

THIS DOCUMENT HAS BEEN DIGITALLY SIGNED AND SEALED BY:

Jeffrey Lee Jeffrey Lee
2026.04.14 09:05:39 -05'00'

PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED. THE SIGNATURE MUST BE VERIFIED ON THE ELECTRONIC DOCUMENTS.

PALMER ENGINEERING
2817 ERICA PLACE
NASHVILLE, TN 37204
J. BRIAN LEE, P.E. 107296

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-SIGN2
ROADWAY INDEX AND STANDARD ROADWAY DRAWINGS	1A
ESTIMATED ROADWAY QUANTITIES	2-1

YEAR	PROJECT NO.	SHEET NO.
2026	NH-54(48)	ROADWAY-SIGN2

REV. 04/14/26: ADDED THIS SHEET.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

SIGNATURE
SHEET

ROADWAY INDEX

STANDARD ROADWAY DRAWINGS

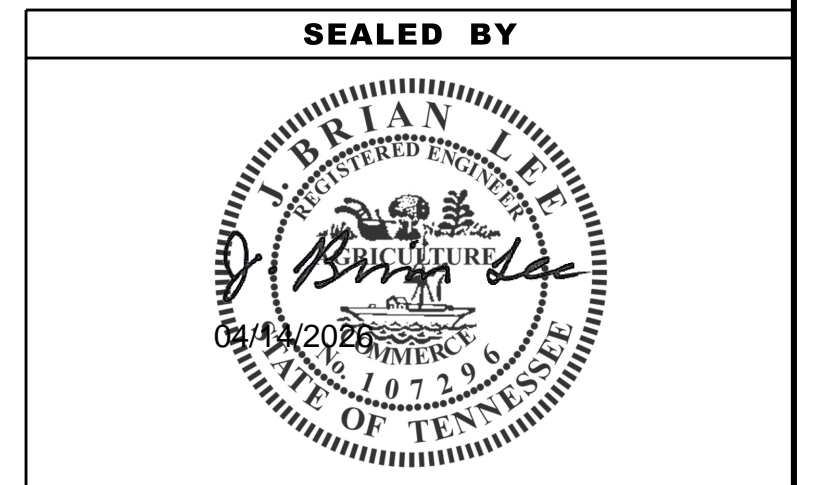
SHEET NAME	SHEET NO.
SIGNATURE SHEET	ROADWAY-SIGN1
SIGNATURE SHEET	ROADWAY-SIGN2
TITLE SHEET	1
ROADWAY INDEX AND STANDARD ROADWAY DRAWINGS	1A
STANDARD ROADWAY DRAWINGS	1A1
STANDARD TRAFFIC DESIGN AND STRUCTURE DRAWINGS	1A2
ESTIMATED ROADWAY QUANTITIES	2, 2-1
ESTIMATED BOX BRIDGE QUANTITIES	2A
TYPICAL SECTIONS AND PAVEMENT SCHEDULE	2B - 2B10
PAVEMENT SCHEDULE	2B11 - 2B12
GENERAL NOTES	2C, 2C1
SPECIAL NOTES	2D
ENVIRONMENTAL NOTES	2E
TABULATED QUANTITIES	2F - 2F3
DITCH DETAIL SHEETS	2G, 2G1
TRENCH DRAIN DETAIL SHEET	2G2
MITIGATION NOTES AND QUANTITIES	2G3
RIGHT-OF-WAY NOTES, UTILITY NOTES, AND UTILITY OWNERS	3
RIGHT-OF-WAY ACQUISITION TABLE	3A
PROPERTY MAPS	3B - 3C
PRESENT LAYOUTS	4 - 15
RIGHT-OF-WAY DETAILS	4A - 15A
RIGHT-OF-WAY DETAILS BRIDGE #1	7D - 7F
PROPOSED LAYOUTS	4B - 15B
PROPOSED PROFILES	4C - 15C
SIDE ROADS PROFILES	16 - 18
HAUL ROAD PROFILES	19
PRIVATE DRIVE, BUSINESS, AND FIELD ENTRANCE PROFILES	20 - 22
DRAINAGE MAPS	23 - 24
CULVERT SECTIONS	25 - 32
EROSION PREVENTION AND SEDIMENT CONTROL NOTES	33
EROSION PREVENTION & SEDIMENT CONTROL (EPSC)	
LEGEND & TABULATION	34
EROSION PREVENTION & SEDIMENT CONTROL (EPSC) PLANS	35 - 37L
SIGNING AND PAVEMENT MARKING PLANS	38 - 49
SIGN SCHEDULE SHEETS	50 - 52
ROADWAY CROSS SECTIONS	53 - 189
SIDE ROAD CROSS SECTIONS	190 - 209
PAVEMENT EDGE DROP-OFF NOTES FOR TRAFFIC CONTROL	T1
TRAFFIC CONTROL TABULATION QUANTITIES	T2
TRAFFIC CONTROL PLANS	T3 - T4L
CAR DETOUR MAP	T5
TRUCK DETOUR MAP	T5A
BRIDGE PLANS	B-1
GEOTECHNICAL PLANS	G-1

DWG.	REV.	DESCRIPTION
NATURAL STREAM DESIGN PLANS	NS-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 THE NUMBERING OF SHEETS.		
NO PROJECT COMMITMENTS FOR THIS PROJECT.		
10-100.00 STANDARD ROADWAY TITLE SHEET, ABBREVIATIONS, AND LEGENDS		
RD-TP-1	09-26-16	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	01-30-26	STANDARD LEGEND
RD-L-1A		STANDARD LEGEND
RD-L-2	02-20-20	STANDARD LEGEND FOR UTILITY INSTALLATIONS
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
RD-L-8	02-20-20	STANDARD LEGEND FOR NATURAL STREAM DESIGN
10-101.00 STANDARDS ROADWAY DRAWINGS		
RD11-SE-1		TRANSITION AND CROSS SLOPE DETAILS
RD11-SE-2		SUPERELEVATION TRANSITION DETAILS FOR UNDIVIDED ROADWAYS
RD11-SE-2A		SUPERELEVATION TRANSITION SECTIONS FOR UNDIVIDED ROADWAYS
RD11-TS-1A	06-28-19	DESIGN STANDARDS FOR LOCAL ROADS AND STREETS
RD11-TS-3A	06-28-19	DESIGN STANDARDS FOR ARTERIAL HIGHWAYS WITH DEPRESSED MEDIAN (4 AND 6 LANE)
RD11-TS-3B		DESIGN STANDARDS FOR ARTERIAL HIGHWAYS WITH FLUSH MEDIAN (4 AND 6 LANE)
RD11-TS-7B	06-12-25	DESIGN STANDARDS 2-LANE HIGHWAYS WITH CONTINUOUS 2-WAY LEFT-TURN LANE
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-S-11A		ROADSIDE DITCH DETAILS FOR DESIGN AND CONSTRUCTION
RD11-SA-1	01-09-24	SAFETY APPROACH TO UNDERPASSES GRADING DESIGN AND SLOPE PROTECTION
RD11-SD-1		INTERSECTION SIGHT DISTANCE DESIGN AND GENERAL NOTES
RD11-SD-2		INTERSECTION SIGHT DISTANCE LANDSCAPE AND OBSTRUCTION
RD11-SD-3		INTERSECTION SIGHT DISTANCE 2-LANE ROADWAYS
RD11-SD-4		INTERSECTION SIGHT DISTANCE 4-LANE AND 5-LANE UNDIVIDED ROADWAYS
RD-UD-3	01-09-24	UNDERDRAIN DETAILS
RD-UD-4	06-28-19	UNDERDRAIN LATERAL DETAILS

DWG.	REV.	DESCRIPTION
RD-UD-7	06-28-19	LATERAL UNDERDRAIN ENDWALL DETAIL FOR 3:1 & 4:1 SLOPES
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-AOP-3		AOP DESIGN EMBEDDED BOX CULVERTS
D-FLU-3	04-14-25	BRIDGE END DRAIN FLUME DETAILS
D-PB-1	03-01-23	STANDARD DETAILS FOR CONCRETE PIPE INSTALLATION
D-PB-2	03-01-23	STANDARD DETAILS FOR FLEXIBLE PIPE INSTALLATION
D-PB-3	11-30-20	INDUCED TRENCH SOIL EMBANKMENT FOR PIPE CULVERT INSTALLATION
D-PB-4	01-09-24	PIPE COLLAR DETAILS
D-PE-18A	06-28-19	TYPE "U" CROSS DRAIN ENDWALL FOR 18" PIPE (FOR 3:1, 4:1 & 6:1 SLOPES)
D-PE-18B	06-28-19	TYPE "U" CROSS DRAIN ENDWALL FOR 18" PIPE, BILL OF STEEL AND PRECAST NOTES
D-PE-24A	06-28-19	TYPE "U" CROSS DRAIN ENDWALL FOR 24" PIPE (FOR 3:1, 4:1 & 6:1 SLOPES)
D-PE-24B	06-28-19	TYPE "U" CROSS DRAIN ENDWALL FOR 24" PIPE, BILL OF STEEL AND PRECAST NOTES
D-PE-36A	06-28-19	TYPE "U" CROSS DRAIN ENDWALL FOR 36" PIPE WITH STEEL PIPE GRATE (FOR 3:1, 4:1 & 6:1 SLOPES)
D-PE-36B	06-28-19	TYPE "U" CROSS DRAIN ENDWALL FOR 36" PIPE, BILL OF STEEL AND PRECAST NOTES
D-PE-42A	06-28-19	TYPE "U" CROSS DRAIN ENDWALL FOR 42" PIPE WITH STEEL PIPE GRATE (FOR 3:1, 4:1 & 6:1 SLOPES)
D-PE-42B	06-28-19	TYPE "U" CROSS DRAIN ENDWALL FOR 42" PIPE, BILL OF STEEL AND PRECAST NOTES
D-PE-99	03-04-21	TYPE "U" CROSS DRAIN ENDWALL DETAILS, PIPE GRATE & SKEWED CONNECTION
D-SEW-1A	01-30-26	TYPE "SAFETY" SIDE DRAIN 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)

TYPE	YEAR	PROJECT NO.	SHEET NO.
PIH	2025	NH-54(48)	1A
PS&E	2026	NH-54(48)	1A

REV. 04/14/26: ADDED ROADWAY-SIGN2 TO INDEX OF SHEETS.



STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

ROADWAY INDEX
AND
STANDARD
ROADWAY
DRAWINGS

ESTIMATED ROADWAY QUANTITIES			
ITEM NO.	DESCRIPTION	UNIT	QUANTITY 40S054-F3-004
(5)(13)	716-05.01 PAINTED PAVEMENT MARKING (4" LINE)	L.M.	20
(6)	716-12.02 ENHANCED FLATLINE THERMO PVMR MRKNG (6IN LINE)	L.M.	16.7
	717-01 MOBILIZATION	LS	1
	722-01.02 FIELD OFFICE (TYPE 2)	LS	1
	740-07.04 GEOGRID REINFORCEMENT TYPE 2	S.Y.	3714
(1)(5)(30)	740-10.03 GEOTEXTILE (TYPE III)(EROSION CONTROL)	S.Y.	6156
(16)(17)(31)	740-10.04 GEOTEXTILE (TYPE IV)(STABILIZATION)	S.Y.	286839
(1)(5)	740-11.04 TEMPORARY SEDIMENT TUBE 20IN	L.F.	1948
(10)	801-01 SEEDING (WITH MULCH)	UNIT	76
(10)	801-01.07 TEMPORARY SEEDING (WITH MULCH)	UNIT	2642
	801-01.34 GRASS SEED MIX (RIPZN/FLPL)	UNIT	42
(24)	801-01.36 SPECIAL WETLAND SEED MIXTURE	UNIT	32
(26)	801-01.38 NATVE SEED MX FINAL STABILIZATN OF SLOPES	UNIT	39
	801-01.65 TEMPORARY MULCH	UNIT	2642
(10)	801-02 SEEDING (WITHOUT MULCH)	UNIT	353
(7)	801-03 WATER (SEEDING & SODDING)	M.G.	1775
(10)	801-07 SEED (SUPPLEMENTAL APPLICATION)	LB.	131
(11)	801-08 FERTILIZER (SUPPLEMENTAL APPLICATION)	TON	2
	802-12.02 ACER RUBRUM (RED MAPLE SEEDLNG B.R.)	EACH	42
(34)	802-12.26 PLATANUS OCCIDENTALIS (SYCAMORE SEEDLNG B.R.)	EACH	92
	802-12.40 SALIX NIGRA (BLACK WILLOW SEEDLNG B.R.)	EACH	42
	802-12.44 ULMUS AMERICANA (AMERICAN ELM SEEDLNG B.R.)	EACH	42
(29)	803-01 SODDING (NEW SOD)	S.Y.	164646
	805-01.03 TURF REINFORCEMENT MAT (CLASS III)	S.Y.	5791
	805-12.02 EROSION CONTROL BLANKET (TYPE II)	S.Y.	32399
(35)	805-12.08 700 GRAM COIR FIBER EROSION BLANKET	S.Y.	613
(8)	806-02.03 PROJECT MOWING	CYCL	5

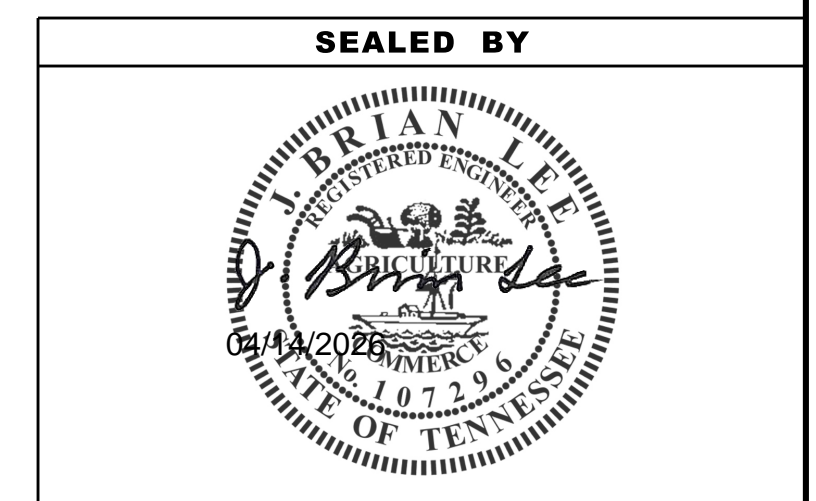
ESTIMATED ROADWAY QUANTITIES			
ITEM NO.	DESCRIPTION	UNIT	QUANTITY 40S054-F3-004
	ALTERNATE AA1		
(18)	303-01 MINERAL AGGREGATE, TYPE A BASE, GRADING D	TON	149433
	ALTERNATE AA2		
(18)	303-01 MINERAL AGGREGATE, TYPE A BASE, GRADING D	TON	83500
	309-01.01 MINERAL AGGREGATE (A-CBC)	TON	35051
	309-01.02 PORTLAND CEMENT (A-CBC)	TON	1591
	309-02 BITUMINOUS MATERIAL (A-CBC)	TON	94

FOOTNOTES	
(1)	SEE SUBSECTION 209.07 OF THE STANDARD SPECIFICATION FOR MAINTENANCE REPLACEMENT.
(2)	INCLUDES 610 TONS FOR EPSC, 501 TONS FOR SPECIAL DITCHES, 61 TONS FOR OUTLET DITCH LINING, AND 358 TONS FOR BRIDGE FLUMES.
(3)	INCLUDES 794 C.Y. FOR EPSC, 333 C.Y. FOR BRIDGE FLUMES, AND 359,486 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 EXTRUDED OR RIBBON METHOD FOR APPLICATION.
(7)	INCLUDES 276 THOUSAND GALLONS FOR EROSION PREVENTION AND SEDIMENT CONTROL.
(8)	ITEM INCLUDES LITTER AND TRASH REMOVAL. THIS WORK WILL NOT BE MEASURED AND PAID FOR DIRECTLY BUT WILL BE INCLUDED IN THE COST OF ITEM NO. 806-02.03, PROJECT MOWING.
(9)	THE BEDDING MATERIAL SHALL BE INCLUDED IN THE COST OF THE PROPOSED PIPE CULVERT. SEE STANDARD DRAWINGS D-PB-1 AND D-PB-2 FOR ADDITIONAL DETAILS.
(10)	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.
(11)	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.
(12)	INCLUDES 300 TONS FOR EROSION PREVENTION AND SEDIMENT CONTROL AND 1850 TONS FOR BRIDGE SLOPE STABILIZATION.

FOOTNOTES	
(13)	FOR TEMPORARY MARKINGS FOR TRAFFIC CONTROL AND FOR STRIPING ON INTERMEDIATE PAVEMENT LAYERS.
(14)	TO BE USED WITH SANDBAGS FOR TEMPORARY STREAM PLUGS
(15)	TO BE USED FOR OUTLET DITCH LINING. 638 TONS FOR CROSS DRAINS AND 506 TONS FOR BOX CULVERTS AND BOX BRIDGES.
(16)	THIS ITEM TO BE USED FOR STATION RANGES AS LISTED IN SHEET G1A, GEOTECHNICAL NOTE 3 OR OTHERWISE AS DIRECTED BY ENGINEER FOR THE STABILIZATION OF SUBGRADE.
(17)	THIS ITEM TO BE USED FOR STATION RANGES AS LISTED IN SHEET G1A, GEOTECHNICAL NOTE 4 OR OTHERWISE AS DIRECTED BY ENGINEER FOR EMBANKMENT STABILIZATION.
(18)	INCLUDES 2252 TONS FOR SHOULDER WIDENING ALONG EXIST. SR-54. SEE TRAFFIC CONTROL PLANS.
(19)	THIS ITEM TO BE USED FOR CULVERTS AS DIRECTED IN SHEET G1A, GEOTECHNICAL NOTES 7, 9, AND 10.
(20)	USED FOR BOX CULVERT AND BOX BRIDGE WINGWALL CONSTRUCTION.
(21)	INCLUDES 224 TONS FOR EPSC, CONTROL, 667 TONS FOR GEOTECH, 2018 FOR PABE, AND 15 TONS FOR NATURAL STREAM DESIGN.
(22)	INCLUDES 314 C.Y. FOR BOX CULVERTS AND BOX BRIDGES AND 53 C.Y. FOR GEOTECH.
(23)	FOR PAVEMENT AT BRIDGE ENDS AS DETAILED ON STD-10-2, OTHER ALLOWABLE GRADATIONS ARE ACCEPTABLE PER THE STANDARD DRAWING.
(24)	SEE SHEET 2G3 FOR SEEDING MIXTURE.
(25)	POSTS CAN BE ORDERED THROUGH CARSONITE, A VALMONT COMPANY. ITEM NUMBERS ARE 72" BY 3.9" DUAL-SIDED FIBERGLASS MARKER (CIB307201), CUSTOM PROTECTED AREA DECAL PRE-APPLIED ON BOTH SIDES (21374NM-A).
(26)	PERMANENT STABILIZATION WITH NATIVE OR NATURALIZED PERENNIAL VEGETATION IS REQUIRED 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 ENVIRONMENT AND CONSERVATION (TDEC) TENNESSEE EROSION & SEDIMENT CONTROL HANDBOOK 4TH EDITION.
(27)	QUANTITY FOR BACKFILL MATERIAL PROPOSED FOR EMBEDDED CULVERTS. TO BE USED IF SUITABLE NATURAL MATERIAL IS NOT AVAILABLE ON SITE.
(28)	THE CONTRACTOR SHALL MAKE PROVISIONS FOR THE SATISFACTORY DISPOSAL OF 237918 C.Y. OF EXCESS MATERIAL. ITEM SHALL INCLUDE ANY OSTRUCTIONS AND DRAINAGE STRUCTURES.
(29)	INCLUDES 17753 S.Y. FOR SPECIAL DITCHES, 54 S.Y. FOR BOX CULVERTS, 106 S.Y. FOR ENDWALLS, AND 146733 S.Y. FOR SLOPE STABILIZATION.
(30)	INCLUDES 5617 S.Y. FOR EROSION PREVENTION AND SEDIMENT CONTROL, 527 S.Y. FOR BRIDGE FLUMES, AND 12 S.Y. FOR NATURAL STREAM DESIGN.
(31)	INCLUDES 1076 S.Y. FOR PAVEMENT AT BRIDGE ENDS, AND 285763 S.Y. FOR GEOTECH.
(32)	INCLUDES 33 EACH FOR ROADWAY WETLAND MITIGATION, AND 18 EACH FOR NATURAL STREAM DESIGN.
(33)	INCLUDES 49400 L.F. FOR EROSION PREVENTION AND SEDIMENT CONTROL, AND 1016 L.F. FOR NATURAL STREAM DESIGN.
(34)	INCLUDES 42 EACH FOR ROADWAY WETLAND MITIGATION, AND 50 EACH FOR NATURAL STREAM DESIGN.
(35)	INCLUDES 215 S.Y. FOR EROSION PREVENTION AND SEDIMENT CONTROL, AND 398 S.Y. FOR NATURAL STREAM DESIGN.
(36)	CONTRACTOR MAY ELECT TO SUBSTITUTE PREFORMED PLASTIC FOR PREFORMED THERMOPLASTIC. PREFORMED PLASTIC SHALL BE PAID FOR AT THE SAME UNIT PRICE AS BID FOR THERMOPLASTIC.
(37)	SHALL INCLUDE GEOTEXTILE (TYPE IV), BORROW EXCAVATION (GRADED SOLID ROCK), OR MACHINED RIP-RAP (CLASS A-1, CLASS B, OR CLASS C), MINERAL AGGREGATE (SIZE 57), AND TEMPORARY DRAINAGE PIPE (IF APPLICABLE). THE MINERAL AGGREGATE INCLUDES AN ADDITIONAL TEN (10) PERCENT FOR MAINTENANCE.
(38)	SHALL BE A PORTABLE ENERGY ABSORBING TERMINAL MEETING THE REQUIREMENTS OF AASHTO MASH FOR TEST LEVEL 3. THE PAY ITEM WILL INCLUDE FURNISHING AND INSTALLING ALL COMPONENTS AS SHOWN ON THE MANUFACTURES DRAWINGS.
(39)	INCLUDES 5 FOR EPSC AND 2 FOR NSD.
(40)	BID PRICE INCLUDES ALL SALVAGE VALUE OF MATERIAL. INCLUDES REMOVAL OF THE HOUSE, MOBILE HOME, AND SEPTIC SYSTEMS. SEE REMOVAL OF BUILDINGS AND OBSTRUCTIONS BLOCK, SHEET 2F1, FOR FURTHER DETAILS.
(41)	SHALL INCLUDE THE COST OF GUARDRAIL TERMINAL EARTH PADS.

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2023	NH-54(48)	2-1
PIH	2025	NH-54(48)	2-1
PS&E	2026	NH-54(48)	2-1

REV. 04/14/26: REVISED QUANTITY FOR ITEM NO. 740-11.04 AND ADDED ITEM NO. 722-01.02.



STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

ESTIMATED
ROADWAY
QUANTITIES