

Index Of Sheets  
(SEE SHEET NO. 1A)

# STATE OF TENNESSEE SHELBY COUNTY PUBLIC WORKS CITY OF MEMPHIS ENGINEERING

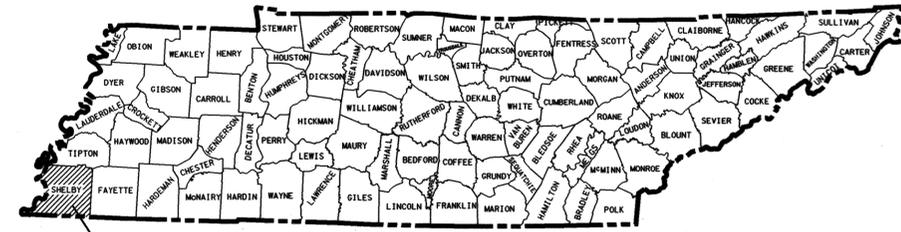
TENN.	YEAR 2013	SHEET NO. 1
FED. AID PROJ. NO.	N/A	
STATE PROJ. NO.	79054-3407-04	

## SHELBY COUNTY

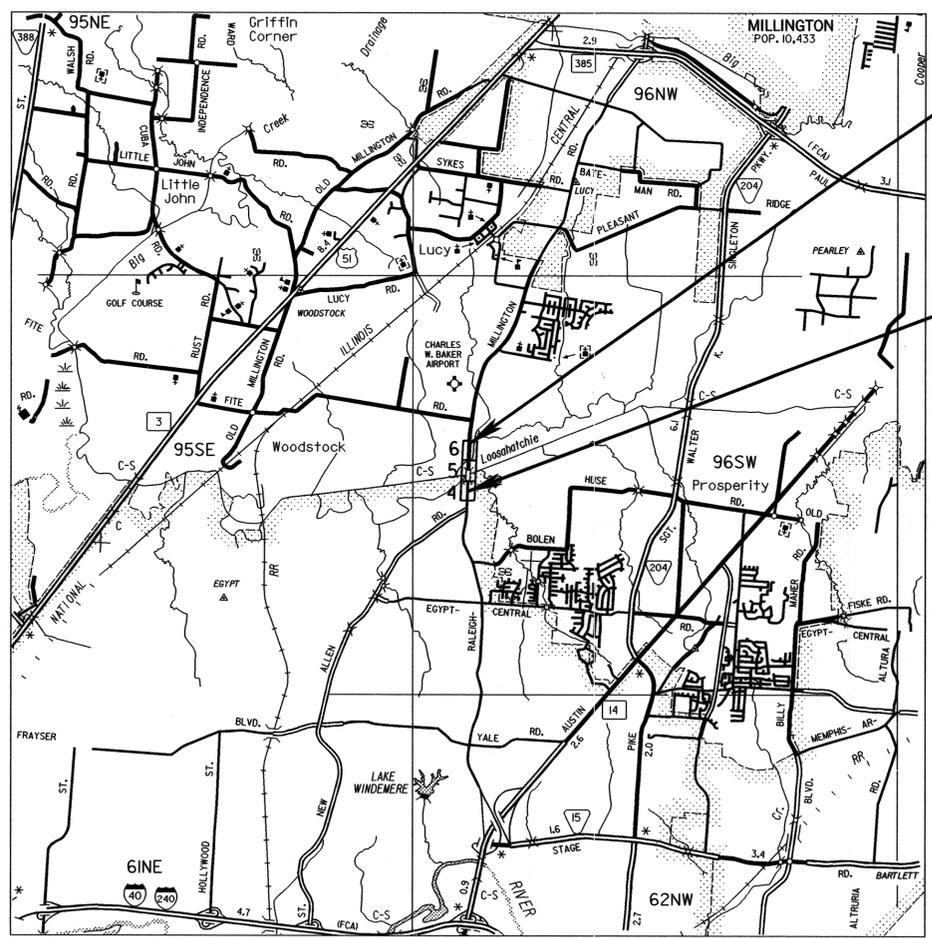
RALEIGH MILLINGTON ROAD  
BRIDGE OVER LOOSAHATCHIE RIVER

**CONSTRUCTION**  
GRADE, DRAIN, BRIDGE, PAVE, SIGN

STATE HIGHWAY NO. N/A F.A.H.S. NO. N/A

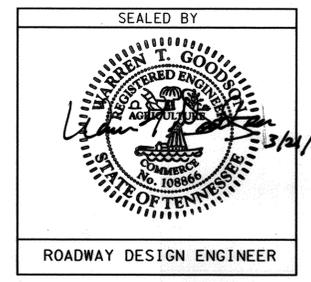


PROJECT SITE



**END PROJ. NO. 79054-3407-04 (CONST.)**  
STA. 35+97.00  
N 363651.2065  
E 795809.1569

**BEGIN PROJ. NO. 79054-3407-04 (CONST.)**  
STA. 8+48.00  
N 360904.9959  
E 795688.2885



**NO EXCLUSIONS  
NO EQUATIONS**

SURVEY DATE - AUGUST, 2011

APPROVED: \_\_\_\_\_  
THOMAS E. NEEDHAM, P.E., DIRECTOR OF PUBLIC WORKS  
DATE: \_\_\_\_\_  
APPROVED: \_\_\_\_\_  
JOHN CAMERON, P.E., CITY ENGINEER

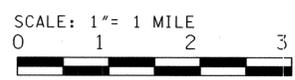
**SPECIAL NOTES**

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

THIS PROJECT TO BE CONSTRUCTED UNDER THE STANDARD SPECIFICATIONS OF THE TENNESSEE DEPARTMENT OF TRANSPORTATION DATED MARCH 1, 2006 AND ADDITIONAL SPECIFICATIONS AND SPECIAL PROVISIONS CONTAINED IN THE PLANS AND IN THE PROPOSAL CONTRACT.

TDOT TRANS. MANAGER 1 - STATE AID CHARLES N. KING  
COUNTY ENGINEER THOMAS E. NEEDHAM, P.E.  
DESIGNED BY W.H. PORTER CONSULTANTS, PLLC  
DESIGNER WARREN T. GOODSON, P.E. CHECKED BY MATTHEW W. BINGHAM, P.E.

P.E. NO. N/A  
PIN NO. 115769.00



ROADWAY LENGTH	0.347 MILES
BRIDGE LENGTH	0.174 MILES
* BOX BRIDGE LENGTH	0.000 MILES
PROJECT LENGTH	0.521 MILES

\* NOT INCLUDED IN PROJECT LENGTH

TRAFFIC DATA	
AADT (2013)	11450
AADT (2033)	14880
DHV (2033)	1637
D	65 - 35
T (ADT)	7 %
T (DHV)	5 %
V	50 MPH

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2013	79054-3407-04	1A

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# STANDARD ROADWAY DRAWINGS

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## STANDARD BRIDGE DRAWINGS

DWG. NO.	REV.	DESCRIPTION
(SEE SHEET NO. 2)		

DWG. NO	REV.	DESCRIPTION
<b>ROADWAY DESIGN STANDARDS</b>		
RD-A-1	12-18-99	STANDARD ABBREVIATIONS
RD-L-1	10-26-94	STANDARD LEGEND
RD-L-2	09-05-01	STANDARD LEGEND FOR UTILITY INSTALLATIONS
RD-L-3	04-15-04	STANDARD LEGEND FOR SIGNALIZATION AND LIGHTING
RD-L-5	05-01-08	STANDARD LEGEND FOR EROSION PREVENTION AND SEDIMENT CONTROL
RD-L-6	03-30-10	STANDARD LEGEND FOR EROSION PREVENTION AND SEDIMENT CONTROL
RD-L-7		STANDARD LEGEND FOR EROSION PREVENTION AND SEDIMENT CONTROL
RD-L-8		STANDARD LEGEND FOR NATURAL STREAM DESIGN
RD-UD-3	09-05-96	UNDERDRAIN DETAILS
RD-UD-4	05-27-01	UNDERDRAIN LATERAL DETAILS
RD-UD-6	12-18-94	LATERAL UNDERDRAIN ENDWALL DETAIL FOR 1:1 & 2:1 SLOPES
RD-UD-7	12-18-94	LATERAL UNDERDRAIN ENDWALL DETAIL FOR 3:1 & 4:1 SLOPES
RD01-S-11	04-04-03	DESIGN AND CONSTRUCTION DETAILS FOR ROADSIDE SLOPE DEVELOPMENT
RD01-S-11A	10-15-02	ROADSIDE DITCH DETAILS FOR DESIGN AND CONSTRUCTION
RD01-S-12	08-01-09	CLEAR ZONE CRITERIA
RD01-SD-1		INTERSECTION SIGHT DISTANCE DESIGN AND GENERAL NOTES
RD01-SD-2		INTERSECTION SIGHT DISTANCE LANDSCAPE AND OBSTRUCTION
RD01-SD-4		INTERSECTION SIGHT DISTANCE 5-LANE AND 4-LANE UNDIVIDED ROADWAYS
RD01-SE-2	10-15-02	URBAN SUPERELEVATION DETAILS
RD01-TS-6A	01-24-12	TYPICAL CURB AND GUTTER SECTIONS WITHOUT SHOULDER
<b>DRAINAGE - CULVERTS AND ENDWALL</b>		
D-PB-1	04-15-07	STANDARD DETAILS CLASS "B" BEDDING AND CULVERT EXCAVATION
D-PB-2	02-01-12	STANDARD DETAILS FOR PLASTIC PIPE INSTALLATION
D-PE-1	02-12-76	TYPE "A" CONCRETE ENDWALL 2:1 SLOPE, 36" TO 78"
D-PE-4	07-19-10	STRAIGHT, "L" AND "U" TYPE CONCRETE ENDWALL
D-PE-18A		18" CONCRETE ENDWALL CROSS DRAIN
D-PE-18B		18" CONCRETE ENDWALL CROSS DRAIN
D-PE-99		PIPE GRATE & SKEWED CONNECTION DETAILS FOR "U" ENDWALLS/CONCRETE ENDWALL CROSS DRAIN WITH STEEL PIPE GRATE
<b>DRAINAGE-CATCH BASINS AND MANHOLES</b>		
D-CB-12B	08-01-12	STANDARD RECTANGULAR BRICK NO. 12 CATCH BASIN
D-CB-12LP	08-01-12	LOW PROFILE 32" X 32" SQUARE CONCRETE NO. 12LP CATCH BASIN
D-CB-12P	08-01-12	STANDARD PRECAST RECTANGULAR CONCRETE NO. 12 CATCH BASIN
D-CB-12RA	08-01-12	STANDARD PRECAST 48" CIRCULAR NO. 12 CATCH BASIN (FOR USE WITH 6" NONMOUNTABLE CURB)

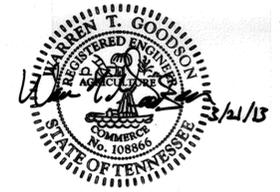
DWG. NO	REV.	DESCRIPTION
D-CB-12RB	08-01-12	STANDARD PRECAST 60" AND 72" CIRCULAR NO. 12 CATCH BASIN (FOR USE WITH 6" NONMOUNTABLE CURB)
D-CB-12S	08-01-12	STANDARD RECTANGULAR CONCRETE NO. 12 CATCH BASIN
D-CB-12SB	08-01-12	STANDARD 4' X 4' SQUARE CONCRETE NO. 12 CATCH BASIN
D-CB-12SC	08-01-12	STANDARD 5'2" X 5'2" SQUARE CONCRETE NO. 12 CATCH BASIN
D-CB-12SD	08-01-12	STANDARD 7' X 7' SQUARE CONCRETE NO. 12 CATCH BASIN
D-CB-12SE	08-01-12	STANDARD 9' X 9' SQUARE CONCRETE NO. 12 CATCH BASIN
D-CB-14B	08-01-12	STANDARD RECTANGULAR BRICK NO. 14 CATCH BASIN
D-CB-14P	08-01-12	STANDARD PRECAST RECTANGULAR CONCRETE NO. 14 CATCH BASIN
D-CB-14RB	08-15-12	STANDARD PRECAST CIRCULAR NO. 14RB CATCH BASIN
D-CB-14S	08-01-12	STANDARD RECTANGULAR CONCRETE NO. 14 CATCH BASIN
D-CB-99		MISCELLANEOUS DETAILS FOR RECTANGULAR STRUCTURES
D-CB-99R		MISCELLANEOUS DETAILS FOR ROUND STRUCTURES
D-CBB-12A	05-27-01	TYPE "B" CAST IRON FRAME, GRATE & NONMOUNTABLE INLET DETAILS FOR NOS. 10, 12, 14, 16, & 17 TYPE CATCH BASINS
D-MH-2	08-01-12	STANDARD MASONRY & PRECAST NO. 3 MANHOLE
D-MH-3	08-01-12	STANDARD PRECAST CIRCULAR LID DETAILS FOR NO. 3 MANHOLE
D-MH-4	08-01-12	STANDARD NO. 3 MANHOLE CASTINGS AND STEPS
D-MH-5	08-01-12	STANDARD 5'2" X 5'2" SQUARE CONCRETE NO. 3 MANHOLE
D-RF-1		STANDARD PRECAST RISER

## ROADWAY AND PAVEMENT APPURTENANCES

RP-D-15	07-15-08	DETAILS OF STANDARD CONCRETE DRIVEWAYS
RP-D-16	07-15-08	DETAILS OF LOWERED STANDARD CONCRETE DRIVEWAYS
RP-I-5	12-18-96	EXAMPLES OF STREET AND ALLEY INTERSECTIONS
RP-NMC-10	07-29-03	STANDARD VERTICAL (NONMOUNTABLE) CONCRETE CURBS AND CONCRETE CURBS AND GUTTERS
RP-NMC-11	02-28-02	STANDARD VERTICAL (NONMOUNTABLE) CONCRETE CURBS AND CONCRETE CURBS AND GUTTERS

## SAFETY APPURTENANCES AND FENCE

S-F-1		HIGH VISIBILITY FENCE
S-GR-11	11-26-07	W-BEAM & THRIE BEAM BARRIER RAIL AND RUB RAIL ALTERNATES
S-GR-12	05-27-03	W-BEAM BARRIER POST DETAILS AND SPECIFICATIONS
S-GR-13	05-27-03	BARRIER RAIL MOUNTING, POST BLOCK-OUTS WITH VERTICAL ADJUSTMENT HOLES
S-GR-13A		BARRIER RAIL MOUNTING POST FOR PLASTIC BLOCK-OUTS WITH HORIZONTAL ADJUSTMENT HOLES
S-GR-14	04-17-12	W-BEAM BARRIER FASTENING HARDWARE AND BRIDGE APPROACH DELINEATORS



STATE OF TENNESSEE  
DEPARTMENT OF TRANSPORTATION

# INDEX AND STANDARD DRAWINGS

(NOT TO SCALE)

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- S-GR-18 05-15-08 GUARDRAIL TERMINAL (TYPE IN-LINE) AND SHOULDER LINE DETAIL
- S-GR-21 06-30-09 LENGTH OF NEED AND TERMINAL REQUIREMENTS IN FILLS
- S-GR-23 09-11-02 GUARDRAIL ATTACHMENT TO STRUCTURES AND PROTECTIVE GUARDRAIL AT BRIDGE END DETAILS
- S-GR-24 05-15-08 GUARDRAIL END TERMINALS AT BRIDGE ENDS
- S-GR-38 06-30-09 DETAILS FOR CONSTRUCTION OF EARTH PAD FOR TYPE 38 GUARDRAIL END TERMINAL
- S-GR-43 TANGENTIAL GUARDRAIL TERMINAL ANCHOR (TYPE 38) POST LAYOUT AND ERECTION DETAILS
- S-GR-44 TANGENTIAL GUARDRAIL TERMINAL ANCHOR (TYPE 38) (2 TUBE) GUARDRAIL ELEMENT POST AND ASSEMBLY DETAILS
- S-GR-45 LONG SPAN GUARDRAIL - ONE POST OMITTED
- S-GR-46 CURVED GUARDRAIL

**TRAFFIC CONTROL APPURTENANCES**

- T-FAB-1 05-27-97 FLASHING YELLOW ARROW BOARD
- T-M-1 11-01-11 DETAILS OF PAVEMENT MARKINGS FOR CONVENTIONAL ROADS AND MARKING ABBREVIATIONS
- T-M-2 01-12-12 DETAILS OF PAVEMENT MARKINGS FOR CONVENTIONAL ROADS
- T-M-3 09-19-91 MARKING STANDARDS FOR TRAFFIC ISLANDS, MEDIANS & PAVED SHOULDERS ON CONVENTIONAL ROADS
- T-M-4 11-01-11 STANDARD INTERSECTION PAVEMENT MARKINGS
- T-M-10 11-01-11 SIGNING AND PAVEMENT MARKINGS FOR SHARED-USE PATHS
- T-M-12 11-01-11 SIGNING AND PAVEMENT MARKINGS FOR URBAN BICYCLE LANES
- T-M-13 SIGNING AND PAVEMENT MARKINGS FOR BICYCLE LANES
- T-M-14 11-01-11 SIGNING AND PAVEMENT MARKINGS FOR BICYCLE LANES AT INTERSECTIONS
- T-M-15 ASPHALT SHOULDER RUMBLE STRIP INSTALLATION DETAILS FOR INTERSTATE AND ACCESS CONTROLLED ROUTES
- T-PBR-1 06-30-09 INTERCONNECTED PORTABLE BARRIER RAIL
- T-PBR-2 10-10-06 DETAIL FOR VERTICAL PANELS AND FLEXIBLE DELINEATORS
- T-S-9 11-01-11 STANDARD LAYOUT GROUND MOUNTED SIGNS
- T-S-10 04-04-12 STANDARD MOUNTING DETAILS FLAT SHEET SIGNS ALUMINUM-STEEL DESIGN
- T-S-11 06-06-11 DELINEATOR AND MILEPOST DETAILS
- T-S-12 05-27-03 STANDARD STEEL GROUND MOUNTED SIGNS, BREAK-AWAY TYPE POST FOOTING DETAILS, SQUARE TUBES
- T-S-13 05-27-01 STANDARD STEEL GROUND MOUNTED SIGNS, BREAK-AWAY TYPE POST FOOTING DETAILS, I-BEAMS
- T-S-14 05-27-01 STANDARD STEEL GROUND MOUNTED SIGNS, BREAK-AWAY TYPE POST FOOTING DETAILS, WF-BEAMS
- T-S-16 11-01-11 GROUND MOUNTED ROADSIDE SIGN AND DETAILS
- T-S-17 10-26-96 STANDARD GROUND MOUNTED SIGN USING PERFORATED/KNOCKOUT SQUARE TUBE
- T-S-18 05-27-01 END OF ROADWAY AND DEAD END SIGNS, METAL BARRICADES (TYPE III) & WORK ZONE SPEED SIGNS
- T-S-19 07-29-91 STANDARD MEMBERS BENDAWAY SIGN SUPPORTS STEEL DESIGN
- T-S-20 11-01-11 SIGN DETAILS

- T-WZ-10 04-02-12 ADVANCE ROAD WORK SIGNING ON HIGHWAYS AND FREEWAYS
- T-WZ-11 03-13-09 ONE LANE CLOSURE DETAIL ON DIVIDED HIGHWAYS
- T-WZ-12 03-13-09 ONE LANE CLOSURE DETAIL FOR BRIDGES ON DIVIDED HIGHWAYS
- T-WZ-16 03-13-09 LANE SHIFT ON DIVIDED HIGHWAYS AND FREEWAYS
- T-WZ-21 03-15-11 LANE CLOSURE WITH LEFT HAND MERGE AND LANE SHIFT
- T-WZ-31 09-01-05 TRAFFIC CONTROL 2-LANE, 2-WAY DIVERSION (GREATER THAN 40 MPH)

**EROSION PREVENTION AND SEDIMENT CONTROL**

- EC-STR-1 04-01-08 DEWATERING STRUCTURE
- EC-STR-2 05-14-10 SEDIMENT FILTER BAG
- EC-STR-3B 04-01-08 SILT FENCE
- EC-STR-3C 04-01-08 SILT FENCE WITH WIRE BACKING
- EC-STR-3D 04-01-08 ENHANCED SILT FENCE
- EC-STR-3E 04-01-08 SILT FENCE FABRIC JOINING DETAILS
- EC-STR-6 04-01-08 ROCK CHECK DAM
- EC-STR-6A ENHANCED ROCK CHECK DAM
- EC-STR-7 04-01-08 SEDIMENT TRAP WITH CHECK DAM
- EC-STR-12 04-01-08 ROCK SEDIMENT DAM
- EC-STR-13 04-01-08 ROCK AND EARTH SEDIMENT EMBANKMENT
- EC-STR-15 04-01-08 SEDIMENT BASIN
- EC-STR-16 04-01-08 SEDIMENT BASIN RISER AND COLLAR APPURTENANCES
- EC-STR-17 04-01-08 SEDIMENT BASIN EMBANKMENT DETAILS
- EC-STR-19 04-01-08 CATCH BASIN PROTECTION
- EC-STR-21 04-01-08 PERMANENT RIPRAP BASIN ENERGY DISSIPATOR
- EC-STR-25 04-01-08 TEMPORARY CULVERT CROSSING, CONSTRUCTION EXIT, CONSTRUCTION FORD
- EC-STR-27 04-01-08 TEMPORARY SLOPE DRAIN AND BERM
- EC-STR-30 INSTREAM DIVERSION (WITHOUT TRAFFIC)
- EC-STR-30A INSTREAM DIVERSION (WITH TRAFFIC)
- EC-STR-31 04-01-08 TEMPORARY DIVERSION CHANNEL
- EC-STR-31A 04-01-08 TEMPORARY DIVERSION CHANNEL DESIGN
- EC-STR-32 04-01-08 TEMPORARY DIVERSION CULVERTS
- EC-STR-34 04-01-08 EROSION CONTROL BLANKET FOR SLOPE INSTALLATION
- EC-STR-35 04-01-08 FILTER BERMS
- EC-STR-36 04-01-08 TURF REINFORCEMENT MAT FOR CHANNEL INSTALLATION
- EC-STR-37 04-01-08 SEDIMENT TUBE
- EC-STR-39 04-01-08 CURB INLET PROTECTION TYPE 1 & 2
- EC-STR-40 CATCH BASIN FILTER ASSEMBLY FOR CIRCULAR STRUCTURES
- EC-STR-41 CATCH BASIN FILTER ASSEMBLY (TYPE 1)
- EC-STR-41A CATCH BASIN FILTER ASSEMBLY (TYPE 1) SLIPCOVER DETAILS
- EC-STR-46 CATCH BASIN FILTER ASSEMBLY (TYPE 6)
- EC-STR-46A CATCH BASIN FILTER ASSEMBLY (TYPE 6) SLIPCOVER DETAILS

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STATE OF TENNESSEE  
DEPARTMENT OF TRANSPORTATION

**INDEX AND STANDARD DRAWINGS**

(NOT TO SCALE)

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2013	79054-3407-04	2

**ESTIMATED QUANTITIES**

ITEM NO.	DESCRIPTION	UNIT	TOTAL	SUPERSTRUCTURE	ABUTMENT 1	BENT 1	BENT 2	BENT 3	BENT 4	BENT 5	BENT 6	ABUTMENT 2
⑨	202-04.01	REMOVAL OF STRUCTURES	LS	1	--	--	--	--	--	--	--	--
①	204-02.01	DRY EXCAVATION (BRIDGES)	C.Y.	184	--	92	--	--	--	--	--	92
②	303-01.02	GRANULAR BACKFILL (BRIDGES)	TON	70	--	35	--	--	--	--	--	35
	604-02.03	EPOXY COATED REINFORCING STEEL	LB.	577,459	570,313	3,573	--	--	--	--	--	3,573
	604-03.01	CLASS A CONCRETE (BRIDGES)	C.Y.	1,040	--	103	139	139	139	139	139	103
	604-03.02	STEEL BAR REINFORCEMENT (BRIDGES)	LB.	540,772	13,374	12,962	83,579	83,579	83,579	83,579	83,579	12,962
③	604-03.04	PAVEMENT AT BRIDGE ENDS	S.Y.	392	--	196	--	--	--	--	--	196
	604-03.09	CLASS D CONCRETE (BRIDGE DECK)	C.Y.	2,082	2,082	--	--	--	--	--	--	--
	604-04.01	APPLIED TEXTURE FINISH (NEW STRUCTURES)	S.Y.	4,349	3,529	65	115	115	115	115	115	65
	604-05.31	BRIDGE DECK GROOVING (MECHANICAL)	S.Y.	7,394	7,394	--	--	--	--	--	--	--
⑧	606-04.01	TEST PILES (STEEL PILES, 14 INCH)	L.F.	205	--	95	--	--	--	--	--	110
	606-04.02	LOADING TEST (STEEL PILES, 14 INCH)	EA.	2	--	1	--	--	--	--	--	1
⑧	606-04.03	STEEL PILES (14 INCH)	L.F.	3,700	--	1,700	--	--	--	--	--	2,000
	606-04.06	PILE TIPS (STEEL PILES, 14 INCH)	EA.	42	--	21	--	--	--	--	--	21
⑦	606-22.13	STEEL PIPE PILES (24 IN)	L.F.	9,595	--	--	1,650	1,655	1,545	1,545	1,545	--
⑦	606-22.15	TEST PILES (STEEL PIPE PILES, 24 IN)	L.F.	160	--	--	160	--	--	--	--	--
⑪	606-22.16	LOAD TESTING (STEEL PIPE PILES, 24 IN)	EA.	1	--	--	1	--	--	--	--	--
⑫	606-22.17	DYNAMIC MONITORING (STEEL PIPE PILES, 24 IN)	EA.	5	--	--	--	1	1	1	1	--
④	615-01.12	PRESTRESSED CONCRETE BULB TEE BEAM (6" WEB) (BT-72)	L.F.	8,150	8,150	--	--	--	--	--	--	--
⑩	620-05.01	CONC PARAPET SINGLE SLOPE (STD-1-1SS, MODIFIED)	L.F.	1,904	1,904	--	--	--	--	--	--	--
⑤	707-99.01	WROUGHT IRON FENCE	LS	1	1	--	--	--	--	--	--	--
⑥	710-09.01	6" PERFORATED PIPE WITH VERTICAL DRAIN SYSTEM	L.F.	204	--	102	--	--	--	--	--	102
	710-09.02	6" PIPE UNDERDRAIN	L.F.	58	--	29	--	--	--	--	--	29
	712-12.47	BRIDGE MOUNTED INTERCONNECTED PORTABLE BARRIER RAIL	L.F.	967	--	--	--	--	--	--	--	--

- ① EXCAVATION BASED ON FINAL PROFILE AT THE ABUTMENTS.
- ② GRANULAR BACKFILL SHALL BE CLASS 'A' GRADING 'D' MATERIAL. SEE STANDARD DRAWING STD-10-1.
- ③ PRIOR TO THE CONSTRUCTION OF THE PAVEMENT AT THE BRIDGE ENDS, THE CONTRACTOR SHALL SUBMIT A PROPOSED BILL OF STEEL TO THE ENGINEER FOR APPROVAL.
- ④ COST OF ELASTOMERIC PADS AND RUBBER BONDING CEMENT TO BE INCLUDED IN THE UNIT PRICE BID FOR THE PRESTRESSED BEAMS.
- ⑤ LUMP SUM FOR WROUGHT IRON FENCE. ITEM NO. 707-99.01, INCLUDES 1888 LINEAR FEET OF BLACK POWDER COATED WROUGHT IRON FENCING (18" MINIMUM HEIGHT), POSTS, PLATES, ANCHOR BOLTS, ELASTOMERIC PADS AND OTHER MATERIALS AND LABOR NECESSARY FOR THE COMPLETE INSTALLATION OF THE FENCE. SEE DRAWING U-46-123 FOR DETAILS.
- ⑥ COST OF POLYETHYLENE SHEETING AND ALL MISCELLANEOUS ITEMS NECESSARY FOR INSTALLATION TO BE INCLUDED IN THE UNIT PRICE BID FOR THE PERFORATED PIPE.
- ⑦ ALL PIPE PILES ARE TO BE FILLED WITH CLASS "A" CONCRETE TO THE ELEVATION SHOWN IN THE PILE DATA TABLE. COST OF CLASS "A" FILL CONCRETE TO BE INCLUDED IN THE UNIT PRICE FOR ITEM 604-03.01. COST OF REINFORCING STEEL INSIDE PIPE PILES IS TO BE INCLUDED IN THE UNIT COST FOR ITEM 604-03.02. PIPE PILES ARE TO BE FILLED WITH CONCRETE IN ACCORDANCE WITH SECTION 606.07 OF THE STANDARD SPECIFICATION. THE TOP 25 FEET SHALL BE CONSOLIDATED.
- ⑧ ALL "H" PILES ARE TO BE HP 14X73, ASTM A36.
- ⑨ LUMP SUM REMOVAL OF EXISTING BRIDGE NO. 79S81030001 AND APPROACHES (INCLUDING REMOVAL OF CONCRETE, ASPHALT AND OTHER DEBRIS LOCATED AT THE SOUTH END OF THE EXISTING BRIDGE) TO AN ELEVATION 2'-0" BELOW NATURAL GROUND FROM STATION 17+13 TO 26+34 ACCORDING TO PHASE CONSTRUCTION DRAWING NOS. U-46-103 AND U-46-104. EXISTING BRIDGE CONSISTS OF 24 SPANS OF CONTINUOUS STEEL GIRDERS WITH COMPOSITE CONCRETE DECK SLAB AND OUT TO OUT WIDTH OF 30'-10". EXISTING BRIDGE LENGTH IS 921'-0".
- ⑩ THE COST OF 28 BRIDGE DECK DRAINS AND 3" DIA. HDPE CONDUIT (INCLUDING PULL BOXES) TO BE INCLUDED IN THE UNIT COST FOR ITEM 620-05.01.
- ⑪ COST FOR LOAD TEST OF STEEL PIPE PILES SHALL INCLUDE COSTS FOR STATIC LOAD TEST COMPLETED IN ACCORDANCE WITH SECTION 606.08 OF THE STANDARD SPECIFICATIONS (WITH EXCEPTIONS AS INDICATED IN THE GENERAL NOTES) AND FOR DYNAMICALLY MONITORING TEST PILE DURING DRIVING WITH A PDA (INCLUDING PILE RESTRIKES) IN ACCORDANCE WITH THE SPECIAL PROVISIONS.
- ⑫ COST FOR DYNAMIC MONITORING OF STEEL PIPE PILES SHALL INCLUDE COSTS FOR DYNAMICALLY MONITORING PRODUCTION PILES DURING DRIVING WITH A PDA AND FOR PILE RESTRIKES COMPLETED IN ACCORDANCE WITH THE SPECIAL PROVISIONS.

INDEX OF DRAWINGS		
DESCRIPTION	DWG. NO.	LAST REV. DATE
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SUPERSTRUCTURE - TYPICAL SECTION I	U-46-105	-----
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SUPERSTRUCTURE - FRAMING PLAN I	U-46-107	-----
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SUPERSTRUCTURE - SLAB PLAN II	U-46-110	-----
SUPERSTRUCTURE - MAIN REINFORCING PLAN I	U-46-111	-----
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FINISH GRADE ELEVATIONS	U-46-113	-----
PRESTRESSED BEAM DETAILS - SPANS 3, 4, 5 e 6	U-46-114	-----
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ABUTMENT DETAILS I	U-46-118	-----
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BENTS 1-6 - LAYOUT	U-46-121	-----
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BILL OF STEEL I	U-46-126	-----
BILL OF STEEL II	U-46-127	-----
BILL OF STEEL III	U-46-128	-----

LIST OF STANDARD DRAWINGS		
DESCRIPTION	DWG. NO.	LAST REV. DATE
BRIDGE RAILING SINGLE SLOPE CONCRETE PARAPET	STD-1-1SS	06/01/2011
STEEL SLIDER PLATE ASSEMBLIES FOR SINGLE SLOPE CONCRETE PARAPET AND BRIDGE DECK DRAIN DETAILS	STD-1-2SS	2006
REINFORCED CONCRETE PAVEMENT AT BRIDGE ENDS	STD-1-5	06/01/2011
BRIDGE MOUNTED INTERCONNECTED PORTABLE BARRIER RAIL	STD-2-1	11/01/2010
STANDARD PILE DETAILS	STD-5-2	04/08/2005
STANDARD SEISMIC DETAILS	STD-6-1	11/01/2010
STANDARD SEISMIC DETAILS	STD-6-2	11/07/1994
STANDARD REINFORCING BAR SUPPORT DETAILS FOR CONCRETE SLABS	STD-9-1	10/07/2008
MISCELLANEOUS ABUTMENT AND DRAINAGE DETAILS	STD-10-1	04/08/2005
STANDARD DETAILS AND INTERMEDIATE DIAPHRAGM DETAILS FOR BULB-TEE BEAMS	STD-14-1	10/15/2008

▲ DENOTES BRIDGE RAIL TO BE MODIFIED AS PER DRAWING U-46-123.



STATE OF TENNESSEE  
DEPARTMENT OF TRANSPORTATION

**ESTIMATED BRIDGE QUANTITIES**

(NOT TO SCALE)

SEE BRIDGE PLANS BEGINNING AT SHEET NO. 45.

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2013	79054-3407-04	2A

ESTIMATED ROADWAY QUANTITIES

ITEM NO.	DESCRIPTION	UNIT	QUANTITY
105-01	CONSTRUCTION STAKES, LINES AND GRADES	LS	1
201-01	CLEARING AND GRUBBING	LS	1
202-01	REMOVAL OF STRUCTURES AND OBSTRUCTIONS	LS	1
203-06	WATER	M.G.	798
203-07	FURNISHING & SPREADING TOPSOIL	C.Y.	100
203-10	EMBANKMENT (COMPACTED IN PLACE)	C.Y.	40433
209-05	SEDIMENT REMOVAL	C.Y.	2000
209-08.02	TEMPORARY SILT FENCE (WITH BACKING)	L.F.	15317
209-08.03	TEMPORARY SILT FENCE (WITHOUT BACKING)	L.F.	160
209-08.07	ROCK CHECK DAM PER	EACH	9
209-08.08	ENHANCED ROCK CHECK DAM	EACH	5
209-09.04	SEDIMENT FILTER BAG(15' X 10')	EACH	6
209-09.40	CURB INLET PROTECTION (TYPE 1)	EACH	16
209-09.42	CURB INLET PROTECTION (TYPE 3)	EACH	2
209-40.41	CATCH BASIN FILTER ASSEMBLY(TYPE 1)	EACH	9
209-40.46	CATCH BASIN FILTER ASSEMBLY(TYPE 6)	EACH	7
303-01	MINERAL AGGREGATE, TYPE A BASE, GRADING D	TON	427
303-10.01	MINERAL AGGREGATE (SIZE 57)	TON	145
307-01.01	ASPHALT CONCRETE MIX (PG64-22) (BPMB-HM) GRADING A	TON	102
307-01.08	ASPHALT CONCRETE MIX (PG64-22) (BPMB-HM) GRADING B-M2	TON	120
307-02.01	ASPHALT CONCRETE MIX (PG70-22) (BPMB-HM) GRADING A	TON	2409
307-02.02	ASPHALT CEMENT (PG70-22)(BPMB-HM) GRADING A-S	TON	61
307-02.03	AGGREGATE (BPMB-HM) GRADING A-S MIX	TON	1824
307-02.08	ASPHALT CONCRETE MIX (PG70-22) (BPMB-HM) GRADING B-M2	TON	1578
309-01.01	MINERAL AGGREGATE (A-CBC)	TON	3993
309-01.02	PORTLAND CEMENT (A-CBC)	TON	154
402-01	BITUMINOUS MATERIAL FOR PRIME COAT (PC)	TON	22
402-02	AGGREGATE FOR COVER MATERIAL (PC)	TON	80
403-01	BITUMINOUS MATERIAL FOR TACK COAT (TC)	TON	18
411-01.10	ACS MIX(PG64-22) GRADING D	TON	130
411-02.10	ACS MIX(PG70-22) GRADING D	TON	925
411-12.01	SCORING SHOULDERS (CONTINUOUS) (16IN WIDTH)	L.M.	0.08
604-01.01	CLASS A CONCRETE (ROADWAY)	C.Y.	48
604-01.02	STEEL BAR REINFORCEMENT (ROADWAY)	LB.	2409
606-24.10	SHEET PILES	S.F.	1000
606-24.12	TEMPORARY SHEET PILES	S.F.	1370
607-02.02	15" CONCRETE PIPE CULVERT(CLASS III)	L.F.	36
607-03.02	18" CONCRETE PIPE CULVERT (CLASS III)	L.F.	1667
611-12.02	CATCH BASINS, TYPE 12, > 4' - 8' DEPTH	EACH	8
611-12.03	CATCH BASINS, TYPE 12, > 8' - 12' DEPTH	EACH	1
611-14.02	CATCH BASINS, TYPE 14, > 4' - 8' DEPTH	EACH	5
611-14.03	CATCH BASINS, TYPE 14, > 8' - 12' DEPTH	EACH	1
611-01.02	MANHOLES, > 4' - 8' DEPTH	EACH	1
611-01.04	MANHOLES, > 12' - 16' DEPTH	EACH	1
611-07.02	STEEL BAR REINFORCEMENT (PIPE ENDWALLS)	LB.	461
611-07.01	CLASS A CONCRETE (PIPE ENDWALLS)	C.Y.	5
611-09.01	ADJUSTMENT OF EXISTING CATCHBASIN	EACH	1
621-03.09	60" TEMPORARY DRAINAGE PIPE	L.F.	184
702-03	CONCRETE COMBINED CURB & GUTTER	C.Y.	310
703-01	CEMENT CONCRETE DITCH LINING	C.Y.	29
705-01.01	GUARDRAIL AT BRIDGE ENDS	L.F.	108
705-02.02	SINGLE GUARDRAIL (TYPE 2)	L.F.	2348
705-04.05	GUARDRAIL TERMINAL (TYPE-IN-LINE)	EACH	2
705-04.07	TAN ENERGY ABSORBING TERM (NCHRP 350, TL3)	EACH	3
705-04.50	PORTABLE BARRIER RAIL DELINEATOR	EACH	170
705-08.51	PORTABLE IMPACT ATTENUATOR NCHRP350 TL-3	EACH	4
707-08.11	HIGH-VISIBILITY CONSTRUCTION FENCE	L.F.	3170

ESTIMATED ROADWAY QUANTITIES

ITEM NO.	DESCRIPTION	UNIT	QUANTITY
709-05.05	MACHINED RIP-RAP (CLASS A-3)	TON	200
709-05.06	MACHINED RIP-RAP (CLASS A-1)	TON	484
709-05.08	MACHINED RIP-RAP (CLASS B)	TON	706
709-05.09	MACHINED RIP-RAP (CLASS C)	TON	3731
710-02	AGGREGATE UNDERDRAINS (WITH PIPE)	L.F.	3880
710-05	LATERAL UNDERDRAIN	L.F.	360
710-06.11	LATERAL UNDERDRAIN ENDWALL (2:1)	EACH	2
710-06.12	LATERAL UNDERDRAIN ENDWALL (3:1)	EACH	12
710-06.13	LATERAL UNDERDRAIN ENDWALL (4:1)	EACH	6
712-01	TRAFFIC CONTROL	LS	1
712-02.02	INTERCONNECTED PORTABLE BARRIER RAIL	L.F.	3604
712-04.01	FLEXIBLE DRUMS (CHANNELIZING)	EACH	241
712-04.50	PORTABLE BARRIER RAIL DELINEATOR	EACH	170
712-05.01	WARNING LIGHTS (TYPE A)	EACH	87
712-05.03	WARNING LIGHTS (TYPE C)	EACH	154
712-06	SIGNS (CONSTRUCTION)	S.F.	320
712-08.03	ARROW BOARD (TYPE C)	EACH	4
712-09.01	REMOVABLE PAVEMENT MARKING LINE	L.F.	4.6
713-02.14	FLEXIBLE DELINEATOR (WHITE)	EACH	24
713-15	REMOVAL OF SIGNS, POSTS AND FOOTINGS	LS	1
713-16.20	SIGNS (MEMPHIS CITY LIMITS)	EACH	1
713-16.21	SIGNS (BICYCLES SYMBOL)	EACH	2
713-16.22	SIGNS (SHARE THE ROAD)	EACH	2
713-16.23	SIGNS (BIKE LANE)	EACH	8
713-16.24	SIGNS (AHEAD - BIKE LANE)	EACH	2
713-16.25	SIGNS (END - BIKE LANE)	EACH	2
713-16.26	SIGNS (SPEED LIMIT 45 MPH)	EACH	2
713-16.27	SIGNS (RIGHT LANE ENDS)	EACH	1
713-16.28	SIGNS (LANE ENDS)	EACH	1
716-01.11	RAISED PVMT MARKERS (BI-DIRECTIONAL) (1 COLOR LENS)	EACH	61
716-01.12	RAISED PVMT MARKERS (MONO-DIRECTIONAL) (1 COLOR LENS)	EACH	87
716-04.03	PLASTIC PAVEMENT MARKING (4" DOTTED LINE)	L.F.	50
716-02.04	PLASTIC PAVEMENT MARKING(CHANNELIZATION STRIPING)	S.Y.	264
716-04.04	PLASTIC PAVEMENT MARKING (TRANSVERSE SHOULDER)	L.F.	2000
716-04.11	PLASTIC PAVEMENT MARKING (BICYCLE SYMBOL W/RIDER)	EACH	4
716-04.13	PLASTIC PAVEMENT MARKING(BIKELANE ARROW)	EACH	4
716-05.01	PAINTED PAVEMENT MARKING (4" LINE)	L.M.	4.25
716-08.20	REMOVAL OF PAVEMENT MARKING (LINE)	L.M.	3.33
716-13.06	SPRAY THERMO PVMT MRKNG (40 mil) (4IN LINE)	L.M.	2.3
716-13.07	SPRAY THERMO PVMT MRKNG (40 mil) (6IN LINE)	L.M.	3.2
716-13.08	SPRAY THERMO PVMT MRKNG (40 mil) (8IN BARRIER LINE)	L.F.	3270
717-01	MOBILIZATION	LS	1
740-07.02	GEOGRID REINFORCEMENT (SOIL SLOPES)	S.Y.	315
740-10.03	GEOTEXTILE (TYPE III)(EROSION CONTROL)	S.Y.	1398
740-11.03	TEMPORARY SEDIMENT TUBE 18IN (MULCH SOCK)	L.F.	2096
776-01.10	FIRE HYDRANT (PER DETAIL)	EACH	2
801-01	SEEDING (WITH MULCH)	UNIT	133
801-01.07	TEMPORARY SEEDING (WITH MULCH)	UNIT	126
801-03	WATER (SEEDING & SODDING)	M.G.	22
802-11.16	FRAXINUS PENNSYLVANICA (GREEN ASH 2-5FT CNTNR GRWN)	EACH	18
802-11.33	QUERCUS MICHAUXII (SWMP CHSTNT OAK 2-5FT CNTNR GRWN)	EACH	35
802-11.36	QUERCUS NUTTALLII (NUTTALL OAK 2-5FT CNTNR GRWN)	EACH	35
802-11.38	QUERCUS PHELLOS (WILLOW OAK 2-5FT CNTNR GRWN)	EACH	35
802-11.42	TAXODIUM DISTICHUM (BALD CYPRESS 2-5FT CNTNR GRWN)	EACH	18
802-11.46	QUERCUS SHUMARDII (SHUMARD OAK 2-5 FT CNTNR GRWN)	EACH	35
802-12.16	FRAXINUS PENNSYLVANICA (GREEN ASH SEEDLING B.R.)	EACH	25
802-12.33	QUERCUS MICHAUXII (SWMP CHSTNT OAK SEEDLING B.R.)	EACH	48
802-12.36	QUERCUS NUTTALLII (NUTTALL OAK SEEDLING B.R.)	EACH	48
802-12.38	QUERCUS PHELLOS (WILLOW OAK SEEDLING B.R.)	EACH	48
802-12.42	TAXODIUM DISTICHUM (BALD CYPRESS SEEDLING B.R.)	EACH	25
802-12.46	QUERCUS SHUMARDII (SHUMARD OAK SEEDLING B.R.)	EACH	48
803-01	SODDING (NEW SOD)	S.Y.	200
805-12.02	EROSION CONTROL BLANKET (TYPE II)	S.Y.	118
920-11	14" DUCTILE IRON FORCE MAIN	L.F.	102
920-12	14" DUCTILE IRON FORCE MAIN (DIRECTIONAL BORE)	L.F.	187
920-13	CONCRETE ENCASEMENT	L.F.	20

FOOTNOTES:

- INCLUDES THE REMOVAL OF PIPES, ENDWALLS, CURB, GUARDRAIL, AND ANY OTHER ITEMS DESIGNATED TO BE REMOVED.
- INCLUDES 102 M.G. FOR EMBANKMENT, 31 M.G. FOR AGGREGATE CEMENT. QUANTITY IS INCREASED SIX TIMES FOR DUST CONTROL ON URBAN PROJECTS.
- SEE SUBSECTION 209.07 OF THE STANDARD SPECIFICATIONS FOR MAINTENANCE AND REPLACEMENT, ALL QUANTITIES ARE TO BE AS DIRECTED BY THE ENGINEER.
- 6-30 CURB AND GUTTER, 10 INCH DEPTH AT 0.07953 C.Y. PER L.F.
- INCLUDES 39 TONS FOR SEDIMENT FILTER BAGS AND 106 TONS FOR TEMPORARY CULVERT CROSSINGS. FOR USE WITH REINFORCED SOIL SLOPES. GEOGRID TO BE TENSAR BX110075 (TYPE 1-475) BIAXIAL GEOGRID OR APPROVED EQUAL.
- 33 CY FOR USE IN GRADE CONTROL STRUCTURE AND 15 CY FOR USE IN WATER TABLE.
- SECTION AZ-12 OR EQUIVALENT, FOR USE IN GRADE CONTROL STRUCTURE.
- TO BE USED DURING PHASE II OF THE TRAFFIC CONTROL TO CONSTRUCT THE SOUTH BOUND LANES.
- THE EXISTING CATCH BASIN, FRAME, GRATE AND CURB OPENING ON ALLENTOWN DRIVEWAY IS TO BE RESET AT FINISHED GRADE.
- THIS ITEM SHALL BE A PORTABLE ENERGY ABSORBING TERMINAL MEETING THE REQUIREMENTS OF NCHRP 350 FOR TEST LEVEL 3. EXAMPLES WOULD BE A QUAD-GUARD, A REACT 350 OR A TRACC. THE PAY ITEM WILL INCLUDE FURNISHING AND INSTALLING ALL COMPONENTS AS SHOWN ON THE MANUFACTURER'S DRAWING.
- INCLUDES 473 CY FOR TEMPORARY CULVERT CROSSINGS AND 11 TONS FOR CULV. OUTLET PROTECTION.
- INCLUDES 683 TONS FOR LINING OF CHANNEL MODIFICATION AND 23 TONS FOR CULVERT OUTLET PROTECTION.
- INCLUDES 961 TONS FOR USE FOR PROTECTION BENEATH BRIDGE AND 2770 TONS FOR PROTECTION OF BRIDGE ABUTMENTS
- THE SHARE THE ROAD SIGN SHALL NOT STAND ALONE, IT IS TO BE USED IN TANDEM WITH THE BICYCLE SYMBOL SIGN.
- FOR TEMPORARY PAVEMENT MARKING.
- THE CONTRACTOR MY ELECT TO SUBSTITUTE PREFORMED PLASTIC FOR THERMOPLASTIC. PREFORMED PLASTIC SHALL BE PAID FOR AT THE SAME UNIT PRICE AS BID FOR THERMOPLASTIC.
- INCLUDES 447 S.Y. FOR SEDIMENT FILTER BAGS, 608 S.Y. FOR TEMPORARY CULVERT CROSSINGS AND 343 S.Y. FOR CONSTRUCTION EXITS.
- INCLUDES 11 M.G. FOR TEMPORARY SEEDING AND 11 M.G. FOR FINAL SEEDING.
- USE AS DIRECTED BY ENGINEER.
- FORCE MAIN SHALL BE CONSTRUCTED IN ACCORDANCE WITH CURRENT CITY OF MEMPHIS STANDARD CONSTRUCTION SPECIFICATIONS AND DRAWINGS.
- SIGN FACE, SUPPORT, INSTALLATION, AND HARDWARE INCLUDED IN COST OF ITEM.
- FOR USE IN TEMPORARY CULVERT CROSSINGS.
- FOR PROTECTION OF WETLANDS AND STREAMS AS DIRECTED BY THE ENGINEER.
- SEE SPEC. PROV. 205A
- FOR USE IN TEMPORARY CONSTRUCTION EXITS.
- ROADWAY SLOPE SEED MIXTURE (SEE SHEET 2B FOR DETAILS).
- USED ON TRANSVERSE SHOULDER.

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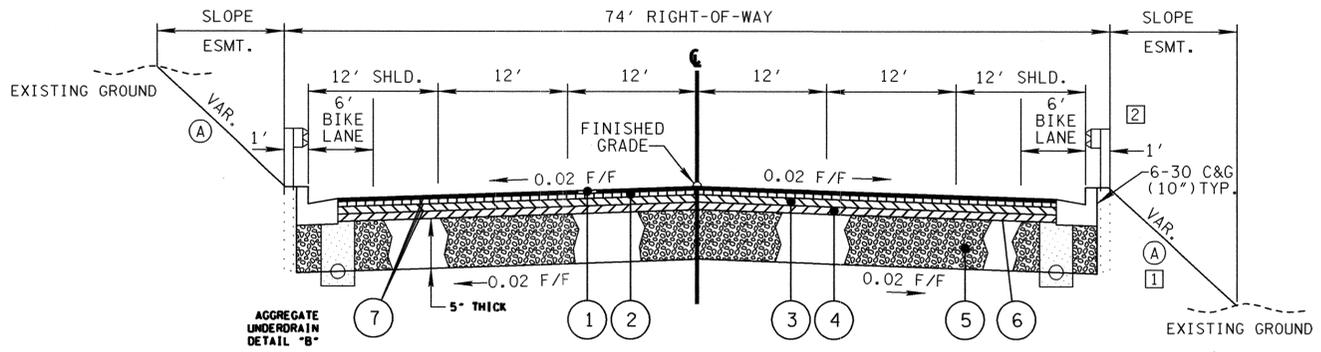


STATE OF TENNESSEE  
DEPARTMENT OF TRANSPORTATION

**ESTIMATED ROADWAY QUANTITIES**

(NOT TO SCALE)

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2012	79054-3407-04	2
CONST.	2013	79054-3407-04	2B



**TANGENT SECTION**

(BASED ON STD. DWG. RD01-TS-6A)

**RALEIGH-MILLINGTON ROAD**

STA. 8+48.00 TO 17+17.00 (BEGINNING OF PROJ. TO BEGINNING OF BRIDGE)  
STA. 26+35.71 TO 35+97.00 (END OF BRIDGE TO END OF PROJECT)

- 1 2:1 SLOPES ALONG RALEIGH-MILLINGTON ROAD  
STA. 26+35 TO STA. 27+00 RT
- 2 NO CURB & GUTTER ALONG RALEIGH-MILLINGTON ROAD  
STA. 8+48.00 TO STA. 10+05.50 RT

(A) SIDE SLOPES VARY - SEE STD. DWG. RD-S-11 (CASE 1) OR ROADWAY CROSS-SECTIONS FOR SLOPES.  
VARIABLE SLOPE RATIO BASED ON HEIGHT ("H")

FILL SLOPES	HT. OF FILL
6:1	0'-7'
4:1	7'-15'
3:1	OVER 15'

CUT SLOPES

4:1	0'-15'
3:1	OVER 15'

**ROADWAY SLOPE SEED MIXTURE (PERMANENT): 110 LB./AC\***

COMMON NAME	SCIENTIFIC NAME	%	LB./AC PLS
1.3. PENSACOLA BAHIAGRASS	PASPALUM NOTATUM	45	50
1.3. BERMUDAGRASS (HULLED)	CYNODON DACTYLON	14	15
1.3. KOREAN LESPEDEZA	KUMMEROWIA STIPULACEA	27	30
1.3. FOXTAIL MILLET	SETARIA ITALICA	14	15

**ROADWAY SLOPE SEED MIXTURE (TEMPORARY): 70 LB./AC\***

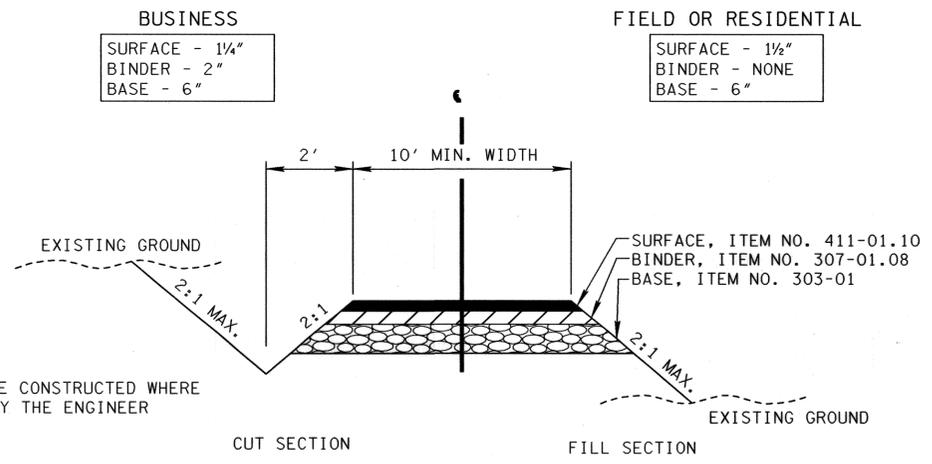
COMMON NAME	SCIENTIFIC NAME	%	LB./AC PLS
2.4. GERMAN MILLET	SETARIA ITALICA	43	30
2.4. SUDANGRASS	SORGHUM BICOLOR SUBSP. DRUMMONDII	57	40

**ROADWAY SLOPE SEED MIXTURE (TEMPORARY): 70 LB./AC\***

COMMON NAME	SCIENTIFIC NAME	%	LB./AC PLS
2.5. ANNUAL RYEGRASS	LOLIUM MULTIFLORUM	57	40
2.5. FOXTAIL MILLET	SETARIA ITALICA	43	30

\* NOTES:  
SEED RATES ON PLAN ARE GIVEN IN PURE LIVE SEED (PLS)

- 1. PAID FOR UNDER ITEM NUMBER 801-01
- 2. PAID FOR UNDER ITEM NUMBER 801-01.07
- 3. PLANTING SEASON: APRIL 1 - JULY 15
- 4. PLANTING SEASON: JUNE 1 - OCTOBER 15
- 5. PLANTING SEASON: OCTOBER 15 - MAY 31

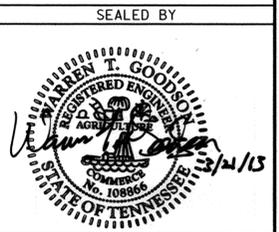


NOTE: DITCH TO BE CONSTRUCTED WHERE DIRECTED BY THE ENGINEER

**TYPICAL SECTION**  
PRIVATE DRIVE TO BUSINESS,  
FIELD, OR RESIDENTIAL PROPERTY

**PROPOSED PAVEMENT SCHEDULE**

1 ASPHALT CONCRETE SURFACE (HOT MIX) PG70-22 GRADING "D" SURFACE @ 1.25" (APPROX. 132.5 LB./S.Y.) 411-02.10 ACS MIX (PG70-22) GRADING D	4 BITUMINOUS PLANT MIX BASE (HOT MIX) PG70-22 @ 3.00" THICK (APPROX. 270 LB./S.Y.) 307-02.02 ASPH. CEMENT (PG70-22) (BPMB-HM) GRADING A-S 307-02.03 AGGREGATE MIX (BPMB-HM) GRADING A-S	7 TACK COAT 403-01 BITUMINOUS MATERIAL FOR TACK COAT (TC)
2 BITUMINOUS PLANT MIX BASE (HOT MIX) PG70-22 GRADING "BM-2" @ 2.00" THICK (APPROX 226. LB./S.Y.) 307-02.08 ASPHALT CONCRETE MIX (PG70-22) (BPMB-HM) GRADING A-S	5 AGGREGATE-CEMENT BASE COURSE @ 5.00" THICK 309-01.01 MINERAL AGGREGATE (A-CBC) 309-01.02 PORTLAND CEMENT (A-CBC)	
3 BITUMINOUS PLANT MIX BASE (HOT MIX) PG70-22 GRADING "A" @ 3.00" THICK (APPROX. 345 LB./S.Y.) 307-02.01 ASPHALT CONCRETE MIX (PG70-22) GRADING A	6 PRIME COAT 402-01 BITUMINOUS MATERIAL FOR PRIME COAT 402-02 AGGREGATE FRO COVER MATERIAL (PC)	



STATE OF TENNESSEE  
DEPARTMENT OF TRANSPORTATION  
**TYPICAL SECTIONS**  
RALEIGH-MILLINGTON ROAD  
(NOT TO SCALE)

**GENERAL NOTES**

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2013	79054-3407-04	2C

**GRADING**

- (6) ANY AREA THAT IS DISTURBED OUTSIDE LIMITS OF CONSTRUCTION DURING THE LIFE OF THIS PROJECT SHALL BE REPAIRED BY THE CONTRACTOR AT HIS EXPENSE.
- (7) CERTIFICATION FOR ALL BORROW PITS MUST BE OBTAINED IN ACCORDANCE WITH SUBSECTION 107.06 OF THE STANDARD SPECIFICATIONS.
- (8) 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 WITHOUT APPROVAL BY SAME. 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**

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

**GUARDRAIL**

- (10) 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.
- (11) IF ANY APPROACH END OF A SECTION OF GUARDRAIL OR BRIDGE RAIL MUST TEMPORARILY BE LEFT INCOMPLETE AND EXPOSED TO TRAFFIC, THE CONTRACTOR SHALL USE TWO (2) TEMPORARY BARRICADES OR DRUMS WITH TYPE A LIGHTS AND ROUNDED END ELEMENTS AS MINIMUM MEASURES TO PROTECT TRAFFIC FROM THE HAZARD OF AN EXPOSED END. ALL COST OF FURNISHING AND INSTALLING A TEMPORARY ROUNDED END ELEMENT SHALL BE INCLUDED IN THE COST OF THE PROPOSED GUARDRAIL.

**DRAINAGE**

- (12) 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.
- (13) 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).
- (14) WHERE A CULVERT (PIPE, SLAB OR BOX) IS MOVED TO A NEW LOCATION OTHER THAN THAT SHOWN ON THE PLANS, INCREASING OR DECREASING THE AMOUNT OF CULVERT EXCAVATION, NO INCREASE OR DECREASE IN THE AMOUNT OF PAYMENT WILL BE MADE DUE TO SUCH CHANGE.
- (15) 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.

**UTILITIES**

- (16) THE LOCATIONS OF UTILITIES SHOWN WITHIN THESE PLANS ARE APPROXIMATE ONLY. EXACT LOCATIONS SHALL BE DETERMINED IN THE FIELD BY CONTACTING THE UTILITY COMPANIES INVOLVED. NOTIFICATION BY CALLING THE TENNESSEE ONE CALL SYSTEM, INC., AT 1-800-351-1111 AS REQUIRED BY TCA 65-31-106 WILL BE REQUIRED.
- (17) UNLESS OTHERWISE NOTED, ALL UTILITY ADJUSTMENTS WILL BE PERFORMED BY THE UTILITY OR IT'S 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.

- (18) 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.

- (19) 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.

- (20) 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.

**MISCELLANEOUS**

- (21) 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.
- (22) THE CONTRACTOR SHALL BE REQUIRED TO REMOVE AND RESET MAILBOXES WHERE AND AS DIRECTED BY THE ENGINEER.
- (23) 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

**RIGHT - OF - WAY**

- (24) EXISTING PAVED DRIVEWAY PER TRACT REMAINDER WILL BE REPLACED IN KIND TO A TOUCHDOWN POINT.
- (25) WHERE THE EXISTING DRIVEWAY IS UNPAVED AND THE PROPOSED DRIVEWAY EXCEEDS 7 PERCENT IN GRADE, EACH DRIVEWAY WILL BE PAVED TO A TOUCHDOWN POINT OR UNTIL THE GRADE IS LESS THAN 7 PERCENT.
- (26) WHERE THE EXISTING DRIVEWAY IS UNPAVED AND THE PROPOSED DRIVEWAY IS LESS THAN 7 PERCENT IN GRADE, EACH DRIVEWAY WILL BE PAVED A SHOULDER WIDTH FROM THE EDGE OF PAVEMENT AND THE REMAINDER OF THAT DRIVEWAY REPLACED IN KIND TO A TOUCHDOWN POINT.
- (27) ANY NECESSARY PAVING OF DRIVEWAYS WILL BE DONE DURING PAVING OPERATIONS ON THE MAIN ROADWAY.
- (28) ON NON-STATE ROUTES, ADDITIONAL DRIVEWAYS AND FIELD ENTRANCES OTHER THAN THOSE PROVIDED IN THE PLANS SHALL REQUIRE A PERMIT ONLY IF THE LOCAL AGENCY SPECIFIES THE NEED FOR THAT PERMIT.

**PAVEMENT MARKINGS**

**TEMPORARY PAVEMENT MARKING ON INTERMEDIATE LAYERS**

- (29) 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 DAYS WORK. SHORT, UNMARKED SECTIONS SHALL NOT BE ALLOWED. THESE MARKINGS WILL BE MEASURED AND PAID FOR UNDER ITEM NO. 716-05.01, PAINTED PAVEMENT MARKING (4" LINE), L.M.

**FINAL PAVEMENT MARKING IF 4" SPRAY THERMOPLASTIC (40 mil) IS USED**

- (30) PERMANENT PAVEMENT LINE MARKINGS SHALL BE 4" SPRAY THERMOPLASTIC (40 mil) 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. 716-13.06, SPRAY THERMO PVMT MRKNG (40 mil) (4IN 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**

- (31) BEFORE OPENING THE LANE SHIFTS TO TRAFFIC, THE TRANSITIONAL MARKINGS ON THE EXISTING ROADWAY MUST BE IN PLACE. 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.

**PAVEMENT**

**PAVING**

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

**SIGNING.**

- (33) THE TOP OF THE SIGN FOOTINGS SHALL BE PLACED LEVEL WITH THE GROUND LINE.
- (34) AFTER THE SIGN LOCATIONS HAVE BEEN STAKED, BUT PRIOR TO ORDERING ANY MATERIAL FOR THE SUPPORTS, THERE SHALL BE A FIELD INSPECTION AND APPROVAL BY THE REGIONAL CONSTRUCTION OFFICE.
- (35) ALL SIGNS MARKED "TO BE REMOVED" ARE TO BE REMOVED BY THE CONTRACTOR AND PAID FOR UNDER ITEM 713-15 AND BECOME THE PROPERTY OF THE CONTRACTOR.
- (36) THE EXISTING FOOTINGS ARE TO BE REMOVED 6 INCHES BELOW GROUND LINE.
- (37) 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.
- (38) 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.

**CONSTRUCTION WORK ZONE & TRAFFIC CONTROL**

- (39) 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.
- (40) 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.
- (41) 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.
- (42) TRAFFIC CONTROL DEVICES SHALL NOT BE DISPLAYED OR ERECTED UNLESS RELATED CONDITIONS ARE PRESENT NECESSITATING WARNING.



STATE OF TENNESSEE  
DEPARTMENT OF TRANSPORTATION

**GENERAL NOTES  
AND  
SPECIAL NOTES**

- (43) USE OF BARRICADES, PORTABLE BARRIER RAILS, VERTICAL PANELS, 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.
- (44) 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.

**EROSION PREVENTION AND SEDIMENT CONTROL  
DISTURBED AREA**

- (45) AREAS TO BE UNDISTURBED SHALL BE CLEARLY MARKED IN THE FIELD BEFORE CONSTRUCTION ACTIVITIES BEGIN.
- (46) PRE-CONSTRUCTION VEGETATIVE GROUND COVER SHALL NOT BE DESTROYED, REMOVED OR DISTURBED (I.E. CLEARING AND GRUBBING INITIATED) MORE THAN 15 CALENDAR DAYS PRIOR TO GRADING OR EARTH MOVING ACTIVITIES UNLESS THE AREA IS MULCHED, SEEDED WITH MULCH, OR OTHER TEMPORARY COVER IS INSTALLED.
- (47) CLEARING, GRUBBING, AND OTHER DISTURBANCE TO RIPARIAN VEGETATION SHALL BE LIMITED TO THE MINIMUM NECESSARY FOR SLOPE CONSTRUCTION AND EQUIPMENT OPERATIONS. EXISTING VEGETATION SHOULD BE PRESERVED TO THE MAXIMUM EXTENT POSSIBLE. UNNECESSARY VEGETATION REMOVAL IS PROHIBITED.
- (48) ALL DISTURBED AREAS SHALL BE PROPERLY STABILIZED AS SOON AS PRACTICABLE. PRIORITY SHALL BE GIVEN TO FINISHING OPERATIONS AND PERMANENT EPSC MEASURES OVER TEMPORARY EPSC MEASURES ON ALL PROJECTS.
- (49) CONSTRUCTION SHALL BE SEQUENCED AND STAGED TO MINIMIZE THE EXPOSURE TIME OF GRADED OR DENUDED SOIL AREAS, PRESERVE TOPSOIL, AND MINIMIZE SOIL COMPACTION.
- (50) NO MORE THAN 50 ACRES OF ACTIVE SOIL DISTURBANCE IS ALLOWED AT ANY TIME DURING THE CONSTRUCTION OF THE PROJECT. OFF-SITE BORROW OR WASTE AREAS ARE TO BE INCLUDED IN THE TOTAL DISTURBED AREA IF THE BORROW OR WASTE AREA IS EXCLUSIVE TO THE PROJECT PER TDOT'S WASTE AND BORROW MANUAL.

**SEDIMENT CONTROL**

- (51) EPSC MEASURES SHALL BE INSTALLED AND FUNCTIONAL PRIOR TO ANY EARTH MOVING OPERATIONS, AND SHALL BE MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD.
- (52) THE CONTRACTOR SHALL ESTABLISH AND MAINTAIN A PROACTIVE METHOD TO PREVENT THE OFF-SITE MIGRATION OR DEPOSIT OF SEDIMENT ON ROADWAYS USED BY THE GENERAL PUBLIC. IF SEDIMENT ESCAPES THE CONSTRUCTION SITE, OFF-SITE ACCUMULATIONS OF SEDIMENT THAT HAVE NOT REACHED A STREAM MUST BE REMOVED AT A FREQUENCY 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.
- (53) WATER PUMPED FROM WORK AREAS AND EXCAVATION MUST BE HELD IN SETTLING BASINS OR TREATED BY FILTRATION OR CHEMICAL TREATMENT PRIOR TO ITS DISCHARGE INTO SURFACE WATERS. ALL PHYSICAL AND/OR CHEMICAL TREATMENT WILL BE APPLIED IN ACCORDANCE WITH MANUFACTURER'S GUIDELINES AND FULLY DESCRIBED IN THE EPSC PLANS. WATER MUST BE HELD IN SETTLING BASINS UNTIL AT LEAST AS CLEAR AS THE RECEIVING WATERS. SETTLING BASINS SHALL NOT BE LOCATED CLOSER THAN 20 FEET FROM THE TOP BANK OF A STREAM. SETTLING BASINS AND SEDIMENT TRAPS SHALL BE PROPERLY DESIGNED ACCORDING TO THE SIZE OF THE DRAINAGE AREAS OR VOLUME OF WATER TO BE TREATED. TREATED WATER MUST BE DISCHARGED THROUGH A PIPE OR WELL-VEGETATED OR LINED CHANNEL, SO THAT THE DISCHARGE DOES NOT CAUSE EROSION OR SEDIMENT TRANSPORT. DISCHARGES FROM BASINS AND IMPOUNDMENTS SHALL UTILIZE OUTLET STRUCTURES THAT ONLY WITHDRAW WATER FROM NEAR THE SURFACE OF THE BASIN OR IMPOUNDMENT. DISCHARGES MUST NOT CAUSE AN OBJECTIONABLE COLOR CONTRAST WITH THE RECEIVING STREAM.
- (54) CHECK DAMS SHALL BE USED WHERE RUNOFF IS CONCENTRATED. CLEAN ROCK, BRUSH, GABION, OR SANDBAG CHECK DAMS SHALL BE PROPERLY CONSTRUCTED TO REDUCE VELOCITY AND CONTROL EROSION.
- (55) IF PERMANENT OR TEMPORARY VEGETATION IS TO BE USED AS AN EPSC MEASURE, THEN THE TIMING OF PLANTING OF VEGETATION SHALL BE SHOWN IN THE SWPPP. DELAYING PLANTING OF COVER VEGETATION UNTIL WINTER MONTHS OR DRY MONTHS SHOULD BE AVOIDED, IF POSSIBLE.
- (56) OFFSITE VEHICLE TRACKING OF SEDIMENTS AND THE GENERATION OF DUST SHALL BE MINIMIZED. A STABILIZED CONSTRUCTION ACCESS (A POINT OF ENTRANCE/EXIT TO THE CONSTRUCTION PROJECT) SHALL BE PROVIDED, AS NEEDED, TO REDUCE THE TRACKING OF MUD AND DIRT ONTO PUBLIC ROADS BY CONSTRUCTION VEHICLES.
- (57) TEMPORARY EPSC MEASURES MAY BE REMOVED AT THE BEGINNING OF THE WORKDAY, BUT MUST BE REPLACED AT THE END OF THE WORKDAY.

**STREAM/WETLAND**

- (58) SOIL MATERIALS MUST BE PREVENTED FROM ENTERING WATERS OF THE STATE/U.S. EPSC MEASURES TO PROTECT WATER QUALITY MUST 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 STREAM BANKS IN CLEARED AREAS TO PREVENT SEDIMENT MIGRATION INTO STREAMS IN ACCORDANCE WITH TDOT STANDARDS. THEY MUST BE INSTALLED ON THE CONTOUR, ENTRENCHED AND STAKED, AND EXTEND THE WIDTH OF THE AREA TO BE CLEARED.
- (59) 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.
- (60) INSTREAM EPSC DEVICES REQUIRE THE ENVIRONMENTAL DIVISION'S PERMITS SECTION REVIEW AND MUST BE PROCESSED BY THE PERMITS SECTION TO OBTAIN TDEC, USACE, AND TVA PERMITS.
- (61) THE OPERATION OF EQUIPMENT IN WATERS OF THE STATE/U.S., INCLUDING WETLANDS, SHALL BE ONLY AS SHOWN ON THE PROJECT PLANS AND/OR AS SO SPECIFIED IN THE ARAP/401, SECTION 404 PERMIT(S) AND/OR TVA26(A), IF APPLICABLE. ANY ADDITIONAL PERMITS REQUIRED BY THE CONTRACTOR'S METHOD OF OPERATION SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO OBTAIN, AFTER RECEIVING THE APPROVAL OF TDOT ENVIRONMENTAL DIVISION.
- (62) THE WIDTH OF THE FILL ASSOCIATED WITH TEMPORARY CROSSINGS SHALL BE LIMITED TO THE MINIMUM NECESSARY FOR THE ACTUAL CROSSING.
- (63) STREAM BEDS SHALL NOT BE USED AS TRANSPORTATION ROUTES FOR CONSTRUCTION EQUIPMENT. TEMPORARY CROSSINGS MUST BE LIMITED TO ONE POINT PER STREAM AND EPSC MEASURES MUST BE USED WHERE THE STREAM BANKS ARE DISTURBED. WHERE THE STREAMBED IS NOT COMPOSED OF BEDROCK, A PAD OF CLEAN ROCK MUST 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 MUST BE COMPLETELY REMOVED IN THEIR ENTIRETY AFTER THE WORK IS COMPLETED AND THE AFFECTED AREAS RETURNED TO THEIR PREEXISTING ELEVATION. ALL TEMPORARY CROSSINGS MUST BE CONSTRUCTED IN ACCORDANCE WITH STD. DWG. EC-STR-25 UNLESS SPECIFICALLY ADDRESSED IN THE EPSC PLANS. ALTERNATIVELY, PLACING A TEMPORARY BRIDGE (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.
- (64) HEAVY EQUIPMENT WORKING IN WETLANDS MUST BE PLACED ON MATS, OR OTHER MEASURES MUST BE TAKEN TO MINIMIZE SOIL DISTURBANCE UNLESS SPECIFICALLY ADDRESSED IN THE EPSC PLANS. ANY MATS AND OTHER MEASURES USED FOR HEAVY EQUIPMENT MUST BE REMOVED IN THEIR ENTIRETY AFTER THE WORK IS COMPLETED.
- (65) WETLANDS SHALL NOT BE USED AS EQUIPMENT STORAGE, STAGING, OR TRANSPORTATION AREAS, UNLESS PROVIDED FOR IN THE PLANS.

**SPECIES**

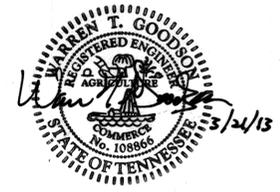
- (66) NO ACTIVITY MAY SUBSTANTIALLY DISRUPT THE MOVEMENT OF THOSE SPECIES OF AQUATIC LIFE INDIGENOUS TO THE WATER BODY, INCLUDING THOSE SPECIES THAT NORMALLY MIGRATE THROUGH THE AREA. THE SWPPP SHALL BE MODIFIED TO INCLUDE EPSC MEASURES TO PREVENT NEGATIVE IMPACTS TO LEGALLY PROTECTED STATE OR FEDERAL FAUNA OR FLORA OR AS INDICATED IN THE ECOLOGICAL STUDIES OR ON THE PERMIT(S).

**INSPECTION, MAINTENANCE, REPAIR**

- (67) INSPECTION, REPAIR, AND MAINTENANCE OF EPSC MEASURES/STRUCTURES IS TO BE PERFORMED ON A REGULAR BASIS. SEDIMENT SHALL BE REMOVED FROM SEDIMENT CONTROL STRUCTURES WHEN THE DESIGN CAPACITY HAS BEEN REDUCED BY FIFTY PERCENT (50%). DURING SEDIMENT REMOVAL, THE CONTRACTOR SHALL TAKE CARE TO ENSURE THAT STRUCTURAL COMPONENTS OF EPSC MEASURES ARE NOT DAMAGED AND THUS MADE INEFFECTIVE. IF DAMAGE DOES OCCUR, THE CONTRACTOR SHALL REPAIR THE STRUCTURES AT THE CONTRACTOR'S OWN EXPENSE.
- (68) SEDIMENT REMOVED FROM SEDIMENT CONTROL STRUCTURES SHALL BE PLACED AND BE TREATED IN A MANNER SO THAT THE SEDIMENT IS CONTAINED WITHIN THE PROJECT LIMITS AND DOES NOT MIGRATE INTO WATERS OF THE STATE/U.S. COST FOR THIS TREATMENT IS TO BE INCLUDED IN PRICE BID FOR ITEM NO. 209-05 SEDIMENT REMOVAL, C.Y.
- (69) THE CONTRACTOR SHALL INSTALL A RAIN GAUGE EVERY LINEAR MILE AT ALL SITES WHERE CLEARING, GRUBBING, EXCAVATION, GRADING CUTTING OR FILLING IS BEING ACTIVELY PERFORMED, OR EXPOSED SOIL HAS NOT YET BEEN PERMANENTLY STABILIZED. IF THE PROJECT LENGTH IS LESS THAN ONE LINEAR MILE, ONE RAIN GAUGE SHALL BE INSTALLED AT THE CENTER OF THE PROJECT OR AS INDICATED BY THE TDOT EPSC INSPECTOR. THE CONTRACTOR SHALL ENSURE THAT EACH GAUGE IS MAINTAINED IN GOOD WORKING CONDITION. TDOT AND/OR THE CONTRACTOR SHALL RECORD DAILY PRECIPITATION AND FORECASTED PERCENTAGE OF PRECIPITATION IN DETAILED RECORDS OF RAINFALL EVENTS INCLUDING DATES, AMOUNTS OF RAINFALL PER GAUGE, THE ESTIMATED DURATION (OR STARTING AND ENDING TIMES), AND FORECASTED PERCENTAGE OF PRECIPITATION FOR THE PROJECT. THIS INFORMATION SHALL BE PROVIDED TO THE ENGINEER ON A MONTHLY BASIS. THE COST FOR THE RAIN GAUGES IS TO BE INCLUDED IN THE UNIT BID PRICES FOR OTHER ITEMS. RAIN GAUGES SHALL BE AS SPECIFIED IN THE APPROVED TDOT RAINFALL MONITORING PLAN.
- (70) INSPECTION OF EPSC MEASURES SHALL BE DONE AT LEAST TWICE PER CALENDAR WEEK AT LEAST 72 HOURS APART. A CALENDAR WEEK IS DEFINED AS SUNDAY THROUGH SATURDAY. QUALITY ASSURANCE/QUALITY CONTROL SITE ASSESSMENT OF EPSC SHALL BE PERFORMED PER THE TDOT ENVIRONMENTAL DIVISION'S COMPREHENSIVE INSPECTION OFFICE GUIDELINES.
- (71) OUTFALL POINTS SHALL BE INSPECTED TO ASCERTAIN WHETHER EPSC MEASURES ARE EFFECTIVE IN PREVENTING SIGNIFICANT IMPACTS TO SURROUNDING WATERS. WHERE DISCHARGE LOCATIONS ARE INACCESSIBLE, NEARBY DOWNSTREAM LOCATIONS SHALL BE INSPECTED. LOCATIONS WHERE VEHICLES ENTER AND EXIT THE SITE SHALL BE INSPECTED FOR EVIDENCE OF OFF-SITE ROADWAY SEDIMENT TRACKING.
- (72) 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 TIMEFRAME, WRITTEN DOCUMENTATION MUST BE PROVIDED IN THE FIELD BOOK AND AN ESTIMATED REPAIR, REPLACEMENT OR MODIFICATION SCHEDULE SHALL BE DOCUMENTED WITHIN 24 HOURS AFTER IDENTIFICATION.

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2013	79054-3407-04	2D

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STATE OF TENNESSEE  
DEPARTMENT OF TRANSPORTATION

**GENERAL NOTES  
AND  
SPECIAL NOTES**

**MATERIALS**

(73) WASTE AND BORROW AREAS SHALL BE LOCATED IN NON-WETLAND AREAS AND ABOVE THE 100-YEAR, FEDERAL EMERGENCY MANAGEMENT AGENCY FLOODPLAIN. BORROW AND WASTE DISPOSAL AREAS SHALL NOT AFFECT ANY WATERS OF THE STATE/U.S. UNLESS THESE AREAS ARE SPECIFICALLY COVERED BY AN ARAP, 404, OR NPDES PERMIT, OBTAINED SOLELY BY THE CONTRACTOR.

**SWPPP, PERMITS, PLANS, RECORDS**

- (74) THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR AND OBTAIN ANY NECESSARY ENVIRONMENTAL PERMITS OR APPROVALS, INCLUDING BUT NOT LIMITED TO TDEC ARAP/401, USACE SECTION 404, TVA SECTION 26A, AND TDEC NPDES PERMITS, FROM FEDERAL, STATE AND/OR LOCAL AGENCIES REGARDING THE OPERATION OF ANY PROJECT-DEDICATED ASPHALT AND/OR CONCRETE PLANTS.
- (75) ANY DISAGREEMENT BETWEEN THE PROJECT PLANS, THE PROJECT AS CONSTRUCTED, AND THE PERMIT(S) ISSUED FOR THE PROJECT, SHALL BE BROUGHT TO THE ATTENTION OF THE TDOT PROJECT ENGINEER. 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.
- (76) THE FOLLOWING INFORMATION SHALL BE MAINTAINED ON OR NEAR THE SITE: DATES THAT MAJOR GRADING ACTIVITIES OCCUR, DATES WHERE CONSTRUCTION ACTIVITIES TEMPORARILY OR PERMANENTLY CEASE ON A PORTION OF THE SITE, DATES WHEN STABILIZATION MEASURES ARE INITIATED, EPSC INSPECTION RECORDS, QUALITY ASSURANCE SITE ASSESSMENT RECORDS, PRECIPITATION RECORDS, SWPPP, PROJECT ENVIRONMENTAL PERMITS, AND A COPY OF THE PROJECT EPSC INSPECTOR'S TDEC LEVEL 1 CERTIFICATION.
- (77) ALL WATER QUALITY AND STORM WATER PERMITS, INCLUDING A COPY OF THE NOC WITH NPDES PERMIT TRACKING NUMBER AND THE LOCATION OF THE SWPPP, 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.
- (78) IF A CHANGE IN PROJECT SCOPE OCCURS DURING CONSTRUCTION, INCLUDING VALUE ENGINEERING, THE ENVIRONMENTAL DIVISION SHALL BE CONTACTED TO DETERMINE WHETHER PERMIT REVISIONS OR MODIFICATIONS OF THE SWPPP ARE NEEDED. THE DESIGN DIVISION SHALL BE CONTACTED TO DETERMINE IF ANY PLAN REVISIONS ARE NEEDED.
- (79) THE SWPPP SHALL BE UPDATED BY CONSTRUCTION WHENEVER EPSC INSPECTIONS INDICATE, OR WHERE STATE OR FEDERAL 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 STORM WATER DISCHARGES ASSOCIATED WITH THE CONSTRUCTION ACTIVITY. THE ENVIRONMENTAL DIVISION SHALL BE CONTACTED WHEN MAJOR DESIGN REVISIONS ARE REQUESTED BY CONSTRUCTION. THE ENVIRONMENTAL DIVISION MAY BE CONTACTED FOR GUIDANCE ON SPECIFIC SWPPP NEEDS. A COPY OF ANY CORRESPONDENCE REGARDING THE EFFECTIVENESS OF THE SWPPP OR EPSC CONTROLS SHALL BE RETAINED IN THE SWPPP.
- (80) PROJECT INSPECTORS AND SUPERVISORS (INCLUDING TDOT STAFF, CONSULTANTS AND CONTRACTOR STAFF) RESPONSIBLE FOR THE IMPLEMENTATION AND MAINTENANCE OF EPSC PLANS SHALL SUCCESSFULLY COMPLETE THE TDEC "LEVEL 1 - FUNDAMENTALS OF EROSION PREVENTION AND SEDIMENT CONTROL FOR CONSTRUCTION SITES" COURSE AND ANY REFRESHER COURSES AS REQUIRED TO MAINTAIN CERTIFICATION. A COPY OF CERTIFICATION RECORDS FOR THE COURSES SHALL BE KEPT ON SITE AND AVAILABLE UPON REQUEST.

**LITTER, DEBRIS, WASTE, PETROLEUM**

- (81) THE CONTRACTOR SHALL ESTABLISH AND MAINTAIN A PROACTIVE METHOD TO PREVENT LITTER, CONSTRUCTION DEBRIS, AND CONSTRUCTION WASTES FROM ENTERING WATERS OF THE STATE/U.S. THESE MATERIALS WILL BE PICKED UP AND REMOVED FROM STORMWATER EXPOSURE PRIOR TO ANTICIPATED STORM EVENTS. AFTER USE, MATERIALS USED FOR EPSC WILL BE REMOVED FROM THE SITE.
- (82) 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 (NFPA). APPROPRIATE CONTAINMENT MEASURES FOR THESE AREAS SHALL BE USED. 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.

**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) 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.

**PAVEMENT**

**EROSION PREVENTION AND SEDIMENT CONTROL  
NPDES**

- (4) REFER TO THE EROSION PREVENTION AND SEDIMENT CONTROL PLAN, EPSC PLAN NOTES AND QUANTITIES SHEET, FOR NOTES REGARDING SEASONAL WORK LIMITATION OR LIMITATION ON THE TOTAL AREA OF EXPOSED SOIL.

**ENVIRONMENTAL**

**ECOLOGY**

- (5) STAFF FROM THE TDOT ENVIRONMENTAL DIVISION OR A DESIGNEE WILL ADVISE THE CONTRACTOR DURING THE PRE-CONSTRUCTION MEETING CONCERNING WHEN ENVIRONMENTAL DIVISION PERSONNEL OR DESIGNATED CONSULTANT WILL NEED TO BE ON-SITE FOR WORK BEING DONE WHICH COULD AFFECT THE STREAM OR SPECIES.
- (6) STAFF FROM THE TDOT ENVIRONMENTAL DIVISION OR A DESIGNEE WILL ATTEND THE PRE-CONSTRUCTION MEETING FOR ALL PROJECTS WHICH HAVE THREATENED OR ENDANGERED SPECIES OR CRITICAL HABITAT PROXIMAL TO SCHEDULED BRIDGE WORK. THIS WILL PROVIDE THE OPPORTUNITY TO ENSURE THAT PERSONNEL INCLUDING THE CONTRACTOR'S PERSONNEL AND SUBCONTRACTORS ARE MADE AWARE OF THE NECESSARY PRECAUTIONS WHICH MUST BE FOLLOWED.
- (7) ALL BRIDGE PROJECTS WITH THREATENED OR ENDANGERED SPECIES OR CRITICAL HABITAT IDENTIFIED MUST HAVE MEASURES IN PLACE TO CONTAIN CONCRETE DUST, CEMENT DUST AND ALL OTHER MATERIALS. THESE MATERIALS ARE NOT ALLOWED TO ENTER THE STREAM.

**STREAM RELOCATION/ WETLANDS**

- (8) ONCE WATER IS DIVERTED INTO A NEWLY CONSTRUCTED AND STABILIZED RELOCATED STREAM / CHANNEL THE ECOLOGY SECTION MUST BE NOTIFIED. THE STREAM NAME, STREAM NUMBER, AND DATE THE WATER WAS DIVERTED INTO THE STREAM / CHANNEL IS TO BE SUPPLIED WITH THE NOTIFICATION.
- (9) TOPSOIL IS TO BE REMOVED FROM ALL AREAS OF TEMPORARY WETLAND IMPACTS AND STOCKPILED PRIOR TO CONSTRUCTION.
- (10) UPON COMPLETION OF CONSTRUCTION ACTIVITIES, TEMPORARY HAUL ROADS ARE TO BE REMOVED. EXCAVATED MATERIAL FROM THE HAUL ROADS IS TO BE DISPOSED OF AS DIRECTED BY THE ENGINEER.
- (11) UPON COMPLETION OF CONSTRUCTION ACTIVITIES, ALL TEMPORARY WETLAND IMPACT AREAS ARE TO BE RESTORED TO PRE-CONSTRUCTION CONTOURS AND THE STOCKPILED WETLAND TOPSOIL SPREAD TO RESTORE THESE AREAS TO PRECONSTRUCTION ELEVATION.

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2013	79054-3407-04	2E

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STATE OF TENNESSEE  
DEPARTMENT OF TRANSPORTATION

**GENERAL NOTES  
AND  
SPECIAL NOTES**

PROPOSED GUARDRAIL															
SHEET NO.	LOCATION	SIDE		STATION		GUARDRAIL				TERMINAL ANCHORS				REMARKS	
		LT	RT	FROM	TO	BRIDGE ENDS	BRIDGE PIERS	SINGLE	MEDIAN	TYPE 12	TYPE 13	TYPE 21	TYPE IN-LINE		TYPE 38
						705-01.01 (L.F.)	705-01.02 (L.F.)	705-02.02 (L.F.)	705-03.03 (L.F.)	705-04.02 (EACH)	705-04.03 (EACH)	705-04.04 (EACH)	705-04.05 (EACH)		705-04.07 (EACH)
4A	13+06.93	X		13+06.93	13+56.93									1	
4A		X		13+56.93	16+78.79			321.86							
5A		X		16+78.79	17+05.69	26.9									
4A	13+79.87		X	13+79.87	14+29.87									1	
4A			X	14+29.87	17+01.41			271.54							
5A			X	17+01.41	17+28.31	26.9									
5A		X		26+24.40	26+51.30	26.9									
6A		X		26+51.30	35+47.00			895.7							
6A	35+97.00	X		35+47.0	35+97.00									1	
5A			X	26+47.02	26+73.92	26.9									
6A			X	26+73.92	31+83.50			509.58							
6A	31+83.50		X											1	
6A	32+47.00		X											1	
6A			X	32+47.00	35+96.09			349.09							
<b>TOTALS</b>						<b>108</b>	<b>0</b>	<b>2348</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>3</b>	

PAVEMENT QUANTITIES														
LOCATION	PAY ITEMS													
	303-01 MINERAL AGGREGATE (TON)	307-01.01 AC MIX (PG64-22) GRADE A (TON)	307-01.08 AC MIX (PG64-22) GRADE BM-2 (TON)	307-02.01 AC MIX (PG70-22) GRADE A (TON)	307-02.02 AC MIX (PG70-22) GRADE A-S (TON)	307-02.03 AGGREGATE GRADE A-S (TON)	307-02.08 AC MIX (PG70-22) GRADE BM-2 (TON)	309-01.01 MINERAL AGGREGATE A-CBC (TON)	309-01.02 PORTLAND CEMENT A-CBC (TON)	402-01 PRIME COAT (TON)	402-02 AGGREGATE FOR PRIME COAT (TON)	403-01 TACK COAT (TON)	411-01.10 AC MIX (PG64-22) GRADE D (TON)	411-02.10 AC MIX (PG70-22) GRADE D (TON)
RALEIGH MILLINGTON ROAD				2409	61	1824	1578	3993	154	19	70	17		925
ALLEN TOWN DRIVEWAY	359		120							1.5	5	0.3	70	
TEMPORARY PAVING	68	102								1.2	5	0.3	60	
<b>TOTALS</b>	<b>427</b>	<b>102</b>	<b>120</b>	<b>2409</b>	<b>61</b>	<b>1824</b>	<b>1578</b>	<b>3993</b>	<b>154</b>	<b>22</b>	<b>80</b>	<b>18</b>	<b>130</b>	<b>925</b>

SPECIAL DITCHES									
STATION		SLOPE			WIDTH OF LINING (FT)	STD. DWG. NO.	LINING MATERIAL	CEMENT CONC DITCH LINING 703-01 (C.Y.)	REMARKS
FROM	TO	FORE (H/V)	BOTTOM WIDTH (FT.)	BACK (H/V)					
9+85.50 RT	12+36 RT	6:1	0	4:1	7.5	RD01-S-11A	29	RIP-RAP DISSIPATOR AT END OF DITCH	
<b>TOTAL</b>							<b>29</b>		



STATE OF TENNESSEE  
DEPARTMENT OF TRANSPORTATION

**TABULATED QUANTITIES**

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2013	79054-3407-04	2G

STORM DRAIN STRUCTURES													
Sheet No.	Code	STATION	OFFSET	TYPE	GRATE ELEV.	OUTLET ELEV.	STD. DWG.	PAY ITEMS					
								TYPE 12 611-12.02 4'-8'	TYPE 12 611-12.03 8'-12'	TYPE 14 611-14.02 4'-8'	TYPE 14 611-14.03 8'-12'	MANHOLE #3 611-01.02 4'-8'	MANHOLE #3 611-01.04 12'-16'
4A	1	9+10.45	75.6		242.42								
4A	2	9+10.50	-36.0	#12	243.28	235.78	D-CB-12S	1					
4A	3	9+10.50	-76.0	EW		231.10	D-PE-4B (1)&(2)						
4A	4	11+18	36.0	#14	240.27	235.82	D-CB-14S			1			
4A	5	11+72	36.0	#14	240.12	235.42	D-CB-14S			1			
4A	6	14+00	36.0	#12	242.34	238.00	D-CB-12S	1					
4A	7	12+26	36.0	#14	240.27	231.50	D-CB-14S				1		
4A	8	12+38.07	77.0	EW		229.00	D-PE-4B (1)&(2)						
4A	8A	11+96.44	59.4	TIE		232.12							
4A	8B	12+32.80	57.3	MH #3	236.34	229.89	D-MH-5					1	
4A	9	11+18	-36.0	#14	240.27	235.80	D-CB-14S			1			
4A	10	11+72	-36.0	#14	240.12	235.24	D-CB-14S			1			
4A	11	12+26	-36.0	#14	240.27	234.68	D-CB-14S			1			
4A	12	14+00	-36.0	#12	242.34	236.59	D-CB-12S	1					
4A	13	12+70	-39.5	MH #3	241.1	226.62	D-MH-5						1
4A	14	12+70	-86.3	EW		225.63	D-PE-4B (1)&(2)						
6A	16	30+00	36.0	#12	241.97	237.31	D-CB-12S	1					
6A	16a	32+50	36.0	#12	240.50	235.17	D-CB-14S	1					
6A	17	34+61.27	36.9	#12	239.47	233.34	D-CB-12S	1					
6A	19	30+00	-36.0	#12	241.97	237.30	D-CB-12S	1					
6A	19a	32+50	-36.0	#12	240.50	235.42	D-CB-14S	1					
6A	20	34+61.27	-36.7	#12	239.47	228.96	D-CB-12S		1				
6A	21	34+61.27	-79.0	EW		227.10	D-PE-4						
<b>TOTALS</b>								8	1	5	1	1	1

STORM DRAIN PIPES AND ENDWALLS														
Sheet No.	FROM		TO		% GRADE	REINF. CONC. PIPE - CLASS III SIZE AND LENGTH (L.F.)		END TREATMENT						
	Code	OUTLET ELEV.	CODE	INLET ELEV.		15"	18"	OUTLET		CLASS A CONC. 611-07.01 (C.Y.)	RIP-RAP		REINF. STEEL 611-07.02 (LB.)	STRUC. STEEL 611-07.03 (LB.)
								TYPE	DRAWING NO.		CLASS "A-1" 709-05.06 (TONS)	CLASS "B" 709-05.08 (TONS)		
4A	2	235.78	3	231.10	11.70		40	"U" EW	D-PE-4B(1)&(2)	1.06	3		147	
4A	4	235.82	5	235.42	0.83		48							
4A	6	238.00	7	234.88	1.84		170							
4A	5	235.42	7	234.88	1.12		48							
4A	7	231.50	8B	230.11	5.35		26							
4A	8A	232.12	8B	231.23	2.47	36								
4A	8B	229.89	8	229.00	4.94		18	"U" EW	D-PE-4B(1)&(2)	1.06	8		147	
4A	9	235.80	10	235.57	0.50		46							
4A	10	235.24	11	235.01	0.50		46							
4A	11	234.68	13	234.42	0.68		38							
4A	12	236.59	13	234.66	1.56		124							
4A	13	226.62	14	225.63	2.26		45	"U" EW	D-PE-4B(1)&(2)	1.06	8		147	
6A	16	237.31	16A	235.34	0.80		246							
6A	16A	235.172	17	233.51	0.80		208							
6A	17	233.34	20	233.00	0.50		68							
6A	19	237.3	19A	235.59	0.69		246							
6A	19A	235.422	20	233.99	0.69		208							
6A	20	228.96	21	227.10	4.43		42	"U" EW	D-PE-4	1.23	15		20	
<b>TOTALS</b>						36	1667			4.41	11	23	461	

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STATE OF TENNESSEE  
DEPARTMENT OF TRANSPORTATION  
**TABULATED QUANTITIES**

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2013	79054-3407-04	2H

ESTIMATED GRADING QUANTITIES			
	RALEIGH-MILLINGTON ROAD (C.Y.)	CHANNEL MODIFICATION (C.Y.)	PROJECT TOTAL (C.Y.)
<b>1. EXCAVATION</b>			
CUT (INCLUDES STRIPPING IN CUT AREA)	1703	1025	2728
+ STRIPPING FROM FILL AREA	3066	76	3142
= EXCAVATION	4769	1101	5870
<b>2. AVAILABLE FILL MATERIAL</b>			
ROAD AND DRAINAGE EXCAVATION	4769	1101	5870
- STRIPPING FROM FILL AREAS	3066	76	3142
- STRIPPING FROM CUT AREAS	46	70	116
TOTAL EXCAVATION	1657	955	2612
REDUCED BY THE SHRINKAGE FACTOR	25%	25%	25%
AVAILABLE FILL FROM EXCAVATED MATERIAL	1326	764	2090
<b>3. EMBANKMENT</b>			
FILL	36223	1068	37291
+ STRIPPING IN FILL AREAS	3066	76	3142
<b>203-10 EMBANKMENT (COMPACTED-IN-PLACE)</b>	39289	1144	40433
- AVAILABLE FILL FROM EXCAVATED MATERIAL	1326	764	2090
REQUIRED FILL	37963	380	38343



TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2012	79054-3407-04	2D
CONST.	2013	79054-3407-04	2I

HORIZONTAL CONTROL POINTS

POINT	NORTH	EAST	ELEVATION	STATION	OFFSET
TRAV-S4	360511.39	795685.11	251.37	4+54.60	15.28
TRAV-S15	360833.73	795705.10	246.01	7+77.63	20.25
TRAV-S3	361064.64	795711.68	242.23	10+08.29	18.42
TRAV-S34	361090.71	795910.83	247.63	10+40.54	216.66
TRAV-S18	361246.04	795490.19	240.05	11+82.72	-208.61
TRAV-S16	361235.83	795965.45	243.53	11+87.29	266.74
TRAV-S17	361449.20	795697.99	238.70	13+92.24	-7.22
TRAV-S7	361759.93	795741.14	240.67	17+04.50	26.04
TRAV-S8	361922.32	795768.12	227.07	18+67.93	45.83
TRAV-S9	362291.59	795778.53	227.47	22+37.29	39.93
TRAV-S28	362391.13	795501.83	228.85	23+24.52	-240.90
TRAV-S20	362398.40	795895.63	227.13	23+49.17	152.19
TRAV-S21	362640.53	795898.30	227.63	25+91.18	144.17
TRAV-S10	362699.65	795787.86	240.66	26+45.37	31.24
TRAV-S30	362905.75	795663.30	225.91	28+44.61	-104.37
TRAV-S11	363235.48	795834.62	237.57	31+83.32	48.43
TRAV-S24	363292.62	795675.46	227.56	32+31.56	-113.65
TRAV-S22	363401.75	795976.56	227.54	33+57.19	180.95
TRAV-S26	363649.31	795655.06	226.98	35+86.58	-153.75
TRAV-S2	363895.62	795876.41	237.52	38+46.59	51.90
TRAV-S12	363916.41	795780.38	240.10	38+58.45	-45.64

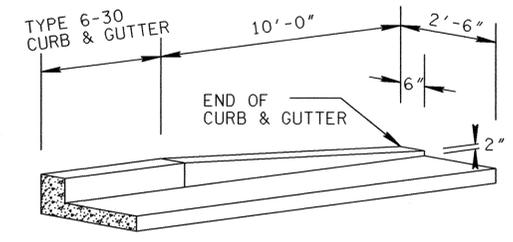
NOTE - SEE PROFILES FOR PROJECT BENCHMARK INFORMATION.



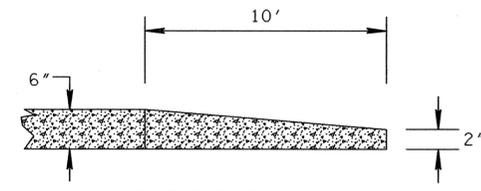
STATE OF TENNESSEE  
 DEPARTMENT OF TRANSPORTATION

**HORIZONTAL  
 CONTROL  
 POINT DATA**

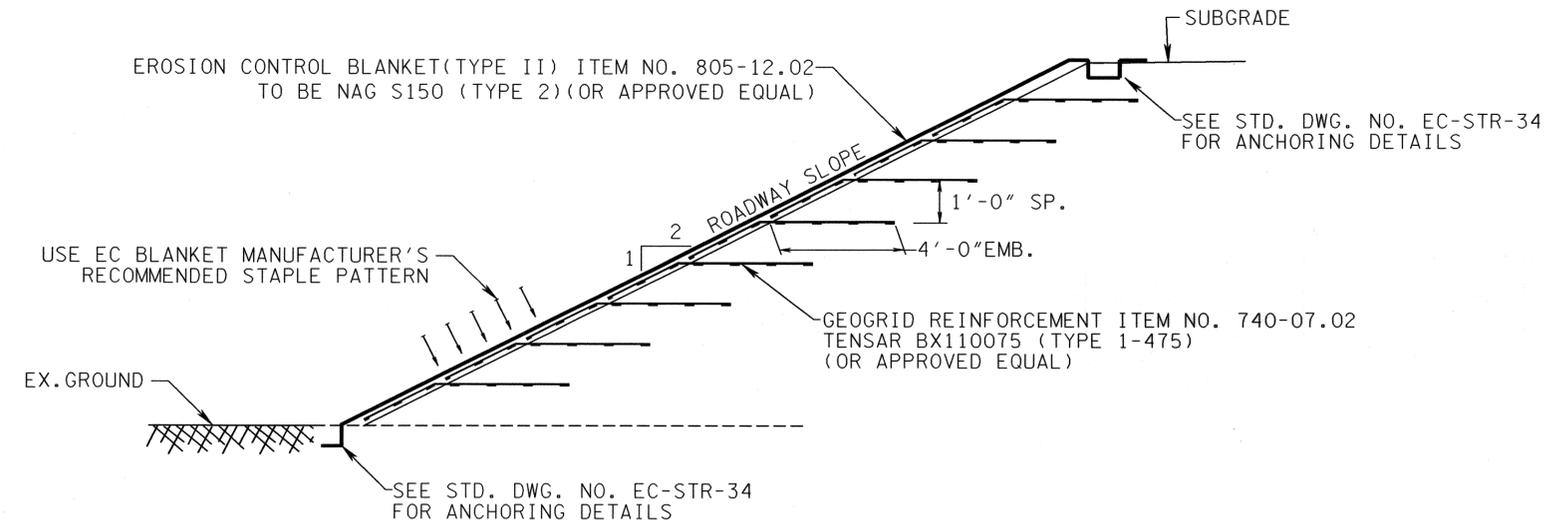
TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2012	79054-3407-04	2A
CONST.	2013	79054-3407-04	2J



**TYPE 6-30 CURB & GUTTER  
TRANSITION DETAIL**  
THIS DETAIL SHALL APPLY TO ALL ENDING SECTIONS  
OF TYPE 6-30 CURB & GUTTER



**PART-ELEVATION  
CURB TRANSITION DETAIL**  
THIS DETAIL SHALL APPLY TO ALL ENDING SECTIONS  
OF TYPE 6-30 CURB & GUTTER



**REINFORCED SOIL SLOPE (RSS)**

(N.T.S.)

STA. 26+66.00 TO 27+25.00 (RT)

**NOTES:**

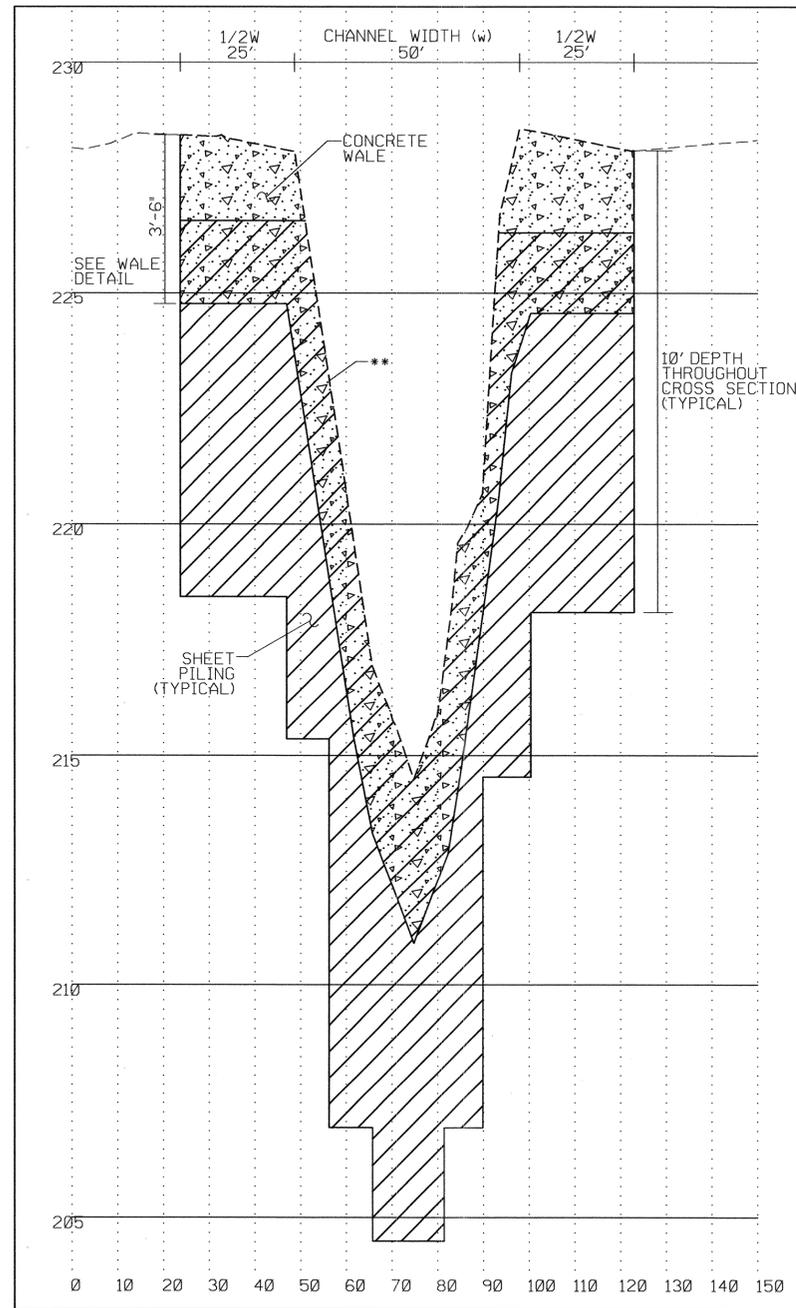
- GEOGRID ROLLS SHOULD BE CUT IN HALF TO PROVIDE 6.5' WIDTHS. GRID SHALL BE ROLLED OUT PARALLEL TO THE SLOPE FACE.
- BACKFILL SHALL BE COMPACTED TO 95% STANDARD PROCTOR AT ± 3% OPTIMUM MOISTURE.



STATE OF TENNESSEE  
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**DETAIL SHEET  
MISCELLANEOUS  
DETAILS**  
(NOT TO SCALE)

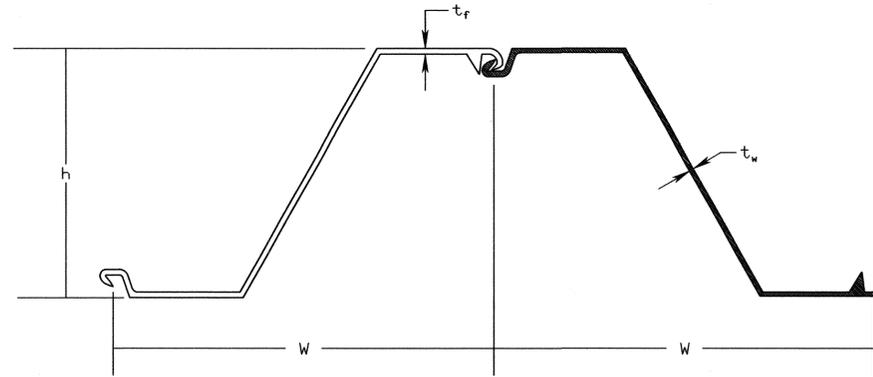
TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2012	79054-3407-04	2B
CONST.	2013	79054-3407-04	2K



GRADE CONTROL STRUCTURE CROSS SECTION

(SEE PROPOSED LAYOUT FOR LOCATION)

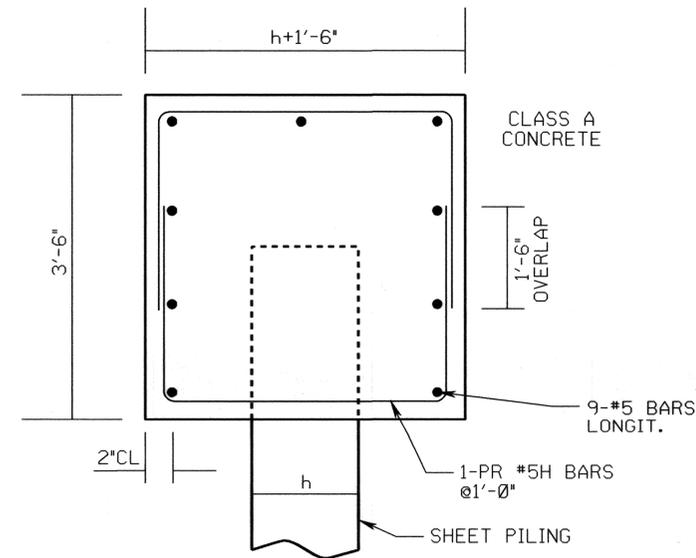
\*\* MATCH EXISTING STREAM CROSS SECTION UP & DOWN STREAM



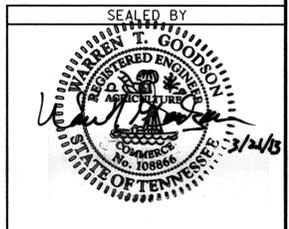
SHEET PILE DETAIL

STEEL SHEET PILING PROPERTIES *												
	THICKNESS				Cross Sectional Area in <sup>2</sup> /ft	WEIGHT		SECTION MODULUS			COATING AREA	
	Width (w) in	Height (h) in	Flange (t <sub>f</sub> ) in	Web (t <sub>w</sub> ) in		Pile lb/ft	Wall lb/ft <sup>2</sup>	Elastic in <sup>3</sup> /ft	Plastic in <sup>3</sup> /ft	Moment of Inertia in <sup>4</sup> /ft	Both Sides ft <sup>2</sup> /ft of single	Wall Surface ft <sup>2</sup> /ft <sup>2</sup>
	26.38	11.89	0.335	0.335	5.94	44.42	20.22	22.3	26.2	132.8	5.45	1.23

\*NOTE: A 572 GRADE 60 STEEL



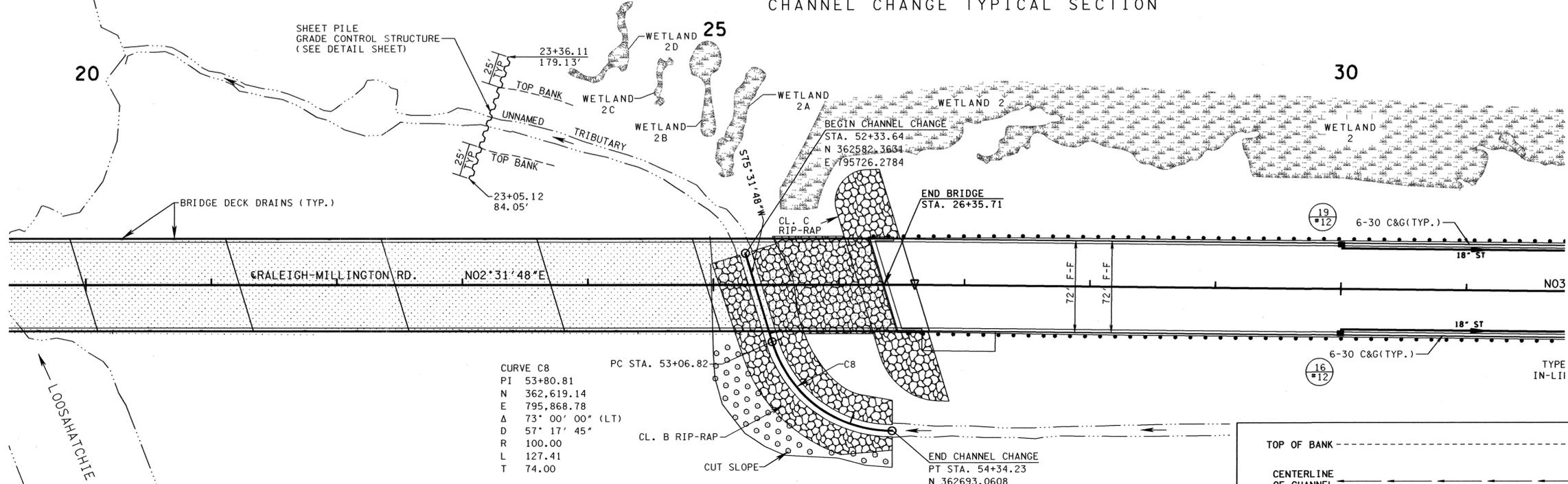
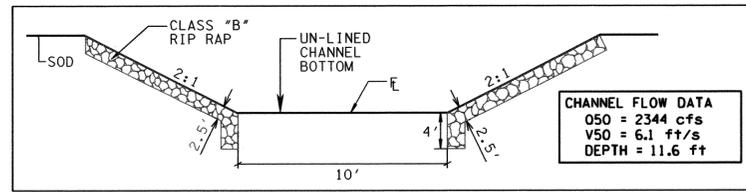
CONCRETE WALE DETAIL



STATE OF TENNESSEE  
DEPARTMENT OF TRANSPORTATION

DETAIL SHEET  
GRADE CONTROL STRUCTURE  
(NOT TO SCALE)

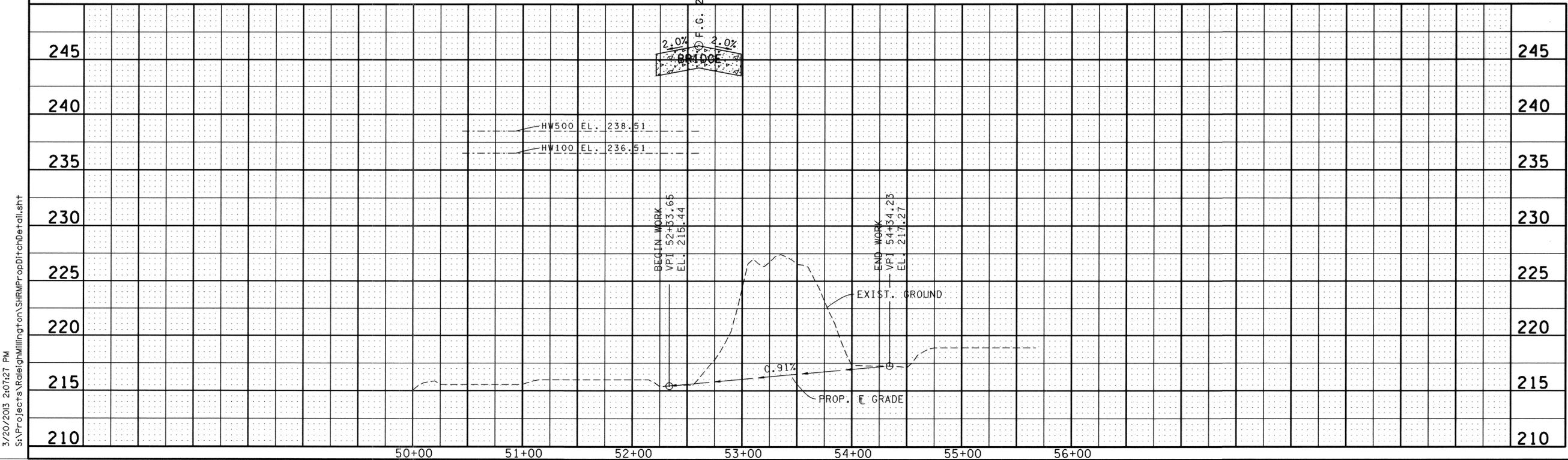
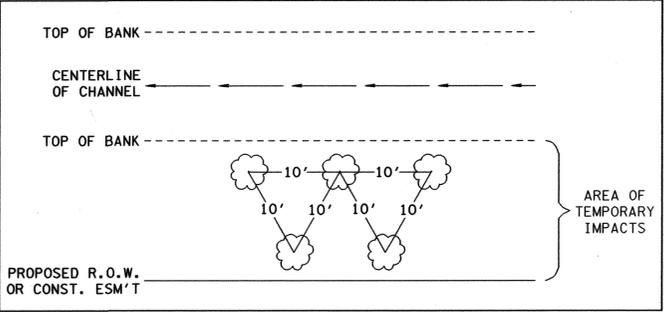
TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2012	79054-3407-04	2C
CONST.	2013	79054-3407-04	2L



CURVE C8  
 PI 53+80.81  
 N 362,619.14  
 E 795,868.78  
 A 73° 00' 00" (LT)  
 D 57' 17' 45"  
 R 100.00  
 L 127.41  
 T 74.00

ESTIMATED TREE QUANTITIES			
ITEM NO.	DESCRIPTION	QUANTITY	UNIT
802-11.16	FRAXINUS PENNSYLVANICA (GREEN ASH 2.5FT CNTNR GRWN)	10	EACH
802-11.33	QUERCUS MICHAUXII (SWMP CHSTNT OAK 2.5FT CNTNR GRWN)	19	EACH
802-11.36	QUERCUS NUTTALLII (NUTTALL OAK 2.5FT CNTNR GRWN)	19	EACH
802-11.38	QUERCUS PHELLOS (WILLOW OAK 2.5FT CNTNR GRWN)	19	EACH
802-11.42	TAXODIUM DISTICHUM (BALD CYPRESS 2.5FT CNTNR GRWN)	10	EACH
802-11.46	QUERCUS SHUMARDII (SHUMARD OAK 2.5 FT CNTNR GRWN)	19	EACH

THE AREA OF TEMPORARY IMPACT ON TOP OF BANK SHALL BE RESTORED AND RESEEDED OR REPLANTED ACCORDING TO THE MITIGATION DESIGN AS PRESENTED ABOVE AS SOON AS POSSIBLE FOLLOWING THE COMPLETION OF CONSTRUCTION ACTIVITIES.

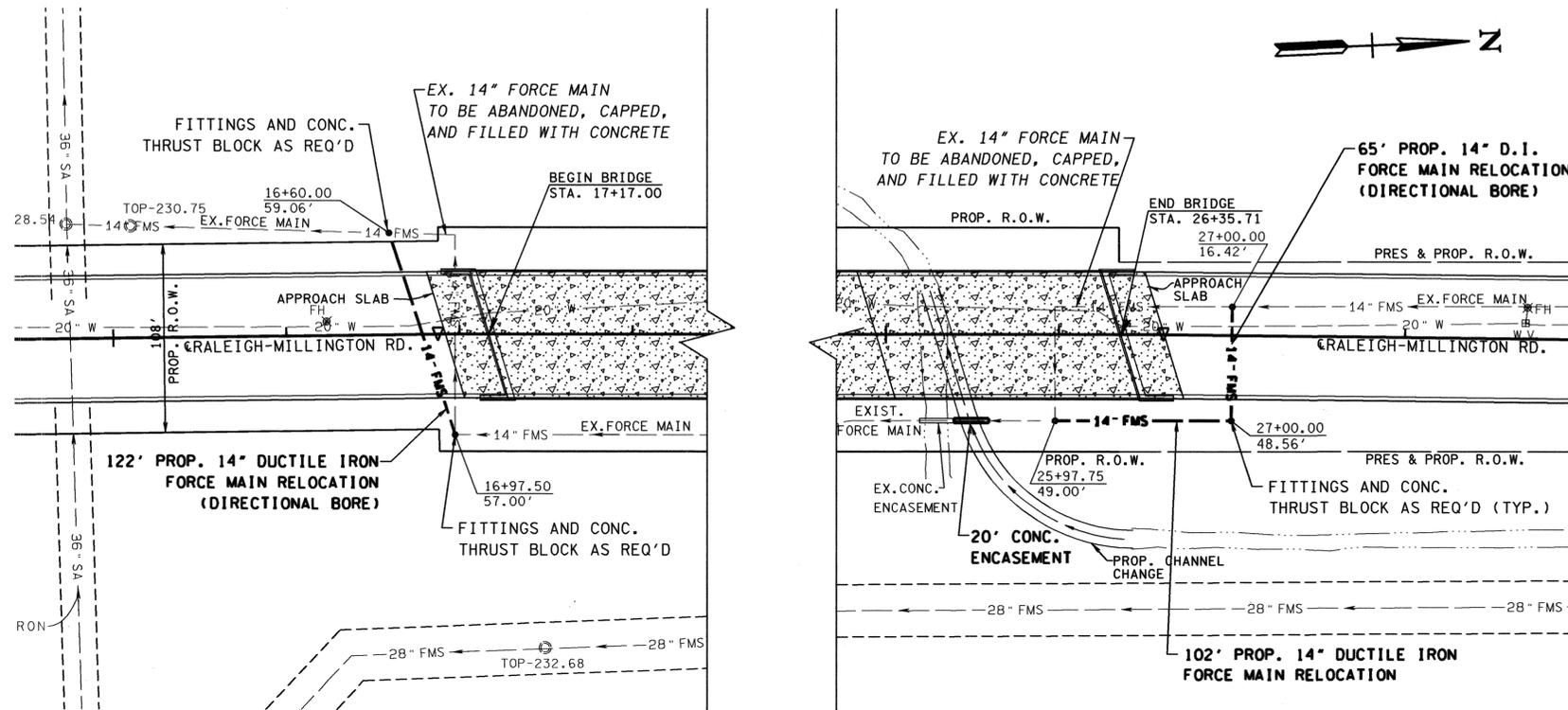


3/20/2013 2:01:27 PM S:\Projects\Nashville\Millington\SHRM\PropDitchDetail.sht



STATE OF TENNESSEE  
 DEPARTMENT OF TRANSPORTATION  
**DETAIL SHEET**  
 PROPOSED  
 DITCH  
 SCALE: 1" = 50'

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2012	79054-3407-04	2F
CONST.	2013	79054-3407-04	2M

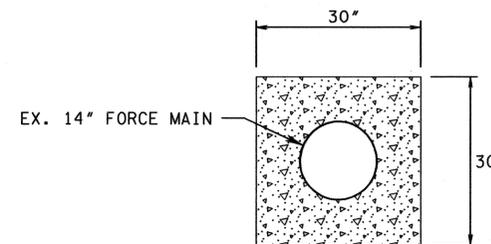


**SPECIAL NOTES**

1. FORCE MAIN SHALL BE CONSTRUCTED IN ACCORDANCE WITH CURRENT CITY OF MEMPHIS STANDARD CONSTRUCTION SPECIFICATIONS AND DRAWINGS.
2. FORCE MAIN SHALL BE INSTALLED APPROXIMATELY SIX FEET DEEP.
3. FORCE MAIN SHALL MAINTAIN 18 INCH MINIMUM CLEARANCE BETWEEN ALL EXISTING AND/OR PROPOSED UTILITIES, STORM OR SANITARY SEWERS, OR GUARDRAIL POSTS.
4. LOCATION OF EXISTING FORCE MAIN IS APPROXIMATE. CONTRACTOR SHALL LOCATE FORCE MAIN, COORDINATE INSTALLATION OF FITTINGS, AND THE NEW 14\"/>

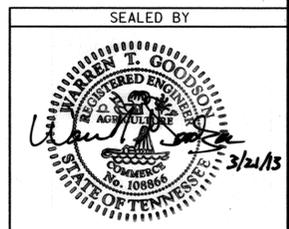
PROPOSED SANITARY SEWER*				
	ITEM (UNIT)	QUANTITY	UNIT	REMARKS
920-11	14\"/>			

\* ALL ITEMS CITY OF MEMPHIS SPECIFICATIONS



**CONCRETE ENCASEMENT DETAIL**

1. CLASS A CONCRETE : 3,500 PSI

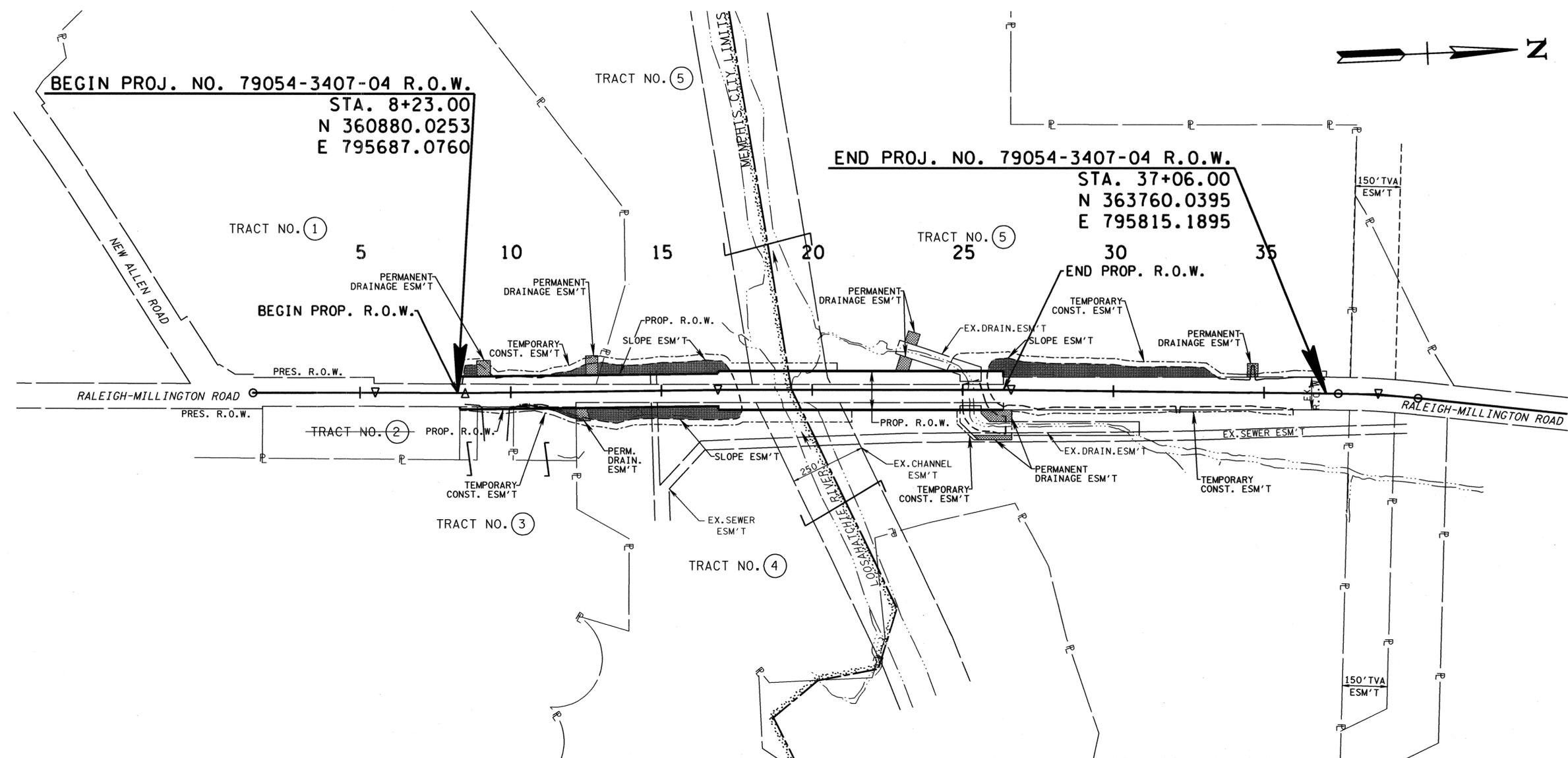


STATE OF TENNESSEE  
DEPARTMENT OF TRANSPORTATION

**DETAIL SHEET  
FORCE MAIN  
RELOCATION  
PLAN**

SCALE : 1" = 50'

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2012	79054-3407-04	3
CONST.	2013	79054-3407-07	3



UTILITY OWNERS							
UTILITY	OWNER	PHONE NO.	CONTACT	ADDRESS	CITY	STATE	ZIP CODE
TELEPHONE	AT&T - MEMPHIS	901-362-9699	CRAIG GRABOWSKI	3855 OUTLAND RD.	MEMPHIS	TN	38118
TELEPHONE	MILLINGTON TELEPHONE	901-872-5209	JIM SITTER, SR.	4880 NAVY RD.	MILLINGTON	TN	38053
CABLE TV	COMCAST	901-435-9673	ATTN: BRUCE HARRIS FOC	3251 PLAYERS CLUB PKWY.	MEMPHIS	TN	38125
SEWER	CITY OF MEMPHIS	901-576-6725	GARY VADEN	125 N. MAIN ST.	MEMPHIS	TN	38103
POWER	MEMPHIS LIGHT, GAS, & WATER	901-528-4186	TOM WORD AB/01-349	P.O. BOX 430	MEMPHIS	TN	38101-0430
WATER	MEMPHIS LIGHT, GAS, & WATER	901-528-4186	TOM WORD AB/01-349	P.O. BOX 430	MEMPHIS	TN	38101-0430
FIBER OPTIC	ZAYO BANDWIDTH	901-507-2105	BOB COOPER	7620 APPLING CENTER, SUITE 101A	MEMPHIS	TN	38133

FOR USE IN CONSTRUCTING ROADWAY SLOPES.



R.O.W. ACQUISITION TABLE																
TRACT NO.	PROPERTY OWNERS	COUNTY RECORDS				TOTAL AREA ACRES			AREA TO BE ACQUIRED ACRES			AREA REMAINING ACRES		EASEMENT (SQUARE FEET)		
		TAX MAP NO.	PARCEL NO.	DEED DOCUMENT REFERENCE		LEFT	RIGHT	TOTAL	LEFT	RIGHT	TOTAL	LEFT	RIGHT	PERM. DRAINAGE	SLOPE	CONST.
				BK. - PAGE	INSTRUMENT NO.											
1	PINCH'S INC.	72	090002 00008		GV 6129	56.077		56.077	0.292		0.292	55.785		0.113 AC	3938	0.200 AC
2	DARRELL BEARD AND WIFE, DEBORAH BEARD	72	090029 00014		Y1 0225		-2.620	-2.620								
3	ALLETOWN MOBILE CITY ASSOCIATES	72	090029 00008		N3 0957	66.087		66.087		2327 S.F.	2327 S.F.	66.034		1647	4260	
4	SARAH R. PERKINS	72	D0146 00028	WB 235 - 167	R2 3454	90.870		90.870		0.685	0.685	90.185	0.162 AC	0.464 AC	0.809 AC	
5	SHELBY COUNTY	72	D0136 00184	5784 - 280		192.400		192.400	3.624		3.624	188.776	0.117 AC	1.057 AC	0.917 AC	

COORDINATES ARE NAD/83(1995), ARE DATUM ADJUSTED BY THE FACTOR OF 1.00001 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988.

STATE OF TENNESSEE  
DEPARTMENT OF TRANSPORTATION

PROPERTY MAP

SCALE: 1"=200'

**RIGHT-OF-WAY NOTES**

(1) IT IS INTENDED THAT ALL BUILDINGS AND/OR PORTIONS OF BUILDINGS THAT ARE WITHIN THE PROPOSED RIGHT-OF-WAY AND/OR EASEMENT LINES FOR THE PROJECT BE REMOVED THERE FROM IN THE PROCESS OF RIGHT-OF-WAY ACQUISITION. IF ANY SUCH BUILDINGS OR IMPROVEMENTS ARE NOT REMOVED IN THE COURSE OF RIGHT-OF-WAY ACQUISITION, THE COUNTY ENGINEER IS TO BE NOTIFIED IN SUFFICIENT TIME TO PERMIT HAVING SUCH REMOVALS DESIGNATED AS A PART OF THE CONSTRUCTION CONTRACT.

(2) ALL RAMPS MUST CONFORM TO TDOT'S "POLICY ON FINANCING CONSTRUCTION OF PUBLIC ROAD INTERSECTIONS AND DRIVEWAYS ON HIGHWAY RESURFACING, RECONSTRUCTION AND CONSTRUCTION PROJECTS ON NEW LOCATIONS", THE MANUAL ON RULES AND REGULATIONS FOR CONSTRUCTING DRIVEWAYS ON STATE HIGHWAY RIGHT-OF-WAY, STANDARD DRAWING RP-R-1, AND OTHER ACCEPTED DESIGN AND SAFETY STANDARDS.

(3) EXISTING PAVED DRIVEWAY PER TRACT REMAINDER WILL BE REPLACED IN KIND TO A TOUCHDOWN POINT.

(4) WHERE THE EXISTING DRIVEWAY IS UNPAVED AND THE PROPOSED DRIVEWAY EXCEEDS 7 PERCENT IN GRADE, EACH DRIVEWAY WILL BE PAVED TO A TOUCHDOWN POINT OR UNTIL THE GRADE IS LESS THAN 7 PERCENT.

(5) WHERE THE EXISTING DRIVEWAY IS UNPAVED AND THE PROPOSED DRIVEWAY IS LESS THAN 7 PERCENT IN GRADE, EACH DRIVEWAY WILL BE PAVED A SHOULDER WIDTH FROM THE EDGE OF PAVEMENT AND THE REMAINDER OF THAT DRIVEWAY REPLACED IN KIND TO A TOUCHDOWN POINT.

(6) ANY NECESSARY PAVING OF DRIVEWAYS WILL BE DONE DURING PAVING OPERATIONS ON THE MAIN ROADWAY.

(7) ON NON-STATE ROUTES, ADDITIONAL DRIVEWAYS AND FIELD ENTRANCES OTHER THAN THOSE PROVIDED IN THE PLANS SHALL REQUIRE A PERMIT ONLY IF THE LOCAL AGENCY SPECIFIES THE NEED FOR THAT PERMIT.

**UTILITY NOTES**

(1) THE LOCATIONS OF UTILITIES SHOWN WITHIN THESE PLANS ARE APPROXIMATE ONLY. EXACT LOCATIONS SHALL BE DETERMINED IN THE FIELD BY CONTACTING THE UTILITY COMPANIES INVOLVED. NOTIFICATION BY CALLING THE TENNESSEE ONE CALL SYSTEM, INC., AT 1-800-351-1111 AS REQUIRED BY TCA 65-31-106 WILL BE REQUIRED.

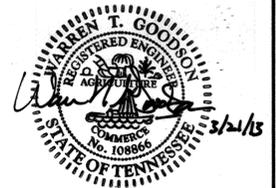
(2) UNLESS OTHERWISE NOTED, ALL UTILITY ADJUSTMENTS WILL BE PERFORMED BY THE UTILITY OR ITS REPRESENTATIVE. THE CONTRACTOR AND UTILITY OWNERS WILL BE REQUIRED TO COOPERATE WITH EACH OTHER IN ORDER TO EXPEDITE THE WORK REQUIRED BY THIS CONTRACT. ON CONTRACTS WHERE CONSTRUCTION STAKES, LINES, AND GRADES ARE CONTRACT ITEMS, THE CONTRACTOR WILL BE REQUIRED TO PROVIDE RIGHT-OF-WAY OR SLOPE STAKES, DITCH OR STREAM BED GRADES, OR OTHER ESSENTIAL SURVEY STAKING TO PREVENT CONFLICTS WITH THE HIGHWAY CONSTRUCTION. FREQUENTLY, THIS WILL BE REQUIRED IS 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.

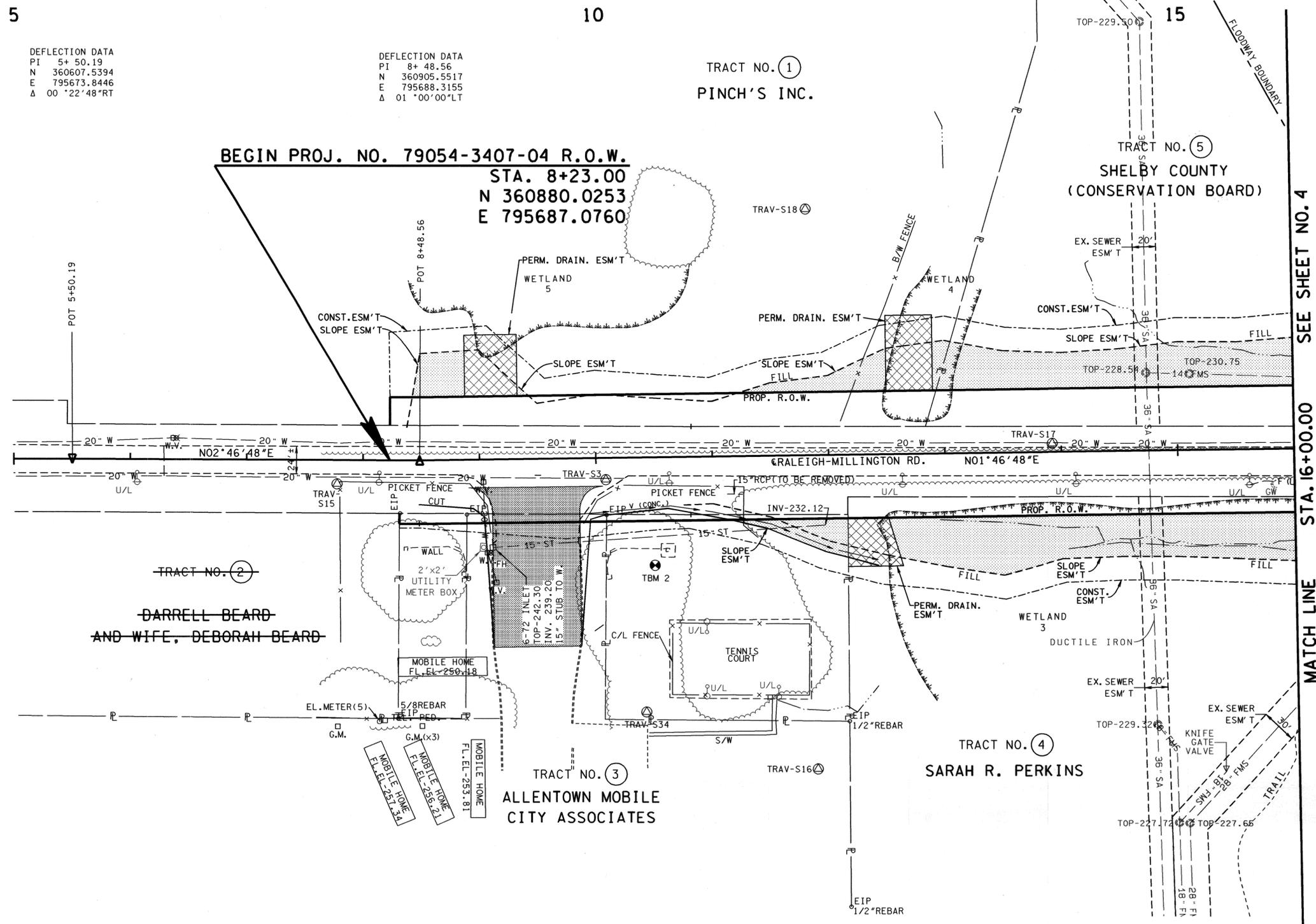
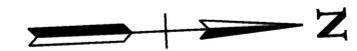
(4) PRIOR TO SUBMITTING HIS BID, THE CONTRACTOR WILL BE SOLELY RESPONSIBLE FOR CONTACTING OWNERS OF ALL AFFECTED UTILITIES IN ORDER TO DETERMINE THE EXTENT TO WHICH UTILITY RELOCATIONS AND/OR ADJUSTMENTS WILL HAVE UPON THE SCHEDULE OF WORK FOR THE PROJECT. WHILE SOME WORK MAY BE REQUIRED 'AROUND' UTILITY 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.

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2012	79054-3407-04	3A
CONST.	2013	79054-3407-04	3A

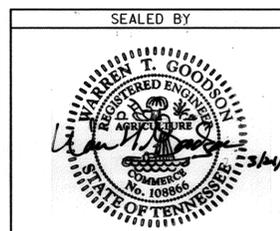


TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2012	79054-3407-04	4
CONST.	2013	79054-3407-04	4



MATCH LINE STA. 16+00.00 SEE SHEET NO. 4

SEE SHEET 4A FOR  
R.O.W. DETAILS.

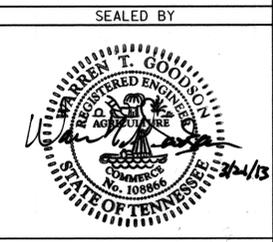
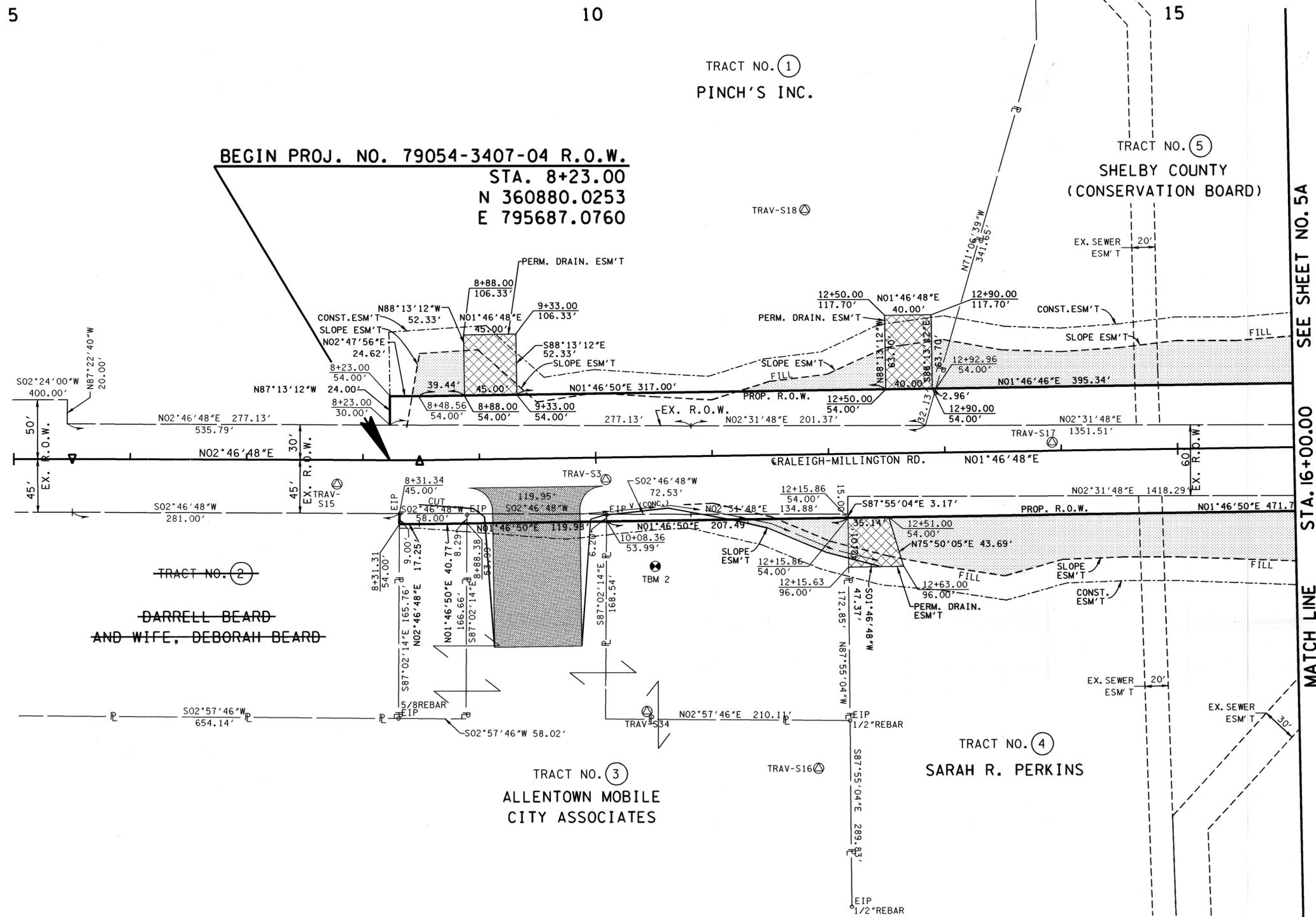
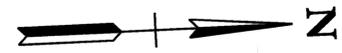


COORDINATES ARE NAD/83(1995),  
ARE DATUM ADJUSTED BY THE  
FACTOR OF 1.00001 AND TIED TO  
THE TGRN. ALL ELEVATIONS ARE  
REFERENCED TO THE NAVD 1988.

STATE OF TENNESSEE  
DEPARTMENT OF TRANSPORTATION

**PRESENT  
LAYOUT**  
BEGINNING OF PROJECT  
TO STA. 16+00  
SCALE: 1" = 50'

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2012	79054-3407-04	4A
CONST.	2013	79054-3407-04	4A

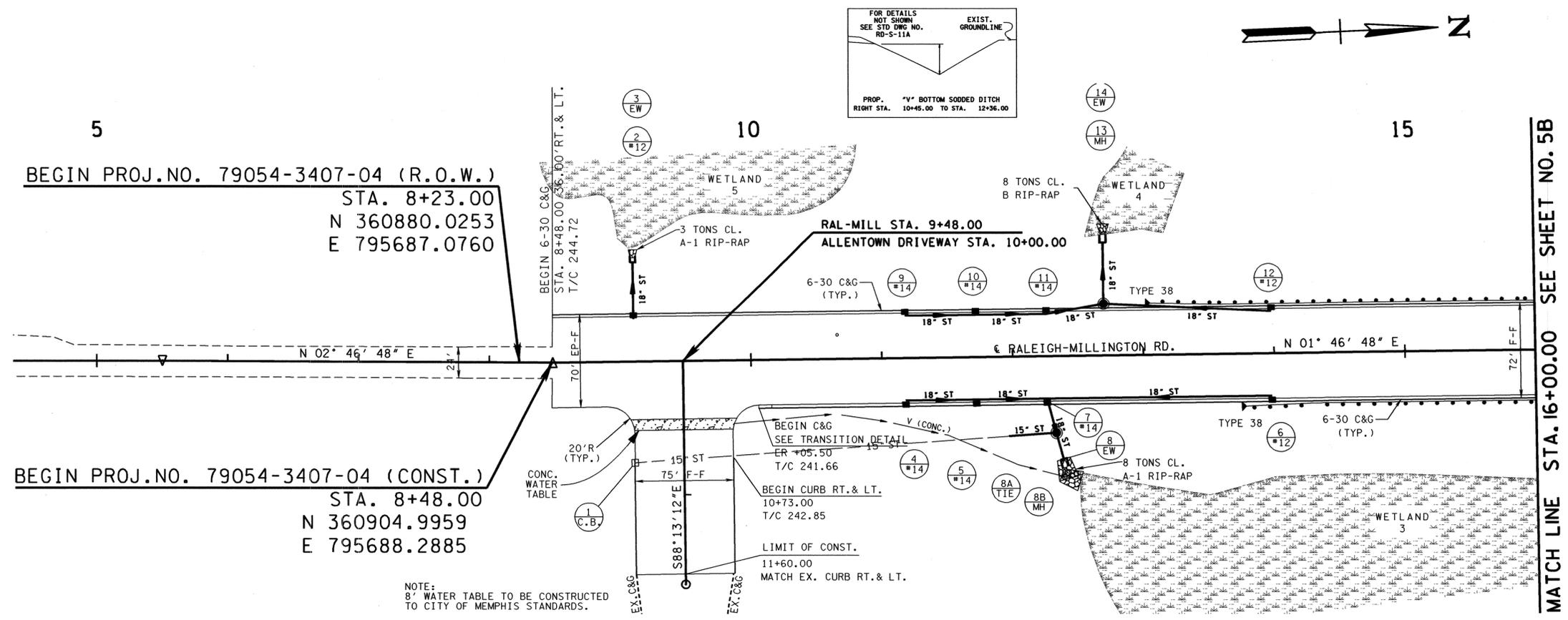


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STATE OF TENNESSEE  
DEPARTMENT OF TRANSPORTATION

**R.O.W. LAYOUT**  
BEGINNING OF PROJECT  
TO STA. 16+00  
SCALE: 1" = 50'

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2012	79054-3407-04	4B
CONST.	2013	79054-3407-04	4B



BEGIN PROJ. NO. 79054-3407-04 (R.O.W.)  
STA. 8+23.00  
N 360880.0253  
E 795687.0760

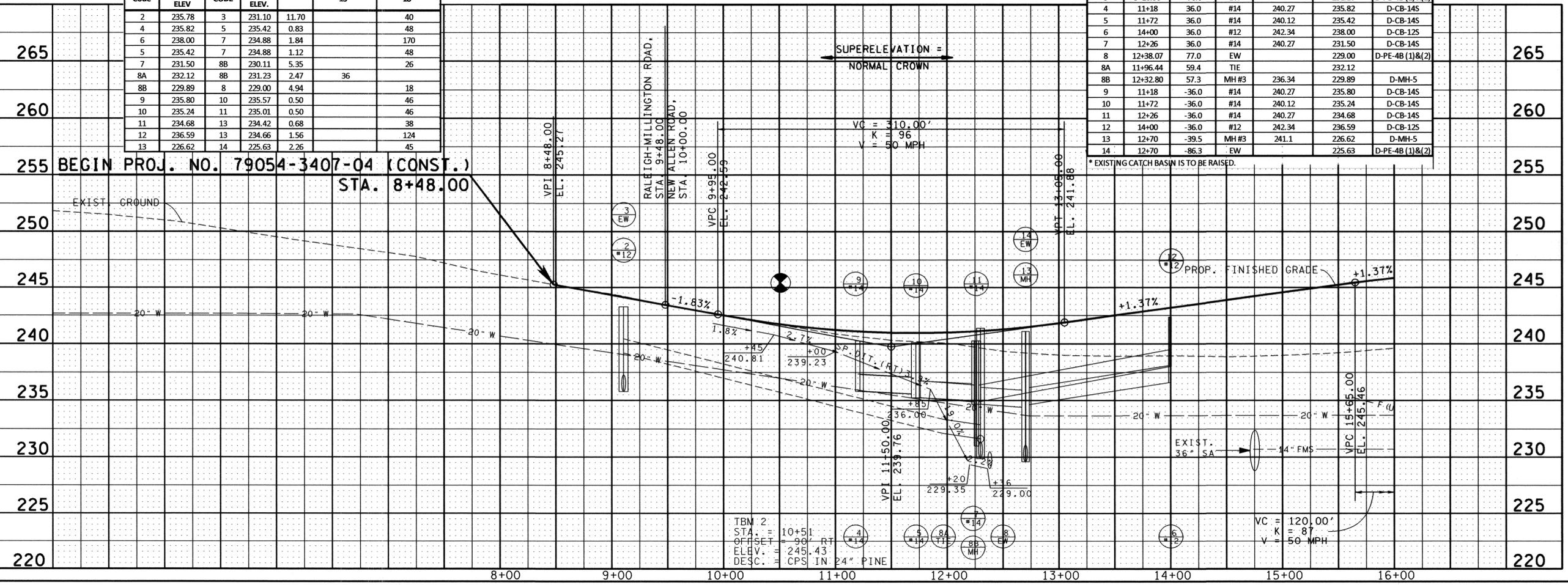
BEGIN PROJ. NO. 79054-3407-04 (CONST.)  
STA. 8+48.00  
N 360904.9959  
E 795688.2885

NOTE:  
8' WATER TABLE TO BE CONSTRUCTED  
TO CITY OF MEMPHIS STANDARDS.

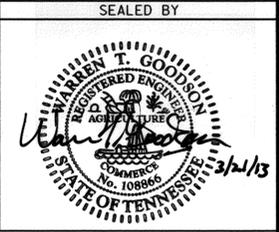
STORM DRAIN PIPES						
FROM		TO		%	REINF. CONC. PIPE - CLASS III SIZE AND LENGTH (L.F.)	
Code	OUTLET ELEV.	CODE	INLET ELEV.		15"	18"
2	235.78	3	231.10	11.70		40
4	235.82	5	235.42	0.83		48
6	238.00	7	234.88	1.84		170
5	235.42	7	234.88	1.12		48
7	231.50	8B	230.11	5.35		26
8A	232.12	8B	231.23	2.47	36	
8B	229.89	8	229.00	4.94		18
9	235.80	10	235.57	0.50		46
10	235.24	11	235.01	0.50		46
11	234.68	13	234.42	0.68		38
12	236.59	13	234.66	1.56		124
13	226.62	14	225.63	2.26		45

STORM DRAIN STRUCTURES						
Code	STATION	LOCATION	TYPE	GRATE ELEV.	OUTLET ELEV.	STD. DWG.
1	9+10.45	75.6		242.42		
2	9+10.50	-36.0	#12	243.28	235.78	D-CB-12S
3	9+10.50	-76.0	EW		231.10	D-PE-4B(1)&(2)
4	11+18	36.0	#14	240.27	235.82	D-CB-14S
5	11+72	36.0	#14	240.12	235.42	D-CB-14S
6	14+00	36.0	#12	242.34	238.00	D-CB-12S
7	12+26	36.0	#14	240.27	231.50	D-CB-14S
8	12+38.07	77.0	EW		229.00	D-PE-4B(1)&(2)
8A	11+96.44	59.4	TIE		232.12	
8B	12+32.80	57.3	MH#3	236.34	229.89	D-MH-5
9	11+18	-36.0	#14	240.27	235.80	D-CB-14S
10	11+72	-36.0	#14	240.12	235.24	D-CB-14S
11	12+26	-36.0	#14	240.27	234.68	D-CB-14S
12	14+00	-36.0	#12	242.34	236.59	D-CB-12S
13	12+70	-39.5	MH#3	241.1	226.62	D-MH-5
14	12+70	-86.3	EW		225.63	D-PE-4B(1)&(2)

\* EXISTING CATCH BASIN IS TO BE RAISED.



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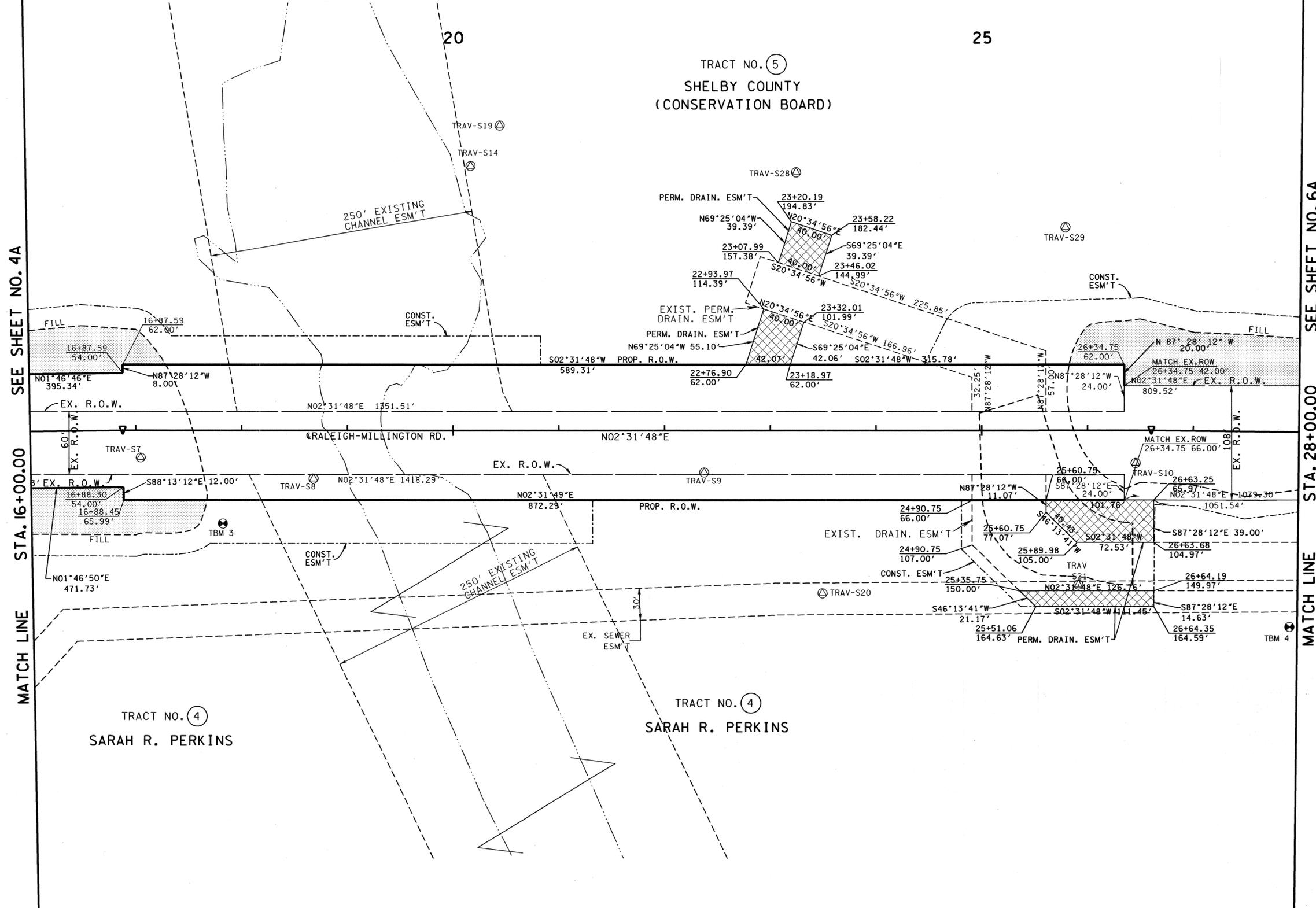
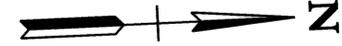
STATE OF TENNESSEE  
DEPARTMENT OF TRANSPORTATION

**PROPOSED LAYOUT**  
BEGINNING OF PROJECT TO STA. 16+00  
SCALE: 1" = 50'



TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2012	79054-3407-04	5A
CONST.	2013	79054-3407-04	5A

NOTE:  
CONTRACTOR TO LOCATE 14" FORCE MAIN AND 20" WATERLINE PRIOR TO PILE DRIVING.



SEE SHEET NO. 4A

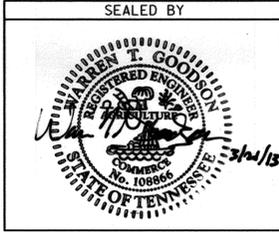
STA. 16+00.00

MATCH LINE

SEE SHEET NO. 6A

STA. 28+00.00

MATCH LINE

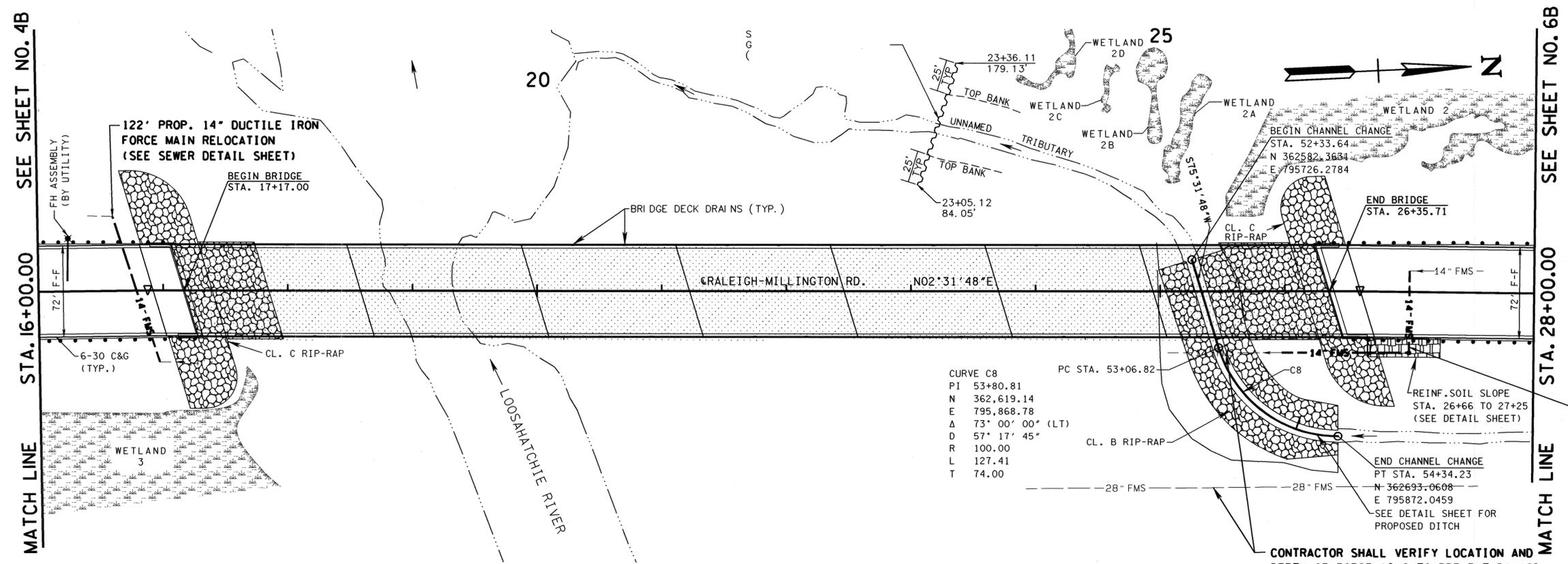


COORDINATES ARE NAD/83(1995), ARE DATUM ADJUSTED BY THE FACTOR OF 1.00001 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988.

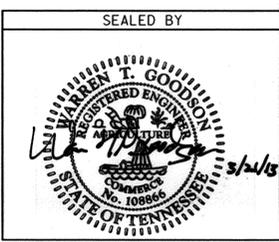
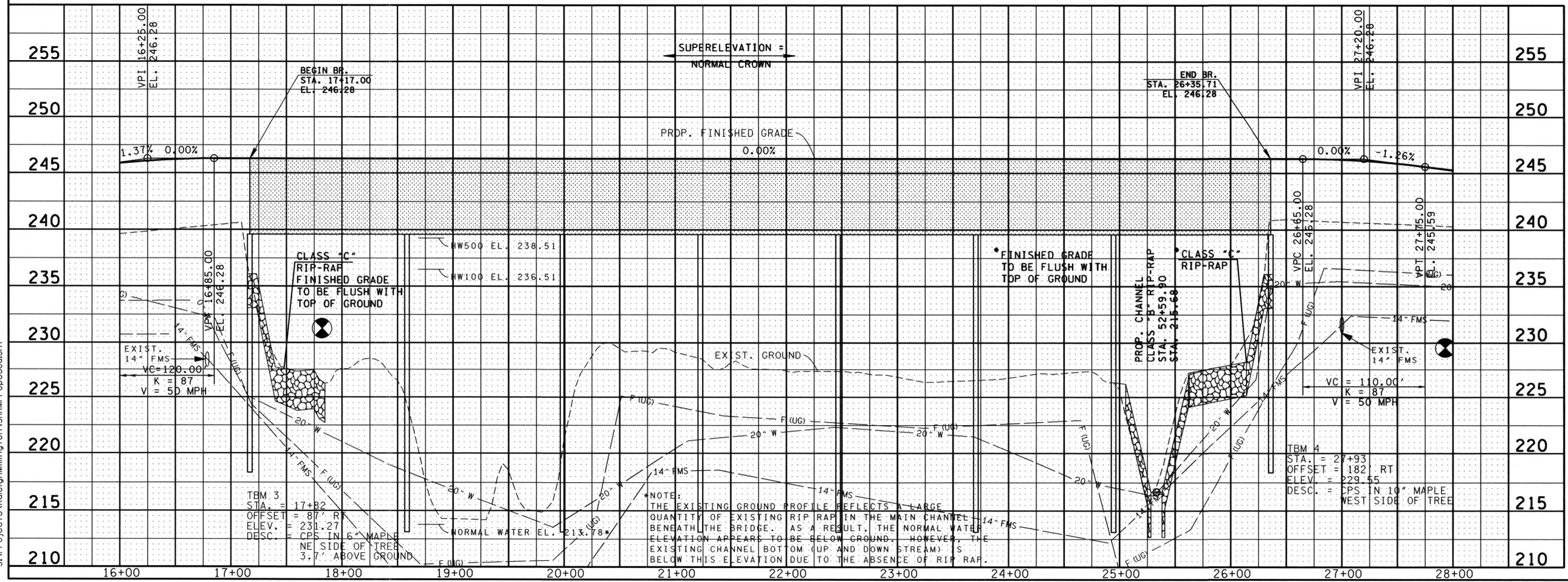
STATE OF TENNESSEE  
DEPARTMENT OF TRANSPORTATION

**R.O.W. LAYOUT**  
STA 16+00 TO STA. 28+00  
SCALE: 1" = 50'

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2012	79054-3407-04	5B
CONST.	2013	79054-3407-04	5B

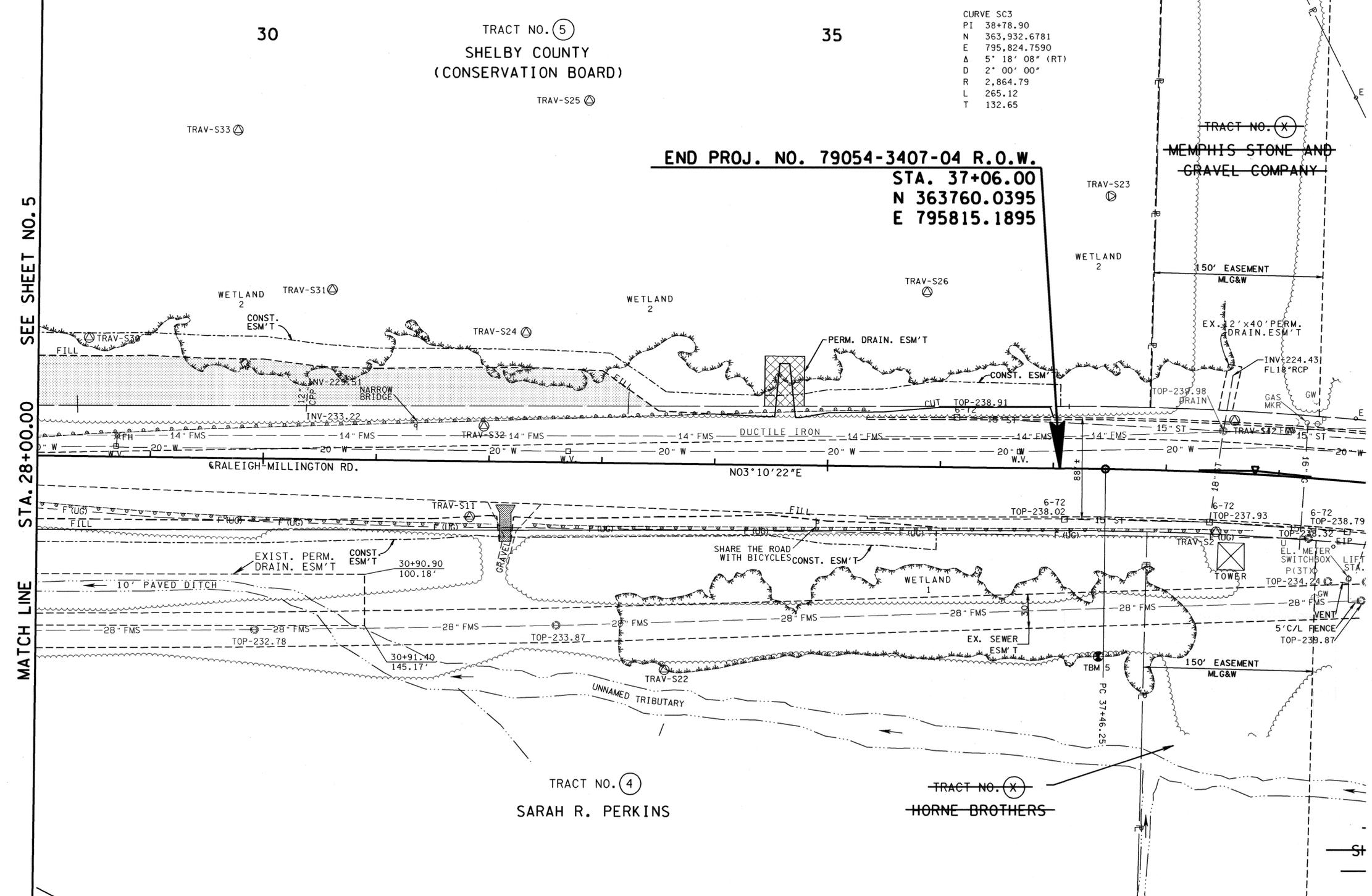


CONTRACTOR SHALL VERIFY LOCATION AND DEPTH OF FORCEMAINS TO PREVENT DAMAGE DURING CHANNEL REALIGNMENT.



STATE OF TENNESSEE  
DEPARTMENT OF TRANSPORTATION  
**PROPOSED LAYOUT**  
STA 16+00 TO STA. 28+00  
SCALE: 1" = 50'

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2012	79054-3407-04	6
CONST.	2013	79054-3407-04	6



CURVE SC3  
PI 38+78.90  
N 363,932.6781  
E 795,824.7590  
Δ 5' 18' 08" (RT)  
D 2' 00' 00"  
R 2,864.79  
L 265.12  
T 132.65

END PROJ. NO. 79054-3407-04 R.O.W.  
STA. 37+06.00  
N 363760.0395  
E 795815.1895

SEE SHEET 6A FOR R.O.W. DETAILS.

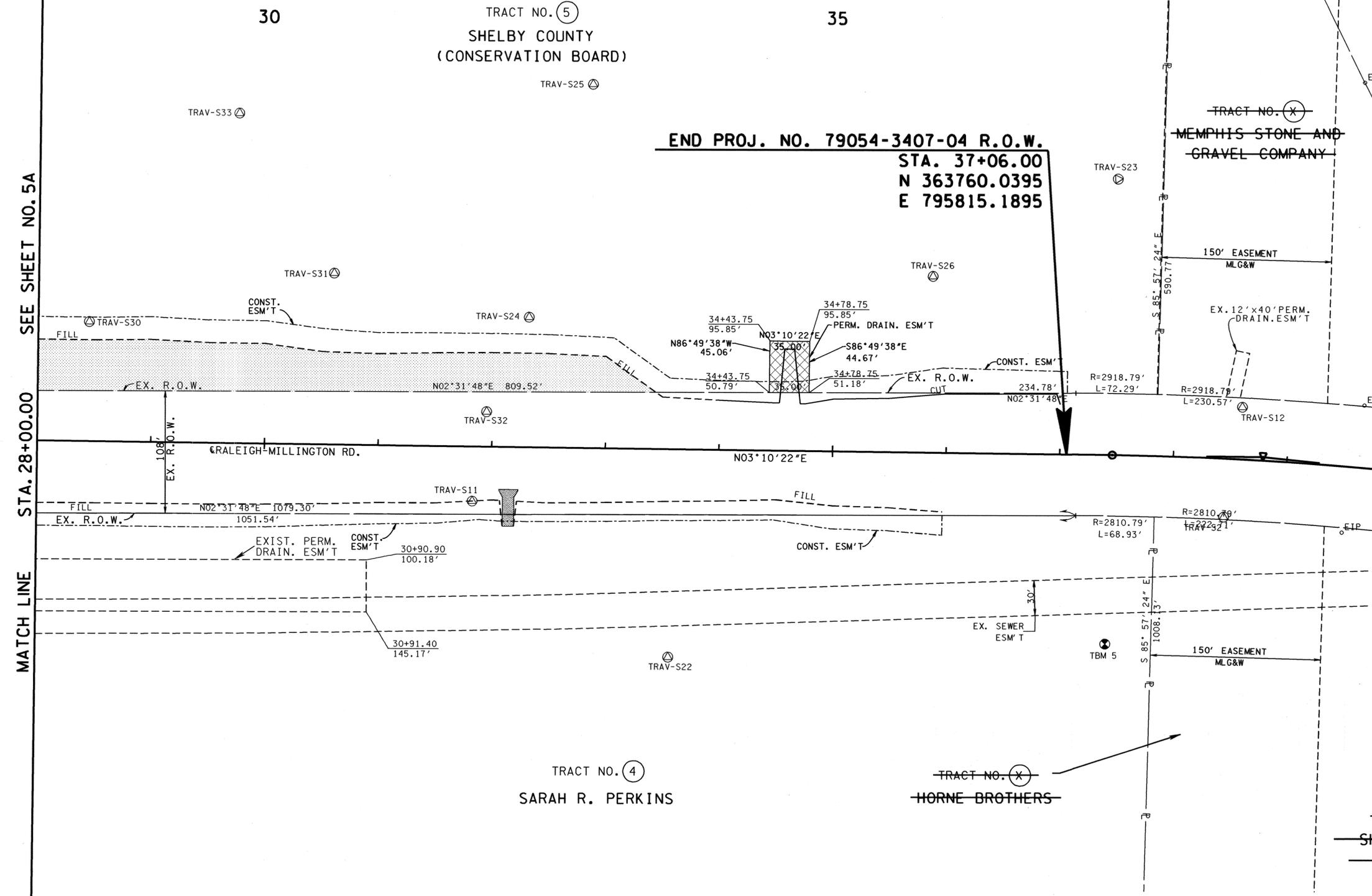


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STATE OF TENNESSEE  
DEPARTMENT OF TRANSPORTATION

**PRESENT LAYOUT**  
STA. 28+00 TO  
END OF PROJECT  
SCALE: 1" = 50'

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2012	79054-3407-04	6A
CONST.	2013	79054-3407-04	6A



SEE SHEET NO. 5A  
STA. 28+00.00  
MATCH LINE

END PROJ. NO. 79054-3407-04 R.O.W.  
STA. 37+06.00  
N 363760.0395  
E 795815.1895

SEALED BY

WARREN T. GOOPSON  
REGISTERED ENGINEER  
STATE OF TENNESSEE  
No. 10886

COORDINATES ARE NAD/83(1995),  
ARE DATUM ADJUSTED BY THE  
FACTOR OF 1.00001 AND TIED TO  
THE TGRN. ALL ELEVATIONS ARE  
REFERENCED TO THE NAVD 1988.

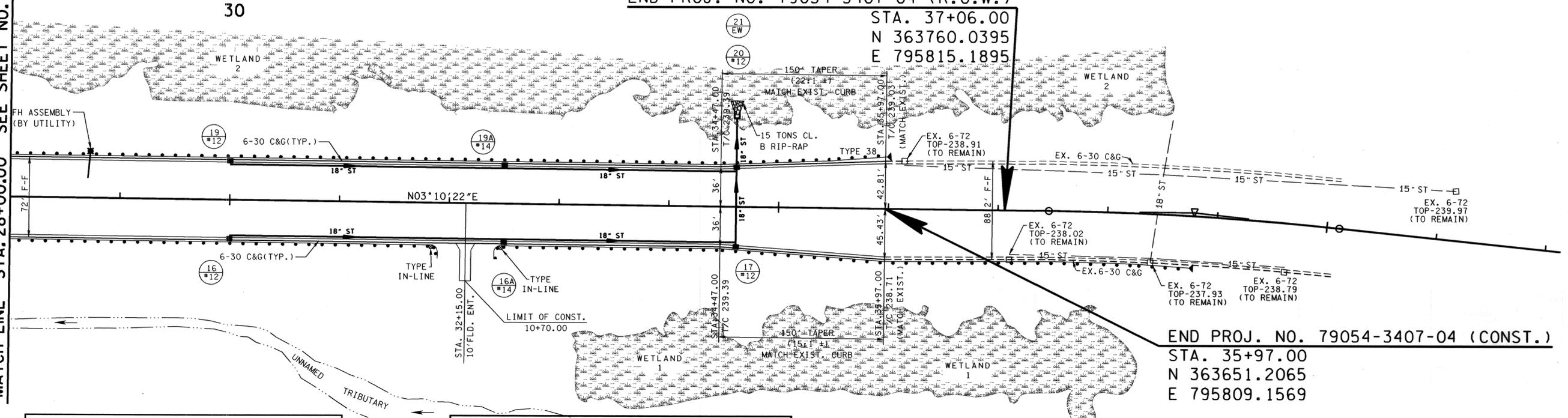
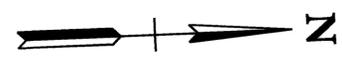
STATE OF TENNESSEE  
DEPARTMENT OF TRANSPORTATION

**R.O.W.  
LAYOUT**  
STA. 28+00 TO  
END OF PROJECT  
SCALE: 1" = 50'

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2012	79054-3407-04	6B
CONST.	2013	79054-3407-04	6B

MATCH LINE STA. 28+00.00 SEE SHEET NO. 5B

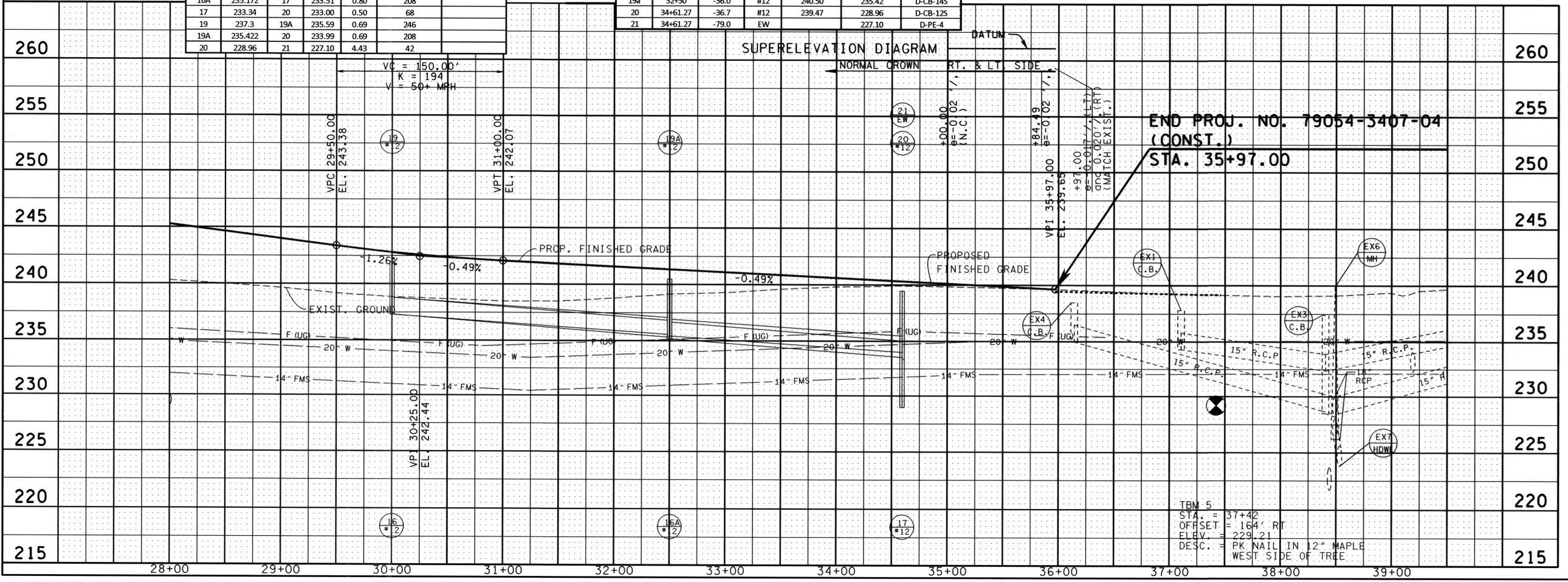
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END PROJ. NO. 79054-3407-04 (R.O.W.)



STORM DRAIN PIPES						
FROM		TO		% GRADE	REINF. CONC. PIPE - CLASS III SIZE AND LENGTH (L.F.)	
Code	OUTLET ELEV.	CODE	INTLET ELEV.		18"	24"
16	237.31	16A	235.34	0.80	246	
16A	235.172	17	233.51	0.80	208	
17	233.34	20	233.00	0.50	68	
19	237.3	19A	235.59	0.69	246	
19A	235.422	20	233.99	0.69	208	
20	228.96	21	227.10	4.43	42	

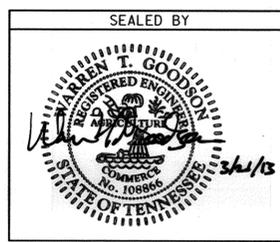
STORM DRAIN STRUCTURES						
Code	STATION	LOCATION	TYPE	GRATE ELEV.	OUTLET ELEV.	STD. DWG.
16	30+00	36.0	#12	241.97	237.31	D-CB-125
16a	32+50	36.0	#12	240.50	235.17	D-CB-145
17	34+61.27	36.9	#12	239.47	233.34	D-CB-125
19	30+00	-36.0	#12	241.97	237.30	D-CB-125
19a	32+50	-36.0	#12	240.50	235.42	D-CB-145
20	34+61.27	-36.7	#12	239.47	228.96	D-CB-125
21	34+61.27	-79.0	EW		227.10	D-PE-4

SUPERELEVATION DIAGRAM



END PROJ. NO. 79054-3407-04  
(CONST.)  
STA. 35+97.00

TBM 5  
STA. = 37+42  
OFFSET = 164' RT  
ELEV. = 229.21  
DESC. = PK NAIL IN 12" MAPLE  
WEST SIDE OF TREE



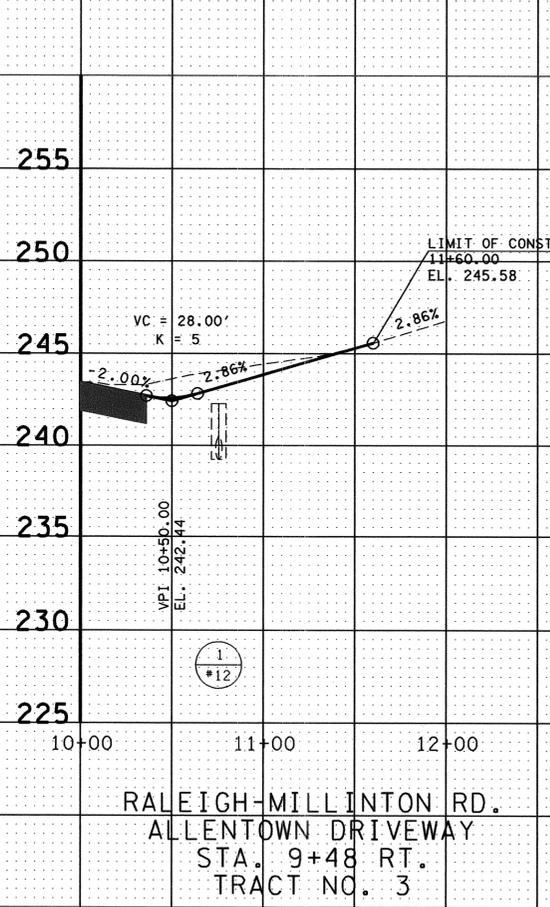
STATE OF TENNESSEE  
DEPARTMENT OF TRANSPORTATION  
**PROPOSED LAYOUT**  
STA. 28+00 TO  
END OF PROJECT  
SCALE: 1" = 50'

TENNESSEE D.O.T.  
DESIGN DIVISION

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FILE NO.

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2012	79054-3407-04	7
CONST.	2013	79054-3407-04	7



STATE OF TENNESSEE  
DEPARTMENT OF TRANSPORTATION

**PROFILE OF  
SIDEROADS  
AND PRIVATE  
DRIVES**  
SCALE: 1" = 50' HORIZ.  
1" = 5' VERT.

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2012	79054-3407-04	8
CONST.	2013	79054-3407-04	8

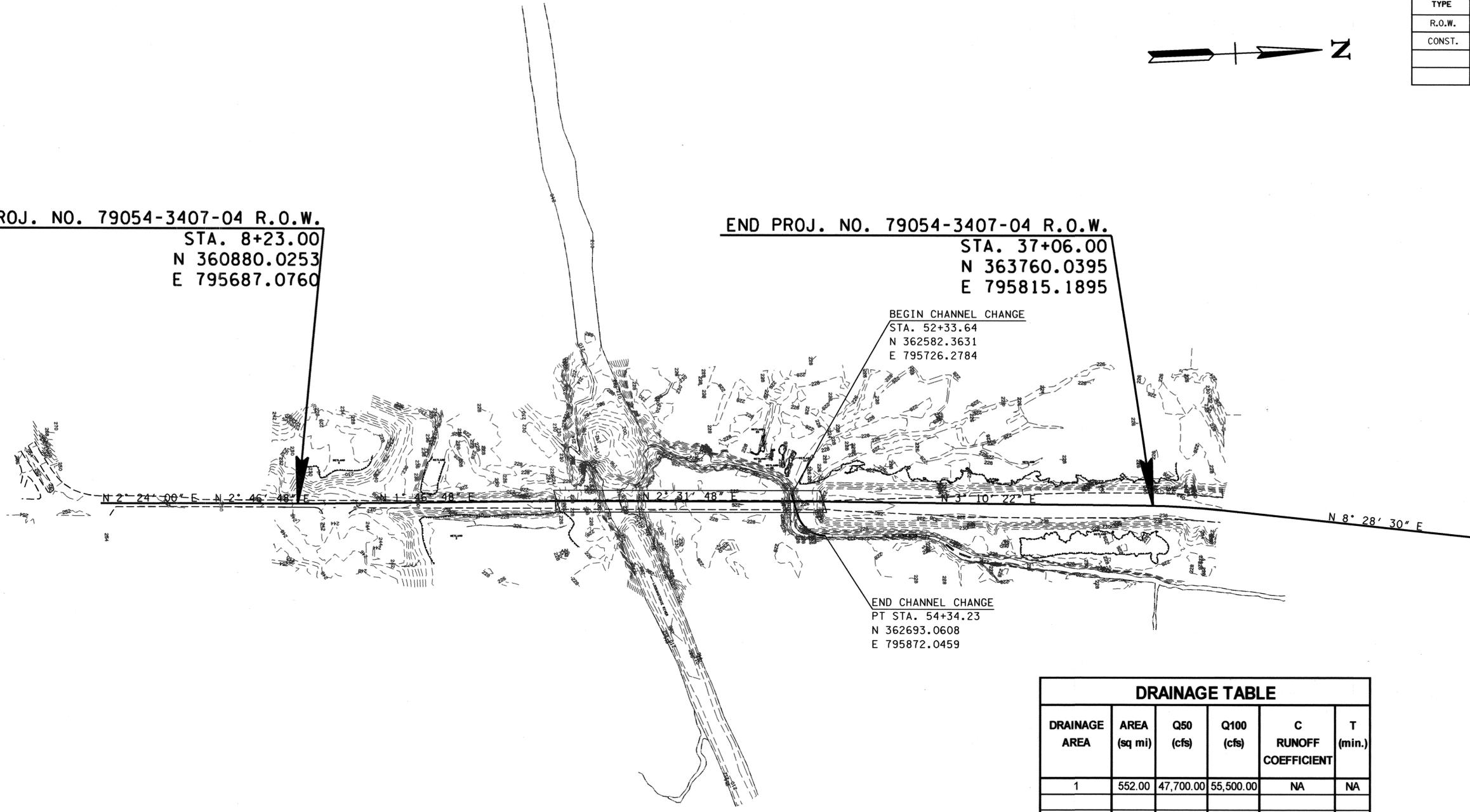


**BEGIN PROJ. NO. 79054-3407-04 R.O.W.**  
 STA. 8+23.00  
 N 360880.0253  
 E 795687.0760

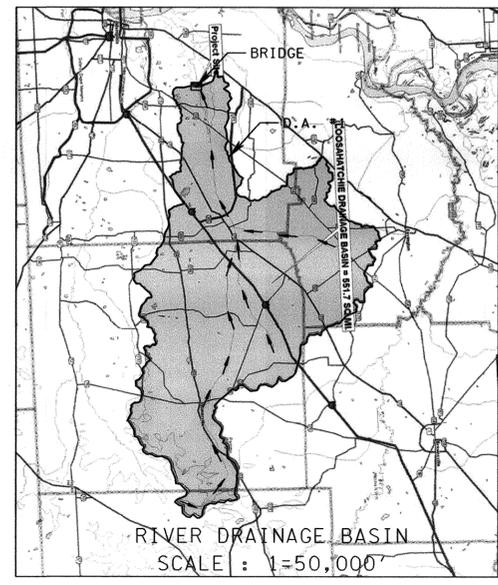
**END PROJ. NO. 79054-3407-04 R.O.W.**  
 STA. 37+06.00  
 N 363760.0395  
 E 795815.1895

**BEGIN CHANNEL CHANGE**  
 STA. 52+33.64  
 N 362582.3631  
 E 795726.2784

**END CHANNEL CHANGE**  
 PT STA. 54+34.23  
 N 362693.0608  
 E 795872.0459



DRAINAGE AREA	AREA (sq mi)	Q50 (cfs)	Q100 (cfs)	C RUNOFF COEFFICIENT	T (min.)
1	552.00	47,700.00	55,500.00	NA	NA



SEALED BY  
  
 3/21/13

STATE OF TENNESSEE  
 DEPARTMENT OF TRANSPORTATION  
**DRAINAGE MAP**  
 STA. 9+75 TO STA. 37+72  
 SCALE: 1"=200'

# EROSION PREVENTION AND SEDIMENT CONTROL NOTES

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2012	79054-3407-04	9
CONST.	2013	79054-3407-04	9

## STREAM/WETLAND

- (1) ANY WORK WITHIN THE STREAM CHANNEL AREA (E.G., FOR PIER FOOTING, RIP-RAP PLACEMENT, MULTI-BARREL 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.

## HIGH QUALITY WATERS

- (2) FOR PROJECTS THAT DISCHARGE INTO HIGH QUALITY WATERS OR WATERS IMPAIRED BY SILTATION, A 60 FOOT NATURAL RIPARIAN BUFFER ZONE ADJACENT TO AND ON BOTH SIDES OF THE RECEIVING STREAM WITH THIS DESIGNATION SHALL BE PRESERVED, TO THE MAXIMUM EXTENT PRACTICABLE, DURING CONSTRUCTION ACTIVITIES AT THE SITE. BUFFER ZONES ARE NOT SEDIMENT CONTROL MEASURES AND SHOULD NOT BE RELIED UPON AS PRIMARY SEDIMENT CONTROL MEASURES. THE RIPARIAN BUFFER ZONE SHALL BE ESTABLISHED BETWEEN THE TOP OF THE STREAM BANK AND THE DISTURBED CONSTRUCTION AREA. 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 25 FEET AT ANY MEASURED LOCATION. EVERY ATTEMPT SHALL BE MADE FOR CONSTRUCTION ACTIVITIES NOT TO TAKE PLACE WITHIN THE BUFFER ZONES. BEST MANAGEMENT PRACTICES (BMPs) PROVIDING EQUIVALENT PROTECTION AS THE NATURAL RIPARIAN ZONE MAY BE USED. A JUSTIFICATION FOR USE AND DESIGN EQUIVALENCY SHALL BE DOCUMENTED WITHIN THE SWPPP. THE ENVIRONMENTAL AND DESIGN DIVISIONS SHALL REVIEW AND APPROVE THIS REVISION OF THE SWPPP BEFORE DISTURBANCE OF THE SITE PROCEEDS, UNLESS PREVIOUSLY EXEMPT IN THE NPDES CONSTRUCTION GENERAL PERMIT. WHERE ISSUED, ARAP/401 REQUIREMENTS WILL PREVAIL IF IN CONFLICT WITH THESE BUFFER ZONE REQUIREMENTS.

## NPDES

- (3) 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 BASIC EPSC DEVICES ON THE EPSC PLAN CONTAINED IN THE APPROVED SWPPP.
- (4) THE EPSC MEASURES AND/OR PLAN SHALL BE MODIFIED AS NECESSARY SO THAT THEY ARE EFFECTIVE AT ALL TIMES THROUGHOUT THE COURSE OF THE PROJECT.
- (5) THE ACCEPTED EPSC PLAN SHALL REQUIRE THAT EPSC MEASURES BE IN PLACE BEFORE CLEARING, GRUBBING, EXCAVATION, GRADING, CUTTING OR FILLING OCCURS, EXCEPT AS SUCH WORK MAY BE NECESSARY TO INSTALL EPSC MEASURES, INCLUDING WITHOUT LIMITATION AS FOLLOWS:
- A. INITIAL CLEARING AND GRUBBING SHALL BE LIMITED TO THAT NECESSARY FOR THE INSTALLATION OF APPLICABLE EPSC MEASURES IN ACCORDANCE WITH THE ACCEPTED EPSC PLAN INCORPORATED INTO THE SWPPP.
  - B. NO OTHER CLEARING AND GRUBBING OPERATIONS SHALL BE STARTED BEFORE APPLICABLE EPSC MEASURES ARE IN PLACE IN ACCORDANCE WITH THE ACCEPTED EPSC PLAN INCORPORATED INTO THE SWPPP.
  - C. NO CULVERT OR BRIDGE CONSTRUCTION SHALL BE STARTED BEFORE APPLICABLE EPSC MEASURES ARE IN PLACE IN ACCORDANCE WITH THE ACCEPTED EPSC PLAN INCORPORATED INTO THE SWPPP.
  - D. NO GRADING, EXCAVATION, CUTTING, FILLING, OR OTHER EARTHWORK SHALL BE STARTED BEFORE EPSC MEASURES ARE IN PLACE IN ACCORDANCE WITH THE ACCEPTED EPSC PLAN INCORPORATED INTO THE SWPPP.
- (6) PERMANENT EPSC MEASURES SHALL BE INITIATED WITHIN 15 CALENDAR DAYS AFTER FINAL GRADING OF ANY SEQUENCE OR PHASE. TEMPORARY OR PERMANENT STABILIZATION SHALL BE INITIATED WITHIN 15 CALENDAR DAYS AFTER FINAL GRADING OR WHEN CONSTRUCTION ACTIVITIES ON A PORTION OF THE SITE ARE TEMPORARILY CEASED AND EARTH

DISTURBING ACTIVITIES WILL NOT RESUME UNTIL AFTER 15 CALENDAR DAYS. PERMANENT STABILIZATION WITH PERENNIAL VEGETATION OR OTHER PERMANENTLY STABLE NON-ERODING SURFACE SHALL REPLACE ANY TEMPORARY MEASURES AS SOON AS PRACTICABLE. UNPACKED GRAVEL CONTAINING FINES (SILT AND CLAY SIZED PARTICLES) OR CRUSHER RUNS WILL NOT BE CONSIDERED A NON-ERODIBLE SURFACE.

- (7) 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.

## UTILITY RELOCATION

- (8) RAIN WATER WHICH COLLECTS IN THE UTILITY TRENCH SHALL BE PUMPED INTO A DEWATERING STRUCTURE OR SEDIMENT FILTER BAG AND MAINTAINED.
- (9) SILT FENCE SHALL BE INSTALLED ON THE DOWNSTREAM SIDE OF STOCKPILED SOIL. TRENCHING ACROSS WET WEATHER CONVEYANCES SHALL BE DONE DURING NO FLOW CONDITIONS AND STABILIZED BY THE END OF THE WORK DAY.
- (10) UTILITY CROSSINGS FOR PERENNIAL STREAMS SHALL BE CONSTRUCTED IN ACCORDANCE WITH TDOT STANDARDS AND NO WORK SHALL BE CONDUCTED IN FLOWING WATERS. TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION (TDEC) REGULATIONS APPLY TO UTILITIES IN THIS PROJECT IN REGARD TO EROSION PREVENTION AND SEDIMENT CONTROL (EPSC). THE STATE CONTRACTOR SHALL COMPLY WITH ALL REQUIREMENTS OF THE STORM WATER POLLUTION PREVENTION PLANS (SWPPP).
- (11) IT IS THE RESPONSIBILITY OF THE STATE UTILITY CONTRACTOR INSTALLER TO PROTECT FROM EROSION EXPOSED EARTH RESULTING FROM THEIR OPERATIONS AND TO PROVIDE FOR CONTAINMENT OF SEDIMENT THAT MAY RESULT FROM THEIR WORK. PRIOR TO BEGINNING WORK, ADEQUATE MEASURES MUST BE IN PLACE TO TRAP ANY SEDIMENT THAT MAY TRAVEL 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.
- (12) 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 SEVEN DAYS AFTER BEING BACKFILLED. ANY TEMPORARY SPOIL OF EXCAVATED EARTH SHALL BE LOCATED WITHIN TDOT EROSION PREVENTION AND SEDIMENT CONTROL (EPSC) MEASURES OR RECEIVE SEPARATE EPSC MEASURES. IF TRENCHES ARE NOT BACKFILLED OVERNIGHT, APPROPRIATE EPSC MEASURES WILL BE INSTALLED BY THE STATE UTILITY CONTRACTOR UNTIL SUCH TIME AS THE TRENCH IS BACKFILLED.
- (13) IN REGARD TO EROSION PREVENTION AND SEDIMENT CONTROL (EPSC), TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION (TDEC) REGULATIONS APPLY TO THE STATE UTILITY CONTRACTORS IN THIS PROJECT, THEREFORE, THE STATE CONTRACTOR SHALL COMPLY WITH ALL REQUIREMENTS OF THE STORM WATER POLLUTIONS PREVENTION PLANS (SWPPP). THE STATE CONTRACTOR IS RESPONSIBLE FOR EPSC MEASURES RELATED TO UTILITY CONSTRUCTION INCLUDED IN THE STATE CONTRACT WORK.
- (14) TRENCHES FORMED FOR THE INSTALLATION OF BURIED UTILITIES MAY CAUSE STORM WATER RUNOFF TO CONCENTRATE AT THE TRENCH LINE. ADDITIONAL EROSION PREVENTION AND SEDIMENT CONTROL (EPSC) MEASURES MAY BE REQUIRED TO BE INSTALLED AS APPROVED BY THE TDOT PROJECT ENGINEER.
- (15) FOR THE INSTALLATION OF UNDERGROUND UTILITIES OUTSIDE OF THE TDOT RIGHT-OF-WAY, EROSION PREVENTION AND SEDIMENT CONTROL (EPSC) SHALL BE INSTALLED PRIOR TO CLEARING (TRENCHING AND ASSOCIATED BLASTING) IN THOSE AREAS NECESSARY TO PREVENT SEDIMENT FROM LEAVING THE CONSTRUCTION AREA. THESE EPSC MEASURES SHALL REMAIN UNTIL THE BACKFILLED TRENCH IS STABILIZED WITH FINAL VEGETATIVE COVER.
- (16) THE UTILITY CONTRACTOR SHALL RESTORE ALL AFFECTED WET WEATHER CONVEYANCES TO THE EXISTING TOPOGRAPHIC CONDITIONS (AS APPROVED BY THE TDOT PROJECT ENGINEER).

- (17) THE UTILITY CONTRACTOR WILL PROVIDE APPROPRIATE EROSION PREVENTION AND SEDIMENT CONTROL (EPSC) MEASURES TO REPLACE IN-PLACE EPSC MEASURES REMOVED TO FACILITATE THE INSTALLATION OF UTILITIES. REPLACEMENT OF EPSC MEASURES WILL BE COORDINATED WITH THE TDOT PROJECT ENGINEER BEFORE COMMENCING WORK.

## NOTICE TO CONTRACTORS

- (18) TEMPORARY CONSTRUCTION ENTRANCES AND/OR EXITS SHALL BE CONSTRUCTED PER TDOT DRAWING NO. EC-STR-25 AT LOCATIONS APPROVED BY THE PROJECT ENGINEER.
- (19) CONSTRUCTION SHALL EXTEND NO FURTHER THAN TWENTY (20) FEET BEYOND SLOPE LINES WITHIN WETLAND BOUNDARY.

EROSION PREVENTION AND SEDIMENT CONTROL QUANTITIES				
ITEM NO.	DESCRIPTION	UNIT	QUANTITY	
209-05	SEDIMENT REMOVAL	C.Y.	2000	
1.2.	209-08.02	TEMPORARY SILT FENCE (WITH BACKING)	L.F.	15317
1.	209-08.03	TEMPORARY SILT FENCE (WITHOUT BACKING)	L.F.	160
1.	209-08.07	ROCK CHECK DAM PER	EACH	9
1.	209-08.08	ENHANCED ROCK CHECK DAM	EACH	5
1.	209-09.04	SEDIMENT FILTER BAG(15' X 10')	EACH	6
1.	209-09.40	CURB INLET PROTECTION (TYPE 1)	EACH	16
1.	209-09.42	CURB INLET PROTECTION (TYPE 3)	EACH	2
	209-40.41	CATCH BASIN FILTER ASSEMBLY(TYPE 1)	EACH	9
	209-40.46	CATCH BASIN FILTER ASSEMBLY(TYPE 6)	EACH	7
	303-10.01	MINERAL AGGREGATE (SIZE 57)	TON	145
	621-03.09	60" TEMPORARY DRAINAGE PIPE	L.F.	184
4.	709-05.05	MACHINED RIP-RAP (CLASS A-3)	TON	200
5.	709-05.06	MACHINED RIP-RAP (CLASS A-1)	TON	484
3.	740-10.03	GEOTEXTILE (TYPE III)(EROSION CONTROL)	S.Y.	1398
	740-11.03	TEMPORARY SEDIMENT TUBE 18IN (DESCRIPTION)	L.F.	2096

## FOOTNOTES:

- SEE SUBSECTION 209.07 OF THE STANDARD SPECIFICATIONS FOR MAINTENANCE AND REPLACEMENT.
- SEDIMENT FILTER BAG INCLUDES 523 LF OF TEMPORARY SILT FENCE (W/ BACKING), 208-08.02, 39 TONS OF MINERAL AGGREGATE (SIZE 57), 303-10.01, AND 447 SY OF GETOEXTILE (TYPE III)(EROSION CONTROL), 740-10.03.
- INCLUDES 11 M.G. FOR TEMPORARY SEEDING AND 11 M.G. FOR FINAL SEEDING.
- FOR USE IN TEMPORARY CONSTRUCTION EXIT.
- INCLUDES 473 CY FOR TEMPORARY CULVERT CROSSINGS AND 11 TONS FOR CULV. OUTLET

## EROSION PREVENTION AND SEDIMENT CONTROL LEGEND

SYMBOL	ITEM	STD. DWG.	SYMBOL	ITEM	STD. DWG.	SYMBOL	ITEM	STD. DWG.	SYMBOL	ITEM	STD. DWG.
	SEDIMENT FILTER BAG	EC-STR-2		ENHANCED ROCK CHECK DAM (V-DITCH)	EC-STR-6A		TEMPORARY CONSTRUCTION EXIT	EC-STR-25		CATCH BASIN FILTER ASSEMBLY (TYPE 1)	EC-STR-41
	SILT FENCE	EC-STR-3B		ENHANCED ROCK CHECK DAM (TRAPEZOIDAL DITCH)	EC-STR-6A		SEDIMENT TUBE	EC-STR-37		CATCH BASIN FILTER ASSEMBLY (TYPE 6)	EC-STR-46
	SILT FENCE WITH WIRE BACKING	EC-STR-3C		TEMPORARY CULVERT CROSSING (DESCRIBE NUMBER AND SIZE OF PIPES)	EC-STR-25		CURB INLET PROTECTION (TYPE 1)	EC-STR-39		SLOPE SURFACE ROUGHENING	
	ROCK CHECK DAM (V-DITCH)	EC-STR-6					CURB INLET PROTECTION (TYPE 3)	EC-STR-39A			



STATE OF TENNESSEE  
DEPARTMENT OF TRANSPORTATION

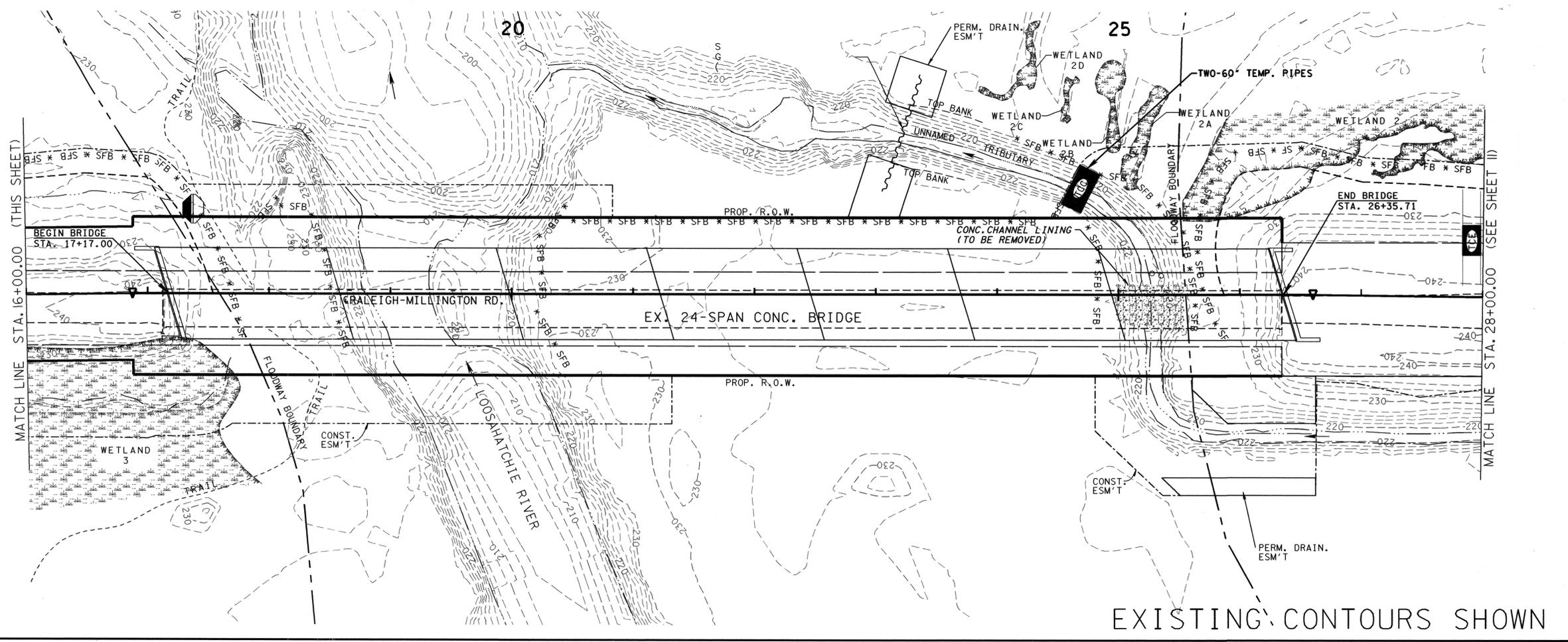
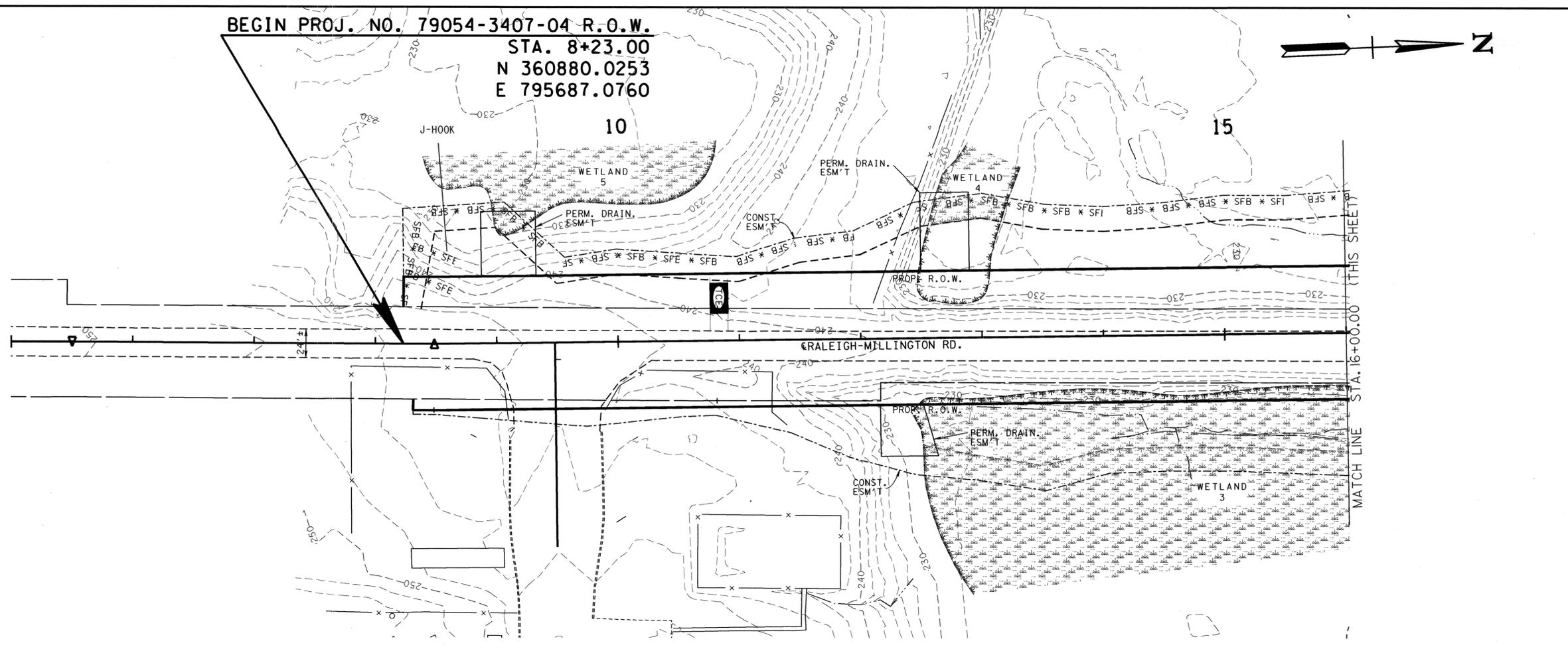
# EPSC PLAN NOTES AND QUANTITIES

TENNESSEE D.O.T.  
DESIGN DIVISION  
FILE NO.

BEGIN PROJ. NO. 79054-3407-04 R.O.W.  
STA. 8+23.00  
N 360880.0253  
E 795687.0760



TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2012	79054-3407-04	10
CONST.	2013	79054-3407-04	10



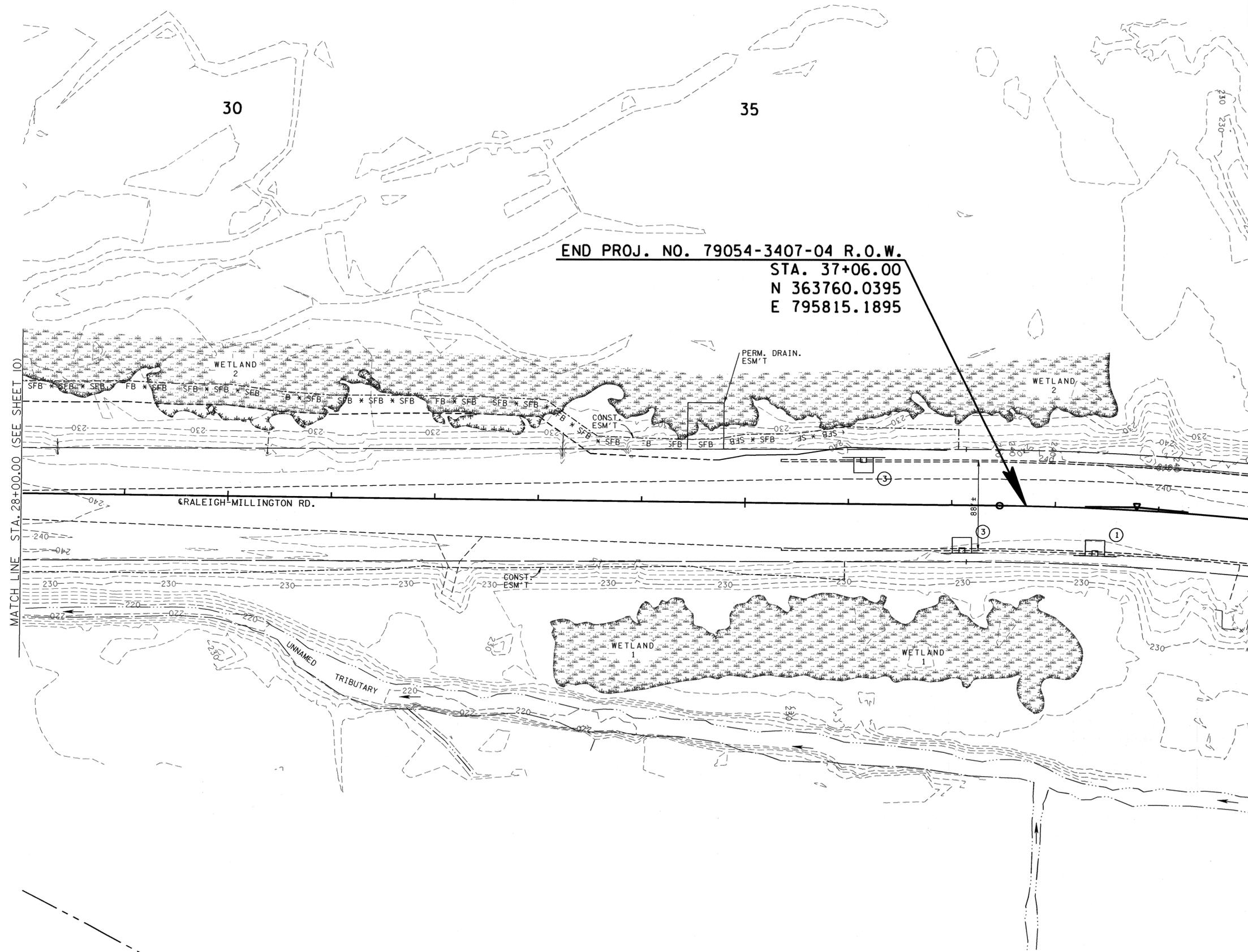
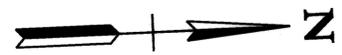
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STATE OF TENNESSEE  
DEPARTMENT OF TRANSPORTATION  
**EPSC PLAN  
PHASE 1**  
SCALE: 1"=50'

EXISTING CONTOURS SHOWN

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2012	79054-3407-04	11
CONST.	2013	79054-3407-04	11



MATCH LINE STA. 28+00.00 (SEE SHEET 10)

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STATE OF TENNESSEE  
DEPARTMENT OF TRANSPORTATION

EPSC PLAN  
PHASE 1

EXISTING CONTOURS SHOWN

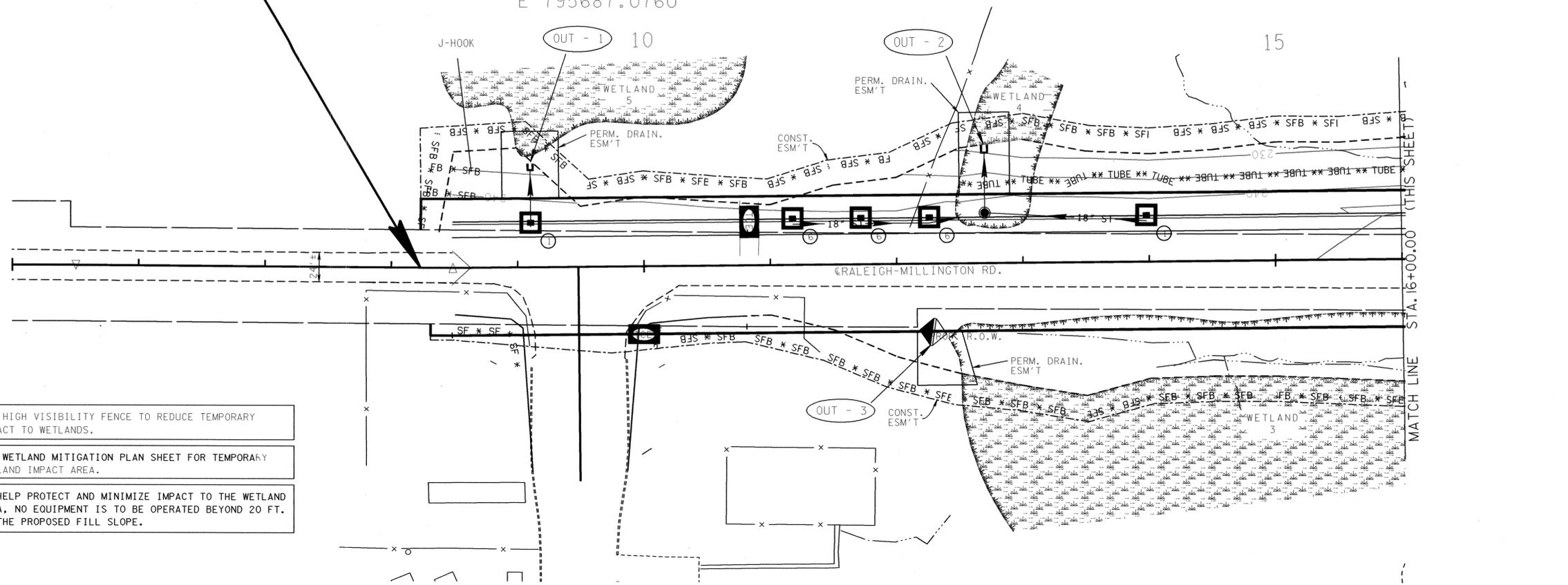
SCALE: 1"=50'

BEGIN PROJ. NO. 79054-3407-04 R.O.W.  
 STA. 8+23.00  
 N 360880.0253  
 E 795687.0760

SLOPES TO BE ROUGHENED ON EAST AND WEST BOUND SIDE BETWEEN STA. 12+50.00 AND BEG. OF BRIDGE.



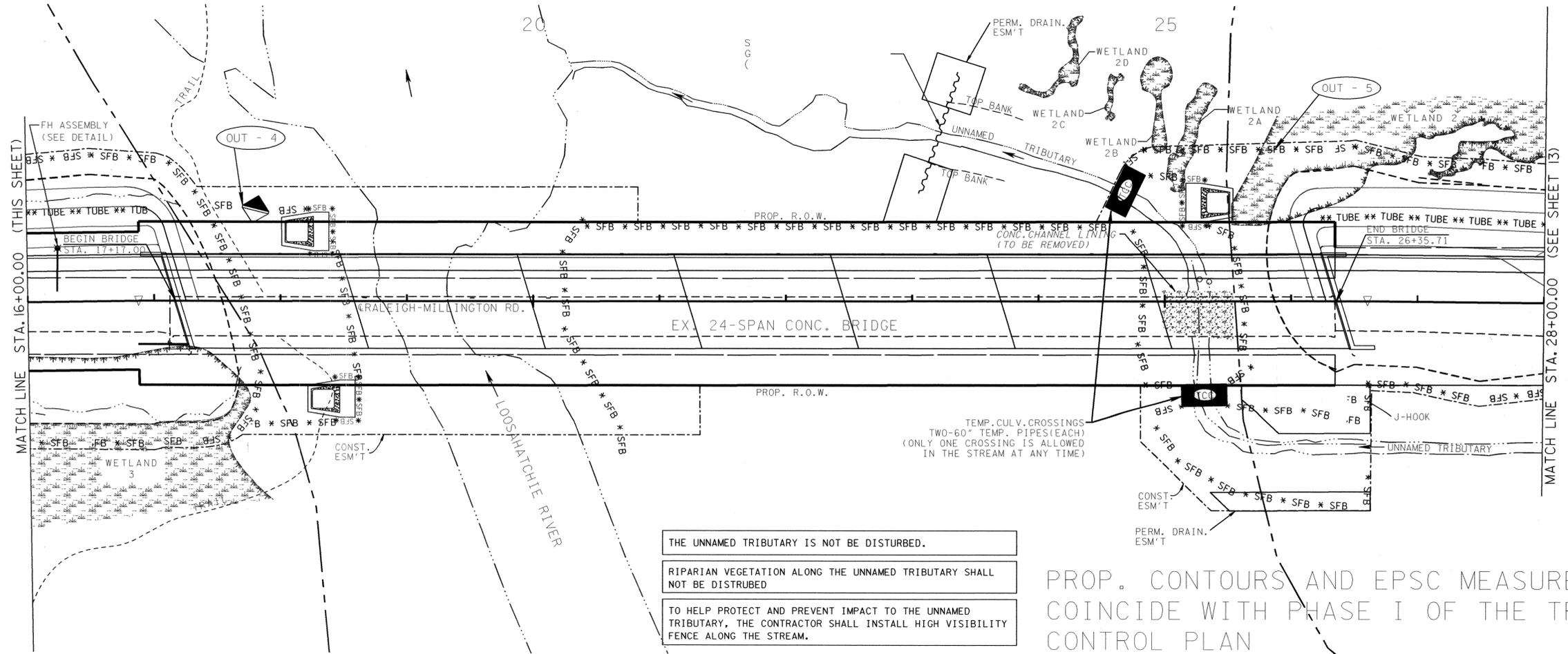
TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2012	79054-3407-04	12
CONST.	2013	79054-3407-04	12



USE HIGH VISIBILITY FENCE TO REDUCE TEMPORARY IMPACT TO WETLANDS.

SEE WETLAND MITIGATION PLAN SHEET FOR TEMPORARY WETLAND IMPACT AREA.

TO HELP PROTECT AND MINIMIZE IMPACT TO THE WETLAND AREA, NO EQUIPMENT IS TO BE OPERATED BEYOND 20 FT. OF THE PROPOSED FILL SLOPE.



THE UNNAMED TRIBUTARY IS NOT BE DISTURBED.

RIPARIAN VEGETATION ALONG THE UNNAMED TRIBUTARY SHALL NOT BE DISTURBED

TO HELP PROTECT AND PREVENT IMPACT TO THE UNNAMED TRIBUTARY, THE CONTRACTOR SHALL INSTALL HIGH VISIBILITY FENCE ALONG THE STREAM.

TEMP. CULV. CROSSINGS TWO-60" TEMP. PIPES(EACH) (ONLY ONE CROSSING IS ALLOWED IN THE STREAM AT ANY TIME)

PROP. CONTOURS AND EPSC MEASURES TO COINCIDE WITH PHASE I OF THE TRAFFIC CONTROL PLAN



STATE OF TENNESSEE  
 DEPARTMENT OF TRANSPORTATION

**EPSC PLAN  
 PHASE 2**

SCALE: 1"=50'

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2012	79054-3407-04	13
CONST.	2013	79054-3407-04	13

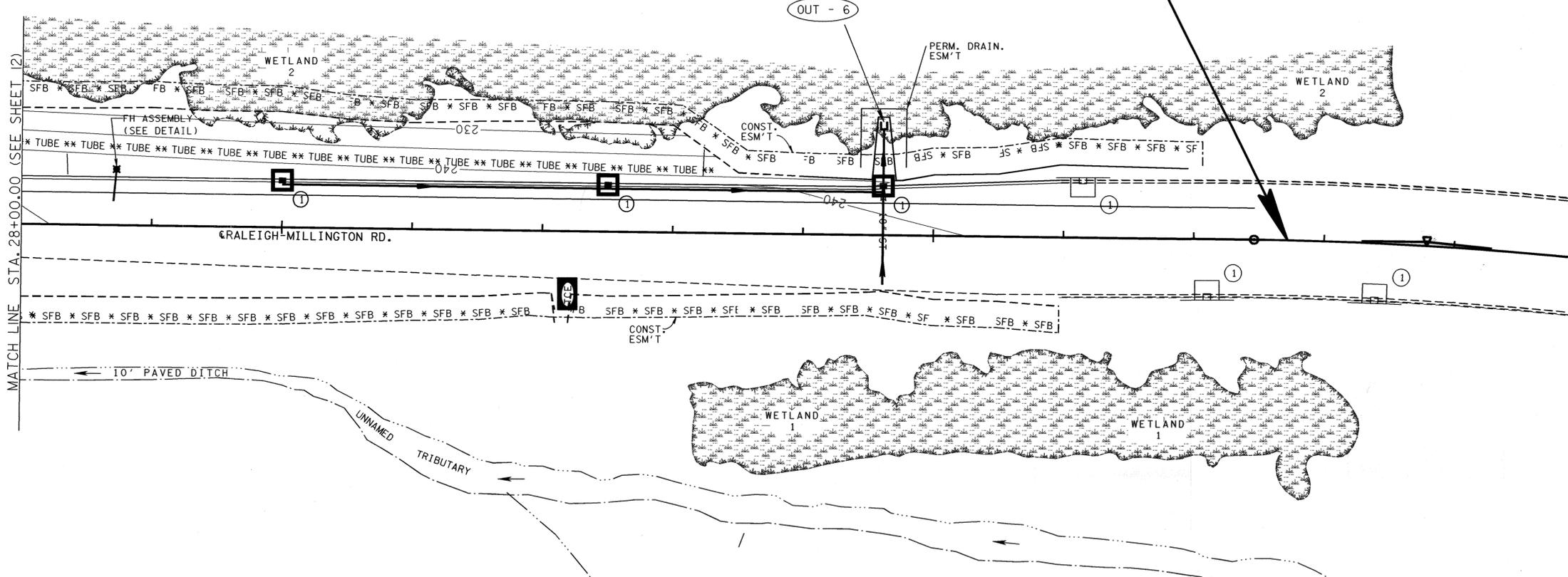


SLOPES TO BE ROUGHENED ON EAST AND WEST BOUND SIDE FROM THE END OF BRIDGE TO STA. 31+50.00 ON EAST BOUND SIDE AND 33+25.00 ON WEST BOUND SIDE.

30

35

END PROJ. NO. 79054-3407-04 R.O.W.  
STA. 37+06.00  
N 363760.0395  
E 795815.1895



USE HIGH VISIBILITY FENCE TO REDUCE TEMPORARY IMPACT TO WETLANDS.  
SEE WETLAND MITIGATION PLAN SHEET FOR TEMPORARY WETLAND IMPACT AREA.  
TO HELP PROTECT AND MINIMIZE IMPACT TO THE WETLAND AREA, NO EQUIPMENT IS TO BE OPERATED BEYOND 20 FT. OF THE PROPOSED FILL SLOPE.

THE UNNAMED TRIBUTARY IS NOT BE DISTURBED.  
RIPARIAN VEGETATION ALONG THE UNNAMED TRIBUTARY SHALL NOT BE DISTURBED  
TO HELP PROTECT AND PREVENT IMPACT TO THE UNNAMED TRIBUTARY, THE CONTRACTOR SHALL INSTALL HIGH VISIBILITY FENCE ALONG THE STREAM.

PROP. CONTOURS AND EPSC MEASURES TO COINCIDE WITH PHASE I OF THE TRAFFIC CONTROL PLAN



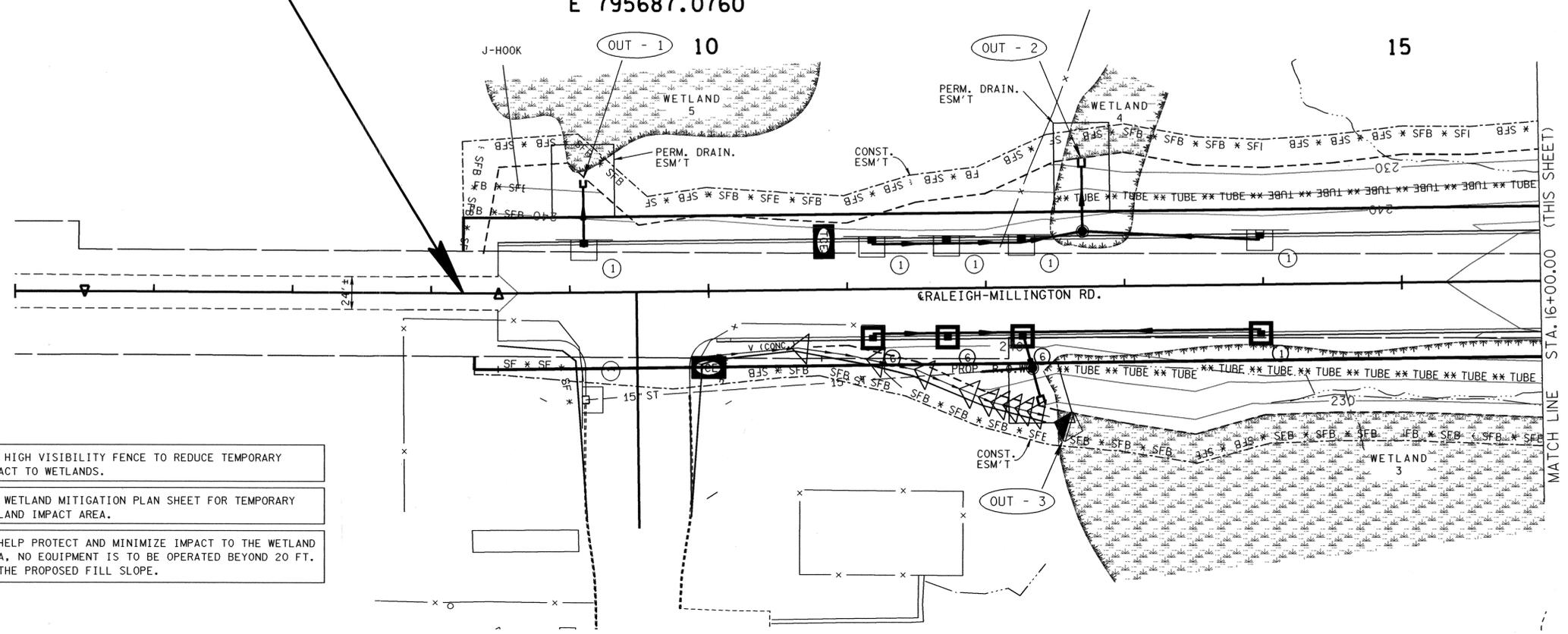
STATE OF TENNESSEE  
DEPARTMENT OF TRANSPORTATION  
**EPSC PLAN  
PHASE 2**  
SCALE: 1"=50'

BEGIN PROJ. NO. 79054-3407-04 R.O.W.  
STA. 8+23.00  
N 360880.0253  
E 795687.0760

SLOPES TO BE ROUGHENED ON EAST AND WEST BOUND SIDE BETWEEN STA. 12+50.00 AND BEG. OF BRIDGE.



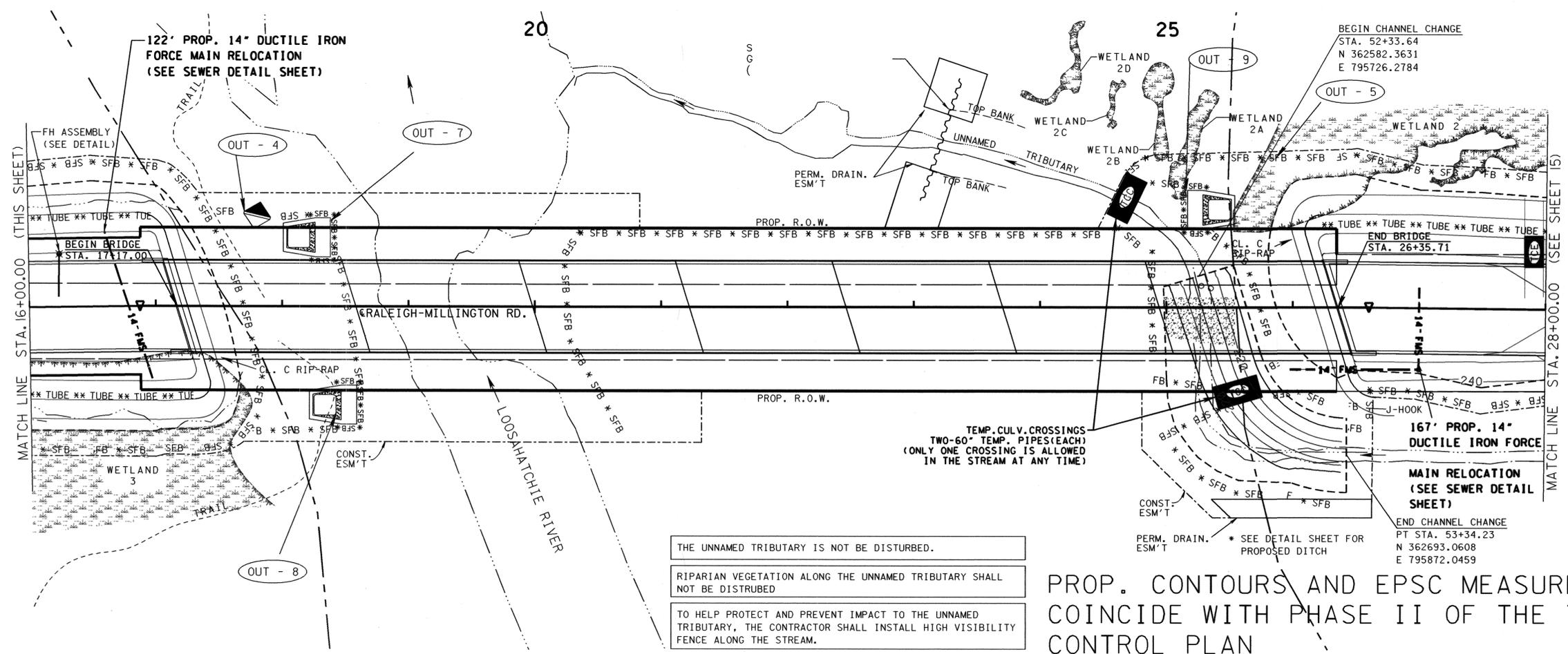
TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2012	79054-3407-04	14
CONST.	2013	79054-3407-04	14



USE HIGH VISIBILITY FENCE TO REDUCE TEMPORARY IMPACT TO WETLANDS.

SEE WETLAND MITIGATION PLAN SHEET FOR TEMPORARY WETLAND IMPACT AREA.

TO HELP PROTECT AND MINIMIZE IMPACT TO THE WETLAND AREA, NO EQUIPMENT IS TO BE OPERATED BEYOND 20 FT. OF THE PROPOSED FILL SLOPE.



THE UNNAMED TRIBUTARY IS NOT BE DISTURBED.

RIPARIAN VEGETATION ALONG THE UNNAMED TRIBUTARY SHALL NOT BE DISTURBED

TO HELP PROTECT AND PREVENT IMPACT TO THE UNNAMED TRIBUTARY, THE CONTRACTOR SHALL INSTALL HIGH VISIBILITY FENCE ALONG THE STREAM.

PROP. CONTOURS AND EPSC MEASURES TO COINCIDE WITH PHASE II OF THE TRAFFIC CONTROL PLAN

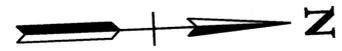


STATE OF TENNESSEE  
DEPARTMENT OF TRANSPORTATION

EPSC PLAN  
PHASE 3

SCALE: 1"=50'

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2012	79054-3407-04	15
CONST.	2013	79054-3407-04	15

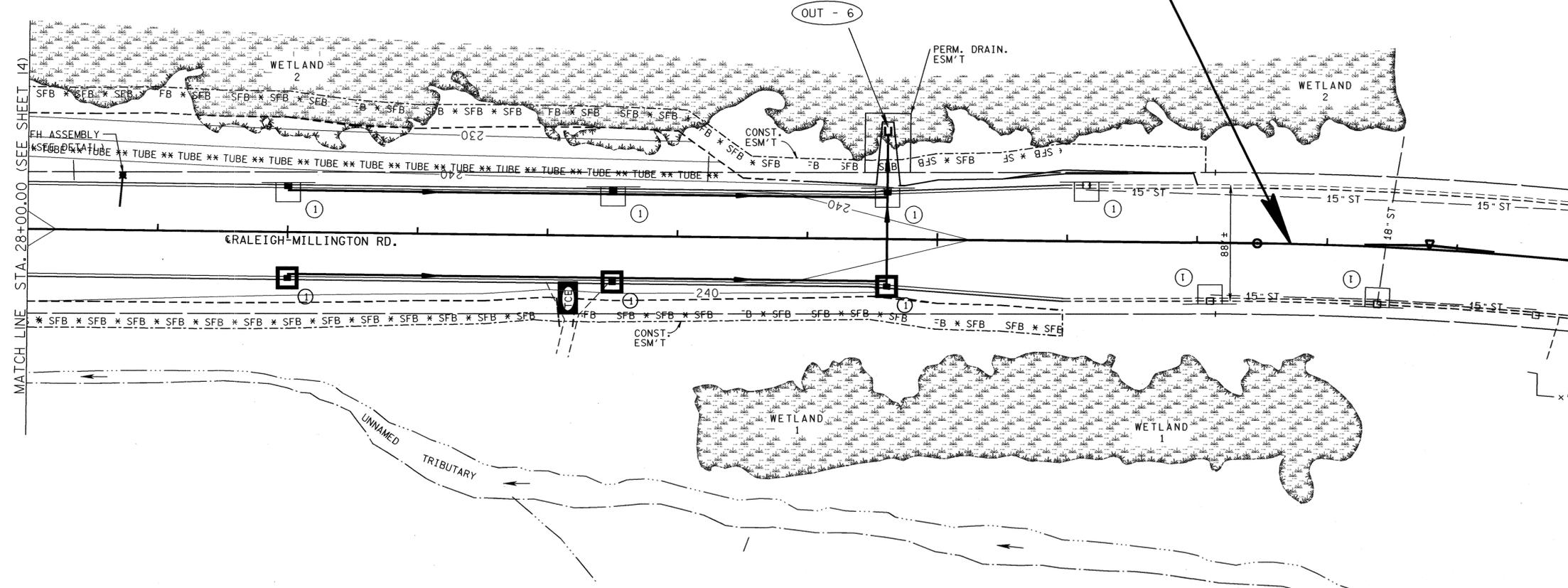


SLOPES TO BE ROUGHENED ON EAST AND WEST BOUND SIDE FROM THE END OF BRIDGE TO STA. 31+50.00 ON EAST BOUND SIDE AND 33+25.00 ON WEST BOUND SIDE.

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END PROJ. NO. 79054-3407-04 R.O.W.  
STA. 37+06.00  
N 363760.0395  
E 795815.1895



MATCH LINE STA. 28+00.00 (SEE SHEET 14)

USE HIGH VISIBILITY FENCE TO REDUCE TEMPORARY IMPACT TO WETLANDS.  
SEE WETLAND MITIGATION PLAN SHEET FOR TEMPORARY WETLAND IMPACT AREA.  
TO HELP PROTECT AND MINIMIZE IMPACT TO THE WETLAND AREA, NO EQUIPMENT IS TO BE OPERATED BEYOND 20 FT. OF THE PROPOSED FILL SLOPE.

THE UNNAMED TRIBUTARY IS NOT BE DISTURBED.  
RIPARIAN VEGETATION ALONG THE UNNAMED TRIBUTARY SHALL NOT BE DISTURBED  
TO HELP PROTECT AND PREVENT IMPACT TO THE UNNAMED TRIBUTARY, THE CONTRACTOR SHALL INSTALL HIGH VISIBILITY FENCE ALONG THE STREAM.

PROP. CONTOURS AND EPSC MEASURES TO COINCIDE WITH PHASE II OF THE TRAFFIC CONTROL PLAN



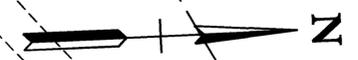
STATE OF TENNESSEE  
DEPARTMENT OF TRANSPORTATION

EPSC PLAN  
PHASE 3

SCALE: 1"=50'

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2013	79054-3407-04	16

MITIGATION NOTES:  
 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 ROAD (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 ACCORDING TO STANDARD PRACTICES. PLANTING WILL BE BASED ON NOTES PROVIDED IN THE PLANS AND CONTRACT DOCUMENTS.  
 4. WETLAND AREAS LOCATED OUTSIDE OF PROPOSED RIGHT-OF-WAY AND CONSTRUCTION EASEMENTS ARE TO BE CLEARLY MARKED AND NOT TO BE DISTRIBUTED.  
 5. THE AREA OF TEMPORARY WETLAND IMPACT SHALL BE RESTORED TO PRE-CONSTRUCTION ELEVATION AND RESEEDED OR REPLANTED ACCORDING TO THE MITIGATION DESIGN AND PERMIT SKETCHES AS SOON AS POSSIBLE FOLLOWING THE COMPLETION OF CONSTRUCTION ACTIVITIES.

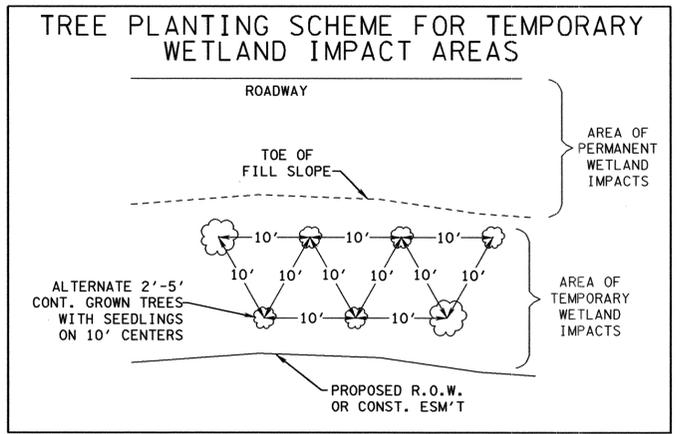
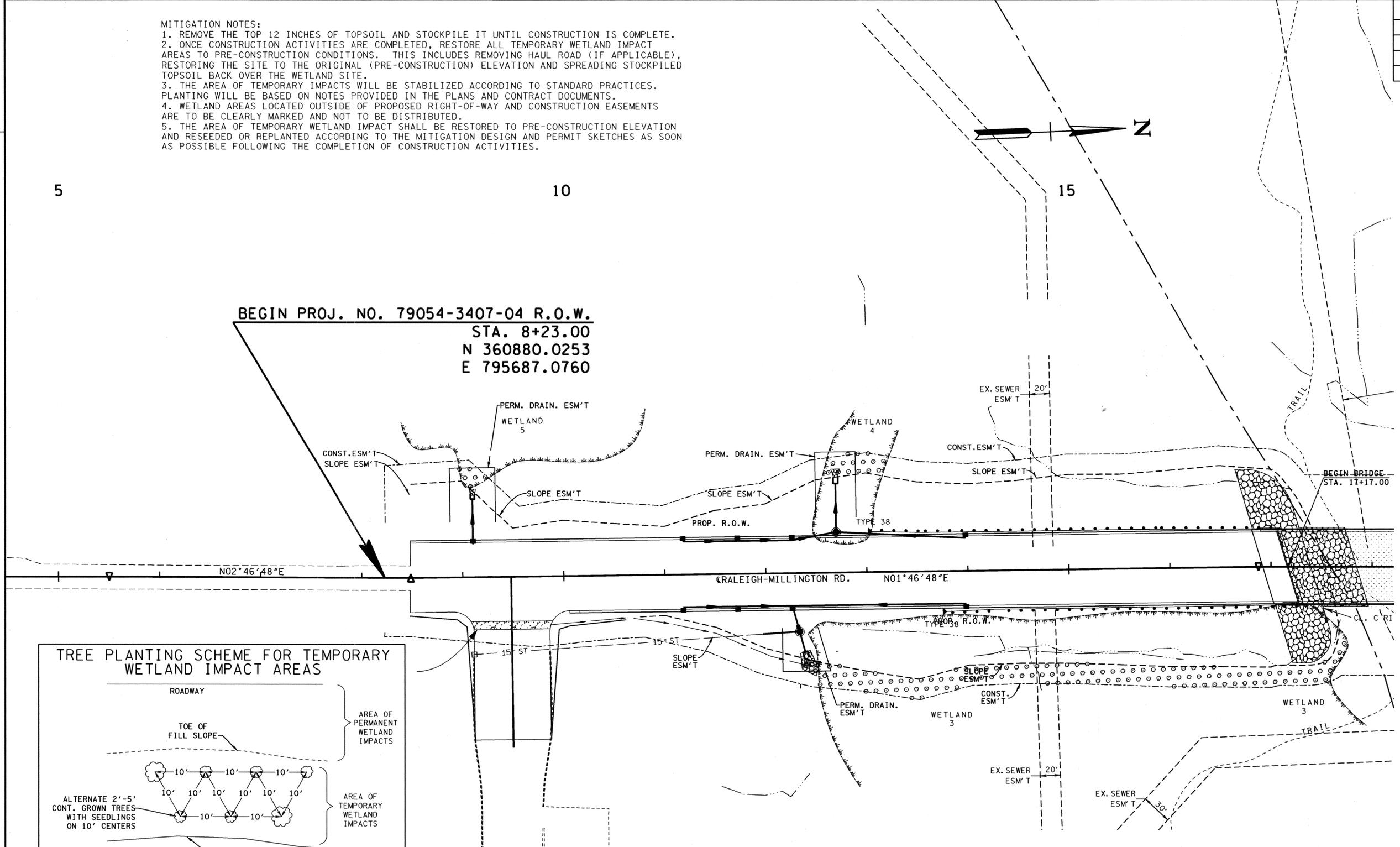


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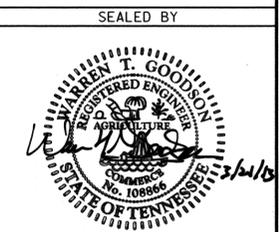
BEGIN PROJ. NO. 79054-3407-04 R.O.W.  
 STA. 8+23.00  
 N 360880.0253  
 E 795687.0760



TREES:  
 1. NO SUBSTITUTIONS OF TREE SPECIES OR SIZES SHALL BE ALLOWED WITHOUT THE WRITTEN APPROVAL OF THE ENGINEER. CONCERNING TEMPORARY WETLAND MITIGATION, TREES SHALL BE OF THE VARIETY REQUESTED, WELL BRANCHED, BARE ROOT (ROOTS MUST BE KEPT MOIST AT ALL TIMES), AND OF FIRST QUALITY. NO CLONES OR CULTIVARS WILL BE ACCEPTED. ANY FOUND TO BE INCORRECT SPECIES, OR IMPROPERLY PLANTED, AT ANY TIME PRIOR TO TERMINATION OF THE CONTRACT SHALL BE REMOVED AND REPLACED AT THE CONTRACTOR'S EXPENSE. STAKES AND WIRES SHALL BE REMOVED IMMEDIATELY PRIOR TO CONTRACT TERMINATION, UNLESS OTHERWISE DIRECTED BY THE ENGINEER.  
 2. THE CONTRACTOR SHOULD ARRANGE SEVERAL MONTHS AHEAD OF TIME OBTAIN THE CORRECT TREE SPECIES, AS SOME MAY REQUIRE SOME TIME TO LOCATE.  
 3. ALL TREES PLANTED SHALL BE WRAPPED AS PER SECTION 802.07 OF TDOT STANDARD SPECIFICATION FOR THE ROAD AND BRIDGE CONSTRUCTION.  
 4. TREES SHALL BE WATERED AS REQUIRED THROUGH THE PERIOD OF ESTABLISHMENT TO INSURE SURVIVAL.  
 5. CONTAINER GROWN TREES SHALL BE PLANTED IN ALTERNATING PATTERNS WITH GROUPS OF BARE ROOT SEEDLINGS (APPROXIMATELY 1:4 RATIO) SO AS TO ACHIEVE STAGGERED GROWTH CANOPY.

**ESTIMATED TREE QUANTITIES**

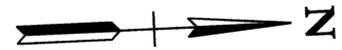
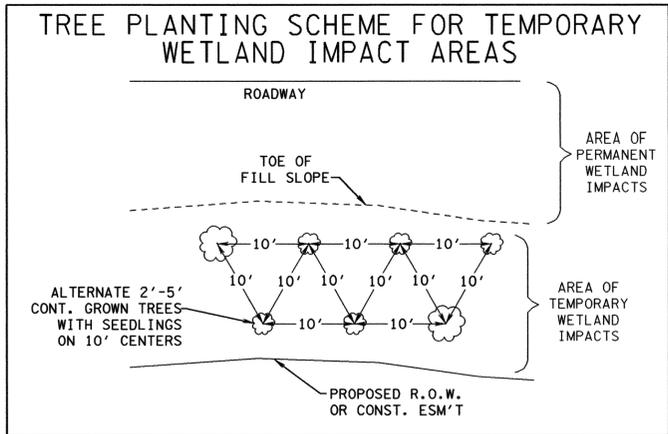
ITEM NO.	DESCRIPTION	QUANTITY	UNIT
802-11.16	FRAXINUS PENNSYLVANICA (GREEN ASH 2-5FT CNTNR GRWN)	8	EACH
802-11.33	QUERCUS MICHAUXII (SWMP CHSTNT OAK 2-5FT CNTNR GRWN)	16	EACH
802-11.36	QUERCUS NUTTALLII (NUTTALL OAK 2-5FT CNTNR GRWN)	16	EACH
802-11.38	QUERCUS PHELLOS (WILLOW OAK 2-5FT CNTNR GRWN)	16	EACH
802-11.42	TAXODIUM DISTICHUM (BALD CYPRESS 2-5FT CNTNR GRWN)	8	EACH
802-11.46	QUERCUS SHUMARDII (SHUMARD OAK 2-5 FT CNTNR GRWN)	16	EACH
802-12.16	FRAXINUS PENNSYLVANICA (GREEN ASH SEEDLING B.R.)	25	EACH
802-12.33	QUERCUS MICHAUXII (SWMP CHSTNT OAK SEEDLING B.R.)	48	EACH
802-12.36	QUERCUS NUTTALLII (NUTTALL OAK SEEDLING B.R.)	48	EACH
802-12.38	QUERCUS PHELLOS (WILLOW OAK SEEDLING B.R.)	48	EACH
802-12.42	TAXODIUM DISTICHUM (BALD CYPRESS SEEDLING B.R.)	25	EACH
802-12.46	QUERCUS SHUMARDII (SHUMARD OAK SEEDLING B.R.)	48	EACH



STATE OF TENNESSEE  
 DEPARTMENT OF TRANSPORTATION  
**WETLAND MITIGATION PLAN**

SCALE: 1:50

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2013	79054-3407-04	17



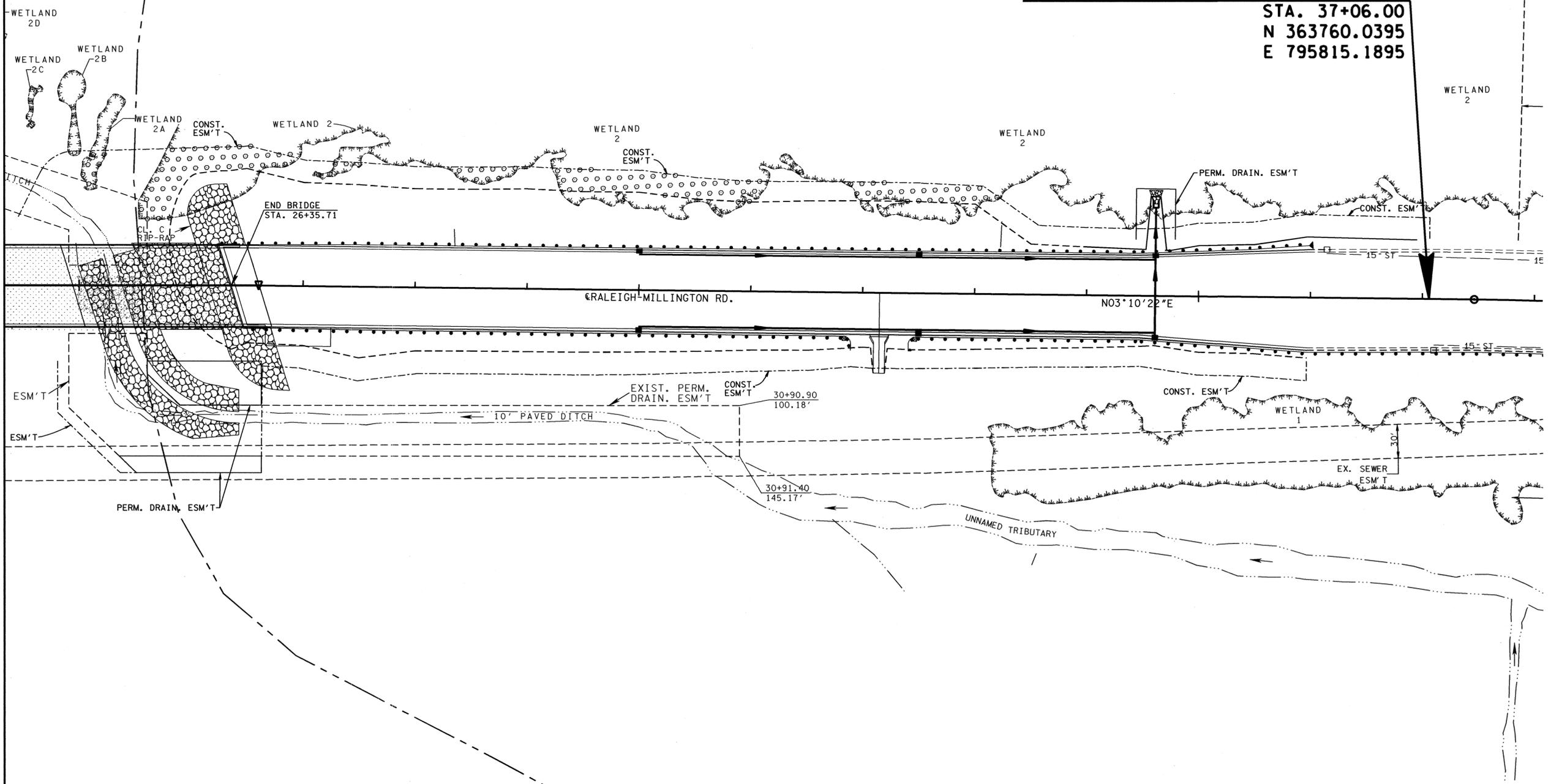
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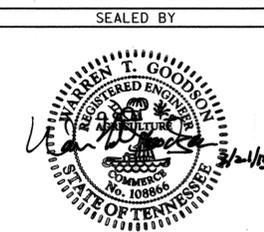
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END PROJ. NO. 79054-3407-04 R.O.W.

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E 795815.1895



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STATE OF TENNESSEE  
DEPARTMENT OF TRANSPORTATION  
**WETLAND  
MITIGATION  
PLAN**  
SCALE: 1:50

# PAVEMENT EDGE DROP-OFF TRAFFIC CONTROL NOTES

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2013	79054-3407-04	18

- 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 2 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 2 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 3.5 INCHES, THE CONTRACTOR MAY USE WARNING SIGNS AND/OR PROTECTIVE DEVICES AS APPLICABLE AND APPROVED BY THE ENGINEER. SEE PARAGRAPH a REGARDING USE OF DRUMS, BARRICADES OR OTHER APPROVED PROTECTIVE DEVICES. WARNING SIGNS (UNEVEN LANES AND/OR SHOULDER DROP-OFF) WILL BE PLACED IN ADVANCE OF AND THROUGHOUT THE EXPOSED AREA. MAXIMUM SPACING BETWEEN SIGNS SHALL BE 2,000 FEET WITH A MINIMUM OF 2 SIGNS PER EXPOSED AREA. WHERE UNEVEN PAVEMENT IS ENCOUNTERED, SIGNS SHALL BE PLACED ON EACH SIDE OF THE ROADWAY.

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

3. DIFFERENCES IN ELEVATION BETWEEN ADJACENT ROADWAY ELEMENTS GREATER THAN 6 INCHES BUT NOT EXCEEDING 18 INCHES, THE CONTRACTOR, WITH THE ENGINEER'S APPROVAL, MAY UTILIZE ONE OF THE FOLLOWING:
  - a. THE CONTRACTOR SHALL ACCOMPLISH SEPARATION BY DRUMS, BARRICADES OR OTHER APPROVED DEVICES IN ACCORDANCE WITH THE FOLLOWING:
    - (1) WHERE POSTED SPEEDS ARE 50 MPH OR GREATER, SPACING OF THE PROTECTIVE DEVICES SHALL NOT EXCEED 100 FEET.
    - (2) WHERE POSTED SPEEDS ARE LESS THAN 50 MPH, THE MAXIMUM SPACING OF THE PROTECTIVE DEVICES IN FEET SHALL NOT EXCEED TWICE THE POSTED SPEED IN MILES PER HOUR OR 50 FEET, WHICHEVER SPACING IS GREATER.

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

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

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

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

SEPARATION WILL BE PROVIDED BY USE OF PORTABLE BARRIER RAIL.

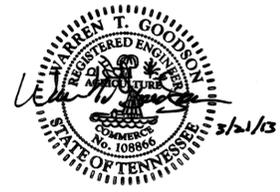
IN THIS SITUATION THE CONTRACTOR SHALL LIMIT HIS OPERATIONS TO ONE WORK ZONE NOT EXCEEDING 1 MILE IN LENGTH UNLESS OTHERWISE NOTED ON THE PLANS OR APPROVED BY THE ENGINEER. ONCE THE CONTRACTOR BEGINS WORK IN A WORK ZONE, A CONTINUOUS OPERATION SHALL BE MAINTAINED UNTIL THE DIFFERENCE IN ELEVATION IS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

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

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.



### TRAFFIC CONTROL SPECIAL NOTES:

- SEE SECTION 6F.03 SIGN PLACEMENT, OF THE STATE OF TENNESSEE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) FOR INFORMATION ON PLACEMENT AND MOUNTING SIGNS.
- SIGNS SHOWN ON THIS PLAN ARE TO WARN TRAFFIC ABOUT CONSTRUCTION. OTHER TRAFFIC CONTROL DEVICES MAY BE REQUIRED DURING VARIOUS PHASES OF CONSTRUCTION.
- NOTHING IN THIS PLAN IS INTENDED TO SUPERSEDE OR RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY OF INSTALLING THE APPROPRIATE TRAFFIC CONTROL DEVICES IN ACCORDANCE WITH THE CURRENT STATE OF TENNESSEE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS."
- CONTRACTOR SHALL BE REQUIRED TO NOTIFY THE CITY OF MEMPHIS CONSTRUCTION INSPECTION DEPARTMENT (636-2462) AND TRAFFIC ENGINEERING DEPARTMENT (576-6710) A MINIMUM OF 24 HOURS PRIOR TO COMMENCING CONSTRUCTION OR IMPLEMENTING A TRAFFIC CONTROL PLAN. ALL TRAFFIC CONTROL DEVICES MUST BE IN PLACE BEFORE CONSTRUCTION ACTIVITY BEGINS.
- SIZES OF SIGNS SHALL COMPLY WITH STATE OF TENNESSEE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
- ALL TRAFFIC CONTROL DEVICES AND THEIR INSTALLATION SHALL MEET THE STANDARD PRESCRIBED IN THE STATE OF TENNESSEE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND SHALL COMPLY WITH THE STATE OF TENNESSEE STANDARD SPECIFICATION OF ROAD AND BRIDGE CONSTRUCTION SECTION 712, TEMPORARY TRAFFIC CONTROL.
- ACCES TO ADJACENT PROPERTIES SHALL BE MAINTAINED AT ALL TIMES.
- SIDE STREETS, DRIVEWAY ACCESS, AND SAFE PEDESTRIAN WAYS SHALL BE MAINTAINED AT ALL TIMES.
- DRUMS WITH TYPE "A" WARNING LIGHTS SHALL DELINEATE THE EDGE OF PAVEMENT THROUGH THE ENTIRE CONSTRUCTION AREA.
- CONTRACTOR SHALL COVER ALL EXISTING SIGNS THAT CONFLICT WITH THE TRAFFIC CONTROL PLAN SIGNS OR DEVICES DURING CONSTRUCTION AND THEY SHALL REMAIN COVERED DURING CONSTRUCTION AND UNTIL SUCH TIME THAT NO CONFLICT EXISTS.
- DURING CONSTRUCTION, A MINIMUM OF ONE TWELVE FOOT LANE OF TRAFFIC SHALL REMAIN OPEN TO BOTH DIRECTIONS OF TRAFFIC AT ALL TIMES, EXCEPT ON THE BRIDGE, WHERE A MINIMUM OF ONE ELEVEN FOOT LANE IS ACCEPTABLE FOR EACH DIRECTION OF TRAFFIC.
- ONLY ONE PHASE OF THE TRAFFIC CONTROL PLAN SHALL BE ACTIVE AT ANY ONE TIME.
- ALL TEMPORARY OR PERMANENT TRAVELED SURFACE SHALL BE INSPECTED DAILY BY THE CONTRACTOR (INCLUDING WEEKENDS) AND NECESSARY PATCHING OR RE-FINISHING PERFORMED.
- MARKINGS SHALL BE MAINTAINED IN LONG-TERM STATIONARY WORK AREAS AND SHALL MATCH AND MEET THE MARKINGS IN PLACE AT BOTH ENDS OF THE WORK AREA.
- CENTERLINE/LANE LINES SHOULD BE PLACED, REPLACED, OR DELINEATED WHERE APPROPRIATE BEFORE THE ROADWAY IS OPENED TO TRAFFIC.
- CONTRACTOR SHALL CONTACT THE CITY OF MEMPHIS SIGNAL SHOP AT 528-2844 FOR LOCATION OF SIGNAL CONDUIT AND WIRES.
- THE APPROPRIATE TRAFFIC CONTROL SHALL BE INSTALLED AT THE INCEPTION OF EACH STAGE OF CONSTRUCTION AND SHALL BE PROPERLY MAINTAINED AND/OR OPERATED DURING THE TIME SUCH SPECIAL CONDITIONS EXIST. THEY SHALL REMAIN IN PLACE ONLY AS LONG AS THEY ARE NEEDED AND SHALL BE IMMEDIATELY REMOVED THEREAFTER.
- OBLITERATED MARKINGS SHALL BE UNIDENTIFIABLE AS PAVEMENT MARKINGS UNDER DAY OR NIGHT, WET OR DRY CONDITIONS. OVERLAYING EXISTING STRIPES WITH BLACK PAINT OR ASPHALT DOES NOT MEET THE REQUIREMENTS OR COVERING, REMOVAL, OR OBLITERATION; HOWEVER, THE USE OF REMOVABLE, NONREFLECTIVE, PREFORMED TAPE IS PERMITTED WHERE MARKINGS NEED TO BE COVERED TEMPORARILY.
- IF CONSTRUCTION ACTIVITIES REQUIRE OVER-NIGHT CLOSURE OF ANY PORTION OF THE ROADWAY, A REVISED TRAFFIC CONTROL PLAN SHALL BE SUBMITTED TO AND APPROVED BY THE CITY ENGINEER'S OFFICE.
- EXISTING STRIPPING THAT CONFLICT WITH THE TEMPORARY TRAFFIC CONTROL DEVICES SHALL BE COVERED OR REMOVED DURING

CONSTRUCTION. WHEN CONSTRUCTION IS COMPLETE THE EXISTING STRIPING SHALL BE RETURNED TO ITS ORIGINAL STATE.

- ALL TRAFFIC CONTROL SIGNS SHALL MEET THE MINIMUM RETROREFLECTIVITY LEVELS SPECIFIED IN THE CURRENT EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES. (MUTCD).

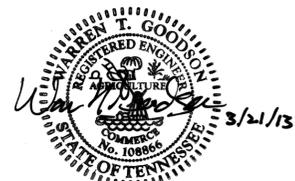
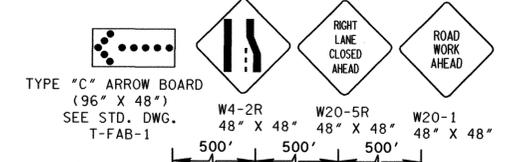
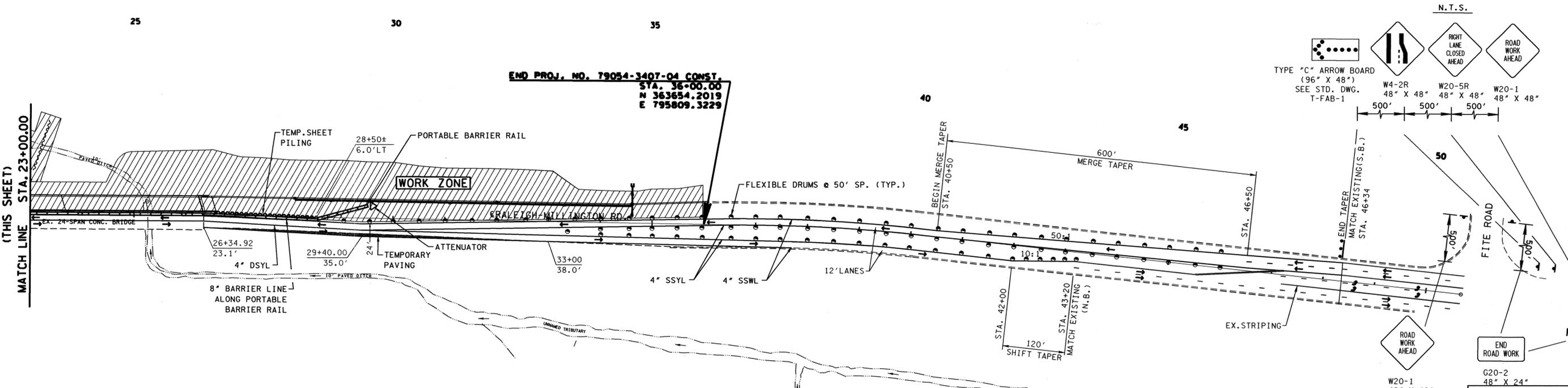
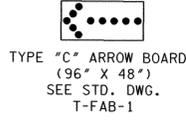
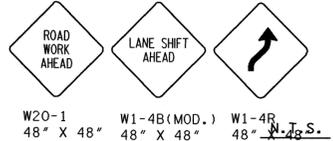
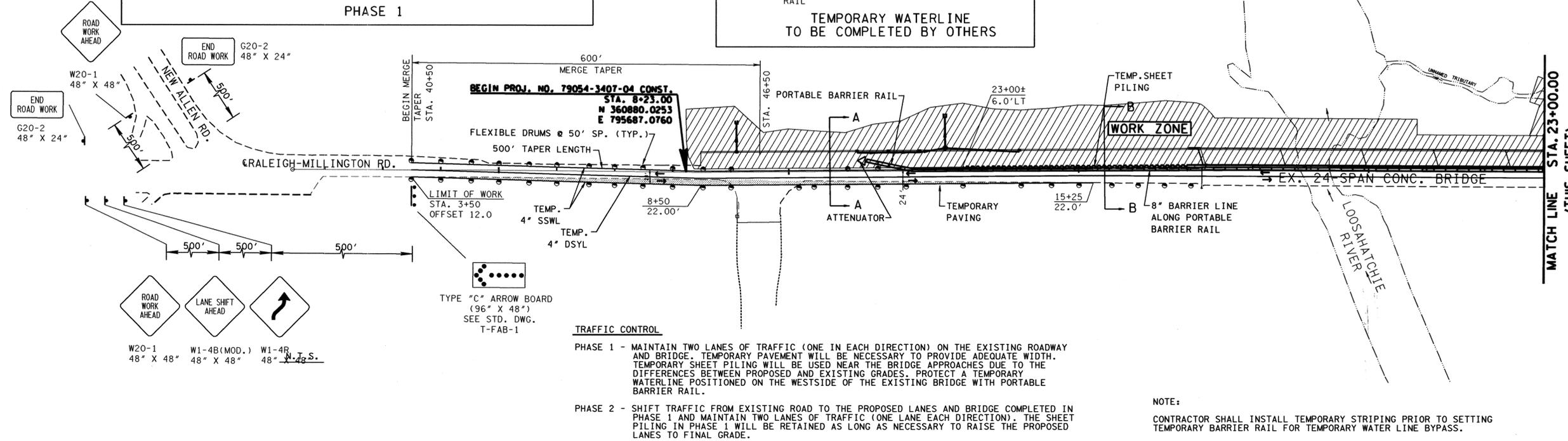
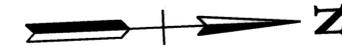
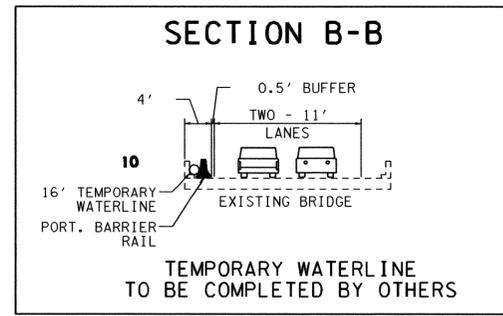
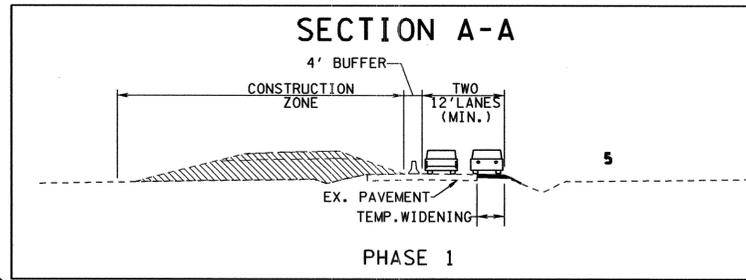
TRAFFIC CONTROL QUANTITIES							
ITEM NO.	DESCRIPTION	UNIT	QUANTITY	ITEM NO. 712-06 (S.F.)	SIZE	MUTCD NO.	REMARKS
606-24.12	TEMPORARY SHEET PILES	S.F.	1370				
705-08.51	PORTABLE IMPACT ATTENUATOR NCHRP350 TL-3	EACH	4				
712-01	TRAFFIC CONTROL	LS	1				
712-02.02	INTERCONNECTED PORTABLE BARRIER RAIL	L.F.	3604				
712-04.01	FLEXIBLE DRUMS (CHANNELIZING)	EACH	241				
705-04.50	PORTABLE BARRIER RAIL DELINEATOR	EACH	170				
712-05.01	WARNING LIGHTS (TYPE A)	EACH	87				
712-05.03	WARNING LIGHTS (TYPE C)	EACH	154				
712-08.03	ARROW BOARD (TYPE C)	EACH	4				
712-09.01	REMOVABLE PAVEMENT MARKING LINE	L.F.	4.6				
716-01.11	RAISED PVTM MARKERS (BI-DIRECTIONAL) (1 COLOR LENS)	EACH	61				
716-01.12	RAISED PVTM MARKERS (MONO-DIRECTIONAL) (1 COLOR LENS)	EACH	87				
716-05.01	PAINTED PAVEMENT MARKING (4" LINE)	L.M.	4.25				
716-08.20	REMOVAL OF PAVEMENT MARKING (LINE)	L.M.	3.33				
716-13.08	SPRAY THERMO PVTM MRKNG (40 mil) (8IN BARRIER LINE)	L.F.	3270				
	ROAD WORK AHEAD		8	128	36" x 36"	W20-1	SIGN
	LANE SHIFT AHEAD		2	32	36" x 36"	W1-4B (MOD)	SIGN
	LANE SHEFT SYMBOL		2	32	36" x 36"	W1-4BR	SIGN
	LANE ENDS SYMBOL		2	32	36" x 36"	W4-2R	SIGN
	RIGHT LANE CLOSED AHEAD		1	16	36" x 36"	W20-5R	SIGN
	END ROAD WORK		8	64	36" X 18"	G20-2	SIGN
	LANE SHEFT SYMBOL		1	16	36" x 36"	W1-4BL	SIGN
712-06	SIGNS (CONSTRUCTION)			<b>S.F. TOTAL:</b>			

- FOOTNOTES:**
- FOR TEMPORARY PAVEMENT MARKING.

TRAFFIC CONTROL LEGEND	
SYMBOL	ITEM
	WORK ZONE
	FLEXIBLE DRUMS (CHANNELIZING)
	SIGN (CONSTRUCTION)
	TRAFFIC FLOW
	PORTABLE BARRIER RAIL
	TEMPORARY ATTENUATOR
	ARROW BOARD TYPE C



TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2013	79054-3407-04	18B

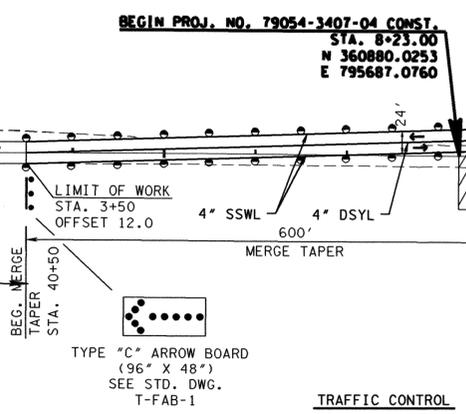
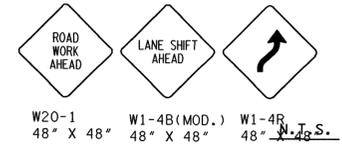
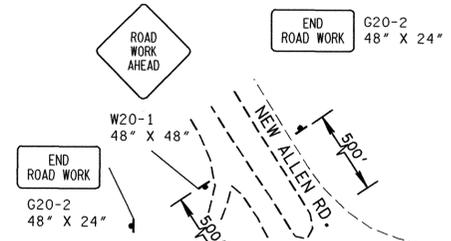
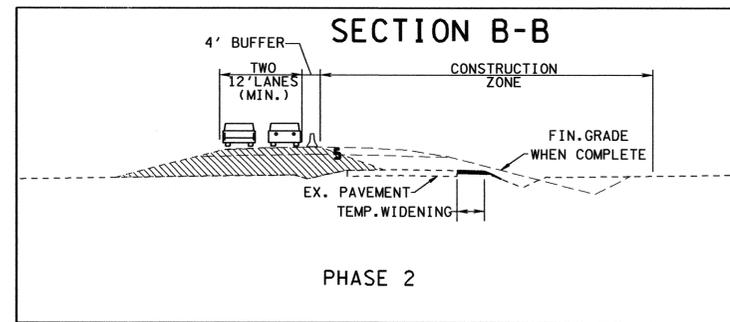


STATE OF TENNESSEE  
DEPARTMENT OF TRANSPORTATION

**TRAFFIC CONTROL**  
PHASE 1

SCALE: 1"=100'

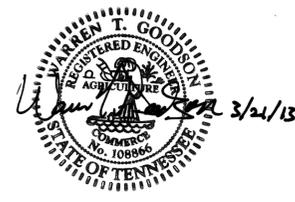
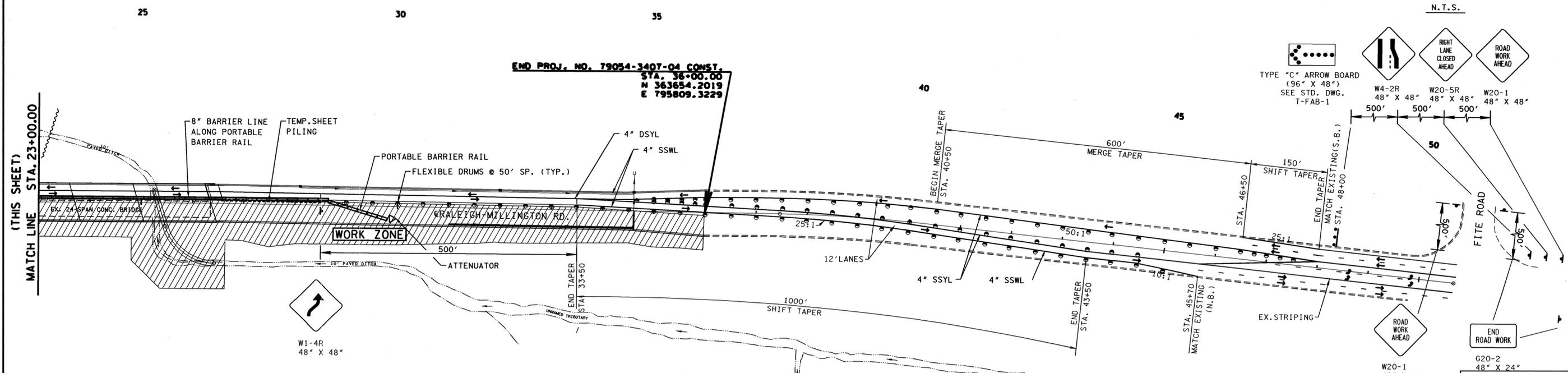
TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2013	79054-3407-04	18C



**TRAFFIC CONTROL**

PHASE 1 - MAINTAIN TWO LANES OF TRAFFIC (ONE IN EACH DIRECTION) ON THE EXISTING ROADWAY AND BRIDGE. TEMPORARY PAVEMENT WILL BE NECESSARY TO PROVIDE ADEQUATE WIDTH. TEMPORARY SHEET PILING WILL BE USED NEAR THE BRIDGE APPROACHES DUE TO THE DIFFERENCES BETWEEN PROPOSED AND EXISTING GRADES. PROTECT A TEMPORARY WATERLINE POSITIONED ON THE WESTSIDE OF THE EXISTING BRIDGE WITH PORTABLE BARRIER RAIL.

PHASE 2 - SHIFT TRAFFIC FROM EXISTING ROAD TO THE PROPOSED LANES AND BRIDGE COMPLETED IN PHASE 1 AND MAINTAIN TWO LANES OF TRAFFIC (ONE LANE EACH DIRECTION). THE SHEET PILING IN PHASE 1 WILL BE RETAINED AS LONG AS NECESSARY TO RAISE THE PROPOSED LANES TO FINAL GRADE.



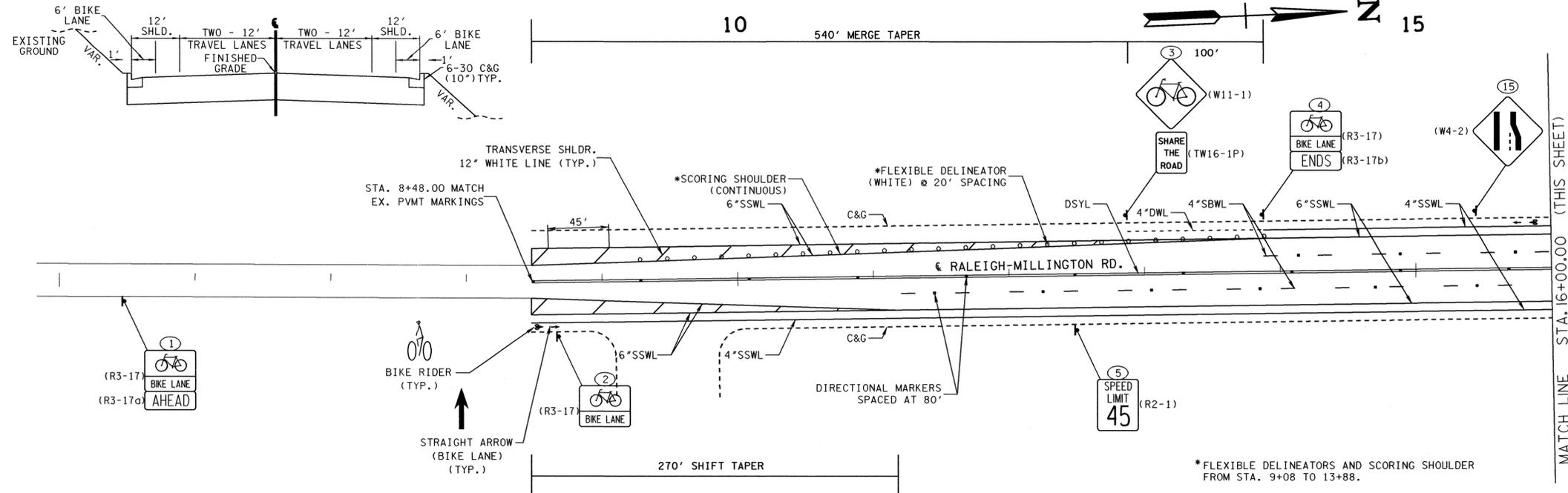
STATE OF TENNESSEE  
DEPARTMENT OF TRANSPORTATION

**TRAFFIC CONTROL**  
PHASE 2

SCALE: 1"=100'

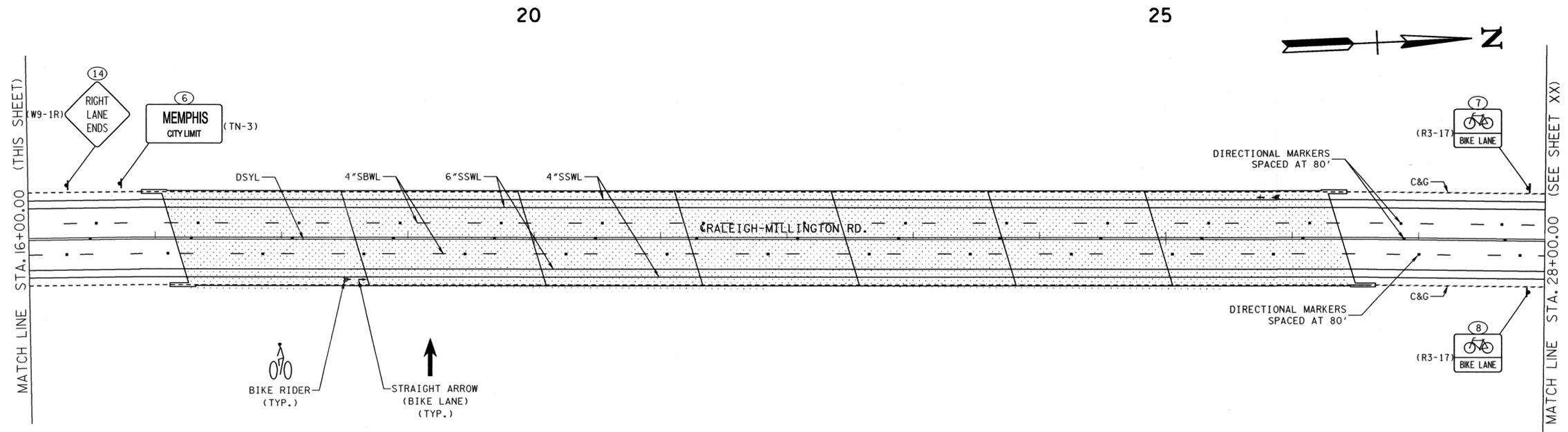
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TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2013	79054-3407-04	19



**MARKING ABBREVIATIONS**

SSWL	- SINGLE SOLID WHITE LINE
SSYL	- SINGLE SOLID YELLOW LINE
SBWL	- SINGLE BROKEN WHITE LINE
DWL	- DOTTED WHITE LINE
DSYL	- DOUBLE SOLID YELLOW LINE
HYL	- HASHED YELLOW LINE

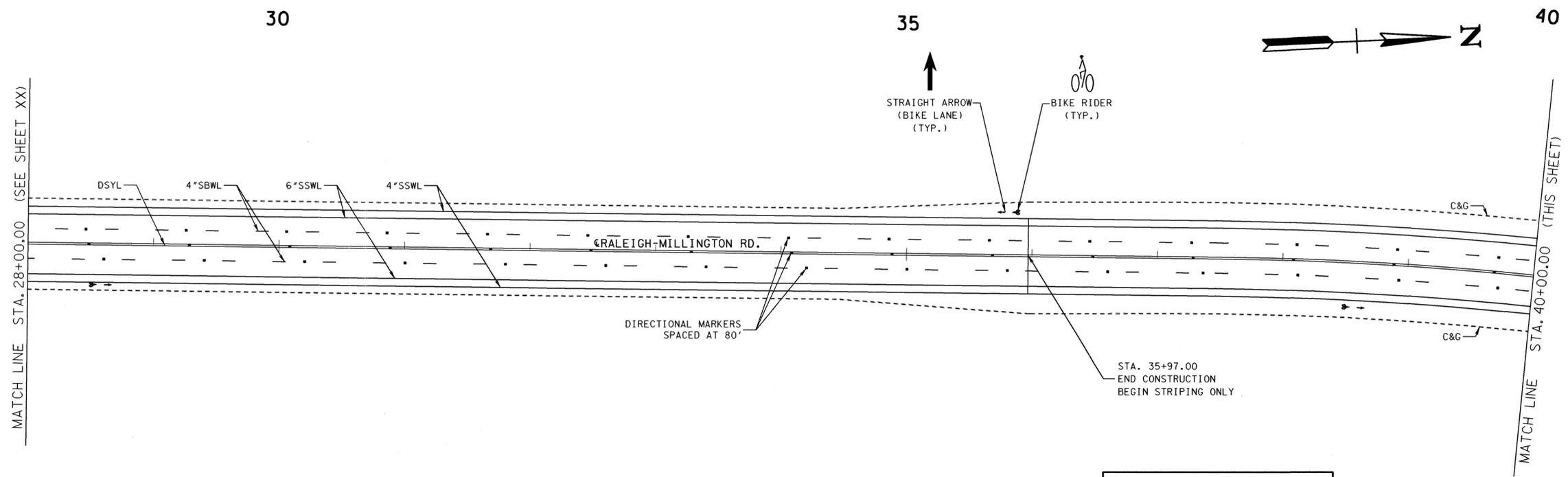


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STATE OF TENNESSEE  
DEPARTMENT OF TRANSPORTATION

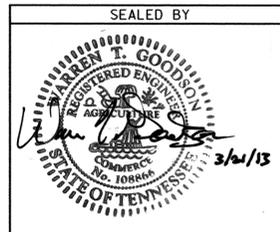
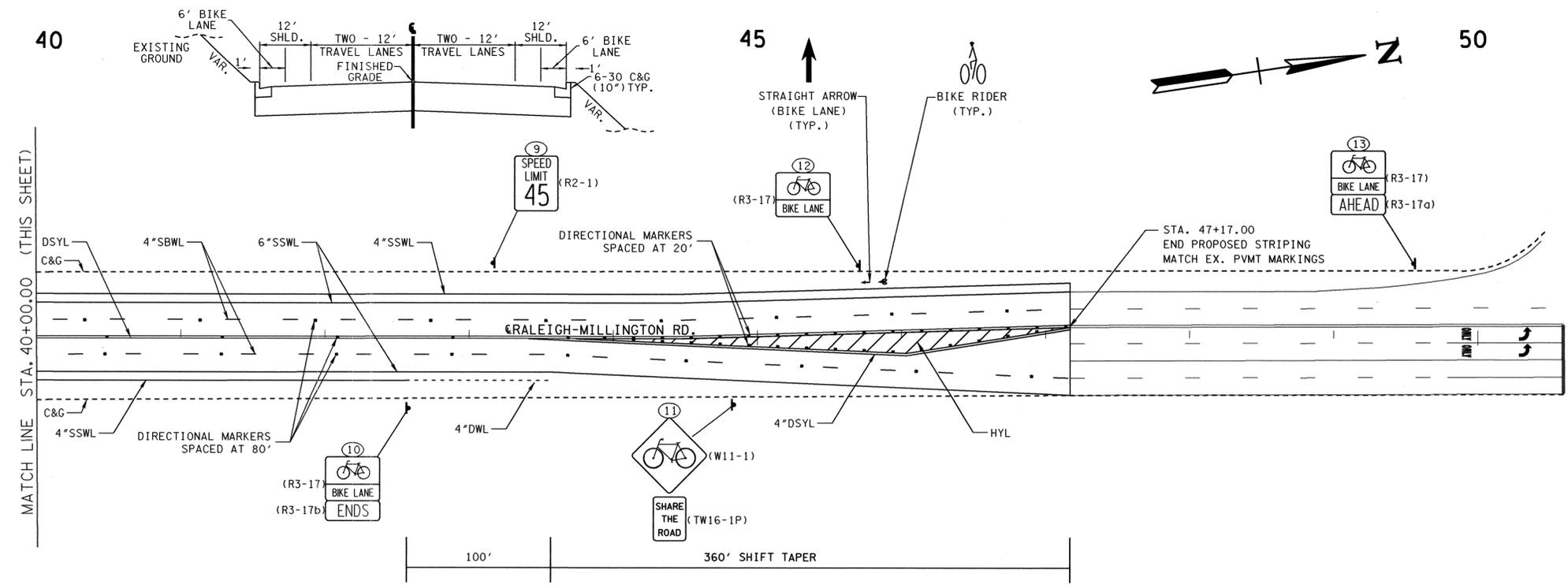
**SIGNING AND PAVEMENT MARKING PLANS**  
SCALE: 1"=100'

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2013	79054-3407-04	19A



**MARKING ABBREVIATIONS**

SSWL	- SINGLE SOLID WHITE LINE
SSYL	- SINGLE SOLID YELLOW LINE
SBWL	- SINGLE BROKEN WHITE LINE
DWL	- DOTTED WHITE LINE
DSYL	- DOUBLE SOLID YELLOW LINE
HYL	- HASHED YELLOW LINE



STATE OF TENNESSEE  
DEPARTMENT OF TRANSPORTATION

**SIGNING AND PAVEMENT MARKING PLANS**

SCALE: 1"=100'

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2013	79054-3407-04	20

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			LEGEND	BACKGROUND	MATERIAL	SUPPORT TYPE	SUPPORT LENGTH	FOOTING	CONC. CU. YD.			REIN. STEEL
5 9	R2-1		30"	36"									BLACK	WHITE(REF)	0.080" ALUMINUM	P2	13'-9"		0.07	0.0	7'-0"	
2 7 8 12	R3-17		24"	18"									BLACK	WHITE(REF)	0.080" ALUMINUM	P2	13'-9"		0.07	0.0	7'-0"	
1 13	R3-17 R3-17aP		24"	18"									BLACK	WHITE(REF)	0.080" ALUMINUM	P3/P8	13'-9"		0.07	0.0	7'-0"	
4 10	R3-17 R3-17bP		24"	18"									BLACK	WHITE(REF)	0.08" ALUMINUM	P3/P8	13'-9"		0.07	0.0	7'-0"	
6	TN-3		36"	24"									WHITE	GREEN(REF)	0.100" ALUMINUM	P2	h <sub>1</sub> =13'-9" h <sub>2</sub> =14'-3"		0.07	0.0	7'-0"	
3 11	W11-1 W16-1P		30"	30"									BLACK	YELLOW(REF)	0.08" ALUMINUM	P3/P8	13'-9"		0.07	0.0	7'-0"	
14	W9-1R		36"	36"									BLACK	YELLOW(REF)	0.100" ALUMINUM	P3/P8	13'-"		0.07	0.0	7'-0"	
15	W4-2		36"	36"									BLACK	YELLOW(REF)	0.100" ALUMINUM	P3/P8	13'-9"		0.07	0.0	7'-0"	

SIGNING AND MARKING QUANTITIES			
ITEM NO.	DESCRIPTION	QUANTITY	UNIT
6.	411-12.01 SCORING SHOULDERS (CONTINUOUS) (16IN WIDTH)	L.M.	0.08
6.	713-02.14 FLEXIBLE DELINEATOR (WHITE)	EACH	24
1.	713-15 REMOVAL OF SIGNS, POSTS AND FOOTINGS	1	LS
5.	713-16.20 SIGNS (MEMPHIS CITY LIMITS)	1	EACH
5.	713-16.21 SIGNS (BICYCLES SYMBOL)	2	EACH
5.	713-16.22 SIGNS (SHARE THE ROAD)	2	EACH
5.	713-16.23 SIGNS (BIKE LANE)	8	EACH
5.	713-16.24 SIGNS (AHEAD - BIKE LANE)	2	EACH
5.	713-16.25 SIGNS (END - BIKE LANE)	2	EACH
5.	713-16.26 SIGNS (SPEED LIMIT 45 MPH)	2	EACH
5.	713-16.27 SIGNS (RIGHT LANE ENDS)	1	EACH
5.	713-16.28 SIGNS (LANE ENDS)	1	EACH
2.	716-02.04 PLASTIC PAVEMENT MARKING (CHANNELIZATION STRIPING)	264	S.Y.
	716-04.03 PLASTIC PAVEMENT MARKING (4" DOTTED LINE)	50	L.F.
2.	716-04.04 PLASTIC PAVEMENT MARKING (TRANSVERSE SHOULDER)	2000	L.F.
2.	716-04.11 PLASTIC PAVEMENT MARKING (BICYCLE SYMBOL W/RIDER)	4	EACH
2.	716-04.13 PLASTIC PAVEMENT MARKING (BIKELANE ARROW)	4	EACH
2.3.	716-13.06 SPRAY THERMO PVMT MRKNG (40 mil) (4IN LINE)	2.3	L.M.
2.4.	716-13.07 SPRAY THERMO PVMT MRKNG (40 mil) (6IN LINE)	1.6	L.M.

1. INCLUDES REMOVAL OF SIGN AND SUPPORT FOR ALL EXISTING SIGNS
2. THE CONTRACTOR MAY ELECT TO SUBSTITUTE PREFORMED PLASTIC FOR THERMOPLASTIC. PREFORMED PLASTIC SHALL BE PAID FOR AT THE SAME UNIT PRICE AS BID FOR THERMOPLASTIC.
3. INCLUDES 1.36 MI. OF SSWL, 0.33 MI. OF SBWL, 0.06 MI. OF SSSL AND 0.73 MI OF DSYL.
4. INCLUDES 3.1 MI OF SSWL.
5. SIGN FACE, SUPPORT, INSTALLATION, AND HARDWARE INCLUDED IN COST OF ITEM.
6. USED ON TRANSVERSE SHOULDER.

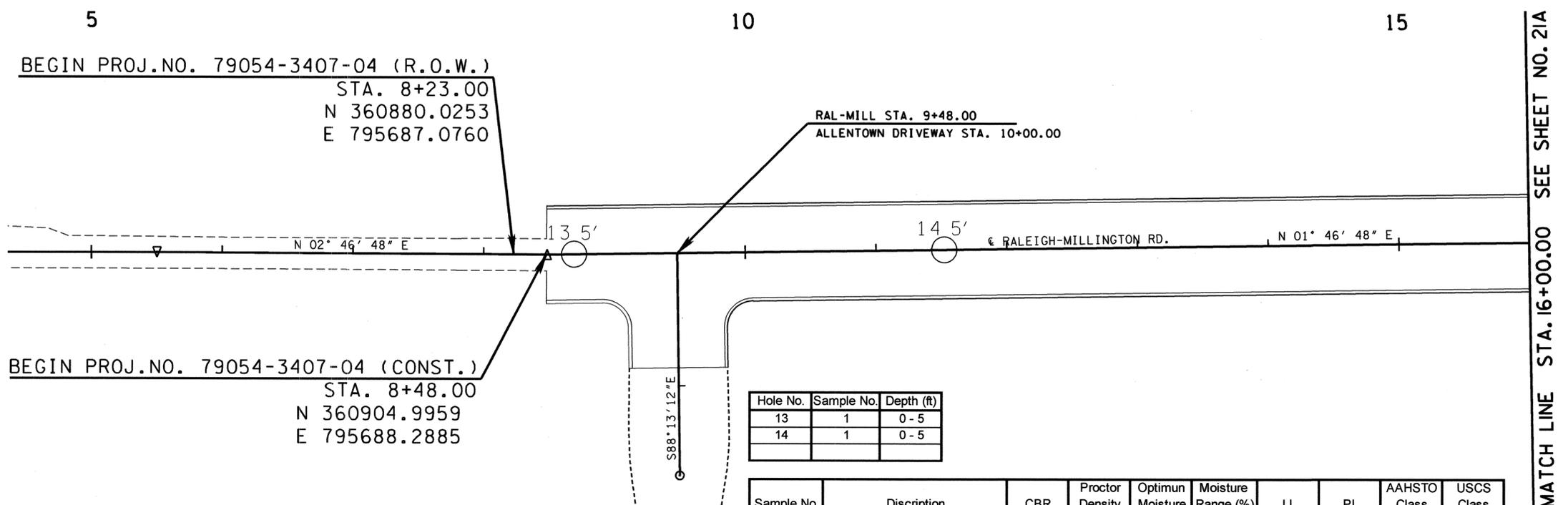


STATE OF TENNESSEE  
DEPARTMENT OF TRANSPORTATION

**SIGN SCHEDULE AND QUANTITIES**

SCALE: 1"=100'

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2013	79054-3407-04	21



**LEGEND**

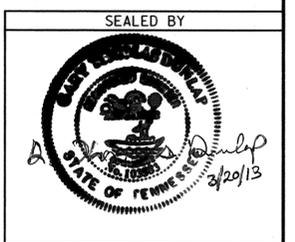
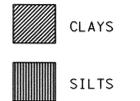


Hole No.	Sample No.	Depth (ft)
13	1	0 - 5
14	1	0 - 5

Sample No.	Discription	CBR	Proctor Density	Optimum Moisture	Moisture Range (%)	LL	PL	AAHSTO Class	USCS Class
1	Silty Clay - moist, tan	5	103.8	19	25.1 - 30.4	40	22	A-6(19)	CL
2	Silty Clay - moist, tan	3	101.9	18.5	21 - 33.5	33	22	A-6(11)	CL
3	Silty Clay - moist, tan	6	101.7	19.9	15 - 33.3	37	21	A-6(16)	CL
4	Silt, Slightly Clayey - moist, tan	3	101.4	19.1	15.4 - 20.8	32	25	A-4(8)	ML-CL



**LEGEND**

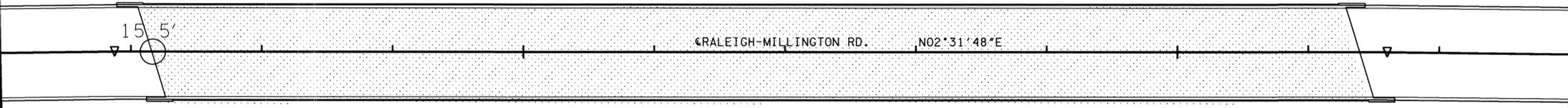


STATE OF TENNESSEE  
DEPARTMENT OF TRANSPORTATION

**SOIL BORINGS**  
BEGINNING OF PROJECT TO STA. 16+00  
SCALE: 1" = 50'

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2013	79054-3407-04	21A

SEE SHEET NO. 21  
STA. 16+00.00  
MATCH LINE



20

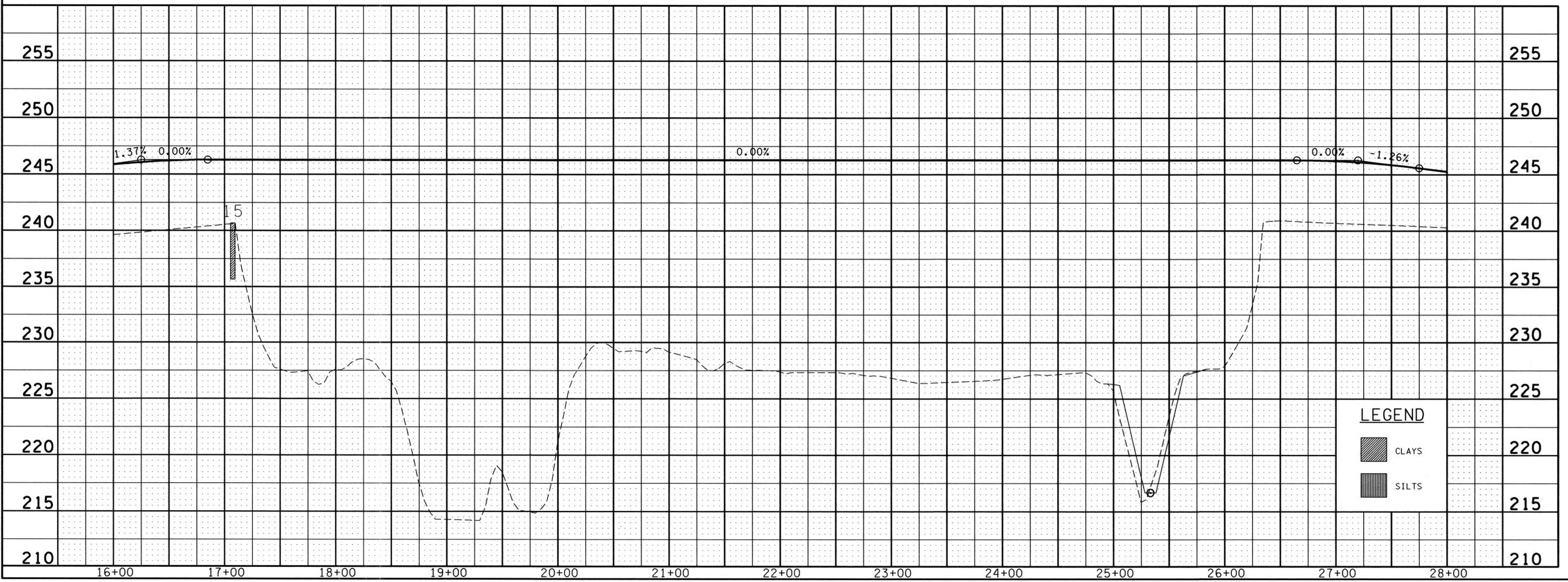
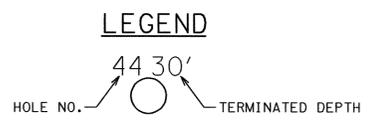
25



SEE SHEET NO. 21B  
MATCH LINE STA. 28+00.00

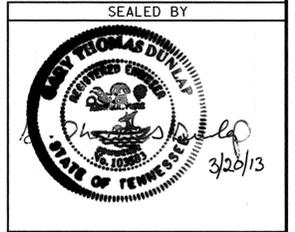
Hole No.	Sample No.	Depth (ft)
15	2	0 - 5

Sample No.	Description	CBR	Proctor Density	Optimum Moisture	Moisture Range (%)	LL	PL	AAHSTO Class	USCS Class
1	Silty Clay - moist, tan	5	103.8	19	25.1 - 30.4	40	22	A-6(19)	CL
2	Silty Clay - moist, tan	3	101.9	18.5	21 - 33.5	33	22	A-6(11)	CL
3	Silty Clay - moist, tan	6	101.7	19.9	15 - 33.3	37	21	A-6(16)	CL
4	Silt, Slightly Clayey - moist, tan	3	101.4	19.1	15.4 - 20.8	32	25	A-4(8)	ML-CL



LEGEND

	CLAYS
	SILTS



STATE OF TENNESSEE  
DEPARTMENT OF TRANSPORTATION

## SOIL BORINGS

STA 16+00 TO STA. 28+00  
SCALE: 1" = 50'

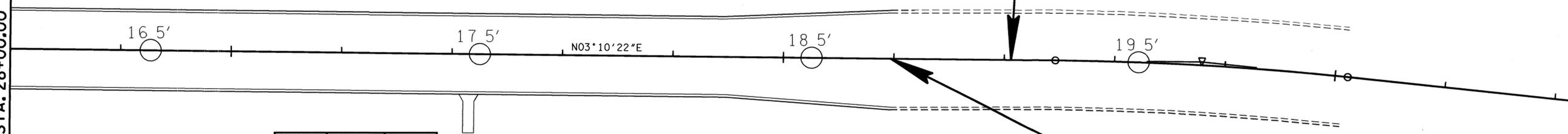
TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2013	79054-3407-04	21B

MATCH LINE STA. 28+00.00 SEE SHEET NO. 21A

30

35  
END PROJ. NO. 79054-3407-04 (R.O.W.)

STA. 37+06.00  
N 363760.0395  
E 795815.1895

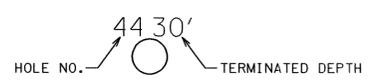


Hole No.	Sample No.	Depth (ft)
16	3	0 - 2
	4	2 - 5
17	2	0 - 5
18	2	0 - 5
19	2	0 - 5

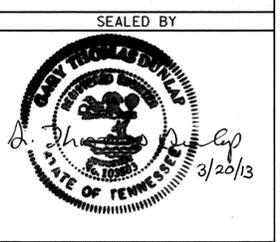
END PROJ. NO. 79054-3407-04 (CONST.)  
STA. 35+97.00  
N 363651.2065  
E 795809.1569

Sample No.	Description	CBR	Proctor Density	Optimum Moisture	Moisture Range (%)	LL	PL	AAHSTO Class	USCS Class
1	Silty Clay - moist, tan	5	103.8	19	25.1 - 30.4	40	22	A-6(19)	CL
2	Silty Clay - moist, tan	3	101.9	18.5	21 - 33.5	33	22	A-6(11)	CL
3	Silty Clay - moist, tan	6	101.7	19.9	15 - 33.3	37	21	A-6(16)	CL
4	Silt, Slightly Clayey - moist, tan	3	101.4	19.1	15.4 - 20.8	32	25	A-4(8)	ML-CL

LEGEND



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STATE OF TENNESSEE  
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**SOIL BORINGS**  
STA. 28+00 TO  
END OF PROJECT  
SCALE: 1" = 50'