3 (BR-133-176)
LAYOUT OF BRIDGE TO BE REPAIRED	BR-133-173
FOUNDATION DATA	BR-133-177
CONSTRUCTION PHASING	BR-133-178
SUPERSTRUCTURE	BR-133-179
SUPERSTRUCTURE	BR-133-180
SLAB DETAILS - TRANSVERSE	BR-133-181
SLAB DETAILS - TRANSVERSE	BR-133-182
SLAB DETAILS - LONGITUDINAL	BR-133-183
PARTIAL FRAMING PLAN	BR-133-184
SUPERSTRUCTURE DETAILS	BR-133-185
PRESTRESSED I-BEAM DETAILS – SPANS 1 & 2	BR-133-186
PRESTRESSED I-BEAM DETAILS – SPANS 3, 4, & 5	BR-133-187
CONSTRUCTION ELEVATIONS LEFT BRIDGE	BR-133-188
CONSTRUCTION ELEVATIONS RIGHT BRIDGE	BR-133-189
CONSTRUCTION ELEVATIONS	BR-133-190
PAVEMENT AT BRIDGE ENDS	BR-133-191
ABUTMENT DETAILS	BR-133-192
WING WALL MODIFICATIONS	BR-133-193
WING WALL MODIFICATIONS	BR-133-194
CONSTRUCTION JOINT DETAILS	BR-133-195
ABUTMENT SECTIONS	BR-133-196
LEFT BRIDGE - ABUTMENT 1 DETAILS	BR-133-197
LEFT BRIDGE - ABUTMENT 1 DETAILS	BR-133-198
LEFT BRIDGE - ABUTMENT 1 DETAILS	BR-133-199
LEFT BRIDGE - ABUTMENT 2 DETAILS	BR-133-200
LEFT BRIDGE - ABUTMENT 2 DETAILS	BR-133-201
LEFT BRIDGE - ABUTMENT 2 DETAILS	BR-133-202
RIGHT BRIDGE - ABUTMENT 1 DETAILS	BR-133-203
RIGHT BRIDGE - ABUTMENT 1 DETAILS	BR-133-204
RIGHT BRIDGE - ABUTMENT 1 DETAILS	BR-133-205
RIGHT BRIDGE - ABUTMENT 2 DETAILS	BR-133-206
RIGHT BRIDGE - ABUTMENT 2 DETAILS	BR-133-207
RIGHT BRIDGE - ABUTMENT 2 DETAILS	BR-133-208
BENT DETAILS	BR-133-209
RISER BLOCK DETAILS	BR-133-210
FINAL FOUNDATION DATA	BR-133-211
BILL OF STEEL	BR-133-212
BILL OF STEEL	BR-133-213
BILL OF STEEL	BR-133-214
SUPERSTRUCTURE REPAIRS	BR-133-215
SUBSTRUCTURE REPAIRS	BR-133-216
SUBSTRUCTURE REPAIRS	BR-133-217
CONCRETE REPAIR DETAILS	BR-133-218

STANDARD STRUCTURE DRAWINGS

NEW STRUCTURES

DWG.	REV.	DESCRIPTION
STD-1-1SS	07-09-25	BRIDGE RAILING SINGLE SLOPE CONCRETE PARAPET
STD-1-2SS	05-31-24	STEEL SLIDER PLATE ASSEMBLIES FOR SINGLE SLOPE CONCRETE PARAPET AND BRIDGE DECK DRAIN DETAILS
STD-1-5	06-05-23	REINFORCED CONCRETE PAVEMENT AT BRIDGE ENDS
STD-5-1		STANDARD PILE DETAILS
STD-6-1	12-08-23	STANDARD SEISMIC DETAILS
STD-9-1	10-07-08	STANDARD REINFORCING BAR SUPPORT DETAILS FOR CONCRETE SLABS
STD-10-1	06-05-23	MISCELLANEOUS ABUTMENT AND DRAINAGE DETAILS
STD-10-2	06-05-23	MISC. ABUTMENT & PAVEMENT AT BRIDGE ENDS BACKFILL DETAILS
STD-14-2	03-06-24	STANDARD DETAILS AND INTERMEDIATE DIAPHRAGM DETAILS FOR I-BEAMS

PROJECT NO.	YEAR	SHEET NO.
18100-4148-04	2025	B-1

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
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SEALED BY

RICHARD LOGAN COLBERT
REGISTERED ENGINEER
AGRICULTURE
COMMERCE
ALEG. 117911
STATE OF TENNESSEE
09/23/2025

Palmer ENGINEERING

PIN NO.: 105727.01

DESIGN BY:	R.L. COLBERT	DATE:	09/2025
DRAWN BY:	M.D. SIMPSON	DATE:	09/2025
SUPERVISED BY:	G.S. WILSON	DATE:	09/2025
CHECKED BY:	R.L. COLBERT	DATE:	09/2025

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

BRIDGE INDEX AND STANDARD STRUCTURE DRAWINGS
BRIDGE NO. BR-18-I0040-00.24 (LT&RT)
FED BRIDGE ID 18I00400001 & 18I00400002
INTERSTATE 40 OVER STATE ROUTE 24
CUMBERLAND COUNTY
2025

BR-133-174

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GENERAL NOTES

SPECIFICATIONS & LOADING

(1) **CONSTRUCTION SPECIFICATIONS:** STANDARD ROAD AND BRIDGE SPECIFICATIONS OF THE TENNESSEE DEPARTMENT OF TRANSPORTATION (JANUARY 1, 2021 EDITION), AND THE 4TH EDITION (2017) AASHTO LRFD BRIDGE CONSTRUCTION SPECIFICATIONS WITH INTERIMS.

(2) **DESIGN SPECIFICATIONS:** 10TH EDITION (2024) AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, AND THE 2ND EDITION (2011) AASHTO GUIDE SPECIFICATION FOR LRFD SIESMIC BRIDGE DESIGN WITH INTERIMS.

(3) **LOADING**:
A. HL-93 LIVE LOADING
B. DEAD LOAD INCLUDES 35 LB/SQ. FT. FOR FUTURE WEARING SURFACE.

STEEL, CONCRETE, REINFORCING, AND FORMING

(4) **REINFORCING STEEL**: SHALL BE ASTM A615 GRADE 60 UNLESS NOTED OTHERWISE. SEE SECTION 604 AND 907 OF THE STANDARD SPECIFICATIONS.

(5) **NOTE:** MECHANICAL BAR SPLICERS MUST BE ON THE TDOT QUALIFIED PRODUCTS LIST 27. THE BAR SPLICERS SHALL MEET AASHTO LRFD SPECIFICATIONS FOR MECHANICAL CONNECTION. WHEN EPOXY COATING IS REQUIRED, THE EXPOSED THREADS SHALL BE REPAIRED AFTER SPLICING ACCORDING TO SECTION 907 OF THE STANDARD SPECIFICATIONS. THE COST OF FURNISHING THE BAR SPLICERS, (AND EPOXY COATING WHEN REQUIRED) INCLUDING ALL LABOR AND MATERIALS NECESSARY FOR COMPLETE INSTALLATION, SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE REINFORCING BARS, UNLESS NOTED OTHERWISE IN PLANS.

(6) **CONCRETE:** TO BE CLASS A (CAST-IN-PLACE) F'C = 3000 PSI EXCEPT AS NOTED OTHERWISE.

(7) **BRIDGE DECKS:** CLASS DS CONCRETE FOR BRIDGE DECKS SHALL BE IN ACCORDANCE WITH SECTION 604 OF THE STANDARD SPECIFICATIONS.

(8) **BRIDGE DECK SURFACE FINISH**: TO BE IN ACCORDANCE WITH METHOD 3 IN ARTICLE 604.22 OF THE STANDARD SPECIFICATIONS.

(9) **CONCRETE CURING:** ALL CONCRETE IN REPAIR AREAS SHALL BE CURED ACCORDING TO THE STANDARD SPECIFICATIONS.

(10) **BRIDGE DECK FORMS**: BRIDGE DECK FORMS FOR CONCRETE DECKS SHALL BE CONSTRUCTED USING EITHER REMOVABLE FORMS OR PERMANENT FORMS. PERMANENT FORMS SHALL BE REMAIN-IN-PLACE STEEL. FORMS SHALL BE ATTACHED BY MEANS OTHER THAN WELDING TO MAIN STRUCTURAL MEMBERS OR REINFORCING STEEL. TEMPORARY ERECTION DIAPHRAGMS MUST BE USED AT THE ENDS OF PRECAST CONCRETE GIRDERS WHERE END DIAPHRAGMS, SUPPORT DIAPHRAGMS, OR ABUTMENT ENDWALLS ARE TO BE POURED CONCURRENTLY WITH THE DECK AND SHALL BE PROVIDED ELSEWHERE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS TO PREVENT GIRDER ROTATION. SEE STANDARD DRAWING STD-14-2 AND ARTICLE 604.05 OF THE STANDARD SPECIFICATIONS.

(11) **HIGH EARLY STRENGTH CONCRETE:** THE MIX IS TO MEET THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS, CLASS "X". THE CEMENT CONTENT SHALL BE A MINIMUM OF 714 LBS. THE WATER-CEMENT RATIO SHALL BE A MAXIMUM OF 0.40. DESIGN AIR CONTENT SHALL BE 6% WITH ±2% ACCEPTANCE RANGE IN THE FIELD. SLUMP SHALL BE 3±1 INCHES. IF USING A TYPE A, F, OR G WATER REDUCER, THE SLUMP SHALL BE MAXIMUM OF 8 INCHES. NO FLY ASH REPLACEMENT WILL BE PERMITTED. THE MINIMUM 28 DAY COMPRESSIVE STRENGTH SHALL BE 3,500 PSI. TRAFFIC SHALL NOT BE PERMITTED ON ANY OF THE REPAIRED AREAS UNTIL TEST SPECIMENS ATTAIN A MINIMUM COMPRESSIVE STRENGTH OF 3,000 PSI AND THE CONCRETE HAS BEEN IN PLACE A MINIMUM OF TEN (10) DAYS.

Palmer ENGINEERING

PIN NO.: 105727.01
DESIGN BY: R.L. COLBERT DATE: 09/2025
DRAWN BY: M.D. SIMPSON DATE: 09/2025
SUPERVISED BY: G.S. WILSON DATE: 09/2025
CHECKED BY: R.L. COLBERT DATE: 09/2025

(CONT. NEXT SHEET)

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ESTIMATED BRIDGE QUANTITIES

	ITEM NO.	DESCRIPTION	UNIT	LEFT BR.	RIGHT BR.	TOTAL
(1)	201-07.01	REMOVAL AND DISPOSAL OF BRUSH & TREES	LS	0.5	0.5	1
(2)	202-04.01	REMOVAL OF STRUCTURES (BR-18-I0040-00.24 LT)	LS	1	-	1
(2)	202-04.02	REMOVAL OF STRUCTURES (BR-18-I0040-00.24 RT)	LS	-	1	1
(3)	204-02.01	DRY EXCAVATION (BRIDGES)	C.Y.	2234	2234	4468
	303-01.02	GRANULAR BACKFILL (BRIDGES)	TON	80	80	160
(16)	604-02.03	EPOXY COATED REINFORCING STEEL	LB.	174003	171787	345790
(5)	604-03.01	CLASS A CONCRETE (BRIDGES)	C.Y.	199	189	388
(16)	604-03.02	STEEL BAR REINFORCEMENT (BRIDGES)	LB.	53622	52549	106171
	604-03.04	PAVEMENT @ BRIDGE ENDS	S.Y.	478	470	948
(6)	604-03.32	CLASS DS CONCRETE	C.Y.	531	523	1054
(7)	604-04.01	APPLIED TEXTURE FINISH (NEW STRUCTURES)	S.Y.	1726	1709	3435
(7)	604-04.02	APPLIED TEXTURE FINISH (EXISTING STRUCTURES)	S.Y.	1736	1676	3412
	604-05.31	BRIDGE DECK GROOVING (MECHANICAL)	S.Y.	2617	2578	5195
(8)	604-10.05	CONCRETE	S.F.	29	30	59
(9)	604-10.14	REMOVE EXISTING WEARING SURFACE	LS	0.5	0.5	1
(10)	604-10.22	CONCRETE PARAPET REPAIR	L.F.	80	80	160
	604-10.42	CONCRETE REPAIRS	C.F.	15	19	34
(11)	604-10.54	CONCRETE REPAIRS	S.F.	29	30	59
	604-10.55	CONCRETE (FOUNDATION REPAIRS)	C.Y.	1	1	2
	604-10.58	EPOXY INJECTION (INJECTION)	GAL.	8	6	14
	604-10.62	EPOXY INJECTION REPAIR (COMPLETE AND IN PLACE)	L.F.	73	60	133
	606-03.03	STEEL PILES (12 INCH)	L.F.	140	278	418
(12)	606-03.06	PILE TIPS (STEEL PILES, 12 INCH)	EACH	8	8	16
	615-01.03	PRESTRESSED CONCRETE I-BEAM (TYPE III)	L.F.	462	460	922
	615-01.04	PRESTRESSED CONCRETE I-BEAM (TYPE IV)	L.F.	426	423	849
(13)	620-05.01	CONC PARAPET SINGLE SLOPE (STD-1-1SS)	L.F.	665	655	1320
(4)	621-05.02	TEMPORARY SHORING	LS	0.5	0.5	1
	709-01.01	RUBBLE STONE RIP-RAP	C.Y.	4	-	4
(14)	709-04	REINFORCED CONCRETE SLOPE PAVEMENT	C.Y.	33	32	65
(15)	710-09.01	6" PERFORATED PIPE WITH VERTICAL DRAIN SYSTEM	L.F.	217	216	433
	710-09.02	6" PIPE UNDERDRAIN	L.F.	45	45	90

(1) INCLUDES COST OF ALL LABOR AND MATERIALS NECESSARY FOR THE REMOVAL AND DISPOSAL OF VEGETATION WITHIN 10 FEET OF THE STRUCTURE AND ANY OTHER AREAS NECESSARY TO COMPLETE THE WORK, AS DIRECTED BY THE ENGINEER. WHERE POSSIBLE, STUMPS AND ROOTS ARE TO REMAIN TO PREVENT GROUND DISTURBANCE.

(2) INCLUDES ALL COSTS ASSOCIATED WITH REMOVAL OF PORTIONS OF THE STRUCTURE (I.E. DECK, PABE, PARAPETS, PORTION OF WING POSTS, AND PORTION OF ABUTMENT BACKWALL), CONDUIT USED FOR MONITORING OF BRIDGE DECKS AND THE WEATHER STATION LOCATED IN THE MEDIAN NEAR ABUTMENT 2, AND TRASH AND DEBRIS IN THE VICINTY OF THE BRIDGES.

(3) LIMITS OF EXCAVATION DETERMINED BASED ON EXISTING GROUND.

(4) INCLUDES COST OF ALL NECESSARY TEMPORARY SHORING OF THE STRUCTURES FOR THE DURATION OF THE PROJECT. SHORING PLANS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.

(5) INCLUDES ALL COSTS ASSOCIATED WITH INSTALLING 56 ANCHOR BOLT ASSEMBLIES FOR DIAPHRAGMS AT NEW BENTS.

(6) INCLUDES ALL COSTS FOR INSTALLING THE BRIDGE DECK CRACK SEALER (HMWM) INCLUDING CRACK PREPARATION, CLEANING, LABOR, AND ALL MISCELLANEOUS MATERIALS REQUIRED TO SEAL THE LONGITUDINAL CONSTRUCTION JOINT ACCORDING TO SPECIAL PROVISION 604CR AND MANUFACTURERS' SPECIFICATIONS. CRACK SEALING SHALL BE DONE AT THE END OF CONSTRUCTION TO ALLOW SHRINKAGE OF DECK CONCRETE CAUSING THE CRACK TO OCCUR.

(7) INCLUDES ALL COST ASSOCIATED WITH APPLYING TEXTURE FINISH TO INDICATED AREAS. SEE DETAILS IN PLANS. ALSO INCLUDES SURFACE PREPARATION USING A HIGH PRESSURE WATER WASH TO REMOVE ALL LOOSE COATINGS, DEBRIS, ETC., AS DIRECTED BY THE ENGINEER.

(8) INCLUDES ALL LABOR AND MATERIALS NECESSARY TO PLACE HIGH EARLY STRENGTH CONCRETE FOR REPAIR OF INDICATED AREAS.

(9) INCLUDES COST OF ALL LABOR, MATERIALS, AND EQUIPMENT NECESSARY TO REMOVE AND DISPOSE OF THE EXISTING ASPHALT WEARING SURFACE (APPROX. 4½ INCHES) WITHIN THE LIMITS OF THE BRIDGE.

(10) INCLUDES ALL COSTS ASSOCIATED WITH REPLACING BACK IN-KIND ANY PORTIONS OF CONCRETE PARAPETS REMOVED ON SR-24 BELOW BRIDGE FOR CONSTRUCTION OF NEW SUBSTRUCTURE FOOTINGS.

(11) INCLUDES COST OF ALL LABOR AND MATERIALS NECESSARY TO PLACE A POLYMER MODIFIED CEMENTITIOUS STRUCTURAL PATCHING MATERIAL FOR REPAIR OF INDICATED AREAS.

(12) INCLUDES ALL COST ASSOCIATED WITH FURNISHING AND INSTALLING CAST STEEL POINTS TO H-PILES.

(13) INCLUDES COST OF BRIDGE PARAPET DRAINS.

(14) INCLUDES COST OF ALL LABOR, MATERIALS, AND EQUIPMENT NECESSARY TO RECONSTRUCT CONCRETE SLOPE PAVEMENT IN AREAS REMOVED FOR CONSTRUCTION OF NEW SUBSTRUCTURES AND CONCRETE BARRIER WALLS. SEE GENERAL NOTES.

(15) NEW PIPES TO BE PLACED ALONG FULL LENGTH OF NEW AND EXISTING ABUTMENTS AND WING WALLS. ITEM INCLUDES COST OF ALL LABOR, MATERIALS, AND EQUIPMENT REQUIRED TO REMOVE ANY EXISTING DRAIN PIPES BEHIND THE ABUTMENTS AND WING WALLS.

(16) INCLUDES COST OF ALL LABOR, EQUIPMENT, AND MATERIALS NECESSARY FOR DRILLING AND GROUTING OF BARS INTO EXISTING CONCRETE.

PROJECT NO.	YEAR	SHEET NO.
18100-4148-04	2025	B-2

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
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	- -		
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SEALED BY

RICHARD LOGAN COLBERT — REGISTERED ENGINEER — AGRICULTURE — COMMERCE — No. 117913 — STATE OF TENNESSEE
Richard Logan Colbert
09/23/2025

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

ESTIMATED BRIDGE QUANTITIES
AND NOTES
BRIDGE NO. BR-18-I0040-00.24 (LT&RT)
FED BRIDGE ID 18I00400001 & 18I00400002
INTERSTATE 40 OVER STATE ROUTE 24
CUMBERLAND COUNTY
2025

BR-133-175

GENERAL NOTES (CONT.)

FOUNDATION ELEMENTS

(12) **SPREAD FOOTINGS FOR BENTS**: FOOTINGS SHALL BE EMBEDDED 6 INCHES INTO SOUND ROCK. AS AN ALTERNATE, FOOTINGS MAY BE PLACED DIRECTLY ON CLEAN, SOUND ROCK WITH #8 BARS (1'-0" EMB., 1'-0" PROJ.) SPACED AT 2'-0" MAXIMUM GRID WITH A MAXIMUM EDGE DISTANCE TO THE OUTER BARS OF 1'-6" ALONG BOTH THE LENGTH AND WIDTH OF THE FOOTINGS. AFTER EXCAVATION TO ROCK FOR FOOTING HAS BEEN COMPLETED, HOLES 6' DEEP SHALL BE DRILLED AT POINTS DESIGNATED BY THE ENGINEER. FROM THE RESULTS OBTAINED, THE ENGINEER OF STRUCTURES SHALL DETERMINE THE FINAL FOOTING ELEVATIONS. NO REINFORCING STEEL FOR BENT COLUMNS OR FOOTINGS SHALL BE ORDERED UNTIL FINAL FOOTING ELEVATIONS HAVE BEEN DETERMINED.

(13) **END-BEARING STEEL PILES:** TO BE HP12X53 DRIVEN TO REFUSAL ON ROCK OR A MINIMUM BEARING LOAD OF 140 TONS. ALL PILES SHALL BE ASTM A709 GRADE 50 STEEL.

(14) **PILE TIPS:** PILES SHALL BE EQUIPPED WITH CAST STEEL POINTS. ALSO, SEE STANDARD DRAWING STD-5-1 FOR ADDITIONAL NOTES.

MISCELLANEOUS GENERAL NOTES

(15) **SHOP DRAWINGS:** REFER TO SECTION 105.02 OF THE STANDARD SPECIFICATIONS. IF USING PAPER COPIES, SHOP DRAWINGS ARE TO BE SENT TO THE BRIDGE REPAIR OFFICE IN THE DIVISION OF STRUCTURES, FOR ELECTRONIC SUBMITTALS, SEE SECTION 105.02 OF THE STANDARD SPECIFICATIONS. EACH SHOP DRAWING SHALL CONTAIN IN THE TITLE BLOCK THE FOLLOWING: THE STATE PROJECT NUMBER, COUNTY, BRIDGE NAME, BRIDGE NUMBER (OR STRUCTURE TYPE AND NUMBER), STATION, AND CONTRACT NUMBER. SHOP DRAWINGS WITH TITLE BLOCKS NOT INCLUDING THE FOREGOING IDENTIFICATION WILL BE RETURNED FOR CORRECTION BEFORE ANY REVIEWS FOR APPROVAL ARE CONDUCTED.

(16) **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.

(17) **PARAPET SYSTEM**: BUILD PARAPETS ACCORDING TO STANDARD DRAWING STD-1-1SS. THE PARAPETS 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.

(18) **FALSEWORK OVER TRAFFIC:** SEE SECTION 604.06 OF THE STANDARD SPECIFICATIONS.

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

A. TWO 11FT TRAFFIC LANES WITH 2FT SHOULDERS SHALL BE MAINTAINED AT ALL TIMES ON INTERSTATE 40.

(20) **FINISHING CONCRETE SURFACES:** CONCRETE FINISHING SHALL BE IN ACCORDANCE WITH SECTION 604.21 OF THE STANDARD SPECIFICATIONS. A CLASS I 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 ITEMS 604-04.01 AND 604-04.02.

(21) **WIDENING DIMENSIONS:** THE CONTRACTOR SHALL CHECK THE LOCATION OF ALL EXISTING SUBSTRUCTURES AND VERIFY SPAN LENGTHS BEFORE FABRICATING GIRDERS.

(22) **DEMOLITION:** THE CONTRACTOR SHALL TAKE SPECIAL CARE TO PROTECT ANY PARTS OF THE STRUCTURE THAT ARE NOT TO BE REMOVED SPECIFICALLY. FOR FULL DEPTH SLAB REMOVAL, EXCEPT OVER BEAMS, THE MAXIMUM HAMMER SIZE IS 90 POUND CLASS. FOR PARTIAL DEPTH SLAB REMOVAL AND ANY WORK OVER THE BEAMS, THE MAXIMUM HAMMER SIZE IS 60 POUND CLASS; CHIPPING HAMMERS OF THE 15 POUND CLASS SHALL BE USED TO REMOVE CONCRETE FROM BENEATH ANY REINFORCING STEEL. SAWING OR CUTTING OF THE CONCRETE IS ACCEPTABLE AS LONG AS ANY SPECIFIED PROJECTION OF THE EXISTING REINFORCING STEEL IS MAINTAINED. EXPANSION JOINT REMOVAL SHALL FOLLOW THE SAME RESTRICTIONS AS FULL DEPTH SLAB REMOVAL. ALL DEVICES PROPOSED FOR CONCRETE DEMOLITION SHALL MEET THE APPROVAL OF THE ENGINEER.

(23) THE CONTRACTOR IS NOT ALLOWED TO USE A HYDRAULIC RAM MOUNTED ON A BACKHOE (COMMONLY CALLED A HOE RAM), MINI EXCAVATOR, OR OTHER EQUIPMENT FOR ANY CONCRETE REMOVAL.

(24) **GROUTED BARS IN DRILLED HOLES:** HORIZONTALLY DRILLED HOLES SHALL BE DRILLED ½" 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 ¼" IN DIAMETER LARGER THAN THE BAR, CLEANED, PACKED WITH EPOXY GROUT, AND THE BAR DRIVEN TO ITS SEAT. ALL GROUTING MATERIAL SHALL BE APPROVED BY TDOT MATERIALS AND TESTS.

(25) **QUICK-SET PATCHING MATERIAL:** QUICK-SET PATCHING MATERIAL SHALL BE A POLYMER MODIFIED CEMENTITIOUS PATCHING MATERIAL. SEE TDOT QUALIFIED PRODUCTS LIST 13.009 POLY MOD CEMENT STRUCT PATCH VERT & OVER FOR ACCEPTABLE PATCHING MATERIALS.

(26) **PAVEMENT AT BRIDGE ENDS:** PRIOR TO CONSTRUCTION OF THE PAVEMENT AT BRIDGE ENDS, THE CONTRACTOR SHALL SUBMIT A PROPOSED BILL OF STEEL TO THE ENGINEER FOR APPROVAL.

SPECIAL NOTES

(27) **SLOPE PAVEMENT:** ANY EXISTING CONCRETE SLOPE PAVEMENT REMOVED DURING CONSTRUCTION OF NEW SUBSTRUCTURES SHALL BE REPLACED BACK IN-KIND, AND ALL ASSOCIATED COSTS SHALL BE INCLUDED IN THE PRICE BID FOR ITEM NO. 709-04, REINFORCED CONCRETE SLOPE PAVEMENT, C.Y. PAVE SLOPES AND EXPOSED EARTH UNDER BRIDGE WITH A 4" THICK CONCRETE SLAB REINFORCED WITH 6 X 6 – D4.5 X D4.5 WELDED WIRE REINFORCEMENT. THE WELDED WIRE REINFORCEMENT SHALL BE PLACED AT ONE-HALF THE DEPTH OF THE SLAB AND EXTEND TO WITHIN 3" OF ITS EDGE WITH A 1'-0" LAP REQUIRED ON ALL SHEETS. THE COST OF THE WELDED WIRE REINFORCEMENT SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM NO. 709-04, REINFORCED CONCRETE SLOPE PAVEMENT. ONE-HALF INCH PREMOLDED EXPANSION JOINTS WITHOUT LOAD TRANSFERS SHALL BE FORMED AROUND ALL STRUCTURES AND FEATURES PROJECTING THROUGH, IN, OR AGAINST THE SLAB. THE SLAB SHALL BE GROOVED PARALLEL WITH AND AT RIGHT ANGLES TO THE UNDER-ROADWAY CENTERLINE AT 6'-0" SPACING IN EACH DIRECTION. DEPTH OF GROOVE SHALL NOT BE LESS THAN 1". SEE STD. DWG. NO. RD11-SA-1 FOR LIMITS OF SLOPE PROTECTION.

PROJECT NO.	YEAR	SHEET NO.
18100-4148-04	2025	B-3

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
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	- -		
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SEALED BY

RICHARD LOGAN COLBERT — REGISTERED ENGINEER — 09/23/2025 — COMMISSION No. 117915 — STATE OF TENNESSEE

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

BRIDGE GENERAL NOTES
BRIDGE NO. BR-18-I0040-00.24 (LT&RT)
FED BRIDGE ID 18I00400001 & 18I00400002
INTERSTATE 40 OVER STATE ROUTE 24
CUMBERLAND COUNTY
2025

BR-133-176

Palmer ENGINEERING

PIN NO.:	105727.01		
DESIGN BY:	R.L. COLBERT	DATE:	09/2025
DRAWN BY:	M.D. SIMPSON	DATE:	09/2025
SUPERVISED BY:	G.S. WILSON	DATE:	09/2025
CHECKED BY:	R.L. COLBERT	DATE:	09/2025

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PROJECT NO.	YEAR	SHEET NO.
18100-4148-04	2025	

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
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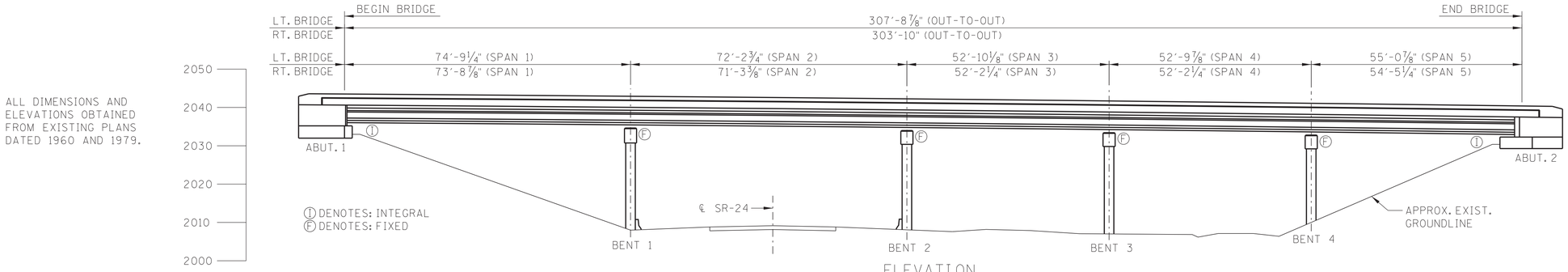
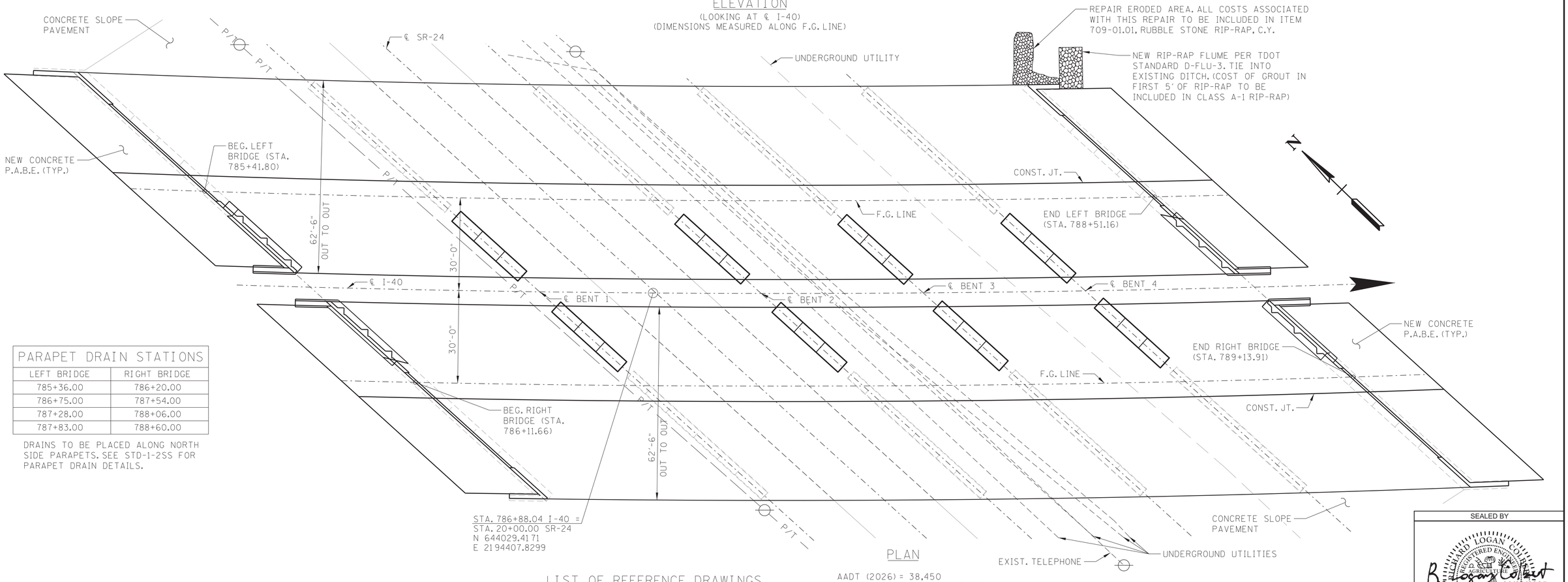


ELEVATION

(LOOKING AT ℄ I-40)
(DIMENSIONS MEASURED ALONG F.G. LINE)



PLAN

AADT (2026) = 38,450
POSTED SPEED LIMIT = 70 M.P.H.

PARAPET DRAIN STATIONS	
LEFT BRIDGE	RIGHT BRIDGE
785+36.00	786+20.00
786+75.00	787+54.00
787+28.00	788+06.00
787+83.00	788+60.00

DRAINS TO BE PLACED ALONG NORTH SIDE PARAPETS. SEE STD-1-2SS FOR PARAPET DRAIN DETAILS.

LIST OF REFERENCE DRAWINGS

(TO BE PRINTED WITH PLANS)
K-1-808 THRU K-1-839
M-76-96 THRU M-76-108
BR-19-59 THRU BR-19-63
BR-73-93 THRU BR-73-100

SCOPE OF WORK

1. WIDEN THE EXISTING BRIDGES TOWARD MEDIAN TO ALLOW FOR A MINIMUM OF TWO 11'-0" LANES OF TRAFFIC AND TWO 2'-0" SHOULDERS (MINIMUM) IN EACH DIRECTION (EB AND WB BRIDGES) THROUGHOUT THE DURATION OF THE PROJECT.
2. MODIFY THE SUBSTRUCTURES TO ACCOMMODATE THE WIDENED SUPERSTRUCTURES.
3. UPDATE SAFETY FEATURES (GUARDRAIL, BARRIER) ALONG SR-24 NEAR LEFT BRIDGE BENT 2.
4. PROVIDE TRAFFIC CONTROL FOR SR 24 (BELOW).
5. REMOVE ASPHALT SURFACE FROM BRIDGE DECKS.
6. REMOVE EXISTING BRIDGE DECK AND ABUTMENT WINGPOSTS FOR BOTH BRIDGES. EXISTING BEAMS SHALL BE MAINTAINED.
7. REMOVE AND DISCARD SENSORS AND CONDUIT USED FOR MONITORING OF BRIDGE DECKS.
8. RECONSTRUCT THE CONCRETE BRIDGE DECK INCLUDING NEW STD-1-1SS PARAPETS.
9. PLACE NEW CONCRETE PAVEMENT AT BRIDGES ENDS (PABES).
10. MECHANICALLY GROOVE BRIDGE DECKS AND PABES.
11. PROVIDE NEW DECK DRAINS AND STANDARD FLUME DRAIN (D-FLU-3).
12. REPLACE GUARDRAIL ATTACHMENTS AT BRIDGE ENDS.
13. REPAIR DETERIORATED AREAS OF CONCRETE ON EXISTING BEAMS, DIAPHRAGMS, AND SUBSTRUCTURE UNITS.
14. EPOXY-INJECT CRACKS IN BEAMS, DIAPHRAGMS, AND SUBSTRUCTURE UNITS.
15. ENCASE EXPOSED PILE(S) AT ABUTMENT 1 (BOTH BRIDGES) AND ABUTMENT 2 (LEFT LANE BRIDGE).
16. REPAIR EROSION NEAR LEFT BRIDGE ABUTMENT 2.
17. HIGH PRESSURE WATER WASH AND TEXTURE COAT CONCRETE SURFACES OF THE PARAPETS, DECK OVERHANGS, BOTTOM AND OUTSIDE FACE OF FASCIA BEAMS, BOTTOM FACE OF ALL INTERIOR BEAMS, EXPOSED AREAS OF THE SUBSTRUCTURE UNITS, AND THE CONCRETE BARRIERS ALONG SR-24 (BELOW).
18. ALL DIRT/DEBRIS/TRASH SHALL BE REMOVED FROM SUBSTRUCTURES AND BELOW BRIDGE (COST TO BE INCLUDED IN REMOVAL OF STRUCTURES).
19. REMOVE VEGETATION FOR A DISTANCE OF TEN FEET ALONG EACH SIDE OF THE BRIDGES AS DIRECTED BY THE ENGINEER.

SEALED BY

RICHARD LOGAN COLBERT — REGISTERED ENGINEER — AGRICULTURE — COMMERCE — No. 117911 — STATE OF TENNESSEE

Richard Logan Colbert
09/23/2025

Palmer ENGINEERING

PIN NO.:	105727.01		
DESIGN BY:	R.L. COLBERT	DATE:	09/2025
DRAWN BY:	M.D. SIMPSON	DATE:	09/2025
SUPERVISED BY:	G.S. WILSON	DATE:	09/2025
CHECKED BY:	R.L. COLBERT	DATE:	09/2025

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

LAYOUT OF BRIDGE TO BE REPAIRED
BRIDGE NO. BR-18-I0040-00.24 (LT&RT)
FED BRIDGE ID 18I00400001 & 18I00400002
INTERSTATE 40 OVER STATE ROUTE 24
CUMBERLAND COUNTY
2025

BR-133-173

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PROJECT NO.	YEAR	SHEET NO.
18100-4148-04	2025	

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
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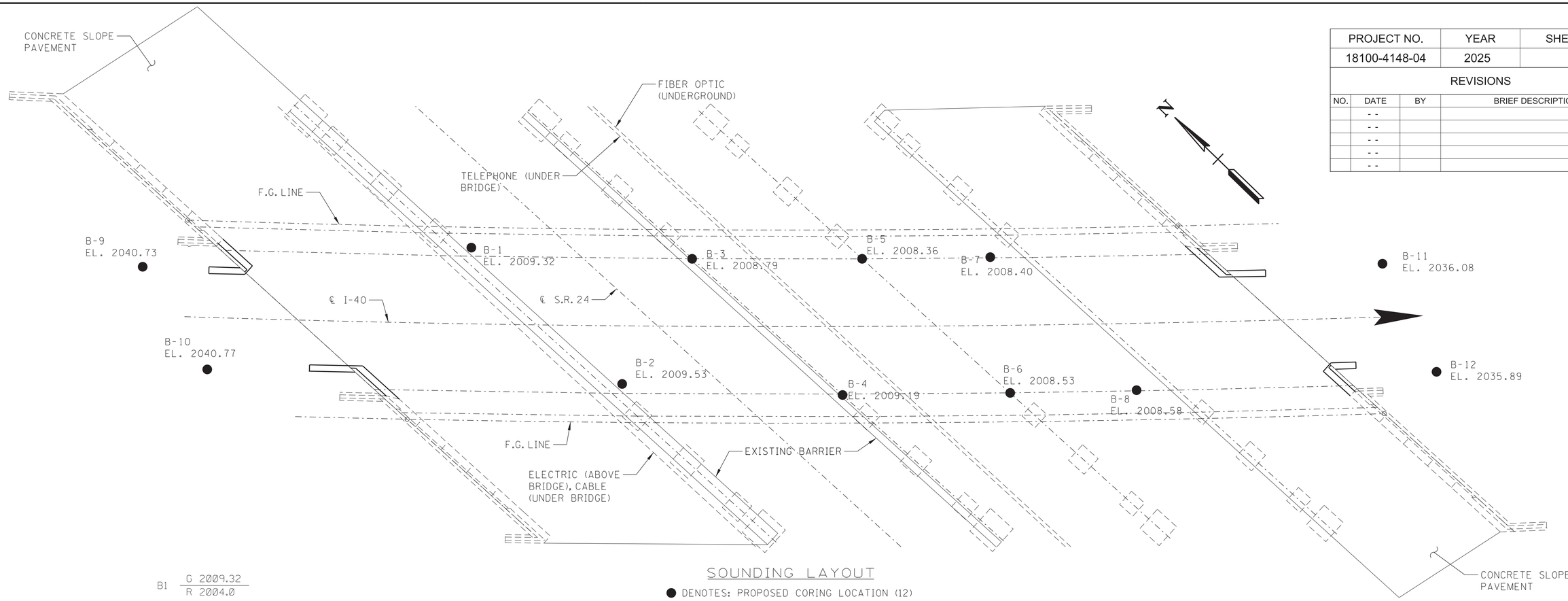
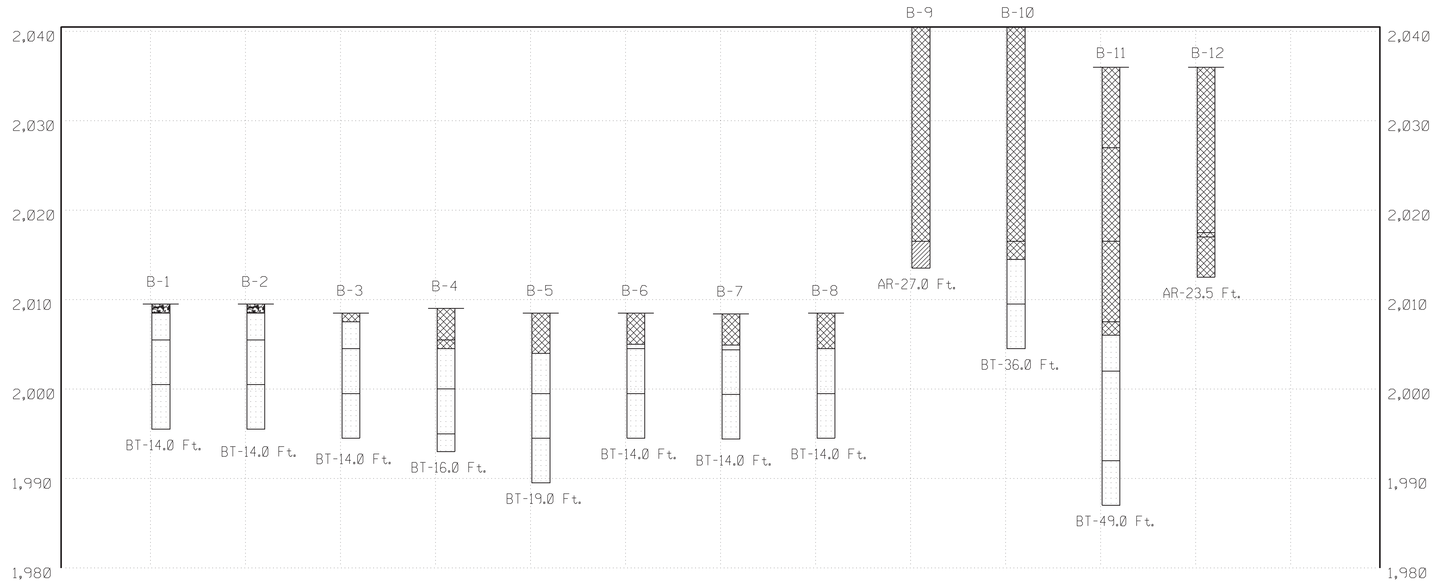


SOUNDING LAYOUT

● DENOTES: PROPOSED CORING LOCATION (12)

B1	G 2009.32	R 2004.0
B2	G 2009.53	R 2004.5
B3	G 2008.79	R 2003.5
B4	G 2009.19	R 2004.5
B5	G 2008.36	R 2003.5
B6	G 2008.53	R 2004.5
B7	G 2008.4	R 2004.0
B8	G 2008.58	R 2004.5
B9	G 2040.73	R 2014.5 (*)
B10	G 2040.77	R 2014.5
B11	G 2036.08	R 1997.0
B12	G 2035.89	R 1996.5 (**)

(*) BASED ON B10 CORE DATA.
(**) BASED ON B11 CORE DATA.



B1 G 2009.32 / R 2004.0 = GROUND ELEVATION AT BORING / EXPECTED ROCK ELEVATION FOR FOUNDATION OR PILE BEARING

LEGEND

GEOENG FILL (MADE GROUND) | SANDSTONE | FILL (MADE GROUND) | LEAN CLAY

SEALED BY

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

FOUNDATION DATA
BRIDGE NO. BR-18-I0040-00.24 (LT&RT)
FED BRIDGE ID 18I00400001 & 18I00400002
INTERSTATE 40 OVER STATE ROUTE 24
CUMBERLAND COUNTY
2025

BR-133-177

PIN NO.: 105727.01

DESIGN BY:	DATE:	09/2025
DRAWN BY:	DATE:	09/2025
SUPERVISED BY:	DATE:	09/2025
CHECKED BY:	DATE:	09/2025

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PROJECT NO.	YEAR	SHEET NO.
18100-4148-04	2025	

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
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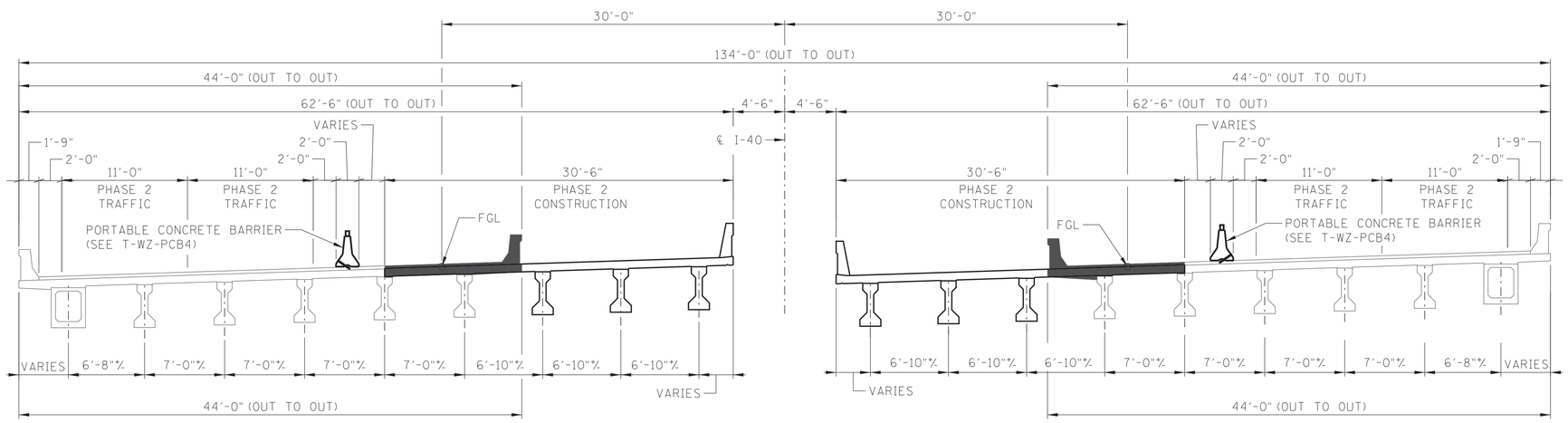
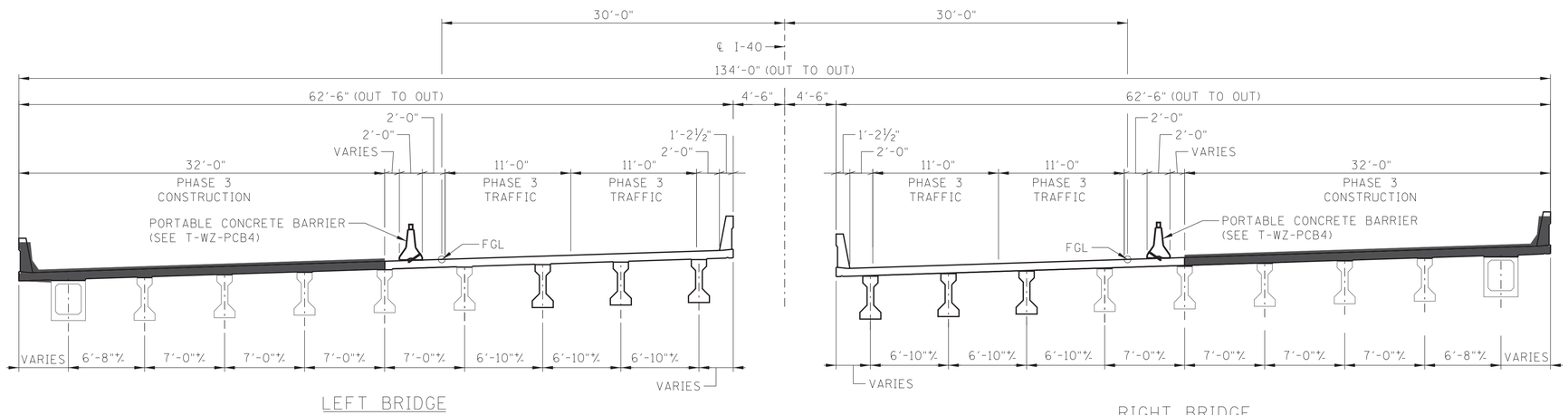
	- -		
	- -		



PHASE 2

(LOOKING AHEAD)

DENOTES AREA TO BE REMOVED



PHASE 3

(LOOKING AHEAD)

DENOTES AREA TO BE REMOVED

CONSTRUCTION PHASES SHOWN CORRELATE WITH TRAFFIC CONTROL PHASES. SEE TRAFFIC CONTROL PLANS FOR DETAILS ON PHASES 1 AND 4.

CONTRACTOR HAS THE OPTION TO USE AN ALTERNATE BARRIER THAT IS LISTED ON TDOT QUALIFIED PRODUCTS LIST (QPL) 45 THAT PROVIDES THE LIMITED DEFLECTION AS SHOWN IN STD. DWG. T-WZ-PCB4 AND MAINTAINS THE TRAVEL LANES SHOWN.

IF BARRIER ANCHORS ARE USED IN PHASE 3, THE REMAINING HOLES SHALL BE FILLED WITH EPOXY GROUT FLUSH WITH THE TOP OF DECK. EPOXY SHALL BE AN APPROVED MATERIAL ON THE TDOT QUALIFIED PRODUCTS LIST.

ALL COSTS ASSOCIATED WITH DRILLING AND INSTALLING ANCHORS, AND REPAIRING HOLES AFTER REMOVAL, TO BE INCLUDED IN THE PRICE BID FOR ITEM NO. 712-02.12, PORTABLE BARRIER RAIL, REDUCED DEFLECTION (MASH TL-3), L.F.

SEALED BY

RICHARD LOGAN COLBERT — REGISTERED ENGINEER — AGRICULTURE — COMMERCE — No. 117911 — STATE OF TENNESSEE

09/23/2025

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

CONSTRUCTION PHASING
BRIDGE NO. BR-18-I0040-00.24 (LT&RT)
FED BRIDGE ID 18I00400001 & 18I00400002
INTERSTATE 40 OVER STATE ROUTE 24
CUMBERLAND COUNTY
2025

BR-133-178

Palmer ENGINEERING

PIN NO.:	105727.01		
DESIGN BY:	R.L. COLBERT	DATE:	09/2025
DRAWN BY:	M.D. SIMPSON	DATE:	09/2025
SUPERVISED BY:	G.S. WILSON	DATE:	09/2025
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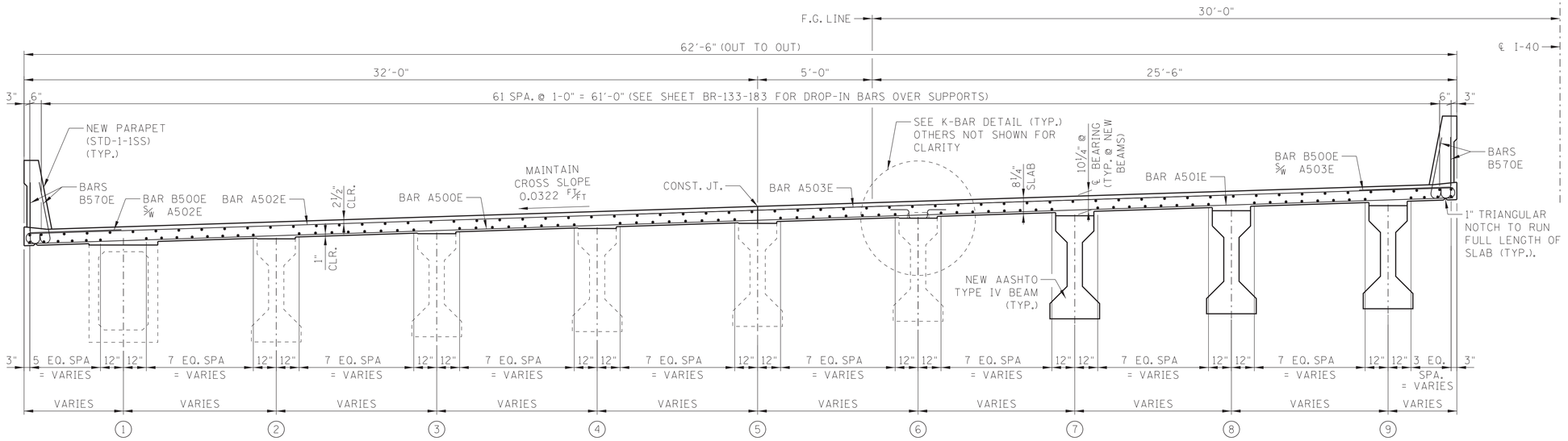
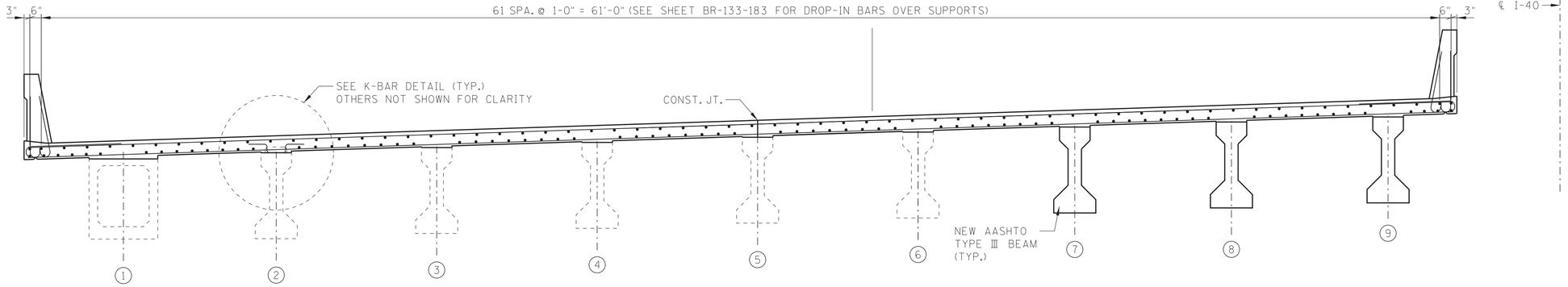


TYPICAL SECTION LEFT BRIDGE - SPANS 1 & 2

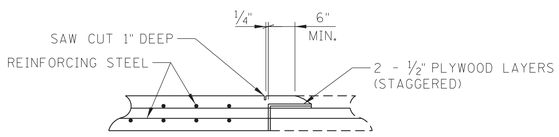
(LOOKING AHEAD STATION)



TYPICAL SECTION LEFT BRIDGE - SPANS 3 THRU 5

(LOOKING AHEAD STATION)

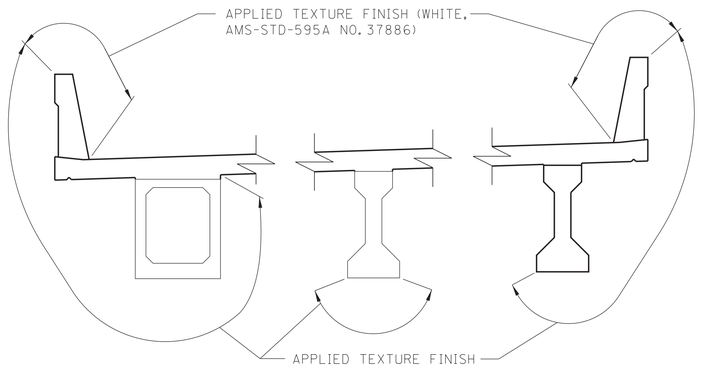
(SEE TYPICAL SECTION @ SPANS 1 ℄ 2 FOR ALL OTHER DIMENSIONS NOT SHOWN)



SLAB CONSTRUCTION JOINT DETAIL

DECK CONCRETE POURING SEQUENCE: SLAB CONSTRUCTION JOINTS MAY BE LOCATED AT THE CONTRACTOR'S OPTION SUBJECT TO THE FOLLOWING:

1) NO CONSTRUCTION JOINT MAY BE LOCATED CLOSER THAN 10 FEET OR FURTHER THAN 15 FEET FROM AN INTERIOR SUPPORT.
2) THE SLAB IN THE MIDDLE SECTION OF BOTH ADJACENT SPANS MUST BE POURED TO WITHIN AT LEAST 15 FEET OF THE SUPPORTS EITHER PRIOR TO OR CONCURRENTLY WITH THE SLAB OVER AN INTERIOR SUPPORT.
3) ALL SLAB CONSTRUCTION JOINTS SHALL BE IN ACCORDANCE WITH THE SLAB CONSTRUCTION JOINT DETAIL SHOWN.



APPLIED TEXTURE FINISH DETAILS

LEFT BRIDGE SHOWN, RIGHT BRIDGE SIMILAR.

IN ADDITION TO SURFACES SHOWN, ALL EXPOSED CONCRETE SURFACES OF THE SUBSTRUCTURES SHALL RECEIVE AN APPLIED TEXTURE FINISH, (GRAY, AMS-STD-595A, COLOR NO. 36440). THE CONCRETE BARRIERS ALONG SR-24 (BELOW) SHALL ALSO RECEIVE AN APPLIED TEXTURE FINISH, (WHITE, AMS-STD-695A NO. 37886).

COST OF TEXTURE COATING SHALL BE INCLUDED IN ITEM NO. 604-04.02.

THE CONTRACTOR SHALL USE CONTAINMENT SCREENS OR OTHER MEASURES AS NECESSARY TO PREVENT ANY TEXTURE COATING FROM ENTERING THE ENVIRONMENT. CONTAINMENT MEASURES SHALL BE APPROVED BY THE ENGINEER AND COST SHALL BE INCLUDED IN ITEMS BID ON.

THE EXISTING SURFACES THAT ARE TO RECEIVE A TEXTURE FINISH SHALL BE FREE OF ALL FLAKING TEXTURE COATING, RUST, DIRT, OIL, AND OTHER FOREIGN SUBSTANCES PRIOR TO THE APPLICATION OF THE TEXTURE FINISH. THE SURFACE SHALL BE CLEANED TO THE COMPLETE SATISFACTION OF THE ENGINEER USING A HIGH PRESSURE WATER WASH. COST TO BE INCLUDED IN ITEM NO. 604-04.02.

THE WASH WATER IS TO BE FILTERED AND PAINT CHIPS AND DEBRIS COLLECTED PRIOR TO RELEASE OF WATER.

PROJECT NO.	YEAR	SHEET NO.
18100-4148-04	2025	

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
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SUPERSTRUCTURE NOTES:

THE DESIGNATION "LEFT BRIDGE" REFERS TO THE WESTBOUND BRIDGE.
THE DESIGNATION "RIGHT BRIDGE" REFERS TO THE EASTBOUND BRIDGE.

EXISTING BEAMS ARE TO REMAIN. MAINTAIN REINFORCING STEEL EXTENDING FROM BEAMS INTO DECK.

EXISTING DIAPHRAGMS AT BENTS AND INTERMEDIATE DIAPHRAGMS ARE TO REMAIN. MAINTAIN REINFORCING STEEL EXTENDING FROM DIAPHRAGMS INTO DECK.

OUTSIDE EDGE OF SLAB AND BRIDGE RAIL TO CONFORM TO HORIZONTAL CURVE.

NO PORTION OF THE PARAPETS SHALL BE POURED UNTIL THE ENTIRE DECK SLAB IS IN PLACE (UNLESS REQUIRED FOR PHASE CONSTRUCTION).

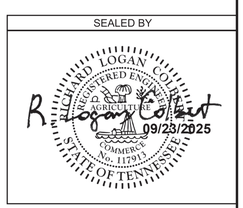
WHEN POURING SLAB, PROVISIONS SHOULD BE MADE FOR SETTING REINFORCING STEEL FOR PARAPETS. THE PARAPETS SHALL NOT BE PLACED UNTIL THE SLAB IS PLACED AND CURED. ALSO SEE DRAWING NO. STD-1-1SS.

THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE STABILITY OF THE STRUCTURE DURING CONSTRUCTION.

UTILIZE A TAPERED, VARIABLE HAUNCH FOR BEAM 1 (EXISTING BOX BEAM) IN SPAN 3.

SEE BILL OF STEEL ON SHEET BR-133-212.
SEE FRAMING PLAN ON SHEET BR-133-184.
SEE K-BAR DETAIL ON SHEET BR-133-180.

SEALED BY



STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

SUPERSTRUCTURE
BRIDGE NO. BR-18-I0040-00.24 (LT&RT)
FED BRIDGE ID 18I00400001 & 18I00400002
INTERSTATE 40 OVER STATE ROUTE 24
CUMBERLAND COUNTY
2025

BR-133-179

Palmer ENGINEERING

PIN NO.:	105727.01		
DESIGN BY:	R.L. COLBERT	DATE:	09/2025
DRAWN BY:	M.D. SIMPSON	DATE:	09/2025
SUPERVISED BY:	G.S. WILSON	DATE:	09/2025
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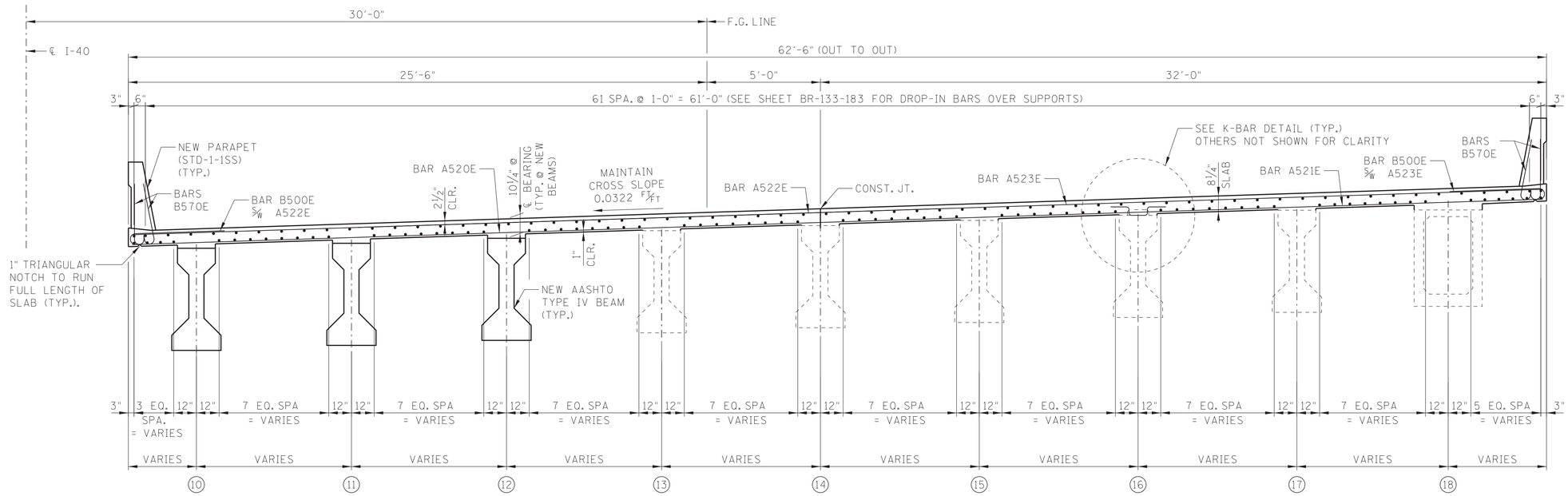
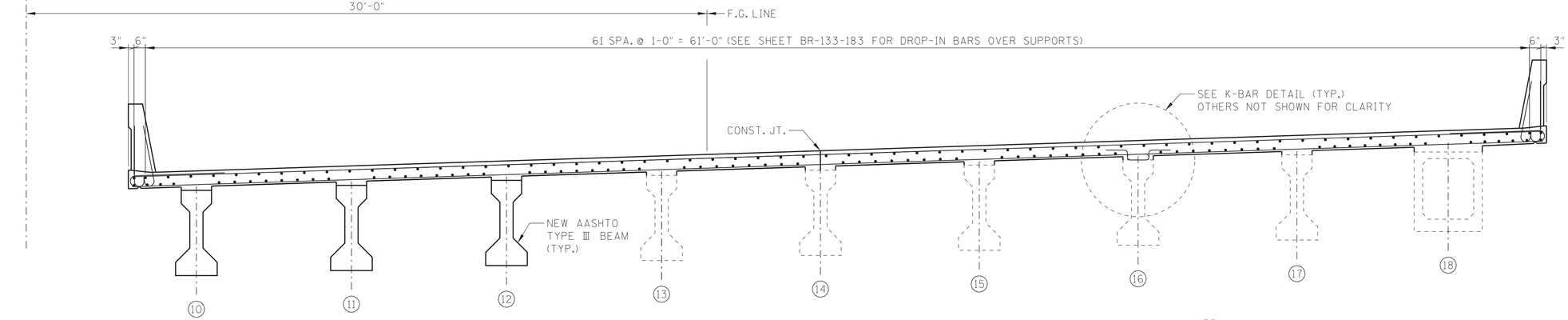


TYPICAL SECTION RIGHT BRIDGE - SPANS 1 & 2

(LOOKING AHEAD STATION)



TYPICAL SECTION RIGHT BRIDGE - SPANS 3 THRU 5

(LOOKING AHEAD STATION)

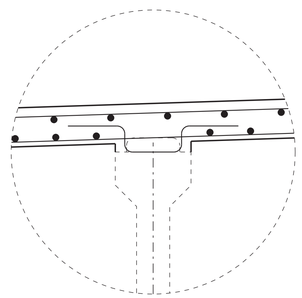
(SEE TYPICAL SECTION @ SPANS 1 ℄ 2 FOR ALL OTHER DIMENSIONS NOT SHOWN)

APPLIED TEXTURE FINISH DETAILS

(SEE SHEET BR-133-179)

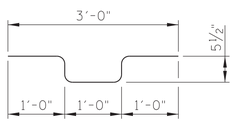
SLAB CONSTRUCTION JOINT DETAIL

(SEE SHEET BR-133-179)



K-BAR DETAIL

BARS K500E SHOWN TO BE SPACED WITH PROJECTED STIRRUPS FOR ALL EXISTING I-BEAMS ONLY.



BAR K500E

PROJECT NO.	YEAR	SHEET NO.
18100-4148-04	2025	

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
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SUPERSTRUCTURE NOTES:

THE DESIGNATION "RIGHT BRIDGE" REFERS TO THE EASTBOUND BRIDGE.

EXISTING BEAMS ARE TO REMAIN. MAINTAIN REINFORCING STEEL EXTENDING FROM BEAMS INTO DECK.

EXISTING DIAPHRAGMS AT BENTS AND INTERMEDIATE DIAPHRAGMS ARE TO REMAIN. MAINTAIN REINFORCING STEEL EXTENDING FROM DIAPHRAGMS INTO DECK.

OUTSIDE EDGE OF SLAB AND BRIDGE RAIL TO CONFORM TO HORIZONTAL CURVE.

NO PORTION OF THE PARAPETS SHALL BE POURED UNTIL THE ENTIRE DECK SLAB IS IN PLACE (UNLESS REQUIRED FOR PHASE CONSTRUCTION).

WHEN POURING SLAB, PROVISIONS SHOULD BE MADE FOR SETTING REINFORCING STEEL FOR PARAPETS. THE PARAPETS SHALL NOT BE PLACED UNTIL THE SLAB IS PLACED AND CURED. ALSO SEE DRAWING NO. STD-1-1SS.

THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE STABILITY OF THE STRUCTURE DURING CONSTRUCTION.

UTILIZE A TAPERED, VARIABLE HAUNCH FOR BEAM 18 (EXISTING BOX BEAM) IN SPAN 3.

SEE BILL OF STEEL ON SHEET BR-133-213.
SEE FRAMING PLAN ON SHEET BR-133-184.

SEALED BY

RICHARD LOGAN COLBERT — REGISTERED ENGINEER — AGRICULTURE — COMMERCE — No. 117913 — STATE OF TENNESSEE

Richard Logan Colbert 09/23/2025

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

SUPERSTRUCTURE
BRIDGE NO. BR-18-I0040-00.24 (LT&RT)
FED BRIDGE ID 18I00400001 & 18I00400002
INTERSTATE 40 OVER STATE ROUTE 24
CUMBERLAND COUNTY
2025

BR-133-180

Palmer ENGINEERING

PIN NO.:	105727.01	
DESIGN BY:	R.L. COLBERT	DATE: 09/2025
DRAWN BY:	M.D. SIMPSON	DATE: 09/2025
SUPERVISED BY:	G.S. WILSON	DATE: 09/2025
CHECKED BY:	R.L. COLBERT	DATE: 09/2025

9/23/2025 7:09:26 AM
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PROJECT NO.	YEAR	SHEET NO.
18100-4148-04	2025	

REVISIONS

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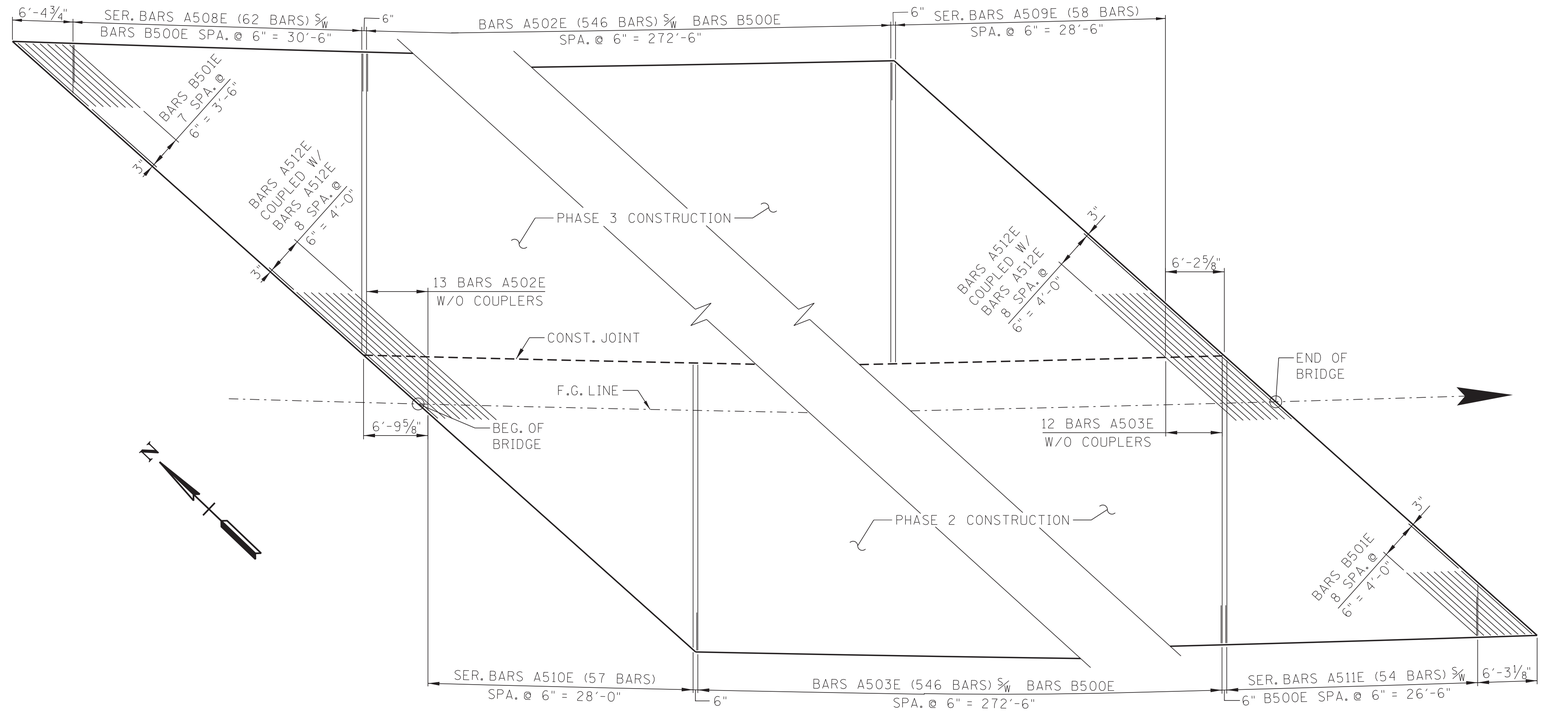
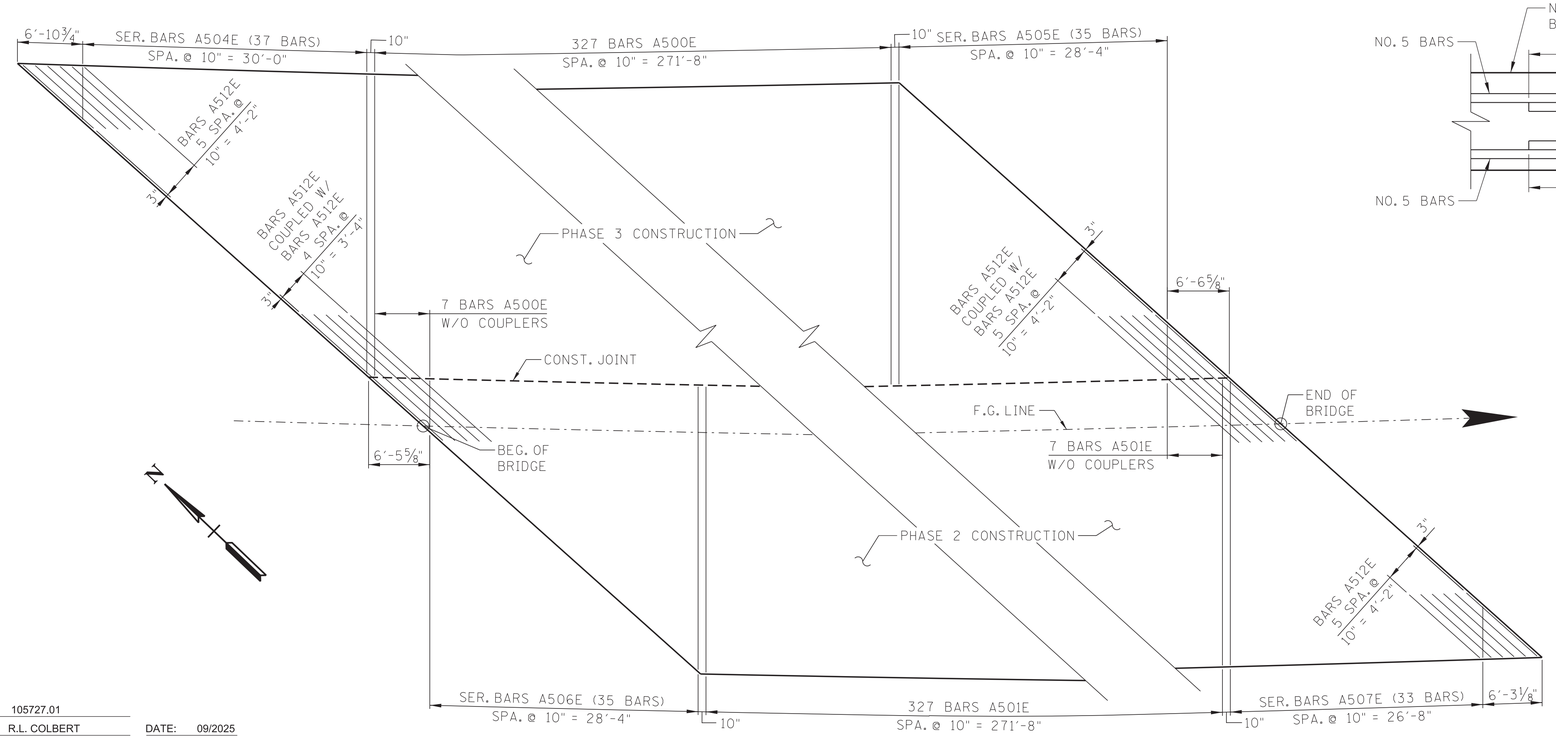
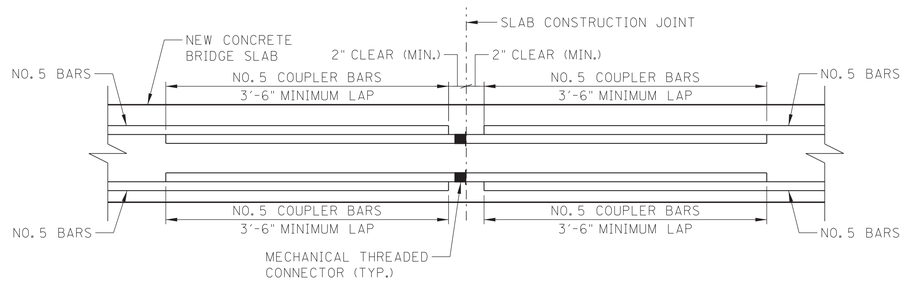
	- -		
	- -		



TOP OF SLAB TRANSVERSE REINFORCEMENT PLAN - LEFT BRIDGE



BOTTOM OF SLAB TRANSVERSE REINFORCEMENT PLAN - LEFT BRIDGE



MECHANICAL COUPLER DETAIL

MECHANICAL COUPLERS SHALL BE USED TO CONNECT TRANSVERSE DECK REINFORCING AT THE CONSTRUCTION JOINT.

THE COST OF MECHANICAL THREADED CONNECTORS AND THE COST OF THREADING THE COUPLER BARS SHALL BE INCLUDED IN THE PRICE BID FOR ITEM NO. 604-02.03, EPOXY COATED REINFORCING STEEL, LBS.

NOTES

ALL DIMENSIONS ARE MEASURED ALONG THE CONSTRUCTION JOINT. SEE BRIDGE TYPICAL SECTIONS ON SHEET BR-133-179 FOR ADDITIONAL DETAILS.

SEE SHEET BR-133-212 FOR SUPERSTRUCTURE BILL OF STEEL.
SEE SHEET BR-133-182 FOR B57OE PARAPET BAR LAYOUT.

BAR SIZE	MINIMUM COUPLER LENGTH	MINIMUM SPLICE LENGTH
5	3'-8"	3'-6"

SEALED BY

RICHARD LOGAN COLBERT — REGISTERED ENGINEER — AGRICULTURE — COMMERCE — No. 117913 — STATE OF TENNESSEE

09/23/2025

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

SLAB DETAILS - TRANSVERSE
BRIDGE NO. BR-18-I0040-00.24 (LT&RT)
FED BRIDGE ID 18I00400001 & 18I00400002
INTERSTATE 40 OVER STATE ROUTE 24
CUMBERLAND COUNTY
2025

BR-133-181

Palmer ENGINEERING

PIN NO.:	105727.01	
DESIGN BY:	R.L. COLBERT	DATE: 09/2025
DRAWN BY:	M.D. SIMPSON	DATE: 09/2025
SUPERVISED BY:	G.S. WILSON	DATE: 09/2025
CHECKED BY:	R.L. COLBERT	DATE: 09/2025

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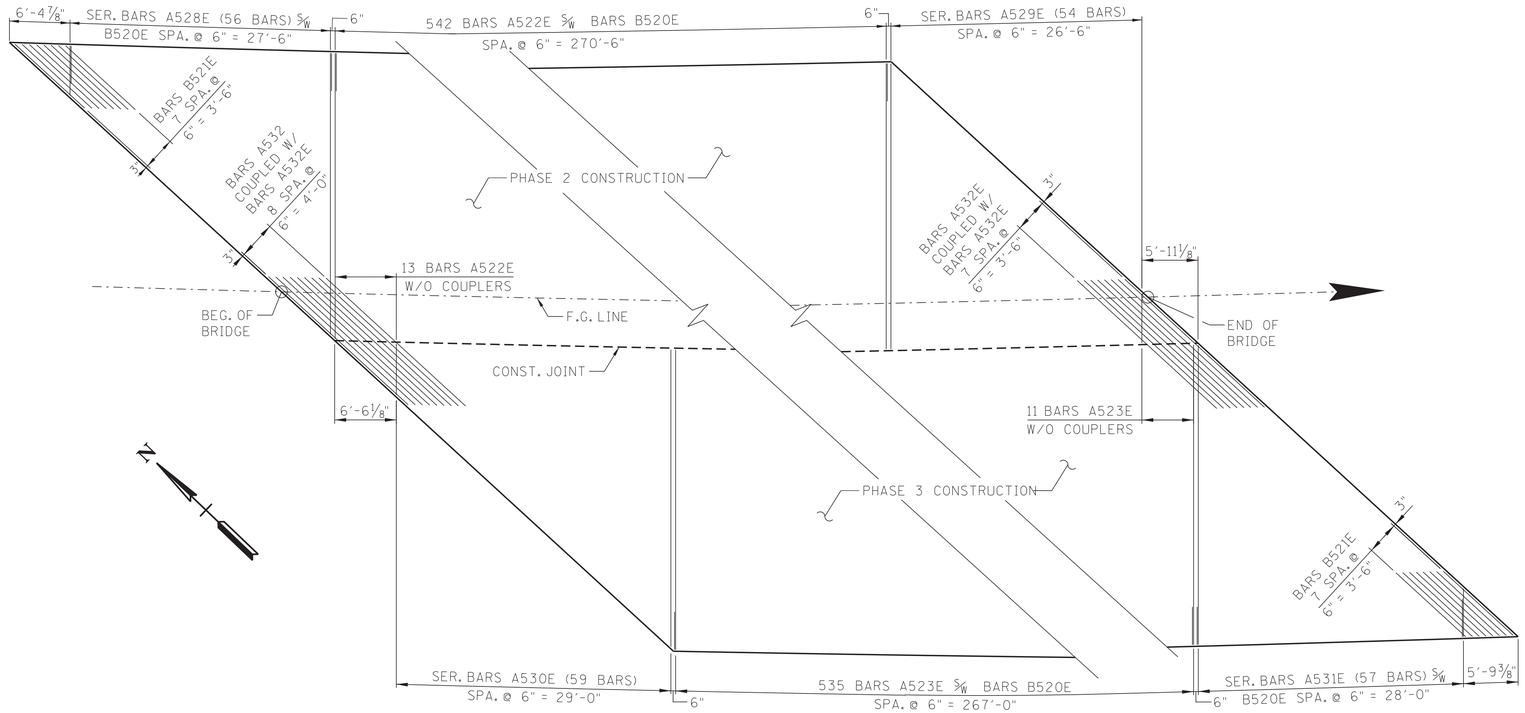
PROJECT NO.	YEAR	SHEET NO.
18100-4148-04	2025	

REVISIONS

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



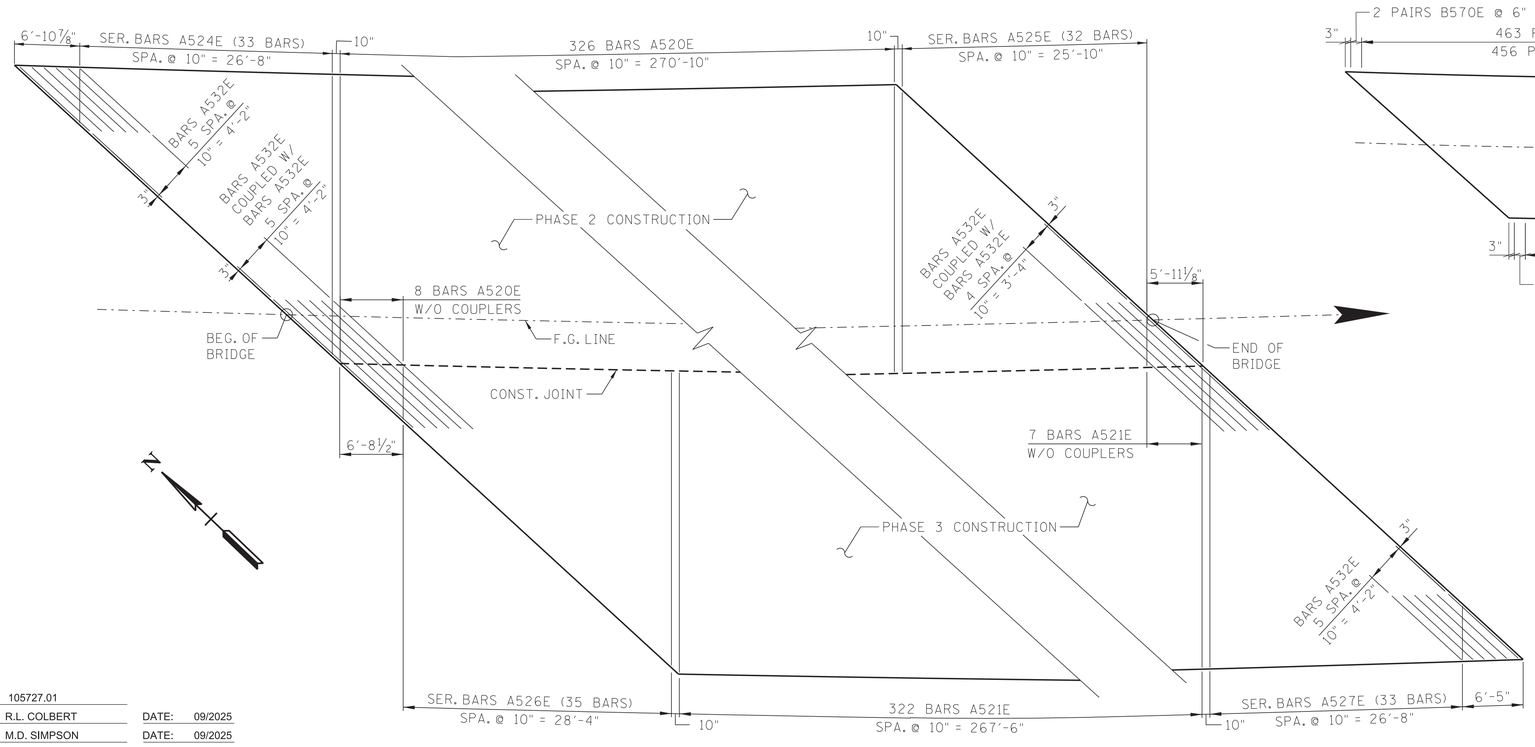
TOP OF SLAB TRANSVERSE REINFORCEMENT PLAN - RIGHT BRIDGE

NOTES

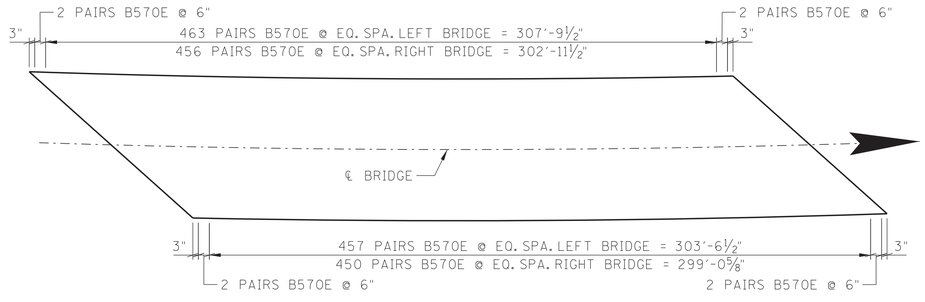
ALL DIMENSIONS ARE MEASURED ALONG THE CONSTRUCTION JOINT. SEE BRIDGE TYPICAL SECTIONS ON SHEET BR-133-180 FOR ADDITIONAL DETAILS.

SEE SHEET BR-133-181 FOR MECHANICAL COUPLER DETAIL.
SEE SHEET BR-133-213 FOR SUPERSTRUCTURE BILL OF STEEL.

BAR SIZE	MINIMUM COUPLER LENGTH	MINIMUM SPLICE LENGTH
5	3'-8"	3'-6"



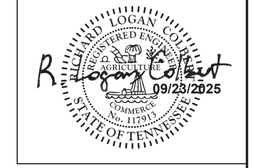
BOTTOM OF SLAB TRANSVERSE REINFORCEMENT PLAN - RIGHT BRIDGE



B570E PARAPET BAR LAYOUT

SEE ABUTMENT DETAILS FOR PARAPET BARS IN WINGS. ALSO SEE STD. DWG. STD-1-1SS FOR ADDITIONAL DETAILS AND NOTES NOT SHOWN.

SEALED BY



STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

SLAB DETAILS - TRANSVERSE
BRIDGE NO. BR-18-I0040-00.24 (LT&RT)
FED BRIDGE ID 18I00400001 & 18I00400002
INTERSTATE 40 OVER STATE ROUTE 24
CUMBERLAND COUNTY
2025

BR-133-182

Palmer ENGINEERING

PIN NO.:	105727.01		
DESIGN BY:	R.L. COLBERT	DATE:	09/2025
DRAWN BY:	M.D. SIMPSON	DATE:	09/2025
SUPERVISED BY:	G.S. WILSON	DATE:	09/2025
CHECKED BY:	R.L. COLBERT	DATE:	09/2025

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PROJECT NO.	YEAR	SHEET NO.
18100-4148-04	2025	

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
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	- -		
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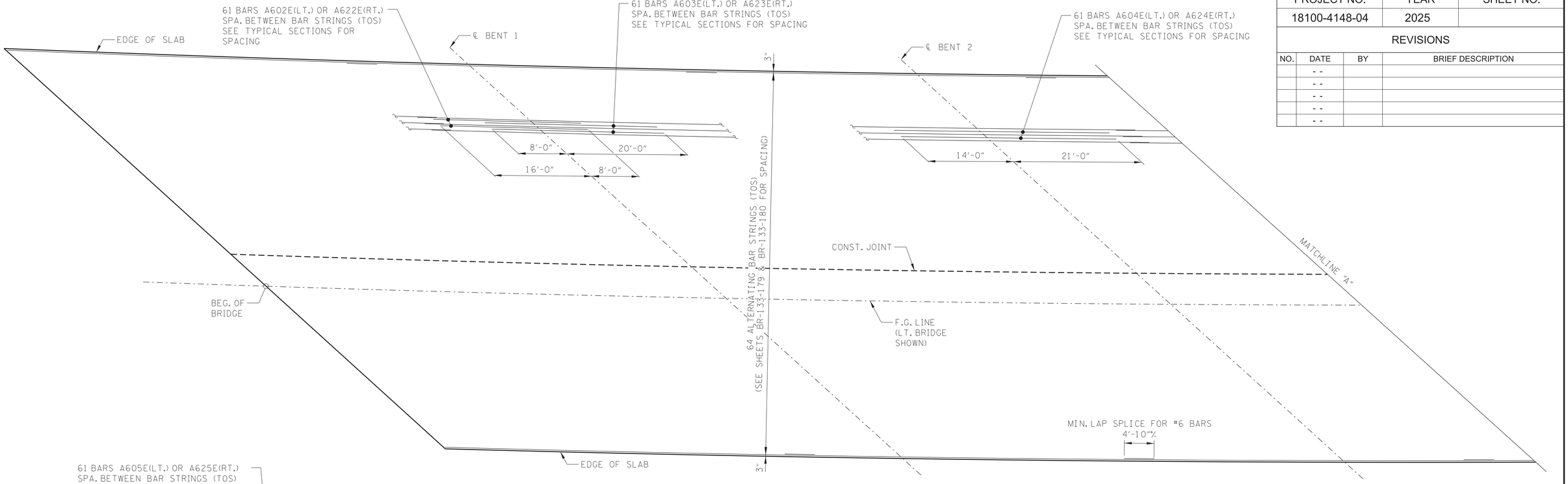
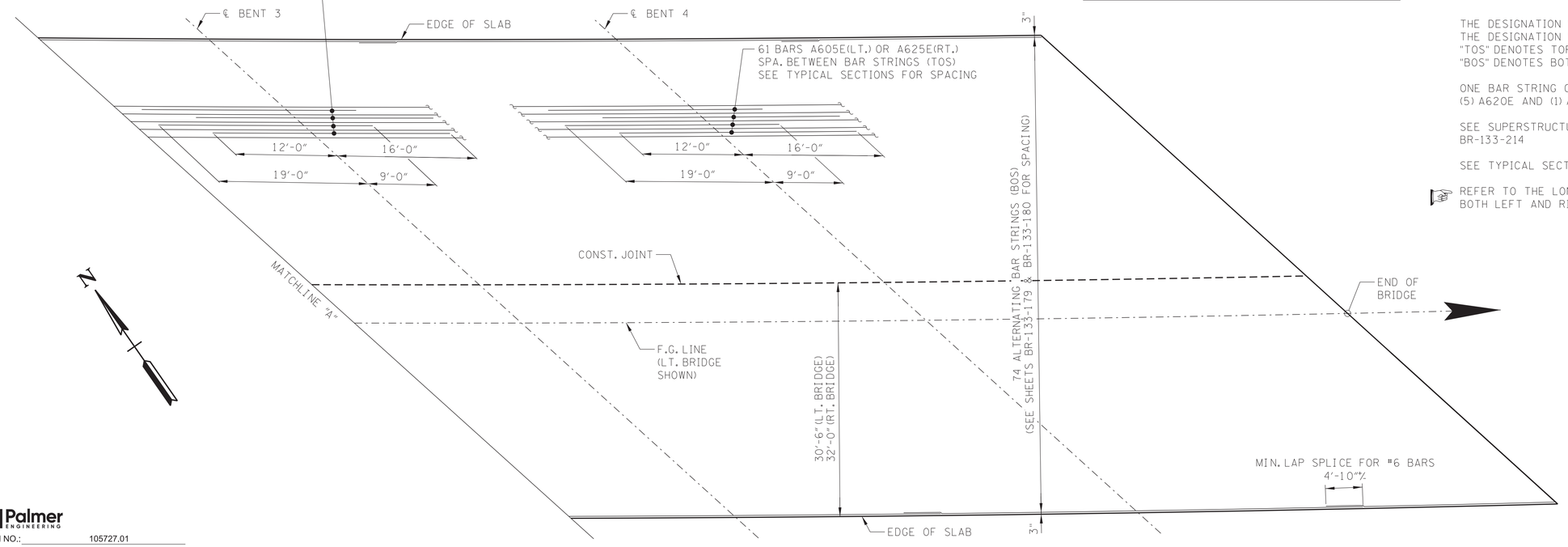
	- -		



LONGITUDINAL REINFORCEMENT PLAN



LONGITUDINAL REINFORCEMENT PLAN

THE DESIGNATION "LT. BRIDGE" REFERS TO WESTBOUND BRIDGE
THE DESIGNATION "RT. BRIDGE" REFERS TO THE EASTBOUND BRIDGE
"TOS" DENOTES TOP OF SLAB
"BOS" DENOTES BOTTOM OF SLAB

ONE BAR STRING CONSISTS OF (5) A600E AND (1) A601E (LT. BRIDGE); (5) A620E AND (1) A621E (RT. BRIDGE).

SEE SUPERSTRUCTURE BILL OF STEEL ON SHEETS BR-133-212 AND BR-133-214

SEE TYPICAL SECTIONS ON SHEETS BR-133-179 AND BR-133-180

REFER TO THE LONGITUDINAL REINFORCEMENT PLAN SHOWN FOR BOTH LEFT AND RIGHT BRIDGES.

SEALED BY

RICHARD LOGAN COLBERT — REGISTERED ENGINEER — AGRICULTURE COMMERCE — No. 117911 — STATE OF TENNESSEE

Richard Logan Colbert 09/23/2025

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

SLAB DETAILS - LONGITUDINAL
BRIDGE NO. BR-18-I0040-00.24 (LT&RT)
FED BRIDGE ID 18I00400001 & 18I00400002
INTERSTATE 40 OVER STATE ROUTE 24
CUMBERLAND COUNTY
2025

BR-133-183

Palmer ENGINEERING

PIN NO.:	105727.01		
DESIGN BY:	R.L. COLBERT	DATE:	09/2025
DRAWN BY:	M.D. SIMPSON	DATE:	09/2025
SUPERVISED BY:	G.S. WILSON	DATE:	09/2025
CHECKED BY:	R.L. COLBERT	DATE:	09/2025

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PROJECT NO.	YEAR	SHEET NO.
18100-4148-04	2025	

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
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	- -		
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	- -		
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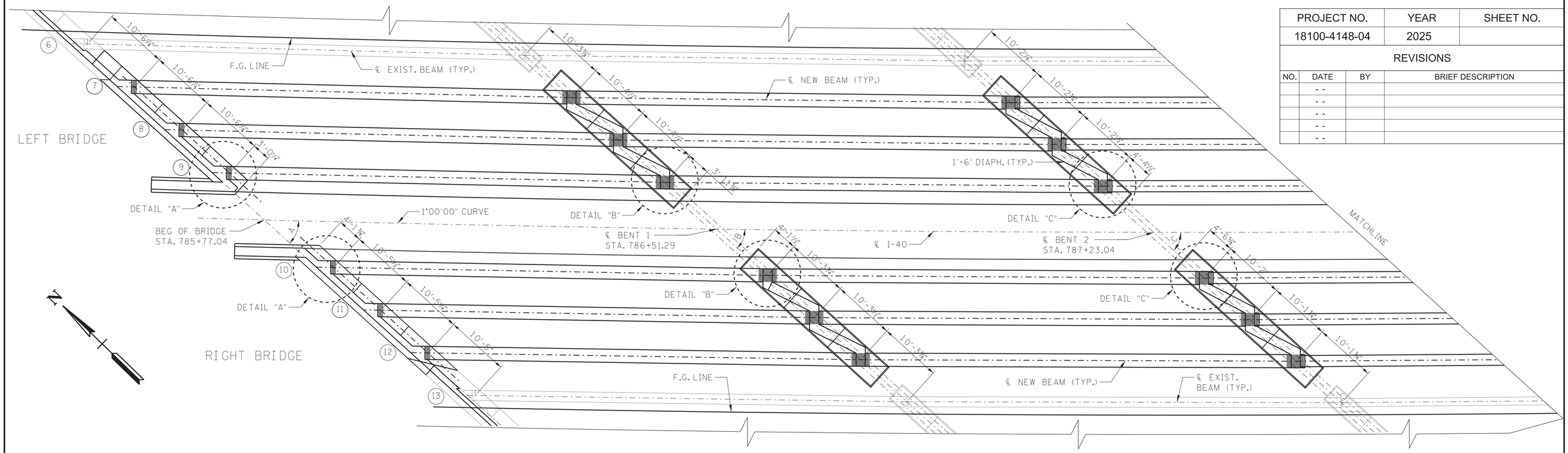

THE CONTRACTOR IS SOLELY RESPONSIBLE FOR SUPPORTING THE BEAMS TO PREVENT DAMAGE DUE TO TWISTING OR OVERTURNING DURING ALL PHASES OF CONSTRUCTION. WHILE IT IS STRONGLY RECOMMENDED THAT THE TEMPORARY ERECTION DIAPHRAGMS BE INSTALLED PRIOR TO PLACING ANY LOADS ON THE BEAMS, IT IS REQUIRED THAT ALL TEMPORARY ERECTION DIAPHRAGMS IN A SPAN BE FULLY INSTALLED PRIOR TO POURING ANY PORTION OF THE SLAB IN THAT SPAN.

SEE SHEET BR-133-185 FOR DETAILS "A", "B", "C", ℄ "D", PIER DIAPHRAGM DETAILS, AND ELASTOMERIC BEARING PAD DETAILS.

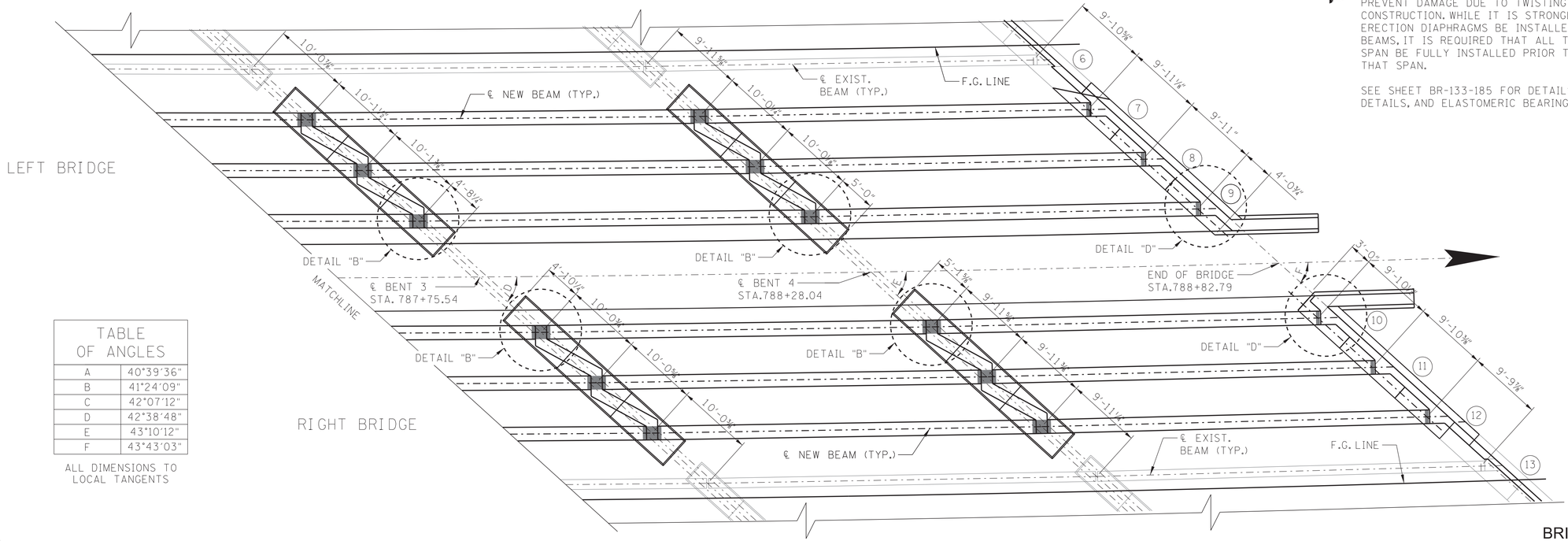

TABLE OF ANGLES	
A	40°39'36"
B	41°24'09"
C	42°07'12"
D	42°38'48"
E	43°10'12"
F	43°43'03"

ALL DIMENSIONS TO LOCAL TANGENTS

PARTIAL FRAMING PLAN
(SHOWING ONLY WIDENED PORTIONS OF BOTH BRIDGES)

SEALED BY

RICHARD LOGAN COLBERT — REGISTERED ENGINEER — AGRICULTURE — COMMERCE — No. 117911 — STATE OF TENNESSEE

09/23/2025

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

PARTIAL FRAMING PLAN
BRIDGE NO. BR-18-I0040-00.24 (LT&RT)
FED BRIDGE ID 18I00400001 & 18I00400002
INTERSTATE 40 OVER STATE ROUTE 24
CUMBERLAND COUNTY
2025

BR-133-184

Palmer ENGINEERING

PIN NO.:	105727.01	
DESIGN BY:	R.L. COLBERT	DATE: 09/2025
DRAWN BY:	M.D. SIMPSON	DATE: 09/2025
SUPERVISED BY:	G.S. WILSON	DATE: 09/2025
CHECKED BY:	R.L. COLBERT	DATE: 09/2025

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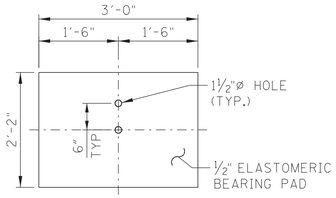
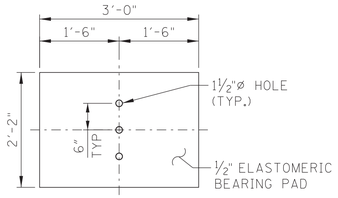
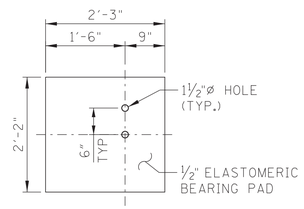


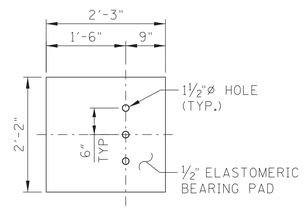
BENT 1 - EXTERIOR
(4 REQUIRED)



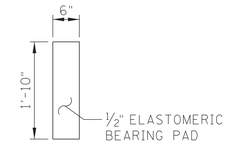
BENT 1 - INTERIOR
(2 REQUIRED)



BENT 2 - SPAN 2 EXTERIOR
(4 REQUIRED)



BENT 2 - SPAN 2 INTERIOR
(2 REQUIRED)



BENT 2 - SPAN 3
(6 REQUIRED)

PROJECT NO.	YEAR	SHEET NO.
18100-4148-04	2025	

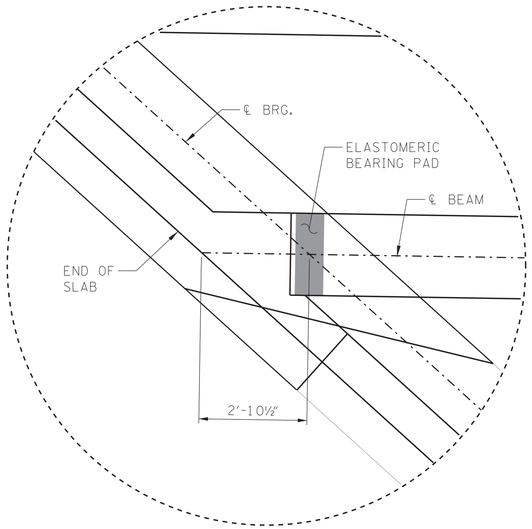
REVISIONS

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

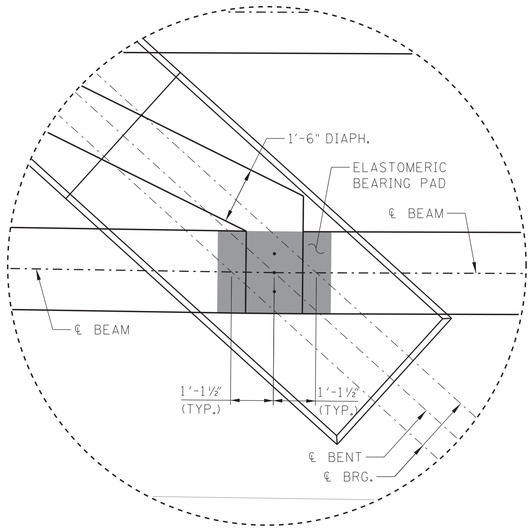
ELASTOMERIC BEARING PADS

SEE TDOT STD-14-2 FOR DETAILS OF ALL OTHER BEARING PADS NOT SHOWN ABOVE.

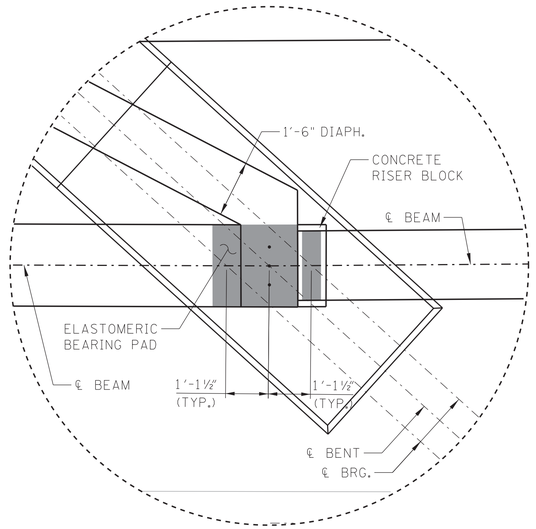
COST OF ELASTOMERIC BEARING PADS AND RUBBER BONDING CEMENT TO BE INCLUDED IN THE UNIT COST OF THE PRESTRESSED BEAMS.



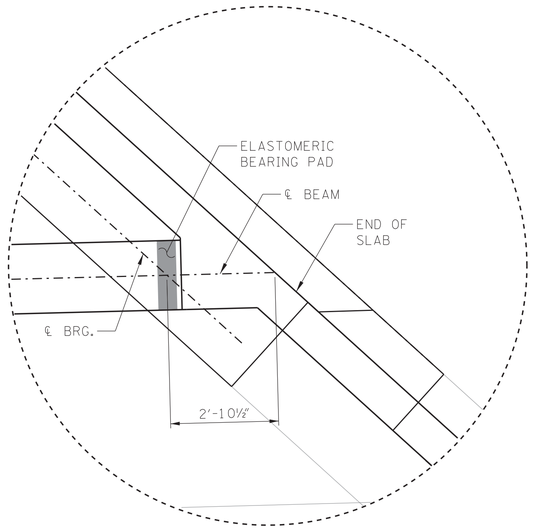
DETAIL "A"
ABUTMENT 1
RT. BRIDGE SHOWN LT. BRIDGE SIMILAR



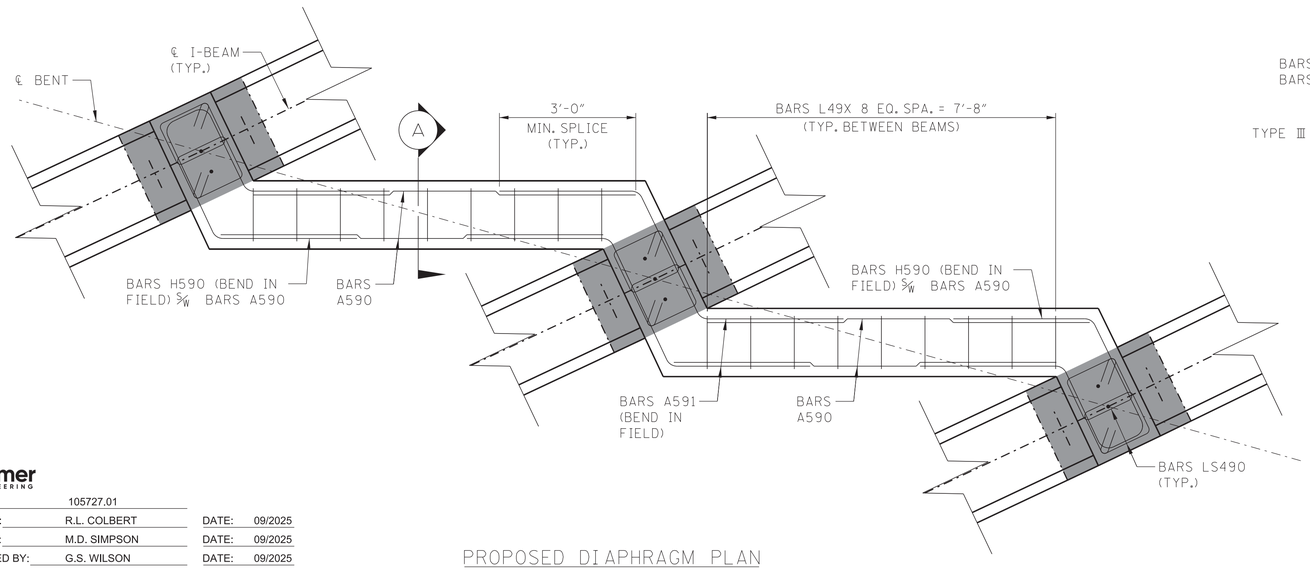
DETAIL "B"
BENTS 1, 3, & 4
RT. BRIDGE SHOWN LT. BRIDGE SIMILAR



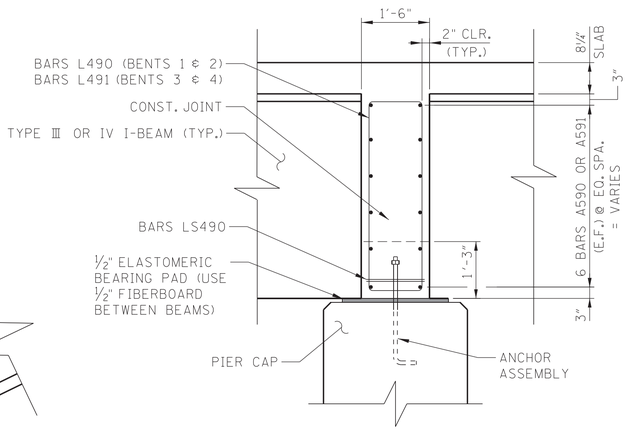
DETAIL "C"
BENT 2
RT. BRIDGE SHOWN LT. BRIDGE SIMILAR



DETAIL "D"
ABUTMENT 2
RT. BRIDGE SHOWN LT. BRIDGE SIMILAR



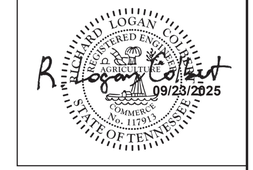
PROPOSED DIAPHRAGM PLAN



SECTION "A"

THE SUPPORT DIAPHRAGMS AT THE NEW BENTS SHALL BE FORMED AND THE BOTTOM 15 INCHES POURED AS SOON AS POSSIBLE AFTER THE BEAMS HAVE BEEN SET. THE REMAINDER OF THE DIAPHRAGM SHALL BE POURED CONCURRENTLY WITH THE DECK SLAB. THE BEAMS SHALL ATTAIN AN AGE OF AT LEAST 90 DAYS PRIOR TO POURING THE REMAINDER OF THE SUPPORT DIAPHRAGMS AND DECK SLAB. ALL DIAPHRAGM CONCRETE AND FIBERBOARD SHALL BE INCLUDED IN THE QUANTITY FOR CLASS DS CONCRETE.

SEALED BY



STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

SUPERSTRUCTURE DETAILS
BRIDGE NO. BR-18-I0040-00.24 (LT&RT)
FED BRIDGE ID 18I00400001 & 18I00400002
INTERSTATE 40 OVER STATE ROUTE 24
CUMBERLAND COUNTY
2025

BR-133-185

Palmer ENGINEERING

PIN NO.:	105727.01		
DESIGN BY:	R.L. COLBERT	DATE:	09/2025
DRAWN BY:	M.D. SIMPSON	DATE:	09/2025
SUPERVISED BY:	G.S. WILSON	DATE:	09/2025
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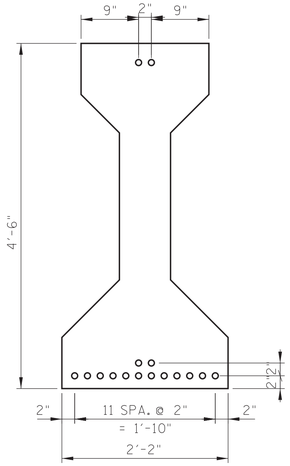
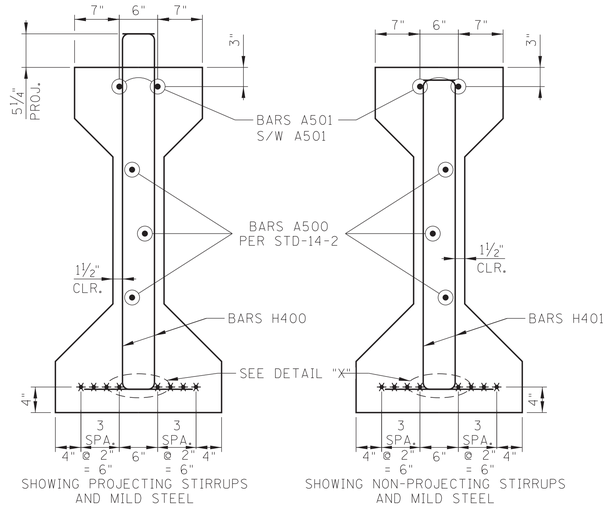


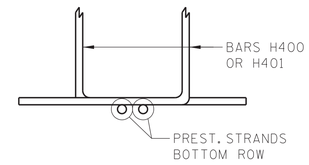
SECTION A-A

○ DENOTES: PRESTRESSING STRANDS (P.S.) (16 TOTAL)

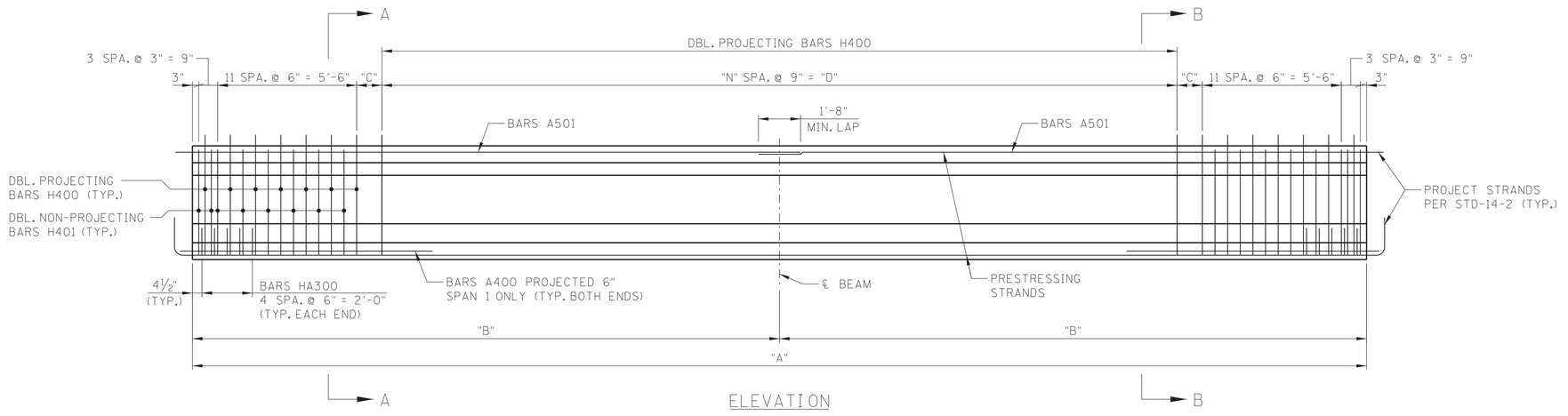


SECTION B-B

✱ DENOTES: BARS A400 (8) @ BOTH ENDS OF SPAN 1 BEAMS ONLY



DETAIL "X"



ELEVATION

TABLE OF DIMENSIONS AND ESTIMATED QUANTITIES

	DIMENSIONS					A400			A500			A501			H400 ▲		H401 ▲		HA300 ▲		PRESTRESSING STRANDS (LOW RELAXATION) LB.	CLASS "P" CONCRETE C.Y.	REINFORCING STEEL LB.
	A	B	C	D	N	SIZE	NO. REQ'D	LENGTH	SIZE	NO. REQ'D	LENGTH	SIZE	NO. REQ'D	LENGTH	SIZE	NO. REQ'D	SIZE	NO. REQ'D	SIZE	NO. REQ'D			
LEFT BRIDGE																							
BEAM 7 SPAN 1	71'-5 5/8"	35'-8 13/16"	8 13/16"	57'-0"	76	4	16	10'-0"	5	6	5'-6"	5	4	37'-1"	4	182	4	32	3	10	884	14.51	1197
BEAM 8 SPAN 1	71'-4 1/4"	35'-8 1/8"	8 1/8"	57'-0"	76	4	16	10'-0"	5	6	5'-6"	5	4	37'-½"	4	182	4	32	3	10	882	14.49	1197
BEAM 9 SPAN 1	71'-2 7/8"	35'-7 7/16"	7 7/16"	57'-0"	76	4	16	10'-0"	5	6	5'-6"	5	4	37'-0"	4	182	4	32	3	10	881	14.46	1197
BEAM 7 SPAN 2	70'-7"	35'-3½"	8"	56'-3"	75				5	6	5'-6"	5	4	36'-8"	4	180	4	32	3	10	873	14.33	1080
BEAM 8 SPAN 2	70'-5 3/4"	35'-2 7/8"	7 3/8"	56'-3"	75				5	6	5'-6"	5	4	36'-7"	4	180	4	32	3	10	872	14.31	1080
BEAM 9 SPAN 2	70'-4 3/8"	35'-2 1/16"	6 1/16"	56'-3"	75				5	6	5'-6"	5	4	36'-6½"	4	180	4	32	3	10	870	14.28	1080
RIGHT BRIDGE																							
BEAM 10 SPAN 1	70'-11 7/8"	35'-5 15/16"	10 7/16"	56'-3"	75	4	16	10'-0"	5	6	5'-6"	5	4	36'-10"	4	180	4	32	3	10	878	14.41	1188
BEAM 11 SPAN 1	70'-10 5/8"	35'-5 5/16"	9 13/16"	56'-3"	75	4	16	10'-0"	5	6	5'-6"	5	4	36'-9½"	4	180	4	32	3	10	877	14.39	1188
BEAM 12 SPAN 1	70'-9 1/4"	35'-4 5/8"	9 1/8"	56'-3"	75	4	16	10'-0"	5	6	5'-6"	5	4	36'-9"	4	180	4	32	3	10	875	14.37	1188
BEAM 10 SPAN 2	70'-1 5/8"	35'-0 13/16"	5 5/16"	56'-3"	75				5	6	5'-6"	5	4	36'-5"	4	180	4	32	3	10	868	14.24	1079
BEAM 11 SPAN 2	70'-0 3/8"	35'-0 7/16"	4 11/16"	56'-3"	75				5	6	5'-6"	5	4	36'-4½"	4	180	4	32	3	10	867	14.22	1079
BEAM 12 SPAN 2	69'-11"	34'-11½"	4"	56'-3"	75				5	6	5'-6"	5	4	36'-4"	4	180	4	32	3	10	865	14.19	1079

▲ SEE STD-14-2 FOR BAR BENDING DIMENSIONS NOT SHOWN.

PROJECT NO.	YEAR	SHEET NO.
18100-4148-04	2025	

REVISIONS

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

NOTES:

ALL BEAMS OF SPANS 1 AND 2 ARE AASHTO - PCI STANDARD TYPE IV.

SEE STD-14-2 FOR I-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 CONCRETE FOR THIS CONSTRUCTION SHALL BE OF SUCH PROPERTIES AS TO ATTAIN A COMPRESSIVE STRENGTH OF NOT LESS THAN 7,000 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 5,000 PSI. SEE GENERAL NOTES FOR CONCRETE FINISHING NOTE.

ALL PRESTRESSING STRANDS SHALL BE 0.6" DIAMETER, UNCOATED 7-WIRE STRANDS, ASTM A416 GRADE 270, LOW-LAX, A = 0.217 SQ. IN. PULLED TO 43,943 LBS PER STRAND.

SEE SHEET BR-133-185 AND STD-14-2 FOR ELASTOMERIC BEARING PAD DETAILS.

CONTRACTOR SHALL VERIFY SPAN LENGTHS PRIOR TO FABRICATION OF BEAMS.

BEAM DESIGN DATA - PER BEAM

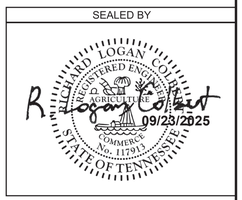
LIVE LOAD DISTRIBUTION FACTOR: MOMENT = 0.6152 LANES
SHEAR = 0.8285 LANES

COMPOSITE DEAD LOAD: DC = 83 LB/FT
DW = 230 LB/FT

COMPOSITE SLAB DESIGN STRENGTH: F'C = 4000 PSI

DOWNWARD DEFLECTION UNDER TOTAL DL IS NOT ALLOWED

SEALED BY



STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

PRESTRESSED I-BEAM DETAILS
SPANS 1 & 2
BRIDGE NO. BR-18-I0040-00.24 (LT&RT)
FED BRIDGE ID 18I00400001 & 18I00400002
INTERSTATE 40 OVER STATE ROUTE 24
CUMBERLAND COUNTY
2025

BR-133-186

Palmer ENGINEERING

PIN NO.: 105727.01
DESIGN BY: R.L. COLBERT DATE: 09/2025
DRAWN BY: M.D. SIMPSON DATE: 09/2025
SUPERVISED BY: G.S. WILSON DATE: 09/2025
CHECKED BY: R.L. COLBERT DATE: 09/2025

9/23/2025 7:09:43 AM
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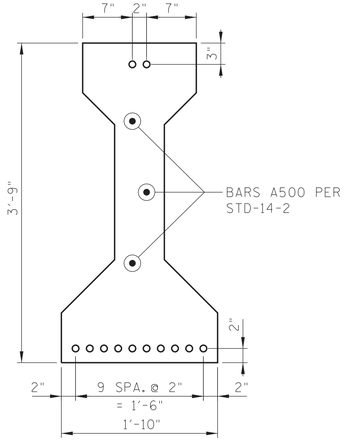
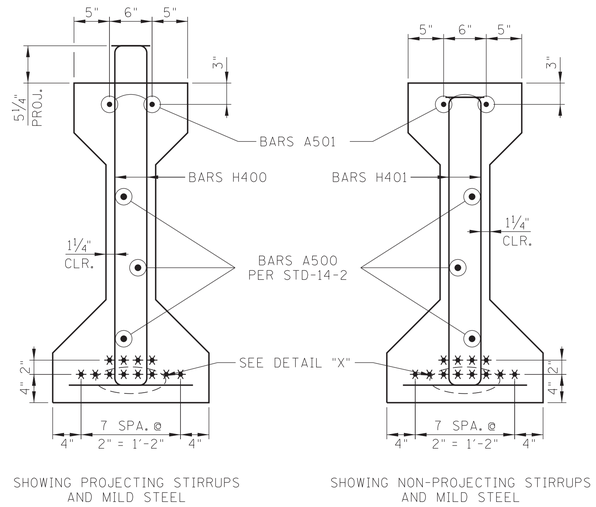


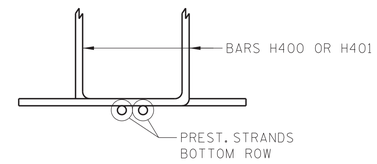
SECTION A-A

○ DENOTES: PRESTRESSING STRANDS (P.S.) (10 TOTAL)

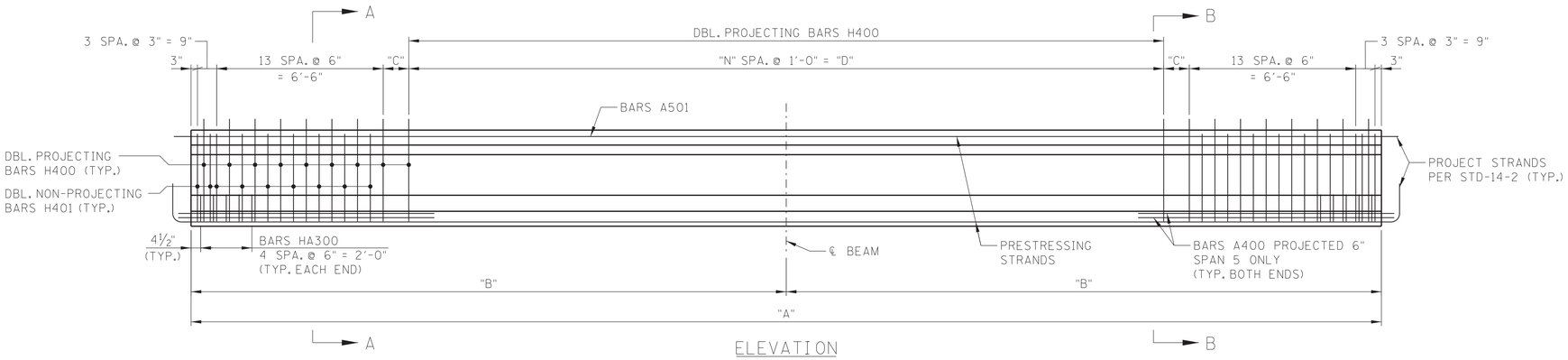


SECTION B-B

✱ DENOTES: BARS A400 (12) @ BOTH ENDS OF SPAN 5 BEAMS ONLY



DETAIL "X"



ELEVATION

TABLE OF DIMENSIONS AND ESTIMATED QUANTITIES

	DIMENSIONS					A400			A500			A501			H400 ▲		H401 ▲		HA300 ▲		PRESTRESSING STRANDS (LOW RELAXATION) LB.	CLASS "P" CONCRETE C.Y.	REINFORCING STEEL LB.
	A	B	C	D	N	SIZE	NO. REQ'D	LENGTH	SIZE	NO. REQ'D	LENGTH	SIZE	NO. REQ'D	LENGTH	SIZE	NO. REQ'D	SIZE	NO. REQ'D	SIZE	NO. REQ'D			
LEFT BRIDGE																							
BEAM 7 SPAN 3	51'-2⅞"	25'-7 7/16"	7 7/16"	35'-0"	35				5	6	5'-6"	5	2	52'-2⅞"	4	104	4	36	3	10	488	7.38	645
BEAM 8 SPAN 3	51'-1⅞"	25'-6 15/16"	6 15/16"	35'-0"	35				5	6	5'-6"	5	2	52'-1⅞"	4	104	4	36	3	10	488	7.37	644
BEAM 9 SPAN 3	51'-1"	25'-6½"	6½"	35'-0"	35				5	6	5'-6"	5	2	52'-1"	4	104	4	36	3	10	487	7.36	644
BEAM 7 SPAN 4	51'-2¾"	25'-7⅜"	7⅜"	35'-0"	35				5	6	5'-6"	5	2	52'-2¾"	4	104	4	36	3	10	488	7.38	645
BEAM 8 SPAN 4	51'-1⅞"	25'-6 15/16"	6 15/16"	35'-0"	35				5	6	5'-6"	5	2	52'-1⅞"	4	104	4	36	3	10	488	7.37	644
BEAM 9 SPAN 4	51'-1"	25'-6½"	6½"	35'-0"	35				5	6	5'-6"	5	2	52'-1"	4	104	4	36	3	10	487	7.36	644
BEAM 7 SPAN 5	51'-8⅞"	25'-10 7/16"	10 7/16"	35'-0"	35	4	24	10'-0"	5	6	5'-6"	5	2	52'-8⅞"	4	104	4	36	3	10	493	7.45	806
BEAM 8 SPAN 5	51'-8"	25'-10"	10"	35'-0"	35	4	24	10'-0"	5	6	5'-6"	5	2	52'-8"	4	104	4	36	3	10	492	7.44	806
BEAM 9 SPAN 5	51'-7¼"	25'-9⅝"	9⅝"	35'-0"	35	4	24	10'-0"	5	6	5'-6"	5	2	52'-7¼"	4	104	4	36	3	10	492	7.43	806
RIGHT BRIDGE																							
BEAM 10 SPAN 3	50'-11"	25'-5½"	11½"	34'-0"	34				5	6	5'-6"	5	2	51'-11"	4	100	4	36	3	10	486	7.33	637
BEAM 11 SPAN 3	50'-10⅛"	25'-5 1/16"	11 1/16"	34'-0"	34				5	6	5'-6"	5	2	51'-10⅛"	4	100	4	36	3	10	485	7.32	637
BEAM 12 SPAN 3	50'-9¼"	25'-4⅝"	10⅝"	34'-0"	34				5	6	5'-6"	5	2	51'-9¼"	4	100	4	36	3	10	484	7.31	636
BEAM 10 SPAN 4	50'-11"	25'-5½"	11½"	34'-0"	34				5	6	5'-6"	5	2	51'-11"	4	100	4	36	3	10	486	7.33	637
BEAM 11 SPAN 4	50'-10¼"	25'-5⅛"	11⅛"	34'-0"	34				5	6	5'-6"	5	2	51'-10¼"	4	100	4	36	3	10	485	7.32	637
BEAM 12 SPAN 4	50'-9⅜"	25'-4 11/16"	10 11/16"	34'-0"	34				5	6	5'-6"	5	2	51'-9⅜"	4	100	4	36	3	10	484	7.31	636
BEAM 10 SPAN 5	51'-5⅜"	25'-8 11/16"	8 11/16"	35'-0"	35	4	24	10'-0"	5	6	5'-6"	5	2	52'-5⅜"	4	104	4	36	3	10	490	7.41	805
BEAM 11 SPAN 5	51'-4½"	25'-8¼"	8¼"	35'-0"	35	4	24	10'-0"	5	6	5'-6"	5	2	52'-4½"	4	104	4	36	3	10	490	7.40	805
BEAM 12 SPAN 5	51'-3¾"	25'-7⅞"	7⅞"	35'-0"	35	4	24	10'-0"	5	6	5'-6"	5	2	52'-3¾"	4	104	4	36	3	10	489	7.39	805

▲ SEE STD-14-2 FOR BAR BENDING DIMENSIONS NOT SHOWN.

PROJECT NO.	YEAR	SHEET NO.
18100-4148-04	2025	

REVISIONS

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

NOTES:

ALL BEAMS OF SPANS 3 THRU 5 ARE AASHTO - PCI STANDARD TYPE III.

SEE STD-14-2 FOR I-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 CONCRETE FOR THIS CONSTRUCTION SHALL BE OF SUCH PROPERTIES AS TO ATTAIN A COMPRESSIVE STRENGTH OF NOT LESS THAN 7,000 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 5,000 PSI. SEE GENERAL NOTES FOR CONCRETE FINISHING NOTE.

ALL PRESTRESSING STRANDS SHALL BE 0.6" DIAMETER, UNCOATED 7-WIRE STRANDS, ASTM A416 GRADE 270, LOW-LAX, A = 0.217 SQ. IN. PULLED TO 43,943 LBS PER STRAND.

SEE SHEET BR-133-185 AND STD-14-2 FOR ELASTOMERIC BEARING PAD DETAILS.

CONTRACTOR SHALL VERIFY SPAN LENGTHS PRIOR TO FABRICATION OF BEAMS.

BEAM DESIGN DATA - PER BEAM

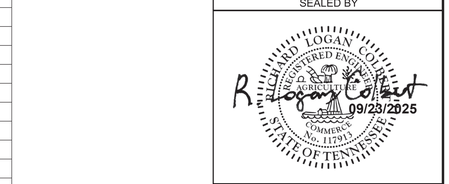
LIVE LOAD DISTRIBUTION FACTOR: MOMENT = 0.6072 LANES
SHEAR = 0.8435 LANES

COMPOSITE DEAD LOAD: DC = 83 LB/FT
DW = 230 LB/FT

COMPOSITE SLAB DESIGN STRENGTH: F'C = 4000 PSI

DOWNWARD DEFLECTION UNDER TOTAL DL IS NOT ALLOWED

SEALED BY



STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

PRESTRESSED I-BEAM DETAILS
SPANS 3, 4, & 5
BRIDGE NO. BR-18-I0040-00.24 (LT&RT)
FED BRIDGE ID 18I00400001 & 18I00400002
INTERSTATE 40 OVER STATE ROUTE 24
CUMBERLAND COUNTY
2025

BR-133-187

Palmer ENGINEERING

PIN NO.: 105727.01
DESIGN BY: R.L. COLBERT DATE: 09/2025
DRAWN BY: M.D. SIMPSON DATE: 09/2025
SUPERVISED BY: G.S. WILSON DATE: 09/2025
CHECKED BY: R.L. COLBERT DATE: 09/2025

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PROJECT NO.	YEAR	SHEET NO.
18100-4148-04	2025	

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
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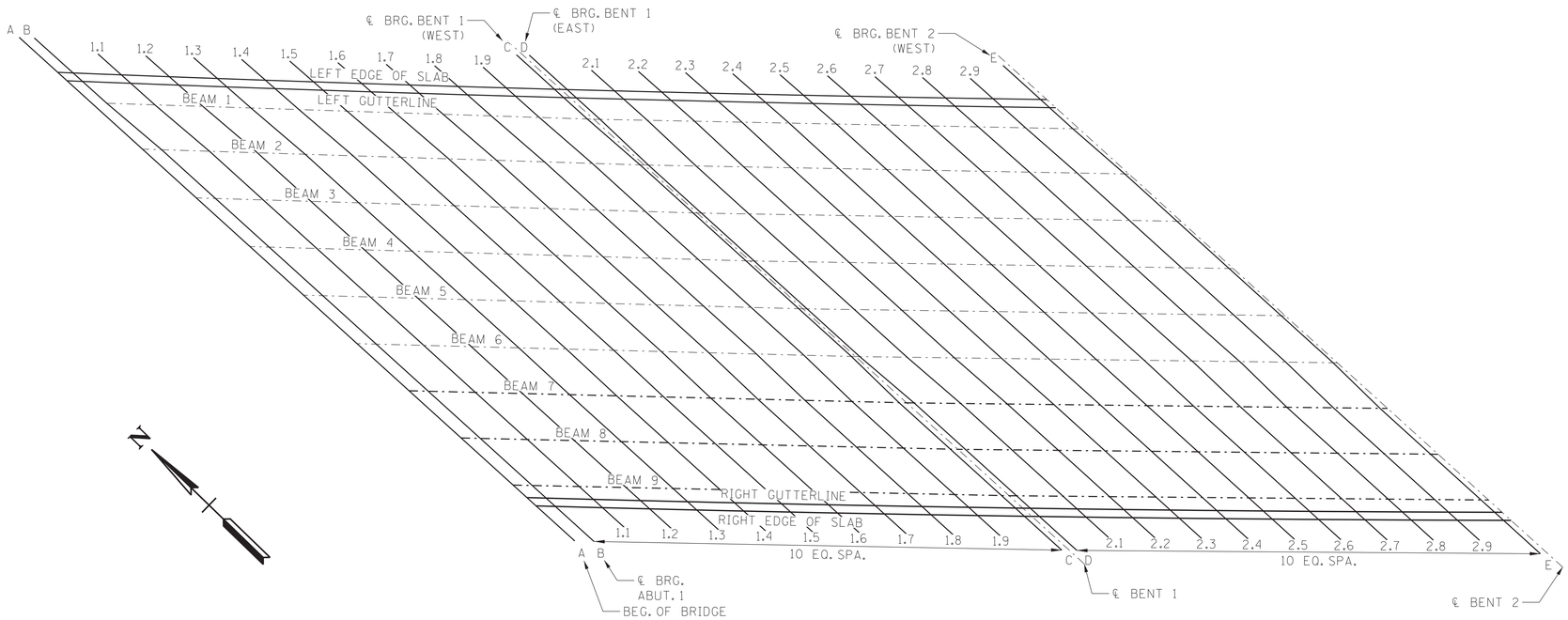
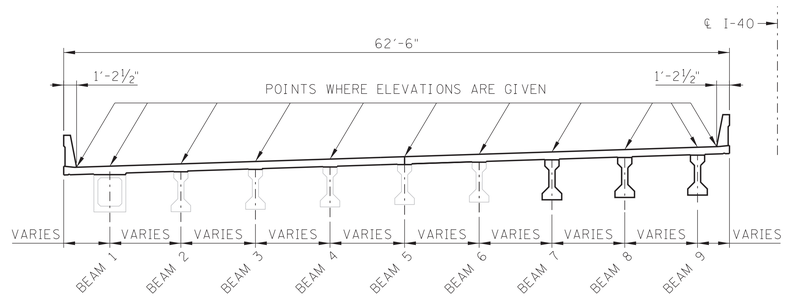


CONSTRUCTION ELEVATION GRID - LEFT BRIDGE

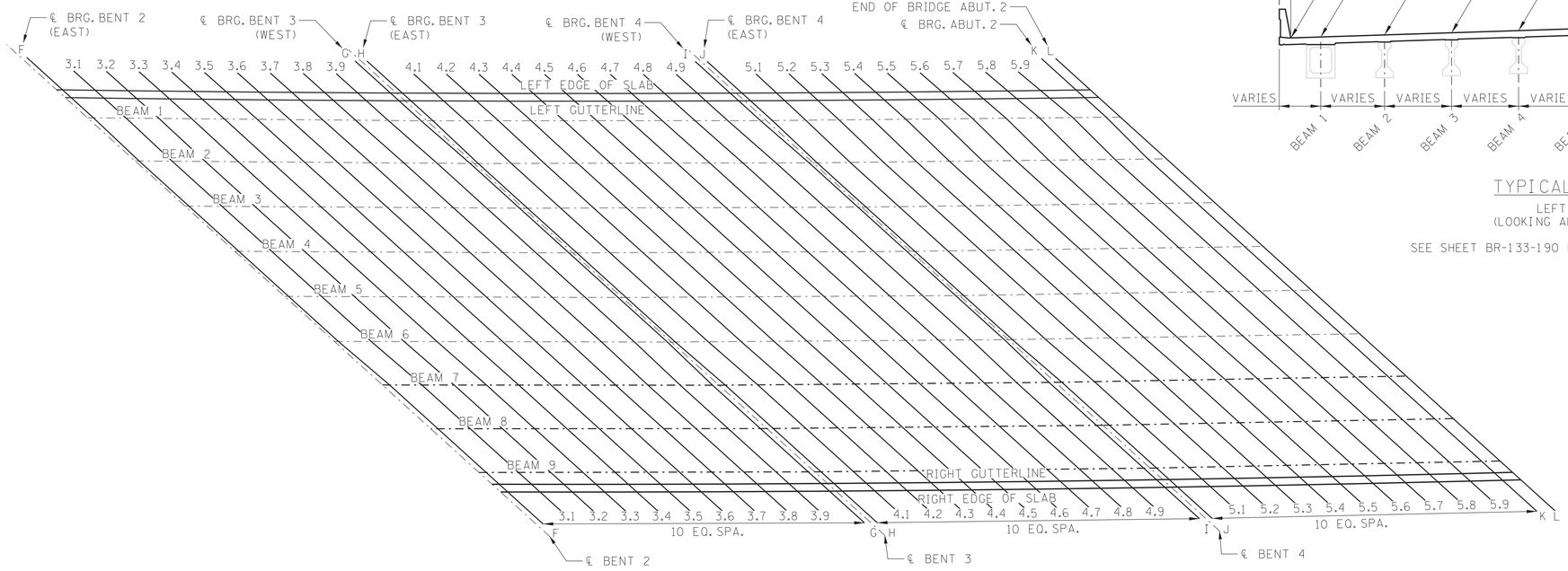
SPANS 1 & 2



TYPICAL SECTION

LEFT BRIDGE
(LOOKING AHEAD STATION)

SEE SHEET BR-133-190 FOR TABLE OF ELEVATIONS.



CONSTRUCTION ELEVATION GRID - LEFT BRIDGE

SPANS 3 THRU 5

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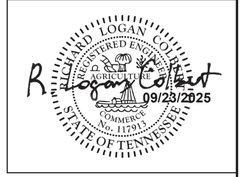

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

CONSTRUCTION ELEVATIONS
LEFT BRIDGE
BRIDGE NO. BR-18-I0040-00.24 (LT&RT)
FED BRIDGE ID 18I00400001 & 18I00400002
INTERSTATE 40 OVER STATE ROUTE 24
CUMBERLAND COUNTY
2025

BR-133-188

Palmer ENGINEERING

PIN NO.:	105727.01		
DESIGN BY:	R.L. COLBERT	DATE:	09/2025
DRAWN BY:	M.D. SIMPSON	DATE:	09/2025
SUPERVISED BY:	G.S. WILSON	DATE:	09/2025
CHECKED BY:	R.L. COLBERT	DATE:	09/2025

9/23/2025 7:09:49 AM
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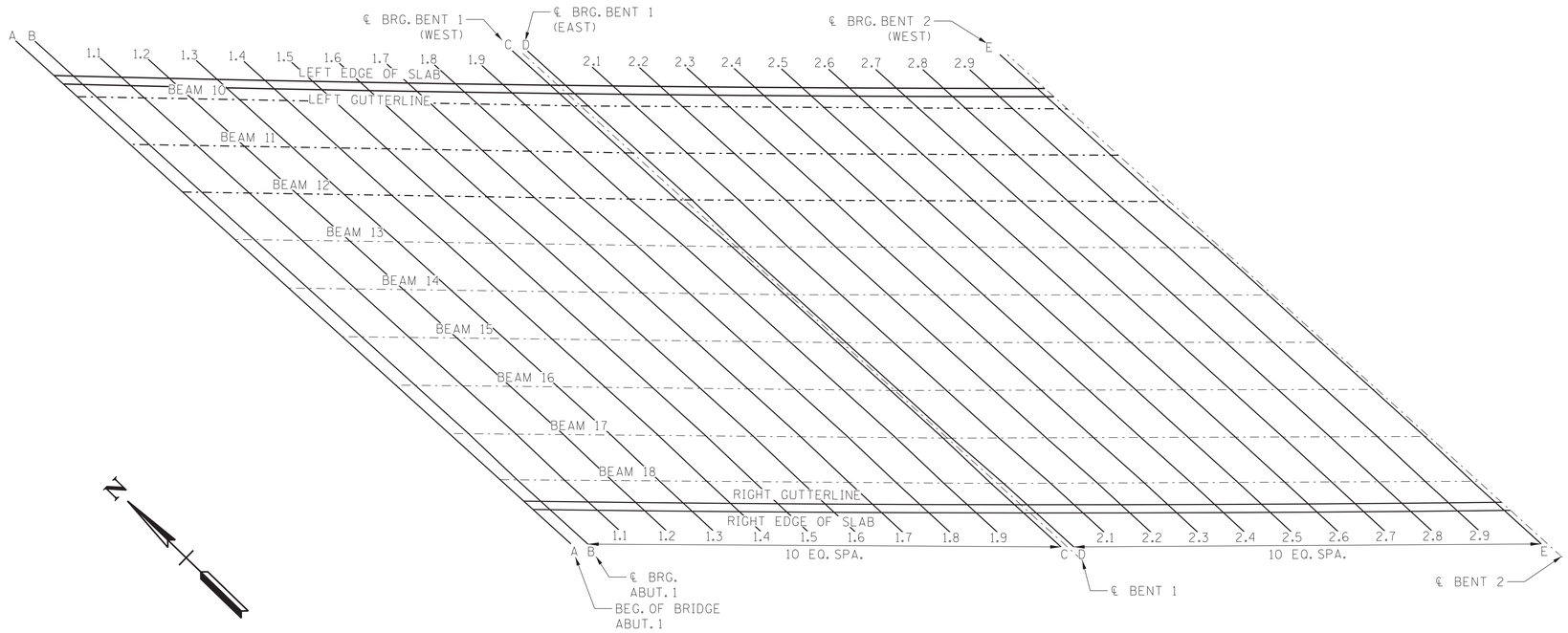
PROJECT NO.	YEAR	SHEET NO.
18100-4148-04	2025	

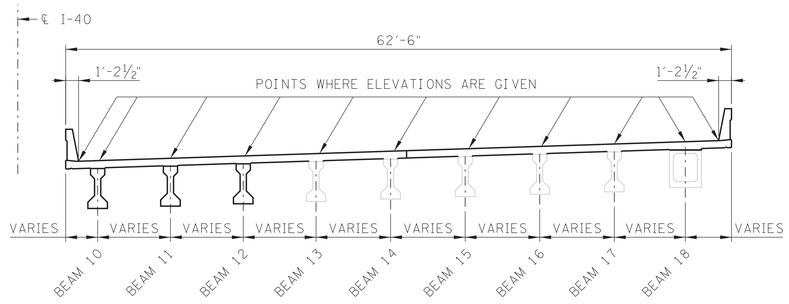
REVISIONS

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



CONSTRUCTION ELEVATIONS GRID - RIGHT BRIDGE

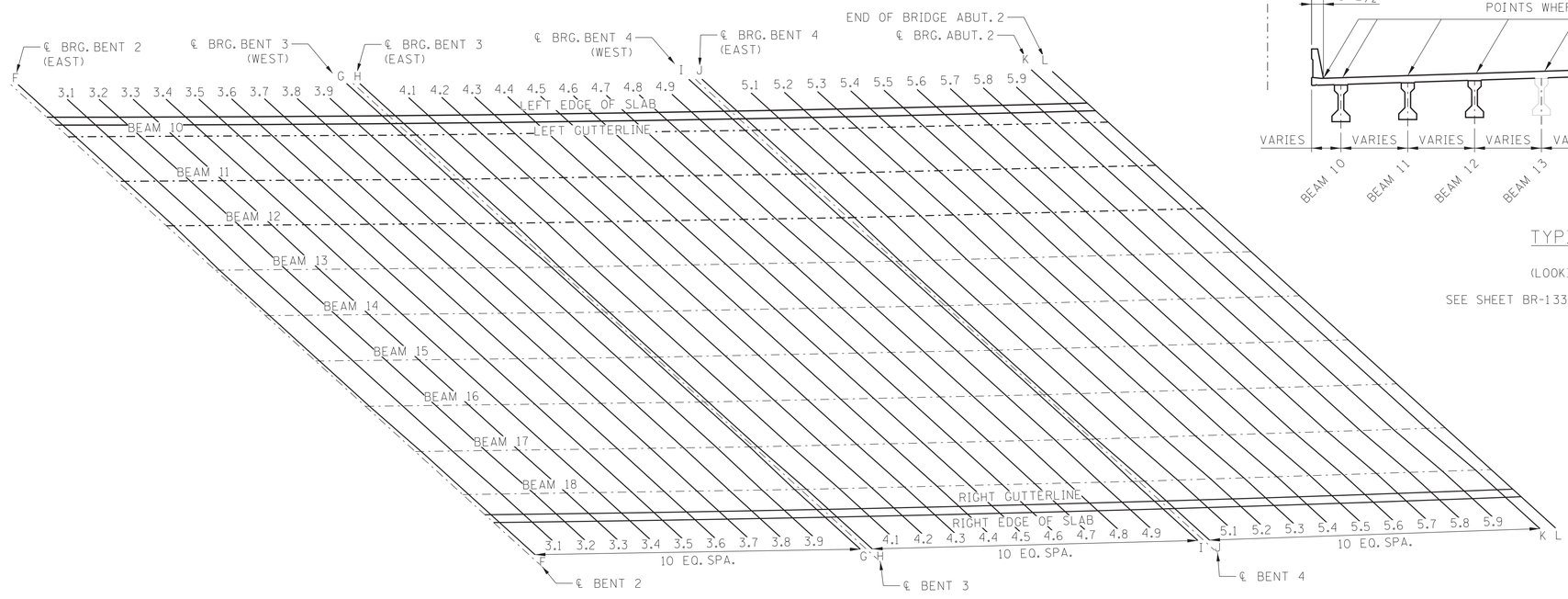
SPANS 1 & 2



TYPICAL SECTION

RIGHT BRIDGE
(LOOKING AHEAD STATION)

SEE SHEET BR-133-190 FOR TABLE OF ELEVATIONS.



CONSTRUCTION ELEVATIONS GRID - RIGHT BRIDGE

SPANS 3 THRU 5

SEALED BY

RICHARD LOGAN COLBERT REGISTERED ENGINEER AGRICULTURE COMMERCE No. 117911 STATE OF TENNESSEE

Richard Logan Colbert 09/23/2025

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

CONSTRUCTION ELEVATIONS
RIGHT BRIDGE
BRIDGE NO. BR-18-I0040-00.24 (LT&RT)
FED BRIDGE ID 18I00400001 & 18I00400002
INTERSTATE 40 OVER STATE ROUTE 24
CUMBERLAND COUNTY
2025

BR-133-189

Palmer ENGINEERING

PIN NO.:	105727.01		
DESIGN BY:	R.L. COLBERT	DATE:	09/2025
DRAWN BY:	M.D. SIMPSON	DATE:	09/2025
SUPERVISED BY:	G.S. WILSON	DATE:	09/2025
CHECKED BY:	R.L. COLBERT	DATE:	09/2025

9/23/2025 7:09:52 AM
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LEFT BRIDGE

LINE	LEFT GUTTER LINE	BEAM #1	BEAM #2	BEAM #3	BEAM #4	BEAM #5	BEAM #6	BEAM #7	BEAM #8	BEAM #9	RIGHT GUTTER LINE
A	2039.48	2039.56	2039.73	2039.90	2040.07	2040.24	2040.41	2040.57	2040.74	2040.90	2040.94
B	2039.47	2039.55	2039.71	2039.88	2040.05	2040.22	2040.39	2040.55	2040.71	2040.88	2040.92
1.1	2039.44	2039.51	2039.67	2039.84	2040.01	2040.18	2040.35	2040.51	2040.67	2040.83	2040.88
1.2	2039.41	2039.48	2039.64	2039.80	2039.97	2040.14	2040.31	2040.47	2040.63	2040.78	2040.83
1.3	2039.37	2039.44	2039.59	2039.76	2039.93	2040.10	2040.26	2040.42	2040.58	2040.74	2040.78
1.4	2039.33	2039.40	2039.55	2039.72	2039.88	2040.05	2040.21	2040.37	2040.53	2040.68	2040.73
1.5	2039.28	2039.35	2039.50	2039.67	2039.83	2040.00	2040.16	2040.32	2040.47	2040.63	2040.67
1.6	2039.23	2039.30	2039.45	2039.61	2039.78	2039.94	2040.11	2040.26	2040.42	2040.57	2040.61
1.7	2039.17	2039.24	2039.39	2039.56	2039.72	2039.88	2040.04	2040.20	2040.35	2040.51	2040.55
1.8	2039.11	2039.18	2039.33	2039.49	2039.66	2039.82	2039.98	2040.13	2040.29	2040.44	2040.48
1.9	2039.05	2039.12	2039.27	2039.43	2039.59	2039.75	2039.91	2040.07	2040.22	2040.37	2040.42
C	2038.98	2039.05	2039.20	2039.36	2039.52	2039.68	2039.84	2040.00	2040.15	2040.30	2040.34
D	2038.96	2039.04	2039.19	2039.35	2039.51	2039.67	2039.83	2039.98	2040.13	2040.28	2040.32
2.1	2038.92	2038.99	2039.15	2039.31	2039.47	2039.62	2039.78	2039.93	2040.08	2040.23	2040.27
2.2	2038.88	2038.95	2039.10	2039.26	2039.42	2039.57	2039.73	2039.87	2040.02	2040.17	2040.21
2.3	2038.83	2038.90	2039.05	2039.20	2039.36	2039.52	2039.67	2039.82	2039.97	2040.11	2040.16
2.4	2038.78	2038.84	2038.99	2039.15	2039.31	2039.46	2039.61	2039.76	2039.91	2040.05	2040.09
2.5	2038.72	2038.79	2038.93	2039.09	2039.24	2039.40	2039.55	2039.69	2039.84	2039.99	2040.03
2.6	2038.66	2038.72	2038.87	2039.02	2039.18	2039.33	2039.48	2039.63	2039.77	2039.92	2039.96
2.7	2038.59	2038.66	2038.80	2038.96	2039.11	2039.26	2039.41	2039.56	2039.70	2039.85	2039.89
2.8	2038.52	2038.59	2038.73	2038.88	2039.04	2039.19	2039.34	2039.48	2039.63	2039.77	2039.81
2.9	2038.45	2038.51	2038.66	2038.81	2038.96	2039.11	2039.26	2039.41	2039.55	2039.69	2039.73
E	2038.37	2038.44	2038.58	2038.73	2038.88	2039.03	2039.18	2039.33	2039.47	2039.62	2039.65
F	2038.35	2038.42	2038.57	2038.72	2038.87	2039.02	2039.17	2039.31	2039.45	2039.59	2039.63
3.1	2038.31	2038.38	2038.53	2038.68	2038.83	2038.98	2039.12	2039.26	2039.40	2039.55	2039.58
3.2	2038.27	2038.34	2038.48	2038.63	2038.78	2038.93	2039.08	2039.21	2039.36	2039.50	2039.54
3.3	2038.23	2038.29	2038.44	2038.59	2038.73	2038.88	2039.03	2039.17	2039.31	2039.45	2039.48
3.4	2038.18	2038.25	2038.39	2038.54	2038.69	2038.83	2038.98	2039.11	2039.26	2039.39	2039.43
3.5	2038.13	2038.20	2038.34	2038.49	2038.63	2038.78	2038.93	2039.06	2039.20	2039.34	2039.38
3.6	2038.08	2038.15	2038.29	2038.44	2038.58	2038.73	2038.87	2039.01	2039.15	2039.28	2039.32
3.7	2038.03	2038.09	2038.23	2038.38	2038.53	2038.67	2038.81	2038.95	2039.09	2039.23	2039.26
3.8	2037.97	2038.04	2038.18	2038.32	2038.47	2038.61	2038.75	2038.89	2039.03	2039.17	2039.21
3.9	2037.92	2037.98	2038.12	2038.26	2038.41	2038.55	2038.69	2038.83	2038.97	2039.11	2039.14
G	2037.86	2037.92	2038.06	2038.20	2038.35	2038.49	2038.63	2038.77	2038.91	2039.05	2039.08
H	2037.84	2037.91	2038.05	2038.19	2038.33	2038.48	2038.62	2038.75	2038.89	2039.02	2039.06
4.1	2037.79	2037.86	2038.00	2038.14	2038.28	2038.43	2038.57	2038.70	2038.84	2038.97	2039.01
4.2	2037.75	2037.81	2037.95	2038.09	2038.23	2038.38	2038.52	2038.65	2038.78	2038.92	2038.95
4.3	2037.70	2037.76	2037.90	2038.04	2038.18	2038.32	2038.46	2038.59	2038.73	2038.86	2038.90
4.4	2037.64	2037.71	2037.84	2037.99	2038.13	2038.27	2038.41	2038.54	2038.67	2038.80	2038.84
4.5	2037.59	2037.65	2037.79	2037.93	2038.07	2038.21	2038.35	2038.48	2038.61	2038.74	2038.78
4.6	2037.53	2037.60	2037.73	2037.87	2038.01	2038.15	2038.29	2038.42	2038.55	2038.68	2038.72
4.7	2037.48	2037.54	2037.67	2037.81	2037.95	2038.09	2038.23	2038.36	2038.49	2038.62	2038.65
4.8	2037.42	2037.48	2037.61	2037.75	2037.89	2038.02	2038.16	2038.29	2038.42	2038.55	2038.59
4.9	2037.35	2037.42	2037.55	2037.68	2037.82	2037.96	2038.09	2038.23	2038.36	2038.49	2038.52
I	2037.29	2037.35	2037.48	2037.62	2037.76	2037.89	2038.03	2038.16	2038.29	2038.42	2038.46
J	2037.27	2037.33	2037.47	2037.60	2037.74	2037.88	2038.01	2038.14	2038.27	2038.40	2038.43
5.1	2037.22	2037.28	2037.41	2037.55	2037.69	2037.82	2037.96	2038.08	2038.21	2038.34	2038.37
5.2	2037.16	2037.22	2037.36	2037.49	2037.63	2037.76	2037.90	2038.02	2038.15	2038.28	2038.31
5.3	2037.11	2037.17	2037.30	2037.44	2037.57	2037.71	2037.84	2037.96	2038.09	2038.22	2038.25
5.4	2037.05	2037.11	2037.24	2037.38	2037.51	2037.65	2037.78	2037.90	2038.03	2038.15	2038.19
5.5	2036.99	2037.05	2037.18	2037.32	2037.45	2037.58	2037.71	2037.84	2037.96	2038.09	2038.12
5.6	2036.93	2036.98	2037.12	2037.25	2037.39	2037.52	2037.65	2037.77	2037.90	2038.02	2038.06
5.7	2036.86	2036.92	2037.05	2037.19	2037.32	2037.45	2037.58	2037.70	2037.83	2037.95	2037.99
5.8	2036.79	2036.85	2036.98	2037.12	2037.25	2037.38	2037.51	2037.63	2037.76	2037.88	2037.92
5.9	2036.72	2036.78	2036.91	2037.05	2037.18	2037.31	2037.44	2037.56	2037.69	2037.81	2037.84
K	2036.65	2036.71	2036.84	2036.97	2037.11	2037.24	2037.36	2037.49	2037.61	2037.74	2037.77
L	2036.62	2036.68	2036.81	2036.94	2037.07	2037.20	2037.33	2037.45	2037.58	2037.70	2037.73

RIGHT BRIDGE

LINE	LEFT GUTTER LINE	BEAM #10	BEAM #11	BEAM #12	BEAM #13	BEAM #14	BEAM #15	BEAM #16	BEAM #17	BEAM #18	RIGHT GUTTER LINE
A	2039.28	2039.32	2039.48	2039.63	2039.79	2039.95	2040.11	2040.26	2040.42	2040.57	2040.64
B	2039.25	2039.30	2039.45	2039.61	2039.77	2039.92	2040.08	2040.24	2040.40	2040.55	2040.62
1.1	2039.21	2039.25	2039.41	2039.56	2039.72	2039.87	2040.03	2040.19	2040.34	2040.49	2040.56
1.2	2039.16	2039.20	2039.36	2039.51	2039.67	2039.82	2039.98	2040.13	2040.29	2040.44	2040.51
1.3	2039.11	2039.15	2039.31	2039.46	2039.61	2039.77	2039.92	2040.08	2040.23	2040.38	2040.46
1.4	2039.06	2039.09	2039.25	2039.40	2039.56	2039.71	2039.87	2040.02	2040.17	2040.32	2040.39
1.5	2039.00	2039.04	2039.19	2039.35	2039.50	2039.65	2039.80	2039.96	2040.11	2040.26	2040.33
1.6	2038.94	2038.98	2039.13	2039.28	2039.43	2039.58	2039.74	2039.89	2040.04	2040.19	2040.26
1.7	2038.87	2038.91	2039.06	2039.21	2039.36	2039.52	2039.67	2039.82	2039.97	2040.12	2040.19
1.8	2038.81	2038.84	2039.00	2039.14	2039.29	2039.44	2039.59	2039.74	2039.89	2040.04	2040.11
1.9	2038.74	2038.77	2038.92	2039.07	2039.22	2039.37	2039.52	2039.67	2039.81	2039.96	2040.02
C	2038.66	2038.70	2038.85	2039.00	2039.14	2039.29	2039.44	2039.59	2039.73	2039.88	2039.94
D	2038.64	2038.68	2038.83	2038.98	2039.13	2039.28	2039.43	2039.57	2039.72	2039.86	2039.92
2.1	2038.59	2038.62	2038.77	2038.92	2039.07	2039.22	2039.37	2039.51	2039.66	2039.80	2039.86
2.2	2038.53	2038.57	2038.71	2038.86	2039.01	2039.16	2039.30	2039.45	2039.59	2039.73	2039.80
2.3	2038.47	2038.50	2038.65	2038.80	2038.95	2039.09	2039.24	2039.38	2039.53	2039.67	2039.73
2.4	2038.41	2038.44	2038.59	2038.73	2038.88	2039.03	2039.17	2039.31	2039.46	2039.60	2039.66
2.5	2038.34	2038.37	2038.52	2038.66	2038.81	2038.95	2039.10	2039.24	2039.38	2039.52	2039.59
2.6	2038.27	2038.30	2038.45	2038.59	2038.74	2038.88	2039.02	2039.17	2039.31	2039.44	2039.51
2.7	2038.20	2038.23	2038.37	2038.52	2038.66	2038.80	2038.94	2039.08	2039.23	2039.36	2039.43
2.8	2038.12	2038.15	2038.30	2038.44	2038.58	2038.72	2038.86	2039.00	2039.14	2039.28	2039.34
2.9	2038.04	2038.07	2038.22	2038.36	2038.49	2038.63	2038.77	2038.91	2039.05	2039.19	2039.25
E	2037.96	2037.99	2038.13	2038.27	2038.41	2038.55	2038.69	2038.83	2038.96	2039.10	2039.16
F	2037.94	2037.97	2038.11	2038.25	2038.39	2038.53	2038.67	2038.81	2038.95	2039.08	2039.14
3.1	2037.89	2037.92	2038.06	2038.20	2038.34	2038.48	2038.62	2038.76	2038.90	2039.02	2039.08
3.2	2037.84	2037.87	2038.01	2038.15	2038.29	2038.43	2038.57	2038.70	2038.84	2038.97	2039.03
3.3	2037.78	2037.82	2037.96	2038.10	2038.24	2038.37	2038.51	2038.65	2038.78	2038.91	2038.97
3.4	2037.73	2037.77	2037.91	2038.04	2038.18	2038.32	2038.46	2038.59	2038.73	2038.85	2038.91
3.5	2037.68	2037.71	2037.85	2037.99	2038.12	2038.26	2038.40	2038.53	2038.67	2038.79	2038.85
3.6	2037.62	2037.65	2037.79	2037.93	2038.06	2038.20	2038.34	2038.47	2038.60	2038.73	2038.79
3.7	2037.56	2037.60	2037.73	2037.87	2038.00	2038.14	2038.27	2038.41	2038.54	2038.67	2038.73
3.8	2037.50	2037.54	2037.67	2037.80	2037.94	2038.07	2038.21	2038.34	2038.47	2038.60	2038.66
3.9	2037.44	2037.47	2037.61	2037.74	2037.87	2038.01	2038.14	2038.27	2038.41	2038.53	2038.59
G	2037.38	2037.41	2037.54	2037.68	2037.80	2037.94	2038.07	2038.21	2038.34	2038.47	2038.53
H	2037.35	2037.39	2037.52	2037.65	2037.79	2037.92	2038.06	2038.19	2038.32	2038.44	2038.50
4.1	2037.30	2037.33	2037.47	2037.60	2037.73	2037.87	2038.00	2038.13	2038.26	2038.38	2038.44
4.2	2037.24	2037.28	2037.41	2037.54	2037.68	2037.81	2037.94	2038.07	2038.20	2038.32	2038.38
4.3	2037.19	2037.22	2037.35	2037.48	2037.62	2037.75	2037.88	2038.01	2038.14	2038.26	2038.32
4.4	2037.13	2037.16	2037.29	2037.42	2037.56	2037.69	2037.82	2037.95	2038.08	2038.20	2038.26
4.5	2037.07	2037.10	2037.23	2037.36	2037.49	2037.62	2037.75	2037.88	2038.01	2038.13	2038.19
4.6	2037.01	2037.04	2037.17	2037.30	2037.43	2037.56	2037.69	2037.82	2037.95	2038.07	2038.13
4.7	2036.94	2036.97	2037.10	2037.23	2037.36	2037.49	2037.62	2037.75	2037.88	2038.00	2038.06
4.8	2036.88	2036.91	2037.04	2037.17	2037.29	2037.42	2037.55	2037.68	2037.81	2037.93	2037.98
4.9	2036.81	2036.84	2036.97	2037.10	2037.22	2037.35	2037.48	2037.61	2037.73	2037.85	2037.91
I	2036.74	2036.77	2036.90	2037.03	2037.15	2037.28	2037.41	2037.53	2037.66	2037.78	2037.84
J	2036.71	2036.75	2036.88	2037.00	2037.13	2037.26	2037.39	2037.52	2037.64	2037.76	2037.81
5.1	2036.65	2036.69	2036.81	2036.94	2037.07	2037.20	2037.33	2037.45	2037.58	2037.69	2037.75
5.2	2036.59	2036.63	2036.75	2036.88	2037.01	2037.14	2037.26	2037.39	2037.51	2037.63	2037.68
5.3	2036.53	2036.56	2036.69	2036.81	2036.94	2037.07	2037.20	2037.32	2037.45	2037.56	2037.62
5.4	2036.47	2036.50	2036.63	2036.75	2036.88	2037.00	2037.13	2037.25	2037.38	2037.49	2037.55
5.5	2036.40	2036.43	2036.56	2036.68	2036.81	2036.93	2037.06	2037.18	2037.31	2037.42	2037.48
5.6	2036.33	2036.36	2036.49	2036.61	2036.74	2036.86	2036.99	2037.11	2037.23	2037.35	2037.40
5.7	2036.26	2036.29	2036.42	2036.54	2036.67	2036.79	2036.92	2037.04	2037.16	2037.27	2037.33
5.8	2036.19	2036.22	2036.35	2036.47	2036.59	2036.72	2036.84	2036.96	2037.08	2037.19	2037.25
5.9	2036.12	2036.15	2036.27	2036.39	2036.52	2036.64	2036.76	2036.88	2037.01	2037.11	2037.17
K	2036.04	2036.08	2036.20	2036.32	2036.44	2036.56	2036.68	2036.81	2036.93	2037.03	2037.09
L	2036.00	2036.04	2036.16	2036.28	2036.40	2036.52	2036.64	2036.76	2036.88	2037.00	2037.05

PROJECT NO.	YEAR	SHEET NO.
18100-4148-04	2025	

REVISIONS

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

SEALED BY

RICHARD LOGAN COLBERT
REGISTERED ENGINEER
AGRICULTURE
COMMERCE
No. 117913
STATE OF TENNESSEE
09/23/2025

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

CONSTRUCTION ELEVATIONS
BRIDGE NO. BR-18-I0040-00.24 (LT&RT)
FED BRIDGE ID 18I00400001 & 18I00400002
INTERSTATE 40 OVER STATE ROUTE 24
CUMBERLAND COUNTY
2025

BR-133-190

Palmer ENGINEERING

PIN NO.: 105727.01

DESIGN BY:	R.L. COLBERT	DATE:	09/2025
DRAWN BY:	M.D. SIMPSON	DATE:	09/2025
SUPERVISED BY:	G.S. WILSON	DATE:	09/2025
CHECKED BY:	R.L. COLBERT	DATE:	09/2025

CONSTRUCTION ELEVATIONS PROVIDED ABOVE ACCOUNT FOR ANTICIPATED DEAD LOAD DEFLECTIONS, EXCLUDING WEIGHT FROM ANY FUTURE WEARING SURFACE (FWS).

SEE SHEETS BR-133-188 AND BR-133-189 FOR LEFT AND RIGHT BRIDGE CONSTRUCTION ELEVATION GRIDS AND SECTIONS, RESPECTIVELY.

9/23/2025 7:10:01 AM
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PROJECT NO.	YEAR	SHEET NO.
18100-4148-04	2025	

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
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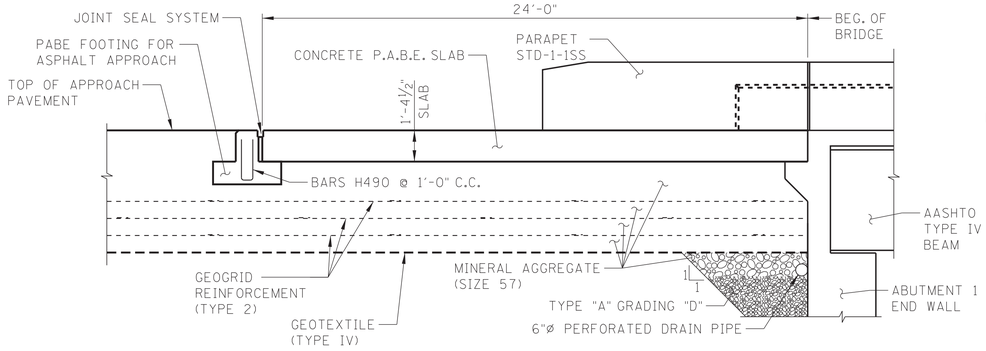
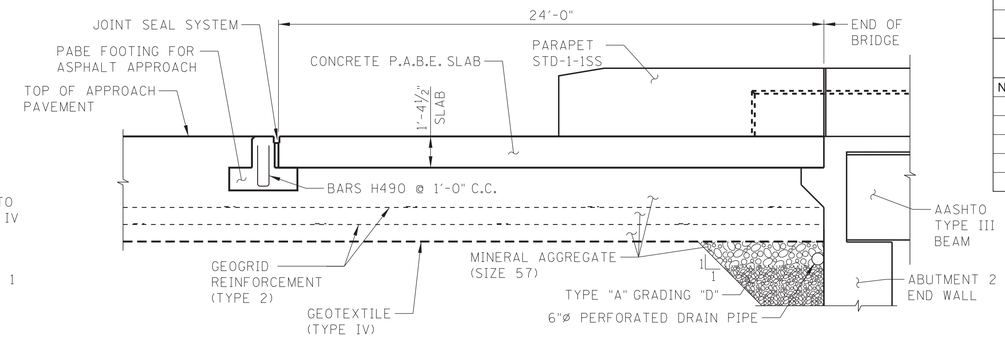


SECTION A

DETAIL ABOVE APPLIES TO ABUTMENT 1 FOR BOTH BRIDGES.

SEE TDOT STANDARD DRAWINGS STD-1-5, STD-10-1, AND STD-10-2 FOR DETAILS AND NOTES NOT SHOWN. ALL COSTS ASSOCIATED WITH CONCRETE SLEEPER SLAB TO BE INCLUDED IN THE COST OF ITEM 604-03.04, PAVEMENT @ BRIDGE ENDS, S.Y.

TYPE "A" GRADING "D" BACKFILL ASSUMED TO BE PRESENT AND REMAIN BEHIND EXISTING ABUTMENTS.

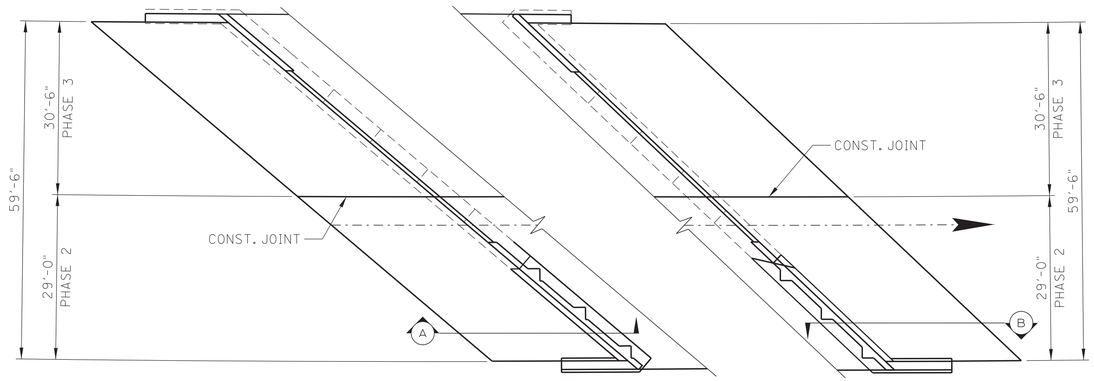


SECTION B

DETAIL ABOVE APPLIES TO ABUTMENT 2 FOR BOTH BRIDGES.

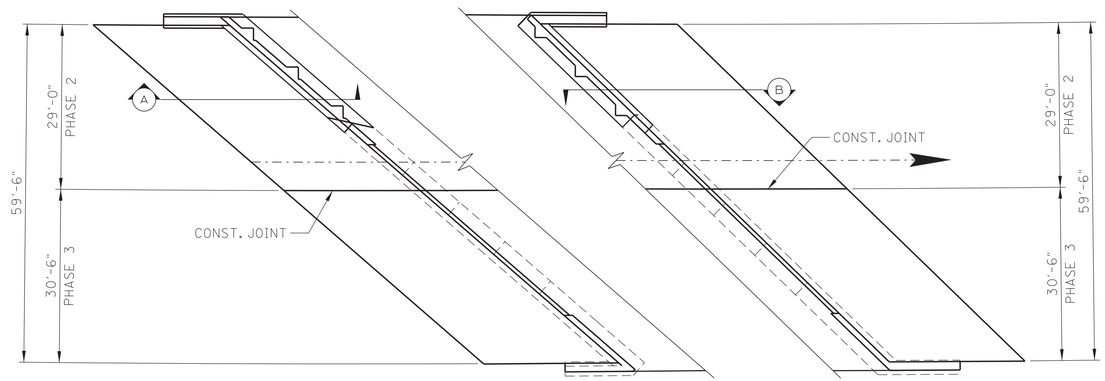
SEE TDOT STANDARD DRAWINGS STD-1-5, STD-10-1, AND STD-10-2 FOR DETAILS AND NOTES NOT SHOWN. ALL COSTS ASSOCIATED WITH CONCRETE SLEEPER SLAB TO BE INCLUDED IN THE COST OF ITEM 604-03.04, PAVEMENT @ BRIDGE ENDS, S.Y.

TYPE "A" GRADING "D" BACKFILL ASSUMED TO BE PRESENT AND REMAIN BEHIND EXISTING ABUTMENTS.



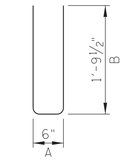
ABUTMENT 1
LEFT BRIDGE

ABUTMENT 2
LEFT BRIDGE



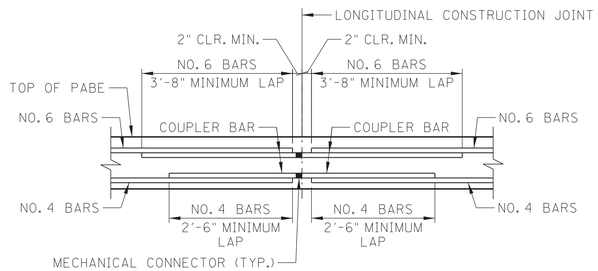
ABUTMENT 1
RIGHT BRIDGE

ABUTMENT 2
RIGHT BRIDGE



BARS H490

(TOTAL LENGTH = 4'-1")
COST OF BARS H490 TO BE INCLUDED IN THE PRICE BID FOR ITEM 604-03.04, PAVEMENT AT BRIDGE ENDS, S.Y.

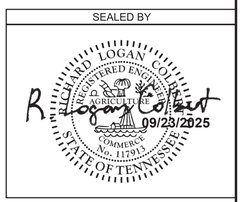


PABE COUPLER BAR DETAIL

THE COST OF MECHANICAL CONNECTORS, COUPLER BARS, AND INSTALLATION FOR CONSTRUCTION OF CONCRETE PAVEMENT AT BRIDGE ENDS SHALL BE INCLUDED IN THE PRICE BID FOR ITEM NO. 604-03.04, PAVEMENT AT BRIDGE ENDS, S.Y.

THE COST OF THE MECHANICAL CONNECTORS, COUPLER BARS, AND INSTALLATION ELSEWHERE SHALL BE INCLUDED IN THE PRICE BID FOR ITEM NO. 604-02.03, EPOXY COATED REINFORCING STEEL, LBS.

SEALED BY



STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

PAVEMENT AT BRIDGE ENDS
BRIDGE NO. BR-18-I0040-00.24 (LT&RT)
FED BRIDGE ID 18I00400001 & 18I00400002
INTERSTATE 40 OVER STATE ROUTE 24
CUMBERLAND COUNTY
2025

BR-133-191

Palmer ENGINEERING

PIN NO.:	105727.01	
DESIGN BY:	R.L. COLBERT	DATE: 09/2025
DRAWN BY:	M.D. SIMPSON	DATE: 09/2025
SUPERVISED BY:	G.S. WILSON	DATE: 09/2025
CHECKED BY:	R.L. COLBERT	DATE: 09/2025

9/23/2025 7:10:33 AM
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PROJECT NO.	YEAR	SHEET NO.
18100-4148-04	2025	

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
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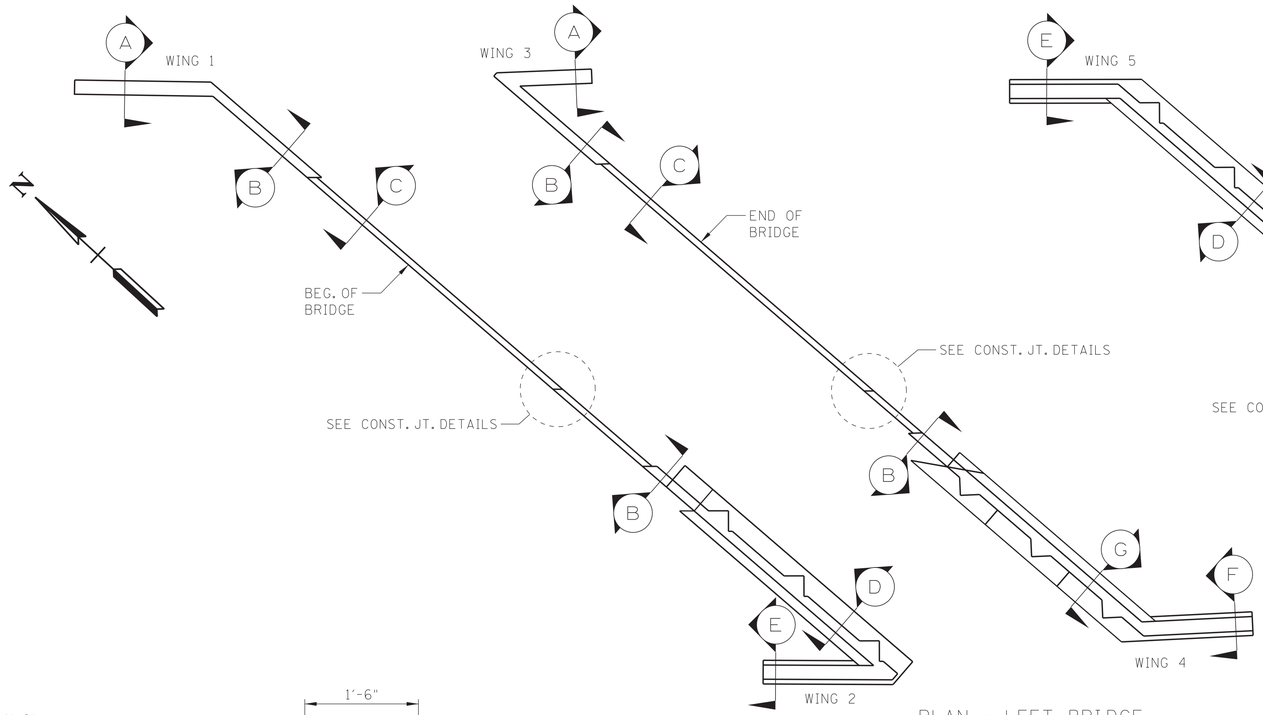
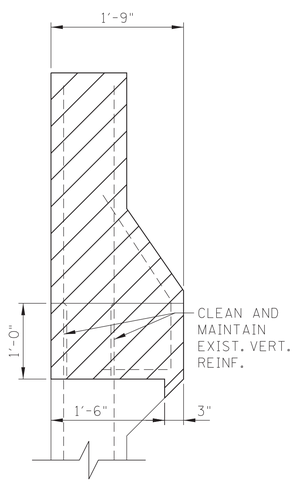
	- -		



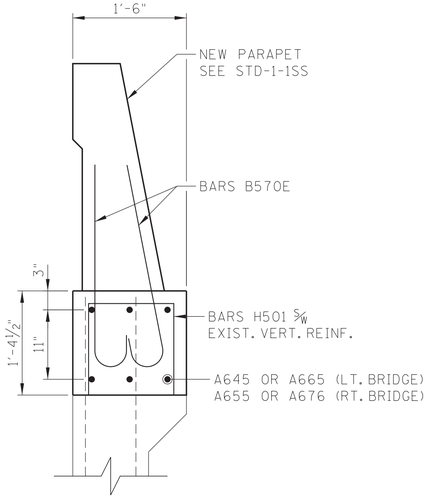
PLAN - LEFT BRIDGE

PLAN - RIGHT BRIDGE



SECTION "A"

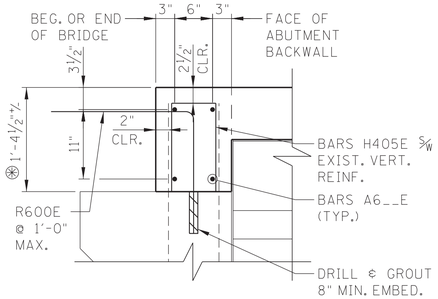
(SHOWING LIMITS OF REMOVAL)



SECTION "A"

(SHOWING NEW CONSTRUCTION)

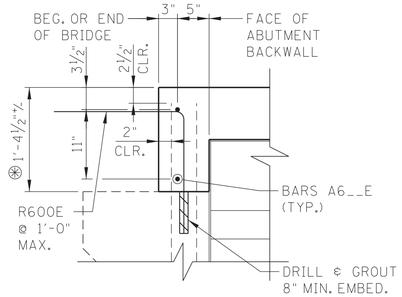
PARAPET BARS H40_ AND HA40_ NOT SHOWN FOR CLARITY.



SECTION "B"

(SHOWING NEW CONSTRUCTION)

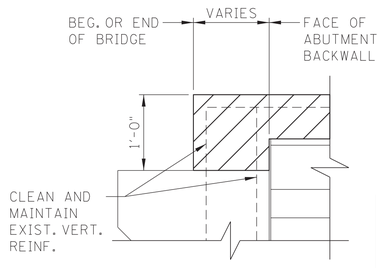
*NEW CONCRETE PAVEMENT AT BRIDGE ENDS. (PABE). SEE STD-1-5 FOR NOTES AND DETAILS. MODIFY TO ACCOUNT FOR 1'-4½" (PABE).



SECTION "C"

(SHOWING NEW CONSTRUCTION)

*NEW CONCRETE PAVEMENT AT BRIDGE ENDS. (PABE). SEE STD-1-5 FOR NOTES AND DETAILS. MODIFY TO ACCOUNT FOR 1'-4½" (PABE).



SECTIONS "B & C"

(SHOWING LIMITS OF REMOVAL)

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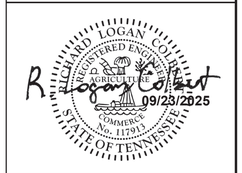

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

ABUTMENT DETAILS
BRIDGE NO. BR-18-I0040-00.24 (LT&RT)
FED BRIDGE ID 18I00400001 & 18I00400002
INTERSTATE 40 OVER STATE ROUTE 24
CUMBERLAND COUNTY
2025

BR-133-192

Palmer ENGINEERING

PIN NO.:	105727.01		
DESIGN BY:	R.L. COLBERT	DATE:	09/2025
DRAWN BY:	M.D. SIMPSON	DATE:	09/2025
SUPERVISED BY:	G.S. WILSON	DATE:	09/2025
CHECKED BY:	R.L. COLBERT	DATE:	09/2025

SEE SHEET BR-133-196 FOR SECTIONS "D", "E", "F", & "G".
SEE SHEET BR-133-195 FOR CONSTRUCTION JOINT DETAILS.
SEE SHEETS BR-133-212 THRU BR-133-214 FOR BILL OF STEEL.
SEE SHEETS BR-133-193 THRU BR-133-194 FOR MODIFICATION DETAILS AT WINGS 1, 3, 6, AND 8.

9/23/2025 7:10:35 AM
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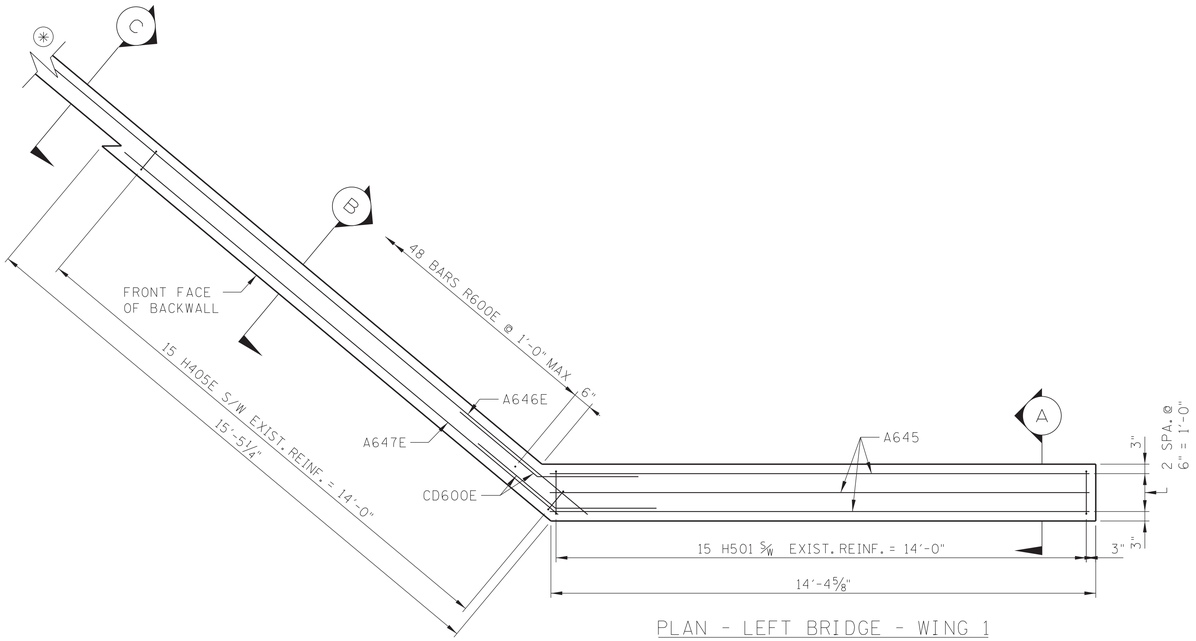
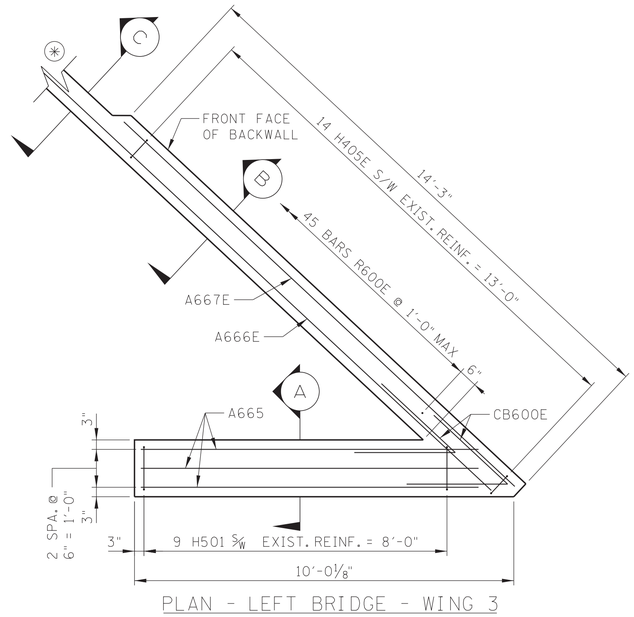


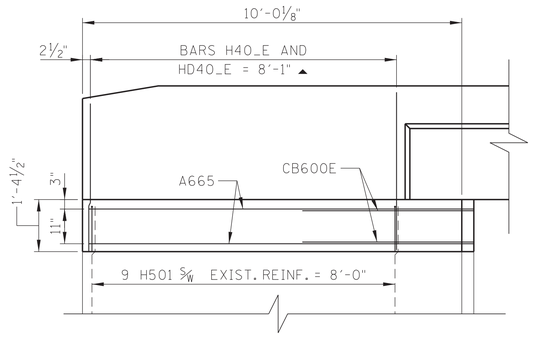
PLAN - LEFT BRIDGE - WING 1

ELEVATION - LEFT BRIDGE - WING 1

SLAB AND BEAM NOT SHOWN FOR CLARITY



PLAN - LEFT BRIDGE - WING 3



ELEVATION - LEFT BRIDGE - WING 3

SLAB AND BEAM NOT SHOWN FOR CLARITY

PROJECT NO.	YEAR	SHEET NO.
18100-4148-04	2025	

REVISIONS

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

WHEN POURING NEW CONCRETE ON TOP OF EXISTING WING WALLS, PROVISIONS SHALL BE MADE FOR SETTING REINFORCING STEEL FOR WINGPOSTS AND PARAPETS.

COST OF THE PARAPET AND POST IS TO BE INCLUDED IN THE UNIT PRICE BID FOR THE PARAPET SYSTEM.

SEE STD-1-1SS FOR DETAILS AND NOTES NOT SHOWN.

SEE BILL OF STEEL ON SHEETS BR-133-212 THRU BR-133-214.

SEE SHEET BR-133-192 FOR SECTIONS "A", "B", AND "C".

⊛ SEE SHEET BR-133-195 FOR CONSTRUCTION JOINT DETAILS.

▲ DENOTES: SEE STD-1-1SS FOR PLACEMENT OF BARS FOR PARAPET ENDPOST.

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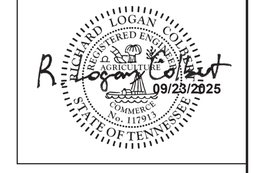

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

WING WALL MODIFICATIONS
BRIDGE NO. BR-18-I0040-00.24 (LT&RT)
FED BRIDGE ID 18I00400001 & 18I00400002
INTERSTATE 40 OVER STATE ROUTE 24
CUMBERLAND COUNTY
2025

BR-133-193

Palmer ENGINEERING

PIN NO.:	105727.01		
DESIGN BY:	R.L. COLBERT	DATE:	09/2025
DRAWN BY:	M.D. SIMPSON	DATE:	09/2025
SUPERVISED BY:	G.S. WILSON	DATE:	09/2025
CHECKED BY:	R.L. COLBERT	DATE:	09/2025

9/23/2025 7:10:36 AM
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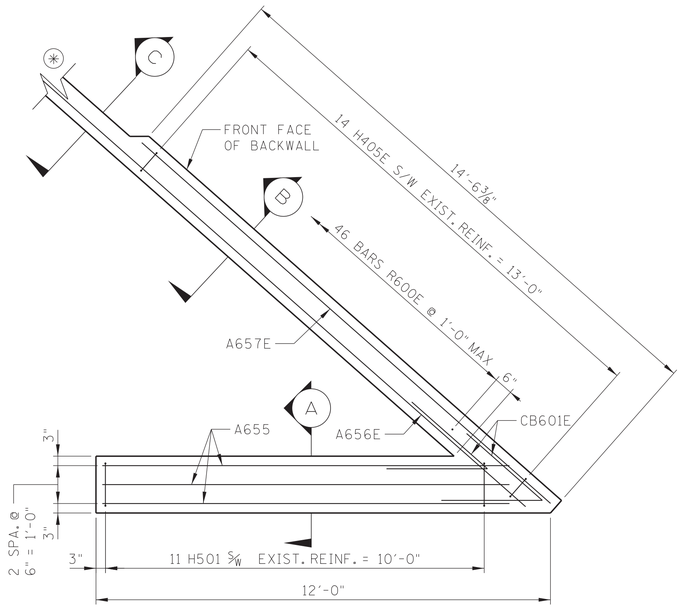
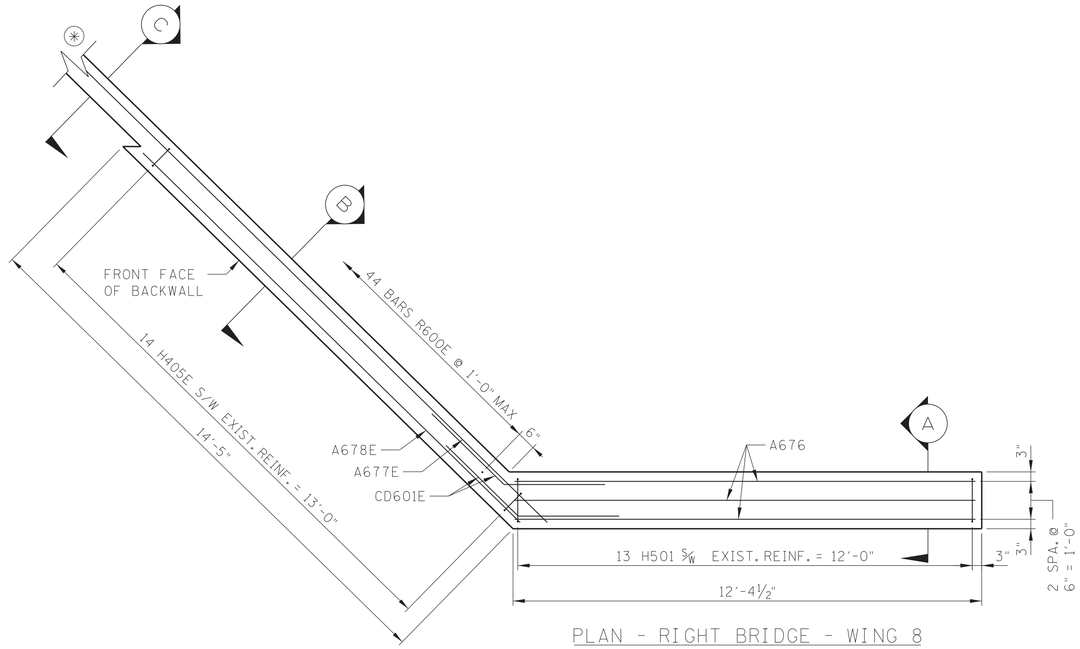
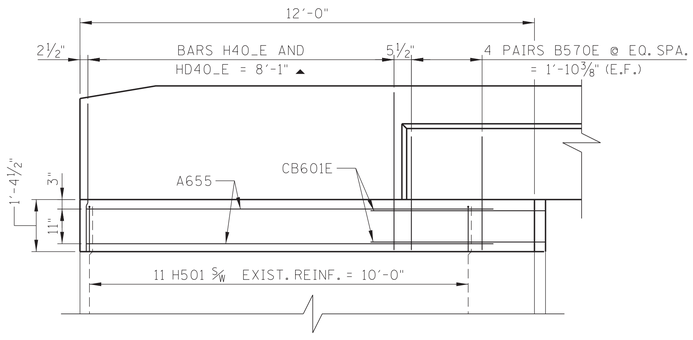


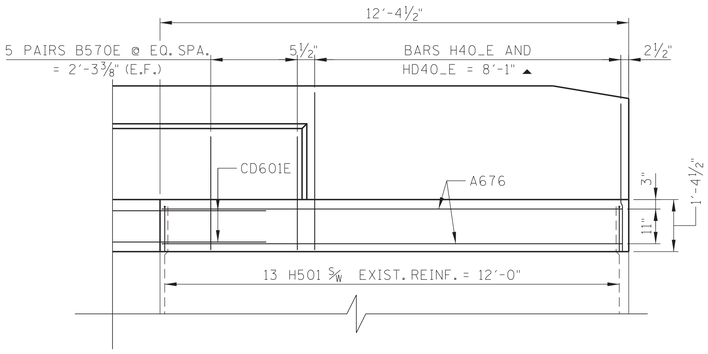
PLAN - RIGHT BRIDGE - WING 6



PLAN - RIGHT BRIDGE - WING 8



ELEVATION - RIGHT BRIDGE - WING 6
SLAB AND BEAM NOT SHOWN FOR CLARITY



ELEVATION - RIGHT BRIDGE - WING 8
SLAB AND BEAM NOT SHOWN FOR CLARITY

PROJECT NO.	YEAR	SHEET NO.
18100-4148-04	2025	

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
	- -		
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WHEN POURING NEW CONCRETE ON TOP OF EXISTING WING WALLS, PROVISIONS SHALL BE MADE FOR SETTING REINFORCING STEEL FOR WINGPOSTS AND PARAPETS.

COST OF THE PARAPET AND POST IS TO BE INCLUDED IN THE UNIT PRICE BID FOR THE PARAPET SYSTEM.

SEE STD-1-1SS FOR DETAILS AND NOTES NOT SHOWN.

SEE BILL OF STEEL ON SHEETS BR-133-212 THRU BR-133-214.

SEE SHEET BR-133-192 FOR SECTIONS "A", "B", AND "C".

⊛ SEE SHEET BR-133-195 FOR CONSTRUCTION JOINT DETAILS.

▲ DENOTES: SEE STD-1-1SS FOR PLACEMENT OF BARS FOR PARAPET ENDPOST.

SEALED BY

RICHARD LOGAN COLBERT — REGISTERED ENGINEER — AGRICULTURE — COMMERCE — No. 117913 — STATE OF TENNESSEE

R. Logan Colbert 09/23/2025

Palmer ENGINEERING

PIN NO.:	105727.01		
DESIGN BY:	R.L. COLBERT	DATE:	09/2025
DRAWN BY:	M.D. SIMPSON	DATE:	09/2025
SUPERVISED BY:	G.S. WILSON	DATE:	09/2025
CHECKED BY:	R.L. COLBERT	DATE:	09/2025

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

WING WALL MODIFICATIONS
BRIDGE NO. BR-18-I0040-00.24 (LT&RT)
FED BRIDGE ID 18I00400001 & 18I00400002
INTERSTATE 40 OVER STATE ROUTE 24
CUMBERLAND COUNTY
2025

BR-133-194

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PROJECT NO.	YEAR	SHEET NO.
18100-4148-04	2025	

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
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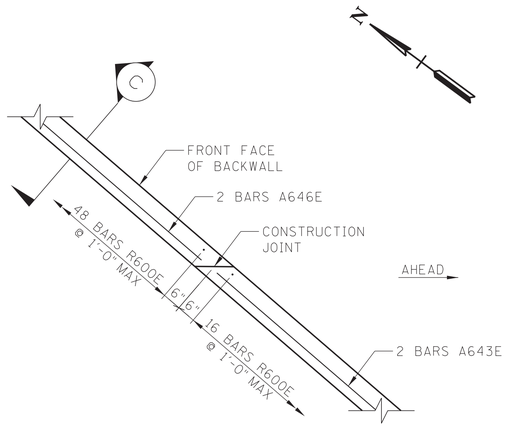
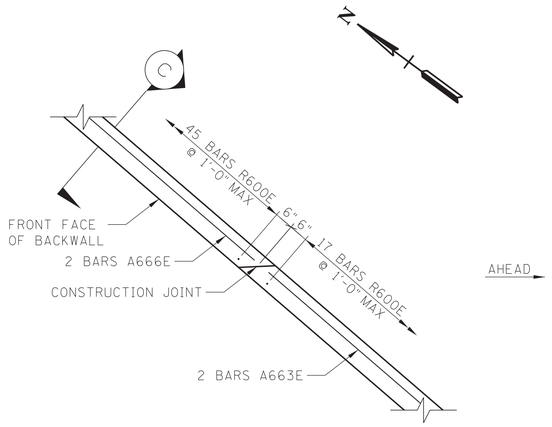


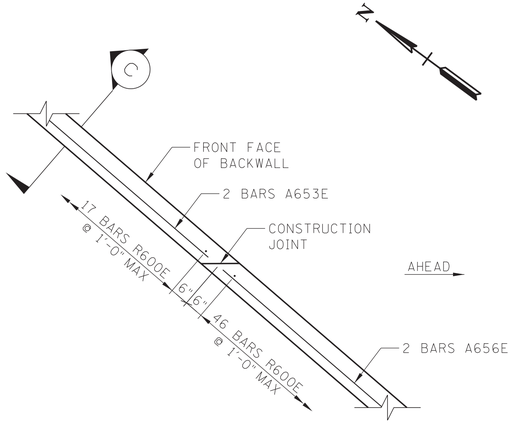
ABUT 1 - LEFT BRIDGE

SEE SECTION "C" ON SHEET
BR-133-192



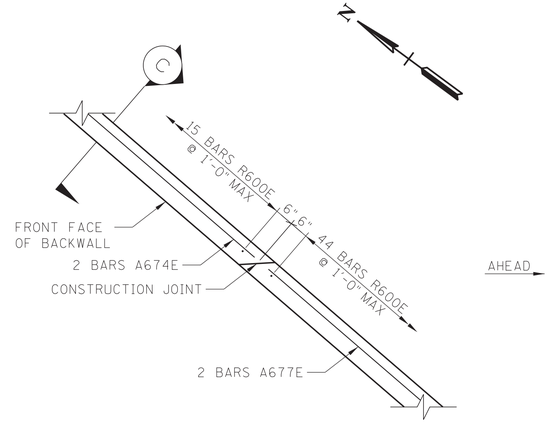
ABUT 2 - LEFT BRIDGE

SEE SECTION "C" ON SHEET
BR-133-192



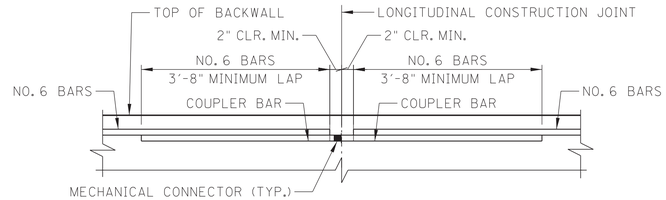
ABUT 1 - RIGHT BRIDGE

SEE SECTION "C" ON SHEET
BR-133-192



ABUT 2 - RIGHT BRIDGE

SEE SECTION "C" ON SHEET
BR-133-192

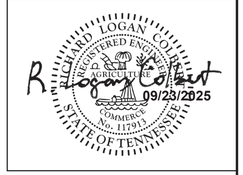


BACKWALL COUPLER BAR DETAIL

ALL HORIZONTAL BACKWALL BARS TO BE CONNECTED AT CONSTRUCTION JOINT USING MECHANICAL CONNECTION.

THE COST OF MECHANICAL CONNECTORS, COUPLER BARS, AND INSTALLATION FOR CONSTRUCTION OF CONCRETE CONCRETE BACKWALL MODIFICATIONS SHALL BE INCLUDED IN THE PRICE BID FOR ITEM NO. 604-02.03, EPOXY COATED REINFORCING STEEL, LBS.

SEALED BY



STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

CONSTRUCTION JOINT DETAILS
BRIDGE NO. BR-18-I0040-00.24 (LT&RT)
FED BRIDGE ID 18I00400001 & 18I00400002
INTERSTATE 40 OVER STATE ROUTE 24
CUMBERLAND COUNTY
2025

BR-133-195

Palmer ENGINEERING

PIN NO.:	105727.01		
DESIGN BY:	R.L. COLBERT	DATE:	09/2025
DRAWN BY:	M.D. SIMPSON	DATE:	09/2025
SUPERVISED BY:	G.S. WILSON	DATE:	09/2025
CHECKED BY:	R.L. COLBERT	DATE:	09/2025

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PROJECT NO.	YEAR	SHEET NO.
18100-4148-04	2025	

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
	- -		
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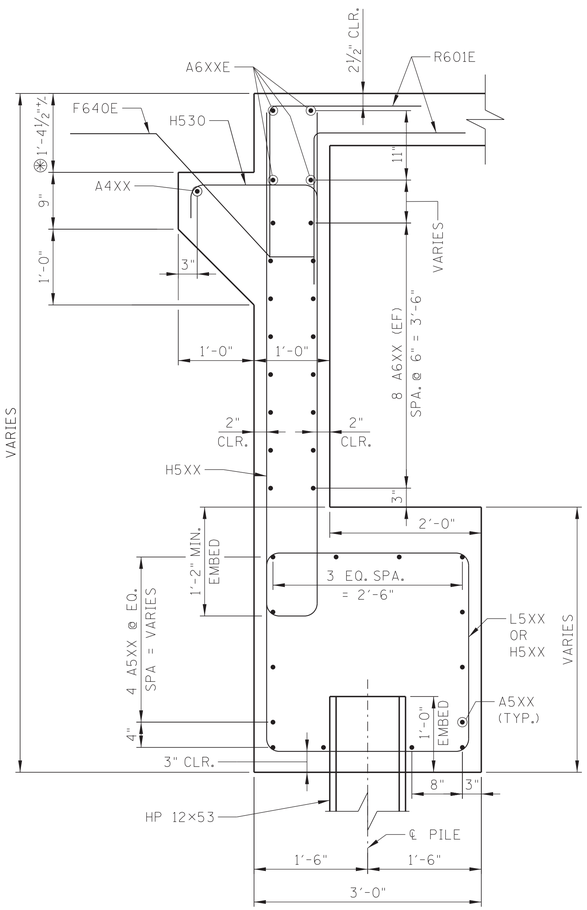
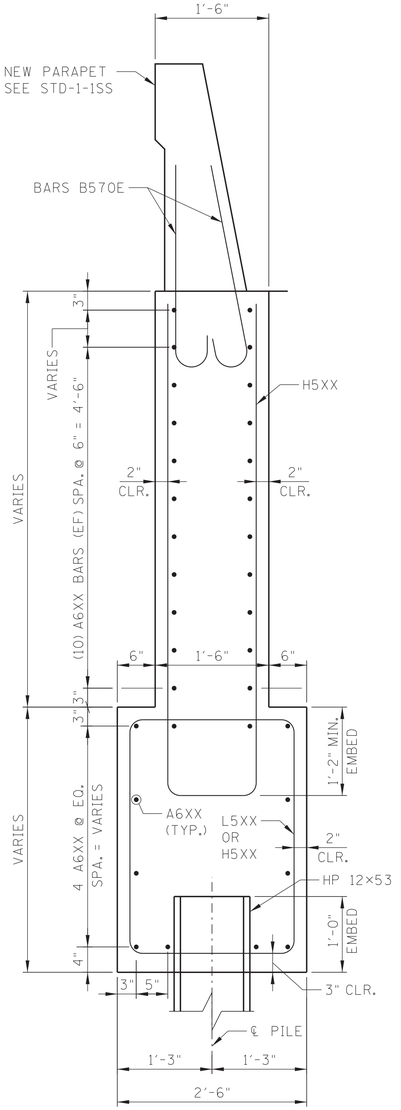


SECTION "D"



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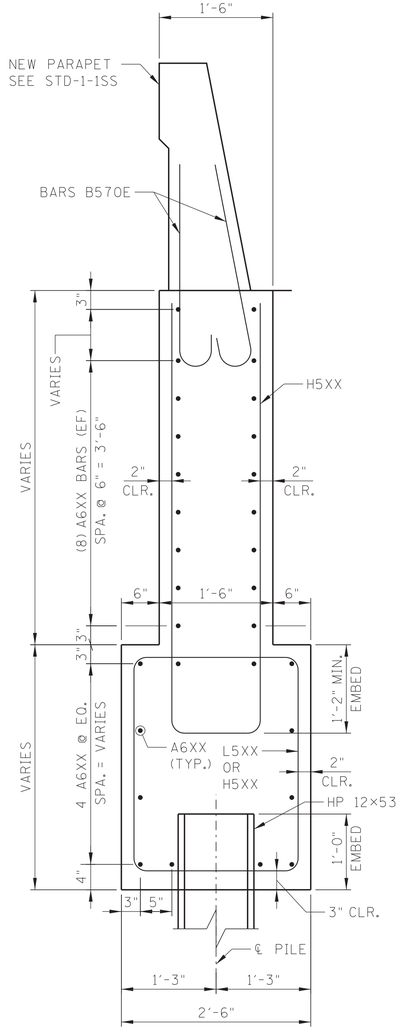

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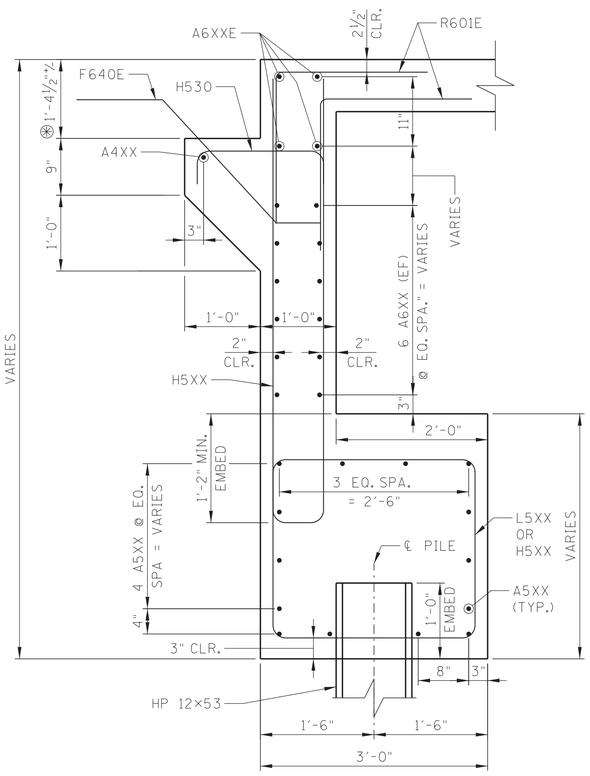

SECTION "G"

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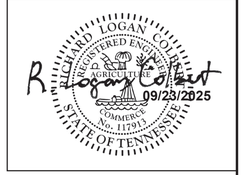

⊛ NEW CONCRETE PAVEMENT AT BRIDGE ENDS. (PABE). SEE SHEET BR-133-191 AND STD-1-5 FOR NOTES AND DETAILS. MODIFY TO ACCOUNT FOR 1'-4½" (PABE).

EF = EACH FACE
NS = NEAR SIDE
FS = FAR SIDE

NOTES:

ELASTOMERIC PADS SHALL BE PLACED 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.

WHEN POURING WINGWALLS, PROVISIONS SHALL BE MADE FOR SETTING REINFORCING STEEL FOR WINGPOSTS AND PARAPETS. FOR DETAILS OF WINGPOSTS AND PARAPETS, SEE STD. DWG. STD-1-1SS.

NOT LESS THAN HALF THE SLAB IN THE END SPANS SHALL BE POURED PRIOR TO PLACEMENT OR CONCURRENTLY WITH PLACEMENT OF ANY PART OF THE ABUTMENT ENDWALLS. THE TOP 1'-4½" INCHES OF THE ENDWALLS SHALL BE POURED CONCURRENTLY WITH THE END OF SLAB.

THE COST OF THE PARAPET AND POST IS TO BE INCLUDED IN THE UNIT PRICE BID FOR THE PARAPET SYSTEM.

Palmer ENGINEERING

PIN NO.:	105727.01		
DESIGN BY:	R.L. COLBERT	DATE:	09/2025
DRAWN BY:	M.D. SIMPSON	DATE:	09/2025
SUPERVISED BY:	G.S. WILSON	DATE:	09/2025
CHECKED BY:	R.L. COLBERT	DATE:	09/2025

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

ABUTMENT SECTIONS
BRIDGE NO. BR-18-I0040-00.24 (LT&RT)
FED BRIDGE ID 18I00400001 & 18I00400002
INTERSTATE 40 OVER STATE ROUTE 24
CUMBERLAND COUNTY
2025

BR-133-196

9/23/2025 7:10:42 AM
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SEE SHEET BR-133-196 FOR SECTION "D".
SEE SHEET BR-133-198 FOR SECTIONS "H" & "I".
SEE SHEET BR-133-199 FOR ELEVATION "A" & FOOTING CONNECTION DETAIL.

(*) SEE SHEET BR-133-195 FOR BACKWALL CONSTRUCTION JOINT DETAILS.

EF = EACH FACE
NS = NEAR SIDE
FS = FAR SIDE

PROJECT NO.	YEAR	SHEET NO.
18100-4148-04	2025	

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
	- -		
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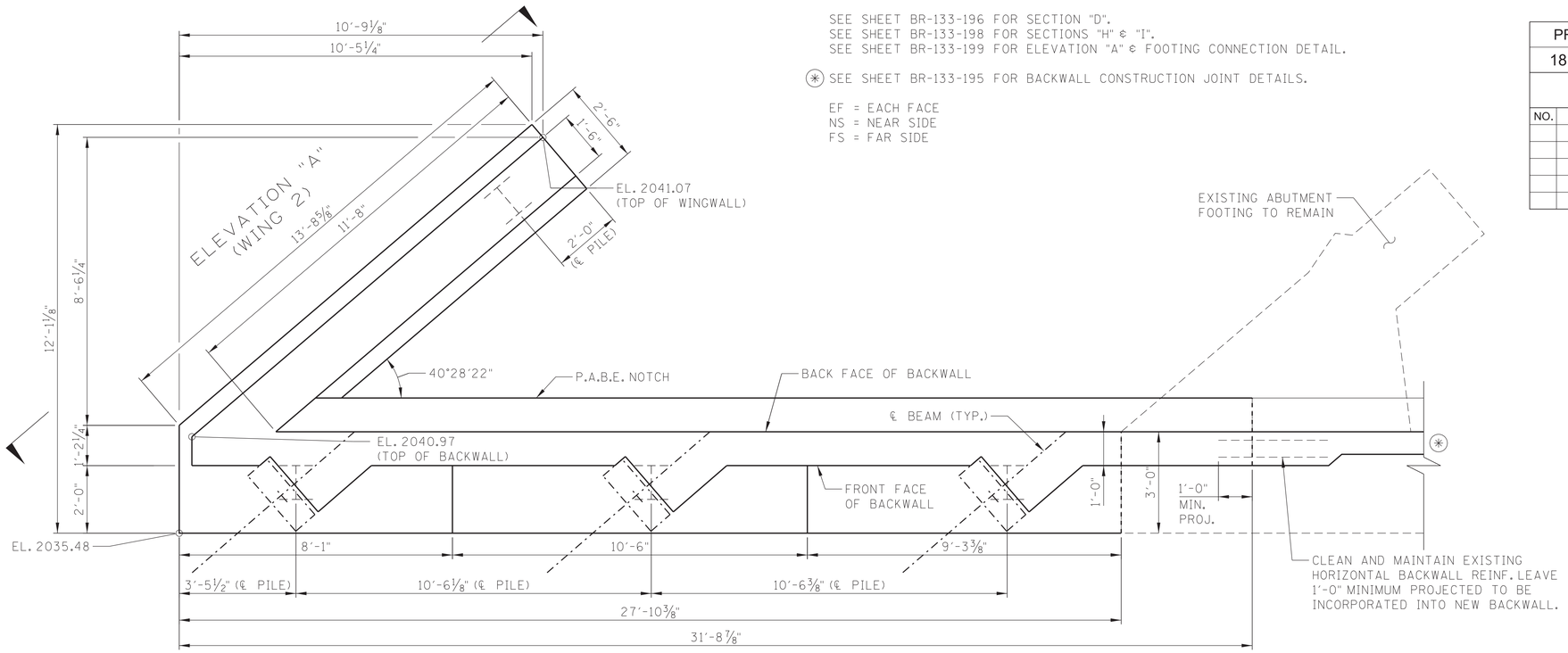
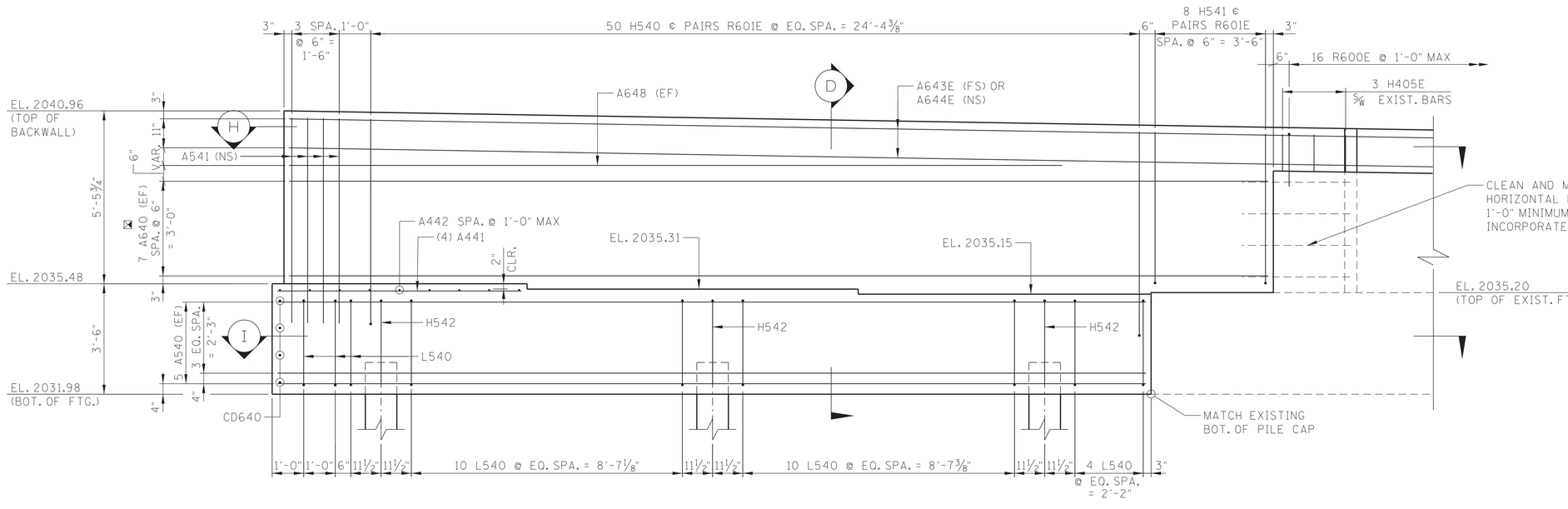


ABUTMENT 1 PLAN - LEFT BRIDGE



ABUTMENT 1 ELEVATION - LEFT BRIDGE

(LOOKING BACK)

☒ DENOTES: BOTTOM TWO (NS) BARS TO BE FIELD CUT AS NEEDED TO AVOID BOTTOM FLANGE OF PRESTRESSED I-BEAMS.

SEALED BY



STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

LEFT BRIDGE - ABUTMENT 1 DETAILS
BRIDGE NO. BR-18-I0040-00.24 (LT&RT)
FED BRIDGE ID 18I00400001 & 18I00400002
INTERSTATE 40 OVER STATE ROUTE 24
CUMBERLAND COUNTY
2025

BR-133-197

Palmer ENGINEERING

PIN NO.:	105727.01		
DESIGN BY:	R.L. COLBERT	DATE:	09/2025
DRAWN BY:	M.D. SIMPSON	DATE:	09/2025
SUPERVISED BY:	G.S. WILSON	DATE:	09/2025
CHECKED BY:	R.L. COLBERT	DATE:	09/2025

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PROJECT NO.	YEAR	SHEET NO.
18100-4148-04	2025	

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
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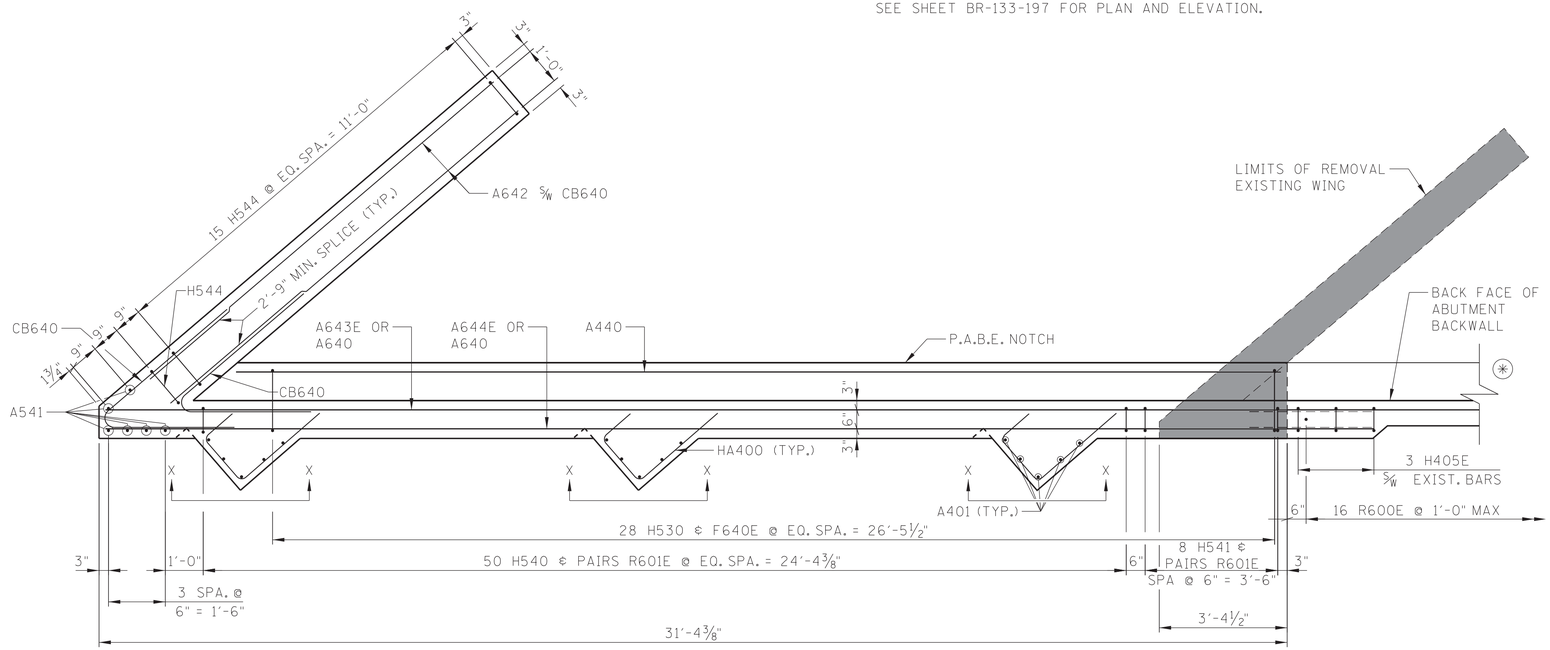
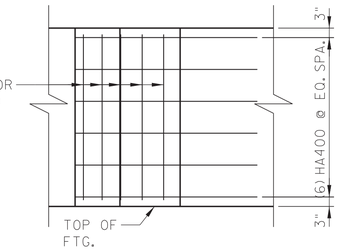
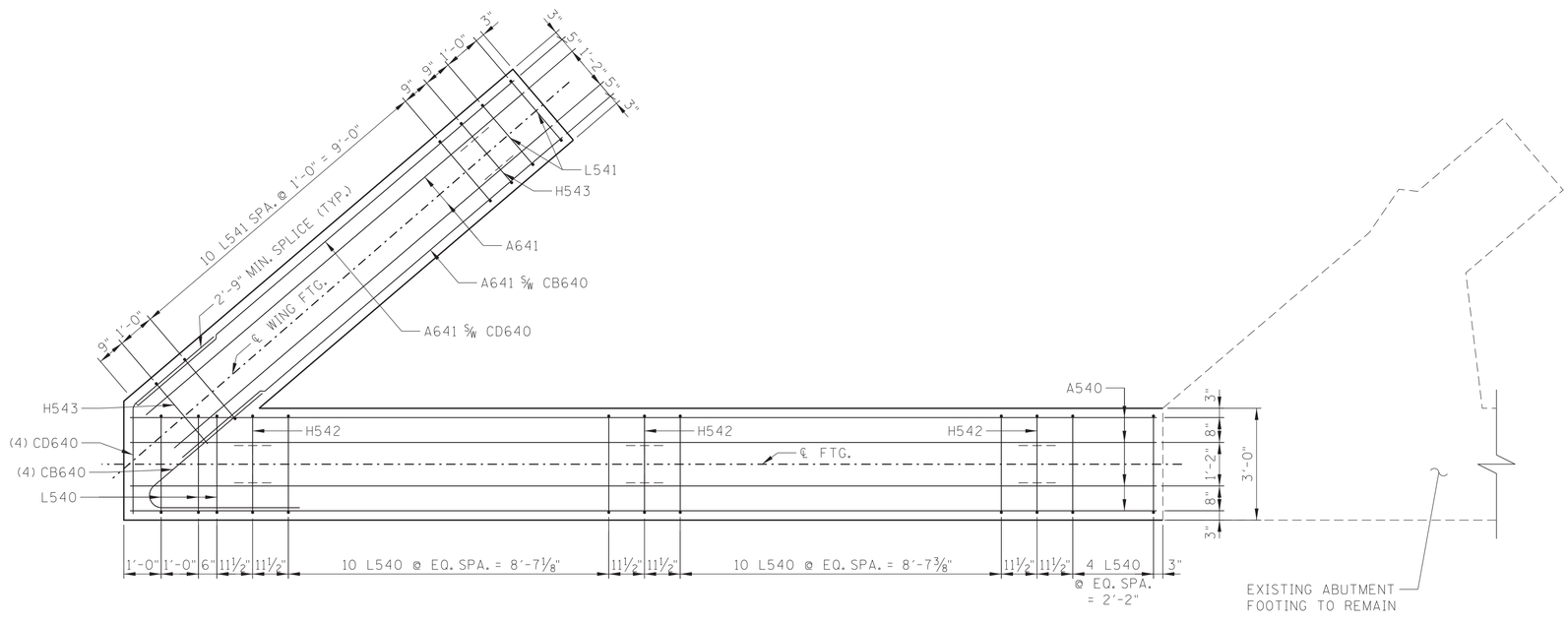


SECTION "H"



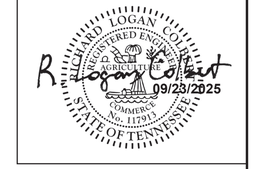
ELEVATION X-X

BARS A400 TO BE FIELD BENT TO MATCH FRONT FACE OF BACKWALL



SECTION "I"

SEALED BY



STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

LEFT BRIDGE - ABUTMENT 1 DETAILS
BRIDGE NO. BR-18-I0040-00.24 (LT&RT)
FED BRIDGE ID 18I00400001 & 18I00400002
INTERSTATE 40 OVER STATE ROUTE 24
CUMBERLAND COUNTY
2025

BR-133-198

Palmer ENGINEERING

PIN NO.:	105727.01		
DESIGN BY:	R.L. COLBERT	DATE:	09/2025
DRAWN BY:	M.D. SIMPSON	DATE:	09/2025
SUPERVISED BY:	G.S. WILSON	DATE:	09/2025
CHECKED BY:	R.L. COLBERT	DATE:	09/2025

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SEE SHEET BR-133-196 FOR SECTION "E".

PROJECT NO.	YEAR	SHEET NO.
18100-4148-04	2025	

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
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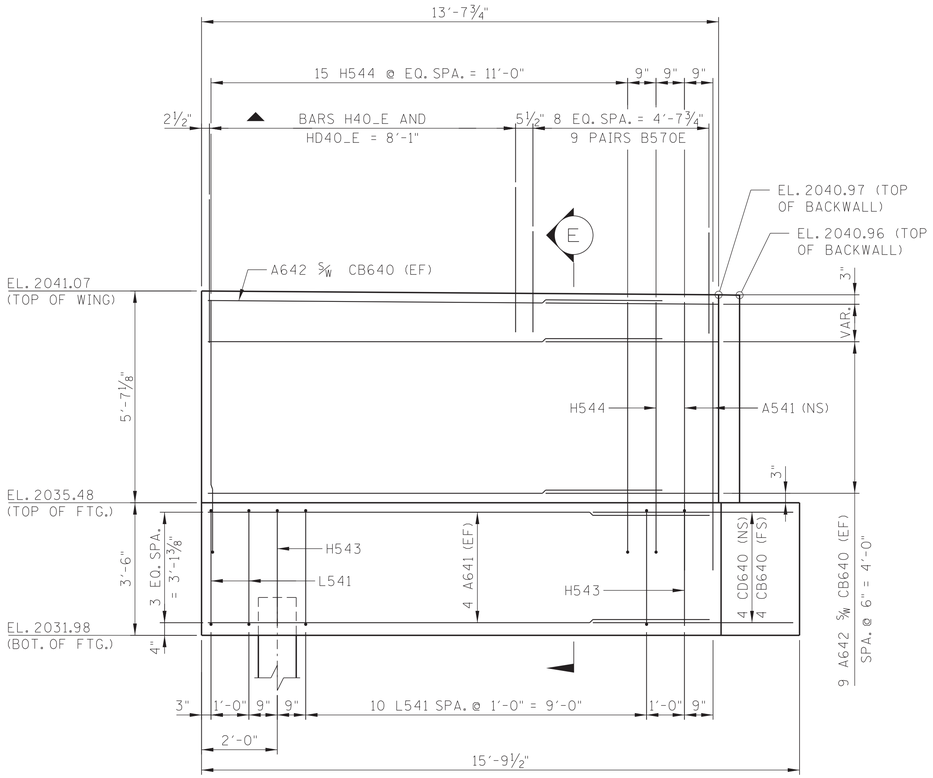
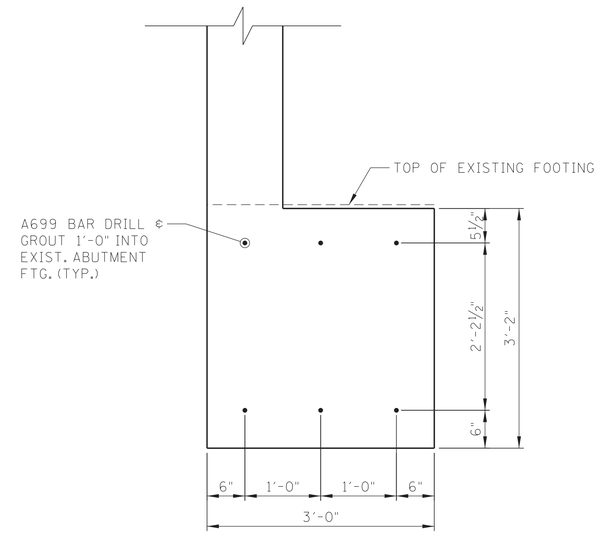


ELEVATION "A" (WING 2)

▲ DENOTES: SEE STD-1-1SS FOR PLACEMENT OF BARS FOR PARAPET ENDPOST.

EF = EACH FACE
NS = NEAR SIDE
FS = FAR SIDE



FOOTING CONNECTION DETAIL

BARS NOT SHOWN ELSEWHERE FOR CLARITY

THIS DETAIL IS AT THE INTERFACE BETWEEN THE EXISTING AND PROPOSED ABUTMENT.

SEALED BY

RICHARD LOGAN COLBERT — REGISTERED ENGINEER — AGRICULTURE — COMMERCE — No. 117913 — STATE OF TENNESSEE

09/23/2025

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

LEFT BRIDGE - ABUTMENT 1 DETAILS
BRIDGE NO. BR-18-I0040-00.24 (LT&RT)
FED BRIDGE ID 18I00400001 & 18I00400002
INTERSTATE 40 OVER STATE ROUTE 24
CUMBERLAND COUNTY
2025

BR-133-199

Palmer ENGINEERING

PIN NO.:	105727.01	
DESIGN BY:	R.L. COLBERT	DATE: 09/2025
DRAWN BY:	M.D. SIMPSON	DATE: 09/2025
SUPERVISED BY:	G.S. WILSON	DATE: 09/2025
CHECKED BY:	R.L. COLBERT	DATE: 09/2025

9/23/2025 7:10:47 AM
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SEE SHEET BR-133-196 FOR SECTION "G".
SEE SHEET BR-133-201 FOR SECTIONS "L" & "M".
SEE SHEET BR-133-202 FOR ELEVATION "C" & FOOTING CONNECTION DETAIL.

(*) SEE SHEET BR-133-195 FOR BACKWALL CONSTRUCTION JOINT DETAILS.

EF = EACH FACE
NS = NEAR SIDE
FS = FAR SIDE

PROJECT NO.	YEAR	SHEET NO.
18100-4148-04	2025	

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
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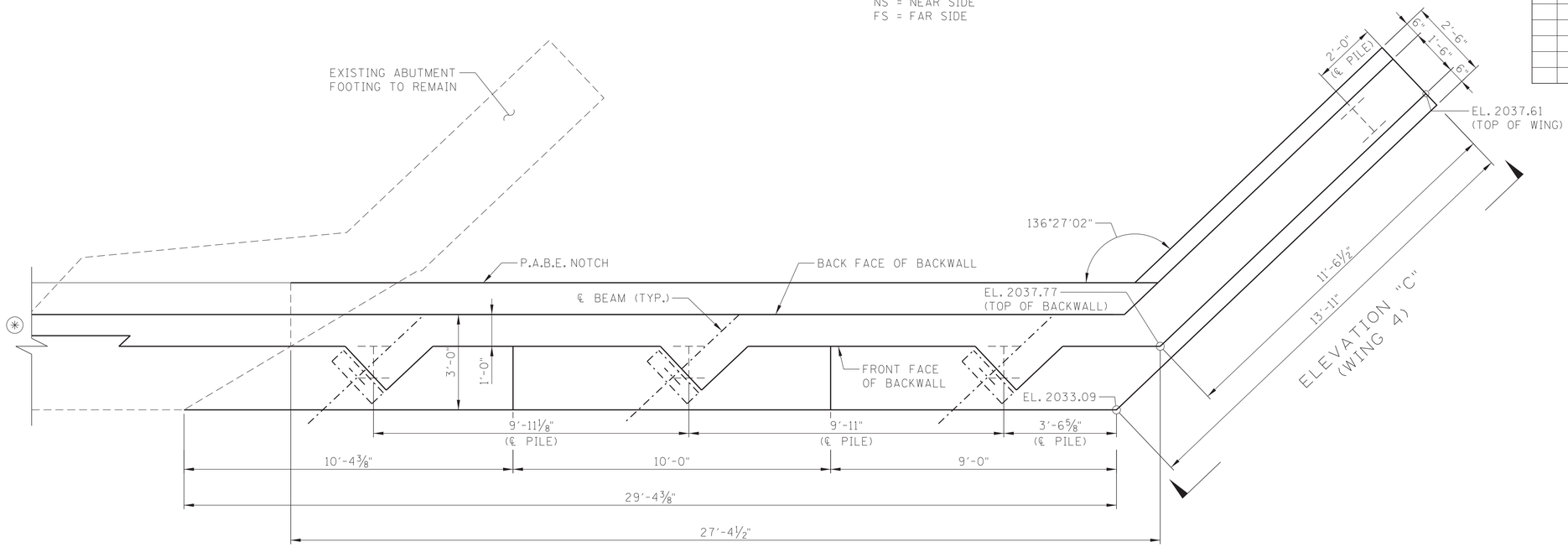
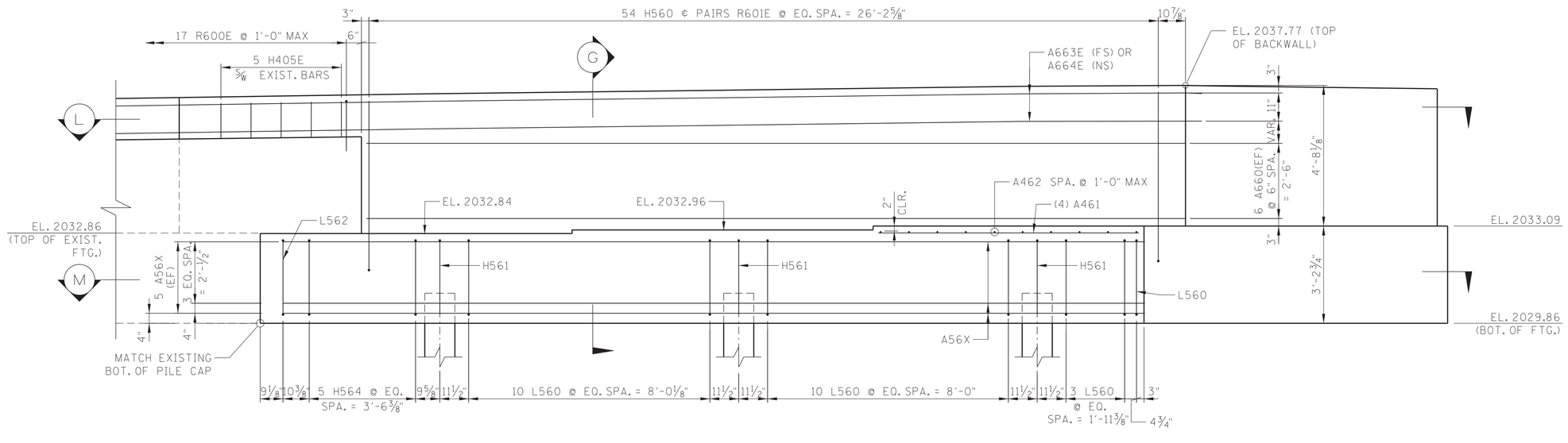


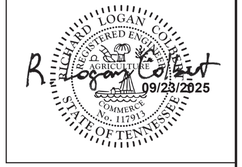
ABUTMENT 2 PLAN - LEFT BRIDGE



ABUTMENT 2 ELEVATION - LEFT BRIDGE

(LOOKING AHEAD)

SEALED BY



STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

LEFT BRIDGE - ABUTMENT 2 DETAILS
BRIDGE NO. BR-18-I0040-00.24 (LT&RT)
FED BRIDGE ID 18I00400001 & 18I00400002
INTERSTATE 40 OVER STATE ROUTE 24
CUMBERLAND COUNTY
2025

BR-133-200

Palmer ENGINEERING

PIN NO.:	105727.01		
DESIGN BY:	R.L. COLBERT	DATE:	09/2025
DRAWN BY:	M.D. SIMPSON	DATE:	09/2025
SUPERVISED BY:	G.S. WILSON	DATE:	09/2025
CHECKED BY:	R.L. COLBERT	DATE:	09/2025

9/23/2025 7:10:48 AM
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PROJECT NO.	YEAR	SHEET NO.
18100-4148-04	2025	

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
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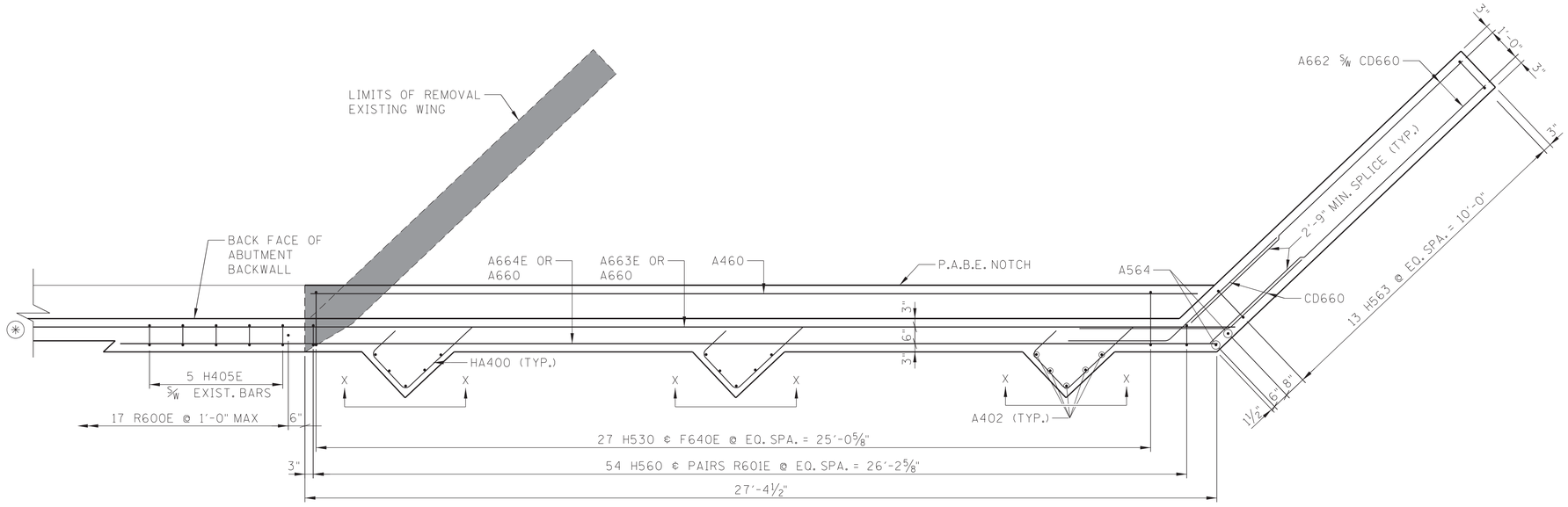
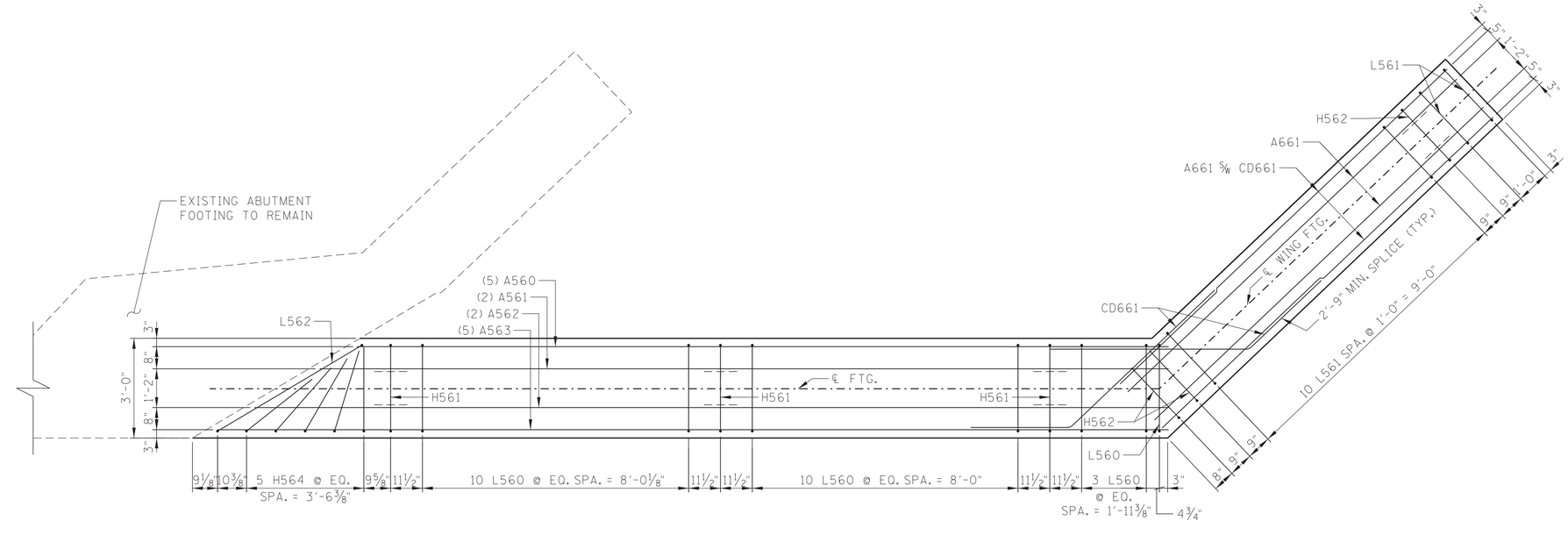


SECTION "L"

ELEVATION X-X
SEE SHEET BR-133-198



SECTION "M"

SEALED BY

Richard Logan Colbert
09/23/2025

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

LEFT BRIDGE - ABUTMENT 2 DETAILS
BRIDGE NO. BR-18-I0040-00.24 (LT&RT)
FED BRIDGE ID 18I00400001 & 18I00400002
INTERSTATE 40 OVER STATE ROUTE 24
CUMBERLAND COUNTY
2025

BR-133-201

Palmer ENGINEERING

PIN NO.:	105727.01	
DESIGN BY:	R.L. COLBERT	DATE: 09/2025
DRAWN BY:	M.D. SIMPSON	DATE: 09/2025
SUPERVISED BY:	G.S. WILSON	DATE: 09/2025
CHECKED BY:	R.L. COLBERT	DATE: 09/2025

9/23/2025 7:10:50 AM
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SEE SHEET BR-133-196 FOR SECTION "F".

PROJECT NO.	YEAR	SHEET NO.
18100-4148-04	2025	

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
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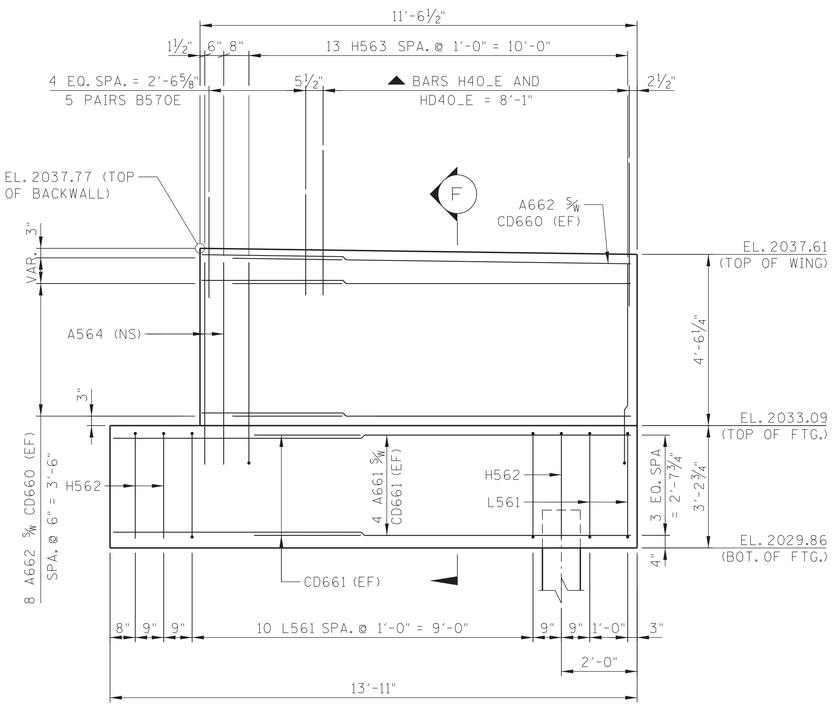
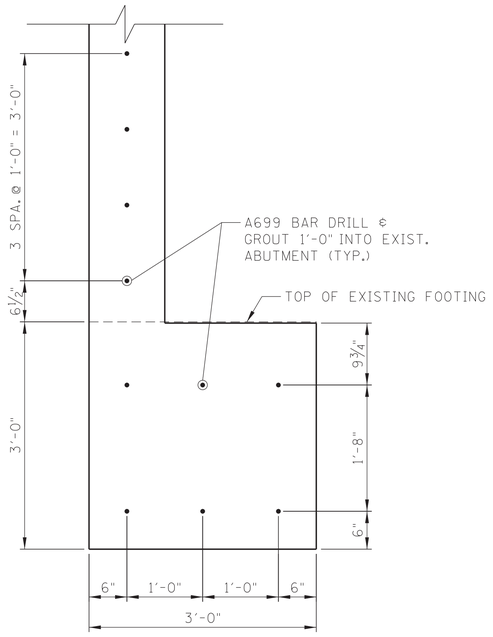


ELEVATION "C" (WING 4)

▲ DENOTES: SEE STD-1-1SS FOR PLACEMENT OF BARS FOR PARAPET ENDPOST.

EF = EACH FACE
NS = NEAR SIDE
FS = FAR SIDE

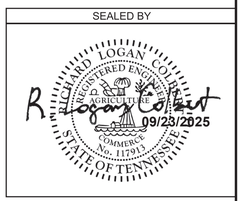


FOOTING CONNECTION DETAIL

BARS NOT SHOWN ELSEWHERE FOR CLARITY

THIS DETAIL IS AT THE INTERFACE BETWEEN THE EXISTING AND PROPOSED ABUTMENT.

SEALED BY



STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

LEFT BRIDGE - ABUTMENT 2 DETAILS
BRIDGE NO. BR-18-I0040-00.24 (LT&RT)
FED BRIDGE ID 18I00400001 & 18I00400002
INTERSTATE 40 OVER STATE ROUTE 24
CUMBERLAND COUNTY
2025

BR-133-202

Palmer ENGINEERING

PIN NO.:	105727.01	
DESIGN BY:	R.L. COLBERT	DATE: 09/2025
DRAWN BY:	M.D. SIMPSON	DATE: 09/2025
SUPERVISED BY:	G.S. WILSON	DATE: 09/2025
CHECKED BY:	R.L. COLBERT	DATE: 09/2025

9/23/2025 7:10:51 AM
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SEE SHEET BR-133-196 FOR SECTION "D".
SEE SHEET BR-133-204 FOR SECTIONS "J" & "K".
SEE SHEET BR-133-205 FOR ELEVATION "B" & FOOTING CONNECTION DETAIL.

(*) SEE SHEET BR-133-195 FOR BACKWALL CONSTRUCTION JOINT DETAILS.

EF = EACH FACE
NS = NEAR SIDE
FS = FAR SIDE

PROJECT NO.	YEAR	SHEET NO.
18100-4148-04	2025	

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
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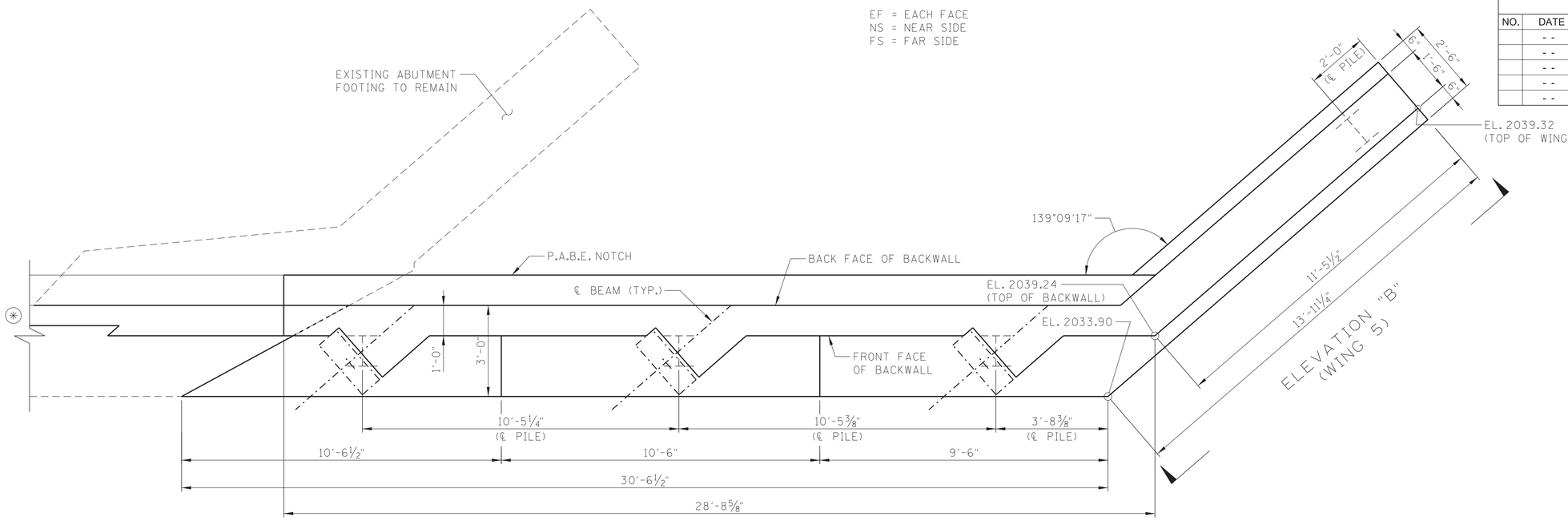
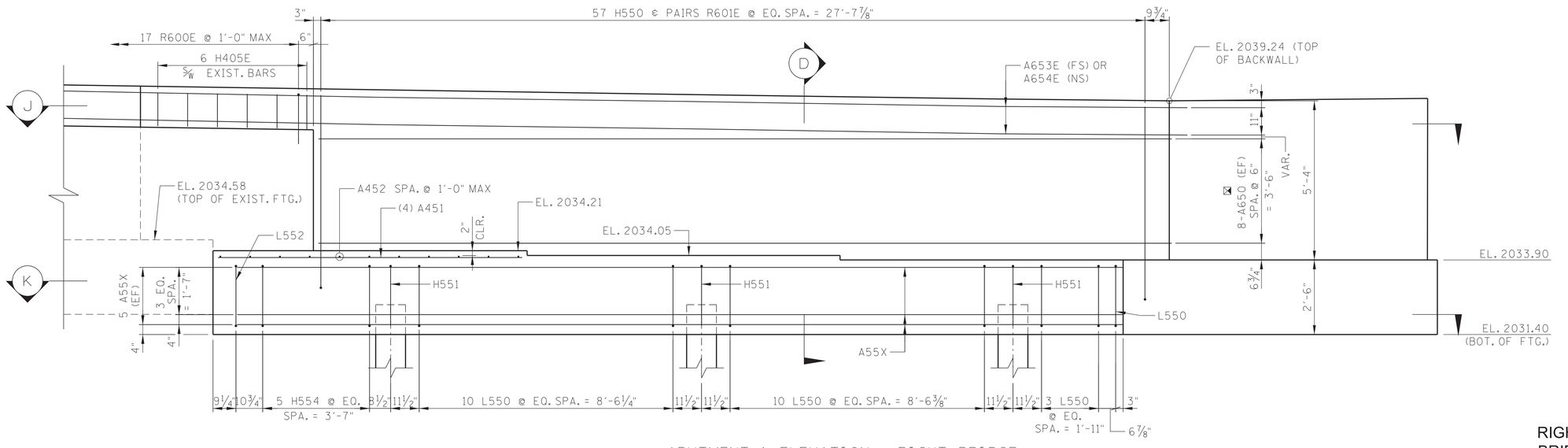


ABUTMENT 1 PLAN - RIGHT BRIDGE



ABUTMENT 1 ELEVATION - RIGHT BRIDGE

(LOOKING BACK)

☒ DENOTES: BOTTOM TWO (NS) BARS TO BE FIELD CUT AS NEEDED TO AVOID BOTTOM FLANGE OF PRESTRESSED I-BEAMS.

SEALED BY

RICHARD LOGAN COLBERT — REGISTERED ENGINEER — STATE OF TENNESSEE — No. 117911 — 09/23/2025

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

RIGHT BRIDGE - ABUTMENT 1 DETAILS
BRIDGE NO. BR-18-I0040-00.24 (LT&RT)
FED BRIDGE ID 18I00400001 & 18I00400002
INTERSTATE 40 OVER STATE ROUTE 24
CUMBERLAND COUNTY
2025

BR-133-203

Palmer ENGINEERING

PIN NO.:	105727.01		
DESIGN BY:	R.L. COLBERT	DATE:	09/2025
DRAWN BY:	M.D. SIMPSON	DATE:	09/2025
SUPERVISED BY:	G.S. WILSON	DATE:	09/2025
CHECKED BY:	R.L. COLBERT	DATE:	09/2025

9/23/2025 7:10:52 AM
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PROJECT NO.	YEAR	SHEET NO.
18100-4148-04	2025	

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
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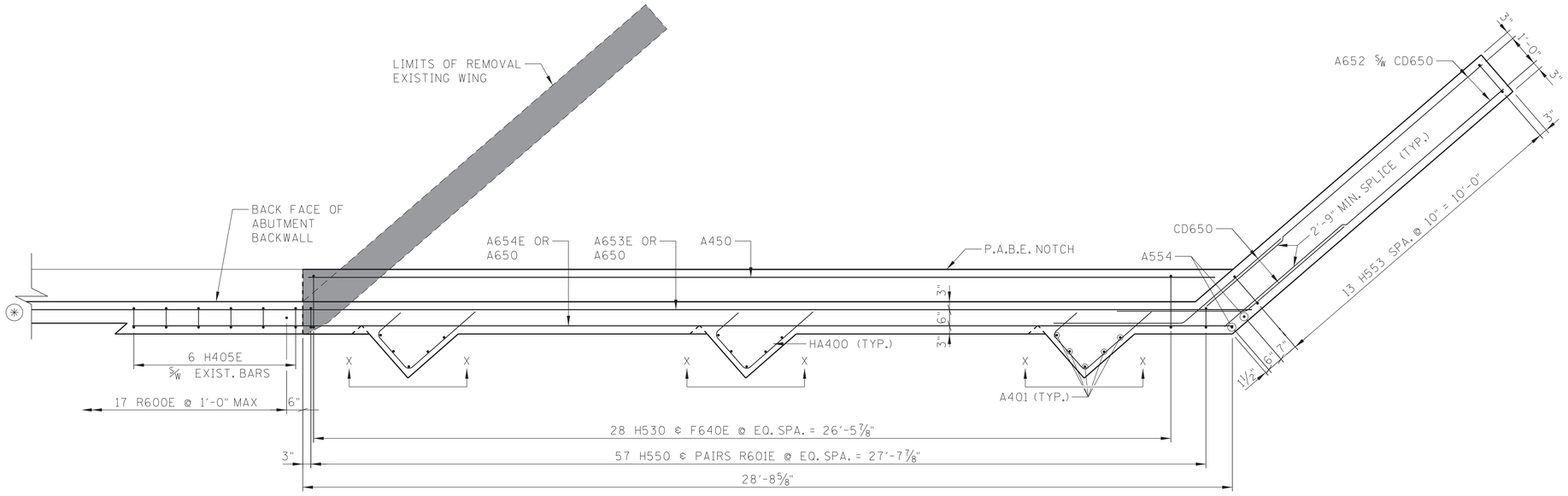
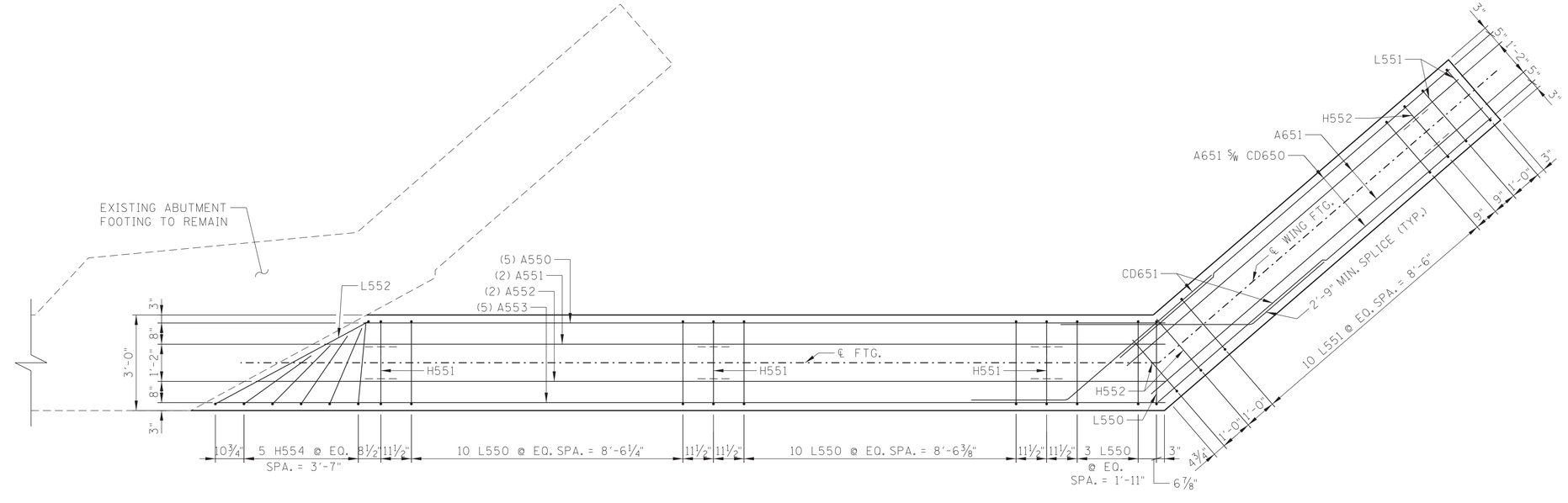


SECTION "J"

ELEVATION X-X
SEE SHEET BR-133-198



SECTION "K"

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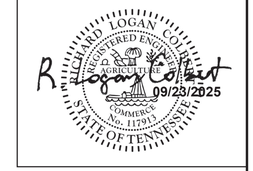

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

RIGHT BRIDGE - ABUTMENT 1 DETAILS
BRIDGE NO. BR-18-I0040-00.24 (LT&RT)
FED BRIDGE ID 18I00400001 & 18I00400002
INTERSTATE 40 OVER STATE ROUTE 24
CUMBERLAND COUNTY
2025

BR-133-204

Palmer ENGINEERING

PIN NO.:	105727.01	
DESIGN BY:	R.L. COLBERT	DATE: 09/2025
DRAWN BY:	M.D. SIMPSON	DATE: 09/2025
SUPERVISED BY:	G.S. WILSON	DATE: 09/2025
CHECKED BY:	R.L. COLBERT	DATE: 09/2025

9/23/2025 7:10:53 AM
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SEE SHEET BR-133-196 FOR SECTION "E".

PROJECT NO.	YEAR	SHEET NO.
18100-4148-04	2025	

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
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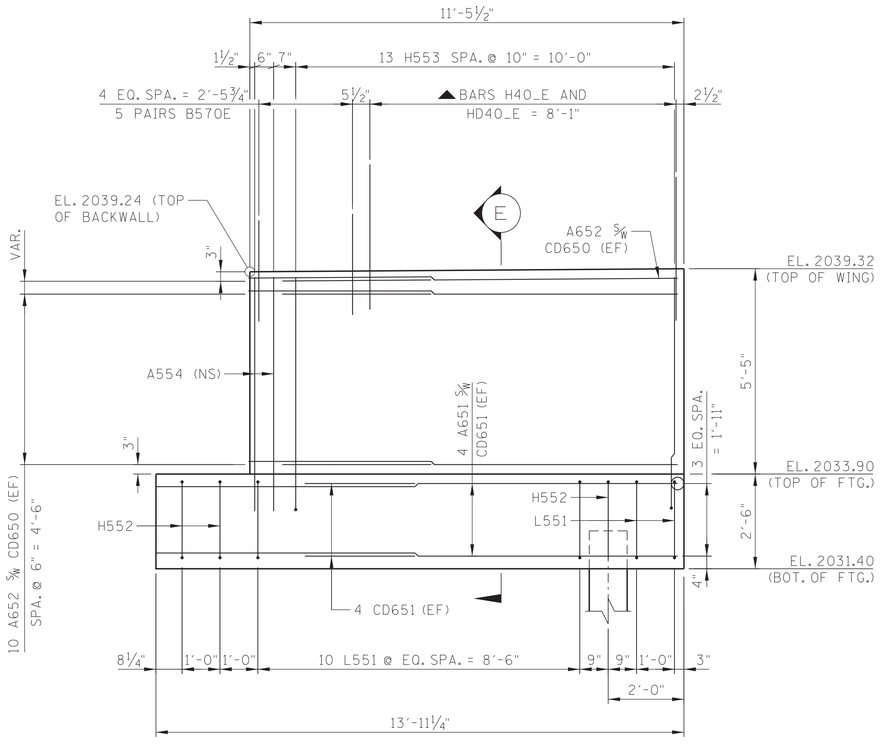
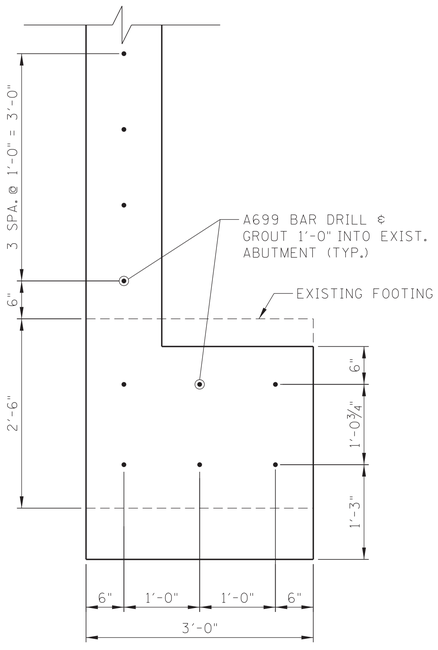


ELEVATION "B" (WING 5)

▲ DENOTES: SEE STD-1-1SS FOR PLACEMENT OF BARS FOR PARAPET ENDPOST.

EF = EACH FACE
NS = NEAR SIDE
FS = FAR SIDE



FOOTING CONNECTION DETAIL

BARS NOT SHOWN ELSEWHERE FOR CLARITY

THIS DETAIL IS AT THE INTERFACE BETWEEN THE EXISTING AND PROPOSED ABUTMENT.

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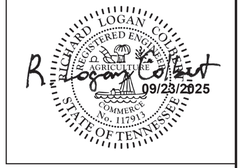

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

RIGHT BRIDGE - ABUTMENT 1 DETAILS
BRIDGE NO. BR-18-I0040-00.24 (LT&RT)
FED BRIDGE ID 18I00400001 & 18I00400002
INTERSTATE 40 OVER STATE ROUTE 24
CUMBERLAND COUNTY
2025

BR-133-205

Palmer ENGINEERING

PIN NO.:	105727.01		
DESIGN BY:	R.L. COLBERT	DATE:	09/2025
DRAWN BY:	M.D. SIMPSON	DATE:	09/2025
SUPERVISED BY:	G.S. WILSON	DATE:	09/2025
CHECKED BY:	R.L. COLBERT	DATE:	09/2025

9/23/2025 7:10:54 AM
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SEE SHEET BR-133-196 FOR SECTION "G".
SEE SHEET BR-133-207 FOR SECTIONS "N" & "O".
SEE SHEET BR-133-208 FOR ELEVATION "D" & FOOTING CONNECTION DETAIL.

(*) SEE SHEET BR-133-195 FOR BACKWALL CONSTRUCTION JOINT DETAILS.

EF = EACH FACE
NS = NEAR SIDE
FS = FAR SIDE

PROJECT NO.	YEAR	SHEET NO.
18100-4148-04	2025	

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
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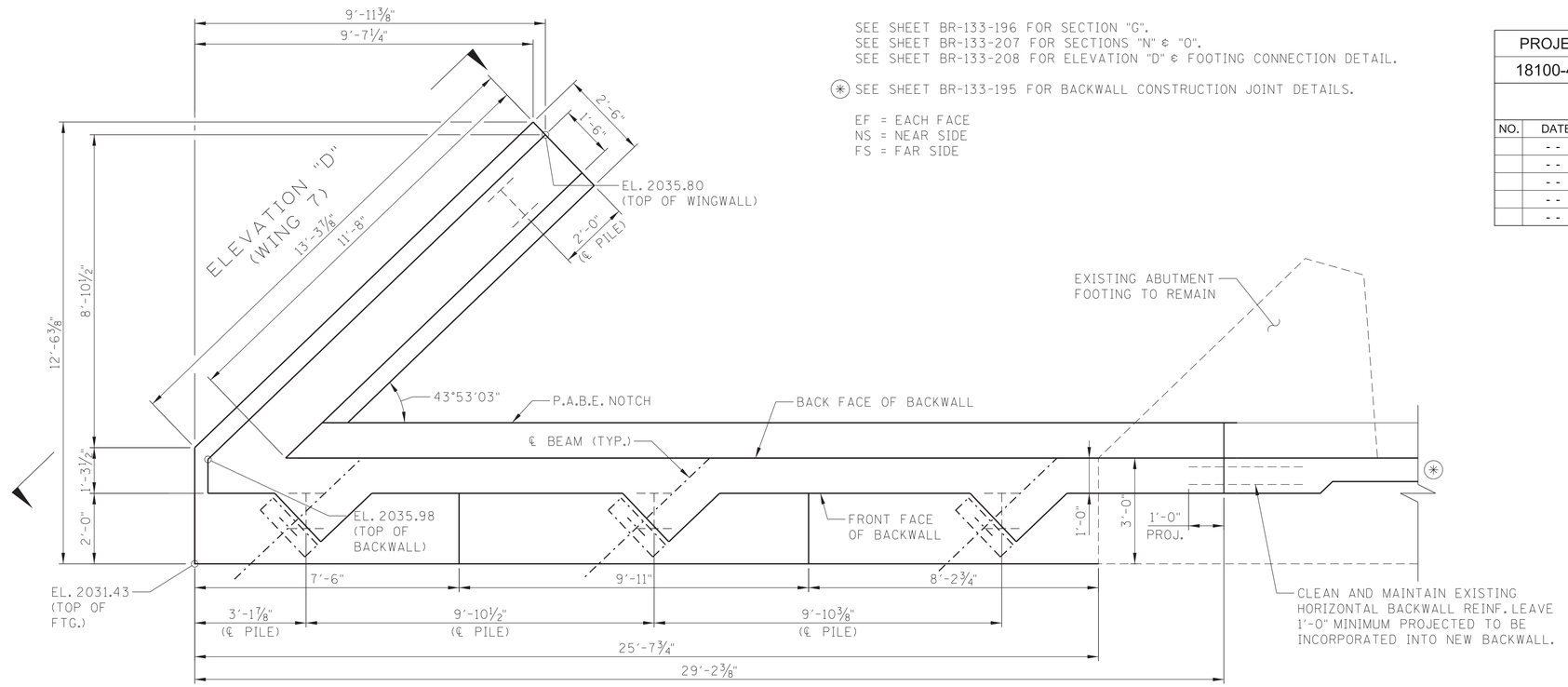
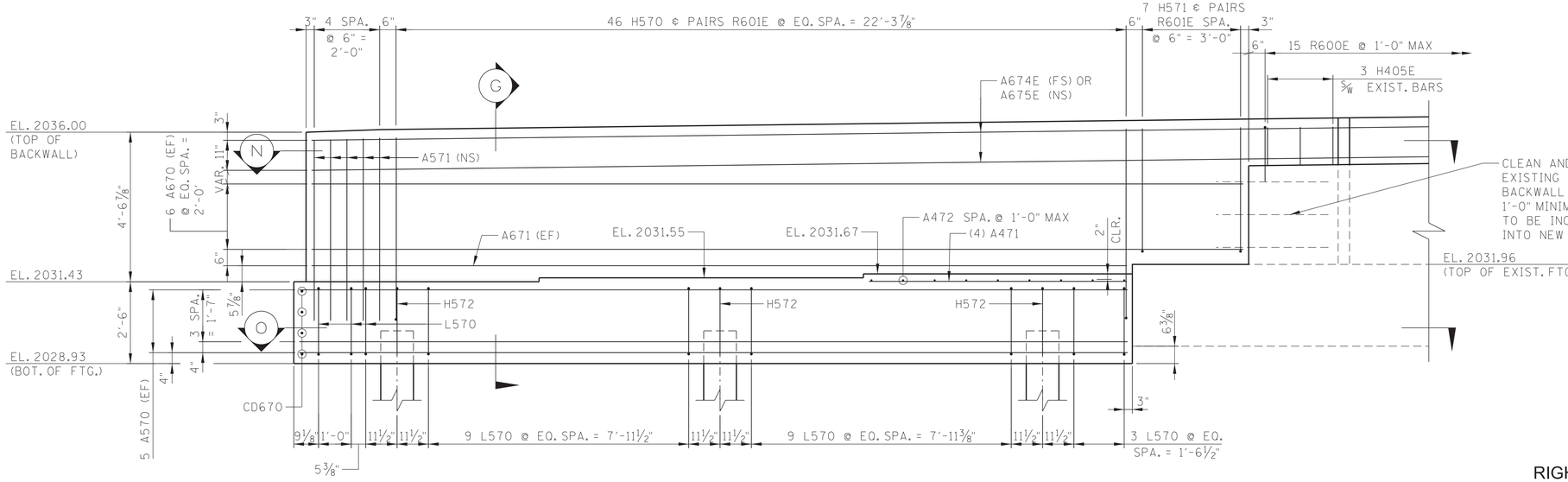


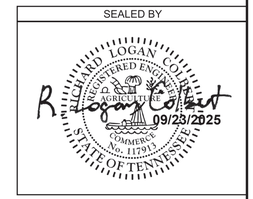
ABUTMENT 2 PLAN - RIGHT BRIDGE



ABUTMENT 2 ELEVATION - RIGHT BRIDGE

(LOOKING AHEAD)

SEALED BY



STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

RIGHT BRIDGE - ABUTMENT 2 DETAILS
BRIDGE NO. BR-18-I0040-00.24 (LT&RT)
FED BRIDGE ID 18I00400001 & 18I00400002
INTERSTATE 40 OVER STATE ROUTE 24
CUMBERLAND COUNTY
2025

BR-133-206

Palmer ENGINEERING

PIN NO.:	105727.01		
DESIGN BY:	R.L. COLBERT	DATE:	09/2025
DRAWN BY:	M.D. SIMPSON	DATE:	09/2025
SUPERVISED BY:	G.S. WILSON	DATE:	09/2025
CHECKED BY:	R.L. COLBERT	DATE:	09/2025

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PROJECT NO.	YEAR	SHEET NO.
18100-4148-04	2025	

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
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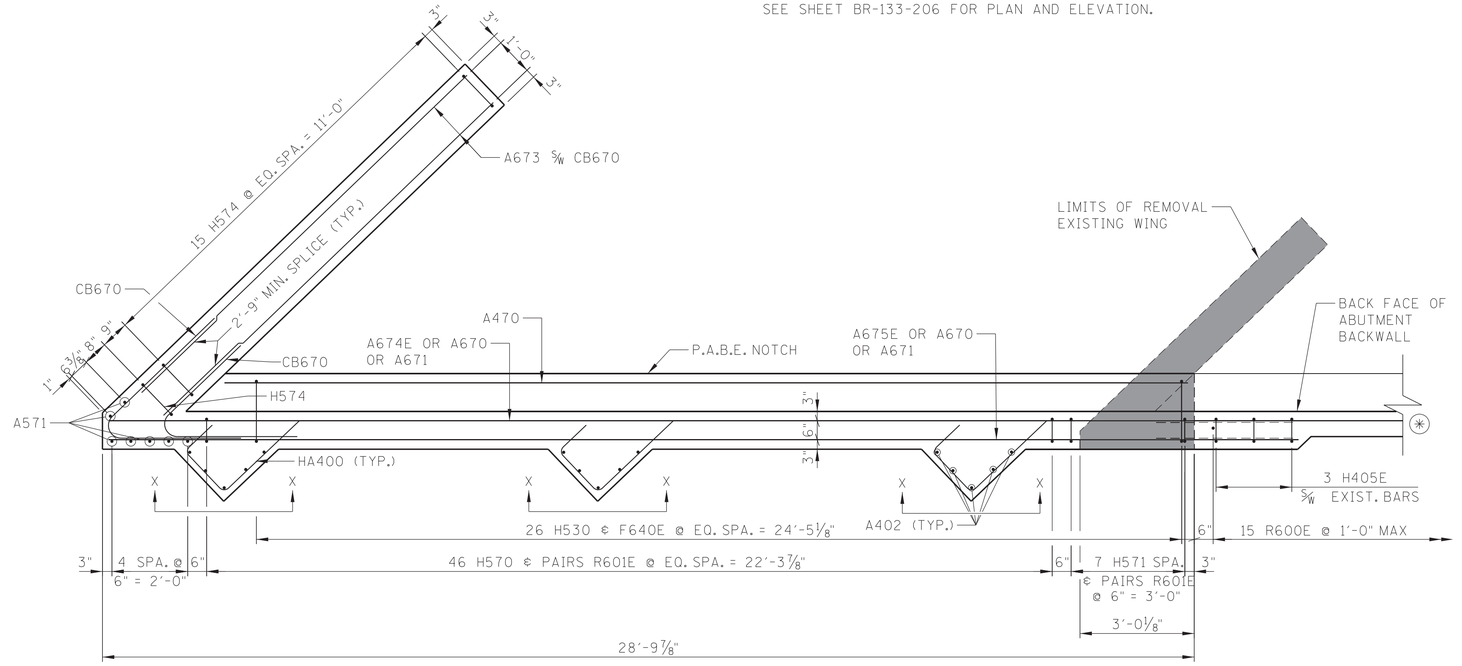
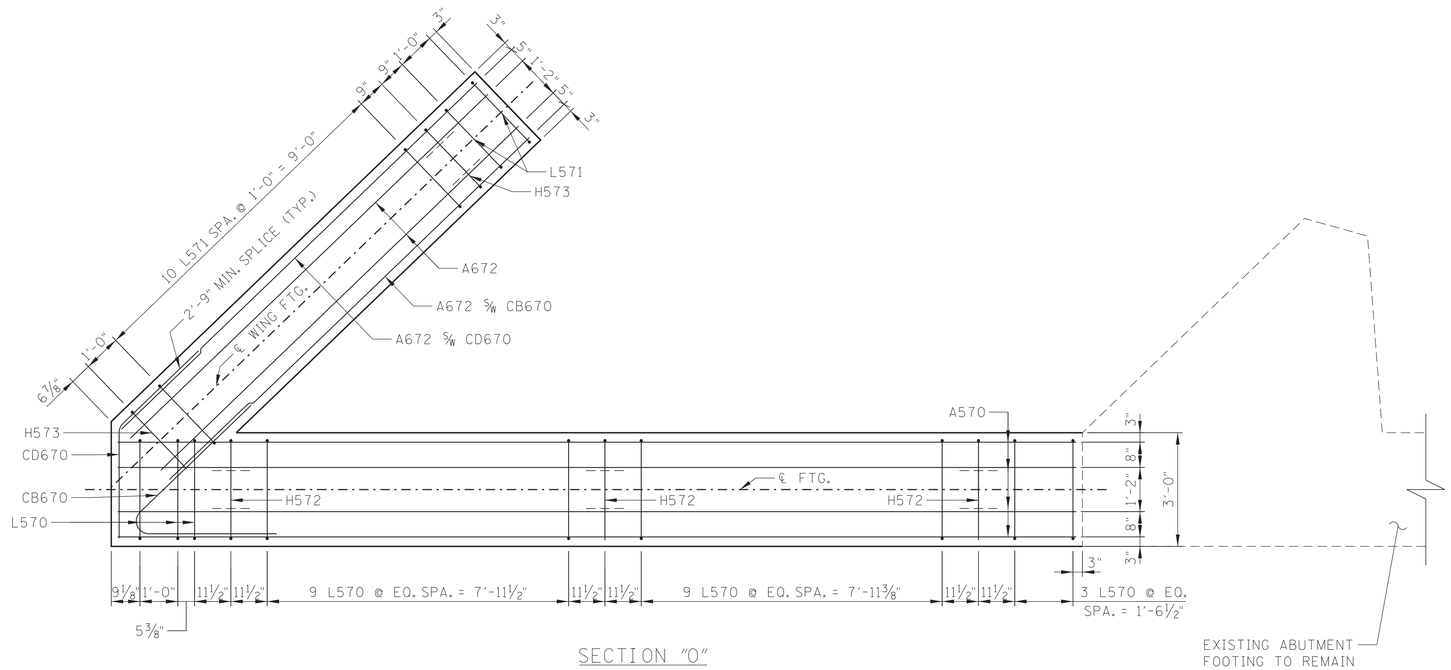
Ⓐ SEE SHEET BR-133-195 FOR BACKWALL CONSTRUCTION JOINT DETAILS.

SEE SHEET BR-133-206 FOR PLAN AND ELEVATION.



SECTION "N"

ELEVATION X-X
SEE SHEET BR-133-198



SECTION "O"

SEALED BY

Richard Logan Colbert
09/23/2025

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

RIGHT BRIDGE - ABUTMENT 2 DETAILS
BRIDGE NO. BR-18-I0040-00.24 (LT&RT)
FED BRIDGE ID 18I00400001 & 18I00400002
INTERSTATE 40 OVER STATE ROUTE 24
CUMBERLAND COUNTY
2025

BR-133-207

Palmer ENGINEERING

PIN NO.:	105727.01	
DESIGN BY:	R.L. COLBERT	DATE: 09/2025
DRAWN BY:	M.D. SIMPSON	DATE: 09/2025
SUPERVISED BY:	G.S. WILSON	DATE: 09/2025
CHECKED BY:	R.L. COLBERT	DATE: 09/2025

9/23/2025 7:10:56 AM
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SEE SHEET BR-133-196 FOR SECTION "F".

PROJECT NO.	YEAR	SHEET NO.
18100-4148-04	2025	

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
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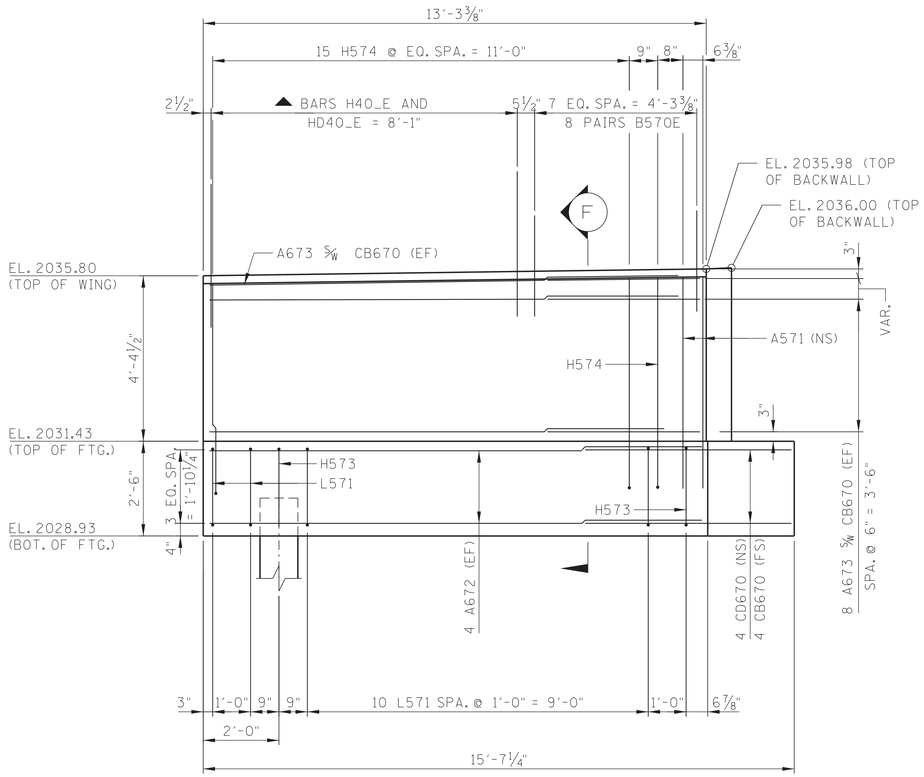
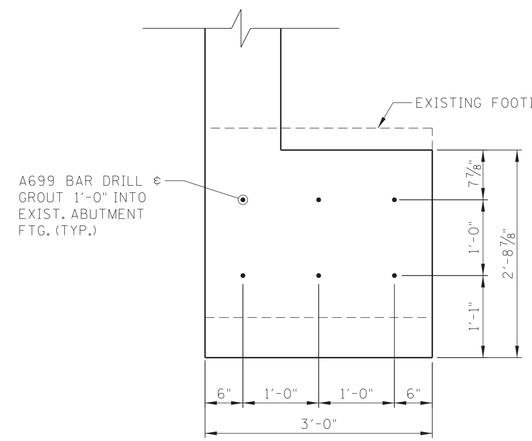


ELEVATION "D" WING 7

▲ DENOTES: SEE STD-1-1SS FOR PLACEMENT OF BARS FOR PARAPET ENDPOST.

EF = EACH FACE
NS = NEAR SIDE
FS = FAR SIDE

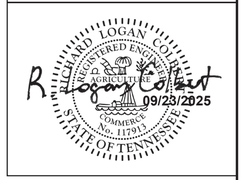


FOOTING CONNECTION DETAIL

BARS NOT SHOWN ELSEWHERE FOR CLARITY

THIS DETAIL IS AT THE INTERFACE BETWEEN THE EXISTING AND PROPOSED ABUTMENT.

SEALED BY



STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

RIGHT BRIDGE - ABUTMENT 2 DETAILS
BRIDGE NO. BR-18-I0040-00.24 (LT&RT)
FED BRIDGE ID 18I00400001 & 18I00400002
INTERSTATE 40 OVER STATE ROUTE 24
CUMBERLAND COUNTY
2025

BR-133-208

Palmer ENGINEERING

PIN NO.:	105727.01		
DESIGN BY:	R.L. COLBERT	DATE:	09/2025
DRAWN BY:	M.D. SIMPSON	DATE:	09/2025
SUPERVISED BY:	G.S. WILSON	DATE:	09/2025
CHECKED BY:	R.L. COLBERT	DATE:	09/2025

9/23/2025 7:10:57 AM
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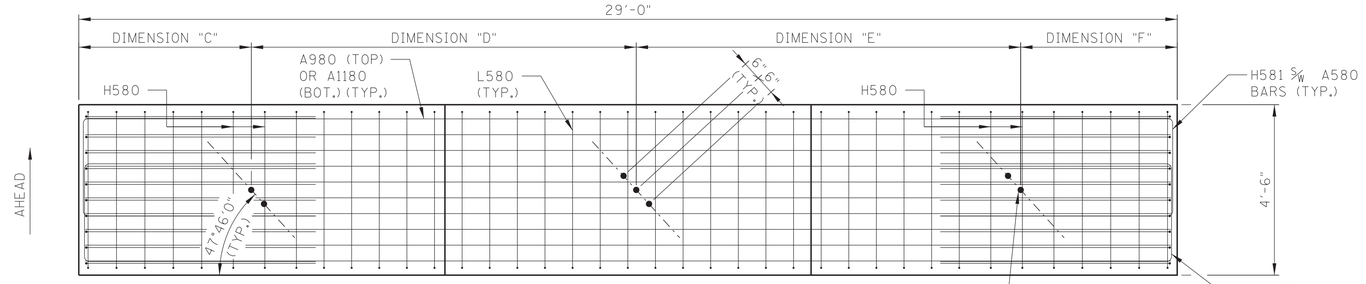
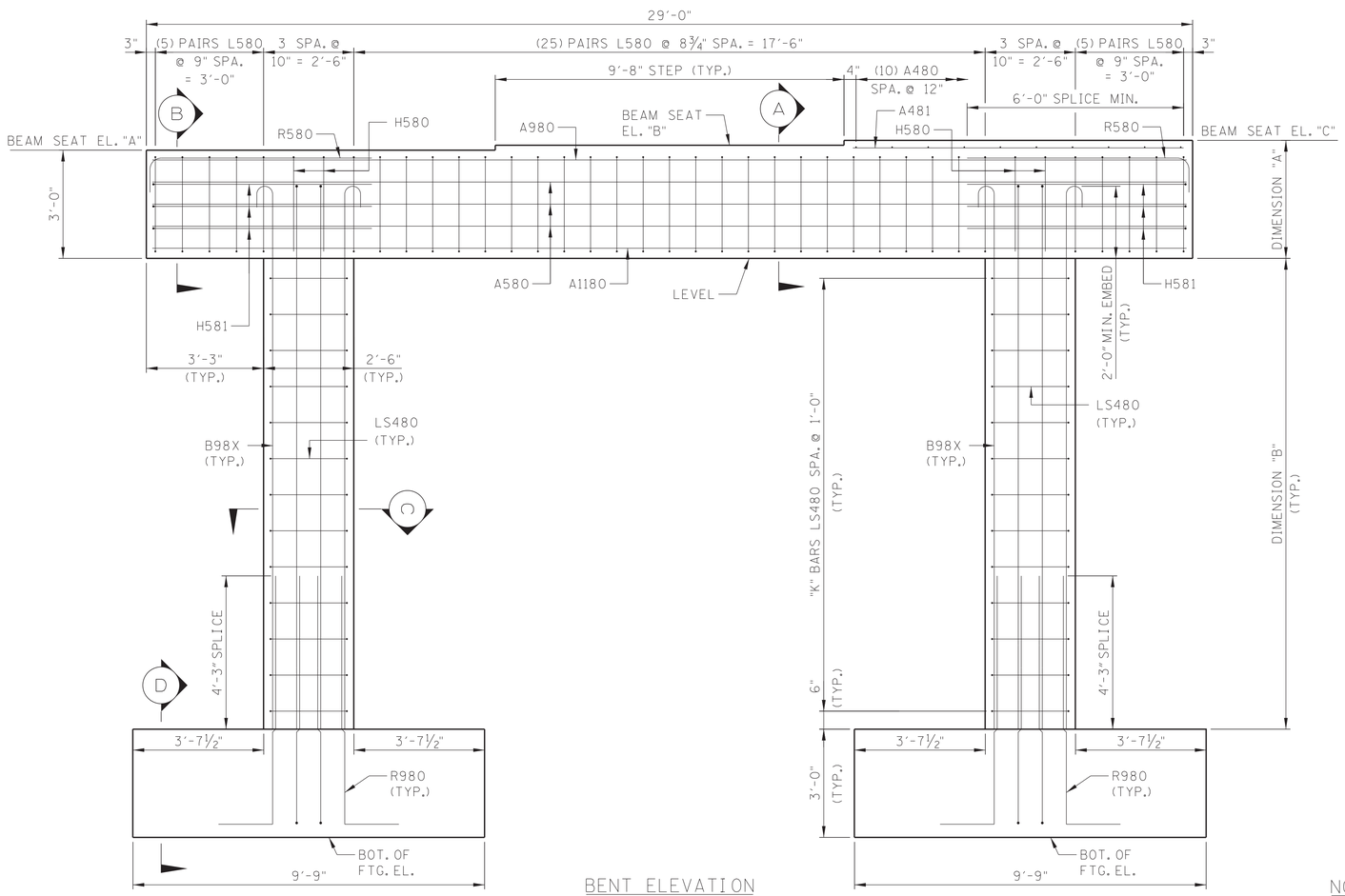
PROJECT NO.	YEAR	SHEET NO.
18100-4148-04	2025	

REVISIONS

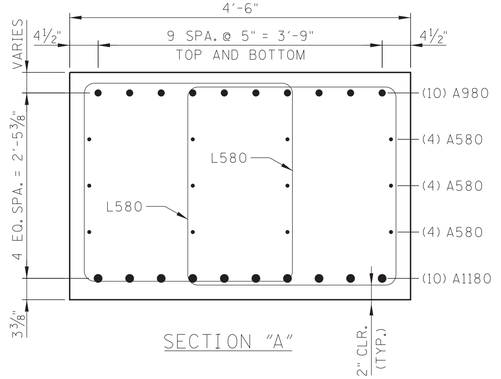
NO.	DATE	BY	BRIEF DESCRIPTION
	- -		
	- -		
	- -		
	- -		
	- -		



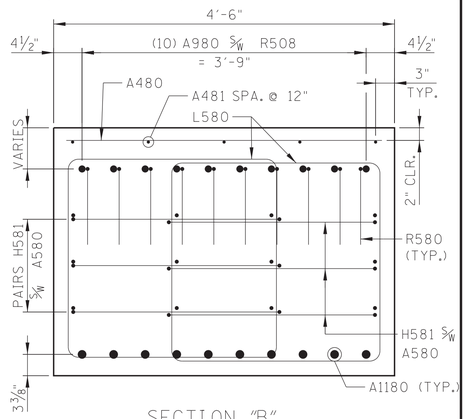
BENT CAP PLAN



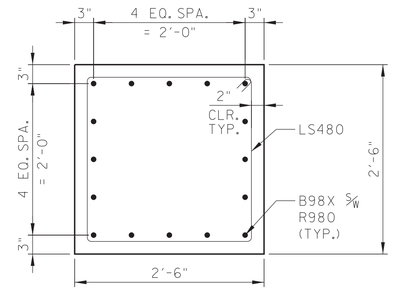
BENT ELEVATION
(LOOKING AHEAD)



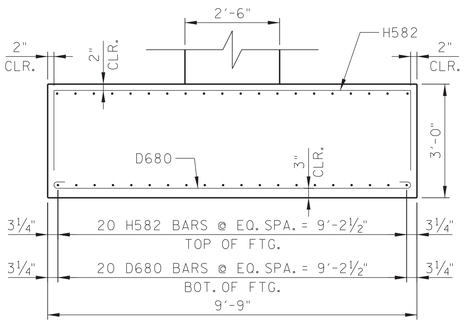
SECTION "A"



SECTION "B"
TYPICAL BENT CAP END TREATMENT



SECTION "C"



SECTION "D"
REINFORCEMENT SIMILAR IN BOTH DIRECTIONS.

BENT VARIABLES CHART

BENT	DIMENSION "A"	DIMENSION "B"	DIMENSION "C"	DIMENSION "D"	DIMENSION "E"	DIMENSION "F"	"K"	BOT. OF FTG. EL. (*)	BEAM SEAT EL. "A"	BEAM SEAT EL. "B"	BEAM SEAT EL. "C"
LT. BRIDGE											
1	3'-3⅝"	24'-7⅛"	4'-3⅞"	10'-4½"	10'-4¼"	3'-11⅜"	25	2004.0	2034.59	2034.74	2034.89
2	3'-3⅜"	24'-5⅛"	4'-2⅛"	10'-2¾"	10'-2½"	4'-4½"	24	2003.5	2033.92	2034.06	2034.20
3	3'-3¼"	24'-7⅜"	4'-0⅞"	10'-1½"	10'-1⅜"	4'-8¼"	25	2003.5	2034.11	2034.25	2034.38
4	3'-3⅛"	23'-6"	3'-11⅝"	10'-0¼"	10'-0⅛"	5'-0"	23	2004.0	2033.50	2033.63	2033.76
RT. BRIDGE											
1	3'-3⅝"	22'-9½"	4'-1½"	10'-3¾"	10'-3½"	4'-3⅜"	23	2004.5	2033.29	2033.44	2033.59
2	3'-3⅜"	22'-1"	4'-6⅝"	10'-2"	10'-1¾"	4'-1⅝"	22	2004.5	2032.58	2032.72	2032.86
3	3'-3⅛"	22'-3"	4'-10¼"	10'-0⅞"	10'-0⅝"	4'-0⅜"	22	2004.5	2032.75	2032.88	2033.01
4	3'-3"	21'-7⅜"	5'-1⅝"	9'-11⅝"	9'-11⅜"	3'-11¼"	22	2004.5	2032.11	2032.24	2032.36

NOTES:

SEE SHEET BR-133-210 FOR BENT 2 RISER BLOCK DETAILS.
SEE SHEET BR-133-212 THRU BR-133-214 FOR BILL OF STEEL.

WHEN POURING CAP BEAM, PROVISIONS SHALL BE MADE FOR SETTING ANCHOR BOLTS. SEE STANDARD DRAWING 6-1. BOLT PROJECTION 11".

RISER BLOCKS ARE TO BE POURED MONOLITHICALLY WITH BENT CAP, AND RISER BLOCK BEARING SURFACE TO CONFORM TO BOTTOM OF BEAM GRADE.

ELASTOMERIC PADS SHALL BE IN PLACE A MINIMUM OF ONE 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.

COLUMN STEEL TO EXTEND 2 FEET INTO BENT CAP.

(*) PROJECTED BEARING ELEVATIONS FROM GEOTECH REPORT.

SEALED BY

RICHARD LOGAN COLBERT — REGISTERED ENGINEER — AGRICULTURE — NO. 117911 — STATE OF TENNESSEE

09/23/2025

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

BENT DETAILS
BRIDGE NO. BR-18-I0040-00.24 (LT&RT)
FED BRIDGE ID 18I00400001 & 18I00400002
INTERSTATE 40 OVER STATE ROUTE 24
CUMBERLAND COUNTY
2025

BR-133-209

Palmer ENGINEERING

PIN NO.:	105727.01	
DESIGN BY:	R.L. COLBERT	DATE: 09/2025
DRAWN BY:	M.D. SIMPSON	DATE: 09/2025
SUPERVISED BY:	G.S. WILSON	DATE: 09/2025
CHECKED BY:	R.L. COLBERT	DATE: 09/2025

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PROJECT NO.	YEAR	SHEET NO.
18100-4148-04	2025	

REVISIONS

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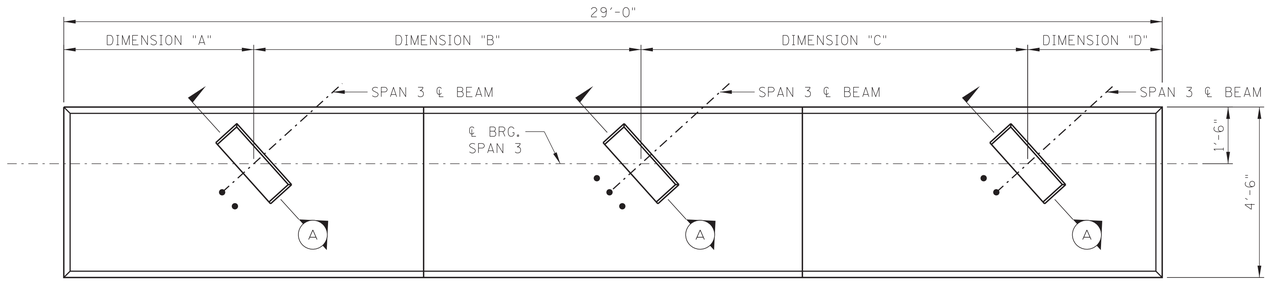
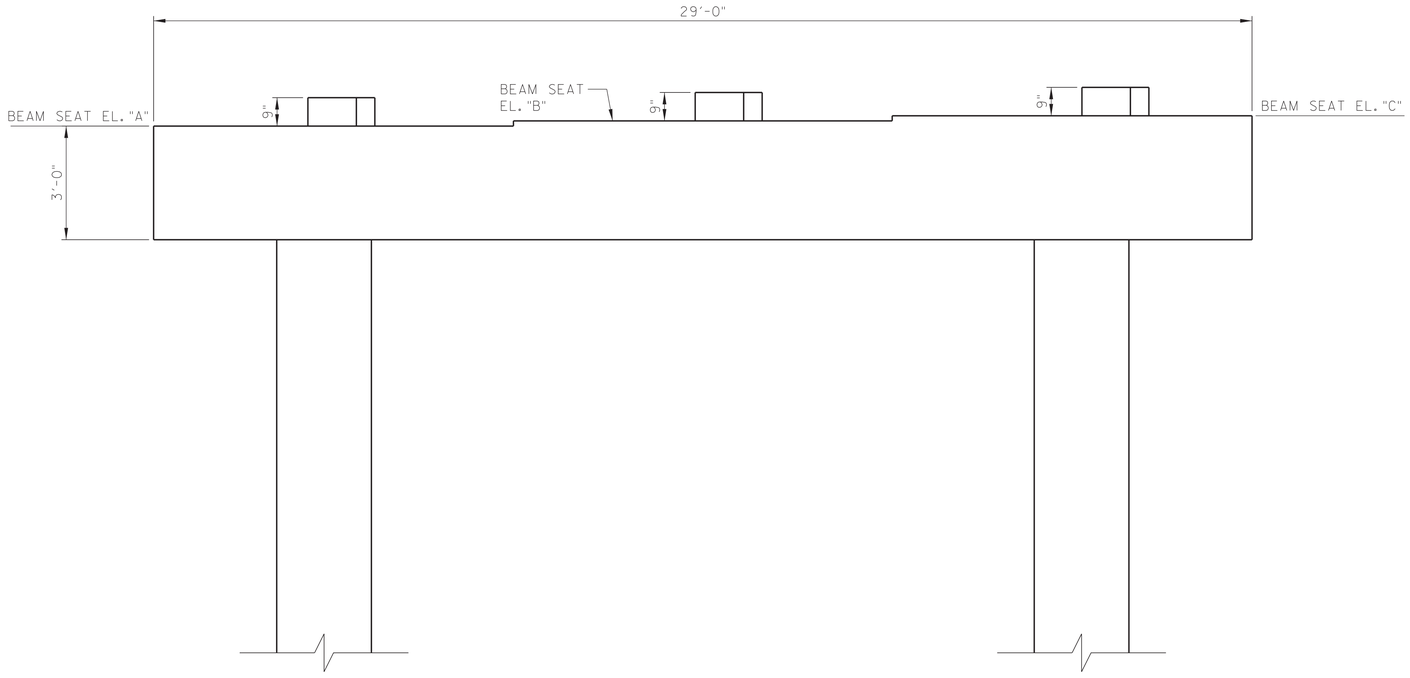
	- -		
	- -		
	- -		
	- -		



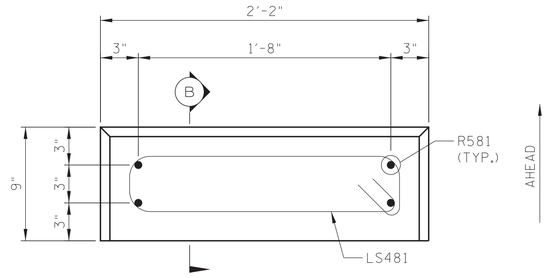
BENT 2 CAP PLAN



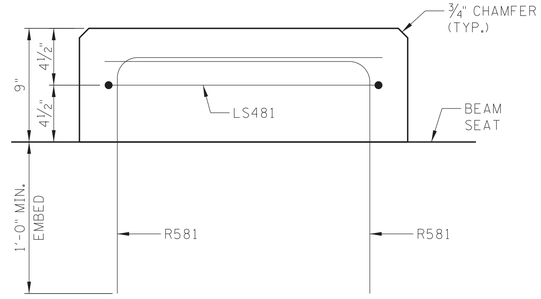
BENT 2 ELEVATION

(LOOKING AHEAD)

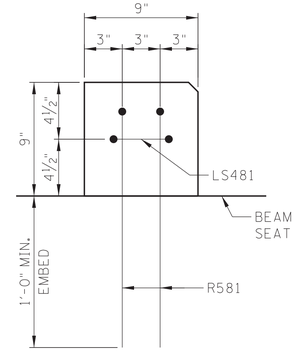
☞ RISER BLOCK DETAILS SHOWN ARE APPLICABLE TO BENT 2 FOR BOTH LEFT AND RIGHT BRIDGES. SEE SHEET BR-133-209 FOR ELEVATIONS AND ANY OTHER INFORMATION NOT SHOWN.



RISER BLOCK PLAN



SECTION A-A



SECTION B-B

BENT VARIABLE CHART				
BENT	DIMENSION "A"	DIMENSION "B"	DIMENSION "C"	DIMENSION "D"
LT. BRIDGE BENT 2	5'-0⅛"	10'-2¾"	10'-2½"	3'-6⅝"
RT. BRIDGE BENT 2	5'-4½"	10'-2"	10'-1¾"	3'-3¾"

SEALED BY

RICHARD LOGAN COLBERT — REGISTERED ENGINEER — COMMISSION No. 117913 — STATE OF TENNESSEE

09/23/2025

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

RISER BLOCK DETAILS
BRIDGE NO. BR-18-I0040-00.24 (LT&RT)
FED BRIDGE ID 18I00400001 & 18I00400002
INTERSTATE 40 OVER STATE ROUTE 24
CUMBERLAND COUNTY
2025

BR-133-210

Palmer ENGINEERING

PIN NO.:	105727.01		
DESIGN BY:	R.L. COLBERT	DATE:	09/2025
DRAWN BY:	M.D. SIMPSON	DATE:	09/2025
SUPERVISED BY:	G.S. WILSON	DATE:	09/2025
CHECKED BY:	R.L. COLBERT	DATE:	09/2025

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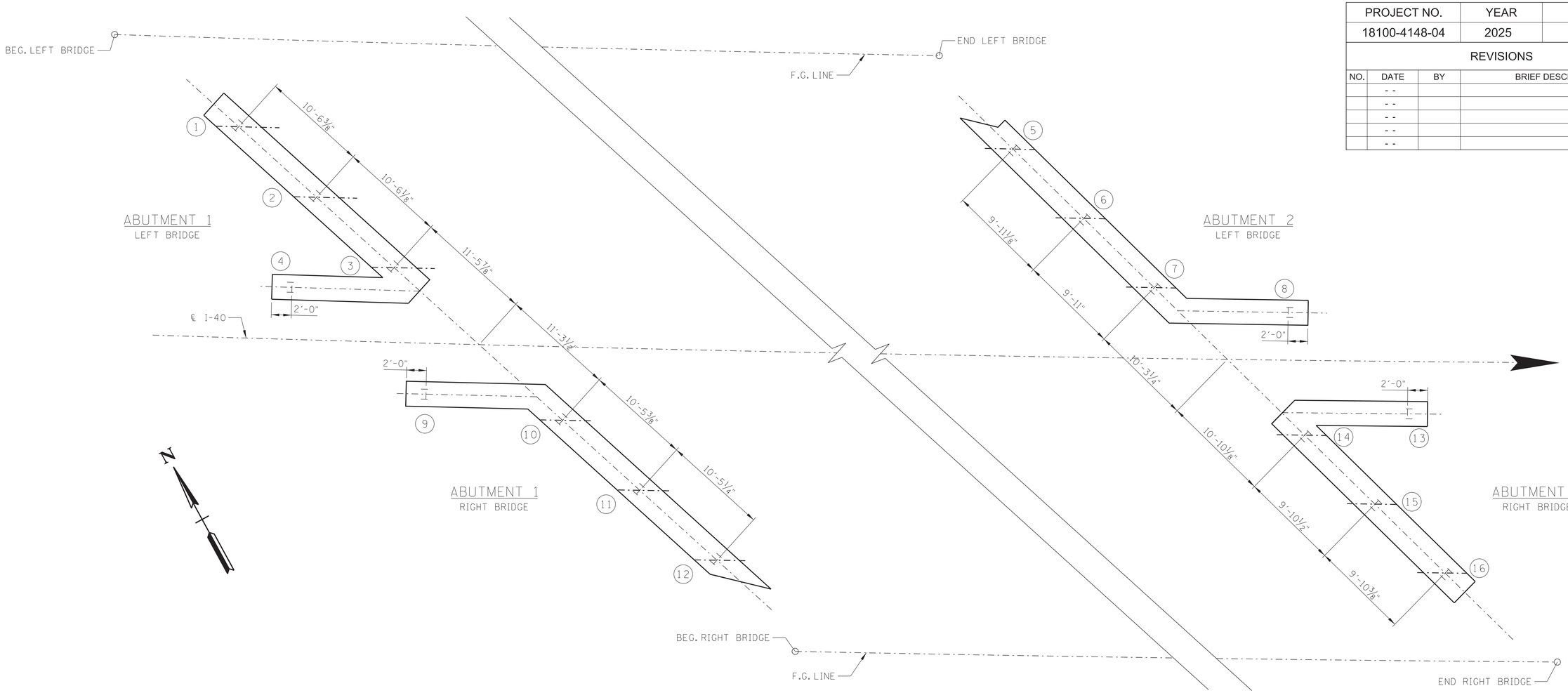
PROJECT NO.	YEAR	SHEET NO.
18100-4148-04	2025	

REVISIONS

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



PILE DATA TABLES

		1	2	3	4	5	6	7	8
LEFT BRIDGE	PILE CUT-OFF ELEVATION								
	PILE TIP ELEVATION								
	IN PLACE PILE LENGTH								

		9	10	11	12	13	14	15	16
RIGHT BRIDGE	PILE CUT-OFF ELEVATION								
	PILE TIP ELEVATION								
	IN PLACE PILE LENGTH								

THE TABLES ABOVE ARE TO BE FILLED IN BY THE CONSTRUCTION OFFICE AND/OR FIELD ENGINEER GIVING AS-BUILT CONDITIONS. AFTER COMPLETION, THE FINAL DATA IS TO BE SENT TO THE DIVISION OF STRUCTURES TO BECOME PART OF THE FINAL BRIDGE DOCUMENTS.

SEALED BY

RICHARD LOGAN COLBERT — REGISTERED ENGINEER — AGRICULTURE COMMERCE — No. 117911 — STATE OF TENNESSEE

09/23/2025

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

FINAL FOUNDATION DATA
BRIDGE NO. BR-18-I0040-00.24 (LT&RT)
FED BRIDGE ID 18I00400001 & 18I00400002
INTERSTATE 40 OVER STATE ROUTE 24
CUMBERLAND COUNTY
2025

BR-133-211

Palmer ENGINEERING

PIN NO.: 105727.01

DESIGN BY:	R.L. COLBERT	DATE:	09/2025
DRAWN BY:	M.D. SIMPSON	DATE:	09/2025
SUPERVISED BY:	G.S. WILSON	DATE:	09/2025
CHECKED BY:	R.L. COLBERT	DATE:	09/2025

9/23/2025 7:11:04 AM
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SUPERSTRUCTURE (EPOXY) - LEFT BRIDGE

BAR	LOCATION	SIZE	NO. REQ'D	BENDING DIMENSIONS A	B	C	D	LENGTH
A500E	SLAB (TRANS.)	5	327					31'-8½"
A501E	SLAB (TRANS.)	5	327					30'-2½"
A502E	SLAB (TRANS.)	5	546					31'-8½"
A503E	SLAB (TRANS.)	5	546					30'-2½"
SER. A504E	SLAB (TRANS.)	5	1	VARIES FROM 5'-6½" TO 31'-5½" IN INC. OF 8⅝" (37 BARS)				684'-6"
SER. A505E	SLAB (TRANS.)	5	1	VARIES FROM 5'-7½" TO 31'-7½" IN INC. 9⅛" OF (35 BARS)				651'-11"
SER. A506E	SLAB (TRANS.)	5	1	VARIES FROM 5'-2½" TO 29'-10½" IN INC. OF 8¾" (35 BARS)				614'-0"
SER. A507E	SLAB (TRANS.)	5	1	VARIES FROM 5'-4¼" TO 30'-0" IN INC. OF 9¼" (33 BARS)				583'-9"
SER. A508E	SLAB (TRANS.)	5	1	VARIES FROM 5'-1" TO 31' 5½" IN INC. OF 5¼" (62 BARS)				1132'-10"
SER. A509E	SLAB (TRANS.)	5	1	VARIES FROM 5'-4" TO 31'-5½" IN INC. OF 5½" (58 BARS)				1067'-0"
SER. A510E	SLAB (TRANS.)	5	1	VARIES FROM 5'-6" TO 29'-10½" IN INC. OF 5¼" (57 BARS)				1008'-3"
SER. A511E	SLAB (TRANS.)	5	1	VARIES FROM 5'-4½" TO 29'-10½" IN INC. OF 5½" (54 BARS)				951'-9"
A512E	SLAB (TRANS.)	5	70					10'-0"
A590	DIAPHRAGM	5	96					8'-6"
A591	DIAPHRAGM	5	48					9'-6"
A600E	SLAB (LONGIT.)	6	690					60'-0"
A601E	SLAB (LONGIT.)	6	138					34'-0"
A602E	SLAB (NEG. REINF.)	6	61					24'-0"
A603E	SLAB (NEG. REINF.)	6	61					28'-0"
A604E	SLAB (NEG. REINF.)	6	61					35'-0"
A605E	SLAB (NEG. REINF.)	6	122					28'-0"
B500E	SLAB (TRANS.)	5	1208	4'-0"				4'-7"
B501E	SLAB (TRANS.)	5	17	10'-0"				10'-7"
B570E	SLAB/PARAPET	5	1856	2'-1"				2'-8"
H590	DIAPHRAGM	5	48	1'-1"	5'-10"			12'-9"
K500E	K-BAR	5	1230	1'-0"	1'-0"	5½"		3'-11"
L490	DIAPHRAGM	4	36	1'-1½"	6"	4'-4"		11'-5"
L491	DIAPHRAGM	4	36	1'-1½"	6"	3'-7"		9'-11"
LS490	DIAPHRAGM	4	24	1'-2"	1'-0"			5'-4"
COUPLER	COUPLER BAR	5	1950					3'-8"

ABUTMENT 1 (LEFT SIDE & WING 1) - LEFT BRIDGE

BAR	LOCATION	SIZE	NO. REQ'D	BENDING DIMENSIONS A	B	C	D	LENGTH
A645	WING 1	6	6					14'-3"
A646E	BACKWALL	6	2					49'-3"
A647E	BACKWALL	6	2					15'-0"
B570E	PARAPET/WINGWALL	5	16	2'-8"				3'-3"
CD600E	CORNER	6	4	3'-6"	3'-6"	2'-8¼"		7'-0"
H400E	PARAPET/WINGWALL	4	6	10½"	3'-11"			8'-9"
H401E	PARAPET/WINGWALL	4	1	9⅞"	3'-10"			8'-6"
H402E	PARAPET/WINGWALL	4	1	8¾"	3'-9"			8'-3"
H403E	PARAPET/WINGWALL	4	1	7⅝"	3'-8"			8'-0"
H404E	PARAPET/WINGWALL	4	1	6½"	3'-7"			7'-9"
H405E	BACKWALL	4	15	8"	1'-2"			3'-0"
SER. HD400E	PARAPET/WINGWALL	4	1	*	3'-11"	9"		33'-0"
SER. HD401E	PARAPET/WINGWALL	4	1	**	3'-11"	9"		42'-7"
H501	WING 1	5	15	1'-2"	1'-2"			3'-6"
R600E	BACKWALL	6	48	1'-8"	1'-8"			3'-4"
COUPLER	BACKWALL	6	4					3'-10"

ABUTMENT 1 (RIGHT SIDE & WING 2) - LEFT BRIDGE

BAR	LOCATION	SIZE	NO. REQ'D	BENDING DIMENSIONS A	B	C	D	LENGTH
HA400	BACKWALL	4	18	1'-6"	2'-9"	1'-0"		5'-3"
A401	BACKWALL	4	15					4'-4"
A440	RDWY. NOTCH	4	1					27'-7"
A441	ABUT. FOOTING	4	4					7'-9"
A442	ABUT. FOOTING	4	9					2'-8"
A540	ABUT. FOOTING	5	14					27'-6"
A541	BACKWALL	5	6					6'-6"
A640	BACKWALL	6	14					31'-0"

ABUTMENT 1 (RIGHT SIDE & WING 2) CONT. - LEFT BRIDGE

BAR	LOCATION	SIZE	NO. REQ'D	BENDING DIMENSIONS A	B	C	D	LENGTH
A641	WING 2 FOOTING	6	12					13'-4"
A642	WING 2	6	20					12'-0"
A643E	BACKWALL	6	2					46'-6"
A644E	BACKWALL	6	2					33'-6"
A648	BACKWALL	6	2					24'-6"
A699	ABUT. FOOTING	6	6					3'-0"
B570E	PARAPET/WINGWALL	5	18	2'-8"				3'-3"
CB640	CORNER	6	24	4'-6"	4'-6"	3'-4"		9'-0"
CD640	CORNER	6	4	2'-11"	2'-11"	1'-10¾"		5'-10"
F640E	BACKWALL	6	28	7"	1'-6"	1'-1"	1'-7½"	4'-0"
H400E	PARAPET/WINGWALL	4	6	10½"	3'-11"			8'-9"
H401E	PARAPET/WINGWALL	4	1	9⅞"	3'-10"			8'-6"
H402E	PARAPET/WINGWALL	4	1	8¾"	3'-9"			8'-3"
H403E	PARAPET/WINGWALL	4	1	7⅝"	3'-8"			8'-0"
H404E	PARAPET/WINGWALL	4	1	6½"	3'-7"			7'-9"
H405E	BACKWALL	4	3	8"	1'-2"			3'-0"
SER. HD400E	PARAPET/WINGWALL	4	1	*	3'-11"	9"		33'-0"
SER. HD401E	PARAPET/WINGWALL	4	1	**	3'-11"	9"		42'-7"
H530	BACKWALL	5	28	1'-8"	6"			2'-8"
H540	BACKWALL	5	50	8"	6'-6"			13'-8"
H541	BACKWALL	5	8	8"	4'- 10"			10'-4"
H542	ABUT. FOOTING	5	3	2'-8"	2'-9"			8'-2"
H543	WING 2 FOOTING	5	2	2'-2"	3'-1"			8'-4"
H544	WING 2	5	16	1'-2"	6'-7"			14'-4"
L540	ABUT. FOOTING	5	27	2'-8"	6"	2'-9"		11'-4"
L541	WING 2 FOOTING	5	12	2'-2"	6"	3'-1"		11'-0"
R600E	BACKWALL	6	16	1'-8"	1'-8"			3'-4"
R601E	BACKWALL	6	116	2'-0"	2'-0"			4'-0"
COUPLER	BACKWALL	6	4					3'-10"

ABUTMENT 2 (LEFT SIDE & WING 3) - LEFT BRIDGE

BAR	LOCATION	SIZE	NO. REQ'D	BENDING DIMENSIONS A	B	C	D	LENGTH
A665	WING 3	6	6					8'-11"
A666E	BACKWALL	6	2					46'-4"
A667E	BACKWALL	6	2					14'-1"
CB600E	CORNER	6	4	3'-6"				7'-0"
H400E	PARAPET/WINGWALL	4	6	10½"	3'-6"	2'-6¾"		8'-9"
H401E	PARAPET/WINGWALL	4	1	9⅞"	3'-11"			8'-6"
H402E	PARAPET/WINGWALL	4	1	8¾"	3'-10"			8'-3"
H403E	PARAPET/WINGWALL	4	1	7⅝"	3'-9"			8'-0"
H404E	PARAPET/WINGWALL	4	1	6½"	3'-8"			7'-9"
H405E	BACKWALL	4	14	8"	3'-7"			3'-0"
SER. HD400E	PARAPET/WINGWALL	4	1	*	1'-2"			33'-0"
SER. HD401E	PARAPET/WINGWALL	4	1	**	3'-11"	9"		42'-7"
H501	WING 3	5	9	1'-2"	3'-11	9"		3'-6"
R600E	BACKWALL	6	45	1'-8"	1'-2"			3'-4"
COUPLER	BACKWALL	6	4		1'-8"			3'-10"

REINFORCING STEEL CODE

TYPE	SIZE	SERIES
A	4	02

DIMENSIONS SHOWN ON THIS SHEET ARE OUTSIDE TO OUTSIDE OF BAR. STANDARD C.R.S.I. HOOK DETAILS SHALL APPLY, EXCEPT AS NOTED.

THE SUFFIX E, FOR BARS SO MARKED, DENOTES EPOXY COATED REINFORCEMENT.

PROJECT NO.	YEAR	SHEET NO.
18100-4148-04	2025	

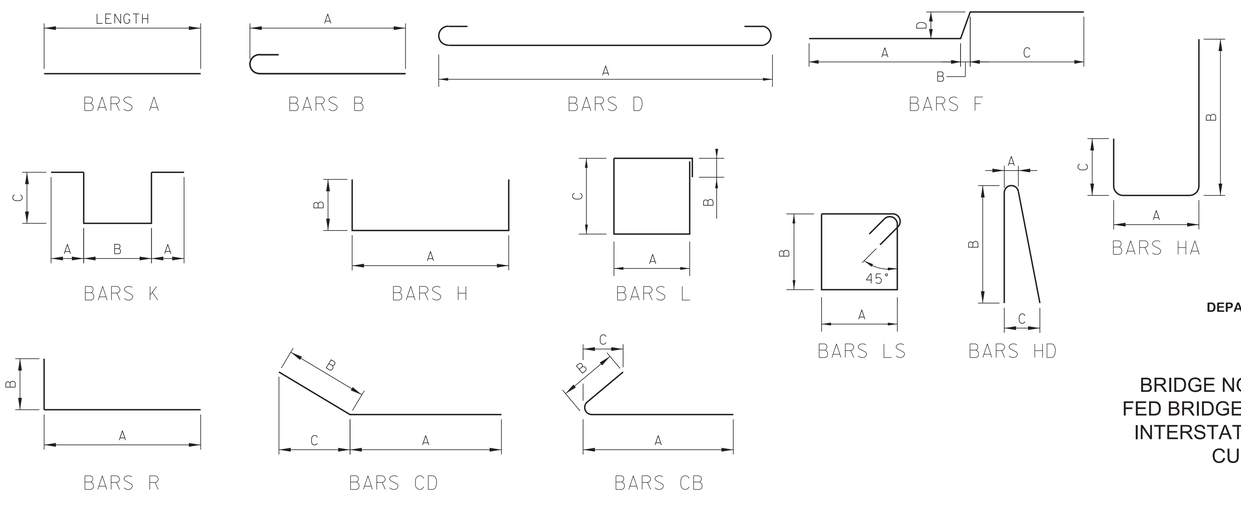
REVISIONS

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

ABUTMENT 2 (RIGHT SIDE & WING 4) - LEFT BRIDGE

BAR	LOCATION	SIZE	NO. REQ'D	BENDING DIMENSIONS A	B	C	D	LENGTH
HA400	BACKWALL	4	18	1'-6"	2'-9"	1'-0"		5'-3"
A402	BACKWALL	4	15					3'-7"
A460	RDWY. NOTCH	4	1					26'-8"
A461	ABUT. FOOTING	4	4					8'-8"
A462	ABUT. FOOTING	4	10					2'-8"
A560	ABUT. FOOTING	5	5					24'-6"
A561	ABUT. FOOTING	5	2					25'-7"
A562	ABUT. FOOTING	5	2					27'-7"
A563	ABUT. FOOTING	5	5					28'-7"
A564	WING 4	5	2					5'-8"
A660	BACKWALL	6	12					27'-2"
A661	WING 4 FOOTING	6	12					13'-8"
A662	WING 4	6	18					11'-4"
A663E	BACKWALL	6	2					43'-10"
A664E	BACKWALL	6	2					32'-4"
A699	ABUT. FOOTING	6	10					3'-0"
B570E	PARAPET/WINGWALL	5	10	2'-8"				3'-3"
CD660	CORNER	6	18	4'-6"	3'-0"	2'-2⅛"		7'-6"
CD661	CORNER	6	8	6'-0"	3'-0"	2'-2⅛"		9'-0"
F640E	BACKWALL	6	27	7"	1'-6"	1'-1"	1'-7½"	4'-0"
H400E	PARAPET/WINGWALL	4	6	10½"	3'-11"			8'-9"
H401E	PARAPET/WINGWALL	4	1	9⅞"	3'-10"			8'-6"
H402E	PARAPET/WINGWALL	4	1	8¾"	3'-9"			8'-3"
H403E	PARAPET/WINGWALL	4	1	7⅝"	3'-8"			8'-0"
H404E	PARAPET/WINGWALL	4	1	6½"	3'-7"			7'-9"
H405E	BACKWALL	4	5	8"	1'-2"			3'-0"
SER. HD400E	PARAPET/WINGWALL	4	1	*	3'-11"	9"		33'-0"
SER. HD401E	PARAPET/WINGWALL	4	1	**	3'-11"	9"		42'-7"

* DIM. A VARIES FROM 5⅞" TO 3¾" IN INC OF 1/16" (4 BARS TOTAL)
** DIM. A VARIES FROM 10" TO 6½" IN INC OF ⅞" (5 BARS TOTAL)



SEALED BY
RICHARD LOGAN COLBERT
REGISTERED ENGINEER
AGRICULTURE
COMMERCE
No. 117913
STATE OF TENNESSEE
09/23/2025

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

BILL OF STEEL
BRIDGE NO. BR-18-I0040-00.24 (LT&RT)
FED BRIDGE ID 18I00400001 & 18I00400002
INTERSTATE 40 OVER STATE ROUTE 24
CUMBERLAND COUNTY
2025

BR-133-212

Palmer ENGINEERING

PIN NO.: 105727.01
DESIGN BY: R.L. COLBERT DATE: 09/2025
DRAWN BY: M.D. SIMPSON DATE: 09/2025
SUPERVISED BY: G.S. WILSON DATE: 09/2025
CHECKED BY: R.L. COLBERT DATE: 09/2025

9/23/2025 7:11:06 AM
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ABUTMENT 2 (RIGHT SIDE & WING 4) CONT. - LEFT BRIDGE

BAR	LOCATION	SIZE	NO. REQ'D	BENDING DIMENSIONS A	B	C	D	LENGTH
H530	BACKWALL	5	27	1'-8"	6"			2'-8"
H560	BACKWALL	5	54	8"	5'-8"			12'-0"
H561	ABUT. FOOTING	5	3	2'-8"	2'-6"			7'-8"
H562	WING 4 FOOTING	5	3	2'-2"	2'-9"			7'-8"
H563	WING 4	5	13	1'-2'	5'-8"			12'-6"
H564	ABUT. FOOTING	5	5	2'-6"	2'-8"			7'-10"
L560	ABUT. FOOTING	5	24	2'-8"	6"	2'-6"		10'-10"
L561	WING 4 FOOTING	5	12	2'-2"	6"	2'-9"		10'-4"
L562	ABUT. FOOTING	5	1	5'-1"	6"	2'-6"		15'-8"
R600E	BACKWALL	6	17	1'-8"	1'-8"			3'-4"
R601E	BACKWALL	6	108	2'-0"	2'-0"			4'-0"
COUPLER	BACKWALL	6	4					3'-10"

BENT 1 - LEFT BRIDGE

BAR	LOCATION	SIZE	NO. REQ'D	BENDING DIMENSIONS A	B	C	D	LENGTH
A480	CAP	4	10					4'-2"
A481	CAP	4	5					9'-4"
A580	CAP	5	12					28'-8"
A980	CAP	9	10					28'-8"
A1180	CAP	11	10					28'-8"
B980	COLUMN	9	32	26'-8"				27'-11"
D680	FOOTING	6	80	9'-5"				10'-9"
H580	CAP	5	4	4'-2"	2'-8"			9'-6"
H581	CAP	5	12	2'-11"	6'-3"			15'-5"
H582	FOOTING	5	80	9'-5"	2'-2"			13'-9"
L580	CAP	5	70	2'-11"	6"	2'-8"		11'-8"
LS480	COLUMN	4	50	2'-2"	2'-2"			9'-6"
R580	CAP	5	20	6'-3"	1'-0"			7'-3"
R980	FOOTING	9	32	7'-0"	1'-10"			8'-10"

BENT 2 - LEFT BRIDGE

BAR	LOCATION	SIZE	NO. REQ'D	BENDING DIMENSIONS A	B	C	D	LENGTH
A480	CAP	4	10					4'-2"
A481	CAP	4	5					9'-4"
A580	CAP	5	12					28'-8"
A980	CAP	9	10					28'-8"
A1180	CAP	11	10					28'-8"
B981	COLUMN	9	32	26'-6"				27'-9"
D680	FOOTING	6	80	9'-5"				10'-9"
H580	CAP	5	4	4'-2"	2'-8"			9'-6"
H581	CAP	5	12	2'-11"	6'-3"			15'-5"
H582	FOOTING	5	80	9'-5"	2'-2"			13'-9"
L580	CAP	5	70	2'-11"	6"	2'-8"		11'-8"
LS480	COLUMN	4	48	2'-2"	2'-2"			9'-6"
LS481	RISER BLOCK	4	3	1'-10"	5"			5'-4"
R580	CAP	5	20	6'-3"	10"			6'-10"
R581	RISER BLOCK	5	12	1'-8"	1'-7"			3'-4"
R980	FOOTING	9	32	7'-0"	1'-10"			8'-10"

BENT 3 - LEFT BRIDGE

BAR	LOCATION	SIZE	NO. REQ'D	BENDING DIMENSIONS A	B	C	D	LENGTH
A480	CAP	4	10					4'-2"
A481	CAP	4	5					9'-4"
A580	CAP	5	12					28'-8"
A980	CAP	9	10					28'-8"
A1180	CAP	11	10					28'-8"
B982	COLUMN	9	32	26'-8"				27'-11"
D680	FOOTING	6	80	9'-5"				10'-9"
H580	CAP	5	4	4'-2"	2'-8"			9'-6"
H581	CAP	5	12	2'-11"	6'-3"			15'-5"
H582	FOOTING	5	80	9'-5"	2'-2"			13'-9"
L580	CAP	5	70	2'-11"	6"	2'-8"		11'-8"
LS480	COLUMN	4	50	2'-2"	2'-2"			9'-6"
R580	CAP	5	20	6'-3"	1'-0"			7'-3"
R980	FOOTING	9	32	7'-0"	1'-10"			8'-10"

BENT 4 - LEFT BRIDGE

BAR	LOCATION	SIZE	NO. REQ'D	BENDING DIMENSIONS A	B	C	D	LENGTH
A480	CAP	4	10					4'-2"
A481	CAP	4	5					9'-4"
A580	CAP	5	12					28'-8"
A980	CAP	9	10					28'-8"
A1180	CAP	11	10					28'-8"
B983	COLUMN	9	32	25'-6"				26'-9"
D680	FOOTING	6	80	9'-5"				10'-9"
H580	CAP	5	4	4'-2"	2'-8"			9'-6"
H581	CAP	5	12	2'-11"	6'-3"			15'-5"
H582	FOOTING	5	80	9'-5"	2'-2"			13'-9"
L580	CAP	5	70	2'-11"	6"	2'-8"		11'-8"
LS480	COLUMN	4	46	2'-2"	2'-2"			9'-6"
R580	CAP	5	20	6'-3"	1'-0"			7'-3"
R980	FOOTING	9	32	7'-0"	1'-10"			8'-10"

SUPERSTRUCTURE (EPOXY) - RIGHT BRIDGE

BAR	LOCATION	SIZE	NO. REQ'D	BENDING DIMENSIONS A	B	C	D	LENGTH
A520E	SLAB (TRANS.)	5	326					30'-2"
A521E	SLAB (TRANS.)	5	322					31'-8"
A522E	SLAB (TRANS.)	5	542					30'-2"
A523E	SLAB (TRANS.)	5	535					31'-8"
SER. A524E	SLAB (TRANS.)	5	1	VARIES FROM 5'-8½" TO 29'-5" IN INC. OF 8⅞" (33 BARS)				579'-7"
SER. A525E	SLAB (TRANS.)	5	1	VARIES FROM 5'-2½" TO 29'-6" IN INC. 9⅜" OF (32 BARS)				555'-4"
SER. A526E	SLAB (TRANS.)	5	1	VARIES FROM 5'-7" TO 30'-11" IN INC. OF 9" (35 BARS)				638'-9"
SER. A527E	SLAB (TRANS.)	5	1	VARIES FROM 5'-8" TO 30'-11" IN INC. OF 9½" (33 BARS)				603'-8"
SER. A528E	SLAB (TRANS.)	5	1	VARIES FROM 5'-3" TO 29'-8½" IN INC. OF 5⅜" (56 BARS)				978'-10"
SER. A529E	SLAB (TRANS.)	5	1	VARIES FROM 5'-2½" TO 30'-1½" IN INC. OF 5⅝" (54 BARS)				954'-0"
SER. A530E	SLAB (TRANS.)	5	1	VARIES FROM 5'-5" TO 31'-4½" IN INC. OF 5⅜" (59 BARS)				1085'-5"
SER. A531E	SLAB (TRANS.)	5	1	VARIES FROM 5'-1" TO 31'-7" IN INC. OF 5⅝" (57 BARS)				1045'-0"
A532E	SLAB (TRANS.)	5	68					10'-0"
A590	DIAPHRAGM	5	96					8'-6"
A591	DIAPHRAGM	5	48					9'-6"
A620E	SLAB (LONGIT.)	6	690					60'-0"
A621E	SLAB (LONGIT.)	6	138					30'-0"
A622E	SLAB (NEG. REINF.)	6	61					24'-0"
A623E	SLAB (NEG. REINF.)	6	61					28'-0"
A624E	SLAB (NEG. REINF.)	6	61					35'-0"
A625E	SLAB (NEG. REINF.)	6	122					28'-0"
B520E	SLAB (TRANS.)	5	1190	4'-0"				4'-7"
B521E	SLAB (TRANS.)	5	16	10'-0"				10-7"
B570E	SLAB/PARAPET	5	1828	2'-1"				2'-8"
H590	DIAPHRAGM	5	48	1'-1"	5'-10"			12'-9"
K500E	K-BAR	5	1230	1'-0"	1'-0"	5½"		3'-11"
L490	DIAPHRAGM	4	36	1'-1½"	6"	4'-4"		11'-5"
L491	DIAPHRAGM	4	36	1'-1½"	6"	3'-7"		9'-11"
LS490	DIAPHRAGM	4	24	1'-2"	1'-0"			5'-4"
COUPLER	COUPLER BAR	5	1922					3'-8"

ABUTMENT 1 (LEFT SIDE & WING 5) - RIGHT BRIDGE

BAR	LOCATION	SIZE	NO. REQ'D	BENDING DIMENSIONS A	B	C	D	LENGTH
HA400	BACKWALL	4	18	1'-6"	2'-9"	1'-0"		5'-3"
A401	BACKWALL	4	15					4'-4"
A450	RDWY. NOTCH	4	1					28'-0"
A451	ABUT. FOOTING	4	4					10'-2"
A452	ABUT. FOOTING	4	11					2'-8"
A550	ABUT. FOOTING	5	5					25'-2"
A551	ABUT. FOOTING	5	2					26'-5"
A552	ABUT. FOOTING	5	2					28'-6"
A553	ABUT. FOOTING	5	5					29'-9"
A554	WING 5	5	2					6'-4"
A650	BACKWALL	6	16					28'-7"
A651	WING 5 FOOTING	6	12					13'-9
A652	WING 5	6	22					11-4
A653E	BACKWALL	6	2					46'-2"
A654E	BACKWALL	6	2					33'-10"
A699	ABUT. FOOTING	6	10					3'-0"
B570E	PARAPET/WINGWALL	5	10	2'-8"				3'-3"

REINFORCING STEEL CODE

TYPE	SIZE	SERIES
A	4	02

DIMENSIONS SHOWN ON THIS SHEET ARE OUTSIDE TO OUTSIDE OF BAR. STANDARD C.R.S.I. HOOK DETAILS SHALL APPLY, EXCEPT AS NOTED.

THE SUFFIX E, FOR BARS SO MARKED, DENOTES EPOXY COATED REINFORCEMENT.

PROJECT NO.	YEAR	SHEET NO.
18100-4148-04	2025	

REVISIONS

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

ABUTMENT 1 (LEFT SIDE & WING 5) CONT. - RIGHT BRIDGE

BAR	LOCATION	SIZE	NO. REQ'D	BENDING DIMENSIONS A	B	C	D	LENGTH
CD650	CORNER	6	22	4'-0"	4'-0"	3'-0¼"		8'-0"
CD651	CORNER	6	8	6'-0"	3'-0"	2'-3¼"		9'-0"
F640E	BACKWALL	6	28	7"	1'-6"	1'-1"	1'-7½"	4'-0"
H400E	PARAPET/WINGWALL	4	6	10½"	3'-11"			8'-9"
H401E	PARAPET/WINGWALL	4	1	9⅞"	3'-10"			8'-6"
H402E	PARAPET/WINGWALL	4	1	8¾"	3'-9"			8'-3"
H403E	PARAPET/WINGWALL	4	1	7⅝"	3'-8"			8'-0"
H404E	PARAPET/WINGWALL	4	1	6½"	3'-7"			7'-9"
H405E	BACKWALL	4	6	8"	1'-2"			3'-0"
SER. HD400E	PARAPET/WINGWALL	4	1	*	3'-11"	9"		33'-0"
SER. HD401E	PARAPET/WINGWALL	4	1	**	3'-11"	9"		42'-7"
H530	BACKWALL	5	28	1'-8"	6"			2'-8"
H550	BACKWALL	5	57	8"	6'-6"			13'-8"
H551	ABUT. FOOTING	5	3	2'-8"	2'-1"			6'-10"
H552	WING 5 FOOTING	5	3	2'-2"	2'-1"			6'-4"
H553	WING 5	5	13	1'-2'	6'-5"			14'-0"
H554	ABUT. FOOTING	5	5	2'-1"	2'-8"			7'-5"
L550	ABUT. FOOTING	5	24	2'-8"	6"	2'-1"		10'-0"
L551	WING 5 FOOTING	5	12	2'-2"	6"	2'-1"		9'-0"
L552	ABUT. FOOTING	5	1	5'-6"	6"	2'-1"		15'-8"
R600E	BACKWALL	6	17	1'-8"	1'-8"			3'-4"
R601E	BACKWALL	6	114	2'-0"	2'-0"			4'-0"
COUPLER	BACKWALL	6	4					3'-10"

ABUTMENT 1 (RIGHT SIDE & WING 6) - RIGHT BRIDGE

BAR	LOCATION	SIZE	NO. REQ'D	BENDING DIMENSIONS A	B	C	D	LENGTH
A655	WING 6	6	6					10'-9"
A656E	BACKWALL	6	2					48'-1"
A657E	BACKWALL	6	2					14'-4"
B570E	PARAPET/WINGWALL	5	8	2'-8"				3'-3"
CB601E	CORNER	6	4	3'-6"	3'-6"	2'-7½"		7'-0"
H400E	PARAPET/WINGWALL	4	6	10½"	3'-11"			8'-9"
H401E	PARAPET/WINGWALL	4	1	9⅞"	3'-10"			8'-6"
H402E	PARAPET/WINGWALL	4	1	8¾"	3'-9"			8'-3"
H403E	PARAPET/WINGWALL	4	1	7⅝"	3'-8"			8'-0"
H404E	PARAPET/WINGWALL	4	1	6½"	3'-7"			7'-9"
H405E	BACKWALL	4	14	8"	1'-2"			3'-0"
SER. HD400E	PARAPET/WINGWALL	4	1	*	3'-11"	9"		33'-0"
SER. HD401E	PARAPET/WINGWALL	4	1	**	3'-11"	9"		42'-7"

* DIM. A VARIES FROM 5⅞" TO 3¾" IN INC OF 1/16" (4 BARS TOTAL)
** DIM. A VARIES FROM 10" TO 6½" IN INC OF ⅞" (5 BARS TOTAL)

SEE SHEET BR-133-212 FOR BAR DIAGRAMS.

SEALED BY

RICHARD LOGAN COLBERT — REGISTERED ENGINEER — AGRICULTURE — COMMERCE — No. 117911 — STATE OF TENNESSEE
09/23/2025

Palmer ENGINEERING

PIN NO.: 105727.01
DESIGN BY: R.L. COLBERT DATE: 09/2025
DRAWN BY: M.D. SIMPSON DATE: 09/2025
SUPERVISED BY: G.S. WILSON DATE: 09/2025
CHECKED BY: R.L. COLBERT DATE: 09/2025

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

BILL OF STEEL
BRIDGE NO. BR-18-I0040-00.24 (LT&RT)
FED BRIDGE ID 18I00400001 & 18I00400002
INTERSTATE 40 OVER STATE ROUTE 24
CUMBERLAND COUNTY
2025

BR-133-213

9/23/2025 7:11:07 AM
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ABUTMENT 1 (RIGHT SIDE & WING 6) CONT. - RIGHT BRIDGE

BAR	LOCATION	SIZE	NO. REQ'D	BENDING DIMENSIONS A	B	C	D	LENGTH
H501	WING 6	5	11	1'-2"	1'-2"			3'-6"
R600E	BACKWALL	6	46	1'-8"	1'-8"			3'-4"
COUPLER	BACKWALL	6	4					3'-10"

ABUTMENT 2 (LEFT SIDE & WING 7) - RIGHT BRIDGE

BAR	LOCATION	SIZE	NO. REQ'D	BENDING DIMENSIONS A	B	C	D	LENGTH
HA400	BACKWALL	4	18	1'-6"	2'-9"	1'-0"		5'-3"
A402	BACKWALL	4	15					3'-7"
A470	RDWY. NOTCH	4	1					25'-5"
A471	ABUT. FOOTING	4	4					7'-10"
A472	ABUT. FOOTING	4	9					2'-8"
A570	ABUT. FOOTING	5	14					25'-3"
A571	BACKWALL	5	7					5'-8"
A670	BACKWALL	6	12					28'-5"
A671	BACKWALL	6	2					24'-11"
A672	WING 7 FOOTING	6	12					13'-1"
A673	WING 7	6	18					12'-0"
A674E	BACKWALL	6	2					43'-4"
A675E	BACKWALL	6	2					31'-5"
A699	ABUT. FOOTING	6	6					3'-0"
B570E	PARAPET/WINGWALL	5	16	2'-8"				3'-3"
CB670	CORNER	6	22	4'-6"	4'-6"	3'-3"		9'-0"
CD670	CORNER	6	4	2'-11"	2'-11"	1'-10"		5'-10"
F640E	BACKWALL	6	26	7"	1'-6"	1'-1"	1'-7½"	4'-0"
H400E	PARAPET/WINGWALL	4	6	10½"	3'-11"			8'-9"
H401E	PARAPET/WINGWALL	4	1	9⅞"	3'-10"			8'-6"
H402E	PARAPET/WINGWALL	4	1	8¾"	3'-9"			8'-3"
H403E	PARAPET/WINGWALL	4	1	7⅝"	3'-8"			8'-0"
H404E	PARAPET/WINGWALL	4	1	6½"	3'-7"			7'-9"
H405E	BACKWALL	4	3	8"	1'-2"			3'-0"
SER. HD400E	PARAPET/WINGWALL	4	1	*	3'-11"	9"		33'-0"
SER. HD401E	PARAPET/WINGWALL	4	1	**	3'-11"	9"		42'-7"
H530	BACKWALL	5	26	1'-8"	6"			2'-8"
H570	BACKWALL	5	46	8"	5'-8"			12'-0"
H571	BACKWALL	5	7	8"	4'-0"			8'-8"
H572	ABUT. FOOTING	5	3	2'-8"	2'-1"			6'-10"
H573	WING 7 FOOTING	5	2	2'-2"	2'-1"			6'-4"
H574	WING 7	5	16	1'-2'	5'-7"			12'-4"
L570	ABUT. FOOTING	5	24	2'-8"	6"	2'-1"		10'-0"
L571	WING 7 FOOTING	5	12	2'-2"	6"	2'-1"		9'-0"
R600E	BACKWALL	6	15	1'-8"	1'-8"			3'-4"
R601E	BACKWALL	6	106	2'-0"	2'-0"			4'-0"
COUPLER	BACKWALL	6	4					3'-10"

ABUTMENT 2 (RIGHT SIDE & WING 8) - RIGHT BRIDGE

BAR	LOCATION	SIZE	NO. REQ'D	BENDING DIMENSIONS A	B	C	D	LENGTH
A676	WING 8	6	6					12'-2"
A677E	BACKWALL	6	2					45'-5"
A678E	BACKWALL	6	2					13'-11"
B570E	PARAPET/WINGWALL	5	10	2'-8"				3'-3"
CD601E	CORNER	6	4	3'-6"	3'-6"	2'-6"		7'-0"
H400E	PARAPET/WINGWALL	4	6	10½"	3'-11"			8'-9"
H401E	PARAPET/WINGWALL	4	1	9⅞"	3'-10"			8'-6"
H402E	PARAPET/WINGWALL	4	1	8¾"	3'-9"			8'-3"
H403E	PARAPET/WINGWALL	4	1	7⅝"	3'-8"			8'-0"
H404E	PARAPET/WINGWALL	4	1	6½"	3'-7"			7'-9"
H405E	BACKWALL	4	14	8"	1'-2"			3'-0"
SER. HD400E	PARAPET/WINGWALL	4	1	*	3'-11"	9"		33'-0"
SER. HD401E	PARAPET/WINGWALL	4	1	**	3'-11"	9"		42'-7"
H501	WING 8	5	13	1'-2"	1'-2"			3'-6"
R600E	BACKWALL	6	44	1'-8"	1'-8"			3'-4"
COUPLER	BACKWALL	6	4					3'-10"

BENT 1 - RIGHT BRIDGE

BAR	LOCATION	SIZE	NO. REQ'D	BENDING DIMENSIONS A	B	C	D	LENGTH
A480	CAP	4	10					4'-2"
A481	CAP	4	5					9'-4"
A580	CAP	5	12					28'-8"
A980	CAP	9	10					28'-8"
A1180	CAP	11	10					28'-8"
B984	COLUMN	9	32	24'-10"				26'-1"
D680	FOOTING	6	80	9'-5"				10'-9"
H580	CAP	5	4	4'-2"	2'-8"			9'-6"
H581	CAP	5	12	2'-11"	6'-3"			15'-5"
H582	FOOTING	5	80	9'-5"	2'-2"			13'-9"
L580	CAP	5	70	2'-11"	6"	2'-8"		11'-8"
LS480	COLUMN	4	46	2'-2"	2'-2"			9'-6"
R580	CAP	5	20	6'-3"	1'-0"			7'-3"
R980	FOOTING	9	32	7'-0"	1'-10"			8'-10"

BENT 2 - RIGHT BRIDGE

BAR	LOCATION	SIZE	NO. REQ'D	BENDING DIMENSIONS A	B	C	D	LENGTH
A480	CAP	4	10					4'-2"
A481	CAP	4	5					9'-4"
A580	CAP	5	12					28'-8"
A980	CAP	9	10					28'-8"
A1180	CAP	11	10					28'-8"
B985	COLUMN	9	32	24'-1"				25'-4"
D680	FOOTING	6	80	9'-5"				10'-9"
H580	CAP	5	4	4'-2"	2'-8"			9'-6"
H581	CAP	5	12	2'-11"	6'-3"			15'-5"
H582	FOOTING	5	80	9'-5"	2'-2"			13'-9"
L580	CAP	5	70	2'-11"	6"	2'-8"		11'-8"
LS480	COLUMN	4	44	2'-2"	2'-2"			9'-6"
LS481	RISER	4	3	1'-10"	5"			5'-4"
R580	CAP	5	20	6'-3"	1'-0"			7'-3"
R581	RISER	5	12	1'-8"	1'-7"			3'-4"
R980	FOOTING	9	32	7'-0"	1'-10"			8'-10"

BENT 3 - RIGHT BRIDGE

BAR	LOCATION	SIZE	NO. REQ'D	BENDING DIMENSIONS A	B	C	D	LENGTH
A480	CAP	4	10					4'-2"
A481	CAP	4	5					9'-4"
A580	CAP	5	12					28'-8"
A980	CAP	9	10					28'-8"
A1180	CAP	11	10					28'-8"
B986	COLUMN	9	32	24'-3"				25'-6"
D680	FOOTING	6	80	9'-5"				10'-9"
H580	CAP	5	4	4'-2"	2'-8"			9'-6"
H581	CAP	5	12	2'-11"	6'-3"			15'-5"
H582	FOOTING	5	80	9'-5"	2'-2"			13'-9"
L580	CAP	5	70	2'-11"	6"	2'-8"		11'-8"
LS480	COLUMN	4	44	2'-2"	2'-2"			9'-6"
R580	CAP	5	20	6'-3"	1'-0"			7'-3"
R980	FOOTING	9	32	7'-0"	1'-10"			8'-10"

BENT 4 - RIGHT BRIDGE

BAR	LOCATION	SIZE	NO. REQ'D	BENDING DIMENSIONS A	B	C	D	LENGTH
A480	CAP	4	10					4'-2"
A481	CAP	4	5					9'-4"
A580	CAP	5	12					28'-8"
A980	CAP	9	10					28'-8"
A1180	CAP	11	10					28'-8"
B987	COLUMN	9	32	23'-8"				24'-11"
D680	FOOTING	6	80	9'-5"				10'-9"
H580	CAP	5	4	4'-2"	2'-8"			9'-6"
H581	CAP	5	12	2'-11"	6'-3"			15'-5"
H582	FOOTING	5	80	9'-5"	2'-2"			13'-9"
L580	CAP	5	70	2'-11"	6"	2'-8"		11'-8"
LS480	COLUMN	4	44	2'-2"	2'-2"			9'-6"
R580	CAP	5	20	6'-3"	1'-0"			7'-3"
R980	FOOTING	9	32	7'-0"	1'-10"			8'-10"

* DIM. A VARIES FROM 5⅞" TO 3¾" IN INC OF 1/16" (4 BARS TOTAL)
** DIM. A VARIES FROM 10" TO 6½" IN INC OF ⅞" (5 BARS TOTAL)

SEE SHEET BR-133-212 FOR BAR DIAGRAMS.

REINFORCING STEEL CODE

TYPE	SIZE	SERIES
A	4	02

DIMENSIONS SHOWN ON THIS SHEET ARE OUTSIDE TO OUTSIDE OF BAR. STANDARD C.R.S.I. HOOK DETAILS SHALL APPLY, EXCEPT AS NOTED.

THE SUFFIX E, FOR BARS SO MARKED, DENOTES EPOXY COATED REINFORCEMENT.

PROJECT NO.	YEAR	SHEET NO.
18100-4148-04	2025	

REVISIONS

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

SEALED BY

RICHARD LOGAN COLBERT — REGISTERED ENGINEER — AGRICULTURE — No. 117915 — STATE OF TENNESSEE
R. Logan Colbert
09/23/2025

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

BILL OF STEEL
BRIDGE NO. BR-18-I0040-00.24 (LT&RT)
FED BRIDGE ID 18I00400001 & 18I00400002
INTERSTATE 40 OVER STATE ROUTE 24
CUMBERLAND COUNTY
2025

BR-133-214

Palmer ENGINEERING

PIN NO.: 105727.01
DESIGN BY: R.L. COLBERT DATE: 09/2025
DRAWN BY: M.D. SIMPSON DATE: 09/2025
SUPERVISED BY: G.S. WILSON DATE: 09/2025
CHECKED BY: R.L. COLBERT DATE: 09/2025

9/23/2025 7:11:08 AM
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PROJECT NO.	YEAR	SHEET NO.
18100-4148-04	2025	

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
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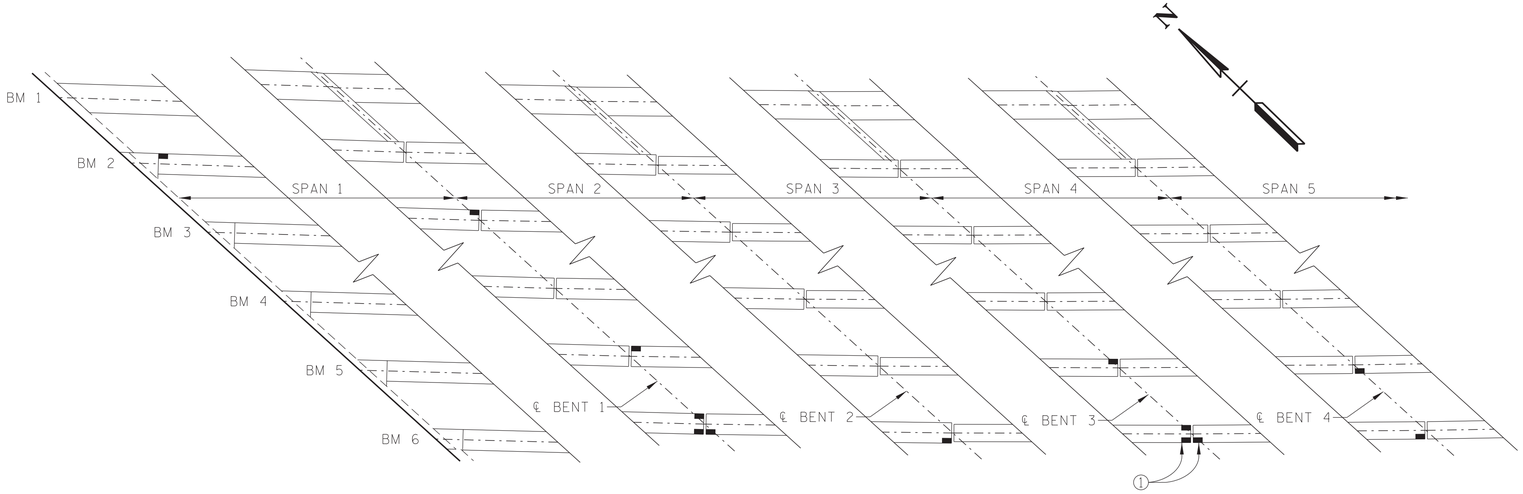
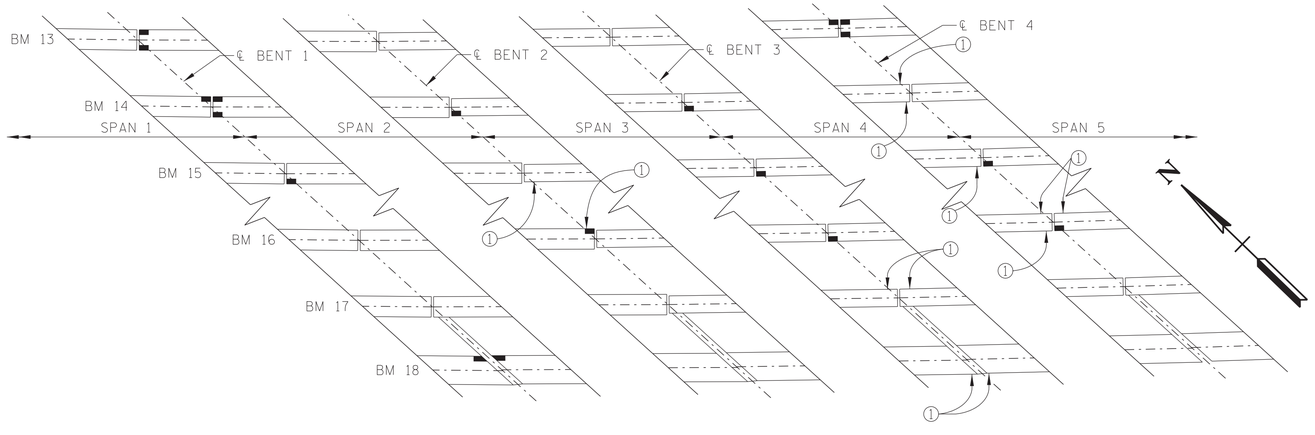


PARTIAL FRAMING PLAN - LEFT BRIDGE

■ DENOTES LOCATIONS OF BEAM SPALLS TO BE REPAIRED. SEE BEAM REPAIR DETAILS THIS SHEET.

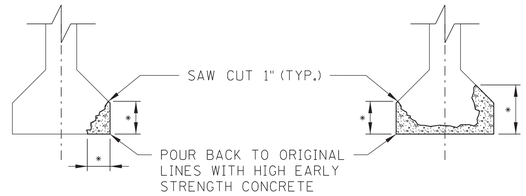
① DENOTES CRACK(S) TO BE EPOXY INJECTED. SEE EPOXY INJECTION NOTES ON SHEET BR-133-218.



PARTIAL FRAMING PLAN - RIGHT BRIDGE

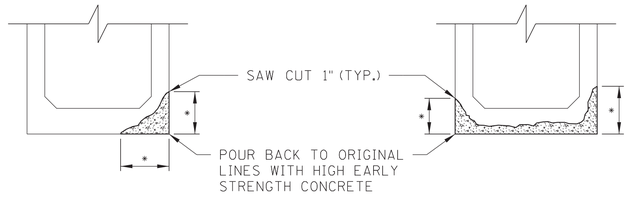
■ DENOTES LOCATIONS OF BEAM SPALLS TO BE REPAIRED. SEE BEAM REPAIR DETAILS THIS SHEET.

① DENOTES CRACK(S) TO BE EPOXY INJECTED. SEE EPOXY INJECTION NOTES ON SHEET BR-133-218.



I-BEAM REPAIR DETAILS

(BEAMS "2" THRU "6" - LEFT BRIDGE & BEAMS "1" THRU "5" - RIGHT BRIDGE)



BOX BEAM REPAIR DETAILS

(BEAM "1" - LEFT BRIDGE & BEAM "6" - RIGHT BRIDGE)

* REMOVE CONCRETE TO A DEPTH OF ¾" BEHIND ANY EXPOSED PRESTRESSING STRAND OR REINFORCING STEEL. SEE PLAN AND DETAILS THIS SHEET FOR APPROX. LIMITS AND LOCATIONS. FINAL LIMITS AND LOCATIONS OF REPAIRS TO BE DESIGNATED BY THE ENGINEER.

THE COST OF REMOVING PORTIONS OF THE EXISTING CONCRETE WITHIN THE LIMITS SHOWN, SAW CUTTING, COMPLETELY CLEANING EXISTING REINFORCING STEEL, HIGH EARLY STRENGTH CONCRETE, FORMING, LABOR, AND ALL MISCELLANEOUS MATERIAL NECESSARY TO COMPLETE THE REPAIRS AS SHOWN SHALL BE INCLUDED IN PRICE BID FOR ITEM NO. 604-10.42, CONCRETE REPAIRS, C.F.

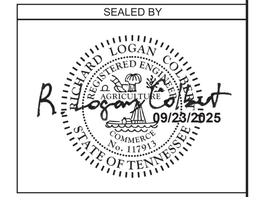
CONTRACTOR TO TAKE EXTREME CARE WHEN REMOVING DELAMINATED CONCRETE SO AS NOT TO DAMAGE EXISTING REINFORCING STEEL OR PRESTRESSING STRANDS. ALL EXISTING REINFORCING STEEL AND PRESTRESSING STRAND SHALL BE COMPLETELY CLEANED TO THE SATISFACTION OF THE ENGINEER BEFORE REPOURING. ANY REINFORCING STEEL DAMAGED DURING THIS WORK SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE STABILITY OF THE STRUCTURE DURING REPAIRS TO THE BEAMS. DETAILS OF ANY 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 THE BEGINNING OF ANY BEAM REPAIR. COST TO BE INCLUDED IN ITEM NO. 604-10.42, CONCRETE REPAIRS, C.F.

ESTIMATED QUANTITIES

LOCATION OF REPAIR	ITEM 604-10.42 APPROX. REPAIR AREAS (C.F.)		ITEM 604-10.62 APPROX. REPAIR AREAS (L.F.)	
	LT. BR.	RT. BR.	LT. BR.	RT. BR.
SPAN 1	6	2	-	-
SPAN 2	3	8	-	1
SPAN 3	3	1	1	4
SPAN 4	2	4	1	10
SPAN 5	1	4	-	1
TOTALS	15	19	2	16

SEALED BY



STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

SUPERSTRUCTURE REPAIRS
BRIDGE NO. BR-18-I0040-00.24 (LT&RT)
FED BRIDGE ID 18I00400001 & 18I00400002
INTERSTATE 40 OVER STATE ROUTE 24
CUMBERLAND COUNTY
2025

BR-133-215

Palmer ENGINEERING

PIN NO.: 105727.01

DESIGN BY:	R.L. COLBERT	DATE:	09/2025
DRAWN BY:	M.D. SIMPSON	DATE:	09/2025
SUPERVISED BY:	G.S. WILSON	DATE:	09/2025
CHECKED BY:	R.L. COLBERT	DATE:	09/2025

9/23/2025 7:11:10 AM
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PROJECT NO.	YEAR	SHEET NO.
18100-4148-04	2025	

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
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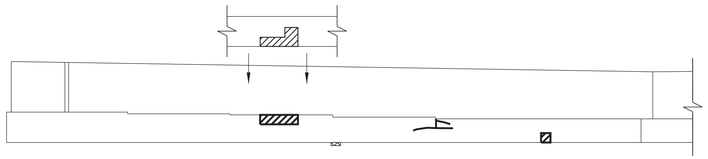

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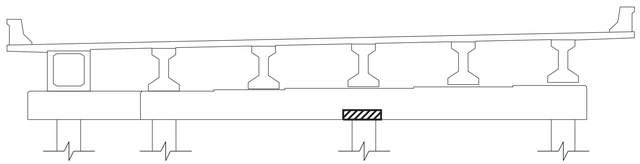
(LOOKING BACK)



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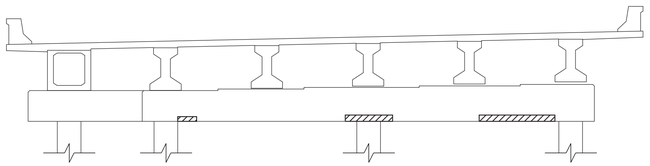
(LOOKING AHEAD)



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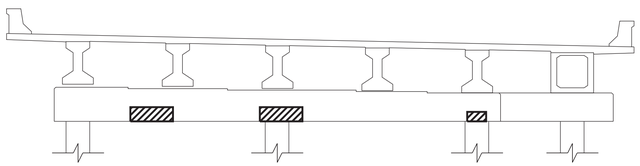

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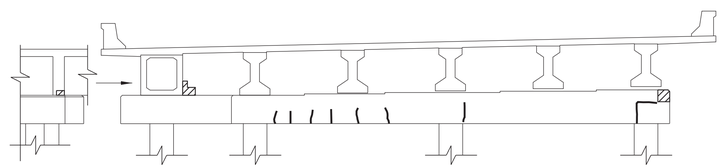
(LOOKING BACK)



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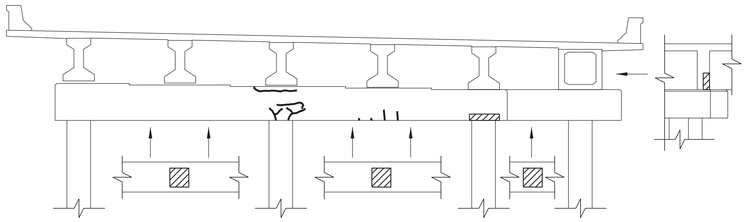

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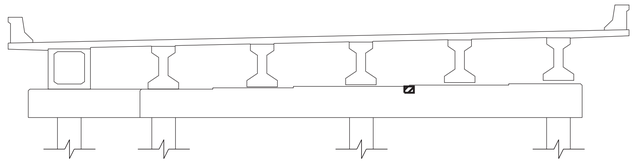

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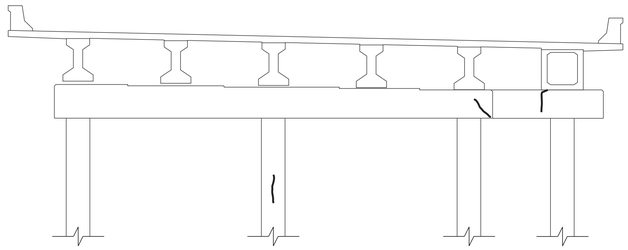

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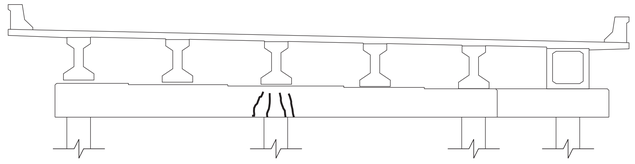

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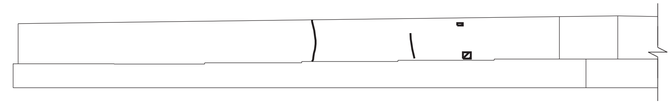


ABUT. 2 (LEFT BRIDGE)
(LOOKING AHEAD)

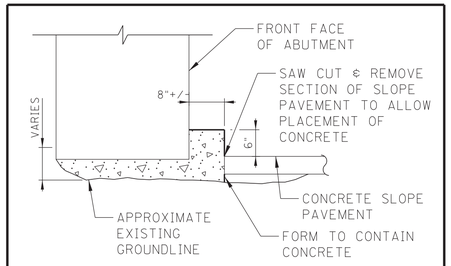
SEALED BY

RICHARD LOGAN COLBERT
REGISTERED ENGINEER
AGRICULTURE
09/23/2025
SUMMER
No. 117915
STATE OF TENNESSEE

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

SUBSTRUCTURE REPAIRS
BRIDGE NO. BR-18-I0040-00.24 (LT&RT)
FED BRIDGE ID 18I00400001 & 18I00400002
INTERSTATE 40 OVER STATE ROUTE 24
CUMBERLAND COUNTY
2025

BR-133-216



ABUTMENT VOID REPAIR

ESTIMATED QUANTITIES

LOCATION OF REPAIR	ITEM 604-10.05 AND/OR 604-10.54 APPROX. REPAIR AREAS (S.F.)	ITEM 604-10.62 APPROX. REPAIR AREAS (L.F.)	ITEM 604-10.55 APPROX. REPAIR AREAS (C.Y.)
LEFT BRIDGE			
ABUT. 1	8	7	1
BENT 1	23	17	-
BENT 2	20	-	-
BENT 3	1	14	-
BENT 4	4	25	-
ABUT. 2	1	8	-
TOTAL	57	71	1

DENOTES LOCATION TO BE REPAIRED UNDER ITEM NO. 604-10.55, CONCRETE (FOUNDATION REPAIRS), C.Y. SEE ABUTMENT VOID REPAIR DETAIL THIS SHEET.

DENOTES AREA TO BE REPAIRED UNDER ITEM NO. 604-10.05 AND/OR 604-10.54. FOR DETAILS SHOWING AREAS OF EXISTING SPALLED OR DELAMINATED CONCRETE SURFACES TO BE REMOVED AND REPAIRED, SEE SHEET BR-133-218.

DENOTES CRACK TO BE REPAIRED UNDER ITEM NO. 604-10.58 AND 604-10.62. SEE EPOXY INJECTION NOTES ON SHEET BR-133-218.

Palmer ENGINEERING

PIN NO.:	105727.01		
DESIGN BY:	R.L. COLBERT	DATE:	09/2025
DRAWN BY:	M.D. SIMPSON	DATE:	09/2025
SUPERVISED BY:	G.S. WILSON	DATE:	09/2025
CHECKED BY:	R.L. COLBERT	DATE:	09/2025

9/23/2025 7:11:12 AM
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PROJECT NO.	YEAR	SHEET NO.
18100-4148-04	2025	

REVISIONS

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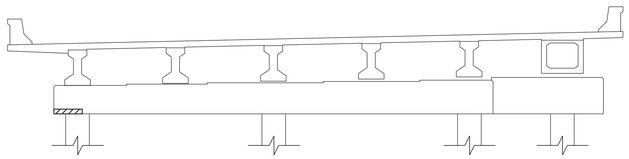
	- -		



ABUT. 1 (RIGHT BRIDGE)
(LOOKING BACK)



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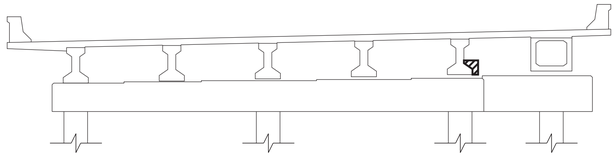

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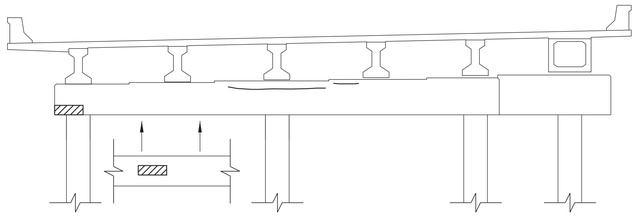

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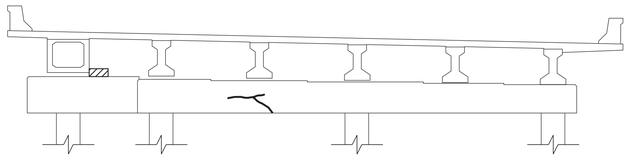

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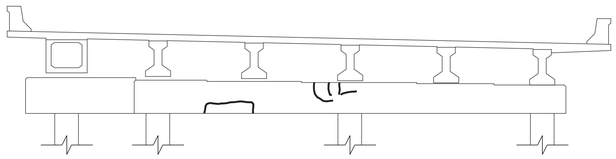

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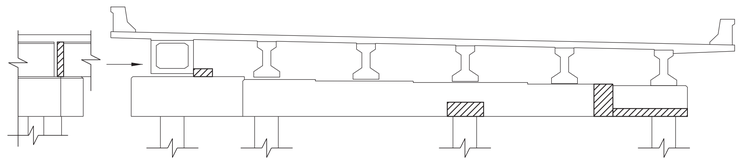

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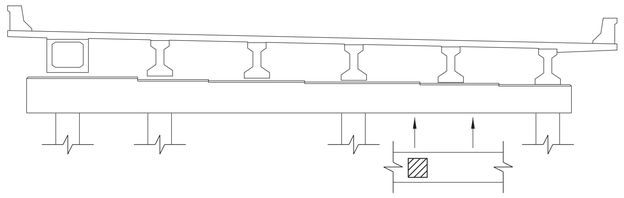

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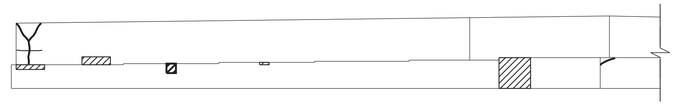
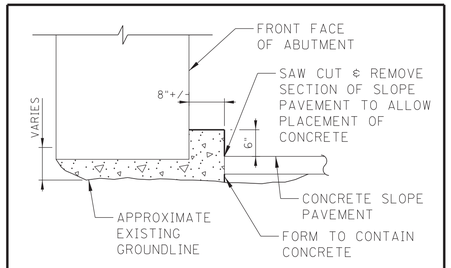


ABUT. 2 (RIGHT BRIDGE)
(LOOKING AHEAD)



ABUTMENT VOID REPAIR

ESTIMATED QUANTITIES

LOCATION OF REPAIR	ITEM 604-10.05 AND/OR 604-10.54 APPROX. REPAIR AREAS (S.F.)	ITEM 604-10.62 APPROX. REPAIR AREAS (L.F.)	ITEM 604-10.55 APPROX. REPAIR AREAS (C.Y.)
RIGHT BRIDGE			
ABUT. 1	-	-	1
BENT 1	30	14	-
BENT 2	4	4	-
BENT 3	6	-	-
BENT 4	2	16	-
ABUT. 2	17	10	-
TOTAL	59	44	1

DENOTES LOCATION TO BE REPAIRED UNDER ITEM NO. 604-10.55, CONCRETE (FOUNDATION REPAIRS), C.Y. SEE ABUTMENT VOID REPAIR DETAIL THIS SHEET.

DENOTES AREA TO BE REPAIRED UNDER ITEM NO. 604-10.05 AND/OR 604-10.54. FOR DETAILS SHOWING AREAS OF EXISTING SPALLED OR DELAMINATED CONCRETE SURFACES TO BE REMOVED AND REPAIRED, SEE SHEET BR-133-218.

DENOTES CRACK TO BE REPAIRED UNDER ITEM NO. 604-10.58 AND 604-10.62. SEE EPOXY INJECTION NOTES ON SHEET BR-133-218.

SEALED BY

RICHARD LOGAN COLBERT — REGISTERED ENGINEER — AGRICULTURE — COMMERCE — No. 117911 — STATE OF TENNESSEE

R. Logan Colbert 09/23/2025

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

SUBSTRUCTURE REPAIRS
BRIDGE NO. BR-18-I0040-00.24 (LT&RT)
FED BRIDGE ID 18I00400001 & 18I00400002
INTERSTATE 40 OVER STATE ROUTE 24
CUMBERLAND COUNTY
2025

Palmer ENGINEERING

PIN NO.:	105727.01		
DESIGN BY:	R.L. COLBERT	DATE:	09/2025
DRAWN BY:	M.D. SIMPSON	DATE:	09/2025
SUPERVISED BY:	G.S. WILSON	DATE:	09/2025
CHECKED BY:	R.L. COLBERT	DATE:	09/2025

BR-133-217

9/23/2025 7:11:13 AM
J:\Structures\11685-14_CumberlandCo_I-40_over_SR24_(orig_10705-35)\Drawings\Final_dgn\11685-14_STR_SUB.dgn

PROJECT NO.	YEAR	SHEET NO.
18100-4148-04	2025	

REVISIONS

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

SPECIAL NOTES FOR EPOXY INJECTION

UNLESS OTHERWISE NOTED, THE INTENT OF THIS SPECIFICATION IS FOR DESIGNATED CRACKS TO BE INJECTED THEIR FULL LENGTH AND DEPTH.

DESIGNATED CRACKS SHALL BE INJECTED WITH AN APPROVED EPOXY RESIN ADHESIVE FILLING ALL VOIDS FOR THE CRACK DEPTH OR THICKNESS OF THE MEMBER. THE EPOXY RESIN ADHESIVE SHALL BE ON THE CURRENT QUALIFIED PRODUCTS LIST MAINTAINED BY THE DIVISION OF MATERIALS AND TEST. ALL CRACKS SHALL BE INJECTED USING AN ADHESIVE SUITABLE FOR THE FIELD CONDITIONS (CRACK WIDTH, TEMPERATURE, HUMIDITY, ETC.) RECOMMENDED BY THE ADHESIVE MANUFACTURER AS SHOWN ON MATERIAL DATA SHEETS. FOLLOWING INJECTION, ALL INJECTION PORTS AND CAPPING MATERIAL SHALL BE REMOVED FROM EXPOSED SURFACES LEAVING THE SURFACE SMOOTH AND FLUSH WITH THE SURROUNDING CONCRETE SURFACES. THIS WORK ALSO INCLUDES MAKING ANY EXISTING INJECTION PORTS (FROM A PREVIOUS REPAIR PROJECT) SMOOTH AND FLUSH WITH THE SURROUNDING CONCRETE SURFACES.

THE CONTRACTOR SHALL HAVE SUFFICIENT EXPERIENCE AND TRAINING TO PERFORM THE EPOXY INJECTION IN ACCORDANCE WITH THESE PLANS. PRIOR TO PERFORMING ANY WORK, THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER A WRITTEN PROCEDURE FOR PERFORMING THE EPOXY INJECTION. THE PROCEDURE SHALL DESCRIBE IN DETAIL HOW THE WORK WILL BE PERFORMED. THE PROCEDURE SHALL INCLUDE, BUT NOT BE LIMITED TO THE FOLLOWING INFORMATION:

1) DESCRIPTION OF EQUIPMENT.
   - A. THE INJECTION EQUIPMENT SHALL BE OF THE TYPE THAT MIXES ADHESIVE COMPONENTS AT THE INJECTION HEAD.
   - B. THE INJECTION EQUIPMENT SHALL BE CAPABLE OF DISCHARGING MIXED ADHESIVE AT ANY PRESSURE UP TO 300 PSI. THE INJECTION EQUIPMENT SHALL BE EQUIPPED WITH GAUGES WHICH CAN MEASURE THE INJECTION PRESSURE AND VOLUME.
2) EQUIPMENT CALIBRATION PROCEDURES AND SCHEDULE.
3) MATERIALS TO BE USED (INCLUDING MANUFACTURER DATA SHEETS).
   - A. CAPPING MATERIAL
   - B. EPOXY ADHESIVE (TYPE TO BE APPROPRIATE FOR CRACK SIZES TO BE INJECTED).
4) PORT SPACING
   - A. PORT SPACING SHALL NOT BE LESS THAN THE THICKNESS OF THE CONCRETE IN THAT LOCATION.
5) INJECTION SEQUENCE
   - A. INJECTION SHALL PROCEED FROM LOWER END OF CRACK ALONG ADJACENT PARTS.
   - B. SKIPPING OF PORTS DURING INJECTION SHALL NOT BE ALLOWED.

THE CONTRACTOR SHALL HAVE THE MANUFACTURER'S INSTRUCTIONS FOR PROPORTIONING AND MIXING AVAILABLE AT THE JOB SITE AT ALL TIMES AND SHALL ENSURE THAT THE EQUIPMENT IS SUPPLYING THE MIXED ADHESIVE IN THE CORRECT PROPORTIONS.

TO ENSURE PROPER MIXING AND PROPORTIONING, SAMPLES SHALL BE TAKEN FROM THE INJECTOR HEAD. SAMPLES SHALL BE TAKEN AT THE START OF EACH WORKDAY AND EACH TIME THE ADHESIVE RESERVOIRS ARE REFILLED. THE SAMPLES SHALL BE IN A TEST CUP. THE SAMPLE SHALL BE MONITORED TO ENSURE THAT THE CURE TIME IS IN COMPLIANCE WITH THE MANUFACTURER'S DATA SHEETS. IF THE SAMPLES DO NOT CURE IN THE SPECIFIED TIME THEN THE EQUIPMENT USED TO PRODUCE THE SAMPLE SHALL NOT BE USED UNTIL THE PROBLEM IS CORRECTED.

CORE SAMPLES SHALL BE TAKEN AS VERIFICATION OF THE QUALITY OF WORK. THE CONTRACTOR SHALL TAKE ONE (1) TWO (2) INCH DIAMETER (FULL DEPTH OF CONCRETE AT LOCATION CORED) CORE SAMPLE STARTING WITH THE FIRST REPAIR LOCATION THEN EVERY TENTH REPAIR LOCATION AFTERWARDS. WORK SHALL NOT PROCEED UNTIL THE CORE SAMPLE IS TAKEN AND ACCEPTED. ALL CORE SAMPLES AND HOLES SHALL BE INDEXED FOR FUTURE REFERENCE. THE ENGINEER SHALL DESIGNATE ALL LOCATIONS TO BE CORED. IF ANY CORES SHOW UNACCEPTABLE RESULTS, ALL WORK SHALL BE STOPPED UNTIL THE CONTRACTOR SUBMITS A PROPOSAL FOR CORRECTING UNACCEPTABLE WORK.

THE INITIAL CORE WILL ALSO SERVE TO QUALIFY THE FOREMAN FOR THIS WORK. IF AT ANY TIME A NEW FOREMAN IS USED, HE SHALL BE QUALIFIED WITH A CORE SAMPLE.

THE CONTRACTOR, AT HIS EXPENSE, SHALL REPAIR ALL CORE HOLES WITH AN APPROVED CEMENTITIOUS PATCHING MATERIAL.

CORE SAMPLES SHALL BE VISUALLY INSPECTED TO CONFIRM THAT CRACKS ARE COMPLETELY FILLED WITH ADHESIVE. ANY CORE HAVING LESS THAN 95% OF THE CRACK FILLED WITH ADHESIVE SHALL BE CONSIDERED UNACCEPTABLE AND BE REJECTED.

CORE SAMPLES SHALL BE TESTED FOR BOND STRENGTH. SAMPLES MAY BE FRACTURED BY HAMMER BLOW TO CRACK AREA OR THROWN AT A HARD SURFACE. IF ADHESIVE FAILURE OCCURS BEFORE CONCRETE FAILURE, THE CORE SHALL BE CONSIDERED UNACCEPTABLE AND REJECTED.

PAYMENT FOR EPOXY INJECTION CRACK REPAIR SHALL BE MADE UNDER ITEM NUMBERS:

604-10.62, EPOXY INJECTION REPAIR (COMPLETE AND IN PLACE), L.F. AND
604-10.58, EPOXY INJECTION (INJECTION), GAL.

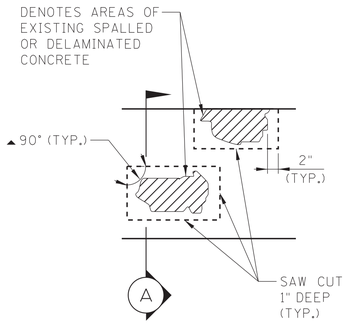
PRICE BID FOR ITEM NUMBER 604-10.62, EPOXY INJECTION REPAIR (COMPLETE AND IN PLACE), L.F., SHALL INCLUDE COST OF ALL LABOR AND MATERIALS (EXCEPT ADHESIVE) FOR GRINDING, FOR SURFACE PREPARATION, CRACK PREPARATION, CAPPING, INJECTION OF ADHESIVE, ALL SAMPLING AND TESTING, REMOVAL OF CAPPING MATERIAL AND PORTS, AND OTHER INCIDENTALS. CRACKS SHALL BE MEASURED FOR PAYMENT ALONG THE LENGTH OF THE VISIBLE SURFACE CRACK.

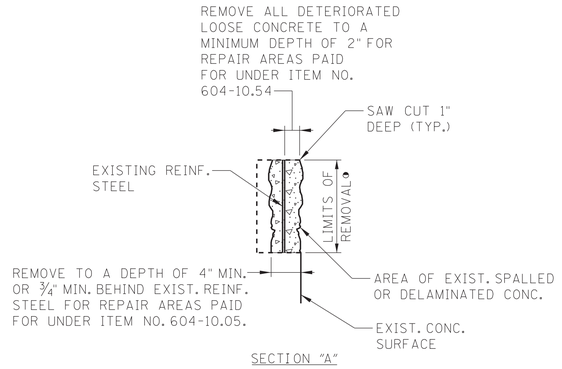
PRICE BID ALSO INCLUDES ALL COSTS ASSOCIATED WITH MAKING THE EXISTING INJECTION PORTS (FROM A PREVIOUS REPAIR PROJECT) SMOOTH AND FLUSH WITH THE SURROUNDING CONCRETE SURFACE.

PRICE BID FOR ITEM NUMBER 604-10.58, EPOXY INJECTION (INJECTION), GAL., SHALL INCLUDE COST FOR ADHESIVE MATERIAL INJECTED ONLY.

NO PAYMENT SHALL BE MADE FOR REWORK DEEMED NECESSARY BY FAILURE OF ADHESIVE SAMPLES OR CORE SAMPLES.

ALL WORK INCLUDING SAMPLING AND TESTING SHALL BE IN THE PRESENCE OF THE ENGINEER OR HIS REPRESENTATIVE OR CONTRACT INSPECTORS. ANY WORK DONE WITHOUT INSPECTORS PRESENT SHALL NOT BE PAID FOR. THE CONTRACTOR SHALL PROVIDE THE ENGINEER WITH WEEKLY SCHEDULES OF WORK TO BE PERFORMED. SCHEDULES SHALL BE SUBMITTED AT LEAST THREE (3) DAYS IN ADVANCE OF WORK TO BE DONE. THE ENGINEER SHALL BE NOTIFIED OF ANY CHANGE IN THE SCHEDULE A MINIMUM OF TWENTY-FOUR (24) HOURS IN ADVANCE OF CHANGE.





SECTION "A"

DETAILS SHOWING AREAS OF EXIST. 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.

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. ALL WORK MUST MEET WITH THE FULL APPROVAL OF THE ENGINEER.

THE ENGINEER SHALL HAVE THE OPTION OF DESIGNATING A SPALLED OR DELAMINATED AREA TO BE REPAIRED UNDER ITEM NO. 604-10.05 OR 604-10.54. PATCHING MATERIAL FOR ITEM NO. 604-10.05 SHALL BE HIGH EARLY STRENGTH CONCRETE. PATCHING MATERIAL FOR ITEM NO. 604-10.54 SHALL BE A POLYMER MODIFIED CEMENTITIOUS STRUCTURAL PATCHING MATERIAL. SEE QUALIFIED PRODUCTS LIST (SECTION B, OPL 13.009).

COST OF SAW CUTTING, REMOVING SPALLED OR DELAMINATED CONCRETE, CLEANING, PATCHING MATERIAL, LABOR, AND ANY MISCELLANEOUS MATERIALS NECESSARY TO COMPLETE THE REPAIRS AS SHOWN TO BE INCLUDED IN ITEM NO. 604-10.54, CONCRETE REPAIRS, S.F. OR ITEM NO. 604-10.05, CONCRETE, S.F.

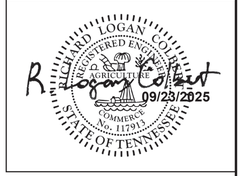
DURING SUBSTRUCTURE REPAIRS, ANY EXISTING REINFORCING STEEL EXHIBITING MORE THAN 20 PERCENT SECTION LOSS SHALL BE REPAIRED. EITHER NEW IN-KIND REINFORCING SHALL BE SPLICED TO THE EXISTING BARS OR THE BARS SHALL BE REPLACED AS DIRECTED BY THE ENGINEER. THE COST OF ANY NEW REINFORCING STEEL REQUIRED TO COMPLETE THE SUBSTRUCTURE REPAIRS SHALL BE INCLUDED IN ITEM NO. 604-10.05, CONCRETE, S.F. ANY DAMAGE TO EXISTING REINFORCING STEEL DURING CONCRETE REMOVAL SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.

THE ENGINEER SHALL DESIGNATE ALL SPALLED OR DELAMINATED CONCRETE REPAIR AREAS IN THE FIELD. QUANTITIES GIVEN ARE APPROXIMATE.

POWER DRIVEN HAND 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.

PNEUMATICALLY PLACED CONCRETE IS NOT ALLOWED.

SEALED BY



STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

CONCRETE REPAIR DETAILS
BRIDGE NO. BR-18-I0040-00.24 (LT&RT)
FED BRIDGE ID 18I00400001 & 18I00400002
INTERSTATE 40 OVER STATE ROUTE 24
CUMBERLAND COUNTY
2025

BR-133-218

Palmer ENGINEERING

PIN NO.:	105727.01		
DESIGN BY:	R.L. COLBERT	DATE:	09/2025
DRAWN BY:	M.D. SIMPSON	DATE:	09/2025
SUPERVISED BY:	G.S. WILSON	DATE:	09/2025
CHECKED BY:	R.L. COLBERT	DATE:	09/2025

9/23/2025 7:11:15 AM
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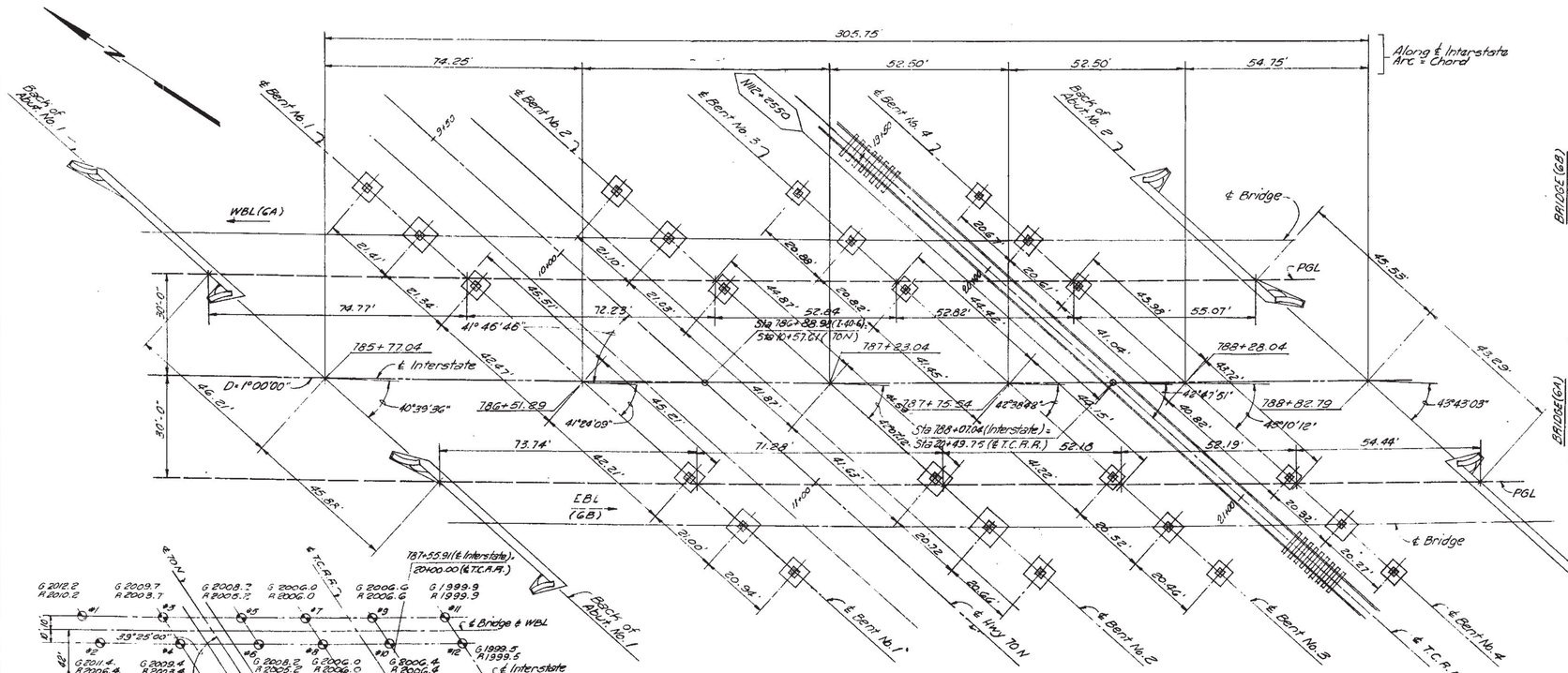
FED. ROAD DIST. No.		FEDERAL AID PROJECT No.	FISCAL YEAR	SHEET No.	TOTAL SHEETS
3	TENN	I40-6(29) 304 ~~307~~		50	~~51~~ 307



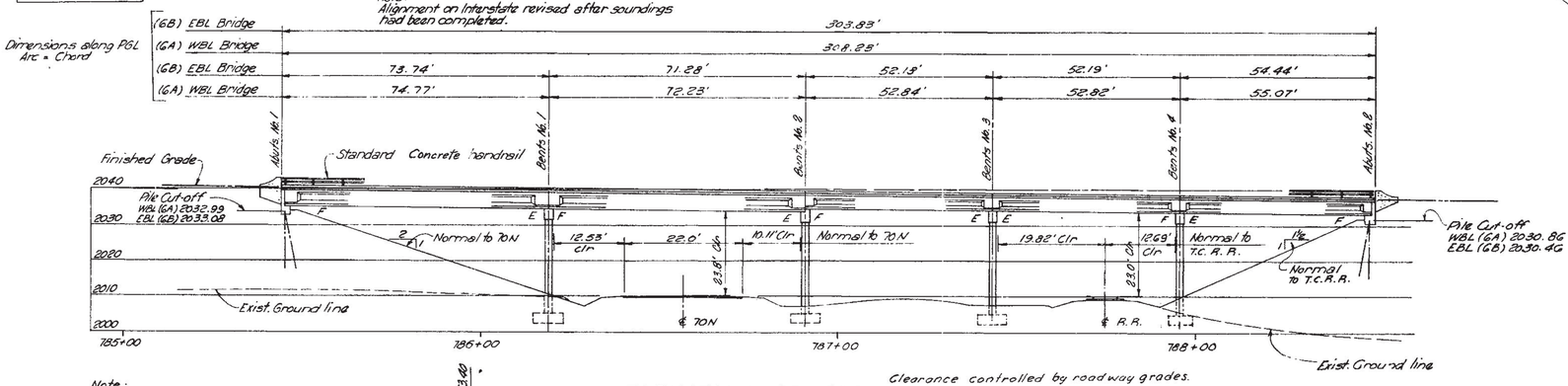
FOUNDATION PLAN - BRIDGES (6A) & (6B)

Scale 1" = 20'

SOUNDING LAY-OUT

N.T.S.

Note:
Alignment on Interstate revised after soundings had been completed.

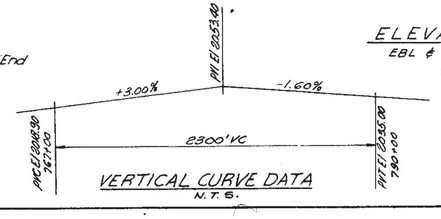


Clearance controlled by roadway grades.

Note:
F - Indicates Fixed End
E - Indicates Expansion End

ELEVATION - BRIDGES

EBL & WBL BRIDGES SIMILAR
Scale 1" = 20'



VERTICAL CURVE DATA

N.T.S.

ESTIMATED QUANTITIES

BRIDGE (6B) EAST BOUND LANE

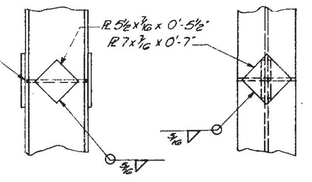
ITEM NO.	17.2	17.4	135-4	135-12	702	137-3	132-1	17.5	154-1P	154-1N	
ITEMS	EXCAV. DRY	EXCAV. ROCK	CLASS "A" CONC.	REINF. STEEL	CONCRETE HANDRAIL	10BP42 PILES	STRUCT. STEEL *	ROCK DRILLING	"AASHO" "I" BEAM GIRDERS TYPE IV 36" L=71.6ft	"AASHO" "I" BEAM GIRDERS TYPE V 36" L=52.2ft	
UNIT	CU.YD.	CU.YD.	CU. YDS.	LBS.	LIN. FT.	LIN. FT.	LBS.	LIN. FT.	EACH	EACH	
SUPERSTRUCTURE			260.7	83,478	607		2160				
GIRDERS									10	15	
ABUTMENT NO. 1			27.6	3045							
ABUTMENT NO. 2			25.4	2954							
BENT NO. 1	21	52	48.0	11890				18			
BENT NO. 2	39	9	45.4	10708				18			
BENT NO. 3		28	42.9	8618				18			
BENT NO. 4		22	42.9	8523				18			
TOTALS	60	111	492.2	128,424	607	495	2160	72	10	15	

BRIDGE (6A) WEST BOUND LANE

ITEM NO.	17.2	17.4	135-4	135-12	702	137-3	132-1	17.5	154-1P	154-1N	
ITEMS	EXCAV. DRY	EXCAV. ROCK	CLASS "A" CONC.	REINF. STEEL	CONCRETE HANDRAIL	10BP42 PILES	STRUCT. STEEL *	ROCK DRILLING	"AASHO" "I" BEAM GIRDERS TYPE IV 36" L=71.6ft	"AASHO" "I" BEAM GIRDERS TYPE V 36" L=52.2ft	
UNIT	CU.YD.	CU.YD.	CU. YDS.	LBS.	LIN. FT.	LIN. FT.	LBS.	LIN. FT.	EACH	EACH	
SUPERSTRUCTURE			265.1	85,333	618		2200				
GIRDERS									10	15	
ABUTMENT NO. 1			27.6	3079							
ABUTMENT NO. 2			25.6	2984							
BENT NO. 1	48	21	48.4	11152				18			
BENT NO. 2	31	18	46.0	11600				18			
BENT NO. 3	2	24	43.5	8653				18			
BENT NO. 4		31	42.9	8551				18			
TOTALS	81	94	498.1	131,352	618	495	2200	72	10	15	

* Roadway Expansion Device

Fill spaces between pile sections with weld metal



DETAIL OF PILE SPLICE

Scale 3/8" = 1'-0"

GENERAL NOTES:
GENERAL SPECIFICATIONS: Standard Road and Bridge Specifications of the Tennessee Department of Highways.
DESIGN SPECIFICATIONS: Standard Specifications for Highway Bridges AASHO 1961.

DESIGN LOADING: H20-S16-44 and alt. loading as per Sect. 4C of paragraph PPM-4.
CAST in PLACE CONCRETE: Concrete shall be Class "A" and shall be air entrained.
FORMS AND FINISH: See Specifications.
REINFORCING STEEL: Intermediate or Hard Grade.
HAND RAILS: Standard Concrete railing, Tennessee Highway Department standard.
PRECAST PRESTRESSED CONCRETE "I" BEAMS: See Specifications.
NEOPRENE BEARING PADS: Size Special Provisions.
PILES: Piles shall be 10BP42 where required and shown.
JOINT SEALER: See Special Provision, Class A or B

LIST OF DRAWINGS:

	DWG. NO.
Lay-out of Bridges (6A) & (6B)	K-1-808
Abutment No. 1 (6A) WBL	K-1-809
Abutment No. 2 (6A) WBL	K-1-810
Abutment No. 1 (6B) EBL	K-1-811
Abutment No. 2 (6B) EBL	K-1-812
Bents No. 1, No. 2, No. 3 and No. 4 (6A) WBL	K-1-813 thru K-1-816
Bents No. 1, No. 2, No. 3 and No. 4 (6B) EBL	K-1-817 thru K-1-820
Girder Framing Plan and Finish Grades	K-1-821
Prestressed Girder Details	K-1-822
Superstructure Details	K-1-823
Spans No. 1, No. 2, No. 3, No. 4 and No. 5 (6A) WBL	K-1-824 thru K-1-828
Spans No. 1, No. 2, No. 3, No. 4 and No. 5 (6B) EBL	K-1-829 thru K-1-833
Reinforcing Steel Schedules No. 1 thru 6	K-1-834 thru K-1-839
Concrete Handrailing	K-15-59 & K-1-821

2-30' Roadways with Safety Curbs
CUMBERLAND COUNTY

Scale as noted

NOTES:
1. Refer to Abutment detail drawings for lay-out of piles.
2. Piles for Abutments shall be 10BP42 and shall be driven to rock or to a minimum bearing of 93 tons ea.
3. End fills shall be in place and compacted before driving piles for Abutments.
4. After excavating to bottom of footing elevations, rock drillings shall be made at locations designated by the Engineer. Rock drillings shall extend a minimum of 6 ft. into rock. Footings shall set a minimum of 6" in rock.

MID-SOUTH ENGINEERING CO., INC.
820 BROADWAY, N. E. KNOXVILLE, TENNESSEE

INTERSTATE OVER HWY. 70 N AND T.C. RAILROAD
STA 785+77.04

LAY-OUT OF BRIDGES

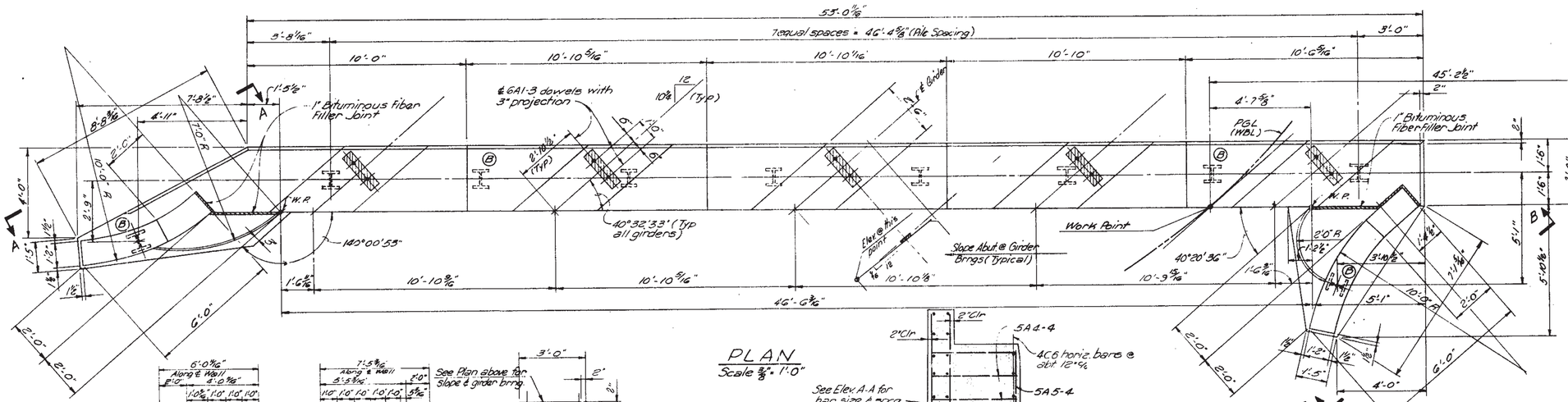
WBL BRIDGE (GA)
EBL BRIDGE (GB)

STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS
NASHVILLE

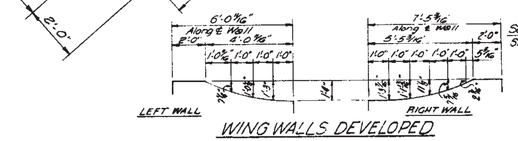
DR. R.W.P.	DATE	K-1-808
CHK'D R.A.H.		
APP'D W.R.	8-15-60	

Revised 10-10-62

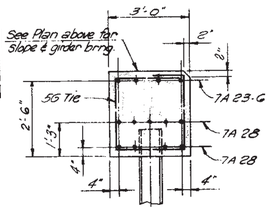
FED. ROAD DIST. No.	T E N N	FEDERAL AID PROJECT No.	FISCAL YEAR	SHEET No.	TOTAL SHEETS
3		I-40-6(29) 304		113	307



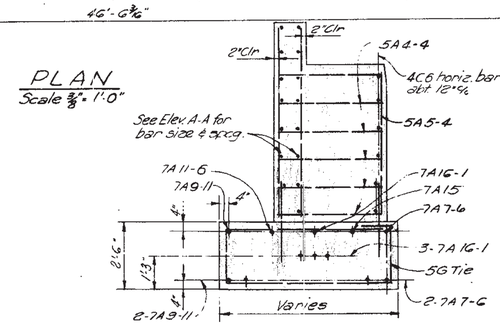
ELEVATION A-A
Scale 3/8" = 1'-0"



WING WALLS DEVELOPED

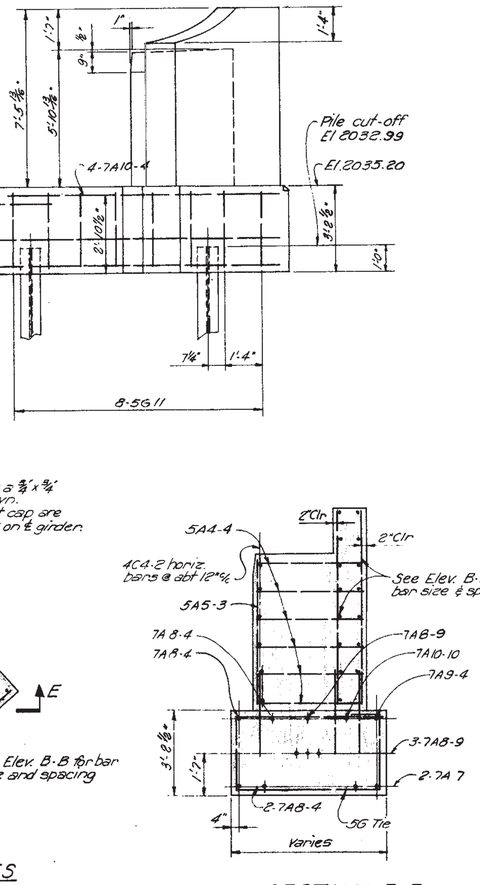


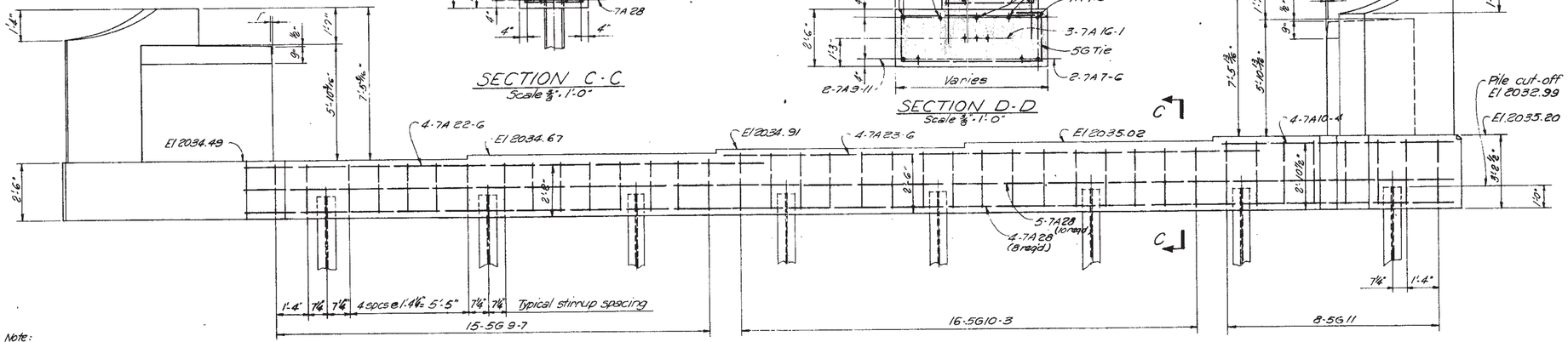
SECTION C-C
Scale 3/8" = 1'-0"



PLAN
Scale 3/8" = 1'-0"

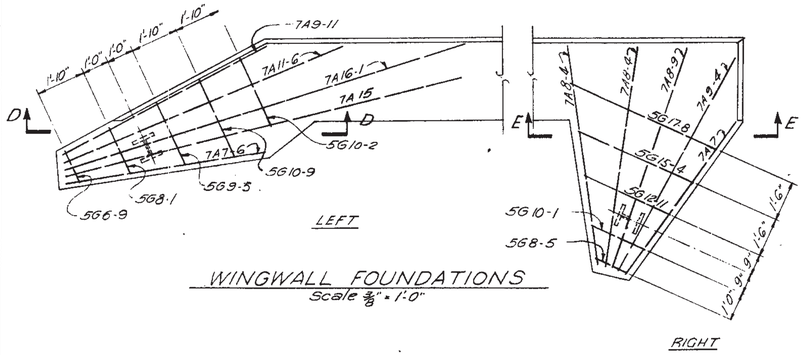
SECTION D-D
Scale 3/8" = 1'-0"





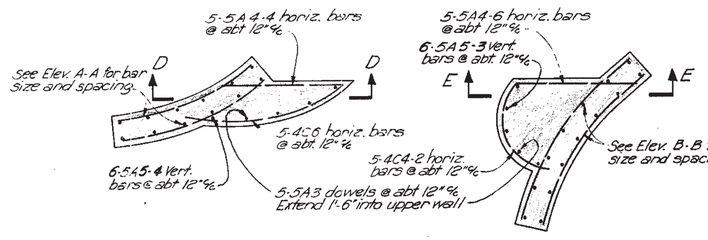
ELEVATION-ABUTMENT 1-WBL(6A)
LOOKING FORWARD ON SURVEY
Scale 3/8" = 1'-0"

Note:
Placing designation as follows:
e.f. - each face
n.f. - near face
f.f. - far face



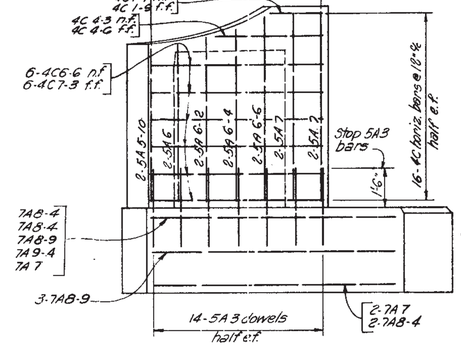
WINGWALL FOUNDATIONS
Scale 3/8" = 1'-0"

NOTES:
All exposed edges shall have a 3/4" x 3/4" chamfer, unless otherwise shown.
Elevations shown on Abutment cap are elevations at back of Abutment on ℄ girder.



HORIZONTAL SECTIONS ABOVE BRIDGE SEATS
Scale 3/8" = 1'-0"

SECTION E-E
Scale 3/8" = 1'-0"



ELEVATION B-B
Scale 3/8" = 1'-0"

ESTIMATED QUANTITIES

		(6A) WBL ABUTMENT NO. 1
Class "A" Concrete	Cu. Yds.	27.6
Reinforcing Steel	Lbs.	3079

Scale as noted

MID-SOUTH ENGINEERING CO., INC.
820 BROADWAY, N. E. KNOXVILLE, TENNESSEE

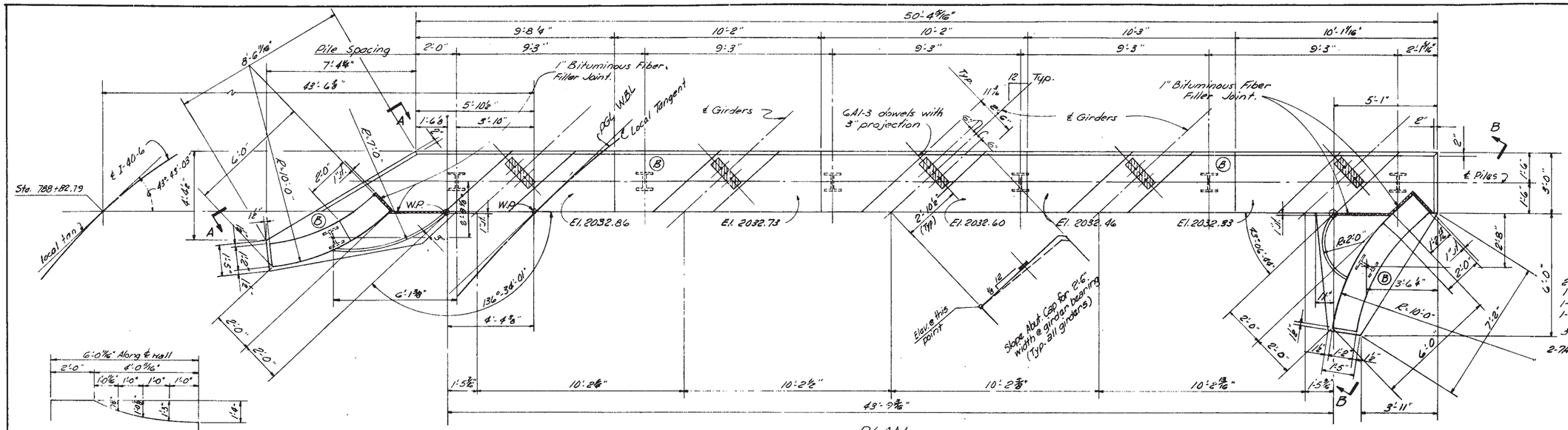
INTERSTATE OVER TON AND T.C.R.R.
STA 785+77.04

ABUTMENT NO. 1(6A)-WBL

STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS
NASHVILLE

DR. R.W.P.	DATE	K-1-809
CHK'D. R.A.H.		
APP'D. W.R.	8-15-60	

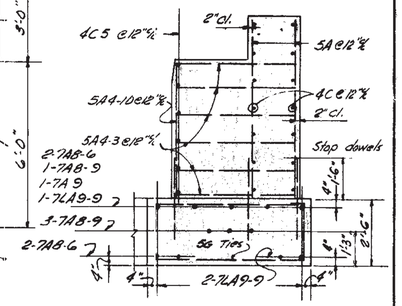
FED. ROAD DIST. No.	T E N N	FEDERAL AID PROJECT No.	FISCAL YEAR	SHEET No.	TOTAL SHEETS
3		I40-6(29) 304		114	621



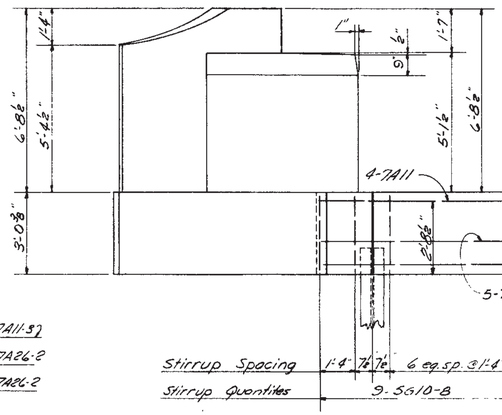
PLAN

Ⓑ Indicates batter piles 2 in 12 forward batter

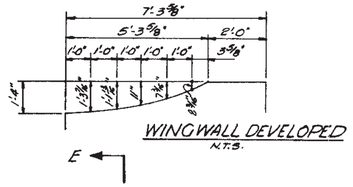
WINGWALL DEVELOPED
N.T.S.



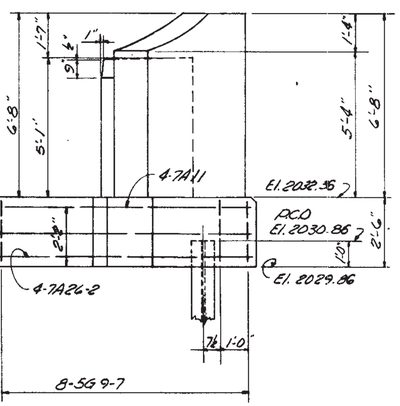
ELEVATION "C-C"

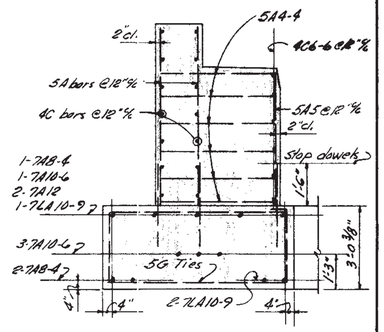


ELEVATION - ABUTMENT Nº 2 W.B.L (6A)
LOOKING BACK ON SURVEY

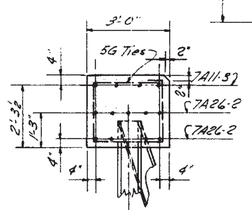


WINGWALL DEVELOPED
N.T.S.

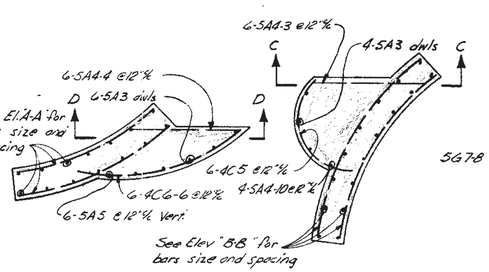




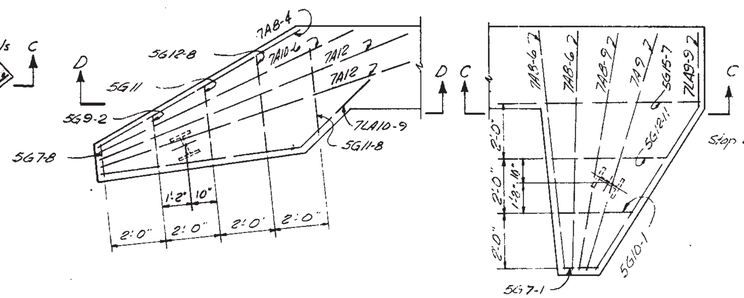
ELEVATION "D-D"



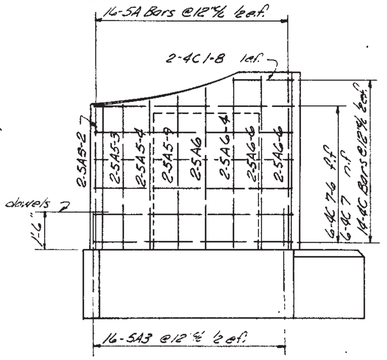
ELEVATION "E-E"



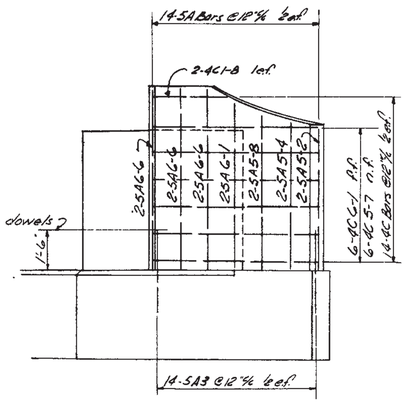
HORIZ. SECTIONS ABOVE BRIDGE SEATS



WINGWALL FOUNDATIONS



ELEVATION 'B-B'



ELEVATION "A-A"

ESTIMATED QUANTITIES		
Class "A" Concrete	Cu. Yds.	25.6
Reinforcing Steel	Lbs.	2984

Scale 3/8" = 1'-0" unless noted.

MID-SOUTH ENGINEERING CO., INC.
820 BROADWAY, N. E. KNOXVILLE, TENNESSEE

INTERSTATE OVER 70 N AND T.C.R.R.
STA. 785+77.04

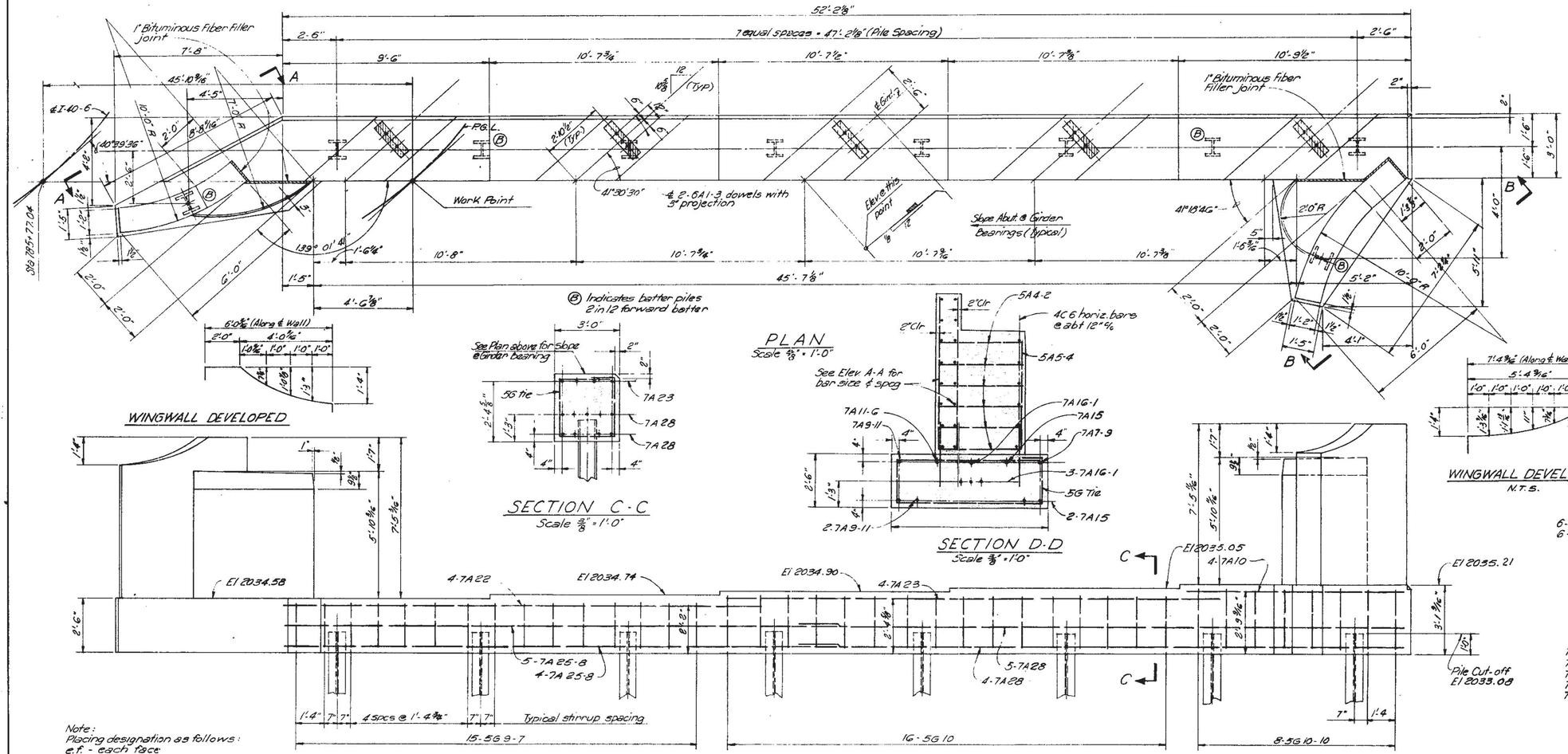
ABUTMENT NO. 2 (6A) WBL

STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS
NASHVILLE

DR. L.E.S	DATE	K-1-810
CHK'D. R.A.H.		
APP'D. M.R.	2-15-60	

Revised: 1-11-65 Dowel Bar Spacing

FED. ROAD DIST. No.	STATE	FEDERAL AID PROJECT No.	FISCAL YEAR	SHEET No.	TOTAL SHEETS
3	TENN	I-40-6(29)3CA		115	207



WINGWALL DEVELOPED

SECTION C-C
Scale ⅜" = 1'-0"

SECTION D-D
Scale ⅜" = 1'-0"

ELEVATION A-A
Scale ⅜" = 1'-0"

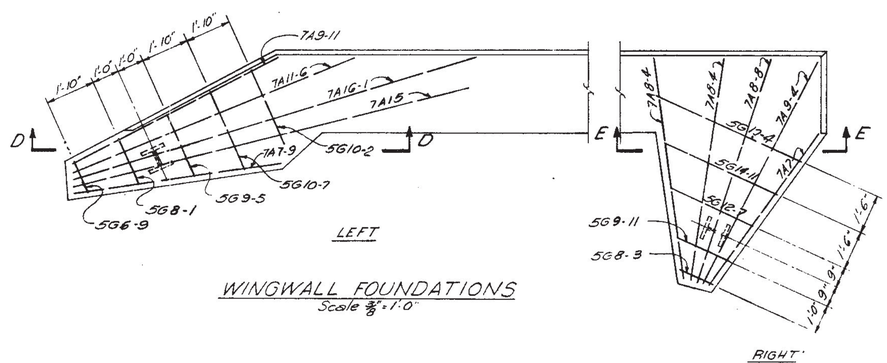
WINGWALL DEVELOPED
N.T.S.

Note:
Placing designation as follows:
e.f. - each face
n.f. - near face
f.f. - far face

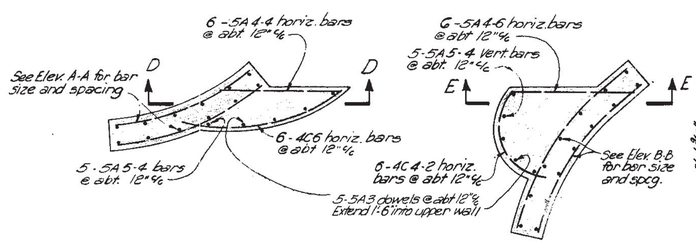
ELEVATION - ABUTMENT 1-EBL(6B)
LOOKING FORWARD ON SURVEY
Scale ⅜" = 1'-0"

ELEVATION B-B
Scale ⅜" = 1'-0"

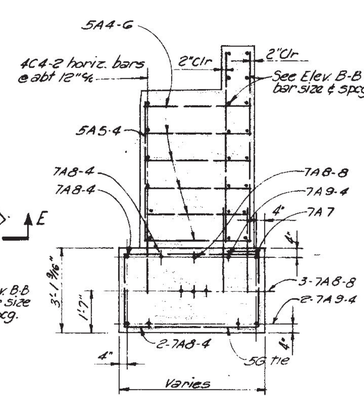
NOTES:
All exposed edges shall have a ¾" x ¾" chamfer, unless otherwise shown.
Elevations shown on Abutment Cap are elevations at back of Abutment on ℄ girder.



WINGWALL FOUNDATIONS
Scale ⅜" = 1'-0"



HORIZONTAL SECTIONS ABOVE BRIDGE SEATS
Scale ⅜" = 1'-0"



SECTION E-E
Scale ⅜" = 1'-0"

ESTIMATED QUANTITIES

		EBL ABUTMENT 1-(6B)
Class "A" Concrete	Cu. Yds.	27.6
Reinforcing Steel	Lbs.	3045

Scale as noted

MID-SOUTH ENGINEERING CO., INC.
820 BROADWAY, N. E. KNOXVILLE, TENNESSEE

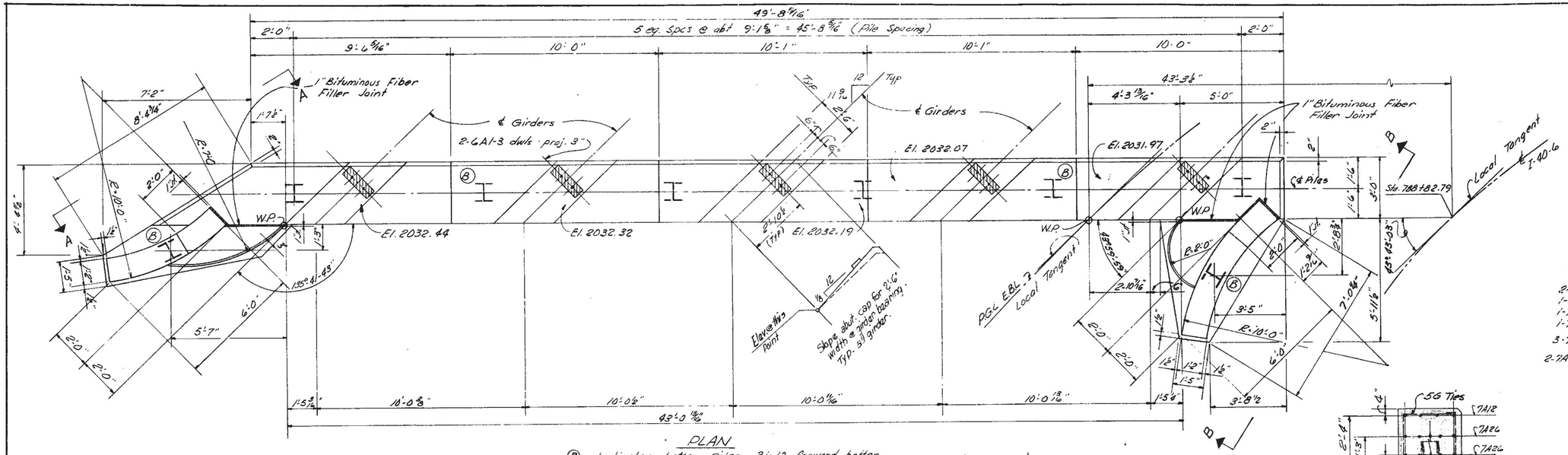
INTERSTATE OVER TON AND T.C. R. R.
STA 785 + 77.04

ABUTMENT NO. 1 (6B) EBL

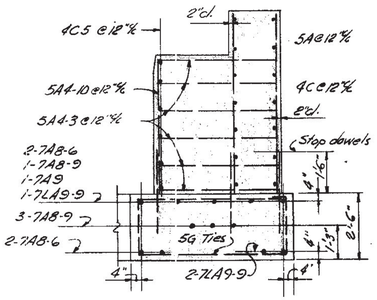
STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS
NASHVILLE

DR. R.W.P.	DATE	K-1-811
CHK'D R.A.H.		
APP'D W.R.	8-15-60	

FED. ROAD DIST. No.	T E N N	FEDERAL AID PROJECT No.	FISCAL YEAR	SHEET No.	TOTAL SHEETS
3		I40-6(21) 304		116	307

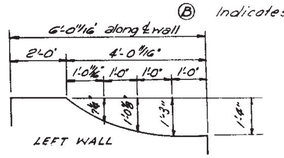


PLAN

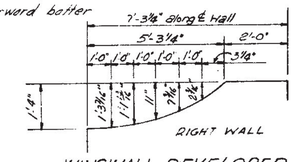


ELEVATION "C-C"

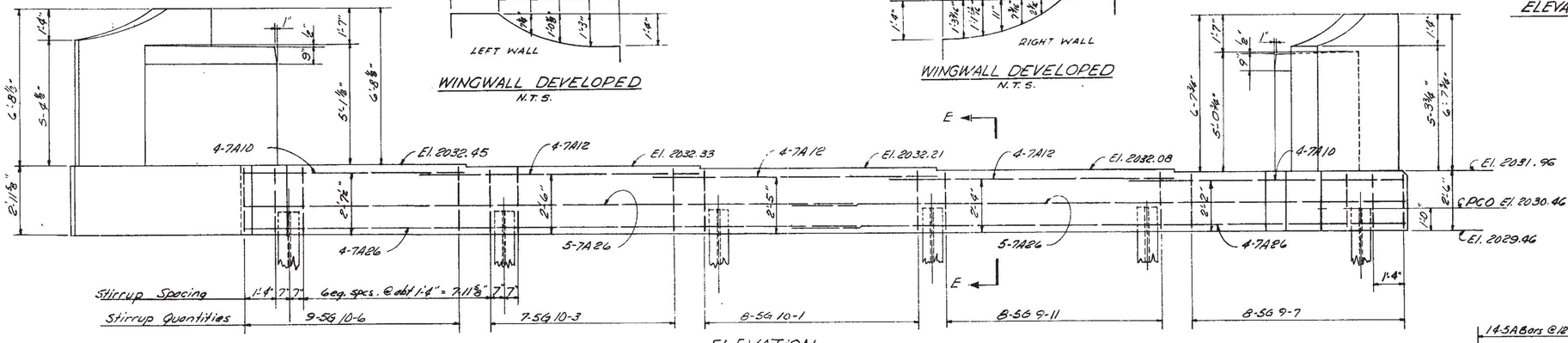
ELEVATION E-E



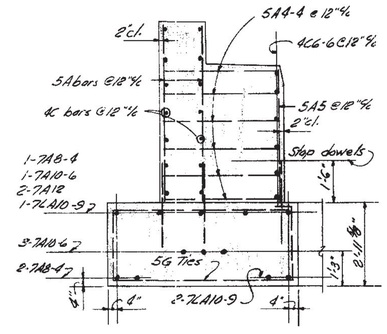
WINGWALL DEVELOPED
N.T.S.



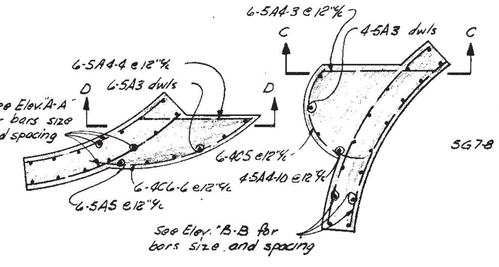
WINGWALL DEVELOPED
N.T.S.



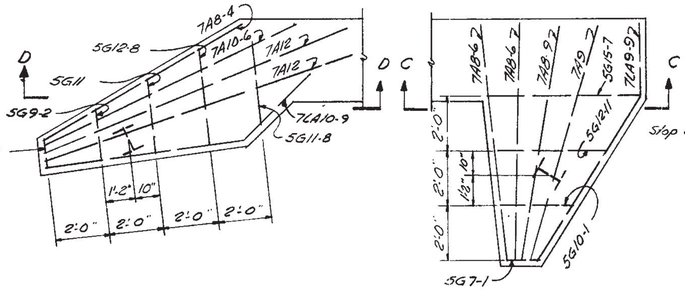
ELEVATION
LOOKING BACK ON SURVEY



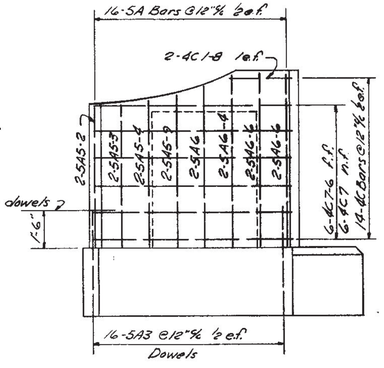
ELEVATION "D-D"



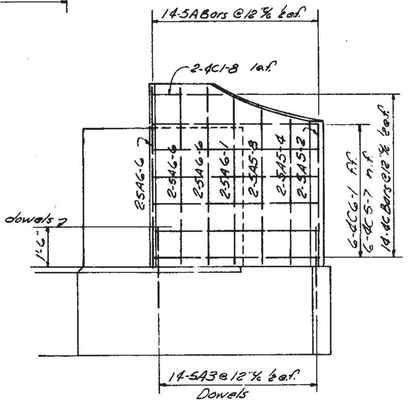
HORIZ. SECTIONS ABOVE BRIDGE SEATS



WINGWALL FOUNDATIONS



ELEVATION "B-B"



ELEVATION "A-A"

ESTIMATED QUANTITIES		
Class "A" Concrete	Cu. Yds.	25.4
Reinforcing Steel	Lbs.	2954

Scale ⅜" = 1'-0" Unless noted

MID-SOUTH ENGINEERING CO., INC.
820 BROADWAY, N. E. KNOXVILLE, TENNESSEE

INTERSTATE OVER 70 N AND T.C.R.R.
STA 785+77.04

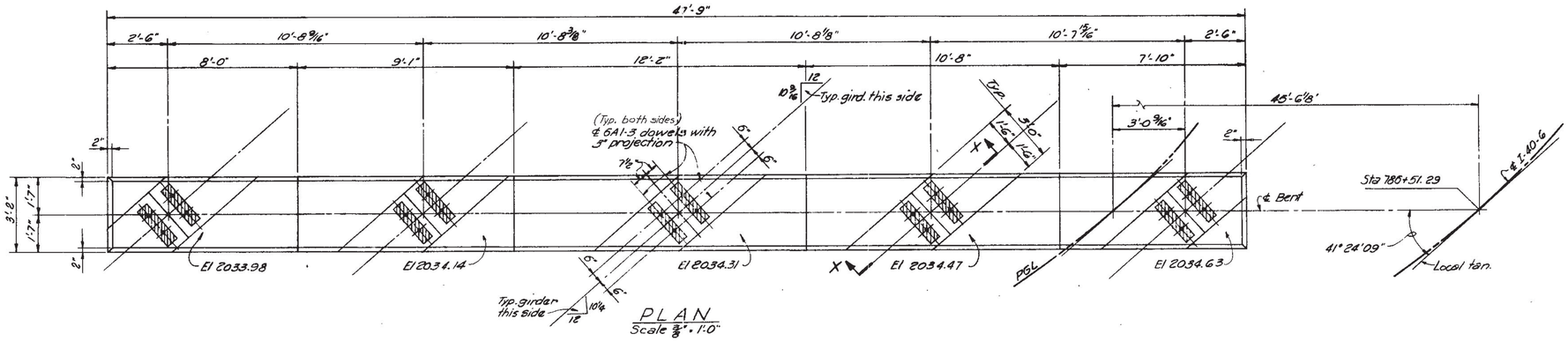
ABUTMENT NO. 2 (6B) EBL

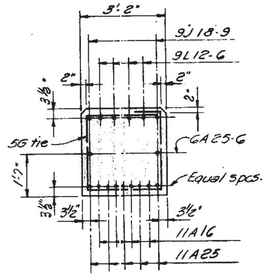
STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS
NASHVILLE

DR. LES	DATE	K-1-812
CHK'D R.A.H.		
APP'D W.R.	2-15-60	

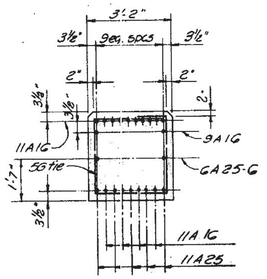
Revised: 1-11-65 Dowel Bar Spacing

FED. ROAD DIST. No.	STATE	FEDERAL AID PROJECT No.	FISCAL YEAR	SHEET No.	TOTAL SHEETS
3	TENN.	I40-6(29) 304		117	307

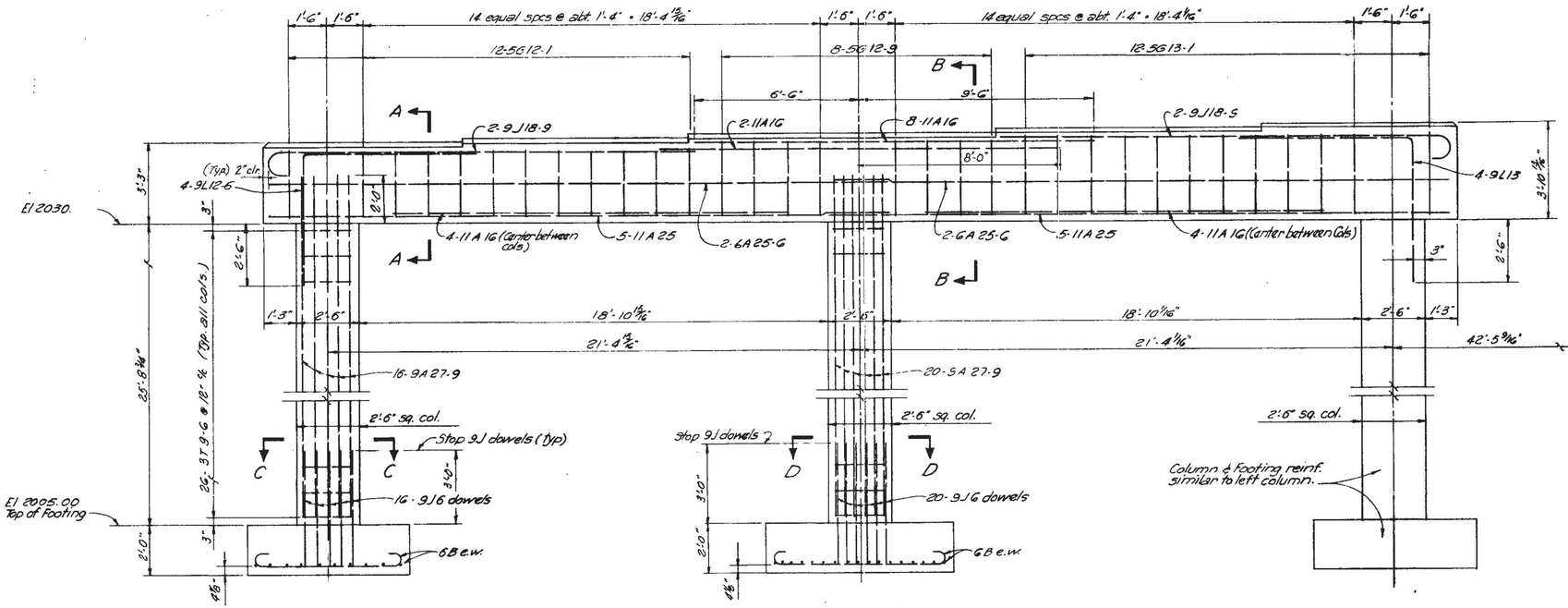




SECTION A-A
Scale 3/8" = 1'-0"



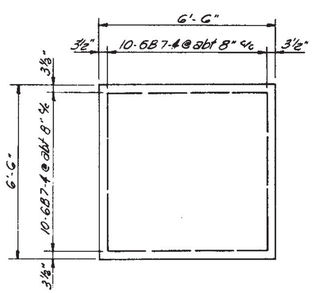
SECTION B-B
Scale 3/8" = 1'-0"

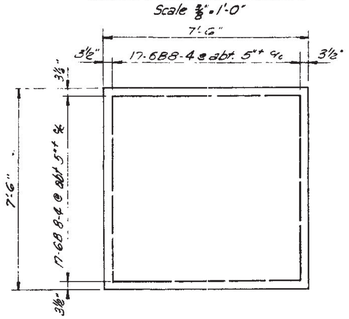


ELEVATION
LOOKING FORWARD ON SURVEY
Scale 3/8" = 1'-0"

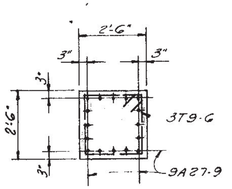
END ELEVATION
Scale 3/8" = 1'-0"

NOTES:
All exposed edges shall have a ¾" x ¾" chamfer, unless otherwise shown.
Elevations are at ℄ of Bent.

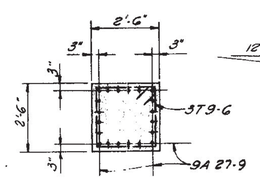




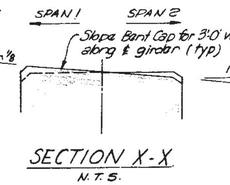
FOOTING REINFORCING PLAN
Scale 3/8" = 1'-0"



SECTION C-C
Scale 3/8" = 1'-0"



SECTION D-D
Scale 3/8" = 1'-0"



SECTION X-X
N.T.S.

Scale as noted

ESTIMATED QUANTITIES

		BENT NO.
Class "A" Concrete	Cu. Yds.	48.4
Reinforcing Steel	Lbs.	11152

MID-SOUTH ENGINEERING CO., INC.
820 BROADWAY, N. E. KNOXVILLE, TENNESSEE

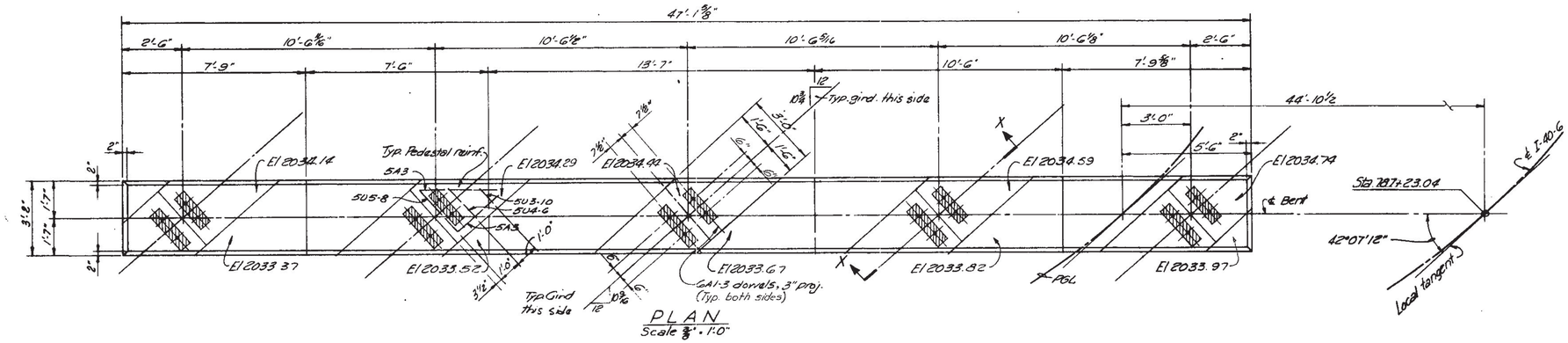
INTERSTATE OVER 70N AND T.C.R.R.
STA 785 + 77.04

BENT NO. 1 - WBL (6A)

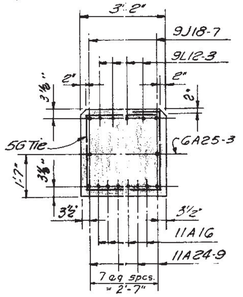
STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS
NASHVILLE

DR. R.W.P.	DATE	K-1-813
CHK'D E.A.H.		
APP'D W.E.	8-15-60	

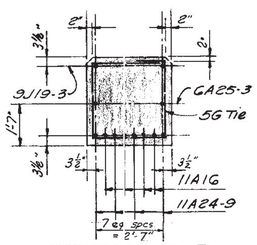
FED. ROAD DIST. No.		FEDERAL AID PROJECT No.	FISCAL YEAR	SHEET No.	TOTAL SHEETS
3	TENN	140629 304		118	307



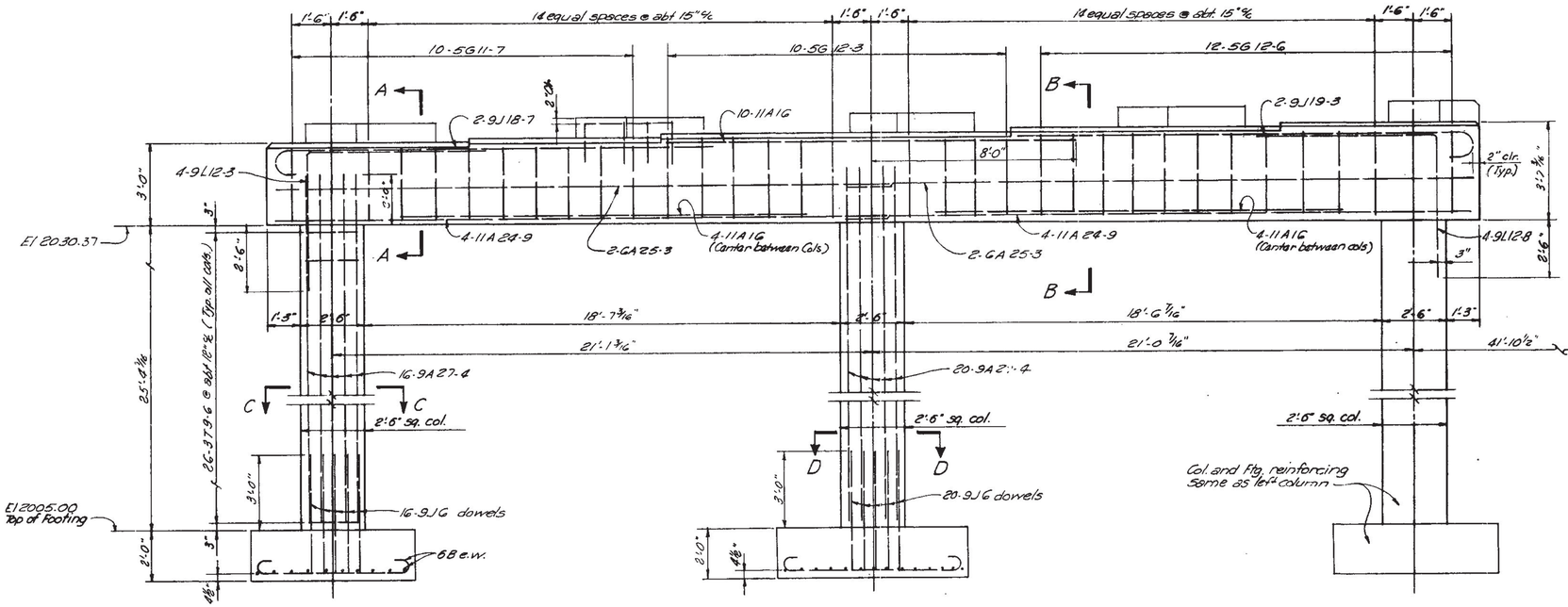
PLAN
Scale 3/8" = 1'-0"



SECTION A-A
Scale 3/8" = 1'-0"

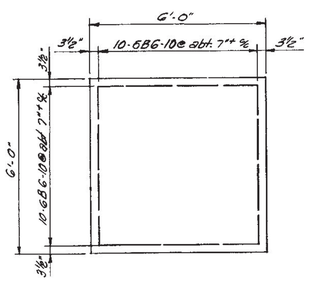


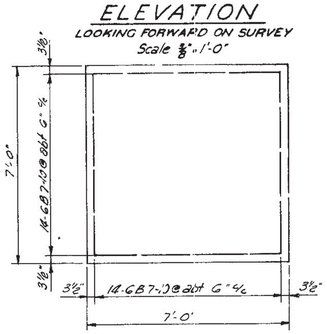
SECTION B-B
Scale 3/8" = 1'-0"



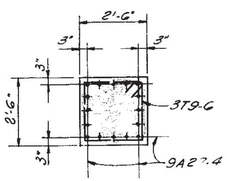
ELEVATION
LOOKING FORWARD ON SURVEY
Scale 3/8" = 1'-0"

END ELEVATION
Scale 3/8" = 1'-0"

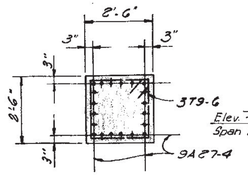




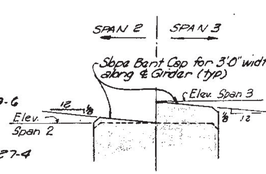
FOOTING REINFORCING PLAN
Scale 3/8" = 1'-0"



SECTION C-C
Scale 3/8" = 1'-0"



SECTION D-D
Scale 3/8" = 1'-0"



SECTION X-X
N.T.S.

NOTES:
All exposed edges shall have a 3/4" x 3/4" chamfer, unless otherwise shown.
Elevations are at ℄ of Bent.

ESTIMATED QUANTITIES

		BENT NO.
Class "A" Concrete	CU. Yds.	4C.0
Reinforcing Steel	Lbs.	11600

Scale as noted

MID-SOUTH ENGINEERING CO., INC.
820 BROADWAY, N. E. KNOXVILLE, TENNESSEE

INTERSTATE OVER TON AND T.C.R.R.
STA 785+77.04

BENT NO. 2 - WBL(6A)

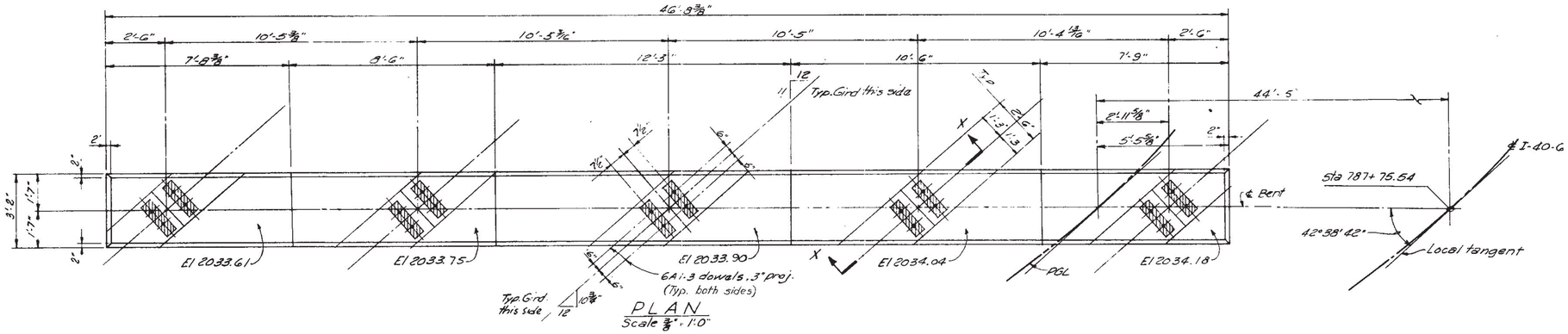
STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS
NASHVILLE

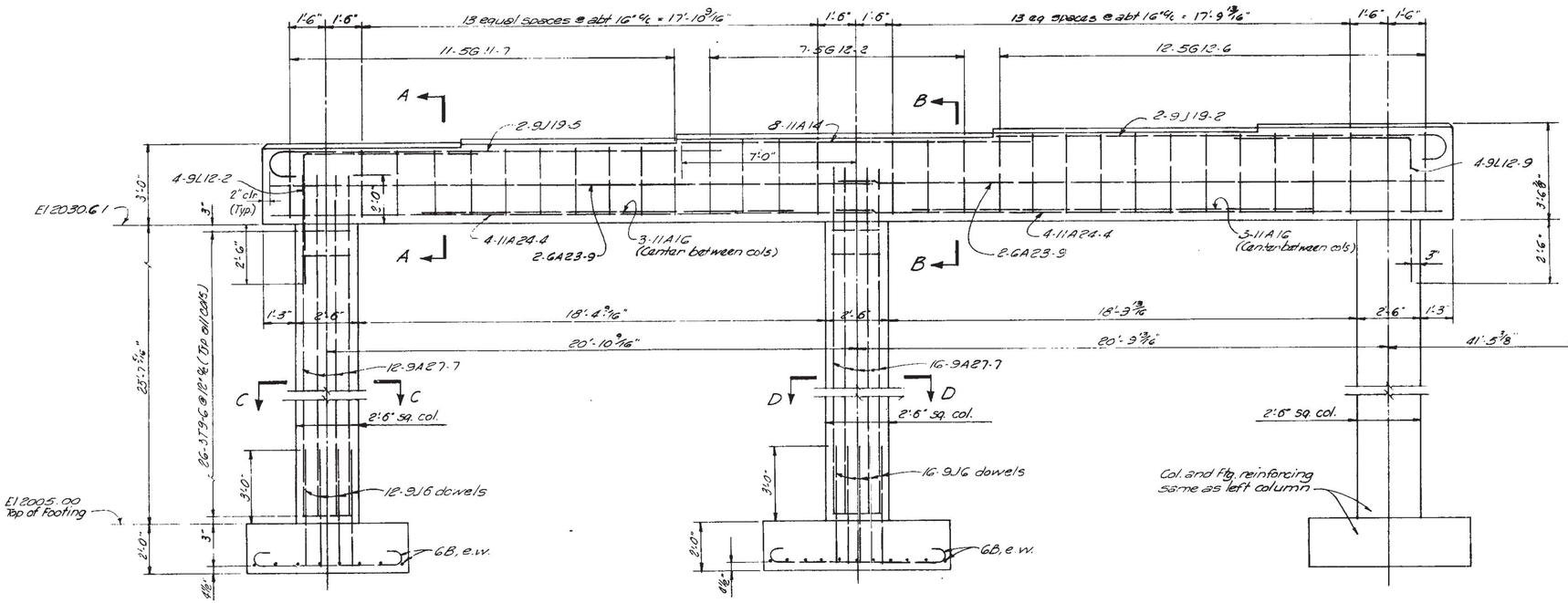
DR. R.W.P.
CHK'D. R.A.H.
APP'D. W.E.
DATE 8-15-60

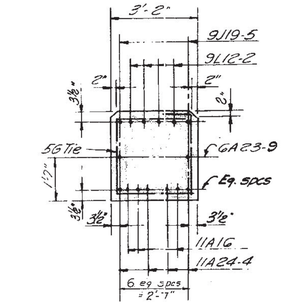
K-1-814

Revised: 1-11-65 Dowel Bar Spacing

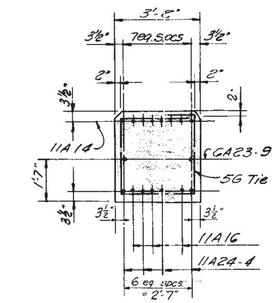
FED. ROAD DIST. No.		FEDERAL AID PROJECT No.	FISCAL YEAR	SHEET No.	TOTAL SHEETS
3	TENN	I-40-6(29) 304		119	327



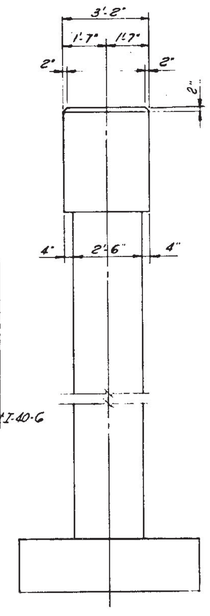


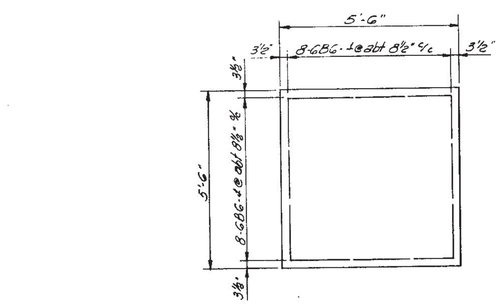


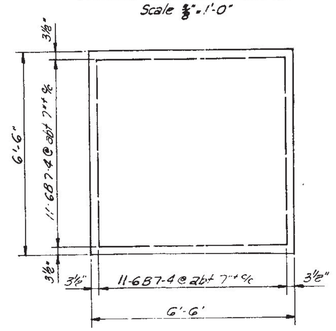
SECTION A-A
Scale 3/8" = 1'-0"



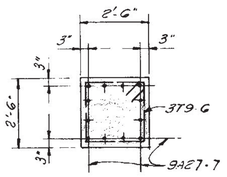
SECTION B-B
Scale 3/8" = 1'-0"



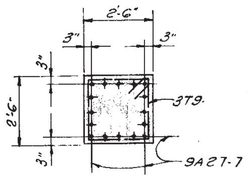




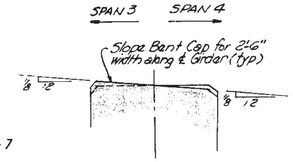
FOOTING REINFORCING PLAN
Scale 3/8" = 1'-0"



SECTION C-C
Scale 3/8" = 1'-0"



SECTION D-D
Scale 3/8" = 1'-0"



SECTION X-X
N.T.S

NOTES:
All exposed edges shall have a ¾"x ¾" chamfer, unless otherwise shown.
Elevations are at ℄ of Bent.

ESTIMATED QUANTITIES

		BENT NO.
Class "A" Concrete	Cu Yds.	43.5
Reinforcing Steel	Lbs.	8653

Scale as noted

MID-SOUTH ENGINEERING CO., INC.
820 BROADWAY, N. E. KNOXVILLE, TENNESSEE

INTERSTATE OVER TON AND T.C.R.R
STA 785 + 77.04

BENT NO. 3 - WBL(6A)

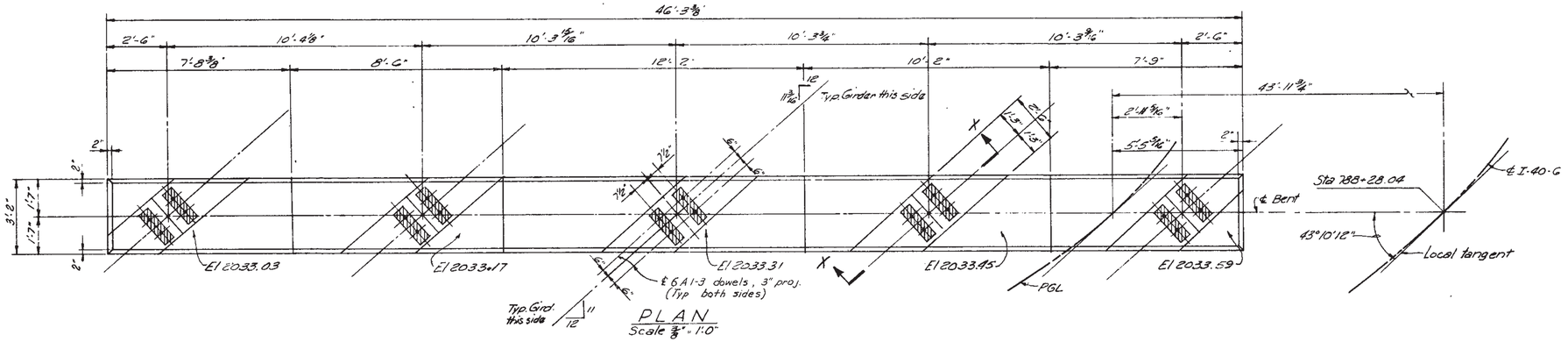
STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS
NASHVILLE

DR. R.W.P.
CHK'D. E.A.H.
APP'D. W.E.
DATE: 8-15-60

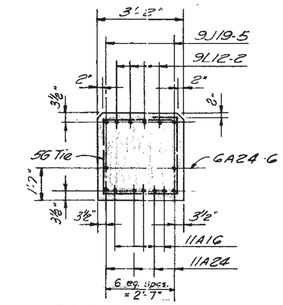
K-1-815

Revised: 1-11-65 Dowel Bar Spacing

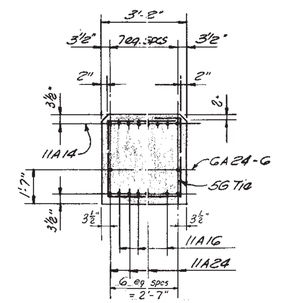
FED. ROAD DIST. No.	STATE	FEDERAL AID PROJECT No.	FISCAL YEAR	SHEET No.	TOTAL SHEETS
3	TENN	I-40-6(29) 304		120	~~307~~ 307



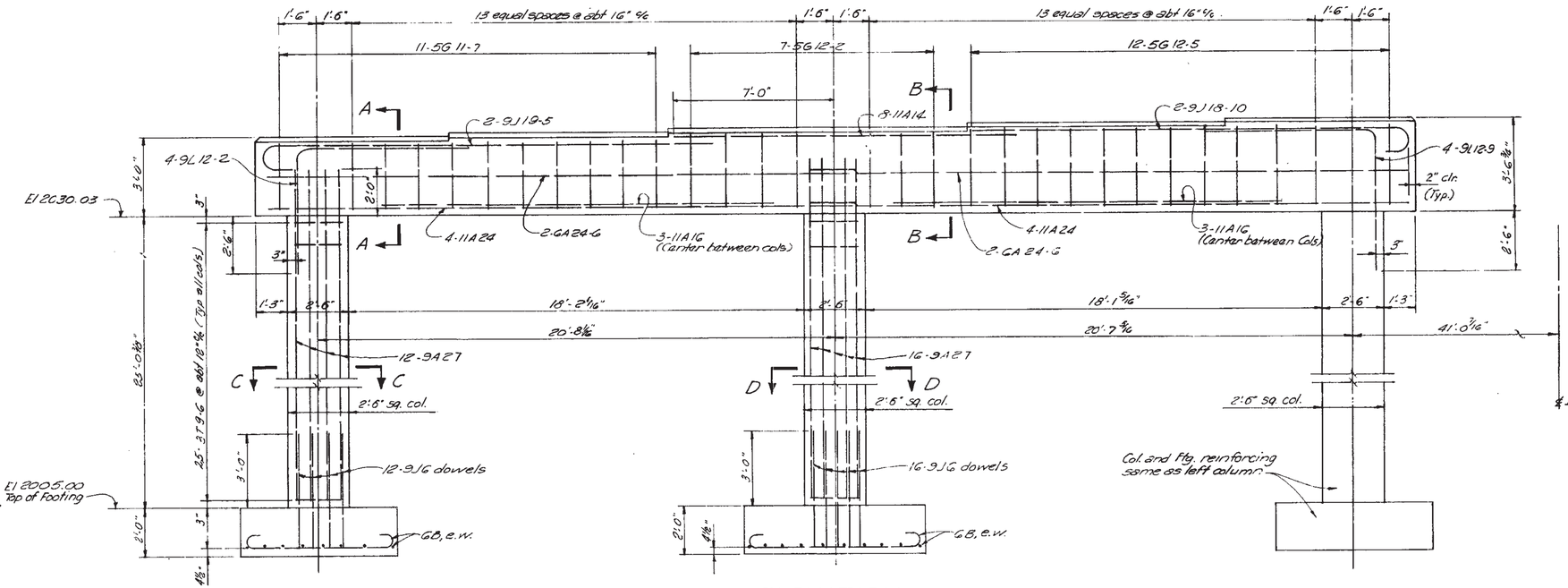
PLAN
Scale ⅜" = 1'-0"



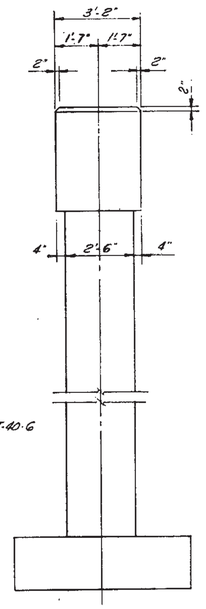
SECTION A-A
Scale ⅜" = 1'-0"



SECTION B-B
Scale ⅜" = 1'-0"

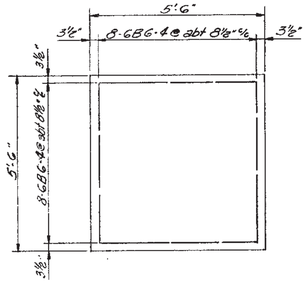


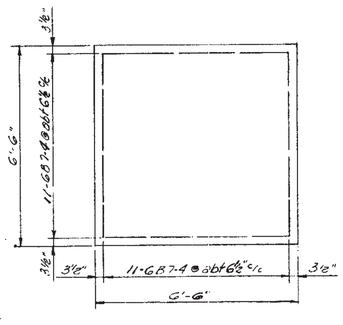
ELEVATION
LOOKING FORWARD ON SURVEY
Scale ⅜" = 1'-0"



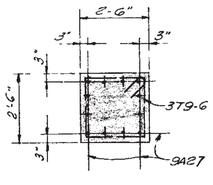
END ELEVATION
Scale ⅜" = 1'-0"

NOTES:
All exposed edges shall have a ¾" x ¾" chamfer, unless otherwise shown.
Elevations are at ℄ of Bent.

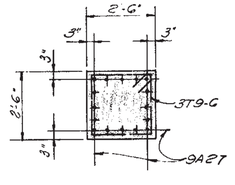




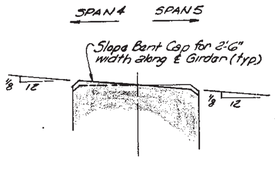
FOOTING REINFORCING PLAN
Scale ⅜" = 1'-0"



SECTION C-C
Scale ⅜" = 1'-0"



SECTION D-D
Scale ⅜" = 1'-0"



SECTION X-X
N.T.S.

ESTIMATED QUANTITIES

		BENT NO. 4
Class "A" Concrete	Cu. Yds.	42.9
Reinforcing Steel	Lbs.	8851

Scale as noted

MID-SOUTH ENGINEERING CO., INC.
820 BROADWAY, N. E. KNOXVILLE, TENNESSEE

INTERSTATE OVER TON AND T.C.R.R
STA 785+77.04

BENT NO. 4 - W B L (64)

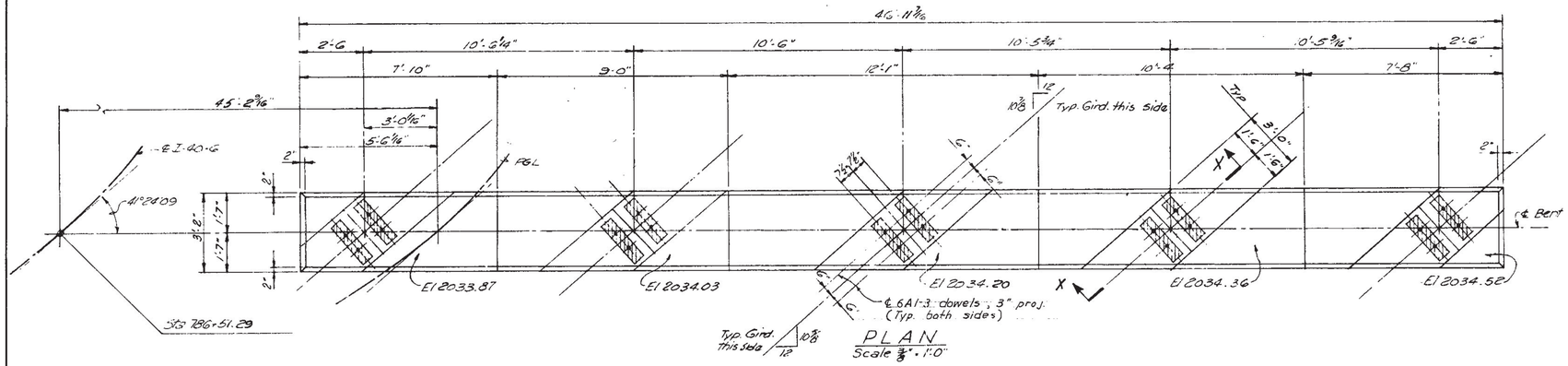
STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS
NASHVILLE

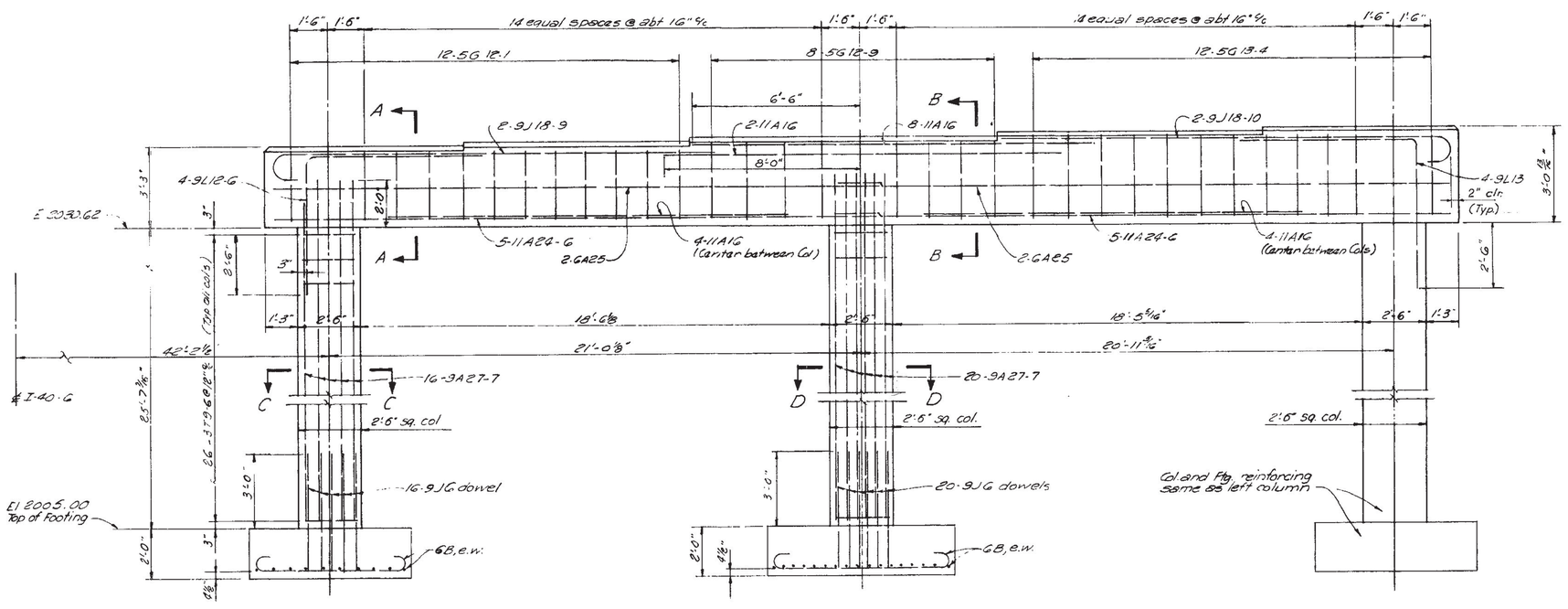
DR. R.W.P.
CHK'D. R.A.H.
APP'D. W.R.
DATE: 8-15-60

K-1-816

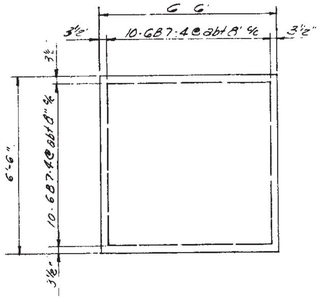
Revised: 1-11-65 Dowel Bar Spacing

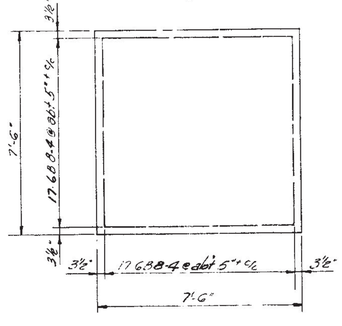
FED. ROAD DIST. No.	STATE	FEDERAL AID PROJECT No.	FISCAL YEAR	SHEET No.	TOTAL SHEETS
3	TENN	I40-1-6(29) 304		121	307



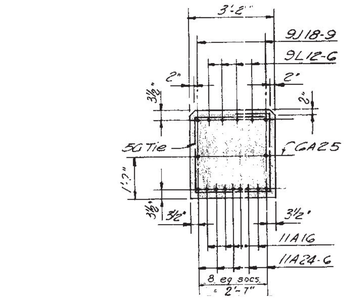


ELEVATION
LOOKING FORWARD ON SURVEY
Scale 3/8" = 1'-0"

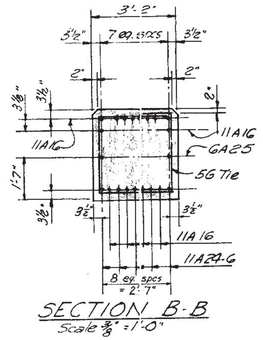




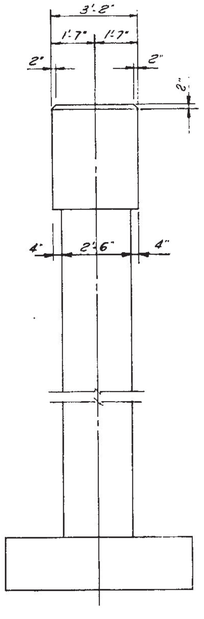
FOOTING REINFORCING PLAN
Scale 3/8" = 1'-0"



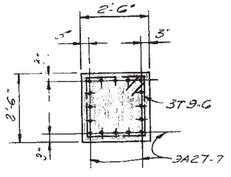
SECTION A-A
Scale 3/8" = 1'-0"



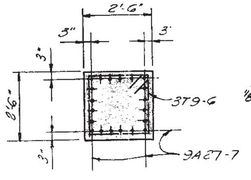
SECTION B-B
Scale 3/8" = 1'-0"



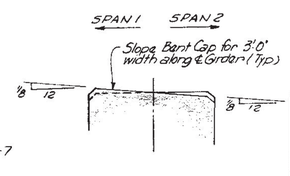
END ELEVATION
Scale 3/8" = 1'-0"



SECTION C-C
Scale 3/8" = 1'-0"



SECTION D-D
Scale 3/8" = 1'-0"



SECTION X-X
N.T.S.

NOTES:
All exposed edges shall have a ¾" x ¾" chamfer, unless otherwise shown.
Elevations are at ℄ of Bent.

ESTIMATED QUANTITIES

		BENT NO. 1
Class "A" Concrete	Cu Yds.	48.0
Reinforcing Steel	Lbs.	11090

Scale as noted

MID-SOUTH ENGINEERING CO., INC.
820 BROADWAY, N. E. KNOXVILLE, TENNESSEE

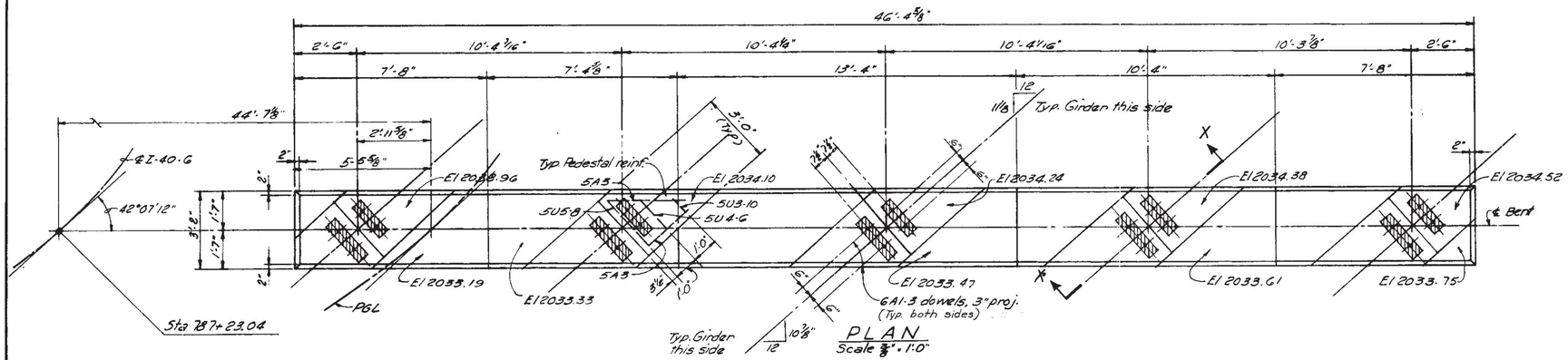
INTERSTATE OVER TON AND T.C.R.R.
STA 785+77.04

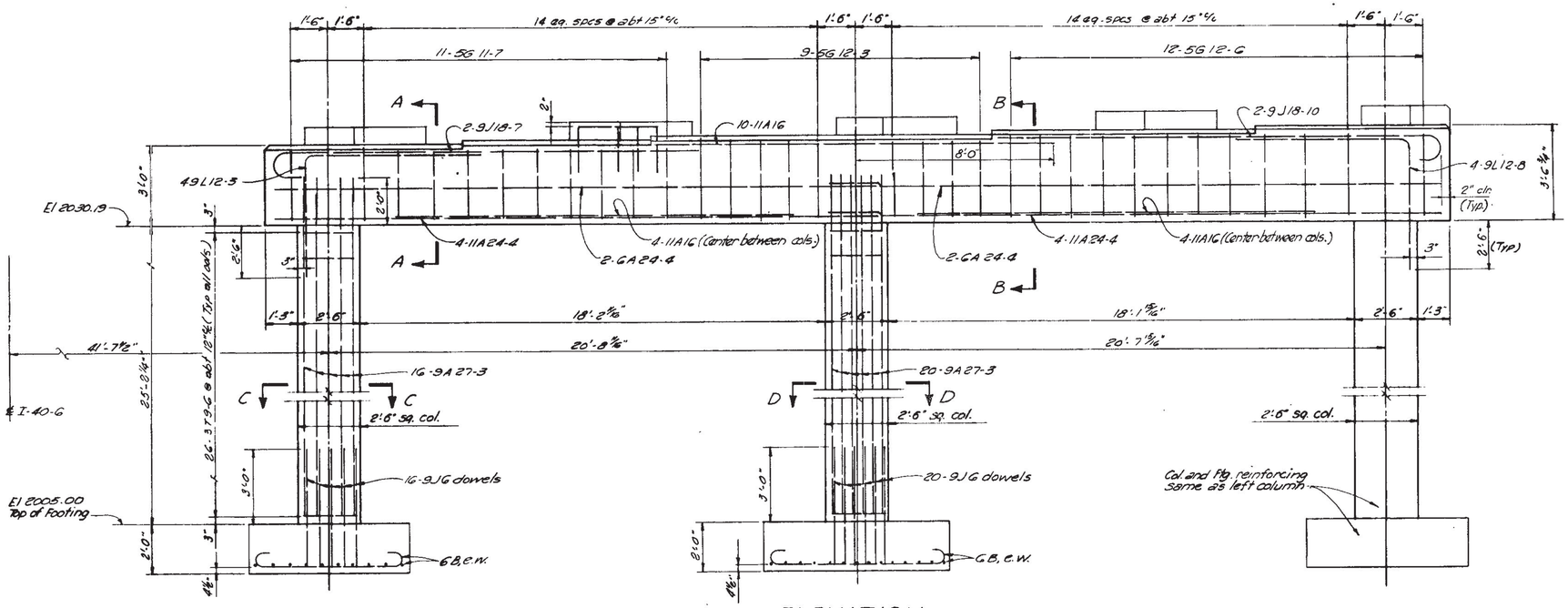
BENT NO. 1 - EBL(6B)

STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS
NASHVILLE

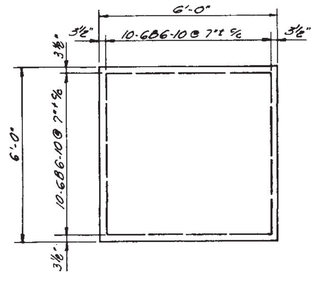
		DATE	
DR.	B.W.P.		K-1-817
CHK'D.	R.A.L.		
APP'D.	W.R.	8-15-60	

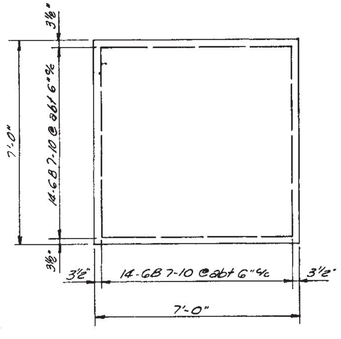
FED. ROAD DIST. No.		FEDERAL AID PROJECT No.	FISCAL YEAR	SHEET No.	TOTAL SHEETS
3	T E N N	I40-6(29) 304		122	307



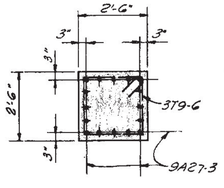


ELEVATION
LOOKING FORWARD ON SURVEY
Scale 3/8" = 1'-0"

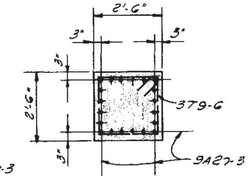




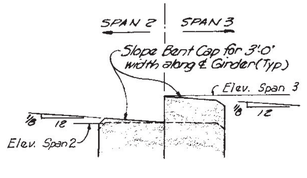
FOOTING REINFORCING PLAN
Scale 3/8" = 1'-0"



SECTION C-C
Scale 3/8" = 1'-0"

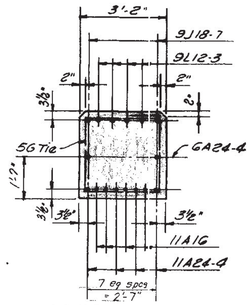


SECTION D-D
Scale 3/8" = 1'-0"

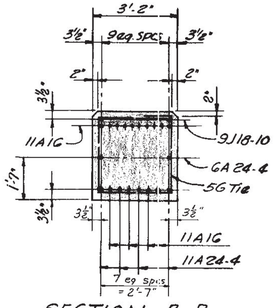


SECTION X-X
N.T.S.

END ELEVATION
Scale 3/8" = 1'-0"



SECTION A-A
Scale 3/8" = 1'-0"



SECTION B-B
Scale 3/8" = 1'-0"

NOTES:
All exposed edges shall have a 3/4 x 3/4 chamfer, unless otherwise shown.
Elevations are at ℄ of Bent.

ESTIMATED QUANTITIES

		BENT NO. 2
Class "A" Concrete	Cu. Yds.	45.4
Reinforcing Steel	Lbs.	10708

Scale as noted

MID-SOUTH ENGINEERING CO., INC.
820 BROADWAY, N. E. KNOXVILLE, TENNESSEE

INTERSTATE OVER TON AND T.C.R.R.
STA 785 + 77. 04

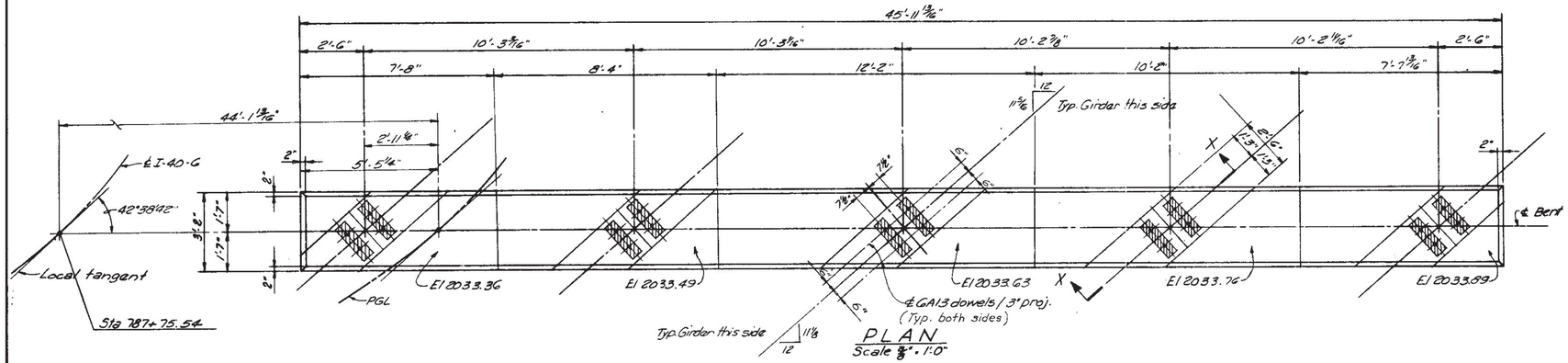
BENT NO. 2 - EBL(6B)

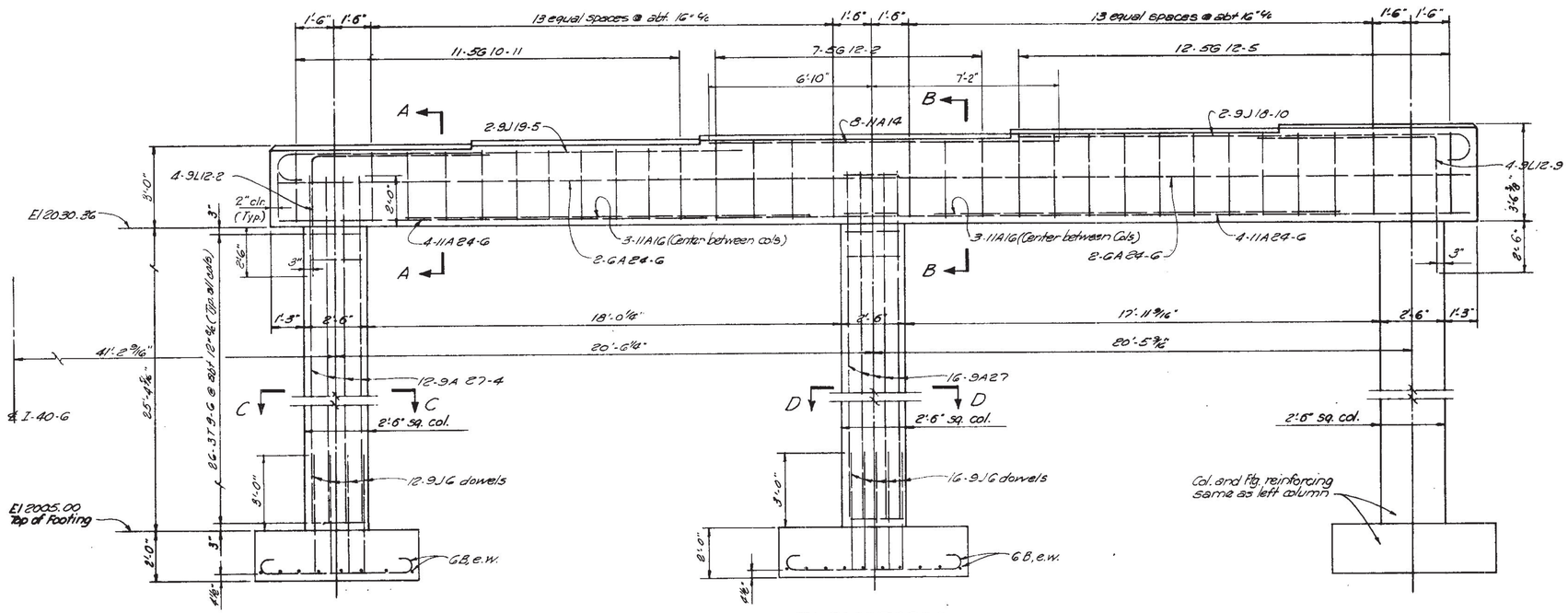
STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS
NASHVILLE

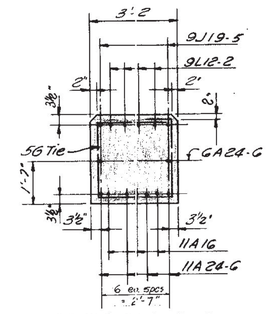
DR. R.W.P.	DATE	K-1-818
CHK'D. R.A.H.		
APP'D. W.R.	4-15-64	

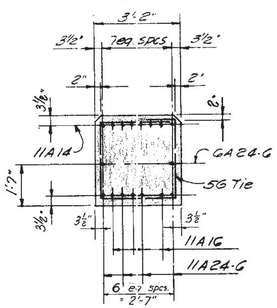
Revised: 1-11-65 Dowel Bar Spacing

FED. ROAD DIST. No.		FEDERAL AID PROJECT No.	FISCAL YEAR	SHEET No.	TOTAL SHEETS
3	TENN.	(40-6(29) 304		123	307

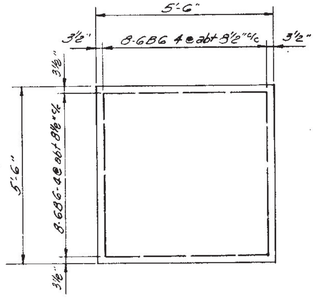


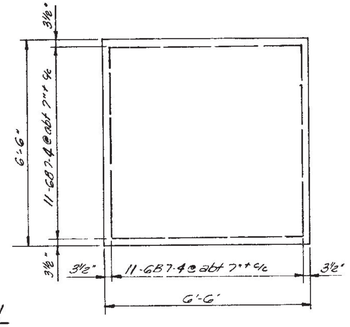




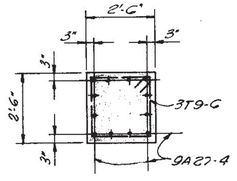


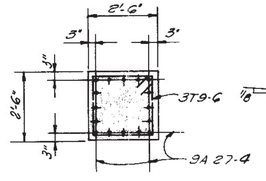
NOTES:
All exposed edges shall have a 3/4" x 3/4" chamfer, unless otherwise shown.
Elevations are at ℄ of Bent.

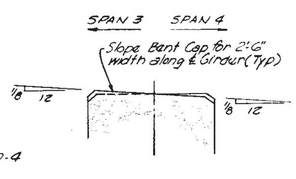




FOOTING REINFORCING PLAN
Scale 3/8" = 1'-0"







ESTIMATED QUANTITIES

		BENT NO. 3
Class "A" Concrete	CU. Yds.	42.9
Reinforcing Steel	Lbs.	8618

Scale as noted

MID-SOUTH ENGINEERING CO., INC.
820 BROADWAY, N. E. KNOXVILLE, TENNESSEE

INTERSTATE OVER TON AND T.C.R.R.
STA 785 + 77.04

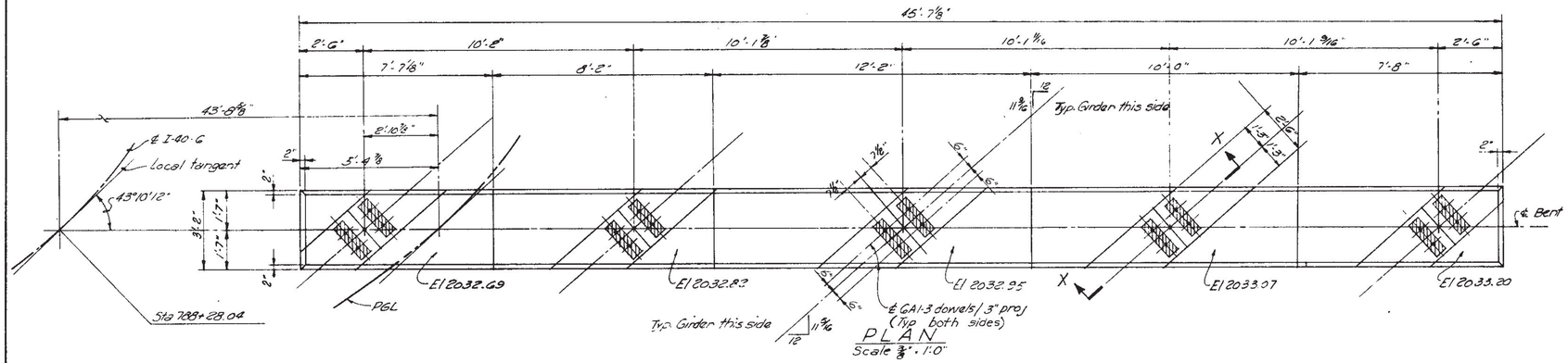
BENT NO. 3 - E B L (6B)

STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS
NASHVILLE

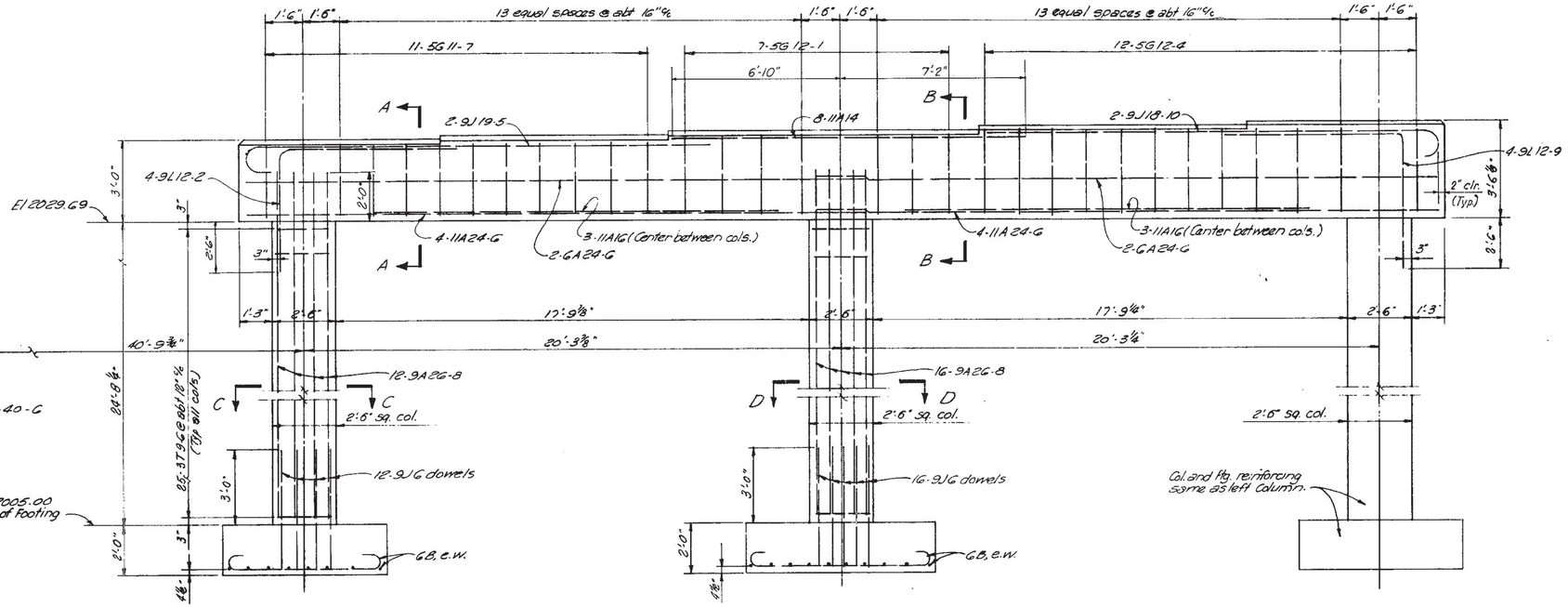
DR. R.W.P.	DATE	K-1-819
CHK'D R.A.H.		
APP'D W.E.	8-15-60	

Revised: 1-11-65 Dowel Bar Spacing

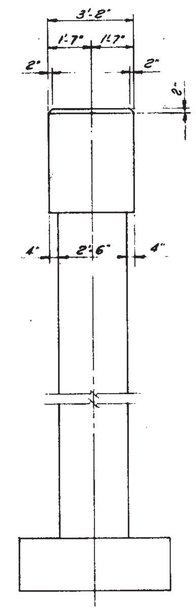
FED. ROAD DIST. No.		FEDERAL AID PROJECT No.	FISCAL YEAR	SHEET No.	TOTAL SHEETS
3	TENN	I40-6(29) 304		124	307



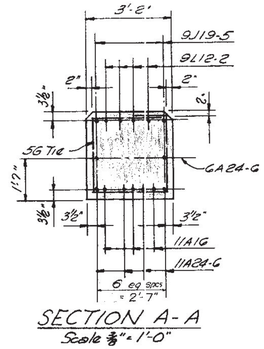
PLAN
Scale ⅜" = 1'-0"



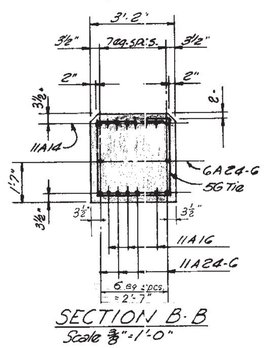
ELEVATION
LOOKING FORWARD ON SURVEY
Scale ⅜" = 1'-0"



END ELEVATION
Scale ⅜" = 1'-0"

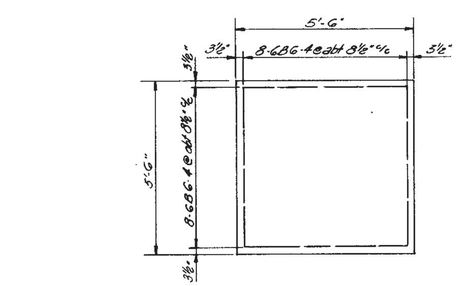


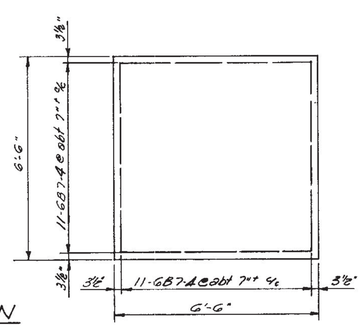
SECTION A-A
Scale ⅜" = 1'-0"



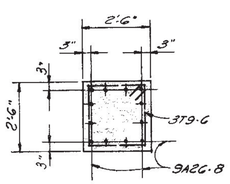
SECTION B-B
Scale ⅜" = 1'-0"

NOTES:
All exposed edges shall have a ¾" x ¾" chamfer, unless otherwise shown.
Elevations are at ℄ of Bent.

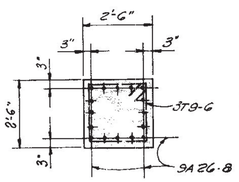




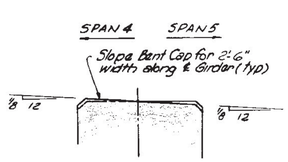
FOOTING REINFORCING PLAN
Scale ⅜" = 1'-0"



SECTION C-C
Scale ⅜" = 1'-0"



SECTION D-D
Scale ⅜" = 1'-0"



SECTION X-X
N.T.S.

ESTIMATED QUANTITIES

		BENT NO. 4
Class "A" Concrete	Cu. Yds.	42.2
Reinforcing Steel	Lbs.	8523

Scale as noted

MID-SOUTH ENGINEERING CO., INC.
820 BROADWAY, N. E. KNOXVILLE, TENNESSEE

INTERSTATE OVER TON AND T.C.R.R.
STA 783.5 + 77.04

BENT NO. 4 - EBL(6B)

STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS
NASHVILLE

	DATE	
DR. R.W.P.		K-1-820
CHK'D. R.A.H.		
APP'D. W.R.	8-15-60	

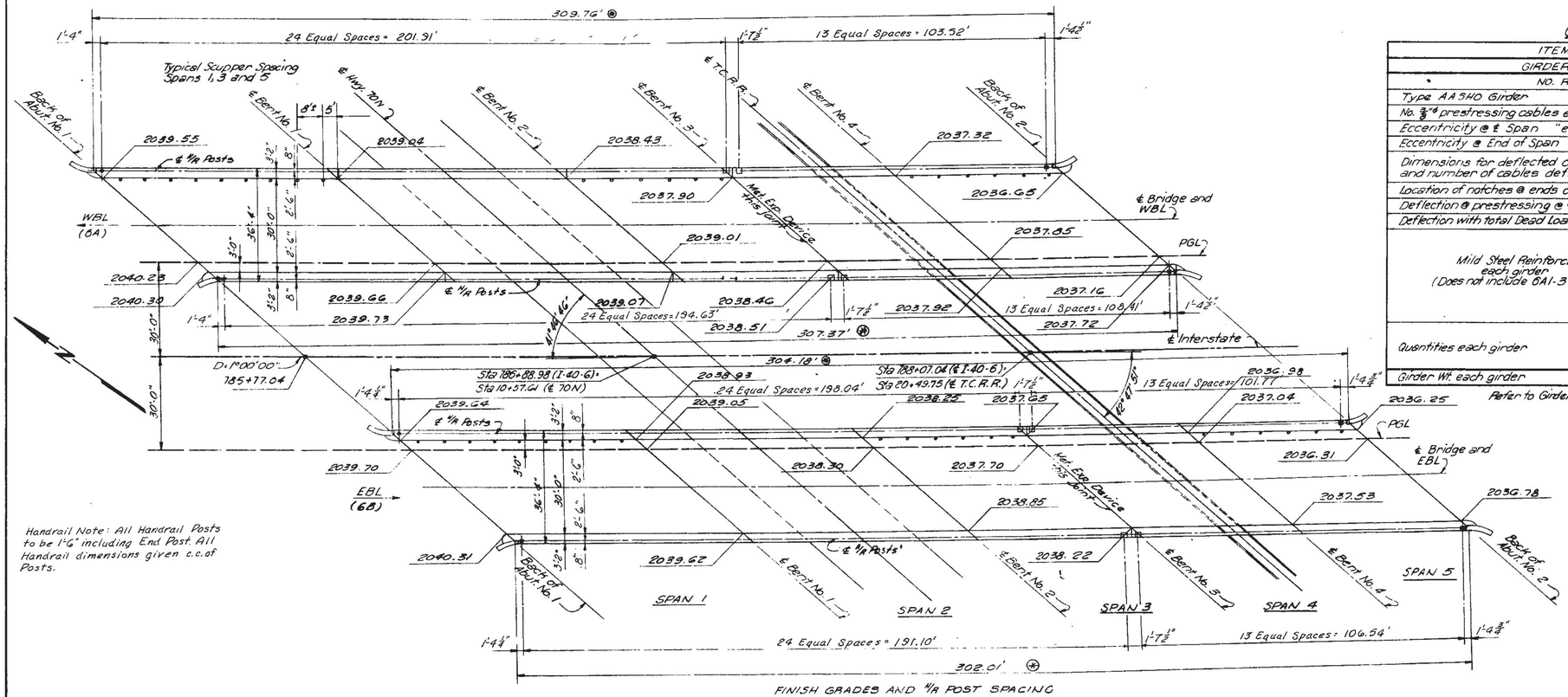
Revised: 1-11-65 Dowel Bar Spacing

FED. ROAD DIST. No.		FEDERAL AID PROJECT No.	FISCAL YEAR	SHEET No.	TOTAL SHEETS
3	TENN	I-40-6(29) 304		125	301

GIRDER SCHEDULE

ITEM NO.			154.1P	154.1N
GIRDER MARK			SPAN No.1 SPAN No.2	SPAN 3,4&5
NO. REQ'D.			20	30
Type AASHO Girder			III	III
No. 3/8" ϕ prestressing cables each girder			51	33
Eccentricity @ ℄ Span "e" (inches)			23.21	14.8
Eccentricity @ End of Span "e," (inches)			7.26	-0.86
Dimensions for deflected cables and number of cables deflected	"S"	(No.)	12'3" (15)	8'5⅛" (13)
Location of notches @ ends of girders	At end	At end	2'1"	2'1" / 10⅞" / 10⅞"
Deflection @ prestressing @ ℄ of Span (inches)			1⅛"	½"
Deflection with total Dead Load @ ℄ of Span (inches)			¾"	⅞"
Mild Steel Reinforcing each girder (Does not include 8A1-3 dowels)	5F		60-5F5-5	42-5F4-5
	4F		14-4F14-1	14-4F10-9
	5A t.f. "A"		4-5A35-3	4-5A27
	5A b.f. "B"		4-5A37-3	4-5A27-6
	4U		32-4U6-11	32-4U5-6
	4UX		84-4UX6-8	64-4UX5-5
Quantities each girder	Reinf. Steel	Lbs.	1296	832
	Hi-Tensile Steel	Lbs.	1044	496
	5000 psi Conc.	Cu. Yds.	15.46	7.94
Girder Wt. each girder		Lbs.	63,000	32,000

Refer to Girder Lay-out for out to out girder length.



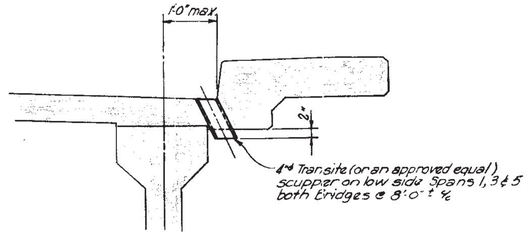
PLAN - BRIDGES (6A) & (6B)

Scale 1" = 20'

Handrail Note: All Handrail Posts to be 1'-6" including End Post. All Handrail dimensions given c.c. of Posts.

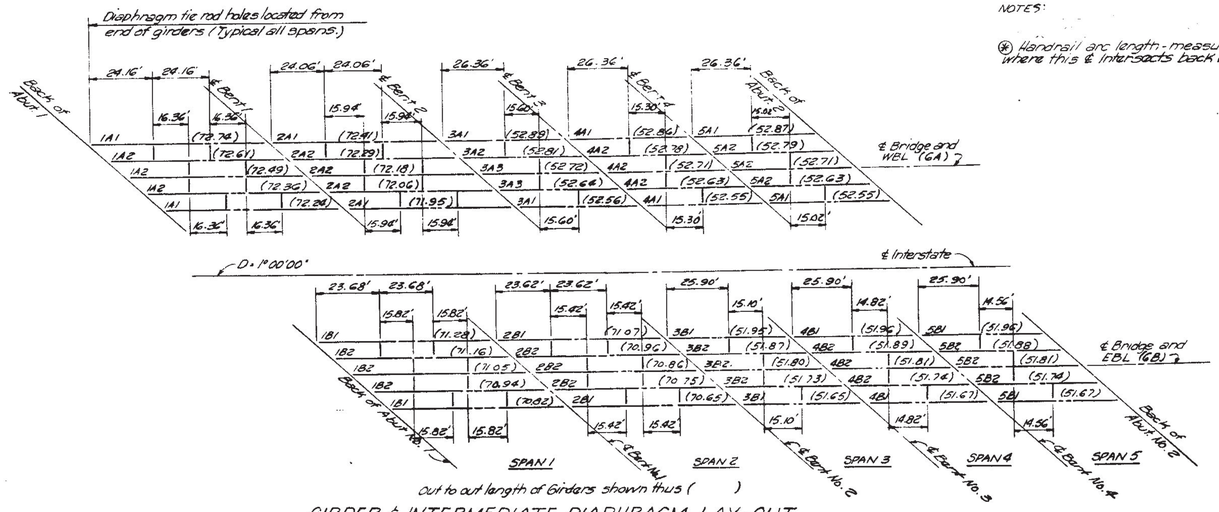
NOTES:

⊛ Handrail arc length - measured along ℄ 11/2 Posts where this ℄ intersects back wall of Abutments.



TYPICAL SCUPPER DETAIL

Scale ¾" = 1'-0"



Out to out length of Girders shown thus ( )

GIRDER & INTERMEDIATE DIAPHRAGM LAY-OUT

Scale 1" = 30'

℄ Girders intersect ℄ of Bents and Abutments on radial lines 7:0" %

Girder details on Dwg. K-1-822

Scale as noted

MID-SOUTH ENGINEERING CO., INC.
820 BROADWAY N. E. KNOXVILLE, TENNESSEE

INTERSTATE OVER 70N & T.C. RAIL ROAD
STA 785+77.04

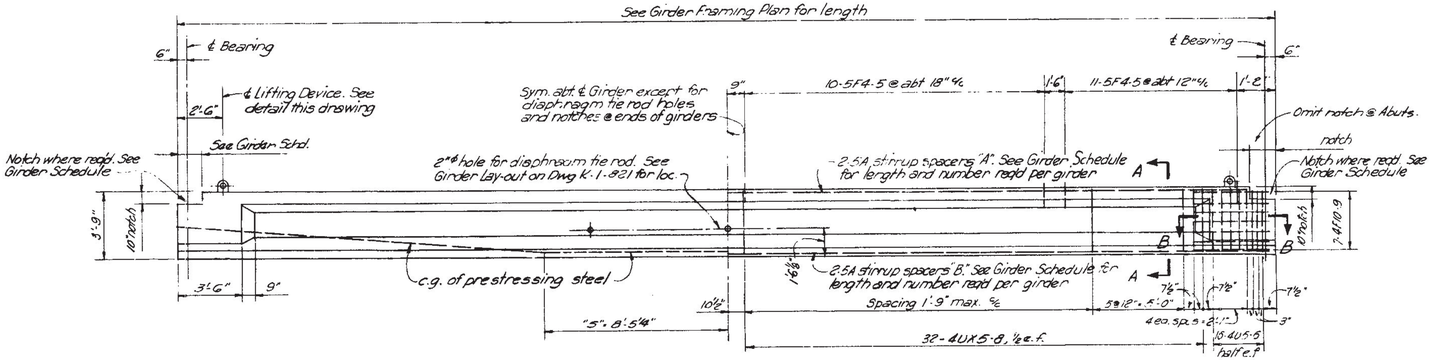
GIRDER FRAMING PLAN & SCHEDULE FINISH GRADES & 11/2 POST SPACING

STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS
NASHVILLE

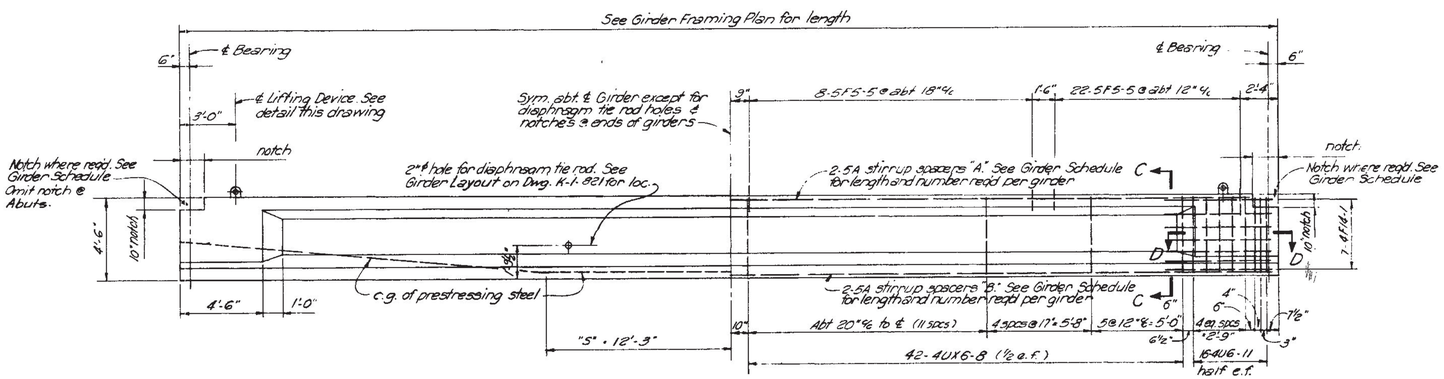
		DATE	
DR.	R.W.P.		K-1-821
CHK'D.	E.A.H.		
APP'D.	W.E.	8-15-60	

Revised: 10-10-62

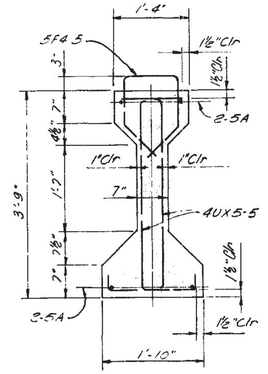
FED. ROAD DIST. No.		FEDERAL AID PROJECT No.	FISCAL YEAR	SHEET No.	TOTAL SHEETS
3	TENN	I-40-6(29) 304		126	207



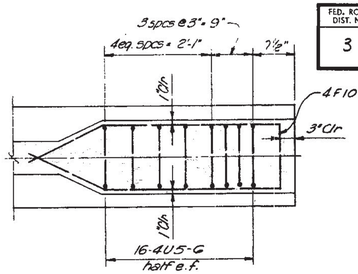
ELEVATION - GIRDER - TYPE III - SPANS 3, 4 & 5)
Scale ¼" = 1'-0"



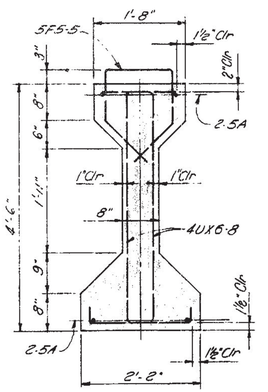
ELEVATION - GIRDER - TYPE III - SPANS 1 & 2
Scale ¼" = 1'-0"



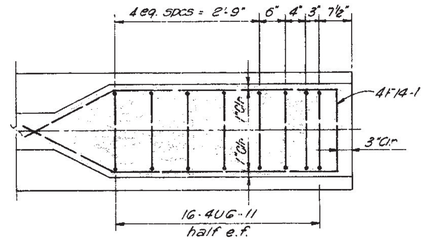
SECTION A-A
Scale ¾" = 1'-0"



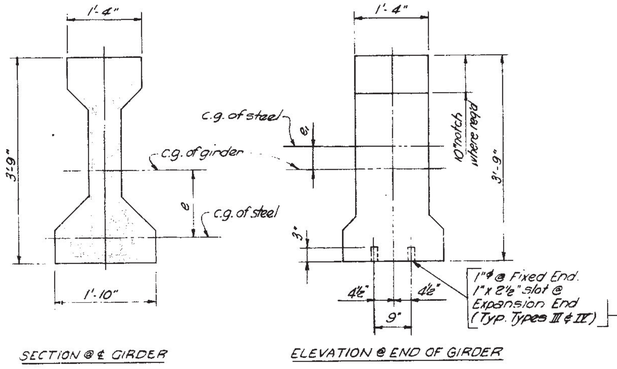
SECTION B-B
Scale ¾" = 1'-0"



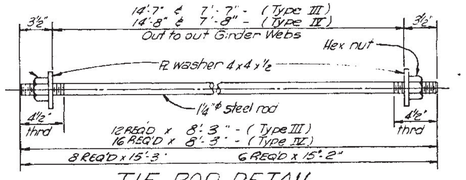
SECTION C-C
Scale ¾" = 1'-0"



SECTION D-D
Scale ¾" = 1'-0"

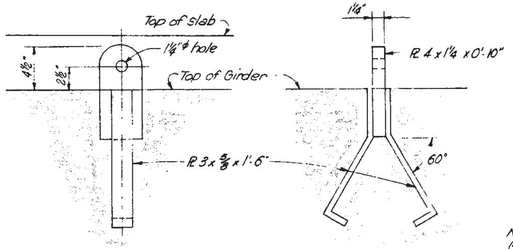


DETAILS - PRESTRESSING STEEL LAY-OUT
Scale ¾" = 1'-0"



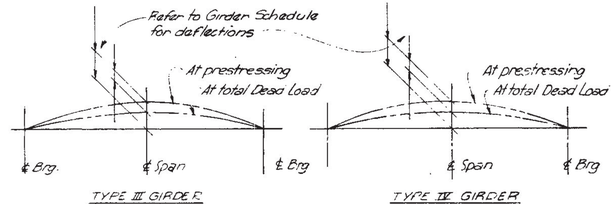
TIE ROD DETAIL
Scale 1½" = 1'-0"

Note:
Tie rods furnished by Pre-stressed Girder Supplier



DETAIL - SUGGESTED LIFTING DEVICE
Scale 1½" = 1'-0"

Note:
Girder Schedule and Framing Plan on Dwg. K-1-821



DEFLECTION DIAGRAMS
N. T. S.

GENERAL NOTES:

1. The design and details are based on the standard AASHO I section prestressed with ⅜" nominal diameter steel strands.
2. The design is based on pre-tensioning with individual tendons, consisting of seven-wire cable strands which have a nominal dia. of ⅜" and a min. Ultimate strength of 250,000 psi. An initial force of 14,000 lbs. shall be applied to each strand in all beams.
3. In the event alternate methods of prestressing are proposed, the supplier shall be required to obtain written approval from the Engineer. The supplier shall furnish complete detail drawings for his proposed alternate method of prestressing along with computations which shall include deflection and shear calculations.
4. The tops of all beams shall be artificially roughened to insure bond with the concrete slab.
5. Allow 25 #/sq. ft. dead load for future wearing surface.
6. Total mild steel reinforcing quantities include 6A1-3 dowels for end bearings.

ESTIMATED QUANTITIES

			WBL (GA)	BBL (GB)
	Reinforcing Steel	Lbs.	25,987	25,987
	Hi-Tensile Steel	Lbs.	18,190	17,765
	5000 psi Concrete	Cu. Yds.	275.9	271.1
*	Structural Steel	Lbs.	2670	2670

*Includes tie rods and Lifting Devices.

Scale as noted

MID-SOUTH ENGINEERING CO., INC.
820 BROADWAY, N. E. KNOXVILLE, TENNESSEE

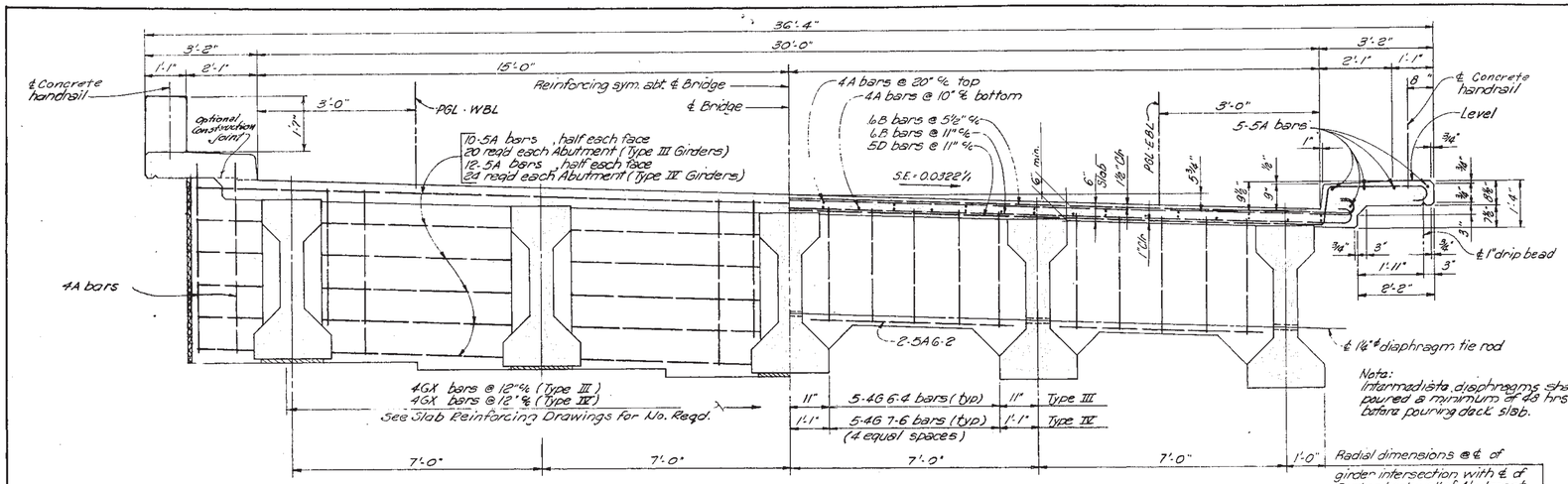
INTERSTATE OVER 70N AND T.C. RAIL ROAD
STA 785 + 77.04

PRESTRESSED GIRDER DETAILS

STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS
NASHVILLE

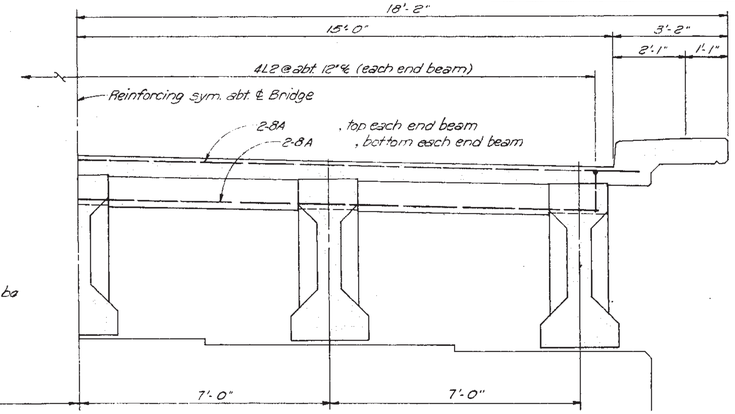
DR. R.W.R.	DATE:	K-1-822.
CHK'D R.A.H.		
APP'D. W.R.	8-15-60	

FED. ROAD DIST. No.		FEDERAL AID PROJECT No.	FISCAL YEAR	SHEET No.	TOTAL SHEETS
3	TENN	I40-4(29)257 304		127	221

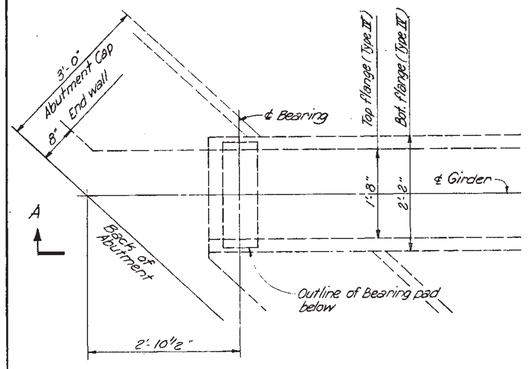


HALF-SECTION @ ABUTMENTS
Scale ½" = 1'-0"

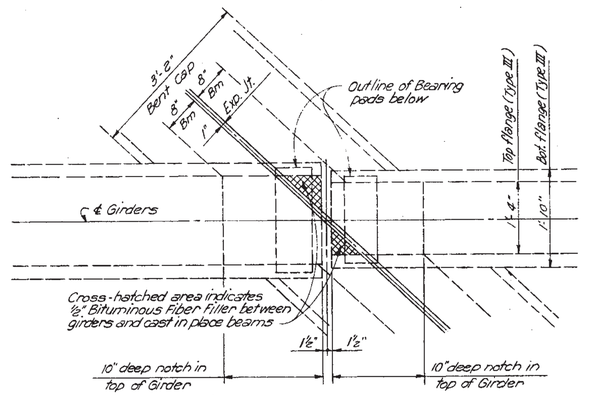
HALF-SECTION @ INTERMEDIATE DIAPHRAGMS
(LOOKING BACK ON SURVEY)
Scale ½" = 1'-0"



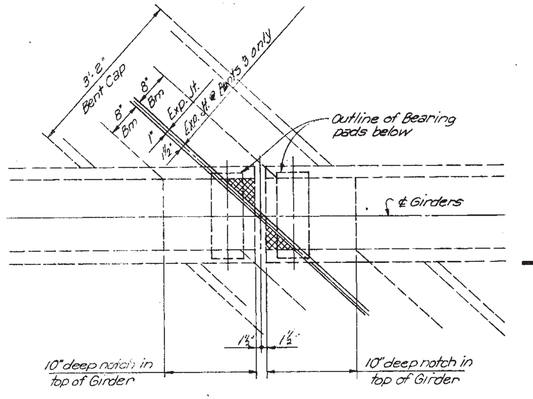
HALF-SECTION @ BENTS
Scale ½"=1'-0"



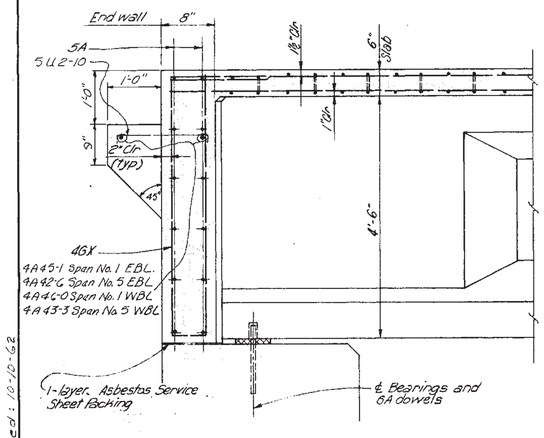
PLAN - SLAB ABOVE
GIRDER BEARING ON ABUTMENT
(Type III Girder bearing on Abutment similar)

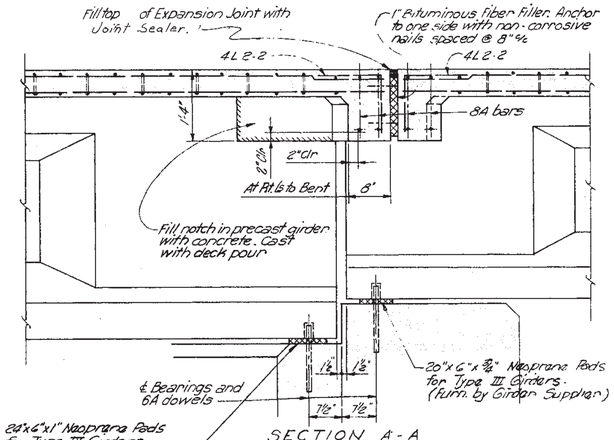


PLAN - SLAB ABOVE GIRDERS
BEARING ON BENTS 2



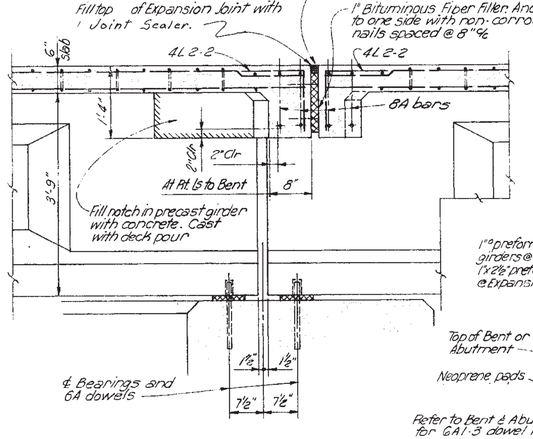
PLAN - SLAB ABOVE GIRDERS
BEARING ON BENTS NOS. 3 AND 4
(Type IV Girders bearing on Bents 1A & 1B similar)

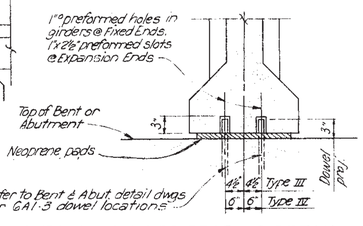




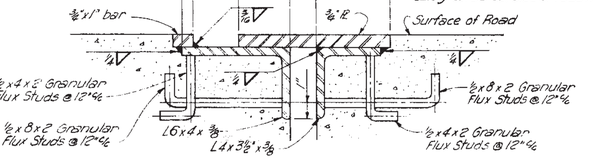
SECTION A-A

SLAB AND GIRDER DETAILS
Scale ⅜" = 1'-0"

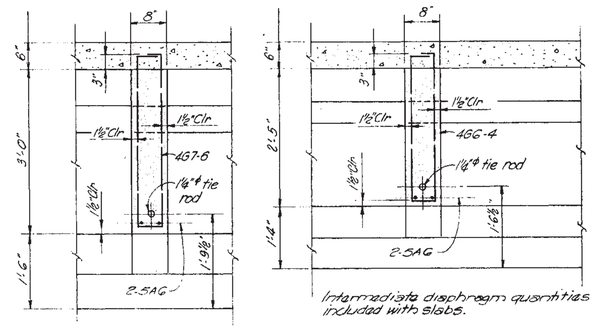




TYPICAL GIRDER BEARING DETAIL
Scale 1" = 1'-0"



TYP. ROADWAY EXPANSION DEVICE
Scale 3" = 1'-0"



54" PRECAST GIRDER

45" PRECAST GIRDER

SECTIONS THRU INTERMEDIATE DIAPHRAGMS
Scale ⅜" = 1'-0"

Intermediate diaphragm quantities included with slabs.

ESTIMATED WEIGHT
BRIDGE (6A) 2200 LBS
BRIDGE (6G) 2160 LBS

Scale as noted

Revised: 10-10-62

MID-SOUTH ENGINEERING CO., INC.
820 BROADWAY, N. E. KNOXVILLE, TENNESSEE

INTERSTATE OVER RELOC. TON AND T.C. RAILROAD
STA 785+77.04

SUPERSTRUCTURE DETAILS

STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS
NASHVILLE

		DATE
DR. R.W.P.		
CHK'D. R.A.H.		
APP'D. W.R.		8-15-62

K-1-823

FED. ROAD DIST. No.		FEDERAL AID PROJECT No.	FISCAL YEAR	SHEET No.	TOTAL SHEETS
3	T E N N	I40-6(24)304		128	307 621

Revised 10-10-62

Radio Dimensions

41-5D39-1 & 41-6B32-11 @ 5½" % alt b.f.

30-6B32-11 @ 5½" % t.f.

5½"

5½"

1¼"

4'-10 5/16"

1'-6 3/8"

10'-6 3/8"

10'-5 3/8"

45'-9 3/8"

10'-8 1/8"

10'-7 9/16"

4'-6 3/16"

4'-9 3/8"

1'-6"

3'-2"

1'-2 3/8"

1'-0"

inside face of curb

1'-3½"

8" End Wall

7'-0"

4'-11 5/8"

16½"

10'-10 9/16"

7'-0"

7'-0"

7'-0"

30'-0"

3'-0"

1'-0"

3'-2"

inside face of curb

46'-6 3/16"

10'-9 5/16"

4'-7 3/16"

16 3/16"

4'-0 3/4"

5-5D39-10 (10 req'd.)

5-5D38 (10 req'd.)

Spacing 5'-2" Typical

Spacing 5'-2 Typical

19-4D37-10 @ 20" & t.f. (38 req'd.)
37-4D37-10 @ 10" & b.f. (74 req'd.)

5'-1" End Diaph.

47-4'-2" c to c end diaph.

℄ Beams

℄ P.G.L. WB.L.

℄ Brg. Back of Abut. 1

45'-2½"

30'-0"

74'-9¼" (74.77)

40°-39'-36"

785+77.04

℄ I-40-6

0°-1°-00'

local tangent

local tangent

786+51.29

41°-24'-09"

45'-6⅝"

℄ Bent 1

2-8A46 t.f.
2-8A43 b.f.

½

¾"

5D46-0 & 6J4-7
5D48-0 & 6J4-7
5D48-7 & 6J5-8
5D49 & 6J6-2
5D49-7 & 6J6-7
5D50-0 & 6J7-0
5D50-7 & 6J7-7
5D51-2 & 6J8-2
5D51-9 & 6J8-9
5D52-7 & 6J9-7
5D53-4 & 6J10-5
5D54-1 & 6J11-2
5D54-11 & 6J12
5D55-9 & 6J12-9
5D56-4 & 6J13-6
5D57-1 & 6J14-3
5D58 & 6J15-1
5D58-9 & 6J15-10
5D59-7 & 6J16-8
5D60-5 & 6J17-6
5D61-1 & 6J18-1
5D62-0 & 6J19
5D62-10 & 6J19-10
5D63-8 & 6J20-9
5D64-5 & 6J21-5
5D65-2 & 6J22-3
5D65-11 & 6J22-11
5D66-9 & 6J23-8
5D67-7 & 6J24-6
5D68-5 & 6J25-4
5D69-2 & 6J26-2
5D70-0 & 6J27-0
5D70-7 & 6J27-10
5D71-7 & 6J28-8
5D72-5 & 6J29-6
5D73-3 & 6B32-11

5D33-9 & 6J30-9
5D32-10 & 6J29-10
5D31-11 & 6J29-0
5D30-3 & 6J28-2
5D29-5 & 6J27-4
5D28-7 & 6J26-6
5D27-10 & 6J25-8
5D27-2 & 6J24-11
5D26-3 & 6J24-3
5D25-4 & 6J23-4
5D24-6 & 6J22-5
5D23-8 & 6J21-7
5D22-11 & 6J20-9
5D22-1 & 6J20
5D21-4 & 6J19-2
5D20-6 & 6J18-5
5D19-9 & 6J17-7
5D19-11 & 6J16-10
5D18-1 & 6J16-0
5D17-5 & 6J15-2
5D16-6 & 6J14-6
5D15-10 & 6J13-7
5D14-11 & 6J12-11
5D14-1 & 6J12-0
5D13-1 & 6J11-2
5D12-5 & 6J10-2
5D11-11 & 6J9-6
5D11-9 & 6J9-0
5D11-2 & 6J8-3
5D10-3 & 6J7-4
5D9-8 & 6J6-9
5D8-9 & 6J5-10
5D7-5 & 6J4-6

2-6J31-2
2-6J30-4
2-6J29-6
2-6J28-8
2-6J27-10
2-6J27-0
2-6J26-2
2-6J25-4
2-6J24-6
2-6J23-8
2-6J22-10
2-6J22-0
2-6J21-3
2-6J20-5
2-6J19-7
2-6J18-9
2-6J17-11
2-6J17-1
2-6J16-3
2-6J15-5
2-6J14-7
2-6J13-9
2-6J12-11
2-6J12-1
2-6J11-3
2-6J10-7
2-6J10-0
2-6J9-7
2-6J9-1
2-6J8-7
2-6J8-1
2-6J7-3
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2-6J5-7
2-6J4-7

2-6J4
2-6J5
2-6J5-7
2-6J6-2
2-6J6-10
2-6J7-4
2-6J7-10
2-6J8-5
2-6J9-2
2-6J10
2-6J10-10
2-6J11-8
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2-6J20-11
2-6J21-9
2-6J22-7
2-6J23-4
2-6J24-3
2-6J24-11
2-6J25-8
2-6J26-6
2-6J27-4
2-6J28-2
2-6J29-0
2-6J29-10
2-6J30-9
2-6J31-4
2-6B32-11
2-6B32-11
2-6B32-11
2-6B32-11

8-4A5-7 @ 12" % c to c

47-4GX11-7 @ 12" %

6-4A5-7 @ 12" % ½ at.

8-4A5-7 @ 12" % ½ at.

12'-3 25/32" @ 2'-6" % c to c

(24-2 c to c spaces)

PLAN - SPAN Nº 1

ELEVATION "A-A"

LOOKING FORWARD ON SURVEY

Scale 1/4" = 1'-0"

Scale: ¼" = 1'-0"

ESTIMATED QUANTITIES

Concrete Class "A"	Cu Yds.	68.3
Reinf. Steel (Total W.B.L.)	Lbs.	85,333

Note:
1. Superstructure Details on Drwg. K-1 823
2. Fin. grades, location ½ posts and scuppers on Drwg. K-1 ____

MID-SOUTH ENGINEERING CO., INC.
820 BROADWAY, N. E. KNOXVILLE, TENNESSEE

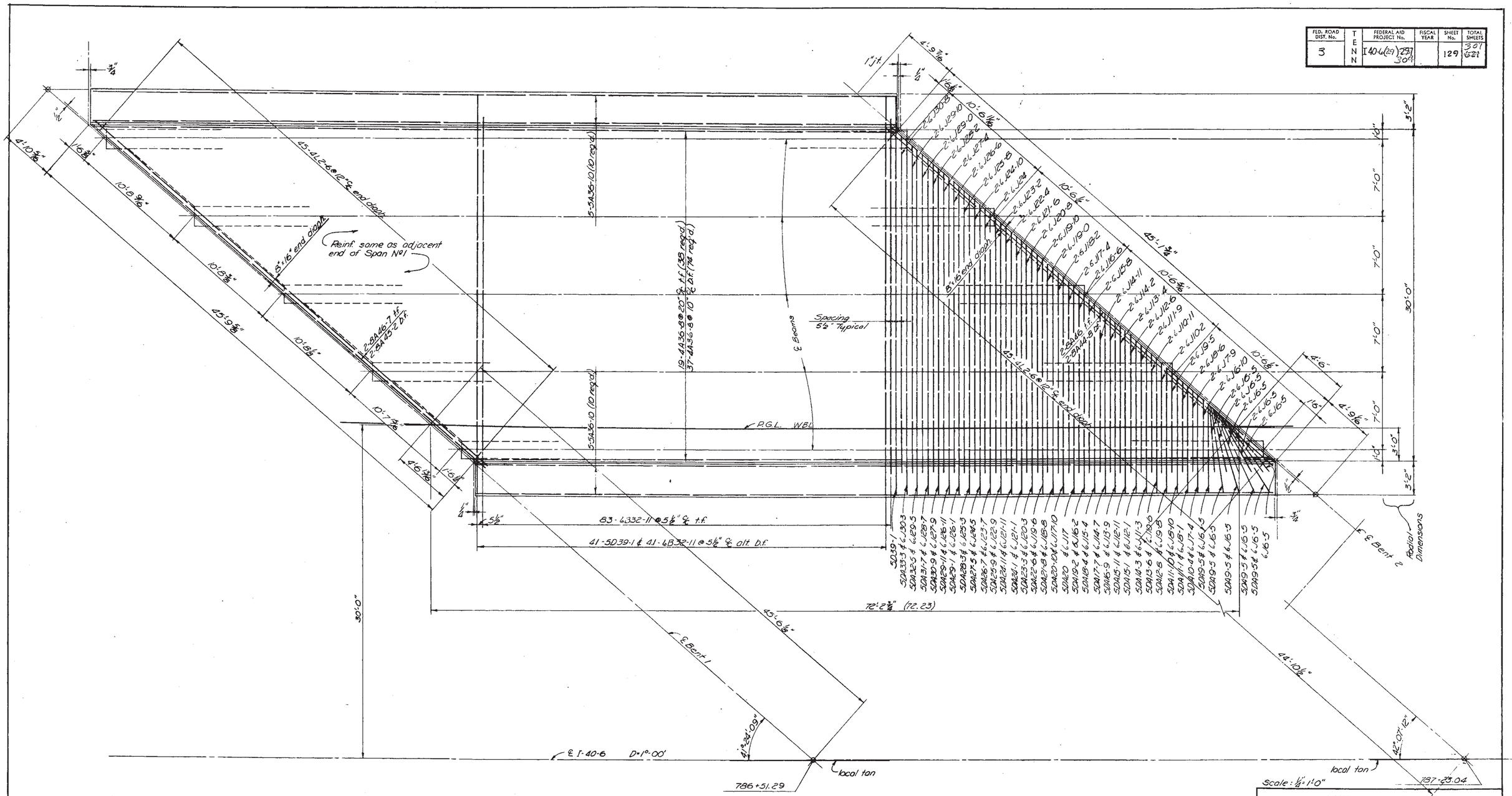
INTERSTATE OVER 70N 4 T.C. RAILROAD
STA. 785 + 77.04

SPAN Nº 1 (6A) W.B.L.

STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS
NASHVILLE

		DATE	
DR. R.V.S.			K-1-824
CHK'D. L.E.S.			
APP'D. W.R.		8-15-60	

FED. ROAD DIST. No.		FEDERAL AID PROJECT No.	FISCAL YEAR	SHEET No.	TOTAL SHEETS
3	T E N N	I-40-6(27)297 304		129	301 621



PLAN - SPAN No 2

ESTIMATED QUANTITIES

Concrete Class "A"	Cu. Yds.	611
Reinforcing Steel	Lbs.	See Span No 1 for Total W.B.L

Note:
1. Superstructure Details on Drwg. K-1-823
2. Fin. grades & location ½ posts on Drwg. K-1-821

Revised: 10-10-62

MID-SOUTH ENGINEERING CO., INC.
820 BROADWAY, N. E. KNOXVILLE, TENNESSEE

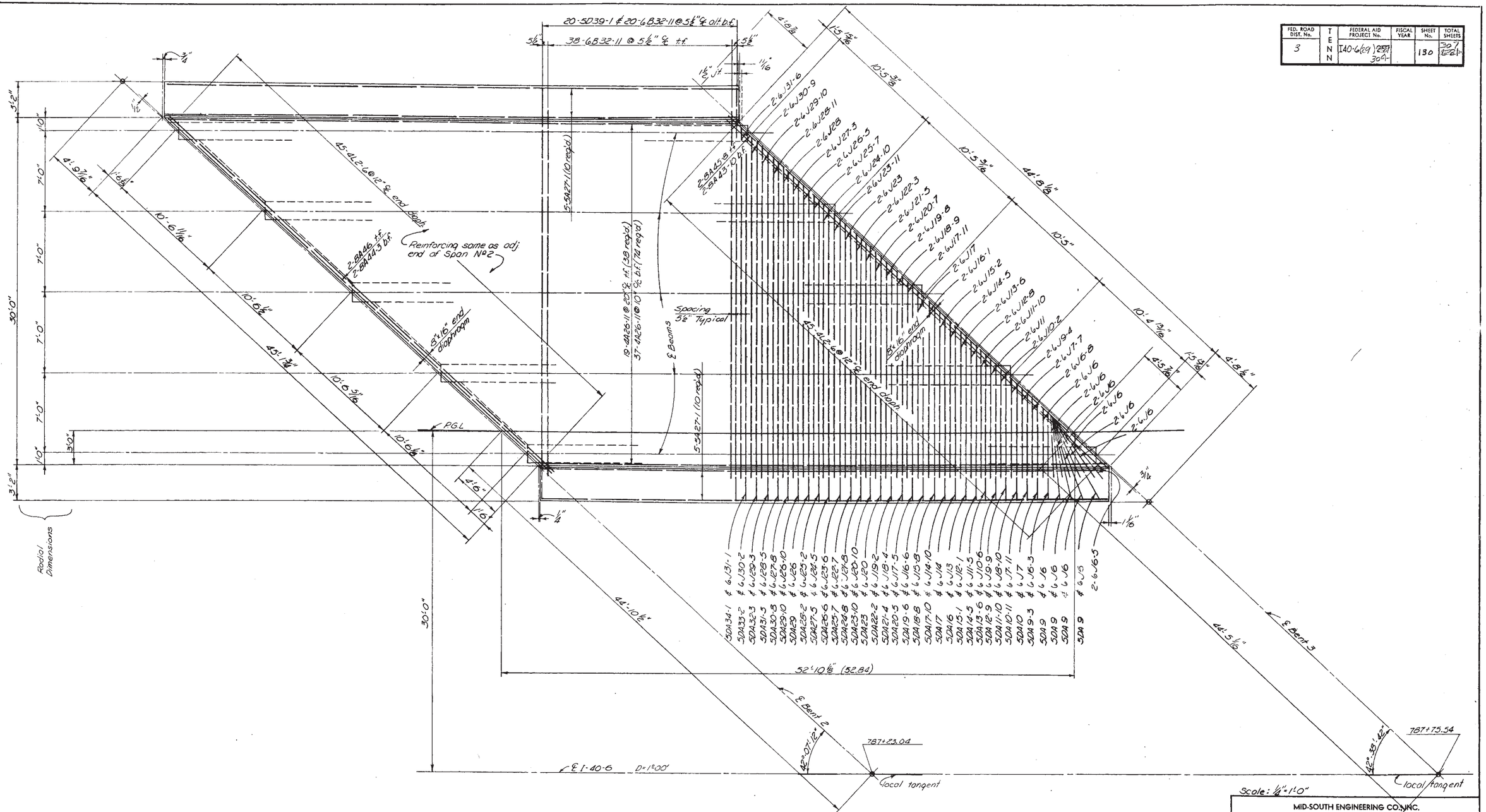
INTERSTATE OVER TON & T.C. RAILROAD
STA. 785+77.04

SPAN No 2 (6A) W.B.L

STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS
NASHVILLE

		DATE	
DR.	R.V.S.		K-1-825
CHK'D	L.E.S.		
APP'D	W.R.	8-15-60	

FED. ROAD DIST. No.	TENN	FEDERAL AID PROJECT No.	FISCAL YEAR	SHEET No.	TOTAL SHEETS
3		I40-6(29) 304		130	307



PLAN - SPAN No 3

Scale: ¼"=1'-0"

ESTIMATED QUANTITIES

Concrete Class "A"	Cu. Yds.	43.1
Reinforcing Steel	Lbs.	See Span No 1 For Total WBL

Note:
1. Superstructure and metal expansion joint details on Drwg. K-1-823
2. Fin. grades, location H/R post and scuppers on on Drwg. K-1-821

MID-SOUTH ENGINEERING CO., INC.
820 BROADWAY, N. E. KNOXVILLE, TENNESSEE

INTERSTATE OVER 70N & T.C. RAILROAD
STA. 785+77.04

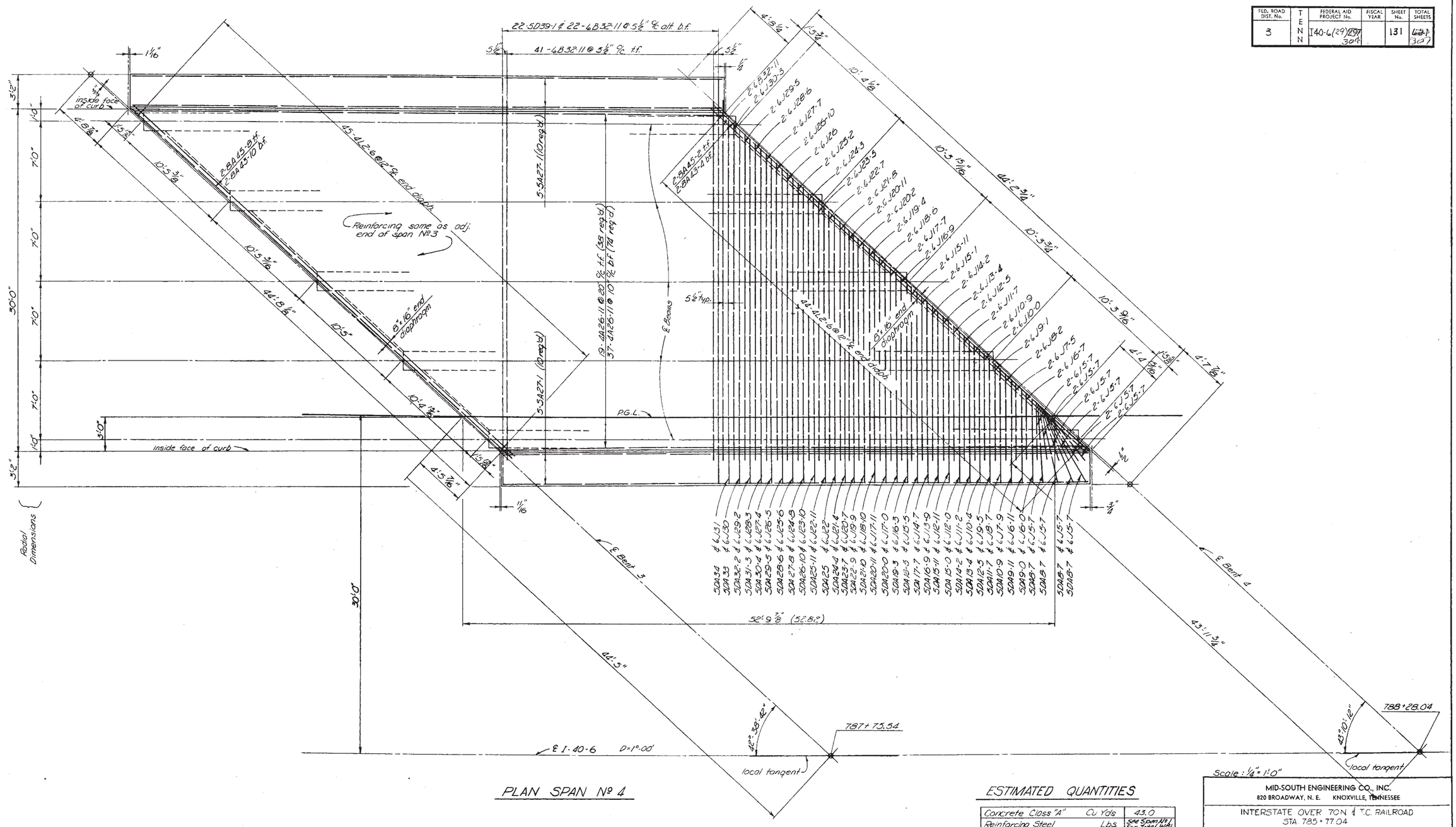
SPAN No 3 (6A) W.B.L.

STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS
NASHVILLE

DR. R.V.S.	DATE	K-1-826
CHK'D L.E.S.		
APP'D W.E.	8-15-60	

Revised 10-10-62

FED. ROAD DIST. No.		FEDERAL AID PROJECT No.	FISCAL YEAR	SHEET No.	TOTAL SHEETS
3	TENN	I40-6(29)297 304		131	447 307



PLAN SPAN No 4

Scale: 1/4" = 1'-0"

ESTIMATED QUANTITIES

Concrete Class "A"	Cu Yds	43.0
Reinforcing Steel	Lbs	See Span No 1 For Total W.B.L.

Note:
1. Superstructure and metal expansion joint details on Drwg. K-1-823
2. Fin. grades & location 1/16 post on Drwg. K-1-821

MID-SOUTH ENGINEERING CO., INC.
820 BROADWAY, N. E. KNOXVILLE, TENNESSEE

INTERSTATE OVER TON & T.C. RAILROAD
STA. 785+77.04

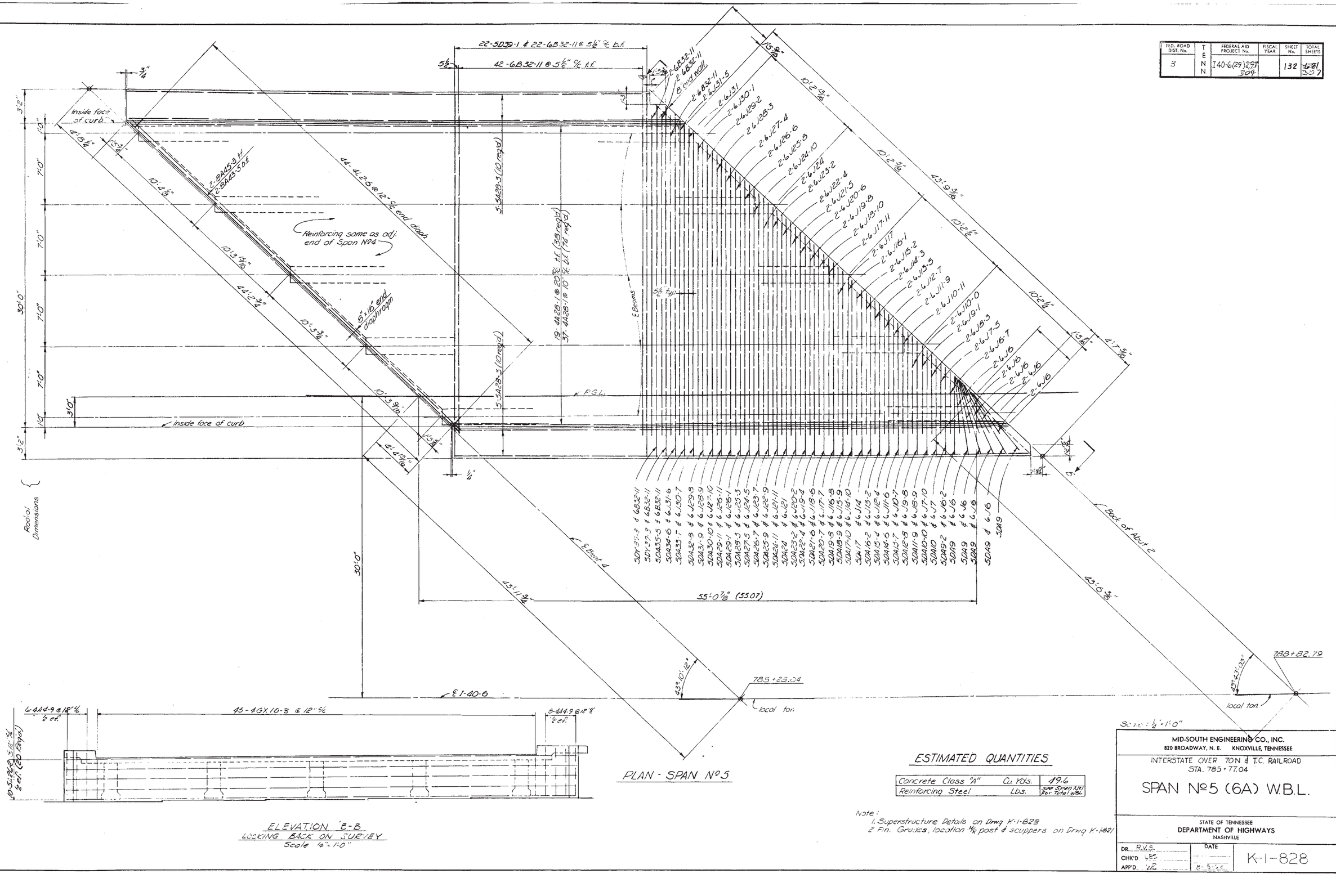
SPAN No 4 (6A) W.B.L.

STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS
NASHVILLE

DR. R.V.S.	DATE	K-1-827
CHK'D L.E.S.		
APP'D WP	8-15-60	

Revised: 10-10-62

FED. ROAD DIST. No.		FEDERAL AID PROJECT No.	FISCAL YEAR	SHEET No.	TOTAL SHEETS
3	TENN	I40-6(29)297 304		132	~~681~~ 307



ELEVATION "B-B"
LOOKING BACK ON SURVEY
Scale ¼" = 1'-0"

PLAN - SPAN No 5

Scale: ¼" = 1'-0"

ESTIMATED QUANTITIES

Concrete Class "A"	Cu. Yds.	49.6
Reinforcing Steel	Lbs.	See Span No 1 for Total W.B.L.

Note:
1. Superstructure Details on Drwg K-1-823
2. F.n. Grades, location ⅓ post & scuppers on Drwg K-1-821

MID-SOUTH ENGINEERING CO., INC.
820 BROADWAY, N. E. KNOXVILLE, TENNESSEE

INTERSTATE OVER TON & T.C. RAILROAD
STA. 785+77.04

SPAN No 5 (6A) W.B.L.

STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS
NASHVILLE

DR. R.V.S.	DATE	K-1-828
CHK'D E.S.		
APP'D N.C.	8-5-62	

Revised 10-10-62

FED. ROAD DIST. No.		FEDERAL AID PROJECT No.	FISCAL YEAR	SHEET No.	TOTAL SHEETS
3	TENN	I40-6(29)~~207~~ 207		133	~~137~~ 137

74'-3"

785+77.04

℄local ton 40°-39'-36"

45'-10 9/16"

℄ I-40-6

786+51.29

℄local ton 41°-24'-09"

73'-8 3/8" (73.74)

℄ Bent No 1

45'-2 9/16"

Back wall Abut No 1

(Radial dimensions)

5DA7-5 & 6J4-5
5DA7-7 & 6J4-7
5DA7-8 & 6J4-8
5DA7-9 & 6J4-9
5DA7-10 & 6J4-10
5DA8 & 6J5
5DA8-11 & 6J5-11
5DA9-8 & 6J6-8
5DA10-5 & 6J7-5
5DA11-2 & 6J8-2
5DA12 & 6J9
5DA12-9 & 6J9-9
5DA13-7 & 6J10-7
5DA14-5 & 6J11-5
5DA15-3 & 6J12-3
5DA16-1 & 6J13-1
5DA16-10 & 6J13-10
5DA17-8 & 6J14-8
5DA18-6 & 6J15-6
5DA19-3 & 6J16-3
5DA20-1 & 6J17-1
5DA20-10 & 6J17-10
5DA21-7 & 6J18-7
5DA22-4 & 6J19-4
5DA23-2 & 6J20-2
5DA24 & 6J21
5DA24-8 & 6J21-8
5DA25-5 & 6J22-5
5DA26-3 & 6J23-3
5DA27 & 6J24
5DA27-9 & 6J24-9
5DA28-7 & 6J25-7
5DA29-5 & 6J26-5
5DA30-3 & 6J27-3
5DA31 & 6J28
5DA31-9 & 6J28-9
5DA32-7 & 6J29-7
5DA33-5 & 6J30-5
5DA34-2 & 6J31-2
5DA35 & 6J32
5D1373 & 6B32-11
5D1373 & 6B32-11

3'-2"

1'-6"

Inside face of curb

4'-10 9/16"

7'-0"

7'-0"

7'-0"

1'-0"

30'-0"

3'-2"

1'-6"

4'-6 3/8"

10'-8"

10'-7 3/4"

45'-7 1/8"

10'-7 9/16"

2-6J4-6
2-6J4-8
2-6J4-9
2-6J4-10
2-6J5
2-6J5-7
2-6J6-4
2-6J7-1
2-6J7-10
2-6J8-7
2-6J9-5
2-6J10-2
2-6J11
2-6J11-9
2-6J12-6
2-6J13-3
2-6J14-1
2-6J14-10
2-6J15-8
2-6J16-5
2-6J17-2
2-6J17-11
2-6J18-9
2-6J19-7
2-6J20-5
2-6J21-2
2-6J21-11
2-6J22-8
2-6J23-6
2-6J24-4
2-6J25-2
2-6J25-11
2-6J26-8
2-6J27-5
2-6J28-3
2-6J29-1
2-6J29-11
2-6J30-9
2-6J31-7
2-6J32-5
2-6J32-11
2-6B32-11

P.G.L. E.B.L.

5-5A39-4 (10 req'd)

Spacing 5 5/8" Typical

18" end wall

5'-5 1/2" (10 req'd)

19-4A37-4 @ 20° & 1 t.f. (38 req'd)
37-4A37-4 @ 10° & 1 t.f. (74 req'd)

3 Decks

1'-6"

4'-6 1/4"

10'-5 5/16"

8"x16" end diaphragm

44'-11 3/16"

10'-5 3/4"

Reinforcing same as Span No 2 E.B.L

46-4L26 @ abt 12" c-c @ end diaph.

2-8A47-4 t.f. end diaph.
2-8A46 b.f. end diaph.

10'-5 9/16"

1'-5 3/16"

4'-6 13/16"

1"

5/16"

5 1/2"

78-6B32-11 @ 5 1/2" t.f.

5 1/2"

40-5039-1 & 40-6B32-11 @ 5 1/2" ℄ alt b.f.

1"

PLAN - SPAN No 1

10-5126-1 @ 12 5/8" ℄ alt (24 req'd)

8-4A5-6 @ 12 5/8" ℄ alt

46-4GX11-7 @ 12 5/8"

6-4A5-6 @ 12 5/8" ℄ alt

ELEVATION "A-A"
LOOKING FORWARD ON SURVEY
Scale 1/4"=1'-0

ESTIMATED QUANTITIES

Concrete Class "A" Cu Yds.	673
Reinf. Steel (total E.B.L) Lbs.	83,478

Note:
1. Superstructure Details on Drwg. K-1-823
2. Fin. grades, location H/R posts & scuppers on Drwg. K-1-821

Revised: 10-10-62

MID-SOUTH ENGINEERING CO., INC.
820 BROADWAY, N. E. KNOXVILLE, TENNESSEE

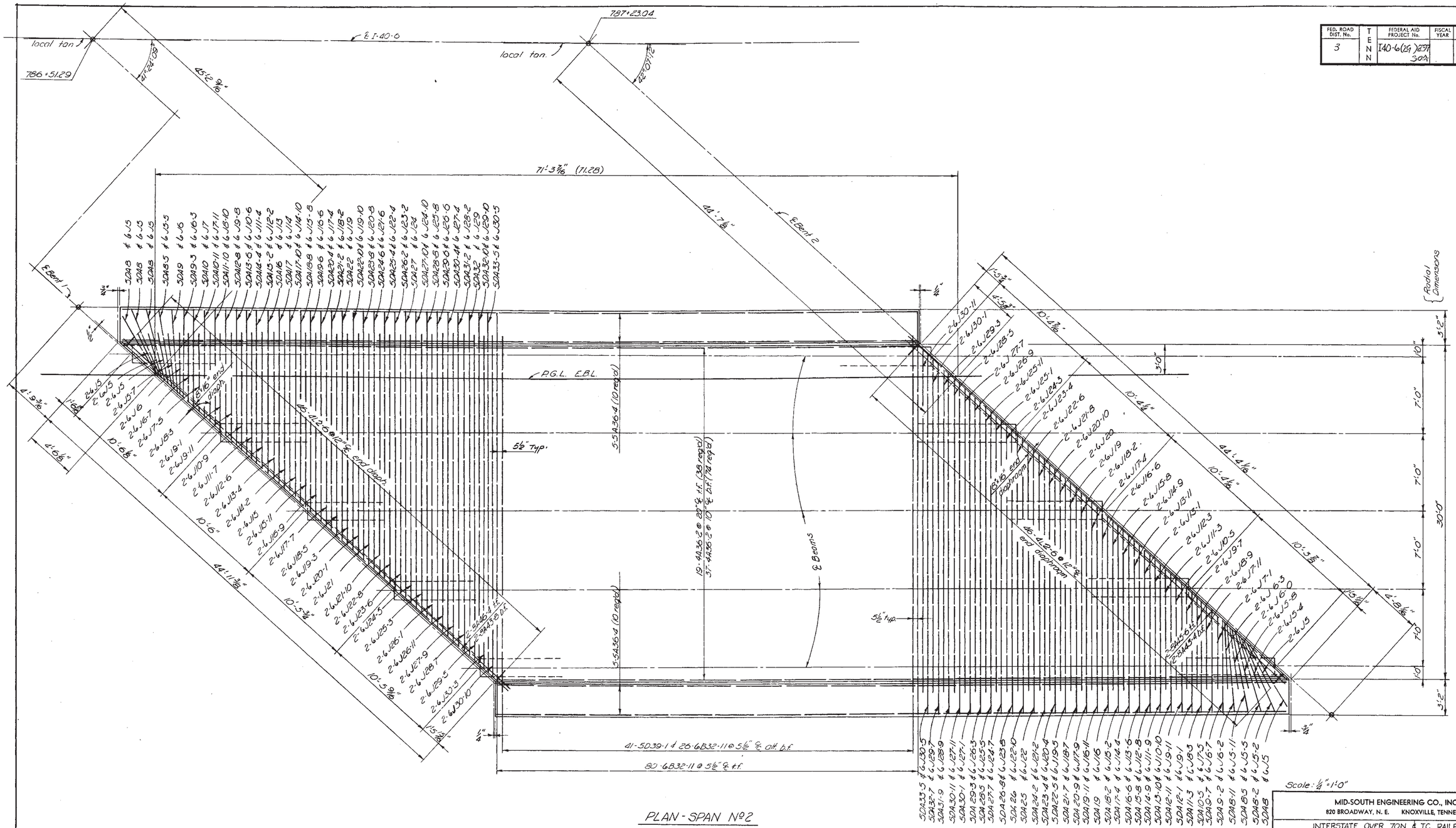
INTERSTATE OVER TON & T.C. RAILROAD
STA. 785+77.04

SPAN No 1 (6B) E.B.L.

STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS
NASHVILLE

DR. R.V.S.	DATE	K-1-829
CHK'D L.E.S		
APP'D. WR	8-15-60	

FED. ROAD DIST. No.	TENN	FEDERAL AID PROJECT No.	FISCAL YEAR	SHEET No.	TOTAL SHEETS
3		I40-6(29)297 304		134	1624 307



PLAN - SPAN No 2

Scale: ¼" = 1'-0"

ESTIMATED QUANTITIES

Concrete Class "A"	Cu. Yds.	59.4
Reinf. Steel	Lbs	See Span No 1 For Total E.B.L.

Note:
1. Superstructure Details on Drwg. K-1-823
2. Fin. grade, location H/R posts on Drwg. K-1-821

MID-SOUTH ENGINEERING CO., INC.
820 BROADWAY, N. E. KNOXVILLE, TENNESSEE

INTERSTATE OVER 70N & T.C. RAILROAD
STA. 785 + 77.04

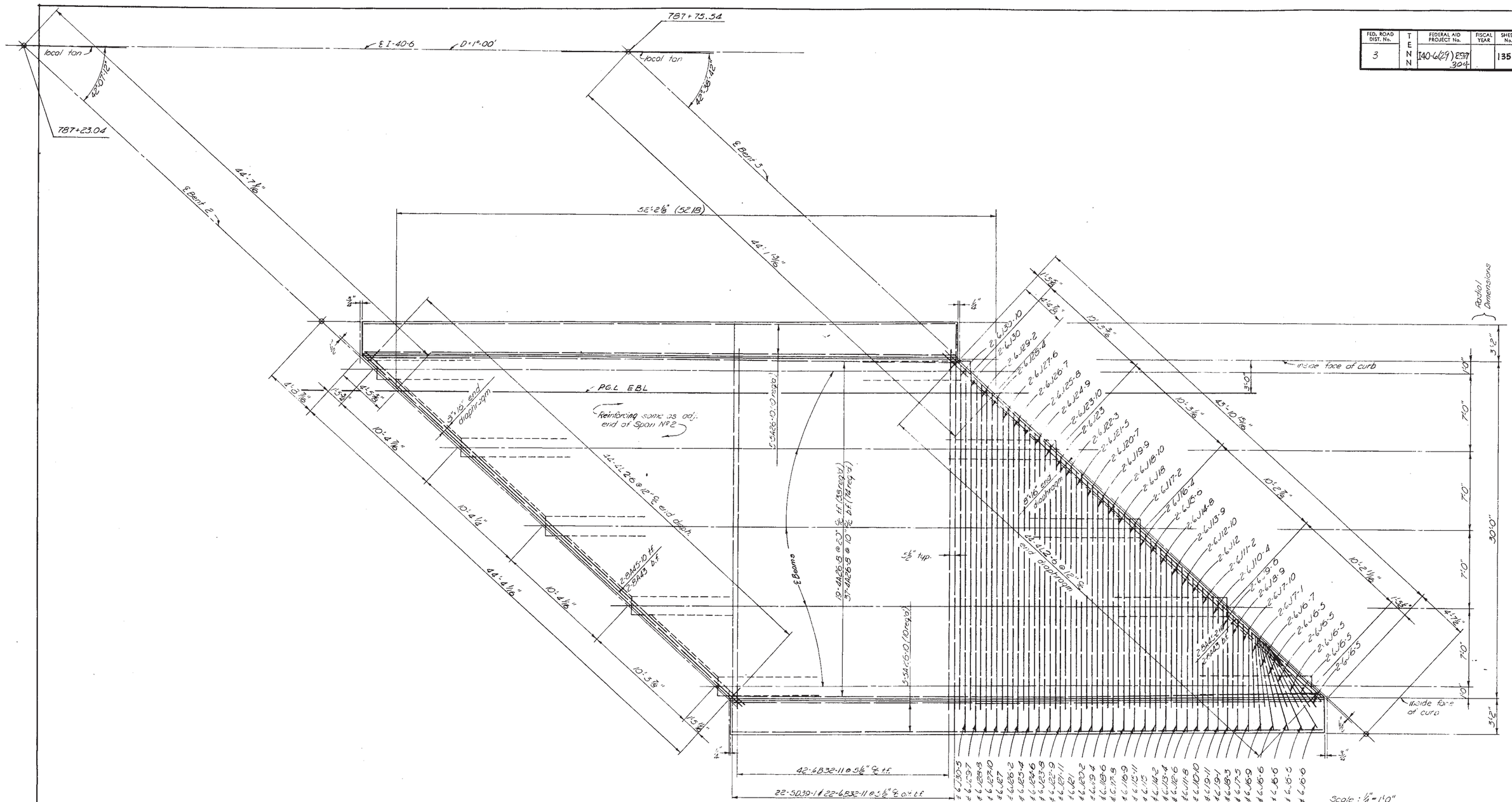
SPAN No 2 (6B) E.B.L.

STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS
NASHVILLE

DR. R.V.S.	DATE	K-1-830
CHK'D LES		
APP'D WR	8-15-60	

Revised 10-10-62

FED. ROAD DIST. No.	TENN	FEDERAL AID PROJECT No.	FISCAL YEAR	SHEET No.	TOTAL SHEETS
3		I40-6(29) 259 304		135	681 307



PLAN - SPAN No 3

Scale: 1/4" = 1'-0"

ESTIMATED QUANTITIES

Concrete Class "A"	Cu. Yds.	42.5
Reinforcing Steel	Lbs	See Span No 1 for Total EBL

Note:
1. Superstructure Details on Drwg. K-1-823
2. Fin grade, location H/R posts and scuppers on Drwg. K-1-821

MID-SOUTH ENGINEERING CO., INC.
820 BROADWAY, N. E. KNOXVILLE, TENNESSEE

INTERSTATE OVER 70N & T.C. RAILROAD
STA. 785 + 77.04

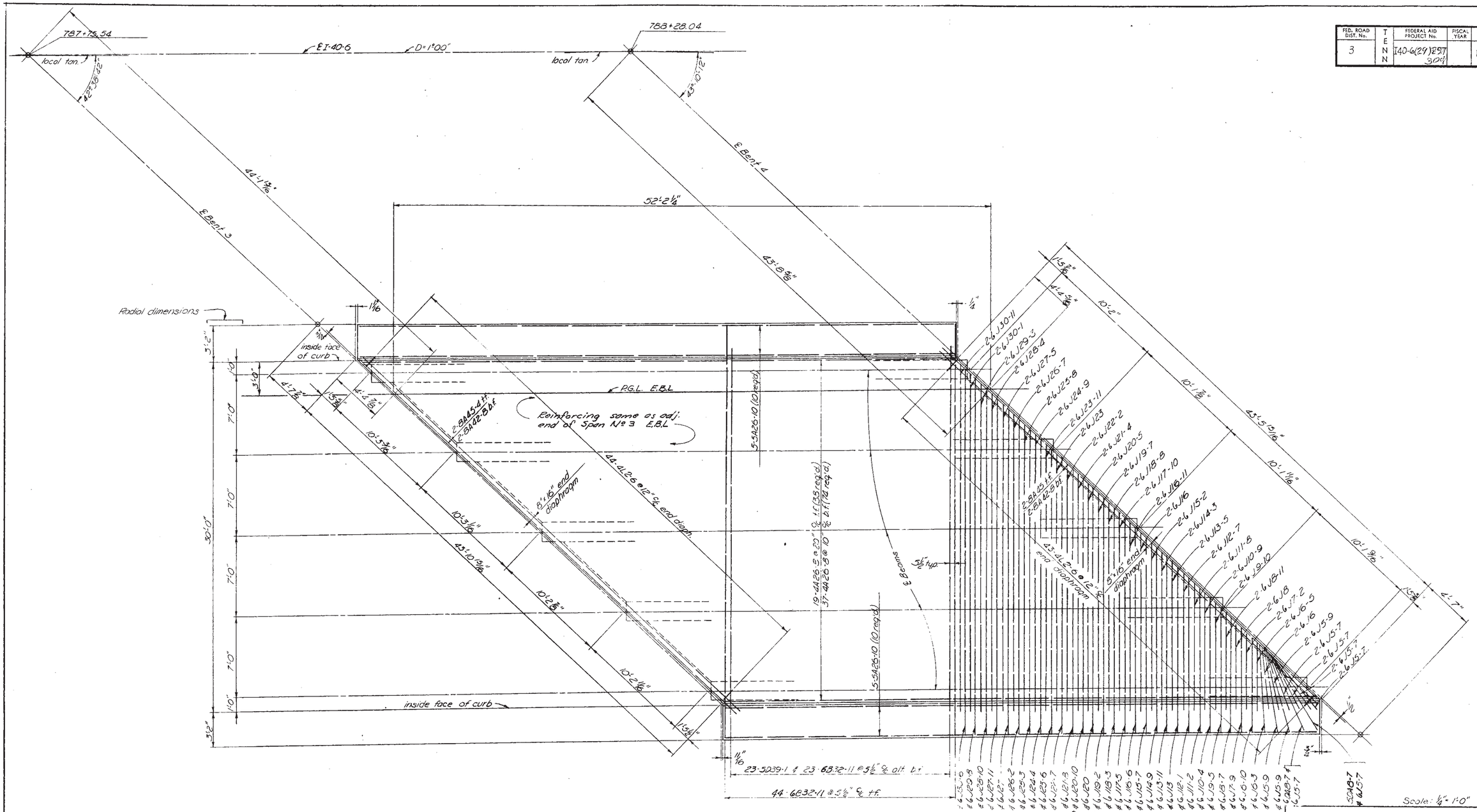
SPAN No 3 (6B) E.B.L.

STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS
NASHVILLE

DR. R.V.S.	DATE	K-1-831
CHK'D. L.E.S.		
APP'D. W.R.	8-15-60	

Revised: 10-10-62

FED. ROAD DIST. No.		FEDERAL AID PROJECT No.	FISCAL YEAR	SHEET No.	TOTAL SHEETS
3	TENN	I40-6(29)297 302		136	681


787+75.54
local tan.
42°-35'-42"
E I-40-6
D=1°00"
788+28.04
local tan.
43°-0'-12"
℄ Bent 4
℄ Bent 3
44'-1 15/16"
52'-2 1/4"
43'-8 5/8"
Radial dimensions
3'-2"
1/16
3/16
inside face of curb
3'-0"
4'-7 7/8"
1'-5 3/8"
44'-4 7/8"
P.G.L. E.B.L.
2-BM45-4 ft
2-BM42-8 bf
Reinforcing same as adj. end of Span № 3 E.B.L
5-SA26-10 (10 req'd)
44'-4'-2.6 @ 12" ℄ end diaph.
5'-1 1/16" end diaphragm
10'-3 1/16"
43'-10 13/16"
10'-2 3/8"
10'-2 1/16"
inside face of curb
1'-5 1/4"
30'-0"
7'-0"
7'-0"
7'-0"
1'-0"
3'-2"
19'-SA26-9 @ 20" ℄ 4'-1 (38 req'd)
37'-SA26-9 @ 10" ℄ 2'-1 (72 req'd)
5-SA26-10 (10 req'd)
11/16
23-SD39-1 & 23-SB32-11 @ 5 1/2" ℄ alt. b.f.
44-SB32-11 @ 5 1/2" ℄ t.f.
1 5/16"
4'-4 5/8"
10'-2"
10'-7 7/8"
43'-5 13/16"
10'-1 11/16"
10'-1 9/16"
1'-5 3/4"
4'-7"
1/4"
1/2"
5/16 typ
2-BA45-4 bf
2-BA42-8 bf
43'-4'-2.6 @ 12" ℄ end diaphragm
5'-1 5/16" end diaphragm
2-SB33-1 & 2-SB32-8
2-SB32-8 & 2-SB29-9
2-SB31-10 & 2-SB27-11
2-SB30-11 & 2-SB27-10
2-SB30
2-SB29-2 & 2-SB26-2
2-SB28-3 & 2-SB25-3
2-SB27-4 & 2-SB24-4
2-SB26-5 & 2-SB23-5
2-SB25-7 & 2-SB22-7
2-SB24-8 & 2-SB21-8
2-SB23-10 & 2-SB20-10
2-SB23
2-SB22-2 & 2-SB19-2
2-SB21-3 & 2-SB18-3
2-SB20-5 & 2-SB17-5
2-SB19-6 & 2-SB16-6
2-SB18-7 & 2-SB15-7
2-SB17-9 & 2-SB14-9
2-SB16-11 & 2-SB13-11
2-SB16
2-SB15-1 & 2-SB12-1
2-SB14-2 & 2-SB11-2
2-SB13-4 & 2-SB10-4
2-SB12-5 & 2-SB9-5
2-SB11-7 & 2-SB8-7
2-SB10-9 & 2-SB7-9
2-SB9-10 & 2-SB6-10
2-SB9-3 & 2-SB6-3
2-SB8-9 & 2-SB5-9
2-SB8-9 & 2-SB5-9
2-SB8-7 & 2-SB5-7
2-SB6-7 & 2-SB3-7
2-SB5-7 & 2-SB2-7
2-SB5-7 & 2-SB2-7
2-SB3-7 & 2-SB1-7
2-SB3-7 & 2-SB1-7
2-SB2-7 & 2-SB1-7
2-SB2-7 & 2-SB1-7
2-SB1-7 & 2-SB1-7
2-SB1-7 & 2-SB1-7
2-SB1

FED. ROAD DIST. No.	T E N N	FEDERAL AID PROJECT No.	FISCAL YEAR	SHEET No.	TOTAL SHEETS
3		I-40-6(29)297		137	421 307

788+28.04
local tangent
℄ I-40-6
℄ D-1°-00'
788+82.73
local tangent
45°10'12"
45°43'03"
43'-9 5/16"
℄ E. Bent 4
℄ Back of Abut 2
30'-0"
54'-5 1/4"
43'-3 1/4"
Radial Dimensions
3/4"
3'-2"
7'-0"
7'-0"
7'-0"
1'-0"
3'-2"
30'-0"
4'-7 5/16"
1'-5 3/8"
4'-4 3/4"
10'-2"
℄ P.G.L.
E.B.L.
2-3044.6 tf.
2-3042.6 bf.
Reinf. same as adj end of Span No 4 E.B.L.
44-4L26 @ 12" ℄ end diaphragm
10'-1 1/16"
43'-3 15/16"
10'-1 1/16"
3'-4 1/16" end diaphragm
10'-1 1/16"
1'-5 3/8"
5-3423 (10 regd)
5-3429 (10 regd)
19-4A27-10 @ 20"
3T-4A27-10 @ 10" ℄ tf. (38 regd)
℄ bf. (74 regd)
5 1/2" typ
1'-3 15/16"
1"
1'-3 3/16"
4'-6 3/16"
1'-5 1/4"
10'-0 3/16"
43'-0 11/16"
43'-0 13/16"
1'-5 3/8"
4'-6 7/16"
1'-3 7/8"
1"
42-4B32-11 @ 5 1/2" ℄ tf.
22-5039-1 & 22-4B32-11 @ 5 1/2" ℄ alt. bf.
8-4A4-9 @ 12" ℄ ef.
44-4GX10-3 @ 12" ℄
8-4A4-9 @ 12" ℄ ef.
10-5429-9 @ 12" ℄ e.f. (20 regd)
3'-2"
B
B

2-4B32-11
2-4B32-11
2-4J31-8
2-4J30-9
2-4J29-11
2-4J29
2-4J28-2
2-4J27-4
2-4J26-6
2-4J25-7
2-4J24-8
2-4J23-9
2-4J22-11
2-4J22
2-4J21-2
2-4J20-4
2-4J19-5
2-4J18-6
2-4J17-8
2-4J16-10
2-4J15-11
2-4J15
2-4J14-2
2-4J13-4
2-4J12-5
2-4J11-7
2-4J10-9
2-4J9-11
2-4J8-1
2-4J7-3
2-4J6-4
2-4J5-6
2-4J5
2-4J5
2-4J5
2-4J5

10-37-3 @ 4B32-11
10A35-1 @ 4B32-11
10A34-2 @ 4J31-2
10A33-4 @ 4J30-4
10A32-5 @ 4J29-6
10A31-7 @ 4J28-7
10A30-8 @ 4J27-8
10A29-10 @ 4J26-10
10A29 @ 4J26
10A28-1 @ 4J25-1
10A27-3 @ 4J24-3
10A26-5 @ 4J23-5
10A25-7 @ 4J22-7
10A24-8 @ 4J21-8
10A23-9 @ 4J20-9
10A22-11 @ 4J19-11
10A22 @ 4J19
10A21-2 @ 4J18-2
10A20-4 @ 4J17-4
10A19-6 @ 4J16-6
10A18-7 @ 4J15-7
10A17-9 @ 4J14-8
10A16-9 @ 4J13-9
10A15-10 @ 4J12-10
10A15 @ 4J12
10A14-2 @ 4J11-2
10A13-4 @ 4J10-4
10A12-6 @ 4J9-6
10A11-8 @ 4J8-8
10A10-10 @ 4J7-10
10A9-11 @ 4J6-11
10A9 @ 4J6
10A8-2 @ 4J5-2
10A8 @ 4J5
10A8 @ 4J5
10A8 @ 4J5
10A8 @ 4J5

Scale: 1/4" = 1'-0"

PLAN - SPAN No 5

ELEVATION B-B
LOOKING BACK ON SURVEY
Scale 1/4" = 1'-0"

END WALL FOR ABUTMENT No 2 E.B.L.
SPAN No 5

ESTIMATED QUANTITIES

Concrete Class "A"	Cu Yds.	49.0
Reinforcing Steel	Lbs.	See Span No 1 For Total E.B.L.

Note:
1. Superstructure Details on Drwg K-1-823
2. Fin. Grades, location H/R posts and scuppers on Drwg. K-1-821

MID-SOUTH ENGINEERING CO., INC.
820 BROADWAY, N. E. KNOXVILLE, TENNESSEE

INTERSTATE OVER 70N & T.C. RAILROAD
STA. 785+77.04

SPAN No 5 (6B) E.B.L.

STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS
NASHVILLE

		DATE
DR. R.V.S.		
CHK'D. L.E.S.		
APP'D. W.B.		8-15-60

K-1-833

Revised: 10-10-62

ITEM: PROJECT: PAGE ____ OF ____

ABUTMENT Nº 1 (6A) W.B.L.

LOCATION	BAR MARK	NO. REQ'D	a	b	c	e	f	g	h	o	r	WEIGHT
	7A28	18										1030
	7A23-6	4										[illegible]
	7A22-6	4										[illegible]
	7A16-1	4										[illegible]
	7A15	1										[illegible]
	7A11-6	1										[illegible]
	7A10-10	1										[illegible]
	7A10-4	4										[illegible]
	7A9-11	3										[illegible]
	7A9-4	1										[illegible]
	7A8-9	4										[illegible]
	7A8-4	4										[illegible]
	7A7-6	3										[illegible]
	7A7	2										[illegible]
	5A7	8										58
	5A6-6	4										28
	5A6-4	2										13
	5A6-2	4										[illegible]
	5A6	4										[illegible]
	5A5-10	4										24
	5A5-4	6										33
	5A5-3	6										33
	5A4-6	5										23
	5A4-4	5										23
	5A3	36										113
	5G17-8	1	5-10	2-8½								[illegible]
	5G15-4	1	4-8	2-8½								[illegible]
	5G12-11	1	3-5½	2-8½								[illegible]
	5G11	8	2-6	2-8½								[illegible]
	5G10-9	1	3-1	2-0								[illegible]
	5G10-3	16	2-6	2-4								[illegible]
	5G10-2	1	2-9½	2-0								[illegible]
	5G10-1	1	2-0½	2-8½								[illegible]
	5G9-7	15	2-6	2-0								150
	5G9-5	1	2-5	2-0								10
	5G8-5	1	2-5½	2-8½								9
	5G8-1	1	1-9	2-0								8
	5G6-9	1	1-1	2-0								[illegible]
	4C7-3	6									9-10	[illegible]
	4C6-6	6									9-0	[illegible]
	4C6	5									6-10	[illegible]
	4C6	6									9-10	[illegible]
	4C5-4	6									9-10	[illegible]
	4C4-6	1									9-10	[illegible]
	4C4-3	1									9-0	[illegible]
	4C4-2	1									9-10	[illegible]
	4C4-2	5									1-10	[illegible]
	4C4	1									9-0	[illegible]
	4C1-10	1									9-10	[illegible]
	4C1-9	1									9-10	[illegible]
	4C1-8	1									9-0	[illegible]
	4C1-7	1									9-0	1
											total	3079

ABUTMENT Nº 1 (6B) E.B.L.

LOCATION	BAR MARK	NO. REQ'D	a	b	c	e	f	g	h	o	r	WEIGHT
	7A28	9										515
	7A25-8	9										[illegible]
	7A23	4										[illegible]
	7A22	4										[illegible]
	7A16-1	4										[illegible]
	7A15	3										92
	7A11-6	1										[illegible]
	7A10	4										[illegible]
	7A9-11	3										[illegible]
	7A9-4	3										[illegible]
	7A8-8	4										[illegible]
	7A8-4	4										[illegible]
	7A7-9	1										[illegible]
	7A7	1										14

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ITEM: PROJECT: PAGE ____ OF ____

ABUTMENT Nº 1 (6B) E.B.L. (cont'd)

LOCATION	BAR MARK	NO. REQ'D	a	b	c	e	f	g	h	o	r	WEIGHT
	5A7	8										58
	5A6-9	4										28
	5A6-3	4										26
	5A6	2										13
	5A5-9	4										24
	5A5-8	4										[illegible]
	5A5-4	10										[illegible]
	5A4-6	6										[illegible]
	5A4-4	6										[illegible]
	5A3	36										[illegible]
	5G17-4	1	5-9	2-7½								[illegible]
	5G14-11	1	4-6½	2-7½								[illegible]
	5G12-7	1	3-4½	2-7½								[illegible]
	5G10-10	8	2-6	2-7½								[illegible]
	5G10-7	1	3-0	2-0								[illegible]
	5G10-2	1	2-9½	2-0								[illegible]
	5G10	16	2-6	2-2½								[illegible]
	5G9-11	1	2-0½	2-7½								[illegible]
	5G9-7	15	2-6	2-0								[illegible]
	5G9-5	1	2-5	2-0								[illegible]
	5G8-3	1	1-2½	2-7½								[illegible]
	5G8-1	1	1-9	2-0								[illegible]
	5G6-9	1	1-1	2-0								[illegible]
	4C7-3	6									9-10	[illegible]
	4C6-6	6									9-0	26
	4C6	6									9-10	24
	4C6	6									6-10	24
	4C5-4	6									9-0	21
	4C4-6	1									9-10	[illegible]
	4C4-3	1									9-10	[illegible]
	4C4-2	1									9-10	[illegible]
	4C4-2	6									1-10	[illegible]
	4C4	1									9-0	[illegible]
	4C1-10	1									9-10	[illegible]
	4C1-9	1									9-10	[illegible]
	4C1-8	1									9-0	1
	4C1-7	1									9-0	1
											total	3045

ABUTMENT Nº 2 (6A) W.B.L.

LOCATION	BAR MARK	NO. REQ'D	a	b	c	e	f	g	h	o	r	WEIGHT
	7A26-2	18										963
	7A12	2										49
	7A11-3	12										276
	7A11	8										180
	7A10-6	4										86
	7A9	1										18
	7A8-9	4										72
	7A8-6	4										69
	7A8-4	3										51
	7LA10-9	3	3-6	7-3		2-3						66
	7LA9-9	3	2-9	7-0		1-6						60
	5A6-6	10										[illegible]
	5A6-4	2										[illegible]
	5A6-1	2										[illegible]
	5A6	2										13
	5A5-9	2										12
	5A5-8	2										12
	5A5-4	4										22
	5A5-3	2										[illegible]
	5A5-2	4										[illegible]
	5A5	6										[illegible]
	5A4-10	4										[illegible]
	5A4-4	6										[illegible]
	5A4-3	6										27
	5A3	40										[illegible]
	5G15-7	1	5-6	2-0								16
	5G12-11	1	4-2	2-0								13

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ITEM: PROJECT: PAGE ____ OF ____

ABUTMENT Nº 2 (6A) W.B.L. (cont'd)

LOCATION	BAR MARK	NO. REQ'D	a	b	c	e	f	g	h	o	r	WEIGHT
	5G12-8	1	3-6	2-6½								13
	5G11-8	1	3-0	2-6½								12
	5G11	1	2-8	2-6½								11
	5G10-8	9	2-6	2-6½								100
	5G10-5	8	2-6	2-5								87
	5G10-1	7	2-6	2-3								[illegible]
	5G10-1	1	2-9	2-0								[illegible]
	5G9-10	8	2-6	2-1½								[illegible]
	5G9-7	8	2-6	2-0								[illegible]
	5G9-2	1	1-9	2-6½								[illegible]
	5G7-8	1	1-0	2-6½								[illegible]
	5G7-1	1	1-3	2-0								[illegible]
	4C7-6	6									9-10	[illegible]
	4C7	6									9-0	[illegible]
	4C6-6	6									6-10	[illegible]
	4C6-1	6									9-10	[illegible]
	4C5-7	6									9-0	[illegible]
	4C5	6									1-10	20
	4C1-8	4									9-5	4
											total	2984

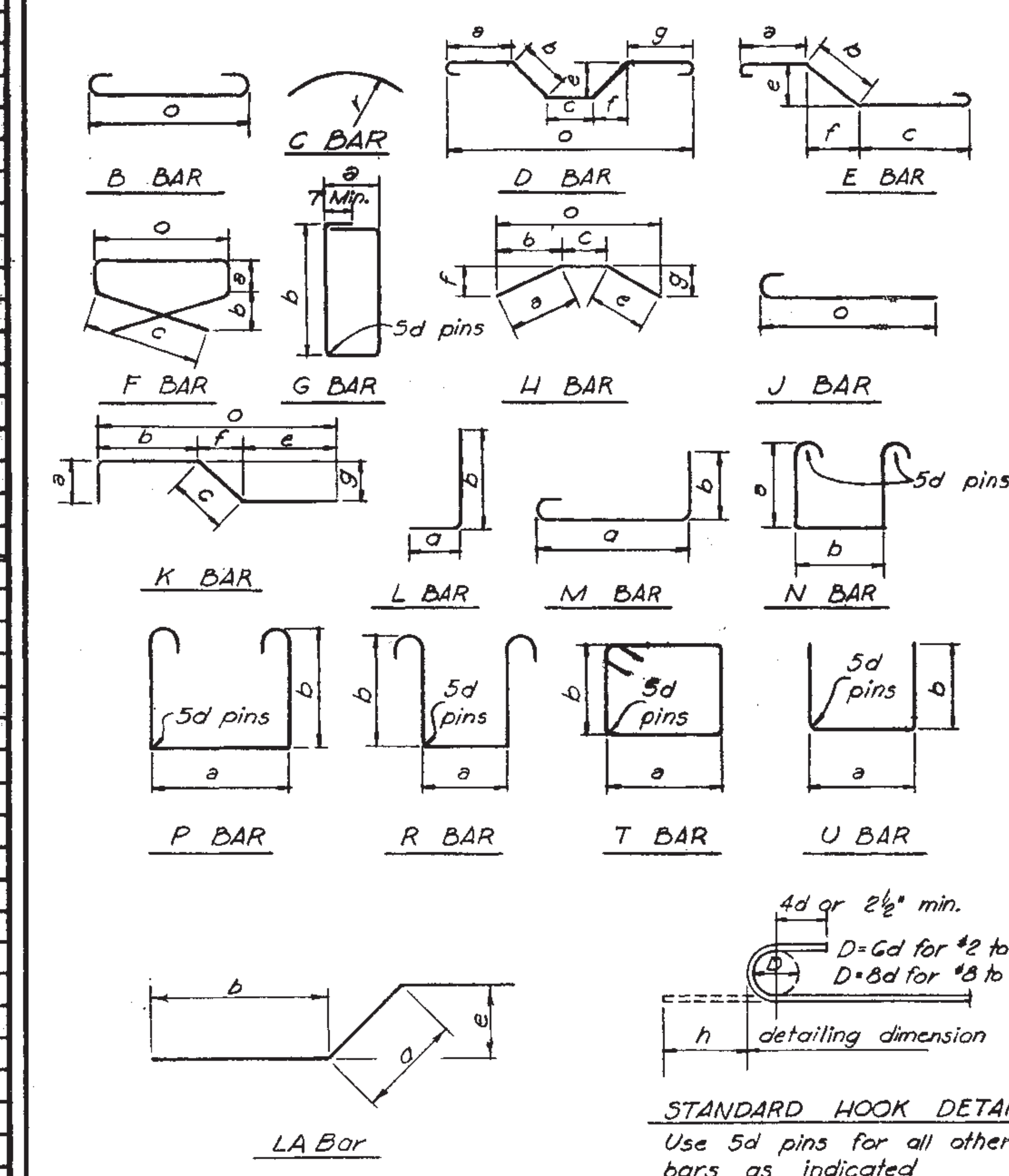
ABUTMENT Nº 2 (6B) E.B.L.

LOCATION	BAR MARK	NO. REQ'D	a	b	c	e	f	g	h	o	r	WEIGHT
	7A26	18										957
	7A12	14										343
	7A10-6	4										86
	7A10	8										164
	7A9	1										18
	7A8-9	4										72
	7A8-6	4										69
	7A8-4	3										51
	7LA10-9	3	3-6	7-3		2-3						66
	7LA9-9	3	2-9	7-0		1-6						60
	5A6-6	10										68
	5A6-4	2										13
	5A6-1	2										13
	5A6	2										13
	5A5-9	2										12
	5A5-8	2										12
	5A5-4	4										22
	5A5-3	2										11
	5A5-2	4										22
	5A5	6										31
	5A4-10	4										[illegible]
	5A4-4	6										[illegible]
	5A4-3	6										[illegible]
	5A3	40										[illegible]
	5G15-7	1	5-6	2-0								[illegible]
	5G12-11	1	4-2	2-0								[illegible]
	5G12-8	1	3-6	2-6½								[illegible]
	5G11-8	1	3-0	2-6½								[illegible]
	5G11	1	2-8	2-6½								[illegible]
	5G10-6	9	2-6	2-5½								[illegible]
	5G10-3	7	2-6	2-4								[illegible]
	5G10-1	8	2-6	2-3								[illegible]
	5G10-1	1	2-9	2-0								[illegible]
	5G9-11	8	2-6	2-2								[illegible]
	5G9-7	8	2-6	2-0								[illegible]
	5G9-2	1	1-9	2-6½								[illegible]
	5G7-8	1	1-0	2-6½								[illegible]
	5G7-1	1	1-3	2-0								[illegible]
	4C7-6	6									9-10	[illegible]
	4C7	6									9-0	[illegible]
	4C6-6	6									6-10	26
	4C5-7	6									9-0	22
	4C5	6									1-10	20
	4C1-8	4									9-5	4
	4C6-1	6									9-10	24
											total	2954

ITEM: BENDING DIAGRAMS

FED. ROAD DIST.		FEDERAL AID PROJECT No.	FISCAL YEAR	SHEET No.	TOTAL SHEETS
3		I40-6(29)387 384		138	307

Bending diagrams shown with symbols for variable dimensions are standard types of bars. Some types shown may not be billed in the attached lists. All bars "Mark A" are straight.



Notes:
1. The figures to the left of the letter, or letters, represents the bar size number -- 4 = ½"; 5 = ⅝"; 6 = ¾" etc.
2. The letter represents the type of bar - A, H, J, etc. Special type bars are designated by letters "XA", etc. Bars of same type and same length, but different bends are marked La, Lb, Ka, Kb, etc.
3. The figures to the right of the letter, or letters, represent the length in feet and inches, 10-3, 12-6, etc. Thus a bar, Mark 6E21-3, represents a No. 6 bar, type E, 21'-3" long. For bar lengths in even feet, the dash and zero (- and 0) are omitted.
4. Dimensions are out - out.

INTERSTATE OVER TON & T.C. RAILROAD
STA. 785 + 77.04

REINFORCING STEEL SCHEDULE Nº 1
ABUTMENTS Nos 1 & 2 (6A) W.B.L. &
Nos 1 & 2 (6B) E.B.L.

MID SOUTH ENGINEERING CO., INC.
820 BROADWAY, N.E. KNOXVILLE, TENNESSEE

DR. R.V.S.
CHK'D L.E.S.
APP'D W.R.
DATE 8-15-60

K-1-834

PROJECT :

ITEM :

PAGE ____ OF ____

LOCATION	BAR MARK	NO. REQD	BENDING DIMENSIONS - FEET & INCHES a	b	c	e	f	g	h	o	r	WEIGHT
			BENT Nº1 W.B.L.									
	11A23	10										1328
	11A16	18										1530
	9A27-9	52										4836
	9J18-9	4								17-6		294
	9J6	52								4-9		1061
	9L13	4	6-0	7-0								171
	9L12-6	4	5-6	7-0								170
	6A25-6	4										133
	6B8-4	34								7-0		485
	6B7-4	40								6-0		480
	5G13-1	12	2-10	3-5								164
	5G12-9	8	2-10	3-3								106
	5G12-1	12	2-10	2-11								131
	3T9-6	78	2-2	2-2								286
											total	11,152
			BENT Nº2 W.B.L.									
	11A24-9	8										1052
	11A16	18										2380
	9A27-4	52										4832
	9J19-3	2								18-0		131
	9J18-7	2								17-4		126
	9J6	52								4-9		1061
	9L12-8	4	5-8	7-0								173
	9L12-3	4	5-3	7-0								166
	6A25-3	4										133
	6B7-10	28								6-6		378
	6B6-10	40								5-6		440
	5A3	10										37
	5G12-6	12	2-10	3-1½								156
	5G12-3	10	2-10	3-0								128
	5G11-7	10	2-10	2-8								110
	5U5-8	5	1-6	2-8								50
	5U4-6	5	1-6	1-6								43
	5U3-10	5	1-6	0-10								40
	3T9-6	78	2-2	2-2								279
											total	11600
			BENT Nº3 W.B.L.									
	11A24-4	8										1034
	11A16	6										510
	11A14	8										595
	9A27-7	40										3751
	9J19-5	2								18-2		132
	9J19-2	2								17-11		130
	9J6	40								4-9		816
	9L12-9	4	5-9	7-0								173
	9L12-2	4	5-2	7-0								166
	6A23-9	4										143
	6B7-4	22								6-0		242
	6B6-4	32								5-0		304
	5G12-6	12	2-10	3-1½								156
	5G12-2	7	2-10	2-11½								99
	5G11-7	11	2-10	2-8								153
	3T9-6	78	2-2	2-2								279
											total	8653

PROJECT :

ITEM :

PAGE ____ OF ____

LOCATION	BAR MARK	NO. REQD	BENDING DIMENSIONS - FEET & INCHES a	b	c	e	f	g	h	o	r	WEIGHT
			BENT Nº4 W.B.L.									
	11A24	8										1020
	11A16	6										510
	11A14	8										595
	9A27	40										3772
	9J19-5	2										132
	9J18-10	2										128
	9J6	40								4-9		816
	9L12-9	4	5-9	7-0								173
	9L12-2	4	5-2	7-0								166
	6A24-6	4										147
	6B7-4	22								6-0		242
	6B6-4	32								5-0		304
	5G12-5	12	2-10	3-1								156
	5G12-2	7	2-10	2-11½								99
	5G11-7	11	2-10	2-8								153
	3T9-6	78	2-2	2-2								268
											total	8551
			BENT Nº1 E.B.L.									
	11A24-6	10										1302
	11A16	18										2380
	9A27-7	52										4876
	9J18-10	2								17-7		128
	9J18-3	2								17-6		128
	9J6	52								4-9		1061
	9L13	4	5-8	7-4								177
	9L12-6	4	5-3	7-3								170
	6A25	4										133
	6B5-4	34								7-0		485
	6B7-4	40								6-0		480
	5G13-4	12	2-10	3-6½								187
	5G12-9	8	2-10	3-3								106
	5G12-1	12	2-10	2-11								131
	3T9-6	78	2-2	2-2								279
										TOTAL		11090
			BENT Nº2 E.B.L.									
	11A24-4	8										1034
	11A16	18										2380
	9A27-3	52										4836
	9J18-10	2								17-7		128
	9J18-7	2								17-4		126
	9J6	52								4-9		1061
	9L12-8	4	5-8	7-0								173
	9L12-3	4	5-3	7-0								166
	6A24-4	4										133
	6B7-10	28								6-6		378
	6B6-10	40								5-6		440
	5A3	10										37
	5G12-6	12	2-10	3-1½								156
	5G12-3	9	2-10	2-11½								115
	5G11-7	11	2-10	2-8								133
	5U5-8	5	1-6	2-8								50
	5U4-6	5	1-6	1-6								43
	5U3-10	5	1-6	0-10								40
	3T9-6	78	2-2	2-2								279
										TOTAL		10708

PROJECT :

ITEM :

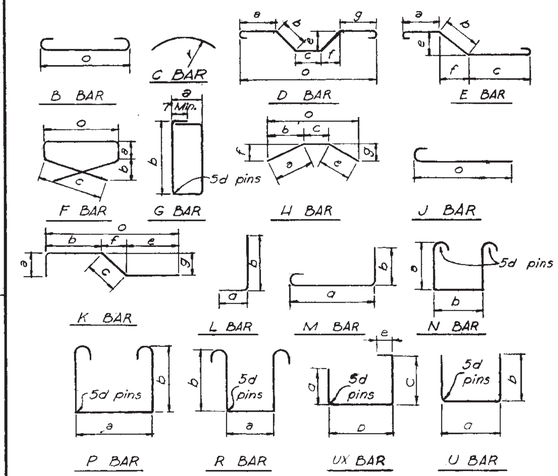
PAGE ____ OF ____

LOCATION	BAR MARK	NO. REQD	BENDING DIMENSIONS - FEET & INCHES a	b	c	e	f	g	h	o	r	WEIGHT
			BENT Nº3 E.B.L.									
	11A24-6	8										1041
	11A16	6										510
	11A14	8										595
	9A27-4	40										3772
	9J19-5	2								18-2		132
	9J18-10	2								17-7		128
	9J6	40								4-9		816
	9L12-9	4	5-9	7-0								173
	9L12-2	4	5-2	7-0								166
	6A24-6	4										147
	6B7-4	22								6-0		242
	6B6-4	32								5-0		304
	5G12-5	12	2-10	3-1								156
	5G12-2	7	2-10	2-11½								99
	5G10-11	11	2-10	2-4								141
	3T9-6	78	2-2	2-2								279
										TOTAL		8618
			BENT Nº4 E.B.L.									
	11A24-6	8										1041
	11A16	6										510
	11A14	8										595
	9A26-8	40										3772
	9J19-5	2								18-2		132
	9J18-10	2								17-7		128
	9J6	40								4-9		816
	9L12-9	4	5-9	7-0								173
	9L12-2	4	5-2	7-0								166
	6A24-6	4										147
	6B7-4	22								6-0		242
	6B6-4	32								5-0		304
	5G12-4	12	2-10	3-0½								156
	5G12-1	7	2-10	2-11								99
	5G11-7	11	2-10	2-8								153
	3T9-6	78	2-2	2-2								268
										TOTAL		8523
			GIRDERS Furnished by Girder Supplier									
TYPE III	5A27-6	120										3432
	5A27	120										3779
	5F4-5	1260	0-10½	1-5		0-10				1-0		3809
	4F10-9	420	3-2½	1-5	1-7					1-2		3016
	4U5-6	930	3-5½	1-0¼								3527
	4UX5-1	1920	0-5	3-0	1-0	0-3						6515
TYPE IV	5A37-3	60										3108
	5A35-3	60										2941
	5F5-5	1200	1-0	1-7		1-0½				1-4		6784
	4F14-1	280	4-2½	1-10½	2-1					1-6		2034
	4U6-11	640	4-2½	1-4½								2988
	4UX6-8	1680	0-11½	4-2½	1-2½	0-3½						7885
dowels	6A1-3	200										376
										TOTAL		51,974

ITEM : BENDING DIAGRAMS

FED. ROAD DIST.	FEDERAL AID PROJECT No.	FISCAL YEAR	SHEET No.	TOTAL SHEETS
3	I40-6(89)207		139	207

Bending diagrams shown with symbols for variable dimensions are standard types of bars. Some types shown may not be billed in the attached lists. All bars "Mark A" are straight.



STANDARD HOOK DETAIL

Use 5d pins for all other bars as indicated

Notes :

1. The figures to the left of the letter, or letters, represents the bar size number -- 4 = ½" ; 5 = ⅝" ; 6 = ¾" etc.
2. The letter represents the type of bar - A, H, J, etc. Special type bars are designated by letters "XA" etc. Bars of same type and same length, but different bends are marked La, Lb, Ka, Kb, etc.
3. The figures to the right of the letter, or letters, represent the length in feet and inches, 10-3, 12-6, etc. Thus a bar, Mark GE21-3, represents a No. 6 bar, type E, 21'-3" long. For bar lengths in even feet, the dash and zero (- and 0) are omitted.
4. Dimensions are out - out.

INTERSTATE OVER TON & T.C. R.R

STA 785+77.04

REINFORCING STEEL SCHEDULE Nº2

BENTS Nºs 1, 2, 3 & 4 W.B.L., BENTS Nºs 1, 2, 3 & 4 E.B.L. and GIRDERS

MID SOUTH ENGINEERING CO., INC.

820 BROADWAY, N.E. KNOXVILLE, TENNESSEE

DR. RVS	DATE
CHK'D. LES	
APP'D. WLB	5-15-62

K-1-835

ITEM: PROJECT: PAGE OF

LOCATION	BAR MARK	NO. REQ'D	BENDING DIMENSIONS - FEET & INCHES a	b	c	e	f	g	h	o	r	WEIGHT
			SUPERSTRUCTURE									
			SPANS NOS. 1 thru 5									
	5A39-4	10										410
	5A37-6	10										391
	5A36-4	20										758
	5A29	10										382
	5A28	10										392
	5A26-10	40										[illegible]
	6B32-11	431								31-9		[illegible]
	5D39-1	148	2-8⅛	1-1½	30-3	1-0½	0-2	2-8⅛		36-0		[illegible]
	5DA35-1	1	2-8⅛	1-1½	30-8	1-0½	0-2			33-6		[illegible]
	5DA35	1	↓	↓	30-7	↓	↓			33-5		[illegible]
	5DA34-2	2			29-9					32-7		[illegible]
	5DA33-6	2			29-1					31-11		[illegible]
	5DA33-5	7			29-0					31-10		[illegible]
	5DA33-4	1			28-11					31-9		[illegible]
	5DA32-10	2			28-5					31-3		[illegible]
	5DA32-8	2			28-3					31-1		[illegible]
	5DA32-7	4			28-2					31-0		[illegible]
	5DA32-6	1			28-1					30-11		[illegible]
	5DA32	2			27-7					30-5		[illegible]
	5DA31-10	2			27-5					30-3		[illegible]
	5DA31-9	3			27-4					30-2		[illegible]
	5DA31-8	2			27-3					30-1		[illegible]
	5DA31-7	1			27-2					30-0		[illegible]
	5DA31-[illegible]	[illegible]			26-9					29-7		[illegible]
	5DA31	1			26-7					29-5		[illegible]
	5DA30-11	4			26-6					29-4		[illegible]
	5DA30-10	2			26-5					29-3		[illegible]
	5DA30-8	1			26-3					29-1		[illegible]
	5DA30-4	2			25-11					28-9		[illegible]
	5DA30-3	1			25-10					28-8		[illegible]
	5DA30-1	2			25-8					28-6		[illegible]
	5DA30	4			25-7					28-5		[illegible]
	5DA29-10	1			25-5					28-3		[illegible]
	5DA29-6	2			25-1					27-11		[illegible]
	5DA29-5	1			25-0					27-10		[illegible]
	5DA29-3	2			24-10					27-8		[illegible]
	5DA29-2	4			24-9					27-7		[illegible]
	5DA29	1			24-7					27-5		[illegible]
	5DA28-8	2			24-3					27-1		[illegible]
	5DA28-7	1			24-2					27-0		[illegible]
	5DA28-5	2			24-0					26-10		[illegible]
	5DA28-4	2			23-11					26-9		[illegible]
	5DA28-3	2			23-10					26-8		[illegible]
	5DA28-1	1			23-8					26-6		[illegible]
	5DA27-10	2			23-5					26-3		[illegible]
	5DA27-9	1			23-4					26-2		[illegible]
	5DA27-7	2			23-2					26-0		[illegible]
	5DA27-6	2			23-1					25-11		[illegible]
	5DA27-4	2			22-11					25-9		[illegible]
	5DA27-3	1			22-10					25-8		[illegible]
	5DA27	3			22-7					25-5		[illegible]
	5DA26-8	4			22-3					25-1		[illegible]
	5DA26-6	2			22-1					24-11		[illegible]
	5DA26-5	1			22-0					24-10		[illegible]
	5DA26-3	1			21-10					24-8		[illegible]
	5DA26-2	2			21-9					24-7		[illegible]
	5DA26	2			21-7					24-5		[illegible]
	5DA25-9	2			21-4					24-2		[illegible]
	5DA25-7	3			21-2					24-0		[illegible]
	5DA25-5	1			21-0					23-10		[illegible]
	5DA25-4	2			20-11					23-9		[illegible]
	5DA25	2			20-7					23-5		[illegible]
	5DA24-11	2			20-6					23-4		[illegible]
	5DA24-8	4			20-3					23-1		[illegible]
	5DA24-6	2			20-1					22-11		[illegible]
	5DA24-2	2			19-9					22-7		[illegible]
	5DA24	3			19-7					22-5		[illegible]
	5DA23-10	2			19-5					22-3		[illegible]
	5DA23-9	1			19-4					22-2		[illegible]
	5DA23-8	2			19-3					22-1		[illegible]
	5DA23-4	2			18-11					21-9		[illegible]
	5DA23-2	5	↓	↓	18-9	↓	↓			21-7		[illegible]
	5DA23	2	2-8⅛	1-1½	18-7	1-0½	0-2			21-5		[illegible]
					cont'd on next col.							

Revised 10-18-62

ITEM: PROJECT: PAGE OF

LOCATION	BAR MARK	NO. REQ'D	BENDING DIMENSIONS - FEET & INCHES a	b	c	e	f	g	h	o	r	WEIGHT
			SUPERSTRUCTURE (cont'd)									
	5DA22-11	1	2-8⅛	1-1½	18-6	1-0½	0-2			21-4		[illegible]
	5DA22-10	2	↓	↓	18-5	↓	↓			21-3		[illegible]
	5DA22-5	2			18-0					20-10		[illegible]
	5DA22-4	3			17-11					20-9		[illegible]
	5DA22-2	2			17-9					20-7		[illegible]
	5DA22	3			17-7					20-5		[illegible]
	5DA21-7	3			17-2					20-0		[illegible]
	5DA21-6	2			17-1					19-11		[illegible]
	5DA21-3	2			16-10					19-8		[illegible]
	5DA21-2	3			16-9					19-7		[illegible]
	5DA20-10	1			16-5					19-3		[illegible]
	5DA20-9	2			16-4					19-2		[illegible]
	5DA20-8	2			16-3					19-1		[illegible]
	5DA20-5	2			16-0					18-10		[illegible]
	5DA20-4	3			15-11					18-9		[illegible]
	5DA20-1	1			15-8					18-6		[illegible]
	5DA19-11	2			15-6					18-4		[illegible]
	5DA19-9	2			15-4					18-2		[illegible]
	5DA19-6	5			15-1					17-11		[illegible]
	5DA19-3	1			14-10					17-8		[illegible]
	5DA19	2			14-7					17-5		[illegible]
	5DA18-11	2			14-6					17-4		[illegible]
	5DA18-8	2			14-3					17-1		[illegible]
	5DA18-7	3			14-2					17-0		[illegible]
	5DA18-6	1			14-1					16-11		[illegible]
	5DA18-2	2			13-9					16-7		[illegible]
	5DA18	2			13-7					16-5		[illegible]
	5DA17-10	2			13-5					16-3		[illegible]
	5DA17-9	2			13-4					16-2		[illegible]
	5DA17-8	2			13-3					16-1		[illegible]
	5DA17-4	2			12-11					15-9		[illegible]
	5DA17-2	2			12-9					15-7		[illegible]
	5DA17	2			12-7					15-5		[illegible]
	5DA16-11	2			12-6					15-4		[illegible]
	5DA16-10	1			12-5					15-3		[illegible]
	5DA16-9	1			12-4					15-2		[illegible]
	5DA16-6	5			12-1					14-11		[illegible]
	5DA16-4	2			11-11					14-9		[illegible]
	5DA16-1	1			11-8					14-6		[illegible]
	5DA16	4			11-7					14-5		[illegible]
	5DA15-10	1			11-5					14-3		[illegible]
	5DA15-8	2			11-3					14-1		[illegible]
	5DA15-6	2			11-1					13-11		[illegible]
	5DA15-3	1			10-10					13-8		[illegible]
	5DA15-2	2			10-9					13-7		[illegible]
	5DA15-1	2			10-8					13-6		[illegible]
	5DA15	1			10-7					13-5		[illegible]
	5DA14-9	2			10-4					13-2		[illegible]
	5DA14-8	2			10-3					13-1		[illegible]
	5DA14-5	1			10-0					12-10		[illegible]
	5DA14-4	2			9-11					12-9		[illegible]
	5DA14-2	3			9-9					12-7		[illegible]
	5DA13-10	4			9-5					12-3		[illegible]
	5DA13-7	1			9-2					12-0		[illegible]
	5DA13-6	2			9-1					11-11		[illegible]
	5DA13-4	3			8-11					11-9		[illegible]
	5DA12-11	4			8-6					11-4		[illegible]
	5DA12-9	1			8-4					11-2		[illegible]
	5DA12-8	2			8-3					11-1		[illegible]
	5DA12-6	1			8-1					10-11		[illegible]
	5DA12-5	2			8-0					10-10		[illegible]
	5DA12-1	4			7-8					10-6		[illegible]
	EDA12	1			7-7					10-5		[illegible]
	5DA11-10	2			7-5					10-3		[illegible]
	5DA11-8	1			7-3					10-1		[illegible]
	5DA11-7	2			7-1					10-0		[illegible]
	5DA11-3	4			6-10					9-8		[illegible]
	5DA11-2	1			6-9					9-7		[illegible]
	5DA10-11	2			6-6					9-4		[illegible]
	5DA10-10	1			6-5					9-3		[illegible]
	5DA10-9	2			6-4					9-2		[illegible]
	5DA10-5	5			6-0					8-10		[illegible]
	5DA10	2			5-7					8-5		[illegible]
	5DA9-11	1			5-6					8-4		[illegible]
	5DA9-10	2			5-5					8-3		[illegible]
	5DA9-9	2	↓	↓	5-4	↓	↓			8-2		[illegible]
	5DA9-8	1	2-8⅛	1-1½	5-3	1-0½	0-2			8-1		[illegible]
					cont'd on next col.							

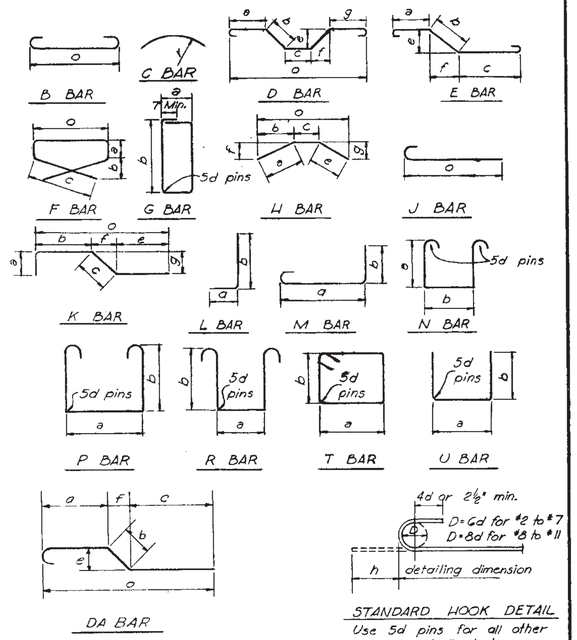
ITEM: PROJECT: PAGE OF

LOCATION	BAR MARK	NO. REQ'D	BENDING DIMENSIONS - FEET & INCHES a	b	c	e	f	g	h	o	r	WEIGHT
			SUPERSTRUCTURE (cont'd)									
	5DA9-7	2	2-8⅛	1-1½	5-2	1-0½	0-2			8-0		[illegible]
	5DA9-6	8			5-1					7-11		[illegible]
	5DA9-3	4			4-10					7-8		[illegible]
	5DA9-2	2			4-9					7-7		[illegible]
	5DA9	3			4-7					7-5		[illegible]
	5DA8-11	3			4-6					7-4		[illegible]
	5DA8-9	4			4-4					7-2		[illegible]
	5DA8-7	4			4-2					7-0		[illegible]
	5DA8-5	4			4-0					6-10		[illegible]
	5DA8-2	3			3-9					6-7		[illegible]
	5DA8	14			3-7					6-5		[illegible]
	5DA710	1			3-5					6-3		[illegible]
	5DA7-9	1			3-4					6-2		[illegible]
	5DA7-8	1			3-3					6-1		[illegible]
	5DA7-7	1			3-2					6-0		[illegible]
	5DA7-5	1	2-8⅛	1-1½	3-0	1-0½	0-2			5-10		[illegible]
	5DY37-3	3	2-8⅛	1-1½	30-3	1-0½	0-2	1-6		36-0		117
	6J32-5	2								31-10		[illegible]
	6J32	1								31-5		[illegible]
	6J31-8	2								31-1		[illegible]
	6J31-7	2								31-0		[illegible]
	6J31-2	2								30-7		[illegible]
	6J30-11	8								30-4		[illegible]
	6J30-10	8								30-3		[illegible]
	6J30-9	4								30-2		[illegible]
	6J30-6	2								29-11		[illegible]
	6J30-5	7								29-10		[illegible]
	6J30-4	1								29-9		[illegible]
	6J30-3	4								29-8		[illegible]
	6J30-1	10								29-6		[illegible]
	6J30	4								29-5		[illegible]
	6J29-11	4								29-4		[illegible]
	6J29-10	2								29-3		[illegible]
	6J29-8	2								29-1		[illegible]
	6J29-7	5								29-0		[illegible]
	6J29-6	1								28-11		[illegible]
	6J29-5	4								28-10		[illegible]
	6J29-3	8								28-8		[illegible]
	6J29-2	4								28-7		[illegible]
	6J29-1	2								28-6		[illegible]
	6J29	4								28-5		[illegible]
	6J28-10	2								28-3		[illegible]
	6J28-9	4								28-2		[illegible]
	6J28-8	2								28-1		[illegible]
	6J28-7	5								28-0		[illegible]
	6J28-5	4								27-10		[illegible]
	6J28-4	8								27-9		[illegible]
	6J28-3	2								27-8		[illegible]
	6J28-2	4								27-7		[illegible]
	6J28	1								27-5		[illegible]
	6J27-11	4								27-4		[illegible]
	6J27-10	2								27-3		[illegible]
	6J27-9	4								27-2		[illegible]
	6J27-8	1								27-1		[illegible]
	6J27-7	4								27-0		[illegible]
	6J27-6	4								26-11		[illegible]
	6J27-5	6								26-10		[illegible]
	6J27-4	4								26-9		[illegible]
	6J27-3	1								26-8		[illegible]
	6J27-1	2								26-6		[illegible]
	6J27	4								26-5		[illegible]
	6J26-11	4								26-4		[illegible]
	6J26-10	1								26-3		[illegible]
	6J26-9	4								26-2		[illegible]
	6J26-8	2								26-1		[illegible]
	6J26-7	8								26-0		[illegible]
	6J26-6	4								25-11		[illegible]
	6J26-5	1								25-10		[illegible]
	6J26-3	2								25-8		[illegible]
	6J26-2	4								25-7		[illegible]
	6J26-1	4								25-6		[illegible]
	6J26	1								25-5		[illegible]
	6J25-11	6								25-4		[illegible]
	6J25-8	10								25-1		[illegible]
	6J25-7	3								25-0		[illegible]

ITEM: BENDING DIAGRAMS

FED. ROAD DIST.	FEDERAL AID PROJECT No.	FISCAL YEAR	SHEET No.	TOTAL SHEETS
3	140-6(29) [illegible] 304		140	[illegible] 307

Bending diagrams shown with symbols for variable dimensions are standard types of bars. Some types shown may not be billed in the attached lists. All bars "Mark A" are straight.



Notes:
1. The figures to the left of the letter, or letters, represents the bar size number -- 4 = ½"; 5 = ⅝"; 6 = ¾" etc.
2. The letter represents the type of bar - A, H, J, etc. Special type bars are designated by letters 'XA' etc. Bars of same type and same length, but different bends are marked La, Lb, Ka, Kb, etc.
3. The figures to the right of the letter, or letters, represent the length in feet and inches, 10-3, 12-6, etc. Thus a bar, Mark CE21-3, represents a No. 6 bar, type E, 21'-3" long. For bar lengths in even feet, the dash and zero (- and 0) are omitted.
4. Dimensions are out - out.

INTERSTATE OVER HIGHWAY 70 N. STA. 785+07.04

REINFORCING STEEL SCHEDULE Nº 3
SUPERSTRUCTURE EBL

MID SOUTH ENGINEERING CO., INC.
820 BROADWAY, N.E. KNOXVILLE, TENNESSEE

DR. K.E.S. CHK'D. L.E.S. APP'D. [illegible]
DATE [illegible]

K-1-836

ITEM: . PROJECT: PAGE ______ OF ______

LOCATION	BAR MARK	NO. REQD	a	b	c	e	f	g	h	o	r	WEIGHT
			SUPERSTRUCTURE (cont'd)									
	6J25-5	2								24-10		
	6J25-4	2								24-9		
	6J25-3	6								24-8		
	6J25-2	2								24-7		
	6J25-1	5								24-6		
	6J24-10	2								24-3		
	6J24-9	9								24-2		
	6J24-8	2								24-1		
	6J24-7	2								24-0		
	6J24-6	2								23-11		
	6J24-5	4								23-10		
	6J24-4	4								23-9		
	6J24-3	5								23-8		
	6J24	3								23-5		
	6J23-11	4								23-4		
	6J23-10	4								23-3		
	6J23-9	2								23-2		
	6J23-8	4								23-1		
	6J23-6	8								22-11		
	6J23-5	1								22-10		
	6J23-4	4								22-9		
	6J23-3	1								22-8		
	6J23-2	2								22-7		
	6J23	8								22-5		
	6J22-11	2								22-4		
	6J22-10	2								22-3		
	6J22-9	2								22-2		
	6J22-8	6								22-1		
	6J22-7	3								22-0		
	6J22-6	4								21-11		
	6J22-5	1								21-10		
	6J22-4	2								21-9		
	6J22-3	4								21-8		
	6J22-2	4								21-7		
	6J22	4								21-5		
	6J21-11	4								21-4		
	6J21-10	4								21-3		
	6J21-8	8								21-1		
	6J21-6	2								20-11		
	6J21-5	4								20-10		
	6J21-4	4								20-9		
	6J21-2	6								20-7		
	6J21	7								20-5		
	6J20-10	6								20-3		
	6J20-9	1								20-2		
	6J20-8	2								20-1		
	6J20-7	4								20-0		
	6J20-5	6								19-10		
	6J20-4	4								19-9		
	6J20-2	3								19-7		
	6J20-1	4								19-6		
	6J20	4								19-5		
	6J19-11	1								19-4		
	6J19-10	2								19-3		
	6J19-9	4								19-2		
	6J19-7	6								19-0		
	6J19-5	4								18-10		
	6J19-4	3								18-9		
	6J19-3	4								18-8		
	6J19-2	2								18-7		
	6J19	7								18-5		
	6J18-10	4								18-3		
	6J18-9	2								18-2		
	6J18-8	4								18-1		
	6J18-7	3								18-0		
	6J18-6	4								17-11		
	6J18-5	4								17-10		
	6J18-3	2								17-8		
	6J18-2	7								17-7		
	6J18	4								17-5		
	6J17-11	2								17-4		
	6J17-10	5								17-3		
	6J17-9	2								17-2		
	6J17-8	4								17-1		
	6J17-7	4								17-0		
	6J17-5	2								16-10		
	6J17-4	7								16-9		

Revised: 10-10-62

ITEM: PROJECT: PAGE ______ OF ______

LOCATION	BAR MARK	NO. REQD	a	b	c	e	f	g	h	o	r	WEIGHT
			SUPERSTRUCTURE (cont'd)									
	6J17-2	6								16-7		
	6J17-1	1								16-6		
	6J16-11	6								16-4		
	6J16-10	2								16-3		
	6J16-9	6								16-2		
	6J16-6	9								15-11		
	6J16-5	2								15-10		
	6J16-4	4								15-9		
	6J16-3	1								15-8		
	6J16	6								15-5		
	6J15-11	8								15-4		
	6J15-8	8								15-2		
	6J15-7	3								15-0		
	6J15-6	5								14-11		
	6J15-2	6								14-7		
	6J15	8								14-5		
	6J14-10	4								14-3		
	6J14-9	6								14-2		
	6J14-8	6								14-1		
	6J14-4	2								13-9		
	6J14-3	4								13-8		
	6J14-2	8								13-7		
	6J14-1	2								13-6		
	6J14	2								13-5		
	6J13-11	6								13-4		
	6J13-10	1								13-3		
	6J13-9	5								13-2		
	6J13-6	2								12-11		
	6J13-5	4								12-10		
	6J13-4	8								12-9		
	6J13-3	2								12-8		
	6J13-1	5								12-6		
	6J13	4								12-5		
	6J12-10	5								12-3		
	6J12-8	2								12-1		
	6J12-7	4								12-0		
	6J12-6	8								11-11		
	6J12-5	2								11-10		
	6J12-3	5								11-8		
	6J12-2	2								11-7		
	6J12-1	2								11-6		
	6J12	5								11-5		
	6J11-9	4								11-2		
	6J11-8	6								11-1		
	6J11-7	6								11-0		
	6J11-5	1								10-10		
	6J11-4	2								10-9		
	6J11-3	4								10-8		
	6J11-2	7								10-7		
	6J11	2								10-5		
	6J10-10	4								10-3		
	6J10-9	10								10-2		
	6J10-7	1								10-0		
	6J10-6	2								9-11		
	6J10-5	4								9-10		
	6J10-4	7								9-9		
	6J10-2	2								9-7		
	6J9-11	10								9-4		
	6J9-10	4								9-3		
	6J9-9	1								9-2		
	6J9-8	2								9-1		
	6J9-7	4								9-0		
	6J9-6	5								8-11		
	6J9-5	4								8-10		
	6J9-1	10								8-6		
	6J9	1								8-5		
	6J8-11	4								8-4		
	6J8-10	2								8-3		
	6J8-9	8								8-2		
	6J8-8	1								8-1		
	6J8-7	4								8-0		
	6J8-3	8								7-8		
	6J8-2	3								7-7		
	6J8	4								7-5		
	6J7-11	6								7-4		
	6J7-10	7								7-3		
	6J7-9	2								7-2		

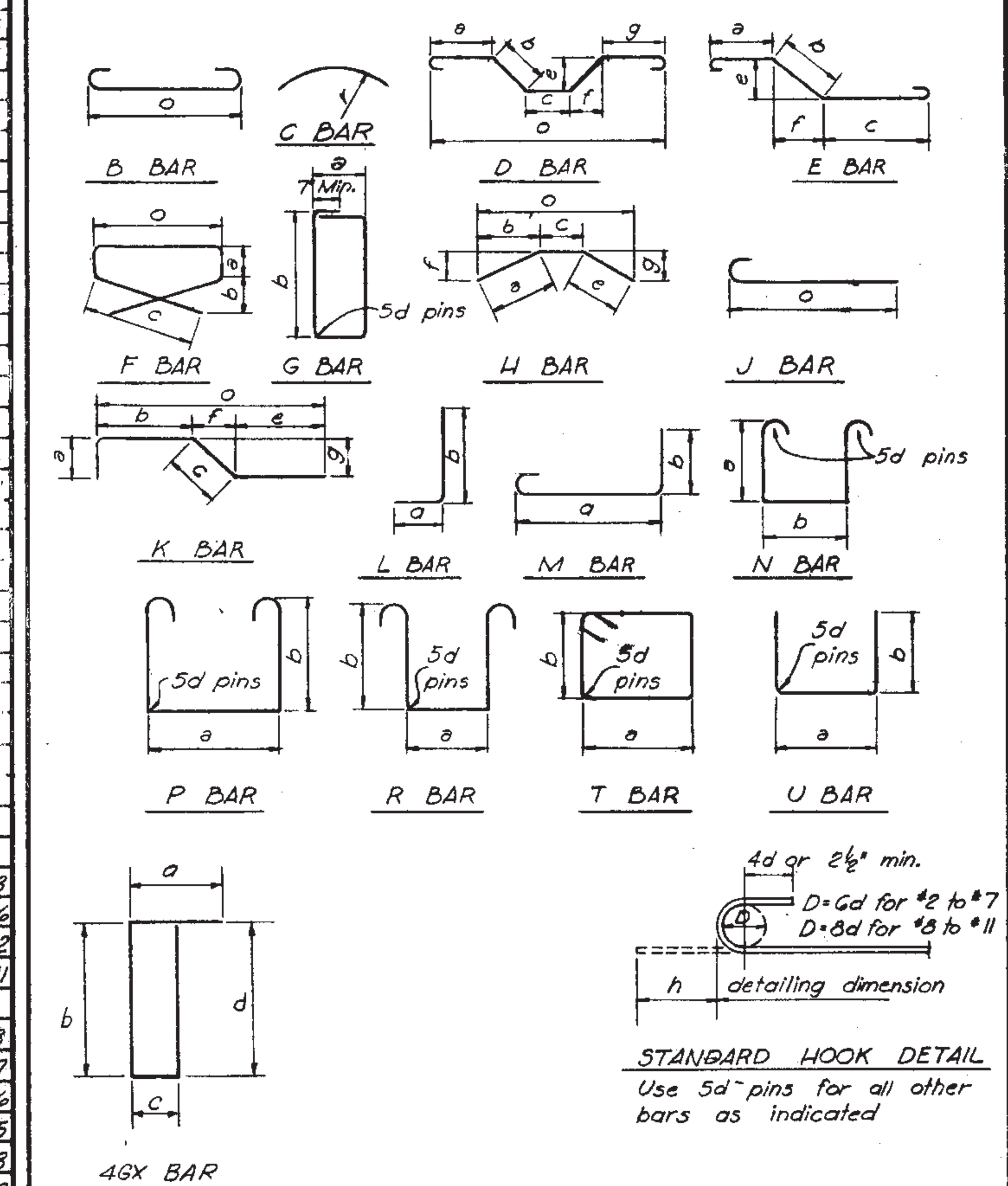
ITEM: PROJECT: PAGE ______ OF ______

LOCATION	BAR MARK	NO. REQD	a	b	c	e	f	g	h	o	r	WEIGHT
			SUPERSTRUCTURE (cont'd)									
	6J7-8	2								7-1		
	6J7-5	9								6-10		
	6J7-2	4								6-7		
	6J7-1	10								6-6		
	6J7	2								6-5		
	6J6-11	1								6-4		
	6J6-10	2								6-3		
	6J6-9	2								6-2		
	6J6-8	1								6-1		
	6J6-7	10								6-0		
	6J6-6	8								5-11		
	6J6-5	24								5-10		
	6J6-4	4								5-9		
	6J6-3	8								5-8		
	6J6-2	2								5-7		
	6J6	15								5-5		
	6J5-11	3								5-4		
	6J5-9	8								5-2		
	6J5-8	4								5-1		
	6J5-7	26								5-0		
	6J5-6	2								4-11		
	6J5-5	4								4-10		
	6J5-4	4								4-9		
	6J5-2	3								4-7		
	6J5	39								4-5		
	6J4-10	3								4-3		
	6J4-9	3								4-2		
	6J4-8	3								4-1		
	6J4-7	1								4-0		
	6J4-6	2								3-11		
	6J4-5	1								3-10		
	4A37-4	112										2793
	4A36-2	112										2706
	4A27-10	112										2082
	4A26-8	224										3991
end diaph.	8A47-4	2										253
	8A46-4	2										247
	8A46	2										246
	8A45-10	2										245
	8A45-6	2										243
	8A45-4	2										242
	8A45-2	2										241
	8A45	2										240
	8A44-6	2										238
	8A43-4	2										231
	8A43	4										459
	8A42-8	4										456
	8A42-6	2										227
Roadway Bkt.	5U2-10	89										263
	4L2-6	357	1-1	1-5								[illegible]
Roadway Bkt.	4A45-1	2										[illegible]
end walls	5A26-10	24										[illegible]
	5A25-8	20										[illegible]
Roadway Bkt.	4A42-6	2										57
	4A5-6	14										51
	4A4-9	16										51
	5A6-2	66										360
	4G6-4	60	0-5	2-6½								254
	4G7-6	80	0-5	3-1½								401
	4GX11-7	46	1-9	4-9	0-4	4-9						356
	4GX10-3	44	1-9	4-1	0-4	4-1						301
						Total Superstructure ----						83,478

ITEM: BENDING DIAGRAMS

FED. ROAD DIST.		FEDERAL AID PROJECT No.	FISCAL YEAR	SHEET No.	TOTAL SHEETS
3		I40-6(29) 297 304		141	527 307

Bending diagrams shown with symbols for variable dimensions are standard types of bars. Some types shown may not be billed in the attached lists. All bars "Mark A" are straight.



Notes:
1. The figures to the left of the letter, or letters, represents the bar size number -- 4 = ½"; 5 = ⅝"; 6 = ¾" etc.
2. The letter represents the type of bar - A, H, J, etc. Special type bars are designated by letters "XA", etc. Bars of same type and same length, but different bends are marked La, Lb, Ka, Kb, etc.
3. The figures to the right of the letter, or letters, represent the length in feet and inches, 10-3, 12-6, etc. Thus a bar, Mark 6E21-3, represents a No. 6 bar, type E, 21'-3" long. For bar lengths in even feet, the dash and zero (- and 0) are omitted.
4. Dimensions are out - out.

INTERSTATE OVER HIGHWAY 70 N. STA. 785+07.04

REINFORCING STEEL SCHEDULE NO. 4
SUPERSTRUCTURE E.B.L.

MID SOUTH ENGINEERING CO., INC.
820 BROADWAY, N.E. KNOXVILLE, TENNESSEE

DR. R.E.G. | CHK'D L.E.S. | APP'D W.E. | DATE 3-15-60 | K-1-837

ITEM: PROJECT: PAGE OF

LOCATION	BAR MARK	NO. REQD	BENDING DIMENSIONS - FEET & INCHES a	b	c	e	f	g	h	o	r	WEIGHT
			SUPERSTRUCTURE SPANS 1,2,3,4 & 5 W.B.L.									
	5A39-10	10										415
	5A39	10										396
	5A36-10	20										8
	5A28-3	20										9
	5A27-1	40										0
	6A32-11	452								31-9		
	5D39-1	147	2-8½	1-1½	30-3	1-0½	0-2	2-8½		36-0		
	5DA39-1	1	2-8½	1-1½	31-8	1-0½	0-2					
	35-8	1			31-3							
	35-5	1			31-0							
	34-6	1			30-1							
	34-1	2			29-8							
	34	3			29-7							106
	33-9	2			29-4							70
	33-7	1			29-2							35
	33-3	2			28-10							69
	33-2	3			28-9							104
	33	2			28-7							69
	32-10	2			28-5							69
	32-5	1			28-3							34
	32-5	3			28-0							101
	32-3	2			27-10							67
	32-2	2			27-9							67
	31-11	2			27-6							67
	31-9	1			27-4							33
	31-7	3			27-2							99
	31-5	2			27-0							66
	31-3	2			26-10							65
	31-1	2			26-8							65
	30-10	1			26-5							32
	30-9	3			26-4							96
	30-8	2			26-3							64
	30-4	2			25-11							63
	30-3	2			25-10							63
	30	1			25-7							31
	29-11	3			25-6							94
	29-10	2			25-5							62
	29-5	4			25-0							123
	29-2	1			24-9							30
	5DA29-1	3	2-8½	1-1½	24-8	1-0½	0-2					91

ITEM: PROJECT: PAGE OF

LOCATION	BAR MARK	NO. REQD	BENDING DIMENSIONS - FEET & INCHES a	b	c	e	f	g	h	o	r	WEIGHT
			SUPERSTRUCTURE (cont'd)									
	5DA29	2	2-8½	1-1½	24-7	1-0½	0-2					60
	25-7	2			24-2							60
	25-6	2			24-1							59
	25-5	1			24-0							30
	25-3	3			23-10							85
	25-2	2			23-9							59
	25-10	2			23-5							59
	25-7	1			23-3							29
	25-5	2			23-2							57
	25-4	1			23-0							114
	25-2	2			22-9							57
	26-10	2			22-5							56
	26-9	1			22-4							28
	26-7	3			22-2							83
	26-6	2			22-1							55
	26-3	2			21-10							55
	25-11	3			21-6							81
	25-9	3			21-4							81
	25-7	2			21-2							53
	25-6	2			20-11							53
	25-2	1			20-9							26
	25	2			20-7							52
	24-11	3			20-6							78
	24-8	2			20-3							52
	24-6	2			20-1							52
	24-5	1			20-0							26
	24-4	2			19-11							52
	24-1	2			19-8							52
	5DA 24	1	2-9½	1-1½	19-7	1-0½	0-2					35
	23-10	2			19-5							50
	23-8	3			19-3							74
	23-7	2			19-2							49
	23-3	2			18-10							48
	23-2	1			18-9							24
	23	2			18-7							45
	22-11	2			18-6							48
	22-10	1			18-5							24
	22-9	2			18-4							47
	22-6	2			18-1							47
	22-4	1			17-11							23
	22-2	2			17-9							46
	22-1	2			17-8							46
	22	1			17-7							23
	21-10	1			17-5							23
	21-8	2			17-3							45
	21-6	1			17-1							22
	21-4	5			16-11							111
	21-1	1			16-8							22
	5DA 20-11	2	2-8½	1-1½	16-6	1-0½	0-2					44
	20-10	2			16-5							43
	20-7	1			16-2							21
	20-6	2			16-1							43
	20-5	3			16-0							64
	20	4			15-7							83
	19-9	2			15-4							41
	19-8	1			15-3							21
	19-7	1			15-2							20
	19-6	2			15-1							41
	19-3	2			14-10							40
	19-2	2			14-9							40
	18-11	2			14-6							39
	18-9	2			14-4							39
	18-8	2			14-3							39
	18-5	2			14-0							38
	18-4	2			13-11							38
	18-1	2			13-9							38
	18	1			13-7							19
	17-10	3			13-5							56
	17-7	4			13-2							73
	17-5	2			13-0							36
	17-1	1			12-8							18
	17	3			12-7							53
	16-9	4			12-4							70
	16-6	2			12-1							34
	16-4	1			11-11							17
	5DA 16-2	1	2-8½	1-1½	11-9	1-0½	0-2					17

ITEM: PROJECT: PAGE OF

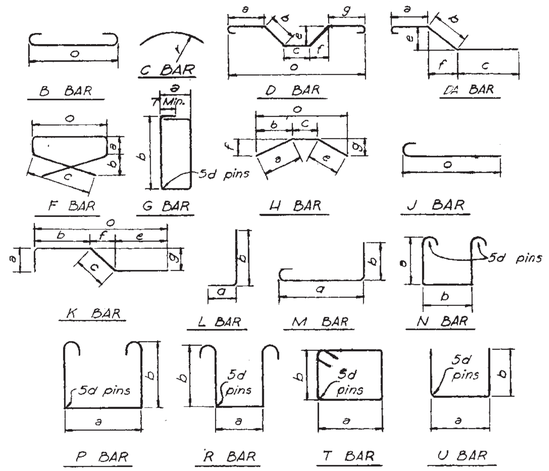
LOCATION	BAR MARK	NO. REQD	BENDING DIMENSIONS - FEET & INCHES a	b	c	e	f	g	h	o	r	WEIGHT
			SUPERSTRUCTURE (cont'd)									
	5DA16	2	2-8½	1-1½	11-7	1-0½	0-2					33
	15-11	4			11-6							66
	15-10	2			11-5							33
	15-9	1			11-4							16
	15-4	1			10-11							16
	15-1	4			10-8							63
	15	2			10-7							31
	14-11	3			10-6							47
	14-6	1			10-1							15
	14-5	2			10-0							30
	14-3	2			9-10							30
	14-2	2			9-9							30
	14-1	1			9-8							15
	13-11	2			9-6							29
	13-7	1			9-2							14
	13-6	4			9-1							56
	13-4	3			8-11							42
	13-1	2			8-8							27
	12-9	2			8-4							27
	12-8	3			8-3							40
	12-7	1			8-2							13
	12-5	4			8-0							52
	11-11	2			7-10							25
	11-10	4			7-5							49
	5DA 11-9	4	2-8½	1-1½	7-4	1-0½	0-2					49
	11-7	2			7-2							24
	11-2	3			6-9							35
	11-1	2			6-8							23
	10-11	2			6-6							23
	10-10	2			6-5							23
	10-9	2			6-4							22
	10-7	1			6-2							11
	10-4	2			5-11							22
	10-3	2			5-10							21
	10	4			5-7							42
	9-11	2			5-6							21
	9-8	2			5-3							20
	9-7	1			5-2							10
	9-5	10			5-0							98
	9-3	2			4-10							19
	9-2	1			4-9							10
	9	16			4-7							150
	8-9	2			4-4							18
	8-7	9			4-2							81
	8	1			3-7							8
	7-5	2			3-0							15
	5DA6-5	1	2-8½	1-1½		1-0½	0-2					7
	5LY37-3	3	2-8½	1-1½	30-3	1-0½	0-2	1-5½				117
	6J32-7	1								32-0		
	31-11	1								31-4		
	31-6	5								30-11		
	31-5	2								30-10		
	31-4	2								30-9		
	31-2	4								30-7		
	31-1	2								30-6		
	31	5								30-5		
	30-9	9								30-2		
	30-8	4								30-1		
	30-7	1								30		
	30-4	6								29-9		
	30-3	6								29-8		
	30-2	2								29-7		
	30-1	2								29-6		
	30	2								29-5		
	29-10	12								29-3		
	29-8	1								29-1		
	29-6	4								28-11		
	29-5	7								28-10		
	29-3	2								28-8		
	29-2	4								28-7		
	29	5								28-5		
	28-11	4								28-4		
	28-9	1								28-2		
	6J28-8	4								28-1		

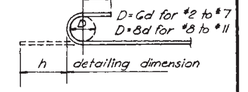
cont'd on sheet No K-1-839

ITEM: BENDING DIAGRAMS

FED. ROAD DIST.	FEDERAL AID PROJECT No.	FISCAL YEAR	SHEET No.	TOTAL SHEETS
3	I40-4(29) 304 307		142	

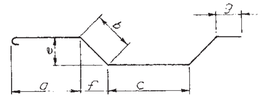
Bending diagrams shown with symbols for variable dimensions are standard types of bars. Some types shown may not be billed in the attached lists. All bars "Mark A" are straight.





STANDARD HOOK DETAIL

Use 5d pins for all other bars as indicated



DY Bar

Notes:

1. The figures to the left of the letter, or letters, represents the bar size number -- 4 = ½"; 5 = ⅝"; 6 = ¾" etc.
2. The letter represents the type of bar - A, H, J, etc. Special type bars are designated by letters "XA" etc. Bars of same type and same length, but different bends are marked La, Lb, Ka, Kb, etc.
3. The figures to the right of the letter, or letters, represent the length in feet and inches, 10-3, 12-6, etc. Thus a bar, Mark CE 21-3, represents a No. 6 bar, type E, 21'-3" long. For bar lengths in even feet, the dash and zero (- and 0) are omitted.
4. Dimensions are out-out.

INTERSTATE OVER 70N & T.C.R.R.
STA 795+77.04

REINFORCING STEEL SCHEDULE No 5
SUPERSTRUCTURE W.B.L.

MID SOUTH ENGINEERING CO., INC.
820 BROADWAY, N.E. KNOXVILLE, TENNESSEE

DR. RWS	DATE
CHK'D LES	
APP'D WLE	4-15-62

K-1-838

Revised 10-0-62

ITEM: | PROJECT: | PAGE ____ OF ____

LOCATION	BAR MARK	NO. REQD	BENDING DIMENSIONS - FEET & INCHES a	b	c	e	f	g	h	o	r	WEIGHT
			SUPERSTRUCTURE									
			SPANS 1,2,3,4 & 5 W.B.L. (cont'd)									
	6J 28-7	3								28-0		
	28-6	4								27-11		
	28-5	2								27-10		
	28-3	4								27-8		
	28-2	2								27-7		
	28	4								27-5		
	27-10	6								27-3		
	27-9	2								27-2		
	27-8	2								27-1		
	27-7	4								27-0		
	27-4	12								26-9		
	27-3	4								26-8		
	27	5								26-5		
	26-11	3								26-4		
	26-10	6								26-3		
	26-6	10								25-11		
	26-5	6								25-10		
	26-2	5								25-7		
	26-1	3								25-6		
	26	6								25-5		
	25-8	10								25-1		
	25-7	4								25-0		
	6J 25-6	2								24-11		
	25-4	5								24-9		
	25-3	3								24-8		
	25-2	6								24-7		
	24-11	4								24-4		
	24-10	10								24-3		
	24-8	2								24-1		
	24-6	5								23-11		
	24-5	5								23-10		
	24-3	8								23-8		
	24	6								23-5		
	23-11	4								23-4		
	23-10	2								23-3		
	23-8	5								23-1		
	23-7	3								23-0		
	23-6	2								22-11		
	23-5	4								22-10		
	23-4	4								22-9		
	23-2	6								22-7		
	23	4								22-5		
	22-11	3								22-4		
	22-10	4								22-3		
	22-9	3								22-2		
	22-7	8								22-0		
	6J 22-5	2								21-10		
	22-4	6								21-9		
	22-3	5								21-8		
	22	6								21-5		
	21-11	3								21-4		
	21-9	2								21-2		
	21-8	6								21-1		
	21-7	2								21-0		
	21-6	4								20-11		
	21-5	7								20-10		
	21-4	2								20-9		
	21-3	4								20-8		
	21-1	2								20-6		
	21	1								20-5		
	20-11	6								20-4		
	20-10	2								20-3		
	20-9	2								20-2		
	20-8	5								20-1		
	20-7	6								20		
	20-6	2								19-11		
	20-5	4								19-10		
	20-3	2								19-5		
	20-2	7								19-7		
	20	4								19-5		
	19-10	5								19-3		
	19-9	2								19-2		
	19-8	6								19-1		
	19-7	4								19		
	6J 19-6	2								18-11		

ITEM: | PROJECT: | PAGE ____ OF ____

LOCATION	BAR MARK	NO. REQD	BENDING DIMENSIONS - FEET & INCHES a	b	c	e	f	g	h	o	r	WEIGHT
			SUPERSTRUCTURE (cont'd)									
	6J 19-4	7								18-9		
	6J 19-2	4								18-7		
	19	5								18-5		
	18-10	4								18-3		
	18-9	8								18-2		
	18-8	2								18-1		
	18-7	2								18		
	18-6	5								17-11		
	18-5	2								17-10		
	18-4	2								17-9		
	18-2	4								17-7		
	18-1	1								17-6		
	17-11	12								17-4		
	17-10	2								17-3		
	17-9	2								17-2		
	17-7	7								17-0		
	17-6	1								16-11		
	17-5	2								16-10		
	17-4	4								16-9		
	17-1	4								16-6		
	17	12								16-5		
	16-10	2								16-3		
	16-9	4								16-2		
	6J 16-8	2								16-1		
	16-6	6								15-11		
	16-3	6								15-8		
	16-2	4								15-7		
	16-1	6								15-6		
	16	2								15-5		
	15-11	4								15-4		
	15-10	1								15-3		
	15-9	1								15-2		
	15-8	6								15-1		
	15-5	6								14-10		
	15-4	4								14-9		
	15-2	8								14-7		
	15-1	5								14-6		
	14-11	4								14-4		
	14-10	3								14-3		
	14-8	2								14-1		
	14-7	8								14-0		
	14-6	2								13-11		
	14-5	4								13-10		
	14-3	3								13-8		
	14-2	8								13-7		
	14	3								13-5		
	13-9	10								13-2		
	6J 13-7	2								13-0		
	13-6	5								12-11		
	13-5	2								12-10		
	13-4	8								12-5		
	13-2	1								12-7		
	13-1	2								12-6		
	13	2								12-5		
	12-11	10								12-4		
	12-9	1								12-2		
	12-8	4								12-1		
	12-7	2								12		
	12-6	4								11-11		
	12-5	6								11-10		
	12-4	1								11-9		
	12-1	8								11-6		
	12	5								11-3		
	11-10	4								11-3		
	11-9	6								11-2		
	11-8	2								11-1		
	11-7	4								11		
	11-6	1								10-11		
	11-5	2								10-10		
	11-3	6								10-8		
	11-2	3								10-7		
	11	6								10-5		
	10-11	6								10-4		
	10-10	2								10-3		
	10-9	4								10-2		
	6J 10-7	5								10		

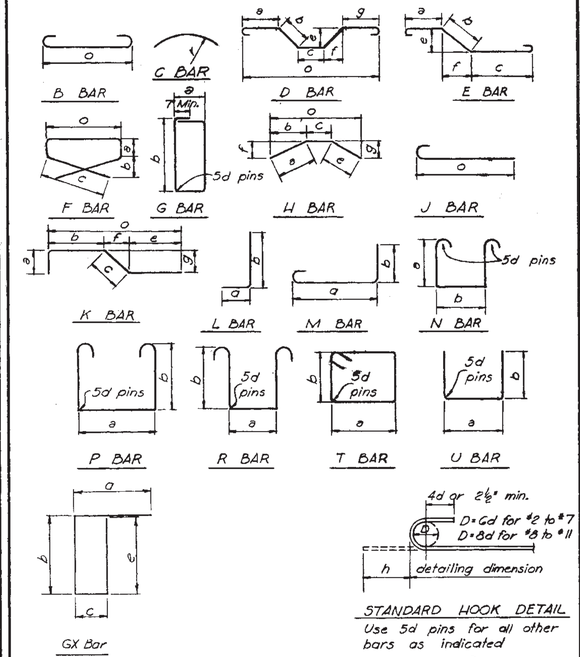
ITEM: | PROJECT: | PAGE ____ OF ____

LOCATION	BAR MARK	NO. REQD	BENDING DIMENSIONS - FEET & INCHES a	b	c	e	f	g	h	o	r	WEIGHT
			SUPERSTRUCTURE (cont'd)									
	6J 10-6	4								9-11		
	10-5	1								9-10		
	10-4	2								9-9		
	10-2	8								9-7		
	10	12								9-5		
	9-9	2								9-2		
	9-8	3								9-1		
	9-7	3								9-0		
	9-6	2								8-11		
	9-5	6								8-10		
	9-4	4								8-9		
	9-2	2								8-7		
	9-1	10								8-6		
	9	2								8-5		
	8-10	6								8-3		
	8-9	2								8-2		
	8-7	6								8-0		
	8-6	4								7-11		
	8-5	2								7-10		
	8-3	4								7-8		
	8-2	5								7-7		
	8-1	6								7-6		
	6J 7-11	2								7-4		
	7-10	3								7-3		
	7-9	6								7-2		
	7-7	5								7-0		
	7-5	6								6-10		
	7-4	6								6-9		
	7-3	4								6-8		
	7	4								6-5		
	6-11	2								6-4		
	6-10	6								6-3		
	6-9	2								6-2		
	6-8	4								6-1		
	6-7	11								6-0		
	6-5	26								5-10		
	6-3	2								5-8		
	6-2	4								5-7		
	6	48								5-5		
	5-10	2								5-3		
	5-8	1								5-1		
	5-7	38								5-0		
	5	2								4-5		
	4-7	5								4-0		
	4-6	4								3-11		
	4	2								3-5		
	6J 3-6	1								2-11		
Roadway Bkt.	5U2-10	91	1'-4"	0'-9"								269
	4A37-10	112										2330
	4A36-8	112										2744
	4A28-1	112										2101
	4A26-11	224										4028
Roadway Bkt.	4A46-0	2										161
End Diaphragm	5A46-7	2										222
	46	6										737
	45-8	4										488
	45-3	2										242
	45-2	4										482
	44-9	2										239
	44-3	2										236
	43-10	4										476
	43-5	2										236
	43-4	4										472
	5A 43	2										236
End Diaphragm	4L2-6	360	1-1	1-5								6[illegible]
Roadway Bkt.	4A43-3	2										[illegible]
End Wall	5A26-2	20										[illegible]
	5A25-10	24										6[illegible]
	4A5-7	14										[illegible]
	4A4-9	14										[illegible]
	4GY11-7	47	1-9	4-9	0-4	4-9						3[illegible]
End Wall	4GX10-3	45	1-9	4-1	0-4	4-1						308
Intermediate diaph.	5A6-2	66										360
do	4G6-4	60	0-5	2-6½								234
do	4G7-6	80	0-5	3-1½								401
											Total	85,333

ITEM: BENDING DIAGRAMS

FED. ROAD DIST.	FEDERAL AID PROJECT No.	FISCAL YEAR	SHEET No.	TOTAL SHEETS
3	I40-4(29)356		143	207

Bending diagrams shown with symbols for variable dimensions are standard types of bars. Some types shown may not be billed in the attached lists. All bars "Mark A" are straight.



Notes:
1. The figures to the left of the letter, or letters, represents the bar size number -- 4 = ½"; 5 = ⅝"; 6 = ¾" etc.
2. The letter represents the type of bar - A, H, J, etc. Special type bars are designated by letters "XA", etc. Bars of same type and same length, but different bends are marked La, Lb, Ka, Kb, etc.
3. The figures to the right of the letter, or letters, represent the length in feet and inches, 10-3, 12-6, etc. Thus a bar, Mark CE21-3, represents a No. 6 bar, type E, 21'-3" long. For bar lengths in even feet, the dash and zero (- and 0) are omitted.
4. Dimensions are out-out.

INTERSTATE OVER TON & T.C.R.R.
STA. 785+77.04

REINFORCING STEEL SCHEDULE No 6
SUPERSTRUCTURE W.B.L.

MID SOUTH ENGINEERING CO., INC.
820 BROADWAY, N.E. KNOXVILLE, TENNESSEE

DR. B.V.S.	DATE
CHK'D. L.E.S.	
APP'D. W.E.	8-15-60

K-1-839

Revised: 10-10-62

CONSTRUCTION No. 18001-3147-44

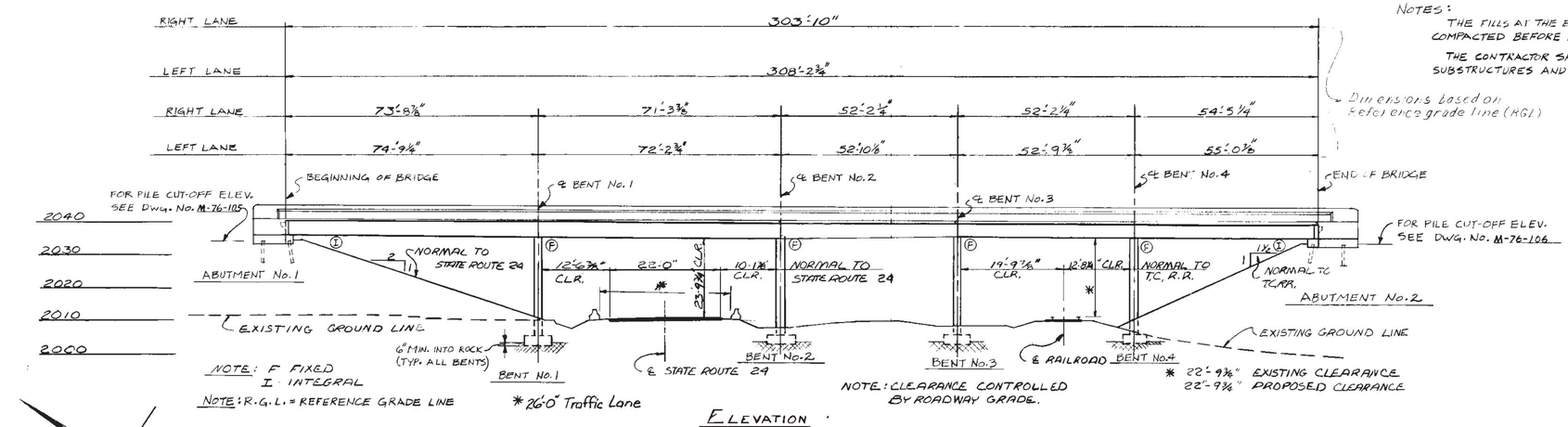
PROJECT NO.	YEAR	SHEET NO.
I-40-6(77)304	1979	

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
3	6-1-79	HMB	REVISED NOTE
4	7-26-79	HTS	STATION REVISED
5	9-18-79	WMS	ALIGNMENT
4	10-18-79	DES	TITLE & PLAN
5	11-9-79	HMB	Traffic Lane Width
6	11-22-79	NMG	ADD CRASH WALL
7	9-4-80	HMB	Traffic Lane Width, 17'-0" to 15'-0"

NOTES:
THE FILLS AT THE ENDS OF THE BRIDGE SHALL BE IN PLACE AND THOROUGHLY COMPACTED BEFORE ANY ABUTMENT PILES ARE DRIVEN.

THE CONTRACTOR SHALL CHECK THE LOCATION OF ALL EXISTING SUBSTRUCTURES AND VERIFY SPAN LENGTHS BEFORE FABRICATING GIRDERS.



NOTE: F FIXED
I INTEGRAL

NOTE: R.G.L. = REFERENCE GRADE LINE

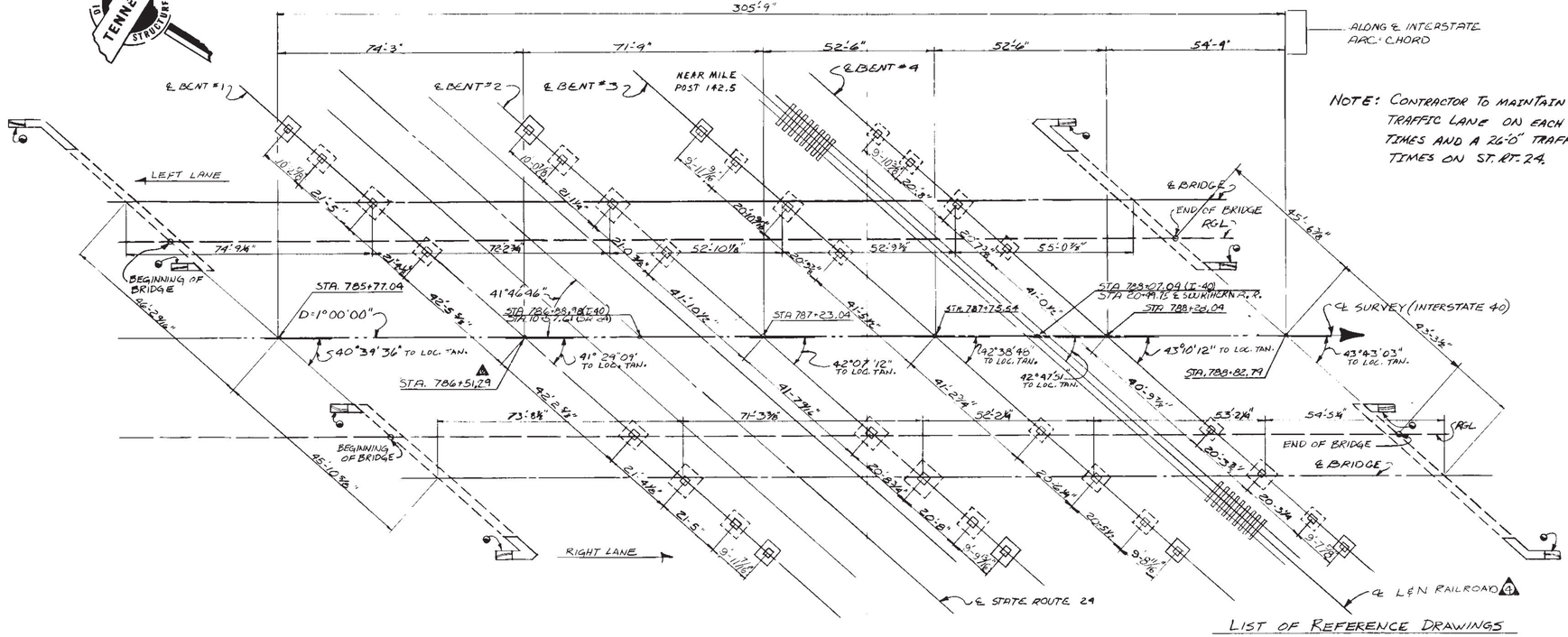
* 26'-0" Traffic Lane

* 22'-9⅜" EXISTING CLEARANCE
22'-9⅜" PROPOSED CLEARANCE

NOTE: CLEARANCE CONTROLLED BY ROADWAY GRADE.

ELEVATION

LOOKING AT RIGHT ANGLES TO ℄ SURVEY (INTERSTATE 40)
RIGHT LANE AND LEFT LANE SIMILAR

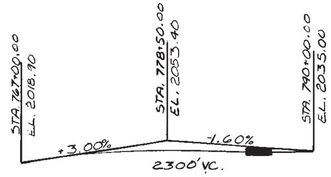


NOTE: CONTRACTOR TO MAINTAIN 15'-0" (MIN.) TRAFFIC LANE ON EACH BRIDGE AT ALL TIMES AND A 26'-0" TRAFFIC LANE AT ALL TIMES ON ST. RT. 24.

PLAN

: DENOTES GUARDRAIL ATTACHMENT TO WINGPOST REQUIRED.

NOTE: DASHED LINES REPRESENT EXISTING STRUCTURE.



VERTICAL CURVE DATA

NOTE: ELEVATIONS SHOWN ARE BASED ON REFERENCE GRADE LINE (TOP OF EXISTING SLAB).

LIST OF DRAWINGS

	DRAWING NO.	LAST REV. DATE
LAYOUT OF BRIDGE	M-76-96	
GENERAL NOTES AND ESTIMATED QUANTITIES	M-76-97	4-21-80
FOUNDATION DATA	M-76-97A	11-23-79
SUPERSTRUCTURE	M-76-98	
SUPERSTRUCTURE DETAILS	M-76-99	
SUPERSTRUCTURE DETAILS	M-76-100	
SUPERSTRUCTURE DETAILS AT ABUTMENT No. 1	M-76-101	
SUPERSTRUCTURE DETAILS AT ABUTMENT No. 2	M-76-102	
PRESTRESSED BOX BEAM	M-76-103	
PRESTRESSED BOX BEAM	M-76-104	
ABUTMENT NO. 1	M-76-105	
ABUTMENT No. 2	M-76-106	
BENT Nos. 1, 2, 3 & 4	M-76-107	4-21-80
BILL OF STEEL	M-76-108	4-21-80

LIST OF STANDARD DRAWINGS

	DRAWING NOS.	LAST REV. DATE
STANDARD PILE DETAILS	H-5-111	NOV. 27, 1973
STANDARD REINFORCING BAR SUPPORT DETAILS	K-80-14	AUG 23, 1976
MISCELLANEOUS ABUTMENT & DRAINAGE DETAILS	K-85-150	JAN. 9, 1975
TENNESSEE STANDARD PRECAST PRESTRESSED BRIDGE DECK PANELS	K-80-15	DEC. 5, 1977
BRIDGE RAILING CONCRETE PARAPET	M-28-1	JAN. 28, 1976

LIST OF SPECIAL PROVISIONS

	SPEC. PROV. NOS.	LAST REV. DATE
REGARDING SECTION 604- CONCRETE STRUCTURES	130	OCT. 1, 1977
REGARDING APPROVAL OF SHOP DRAWINGS	420	SEPT. 20, 1976
REGARDING PERMANENT STEEL BRIDGE DECK FORMS	450	SEPT. 19, 1977
REGARDING SECTION 615 PRECAST- PRESTRESSED CONCRETE BRIDGE MEMBERS	555	JULY 1, 1977
REGARDING HAULING OVER STRUCTURES	570	JULY 10, 1968
REGARDING SUBSECTION 908.13 ELASTOMERIC BEARING PADS	210	DEC. 2, 1976
REGARDING LOW SLUMP DENSE AND POLYMER MODIFIED CONCRETE BRIDGE DECK OVERLAY	480	SEPT 19, 1978
REGARDING LOW SLUMP DENSE AND POLYMER MODIFIED CONCRETE BRIDGE DECK OVERLAY FOR EXISTING BRIDGE DECKS	481	SEPT 19 1978
⚠ REGARDING SECTION 606 - STEEL PILING	133	FEB. 2, 1979

LIST OF REFERENCE DRAWINGS

	DRAWING NO.
CONCRETE HANDRAILING	K-15-59
CONCRETE HANDRAILING	K-1-821
LAYOUT OF BRIDGES	K-1-808
ABUTMENT No. 1 - LEFT LANE	K-1-809
ABUTMENT No. 2 - LEFT LANE	K-1-810
ABUTMENT No. 1 - RIGHT LANE	K-1-811
ABUTMENT No. 2 - RIGHT LANE	K-1-812
BENTS No. 1, No. 2, No. 3, AND No. 4 - LEFT LANE	K-1-813 THRU K-1-816
BENTS No. 1, No. 2, No. 3, AND No. 4 - RIGHT LANE	K-1-817 THRU K-1-820
SUPERSTRUCTURE DETAILS	K-1-823
SPANS No. 1, No. 2, No. 3, AND No. 4 - LEFT LANE	K-1-824 THRU K-1-828
SPANS No. 1, No. 2, No. 3, AND No. 4 - RIGHT LANE	K-1-829 THRU K-1-833
REINFORCING STEEL SCHEDULES Nos. 1 THRU 6	K-1-834 THRU K-1-839

ESTIMATED 1997 ADT = 2-42'-0" ROADWAYS WITH CONCRETE PARAPET

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

LAYOUT OF BRIDGE WIDENING LEFT AND RIGHT LANES

INTERSTATE 40 OVER STATE ROUTE 24 AND L&N RAILROAD

STATION 185+11.04
CUMBERLAND COUNTY
1979

DESIGNED BY WM. PETRONE DATE 3-78
DRAWN BY CHUCK CRANCE DATE 5-78
SUPERVISED BY R.L.H. & H.M.B. DATE 5-78
CHECKED BY R.D.J. & SUMMERS DATE 9-78

CORRECT Clinton L. Loveall
ENGINEER OF STRUCTURES

APPROVED _____
DIRECTOR OF HIGHWAYS

M-76-96

CLASS 'A' GRADING: D 4.0 C.Y.

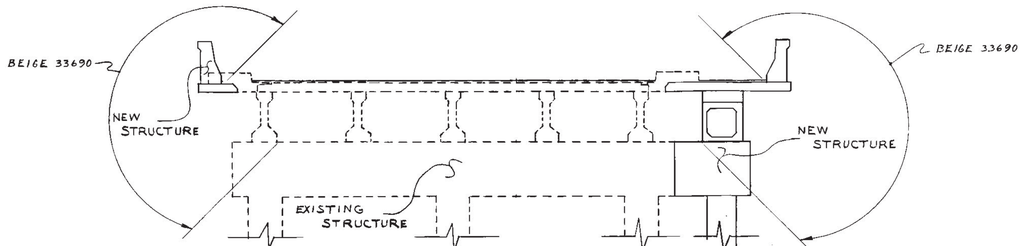
MICROFILMED

CONST. NO. 18001-3147-44

PROJECT NO.	YEAR	SHEET NO.
I-40-6(77)304	1979	

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
1	6-4-79	HMB	ADD QUANTITY NOTE
2	7-20-79	HMB	Delete use of Epoxy
3	9-18-79	HMB	GENERAL
4	10-18-79	JES	Titled Note
5	11-26-79	HMB	ADD CRASH WALL
6	4-21-80	HMB	Reinf. Steel Qts.



TEXTURED COATED COLOR SKETCH

FINISHING CONCRETE SURFACES: CONCRETE FINISHING SHALL BE IN ACCORDANCE WITH SECTION 604.22 OF THE TENNESSEE STANDARD SPECIFICATION EXCEPT AS MODIFIED BY SPECIAL PROVISION NO. 130 A TEXTURED COATED FINISH SHALL BE USED IN LIEU OF A CLASS 2 FINISH. THE COLOR OF THE FINISH SHALL BE SIMILAR TO BEIGE, FEDERAL SPECIFICATION NO. 33690 FEDERAL COLOR STANDARD NO. 595A AND A COLOR SAMPLE SHALL BE SUBMITTED TO THE ENGINEER OF STRUCTURES FOR APPROVAL. IN ADDITION TO THE ABOVE REQUIREMENTS, ALL EXPOSED SURFACES OF BENTS AND ABUTMENTS SHALL BE TEXTURE COATED BEIGE (33690). FOR ADDITIONAL INFORMATION SEE TUXTURE CORTED COLOR SKETCH ABOVE.

ESTIMATED QUANTITIES

	ITEM NO.	204-02.01	204-04.01	204-05	ALTERNATE LSDC (2) 604-03.01	ALTERNATE LSDC (2) 604-03.16	ALTERNATE PMC (2) 604-03.01	ALTERNATE PMC (2) 604-03.17	604-03.02	604-25.03	604-25.04	604-03.20	604-10.51	610-12	606-22.03	615-02.06
	ITEM	DRY EXCAVATION C.Y.	ROCK EXCAVATION C.Y.	ROCK DRILLING L.F.	CLASS "A" CONCRETE (3) C.Y. (6)	BRIDGE DECK SEALANT LSDC SY	CLASS "A" CONCRETE (3) C.Y. (6)	BRIDGE DECK SEALANT PMC SY	STEEL BAR REINFORCEMENT (3) LB. (6)	TEX. COATED FINISH. (EXIST. STR.) S.Y.	TEX. COATED FINISH. (NEW STR) S.Y.	BRIDGE JOINT MODIF. L.F.	SCARIFYING S.Y.	PORTABLE BARRIER RAIL (M-30-15B) L.F.	STEEL PILES 10 INCH DRIVING L.F.	PRESTRESSED CONCRETE BOX BEAM (42"X36") (5) L.F.
LEFT LANE	SUPERSTRUCTURE				132.6		131.7		47,948							
	ABUTMENT NO.1	13			9.7		9.7		1610						77	
	BENT NO.1	35	4	6	17.2		17.2		4063							
	BENT NO.2	12	19	6	16.8		16.8		4016							
	BENT NO.3		13	6	64.8		61.6		6107							
	BENT NO.4		16	6	64.1		61.0		6060							
	ABUTMENT NO.2	13			7.8		7.8		1508						93	
	TOTAL	73	52	24	313.0	1405	305.8	1405	71,312	855	1311	168	943		170	158
RIGHT LANE	SUPERSTRUCTURE				133.1		132.7		46,479							
	ABUTMENT NO.1	13			9.4		9.4		1606						67	
	BENT NO.1	12	28	6	18.2		18.2		4145							
	BENT NO.2	23	5	6	17.6		17.6		4070							
	BENT NO.3		14	6	64.6		61.9		6036							
	BENT NO.4		11	6	63.9		58.8		5996							
	ABUTMENT NO.2	13			8.4		8.4		1484						96	
	TOTAL	61	48	24	315.2	1385	307	1385	69,816	961	1301	168	945		163	154
	TOTAL BOTH LANES	134	100	48	628.2	2790	612.8	2790	141,128	1816	2612	336	1,888	2,674	333	312

	ITEM NO	615-02.24	616-08	710-10	710-11	604-10.02	604-10.50	606-32.03	606-42.03
	ITEM	PRESTRESSED CONCRETE BOX BEAM (51"X36") LF (5)	CONCRETE PARAPET (M-28-1) LF.	6"Ø PERFORATED CM PIPE (AS.6) POROUS BACK-FILL L.F.	6"Ø C.M. PIPE UNDERDRAINS L.F.	CONCRETE REPAIRS C.Y. (9)	BRIDGE DECK (10) REPAIRS S.Y.	STEEL PILES (10") FURNISHED DOMESTIC	STEEL PILES (10") FURNISHED FOREIGN
LEFT LANE	SUPERSTRUCTURE								
	ABUTMENT NO.1			12	11			77	77
	BENT NO.1								
	BENT NO.2								
	BENT NO.3								
	BENT NO.4								
	ABUTMENT NO.2			11	11			93	93
	TOTAL	145	620	23	22	2	420	170	170
RIGHT LANE	SUPERSTRUCTURE								
	ABUTMENT NO.1			12	11			67	67
	BENT NO.1								
	BENT NO.2								
	BENT NO.3								
	BENT NO.4								
	ABUTMENT NO.2			17	11			96	96
	TOTAL	141	660	29	22	2	210	163	163
	TOTAL BOTH LANES	286	1330	52	44	4	630	333	333

(1) EXCAVATION BASED ON LOWER ROAD PROFILE.
(2) THE CONTRACTOR SHALL BID EITHER ALTERNATE LSDC OR ALTERNATE PMC. THE VARIATION IN THE SUPERSTRUCTURE QUANTITY OF CLASS "A" CONCRETE FOR ALTERNATES LSDC AND PMC IS DUE TO THE DIFFERENCE IN DEPTH OF THE LSDC AND PMC SYSTEMS.
(3) COST OF ELASTOMERIC PADS, RUBBER BONDING CEMENT, AND DOWEL BARS TO BE INCLUDED IN COST OF PRESTRESSED BEAM
(4) COST OF POLYETHYLENE SHEETING AND ALL MISCELLANEOUS ITEMS NECESSARY FOR INSTALLATION TO BE INCLUDED IN COST OF PERFORATED CM. PIPE.
(5) THE COST OF 32 THREADED STEEL INSERTS AND 32 7/8"Ø X 4" HEX HEAD BOLTS, (A307), TO BE INCLUDED IN BRIDGE ITEMS BID ON.
(6) THE COST OF REMOVING THE EXTERIOR PORTION OF THE EXISTING SLAB, PORTIONS OF THE EXISTING ABUTMENT, AND THE BRIDGERAIL SHALL BE INCLUDED IN THE UNIT PRICES OF ITEMS BID ON. ALL SALVABLE MATERIAL SHALL BECOME THE PROPERTY OF THE CONTRACTOR.
(7) THE COST OF WATER STOPS, BITUMINOUS-FIBERBOARD FILLED JOINTS, ETC. AND ALL MISCELLANEOUS JOINT MATERIAL TO BE INCLUDED IN BRIDGE ITEMS BID ON. (2)
(8) NOTE: DRAINAGE SYSTEM: LUMP SUM-DRAINAGE SYSTEM INCLUDES ALL DRAINAGE PIPE AND POROUS BACKFILL MATERIAL.
(9) WORK CONSISTS OF REMOVING CONCRETE IN ALL DETERIORATED AREAS TO A DEPTH OF 1/4" BELOW THE REINFORCING STEEL. BLAST CLEAN THE STEEL AREAS OF CONCRETE REMOVAL ARE IN THE CAP BEAMS AND COLUMNS OF THE BENTS, UNDERNEATH THE SUPERSTRUCTURE AND ALL AREAS AS DIRECTED BY THE ENGINEER.
(1) (10) COST OF ITEM 604-10.50 TO BE PAID FOR UNDER PROJECT BHI-40-6(78)304. ALL OTHER ITEMS TO BE PAID FOR UNDER PROJECT ID-I-40-6(77)304.

DESIGNED BY W. PETRONE DATE 5-78
DRAWN BY BILL GARDNER DATE 5-78
SUPERVISED BY HARRISON & BROOKS DATE 5-78
CHECKED BY D. JAMES & J. SUMMERS DATE 9-78

GENERAL NOTES

SPECIFICATIONS: STANDARD ROAD AND BRIDGE SPECIFICATIONS OF THE TENNESSEE DEPARTMENT OF HIGHWAYS, (1968 EDITION).
LOADING: HS20-44 WITH ALTERNATE MILITARY.
DESIGN SPECIFICATIONS: AASHO 1977 EDITION WITH ADDENDA.
CONCRETE: TO BE CLASS "A" (CAST IN PLACE). f'_c=3000 PSI. SEE SPECIAL PROVISION NO.130
BRIDGE DECK FORMS: BRIDGE DECK FORMS FOR CONCRETE DECKS SHALL BE CONSTRUCTED USING EITHER REMOVABLE FORMS OR PERMANENT FORMS. IN EITHER CASE, FORMS SHALL BE ATTACHED BY MEANS OTHER THAN WELDING TO SUPPORT MEMBER. SEE SPEIAL PROV. NO. 450
PRECAST PRESTRESSED BRIDGE DECK PANELS: A PORTION OF THE CONCRETE DECK MAY BE CONSTRUCTED OF PRECAST PRESTRESSED BRIDGE DECK PANELS FABRICATED AND USED IN ACCORDANCE WITH STANDARD DRAWING K-80-15.
REINFORCING STEEL: TO BE ASTM A615 GRADE 60. STANDARD CRSI HOOK DETAILS APPLY UNLESS OTHERWISE NOTED ON BILL OF STEEL. BENDING DIMENSIONS SHOWN ARE BASED ON GRADE 60. SPACING DIMENSIONS ARE CENTER TO CENTER UNLESS OTHERWISE NOTED ON DETAIL DRAWINGS.
(4) SPECIAL NOTE FOR RAILROAD CROSSING: THE CONTRACTOR SHALL CONDUCT HIS WORK SO AS TO PROTECT THE RAILROAD TRACKS AND PROPERTIES FROM ANY DAMAGE. THE WORK SHALL BE DONE IN ACCORDANCE WITH REGULATIONS STIPULATED BY THE L&N RAILROAD SO AS TO MAINTAIN CLEARANCE AND NOT INTERRUPT TRAFFIC.
SPECIAL NOTE: FOOTING FOR BENTS: AFTER EXCAVATION TO ROCK FOR FOOTING HAS BEEN COMPLETED, HOLES 6" DEEP SHALL BE DRILLED AT POINTS DESIGNATED BY THE ENGINEER. FROM THE RESULTS OBTAINED, THE ENGINEER SHALL DETERMINE THE FINAL FOOTING ELEVATIONS. NO REINFORCING STEEL FOR BENT COLUMNS SHALL BE ORDERED UNTILL FINAL FOOTING ELEVATIONS HAVE BEEN DETERMINED.

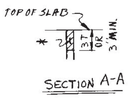
PILES: TO BE HP10x42 DRIVEN TO REFUSAL ON ROCK OR A MINIMUM BEARING OF 33 TONS FOR THE ABUTMENTS.
ALL FILL SHALL BE IN PLACE PRIOR TO EXCAVATING FOR BENT FOOTINGS. AFTER CONSTRUCTING THE BENT, EXTREME CARE SHALL BE TAKEN WHEN BACKFILLING SO AS NOT TO DAMAGE OR MISALIGN THE BENTS.
BRIDGE RAIL SYSTEM: BUILD PARAPETS ACCORDING TO STANDARD DRAWING M-28-1.
ELASTOMERIC BEARING PAD: SEE SPECIAL PROVISION NO. 210.
BRIDGE DECK SEALANT: THE BRIDGE DECK SHALL BE SEALED IN ACCORDANCE WITH SPECIAL PROVISION NO. 480. THESE BRIDGE DECK SEALANT SYSTEMS SHALL BE PAID FOR UNDER ITEMS 604-03.16 FOR LSDC OR 604-03.17 FOR PMC. 2754 S.Y. REQUIRED.
LINSEED OIL PROTECTIVE TREATMENT: SURFACES RECEIVING TEXTURED COATED FINISH SHALL NOT RECEIVE A LINSEED OIL TREATMENT. SEE SPECIAL PROVISION NO. 130

PRECAST, PRESTRESSED BRIDGE MEMBERS: SEE SPECIAL PROVISION NO. 555.
DRILLED IN ANCHORS: CERTIFICATION: THE CONTRACTOR SHALL FURNISH CERTIFIED ANCHOR PULL OUT DATA FROM AN INDEPENDENT TESTING LABBRATORY USING CLASS A CONCRETE AS PRESCRIBED BY TENNESSEE HIGHWAY SPECIFICATIONS. THE REQUIRED ULTIMATE LOAD FOR 3/8"Ø ANCHORS IS 19,000 LBS. IN PLACE REQUIREMENTS: THE UNIT SHALL BE SUB-SET 1/32 TO 1/4 TORQUED, WITH BASE PLATE, IN PLACE, TO AN EQUIVILANT DIRECT PULL OUT LOAD OF 60 PERCENT OF REQUIRED ULTIMATE LOAD. SLIPPAGE SHALL NOT EXCEED 1/4". THE DEPARTMENT WILL PREFORM TESTING OF ANCHORS ON SITE TO INSURE THE SPECIFIED IN PLACE REQUIREMENTS. INSTALLATIONS NOT MEETING THESE REQUIRMENTS MUST BE CORRECTED AT THE CONTRACTORS EXPENCE.

(5) *Note: TOP 3" OF JOINT TO BE CLEANED AND FILLED WITH LSDC OR PMC



SLAB PLAN



SECTION A-A

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

(1) GENERAL NOTES AND ESTIMATED QUANTITIES
LEFT AND RIGHT LANES
INTERSTATE 40 OVER STATE ROUTE 24
AND L & N RAILROAD
STATION 785+77.04
CUMBERLAND COUNTY

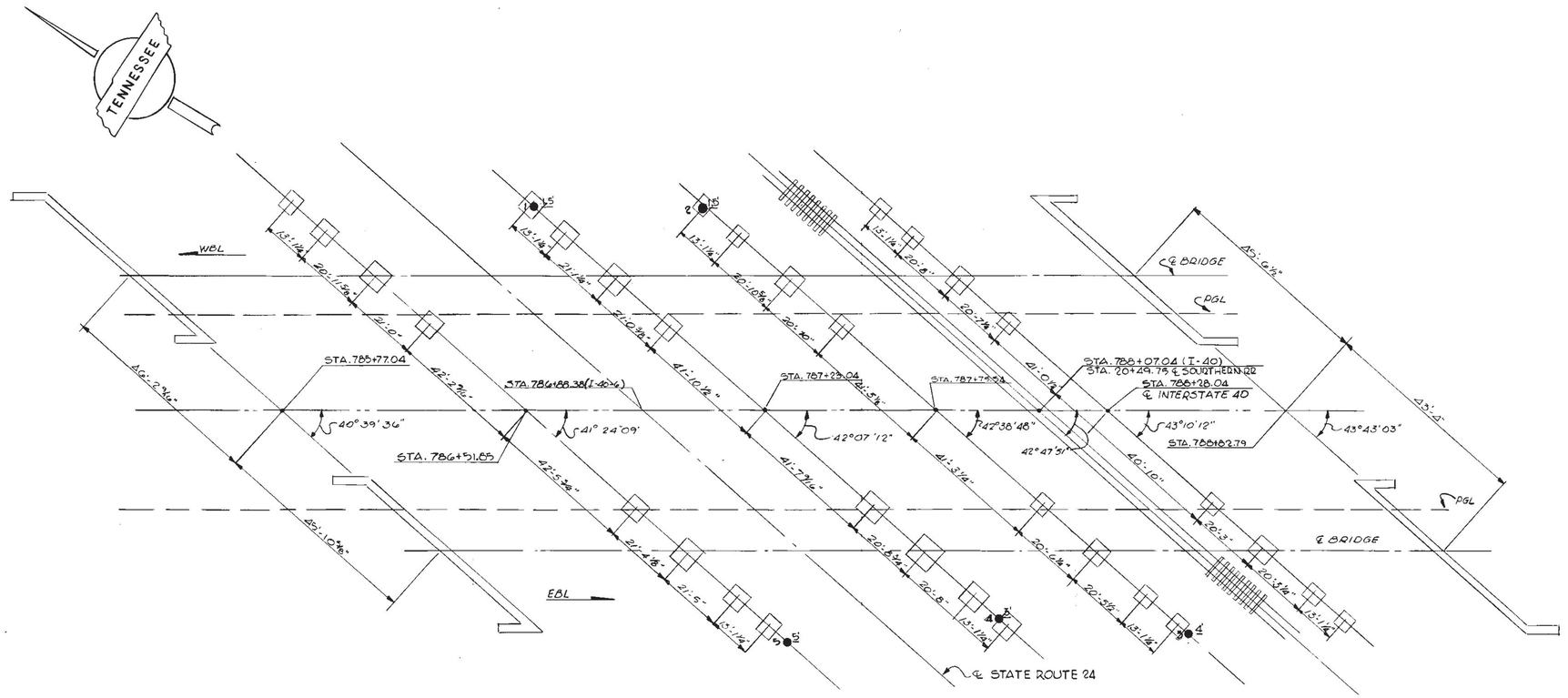
CORRECT Gibson L Lovell ENGINEER OF STRUCTURES 1979
APPROVED Lewis Evans DIRECTOR OF HIGHWAYS

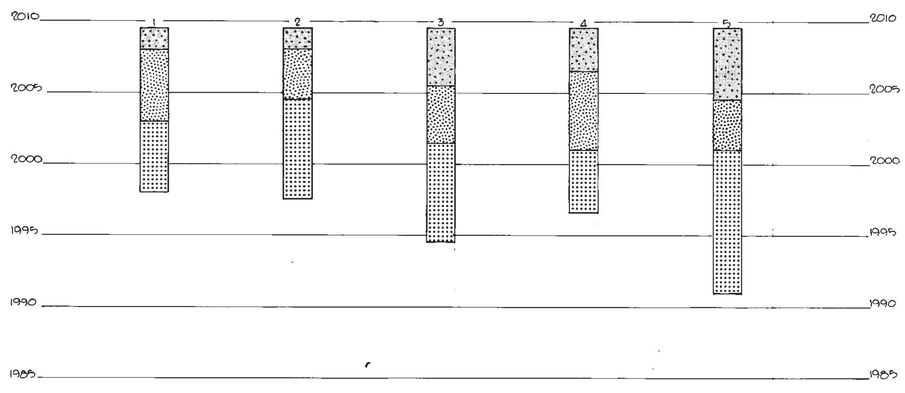
M-76-97

MICROFILMED

CONST. NO. 18001-3147-44
PROJ. NO. I-40-6(77)304
YEAR 1979

REVISED ① 10-18-79 - JES - Title





Coring no. 5 ● 2 Depth augered to refusal

Sandy Clay

8 Tons/ft.² Sandstone, fractured & weathered (in-part)

12 Tons/ft.² Sandstone

1 G 2009.0 / R 2007.5
2 G 2009.0 / R 2007.5
3 G 2009.0 / R 2005.0
4 G 2009.0 / R 2006.0
5 G 2009.0 / R 2004.0

NOTE: ALL GROUND ELEVATIONS APPROX.

NOTE: THIS SHEET NOT TO BE USED AS A LAYOUT.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

FOUNDATION DATA
LEFT AND RIGHT LANES
I-40 OVER STATE ROUTE 24
AND L&N RAILROAD
STATION 785+77.04
CUMBERLAND COUNTY
1979

DESIGNED BY PETRONE DATE 5/79
DRAWN BY SAM RIDDLE DATE 9/79
SUPERVISED BY DON HARBISON DATE 9/79
CHECKED BY SUMMERS DATE 9/79

CORRECT Clellon L. Loveall
ENGINEER OF STRUCTURES
APPROVED Lewis Evans
DIRECTOR OF HIGHWAYS

M-76-97A

MICROFILMED

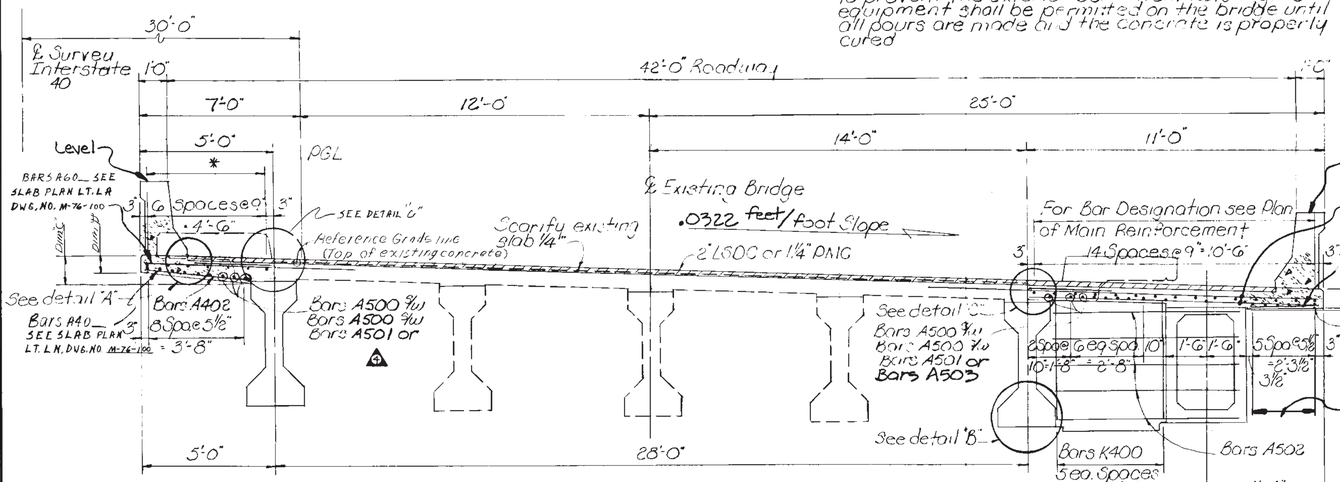
Construction No. 18001-3147-44

PROJECT NO.	YEAR	SHEET NO.
I-40-6(77)304	1979	

REVISIONS

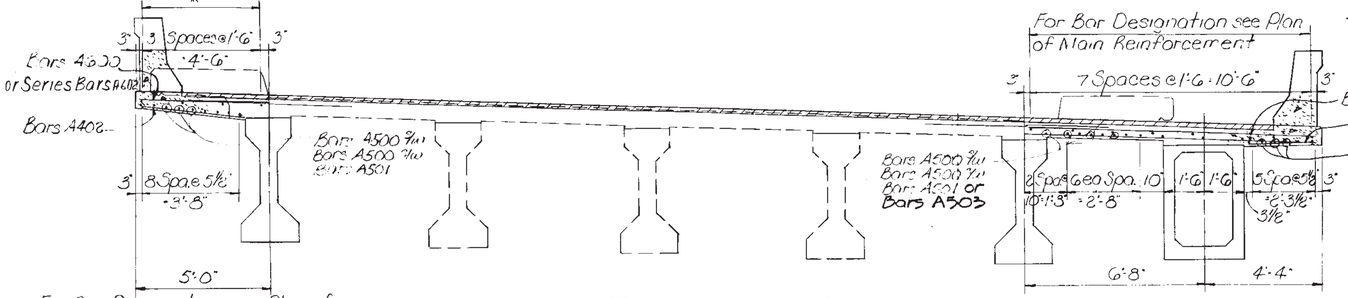
NO.	DATE	BY	BRIEF DESCRIPTION
1	8-29-78	[illegible]	Quantities
2	9-18-79	HMB	Quantities
3	10-18-79	JES	Title
4	8-13-80	HMB	Bars A400 & A401 to A500 & A501

Note: Slab construction joints may be located at the contractor's option except no joint may be located closer than ⅛ span length from an interior support. The contractor shall make adequate provisions during placement of slab to prevent the exterior beam from twisting. No equipment shall be permitted on the bridge until all pours are made and the concrete is properly cured.



Typical Cross Section
(Section Near Support Diaphragms)
Left Lane - Looking Back on survey

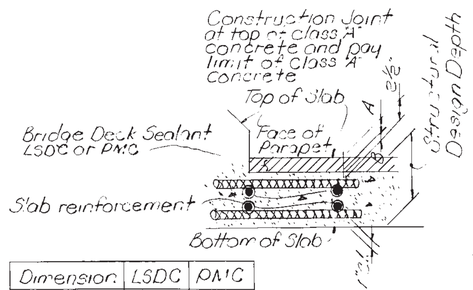
Note: When removing existing superstructure, care shall be taken not to damage existing reinforcing steel. Existing reinforcing steel shall splice with new reinforcing steel whenever possible.



* For Bar Designation see Plan of Main Reinforcement

Typical Cross Section
(Section Near Mid Span)

Note: Dashed lines denotes existing bridge. Shaded area of bridge to be removed.

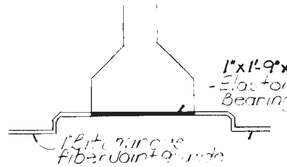


Dimension	LSDC	PMC
A	2"	1¼"
B	⅛"	1¼"
C	10¾"	10"
D	7¾"	7"
E	9¼"	8½"

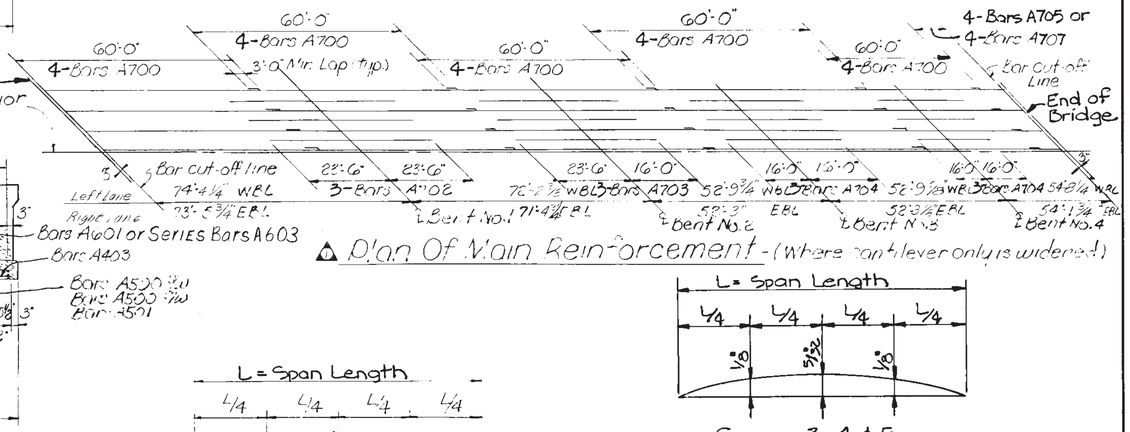
Detail "A"
LSDC & PMC OVERLAY

Note: When pouring slab, provision shall be made for setting reinforcing steel for parapet. The parapet shall not be poured until the slab is poured and cured. Also see standard drawing No. M-28-1

Note: Left Lane = West Bound Lane
Right Lane = East Bound Lane



Detail "B"



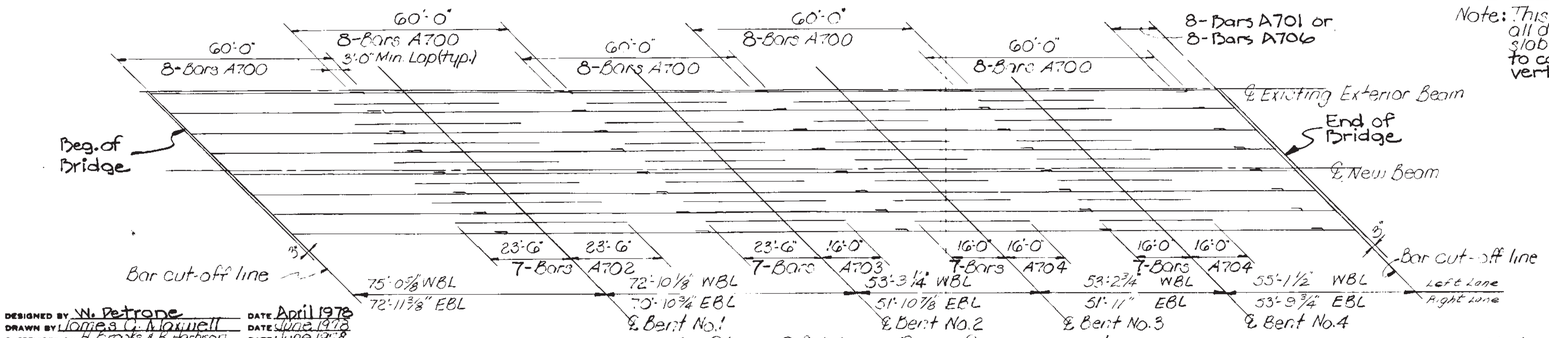
⚠1 Plan Of Main Reinforcement - (Where cantilever only is widened)

Spans 3, 4 & 5

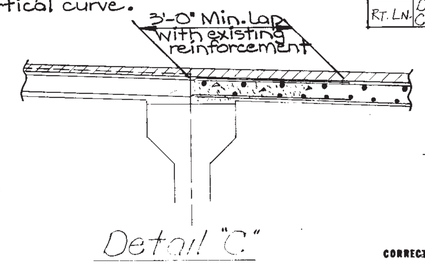
Spans 1 & 2

Dead Load Correction Curve

Note: This curve is for dead load slab and all dead loads that are applied after slab is in place and should be corrected to compensate for the effects due to vertical curve.



⚠1 Plan Of Main Reinforcement - (Over portion where new beams are added)



Detail "C"

⚠2 Estimated Quantities

		Class "A" Concrete Cubic Yards		Reinforcement Steel Pounds
LT LN	LSDC	132.6	PMC	131.7	47,998
RT LN	LSDC	133.1	PMC	132.7	46,479

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

⚠3 Superstructure
Widening Left And Right Lanes
Interstate 40 Over State Route 24
and L&N Railroad
Station 785+77.04
Cumberland County

DESIGNED BY W. Petrone DATE April 1978
DRAWN BY James C. Maxwell DATE June 1978
SUPERVISED BY H. Crooks & R. Harbison DATE June 1978
CHECKED BY G. Jones, SUMMERS DATE SEPT. 1978

CORRECT Clifton T. Fowell 10-79
ENGINEER OF STRUCTURES
APPROVED Louis Burns
DIRECTOR OF HIGHWAYS

M-76-98

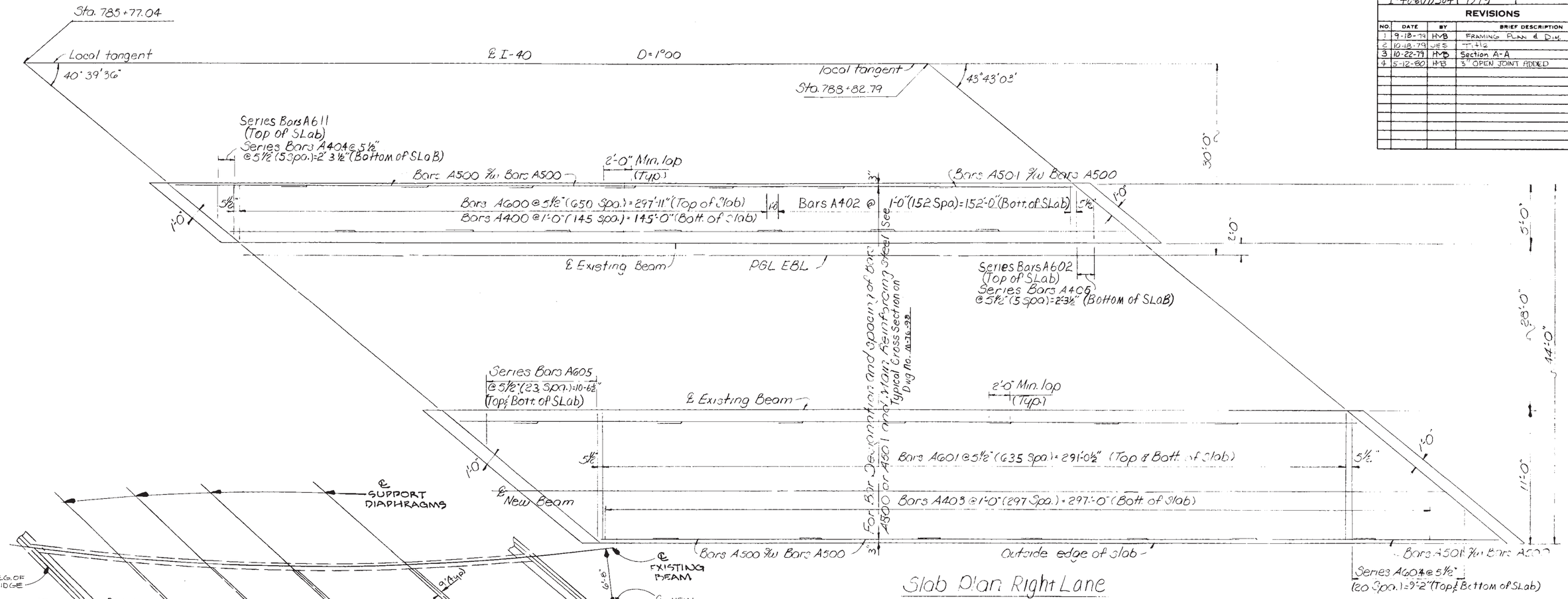
MICROFILMED

Construction No. 18001-3147-44

PROJECT NO.	YEAR	SHEET NO.
I-40-6(17)204	1979	

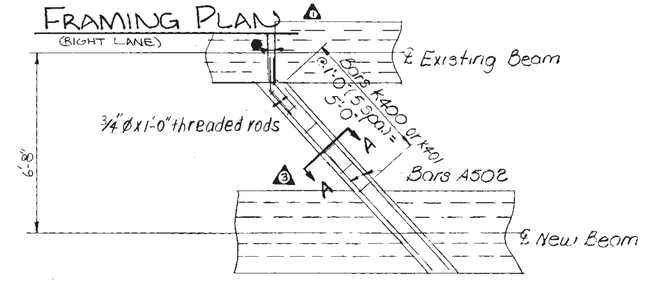
REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
1	9-18-79	HVB	FRAMING PLAN & DIM.
2	10-18-79	JES	TITLE
3	10-22-79	HVB	Section A-A
4	5-12-80	HVB	3" OPEN JOINT ADDED



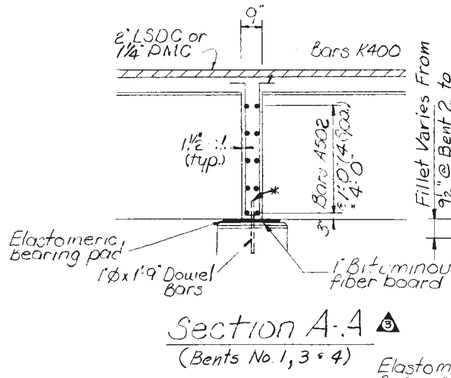
Slab Plan Right Lane

FRAMING PLAN (RIGHT LANE)



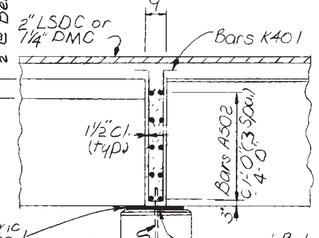
Part-Plan of Support Diaphragm

3" OPEN JOINT BETWEEN BEAMS



Section A-A (Bents No. 1, 3 & 4)

* Special note for dowel cap at bents: Top of dowels to be covered with ½" of compressible material and the 9" projection wrapped with two layers of water-proof paper.



Section A-A (Bent No. 2)

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

Superstructure Details Widening Left And Right Lanes Interstate 40 Over State Route 24 and L&N Railroad Station 785+77.04 Cumberland County

DESIGNED BY W. Petrone DATE April 78
DRAWN BY James C. Maxwell DATE June 1978
SUPERVISED BY H. Brooks & R. Hardison DATE June 1978
CHECKED BY SUMMERS & KNOWLES DATE 9-78

CORRECT Clellon L. Fowell 1979
ENGINEER OF STRUCTURES
APPROVED Lewis Evans
DIRECTOR OF HIGHWAYS

M-76-99

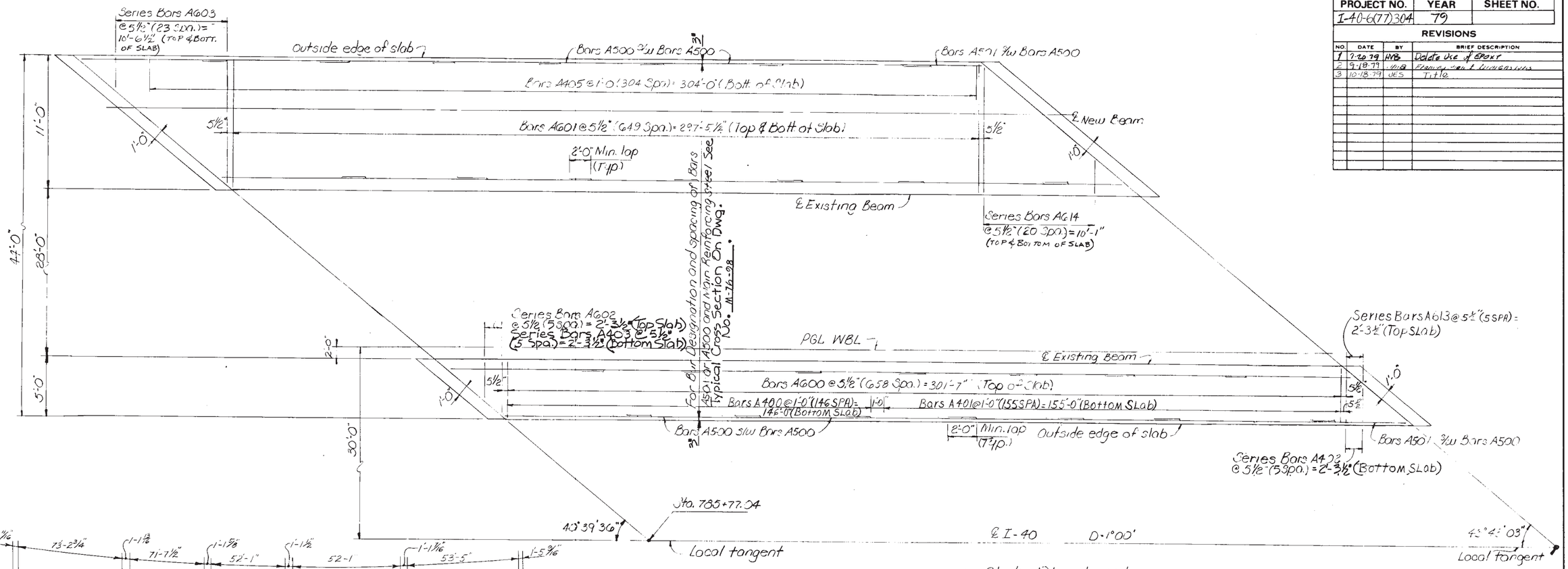
MICROFILMED

Construction No. 18001-3147-44

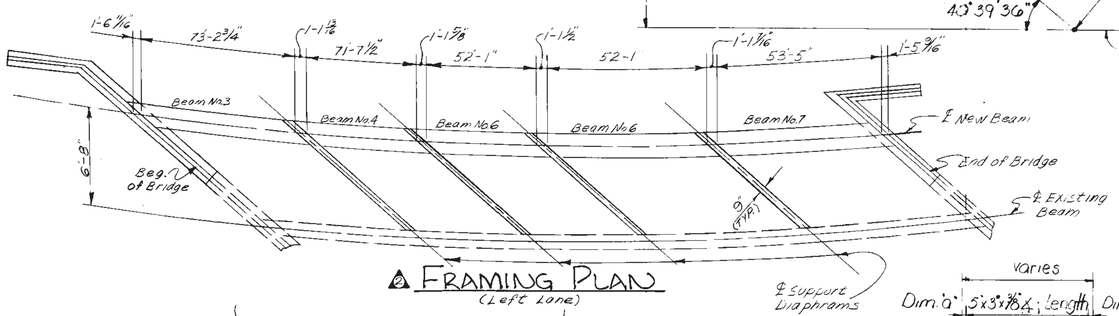
PROJECT NO.	YEAR	SHEET NO.
I-40-6(77)304	79	

REVISIONS

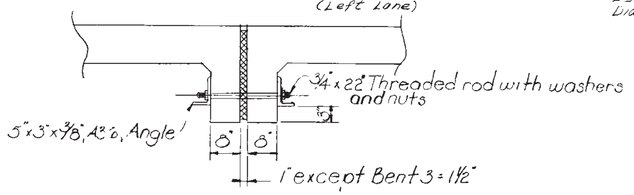
NO.	DATE	BY	BRIEF DESCRIPTION
1	7-20-79	HVB	Delete Use of Epoxy
2	9-18-79	[illegible]	Framing Plan & Dimensions
3	10-18-79	JES	Title



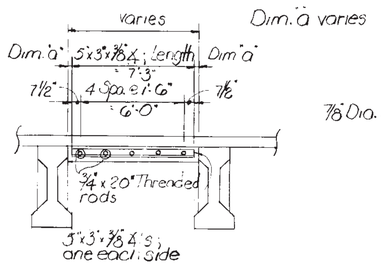
Slab Plan Left Lane



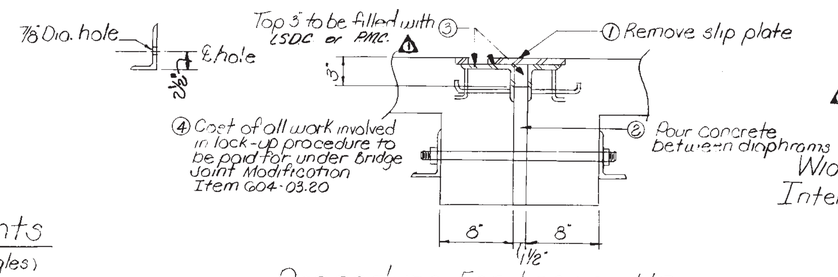
FRAMING PLAN
(Left Lane)



Typical Section Thur Diaphram At Bent
(Showing angles and bolts to be attached)



Typical Section At Bents
(Showing location of attached angles)



Procedure For Locking Up Expansion Joint At Bent No. 3

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

Superstructure Details
Widening Left And Right Lanes
Interstate 40 Over State Route 24
and L&N Railroad
Station 785+77.04
Cumberland County

CORRECT Clellon L. Loveall 1979
ENGINEER OF STRUCTURES
APPROVED Lewis Evans
DIRECTOR OF HIGHWAYS

M-76-100

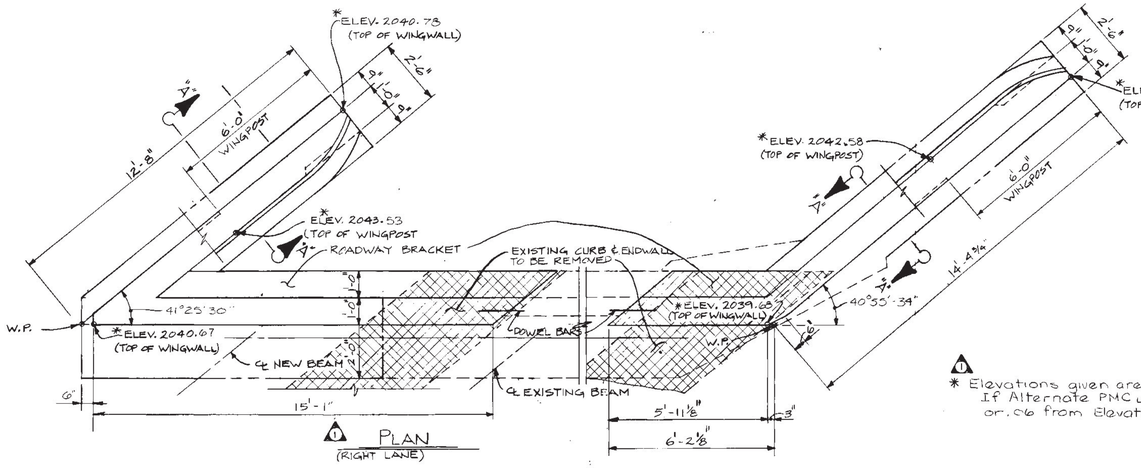
DESIGNED BY W. Petrone DATE April 1978
DRAWN BY James C. Maxwell DATE June 1978
SUPERVISED BY H. Brooks & R. Harbison DATE June 1978
CHECKED BY SUMMERS & KNOWLES DATE 9-78

CONST. NO. 18001-3147-44

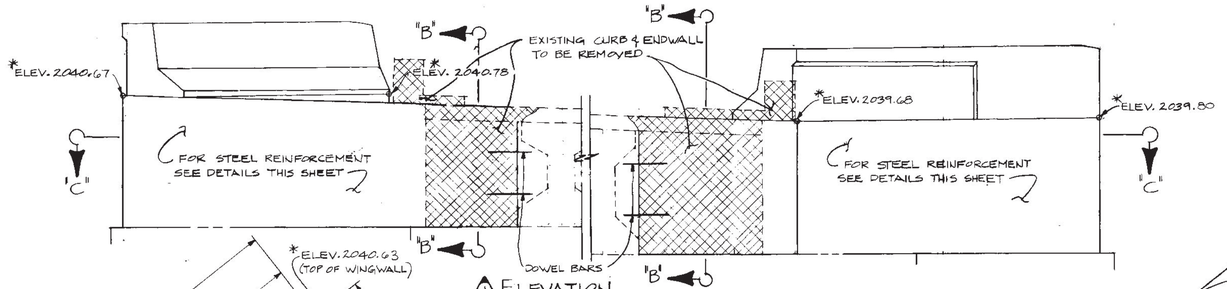
PROJECT NO.	YEAR	SHEET NO.
I-40-6(77)304	1979	

REVISIONS

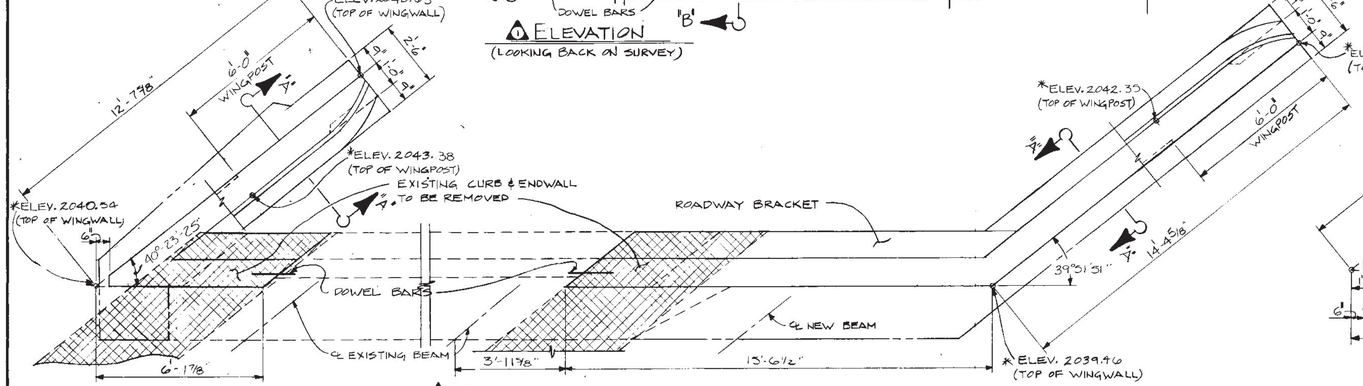
NO.	DATE	BY	BRIEF DESCRIPTION
1	9-18-79	HMB	Note, Elevations, Dimensions, + Bar Designations, Angles
2	10-18-79	JES	T.T.I.E.



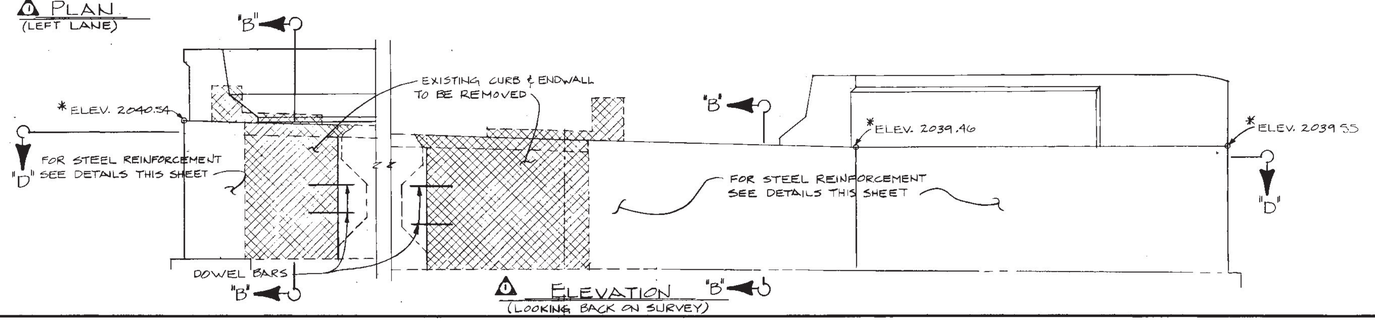
① PLAN (RIGHT LANE)



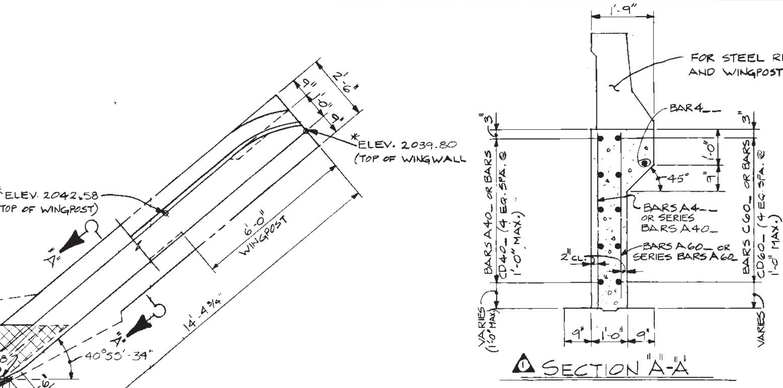
① ELEVATION (LOOKING BACK ON SURVEY)



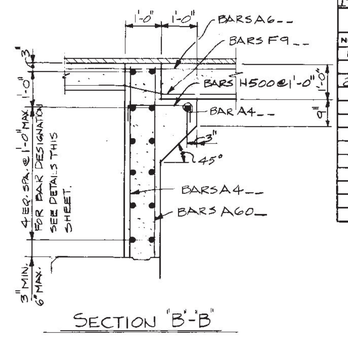
① PLAN (LEFT LANE)



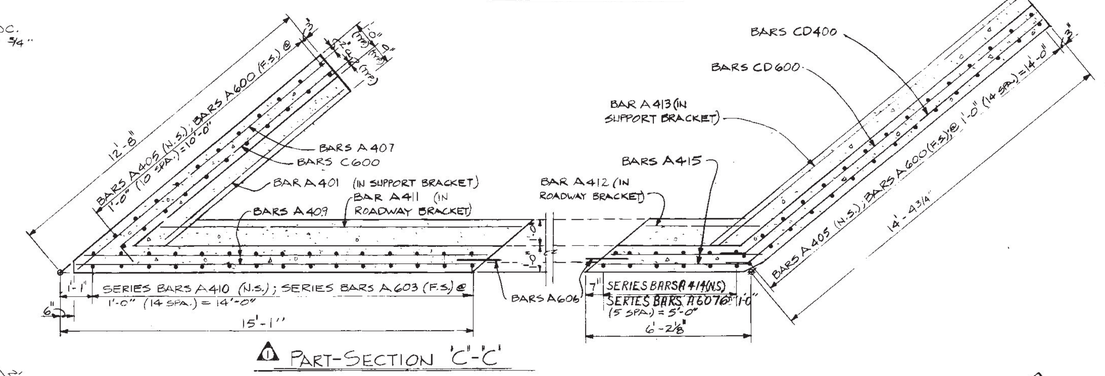
① ELEVATION "B" (LOOKING BACK ON SURVEY)



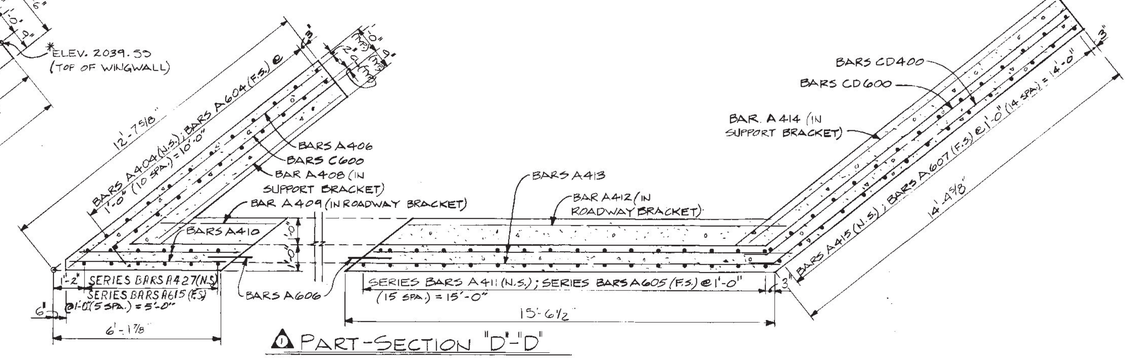
① SECTION "A-A"



SECTION "B'-B"



① PART-SECTION 'C'-'C'



① PART-SECTION "D"-"D"

DESIGNED BY W. PETRONE DATE 4-78
DRAWN BY T. DADY DATE 8-78
SUPERVISED BY R.L.H. & H.M.B. DATE 8-78
CHECKED BY SUMMERS DATE

STATE OF TENNESSEE
② DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

SUPERSTRUCTURE DETAILS AT ABUTMENT No. 1
WIDENING OF RIGHT AND LEFT LANES
INTERSTATE 40 OVER STATE ROUTE 24
AND L&N RAILROAD
STATION 785+77.04
CUMBERLAND COUNTY
1979

CORRECT Clellon L Sweatt
ENGINEER OF STRUCTURES
APPROVED Lewis Evans
DIRECTOR OF HIGHWAYS

M-76-101

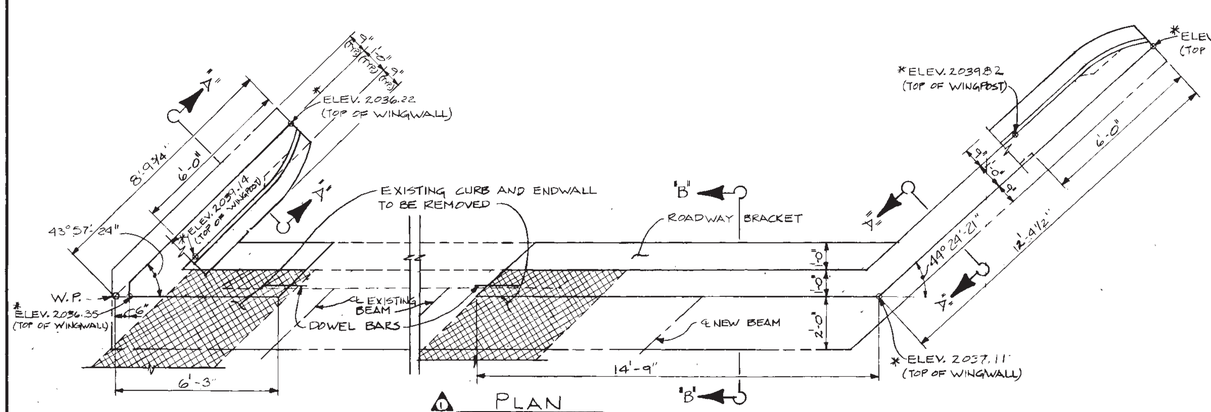
* Elevations given are based on I.SOC. If Alternate PMC used, subtract ¾" or .06 from Elevation shown.

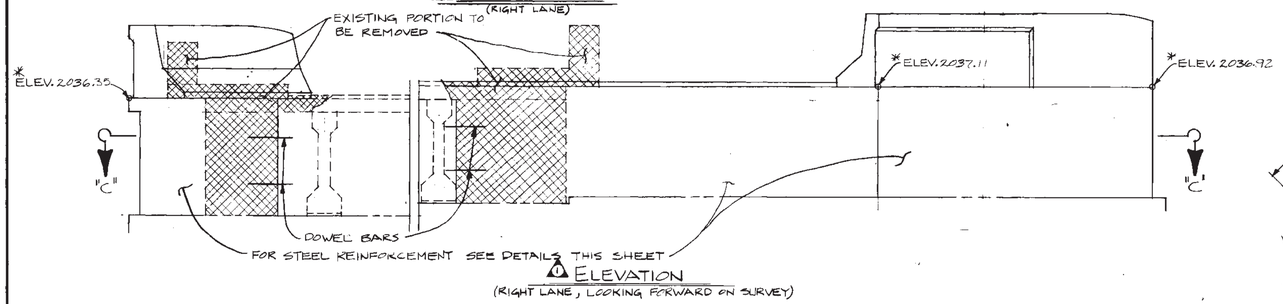
CONST. NO. 18001-3147-44

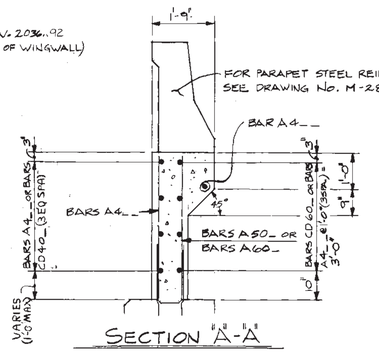
PROJECT NO.	YEAR	SHEET NO.
I-40-6(77)304	1979	

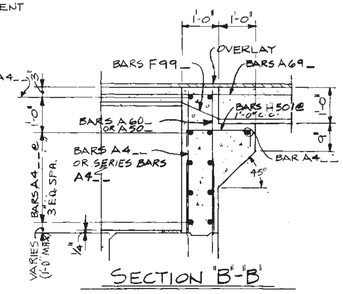
REVISIONS

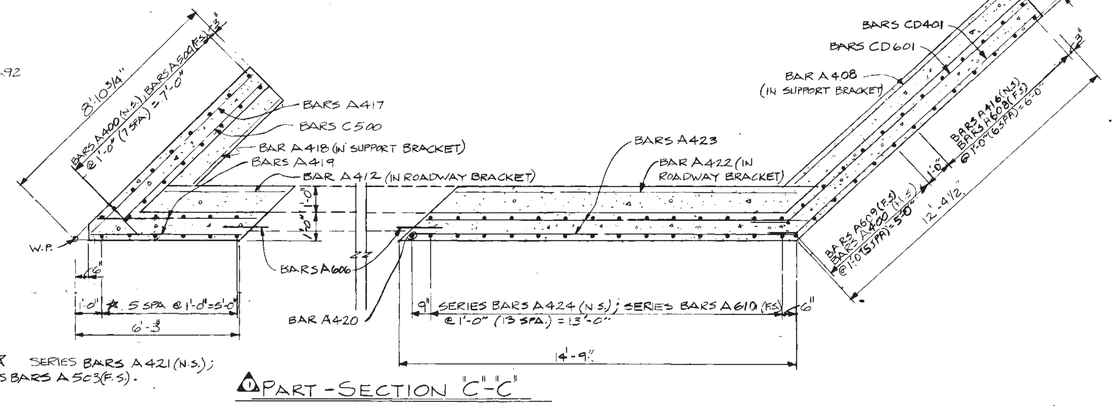
NO.	DATE	BY	BRIEF DESCRIPTION
1	9-18-79	HMB	Dimensions, Elevations, Angles + Notes
2	10-18-79	JES	Title

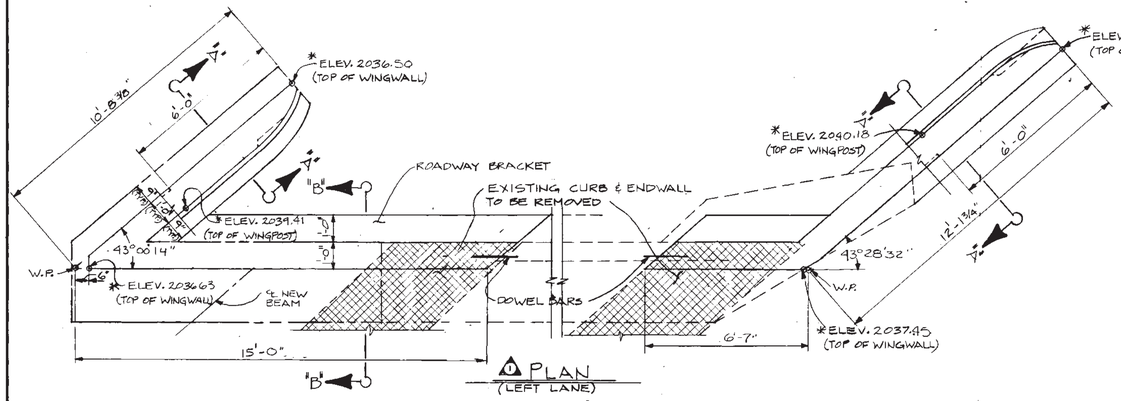


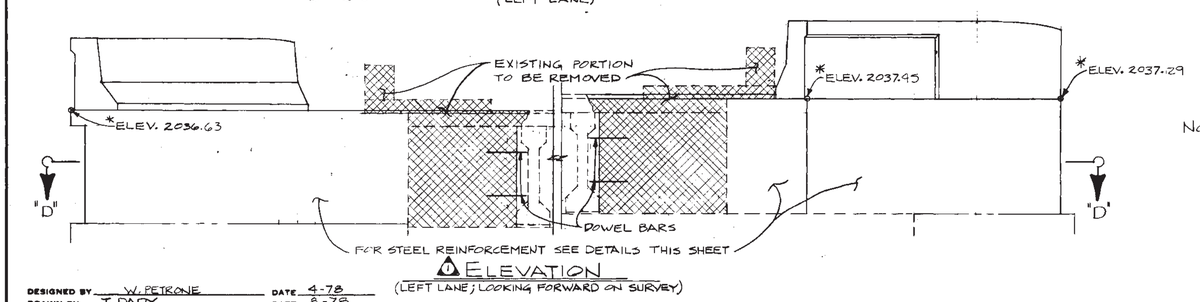






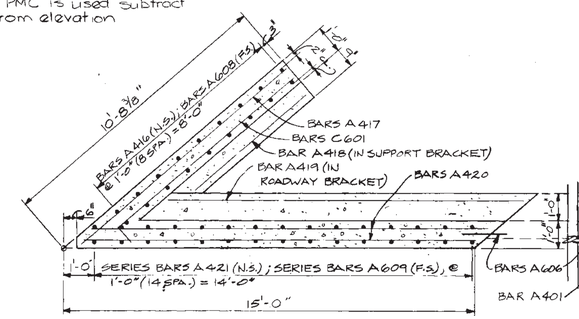






☆ SERIES BARS A421 (N.S.); SERIES BARS A503 (F.S.).

* Elevations given are based on LSDC.
① If Alternate PMC is used subtract 3/4" or .06 from elevation



NOTES:
1. ———— DENOTES EXISTING STRUCTURE
2. ———— DENOTES NEW STRUCTURE
3. N.S. DENOTES NEAR SIDE; F.S. DENOTES FAR SIDE

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

SUPERSTRUCTURE DETAILS AT ABUTMENT No. 2
WIDENING OF RIGHT AND LEFT LANES
INTERSTATE 40 OVER STATE ROUTE 24 AND L&N RAILROAD
STATION 785+77.04
CUMBERLAND COUNTY
1979

DESIGNED BY W. PETRONE DATE 4-78
DRAWN BY T. DADY DATE 8-78
SUPERVISED BY H.M.B. & R.L.H. DATE 8-78
CHECKED BY H.M.B.& DATE 8-78

CORRECT Odellon L Lovell
ENGINEER OF STRUCTURES
APPROVED Louis Evans
DIRECTOR OF HIGHWAYS

M-76-102

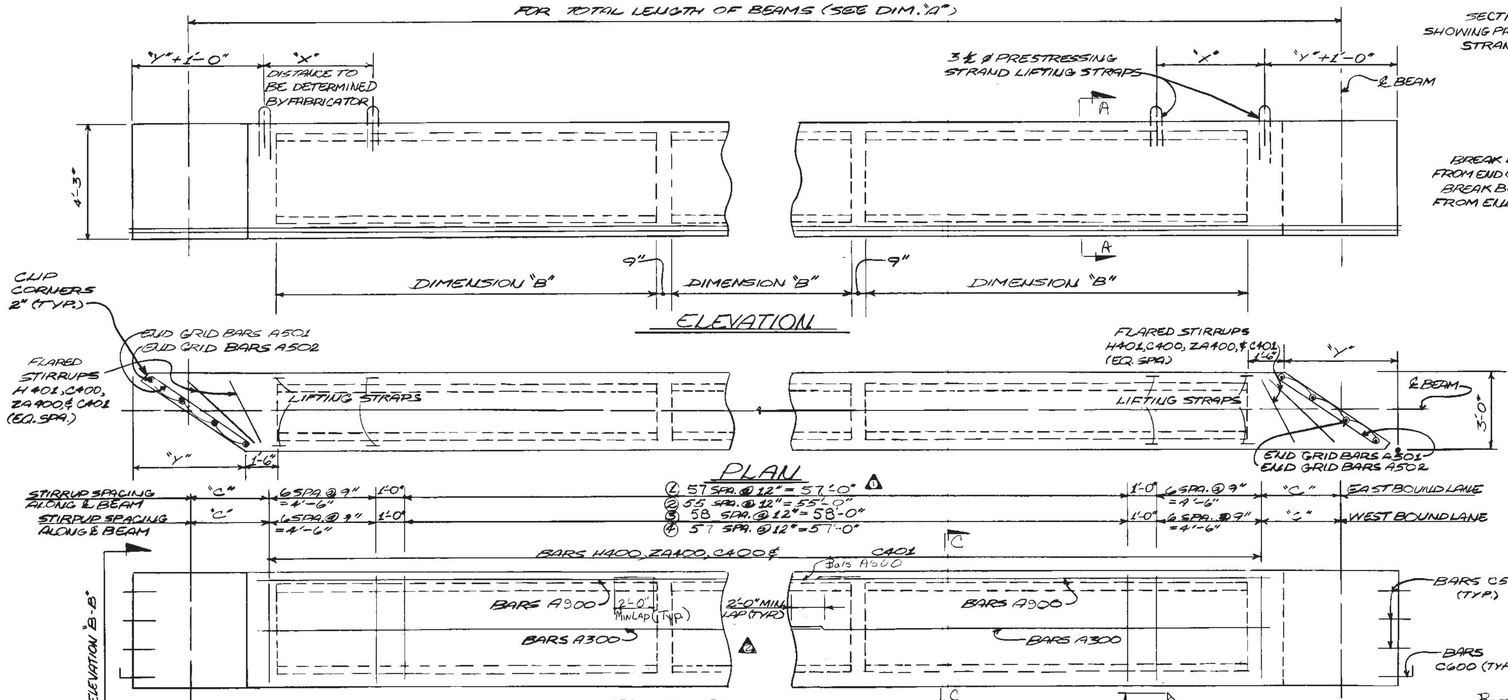
MICROFILMED

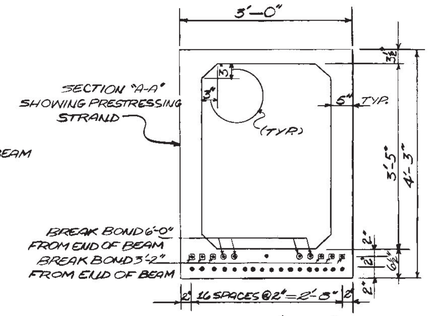
CONSTRUCTION NO. 18001-3147-44

PROJECT NO.	YEAR	SHEET NO.
I-40-6(77)304	1979	

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
1	9-18-79	HMB	DIMENSIONS
2	10-2-79	HMB	Add bars A900
3	10-18-79	JES	Title





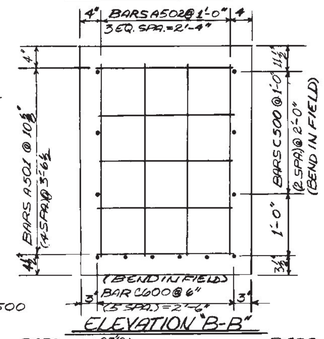


TABLE OF DIMENSIONS

	DIMENSION "A"				DIMENSION "B"			
LOCATION	BEAMS	RIGHT LANE	BEAMS	LEFT LANE	BEAMS	RIGHT LANE	BEAMS	LEFT LANE
SPAN 1	①	71'-1¾"	③	73-2¾"	①	21'-1⅛"	③	21'-8¾"
SPAN 2	②	69'-8¼"	④	71'-7½"	②	20'-7⅞"	④	21'-2⅛"

	DIMENSION "Y"				DIMENSION "C"			
LOCATION	BEAMS	RIGHT LANE	BEAMS	LEFT LANE	BEAMS	RIGHT LANE	BEAMS	LEFT LANE
SPAN 1	①	3'-4⅞"	③	3'-6½"	①	2'-0⅞"	③	2'-1⅜"
SPAN 2	②	3'-3⅞"	④	3'-5⅜"	②	1'-10⅝"	④	1'-9¾"

GENERAL NOTES

NOTE: TOP OF ALL BEAMS ARE TO BE ROUGH FLOATED. AT APPROXIMATELY THE TIME OF INITIAL SET, THE TOP OF THE BEAMS WILL ALSO BE SCRUBBED TRANSVERSELY WITH A COARSE WIRE BRUSH TO REMOVE ALL LAITANCE AND PRODUCE A ROUGH SURFACE.

NOTE: MILD STEEL REINFORCING SHALL BE ASTM A 615 GRADE 60.

NOTE: ALL PRESTRESSING STRANDS TO BE ½" ø HIGH STRENGTH TYPE 270K OR ASTM GRADE 7 WIRE UNCOATED STRESS-RELIEVED PRESTRESSING STRANDS.

NOTE: AN INITIAL FORCE OF 28,910 LBS., SHALL BE APPLIED TO EACH STRAND IN ALL BEAMS.

NOTE: AFTER THE BEAM IS REMOVED FROM THE PRESTRESSING BED, BARS C600 AND C400 SHALL BE BENT A SUFFICIENT AMOUNT SO AS TO PERMIT THE "C" BARS OF ADJOINING BEAM TO MESH WHEN IN THE ERECTED POSITION.

NOTE: THE PRESTRESSING STRANDS SHALL BE LEFT PROJECTING 3" ± FROM THE ENDS OF THE BEAMS. THERE SHALL NOT BE ANY PROTECTIVE COATING PLACED ON THE ENDS OF THE BEAMS OR ON THE PROJECTING STRANDS.

NOTE: ELASTOMERIC PADS TO BE ¼"x6"x4'-0" (BUT NICK #2 ¼"x6"x4'-6" LEFT AND RIGHT LANES WITH 1-⅛"x3" SLOT AT BUT ENDS AND 1⅛"x19"x4'-3" WITH 1-⅛" ø HOLES AT BENTS.

NOTE: THE CONCRETE FOR THIS CONSTRUCTION SHALL BE OF SUCH PROPERTIES AS TO ATTAIN A COMPRESSIVE STRENGTH OF NOT LESS THAN (5000+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 (4,000+PSI), SEE LAYOUT SHEET FOR CONCRETE FINISHING NOTE.

NOTE: 1" ø WEEP HOLES REQUIRED AT LOW POINT OF EACH CELL.

NOTE: EACH CELL SHALL BE VENTED (DURING THE FABRICATION PHASE), IN SUCH A MANNER SO AS NOT TO ALLOW EXTERNAL WATER TO ENTER THE CELL.

BILLS OF STEEL PER-BEAM

① 71'-1¾" BEAM

BARS	SIZE	NO. REQ'D	LENGTH
A300	3	4	36'-5"
A500	5	4	28'-10"
A501	5	10	4'-1"
A502	5	8	3'-9"
C400	4	150	3'-8"
CA01	4	160	1'-7"
C500	5	12	2'-8"
C600	6	12	2'-8"
H400	4	71	4'-7"
H401	4	4	5'-4"
ZA400	4	150	3'-8"
A900	9	14	23'-0"

② 69'-8¼" BEAM

BARS	SIZE	NO. REQ'D	LENGTH
A300	3	4	35'-8"
A500	5	4	27'-4"
A501	5	10	4'-1"
A502	5	8	3'-9"
C400	4	148	3'-8"
CA01	4	148	1'-9"
C500	5	12	2'-8"
C600	6	12	2'-8"
H400	4	70	4'-7"
H401	4	4	5'-4"
ZA400	4	148	3'-8"
A900	9	14	23'-0"

③ 71'-2¾" BEAM

BARS	SIZE	NO. REQ'D	LENGTH
A300	3	4	37'-5"
A500	5	4	30'-11"
A501	5	10	4'-1"
A502	5	8	3'-9"
C400	4	154	3'-8"
CA01	4	154	1'-9"
C500	5	12	2'-8"
C600	6	12	2'-8"
H400	4	73	4'-7"
H401	4	4	5'-4"
ZA400	4	154	3'-8"
A900	9	14	23'-0"

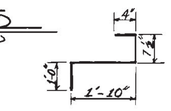
④ 71'-7½" BEAM

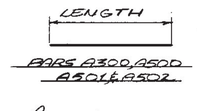
BARS	SIZE	NO. REQ'D	LENGTH
A300	3	4	36'-8"
A500	5	4	29'-4"
A501	5	10	4'-1"
A502	5	8	3'-9"
C400	4	152	3'-8"
CA01	4	152	1'-9"
C500	5	12	2'-8"
C600	6	12	2'-8"
H400	4	72	4'-7"
H401	4	4	5'-4"
ZA400	4	152	3'-8"
A900	9	14	23'-0"

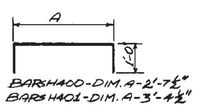
ESTIMATED QUANTITIES PER-BEAM

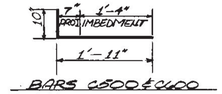
CONCRETE CLASS A C.Y.	REINFORCING STEEL LBS.	PRESTRESSING STEEL LBS.	NO. OF BEAMS REQUIRED
① 16.0	① 2,567	① 1,046	① 1
② 15.7	② 2,544	② 1,025	② 1
③ 16.5	③ 2,608	③ 1,077	③ 1
④ 16.1	④ 2,584	④ 1,053	④ 1

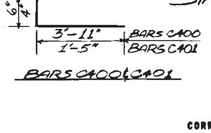
NOTE: COST OF ELASTOMERIC BEARING PAD, 8 DOWEL BARS, AND RUBBER BONDING CEMENT INCLUDED IN THE COST OF PRESTRESSED BEAM.











DESIGNED BY W. PETRONE DATE 5/78
DRAWN BY C.L. FERGUSON DATE 9/78
SUPERVISED BY HORROCKS & ER HARBISON DATE 2/78
CHECKED BY J. MAXWELL & KNOWLES DATE 9/78

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

PRESTRESSED BOX BEAMS LEFT & RIGHT LANES INTERSTATE 40 OVER STATE ROUTE 24 AND L&N RAILROAD

STATION 735+77.04
CUMBERLAND COUNTY
1979

CORRECT Clifton L. Lovell, ENGINEER OF STRUCTURES
APPROVED David Evans, DIRECTOR OF HIGHWAYS

M-76-103

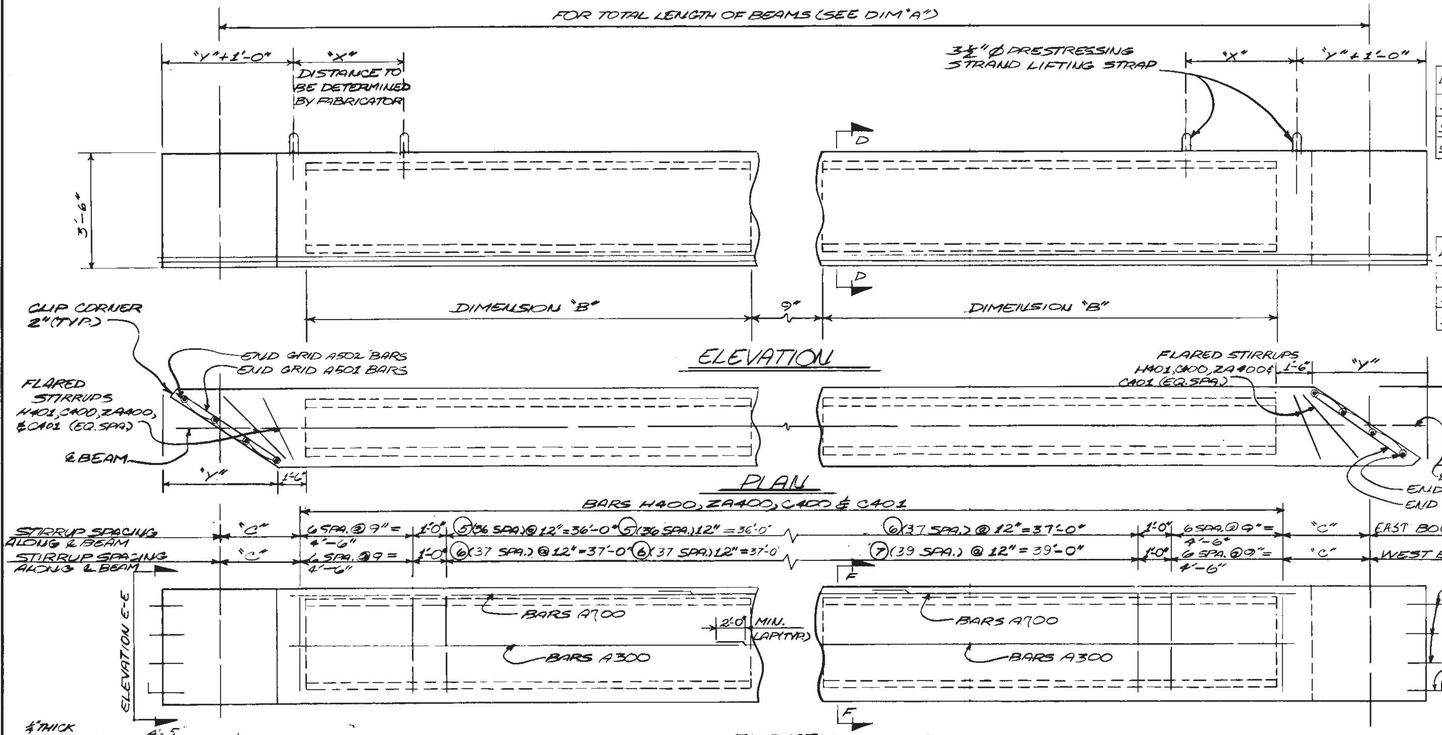
MICROFILMED

CONSTRUCTION NO. 18001-3147-44

PROJECT NO.	YEAR	SHEET NO.
I-40-6(11)304	1979	

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
1	9-18-79	HMB	Dimensions
2	10-2-79	HMB	Add Bars A700
3	10-18-79	JES	Title



NOTE: FOR BEAMS OF SPAN 3, STIRRUP PROJECTION SHOULD VARY FROM 5" TO 12".

TABLE OF DIMENSIONS

Location	DIMENSIONS "A" BEAMS	DIMENSIONS "A" RIGHT LANE	DIMENSIONS "A" BEAMS	DIMENSIONS "A" LEFT LANE	DIMENSIONS "B" BEAMS	DIMENSIONS "B" RIGHT LANE	DIMENSIONS "B" BEAMS	DIMENSIONS "B" LEFT LANE
SPAN 3	(5)	50'-9⅛"	(6)	52'-1"	(5)	21'-10 13/16"	(6)	22'-5¾"
SPAN 4	(5)	50'-9⅛"	(6)	52'-1"	(5)	21'-11⅝"	(6)	22'-6⅛"
SPAN 5	(6)	52'-1"	(7)	53'-5"	(6)	22'-7⅜"	(7)	23'-2½"

Location	DIMENSIONS "C" BEAMS	DIMENSIONS "C" RIGHT LANE	DIMENSIONS "C" BEAMS	DIMENSIONS "C" LEFT LANE	DIMENSION "Y" BEAMS	DIMENSION "Y" RIGHT LANE	DIMENSION "Y" BEAMS	DIMENSION "Y" LEFT LANE
SPAN 3	(5)	1'-10⅜"	(6)	2'-0½"	(5)	3'-2½"	(6)	3'-4⅞"
SPAN 4	(5)	1'-10⅜"	(6)	2'-0½"	(5)	3'-1⅝"	(6)	3'-3⅛"
SPAN 5	(6)	2'-0½"	(7)	1'-8½"	(6)	3'-1⅜"	(7)	3'-2⅝"

BILLS OF STEEL PER BEAM

(5) 50'-9⅛" BEAM

BARS	SIZE	NO. REQ'D	LENGTH
A300	3	4	26'-2"
A500	5	4	26'-5"
A501	5	8	3'-10"
A502	5	8	3'-2"
C400	4	110	3'-8"
C401	4	110	1'-9"
C500	5	12	2'-8"
C600	6	12	2'-8"
H400	4	51	4'-7"
H401	4	4	5'-4"
ZA400	4	110	3'-8"
A700	7	14	14'-0"

(6) 52'-1" BEAM

BARS	SIZE	NO. REQ'D	LENGTH
A300	3	4	26'-11"
A500	5	4	27'-9"
A501	5	8	3'-10"
A502	5	8	3'-2"
C400	4	112	3'-8"
C401	4	112	1'-7"
C500	5	12	2'-8"
C600	6	12	2'-8"
H400	4	52	4'-7"
H401	4	4	5'-4"
ZA400	4	112	3'-8"
A700	7	14	14'-0"

(7) 53'-5" BEAM

BARS	SIZE	NO. REQ'D	LENGTH
A300	3	4	27'-7"
A500	5	4	29'-1"
A501	5	8	3'-11"
A502	5	8	3'-2"
C400	4	116	3'-8"
C401	4	116	1'-7"
C500	5	12	2'-8"
C600	6	12	2'-8"
H400	4	54	4'-7"
H401	4	4	5'-4"
ZA400	4	116	3'-8"
A700	7	14	14'-0"

GENERAL NOTES

NOTE: THE TOP OF ALL BEAMS ARE TO BE ROUGH FLOATED, AT APPROXIMATELY THE TIME OF INITIAL SET, THE TOP OF THE BEAM WILL ALSO BE SCRUBBED TRANSVERSELY WITH A COARSE WIRE BRUSH TO REMOVE ALL LAITANCE AND PRODUCE A ROUGH SURFACE.

NOTE: MILD STEEL REINFORCING SHALL BE ASTM A615 GRADE 60.

NOTE: ALL PRESTRESSING STRANDS TO BE ½"Ø HIGH STRENGTH TYPE 270K OR ASTM GRADE 7 WIRE UNCOATED STRESS-RELIEVED PRESTRESSING STRANDS

NOTE: AN INITIAL FORCE OF 28,910 LBS., SHALL BE APPLIED TO EACH STRAND IN ALL BEAMS.

NOTE: AFTER THE BEAM IS REMOVED FROM THE PRESTRESSING BED, BARS C600 AND C400 SHALL BE BENT A SUFFICIENT AMOUNT SO AS TO PERMIT THE "C" BARS OF ADJOINING BEAM TO MESH WHEN IN THE ERECTED POSITION.

NOTE: THE PRESTRESSING STRANDS SHALL BE LEFT PROJECTING 3" ± FROM THE ENDS OF THE BEAMS. THERE SHALL NOT BE ANY PROTECTIVE COATING PLACED ON THE ENDS OF THE PROJECTING STRANDS.

NOTE: ELASTOMERIC PADS TO BE 4'-7⅛"x6"x 1⅛" "WITH 1-1/4"x3" SLOT "AT ABUTMENT ENDS AND 4'-7⅛"x11-9"x1" WITH 1-1/4"Ø HOLES AT BENTS.

NOTE: THE CONCRETE FOR THIS CONSTRUCTION SHALL BE OF SUCH PROPERTIES AS TO ATTAIN A COMPRESSIVE STRENGTH OF NOT LESS THAN (6000 ± 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 (4,000 ± 230. SEE LAYOUT SHEET FOR CONCRETE FINISHING NOTE.

NOTE: 1" Ø WEEP HOLES REQUIRED AT LOW POINT OF EACH CELL.

NOTE: EACH CELL SHALL BE VENTED DURING THE FABRICATION PHASE IN SUCH A MANNER SO AS NOT TO ALLOW EXTERNAL WATER TO ENTER THE CELL

ESTIMATED QUANTITIES PER BEAM

CONCRETE CLASS A C.Y.	REINFORCING STEEL LBS	PRESTRESSING STEEL LBS.	NO. OF BEAMS REQUIRED
(5) 10.2	(5) 1,527	(5) 453	(5) 2
(6) 10.5	(6) 1,550	(6) 465	(6) 3
(7) 10.7	(7) 1,589	(7) 477	(7) 1

NOTE: COST OF ELASTOMERIC BEARING PADS, AND 8 DOWEL BARS, AND RUBBER BONDING CEMENT INCLUDED IN THE COST OF PRESTRESSED BEAM.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

PRESTRESSED BOX-BEAMS LEFT & RIGHT LANES WIDENING OF INTERSTATE 40 OVER STATE ROUTE 24 ℄

STATION 734+77.04
CUMBERLAND COUNTY
1979

DESIGNED BY W. PETRONIS DATE 5/78
DRAWN BY G.W. FERGUSON DATE 6/78
SUPERVISED BY H. R. BROOKS & R. HARRISON DATE 5/78
CHECKED BY J. MAXWELL & G. JONES DATE 6/78

CORRECT Edelon L. Fowell
ENGINEER OF STRUCTURES
APPROVED Lewis Evans
DIRECTOR OF HIGHWAYS

M-76-104

MICROFILMED

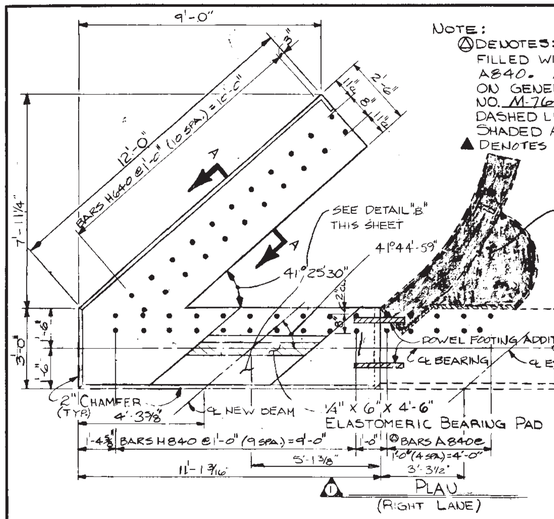
CONST. NO. 18001-3147-44

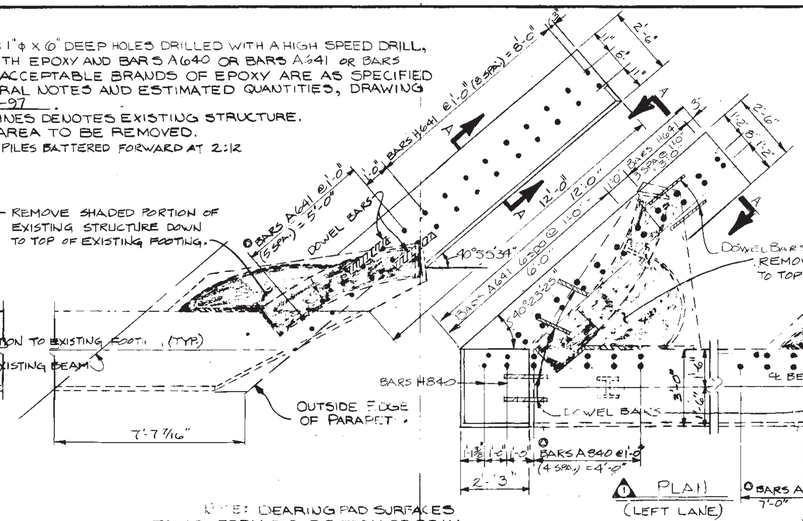
PROJECT NO.	YEAR	SHEET NO.
I-40-6(77)304	1979	

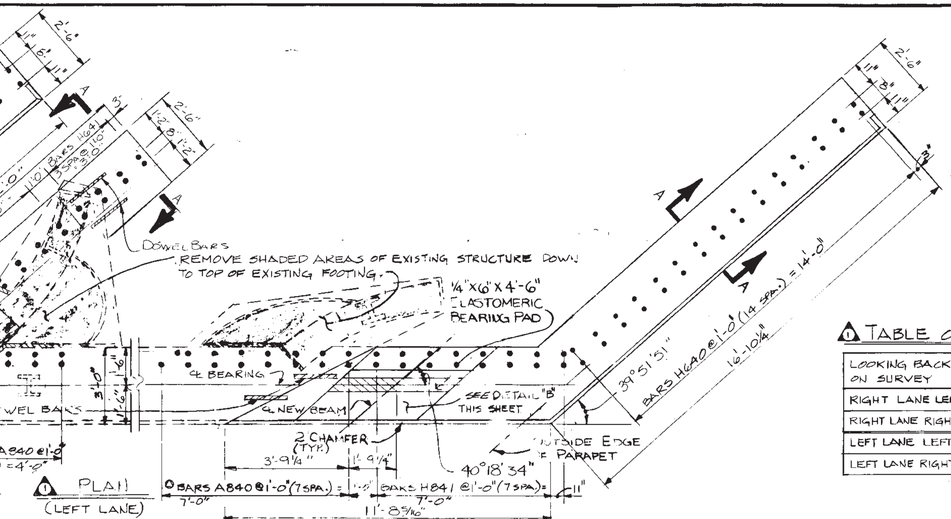
REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
1	9-18-79	HMB	Dimensions, Angles, Elevations
2	10-18-79	JES	Title

NOTE:
Ⓐ DENOTES: 1"ϕ x 6" DEEP HOLES DRILLED WITH A HIGH SPEED DRILL, FILLED WITH EPOXY AND BARS A640 OR BARS A841 OR BARS A840. ACCEPTABLE BRANDS OF EPOXY ARE AS SPECIFIED ON GENERAL NOTES AND ESTIMATED QUANTITIES, DRAWING NO. M-76-97
DASHED LINES DENOTES EXISTING STRUCTURE.
SHADED AREA TO BE REMOVED.
▲ DENOTES PILES BATTERED FORWARD AT 2:12



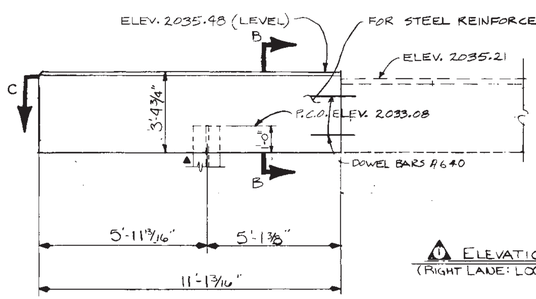




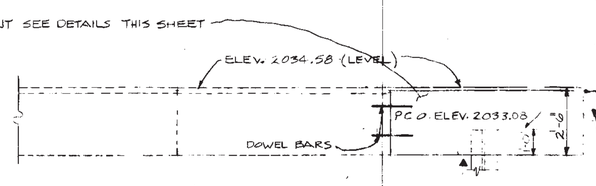
Ⓐ TABLE OF DIMENSIONS

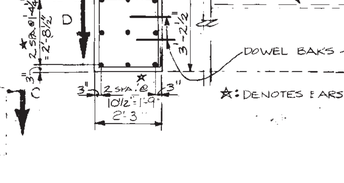
LOOKING BACK ON SURVEY	DIM. "A"	DIM. "B"	DIM. "C"	DIM. "D"
RIGHT LANE LEFT	3'-4¾"	1'-5⅞"	1'-9⅞"	1'-9⅛"
RIGHT LANE RIGHT	2'-0"	1'-0"	1'-4⅛"	N/A
LEFT LANE LEFT	3'-2½"	1'-4⅛"	1'-8⅜"	1'-8⅝"
LEFT LANE RIGHT	2'-6"	1'-0"	1'-4⅛"	1'-4½"

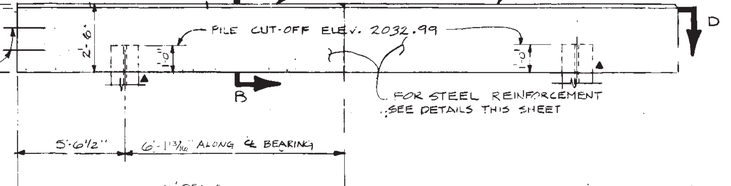
NOTE: BEARING PAD SURFACES TO CONFORM TO BOTTOM OF BEAM GRADE



Ⓐ ELEVATION
(RIGHT LANE: LOOKING BACK ON SURVEY)

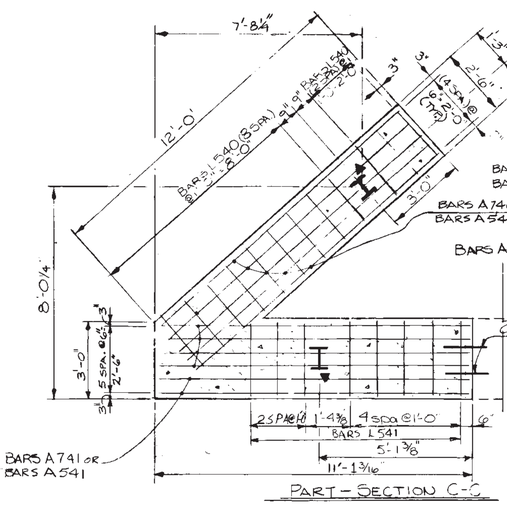




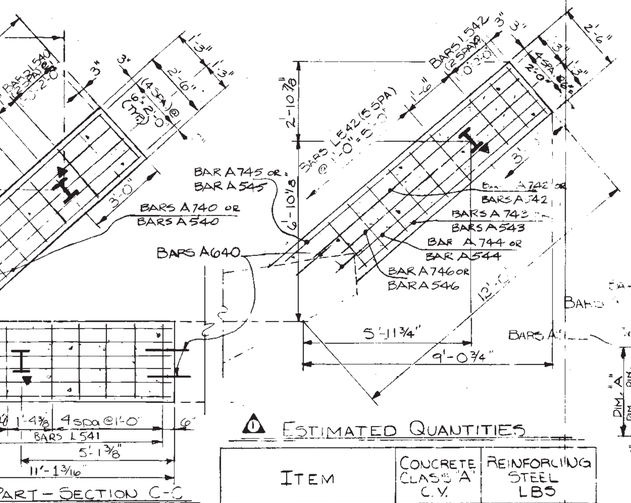


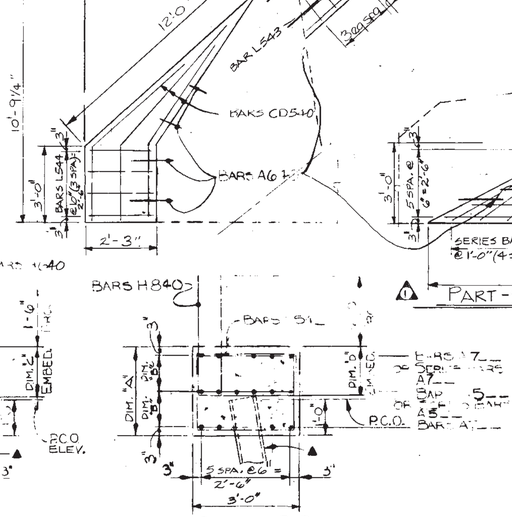
Ⓐ ELEVATION
(LEFT LANE: LOOKING BACK ON SURVEY)

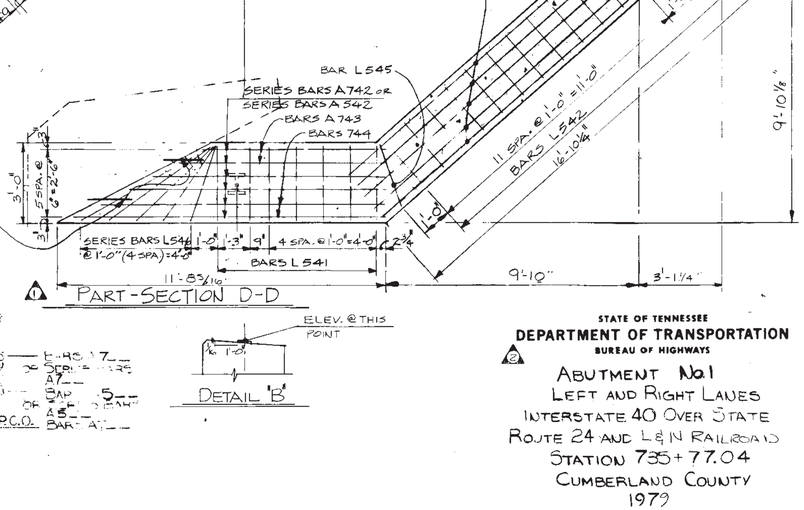
NOTE: COST OF BRIDGE RAIL AND POST TO BE INCLUDED IN THE COST OF BRIDGE RAIL SYSTEM.
– – – – DASHED LINES DENOTE EXISTING STRUCTURE



PART-SECTION C-C





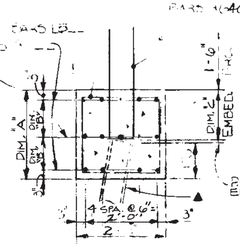


PART-SECTION D-D

DETAIL 'B'

Ⓐ ESTIMATED QUANTITIES

ITEM		CONCRETE CLASS "A" C.Y.	REINFORCING STEEL LBS
ABUT. No. 1	RIGHT LANE	9.4	1606
	LEFT LANE	9.7	1610



SECTION A-A
▲ BATTER PILES FORWARD 2:12

SECTION B-B
▲ BATTER PILES FORWARD 2:12

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
Ⓐ BUREAU OF HIGHWAYS

ABUTMENT No. 1
LEFT AND RIGHT LANES
INTERSTATE 40 OVER STATE ROUTE 24 AND L&N RAILROAD
STATION 735+77.04
CUMBERLAND COUNTY
1979

DESIGNED BY W. PETRONE DATE
DRAWN BY PEGGY JACKSON DATE 5-78
SUPERVISED BY R.L. H.E. H.M.B. DATE 6-78
CHECKED BY SUMMERS DATE 9-78

CORRECT Clellon L Loasell ENGINEER OF STRUCTURES
APPROVED David Evans DIRECTOR OF HIGHWAYS

M-76-105

MICROFILMED

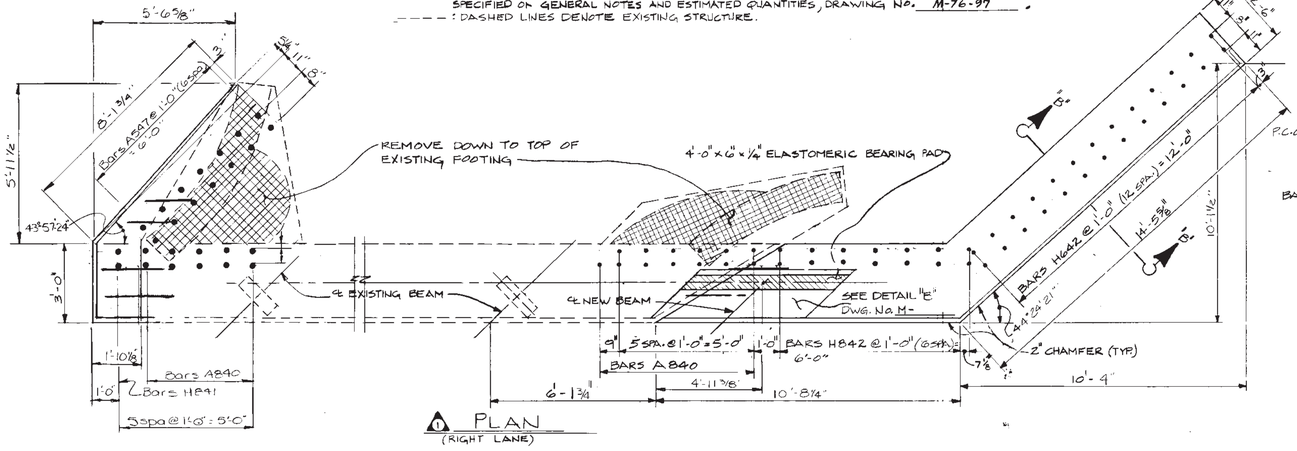
CONST. NO. 18001-3147-44

PROJECT NO.	YEAR	SHEET NO.
I-40-6(77)304	1979	

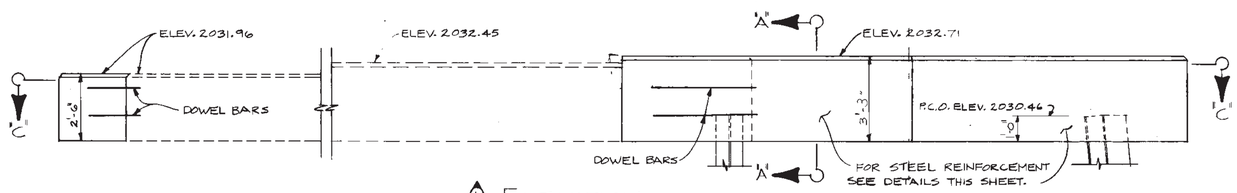
REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
1	9-18-79	HMB	Dimensions, Angles, Quantities
2	10-15-79	JES	Title

* NOTE:
DENOTES 1"φ x 6" DEEP HOLES DRILLED WITH A HIGH SPEED DRILL, FILLED WITH EPOXY AND BARS A 540 OR BARS A 642 OR BARS A 840. ACCEPTABLE BRANDS OF EPOXY ARE AS SPECIFIED ON GENERAL NOTES AND ESTIMATED QUANTITIES, DRAWING NO. M-76-97.
- - - - : DASHED LINES DENOTE EXISTING STRUCTURE.

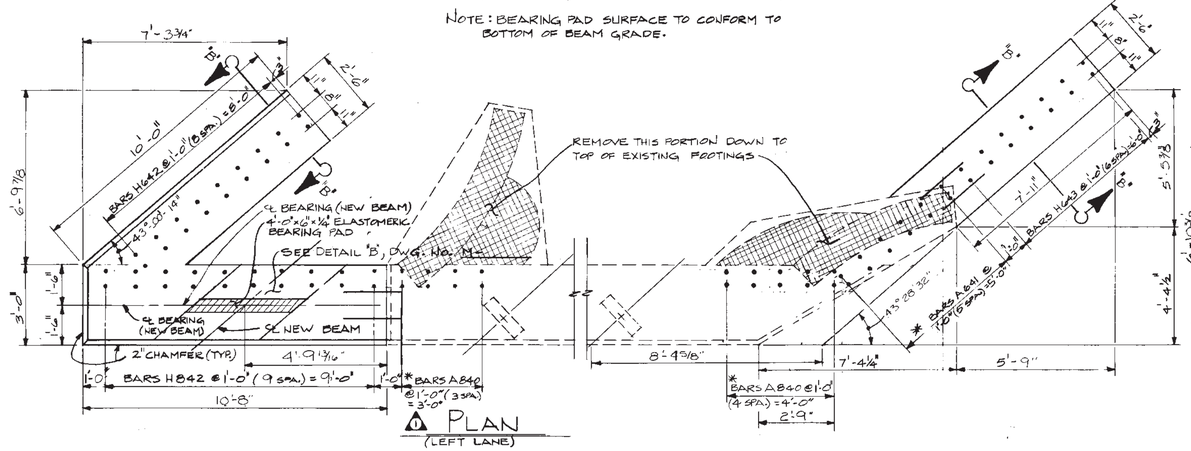


① PLAN
(RIGHT LANE)



① ELEVATION
(RIGHT LANE, LOOKING FORWARD ON SURVEY)

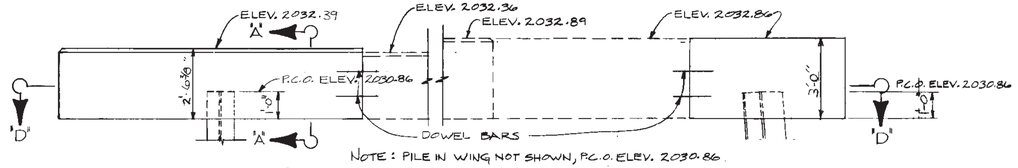
NOTE: BEARING PAD SURFACE TO CONFORM TO BOTTOM OF BEAM GRADE.



① PLAN
(LEFT LANE)

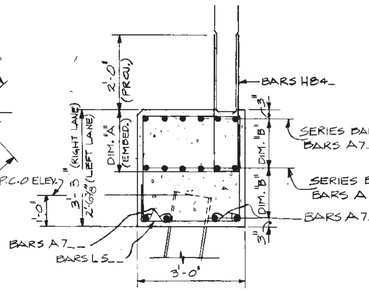
① TABLE OF DIMENSIONS

LOOKING FORWARD ON SURVEY	DIM. 'A'	DIM. 'B'	DIM. 'C'
RIGHT LANE RIGHT	1'-8 1/2"	1'-4 1/2"	1'-8 1/4"
LEFT LANE LEFT	1'-4 5/8"	1'-0 3/4"	1'-4 3/8"
LEFT LANE RIGHT	N/A	1'-3"	1'-7 1/8"

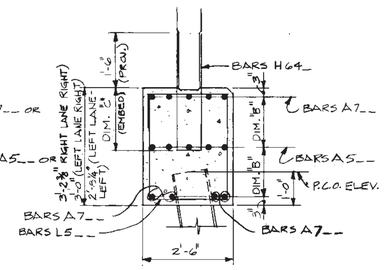


NOTE: PILE IN WING NOT SHOWN, P.C.O. ELEV. 2030.86.

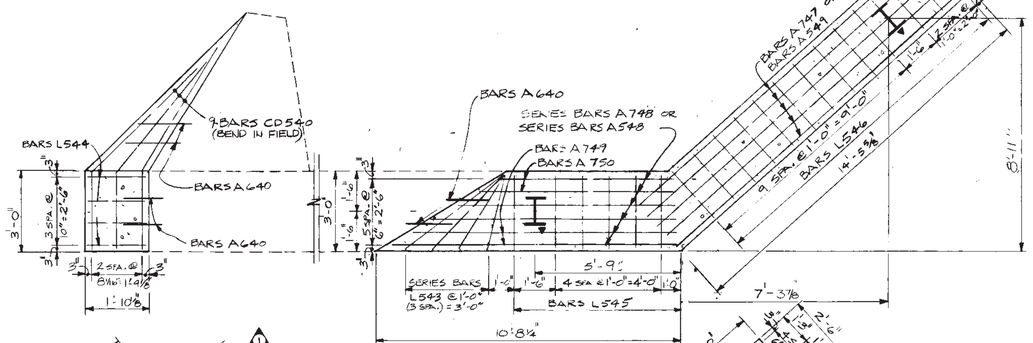
① ELEVATION
(LEFT LANE, LOOKING FORWARD ON SURVEY)



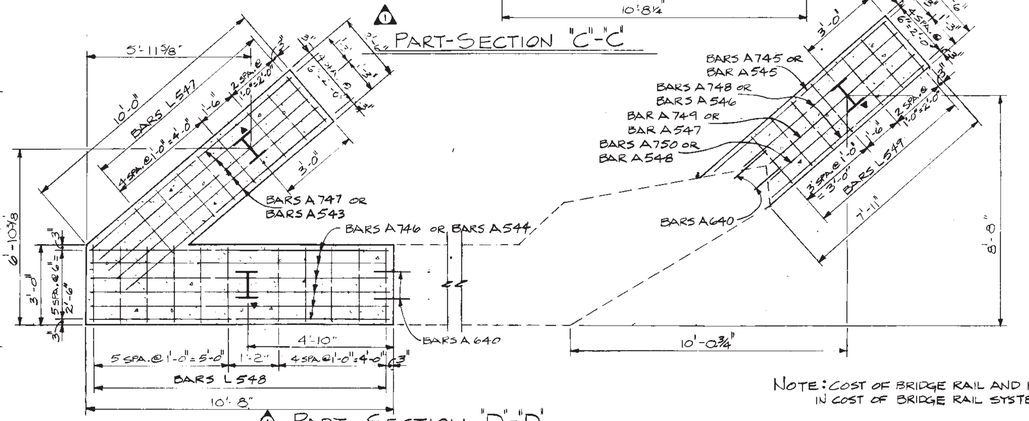
① SECTION "A"-"A"



① SECTION "B"-"B"



① PART-SECTION "C"-"C"



① PART-SECTION "D"-"D"

NOTE: COST OF BRIDGE RAIL AND POST IS TO BE INCLUDED IN COST OF BRIDGE RAIL SYSTEM.

▲: DENOTES PILES BATTERED FORWARD @ 2:12

① ESTIMATED QUANTITIES

ITEM		CLASS "A" CONC. C.Y.	REINFORCING STEEL LBS.
ABUTMENT No. 2	RIGHT LANE	8.4	1484
	LEFT LANE	7.8	1508

② STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

ABUTMENT No. 2
WIDENING OF RIGHT AND LEFT LANES
INTERSTATE 40 OVER STATE ROUTE 24
AND L&N RAILROAD
STATION 785+77.04
CUMBERLAND COUNTY
1979

DESIGNED BY PETRONE DATE 4-78
DRAWN BY T. DAPY DATE 6-78
SUPERVISED BY H.M.B. & R.L.H. DATE 6-78
CHECKED BY SUMMERS DATE 9-78

CORRECT Clinton L. Lovell
ENGINEER OF STRUCTURES
APPROVED Louis Evans
DIRECTOR OF HIGHWAYS

M-76-106

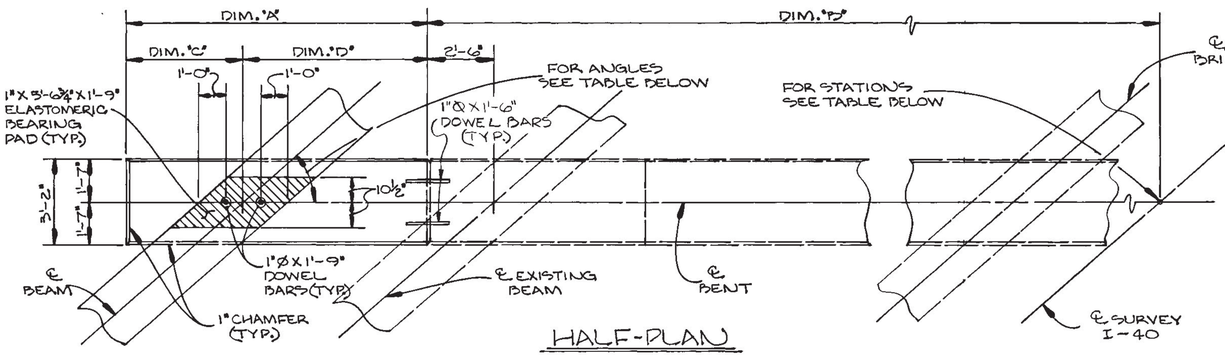
MICROFILMED

CONST. NO. 18001-3147-44

PROJECT NO.	YEAR	SHEET NO.
I-40-6(77)304	1979	

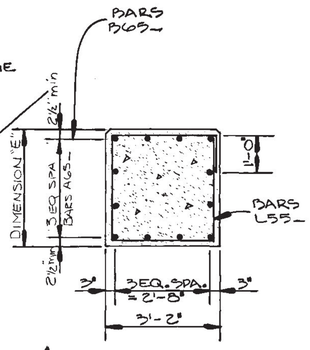
REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
1	8-20-79	HMB	General Rev. & Quantities
2	10-18-79	JES	Title
3	11-28-79	HMB	Cross Wall
4	4-21-80	HMB	Steel Qts

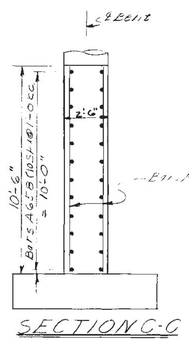


HALF-PLAN

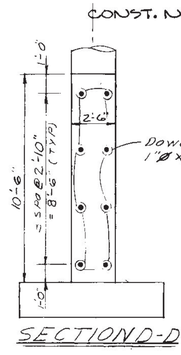
NOTE: DASHED LINES DENOTES EXISTING STRUCTURE.



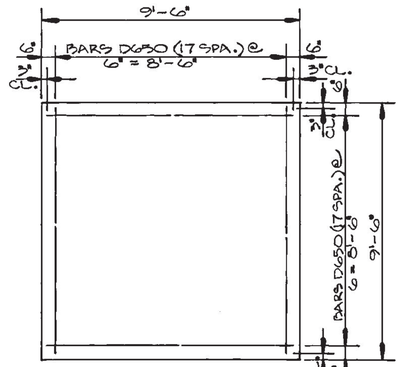
1 SECTION A-A (TYPICAL)



SECTION C-C

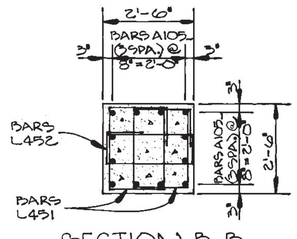


SECTION D-D



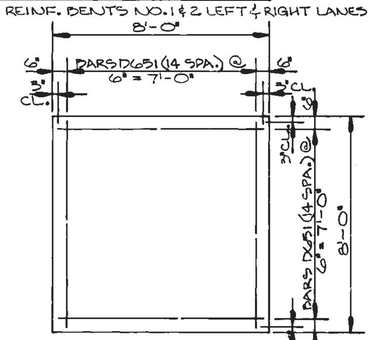
PLAN OF FOOTING

SHOWING REINF. BENTS NO. 1 & 2 LEFT & RIGHT LANES



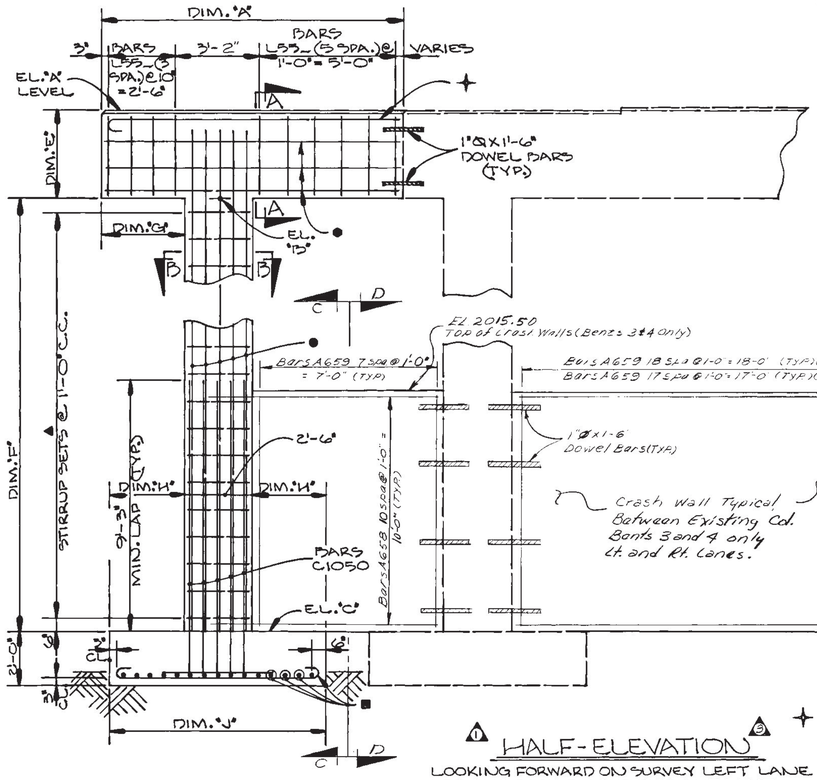
SECTION B-B

BENTS NO. 3 & 4 LEFT & RIGHT LANES



PLAN OF FOOTING

SHOWING REINF. BENTS NO. 3 & 4 LEFT & RIGHT LANES

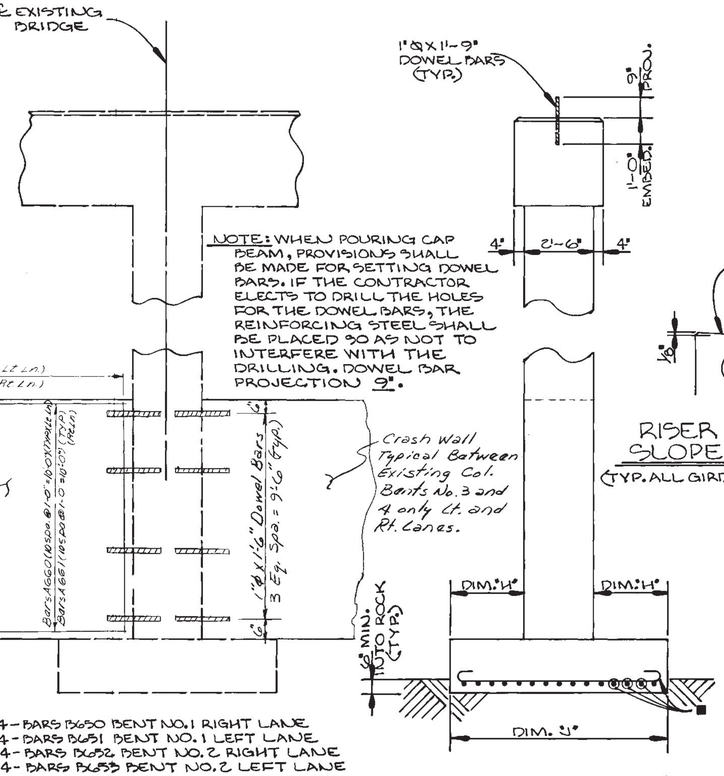


1 HALF-ELEVATION 3

LOOKING FORWARD ON SURVEY LEFT LANE
LOOKING BACK ON SURVEY RIGHT LANE

NOTE: COLUMN STEEL TO EXTEND A MINIMUM OF 2'-6" INTO CAP BEAM.

- 8 - Bars A650 Bent No. 1 Right Lane
- 8 - Bars A651 Bent No. 1 Left Lane
- 8 - Bars A652 Bent No. 2 Right Lane
- 8 - Bars A653 Bent No. 2 Left Lane
- 8 - Bars A654 Bent No. 3 Right Lane
- 8 - Bars A655 Bent No. 3 Left Lane
- 8 - Bars A656 Bent No. 4 Right Lane
- 8 - Bars A657 Bent No. 4 Left Lane



RISER BLOCK SLOPE DETAIL

(TYP. ALL GIRDERS LT. & RT. LANES)

SECTION B-B

BENTS NO. 1 & 2 LEFT & RIGHT LANES

- 16 - Bars A1050 Bent No. 1 Right Lane
- 16 - Bars A1051 Bent No. 1 Left Lane
- 16 - Bars A1051 Bent No. 2 Right Lane
- 16 - Bars A1052 Bent No. 2 Left Lane
- 16 - Bars A1053 Bent No. 3 Right Lane
- 16 - Bars A1054 Bent No. 3 Left Lane
- 16 - Bars A1055 Bent No. 4 Right Lane
- 16 - Bars A1056 Bent No. 4 Left Lane

NOTE: CAP BEAM BEARING PAD SURFACE TO CONFORM TO BOTTOM OF BEAM GRADE.

- Bars D650 Bents No. 1 & 2 Left & Right Lanes
- Bars D651 Bents No. 3 & 4 Left & Right Lanes

✦ 4 - Bars B650 Bent No. 1 Right Lane
4 - Bars B651 Bent No. 1 Left Lane
4 - Bars B652 Bent No. 2 Right Lane
4 - Bars B653 Bent No. 2 Left Lane
4 - Bars B654 Bent No. 3 Right Lane
4 - Bars B655 Bent No. 3 Left Lane
4 - Bars B656 Bent No. 4 Right Lane
4 - Bars B657 Bent No. 4 Left Lane

END ELEVATION

1 TABLE OF STATIONS, ANGLES, DIMENSIONS & ELEVATIONS

BENT	STATIONS	ANGLES	DIMENSIONS "A"	"D"	"C"	"D"	"E"	"F"	"G"	"H"	"J"	ELEVATIONS "A"	"B"	"C"
*1-R.L.	786+51.29	42° 27' 03"	11' 9 1/16"	86' 7 9/16"	4'-4"	7' 5 7/16"	4' 2 7/16"	25' 7 7/16"	3'-1"	3'-6"	9'-6"	2034.82	2030.62	2005.00
*1-L.L.		41° 02' 48"	12' 0 5/8"	87' 8 7/8"	4'-4"	7' 8 5/8"	3'-3"	25' 8 3/4"	3'-1"	3'-6"	9'-6"	2033.98	2030.73	2005.00
*2-R.L.	787+23.04	43° 03' 27"	11' 7 1/16"	85' 6 1/8"	4'-4"	7' 3 1/16"	3' 10 7/16"	25' 2 1/4"	3'-1"	3'-6"	9'-6"	2034.04	2030.19	2005.00
*2-L.L.		41° 41' 00"	11' 10 7/8"	86' 6 1/16"	4'-4"	7' 6 1/16"	3'-0"	25' 9 7/16"	3'-1"	3'-6"	9'-6"	2033.37	2030.37	2005.00
*3-R.L.	787+75.54	43° 39' 13"	11' 6 1/16"	84' 8 5/16"	4'-4"	7' 2 1/16"	3' 9 7/8"	25' 4 7/16"	3'-1"	2'-9"	8'-0"	2034.16	2030.36	2005.00
*3-L.L.		42° 13' 17"	11' 9 1/16"	85' 7 1/16"	4'-4"	7' 5 1/16"	3'-0"	25' 7 7/16"	3'-1"	2'-9"	8'-0"	2033.61	2030.61	2005.00
*4-R.L.	788+28.04	44° 05' 00"	11' 5 9/16"	83' 10 7/8"	4'-4"	7' 1 5/8"	3' 9 3/8"	24' 8 1/4"	3'-1"	2'-9"	8'-0"	2033.47	2029.69	2005.00
*4-L.L.		42° 45' 32"	11' 8 3/16"	84' 9 1/16"	4'-4"	7' 4 3/8"	3'-0"	25' 0 5/8"	3'-1"	2'-9"	8'-0"	2033.03	2030.03	2005.00

1 2 ESTIMATED QUANTITIES

BENT	CONCRETE CLASS "A" C.Y.	REINFORCING STEEL LBS.
* 1 - R.L.	18.2	4,145
* 1 - L.L.	17.2	4,063
* 2 - R.L.	17.6	4,070
* 2 - L.L.	16.8	4,016
* 3 - R.L.	64.6	6,036
* 3 - L.L.	64.8	6,107
* 4 - R.L.	63.9	5,996
* 4 - L.L.	64.1	6,060

4 CORRECT Clellon L Lovell
ENGINEER OF STRUCTURES

APPROVED Lewis Evans
DIRECTOR OF HIGHWAYS

DESIGNED BY W. PETRONE DATE APR. 79
DRAWN BY G. JONES DATE MAY 79
SUPERVISED BY R.L.H. & H.M.B. DATE MAY 79
CHECKED BY SUMMERS DATE 9-78

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

BENTS NO. 1, 2, 3 & 4 LEFT & RIGHT LANES WIDENING OF INTERSTATE 40 OVER STATE ROUTE 24 & L&N RAILROAD STATION 785+77.04 CUMBERLAND COUNTY 1979

M-76-107

MICROFILMED

CONST. NO 18001-3147-44

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO	FISCAL YEAR	SHEET NO	TOTAL SHEETS
3	TENN.	I 40-6(7)304	1979		

BILL OF STEEL

LEFT LANE

SUPERSTRUCTURE

Bar	Location	Size	No. Reqd.	A	B	C	D	Length
A400	SLAB	4	147					4'-0"
A401	SLAB & W WALL	4	164					4'-2"
SER	SLAB	4	1	LENGTH VARIES				2'-8"
A402	FROM 3'-8¾" TO 1'-6½" IN INC.							
—	OF 5¼" (6 BARS)							
SER	SLAB	4	1	LENGTH VARIES				15'-10"
A403	FROM 3'-7¼" TO 1'-7½" IN INC.							
-	OF 4¾" (6 BARS)							
A404	WING WALL	4	11					5'-1"
A405	SLAB	4	305					2'-8"
A406	WING WALL	4	5					12'-0"
A407	WING WALL	4	6					4'-3"
A408	SUPPORT B.	4	1					7'-3"
A409	SUPPORT B.	4	1					4'-4"
A410	END WALL	4	10					5'-7"
SER	END WALL	4	1	LENGTH VARIES				77'-4"
A411	4'-8" TO 5'-0" IN INC. OF 1/4" (16 BARS)							
A412	ROADWAY BRKT	4	1					14'-1"
A413	END WALL	4	10					13'-9"
A414	SUPPORT BRKT.	4	1					13'-11"
A415	WING WALL	4	15					4'-8"
A416	WING WALL	4	9					3'-10"
A417	WING WALL	4	4					10'-0"
A418	SUPPORT BRKT.	4	1					8'-7"
A419	ROADWAY BRKT.	4	1					13'-4"
A420	END WALL	4	8					14'-8"
SER	END WALL	4	1	LENGTH VARIES				59'-11"
A421	FROM 3'-11" TO 4'-0⅞" IN INC. OF 1/8" (15 BARS)							
SER	END WALL	4	1	LENGTH VARIES				21'-2"
A422	FROM 4'-3⅛" TO 4'-0⅞" IN INC. OF 9/16" (5 BARS)							
A423	ROADWAY BRKT	4	1					4'-1"
A424	END WALL	4	8					6'-0"
A425	SUPPORT BRKT	4	1					12'-0"
SER	END WALL	4	1	LENGTH VARIES				29'-8"
A427	FROM 4'-10¼" TO 5'-0" IN INC. OF 1/4" (6 BARS)							
A500	SLAB	5	200					30'-0"
A501	SLAB	5	20					19'-6"
A502	SUPPORT DIAPH	5	34					10'-7"
A600	SLAB	6	659					4'-9"
A601	SLAB	6	1300					10'-10"
SER	SLAB	6	1	LENGTH VARIES				15'-8"
A602	FROM 3'-7¼" TO 1'-7½" IN INC. OF 4¾" (6 BARS)							
SER	SLAB	6	2	LENGTH VARIES				141'-3"
A603	10'-5¼" TO 1'-4" IN INC. OF 4¾" (24 BARS)							
A604	WING WALL	6	11					5'-1"
SER	END WALL	6	1	length varies from				77'-4"
A605	4'-8" to 5'-8" in inc of 1/4" (16 Bars)							
A606	ENDWALL	6	8					1'-6"
A607	WING WALL	6	15					4'-8"
A608	WING WALL	6	9					3'-10"
SER	END WALL	6	1	LENGTH VARIES FROM				59'-11"
A609	FROM 3'-11" TO 4'-0⅞" (INC ⅛) (15 BARS)							
SER	END WALL	6	1	LENGTH VARIES				21'-2"
A610	FROM 4'-2½" TO 4'-3⅜" IN INC. 1/8" (5 BARS)							
A611	WING WALL	6	6					4'-3"
A612	WING WALL	6	7					4'-2"
SER	SLAB	6	1	LENGTH VARIES				15'-10"
A613	FROM 1'-6½" TO 3'-8¾" IN INCR. OF 5¼" (6 BARS)							
SER	SLAB	6	2	LENGTH VARIES				126'-5"
A614	FROM 1'-7¾" TO 10'-4¾" IN INCR. OF 5¼" (21 BARS)							
A615	END WALL	6	6					4'-11"
A700	SLAB	7	60					60'-0"
A701	SLAB	7	8					24'-6"
A702	SLAB	7	10					47'-0"
A703	SLAB	7	10					39'-6"
A704		7	20					32'-0"
C600	WING WALL	6	5	10'-2"				11'-1"
C601	WING WALL	6	4	8'-5¾"				9'-5"
CD400	WING WALL	4	5	14'-1"	8"	6¼"		14'-9"
CD401	WING WALL	4	4	11'-10"	8"	6"		12'-6"
CD600	" "	6	5	14'-1"	1'-0"	9⅜"		15'-1"
CD601	" "	6	4	11'-10"	1'-0"	9"		12'-10"
K400	SUPPORT DIAPH	4	6	6"	6"	4'-2⅛"		9'-10"
K401	" "	4	18	6"	6"	3'-5⅞"		8'-4"
A705	Slab	7	4					21'-10"

ABUTMENT NO. 1

Bar	Location	Size	No. Reqd.	A	B	C	D	Length
A540	WING BEAM	5	5					16'-10"
SER.	WING BEAM	5	1	LENGTH VARIES				17'-1"
A541	FROM 2'-10" TO 4'-0" IN INCR. OF 3½" (5 BARS)							
SER.	ABUT. BEAM	5	1	LENGTH VARIES				54'-9"
A542	FROM 6'-8⅜" TO 11'-6½" IN INCR. OF 11⅜" (6 BARS)							
A640	ABUT. & WING BM.	6	16					1'-6"
A641	WING BEAM	6	14					2'-0"
A740	WING BEAM	7	9					16'-10"
SER.	WING BEAM	7	2	LENGTH VARIES				17'-1"
A741	FROM 2'-10" TO 4'-0" IN INCR. OF 3½" (5 BARS)							
SER.	ABUT. BEAM	7	1	LENGTH VARIES				51'-9"
A742	FROM 6'-2⅜" TO 11'-0½" IN INCR. OF 11⅜" (6 BARS)							
A743	ABUT. BEAM	7	2					7'-2"
A744	" "	7	2					11'-0"
A840	ABUT. BEAM	8	26					2'-6"
CD540	WING BEAM	5	9	5'-0"	2'-10"	VAR.		7'-10"
H640	WING BEAM	6	15	8"	2'-11¾"			6'-5"
H641	" "	6	4	8"	3'-2⅞"			7'-0"
H840	ABUT. BEAM	8	2	8"	3'-8⅝"			8'-0"
H841	" "	8	8	8"	3'-5¼"			7'-5"
L540	WING BEAM	5	3	2'-2"	1'-0"	2'-10⅞"		10'-11"
L541	ABUT. BEAM	5	7	2'-8"	1'-0"	2'-3⅜"		10'-9"
L542	WING BEAM	5	15	2'-2"	1'-0"	2'-3⅜"		9'-9"
L543	" "	5	1	2'-3⅜"	1'-0"	2'-10⅞"		11'-2"
L544	ABUT. BEAM	5	4	1'-11"	1'-0"	2'-10⅞"		10'-5"
L545	WING BEAM	5	1	2'-3⅜"	1'-0"	2'-3⅜"		10'-0"
SER.	ABUT. BEAM	5	1	VAR.	1'-0"	2'-3⅜"		58'-7"
L546	"A" VARIES FROM 2'-9" TO 5'-10½" IN INCR. OF 9⅜" (5 BARS)							

ABUTMENT NO. 2

Bar	Location	Size	No. Reqd.	A	B	C	D	Length
A543	WING BEAM	5	5					9'-11"
A544	ABUT. BEAM	5	6					10'-4"
A545	WING BEAM	5	1					8'-6"
A546	" "	5	2					7'-7"
A547	" "	5	1					6'-9"
A548	" "	5	1					7'-1"
A640	ABUT. & WING BM.	6	8					1'-6"
A641	WING BEAM	6	12					2'-0"
A745	WING BEAM	7	2					8'-6"
A746	ABUT. BEAM	7	10					10'-4"
A747	WING BEAM	7	9					9'-11"
A748	" "	7	4					7'-7"
A749	" "	7	1					6'-9"
A750	" "	7	2					7'-1"
A840	ABUT. BEAM	8	18					2'-6"
H642	WING BEAM	6	9	8"	2'-11½"			6'-5"
H643	" "	6	7	8"	3'-1½"			6'-9"
H842	ABUT. BEAM	8	10	8"	3'-5½"			7'-5"
L547	WING BEAM	5	8	2'-2"	1'-0"	2'-4⅛"		9'-10"
L548	ABUT. BEAM	5	12	2'-8"	1'-0"	2'-2"		10'-5"
L549	WING BEAM	5	7	2'-2"	1'-0"	2'-8"		10'-6"

BENT NO. 1

Bar	Location	Size	No. Reqd.	A	B	C	D	Length
A651	CAP BEAM	6	8					11'-6"
A1051	COLUMN	10	16					28'-3"
B651	CAP BEAM	6	4	11'-6"				12'-2"
C1050	FOOTING	10	16	10'-10½"				12'-7"
D650	FOOTING	6	36	9'-0"				10'-4"
L450	COLUMN	4	52	1'-8¼"	1'-0"	2'-2¼"		8'-7"
L550	CAP BEAM	5	10	2'-10"	1'-0"	2'-11"		12'-4"
YB450	COLUMN	4	26	2'-2¼"	8"			3'-2"

BENT NO. 2

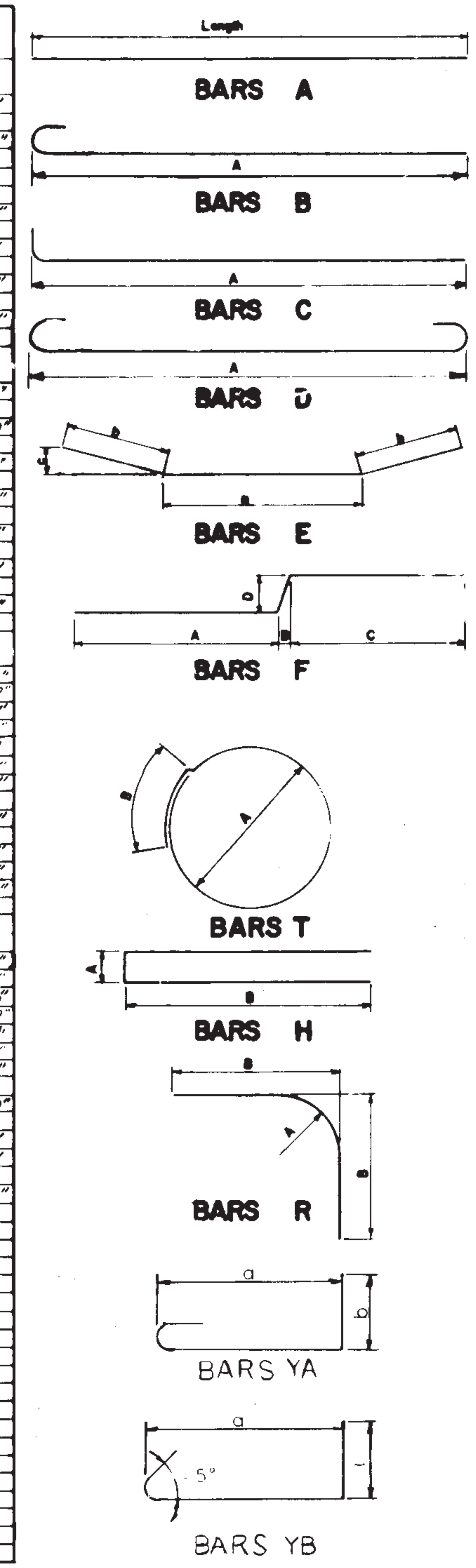
Bar	Location	Size	No. Reqd.	A	B	C	D	Length
A653	CAP BEAM	6	8					11'-6"
A1052	COLUMN	10	16					27'-10"
B653	CAP BEAM	6	4	11'-6"				12'-2"
C1050	FOOTING	10	16	10'-10½"				12'-7"
D650	FOOTING	6	36	9'-0"				10'-4"
L450	COLUMN	4	50	1'-8¼"	1'-0"	2'-2¼"		8'-7"
L551	CAP BEAM	5	10	2'-10"	1'-0"	2'-8"		11'-10"
YB450	COLUMN	4	25	2'-2¼"	8"			3'-2"

BENT NO. 3

Bar	Location	Size	No. Reqd.	A	B	C	D	Length
A655	CAP BEAM	6	8					11'-5"
A658	CRASH WALL	6	22					9'-0"
A1054	COLUMN	10	12					28'-1"
A659	CRASH WALL	6	92					10'-0"
B655	CAP BEAM	6	4	11'-5"				12'-1"
A660	CRASH WALL	6	44					18'-0"
C1050	FOOTING	10	12	10'-10½"				12'-7"
D651	FOOTING	6	30	7'-6"				8'-10"
L451	COLUMN	4	52	1'-6¼"	1'-0"	2'-2¼"		8'-3"
L452	COLUMN	4	26	10¼"	1'-0"	2'-2¼"		6'-11"
L551	CAP BEAM	5	10	2'-10"	1'-0"	2'-8"		11'-10"

BENT NO. 4

Bar	Location	Size	No. Reqd.	A	B	C	D	Length
A657	CAP BEAM	6	8					11'-4"
A658	CRASH WALL	6	22					9'-0"
A1056	COLUMN	10	12					27'-6"
A659	CRASH WALL	6	92					10'-0"
B657	CAP BEAM	6	4	11'-4"				12'-0"
A660	CRASH WALL	6	44					18'-0"
C1050	FOOTING	10	12	10'-10½"				12'-7"
D651	FOOTING	6	30	7'-6"				8'-10"
L451	COLUMN	4	50	1'-6¼"	1'-0"	2'-2¼"		8'-3"
L452	COLUMN	4	25	10¼"	1'-0"	2'-2¼"		6'-11"
L551	CAP BEAM	5	10	2'-10"	1'-0"	2'-8"		11'-10"



RIGHT LANE

SUPERSTRUCTURE

Bar	Location	Size	No. Reqd.	A	B	C	D	Length
A400	SLAB & ENDWALL	4	160					4'-0"
A401	SUPPORT BRKT.	4	1					7'-5"
A402	SLAB	4	153					4'-2"
A403	"	4	298					2'-8"
SER.	"	4	1	LENGTH VARIES				15'-8"
A404	FROM 1'-7½" TO 3'-7¼" IN INCR. OF 4¾" (6 BARS)							
A405	WING WALLS	4	26					4'-9"
SER.	SLAB	4	1	LENGTH VARIES				15'-10"
A406	FROM 1'-6½" TO 3'-8¾" IN INCR. OF 5¼" (6 BARS)							
A407	WING WALLS	4	5					12'-0"
A408	SUPPORT BRKT.	4	1					11'-8"
A409	ENDWALL	4	10					14'-9"
SER.	"	4	1	LENGTH VARIES				69'-8"
A410	FROM 4'-6" TO 4'-9½" IN INCR. OF 1/4" (15 BARS)							
A411	ROADWAY BRKT.	4	1					13'-7"
A412	" "	4	1					4'-3"
A413	SUPPORT BRKT.	4	1					14'-0"
SER.	ENDWALL	4	1	LENGTH VARIES				28'-8"
A414	FROM 4'-8½" TO 4'-10" IN INCR. OF 1/4 (6 BARS)							
A415	ENDWALL	4	10					5'-10"
A416	WING WALL	4	7					3'-11"
A417	" "	4	4					8'-2"
A418	SUPPORT BRKT.	4	1					5'-0"
A419	ENDWALL	4	8					5'-6"
A420	ENDWALL	4	1					3'-10"
SER.	"	4	1	LENGTH VARIES				24'-2"
A421	FROM 4'-0" TO 4'-0¾" IN INCR. OF 1/8" (6 BARS)							
A422	ROADWAY BRKT.	4	1					12'-11"
A423	ENDWALL	4	8					14'-5"
SER.	"	4	1	LENGTH VARIES				55'-0"
A424	FROM 3'-10¼" TO 4'-0" IN INCR. OF 1/8" (14 BARS)							
A500	SLAB	5	200					30'-0"
A501	"	5	10					13'-6"
A502	DIAPHRAGMS	5	34					10'-7"
SER.	ENDWALL	5	1	LENGTH VARIES				24'-2"
A503	FROM 4'-0" TO 4'-0¾" IN INCR. OF 1/8 (6 BARS)							
A504	WING WALL	5	8					4'-0"
A600	SLAB & WING WALL	6	677					4'-9"
A601	SLAB	6	1272					10'-10"
SER.	"	6	1	LENGTH VARIES				15'-10"
A602	FROM 1'-6½" TO 3'-8¾" IN INCR. OF 5¼" (6 BARS)							
SER.	ENDWALL	6	1	LENGTH VARIES				69'-8"
A603	FROM 4'-6" TO 4'-9½" IN INCR. OF 1/4" (15 BARS)							
SER.	SLAB	6	2	LENGTH VARIES				126'-5"
A604	FROM 1'-7¾" TO 10'-4¾" IN INCR. OF 5¼" (21 BARS)							
SER.	SLAB	6	2	LENGTH VARIES				141'-3"
A605	FROM 1'-4" TO 10'-5¼" IN INCR. OF 4¾" (24 BARS)							
A606	ENDWALL	6	4					1'-6"
SER.	"	6	1	LENGTH VARIES				28'-8"
A607	FROM 4'-8½" TO 4'-10" IN INCR. OF 1/4" (6 BARS)							
A608	WING WALL	6	7					3'-11"
A609	" "	6	6					4'-0"
SER.	ENDWALL	6	1	LENGTH VARIES				55'-0"
A610	FROM 3'-10¼" TO 4'-0" IN INCR. OF 1/8" (14 BARS)							
SER.	SLAB	6	1	LENGTH VARIES				15'-8"
A611	FROM 1'-7½" TO 3'-7¼" IN INCR. OF 4¾" (6 BARS)							
A700	SLAB	7	60					60'-0"
A702	"	7	10					47'-0"
A703	"	7	10					39'-6"
A704	"	7	20					32'-0"
A706	"	7	8					16'-6"
A701	"	7	4					18'-6"
C500	WINGWALL	5	4	7'-3"				8'-1"
C600	WINGWALL	6	5	10'-2"				11'-1"

SUPERSTRUCTURE CONT.

Bar	Location	Size	No. Reqd.	A	B	C	D	Length
CD400	WING WALL	4	5	14'-0"	8"	6¼"		14'-8"
CD401	" "	4	4	12'-1"	8"	5⅞"		12'-9"
CD600	WING WALL	6	5	14'-0"	1'-0"	9¼"		15'-0"
CD601	" "	6	4	12'-1"	1'-0"	8⅞"		13'-1"
K400	DIAPHRAGM	4	6	6"	6"	4'-2⅞"		9'-10"
K401	DIAPHRAGMS	4	18	6"	6"	3'-5⅞"		8'-4"

ABUTMENT No. 1

Bar	Location	Size	No. Reqd.	A	B	C	D	Length
A540	WING BEAM	5	5					11'-11"
A541	ABUT. BEAM	5	6					10'-9"
A542	WING BEAM	5	1					10'-1"
A543	" "	5	1					9'-2"
A544	" "	5	1					8'-10"
A545	" "	5	1					11'-0"
A546	" "	5	1					10'-3"
A640	WING & ABUT. BM.	6	8					1'-6"
A641	WING BEAM	6	12					2'-0"
A740	WING BEAM	7	9					11'-11"
A741	ABUT. BEAM	7	10					10'-9"
A742	WING BEAM	7	2					10'-1"
A743	" "	7	2					9'-2"
A744	" "	7	2					8'-10"
A745	" "	7	2					11'-0"
A746	" "	7	1					10'-3"
A840	ABUT. BEAM	8	10					2'-6"
H640	WING BEAM	6	11	8"	3'-3⅜"			7'-2"
H641	" "	6	9	8"	2'-10⅝"			6'-3"
H840	ABUT. BEAM	8	10	8"	3'-10"			8'-2"
L540	WING BEAM	5	12	2'-2"	1'-0"	3'-0"		11'-2"
L541	ABUT. BEAM	5	8	2'-8"	1'-0"	3'-0"		12'-2"
L542	WING BEAM	5	9	2'-2"	1'-0"	2'-2"		9'-6"

ABUTMENT No. 2

Bar	Location	Size	No. Reqd.	A	B	C	D	Length
A547	WING BEAM	5	14					2'-0"
SER.	ABUT. BEAM	5	1	LENGTH VARIES				47'-6"
A548	FROM 5'-10" TO 10'-0" IN INCR. OF 10" (6 BARS)							
A549	WING BEAM	5	5					14'-5"
A640	WING & ABUT. BM.	6	12					1'-6"
A747	WING BEAM	7	9					14'-5"
SER.	ABUT. BEAM	7	1	LENGTH VARIES				47'-6"
A748	FROM 5'-10" TO 10'-0" IN INCR. OF 10" (6 BARS)							
A749	ABUT. BEAM	7	2					10'-0"
A750	" "	7	2					6'-9"
A840	ABUT. BEAM	8	23					2'-6"
CD540	WING BEAM	5	9	5'-4"	2'-10"	VAR.		8'-2"
H642	WING BEAM	6	13	8"	3'-2¼"			6'-11"
H841	ABUT. BEAM	8	2	8"	3'-4"			7'-3"
H842	" "	8	7	8"	3'-8½"			7'-11"
SER.	ABUT. BEAM	5	1	VAR.	1'-0"	2'-11"		59'-3"
L543	"A" VARIES FROM 2'-9¼" TO 5'-5⅛" IN INCR. OF 10⅞" (4 BARS)							
L544	ABUT. BEAM	5	4	1'-6"	1'-0"	2'-2"		8'-2"
L545	" "	5	6	2'-8"	1'-0"	2'-11"		12'-0"
L546	WING BEAM	5	13	2'-2"	1'-0"	2'-11"		11'-0"

BENT NO. 1

Bar	Location	Size	No. Reqd.	A	B	C	D	Length
A650	CAP BEAM	6	8					11'-5"
A1050	COLUMN	10	16					29'-3"
B650	CAP BEAM	6	4	11'-5"				12'-1"
C1050	FOOTING	10	16	10'-10½"				12'-7"
D650	FOOTING	6	36	9'-0"				10'-4"
L450	COLUMN	4	52	1'-8¼"	1'-0"	2'-2¼"		8'-7"
L550	CAP BEAM	5	10	2'-10"	1'-0"	3'-7½"		13'-9"
YB450	COLUMN	4	26	2'-2¼"	8"			3'-2"

BENT No. 2

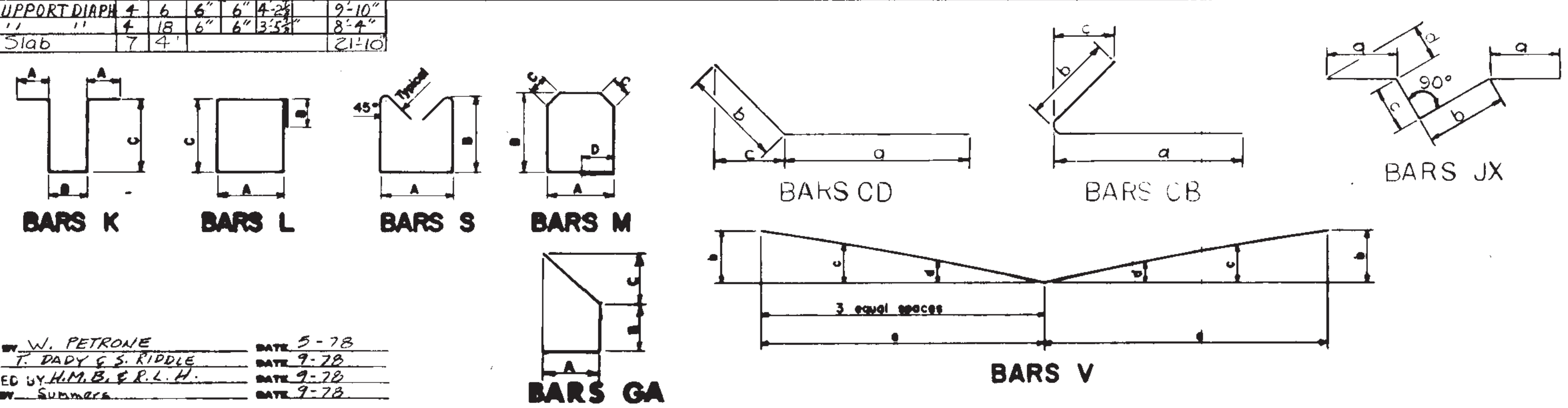
Bar	Location	Size	No. Reqd.	A	B	C	D	Length
A652	CAP BEAM	6	8					11'-3"
A1051	COLUMN	10	16					28'-6"
B652	CAP BEAM	6	4	11'-3"				11'-11"
C1050	FOOTING	10	16	10'-10½"				12'-7"
D650	FOOTING	6	36	9'-0"				10'-4"
L450	COLUMN	4	50	1'-8¼"	1'-0"	2'-2¼"		8'-7"
L551	CAP BEAM	5	10	2'-10"	1'-0"	3'-3½"		13'-1"
YB450	COLUMN	4	25	2'-2¼"	8"			3'-2"

BENT No. 3

Bar	Location	Size	No. Reqd.	A	B	C	D	Length
A654	CAP BEAM	6	8					11'-2"
A658	CRASH WALL	6	22					9'-0"
A1053	COLUMN	10	12					28'-8"
A659	CRASH WALL	6	88					10'-0"
B654	CAP BEAM	6	4	11'-2"				11'-10"
A661	CRASH WALL	6	44					17'-6"
C1050	FOOTING	10	12	10'-10½"				12'-7"
D651	FOOTING	6	30	7'-6"				8'-10"
L451	COLUMN	4	50	1'-6¼"	1'-0"	2'-2¼"		8'-3"
L452	"	4	25	10¼"	1'-0"	2'-2¼"		6'-11"
L551	CAP BEAM	5	10	2'-10"	1'-0"	3'-3"		13'-0"

BENT No. 4

Bar	Location	Size	No. Reqd.	A	B	C	D	Length
A656	CAP BEAM	6	8					11'-1"
A658	CRASH WALL	6	22					9'-0"
A1055	COLUMN	10	12					27'-11"
A659	CRASH WALL	6	88					10'-0"
B656	CAP BEAM	6	4	11'-1"				11'-9"
A661	CRASH WALL	6	44					17'-6"
C1050	FOOTING	10	12	10'-10½"				12'-7"
D651	FOOTING	6	30	7'-6"				8'-10"
L451	COLUMN	4	50	1'-6¼"	1'-0"	2'-2¼"		8'-3"
L452	"	4	25	10¼"	1'-0"	2'-2¼"		6'-11"
L551	CAP BEAM	5	10	2'-10"	1'-0"	3'-3"		13'-0"



REINFORCING STEEL CODE

Type	Size	Series
A	5	06

NOTE: Dimensions shown on this sheet are outside to outside of Bar. Standard C.R.S.I. hook details shall apply, except as noted.

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
1	9-18-79	HMB	GENERAL
2	10-18-79	JES	TITLE
3	11-23-79	HMB	ADD CRASH WALL
4	4-21-80	HMB	Number of Bar A659

DESIGNED BY W. PETRONE DATE 5-78
DRAWN BY T. DADY & S. RIDDLE DATE 9-78
SUPERVISED BY H.M.B. & R.L.H. DATE 9-78
CHECKED BY Summers DATE 9-78

MICROFILMED

STATE OF TENNESSEE
③ ② ① DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

BILL OF STEEL
WIDENING OF RIGHT AND LEFT LANES
I-40 OVER STATE ROUTE 24 AND
STATION 785+77.04
CUMBERLAND COUNTY
1979

CORRECT Clellon L. Loveall
ENGINEER OF STRUCTURES
APPROVED Lewis Evans
DIRECTOR OF HIGHWAYS

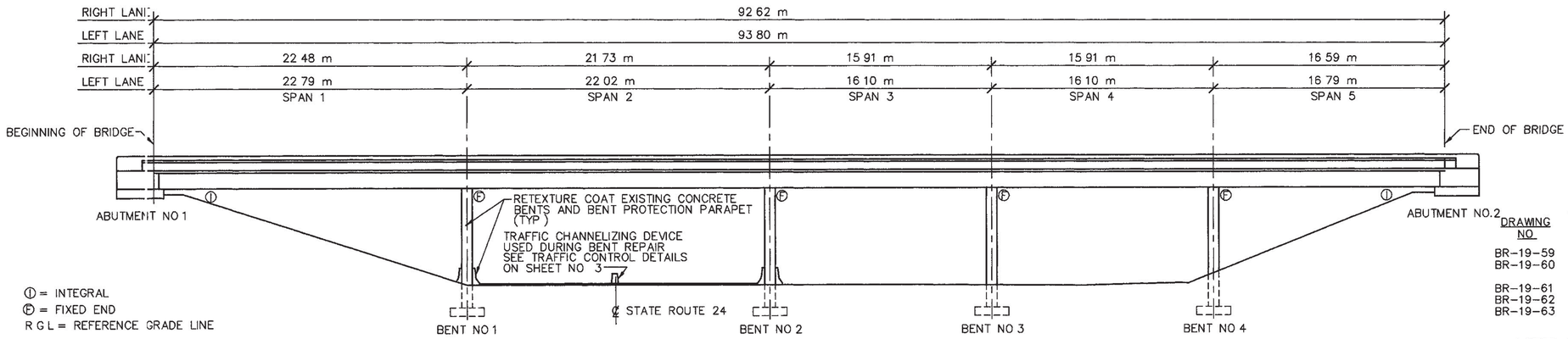
M-76-108

5-0-1

PROJECT NO.	YEAR	SHEET NO.
18001-4191-04	1997	

REVISIONS

NO	DATE	BY	BRIEF DESCRIPTION



ELEVATION

SCALE 5 mm = 1 m

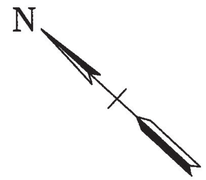
LIST OF DRAWINGS

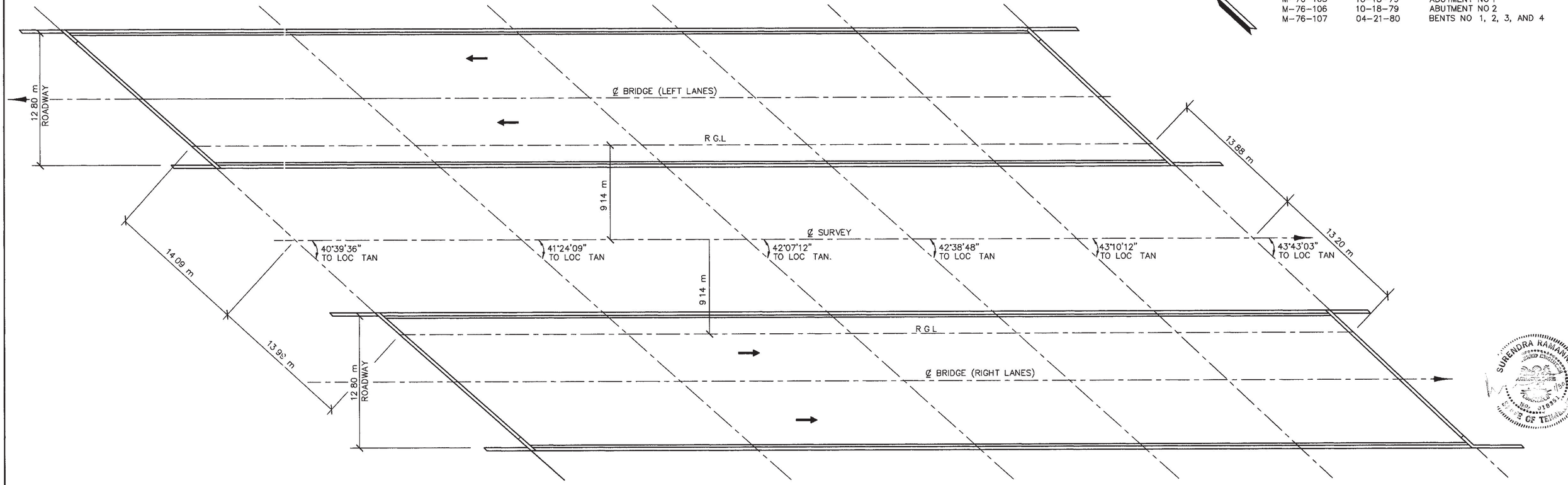
DRAWING NO	LAST REVISION DATE	DESCRIPTION
BR-19-59	----------	LAYOUT OF BRIDGE TO BE REPAIRED
BR-19-60	----------	ESTIMATED BRIDGE QUANTITIES AND GENERAL NOTES
BR-19-61	----------	TYPICAL BRIDGE CROSS SECTIONS
BR-19-62	----------	MISCELLANEOUS REPAIR DETAILS
BR-19-63	----------	CONCRETE SPALLING REPAIR DETAILS

LIST OF REFERENCE DRAWINGS

(TO BE PRINTED WITH PLANS)

DRAWING NO	LAST REVISION DATE	DESCRIPTION
M-76-96	09-04-80	LAYOUT OF BRIDGE WIDENING
M-76-98	08-13-80	SUPERSTRUCTURE
M-76-105	10-18-79	ABUTMENT NO 1
M-76-106	10-18-79	ABUTMENT NO 2
M-76-107	04-21-80	BENTS NO 1, 2, 3, AND 4





PLAN

SCALE 5 mm = 1 m

GENERAL SCOPE OF WORK

1 REPAIR SPALL AREAS AT DESIGNATED SUBSTRUCTURES
2 PATCH BEAM ENDS AT DESIGNATED LOCATIONS
3 RETEXTURE COAT EXISTING CONCRETE BENTS, BENT PROTECTION PARAPETS, CRASHWALLS, AND AREAS OF CONCRETE PATCHING ON ABUTMENTS

TENNESSEE METRIC DOT

ALL DIMENSIONS SHOWN IN METERS UNLESS OTHERWISE NOTED.

TRC INTERNATIONAL, LTD.
CONSULTING ENGINEERS Nashville, Tennessee 37217
ENG. JOB NO. 94139

DESIGNED BY M M GEHRKE DATE AUGUST 1996
DRAWN BY J WELLS, P.D.JACKSON DATE AUGUST 1996
SUPERVISED BY J MASON, S RAMANNA DATE AUGUST 1996
CHECKED BY M M. GEHRKE DATE AUGUST 1996

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

LAYOUT OF BRIDGE TO BE REPAIRED

INTERSTATE 40
OVER
STATE ROUTE 24

BRIDGE NO.18-140-0.23
CUMBERLAND COUNTY
1997

BR-19-59

PROJECT NO.	YEAR	SHEET NO.
18001-4191-04	1997	2

REVISIONS

NO	DATE	BY	BRIEF DESCRIPTION

ESTIMATED BRIDGE QUANTITIES

	ITEM NO.	DESCRIPTION	UNIT	RIGHT LANE	LEFT LANE	TOTAL
(1)	604M04.02	APPLIED TEXTURE FINISH (EXISTING STRUCTURE)	M2	525	525	1050
(2)	604M10.05	CONCRETE	M2	33	99	132
(3)	604M10 54	CONCRETE REPAIRS	M2	1 2	0 8	2

FOOTNOTES

(1) INCLUDES THE COST OF ALL LABOR AND MATEFIALS TO PRESSURE WATER WASH (21 KPa TO 41 KPa PSI) AND RETEXTURE COAT EXISTING CONCRETE BENTS, BENT PROTECTION PARAPET, CRASHWALL, AND AREAS OF CONCRETE PATCHING ON ABUTMENTS FOR DETAILS AND NOTES, SEE DRAWING BR-19-62

(2) INCLUDES THE COST OF ALL LABOR AND MATEFIALS TO REPAIR SPALLED AREAS AT DESIGNATED LOCATIONS WITH HIGH EARLY STRENGTH CONCRETE FOR DETAILS AND NOTES, SEE DRAWING BR-19-63

(3) INCLUDES THE COST OF ALL LABOR AND MATEFIALS TO REPAIR SPALLED AND CRACKED AREAS WITH QUICK-SET PATCHING MATERIAL AT THE LOCATIONS DESIGNATED ON DRAWINGS BR-19-62 AND BR-19-63

GENERAL NOTES

SPECIFICATIONS STANDARD ROAD AND BRIDGE SPECIFICATIONS OF THE TENNESSEE DEPARTMENT OF TRANSPORTATION (MARCH 1, 1995 EDITION)

DESIGN SPECIFICATIONS AASHTO 1992 EDITION WITH ADDENDA

CONCRETE TO BE CLASS "A" CONCRETE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS

HIGH EARLY STRENGTH CONCRETE THE MIX TO MEET THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS, CLASS "A", EXCEPT THE CEMENT CONTENT SHALL BE A MINIMUM OF 324 KG, THE WATER CEMENT RATIO SHALL BE A MAXIMUM OF 0 40, NO FLY ASH REPLACEMENT WILL BE PERMITTED, AND THE MINIMUM 28 DAY COMPRESSIVE STRENGTH SHALL BE 24 MPa ~~TRAFFIC SHALL NOT BE PERMITTED ON ANY OF THE REPAIR AREAS UNTIL TEST SPECIMENS ATTAIN A COMPRESSIVE STRENGTH OF 21 MPa MINIMUM AND THE CONCRETE HAS BEEN IN PLACE A MINIMUM OF TEN (10) DAYS.~~

DEMOLITION: THE CONTRACTOR SHALL TAKE SPECIAL CARE TO PROTECT ANY PARTS OF THE STRUCTURE THAT ARE NOT TO BE REMOVED SPECIFICALLY THE CONTRACTOR IS NOT ALLOWED TO USE A HYDRAULIC RAM MOUNTED ON A BACKHOE (COMMONLY CALLED A HOE RAM) OR OTHER SIMILARLY HEAVY EQUIPMENT FOR CONCRETE REMOVAL PNEUMATIC HAMMERS MAY BE USED TO REMOVE UNSOUND CONCRETE FOR FULL DEPTH OF CONCRETE SLAB REMOVAL EXCEPT OVER BEAMS, THE MAXIMUM HAMMER SIZE IS 41 KG CLASS FOR PARTIAL DEPTH OF CONCRETE SLAB REMOVAL AND ANY WORK OVER BEAMS, THE MAXIMUM HAMMER SIZE IS 27 KG CLASS SAWING OR CUTTING OF THE CONCRETE IS ACCEPTABLE SO LONG AS ANY SPECIFIED PROJECTION OF THE EXISTING REINFORCING STEEL IS MAINTAINED ALL DEVICES PROPOSED FOR CONCRETE DEMOLITION SHALL MEET THE APPROVAL OF THE ENGINEER

CONCRETE CURING ALL CONCRETE IN REPAIR AREAS SHALL BE CURED ACCORDING TO THE STANDARD SPECIFICATIONS

SPECIAL NOTE FOR ROADWAY BELOW. CONTRACTOR SHALL USE EXTREME CARE AND TAKE ANY MEASURE NECESSARY TO INSURE THAT NO DEBRIS IS DROPPED ONTO THE ROADWAY BELOW. ANY DEBRIS WHICH IS ALLOWED TO DROP ONTO THE ROADWAY BELOW THE BRIDGE SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR COST OF REMOVAL AND DISPOSAL OF DEBRIS SHALL BE INCLUDED IN ITEMS BID ON

QUICK-SET PATCHING MATERIAL QUICK-SET PATCHING MATERIAL SHALL BE A POLYMER MODIFIED CEMENTITIOUS PATCHING MATERIAL SUCH AS SIKA TOP 123, MASTERPATCH 230 VP OR APPROVED EQUAL

SURENDRA RAMANNA REGISTERED ENGINEER AGENCY NO. 19615 CERTIFICATE NO. 7-49 STATE OF TENNESSEE

TENNESSEE METRIC DOT

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

ESTIMATED BRIDGE QUANTITIES AND GENERAL NOTES

INTERSTATE 40
OVER
STATE ROUTE 24

BRIDGE NO.18-140-0.23
CUMBERLAND COUNTY
1997

BR-19-60

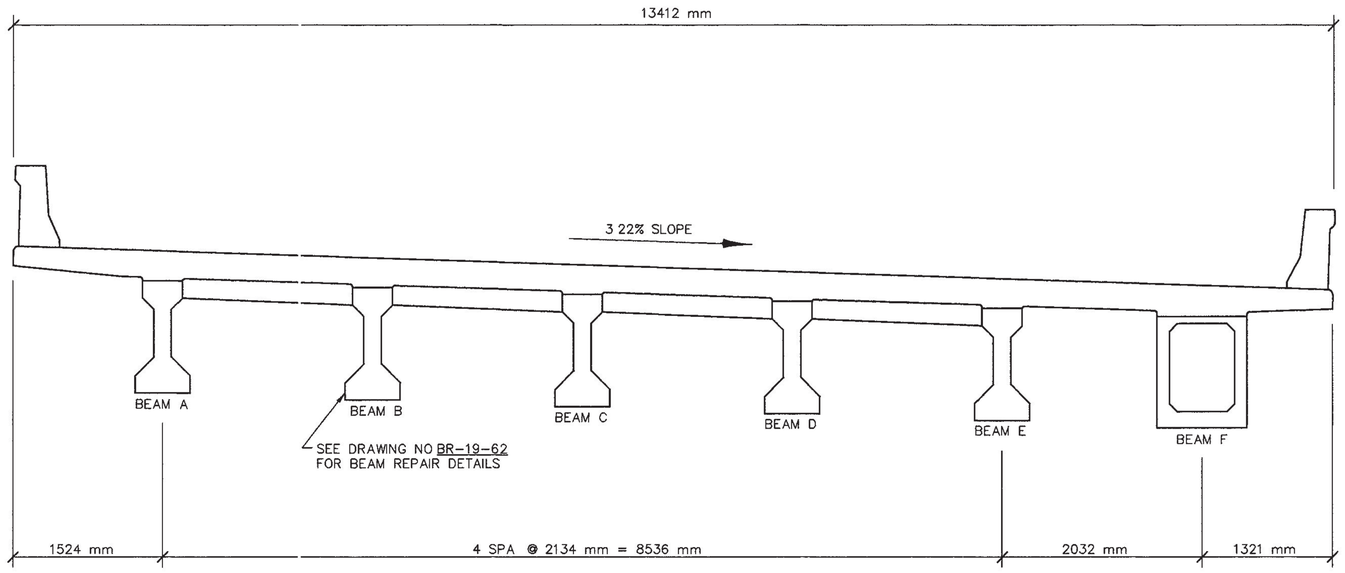
TRC *INTERNATIONAL, LTD.*
CONSULTING ENGINEERS Nashville, Tennessee 37217
ENG. JOB NO. 94139

DESIGNED BY M M GEHRKE DATE AUGUST 1996
DRAWN BY P JACKSON DATE AUGUST 1996
SUPERVISED BY J MASON, S RAMANNA DATE AUGUST 1996
CHECKED BY M M. GEHRKE DATE AUGUST 1996

PROJECT NO.	YEAR	SHEET NO.
18001-4191-04	1997	

REVISIONS

NO	DATE	BY	BRIEF DESCRIPTION



TYPICAL CROSS SECTION

SCALE 30 mm = 1 m
RIGHT LANES LOOKING FORWARD ON SURVEY (EASTBOUND)
LEFT LANES LOOKING BACK ON SURVEY (WESTBOUND)

NOTE:

FOR PHASING DETAILS OVER STATE ROUTE 24,
SEE TRAFFIC CONTROL DETAILS ON SHEET 3



TRC INTERNATIONAL, LTD.
CONSULTING ENGINEERS Nashville, Tennessee 37217
ENG. JOB NO. 94139

DESIGNED BY	M.M GEHRKE	DATE	AUGUST 1996
DRAWN BY	J WELLS	DATE	AUGUST 1996
SUPERVISED BY	J. MASON, S RAMANNA	DATE	AUGUST 1996
CHECKED BY	M.M GEHRKE	DATE	AUGUST 1996

TENNESSEE METRIC DOT

ALL DIMENSIONS SHOWN IN MILLIMETERS, WITH THE EXCEPTION OF STATIONS AND ELEVATIONS, UNLESS OTHERWISE NOTED

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

TYPICAL BRIDGE CROSS SECTIONS

INTERSTATE 40
OVER
STATE ROUTE 24

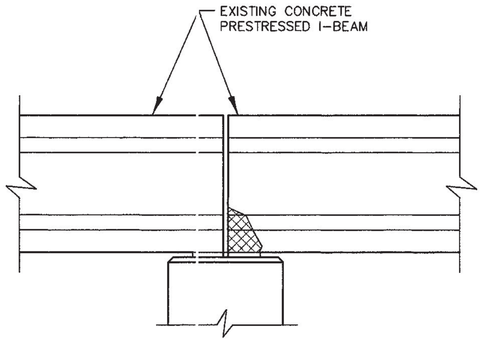
BRIDGE NO.18-140-0.23
CUMBERLAND COUNTY
1997

BR-19-61

PROJECT NO.	YEAR	SHEET NO.
18001-4191-04	1997	

REVISIONS

NO	DATE	BY	BRIEF DESCRIPTION



BEAM ENDS REPAIR DETAIL

REPAIR CONCRETE SPALLING ON BEAMS SEE NOTES AND DE AILS ON THIS DRAWING AND DRAWING NO BR-19-63

CONCRETE REPAIRS SCHEDULE

LOCATION OF REPAIR	BEAM	ITEM NO 604M10 54, CONCRETE REPAIRS, M2
RIGHT SPAN NO 1	B	0 10
RIGHT SPAN NO 1	C	0 10
RIGHT SPAN NO 1	E	0.10
RIGHT SPAN NO 3	A	0 10
RIGHT SPAN NO 5	A	0.05
RIGHT SPAN NO 5	B	0 05
RIGHT SPAN NO 5	C	0 05
RIGHT SPAN NO 5	D	0.05
LEFT SPAN NO 2	D	0 20
LEFT SPAN NO 3	B	0 10
LEFT SPAN NO 3	E	0.05
LEFT SPAN NO 3	F	0 05
TOTAL		1.00

NOTES:

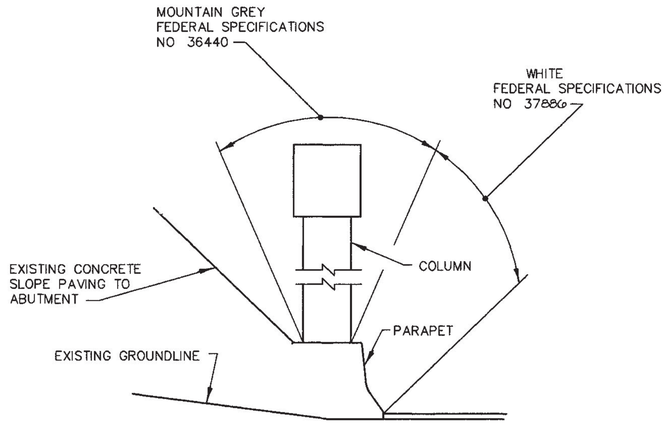
CONTRACTOR TO TAKE EXTREME CARE WHEN REMOVING SPALLED AND DETERIORATED CONCRETE, SC AS NOT TO DAMAGE EXISTING REINFORCING STEEL AND PRESTRESSING STRANDS ALL EXISTING REINFORCING STEEL SHALL BE COMPLETELY CLEANED BEFORE PLACING NEW CONCRETE COST OF CLEANING EXISTING REINFORCING STEEL, REMOVING AND REPLACING DELAMINATED CONCRETE WITH QUICK-SET PATCHING MATERIAL, TO BE INCLUDED IN PRICE BID FOR TEM NO 604M10 54, CONCRETE REPAIRS, M2

LIMITS AND LOCATION OF REPAIRS TO BE DESIGNATED BY THE ENGINEER ALL WORK MUST MEET WITH FULL APPROVAL OF THE ENGINEER

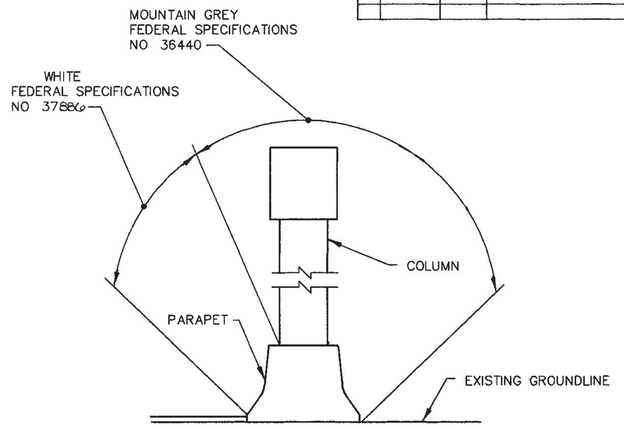
ALL AREAS PATCHED SHALL BE PRESSURE WATER WASHED (21 KPa TO 41 KPa) AND TEXTURE COATED. COST FOR TEXTURE COATING SHALL BE INCLUDED IN PRICE BID FOR ITEM NO 604M04 02 APPLIED TEXTURE FINISH (EXISTING STRUCTURE), M2 TEXTURE COATING SHALL BE MOUNTAIN GREY, FEDERAL SPECIFICATION NO 36440

TRC INTERNATIONAL, LTD.
CONSULTING ENGINEERS Nashville, Tennessee 37217
ENC. JOB NO. 94139

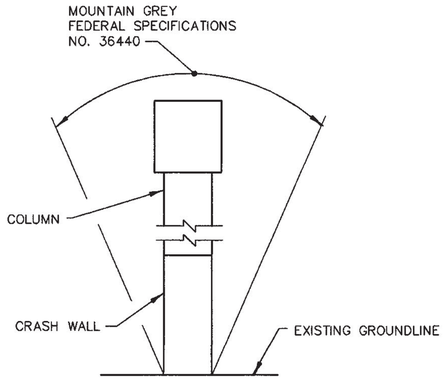
DESIGNED BY M M GEHRKE DATE AUGUST 1996
DRAWN BY J WELLS, P D JACKSON DATE AUGUST 1996
SUPERVISED BY J MASON, S RAMANNA DATE AUGUST 1996
CHECKED BY M M GEHRKE DATE AUGUST 1996



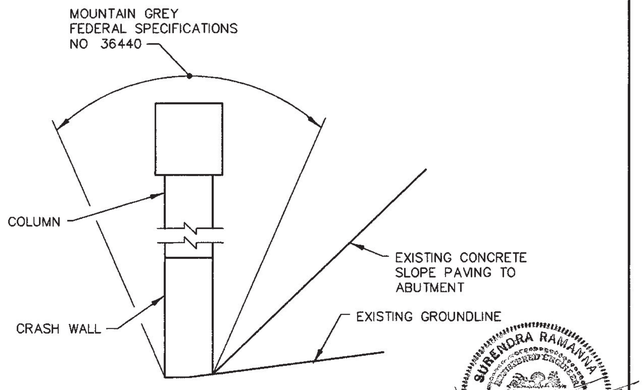
TEXTURE COATING DETAIL
(TYPICAL BENT NO 1)



TEXTURE COATING DETAIL
(TYPICAL BENT NO 2)



TEXTURE COATING DETAIL
(TYPICAL BENT NO 3)



TEXTURE COATING DETAIL
(TYPICAL BENT NO 4)

NOTES:

TOTAL LENGTH OF PROTECTION PARAPET BETWEEN COLUMNS OF BENTS 1 AND 2 AND THE CRASH WALL OF BENTS 3 AND 4 OF BOTH BRIDGES TO BE TEXTURE COATED

COST OF TEXTURE COATING AS SHOWN IN THIS DETAIL SHALL BE INCLUDED IN ITEM NO 604M04 02, APPLIED TEXTURE FINISH (EXISTING STRUCTURE), M2 TEXTURE COATING SHALL BE WHITE, FEDERAL SPECIFICATIONS NO. 37886 AND MOUNTAIN GREY, FEDERAL SPECIFICATIONS NO 36440 AS SHOWN

ALL AREAS TO BE TEXTURE COATED SHALL BE PRESSURE WATER WASHED (21 KPa TO 41 KPa) PRIOR TO TEXTURE COATING

TENNESSEE METRIC DOT

ALL DIMENSIONS SHOWN IN MILLIMETERS, WITH THE EXCEPTION OF STATIONS AND ELEVATIONS, UNLESS OTHERWISE NOTED

SURENDRA RAMANNA — REGISTERED PROFESSIONAL ENGINEER — AGRICULTURE — 21695 — STATE OF TENNESSEE

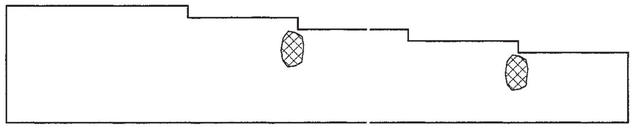
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

MISCELLANEOUS REPAIR DETAILS

INTERSTATE 40
OVER
STATE ROUTE 24

BRIDGE NO.18-140-0.23
CUMBERLAND COUNTY
1997

BR-19-62



SPALL REPAIR @ ABUTMENTS

REPAIR CONCRETE SPALLING ON ABUTMENTS
SEE NOTES AND DETAILS ON THIS SHEET

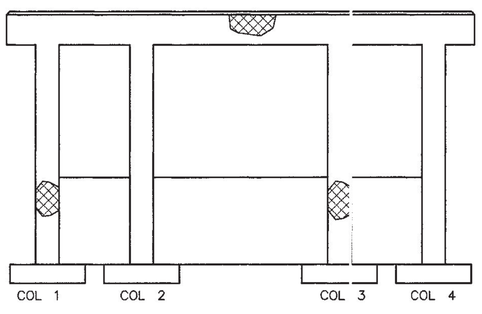
CONCRETE REPAIRS SCHEDULE	
LOCATION OF REPAIR	ITEM NO 604M10 54 CONCRETE REPAIRS, M2
ABUTMENT NO 1–RT	0 30
ABUTMENT NO 2–RT	0 30
ABUTMENT NO 1–LT	0 40
TOTAL	1 00

RT DENOTES RIGHT LANE
LT DENOTES LEFT LANE

NOTES:

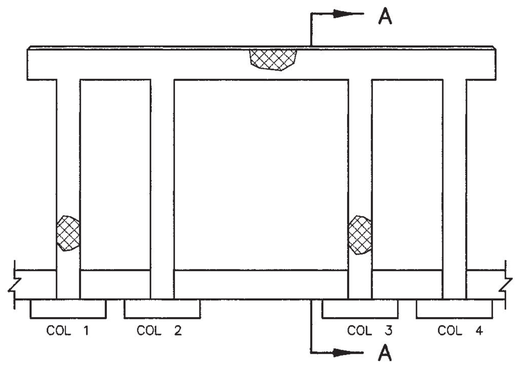
CONTRACTOR TO TAKE EXTREME CARE WHEN REMOVING SPALLED AND DETERIORATED CONCRETE, SO AS NOT TO DAMAGE EXISTING REINFORCING STEEL ALL EXISTING REINFORCING STEEL SHALL BE COMPLETELY CLEANED BEFORE PLACING NEW CONCRETE COST OF CLEANING EXISTING REINFORCING STEEL, REMOVING AND REPLACING DELAMINATED CONCRETE WITH QUICK–SET PATCHING MATERIAL, TO BE INCLUDED IN PRICE BID FOR ITEM NO 604M10 54, CONCRETE REPAIRS, M2

ALL AREAS PATCHED SHALL BE PRESSURE WATER WASHED (21 KPa TO 41 KPa) AND TEXTURE COATED COST FOR TEXTURE COATING SHALL BE INCLUDED IN PRICE BID FOR ITEM NO 604M04 02, APPLIED TEXTURE FIN SH (EXISTING STRUCTURE), M2 TEXTURE COATING SHALL BE MOUNTAIN GREY, FEDERAL SPECIFICATIONS NO 36440



TYPICAL @ BENTS 3 AND 4

(LT AND RT. LANES–LOOKING FORWARD ON SURVEY)



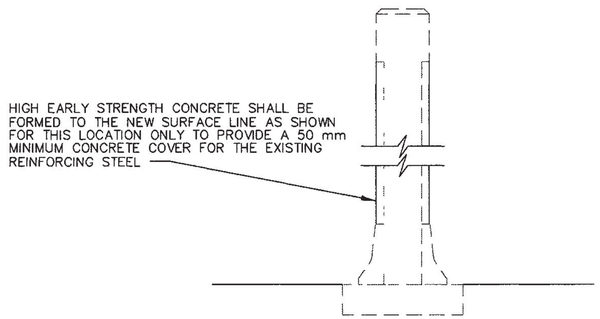
TYPICAL @ BENTS 1 AND 2

(LT AND RT LANES–LOOKING FORWARD ON SURVEY)

REPAIR CONCRETE SPALLING ON BENTS
SEE NOTES AND DETAILS ON THIS SHEET

CONCRETE REPAIRS SCHEDULE	
LOCATION OF REPAIR	ITEM NO 604M10 05 CONCRETE M2
BENT NO 1–RT	6
BENT NO 2–RT	21
BENT NO 3–RT	1
BENT NO 4–RT	5
BENT NO 1–LT	63
BENT NO 2–LT	21
BENT NO 3–LT	6
BENT NO 4–LT	9
TOTAL	132

RT DENOTES RIGHT LANE
LT DENOTES LEFT LANE



SECTION A–A

LEFT LANES (WESTBOUND) BENT NO. 1, COLUMN 3 ONLY

NOTES:

CONTRACTOR TO TAKE EXTREME CARE WHEN REMOVING SPALLED AND DETERIORATED CONCRETE, SO AS NOT TO DAMAGE EXISTING REINFORCING STEEL ALL EXISTING REINFORCING STEEL SHALL BE COMPLETELY CLEANED BEFORE PLACING NEW CONCRETE COST OF CLEANING EXISTING REINFORCING STEEL, REMOVING AND REPLACING DELAMINATED CONCRETE WITH HIGH EARLY STRENGTH CONCRETE TO BE INCLUDED IN PRICE BID FOR ITEM NO 604M10 05, CONCRETE, M2

ALL BENTS, BENT PROTECTION PARAPETS AND CRASHWALLS SHALL BE PRESSURE WATER WASHED (21 KPa TO TO 41 KPa) AND TEXTURE COATED COST FOR TEXTURE COATING SHALL BE INCLUDED IN PRICE BID FOR ITEM NO 604M04 02 APPLIED TEXTURE FINISH (EXISTING STRUCTURE), M2 SEE DETAIL AND NOTES ON DRAWING BR–19–62

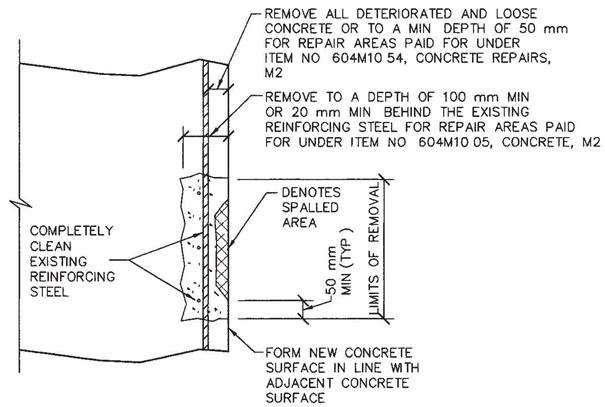
TRC INTERNATIONAL, LTD.
CONSULTING ENGINEERS Nashville, Tennessee 37217
ENC. JOB NO. 94139

DESIGNED BY M M GEHRKE DATE AUGUST 1996
DRAWN BY J WELLS, P D JACKSON DATE AUGUST 1996
SUPERVISED BY J MASON, S RAMANNA DATE AUGUST 1996
CHECKED BY M M GEHRKE DATE AUGUST 1996

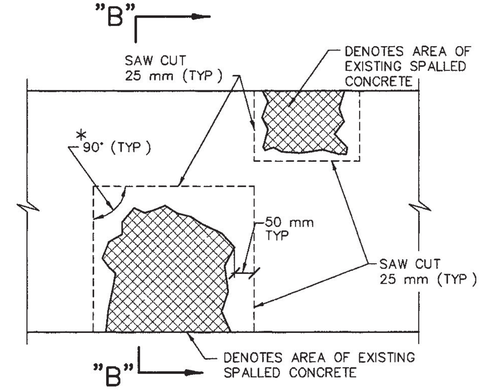
PROJECT NO.	YEAR	SHEET NO.
18001–4191–04	1997	

REVISIONS

NO	DATE	BY	BRIEF DESCRIPTION



SECTION "B–B"



DETAIL SHOWING SPALLED CONCRETE

DENOTES EXISTING SPALLING TO BE REPAIRED

NOTES:

* SAW CUT EXISTING CONCRETE SURFACES SO AS TO OBTAIN A SQUARE AREA

DURING SAW CUT OPERATION, CONTRACTOR TO FIELD VERIFY CONCRETE COVER TO PREVENT DAMAGE TO EXISTING STEEL REINFORCEMENT

COST OF SAW CUTTING, REMOVING SPALLED CONCRETE, COMPLETELY CLEANING, NEW QUICK SET PATCHING MATERIAL OR HIGH EARLY STRENGTH CONCRETE, LABOR, AND ANY MISCELLANEOUS MATERIALS NECESSARY TO COMPLETE THE REPAIRS AS SHOWN TO BE INCLUDED IN ITEM NO 604M10 54, CONCRETE REPAIRS, M2 OR ITEM NO 604M10 05, CONCRETE, M2

QUICK–SET PATCHING MATERIAL SHALL BE A POLYMER, MODIFIED CEMENTITIOUS PATCHING MATERIAL SUCH AS SIKATOP 123, MASTERPATCH 230 VP OR APPROVED EQUAL

THE CONTRACTOR MAY OBTAIN A LIST OF ACCEPTABLE BRANDS OF QUICK SET PATCHING MATERIAL FROM THE TENNESSEE DEPARTMENT OF TRANSPORTATION, DIVISION OF MATERIALS AND TEST



ALL DEMENSIONS SHOWN IN MILLIMETERS, WITH THE EXCEPTION OF STATIONS AND ELEVATIONS, UNLESS OTHERWISE NOTED

TENNESSEE METRIC DOT

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

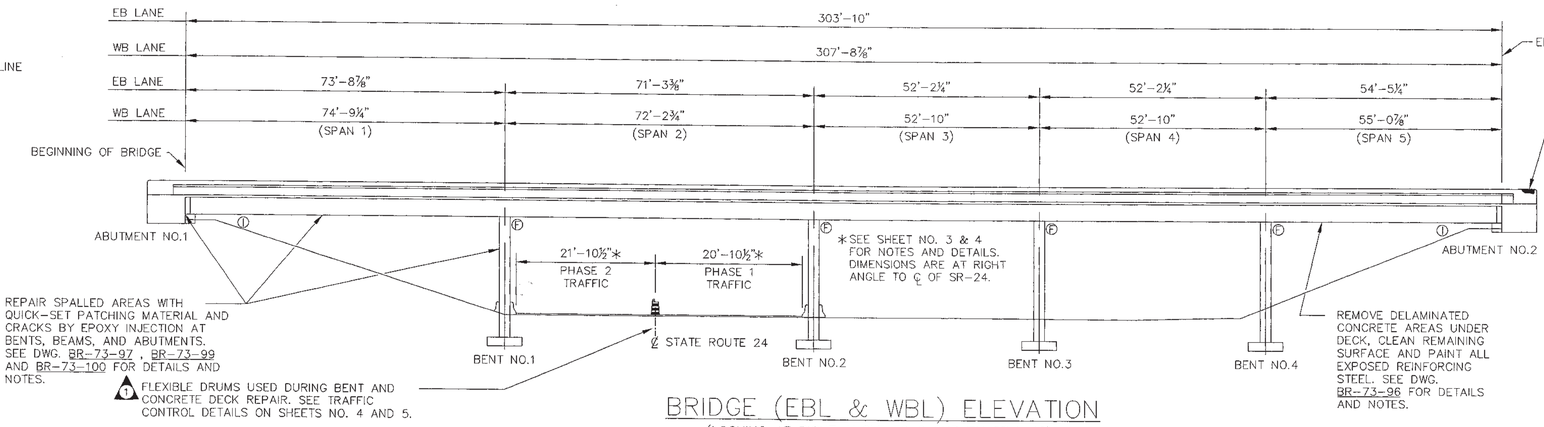
CONCRETE SPALLING REPAIR DETAILS

INTERSTATE 40
OVER
STATE ROUTE 24

BRIDGE NO.18–140–0.23
CUMBERLAND COUNTY
1997

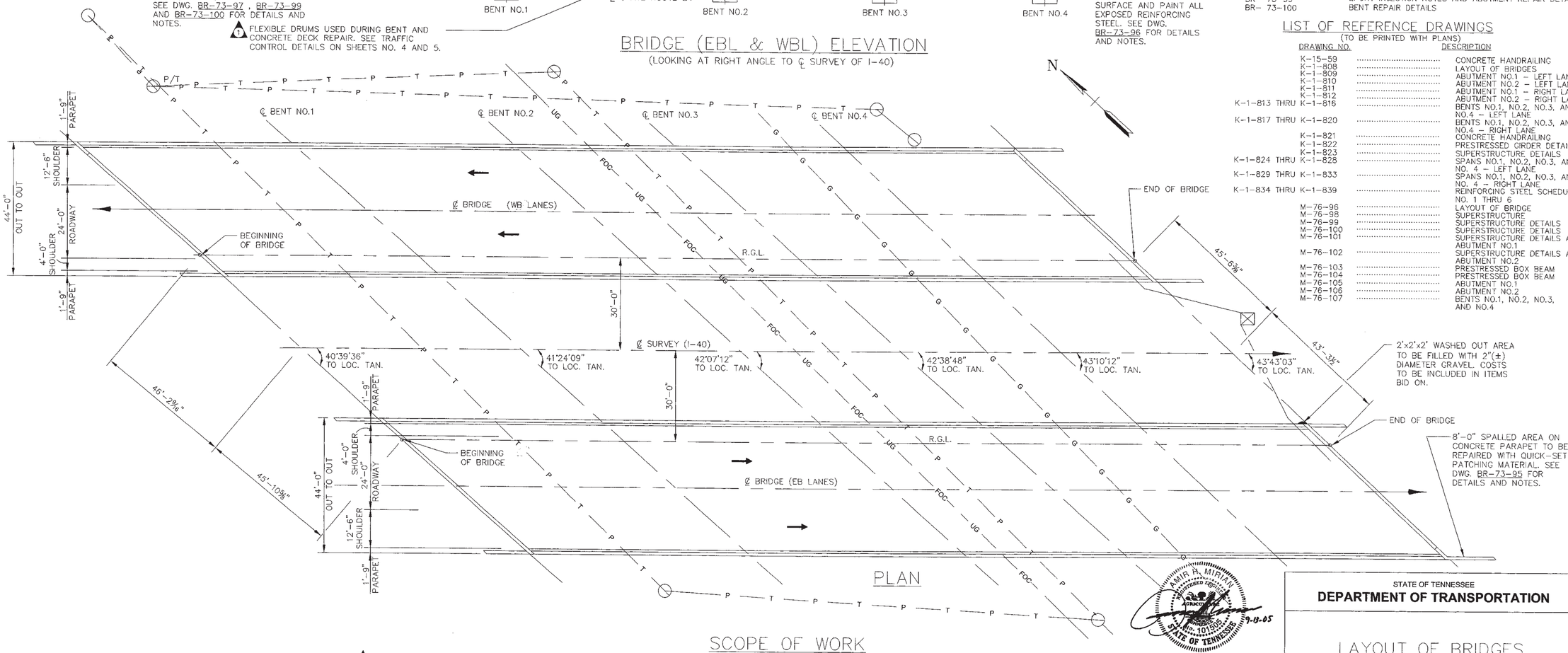
BR–19–63

Ⓘ = INTEGRAL
Ⓕ = FIXED END
R.G.L.= REFERENCE GRADE LINE
EB = EASTBOUND
WB = WESTBOUND



BRIDGE (EBL & WBL) ELEVATION

(LOOKING AT RIGHT ANGLE TO ℄ SURVEY OF I-40)



PLAN

SCOPE OF WORK

1 1. INSTALL TRAFFIC CONTROL CLOSING ONE LANE UNDER THE BRIDGE DURING DAYLIGHT HOURS ONLY AND USING A FLAGGER. TRAFFIC CONTROL ON I-40 (EBL) WILL BE REQUIRED FOR PARAPET REPAIR WITH ONE LANE CLOSURE (8 PM TO 6AM).

2. REPAIR DIAPHRAGMS OVER BENTS BY REMOVING DETERIORATED CONCRETE AROUND EXISTING REINFORCING STEEL AND SUPPORT ANGLES, THEN FORM AND POUR NEW CONCRETE TO MATCH EXISTING DIAPHGRAMS.

3. REPAIR SPALLED AREAS ON BENTS, BEAMS, AND ABUTMENTS WITH QUICK-SET PATCHING MATERIAL

4. REPAIR SPALLED AREAS ON BOTTOM OF DECK BY REMOVING DELAMINATED CONCRETE, CLEANING REMAINING SURFACE, AND PAINT ALL EXPOSED REINFORCING STEEL.

5. REPAIR CRACKS IN BENTS, BEAMS, AND ABUTMENTS BY EPOXY INJECTION OR BY REMOVING DELAMINATED CONCRETE AND FORM BACK TO ORIGINAL LINES WITH QUICK-SET PATCHING MATERIAL.

6. REPAIR CONCRETE PARAPET ON RIGHT SIDE OF EASTBOUND BRIDGE WITH QUICK-SET PATCHING MATERIAL.

7. TEXTURE COAT ONLY PATCHED AREAS ON BENTS, BEAMS, AND PARAPET.

8. REPLACE APPROACH GUARDRAIL AND ENDPOST ON THE SOUTHEAST AND NORTHWEST ENDS OF THE CONCRETE BARRIER WALL AT BRIDGE BENTS.

PROJECT NO.	YEAR	SHEET NO.
18100-4126-04	2005	

REVISIONS

NO	DATE	BY	BRIEF DESCRIPTION
1	08-23-05		SCOPE OF WORK CHANGED FROM SHOULDER CLOSURE ONLY TO ONE LANE CLOSURE

LIST OF BRIDGE DRAWINGS

DRAWING NO.	REV. DATE	DESCRIPTION
BR- 73-93	8-16-05	LAYOUT OF BRIDGES TO BE REPAIRED
BR- 73-94	8-16-05	ESTIMATED BRIDGE QUANTITIES AND GENERAL NOTES
BR- 73-95	8-16-05	CROSS SECTION OF BRIDGES TO BE REPAIRED
BR- 73-96		CONCRETE SLAB REPAIR DETAILS
BR- 73-97		BEAM REPAIR DETAILS
BR- 73-98	9-13-05	DIAPHRAGM REPAIR DETAILS
BR- 73-99		EPOXY INJECTION NOTES AND ABUTMENT REPAIR DETAILS
BR- 73-100		BENT REPAIR DETAILS

LIST OF REFERENCE DRAWINGS

(TO BE PRINTED WITH PLANS)

DRAWING NO.	DESCRIPTION
K-15-59	CONCRETE HANDRAILING
K-1-808	LAYOUT OF BRIDGES
K-1-809	ABUTMENT NO.1 - LEFT LANE
K-1-810	ABUTMENT NO.2 - LEFT LANE
K-1-811	ABUTMENT NO.1 - RIGHT LANE
K-1-812	ABUTMENT NO.2 - RIGHT LANE
K-1-813 THRU K-1-816	BENTS NO.1, NO.2, NO.3, AND NO.4 - LEFT LANE
K-1-817 THRU K-1-820	BENTS NO.1, NO.2, NO.3, AND NO.4 - RIGHT LANE
K-1-821	CONCRETE HANDRAILING
K-1-822	PRESTRESSED GIRDER DETAILS
K-1-823	SUPERSTRUCTURE DETAILS
K-1-824 THRU K-1-828	SPANS NO.1, NO.2, NO.3, AND NO. 4 - LEFT LANE
K-1-829 THRU K-1-833	SPANS NO.1, NO.2, NO.3, AND NO. 4 - RIGHT LANE
K-1-834 THRU K-1-839	REINFORCING STEEL SCHEDULES NO. 1 THRU 6
M-76-96	LAYOUT OF BRIDGE
M-76-98	SUPERSTRUCTURE
M-76-99	SUPERSTRUCTURE DETAILS
M-76-100	SUPERSTRUCTURE DETAILS
M-76-101	SUPERSTRUCTURE DETAILS AT ABUTMENT NO.1
M-76-102	SUPERSTRUCTURE DETAILS AT ABUTMENT NO.2
M-76-103	PRESTRESSED BOX BEAM
M-76-104	PRESTRESSED BOX BEAM
M-76-105	ABUTMENT NO.1
M-76-106	ABUTMENT NO.2
M-76-107	BENTS NO.1, NO.2, NO.3, AND NO.4

TRC CONSULTING ENGINEERS INTERNATIONAL, LTD. Brentwood, Tennessee 37027

ENG. JOB NO. 05401

DESIGNED BY	TRC INTERNATIONAL, LTD	DATE	FEBRUARY 2005
DRAWN BY	J. BEASLEY/M. PETERS	DATE	FEBRUARY 2005
SUPERVISED BY	A. MIRIAN	DATE	FEBRUARY 2005
CHECKED BY	M.M. NICHOLSON	DATE	FEBRUARY 2005

AMIR A. MIRIAN REGISTERED ENGINEER AGRICOLA No. 101995 STATE OF TENNESSEE 9-8-05

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

LAYOUT OF BRIDGES TO BE REPAIRED

INTERSTATE-40
OVER
STATE ROUTE 24

BRIDGE NO. 18-140-0.23 EBL & WBL

CUMBERLAND COUNTY
2005

BR-73-93

PROJECT NO.	YEAR	SHEET NO.
18100-4126-04	2005	2

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
1	08-23-05		CHANGED CONCRETE REPAIR UNIT TYPE AND ITEM NUMBER.
			FOOTNOTES THREE AND FOUR DESCRIPTIONS HAVE CHANGED.

ESTIMATED BRIDGE QUANTITIES

	ITEM NO.	DESCRIPTION	UNIT	EB LANE	WB LANE	TOTAL
⑧①	603-02.20	SPOT PAINTING EXISTING STEEL STRUCTURES	SF	1428	1760	3188
⑧②	604-04.02	APPLIED TEXTURE FINISH (EXISTING STRUCTURES)	SY	5	45	50
⑧③	604-10.07	CONCRETE REMOVAL	LS	0.5	0.5	1
1 ⑧④	604-10.42	CONCRETE REPAIRS	CF	162	162	324
⑧⑤	604-10.54	CONCRETE REPAIRS	SF	27	340	367
⑧⑥	604-10.58	EPOXY INJECTION (INJECTION)	GAL	2	2	4
⑧⑦	604-10.62	EPOXY INJECTION REPAIR (COMPLETE AND IN PLACE)	LF	66	82	148

FOOTNOTES

① INCLUDES COST OF ALL LABOR AND MATERIALS TO PAINT EXPOSED REINFORCING STEEL WITH A ZINC PRIMER AND TOPCOAT AFTER DELAMINATED CONCRETE AREAS OF BOTTOM OF DECK ARE REMOVED AND REMAINING AREA CLEANED. SEE LOCATIONS AND NOTES ON DWG. BR-73-96.

② INCLUDES COST OF ALL LABOR AND MATERIALS TO TEXTURE COAT PATCHED AREAS OF PARAPET, BEAMS AND BENTS AS SHOWN ON DWG. BR-73-95, BR-73-97, AND BR-73-100. ALSO SEE NOTES ON THIS SHEET.

1 ③ INCLUDES COST OF ALL LABOR AND MATERIALS TO REMOVE DELAMINATED CONCRETE AREAS UNDER THE DECK. SEE DRAWING BR-73-96 FOR DETAILS AND NOTES.

1 ④ INCLUDES COST OF ALL LABOR AND MATERIALS TO REMOVE DETERIORATED DIAPHRAGMS OVER THE BENTS AND REPOUR WITH CLASS "A" CONCRETE AS SHOWN ON DWG. BR-73-98.

⑤ INCLUDES COST OF ALL LABOR AND MATERIALS TO REPAIR SPALLED CONCRETE ON PARAPET, BEAMS AND BENTS WITH QUICK-SET PATCHING MATERIAL. FOR DETAILS AND NOTES SEE DWG. BR-73-95, BR-73-97 AND BR-73-100.

⑥ INCLUDES ALL COSTS TO PROVIDE ADHESIVE MATERIAL INJECTED ONLY. FOR DETAILS AND NOTES SEE DWG. BR-73-97, BR-73-99, AND BR-73-100.

⑦ INCLUDES ALL COSTS EXCEPT ADHESIVE TO REPAIR CRACKS IN CONCRETE BEAMS, BENTS AND ABUTMENTS USING EPOXY INJECTION. FOR DETAILS AND NOTES SEE DWG. BR-73-97, BR-73-99, AND BR-73-100.

⑧ ITEMS SHALL BE BID AS CONTINGENCY AND MAY BE INCREASED, DECREASED OR ELIMINATED AS DIRECTED BY THE ENGINEER.

GENERAL NOTES

SPECIFICATIONS: STANDARD ROAD AND BRIDGE SPECIFICATIONS OF THE TENNESSEE DEPARTMENT OF TRANSPORTATION (MARCH 1, 1995 EDITION).

DESIGN SPECIFICATIONS: AASHTO 2002 17TH EDITION

REINFORCING STEEL: SEE THE STANDARD SPECIFICATIONS.

SHOP DRAWINGS: SHALL BE SUBMITTED ACCORDING TO SPECIAL PROVISION NO. 105A, SHOP DRAWINGS SHALL BE SUBMITTED TO THE BRIDGE REPAIR OFFICE OF THE DIVISION OF STRUCTURES.

CONCRETE: SHALL BE CLASS "A" CONCRETE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.

SPECIAL NOTE FOR ROADWAY BELOW: CONTRACTOR SHALL USE EXTREME CARE AND TAKE ANY MEASURE NECESSARY TO INSURE THAT NO DEBRIS IS DROPPED ONTO THE ROADWAY BELOW. ANY DEBRIS WHICH IS ALLOWED TO DROP ONTO THE ROADWAY BELOW THE BRIDGE SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR. COST OF REMOVAL AND DISPOSAL OF DEBRIS SHALL BE INCLUDED IN ITEMS BID ON.

CONCRETE CURING: ALL CONCRETE IN REPAIR AREAS SHALL BE CURED ACCORDING TO THE STANDARD SPECIFICATIONS.

DEMOLITION: THE CONTRACTOR SHALL TAKE SPECIAL CARE TO PROTECT ANY PARTS OF THE STRUCTURE THAT ARE NOT TO BE REMOVED SPECIFICALLY. THE CONTRACTOR IS NOT ALLOWED TO USE A HYDRAULIC RAM MOUNTED ON A BACKHOE (COMMONLY CALLED A HOE RAM) OR OTHER SIMILARLY HEAVY EQUIPMENT FOR CONCRETE REMOVAL. PNEUMATIC HAMMERS MAY BE USED TO REMOVE UNSOUND CONCRETE. FOR FULL DEPTH OF CONCRETE SLAB REMOVAL EXCEPT OVER BEAMS, THE MAXIMUM HAMMER SIZE IS 90 POUND CLASS. FOR PARTIAL DEPTH OF CONCRETE SLAB REMOVAL AND ANY WORK OVER BEAMS, THE MAXIMUM HAMMER SIZE IS 60 POUND CLASS. SAWING OR CUTTING OF THE CONCRETE IS ACCEPTABLE AS LONG AS ANY SPECIFIED PROJECTION OF THE EXISTING REINFORCING STEEL IS MAINTAINED. ALL DEVICES PROPOSED FOR CONCRETE DEMOLITION SHALL MEET THE APPROVAL OF THE ENGINEER.

HIGH EARLY STRENGTH CONCRETE: THE MIX TO MEET THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS, CLASS "A", EXCEPT THE CEMENT CONTENT SHALL BE A MINIMUM OF 714 LBS, THE WATER CEMENT RATIO SHALL BE A MAXIMUM OF 0.40, NO FLY ASH REPLACEMENT WILL BE PERMITTED, AND THE MINIMUM 28 DAY COMPRESSIVE STRENGTH SHALL BE 3,500 P.S.I. TRAFFIC SHALL NOT BE PERMITTED ON ANY OF THE REPAIR AREAS UNTIL TEST SPECIMENS ATTAIN A COMPRESSIVE STRENGTH OF 3000 P.S.I. MINIMUM AND THE CONCRETE HAS BEEN IN PLACE A MINIMUM OF TEN (10) DAYS.

QUICK-SET PATCHING MATERIAL: QUICK-SET PATCHING MATERIAL SHALL BE A POLYMER MODIFIED CEMENTITIOUS PATCHING MATERIAL. SEE T.D.O.T. QUALIFIED PRODUCTS LIST 13, SUB LIST F, FOR ACCEPTABLE PATCHING MATERIALS.

CONCRETE AND PATCHING MATERIAL: ALL CONCRETE AND PATCHING MATERIALS SHALL NOT BE PLACED BY PNEUMATIC METHODS.

APPLIED TEXTURE FINISH NOTES

THE CONTRACTOR SHALL CLEAN ALL SURFACES TO RECEIVE APPLIED TEXTURE COATING. ALL CLEANING SHALL BE SATISFACTORY TO THE ENGINEER PRIOR TO APPLYING THE TEXTURE COATING.

THE APPLIED TEXTURE FINISH COLOR FOR BRIDGE SHALL BE SIMILAR TO MOUNTAIN GRAY, FEDERAL SPECIFICATIONS NO. 36640, FEDERAL COLOR STANDARD 595B, EXCEPT THAT THE INSIDE FACE AND TOP OF THE PARAPET SHALL BE WHITE, FEDERAL SPECIFICATION NO. 37886. A COLOR SAMPLE SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL. A LIST OF APPROVED TEXTURE COATINGS MAY BE OBTAINED FROM THE TENNESSEE DEPARTMENT OF TRANSPORTATION DIVISION OF MATERIALS AND TESTS.

COSTS ASSOCIATED WITH CLEANING, FURNISHING AND APPLYING TEXTURE COATING AND ALL LABOR AND NECESSARY MATERIALS SHALL BE INCLUDED IN ITEM NO. 604-04.02, APPLIED TEXTURE FINISH (EXISTING STRUCTURE), S.Y.

SEE SHEETS 4 THRU 6 FOR TRAFFIC CONTROL DETAILS AND NOTES.

TRC CONSULTING ENGINEERS INTERNATIONAL, LTD.
Brentwood, Tennessee 37027

ENG. JOB NO. 05401

DESIGNED BY	TRC INTERNATIONAL, LTD	DATE	FEBRUARY 2005
DRAWN BY	J. BEASLEY/M. PETERS	DATE	FEBRUARY 2005
SUPERVISED BY	A. MIRIAN	DATE	FEBRUARY 2005
CHECKED BY	M.M. NICHOLSON	DATE	FEBRUARY 2005

AMIR H. MIRIAN — REGISTERED ENGINEER — AGENCY No. 101508 — STATE OF TENNESSEE — 8-24-05

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

ESTIMATED BRIDGE QUANTITIES AND GENERAL NOTES

INTERSTATE-40
OVER
STATE ROUTE 24

BRIDGE NO. 18-I40-0.23 EBL & WBL

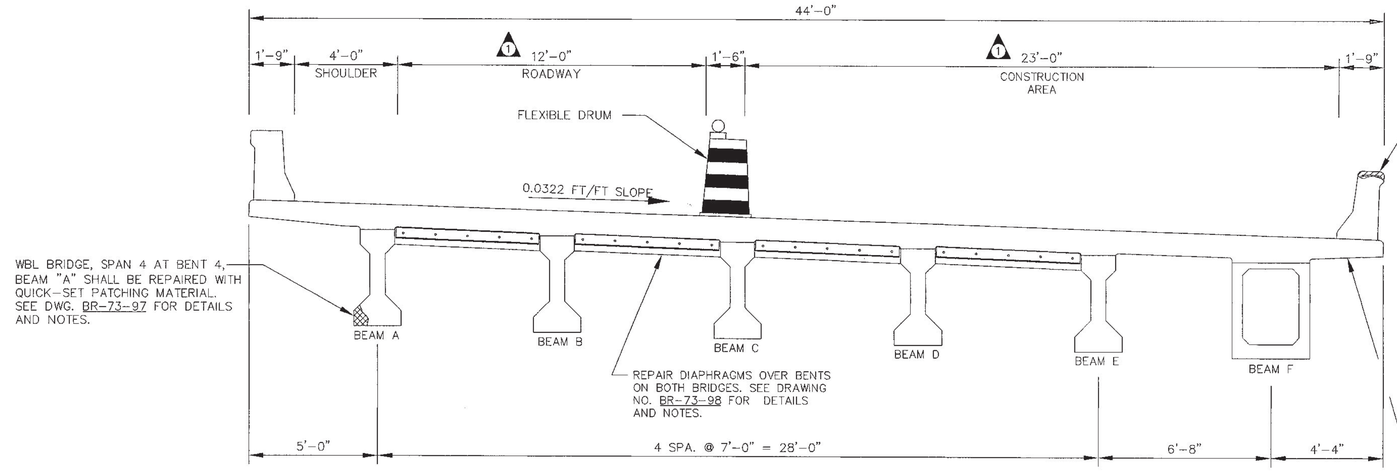
CUMBERLAND COUNTY
2005

BR-73-94

PROJECT NO.	YEAR	SHEET NO.
18100-4126-04	2005	

REVISIONS

NO	DATE	BY	BRIEF DESCRIPTION
1	08-23-05		CONSTRUCTION AREA WIDENED 12'
			SPECIAL NOTE ADDED
			MODIFICATION TO NOTES



EBL BRIDGE, SOUTHEAST END OF CONCRETE PARAPET SHALL BE REPAIRED WITH QUICK-SET PATCHING MATERIAL. SEE THIS SHEET FOR DETAILS AND NOTES.

REMOVE DELAMINATED CONCRETE AREAS UNDER DECK, CLEAN REMAINING SURFACE, AND PAINT ALL EXPOSED REINFORCING STEEL. SEE DRAWING BR-73-96 FOR DETAILS AND NOTES.

TYPICAL CROSS SECTION AT BENTS

EB LANES LOOKING FORWARD ON SURVEY
WB LANES LOOKING BACK ON SURVEY

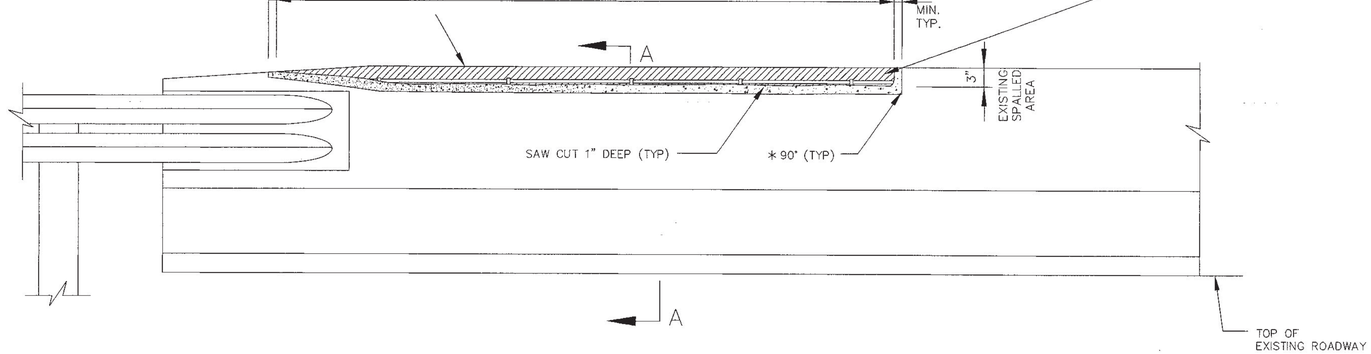
NOTES:

SEE I-40 TRAFFIC CONTROL DETAILS AND NOTES ON SHEET 6.

1 ALL COSTS ASSOCIATED WITH REMOVING DETERIORATED CONCRETE DIAPHRAGMS AND REPOURING CONCRETE DIAPHRAGMS WITH CLASS "A" CONCRETE SHALL BE INCLUDED IN ITEM NO. 604-10.42. SEE DWG. BR-73-98 FOR DETAILS AND NOTES.

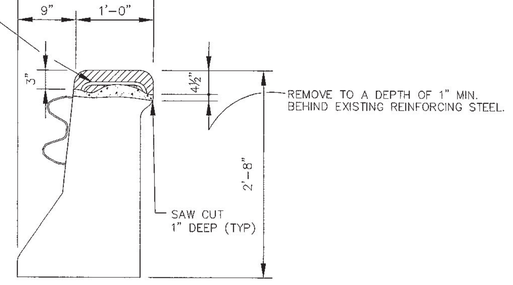
ALL COSTS ASSOCIATED WITH REPAIRING BEAM A, AT BENT 4, SPAN 4 WBL BRIDGE AND CONCRETE PARAPET AT SOUTHEAST END OF EBL BRIDGE WITH QUICK-SET PATCHING MATERIAL SHALL BE INCLUDED IN BID ITEM NO.604-10.54.

ALL COSTS ASSOCIATED WITH REMOVING DELAMINATED CONCRETE AREAS UNDER DECK SHALL BE INCLUDED IN ITEM NO. 604-10.07. ALL COSTS ASSOCIATED WITH CLEANING REMAINING DECK SURFACE AND PAINTING ALL EXPOSED REINFORCING STEEL SHALL BE INCLUDED IN BID ITEM NO. 603-02.20.



DENOTES: AREA OF EXISTING SPALLED CONCRETE TO BE REPAIRED WITH QUICK-SET PATCHING MATERIAL. SEE DWG. BR-73-93 FOR LOCATION OF REPAIR.

COMPLETELY CLEAN EXISTING REINFORCING STEEL.



SECTION A-A

PARAPET REPAIR DETAILS

SPECIAL NOTE:

1 THE REPAIR OF THE ENDPOST SHALL BE PERFORMED AT NIGHT BETWEEN THE HOURS OF 8 PM UNTIL 6 AM WITH A SINGLE LANE CLOSURE TO MINIMIZE INCONVENIENCE OF THE MOTORING PUBLIC. THE DATES SCHEDULED FOR THE WORK SHALL ALSO BE COORDINATED WITH THE ENGINEER SO THAT THERE WILL NOT BE LANE CLOSURE CONFLICTS WITH ONGOING PROJECTS IN THE AREA.

NOTES:

*SAW CUT EXISTING CONCRETE SURFACES SO AS TO OBTAIN A SQUARE AREA. EDGES SHALL NOT BE FEATHERED OR TAPERED.

DURING SAW CUT OPERATION, CONTRACTOR TO FIELD VERIFY CONCRETE COVER TO PREVENT DAMAGE TO EXISTING STEEL REINFORCEMENT.

COST OF SAW CUTTING, REMOVING SPALLED CONCRETE, COMPLETELY CLEANING REINFORCING STEEL, NEW QUICK-SET PATCHING MATERIAL, LABOR, AND ANY MISCELLANEOUS MATERIALS NECESSARY TO COMPLETE THE REPAIRS AS SHOWN TO BE INCLUDED IN ITEM NO. 604-10.54, CONCRETE REPAIRS, SF.

CONTRACTOR TO TAKE EXTREME CARE WHEN REMOVING SPALLED AND DETERIORATED CONCRETE, SO AS NOT TO DAMAGE EXISTING REINFORCING STEEL. ALL EXISTING REINFORCING STEEL SHALL BE COMPLETELY CLEANED BEFORE PLACING NEW CONCRETE.

ITEM NO. 604-10.54 SHALL BE BID WITH THE CONTINGENCY THAT THIS ITEM MAY BE INCREASED, DECREASED, OR ELIMINATED AS DIRECTED BY THE ENGINEER.



TRC CONSULTING ENGINEERS INTERNATIONAL, LTD.
Brentwood, Tennessee 37027

ENG. JOB NO. 05401

DESIGNED BY	TRC INTERNATIONAL, LTD	DATE	FEBRUARY 2005
DRAWN BY	J. BEASLEY/M. PETERS	DATE	FEBRUARY 2005
SUPERVISED BY	A. MIRIAN	DATE	FEBRUARY 2005
CHECKED BY	M.M. NICHOLSON	DATE	FEBRUARY 2005

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

CROSS SECTION OF BRIDGES TO BE REPAIRED

INTERSTATE-40
OVER
STATE ROUTE 24

BRIDGE NO. 18-140-0.23 EBL & WBL

CUMBERLAND COUNTY
2005

BR-73-95

PROJECT NO.	YEAR	SHEET NO.
18100-4126-04	2005	

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION

CONCRETE REPAIRS SCHEDULE–WBL BRIDGE

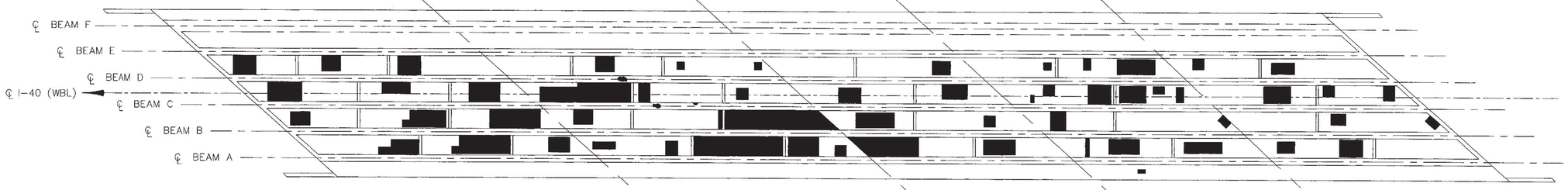
LOCATION OF REPAIR	ITEM NO. 603-02.20 SPOT PAINTING EXISTING STEEL STRUCTURES
SPAN 1, BETWEEN BEAMS A&B	138
SPAN 1, BETWEEN BEAMS B&C	142
SPAN 1, BETWEEN BEAMS C&D	136
SPAN 1, BETWEEN BEAMS D&E	82
SPAN 1, BETWEEN BEAMS E&F	–
SPAN 2, BETWEEN BEAMS A&B	212
SPAN 2, BETWEEN BEAMS B&C	189
SPAN 2, BETWEEN BEAMS C&D	144
SPAN 2, BETWEEN BEAMS D&E	24
SPAN 2, BETWEEN BEAMS E&F	–
SPAN 3, BETWEEN BEAMS A&B	134
SPAN 3, BETWEEN BEAMS B&C	59
SPAN 3, BETWEEN BEAMS C&D	68
SPAN 3, BETWEEN BEAMS D&E	18
SPAN 3, BETWEEN BEAMS E&F	–
SPAN 4, BETWEEN BEAMS A&B	68
SPAN 4, BETWEEN BEAMS B&C	28
SPAN 4, BETWEEN BEAMS C&D	100
SPAN 4, BETWEEN BEAMS D&E	50
SPAN 4, BETWEEN BEAMS E&F	–
SPAN 5, BETWEEN BEAMS A&B	51
SPAN 5, BETWEEN BEAMS B&C	27
SPAN 5, BETWEEN BEAMS C&D	63
SPAN 5, BETWEEN BEAMS D&E	27
SPAN 5, BETWEEN BEAMS E&F	–
TOTAL	1760

CONCRETE REPAIRS SCHEDULE–EBL BRIDGE

LOCATION OF REPAIR	ITEM NO. 603-02.20 SPOT PAINTING EXISTING STEEL STRUCTURES
SPAN 1, BETWEEN BEAMS A&B	77
SPAN 1, BETWEEN BEAMS B&C	115
SPAN 1, BETWEEN BEAMS C&D	84
SPAN 1, BETWEEN BEAMS D&E	30
SPAN 1, BETWEEN BEAMS E&F	4
SPAN 2, BETWEEN BEAMS A&B	149
SPAN 2, BETWEEN BEAMS B&C	30
SPAN 2, BETWEEN BEAMS C&D	63
SPAN 2, BETWEEN BEAMS D&E	81
SPAN 2, BETWEEN BEAMS E&F	18
SPAN 3, BETWEEN BEAMS A&B	19
SPAN 3, BETWEEN BEAMS B&C	101
SPAN 3, BETWEEN BEAMS C&D	30
SPAN 3, BETWEEN BEAMS D&E	27
SPAN 3, BETWEEN BEAMS E&F	–
SPAN 4, BETWEEN BEAMS A&B	66
SPAN 4, BETWEEN BEAMS B&C	225
SPAN 4, BETWEEN BEAMS C&D	62
SPAN 4, BETWEEN BEAMS D&E	77
SPAN 4, BETWEEN BEAMS E&F	2
SPAN 5, BETWEEN BEAMS A&B	42
SPAN 5, BETWEEN BEAMS B&C	52
SPAN 5, BETWEEN BEAMS C&D	45
SPAN 5, BETWEEN BEAMS D&E	29
SPAN 5, BETWEEN BEAMS E&F	–
TOTAL	1428

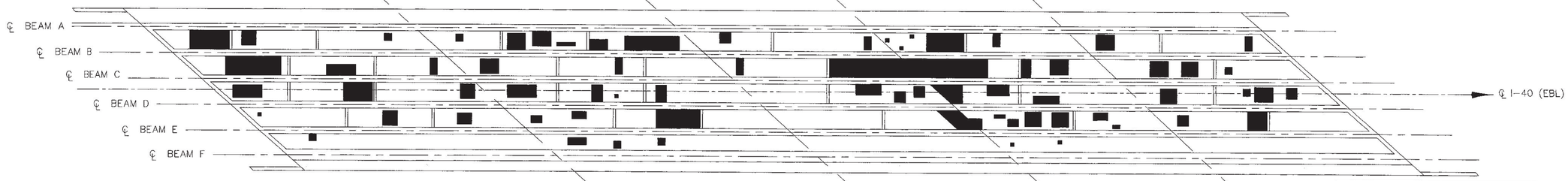
N

■ DENOTES: DETERIORATED CONCRETE AREAS UNDER SLAB TO BE REPAIRED BY REMOVING DELAMINATED CONCRETE, CLEAN AND PAINT ALL EXPOSED REINFORCING STEEL. ALL COSTS TO BE INCLUDED IN ITEM NO. 604-10.07, CONCRETE REMOVAL, LS EXCEPT COSTS FOR ALL LABOR AND MATERIALS FOR PAINTING EXPOSED REINFORCING STEEL TO BE INCLUDED IN ITEM NO. 603-02.20, SPOT PAINTING EXISTING STEEL STRUCTURES, SF.



PLAN–(WBL)

℄ BENT NO. 1 ℄ BENT NO. 2 ℄ BENT NO. 3 ℄ BENT NO. 4



PLAN–(EBL)

℄ BENT NO. 1 ℄ BENT NO. 2 ℄ BENT NO. 3 ℄ BENT NO. 4

NOTE:

ALL EXPOSED REINFORCING STEEL SHALL BE CLEANED AND PAINTED WITH A ZINC PRIMER AND TOP COAT. ALL COSTS TO BE INCLUDED IN ITEM NO. 603-02.20.

AMIR R. MIRIAN
REGISTERED ENGINEER
AGRICULTURE
No. 101515
STATE OF TENNESSEE
P-24-05

TRC CONSULTING ENGINEERS INTERNATIONAL, LTD. Brentwood, Tennessee 37027

ENG. JOB NO. 05401

DESIGNED BY	TRC INTERNATIONAL, LTD	DATE	FEBRUARY 2005
DRAWN BY	J. BEASLEY/M. PETERS	DATE	FEBRUARY 2005
SUPERVISED BY	A. MIRIAN	DATE	FEBRUARY 2005
CHECKED BY	M.M. NICHOLSON	DATE	FEBRUARY 2005

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

CONCRETE SLAB REPAIR DETAILS

INTERSTATE-40
OVER
STATE ROUTE 24

BRIDGE NO. 18-I40-0.23 EBL & WBL

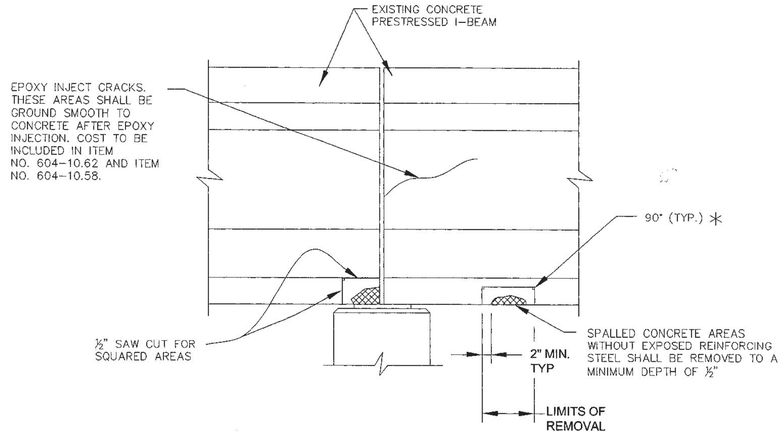
CUMBERLAND COUNTY
2005

BR-73-96

PROJECT NO.	YEAR	SHEET NO.
18100-4126-04	2005	

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION



TYPICAL BEAM END REPAIR DETAIL

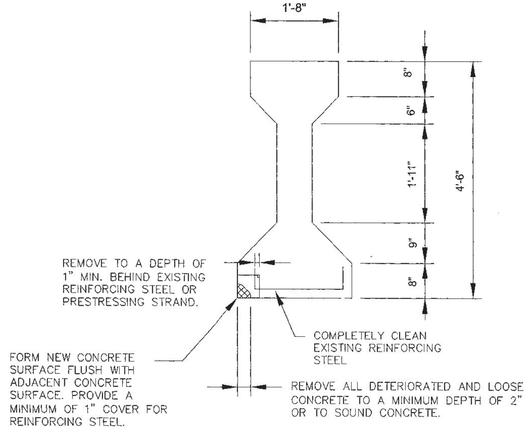
DENOTES: AREA OF EXISTING SPALLED CONCRETE TO BE REPAIRED WITH QUICK-SET PATCHING MATERIAL. COST TO BE INCLUDED N ITEM NO. 604-10.54. SEE DWG. BR-73-100. FOR ADDITIONAL DETAILS AND NOTES.

CONCRETE REPAIRS SCHEDULE-EBL BRIDGE			
LOCATION OF REPAIR	BEAM	ITEM NO. 604-10.54 CONCRETE REPAIRS SF	ITEM NO.604-10.62 EPOXY INJECTION REPAIR (COMPLETE & IN PLACE) LF ▲
SPAN NO. 1, BENT 1	B	1	–
SPAN NO. 1, ABUT. 1	B	–	1
SPAN NO. 1, ABUT. 1	C	–	1
SPAN NO. 1, ABUT. 1	E	–	1
SPAN NO. 2, BENT 3	B	–	0.5
SPAN NO. 3, BENT 3	B	2	–
TOTAL		3	3.5

CONCRETE REPAIRS SCHEDULE-WBL BRIDGE			
SPAN NO. 1, BENT 1	A	–	1
SPAN NO. 1, ABUT. 1	D	–	3
SPAN NO. 1, ABUT. 1	E	1	2
SPAN NO. 1, ABUT. 1	F	–	1
SPAN NO. 2, BENT 2	B	–	3
SPAN NO. 2, MIDSPAN	D	2	–
SPAN NO. 3, BENT 2	C	–	3
SPAN NO. 3, BENT 2	E	–	3
SPAN NO. 3, BENT 2	F	–	3
SPAN NO. 4, BENT 5	F	2	–
TOTAL		5	19

EBL: DENOTES EAST BOUND LANE
WBL: DENOTES WEST BOUND LANE

▲SEE DWG. BR-73-99 FOR ADDITIONAL EPOXY INJECTION NOTES.



TYPICAL SECTION OF I-BEAM

NOTES:

LIMITS AND LOCATION OF REPAIRS TO BE DESIGNATED BY THE ENGINEER.
ALL WORK MUST MEET WITH FULL APPROVAL OF THE ENGINEER.

ALL AREAS PATCHED SHALL BE TEXTURE COATED. COST FOR TEXTURE COATING SHALL BE INCLUDED IN PRICE BID FOR ITEM NO. 604-04.02 APPLIED TEXTURE FINISH (EXISTING STRUCTURE), SY. TEXTURE COATING SHALL BE MOUNTAIN GREY, FEDERAL SPECIFICATION NO. 36640, FEDERAL COLOR STANDARD 595B.

SEE SHEET 2 FOR ADDITIONAL TEXTURE FINISH NOTES.

*SAW CUT EXISTING CONCRETE SURFACES SO AS TO OBTAIN A SQUARE AREA. EDGES SHALL NOT BE FEATHERED OR TAPERED.

DURING SAW CUT OPERATION, CONTRACTOR TO FIELD VERIFY CONCRETE COVER TO PREVENT DAMAGE TO EXISTING STEEL REINFORCEMENT.

COST OF SAW CUTTING, REMOVING SPALLED CONCRETE, COMPLETELY CLEANING REINFORCING STEEL, NEW QUICK-SET PATCHING MATERIAL, LABOR, AND ANY MISCELLANEOUS MATERIALS NECESSARY TO COMPLETE THE REPAIRS AS SHOWN TO BE INCLUDED IN ITEM NO. 604-10.54, CONCRETE REPAIRS, SF.

CONTRACTOR TO TAKE EXTREME CARE WHEN REMOVING SPALLED AND DETERIORATED CONCRETE, SO AS NOT TO DAMAGE EXISTING REINFORCING STEEL OR PRESTRESSING STRANDS. ALL EXISTING REINFORCING STEEL OR PRESTRESSING STRANDS SHALL BE COMPLETELY CLEANED BEFORE PLACING NEW CONCRETE.

ITEM NO. 604-10.54 SHALL BE BID WITH THE CONTINGENCY THAT THIS ITEM MAY BE INCREASED, DECREASED, OR ELIMINATED AS DIRECTED BY THE ENGINEER.



TRC CONSULTING ENGINEERS INTERNATIONAL, LTD.
Brentwood, Tennessee 37027

ENG. JOB NO. 05401

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DRAWN BY	J. BEASLEY/M. PETERS	DATE	FEBRUARY 2005
SUPERVISED BY	A. MIRIAN	DATE	FEBRUARY 2005
CHECKED BY	M.M. NICHOLSON	DATE	FEBRUARY 2005

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

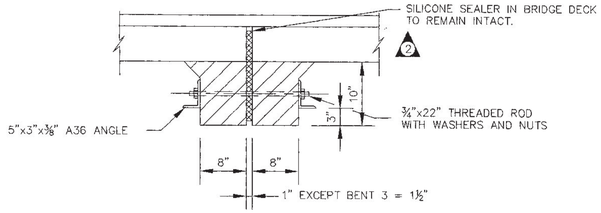
BEAM REPAIR DETAILS

INTERSTATE-40
OVER
STATE ROUTE 24

BRIDGE NO. 18-140-0.23 EBL & WBL

CUMBERLAND COUNTY
2005

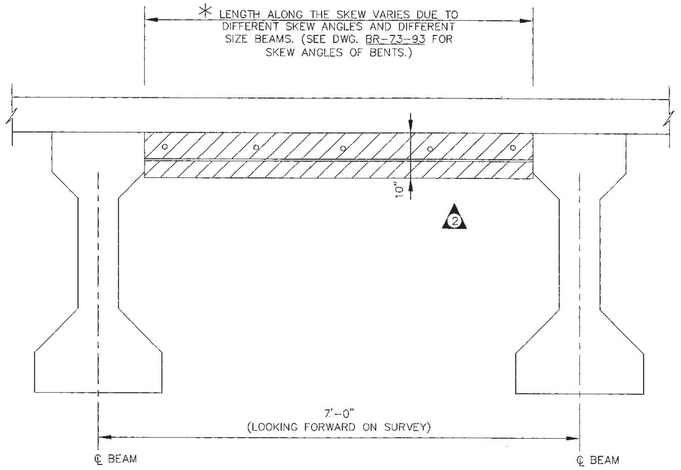
BR-73-97



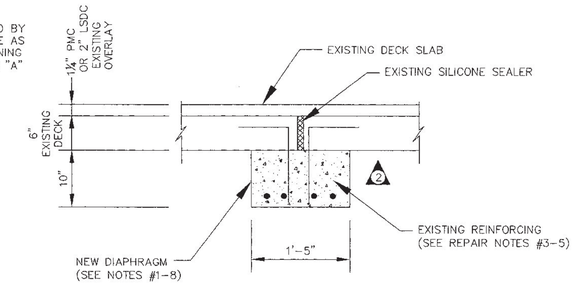
TYPICAL SECTION THRU EXISTING DIAPHRAM AT BENT

DENOTES: DETERIORATED CONCRETE AREAS OF EXISTING DIAPHRAGMS AT THE BENTS TO BE REPAIRED BY REMOVING DELAMINATED CONCRETE TO THE LIMITS SHOWN ON THIS DRAWING OR TO SOUND CONCRETE AS APPROVED BY THE TDOT ENGINEER, REMOVING ANGLES, RODS, WASHERS AND NUTS, CLEANING REMAINING SURFACE AND REINFORCING STEEL, FORMING AND REPOURING AS SHOWN ON THIS SHEET WITH CLASS "A" CONCRETE.

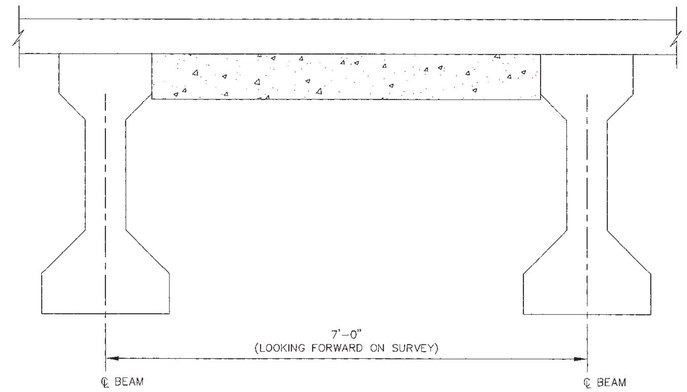
* LENGTH OF DIAPHRAGM	
SPAN 1 BENT 1	= 8'-0¾"
SPAN 2 BENT 1	= 8'-0¾"
SPAN 2 BENT 2	= 7'-11⅜"
SPAN 3 BENT 2	= 8'-5½"
SPAN 3 BENT 3	= 8'-4⅜"
SPAN 4 BENT 3	= 8'-4⅜"
SPAN 4 BENT 4	= 8'-3½"
SPAN 5 BENT 4	= 8'-3½"



TYPICAL EXISTING CROSS SECTION AT BENTS



NEW DIAPHRAGM DETAIL



NEW CROSS SECTION AT BENTS

PROJECT NO.	YEAR	SHEET NO.
18100-4126-04	2005	

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
1	08-23-05		MODIFICATION OF NOTES
2	09-13-05		MODIFICATION OF NOTES
			EXISTING SEALER TO REMAIN

REPAIR NOTES:

1. DAMAGED AND DETERIORATED CONCRETE AT DIAPHRAGM SECTION TO BE COMPLETELY REMOVED.
2. REMOVE ONLY DAMAGED CONCRETE. STOP REMOVAL ONCE SOUND UNDAMAGED CONCRETE IS REACHED, AS APPROVED BY THE TDOT ENGINEER.
3. ▲2 EXISTING SEALER IS TO BE CUT SO THAT IT IS FLUSH WITH THE BOTTOM OF THE BRIDGE DECK.
4. EXISTING REBAR SHALL NOT BE DAMAGED WHILE DAMAGED CONCRETE IS REMOVED.
5. PRIOR TO REPOURING CONCRETE FOR DIAPHRAGM, ALL EXISTING REBAR SHALL BE INSPECTED, CLEANED, AND EVALUATED TO DETERMINE IF REPLACEMENT IS REQUIRED.
6. REPLACE ANY REINFORCEMENT THAT SHOWS SIGNS OF DAMAGE OR DETERIORATION AS APPROVED BY THE TDOT ENGINEER. REBAR WITH MORE THAN 5% SECTION LOSS SHOULD BE REPLACED. ANY REPLACED REINFORCEMENT SHOULD MATCH EXISTING REINFORCMENT SIZES AND BE EPOXY-COATED.
7. ONCE REINFORCEMENT IS RE-ESTABLISHED, A BONDING AGENT AND CORROSION INHIBITOR AS APPROVED BY THE TDOT ENGINEER SHALL BE APPLIED TO THE CONCRETE SURFACE AND REINFORCEMENT RESPECTIVELY PRIOR TO POURING NEW CONCRETE.
8. POUR NEW CLASS "A" CONCRETE TO MATCH SECTION SHOWN ABOVE. NO JOINT IS REQUIRED AT THIS SECTION.
9. REMOVE ALL EXISTING STEEL--ANGLE HARDWARE AND CONNECTION BOLTS PRIOR TO POURING NEW CONCRETE.

NOTES:

CONTRACTOR TO TAKE EXTREME CARE WHEN REMOVING DETERIORATED CONCRETE SO AS NOT TO DAMAGE EXISTING REINFORCING STEEL. ALL EXISTING REINFORCING STEEL SHALL BE COMPLETELY CLEANED BEFORE POURING NEW CONCRETE.

▲3 COST OF CLEANING EXISTING REINFORCING STEEL, ANY REPLACEMENT REINFORCING STEEL REQUIRED, BONDING AGENT, CORROSION INHIBITOR, CLASS "A" CONCRETE AND ALL LABOR AND MATERIALS REQUIRED TO REPOUR DIAPHRAGMS AS SHOWN IN THESE DETAILS SHALL BE INCLUDED IN PRICE BID FOR ITEM NO. 604-10.42, CONCRETE REPAIRS, CF.

▲4 ALL COSTS ASSOCIATED WITH THE REMOVAL AND DISPOSAL OF THE EXISTING CONCRETE DIAPHRAGMS, STEEL ANGLES AND HARDWARE SHALL BE INCLUDED IN ITEMS BID ON.

▲1 EXTREME CARE SHALL BE TAKEN TO PREVENT CONCRETE FROM FALLING ON THE TRAFFIC BELOW. SEE SHEETS 4 & 5 FOR TRAFFIC CONTROL DETAILS DURING REPAIRS. COST OF PREVENTATIVE MEASURES SHALL BE INCLUDED IN ITEMS BID ON.

ALL WORK MUST MEET WITH FULL APPROVAL OF TDOT ENGINEER.

THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR SUPPORTING THE PORTIONS OF THE SLAB WHICH ARE NOT TO BE REMOVED WHEN MAKING REPAIRS. DETAILS OF THE SUPPORT SYSTEM AND FORMING DETAILS SHALL BE SUBMITTED TO THE TDOT ENGINEER FOR REVIEW. COSTS OF THE SUPPORT SYSTEM SHALL BE INCLUDED IN ITEMS BID ON.



TRC CONSULTING ENGINEERS INTERNATIONAL, LTD. Brentwood, Tennessee 37027

ENG. JOB NO. 05401

DESIGNED BY	TRC INTERNATIONAL, LTD	DATE	FEBRUARY 2005
DRAWN BY	J. BEASLEY/M. PETERS	DATE	FEBRUARY 2005
SUPERVISED BY	A. MIRIAN	DATE	FEBRUARY 2005
CHECKED BY	M.M. NICHOLSON	DATE	FEBRUARY 2005

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

DIAPHRAGM REPAIR DETAILS

INTERSTATE-40
OVER
STATE ROUTE 24

BRIDGE NO. 18-I40-0.23 EBL & WBL

CUMBERLAND COUNTY
2005

BR-73-98

SPECIAL NOTES FOR EPOXY INJECTION

PROJECT NO.	YEAR	SHEET NO.
18100-4126-04	2005	

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION

ALL VISIBLE CRACKS LOCATED IN THE FOLLOWING AREAS SHALL BE PRESSURE INJECTED:
1) THE PRESTRESSED BOX BEAMS

UNLESS OTHERWISE NOTED, THE INTENT OF THIS SPECIFICATION IS FOR DESIGNATED CRACKS TO BE INJECTED THEIR FULL LENGTH AND DEPTH.

DESIGNATED CRACKS SHALL BE INJECTED WITH AN APPROVED EPOXY RESIN ADHESIVE FILLING ALL VOIDS FOR THE FULL CRACK DEPTH OR THICKNESS OF THE MEMBER. THE EPOXY RESIN ADHESIVE SHALL BE ON THE CURRENT QUALIFIED PRODUCTS LIST MAINTAINED BY THE DIVISION OF MATERIALS AND TESTS. ALL CRACKS SHALL BE INJECTED USING ADHESIVE SUITABLE FOR THE FIELD CONDITIONS (CRACK WIDTH, TEMPERATURE, HUMIDITY, ETC.) RECOMMENDED BY THE ADHESIVE MANUFACTURER AS SHOWN ON MATERIAL DATA SHEETS. FOLLOWING INJECTION, ALL INJECTION PORTS SHALL BE REMOVED. IN ADDITION, CAPPING MATERIAL SHALL BE REMOVED FROM EXPOSED SURFACES LEAVING THE SURFACE SMOOTH AND FLUSH WITH THE SURROUNDING CONCRETE SURFACES.

THE CONTRACTOR SHALL HAVE SUFFICIENT EXPERIENCE AND TRAINING TO PERFORM THE EPOXY INJECTION IN ACCORDANCE WITH THESE PLANS. PRIOR TO PERFORMING ANY WORK, THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER A WRITTEN PROCEDURE FOR PERFORMING THE EPOXY INJECTION. THE PROCEDURE SHALL DESCRIBE IN DETAIL HOW THE WORK WILL BE PERFORMED. THE PROCEDURE SHALL INCLUDE, BUT NOT BE LIMITED TO THE FOLLOWING INFORMATION.

1) DESCRIPTION OF EQUIPMENT.
   A) THE INJECTION EQUIPMENT SHALL BE OF THE TYPE THAT MIXES ADHESIVE COMPONENTS AT THE INJECTION HEAD.
   B) THE INJECTION EQUIPMENT SHALL BE CAPABLE OF DISCHARGING MIXED ADHESIVE AT ANY PRESSURE UP TO 300 PSI. THE INJECTION EQUIPMENT SHALL BE EQUIPPED WITH GAUGES WHICH CAN MEASURE THE INJECTION PRESSURE AND VOLUME.
2) EQUIPMENT CALIBRATION PROCEDURES AND SCHEDULE.
3) MATERIALS TO BE USED (INCLUDING MANUFACTURER DATA SHEETS).
   A) CAPPING MATERIAL
   B) EPOXY ADHESIVE (TYPE TO BE APPROPRIATE FOR CRACK SIZES TO BE INJECTED.)
4) PORT SPACING
   A) PORT SPACING SHALL NOT BE LESS THAN THE THICKNESS OF THE CONCRETE AT THAT LOCATION.
5) INJECTION SEQUENCE
   A) INJECTION SHALL PROCEED FROM LOWER END OF CRACK ALONG ADJACENT PARTS.
   B) SKIPPING OF PORTS DURING INJECTION SHALL NOT BE ALLOWED.

THE CONTRACTOR SHALL HAVE THE MANUFACTURER'S INSTRUCTIONS FOR PROPORTIONING AND MIXING AVAILABLE AT THE JOB SITE AT ALL TIMES AND SHALL ENSURE THAT THE EQUIPMENT IS SUPPLYING THE MIXED ADHESIVE IN THE CORRECT PROPORTIONS.

TO ENSURE PROPER MIXING AND PROPORTIONING, SAMPLES SHALL BE TAKEN FROM THE INJECTOR HEAD. SAMPLES SHALL BE TAKEN AT THE START OF EACH WORKDAY AND EACH TIME THE ADHESIVE RESERVOIRS ARE REFILLED. THE SAMPLES SHALL BE IN A TEST CUP. THE SAMPLE SHALL BE MONITORED TO ENSURE THAT THE CURE TIME IS IN COMPLIANCE WITH THE MANUFACTURER'S DATA SHEETS. IF THE SAMPLES DO NOT CURE IN THE SPECIFIED TIME THEN THE EQUIPMENT USED PRODUCE THE SAMPLE SHALL NOT BE USED UNTIL THE PROBLEM IS CORRECTED.

CORE SAMPLES SHALL BE TAKEN AS VERIFICATION OF THE QUALITY OF WORK. THE CONTRACTOR SHALL TAKE ONE (1) ONE AND A HALF (1½") INCH DIAMETER (FULL DEPTH OF CONCRETE AT LOCATION CORED) CORE SAMPLE STARTING WITH THE FIRST REPAIR LOCATION THEN EVERY 3RD REPAIR LOCATION AFTERWARDS. WORK SHALL NOT PROCEED UNTIL THE CORE SAMPLE IS TAKEN AND ACCEPTED. ALL CORE SAMPLES AND HOLES SHALL BE INDEXED FOR FUTURE REFERENCE. THE ENGINEER SHALL DESIGNATE ALL LOCATIONS TO BE CORED. IF ANY CORES SHOW UNACCEPTABLE RESULTS, ALL WORK SHALL BE STOPPED UNTIL THE CONTRACTOR SUBMITS A PROPOSAL FOR CORRECTING UNACCEPTABLE WORK. CORE SAMPLES WILL NOT BE REQUIRED ON PRESTRESSED BOX BEAMS SO NOT TO DAMAGE PRESTRESSING STRANDS.

THE INITIAL CORE WILL ALSO SERVE TO QUALIFY THE FORMAN FOR THIS WORK. IF AT ANY TIME A NEW FORMAN IS USED, HE SHALL BE QUALIFIED WITH A CORE SAMPLE.

THE CONTRACTOR SHALL REPAIR ALL CORE HOLES WITH AN APPROVED CEMENTITIOUS PATCHING MATERIAL.

CORE SAMPLES SHALL BE VISUALLY INSPECTED TO CONFIRM THAT CRACKS ARE COMPLETELY FILLED WITH ADHESIVE. ANY CORE HAVING LESS THAN 95% OF THE CRACK FILLED WITH ADHESIVE SHALL BE CONSIDERED UNACCEPTABLE AND BE REJECTED.

CORE SAMPLES SHALL BE TESTED FOR BOND STRENGTH BY COMPRESSIVE TEST. SAMPLES SHALL BE TESTED TO FAILURE IF ADHESIVE FAILURE OCCURS BEFORE CONCRETE FAILURE THE CORE SHALL BE CONSIDERED UNACCEPTABLE AND BE REJECTED. SAMPLE TESTING MAY BE BY A HAMMER BLOW TO THE CRACK AREA OR THROWN AT A HARD SURFACE.

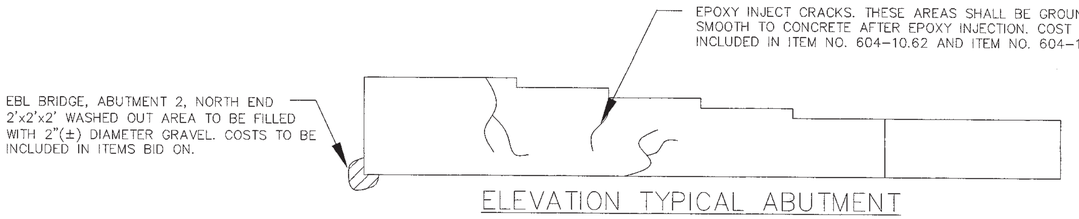
PAYMENT FOR EPOXY INJECTION CRACK REPAIR SHALL BE MADE UNDER ITEM NUMBERS
604-10.62, EPOXY INJECTION REPAIR (COMPLETE AND IN PLACE), L.F. AND
604-10.58, EPOXY INJECTION (INJECTION), GALLON.

PRICE BID FOR ITEM NUMBER 604-10.62, EPOXY INJECTION REPAIR (COMPLETE AND IN PLACE), L.F., SHALL INCLUDE COST OF ALL LABOR AND MATERIALS (EXCEPT ADHESIVE) FOR GRINDING FOR SURFACE PREPARATION, CRACK PREPARATION, CAPPING, INJECTION OF ADHESIVE, ALL SAMPLING AND TESTING, REPAIR OF CORE HOLES, REMOVAL OF CAPPING MATERIAL AND PORTS, AND OTHER INCIDENTALS. CRACKS SHALL BE MEASURED FOR PAYMENT ALONG THE LENGTH OF THE VISIBLE SURFACE CRACK.

PRICE BID FOR ITEM NUMBER 604-10.58, EPOXY INJECTION (INJECTION), GALLON, SHALL INCLUDE COST FOR ADHESIVE MATERIAL INJECTED ONLY.

NO PAYMENT SHALL BE MADE FOR REWORK DEEMED NECESSARY BY FAILURE OF ADHESIVE SAMPLES OR CORE SAMPLES.

ALL WORK INCLUDING SAMPLING AND TESTING SHALL BE PERFORMED IN THE PRESENCE OF THE ENGINEER OR HIS REPRESENTATIVE OR CONTRACT INSPECTORS. ANY WORK DONE WITHOUT INSPECTORS PRESENT SHALL NOT BE PAID FOR. THE CONTRACTOR SHALL PROVIDE THE ENGINEER WITH WEEKLY SCHEDULES OF WORK TO BE PERFORMED. SCHEDULES SHALL BE SUBMITTED AT LEAST THREE (3) DAYS IN ADVANCE OF WORK TO BE DONE. THE ENGINEER SHALL BE NOTIFIED OF ANY CHANGE IN THE SCHEDULE A MINIMUM OF TWENTY-FOUR (24) HOURS IN ADVANCE OF CHANGE.



ELEVATION TYPICAL ABUTMENT

CONCRETE REPAIRS SCHEDULE

LOCATION OF REPAIR	ITEM NO.604-10.62 EPOXY INJECTION REPAIR (COMPLETE & IN PLACE) LF
ABUTMENT NO. 1-EB	12
ABUTMENT NO. 2-EB	2
ABUTMENT NO. 1-WB	15
TOTAL	29

EB: DENOTES EAST BOUND
WB: DENOTES WEST BOUND

TYPICAL ABUTMENT REPAIR DETAILS

TRC CONSULTING ENGINEERS INTERNATIONAL, LTD. Brentwood, Tennessee 37027

ENG. JOB NO. 05401

DESIGNED BY	TRC INTERNATIONAL, LTD	DATE	FEBRUARY 2005
DRAWN BY	J. BEASLEY/M. PETERS	DATE	FEBRUARY 2005
SUPERVISED BY	A. MIRIAN	DATE	FEBRUARY 2005
CHECKED BY	M.M. NICHOLSON	DATE	FEBRUARY 2005

AMIR H. MIRIAN REGISTERED ENGINEER AGRICULTURE No. 101351 STATE OF TENNESSEE 4/29/05

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

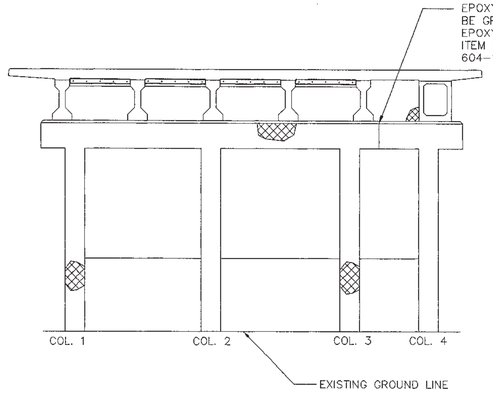
EPOXY INJECTION NOTES AND ABUTMENT REPAIR DETAILS

INTERSTATE-40
OVER
STATE ROUTE 24

BRIDGE NO. 18-I40-0.23 EBL & WBL

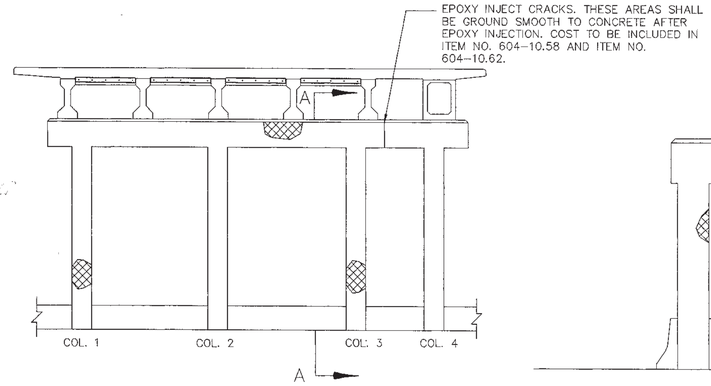
CUMBERLAND COUNTY
2005

BR-73-99



TYPICAL @ BENTS 3 AND 4

(EB. LANES-LOOKING FORWARD ON SURVEY)
(WB. LANES-LOOKING BACK ON SURVEY)



TYPICAL @ BENTS 1 AND 2

(EB. LANES-LOOKING FORWARD ON SURVEY)
(WB. LANES-LOOKING BACK ON SURVEY)

SECTION A-A

REPAIR CONCRETE SPALLING ON BENTS. SEE NOTES AND DETAILS ON THIS SHEET.

EB: DENOTES EAST BOUND
WB: DENOTES WEST BOUND

PROJECT NO.	YEAR	SHEET NO.
18100-4126-04	2005	

REVISIONS

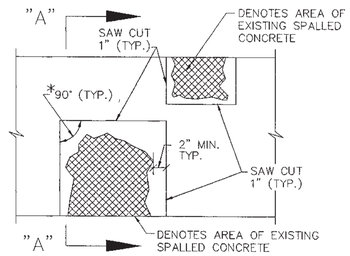
NO.	DATE	BY	BRIEF DESCRIPTION

CONCRETE REPAIRS SCHEDULE - EBL BRIDGE

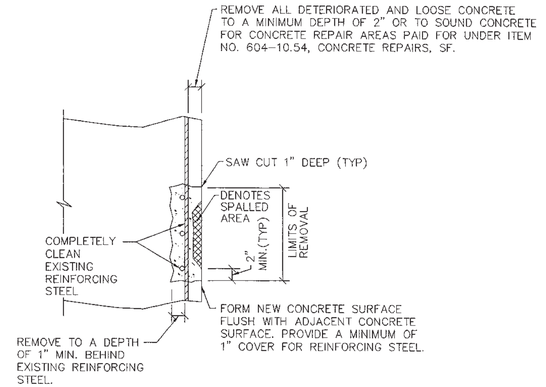
LOCATION OF REPAIR	ITEM NO. 604-10.54 CONCRETE REPAIR SF	ITEM NO.604-10.62 EPOXY INJECTION REPAIR (COMPLETE & IN PLACE) LF
BENT NO. 1 (BOTTOM OF CAP, BETWEEN COL 1 & 2)	4	-
BENT NO. 1 (CONSTRUCTION JOINT @ WIDENING)	-	12
BENT NO. 1 (EAST SIDE OF CAP, BETWEEN COL 1 & 2)	1	-
BENT NO. 2 (EAST SIDE OF DIAPHAGM BETWEEN BM E & F)	2	-
BENT NO. 2 (CONSTRUCTION JOINT @ WIDENING)	-	12
BENT NO. 2 (BOTTOM OF CAP, BETWEEN COL 1 & 2)	2	-
BENT NO. 2 (WEST SIDE OF CAP, @ COL 1)	6	-
BENT NO. 3 (CONSTRUCTION JOINT @ WIDENING)	-	12
BENT NO. 4 (CONSTRUCTION JOINT @ WIDENING)	-	12
TOTAL	15	48

CONCRETE REPAIRS SCHEDULE - WBL BRIDGE

LOCATION OF REPAIR	ITEM NO. 604-10.54 CONCRETE REPAIR SF	ITEM NO.604-10.62 EPOXY INJECTION REPAIR (COMPLETE & IN PLACE) LF
BENT NO. 1 (BOTTOM AND SIDES OF CAP, FULL LENGTH)	250	-
BENT NO. 1 (COLS 2 & 3)	50	-
BENT NO. 1 (CONSTRUCTION JOINT @ WIDENING)	-	12
BENT NO. 2 (CONSTRUCTION JOINT @ WIDENING)	-	12
BENT NO. 2 (BOTTOM AND SIDES OF CAP, BETWEEN COL 3 & 4)	30	-
BENT NO. 3 (CONSTRUCTION JOINT @ WIDENING)	-	12
BENT NO. 3 (BOTTOM OF CAP, BETWEEN COL 2 & 3)	5	-
BENT NO. 4 (CONSTRUCTION JOINT @ WIDENING)	-	12
TOTAL	335	48



DETAIL SHOWING SPALLED CONCRETE



SECTION "A-A"

DENOTES EXISTING SPALLING TO BE REPAIRED

NOTES:

ALL AREAS PATCHED ON BENTS SHALL BE TEXTURE COATED. COST FOR TEXTURE COATING SHALL BE INCLUDED IN PRICE BID FOR ITEM NO. 604-04.02 APPLIED TEXTURE FINISH (EXISTING STRUCTURE), SY. SEE NOTES ON SHEET 2.

*SAW CUT EXISTING CONCRETE SURFACES SO AS TO OBTAIN A SQUARE AREA. EDGES SHALL NOT BE FEATHERED OR TAPERED.

DURING SAW CUT OPERATION, CONTRACTOR TO FIELD VERIFY CONCRETE COVER TO PREVENT DAMAGE TO EXISTING STEEL REINFORCEMENT.

COST OF SAW CUTTING, REMOVING SPALLED CONCRETE, COMPLETELY CLEANING REINFORCING STEEL, NEW QUICK-SET PATCHING MATERIAL, LABOR, AND ANY MISCELLANEOUS MATERIALS NECESSARY TO COMPLETE THE REPAIRS AS SHOWN TO BE INCLUDED IN ITEM NO. 604-10.54, CONCRETE REPAIRS, SF.

CONTRACTOR TO TAKE EXTREME CARE WHEN REMOVING SPALLED AND DETERIORATED CONCRETE, SO AS NOT TO DAMAGE EXISTING REINFORCING STEEL. ALL EXISTING REINFORCING STEEL SHALL BE COMPLETELY CLEANED BEFORE PLACING NEW CONCRETE.

ITEM NO. 604-10.54 SHALL BE BID WITH THE CONTINGENCY THAT THIS ITEM MAY BE INCREASED, DECREASED, OR ELIMINATED AS DIRECTED BY THE ENGINEER.



TRC CONSULTING ENGINEERS INTERNATIONAL, LTD.
Brentwood, Tennessee 37027

ENG. JOB NO. 05401

DESIGNED BY	TRC INTERNATIONAL, LTD	DATE	FEBRUARY 2005
DRAWN BY	J. BEASLEY/M. PETERS	DATE	FEBRUARY 2005
SUPERVISED BY	A. MIRIAN	DATE	FEBRUARY 2005
CHECKED BY	M.M. NICHOLSON	DATE	FEBRUARY 2005

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

BENT REPAIR DETAILS

INTERSTATE-40
OVER
STATE ROUTE 24

BRIDGE NO. 18-140-0.23 EBL & WBL

CUMBERLAND COUNTY
2005

BR-73-100

TENNESSEE D.O.T. | DESIGN DIVISION | FILE NO.

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2025	18100-4148-04	S-1

SWPPP INDEX OF SHEETS

DESCRIPTION	SHT.
1. SWPPP REQUIREMENTS (5.0.)	1
2. SITE DESCRIPTION (5.5.1.)	1
3. ORDER OF CONSTRUCTION ACTIVITIES (5.5.1.a)	1
4. STREAM, OUTFALL, WETLAND, TMDL AND ECOLOGY INFORMATION	1-2
5. EROSION PREVENTION AND SEDIMENT CONTROL (EPSC) MEASURES (5.5.3.)	2-3
6. FLOCCULANTS (3.5.3.1.b)	3
7. UTILITY RELOCATION	3-4
8. MAINTENANCE AND INSPECTION	4
9. SITE ASSESSMENTS (5.5.3.8.)	4
10. STORMWATER MANAGEMENT (5.5.3.11.h)	4-5
11. NON-STORMWATER DISCHARGES (5.5.3.12.)	5
12. SPILL PREVENTION, MANAGEMENT AND NOTIFICATION (5.5.3.7.c, 6.1)	5
13. RECORD-KEEPING	5-6
14. SITE WIDE/PRIMARY PERMITTEE CERTIFICATION (8.7.5.)	7
15. SECONDARY PERMITTEE (OPERATOR) CERTIFICATION (8.7.6.)	7
16. ENVIRONMENTAL PERMITS (1.5.2.)	7
17. OUTFALL TABLE (5.5.1.c, 6.4.1.e, 6.4.1.f)	8

NOTE: CITATIONS IN PARENTHESIS INDICATE SECTIONS OF THE CURRENT CGP.

1. SWPPP REQUIREMENTS (5.0.)

1.1. HAS THE SWPPP TEMPLATE BEEN PREPARED BY AN INDIVIDUAL THAT HAS THE FOLLOWING LICENSING AND/OR CERTIFICATIONS (5.2)?

☒ YES (CHECK ALL THAT APPLY BELOW) OR ☐ NO

- ☒ CERTIFIED PROFESSIONAL IN EROSION AND SEDIMENT CONTROL (CPESC)
- ☒ A TN LICENSED PROFESSIONAL ENGINEER OR LANDSCAPE ARCHITECT
- ☒ HAS SUCCESSFULLY COMPLETED TDEC LEVEL II COURSE

1.2. DO THE EPSC PLANS INVOLVE STRUCTURAL DESIGN, HYDRAULIC, HYDROLOGIC OR OTHER ENGINEERING CALCULATIONS FOR EPSC STRUCTURAL MEASURES (E.G. SEDIMENT BASINS) (5.2.)? YES ☒ NO ☐

IF YES, HAVE THE EPSC PLANS BEEN PREPARED, STAMPED AND CERTIFIED BY A TN LICENSED PROFESSIONAL ENGINEER OR LANDSCAPE ARCHITECT? ☒ YES ☐ NO

1.3. DO THE PROJECT STORMWATER OUTFALLS DISCHARGE INTO THE FOLLOWING (6.4.1.)? ☐ YES (CHECK ALL THAT APPLY BELOW) ☒ NO

- ☐ WATERS WITH UNAVAILABLE PARAMETERS (303d FOR SILTATION)
- ☐ EXCEPTIONAL TENNESSEE WATERS (ETW)

2. SITE DESCRIPTION (5.5.1.)

2.1. PROJECT LIMITS (5.5.1.f): REFER TO TITLE SHEET

2.2. TOTAL PROJECT AREA (5.5.1.b): 58.613 ACRES

2.3. TOTAL AREA TO BE DISTURBED (5.5.1.b): 7.612 ACRES

2.4. PROJECT DESCRIPTION (5.5.1.a):

TITLE: 1-40, Bridges over SR-24 (U.S. 70N), LM 0.24
COUNTY: Cumberland
PIN: 105727.01

2.5. SITE MAP(S) (3.2.2.): REFER TO TITLE SHEET

2.6. DESCRIPTION OF EXISTING SITE TOPOGRAPHY (5.5.1.c): REFER TO EXISTING CONTOURS SHEET(S) 18-19F, DRAINAGE MAP SHEET(S) 12-13, USGS QUAD MAP, AND THE OUTFALL TABLE IN SECTION 4.2.

2.7. MAJOR SOIL DISTURBING ACTIVITIES (5.5.1.a) (CHECK ALL THAT APPLY):

- ☒ CLEARING AND GRUBBING
- ☒ EXCAVATION
- ☒ CUTTING AND FILLING
- ☒ FINAL GRADING AND SHAPING
- ☒ UTILITIES
- ☐ OTHER (DESCRIBE): _____

2.8. NO MORE THAN 50 ACRES OF ACTIVE SOIL DISTURBANCE IS ALLOWED AT ANY TIME DURING THE CONSTRUCTION OF THE PROJECT.

2.9. ARE THERE ANY SEASONAL LIMITATIONS ON WORK? ☒ YES ☐ NO

IF YES, LIST THE CORRESPONDING PLAN SHEET: 1B

2.10. WAS ROW FINALIZED PRIOR TO FEBRUARY 1, 2010 (4.1.2.2)?

☐ YES _____ (DATE) ☒ NO

IF ROW WAS FINALIZED PRIOR TO FEBRUARY 1, 2010, THIS PROJECT IS CONSIDERED A PRE-APPROVED SITE (4.1.2.2)

2.11. SOIL PROPERTIES (5.5.1.d, 5.5.3.3.d, 5.5.3.6.b).

SOIL PROPERTIES FOR THE PRIMARY SOILS ARE LISTED IN THE TABLE BELOW.

SOIL PROPERTIES			
PRIMARY SOIL NAME	HSG	% OF SITE	ERODIBILITY (k value)
Lily loam, 2 to 6 percent slopes	B	13.7	.24
Lily loam, 6 to 12 percent slopes	B	86.3	.24

2.12. IS ACID PRODUCING ROCK (APR) (i.e. PYRITE) LOCATED WITHIN THE PROJECT LIMITS? ☐ YES ☒ NO

2.12.1. IF YES TO SECTION 2.13, HAVE APR LOCATIONS BEEN IDENTIFIED WITHIN THE CONSTRUCTION PLANS AND/OR THE GEOTECHNICAL REPORT? ☐ YES ☐ NO; AND

2.12.2. IF YES TO SECTION 2.12.1, HAS A SPECIAL HANDLING PLAN AND/OR ADAPTIVE MANAGEMENT PLAN (AMP) BEEN PREPARED FOR THE PROJECT? ☐YES ☐ NO ☐ N/A (TDOT SP107L WILL BE APPLIED.)

2.13. PROJECT RUNOFF COEFFICIENTS AND AREA PERCENTAGES (5.5.3.6.a).

RUNOFF COEFFICIENTS FOR EXISTING CONDITIONS				
AREA TYPE	AREA(AC)	PERCENTAGE OF TOTAL AREA (%)	RUNOFF CN	C FACTOR
IMPERVIOUS	27.2	46.4		0.90
PERVIOUS	31.4	53.6		0.30
WEIGHTED CURVE NUMBER OR C-FACTOR =				0.58

RUNOFF COEFFICIENTS FOR POST-CONSTRUCTION CONDITIONS				
AREA TYPE	AREA(AC)	PERCENTAGE OF TOTAL AREA (%)	RUNOFF CN	C FACTOR
IMPERVIOUS	27.2	46.4		0.90
PERVIOUS	31.4	53.6		0.30
WEIGHTED CURVE NUMBER OR C-FACTOR =				0.58

3. ORDER OF CONSTRUCTION ACTIVITIES (5.5.1.a)

CONSTRUCTION SHALL BE SEQUENCED AND STAGED TO: MINIMIZE THE EXPOSURE TIME OF GRADED OR DENUDED SOIL AREAS, PRESERVE TOPSOIL, AND MINIMIZE SOIL COMPACTION. NO WORK SHALL BE STARTED UNTIL THE CONTRACTOR'S PLAN FOR THE STAGING OF THEIR OPERATIONS, INCLUDING THE PLAN FOR STAGING OF TEMPORARY AND PERMANENT EPSC MEASURES, HAS BEEN ACCEPTED BY THE ENGINEER. THE CONTRACTOR'S EPSC PLAN SHALL INCORPORATE AND SUPPLEMENT, AS ACCEPTABLE, THE ORDER OF CONSTRUCTION ACTIVITIES AND THE BASIC EPSC DEVICES DEPICTED ON THE EPSC PLAN CONTAINED WITHIN THE APPROVED SWPPP.

3.1. SPECIAL SEQUENCING REQUIREMENTS (SEE SHEETS 18-21F)

3.2. INSTALL STABILIZED CONSTRUCTION EXITS.

3.3. INSTALL PERIMETER PROTECTION WHERE RUNOFF SHEET FLOWS FROM THE SITE.

3.4. INSTALL INITIAL EPSC MEASURES BEFORE CLEARING, GRUBBING, EXCAVATION, GRADING, CULVERT OR BRIDGE CONSTRUCTION, CUTTING, FILLING, OR ANY OTHER EARTHWORK OCCURS, EXCEPT AS SUCH WORK MAY BE NECESSARY TO INSTALL EPSC MEASURES.

3.5. PERFORM CLEARING AND GRUBBING (NOT MORE THAN TWO WEEKS PRIOR TO GRADING OR EARTH-MOVING. REFER TO THE STABILIZATION PRACTICES BELOW.).

3.6. REMOVE AND STORE TOPSOIL.

3.7. STABILIZE DISTURBED AREAS WITHIN 2 WEEKS OF COMPLETING ANY STAGE AND/OR PHASE OF ACTIVITY (STEEP SLOPES SHALL BE STABILIZED WITHIN 1 WEEK AFTER CONSTRUCTION ACTIVITY HAS TEMPORARY OR PERMANENTLY CEASED).

3.8. INSTALL UTILITIES, STORM SEWERS, CULVERTS AND BRIDGE STRUCTURES.

3.9. INSTALL INLET AND CULVERT PROTECTION ONCE STRUCTURES ARE IN PLACE AND CAPABLE OF INTERCEPTING FLOW.

3.10. PERFORM FINAL GRADING AND INSTALL BASE STONE.

3.11. COMPLETE FINAL PAVING AND SEALING OF CONCRETE.

3.12. INSTALL TRAFFIC CONTROL AND PROTECTION DEVICES.

3.13. COMPLETE PERMANENT STABILIZATION (TOPSOIL, SEEDING, MULCH, EROSION CONTROL BLANKET, SOD, ETC.)

3.14. REMOVE TEMPORARY EROSION CONTROLS AND ACCUMULATED SEDIMENT FROM AREAS THAT HAVE ESTABLISHED AT LEAST 70 PERCENT UNIFORM PERMANENT VEGETATIVE COVER.

3.15. RE-STABILIZE AREAS DISTURBED BY REMOVAL ACTIVITIES.

4. STREAM, OUTFALL, WETLAND, TMDL AND ECOLOGY INFORMATION

4.1. STREAM INFORMATION (5.5.1.h, 5.5.1.i)

4.1.1. WILL CONSTRUCTION AND/OR EROSION PREVENTION AND SEDIMENT CONTROLS IMPACT ANY STREAMS WITHIN THE PROJECT LIMITS? ☒ YES ☐ NO

IF YES, THE IMPACT(S) HAVE BEEN INCLUDED IN THE TOTAL PROJECT IMPACTS AND HAVE BEEN INCLUDED IN THE WATER QUALITY PERMITS.

4.1.2. HAVE ANY OF THE RECEIVING STATE WATERS LESS THAN OR EQUAL TO 1 FLOW MILE DOWN GRADIENT OF THE PROJECT LIMITS BEEN CLASSIFIED BY TDEC AS FOLLOWS (CHECK ALL THAT APPLY):

- ☐ 303d WITH UNAVAILABLE PARAMETERS FOR SILTATION
- ☐ EXCEPTIONAL TENNESSEE WATERS (ETW)

4.1.3. RECEIVING WATERS OF THE STATE (5.5.1.h, 5.5.1.j, 5.5.1.k).

RECEIVING WATERS OF THE STATE INFORMATION					
TDOT STATE WATER LABEL FROM EBR	NAME OF RECEIVING STATE WATER	303d WITH UNAVAILABLE PARAMETERS FOR SILTATION (YES OR NO)	ETW (YES OR NO)	LOCATED WITHIN PROJECT LIMITS (YES OR NO)	LOCATED WITHIN ≤ 1 FLOW MILE DOWN GRADIENT OF PROJECT LIMITS (YES OR NO)
STR-1	Dripping Springs Creek	NO	NO	YES	YES
STR-2	Dripping Springs Creek	NO	NO	YES	YES

4.1.4. RECEIVING WATERS OF THE US (NON STATE WATERS) (4.1.2). LIST ANY FEATURE THAT IS IDENTIFIED AS A WET WEATHER CONVEYANCE (TDEC) AND IDENTIFIED AS WATERS OF THE US BY THE ARMY CORPS OF ENGINEERS.

WET WEATHER CONVEYANCES THAT ARE WATERS OF THE US		
TDOT STATE WATER LABEL FROM EBR	LOCATED WITHIN PROJECT LIMITS (YES OR NO)	LOCATED WITHIN ≤ 1 FLOW MILE DOWN GRADIENT OF PROJECT LIMITS (YES OR NO)
N/A	N/A	N/A

4.1.5. ARE THERE ANY WATER QUALITY RIPARIAN BUFFER ZONES REQUIRED FOR WATERS OF THE STATE? (5.5.1.l, 6.4.2.)

☐ YES ☒ NO

BUFFER ZONE REQUIREMENTS ARE NOT REQUIRED FOR PRE-APPROVED SITES (4.1.2.2.)

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

STORMWATER POLLUTION PREVENTION PLAN

TENNESSEE D.O.T.	DESIGN DIVISION	FILE NO.

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2025	18100-4148-04	S-2

IF YES, THEY HAVE BEEN INCLUDED ON PLAN SHEET(S) N/A.

IF YES, CHECK THE APPROPRIATE BOX BELOW FOR SIZE OF BUFFER.

☐ 60-FEET FOR WATERS WITH UNAVAILABLE PARAMETERS AND EXCEPTIONAL TENNESSEE WATERS (ETW) (AVERAGE WIDTH PER SIDE WITH A MINIMUM OF 30-FEET).

A 60 FOOT NATURAL WATER QUALITY RIPARIAN BUFFER ZONE ADJACENT TO AND ON BOTH SIDES OF THE RECEIVING STATE STREAM WITH THIS DESIGNATION SHALL BE PRESERVED TO THE MAXIMUM EXTENT PRACTICABLE DURING CONSTRUCTION ACTIVITIES AT THE SITE. THE 60 FOOT CRITERION FOR THE WIDTH OF THE BUFFER ZONE CAN BE ESTABLISHED ON AN AVERAGE WIDTH BASIS AT A PROJECT, AS LONG AS THE MINIMUM WIDTH OF THE BUFFER ZONE IS MORE THAN 30 FEET AT ANY MEASURED LOCATION. IF THE CONSTRUCTION SITE ENCOMPASSES BOTH SIDES OF A STREAM, BUFFER AVERAGING CAN BE APPLIED TO BOTH SIDES, BUT MUST BE APPLIED INDEPENDENTLY.

☐ 30-FEET FOR ALL OTHER STREAMS (AVERAGE WIDTH PER SIDE WITH A MINIMUM OF 15-FEET).

A 30 FOOT NATURAL WATER QUALITY RIPARIAN BUFFER ZONE ADJACENT TO AND ON BOTH SIDES OF THE RECEIVING STATE STREAM SHALL BE PRESERVED TO THE MAXIMUM EXTENT PRACTICABLE DURING CONSTRUCTION ACTIVITIES AT THE SITE. THE 30 FOOT CRITERION FOR THE WIDTH OF THE BUFFER ZONE CAN BE ESTABLISHED ON AN AVERAGE WIDTH BASIS AT A PROJECT, AS LONG AS THE MINIMUM WIDTH OF THE BUFFER ZONE IS MORE THAN 15 FEET AT ANY MEASURED LOCATION. IF THE CONSTRUCTION SITE ENCOMPASSES BOTH SIDES OF A STREAM, BUFFER AVERAGING CAN BE APPLIED TO BOTH SIDES, BUT MUST BE APPLIED INDEPENDENTLY.

☐ 15-FEET FOR ANY WET WEATHER CONVEYANCES IDENTIFIED AS WATERS OF THE US BY THE US ARMY CORPS OF ENGINEERS.

4.1.6. ARE THERE ANY WATER QUALITY RIPARIAN BUFFER ZONES NOT REQUIRED FOR STATE WATERS DUE TO A TDEC ARAP? (1.5.2.)

☐ YES ☒ NO

4.1.7. ARE THERE WATER QUALITY RIPARIAN BUFFER ZONE EXEMPTIONS? (4.1.2.1.) ☐ YES ☒ NO

IF YES, EXISTING CONDITIONS DESCRIPTION:_____

4.1.8. EVERY ATTEMPT SHOULD BE MADE FOR CONSTRUCTION ACTIVITIES TO NOT TAKE PLACE WITHIN THE WATER QUALITY RIPARIAN BUFFER ZONE AND FOR EXISTING FORESTED AREAS TO BE PRESERVED. (4.1.2., 6.4.2.)

4.1.9. BECAUSE OF HEAVY SEDIMENT LOAD ASSOCIATED WITH CONSTRUCTION SITE RUNOFF, WATER QUALITY RIPARIAN BUFFER ZONES ARE NOT SEDIMENT CONTROL MEASURES AND SHOULD NOT BE RELIED UPON AS PRIMARY SEDIMENT CONTROL MEASURES. THE WATER QUALITY RIPARIAN BUFFER ZONE SHALL BE ESTABLISHED BETWEEN THE TOP OF THE STREAM BANK AND THE DISTURBED CONSTRUCTION AREA.

4.1.10. WHERE IT IS NOT PRACTICABLE TO MAINTAIN A FULL WATER QUALITY RIPARIAN BUFFER, BEST MANAGEMENT PRACTICES (BMPS) PROVIDING EQUIVALENT PROTECTION AS THE NATURAL RIPARIAN ZONE MUST BE USED. A JUSTIFICATION FOR USE AND DESIGN EQUIVALENCY SHALL BE DOCUMENTED WITHIN THE SWPPP. THE ENVIRONMENTAL AND ROADWAY DESIGN DIVISIONS SHALL REVIEW AND APPROVE THIS REVISION OF THE SWPPP BEFORE DISTURBANCE OF THE SITE PROCEEDS, UNLESS PREVIOUSLY EXEMPT IN THE NPDES CGP. WHERE ISSUED, ARAP/401 REQUIREMENTS WILL PREVAIL IF IN CONFLICT WITH THESE BUFFER ZONE REQUIREMENTS.

4.2. OUTFALL INFORMATION

4.2.1. OUTFALL TABLE (5.5.1.c). SEE SWPPP SHEET S-8 FOR OUTFALL INFORMATION.

4.2.2. HAVE ALL OUTFALLS BEEN LABELED ON THE EPSC PLAN SHEETS (5.5.1.f)? ☒ YES ☐ NO

4.2.3. HAVE ALL OUTFALLS BEEN LABELED ON A USGS TOPOGRAPHIC MAP INCLUDED IN THE "DOCUMENTATION AND PERMITS" BINDER (3.2.2.)? ☒YES ☐ NO

4.2.4. WHERE POSSIBLE, HAS NON-PROJECT RUN-ON BEEN DIVERTED AROUND OR THROUGH THE PROJECT TO ELIMINATE CONTACT WITH DISTURBED AREAS OF THE PROJECT AND SEPARATE IT FROM PROJECT RUN-OFF THEREBY REDUCING THE DRAINAGE AREA OF TO THE OUTFALLS IN THIS AREA?

☒ YES ☐ NO ☐ N/A

4.2.5. ARE EQUIVALENT MEASURES BEING SUBSTITUTED FOR A SEDIMENT BASIN(S) OR SEDIMENT TRAP(S)? (5.5.3.5.)

☐ YES ☐ NO ☒ N/A

4.2.6. A SEDIMENT BASIN, OR EQUIVALENT MEASURE(S) WILL BE PROVIDED FOR ANY OUTFALL IN A DRAINAGE AREA:

OF TEN ACRES OR MORE FOR AN OUTFALL(S) THAT DOES NOT DISCHARGE TO A STATE STREAM WITH UNAVAILABLE PARAMETERS OR EXCEPTIONAL TENNESSEE WATERS (ETW). A TEMPORARY (OR PERMANENT) SEDIMENT BASIN OR EQUIVALENT CONTROL MEASURES THAT PROVIDES STORAGE FOR A CALCULATED VOLUME OF RUNOFF FROM A MINIMUM 2-YEAR/ 24-HOUR STORM EVENT, SHALL BE PROVIDED UNTIL PERMANENT STABILIZATION OF THE SITE. (5.5.3.5)

OR

OF FIVE ACRES OR MORE FOR AN OUTFALL(S) THAT DISCHARGES TO A STATE STREAM WITH UNAVAILABLE PARAMETERS OR EXCEPTIONAL TENNESSEE WATERS (ETW). A TEMPORARY (OR PERMANENT) SEDIMENT BASIN THAT PROVIDES STORAGE FOR A CALCULATED VOLUME OF RUNOFF FROM A 5-YEAR/ 24-HOUR STORM EVENT AND RUNOFF FROM EACH ACRE DRAINED, OR EQUIVALENT CONTROL MEASURES, SHALL BE PROVIDED UNTIL PERMANENT STABILIZATION OF THE SITE. (6.4.1.e).

ALL CALCULATIONS RELATED TO DRAINAGE AREAS, RUNOFF COEFFICIENTS, BASIN VOLUMES AND EQUIVALENT CONTROL MEASURES MUST BE PROVIDED IN THE SWPPP (5.5.3.5.)

4.2.7. A SEDIMENT TRAP, OR EQUIVALENT MEASURE(S) WILL BE PROVIDED FOR ANY OUTFALL IN A DRAINAGE AREA:

OF 3.5 - 4.9 ACRES FOR AN OUTFALL(S) THAT DISCHARGES TO A STATE STREAM WITH UNAVAILABLE PARAMETERS (303d SILTATION) OR EXCEPTIONAL TENNESSEE WATERS (ETW). A SEDIMENT TRAP THAT PROVIDES STORAGE FOR A CALCULATED VOLUME OF RUNOFF FROM A 5-YEAR/24-HOUR STORM EVENT AND RUNOFF FROM EACH ACRE DRAINED, OR EQUIVALENT CONTROL MEASURES, SHALL BE PROVIDED UNTIL PERMANENT STABILIZATION OF THE SITE. (6.4.1.f).

IN BOTH INSTANCES, THE ENVIRONMENTAL AND ROADWAY DESIGN DIVISIONS MAY BE CONTACTED TO REVIEW AND CONCUR WITH ANY REVISION OF THE SWPPP BEFORE DISTURBANCE OF THE OUTFALL PROCEEDS.

4.2.8. SEDIMENT STRUCTURES TREATING DRAINAGE AREAS IN EXCESS OF 25 ACRES REQUIRE A SITE-SPECIFIC DESIGN THAT ACCURATELY DEFINES THE SITE HYDROLOGY, SITE-SPECIFIC SEDIMENT LOADING, HYDRAULICS OF THE SITE, AND ADHERES TO ALL TENNESSEE EROSION AND SEDIMENT CONTROL HANDBOOK DESIGN RECOMMENDATIONS FOR SEDIMENT BASINS. (5.5.3.5.)

4.3. WETLAND INFORMATION

WILL CONSTRUCTION AND/OR EROSION AND SEDIMENT CONTROLS IMPACT ANY WETLANDS? ☒ YES ☐ NO

IF YES, THE STRUCTURAL EPSC MEASURES HAVE BEEN INCLUDED IN THE TOTAL PROJECT IMPACTS AND IN THE WATER QUALITY PERMITS.

WETLAND INFORMATION				
TDOT WETLAND LABEL	FROM STATION LT OR RT	TO STATION LT OR RT	TEMPORARY IMPACTS (AC)	PERMANENT IMPACTS (AC)
WTL-1	787+50.00 ± RT	787+50.00 ± RT	0.008	0.001
WTL-2	787+00.00 ± LT	787+00.00 ± LT	0.00	0.004

4.4. TOTAL MAXIMUM DAILY LOADS (TMDL) INFORMATION (1.3.j)

4.4.1. IS THIS PROJECT LOCATED IN A HUC-8 WATERSHED THAT MAINTAINS AN EPA APPROVED TMDL FOR SILTATION AND HABITAT ALTERATION?

☐YES ☒ NO

4.4.2. IF YES, IS THIS PROJECT LOCATED WITHIN A HUC-12 SUBWATERSHED WITH A WASTE LOAD ALLOCATION (WLA)?

☐ YES ☐ NO

4.4.3. IF YES, DOES THE PROJECT HAVE A DIRECT DISCHARGE TO A 303(d) LISTED STREAM FOR SILTATION?

☐ YES ☐ NO

IF YES, SWPPP INCORPORATES MEASURES OR CONTROLS CONSISTENT WITH THE ASSUMPTIONS AND REQUIREMENTS OF THE TMDL.

4.5. ECOLOGY INFORMATION (3.5.5.e)

DOES THE TDOT ENVIRONMENTAL BOUNDARIES REPORT SPECIFY SPECIAL NOTES TO BE ADDED TO THE PLAN SHEETS?

☒ YES ☐ NO

IF YES, THEY HAVE BEEN INCLUDED ON PLAN SHEET(S) 1B.

4.6. ENVIRONMENTAL COMMITMENTS

ARE THERE ANY NOTES ON THE ENVIRONMENTAL COMMITMENT SHEET?

☒ YES ☐ NO

IF YES, THEY HAVE BEEN INCLUDED ON PLAN SHEET(S) 1B.

5. EROSION PREVENTION AND SEDIMENT CONTROL (EPSC) MEASURES (5.5.3.)

5.1. EPSC MEASURES MUST BE DESIGNED, INSTALLED AND MAINTAINED TO CONTROL STORMWATER VOLUME AND VELOCITY WITHIN THE SITE TO MINIMIZE EROSION (4.1.1).

5.2. EPSC MEASURES MUST CONTROL STORMWATER DISCHARGES, INCLUDING BOTH PEAK FLOWS AND TOTAL STORMWATER VOLUME, TO MINIMIZE EROSION AT OUTLETS, STREAM CHANNELS, AND STREAM BANKS. (4.1.1)

5.3. HAVE THE CONTROL MEASURES BEEN DESIGNED PER THE SIZE AND SLOPE OF THE DISTURBED DRAINAGE AREA (5.5.3.5.)?

☒YES ☐ NO

5.4. THE CONTROL MEASURES HAVE, AT A MINIMUM, BEEN DESIGNED FOR THE 5-YEAR, 24 HOUR STORM EVENT (5.5.3.5., 6.4.1.b).

5.5. ARE THE LIMITS OF DISTURBANCE CLEARLY MARKED ON THE EPSC PLANS (5.5.1.f)? ☒ YES ☐ NO

5.6. AREAS TO BE UNDISTURBED SHALL BE CLEARLY MARKED IN THE FIELD BEFORE CONSTRUCTION ACTIVITIES BEGIN.

5.7. UNLESS OTHERWISE NOTED IN THE PLANS, THE CONTRACTOR SHALL NOT CLEAR/DISTURB ANY AREA BEYOND 15 FEET FROM SLOPE LINES OR ROW/ EASEMENT LINE, WHICHEVER IS LESSER.

5.8. CLEARING, GRUBBING, AND OTHER DISTURBANCE TO RIPARIAN VEGETATION SHALL BE LIMITED 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.

5.9. HAS A THREE STAGED EPSC PLAN BEEN PREPARED FOR THE PROJECT (5.5.2.)?

YES ☒ NO ☐

PLEASE NOTE THAT A THREE STAGED EPSC PLAN IS REQUIRED FOR ALL TDOT PROJECTS FOR WHICH AN NPDES PERMIT IS REQUIRED.

5.10. STEEP SLOPES ARE DEFINED AS A NATURAL OR CREATED SLOPE OF 35% GRADE OR GREATER REGARDLESS OF HEIGHT. HAVE STEEP SLOPES BEEN MINIMALLY DISTURBED AND/OR PROTECTED BY CONVEYING RUNOFF NON-EROSIVELY AROUND OR OVER THE SLOPE (5.5.3.4.) (10. "STEEP SLOPE")? ☒ YES ☐ NO ☐ N/A

5.11. THE STRUCTURAL EPSC MEASURES HAVE BEEN INCLUDED IN THE TOTAL PROJECT IMPACTS AND HAVE BEEN INCLUDED IN THE AQUATIC RESOURCE ALTERATION (ARAP) PERMIT OR SECTION 401 CERTIFICATION (5.5.1.h). REFER TO THE LIST OF APPLICABLE ENVIRONMENTAL PERMITS LOCATED ON SWPPP SHEET S-7. ALL PERMITS WILL BE MAINTAINED ON SITE WITHIN THE "DOCUMENTATION AND PERMITS" BINDER.

5.12. THE EPSC CONTROL MEASURES LISTED IN THE QUANTITIES TABLE ON SHEET 18 HAVE BEEN SELECTED IN ACCORDANCE WITH TDOT STANDARD DRAWINGS AND GOOD ENGINEERING PRACTICES (5.1., 5.5.3.1.b, 5.5.3.5.).

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

STORMWATER POLLUTION PREVENTION PLAN

5.13. EPSC MEASURES SHALL BE INSTALLED PER TDOT STANDARDS (i.e. STANDARD DRAWINGS) AND SHALL BE FUNCTIONAL PRIOR TO ANY EARTH MOVING OPERATIONS.

5.14. EPSC MEASURES WILL NOT BE INSTALLED WITHIN A STREAM WITHOUT FIRST OBTAINING APPROVAL FROM THE PERMITS SECTION.

5.15. TEMPORARY EPSC MEASURES MAY BE REMOVED AT THE BEGINNING OF THE WORKDAY, BUT MUST BE REINSTALLED AT THE END OF THE WORKDAY OR BEFORE A PRECIPITATION EVENT.

5.16. EPSC MEASURES LOCATED IN WOTUS (EPHEMERAL STREAMS) MUST BE CONSIDERED TEMPORARY AND SHALL BE REMOVED AT THE END OF CONSTRUCTION.

5.17. THE CONTRACTOR SHALL ESTABLISH AND MAINTAIN A PROACTIVE METHOD TO PREVENT THE OFF-SITE 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 PUBLIC. IF SEDIMENT ESCAPES THE CONSTRUCTION SITE, OFF-SITE ACCUMULATIONS OF SEDIMENT THAT HAVE NOT REACHED A STREAM MUST BE REMOVED TO A LEVEL SUFFICIENT TO MINIMIZE OFF-SITE 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 SETTLED WITH THE ADJOINING PROPERTY OWNER BEFORE REMOVAL OF SEDIMENT. SEDIMENT THAT MIGRATES INTO WATERS OF THE STATE/US SHALL NOT BE REMOVED WITHOUT GUIDANCE FROM TDOT ENVIRONMENTAL PERSONNEL.

5.18. 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.

5.19. THE QUANTITIES REQUIRED FOR STABILIZED CONSTRUCTION EXITS PER TDOT STANDARDS HAVE BEEN SPECIFIED ON SHEET 18 (5.5.3.1.j).

5.20. DISCHARGES FROM DEWATERING ACTIVITIES ARE PROHIBITED UNLESS MANAGED BY APPROPRIATE CONTROLS THAT PROVIDE THE LEVEL OF TREATMENT (FILTRATION) NECESSARY TO COMPLY WITH PERMIT REQUIREMENTS. (4.1.3.).

5.21. SETTLING BASINS AND SEDIMENT TRAPS SHALL BE PROPERLY DESIGNED PER 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.

5.22. DISCHARGES FROM SEDIMENT BASINS AND IMPOUNDMENTS SHALL UTILIZE OUTLET STRUCTURES THAT ONLY WITHDRAW WATER FROM NEAR THE SURFACE OF THE BASIN OR IMPOUNDMENT. TREATED WATER MUST BE DISCHARGED THROUGH A PIPE, WELL- VEGETATED AND/OR LINED CHANNEL, SO THAT THE DISCHARGE DOES NOT CAUSE EROSION OR SEDIMENT TRANSPORT. (5.5.3.5.).

5.23. 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 CHEMICAL TREATMENTS MUST BE APPLIED PER SECTION 6 FLOCCULANTS.

5.24. WATER DISCHARGED FROM DEWATERING ACTIVITIES SHALL NOT CAUSE AN OBJECTIONABLE COLOR CONTRAST WITHIN THE RECEIVING NATURAL RESOURCE. WATER MUST BE HELD WITHIN SETTLING BASINS UNTIL IT IS AT LEAST AS CLEAR AS THE RECEIVING WATERS.

5.25. DEWATERING STRUCTURES, SEDIMENT FILTER BAGS, SEDIMENT BASINS AND TRAPS SHALL NOT BE LOCATED CLOSER THAN 30 FEET (60 FEET DESIRABLE VEGETATIVE BUFFER) FOR WATERS WITH UNAVAILABLE PARAMETERS AND EXCEPTIONAL TENNESSEE WATERS (ETW) AND 15 FEET (30 FEET DESIRABLE VEGETATIVE BUFFER) FOR ALL OTHER FEATURES FROM THE TOP BANK OF A STREAM, WOTUS (EPHEMERAL), WETLAND OR OTHER NATURAL RESOURCE AND SHALL BE PROPERLY DESIGNED PER THE SIZE OF THE DRAINAGE AREAS OR VOLUME OF WATER TO BE TREATED.

5.26. STABILIZATION PRACTICES: PRE-CONSTRUCTION VEGETATIVE COVER WILL NOT BE DESTROYED, REMOVED OR DISTURBED MORE THAN 2 WEEKS PRIOR TO GRADING OR EARTH MOVING UNLESS THE AREA WILL BE SEEDED AND/OR MULCHED OR OTHER TEMPORARY COVER IS INSTALLED (5.5.3.5.f).

5.27. STABILIZATION MEASURES WILL BE INITIATED AS SOON AS POSSIBLE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED. TEMPORARY OR PERMANENT STABILIZATION WILL BE COMPLETED WITHIN 2 WEEKS AFTER ACTIVITY HAS TEMPORARILY OR PERMANENTLY CEASED IN THAT AREA. PERMANENT STABILIZATION WILL REPLACE TEMPORARY MEASURES AS SOON AS PRACTICABLE (5.5.3.4.).

5.28. PRIORITY SHALL BE GIVEN TO FINISHING OPERATIONS AND PERMANENT EPSC MEASURES OVER TEMPORARY EPSC MEASURES ON ALL PROJECTS. UNPACKED GRAVEL CONTAINING FINES (SILT AND CLAY SIZED PARTICLES) OR CRUSHER-RUN WILL NOT BE CONSIDERED A NON-ERODIBLE SURFACE

5.29. DELAYING THE PLANTING OF COVER VEGETATION UNTIL WINTER MONTHS OR DRY MONTHS SHOULD BE AVOIDED, IF POSSIBLE.

5.30. STEEP SLOPES SHALL BE TEMPORARILY STABILIZED NOT LATER THAN 1 WEEK AFTER CONSTRUCTION ACTIVITY ON THE SLOPE HAS TEMPORARILY OR PERMANENTLY CEASED. (5.5.3.4.).

6. FLOCCULANTS (3.5.3.1.b)

IS ADDITIONAL PHYSICAL OR CHEMICAL TREATMENT OF STORMWATER RUNOFF NECESSARY (5.5.3.5.)? ☐ YES ☒ NO

IF YES, THE FOLLOWING NOTES APPLY:

6.1. ENSURE THE FLOCCULANT EMULSIONS AND POWDERS ARE OF THE ANIONIC TYPE (5.5.3.5.). AND MEET THE FOLLOWING REQUIREMENTS:

6.1.1. MEETS THE EPA AND FDA ACRYLAMIDE MONOMER LIMITS OF EQUAL TO OR GREATER THAN 0.005% ACRYLAMIDE MONOMER.

6.1.2. HAS A DENSITY OF 10% TO 55% BY WEIGHT AND A MOLECULAR WEIGHT OF 16 TO 24 MG/MOLE (MILLIGRAM PER MOLE).

6.1.3. MIXTURE IS NON-COMBUSTIBLE.

6.1.4. CONTAINS ONLY MANUFACTURER'S RECOMMENDED ADDITIVES.

6.2. FLOCCULANT SHALL BE MIXED AND APPLIED IN ACCORDANCE WITH ALL OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) MATERIAL SAFETY DATA SHEET REQUIREMENTS AND THE MANUFACTURER'S RECOMMENDATIONS FOR THE SPECIFIED USES CONFORMING TO ALL FEDERAL, STATE, AND LOCAL LAWS, RULES, AND REGULATIONS.

6.3. ALL VENDORS AND SUPPLIERS OF FLOCCULANT BLENDS SHALL PRESENT OR SUPPLY A WRITTEN TOXICITY REPORT WHICH VERIFIES ACCEPTABLE TOXICITY PARAMETERS WHICH MEET OR EXCEED THE EPS REQUIREMENTS FOR THE STATE AND FEDERAL WATER QUALITY STANDARDS. WHOLE EFFLUENT TESTING DOES NOT MEET THIS REQUIREMENT AS PRIMARY REACTIONS HAVE OCCURRED AND TOXIC POTENTIALS HAVE BEEN REDUCED. CATIONIC FORMS OF FLOCCULANTS ARE NOT ALLOWED UNDER THIS SECTION DUE TO HIGH LEVELS OF TOXICITY TO AQUATIC ORGANISMS. FLOCCULANT EMULSIONS SHALL NEVER BE APPLIED DIRECTLY TO STORMWATER RUNOFF OR RIPARIAN WATERS DUE TO SURFACTANT TOXICITY. THE CONTRACTOR MUST SEEK THE APPROVAL OF THE EPSC DESIGN ENGINEER AND TDOT IF CHITOSAN IS PROPOSED FOR THIS PROJECT.

6.4. ALL VENDORS AND SUPPLIERS OF FLOCCULANT BLENDS SHALL SUPPLY WRITTEN "SITE SPECIFIC" TESTING RESULTS DEMONSTRATING A PERFORMANCE OF 95% OR GREATER REDUCTION OF NTU OR TSS FROM STORMWATER DISCHARGES.

6.5. EMULSION BATCHES SHALL BE MIXED FOLLOWING RECOMMENDATIONS OF THE TESTING LABORATORY THAT DETERMINES THE PROPER PRODUCT AND RATE TO MEET SITE REQUIREMENTS. APPLICATION METHODS SHALL ENSURE UNIFORM COVERAGE TO THE TARGET AREA. EMULSIONS SHALL NEVER BE APPLIED DIRECTLY TO STORMWATER RUNOFF OR RIPARIAN BUFFERS.

6.6. FLOCCULANT POWDER MAY BE APPLIED BY A HAND OR MECHANICAL SPREADER. MIXING OF THE FLOCCULANT POWDER WITH DRY SILICA SAND WILL AID IN SPREADING.

6.7. PREMIXING OF FLOCCULANT POWDER INTO FERTILIZER, SEED, OR OTHER SOIL AMENDMENTS IS ALLOWED WHEN SPECIFIED IN THE DESIGN PLAN. APPLICATION METHOD SHALL ENSURE UNIFORM COVERAGE TO THE TARGET AREA.

6.8. FLOCCULANT LOGS OR BLOCKS SHALL BE APPLIED FOLLOWING SITE TESTING RESULTS TO ENSURE PROPER PLACEMENT AND PERFORMANCE AND SHALL MEET OR EXCEED STATE AND FEDERAL WATER QUALITY REQUIREMENTS.

6.9. DO NOT APPLY FLOCCULANTS DIRECTLY TO, OR WITHIN 60 FEET, OF ANY STREAMS, WETLANDS, OR OTHER NATURAL WATER RESOURCE LOCATED ON OR ADJACENT TO THE CONSTRUCTION SITE. DO NOT APPLY FLOCCULANTS DIRECTLY INTO WATERS CONTAINED WITHIN SEDIMENT PONDS OR TO SLOPES THAT PRODUCE RUNOFF DIRECTLY INTO A STREAM, WETLAND, OR OTHER NATURAL WATER RESOURCE. DO NOT APPLY FLOCCULANTS IMMEDIATELY AT A STORMWATER OUTFALL WHERE RUNOFF LEAVES THE PROJECT LIMITS.

7. UTILITY RELOCATION

ARE UTILITIES INCLUDED IN THE CONTRACT? ☒ YES ☐ NO

IF YES, THE FOLLOWING APPLY:

7.1. STORMWATER WHICH COLLECTS IN THE UTILITY TRENCH SHALL BE PUMPED INTO A DEWATERING STRUCTURE OR SEDIMENT FILTER BAG AND TREATED PRIOR TO DISCHARGE.

7.2. SILT FENCE SHALL BE INSTALLED ON THE DOWNGRADIENT SIDE OF STOCKPILED SOIL. ANY TRENCHING ACROSS WET WEATHER CONVEYANCES SHALL BE DONE DURING DRY CONDITIONS, REMOVED AND STABILIZED BY THE END OF THE WORK DAY.

7.3. 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.

7.4. 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 EPSC MEASURES MUST BE IN PLACE TO TRAP ANY SEDIMENT THAT MAY TRAVEL OFF-SITE 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 OFF-SITE AND ENTERING WATERS OF THE STATE/U.S.

7.5. 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 SODDED DAILY IF POSSIBLE, BUT NO LATER THAN FOURTEEN 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 THE TRENCH IS BACKFILLED.

7.6. IN REGARDS 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.

7.7. 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 ENGINEER.

7.8. 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 PERMANENT VEGETATIVE COVER.

7.9. THE UTILITY CONTRACTOR SHALL RESTORE ALL AFFECTED WET WEATHER CONVEYANCES TO THE EXISTING TOPOGRAPHIC CONDITIONS AS APPROVED BY THE TDOT RESPONSIBLE PARTY.

7.10. 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 ENGINEER BEFORE COMMENCING WORK.

7.11. FOR UTILITY CROSSINGS THAT UTILIZE HORIZONTAL DIRECTIONAL DRILLING THE FOLLOWING SHALL APPLY:

7.11.1. THE ENTRY AND EXIT POINTS SHALL BE AT LEAST 50 FEET FROM THE STREAM BANK OR WETLAND BOUNDARY.

7.11.2. THE DEPTH OF BORE BELOW THE STREAMBED IS SUFFICIENT TO PREVENT RELEASE OF DRILLING FLUID, BASED ON THE PARENT MATERIAL.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

STORMWATER POLLUTION PREVENTION PLAN

7.11.3. A SITE-SPECIFIC CONTINGENCY AND CONTAINMENT PLAN FOR INADVERTENT RELEASE OF DRILLING FLUID SHALL BE ESTABLISHED PRIOR TO COMMENCEMENT OF WORK. THIS PLAN SHALL BE SUBMITTED TO THE TDOT PROJECT ENGINEER AND THE TDOT ENVIRONMENTAL DIVISION PERMITS AND/OR COMPLIANCE AND FIELD SERVICES OFFICE FOR REVIEW AND APPROVAL.

8. MAINTENANCE AND INSPECTION

8.1. INSPECTION PRACTICES (5.5.3.9.)

8.1.1. PROJECT EPSC INSPECTORS AND ENGINEERS (INCLUDING TDOT STAFF, CONSULTANTS AND CONTRACTOR STAFF) RESPONSIBLE FOR THE INSPECTION, IMPLEMENTATION, MAINTENANCE. AND/OR REPAIR OF EPSC MEASURES SHALL MEET ONE OF THE FOLLOWING REQUIREMENTS (5.5.3.10.):

8.1.1.1. SUCCESSFULLY COMPLETED THE TDOT EPSC INSPECTIONS TRAINING AND ANY RECERTIFICATION COURSE AS REQUIRED.

8.1.1.2. SUCCESSFULLY COMPLETED THE TDEC "LEVEL I - FUNDAMENTALS OF EROSION PREVENTION AND SEDIMENT CONTROL" COURSE AND ANY RECERTIFICATION COURSES AS REQUIRED.

8.1.1.3. BE A CURRENT TN LICENSED PROFESSIONAL ENGINEER OR LANDSCAPE ARCHITECT.

8.1.1.4. BE A CURRENT CERTIFIED PROFESSIONAL IN EROSION AND SEDIMENT CONTROL (CPESC).

8.1.1.5. SUCCESSFULLY COMPLETED TDEC "LEVEL II – DESIGN PRINCIPLES FOR EROSION PREVENTION AND SEDIMENT CONTROL FOR CONSTRUCTION SITES" COURSE AND ANY RECERTIFICATION COURSE AS REQUIRED.

8.1.2. THE TDOT CONSTRUCTION ENGINEER (OR THEIR DULY AUTHORIZED REPRESENTATIVE) AND THE CONTRACTOR'S SITE SUPERINTENDENT ARE RESPONSIBLE FOR INSPECTIONS. MAINTENANCE AND REPAIR ACTIVITIES ARE THE RESPONSIBILITY OF THE CONTRACTOR. THE TDOT CONSTRUCTION ENGINEER OR THEIR DULY AUTHORIZED REPRESENTATIVE SHALL COMPLETE THE EPSC INSPECTION REPORTS AND DISTRIBUTE COPIES PER THE CONTRACT.

8.1.3. THE INSPECTOR SHALL CONDUCT PRE-CONSTRUCTION INSPECTIONS TO VERIFY AREAS THAT ARE NOT TO BE DISTURBED HAVE BEEN MARKED IN THE SWPPP AND IN THE FIELD BEFORE LAND DISTURBANCE ACTIVITIES BEGIN AND INITIAL MEASURES HAVE BEEN INSTALLED (10 "INSPECTOR") (5.5.1.f).

8.1.4. EPSC CONTROLS SHALL BE INSPECTED TO VERIFY MEASURES HAVE BEEN INSTALLED AND MAINTAINED IN ACCORDANCE WITH TDOT STANDARD DRAWINGS, SPECIFICATIONS, AND GOOD ENGINEERING PRACTICES. EPSC INSPECTIONS SHALL BE DOCUMENTED ON THE TDOT EPSC INSPECTION REPORT FORM AND THE TDEC CONSTRUCTION STORMWATER INSPECTION CERTIFICATION (TWICE-WEEKLY INSPECTIONS) FORM.

8.1.5. OUTFALL POINTS SHALL BE INSPECTED TO ASCERTAIN WHETHER EPSC MEASURES ARE EFFECTIVE IN PREVENTING EROSION AND CONTROLLING SEDIMENT INCLUDING SIGNIFICANT IMPACTS TO SURROUNDING STATE WATERS, WOTUS (EPHEMERAL), WETLANDS, OTHER NATURAL RESOURCES AND ADJACENT PROPERTY OWNERS. WHERE DISCHARGE LOCATIONS ARE INACCESSIBLE, NEARBY DOWN GRADIENT LOCATIONS SHALL BE INSPECTED. LOCATIONS WHERE VEHICLES ENTER AND EXIT THE SITE SHALL BE INSPECTED FOR EVIDENCE OF OFF-SITE ROADWAY SEDIMENT TRACKING.

8.1.6. INSPECTIONS WILL BE CONDUCTED AT LEAST TWICE EVERY CALENDAR WEEK AND AT LEAST 72 HOURS APART (5.5.3.11.a). A CALENDAR WEEK IS DEFINED AS SUNDAY THROUGH SATURDAY. QUALITY ASSURANCE INSPECTIONS OF TDOT EPSC, NPDES AND WATER QUALITY PERMIT REQUIREMENTS SHALL BE PERFORMED PER THE TDOT ENVIRONMENTAL DIVISION COMPLIANCE AND FIELD SERVICES OFFICE.

8.1.7. THE FREQUENCY OF EPSC INSPECTIONS MAY BE REDUCED TO ONCE A MONTH WHERE SITES OR PORTIONS OF SITES HAVE BEEN TEMPORARILY STABILIZED UNTIL CONSTRUCTION ACTIVITIES RESUME WITH WRITTEN NOTIFICATION BY THE TDOT REGIONAL ENGINEER TO TDEC NASHVILLE CENTRAL OFFICE AND SUBSEQUENT TDEC APPROVAL. WRITTEN NOTIFICATION MUST INCLUDE THE INTENT TO CHANGE FREQUENCY AND JUSTIFICATION (5.5.3.11.a).

8.1.8. ALL DISTURBED AREAS OF THE SITE THAT HAVE NOT BEEN PERMANENTLY STABILIZED, AREAS USED FOR MATERIAL STORAGE THAT ARE EXPOSED TO PRECIPITATION, STRUCTURAL CONTROL MEASURES, AND LOCATIONS WHERE VEHICLES ENTER OR EXIT THE SITE, AND EACH OUTFALL WILL BE INSPECTED (5.5.3.11.b).

8.1.9. THE INSPECTOR WILL OVERSEE THE REQUIREMENTS OF OTHER CONSTRUCTION-RELATED WATER QUALITY PERMITS (I.E. TDEC ARAP, USACE SECTION 404, AND TVA SECTION 26a PERMITS) FOR CONSTRUCTION ACTIVITIES AROUND WATERS OF THE STATE (10 "INSPECTOR").

8.1.10. THE SWPPP WILL BE REVISED AS NECESSARY BASED ON THE RESULTS OF THE INSPECTION. REVISION(S) WILL BE RECORDED WITHIN 1 WEEK OF THE INSPECTION. REVISION(S) WILL BE IMPLEMENTED WITHIN 2 WEEKS OF THE INSPECTION (5.5.3.11.e AND 5.5.3.11.f).

8.1.11. DOCUMENTATION OF INSPECTIONS WILL BE MAINTAINED ON SITE IN THE "DOCUMENTATION AND PERMITS" BINDER. REPORTS WILL BE SUBMITTED TO THE TDOT PROJECT ENGINEER PER THE CONTRACT.

8.1.12. THESE INSPECTION REQUIREMENTS DO NOT APPLY TO DEFINABLE AREAS OF THE SITE THAT HAVE MET PERMANENT STABILIZATION REQUIREMENTS AND HAVE BEEN NOTED IN THE SWPPP.

8.1.13. TRAINED CERTIFIED INSPECTORS SHALL COMPLETE INSPECTION TO THE BEST OF THEIR ABILITY. FALSIFYING INSPECTION RECORDS OR OTHER DOCUMENTATION OR FAILURE TO COMPLETE INSPECTION DOCUMENTATION SHALL RESULT IN A VIOLATION OF THIS PERMIT AND ANY OTHER APPLICABLE ACTS OR RULES (5.5.3.11.h).

8.2. DULY AUTHORIZED REPRESENTATIVE (8.7.3.)

THE PROJECT ENGINEER MAY DELEGATE AN INDIVIDUAL AND/OR CONSULTANT TO SIGN EPSC INSPECTIONS REPORTS. FOR SATISFYING SIGNATORY REQUIREMENTS FOR EPSC INSPECTION REPORTS, THE PROJECT ENGINEER AND NEWLY AUTHORIZED INDIVIDUAL ACCEPTING RESPONSIBILITY MUST COMPLETE AND SIGN THE TDOT CONSTRUCTION DIVISION EPSC DELEGATION OF AUTHORITY.

8.3. MAINTENANCE PRACTICES (5.1 AND 8.13.)

8.3.1. ALL CONTROLS WILL BE MAINTAINED IN GOOD AND EFFECTIVE OPERATING ORDER AND IN ACCORDANCE WITH TDOT STANDARD DRAWINGS AND GOOD ENGINEERING PRACTICES. (5.1. AND 5.5.3.1.b)

8.3.2. MAINTENANCE AND REPAIR ACTIVITIES ARE THE RESPONSIBILITY OF THE CONTRACTOR.

8.3.3. UPON CONCLUSION OF THE INSPECTIONS, EPSC MEASURES FOUND TO BE INEFFECTIVE SHALL BE REPAIRED, REPLACED, OR MODIFIED BEFORE THE NEXT RAIN EVENT, IF POSSIBLE, BUT IN NO CASE, MORE THAN 24 HOURS AFTER THE INSPECTION OR WHEN THE CONDITION IS IDENTIFIED. IF THE REPAIR, REPLACEMENT OR MODIFICATION IS NOT PRACTICAL WITHIN THE 24-HOUR TIMEFRAME, WRITTEN DOCUMENTATION PROVIDED BY THE CONTRACTOR SHALL BE PLACED IN THE FIELD DIARY AND EPSC INSPECTION REPORT. AN ESTIMATED REPAIR, REPLACEMENT OR MODIFICATION SCHEDULE SHALL BE DOCUMENTED WITHIN 24 HOURS AFTER IDENTIFICATION. (5.5.3.11.e).

8.3.4. SEDIMENT SHALL BE REMOVED FROM SEDIMENT CONTROL STRUCTURES (SEDIMENT TRAPS, SILT FENCE, SEDIMENT BASINS, OTHER CONTROLS, ETC.) WHEN THE DESIGN CAPACITY HAS BEEN REDUCED BY FIFTY PERCENT (50%). (5.5.3.1.d).

8.3.5. DURING SEDIMENT REMOVAL, THE CONTRACTOR SHALL TAKE STEPS TO ENSURE THAT STRUCTURAL COMPONENTS OF EPSC MEASURES ARE NOT DAMAGED AND THUS MADE INEFFECTIVE. IF DAMAGE DOES OCCUR, THE CONTRACTOR SHALL REPAIR THE EPSC MEASURES AT THE CONTRACTOR'S OWN EXPENSE.

8.3.6. CHECK DAMS WILL BE INSPECTED FOR STABILITY. SEDIMENT WILL BE REMOVED WHEN DEPTH REACHES ONE-HALF (½) THE HEIGHT OF THE DAM.

8.3.7. SEDIMENT REMOVED FROM SEDIMENT CONTROL STRUCTURES SHALL BE PLACED AND TREATED IN A MANNER SO THAT THE SEDIMENT IS CONTAINED WITHIN THE PROJECT LIMITS, DOES NOT MIGRATE INTO FEATURES REMOVED FROM, AND DOES NOT MIGRATE ONTO ADJACENT PROPERTIES AND/OR INTO WATERS OF THE STATE/U.S.

8.3.8. LITTER, CONSTRUCTION DEBRIS, AND CONSTRUCTION CHEMICALS EXPOSED TO STORMWATER WILL BE PICKED UP AND REMOVED FROM STORMWATER EXPOSURE PRIOR TO ANTICIPATED STORM EVENTS OR BEFORE BEING CARRIED OFF THE SITE BY WIND, OR OTHERWISE PREVENTED FROM BECOMING A POLLUTANT SOURCE FOR STORMWATER DISCHARGES. AFTER USE, MATERIALS USED FOR EROSION CONTROL WILL BE REMOVED (5.5.3.7.a).

8.3.9. ALL SEEDED AREAS WILL BE CHECKED FOR BARE SPOTS, EROSION WASHOUTS, AND VIGOROUS GROWTH FREE OF SIGNIFICANT WEED INFESTATIONS.

9. SITE ASSESSMENTS (5.5.3.8.)

QUALITY ASSURANCE SITE ASSESSMENTS OF EROSION PREVENTION AND SEDIMENT CONTROLS SHALL BE PERFORMED PER THE TDOT ENVIRONMENTAL DIVISION COMPLIANCE AND FIELD SERVICES OFFICE GUIDELINES.

10. STORMWATER MANAGEMENT (5.5.3.11.h)

10.1. STORMWATER MANAGEMENT WILL BE HANDLED BY TEMPORARY CONTROLS OUTLINED IN THIS SWPPP AND ANY PERMANENT CONTROLS NEEDED TO MEET PERMANENT STORMWATER MANAGEMENT NEEDS IN THE POST CONSTRUCTION PERIOD. PERMANENT CONTROLS WILL BE DEPICTED ON THE PLANS AND NOTED AS PERMANENT.

10.2. DESCRIBE ANY SPECIFIC POST-CONSTRUCTION MEASURES THAT WILL CONTROL VELOCITY, POLLUTANTS, AND/OR EROSION (5.5.3.6.c): Riprap Outlet Protection.

10.3. OTHER ITEMS NEEDING CONTROL (5.5.3.7.)

CONSTRUCTION MATERIALS: THE FOLLOWING MATERIALS OR SUBSTANCES ARE EXPECTED TO BE PRESENT ON THE SITE DURING THE CONSTRUCTION PERIOD. (CHECK ALL THAT APPLY).

- ☒ LUMBER, GUARDRAIL, TRAFFIC CONTROL DEVICES
- ☒ CONCRETE WASHOUT
- ☒ PIPE CULVERTS (I.E. CONCRETE, CORRUGATED METAL, HDPE, ETC.)
- ☒ MINERAL AGGREGATES, ASPHALT
- ☒ EARTH
- ☒ LIQUID TRAFFIC STRIPING MATERIALS, PAINT
- ☒ ROCK
- ☒ CURING COMPOUND
- ☐ EXPLOSIVES
- ☐ OTHER _____

THESE MATERIALS WILL BE HANDLED AS NOTED IN THIS SWPPP.

10.4. WASTE MATERIALS (5.5.3.7.c)

WASTE MATERIAL (EARTH, ROCK, ASPHALT, CONCRETE, ETC.) NOT REQUIRED FOR THE CONSTRUCTION OF THE PROJECT WILL BE DISPOSED OF BY THE CONTRACTOR IN ACCORDANCE WITH THE TDOT CONSTRUCTION CONTRACT AND FEDERAL AND STATE REGULATIONS. IMPACTS TO WATERS OF THE STATE/U.S. SHALL BE AVOIDED IF POSSIBLE. IF UNAVOIDABLE, THE CONTRACTOR WILL OBTAIN 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.

10.5. HAZARDOUS WASTE (5.5.3.7.c) (8.8)

ALL HAZARDOUS WASTE MATERIALS WILL BE DISPOSED OF IN A MANNER WHICH IS COMPLIANT WITH LOCAL OR STATE REGULATIONS. SITE PERSONNEL WILL BE INSTRUCTED IN THESE PRACTICES, AND THE INDIVIDUAL DESIGNATED AS THE CONTRACTOR'S ON-SITE REPRESENTATIVE WILL BE RESPONSIBLE FOR SEEING THAT THESE PRACTICES ARE FOLLOWED. THE CONTRACTOR WILL OBTAIN ALL NECESSARY PERMITS TO DISPOSE OF HAZARDOUS MATERIAL.

10.6. SANITARY WASTE (5.5.3.7.b)

PORTABLE SANITARY FACILITIES WILL BE PROVIDED ON ALL CONSTRUCTION SITES. SANITARY WASTE WILL BE COLLECTED FROM THE PORTABLE UNITS IN A TIMELY MANNER BY A LICENSED WASTE MANAGEMENT CONTRACTOR OR AS REQUIRED BY ANY LOCAL REGULATIONS. THE CONTRACTOR WILL OBTAIN ALL NECESSARY PERMITS TO DISPOSE OF SANITARY WASTE.

10.7. OTHER MATERIALS

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

STORMWATER POLLUTION PREVENTION PLAN

THE FOLLOWING MATERIALS OR SUBSTANCES ARE EXPECTED TO BE PRESENT ON THE SITE DURING THE CONSTRUCTION PERIOD. (CHECK ALL THAT APPLY).

☒ FERTILIZERS AND LIME
☐ PESTICIDES AND/OR HERBICIDES
☒ DIESEL AND GASOLINE
☒ MACHINERY LUBRICANTS (OIL AND GREASE)

THESE MATERIALS WILL BE HANDLED AS NOTED IN THIS SWPPP.

11. NON-STORMWATER DISCHARGES (5.5.3.12.)

11.1. THE FOLLOWING NON-STORMWATER DISCHARGES ARE ANTICIPATED DURING THE CONSTRUCTION OF THIS PROJECT (CHECK ALL THAT APPLY):

☒ DEWATERING OF WORK AREAS OF COLLECTED STORMWATER AND GROUND WATER.
☐ WATERS USED TO WASH VEHICLES (OF DUST AND SOIL) WHERE DETERGENTS ARE NOT USED AND DETENTION AND/OR FILTERING IS PROVIDED BEFORE THE WATER LEAVES THE SITE.
☐ WATER USED TO CONTROL DUST. (3.5.3.1.n)
☐ POTABLE WATER SOURCES INCLUDING WATERLINE FLUSHING FROM WHICH CHLORINE HAS BEEN REMOVED TO THE MAXIMUM EXTENT PRACTICABLE.
☒ UNCONTAMINATED GROUNDWATER OR SPRING WATER.
☐ FOUNDATION OR FOOTING DRAINS WHERE FLOWS ARE NOT CONTAMINATED WITH POLLUTANTS.
☐ OTHER: _____

11.2. ALL ALLOWABLE NON-STORMWATER DISCHARGES WILL BE DIRECTED TO STABLE DISCHARGE STRUCTURES PRIOR TO LEAVING THE SITE. FILTERING OR CHEMICAL TREATMENT MAY BE NECESSARY PRIOR TO DISCHARGE. ALL CHEMICAL TREATMENTS MUST BE APPLIED PER SECTION 6 FLOCCULANTS.

11.3. THE DESIGN OF ALL IMPACTED EPSC MEASURES RECEIVING FLOW FROM ALLOWABLE NON-STORMWATER DISCHARGES MUST BE DESIGNED TO HANDLE THE VOLUME OF THE NON-STORMWATER COMPONENT.

11.4. WASH DOWN OR WASTE DISCHARGE OF CONCRETE TRUCKS WILL NOT BE PERMITTED ON-SITE UNLESS PROPER SETTLEMENT AREAS HAVE BEEN PROVIDED IN ACCORDANCE WITH BOTH STATE AND FEDERAL REGULATIONS.

11.5. ARE ANY DISCHARGES ASSOCIATED WITH INDUSTRIAL (NON-CONSTRUCTION STORMWATER) ACTIVITY EXPECTED (5.5.1.g)?

☐ YES ☒ NO

IF YES, SPECIFY THE LOCATION OF THE ACTIVITY AND ITS PERMIT NUMBER: _____

12. SPILL PREVENTION, MANAGEMENT AND NOTIFICATION (5.5.3.7.c, 6.1)

12.1. SPILL PREVENTION (5.5.3.7.c)

12.1.1. CONTRACTOR'S BULK FUEL AND PETROLEUM PRODUCTS STORED ON-SITE OR ADJACENT TO THE R.O.W. IN ABOVE GROUND STORAGE TANKS WITH AGGREGATE STORAGE CAPACITY IN EXCESS OF 1,320 GALLONS SHALL HAVE SECONDARY CONTAINMENT.

12.1.2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PREPARING A SPILL PREVENTION CONTROL AND COUNTERMEASURE (SPCC) PLAN AS REQUIRED BY TDOT SPECIAL PROVISION 107FP (REGARDING WATER QUALITY AND STORM WATER PERMITS) AND THE LAW PRIOR TO STORING 1320 GALLONS ON SITE.

12.1.3. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR OBTAINING ANY NECESSARY LOCAL, STATE, AND FEDERAL PERMITS. THE SPCC PLAN AND/OR PERMITS SHALL BE KEPT ON-SITE AND A COPY PROVIDED TO THE TDOT CONSTRUCTION ENGINEER.

12.2. MATERIAL MANAGEMENT

12.2.1. HOUSEKEEPING

ONLY CONSTRUCTION PRODUCTS NEEDED SHALL BE STORED ON-SITE BY THE CONTRACTOR. EXCEPT FOR BULK MATERIALS THE CONTRACTOR WILL STORE ALL MATERIALS UNDER COVER AND IN APPROPRIATE CONTAINERS. PRODUCTS MUST BE STORED IN ORIGINAL CONTAINERS AND LABELED. MATERIAL MIXING WILL BE CONDUCTED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. WHEN POSSIBLE, ALL PRODUCTS WILL BE USED COMPLETELY BEFORE PROPERLY DISPOSING OF THE CONTAINER OFF SITE. THE MANUFACTURER'S DIRECTIONS FOR DISPOSAL OF MATERIALS AND CONTAINERS WILL BE FOLLOWED. THE CONTRACTOR'S SITE SUPERINTENDENT WILL INSPECT MATERIALS STORAGE AREAS REGULARLY TO ENSURE PROPER USE AND DISPOSAL. DUST GENERATED WILL BE CONTROLLED IN AN ENVIRONMENTALLY SAFE MANNER. VEGETATION AREAS NOT ESSENTIAL TO THE CONSTRUCTION PROJECT WILL BE PRESERVED AND MAINTAINED AS NOTED ON THE PLANS.

12.2.2. HAZARDOUS MATERIALS

PRODUCTS MUST BE STORED IN ORIGINAL CONTAINERS UNLESS THE CONTAINER IS NOT RE-SEALABLE. ORIGINAL LABELS AND MATERIAL SAFETY DATA SHEETS WILL BE RETAINED IN A SAFE PLACE TO RELAY IMPORTANT PRODUCT INFORMATION. IF SURPLUS PRODUCT MUST BE DISPOSED OF, MANUFACTURER'S LABEL DIRECTIONS FOR DISPOSAL WILL BE FOLLOWED. MAINTENANCE AND REPAIR OF ALL EQUIPMENT AND VEHICLES INVOLVING OIL CHANGES, HYDRAULIC SYSTEM DRAIN DOWN, DE-GREASING OPERATIONS, FUEL TANK DRAIN DOWN AND REMOVAL, AND OTHER ACTIVITIES WHICH MAY RESULT IN THE ACCIDENTAL RELEASE OF CONTAMINANTS WILL BE CONDUCTED ON AN IMPERVIOUS SURFACE AND UNDER COVER DURING WET WEATHER TO PREVENT THE RELEASE OF CONTAMINANTS ONTO THE GROUND. WHEEL WASH WATER WILL BE COLLECTED AND ALLOWED TO SETTLE OUT SUSPENDED SOLIDS PRIOR TO DISCHARGE. WHEEL WASH WATER WILL NOT BE DISCHARGED DIRECTLY INTO ANY STORMWATER SYSTEM OR STORMWATER TREATMENT SYSTEM. POTENTIAL pH-MODIFYING MATERIALS SUCH AS: BULK CEMENT, CEMENT KILN DUST, FLY ASH, NEW CONCRETE WASHINGS AND CURING WATERS, CONCRETE PUMPING, AND MIXER WASHOUT WATERS WILL BE COLLECTED ON SITE AND MANAGED TO PREVENT CONTAMINATION OF STORMWATER RUNOFF.

12.3. PRODUCT SPECIFIC PRACTICES

12.3.1. PETROLEUM PRODUCTS: ALL ON-SITE VEHICLES WILL BE MONITORED FOR LEAKS AND RECEIVE REGULAR PREVENTIVE MAINTENANCE TO REDUCE THE CHANCE OF LEAKAGE. PETROLEUM PRODUCTS WILL BE STORED IN TIGHTLY SEALED CONTAINERS WHICH ARE CLEARLY LABELED.

12.3.2. FERTILIZERS: FERTILIZERS WILL BE APPLIED ONLY IN THE AMOUNTS SPECIFIED BY TDOT. ONCE APPLIED, FERTILIZERS WILL BE WORKED INTO THE SOIL TO LIMIT THE EXPOSURE TO STORMWATER. FERTILIZERS WILL BE STORED IN AN ENCLOSED AREA UNDER COVER. THE CONTENTS OF PARTIALLY USED FERTILIZER BAGS WILL BE TRANSFERRED TO SEALABLE CONTAINERS TO AVOID SPILLS.

12.3.3. PAINTS: ALL CONTAINERS WILL BE TIGHTLY SEALED AND STORED WHEN NOT REQUIRED FOR USE. THE EXCESS WILL BE DISPOSED OF PER THE MANUFACTURER'S INSTRUCTIONS AND APPLICABLE STATE AND LOCAL REGULATIONS.

12.3.4. CONCRETE TRUCKS: CONTRACTORS WILL PROVIDE DESIGNATED TRUCK WASHOUT AREAS ON THE SITE. THESE AREAS MUST BE SELF CONTAINED AND NOT CONNECTED TO ANY STORMWATER OUTLET OF THE SITE, AND PROPERLY SIGNED. UPON COMPLETION OF CONSTRUCTION WASHOUT AREAS WILL BE PROPERLY STABILIZED.

12.4. SPILL MANAGEMENT

IN ADDITION TO THE PREVIOUS HOUSEKEEPING AND MANAGEMENT PRACTICES, THE FOLLOWING PRACTICES WILL BE FOLLOWED FOR SPILL PREVENTION AND CLEANUP IF NECESSARY:

12.4.1. ALL ONSITE VEHICLES SHALL BE MONITORED FOR LEAKS AND RECEIVE REGULAR PREVENTATIVE MAINTENANCE TO REDUCE THE CHANGE OF LEAKAGE AND SPILLS.

12.4.2. FOR ALL HAZARDOUS MATERIALS STORED ON SITE, THE MANUFACTURER'S RECOMMENDED METHODS FOR SPILL CLEAN UP WILL BE CLEARLY POSTED. SITE PERSONNEL WILL BE MADE AWARE OF THE PROCEDURES AND THE LOCATIONS OF THE INFORMATION AND CLEANUP SUPPLIES.

12.4.3. APPROPRIATE CLEANUP MATERIALS AND EQUIPMENT WILL BE MAINTAINED BY THE CONTRACTOR IN THE MATERIALS STORAGE AREA ON-SITE AND UNDER COVER. SPILL RESPONSE EQUIPMENT SHALL BE INSPECTED AND MAINTAINED BY THE CONTRACTOR AS NECESSARY TO REPLACE ANY MATERIALS USED IN SPILL RESPONSE ACTIVITIES.

12.4.4. ALL SPILLS SHALL BE CLEANED IMMEDIATELY AFTER DISCOVERY AND THE MATERIALS DISPOSED OF PROPERLY. THE SPILL AREA WILL BE KEPT WELL VENTILATED AND PERSONNEL WILL WEAR APPROPRIATE PROTECTIVE CLOTHING TO PREVENT INJURY FROM CONTACT WITH A HAZARDOUS SUBSTANCE.

12.4.5. THE CONTRACTOR'S RESPONSIBLE PARTY WILL BE THE SPILL PREVENTION AND CLEANUP COORDINATOR. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT THE SITE SUPERINTENDENT HAS HAD APPROPRIATE TRAINING FOR HAZARDOUS MATERIALS HANDLING, SPILL MANAGEMENT, AND CLEANUP.

12.4.6. IF SPILLS REPRESENT AN IMMINENT THREAT OF ESCAPING THE SITE AND ENTERING RECEIVING WATERS, PERSONNEL WILL RESPOND IMMEDIATELY TO CONTAIN THE RELEASE AND NOTIFY THE SUPERINTENDENT AFTER THE SITUATION HAS BEEN STABILIZED.

12.4.7. IF AN OIL SHEEN IS OBSERVED ON SURFACE WATER (E.G. SETTLING PONDS, DETENTION PONDS, SWALES), ACTION WILL BE TAKEN IMMEDIATELY TO REMOVE THE MATERIAL CAUSING THE SHEEN. THE CONTRACTOR WILL USE APPROPRIATE MATERIALS TO CONTAIN AND ABSORB THE SPILL. THE SOURCE OF THE OIL SHEEN WILL ALSO BE IDENTIFIED AND REMOVED OR REPAIRED AS NECESSARY TO PREVENT FURTHER RELEASES.

12.4.8. IF A SPILL OCCURS THE CONTRACTOR'S RESPONSIBLE PARTY SHALL BE RESPONSIBLE FOR COMPLETING THE SPILL REPORTING FORM AND FOR REPORTING THE SPILL TO THE TDOT PROJECT RESPONSIBLE PARTY. ALL SPILLS MUST BE REPORTED TO THE APPROPRIATE AGENCY, AND MEASURES SHALL BE TAKEN IMMEDIATELY TO PREVENT THE POLLUTION OF WATERS OF THE STATE/U.S., INCLUDING GROUNDWATER, SHOULD A SPILL OCCUR.

12.5. SPILL NOTIFICATION (6.1)

WHERE A RELEASE CONTAINING A HAZARDOUS SUBSTANCE IN AN AMOUNT EQUAL TO, OR MORE THAN A REPORTABLE QUANTITY ESTABLISHED UNDER EITHER 40 CFR 117 OR 40 CFR 302 OCCURS DURING A 24 HOUR PERIOD:

12.5.1. THE TDOT PROJECT ENGINEER IS RESPONSIBLE FOR NOTIFYING THE REGIONAL PROJECT DEVELOPMENT OFFICE (E.G. TRANSPORTATION ENVIRONMENTAL STUDIES SPECIALIST) AS SOON AS HE OR SHE HAS KNOWLEDGE OF THE DISCHARGE.

12.5.2. THE TDOT REGIONAL PROJECT DEVELOPMENT OFFICE WILL NOTIFY THE LOCAL TDEC ENVIRONMENTAL FIELD OFFICE AND ANY OTHER APPLICABLE REGULATORY AGENCIES WITHIN 24 HOURS OF THE SPILL.

12.5.3. IN ADDITION TO ANY FOLLOW UP NOTIFICATIONS REQUIRED BY FEDERAL LAW, A WRITTEN DESCRIPTION OF THE RELEASE, DATE OF RELEASE AND CIRCUMSTANCES LEADING TO THE RELEASE, WHAT ACTIONS WERE TAKEN TO MITIGATE EFFECTS OF THE RELEASE, AND STEPS TAKEN TO MINIMIZE THE CHANCE OF FUTURE OCCURRENCES WILL BE SUBMITTED TO THE APPROPRIATE TDEC ENVIRONMENTAL FIELD OFFICE WITHIN 2 WEEKS OF KNOWLEDGE OF THE RELEASE.

12.5.4. THE SWPPP MUST BE MODIFIED WITHIN 2 WEEKS OF KNOWLEDGE OF THE RELEASE PROVIDING A DESCRIPTION OF THE RELEASE, CIRCUMSTANCES LEADING TO THE RELEASE, AND THE DATE OF RELEASE. THE SWPPP WILL BE REVIEWED AND MODIFIED AS NECESSARY TO IDENTIFY MEASURES TO PREVENT THE REOCCURRENCE OF SUCH RELEASES AND TO RESPOND TO SUCH RELEASES.

13. RECORD-KEEPING

13.1. REQUIRED RECORDS

TDOT OR THEIR DULY AUTHORIZED REPRESENTATIVE WILL MAINTAIN AT THE SITE THE FOLLOWING RECORDS OF CONSTRUCTION ACTIVITIES (7.2.1.) (7.2.1.):

13.1.1. THE DATES WHEN MAJOR GRADING ACTIVITIES OCCUR.

13.1.2. THE DATES WHEN CONSTRUCTION ACTIVITIES TEMPORARILY OR PERMANENTLY CEASE ON A PORTION OF THE SITE.

13.1.3. THE DATES WHEN STABILIZATION MEASURES ARE INITIATED.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

STORMWATER POLLUTION PREVENTION PLAN

13.1.4. RECORDS EPSC INSPECTION REPORTS AND CORRECTIVE MEASURES.

13.1.5. RECORDS OF QUALITY ASSURANCE SITE ASSESSMENTS.

13.1.6. COPY OF SITE EPSC INSPECTOR'S CERTIFICATION AND/OR LICENSING

13.1.7. A COPY OF ANY REGULATORY CORRESPONDENCE REGARDING THE EFFECTIVENESS OF THE SWPPP OR EPSC CONTROLS.

13.2. RAINFALL MONITORING PLAN (7.2.1.):

13.2.1. EQUIPMENT
AT A MINIMUM, THE CONTRACTOR WILL INSTALL A FENCE POST TYPE RAIN GAUGE TO MEASURE RAINFALL. THE STANDARD FENCE POST RAIN GAUGE WILL BE A WEDGE-SHAPED GAUGE THAT MEASURES UP TO 6 INCHES OF RAINFALL. AN ENGLISH SCALE WILL BE PROVIDED ON ONE FACE, WITH A METRIC SCALE ON THE OTHER FACE. GRADUATION WILL BE PERMANENTLY MOLDED IN DURABLE WEATHER-RESISTANT PLASTIC. THE MINIMUM GRADUATION WILL BE 0.01 INCH (OR 0.1MM). AN ALUMINUM BRACKET WITH SCREWS MAY BE USED TO MOUNT THE GAUGE ON A WOODEN SUPPORT.

13.2.2. LOCATION
THE RAIN GAUGE WILL BE LOCATED AT OR ALONG THE PROJECT SITE, AS DEFINED IN THE NOI OF THE NPDES PERMIT, IN AN OPEN AREA SUCH THAT THE MEASUREMENT WILL NOT BE INFLUENCED BY OUTSIDE FACTORS (I.E. OVERHANGS, GUTTER, TREES, ETC.). AT LEAST ONE RAIN GAUGE PER LINEAR MILE IS REQUIRED ALONG (AS MEASURED ALONG THE CENTERLINE OF THE PRIMARY ALIGNMENT) THE PROJECT WHERE CLEARING, GRUBBING, EXCAVATION, GRADING, CUTTING OR FILLING IS ACTIVELY PERFORMED, OR EXPOSED SOIL HAS NOT YET BEEN PERMANENTLY STABILIZED.

13.2.3. METHODS
RAINFALL MONITORING WILL BE INITIATED PRIOR TO CLEARING, GRUBBING, EXCAVATION, GRADING, CUTTING, OR FILLING, EXCEPT AS SUCH MINIMAL CLEARING MAY BE NECESSARY TO INSTALL A RAIN GAUGE IN AN OPEN AREA. THE RAIN GAUGE WILL BE CHECKED FOR OPERATIONAL SOUNDNESS DAILY (DURING NORMAL BUSINESS HOURS) IN WET TIMES AND WEEKLY IN DRY TIMES. GAUGES WILL BE REPAIRED OR REPLACED ON THE SAME DAY IF FOUND TO BE NON-OPERATIONAL OR MISSING.

13.2.4. EACH RAIN GAUGE WILL BE READ (FOR DETAILED RECORDS OF RAINFALL) AND EMPTIED AFTER EVERY RAINFALL EVENT OCCURRING ON THE PROJECT SITE AT APPROXIMATELY THE SAME TIME OF THE DAY (DURING NORMAL BUSINESS HOURS). DURING PERIODS OF DRY CONDITIONS, IT WILL NOT BE NECESSARY TO READ THE RAIN GAUGE EVERY DAY. IN LIEU OF THIS REQUIREMENT ON WEEKENDS AND ON STATE HOLIDAYS, THE RAIN GAUGES CAN BE EMPTIED THE NEXT BUSINESS DAY AND A REFERENCE SITE USED FOR A RECORD OF DAILY AMOUNT OF PRECIPITATION FOR THOSE DAYS. A REFERENCE SITE IS THE DOCUMENTATION FROM THE CLOSEST GAUGE WITHIN PROXIMITY OF THE PROJECT FROM A RECOGNIZED SOURCE SUCH AS THE NOAA NATIONAL WEATHER SERVICE.

13.2.5. DETAILED RECORDS WILL BE RECORDED OF RAINFALL EVENTS INCLUDE DATES, AMOUNTS OF RAINFALL, AND THE APPROXIMATE DURATION (OR THE STARTING AND ENDING TIMES). THE RAINFALL RECORDS SHALL BE RECORDED ON THE TDOT RAINFALL RECORD SHEET AND SHALL BE MAINTAINED IN THE "DOCUMENTATION AND PERMITS" BINDER.

13.2.6. IF THE RAINFALL EVENT IS STILL IN PROGRESS AT THE DAILY RECORDING TIME, THE GAUGE WILL BE EMPTIED AND THE RECORD WILL INDICATE THAT THE STORM EVENT WAS STILL IN PROGRESS.

13.2.7. RAIN GAUGE INFORMATION (DETAILED RECORDS), INCLUDING THE LOCATION OF THE NEAREST OUTFALL, WILL BE RECORDED ON THE EPSC INSPECTION REPORT FORMS AT THE TIME OF MEASUREMENT.

13.3. KEEPING PLANS CURRENT (5.4.)

13.3.1. THE EPSC PLAN IS TO SERVE AS AN INITIAL GUIDE FOR SITE PERSONNEL AS THE CONSTRUCTION PROCESS DEVELOPS. IT MUST BE AMENDED, MODIFIED, AND UPDATED WHENEVER EPSC INSPECTIONS INDICATE, OR WHERE STATE OR FEDERAL REGULATORY OFFICIALS DETERMINE EPSC MEASURES ARE PROVING INEFFECTIVE IN ELIMINATING OR SIGNIFICANTLY MINIMIZING POLLUTANT SOURCES OR ARE OTHERWISE NOT ACHIEVING THE GENERAL OBJECTIVES OF CONTROLLING POLLUTANTS IN STORMWATER DISCHARGES ASSOCIATED WITH THE CONSTRUCTION ACTIVITY.

13.3.2. THE STAGES DEPICTED WITHIN THE EPSC PLANS MAY NOT COINCIDE WITH THE ACTUAL STAGES OF CONSTRUCTION ESTABLISHED BY THE CONTRACTOR DURING CONSTRUCTION, THUS MODIFICATIONS WILL BE REQUIRED TO ENSURE THE EPSC PLAN IS MAINTAINED TO DEPICT CURRENT SITE CONDITIONS. IT SHOULD BE MAINTAINED SUCH THAT IT WILL ALWAYS REFLECT THE MEASURES THAT ARE INSTALLED DURING THE VARIOUS STAGES OF CONSTRUCTION. IT IS IMPRACTICAL TO DETERMINE ALL THE INTERMEDIATE STAGES OF CONSTRUCTION THAT WILL OCCUR, THUS THESE DOCUMENTS MUST BE UPDATED THROUGHOUT THE LIFE OF THE CONSTRUCTION PROJECT.

13.3.3. THE TDOT EPSC INSPECTOR OR THEIR DULY AUTHORIZED REPRESENTATIVE WILL MODIFY AND UPDATE THE SWPPP WHEN ANY OF THE FOLLOWING CONDITIONS APPLY:

13.3.3.1. WHENEVER THERE IS A CHANGE IN THE SCOPE OF THE PROJECT THAT WOULD BE EXPECTED TO HAVE A SIGNIFICANT EFFECT ON THE DISCHARGE OF POLLUTANTS TO THE WATERS OF THE STATE AND WHICH HAS NOT OTHERWISE BEEN ADDRESSED IN THE SWPPP;

13.3.3.2. WHENEVER INSPECTIONS OR INVESTIGATIONS BY SITE OPERATORS, LOCAL, STATE, OR FEDERAL OFFICIALS INDICATE THE SWPPP IS PROVING INEFFECTIVE IN ELIMINATING OR SIGNIFICANTLY MINIMIZING POLLUTANTS FROM CONSTRUCTION ACTIVITY SOURCES, OR IS OTHERWISE NOT ACHIEVING THE GENERAL OBJECTIVES OF CONTROLLING POLLUTANTS IN STORMWATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITY; WHERE LOCAL, STATE, OR FEDERAL OFFICIALS DETERMINE THAT THE SWPPP IS INEFFECTIVE IN ELIMINATING OR SIGNIFICANTLY MINIMIZING POLLUTANT SOURCES, A COPY OF ANY CORRESPONDENCE TO THAT EFFECT MUST BE RETAINED IN THE SWPPP;

13.3.3.3. WHEN ANY NEW OPERATOR AND/OR SUB-OPERATOR IS ASSIGNED OR RELIEVED OF THEIR RESPONSIBILITY TO IMPLEMENT A PORTION OF THE SWPPP;

13.3.3.4. TO PREVENT A NEGATIVE IMPACT TO LEGALLY PROTECTED STATE OR FEDERALLY LISTED OR PROPOSED THREATENED OR ENDANGERED AQUATIC FAUNA;

13.3.3.5. WHEN THERE IS A CHANGE IN CHEMICAL TREATMENT METHODS INCLUDING: USE OF DIFFERENT TREATMENT CHEMICALS, DIFFERENT DOSAGE OR APPLICATION RATES OR A DIFFERENT AREA OF APPLICATION NOT SPECIFIED ON THE EPSC PLANS.

13.3.3.6. ALL SWPPP REVISION(S) SHALL BE RECORDED WITHIN 1 WEEK BY THE PROJECT EPSC INSPECTOR.

13.3.3.7. WHEN A TMDL IS DEVELOPED FOR THE RECEIVING WATERS FOR A POLLUTANT OF CONCERN (SILTATION AND/OR HABITAT ALTERATION), CONSTRUCTION SHALL NOTIFY THE PERMITS SECTION FOR PROPER COORDINATION.

13.4. MAKING PLANS ACCESSIBLE

13.4.1. TDOT WILL RETAIN A COPY OF THIS SWPPP (INCLUDING A COPY OF THE "DOCUMENTATION AND PERMITS" BINDER AT THE CONSTRUCTION SITE (OR OTHER LOCATION ACCESSIBLE TO TDEC AND THE PUBLIC) FROM THE DATE CONSTRUCTION COMMENCES TO THE DATE OF PERMANENT STABILIZATION. TDOT WILL HAVE A COPY OF THE SWPPP AVAILABLE AT THE LOCATION WHERE WORK IS OCCURRING ON-SITE FOR THE USE OF OPERATORS AND THOSE IDENTIFIED AS HAVING RESPONSIBILITIES UNDER THE SWPPP WHENEVER THEY ARE ON THE CONSTRUCTION SITE (7.2.).

13.4.2. PRIOR TO THE INITIATION OF LAND DISTURBING ACTIVITIES AND UNTIL THE SITE HAS MET THE PERMANENT STABILIZATION CRITERIA, TDOT OR THEIR DULY AUTHORIZED REPRESENTATIVE WILL POST A NOTICE NEAR THE MAIN ENTRANCE OF THE CONSTRUCTION SITE WITH THE FOLLOWING INFORMATION (5.3.4.) (7.2.1.):

13.4.2.1. A COPY OF THE NOTICE OF COVERAGE (NOC) WITH THE NPDES PERMIT NUMBER FOR THE PROJECT;

13.4.2.2. THE INDIVIDUAL NAME, COMPANY NAME, E-MAIL ADDRESS (IF APPLICABLE) AND TELEPHONE NUMBER OF THE LOCAL PROJECT SITE OWNER AND OPERATOR CONTACT;

13.4.2.3. A BRIEF DESCRIPTION OF THE PROJECT; AND

13.4.2.4. THE LOCATION OF THE SWPPP.

13.4.3. ALL INFORMATION DESCRIBED IN SECTION 13.4.2 MUST BE MAINTAINED IN LEGIBLE CONDITION. IF POSTING THIS INFORMATION NEAR A MAIN ENTRANCE IS INFEASIBLE DUE TO SAFETY CONCERNS, THE NOTICE SHALL BE POSTED IN A LOCAL BUILDING. THE NOTICE MUST BE PLACED IN A PUBLICLY ACCESSIBLE LOCATION WHERE CONSTRUCTION IS ACTIVELY UNDERWAY AND MOVED AS NECESSARY.

13.5. NOTICE OF TERMINATION (9.0.)

13.5.1. WHEN ALL STORMWATER DISCHARGES FROM CONSTRUCTION ACTIVITIES THAT ARE AUTHORIZED BY THE PERMIT ARE ELIMINATED BY PERMANENT STABILIZATION, THE TDOT REGIONAL ENGINEER WILL SUBMIT A NOTICE OF TERMINATION (NOT) THAT IS SIGNED IN ACCORDANCE WITH THE PERMIT TO THE TDEC CENTRAL OFFICE IN NASHVILLE, TN.

13.5.2. FOR THE PURPOSES OF THE CERTIFICATION REQUIRED BY THE NOT, THE ELIMINATION OF STORMWATER DISCHARGES ASSOCIATED WITH THE CONSTRUCTION ACTIVITY MEANS THE

13.5.2.1. ALL EARTH-DISTURBING ACTIVITIES ON THE SITE ARE COMPLETED AND ALL DISTURBED SOILS AT THE PORTION OF THE CONSTRUCTION SITE WHERE THE OPERATOR HAD CONTROL HAVE BEEN PERMANENTLY STABILIZED; AND

13.5.2.2. ALL CONSTRUCTION MATERIALS, WASTE AND WASTE HANDLING DEVICES, AND ALL EQUIPMENT, AND VEHICLES THAT WERE USED DURING CONSTRUCTION HAVE BEEN REMOVED AND PROPERLY DISPOSED; AND

13.5.2.3. ALL STORMWATER CONTROLS THAT WERE INSTALLED AND MAINTAINED DURING CONSTRUCTION, EXCEPT THOSE THAT ARE INTENDED FOR LONG-TERM USE FOLLOWING TERMINATION OF PERMIT COVERAGE, HAVE BEEN REMOVED; AND

13.5.2.4. ALL POTENTIAL POLLUTANTS AND POLLUTANT GENERATING ACTIVITIES ASSOCIATED WITH CONSTRUCTION HAVE BEEN REMOVED; AND

13.5.2.5. THE PERMITTEE HAS IDENTIFIED WHO IS RESPONSIBLE FOR ONGOING MAINTENANCE OF ANY STORMWATER CONTROLS LEFT ON THE SITE FOR LONG-TERM USE FOLLOWING TERMINATION OF PERMIT COVERAGE; AND

13.5.2.6. TEMPORARY EPSC MEASURES HAVE BEEN OR WILL BE REMOVED AT AN APPROPRIATE TIME TO ENSURE PERMANENT STABILIZATION IS MAINTAINED; AND

13.5.2.7. ALL STORMWATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITIES FROM THE IDENTIFIED SITE THAT ARE AUTHORIZED BY A NPDES GENERAL PERMIT HAVE OTHERWISE BEEN ELIMINATED FROM THE PORTION OF THE CONSTRUCTION SITE WHERE THE OPERATOR HAD CONTROL.

13.6. RETENTION OF RECORDS (7.1.)

TDOT WILL RETAIN COPIES OF THE SWPPP, ALL REPORTS REQUIRED BY THE PERMIT, AND RECORDS OF ALL DATA USED TO COMPLETE THE NOTICE OF INTENT FOR THE PROJECT FOR A PERIOD OF AT LEAST THREE (3) YEARS FROM THE DATE THE NOT WAS FILED.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

STORMWATER POLLUTION PREVENTION PLAN

TENNESSEE D.O.T. | DESIGN DIVISION | FILE NO.

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2025	18100-4148-04	S-7

14. SITE WIDE/PRIMARY PERMITTEE CERTIFICATION (8.7.5.)

I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED BY ME, OR UNDER MY DIRECTION OR SUPERVISION. THE SUBMITTED INFORMATION IS TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT. AS SPECIFIED IN TENNESSEE CODE ANNOTATED SECTION 39-16-702(a)(4), THIS DECLARATION IS MADE UNDER PENALTY OF PERJURY.

Blakeslee Eagan

AUTHORIZED TDOT PERSONNEL SIGNATURE (5.3.3.)

Blakeslee Eagan

PRINTED NAME

Senior Transportation Project Specialist

TITLE

8/20/2025

DATE

15. SECONDARY PERMITTEE (OPERATOR) CERTIFICATION (8.7.6.)

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE REVIEWED THIS DOCUMENT, ANY ATTACHMENTS, AND THE SWPPP REFERENCED ABOVE. BASED ON MY INQUIRY OF THE CONSTRUCTION SITE OWNER/DEVELOPER IDENTIFIED ABOVE AND/OR MY INQUIRY OF THE PERSON DIRECTLY RESPONSIBLE FOR ASSEMBLING THIS NOI AND SWPPP, I BELIEVE THE INFORMATION SUBMITTED IS ACCURATE. I AM AWARE THAT THIS NOI, IF APPROVED, MAKES THE ABOVE-DESCRIBED CONSTRUCTION ACTIVITY SUBJECT TO NPDES PERMIT NUMBER TNR100000, AND THAT CERTAIN OF MY ACTIVITIES ONSITE ARE THEREBY REGULATED. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS, AND FOR FAILURE TO COMPLY WITH THESE PERMIT REQUIREMENTS. AS SPECIFIED IN TENNESSEE CODE ANNOTATED SECTION 39-16-702(a)(4), THIS DECLARATION IS MADE UNDER PENALTY OF PERJURY.

AUTHORIZED CONTRACTOR PERSONNEL SIGNATURE (5.3.3.)

PRINTED NAME

TITLE

DATE

16. ENVIRONMENTAL PERMITS (1.5.2.)

LIST ALL ENVIRONMENTAL PERMITS AND EXPIRATION DATES FOR PROJECT **(TO BE COMPLETED AT THE ENVIRONMENTAL PRECONSTRUCTION MEETING BY TDOT CONSTRUCTION OR THEIR DULY AUTHORIZED REPRESENTATIVE)**:

ENVIRONMENTAL PERMITS			
PERMIT	**YES OR NO**	**PERMIT OR TRACKING NO.**	**EXPIRATION DATE***
TDEC ARAP			
CORPS OF ENGINEERS (USACE)			
TVA 26A			
TDEC CGP			
OTHER:			

*THE TDOT ENVIRONMENTAL DIVISION MUST BE NOTIFIED SIX MONTHS PRIOR TO PERMIT EXPIRATION DATE.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

STORMWATER POLLUTION PREVENTION PLAN

TENNESSEE D.O.T.
DESIGN DIVISION
FILE NO.

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2025	99108-1614-04	S-8

17. OUTFALL TABLE (5.5.1.c, 6.4.1.e, 6.4.1.f)

OUTFALL LABEL	SUB OUT-FALL	STATION CL, LT OR RT	SLOPE WITHIN ROW (%)	STAGE 1 DRAINAGE AREA (AC)	STAGE 2 DRAINAGE AREA (AC)	STAGE 3 DRAINAGE AREA (AC)	SEDIMENT BASIN OR EQUIVALENT MEASURE(S) (YES, NO OR N/A)	SEDIMENT TRAP OR EQUIVALENT MEASURE(S) (YES, NO OR N/A)	RECEIVING RESOURCE (TDOT EBR LABEL) OR OTHER	COMMENTS
OUT-1		760+75.00 LT	6.24	0.81	0.94	0.94	No	No	STR-1	
OUT-2		767+00.00 CL	3.45	3.45			No	No	STR-1	
OUT-3		18+50.00 RT	8.35	1.34			No	No	STR-1	
OUT-4		20+75.00 RT	8.78	2.46			No	No	WWC-3/EPH-3	
OUT-5		797+00.00 CL	7.27	1.45			No	No	STR-2	
OUT-6		805+12.80 LT	5.30	1.07	0.76	0.76	No	No	STR-2	
	OUT-6A	805+12.80 CL	3.04		0.34	0.34	No	No	STR-2	
	OUT-6B	803+25.00 CL	1.95		0.16	0.16	No	No	STR-2	
	OUT-6C	801+37.50 CL	2.39		0.14	0.14	No	No	STR-2	
	OUT-6D	799+38.00 CL	2.49		0.12	0.12	No	No	STR-2	
OUT-7		812+87.51 LT	2.63	1.12	0.98	0.98	No	No	STR-2	
OUT-8		814+.25.10 CL	3.22	0.16	0.15	0.15	No	No	STR-2	
OUT-9		767+00.00 LT	3.66		2.35	2.35	No	No	STR-1	
	OUT-9A	767+50.00 CL	3.10		0.28	0.28	No	No	STR-1	
	OUT-9B	769+00.00 CL	3.85		0.36	0.36	No	No	STR-1	
	OUT-9C	771+00.00 CL	3.15		0.37	0.37	No	No	STR-1	
	OUT-9D	773+12.00 CL	2.63		0.36	0.36	No	No	STR-1	
	OUT-9E	775+18.00 CL	2.06		0.34	0.34	No	No	STR-1	
	OUT-9F	777+30.00 CL	1.43		0.33	0.33	No	No	STR-1	
	OUT-9G	779+40.00 CL	1.02		0.32	0.32	No	No	STR-1	
OUT-10		788+25.00 LT	20.46		0.06	0.06	No	No	STR-2	
OUT-11		797+12.50 CL	2.99		0.12	0.12	No	No	STR-2	
	OUT-11A	797+50.00 CL	2.42		0.12	0.12	No	No	STR-2	
	OUT-11B	795+39.00 CL	2.12		0.09	0.09	No	No	STR-2	
	OUT-11C	793+37.50 CL	1.66		0.19	0.19	No	No	STR-2	
	OUT-11D	791+45.00 CL	2.00		0.28	0.28	No	No	STR-2	
	OUT-11E	789+56.00 CL	2.80		0.54	0.54	No	No	STR-2	
OUT-12		785.06.50 RT	1.47		0.52	0.52	No	No	WWC-3/EPH-3	
	OUT-12A	785+06.50 CL	1.60		0.22	0.22	No	No	WWC-3/EPH-3	
	OUT-12B	783+55.00 CL	0.95		0.30	0.30	No	No	WWC-3/EPH-3	
OUT-13		18+50.00 RT	1.44		0.13	0.13	No	No	STR-1	
OUT-14		18+76.00 RT	2.05		0.01	0.01	No	No	STR-1	
OUT-15		20+80.00 RT	2.05		0.11	0.11	No	No	WTL-2	
OUT-16		17+87.50 RT	2.05		0.05	0.05	No	No	STR-1	

ALL UNUSED FIELDS WITHIN THE OUTFALL TABLE ARE TO BE SHADED, HATCHED, OR REMOVED TO INDICATE THEIR NON-USAGE.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

STORMWATER POLLUTION PREVENTION PLAN

TYPE	YEAR	PROJECT NO.	SHEET NO.
UTILITY	2025	18100-4148-04	U1-1
		PIN 105727.01	

Index Of Sheets	
SHEET NAME	SHEET NUMBER
UTILITIES INDEX, UTILITIES OWNERS, GENERAL NOTES AND UTILITY SHEETS	U1-1 TO U1-2

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF ENGINEERING

CUMBERLAND COUNTY

I-40 OVER STATE ROUTE 24 (US-70N) WIDEN DOUBLE BRIDGE

SPECIAL NOTES

UTILITIES ARE MOVING AT NO COST TO THE STATE.

LOCATIONS ARE APPROXIMATE AND FOR REFERENCE ONLY

UTILITY OWNERS AND CONTACTS:

ELECTRIC & FIBER:
VOLUNTEER ENERGY COOPERATIVE
PO BOX 277
DECATER, TN 37322

MR. LARRY LARGENT
LLARGENT@VEC.ORG
(423) 334-7042

TELEPHONE/FIBER:
FRONTIER COMMUNICATIONS
2104 WEST EMORY ROAD
POWELL, TN 37849

MR. JIM HEATHERLY
JAMES.HEATHERLY@FTR.COM
(865) 236-5083

CABLE TV/FIBER:
CHARTER COMMUNICATIONS
851 S WILLOW AVE, STE 206
COOKEVILLE, TN 38501

MR. PRESTON KIRBY
PRESTON,KIRBY@CHARTER.COM
(931) 319-0956

TELEPHONE:
SPRINT / COGENT
2450 N STREET NW
WASHINGTON, DC 20037

MR. CAMERON JERNIGAN
CJERNIGAN@COGENTCO.COM
(448) 234-3503

GAS:
ENBRIDGE (SPECTRA /E. TN NATURAL GAS)
555 MARRIOT DR, STE 600
NASHVILLE, TN 37214

MR. ASHLEY CLEMONS
ASHLEY.CLEMONS@ENBRIDGE.COM
(615) 418-3049

WATER:
CROSSVILLE / CATOOSA WATER DEPT
392 NORTH MAIN STREET
CROSSVILLE, TN 38555

MR. JEFF JOHNSON
JEFF.JOHNSON@CROSSVILLETN.GOV
(931) 510-0442

GAS:
MIDDLE TENNESSEE NATURAL GAS
P.O. BOX 670
SMITHVILLE, TN 37166

MR. MATT STENNETT
MSTENNETT@MTNG.COM
(931) 239-9111

SEALED BY

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

UTILITY REFERENCE

9/23/2025 8:36:44 AM
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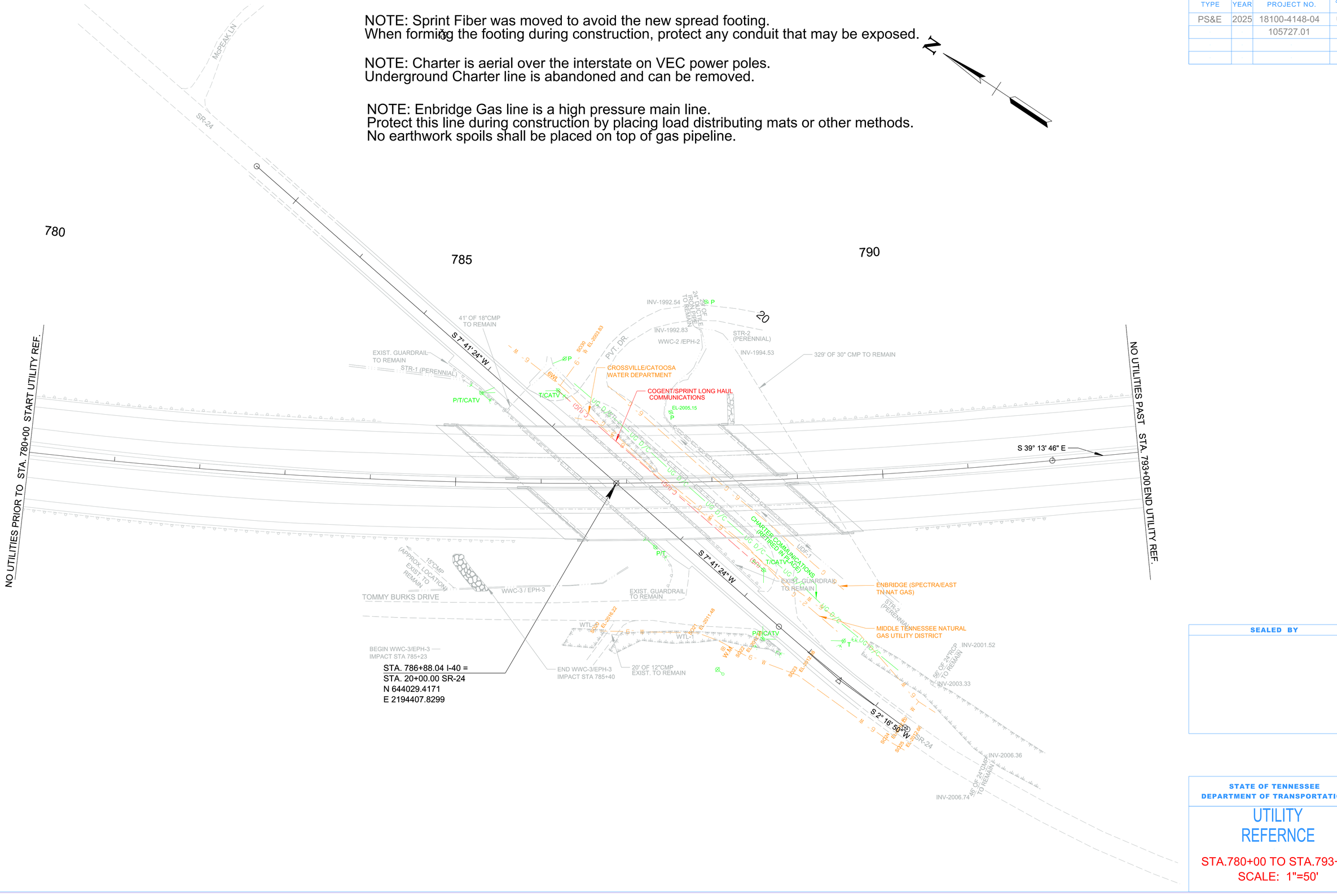
TYPE	YEAR	PROJECT NO.	SHEET NO.
PS&E	2025	18100-4148-04	U1-2
		105727.01	

NOTE: Sprint Fiber was moved to avoid the new spread footing.
When forming the footing during construction, protect any conduit that may be exposed.

NOTE: Charter is aerial over the interstate on VEC power poles.
Underground Charter line is abandoned and can be removed.

NOTE: Enbridge Gas line is a high pressure main line.
Protect this line during construction by placing load distributing mats or other methods.
No earthwork spoils shall be placed on top of gas pipeline.



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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

UTILITY REFERNCE

STA.780+00 TO STA.793+00
SCALE: 1"=50'

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M:\Reg 2 ROW Utilities\Relocation Projects\CUMBERLAND\105727.01 I-40 over SR-24 Double Bridge Repair Widening\Microstation Files\ONLY USE BY MIKE drawing set modified by Mike for a new ditchline option\U1-2